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

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Addendum

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

*IDC **01** 00:02:20.2±0.7, 28.66S×176.68W, h38km±4km, mb4.0/9, mb1 4.2/11, mb1mx4.2/14, ML4.3/2, MS4.0/3, Ms1 4.0/3, ms1mx3.6/14, Error ellipse: s-maj=29.4km s-min=14.2km az=156.0*

*NEIC **01** 00:02:23.1±1.9, 28.46S×176.76W, h60km±16km, mb4.8/3, Error ellipse: s-maj=16.1km s-min=14.5km az=194.0*

ISC 01 00:02:20.1±0.6**, 28.82S**±0.08×**176.9W**±0.1**, h37km, h37km**±2.9km**:pP-P, n29,** σ**1s11**/24**, mb4.3**/11**, MS4.0**/3**, 3C-1D, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	0.98	244	ePn	S	00 02 44.7	-5.8
URZ	Urewera	10.65	206	Pn	P	00 04 51.3	-2.1
	1.2nm,0.3s,baz=268,slow=15,SNR=4.3						
URZ				Sn	S	00 06 51.5	-0.9
	2.2nm,0.3s,baz=179,slow=23,SNR=6.3						
RAR	Rarotonga	17.27	68	LR	LR	00 11 40.1	
	comp=Z,343nm,18.7s,baz=293,slow=33						
RPZ	Rata Peaks	17.72	210	P	P	00 06 25.6	0.0
	1.9nm,0.3s,baz=65,slow=15,SNR=6.6						
CTA	Charters Tower	34.53	276	P	P	00 09 07.5	+0.3
	1.8nm,0.5s,mb4.3,baz=108,slow=13,SNR=4.9						
CTA				pP	pP	00 09 17.4	-0.3
	6.6nm,0.8s,baz=103,slow=10.0,SNR=4.5						
CTAO	Charters Tower	34.53	276	eP	P	00 09 06.9	-0.3
	9.0nm,1.2s,mb4.6						
STKA	Stephens Creek	35.79	255	P	P	00 09 19.2	+1.4
	4.2nm,0.8s,mb4.4,baz=65,slow=8.5,SNR=7.9						
ASAR	Alice Springs	44.17	265	P	P	00 10 27.1	-0.2
	2.4nm,0.9s,mb3.9,baz=117,slow=8.3,SNR=14						
ASAR				pP	pP	00 10 38.0	-0.1
	4.0nm,0.9s,baz=111,slow=7.7,SNR=10						
ASAR				LR	LR	00 29 27.3	
	comp=Z,147nm,18.7s,MS3.9,baz=169,slow=37						
WB2	Warramunga Arr	45.01	270	eP	P	00 10 33.4	-0.6
WRAB	Tennant Creek	45.01	270	eP	P	00 10 33.2	-0.8
	19nm,1.1s,mb4.8						
WRA	Warramunga Arr	45.02	270	P	P	00 10 34.0	-0.1
	6.2nm,0.9s,mb4.4,baz=107,slow=7.9,SNR=19						
WRA				pP	pP	00 10 44.6	-0.3
	6.9nm,0.9s,baz=107,slow=8.0,SNR=14						
WRA				S	S	00 17 11.7	+2.2
	0.9nm,1.0s,baz=106,slow=11,SNR=2.4						
CASY	Casey	56.98	207	eP	P	00 12 04.7	+0.8
	13nm,0.8s,mb5.0						
CASY				e	pP	00 12 14.3	-0.7
QSPA	South Pole Qui	61.28	180	eP	P	00 12 34.1	+0.5
QSPA				LR	LR		
	comp=Z,70nm,20.0s,MS3.8						
MAW	Mawson	74.11	200	P	P	00 13 54.2	+0.5
	comp=Z,1.8nm,0.7s,mb4.1,baz=103,slow=6.2,SNR=5.4						
MAW	Mawson	74.11	200	eP	P	00 13 56.0	+2.2
SNAA	Sanae	79.70	178	⇓i	P	00 14 25.1	+0.1
VNA3	Neumayer Olymp	79.81	176	⇑i	P	00 14 26.5	+0.9
VNA2	Neumayer--Watz	80.26	177	⇑i	P	00 14 29.0	+1.0
VNA1	Neumayer--Stat	80.48	176	⇑i	P	00 14 32.8	+3.6
NVAR	Mina Array Bea	86.43	42	P	P	00 14 56.1	-3.9
	comp=Z,0.9nm,0.7s,mb4.1,baz=219,slow=5.8,SNR=2.2						
NVAR				pP	pP	00 15 11.2	-0.4
	comp=Z,2.3nm,1.0s,baz=214,slow=6.5,SNR=1.4						
TXAR	Lajitas Array	90.73	57	P	P	00 15 17.9	-2.8
	comp=Z,0.6nm,1.0s,mb3.9,baz=217,slow=9.0,SNR=3.2						
PDAR	Pinedale Array	94.33	43	P	P	00 15 36.4	-0.5
	comp=Z,0.2nm,0.4s,mb3.9,baz=280,slow=35,SNR=2.4						
PDAR				pP	pP	00 15 47.4	-1.2
	comp=Z,0.7nm,0.9s,baz=198,slow=4.7,SNR=3.0						
PDAR				LR	LR	00 53 55.9	
	comp=Z,74nm,18.2s,MS4.2,baz=347,slow=33						
ILAR	Eielson Array	96.18	12	P	P	00 15 43.8	-1.0
	comp=Z,1.4nm,1.1s,mb4.3,baz=214,slow=6.5,SNR=4.0						
ILAR				sP	sP	00 15 58.0	-2.2
	comp=Z,0.6nm,0.8s,baz=225,slow=5.1,SNR=4.0						
FINES	FINESS Array B	143.98	341	PKhKP		00 21 46.4	
	comp=Z,2.8nm,0.9s,baz=35,slow=4.1,SNR=6.0						
NB2	NORSAR Subarra	147.32	353	PKP		00 21 56.7	
	comp=Z,4.6nm,0.8s,baz=9.0,slow=2.9						
NOA	NORSAR Array B	147.32	353	PKPbc	PKPdf	00 21 57.0	+0.3
	comp=Z,3.2nm,0.7s,baz=14,slow=4.4,SNR=10						
NOA				pPKPbc		00 22 10.6	
	comp=Z,2.1nm,0.8s,baz=14,slow=4.3,SNR=2.3						
NOA				sPKPbc		00 22 15.9	
	comp=Z,4.0nm,0.8s,baz=16,slow=4.6,SNR=8.5						
AKASG	Malin Array Be	150.59	325	PKPbc	PKPdf	00 22 05.9	+3.7
	comp=Z,5.9nm,0.8s,baz=41,slow=2.6,SNR=20						
AKASG				pPKPbc		00 22 19.1	
	comp=Z,7.9nm,0.9s,baz=42,slow=2.7,SNR=3.6						
BRTR	Keskin Array B	152.64	301	PKP	PKPdf	00 22 04.9	-0.6
	comp=Z,0.2nm,0.5s,baz=34,slow=5.2,SNR=2.5						
BRTR				PKPbc	PKPdf	00 22 12.3	+6.8
	comp=Z,1.5nm,1.0s,baz=117,slow=2.8,SNR=4.1						
BRTR				pPKPbc		00 22 25.4	
	comp=Z,1.6nm,0.9s,baz=135,slow=3.5,SNR=5.3						
GERES	GERESS Array B	158.41	341	PKPab	PKPab	00 22 46.5	-3.4
	comp=Z,0.4nm,0.8s,baz=342,slow=3.1,SNR=3.5						

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*STR **01** 00:04:14.6±0.2, 42.85N×1.45W, h2km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **01** 00:04:14.8±1.2, 42.89N×1.48W, h2km, Md2.3/3, Ml1.8/1, Error ellipse: s-maj=22.0km s-min=15.9km az=57.0*

ISC 01 00:04:13.9±2.2**, 42.85N**±0.10×**1.4W**±0.1**, h10km**±17km**, n5,** σ**0s51**/11**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.30	30	ePg	Pg	00 04 20.8	+0.5
SJPF				eSg	Sg	00 04 23.4	-1.1
	7.4nm,0.2s						
LARF	Larrau	0.38	60	Pg	Pg	00 04 22.0	+0.3
LARF				Sg	Sg	00 04 27.5	+0.6
OSSF	Osses	0.42	17	Pg	Pg	00 04 22.8	+0.2
OSSF				Sg	Sg	00 04 28.6	+0.2
ETSF	Etsaut	0.65	86	ePg	Pg	00 04 26.1	-0.9
ETSF				eSg	Sg	00 04 35.5	-0.2
	3.0nm,0.3s						
EPF	Esparros	1.32	82	ePn	Pn	00 04 38.3	-0.1
EPF				ePg	Pg	00 04 40.4	+0.1
EPF				eSg	Sg	00 04 58.1	+0.2
	1.5nm,0.2s						

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*IDC **01** 00:25:20.2±0.7, 12.75N×87.08W, h107km±5km, mb4.1/16, mb1 4.3/18, mb1mx4.2/23, MS3.4/7, Ms1 3.4/7, ms1mx3.2/21, Error ellipse: s-maj=21.1km s-min=8.1km az=59.0*

*BJI **01** 00:25:20.8, 12.60N×87.30W, h109km*

*NEIC **01** 00:25:20.8±0.3, 12.58N×87.34W, mb4.6/31, Error ellipse: s-maj=9.6km s-min=5.1km az=47.0*

*CASC **01** 00:25:21.1±2.5, 12.42N×87.50W, h83km±21km, MD4.5, ML5.0, mb4.6(NEIC)*

ISC 01 00:25:19.9±0.2**, 12.61N**±0.04×**87.35W**±0.04**, h113km**±2km**, h109km**±1.8km**:pP-P, n147,** σ**1s03**/152**, mb4.5**/37**, 4C-4D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRIN	San Cristobal	0.31	72	eP	P	00 25 36.5	+0.4
CRIN				eS	S	00 25 47.6	-0.7
LEON	Leon	0.48	113	eP	P	00 25 36.8	-0.3
TEL3	Telica 3	0.49	94	eP	P	00 25 37.2	+0.1
TELN	Telica	0.51	90	eP	P	00 25 37.2	0.0
TELN				eS	S	00 25 49.4	-0.8
CNGN	Cerro Negro	0.64	99	eP	P	00 25 38.3	+0.1
MIRN	Miramar	0.64	105	eP	P	00 25 38.2	+0.1
CNCH	Conchagua	0.81	325	⇓iP	P	00 25 39.3	-0.4
CNCH				eS	S	00 25 51.9	-2.7
MOMJ	Momotombo	0.81	104	eP	P	00 25 39.8	+0.1
COPN	Copaltepe	0.85	120	eP	P	00 25 40.3	+0.2
APYN	Apoyeque	1.04	111	eP	P	00 25 42.3	+0.2
XAVN	Gruta Xavier	1.10	114	eP	P	00 25 43.0	+0.3
MGAN	Managua	1.17	113	eP	P	00 25 43.7	+0.2
MGAN				eS	S	00 26 00.2	-0.9
MGAN				i		00 26 01.6	
	comp=N,25μm,0.6s						
MGAN				eS	S	00 26 01.7	+0.5
	comp=N,23μm,0.5s						
CRUN	El Crucero	1.20	121	eP	P	00 25 44.5	+0.7
BLLM	Bellamira	1.20	314	⇑eP	P	00 25 43.5	-0.3
BLLM				eS	S	00 26 02.7	+1.0
TICN	Ticuantepe	1.23	117	eP	P	00 25 44.7	+0.6
PYTN	Playitas	1.26	93	eP	P	00 25 45.4	+0.9
MASN	Masaya	1.32	118	eP	P	00 25 45.0	-0.2
MASN				eS	S	00 26 03.1	-1.2
CAHU	Cacacuatique	1.43	324	⇓eP	P	00 25 46.7	+0.3
CAHU				eS	S	00 26 07.4	+1.0
SNVI	San Vicente	1.76	305	eP	P	00 25 50.6	+0.2
SNVI				⇓eP		00 25 50.7	
SNVI				eS	S	00 26 13.0	-0.4
SNVI				eS	S	00 26 13.3	-0.1
LCBS	La Ceiba	1.90	303	⇑iP	P	00 25 52.1	-0.1
LCBS				eS	S	00 26 15.3	-1.1
LFRS	El Faro	1.95	301	⇑eP	P	00 25 52.6	-0.2
LFRS				eS	S	00 26 14.5	-3.0
LBRS	Las Brisas	2.00	304	eP	P	00 25 53.6	+0.3
LBRS				eS	S	00 26 18.1	-0.4
SNET	Serv Nac Est T	2.12	301	eS	S	00 26 20.8	-0.8
BOQS	Boqueron	2.19	301	eP	P	00 25 56.9	+0.9
BOQS				eS	S	00 26 23.8	+0.7
CRZC	La Cruz	2.38	134	eP	P	00 25 57.6	-0.9
SNJE	San Jose	2.53	300	eP	P	00 26 00.9	+0.4
SBLS	San Blas	2.53	299	eP	P	00 26 01.1	+0.5
SBLS				eS	S	00 26 31.1	-0.1
RTR	El Retiro	2.58	300	⇓eP	P	00 26 01.9	+0.7
RTR				eS	S	00 26 32.1	-0.2
MTO2	Montecristo 2	2.65	313	⇑eP	P	00 26 01.9	-0.2
VCR	Vista de Mar	2.99	145	eP	P	00 26 06.6	-0.1
JTS	JuntasAbangare	3.29	134	P	P	00 26 10.1	-0.7
	comp=N,112nm,0.3s,baz=322,slow=16,SNR=50						
JTS				S	S	00 26 47.5	-1.9
	comp=N,93nm,0.3s,baz=286,slow=19,SNR=11						
JTS				LR	LR	00 27 15.4	
	comp=N,169nm,18.8s,baz=38,slow=36						
JTS	JuntasAbangare	3.29	134	Pn	P	00 26 10.4	-0.4
	comp=N,3μm,0.4s,SNR=92						
JTS	JuntasAbangare	3.29	134	ePn	P	00 26 10.6	-0.2
JTS				eSn	S	00 26 46.6	-2.9
JCR	Jicaral	3.51	141	eP	P	00 26 14.0	+0.2
CGA2	Cerro Gallo 2	3.83	132	eP	P	00 26 18.7	+0.7
CGA2				eS	S	00 27 01.1	-1.3
VPS2	Volcan Poas 2	3.88	128	eP	P	00 26 21.9	+3.1
PRS1	Puriscal	3.96	131	eP	P	00 26 21.3	+1.4
TRTC	Tortuguero	4.09	119	eP	P	00 26 20.9	-0.8
LAJ	Bijagual	4.18	130	eP	P	00 26 20.6	-2.2
SJS	Escuela Geolog	4.18	129	eP	P	00 26 22.7	-0.1
SJS				eS	S	00 27 11.6	+0.5
ICR	Volcan Irazu	4.33	127	eP	P	00 26 25.6	+0.8
LCR2	La Lucha 2	4.35	131	eP	P	00 26 25.4	+0.3
LCR2				eS	S	00 27 16.1	+1.0
URSC	Urasca	4.46	128	eP	P	00 26 30.0	+3.4
BUS	Buena Vista	4.65	130	eP	P	00 26 31.4	+2.2
ROSC	El Rosal	14.99	120	P	P	00 28 49.5	+2.4
	comp=N,1.7nm,0.3s,baz=121,slow=21,SNR=7.3						
ROSC				LR	LR	00 34 43.6	
	comp=N,99nm,21.9s,baz=53,slow=38						
OTAV	Otavalo	15.13	144	eP	P	00 28 51.1	+2.2
	comp=N,4.1nm,0.7s						
DWPF	Disney	16.39	19	eP	P	00 29 06.0	+1.6
	comp=N,79nm,1.3s						
SDV	Santo Domingo	16.83	101	eP	P	00 29 09.5	-0.6
	comp=N,25nm,0.7s						
HKT	Hockley	18.97	337	eP	P	00 29 35.0	+0.1
	comp=N,54nm,1.5s						
NATX	Nacogdoches	20.21	342	eP	P	00 29 48.6	+0.6
	comp=N,49nm,0.8s						
MGP	Maguayo	20.26	72	eP	P	00 29 49.4	+0.9
LRAL	Lakeview Retre	20.34	1	eP	P	00 29 50.1	+0.9
	comp=N,27nm,0.9s						
AOPR	Arecibo Observ	20.65	71	eP	P	00 29 53.2	+0.7
SJG	San Juan	21.15	72	P	P	00 29 57.5	0.0
	comp=N,14nm,0.4s,mb4.6,baz=291,slow=4.3,SNR=12						
SJG				S	S	00 33 49.0	+7.9
	comp=N,2.1nm,0.3s,baz=341,slow=20,SNR=4.3						
SJG				LR	LR	00 38 13.2	
	comp=N,109nm,20.8s,baz=58,slow=37						
SJG	San Juan	21.15	72	eP	P	00 29 57.8	+0.3
	comp=N,14nm,0.5s,mb4.5						
JCT	Junction City	21.19	329	eP	P	00 29 58.4	+0.5
	comp=N,5.5nm,0.7s,mb4.0						
NHSC	New Hope	21.43	17	eP	P	00 30 01.8	+1.6
	comp=N,151nm,1.3s,mb5.2						
HUMP	Col San Antoni	21.44	72	eP	P	00 30 01.6	+1.3
OXF	Oxford	21.89	355	eP	P	00 30 05.2	+0.6
	comp=N,17nm,0.6s,mb4.6						
LTX	Lajitas	22.52	320	eP	P	00 30 11.7	+0.8
	comp=N,13nm,0.8s,mb4.3						
TXAR	Lajitas Array	22.52	320	P	P	00 30 11.8	+0.8
	comp=N,7.9nm,0.6s,mb4.2,baz=140,slow=10,SNR=63						
TXAR				pP		00 30 36.0	
	comp=N,5.2nm,0.8s,baz=135,slow=11,SNR=6.1						
TXAR				sP		00 30 46.2	
	comp=N,7.6nm,0.9s,baz=150,slow=12,SNR=5.4						
TXAR				ScP		00 37 29.6	
	comp=N,0.5nm,0.6s,baz=147,slow=5.8,SNR=6.3						
UALR	University of	22.53	349	eP	P	00 30 11.3	+0.3
	comp=N,22nm,0.8s,mb4.5						
SWET	Sewanee	22.55	3	eP	P	00 30 12.0	+0.9
CPCT	Cooper Cave	22.89	6	eP	P	00 30 18.5	+4.1
WVT	Waverly	23.43	359	eP	P	00 30 19.0	-0.6
	comp=N,3.6nm,0.5s,mb4.0						
WMOK	Wichita Mounta	24.35	337	eP	P	00 30 28.3	-0.2
	comp=N,59nm,1.4s,mb4.7						
CLNB	Carlsbad	24.76	325	eP	P	00 30 33.2	+0.7
GDL2	Guadalupe Moun	24.99	324	eP	P	00 30 35.4	+0.8
PWV	Princeton	25.26	12	eP	P	00 30 37.3	+0.1
BLA	Blacksburg	25.27	13	eP	P	00 30 37.8	+0.5
	comp=N,25nm,1.0s,mb4.6						
CCM	Cathedral Cave	25.58	353	eP	P	00 30 39.0	-1.1
	comp=N,14nm,0.8s,mb4.5						
CBN	Corbin	27.00	17	eP	P	00 30 53.9	+0.8
	comp=N,29nm,0.6s,mb5.0						
KSU1	Kansas State U	27.64	344	eP	P	00 30 57.6	-1.4
BNM	Barren Site	27.70	324	eP	P	00 30 59.9	+0.3
LAZ	Ladron	28.18	324	eP	P	00 31 04.9	+1.0
ANMO	Albuquerque	28.19	325	eP	P	00 31 04.5	+0.5
	comp=N,3.5nm,0.9s,mb3.9						
ANMO				e	pP	00 31 28.0	-0.6
SSPA	Standing Stone	29.13	15	eP	P	00 31 11.8	-0.6
	comp=N,13nm,0.6s,mb4.7						
SDCO	Great Sand Dun	29.82	330	eP	P	00 31 18.8	+0.3
	comp=N,7.9nm,1.0s,mb4.3						
SDCO				e	pP	00 31 43.5	+0.2
PV10	Paradox Valley	32.11	327	eP	P	00 31 38.0	-0.6
PV10				epP	pP	00 32 02.4	-1.3
PV10				ePcP	PcP	00 34 24.5	-0.8
SAML	Samuel	32.17	131	eP	P	00 31 37.0	-2.3
	comp=N,1.8nm,0.6s,mb4.0						
SAML				epP	pP	00 31 58.8	-5.8
SAML				ePcP	PcP	00 34 24.0	-1.7
SADO	Sadowa	32.81	11	P	P	00 31 43.5	-1.1
	comp=N,17nm,0.9s,mb4.9,baz=212,slow=7.7,SNR=16						
SADO				sP	sP	00 32 18.2	-4.9
	comp=N,11nm,1.1s,baz=221,slow=9.8,SNR=2.3						
SADO	Sadowa	32.81	11	P	P	00 31 43.5	-1.1
SADO				sP	sP	00 32 18.2	-4.9
SRU	San Rafael	33.44	326	eP	P	00 31 50.1	0.0
NEN	Nelson	33.79	317	eP	P	00 31 53.3	+0.2
NEN				epP	pP	00 32 15.3	-3.1
TMUT	Trail Mountain	33.95	326	eP	P	00 31 53.9	-0.4
MSU	Marysvale	33.95	324	eP	P	00 31 55.2	+0.8
ARUT	Antelope Range	34.22	322	eP	P	00 31 57.6	+0.9
LPAZ	La Paz	34.43	146	P	P	00 31 59.0	+0.3
	comp=N,3.4nm,0.5s,mb4.4,baz=159,slow=1.1,SNR=19						
LPAZ	La Paz	34.43	146	eP	P	00 31 58.8	+0.1
	comp=N,3.4nm,0.6s,mb4.3						
RSSD	Black Hills	34.52	339	eP	P	00 31 59.6	+0.4
	comp=N,7.7nm,0.6s,mb4.7						
DAU	Daniels Canyon	34.77	327	eP	P	00 32 01.9	+0.6
DAU				epP	pP	00 32 26.2	-0.7
JLU	Jordanelle	35.01	327	eP	P	00 32 03.9	+0.5
DUG	Dugway	35.46	325	eP	P	00 32 08.1	+0.9
PDAR	Pinedale Array	35.68	331	P	P	00 32 08.8	-0.3
	comp=N,3.7nm,0.6s,mb4.5,baz=126,slow=9.7,SNR=34						
PDAR				pP	pP	00 32 35.7	+1.0
	comp=N,2.1nm,0.9s,baz=127,slow=7.4,SNR=3.5						
PDAR				PcP	PcP	00 34 33.4	-1.9
	comp=N,1.0nm,0.8s,baz=111,slow=2.8,SNR=4.1						
PDAR				ScP		00 38 10.7	
	comp=N,0.5nm,0.9s,baz=150,slow=7.3,SNR=3.4						
HWUT	Hardware Ranch	35.79	328	eP	P	00 32 10.1	+0.1
	comp=N,24nm,1.0s,mb5.1						
HWUT				epP	pP	00 32 34.7	-0.9
HWUT				ePcP	PcP	00 34 34.5	-1.2
HVU	Hansel Valley	36.55	327	eP	P	00 32 17.4	+1.0
REDW	Red Top Meadow	36.75	331	eP	P	00 32 18.1	0.0
REDW				epP	pP	00 32 42.4	-1.4
LOHW	Long Hollow	36.82	331	eP	P	00 32 18.9	+0.3
LOHW				epP	pP	00 32 41.8	-2.6
TPAW	Teton Pass	36.89	331	eP	P	00 32 19.7	+0.4
TPAW				epP	pP	00 32 47.5	+2.6
MOOW	Moose Ponds	36.99	331	eP	P	00 32 20.0	-0.1
MOOW				epP	pP	00 32 46.7	+0.9
IMW	Indian Meadow	37.20	331	eP	P	00 32 21.6	-0.2
IMW				ePcP	PcP	00 34 38.9	-1.0
ELK	Elko	37.20	324	eP	P	00 32 22.6	+0.7
	comp=N,4.5nm,0.9s,mb4.4						
ELK				epP	pP	00 32 48.1	+0.6
ELK				ePcP	PcP	00 34 39.2	-0.7
NVAR	Mina Array Bea	37.65	319	P	P	00 32 26.8	+1.2
	comp=N,2.4nm,0.7s,mb4.2,baz=122,slow=8.6,SNR=18						
NVAR				pP	pP	00 32 52.9	+1.5
	comp=N,2.1nm,0.8s,baz=124,slow=10,SNR=4.8						
NVAR				PcP	PcP	00 34 40.9	-0.5
	comp=N,2.7nm,0.7s,baz=123,slow=4.9,SNR=13						
NVAR				pPcP		00 35 11.7	
	comp=N,1.0nm,0.6s,baz=117,slow=3.3,SNR=4.8						
NVAR				ScP		00 38 18.9	
	comp=N,2.0nm,0.9s,baz=129,slow=5.4,SNR=9.6						
NVAR	Mina Array Bea	37.65	319	P	P	00 32 26.8	+1.2
NVAR				pP	pP	00 32 52.9	+1.5
NVAR				PcP	PcP	00 34 40.9	-0.5
NVAR				pPcP		00 35 11.7	
NVAR				ScP		00 38 18.9	
QLMT	Earthquake Lak	38.13	332	eP	P	00 32 30.9	+1.3
QLMT				epP	pP	00 32 57.0	+1.6
ULM	Lac du Bonnet	38.18	351	P	P	00 32 28.0	-1.9
	comp=N,7.4nm,0.5s,mb4.8,baz=171,slow=8.7,SNR=8.5						
ULM	Lac du Bonnet	38.18	351	eP	P	00 32 27.7	-2.2
	comp=N,15nm,0.8s,mb4.9						
DGMT	Dagmar	38.40	342	eP	P	00 32 31.4	-0.4
	comp=N,42nm,0.6s,mb5.5						
DGMT				epP	pP	00 32 56.3	-1.3
MCMT	McKenzie Canyo	38.80	331	eP	P	00 32 36.2	+1.1
MCMT				epP	pP	00 32 59.9	-1.0
BOZ	Bozeman (W)	38.85	333	eP	P	00 32 35.2	-0.3
	comp=N,5.2nm,0.8s,mb4.4						
BOZ				epP	pP	00 33 00.9	-0.5
HRY	Holter Researc	39.76	334	P	P	00 32 43.7	+0.7
CHMT	Chamberlain Mo	40.55	333	eP	P	00 32 49.1	-0.4
CHMT				epP	pP	00 33 14.4	-1.0
FFC	Flin Flon	43.57	348	eP	P	00 33 12.9	-1.1
	comp=N,18nm,0.7s,mb4.9						
SCHQ	Schefferville	45.10	17	P	P	00 33 25.3	-1.1
	comp=N,35nm,0.7s,mb5.2,baz=215,slow=6.3,SNR=104						
SCHQ				LR	LR	00 52 26.0	
	comp=N,70nm,20.9s,baz=223,slow=36						
SCHQ	Schefferville	45.10	17	eP	P	00 33 25.0	-1.4
	comp=N,27nm,0.5s,mb5.2						
SCHQ				epP	pP	00 33 54.7	+2.2
FCC	Fort Churchill	46.34	355	eP	P	00 33 34.0	-2.1
CPUP	Villa Florida	48.48	143	P	P	00 33 51.3	-2.0
	comp=N,1.4nm,0.7s,mb3.9,baz=336,slow=5.6,SNR=3.6						
CPUP				PcP	PcP	00 35 16.4	-1.6
	comp=N,1.7nm,0.9s,baz=337,slow=18,SNR=3.5						
CPUP				LR	LR	00 55 19.3	
	comp=N,46nm,18.5s,baz=323,slow=37						
CPUP	Villa Florida	48.48	143	P	P	00 33 51.5	-1.8
FRB	Frobisher Bay	52.75	10	P	P	00 34 22.4	-2.7
	comp=N,22nm,0.5s,mb5.4,baz=210,slow=11,SNR=18						
YKA	Yellowknife Ar	53.49	345	P	P	00 34 28.3	-2.2
	comp=N,4.1nm,0.7s,mb4.6,baz=142,slow=7.5,SNR=11						
YKA				LR	LR	01 00 04.4	
	comp=N,58nm,18.6s,baz=105,slow=39						
YKA	Yellowknife Ar	53.49	345	P	P	00 34 28.3	-2.2
YKA				LR	LR	01 00 04.4	
TRQA	Tornquist	55.72	156	eP	P	00 34 46.2	-1.0
RES	Resolute Bay	62.21	358	eP	P	00 35 28.3	-3.1
INK	Inuvik	63.09	342	eP	P	00 35 34.8	-2.5
	comp=N,7.2nm,1.1s,mb4.5						
ILAR	Eielson Array	65.92	336	P	P	00 35 53.7	-2.0
	comp=N,2.5nm,0.7s,mb4.2,baz=146,slow=4.4,SNR=24						
ILAR				pP	pP	00 36 20.6	-3.1
	comp=N,1.1nm,0.7s,baz=136,slow=4.6,SNR=3.6						
ILAR				PP	PP	00 38 19.8	-4.5
	comp=N,0.9nm,0.9s,baz=113,slow=6.9,SNR=4.8						
ESDC	Sonseca Array	77.02	52	P	P	00 36 59.5	-2.7
	comp=N,1.3nm,0.7s,mb3.8,baz=281,slow=6.1,SNR=5.0						
NOA	NORSAR Array B	83.18	29	P	P	00 37 33.1	-1.4
	comp=N,0.6nm,0.9s,mb3.4,baz=281,slow=6.7,SNR=2.6						
NOA				pP	pP	00 38 00.3	-3.4
	comp=N,0.5nm,0.7s,baz=32,slow=20,SNR=3.2						
NOA				LR	LR	01 14 01.7	
	comp=N,16nm,18.6s,baz=315,slow=35						
ARCES	ARCESS Array B	86.00	19	P	P	00 37 46.2	-2.1
	comp=N,2.5nm,0.8s,mb4.2,baz=315,slow=3.4,SNR=5.7						
ARCES	ARCESS Array B	86.00	19	P	P	00 37 46.2	-2.2
GERES	GERESS Array B	87.75	40	P	P	00 37 54.3	-3.0
	comp=N,0.3nm,0.5s,mb3.6,baz=270,slow=4.0,SNR=4.9						
CN2	Changchun	116.40	334	ePKP	PKPdf	00 43 52.0	+1.6
SONM	Songino Array	118.60	349	PKP	PKPdf	00 43 54.6	0.0
	comp=N,0.2nm,0.3s,baz=310,slow=0.4,SNR=4.7						
MKAR	Makanchi Array	120.15	8	PKP	PKPdf	00 43 56.5	-1.1
	comp=N,2.4nm,1.1s,baz=315,slow=3.4,SNR=7.2						
MKAR	Makanchi Array	120.15	8	PKP	PKPdf	00 43 56.5	-1.1
MAW	Mawson	121.67	167	PKP	PKPdf	00 43 59.2	-0.8
	comp=N,1.9nm,0.5s,baz=248,slow=2.5,SNR=11						
MAW				pPKP		00 44 29.6	
	comp=N,0.6nm,0.4s,baz=281,slow=8.6,SNR=2.3						
WMQ	Urumqi	123.67	4	ePKP	PKPdf	00 44 05.0	+0.5
SSE	Sheshan	128.63	328	ePKP	PKPdf	00 44 16.1	+1.6
LZH	Lanzhou	130.43	348	ePKP	PKPdf	00 44 18.6	+0.9
LZH				XPKP		00 44 59.0	
STKA	Stephens Creek	131.26	239	eP	PKPdf	00 44 21.5	+2.1
	comp=N,1.9nm,0.5s						
STKA	Stephens Creek	131.26	239	PKP	PKPdf	00 44 21.2	+1.8
	comp=N,2.5nm,0.6s,baz=86,slow=3.4,SNR=12						
WRA	Warramunga Arr	139.41	254	PKP	PKPdf	00 44 36.9	+2.1
	comp=N,4.6nm,0.4s,baz=91,slow=2.7,SNR=9.2						
ASAR	Alice Springs	139.42	248	SKPbc		00 48 01.8	
	comp=N,2.6nm,0.8s,baz=101,slow=3.5,SNR=7.8						
KMI	Kunming	141.23	345	ePKP	PKPdf	00 44 39.7	+1.7
KMI				LR	LR		
	comp=Z,23nm,29.1s						
FITZ	Fitzroy Crossi	147.75	256	PKPbc	PKPdf	00 44 54.1	+4.8
	comp=Z,5.4nm,0.5s,baz=49,slow=5.6,SNR=5.2						
CMAR	Chiang Mai Arr	148.51	349	PKPbc	PKPdf	00 44 53.9	+3.4
	comp=Z,7.3nm,1.0s,baz=344,slow=3.7,SNR=18						
NWAO	Narrogin (SRO)	149.76	224	PKPbc	PKPdf	00 44 59.5	+7.4
	comp=Z,15nm,0.7s,baz=173,slow=3.2,SNR=5.7						
NWAO	Narrogin (SRO)	149.76	224	PKPbc	PKPdf	00 44 59.5	+7.4

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*IDC **01** 00:39:25.4±8.6, 4.04S×142.46E, h64km±80km, mb3.9/6, mb1 4.2/8, mb1mx4.1/14, ML4.6/2, MS3.0/2, Ms1 3.0/2, ms1mx2.6/22, Error ellipse: s-maj=44.5km s-min=34.4km az=101.0*

*NEIC **01** 00:39:31.7±4.4, 4.20S×142.42E, h124km±39km, mb4.5/5, Error ellipse: s-maj=28.3km s-min=23.1km az=71.0*

ISC 01 00:39:22.3±3.4**, 4.0S**±0.1×**142.3E**±0.1**, h45km**±30km**, n17,** σ**0s79**/18**, mb4.2**/8**, MS2.9**/1**, 2C, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	13.07	228	⇑iP	P	00 42 33.8	+6.1
	51nm,0.4s						
KAKA				eS	S	00 44 51.3	-1.2
CTA	Charters Tower	16.49	167	P	P	00 43 11.7	-0.4
	0.2nm,0.3s,baz=308,slow=14,SNR=2.4						
CTA				LR	LR	00 49 52.6	
	comp=Z,40nm,20.9s,baz=26,slow=38						
WRAB	Tennant Creek	17.66	205	P	P	00 43 27.3	+0.6
	240nm,0.6s,SNR=22						
WRAB	Tennant Creek	17.66	205	eP	P	00 43 27.0	+0.2
	29nm,0.5s						
WB2	Warramunga Arr	17.66	205	⇑iP	P	00 43 27.4	+0.6
WRA	Warramunga Arr	17.67	205	P	P	00 43 27.2	+0.4
	6.3nm,0.3s,baz=24,slow=12,SNR=88						
ASAR	Alice Springs	21.19	202	P	P	00 44 06.3	0.0
	8.2nm,0.6s,mb4.2,baz=32,slow=12,SNR=63						
ASAR				LR	LR	00 52 51.2	
	comp=Z,48nm,19.0s,MS2.9,baz=17,slow=38						
ASPA	Alice Springs	21.19	202	eP	P	00 44 07.2	+0.9
FITZ	Fitzroy Crossi	21.51	228	eP	P	00 44 09.7	+0.2
	7.1nm,0.4s,mb4.5						
FITZ				eS	S	00 48 02.2	+1.9
FITZ	Fitzroy Crossi	21.51	228	P	P	00 44 09.4	-0.1
	8.9nm,0.5s,mb4.4,baz=23,slow=9.3,SNR=40						
MBWA	Marble Bar	27.79	230	P	P	00 45 06.0	-3.5
	4.3nm,0.6s,mb4.3						
SONM	Songino Array	60.41	333	ScP		00 54 12.1	
	0.3nm,0.7s,baz=168,slow=3.8,SNR=4.2						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MKAR	Makanchi Array	72.97	322	P	P	00 50 49.5	+0.4
	0.3nm,0.4s,mb3.6,baz=105,slow=6.7,SNR=3.6						
MAW	Mawson	82.32	202	P	P	00 51 39.8	-0.6
	2.0nm,0.6s,mb4.2,baz=71,slow=6.1,SNR=5.9						
BVAR	Borovoye Array	82.38	325	P	P	00 51 41.5	+0.6
	0.4nm,0.4s,mb3.7,baz=101,slow=7.3,SNR=3.5						
ILAR	Eielson Array	85.51	24	P	P	00 51 55.6	-0.8
	2.0nm,0.6s,mb4.5,baz=260,slow=4.8,SNR=27						
QSPA	South Pole Qui	85.99	180	eP	P	00 51 58.0	-0.5
	2.0nm,0.8s,mb4.4						

*NIED **01** 00:44:00,28.10N×128.00E,h17^{km},Mw4.2 Best double couple: M₀2.02×10^{15} NP1:φs103°,δ87°,λ-19°. NP2: φs194°,δ71°,λ-177°.*
*JMA **01** 00:44:22.3±0.2,28.11N×128.04E,h13^{km}±2^{km},M3.7*
*IDC **01** 00:44:23.3±0.9,27.84N×127.99E,mb3.8/6,mb1 4.1/8, mb1mx3.9/25,ML3.8/2,MS3.4/4,Ms1 3.5/4,ms1mx3.0/30, Error ellipse: s-maj=31.0km s-min=13.3km az=67.0*
*NEIC **01** 00:44:27.6±5.3,27.84N×128.07E,h31^{km}±43^{km},Error ellipse: s-maj=32.3km s-min=9.8km az=81.0*
ISC 01 00:44:23.7±0.6**,28.02N**±0.04×**128.10E**±0.05**,h13**^{km}**,n19, σ1^{s}17**/21**,mb3.8**/6**,MS3.4**/4**,Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTK	Tokunoshima	0.78	107	P	Pb	00 44 38.5	-0.2
JTK				S	Sb	00 44 50.1	+1.1
JIH	Iheya	0.99	187	P	Pb	00 44 42.2	0.0
JIH				S	Sb	00 44 56.4	+1.6
JOW	Kunigami	1.19	173	Pn	Pn	00 44 45.8	-0.3
	150nm,0.3s,baz=350,slow=16,SNR=138						
JOW				Sn	Sn	00 45 00.9	-1.2
	127nm,0.3s,baz=183,slow=23,SNR=20						
JOW	Kunigami	1.19	173	P	Pb	00 44 45.7	0.0
JOW				eS	Sb	00 45 02.4	+1.6
JAM	Amami Oshima	1.38	73	P	Pn	00 44 47.7	-1.1
JAM				eS	Sb	00 45 06.3	0.0
JAGN	Aguni-jima	1.62	209	P	Pn	00 44 51.3	-0.9
JNU	Nakatsue	5.62	24	Pn	Pn	00 45 51.7	+2.6
	2.7nm,0.3s,baz=220,slow=3.8,SNR=12						
CBIJ	Chichi jima	12.53	91	Pn	P	00 47 24.0	-0.6
	2.6nm,0.3s,baz=247,slow=16,SNR=2.6						
SONM	Songino Array	26.01	325	P	P	00 49 57.4	-0.6
	1.3nm,0.8s,mb3.5,baz=140,slow=9.6,SNR=8.3						
CMAR	Chiang Mai Arr	28.37	257	LR	LR	01 03 30.8	
	comp=Z,47nm,18.7s,MS3.1,baz=75,slow=41						
MKAR	Makanchi Array	40.28	310	P	P	00 52 02.9	+0.9
	1.4nm,0.9s,mb3.7,baz=95,slow=9.8,SNR=4.4						
MKAR	Makanchi Array	40.28	310	P	P	00 52 02.9	+0.9
ZAL	Zalesovo	40.78	322	P	P	00 52 07.2	+1.1
	1.2nm,0.3s,mb4.0,baz=359,slow=7.9,SNR=2.4						
ZAL				LR	LR	01 11 53.9	
	comp=Z,52nm,20.3s,MS3.4,baz=185,slow=40						
WRA	Warramunga Arr	48.06	172	P	P	00 53 02.8	-2.2
	1.1nm,0.8s,mb3.9,baz=349,slow=8.4,SNR=4.8						
BVAR	Borovoye Array	48.88	317	P	P	00 53 11.6	+0.7
	0.4nm,0.5s,mb3.8,baz=80,slow=8.8,SNR=2.2						
BVAR	Borovoye Array	48.88	317	P	P	00 53 11.6	+0.7
ASAR	Alice Springs	51.69	173	P	P	00 53 30.6	-2.1
	0.7nm,0.8s,mb3.7,baz=346,slow=6.5,SNR=4.3						
FINES	FINESS Array B	71.26	330	LR	LR	01 28 03.3	
	comp=Z,30nm,18.3s,MS3.6,baz=332,slow=37						
NOA	NORSAR Array B	77.67	334	LR	LR	01 34 58.7	
	comp=Z,33nm,18.1s,MS3.7,baz=340,slow=39						

*NIED **01** 00:59:00,37.30N×140.90E,h77^{km},Mw4.1 Best double couple: M₀1.83×10^{15} NP1:φs258°,δ64°,λ65°. NP2:φs124°, δ35°,λ131°.*
*MOS **01** 00:59:28.4±1.0,37.23N×140.79E,h51^{km},mb4.4/10,Error ellipse: s-maj=36.0km s-min=14.3km az=102.2*
*IDC **01** 00:59:33.2±0.5,37.26N×140.75E,h72^{km}±3^{km},mb3.8/14, mb1 4.0/17,mb1mx3.9/26,Error ellipse: s-maj=20.3km s-min=8.0km az=89.0*
*JMA **01** 00:59:33.9,37.32N×140.83E,h74^{km}±1^{km},M4.2 Broadband fault plane solution: P waves. NP1:φs141°, δ43°,λ161°. NP2:φs245°,δ77°,λ48°. Principal axes: T Plg42°, Azm115°; N Plg41°, Azm256°; P Plg21°, Azm5°;*
JMA Felt III J1.
*NEIC **01** 00:59:33.1±0.4,37.33N×140.97E,mb4.5/4,MW4.1(NIED) Error ellipse: s-maj=11.4km s-min=8.3km az=89.0*
NEIC Recorded [3 JMA] in Fukushima and [1 JMA] in Ibaraki, Miyagi and Tochigi Prefectures.
ISC 01 00:59:32.0±0.4**,37.27N**±0.03×**140.95E**±0.07**,h83**^{km}±2^{km}**, h72**^{km}±1.4^{km}**:pP-P,n58,σ0^{s}94**/68**,mb4.1**/18**,6C-4D, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JFK	Kawauchi	0.12	327	⇑P	P	00 59 44.6	+0.7
JFK				S	S	00 59 52.4	-0.3
ONAJ	Iwakimizuishiy	0.21	217	⇓P	P	00 59 45.3	+1.2
ONAJ				eS	S	00 59 53.5	+0.3
JFT	Otama	0.55	297	⇑P	P	00 59 46.6	0.0
JFT				S	S	00 59 56.4	-1.0
JMM	Marumori	0.61	348	⇑P	P	00 59 47.6	+0.4
JMM				S	S	00 59 57.5	-0.9
JFY	Yanaizu	1.00	278	⇑P	P	00 59 51.5	0.0
JFY				S	S	01 00 04.8	-1.4
JOU	Okura	1.12	348	⇓P	P	00 59 53.6	+0.7
JOU				S	S	01 00 08.2	-0.4
JYS	Shirataka	1.18	324	⇑P	P	00 59 54.1	+0.4
JYS				eS	S	01 00 09.7	-0.3
JIO	Ouri	1.23	15	⇓P	P	00 59 55.0	+0.8
JIO				eS	S	01 00 10.3	-0.6
JNS	Sasagawa	1.41	293	⇑P	P	00 59 56.2	-0.6
JKT	Katashina	1.45	250	P	P	00 59 58.6	+1.3
JAG	Ashikaga	1.47	235	⇓P	P	00 59 58.4	+0.9
JAG				eS	S	01 00 17.0	+0.7
MAJO	Matsushiro	2.32	253	ePn	P	01 00 10.2	+1.2
MAT	Matsushiro	2.32	253	P	P	01 00 10.2	+1.2
MAT				S	S	01 00 40.1	+3.7
MAT	Matsushiro	2.32	253	eP	P	01 00 10.0	+1.0
MAT				eS	S	01 00 40.0	+3.6
JHJ	Hachijo jima 2	4.25	193	P	P	01 00 34.8	-1.0
	72nm,0.3s,baz=124,slow=6.1,SNR=17						
JHJ				S	S	01 01 22.4	-2.0
	141nm,0.3s,baz=76,slow=22,SNR=11						
ASAJ	Asahikawa	6.95	10	P	P	01 01 10.9	-2.3
	6.5nm,0.3s,baz=232,slow=8.2,SNR=8.9						
ASAJ				S	S	01 02 33.5	+2.1
	1.8nm,0.3s,baz=26,slow=25,SNR=2.4						
ASAJ	Asahikawa	6.95	10	P	P	01 01 10.9	-2.3
ASAJ				S	S	01 02 33.5	+2.2
ASAJ				pmax	pmax		
	comp=Z,7.0nm,0.3s						
ASAJ				smax			
	comp=N,2.0nm,0.3s						
CBIJ	Chichi jima	10.20	174	P	P	01 01 56.0	-1.2
	comp=N,10.0nm,0.3s,baz=293,slow=16,SNR=7.5						
CBIJ				S	S	01 03 41.0	-10
	comp=N,11nm,0.3s,baz=275,slow=23,SNR=5.9						
BOD	Bodaibo	27.14	328	eP	P	01 05 07.4	-1.6
SONM	Songino Array	27.35	304	P	P	01 05 09.7	-1.3
	comp=N,1.7nm,0.6s,mb3.8,baz=102,slow=9.0,SNR=15						
SONM				pP	pP	01 05 28.2	-1.7
	comp=N,1.1nm,0.7s,baz=102,slow=8.8,SNR=3.9						
ZAL	Zalesovo	41.50	312	P	P	01 07 13.7	+1.5
	comp=N,3.0nm,0.5s,mb4.3,baz=292,slow=9.6,SNR=13						
ZAL	Zalesovo	41.50	312	P	P	01 07 13.7	+1.6
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MKAR	Makanchi Array	43.68	302	P	P	01 07 30.3	+0.2
	comp=Z,1.0nm,0.8s,mb3.6,baz=82,slow=9.6,SNR=9.8						
MKAR	Makanchi Array	43.68	302	P	P	01 07 30.3	+0.3
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	Makanchi Array	43.68	302	P	P	01 07 30.3	+0.2
KURK	Kurchatov	45.50	308	eP	P	01 07 44.7	+0.2
	comp=Z,5.7nm,0.7s,mb4.4						
ILAR	Eielson Array	49.49	32	P	P	01 08 16.9	+1.4
	comp=Z,1.1nm,0.7s,mb3.9,baz=266,slow=5.8,SNR=14						
ILAR				pP	pP	01 08 35.1	-0.8
	comp=Z,1.3nm,0.7s,baz=274,slow=6.7,SNR=8.3						
ILAR	Eielson Array	49.49	32	P	P	01 08 16.9	+1.4
ILAR				*PP	pP	01 08 35.1	-0.8
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ILAR				pmax	pmax		
	comp=N,1.0nm,0.7s						
BVAR	Borovoye Array	50.14	312	P	P	01 08 20.2	-0.4
	comp=N,1.0nm,0.5s,mb4.0,baz=81,slow=9.1,SNR=6.2						
BVAR				pP	pP	01 08 38.4	-2.7
	comp=N,0.6nm,0.4s,baz=90,slow=8.9,SNR=3.1						
ZRNK	Zerenda	50.98	312	eP	P	01 08 26.3	-0.7
	comp=N,1.6nm,0.7s,mb4.2						
ZRNK				e	pP	01 08 44.3	-3.1
WRAB	Tennant Creek	57.23	187	eP	P	01 09 12.8	-0.3
	comp=N,3.0nm,0.3s,mb4.8						
WB2	Warramunga Arr	57.24	187	eP	P	01 09 13.0	-0.2
WB2				e		01 09 42.0	
WRA	Warramunga Arr	57.24	187	P	P	01 09 12.7	-0.5
	comp=N,1.9nm,0.3s,mb4.5,baz=4.8,slow=6.8,SNR=23						
WRA				pP	pP	01 09 32.2	-2.0
	comp=N,0.7nm,0.4s,baz=0.8,slow=7.5,SNR=2.5						
WRA				sP	sP	01 09 39.2	-4.3
	comp=N,3.4nm,0.7s,baz=4.5,slow=7.4,SNR=9.2						
WRA	Warramunga Arr	57.24	187	P	P	01 09 12.7	-0.5
WRA				*PP	pP	01 09 32.2	-2.0
WRA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
WRA				pmax	pmax		
	comp=N,1.0nm,0.4s						
WRA				pmax	pmax		
	comp=N,3.0nm,0.7s						
ASAR	Alice Springs	60.97	187	P	P	01 09 39.3	+0.4
	comp=N,1.4nm,0.8s,mb4.0,baz=16,slow=4.4,SNR=14						
ASAR				sP	sP	01 10 05.9	-3.6
	comp=N,2.0nm,0.9s,baz=7.8,slow=6.8,SNR=7.1						
ARCES	ARCESS Array B	63.65	339	P	P	01 09 55.9	-0.2
	comp=N,6.7nm,1.0s,mb4.4,baz=56,slow=8.7,SNR=7.4						
ARCES				pP	pP	01 10 13.2	-4.1
	comp=N,5.7nm,1.1s,baz=59,slow=7.1,SNR=2.2						
ARCES	ARCESS Array B	63.65	339	P	P	01 09 55.9	-0.1
ARCES				*PP	pP	01 10 13.2	-4.1
ARCES				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ARCES				pmax	pmax		
	comp=N,6.0nm,1.1s						
KAF	Kangasniemi	67.93	333	ep	P	01 10 22.5	-0.9
	comp=N,1.3nm,0.3s,mb4.2,baz=49,slow=6.0						
KAF	Kangasniemi	67.93	333	ep	pP	01 10 41.5	-3.4
	comp=N,0.9nm,0.4s						
KAF	Kangasniemi	67.93	333	eP	P	01 10 22.5	-0.9
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.1						
FINES	FINESS Array B	68.44	332	P	P	01 10 26.3	-0.2
	comp=Z,1.3nm,0.5s,mb4.0,baz=50,slow=9.0,SNR=14						
FINES				pP	pP	01 10 45.5	-2.6
	comp=Z,5.1nm,0.9s,baz=38,slow=8.4,SNR=6.5						
FINES	FINESS Array B	68.44	332	P	P	01 10 26.3	-0.2
FINES				*PP	pP	01 10 45.5	-2.6
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES				pmax	pmax		
	comp=N,5.0nm,0.9s						
STKA	Stephens Creek	68.79	179	P	P	01 10 30.1	+0.9
	comp=N,1.9nm,0.6s,mb4.1,baz=3.6,slow=9.6,SNR=5.7						
HFS	Hagfors	73.72	335	P	P	01 10 58.0	-0.2
	comp=N,2.4nm,0.9s,mb3.9,baz=108,slow=4.7,SNR=6.4						
HFS				pP	pP	01 11 18.0	-2.0
	comp=N,1.6nm,0.8s,baz=90,slow=4.4,SNR=2.3						
HFS	Hagfors	73.72	335	P	P	01 10 58.0	-0.1
HFS				*PP	pP	01 11 18.0	-2.0
HFS				pmax	pmax		
	comp=Z,2.0nm,0.9s						
HFS				pmax	pmax		
	comp=N,2.0nm,0.8s						
NB2	NORSAR Subarra	73.83	337	P	P	01 10 59.2	+0.5
	comp=N,0.6nm,0.6s,mb3.5,baz=39,slow=6.2						
NB2	NORSAR Subarra	73.83	337	P	P	01 10 59.2	+0.5
NOA	NORSAR Array B	73.83	337	P	P	01 10 59.2	+0.5
	comp=N,1.0nm,0.7s,mb3.7,baz=39,slow=5.8,SNR=7.1						
NOA				pP	pP	01 11 18.3	-2.3
	comp=N,2.0nm,0.8s,baz=38,slow=5.9,SNR=6.4						
NOA	NORSAR Array B	73.83	337	P	P	01 10 59.3	+0.6
NOA				*PP	pP	01 11 18.3	-2.3
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA				pmax	pmax		
	comp=N,2.0nm,0.8s						
AKASG	Malin Array Be	73.89	322	P	P	01 10 58.7	-0.6
	comp=N,1.6nm,0.4s,mb4.1,baz=45,slow=6.3,SNR=7.5						
AKASG				pP	pP	01 11 18.2	-3.0
	comp=N,0.5nm,0.3s,baz=48,slow=5.7,SNR=2.7						
AKASG	Malin Array Be	73.89	322	P	P	01 10 58.7	-0.6
AKASG				*PP	pP	01 11 18.2	-3.0
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AKASG				pmax	pmax		
	comp=N,1.0nm,0.3s						
BRTR	Keskin Array B	78.42	311	pP	pP	01 11 45.2	-2.0
	comp=N,0.6nm,0.8s,baz=45,slow=4.1,SNR=2.4						
CLL	Collm	80.71	330	e*PP	pP	01 11 57.0	-2.3
KHC	Kasperske Hory	82.15	328	eP	pP	01 12 05.0	-1.9
KHC	Kasperske Hory	82.15	328	epP	pP	01 12 05.0	-1.9
GERES	GERESS Array B	82.32	328	P	P	01 11 45.8	+0.3
	comp=N,0.4nm,0.4s,mb3.6,baz=34,slow=4.8,SNR=6.6						
GERES				pP	pP	01 12 05.9	-1.9
	comp=N,1.1nm,0.7s,baz=38,slow=5.5,SNR=6.1						
GERES	GERESS Array B	82.32	328	P	P	01 11 45.8	+0.2
GERES				*PP	pP	01 12 05.9	-1.9
GERES				pmax	pmax		
	comp=N,1.0nm,0.7s						
THZ	Tophouse	83.90	157	eP	P	01 11 54.5	+0.8

*IDC **01** 01:08:36.4±7.3,28.96S×178.13W,h156^{km}±66^{km},mb3.4/4, mb1 3.7/5,mb1mx3.6/11,Error ellipse: s-maj=58.3km s-min=29.0km az=175.0*
*NEIC **01** 01:08:42.6±1.0,28.46S×178.36W,h203^{km}±8^{km},mb4.2/3, Error ellipse: s-maj=19.6km s-min=14.8km az=193.0*
ISC 01 01:08:43.2±1.0**,29.10S**±0.06×**178.8W**±0.1**,h188**^{km}±9^{km}**, n38,σ1^{s}22**/26**,mb3.9**/7**,3D,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	0.82	101	eP	P	01 09 11.8	+0.9
PUZ	Puketiti	9.27	194	eP	P	01 10 51.4	-2.6
PUZ				S	S	01 12 37.7	+1.5
MWZ	Matawai	9.70	197	eP	P	01 10 57.6	-1.9
MWZ				S	S	01 12 49.6	+3.5
URZ	Urewera	9.74	199	P	P	01 10 56.6	-3.4
	0.4nm,0.3s,baz=194,slow=21,SNR=3.6						
URZ				S	S	01 12 50.0	+2.9
	1.9nm,0.3s,baz=308,slow=23,SNR=6.6						
URZ	Urewera	9.74	199	eP	P	01 10 59.6	-0.4
KNZ	Kokohu	10.31	195	S	S	01 13 01.2	+0.7
BFZ	Birch Farm	12.24	198	S	S	01 13 45.4	+0.2
MRZ	Mangatainoka R	12.41	200	eP	P	01 11 33.2	-1.2
MRZ				S	S	01 13 46.0	-3.2
KIW	Kapiti Island	12.80	202	S	S	01 13 57.8	-0.4
NNZ	Nelson	13.65	206	S	S	01 14 18.6	+0.9
KHZ	Kahutara	14.65	203	S	S	01 14 39.3	-0.8
MQZ	McQueen's Vall	16.09	203	S	S	01 15 09.0	-3.6
CTAO	Charters Tower	32.88	278	eP	P	01 15 02.2	+0.7
	3.5nm,0.6s,mb4.3						
STKA	Stephens Creek	34.08	255	P	P	01 15 13.1	+1.5
	0.7nm,0.4s,mb3.7,baz=96,slow=9.2,SNR=3.2						
ASAR	Alice Springs	42.46	266	P	P	01 16 20.9	-0.4
	0.5nm,0.6s,mb3.3,baz=95,slow=7.4,SNR=7.1						
WRAB	Tennant Creek	43.32	271	eP	P	01 16 28.4	+0.1
	4.4nm,0.6s,mb4.3						
WRA	Warramunga Arr	43.33	271	P	P	01 16 27.7	-0.7
	1.7nm,0.6s,mb3.9,baz=108,slow=7.9,SNR=9.6						
WRA				PcP	PcP	01 18 11.4	-2.7
	1.1nm,0.9s,baz=113,slow=3.3,SNR=6.6						
QSPA	South Pole Qui	61.01	180	eP	P	01 18 38.2	-0.1
	3.7nm,0.7s,mb4.3						
VNA3	Neumayer Olymp	79.65	176	e	Px	01 20 36.0	
VNA3	Neumayer Olymp	79.65	176	⇓iP	P	01 20 30.3	-0.1
VNA3				e		01 20 36.0	
VNA2	Neumayer--Watz	80.08	177	e	Px	01 20 38.6	
VNA2	Neumayer--Watz	80.08	177	⇓iP	P	01 20 32.9	+0.2
VNA2				e		01 20 38.6	
VNA1	Neumayer--Stat	80.31	177	e	Px	01 20 40.2	
VNA1	Neumayer--Stat	80.31	177	⇓iP	P	01 20 34.6	+0.6
VNA1				e		01 20 40.2	
NVAR	Mina Array Bea	87.79	43	P	P	01 21 06.4	-5.6
	1.2nm,0.9s,mb3.7,baz=219,slow=5.8,SNR=4.4						
MKAR	Makanchi Array	116.37	311	PKP	PKPdf	01 27 00.9	-3.2
	0.4nm,0.6s,baz=174,slow=0.8,SNR=5.0						
BVAR	Borovoye Array	124.96	316	PKP	PKPdf	01 27 17.8	-2.7
	1.1nm,0.4s,baz=180,slow=3.0,SNR=6.6						
ZRNK	Zerenda	125.79	316	ePKPdf	PKPdf	01 27 19.1	-3.0
ARCES	ARCESS Array B	137.16	348	PKP	PKPdf	01 27 40.6	-2.5
	0.7nm,0.5s,slow=2.4,SNR=5.2						
KAF	Kangasniemi	143.08	341	epkp	PKPdf	01 27 44.7	-9.0
FINES	FINESS Array B	143.67	340	PKP	PKPdf	01 27 49.2	-5.5
	2.6nm,0.7s,baz=61,slow=3.7,SNR=14						
NB2	NORSAR Subarra	147.36	351	PKP		01 27 59.8	
	1.2nm,0.6s,baz=13,slow=2.9						
NB2	NORSAR Subarra	147.36	351	PKPbc	PKPdf	01 27 59.8	-1.2
NOA	NORSAR Array B	147.36	351	PKPbc	PKPdf	01 28 00.1	-0.9
	1.5nm,0.6s,baz=15,slow=4.5,SNR=7.6						
ASF	Jabal al Asfar	149.18	285	PKPbc	PKPdf	01 28 08.3	+3.4
	0.8nm,0.5s,baz=315,slow=5.6,SNR=4.2						
AKASG	Malin Array Be	149.82	323	PKPbc	PKPdf	01 28 07.7	+2.4
	4.0nm,0.5s,baz=44,slow=2.6,SNR=22						
BRTR	Keskin Array B	151.32	300	PKPbc	PKPdf	01 28 12.4	+4.5
	1.4nm,0.5s,baz=145,slow=5.3,SNR=8.4						
GERES	GERESS Array B	158.06	337	PKPab	PKPab	01 28 48.9	-4.8
	0.4nm,0.5s,slow=4.0,SNR=4.8						

IDC 01 01:33:28.5±2.8**,16.24S**×**172.61W,mb3.7**/5**,mb1 4.1**/5**, mb1mx3.9**/14**,Error ellipse: s-maj=160.0km s-min=24.4km az=148.0,Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	50.40	257	P	P	01 42 27.5	-2.5
	0.4nm,0.8s,baz=95,slow=7.3,SNR=3.9						
ASAR	Alice Springs	50.58	253	P	P	01 42 29.1	-2.2
	1.8nm,0.7s,baz=85,slow=8.4,SNR=16						
NVAR	Mina Array Bea	74.44	41	P	P	01 45 08.7	-1.8
	0.2nm,0.5s,baz=229,slow=9.6,SNR=3.7						
PDAR	Pinedale Array	82.38	41	P	P	01 45 52.9	-1.0
	0.3nm,0.4s,baz=239,slow=5.3,SNR=2.5						
ILAR	Eielson Array	83.12	11	P	P	01 45 55.2	-2.0
	0.9nm,0.7s,baz=222,slow=6.7,SNR=11						
BRTR	Keskin Array B	147.28	321	PKPbc	PKPdf	01 53 15.7	+2.0
	0.4nm,0.5s,baz=45,slow=2.0,SNR=3.5						

*WAR **01** 01:34:04.2,50.22N×18.73E,ML2.5,Mining Induced*
*PRU **01** 01:34:05.0,50.30N×18.62E*
ISC 01 01:34:03.3±0.6**,50.30N**±0.05×**18.66E**±0.04**,n15,σ1^{s}06**/26**, 2D,Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.57	216	ePG	Pg	01 34 15.1	+0.5
OKC				eSG	Sg	01 34 22.7	+0.5
OJC	Ojcow	0.73	96	ePG	Pg	01 34 18.0	+0.1
OJC				eSG	Sg	01 34 28.0	+0.3
OJC	Ojcow	0.73	96	ePg	Pg	01 34 17.8	-0.1
OJC				eSg	Sg	01 34 27.6	-0.1
OJC				⇓((			
NIE	Niedzica	1.38	129	ePG	Pg	01 34 29.0	-1.9
NIE				eSG	Sg	01 34 48.0	-1.3
NIE	Niedzica	1.38	129	ePg	Pg	01 34 29.4	-1.5
NIE				eSg	Sg	01 34 48.3	-1.0
NIE				⇓((			
DPC	Dobruska-Polom	1.50	273	ePG	Pg	01 34 32.7	-0.6
DPC				eSG	Sg	01 34 52.9	-0.4
	13nm,0.2s						
KSP	Ksiaz	1.61	291	ePN	Pn	01 34 34.0	+0.9
KSP				ePG	Pg	01 34 36.0	+0.6
KSP				eSN	Sn	01 34 56.0	+1.2
UPC	Upice	1.71	278	ePG	Pg	01 34 36.0	-1.4
UPC				eSG	Sg	01 34 59.1	-1.1
CRVS	Cervenica-Dubn	2.29	126	ePN	Pn	01 34 45.9	+3.0
CRVS				eSN	Sn	01 35 12.6	+0.3
PSZ	Piszkesteto	2.52	161	eP	Pg	01 34 53.5	0.0
PRU	Pruhonice	2.67	265	eSG	Sg	01 35 27.4	-4.8
	4.8nm,0.4s						
KHC	Kasperske Hory	3.50	252	ePN	Pn	01 35 00.0	-0.1
KHC				ex	x	01 35 05.5	
KHC				eSG	Sg	01 35 54.8	-5.1
CLL	Collm	3.73	288	eSG	Sg	01 36 07.0	-0.5
MOA	Molln	3.79	231	i	Pn	01 35 06.5	+2.3
MOA	Molln	3.79	231	i SG	Sg	01 36 05.2	-4.3
	1.7nm,0.3s						

MDD 01 01:34:07.8±1.2**,36.51N**×**1.55E,h21**^{km}±14^{km}**,mb3.8**/4**, Error ellipse: s-maj=9.3km s-min=7.5km az=13.0, PRXIMO,Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EANR	'Ain N'Sour	0.66	213	P	Pb	01 34 20.0	-0.6
ETRT	Tiaret	1.13	190	P	Pb	01 34 27.0	-1.5
EMHD	Djebel Mahouad	1.17	105	P	Pn	01 34 28.0	-1.2
EIBI	Ibiza	2.52	356	Pn	Pn	01 34 46.3	-2.1
	SNR=17						
EIBI				Sn	Sn	01 35 13.7	-5.2
	5.2nm,0.3s,SNR=9.1						
EMUR	La Murta	2.60	302	Pn	Pn	01 34 47.7	-1.8
	0.6nm,0.2s,SNR=7.9						
EMUR				Sn	Sn	01 35 17.2	-3.6
	1.9nm,0.3s,SNR=5.0						
EBEN	Beniarda	2.61	328	Pn	Pn	01 34 47.7	-2.0
	0.9nm,0.1s,SNR=13						
EBEN				Sn	Sn	01 35 16.3	-4.7
	2.9nm,0.2s,SNR=7.9						
EBER	Berja	3.59	278	Pn	Pn	01 35 01.0	-2.6
	1.0nm,0.1s,SNR=15						
EBER				Sn	Sn	01 35 41.8	-4.1
	2.5nm,0.3s,SNR=7.9						
EQES	Quesada	3.91	291	Pn	Pn	01 35 07.1	-1.1
	0.2nm,0.1s,SNR=8.7						
EQES				Sn	Sn	01 35 50.6	-3.5
	3.0nm,0.6s,SNR=5.6						
EMOS	Mosqueruela	4.17	338	Pn	Pn	01 35 09.8	-2.0
	1.8nm,0.1s,SNR=33						
EMOS				Sn	Sn	01 35 55.0	-5.5
	0.9nm,0.1s,SNR=5.7						
EPOB	Poblet	4.85	356	Pn	Pn	01 35 18.8	-2.7
	0.4nm,0.1s,SNR=7.9						
EPOB				Sn	Sn	01 36 10.3	-7.5
	0.3nm,0.1s,SNR=5.0						
EMIR	Miracle	5.40	360	Pn	Pn	01 35 26.6	-2.7
	1.2nm,0.2s,SNR=7.9						

IDC 01 01:42:10.6±21.0**,2.23N**×**99.74E,h248**^{km}±194^{km}**,mb3.1**/5**, mb1 3.3**/6**,mb1mx3.0**/19**,Error ellipse: s-maj=224.0km s-min=13.7km az=56.0,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	16.15	357	P	P	01 45 43.0	-2.8
	baz=185,slow=11,SNR=4.6						
FITZ	Fitzroy Crossi	32.54	129	P	P	01 48 18.8	-1.9
	1.4nm,0.8s,baz=174,slow=14,SNR=3.1						
WRA	Warramunga Arr	40.47	125	P	P	01 49 25.3	-1.8
	0.9nm,0.5s,baz=302,slow=9.1,SNR=14						
WB2	Warramunga Arr	40.48	125	eP	P	01 49 25.6	-1.6
ASAR	Alice Springs	42.04	130	P	P	01 49 38.6	-1.3
	0.3nm,0.4s,baz=303,slow=7.6,SNR=5.0						
MKAR	Makanchi Array	46.92	344	P	P	01 50 16.9	-1.3
	0.6nm,0.4s,baz=162,slow=7.7,SNR=11						
BVAR	Borovoye Array	56.16	339	P	P	01 51 24.1	-2.4
	0.3nm,0.4s,baz=153,slow=9.7,SNR=2.5						

*STR **01** 01:55:32.7±0.3,42.81N×1.46W,h5^{km}±1^{km},Ml2.6,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **01** 01:55:32.5,42.80N×1.47W,h5^{km},ML2.6(STR), ML2.6(LDG),MN2.1(MDD),After STR.*
*LDG **01** 01:55:33.2±0.3,42.86N×1.50W,h2^{km},Md2.7/3,Ml2.6/18, Error ellipse: s-maj=5.0km s-min=3.6km az=36.0*
*CSEM **01** 01:55:34.4±0.1,42.87N×1.40W,h5^{km},ML2.6/24,Error ellipse: s-maj=1.4km s-min=1.0km az=136.0*
MDD 01 01:55:34.3±0.3**,42.84N**×**1.41W,h2**^{km}±5^{km}**,mbLg2.2**/11**, 1C,Error ellipse: s-maj=3.1km s-min=2.3km az=33.0, PRXIMO AftershockPLICA,Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.30	26	ePg	Pg	01 55 39.9	-0.4
SJPF				eSg	Sg	01 55 42.8	-1.6
	170nm,0.3s						
LARF	Larrau	0.36	58	Pg	Pg	01 55 40.8	-0.8
LARF				Sg	Sg	01 55 46.8	+0.3
LARF	Larrau	0.36	58	P	Pg	01 55 40.9	-0.7
LARF				S	Sg	01 55 46.5	+0.1
EALK	Alkurruntz	0.38	349	⇑Pg	Pg	01 55 41.2	-0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	30nm,0.4s,SNR=18						
EALK				Lg		01 55 46.9	
	138nm,0.4s,SNR=7.9						
OSSF	**Osses**	**0.43**	**15**	Pg	Pg	01 55 41.9	-0.9
OSSF				Sg	Sg	01 55 48.1	-0.4
OSSF	**Osses**	**0.43**	**15**	P	Pg	01 55 42.0	-0.8
OSSF				S	Sg	01 55 48.2	-0.3
ORDF	**Ordiarp**	**0.51**	**43**	Pg	Pg	01 55 43.7	-0.7
ORDF				Sg	Sg	01 55 51.2	0.0
ORDF	**Ordiarp**	**0.51**	**43**	P	Pg	01 55 43.8	-0.7
ORDF				S	Sg	01 55 51.0	-0.2
ATE	**Arette**	**0.57**	**65**	P	Pg	01 55 44.7	-1.0
ATE				S	Sg	01 55 53.0	-0.4
FDAF	**Les Forges d'A**	**0.62**	**92**	Pg	Pg	01 55 45.3	-1.4
FDAF				Sg	Sg	01 55 55.9	+1.0
FDAF	**Les Forges d'A**	**0.62**	**92**	P	Pg	01 55 45.4	-1.2
ETSF	**Etsaut**	**0.63**	**85**	*e*Pg	Pg	01 55 45.3	-1.5
ETSF				*e*Sg	Sg	01 55 54.4	-0.8
	60nm,0.3s						
REYF	**Montagne du Re**	**0.78**	**73**	Pg	Pg	01 55 48.3	-1.6
REYF				Sg	Sg	01 56 00.2	-0.1
REYF	**Montagne du Re**	**0.78**	**73**	P	Pg	01 55 48.3	-1.6
REYF				S	Sg	01 55 59.2	-1.0
VIEF	**Viey**	**1.05**	**87**	Pg	Pg	01 55 52.8	-2.5
VIEF				Sg	Sg	01 56 08.6	-0.8
VIEF	**Viey**	**1.05**	**87**	P	Pb	01 55 53.0	-1.9
VIEF				S	Sb	01 56 08.9	0.0
LABF	**Labassere**	**1.11**	**79**	Pg	Pg	01 55 54.4	-2.0
LABF				Sg	Sg	01 56 10.5	-0.7
LABF	**Labassere**	**1.11**	**79**	P	Pb	01 55 54.5	-1.3
LABF				S	Sb	01 56 10.1	-0.4
RESF	**Ens**	**1.29**	**91**	Pg	Pg	01 55 58.1	-1.9
RESF				Sg	Sg	01 56 16.3	-0.8
RESF	**Ens**	**1.29**	**91**	P	Pb	01 55 58.1	-0.7
RESF				S	Sb	01 56 15.2	-0.5
EPF	**Esparros**	**1.30**	**81**	*e*Pn	Pn	01 55 57.6	-1.8
EPF				*e*Pg	Pg	01 55 59.7	-0.5
EPF				*e*Sg	Sg	01 56 17.3	-0.2
	43nm,0.2s						
ESAC	**San Caprasio**	**1.32**	**148**	Pg	Pg	01 55 58.2	-2.5
	28nm,0.3s,SNR=7.9						
ESAC				Lg		01 56 16.0	
	153nm,0.3s,SNR=7.9						
ESAC	**San Caprasio**	**1.32**	**148**	Pg	Pg	01 55 58.2	-2.4
	28nm,0.3s,SNR=7.9						
ELAN	**Lanestosa**	**1.54**	**285**	Pg	Pg	01 56 02.6	-2.3
	2.2nm,0.2s,SNR=7.9						
ELAN				Lg		01 56 23.8	
	6.0nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**1.54**	**285**	Pg	Pg	01 56 02.6	-2.4
	2.2nm,0.2s,SNR=7.9						
MELF	**Melles**	**1.59**	**88**	Pg	Pg	01 56 04.1	-2.0
SALF	**Salau**	**1.91**	**92**	Pg	Pg	01 56 08.9	-3.6
ETOR	**Torete**	**2.08**	**194**	Pn	Pn	01 56 09.1	-1.5
	0.8nm,0.1s,SNR=24						
ETOR				Pg	Pg	01 56 13.4	-2.5
	2.7nm,0.2s,SNR=14						
ETOR				Sn	Sn	01 56 35.9	-1.5
	18nm,0.6s,SNR=4.8						
ETOR				Lg		01 56 41.7	
	9.2nm,0.5s,SNR=5.0						
ETOR	**Torete**	**2.08**	**194**	Pn	Pn	01 56 09.1	-1.5
ETOR				Pg	Pg	01 56 13.4	-2.5
ETOR				Sn	Sn	01 56 36.7	-0.7
ETOR				Lg		01 56 41.7	
ETOR	**Torete**	**2.08**	**194**	Pg	Pg	01 56 13.4	-2.4
ETOR	**Torete**	**2.08**	**194**	Pg	Pg	01 56 13.4	-2.4
	2.7nm,0.2s,SNR=14						
ETOR				Sn	Sn	01 56 36.7	-0.7
	18nm,0.6s,SNR=4.8						
EMIR	**Miracle**	**2.36**	**112**	Pn	Pn	01 56 12.3	-2.4
	0.1nm,0.2s,SNR=4.9						
EMIR				Pg	Pg	01 56 16.9	-4.6
	2.0nm,0.2s,SNR=11						
EMIR				Sn	Sn	01 56 41.7	-2.9
	3.0nm,0.3s,SNR=8.6						
EMIR				Lg		01 56 48.9	
	4.5nm,0.2s,SNR=6.7						
EMIR	**Miracle**	**2.36**	**112**	Pn	Pn	01 56 12.3	-2.4
	0.1nm,0.2s,SNR=4.9						
EMIR	**Miracle**	**2.36**	**112**	Pg	Pg	01 56 16.9	-4.6
	2.0nm,0.2s,SNR=11						
EMIR				Sn	Sn	01 56 41.7	-2.9
	3.0nm,0.3s,SNR=8.6						
EPOB	**Poblet**	**2.38**	**128**	Pn	Pn	01 56 12.1	-2.8
	0.4nm,0.1s,SNR=7.9						
EPOB				Pg	Pg	01 56 16.8	-5.0
	1.4nm,0.1s,SNR=7.9						
EPOB				Sn	Sn	01 56 40.8	-4.1
	1.3nm,0.1s,SNR=7.9						
EPOB				Lg		01 56 51.1	
	7.8nm,0.4s,SNR=7.9						
EPOB	**Poblet**	**2.38**	**128**	Pn	Pn	01 56 12.1	-2.8
EPOB				Pg	Pg	01 56 16.8	-5.0
EPOB				Sn	Sn	01 56 40.8	-4.1
EPOB				Lg		01 56 46.9	
EPOB	**Poblet**	**2.38**	**128**	Pn	Pn	01 56 12.1	-2.7
	0.4nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**2.38**	**128**	Pg	Pg	01 56 16.8	-4.9
	1.4nm,0.1s,SNR=7.9						
EPOB				Sn	Sn	01 56 40.8	-4.1
	1.3nm,0.1s,SNR=7.9						
EBR	**Ebro Roquetas**	**2.47**	**144**	*e*S*S*		01 56 56.5	
EMOS	**Mosqueruela**	**2.58**	**164**	Pn	Pn	01 56 15.9	-1.8
	0.2nm,0.3s,SNR=7.9						
EMOS				Pg	Pg	01 56 21.9	-3.8
	1.4nm,0.3s,SNR=7.9						
EMOS				Sn	Sn	01 56 46.6	-3.4
	2.3nm,0.5s,SNR=7.9						
EMOS				Lg		01 56 56.9	
	1.4nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**2.58**	**164**	Pn	Pn	01 56 15.9	-1.8
	0.2nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**2.58**	**164**	Pg	Pg	01 56 21.9	-3.8
	1.4nm,0.3s,SNR=7.9						
EMOS				Sn	Sn	01 56 46.6	-3.4
	2.3nm,0.5s,SNR=7.9						
LFF	**La Frestale**	**2.61**	**36**	*e*Pn	Pn	01 56 15.1	-3.1
LFF				*e*Sn	Sn	01 56 45.5	-5.3
LFF				*e*Sg	Sg	01 56 54.1	-7.0
	7.9nm,0.4s						
MTLF	**Montolieu**	**2.70**	**78**	*e*Pn	Pn	01 56 17.9	-1.6
MTLF				*e*Pg	Pg	01 56 25.2	-3.0
MTLF				*e*Sn	Sn	01 56 49.9	-3.3
	5.1nm,0.3s						
EARI	**Arriondas**	**2.82**	**281**	Pn	Pn	01 56 19.8	-1.4
	0.6nm,0.3s,SNR=7.9						
EARI				Sn	Sn	01 56 52.8	-3.5
	3.7nm,0.5s,SNR=7.9						
EARI				Lg		01 57 04.3	
	2.9nm,0.4s,SNR=5.0						
EARI	**Arriondas**	**2.82**	**281**	Pn	Pn	01 56 19.8	-1.4
EARI				Sn	Sn	01 56 52.8	-3.5
EARI				Lg		01 57 06.8	
EARI	**Arriondas**	**2.82**	**281**	Pn	Pn	01 56 19.8	-1.4
	0.6nm,0.3s,SNR=7.9						
EARI				Sn	Sn	01 56 52.8	-3.5
	3.7nm,0.5s,SNR=7.9						
EJON	**La Jonquera**	**3.19**	**96**	Pn	Pn	01 56 25.1	-1.4
	0.3nm,0.1s,SNR=7.9						
EJON				Pg	Pg	01 56 34.0	-4.1
	0.6nm,0.2s,SNR=7.9						
EJON				Lg		01 57 15.1	
	3.1nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**3.19**	**96**	Pn	Pn	01 56 25.1	-1.4
	0.3nm,0.1s,SNR=7.9						
EJON	**La Jonquera**	**3.19**	**96**	Pg	Pg	01 56 34.0	-4.1
	0.6nm,0.2s,SNR=7.9						
RJF	**Les Rejaudoux**	**3.24**	**40**	*e*Pn	Pn	01 56 23.3	-3.9
RJF				*e*Sn	Sn	01 57 01.0	-5.8
	6.4nm,0.2s						
CAF	**Calviac**	**3.26**	**49**	*e*Pn	Pn	01 56 23.9	-3.6
CAF				*e*Sn	Sn	01 57 01.7	-5.7
	3.7nm,0.2s						
ESDC	**Sonseca Array**	**3.71**	**212**	Pn	Pn	01 56 30.1	-3.6
	0.3nm,0.2s,baz=36,slow=13,SNR=4.3						
ESDC				Pg	Pg	01 56 43.0	-5.2
	1.4nm,0.6s,baz=33,slow=17,SNR=4.3						
ESDC				Sn	Sn	01 57 14.7	-3.9
	1.0nm,0.3s,baz=36,slow=24,SNR=4.0						
ESDC				Lg		01 57 31.3	
	1.5nm,0.4s,baz=24,slow=28,SNR=7.9						
ESDC	**Sonseca Array**	**3.71**	**212**	Pn	Pn	01 56 30.1	-3.7
	0.3nm,0.2s,slow=13,SNR=4.3						
ESDC	**Sonseca Array**	**3.71**	**212**	Pg	Pg	01 56 43.0	-5.3
	1.4nm,0.6s,slow=17,SNR=4.3						
ESDC				Sn	Sn	01 57 14.7	-3.9
	1.0nm,0.3s,slow=24,SNR=4.0						
MFF	**Saint Martin d**	**3.87**	**13**	*e*Pn	Pn	01 56 31.8	-4.2
MFF				*e*Pg	Pg	01 56 43.6	-7.9
MFF				*e*Sn	Sn	01 57 15.5	-7.2
	2.2nm,0.3s						
LASF	**Ste Croix**	**4.03**	**70**	*e*Pn	Pn	01 56 35.3	-3.0
LASF				*e*Sn	Sn	01 57 21.6	-5.1
LASF				*e*Sg	Sg	01 57 42.6	-5.7
	2.8nm,0.4s						
ECAL	**Calabor**	**4.05**	**259**	Pn	Pn	01 56 35.8	-2.9
	2.0nm,0.3s,SNR=7.9						
ECAL				Pg	Pg	01 56 48.7	-6.4
	2.2nm,0.4s,SNR=7.9						
ECAL				Sn	Sn	01 57 21.6	-5.8
	1.9nm,0.3s,SNR=5.0						
ECAL				Lg		01 57 43.5	
	10nm,0.4s,SNR=5.0						
ECAL	**Calabor**	**4.05**	**259**	Pn	Pn	01 56 35.8	-2.9
ECAL				Pg	Pg	01 56 48.7	-6.4
ECAL				Sn	Sn	01 57 21.6	-5.8
ECAL				Lg		01 57 40.0	
ECAL	**Calabor**	**4.05**	**259**	Pn	Pn	01 56 35.8	-2.8
	2.0nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**4.05**	**259**	Pg	Pg	01 56 48.7	-6.4
	2.2nm,0.4s,SNR=7.9						
ECAL				Sn	Sn	01 57 21.6	-5.7
	1.9nm,0.3s,SNR=5.0						
ERUA	**La Rua**	**4.26**	**266**	Pn	Pn	01 56 39.0	-2.6
	0.8nm,0.2s,SNR=7.9						
TCF	**Toulx Ste Croi**	**4.31**	**36**	*e*Pn	Pn	01 56 37.3	-5.0
TCF				*e*Sn	Sn	01 57 25.4	-8.4
	3.7nm,0.5s						
BGF	**Bois d'Agland**	**4.79**	**38**	*e*Pn	Pn	01 56 44.0	-5.2
BGF				*e*Sn	Sn	01 57 38.4	-7.8
BGF				*e*Sg	Sg	01 58 03.5	-10
	4.6nm,0.4s						
VIVF	**Saint-Julien-l**	**4.84**	**63**	*e*Pn	Pn	01 56 46.2	-3.6
VIVF				*e*Sn	Sn	01 57 39.8	-7.4
	0.9nm,0.2s						
AVF	**Avril sur Loir**	**5.20**	**39**	*e*Pn	Pn	01 56 50.5	-4.5
AVF				*e*Pg	Pg	01 57 09.1	-9.0
AVF				*e*Sn	Sn	01 57 47.2	-9.2
	3.0nm,0.5s						
EADA	**Adamuz**	**5.26**	**208**	Pn	Pn	01 56 52.3	-3.5
	0.5nm,0.2s,SNR=5.0						
EADA	**Adamuz**	**5.26**	**208**	Pn	Pn	01 56 52.3	-3.5
SMF	**Signal de Mont**	**5.33**	**43**	*e*Pn	Pn	01 56 51.6	-5.2
SMF				*e*Sn	Sn	01 57 51.3	-8.4
	1.9nm,0.5s						
SSF	**Saint Saulge**	**5.47**	**38**	*e*Pn	Pn	01 56 53.0	-5.8
SSF				*e*Sn	Sn	01 57 53.5	-10
SSF				*e*Sg	Sg	01 58 25.6	-11
	0.6nm,0.4s						
GRR	**Gorron**	**5.56**	**4**	*e*Pn	Pn	01 56 55.3	-4.7
GRR				*e*Sn	Sn	01 57 55.0	-10
	2.1nm,0.3s						
ORIF	**Oris-en-Rattie**	**5.66**	**66**	*e*Pn	Pn	01 56 58.4	-3.1
ORIF				*e*Sn	Sn	01 58 00.0	-8.0
	0.6nm,0.3s						
LOR	**Lormes**	**5.79**	**38**	*e*Pn	Pn	01 56 57.6	-5.6
LOR				*e*Sn	Sn	01 58 00.7	-10
	0.8nm,0.3s						
LDF	**La Druitiere**	**5.82**	**8**	*e*Pn	Pn	01 56 59.1	-4.6
LDF				*e*Sn	Sn	01 58 01.7	-10
	1.1nm,0.3s						

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*STR **01** 02:12:35.5±0.4, 42.87N×1.45W, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **01** 02:12:35.8±0.8, 42.88N×1.46W, h2km, Md2.2/3, Ml2.1/1, Error ellipse: s-maj=12.4km s-min=7.3km az=54.0*
ISC 01 02:12:34.9±2.2**, 42.86N**±0.10×**1.4W**±0.1**, h10km**±17km**, n5, σ0s53**/11**, Pyrenees**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.30**	**30**	*e*Pg	**Pg**	**02 12 41.6**	**+0.5**
SJPF				*e*Sg	**Sg**	**02 12 44.3**	**-0.9**
	19nm,0.4s						
LARF	**Larrau**	**0.37**	**61**	Pg	**Pg**	**02 12 42.8**	**+0.3**
LARF				Sg	**Sg**	**02 12 48.4**	**+0.8**
OSSF	**Osses**	**0.42**	**17**	Pg	**Pg**	**02 12 43.6**	**+0.2**
OSSF				Sg	**Sg**	**02 12 49.2**	**+0.1**
ETSF	**Etsaut**	**0.64**	**86**	*e*Pg	**Pg**	**02 12 46.8**	**-1.0**
ETSF				*e*Sg	**Sg**	**02 12 56.2**	**-0.2**
	3.2nm,0.3s						
EPF	**Esparros**	**1.31**	**82**	*e*Pn	**Pn**	**02 12 59.2**	**-0.1**
EPF				*e*Pg	**Pg**	**02 13 01.6**	**+0.5**
EPF				*e*Sg	**Sg**	**02 13 18.7**	**+0.1**
	3.3nm,0.2s						

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*CSEM **01** 02:28:26.4±0.1, 38.13N×27.80E, h12km, MD3.3, Error ellipse: s-maj=2.2km s-min=1.8km az=104.0*
*ISK **01** 02:28:26.0, 38.14N×27.77E, h8km, MD3.3*
*ATH **01** 02:28:27.8, 38.16N×27.66E, h5km, MD3.2/3*
ISC 01 02:28:26.4±0.5**, 38.15N**±0.02×**27.73E**±0.04**, h5km**±5km**, n23, σ0s81**/30**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IZM	**Izmir**	**0.44**	**304**	*i* PG	**Pg**	**02 28 35.3**	**+0.1**
KDAG	**Bornova**	**0.44**	**305**	*i* P	**Pg**	**02 28 35.4**	**+0.2**
KDAG				*i* S	**Sg**	**02 28 41.1**	**-0.1**
AYDN	**Tasoluk**	**0.50**	**166**	*i* P	**Pg**	**02 28 37.0**	**+0.5**
AYDN				*i* S	**Sg**	**02 28 43.9**	**+0.8**
AKS	**Akhisar**	**0.73**	**5**	*i* PG	**Pg**	**02 28 41.0**	**0.0**
AKS				SG	**Sg**	**02 28 51.3**	**+0.6**
MANT	**Manisa**	**0.73**	**62**	*i* P	**Pg**	**02 28 41.2**	**+0.1**
MANT				*i* S	**Sg**	**02 28 51.1**	**+0.2**
SMG	**Samos**	**0.83**	**238**	*e*PG	**Pg**	**02 28 42.5**	**-0.5**
SMG				*e*SB	**Sb**	**02 28 54.5**	**+0.3**
MLSB	**Milas**	**0.85**	**177**	PG	**Pg**	**02 28 43.2**	**-0.2**
DENT	**Denizli**	**1.10**	**111**	PG	**Pg**	**02 28 46.7**	**-1.7**
YER	**Yerkesik**	**1.10**	**156**	PN	**Pn**	**02 28 47.1**	**-1.3**
BDRM	**Kayabasi**	**1.11**	**192**	*i* P	**Pb**	**02 28 47.3**	**-0.3**
BDRM				*i* S	**Sb**	**02 29 02.8**	**+0.6**
DNZL	**Cakiroluk**	**1.14**	**113**	*i* P	**Pb**	**02 28 49.4**	**+1.2**
DNZL				*i* S	**Sb**	**02 29 05.3**	**+2.2**
DALT	**Dalyan (Mudla)**	**1.56**	**152**	PN	**Pn**	**02 28 54.1**	**-0.8**
PRK	**Paraskevi**	**1.58**	**314**	*e*PB	**Pb**	**02 28 57.0**	**+1.3**
DST	**Dursunbey**	**1.61**	**25**	PN	**Pn**	**02 28 55.2**	**-0.5**
APE	**Apeiranthos**	**2.05**	**239**	*i* PN	**Pn**	**02 29 02.1**	**+0.1**
APE	**Apeiranthos**	**2.05**	**239**	*e*PN	**Pn**	**02 29 06.0**	**+4.0**
ORLT	**Orhaneli**	**2.10**	**25**	PN	**Pn**	**02 29 02.9**	**+0.2**
KCT	**Karacabey**	**2.17**	**13**	*i* PN	**Pn**	**02 29 03.4**	**-0.2**
BNT	**Bandirma**	**2.21**	**4**	PN	**Pn**	**02 29 03.3**	**-0.9**
ELL	**Elmali**	**2.23**	**128**	PN	**Pn**	**02 29 02.8**	**-1.7**
YLV	**Yalova**	**2.73**	**27**	PN	**Pn**	**02 29 12.0**	**+0.3**
ESKT	**Eskisehir**	**2.79**	**60**	PN	**Pn**	**02 29 12.2**	**-0.4**
HRT	**Hereke**	**3.06**	**29**	PN	**Pn**	**02 29 16.3**	**-0.1**

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*STR **01** 02:31:51.5±0.3, 43.35N×0.68W, h2km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 01 02:31:52.0±0.5**, 42.89N×1.43W, h5km, Md2.3**/3**, Ml1.8**/2**, Error ellipse: s-maj=8.3km s-min=5.7km az=51.0, Pyrenees**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.27**	**34**	*e*Pg	Pg	02 31 57.7	+0.1
SJPF				*e*Sg	Sg	02 32 00.4	-0.9
	18nm,0.3s						
LARF	**Larrau**	**0.36**	**65**	Pg	Pg	02 31 58.9	-0.4
LARF				Sg	Sg	02 32 04.2	+0.1
OSSF	**Osses**	**0.39**	**19**	Pg	Pg	02 31 59.7	-0.2
OSSF				Sg	Sg	02 32 05.9	+0.8
ETSF	**Etsaut**	**0.64**	**89**	*e*Pg	Pg	02 32 02.9	-2.0
ETSF				*e*Sg	Sg	02 32 12.3	-1.1
	1.6nm,0.2s						
EPF	**Esparros**	**1.31**	**83**	*e*Pn	Pn	02 32 15.3	-1.7
EPF				*e*Pg	Pg	02 32 17.7	-0.5
EPF				*e*Sg	Sg	02 32 34.9	-0.7
	2.1nm,0.2s						
LFF	**La Frestale**	**2.58**	**37**	*e*Pn	Pn	02 32 32.6	-2.6
LFF				*e*Sn	Sn	02 33 03.1	-4.3
LFF				*e*Sg	Sg	02 33 11.9	-6.2
	1.0nm,0.3s						

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*PDA **01** 02:33:45.1±0.9, 38.70N×29.04W, h10km±8km, MD3.2, ML1.7, Error ellipse: s-maj=19.5km s-min=6.5km az=36.0*
*CSEM **01** 02:33:45.1±0.9, 38.70N×29.04W, h10km±8km, ML1.7, Error ellipse: s-maj=19.5km s-min=6.5km az=36.0, After PDA*
SVSA 01 02:33:45.1±0.9**, 38.70N×29.04W, h10km**±8km**, MD3.2, ML1.7, Error ellipse: s-maj=19.5km s-min=6.5km az=36.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.28**	**104**	*i* P	Pg	02 33 50.0	-0.9
PCED				*e*S	Sg	02 33 53.7	-1.1
	22nm,0.1s						
PCED	**Cedros**	**0.28**	**104**	*e*S	Sg	02 33 53.7	-1.1
	22nm,0.1s						
	22nm,0.1s						
CALA	**Caldeira**	**0.29**	**113**	*e*P	Pg	02 33 50.3	-0.9
CALA				*e*S	Sg	02 33 54.4	-0.8
PICO	**Pico**	**0.52**	**112**	*e*P	Pg	02 33 54.0	-1.7
PICO				*e*S	Sg	02 34 00.9	-1.8
ROSA	**Rosais**	**0.63**	**88**	*e*P	Pb	02 33 55.5	-2.2
PPNO	**Prainha do Nor**	**0.65**	**110**	*e*S	Sb	02 34 03.5	-3.5
	10.0nm,0.2s						

IDC 01 02:34:12.5±17.0**, 5.32N×96.04E, h240km**±155km**, mb3.5**/6**, mb1 3.6**/7**, mb1mx3.3**/15**, 1D, Error ellipse: s-maj=176.0km s-min=14.8km az=55.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.37**	**12**	P	P	02 37 14.0	-0.2
	0.3nm,0.3s,baz=207,slow=12,SNR=8.3						
MKAR	**Makanchi Array**	**42.99**	**346**	P	P	02 41 47.4	-2.4
	3.8nm,1.1s,baz=171,slow=8.4,SNR=4.5						
SONM	**Songino Array**	**43.28**	**10**	PcP	PcP	02 43 38.0	+1.0
	0.3nm,0.4s,baz=201,slow=3.7,SNR=6.1						
WRA	**Warramunga Arr**	**45.26**	**125**	P	P	02 42 06.5	-1.6
	2.7nm,0.6s,baz=302,slow=9.4,SNR=14						
WB2	**Warramunga Arr**	**45.27**	**125**	⇓*i*P	P	02 42 06.4	-1.8
ASAR	**Alice Springs**	**46.84**	**130**	P	P	02 42 18.6	-1.8
	1.7nm,0.4s,baz=300,slow=7.9,SNR=32						
FINES	**FINESS Array B**	**75.84**	**332**	P	P	02 45 31.6	-2.0
	0.3nm,0.4s,baz=108,slow=6.0,SNR=6.9						
ARCES	**ARCESS Array B**	**78.30**	**340**	P	P	02 45 46.3	-0.7
	4.0nm,0.9s,baz=96,slow=6.4,SNR=6.5						
GERES	**GERESS Array B**	**80.98**	**318**	P	P	02 46 00.9	-0.7
	0.2nm,0.5s,baz=76,slow=4.0,SNR=3.8						

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*TIF **01** 02:53:36.6, 42.94N×45.49E, h12km, Mpv4.3*
*MOS **01** 02:53:39.2±2.0, 43.12N×45.91E, h17km, mb3.8/1, Error ellipse: s-maj=18.6km s-min=10.3km az=37.5*
ISC 01 02:53:37.6±0.5**, 43.08N**±0.04×**45.80E**±0.03**, h10km, n16, σ1s49**/28**, 4C-2D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BTLR	**Botlikh**	**0.52**	**143**	⇓*i*PG	**Pg**	**02 53 47.2**	**-0.9**
BTLR				*e*S	**Sg**	**02 53 55.7**	**+0.6**
BTLR				pmax	pmax		
	comp=Z,68nm,0.2s						
DLMR	**Dylym**	**0.61**	**90**	PG	**Pg**	**02 53 50.0**	**+0.1**
DLMR				*e*S	**Sg**	**02 54 00.0**	**+1.9**
DBC	**Dubki**	**0.76**	**94**	*i* PG	**Pg**	**02 53 52.0**	**-0.8**
DBC				*i* S	**Sb**	**02 54 03.0**	**+0.5**
DBC				pmax	pmax		
	comp=Z,87nm,0.2s						
KRNR	**Karanay**	**0.85**	**107**	⇓*i*PG	**Pg**	**02 53 55.0**	**+0.3**
KRNR				*i* S	**Sb**	**02 54 08.8**	**+3.6**
KRNR				pmax	pmax		
	comp=Z,53nm,0.2s						
XNZR	**Khunzakh**	**0.85**	**129**	*e*PG	**Pg**	**02 53 52.0**	**-2.8**
XNZR				*e*S	**Sb**	**02 54 04.0**	**-1.4**
UKTR	**Uchkent**	**0.94**	**87**	PG	**Pg**	**02 53 55.0**	**-1.5**
UKTR				*e*S	**Sb**	**02 54 11.0**	**+3.2**
BUJR	**Buynaksk**	**0.99**	**104**	*e*PG	**Pg**	**02 53 56.8**	**-0.7**
BUJR				*e*S	**Sb**	**02 54 14.3**	**+4.9**
BUJR				pmax	pmax		
	comp=Z,120nm,0.2s						
ARKR	**Arakani**	**1.00**	**118**	*e*PG	**Pg**	**02 53 56.0**	**-1.6**
ARKR				*e*S	**Sb**	**02 54 13.1**	**+3.6**
ARKR				pmax	pmax		
	comp=Z,30nm,0.2s						
DUS	**Dusheti**	**1.28**	**220**	*i* S	**Sb**	**02 54 20.1**	**+2.4**
TI2	**Plekhanov**	**1.55**	**210**	⇑*i*PN	**Pn**	**02 54 04.5**	**-1.0**
TBLG	**Delisi**	**1.56**	**211**	⇑*i*P	**Pn**	**02 54 04.5**	**-1.1**
ONI	**Oni**	**1.80**	**255**	⇑*i*P	**Pn**	**02 54 07.2**	**-1.8**
ONI				*i* S	**Sn**	**02 54 30.7**	**-1.4**
STE	**Stepanavan**	**2.32**	**207**	*e*P	**Pn**	**02 54 16.0**	**-0.6**
STE				*i* S	**Sn**	**02 54 47.5**	**+2.1**
AKH	**Akhalkalaki**	**2.39**	**227**	⇑*i*P	**Pn**	**02 54 17.6**	**+0.1**
AKH				*i* S	**Sn**	**02 54 49.7**	**+2.6**
KIV	**Kislovodsk**	**2.43**	**292**	*e*PN	**Pn**	**02 54 19.5**	**+1.4**
KIV				pmax	pmax		
	comp=Z,12nm,0.7s						
GOF	**Gofitskoye**	**2.81**	**316**	*e*PN	**Pg**	**02 54 41.0**	**+7.2**
GOF				*i* S	**Sg**	**02 55 12.0**	**+0.8**
GOF				smax			
	comp=E,180nm,1.4s						

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*TIF **01** 02:57:00.4, 43.08N×45.44E, h14km, Mpv4.3*
*MOS **01** 02:57:09.1±1.3, 42.81N×46.23E, h14km, mb3.8/1, Error ellipse: s-maj=16.9km s-min=14.6km az=144.3*
ISC 01 02:57:04.1±0.7**, 43.11N**±0.05×**45.80E**±0.04**, h10km, n13, σ1s37**/22**, 1C-2D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BTLR	**Botlikh**	**0.54**	**145**	⇓*i*PG	**Pg**	**02 57 13.7**	**-1.4**
BTLR				*i* S	**Sg**	**02 57 22.2**	**-0.2**
BTLR				pmax	pmax		
	comp=Z,75nm,0.2s						
DLMR	**Dylym**	**0.61**	**94**	*e*PG	**Pg**	**02 57 18.5**	**+2.1**
DLMR				*e*S	**Sg**	**02 57 28.5**	**+4.0**
DBC	**Dubki**	**0.76**	**96**	*i* PG	**Pg**	**02 57 19.0**	**-0.3**
DBC				*i* S	**Sb**	**02 57 30.0**	**+1.0**
DBC				pmax	pmax		
	comp=Z,70nm,0.2s						
KRNR	**Karanay**	**0.86**	**109**	*e*PG	**Pg**	**02 57 20.0**	**-1.3**
KRNR				pmax	pmax		
	comp=Z,42nm,0.2s						
XNZR	**Khunzakh**	**0.87**	**130**	*e*PG	**Pg**	**02 57 20.0**	**-1.6**
XNZR				*e*S	**Sb**	**02 57 32.0**	**-0.4**
UKTR	**Uchkent**	**0.94**	**89**	PG	**Pg**	**02 57 22.0**	**-0.9**
UKTR				*e*S	**Sb**	**02 57 37.0**	**+2.8**
BUJR	**Buynaksk**	**1.00**	**106**	*e*PG	**Pg**	**02 57 24.5**	**+0.4**
BUJR				pmax	pmax		
	comp=Z,145nm,0.2s						
DUS	**Dusheti**	**1.30**	**219**	*e*S	**Sb**	**02 57 46.1**	**+1.2**
MTA	**Mtatsminda**	**1.60**	**208**	⇑*i*P	**Pn**	**02 57 31.5**	**-1.2**
MTA				*i* S	**Sb**	**02 57 54.8**	**+1.2**
ONI	**Oni**	**1.81**	**254**	*e*P	**Pn**	**02 57 33.4**	**-2.3**
ONI				*i* S	**Sn**	**02 57 57.0**	**-1.9**
STE	**Stepanavan**	**2.35**	**207**	*i* P	**Pn**	**02 57 42.5**	**-1.0**
STE				*i* S	**Sn**	**02 58 14.5**	**+1.8**
AKH	**Akhalkalaki**	**2.42**	**226**	⇓*i*P	**Pn**	**02 57 44.1**	**-0.2**
AKH				*i* S	**Sn**	**02 58 15.8**	**+1.6**
GOF	**Gofitskoye**	**2.79**	**315**	*e*PN	**Pg**	**02 58 01.5**	**+1.7**

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*STR **01** 03:10:20.9±0.3, 43.38N×0.69W, h2km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 01 03:10:21.5±0.6**, 42.89N×1.44W, h5km, Md2.3**/3**, Ml1.9**/2**, Error ellipse: s-maj=9.6km s-min=6.7km az=52.0, Pyrenees**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.28**	**35**	*e*Pg	Pg	03 10 27.2	+0.1
SJPF				*e*Sg	Sg	03 10 29.9	-1.0
	6.9nm,0.2s						
LARF	**Larrau**	**0.37**	**65**	Pg	Pg	03 10 28.6	-0.3
LARF				Sg	Sg	03 10 34.4	+0.6
OSSF	**Osses**	**0.39**	**20**	Pg	Pg	03 10 29.3	-0.1
OSSF				Sg	Sg	03 10 35.3	+0.6
ETSF	**Etsaut**	**0.65**	**89**	*e*Pg	Pg	03 10 32.6	-1.9
ETSF				*e*Sg	Sg	03 10 41.8	-1.4
	2.5nm,0.3s						
EPF	**Esparros**	**1.32**	**83**	*e*Pn	Pn	03 10 44.7	-1.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EPF				ePg	Pg	03 10 47.3	-0.5
EPF				eSg	Sg	03 11 04.7	-0.7
	2.5nm,0.3s						
LFF	**La Frestale**	**2.59**	**37**	ePn	Pn	03 11 02.3	-2.5
LFF				eSn	Sn	03 11 32.7	-4.3
LFF				eSg	Sg	03 11 41.3	-6.4
	3.4nm,0.4s						

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*LDG **01** 03:14:22.7±0.1, 44.29N×7.56E, h2km, Md2.4/3, Ml2.3/13, Error ellipse: s-maj=3.0km s-min=1.5km az=75.0*
*STR **01** 03:14:23.0±0.2, 44.28N×7.51E, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **01** 03:14:23.0, 44.28N×7.51E, h5km, ML2.6(GEN), ML2.3(STR), ML2.3(LDG), After STR.*
ISC 01 03:14:22.2±0.3**, 44.29N**±0.02×**7.48E**±0.02**, h15**km±2km**, n38, σ0s70**/68**, Northern Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ENR	**Entracque**	**0.07**	**213**	P	**Pb**	**03 14 24.7**	**-0.2**
ENR				S	**Sb**	**03 14 26.1**	**-0.6**
STV2	**Anna di Valdie**	**0.12**	**248**	P	**Pb**	**03 14 25.6**	**-0.1**
STV2				S	**Sb**	**03 14 27.4**	**-0.4**
ROB	**Roburent**	**0.28**	**89**	P	**Pg**	**03 14 28.7**	**+0.2**
ROB				S	**Sg**	**03 14 32.7**	**+0.1**
MONE	**Monesi**	**0.29**	**136**	P	**Pb**	**03 14 28.3**	**-0.3**
MONE				S	**Sg**	**03 14 32.2**	**-0.6**
AUTN	**L'Aution**	**0.30**	**187**	Pg	**Pg**	**03 14 28.9**	**+0.2**
AUTN				Sg	**Sg**	**03 14 33.0**	**0.0**
SAOF	**Saorge**	**0.31**	**169**	Pg	**Pg**	**03 14 28.9**	**0.0**
TOUF	**Mont Tournerai**	**0.32**	**211**	Pg	**Pg**	**03 14 29.3**	**+0.1**
TOUF				Sg	**Sg**	**03 14 34.1**	**+0.3**
PZZ	**Prazzo**	**0.34**	**309**	P	**Pb**	**03 14 29.8**	**+0.3**
PZZ				S	**Sb**	**03 14 34.8**	**+0.3**
AURF	**Auriere**	**0.42**	**195**	Pg	**Pg**	**03 14 31.2**	**+0.3**
AURF				Sg	**Sg**	**03 14 37.1**	**+0.3**
SBF	**Sospel**	**0.43**	**184**	ePg	**Pg**	**03 14 31.3**	**+0.2**
SBF				eSg	**Sg**	**03 14 37.3**	**+0.2**
	96nm,0.4s						
MVIF	**Mont Vial**	**0.46**	**211**	Pg	**Pg**	**03 14 32.1**	**+0.4**
MVIF				Sg	**Sg**	**03 14 38.7**	**+0.6**
RORO		**0.46**	**113**	P	**Pb**	**03 14 31.7**	**+0.2**
RORO				S	**Sb**	**03 14 37.6**	**-0.1**
NEGI	**Negi**	**0.47**	**160**	P	**Pb**	**03 14 31.9**	**+0.3**
NEGI				S	**Sb**	**03 14 38.2**	**+0.1**
IMI	**Imperia**	**0.48**	**142**	ePg	**Pg**	**03 14 32.2**	**0.0**
IMI				eSg	**Sg**	**03 14 39.2**	**+0.3**
SURF	**Saint Ours**	**0.51**	**292**	Pg	**Pg**	**03 14 33.2**	**+0.4**
SURF				Sg	**Sg**	**03 14 40.7**	**+0.9**
FIN	**Finale Ligure**	**0.53**	**98**	ePg	**Pg**	**03 14 33.0**	**-0.1**
FIN				eSg	**Sg**	**03 14 39.8**	**-0.6**
BHB	**Bricherasio**	**0.57**	**345**	P	**Pb**	**03 14 33.8**	**+0.4**
BHB				S	**Sb**	**03 14 41.2**	**+0.2**
MBDF	**Montbardon**	**0.67**	**311**	ePg	**Pg**	**03 14 36.2**	**+0.4**
MBDF				eSg	**Sg**	**03 14 45.2**	**+0.3**
	20nm,0.2s						
CALN	**Calern**	**0.69**	**218**	Pg	**Pg**	**03 14 36.4**	**+0.3**
FENE	**Fenestrelle**	**0.80**	**338**	P	**Pb**	**03 14 38.0**	**+0.8**
RRL	**Cesana Torines**	**0.80**	**322**	P	**Pb**	**03 14 38.3**	**+1.0**
PCP	**Pian Castagno**	**0.81**	**71**	P	**Pb**	**03 14 38.1**	**+0.7**
RSP	**Reno Superiore**	**0.88**	**350**	P	**Pb**	**03 14 38.8**	**+0.2**
FRF	**La Foret Royal**	**0.94**	**220**	ePg	**Pg**	**03 14 40.9**	**-0.3**
FRF				eSg	**Sg**	**03 14 54.4**	**+0.5**
	16nm,0.2s						
LMR	**La Mourre**	**1.19**	**217**	ePg	**Pg**	**03 14 45.3**	**-0.7**
LMR				eSg	**Sg**	**03 15 01.6**	**-0.3**
	18nm,0.2s						
LSD	**Ceresole Reale**	**1.19**	**349**	P	**Pb**	**03 14 44.5**	**+0.6**
TRAV		**1.24**	**9**	P	**Pb**	**03 14 45.4**	**+0.6**
ORIF	**Oris-en-Rattie**	**1.30**	**299**	ePg	**Pg**	**03 14 47.6**	**-0.7**
ORIF				eSg	**Sg**	**03 15 04.6**	**-1.2**
	6.1nm,0.3s						
LPG	**La Plagne**	**1.31**	**337**	ePg	**Pg**	**03 14 47.1**	**-1.5**
LPG				eSg	**Sg**	**03 15 04.5**	**-1.6**
	3.2nm,0.2s						
LPL	**La Plagne**	**1.34**	**337**	ePn	**Pn**	**03 14 47.3**	**+0.9**
LPL				ePg	**Pg**	**03 14 48.1**	**-0.9**
LPL				eSg	**Sg**	**03 15 05.2**	**-1.7**
	3.3nm,0.3s						
SMRF	**Simiane la Rot**	**1.41**	**258**	ePg	**Pg**	**03 14 50.4**	**0.0**
SMRF				eSg	**Sg**	**03 15 08.9**	**-0.3**
	25nm,0.6s						
PGF	**Pioggiola**	**2.06**	**147**	ePn	**Pn**	**03 14 56.3**	**-0.6**
PGF				eSn	**Sn**	**03 15 20.7**	**-1.8**
	5.8nm,0.6s						
VIVF	**Saint-Julien-l**	**2.08**	**287**	ePn	**Pn**	**03 14 59.0**	**+1.9**
VIVF				eSn	**Sn**	**03 15 23.0**	**+0.1**
	2.2nm,0.3s						
LASF	**Ste Croix**	**2.61**	**267**	ePn	**Pn**	**03 15 05.6**	**+0.9**
LASF				eSn	**Sn**	**03 15 36.2**	**-0.2**
	1.2nm,0.2s						
AVF	**Avril sur Loir**	**3.83**	**312**	ePn	**Pn**	**03 15 22.6**	**+0.6**
CAF	**Calviac**	**3.92**	**281**	ePn	**Pn**	**03 15 23.3**	**+0.1**
CAF				eSn	**Sn**	**03 16 09.6**	**+0.2**
	0.6nm,0.3s						
MTLF	**Montolieu**	**3.92**	**258**	ePn	**Pn**	**03 15 22.3**	**-1.0**
MTLF				eSn	**Sn**	**03 16 07.7**	**-1.9**
	0.6nm,0.3s						
BGF	**Bois d'Agland**	**3.97**	**306**	ePn	**Pn**	**03 15 25.5**	**+1.5**
BGF				eSn	**Sn**	**03 16 10.2**	**-0.6**
	3.4nm,0.4s						

WEL 01 03:28:29.7±0.4**, 38.05S**×**176.26E, h180**km±3km**, ML3.7**/6**, Error ellipse: s-maj=8.0km s-min=5.1km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.70**	**108**	PN	P	03 28 55.4	-0.4
URZ				SN	S	03 29 14.9	-1.1
MWZ	**Matawai**	**1.04**	**106**	PN	P	03 28 57.9	0.0
MWZ				SN	S	03 29 19.9	+0.2
BKZ	**Black Stump Fm**	**1.13**	**171**	PN	P	03 28 58.8	+0.1
BKZ				SN	S	03 29 20.3	-0.8
PUZ	**Puketiti**	**1.57**	**91**	PN	P	03 29 02.2	-0.5
TSZ	**Takapari Road**	**2.02**	**187**	PN	P	03 29 06.8	-0.5
TSZ				SN	S	03 29 35.1	-1.3
BFZ	**Birch Farm**	**2.63**	**180**	PN	P	03 29 13.2	-1.2
MRZ	**Mangatainoka R**	**2.66**	**191**	PN	P	03 29 13.1	-1.8
MRZ				SN	S	03 29 46.4	-3.1
KIW	**Kapiti Island**	**3.00**	**200**	PN	P	03 29 16.3	-2.5
MTW	**Mount Morrison**	**3.16**	**190**	PN	P	03 29 18.3	-2.6
MSWZ	**Moikau Station**	**3.45**	**193**	PN	P	03 29 21.7	-2.8
KHZ	**Kahutara**	**4.83**	**205**	PN	P	03 29 38.4	-3.8
MQZ	**McQueen's Vall**	**6.28**	**205**	SN	S	03 31 03.3	-8.9

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*IDC **01** 03:35:15.6±7.5, 31.53S×179.76W, h250km±78km, mb3.8/5, mb1 3.9/6, mb1mx3.8/13, Error ellipse: s-maj=86.6km s-min=33.6km az=2.0*
*NEIC **01** 03:35:30.6±2.9, 32.75S×179.16E, h344km±17km, mb3.9/4, Error ellipse: s-maj=43.7km s-min=18.6km az=51.0*
ISC 01 03:35:23.4±1.0**, 32.25S**±0.07×**179.5E**±0.1**, h300**km±9km**, n73, σ1s40**/84**, mb4.0**/8**, 3C-1D, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.39**	**190**	P	**P**	**03 36 47.5**	**+1.5**
MXZ				S	**S**	**03 37 52.5**	**+1.7**
MXZ	**Matakaoa Point**	**5.39**	**190**	eP	**P**	**03 36 46.3**	**+0.3**
MXZ				S	**S**	**03 37 51.6**	**+0.8**
PUZ	**Puketiti**	**5.90**	**189**	eP	**P**	**03 36 49.1**	**-2.9**
PUZ	**Puketiti**	**5.90**	**189**	P	**P**	**03 36 49.0**	**-3.0**
PUZ				S	**S**	**03 38 00.4**	**-1.2**
MWZ	**Matawai**	**6.28**	**194**	eP	**P**	**03 36 58.0**	**+1.4**
MWZ	**Matawai**	**6.28**	**194**	eP	**P**	**03 36 57.8**	**+1.2**
URZ	**Urewera**	**6.30**	**197**	P	**P**	**03 36 58.3**	**+1.4**
	4.5nm,0.3s,baz=258,slow=4.2,SNR=52						
URZ				S	**S**	**03 38 13.1**	**+2.8**
	26nm,0.3s,baz=288,slow=21,SNR=18						
BKZ	**Black Stump Fm**	**7.32**	**198**	P	**P**	**03 37 10.6**	**+1.3**
BKZ	**Black Stump Fm**	**7.32**	**198**	eP	**P**	**03 37 08.9**	**-0.4**
BKZ				S	**S**	**03 38 35.8**	**+3.3**
MGZ	**Maungaku**	**7.46**	**204**	P	**P**	**03 37 13.6**	**+2.5**
MGZ	**Maungaku**	**7.46**	**204**	P	**P**	**03 37 13.9**	**+2.8**
TWVZ	**Taurewa**	**7.56**	**205**	P	**P**	**03 37 14.6**	**+2.3**
NGZ	**Ngauruhoe**	**7.59**	**203**	P	**P**	**03 37 13.5**	**+0.8**
NGZ	**Ngauruhoe**	**7.59**	**203**	P	**P**	**03 37 15.0**	**+2.3**
CNZ	**Chateau**	**7.63**	**204**	P	**P**	**03 37 16.1**	**+2.9**
CNZ	**Chateau**	**7.63**	**204**	eP	**P**	**03 37 15.4**	**+2.2**
TUVZ	**Tukino**	**7.66**	**203**	P	**P**	**03 37 15.0**	**+1.5**
TUVZ	**Tukino**	**7.66**	**203**	P	**P**	**03 37 14.9**	**+1.4**
WNVZ	**Wahianoa**	**7.73**	**203**	P	**P**	**03 37 15.9**	**+1.5**
MOVZ	**Moawhango**	**7.75**	**202**	P	**P**	**03 37 15.5**	**+0.8**
TSZ	**Takapari Road**	**8.29**	**199**	P	**P**	**03 37 21.5**	**+0.2**
TSZ	**Takapari Road**	**8.29**	**199**	eP	**P**	**03 37 20.6**	**-0.7**
WAZ	**Wanganui**	**8.32**	**205**	eP	**P**	**03 37 23.3**	**+1.6**
WAZ	**Wanganui**	**8.32**	**205**	P	**P**	**03 37 22.9**	**+1.2**
BFZ	**Birch Farm**	**8.81**	**196**	eP	**P**	**03 37 26.4**	**-1.2**
BFZ	**Birch Farm**	**8.81**	**196**	eP	**P**	**03 37 25.9**	**-1.7**
BFZ				S	**S**	**03 39 05.4**	**0.0**
MRZ	**Mangatainoka R**	**8.96**	**199**	eP	**P**	**03 37 27.3**	**-2.2**
MRZ	**Mangatainoka R**	**8.96**	**199**	eP	**P**	**03 37 27.5**	**-2.0**
MRZ				S	**S**	**03 39 06.9**	**-1.9**
KIW	**Kapiti Island**	**9.35**	**202**	P	**P**	**03 37 32.8**	**-1.4**
KIW	**Kapiti Island**	**9.35**	**202**	eP	**P**	**03 37 32.0**	**-2.2**
KIW				S	**S**	**03 39 16.8**	**-0.6**
MTW	**Mount Morrison**	**9.45**	**199**	P	**P**	**03 37 33.3**	**-2.2**
MTW	**Mount Morrison**	**9.45**	**199**	eP	**P**	**03 37 33.4**	**-2.1**
CAW	**Cannon Point**	**9.52**	**200**	P	**P**	**03 37 34.6**	**-1.8**
CAW	**Cannon Point**	**9.52**	**200**	eP	**P**	**03 37 32.1**	**-4.3**
MRW	**Makara Radio**	**9.74**	**202**	eP	**P**	**03 37 37.9**	**-1.2**
MSWZ	**Moikau Station**	**9.75**	**199**	P	**P**	**03 37 37.8**	**-1.5**
SNZO	**South Karori**	**9.82**	**201**	P	**P**	**03 37 38.2**	**-1.8**
SNZO	**South Karori**	**9.82**	**201**	eP	**P**	**03 37 37.9**	**-2.1**
SNZO				S	**S**	**03 39 28.4**	**+0.6**
BHW	**Baring Head**	**9.86**	**201**	P	**P**	**03 37 38.8**	**-1.7**
BHW	**Baring Head**	**9.86**	**201**	P	**P**	**03 37 38.7**	**-1.8**
NNZ	**Nelson**	**10.20**	**207**	eP	**P**	**03 37 43.6**	**-1.1**
NNZ	**Nelson**	**10.20**	**207**	eP	**P**	**03 37 43.2**	**-1.5**
NNZ				S	**S**	**03 39 39.9**	**+3.6**
QRZ	**Quartz Range**	**10.22**	**211**	eP	**P**	**03 37 44.9**	**-0.1**
QRZ	**Quartz Range**	**10.22**	**211**	eP	**P**	**03 37 45.0**	**0.0**
THZ	**Tophouse**	**10.85**	**207**	eP	**P**	**03 37 51.7**	**-1.0**
THZ	**Tophouse**	**10.85**	**207**	eP	**P**	**03 37 50.8**	**-1.9**
THZ				S	**S**	**03 39 52.4**	**+1.7**
KHZ	**Kahutara**	**11.19**	**203**	eP	**P**	**03 37 55.8**	**-1.2**
KHZ	**Kahutara**	**11.19**	**203**	eP	**P**	**03 37 55.3**	**-1.7**
KHZ				S	**S**	**03 39 59.0**	**+0.6**
LTZ	**Lake Taylor**	**11.96**	**206**	eP	**P**	**03 38 05.2**	**-1.3**
LTZ	**Lake Taylor**	**11.96**	**206**	P	**P**	**03 38 05.1**	**-1.4**
MQZ	**McQueen's Vall**	**12.63**	**203**	eP	**P**	**03 38 12.8**	**-1.9**
MQZ				S	**S**	**03 40 29.6**	**-0.7**
ODZ	**Otahua Downs**	**14.51**	**206**	eP	**P**	**03 38 37.5**	**+0.4**
ODZ	**Otahua Downs**	**14.51**	**206**	eP	**P**	**03 38 37.0**	**-0.1**
STKA	**Stephens Creek**	**31.99**	**260**	P	**P**	**03 41 25.7**	**+1.8**
	3.2nm,0.5s,mb4.1,baz=102,slow=10,SNR=18						
STKA	**Stephens Creek**	**31.99**	**260**	P	**P**	**03 41 25.7**	**+1.8**
CTA	**Charters Tower**	**32.04**	**284**	P	**P**	**03 41 24.7**	**+0.3**
	1.9nm,0.7s,mb3.7,baz=120,slow=8.1,SNR=2.8						
CTA	**Charters Tower**	**32.04**	**284**	P	**P**	**03 41 24.7**	**+0.3**
ASAR	**Alice Springs**	**40.89**	**270**	P	**P**	**03 42 38.6**	**+0.4**
	4.2nm,0.4s,mb4.0,baz=106,slow=7.7,SNR=47						
ASPA	**Alice Springs**	**40.89**	**270**	eP	**P**	**03 42 38.5**	**+0.2**
WB2	**Warramunga Arr**	**42.04**	**276**	⇑iP	**P**	**03 42 47.2**	**-0.5**
WRAB	**Tennant Creek**	**42.05**	**276**	P	**P**	**03 42 47.3**	**-0.4**
	79nm,0.5s,SNR=19						
WRAB	**Tennant Creek**	**42.05**	**276**	eP	**P**	**03 42 46.9**	**-0.9**
	10.0nm,0.4s,mb4.4						
WRA	**Warramunga Arr**	**42.05**	**276**	P	**P**	**03 42 47.3**	**-0.5**
	7.1nm,0.3s,mb4.3,baz=112,slow=7.9,SNR=232						
FITZ	**Fitzroy Crossi**	**50.23**	**273**	eP	**P**	**03 43 50.9**	**-0.5**
	1.5nm,0.7s,mb3.4						
FITZ	**Fitzroy Crossi**	**50.23**	**273**	P	**P**	**03 43 51.0**	**-0.4**
	0.7nm,0.3s,mb3.4,baz=107,slow=6.6,SNR=6.3						
QSPA	**South Pole Qui**	**57.87**	**180**	eP	**P**	**03 44 46.0**	**+0.5**
	3.9nm,0.9s,mb3.8						
SNAA	**Sanae**	**76.36**	**179**	⇓i	**P**	**03 46 39.7**	**-0.9**
SNAA	**Sanae**	**76.36**	**179**	P	**P**	**03 46 39.3**	**-1.3**
	2.0nm,0.7s,mb3.9						
VNA3	**Neumayer Olymp**	**76.60**	**177**	e	**P**	**03 46 42.8**	**+0.9**
VNA2	**Neumayer--Watz**	**77.01**	**178**	⇑i	**P**	**03 46 45.5**	**+1.4**
VNA1	**Neumayer--Stat**	**77.25**	**177**	⇑i	**P**	**03 46 47.3**	**+1.8**
KAF	**Kangasniemi**	**145.50**	**338**	epkp	PKPdf	03 54 20.8	-4.0
	baz=42,slow=2.9						
FINES	**FINESS Array B**	**146.07**	**337**	PKPbc	PKPbc	03 54 23.3	-3.8
	1.3nm,0.3s,baz=55,slow=4.4,SNR=19						

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*IDC **01** 03:35:29.2±2.0, 55.14S×127.79W, mb4.0/4, mb1 4.1/4, mb1mx4.0/11, MS3.9/6, Ms1 3.8/6, ms1mx3.6/17, Error ellipse: s-maj=162.0km s-min=32.2km az=148.0*
*NEIC **01** 03:35:30.9±0.6, 55.09S×127.80W, h10km, mb4.4/1, Error ellipse: s-maj=22.2km s-min=17.7km az=87.0*
ISC 01 03:35:29.5±0.9**, 55.1S**±0.2×**127.8W**±0.3**, h10**km**, n14, σ0s58**/8**, mb4.0**/5**, MS3.9**/7**, 3D, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**35.05**	**180**	eP	**P**	**03 42 24.6**	**+0.7**
	9.0nm,1.4s,mb4.5						
QSPA				LR	LR		
	comp=Z,130nm,19.5s,MS3.7						
VNA3	**Neumayer Olymp**	**46.60**	**157**	⇓iP	**P**	**03 43 58.9**	**+0.2**
VNA2	**Neumayer--Watz**	**47.34**	**157**	⇓i	**P**	**03 44 03.8**	**-0.8**
SNAA	**Sanae**	**47.74**	**159**	⇓i	**P**	**03 44 02.6**	**-5.1**
MAW	**Mawson**	**57.33**	**185**	LR	LR	04 07 48.4	
	comp=Z,59nm,19.1s,MS3.7,baz=200,slow=34						
CPUP	**Villa Florida**	**57.75**	**91**	LR	LR	04 06 28.4	
	comp=Z,154nm,18.6s,MS4.1,baz=329,slow=32						
BDFB	**Brasilia**	**71.48**	**91**	LR	LR	04 14 46.5	
	comp=Z,137nm,19.7s,MS4.2,baz=27,slow=33						
CTA	**Charters Tower**	**71.49**	**261**	LR	LR	04 13 04.4	
	comp=Z,56nm,21.2s,MS3.8,baz=226,slow=32						
ROSC	**El Rosal**	**74.22**	**56**	P	**P**	**03 47 08.3**	**-0.1**
	comp=Z,3.0nm,0.5s,mb4.5,baz=118,slow=22,SNR=4.4						
ASAR	**Alice Springs**	**75.49**	**250**	P	**P**	**03 47 16.0**	**+0.5**
	comp=Z,0.6nm,0.9s,mb3.5,baz=140,slow=7.0,SNR=3.2						
ASAR				LR	LR	04 15 48.3	
	comp=Z,52nm,18.6s,MS3.9,baz=20,slow=32						
WRA	**Warramunga Arr**	**78.26**	**252**	P	**P**	**03 47 30.1**	**-0.9**
	comp=Z,0.7nm,1.0s,mb3.5,baz=138,slow=5.2,SNR=4.2						
PMG	**Port Moresby**	**79.53**	**269**	LR	LR	04 15 29.0	
	comp=Z,56nm,21.2s,MS3.9,baz=99,slow=30						
TXAR	**Lajitas Array**	**86.63**	**21**	P	**P**	**03 48 14.4**	**+0.3**
	comp=Z,0.8nm,1.0s,mb3.9,baz=180,slow=8.1,SNR=6.1						
SONM	**Songino Array**	**146.25**	**281**	PKPbc	PKPbc	03 55 10.2	+0.9
	comp=Z,1.8nm,1.1s,baz=108,slow=3.9,SNR=6.4						

GUC 01 03:51:25.7±0.8**, 40.81S**×**73.49W, h41**km±9km**, MD3.7, ML3.3, 1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OSCH	**Osorno**	**0.36**	**51**	⇓iP	P	03 51 35.0	+0.3
OSCH				iS	S	03 51 41.3	+0.3
OSCH				AMP		03 51 41.8	
	comp=E,2µm,0.2s						
PMCH	**Puerto Montt**	**0.82**	**147**	eP	P	03 51 41.3	+0.4
PMCH				iS	S	03 51 52.5	+0.6
VLCH	**Valdivia**	**1.02**	**11**	iP	P	03 51 43.6	0.0
VLCH				iS	S	03 51 58.1	+1.2
VLCH				AMP		03 52 01.3	
	comp=N,8µm,0.1s						
TMCH	**Temuco**	**2.16**	**18**	iP	P	03 52 00.8	+0.8
TMCH				iS	S	03 52 26.7	+0.9
TMCH				AMP		03 52 28.3	
	comp=N,138nm,0.4s						

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*MEX **01** 04:06:11.3±0.9, 15.20N×93.17W, h60km±53km, MD4.4*
*IDC **01** 04:06:13.9±3.3, 15.38N×92.54W, h135km±28km, mb3.8/9, mb1 4.0/11, mb1mx3.7/21, Error ellipse: s-maj=31.6km s-min=17.2km az=52.0*
*NEIC **01** 04:06:13.5±1.4, 15.37N×92.54W, h134km±12km, mb3.7/4, Error ellipse: s-maj=20.6km s-min=6.4km az=48.0*
*CASC **01** 04:06:26.8±2.3, 14.30N×91.77W, h67km±11km, MD4.3, ML4.4, mb3.7(NEIC)*
ISC 01 04:06:08.0±0.5**, 15.15N**±0.05×**92.95W**±0.05**, h99**km±5km**, n52, σ1s18**/70**, mb4.0**/13**, 6C, Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.37**	**35**	eP	**P**	**04 06 33.9**	**+0.8**
CCIG				iS	**S**	**04 06 52.5**	**+0.8**
JAT	**Jato**	**1.52**	**123**	⇑eP	**P**	**04 06 36.2**	**+1.3**
JAT				eS	**S**	**04 06 45.3**	**-10**
JAT				AML	AML	04 06 45.6	
	comp=N,65µm,0.2s						
SCX	**San Cristobal**	**1.60**	**11**	iP	**P**	**04 06 36.6**	**+0.7**
SCX				iS	**S**	**04 06 55.5**	**-1.1**
TP2	**Tecpan 2**	**1.90**	**101**	eP	**P**	**04 06 42.3**	**+2.5**
TP2				eS	**S**	**04 06 59.8**	**-3.4**
TP2				AML	AML	04 07 03.1	
	comp=N,2µm,0.5s						
FUG	**Fuego 3**	**2.16**	**109**	⇑eP	**P**	**04 06 44.0**	**+0.8**
PCG	**Pacaya**	**2.39**	**108**	⇑eP	**P**	**04 06 47.3**	**+0.9**
PCG				eS	**S**	**04 07 03.2**	**-12**
NBG	**Las Nubes**	**2.58**	**102**	eP	**P**	**04 06 52.5**	**+3.5**
NBG				eS	**S**	**04 07 13.8**	**-5.8**
NBG				AML	AML	04 07 14.9	
	comp=N,7µm,0.3s						
IXG	**Ixpaco**	**2.60**	**112**	⇑eP	**P**	**04 06 49.1**	**-0.2**
IXG				eS	**S**	**04 07 07.2**	**-13**
IXG				AML	AML	04 07 12.5	
	comp=E,15µm,0.5s						
CMIG	**Matias Romero**	**2.68**	**316**	eP	**P**	**04 06 49.7**	**-0.7**
CMIG				iS	**S**	**04 07 17.4**	**-4.7**
HUIG	**Huatulco**	**3.11**	**282**	iP	**P**	**04 06 53.9**	**-2.4**
HUIG				iS	**S**	**04 07 25.5**	**-7.1**
CUSS	**Cusmapa**	**3.16**	**113**	eP	**P**	**04 06 56.2**	**-0.8**
CUSS				eS	**S**	**04 07 18.8**	**-15**
TUIG	**Tuzandepetl**	**3.19**	**334**	eP	**P**	**04 06 56.1**	**-1.3**
RTR	**El Retiro**	**3.43**	**111**	⇑eP	**P**	**04 07 00.8**	**+0.1**
RTR				eS	**S**	**04 07 26.8**	**-14**
SBLS	**San Blas**	**3.48**	**112**	⇑eP	**P**	**04 07 00.8**	**-0.5**
SBLS				eS	**S**	**04 07 28.1**	**-14**
SNJE	**San Jose**	**3.48**	**111**	eP	**P**	**04 07 01.2**	**-0.2**
SNJE				eS	**S**	**04 07 27.9**	**-14**
MTO2	**Montecristo 2**	**3.55**	**102**	eP	**P**	**04 07 04.1**	**+1.7**
BOQS	**Boqueron**	**3.82**	**111**	eP	**P**	**04 07 06.5**	**+0.4**
BOQS				eS	**S**	**04 07 35.5**	**-15**
LFRS	**El Faro**	**4.06**	**112**	eP	**P**	**04 07 09.1**	**-0.2**
LFRS				eS	**S**	**04 07 40.0**	**-16**
OXX	**Oaxaca**	**4.10**	**298**	iP	**P**	**04 07 10.8**	**+0.9**
VHO	**Vista Hermosa**	**4.11**	**298**	iP	**P**	**04 07 08.3**	**-1.6**
VHO				iS	**S**	**04 07 51.4**	**-5.8**
LCBS	**La Ceiba**	**4.13**	**111**	eP	**P**	**04 07 10.2**	**0.0**
SCIG		**4.15**	**24**	iP	**P**	**04 07 11.2**	**+0.6**
SCIG				iS	**S**	**04 07 57.7**	**-0.5**
SNVI	**San Vicente**	**4.27**	**111**	eP	**P**	**04 07 12.5**	**+0.4**
SNVI				eS	**S**	**04 07 45.4**	**-16**
CNCH	**Conchagua**	**5.30**	**110**	eP	**P**	**04 07 25.8**	**-0.3**
TEIG	**Tepich**	**6.73**	**41**	P	**P**	**04 07 44.1**	**-1.8**
	comp=E,0.0nm,0.3s,baz=48,slow=24,SNR=12						
TEIG				S	**S**	**04 08 56.4**	**-5.1**
	comp=E,0.0nm,0.3s,baz=132,slow=24,SNR=15						
JTS	**JuntasAbangare**	**9.18**	**121**	P	**P**	**04 08 20.3**	**+1.2**
	comp=E,3.8nm,0.3s,baz=207,slow=14,SNR=21						
TXAR	**Lajitas Array**	**17.23**	**327**	P	**P**	**04 10 05.3**	**+1.4**
	comp=E,0.0nm,0.3s,baz=156,slow=13,SNR=9.3						
CLNB	**Carlsbad**	**19.73**	**332**	eP	**P**	**04 10 32.7**	**+0.4**
GDL2	**Guadalupe Moun**	**19.90**	**330**	eP	**P**	**04 10 34.5**	**+0.4**
BNM	**Barren Site**	**22.59**	**329**	eP	**P**	**04 11 03.4**	**+2.5**
ANMO	**Albuquerque**	**23.16**	**331**	eP	**P**	**04 11 07.9**	**+1.5**
	comp=E,1.5nm,0.7s,mb3.4						
SDCO	**Great Sand Dun**	**25.10**	**336**	eP	**P**	**04 11 25.7**	**+0.6**
	comp=E,1.2nm,0.5s,mb3.6						
PV01	**Paradox Valley**	**26.73**	**332**	eP	**P**	**04 11 41.3**	**+1.1**
PV10	**Paradox Valley**	**27.14**	**331**	eP	**P**	**04 11 44.2**	**+0.2**
PDAR	**Pinedale Array**	**31.00**	**336**	P	**P**	**04 12 17.6**	**-0.7**
	comp=E,0.4nm,0.5s,mb3.4,baz=135,slow=8.4,SNR=4.9						
REDW	**Red Top Meadow**	**32.01**	**335**	eP	**P**	**04 12 27.3**	**+0.2**
TPAW	**Teton Pass**	**32.16**	**335**	eP	**P**	**04 12 28.6**	**+0.2**
NVAR	**Mina Array Bea**	**32.20**	**321**	P	**P**	**04 12 30.5**	**+1.7**
	comp=E,1.5nm,0.8s,mb3.8,baz=127,slow=9.1,SNR=13						
NVAR				pP	pP	04 12 53.3	+1.9
	comp=E,1.1nm,0.7s,baz=130,slow=9.5,SNR=7.8						
NVAR				sP	sP	04 13 04.2	+1.1
	comp=E,1.8nm,0.7s,baz=128,slow=9.5,SNR=10						
NVAR	**Mina Array Bea**	**32.20**	**321**	P	**P**	**04 12 30.4**	**+1.6**
NVAR				pP	pP	04 12 53.3	+1.9
NVAR				sP	sP	04 13 04.2	+1.1
MOOW	**Moose Ponds**	**32.29**	**336**	eP	**P**	**04 12 29.5**	**0.0**
HLID	**Hailey**	**33.73**	**331**	eP	**P**	**04 12 42.4**	**+0.5**
	comp=E,1.8nm,0.9s,mb3.9						
SAML	**Samuel**	**38.00**	**127**	eP	**P**	**04 13 16.7**	**-1.5**
	comp=E,4.5nm,0.8s,mb4.3						
YKA	**Yellowknife Ar**	**49.70**	**347**	P	**P**	**04 14 50.5**	**-1.2**
	comp=E,0.8nm,0.5s,mb3.9,baz=152,slow=7.6,SNR=5.0						
YKA	**Yellowknife Ar**	**49.70**	**347**	P	**P**	**04 14 50.5**	**-1.2**
DLBC	**Dease Lake**	**51.23**	**336**	P	**P**	**04 15 04.8**	**+1.4**
	comp=E,5.8nm,0.8s,mb4.7,baz=146,slow=5.8,SNR=9.7						
BDFB	**Brasilia**	**53.91**	**123**	P	**P**	**04 15 22.5**	**-1.4**
	comp=E,3.2nm,0.8s,mb4.4,baz=314,slow=6.6,SNR=4.2						
INK	**Inuvik**	**59.08**	**344**	P	**P**	**04 15 58.7**	**-1.2**
	comp=E,4.8nm,0.5s,mb4.8,baz=136,slow=7.6,SNR=23						
INK	**Inuvik**	**59.08**	**344**	P	**P**	**04 15 58.7**	**-1.2**
ILAR	**Eielson Array**	**61.42**	**337**	P	**P**	**04 16 14.4**	**-1.5**
	comp=E,2.2nm,0.7s,mb4.3,baz=126,slow=4.6,SNR=26						
NOA	**NORSAR Array B**	**83.57**	**28**	P	**P**	**04 18 24.0**	**-2.2**
	comp=E,0.6nm,0.9s,mb3.4,baz=295,slow=5.5,SNR=3.4						
ARCES	**ARCESS Array B**	**85.33**	**18**	P	**P**	**04 18 34.4**	**-0.4**
	comp=E,4.7nm,1.0s,mb4.4,baz=270,slow=3.6,SNR=5.1						
CMAR	**Chiang Mai Arr**	**144.61**	**340**	PKP	PKPdf	04 25 33.9	+0.1
	comp=E,1.2nm,0.5s,baz=341,slow=3.2,SNR=7.9						

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*IGIL **01** 04:16:16.3, 37.00N×13.50W, h0km, ML3.4*
*NEIC **01** 04:16:16.4±9.3, 37.11N×13.58W, h10km, MG4.0(MDD), Error ellipse: s-maj=107.0km s-min=11.5km az=58.0*
*MDD **01** 04:16:19.5±2.0, 37.21N×13.30W, mb4.0/10, Error ellipse: s-maj=17.9km s-min=15.0km az=52.0, PRXIMO*
*INMG **01** 04:16:21.8±0.6, 36.96N×13.59W, h10km, ML2.6, Error ellipse: s-maj=5.1km s-min=3.6km az=110.0*
ISC 01 04:16:21.9±1.1**, 37.42N**±0.05×**12.96W**±0.07**, h10**km**, n45, σ1s22**/85**, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LIS	**Lisbon**	**3.27**	**65**	eP	**Pn**	**04 17 14.6**	**+0.3**
LIS				eS	**Sn**	**04 17 58.0**	**+4.3**
LIS				eS	**Sn**	**04 17 58.0**	**+4.3**
LIS				AML	AML	04 17 59.2	
	comp=E,82nm,0.3s						
LIS	**Lisbon**	**3.27**	**65**	P	**Pn**	**04 17 14.6**	**+0.3**
LIS				P		04 17 14.6	
PLOU	**Loures**	**3.34**	**63**	ePn	**Pn**	**04 17 17.4**	**+2.2**
PLOU				eSn	**Sn**	**04 17 58.7**	**+3.3**
	comp=E,14nm,0.2s						
PLOU	**Loures**	**3.34**	**63**	Pn	**Pn**	**04 17 17.4**	**+2.2**
PLOU				Sn	**Sn**	**04 17 58.7**	**+3.3**
	comp=E,7.0nm,0.2s						
PTEO	**Sao Teotonio**	**3.37**	**87**	ePn	**Pn**	**04 17 15.9**	**+0.2**
PTEO				eSn	**Sn**	**04 17 56.6**	**+0.5**
	comp=E,8.6nm,0.1s						
PTEO	**Sao Teotonio**	**3.37**	**87**	Pn	**Pn**	**04 17 15.9**	**+0.2**
PTEO				Sn	**Sn**	**04 17 56.6**	**+0.5**
	comp=E,4.3nm,0.1s						
MOE	**Montemor**	**3.80**	**72**	ePn	**Pn**	**04 17 23.0**	**+1.2**
MOE				eSn	**Sn**	**04 18 08.8**	**+1.7**
PBEJ	**Beja**	**4.08**	**80**	eSn	**Sn**	**04 18 14.8**	**+0.6**
PTOM	**Tomar**	**4.19**	**57**	ePn	**Pn**	**04 17 28.9**	**+1.6**
PTOM				eSn	**Sn**	**04 18 19.4**	**+2.5**
	comp=E,12nm,0.1s						
PTOM	**Tomar**	**4.19**	**57**	Pn	**Pn**	**04 17 28.9**	**+1.6**
PTOM				Sn	**Sn**	**04 18 19.4**	**+2.5**
	comp=E,6.0nm,0.1s						
PALC	**Alcoutim**	**4.36**	**88**	ePn	**Pn**	**04 17 29.6**	**-0.2**
PALC				eSn	**Sn**	**04 18 20.9**	**-0.4**
	comp=E,13nm,0.1s						
PALC	**Alcoutim**	**4.36**	**88**	Pn	**Pn**	**04 17 29.6**	**-0.2**
PALC				Sn	**Sn**	**04 18 20.9**	**-0.4**
	comp=E,6.7nm,0.1s						
EBAD	**Badajoz**	**4.88**	**72**	Pn	**Pn**	**04 17 37.5**	**+0.5**
	comp=E,0.6nm,0.1s,SNR=5.0						
EBAD				Sn	**Sn**	**04 18 33.7**	**-0.5**
	comp=E,13nm,0.2s,SNR=13						
EBAD	**Badajoz**	**4.88**	**72**	Pn	**Pn**	**04 17 37.5**	**+0.5**
EBAD				Sn	**Sn**	**04 18 34.2**	**-0.1**
EBAD	**Badajoz**	**4.88**	**72**	Pn	**Pn**	**04 17 37.5**	**+0.5**
	comp=E,0.6nm,0.1s,SNR=5.0						
EBAD				Sn	**Sn**	**04 18 33.7**	**-0.5**
	comp=E,13nm,0.2s,SNR=13						
PCBR	**Castelo Branco**	**4.92**	**59**	ePn	**Pn**	**04 17 38.8**	**+1.1**
PCBR				eSn	**Sn**	**04 18 36.8**	**+1.3**
	comp=E,4.5nm,0.1s						
PCBR	**Castelo Branco**	**4.92**	**59**	Pn	**Pn**	**04 17 38.8**	**+1.1**
PCBR				Sn	**Sn**	**04 18 36.8**	**+1.3**
	comp=E,2.2nm,0.1s						
EMIN	**Mina Concepcio**	**5.00**	**84**	Pn	**Pn**	**04 17 38.4**	**-0.4**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=E,0.4nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	04 18 36.3	-1.1
	comp=E,1.8nm,0.2s,SNR=11						
EMIN	**Mina Concepcio**	**5.00**	**84**	Pn	**Pn**	**04 17 38.4**	**-0.4**
	comp=E,0.4nm,0.1s,SNR=7.9						
EMIN				Sn	**Sn**	**04 18 36.3**	**-1.2**
	comp=E,1.8nm,0.2s,SNR=11						
PVIS	**Viseu**	**5.13**	**49**	*e*Pn	**Pn**	**04 17 41.5**	**+0.8**
PVIS				*e*Sn	**Sn**	**04 18 42.0**	**+1.2**
	comp=E,5.8nm,0.1s						
PVIS	**Viseu**	**5.13**	**49**	Pn	**Pn**	**04 17 41.5**	**+0.8**
PVIS				Sn	**Sn**	**04 18 42.0**	**+1.2**
	comp=E,2.9nm,0.1s						
MTE	**Manteigas**	**5.17**	**53**	*e*Pn	**Pn**	**04 17 42.5**	**+1.4**
MTE				*e*Sn	**Sn**	**04 18 43.2**	**+1.7**
	comp=E,4.3nm,0.2s						
MTE	**Manteigas**	**5.17**	**53**	Pn	**Pn**	**04 17 42.5**	**+1.4**
MTE				Sn	**Sn**	**04 18 43.2**	**+1.7**
	comp=E,2.2nm,0.2s						
PVRL	**Vila Real**	**5.60**	**45**	*e*Sn	**Sn**	**04 18 53.2**	**+0.8**
	comp=E,4.1nm,0.1s						
PVRL	**Vila Real**	**5.60**	**45**	Sn	**Sn**	**04 18 53.2**	**+0.8**
	comp=E,2.0nm,0.1s						
ESPR	**Espera**	**5.70**	**93**	Pn	**Pn**	**04 17 47.8**	**-0.8**
	comp=E,1.6nm,0.1s,SNR=11						
ESPR				Sn	**Sn**	**04 18 53.0**	**-1.9**
	comp=E,10nm,0.3s,SNR=7.9						
ESPR	**Espera**	**5.70**	**93**	Pn	**Pn**	**04 17 47.8**	**-0.9**
	comp=E,1.6nm,0.1s,SNR=11						
ESPR				Sn	**Sn**	**04 18 53.0**	**-1.9**
	comp=E,10nm,0.3s,SNR=7.9						
EZAM	**Zamans**	**5.75**	**33**	Pn	**Pn**	**04 17 48.3**	**-1.1**
	comp=E,0.4nm,0.1s,SNR=7.9						
EZAM				Sn	**Sn**	**04 18 54.1**	**-2.2**
	comp=E,0.7nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**5.83**	**39**	Pn	**Pn**	**04 17 50.4**	**-0.1**
	comp=E,0.5nm,0.1s,SNR=7.9						
ELOB				Sn	**Sn**	**04 18 56.5**	**-1.7**
	comp=E,5.0nm,0.2s,SNR=9.1						
ELOB	**Lobios**	**5.83**	**39**	Pn	**Pn**	**04 17 50.4**	**-0.1**
	comp=E,0.5nm,0.1s,SNR=7.9						
ELOB				Sn	**Sn**	**04 18 56.5**	**-1.8**
	comp=E,5.0nm,0.2s,SNR=9.1						
EMAZ	**Mazaricos**	**6.31**	**28**	Pn	**Pn**	**04 17 57.0**	**-0.3**
	comp=E,1.5nm,0.1s,SNR=7.9						
EMAZ				Sn	**Sn**	**04 19 04.5**	**-5.7**
	comp=E,4.3nm,0.1s,SNR=11						
STS	**Santiago**	**6.42**	**30**	Pn	**Pn**	**04 17 58.7**	**-0.1**
	comp=E,2.1nm,0.2s,SNR=5.0						
PBRG	**Braganca**	**6.50**	**46**	*e*Pn	**Pn**	**04 17 59.7**	**-0.2**
PBRG				*e*Sn	**Sn**	**04 19 14.6**	**-0.3**
	comp=E,2.7nm,0.2s						
PBRG	**Braganca**	**6.50**	**46**	Pn	**Pn**	**04 17 59.7**	**-0.2**
PBRG				Sn	**Sn**	**04 19 14.6**	**-0.3**
	comp=E,1.4nm,0.2s						
ECAL	**Calabor**	**6.59**	**45**	Pn	**Pn**	**04 18 00.8**	**-0.4**
	comp=E,0.9nm,0.2s,SNR=6.3						
ECAL				Sn	**Sn**	**04 19 16.2**	**-1.0**
	comp=E,0.9nm,0.1s,SNR=7.6						
ECAL	**Calabor**	**6.59**	**45**	Pn	**Pn**	**04 18 01.5**	**+0.3**
ECAL				Sn	**Sn**	**04 19 16.2**	**-1.0**
ECAL	**Calabor**	**6.59**	**45**	Pn	**Pn**	**04 18 00.8**	**-0.4**
	comp=E,0.9nm,0.2s,SNR=6.3						
ECAL				Sn	**Sn**	**04 19 16.2**	**-1.0**
	comp=E,0.9nm,0.1s,SNR=7.6						
EADA	**Adamuz**	**6.68**	**81**	Pn	**Pn**	**04 18 01.9**	**-0.6**
	comp=E,0.4nm,0.1s,SNR=6.7						
EADA				Sn	**Sn**	**04 19 16.8**	**-2.6**
	comp=E,1.1nm,0.2s,SNR=6.8						
EADA	**Adamuz**	**6.68**	**81**	Pn	**Pn**	**04 18 01.9**	**-0.6**
	comp=E,0.4nm,0.1s,SNR=6.7						
EADA				Sn	**Sn**	**04 19 16.8**	**-2.6**
	comp=E,1.1nm,0.2s,SNR=6.8						
ERUA	**La Rua**	**6.68**	**40**	Sn	**Sn**	**04 19 17.4**	**-2.1**
	comp=E,0.9nm,0.2s,SNR=6.3						
EPON	**Pontenova**	**7.38**	**35**	Pn	**Pn**	**04 18 11.1**	**-1.2**
	comp=E,0.4nm,0.1s,SNR=7.9						
EPON				Sn	**Sn**	**04 19 32.1**	**-4.9**
	comp=E,0.6nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**7.38**	**35**	Pn	**Pn**	**04 18 11.1**	**-1.2**
	comp=E,0.4nm,0.1s,SNR=7.9						
EPON				Sn	**Sn**	**04 19 32.1**	**-4.9**
	comp=E,0.6nm,0.1s,SNR=7.9						
EQES	**Quesada**	**7.86**	**84**	Pn	**Pn**	**04 18 18.4**	**-0.6**
	comp=E,0.1nm,0.1s,SNR=7.9						
EQES				Sn	**Sn**	**04 19 45.7**	**-3.2**
	comp=E,0.3nm,0.1s,SNR=7.9						
EQES	**Quesada**	**7.86**	**84**	Pn	**Pn**	**04 18 18.4**	**-0.6**
	comp=E,0.1nm,0.1s,SNR=7.9						
EQES				Sn	**Sn**	**04 19 45.7**	**-3.2**
	comp=E,0.3nm,0.1s,SNR=7.9						
ETOR	**Torete**	**9.13**	**65**	Pn	**P**	**04 18 36.8**	**+0.2**
	comp=E,0.1nm,0.2s,SNR=5.0						
ETOR				Sn	**Sn**	**04 20 16.5**	**-4.0**
	comp=E,0.4nm,0.2s,SNR=5.0						

*IDC **01** 04:17:36.5±1.4, 7.01S×156.68E, h126^{km}±8^{km}, mb3.7/7, mb1 3.8/7, mb1mx3.8/12, Error ellipse: s-maj=43.4km s-min=17.9km az=110.0*
*NEIC **01** 04:17:36.9±1.0, 7.12S×156.77E, mb4.1/2, Error ellipse: s-maj=35.8km s-min=15.3km az=119.0*
ISC 01 04:17:34.6±1.3**, 7.1S**±0.2×**156.7E**±0.3**, h126**^{km}**, h126**^{km}±5.0^{km}**:pP-P, n10,** σ**0**^{s}**74**/10**, mb3.8**/9**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**25.17**	**237**	*e*P	**P**	**04 22 49.6**	**-0.5**
	4.2nm,0.6s,mb4.0						
WB2	**Warramunga Arr**	**25.18**	**237**	*e*P	**P**	**04 22 50.1**	**0.0**
WRA	**Warramunga Arr**	**25.19**	**237**	P	**P**	**04 22 50.2**	**0.0**
	1.5nm,0.3s,mb3.8,baz=60,slow=9.0,SNR=54						
WRA				pP	pP	04 23 18.5	+1.9
	4.4nm,0.8s,baz=61,slow=9.6,SNR=9.5						
ASAR	**Alice Springs**	**27.41**	**231**	P	**P**	**04 23 09.8**	**-0.9**
	1.2nm,0.5s,mb3.7,baz=57,slow=10.0,SNR=20						
STKA	**Stephens Creek**	**28.40**	**208**	P	**P**	**04 23 19.1**	**-0.4**
	2.9nm,1.1s,mb3.7,baz=14,slow=8.3,SNR=3.4						
FITZ	**Fitzroy Crossi**	**32.19**	**247**	*e*P	**P**	**04 23 53.7**	**+0.7**
	2.4nm,0.9s,mb3.9						
SONM	**Songino Array**	**70.37**	**327**	P	**P**	**04 28 37.0**	**+0.1**
	0.7nm,0.6s,mb3.7,baz=142,slow=5.6,SNR=8.7						
SONM				pP	pP	04 29 05.9	-2.1
	0.6nm,0.7s,baz=135,slow=6.6,SNR=4.9						
ILAR	**Eielson Array**	**82.85**	**21**	P	**P**	**04 29 45.0**	**-1.0**
	0.3nm,0.7s,mb3.2,baz=244,slow=5.4,SNR=4.5						
MKAR	**Makanchi Array**	**84.63**	**318**	P	**P**	**04 29 56.0**	**+0.6**
	1.1nm,0.9s,mb3.8,baz=97,slow=6.7,SNR=4.1						
MAW	**Mawson**	**84.95**	**203**	P	**P**	**04 29 58.1**	**+1.6**
	4.9nm,0.7s,mb4.6,baz=102,slow=6.7,SNR=7.8						
MAW				pP	pP	04 30 31.0	+2.2
	0.8nm,0.5s,baz=90,slow=6.0,SNR=1.4						

*IDC **01** 04:18:31.8±1.0, 55.28S×127.09W, mb4.0/3, mb1 4.3/3, mb1mx4.0/11, MS4.1/14, Ms1 4.1/14, ms1mx4.1/15, Error ellipse: s-maj=64.9km s-min=32.8km az=154.0*
*NEIC **01** 04:18:33.8±0.7, 54.97S×127.30W, h10^{km}, mb4.8/1, Error ellipse: s-maj=25.5km s-min=17.1km az=67.0*
ISC 01 04:18:32.4±1.0**, 55.0S**±0.2×**127.4W**±0.4**, h10**^{km}**, n26,** σ**0**^{s}**56**/8**, mb4.0**/4**, MS4.1**/15**, 3D, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
USHA	**Ushuaia**	**33.00**	**114**	LR	LR	04 35 05.7	
	comp=Z,139nm,20.8s,MS3.6,baz=224,slow=30						
QSPA	**South Pole Qui**	**35.15**	**180**	*e*P	**P**	**04 25 28.6**	**+1.0**
	6.8nm,1.1s,mb4.5						
QSPA				*e*		04 29 47.7	
QSPA				LR	LR		
	comp=Z,220nm,21.7s,MS3.9						
TBI	**Tubuai**	**35.65**	**324**	*e*L		04 33 29.6	
TBI				*e*R		04 34 55.3	
	comp=Z,404nm,26.5s,baz=166						
RPZ	**Rata Peaks**	**40.37**	**260**	LR	LR	04 39 17.1	
	comp=Z,592nm,20.5s,MS4.4,baz=199,slow=31						
URZ	**Urewera**	**40.46**	**271**	LR	LR	04 39 29.1	
	comp=Z,300nm,19.4s,MS4.2,baz=242,slow=31						
PPT	**Papeete**	**41.07**	**327**	*e*L		04 35 38.5	
PPT				*e*R		04 37 25.8	
	comp=Z,486nm,25.8s,baz=160						
VNA3	**Neumayer Olymp**	**46.61**	**157**	⇓*i*	**P**	**04 27 01.9**	**+0.2**
VNA2	**Neumayer--Watz**	**47.35**	**157**	⇓*i*	**P**	**04 27 06.9**	**-0.7**
VNA1	**Neumayer--Stat**	**47.36**	**157**	⇓*i*	**P**	**04 27 07.2**	**-0.4**
MAW	**Mawson**	**57.45**	**185**	LR	LR	04 50 54.2	
	comp=Z,82nm,18.1s,MS3.9,baz=69,slow=34						
CPUP	**Villa Florida**	**57.52**	**90**	LR	LR	04 49 33.9	
	comp=Z,420nm,18.6s,MS4.6,baz=256,slow=32						
STKA	**Stephens Creek**	**65.11**	**250**	LR	LR	04 51 26.1	
	comp=Z,120nm,21.4s,MS4.1,baz=26,slow=30						
BDFB	**Brasilia**	**71.25**	**91**	LR	LR	04 57 50.3	
	comp=Z,278nm,19.0s,MS4.5,baz=226,slow=33						
CTA	**Charters Tower**	**71.73**	**261**	LR	LR	04 55 24.0	
	comp=Z,96nm,18.4s,MS4.1,baz=44,slow=31						
ROSC	**El Rosal**	**73.97**	**56**	LR	LR	04 56 18.7	
	comp=Z,107nm,20.3s,MS4.1,baz=266,slow=31						
ASAR	**Alice Springs**	**75.74**	**249**	P	**P**	**04 30 20.0**	**+0.2**
	comp=Z,0.8nm,0.6s,mb3.8,baz=143,slow=6.5,SNR=10						
ASAR				LR	LR	04 59 13.3	
	comp=Z,96nm,18.3s,MS4.1,baz=198,slow=32						
NWAO	**Narrogin (SRO)**	**76.42**	**231**	LR	LR	04 54 58.6	
	comp=Z,95nm,18.7s,MS4.1,baz=115,slow=29						
WRA	**Warramunga Arr**	**78.51**	**252**	P	**P**	**04 30 34.6**	**-0.6**
	comp=Z,1.0nm,0.7s,mb3.9,baz=145,slow=5.2,SNR=13						
WRA				LR	LR	05 01 12.4	
	comp=Z,54nm,19.0s,MS3.9,baz=130,slow=33						
TXAR	**Lajitas Array**	**86.45**	**21**	P	**P**	**04 31 16.4**	**+0.3**
	comp=Z,0.8nm,0.9s,mb4.0,baz=186,slow=9.1,SNR=8.3						
TXAR	**Lajitas Array**	**86.45**	**21**	P	**P**	**04 31 16.4**	**+0.3**
NVAR	**Mina Array Bea**	**93.41**	**7**	LR	LR	05 05 14.3	
	comp=Z,75nm,19.0s,MS4.2,baz=250,slow=30						
PDAR	**Pinedale Array**	**98.60**	**13**	LR	LR	05 09 25.9	
	comp=Z,74nm,18.2s,MS4.2,baz=358,slow=31						
SONM	**Songino Array**	**146.45**	**280**	PKPbc	PKPbc	04 38 14.9	+2.3
	comp=Z,2.2nm,0.7s,baz=132,slow=2.8,SNR=17						
EKA	**Eskdalemuir Ar**	**148.87**	**66**	PKPbc	PKPdf	04 38 19.4	+1.4
	comp=Z,1.7nm,0.8s,baz=198,slow=2.6,SNR=5.0						
MKAR	**Makanchi Array**	**159.68**	**258**	PKPab	PKPab	04 39 10.3	-0.8
	comp=Z,0.9nm,0.7s,baz=133,slow=5.4,SNR=3.6						
BRTR	**Keskin Array B**	**160.12**	**132**	PKPab	PKPab	04 39 10.8	-2.4
	comp=Z,1.3nm,1.0s,baz=168,slow=4.7,SNR=4.9						

*NIED **01** 04:25:00, 33.90N×134.90E, h35^{km}, Mw3.5 Best double couple: $M_0$2.12×10^{14} NP1:ϕ_s324°, δ80°, λ-140°. NP2: ϕ_s226°, δ51°, λ-13°.*
*JMA **01** 04:25:27.2, 33.88N×134.87E, h40^{km}±1^{km}, M3.6 Broadband fault plane solution: P waves. NP1:ϕ_s233°, δ68°, λ-17°. NP2:ϕ_s329°, δ74°, λ-157°. Principal axes: T Plg4°, Azm100°; N Plg63°, Azm2°; P Plg27°, Azm192°;*
JMA Felt II J1.
ISC 01 04:25:26.6±0.9**, 33.89N**±0.05×**134.87E**±0.04**, h45**^{km}±12^{km}**, n11,** σ**0**^{s}**44**/20**, 6C-1D, Shikoku**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAI	**Aioi**	**0.36**	**255**	⇑P	**P**	**04 25 36.0**	**0.0**
JAI				S	**S**	**04 25 42.1**	**-0.5**
JWM	**Minabe**	**0.40**	**96**	⇑P	**P**	**04 25 36.6**	**+0.2**
JWM				S	**S**	**04 25 43.1**	**-0.3**
JAJ2	**Tsuna**	**0.53**	**1**	⇓P	**P**	**04 25 38.5**	**+0.5**
JAJ2				S	**S**	**04 25 46.4**	**+0.3**
JWY	**Kouya**	**0.68**	**61**	⇑P	**P**	**04 25 40.5**	**+0.5**
JWY				S	**S**	**04 25 49.8**	**0.0**
JWZ	**Kozaga**	**0.79**	**117**	⇑P	**P**	**04 25 41.6**	**+0.1**
JWZ				S	**S**	**04 25 52.4**	**+0.1**
JMN	**Monobe**	**0.84**	**259**	⇑P	**P**	**04 25 42.4**	**+0.2**
JMN				S	**S**	**04 25 53.4**	**-0.3**
JJS	**Sakaide**	**0.92**	**302**	⇑P	**P**	**04 25 43.4**	**+0.1**
JJS				S	**S**	**04 25 55.4**	**-0.2**
JHE	**Heguri**	**1.01**	**41**	P	**P**	**04 25 44.9**	**+0.3**
JHE				S	**S**	**04 25 57.8**	**-0.2**
JKS	**Kasai**	**1.09**	**359**	P	**P**	**04 25 46.0**	**+0.3**
JAD	**Aida**	**1.20**	**331**	P	**P**	**04 25 47.3**	**+0.1**
MAT	**Matsushiro**	**3.80**	**45**	P	**P**	**04 26 24.5**	**+0.3**
MAT				S	**S**	**04 27 06.6**	**-1.6**

*NEIC **01** 04:34:57.1±0.7, 6.97S×125.56E, h481^{km}±9^{km}, mb4.4/18, Error ellipse: s-maj=9.3km s-min=5.1km az=64.0*
*IDC **01** 04:34:58.1±1.5, 7.00S×125.55E, h492^{km}±17^{km}, mb3.7/11, mb1 3.9/14, mb1mx3.8/18, Error ellipse: s-maj=22.5km s-min=8.7km az=63.0*
ISC 01 04:34:56.0±1.6**, 6.95S**±0.07×**125.5E**±0.1**, h482**^{km}±21^{km}**, n46,** σ**0**^{s}**64**/42**, mb4.2**/22**, 6C, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**8.86**	**131**	⇑*i*P	**P**	**04 37 07.5**	**+5.1**
	48nm,0.6s						
FITZ	**Fitzroy Crossi**	**11.08**	**179**	⇑*i*P	**P**	**04 37 26.5**	**+0.3**
	18nm,0.3s						
FITZ	**Fitzroy Crossi**	**11.08**	**179**	P	**P**	**04 37 26.5**	**+0.3**
	7.4nm,0.3s,baz=10,slow=8.4,SNR=327						
FITZ				S	**S**	**04 39 25.8**	**-0.5**
	1.3nm,0.3s,baz=181,slow=18,SNR=20						
WRAB	**Tennant Creek**	**15.49**	**147**	P	**P**	**04 38 11.0**	**-1.0**
	205nm,0.5s,SNR=61						
WRAB	**Tennant Creek**	**15.49**	**147**	*e*P	**P**	**04 38 11.8**	**-0.2**
	40nm,0.8s						
WRA	**Warramunga Arr**	**15.49**	**147**	P	**P**	**04 38 12.0**	**0.0**
	8.1nm,0.3s,baz=324,slow=11,SNR=394						
WB2	**Warramunga Arr**	**15.50**	**147**	⇑*i*P	**P**	**04 38 12.0**	**-0.1**
ASPA	**Alice Springs**	**18.47**	**155**	⇑*i*P	**P**	**04 38 42.9**	**+1.4**
ASAR	**Alice Springs**	**18.47**	**155**	P	**P**	**04 38 42.9**	**+1.4**
	11nm,0.3s,baz=326,slow=7.0,SNR=417						
ASAR				S	**S**	**04 41 46.3**	**+2.9**
	baz=342,slow=21,SNR=4.2						
ASAR				ScP		04 45 36.0	
	0.1nm,0.3s,baz=337,slow=1.7,SNR=5.2						
MORW	**Morawa**	**23.75**	**201**	*e*P	**P**	**04 39 30.2**	**-0.5**
	66nm,2.0s,mb4.7						
FORT	**Forrest**	**23.82**	**175**	⇑*i*P	**P**	**04 39 31.0**	**-0.4**
	133nm,0.6s						
CTA	**Charters Tower**	**23.98**	**125**	*e*P	**P**	**04 39 33.3**	**+0.4**
	3.7nm,0.8s,mb3.9						
CTA	**Charters Tower**	**23.98**	**125**	P	**P**	**04 39 32.8**	**-0.1**
	4.0nm,0.7s,mb4.0,baz=307,slow=11,SNR=7.2						
CTA				ScP		04 45 49.3	
	2.8nm,0.7s,baz=248,slow=3.0,SNR=3.7						
CTAO	**Charters Tower**	**23.98**	**125**	*e*P	**P**	**04 39 32.9**	**0.0**
	5.2nm,0.7s,mb4.1						
KLBR	**Kellerberrin**	**25.57**	**196**	*e*P	**P**	**04 39 46.5**	**-0.5**
	16nm,1.0s,mb4.4						
NWAO	**Narrogin (SRO)**	**26.97**	**196**	P	**P**	**04 39 59.1**	**-0.3**
	7.6nm,0.3s,mb4.5,baz=25,slow=6.5,SNR=21						
NWAO	**Narrogin (SRO)**	**26.97**	**196**	*e*P	**P**	**04 39 58.6**	**-0.9**
	6.0nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**28.98**	**151**	⇑*i*P	**P**	**04 40 17.1**	**0.0**
	17nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**28.98**	**151**	P	**P**	**04 40 17.1**	**0.0**
	18nm,0.5s,mb4.7,baz=322,slow=8.9,SNR=49						
CMAR	**Chiang Mai Arr**	**36.40**	**314**	P	**P**	**04 41 20.4**	**+0.6**
	0.8nm,0.7s,mb3.3,baz=142,slow=7.8,SNR=4.3						
CMAR				PcP	PcP	04 43 31.4	-0.7
	0.9nm,0.4s,baz=172,slow=2.8,SNR=4.9						
ENH	**Enshi**	**40.08**	**338**	*e*P	**P**	**04 41 50.1**	**+0.3**
	8.4nm,0.6s,mb4.3						
MAJO	**Matsushiro**	**44.87**	**15**	*e*P	**P**	**04 42 27.1**	**-0.8**
	11nm,0.7s,mb4.4						
MDJ	**Mudanjiang**	**51.46**	**4**	*e*P	**P**	**04 43 17.4**	**-0.1**
	7.1nm,0.4s,mb4.3						
PKI	**Pulchoki**	**51.78**	**313**	*e*P	**P**	**04 43 20.1**	**0.0**
KKN	**Kakani**	**52.01**	**313**	*e*P	**P**	**04 43 21.9**	**+0.2**
	13nm,0.5s,mb4.5						
GKN	**Gorkha**	**52.59**	**313**	*e*P	**P**	**04 43 25.8**	**-0.2**
	22nm,0.3s,mb4.9						
KOLN	**Koldanda**	**53.22**	**312**	*e*P	**P**	**04 43 30.6**	**+0.2**
RPZ	**Rata Peaks**	**54.05**	**140**	P	**P**	**04 43 36.0**	**-0.1**
	13nm,0.9s,mb4.3,baz=38,slow=18,SNR=5.5						
URZ	**Urewera**	**55.96**	**132**	P	**P**	**04 43 48.5**	**-1.2**
	20nm,1.1s,mb4.3,baz=322,slow=12,SNR=2.5						
SONM	**Songino Array**	**57.11**	**345**	P	**P**	**04 43 57.6**	**+0.3**
	4.0nm,0.7s,mb3.9,baz=160,slow=8.4,SNR=31						
CASY	**Casey**	**60.14**	**187**	*e*P	**P**	**04 44 16.9**	**-0.5**
	3.0nm,0.6s,mb3.9						
MKAR	**Makanchi Array**	**65.82**	**329**	P	**P**	**04 44 54.5**	**+0.2**
	3.4nm,0.5s,mb4.2,baz=90,slow=4.9,SNR=41						
MKAR	**Makanchi Array**	**65.82**	**329**	P	**P**	**04 44 54.5**	**+0.2**
KURK	**Kurchatov**	**70.22**	**330**	*e*P	**P**	**04 45 21.1**	**+0.2**
	8.8nm,1.1s,mb4.2						
MAW	**Mawson**	**73.39**	**201**	P	**P**	**04 45 39.3**	**+0.2**
	0.5nm,0.3s,mb3.5,baz=93,slow=8.3,SNR=4.2						
BVAR	**Borovoye Array**	**75.70**	**329**	P	**P**	**04 45 52.6**	**+0.4**
	6.5nm,0.8s,mb4.2,baz=135,slow=6.3,SNR=20						
BRVK	**Borovoye**	**75.77**	**329**	*e*P	**P**	**04 45 53.0**	**+0.4**
	4.2nm,0.8s,mb4.0						
ZRNK	**Zerenda**	**76.37**	**329**	*e*P	**P**	**04 45 56.0**	**+0.1**
	8.6nm,1.0s,mb4.2						
QSPA	**South Pole Qui**	**83.03**	**180**	P	**P**	**04 46 30.3**	**+0.1**
ILAR	**Eielson Array**	**95.21**	**25**	P	**P**	**04 47 26.5**	**-1.1**
	0.4nm,0.6s,mb3.7,baz=246,slow=5.1,SNR=9.9						
YKA	**Yellowknife Ar**	**109.64**	**25**	PKiKP		04 52 31.5	
	0.6nm,0.7s,baz=290,slow=1.8,SNR=4.2						
PDAR	**Pinedale Array**	**119.99**	**44**	PKP	PKPdf	04 52 52.9	+1.7
	0.4nm,0.6s,baz=52,slow=1.2,SNR=4.9						
TXAR	**Lajitas Array**	**128.69**	**58**	PKP	PKPdf	04 53 10.6	+2.3
	0.2nm,0.4s,baz=196,slow=2.6,SNR=6.0						
TXAR				SKPbc		04 55 44.7	
	1.2nm,0.8s,baz=236,slow=2.6,SNR=12						
DBIC	**Dimbokro**	**130.75**	**273**	PKP	PKPdf	04 53 13.8	+1.2
	4.2nm,1.0s,baz=186,slow=10,SNR=2.5						
DBIC	**Dimbokro**	**130.75**	**273**	PKP	PKPdf	04 53 13.8	+1.2
SCHQ	**Schefferville**	**131.24**	**9**	PKP	PKPdf	04 53 14.6	+2.2
	1.7nm,0.7s,baz=229,slow=20,SNR=4.5						

DJA 01 04:35:51.7±0.9**, 9.06S**×**115.25E, h101**^{km}±6^{km}**, MD5.2**/4**, ML4.1**/2**, 4C-4D, Error ellipse: s-maj=29.1km s-min=10.1km az=6.0, South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
INGI	**Ingas**	**0.26**	**336**	⇑*e*Pn	P	04 36 06.0	-0.3
	1μm,0.2s						
INGI				⇓*e*Sn	S	04 36 16.3	-1.0
RATI	**Rata**	**0.43**	**40**	⇑*e*Pn	P	04 36 07.1	-0.2
	2μm,0.2s						
RATI				⇓*e*Sn	S	04 36 17.8	-1.2
KEDI	**Kedomdong**	**1.02**	**57**	⇑*e*Pn	P	04 36 12.0	-0.7
	287nm,0.2s						
KEDI				⇓*e*Sn	S	04 36 27.0	-1.5
KELI	**Kelakatan**	**1.12**	**318**	⇑*e*Pn	P	04 36 13.3	-0.6
	287nm,0.2s						
KELI				⇓*e*Sn	S	04 36 29.6	-0.9

*STR **01** 04:47:13.5±0.6, 42.86N×1.43W, h5^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **01** 04:47:14.1±0.8, 42.89N×1.45W, h4^{km}, Md2.3/3, Ml1.7/1, Error ellipse: s-maj=13.1km s-min=7.6km az=53.0*
ISC 01 04:47:13.0±2.2**, 42.86N**±0.10×**1.4W**±0.1**, h10**^{km}±17^{km}**, n5,** σ**0**^{s}**47**/11**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.30**	**30**	*e*Pg	**Pg**	**04 47 19.7**	**+0.5**
SJPF				*e*Sg	**Sg**	**04 47 22.5**	**-0.9**
	12nm,0.2s						
LARF	**Larrau**	**0.37**	**60**	Pg	**Pg**	**04 47 20.6**	**0.0**
LARF				Sg	**Sg**	**04 47 26.3**	**+0.6**
OSSF	**Osses**	**0.42**	**17**	Pg	**Pg**	**04 47 21.8**	**+0.2**
OSSF				Sg	**Sg**	**04 47 27.4**	**+0.1**
ETSF	**Etsaut**	**0.64**	**86**	*e*Pg	**Pg**	**04 47 25.1**	**-0.8**
ETSF				*e*Sg	**Sg**	**04 47 34.3**	**-0.2**
	2.8nm,0.2s						
EPF	**Esparros**	**1.31**	**82**	*e*Pn	**Pn**	**04 47 37.3**	**-0.1**
EPF				*e*Pg	**Pg**	**04 47 39.7**	**+0.5**
EPF				*e*Sg	**Sg**	**04 47 57.0**	**+0.3**
	1.3nm,0.2s						

*IDC **01** 05:07:58.4±1.1, 20.96N×120.39E, mb3.8/7, mb1 4.0/7, mb1mx3.9/18, MS3.3/1, Ms1 3.5/1, ms1mx2.7/18, Error ellipse: s-maj=52.8km s-min=18.1km az=60.0*
*TAP **01** 05:08:01.8, 21.05N×120.16E, h71^{km}±1^{km}, ML3.9*
*MAN **01** 05:08:02.7, 20.81N×120.50E, h7^{km}, mb4.3, ML3.1, MS2.8*
*NEIC **01** 05:08:03.4±0.7, 20.91N×120.24E, h30^{km}, mb4.4/1, Error ellipse: s-maj=31.1km s-min=12.2km az=56.0*
ISC 01 05:08:02.7±1.5**, 20.95N**±0.06×**120.27E**±0.09**, h40**^{km}±14^{km}**, n15,** σ**1**^{s}**03**/19**, mb3.9**/7**, MS3.1**/1**, 1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BBP	**Basco**	**1.66**	**107**	*e*P	**P**	**05 08 29.1**	**-0.8**
BBP				*e*S	**S**	**05 08 49.6**	**-0.6**
PIP	**Pasuquin**	**2.63**	**173**	⇓*i*P	**P**	**05 08 52.5**	**+8.8**
PIP				*e*S	**S**	**05 09 13.3**	**-1.3**
APYP	**Conner**	**3.20**	**163**	*e*P	**P**	**05 08 53.6**	**+1.8**
ABRA	**Dolores**	**3.31**	**173**	*e*P	**P**	**05 08 54.4**	**+1.1**
ABRA				*e*S	**S**	**05 09 30.8**	**-1.1**
CVP	**Callao Caves**	**3.54**	**155**	*e*P	**P**	**05 08 57.0**	**+0.3**
CVP				*e*S	**S**	**05 09 39.0**	**+1.1**
CMAR	**Chiang Mai Arr**	**20.23**	**267**	P	**P**	**05 12 36.0**	**-1.2**
	0.4nm,0.4s,baz=106,slow=6.6,SNR=4.8						
CMAR				LR	LR	05 21 33.9	
	comp=Z,83nm,18.1s,MS3.1,baz=80,slow=40						
SONM	**Songino Array**	**29.07**	**341**	P	**P**	**05 14 00.5**	**-0.9**
	0.3nm,0.7s,mb3.2,baz=164,slow=9.0,SNR=4.5						
MKAR	**Makanchi Array**	**40.14**	**319**	P	**P**	**05 15 37.0**	**+0.6**
	0.6nm,0.7s,mb3.4,baz=104,slow=12,SNR=2.3						
WRAB	**Tennant Creek**	**42.90**	**160**	*e*P	**P**	**05 15 59.2**	**-0.2**
WRA	**Warramunga Arr**	**42.91**	**160**	P	**P**	**05 15 59.3**	**-0.1**
	2.5nm,0.7s,mb4.1,baz=343,slow=8.9,SNR=20						
WB2	**Warramunga Arr**	**42.91**	**160**	*e*P	**P**	**05 15 59.4**	**-0.1**
ASAR	**Alice Springs**	**46.29**	**163**	P	**P**	**05 16 26.9**	**+0.4**
	5.1nm,1.2s,mb4.3,baz=348,slow=7.5,SNR=8.5						
CTAO	**Charters Tower**	**48.06**	**146**	*e*P	**P**	**05 16 41.7**	**+1.3**
	3.3nm,0.8s,mb4.4						
STKA	**Stephens Creek**	**56.36**	**158**	P	**P**	**05 17 39.2**	**-3.1**
	1.2nm,0.8s,mb4.0,baz=342,slow=6.4,SNR=2.7						
GERES	**GERESS Array B**	**84.79**	**321**	P	**P**	**05 20 35.1**	**+1.0**
	0.6nm,0.6s,mb3.9,baz=63,slow=6.0,SNR=5.1						

*STR **01** 05:19:09.5±0.5, 42.85N×1.47W, h2^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **01** 05:19:10.2±0.6, 42.91N×1.47W, h4^{km}, Md2.3/3, Ml2.1/2, Error ellipse: s-maj=9.4km s-min=7.9km az=63.0*
MDD 01 05:19:10.4±0.5**, 42.87N**×**1.43W, h7**^{km}±8^{km}**, mbLg1.5**/5**, 1C, Error ellipse: s-maj=4.1km s-min=2.7km az=21.0, PRXIMO AftershockPLICA, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.29**	**31**	*e*Pg	Pg	05 19 15.9	-0.4
SJPF				*e*Sg	Sg	05 19 18.7	-1.5
	40nm,0.3s						
EALK	**Alkurruntz**	**0.36**	**350**	⇑Pg	Pg	05 19 17.1	-0.6
	1.3nm,0.1s,SNR=18						
EALK				Lg		05 19 22.2	
	6.8nm,0.1s,SNR=5.0						
LARF	**Larrau**	**0.36**	**62**	Pg	Pg	05 19 17.1	-0.7
LARF				Sg	Sg	05 19 23.0	+0.3
LARF	**Larrau**	**0.36**	**62**	P	Pg	05 19 17.3	-0.5
LARF				S	Sg	05 19 22.9	+0.2
ORDF	**Ordiarp**	**0.50**	**46**	Pg	Pg	05 19 19.8	-0.6
ORDF				Sg	Sg	05 19 27.1	0.0
ORDF	**Ordiarp**	**0.50**	**46**	P	Pg	05 19 19.8	-0.6
ORDF				S	Sg	05 19 27.2	0.0
ATE	**Arette**	**0.57**	**67**	P	Pg	05 19 21.1	-0.8
ATE				S	Sg	05 19 29.3	-0.4
ETSF	**Etsaut**	**0.64**	**87**	*e*Pg	Pg	05 19 21.6	-1.6
ETSF				*e*Sg	Sg	05 19 30.5	-1.2
	2.6nm,0.2s						
EPF	**Esparros**	**1.31**	**82**	*e*Pn	Pn	05 19 33.5	-1.5
EPF				*e*Pg	Pg	05 19 35.9	-0.6
EPF				*e*Sg	Sg	05 19 53.3	-0.6
	2.8nm,0.2s						
ESAC	**San Caprasio**	**1.35**	**148**	Pg	Pg	05 19 34.3	-3.0
	9.7nm,0.3s,SNR=6.5						
ESAC				Lg		05 19 52.2	
	27nm,0.4s,SNR=5.0						
ELAN	**Lanestosa**	**1.52**	**285**	Pg	Pg	05 19 37.8	-2.9
	0.2nm,0.1s,SNR=7.9						
ELAN				Lg		05 19 59.9	
	0.7nm,0.2s,SNR=7.9						
ETOR	**Torete**	**2.10**	**193**	Pg	Pg	05 19 49.1	-3.2
	SNR=7.9						
ETOR				Lg		05 20 16.5	
	0.9nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**2.60**	**36**	*e*Pn	Pn	05 19 50.9	-2.6
LFF				*e*Sn	Sn	05 20 21.3	-4.3
LFF				*e*Sg	Sg	05 20 30.1	-6.8
	3.2nm,0.3s						

*STR **01** 05:32:52.6±0.3, 42.84N×1.46W, h2^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **01** 05:32:53.3±0.5, 42.89N×1.47W, h3^{km}, Md2.4/3, Ml2.0/4, Error ellipse: s-maj=7.3km s-min=5.5km az=62.0*

*MDD **01** 05:32:53.6±0.4, 42.84N×1.39W, h6^{km}±5^{km}, mbLg1.5/5, Error ellipse: s-maj=3.4km s-min=2.2km az=39.0, PRXIMO AftershockPLICA*

ISC 01 05:32:52.0±0.6**, 42.85N**±0.03×**1.43W**±0.04**, h14**^{km}±3^{km}**, n18,** σ**0^{s}93**/35**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.30	30	ePg	Pg	05 32 59.1	+0.6
SJPF				eSg	Sg	05 33 01.8	-1.1
	18nm,0.2s						
EALK	Alkurruntz	0.37	352	Pg	Pg	05 33 00.4	+0.6
	1.9nm,0.1s,SNR=16						
EALK				Lg		05 33 06.5	
	7.2nm,0.1s,SNR=20						
LARF	Larrau	0.38	60	Pg	Pg	05 33 00.2	+0.3
LARF				Sg	Sg	05 33 06.1	+0.9
LARF	Larrau	0.38	60	P	Pg	05 32 60.0	0.0
LARF				S	Sg	05 33 06.2	+1.0
OSSF	Osses	0.42	17	Pg	Pg	05 33 01.0	+0.2
OSSF				Sg	Sg	05 33 07.2	+0.5
OSSF	Osses	0.42	17	P	Pb	05 33 01.2	+0.4
OSSF				S	Sb	05 33 06.8	+0.1
ORDF	Ordiarp	0.51	45	Pg	Pg	05 33 02.9	+0.3
ORDF				Sg	Sg	05 33 10.0	+0.4
ORDF	Ordiarp	0.51	45	P	Pb	05 33 03.0	+0.7
ORDF				S	Sb	05 33 10.2	+0.9
ATE	Arette	0.59	66	P	Pb	05 33 04.2	+0.6
ATE				S	Sb	05 33 12.5	+1.1
ETSF	Etsaut	0.64	86	ePg	Pg	05 33 04.6	-0.5
ETSF				eSg	Sg	05 33 13.5	-0.4
	4.7nm,0.2s						
EPF	Esparros	1.31	82	ePn	Pn	05 33 16.7	+0.6
EPF				ePg	Pg	05 33 19.2	+0.8
EPF				eSg	Sg	05 33 36.2	+0.2
	4.9nm,0.3s						
ESAC	San Caprasio	1.34	147	Pg	Pg	05 33 17.4	-1.5
	6.7nm,0.2s,SNR=7.9						
ESAC				Lg		05 33 34.9	
	8.6nm,0.2s,SNR=7.9						
ELAN	Lanestosa	1.52	285	Pg	Pg	05 33 21.6	-0.7
	0.2nm,0.1s,SNR=7.9						
ELAN				Lg		05 33 43.5	
	0.6nm,0.1s,SNR=5.0						
ETOR	Torete	2.08	193	Pn	Pn	05 33 28.3	+1.2
	SNR=7.9						
ETOR				Pg	Pg	05 33 32.6	-1.1
	SNR=7.9						
ETOR				Sn	Sn	05 33 54.3	+1.3
	0.4nm,0.2s,SNR=7.9						
ETOR				Lg		05 33 59.6	
	0.5nm,0.2s,SNR=4.0						
EPOB	Poblet	2.40	128	Lg		05 34 08.4	
	0.6nm,0.1s,SNR=4.0						
LFF	La Frestale	2.61	36	ePn	Pn	05 33 34.2	-0.4
LFF				eSn	Sn	05 34 04.6	-1.8
LFF				eSg	Sg	05 34 13.3	-5.8
	2.4nm,0.3s						
MTLF	Montolieu	2.72	78	ePn	Pn	05 33 36.9	+0.8
MTLF				ePg	Pg	05 33 44.4	-1.9
MTLF				eSn	Sn	05 34 08.6	-0.5
	0.8nm,0.3s						
CAF	Calviac	3.27	49	ePn	Pn	05 33 42.9	-1.1
CAF				eSn	Sn	05 34 20.8	-2.2
	1.1nm,0.3s						

*HRVD **01** 05:55:05.1±0.9, 4.81S×152.43E, h93^{km}±14^{km}, MW4.6/33, Centroid moment Tensor Solution. LP body waves: s3,c3; Mantle waves: s33,c40; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.73±.14; $M_{\theta\theta}$0.13±.14; $M_{\phi\phi}$-0.86±.14; $M_{r\theta}$0.43±.08; $M_{\theta\phi}$0.16±.23; $M_{\phi r}$0.34±.09; Best double couple: M_0.98×10^{16} NP1:ϕ_s146°,δ42°,λ47°. NP2:ϕ_s18°, δ61°,λ122°. Principal axes: T 1.03, Plg61°, Azm337°; N -.09, Plg27°, Azm181°; P -.93, Plg10°, Azm85°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **01** 05:55:05.0, 4.90S×152.20E, h101^{km}, mB5.2, mb5.1*

*NEIC **01** 05:55:05.1±0.6, 4.87S×152.23E, h101^{km}±5^{km}, mb4.9/22, Error ellipse: s-maj=8.1km s-min=5.5km az=121.0*

*IDC **01** 05:55:07.8±2.1, 4.95S×152.18E, h122^{km}±17^{km}, mb4.4/11, mb1 4.7/11, mb1mx4.6/12, MS2.9/2, Ms1 2.9/2, ms1mx2.5/15, Error ellipse: s-maj=23.2km s-min=10.1km az=125.0*

ISC 01 05:55:04.1±0.9**, 4.87S**±0.06×**152.23E**±0.07**, h102**^{km}±8^{km}**, n67,** σ**0^{s}92**/64**, mb4.8**/37**, 4C, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAB	Rabaul	0.68	355	eP	P	05 55 21.8	+0.1
PMG	Port Moresby	6.75	228	P	P	05 56 43.6	+1.4
PMG				S	S	05 57 57.8	-0.2
CTA	Charters Tower	16.20	201	LR	LR	06 03 53.5	
	comp=Z,37nm,18.6s,baz=54,slow=33						
KAKA	Kakadu	21.07	247	⇑iP	P	05 59 45.4	+3.6
	30nm,0.5s,mb4.9						
KAKA				eS	S	06 03 31.3	+6.1
DZM	Mont Dzumac	21.95	142	eP	P	05 59 50.8	+0.3
WRAB	Tennant Creek	22.96	228	P	P	06 00 00.9	+0.5
	204nm,0.5s,mb5.7,SNR=21						
WRAB	Tennant Creek	22.96	228	eP	P	06 00 00.5	+0.1
	31nm,0.6s,mb4.8						
WB2	Warramunga Arr	22.96	228	eP	P	05 59 59.9	-0.5
WB2				eS	S	06 04 03.8	+4.7
WRA	Warramunga Arr	22.97	228	P	P	06 00 00.9	+0.4
	13nm,0.5s,mb4.5,baz=52,slow=9.9,SNR=104						
WRA				S	S	06 04 02.2	+3.0
	2.1nm,0.8s,baz=42,slow=16,SNR=6.0						
WRA				LR	LR	06 08 02.5	
	comp=Z,36nm,19.3s,baz=35,slow=34						
ASAR	Alice Springs	25.71	222	P	P	06 00 26.1	-0.6
	3.6nm,0.7s,mb3.9,baz=56,slow=8.8,SNR=28						
ASAR				PcP	PcP	06 03 56.2	+1.4
	0.3nm,0.5s,baz=63,slow=2.0,SNR=2.2						
ASAR				S	S	06 04 45.6	0.0
	0.9nm,0.9s,baz=51,slow=13,SNR=3.0						
ASPA	Alice Springs	25.71	222	eP	P	06 00 26.2	-0.5
ASPA				eS	S	06 04 52.0	+6.4
STKA	Stephens Creek	28.66	199	P	P	06 00 51.8	-1.6
	0.6nm,0.4s,mb3.6,baz=11,slow=13,SNR=3.5						
FITZ	Fitzroy Crossi	29.12	241	⇑iP	P	06 00 56.1	-1.6
	17nm,0.6s,mb4.8						
FITZ	Fitzroy Crossi	29.12	241	P	P	06 00 56.3	-1.4
	18nm,0.6s,mb4.9,baz=62,slow=3.7,SNR=43						
MBWA	Marble Bar	35.44	240	eP	P	06 01 51.1	-1.3
	12nm,0.6s,mb4.9						
ENH	Enshi	53.78	313	eP	P	06 04 17.2	-1.3
	23nm,1.0s,mb5.2						
NANT	Nan	55.92	296	P	P	06 04 34.5	+0.3
XAN	Xi'an	56.28	317	P	P	06 04 35.2	-1.3
XAN				AMB	AMB		
	comp=Z,15nm,0.8s,mb5.1						
CM31	Chiang Mai Arr	57.39	295	eP	P	06 04 45.0	+0.5
	comp=Z,6.4nm,0.4s,mb5.0						
CMAR	Chiang Mai Arr	57.39	295	P	P	06 04 45.0	+0.4
	comp=Z,16nm,0.7s,mb5.1,baz=113,slow=5.3,SNR=74						
CHG	Chiang Mai	57.50	296	⇑P	P	06 04 45.2	-0.1
	comp=Z,13nm,1.0s,mb4.9						
CD2	Chengdu	58.35	311	P	P	06 04 50.8	-0.3
CD2				AMB	AMB		
	comp=Z,24nm,0.8s,mb5.3						
LZH	Lanzhou	60.88	316	⇑P	P	06 05 08.6	+0.2
LZH				AP	pP	06 05 31.8	-2.1
LZH				XP	sP	06 05 44.8	-0.6
LZH				AMB	AMB		
	comp=Z,41nm,1.0s,mb5.4						
LZH				AMB	AMB		
	comp=Z,154nm,4.8s						
SHL	Shillong	65.85	301	eP	P	06 05 41.0	-0.3
SONM	Songino Array	66.08	328	P	P	06 05 42.0	-0.3
	comp=Z,1.9nm,0.6s,mb4.1,baz=148,slow=5.1,SNR=15						
GUN	Gumba	71.67	301	eP	P	06 06 17.2	+0.2
	comp=Z,90nm,0.9s,mb5.6						
PKI	Pulchoki	71.98	301	eP	P	06 06 18.4	-0.4
KKN	Kakani	72.15	301	eP	P	06 06 19.6	-0.2
	comp=Z,38nm,0.7s,mb5.3						
DMN	Daman	72.25	301	eP	P	06 06 20.5	+0.1
	comp=Z,69nm,0.9s,mb5.5						
GKN	Gorkha	72.75	301	eP	P	06 06 23.2	-0.2
	comp=Z,64nm,0.9s,mb5.4						
KOLN	Koldanda	73.58	301	eP	P	06 06 27.7	-0.6
	comp=Z,55nm,0.9s,mb5.3						
SLKM	Skilak Lake	78.98	25	eP	P	06 06 57.4	-0.5
PMR	Palmer	79.99	25	eP	P	06 07 02.5	-0.9
	comp=Z,35nm,1.3s,mb5.0						
MKAR	Makanchi Array	80.00	319	P	P	06 07 03.5	-0.3
	comp=Z,3.2nm,0.8s,mb4.2,baz=95,slow=8.2,SNR=14						
MKAR	Makanchi Array	80.00	319	P	P	06 07 03.5	-0.3
IMA	Indian Mountai	80.71	20	eP	P	06 07 07.4	+0.2
	comp=Z,53nm,1.0s,mb5.3						
MCK	McKinley	81.15	23	eP	P	06 07 08.6	-0.9
	comp=Z,21nm,0.9s,mb5.0						
COLA	College	82.13	22	eP	P	06 07 13.5	-1.0
	comp=Z,20nm,0.8s,mb5.0						
ILAR	Eielson Array	82.44	22	P	P	06 07 14.8	-1.4
	comp=Z,14nm,0.6s,mb5.0,baz=250,slow=5.5,SNR=84						
ULHL	Ulahol	82.95	313	P	P	06 07 20.1	+0.9
	SNR=5.3						
KURK	Kurchatov	83.47	322	eP	P	06 07 20.8	-0.8
	comp=Z,7.6nm,1.1s,mb4.4						
KZA	Kyzart	83.64	313	P	P	06 07 24.4	+1.8
	SNR=14						
UCH	Uchtor	84.20	313	P	P	06 07 27.8	+2.3
	SNR=8.5						
AAK	Ala-Archa	84.30	314	eP	P	06 07 26.1	+0.2
	comp=Z,3.5nm,0.9s,mb4.2						
USP	Ospenovka	84.43	314	P	P	06 07 28.0	+1.4
	SNR=8.1						
AML	Almayashu	84.78	313	P	P	06 07 31.1	+2.7
	SNR=31						
EKS2	Erkin-Say	84.82	313	P	P	06 07 30.4	+1.9
	SNR=12						
DAWY	Dawson	85.09	24	eP	P	06 07 29.8	+0.4
QSPA	South Pole Qui	85.09	180	eP	P	06 07 29.5	+0.4
MAW	Mawson	85.28	203	P	P	06 07 30.4	+0.1
	comp=Z,2.7nm,0.7s,mb4.3,baz=96,slow=4.6,SNR=12						
INK	Inuvik	88.73	21	eP	P	06 07 46.6	-0.3
	comp=Z,17nm,1.1s,mb5.0						
BRVK	Borovoye	89.02	323	P	P	06 07 47.9	-0.7
	comp=Z,2.8nm,0.6s,mb4.5						
ZRNK	Zerenda	89.77	323	eP	P	06 07 51.0	-1.1
	comp=Z,1.5nm,0.6s,mb4.3						
NVAR	Mina Array Bea	92.58	52	P	P	06 08 06.6	+1.0
	comp=Z,2.1nm,0.8s,mb4.5,baz=252,slow=9.4,SNR=14						
TPNV	Topopah Spring	94.11	53	eP	P	06 08 13.3	+0.8
	comp=Z,3.0nm,1.0s,mb4.6						
YKA	Yellowknife Ar	95.76	28	P	P	06 08 20.2	+0.8
	comp=Z,3.3nm,0.7s,mb4.9,baz=270,slow=4.9,SNR=10						
YKA	Yellowknife Ar	95.76	28	P	P	06 08 20.2	+0.8
HLID	Hailey	95.76	47	eP	P	06 08 20.5	+0.6
	comp=Z,3.3nm,1.2s,mb4.6						
PDAR	Pinedale Array	99.32	48	P	P	06 08 36.1	0.0
	comp=Z,0.7nm,0.7s,mb4.3,baz=270,slow=1.5,SNR=6.0						
NB2	NORSAR Subarra	116.78	340	PKPdf	PKPdf	06 13 37.1	+0.8
	comp=Z,1.0nm,0.9s,baz=45,slow=1.9						
NOA	NORSAR Array B	116.78	340	PKP	PKPdf	06 13 37.7	+1.5
	comp=Z,0.8nm,0.7s,baz=50,slow=1.8,SNR=5.0						
NOA	NORSAR Array B	116.78	340	PKP	PKPdf	06 13 37.7	+1.5
GERES	GERESS Array B	123.81	328	PKP	PKPdf	06 13 51.4	+1.2
	comp=Z,1.5nm,0.8s,slow=1.3,SNR=6.6						
LPAZ	La Paz	134.89	119	ePKPdf	PKPdf	06 14 15.4	+3.2
SDV	Santo Domingo	137.28	82	ePKPdf	PKPdf	06 14 18.6	+2.1
SAML	Samuel	142.12	111	ePKPdf	PKPdf	06 14 26.9	+1.6
BDFB	Brasilia	151.42	136	PKPbc	PKPdf	06 14 48.7	+8.1
	comp=Z,3.7nm,0.6s,baz=216,slow=2.4,SNR=8.3						
BDFB				PP	PP	06 18 26.7	-2.9
	comp=Z,1.3nm,0.5s,baz=146,slow=4.6,SNR=3.8						

NEIC 01 06:14:59.1, 46.20N×122.19W, h0^{km}, MD3.5(SEA)**, 9C-13D, After SEA., Washington**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ESD	East Dome	0.03	96	⇓P	Pg	06 15 00.0	+0.4
HSR	South Ridge	0.03	171	⇓P	Pg	06 14 59.9	+0.3
SHW	Mount Saint He	0.03	257	⇑P	Pg	06 15 00.1	+0.4
STD	Studebaker Rid	0.04	328	P	Pg	06 15 00.4	+0.4
JLK	June Lake	0.06	155	⇓P	Pg	06 15 00.6	+0.4
FL2	Flat Top 2	0.11	268	⇑P	Pg	06 15 01.9	+0.6
CDFW	Cedar Flats	0.13	130	⇑P	Pg	06 15 02.2	+0.6
ERK	Elk Rock	0.15	315	⇓P	Pg	06 15 02.4	+0.4
TDL	Tradedollar La	0.15	353	⇓P	Pg	06 15 02.6	+0.5
MTMW	Mount Mitchell	0.17	185	⇓P	Pg	06 15 03.0	+0.4
LVP	Lakeview Peak	0.20	229	⇓P	Pg	06 15 03.4	+0.3
KOSW	Kosmos	0.26	360	⇑P	Pg	06 15 04.7	+0.4
RVW	Rose Valley	0.39	263	P	Pg	06 15 07.0	+0.2
ASR	Mount Adams--S	0.42	97	⇓P	Pg	06 15 07.4	0.0
LMW	Ladd Mountain	0.47	351	P	Pg	06 15 09.1	+0.6
GULW	Guler Mountain	0.50	124	⇑P	Pg	06 15 09.1	+0.1
GLK	Glacier Lake	0.54	48	P	Pg	06 15 10.0	+0.1
LCW	Lucas Creek	0.59	323	P	Pg	06 15 10.7	-0.1
LON	Longmire	0.61	25	⇓P	Pg	06 15 11.1	-0.1
REMR	Mount Rainier-	0.66	21	⇑P	Pg	06 15 12.2	-0.2
WPW	White Pass	0.67	41	⇑P	Pg	06 15 12.0	-0.4
RCM	Mount Rainier-	0.71	26	⇓P	Pg	06 15 13.0	-0.3
RCS	Mount Rainier-	0.74	25	⇓P	Pg	06 15 13.5	-0.4
BMW	Boistfort Moun	0.77	291	ePn	Pn	06 15 14.5	-2.4
BMW				eS	Sg	06 15 25.9	+1.2
FMW	Mount Fremont	0.81	26	⇓P	Pg	06 15 14.8	-0.5
VLL	Laurance Lake	0.82	154	⇑P	Pg	06 15 15.1	-0.3
NLO	Nicolai Mounta	0.88	263	⇓P	Pg	06 15 16.2	-0.5
CPW	Capitol Peak	1.01	320	⇑P	Pb	06 15 18.0	-1.1
GSM	Grass Mountain	1.04	15	P	Pb	06 15 18.6	-1.0
EBG	Ellensburg	1.32	57	P	Pb	06 15 24.7	+0.2
SSOR	Sweet Springs	1.36	188	ePn	Pn	06 15 23.3	-1.9
MXC	Moxie City	1.37	73	P	Pb	06 15 25.8	+0.7
GNW	Green Mountain	1.43	342	ePn	Pn	06 15 24.0	-2.3
COR	Corvallis	1.79	206	ePn	Pn	06 15 30.9	-0.6
COR				eSg	Sg	06 15 58.0	-0.9
HAWA	Hanford	1.85	83	ePn	Pn	06 15 31.9	-0.4
OCWA	Octopus Mounta	2.06	319	Pn	Pn	06 15 35.5	+0.2
NLW	Nelson Butte	2.26	33	ePn	Pn	06 15 38.7	+0.5
RPW	Rockport	2.30	11	ePn	Pn	06 15 39.1	+0.4
PGC	Sidney	2.60	341	ePn	Pn	06 15 42.9	-0.1
LNOR	Lincton Mounta	2.74	95	P	Pn	06 15 44.4	-0.6
HSO	Harness Mounta	2.75	194	ePn	Pn	06 15 45.1	-0.1
DPW	Davenport	3.20	57	ePn	Pn	06 15 50.2	-1.3
HUMO	Hull Mountain	3.63	189	Pn	Pn	06 15 59.1	+1.3

*STR **01** 06:43:28.9±0.3, 42.79N×1.47W, h5^{km}±1^{km}, Ml2.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*NEIC **01** 06:43:28.9, 42.79N×1.47W, h5^{km}, ML2.8(STR), ML2.8(LDG), MN2.2(MDD), After STR.*

*LDG **01** 06:43:29.5±0.3, 42.84N×1.49W, h2^{km}, Md2.8/3, Ml2.8/17, Error ellipse: s-maj=4.8km s-min=2.7km az=38.0*

*CSEM **01** 06:43:30.9±0.1, 42.86N×1.39W, h5^{km}, ML2.8/17, Error ellipse: s-maj=1.5km s-min=1.3km az=137.0*

MDD 01 06:43:30.9±0.3**, 42.86N×1.40W, h6**^{km}±3^{km}**, mbLg2.3**/10**, 2C-1D, Error ellipse: s-maj=2.9km s-min=2.1km az=31.0, PRXIMO AftershockPLICA, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.29	27	ePg	Pg	06 43 36.5	-0.2
SJPF				eSg	Sg	06 43 39.2	-1.4
	231nm,0.3s						
LARF	Larrau	0.35	59	Pg	Pg	06 43 37.4	-0.6
LARF				Sg	Sg	06 43 43.8	+1.0
LARF	Larrau	0.35	59	P	Pg	06 43 37.4	-0.6
LARF				S	Sg	06 43 43.6	+0.8
EALK	Alkurruntz	0.37	348	⇑Pg	Pg	06 43 37.6	-0.7
	44nm,0.3s,SNR=18						
EALK				Lg		06 43 43.6	
	92nm,0.2s,SNR=7.9						
EALK	Alkurruntz	0.37	348	⇑Pg	Pg	06 43 37.7	-0.6
OSSF	Osses	0.41	15	Pg	Pg	06 43 38.4	-0.8
OSSF				Sg	Sg	06 43 45.0	+0.3
OSSF	Osses	0.41	15	P	Pg	06 43 38.4	-0.7
OSSF				S	Sg	06 43 44.1	-0.6
ORDF	Ordiarp	0.49	44	Pg	Pg	06 43 40.2	-0.6
ORDF				Sg	Sg	06 43 47.9	+0.5
ORDF	Ordiarp	0.49	44	P	Pg	06 43 40.3	-0.5
ORDF				S	Sg	06 43 47.4	0.0
ATE	Arette	0.56	66	P	Pg	06 43 41.2	-1.0
ATE				S	Sg	06 43 49.8	+0.1
FDAF	Les Forges d'A	0.62	93	Pg	Pg	06 43 42.0	-1.2
FDAF				Sg	Sg	06 43 50.6	-0.9
FDAF	Les Forges d'A	0.62	93	P	Pg	06 43 42.3	-0.9
FDAF				S	Sg	06 43 50.8	-0.7
ETSF	Etsaut	0.62	86	ePg	Pg	06 43 41.8	-1.5
ETSF				eSg	Sg	06 43 50.9	-0.7
	63nm,0.3s						
REYF	Montagne du Re	0.77	74	Pg	Pg	06 43 44.8	-1.5
REYF				Sg	Sg	06 43 56.4	-0.2
REYF	Montagne du Re	0.77	74	P	Pb	06 43 45.0	-1.3
REYF				S	Sg	06 43 55.9	-0.7
VIEF	Viey	1.05	88	Pg	Pg	06 43 49.4	-2.4
VIEF				Sg	Sg	06 44 05.3	-0.5
VIEF	Viey	1.05	88	P	Pb	06 43 49.6	-1.5
VIEF				S	Sb	06 44 05.0	+0.1
LABF	Labassere	1.10	80	Pg	Pg	06 43 51.0	-1.9
LABF				Sg	Sg	06 44 06.9	-0.7
LABF	Labassere	1.10	80	P	Pb	06 43 51.1	-0.9
LABF				S	Sb	06 44 06.8	+0.5
RESF	Ens	1.28	92	Pg	Pg	06 43 54.1	-2.4
RESF				Sg	Sg	06 44 12.8	-0.8
RESF	Ens	1.28	92	P	Pb	06 43 54.6	-0.5
RESF				S	Sb	06 44 12.5	+0.9
EPF	Esparros	1.29	82	ePn	Pn	06 43 54.1	-1.4
EPF				ePg	Pg	06 43 56.5	-0.2
EPF				eSg	Sg	06 44 13.8	-0.1
	42nm,0.2s						
ESAC	San Caprasio	1.33	148	Pg	Pg	06 43 53.9	-3.5
	58nm,0.3s,SNR=28						
ESAC				Lg		06 44 13.1	
	86nm,0.3s,SNR=7.9						
ESAC	San Caprasio	1.33	148	Pg	Pg	06 43 53.9	-3.5
	58nm,0.3s,SNR=28						
ELAN	Lanestosa	1.54	285	Pn	Pn	06 43 58.0	-1.0
	SNR=5.0						
ELAN				Pg	Pg	06 43 59.4	-2.2
	SNR=7.9						
ELAN				Lg		06 44 20.4	
	14nm,0.3s,SNR=7.9						
ELAN	Lanestosa	1.54	285	Pn	Pn	06 43 58.0	-1.0
	SNR=5.0						
ELAN	Lanestosa	1.54	285	Pg	Pg	06 43 59.4	-2.1
	SNR=7.9						
MELF	Melles	1.59	89	Pg	Pg	06 44 00.1	-2.5
MELF				Sg	Sg	06 44 22.5	-1.3
SALF	Salau	1.91	92	Pg	Pg	06 44 04.8	-4.2
SALF				Sg	Sg	06 44 31.4	-3.1
ETOR	Torete	2.09	194	⇓Pn	Pn	06 44 05.1	-1.8
	9.1nm,0.3s,SNR=18						
ETOR				Pg	Pg	06 44 09.7	-3.0
	SNR=7.9						
ETOR				Lg		06 44 33.7	
	16nm,0.3s,SNR=4.0						
EMIR	Miracle	2.37	112	Pn	Pn	06 44 09.3	-1.6
	SNR=7.9						
EMIR				Pg	Pg	06 44 13.9	-4.2
	3.7nm,0.3s,SNR=5.6						
EMIR				Lg		06 44 47.2	
	11nm,0.4s,SNR=4.0						
EMIR	Miracle	2.37	112	Pn	Pn	06 44 09.3	-1.5
	SNR=7.9						
EMIR	Miracle	2.37	112	Pg	Pg	06 44 13.9	-4.2
	3.7nm,0.3s,SNR=5.6						
EPOB	Poblet	2.38	128	Pn	Pn	06 44 08.6	-2.5
	SNR=7.9						
EPOB				Pg	Pg	06 44 13.6	-4.8
	SNR=7.9						
EPOB				Lg		06 44 43.9	
	2.2nm,0.1s,SNR=7.9						
EPOB	Poblet	2.38	128	Pn	Pn	06 44 08.6	-2.5
	SNR=7.9						
EPOB	Poblet	2.38	128	Pg	Pg	06 44 13.6	-4.8
	SNR=7.9						
EBR	Ebro Roquetas	2.48	145	eSG	Sg	06 44 50.0	-3.4
EMOS	Mosqueruela	2.59	164	Pn	Pn	06 44 12.8	-1.3
	SNR=7.9						
EMOS				Pg	Pg	06 44 19.6	-2.9
	SNR=7.9						
EMOS				Lg		06 44 53.6	
	1.5nm,0.1s,SNR=5.0						
EMOS	Mosqueruela	2.59	164	Pn	Pn	06 44 12.8	-1.2
	SNR=7.9						
EMOS	Mosqueruela	2.59	164	Pg	Pg	06 44 19.6	-2.9
	SNR=7.9						
LFF	La Frestale	2.59	36	ePn	Pn	06 44 11.3	-2.8
LFF				eSn	Sn	06 44 41.6	-4.8
LFF				eSg	Sg	06 44 50.7	-6.6
	9.5nm,0.3s						
MTLF	Montolieu	2.70	78	ePn	Pn	06 44 14.3	-1.3
MTLF				ePg	Pg	06 44 21.7	-3.0
MTLF				eSn	Sn	06 44 46.4	-2.5
	6.0nm,0.3s						
MTLF	Montolieu	2.70	78	Pn	Pn	06 44 14.3	-1.3
MTLF				Sn	Sn	06 44 46.4	-2.5
	3.0nm,0.3s						
EARI	Arriondas	2.82	280	Pn	Pn	06 44 16.7	-0.7
	SNR=7.9						
EARI				Sn	Sn	06 44 49.7	-2.5
	1.0nm,0.2s,SNR=7.9						
EARI				Lg		06 45 01.6	
	1.0nm,0.2s,SNR=4.0						
EARI	Arriondas	2.82	280	Pn	Pn	06 44 16.7	-0.7
	SNR=7.9						
EARI				Sn	Sn	06 44 49.7	-2.5
	1.0nm,0.2s,SNR=7.9						
EJON	La Jonquera	3.19	96	Pg	Pg	06 44 28.7	-5.9
	SNR=5.0						
EJON				Lg		06 45 12.8	
	0.5nm,0.1s,SNR=4.6						
EJON	La Jonquera	3.19	96	Pg	Pg	06 44 28.7	-5.9
	SNR=5.0						
RJF	Les Rejaudoux	3.23	40	ePn	Pn	06 44 19.8	-3.3
RJF				eSn	Sn	06 44 57.7	-4.7
	6.1nm,0.3s						
CAF	Calviac	3.25	49	ePn	Pn	06 44 20.5	-2.9
CAF				eSn	Sn	06 44 58.2	-4.7
	12nm,0.4s						
MFF	Saint Martin d	3.85	13	ePn	Pn	06 44 28.2	-3.8
MFF				ePg	Pg	06 44 40.8	-6.9
MFF				eSn	Sn	06 45 12.1	-6.0
	2.6nm,0.2s						
LASF	Ste Croix	4.02	71	ePn	Pn	06 44 31.4	-3.0
LASF				eSn	Sn	06 45 17.9	-4.5
LASF				eSg	Sg	06 45 39.1	-5.6
	4.1nm,0.5s						
ECAL	Calabor	4.05	259	Pn	Pn	06 44 32.0	-2.9
	2.0nm,0.3s,SNR=6.7						
ECAL				Sn	Sn	06 45 18.5	-4.8
	SNR=7.9						
ECAL				Lg		06 45 38.0	
	7.4nm,0.3s,SNR=4.5						
ECAL	Calabor	4.05	259	Pn	Pn	06 44 32.0	-2.9
	2.0nm,0.3s,SNR=6.7						
ECAL				Sn	Sn	06 45 18.5	-4.8
TCF	Toulx Ste Croi	4.29	36	ePn	Pn	06 44 33.4	-4.9
TCF				eSn	Sn	06 45 21.2	-8.2
	2.1nm,0.2s						
BGF	Bois d'Agland	4.78	38	ePn	Pn	06 44 40.7	-4.5
BGF				eSn	Sn	06 45 34.9	-6.8
BGF				eSg	Sg	06 46 00.1	-10
	7.0nm,0.4s						
VIVF	Saint-Julien-l	4.83	63	ePn	Pn	06 44 42.5	-3.3
VIVF				eSn	Sn	06 45 36.6	-6.3
	3.4nm,0.4s						
AVF	Avril sur Loir	5.19	39	ePn	Pn	06 44 47.0	-3.9
AVF				eSn	Sn	06 45 43.5	-8.4
	2.5nm,0.3s						
QUIF	Quistinic	5.21	347	ePn	Pn	06 44 47.6	-3.7
QUIF				eSn	Sn	06 45 43.9	-8.6
	1.2nm,0.3s						
SSF	Saint Saulge	5.46	38	ePn	Pn	06 44 49.5	-5.3
SSF				eSn	Sn	06 45 50.1	-8.7
	1.3nm,0.3s						
GRR	Gorron	5.54	4	ePn	Pn	06 44 52.1	-3.9
GRR				eSn	Sn	06 45 51.5	-9.4
	4.1nm,0.4s						
LOR	Lormes	5.77	38	ePn	Pn	06 44 54.1	-5.1
LOR				eSn	Sn	06 45 57.2	-9.4
	2.6nm,0.4s						
LDF	La Druitiere	5.81	8	ePn	Pn	06 44 55.5	-4.2
LDF				eSn	Sn	06 45 58.4	-9.1
	2.4nm,0.3s						

*NEIC **01** 06:45:01.8±0.6, 51.51N×16.07E, h5^{km}, ML2.7(VIE), ML2.6(CLL), ML2.4(BRG), Error ellipse: s-maj=7.4km s-min=5.1km az=215.0*

*PRU **01** 06:45:03.1, 51.44N×16.04E*

*WAR **01** 06:45:03.1, 51.47N×16.03E, ML3.0, Mining Induced*

ISC 01 06:45:00.3±0.7**, 51.46N**±0.04×**16.04E**±0.04**, n19,** σ**1^{s}24**/41**, 1C, Poland**

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

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KSP	**Ksiaz**	**0.64**	**165**	*e*Pg	**Pg**	**06 45 15.0**	**+1.9**
KSP				*e*Sg	**Sg**	**06 45 23.8**	**+2.2**
KSP	**Ksiaz**	**0.64**	**165**	*e*Pg	**Pg**	**06 45 15.0**	**+1.9**
KSP				*e*Sg	**Sg**	**06 45 23.8**	**+2.2**
UPC	**Upice**	**0.96**	**181**	*e*PG	**Pg**	**06 45 20.9**	**+1.5**
DPC	**Dobruska-Polom**	**1.13**	**171**	*e*PG	**Pg**	**06 45 23.6**	**+0.8**
DPC				*e*SG	**Sg**	**06 45 38.7**	**+0.8**
	22nm,0.2s						
PVCC	**Panska Ves**	**1.32**	**225**	*e*PG	**Pg**	**06 45 27.4**	**+0.8**
BRG	**Berggiesshubel**	**1.45**	**247**	*e*Pn	**Pn**	**06 45 29.3**	**+1.6**
BRG				*i* Pg	**Pg**	**06 45 29.8**	**+0.7**
BRG				*i* Sg	**Sg**	**06 45 49.6**	**+1.2**
PRU	**Pruhonice**	**1.76**	**213**	PG	**Pg**	**06 45 34.2**	**-1.1**
PRU				*i* x	x	06 45 51.8	
PRU				SG	**Sg**	**06 45 57.9**	**-0.8**
	21nm,0.4s						
CLL	**Collm**	**1.91**	**266**	*e*PG	**Pg**	**06 45 38.0**	**-0.3**
CLL				*e*SG	**Sg**	**06 46 04.0**	**+0.2**
MORC	**Moravsky Berou**	**1.94**	**150**	*e*Pn	**Pn**	**06 45 35.1**	**+0.2**
MORC				*e*Sn	**Sn**	**06 45 57.8**	**-2.5**
OKC	**Ostrava-Krasne**	**2.11**	**140**	*e*PG	**Pg**	**06 45 41.8**	**-0.6**
OKC				*e*SG	**Sg**	**06 46 08.7**	**-1.8**
NKC	**Novy Kostel**	**2.59**	**243**	*e*PN	**Pn**	**06 45 45.2**	**+1.1**
NKC				*e*PG	**Pg**	**06 45 51.7**	**-0.2**
OJC	**Ojcow**	**2.69**	**116**	*e*PG	**Pg**	**06 45 54.0**	**0.0**
OJC				*e*SG	**Sg**	**06 46 30.0**	**+0.2**
OJC	**Ojcow**	**2.69**	**116**	*e*Pg	**Pg**	**06 45 53.9**	**-0.1**
OJC				*e*Sg	**Sg**	**06 46 29.6**	**-0.2**
OJC	**Ojcow**	**2.69**	**116**	*e*Pg	**Pg**	**06 45 53.9**	**-0.1**
OJC				*e*Sg	**Sg**	**06 46 29.6**	**-0.2**
KHC	**Kasperske Hory**	**2.82**	**215**	*e*PN	**Pn**	**06 45 48.3**	**+0.9**
KHC				*e*PG	**Pg**	**06 45 54.0**	**-2.5**
KHC				*e*SN	**Sn**	**06 46 22.5**	**0.0**
KHC				*e*SG	**Sg**	**06 46 32.4**	**-1.7**
MOX	**Moxa**	**2.91**	**255**	*i* P	**Pn**	**06 45 49.2**	**+0.6**
MOX				Pg	**Pg**	**06 45 57.0**	**-1.3**
MOX				Sg	**Sg**	**06 46 36.0**	**-1.1**
MOX	**Moxa**	**2.91**	**255**	*e*Pn	**Pn**	**06 45 49.2**	**+0.6**
MOX				*e*Pg	**Pg**	**06 45 56.9**	**-1.4**
MOX				*e*Sg	**Sg**	**06 46 36.4**	**-0.7**
BSD	**Bornholm Skovb**	**3.72**	**350**	*i* P	**Pn**	**06 45 59.2**	**-1.0**
BSD				*i* S	**Sn**	**06 46 41.3**	**-4.0**
BSD				*i*		06 46 41.5	
MOA	**Molln**	**3.80**	**198**	⇑*i*PN	**Pn**	**06 46 02.3**	**+1.0**
MOA				*i* SG	**Sg**	**06 47 04.2**	**-2.4**
	5.5nm,0.5s						

NEIC 01 06:45:10.7, 46.20N×122.19W, h1km, MD3.5(SEA), **14C-13D, After SEA., Washington**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSR	**South Ridge**	**0.03**	**167**	⇓P	Pg	06 45 11.6	+0.3
ESD	**East Dome**	**0.03**	**89**	⇓P	Pg	06 45 11.7	+0.4
SHW	**Mount Saint He**	**0.03**	**262**	⇑P	Pg	06 45 11.8	+0.4
STD	**Studebaker Rid**	**0.05**	**331**	⇑P	Pg	06 45 11.9	+0.3
JLK	**June Lake**	**0.06**	**152**	⇓P	Pg	06 45 12.2	+0.3
FL2	**Flat Top 2**	**0.11**	**270**	⇑P	Pg	06 45 13.4	+0.5
CDFW	**Cedar Flats**	**0.13**	**129**	⇑P	Pg	06 45 13.8	+0.5
ERK	**Elk Rock**	**0.15**	**316**	⇑P	Pg	06 45 14.0	+0.2
TDL	**Tradedollar La**	**0.15**	**354**	⇑P	Pg	06 45 14.1	+0.3
MTMW	**Mount Mitchell**	**0.17**	**185**	⇓P	Pg	06 45 14.6	+0.5
LVP	**Lakeview Peak**	**0.20**	**230**	⇓P	Pg	06 45 15.0	+0.3
KOSW	**Kosmos**	**0.26**	**360**	⇑P	Pg	06 45 16.3	+0.3
CZM	**Crazy Man Moun**	**0.32**	**318**	P	Pg	06 45 17.4	+0.2
ASR	**Mount Adams--S**	**0.42**	**96**	⇓P	Pg	06 45 19.1	0.0
LMW	**Ladd Mountain**	**0.48**	**352**	⇓P	Pg	06 45 20.7	+0.5
GULW	**Guler Mountain**	**0.50**	**123**	⇑P	Pg	06 45 20.7	+0.1
GLK	**Glacier Lake**	**0.55**	**47**	⇑P	Pg	06 45 21.4	-0.2
LON	**Longmire**	**0.61**	**25**	⇓P	Pg	06 45 22.8	-0.2
REMR	**Mount Rainier-**	**0.67**	**21**	⇓P	Pg	06 45 23.8	-0.3
WPW	**White Pass**	**0.67**	**41**	⇑P	Pg	06 45 23.7	-0.4
RCM	**Mount Rainier-**	**0.71**	**26**	⇓P	Pg	06 45 24.7	-0.2
RCS	**Mount Rainier-**	**0.74**	**25**	⇑P	Pg	06 45 25.1	-0.5
BMW	**Boistfort Moun**	**0.77**	**292**	⇓P	Pg	06 45 25.4	-0.6
VLL	**Laurance Lake**	**0.82**	**154**	⇑P	Pg	06 45 26.8	-0.2
FMW	**Mount Fremont**	**0.82**	**26**	⇓P	Pg	06 45 26.5	-0.5
NLO	**Nicolai Mounta**	**0.88**	**263**	⇑P	Pg	06 45 27.9	-0.4
TDH	**Tom, Dick, Har**	**0.95**	**163**	P	Pb	06 45 29.1	-0.6
CPW	**Capitol Peak**	**1.01**	**320**	P	Pb	06 45 29.7	-1.1
GSM	**Grass Mountain**	**1.04**	**15**	⇓P	Pb	06 45 30.2	-1.0
RMW	**Rattlesnake Mo**	**1.29**	**12**	P	Pb	06 45 34.4	-1.1
SSOR	**Sweet Springs**	**1.35**	**188**	*e*Pn	Pn	06 45 34.7	-2.0
GNW	**Green Mountain**	**1.44**	**343**	*e*Pn	Pn	06 45 36.2	-1.8
CROR	**Criterion Ridg**	**1.48**	**145**	P	Pn	06 45 38.5	-0.1
LTY	**Liberty**	**1.49**	**44**	⇑P	Pn	06 45 38.0	-0.7
SNIWA	**Snively Ranch**	**1.77**	**80**	P	Pn	06 45 43.1	+0.4
COR	**Corvallis**	**1.79**	**206**	*e*Pn	Pn	06 45 42.4	-0.7
GBB	**Gable Butte**	**1.82**	**76**	P	Pn	06 45 44.5	+1.0
HAWA	**Hanford**	**1.85**	**83**	*e*Pn	Pn	06 45 43.6	-0.3
JCW	**Jim Creek**	**2.00**	**5**	P	Pn	06 45 46.6	+0.5
OCWA	**Octopus Mounta**	**2.06**	**319**	*e*P	Pn	06 45 47.6	+0.6
NLW	**Nelson Butte**	**2.27**	**33**	*e*Pn	Pn	06 45 50.6	+0.7
RPW	**Rockport**	**2.30**	**11**	Pn	Pn	06 45 50.4	+0.1
PGC	**Sidney**	**2.60**	**341**	*e*Pn	Pn	06 45 55.1	+0.5
HSO	**Harness Mounta**	**2.75**	**194**	Pn	Pn	06 45 56.4	-0.3
DPW	**Davenport**	**3.20**	**57**	*e*Pn	Pn	06 46 01.6	-1.6
HUMO	**Hull Mountain**	**3.63**	**189**	*e*Pg	Pg	06 46 12.5	-11

IDC 01 06:46:31.0±12.0**, 61.62S×28.01W, 2C-2D, Error ellipse: s-maj=3351.0km s-min=97.0km az=20.0, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.01**	**147**	⇓*i*P	P	06 50 04.7	+39
VNA3	**Neumayer Olymp**	**12.06**	**151**	⇑*i*P	P	06 50 07.8	+41
VNA2	**Neumayer--Watz**	**12.41**	**147**	⇓*i*P	P	06 50 10.7	+39
SNAA	**Sanae**	**14.04**	**146**	⇑*i*P	P	06 50 29.5	+37
YKA	**Yellowknife Ar**	**139.89**	**314**	PKP	PKPdf	07 05 59.0	-2.5
	0.3nm,0.4s,baz=122,slow=2.8,SNR=7.7						
SONM	**Songino Array**	**150.97**	**97**	PKPbc	PKPdf	07 06 24.4	+4.0
	1.0nm,0.6s,baz=234,slow=3.5,SNR=6.2						
ILAR	**Eielson Array**	**153.20**	**304**	PKPbc	PKPdf	07 06 28.9	+5.8
	1.2nm,0.4s,baz=106,slow=1.0,SNR=16						

*IDC **01** 06:53:02.3±1.9, 2.23N×84.76W, mb3.8/6, mb1 4.2/8, mb1mx4.1/19, ML3.2/2, MS3.9/16, Ms1 3.9/16, ms1mx3.8/20, Error ellipse: s-maj=39.6km s-min=26.7km az=6.0*

*NEIC **01** 06:53:07.4±1.9, 2.22N×84.64W, h35km±16km, mb4.4/7, Error ellipse: s-maj=21.9km s-min=8.8km az=49.0*

ISC 01 06:53:06.0±3.1**, 2.36N**±0.07×**84.67W**±0.07**, h32**km±22km**, n35,** σ**0.92**/25**, mb4.0**/11**, MS3.9**/14**, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTAV	**Otavalo**	**6.56**	**109**	*e*Pn	**Pn**	**06 54 39.2**	**-3.7**
	26nm,1.1s						
BUS	**Buena Vista**	**7.21**	**7**	*e*P	**Pn**	**06 54 52.2**	**+0.2**
LCR2	**La Lucha 2**	**7.37**	**5**	*e*P	**Pn**	**06 54 54.6**	**+0.4**
PRS1	**Puriscal**	**7.59**	**3**	*e*P	**Pn**	**06 54 57.0**	**-0.3**
ICR	**Volcan Irazu**	**7.62**	**6**	*e*P	**Pn**	**06 54 54.4**	**-3.4**
JTS	**JuntasAbangare**	**7.89**	**358**	Pn	**Pn**	**06 55 01.6**	**+0.1**
	2.7nm,0.3s,baz=146,slow=7.4,SNR=13						
JTS				Sn	**Sn**	**06 56 30.2**	**-0.4**
	0.8nm,0.3s,baz=142,slow=19,SNR=1.5						
JTS				LR	LR	06 57 33.6	
	comp=Z,3μm,21.4s,baz=191,slow=34						
JTS	**JuntasAbangare**	**7.89**	**358**	Pn	**Pn**	**06 55 01.2**	**-0.3**
	233nm,0.8s,SNR=12						
ROSC	**El Rosal**	**10.61**	**76**	Pn	**P**	**06 55 39.1**	**-0.1**
	0.7nm,0.3s,baz=83,slow=18,SNR=8.0						
ROSC				Sn	**S**	**06 57 37.8**	**0.0**
	0.3nm,0.3s,baz=142,slow=20,SNR=1.8						
ROSC				LR	LR	06 58 42.1	
	comp=Z,142nm,20.6s,baz=256,slow=32						
SDV	**Santo Domingo**	**15.39**	**65**	P	**P**	**06 56 45.8**	**+2.9**
	7.4nm,0.2s						
SJG	**San Juan**	**23.98**	**48**	P	**P**	**06 58 20.1**	**+1.2**
	21nm,1.0s,mb4.5,baz=313,slow=5.1,SNR=5.2						
SJG				LR	LR	07 07 48.8	
	comp=Z,103nm,18.5s,MS3.3,baz=9.1,slow=37						
SJG	**San Juan**	**23.98**	**48**	*e*P	**P**	**06 58 19.0**	**+0.1**
	19nm,0.9s,mb4.5						
SAML	**Samuel**	**24.18**	**118**	*e*P	**P**	**06 58 20.1**	**-0.8**
	6.0nm,1.0s,mb4.0						
HUMP	**Col San Antoni**	**24.22**	**48**	P	**P**	**06 58 21.5**	**+0.2**
LPAZ	**La Paz**	**24.70**	**139**	*e*P	**P**	**06 58 26.1**	**+0.2**
	2.2nm,0.5s,mb3.9						
TXAR	**Lajitas Array**	**32.35**	**328**	P	**P**	**06 59 34.5**	**-0.4**
	0.3nm,0.7s,mb3.2,baz=143,slow=12,SNR=4.2						
CCM	**Cathedral Cave**	**36.04**	**351**	*e*P	**P**	**07 00 05.5**	**-1.0**
	6.1nm,1.0s,mb4.5						
BNM	**Barren Site**	**37.69**	**330**	P	**P**	**07 00 21.0**	**+0.5**
ANMO	**Albuquerque**	**38.24**	**330**	*e*P	**P**	**07 00 26.6**	**+1.5**
	6.5nm,1.3s,mb4.2						
CPUP	**Villa Florida**	**38.87**	**139**	LR	LR	07 15 27.2	
	comp=Z,138nm,21.1s,MS3.8,baz=338,slow=35						
SDCO	**Great Sand Dun**	**40.08**	**334**	*e*P	**P**	**07 00 41.9**	**+1.5**
	11nm,1.4s,mb4.4						
BDFB	**Brasilia**	**40.41**	**117**	LR	LR	07 16 31.6	
	comp=Z,207nm,20.2s,MS4.0,baz=296,slow=35						
PDAR	**Pinedale Array**	**45.97**	**334**	P	**P**	**07 01 28.3**	**+0.2**
	0.9nm,1.1s,mb3.6,baz=146,slow=5.3,SNR=4.2						
PDAR				LR	LR	07 22 06.8	
	comp=Z,220nm,19.0s,MS4.1,baz=154,slow=38						
NVAR	**Mina Array Bea**	**47.26**	**324**	P	**P**	**07 01 38.1**	**-0.3**
	0.5nm,0.8s,mb3.5,baz=145,slow=8.2,SNR=5.0						
NVAR				LR	LR	07 21 13.5	
	comp=Z,78nm,20.9s,MS3.6,baz=255,slow=36						
ULM	**Lac du Bonnet**	**48.66**	**350**	LR	LR	07 21 50.8	
	comp=Z,88nm,20.0s,MS3.8,baz=82,slow=35						
SCHQ	**Schefferville**	**54.30**	**13**	LR	LR	07 26 33.8	
	comp=Z,243nm,18.4s,MS4.3,baz=198,slow=37						
YKA	**Yellowknife Ar**	**64.01**	**345**	P	**P**	**07 03 37.6**	**-1.1**
	1.6nm,0.8s,mb4.1,baz=139,slow=5.7,SNR=4.5						
YKA				LR	LR	07 33 18.6	
	comp=Z,107nm,18.2s,MS4.1,baz=140,slow=38						
DLBC	**Dease Lake**	**66.17**	**336**	LR	LR	07 33 34.3	
	comp=Z,124nm,19.9s,MS4.1,baz=27,slow=37						
ILAR	**Eielson Array**	**76.32**	**337**	P	**P**	**07 04 53.0**	**-0.5**
	0.8nm,0.8s,mb3.7,baz=154,slow=5.3,SNR=5.8						
RAR	**Rarotonga**	**77.00**	**248**	LR	LR	07 29 59.1	
	comp=Z,95nm,18.6s,MS4.1,baz=272,slow=29						
SNAA	**Sanae**	**89.64**	**162**	LR	LR	07 39 02.2	
	comp=Z,38nm,20.5s,MS3.8,baz=168,slow=31						
NOA	**NORSAR Array B**	**90.81**	**29**	LR	LR	07 42 21.7	
	comp=Z,41nm,21.7s,MS3.8,baz=295,slow=32						
FINES	**FINESS Array B**	**97.72**	**27**	LR	LR	07 43 53.4	
	comp=Z,43nm,21.7s,MS3.9,baz=325,slow=31						
URZ	**Urewera**	**97.91**	**232**	LR	LR	07 41 58.7	
	comp=Z,85nm,20.4s,MS4.2,baz=217,slow=30						
ASAR	**Alice Springs**	**137.10**	**237**	PKP	PKPdf	07 12 28.4	-3.8
	0.5nm,0.9s,baz=117,slow=2.0,SNR=3.2						
WRA	**Warramunga Arr**	**138.10**	**242**	PKP	PKPdf	07 12 28.5	-5.6
	1.1nm,1.1s,baz=99,slow=2.5,SNR=5.6						

*NEIC **01** 07:11:13.5, 32.73S×72.79W, h23km, ML2.9(GUC), After GUC.*

GUC 01 07:11:13.5±0.7**, 32.73S×72.79W, h23**km±3km**, MD3.5, ML2.9, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TACH	**Talagante**	**1.81**	**121**	*e*P	Pn	07 11 43.9	+0.1
TACH				*i* S	Sn	07 12 07.2	+1.1
PEL	**Peldehue**	**1.82**	**104**	*i* S	Sn	07 12 08.0	+1.5
PEL				AMP		07 12 10.1	
	comp=N,210nm,0.4s						
RCDM	**Rinconada Maip**	**1.83**	**115**	*e*P	Pn	07 11 44.2	+0.1
RCDM				*i* S	Sn	07 12 07.8	+1.1
RCDM				AMP		07 12 11.5	
	comp=N,162nm,0.1s						
DSCH	**Colegio Aleman**	**1.98**	**110**	*e*P	Pn	07 11 46.8	+0.6
DSCH				*i* S	Sn	07 12 12.2	+1.6
DSCH				AMP		07 12 13.6	
	comp=N,151nm,0.2s						
CLCH	**Cerro Calan**	**2.01**	**110**	*e*P	Pn	07 11 47.6	+1.0
CLCH				*i* S	Sn	07 12 13.2	+1.9
CLCH				AMP		07 12 15.7	
	comp=E,74nm,0.6s						
FSR	**Penalolen**	**2.04**	**112**	*e*P	Pn	07 11 48.1	+1.0
FSR				*i* S	Sn	07 12 14.2	+2.1
FSR				AMP		07 12 15.5	
	comp=N,141nm,0.3s						
CHCH	**Chadas Angostu**	**2.15**	**124**	*e*P	Pn	07 11 49.4	+0.7
CHCH				*i* S	Sn	07 12 16.3	+1.3
FCH	**Farellones**	**2.18**	**106**	*e*P	Pn	07 11 50.1	+0.9
FCH				*i* S	Sn	07 12 17.9	+2.2
FCH				AMP		07 12 19.5	
	comp=E,95nm,0.2s						

*NIED **01** 07:13:00, 45.40N×151.10E, h71km, Mw4.5 Best double couple: Mo5.45×10^15 NP1: φs228°, δ78°, λ-162°. NP2: φs134°, δ73°, λ-13°.*

*SKHL **01** 07:13:46.7±4.4, 45.20N×151.40E, h44km±9km, mb5.4/5*

*MOS **01** 07:13:50.0±1.1, 45.84N×150.75E, h57km, mb4.7/17, Error ellipse: s-maj=13.1km s-min=8.4km az=104.0*

*IDC **01** 07:13:52.8±3.3, 45.37N×150.99E, h93km±29km, mb3.9/18, mb1 4.1/19, mb1mx4.1/25, MS3.2/3, Ms1 3.2/3, ms1mx2.9/28, Error ellipse: s-maj=15.7km s-min=12.5km az=140.0*

*BJI **01** 07:13:52.7, 46.01N×151.24E, h108km, mB4.9, mb4.9*

*NEIC **01** 07:13:53.8±1.3, 45.47N×151.02E, h95km±10km, mb4.6/29, Error ellipse: s-maj=11.2km s-min=6.4km az=158.0*

ISC 01 07:13:48.6±1.1**, 45.31N**±0.06×**151.11E**±0.07**, h68**km±7km**, n162,** σ**0.96**/154**, mb4.5**/54**, 6C-7D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.29**	**269**	⇓*i*P	**P**	**07 14 24.0**	**-1.0**
KUR				AMB	AMB	07 14 25.0	
	2μm,1.0s						
KUR				AMB	AMB	07 14 25.0	
	3μm,1.0s						
KUR				AMB	AMB	07 14 25.0	
	8μm,1.0s						
KUR				AMB	AMB	07 14 25.0	
	1μm,0.5s						
KUR				AMB	AMB	07 14 25.0	
	610nm,0.5s						
KUR				AMB	AMB	07 14 25.0	
	3μm,0.5s						
KUR				*i* S	**S**	**07 14 52.0**	**0.0**
KUR				A		07 14 53.5	
	8μm,1.0s						
KUR				A		07 14 53.5	
	15μm,1.0s						
KUR				A		07 14 53.5	
	8μm,0.5s						
KUR				A		07 14 53.5	
	6μm,0.5s						
KUR	**Kuril'sk**	**2.29**	**269**	⇓*i*PN	**P**	**07 14 24.0**	**-1.0**
KUR				*i* S	**S**	**07 14 52.0**	**0.0**
KUR				pmax	pmax		
	comp=N,1μm,0.5s						
KUR				pmax	pmax		
	comp=E,610nm,0.5s						
KUR				pmax	pmax		
	comp=Z,3μm,0.5s						
KUR				pmax	pmax		
	comp=N,2μm,1.0s						
KUR				pmax	pmax		
	comp=E,3μm,1.0s						
KUR				pmax	pmax		
	comp=Z,8μm,1.0s						
KUR				smax			
	comp=N,8μm,0.5s						
KUR				smax			
	comp=E,6μm,0.5s						
KUR				smax			
	comp=N,8μm,1.0s						
KUR				smax			
	comp=E,15μm,1.0s						
YUK	**Yuzh-Kuril'sk**	**3.95**	**253**	*e*P	**P**	**07 14 47.9**	**-0.4**
YUK				AMB	AMB	07 14 50.0	
	comp=E,1μm,0.4s						
YUK				AMB	AMB	07 14 50.0	
	comp=E,360nm,0.2s						
YUK				AMB	AMB	07 14 50.0	
	comp=E,360nm,0.5s						
YUK				AMB	AMB	07 14 50.0	
	comp=E,980nm,0.5s						
YUK				*e*S	**S**	**07 15 31.5**	**-2.3**
YUK				A		07 15 36.0	
	comp=E,5μm,0.8s						
YUK				A		07 15 36.0	
	comp=E,6μm,0.8s						
YUK				A		07 15 37.0	
	comp=E,3μm,0.4s						
YUK				A		07 15 37.0	
	comp=E,4μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**3.95**	**253**	*e*PN	**P**	**07 14 47.9**	**-0.4**
YUK				*e*S	**S**	**07 15 31.5**	**-2.3**
YUK				pmax	pmax		
	comp=Z,980nm,0.5s						
YUK				pmax	pmax		
	comp=N,360nm,0.2s						
YUK				pmax	pmax		
	comp=E,360nm,0.5s						
YUK				pmax	pmax		
	comp=Z,1μm,0.4s						
YUK				smax			
	comp=N,5μm,0.8s						
YUK				smax			
	comp=E,6μm,0.7s						
YUK				smax			
	comp=N,3μm,0.4s						
YUK				smax			
	comp=E,4μm,0.5s						
YSS	**Yuzh-Sakhalins**	**6.04**	**289**	⇓*i*P	**P**	**07 15 19.0**	**+1.8**
YSS				AMB	AMB	07 15 19.9	
	comp=E,130nm,0.8s						
YSS				*e*S	**S**	**07 16 22.2**	**-3.5**
YSS				A		07 16 29.6	
	comp=E,20nm,0.8s						
YSS	**Yuzh-Sakhalins**	**6.04**	**289**	⇓*i*PN	**P**	**07 15 19.0**	**+1.8**
YSS				S	**S**	**07 16 22.2**	**-3.5**
YSS				pmax	pmax		
	comp=Z,130nm,0.8s						
YSS				smax			
	comp=E,20nm,0.8s						
YSS	**Yuzh-Sakhalins**	**6.04**	**289**	*e*Pn	**P**	**07 15 18.9**	**+1.8**
	comp=E,85nm,0.8s						
ASAJ	**Asahikawa**	**6.18**	**262**	P	**P**	**07 15 20.8**	**+1.5**
	comp=E,5.2nm,0.3s,baz=78,slow=18,SNR=14						
ASAJ				S	**S**	**07 16 44.4**	**+15**
	comp=E,3.4nm,0.3s,baz=139,slow=20,SNR=2.7						
ASAJ				LR	LR	07 18 11.7	
	comp=E,75nm,18.0s,baz=145,slow=42						
SKR	**Severo-Kuril's**	**6.34**	**30**	*e*P	**P**	**07 15 18.0**	**-3.5**
SKR				AMB	AMB	07 15 20.4	
	comp=E,100nm,0.2s						
SKR				AMB	AMB	07 15 20.4	
	comp=E,70nm,0.4s						
SKR				AMB	AMB	07 15 20.4	
	comp=E,100nm,0.6s						
SKR				*e*S	**S**	**07 16 24.6**	**-8.7**
SKR				A		07 16 29.5	
	comp=E,100nm,0.3s						
SKR				A		07 16 29.5	
	comp=E,200nm,0.3s						
SKR				A		07 16 29.5	
	comp=E,50nm,0.3s						
ERM	**Erimo**	**6.64**	**243**	Pn	**P**	**07 15 26.9**	**+1.2**
	comp=E,533nm,0.5s,SNR=19						
UGL	**Uglegorsk**	**7.22**	**305**	*e*rx	rx	07 15 42.5	
TYV	**Tymovskoe**	**7.93**	**318**	*e*P	**P**	**07 15 44.8**	**+1.3**
TYV				AMB	AMB	07 15 46.9	
	comp=E,24nm,0.4s						
TYV				*e*S	**S**	**07 17 13.2**	**+0.7**
PET	**Petropavlovsk**	**9.16**	**30**	*e*PN	**P**	**07 16 09.5**	**+9.1**
PET				pmax	pmax		
	comp=Z,76nm,1.3s						
MAJO	**Matsushiro**	**13.09**	**233**	*e*P	**P**	**07 17 02.2**	**+9.0**
	comp=Z,28nm,1.1s						
MA2	**Magadan**	**14.29**	**359**	P	**P**	**07 17 09.3**	**+0.7**
MA2				pmax	pmax		
	comp=Z,10.0nm,1.6s						
MDJ	**Mudanjiang**	**15.25**	**275**	*e*P	**P**	**07 17 23.8**	**+2.9**
	comp=Z,12nm,0.8s						
CN2	**Changchun**	**18.33**	**274**	*e*P	**P**	**07 17 58.8**	**-0.7**
YAK	**Yakutsk**	**20.85**	**331**	*e*P	**P**	**07 18 24.7**	**-1.9**
YAK				*e**PP		07 18 47.0	
YAK				*e*		07 22 30.3	
YAK				*e**SS		07 22 42.9	
YAK				*e*		07 29 41.6	
YAK				pmax	pmax		
	comp=Z,24nm,0.7s						
YAK				pmax	pmax		
	comp=N,3.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,5.0nm,0.7s						
YAK	**Yakutsk**	**20.85**	**331**	*e*P	**P**	**07 18 24.8**	**-1.8**
	comp=E,62nm,0.6s						
BOD	**Bodaibo**	**25.88**	**312**	*e*P	**P**	**07 19 10.2**	**-5.2**
SSE	**Sheshan**	**27.28**	**249**	*e*P	**P**	**07 19 36.2**	**+7.7**
SSE				S	**S**	**07 24 03.0**	**+1.9**
SSE				AMB	AMB		
	comp=Z,11nm,1.3s,mb4.2						
SSE				AMB	AMB		
	comp=Z,43nm,4.4s						
SSE				LR	LR		
	comp=N,47nm,35.5s						
SSE				LR	LR		
	comp=E,41nm,35.4s						
SSE				LR	LR		
	comp=Z,36nm,28.5s						
NJ2	**Nanjing**	**28.24**	**253**	*e*P	**P**	**07 19 42.7**	**+5.5**
NJ2				AP	pP	07 20 04.2	+11
NJ2				XP	sP	07 20 16.0	+14
NJ2				PP	PP	07 20 35.2	+5.2
NJ2				S	**S**	**07 24 16.0**	**-0.6**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb4.9						
NJ2				LR	LR		
	comp=N,3μm,18.2s						
NJ2				LR	LR		
	comp=E,3μm,13.5s						
NJ2				LR	LR		
	comp=Z,250nm,12.1s						
TIXI	**Tiksi**	**28.49**	**345**	*e*P	**P**	**07 19 36.7**	**-2.3**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.2						
SONM	**Songino Array**	**30.52**	**291**	P	**P**	**07 19 56.5**	**-0.8**
	comp=Z,2.1nm,0.6s,mb4.0,baz=73,slow=7.4,SNR=22						
SONM				PcP	PcP	07 22 53.0	-1.9
	comp=Z,0.7nm,0.6s,baz=79,slow=2.8,SNR=3.8						
LZH	**Lanzhou**	**36.54**	**272**	⇑P	**P**	**07 20 50.5**	**+1.2**
LZH				AMB	AMB		
	comp=Z,51nm,1.0s,mb5.4						
GTA	**Gaotai**	**37.83**	**280**	*e*P	**P**	**07 21 01.0**	**+1.0**
GTA				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb4.1						
COLA	**College**	**38.13**	**37**	*e*P	**P**	**07 21 09.3**	**+7.0**
COLA	**College**	**38.13**	**37**	*e*P	**P**	**07 21 02.3**	**0.0**
	comp=Z,2.3nm,0.5s,mb4.3						
ILAR	**Eielson Array**	**38.55**	**37**	P	**P**	**07 21 05.5**	**-0.3**
	comp=Z,2.3nm,1.0s,mb4.0,baz=255,slow=5.2,SNR=10						
ILAR	**Eielson Array**	**38.55**	**37**	P	**P**	**07 21 05.5**	**-0.2**
ILAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
CD2	**Chengdu**	**39.37**	**265**	P	**P**	**07 21 13.6**	**+0.7**
ZAL	**Zalesovo**	**42.35**	**307**	P	**P**	**07 21 35.3**	**-1.9**
	comp=Z,1.7nm,0.8s,mb3.8,baz=286,slow=10,SNR=5.4						
ZAL				PcP	PcP	07 23 29.5	-0.6
	comp=Z,2.4nm,0.8s,baz=333,slow=3.9,SNR=5.1						
ZAL				LR	LR	07 41 09.7	
	comp=Z,51nm,18.4s,baz=186,slow=39						
ZAL	**Zalesovo**	**42.35**	**307**	P	**P**	**07 21 35.3**	**-1.8**
ZAL						07 23 29.5	
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ZAL				MLR	MLR		
	comp=Z,51nm,18.4s						
ZAL	**Zalesovo**	**42.35**	**307**	P	**P**	**07 21 35.2**	**-1.9**
ZAL				PcP	PcP	07 23 29.5	-0.6
ZAL				LR	LR	07 41 09.8	
INK	**Inuvik**	**43.62**	**31**	P	**P**	**07 21 47.7**	**+0.4**
	comp=Z,4.0nm,0.8s,mb4.2,baz=277,slow=8.6,SNR=12						
INK	**Inuvik**	**43.62**	**31**	P	**P**	**07 21 47.7**	**+0.4**
INK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
INK	**Inuvik**	**43.62**	**31**	*e*P	**P**	**07 21 46.9**	**-0.4**
	comp=Z,5.8nm,1.0s,mb4.3						
WMQ	**Urumqi**	**44.15**	**292**	*e*P	**P**	**07 21 51.5**	**-0.4**
WMQ				AMB	AMB		
	comp=Z,15nm,0.6s,mb4.9						
MKAR	**Makanchi Array**	**46.37**	**298**	P	**P**	**07 22 08.9**	**-0.6**
	comp=Z,2.3nm,0.5s,mb4.2,baz=75,slow=7.2,SNR=26						
MKAR				PcP	PcP	07 23 43.1	-0.8
	comp=Z,1.6nm,0.6s,baz=83,slow=9.8,SNR=5.4						
MKAR				LR	LR	07 42 53.1	
	comp=Z,30nm,18.6s,baz=200,slow=38						

MKAR Makanchi Array 46.37 298 P P 07 22 08.9 -0.6
MKAR 07 23 43.2
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR MLR MLR
comp=Z,30nm,18.6s
KURK Kurchatov 47.01 304c iP P 07 22 12.9 -1.6
KURK Kurchatov 47.01 304 eP P 07 22 12.6 -1.8
comp=Z,11nm,0.9s,mb4.6
DLBC Dease Lake 47.60 44 P P 07 22 20.3 +1.2
comp=Z,1.1nm,0.7s,mb3.8,baz=265,slow=19,SNR=3.0
DLBC Dease Lake 47.60 44 P P 07 22 20.3 +1.2
CMAR Chiang Mai Arr 50.67 256 P P 07 22 43.1 0.0
comp=Z,1.2nm,0.4s,mb4.3,baz=34,slow=7.8,SNR=5.6
CMAR PcP PcP 07 24 00.1 +0.2
comp=Z,0.9nm,0.5s,baz=355,slow=3.0,SNR=4.1
CMAR Chiang Mai Arr 50.67 256 P P 07 22 43.2 +0.1
CMAR 07 24 00.1
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR pmax pmax
comp=Z,1.0nm,0.5s
BRVK Borovoye 50.74 310 eP P 07 22 41.5 -1.7
SHL Shillong 50.93 268 eP P 07 22 45.0 -0.1
ZRNK Zerenda 51.48 310 eP P 07 22 47.0 -1.9
comp=Z,1.6nm,0.6s,mb4.2
ULHL Ulahol 52.31 295 P P 07 22 55.7 +0.5
SNR=24
TKM2 Tokmak 2 52.38 296 P P 07 22 56.2 +0.5
SNR=7.3
RES Resolute Bay 52.64 18 eP P 07 22 58.1 +0.8
comp=Z,12nm,0.9s,mb4.9
USP Ospenovka 52.90 297 P P 07 22 59.8 +0.2
SNR=9.8
KZA Kyzart 53.03 295 P P 07 23 01.8 +1.1
SNR=18
AAK Ala-Archa 53.22 296 P P 07 23 02.2 +0.2
SNR=9.0
AAK Ala-Archa 53.22 296 eP P 07 23 00.8 -1.3
comp=Z,10nm,0.8s,mb4.9
EKS2 Erkin-Say 53.66 297 P P 07 23 05.5 +0.3
SNR=15
GUN Gumba 53.73 275 eP P 07 23 06.3 +0.3
comp=Z,31nm,0.8s,mb5.4
SVE Sverdlovsk 53.94 317⇑eP P 07 23 03.5 -3.6
AML Almayashu 53.99 296 P P 07 23 08.5 +0.8
SNR=11
KKN Kakani 54.23 275 eP P 07 23 10.1 +0.5
comp=Z,25nm,0.8s,mb5.3
PKI Pulchoki 54.27 275 eP P 07 23 09.8 -0.1
DMN Daman 54.46 275 eP P 07 23 11.6 +0.3
comp=Z,17nm,0.4s,mb5.5
GKN Gorkha 54.55 276 eP P 07 23 11.8 -0.1
ARU Arti 55.13 317⇑iP P 07 23 13.6 -2.2
ARU e 07 24 14.2
ARU e 07 25 17.0
ARU pmax pmax
comp=Z,17nm,0.7s,mb5.2
KOLN Koldanda 55.42 276 eP P 07 23 18.2 0.0
KEV Kevo 58.23 340 ep P 07 23 33.6 -4.0
comp=Z,0.6nm,0.3s,mb4.1
KEV Kevo 58.23 340 eP P 07 23 33.6 -4.0
KEV pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
ARCES ARCESS Array B 58.75 340 P P 07 23 39.1 -2.1
comp=Z,2.4nm,0.8s,mb4.2,baz=31,slow=7.1,SNR=3.6
ARCES ARCESS Array B 58.75 340 P P 07 23 39.1 -2.1
ARCES pmax pmax
comp=Z,2.0nm,0.9s
SUMG Summit 62.23 3 eP P 07 24 04.6 -0.3
comp=Z,22nm,0.8s,mb5.2
KAF Kangasniemi 64.16 335 ep P 07 24 15.1 -2.4
comp=Z,0.3nm,0.3s,mb3.6,baz=44,slow=6.1
NVAR Mina Array Bea 64.35 61 P P 07 24 19.1 -0.1
comp=Z,1.1nm,0.8s,mb3.7,baz=291,slow=5.9,SNR=8.9
FINES FINESS Array B 64.74 334 P P 07 24 19.4 -1.9
comp=Z,5.4nm,0.7s,mb4.5,baz=45,slow=8.1,SNR=23
FINES FINESS Array B 64.74 334 P P 07 24 19.5 -1.8
FINES pmax pmax
comp=Z,5.0nm,0.7s
OBN Obninsk 65.70 325 eP P 07 24 28.2 +0.6
OBN pmax pmax
comp=Z,12nm,1.0s,mb4.7
WB2 Warramunga Arr 66.70 197 eP P 07 24 33.2 -1.3
WRA Warramunga Arr 66.70 197 P P 07 24 33.1 -1.5
comp=Z,2.6nm,0.7s,mb4.2,baz=14,slow=6.7,SNR=22
WRA Warramunga Arr 66.70 197 P P 07 24 33.1 -1.5
WRA pmax pmax
comp=Z,3.0nm,0.7s
PDAR Pinedale Array 66.73 52 P P 07 24 33.9 -0.5
comp=Z,0.7nm,0.7s,mb3.6,baz=310,slow=1.5,SNR=7.7
NB2 NORSAR Subarra 69.13 340 P P 07 24 47.9 -1.1
comp=Z,7.3nm,0.6s,mb4.7,baz=28,slow=6.5
NOA NORSAR Array B 69.13 340 P P 07 24 48.1 -0.8
comp=Z,11nm,0.8s,mb4.7,baz=28,slow=6.5,SNR=28
NOA NORSAR Array B 69.13 340 P P 07 24 48.2 -0.8
NOA pmax pmax
comp=Z,11nm,0.9s
ASAR Alice Springs 70.41 197 P P 07 24 57.2 -0.1
comp=Z,2.5nm,0.8s,mb4.1,baz=15,slow=6.0,SNR=23
KIV Kislovodsk 70.79 313c iP P 07 24 59.6 +0.3
KIV pmax pmax
comp=Z,21nm,0.8s,mb5.0
AKASG Malin Array Be 71.96 325 P P 07 25 04.5 -1.6
comp=Z,9.1nm,0.5s,mb4.9,baz=37,slow=6.1,SNR=40
AKASG Malin Array Be 71.96 325 P P 07 25 04.5 -1.7
AKASG pmax pmax
comp=Z,9.0nm,0.5s
SOC Sochi 72.56 315 eP P 07 25 10.6 +0.8
SOC e pP 07 25 31.6 +3.3
SOC e 07 27 58.1
SOC pmax pmax
comp=Z,16nm,0.7s,mb5.0
SOC pmax pmax
comp=N,20nm,0.9s
SOC pmax pmax
comp=E,15nm,0.6s
KIS Kishinev 75.02 323 eP P 07 25 24.0 0.0
KWP Kalwaria 75.33 328 eP P 07 25 26.3 +0.6
KWP Kalwaria 75.33 328 eP P 07 25 26.3 +0.6
OJC Ojcow 75.89 330 eP P 07 25 28.8 -0.1
OJC Ojcow 75.89 330 eP P 07 25 28.8 -0.1
KOLS Kolonicke sedl 76.07 328 eP P 07 25 30.2 +0.2
NIE Niedzica 76.38 329 eP P 07 25 32.7 +1.0
UPC Upice 76.93 332 eP P 07 25 34.9 +0.1
DPC Dobruska-Polom 76.97 332 eP P 07 25 35.0 0.0
CLL Collm 77.19 335 P P 07 25 35.6 -0.6
comp=E,logA/T=1.1,mb4.6
CLL Collm 77.19 335 i P P 07 25 35.6 -0.6
CLL pmax pmax
comp=Z,9.0nm,0.7s,mb4.6
CLL Collm 77.19 335 i P P 07 25 35.6 -0.6
comp=Z,9.0nm,0.7s,mb4.6
BRG Berggiesshubel 77.28 334 i P P 07 25 36.2 -0.5
BRG pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
BRG Berggiesshubel 77.28 334 i P P 07 25 36.2 -0.5
comp=Z,3.9nm,0.8s,mb4.2
PVCC Panska Ves 77.38 333 eP P 07 25 37.6 +0.3
PRU Pruhonice 77.86 333 eP P 07 25 39.6 -0.3
NKC Novy Kostel 78.30 334 eP P 07 25 41.7 -0.6
BRTR Keskin Array B 78.47 316 P P 07 25 42.6 -0.9
comp=Z,5.0nm,1.1s,mb4.2,baz=72,slow=3.9,SNR=10.0
BRTR Keskin Array B 78.47 316 P P 07 25 42.6 -0.9
BRTR pmax pmax
comp=Z,5.0nm,1.1s
BRTR Keskin Array B 78.47 316 P P 07 25 42.6 -0.9
KHC Kasperske Hory 78.91 333 eP P 07 25 46.0 +0.3
GERES GERESS Array B 79.12 333 P P 07 25 47.0 +0.1
comp=Z,3.2nm,0.7s,mb4.2,baz=34,slow=4.8,SNR=21
GERES GERESS Array B 79.12 333 P P 07 25 47.0 +0.1
GERES pmax pmax
comp=Z,3.0nm,0.7s
GRA1 Grafenberg Arr 79.15 335 eP P 07 25 47.4 +0.4
comp=Z,6.0nm,1.0s,mb4.4
GRF Grafenberg Arr 79.15 335 eP P 07 25 47.4 +0.4
GRF pmax pmax
comp=Z,6.0nm,1.0s,mb4.4
TXAR Lajitas Array 79.43 59 P P 07 25 48.9 0.0
comp=Z,1.0nm,0.8s,mb3.7,baz=292,slow=3.7,SNR=11
TXAR Lajitas Array 79.43 59 P P 07 25 48.9 0.0
PERS Pernice 80.58 331 eP P 07 25 54.8 +0.1
GROS Grobnik 80.60 331 i P P 07 25 54.6 -0.2
GOLS Golise 80.94 330 eP P 07 25 56.3 -0.4
CDF Champ du Feu 81.44 337 eP P 07 25 59.0 -0.3
HAU Haudompre 82.07 337 eP P 07 26 02.3 -0.2
FLN La Foliniere 83.08 342 eP P 07 26 07.6 0.0
LDF La Druitiere 83.16 341 eP P 07 26 08.0 0.0
LOR Lormes 83.42 338 eP P 07 26 09.6 +0.2
comp=Z,12nm,0.6s,mb4.6
GRR Gorron 83.52 342 eP P 07 26 10.2 +0.5
comp=Z,8.8nm,0.4s,mb4.6
SSF Saint Saulge 83.70 338 eP P 07 26 11.1 +0.4
comp=Z,10nm,0.8s,mb4.4
AVF Avril sur Loir 83.99 338 eP P 07 26 12.7 +0.5
comp=Z,9.7nm,0.8s,mb4.4
SMF Signal de Mont 84.00 338 eP P 07 26 12.7 +0.5
comp=Z,26nm,0.9s,mb4.8
SGMF Saint Gilles 84.01 343 eP P 07 26 12.3 +0.1
comp=Z,17nm,0.7s,mb4.7
LPL La Plagne 84.23 336 eP P 07 26 14.6 +1.2
LPG La Plagne 84.25 336 eP P 07 26 14.1 +0.6
comp=Z,9.6nm,0.6s,mb4.5
BGF Bois d'Agland 84.34 339 eP P 07 26 15.2 +1.3
comp=Z,8.8nm,0.7s,mb4.4
QUIF Quistinic 84.46 343 eP P 07 26 14.6 +0.1
TCF Toulx Ste Croi 84.75 339 eP P 07 26 16.4 +0.4
MBDF Montbardon 84.94 335 eP P 07 26 18.2 +1.2
comp=Z,4.9nm,0.6s,mb4.3
ORIF Oris-en-Rattie 85.03 336 eP P 07 26 18.2 +0.8
comp=Z,9.8nm,0.7s,mb4.6
MFF Saint Martin d 85.04 341 eP P 07 26 17.4 0.0
RJF Les Rejaudoux 85.85 339 eP P 07 26 22.4 +1.0
CAF Calviac 86.06 339 eP P 07 26 23.7 +1.2
comp=Z,8.0nm,0.6s,mb4.5
PGF Pioggiola 86.23 333 eP P 07 26 24.2 +0.9
LMR La Mourre 86.29 335 eP P 07 26 24.1 +0.5
LASF Ste Croix 86.37 337 eP P 07 26 24.8 +0.8
MTLF Montolieu 87.50 338 eP P 07 26 29.9 +0.4
EPF Esparros 88.27 339 eP P 07 26 33.4 +0.2
ETSF Etsaut 88.62 340 eP P 07 26 34.9 0.0
comp=Z,4.8nm,0.7s,mb4.3
BDFB Brasilia 146.33 35 PKPbc PKPbc 07 33 22.8 +1.1
comp=Z,1.3nm,0.6s,baz=187,slow=2.2,SNR=3.6
BDFB Brasilia 146.33 35 PKIKP PKPdf 07 33 22.8 +2.4
BDFB pmax pmax
comp=Z,1.0nm,0.6s
CPUP Villa Florida 150.40 60 PKPbc PKPdf 07 33 32.8 +6.0
comp=Z,0.9nm,0.7s,baz=189,slow=4.6,SNR=4.2
CPUP Villa Florida 150.40 60 PKIKP PKPdf 07 33 32.8 +6.1
CPUP pmax pmax
comp=Z,1.0nm,0.7s
SNAA Sanae 150.77 197 e PKPab 07 33 38.2 -3.0
SNAA Sanae 150.77 197 e tx 07 33 52.1
SNAA Sanae 150.77 197 PKPbc PKPdf 07 33 32.4 +6.5
comp=Z,1.0nm,0.6s,baz=206,slow=4.0,SNR=25
SNAA Sanae 150.77 197 PKIKP PKPdf 07 33 32.4 +6.5
SNAA pmax pmax
comp=Z,1.0nm,0.6s
SNAA Sanae 150.77 197⇓iPKPdf PKPdf 07 33 32.6 +6.7
SNAA e 07 33 38.2
SNAA e 07 33 52.1
VNA2 Neumayer--Watz 152.25 195 e PKPab 07 33 43.6 -3.8
VNA2 Neumayer--Watz 152.25 195 e Px 07 33 57.1
VNA2 Neumayer--Watz 152.25 195⇑iPKPdf PKPdf 07 33 38.0 +10
VNA2 e 07 33 57.1
VNA3 Neumayer Olymp 152.37 193 e PKPab 07 33 43.6 -4.3
VNA3 Neumayer Olymp 152.37 193 e Px 07 33 57.4
VNA3 Neumayer Olymp 152.37 193⇓iPKPdf PKPdf 07 33 38.0 +10
VNA3 e 07 33 57.4
VNA1 Neumayer--Stat 152.64 195 e PKPab 07 33 42.4 -6.6
VNA1 Neumayer--Stat 152.64 195 e Px 07 33 56.3
VNA1 Neumayer--Stat 152.64 195⇓iPKPdf PKPdf 07 33 37.2 +8.5
VNA1 e 07 33 42.4
VNA1 e 07 33 56.3

CASC 01 07:23:37.3±2.1**,13.35N**×**90.58W,h115**km±35km**,MD4.1, 2C,Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUSS	Cusmapa	0.83	47	eP	P	07 23 56.5	-1.1
CUSS				eS	S	07 24 14.1	+1.4
SBLS	San Blas	1.05	62⇑	eP	P	07 23 59.4	-0.4
SBLS				eS	S	07 24 18.5	+1.9
RTR	El Retiro	1.06	59⇑	eP	P	07 23 59.9	0.0
RTR				eS	S	07 24 18.3	+1.6
SNJE	San Jose	1.08	61	eP	P	07 23 59.9	-0.2
BOQS	Boqueron	1.32	73	eP	P	07 24 02.6	-0.2
LFRS	El Faro	1.50	79	eP	P	07 24 04.1	-0.8
LFRS				eS	S	07 24 25.2	-0.4
LBRS	Las Brisas	1.54	75	eP	P	07 24 04.8	-0.5
MTO2	Montecristo 2	1.58	48	eP	P	07 24 07.7	+1.9
LCBS	La Ceiba	1.58	79	eP	P	07 24 05.4	-0.5
CNCH	Conchagua	2.67	91	eP	P	07 24 18.7	-1.2
CGA2	Cerro Gallo 2	6.84	118	eP	P	07 25 17.1	+0.7
PRS1	Puriscal	6.99	118	eP	P	07 25 20.0	+1.6
LCR2	La Lucha 2	7.37	118	eP	P	07 25 24.6	+0.9
URSC	Urasca	7.52	117	eP	P	07 25 28.3	+2.6
BUS	Buena Vista	7.67	119	eP	P	07 25 29.3	+1.6

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*IDC **01** 07:30:05.4±2.7,20.59S×178.35W,h640km±38km,mb3.4/7, mb1 3.7/8,mb1mx3.6/13,Error ellipse: s-maj=42.0km s-min=11.4km az=158.0*
*NEIC **01** 07:30:07.1±3.6,19.96S×178.69W,h644km±44km, mb3.9/12,Error ellipse: s-maj=21.2km s-min=11.6km az=108.0*
ISC 01 07:30:03.8±2.5**,20.0S**±0.1×**178.7W**±0.1**,h617**km±32km**, n31,σ0**^{s}**73**/29**,mb4.0**/19**,3C-1D,Fiji Islands region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
URZ Urewera 18.58 191 P P 07 33 37.9 -7.2
1.1nm,0.3s,baz=233,slow=4.7,SNR=6.5
CTAO Charters Tower 32.93 264 eP P 07 35 51.8 +1.0
4.1nm,0.4s,mb4.4
STKA Stephens Creek 37.46 243 P P 07 36 28.2 +0.1
5.0nm,0.9s,mb4.1,baz=79,slow=4.9,SNR=7.1
ASAR Alice Springs 44.04 256 P P 07 37 20.9 +0.3
6.1nm,0.6s,mb4.3,baz=90,slow=7.5,SNR=66
ASAR PcP PcP 07 38 51.3 -0.9
0.6nm,0.5s,baz=97,slow=5.2,SNR=4.1
ASAR S S 07 43 10.3 +0.4
0.3nm,0.5s,baz=93,slow=16,SNR=6.6
ASPA Alice Springs 44.04 256 eP P 07 37 21.1 +0.6
WB2 Warramunga Arr 44.05 262 eP P 07 37 20.1 -0.6
WRAB Tennant Creek 44.05 262 eP P 07 37 20.1 -0.5
3.7nm,0.6s,mb4.1
WRA Warramunga Arr 44.06 262 P P 07 37 20.5 -0.2
2.1nm,0.5s,mb4.0,baz=97,slow=7.8,SNR=66
WRA S S 07 43 10.4 0.0
0.5nm,0.8s,baz=97,slow=14,SNR=4.0
SBA Scott Base 58.34 184 eP P 07 39 03.0 +0.2
3.7nm,0.3s,mb4.0
CASY Casey 64.17 205 eP P 07 39 39.4 -1.2
6.7nm,0.9s,mb4.0
QSPA South Pole Qui 70.08 180 eP P 07 40 15.3 -1.0
11nm,0.8s,mb4.3
NVAR Mina Array Bea 81.08 44 P P 07 41 17.6 +0.5
1.8nm,0.7s,mb3.6,baz=217,slow=7.1,SNR=16
TPH Tonopah 81.59 44 eP P 07 41 19.9 +0.1
1.3nm,0.5s,mb3.7
TPNV Topopah Spring 81.62 46 eP P 07 41 20.1 +0.1
1.9nm,0.7s,mb3.7
HLID Hailey 86.34 41 eP P 07 41 43.7 +0.7
2.4nm,0.8s,mb3.9
TXAR Lajitas Array 87.30 58 P P 07 41 48.6 +0.8
0.8nm,0.6s,mb3.6,baz=215,slow=7.0,SNR=12
ANMO Albuquerque 87.56 52 eP P 07 41 48.6 -0.3
0.6nm,0.5s,mb3.6
COLA College 87.84 13 eP P 07 41 48.1 -1.3
5.5nm,0.6s,mb4.5
ILAR Eielson Array 87.95 13 P P 07 41 49.0 -1.0
1.6nm,0.5s,mb4.0,baz=224,slow=5.0,SNR=32
MCMT McKenzie Canyo 87.96 41 eP P 07 41 51.0 +0.5
SNAA Sanae 88.54 179⇑i P 07 41 51.2 -1.4
SNAA Sanae 88.54 179 eP P 07 41 51.0 -1.6
1.4nm,0.8s,mb3.8
VNA3 Neumayer Olymp 88.69 176⇑i P 07 41 54.0 +0.7
BW06 Boulder Array 89.01 43 eP P 07 41 55.1 -0.4
0.9nm,0.6s,mb3.8
PDAR Pinedale Array 89.01 43 P P 07 41 55.5 +0.1
1.6nm,0.8s,mb3.9,baz=220,slow=3.0,SNR=14
VNA2 Neumayer--Watz 89.13 177⇓i P 07 41 56.6 +1.2
VNA1 Neumayer--Stat 89.36 177⇑i P 07 41 57.3 +0.9
AKASG Malin Array Be 142.27 331 PKP PKPdf 07 48 24.7 -2.1
1.6nm,0.4s,baz=39,slow=4.3,SNR=14
MBAR Mbarara 144.67 238 ePKPdf PKPdf 07 48 33.9 +1.8
CLL Collm 147.42 346 ePKP1 PKPdf 07 48 41.0 +5.5
CLL ePKP2 PKPab 07 48 45.0 -1.0
GERES GERESS Array B 149.54 344 PKPbc PKPdf 07 48 45.5 +6.6
0.4nm,0.5s,baz=63,slow=2.2,SNR=3.4

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*IDC **01** 07:51:55.7±3.6,20.85S×178.81W,h514km±35km,mb3.3/8, mb1 3.5/8,mb1mx3.4/14,Error ellipse: s-maj=80.3km s-min=18.5km az=153.0*
*NEIC **01** 07:52:06.2±0.5,21.02S×179.08W,h645km,Error ellipse: s-maj=18.3km s-min=10.5km az=167.0*
ISC 01 07:52:01.4±0.7**,21.0S**±0.2×**179.0W**±0.1**,h600**km**,n18, σ0**^{s}**48**/18**,mb3.9**/12**,2C-1D,Fiji Islands region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CTA Charters Tower 32.50 265 P P 07 57 46.3 +0.5
5.2nm,0.4s,mb4.5,baz=97,slow=10,SNR=17
CTAO Charters Tower 32.50 265 eP P 07 57 45.9 +0.1
5.8nm,0.5s,mb4.5
STKA Stephens Creek 36.71 245 P P 07 58 20.9 +0.4
1.1nm,0.4s,mb3.8,baz=88,slow=12,SNR=4.7
ASAR Alice Springs 43.48 257 P P 07 59 14.9 +0.1
4.2nm,0.5s,mb4.3,baz=96,slow=8.0,SNR=111
ASAR PcP PcP 08 00 50.1 +0.8
0.7nm,0.8s,baz=106,slow=4.1,SNR=4.9
ASAR ScP 08 03 53.8
0.4nm,0.7s,baz=109,slow=4.1,SNR=4.0
ASPA Alice Springs 43.48 257 eP P 07 59 15.3 +0.5
WB2 Warramunga Arr 43.58 263⇓iP P 07 59 15.3 -0.3
WRAB Tennant Creek 43.58 263 eP P 07 59 15.0 -0.7
8.1nm,0.9s,mb4.2
WRA Warramunga Arr 43.59 263 P P 07 59 15.4 -0.3
1.7nm,0.3s,mb4.0,baz=96,slow=7.4,SNR=73
KAKA Kakadu 47.08 272 eP P 07 59 47.2 +4.7
4.9nm,0.5s,mb4.3
FITZ Fitzroy Crossi 52.02 263 eP P 08 00 19.4 +0.7
1.1nm,0.3s,mb3.7
FITZ Fitzroy Crossi 52.02 263 P P 08 00 19.2 +0.5
1.2nm,0.3s,mb3.6,baz=123,slow=6.3,SNR=11
MBWA Marble Bar 56.82 258 eP P 08 00 51.7 -0.4
6.0nm,0.6s,mb4.0
QSPA South Pole Qui 69.05 180 eP P 08 02 08.3 -1.0
2.2nm,0.6s,mb3.8
NVAR Mina Array Bea 82.05 44 P P 08 03 21.4 +0.3
0.6nm,0.7s,mb3.2,baz=227,slow=10,SNR=5.1
VNA3 Neumayer Olymp 87.69 177⇑i P 08 03 48.1 +0.4
VNA2 Neumayer--Watz 88.12 177⇑i P 08 03 50.1 +0.4
TXAR Lajitas Array 88.13 58 P P 08 03 51.0 +0.2
0.4nm,0.9s,mb3.1,baz=211,slow=7.3,SNR=4.5
ILAR Eielson Array 89.03 13 P P 08 03 53.6 -0.5
0.4nm,0.6s,mb3.4,baz=216,slow=5.2,SNR=7.5

IDC 01 07:59:50.8±3.9**,52.13N**×**36.03E,mb1 4.0**/2**, mb1mx3.5**/18**,ML3.4**/3**,Error ellipse: s-maj=44.1km s-min=15.1km az=118.0,Baltic States - Belarus - Northwestern Russia**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AKASG Malin Array Be 4.49 254 Pn Pn 08 00 58.8 -2.9
0.9nm,0.3s,baz=55,slow=14,SNR=3.9
AKASG Sn Sn 08 01 51.1 -4.3
2.6nm,0.3s,baz=62,slow=21,SNR=4.9
AKASG Lg 08 02 04.0
3.1nm,0.3s,baz=60,slow=28,SNR=4.9
FINES FINESS Array B 10.80 334 Pn P 08 02 21.8 -7.8
0.3nm,0.3s,baz=151,slow=14,SNR=8.7
FINES Sn S 08 04 17.5 -15
0.2nm,0.3s,baz=156,slow=22,SNR=3.4
ARCES ARCESS Array B 18.15 348 P P 08 04 03.8 -1.7
0.2nm,0.3s,baz=165,slow=11,SNR=9.3

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*ORF **01** 08:00:23.2,6.31N×90.46W,h30km,mb5.5*
*MEX **01** 08:00:58.8±4.5,11.42N×86.89W,h49km±61km,MD5.0*
*MOS **01** 08:01:00.4±0.9,12.14N×86.49W,h89km,mb5.1/6,Error ellipse: s-maj=19.4km s-min=13.7km az=86.1*
*SYO **01** 08:01:00.3,11.81N×86.58W,h87km,MB5.2*
*NEIC **01** 08:01:01.3±0.2,11.99N×86.52W,mb5.1/142,MW5.5, Error ellipse: s-maj=6.3km s-min=3.8km az=217.0, Moment Tensor Solution. s21 Moment tensor: Scale 10^{17} Nm; M_{rr}1.85; $M_{\theta\theta}$-1.38; $M_{\phi\phi}$-0.47; $M_{r\theta}$-0.33; $M_{\theta\phi}$0.86; $M_{\phi r}$0.43; Best double couple: $M_0 2\times10^{17}$ NP1:ϕ_s115°,δ38°, λ80°. NP2:ϕ_s307°,δ53°,λ97°. Principal axes: T 1.94, Plg80°, Azm250°; N .03, Plg6°, Azm123°; P -1.97, Plg8°, Azm32°;*
NEIC Minor damage at Chinandega and Leon. Felt at Managua. Also felt in northern Costa Rica.
*HRVD **01** 08:01:01.3±0.1,12.06N×86.89W,h84km±1km,MW5.6/77, Centroid moment Tensor Solution. LP body waves: s67,c127;Mantle waves: s77,c163; Half duration: 1^{s}5 Moment tensor: Scale 10^{17}Nm; M_{rr}0.05±.05; $M_{\theta\theta}$0.10±.04; $M_{\phi\phi}$-0.15±.05; $M_{r\theta}$1.53±.03; $M_{\theta\phi}$-0.58±.04; $M_{\phi r}$-2.34±.03; Best double couple: $M_0 2.83\times10^{17}$ NP1:ϕ_s73°,δ8°,λ-166°. NP2:ϕ_s329°,δ88°,λ-82°. Principal axes: T 3.07, Plg43°, Azm51°; N -.5, Plg7°, Azm148°; P -2.58, Plg46°, Azm246°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **01** 08:01:01.3,12.00N×86.50W,h87km,mB5.1,Ms5.0, Msz5.0*
*IDC **01** 08:01:02.3±0.4,12.25N×86.41W,h87km±2km,mb4.8/24, mb1 4.9/26,mb1mx4.9/27,MS4.7/17,Ms1 4.6/17, ms1mx4.6/23,Error ellipse: s-maj=14.0km s-min=6.6km az=58.0*
*CASC **01** 08:01:03.2,11.96N×86.87W,h62km,MD4.8,ML5.3, mb5.1(NEIC)*
ISC 01 08:01:01.1±0.1**,12.18N**±0.03×**86.61W**±0.02**,h88**km**, h88**km±.5km**:pP-P,n514,σ1**^{s}**34**/451**,mb5.1**/160**,108C-35D, Nicaragua**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
COPN Copaltepe 0.01 108⇑iP P 08 01 14.0 +0.4
MOMJ Momotombo 0.23 16⇓iP P 08 01 15.5 +1.5
APYN Apoyeque 0.25 79⇑iP P 08 01 15.7 +1.6
MIRN Miramar 0.28 338⇑iP P 08 01 15.2 +1.0
XAVN Gruta Xavier 0.28 97⇓iP P 08 01 15.9 +1.6
CNGN Cerro Negro 0.33 344⇓iP P 08 01 15.8 +1.3
MGAN Managua 0.35 96⇓iP P 08 01 16.4 +1.8
MGAN eS S 08 01 28.1 +3.2
CRUN El Crucero 0.36 124⇑iP P 08 01 15.8 +1.1
LEON Leon 0.36 309⇓iP P 08 01 14.9 +0.1
TICN Ticuantepe 0.40 112⇓iP P 08 01 16.7 +1.8
WILN Americas 2 0.41 93⇓iP P 08 01 17.0 +2.0
MASN Masaya 0.48 114⇓eP P 08 01 17.3 +1.6
APON Apoyo 0.59 117⇓iP P 08 01 18.1 +1.4
PYTN Playitas 0.64 57⇓iP P 08 01 20.2 +3.1
CRIN San Cristobal 0.67 320⇓iP P 08 01 18.4 +1.0
QUIN Quiabu 0.95 11⇓iP P 08 01 23.9 +3.6
CONN Concepcion 1.14 123⇓iP P 08 01 24.1 +1.5
SOMN Somoto 1.23 360⇓eP P 08 01 28.8 +5.0
CNCH Conchagua 1.62 312⇓eP P 08 01 29.4 +0.6
BLLM Bellamira 2.02 308⇑eP P 08 01 34.8 +0.7
VSM San Miguel 2.04 307⇓eP P 08 01 35.5 +1.1
CAHU Cacacuatique 2.22 315⇑eP P 08 01 38.4 +1.5
VCR Vista de Mar 2.26 155 eP P 08 01 38.2 +0.9
JTS JuntasAbangare 2.48 139 P P 08 01 41.0 +0.4
426nm,0.3s,baz=315,slow=6.0,SNR=235
JTS S S 08 02 10.0 +0.1
1µm,0.3s,baz=308,slow=20,SNR=7.5
JTS JuntasAbangare 2.48 139 Pn P 08 01 41.1 +0.6
95µm,0.4s
JTS JuntasAbangare 2.48 139⇓iPn P 08 01 40.8 +0.2
JTS eSn S 08 02 16.9 +7.0
SNVI San Vicente 2.60 303⇑eP P 08 01 42.7 +0.5
SNVI eS S 08 02 09.6 -3.2
LCBS La Ceiba 2.74 303⇓iP P 08 01 44.0 -0.1
JCR Jicaral 2.74 148 eP P 08 01 45.5 +1.3
LFRS El Faro 2.79 301⇓eP P 08 01 44.8 0.0
LFRS eS S 08 02 19.3 +1.8
LBRS Las Brisas 2.83 303⇑eP P 08 01 45.7 +0.3
LFU La Fuente 2.90 303 eP P 08 01 47.2 +0.9
LFU eS S 08 02 20.5 +0.3
SNET Serv Nac Est T 2.96 301 i S 08 02 26.7 +4.9
comp=Z,16µm,0.6s

CGA2 Cerro Gallo 2 3.01 136 *eP* **P 08 01 50.2 +2.4**
BOQS Boqueron 3.03 301⇓ *eP* **P 08 01 48.0 -0.1**
VPS2 Volcan Poas 2 3.06 130 *eP* **P 08 01 51.9 +3.4**
PRS1 Puriscal 3.14 134 *eP* **P 08 01 52.6 +3.0**
TRTC Tortuguero 3.25 119⇑ *iP* **P 08 01 53.3 +2.1**
SJS Escuela Geolog 3.35 131⇑ *eP* **P 08 01 53.8 +1.2**
SJS *eP* 08 01 56.0
SJS *eS* **S 08 02 34.8 +3.4**
LAJ Bijagual 3.36 133 *eP* **P 08 01 52.3 -0.3**
SNJE San Jose 3.37 300 *eP* **P 08 01 53.1 +0.3**
SBLS San Blas 3.37 300 *eP* **P 08 01 53.0 +0.2**
RTR El Retiro 3.42 300⇓ *eP* **P 08 01 53.8 +0.3**
MTO2 Montecristo 2 3.47 310⇓ *eP* **P 08 01 54.9 +0.6**
ICR Volcan Irazu 3.49 129⇑ *eP* **P 08 01 57.5 +3.0**
LCR2 La Lucha 2 3.52 133 *eP* **P 08 01 57.2 +2.2**
RBDL Robledal 3.56 303 *eP* **P 08 01 54.6 -0.8**
URSC Urasca 3.63 130⇑ *iP* **P 08 01 59.5 +3.1**
CUSS Cusmapa 3.68 298⇑ *eP* **P 08 01 56.7 -0.4**
BUS Buena Vista 3.83 133 *eP* **P 08 02 02.3 +3.2**
LIO Limon 4.12 121 *eP* **P 08 02 06.3 +3.1**
IXG Ixpaco 4.24 298⇑ *eP* **P 08 02 04.3 -0.5**
IXG *eS* **S 08 02 51.3 -2.1**
IXG AML AML 08 03 16.2
comp=N,36μm,0.6s
PCG Pacaya 4.47 300 *eP* **P 08 02 08.1 +0.1**
GCG Guatemala City 4.51 302⇓ *eP* **P 08 02 09.9 +1.4**
GCG *eS* **S 08 03 03.0 +3.0**
GCG AML AML 08 03 34.3
comp=N,2μm,0.7s
FUG Fuego 3 4.70 299⇑ *eP* **P 08 02 11.0 -0.1**
CNI Changuinola 4.87 124 *i P* **P 08 02 16.9 +3.5**
ACR Cerro Adams 4.87 136 *eP* **P 08 02 16.2 +2.7**
BRU2 Volcan 5.12 131 *eP* **P 08 02 19.8 +3.0**
JAT Jato 5.34 294 *eP* **P 08 02 19.1 -0.7**
JAT *eS* **S 08 03 19.5 -1.2**
JAT AML AML 08 03 21.5
comp=N,4μm,0.3s
DVD David 5.53 132⇑ *iP* **P 08 02 26.2 +3.7**
DVD *i S* **S 08 03 26.1 +0.7**
PTP1 Petroterminal 5.70 133⇑ *eP* **P 08 02 23.5 -1.4**
PTP1 *eS* **S 08 03 23.5 -6.1**
CCIG Comitan 6.73 308 *i P* **P 08 02 40.0 +0.8**
CCIG *i S* **S 08 03 56.0 +1.0**
AZU Azuero 7.61 124 *eP* **P 08 02 54.5 +3.3**
UPA Univ. de Panam 7.65 114⇑ *iP* **P 08 02 55.2 +3.5**
baz=283,slow=10
UPA AMb AMB 08 02 59.5
comp=Z,808nm,1.5s
UPA *i S* **S 08 04 23.2 +5.8**
JEF Cerro Jefe 7.69 112 *i P* **P 08 02 55.6 +3.3**
JEF *i S* **S 08 04 19.4 +0.8**
SCIG 8.06 327 *eP* **P 08 02 59.2 +1.9**
SCIG *i S* **S 08 04 36.6 +9.1**
TEIG Tepich 8.16 349 P **P 08 03 04.0 +5.4**
comp=Z,0.0nm,0.3s,baz=329,slow=24,SNR=14
CMIG Matias Romero 9.38 302 *eP* **P 08 03 13.1 -2.1**
CMIG *i S* **S 08 04 57.3 -2.4**
HUIG Huatulco 9.89 292 *eP* **P 08 03 19.7 -2.5**
HUIG *i S* **S 08 05 10.9 -1.2**
NEJ Negril 10.01 52 *i P* **P 08 03 29.9 +6.1**
MCJ Malvern 10.33 55⇑ *iP* **P 08 03 34.2 +6.0**
CVJ Coleyville 10.62 54⇑ *iP* **P 08 03 38.2 +6.2**
VHO Vista Hermosa 10.94 298 *i P* **P 08 03 34.5 -1.8**
VHO *i S* **S 08 05 32.5 -5.0**
SOR Soroa 11.09 18 *eP* **P 08 03 43.4 +5.0**
SOR *eS* **S 08 05 56.8 +16**
comp=N,78μm,1.4s
comp=E,77μm,1.4s
STH Stony Hill 11.12 57⇑ *eP* **P 08 03 44.7 +5.9**
HOJ Hope 11.14 58⇑ *eP* **P 08 03 45.0 +6.1**
PNIG Pinotepa 11.92 292 *eP* **P 08 03 49.0 -0.5**
LMGC Las Mercedes 12.10 48 *eP* **P 08 03 58.0 +6.2**
LMGC *eS* **S 08 06 15.7 +10**
comp=N,6μm,6.3s
comp=E,4μm,10.3s
RCC Rio Carpintero 13.04 52 *eP* **P 08 04 10.4 +6.1**
RCC *eS* tx 08 06 55.0
comp=N,4μm,2.7s
comp=E,2μm,2.0s
PAYG Puerto Ayora 13.29 196 *eP* **P 08 04 08.7 +1.2**
comp=E,319nm,1.0s
YAIG Yautepec 13.72 300 *eP* **P 08 04 13.9 +0.8**
PLIG Platanillo 13.88 298 *eP* **P 08 04 16.0 +0.7**
UNM Universidad Na 14.03 302 *eP* **P 08 04 17.8 +0.7**
UNM *i P* 08 04 20.1
ROSC El Rosal 14.15 120 P **P 08 04 23.2 +4.4**
comp=E,1.6nm,0.3s,baz=291,slow=2.0,SNR=58
ROSC LR LR 08 10 29.4
comp=E,2μm,19.2s,baz=317,slow=40
ROSC ScP 08 12 59.7
comp=E,0.4nm,0.3s,baz=49,slow=19,SNR=3.9
OTAV Otavalo 14.37 145⇓ *eP* **P 08 04 24.0 +2.4**
comp=E,106nm,0.8s
ZIIG Zihuatanejo 15.34 292 *eP* **P 08 04 33.0 -1.0**
MOIG Morelia 15.87 300 *i P* **P 08 04 42.5 +1.7**
SDV Santo Domingo 16.04 100 Pn **P 08 04 45.6 +2.7**
SDV Santo Domingo 16.04 100⇑ *iP* **P 08 04 45.4 +2.5**
comp=E,266nm,0.9s
DWPF Disney 16.57 16⇑ *iP* **P 08 04 54.4 +5.0**
comp=E,686nm,1.5s
HKT Hockley 19.64 336 P **P 08 05 26.7 +1.3**
HKT Hockley 19.64 336⇑ *iP* **P 08 05 26.5 +1.1**
comp=E,225nm,1.4s
AGP Aguadilla 19.76 69 *eP* **P 08 05 29.2 +2.5**
AOPR Arecibo Observ 20.10 70⇑ *eP* **P 08 05 31.7 +1.5**
SJG San Juan 20.60 71 P **P 08 05 37.4 +2.1**
comp=E,130nm,0.7s,baz=276,slow=6.2,SNR=18
SJG PcP PcP 08 09 41.4 -1.8
comp=E,16nm,0.4s,baz=263,slow=22,SNR=5.6
SJG ScP 08 13 11.1
comp=E,18nm,0.7s,baz=329,slow=2.7,SNR=5.5
SJG LR LR 08 13 57.1
comp=E,3μm,19.2s,baz=287,slow=38
SJG San Juan 20.60 71 *eP* **P 08 05 37.1 +1.7**
comp=E,140nm,0.8s
LRAL Lakeview Retre 20.76 359⇑ *iP* **P 08 05 39.8 +2.9**
comp=E,107nm,0.9s
LRAL *eS* **S 08 09 25.8 +7.3**
NATX Nacogdoches 20.85 340 *eP* **P 08 05 39.6 +1.8**
comp=E,261nm,1.0s
NATX *e* 08 05 57.1
HUMP Col San Antoni 20.88 71 *eP* **P 08 05 39.6 +1.4**
HUMP *eS* **S 08 09 39.4 +18**
NHSC New Hope 21.64 15 *eP* **P 08 05 49.2 +3.4**
comp=E,645nm,1.1s,mb5.9
NHSC *epP* 08 06 05.2
NHSC *esP* 08 06 16.9
JCT Junction City 21.93 328 *eP* **P 08 05 50.2 +1.6**
comp=E,4.5nm,0.3s,mb4.3
JCT *epP* 08 06 08.6
JCT *ePcP* PcP 08 09 44.7 -0.9
JCT *eScP* 08 13 16.2
OXF Oxford 22.37 354⇑ *iP* **P 08 05 54.8 +1.9**
comp=E,178nm,0.9s,mb5.4
OXF *epP* 08 06 12.4
OXF *eScP* 08 13 15.7
UALR University of 23.09 348⇑ *iP* **P 08 06 01.4 +1.6**
comp=E,81nm,0.9s,mb5.0
UALR *epP* 08 06 19.3
UALR *eScP* 08 13 17.5
CPCT Cooper Cave 23.24 4⇑ *eP* **P 08 06 07.6 +6.3**
CPCT *e* 08 06 26.8
LTX Lajitas 23.31 320 *eP* **P 08 06 03.3 +1.3**
comp=E,199nm,1.1s,mb5.4
LTX *epP* 08 06 22.1
LTX *ePcP* PcP 08 09 49.2 +0.7
LTX *eScP* 08 13 20.7
TXAR Lajitas Array 23.31 320 P **P 08 06 03.5 +1.5**
comp=E,163nm,1.0s,mb5.3,baz=141,slow=9.3,SNR=495
TXAR pP 08 06 23.6
comp=E,49nm,0.6s,baz=138,slow=10,SNR=6.3
TXAR PcP PcP 08 09 49.1 +0.5
comp=E,15nm,0.8s,baz=146,slow=4.1,SNR=7.9
TXAR ScP 08 13 20.3
comp=E,4.0nm,0.6s,baz=149,slow=5.8,SNR=32
TXAR P3KPbc 08 39 30.6
comp=E,0.8nm,0.9s,baz=292,slow=3.4,SNR=6.8
TXAR Lajitas Array 23.31 320 P **P 08 06 03.5 +1.5**
TXAR pP 08 06 23.6
TXAR PcP PcP 08 09 49.1 +0.5
TXAR ScP 08 13 20.3
HALT Halls 23.75 354⇑ *eP* **P 08 06 07.5 +1.2**
HALT *epP* 08 06 27.2

WVT Waverly 23.87 358 *eP* **P 08 06 07.7 +0.3**
comp=E,30nm,0.9s,mb4.6
WVT *epP* 08 06 27.9
WVT *ePcP* PcP 08 09 47.4 -2.3
WVT *eScP* 08 13 17.5
GNAR Gosnell 23.88 353 *eP* **P 08 06 08.8 +1.3**
GNAR *epP* 08 06 28.9
GLAT Glass 24.10 355 *eP* **P 08 06 10.8 +1.1**
GLAT *epP* 08 06 31.1
UTMT University of 24.14 356 *eP* **P 08 06 11.8 +1.9**
comp=E,92nm,0.8s,mb5.2
UTMT *epP* 08 06 31.5
GRW Mount Saint Ca 24.38 87 *e* 08 06 31.2
BPA Boggy Peak 24.42 76 *eP* **P 08 06 12.8 -0.1**
CPB Codrington 24.54 74 *eP* **P 08 06 15.3 +1.2**
BBL Barber's Block 24.62 79 *eP* **P 08 06 17.9 +3.0**
MDN Morne-Daniel 24.68 80 *eP* **P 08 06 17.8 +2.3**
DLVT Layou Valley 24.69 80 *eP* **P 08 06 17.2 +1.6**
DFBT Forest Bistro 24.71 80 *eP* **P 08 06 18.3 +2.6**
TPP Pointe-a-Pierr 24.74 92 *eP* **P 08 06 16.4 +0.4**
TRN Trinidad (W) 24.75 91 *eP* **P 08 06 17.2 +1.1**
SLB Belfond 24.96 83 *eP* **P 08 06 19.7 +1.6**
WMOK Wichita Mounta 25.03 336⇑ *eP* **P 08 06 18.5 -0.1**
comp=E,197nm,1.0s,mb5.5
WMOK *epP* pP 08 06 38.5 +0.4
MCLT Moule a Chique 25.05 84 *eP* **P 08 06 19.5 +0.5**
LPIG La Paz 25.41 301 *eP* **P 08 06 22.9 +0.7**
CLNB Carlsbad 25.52 324 *eP* **P 08 06 24.1 +0.8**
CLNB *epP* pP 08 06 43.2 +0.4
BLA Blacksburg 25.53 12⇑ *iP* **P 08 06 25.8 +2.5**
comp=E,48nm,0.7s,mb5.0
BLA *epP* pP 08 06 45.0 +2.1
PWV Princeton 25.54 10 *eP* **P 08 06 25.7 +2.4**
PWV *epP* pP 08 06 44.8 +1.9
USIN University of 25.69 358 *eP* **P 08 06 25.1 +0.3**
comp=E,68nm,1.0s,mb5.0
GDL2 Guadalupe Moun 25.75 323 *eP* **P 08 06 26.1 +0.7**
FWV Forest Hill 25.82 11 *eP* **P 08 06 28.0 +2.1**
NNA Nana 25.89 158 *eP* **P 08 06 25.2 -1.6**
comp=E,66nm,1.1s,mb5.0
FVM French Village 25.92 353⇑ *iP* **P 08 06 26.3 -0.6**
comp=E,21nm,0.9s,mb4.6
WCI Wyandotte Cave 25.94 1⇑ *iP* **P 08 06 27.7 +0.7**
comp=E,53nm,0.8s,mb5.0
WCI *epP* pP 08 06 47.2 +0.5
WCI *eScP* 08 13 24.7
CCM Cathedral Cave 26.09 352⇑ *iP* **P 08 06 28.3 -0.2**
comp=E,58nm,1.0s,mb5.0
CCM *ePcP* PcP 08 09 51.6 -2.9
CCM *eScP* 08 13 24.0
SLM Saint Louis 26.54 354 *eP* **P 08 06 33.1 +0.5**
comp=E,37nm,0.8s,mb5.0
BLO Bloomington 26.88 0⇑ *iP* **P 08 06 35.9 +0.2**
comp=E,43nm,0.8s,mb5.0
BLO *eScP* 08 13 26.0
CBN Corbin 27.19 16⇑ *iP* **P 08 06 41.0 +2.4**
comp=E,208nm,0.6s,mb5.8
CBN *epP* pP 08 07 00.2 +1.8
MCWV Mont Chateau 28.01 11⇑ *iP* **P 08 06 47.7 +1.7**
comp=E,48nm,0.6s,mb5.2
ACSO Alum Creek Sta 28.12 6⇑ *iP* **P 08 06 47.7 +0.8**
comp=E,76nm,0.6s,mb5.4
ACSO *epP* pP 08 07 07.4 +0.5
BNM Barren Site 28.47 323 *eP* **P 08 06 51.1 +0.9**
LPM Los Pinos Moun 28.59 324 *eP* **P 08 06 52.0 +0.7**
LPM *epP* pP 08 07 12.1 +0.9
LENM Lemitar 28.69 323 *eP* **P 08 06 53.0 +0.9**
LENM *epP* pP 08 07 13.2 +1.2
LAZ Ladron 28.95 323 *eP* **P 08 06 54.6 +0.2**
ANMO Albuquerque 28.95 325 *eP* **P 08 06 55.5 +1.1**
ANMO Albuquerque 28.95 325⇓ *eP* **P 08 06 54.7 +0.3**
comp=E,103nm,0.3s,mb5.9
ANMO *epP* pP 08 07 15.6 +1.1
CBKS Cedar Bluff 28.98 339⇑ *iP* **P 08 06 54.1 -0.6**
comp=E,70nm,1.0s,mb5.2
CBKS *epP* pP 08 07 15.2 +0.6
SSPA Standing Stone 29.36 14⇑ *iP* **P 08 06 59.8 +1.8**
comp=E,103nm,0.7s,mb5.6
SSPA *epP* pP 08 07 18.4 +0.3
ALLY Alegheny Colle 29.89 10⇑ *iP* **P 08 07 03.6 +0.9**
ALLY *epP* pP 08 07 23.4 +0.5
TUC Tucson 29.90 316 *eP* **P 08 07 03.5 +0.6**
comp=E,26nm,1.4s,mb4.7
LUPA Lehigh Univers 29.98 17⇑ *iP* **P 08 07 05.6 +2.1**
LUPA *epP* pP 08 07 25.4 +1.7
BRNJ Basking Ridge 30.30 18⇑ *iP* **P 08 07 08.8 +2.5**
SDCO Great Sand Dun 30.55 330⇓ *iP* **P 08 07 09.2 +0.5**
comp=E,53nm,0.8s,mb5.3
SDCO *ePcP* PcP 08 10 04.2 -1.3
SDCO *eScP* 08 13 40.2
SDCO LR LR
comp=Z,523nm,19.0s
CPNY Central Park 30.59 19⇑ *eP* **P 08 07 10.6 +1.7**
JFWS Jewell Farm 30.78 355⇑ *iP* **P 08 07 09.9 -0.7**
comp=Z,106nm,1.0s,mb5.5
PAL Palisades 30.80 19⇑ *iP* **P 08 07 12.6 +1.8**
comp=Z,56nm,0.9s,mb5.3
BINY Binghamton 31.30 15⇑ *iP* **P 08 07 16.9 +1.8**
comp=Z,288nm,0.8s,mb6.1
BINY *epP* pP 08 07 36.7 +1.3
SAML Samuel 31.35 131⇑ *iP* **P 08 07 12.9 -2.9**
comp=Z,43nm,0.7s,mb5.3
SAML *eScP* 08 13 42.2
SAML LR LR
comp=Z,976nm,20.0s
BUF Buffalo 31.36 11 P **P 08 07 17.0 +1.4**
GENY Geneseo 31.41 12 *eP* **P 08 07 17.5 +1.4**
ARE Arequipa 32.15 152⇑ *iP* **P 08 07 24.5 +1.8**
ISCO Idaho Springs 32.23 332⇑ *iP* **P 08 07 23.4 +0.2**
comp=Z,26nm,1.2s,mb4.8
ISCO *ePcP* PcP 08 10 10.2 +0.3
ISCO *eScP* 08 13 45.9
ISCO LR LR
comp=Z,630nm,19.0s
BRYW Bryant College 32.41 21⇑ *iP* **P 08 07 26.7 +1.9**
comp=Z,143nm,0.8s,mb5.8
BRYW *epP* pP 08 07 46.8 +1.5
PV01 Paradox Valley 32.43 327 *eP* **P 08 07 25.6 +0.6**
PV01 *epP* pP 08 07 46.7 +1.3
PV10 Paradox Valley 32.86 326 *eP* **P 08 07 29.1 +0.3**
PV10 *epP* pP 08 07 49.6 +0.4
HRV Harvard--Oak R 32.92 21 P **P 08 07 31.2 +2.0**
ACCN Adirondack Com 33.04 17⇑ *iP* **P 08 07 31.7 +1.5**
ACCN *epP* pP 08 07 50.8 0.0
SADO Sadowa 33.10 10 P **P 08 07 30.9 +0.1**
comp=Z,61nm,0.6s,mb5.6,baz=210,slow=9.1,SNR=45
SADO pP pP 08 07 50.3 -0.9
comp=Z,43nm,0.8s,baz=203,slow=2.9,SNR=4.8
SADO LR LR 08 21 57.9
comp=Z,1μm,18.4s,baz=208,slow=38
NCB Newcomb 33.42 16⇑ *iP* **P 08 07 34.5 +1.0**
comp=Z,50nm,0.7s,mb5.5
LPAZ La Paz 33.68 147 *eP* **P 08 07 35.5 -0.4**
comp=Z,17nm,0.9s,mb4.9
LPAZ *eScP* 08 13 52.0
LPAZ LR LR
comp=Z,456nm,19.0s
FFD Franklin Falls 33.75 20⇑ *iP* **P 08 07 38.8 +2.4**
comp=Z,166nm,0.8s,mb5.9
HNH Hanover 33.75 19⇑ *iP* **P 08 07 38.3 +2.0**
comp=Z,6.7nm,0.8s,mb4.5
PTN Potsdam (NY) 33.78 15 *eP* **P 08 07 38.0 +1.4**
LOZ Lake Ozonia 33.93 15⇑ *iP* **P 08 07 38.3 +0.4**
LOZ *epP* pP 08 07 58.6 +0.1
SRU San Rafael 34.20 326⇑ *iP* **P 08 07 40.4 +0.2**
SRU *epP* pP 08 08 01.1 +0.3
SRU *ePcP* PcP 08 10 14.5 -0.9
MSNY Massena 34.21 15 *eP* **P 08 07 41.8 +1.6**
LDFC Landfair 34.44 316 *eP* **P 08 07 42.8 +0.4**
LDFC *epP* pP 08 08 02.7 -0.3
PFO Pinyon Flat Ob 34.59 313 P **P 08 07 45.0 +1.4**
comp=Z,158nm,1.1s,mb5.8,SNR=23
PFO Pinyon Flat Ob 34.59 313 *eP* **P 08 07 43.5 -0.1**
comp=Z,10nm,0.8s,mb4.7
PFO *epP* pP 08 08 04.8 +0.5
NEN Nelson 34.59 317 *eP* **P 08 07 44.4 +0.8**
NEN *epP* pP 08 08 04.2 -0.1
TMUT Trail Mountain 34.70 325 *eP* **P 08 07 45.2 +0.7**
TMUT *epP* pP 08 08 04.7 -0.5
MSU Marysvale 34.72 324 *eP* **P 08 07 45.9 +1.2**
MSU *epP* pP 08 08 06.3 +1.0
MSU *ePcP* PcP 08 10 16.8 -0.1
MVU Marysvale 34.73 323⇑ *iP* **P 08 07 45.8 +1.1**
comp=Z,35nm,0.8s,mb5.2
MVU *epP* pP 08 08 05.1 -0.3
MVU *ePcP* PcP 08 10 17.1 +0.1
MVU LR LR
comp=Z,625nm,21.0s
ARUT Antelope Range 35.00 321 *eP* **P 08 07 48.4 +1.3**
ARUT *epP* pP 08 08 07.0 -0.8
RSSD Black Hills 35.18 338⇑ *iP* **P 08 07 49.4 +0.8**
comp=Z,34nm,1.0s,mb5.1
RSSD *ePcP* PcP 08 10 17.1 -1.1
RSSD *eScP* 08 13 55.5
RSSD LR LR
comp=Z,1μm,19.0s
WVL Waterville 35.39 21 *eP* **P 08 07 52.7 +2.4**
comp=Z,256nm,0.7s,mb6.2
WVL LR LR
comp=Z,12μm,20.0s
MPU Maple Canyon 35.44 326⇑ *iP* **P 08 07 51.4 +0.6**
MPU *epP* pP 08 08 11.2 -0.4
MPU *ePcP* PcP 08 10 19.2 +0.2
DAU Daniels Canyon 35.52 327 *eP* **P 08 07 52.5 +1.1**
DAU *epP* pP 08 08 13.4 +1.3
DAU *ePcP* PcP 08 10 19.8 +0.5
NLU North Lily Min 35.64 325⇑ *iP* **P 08 07 53.3 +0.8**
NLU *epP* pP 08 08 13.7 +0.4
NLU *ePcP* PcP 08 10 19.3 -0.3
JLU Jordanelle 35.76 327⇑ *iP* **P 08 07 53.9 +0.5**
JLU *epP* pP 08 08 14.4 +0.2
JLU *ePcP* PcP 08 10 19.8 -0.1
CTU Camp Tracy 35.98 327⇑ *iP* **P 08 07 55.9 +0.5**
CTU *epP* pP 08 08 16.5 +0.4
CTU *ePcP* PcP 08 10 20.2 -0.3
TCUT Toone Canyon 36.10 327⇑ *iP* **P 08 07 55.6 -0.8**
TCUT *ePcP* PcP 08 10 19.5 -1.5
DUG Dugway 36.22 325⇑ *eP* **P 08 07 58.0 +0.6**
comp=Z,4.9nm,0.6s,mb4.6
DUG *epP* pP 08 08 18.4 +0.2
DUG *ePcP* PcP 08 10 20.6 -0.7
DUG LR LR
comp=Z,830nm,20.0s
TPNV Topopah Spring 36.27 318⇑ *eP* **P 08 07 59.3 +1.5**
comp=Z,66nm,0.9s,mb5.6
TPNV *epP* pP 08 08 18.0 -0.6
TPNV *ePcP* PcP 08 10 21.9 +0.4
TPNV LR LR
comp=Z,1μm,22.0s
EMMW East Machias 36.33 23⇑ *iP* **P 08 08 00.2 +2.0**
comp=Z,274nm,0.9s,mb6.2
PDAR Pinedale Array 36.40 331 P **P 08 07 58.9 0.0**
comp=Z,15nm,0.6s,mb5.1,baz=129,slow=10,SNR=137
PDAR pP pP 08 08 19.9 +0.3
comp=Z,44nm,0.9s,baz=126,slow=9.7,SNR=23
PDAR PcP PcP 08 10 20.9 -1.0
comp=Z,9.0nm,0.9s,baz=87,slow=4.1,SNR=16
PDAR ScP 08 13 59.4
comp=Z,2.7nm,0.8s,baz=131,slow=5.6,SNR=6.2
HWUT Hardware Ranch 36.53 328⇑ *iP* **P 08 08 00.3 +0.2**
comp=Z,124nm,0.9s,mb5.8
HWUT *epP* pP 08 08 20.8 0.0
HWUT *ePcP* PcP 08 10 22.0 -0.3
HWUT LR LR
comp=Z,675nm,22.0s
TRCR Troy Canyon 36.67 320⇑ *eP* **P 08 08 02.4 +1.2**
TRCR *epP* pP 08 08 22.6 +0.6
DAC Darwin (Calif) 36.79 316⇑ *eP* **P 08 08 02.9 +0.6**
comp=Z,25nm,1.0s,mb5.1
DAC *epP* pP 08 08 22.7 -0.3
DAC *ePcP* PcP 08 10 23.1 +0.1
SPUT South Promonto 36.79 327⇑ *iP* **P 08 08 02.5 +0.5**
SPUT *epP* pP 08 08 23.2 +0.2
SPUT *ePcP* PcP 08 10 22.2 -0.8
BGU Big Grassy Mou 36.84 326⇑ *iP* **P 08 08 03.1 +0.5**
BGU *epP* pP 08 08 24.0 +0.6
HVU Hansel Valley 37.29 327 *eP* **P 08 08 06.7 +0.3**
HVU *epP* pP 08 08 27.3 +0.1
HVU *ePcP* PcP 08 10 23.9 -0.7
REDW Red Top Meadow 37.47 331⇑ *iP* **P 08 08 08.3 +0.5**
REDW *epP* pP 08 08 28.8 +0.2
TPH Tonopah 37.55 319⇑ *eP* **P 08 08 09.4 +0.9**
comp=Z,27nm,0.9s,mb5.1
TPH *epP* pP 08 08 30.0 +0.6
TPH *ePcP* PcP 08 10 24.9 -0.4
TPAW Teton Pass 37.61 331 *eP* **P 08 08 09.8 +0.8**
TPAW *epP* pP 08 08 30.2 +0.4
MOOW Moose Ponds 37.71 331⇑ *iP* **P 08 08 10.1 +0.3**
MOOW *epP* pP 08 08 31.0 +0.4
IMW Indian Meadow 37.91 331 *eP* **P 08 08 12.0 +0.5**
ELK Elko 37.97 324⇑ *iP* **P 08 08 13.0 +1.0**
comp=Z,51nm,0.9s,mb5.4
ELK *epP* pP 08 08 33.8 +0.9
ELK *ePcP* PcP 08 10 26.4 -0.2
ELK LR LR
comp=Z,740nm,20.0s
MTUM Tungsten Hills 38.02 317 *eP* **P 08 08 13.7 +1.2**
MTUM *epP* pP 08 08 34.3 +1.0
MTUM *ePcP* PcP 08 10 26.7 -0.2
LAO LASA Array 38.17 338 *eP* **P 08 08 14.5 +0.9**
comp=Z,36nm,0.8s,mb5.2
MNV Mina 38.35 319⇑ *iP* **P 08 08 16.4 +1.2**
comp=Z,42nm,1.1s,mb5.2
MNV *epP* pP 08 08 37.2 +1.1
MNV *ePcP* PcP 08 10 28.0 +0.2
NVAR Mina Array Bea 38.45 318 P **P 08 08 17.6 +1.6**
comp=Z,22nm,0.7s,mb5.1,baz=120,slow=8.7,SNR=163
NVAR pP pP 08 08 38.4 +1.5
comp=Z,59nm,0.8s,baz=124,slow=7.7,SNR=19
NVAR PcP PcP 08 10 29.0 +0.8
comp=Z,43nm,0.8s,baz=125,slow=4.9,SNR=23
NVAR ScP 08 14 10.1
comp=Z,4.4nm,0.8s,baz=126,slow=5.2,SNR=8.6
NVAR LR LR 08 25 22.3
comp=Z,635nm,21.8s,baz=165,slow=38
YMR Madison River 38.51 332⇑ *iP* **P 08 08 17.4 +0.9**
YMR *epP* pP 08 08 38.7 +1.4
ULM Lac du Bonnet 38.71 350 P **P 08 08 17.1 -0.9**
comp=Z,91nm,0.8s,mb5.6,baz=169,slow=8.5,SNR=46
ULM pP pP 08 08 38.9 0.0
comp=Z,19nm,0.6s,baz=207,slow=6.5,SNR=2.2
ULM LR LR 08 26 07.4
comp=Z,548nm,19.1s,baz=164,slow=39
ULM Lac du Bonnet 38.71 350⇑ *iP* **P 08 08 16.9 -1.2**
comp=Z,102nm,0.8s,mb5.7
QLMT Earthquake Lak 38.85 332 *eP* **P 08 08 20.5 +1.2**
QLMT *epP* pP 08 08 41.5 +1.4
BMN Battle Mountai 38.94 322⇑ *iP* **P 08 08 21.1 +1.0**
comp=Z,62nm,0.9s,mb5.4
BMN *epP* pP 08 08 39.8 -1.2
DGMT Dagmar 39.03 341⇓ *iP* **P 08 08 21.1 +0.4**
comp=Z,167nm,1.0s,mb5.8
DGMT *epP* pP 08 08 42.8 +1.1
LRV Little Rabbit 39.23 314 *eP* **P 08 08 22.7 +0.2**
LRV *epP* pP 08 08 44.0 +0.5
LRV *ePcP* PcP 08 10 31.4 +0.8
HLID Hailey 39.40 328⇑ *iP* **P 08 08 24.2 +0.3**
comp=Z,24nm,0.8s,mb5.1
HLID *epP* pP 08 08 45.1 +0.3
HLID *ePcP* PcP 08 10 31.1 0.0
HLID *eScP* 08 14 13.9
HLID LR LR
comp=Z,978nm,20.0s
BOZ Bozeman (W) 39.56 332⇑ *iP* **P 08 08 25.1 0.0**
comp=Z,8.9nm,0.5s,mb4.8
BOZ *epP* pP 08 08 46.0 -0.1
CMB Columbia Colle 39.61 316 *eP* **P 08 08 25.8 +0.1**
comp=Z,22nm,1.0s,mb5.0
CMB *epP* pP 08 08 46.0 -0.6
CMB *ePcP* PcP 08 10 31.5 -0.3
SAO San Andreas Ge 39.70 314 *eP* **P 08 08 26.9 +0.4**
comp=Z,15nm,0.9s,mb4.8
LKC Lake Chabot 40.60 315 *eP* **P 08 08 33.4 -0.5**
OHCM Honcut 41.02 317 *eP* **P 08 08 36.5 -0.7**
OHCM *epP* pP 08 08 57.2 -1.0
MOD Modoc 41.69 321 *eP* **P 08 08 42.5 -0.2**
comp=Z,22nm,1.0s,mb4.8
MOD *epP* pP 08 09 03.4 -0.3
MOD *ePcP* PcP 08 10 37.2 -1.3
WDC Whiskeytown Da 42.37 318 *eP* **P 08 08 46.5 -1.9**
comp=Z,12nm,1.2s,mb4.5
WDC *epP* pP 08 09 07.0 -2.4
WDC *ePcP* PcP 08 10 39.4 -1.4
YBH Yreka Blue Hor 43.08 320 P **P 08 08 52.9 -1.3**
comp=Z,7.1nm,0.9s,mb4.4,baz=115,slow=6.3,SNR=8.8
YBH pP pP 08 09 13.9 -1.3
comp=Z,17nm,0.9s,baz=150,slow=3.0,SNR=9.7

YBH PcP PcP 08 10 42.5 -0.7
comp=Z,16nm,1.1s,baz=62,slow=5.4,SNR=6.7
YBH Yreka Blue Hor 43.08 320 *eP* **P 08 08 52.1 -2.1**
comp=Z,7.6nm,0.9s,mb4.4
YBH *e*pP pP 08 09 13.8 -1.5
YBH *e*PcP PcP 08 10 42.3 -0.9
KHMM Horse Mountain 43.29 318⇑ *eP* **P 08 08 56.2 +0.3**
KHMM *e*pP pP 08 09 17.2 +0.3
KHMM *e*PcP PcP 08 10 43.7 -0.2
KRMB Red Mountain 43.74 319 *eP* **P 08 08 59.1 -0.4**
KRMB *e*pP pP 08 09 20.3 -0.2
HAWA Hanford 43.99 327⇑ *eP* **P 08 09 00.6 -0.9**
comp=Z,50nm,0.9s,mb5.2
HAWA *e*pP pP 08 09 21.3 -1.3
NEW Newport 44.04 331 *eP* **P 08 09 01.2 -0.6**
comp=Z,20nm,1.1s,mb4.8
NEW *e*pP pP 08 09 22.5 -0.4
NEW *e* 08 10 44.9
NEW LR LR
comp=Z,630nm,19.0s
FFC Flin Flon 44.13 347⇑ *iP* **P 08 09 02.2 -0.2**
comp=Z,64nm,0.6s,mb5.5
DPW Davenport 44.29 330 *eP* **P 08 09 03.7 -0.2**
KBO Bosley Butte 44.30 320 *eP* **P 08 09 04.4 +0.4**
KBO *e*pP pP 08 09 24.4 -0.7
SSOR Sweet Springs 44.68 324 *eP* **P 08 09 06.1 -0.9**
KEBM Edson Butte 44.71 320 *eP* **P 08 09 07.7 +0.4**
KEBM *e*pP pP 08 09 28.5 +0.1
SCHQ Schefferville 45.30 16 P **P 08 09 11.8 +0.1**
comp=Z,91nm,0.7s,mb5.6,baz=213,slow=6.2,SNR=303
SCHQ PcP PcP 08 10 49.2 -1.4
comp=Z,4.3nm,0.4s,baz=189,slow=5.1,SNR=2.5
SCHQ LR LR 08 29 52.3
comp=Z,1µm,18.2s,baz=206,slow=38
SCHQ Schefferville 45.30 16⇑ *iP* **P 08 09 11.3 -0.4**
comp=Z,69nm,0.6s,mb5.6
SCHQ *e*pP pP 08 09 32.6 -0.4
LON Longmire 45.44 326 *eP* **P 08 09 13.1 0.0**
LON *e*pP pP 08 09 34.2 0.0
NLW Nelson Butte 45.50 329 *eP* **P 08 09 13.4 -0.1**
NLW *e*pP pP 08 09 34.7 +0.1
CMCH Combarbala 45.64 161⇓ *iP* **P 08 09 15.4 +0.6**
RPW Rockport 46.34 328 *eP* **P 08 09 19.4 -0.7**
GNW Green Mountain 46.49 327 *eP* **P 08 09 19.9 -1.3**
GNW *e*pP pP 08 09 41.3 -1.2
GNW *e*PcP PcP 08 10 53.7 -1.1
BDFB Brasilia 47.15 125 P **P 08 09 24.5 -2.3**
comp=Z,26nm,0.8s,mb5.0,baz=298,slow=8.7,SNR=32
BDFB LR LR 08 31 27.7
comp=Z,1µm,19.8s,baz=315,slow=39
BAO Brasilia Array 47.16 125 *eP* **P 08 09 24.4 -2.5**
BAO *e* 08 09 38.1
CPUP Villa Florida 47.71 144 P **P 08 09 28.8 -2.3**
comp=Z,10nm,0.7s,mb4.8,baz=348,slow=7.3,SNR=27
CPUP PcP PcP 08 10 58.7 -0.8
comp=Z,7.6nm,1.0s,baz=17,slow=12,SNR=2.7
CPUP LR LR 08 29 37.0
comp=Z,268nm,19.6s,baz=343,slow=36
CPUP Villa Florida 47.71 144⇑ *iP* **P 08 09 28.8 -2.4**
comp=Z,13nm,0.8s,mb4.8
CLCH Cerro Calan 47.84 162⇑ *iP* **P 08 09 31.7 -0.5**
FCH Farellones 47.86 162⇑ *iP* **P 08 09 33.0 +0.8**
FRB Frobisher Bay 53.04 10 P **P 08 10 09.7 -1.5**
comp=Z,34nm,0.8s,mb5.5,baz=212,slow=10,SNR=5.6
FRB pP pP 08 10 29.2 -3.7
comp=Z,26nm,0.8s,baz=204,slow=10.0,SNR=2.6
FRB LR LR 08 34 31.6
comp=Z,2µm,18.1s,baz=204,slow=38
RCBR Riachuelo 53.49 107⇑ *iP* **P 08 10 12.9 -2.3**
comp=Z,53nm,0.8s,mb5.6
YKA Yellowknife Ar 54.09 344 P **P 08 10 17.2 -1.6**
comp=Z,23nm,0.7s,mb5.3,baz=141,slow=7.4,SNR=63
YKA pP pP 08 10 38.9 -1.7
comp=Z,14nm,0.9s,baz=136,slow=7.8,SNR=4.9
YKA PcP PcP 08 11 20.9 -1.6
comp=Z,7.7nm,0.7s,baz=145,slow=4.2,SNR=9.7
YKA ScP 08 15 12.0
comp=Z,5.9nm,1.1s,baz=143,slow=5.2,SNR=5.3
YKA LR LR 08 34 54.3
comp=Z,369nm,20.4s,baz=140,slow=38
YKA Yellowknife Ar 54.09 344 P **P 08 10 17.2 -1.6**
YKA pP pP 08 10 38.9 -1.7
YKA PcP PcP 08 11 20.9 -1.6
YKA ScP 08 15 12.0
YKA LR LR 08 34 54.3
YKW3 Yellowknife Ar 54.15 344⇑ *iP* **P 08 10 17.5 -1.8**
TRQA Tornquist 55.05 156⇑ *iP* **P 08 10 24.4 -1.8**
comp=Z,26nm,0.8s,mb5.3
TRQA *e*PcP PcP 08 11 25.4 -1.0
RKT Rikitea 58.93 233 *eS* **S 08 18 32.8 -18**
RKT *e*R 08 28 27.8
comp=Z,2µm,30.5s
RES Resolute Bay 62.66 358 *eP* **P 08 11 16.7 -1.7**
comp=Z,13nm,0.7s,mb5.0
RES *e*pP pP 08 11 39.1 -1.7
INK Inuvik 63.71 342 LR LR 08 45 24.4
comp=Z,547nm,18.3s,baz=127,slow=42
INK Inuvik 63.71 342 *iP* **P 08 11 23.5 -1.8**
comp=Z,15nm,0.7s,mb4.9
INK *e*pP pP 08 11 46.7 -1.1
CHIE El Hierro 65.63 65 P **P 08 11 38.6 +0.1**
comp=Z,23nm,0.9s,mb5.0
SLKM Skilak Lake 66.59 331 *eP* **P 08 11 41.8 -2.3**
ILAR Eielson Array 66.60 336 P **P 08 11 42.1 -1.8**
comp=Z,10nm,0.5s,mb5.0,baz=139,slow=4.8,SNR=281
SUMG Summit 66.64 14 *eP* **P 08 11 43.2 -0.9**
comp=Z,30nm,1.0s,mb5.1
SUMG *e*pP pP 08 12 05.4 -1.4
COLA College 67.02 336 *eP* **P 08 11 45.8 -0.8**
COLA College 67.02 336 *eP* **P 08 11 44.7 -1.9**
comp=Z,9.8nm,0.5s,mb4.9
MCK McKinley 67.06 335 *eP* **P 08 11 45.5 -1.4**
SPU Mount Spurr 67.65 332 *eP* **P 08 11 49.3 -1.3**
USHA Ushuaia 68.50 169 P **P 08 11 55.9 0.0**
comp=Z,39nm,0.9s,mb5.2,baz=349,slow=4.1,SNR=27
USHA *e*pP pP 08 12 16.1 -2.6
comp=Z,16nm,0.8s,baz=336,slow=9.0,SNR=3.4
PPT Papeete 68.84 246 *eS* S 08 20 37.3 -17
PPT *eL* 08 29 11.5
PPT *eR* 08 32 25.3
comp=Z,4µm,30.0s,baz=62
TBI Tubuai 70.89 240 *eS* S 08 21 00.4 -18
TBI *eR* 08 33 37.4
comp=Z,3µm,29.8s,baz=61
EZAM Zamans 72.99 50⇑P **P 08 12 23.0 -0.2**
comp=Z,14nm,0.7s,mb4.9
STS Santiago 73.09 49 P **P 08 12 23.5 -0.3**
comp=Z,19nm,0.6s,mb5.1
PTEO Sao Teotonio 73.12 54 *eP* **P 08 12 24.8 +0.8**
MOE Montemor 73.37 53 *eP* **P 08 12 26.1 +0.6**
EVO Evora 73.63 53 *eP* **P 08 12 25.1 -2.0**
comp=Z,83nm,0.8s,mb5.2
EVO *e*R
comp=Z,723nm,20.0s
PVIS Viseu 73.64 51 *eP* **P 08 12 26.9 -0.1**
comp=Z,66nm,0.7s,mb5.5
PVRL Vila Real 73.75 50 *eP* **P 08 12 27.1 -0.6**
PBEJ Beja 73.77 54 *eP* **P 08 12 26.9 -1.0**
MTE Manteigas 73.91 51 *eP* **P 08 12 27.1 -1.6**
comp=Z,46nm,1.1s,mb5.1
MTE *e*S S 08 21 49.1 -2.9
MTE *e*LR LR 08 35 33.4
comp=Z,714nm,20.2s
MTE Manteigas 73.91 51 *eP* **P 08 12 27.1 -1.6**
comp=Z,43nm,0.9s,mb5.2
MTE *e*pP pP 08 12 51.1 -0.6
PCBR Castelo Branco 73.99 52 *eP* **P 08 12 28.3 -0.8**
comp=Z,30nm,0.8s,mb5.1
EPON Pontenova 74.10 48 P **P 08 12 29.3 -0.4**
comp=Z,11nm,0.4s,mb4.9
PALC Alcoutim 74.11 54 *eP* **P 08 12 29.9 0.0**
comp=Z,32nm,0.9s,mb5.1
ERUA La Rua 74.14 49 P **P 08 12 29.8 -0.1**
comp=Z,15nm,0.6s,mb4.9
UNV Unalaska Valle 74.30 323 *eP* **P 08 12 29.9 -0.8**
comp=Z,256nm,1.0s,mb5.9
EBAD Badajoz 74.40 53 P **P 08 12 32.5 +1.0**
comp=Z,4.3nm,0.6s,mb4.4
ECAL Calabor 74.46 50 P **P 08 12 32.2 +0.4**
comp=Z,32nm,1.1s,mb5.0
PBRG Braganca 74.46 50 *eP* **P 08 12 31.0 -0.8**
JMIC Jan Mayen 74.68 19 *eP* **P 08 12 32.9 +0.5**
JMIC AMS AMS 08 42 01.7
comp=Z,214nm,24.8s
EMIN Mina Concepcio 74.73 54 P **P 08 12 33.0 -0.4**
comp=Z,18nm,0.8s,mb4.8
ESPR Espera 75.44 55 P **P 08 12 36.6 -0.9**
comp=Z,30nm,0.8s,mb5.1
EARI Arriondas 75.52 48 P **P 08 12 36.7 -1.0**
comp=Z,27nm,0.9s,mb5.0
EMIJ Mijas 76.34 55 P **P 08 12 41.1 -1.5**
comp=Z,20nm,0.6s,mb5.0
EADA Adamuz 76.35 53⇑P **P 08 12 42.3 -0.3**
comp=Z,8.3nm,0.6s,mb4.6
EKA Eskdalemuir Ar 76.36 36 P **P 08 12 40.2 -2.1**
comp=Z,19nm,0.8s,mb4.9,baz=265,slow=5.9,SNR=23
EKA pP pP 08 13 03.1 -2.3
comp=Z,11nm,0.8s,baz=263,slow=6.7,SNR=4.5
ROSF Rostrenen 76.59 43 *eP* **P 08 12 41.8 -1.9**
comp=Z,95nm,1.1s,mb5.1
QUIF Quistinic 76.69 43 *eP* **P 08 12 42.3 -2.0**
comp=Z,69nm,0.7s,mb5.2
ESDC Sonseca Array 76.70 52 P **P 08 12 43.7 -0.9**
comp=Z,22nm,0.6s,mb5.1,baz=284,slow=5.7,SNR=75
ESDC pP pP 08 13 06.0 -1.8
comp=Z,58nm,1.2s,baz=282,slow=5.4,SNR=5.9
ESDC LR LR 08 42 21.6
comp=Z,410nm,19.7s,baz=250,slow=32
ESDC Sonseca Array 76.70 52 P **P 08 12 43.7 -0.8**
comp=Z,20nm,0.6s,mb5.0
ESLA Sonseca Array 76.70 52 *eP* **P 08 12 43.1 -1.5**
comp=Z,9.4nm,0.8s,mb4.6
ESLA *e*pP pP 08 13 07.7 -0.1
ESLA LR LR
comp=Z,3µm,20.0s
ELOJ Sierra Loja 76.78 54 P **P 08 12 44.9 -0.2**
comp=Z,19nm,1.0s,mb4.8
ELAN Lanestosa 76.81 48 P **P 08 12 43.5 -1.6**
comp=Z,30nm,1.0s,mb5.0
ERON Agron 77.07 55 P **P 08 12 46.3 -0.3**
comp=Z,3.4nm,0.4s,mb4.4
SGMF Saint Gilles 77.07 43 *eP* **P 08 12 44.3 -2.1**
comp=Z,40nm,0.9s,mb4.8
EQES Quesada 77.57 54 P **P 08 12 47.5 -1.9**
comp=Z,56nm,1.0s,mb5.2
EBER Berja 77.81 55 P **P 08 12 49.7 -1.0**
comp=Z,46nm,0.9s,mb5.2
EVIA Vianos 77.93 53 P **P 08 12 51.5 +0.2**
comp=Z,32nm,0.9s,mb5.0
ETOR Torete 78.05 51 P **P 08 12 50.1 -1.8**
comp=Z,45nm,0.8s,mb5.2
GRR Gorron 78.19 43 *eP* **P 08 12 50.7 -1.9**
comp=Z,102nm,0.9s,mb5.3
EALK Alkurruntz 78.22 48 P **P 08 12 52.6 -0.3**
comp=Z,21nm,1.1s,mb4.8
OSSF Osses 78.39 48 *eP* **P 08 12 52.5 -1.3**
FLN La Foliniere 78.41 42 *eP* **P 08 12 51.9 -1.9**
comp=Z,45nm,0.8s,mb5.0
FLN *e*R
comp=Z,929nm,21.0s
SJPF Ste Jean 78.44 48 *eP* **P 08 12 52.8 -1.2**
comp=Z,82nm,0.8s,mb5.2
SJPF *e*pP pP 08 13 17.0 -0.3
LARF Larrau 78.62 48 *eP* **P 08 12 54.9 -0.1**
LDF La Druitiere 78.66 43 *eP* **P 08 12 53.2 -2.0**
comp=Z,62nm,0.9s,mb5.1
LDF *e*pP pP 08 13 16.3 -2.1
MFF Saint Martin d 78.84 45 *eP* **P 08 12 54.3 -1.9**
comp=Z,57nm,0.7s,mb5.2
ETSF Etsaut 78.94 48 *eP* **P 08 12 55.7 -1.2**
comp=Z,30nm,0.8s,mb4.9
FDAF Les Forges d'A 78.95 48 *eP* **P 08 12 56.9 0.0**
REYF Montagne du Re 79.05 48 *eP* **P 08 12 56.7 -0.7**
ESAC San Caprasio 79.14 50 P **P 08 12 56.8 -1.2**
comp=Z,64nm,0.9s,mb5.5
EMOS Mosqueruela 79.30 51 P **P 08 12 59.9 +1.0**
comp=Z,21nm,0.7s,mb5.1
VIEF Viey 79.37 48 *eP* **P 08 12 57.9 -1.3**
LABF Labassere 79.39 48 *eP* **P 08 12 57.4 -1.9**
EPF Esparros 79.58 48 *eP* **P 08 12 58.9 -1.4**
comp=Z,48nm,0.9s,mb5.0
LFF La Frestale 79.64 46 *eP* **P 08 12 58.8 -1.8**
comp=Z,71nm,0.8s,mb5.2
EGRA Graus 79.67 49 P **P 08 13 00.9 +0.1**
EBEN Beniarda 79.69 53 P **P 08 13 03.0 +2.0**
comp=Z,14nm,0.8s,mb4.8
EBR Ebro Roquetas 79.97 50 *eP* **P 08 13 03.0 +0.5**
MLS Moulis 80.14 48 *eP* **P 08 13 01.2 -2.1**
RJF Les Rejaudoux 80.14 46 *eP* **P 08 13 01.3 -2.0**
comp=Z,43nm,1.0s,mb4.9
RJF *e*pP pP 08 13 25.8 -0.8
RJF *e*R
comp=Z,1µm,20.5s
SALF Salau 80.24 48 *eP* **P 08 13 02.6 -1.2**
EPOB Poblet 80.34 50 P **P 08 13 04.2 -0.2**
comp=Z,16nm,0.8s,mb4.9
TCF Toulx Ste Croi 80.50 45 *eP* **P 08 13 02.9 -2.2**
comp=Z,35nm,0.8s,mb4.9
TCF *e*pP pP 08 13 26.0 -2.4
LIC Lamto 80.50 86 *eP* **P 08 13 03.3 -2.5**
comp=Z,19nm,0.8s,mb4.7
CAF Calviac 80.58 46 *eP* **P 08 13 03.6 -2.0**
comp=Z,31nm,0.9s,mb4.8
DBIC Dimbokro 80.58 85 P **P 08 13 03.8 -2.5**
comp=Z,4.6nm,0.8s,mb4.4,baz=204,slow=1.0,SNR=6.5
DBIC pP pP 08 13 29.1 -0.5
comp=Z,13nm,1.0s,baz=249,slow=3.9,SNR=4.3
DBIC LR LR 08 46 42.8
comp=Z,276nm,20.8s,baz=251,slow=34
DBIC Dimbokro 80.58 85 *eP* **P 08 13 03.6 -2.6**
EMIR Miracle 80.60 49 P **P 08 13 05.4 -0.3**
comp=Z,19nm,0.7s,mb5.0
EIBI Ibiza 80.86 52 P **P 08 13 06.9 -0.3**
comp=Z,23nm,0.8s,mb5.0
VALF Valcebollere 80.89 49 *eP* **P 08 13 05.9 -1.4**
BGF Bois d'Agland 80.90 44 *eP* **P 08 13 05.0 -2.2**
comp=Z,33nm,0.6s,mb5.0
MTLF Montolieu 80.91 48 *eP* **P 08 13 05.5 -1.9**
comp=Z,45nm,0.9s,mb5.0
MTLF *e*pP pP 08 13 29.9 -0.8
AVF Avril sur Loir 81.21 44 *eP* **P 08 13 06.3 -2.6**
comp=Z,14nm,0.8s,mb4.5
AVF *e*pP pP 08 13 29.4 -2.8
SSF Saint Saulge 81.27 44 *eP* **P 08 13 06.7 -2.5**
comp=Z,18nm,0.7s,mb4.7
BAIF Baives 81.29 41 *eP* **P 08 13 07.0 -2.2**
LOR Lormes 81.48 44 *eP* **P 08 13 08.0 -2.3**
comp=Z,33nm,0.8s,mb4.9
LOR *e*pP pP 08 13 31.8 -1.8
LOR *e*R
comp=Z,2µm,22.2s
SJAF Saint Jean de 81.51 48 *eP* **P 08 13 08.6 -2.0**
EJON La Jonquera 81.52 48 P **P 08 13 09.8 -0.8**
comp=Z,24nm,0.9s,mb5.0
SMF Signal de Mont 81.56 44 *eP* **P 08 13 08.1 -2.6**
comp=Z,26nm,0.8s,mb4.8
GIVF Givet 81.68 41 *eP* **P 08 13 09.2 -2.0**
LASF Ste Croix 81.97 47 *eP* **P 08 13 11.6 -1.3**
comp=Z,30nm,0.9s,mb4.8
MEZF Maizieres J'vi 82.08 42 *eP* **P 08 13 11.4 -1.9**
VIVF Saint-Julien-l 82.42 46 *eP* **P 08 13 14.1 -1.1**
comp=Z,53nm,1.0s,mb5.0
WLF Walferdange 82.60 41 *eP* **P 08 13 15.1 -0.9**
WLF *e*pP pP 08 13 38.6 -0.8
THEF They Montfort 82.74 42 *eP* **P 08 13 15.4 -1.3**
HAU Haudompre 83.02 43 *eP* **P 08 13 16.2 -1.9**
HAU *e*R
comp=Z,948nm,23.0s
CABF La Chapelle 83.09 44 *eP* **P 08 13 16.9 -1.7**
NB2 NORSAR Subarra 83.20 29 P **P 08 13 17.7 -1.1**
comp=Z,8.4nm,0.8s,mb4.6,baz=283,slow=4.8
NB2 NORSAR Subarra 83.20 29 P **P 08 13 17.7 -1.1**
baz=283,slow=5.1
NOA NORSAR Array B 83.20 29 P **P 08 13 17.9 -0.8**
comp=Z,6.5nm,0.8s,mb4.5,baz=285,slow=5.0,SNR=14
NOA pP pP 08 13 41.8 -0.4
comp=Z,5.6nm,0.8s,baz=285,slow=5.0,SNR=5.7
NOA LR LR 08 47 44.4
comp=Z,494nm,20.6s,baz=270,slow=34
SMRF Simiane la Rot 83.21 47 *eP* **P 08 13 17.6 -1.6**
ORIF Oris-en-Rattie 83.25 46 *eP* **P 08 13 18.1 -1.3**
comp=Z,8.8nm,0.6s,mb4.5
ORIF *e*R
comp=Z,1µm,21.0s
HINF Hinteralfeld 83.39 43 *eP* **P 08 13 17.9 -2.1**
LOMF Lomont 83.46 43 *eP* **P 08 13 18.5 -1.9**
ECH Echery 83.51 42 *eP* **P 08 13 19.5 -1.1**
CDF Champ du Feu 83.55 42 *eP* **P 08 13 18.9 -1.9**
MOF Molkenrain 83.57 43 *eP* **P 08 13 18.2 -2.7**
LPL La Plagne 83.74 45 *eP* **P 08 13 20.7 -1.1**
LPG La Plagne 83.75 45 *eP* **P 08 13 20.9 -1.0**
comp=Z,14nm,0.8s,mb4.6
LPG *e*pP pP 08 13 44.3 -1.1
LANF Langenberg 83.79 41 *eP* **P 08 13 21.5 -0.5**
MBDF Montbardon 83.91 46 *eP* **P 08 13 21.3 -1.4**
comp=Z,9.8nm,0.8s,mb4.4
TRO Tromso 83.99 20 *eP* **P 08 13 22.1 -0.4**
TRO AMS AMS 08 45 54.5
comp=Z,180nm,26.7s
LMR La Mourre 83.99 47 *eP* **P 08 13 21.5 -1.7**
FRF La Foret Royal 84.05 47 *eP* **P 08 13 21.7 -1.7**
FELD Feldberg 84.14 42 *eP* **P 08 13 22.8 -1.0**
CALN Calern 84.19 47 *eP* **P 08 13 23.3 -0.8**
BFO Black Forest 84.26 42 *eP* **P 08 13 23.7 -0.7**
BFO pmax pmax
comp=Z,94nm,2.9s,mb5.1
BFO Black Forest 84.26 42 *eP* **P 08 13 23.7 -0.7**
comp=Z,94nm,2.9s,mb5.1
AURF Auriere 84.47 46 *eP* **P 08 13 24.6 -0.9**
AUTN L'Aution 84.52 46 *eP* **P 08 13 23.7 -2.1**
SBF Sospel 84.55 46 *eP* **P 08 13 24.2 -1.7**
HFS Hagfors 84.60 30 P **P 08 13 24.2 -1.5**
comp=Z,2.9nm,0.5s,mb4.5,baz=225,slow=2.1,SNR=13
HFS pP pP 08 13 48.3 -1.0
comp=Z,8.2nm,1.0s,slow=2.9,SNR=3.8
HFS PP PP 08 16 46.5 +2.7
comp=Z,3.6nm,0.8s,baz=243,slow=9.9,SNR=4.9
SAOF Saorge 84.61 46 *eP* **P 08 13 25.5 -0.7**
CLZ Clausthal 84.79 38 *eP* **P 08 13 26.0 -0.9**
comp=Z,20nm,0.9s,mb5.0
CLZ *e*PP PP 08 16 50.7 +5.2
CLZ *e*pPP Px 08 17 12.8
DAVA Damuels 85.50 43⇑ *iP* **P 08 13 29.3 -1.3**
comp=Z,27nm,1.0s,mb5.1
DAVA *i* pP 08 13 54.6 +0.4
comp=Z,43nm,1.1s
DAVOX Davos 85.62 43 P **P 08 13 31.1 0.0**
comp=Z,22nm,1.1s,mb5.0,baz=274,slow=8.2,SNR=9.2
DAVOX pP pP 08 13 53.6 -1.1
comp=Z,14nm,0.9s,baz=330,slow=14,SNR=4.0
GRA1 Grafenberg Arr 85.81 40 *eP* **P 08 13 31.0 -1.0**
comp=Z,17nm,0.9s,mb5.0
GRA1 *e*pP pP 08 13 56.3 +0.7
GRF Grafenberg Arr 85.81 40 *eP* **P 08 13 31.0 -1.0**
GRF *e**PP pP 08 13 56.3 +0.7
GRF pmax pmax
comp=Z,17nm,0.9s,mb5.0
MOX Moxa 85.83 39 *i* P **P 08 13 31.0 -1.1**
MOX pP pP 08 13 56.0 +0.3
MOX PP Px 08 17 20.0
MOX SKS SKS 08 23 50.0 +3.5
MOX L 08 49 14.0
MOX Moxa 85.83 39 *eP* **P 08 13 31.0 -1.1**
MOX *e* pP 08 13 56.2 +0.5
MOX MLR MLR
comp=Z,500nm,20.0s
MOX Moxa 85.83 39 *eP* **P 08 13 31.0 -1.1**
MOX *e* pP 08 13 56.2 +0.5
MOX *e* 08 17 20.3
MOX LR LR
comp=Z,500nm,20.0s
PGF Pioggiola 85.94 48 *eP* **P 08 13 31.1 -1.7**
comp=Z,20nm,0.7s,mb4.8
PGF *e*pP pP 08 13 54.3 -2.2
ARCES ARCESS Array B 86.17 19 P **P 08 13 32.5 -0.7**
comp=Z,7.5nm,0.9s,mb4.6,baz=284,slow=4.4,SNR=23
ARCES pP pP 08 13 57.2 +0.3
comp=Z,3.8nm,0.8s,baz=270,slow=4.9,SNR=2.8
ARCES PP PP 08 16 55.5 -0.7
comp=Z,7.0nm,0.9s,baz=301,slow=7.1,SNR=7.1
ARCES PKKPbc 08 31 31.4
comp=Z,5.1nm,0.9s,baz=92,slow=2.4,SNR=14
ARCES LR LR 08 50 34.4
comp=Z,280nm,19.8s,baz=299,slow=34
MOTA Moosalm 86.30 42⇑ *iP* **P 08 13 33.7 -0.8**
comp=Z,5.1nm,1.1s,mb4.4
MOTA *i* pP 08 13 59.4 +1.3
comp=Z,14nm,1.2s
NKC Novy Kostel 86.45 39 *eP* **P 08 13 34.4 -0.7**
NKC *e*pP pP 08 13 58.7 -0.1
NKC AMS AMS 08 48 50.0
comp=Z,700nm,19.0s
CLL Collm 86.51 38⇓P **P 08 13 34.2 -1.2**
comp=Z,logA/T=1.2,mb4.9
CLL *i* *PP pP 08 13 58.4 -0.7
CLL *i* 08 14 21.7
CLL *e*PP PP 08 16 59.0 -0.8
CLL *i* *PPP 08 17 26.1
CLL *e**SPP 08 17 32.0
CLL *e*SKS SKS 08 23 52.0 +0.9
CLL *e**SS 08 24 57.0
CLL *e*SPP SPP 08 25 39.0 +10
CLL *e*SS SS 08 29 49.0 +1.0
CLL Collm 86.51 38⇓ *iP* **P 08 13 34.2 -1.2**
CLL *i* *PP pP 08 13 58.4 -0.7
CLL *e* 08 23 52.0
CLL pmax pmax
comp=Z,12nm,0.8s,mb4.9
CLL MLR MLR
comp=Z,500nm,21.2s
CLL Collm 86.51 38⇓ *iP* **P 08 13 34.2 -1.2**
comp=Z,12nm,0.8s,mb4.9
CLL *i* pP pP 08 13 58.4 -0.7
CLL *e*SKS SKS 08 23 52.0 +0.9
CLL LR LR
comp=Z,500nm,21.2s
WTTA Wattenberg 86.67 42⇑ *iP* **P 08 13 35.0 -1.3**
comp=Z,5.2nm,1.0s,mb4.4
WTTA *i* pP 08 13 58.4 -1.5
WET Wettzell 87.00 40 *eP* **P 08 13 37.0 -0.8**
WET pmax pmax
comp=Z,15nm,1.0s,mb4.9
WET Wettzell 87.00 40 *eP* **P 08 13 37.0 -0.8**
comp=Z,15nm,1.0s,mb4.9
BRG Berggiesshubel 87.20 39 *eP* **P 08 13 37.9 -0.9**
BRG *i* *PP pP 08 14 03.3 +0.8
BRG *e* 08 17 00.5
BRG *i* S S 08 24 12.0 +2.7
BRG *i* SS SS 08 30 01.0 +3.2
BRG pmax pmax
comp=Z,65nm,1.8s,mb5.3
BRG MLR MLR
comp=N,470nm,24.5s
BRG MLR MLR
comp=E,460nm,24.5s
BRG MLR MLR
comp=Z,450nm,22.1s
BRG Berggiesshubel 87.20 39 *eP* **P 08 13 37.9 -0.9**
comp=Z,65nm,1.8s,mb5.2
BRG *i* pP pP 08 14 03.3 +0.8
BRG *e*PP PP 08 17 00.5 -5.2
BRG *e* 08 17 29.2
BRG *i* S S 08 24 12.0 +2.7
BRG *i* SS SS 08 30 01.0 +3.2
BRG LR LR
comp=Z,450nm,22.1s
KHC Kasperske Hory 87.45 40 *eP* **P 08 13 39.0 -1.0**
KHC *e* pP 08 14 01.3 -2.4
KHC *e* 08 24 06.1
KHC MLR MLR
comp=Z,900nm,17.8s
KHC Kasperske Hory 87.45 40 *eP* **P 08 13 39.0 -1.0**
KHC *e*pP pP 08 14 01.3 -2.4
KHC *ex* x 08 17 07.5
KHC *e*SKS SKS 08 24 06.1 +8.9
KHC AMS AMS 08 50 20.0
comp=Z,900nm,17.8s
GEC2 GERESS Array S 87.60 41 *eP* **P 08 13 39.7 -1.1**
GEC2 pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
GEC2 GERESS Array S 87.60 41 *eP* **P 08 13 39.7 -1.1**
comp=Z,7.0nm,1.1s,mb4.6
GERES GERESS Array B 87.60 41 P **P 08 13 39.3 -1.4**
comp=Z,5.3nm,1.0s,mb4.5,baz=270,slow=4.0,SNR=16
GERES pP pP 08 14 02.9 -1.5
comp=Z,3.4nm,0.8s,baz=270,slow=2.7,SNR=4.8
GERES PKKPbc 08 31 29.0
comp=Z,0.8nm,0.6s,baz=90,slow=2.7,SNR=5.6
PVCC Panska Ves 87.68 39 *eP* **P 08 14 05.7 +0.9**
PVCC LR LR
comp=Z,700nm,21.8s
PVCC Panska Ves 87.68 39 *epP* pP 08 14 05.7 +0.9
PVCC AMS AMS 08 45 20.0
comp=Z,700nm,21.8s
PRU Pruhonice 87.81 39 *eP* **P 08 13 43.0 +1.3**
PRU *epP* pP 08 14 04.0 -1.5

PRU *e*SKS SKS 08 24 07.8 +8.3
PRU AMS AMS 08 49 40.0
comp=Z,1μm,20.0s
KBA Koelnbreinsper 87.84 42 ⇑*i*P **P 08 13 40.4 -1.6**
comp=Z,5.9nm,1.1s,mb4.5
KBA *i* pP 08 14 04.9 -0.8
comp=Z,31nm,1.4s
MOA Molln 88.24 41 ⇓*i*P **P 08 13 42.2 -1.6**
comp=Z,5.2nm,0.9s,mb4.6
MOA *i* pP 08 14 07.1 -0.4
comp=Z,19nm,1.6s
CADS Cadrg 88.33 43 *e*P **P 08 13 42.3 -2.0**
CADS *e* pP 08 14 07.2 -0.8
UPC Upice 88.57 39 *e*P **P 08 13 45.9 +0.6**
UPC *e*pP pP 08 14 09.8 +0.7
KSP Ksiaz 88.64 38 *e*P pP 08 14 08.0 -1.4
KSP *e*PP PP 08 17 13.0 -4.2
KSP *e*SKS SKS 08 24 05.0 +0.4
DPC Dobruska-Polom 88.80 39 *e*P **P 08 13 45.6 -0.8**
DPC *e* pP 08 14 09.5 -0.7
DPC *e* 08 23 57.9
DPC MLR MLR
comp=Z,800nm,25.7s
DPC Dobruska-Polom 88.80 39 *e*P **P 08 13 45.6 -0.8**
DPC *e*pP pP 08 14 09.5 -0.7
DPC *ex* x 08 17 40.0
DPC *e*SKS SKS 08 23 57.9 -7.7
DPC AMS AMS 08 46 00.0
comp=Z,800nm,25.7s
LJU Ljubljana 88.91 43 *e*P pP 08 14 10.0 -0.8
PDKS Podkum 89.22 43 *e*P **P 08 13 47.2 -1.2**
VRAC Vranov 89.29 40 P **P 08 13 47.6 -1.1**
comp=Z,4.2nm,0.7s,mb4.6,baz=336,slow=12,SNR=5.5
VRAC pP pP 08 14 12.0 -0.5
comp=Z,4.0nm,0.5s,baz=244,slow=6.2,SNR=2.4
LEGS Legarje 89.47 43 *e*P **P 08 13 48.2 -1.4**
LEGS *i* pP 08 14 12.7 -0.7
LEGS *e*PP PP 08 17 39.4 +15
FINES FINESS Array B 89.84 26 P **P 08 13 49.4 -1.6**
comp=Z,1.6nm,0.6s,mb4.3,baz=287,slow=3.9,SNR=11
FINES pP pP 08 14 12.9 -1.9
comp=Z,2.9nm,0.9s,baz=270,slow=1.9,SNR=3.6
FINES PP PP 08 17 26.4 -0.2
comp=Z,1.0nm,0.7s,baz=315,slow=3.9,SNR=3.9
FINES PKPbc 08 31 22.8
comp=Z,1.1nm,0.6s,baz=90,slow=3.8,SNR=10
FINES LR LR 08 50 54.1
comp=Z,564nm,21.5s,baz=290,slow=33
FINES FINESS Array B 89.84 26 P **P 08 13 49.4 -1.6**
FINES pP pP 08 14 12.9 -1.9
FINES PP PP 08 17 26.4 -0.2
FINES PKKPbc 08 31 22.8
FINES LR LR 08 50 54.1
ZST Bratislava 89.95 41 *e* pP 08 14 16.9 +1.2
OKC Ostrava-Krasne 90.08 39 *e*P **P 08 13 52.0 -0.4**
OKC *e*pP pP 08 14 17.3 +1.0
OKC AMS AMS 08 51 30.0
comp=Z,800nm,19.3s
PSZ Piszkesteto 91.81 40 *e*pP pP 08 14 26.1 +1.7
PSZ Piszkesteto 91.81 40 *e*P **P 08 13 59.9 -0.6**
PSZ *e*pP pP 08 14 24.2 -0.2
KOLS Kolonicke sedl 92.92 39 *e* pP 08 14 31.8 +2.3
PET Petropavlovsk 94.59 327 *e*P **P 08 14 09.5 -3.6**
PET *e*S S 08 25 15.6 +0.4
PET smax
comp=N,200nm,26.3s
PET smax
comp=E,200nm,16.8s
PET MLR MLR
comp=Z,200nm,24.0s
MA2 Magadan 95.04 335 *e*P **P 08 14 14.8 -0.2**
MA2 *e**PP pP 08 14 40.2 +1.3
MA2 *e*S S 08 25 18.8 0.0
MA2 *e*SS SS 08 31 56.3 +6.2
MA2 pmax pmax
comp=Z,20nm,1.6s,mb5.3
MA2 Magadan 95.04 335 *e*P **P 08 14 15.0 0.0**
AKASG Malin Array Be 96.26 35 PP PP 08 18 13.7 -3.6
comp=Z,2.7nm,0.8s,baz=297,slow=7.0,SNR=6.2
AKASG LR LR 08 55 56.5
comp=Z,479nm,20.2s,baz=285,slow=34
VNA3 Neumayer Olymp 97.29 161 *e* PP 08 18 15.4 -10
VNA3 Neumayer Olymp 97.29 161 *e* 08 18 55.1
VNA3 Neumayer Olymp 97.29 161 ⇑*i*P **P 08 14 26.9 +1.9**
VNA3 *e* pP 08 14 47.0 -1.9
VNA3 *e* pP 08 14 55.0 +6.1
VNA3 *e* 08 18 15.4
VNA3 *e* 08 18 55.1
VNA1 Neumayer--Stat 97.58 161 *e* PP 08 18 17.2 -10
VNA1 Neumayer--Stat 97.58 161 *e* 08 18 56.9
VNA1 Neumayer--Stat 97.58 161 ⇑*i*P **P 08 14 28.8 +2.5**
VNA1 *e* pP 08 14 48.8 -1.4
VNA1 *e* pP 08 14 57.2 +7.0
VNA1 *e* 08 18 17.2
VNA1 *e* 08 18 56.9
KIS Kishinev 97.73 39 *e*P **P 08 14 20.0 -7.5**
KIS *e* 08 27 04.0
KIS MLR MLR
comp=Z,500nm,20.0s
KIS MLR MLR
comp=Z,700nm,20.0s
VNA2 Neumayer--Watz 97.92 161 *e* PP 08 18 17.9 -12
VNA2 Neumayer--Watz 97.92 161 *e* 08 18 57.7
VNA2 Neumayer--Watz 97.92 161 ⇑*i*P **P 08 14 29.4 +1.6**
VNA2 *e* pP 08 14 49.6 -2.2
VNA2 *e* pP 08 14 57.8 +6.0
VNA2 *e* 08 18 17.9
VNA2 *e* 08 18 57.7
SNAA Sanae 99.52 161 ⇑*i*P **P 08 14 34.8 -0.3**
SNAA *e* pP 08 14 54.8 -4.2
SNAA *e* pP 08 15 03.5 +4.5
SNAA *e* 08 18 23.4
SNAA *e* 08 19 01.5
YAK Yakutsk 100.76 344 *e*P P 08 14 40.2 -0.7
YAK pmax pmax
comp=Z,14nm,0.6s
YAK MLR MLR
comp=Z,300nm,23.0s
YAK Yakutsk 100.76 344 *e*P P 08 14 40.3 -0.6
QSPA South Pole Qui 102.15 180 *e*P Pdif 08 14 49.2 +2.5
comp=Z,6.6nm,0.7s
QSPA *e* 08 19 06.9
QSPA LR LR
comp=Z,150nm,21.1s
ANN Anapa 104.03 37 *e*P Pdif 08 14 53.0 -2.7
ANN MLR MLR
comp=Z,435nm,21.0s
ANN MLR MLR
comp=N,529nm,20.0s
ANN MLR MLR
comp=E,163nm,16.0s
BRTR Keskin Array B 104.26 43 PKKPbc 08 30 44.8
comp=E,1.5nm,0.6s,baz=124,slow=4.5,SNR=6.7
BRVK Borovoye 112.06 15 *e*PKP PKPdf 08 19 26.1 +0.1
BVAR Borovoye Array 112.12 15 PKKPbc 08 30 18.9
comp=E,5.9nm,1.0s,baz=162,slow=4.7,SNR=11
BVAR PKKP PKKP 08 30 40.9 +15
comp=E,1.2nm,0.8s,baz=180,slow=3.0,SNR=3.7
ZAL Zalesovo 113.74 6 PKKPbc 08 30 11.9
comp=E,1.6nm,0.4s,baz=211,slow=4.8,SNR=4.1
ZAL PKKPab 08 30 20.2
comp=E,2.0nm,0.7s,baz=253,slow=6.6,SNR=4.7
SYO Syowa Base 113.81 161 ⇓Pdiff Pdif 08 15 32.5 -5.7
SYO Syowa Base 113.81 161 ⇓PP PP 08 20 16.2 -12
MDJ Mudanjiang 114.63 332 PKP PKPdf 08 19 31.7 +0.3
MDJ PKS PKS 08 23 07.3 +0.2
MDJ SKS SKS 08 26 35.0 +24
MDJ SP SP 08 29 59.1 -0.3
MDJ SS SS 08 36 16.8 -1.0
MDJ LR LR
comp=N,68nm,23.8s
MDJ LR LR
comp=E,253nm,26.6s
MDJ LR LR
comp=Z,253nm,23.8s
BOSA Boshof 114.83 116 *e*PKP PKPdf 08 19 32.5 +0.3
MAJO Matsushiro 115.74 321 *e*PKPdf PKPdf 08 19 34.0 +0.3
LSZ Lusaka 116.78 101 *e*PKPdf PKPdf 08 19 36.9 +0.7
CN2 Changchun 117.09 334 *e*PKP PKPdf 08 19 34.5 -1.6
DRV Dumont d'Urvil 117.38 199 PP PP 08 20 47.0 -6.4
DRV SKKS 08 27 59.0
DRV SP SP 08 30 31.0 +7.0
SONM Songino Array 119.14 350 PKiKP 08 19 40.2
comp=Z,2.0nm,0.3s,baz=301,slow=0.7,SNR=36
SONM PKKPbc 08 29 54.5
comp=Z,8.3nm,0.8s,baz=181,slow=3.4,SNR=38
MKAR Makanchi Array 120.45 9 PKP PKPdf 08 19 41.7 -0.9
comp=Z,0.7nm,0.4s,baz=270,slow=2.4,SNR=9.1
MKAR PKKPbc 08 29 49.2
comp=Z,1.8nm,0.8s,baz=158,slow=6.5,SNR=6.7
MKAR Makanchi Array 120.45 9 PKP PKPdf 08 19 41.7 -0.9
MKAR PKKPbc 08 29 49.2
MAW Mawson 121.09 167 ⇓*i*PKP PKPdf 08 19 43.9 +0.5
comp=Z,9.8nm,0.7s
MAW Mawson 121.09 167 PKP PKPdf 08 19 44.0 +0.7
comp=Z,11nm,0.7s,baz=234,slow=3.2,SNR=36
KMBO Kilima Mbogo 123.28 83 PKP PKPdf 08 19 50.7 +1.8
comp=Z,1.5nm,0.9s,baz=40,slow=18,SNR=6.0
BJI Beijing 123.90 339 PKP PKPdf 08 19 49.1 -0.3
BJI PP PP 08 21 40.6 +1.9
BJI SS SS 08 38 15.0 -2.0
BJI PP PP
comp=Z,44nm,5.9s
BJI LR LR
comp=N,300nm,30.6s
BJI LR LR
comp=E,270nm,31.9s
BJI LR LR
comp=Z,807nm,31.9s
WMQ Urumqi 124.03 5 *e*PKP PKPdf 08 19 47.0 -2.6
HHC Hu-ho-hao-te 124.62 343 *e*PKP PKPdf 08 19 52.3 +1.5
CNB Canberra Magne 124.62 235 *e*PKP PKPdf 08 19 52.7 +1.7
comp=Z,34nm,0.9s
CASY Casey 124.73 188 ⇓*i*PKP PKPdf 08 19 51.4 +1.0
PMG Port Moresby 127.18 267 *e*PKPdf PKPdf 08 19 58.4 +2.0
TOO Toolangi 127.20 232 *e*PKP PKPdf 08 19 57.8 +1.9
comp=Z,13nm,0.6s
TOO *ep*PKP 08 20 19.9
WAU Wau 127.30 270 P PKPdf 08 19 59.0 +2.3
GTA Gaotai 128.33 354 PKP PKPdf 08 19 58.5 +0.5
GTA PKS PKS 08 23 34.3 +0.7
GTA PP PP
comp=Z,56nm,9.9s
GTA LR LR
comp=N,161nm,24.8s
GTA LR LR
comp=E,100nm,19.5s
GTA LR LR
comp=Z,202nm,33.3s
CTA Charters Tower 128.79 254 *e*PKP PKPdf 08 20 01.4 +2.0
comp=Z,10.0nm,0.8s
CTAO Charters Tower 128.79 254 *e*PKPdf PKPdf 08 20 00.7 +1.3
CTAO *ep*PKPdf 08 20 22.8
SSE Sheshan 129.36 329 PKP PKPdf 08 20 00.9 +0.7
SSE PP PP 08 22 10.7 -4.2
SSE LR LR
comp=N,149nm,42.6s
SSE LR LR
comp=E,203nm,42.5s
SSE LR LR
comp=Z,171nm,26.3s
NJ2 Nanjing 129.71 332 *e*PKP PKPdf 08 20 02.1 +1.2
NJ2 XPKP 08 20 39.5
NJ2 PP PP 08 22 18.0 +1.0
NJ2 SKS SKS 08 27 02.0 +2.7
NJ2 SKKS 08 28 58.0
NJ2 SS SS 08 39 29.0 -1.1
NJ2 LR LR
comp=N,400nm,20.7s
NJ2 LR LR
comp=E,470nm,22.3s
LZH Lanzhou 130.99 349 *e*PKP PKPdf 08 20 02.4 -0.8
LZH XPKP 08 20 35.3
LZH PP PP 08 22 24.0 -1.4
LZH *e*SKS SKS 08 27 02.0 -0.6
LZH *e*SKKS 08 29 05.0
LZH SS SS 08 39 43.0 -2.2
LZH PP PP
comp=Z,123nm,4.8s
LZH LR LR
comp=N,540nm,18.3s
LZH LR LR
comp=Z,782nm,20.0s
STKA Stephens Creek 131.66 238 *e*PKP PKPdf 08 20 05.7 +1.1
comp=Z,30nm,0.6s
STKA *ep*PKP 08 20 27.3
STKA Stephens Creek 131.66 238 PKhKP 08 19 56.2
comp=Z,3.3nm,0.9s,baz=100,slow=4.7,SNR=4.6
STKA PKP PKPdf 08 20 06.5 +2.0
comp=Z,30nm,0.6s,baz=110,slow=3.2,SNR=79
STKA pPKP 08 20 25.8
comp=Z,16nm,0.9s,baz=86,slow=1.5,SNR=4.0
STKA SKPbc 08 23 24.1
comp=Z,8.6nm,1.0s,baz=155,slow=2.9,SNR=5.5
STKA Stephens Creek 131.66 238 PKP PKPdf 08 19 56.2 -8.4
STKA *e*PKP PKPdf 08 20 05.7 +1.1
STKA *ep*PKP 08 20 27.3
XAN Xi'an 131.72 343 PKP PKPdf 08 20 06.2 +1.6
XAN LR LR
comp=N,134nm,28.2s
XAN LR LR
comp=E,208nm,27.0s
XAN LR LR
comp=Z,325nm,27.3s
WHN Wuhan 132.98 335 *e*PKP PKPdf 08 20 08.0 +0.9
ENH Enshi 135.04 340 *e*PKPdf PKPdf 08 20 11.3 +0.4
CD2 Chengdu 136.01 347 PKP PKPdf 08 20 14.0 +1.3
GYA Guiyang 139.48 342 PKP PKPdf 08 20 21.8 +2.7
GYA XPKP 08 20 48.4
GYA SKKS 08 30 04.6
GYA LR LR
comp=Z,650nm,26.4s
ASAR Alice Springs 139.94 248 PKhKP 08 20 12.7
comp=Z,4.3nm,0.6s,baz=104,slow=3.2,SNR=39
ASAR PKP PKPdf 08 20 22.4 +2.4
comp=Z,27nm,0.7s,baz=102,slow=2.0,SNR=39
ASAR pPKP 08 20 43.9
comp=Z,21nm,1.0s,baz=102,slow=1.7,SNR=4.2
ASAR SKPbc 08 23 50.2
comp=Z,5.2nm,0.8s,baz=115,slow=2.6,SNR=7.8
ASAR PKKP PKKP 08 29 45.0 +12
comp=Z,0.2nm,0.4s,baz=313,slow=1.0,SNR=3.8
ASPA Alice Springs 139.94 248 *e*PKP PKPdf 08 20 14.2 -5.8
ASPA *i* 08 20 22.8
ASPA *e*SKP 08 23 50.1
WB2 Warramunga Arr 139.98 254 *e*PKP PKPdf 08 20 13.8 -6.4
WB2 *i* 08 20 22.3
WB2 *i* pPKP 08 20 43.8
WB2 *e*PKS PKS 08 23 58.6 +3.5
WRA Warramunga Arr 139.99 254 PKhKP 08 20 13.5
comp=Z,6.3nm,0.6s,baz=89,slow=3.4,SNR=62
WRA PKP PKPdf 08 20 22.3 +2.1
comp=Z,43nm,0.5s,baz=91,slow=2.4,SNR=133
WRA pPKP 08 20 44.3
comp=Z,28nm,0.8s,baz=87,slow=1.7,SNR=4.9
WRA SKPbc 08 23 50.1
comp=Z,4.0nm,0.9s,baz=91,slow=2.4,SNR=5.4
WRA PKKP PKKP 08 29 45.5 +13
comp=Z,0.2nm,0.8s,baz=275,slow=1.2,SNR=4.7
KMI Kunming 141.82 346 *e*PKP PKPdf 08 20 24.1 +0.7
KMI PP PP 08 23 32.6 +0.6
KMI SS SS 08 41 53.9 -1.5
KMI PP PP
comp=Z,99nm,7.6s
KMI LR LR
comp=N,251nm,28.3s
KMI LR LR
comp=E,260nm,22.3s
KMI LR LR
comp=Z,413nm,29.8s
KAKA Kakadu 141.93 265 *e*PKP PKPdf 08 20 26.1 +2.3
comp=Z,65nm,1.0s
SHL Shillong 142.45 2 *e*P PKPdf 08 20 21.0 -3.4
FORT Forrest 143.03 234 *e*PKP PKPdf 08 20 23.6 -1.7
comp=Z,305nm,0.7s
QIZ Qiongzhong 145.00 332 PKP PKPdf 08 20 29.4 +0.4
QIZ PP PP 08 23 56.5 +5.2
QIZ LR LR
comp=N,188nm,26.1s
QIZ LR LR
comp=Z,274nm,24.1s
PPR Puerto Princes 146.69 310 ⇑*i*P Px 08 20 54.4
HYB Hyderabad 147.14 27 *i* PKP PKPdf 08 20 32.5 -0.2
FITZ Fitzroy Crossi 148.35 255 *e*PKP PKPdf 08 20 36.7 +2.1
comp=Z,118nm,0.8s
FITZ *ep*PKP 08 21 02.1
NANT Nan 148.38 347 P PKPdf 08 20 35.7 +1.1
CHG Chiang Mai 148.72 350 ⇑P PKPdf 08 20 39.1 +3.9
comp=Z,21nm,1.0s
CM31 Chiang Mai Arr 149.07 350 *e*PKPdf PKPdf 08 20 37.2 +1.4
CM31 *e*PKPbc PKPdf 08 20 41.9 +6.2
CMAR Chiang Mai Arr 149.07 350 PKP PKPdf 08 20 36.0 +0.2
comp=Z,13nm,0.7s,baz=315,slow=2.1,SNR=34
CMAR PKPbc PKPdf 08 20 40.6 +4.8
comp=Z,22nm,0.8s,baz=330,slow=2.9,SNR=30
CMAR pPKP 08 21 01.9
comp=Z,8.1nm,1.1s,baz=336,slow=2.2,SNR=1.4
CMAR Chiang Mai Arr 149.07 350 PKP PKPdf 08 20 36.0 +0.2
CMAR PKPbc PKPdf 08 20 40.6 +4.8
CMAR pPKP 08 21 01.9
NWAO Narrogin (SRO) 149.95 223 *e*PKPdf PKPdf 08 20 37.7 +0.9
NWAO *e*PKPbc PKPdf 08 20 43.1 +6.3
KKTK Khon Kaen 150.17 342 P PKPdf 08 20 39.0 +1.5
comp=Z,185nm,0.5s
BDT Bhumibol Dam 150.24 349 P PKPdf 08 20 38.0 +0.4
comp=Z,20nm,0.8s
KLBR Kellerberrin 150.39 225 *e*PKP PKPdf 08 20 39.2 +1.7
comp=Z,46nm,0.8s
KLBR *i* 08 20 44.5
KLBR *ep*PKP 08 21 06.2
MUN Mundaring 151.22 223 *e*PKP PKPdf 08 20 40.4 +1.7
comp=Z,58nm,0.8s
MUN *e* 08 20 46.6
MUN *ep*PKP 08 21 08.5
BLDU Ballidu 151.69 226 *e*PKP PKPdf 08 20 40.5 +1.0
comp=Z,7.4nm,0.9s
BLDU *i* 08 20 47.3
BLDU *ep*PKP 08 21 09.1
MBWA Marble Bar 153.27 247 *e*PKPdf PKPdf 08 20 43.2 +1.2
MBWA *e*PKPbc PKPdf 08 20 51.1 +9.2

NEIC ***01*** *08:11:55.4,37.70S×178.86E,h27km,ML4.1(WEL),After WEL.*

WEL 01 08:11:55.0±0.6,37.72S×178.88E,h26km±2km,ML3.9/30, 3C-1D,Error ellipse: s-maj=5.1km s-min=1.5km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.48**	**289**	P		Pb	08 12 05.0	+0.1
MXZ				S		Sb	08 12 12.1	+0.5
MXZ	**Matakaoa Point**	**0.48**	**289**	⇑P*		Pb	08 12 05.0	+0.1
MXZ				S*		Sb	08 12 11.4	-0.2
PUZ	**Puketiti**	**0.61**	**234**	P		Pb	08 12 07.3	+0.4
PUZ				S		Sb	08 12 15.5	+0.3
PUZ	**Puketiti**	**0.61**	**234**	⇓P*		Pb	08 12 07.3	+0.4
PUZ				S*		Sb	08 12 15.5	+0.4
MWZ	**Matawai**	**1.23**	**240**	P		Pn	08 12 15.7	-1.0
MWZ	**Matawai**	**1.23**	**240**	⇑PN		Pn	08 12 15.7	-1.0
WIZ	**White Island**	**1.36**	**278**	P		Pn	08 12 17.7	-0.8
WIZ	**White Island**	**1.36**	**278**	PN		Pn	08 12 17.6	-0.9
URZ	**Urewera**	**1.50**	**248**	P		Pn	08 12 19.8	-0.7
URZ	**Urewera**	**1.50**	**248**	PN		Pn	08 12 19.7	-0.8
KNZ	**Kokohu**	**1.61**	**216**	P		Pn	08 12 20.8	-1.3
KNZ	**Kokohu**	**1.61**	**216**	PN		Pn	08 12 20.8	-1.3
EDRZ	**Edgecumbe**	**1.74**	**256**	P		Pn	08 12 23.6	-0.4
EDRZ	**Edgecumbe**	**1.74**	**256**	PN		Pn	08 12 23.3	-0.7
MARZ	**Manawahe**	**1.77**	**261**	P		Pn	08 12 23.7	-0.7
MARZ	**Manawahe**	**1.77**	**261**	PN		Pn	08 12 23.5	-0.9
TAZ	**Tarawera**	**1.94**	**254**	P		Pn	08 12 26.9	0.0
TAZ	**Tarawera**	**1.94**	**254**	PN		Pn	08 12 26.1	-0.8
LIRZ	**Lichensteins R**	**2.00**	**261**	P		Pn	08 12 27.1	-0.5
LIRZ	**Lichensteins R**	**2.00**	**261**	PN		Pn	08 12 26.9	-0.8
TGRZ	**Tauranga**	**2.08**	**269**	P		Pn	08 12 27.1	-1.7
TGRZ	**Tauranga**	**2.08**	**269**	PN		Pn	08 12 27.0	-1.9
BKZ	**Black Stump Fm**	**2.37**	**232**	P		Pn	08 12 31.6	-1.4
BKZ	**Black Stump Fm**	**2.37**	**232**	PN		Pn	08 12 31.4	-1.6
KUZ	**Kuaotunu**	**2.70**	**290**	P		Pn	08 12 35.8	-1.9
KUZ	**Kuaotunu**	**2.70**	**290**	⇑PN		Pn	08 12 35.7	-2.0
KUZ					SN	Sn	08 13 04.7	-5.2
PWZ	**Pawanui**	**2.79**	**214**	P		Pn	08 12 36.1	-2.9
PWZ	**Pawanui**	**2.79**	**214**	PN		Pn	08 12 35.8	-3.3
KATZ	**Kakaramea**	**2.80**	**242**	P		Pn	08 12 37.8	-1.4
KATZ	**Kakaramea**	**2.80**	**242**	PN		Pn	08 12 37.6	-1.5
KAVZ	**Karewarewa**	**2.89**	**241**	P		Pn	08 12 38.6	-1.8
KAVZ	**Karewarewa**	**2.89**	**241**	PN		Pn	08 12 38.6	-1.9
MGZ	**Maungaku**	**2.92**	**243**	P		Pn	08 12 39.1	-1.8
MGZ	**Maungaku**	**2.92**	**243**	*e*PN		Pn	08 12 38.8	-2.0
WTVZ	**West Tongariro**	**2.94**	**241**	P		Pn	08 12 39.4	-1.7
WTVZ	**West Tongariro**	**2.94**	**241**	PN		Pn	08 12 39.2	-1.9
NGZ	**Ngauruhoe**	**2.96**	**240**	PN		Pn	08 12 39.4	-2.0
TUVZ	**Tukino**	**2.97**	**238**	P		Pn	08 12 39.6	-1.9
TUVZ	**Tukino**	**2.97**	**238**	PN		Pn	08 12 39.6	-1.9
MOVZ	**Moawhango**	**2.98**	**235**	PN		Pn	08 12 39.4	-2.2
CNZ	**Chateau**	**3.00**	**239**	P		Pn	08 12 40.1	-1.9
CNZ	**Chateau**	**3.00**	**239**	PN		Pn	08 12 39.9	-2.1
WPVZ	**Whakapapa**	**3.01**	**239**	PN		Pn	08 12 40.1	-2.0
MKAZ	**Moumakai**	**3.02**	**280**	P		Pn	08 12 40.5	-1.7
MKAZ	**Moumakai**	**3.02**	**280**	PN		Pn	08 12 40.5	-1.7
TWVZ	**Taurewa**	**3.02**	**242**	P		Pn	08 12 40.4	-1.9
TWVZ	**Taurewa**	**3.02**	**242**	PN		Pn	08 12 40.4	-1.9
WNVZ	**Wahianoa**	**3.04**	**237**	P		Pn	08 12 40.3	-2.2
WNVZ	**Wahianoa**	**3.04**	**237**	PN		Pn	08 12 40.1	-2.3
OTAZ	**Otara**	**3.24**	**282**	P		Pn	08 12 44.3	-1.1
OTAZ	**Otara**	**3.24**	**282**	PN		Pn	08 12 44.1	-1.3
MTAZ	**Motutapu**	**3.30**	**285**	P		Pn	08 12 44.9	-1.3
MTAZ	**Motutapu**	**3.30**	**285**	PN		Pn	08 12 44.7	-1.5
KAAZ	**Kauri Point**	**3.45**	**284**	P		Pn	08 12 47.3	-1.0
KAAZ	**Kauri Point**	**3.45**	**284**	PN		Pn	08 12 47.3	-1.1
WTAZ	**Waiatarua**	**3.52**	**282**	P		Pn	08 12 46.1	-3.3
VRZ	**Vera Road**	**3.53**	**245**	*e*P		Pn	08 12 48.0	-1.5
VRZ	**Vera Road**	**3.53**	**245**	PN		Pn	08 12 47.7	-1.8
BFZ	**Birch Farm**	**3.60**	**214**	*e*P		Pn	08 12 46.0	-4.5
BFZ	**Birch Farm**	**3.60**	**214**	PN		Pn	08 12 45.8	-4.6
BFZ					SN	Sn	08 13 25.5	-7.0
WAZ	**Wanganui**	**3.66**	**235**	*e*P		Pn	08 12 49.5	-1.9
WAZ	**Wanganui**	**3.66**	**235**	PN		Pn	08 12 49.3	-2.1
WAZ					SN	Sn	08 13 26.9	-7.4
RAEZ	**Rainy Point**	**3.85**	**245**	P		Pn	08 12 52.6	-1.5
RAEZ	**Rainy Point**	**3.85**	**245**	PN		Pn	08 12 52.6	-1.5
MRZ	**Mangatainoka R**	**3.90**	**220**	*e*P		Pn	08 12 50.1	-4.7
MRZ	**Mangatainoka R**	**3.90**	**220**	PN		Pn	08 12 49.7	-5.0
WCZ	**Waipu Caves**	**4.05**	**295**	P		Pn	08 12 55.4	-1.5
WCZ	**Waipu Caves**	**4.05**	**295**	PN		Pn	08 12 55.2	-1.6
NEZ	**North Egmont**	**4.06**	**246**	P		Pn	08 12 56.2	-0.8
NEZ	**North Egmont**	**4.06**	**246**	PN		Pn	08 12 56.0	-1.0
DFE	**Dawson Falls**	**4.08**	**245**	P		Pn	08 12 56.5	-0.8
DFE	**Dawson Falls**	**4.08**	**245**	*e*PN		Pn	08 12 56.5	-0.8
MTW	**Mount Morrison**	**4.32**	**216**	P		Pn	08 12 55.1	-5.6
MTW	**Mount Morrison**	**4.32**	**216**	*e*PN		Pn	08 12 55.0	-5.7
KIW	**Kapiti Island**	**4.40**	**223**	P		Pn	08 12 56.7	-5.1
KIW	**Kapiti Island**	**4.40**	**223**	*e*PN		Pn	08 12 56.5	-5.4
CAW	**Cannon Point**	**4.49**	**220**	P		Pn	08 12 57.5	-5.7
CAW	**Cannon Point**	**4.49**	**220**	*e*PN		Pn	08 12 57.4	-5.7
PAWZ	**Paruwai Farm**	**4.53**	**215**	*e*PN		Pn	08 12 58.0	-5.6
MSWZ	**Moikau Station**	**4.64**	**216**	*e*PN		Pn	08 12 58.8	-6.4
MRW	**Makara Radio**	**4.77**	**221**	SN		Sn	08 13 52.1	-10
SNZO	**South Karori**	**4.83**	**221**	*e*PN		Pn	08 13 00.3	-7.6
OUZ	**Omahuta**	**4.93**	**299**	*e*P		Pn	08 13 08.3	-1.1
OUZ	**Omahuta**	**4.93**	**299**	PN		Pn	08 13 08.3	-1.1
TUWZ	**Tuamarina**	**5.32**	**224**	*e*PN		Pn	08 13 07.4	-7.4
NNZ	**Nelson**	**5.51**	**229**	*e*PN		Pn	08 13 11.0	-6.5
BSWZ	**Blackbirch Sta**	**5.55**	**222**	P		Pn	08 13 11.8	-6.3
BSWZ	**Blackbirch Sta**	**5.55**	**222**	*e*PN		Pn	08 13 11.6	-6.5
QRZ	**Quartz Range**	**5.82**	**236**	*e*P		Pn	08 13 15.6	-6.3
QRZ	**Quartz Range**	**5.82**	**236**	*e*PN		Pn	08 13 15.5	-6.4
QRZ					SN	Sn	08 14 16.2	-12
THZ	**Tophouse**	**6.13**	**227**	*e*P		Pn	08 13 19.7	-6.5
THZ	**Tophouse**	**6.13**	**227**	*e*PN		Pn	08 13 19.3	-6.9
THZ					SN	Sn	08 14 25.3	-11
KHZ	**Kahutara**	**6.23**	**219**	*e*PN		Pn	08 13 21.5	-6.2
KHZ					SN	Sn	08 14 24.5	-14
DSZ	**Denniston Nort**	**6.78**	**231**	*e*PN		Pn	08 13 28.2	-7.2
DSZ					SN	Sn	08 14 39.0	-13
MQZ	**McQueen's Vall**	**7.62**	**216**	*e*PN		Pn	08 13 39.4	-7.9
MQZ					SN	Sn	08 14 57.3	-16
ODZ	**Otahua Downs**	**9.58**	**218**	*e*PN		P	08 14 05.1	-9.2

CSEM ***01*** *08:23:17.1±0.9,39.07N×28.51W,h5km,ML1.7,Error ellipse: s-maj=16.3km s-min=3.7km az=145.0,After PDA*
PDA ***01*** *08:23:17.1±0.9,39.07N×28.51W,h5km,MD3.2,ML1.7, Error ellipse: s-maj=16.3km s-min=3.7km az=145.0*

SVSA 01 08:23:17.1±0.9,39.07N×28.51W,h5km,MD3.2,ML1.7, Error ellipse: s-maj=16.3km s-min=3.7km az=145.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PGRA	Graciosa	0.41	95	eS	Sg	08 23 29.8	-1.1
	10.0nm,0.2s						
PGRA	Graciosa	0.41	95	eS	Sg	08 23 29.8	-1.1
	10.0nm,0.2s						
PCED	Cedros	0.47	199	eP	Pg	08 23 25.0	-1.5
PCED				eS	Sg	08 23 31.2	-1.5
	23nm,0.2s						
PCED	Cedros	0.47	199	eP	Pg	08 23 25.0	-1.5
PCED				eS	Sg	08 23 31.2	-1.5
	23nm,0.2s						
CALA	Caldeira	0.51	197	eP	Pg	08 23 26.0	-1.3
PICO	Pico	0.57	174	eP	Pg	08 23 27.4	-1.2
PPNO	Prainha do Nor	0.63	162	eS	Sg	08 23 33.9	-4.1

*NEIC **01** 08:41:48.1, 34.87N×23.79E, h35^{km}, MD3.4(ATH), After ATH.*
*ATH **01** 08:41:48.1, 34.87N×23.79E, h34^{km}±4^{km}, MD3.4/7*
*CSEM **01** 08:41:48.1±1.0, 34.87N×23.79E, h35^{km}±8^{km}, MD3.4, Error ellipse: s-maj=31.6km s-min=8.0km az=24.0, After ATH*
*IDC **01** 08:42:18.1±16.0, 38.60N×26.34E, h45^{km}±39^{km}, mb3.8/2, mb1 3.7/4, mb1mx3.3/21, ML3.3/2, Error ellipse: s-maj=301.0km s-min=33.8km az=24.0*
ISC 01 08:41:47.8±2.7, **34.8N**±0.3×**23.8E**±0.2, **h54**^{km}±12^{km}, **n10**, σ**1^{s}07**/10, **mb4.0**/2, **Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GVD	Gavdhos	0.24	77	ePB	P	08 41 55.5	-1.3
VAM	Vamos	0.70	27	ePN	P	08 42 01.6	-0.1
NPS	Neapolis	1.56	72	ePN	P	08 42 14.9	+1.2
KYTH	Kithira	1.62	337	ePN	P	08 42 15.5	+1.0
VLI	Veliai	2.05	340	ePN	P	08 42 20.8	+0.2
APE	Apeiranthos	2.67	31	ePN	P	08 42 27.8	-1.6
KARP	Karpathos	2.85	74	ePN	P	08 42 33.5	+1.5
GERES	GERESS Array B	15.92	335	P	P	08 45 29.8	+0.2
	0.1nm,0.3s,baz=156,slow=9.7,SNR=3.7						
ARCES	ARCESS Array B	34.81	1	P	P	08 48 30.8	-4.3
	2.9nm,0.9s,mb4.2,baz=187,slow=9.8,SNR=3.9						
MKAR	Makanchi Array	44.91	56	P	P	08 49 57.8	-1.0
	1.1nm,0.5s,mb3.9,baz=278,slow=8.6,SNR=7.9						

*NIED **01** 08:46:00, 40.10N×142.70E, h20^{km}, Mw4.1 Best double couple: $M_0$1.73×10^{15} NP1:ϕ_s20°, δ72°, λ93°. NP2:ϕ_s189°, δ18°, λ79°.*
*MOS **01** 08:46:42.0±0.8, 39.92N×142.79E, h26^{km}, mb4.3/6, Error ellipse: s-maj=36.9km s-min=15.6km az=100.9*
*JMA **01** 08:46:45.3±0.1, 40.05N×142.71E, h29^{km}±1^{km}, M4.3*
JMA Felt I J1.
*IDC **01** 08:46:46.5±0.7, 40.03N×142.87E, h40^{km}±6^{km}, mb3.7/12, mb1 3.8/13, mb1mx3.7/25, ML3.6/1, MS3.2/1, Ms1 3.2/1, ms1mx2.7/29, Error ellipse: s-maj=23.7km s-min=13.7km az=89.0*
*NEIC **01** 08:46:46.7±0.5, 40.10N×142.88E, mb4.8/3, MW4.1(NIED), Error ellipse: s-maj=12.0km s-min=7.3km az=112.0*
ISC 01 08:46:45.3±1.0, **40.08N**±0.04×**142.76E**±0.10, **h42**^{km}±8^{km}, **h40**^{km}±4.2^{km}**:pP-P**, **n40**, σ**0^{s}70**/45, **mb4.0**/15, **8D**, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTH	Tanohata	0.70	259	⇓P	P	08 46 58.2	-0.6
JTH				S	S	08 47 07.2	-1.5
MIYJ	Miyakonagasawa	0.88	236	P	P	08 47 00.7	-0.6
MIYJ				eS	S	08 47 11.6	-1.5
JANG	Nango	1.00	288	⇓P	P	08 47 02.6	-0.4
JKZ	Kuzumaki	1.10	266	⇓P	P	08 47 04.4	0.0
JOM	Ohasama	1.28	242	⇓P	P	08 47 07.1	+0.1
JOM				eS	S	08 47 23.0	-0.3
OFUJ	Ofunato	1.30	221	⇓P	P	08 47 07.7	+0.3
OFUJ				eS	S	08 47 24.2	+0.3
JTM	Tenmabayashi	1.47	299	⇓P	P	08 47 10.4	+0.6
JTM				eS	S	08 47 28.7	+0.6
JMK	Ichinoseki	1.64	227	P	P	08 47 12.8	+0.7
ASAJ	Asahikawa	4.04	358	Pn	P	08 47 46.8	+0.5
	2.9nm,0.3s,baz=238,slow=14,SNR=10						
ASAJ				Sn	S	08 48 33.0	0.0
	4.5nm,0.3s,baz=27,slow=32,SNR=4.3						
ASAJ				LR	LR	08 49 58.0	
	comp=Z,346nm,21.6s,baz=350,slow=47						
ASAJ	Asahikawa	4.04	358	P	P	08 47 46.8	+0.5
ASAJ						08 48 33.0	
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				smax			
	comp=N,5.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,346nm,21.6s						
MAJO	Matsushiro	5.03	227	ePn	P	08 48 01.3	+1.1
	comp=Z,44nm,0.7s						
MAT	Matsushiro	5.03	227	P	P	08 48 01.2	+1.0
MAT				eS	S	08 48 59.4	+1.6
MAT	Matsushiro	5.03	227	eP	P	08 48 01.0	+0.8
	comp=Z,31nm,0.7s						
MAT				eS	Sx	08 49 14.0	
BOD	Bodaibo	25.62	323	eP	P	08 52 11.5	-0.6
SONM	Songino Array	27.11	299	P	P	08 52 25.7	-0.3
	comp=Z,1.2nm,0.6s,mb3.6,baz=88,slow=8.0,SNR=9.1						
ZAL	Zalesovo	40.73	310	P	P	08 54 23.9	+0.6
	comp=Z,3.0nm,0.6s,mb4.1,baz=280,slow=8.9,SNR=7.5						
ZAL	Zalesovo	40.73	310	P	P	08 54 23.9	+0.6
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MKAR	Makanchi Array	43.47	300	P	P	08 54 45.9	+0.1
	comp=Z,1.8nm,0.6s,mb4.0,baz=90,slow=8.5,SNR=12						
MKAR	Makanchi Array	43.47	300	P	P	08 54 45.9	+0.1
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KURK	Kurchatov	44.95	306	eP	P	08 54 57.3	-0.3
	comp=Z,36nm,1.4s,mb5.0						
ILAR	Eielson Array	46.38	34	P	P	08 55 08.3	-0.5
	comp=Z,0.2nm,0.6s,mb3.2,baz=256,slow=5.6,SNR=4.9						
ILAR				pP	pP	08 55 18.7	-1.8
	comp=Z,0.8nm,0.8s,baz=278,slow=7.2,SNR=7.1						
ILAR	Eielson Array	46.38	34	P	P	08 55 08.3	-0.5
ILAR				*PP	pP	08 55 18.7	-1.8
ILAR				pmax	pmax		
	comp=N,1.0nm,0.8s						
BVAR	Borovoye Array	49.35	311	P	P	08 55 32.4	+0.3
	comp=N,3.8nm,0.5s,mb4.7,baz=80,slow=9.0,SNR=16						
BRVK	Borovoye	49.40	311	eP	P	08 55 32.7	+0.2
	comp=N,4.5nm,0.5s,mb4.8						
ZRNK	Zerenda	50.18	311	eP	P	08 55 38.3	-0.1
	comp=N,5.4nm,0.8s,mb4.6						
INK	Inuvik	51.21	28	P	P	08 55 45.4	-0.7
	comp=N,1.3nm,0.9s,mb3.9,baz=12,slow=11,SNR=4.3						
INK	Inuvik	51.21	28	P	P	08 55 45.4	-0.7
INK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
WRA	Warramunga Arr	60.22	189	P	P	08 56 49.8	-1.8
	comp=Z,0.7nm,0.8s,mb3.7,baz=5.5,slow=6.9,SNR=14						
WRA				pP	pP	08 57 02.0	-1.7
	comp=Z,2.6nm,0.7s,baz=7.1,slow=7.0,SNR=13						
WRA	Warramunga Arr	60.22	189	P	P	08 56 49.8	-1.8
WRA				*PP	pP	08 57 02.0	-1.7
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA				pmax	pmax		
	comp=N,3.0nm,0.7s						
ASAR	Alice Springs	63.95	189	P	P	08 57 16.2	-0.2
	comp=N,0.3nm,0.7s,mb3.4,baz=0.2,slow=5.5,SNR=3.7						
ASAR				pP	pP	08 57 26.6	-2.1
	comp=N,1.1nm,0.7s,baz=7.6,slow=4.6,SNR=8.5						
ASAR	Alice Springs	63.95	189	P	P	08 57 16.2	-0.2
ASAR				pP	pP	08 57 26.6	-2.1
FINES	FINESS Array B	66.62	332	P	P	08 57 32.8	-0.2
	comp=N,1.8nm,0.6s,mb4.3,baz=45,slow=5.4,SNR=8.3						
FINES				pP	pP	08 57 46.5	+1.2
	comp=N,1.4nm,0.8s,baz=72,slow=6.0,SNR=3.3						
FINES	FINESS Array B	66.62	332	P	P	08 57 32.8	-0.2
FINES				*PP	pP	08 57 46.5	+1.2
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES				pmax	pmax		
	comp=N,1.0nm,0.8s						
NB2	NORSAR Subarra	71.79	337	P	P	08 58 04.7	0.0
	comp=N,1.5nm,0.7s,mb4.0,baz=37,slow=6.2						
NOA	NORSAR Array B	71.79	337	P	P	08 58 05.1	+0.4
	comp=N,1.9nm,0.7s,mb4.2,baz=38,slow=6.0,SNR=8.6						
NOA	NORSAR Array B	71.79	337	P	P	08 58 05.1	+0.4
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRTR	Keskin Array B	77.62	312	P	P	08 58 39.1	+0.5
	comp=Z,0.3nm,0.4s,mb3.6,baz=124,slow=4.5,SNR=3.8						
GERES	GERESS Array B	80.68	329	P	P	08 58 55.6	+0.6
	comp=Z,0.3nm,0.3s,mb3.7,baz=45,slow=1.9,SNR=3.9						
VNA2	Neumayer--Watz	145.53	197	⇓i	PKPdf	09 06 21.7	+4.1
VNA3	Neumayer Olymp	145.77	195	⇓i	PKPdf	09 06 22.2	+4.2

*NEIC **01** 08:49:19.2, 42.82N×1.44W, h5^{km}, ML2.9(STR), ML2.8(LDG), MN2.2(MDD), After STR.*
*STR **01** 08:49:19.2±0.2, 42.82N×1.44W, h5^{km}±1^{km}, Ml2.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **01** 08:49:19.8±0.4, 42.85N×1.45W, h2^{km}, Md2.7/2, Ml2.8/7, Error ellipse: s-maj=6.1km s-min=3.7km az=52.0*
*CSEM **01** 08:49:20.0±0.1, 42.84N×1.42W, h2^{km}, ML2.8/8, Error ellipse: s-maj=1.3km s-min=1.3km az=148.0*
*MDD **01** 08:49:20.4±0.3, 42.85N×1.43W, h4^{km}±4^{km}, mbLg2.3/14, Error ellipse: s-maj=2.8km s-min=2.0km az=35.0, PRXIMO AftershockPLICA*
ISC 01 08:49:18.2±0.4, **42.81N**±0.03×**1.45W**±0.03, **h9**^{km}±3^{km}, **n57**, σ**1^{s}15**/96, **3C-1D**, **Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.35	28	ePg	Pg	08 49 26.1	+0.8
SJPF				eSg	Sg	08 49 29.0	-1.1
	711nm,0.4s						
LARF	Larrau	0.41	55	Pg	Pg	08 49 27.1	+0.6
LARF				Sg	Sg	08 49 32.9	+0.8
LARF	Larrau	0.41	55	P	Pg	08 49 27.5	+1.0
LARF				S	Sg	08 49 33.1	+1.0
EALK	Alkurruntz	0.42	354	⇑Pg	Pg	08 49 27.3	+0.7
	54nm,0.3s,SNR=18						
EALK				Lg		08 49 33.8	
	162nm,0.2s,SNR=7.9						
OSSF	Osses	0.47	17	Pg	Pg	08 49 28.1	+0.4
OSSF				Sg	Sg	08 49 34.2	+0.1
OSSF	Osses	0.47	17	P	Pg	08 49 28.1	+0.4
OSSF				S	Sg	08 49 34.3	+0.2
ORDF	Ordiarp	0.56	43	Pg	Pg	08 49 29.8	+0.4
ORDF				Sg	Sg	08 49 37.2	+0.4
ORDF	Ordiarp	0.56	43	P	Pg	08 49 29.9	+0.6
ORDF				S	Sg	08 49 37.3	+0.5
ATE	Arette	0.62	63	P	Pg	08 49 31.0	+0.4
ATE				S	Sg	08 49 39.5	+0.6
FDAF	Les Forges d'A	0.65	88	Pg	Pg	08 49 31.8	+0.6
FDAF				Sg	Sg	08 49 40.5	+0.6
FDAF	Les Forges d'A	0.65	88	P	Pb	08 49 31.6	+0.4
FDAF				S	Sg	08 49 41.0	+1.0
ETSF	Etsaut	0.66	82	ePg	Pg	08 49 31.6	+0.1
ETSF				eSg	Sg	08 49 40.8	+0.5
	76nm,0.4s						
REYF	Montagne du Re	0.82	71	Pg	Pg	08 49 34.4	-0.2
REYF				Sg	Sg	08 49 44.0	-1.6
REYF	Montagne du Re	0.82	71	P	Pb	08 49 34.7	+0.5
REYF				S	Sb	08 49 45.6	+0.5
VIEF	Viey	1.09	85	Pg	Pg	08 49 39.1	-0.8
VIEF				Sg	Sg	08 49 54.8	+0.4
VIEF	Viey	1.09	85	P	Pb	08 49 39.1	+0.4
VIEF				S	Sb	08 49 54.7	+1.9
LABF	Labassere	1.15	77	Pg	Pg	08 49 40.6	-0.5
LABF				Sg	Sg	08 49 56.4	0.0
LABF	Labassere	1.15	77	P	Pb	08 49 40.4	+0.6
LABF				S	Sb	08 49 56.6	+2.1
ESAC	San Caprasio	1.30	146	⇓Pg	Pg	08 49 44.3	0.0
	78nm,0.3s,SNR=18						
ESAC				Lg		08 50 02.4	
	152nm,0.3s,SNR=9.4						
ESAC	San Caprasio	1.30	146	Pg	Pg	08 49 44.3	+0.1
	78nm,0.3s,SNR=18						
RESF	Ens	1.32	89	S	Sb	08 50 02.8	+3.3
EPF	Esparros	1.33	80	ePn	Pn	08 49 43.8	+0.8
EPF				ePg	Pg	08 49 46.4	+1.6
EPF				eSg	Sg	08 50 03.0	+0.4
	38nm,0.2s						
EGRA	Graus	1.44	114	Pn	Pn	08 49 46.4	+1.8
	SNR=7.9						
EGRA				Pg	Pg	08 49 47.1	+0.1
	SNR=7.9						
EGRA				Lg		08 50 08.1	
	12nm,0.3s,SNR=7.9						
ELAN	Lanestosa	1.52	287	Pg	Pg	08 49 48.1	-0.4
	6.7nm,0.3s,SNR=8.4						
ELAN				Lg		08 50 09.2	
	2.9nm,0.2s,SNR=7.0						
ELAN	Lanestosa	1.52	287	Pg	Pg	08 49 48.1	-0.4
	6.7nm,0.3s,SNR=8.4						
MELF	Melles	1.63	87	Pg	Pg	08 49 49.9	-0.8
SALF	Salau	1.94	90	Pg	Pg	08 49 55.3	-1.7
SALF	Salau	1.94	90	P	Pn	08 49 54.4	+2.6
ETOR	Torete	2.04	193	⇑Pn	Pn	08 49 54.7	+1.7
	12nm,0.3s,SNR=18						
ETOR				Pg	Pg	08 49 59.3	+0.5
	SNR=7.9						
ETOR				Lg		08 50 25.9	
	33nm,0.3s,SNR=4.0						
ETOR	Torete	2.04	193	⇑Pn	Pn	08 49 54.7	+1.7
ETOR				Pg	Pg	08 49 59.3	+0.5
ETOR				Lg		08 50 22.8	
EPOB	Poblet	2.38	127	Pn	Pn	08 49 58.3	+0.3
	SNR=4.0						
EPOB				Pg	Pg	08 50 03.8	-1.9
	3.9nm,0.3s,SNR=7.9						
EPOB				Sn	Sn	08 50 26.6	-0.9
	SNR=7.9						
EPOB				Lg		08 50 35.8	
	3.5nm,0.2s,SNR=7.9						
EPOB	Poblet	2.38	127	Pn	Pn	08 49 58.3	+0.3
EPOB				Pg	Pg	08 50 03.8	-1.9
EPOB				Lg		08 50 32.6	
EPOB	Poblet	2.38	127	Pn	Pn	08 49 58.3	+0.3
	SNR=4.0						
EPOB	Poblet	2.38	127	Pg	Pg	08 50 03.8	-1.8
	3.9nm,0.3s,SNR=7.9						
EMIR	Miracle	2.38	111	Pg	Pg	08 50 03.8	-1.9
	4.5nm,0.3s,SNR=6.1						
EMIR				Lg		08 50 37.1	
	13nm,0.3s,SNR=5.0						
EMIR	Miracle	2.38	111	Pg	Pg	08 50 03.8	-1.9
	4.5nm,0.3s,SNR=6.1						
EMOS	Mosqueruela	2.55	163	Pg	Pg	08 50 08.0	-1.0
	SNR=7.9						
EMOS				Lg		08 50 42.4	
	2.1nm,0.2s,SNR=7.9						
EMOS	Mosqueruela	2.55	163	Pg	Pg	08 50 08.0	-1.0
EMOS				Lg		08 50 42.5	
EMOS	Mosqueruela	2.55	163	Pg	Pg	08 50 08.0	-1.0
	SNR=7.9						
VALF	Valcebollere	2.59	98	Pg	Pg	08 50 08.2	-1.7
LFF	La Frestale	2.66	36	eSg	Sg	08 50 40.4	-6.3
	12nm,0.3s						
MTLF	Montolieu	2.74	77	ePn	Pn	08 50 03.8	+0.6
MTLF				ePg	Pg	08 50 11.4	-1.5
MTLF				eSn	Sn	08 50 36.4	-0.4
	6.2nm,0.3s						
EARI	Arriondas	2.80	281	Pn	Pn	08 50 05.7	+1.7
	5.1nm,0.9s,SNR=5.8						
EARI				Pg	Pg	08 50 12.1	-2.0
	0.3nm,0.1s,SNR=5.8						
EARI				Sn	Sn	08 50 38.8	+0.5
	0.9nm,0.2s,SNR=6.1						
EARI				Lg		08 50 49.3	
	1.3nm,0.2s,SNR=7.9						
EARI	Arriondas	2.80	281	Pn	Pn	08 50 05.7	+1.7
EARI				Pg	Pg	08 50 15.8	+1.7
EARI				Sn	Sn	08 50 38.8	+0.5
EARI				Lg		08 50 47.5	
EARI	Arriondas	2.80	281	Pg	Pg	08 50 15.8	+1.7
	0.3nm,0.1s,SNR=5.8						
EARI	Arriondas	2.80	281	Pn	Pn	08 50 05.7	+1.7
	5.1nm,0.9s,SNR=5.8						
EARI				Sn	Sn	08 50 38.8	+0.5
	0.9nm,0.2s,SNR=6.1						
EJON	La Jonquera	3.22	95	Pg	Pg	08 50 19.5	-3.0
	SNR=7.9						
EJON				Lg		08 51 01.4	
	3.1nm,0.4s,SNR=4.5						
RJF	Les Rejaudoux	3.29	40	ePn	Pn	08 50 10.0	-1.0
RJF				eSn	Sn	08 50 47.4	-3.2
	9.3nm,0.3s						
CAF	Calviac	3.31	49	ePn	Pn	08 50 10.1	-1.2
CAF				eSn	Sn	08 50 47.7	-3.5
	5.4nm,0.2s						
MFF	Saint Martin d	3.91	13	ePn	Pn	08 50 18.2	-1.6
MFF				eSn	Sn	08 51 01.7	-4.6
	1.8nm,0.2s						
ECAL	Calabor	4.01	259	Pn	Pn	08 50 21.2	0.0
	2.7nm,0.3s,SNR=5.4						
ECAL				Sn	Sn	08 51 08.0	-1.0
	3.5nm,0.5s,SNR=5.0						
ECAL				Lg		08 51 28.2	
	6.4nm,0.2s,SNR=7.9						
ECAL	Calabor	4.01	259	Pn	Pn	08 50 21.2	0.0
ECAL				Sn	Sn	08 51 08.0	-1.0
ECAL				Lg		08 51 24.1	
ECAL	Calabor	4.01	259	Pn	Pn	08 50 21.2	0.0
ECAL				Sn	Sn	08 51 08.0	-0.9
LASF	Ste Croix	4.07	70	ePn	Pn	08 50 21.2	-0.8
LASF				eSn	Sn	08 51 07.5	-2.9
	8.6nm,0.5s						
VIVF	Saint-Julien-l	4.88	63	ePn	Pn	08 50 31.7	-1.9
SMRF	Simiane la Rot	5.25	75	ePn	Pn	08 50 38.7	-0.1
LMR	La Mourre	5.85	82	ePn	Pn	08 50 47.9	+0.6

*FUNV **01** 09:19:52.6, 10.65N×62.46W, h76^{km}, MW2.4*
*TRN **01** 09:19:55.0, 10.84N×62.33W, h5^{km}, MD3.1*
ISC 01 09:19:51.6±0.8, **10.59N**±0.06×**62.55W**±0.04, **h81**^{km}±8^{km}, **n11**, σ**0^{s}99**/19, **3C-1D**, **Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUIV	Guiria	0.32	80	⇑iP	P	09 20 04.2	-0.1
GUIV				eS	S	09 20 12.1	-1.7
GUNV	Guanoco	0.58	223	⇑iP	P	09 20 08.1	+1.7
GUNV				eS	S	09 20 18.9	+1.7
CRUV	Carupano	0.68	277	eP	P	09 20 08.1	+0.7
CRUV				eS	S	09 20 19.3	+0.1
ITEV	Isla Los Testi	0.95	323	⇓iP	P	09 20 11.0	+0.6
ITEV				eS	S	09 20 24.0	-0.6
TRN	Trinidad (W)	1.12	87	⇑iP	P	09 20 13.3	+0.8
TRN				i S	S	09 20 26.8	-1.5
TBH	Brigand Hill	1.46	94	eP	P	09 20 21.0	+4.1
GRW	Mount Saint Ca	1.79	29	eP	P	09 20 22.0	+0.7
GRW				eS	S	09 20 43.0	0.0
TPR	Prospect	1.84	71	eP	P	09 20 22.4	+0.5
TPR				eS	S	09 20 44.4	+0.2
PCRV	Puerto La Cruz	2.10	259	eP	P	09 20 25.6	+0.1
PCRV				eS	S	09 20 49.5	-1.0
RIOV	Rio Grande	2.61	164	eP	P	09 20 31.9	-0.7
MERV	Las Mercedes	3.93	251	eS	S	09 21 34.4	-1.7

*NEIC **01** 09:28:14.4±3.9, 23.33S×179.40W, h489^{km}±34^{km}, mb4.0/7, Error ellipse: s-maj=43.0km s-min=12.5km az=221.0*
*IDC **01** 09:28:16.4±7.2, 23.46S×179.60W, h493^{km}±67^{km}, mb3.5/6, mb1 3.6/7, mb1mx3.3/15, Error ellipse: s-maj=61.9km s-min=21.6km az=45.0*
ISC 01 09:28:15.1±2.4, **23.4S**±0.3×**179.6W**±0.3, **h500**^{km}, **n21**, σ**0^{s}50**/19, **mb4.0**/11, **1C**, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	15.10	190	P	P	09 31 26.1	-0.3
	1.8nm,0.3s,baz=267,slow=7.8,SNR=13						
RPZ	Rata Peaks	21.70	199	P	P	09 32 30.3	+0.3
	89nm,1.4s,mb5.1,baz=244,slow=19,SNR=3.5						
CTA	Charters Tower	31.87	269	P	P	09 34 01.2	+1.3
	4.7nm,0.4s,mb4.3						
CTA	Charters Tower	31.87	269	P	P	09 34 01.2	+1.3
CTAO	Charters Tower	31.87	269	eP	P	09 34 00.9	+1.0
	5.0nm,0.5s,mb4.2						
STKA	Stephens Creek	35.28	247	P	P	09 34 28.2	-0.1
	0.7nm,0.4s,mb3.5,baz=91,slow=13,SNR=10.0						
ASAR	Alice Springs	42.51	260	P	P	09 35 27.4	+0.2
	2.4nm,0.7s,mb3.7,baz=99,slow=7.1,SNR=34						
ASPA	Alice Springs	42.51	260	eP	P	09 35 27.3	+0.1
WB2	Warramunga Arr	42.83	265	eP	P	09 35 29.5	-0.3
WRAB	Tennant Creek	42.83	265	eP	P	09 35 29.4	-0.4
	5.8nm,0.3s,mb4.5						
WRA	Warramunga Arr	42.84	265	P	P	09 35 29.7	-0.1
	2.7nm,0.3s,mb4.1,baz=96,slow=8.4,SNR=195						
KAKA	Kakadu	46.70	274	⇑iP	P	09 36 04.5	+4.6
	2.2nm,0.3s,mb4.1						
FITZ	Fitzroy Crossi	51.26	265	eP	P	09 36 34.4	+0.4
	3.4nm,1.2s,mb3.5						
FITZ	Fitzroy Crossi	51.26	265	P	P	09 36 33.8	-0.2
	1.2nm,0.4s,mb3.6,baz=151,slow=5.2,SNR=12						
MBWA	Marble Bar	55.85	260	P	P	09 37 05.6	-1.0
QSPA	South Pole Qui	66.69	180	eP	P	09 38 16.8	+0.1
	2.1nm,0.6s,mb3.9						
MAW	Mawson	78.37	200	P	P	09 39 24.2	+0.5
	1.4nm,0.6s,mb3.6,baz=108,slow=4.4,SNR=8.6						
MAW	Mawson	78.37	200	eP	P	09 39 24.1	+0.4
	2.0nm,0.6s,mb3.7						
SNAA	Sanae	85.17	179	eP	P	09 39 57.9	-0.2
	0.5nm,0.5s,mb3.4						
HFS	Hagfors	142.12	349	PKP	PKPdf	09 46 49.7	+0.7
	1.0nm,0.3s,baz=63,slow=3.3,SNR=9.7						
AKASG	Malin Array Be	144.75	328	PKP	PKPdf	09 46 57.8	+4.0
	0.9nm,0.4s,baz=43,slow=4.2,SNR=5.7						

*IDC **01** 09:30:45.7±0.6, 27.60N×139.73E, h493^{km}±8^{km}, mb3.3/13, mb1 3.4/14, mb1mx3.3/25, Error ellipse: s-maj=18.0km s-min=12.1km az=88.0*
*NEIC **01** 09:30:49.2±4.3, 27.56N×139.61E, h537^{km}±53^{km}, mb3.9/2, Error ellipse: s-maj=21.4km s-min=11.2km az=74.0*
ISC 01 09:30:44.9±0.7, **27.56N**±0.09×**139.6E**±0.2, **h497**^{km}±9^{km}, **n19**, σ**0^{s}71**/20, **mb3.6**/15, **Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.34	101	P	P	09 31 52.8	+0.7
	54nm,0.3s,baz=84,slow=3.7,SNR=72						
CBIJ				S	S	09 32 44.8	-0.5
	101nm,0.3s,baz=287,slow=23,SNR=14						
SONM	Songino Array	32.80	317	P	P	09 36 38.0	+0.7
	0.5nm,0.7s,mb3.1,baz=118,slow=8.3,SNR=4.5						
WRAB	Tennant Creek	47.49	187	eP	P	09 38 35.7	-0.1
	2.3nm,0.4s,mb4.0						
WB2	Warramunga Arr	47.50	187	eP	P	09 38 35.8	-0.1
WRA	Warramunga Arr	47.50	187	P	P	09 38 35.8	-0.2
	1.4nm,0.3s,mb3.8,baz=3.4,slow=7.7,SNR=41						
MKAR	Makanchi Array	48.41	309	P	P	09 38 43.1	+0.7
	1.0nm,0.4s,mb3.5,baz=86,slow=10,SNR=13						
ASAR	Alice Springs	51.23	187	P	P	09 39 03.3	-0.4
	0.6nm,0.3s,mb3.4,baz=2.5,slow=4.7,SNR=24						
ASPA	Alice Springs	51.23	187	eP	P	09 39 04.0	+0.3
BVAR	Borovoye Array	56.14	317	P	P	09 39 38.5	+0.3
	5.3nm,0.4s,mb4.2,baz=90,slow=7.3,SNR=16						
ZRNK	Zerenda	56.98	317	P	P	09 39 42.9	-1.1
	1.7nm,0.4s,mb3.7						
ILAR	Eielson Array	58.41	29	P	P	09 39 52.0	-1.4
	0.4nm,0.4s,mb3.1,baz=255,slow=6.0,SNR=14						
INK	Inuvik	63.56	24	P	P	09 40 26.6	-0.6
	1.5nm,1.0s,mb3.5,baz=80,slow=30,SNR=7.2						
ARCES	ARCESS Array B	72.34	340	P	P	09 41 20.2	-0.2
	12nm,1.3s,mb4.3,baz=36,slow=10,SNR=4.8						
ARCES	ARCESS Array B	72.34	340	P	P	09 41 20.2	-0.2
FINES	FINESS Array B	76.50	333	P	P	09 41 43.8	0.0
	1.0nm,0.3s,mb3.8,baz=76,slow=4.8,SNR=14						
NVAR	Mina Array Bea	82.02	51	P	P	09 42 14.6	+1.4
	0.8nm,0.8s,mb3.3,baz=310,slow=4.5,SNR=6.4						
HFS	Hagfors	82.08	336	P	P	09 42 12.5	-0.6
	1.3nm,0.8s,mb3.5,baz=124,slow=5.2,SNR=3.6						
NOA	NORSAR Array B	82.31	337	P	P	09 42 14.0	-0.2
	6.5nm,1.4s,mb4.0,baz=58,slow=4.0,SNR=2.6						
PDAR	Pinedale Array	85.48	44	P	P	09 42 31.5	+1.3
	0.3nm,0.8s,mb3.0,baz=333,slow=2.0,SNR=3.2						

IDC 01 09:36:51.1±1.5, **0.06S**×**124.48E**, **mb3.8**/4, **mb1 4.0**/5, **mb1mx3.8**/16, **ML4.0**/1, **Error ellipse: s-maj=139.0km s-min=23.1km az=72.0**, **Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	17.97	176	eP	P	09 41 02.2	-1.9
	2.5nm,1.1s						
FITZ	Fitzroy Crossi	17.97	176	P	P	09 41 02.2	-1.9
	0.4nm,0.3s,baz=10,slow=11,SNR=21						
WRA	Warramunga Arr	22.00	155	P	P	09 41 47.9	-0.9
	0.9nm,0.3s,baz=336,slow=8.6,SNR=45						

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
WB2	Warramunga Arr	22.00	154	eP	P	09 41 47.3	-1.5
ASPA	Alice Springs	25.19	159	eP	P	09 42 17.1	-2.9
ASAR	Alice Springs	25.19	159	P	P	09 42 17.5	-2.5
	1.2nm,0.4s,baz=341,slow=13,SNR=32						
STKA	Stephens Creek	35.55	154	P	P	09 43 50.8	-1.4
	0.9nm,0.4s,baz=333,slow=10,SNR=4.2						
SONM	Songino Array	50.23	344	P	P	09 45 49.0	-1.9
	0.5nm,0.4s,baz=143,slow=7.2,SNR=6.6						

BJI ***01*** *09:40:24.8, 3.54N×128.51E, h15km, mB5.6, mb5.5, Ms5.2, Msz5.1*

NEIC ***01*** *09:40:26.7±0.1, 3.62N×128.39E, h10km, mb5.5/53, MS5.1/128, MW5.6, Error ellipse: s-maj=6.3km s-min=3.9km az=77.0, Moment Tensor Solution. s27 Moment tensor: Scale 10^{17}Nm; M_{rr}2.55; $M_{\theta\theta}$0.48; $M_{\phi\phi}$-3.02; $M_{r\theta}$0.11; $M_{\theta\phi}$-0.68; $M_{\phi r}$1.39; Best double couple: $M_0$3.2×10^{17} NP1:ϕ_s195°, δ32°, λ97°. NP2:ϕ_s7°, δ58°, λ86°. Principal axes: T 2.88, Plg77°, Azm265°; N .6, Plg3°, Azm9°; P -3.47, Plg13°, Azm100°;*

HRVD ***01*** *09:40:26.7±0.2, 3.73N×128.37E, h20km, MW5.6/71, Centroid moment Tensor Solution. LP body waves: s67,c130; Mantle waves: s71,c148; Half duration: 1s6 Moment tensor: Scale 10^{17}Nm; M_{rr}2.78±.05; $M_{\theta\theta}$0.32±.04; $M_{\phi\phi}$-3.10±.04; $M_{r\theta}$0.60±.10; $M_{\theta\phi}$0.19±.04; $M_{\phi r}$1.18±.09; Best double couple: $M_0$3.24×10^{17} NP1:ϕ_s163°, δ36°, λ68°. NP2:ϕ_s9°, δ57°, λ105°. Principal axes: T 3.15, Plg73°, Azm319°; N .18, Plg12°, Azm181°; P -3.33, Plg11°, Azm89°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

SYO ***01*** *09:40:28.6, 3.67N×128.27E, h20km, MB5.5, MS5.1*

MOS ***01*** *09:40:29.9±1.0, 3.87N×128.12E, h33km, mb5.9/33, MS5.1/20, Error ellipse: s-maj=12.5km s-min=6.7km az=105.1*

IDC ***01*** *09:40:30.9±1.2, 3.57N×128.41E, h39km±9km, mb5.1/28, mb1 5.1/28, mb1mx5.1/29, MS5.0/15, Ms1 5.0/15, ms1mx4.9/26, Error ellipse: s-maj=17.4km s-min=7.0km az=72.0*

DJA ***01*** *09:40:41.8±0.5, 2.95N×128.19E, h100km, mb5.3/8, Error ellipse: s-maj=24.6km s-min=7.6km az=178.0*

ISC 01 09:40:27.6±0.2**, 3.58N**±0.02×**128.45E**±0.03**, h28**km**, h28**km±1.6km**: pP-P, n542,** σ1s13/374**, mb5.5**/105**, MS5.1**/169**, 38C-20D, North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
MATI	Mati	4.00	327	eP	Pn	09 41 33.0	+4.4
GSPH	General Santos	4.29	306	eP	Pn	09 41 34.0	+1.2
DAV	Davao City (W)	4.50	321	⇑eP	Pn	09 41 38.0	+2.3
KCP	Kidapawan	4.78	316	eP	Pn	09 41 40.8	+1.0
KCP				eS	Sn	09 42 48.1	+13
BUKP	Musuan	5.44	322	eP	Pn	09 41 51.7	+2.6
CTBH	Cotabato--PC H	5.54	311	⇓iP	Pn	09 41 51.5	+1.2
CTBH				i S	Sn	09 43 05.6	+12
BUTP	Butuan	6.05	332	eP	Pn	09 41 59.2	+1.5
PAGZ	Pagadian	6.59	310	eP	Pn	09 42 06.1	+0.8
SCPH	Surigao	6.83	335	⇑eP	Pn	09 42 09.9	+1.2
DCPH	Dipolog City	7.10	315	eP	Pn	09 42 15.5	+3.0
ZMPH	Zamboanga City	7.19	298	⇓eP	Pn	09 42 12.5	-1.2
MSLP	Maasin	7.43	332	eP	Pn	09 42 21.2	+4.2
TBP	Tagbilaran	7.59	323	⇓eP	Pn	09 42 18.4	-0.9
SNPH	Sibulan	7.72	318	⇑eP	Pn	09 42 25.5	+4.4
LLP	Lapu-Lapu	8.04	327	eP	P	09 42 30.0	+4.4
PLP	Palo	8.29	336	⇑eP	P	09 42 30.0	+1.0
BESP	Borongan	8.51	340	eP	P	09 42 34.5	+2.4
GUIM	Jordan	9.10	321	eP	P	09 42 43.6	+3.3
RCP	Roxas	9.74	325	i P	P	09 42 50.0	+0.8
OTRP	Odiongan	10.80	324	eP	P	09 43 02.9	-0.9
PVCP	Virac	10.82	337	eP	P	09 43 03.2	-0.8
PPR	Puerto Princes	11.45	303	⇓iP	P	09 43 10.5	-2.1
BUSP	Coron	11.70	316	eP	P	09 43 17.5	+1.6
ENPP	El Nido	11.72	311	eP	P	09 43 17.4	+1.1
TGY	Tagaytay City	12.82	325	Pn	P	09 43 31.1	+0.2
	baz=222,slow=15						
LUBP	Lubang	12.94	322	eP	P	09 43 33.9	+1.3
MENI	Mendum Tagoi	13.40	117	⇑eP	P	09 43 42.8	+4.2
	237nm,1.3s						
MENI	Mendum Tagoi	13.40	117	⇑iPn	P	09 43 55.4	+17
YOMI	Yo Moklole	13.59	117	⇓eP	P	09 43 45.5	+4.3
	279nm,1.2s						
YOMI	Yo Moklole	13.59	117	⇑iPn	P	09 43 56.1	+15
BALP	Baler	13.85	331	eP	P	09 43 51.8	+7.1
SCZP	Santa Cruz	14.75	326	eP	P	09 43 54.9	-1.6
CAUP	Cauayan	14.79	334	eP	P	09 44 03.8	+6.8
BCPH	Baguio City Da	14.89	329	⇓iP	P	09 44 02.0	+3.7
BOLP	Bolinao	15.24	327	eP	P	09 44 04.2	+1.3
CVP	Callao Caves	15.47	336	⇑iP	P	09 44 12.0	+6.2
	20μm,0.5s						
APYP	Conner	15.86	334	eP	P	09 44 12.2	+1.4
KAKA	Kakadu	16.64	166	eP	P	09 44 25.8	+5.1
	86nm,0.7s						
KAKA				eS	S	09 47 38.6	+15
KEDI	Kedomdong	17.17	226	⇓iP	P	09 44 29.1	+1.6
	184nm,0.5s						
RATI	Rata	17.75	226	⇑eP	P	09 44 34.6	-0.1
	181nm,0.6s						
RATI	Rata	17.75	226	⇓iPn	P	09 44 38.6	+3.9
RATI	Rata	17.75	226	⇑iP	P	09 44 38.6	+3.9
	181nm,0.6s						
INGI	Ingas	18.10	227	eP	P	09 44 40.3	+1.3
KELI	Kelakatan	18.20	230	⇓eP	P	09 44 41.7	+1.4
	474nm,1.4s						
GUMO	Guam	19.02	57	eP	P	09 44 52.9	+2.7
GUMO				pmax	pmax		
	comp=Z,55nm,0.9s						
GUMO	Guam	19.02	57	eP	P	09 44 52.9	+2.6
	comp=Z,55nm,0.9s						
SAPN	Saipan	20.59	55	⇑eP	P	09 45 10.5	+3.2
WAU	Wau	21.21	121	eP	P	09 45 17.4	+3.7
FITZ	Fitzroy Crossi	21.72	187	eP	P	09 45 17.4	-1.3
	comp=Z,16nm,0.6s,mb4.6						
FITZ	Fitzroy Crossi	21.72	187	P	P	09 45 17.5	-1.2
	comp=Z,13nm,0.6s,mb4.5,baz=15,slow=9.4,SNR=30						
FITZ				S	S	09 49 18.1	+5.6
	comp=Z,8.2nm,0.7s,baz=191,slow=20,SNR=4.2						
FITZ				ScP		09 52 53.8	
	comp=Z,6.1nm,0.9s,baz=339,slow=2.1,SNR=4.7						
TATO	Taipei	22.31	343	PFAKE		09 45 40.0	+15
TATO				LR	LR		
	comp=Z,4μm,20.0s,MS4.8						
PMG	Port Moresby	22.67	125	P	P	09 45 30.2	+1.8
	comp=Z,15nm,0.7s,mb4.5,baz=343,slow=11,SNR=1.9						
JOW	Kunigami	23.13	360	P	P	09 45 32.5	-0.2
	comp=Z,170nm,1.0s,mb5.4,baz=187,slow=8.4,SNR=19						
JOW				LR	LR	09 52 36.3	
	comp=Z,4μm,20.8s,MS4.8,baz=292,slow=31						
HKC	Hong Kong	23.20	325	⇑iP	P	09 45 38.0	+4.6
HKC				S	S	09 49 46.0	+6.6
QZH	Quanzhou	23.27	337	⇑iP	P	09 45 32.4	-1.7
QZH				S	S	09 49 42.8	+2.3
QZH				AMB	AMB		
	comp=Z,410nm,1.0s,mb5.8						
QZH				LR	LR		
	comp=N,6μm,21.8s,MS5.4						
QZH				LR	LR		
	comp=E,13μm,25.2s,MS5.4						
QZH				LR	LR		
	comp=Z,9μm,29.7s,MS5.0						
QIZ	Qiongzhong	23.80	312	P	P	09 45 37.3	-2.0
QIZ				S	S	09 49 56.1	+6.2
QIZ				XS		09 50 06.9	
QIZ				AMB	AMB		
	comp=Z,2μm,8.3s						
QIZ				LR	LR		
	comp=E,3μm,20.4s						
QIZ				LR	LR		
	comp=Z,5μm,21.6s,MS4.9						
WRAB	Tennant Creek	24.07	166	P	P	09 45 42.0	+0.1
	comp=Z,966nm,1.5s,mb6.0,SNR=48						
WRAB	Tennant Creek	24.07	166	⇑eP	P	09 45 41.6	-0.3
	comp=Z,502nm,1.5s,mb5.7						
WRAB				LR	LR		
	comp=Z,2μm,19.0s,MS4.6						
WRA	Warramunga Arr	24.08	166	P	P	09 45 41.8	-0.2
	comp=Z,45nm,0.8s,mb5.0,baz=342,slow=10,SNR=97						
WRA				S	S	09 49 54.0	-0.5
	comp=Z,10nm,1.1s,baz=347,slow=16,SNR=2.7						
WB2	Warramunga Arr	24.08	166	eP	P	09 45 42.3	+0.3
WB2				eS	S	09 49 56.4	+1.8
WB2				ePCS		09 53 02.8	
GZH	Guangzhou	24.29	324	P	P	09 45 45.6	+1.6
GZH				LR	LR		
	comp=N,3μm,14.7s,MS5.1						
GZH				LR	LR		
	comp=E,4μm,17.6s,MS5.1						
GZH				LR	LR		
	comp=Z,6μm,18.1s,MS5.1						
PENI	Pendagan	24.96	249	⇓iP	P	09 45 52.1	+1.5
	comp=Z,498nm,1.2s,mb5.6						
PENI	Pendagan	24.96	249	⇓iPn	P	09 45 55.0	+4.4
PENI	Pendagan	24.96	249	i P	P	09 45 52.1	+1.5
	comp=Z,249nm,1.2s,mb5.6						
PENI				i Pn	P	09 45 55.0	+4.4
PASI	Pasiripis	25.00	246	⇓eP	P	09 45 51.2	+0.3
	comp=Z,179nm,0.9s,mb5.3						
MBWA	Marble Bar	26.02	199	eP	P	09 45 59.6	-0.8
	comp=Z,65nm,1.0s,mb5.1						
MBWA				LR	LR		
	comp=Z,2μm,20.0s,MS4.7						
CBIJ	Chichi jima	26.82	28	P	P	09 46 07.3	-0.4
	comp=Z,407nm,1.0s,mb5.9,baz=136,slow=10.0,SNR=7.5						
CBIJ				LR	LR	09 56 29.9	
	comp=Z,3μm,18.6s,MS4.8,baz=228,slow=36						
IPM	Ipoh	27.37	273	⇓eP	P	09 46 14.9	+2.0
ASAR	Alice Springs	27.59	169	P	P	09 46 13.7	-1.1
	comp=Z,11nm,0.7s,mb4.6,baz=346,slow=6.8,SNR=110						
ASAR				PcP	PcP	09 49 32.0	-0.3
	comp=Z,23nm,0.6s,baz=351,slow=2.4,SNR=22						
ASAR				S	S	09 50 55.0	+2.2
	comp=Z,6.1nm,1.0s,baz=352,slow=19,SNR=3.0						
ASAR				ScP		09 53 10.6	
	comp=Z,7.4nm,1.0s,baz=343,slow=2.1,SNR=7.5						
ASPA	Alice Springs	27.59	169	eP	P	09 46 14.4	-0.4
ASPA				i PCP	PcP	09 49 32.4	+0.1
ASPA				eS	S	09 50 52.4	-0.4
ASPA				ePCS		09 53 11.9	
KKTK	Khon Kaen	28.20	298	P	P	09 46 20.0	-0.3
	comp=Z,988nm,0.6s,mb6.6						
SSE	Sheshan	28.22	347	⇑P	P	09 46 19.0	-1.3
SSE				XP	sP	09 46 31.3	-0.9
SSE				S	S	09 51 01.3	-1.5
SSE				XS		09 51 13.8	
SSE				LR	LR		
	comp=N,1μm,24.8s,MS4.7						
SSE				LR	LR		
	comp=E,2μm,24.9s,MS4.7						
SSE				LR	LR		
	comp=Z,2μm,16.1s						
CTA	Charters Tower	29.30	144	eP	P	09 46 31.9	+1.6
	comp=Z,10nm,0.9s,mb4.6						
CTA	Charters Tower	29.30	144	P	P	09 46 31.3	+1.1
	comp=Z,9.4nm,0.9s,mb4.5,baz=329,slow=11,SNR=5.4						
CTA				PcP	PcP	09 49 37.9	+1.3
	comp=Z,15nm,1.0s,baz=240,slow=5.3,SNR=4.2						
CTA				S	S	09 51 17.1	-3.3
	comp=Z,3.3nm,0.9s,baz=244,slow=22,SNR=2.5						
CTA				ScP		09 53 16.8	
	comp=Z,6.0nm,1.0s,baz=268,slow=5.3,SNR=3.6						
CTAO	Charters Tower	29.30	144	eP	P	09 46 30.8	+0.5
	comp=Z,55nm,1.4s,mb5.1						
CTAO				ePcP	PcP	09 49 37.6	+1.0
CTAO				LR	LR		
	comp=Z,6μm,19.0s,MS5.2						
NJ2	Nanjing	29.73	343	eP	P	09 46 33.4	-0.5
NJ2				AP	pP	09 46 43.0	+0.8
NJ2				XP	sP	09 46 47.0	+1.2
NJ2				PP	PP	09 47 30.5	-0.4
NJ2				S	S	09 51 25.0	-1.9
NJ2				XS		09 51 42.0	
NJ2				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.2						
NJ2				LR	LR		
	comp=N,4μm,21.9s,MS5.3						
NJ2				LR	LR		
	comp=E,8μm,26.3s,MS5.3						
NJ2				LR	LR		
	comp=Z,5μm,21.6s,MS5.1						
NNT	Nongplab	29.78	289	P	P	09 46 35.0	+0.5
WHN	Wuhan	29.95	335	⇑P	P	09 46 36.0	+0.1
WHN				AP	pP	09 46 42.0	-2.2
WHN				XP	sP	09 46 45.3	-2.5
WHN				PCP	PcP	09 49 38.5	+0.4
WHN				S	S	09 51 34.0	+3.5
WHN				AMB	AMB		
	comp=Z,96nm,1.0s,mb5.5						
WHN				LR	LR		
	comp=N,460nm,8.5s						
WHN				LR	LR		
	comp=E,3μm,12.0s						
WHN				LR	LR		
	comp=Z,4μm,18.7s						
NST	Nakhon Sawan	30.34	295	⇑P	P	09 46 45.0	+5.5
	comp=Z,150nm,1.3s,mb5.6						
GYA	Guiyang	30.88	320	⇑iP	P	09 46 43.6	-0.5
GYA				PCP	PcP	09 49 40.2	-0.4
GYA				S	S	09 51 47.4	+2.3
GYA				SCP		09 53 21.6	
GYA				SCS	ScS	09 57 16.5	+1.1
GYA				AMB	AMB		
	comp=Z,40nm,1.3s,mb5.1						
GYA				AMB	AMB		
	comp=Z,980nm,10.8s						
GYA				LR	LR		
	comp=N,4μm,18.3s,MS5.2						
GYA				LR	LR		
	comp=E,2μm,22.2s,MS5.2						
GYA				LR	LR		
	comp=Z,5μm,19.2s,MS5.2						
NANT	Nan	31.07	301	⇑P	P	09 46 45.0	-0.8
JHJ	Hachijo jima 2	31.25	19	LR	LR	09 58 56.5	
	comp=Z,4μm,18.3s,MS5.1,baz=135,slow=35						
BDT	Bhumibol Dam	31.92	297	P	P	09 46 54.0	+0.7
ENH	Enshi	32.04	328	⇑iP	P	09 46 53.8	-0.5
	comp=Z,534nm,1.6s,mb6.1						
ENH				ePcP	PcP	09 49 43.4	-0.3
ENH				LR	LR		
	comp=Z,4μm,19.0s,MS5.1						
CM31	Chiang Mai Arr	32.44	299	⇑eP	P	09 46 58.0	+0.1
	comp=Z,48nm,0.9s,mb5.3						
CM31				LR	LR		
	comp=Z,4μm,19.0s,MS5.1						
CMAR	Chiang Mai Arr	32.44	299	P	P	09 46 58.2	+0.4
	comp=Z,70nm,1.2s,mb5.4,baz=121,slow=7.5,SNR=138						
CMAR				PcP	PcP	09 49 46.0	+1.1
	comp=Z,16nm,0.9s,baz=121,slow=1.1,SNR=17						
CMAR				ScP		09 53 26.9	
	comp=Z,9.0nm,1.1s,baz=133,slow=2.0,SNR=11						
CMAR				LR	LR	10 00 44.6	
	comp=Z,3μm,18.2s,MS5.0,baz=110,slow=38						
CHG	Chiang Mai	32.58	300	⇑P	P	09 46 58.9	-0.2
	comp=Z,39nm,1.4s,mb5.1						
KMI	Kunming	32.72	313	eP	P	09 47 00.3	0.0
KMI				AP	pP	09 47 06.1	-2.4
KMI				XP	sP	09 47 09.0	-3.1
KMI				PP	PP	09 48 08.1	-1.8
KMI				PCP	PcP	09 49 46.6	+1.0
KMI				S	S	09 52 14.9	+1.0
KMI				XS		09 52 29.0	
KMI				SCP		09 53 27.9	
KMI				AMB	AMB		
	comp=Z,52nm,1.5s,mb5.2						
KMI				AMB	AMB		
	comp=Z,738nm,5.4s						
KMI				LR	LR		
	comp=N,2μm,16.5s,MS5.1						
KMI				LR	LR		
	comp=E,2μm,19.7s,MS5.1						
KMI				LR	LR		
	comp=Z,4μm,18.8s,MS5.1						
KS15	Wonju Array Si	33.71	359	eP	P	09 47 08.2	-0.5
INCN	Inchon	33.79	357	PFAKE		09 47 20.0	+11
INCN				LR	LR		
	comp=Z,2μm,20.0s,MS4.9						
MAJO	Matsushiro	34.02	14	P	P	09 47 09.9	-1.5
MAJO				pmax	pmax		
	comp=Z,53nm,1.0s,mb5.4						
MAJO	Matsushiro	34.02	14	eP	P	09 47 10.0	-1.5
	comp=Z,53nm,0.9s,mb5.5						
MAJO				LR	LR		
	comp=Z,4μm,20.0s,MS5.1						
MAT	Matsushiro	34.02	14	P	P	09 47 09.6	-1.8
MAT				S	S	09 52 36.0	+2.1
MAT	Matsushiro	34.02	14	eP	P	09 47 10.0	-1.4
MAT				eS	S	09 52 37.0	+3.1
MAT				pmax	pmax		
	comp=Z,34nm,0.9s,mb5.3						
MAT				MLR	MLR		
	comp=Z,4μm,20.0s,MS5.1						
MAT	Matsushiro	34.02	14	eP	P	09 47 10.0	-1.4
	comp=Z,34nm,0.9s,mb5.3						
MAT				eS	S	09 52 37.0	+3.1
MAT				LR	LR		
	comp=Z,4μm,20.0s,MS5.1						
TIA	Tai'an	34.12	344	⇑P	P	09 47 11.3	-1.0
TIA				AMB	AMB		
	comp=Z,36nm,0.8s,mb5.3						
TIA				LR	LR		
	comp=N,1μm,13.0s,MS5.1						
TIA				LR	LR		
	comp=E,2μm,13.0s,MS5.1						
FORT	Forrest	34.16	181	eP	P	09 47 11.6	-1.1
	comp=E,184nm,0.7s,mb6.1						
FORT				ePCP	PcP	09 49 49.5	0.0
FORT				i		09 49 55.4	
XAN	Xi'an	35.35	331	P	P	09 47 21.8	-1.1
XAN				LR	LR		
	comp=N,1μm,16.8s,MS4.9						
XAN				LR	LR		
	comp=E,1μm,17.6s,MS4.9						
XAN				LR	LR		
	comp=Z,4μm,16.6s,MS5.2						
XAN	Xi'an	35.35	331	P	P	09 47 21.6	-1.3
XAN				sPKiKP		09 57 25.5	
XAN				SKiKP		09 59 08.1	
DL2	Dalian	35.71	351	P	P	09 47 24.4	-1.5
DL2				S	S	09 52 55.0	-5.1
DL2				AMB	AMB		
	comp=Z,330nm,10.6s						
DL2				LR	LR		
	comp=E,2μm,18.2s						
DL2				LR	LR		
	comp=Z,1μm,16.5s,MS4.7						
CD2	Chengdu	35.80	322	⇑iP	P	09 47 26.8	+0.1
CD2				AP	pP	09 47 35.8	+0.8
CD2				AMB	AMB		
	comp=Z,130nm,1.0s,mb5.8						
CD2				LR	LR		
	comp=N,5μm,18.6s						
CD2				LR	LR		
	comp=Z,4μm,17.6s,MS5.3						
KLBR	Kellerberrin	36.42	195	eP	P	09 47 30.8	-1.2
	comp=Z,65nm,0.9s,mb5.6						
KLBR				i PCP	PcP	09 49 56.0	-0.1
KLBR				i		09 50 01.6	
MUN	Mundaring	37.22	197	eP	P	09 47 37.8	-0.9
	comp=Z,23nm,0.9s,mb5.0						
STKA	Stephens Creek	37.41	161	eP	P	09 47 39.3	-0.9
	comp=Z,53nm,0.8s,mb5.4						
STKA				ePCP	PcP	09 49 59.4	+0.3
STKA				eS	S	09 53 22.9	-3.3
STKA	Stephens Creek	37.41	161	P	P	09 47 40.0	-0.2
	comp=Z,43nm,0.7s,mb5.4,baz=337,slow=8.0,SNR=92						
STKA				PcP	PcP	09 49 59.5	+0.4
	comp=Z,34nm,0.8s,baz=337,slow=5.5,SNR=6.3						
STKA				ScP		09 53 44.3	
	comp=Z,5.2nm,0.8s,baz=8.9,slow=10,SNR=3.8						
STKA				LR	LR	10 04 54.9	
	comp=Z,3μm,19.2s,MS5.1,baz=333,slow=39						
NWAO	Narrogin (SRO)	37.83	195	LR	LR	10 03 21.0	
	comp=Z,952nm,18.4s,MS4.6,baz=16,slow=36						
NWAO	Narrogin (SRO)	37.83	195	P	P	09 47 43.4	-0.3
NWAO				pmax	pmax		
	comp=Z,79nm,1.4s						
NWAO	Narrogin (SRO)	37.83	195	eP	P	09 47 42.7	-1.0
	comp=Z,79nm,1.4s,mb5.2						
NWAO				LR	LR		
	comp=Z,1μm,19.0s,MS4.8						
BJT	Baijiatuau	37.94	345	P	P	09 47 44.2	-0.4
BJT				pmax	pmax		
	comp=Z,110nm,0.8s						
BJT	Baijiatuau	37.94	345	eP	P	09 47 44.1	-0.5
	comp=Z,115nm,0.8s,mb5.7						
BJT				ePcP	PcP	09 50 00.6	-0.1
BJT				LR	LR		
	comp=Z,2μm,20.0s,MS4.9						
BJI	Beijing	37.96	345	P	P	09 47 44.2	-0.6
BJI				AP	pP	09 47 53.2	+0.1
BJI				PP	PP	09 49 13.0	-1.9
BJI				PCP	PcP	09 50 00.0	-0.8
BJI				S	S	09 53 39.4	+4.8
BJI				AMB	AMB		
	comp=Z,138nm,0.8s,mb5.7						
BJI				LR	LR		
	comp=N,898nm,17.0s,MS5.0						
BJI				LR	LR		
	comp=E,2μm,18.5s,MS5.0						
BJI				LR	LR		
	comp=Z,2μm,22.1s,MS4.8						
SNY	Shenyang	38.33	354	⇑P	P	09 47 47.7	-0.2
SNY				XP	sP	09 47 57.2	-2.6
SNY				S	S	09 53 39.8	-0.4
SNY				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.0						
SNY				AMB	AMB		
	comp=Z,650nm,11.9s						
SNY				LR	LR		
	comp=N,1μm,15.5s,MS5.2						
SNY				LR	LR		
	comp=E,3μm,18.2s,MS5.2						
SNY				LR	LR		
	comp=Z,2μm,22.9s,MS4.8						
KWAJ	Kwajalein Atol	39.26	81	PFAKE		09 48 10.0	+14
KWAJ				LR	LR		
	comp=Z,482nm,19.0s,MS4.3						
IMP	Imphal	39.34	306	e	PcP	09 50 04.0	-1.2
VLA	Vladivostok	39.49	4	eP	P	09 47 59.0	+1.4
VLA				e		09 49 31.0	
VLA				eS	S	09 53 51.0	-6.7
VLA				eSS	SS	09 56 40.0	-5.5
VLA				i SSS	SSS	09 57 20.0	-0.5
VLA				pmax	pmax		
	comp=N,1μm,13.0s						
VLA				pmax	pmax		
	comp=Z,1μm,13.0s						
VLA				pmax	pmax		
	comp=Z,600nm,11.0s						
VLA				pmax	pmax		
	comp=N,800nm,12.0s						
VLA				smax			
	comp=N,1μm,14.0s						
VLA				smax			
	comp=E,1μm,11.0s						
VLA				MLR	MLR		
	comp=N,1μm,17.0s,MS4.9						
VLA				MLR	MLR		
	comp=Z,2μm,17.0s,MS4.9						
VLA				MLR	MLR		
	comp=E,600nm,13.0s,MS4.9						
LZH	Lanzhou	39.52	328	⇑P	P	09 47 58.7	+0.8
LZH				PP	PP	09 49 32.5	0.0
LZH				PCP	PcP	09 50 06.6	+0.9
LZH				PCS		09 53 58.2	
ADE	Adelaide	39.53	167	eP	P	09 47 59.1	+1.1
HHC	Hu-ho-hao-te	40.10	340	⇑iP	P	09 48 03.5	+0.9
HHC				AP	pP	09 48 11.5	+0.5
HHC				XP	sP	09 48 14.5	0.0
HHC				PP	PP	09 49 37.3	-1.3
HHC				S	S	09 54 10.2	+3.3
HHC				XS		09 54 21.1	
HHC				AMB	AMB		
	comp=Z,134nm,1.4s,mb5.5						
HHC				AMB	AMB		
	comp=Z,915nm,5.7s						
HHC				LR	LR		
	comp=N,801nm,17.7s,MS4.7						
HHC				LR	LR		
	comp=E,720nm,18.4s,MS4.7						
HHC				LR	LR		
	comp=Z,886nm,17.5s,MS4.7						
CN2	Changchun	40.15	357	eP	P	09 48 04.9	+2.0
CN2				eXP	sP	09 48 13.9	-0.9
CN2				eS	S	09 54 11.3	+3.9
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,2μm,20.0s,MS5.0						
CN2				LR	LR		
	comp=E,2μm,20.0s,MS5.0						
CN2				LR	LR		
	comp=Z,2μm,21.0s,MS4.9						
WAKE	Wake Island	40.43	64	PFAKE		09 48 20.0	+14
WAKE				LR	LR		

comp=Z,94μm,20.0s
BTO Baotou 40.44 338 *e*P P 09 48 04.3 -1.1
BTO AMB AMB
comp=Z,105nm,2.1s,mb5.2
BTO LR LR
comp=N,2μm,11.3s
BTO LR LR
comp=E,2μm,18.1s
MDJ Mudanjiang 40.88 1 P P 09 48 09.2 +0.2
MDJ AP pP 09 48 18.5 +1.1
MDJ XP sP 09 48 24.2 +3.3
MDJ PP PP 09 49 43.1 -3.2
MDJ S S 09 54 17.5 -0.9
MDJ XS 09 54 32.9
MDJ AMB AMB
comp=Z,47nm,1.0s,mb5.1
MDJ AMB AMB
comp=Z,588nm,5.9s
MDJ LR LR
comp=N,1μm,18.9s,MS4.9
MDJ LR LR
comp=E,835nm,17.3s,MS4.9
MDJ LR LR
comp=Z,2μm,18.9s,MS4.9
MDJ Mudanjiang 40.88 1 *e*P P 09 48 09.3 +0.3
comp=Z,58nm,1.1s,mb5.1
MDJ LR LR
comp=Z,2μm,20.0s,MS4.9
AGT Agartala 41.18 303⇑ *i* P 09 48 22.0 +10
AGT *i* 09 49 33.0
SHL Shillong 41.36 305⇑ *i*P P 09 48 16.0 +3.0
SHL *e* 09 50 12.0
SHL *e*S S 09 54 32.0 +6.4
SHL *e* 09 58 16.0
ASAJ Asahikawa 42.26 15 P P 09 48 21.2 +0.9
comp=Z,22nm,1.0s,mb4.8,baz=241,slow=12,SNR=6.9
ASAJ LR LR 10 04 27.8
comp=Z,2μm,19.9s,MS5.1,baz=65,slow=34
CAL Calcutta 43.18 299 *e*P P 09 48 30.0 +1.9
LSA Lhasa 43.84 310 P P 09 48 34.2 +0.9
LSA AP pP 09 48 42.7 +1.0
LSA PP PP 09 50 18.0 +0.9
LSA S S 09 55 08.5 +6.5
LSA LR LR
comp=N,600nm,18.5s,MS4.9
LSA LR LR
comp=E,1μm,20.0s,MS4.9
LSA LR LR
comp=Z,1μm,18.8s,MS4.8
LSA Lhasa 43.84 310 P P 09 48 32.6 -0.7
LSA Lhasa 43.84 310 PFAKE 09 48 40.0 +6.7
LSA LR LR
comp=Z,1μm,20.0s,MS4.8
TOO Toolangi 43.89 160 *e*P P 09 48 34.7 +1.0
comp=Z,12nm,1.1s,mb4.5
GTA Gaotai 44.13 328 P P 09 48 36.5 +0.9
GTA AP pP 09 48 46.7 +2.7
GTA XP sP 09 48 50.8 +3.4
GTA PP PP 09 50 17.5 -2.3
GTA PCP PcP 09 50 21.9 +1.0
GTA SCP 09 54 10.5
GTA S S 09 55 06.1 0.0
GTA XS 09 55 23.1
GTA SS SS 09 58 15.3 -0.4
GTA AMB AMB
comp=Z,97nm,1.2s,mb5.4
GTA AMB AMB
comp=Z,582nm,11.0s
GTA LR LR
comp=N,1μm,19.8s,MS5.0
GTA LR LR
comp=E,1μm,16.4s,MS5.0
GTA LR LR
comp=Z,2μm,17.1s,MS5.1
YSS Yuzh-Sakhalins 44.95 14*c*e P P 09 48 42.0 -0.2
YSS *e* 09 50 27.0
YSS *e*S S 09 55 19.0 +1.0
YSS *e*SSS SSS 09 59 30.0 -0.6
YSS pmax pmax
comp=Z,100nm,1.5s,mb5.4
YSS pmax pmax
comp=Z,700nm,14.0s
YSS MLR MLR
comp=E,1μm,16.0s
YSS MLR MLR
comp=Z,700nm,16.0s,MS4.7
YSS Yuzh-Sakhalins 44.95 14 *e*P P 09 48 42.3 +0.1
YSS LR LR
comp=Z,2μm,21.0s,MS5.0
HIA Hailar 46.13 352 P P 09 48 51.1 -0.3
HIA pmax pmax
comp=Z,43nm,1.0s
HIA Hailar 46.13 352 *e*P P 09 48 50.9 -0.5
comp=Z,43nm,1.0s,mb5.3
HIA LR LR
comp=Z,3μm,21.0s,MS5.2
GUN Gumba 47.21 305 *e*P P 09 49 00.4 +0.2
comp=Z,251nm,1.0s,mb6.1
PKI Pulchoki 47.46 305 *e*P P 09 49 01.9 -0.4
comp=Z,102nm,1.0s,mb5.7
KKN Kakani 47.65 305 *e*P P 09 49 03.8 +0.1
PALK Pallekele 47.66 277 PFAKE 09 49 20.0 +16
PALK LR LR
comp=Z,247nm,20.0s,MS4.2
DMN Daman 47.73 305 *e*P P 09 49 04.2 -0.1
comp=Z,153nm,0.9s,mb6.0
ULN Ulaanbaatar 47.81 341 PFAKE 09 49 20.0 +15
ULN LR LR
comp=Z,1μm,19.0s,MS5.0
SONM Songino Array 48.01 340 P P 09 49 06.1 -0.2
comp=Z,44nm,1.0s,mb5.4,baz=158,slow=6.7,SNR=143
SONM PcP PcP 09 50 34.0 -0.3
comp=Z,16nm,0.9s,baz=148,slow=4.5,SNR=4.7
SONM ScP 09 54 26.5
comp=Z,2.3nm,0.9s,baz=132,slow=1.2,SNR=3.7
GKN Gorkha 48.26 305 *e*P P 09 49 07.8 -0.6
comp=Z,136nm,1.2s,mb5.9
MDRS Chennai 48.54 284 *e*P P 09 49 10.0 -0.7
MDRS *i* 09 51 04.0
KOLN Koldanda 49.03 304 *e*P P 09 49 14.6 +0.2
comp=Z,197nm,0.8s,mb6.2
TAU Tasmania Unive 49.32 162 P P 09 49 16.6 +0.2
TAU Tasmania Unive 49.32 162 PFAKE 09 49 30.0 +14
TAU LR LR
comp=Z,454nm,21.0s,MS4.5
HYB Hyderabad 50.78 290 *i* P P 09 49 27.5 -0.4
HYB *e*PP PP 09 51 32.0 +7.1
HYB *e*PPP PPP 09 52 26.0 +2.1
HYB *e* 09 52 36.0
HYB *e*S S 09 56 42.0 +1.6
NGP Nagpur 51.06 294 *e*P P 09 49 29.7 -0.3
NGP *e* 09 53 38.4
TRD Trivandrum 51.41 278 *e*P P 09 49 33.0 +0.3
TRD *e* 09 49 34.1
comp=Z,49nm,1.3s
LGTI Lohaghat 52.38 305 *e*P P 09 49 40.0 +0.2
SKR Severo-Kuril's 52.40 22 *e*P P 09 49 46.0 +6.3
SKR *e* 09 50 54.0
SKR *e*PPP PPP 09 52 45.0 +0.9
SKR *e*S S 09 57 06.0 +3.8
SKR *e*PS PS 09 57 22.0 +6.3
SKR pmax pmax
comp=Z,3μm,12.0s
SKR smax
comp=E,2μm,12.0s
SKR smax
comp=N,3μm,10.0s
SKR MLR MLR
comp=N,2μm,16.0s,MS5.5
SKR MLR MLR
comp=E,3μm,16.0s,MS5.5
SKR MLR MLR
comp=Z,2μm,16.0s,MS5.3
PTH Pithoragarh 52.43 305 *e*P P 09 49 38.8 -1.5
PTH *e* 09 51 25.0
IRK Irkutsk 52.50 341 *e*P P 09 49 40.0 -0.5
BHPL Bhopal 53.01 296 *e*P P 09 49 44.1 -0.5
BHPL *e* 09 49 46.2
comp=Z,99nm,0.8s
MOY Mondy 53.13 339 *e*P P 09 49 45.5 +0.4
CLNS Chul'man 53.18 358 *e*P P 09 49 44.7 -0.7
CLNS *e* 09 50 50.0
CLNS *e*S S 09 57 12.9 +0.2
CLNS pmax pmax
comp=Z,56nm,0.7s,mb5.6
CLNS pmax pmax
comp=N,37nm,0.8s
CLNS pmax pmax
comp=E,17nm,0.7s
CLNS pmax pmax
comp=N,16nm,0.8s
CLNS pmax pmax
comp=Z,21nm,0.8s,mb5.1
CLNS pmax pmax
comp=E,16nm,1.0s
CLNS smax
comp=N,600nm,11.2s
CLNS smax
comp=Z,200nm,11.3s
CLNS smax
comp=E,400nm,11.9s
CLNS MLR MLR
comp=Z,700nm,15.0s,MS4.8
CLNS MLR MLR
comp=N,400nm,13.0s,MS4.7
CLNS MLR MLR
comp=E,300nm,14.0s,MS4.7
JOSI Joshimath 53.32 306 *e*P P 09 49 47.0 +0.2
AGRA Agra 53.60 301 *e*P P 09 49 48.2 -0.8
WMQ Urumqi 53.84 324 P P 09 49 50.3 -0.1
WMQ AP pP 09 50 00.5 +1.5
WMQ PP PP 09 51 54.0 +0.9
WMQ S S 09 57 24.3 +2.4
WMQ AMB AMB
comp=Z,321nm,8.0s
WMQ LR LR
comp=Z,2μm,20.0s,MS5.3
ASOR Ausora 54.20 303 *e*P P 09 49 52.2 -1.1
BISR Bishrakh 54.42 303 *e* PP 09 51 59.3 +0.8
DDI Dehra Dun 54.46 305 *e*P P 09 49 54.2 -1.0
DDI *e* 09 57 46.0
SONA Sohna 54.63 302 *e*P P 09 49 55.1 -1.3
SONA *e* 09 49 56.9
comp=Z,80nm,1.3s
NDI New Delhi 54.64 303 *e*P P 09 49 54.5 -2.0
NDI *e* 09 57 32.0
AYAN Aya Nagar 54.66 303 *e*P P 09 49 54.8 -1.9
AYAN *e* 09 49 56.8
comp=Z,49nm,1.1s
BHGR Bahadurgarh 54.88 303 *e*P P 09 49 57.3 -1.0
KAD Karad 54.89 289 *e*P P 09 49 57.5 -1.0
KAD *e* 09 49 58.5
comp=Z,52nm,1.2s
KUDL Kundal 55.10 302 *e*P P 09 49 58.5 -1.4
KUDL *e* 09 50 00.4
comp=Z,72nm,1.3s
PET Petropavlovsk 55.22 22 *e*P P 09 50 00.0 -0.4
PET *e* 09 52 04.7
PET *e*S S 09 57 42.2 +2.0
PET *e*SS SS 10 01 22.6 -1.8
PET pmax pmax
comp=Z,86nm,1.1s,mb5.7
PET pmax pmax
comp=Z,35nm,1.0s,mb5.3
PET pmax pmax
comp=Z,300nm,12.9s
PET pmax pmax
comp=Z,300nm,14.4s
PET smax
comp=N,300nm,14.7s
PET smax
comp=E,600nm,21.2s
PET MLR MLR
comp=Z,1μm,18.0s,MS4.9
PET Petropavlovsk 55.22 22 PFAKE 09 50 10.0 +10
PET LR LR
comp=Z,964nm,19.0s,MS4.9
BOD Bodaibo 55.28 351 *e*P P 09 49 59.1 -1.7
KKR Kurukshetra 55.36 304 *e*P P 09 50 01.7 -0.1
POO Poona 55.38 290⇑ *i*P P 09 50 00.5 -1.6
comp=Z,141nm,1.1s,mb5.9
RTK Rohtak 55.42 303 *e*P P 09 50 00.8 -1.5
RTK *e* 09 50 02.8
comp=Z,80nm,0.4s
KHET Khetri 55.66 302 *e*P P 09 50 03.1 -0.8
KHET *e* 09 50 05.4
comp=Z,162nm,1.0s
AJM Ajmer 56.24 300 *e*P P 09 50 06.9 -1.2
AJM *e* 09 50 08.4
comp=Z,59nm,1.1s
THN Thein Dam 57.03 307 *e*P P 09 50 12.4 -1.4
comp=Z,65nm,0.9s,mb5.7
YAK Yakutsk 58.33 1 P P 09 50 21.6 -0.8
YAK pmax pmax
comp=Z,260nm,1.0s,mb6.2
YAK Yakutsk 58.33 1 *e*P P 09 50 21.2 -1.2
comp=Z,259nm,0.9s,mb6.3
YAK LR LR
comp=Z,1μm,20.0s,MS5.0
MA2 Magadan 58.45 13 P P 09 50 23.7 +0.4
MA2 pmax pmax
comp=Z,22nm,0.8s,mb5.2
MA2 Magadan 58.45 13 *e*P P 09 50 22.9 -0.4
comp=Z,22nm,0.8s,mb5.2
MA2 LR LR
comp=Z,724nm,20.0s,MS4.8
MKAR Makanchi Array 58.67 325 P P 09 50 23.9 -1.1
comp=Z,139nm,0.6s,mb6.1,baz=122,slow=7.9,SNR=415
MKAR ScP
comp=Z,3.8nm,0.8s,baz=153,slow=2.7,SNR=3.6
MKAR LR LR 10 17 14.6
comp=Z,3μm,18.6s,MS5.4,baz=122,slow=38
MKAR Makanchi Array 58.67 325 *e*P P 09 50 24.0 -1.0
MKAR pmax pmax
comp=Z,141nm,0.8s
KSH Kashi 59.37 315⇑ *i*P P 09 50 31.0 +1.0
KSH AP pP 09 50 36.7 -2.0
KSH XP sP 09 50 40.6 -1.2
KSH *e*PCP PcP 09 51 15.7 -1.7
KSH *e*PP PP 09 52 47.1 +4.2
KSH PPP Px 09 53 14.6
KSH *e*SCP 09 55 14.0
KSH *e*PCS 09 55 16.4
KSH S S 09 58 43.9 +8.8
KSH XS 09 58 54.2
KSH *e*PS PS 09 59 02.6 +9.1
KSH *e*SCS ScS 10 00 17.4 +3.1
KSH LR LR
comp=N,1μm,15.7s,MS5.3
KSH LR LR
comp=E,2μm,19.1s,MS5.3
JASL Jaisalmer 59.60 299 *e*P P 09 50 30.9 -0.8
AAA Alma-Ata 60.26 319 *e*P P 09 50 35.2 -0.8
AAA *e*S S 09 58 52.0 +5.5
AAA smax
comp=N,300nm,4.0s
AAA MLR MLR
comp=Z,1μm,16.0s,MS5.0
ULHL Ulahol 60.29 318 P P 09 50 36.8 +0.6
SNR=82
RPZ Rata Peaks 60.66 146 P P 09 50 39.9 +1.2
comp=Z,23nm,0.8s,mb5.4,baz=213,slow=5.1,SNR=7.6
RPZ LR LR 10 16 51.6
comp=Z,3μm,19.7s,MS5.4,baz=310,slow=36
KZA Kyzart 60.89 317 P P 09 50 40.6 +0.3
SNR=146
TKM2 Tokmak 2 61.00 318 P P 09 50 40.6 -0.5
SNR=96
URZ Urewera 61.26 138 P P 09 50 42.5 -0.4
comp=Z,19nm,0.8s,mb5.3,baz=357,slow=4.9,SNR=5.3
KBK Karagaybulak 61.33 317 P P 09 50 43.0 -0.3
SNR=39
SNZO South Karori 61.37 142 *e*P P 09 50 43.9 +0.3
comp=Z,187nm,1.3s,mb6.1
SNZO LR LR
comp=Z,3μm,20.0s,MS5.4
FX1 Attu Island--F 61.37 29 *e*P P 09 50 43.2 -0.2
UCH Uchtor 61.45 317 P P 09 50 45.4 +1.3
SNR=187
ZAL Zalesovo 61.51 332 P P 09 50 43.3 -1.0
comp=Z,25nm,0.8s,mb5.4,baz=277,slow=7.4,SNR=55
ZAL S S 09 58 58.9 -3.5
comp=Z,1.2nm,0.3s,baz=15,slow=24,SNR=3.4
ZAL PKKP PKKP 10 11 31.4 +2.5
comp=Z,3.1nm,0.3s,baz=92,slow=2.9,SNR=6.7
ZAL LR LR 10 20 00.2
comp=Z,946nm,19.2s,MS5.0,baz=246,slow=38
ZAL PKP2bc 10 20 02.8
comp=Z,1.8nm,0.3s,baz=344,slow=12,SNR=3.1
ZAL Zalesovo 61.51 332 P P 09 50 43.3 -1.0
ZAL S S 09 58 58.9 -3.5
ZAL PKKP PKKP 10 11 31.4 +2.5
ZAL LR LR 10 20 00.2
ZAL ⇑*e* 10 20 02.8
CHMS Chumysh 61.60 318 P P 09 50 44.7 -0.4
SNR=30
FRU Bishkek 61.62 318 *e*P P 09 50 45.2 -0.1
FRU S S 09 59 06.0 +2.1
FRU pmax pmax
comp=Z,280nm,2.2s,mb6.0
FRU MLR MLR
comp=E,1μm,19.0s
FRU MLR MLR
comp=Z,1μm,19.0s,MS5.1
AAK Ala-Archa 61.63 317 P P 09 50 44.8 -0.6
SNR=35
AAK Ala-Archa 61.63 317 P P 09 50 43.8 -1.5
AAK pmax pmax
comp=Z,600nm,2.2s,mb6.3
AAK Ala-Archa 61.63 317 *e*P P 09 50 43.5 -1.8
comp=Z,604nm,2.2s,mb6.3
AAK LR LR
comp=Z,588nm,21.0s,MS4.7
SMY Shemya 61.74 30 P P 09 50 46.0 +0.1
SEY Seymchan 61.81 12 *i* P P 09 50 46.0 -0.2
SEY 09 51 23.9
SEY *e* 09 53 04.3
SEY *e*S S 09 59 06.2 +0.3
SEY *e*SS SS 10 03 10.3 +0.7
SEY pmax pmax
comp=Z,70nm,1.1s,mb5.7
SEY smax
comp=N,2μm,17.0s
SEY smax
comp=E,2μm,26.1s
USP Ospenovka 61.88 318 P P 09 50 45.9 -1.1
SNR=155
AML Almayashu 61.98 317 P P 09 50 47.5 -0.2
SNR=211
EKS2 Erkin-Say 62.12 317 P P 09 50 48.3 -0.4
SNR=104
NVS Novosibirsk 62.79 333 *i* P P 09 50 50.7 -2.2
NVS *i* S S 09 59 13.3 -5.1
NVS pmax pmax
comp=Z,146nm,1.4s,mb5.9
NVS pmax pmax
comp=E,93nm,1.3s
NVS pmax pmax
comp=N,111nm,1.4s
NVS smax
comp=E,45nm,1.8s
NVS smax
comp=N,126nm,2.8s
KURK Kurchatov 62.80 327 P P 09 50 51.5 -1.5
KURK pmax pmax
comp=Z,270nm,0.8s,mb6.4
KURK Kurchatov 62.80 327 *e*P P 09 50 51.3 -1.7
comp=Z,266nm,0.8s,mb6.4
KURK LR LR
comp=Z,285nm,19.0s,MS4.5
VOSK Vostochnaya 67.94 326 P P 09 51 24.0 -2.0
VOSK pmax pmax
comp=Z,72nm,0.8s,mb5.8
VOSK Vostochnaya 67.94 326 *i* P P 09 51 24.0 -2.2
TIXI Tiksi 67.98 0 *e*P P 09 51 25.0 -1.0
TIXI pmax pmax
comp=Z,57nm,0.9s,mb5.6
TIXI MLR MLR
comp=Z,1μm,18.0s,MS5.1
BVA0 Borovoye Array 68.39 327 P P 09 51 28.3 -0.6
BVAR Borovoye Array 68.39 327 P P 09 51 28.3 -0.5
comp=Z,108nm,0.7s,mb6.0,baz=127,slow=7.4,SNR=407
BVAR S S 10 00 25.6 -1.2
comp=Z,1.9nm,1.1s,baz=117,slow=13,SNR=3.3
BRVK Borovoye 68.46 327 P P 09 51 27.9 -1.4
BRVK pmax pmax
comp=Z,190nm,0.9s,mb6.1
BRVK Borovoye 68.46 327 *e*P P 09 51 27.7 -1.6
comp=Z,188nm,0.9s,mb6.1
BRVK LR LR
comp=Z,389nm,22.0s,MS4.6
ZRNK Zerenda 69.12 326 P P 09 51 31.9 -1.5
ZRNK pmax pmax
comp=Z,354nm,1.4s,mb6.1
ZRNK Zerenda 69.12 326 *e*P P 09 51 31.7 -1.7
comp=Z,200nm,0.8s,mb6.1
DRV Dumont d'Urvil 70.57 175 P P 09 51 41.0 -1.0
CASY Casey 70.88 188 *e*P P 09 51 43.9 0.0
UNV Unalaska Valle 72.58 34 PFAKE 09 52 10.0 +16
UNV LR LR
comp=Z,4μm,20.0s,MS5.7
RAR Rarotonga 74.40 113 PFAKE 09 52 20.0 +15
RAR LR LR
comp=Z,19μm,22.0s
MIR Mirnyy 74.42 194⇑ *e*P P 09 52 06.5 +1.9
MIR pmax pmax
comp=Z,180nm,1.8s,mb5.7
MIR MLR MLR
comp=Z,700nm,18.0s,MS5.0
SVE Sverdlovsk 74.99 328α *i*P P 09 52 06.0 -2.2
SVE *e* 09 54 55.0
SVE *e*S S 10 01 44.0 +1.3
SVE pmax pmax
comp=Z,260nm,2.0s,mb5.8
SVE pmax pmax
comp=Z,600nm,9.0s
SVE MLR MLR
comp=Z,700nm,17.0s,MS5.0
SVE MLR MLR
comp=N,600nm,16.0s,MS5.1
SVE MLR MLR
comp=E,500nm,16.0s,MS5.1
TNA Tin City 76.07 23 PFAKE 09 52 30.0 +16
TNA LR LR
comp=Z,327nm,21.0s,MS4.6
HASS Wahat al Ahsa' 78.31 295 P P 09 52 27.1 -0.3
MAK Makhachkala 80.95 313 *e*P P 09 52 41.5 +0.3
MAK *e* pP 09 52 52.0 +1.9
MAK *e*S S 10 02 52.0 +5.3
MAK *e*PS PS 10 03 41.0 +3.2
MAK pmax pmax
comp=Z,900nm,6.0s
MAK smax
comp=N,600nm,4.0s
KDAK Kodiak Island 81.10 32 *e*P P 09 52 42.3 +0.6
comp=N,32nm,0.9s,mb5.3
KDAK LR LR
comp=Z,286nm,22.0s,MS4.6
RSO Redoubt South 81.38 29 *e*P P 09 52 43.5 +0.5
SPU Mount Spurr 81.82 29 *e*P P 09 52 46.1 +0.8
IMA Indian Mountai 81.83 24 *e*P P 09 52 47.6 +2.3
comp=Z,28nm,0.8s,mb5.2
MZLS Mizel 82.39 294 P P 09 52 49.2 +0.1
SLKM Skilak Lake 82.63 30 P P 09 52 50.5 +0.9
SLKM Skilak Lake 82.63 30 *e*P P 09 52 50.2 +0.7
FIB Fire Island 82.72 29 P P 09 52 51.1 +1.1
FIB Fire Island 82.72 29 PFAKE 09 53 00.0 +10
FIB LR LR
comp=Z,555nm,21.0s,MS4.9
GNI Garni 82.90 310 P P 09 52 52.6 +1.2
GNI pmax pmax
comp=Z,46nm,1.1s
GNI Garni 82.90 310 *e*P P 09 52 52.3 +0.9
comp=Z,46nm,1.1s,mb5.4
GNI LR LR
comp=Z,397nm,20.0s,MS4.8
TI2 Plekhanov 82.93 311 *e*P P 09 52 54.0 +2.5
KAMS Al Khamasin 83.03 290 P P 09 52 52.3 -0.1
PMR Palmer 83.26 29 P P 09 52 53.2 +0.4
PMR pmax pmax
comp=Z,71nm,1.4s,mb5.5
PMR Palmer 83.26 29 *e*P P 09 52 53.6 +0.8
comp=Z,79nm,1.4s,mb5.5
PMR LR LR
comp=Z,600nm,20.0s,MS5.0
PPT Papeete 83.43 108 *e*PP PP 09 56 07.1 -1.5
PPT *e*SS SS 10 08 40.9 -0.7
PPT *e*R 10 19 06.0
comp=Z,1μm,29.8s
MCK McKinley 83.54 26 P P 09 52 55.3 +1.2
MCK McKinley 83.54 26 *e*P P 09 52 54.7 +0.6
comp=Z,38nm,1.1s,mb5.4
MCK LR LR
comp=Z,244nm,20.0s,MS4.6
SML Sawmill 83.66 28 *e*P P 09 52 55.2 +0.4
PECR Pechory 83.91 326 *e*P P 09 52 55.5 -0.7

PECR *e* 10 03 08.0
PECR *e* 10 03 22.0
SBA Scott Base 83.95 172 P **P** **09 52 58.1 +2.1**
SBA pmax pmax
comp=Z,41nm,1.3s,mb5.4
SBA Scott Base 83.95 172 *e*P **P** **09 52 57.7 +1.6**
comp=Z,41nm,1.3s,mb5.4
SBA LR LR
comp=Z,909nm,19.0s,MS5.2
DJNS Zahran al Janu 84.08 287 P **P** **09 52 59.3 +1.4**
COLA College 84.10 25 *e*P **P** **09 52 57.6 +0.6**
COLA College 84.10 25 *e*P **P** **09 52 57.1 +0.1**
comp=Z,21nm,1.4s,mb5.1
COLA LR LR
comp=Z,510nm,21.0s,MS4.9
TBI Tubuai 84.16 114 *e*PP PP 09 56 15.3 +0.9
TBI *e*SS SS 10 08 52.0 +0.1
TBI *e*R 10 19 37.7
comp=Z,990nm,39.2s
MAW Mawson 84.21 201 *e*P **P** **09 52 58.5 +1.0**
comp=Z,24nm,1.1s,mb5.2
MAW Mawson 84.21 201 P **P** **09 52 58.2 +0.7**
comp=Z,31nm,1.1s,mb5.4,baz=60,slow=6.1,SNR=55
MAW LR LR 10 31 21.7
comp=Z,357nm,18.4s,MS4.8,baz=331,slow=36
MAW Mawson 84.21 201 P **P** **09 52 58.5 +1.0**
MAW pmax pmax
comp=Z,72nm,1.2s
GOF Gofitskoye 84.25 315⇑ *i*P **P** **09 52 56.0 -2.2**
GOF pmax pmax
comp=Z,2µm,2.0s
AFFS 'Afif 84.41 294 P **P** **09 53 00.0 +0.5**
KIV Kislovodsk 84.49 314 P **P** **09 53 00.1 +0.7**
KIV Kislovodsk 84.49 314 *e*P **P** **09 52 59.7 +0.3**
KIV LR LR
comp=Z,178nm,19.0s,MS4.5
ILAR Eielson Array 84.50 25 P **P** **09 52 58.8 -0.2**
comp=Z,8.2nm,0.9s,mb4.9,baz=255,slow=4.6,SNR=46
ILAR PKKPbc 10 11 10.5
comp=Z,1.1nm,0.7s,baz=66,slow=1.4,SNR=9.7
DIV Divide 84.85 29 *e*P **P** **09 53 02.5 +1.7**
comp=Z,198nm,0.9s,mb6.2
DIV LR LR
comp=Z,2µm,20.0s,MS5.5
NAMS An Nimas 85.29 289 P **P** **09 53 05.3 +1.2**
FRSS Farasan al Kab 85.48 286 P **P** **09 53 06.3 +1.3**
ERZM Erzurum 85.49 310 *i*P **P** **09 53 06.3 +1.8**
BEST Besiri 85.60 308 *i*P **P** **09 53 06.6 +1.5**
BLJS Baljurashi 85.84 290 P **P** **09 53 08.1 +1.4**
SOC Sochi 86.64 313 *i*P **P** **09 53 08.0 -2.1**
SOC *e* 09 53 14.7
SOC *e* 09 56 37.2
SOC *e*S S 10 03 39.6 -3.9
SOC *e*SSS SSS 10 12 53.9 -4.5
SOC pmax pmax
comp=Z,37nm,0.7s,mb5.7
SOC pmax pmax
comp=N,26nm,0.9s
SOC pmax pmax
comp=E,7.0nm,0.4s
SOC MLR MLR
comp=Z,577nm,21.0s,MS5.0
SOC MLR MLR
comp=N,704nm,19.0s,MS5.2
SOC MLR MLR
comp=E,417nm,19.0s,MS5.2
VOR Voronezh 86.75 321 *e*P **P** **09 53 09.5 -1.0**
VOR *e**PP pP 09 53 16.0 -3.5
VOR pmax pmax
comp=E,170nm,1.5s
VOR pmax pmax
comp=Z,200nm,1.5s,mb6.1
LTHS Al Lith 86.94 290 P **P** **09 53 13.1 +1.0**
KELT Kelkit 87.10 310 *i*P **P** **09 53 15.0 +2.5**
ELZG Elazig 87.38 308 *i*P **P** **09 53 15.1 +1.3**
MOS Moscow 87.54 326 *e*P **P** **09 53 11.9 -2.3**
MOS *e*PPP PPP 09 58 29.6 -10
MOS *e*S S 10 03 35.4 -16
MOS pmax pmax
comp=Z,150nm,0.9s,mb6.2
MOS MLR MLR
comp=N,1µm,20.0s,MS5.6
MOS MLR MLR
comp=Z,1µm,20.0s,MS5.3
MOS MLR MLR
comp=E,2µm,22.0s,MS5.6
KBRS Khaybar 87.73 296 P **P** **09 53 16.9 +1.1**
DAWY Dawson 87.76 26 *e*P **P** **09 53 16.0 +1.0**
OBN Obninsk 88.17 325 P **P** **09 53 16.2 -1.0**
comp=E,596nm,0.8s,SNR=18
OBN Obninsk 88.17 325*c* *i*P **P** **09 53 16.3 -0.9**
OBN *e* 09 56 43.1
OBN *e*S S 10 03 56.7 -1.0
OBN pmax pmax
comp=Z,184nm,1.5s,mb6.1
OBN MLR MLR
comp=Z,1µm,18.0s,MS5.3
OBN Obninsk 88.17 325 *e*P **P** **09 53 15.8 -1.4**
comp=Z,117nm,1.0s,mb6.1
OBN LR LR
comp=Z,163nm,20.0s,MS4.4
ANN Anapa 88.23 315 *e*P **P** **09 53 15.5 -2.2**
ANN *e* pP 09 53 25.5 -1.2
ANN *e* 10 03 40.9
ANN *e*S S 10 04 00.8 +2.3
ANN pmax pmax
comp=Z,68nm,1.0s,mb5.8
GZT Gaziantep 88.56 307 *i*P **P** **09 53 20.1 +0.6**
APA Apatity 88.65 336⇓ *i*P **P** **09 53 17.3 -1.9**
APA *e* 09 56 54.0
APA *e* 10 03 57.0
APA *e*PS Px 10 05 33.0
APA *e*SS SS 10 09 59.0 +2.3
APA pmax pmax
comp=Z,54nm,1.2s,mb5.8
APA pmax pmax
comp=Z,600nm,10.0s
KAHT Ahir Dag 89.09 307 *i*P **P** **09 53 22.3 +0.3**
ASF Jabal al Asfar 89.43 302 P **P** **09 53 24.8 +1.0**
comp=Z,33nm,0.8s,mb5.7,baz=335,slow=2.7,SNR=54
UMJS Umm Lajj 89.52 295 P **P** **09 53 25.5 +1.1**
COBT Iskenderun 89.66 306 *i*P **P** **09 53 24.9 +0.2**
INK Inuvik 89.67 22 *e*P **P** **09 53 24.0 -0.1**
comp=Z,27nm,1.4s,mb5.4
TBKS Tabuk 90.00 298 P **P** **09 53 27.6 +1.0**
BOYT Boyabat 90.32 311 *i*P **P** **09 53 27.2 -0.5**
SIT Sitka 90.42 33 P **P** **09 53 28.9 +1.2**
SIT Sitka 90.42 33 PFAKE 09 53 40.0 +12
SIT LR LR
comp=Z,758nm,20.0s,MS5.1
CTKT Corum 90.48 311 *i*P **P** **09 53 28.5 0.0**
JMQS Jabal Moqyreh 90.55 299 P **P** **09 53 29.5 +0.5**
SIM Simferopol' 90.57 315 *e*P **P** **09 53 29.8 +1.0**
SIM *e* 09 57 11.0
SIM pmax pmax
comp=Z,35nm,0.7s,mb5.8
HMDT Nahal Hemdat 90.59 302 P **P** **09 53 29.8 +0.6**
KEV Kevo 90.62 340 *e*p **P** **09 53 26.8 -1.6**
comp=Z,9.2nm,0.8s,mb5.2
KEV Kevo 90.62 340 *e*P **P** **09 53 26.8 -1.6**
KEV pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
MMLI Mount Malkishu 90.66 302 P **P** **09 53 30.3 +0.8**
DRGI Dragot 90.75 302 P **P** **09 53 30.3 +0.4**
ZFRI Zfri 91.02 301 P **P** **09 53 31.6 +0.4**
PUL Pulkovo 91.03 330 *e*P **P** **09 53 15.0 -16**
PUL pmax pmax
comp=Z,94nm,0.6s,mb6.3
PUL pmax pmax
comp=Z,82nm,0.5s,mb6.3
ARCES ARCESS Array B 91.18 340 P **P** **09 53 30.2 -0.7**
comp=Z,40nm,0.8s,mb5.8,baz=79,slow=6.2,SNR=60
ARCES LR LR 10 40 09.5
comp=Z,807nm,18.3s,MS5.2,baz=184,slow=39
ARE0 ARCESS Array S 91.18 340 *e*P **P** **09 53 30.0 -1.0**
PRNI Paran 91.19 300 P **P** **09 53 32.6 +0.7**
JMOS Jabal al Moall 91.19 299 P **P** **09 53 32.5 +0.5**
BDAS Al Bad' 91.26 298 P **P** **09 53 32.5 +0.2**
KMBO Kilima Mbogo 91.27 269 P **P** **09 53 32.6 -0.1**
comp=Z,14nm,1.1s,mb5.2,baz=51,slow=5.2,SNR=12
KMBO Kilima Mbogo 91.27 269 *e*P **P** **09 53 32.6 -0.1**
comp=Z,24nm,1.3s,mb5.4
KMBO LR LR
comp=Z,294nm,19.0s,MS4.7
EIL Elat 91.29 300 P **P** **09 53 32.9 +0.5**

MBH Mount Berech 91.31 300 P **P** **09 53 33.2 +0.7**
HAQS Haql 91.36 299 P **P** **09 53 33.4 +0.6**
BRTR Keskin Array B 91.44 310 P **P** **09 53 31.9 -1.0**
comp=Z,5.6nm,0.8s,mb4.9,baz=104,slow=5.1,SNR=25
BRTR PKKPbc 10 10 55.5
comp=Z,0.6nm,0.4s,baz=225,slow=5.2,SNR=3.9
BRTR LR LR 10 43 55.7
comp=Z,388nm,18.7s,MS4.9,baz=115,slow=42
BRTR Keskin Array B 91.44 310 P **P** **09 53 31.9 -1.0**
BRTR PKKPbc 10 10 55.5
BRTR LR LR 10 43 55.7
BALT Daday 91.45 312 *i*P **P** **09 53 32.9 0.0**
KMTI Karmit 91.45 300 P **P** **09 53 33.5 +0.3**
TAYS Tayyib Ism 91.45 299 P **P** **09 53 33.8 +0.5**
ELDT Eldivan 91.52 311 *i*P **P** **09 53 33.1 -0.1**
KZIT Kziot 91.66 301 P **P** **09 53 34.3 +0.2**
CSS Prodhromos 92.17 305⇑ *i*P **P** **09 53 35.4 -0.9**
comp=Z,17nm,0.8s,mb5.4
KAF Kangasniemi 92.53 333 *e*p **P** **09 53 34.7 -2.6**
comp=Z,12nm,0.8s,mb5.4,baz=73,slow=4.3
KAF Kangasniemi 92.53 333 *e*P **P** **09 53 34.7 -2.6**
KAF pmax pmax
comp=Z,12nm,0.8s,mb5.4
VIB Van Inlet 92.54 36 T 11 36 44.3
SNR=9.0
SGKT Sivrigoynuk 92.55 311 *i*P **P** **09 53 37.4 -0.6**
FINES FINESS Array B 92.78 332 P **P** **09 53 37.3 -1.2**
comp=Z,25nm,1.1s,mb5.6,baz=90,slow=7.6,SNR=35
FINES PP PP 09 57 26.5 +3.1
comp=Z,2.8nm,0.9s,baz=108,slow=6.0,SNR=4.3
SYO Syowa Base 92.90 201⇑ P **P** **09 53 39.5 +0.6**
SYO Syowa Base 92.90 201⇓ PcP PcP 09 53 41.1 +1.3
SYO Syowa Base 92.90 201⇓ pP pP 09 53 45.5 -2.4
SYO Syowa Base 92.90 201⇑ sP sP 09 53 48.1 -2.7
DLBC Dease Lake 92.99 31 P **P** **09 53 40.5 +1.0**
comp=Z,2.3nm,0.9s,mb4.6,baz=224,slow=7.2,SNR=4.4
VSU Vasula 93.09 329 *e*P **P** **09 53 39.0 -1.0**
AKASG Malin Array Be 93.09 321 P **P** **09 53 38.9 -1.3**
comp=Z,26nm,1.0s,mb5.6,baz=69,slow=4.0,SNR=69
AKASG PP PP 09 57 23.6 -2.6
comp=Z,5.3nm,1.1s,baz=66,slow=7.0,SNR=5.9
AKASG LR LR 10 37 58.2
comp=Z,628nm,20.4s,MS5.1,baz=55,slow=37
HENT Hendek 93.39 311 *i*P **P** **09 53 41.0 -0.8**
KIS Kishinev 93.97 317 *e*P **P** **09 53 40.0 -4.3**
KIS *e* 09 57 38.0
KIS *e* 10 04 12.0
KIS MLR MLR
comp=Z,700nm,20.0s,MS5.1
KIS MLR MLR
comp=Z,500nm,20.0s
ISP Isparta 94.09 308 *e*P **P** **09 53 43.7 -1.4**
SUW Suwalki 96.03 325 *e*P **P** **09 53 52.7 -0.9**
SUW MLR MLR
comp=Z,2µm,23.2s,MS5.4
SUW Suwalki 96.03 325 *e*P **P** **09 53 52.7 -0.9**
SUW MLR MLR 10 38 12.0
comp=Z,2µm,23.2s
KWP Kalwaria 97.41 321 *e*P **P** **09 54 00.0 0.0**
KWP pmax pmax
comp=Z,20nm,1.0s,mb5.5
KWP Kalwaria 97.41 321 *e*P **P** **09 53 59.6 -0.4**
KWP Kalwaria 97.41 321 *e*P **P** **09 53 59.6 -0.4**
KWP MLR MLR 10 41 30.1
comp=Z,600nm,21.1s
RKT Rikitea 97.44 113 *e*SKSac 10 04 26.1
RKT *e*PS PS 10 06 41.4 -10
RKT *e*SS SS 10 11 42.9 -20
RKT *e*R 10 25 45.3
comp=Z,928nm,33.8s
MBAR Mbarara 97.73 270 PFAKE 09 54 10.0 +7.7
MBAR LR LR
comp=Z,114nm,20.0s,MS4.4
KOLS Kolonicke sedl 97.86 320 *e*P **P** **09 54 00.5 -1.5**
CRVS Cervenica-Dubn 98.39 320 *e*P **P** **09 54 05.9 +1.5**
YKA Yellowknife Ar 98.92 25 P **P** **09 54 06.9 +0.5**
comp=Z,1.7nm,0.8s,mb4.6,baz=315,slow=9.6,SNR=3.4
YKA Yellowknife Ar 98.92 25 P **P** **09 54 06.9 +0.5**
OCWA Octopus Mounta 98.94 41 PFAKE 09 54 20.0 +13
OCWA LR LR
comp=Z,826nm,20.0s,MS5.2
IDI Anoyia 98.97 306 P **P** **09 54 05.9 -1.5**
comp=Z,9.5nm,0.9s,mb5.3,baz=73,slow=6.5,SNR=5.0
NIE Niedzica 98.97 321 *e*P **P** **09 54 07.0 0.0**
OJC Ojcow 99.07 322 *e*P **P** **09 54 06.8 -0.6**
OJC *e* 09 58 11.5
OJC Ojcow 99.07 322 *e*P **P** **09 54 06.8 -0.6**
OJC *e*PP PP 09 58 11.5 -0.5
NB2 NORSAR Subarra 99.68 334 P **P** **09 54 08.3 -1.7**
comp=Z,16nm,0.9s,mb5.5,baz=65,slow=4.5
NB2 NORSAR Subarra 99.68 334 P **P** **09 54 08.3 -1.7**
baz=65,slow=4.4
NOA NORSAR Array B 99.68 334 P **P** **09 54 08.7 -1.3**
comp=Z,12nm,0.9s,mb5.3,baz=65,slow=4.5,SNR=28
NOA PP PP 09 58 16.8 +0.1
comp=Z,2.0nm,0.8s,baz=76,slow=8.1,SNR=3.9
NOA PKKPbc 10 10 32.5
comp=Z,1.7nm,0.7s,baz=70,slow=2.9,SNR=4.3
NOA LR LR 10 42 01.5
comp=Z,914nm,21.9s,MS5.2,baz=65,slow=37
NAO01 NORSAR Array S 99.91 334 *e*P **P** **09 54 09.2 -1.8**
comp=Z,20nm,1.0s,mb5.5
NAO01 LR LR
comp=Z,2µm,20.0s,MS5.5
OKC Ostrava-Krasne 100.20 322 *e*PDIF P 09 54 12.4 -0.2
OKC *e*PP PP 09 58 22.2 +1.1
OKC AMS AMS 10 42 50.0
comp=Z,500nm,17.4s
BSD Bornholm Skovb 100.27 328 *i*P PP 09 58 11.1 -10
comp=Z,34nm,1.1s
comp=Z,800nm,19.0s
SHW Mount Saint He 100.65 42 P P 09 54 21.0 +6.3
LON Longmire 100.77 41 *e*P P 09 54 29.8 +15
LSZ Lusaka 100.83 255 PFAKE 09 54 30.0 +14
LSZ LR LR
comp=Z,577nm,20.0s,MS5.1
KSP Ksiaz 101.00 323 *e*P P 09 54 15.8 -0.3
KSP *e*PP PP 09 58 21.0 -6.4
KSP *e*SP SP 10 07 22.0 -2.0
KSP *e*SS SS 10 12 54.0 +2.1
KSP LR LR
comp=Z,2µm,19.1s,MS5.7
KSP Ksiaz 101.00 323 *e*P P 09 54 15.8 -0.3
KSP MLR MLR 10 43 32.2
comp=Z,2µm,19.1s
KONO Kongsberg 101.02 333 PFAKE 09 54 30.0 +14
KONO LR LR
comp=Z,1µm,22.0s,MS5.3
HUMO Hull Mountain 101.14 45 PFAKE 09 54 30.0 +13
HUMO LR LR
comp=Z,483nm,21.0s,MS5.0
DPC Dobruska-Polom 101.14 323 *e*PDIF P 09 54 17.1 +0.3
DPC *e*PP PP 09 58 27.8 -0.7
DPC AMS AMS 10 43 30.0
comp=Z,1µm,19.9s
UPC Upice 101.28 323 *e*PDIF P 09 54 17.3 -0.1
UPC *e*PP PP 09 58 27.2 -2.2
VRAC Vranov 101.33 322 PP PP 09 58 26.1 -3.7
comp=Z,2.4nm,0.4s,baz=27,slow=8.5,SNR=3.3
YBH Yreka Blue Hor 101.55 46 PFAKE 09 54 30.0 +11
YBH LR LR
comp=Z,558nm,20.0s,MS5.1
WDC Whiskeytown Da 101.97 47 PFAKE 09 54 30.0 +9.2
WDC LR LR
comp=Z,846nm,19.0s,MS5.3
HOPS Hopland 101.99 49 PFAKE 09 54 30.0 +9.1
HOPS LR LR
comp=Z,1µm,20.0s,MS5.3
PVCC Panska Ves 102.14 323 *e*PP PP 09 58 35.9 +0.4
PVCC AMS AMS 10 44 00.0
comp=Z,1µm,18.3s
PRU Pruhonice 102.34 323 *e*PDIF Pdif 09 54 21.9 -0.2
PRU *e*PP PP 09 58 37.3 +0.1
PRU AMS AMS 10 44 10.0
comp=Z,1µm,19.0s
HAWA Hanford 102.37 41 PFAKE 09 54 30.0 +7.6
HAWA LR LR
comp=Z,581nm,19.0s,MS5.1
BRG Berggiesshubel 102.38 324 *e*P Pdif 09 54 22.8 +0.5
BRG pmax pmax
comp=Z,14nm,1.2s
BRG Berggiesshubel 102.38 324 *e*P Pdif 09 54 22.8 +0.5
comp=Z,14nm,1.2s
MUD Monsted U'grnd 102.68 330 *i*P PP 09 58 31.3 -8.4
MUD *i* 10 00 41.0
comp=Z,770nm,18.0s
CLL Collm 102.77 324 *i*PP PP 09 58 39.4 -1.2
CLL *e*PPP PPP 10 00 48.0 -4.6
CLL *e*PPS PPS 10 08 30.0 -8.3
MOD Modoc 103.23 46 PFAKE 09 54 40.0 +14
MOD LR LR
comp=Z,447nm,19.0s,MS5.0
KHC Kasperske Hory 103.24 322 *e*P Pdif 09 54 26.2 +0.1
KHC *e* 09 58 39.6
KHC MLR MLR
comp=Z,600nm,19.5s,MS5.1
KHC Kasperske Hory 103.24 322 *e*PDIF Pdif 09 54 26.2 +0.1
KHC *ex* x 09 57 15.0
KHC *e*PP PP 09 58 39.6 -4.6
KHC AMS AMS 10 44 40.0
comp=Z,600nm,19.5s
LEGS Legarje 103.25 319 *e*Pdiff Pdif 09 54 21.3 -4.9
GERES GERESS Array B 103.27 322 Pdiff Pdif 09 54 26.1 -0.1
comp=Z,2.2nm,1.0s,baz=63,slow=6.0,SNR=9.3
GERES PP PP 09 58 45.1 +0.7
comp=Z,2.7nm,0.9s,baz=53,slow=6.7,SNR=8.2
NEW Newport 103.28 39 PFAKE 09 54 40.0 +14
NEW LR LR
comp=Z,562nm,20.0s,MS5.1
BOSA Boshof 103.29 242 PFAKE 09 54 40.0 +13
BOSA LR LR
comp=Z,401nm,20.0s,MS5.0
PDKS Podkum 103.42 319 *e*Pdiff Pdif 09 54 21.8 -5.2
PDKS *e* 09 54 27.0
PDKS *e* 09 54 34.1
PDKS *e* 09 58 36.0
PDKS *e*PP PP 09 58 43.8 -1.7
PDKS *e* 09 59 16.1
NKC Novy Kostel 103.50 324 AMS AMS 10 44 50.0
comp=Z,900nm,18.5s
VISS Visnje 103.61 319 *e*PP PP 09 58 45.8 -1.0
VISS *e* 09 58 51.7
VISS *e* 09 59 01.6
LJU Ljubljana 103.74 319 *e*PP PP 09 58 47.0 -0.7
SAO San Andreas Ge 103.80 51 PFAKE 09 54 40.0 +11
SAO LR LR
comp=Z,511nm,19.0s,MS5.1
CMB Columbia Colle 104.27 49 PFAKE 09 54 40.0 +9.1
CMB LR LR
comp=Z,505nm,19.0s,MS5.1
SNAA Sanae 105.49 194⇓ *i*P Px 09 59 11.1
SNAA Sanae 105.49 194 *e* Px 09 59 23.4
SNAA Sanae 105.49 194 *e* Px 09 59 30.5
NVAR Mina Array Bea 105.73 49 Pdiff Pdif 09 54 40.0 +2.7
comp=Z,0.4nm,0.6s,baz=262,slow=10,SNR=3.9
NVAR PP PP 09 59 00.6 -2.2
comp=Z,1.6nm,0.9s,baz=272,slow=7.1,SNR=7.3
NVAR PKKPbc 10 10 14.5
comp=Z,0.3nm,0.7s,baz=111,slow=4.9,SNR=4.3
NVAR PKKP PKKP 10 10 24.6 +6.5
comp=Z,0.6nm,0.9s,baz=125,slow=5.0,SNR=4.0
NVAR PKKPab 10 10 32.8
comp=Z,0.6nm,0.7s,baz=108,slow=6.1,SNR=4.1
MSO Missoula 105.82 39 PFAKE 09 59 00.0
MSO LR LR
comp=Z,264nm,20.0s,MS4.8
MNV Mina 105.84 49 PFAKE 09 59 00.0
MNV LR LR
comp=Z,589nm,19.0s,MS5.2
BMN Battle Mountai 105.89 46 PFAKE 09 59 00.0
BMN LR LR
comp=Z,516nm,19.0s,MS5.1
DAVOX Davos 106.44 321 PP PP 09 59 04.9 -3.2
comp=Z,4.4nm,0.8s,baz=326,slow=7.6,SNR=4.3
TPH Tonopah 106.64 49 PFAKE 09 59 00.0
TPH LR LR
comp=Z,439nm,21.0s,MS5.0
HLID Hailey 106.76 43 PFAKE 09 59 00.0
HLID LR LR
comp=Z,670nm,20.0s,MS5.2
SUR Sutherland 106.79 237 PFAKE 09 59 00.0
SUR LR LR
comp=Z,200nm,22.0s,MS4.6
DAC Darwin (Calif) 106.92 51 PFAKE 09 59 10.0
DAC LR LR
comp=Z,491nm,19.0s,MS5.1
VNA2 Neumayer--Watz 107.09 194 *e* Px 09 59 01.0
VNA2 Neumayer--Watz 107.09 194⇓ *i*PKPdf 09 58 49.0
VNA2 *e* 09 59 07.5
ELK Elko 107.21 45 PFAKE 09 59 10.0
ELK LR LR
comp=Z,597nm,19.0s,MS5.2
VNA3 Neumayer Olymp 107.40 193 *e* Px 09 58 58.0
VNA3 Neumayer Olymp 107.40 193⇓ *i*PKPdf 09 58 46.0
VNA3 *e* 09 59 04.5
VNA1 Neumayer--Stat 107.49 194 *e* Px 09 58 59.3
VNA1 Neumayer--Stat 107.49 194⇓ *i*PKPdf 09 58 47.4
VNA1 *e* 09 59 05.9
TPNV Topopah Spring 107.74 50 PFAKE 09 59 10.0
TPNV LR LR
comp=Z,483nm,20.0s,MS5.1
BOZ Bozeman (W) 107.76 40 PFAKE 09 59 10.0
BOZ LR LR
comp=Z,375nm,20.0s,MS5.0
HINF Hinteralfeld 107.86 323 *e*PKIKP 09 58 54.9
FFC Flin Flon 108.56 28 PFAKE 09 59 10.0
FFC LR LR
comp=Z,146nm,22.0s,MS4.5
PFO Pinyon Flat Ob 108.61 53 PFAKE 09 59 10.0
PFO LR LR
comp=Z,143nm,19.0s,MS4.6
PGF Pioggiola 108.72 317 *e*PKIKP 09 58 56.7
comp=Z,63nm,1.4s
CABF La Chapelle 108.87 322 *e*PKIKP 09 58 56.4
LPG La Plagne 108.95 321 *e*PKIKP 09 58 58.2
LPL La Plagne 108.96 321 *e*PKIKP 09 58 58.1
DUG Dugway 109.13 45 PFAKE 09 59 10.0
DUG LR LR
comp=Z,484nm,22.0s,MS5.0
ESK Eskdalemuir 109.17 333 PFAKE 09 59 10.0
ESK LR LR
comp=Z,183nm,20.0s,MS4.6
MBDF Montbardon 109.28 320 *e*PKIKP 09 58 58.1
comp=Z,3.4nm,0.6s
LOHW Long Hollow 109.28 41 *e*PKP 09 58 58.8
AHID Auburn Hatcher 109.30 42 PFAKE 09 59 10.0
AHID LR LR
comp=Z,454nm,19.0s,MS5.1
HWUT Hardware Ranch 109.46 44 PFAKE 09 59 10.0
HWUT LR LR
comp=Z,525nm,21.0s,MS5.1
ORIF Oris-en-Rattie 109.77 320 *e*PKIKP 09 58 59.4
ORIF *e*R
comp=Z,1µm,21.0s
LOR Lormes 109.91 323 *e*PKIKP 09 58 58.6
comp=Z,15nm,1.1s
LOR *e*R
comp=Z,847nm,20.2s
MVU Marysvale 110.20 47 PFAKE 09 59 10.0 +8.1
MVU LR LR
comp=Z,491nm,20.0s,MS5.1
SSF Saint Saulge 110.22 323 *e*PKIKP PKPdf 09 58 59.4 -2.4
comp=Z,10nm,0.7s
BW06 Boulder Array 110.33 42 PFAKE 09 59 10.0 +7.9
BW06 LR LR
comp=Z,404nm,19.0s,MS5.0
PDAR Pinedale Array 110.33 42 PKKPbc 10 09 59.9
comp=Z,1.3nm,0.9s,baz=111,slow=5.1,SNR=8.3
PDAR PKKPab 10 10 10.0
comp=Z,2.1nm,1.1s,baz=90,slow=4.4,SNR=7.7
PDAR PKKP PKKP 10 10 15.7 +6.0
comp=Z,1.9nm,1.1s,baz=104,slow=6.1,SNR=5.0
SMRF Simiane la Rot 110.38 320 *e*PKIKP PKPdf 09 58 59.8 -2.4
LAO LASA Array 110.63 37 PFAKE 09 59 10.0 +7.4
LAO LR LR
comp=Z,386nm,20.0s,MS5.0
BGF Bois d'Agland 110.86 323 *e*PKIKP PKPdf 09 59 00.9 -2.2
comp=Z,11nm,0.6s
TSUM Tsumeb 110.87 251 *e*PKP PKPdf 09 59 00.9 -2.8
TSUM LR LR
comp=Z,396nm,22.0s,MS5.0
DGMT Dagmar 110.90 34 PFAKE 09 59 10.0 +6.9
DGMT LR LR
comp=Z,699nm,22.0s,MS5.2
TCF Toulx Ste Croi 111.38 323 *e*PKIKP PKPdf 09 59 01.8 -2.2
comp=Z,8.8nm,0.5s
LASF Ste Croix 111.44 320 *e*PKIKP PKPdf 09 59 02.4 -1.8
GRR Gorron 112.04 326 *e*PKIKP PKPdf 09 59 03.5 -1.7
CAF Calviac 112.15 322 *e*PKIKP PKPdf 09 59 04.2 -1.4
MTLF Montolieu 112.83 320 *e*PKIKP PKPdf 09 59 04.9 -2.1

RSSD	**Black Hills**	**113.25**	**38**	PKIKP	PKPdf	09 59 05.5	-2.3
RSSD	**Black Hills**	**113.25**	**38**	PFAKE		09 59 20.0	+12
RSSD				LR	LR		
	comp=Z,420nm,20.0s,MS5.0						
TUC	**Tucson**	**113.54**	**53**	PKIKP	PKPdf	09 59 06.3	-2.4
TUC	**Tucson**	**113.54**	**53**	PFAKE		09 59 20.0	+11
TUC				LR	LR		
	comp=Z,454nm,19.0s,MS5.1						
EPF	**Esparros**	**114.18**	**321**	*e*PKIKP	PKPdf	09 59 07.1	-2.5
ULM	**Lac du Bonnet**	**114.26**	**29**	PFAKE		09 59 20.0	+10
ULM				LR	LR		
	comp=Z,575nm,22.0s,MS5.1						
ISCO	**Idaho Springs**	**114.32**	**43**	PKIKP	PKPdf	09 59 07.8	-2.2
ISCO	**Idaho Springs**	**114.32**	**43**	PFAKE		09 59 20.0	+10
ISCO				LR	LR		
	comp=Z,581nm,19.0s,MS5.2						
EPOB	**Poblet**	**114.54**	**319**	P	PKPdf	09 59 06.7	-3.6
ETSF	**Etsaut**	**114.81**	**321**	*e*PKIKP	PKPdf	09 59 08.1	-2.7
	comp=Z,16nm,1.0s						
SDCO	**Great Sand Dun**	**115.33**	**45**	*e*PKPdf	PKPdf	09 59 10.0	-2.0
SDCO				LR	LR		
	comp=Z,608nm,19.0s,MS5.2						
ANMO	**Albuquerque**	**115.85**	**48**	PKIKP	PKPdf	09 59 10.8	-2.3
ANMO	**Albuquerque**	**115.85**	**48**	PFAKE		09 59 20.0	+6.9
ANMO				LR	LR		
	comp=Z,357nm,19.0s,MS5.0						
EMOS	**Mosqueruela**	**116.05**	**319**	P	PKPdf	09 59 11.2	-2.2
ETOR	**Torete**	**116.85**	**320**	P	PKPdf	09 59 15.5	+0.6
EYMN	**Ely**	**117.94**	**29**	PFAKE		09 59 30.0	+13
EYMN				LR	LR		
	comp=Z,15nm,21.0s						
PMSA	**Palmer Station**	**118.27**	**174**	PFAKE		09 59 30.0	+13
PMSA				LR	LR		
	comp=Z,453nm,22.0s,MS5.0						
EVIA	**Vianos**	**118.28**	**318**	P	PKPdf	09 59 14.6	-3.1
ESDC	**Sonseca Array**	**118.70**	**319**	PKiKP		09 59 16.1	
	comp=Z,1.7nm,0.7s,baz=32,slow=3.4,SNR=4.3						
ESDC				PP	PP	10 00 32.0	-4.6
	comp=Z,3.2nm,0.9s,baz=48,slow=6.6,SNR=5.2						
ESLA	**Sonseca Array**	**118.70**	**319**	PFAKE		09 59 30.0	+11
ESLA				LR	LR		
	comp=Z,2μm,20.0s,MS5.8						
CBKS	**Cedar Bluff**	**118.76**	**42**	P	Pdif	09 55 37.2	+2.5
CBKS	**Cedar Bluff**	**118.76**	**42**	PFAKE		09 59 30.0	+11
CBKS				LR	LR		
	comp=Z,429nm,20.0s,MS5.1						
EQES	**Quesada**	**119.10**	**317**	P	PKPdf	09 59 15.7	-3.7
ERUA	**La Rua**	**119.12**	**324**	P	PKPdf	09 59 16.8	-2.4
EADA	**Adamuz**	**119.91**	**318**	P	PKPdf	09 59 18.0	-2.8
ERON	**Agron**	**120.00**	**317**	P	PKPdf	09 59 17.5	-3.5
ELUQ	**Luque**	**120.03**	**318**	P	PKPdf	09 59 18.6	-2.5
PVRL	**Vila Real**	**120.13**	**323**	*e*PKPdf	PKPdf	09 59 19.2	-2.0
ELOJ	**Sierra Loja**	**120.17**	**317**	P	PKPdf	09 59 17.7	-3.7
LTX	**Lajitas**	**120.33**	**53**	PKIKP	PKPdf	09 59 19.5	-2.4
LTX	**Lajitas**	**120.33**	**53**	PFAKE		09 59 30.0	+8.1
LTX				LR	LR		
	comp=Z,620nm,21.0s,MS5.2						
TXAR	**Lajitas Array**	**120.33**	**53**	PKP	PKPdf	09 59 19.6	-2.3
	comp=Z,0.6nm,0.6s,baz=293,slow=1.5,SNR=9.0						
TXAR				PKKPbc		10 09 27.1	
	comp=Z,1.2nm,0.9s,baz=135,slow=5.3,SNR=8.8						
SCHQ	**Schefferville**	**120.43**	**10**	PFAKE		09 59 30.0	+8.5
SCHQ				LR	LR		
	comp=Z,848nm,19.0s,MS5.4						
MTE	**Manteigas**	**120.55**	**322**	*e*PKPdf	PKPdf	09 59 19.6	-2.5
MTE				*e*PP	PP	10 00 46.5	-2.1
MTE	**Manteigas**	**120.55**	**322**	*e*PKPdf	PKPdf	09 59 19.5	-2.6
PVIS	**Viseu**	**120.57**	**322**	*e*PKPdf	PKPdf	09 59 19.9	-2.2
PCBR	**Castelo Branco**	**120.84**	**321**	*e*PKPdf	PKPdf	09 59 20.5	-2.2
EMIJ	**Mijas**	**120.90**	**317**	P	PKPdf	09 59 21.6	-1.3
EBAD	**Badajoz**	**121.17**	**320**	P	PKPdf	09 59 20.2	-3.1
ESPR	**Espera**	**121.47**	**318**	P	PKPdf	09 59 20.9	-3.1
EMIN	**Mina Concepcio**	**121.52**	**319**	P	PKPdf	09 59 21.4	-2.6
WMOK	**Wichita Mounta**	**121.53**	**45**	PKIKP	PKPdf	09 59 21.5	-2.6
WMOK	**Wichita Mounta**	**121.53**	**45**	PFAKE		09 59 30.0	+5.8
WMOK				LR	LR		
	comp=Z,562nm,22.0s,MS5.2						
EVO	**Evora**	**121.94**	**320**	*e*PKIKP	PKPdf	09 59 22.5	-2.3
	comp=Z,52nm,1.0s						
EVO				*e*R			
	comp=Z,722nm,23.0s						
JFWS	**Jewell Farm**	**122.02**	**33**	PKIKP	PKPdf	09 59 22.1	-2.8
JFWS	**Jewell Farm**	**122.02**	**33**	PFAKE		09 59 30.0	+5.1
JFWS				LR	LR		
	comp=Z,431nm,20.0s,MS5.1						
PBEJ	**Beja**	**122.14**	**320**	*e*PKPdf	PKPdf	09 59 23.1	-2.1
PALC	**Alcoutim**	**122.21**	**319**	*e*PKPdf	PKPdf	09 59 23.5	-1.9
JCT	**Junction City**	**122.85**	**50**	*e*PKPdf	PKPdf	09 59 24.3	-2.4
JCT				LR	LR		
	comp=Z,459nm,20.0s,MS5.1						
CCM	**Cathedral Cave**	**124.63**	**38**	*e*PKPdf	PKPdf	09 59 28.0	-2.1
CCM				LR	LR		
	comp=Z,390nm,20.0s,MS5.1						
MIAR	**Mount Ida**	**125.24**	**43**	*e*PKPdf	PKPdf	09 59 29.4	-2.0
MIAR				LR	LR		
	comp=Z,546nm,20.0s,MS5.2						
NATX	**Nacogdoches**	**126.03**	**46**	PFAKE		09 59 40.0	+7.1
NATX				LR	LR		
	comp=Z,600nm,21.0s,MS5.2						
HKT	**Hockley**	**126.11**	**49**	*e*PKPdf	PKPdf	09 59 31.6	-1.5
HKT				LR	LR		
	comp=Z,492nm,21.0s,MS5.2						
WCI	**Wyandotte Cave**	**127.43**	**34**	*e*PKPdf	PKPdf	09 59 32.3	-3.1
WCI				LR	LR		
	comp=Z,536nm,22.0s,MS5.2						
ACSO	**Alum Creek Sta**	**127.74**	**30**	*e*PKPdf	PKPdf	09 59 33.2	-2.9
ACSO				LR	LR		
	comp=Z,501nm,21.0s,MS5.2						
PQI	**Presque Isle**	**127.89**	**14**	PFAKE		09 59 40.0	+3.9
PQI				LR	LR		
	comp=Z,3μm,20.0s,MS6.0						
WVT	**Waverly**	**127.95**	**37**	*e*PKPdf	PKPdf	09 59 32.8	-3.8
WVT				LR	LR		
	comp=Z,486nm,19.0s,MS5.2						
OXF	**Oxford**	**128.01**	**40**	PKIKP	PKPdf	09 59 33.8	-2.9
OXF	**Oxford**	**128.01**	**40**	*e*PKPdf	PKPdf	09 59 34.0	-2.7
OXF				LR	LR		
	comp=Z,472nm,22.0s,MS5.1						
NCB	**Newcomb**	**128.47**	**21**	PFAKE		09 59 50.0	+13
NCB				LR	LR		
	comp=Z,722nm,22.0s,MS5.3						
WVL	**Waterville**	**129.41**	**17**	PFAKE		09 59 50.0	+11
WVL				LR	LR		
	comp=Z,5μm,22.0s,MS6.1						
MCWV	**Mont Chateau**	**129.72**	**28**	PFAKE		09 59 50.0	+10
MCWV				LR	LR		
	comp=Z,589nm,19.0s,MS5.3						
SSPA	**Standing Stone**	**129.83**	**26**	PFAKE		09 59 50.0	+10
SSPA				LR	LR		
	comp=Z,454nm,20.0s,MS5.2						
EMMW	**East Machias**	**129.87**	**15**	PFAKE		09 59 50.0	+10
EMMW				LR	LR		
	comp=Z,4μm,21.0s,MS6.0						
LRAL	**Lakeview Retre**	**130.50**	**40**	*e*PKPdf	PKPdf	09 59 39.0	-2.5
LRAL				LR	LR		
	comp=Z,485nm,21.0s,MS5.2						
HRV	**Harvard--Oak R**	**130.68**	**19**	PFAKE		09 59 50.0	+8.4
HRV				LR	LR		
	comp=Z,516nm,20.0s,MS5.2						
WES	**Weston**	**130.86**	**19**	PKIKP	PKPdf	09 59 38.9	-3.0
WES	**Weston**	**130.86**	**19**	PFAKE		09 59 50.0	+8.1
WES				LR	LR		
	comp=Z,757nm,21.0s,MS5.4						
MYNC	**Murphy**	**130.88**	**36**	PFAKE		09 59 50.0	+7.8
MYNC				LR	LR		
	comp=Z,549nm,19.0s,MS5.3						
BLA	**Blacksburg**	**131.34**	**31**	PKIKP	PKPdf	09 59 40.1	-2.9
BLA	**Blacksburg**	**131.34**	**31**	PFAKE		09 59 50.0	+7.0
BLA				LR	LR		
	comp=Z,619nm,21.0s,MS5.3						
EFI	**East Falkland**	**131.76**	**175**	PFAKE		09 59 50.0	+6.7
EFI				LR	LR		
	comp=Z,108nm,20.0s,MS4.5						
CBN	**Corbin**	**132.04**	**28**	PFAKE		09 59 50.0	+5.7
CBN				LR	LR		
	comp=Z,568nm,21.0s,MS5.2						
KIC	**Kosan Boka**	**132.23**	**282**	*e*PKIKP	PKPdf	09 59 42.1	-3.2
	comp=Z,124nm,0.8s						
DBIC	**Dimbokro**	**132.29**	**282**	PKP	PKPdf	09 59 42.4	-3.0
	comp=Z,20nm,0.8s,baz=55,slow=3.5,SNR=16						
DBIC				SKPbc		10 03 06.1	
	comp=Z,26nm,0.9s,baz=72,slow=2.5,SNR=11						
DBIC	**Dimbokro**	**132.29**	**282**	*e*PKPdf	PKPdf	09 59 41.2	-4.2
DBIC				*e*SKPdf		10 03 16.9	
DBIC				LR	LR		
	comp=Z,264nm,20.0s,MS4.9						
TIC	**Toumodi**	**132.45**	**282**	*e*PKIKP	PKPdf	09 59 41.7	-4.0
	comp=Z,128nm,0.9s						
LIC	**Lamto**	**132.54**	**282**	*e*PKIKP	PKPdf	09 59 43.4	-2.5
	comp=Z,48nm,0.8s						
LIC	**Lamto**	**132.54**	**282**	*e*PKIKP	PKPdf	09 59 42.4	-3.5
	comp=Z,76nm,0.8s						
NHSC	**New Hope**	**134.56**	**34**	PFAKE		10 00 00.0	+11
NHSC				LR	LR		
	comp=Z,556nm,20.0s,MS5.3						
PAYG	**Puerto Ayora**	**141.19**	**87**	PFAKE		10 00 10.0	+8.2
PAYG				LR	LR		
	comp=Z,371nm,22.0s,MS5.1						
JTS	**JuntasAbangare**	**144.00**	**67**	*e*PKPdf	PKPdf	10 00 02.6	-3.9
JTS				LR	LR		
	comp=Z,99nm,21.0s,MS4.6						
TRQA	**Tornquist**	**144.38**	**166**	*e*PKPdf	PKPdf	10 00 02.2	-4.3
TRQA				LR	LR		
	comp=Z,705nm,19.0s,MS5.5						
CLCH	**Cerro Calan**	**145.44**	**151**	*e*P	PKPbc	10 00 05.0	+0.8
PEL	**Peldehue**	**145.57**	**151**	*e*P	PKPbc	10 00 04.0	-0.5
FCH	**Farellones**	**145.61**	**152**	*e*P	PKPbc	10 00 07.2	+2.6
CMCH	**Combarbala**	**146.99**	**148**	*e*P	PKPbc	10 00 10.0	+2.0
OTAV	**Otavalo**	**152.85**	**83**	*e*PKPdf	PKPdf	10 00 16.9	-3.8
OTAV				*e*PKPab	PKPab	10 00 35.7	-0.8
OTAV				LR	LR		
	comp=Z,262nm,22.0s,MS5.0						
NNA	**Nana**	**153.61**	**110**	*e*PKPdf	PKPdf	10 00 19.3	-2.5
NNA				LR	LR		
	comp=Z,108nm,20.0s,MS4.7						
SJG	**San Juan**	**154.09**	**33**	PKIKP	PKPdf	10 00 19.9	-2.4
SJG	**San Juan**	**154.09**	**33**	PFAKE		10 00 30.0	+7.7
SJG				LR	LR		
	comp=Z,304nm,20.0s,MS5.1						
LVC	**Limon Verde**	**154.68**	**140**	PFAKE		10 00 30.0	+7.0
LVC				LR	LR		
	comp=Z,373nm,20.0s,MS5.2						
ROSC	**El Rosal**	**155.75**	**70**	PKP	PKPdf	10 00 23.0	-1.6
	comp=Z,4.1nm,0.4s,baz=39,slow=22,SNR=3.7						
ROSC				PKPab	PKPab	10 00 51.8	+3.0
	comp=Z,24nm,1.0s,baz=181,slow=23,SNR=4.8						
CPUP	**Villa Florida**	**156.71**	**167**	PKP	PKPdf	10 00 24.1	-1.5
	comp=Z,9.5nm,1.1s,baz=105,slow=1.4,SNR=10						
CPUP				PKPab	PKPab	10 00 52.1	-0.4
	comp=Z,20nm,1.0s,baz=234,slow=3.0,SNR=9.2						
CPUP	**Villa Florida**	**156.71**	**167**	*e*PKPdf	PKPdf	10 00 23.0	-2.6
CPUP				*e*PKPab	PKPab	10 00 52.8	+0.2
CPUP				LR	LR		
	comp=Z,622nm,22.0s,MS5.4						
SDV	**Santo Domingo**	**157.30**	**57**	*e*PKPdf	PKPdf	10 00 24.2	-2.5
SDV				LR	LR		
	comp=Z,415nm,20.0s,MS5.3						
LPAZ	**La Paz**	**159.38**	**129**	PKPdf	PKPdf	10 00 28.5	-0.7
LPAZ				PKPab	PKPab	10 01 07.3	+3.0
LPAZ	**La Paz**	**159.38**	**129**	*e*PKPdf	PKPdf	10 00 28.1	-1.0
LPAZ				*e*PKPab	PKPab	10 01 07.1	+2.8
LPAZ				*e*PP	PP	10 04 46.2	-0.2
LPAZ				LR	LR		
	comp=Z,273nm,21.0s,MS5.1						
RCBR	**Riachuelo**	**164.25**	**261**	PFAKE		10 00 40.0	+5.8
RCBR				LR	LR		
	comp=Z,437nm,22.0s						
SAML	**Samuel**	**167.27**	**115**	*e*PKPdf	PKPdf	10 00 34.6	-2.1
SAML				*e*PKPab	PKPab	10 01 39.9	+1.3
SAML				LR	LR		
	comp=Z,512nm,19.0s						
BDFB	**Brasilia**	**167.52**	**196**	PKP	PKPdf	10 00 34.2	-2.6
	comp=Z,13nm,1.0s,baz=322,slow=0.2,SNR=9.5						
BDFB				PP	PP	10 05 26.5	-2.6
	comp=Z,7.7nm,1.1s,baz=120,slow=2.2,SNR=3.6						

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*NIED **01** 09:47:00,28.10N×128.00E,h11^{km},Mw4.2 Best double couple: $M_0 2.19\times10^{15}$ NP1:ϕ_s287°,δ87°,λ28°. NP2:ϕ_s196°, δ63°,λ176°.*

JMA 01 09:47:36.2±0.3**,28.11N**×**128.03E,h7**^{km}±3^{km}**,M3.9, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.88**	**111**	P	Pb	09 47 53.0	-0.3
JTK				S	Sb	09 48 04.4	-0.6
JIH	**Iheya**	**1.07**	**183**	P	Pb	09 47 56.3	-0.4
JIH				S	Sb	09 48 10.6	-0.1
JOW	**Kunigami**	**1.29**	**170**	P	Pb	09 48 00.0	-0.4
JOW				S	Sb	09 48 17.4	+0.3
JAM	**Amami Oshima**	**1.42**	**77**	P	Pn	09 48 02.1	-0.4
JAM				S	Sb	09 48 20.5	-0.3
JAGN	**Aguni-jima**	**1.67**	**205**	P	Pn	09 48 06.0	-0.1
JAGN				S	Sn	09 48 28.0	+0.1
JZK	**Kikaishima**	**1.73**	**83**	P	Pn	09 48 09.8	+2.9
JZK				S	Sn	09 48 31.9	+2.5
NAH1	**Naha**	**1.92**	**189**	P	Pn	09 48 10.6	+0.9
NAH1				S	Sn	09 48 35.5	+1.1
JJT2	**Tamagusuku 2**	**1.98**	**187**	P	Pn	09 48 11.2	+0.7
JJT2				S	Sn	09 48 36.9	+1.1

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*BJI **01** 09:50:22.6,3.20N×128.95E,h10^{km},mB5.3,mb4.8,Ms4.7, Msz4.7*

*IDC **01** 09:50:27.1±0.6,3.67N×128.53E,mb4.6/18,mb1 4.7/18, mb1mx4.7/21,Error ellipse: s-maj=40.1km s-min=12.9km az=71.0*

*NEIC **01** 09:50:28.5±0.3,3.64N×128.60E,h10^{km},mb5.0/20,Error ellipse: s-maj=15.6km s-min=5.7km az=73.0*

*HRVD **01** 09:50:28.5±0.8,3.56N×128.47E,h20^{km}±3^{km},MW4.9/32, Centroid moment Tensor Solution. LP body waves: s3,c3; Mantle waves: s32,c40; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.71±.56; $M_{\theta\theta}$-0.48±.26; $M_{\phi\phi}$-2.23±.36; $M_{r\theta}$0.36±.38; $M_{\theta\phi}$0.94±.13; $M_{\phi r}$1.56±.51; Best double couple: $M_0 3.11\times10^{16}$ NP1:ϕ_s142°,δ34°,λ64°. NP2:ϕ_s353°, δ60°,λ106°. Principal axes: T 3.26, Plg70°, Azm299°; N -.32, Plg14°, Azm165°; P -2.95, Plg13°, Azm71°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 01 09:50:29.2±0.4**,3.64N**±0.06×**128.7E**±0.1**,h25**^{km}**, h25**^{km}±4.1^{km}**:pP-P,n70,**σ**0.94**/69**,mb4.8**/40**,MS4.6**/1**, 1C-2D,North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**4.43**	**303**	*e*P	**Pn**	**09 51 39.0**	**+2.4**
KAKA	**Kakadu**	**16.65**	**167**	*e*P	**P**	**09 54 30.6**	**+7.8**
	38nm,1.4s						
FITZ	**Fitzroy Crossi**	**21.81**	**188**	*e*P	**P**	**09 55 21.4**	**-0.2**
	10.0nm,1.7s,mb4.0						
FITZ	**Fitzroy Crossi**	**21.81**	**188**	P	**P**	**09 55 20.3**	**-1.3**
	5.0nm,0.8s,mb4.0,baz=8.8,slow=10,SNR=6.3						
WRAB	**Tennant Creek**	**24.08**	**167**	*e*P	**P**	**09 55 43.9**	**-0.1**
	28nm,1.0s,mb4.7						
WRA	**Warramunga Arr**	**24.09**	**167**	P	**P**	**09 55 45.3**	**+1.2**
	16nm,1.1s,mb4.4,baz=344,slow=11,SNR=43						
WB2	**Warramunga Arr**	**24.09**	**167**	*e*P	**P**	**09 55 45.2**	**+1.1**
MBWA	**Marble Bar**	**26.16**	**199**	*e*P	**P**	**09 56 02.3**	**-1.3**
	20nm,1.2s,mb4.5						
ASAR	**Alice Springs**	**27.62**	**170**	P	**P**	**09 56 17.1**	**+0.1**
	3.4nm,0.7s,mb4.1,baz=358,slow=7.4,SNR=20						
ASAR				PcP	PcP	09 59 34.9	+0.4
	4.2nm,0.6s,baz=351,slow=2.3,SNR=16						
ASPA	**Alice Springs**	**27.62**	**170**	*e*P	**P**	**09 56 16.7**	**-0.3**
ASPA				*i* PCP	PcP	09 59 35.1	+0.6
CTA	**Charters Tower**	**29.23**	**144**	PcP	PcP	09 59 40.5	+2.0
	3.9nm,1.0s,baz=307,slow=5.1,SNR=3.2						
ENH	**Enshi**	**32.10**	**328**	*e*P	**P**	**09 56 55.7**	**-1.1**
	33nm,1.3s,mb5.0						
CM31	**Chiang Mai Arr**	**32.59**	**299**	*e*P	**P**	**09 57 00.9**	**-0.3**
	3.6nm,0.5s,mb4.6						
CMAR	**Chiang Mai Arr**	**32.59**	**299**	P	**P**	**09 57 00.9**	**-0.3**
	5.9nm,0.9s,mb4.5,baz=119,slow=7.3,SNR=21						
CMAR				PcP	PcP	09 59 46.0	-1.4
	1.6nm,0.7s,baz=105,slow=1.2,SNR=6.7						
CMAR				ScP		10 03 29.1	
	0.5nm,0.4s,baz=170,slow=2.2,SNR=4.7						
XAN	**Xi'an**	**35.40**	**331**	P	**P**	**09 57 24.9**	**-0.3**
XAN				AP	pP	09 57 31.3	-1.4
XAN				AMB	AMB		
	comp=Z,57nm,1.1s,mb5.4						
STKA	**Stephens Creek**	**37.40**	**162**	P	**P**	**09 57 42.3**	**+0.1**
	comp=Z,14nm,0.8s,mb4.9,baz=335,slow=7.3,SNR=28						
STKA				PcP	PcP	10 00 01.8	+0.6
	comp=Z,5.7nm,0.6s,baz=338,slow=6.8,SNR=6.7						
BJT	**Baijiatuau**	**37.94**	**344**	*e*P	**P**	**09 57 46.7**	**+0.2**
	comp=Z,18nm,0.8s,mb4.9						
BJT				*e*	pP	09 57 55.5	+1.4
BJI	**Beijing**	**37.96**	**344**	P	**P**	**09 57 46.8**	**+0.1**
BJI				AMB	AMB		
	comp=Z,16nm,0.9s,mb4.8						
LZH	**Lanzhou**	**39.58**	**328**	⇑P	**P**	**09 58 01.7**	**+1.3**
LZH				PP	PP	09 59 34.3	-0.9
LZH				LR	LR		
	comp=N,552nm,14.0s						
LZH				LR	LR		
	comp=Z,780nm,16.0s,MS4.6						
HHC	**Hu-ho-hao-te**	**40.12**	**340**	⇓P	**P**	**09 58 06.0**	**+1.3**
HHC				AMB	AMB		
	comp=Z,24nm,1.2s,mb4.8						
HHC				AMB	AMB		
	comp=Z,151nm,8.1s						
MDJ	**Mudanjiang**	**40.81**	**1**	*e*P	**P**	**09 58 11.7**	**+1.3**
	comp=Z,6.2nm,0.3s,mb4.7						
GTA	**Gaotai**	**44.19**	**328**	*e*P	**P**	**09 58 38.9**	**+0.9**
GTA				AP	pP	09 58 43.0	-2.6
GTA				XP	sP	09 58 46.6	-2.1
GTA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.5						
KKN	**Kakani**	**47.79**	**305**	*e*P	**P**	**09 59 06.7**	**-0.1**
DMN	**Daman**	**47.87**	**304**	*e*P	**P**	**09 59 07.7**	**+0.3**
	comp=Z,38nm,1.1s,mb5.4						
SONM	**Songino Array**	**48.02**	**340**	P	**P**	**09 59 08.4**	**+0.1**
	comp=Z,16nm,1.3s,mb4.9,baz=158,slow=6.7,SNR=15						
SONM				PcP	PcP	10 00 36.4	-0.1
	comp=Z,2.4nm,1.0s,baz=135,slow=3.5,SNR=3.7						
GKN	**Gorkha**	**48.40**	**305**	*e*P	**P**	**09 59 10.4**	**-1.1**
KOLN	**Koldanda**	**49.17**	**304**	*e*P	**P**	**09 59 16.9**	**-0.5**
	comp=Z,41nm,0.8s,mb5.5						
WMQ	**Urumqi**	**53.92**	**324**	⇓*i*P	**P**	**09 59 53.6**	**+0.6**
WMQ				AP	pP	10 00 04.0	+3.4
WMQ				AMB	AMB		
	comp=Z,39nm,1.0s,mb5.3						
YAK	**Yakutsk**	**58.26**	**1**	*e*P	**P**	**10 00 23.8**	**-0.1**
	comp=Z,23nm,0.8s,mb5.3						
MKAR	**Makanchi Array**	**58.74**	**324**	P	**P**	**10 00 27.1**	**-0.4**
	comp=Z,22nm,0.6s,mb5.4,baz=121,slow=8.7,SNR=122						
ULHL	**Ulahol**	**60.38**	**317**	P	**P**	**10 00 39.0**	**+0.1**
	SNR=8.4						
KZA	**Kyzart**	**60.99**	**317**	P	**P**	**10 00 43.6**	**+0.6**
	SNR=19						
TKM2	**Tokmak 2**	**61.10**	**318**	P	**P**	**10 00 43.6**	**-0.1**
	SNR=12						
UCH	**Uchtor**	**61.55**	**317**	P	**P**	**10 00 47.5**	**+0.7**
	SNR=20						
ZAL	**Zalesovo**	**61.55**	**332**	P	**P**	**10 00 45.5**	**-1.2**
	comp=Z,2.8nm,0.7s,mb4.5,baz=245,slow=4.5,SNR=7.8						
AAK	**Ala-Archa**	**61.73**	**317**	*e*P	**P**	**10 00 46.5**	**-1.5**
	comp=Z,12nm,1.3s,mb4.8						
USP	**Ospenovka**	**61.97**	**318**	P	**P**	**10 00 49.2**	**-0.4**
	SNR=15						
AML	**Almayashu**	**62.08**	**316**	P	**P**	**10 00 50.8**	**+0.5**
	SNR=23						
EKS2	**Erkin-Say**	**62.22**	**317**	P	**P**	**10 00 51.4**	**0.0**
	SNR=9.0						
KURK	**Kurchatov**	**62.86**	**327**	*e*P	**P**	**10 00 54.5**	**-0.9**
	comp=Z,22nm,0.6s,mb5.5						
BVAR	**Borovoye Array**	**68.45**	**326**	P	**P**	**10 01 30.6**	**-0.7**
	comp=Z,13nm,0.7s,mb5.1,baz=127,slow=7.4,SNR=37						
BRVK	**Borovoye**	**68.52**	**326**	*e*P	**P**	**10 01 31.0**	**-0.7**
	comp=Z,32nm,1.0s,mb5.2						
ZRNK	**Zerenda**	**69.19**	**326**	*e*P	**P**	**10 01 34.7**	**-1.1**
	comp=Z,13nm,0.6s,mb5.0						
CASY	**Casey**	**70.97**	**188**	*e*P	**P**	**10 01 45.9**	**-0.6**
	comp=Z,10nm,0.9s,mb4.8						
MZLS	**Mizel**	**82.56**	**294**	P	**P**	**10 02 51.8**	**-0.2**
KAMS	**Al Khamasin**	**83.21**	**290**	P	**P**	**10 02 54.6**	**-0.8**
MCK	**McKinley**	**83.38**	**26**	P	**P**	**10 02 55.2**	**-0.2**
	comp=Z,4.8nm,1.0s,mb4.5						
SBA	**Scott Base**	**83.99**	**172**	*e*P	**P**	**10 02 57.5**	**-0.7**
	comp=Z,3.8nm,0.4s,mb4.9						
DJNS	**Zahran al Janu**	**84.26**	**287**	P	**P**	**10 03 02.1**	**+1.1**
MAW	**Mawson**	**84.34**	**201**	P	**P**	**10 03 00.9**	**+0.7**
	comp=Z,2.7nm,0.6s,mb4.5,baz=57,slow=10,SNR=5.0						
MAW	**Mawson**	**84.34**	**201**	*e*P	**P**	**10 02 59.5**	**-0.7**
	comp=Z,8.3nm,1.1s,mb4.8						
ILAR	**Eielson Array**	**84.35**	**25**	P	**P**	**10 03 01.9**	**+1.6**
	comp=Z,1.1nm,0.9s,mb4.0,baz=238,slow=5.5,SNR=7.1						
NAMS	**An Nimas**	**85.47**	**289**	P	**P**	**10 03 08.2**	**+1.3**
HILS	**Ha'il**	**85.57**	**297**	P	**P**	**10 03 08.0**	**+0.7**
BLJS	**Baljurashi**	**86.02**	**290**	P	**P**	**10 03 10.8**	**+1.2**
YNBS	**Yanbu' al Bahr**	**89.13**	**294**	P	**P**	**10 03 19.2**	**-5.4**
ASF	**Jabal al Asfar**	**89.58**	**302**	P	**P**	**10 03 26.9**	**+0.4**
	comp=Z,6.1nm,0.9s,mb4.9,baz=329,slow=5.9,SNR=8.0						
UMJS	**Umm Lajj**	**89.69**	**295**	P	**P**	**10 03 21.9**	**-5.3**
JMQS	**Jabal Moqyreh**	**90.70**	**299**	P	**P**	**10 03 32.5**	**+0.7**
ARCES	**ARCESS Array B**	**91.19**	**340**	P	**P**	**10 03 32.3**	**-0.8**
	comp=Z,4.9nm,0.8s,mb4.9,baz=80,slow=5.5,SNR=7.8						
JMOS	**Jabal al Moall**	**91.35**	**299**	P	**P**	**10 03 37.4**	**+2.7**
ALWS	**Ilw as Safayha**	**91.38**	**299**	P	**P**	**10 03 34.9**	**0.0**
BRTR	**Keskin Array B**	**91.56**	**310**	P	**P**	**10 03 34.5**	**-1.0**
	comp=Z,1.1nm,0.9s,mb4.2,baz=90,slow=4.9,SNR=4.3						
TAYS	**Tayyib Ism**	**91.61**	**299**	P	**P**	**10 03 39.4**	**+3.4**
FINES	**FINESS Array B**	**92.82**	**332**	P	**P**	**10 03 39.2**	**-1.5**
	comp=Z,1.7nm,0.8s,mb4.5,baz=90,slow=3.8,SNR=4.2						
FINES	**FINESS Array B**	**92.82**	**332**	P	**P**	**10 03 39.2**	**-1.5**
AKASG	**Malin Array Be**	**93.18**	**321**	P	**P**	**10 03 41.5**	**-1.1**
	comp=Z,0.8nm,0.5s,mb4.4,baz=70,slow=3.9,SNR=8.3						
QSPA	**South Pole Qui**	**93.55**	**180**	*e*P	**P**	**10 03 45.0**	**+1.3**
	comp=Z,12nm,1.2s,mb5.2						
HFS	**Hagfors**	**98.99**	**333**	P	**P**	**10 04 07.7**	**-1.1**
	comp=Z,2.4nm,0.8s,mb4.8,baz=80,slow=8.8,SNR=3.5						
NOA	**NORSAR Array B**	**99.72**	**334**	P	**P**	**10 04 10.5**	**-1.7**
	comp=Z,1.5nm,0.8s,mb4.5,baz=64,slow=4.8,SNR=4.6						

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*BJI **01** 09:52:05.6,3.42N×129.43E,h10^{km},mb4.7,Ms4.4, Msz4.4*

*IDC **01** 09:52:10.9±1.1,3.66N×128.63E,mb4.3/8,mb1 4.4/8, mb1mx4.2/19,Error ellipse: s-maj=66.8km s-min=16.3km az=67.0*

*NEIC **01** 09:52:12.0±0.6,3.71N×128.69E,h10^{km},mb4.6/1,Error ellipse: s-maj=34.8km s-min=7.2km az=69.0*

ISC 01 09:52:13.7±0.8**,3.7N**±0.1×**128.6E**±0.3**,h32**^{km}**, h32**^{km}±4.8^{km}**:pP-P,n18,**σ**0.79**/18**,mb4.6**/18**,MS4.4**/1**, 1C-1D,North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.82**	**188**	P	**P**	**09 57 04.6**	**-0.9**
	3.8nm,0.7s,mb3.9,baz=353,slow=14,SNR=3.8						
WRAB	**Tennant Creek**	**24.12**	**167**	*e*P	**P**	**09 57 28.6**	**+0.5**
	12nm,0.7s,mb4.4						
WRA	**Warramunga Arr**	**24.13**	**167**	P	**P**	**09 57 28.6**	**+0.5**
	2.9nm,0.6s,mb3.9,baz=338,slow=10,SNR=5.8						
ASAR	**Alice Springs**	**27.65**	**169**	P	**P**	**09 58 00.5**	**-0.5**
	1.6nm,0.6s,mb3.8,baz=354,slow=7.8,SNR=4.0						
ASAR				PcP	PcP	10 01 18.4	+0.3
	2.2nm,0.6s,baz=343,slow=2.4,SNR=11						
ASAR				pPcP		10 01 54.9	
	0.6nm,0.5s,baz=355,slow=2.4,SNR=3.5						
CMAR	**Chiang Mai Arr**	**32.52**	**299**	P	**P**	**09 58 44.3**	**+0.1**
	2.5nm,1.0s,mb4.1,baz=111,slow=7.7,SNR=4.8						
XAN	**Xi'an**	**35.34**	**331**	P	**P**	**09 59 08.7**	**+0.3**
XAN				AP	pP	09 59 18.9	+1.0
XAN				AMB	AMB		
	comp=Z,17nm,1.1s,mb4.9						
STKA	**Stephens Creek**	**37.45**	**162**	P	**P**	**09 59 25.8**	**-0.4**
	comp=Z,7.4nm,0.7s,mb4.6,baz=341,slow=8.3,SNR=5.5						
STKA				PcP	PcP	10 01 44.6	-0.2
	comp=Z,2.9nm,0.6s,baz=329,slow=4.8,SNR=4.8						
LZH	**Lanzhou**	**39.52**	**328**	⇑P	**P**	**09 59 45.0**	**+1.5**
LZH				PP	PP	10 01 18.4	+0.3
LZH				AMB	AMB		
	comp=Z,65nm,1.2s,mb5.2						
LZH				LR	LR		
	comp=N,298nm,13.9s						
LZH				LR	LR		
	comp=Z,432nm,16.0s,MS4.4						
GTA	**Gaotai**	**44.13**	**328**	*e*P	**P**	**10 00 22.0**	**+0.8**
GTA				AP	pP	10 00 26.6	-4.1
GTA				XP	sP	10 00 29.5	-5.2
GTA				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb4.0						
WMQ	**Urumqi**	**53.86**	**324**	⇓P	**P**	**10 01 37.3**	**+1.2**
WMQ				AP	pP	10 01 48.0	+2.2
WMQ				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
MKAR	**Makanchi Array**	**58.68**	**324**	P	**P**	**10 02 10.5**	**-0.2**
	comp=Z,5.3nm,0.5s,mb4.8,baz=112,slow=8.1,SNR=14						

MKAR				pP	pP	10 02 46.6	+26
	comp=Z,2.4nm,0.5s,baz=121,slow=9.2,SNR=4.3						
ZAL	**Zalesovo**	**61.50**	**332**	P	**P**	**10 02 29.1**	**-0.7**
	comp=Z,1.4nm,0.7s,mb4.2,baz=243,slow=7.7,SNR=3.0						
KURK	**Kurchatov**	**62.80**	**327**	eP	**P**	**10 02 37.7**	**-0.9**
	comp=Z,13nm,0.8s,mb5.1						
BVAR	**Borovoye Array**	**68.39**	**326**	P	**P**	**10 03 14.3**	**-0.2**
	comp=Z,12nm,1.1s,mb4.9,baz=117,slow=6.6,SNR=6.2						
BRVK	**Borovoye**	**68.47**	**326**	eP	**P**	**10 03 13.9**	**-1.0**
	comp=Z,11nm,1.0s,mb4.8						
ZRNK	**Zerenda**	**69.13**	**326**	eP	**P**	**10 03 17.7**	**-1.4**
	comp=Z,13nm,0.9s,mb4.8						
CASY	**Casey**	**70.99**	**188**	eP	**P**	**10 03 30.5**	**+0.4**
	comp=Z,14nm,1.2s,mb4.8						
QSPA	**South Pole Qui**	**93.57**	**180**	eP	**P**	**10 05 28.4**	**+1.0**
	comp=Z,6.9nm,1.2s,mb5.0						

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*ZUR_RM **01** 10:01:42, 47.41N×15.18E, h9^{km}, Mw3.7/13, Moment Tensor Solution. s13 Moment tensor: Scale 10^{14}Nm; M_{rr}0.08; $M_{\theta\theta}$-3.63; $M_{\phi\phi}$3.54; $M_{r\theta}$0.73; $M_{\theta\phi}$2.81; $M_{\phi r}$0.08; Best double couple: $M_0$4.62×10^{14} NP1:ϕ_s244°,δ87°,λ-9°. NP2:ϕ_s334°,δ81°,λ-177°. Principal axes: T 4.54, Plg4°, Azm289°; N .154, Plg81°, Azm46°; P -4.693, Plg8°, Azm199°;*

*MOS **01** 10:01:43.2±0.6, 47.39N×15.14E, h16^{km}, mb3.7/1 Error ellipse: s-maj=8.2km s-min=5.3km az=98.8*

*NEIC **01** 10:01:43.4±0.2, 47.37N×15.21E, h10^{km}, ML4.4(STR), ML4.3(CLL), ML4.2(LDG), ML4.2(FUR), ML4.2(CSEM), ML4.1(VIE), ML4.1(LEDBW), ML3.8(SZGRF), Error ellipse: s-maj=3.1km s-min=2.4km az=110.0*

NEIC Felt [VI] at Leoben.

*CSEM **01** 10:01:43.4±0.1, 47.33N×15.17E, h5^{km}, ML4.4/22, Error ellipse: s-maj=1.1km s-min=0.9km az=146.0*

*IPEC **01** 10:01:43.2±0.1, 47.40N×15.22E, h10^{km}, ML3.7/4, Error ellipse: s-maj=0.8km s-min=0.5km az=162.0*

*BGR **01** 10:01:43.2±0.3, 47.41N×15.23E, h10^{km}, ML3.8/7, Error ellipse: s-maj=3.3km s-min=2.2km az=69.0*

*LDG **01** 10:01:43.1±0.1, 47.41N×15.23E, h10^{km}, Ml4.2/20, Error ellipse: s-maj=2.9km s-min=2.6km az=8.0*

*IDC **01** 10:01:44.0±1.1, 47.53N×15.21E, mb3.5/1, mb1 3.7/8, mb1mx3.6/24, ML3.9/7, MS3.2/1, Ms1 3.2/1, ms1mx2.7/24, Error ellipse: s-maj=12.6km s-min=9.1km az=180.0*

*STR **01** 10:01:47.2±0.9, 47.46N×15.02E, h10^{km}±1^{km}, Ml4.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 01 10:01:41.7±0.1**, 47.419N**±0.010×**15.14E**±0.01**, h10**^{km}**, n298, σ1§47**/483**, mb3.5**/1**, 35C-26D, Austria**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARSA	**Arzberg**	**0.31**	**123**	⇑ iPG	**Pg**	**10 01 48.3**	**+0.1**
ARSA				iSG	**Sg**	**10 01 52.1**	**-0.4**
	4μm,0.3s						
ARSA	**Arzberg**	**0.31**	**123**	ePg	**Pg**	**10 01 47.6**	**-0.6**
ARSA				eSg	**Sg**	**10 01 52.0**	**-0.6**
ARSA	**Arzberg**	**0.31**	**123**	Pg	**Pg**	**10 01 47.6**	**-0.6**
ARSA				eSg	**Sg**	**10 01 51.9**	**-0.6**
MOA	**Molln**	**0.73**	**306**	⇓ iPG	**Pg**	**10 01 57.0**	**+0.6**
MOA				iSG	**Sg**	**10 02 07.9**	**+1.7**
	826nm,0.3s						
MOA	**Molln**	**0.73**	**306**	ePg	**Pg**	**10 01 56.6**	**+0.2**
MOA				eSg	**Sg**	**10 02 08.9**	**+2.6**
MOA	**Molln**	**0.73**	**306**	ePg	**Pg**	**10 01 58.0**	**+1.6**
MOA				eSg	**Sg**	**10 02 08.7**	**+2.5**
PERS	**Pernice**	**0.78**	**181**	iPg	**Pg**	**10 01 57.2**	**-0.3**
KMR	**Kremsmunster**	**0.93**	**314**	c iPG	**Pg**	**10 02 00.8**	**+0.4**
KMR				iSG	**Sg**	**10 02 14.6**	**+1.7**
KMR	**Kremsmunster**	**0.93**	**314**	⇑ iPg	**Pg**	**10 02 00.8**	**+0.4**
KMR				iSg	**Sg**	**10 02 14.6**	**+1.7**
GROS	**Grobnik**	**0.99**	**165**	iPg	**Pg**	**10 02 00.7**	**-0.9**
GROS				iSg	**Sg**	**10 02 12.6**	**-2.2**
OBKA	**Obir**	**1.00**	**204**	⇓ iPG	**Pg**	**10 02 01.7**	**0.0**
OBKA				iSG	**Sg**	**10 02 15.5**	**+0.5**
	1μm,0.4s						
OBKA	**Obir**	**1.00**	**204**	ePg	**Pg**	**10 02 01.7**	**0.0**
OBKA				eSg	**Sg**	**10 02 16.0**	**+1.0**
OBKA	**Obir**	**1.00**	**204**	Pg	**Pg**	**10 02 01.7**	**0.0**
OBKA				eSg	**Sg**	**10 02 14.6**	**-0.4**
SOP	**Sopron**	**1.00**	**74**	⇑ iPn	**Pn**	**10 02 01.0**	**-0.7**
SOP				eSn	**Sn**	**10 02 13.9**	**-1.9**
VKA	**Vienna**	**1.16**	**43**	⇓ iPG	**Pg**	**10 02 04.1**	**-0.9**
VKA				iSG	**Sg**	**10 02 18.8**	**-1.7**
KBA	**Koelnbreinsper**	**1.27**	**255**	⇑ iPG	**Pg**	**10 02 06.3**	**-0.8**
KBA				iSG	**Sg**	**10 02 24.6**	**+0.5**
	1μm,0.4s						
KBA	**Koelnbreinsper**	**1.27**	**255**	ePg	**Pg**	**10 02 06.3**	**-0.8**
KBA				eSg	**Sg**	**10 02 25.7**	**+1.7**
DOBS	**Dobrina**	**1.29**	**170**	iPg	**Pg**	**10 02 06.5**	**-1.1**
PDKS	**Podkum**	**1.34**	**184**	iPg	**Pg**	**10 02 08.0**	**-0.6**
	comp=Z,473nm,0.7s						
LJU	**Ljubljana**	**1.44**	**197**	iPg	**Pg**	**10 02 09.7**	**-0.8**
LJU				eSg	**Sg**	**10 02 30.5**	**+0.8**
GOLS	**Golise**	**1.45**	**166**	iPg	**Pg**	**10 02 09.5**	**-1.2**
GOLS				i		10 02 11.0	
LSR	**Lussari**	**1.45**	**230**	⇓ ePg	**Pg**	**10 02 10.0**	**-0.7**
LSR				eSg	**Sg**	**10 02 30.9**	**+0.7**
BGLD	**Berchtesgaden**	**1.46**	**280**	⇓ iPg	**Pg**	**10 02 10.6**	**-0.3**
BGLD				eSg	**Sg**	**10 02 32.3**	**+1.9**
LEGS	**Legarje**	**1.48**	**175**	iPg	**Pg**	**10 02 10.0**	**-1.2**
CADS	**Cadrg**	**1.53**	**219**	iPg	**Pg**	**10 02 11.2**	**-1.1**
CADS				eSg	**Sg**	**10 02 32.0**	**-0.8**
	comp=Z,603nm,0.3s						
CADS	**Cadrg**	**1.53**	**219**	iPg	**Pg**	**10 02 11.2**	**-1.2**
CADS				eSg	**Sg**	**10 02 32.0**	**-0.8**
	comp=Z,603nm,0.3s						
ZST	**Bratislava**	**1.54**	**59**	iPN	**Pn**	**10 02 10.4**	**+1.0**
ZST				ePG	**Pg**	**10 02 12.1**	**-0.3**
ZST				eSN	**Sn**	**10 02 31.5**	**+2.0**
ZST	**Bratislava**	**1.54**	**59**	iP	**Pn**	**10 02 10.4**	**+1.0**
ZST				e		10 02 31.5	
ZST	**Bratislava**	**1.54**	**59**	eSg	**Sg**	**10 02 30.3**	**-2.7**
ZST				eSn	**Sn**	**10 02 31.5**	**+2.0**
PTCC	**Patocco-Chiusa**	**1.59**	**231**	ePn	**Pn**	**10 02 12.6**	**+2.5**
PTCC				eSn	**Sn**	**10 02 34.6**	**+3.8**
PTCC	**Patocco-Chiusa**	**1.59**	**231**	ePn	**Pn**	**10 02 12.6**	**+2.5**
PTCC	**Patocco-Chiusa**	**1.59**	**231**	eSn	**Sn**	**10 02 34.6**	**+3.7**
GCIS	**Gornji Cirnik**	**1.59**	**168**	iPg	**Pg**	**10 02 11.3**	**-2.2**
GCIS				i		10 02 13.3	
CRES	**Cresnjev**	**1.61**	**172**	iPg	**Pg**	**10 02 11.6**	**-2.3**
CRES				eSg	**Sg**	**10 02 34.8**	**-0.6**
	comp=Z,180nm,0.3s						
DRE	**Drenchia**	**1.61**	**220**	⇓ ePg	**Pg**	**10 02 12.7**	**-1.4**
DRE				eSg	**Sg**	**10 02 35.2**	**-0.4**
DRE	**Drenchia**	**1.61**	**220**	⇓ ePg	**Pg**	**10 02 12.6**	**-1.4**
DRE				eSg	**Sg**	**10 02 35.2**	**-0.4**
PLRO	**Paularo**	**1.62**	**238**	⇑ ePg	**Pg**	**10 02 13.1**	**-0.9**
PLRO				eSg	**Sg**	**10 02 34.8**	**-0.8**
ROBS	**Robic**	**1.62**	**224**	iPn	**Pn**	**10 02 12.8**	**+2.2**
ROBS				iSg	**Sg**	**10 02 35.0**	**-0.8**
	comp=Z,144nm,0.3s						
VISS	**Visnje**	**1.63**	**187**	iPn	**Pn**	**10 02 12.4**	**+1.7**
VISS				i		10 02 14.6	
VISS	**Visnje**	**1.63**	**187**	iPg	**Pg**	**10 02 14.6**	**+0.3**
VOJS	**Vojsko**	**1.63**	**212**	iPn	**Pn**	**10 02 12.7**	**+1.9**
VOJS				iSg	**Sg**	**10 02 35.9**	**-0.3**
JAVS	**Javornik**	**1.70**	**206**	iPn	**Pn**	**10 02 13.4**	**+1.8**
JAVS				iSg	**Sg**	**10 02 38.0**	**-0.2**
	comp=Z,89nm,0.3s						
JAVS	**Javornik**	**1.70**	**206**	iPn	**Pn**	**10 02 13.4**	**+1.7**
JAVS				iSg	**Sg**	**10 02 38.0**	**-0.3**
	comp=Z,89nm,0.3s						
ZOU	**Zoufplan**	**1.71**	**241**	⇓ ePg	**Pg**	**10 02 14.8**	**-1.2**
ZOU				eSg	**Sg**	**10 02 38.3**	**-0.6**
GEC2	**GERESS Array S**	**1.72**	**327**	ePn	**Pn**	**10 02 14.2**	**+2.2**
GEC2				eSn	**Sn**	**10 02 37.7**	**+3.5**
GEC2	**GERESS Array S**	**1.72**	**327**	ePn	**Pn**	**10 02 14.2**	**+2.2**
GEC2				eSn	**Sn**	**10 02 37.7**	**+3.5**
GERES	**GERESS Array B**	**1.72**	**327**	Pn	**Pn**	**10 02 14.2**	**+2.2**
	comp=Z,128nm,0.3s,baz=146,slow=16,SNR=334						
GERES				Lg		10 02 37.4	
	comp=Z,738nm,0.3s,baz=140,slow=29,SNR=60						
GMNA	**Gemona**	**1.73**	**229**	ePn	**Pn**	**10 02 15.3**	**+3.1**
GMNA				eSn	**Sn**	**10 02 40.6**	**+6.0**
GMNA	**Gemona**	**1.73**	**229**	ePn	**Pn**	**10 02 15.4**	**+3.2**
CEY	**Cerknica**	**1.75**	**197**	iPn	**Pn**	**10 02 14.3**	**+1.8**
CEY				i		10 02 16.8	
CEY				eSg	**Sg**	**10 02 40.2**	**+0.1**
	comp=Z,153nm,0.4s						
BAD	**Bernadia**	**1.76**	**228**	⇓ ePg	**Pg**	**10 02 14.8**	**-2.0**
BAD				eSg	**Sg**	**10 02 40.3**	**0.0**
COLI	**Coloredo**	**1.77**	**224**	⇓ ePg	**Pg**	**10 02 14.9**	**-2.1**
COLI				eSg	**Sg**	**10 02 40.0**	**-0.6**
BOO	**Bordano**	**1.78**	**233**	⇑ ePg	**Pg**	**10 02 15.2**	**-2.0**
BOO	**Bordano**	**1.78**	**233**	⇑ ePg	**Pg**	**10 02 15.2**	**-2.1**
KRUC	**Moravsky**	**1.85**	**27**	eSn	**Sn**	**10 02 39.2**	**+1.8**
	comp=Z,445nm,0.3s						
MPRI	**Monte Prat**	**1.89**	**232**	⇑ ePn	**Pn**	**10 02 17.0**	**+2.6**
MPRI				eSn	**Sn**	**10 02 43.6**	**+5.2**
SMOL	**Smolenice**	**1.89**	**54**	iPN	**Pn**	**10 02 16.3**	**+1.9**
SMOL				eSN	**Sn**	**10 02 41.1**	**+2.6**
BOJS	**Bojanci**	**1.92**	**178**	⇓ iPn	**Pn**	**10 02 16.2**	**+1.4**
VBY	**Vinica-Bojanci**	**1.92**	**178**	eSn	**Sn**	**10 02 42.5**	**+3.3**
CSMI	**Casera Mimoias**	**1.93**	**243**	⇑ ePn	**Pn**	**10 02 18.0**	**+3.0**
CSMI				eSn	**Sn**	**10 02 44.3**	**+4.8**
TRI	**Trieste**	**1.96**	**209**	ePn	**Pn**	**10 02 17.5**	**+2.2**
TRI				eSn	**Sn**	**10 02 44.5**	**+4.3**
TRI	**Trieste**	**1.96**	**209**	ePn	**Pn**	**10 02 17.5**	**+2.1**
KNDS	**Knezji Dol**	**1.96**	**196**	iPn	**Pn**	**10 02 16.9**	**+1.4**
KHC	**Kasperske Hory**	**2.00**	**329**	eP	**Pn**	**10 02 18.2**	**+2.1**
KHC				e		10 02 45.5	
KHC	**Kasperske Hory**	**2.00**	**329**	ePN	**Pn**	**10 02 18.2**	**+2.1**
KHC				ex	x	10 02 19.7	
KHC				eSG	**Sg**	**10 02 45.5**	**-3.1**
KHC	**Kasperske Hory**	**2.00**	**329**	ePn	**Pn**	**10 02 18.1**	**+2.0**
KHC				eSn	**Sn**	**10 02 44.0**	**+2.6**
KHC				Sg	**Sg**	**10 02 45.5**	**-3.1**
TLI	**Talmassons**	**2.05**	**224**	⇓ ePn	**Pn**	**10 02 19.5**	**+2.7**
SRO1	**Iza**	**2.12**	**80**	ePB	**Pb**	**10 02 21.3**	**+1.4**
SRO1				ePG	**Pg**	**10 02 23.4**	**-0.8**
SRO1				eSG	**Sg**	**10 02 52.5**	**0.0**
SRO1	**Iza**	**2.12**	**80**	eP	**Pb**	**10 02 21.3**	**+1.4**
SRO1				e		10 02 52.5	
VRAC	**Vranov**	**2.12**	**27**	Pn	**Pn**	**10 02 19.0**	**+1.2**
	comp=Z,58nm,0.3s,baz=228,slow=13,SNR=47						
VRAC				LR	LR	10 02 48.3	
	comp=Z,601nm,19.2s,baz=301,slow=32						
VRAC				Lg		10 02 48.5	
	comp=Z,217nm,0.3s,baz=102,slow=22,SNR=30						
VRAC	**Vranov**	**2.12**	**27**	ePn	**Pn**	**10 02 19.0**	**+1.2**
VRAC	**Vranov**	**2.12**	**27**	eSn	**Sn**	**10 02 46.2**	**+1.7**
	comp=Z,549nm,0.3s						
SISC	**Sisak**	**2.13**	**156**	iPn	**Pn**	**10 02 18.2**	**+0.4**
SISC				iSn	**Sn**	**10 02 43.9**	**-0.6**
MLNI	**Malnisio**	**2.15**	**235**	⇓ ePn	**Pn**	**10 02 20.8**	**+2.6**
MLNI				eSn	**Sn**	**10 02 50.1**	**+5.0**
SRO	**Srobarova**	**2.18**	**78**	ePB	**Pb**	**10 02 20.3**	**-0.7**
SRO				ePG	**Pg**	**10 02 23.8**	**-1.6**
SRO				eSG	**Sg**	**10 02 54.2**	**-0.3**
SRO	**Srobarova**	**2.18**	**78**	eP	**Pb**	**10 02 20.3**	**-0.7**
SRO				e		10 02 54.2	
PKSG		**2.21**	**90**	⇑ eP	**Pn**	**10 02 19.2**	**+0.2**
PKSG				eS	**Sn**	**10 02 46.9**	**+0.3**
AFL	**Alpe Faloria**	**2.21**	**247**	⇑ ePn	**Pn**	**10 02 22.2**	**+3.2**
AFL				eSn	**Sn**	**10 02 51.9**	**+5.3**
SRO2	**Moca**	**2.23**	**80**	ePN	**Pn**	**10 02 19.9**	**+0.6**
SRO2				ePG	**Pg**	**10 02 24.9**	**-1.4**
SRO2				eSB	**Sg**	**10 02 53.4**	**-2.7**
SRO2	**Moca**	**2.23**	**80**	eP	**Pn**	**10 02 19.9**	**+0.6**
SRO2				e		10 02 53.4	
SRO2	**Moca**	**2.23**	**80**	ePg	**Pg**	**10 02 24.9**	**-1.4**
SRO2				eSg	**Sg**	**10 02 53.4**	**-2.7**
CSO	**Casso**	**2.25**	**240**	⇓ iPn	**Pn**	**10 02 22.2**	**+2.6**
CSO				eSn	**Sn**	**10 02 52.0**	**+4.5**
WET	**Wettzell**	**2.29**	**320**	ePn	**Pn**	**10 02 22.0**	**+1.8**
WET	**Wettzell**	**2.29**	**320**	ePn	**Pn**	**10 02 22.0**	**+1.8**
PKS9	**Tamasi**	**2.31**	**110**	⇑ eP	**Pn**	**10 02 20.8**	**+0.4**
CAE	**Caneva**	**2.33**	**234**	⇓ ePn	**Pn**	**10 02 23.0**	**+2.2**
SCE	**Schlegeis**	**2.37**	**262**	ePn	**Pn**	**10 02 24.6**	**+3.3**
SCE				eSn	**Sn**	**10 02 55.6**	**+5.0**
WTTA	**Wattenberg**	**2.39**	**268**	⇑ iPN	**Pn**	**10 02 25.3**	**+3.8**
WTTA				iSN	**Sn**	**10 02 52.3**	**+1.2**
WTTA	**Wattenberg**	**2.39**	**268**	ePg	**Pg**	**10 02 26.3**	**-3.1**
WTTA				eSg	**Sg**	**10 03 00.2**	**-1.0**
WTTA	**Wattenberg**	**2.39**	**268**	Pg	**Pg**	**10 02 26.3**	**-3.1**
WTTA				Sg	**Sg**	**10 03 00.2**	**-1.0**
RHK1	**Bakonya**	**2.41**	**122**	⇑ iP	**Pn**	**10 02 21.7**	**-0.2**
RHK1				eS	**Sn**	**10 02 52.0**	**+0.2**
WATA	**Walderalm**	**2.42**	**269**	⇑ iPN	**Pn**	**10 02 26.1**	**+4.0**
WATA				iSN	**Sn**	**10 02 52.7**	**+0.7**
FAU	**Forcella Aurin**	**2.47**	**242**	⇓ ePn	**Pn**	**10 02 25.5**	**+2.7**
PRU	**Pruhonice**	**2.60**	**351**	eP	**Pn**	**10 02 26.0**	**+1.4**
PRU				e		10 03 02.4	
PRU				smax			
	comp=N,2μm,0.7s						
PRU	**Pruhonice**	**2.60**	**351**	ePN	**Pn**	**10 02 26.0**	**+1.4**
PRU				ePG	**Pg**	**10 02 31.2**	**-2.5**
PRU				eSG	**Sg**	**10 03 02.4**	**-6.0**
	comp=N,2μm,0.7s						
RHK3	**Tenkes**	**2.63**	**124**	⇑ eP	**Pn**	**10 02 24.9**	**-0.2**
RHK3				eS	**Sn**	**10 02 56.1**	**-1.3**
BUD	**Budapest**	**2.64**	**87**	ePB	**Pb**	**10 02 31.5**	**+2.8**
SQTA	**Sankt Quirin**	**2.68**	**267**	⇑ iPN	**Pn**	**10 02 30.2**	**+4.5**
SQTA				iSN	**Sn**	**10 02 58.8**	**+0.2**
SQTA				iSG	**Sg**	**10 03 10.6**	**-0.4**
	comp=N,392nm,0.4s						
PKSM	**Moragy**	**2.69**	**115**	⇑ eP	**Pn**	**10 02 25.3**	**-0.6**
PKSM				eS	**Sn**	**10 02 57.0**	**-1.9**
PKSM	**Moragy**	**2.69**	**115**	ePn	**Pn**	**10 02 25.1**	**-0.8**
PKSM				eS	**Sn**	**10 02 57.0**	**-1.9**
MOTA	**Moosalm**	**2.74**	**270**	⇑ iPN	**Pn**	**10 02 29.5**	**+2.9**
MOTA				iSN	**Sn**	**10 03 00.7**	**+0.5**
MOTA				iSG	**Sg**	**10 03 12.1**	**-1.0**
	comp=N,618nm,0.8s						
MOTA	**Moosalm**	**2.74**	**270**	⇑ iPn	**Pn**	**10 02 29.5**	**+2.9**
MOTA				iSg	**Sg**	**10 03 12.1**	**-1.0**
	comp=N,618nm,0.8s						
CGRP	**Cima Grappa**	**2.77**	**237**	⇓ ePn	**Pn**	**10 02 28.8**	**+1.8**
MORC	**Moravsky Berou**	**2.85**	**33**	ePn	**Pn**	**10 02 28.9**	**+0.7**
MORC				ePg	**Pg**	**10 02 35.8**	**-2.9**
MORC	**Moravsky Berou**	**2.85**	**33**	ePn	**Pn**	**10 02 28.9**	**+0.8**
MORC	**Moravsky Berou**	**2.85**	**33**	ePg	**Pg**	**10 02 35.8**	**-2.8**
MORC				eSn	**Sn**	**10 03 03.3**	**+0.4**
	comp=N,142nm,0.3s						
NVLJ	**Novalja**	**2.86**	**184**	⇓ iPn	**Pn**	**10 02 29.8**	**+1.5**
NVLJ				iSn	**Sn**	**10 03 03.7**	**+0.5**
DPC	**Dobruska-Polom**	**3.04**	**14**	eP	**Pn**	**10 02 31.7**	**+0.9**
DPC				e		10 03 18.1	
DPC				smax			
	comp=N,321nm,0.4s						
DPC	**Dobruska-Polom**	**3.04**	**14**	ePN	**Pn**	**10 02 31.7**	**+0.9**
DPC				ePG	**Pg**	**10 02 37.7**	**-4.7**
DPC				eSG	**Sg**	**10 03 18.1**	**-4.8**
	comp=N,321nm,0.4s						
DPC	**Dobruska-Polom**	**3.04**	**14**	Pn	**Pn**	**10 02 31.7**	**+0.9**
DPC				eSg	**Sg**	**10 03 18.2**	**-4.7**
PVCC	**Panska Ves**	**3.13**	**353**	ePN	**Pn**	**10 02 34.2**	**+2.0**
PVCC				ePG	**Pg**	**10 02 41.1**	**-3.2**
PVCC				eSG	**Sg**	**10 03 21.9**	**-4.2**
	comp=N,732nm,0.2s						
PVCC	**Panska Ves**	**3.13**	**353**	Pg	**Pg**	**10 02 41.1**	**-3.2**
PVCC				Sg	**Sg**	**10 03 21.9**	**-4.2**
	comp=N,732nm,0.2s						
OKC	**Ostrava-Krasne**	**3.14**	**38**	eP	**Pn**	**10 02 33.6**	**+1.4**
OKC				e		10 03 10.2	
OKC	**Ostrava-Krasne**	**3.14**	**38**	ePN	**Pn**	**10 02 33.6**	**+1.4**
OKC				ePG	**Pg**	**10 02 40.8**	**-3.6**
OKC				eSN	**Sn**	**10 03 10.2**	**0.0**
OKC				eSG	**Sg**	**10 03 22.8**	**-3.4**
OKC	**Ostrava-Krasne**	**3.14**	**38**	Pg	**Pg**	**10 02 40.8**	**-3.6**
OKC				Sn	**Sn**	**10 03 10.2**	**0.0**
OKC				Sg	**Sg**	**10 03 22.8**	**-3.4**
UPC	**Upice**	**3.14**	**10**	ePN	**Pn**	**10 02 34.2**	**+1.9**
UPC				ePG	**Pg**	**10 02 40.0**	**-4.5**
PSZ	**Piszkesteto**	**3.25**	**79**	⇓ ePn	**Pn**	**10 02 34.7**	**+0.8**
PSZ				eSn	**Sn**	**10 03 11.1**	**-2.0**
PSZ	**Piszkesteto**	**3.25**	**79**	eS	**Sn**	**10 03 11.1**	**-2.0**
PSZ	**Piszkesteto**	**3.25**	**79**	ePn	**Pn**	**10 02 33.6**	**-0.3**
PSZ	**Piszkesteto**	**3.25**	**79**	⇓ eP	**Pn**	**10 02 34.7**	**+0.8**
NKC	**Novy Kostel**	**3.33**	**329**	ePN	**Pn**	**10 02 36.2**	**+1.2**
NKC				ePG	**Pg**	**10 02 45.1**	**-3.1**
NKC				eSG	**Sg**	**10 03 27.2**	**-5.4**
	comp=N,780nm,0.4s						
UBR	**Uberruh**	**3.42**	**276**	⇑ iPn	**Pn**	**10 02 38.6**	**+2.4**
UBR				Sn	**Sn**	**10 03 18.9**	**+1.7**
UBR	**Uberruh**	**3.42**	**276**	S	**Sn**	**10 03 18.9**	**+1.7**
GRA1	**Grafenberg Arr**	**3.46**	**313**	ePn	**Pn**	**10 02 38.4**	**+1.6**
GRA1				eSg	**Sg**	**10 03 33.0**	**-3.8**
GRF	**Grafenberg Arr**	**3.46**	**313**	ePn	**Pn**	**10 02 38.4**	**+1.6**
GRF				eSg	**Sg**	**10 03 33.0**	**-3.8**
MABI	**Malga Bissina**	**3.46**	**248**	ePn	**Pn**	**10 02 39.3**	**+2.4**
MABI	**Malga Bissina**	**3.46**	**248**	ePn	**Pn**	**10 02 39.3**	**+2.5**
GUNZ	**Gunzen**	**3.48**	**329**	ePn	**Pn**	**10 02 38.5**	**+1.4**
GUNZ				eSg	**Sg**	**10 03 34.9**	**-2.8**
HDH	**Heidenheim**	**3.51**	**291**	⇑ ePn	**Pn**	**10 02 39.1**	**+1.6**
HDH				Sn	**Sn**	**10 03 19.5**	**-0.1**
KSP	**Ksiaz**	**3.51**	**12**	ePn	**Pn**	**10 02 38.2**	**+0.7**
KSP				e		10 02 39.3	
KSP				ePg	**Pg**	**10 02 46.4**	**-5.4**
KSP				eSn	**Sn**	**10 03 16.9**	**-2.7**
KSP				eSg	**Sg**	**10 03 31.2**	**-7.4**
KSP	**Ksiaz**	**3.51**	**12**	ePg	**Pg**	**10 02 46.4**	**-5.4**
KSP				eSg	**Sg**	**10 03 31.2**	**-7.4**
KSP	**Ksiaz**	**3.51**	**12**	ePn	**Pn**	**10 02 38.2**	**+0.7**
KSP				eSn	**Sn**	**10 03 16.9**	**-2.7**
KSP	**Ksiaz**	**3.51**	**12**	ePn	**Pn**	**10 02 38.2**	**+0.7**
KSP				eP*	**Pb**	**10 02 47.3**	**+3.7**
KSP				ePg	**Pg**	**10 02 59.7**	**+7.9**
KSP				eSn	**Sn**	**10 03 33.5**	**+14**
KSP				eS*	Sb	10 03 46.8	+20
BRG	**Berggiesshubel**	**3.54**	**348**	ePn	**Pn**	**10 02 38.5**	**+0.4**
BRG				iPg	**Pg**	**10 02 47.9**	**-4.6**
BRG				iSn	**Sn**	**10 03 20.3**	**-0.2**
BRG				eSg	**Sg**	**10 03 36.4**	**-3.4**
BRG	**Berggiesshubel**	**3.54**	**348**	eP	**Pn**	**10 02 39.5**	**+1.5**
BRG				i		10 03 20.3	
BRG	**Berggiesshubel**	**3.54**	**348**	ePn	**Pn**	**10 02 39.5**	**+1.5**
BRG				iPg	**Pg**	**10 02 47.9**	**-4.6**
BRG				iSn	**Sn**	**10 03 20.3**	**-0.2**
BRG				iSg	**Sg**	**10 03 33.9**	**-5.9**
BRG	**Berggiesshubel**	**3.54**	**348**	Pn	**Pn**	**10 02 38.5**	**+0.5**
BRG				Sg	**Sg**	**10 03 36.4**	**-3.4**
BRG	**Berggiesshubel**	**3.54**	**348**	Pg	**Pg**	**10 02 47.9**	**-4.6**
BRG				Sn	**Sn**	**10 03 20.3**	**-0.2**
WERD	**Werda**	**3.56**	**329**	ePn	**Pn**	**10 02 39.8**	**+1.6**
WERD				eSg	**Sg**	**10 03 37.6**	**-2.6**
DAVA	**Damuels**	**3.58**	**270**	⇑ iPN	**Pn**	**10 02 40.8**	**+2.3**
DAVA				iSN	**Sn**	**10 03 23.6**	**+2.3**
DAVA	**Damuels**	**3.58**	**270**	ePg	**Pg**	**10 02 49.7**	**-3.5**
DAVA				eSg	**Sg**	**10 03 38.5**	**-2.4**
DAVA	**Damuels**	**3.58**	**270**	ePg	**Pg**	**10 02 49.8**	**-3.4**
DAVA				Sg	**Sg**	**10 03 38.5**	**-2.3**
DAVOX	**Davos**	**3.65**	**262**	Pn	**Pn**	**10 02 42.8**	**+3.3**
	comp=N,5.4nm,0.3s,baz=68,slow=10,SNR=29						
DAVOX				Pg	**Pg**	**10 02 51.9**	**-2.7**
	comp=N,19nm,0.3s,baz=81,slow=18,SNR=23						
DAVOX				Lg		10 03 41.4	
	comp=N,14nm,0.3s,baz=333,slow=21,SNR=11						
DAVOX	**Davos**	**3.65**	**262**	Pg	**Pg**	**10 02 51.9**	**-2.7**
KECS	**Kecovo**	**3.75**	**72**	ePN	**Pn**	**10 02 40.6**	**-0.3**
MOX	**Moxa**	**3.97**	**326**	ePn	**Pn**	**10 02 45.5**	**+1.4**
MOX				eSg	**Sg**	**10 03 49.5**	**-4.6**
MOX	**Moxa**	**3.97**	**326**	iP	**Pn**	**10 02 46.5**	**+2.4**
MOX				Sg	**Sg**	**10 03 48.0**	**-6.1**
MOX	**Moxa**	**3.97**	**326**	ePn	**Pn**	**10 02 46.5**	**+2.4**
MOX				eSg	**Sg**	**10 03 47.5**	**-6.6**
MOX	**Moxa**	**3.97**	**326**	ePn	**Pn**	**10 02 46.5**	**+2.4**
MOX				Sg	**Sg**	**10 03 49.5**	**-4.6**
NIE	**Niedzica**	**3.98**	**58**	ePn	**Pn**	**10 02 45.5**	**+1.2**
NIE				ePg	**Pg**	**10 03 01.5**	**+0.2**
NIE				iSn	**Sn**	**10 03 33.0**	**+1.4**
BUCH	**Bad Urach**	**4.02**	**287**	⇑ ePn	**Pn**	**10 02 46.2**	**+1.4**
BUCH				Sn	**Sn**	**10 03 31.5**	**-1.1**
FSSB	**Fossombrone**	**4.08**	**205**	ePn	**Pn**	**10 02 45.8**	**+0.2**
FSSB	**Fossombrone**	**4.08**	**205**	ePn	**Pn**	**10 02 45.8**	**+0.2**
GUT	**Gutenstein**	**4.12**	**281**	⇑ ePn	**Pn**	**10 02 47.3**	**+1.1**
GUT				Sn	**Sn**	**10 03 33.9**	**-1.0**
CLL	**Collm**	**4.13**	**341**	ePn	**Pn**	**10 02 46.9**	**+0.5**
CLL				iPg	**Pg**	**10 03 03.3**	**-1.0**
CLL				eSn	**Sn**	**10 03 32.0**	**-3.4**
CLL				eSg	**Sg**	**10 03 55.1**	**-4.3**
CLL	**Collm**	**4.13**	**341**	iPN	**Pn**	**10 02 49.2**	**+2.8**
CLL				e		10 03 00.0	
CLL				iPG	**Pg**	**10 03 03.3**	**-1.0**
CLL				eSN	**Sn**	**10 03 32.0**	**-3.4**
CLL				i		10 03 49.2	
CLL				iSG	**Sg**	**10 03 52.8**	**-6.6**
CLL	**Collm**	**4.13**	**341**	iP	**Pn**	**10 02 49.2**	**+2.8**
CLL				e		10 03 32.0	
CLL	**Collm**	**4.13**	**341**	iPn	**Pn**	**10 02 49.2**	**+2.8**
CLL				iPg	**Pg**	**10 03 03.3**	**-1.0**
CLL				eSn	**Sn**	**10 03 32.0**	**-3.4**
CLL				iSg	**Sg**	**10 03 52.8**	**-6.6**
SIND	**Sindeldorf**	**4.16**	**300**	⇑ ePn	**Pn**	**10 02 47.7**	**+0.9**
SIND				Sn	**Sn**	**10 03 34.3**	**-1.8**
OJC	**Ojcow**	**4.16**	**46**	eP	**Pn**	**10 02 47.0**	**+0.2**
OJC				e		10 03 34.3	
OJC	**Ojcow**	**4.16**	**46**	ePn	**Pn**	**10 02 47.0**	**+0.2**
OJC				ePg	**Pg**	**10 03 02.3**	**-2.6**
OJC				eSn	**Sn**	**10 03 34.3**	**-1.8**
OJC				eSg	**Sg**	**10 03 55.2**	**-5.2**
OJC	**Ojcow**	**4.16**	**46**	ePn	**Pn**	**10 02 47.0**	**+0.2**
OJC				ePg	**Pg**	**10 03 02.3**	**-2.6**
OJC				eSn	**Sn**	**10 03 34.3**	**-1.8**
OJC				eSg	**Sg**	**10 03 55.2**	**-5.2**
SISB	**Singen-Sch Ber**	**4.19**	**276**	⇓ ePn	**Pn**	**10 02 48.8**	**+1.6**
SISB				Sn	**Sn**	**10 03 36.0**	**-0.7**
SFI	**Santa Sofia**	**4.20**	**214**	ePn	**Pn**	**10 02 48.1**	**+0.7**
STU	**Stuttgart**	**4.21**	**291**	ePn	**Pn**	**10 02 48.6**	**+1.1**
STU				eSg	**Sg**	**10 03 57.8**	**-4.0**
TUBL	**Tuebingen Lnz**	**4.21**	**287**	⇑ ePn	**Pn**	**10 02 49.1**	**+1.5**
TUBL				Sn	**Sn**	**10 03 35.5**	**-2.0**
SPAK	**Spaichingen**	**4.34**	**281**	⇑ ePn	**Pn**	**10 02 50.5**	**+1.2**
SPAK				Sn	**Sn**	**10 03 39.4**	**-1.2**
SPAK	**Spaichingen**	**4.34**	**281**	Pn	**Pn**	**10 02 50.4**	**+1.1**
CRE	**Caprese Michel**	**4.41**	**212**	ePn	**Pn**	**10 02 51.4**	**+1.1**
CRE	**Caprese Michel**	**4.41**	**212**	ePn	**Pn**	**10 02 51.4**	**+1.1**
LBG	**Lerchenberg**	**4.43**	**289**	⇑ ePn	**Pn**	**10 02 51.6**	**+1.0**
LBG				Sn	**Sn**	**10 03 40.9**	**-2.1**
GRAM		**4.59**	**232**	P	**Pn**	**10 02 54.7**	**+1.8**
GRAM		**4.59**	**232**	P	**Pn**	**10 02 54.7**	**+1.8**
VALM		**4.59**	**230**	P	**Pn**	**10 02 53.6**	**+0.7**
VALM		**4.59**	**230**	P	**Pn**	**10 02 53.6**	**+0.7**
BDI	**Bagni Di Lucca**	**4.62**	**225**	ePn	**Pn**	**10 02 54.2**	**+0.9**
BDI	**Bagni Di Lucca**	**4.62**	**225**	ePn	**Pn**	**10 02 54.2**	**+0.9**
VAI	**Varese**	**4.65**	**253**	ePn	**Pn**	**10 02 55.5**	**+1.7**
VAI	**Varese**	**4.65**	**253**	ePn	**Pn**	**10 02 55.5**	**+1.7**
BFO	**Black Forest**	**4.67**	**284**	ePn	**Pn**	**10 02 54.8**	**+0.7**
BFO				Sn	**Sn**	**10 03 46.1**	**-2.9**
BFO				eSg	**Sg**	**10 04 14.1**	**-3.2**
BFO	**Black Forest**	**4.67**	**284**	ePn	**Pn**	**10 02 54.8**	**+0.8**
BFO				eSg	**Sg**	**10 04 14.1**	**-3.2**
BACM		**4.73**	**230**	P	**Pn**	**10 02 56.0**	**+1.1**
BACM		**4.73**	**230**	P	**Pn**	**10 02 56.0**	**+1.1**
TOD	**Tromm**	**4.74**	**300**	Pn	**Pn**	**10 02 55.6**	**+0.6**
TOD	**Tromm**	**4.74**	**300**	Pn	**Pn**	**10 02 55.6**	**+0.5**
SWS	**Schriesheim**	**4.76**	**298**	⇓ ePn	**Pn**	**10 02 56.0**	**+0.7**
SWS				Sn	**Sn**	**10 03 47.3**	**-3.8**
CODM		**4.77**	**233**	P	**Pn**	**10 02 56.0**	**+0.5**
CODM		**4.77**	**233**	P	**Pn**	**10 02 56.0**	**+0.5**
NRCA	**Norcia**	**4.80**	**198**	ePn	**Pn**	**10 02 55.9**	**0.0**
NRCA	**Norcia**	**4.80**	**198**	ePn	**Pn**	**10 02 55.9**	**0.0**
FELD	**Feldberg**	**4.84**	**278**	⇑ ePn	**Pn**	**10 02 56.9**	**+0.4**
FELD				Sn	**Sn**	**10 03 49.9**	**-3.5**
KIZ	**Kirchzarten**	**4.91**	**279**	⇑ ePn	**Pn**	**10 02 57.6**	**+0.3**
KIZ				Sn	**Sn**	**10 03 51.1**	**-3.8**
PII	**Pisa**	**4.92**	**223**	ePn	**Pn**	**10 02 57.7**	**+0.2**
PII	**Pisa**	**4.92**	**223**	ePn	**Pn**	**10 02 57.7**	**+0.2**
KTD	**Kalmit**	**5.07**	**295**	Pn	**Pn**	**10 03 00.4**	**+0.7**
LIBD	**Limburg**	**5.13**	**281**	Pn	**Pn**	**10 03 01.3**	**+0.7**
MCGN	**Macugnaga**	**5.13**	**256**	ePn	**Pn**	**10 03 02.0**	**+1.5**
MCGN	**Macugnaga**	**5.13**	**256**	ePn	**Pn**	**10 03 02.0**	**+1.4**
LANF	**Langenberg**	**5.15**	**290**	⇑ ePn	**Pn**	**10 03 01.5**	**+0.7**
LANF	**Langenberg**	**5.15**	**290**	Pn	**Pn**	**10 03 01.4**	**+0.7**
BBS	**Basel-Blauen**	**5.18**	**273**	⇓ ePn	**Pn**	**10 03 01.7**	**+0.5**
BBS	**Basel-Blauen**	**5.18**	**273**	Pn	**Pn**	**10 03 01.5**	**+0.3**
GRUS	**Gruza**	**5.27**	**130**	⇑ iPn	**Pn**	**10 03 01.1**	**-1.4**
WLS	**Welschbruch**	**5.33**	**284**	⇑ ePn	**Pn**	**10 03 03.6**	**+0.3**
WLS	**Welschbruch**	**5.33**	**284**	Pn	**Pn**	**10 03 03.5**	**+0.2**
CDF	**Champ du Feu**	**5.38**	**284**	ePn	**Pn**	**10 03 04.2**	**+0.2**
CDF				ePg	**Pg**	**10 03 24.3**	**-4.8**
CDF				eSn	**Sn**	**10 04 00.0**	**-6.8**
CDF				eSg	**Sg**	**10 04 33.0**	**-7.8**
	comp=N,269nm,0.9s						
CLZ	**Clausthal**	**5.40**	**327**	ePn	**Pn**	**10 03 04.1**	**-0.2**
CLZ				eSg	**Sg**	**10 04 36.5**	**-5.1**
PCP	**Pian Castagno**	**5.42**	**240**	P	**Pn**	**10 03 05.7**	**+1.0**
PCP	**Pian Castagno**	**5.42**	**240**	P	**Pn**	**10 03 05.7**	**+1.1**
MOF	**Molkenrain**	**5.43**	**278**	⇓ ePn	**Pn**	**10 03 05.0**	**+0.3**
MOF	**Molkenrain**	**5.43**	**278**	Pn	**Pn**	**10 03 04.8**	**+0.1**
ECH	**Echery**	**5.43**	**281**	ePn	**Pn**	**10 03 05.0**	**+0.2**

ECH				Sn	Sn	10 04 02.3	-5.8
ECH	Echery	5.43	281	Pn	Pn	10 03 04.7	-0.1
TRAV		5.45	252	P	Pn	10 03 04.7	-0.4
KWP	Kalwaria	5.50	63	eP	Pn	10 03 12.5	+6.8
KWP	Kalwaria	5.50	63	ePn	Pn	10 03 12.5	+6.8
ABH	Alteburg	5.60	299	⇓ePn	Pn	10 03 07.9	+0.8
ABH	Alteburg	5.60	299	Pn	Pn	10 03 08.4	+1.2
HINF	Hinteralfeld	5.62	277	ePn	Pn	10 03 07.2	-0.2
HINF				eSn	Sn	10 04 06.7	-6.0
HINF				eSg	Sg	10 04 40.9	-7.8
	comp=N,56nm,0.4s						
LOMF	Lomont	5.64	272	Pn	Pn	10 03 07.8	0.0
LOMF	Lomont	5.64	272	Pn	Pn	10 03 07.7	-0.1
FIN	Finale Ligure	5.81	239	ePn	Pn	10 03 10.2	0.0
FIN	Finale Ligure	5.81	239	P	Pn	10 03 09.7	-0.4
FIN	Finale Ligure	5.81	239	ePn	Pn	10 03 10.1	0.0
RUP	Ruppelstein	5.83	296	Pn	Pn	10 03 11.3	+0.9
LSD	Ceresole Reale	5.86	253	P	Pn	10 03 13.4	+2.7
LSD	Ceresole Reale	5.86	253	P	Pn	10 03 13.4	+2.7
RSP	Reno Superiore	5.91	250	P	Pn	10 03 10.6	-1.0
RORO		5.95	239	P	Pn	10 03 11.3	-0.8
ROB	Roburent	5.96	241	P	Pn	10 03 12.5	+0.3
ROB	Roburent	5.96	241	P	Pn	10 03 12.5	+0.3
HAU	Haudompre	5.96	279	ePn	Pn	10 03 11.2	-1.0
HAU				ePg	Pg	10 03 34.3	-6.5
HAU				eSn	Sn	10 04 15.0	-6.4
HAU				eSg	Sg	10 04 51.3	-8.9
	comp=N,97nm,0.5s						
GKP	Gorka Klasztor	6.01	12	eP	Pn	10 03 14.9	+2.0
GKP	Gorka Klasztor	6.01	12	ePn	Pn	10 03 14.9	+2.0
BHB	Bricherasio	6.05	248	P	Pn	10 03 13.8	+0.3
BHB	Bricherasio	6.05	248	P	Pn	10 03 13.8	+0.3
LPG	La Plagne	6.10	255	ePn	Pn	10 03 14.7	+0.4
LPG				eSn	Sn	10 04 19.1	-5.9
	comp=N,18nm,0.4s						
LPL	La Plagne	6.11	255	ePn	Pn	10 03 15.2	+0.9
LPL				ePg	Pg	10 03 41.3	-2.4
LPL				eSn	Sn	10 04 18.6	-6.5
	comp=N,18nm,0.4s						
MONE	Monesi	6.15	240	P	Pn	10 03 13.6	-1.3
IMI	Imperia	6.17	238	ePn	Pn	10 03 14.8	-0.4
IMI	Imperia	6.17	238	ePn	Pn	10 03 14.8	-0.4
THEF	They Montfort	6.22	281	⇓iPn	Pn	10 03 16.0	+0.2
THEF	They Montfort	6.22	281	Pn	Pn	10 03 15.8	0.0
CABF	La Chapelle	6.24	266	ePn	Pn	10 03 16.2	0.0
CABF				ePg	Pg	10 03 38.8	-7.6
CABF				eSn	Sn	10 04 21.9	-6.5
CABF				eSg	Sg	10 05 01.3	-8.3
	comp=N,118nm,0.9s						
ENR	Entracque	6.27	242	P	Pn	10 03 15.9	-0.7
STV2	Anna di Valdie	6.31	243	P	Pn	10 03 15.8	-1.4
PZZ	Prazzo	6.31	245	P	Pn	10 03 16.5	-0.7
STV	Sta Anna Valdi	6.31	243	P	Pn	10 03 16.2	-1.1
RRL	Cesana Torines	6.32	250	P	Pn	10 03 18.9	+1.6
RRL	Cesana Torines	6.32	250	P	Pn	10 03 18.9	+1.6
NEGI	Negi	6.32	238	P	Pn	10 03 15.6	-1.6
SAOF	Saorge	6.32	240	Pn	Pn	10 03 17.3	0.0
BNI	Bardonecchia	6.33	251	ePn	Pn	10 03 18.6	+1.2
	comp=N,12nm,0.7s						
BNI	Bardonecchia	6.33	251	ePn	Pn	10 03 18.6	+1.2
	comp=N,12nm,0.7s						
WLF	Walferdange	6.38	294	P	Pn	10 03 19.7	+1.6
AUTN	L'Aution	6.39	240	Pn	Pn	10 03 18.7	+0.4
MBDF	Montbardon	6.41	248	ePn	Pn	10 03 18.0	-0.6
MBDF				eSn	Sn	10 04 25.5	-7.2
	comp=N,25nm,0.5s						
SBF	Sospel	6.46	239	ePn	Pn	10 03 19.2	-0.1
AURF	Auriere	6.51	240	Pn	Pn	10 03 20.0	0.0
PGF	Pioggiola	6.53	224	ePn	Pn	10 03 17.2	-3.1
RFYF	Reffroy	6.59	284	ePn	Pn	10 03 21.4	+0.2
RFYF				eSn	Sn	10 04 30.0	-7.2
RFYF				eSg	Sg	10 05 11.5	-10
	comp=N,62nm,0.5s						
MEM	Membach	6.80	301	P	Pn	10 03 25.9	+1.8
SFTF	Sexfontaines	6.85	280	ePn	Pn	10 03 22.7	-2.0
CALN	Calern	6.85	241	Pn	Pn	10 03 24.9	+0.1
MEZF	Maizieres J'vi	6.86	283	ePn	Pn	10 03 23.3	-1.6
MEZF				ePg	Pg	10 03 55.4	-3.3
MEZF				eSg	Sg	10 05 19.4	-11
	comp=N,82nm,0.8s						
ORIF	Oris-en-Rattie	6.90	252	ePn	Pn	10 03 26.3	+0.9
ORIF				eSn	Sn	10 04 37.1	-7.7
	comp=N,35nm,0.5s						
FRF	La Foret Royal	7.11	240	ePn	Pn	10 03 27.3	-1.1
LMR	La Mourre	7.32	239	ePn	Pn	10 03 29.8	-1.6
GIVF	Givet	7.33	295	eP	Pn	10 03 33.0	+1.5
GIVF				eSn	Sn	10 04 46.9	-8.6
	comp=N,40nm,0.3s						
SMRF	Simiane la Rot	7.53	246	ePn	Pn	10 03 34.3	0.0
LOR	Lormes	7.67	273	ePn	Pn	10 03 33.2	-3.0
LOR				eSn	Sn	10 04 55.9	-8.1
LOR				eSg	Sg	10 05 45.0	-12
	comp=N,24nm,0.5s						
BAIF	Baives	7.69	294	eSn	Sn	10 04 56.3	-8.4
	comp=N,17nm,0.4s						
VIVF	Saint-Julien-l	7.71	254	ePn	Pn	10 03 35.3	-1.5
VIVF				eSn	Sn	10 04 56.3	-8.8
	comp=N,22nm,0.4s						
MLR	Muntele Rosu	7.71	101	Pn	Pn	10 03 38.7	+1.9
	comp=N,0.2nm,0.3s,baz=114,slow=21,SNR=2.5						
SMF	Signal de Mont	7.76	268	ePn	Pn	10 03 37.3	-0.2
SMF				ePg	Pg	10 04 08.9	-7.7
SMF				eSn	Sn	10 04 57.1	-9.2
	comp=N,28nm,0.6s						
SSF	Saint Saulge	7.93	272	ePn	Pn	10 03 37.1	-2.7
SSF				eSn	Sn	10 05 03.1	-7.4
	comp=N,9.1nm,0.4s						
AVF	Avril sur Loir	8.07	270	ePn	P	10 03 41.3	-0.5
BGF	Bois d'Agland	8.45	269	ePn	P	10 03 45.8	-1.3
BGF				eSn	Sn	10 05 13.6	-10
	comp=N,25nm,0.3s						
HYF	Humbligny	8.49	274	ePn	P	10 03 48.0	+0.3
LASF	Ste Croix	8.57	251	ePn	P	10 03 47.3	-1.5
LASF				eSn	Sn	10 05 17.1	-9.4
	comp=N,40nm,0.5s						
TCF	Toulx Ste Croi	8.93	267	ePn	P	10 03 51.7	-2.1
CAF	Calviac	9.41	259	ePn	P	10 03 59.9	-0.5
AKASG	Malin Array Be	9.81	65	Pn	P	10 04 03.1	-2.7
	comp=N,0.5nm,0.3s,baz=254,slow=14,SNR=5.5						
AKASG	Malin Array Be	9.81	65	P	P	10 04 03.1	-2.8
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MTLF	Montolieu	9.96	251	ePn	P	10 04 05.9	-2.1
LDF	La Druitiere	10.30	282	ePn	P	10 04 10.9	-1.6
MFF	Saint Martin d	10.47	271	ePn	P	10 04 14.4	-0.6
FLN	La Foliniere	10.54	283	ePn	P	10 04 12.0	-3.9
GRR	Gorron	10.79	281	ePn	P	10 04 17.9	-1.3
EPF	Esparros	11.32	253	ePn	P	10 04 23.7	-2.8
SGMF	Saint Gilles	11.92	281	ePn	P	10 04 31.2	-3.5
QUIF	Quistinic	12.35	279	ePn	P	10 04 36.6	-3.9
ROSF	Rostrenen	12.40	281	ePn	P	10 04 37.0	-4.1
EKA	Eskdalemuir Ar	13.87	312	Pn	P	10 05 01.5	+1.0
	comp=Z,0.3nm,0.3s,baz=131,slow=14,SNR=3.6						
FINES	FINESS Array B	15.39	20	Pn	P	10 05 20.6	+0.2
	comp=Z,0.2nm,0.3s,baz=191,slow=9.7,SNR=5.2						
ESDC	Sonseca Array	15.84	248	Pn	P	10 05 30.6	+4.3
	comp=Z,0.7nm,0.3s,baz=37,slow=13,SNR=3.3						
ARCES	ARCESS Array B	22.77	9	P	P	10 06 47.1	+2.3
	comp=Z,1.6nm,0.8s,mb3.5,baz=190,slow=14,SNR=4.1						
ARCES	ARCESS Array B	22.77	9	P	P	10 06 47.2	+2.3
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						

*NEIC **01** 10:02:40.7, 41.69N×14.17E, h8km, MD3.3(ROM), After ROM.*
*CSEM **01** 10:02:40.7±0.1, 41.69N×14.17E, h7km±1km, MD3.4/5, After ROM*
*ROM **01** 10:02:40.7±0.1, 41.69N×14.17E, h7km±1km, MD3.3/5, ML2.5/7, Error ellipse: s-maj=1.2km s-min=1.0km az=0.0*
ISC 01 10:02:40.9±0.3**, 41.68N**±0.03×**14.17E**±0.03**, h12**km±4km**, n52,** σ**1§16**/71**, 4C-7D, Southern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CII	Carovilli	0.11	65	⇑iPG	Pg	10 02 44.0	0.0
CII	Carovilli	0.11	65	⇑iPg	Pg	10 02 44.0	0.0
CPI2	Carpinone	0.14	130	⇑iPG	Pg	10 02 44.0	-0.5
CPI2	Carpinone	0.14	130	⇑iPg	Pg	10 02 44.0	-0.6
SDI	San Donato	0.27	277	⇓iPG	Pg	10 02 47.2	+0.4
SDI	San Donato	0.27	277	⇓iPg	Pg	10 02 47.2	+0.3
SGG	Gregorio Mates	0.33	152	ePG	Pg	10 02 47.7	-0.2
SGG	Gregorio Mates	0.33	152	ePg	Pg	10 02 47.7	-0.2
INTR	Introdacqua	0.39	329	⇓iPG	Pg	10 02 49.4	+0.4
INTR				SG	Sg	10 02 56.4	+2.0
INTR	Introdacqua	0.39	329	⇓iPg	Pg	10 02 49.4	+0.4
INTR				eSg	Sg	10 02 56.4	+1.9
MSC	Monte Massico	0.51	197	ePG	Pg	10 02 52.1	+0.8
MSC				SG	Sg	10 02 59.3	+1.0
MSC	Monte Massico	0.51	197	ePg	Pg	10 02 52.1	+0.8
MSC				eSg	Sg	10 02 59.3	+1.1
PTQR	Pietraquaria	0.67	301	⇓iPG	Pg	10 02 54.1	-0.4
PTQR				SG	Sg	10 03 04.2	+0.6
	316nm,0.5s						
PTQR	Pietraquaria	0.67	301	⇓iPg	Pg	10 02 54.1	-0.4
PTQR				eSg	Sg	10 03 04.2	+0.6
PTQR	Pietraquaria	0.67	301	⇓iPg	Pg	10 02 54.1	-0.4
	316nm,0.5s						
PTQR				Sg	Sg	10 03 04.2	+0.6
FG2	Serracapriola	0.75	80	ePG	Pg	10 02 54.8	-1.3
FG2				SG	Sg	10 03 07.1	+0.9
	663nm,0.3s						
FG2	Serracapriola	0.75	80	ePg	Pg	10 02 54.8	-1.3
FG2				eSg	Sg	10 03 07.1	+0.9
FG2	Serracapriola	0.75	80	ePg	Pg	10 02 54.8	-1.3
	663nm,0.3s						
FG2				Sg	Sg	10 03 07.1	+0.9
OVO	Vesuviano	0.87	169	ePG	Pg	10 02 59.1	+0.7
OVO	Vesuviano	0.87	169	ePg	Pg	10 02 59.1	+0.7
AQU	L'Aquila	0.89	320	ePG	Pg	10 02 57.8	-1.0
AQU				SG	Sg	10 03 11.2	+0.5
AQU	L'Aquila	0.89	320	ePg	Pg	10 02 57.9	-0.9
AQU				eSg	Sg	10 03 11.7	+1.0
FG5	Orsara di Pugl	0.91	115	ePG	Pg	10 02 59.8	+0.5
	214nm,0.3s						
FG5	Orsara di Pugl	0.91	115	ePg	Pg	10 02 59.8	+0.6
FG5	Orsara di Pugl	0.91	115	ePg	Pg	10 02 59.8	+0.5
	214nm,0.3s						
CERT	Cerreto	0.93	287	ePG	Pg	10 02 58.0	-1.7
CERT	Cerreto	0.93	287	ePg	Pg	10 02 58.0	-1.6
TERO	Teramo	1.03	336	ePG	Pg	10 03 00.0	-1.7
TERO				SG	Sg	10 03 17.3	+1.7
TERO	Teramo	1.03	336	ePg	Pg	10 03 00.0	-1.7
TERO				eSg	Sg	10 03 17.3	+1.7
CSSN	Cassano Irpino	1.04	142	ePG	Pg	10 03 01.0	-0.8
CSSN				SG	Sg	10 03 17.8	+2.1
	263nm,0.5s						
CSSN	Cassano Irpino	1.04	142	ePg	Pg	10 03 01.0	-0.7
CSSN				eSg	Sg	10 03 17.8	+2.1
CSSN	Cassano Irpino	1.04	142	ePg	Pg	10 03 01.0	-0.8
	263nm,0.5s						
CSSN				Sg	Sg	10 03 17.8	+2.1
RGNG	Rignano Grg	1.06	90	ePN	Pn	10 03 00.8	-0.7
RGNG				SN	Sn	10 03 16.9	+0.8
RGNG	Rignano Grg	1.06	90	ePg	Pg	10 03 00.8	-1.3
RGNG				eSg	Sg	10 03 16.9	+0.6
ISOR	Termini	1.10	174	ePN	Pn	10 03 02.0	-0.1
FG4	Candela	1.15	118	ePN	Pn	10 03 04.8	+2.1
	61nm,0.4s						
FG4	Candela	1.15	118	ePg	Pg	10 03 04.8	+0.8
FG4	Candela	1.15	118	ePn	Pn	10 03 04.8	+2.1
	61nm,0.4s						
MNS	Montasola	1.32	303	ePn	Pn	10 03 03.1	-2.0
FGMS	Monte Sant'Ang	1.33	88	ePN	Pn	10 03 06.1	+0.7
FGMS	Monte Sant'Ang	1.33	88	ePg	Pg	10 03 06.1	-1.6
MRLC	Muro Lucano	1.35	132	ePN	Pn	10 03 05.4	-0.3
	62nm,0.5s						
MRLC	Muro Lucano	1.35	132	ePg	Pg	10 03 05.4	-2.6
MRLC	Muro Lucano	1.35	132	ePn	Pn	10 03 05.4	-0.3
	62nm,0.5s						
SGO	Sicignano	1.41	142	ePN	Pn	10 03 06.5	+0.1
	53nm,0.4s						
SGO	Sicignano	1.41	142	ePg	Pg	10 03 06.5	-2.6
SGO	Sicignano	1.41	142	ePn	Pn	10 03 06.5	+0.1
	53nm,0.4s						
TOLF	Tolfa	1.67	284	ePN	Pn	10 03 10.7	+0.5
TOLF	Tolfa	1.67	284	ePg	Pg	10 03 10.7	-3.6
MGR	Morigerati	1.86	145	ePN	Pn	10 03 13.2	+0.3
	28nm,0.5s						
MGR	Morigerati	1.86	145	ePn	Pn	10 03 13.2	+0.3
MGR	Morigerati	1.86	145	ePn	Pn	10 03 13.2	+0.3
	28nm,0.5s						

IDC 01 10:05:27.6±1.8**, 17.77S**×**177.73W, mb3.9**/4**, mb1 4.2**/4**, mb1mx3.9**/13**, MS4.8**/1**, Ms1 4.8**/1**, ms1mx3.4**/21**, Error ellipse: s-maj=167.0km s-min=30.2km az=156.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	20.91	191	LR	LR	10 17 41.7	
	comp=Z,2μm,19.1s,baz=214,slow=35						
STKA	Stephens Creek	39.27	241	P	P	10 12 59.0	-0.9
	3.3nm,1.1s,baz=94,slow=16,SNR=3.6						
WB2	Warramunga Arr	45.29	259	eP	P	10 13 46.7	-2.5
WRA	Warramunga Arr	45.30	259	P	P	10 13 47.1	-2.2
	0.3nm,0.4s,baz=97,slow=6.8,SNR=24						
ASAR	Alice Springs	45.46	254	P	P	10 13 48.5	-2.0
	2.6nm,0.5s,baz=89,slow=8.4,SNR=79						
ASPA	Alice Springs	45.46	254	eP	P	10 13 48.0	-2.5
TXAR	Lajitas Array	85.37	57	P	P	10 18 07.4	-1.1
	0.4nm,0.7s,baz=221,slow=4.5,SNR=6.0						

IDC 01 10:19:50.7±1.4**, 13.20N**×**121.33E, mb3.3**/3**, mb1 3.6**/3**, mb1mx3.3**/18**, MS3.8**/1**, Ms1 3.8**/1**, ms1mx3.0**/12**, Error ellipse: s-maj=57.4km s-min=11.0km az=68.0, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	Tagaytay City	0.97	337	Pg	Pg	10 20 08.5	-1.7
	95nm,0.3s,baz=196,slow=2.9,SNR=5.9						
TGY				Lg		10 20 23.6	
	150nm,0.3s,baz=105,slow=23,SNR=12						
CMAR	Chiang Mai Arr	22.16	287	P	P	10 24 48.5	-1.5
	0.8nm,0.5s,baz=108,slow=16,SNR=3.3						
JHJ	Hachijo jima 2	26.01	37	LR	LR	10 34 15.4	
	comp=Z,194nm,18.4s,baz=316,slow=33						
WRA	Warramunga Arr	35.33	159	P	P	10 26 48.1	-1.9
	0.2nm,0.6s,baz=339,slow=9.4,SNR=6.0						
ASAR	Alice Springs	38.65	161	P	P	10 27 16.1	-1.7
	0.2nm,0.6s,baz=335,slow=6.7,SNR=5.5						

*CSEM **01** 10:20:16.6±0.2, 47.40N×15.16E, h2km, ML2.7/5, Error ellipse: s-maj=3.8km s-min=2.8km az=86.0*
*PRU **01** 10:20:16.6, 47.44N×15.22E*
*IPEC **01** 10:20:17.0±0.1, 47.39N×15.22E, h12km±1km, ML1.8/2, Error ellipse: s-maj=1.3km s-min=0.9km az=31.0*
ISC 01 10:20:15.1±0.5**, 47.44N**±0.02×**15.16E**±0.05**, h2**km**, n16,** σ**1§23**/26**, 3C-1D, Austria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSA	Arzberg	0.32	128	⇓iPG	Pg	10 20 22.1	+0.7
ARSA				i SG	Sg	10 20 25.8	+0.2
	95nm,0.1s						
ARSA	Arzberg	0.32	128	ePg	Pg	10 20 22.0	+0.6
	baz=303						
ARSA				eSg	Sg	10 20 25.6	0.0
	baz=303						
MOA	Molln	0.73	304	⇑iPG	Pg	10 20 31.6	+2.0
MOA				i SG	Sg	10 20 42.2	+2.9
	5.7nm,0.1s						
MOA	Molln	0.73	304	ePg	Pg	10 20 31.7	+2.1
	baz=125						
PERS	Pernice	0.81	182	i Pg	Pg	10 20 31.1	-0.1
PERS				i Sg	Sg	10 20 40.6	-1.4
OBKA	Obir	1.02	204	⇑iPG	Pg	10 20 35.5	0.0
OBKA				i SG	Sg	10 20 48.6	-0.6
	10nm,0.2s						
OBKA	Obir	1.02	204	ePg	Pg	10 20 35.5	0.0
	baz=27						
OBKA				eSg	Sg	10 20 48.3	-0.9
	baz=27						
KBA	Koelnbreinsper	1.29	254	⇑iPG	Pg	10 20 41.2	+0.4
KBA				i SG	Sg	10 20 59.1	+1.1
	3.7nm,0.4s						
KBA	Koelnbreinsper	1.29	254	ePg	Pg	10 20 40.8	0.0
	baz=76						
KBA				i Sg	Sg	10 20 59.1	+1.1
	3.7nm,0.4s						
KRUC	Moravsky	1.82	27	ePn	Pn	10 20 49.0	+1.3
	baz=206						
KRUC				eSn	Sn	10 21 12.4	+0.8
	6.1nm,0.2s,baz=206						
KHC	Kasperske Hory	1.99	329	ePG	Pg	10 20 53.1	-1.8
KHC				eSG	Sg	10 21 20.0	-1.4
	6.0nm,0.3s						
VRAC	Vranov	2.10	27	eSn	Sn	10 21 19.3	+0.6
	4.5nm,0.2s,baz=206						
PRU	Pruhonice	2.58	351	eSG	Sg	10 21 38.5	-2.5
	8.6nm,0.4s						
DPC	Dobruska-Polom	3.01	14	eSG	Sg	10 21 50.1	-5.2
UPC	Upice	3.12	10	eSG	Sg	10 21 54.8	-4.1
NKC	Novy Kostel	3.32	328	eSG	Sg	10 22 05.2	-0.3

*NEIC **01** 10:32:18.5±1.2, 51.60N×178.62E, h61km±7km, mb3.6/1, Error ellipse: s-maj=37.2km s-min=7.5km az=187.0*
*IDC **01** 10:32:21.0±4.2, 51.64N×178.77E, h80km±33km, mb3.0/6, mb1 3.4/7, mb1mx3.2/24, Error ellipse: s-maj=69.7km s-min=17.9km az=4.0*
ISC 01 10:32:18.4±1.9**, 51.5N**±0.4×**178.8E**±0.1**, h76**km±10km**, n19,** σ**0§61**/21**, mb3.3**/7**, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	Kanaga Island	2.50	82	P	P	10 32 58.3	+0.4
KIMD				S	Px	10 33 13.2	
KIKV	Kanaga Island	2.55	80	P	P	10 32 58.8	+0.2
KIKV				S	Px	10 33 16.4	
KIWB	Kanaga Island	2.56	80	P	P	10 32 58.9	+0.2
ADAG	Mount Adagdak	2.92	79	P	P	10 33 03.6	-0.1
GSTD	Great Sitkin T	3.21	78	P	P	10 33 07.9	+0.2
GSTD				S	Px	10 33 34.1	
GSMY	Great Sitkin M	3.26	78	P	P	10 33 08.1	-0.4
GSTR	Great Sitkin T	3.26	77	P	P	10 33 08.6	+0.1
GSIG	Igitkin Island	3.33	80	P	P	10 33 09.1	-0.3
FX1	Attu Island--F	3.72	294	P	P	10 33 14.7	-0.1
	16nm,0.3s,baz=71,slow=7.9,SNR=22						
FX1				S	S	10 33 57.8	+0.2
	22nm,0.3s,baz=271,slow=19,SNR=8.3						
FX1	Attu Island--F	3.72	294	eP	P	10 33 10.5	-4.3
FX1				eS	S	10 33 57.8	+0.1
ATKA	Atka Island	4.42	78	P	P	10 33 23.8	-0.7
ATKA				S	Px	10 34 01.3	
ILAR	Eielson Array	22.11	40	P	P	10 37 08.6	+0.4
	0.2nm,0.6s,mb2.6,baz=244,slow=8.3,SNR=5.0						
NVAR	Mina Array Bea	45.04	81	P	P	10 40 29.6	+1.7
	0.5nm,0.8s,mb3.3,baz=290,slow=11,SNR=4.3						
SONM	Songino Array	45.23	295	P	P	10 40 29.9	+0.7
	0.5nm,0.7s,mb3.3,baz=74,slow=9.0,SNR=3.2						
SONM	Songino Array	45.23	295	P	P	10 40 29.9	+0.7
BW06	Boulder Array	47.71	71	P	P	10 40 48.6	-0.3
	0.4nm,0.5s,mb3.5						
PDAR	Pinedale Array	47.71	71	P	P	10 40 48.6	-0.3
	1.2nm,1.2s,mb3.6,baz=349,slow=4.6,SNR=3.4						
MKAR	Makanchi Array	58.76	307	P	P	10 42 09.2	-1.1
	0.1nm,0.3s,mb3.3,baz=50,slow=6.7,SNR=5.8						
TXAR	Lajitas Array	60.13	80	P	P	10 42 19.3	-0.7
	0.2nm,0.7s,mb3.3,baz=292,slow=4.0,SNR=3.6						

*IDC **01** 10:40:39.3±1.2, 16.43S×178.66W, mb3.9/7, mb1 4.1/7, mb1mx3.9/15, Error ellipse: s-maj=43.2km s-min=23.8km az=137.0*
ISC 01 10:40:42.9±1.0**, 16.5S**±0.2×**178.7W**±0.2**, h33**km**, n9,** σ**0§50**/9**, mb3.8**/7**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	22.02	189	P	P	10 45 35.7	-0.3
	3.2nm,0.5s,mb4.0,baz=214,slow=22,SNR=3.6						
STKA	Stephens Creek	39.07	240	P	P	10 48 09.2	+0.7
	0.5nm,0.3s,mb3.7,baz=98,slow=11,SNR=4.8						
WB2	Warramunga Arr	44.60	258	eP	P	10 48 54.1	0.0
WRA	Warramunga Arr	44.61	258	P	P	10 48 54.2	+0.1
	0.8nm,0.8s,mb3.6,baz=95,slow=7.6,SNR=21						
ASAR	Alice Springs	44.90	253	P	P	10 48 56.4	-0.1
	4.8nm,0.5s,mb4.6,baz=89,slow=8.0,SNR=136						
ASPA	Alice Springs	44.90	253	eP	P	10 48 56.4	-0.1
FITZ	Fitzroy Crossi	52.97	260	P	P	10 49 58.7	-0.1
	1.6nm,0.8s,mb4.0,baz=346,slow=18,SNR=3.1						
NVAR	Mina Array Bea	78.61	44	P	P	10 52 44.1	+0.9
	0.4nm,0.8s,mb3.4,baz=221,slow=9.6,SNR=3.3						
ILAR	Eielson Array	84.56	13	P	P	10 53 12.7	-1.0
	0.2nm,0.5s,mb3.5,baz=222,slow=4.6,SNR=5.8						

*SYO **01** 10:45:43.9, 22.71S×66.48W, h180km, MB4.7*
*NEIC **01** 10:45:44.5±0.5, 22.71S×66.58W, h183km±4km, mb4.7/40, Error ellipse: s-maj=7.5km s-min=5.1km az=64.0*
*BJI **01** 10:45:45.3, 23.32S×66.72W, h194km, mB4.8*
*IDC **01** 10:45:47.2±2.1, 22.65S×66.60W, h203km±18km, mb4.2/13, mb1 4.3/15, mb1mx4.3/17, Error ellipse: s-maj=19.2km s-min=11.8km az=56.0*
ISC 01 10:45:44.0±0.6**, 22.71S**±0.04×**66.66W**±0.05**, h190**km±5km**, h202**km±1.1km**:pP-P, n147,** σ**1§11**/123**, mb4.7**/47**, 7C-34D, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.08	272	⇑iP	P	10 46 25.7	+2.7
LVC				i S	S	10 46 55.6	+2.5
LVC				AMP		10 46 57.2	
	comp=E,5μm,0.7s						
LVC	Limon Verde	2.08	272	ePn	P	10 46 25.6	+2.6
LVC				eSn	S	10 46 55.7	+2.5
ANCH	Antofagasta	3.59	254	⇑iP	P	10 46 39.4	-1.5
ANCH				i S	S	10 47 20.1	-4.8
CPN1	Cerro Paranal	3.93	240	⇑iP	P	10 46 46.6	+1.4
CPN1				i S	S	10 47 31.1	-1.4
CPN1				AMP		10 47 32.7	
	comp=N,7μm,0.5s						
CPCH	Copiapo	5.72	215	eP	P	10 47 06.9	-1.3
CPCH				i S	S	10 48 12.1	-1.5
LPAZ	La Paz	6.54	347	ePn	P	10 47 21.2	+2.4
	comp=N,52nm,0.8s						
ARE	Arequipa	7.70	323	⇑iP	P	10 47 33.8	-0.4
ARE				e		10 47 49.0	
ARE				eS	Px	10 47 53.0	
TLL	Tololo Astrono	8.31	206	eP	P	10 47 40.5	-1.6
CPUP	Villa Florida	9.23	115	P	P	10 47 55.5	+1.4
	comp=N,0.3nm,0.3s,baz=313,slow=12,SNR=18						
CPUP	Villa Florida	9.23	115	ePn	P	10 47 50.3	-3.8
	comp=N,7.6nm,0.9s						
SAML	Samuel	14.08	14	ePn	P	10 48 56.3	-0.1
	comp=N,40nm,0.8s						
SAML				eS	S	10 51 28.5	+0.4
NNA	Nana	14.42	316	eP	P	10 49 02.6	+2.0
	comp=N,29nm,0.8s						
TRQA	Tornquist	15.82	166	eP	P	10 49 16.8	-0.9
	comp=N,10nm,0.6s						
BDFB	Brasilia	18.95	72	P	P	10 49 53.5	+0.7
	comp=N,12nm,0.3s,baz=255,slow=11,SNR=152						
BAO	Brasilia Array	18.97	72	eP	P	10 49 53.8	+0.7
OTAV	Otavalo	25.54	332	eP	P	10 50 58.8	+1.7
	comp=N,3.2nm,0.7s,mb4.1						
EFI	East Falkland	29.67	169	P	P	10 51 33.9	0.0
	comp=N,312nm,0.6s,SNR=18						
SDV	Santo Domingo	31.64	352	eP	P	10 51 49.2	-2.3
	comp=N,6.7nm,0.3s,mb4.8						
USHA	Ushuaia	32.11	182	P	P	10 51 55.2	+0.1
	comp=N,5.4nm,0.6s,mb4.5,baz=45,slow=10,SNR=8.8						
JTS	JuntasAbangare	37.38	329	P	P	10 52 42.1	+1.9
	comp=N,14nm,0.7s,mb4.7,baz=296,slow=22,SNR=12						
JTS	JuntasAbangare	37.38	329	⇓iP	P	10 52 41.6	+1.5
	comp=N,40nm,1.4s,mb4.8						
SJG	San Juan	40.57	1	P	P	10 53 06.5	0.0
	comp=N,5.2nm,0.3s,mb4.7,baz=197,slow=22,SNR=4.0						
SJG	San Juan	40.57	1	P	P	10 53 06.5	0.0
PMSA	Palmer Station	42.09	178	eP	P	10 53 19.5	+1.1
	comp=N,8.6nm,0.6s,mb4.6						
VNA3	Neumayer Olymp	58.27	161	⇓iP	P	10 55 22.8	+2.4
VNA3				e	pP	10 56 09.5	+5.4
VNA1	Neumayer--Stat	58.45	161	⇓iP	P	10 55 24.6	+2.9
VNA1				e	pP	10 56 11.1	+5.7
LRAL	Lakeview Retre	58.73	340	eP	P	10 55 21.8	-2.4
	comp=N,8.8nm,0.4s,mb4.9						
VNA2	Neumayer--Watz	58.83	161	⇓iP	P	10 55 26.8	+2.5
VNA2				e	pP	10 56 13.3	+5.3
CPCT	Cooper Cave	60.27	343	eP	P	10 55 34.7	+0.1
NATX	Nacogdoches	60.43	333	eP	P	10 55 35.3	-0.4
	comp=N,37nm,0.8s,mb5.3						
SWET	Sewanee	60.44	342	⇓iP	P	10 55 33.8	-1.9
SNAA	Sanae	60.46	161	⇓iP	P	10 55 35.5	+0.1
SNAA				e	pP	10 56 21.4	+2.0

BLA Blacksburg 60.99 347 *e*P P 10 55 38.1 -1.3
comp=N,15nm,0.9s,mb4.8
PWV Princeton 61.24 347 *e*P P 10 55 39.9 -1.2
JCT Junction City 61.72 328 *e*P P 10 55 43.0 -1.5
comp=N,25nm,0.7s,mb5.2
WVT Waverly 61.85 341 *e*P P 10 55 42.5 -2.7
comp=N,27nm,0.7s,mb5.2
WVT *e* 10 55 55.7
WVT *e*PcP PcP 10 56 21.8 -2.3
TXAR Lajitas Array 62.82 324 P P 10 55 50.8 -0.9
comp=N,2.6nm,0.6s,mb4.3,baz=151,slow=8.6,SNR=56
TXAR PcP PcP 10 56 27.9 -0.2
comp=N,0.4nm,0.5s,baz=143,slow=6.4,SNR=4.1
TXAR Lajitas Array 62.82 324 P P 10 55 50.8 -0.9
TXAR PcP PcP 10 56 27.9 -0.2
WCI Wyandotte Cave 63.36 343⇓*e*P P 10 55 52.5 -2.6
comp=N,10.0nm,0.6s,mb4.8
FVM French Village 64.37 339⇓*e*P P 10 55 59.6 -2.1
comp=N,26nm,1.0s,mb5.0
ACSO Alum Creek Sta 64.44 346 *e*P P 10 55 59.9 -2.2
comp=N,31nm,1.0s,mb5.1
CCM Cathedral Cave 64.71 339⇓*i*P P 10 56 01.9 -2.0
comp=N,25nm,0.6s,mb5.2
GENY Geneseo 65.95 351 *e*P P 10 56 10.6 -1.1
LIC Lamto 66.74 72 *e*P P 10 56 16.3 -0.9
comp=N,67nm,1.5s,mb5.2
TIC Toumodi 66.94 72 *e*P P 10 56 18.6 +0.1
comp=N,15nm,0.5s,mb5.1
KIC Kosan Boka 67.06 72 *e*P P 10 56 17.2 -2.0
comp=N,55nm,0.8s,mb5.4
DBIC Dimbokro 67.10 72 P P 10 56 17.9 -1.6
comp=N,11nm,0.9s,mb4.7,baz=239,slow=6.1,SNR=8.0
DBIC Dimbokro 67.10 72 *e*P P 10 56 17.2 -2.2
comp=N,13nm,1.0s,mb4.7
LOZ Lake Ozonia 67.39 354⇓*e*P P 10 56 18.7 -2.0
KSU1 Kansas State U 67.58 335⇓*i*P P 10 56 20.3 -1.7
ANMO Albuquerque 68.66 326⇓*i*P P 10 56 28.8 0.0
comp=N,14nm,0.8s,mb4.8
SDCO Great Sand Dun 70.36 328⇑*i*P P 10 56 39.2 +0.2
comp=N,17nm,0.8s,mb4.8
ISCO Idaho Springs 72.03 329⇓*e*P P 10 56 49.4 +0.4
comp=N,15nm,1.3s,mb4.5
PV01 Paradox Valley 72.19 326 *e*P P 10 56 50.5 +0.5
PV10 Paradox Valley 72.61 326 *e*P P 10 56 52.1 -0.4
BAR Barrett 72.89 317⇓*e*P P 10 56 54.4 +0.1
LDFC Landfair 73.58 320⇓*e*P P 10 56 59.1 +0.9
NEN Nelson 73.82 321 *e*P P 10 56 59.5 -0.1
SRU San Rafael 73.93 326⇓*i*P P 10 57 00.5 +0.3
MSU Marysvale 74.36 324 *e*P P 10 57 03.5 +0.9
MSU *e*PcP PcP 10 57 16.9 +0.3
MVU Marysvale 74.38 324⇓*i*P P 10 57 03.6 +0.9
comp=N,12nm,0.8s,mb4.7
MVU *e*PcP PcP 10 57 16.6 0.0
TMUT Trail Mountain 74.42 326 *e*P P 10 57 03.1 +0.1
ARUT Antelope Range 74.53 323 *e*P P 10 57 05.0 +1.4
SYO Syowa Base 74.64 159 ⇑P P 10 57 04.2 +0.6
SYO Syowa Base 74.64 159 ⇑PcP PcP 10 57 12.5 -4.6
RSSD Black Hills 74.80 333⇓*e*P P 10 57 04.7 -0.3
comp=N,8.1nm,0.8s,mb4.4
MPU Maple Canyon 75.18 326 *e*P P 10 57 07.5 +0.3
DAU Daniels Canyon 75.28 326 *e*P P 10 57 08.7 +0.9
JLU Jordanelle 75.52 326⇓*i*P P 10 57 09.8 +0.7
TPNV Topopah Spring 75.53 321⇓*i*P P 10 57 10.4 +1.1
comp=N,11nm,0.8s,mb4.5
DAC Darwin (Calif) 75.87 320 *e*P P 10 57 11.9 +0.8
TCUT Toone Canyon 75.88 327⇓*e*P P 10 57 10.1 -1.0
DUG Dugway 75.92 325⇓*e*P P 10 57 11.9 +0.5
comp=N,16nm,1.3s,mb4.5
PDAR Pinedale Array 76.20 329 P P 10 57 12.9 0.0
comp=N,2.8nm,0.5s,mb4.1,baz=124,slow=7.5,SNR=35
HWUT Hardware Ranch 76.32 327⇓*i*P P 10 57 13.7 +0.1
comp=N,8.2nm,0.6s,mb4.5
SPUT South Promonto 76.55 326⇓*i*P P 10 57 15.3 +0.5
BGU Big Grassy Mou 76.57 326⇓*e*P P 10 57 15.2 +0.3
TPH Tonopah 76.87 321⇓*e*P P 10 57 17.5 +0.8
comp=N,8.5nm,0.9s,mb4.4
ULM Lac du Bonnet 77.11 341 P P 10 57 16.6 -1.1
comp=N,9.8nm,0.5s,mb4.7,baz=146,slow=7.4,SNR=7.2
MTUM Tungsten Hills 77.17 320 *e*P P 10 57 19.0 +0.6
SCHQ Schefferville 77.22 360 P P 10 57 17.6 -0.7
comp=N,4.4nm,0.6s,mb4.3,baz=189,slow=6.4,SNR=7.3
REDW Red Top Meadow 77.28 329⇓*i*P P 10 57 19.2 +0.4
LOHW Long Hollow 77.34 329⇓*i*P P 10 57 19.6 +0.5
TPAW Teton Pass 77.42 329 *e*P P 10 57 20.0 +0.4
MOOW Moose Ponds 77.52 329⇓*i*P P 10 57 20.3 +0.2
OMM Old Mammoth Mi 77.60 320 *e*P P 10 57 21.5 +0.8
ELK Elko 77.61 324⇓*e*P P 10 57 21.3 +0.6
comp=N,12nm,1.3s,mb4.3
MNV Mina 77.65 321 *e*P P 10 57 21.2 +0.2
comp=N,6.2nm,1.0s,mb4.2
IMW Indian Meadow 77.72 329⇓*i*P P 10 57 21.8 +0.6
NVAR Mina Array Bea 77.73 321 P P 10 57 22.2 +0.8
comp=N,3.3nm,0.7s,mb4.1,baz=140,slow=6.1,SNR=35
YFT Old Faithful 78.09 329 *e*P P 10 57 24.1 +0.9
YMR Madison River 78.31 329 *e*P P 10 57 25.7 +1.3
DGMT Dagmar 78.42 336 *e*P P 10 57 25.1 +0.2
comp=N,30nm,1.0s,mb4.9
QLMT Earthquake Lak 78.65 329 *e*P P 10 57 26.7 +0.4
CMB Columbia Colle 78.70 320 *e*P P 10 57 26.1 -0.6
comp=N,2.4nm,0.6s,mb4.0
HLID Hailey 79.18 327⇓*i*P P 10 57 29.9 +0.7
comp=N,20nm,0.8s,mb4.8
MCMT McKenzie Canyo 79.33 328 *e*P P 10 57 30.8 +0.8
BOZ Bozeman (W) 79.36 330 *e*P P 10 57 29.7 -0.3
comp=N,7.3nm,1.3s,mb4.2
BEKR Beckwourth 79.88 321 *e*P P 10 57 33.8 +0.8
comp=N,2.3nm,0.6s,mb4.0
OHCM Honcut 80.20 320 *e*P P 10 57 34.7 0.0
CHMT Chamberlain Mo 81.05 330 *e*P P 10 57 39.4 +0.3
MOD Modoc 81.19 323 *e*P P 10 57 40.2 +0.4
comp=N,15nm,1.0s,mb4.6
YBH Yreka Blue Hor 82.45 321 P P 10 57 45.8 -0.6
comp=N,2.7nm,0.6s,mb4.0,baz=62,slow=4.9,SNR=12
MAW Mawson 82.57 163⇓*i*P P 10 57 47.5 +1.1
comp=N,5.9nm,0.7s,mb4.4
MAW Mawson 82.57 163 P P 10 57 47.5 +1.1
comp=N,7.7nm,0.7s,mb4.5,baz=217,slow=6.1,SNR=31
WALA Waterton Lakes 82.92 331 *e*P P 10 57 48.1 -0.5
comp=N,9.9nm,1.0s,mb4.5
HUMO Hull Mountain 83.14 322 *e*P P 10 57 49.5 -0.4
HAWA Hanford 83.76 326 *e*P P 10 57 53.3 +0.4
HSO Harness Mounta 83.80 322 P P 10 57 53.7 +0.5
DPW Davenport 84.10 328 P P 10 57 54.8 +0.3
FCC Fort Churchill 84.29 346 *e*P P 10 57 54.4 -0.8
comp=N,9.0nm,0.5s,mb4.8
LON Longmire 85.17 326 *e*P P 10 57 59.0 -0.9
ESDC Sonseca Array 85.25 43 P P 10 57 58.7 -1.8
comp=N,0.3nm,0.3s,baz=270,slow=5.1,SNR=3.5
RPW Rockport 86.13 327 *e*P P 10 58 03.9 -0.6
GNW Green Mountain 86.23 326 *e*P P 10 58 05.1 0.0
PGC Sidney 87.24 326 *e*P P 10 58 10.4 +0.5
comp=N,28nm,0.8s,mb5.2
CASY Casey 91.27 179⇓*i*P P 10 58 29.9 +1.6
YKA Yellowknife Ar 93.03 340 P P 10 58 36.3 -0.2
comp=N,3.1nm,0.7s,mb4.6,baz=135,slow=4.9,SNR=10
ARCES ARCESS Array B 111.81 22 PKKPbc 11 14 50.6
comp=N,0.7nm,0.5s,baz=79,slow=4.6,SNR=5.7
ARCES PKKPab 11 14 60.0
comp=N,3.6nm,0.8s,baz=67,slow=6.9,SNR=4.1
CTAO Charters Tower 126.70 220 *e*PKPdf PKPdf 11 04 27.0 +1.6
ARU Arti 127.95 35 *e*PKPdf PKPdf 11 04 28.6 +1.7
ASAR Alice Springs 129.76 205 PKP PKPdf 11 04 32.2 +1.0
comp=N,3.7nm,0.5s,baz=146,slow=2.2,SNR=42
ASPA Alice Springs 129.76 205 *e*PKP PKPdf 11 04 32.3 +1.0
ASPA *e*PKS PKS 11 07 54.7 -12
WB2 Warramunga Arr 132.91 207 *e*PKP PKPdf 11 04 26.3 -11
WB2 Warramunga Arr 132.91 207 *i* PKP PKPdf 11 04 38.6 +1.2
WB2 *e*PKS PKS 11 08 05.9 -6.4
WRA Warramunga Arr 132.91 207 PKP PKPdf 11 04 38.6 +1.2
comp=N,2.9nm,0.4s,baz=152,slow=1.9,SNR=41
WRA SKPbc 11 07 47.0
comp=N,0.8nm,0.9s,baz=161,slow=3.2,SNR=5.1
WRAB Tennant Creek 132.92 207 *e*PKPdf PKPdf 11 04 38.3 +0.9
ZRNK Zerenda 134.85 37 *e*PKPpre 11 04 34.5
ZRNK *e*PKPdf PKPdf 11 04 41.8 +1.8
BRVK Borovoye 135.50 36 *e*PKPdf PKPdf 11 04 42.8 +1.5
BVAR Borovoye Array 135.57 36 PKP PKPdf 11 04 43.4 +2.0
comp=N,1.6nm,0.5s,baz=270,slow=3.0,SNR=10
FITZ Fitzroy Crossi 137.70 198 *e*PKP PKPdf 11 04 37.1 -9.0
comp=N,2.3nm,1.3s
FITZ Fitzroy Crossi 137.70 198 *i* PKP PKPdf 11 04 49.6 +3.5
FITZ Fitzroy Crossi 137.70 198 PKP PKPdf 11 04 49.5 +3.3
comp=N,4.0nm,0.6s,baz=187,slow=6.4,SNR=9.3
FITZ Fitzroy Crossi 137.70 198 *e*PKP PKPdf 11 04 37.1 -9.0
FITZ *i* PKP PKPdf 11 04 49.6 +3.5
KURK Kurchatov 141.15 35 *e*PKPdf PKPdf 11 04 51.9 +0.4
ZAL Zalesovo 142.11 27 PKP PKPdf 11 04 54.8 +1.8
comp=N,7.4nm,0.5s,baz=96,slow=1.9,SNR=4.4
AAK Ala-Archa 142.16 49 *e*PKPdf PKPdf 11 04 55.4 +2.0
MKAR Makanchi Array 145.33 39 PKPbc PKPbc 11 05 01.0 +1.5
comp=N,13nm,0.7s,baz=316,slow=3.7,SNR=33
HYB Hyderabad 146.95 93 *i* PKP PKPdf 11 05 07.0 +4.6
WMQ Urumqi 150.15 39 *e*PKP PKPdf 11 05 08.0 +1.2
SONM Songino Array 154.32 11 PKP PKPdf 11 05 14.3 +1.8
comp=N,1.7nm,0.7s,baz=304,slow=1.9,SNR=12
SONM PKPbc PKPdf 11 05 23.2 +11
comp=N,3.7nm,0.6s,baz=289,slow=1.5,SNR=20
SONM PKPab PKPab 11 05 38.3 -0.1
comp=N,3.2nm,0.6s,baz=322,slow=4.3,SNR=12
CN2 Changchun 156.71 337 *e*PKP PKPdf 11 05 19.5 +3.6
LZH Lanzhou 164.32 30 *e*PKP PKPdf 11 05 24.5 +0.1
LZH *e*SKKS 11 16 37.1
LZH PP PP
comp=Z,63nm,9.6s
CMAR Chiang Mai Arr 165.87 105 PKP PKPdf 11 05 27.9 +1.6
comp=Z,0.9nm,0.8s,baz=290,slow=2.3,SNR=5.5
CMAR PKPab PKPab 11 06 29.0 -0.1
comp=Z,1.2nm,0.6s,baz=258,slow=6.2,SNR=5.4
SSE Sheshan 169.11 322 *e*PKP PKPdf 11 05 33.8 +5.7
SSE PP PP 11 10 38.8 +5.6
SSE SS SS 11 31 15.2 +5.8
SSE PP PP
comp=Z,25nm,12.0s
SSE LR LR
comp=N,78nm,21.2s
SSE LR LR
comp=E,95nm,21.2s
SSE LR LR
comp=Z,66nm,28.4s
KMI Kunming 170.01 74 *e*PKP PKPdf 11 05 31.6 +2.8
GYA Guiyang 172.87 57 PKP PKPdf 11 05 33.1 +2.8
GYA PP PP
comp=Z,380nm,5.1s

MAN 01 10:58:07.8, 18.28N×120.54E, h26km, mb3.9, ML2.7, MS2.3, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.09**	**56**⇓	*i*P	Pb	10 58 13.2	+0.7
PIP				*e*S	Sb	10 58 19.0	+3.4
ABRA	**Dolores**	**0.64**	**165**	*e*P	Pb	10 58 20.6	+0.2
APYP	**Conner**	**0.78**	**121**	*e*P	Pb	10 58 23.6	+0.9
APYP				*e*S	Sb	10 58 37.5	+4.6

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*NAO **01** 11:00:45.5±3.1, 68.08N×33.16E, ML2.4*
*HEL **01** 11:00:45.3±0.7, 68.09N×33.36E, ML2.4(NAO), Explosion*
ISC 01 11:00:45.4±1.5**, 68.07N**±0.04×**33.1E**±0.2**, n10,** σ1ˢ**25**/18**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.46**	**185**	*i* P	**Pg**	**11 00 54.1**	**-0.5**
APA0				*i* S	**Sg**	**11 01 00.8**	**0.0**
APA0				*e*RG		11 01 03.5	
APA0	**Apatity Array**	**0.46**	**185**	Pg	**Pg**	**11 00 54.1**	**-0.5**
	baz=9.3,slow=14						
APA0				Lg		11 01 00.8	
	baz=18,slow=37						
APA0				Rg		11 01 03.5	
	baz=16,slow=37						
SGF	**Sodankyl**	**2.58**	**259**	*e*P	**Pn**	**11 01 30.5**	**+1.5**
SGF				*e*S	**Sn**	**11 02 01.3**	**-0.2**
MSF	**Maaselka**	**2.69**	**218**	*e*P	**Pn**	**11 01 33.0**	**+2.5**
MSF				*e*S	**Sn**	**11 02 05.7**	**+1.4**
KEV	**Kevo**	**2.78**	**310**	*e*P	**Pn**	**11 01 31.8**	**-0.1**
KEV				*e*S	**Sn**	**11 02 05.7**	**-0.9**
ARA0	**ARCESS Array S**	**3.13**	**302**	Pn	**Pn**	**11 01 36.5**	**-0.3**
	baz=118,slow=16						
ARA0				Sn	**Sn**	**11 02 14.3**	**-1.1**
	baz=115,slow=28						
ARA0				Lg		11 02 23.6	
	baz=121,slow=37						
ARA0	**ARCESS Array S**	**3.13**	**302**	*e*P	**Pn**	**11 01 36.5**	**-0.3**
ARA0				*e*S	**Sn**	**11 02 14.3**	**-1.1**
ARA0				*e*SG	**Sg**	**11 02 23.6**	**-5.9**
OUL	**Oulu**	**4.15**	**227**	*e*SB	**Sb**	**11 02 49.0**	**-1.2**
KJN	**Kajaani**	**4.56**	**211**	*e*S	**Sn**	**11 02 49.6**	**-2.0**
KIF	**Kilpisjarvi**	**4.61**	**287**	*e*S	**Sn**	**11 02 48.3**	**-4.8**
KIF				*e*SB	**Sb**	**11 03 05.6**	**+2.0**

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*NNC **01** 11:34:24.8±11.0, 44.52N×87.16E, mpv3.2, Error ellipse: s-maj=85.1km s-min=82.1km az=125.0*
BJI 01 11:34:23.4, 43.92N×86.78E, h22km, ML3.0, 2C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**0.67**	**98**	PG	Pb	11 34 35.3	-1.0
WMQ				SG	Sb	11 34 45.0	-0.1
WMQ				Smax			
	comp=N,262nm,0.6s						
WMQ				Smax			
	comp=E,189nm,0.6s						
MK31	**Makanchi Array**	**4.27**	**314**	⇑Pn	Pn	11 35 28.8	-0.1
	comp=E,4.0nm,0.8s,baz=126,slow=15,SNR=33						
MK31				Sn	Sn	11 36 18.4	-0.4
	comp=E,0.9nm,0.2s,baz=111,slow=23,SNR=4.6						
MK31				⇑Lg		11 36 36.0	
	comp=E,10nm,0.6s,baz=120,slow=28,SNR=5.8						

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*BJI **01** 12:00:37.3, 3.49N×128.77E, h10km, mB5.0, mb5.0, Ms4.1, Msz4.2*
*NEIC **01** 12:00:40.5±0.3, 3.60N×128.50E, h10km, mb4.9/17, Error ellipse: s-maj=12.9km s-min=5.4km az=75.0*
*HRVD **01** 12:00:40.5±0.6, 3.57N×128.47E, h28km±1km, MW4.9/34, Centroid moment Tensor Solution. LP body waves: s17,c18;Mantle waves: s34,c48; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.22±.25; $M_{\theta\theta}$-0.14±.14; $M_{\phi\phi}$-2.08±.15; $M_{r\theta}$0.95±.26; $M_{\theta\phi}$0.18±.09; $M_{\phi r}$0.44±.22; Best double couple: $M_0$2.37×10^{16} NP1:ϕ_s157°, δ43°, λ61°. NP2:ϕ_s15°, δ53°, λ115°. Principal axes: T 2.61, Plg70°, Azm343°; N -.48, Plg20°, Azm179°; P -2.13, Plg5°, Azm87°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **01** 12:00:42.5±2.0, 3.61N×128.57E, h23km±12km, mb4.5/20, mb1 4.5/20, mb1mx4.5/23, MS3.7/6, Ms1 3.8/6, ms1mx3.3/23 Error ellipse: s-maj=30.3km s-min=9.1km az=73.0*
*MOS **01** 12:00:42.6±1.0, 3.73N×128.35E, h32km, mb5.3/9, Error ellipse: s-maj=64.4km s-min=13.8km az=119.7*
*MAN **01** 12:01:28.1, 5.99N×126.29E, h107km, mb4.8, ML3.7, MS3.7*
ISC 01 12:00:43.1±1.1**, 3.61N**±0.05×**128.60E**±0.08**, h41**km±9km**, h28**km±6.0km**:pP-P, n112,** σ1ˢ**01**/111**, mb4.9**/52**, MS3.8**/11**, 6C-2D, North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**4.05**	**325**	*e*P	**P**	**12 01 48.7**	**+4.4**
GSPH	**General Santos**	**4.39**	**304**	*e*P	**P**	**12 01 51.0**	**+1.9**
KCP	**Kidapawan**	**4.86**	**314**⇓	*e*P	**P**	**12 01 57.2**	**+1.5**
BUKP	**Musuan**	**5.51**	**320**	*e*P	**P**	**12 02 05.7**	**+0.9**
BUTP	**Butuan**	**6.09**	**331**	*e*P	**P**	**12 02 16.0**	**+3.1**
PAGZ	**Pagadian**	**6.68**	**309**	*e*P	**P**	**12 02 20.3**	**-1.0**
IPIL	**Ipil**	**7.29**	**305**	*e*P	**P**	**12 02 28.9**	**-0.9**
FITZ	**Fitzroy Crossi**	**21.77**	**188**	*e*P	**P**	**12 05 31.5**	**-1.8**
	6.0nm,0.8s,mb4.1						
FITZ	**Fitzroy Crossi**	**21.77**	**188**	P	**P**	**12 05 31.7**	**-1.6**
	2.1nm,0.5s,mb3.8,baz=5.9,slow=5.6,SNR=11						
PMG	**Port Moresby**	**22.57**	**125**	P	**P**	**12 05 43.8**	**+2.5**
	33nm,1.1s,mb4.7						
JOW	**Kunigami**	**23.09**	**359**	P	**P**	**12 05 47.1**	**+0.8**
	29nm,0.8s,mb4.8,baz=168,slow=11,SNR=4.3						
QIZ	**Qiongzhong**	**23.89**	**311**	P	**P**	**12 05 52.4**	**-1.8**
QIZ				S	**S**	**12 10 05.9**	**+1.3**
QIZ				LR	LR		
	comp=N,232nm,14.5s						
QIZ				LR	LR		
	comp=Z,197nm,16.2s,MS3.7						
WRAB	**Tennant Creek**	**24.07**	**167**	*e*P	**P**	**12 05 56.1**	**+0.3**
	comp=Z,45nm,1.2s,mb4.8						
WRA	**Warramunga Arr**	**24.08**	**167**	P	**P**	**12 05 56.6**	**+0.6**
	comp=Z,3.5nm,0.4s,mb4.1,baz=347,slow=11,SNR=65						
WRA				S	**S**	**12 10 14.4**	**+6.7**
	comp=Z,2.8nm,1.1s,baz=347,slow=18,SNR=4.4						
WB2	**Warramunga Arr**	**24.08**	**167**	*e*P	**P**	**12 05 56.5**	**+0.5**
WB2				*e*S	**S**	**12 10 17.9**	**+10**
MBWA	**Marble Bar**	**26.11**	**199**	*e*P	**P**	**12 06 13.2**	**-2.1**
	comp=Z,15nm,1.0s,mb4.5						
ASAR	**Alice Springs**	**27.60**	**169**	P	**P**	**12 06 28.4**	**-0.6**
	comp=Z,1.7nm,0.5s,mb4.0,baz=352,slow=7.8,SNR=46						
ASAR				PcP	PcP	12 09 46.7	+0.6
	comp=Z,4.6nm,0.6s,baz=350,slow=2.3,SNR=20						
ASAR				S	**S**	**12 11 09.6**	**+3.6**
	comp=Z,0.5nm,0.8s,baz=348,slow=18,SNR=2.3						
ASAR				ScP		12 13 24.9	
	comp=Z,1.5nm,0.8s,baz=339,slow=1.6,SNR=11						
ASPA	**Alice Springs**	**27.60**	**169**	*e*P	**P**	**12 06 28.5**	**-0.5**
ASPA				*e*PCP	PcP	12 09 46.8	+0.7
SSE	**Sheshan**	**28.22**	**346**	*e*P	**P**	**12 06 33.7**	**-0.7**
SSE				AMB	AMB		
	comp=Z,33nm,1.1s,mb4.9						
SSE				LR	LR		
	comp=N,78nm,21.2s,MS3.5						
SSE				LR	LR		
	comp=E,95nm,21.2s,MS3.5						
CTA	**Charters Tower**	**29.25**	**144**	P	**P**	**12 06 42.0**	**-1.7**
	comp=E,1.8nm,0.8s,mb3.8,slow=6.1,SNR=2.3						
CTA				LR	LR	12 18 51.6	
	comp=E,84nm,21.0s,MS3.3,baz=81,slow=37						
NJ2	**Nanjing**	**29.73**	**343**	*e*P	**P**	**12 06 49.3**	**+1.4**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,2μm,7.3s						
NJ2				LR	LR		
	comp=N,1μm,21.1s						
NJ2				LR	LR		
	comp=E,890nm,13.6s						
NJ2				LR	LR		
	comp=Z,2μm,11.8s						
NANT	**Nan**	**31.18**	**301**	P	**P**	**12 07 00.0**	**-0.8**
ENH	**Enshi**	**32.09**	**328**	*e*P	**P**	**12 07 08.0**	**-0.8**
	comp=Z,37nm,1.2s,mb5.1						
CM31	**Chiang Mai Arr**	**32.55**	**299**	*e*P	**P**	**12 07 12.7**	**-0.2**
	comp=Z,9.8nm,0.8s,mb4.8						
CMAR	**Chiang Mai Arr**	**32.55**	**299**	P	**P**	**12 07 12.9**	**0.0**
	comp=Z,8.2nm,1.0s,mb4.6,baz=118,slow=7.8,SNR=31						
CMAR				PcP	PcP	12 09 59.9	+1.0
	comp=Z,2.0nm,0.9s,baz=154,slow=0.4,SNR=7.5						
CMAR				LR	LR	12 20 51.0	
	comp=Z,109nm,19.0s,MS3.6,baz=105,slow=37						
CHG	**Chiang Mai**	**32.69**	**300**	⇑P	**P**	**12 07 13.5**	**-0.6**
	comp=Z,16nm,0.8s,mb5.0						
MAJO	**Matsushiro**	**33.94**	**14**	*e*P	**P**	**12 07 24.4**	**-0.3**
	comp=Z,4.8nm,0.6s,mb4.6						
MAT	**Matsushiro**	**33.94**	**14**	P	**P**	**12 07 24.0**	**-0.7**
MAT	**Matsushiro**	**33.94**	**14**	*e*P	**P**	**12 07 24.0**	**-0.7**
XAN	**Xi'an**	**35.39**	**331**	P	**P**	**12 07 36.8**	**-0.4**
XAN				AMB	AMB		
	comp=Z,80nm,1.2s,mb5.5						
STKA	**Stephens Creek**	**37.39**	**162**	*e*P	**P**	**12 07 54.5**	**+0.4**
	comp=Z,8.3nm,0.7s,mb4.7						
STKA	**Stephens Creek**	**37.39**	**162**	P	**P**	**12 07 54.2**	**+0.1**
	comp=Z,6.1nm,0.6s,mb4.6,baz=344,slow=7.6,SNR=16						
STKA				PcP	PcP	12 10 13.4	+0.6
	comp=Z,4.7nm,0.7s,baz=325,slow=4.9,SNR=5.0						
STKA				ScP		12 13 59.1	
	comp=Z,1.7nm,0.8s,baz=13,slow=7.7,SNR=3.2						
NWAO	**Narrogin (SRO)**	**37.90**	**196**	P	**P**	**12 07 57.9**	**-0.5**
	comp=Z,10nm,0.9s,mb4.5,baz=24,slow=10.0,SNR=3.1						
NWAO				PcP	PcP	12 10 15.1	+0.7
	comp=Z,6.5nm,0.6s,baz=20,slow=6.8,SNR=5.0						
BJT	**Baijiatuau**	**37.95**	**344**	*e*P	**P**	**12 07 58.7**	**+0.1**
	comp=Z,23nm,0.8s,mb5.0						
BJI	**Beijing**	**37.97**	**344**	P	**P**	**12 07 58.6**	**-0.2**
BJI				AMB	AMB		
	comp=Z,24nm,0.9s,mb4.9						
BJI				AMB	AMB		
	comp=Z,193nm,3.4s						
LZH	**Lanzhou**	**39.57**	**328**	⇑P	**P**	**12 08 13.9**	**+1.7**
LZH				AMB	AMB		
	comp=Z,150nm,1.0s,mb5.7						
LZH				AMB	AMB		
	comp=Z,546nm,4.0s						
LZH				LR	LR		
	comp=N,165nm,11.3s						
LZH				LR	LR		
	comp=Z,274nm,15.0s,MS4.2						
HHC	**Hu-ho-hao-te**	**40.12**	**340**	*e*P	**P**	**12 08 17.6**	**+0.9**
HHC				AMB	AMB		
	comp=Z,27nm,1.3s,mb4.8						
HHC				AMB	AMB		
	comp=Z,106nm,4.3s						
SHL	**Shillong**	**41.46**	**305**	*e*P	**P**	**12 08 28.0**	**+0.1**
GTA	**Gaotai**	**44.18**	**328**	P	**P**	**12 08 50.8**	**+0.9**
GTA				AP	pP	12 08 56.3	-5.1
GTA				XP	sP	12 08 59.0	-7.3
GTA				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.7						
GTA				AMB	AMB		
	comp=Z,60nm,5.3s						
GTA				LR	LR		
	comp=N,65nm,15.6s,MS3.8						
GTA				LR	LR		
	comp=E,79nm,17.9s,MS3.8						
GTA				LR	LR		
	comp=Z,107nm,14.5s,MS3.9						
HIA	**Hailar**	**46.11**	**352**	*e*P	**P**	**12 09 04.2**	**-1.1**
SONM	**Songino Array**	**48.02**	**340**	P	**P**	**12 09 20.4**	**+0.1**
	comp=Z,4.3nm,0.9s,mb4.5,baz=158,slow=6.5,SNR=27						
SONM				PcP	PcP	12 10 48.1	-0.1
	comp=Z,2.1nm,0.9s,baz=180,slow=1.4,SNR=3.6						
WMQ	**Urumqi**	**53.90**	**324**⇓	*i*P	**P**	**12 10 05.7**	**+0.9**
WMQ				AP	pP	12 10 16.0	-0.5
WMQ				AMB	AMB		
	comp=Z,60nm,0.8s,mb5.6						
WMQ				LR	LR		
	comp=N,265nm,20.0s,MS4.3						
WMQ				LR	LR		
	comp=E,89nm,20.0s,MS4.3						
DDI	**Dehra Dun**	**54.56**	**305**	*e*	**P**	**12 10 09.2**	**-0.6**
BOD	**Bodaibo**	**55.27**	**351**	*e*P	**P**	**12 10 13.5**	**-1.1**
THN	**Thein Dam**	**57.13**	**307**	*e*P	**P**	**12 10 26.2**	**-2.1**
	comp=E,21nm,0.6s,mb5.3						
YAK	**Yakutsk**	**58.29**	**1***c*	*i*P	**P**	**12 10 35.7**	**-0.3**
YAK				pmax	pmax		
	comp=Z,36nm,0.7s,mb5.5						
YAK	**Yakutsk**	**58.29**	**1**	*e*P	**P**	**12 10 35.6**	**-0.4**
	comp=Z,40nm,0.9s,mb5.5						
MKAR	**Makanchi Array**	**58.73**	**324**	P	**P**	**12 10 39.1**	**-0.2**
	comp=Z,34nm,0.5s,mb5.6,baz=118,slow=8.5,SNR=229						
MKAR				ScP		12 15 26.5	
	comp=Z,0.8nm,0.7s,baz=90,slow=6.1,SNR=3.5						
MKAR				LR	LR	12 37 30.4	
	comp=Z,124nm,19.2s,MS4.0,baz=186,slow=38						
MKAR	**Makanchi Array**	**58.73**	**324**	*e*P	**P**	**12 10 39.0**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,14nm,0.6s						
MKAR	**Makanchi Array**	**58.73**	**324**	P	**P**	**12 10 39.1**	**-0.2**
MKAR				ScP		12 15 26.5	
MKAR				LR	LR	12 37 30.4	
ULHL	**Ulahol**	**60.36**	**317**	P	**P**	**12 10 51.0**	**+0.3**
	SNR=10						
KZA	**Kyzart**	**60.97**	**317**	P	**P**	**12 10 55.8**	**+1.1**
	SNR=34						
TKM2	**Tokmak 2**	**61.08**	**318**	P	**P**	**12 10 55.7**	**+0.2**
	SNR=23						
KBK	**Karagaybulak**	**61.41**	**317**	P	**P**	**12 10 58.2**	**+0.5**
	SNR=6.7						
UCH	**Uchtor**	**61.53**	**317**	P	**P**	**12 10 59.6**	**+1.1**
	SNR=27						
ZAL	**Zalesovo**	**61.55**	**332**	P	**P**	**12 10 57.5**	**-0.9**
	comp=Z,3.1nm,0.6s,mb4.6,baz=274,slow=7.3,SNR=22						
ZAL	**Zalesovo**	**61.55**	**332**	*i* P	**P**	**12 10 57.6**	**-0.9**
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CHMS	**Chumysh**	**61.68**	**318**	P	**P**	**12 10 59.1**	**-0.3**
	SNR=6.9						
AAK	**Ala-Archa**	**61.70**	**317**	P	**P**	**12 11 00.0**	**+0.4**
	SNR=6.1						
AAK	**Ala-Archa**	**61.70**	**317**	*e*P	**P**	**12 10 58.3**	**-1.4**
	comp=Z,13nm,1.2s,mb4.9						
USP	**Ospenovka**	**61.95**	**318**	P	**P**	**12 11 01.2**	**-0.1**
	SNR=28						
AML	**Almayashu**	**62.05**	**316**	P	**P**	**12 11 02.8**	**+0.8**
	SNR=42						
EKS2	**Erkin-Say**	**62.20**	**317**	P	**P**	**12 11 03.2**	**+0.3**
	SNR=20						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NVS	**Novosibirsk**	**62.83**	**332**	*i* P	**P**	**12 11 05.0**	**-2.0**
NVS				pmax	pmax		
	comp=Z,15nm,1.0s,mb5.1						
NVS				pmax	pmax		
	comp=E,11nm,1.1s						
NVS				pmax	pmax		
	comp=N,12nm,1.0s						
KURK	**Kurchatov**	**62.85**	**327***c*	*i*P	**P**	**12 11 06.6**	**-0.6**
KURK	**Kurchatov**	**62.85**	**327**	*e*P	**P**	**12 11 06.3**	**-0.9**
	comp=N,42nm,0.6s,mb5.8						
VOSK	**Vostochnaya**	**67.99**	**326**	P	**P**	**12 11 39.3**	**-0.8**
VOSK				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.9						
BVA0	**Borovoye Array**	**68.44**	**326**	*i* P	**P**	**12 11 42.4**	**-0.5**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
BVAR	**Borovoye Array**	**68.44**	**326**	P	**P**	**12 11 42.5**	**-0.4**
	comp=Z,18nm,0.6s,mb5.2,baz=127,slow=7.4,SNR=106						
BVAR				PcP	PcP	12 12 06.3	-1.9
	comp=Z,2.1nm,0.7s,baz=135,slow=6.1,SNR=3.5						
BRVK	**Borovoye**	**68.51**	**326**	*e*P	**P**	**12 11 42.9**	**-0.5**
	comp=Z,35nm,0.8s,mb5.3						
ZRNK	**Zerenda**	**69.18**	**326**	P	**P**	**12 11 47.0**	**-0.5**
ZRNK				pmax	pmax		
	comp=Z,15nm,0.7s,mb5.0						
ZRNK	**Zerenda**	**69.18**	**326**	*e*P	**P**	**12 11 46.8**	**-0.7**
	comp=Z,34nm,0.6s,mb5.5						
CASY	**Casey**	**70.94**	**188**	*e*P	**P**	**12 11 58.6**	**+0.7**
SVE	**Sverdlovsk**	**75.04**	**328**	⇑*e*P	**P**	**12 12 21.8**	**-0.4**
SVE				pmax	pmax		
	comp=Z,40nm,1.1s,mb5.3						
ARU	**Arti**	**76.04**	**327**	⇑*i*P	**P**	**12 12 27.2**	**-0.7**
ARU				*i*	pP	12 12 37.7	-2.3
ARU				*e*		12 15 19.9	
ARU				*e*S	S	12 22 02.4	-4.4
ARU				*e*		12 22 30.4	
ARU				*e*SS	SS	12 27 05.2	+2.0
ARU				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9						
HASS	**Wahat al Ahsa'**	**78.44**	**295**	P	**P**	**12 12 41.6**	**-0.3**
MZLS	**Mizel**	**82.51**	**294**	P	**P**	**12 13 03.8**	**+0.2**
KAMS	**Al Khamasin**	**83.16**	**290**	P	**P**	**12 13 06.6**	**-0.3**
MCK	**McKinley**	**83.44**	**26**	*e*P	**P**	**12 13 08.6**	**+1.1**
	comp=Z,3.5nm,0.9s,mb4.4						
DJNS	**Zahran al Janu**	**84.21**	**287**	P	**P**	**12 13 13.9**	**+1.5**
TATS	**Tathlith**	**84.22**	**289**	P	**P**	**12 13 13.0**	**+0.6**
ARSS	**Ar Rass**	**84.27**	**296**	P	**P**	**12 13 12.8**	**+0.3**
MAW	**Mawson**	**84.30**	**201**	*e*P	**P**	**12 13 12.9**	**+1.2**
	comp=Z,3.3nm,0.9s,mb4.5						
MAW	**Mawson**	**84.30**	**201**	P	**P**	**12 13 12.4**	**+0.7**
	comp=Z,2.7nm,0.7s,mb4.5,baz=58,slow=5.4,SNR=12						
ILAR	**Eielson Array**	**84.41**	**25**	P	**P**	**12 13 13.6**	**+1.2**
	comp=Z,2.8nm,1.2s,mb4.3,baz=240,slow=4.8,SNR=12						
KIV	**Kislovodsk**	**84.57**	**314**	*e*P	**P**	**12 13 11.5**	**-2.1**
KIV				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.9						
NAMS	**An Nimas**	**85.42**	**289**	P	**P**	**12 13 20.0**	**+1.5**
HILS	**Ha'il**	**85.53**	**297**	P	**P**	**12 13 20.0**	**+1.2**
BLJS	**Baljurashi**	**85.97**	**290**	P	**P**	**12 13 22.5**	**+1.4**
OBN	**Obninsk**	**88.23**	**325**	*e*P	**P**	**12 13 30.6**	**-0.6**
OBN				pmax	pmax		
	comp=Z,37nm,1.5s,mb5.4						
ANN	**Anapa**	**88.31**	**315**	*e*P	**P**	**12 13 37.6**	**+5.8**
ANN				*e*		12 23 55.5	
ANN				pmax	pmax		
	comp=Z,35nm,0.7s,mb5.7						
ASF	**Jabal al Asfar**	**89.54**	**302**	P	**P**	**12 13 39.1**	**+1.1**
	comp=Z,5.6nm,0.8s,mb5.0,baz=348,slow=3.6,SNR=11						
JMQS	**Jabal Moqyreh**	**90.66**	**299**	P	**P**	**12 13 44.0**	**+0.7**
ARCES	**ARCESS Array B**	**91.20**	**340**	P	**P**	**12 13 45.1**	**+0.2**
	comp=Z,4.8nm,0.8s,mb4.9,baz=68,slow=6.5,SNR=7.3						
ARCES				LR	LR	12 58 14.5	
	comp=Z,30nm,18.2s,MS3.8,baz=56,slow=38						
JMOS	**Jabal al Moall**	**91.31**	**299**	P	**P**	**12 13 46.9**	**+0.6**
ALWS	**Ilw as Safayha**	**91.33**	**299**	P	**P**	**12 13 47.2**	**+0.7**
HAQS	**Haql**	**91.47**	**299**	P	**P**	**12 13 47.6**	**+0.5**
BRTR	**Keskin Array B**	**91.53**	**310**	P	**P**	**12 13 46.1**	**-1.0**
	comp=Z,1.4nm,0.9s,mb4.3,baz=108,slow=3.9,SNR=4.6						
FINES	**FINESS Array B**	**92.81**	**332**	P	**P**	**12 13 51.2**	**-1.2**
	comp=Z,1.4nm,0.8s,mb4.4,baz=153,slow=4.3,SNR=5.0						
FINES	**FINESS Array B**	**92.81**	**332**	*i* P	**P**	**12 13 52.2**	**-0.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**93.16**	**321**	P	**P**	**12 13 53.5**	**-0.8**
	comp=Z,5.4nm,1.0s,mb4.9,baz=69,slow=3.8,SNR=8.9						
AKASG				LR	LR	12 58 12.8	
	comp=Z,34nm,20.4s,MS3.8,baz=215,slow=37						
QSPA	**South Pole Qui**	**93.52**	**180**	*e*P	**P**	**12 13 56.5**	**+1.2**
	comp=Z,7.9nm,0.9s,mb5.1						
BBB	**Bella Bella**	**95.27**	**37**	LR	LR	12 50 22.6	
	comp=Z,57nm,19.9s,MS4.0,baz=301,slow=31						
PVL	**Pavlikeni**	**97.17**	**314**	*i* P	**P**	**12 14 10.5**	**-2.2**
KDZ	**Kurdzhali**	**97.42**	**313**	*i* P	**P**	**12 14 15.7**	**+1.8**
NB2	**NORSAR Subarra**	**99.72**	**334**	P	**P**	**12 14 22.3**	**-1.5**
	comp=Z,2.4nm,1.0s,mb4.6,baz=68,slow=4.5						
NB2	**NORSAR Subarra**	**99.72**	**334**	P	**P**	**12 14 22.3**	**-1.5**
	baz=68,slow=4.4						
NOA	**NORSAR Array B**	**99.72**	**334**	P	**P**	**12 14 22.6**	**-1.2**
	comp=Z,1.6nm,0.9s,mb4.5,baz=64,slow=4.5,SNR=4.7						
DBIC	**Dimbokro**	**132.43**	**282**	PKP	PKPdf	12 19 53.6	-0.8
	comp=Z,3.8nm,0.7s,baz=207,slow=2.3,SNR=3.9						
DBIC				SKPbc		12 23 20.7	
	comp=Z,3.6nm,0.7s,baz=34,slow=8.9,SNR=4.1						
DBIC	**Dimbokro**	**132.43**	**282**	PKPdf	PKPdf	12 19 55.8	+1.3
DBIC				SKPbc		12 23 20.7	
TRQA	**Tornquist**	**144.38**	**166**	*e*PKPdf	PKPdf	12 20 16.9	+1.5
CPUP	**Villa Florida**	**156.71**	**166**	PKPbc	PKPdf	12 20 47.1	+13
	comp=Z,2.3nm,1.0s,baz=269,slow=3.1,SNR=4.0						

MAN 01 12:31:09.4, 18.16N×122.99E, mb4.2, ML3.0, MS2.7, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**1.20**	**248**	*e*P	Pb	12 31 33.5	+0.8
CVP				*e*S	Sb	12 31 52.0	+3.4
PALP	**Palanan**	**1.22**	**206**	*e*P	Pb	12 31 32.4	-0.6
CAUP	**Cauayan**	**1.64**	**223**	*e*P	Pn	12 31 40.4	+0.7
APYP	**Conner**	**1.69**	**260**	*e*P	Pn	12 31 39.7	-0.6
APYP				*e*S	Sb	12 32 03.4	+0.6
ABRA	**Dolores**	**2.23**	**257**	*e*P	Pn	12 31 47.8	-0.3
BALP	**Baler**	**2.76**	**209**	*e*P	Pn	12 31 58.2	+2.5

*IDC **01** 12:37:02.4±3.8, 55.76N×159.86E, h147km±35km, mb3.3/6, mb1 3.7/7, mb1mx3.4/24, Error ellipse: s-maj=34.4km s-min=21.2km az=8.0*
*MOS **01** 12:37:03.8±0.8, 55.56N×160.15E, h191km, mb3.8/1, Error ellipse: s-maj=37.2km s-min=14.6km az=87.0*
*KRSC **01** 12:37:04.3±0.4, 55.49N×160.31E, h191km±2km, ML4.1*
ISC 01 12:37:05.7±0.4**, 55.45N**±0.03×**160.41E**±0.08**, h181**km±3km**, n42, σ0s77**/73**, mb3.5**/6**, Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TUMR	**Tumrok**	**0.23**	**221**	*i* P	**P**	**12 37 31.1**	**+1.0**
TUMR				*i* S	**S**	**12 37 50.5**	**+1.6**
KMNR	**Kamenistaya**	**0.32**	**342**	*i* P	**P**	**12 37 30.6**	**+0.2**
KMNR				*i* S	**S**	**12 37 50.0**	**+0.6**
KPT	**Kopyto**	**0.52**	**348**	*i* P	**P**	**12 37 30.6**	**-0.5**
KPT				*i* S	**S**	**12 37 49.9**	**-0.8**
ZLN	**Zelenaya**	**0.61**	**21**	*i* P	**P**	**12 37 32.1**	**+0.7**
ZLN				*e*S	**S**	**12 37 52.5**	**+1.2**
LGNR	**Loginova**	**0.65**	**14**	*i* P	**P**	**12 37 32.2**	**+0.6**
LGNR				*i* S	**S**	**12 37 52.5**	**+0.8**
KOZ	**Kozyrevsk**	**0.68**	**334**	*i* P	**P**	**12 37 31.2**	**-0.6**
KOZ				*i* S	**S**	**12 37 50.9**	**-1.0**
KOZR	**Kozyr**	**0.68**	**335**	PN	**P**	**12 37 31.2**	**-0.6**
KOZR				S	**S**	**12 37 50.9**	**-1.0**
CIRR	**Tsirk**	**0.69**	**16**	*i* P	**P**	**12 37 32.3**	**+0.5**
CIRR				*i* S	**S**	**12 37 53.0**	**+1.0**
KRSR	**Krestovskiy**	**0.77**	**6**	*e*P	**P**	**12 37 32.1**	**-0.2**
KRSR				*e*S	**S**	**12 37 52.3**	**-0.5**
KLY	**Klyuchi**	**0.87**	**9**	P	**P**	**12 37 32.8**	**0.0**
KLY				S	**S**	**12 37 54.3**	**+0.5**
KLY	**Klyuchi**	**0.87**	**9**	*i* P	**P**	**12 37 32.8**	**0.0**
KLY				*i* S	**S**	**12 37 53.6**	**-0.2**
SRDR	**Sredinnyy**	**0.95**	**336**	*e*P	**P**	**12 37 32.6**	**-0.7**
SRDR				*e*S	**S**	**12 37 53.5**	**-1.2**
MKZ	**Mys Kozlova**	**1.18**	**139**	*e*P	**P**	**12 37 35.2**	**0.0**
MKZ				*e*S	**S**	**12 37 57.9**	**-0.1**
SVLR	**Shiveluch**	**1.21**	**22**	*e*P	**P**	**12 37 35.6**	**+0.1**
SVLR				*e*S	**S**	**12 37 58.4**	**-0.1**
KBG	**Krutoberegovo**	**1.52**	**57**	*i* P	**P**	**12 37 38.9**	**+0.6**
KBG				*i* S	**S**	**12 38 03.4**	**-0.2**
KBG				Smax			
	940nm,0.8s						
KBTR	**Krutoberegovo**	**1.56**	**60**	P	**P**	**12 37 38.1**	**-0.6**
KBTR				S	**S**	**12 38 03.1**	**-1.0**
KBTR	**Krutoberegovo**	**1.56**	**60**	*i* P	**P**	**12 37 38.2**	**-0.5**
KBTR				*i* S	**S**	**12 38 03.1**	**-1.0**
GNL	**Ganaly**	**2.27**	**220**	*i* P	**P**	**12 37 46.9**	**+0.6**
GNL				*e*S	**S**	**12 38 18.0**	**+0.4**
SDLR	**Sedlovina**	**2.36**	**203**	*e*P	**P**	**12 37 48.1**	**+0.8**
SDLR				*e*S	**S**	**12 38 20.1**	**+0.8**
NLC	**Nalytchevo**	**2.37**	**196**	P	**P**	**12 37 47.3**	**-0.1**
NLC				S	**S**	**12 38 18.6**	**-1.0**
NLC	**Nalytchevo**	**2.37**	**196**	*e*P	**P**	**12 37 47.4**	**0.0**
NLC				*e*S	**S**	**12 38 18.9**	**-0.7**
SPN	**Mys Shipunski**	**2.37**	**186**	P	**P**	**12 37 46.5**	**-1.0**
SPN				S	**S**	**12 38 17.0**	**-2.6**
SPN	**Mys Shipunski**	**2.37**	**186**	*e*P	**P**	**12 37 46.4**	**-1.1**
SPN				*e*S	**S**	**12 38 17.5**	**-2.1**
SMAR	**Somma**	**2.39**	**204**	*e*P	**P**	**12 37 48.7**	**+1.1**
AVH	**Avacha**	**2.40**	**205**	*e*P	**P**	**12 37 48.4**	**+0.6**
AVH				*e*S	**S**	**12 38 20.8**	**+0.5**
UGLR	**Uglovaya**	**2.43**	**203**	*e*P	**P**	**12 37 49.3**	**+1.1**
PET	**Petropavlovsk**	**2.64**	**204**	P	**P**	**12 37 50.8**	**+0.1**
PET				S	**S**	**12 38 24.1**	**-1.2**
PET	**Petropavlovsk**	**2.64**	**204**	*e*P	**P**	**12 37 50.5**	**-0.2**
PET				*e*S	**S**	**12 38 24.5**	**-0.8**
APC	**Apacha**	**3.17**	**218**	*e*P	**P**	**12 37 57.5**	**+0.4**
APC				*e*S	**S**	**12 38 36.7**	**0.0**
BKI	**Bering**	**3.19**	**92**	*i* P	**P**	**12 37 57.7**	**+0.4**
BKI				*i* S	**S**	**12 38 36.7**	**-0.3**
BKI				Smax			
	770nm,0.4s						
GRL	**Gorelyy**	**3.22**	**206**	*e*P	**P**	**12 37 58.4**	**+0.7**
RUS	**Russkaya**	**3.23**	**201**	*e*P	**P**	**12 37 57.1**	**-0.7**
RUS				*e*S	**S**	**12 38 35.9**	**-2.0**
FX1	**Attu Island--F**	**7.92**	**104**	P	**P**	**12 38 59.8**	**+1.1**
	3.0nm,0.3s,baz=30,slow=19,SNR=3.1						
FX1				S	**S**	**12 40 31.8**	**+4.9**
	3.1nm,0.3s,baz=236,slow=19,SNR=2.5						
FX1	**Attu Island--F**	**7.92**	**104**	PN	**P**	**12 38 59.8**	**+1.1**
FX1				S	**S**	**12 40 31.8**	**+4.8**
FX1				pmax	pmax		
	comp=Z,3.0nm,0.3s						
FX1				smax			
	comp=N,3.0nm,0.3s						
BVAR	**Borovoye Array**	**49.09**	**307**	P	**P**	**12 45 30.7**	**-5.0**
	comp=N,0.7nm,0.5s,mb3.5,baz=53,slow=7.4,SNR=5.0						
NVAR	**Mina Array Bea**	**54.80**	**72**	P	**P**	**12 46 18.6**	**+0.1**
	comp=N,0.3nm,0.4s,mb3.3,baz=321,slow=7.2,SNR=4.1						
PDAR	**Pinedale Array**	**56.23**	**62**	P	**P**	**12 46 28.1**	**-0.5**
	comp=N,1.1nm,0.4s,mb4.0,baz=342,slow=3.1,SNR=12						
FINES	**FINESS Array B**	**58.03**	**336**	P	**P**	**12 46 36.4**	**-4.6**
	comp=N,1.0nm,0.8s,mb3.7,baz=37,slow=9.5,SNR=3.9						
FINES	**FINESS Array B**	**58.03**	**336**	P	**P**	**12 46 36.4**	**-4.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
LTX	**Lajitas**	**69.56**	**68**	*e*P	**P**	**12 47 56.0**	**-0.4**
TXAR	**Lajitas Array**	**69.56**	**68**	P	**P**	**12 47 56.1**	**-0.3**
	comp=Z,1.1nm,0.5s,mb3.8,baz=304,slow=4.7,SNR=8.0						
ASAR	**Alice Springs**	**81.99**	**204**	P	**P**	**12 49 06.5**	**+0.2**
	comp=Z,0.1nm,0.6s,mb2.6,baz=19,slow=4.6,SNR=3.9						

NEIC 01 12:39:21.9, 46.20N×122.19W, h1km, MD3.5(SEA)**, 5C-2D, After SEA., Washington**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ESD	**East Dome**	**0.03**	**93**	P	Pg	12 39 22.8	+0.3
SHW	**Mount Saint He**	**0.03**	**258**	P	Pg	12 39 22.8	+0.3
STD	**Studebaker Rid**	**0.04**	**331**	P	Pg	12 39 23.1	+0.3
JLK	**June Lake**	**0.06**	**153**	P	Pg	12 39 23.5	+0.4
SOSW	**Source of Smit**	**0.06**	**40**	⇓P	Pg	12 39 23.3	+0.2
FL2	**Flat Top 2**	**0.11**	**269**	⇑P	Pg	12 39 24.6	+0.5
CDFW	**Cedar Flats**	**0.13**	**129**	⇑P	Pg	12 39 25.0	+0.5
ERK	**Elk Rock**	**0.15**	**316**	P	Pg	12 39 25.2	+0.3
TDL	**Tradedollar La**	**0.15**	**354**	P	Pg	12 39 25.2	+0.3
MTMW	**Mount Mitchell**	**0.17**	**185**	P	Pg	12 39 25.7	+0.4
LVP	**Lakeview Peak**	**0.20**	**229**	P	Pg	12 39 26.1	+0.2
KOSW	**Kosmos**	**0.26**	**0**	P	Pg	12 39 27.4	+0.3
CZM	**Crazy Man Moun**	**0.32**	**317**	P	Pg	12 39 28.5	+0.2
RVW	**Rose Valley**	**0.39**	**263**	P	Pg	12 39 29.7	+0.1
ASR	**Mount Adams--S**	**0.42**	**96**	P	Pg	12 39 30.1	-0.1
LMW	**Ladd Mountain**	**0.47**	**352**	P	Pg	12 39 31.9	+0.5
GLK	**Glacier Lake**	**0.54**	**48**	P	Pg	12 39 32.6	-0.2
LON	**Longmire**	**0.61**	**25**	⇓P	Pg	12 39 33.8	-0.3
REMR	**Mount Rainier-**	**0.67**	**21**	⇑P	Pg	12 39 34.8	-0.4
WPW	**White Pass**	**0.67**	**42**	P	Pg	12 39 34.7	-0.5
RCM	**Mount Rainier-**	**0.71**	**26**	P	Pg	12 39 35.7	-0.4
RCS	**Mount Rainier-**	**0.74**	**25**	P	Pg	12 39 36.1	-0.6
BMW	**Boistfort Moun**	**0.77**	**291**	P	Pg	12 39 36.3	-0.9
FMW	**Mount Fremont**	**0.82**	**26**	P	Pg	12 39 37.5	-0.7
CPW	**Capitol Peak**	**1.01**	**320**	P	Pb	12 39 40.7	-1.1
VFP	**Flag Point**	**1.02**	**150**	⇑P	Pb	12 39 41.8	-0.2
SSOR	**Sweet Springs**	**1.36**	**188**	*e*P	Pb	12 39 45.9	-1.9
GNW	**Green Mountain**	**1.43**	**343**	*e*P	Pn	12 39 47.1	-1.9
CROR	**Criterion Ridg**	**1.48**	**145**	⇑P	Pn	12 39 49.8	0.0
COR	**Corvallis**	**1.79**	**206**	*e*P	Pn	12 39 53.0	-1.2
HAWA	**Hanford**	**1.85**	**83**	*e*P	Pn	12 39 55.1	+0.1
OCWA	**Octopus Mounta**	**2.06**	**319**	*e*Pn	Pn	12 39 57.7	-0.3
NLW	**Nelson Butte**	**2.27**	**33**	*e*Pn	Pn	12 40 00.8	-0.1
RPW	**Rockport**	**2.30**	**11**	*e*Pn	Pn	12 40 01.8	+0.4
HSO	**Harness Mounta**	**2.75**	**194**	*e*Pn	Pn	12 40 06.8	-1.1
HUMO	**Hull Mountain**	**3.63**	**189**	*e*Pn	Pn	12 40 19.6	-0.9

*NEIC **01** 12:40:00.5, 60.02N×152.78W, h108km, After AEIC.*
*IDC **01** 12:40:03.4±7.4, 60.36N×152.72W, h135km±70km, mb3.2/3, mb1 3.5/6, mb1mx3.2/22, Error ellipse: s-maj=65.5km s-min=20.0km az=37.0*
ISC 01 12:39:58.2±0.3**, 60.03N**±0.03×**152.73W**±0.06**, h121**km±3km**, n71, σ0s79**/85**, mb3.5**/3**, Southern Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ILIM	**Iliamna**	**0.13**	**292**	P	**P**	**12 40 14.8**	**-0.1**
ILIM				S	**S**	**12 40 26.9**	**-0.5**
IVS	**Iliamna South**	**0.18**	**262**	P	**P**	**12 40 15.1**	**+0.2**
RSO	**Redoubt South**	**0.43**	**358**	P	**P**	**12 40 16.3**	**+0.3**
NCT	**North Crescent**	**0.54**	**349**	P	**P**	**12 40 16.8**	**+0.2**
DFR	**Drift River**	**0.56**	**2**	P	**P**	**12 40 16.9**	**+0.2**
DFR				S	**S**	**12 40 30.8**	**0.0**
AUL	**Augustine Lava**	**0.75**	**209**	P	**P**	**12 40 18.1**	**0.0**
AUL				S	**S**	**12 40 32.9**	**-0.4**
AGU	**Augustine-Summ**	**0.77**	**208**	P	**P**	**12 40 18.4**	**+0.1**
XLV	**Seldovia**	**0.77**	**138**	P	**P**	**12 40 18.8**	**+0.4**
XLV				S	**S**	**12 40 33.7**	**+0.1**
CNPM	**China Poot**	**0.91**	**123**	P	**P**	**12 40 20.5**	**+0.8**
CNPM				S	**S**	**12 40 36.4**	**+0.6**
BKG	**Blockade Glaci**	**1.06**	**12**	P	**P**	**12 40 21.8**	**+0.5**
CKL	**Chakachamna La**	**1.18**	**9**	P	**P**	**12 40 23.1**	**+0.5**
CKL				S	**S**	**12 40 41.8**	**+1.1**
SPU	**Mount Spurr**	**1.20**	**16**	P	**P**	**12 40 23.1**	**+0.4**
CKN	**Chakachatna No**	**1.22**	**12**	P	**P**	**12 40 23.6**	**+0.6**
BGL	**Barrier Glacie**	**1.25**	**7**	P	**P**	**12 40 24.0**	**+0.8**
CRP	**Crater Peak**	**1.27**	**13**	P	**P**	**12 40 24.3**	**+0.8**
CRP				S	**S**	**12 40 43.1**	**+0.7**
CGLM	**Capps Glacier**	**1.33**	**15**	P	**P**	**12 40 24.8**	**+0.6**
SLKM	**Skilak Lake**	**1.34**	**68**	P	**P**	**12 40 24.8**	**+0.6**
SLKM				S	**S**	**12 40 43.9**	**-0.1**
STLK	**Strandline Lak**	**1.53**	**16**	P	**P**	**12 40 27.2**	**+0.7**
SEW	**Seward**	**1.65**	**86**	P	**P**	**12 40 28.0**	**+0.2**
SEW				S	**S**	**12 40 49.7**	**-0.5**
KAPH	**Katmai Pasha**	**1.66**	**211**	P	**P**	**12 40 27.9**	**-0.1**
FIB	**Fire Island**	**1.69**	**47**	P	**P**	**12 40 30.1**	**+1.6**
MPA	**Moose Pass**	**1.74**	**73**	P	**P**	**12 40 29.6**	**+0.7**
KAHC	**Katmai Hardscr**	**1.81**	**221**	P	**P**	**12 40 29.6**	**-0.3**
RC01	**Rabbit Creek A**	**1.82**	**53**	P	**P**	**12 40 30.3**	**+0.5**
RC01				S	**S**	**12 40 54.0**	**+0.1**
KAIC	**Katmai Ikaglui**	**1.96**	**218**	P	**P**	**12 40 31.5**	**-0.1**
KAWH	**Katmai**	**1.97**	**214**	P	**P**	**12 40 31.5**	**-0.2**
KABR	**Katmai Barrier**	**2.23**	**212**	P	**P**	**12 40 34.8**	**-0.4**
KDAK	**Kodiak Island**	**2.26**	**178**	Pn	**P**	**12 40 34.0**	**-1.5**
	1μm,0.3s						
KDAK	**Kodiak Island**	**2.26**	**178**	P	**P**	**12 40 34.2**	**-1.3**
KDAK				S	**S**	**12 41 01.9**	**-1.9**
MGLS	**Mageik LS**	**2.27**	**217**	P	**P**	**12 40 35.8**	**+0.1**
PMR	**Palmer**	**2.35**	**47**	P	**P**	**12 40 36.3**	**-0.5**
PMR				S	**S**	**12 41 04.2**	**-1.8**
CAHL	**Cahill**	**2.39**	**215**	P	**P**	**12 40 37.4**	**+0.1**
CNTC	**Contact Creek**	**2.41**	**224**	P	**P**	**12 40 37.2**	**-0.3**
LTI	**Latouche**	**2.44**	**88**	P	**P**	**12 40 38.2**	**+0.2**
KJL	**Kejulik**	**2.47**	**218**	P	**P**	**12 40 38.5**	**+0.1**
KNK	**Knik Glacier**	**2.51**	**55**	P	**P**	**12 40 38.6**	**-0.4**
GHO	**Glory Hole Cre**	**2.55**	**45**	P	**P**	**12 40 39.1**	**-0.3**
CUT	**Chulitna**	**2.66**	**25**	P	**P**	**12 40 41.2**	**+0.4**
SML	**Sawmill**	**2.79**	**48**	P	**P**	**12 40 42.1**	**-0.5**
SML				S	**S**	**12 41 14.4**	**-1.7**
GLI	**Glacier Island**	**2.92**	**71**	P	**P**	**12 40 44.8**	**+0.5**
HIN	**Hinchinbrook I**	**3.13**	**81**	P	**P**	**12 40 47.7**	**+0.6**
FID	**Port Fidalgo**	**3.18**	**74**	P	**P**	**12 40 47.9**	**+0.1**
SCM	**Sheep Creek Mo**	**3.19**	**53**	P	**P**	**12 40 47.6**	**-0.4**
HUR	**Hurricane**	**3.31**	**25**	P	**P**	**12 40 50.2**	**+0.7**
VLZ	**Valdez**	**3.34**	**68**	P	**P**	**12 40 50.1**	**+0.1**
CVA	**Cordova**	**3.51**	**79**	P	**P**	**12 40 52.5**	**+0.3**
EYAK	**Cordova Ski Ar**	**3.51**	**79**	P	**P**	**12 40 51.9**	**-0.4**
DIV	**Divide**	**3.60**	**69**	P	**P**	**12 40 53.0**	**-0.4**
TRF	**Thorofare Moun**	**3.62**	**18**	P	**P**	**12 40 53.4**	**-0.3**
KTH	**Kantishna Hill**	**3.63**	**13**	P	**P**	**12 40 53.5**	**-0.4**
RND	**Reindeer**	**3.85**	**27**	P	**P**	**12 40 56.1**	**-0.7**
DHY	**Denali Highway**	**3.98**	**38**	P	**P**	**12 40 58.6**	**0.0**
MCK	**McKinley**	**4.12**	**24**	P	**P**	**12 41 00.7**	**+0.3**
BMRM	**Bremner River**	**4.12**	**73**	P	**P**	**12 41 00.8**	**+0.3**
SDG	**Sourdough**	**4.27**	**51**	P	**P**	**12 41 02.5**	**-0.1**
GLB	**Gilahina Butte**	**4.60**	**68**	P	**P**	**12 41 06.3**	**-0.6**
GCSA	**Galena City Sc**	**5.11**	**340**	P	**P**	**12 41 13.3**	**-0.4**
COLA	**College**	**5.36**	**23**	P	**P**	**12 41 16.1**	**-1.0**
IL1	**Eielson Array**	**5.47**	**27**	P	**P**	**12 41 17.5**	**-1.2**
ILAR	**Eielson Array**	**5.47**	**27**	P	**P**	**12 41 17.7**	**-0.9**
	3.2nm,0.3s,baz=214,slow=14,SNR=251						
ILAR				S	**S**	**12 42 17.8**	**-3.1**
	2.4nm,0.3s,baz=213,slow=23,SNR=5.3						
IM3	**Indian Mountai**	**5.99**	**356**	P	**P**	**12 41 25.0**	**-0.6**
IMA	**Indian Mountai**	**6.07**	**356**	*e*P	**P**	**12 41 26.4**	**-0.4**
PNL	**Peninsula**	**6.73**	**87**	P	**P**	**12 41 35.8**	**0.0**
COLD	**Coldfoot**	**7.31**	**8**	P	**P**	**12 41 43.1**	**-0.5**
DAWY	**Dawson**	**7.45**	**51**	P	**P**	**12 41 45.2**	**-0.4**
BM3	**Burnt Mountain**	**8.23**	**22**	P	**P**	**12 41 53.4**	**-2.7**
DLBC	**Dease Lake**	**11.72**	**88**	P	**P**	**12 42 48.0**	**+5.7**
	0.3nm,0.3s,baz=236,slow=9.8,SNR=15						
INK	**Inuvik**	**11.73**	**37**	P	**P**	**12 42 44.6**	**+2.2**
	0.2nm,0.3s,baz=252,slow=10,SNR=5.7						
NVAR	**Mina Array Bea**	**30.62**	**119**	P	**P**	**12 46 05.6**	**+2.9**
	0.2nm,0.4s,mb3.2,baz=319,slow=9.6,SNR=2.9						
PDAR	**Pinedale Array**	**31.27**	**104**	P	**P**	**12 46 10.7**	**+2.4**
	0.3nm,0.5s,mb3.3,baz=326,slow=6.0,SNR=4.4						
SONM	**Songino Array**	**54.88**	**306**	P	**P**	**12 49 18.2**	**+0.4**
	0.7nm,0.4s,mb4.0,baz=41,slow=7.4,SNR=8.3						

*CSEM **01** 12:47:49.2, 38.80N×36.97E, h5km, MD3.5, After ISK*
*ISK **01** 12:47:49.2, 38.80N×36.97E, h5km, MD3.5*
ISC 01 12:47:51.4±0.4**, 38.85N**±0.03×**36.97E**±0.04**, h5**km**, n19, σ1s24**/29**, 1C, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BNN	**Bunyan**	**0.88**	**271**	PG	**Pg**	**12 48 06.8**	**-2.2**
BNN				SG	**Sg**	**12 48 20.3**	**-0.4**
SVST	**Sivas**	**0.92**	**359**	*i* P	**Pb**	**12 48 12.0**	**+2.4**
SVST				*i* S	**Sb**	**12 48 25.3**	**+3.3**
SVSK	**Karacayir**	**1.07**	**1**	PN	**Pn**	**12 48 11.7**	**-1.3**
SVSK				SN	**Sn**	**12 48 27.8**	**-0.5**
KAHT	**Ahir Dag**	**1.22**	**184**	*i* P	**Pb**	**12 48 13.9**	**-0.7**
KAHT				*i* S	**Sb**	**12 48 31.8**	**+1.4**
MYA	**Malataya**	**1.25**	**114**	PN	**Pn**	**12 48 13.5**	**-2.1**
YOZ	**Yozgat**	**1.51**	**302**	PN	**Pn**	**12 48 19.3**	**+0.1**
TOKT	**Tokat**	**1.51**	**348**	PN	**Pn**	**12 48 19.1**	**-0.1**
GZT	**Gaziantep**	**1.56**	**162**	*i* P	**Pn**	**12 48 19.7**	**-0.3**
GZT				*i* S	**Sb**	**12 48 43.7**	**+3.3**
ELZG	**Elazig**	**1.61**	**102**	⇑*i*P	**Pn**	**12 48 19.9**	**-0.9**
ELZG				*i* S	**Sb**	**12 48 44.5**	**+2.6**
AVNT	**Avonos**	**1.65**	**268**	*i* P	**Pn**	**12 48 21.9**	**+0.6**
AVNT				*i* S	**Sb**	**12 48 44.5**	**+1.4**
GAZ	**Gaziantep**	**1.68**	**173**	PN	**Pn**	**12 48 20.2**	**-1.5**
PTK	**Pertek**	**1.89**	**88**	*i* PN	**Pn**	**12 48 24.3**	**-0.4**
NIG	**Nigde**	**1.99**	**249**	PN	**Pn**	**12 48 25.7**	**-0.5**
EZC	**Erzincan**	**2.38**	**67**	PN	**Pn**	**12 48 26.1**	**-5.7**
COBT	**Iskenderun**	**2.39**	**194**	*i* P	**Pn**	**12 48 31.8**	**-0.1**
COBT				*i* S	**Sn**	**12 49 03.4**	**+1.5**
GUMT	**Gumushane**	**2.52**	**49**	PN	**Pn**	**12 48 34.0**	**+0.3**
KAMT	**Kaman**	**2.59**	**283**	PN	**Pn**	**12 48 33.5**	**-1.2**
BOYT	**Boyabat**	**3.02**	**329**	*i* P	**Pn**	**12 48 41.5**	**+0.7**
BOYT				*i* S	**Sn**	**12 49 26.2**	**+8.4**
BALT	**Daday**	**3.84**	**315**	*i* P	**Pn**	**12 48 53.0**	**+0.5**
BALT				*i* S	**Sn**	**12 49 47.9**	**+9.3**

*BER **01** 13:01:29.9±2.2, 59.29N×11.07E, ML2.1(NAO), Suspected explosion*
NAO 01 13:01:28.0±1.9**, 59.29N**×**11.02E, ML2.1, Southern Norway**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NC6	**NORSAR Subarra**	**1.48**	**8**	Pn	Pn	13 01 55.6	-0.3
NC6				Lg		13 02 15.9	
HFS	**Hagfors**	**1.60**	**57**	Pn	Pn	13 01 56.8	-0.9
	baz=239,slow=18						
HFS				Lg		13 02 17.9	
	baz=231,slow=37						
HFS				Rg		13 02 28.6	
	baz=251,slow=37						
NB2	**NORSAR Subarra**	**1.76**	**3**	Pn	Pn	13 01 59.8	-0.1
NB2				Lg		13 02 23.6	

*IDC **01** 13:03:29.4±1.7, 5.93N×120.10E, mb3.7/5, mb1 3.9/5, mb1mx3.7/17, MS2.7/1, Ms1 2.9/1, ms1mx2.6/23, Error ellipse: s-maj=128.0km s-min=20.9km az=54.0*
ISC 01 13:03:32.7±1.3**, 5.2N**±0.3×**118.8E**±0.3**, h33**km**, n6, σ1s38**/6**, mb3.6**/5**, MS2.6**/1**, 1D, Borneo**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**2.70**	**289**	⇓*e*P	**P**	**13 04 14.7**	**-0.1**
	82nm,0.6s						
CMAR	**Chiang Mai Arr**	**23.45**	**306**	P	**P**	**13 08 46.5**	**+6.3**
	0.9nm,0.8s,mb3.2,baz=126,slow=8.3,SNR=4.8						
CMAR				LR	LR	13 18 48.1	
	comp=Z,21nm,20.6s,MS2.6,baz=120,slow=38						
WRA	**Warramunga Arr**	**29.27**	**149**	P	**P**	**13 09 32.5**	**-1.9**
	1.4nm,0.8s,mb3.8,baz=332,slow=9.6,SNR=11						
ASAR	**Alice Springs**	**32.24**	**153**	P	**P**	**13 10 01.1**	**+0.6**
	0.5nm,0.8s,mb3.4,baz=336,slow=13,SNR=4.0						
STKA	**Stephens Creek**	**42.77**	**151**	P	**P**	**13 11 30.3**	**+1.1**
	2.3nm,0.8s,mb4.0,baz=314,slow=12,SNR=4.1						
MKAR	**Makanchi Array**	**52.03**	**329**	P	**P**	**13 12 41.4**	**0.0**
	0.3nm,0.5s,mb3.5,baz=127,slow=8.9,SNR=4.7						

*NIED **01** 13:40:00, 44.00N×140.70E, h5km, Mw3.7 Best double couple: $M_0$3.44×10^14 NP1:ϕ_s149°, δ57°, λ70°. NP2:ϕ_s4°, δ38°, λ118°.*
JMA 01 13:40:48.4, 43.99N×140.71E, M3.9, 1C-4D, Hokkaido region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JSK	**Shakotan**	**0.66**	**195**	⇑P	Pg	13 41 01.7	+0.1
JYG	**Yagishiri**	**0.68**	**49**	P	Pg	13 41 01.7	-0.2
JYG				*e*S	Sg	13 41 11.0	+0.1
JHR	**Hokuryu**	**0.77**	**108**	⇓P	Pg	13 41 03.8	-0.1
JHR				*e*S	Sg	13 41 15.4	+1.2
JSS	**Shosan**	**0.92**	**63**	⇓P	Pg	13 41 06.4	-0.3
JSS				*e*S	Sg	13 41 19.5	+0.5
JAB	**Ashibetsu**	**1.20**	**113**	⇓P	Pb	13 41 11.6	-0.1
JAB				*e*S	Sb	13 41 28.6	+1.0
JRR	**Rishiri**	**1.23**	**20**	P	Pb	13 41 11.9	-0.2
JEW	**Eniwo**	**1.27**	**155**	⇓P	Pb	13 41 12.5	-0.4
JEW				*e*S	Sb	13 41 30.1	+0.4

*IDC **01** 14:08:39.8±7.5, 26.87S×178.64W, h308km±66km, mb3.2/4, mb1 3.4/5, mb1mx3.3/12, Error ellipse: s-maj=46.5km s-min=27.4km az=44.0*
*NEIC **01** 14:08:41.2±1.5, 26.73S×178.83W, h313km±11km, mb4.0/2, Error ellipse: s-maj=25.6km s-min=16.5km az=214.0*
ISC 01 14:08:35.5±1.9**, 26.96S**±0.06×**178.9W**±0.2**, h253**km±16km**, n28, σ0s93**/27**, mb3.7**/7**, 2C, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	2.46	159	ePn	Px	14 09 35.0	
PUZ	Puketiti	11.34	191	eP	P	14 11 12.2	+0.5
PUZ				S	S	14 13 14.5	-0.3
URZ	Urewera	11.75	195	P	P	14 11 21.6	+4.7
	1.6nm,0.3s,baz=41,slow=4.9,SNR=23						
URZ				S	S	14 13 28.5	+4.2
	1.9nm,0.3s,baz=171,slow=23,SNR=15						
KNZ	Kokohu	12.36	192	S	S	14 13 37.9	-0.1
WAZ	Wanganui	13.73	200	eS	S	14 14 07.7	-0.7
BFZ	Birch Farm	14.26	195	eP	P	14 11 49.6	+1.7
BFZ				S	S	14 14 20.4	+0.3
MRZ	Mangatainoka R	14.41	197	eP	P	14 11 47.2	-2.5
MRZ				S	S	14 14 21.5	-1.9
KIW	Kapiti Island	14.78	199	S	S	14 14 31.4	-0.2
CAW	Cannon Point	14.96	198	eP	P	14 11 56.4	0.0
NNZ	Nelson	15.57	202	eP	P	14 12 04.4	+0.7
NNZ				S	S	14 14 51.0	+1.6
MQZ	McQueen's Vall	18.05	200	S	S	14 15 40.4	+0.8
CTAO	Charters Tower	32.57	275	eP	P	14 14 45.3	0.0
	2.9nm,0.4s,mb4.2						
ASAR	Alice Springs	42.57	264	P	P	14 16 08.6	+0.2
	0.6nm,0.4s,mb3.3,baz=93,slow=7.1,SNR=28						
ASPA	Alice Springs	42.57	264	eP	P	14 16 08.8	+0.4
WB2	Warramunga Arr	43.23	269	eP	P	14 16 13.6	-0.1
WRAB	Tennant Creek	43.23	269	P	P	14 16 13.1	-0.7
	2.5nm,0.3s,mb4.1						
WRA	Warramunga Arr	43.24	269	P	P	14 16 13.5	-0.3
	0.7nm,0.3s,mb3.5,baz=103,slow=8.7,SNR=34						
KAKA	Kakadu	47.64	277	eP	P	14 16 51.8	+3.4
	2.0nm,0.3s,mb3.9						
FITZ	Fitzroy Crossi	51.61	268	P	P	14 17 17.8	-0.4
	0.6nm,0.4s,mb3.3,baz=357,slow=23,SNR=4.2						
MAW	Mawson	75.23	200	P	P	14 19 50.3	-1.3
	0.8nm,0.7s,mb3.5,baz=126,slow=6.9,SNR=7.2						
VNA3	Neumayer Olymp	81.78	177	⇑i	P	14 20 26.8	0.0
VNA2	Neumayer--Watz	82.21	177	⇑i	P	14 20 28.8	-0.2
VNA1	Neumayer--Stat	82.44	177		P	14 20 30.8	+0.6
ARCES	ARCESS Array B	135.06	348	PKP	PKPdf	14 27 21.4	-2.5
	1.6nm,0.7s,baz=124,slow=3.3,SNR=4.2						
ARCES	ARCESS Array B	135.06	348	PKP	PKPdf	14 27 21.4	-2.5
FINES	FINESS Array B	141.64	341	PKhKP		14 27 27.0	
	1.0nm,0.9s,baz=72,slow=6.0,SNR=4.4						
FINES				PKP	PKPdf	14 27 33.0	-2.8
	1.2nm,0.9s,baz=45,slow=1.7,SNR=3.5						
NOA	NORSAR Array B	145.24	351	PKPbc	PKPbc	14 27 39.6	-3.2
	0.9nm,0.8s,baz=28,slow=3.8,SNR=3.4						
AKASG	Malin Array Be	148.04	325	PKPbc	PKPdf	14 27 47.6	+0.5
	0.7nm,0.3s,baz=43,slow=4.0,SNR=6.4						

MAN 01 14:11:04.3, 6.02N×125.37E, h129^{km}, mb4.7, ML3.6, MS3.5, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GSPH	General Santos	0.43	279	⇓iP	P	14 11 23.0	-0.1
KCP	Kidapawan	1.02	344	⇓iP	P	14 11 27.6	0.0
KCP				iS	S	14 11 45.8	+0.6
MATI	Mati	1.27	44	eP	P	14 11 30.7	+0.5
BUKP	Musuan	1.87	351	eP	P	14 11 40.3	+3.2
PAGZ	Pagadian	2.68	313	eP	P	14 11 47.8	+0.3

IDC 01 14:16:30.9±7.8, 9.17S×123.63E, h83^{km}±66^{km}, mb3.5/2, mb1 3.5/5, mb1mx3.3/15, ML3.5/3, Error ellipse: s-maj=68.0km s-min=49.2km az=53.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	9.09	168	P	P	14 18 38.7	-2.4
	0.6nm,0.3s,baz=359,slow=11,SNR=24						
FITZ				S	S	14 20 21.6	-1.0
	0.8nm,0.3s,baz=148,slow=17,SNR=7.0						
KAKA	Kakadu	9.30	113	eP	P	14 18 51.6	+7.7
	4.4nm,0.4s						
KAKA				eS	S	14 20 39.2	+12
WRA	Warramunga Arr	14.89	137	P	P	14 19 56.5	-1.8
	0.2nm,0.3s,baz=320,slow=14,SNR=15						
WRA				S	S	14 22 40.9	-0.5
	0.1nm,0.3s,baz=293,slow=24,SNR=4.1						
WB2	Warramunga Arr	14.90	137	eP	P	14 19 57.5	-0.9
WB2				eS	S	14 22 41.9	+0.3
ASPA	Alice Springs	17.44	147	eP	P	14 20 31.5	+1.2
ASAR	Alice Springs	17.44	147	P	P	14 20 30.6	+0.2
	0.2nm,0.3s,baz=328,slow=14,SNR=21						
ASAR				S	S	14 23 43.0	+3.6
	0.0nm,0.3s,baz=321,slow=23,SNR=3.4						
CTA	Charters Tower	24.40	119	P	P	14 21 42.2	-0.6
	1.0nm,0.5s,baz=242,slow=11,SNR=2.1						
STKA	Stephens Creek	28.08	146	P	P	14 22 13.9	-3.0
	0.7nm,0.5s,baz=318,slow=15,SNR=2.8						

*IDC **01** 14:27:30.8±1.8, 34.12N×141.71E, mb3.5/4, mb1 3.7/4, mb1mx3.5/21, Error ellipse: s-maj=36.6km s-min=25.6km az=72.0*
*JMA **01** 14:27:32.9±0.4, 34.10N×141.73E, h34^{km}±3^{km}, M3.2*
ISC 01 14:27:32.6±2.0, 34.13N±0.05×141.8E±0.1, h27^{km}±13^{km}, n14, σ0^{s}67/17, mb3.5/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSO1	Boso 1	0.83	309	P	Pb	14 27 48.2	-0.2
BSO3	Boso 3	1.23	303	P	Pn	14 27 54.5	+0.2
CHOJ	Chosi	1.73	335	P	Pn	14 28 02.0	+0.5
CHOJ				eS	Sn	14 28 23.9	+1.0
JHJ2	Mitsune	1.92	238	P	Pn	14 28 04.6	+0.5
JHJ	Hachijo jima 2	1.94	239	Pn	Pn	14 28 04.6	+0.2
	43nm,0.3s,baz=266,slow=19,SNR=12						
JHJ				Sn	Sn	14 28 28.4	+0.4
	77nm,0.3s,baz=64,slow=24,SNR=10						
JIM2	Oshima 3	2.02	288	P	Pn	14 28 04.6	-0.9
JKO	Kozu shima	2.18	272	P	Pn	14 28 08.9	+1.0
JIZS	Izushimoda	2.46	285	P	Pn	14 28 11.3	-0.5
JOD2	Odawara 2	2.48	298	P	Pn	14 28 11.2	-0.9
MAT	Matsushiro	3.77	311	P	Pn	14 28 31.0	+0.5
MAT				S	Sn	14 29 13.7	-0.9
SONM	Songino Array	29.72	308	P	P	14 33 38.0	-0.7
	0.5nm,0.7s,mb3.4,baz=98,slow=8.6,SNR=3.9						
MKAR	Makanchi Array	45.95	305	P	P	14 35 55.4	+0.5
	0.9nm,0.8s,mb3.8,baz=93,slow=8.4,SNR=3.0						
WRA	Warramunga Arr	54.23	189	P	P	14 36 57.5	-1.0
	0.5nm,0.9s,mb3.5,baz=5.2,slow=7.6,SNR=10						
ASAR	Alice Springs	57.96	189	P	P	14 37 25.5	+0.3
	0.4nm,0.7s,mb3.5,baz=3.2,slow=6.3,SNR=6.1						

*STR **01** 14:41:53.8±0.1, 42.85N×0.26W, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **01** 14:41:54.1±0.1, 42.84N×0.27W, h4^{km}, ML2.4/4, Error ellipse: s-maj=1.4km s-min=0.5km az=4.0*
*LDG **01** 14:41:54.0±0.1, 42.84N×0.27W, h3^{km}, Md2.3/2, Ml2.4/3, Error ellipse: s-maj=1.8km s-min=0.7km az=3.0*
ISC 01 14:41:53.4±0.5, 42.87N±0.04×0.25W±0.02, h5^{km}, n16, σ0^{s}94/30, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VIEF	Viey	0.20	86	Pg	Pg	14 41 58.3	+0.8
VIEF				Sg	Sg	14 42 01.3	+1.1
REYF	Montagne du Re	0.23	332	Pg	Pg	14 41 58.8	+0.8
REYF				Sg	Sg	14 42 02.2	+1.1
ETSF	Etsaut	0.23	277	ePg	Pg	14 41 58.4	+0.2
ETSF				eSg	Sg	14 42 01.4	+0.1
	71nm,0.3s						
FDAF	Les Forges d'A	0.24	257	Pg	Pg	14 41 58.4	0.0
FDAF				Sg	Sg	14 42 01.6	0.0
LABF	Labassere	0.29	53	Pg	Pg	14 42 00.4	+1.0
LABF				Sg	Sg	14 42 04.7	+1.4
RESF	Ens	0.43	98	Pg	Pg	14 42 02.5	+0.3
RESF				Sg	Sg	14 42 08.3	+0.3
EPF	Esparros	0.46	70	ePg	Pg	14 42 03.4	+0.8
EPF				eSg	Sg	14 42 10.2	+1.4
	24nm,0.2s						
LARF	Larrau	0.57	287	Pg	Pg	14 42 04.6	-0.2
LARF				Sg	Sg	14 42 13.0	+0.6
ORDF	Ordiarp	0.61	304	Pg	Pg	14 42 05.7	0.0
ORDF				Sg	Sg	14 42 14.3	+0.5
MELF	Melles	0.74	90	Pg	Pg	14 42 08.4	+0.2
SJPF	Ste Jean	0.76	289	ePg	Pg	14 42 08.5	-0.1
SJPF				eSg	Sg	14 42 17.9	-0.8
	12nm,0.3s						
SALF	Salau	1.06	96	Pg	Pg	14 42 14.5	-0.2
MTLF	Montolieu	1.86	75	ePn	Pn	14 42 25.4	-0.9
MTLF				ePg	Pg	14 42 29.3	-1.4
MTLF				eSg	Sg	14 42 53.9	-1.6
	4.8nm,0.3s						
LFF	La Frestale	2.19	19	ePn	Pn	14 42 29.9	-1.1
LFF				eSg	Sg	14 43 03.9	-2.3
	7.6nm,0.3s						
CAF	Calviac	2.65	38	ePn	Pn	14 42 36.2	-1.3
LASF	Ste Croix	3.22	67	ePn	Pn	14 42 44.1	-1.6
LASF				eSg	Sg	14 43 36.0	-4.7
	1.8nm,0.3s						

NEIC 01 14:46:25.3, 46.20N×122.20W, h1^{km}, MD3.5(SEA), 6C-9D, After SEA., Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHW	Mount Saint He	0.03	261	⇑P	Pg	14 46 26.2	+0.3
STD	Studebaker Rid	0.04	335	⇓P	Pg	14 46 26.5	+0.3
JLK	June Lake	0.06	150	P	Pg	14 46 26.7	+0.3
SOSW	Source of Smit	0.06	41	P	Pg	14 46 26.8	+0.3
FL2	Flat Top 2	0.11	270	⇓P	Pg	14 46 27.8	+0.4
CDFW	Cedar Flats	0.13	128	P	Pg	14 46 28.3	+0.4
ERK	Elk Rock	0.15	317	P	Pg	14 46 28.3	+0.1
TDL	Tradedollar La	0.15	355	P	Pg	14 46 28.6	+0.3
MTMW	Mount Mitchell	0.17	184	P	Pg	14 46 29.2	+0.5
LVP	Lakeview Peak	0.20	229	P	Pg	14 46 29.5	+0.4
KOSW	Kosmos	0.26	1	P	Pg	14 46 30.9	+0.3
CZM	Crazy Man Moun	0.32	318	⇑P	Pg	14 46 31.8	+0.1
RVW	Rose Valley	0.38	263	P	Pg	14 46 33.0	+0.1
ASR	Mount Adams--S	0.42	96	⇓P	Pg	14 46 33.6	-0.1
LMW	Ladd Mountain	0.48	352	P	Pg	14 46 35.2	+0.4
GLK	Glacier Lake	0.55	48	⇓P	Pg	14 46 36.1	-0.1
LCW	Lucas Creek	0.59	324	P	Pg	14 46 36.9	-0.1
LON	Longmire	0.61	26	⇓P	Pg	14 46 37.2	-0.3
REMR	Mount Rainier-	0.67	21	P	Pg	14 46 38.2	-0.4
WPW	White Pass	0.67	42	⇑P	Pg	14 46 38.1	-0.6
PCMD	Pierce County	0.70	354	P	Pg	14 46 38.9	-0.3
RCM	Mount Rainier-	0.71	26	P	Pg	14 46 39.2	-0.3
RCS	Mount Rainier-	0.75	25	⇓P	Pg	14 46 39.6	-0.6
VLL	Laurance Lake	0.82	154	⇑P	Pg	14 46 41.2	-0.4
FMW	Mount Fremont	0.82	26	⇓P	Pg	14 46 41.0	-0.6
GL2	New Goldendale	0.98	103	⇑P	Pb	14 46 44.1	-0.7
CPW	Capitol Peak	1.01	320	P	Pb	14 46 44.1	-1.1
VGB	Gordon Butte	1.20	124	eP	Pb	14 46 47.6	-0.9
EBG	Ellensburg	1.33	57	P	Pb	14 46 51.2	+0.5
SSOR	Sweet Springs	1.35	188	eP	Pb	14 46 49.5	-1.6
MXC	Moxie City	1.37	73	⇑P	Pb	14 46 51.4	0.0
GNW	Green Mountain	1.44	343	eP	Pn	14 46 50.6	-1.9
TBM	Table Mountain	1.47	48	P	Pn	14 46 52.7	-0.3
CROR	Criterion Ridg	1.48	145	⇓P	Pn	14 46 52.9	-0.3
SNIWA	Snively Ranch	1.78	80	P	Pn	14 46 57.8	+0.5
COR	Corvallis	1.79	206	Pn	Pn	14 46 57.9	+0.3
HAWA	Hanford	1.86	83	eP	Pn	14 46 58.4	-0.1
JCW	Jim Creek	2.01	5	⇓P	Pn	14 47 01.1	+0.4
NLW	Nelson Butte	2.27	33	ePn	Pn	14 47 04.9	+0.5
RPW	Rockport	2.30	11	ePn	Pn	14 47 04.7	-0.1
HSO	Harness Mounta	2.75	194	ePn	Pn	14 47 10.4	-0.8

*JMA **01** 14:48:27.7±0.1, 26.20N×126.36E, h75^{km}±1^{km}, M2.8*
*IDC **01** 14:48:30.1±6.1, 26.11N×126.69E, h98^{km}±73^{km}, mb2.9/3, mb1 3.1/3, mb1mx2.9/21, Error ellipse: s-maj=81.9km s-min=25.3km az=64.0*
ISC 01 14:48:26.6±0.6, 26.19N±0.08×126.39E±0.07, h87^{km}±6^{km}, n14, σ0^{s}96/24, mb3.1/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JKE	Kume jima 2	0.38	69	P	P	14 48 40.2	0.0
JKE				S	S	14 48 49.4	-1.1
JAGN	Aguni-jima	0.86	62	P	P	14 48 45.2	+0.5
JAGN				S	S	14 48 58.4	+0.1
NAH1	Naha	1.17	89	P	P	14 48 49.2	+0.8
NAH1				S	S	14 49 05.2	+0.5
JJT2	Tamagusuku 2	1.22	92	P	P	14 48 49.8	+0.7
JJT2				S	S	14 49 06.2	+0.3
JIH	Iheya	1.64	59	P	P	14 48 55.6	+1.1
JIH				S	S	14 49 15.7	+0.6
JOW	Kunigami	1.81	69	P	P	14 48 57.8	+1.1
	14nm,0.3s,baz=249,slow=13,SNR=38						
JOW				S	S	14 49 18.3	-0.5
	baz=119,slow=19						
JOW	Kunigami	1.81	69	P	P	14 48 57.7	+1.1
JOW				S	S	14 49 19.1	+0.3
JTJ	Tarama	2.17	225	eS	S	14 49 27.4	-0.2
JIJ	Ishigaki jima	2.73	229	P	P	14 49 10.3	+0.9
JIJ				eS	S	14 49 40.1	-1.4
JTK	Tokunoshima	2.78	55	P	P	14 49 09.8	-0.3
JTK				eS	S	14 49 41.1	-1.6
JAM	Amami Oshima	3.62	52	P	P	14 49 21.3	-0.3
JAM				eS	S	14 50 01.2	-2.2
SONM	Songino Array	26.71	329	P	P	14 54 02.2	+2.7
	0.2nm,0.4s,mb3.0,baz=141,slow=10,SNR=4.6						
WRA	Warramunga Arr	46.50	170	P	P	14 56 46.2	-0.9
	0.3nm,1.0s,mb3.0,baz=349,slow=8.7,SNR=4.9						
ASAR	Alice Springs	50.09	171	P	P	14 57 14.7	-0.3
	0.2nm,0.6s,mb3.2,baz=355,slow=9.6,SNR=5.3						

*PRU **01** 15:00:53.7, 51.47N×15.97E*
WAR 01 15:00:52.4, 51.56N×16.01E, ML2.6, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.74	166	ePG	Pg	15 01 06.0	-1.2
KSP				eSG	Sg	15 01 16.0	-1.1
UPC	Upice	1.06	180	ePG	Pg	15 01 12.0	-1.5
PVCC	Panska Ves	1.38	222	ePG	Pg	15 01 17.7	-2.2
PRU	Pruhonice	1.83	211	eSG	Sg	15 01 49.0	-4.3
	5.9nm,0.3s						
OKC	Ostrava-Krasne	2.20	141	eSG	Sg	15 02 02.3	-3.3
KHC	Kasperske Hory	2.89	214	eSG	Sg	15 02 22.7	-5.9

*NEIC **01** 15:07:04.7, 33.35S×70.12W, h7^{km}, ML2.8(GUC), After GUC.*
GUC 01 15:07:04.7±0.9, 33.35S×70.12W, h7^{km}±2^{km}, MD3.9, ML2.8, 2C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FCH	Farellones	0.15	278	⇓iP	Pg	15 07 08.9	+1.0
FCH				iS	Sg	15 07 11.6	+1.6
FCH				AMP		15 07 11.9	
	comp=N,8μm,0.2s						
CLCH	Cerro Calan	0.35	262	⇓iP	Pg	15 07 12.4	+0.5
CLCH				iS	Sg	15 07 18.0	+1.3
CLCH				AMP		15 07 20.5	
	comp=E,767nm,0.6s						
DSCH	Colegio Aleman	0.38	262	eP	Pg	15 07 12.9	+0.5
DSCH				iS	Sg	15 07 18.9	+1.3
DSCH				AMP		15 07 23.5	
	comp=N,1μm,0.7s						
PCH	Pirque	0.43	230	⇑iP	Pg	15 07 13.3	-0.1
STL	Santa Lucia	0.45	258	eP	Pg	15 07 13.9	+0.2
STL				iS	Sg	15 07 20.7	+1.0
ANTU	Antumapu	0.48	243	⇓iP	Pg	15 07 14.4	-0.1
ANTU				iS	Sg	15 07 21.2	+0.2
ANTU				AMP		15 07 21.6	
	comp=N,1μm,0.2s						
PEL	Peldehue	0.52	293	eP	Pg	15 07 15.3	+0.2
PEL				iS	Sg	15 07 23.2	+1.2
PEL				AMP		15 07 23.6	
	comp=N,2μm,0.3s						
RCDM	Rinconada Maip	0.59	256	eP	Pg	15 07 16.6	0.0
RCDM				AMP		15 07 25.9	
	comp=E,1μm,0.2s						
CHCH	Chadas Angostu	0.73	217	iP	Pb	15 07 18.3	-1.1
TACH	Talagante	0.75	246	⇑iP	Pb	15 07 18.9	-0.8
JACH	Jahuel	0.77	329	iP	Pb	15 07 20.0	-0.1
JACH				iS	Sg	15 07 31.2	+0.7
CACH	El Canelo	0.87	207	iP	Pb	15 07 20.7	-1.0
CICH	Cipreses	1.00	194	eP	Pb	15 07 22.8	-1.2
LCCH	Las Cruces	1.22	264	⇓iP	Pb	15 07 27.2	-0.5
LCCH				iS	Sb	15 07 43.7	+0.2
SFDO	San Fernando	1.47	210	eP	Pn	15 07 31.1	-0.6
SFDO				iS	Sb	15 07 50.6	-0.1

NEIC 01 15:18:24.2, 37.60S×179.38E, h33^{km}, ML4.3(WEL), After WEL., Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PUZ	Puketiti	1.01	242	P	P	15 18 41.4	-0.6
PUZ				S	S	15 18 54.7	-0.5
MWZ	Matawai	1.64	243	eP	P	15 18 49.8	-1.2
MWZ				S	S	15 19 11.0	-0.1
KNZ	Kokohu	1.95	223	P	P	15 18 54.6	-0.9
BKZ	Black Stump Fm	2.76	235	eP	P	15 19 05.8	-1.2

*TAP **01** 15:20:38.7, 24.02N×122.70E, h20^{km}, ML2.3*
JMA 01 15:20:40.9±0.1, 24.16N×122.47E, h34^{km}, M1.6, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.58	59	P	P	15 20 52.4	-0.1
YOJ				S	S	15 21 00.7	-0.2
IRIF	Iriomote-Funau	1.16	81	P	P	15 21 01.2	+0.3
IRIF				S	S	15 21 15.8	0.0
HATJ	Hateruma jima	1.22	95	S	S	15 21 17.4	0.0
JKRS	Kuro-shima	1.41	87	P	P	15 21 05.3	+0.9
JKRS				S	S	15 21 22.9	+0.9
JIJ	Ishigaki jima	1.54	82	S	S	15 21 25.5	+0.1

*IDC **01** 15:25:56.5±4.0, 37.23S×178.00E, h48^{km}±31^{km}, mb4.3/8, mb1 4.4/9, mb1mx4.4/12, ML4.6/1, MS3.5/8, Ms1 3.5/8, ms1mx3.4/12, Error ellipse: s-maj=35.1km s-min=17.5km az=58.0*
*NEIC **01** 15:26:00.5, 37.31S×177.77E, h48^{km}, mb4.8/9, ML4.9(WEL), After WEL.*
*SYO **01** 15:26:00.5, 37.31S×177.77E, h48^{km}, MB4.8*
*WEL **01** 15:26:00.9±0.3, 37.34S×177.73E, h48^{km}±3^{km}, ML4.9/12, Error ellipse: s-maj=1.8km s-min=1.7km az=0.0*
WEL Felt in the Bay of Plenty region, maximum reported intensity MM 5.
ISC 01 15:25:58.6±0.6, 37.34S±0.05×177.87E±0.06, h76^{km}±4^{km}, n191, σ1^{s}03/178, mb4.6/14, 11C-21D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.41	124	P	P	15 26 10.7	-0.5
MXZ				S	S	15 26 20.2	-0.5
MXZ	Matakaoa Point	0.41	124	⇑P*	P	15 26 10.7	-0.5
MXZ				S*	S	15 26 20.2	-0.5
MXZ				S*	S	15 26 20.3	-0.4
WIZ	White Island	0.58	250	P	P	15 26 11.4	-1.4
WIZ	White Island	0.58	250	P*	P	15 26 11.4	-1.4
PUZ	Puketiti	0.80	158	P	P	15 26 16.3	+1.1
PUZ				S	S	15 26 29.8	+2.3
PUZ	Puketiti	0.80	158	⇓PN	P	15 26 16.3	+1.1
PUZ				SN	S	15 26 29.6	+2.0
MWZ	Matawai	1.03	195	P	P	15 26 18.0	0.0
MWZ				S	S	15 26 31.0	-1.6
MWZ	Matawai	1.03	195	⇑P*	P	15 26 18.0	0.0
MWZ				S*	S	15 26 31.0	-1.6
URZ	Urewera	1.10	213	P	P	15 26 18.6	-0.3
	979nm,0.3s,baz=309,slow=2.8,SNR=2184						
URZ				S	S	15 26 32.6	-1.5
	1μm,0.3s,baz=272,slow=10.0,SNR=89						
MARZ	Manawahe	1.15	235	P	P	15 26 19.0	-0.5
MARZ	Manawahe	1.15	235	⇓P*	P	15 26 19.0	-0.4
EDRZ	Edgecumbe	1.18	229	⇑P*	P	15 26 19.7	-0.2
MYRZ	Mayor Island	1.30	272	⇓P*	P	15 26 20.9	-0.7
TGRZ	Tauranga	1.34	252	P	P	15 26 21.5	-0.6
TGRZ	Tauranga	1.34	252	⇓P*	P	15 26 21.5	-0.6
LIRZ	Lichensteins R	1.36	240	P	P	15 26 22.2	-0.1
LIRZ	Lichensteins R	1.36	240	⇓P*	P	15 26 22.2	-0.2
MKRZ	Makatiti	1.37	234	P	P	15 26 22.8	+0.2
MKRZ	Makatiti	1.37	234	P*	P	15 26 22.8	+0.2
TAZ	Tarawera	1.40	230	P	P	15 26 23.0	0.0
TAZ	Tarawera	1.40	230	P*	P	15 26 23.0	0.0
UTU	Utuhina	1.57	237	P*	P	15 26 25.5	+0.3
PATZ	Paeroa	1.65	230	⇓P*	P	15 26 26.5	+0.3
KNZ	Kokohu	1.69	185	P	P	15 26 26.8	+0.1
KNZ	Kokohu	1.69	185	⇓PN	P	15 26 26.8	+0.1
KUZ	Kuaotunu	1.82	288	P	P	15 26 27.8	-0.7
KUZ	Kuaotunu	1.82	288	⇓PN	P	15 26 27.8	-0.7
TOZ	Tahuroa Road	1.93	257	P	P	15 26 29.6	-0.3
TOZ	Tahuroa Road	1.93	257	⇑P*	P	15 26 29.6	-0.3
WHTZ	Whakaora	2.01	228	P	P	15 26 32.0	+0.9
WHTZ	Whakaora	2.01	228	P*	P	15 26 32.0	+0.9
HATZ	Hinemaiaia	2.09	222	P	P	15 26 32.3	+0.1
HATZ	Hinemaiaia	2.09	222	P*	P	15 26 32.3	0.0
BKZ	Black Stump Fm	2.13	210	P*	P	15 26 32.5	-0.2
MKAZ	Moumakai	2.17	275	⇓PN	P	15 26 33.2	-0.1
WATZ	Wairara	2.18	230	P*	P	15 26 33.7	+0.3
RATZ	Rangitukua	2.26	227	P*	P	15 26 34.7	+0.2
RITZ	Rihia Road	2.28	223	P*	P	15 26 35.5	+0.6
KATZ	Kakaramea	2.37	226	P*	P	15 26 36.6	+0.5
MTAZ	Motutapu	2.43	282	⇓PN	P	15 26 37.0	0.0
MGZ	Maungaku	2.48	227	P*	P	15 26 38.3	+0.6
KAVZ	Karewarewa	2.48	224	P*	P	15 26 38.3	+0.5
WTVZ	West Tongariro	2.53	225	P*	P	15 26 38.4	0.0
NGZ	Ngauruhoe	2.56	223	P	P	15 26 39.6	+0.7
NGZ	Ngauruhoe	2.56	223	P*	P	15 26 39.5	+0.6
KAAZ	Kauri Point	2.58	280	P	P	15 26 39.6	+0.5
KAAZ	Kauri Point	2.58	280	PN	P	15 26 39.6	+0.4
TWVZ	Taurewa	2.58	227	P	P	15 26 39.7	+0.5
TWVZ	Taurewa	2.58	227	P*	P	15 26 39.5	+0.4
TUVZ	Tukino	2.60	221	P*	P	15 26 39.7	+0.3
CNZ	Chateau	2.61	224	P	P	15 26 40.5	+1.0
CNZ	Chateau	2.61	224	P*	P	15 26 40.2	+0.6
WPVZ	Whakapapa	2.62	224	P	P	15 26 40.2	+0.6
WPVZ	Whakapapa	2.62	224	P*	P	15 26 40.1	+0.6
DRZ	Dome Shelter	2.66	222	P	P	15 26 41.2	+1.1
DRZ	Dome Shelter	2.66	222	P*	P	15 26 41.0	+0.9
MOVZ	Moawhango	2.66	218	P	P	15 26 40.0	-0.2
MOVZ	Moawhango	2.66	218	P*	P	15 26 39.8	-0.3
HIZ	Hauiti	2.66	243	⇓PN	P	15 26 40.5	+0.3
WTAZ	Waiatarua	2.67	278	P	P	15 26 40.4	+0.1
WTAZ	Waiatarua	2.67	278	PN	P	15 26 40.3	0.0
WNVZ	Wahianoa	2.67	221	P	P	15 26 40.7	+0.3
WNVZ	Wahianoa	2.67	221	P*	P	15 26 40.6	+0.2
PWZ	Pawanui	2.80	196	P	P	15 26 40.4	-1.8
PWZ	Pawanui	2.80	196	PN	P	15 26 40.2	-2.0
VRZ	Vera Road	3.03	233	P	P	15 26 46.4	+0.9
VRZ	Vera Road	3.03	233	⇓P*	P	15 26 46.4	+1.0
TSZ	Takapari Road	3.10	208	P	P	15 26 44.6	-1.8
TSZ	Takapari Road	3.10	208	PN	P	15 26 44.5	-1.9
WCZ	Waipu Caves	3.16	295	P	P	15 26 46.7	-0.5
WCZ	Waipu Caves	3.16	295	⇓PN	P	15 26 46.7	-0.5
WAZ	Wanganui	3.31	222	P	P	15 26 49.5	+0.2
WAZ	Wanganui	3.31	222	PN	P	15 26 49.3	0.0
RAEZ	Rainy Point	3.36	233	P	P	15 26 51.7	+1.7
RAEZ	Rainy Point	3.36	233	PN	P	15 26 51.1	+1.1
NEZ	North Egmont	3.54	236	P	P	15 26 54.6	+2.1
NEZ	North Egmont	3.54	236	PN	P	15 26 54.3	+1.7
DFE	Dawson Falls	3.57	235	P	P	15 26 54.8	+1.9
DFE	Dawson Falls	3.57	235	PN	P	15 26 54.7	+1.9
BFZ	Birch Farm	3.57	200	eP	P	15 26 50.0	-2.9
BFZ	Birch Farm	3.57	200	PN	P	15 26 49.6	-3.4
PKE	Pukeiti	3.58	238	P	P	15 26 54.2	+1.2
PKE	Pukeiti	3.58	238	PN	P	15 26 54.2	+1.2
NRZ	Ngariki Road	3.69	236	P	P	15 26 56.0	+1.5
NRZ	Ngariki Road	3.69	236	PN	P	15 26 55.6	+1.1
NWEZ	Newall Road	3.70	237	PN	P	15 26 55.9	+1.2
MRZ	Mangatainoka R	3.77	208	P	P	15 26 52.6	-3.1
MRZ	Mangatainoka R	3.77	208	PN	P	15 26 52.4	-3.3
OUZ	Omahuta	4.05	300	P	P	15 26 59.3	-0.2
OUZ	Omahuta	4.05	300	⇓PN	P	15 26 59.3	-0.2
KIW	Kapiti Island	4.21	212	P	P	15 26 58.6	-3.2
KIW	Kapiti Island	4.21	212	PN	P	15 26 58.5	-3.2
MTW	Mount Morrison	4.24	205	P	P	15 26 57.9	-4.3
MTW	Mount Morrison	4.24	205	PN	P	15 26 57.7	-4.5
CAW	Cannon Point	4.35	209	P	P	15 26 59.8	-4.0
CAW	Cannon Point	4.35	209	ePN	P	15 26 59.5	-4.3
PAWZ	Paruwai Farm	4.46	204	ePN	P	15 27 00.3	-5.0
MSWZ	Moikau Station	4.55	206	P	P	15 27 01.9	-4.7
MSWZ	Moikau Station	4.55	206	ePN	P	15 27 01.4	-5.2
MRW	Makara Radio	4.60	211	P	P	15 27 03.2	-4.0
MRW	Makara Radio	4.60	211	ePN	P	15 27 02.9	-4.3
WEL	Wellington	4.62	210	P	P	15 27 03.5	-4.0
WEL	Wellington	4.62	210	ePN	P	15 27 03.4	-4.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SNZO	**South Karori**	**4.67**	**211**	P	**P**	**15 27 03.7**	**-4.4**
SNZO	**South Karori**	**4.67**	**211**	PN	**P**	**15 27 03.4**	**-4.7**
BHW	**Baring Head**	**4.69**	**209**	P	**P**	**15 27 03.9**	**-4.5**
BHW	**Baring Head**	**4.69**	**209**	PN	**P**	**15 27 03.5**	**-4.9**
TUWZ	**Tuamarina**	**5.10**	**215**	PN	**P**	**15 27 09.5**	**-4.5**
NNZ	**Nelson**	**5.21**	**221**	PN	**P**	**15 27 11.2**	**-4.5**
CMWZ	**Cape Campbell**	**5.24**	**212**	P	**P**	**15 27 12.3**	**-3.7**
CMWZ	**Cape Campbell**	**5.24**	**212**	PN	**P**	**15 27 11.6**	**-4.4**
BSWZ	**Blackbirch Sta**	**5.35**	**214**	P	**P**	**15 27 12.8**	**-4.8**
BSWZ	**Blackbirch Sta**	**5.35**	**214**	PN	**P**	**15 27 12.7**	**-4.8**
QRZ	**Quartz Range**	**5.42**	**228**	eP	**P**	**15 27 15.0**	**-3.6**
QRZ	**Quartz Range**	**5.42**	**228**	⇓PN	**P**	**15 27 14.9**	**-3.7**
THZ	**Tophouse**	**5.86**	**219**	P	**P**	**15 27 20.0**	**-4.5**
THZ	**Tophouse**	**5.86**	**219**	PN	**P**	**15 27 19.9**	**-4.5**
KHZ	**Kahutara**	**6.07**	**212**	P	**P**	**15 27 21.8**	**-5.7**
KHZ	**Kahutara**	**6.07**	**212**	PN	**P**	**15 27 21.7**	**-5.8**
DSZ	**Denniston Nort**	**6.43**	**225**	P	**P**	**15 27 27.3**	**-5.3**
DSZ	**Denniston Nort**	**6.43**	**225**	PN	**P**	**15 27 27.3**	**-5.3**
DSZ				SN	**S**	**15 28 37.9**	**-7.4**
LTZ	**Lake Taylor**	**6.93**	**217**	eP	**P**	**15 27 33.1**	**-6.4**
LTZ	**Lake Taylor**	**6.93**	**217**	PN	**P**	**15 27 32.9**	**-6.7**
CRLZ	**Canterbury Las**	**7.41**	**211**	P	**P**	**15 27 39.6**	**-6.5**
CRLZ	**Canterbury Las**	**7.41**	**211**	PN	**P**	**15 27 39.2**	**-6.9**
MQZ	**McQueen's Vall**	**7.50**	**210**	P	**P**	**15 27 39.6**	**-7.8**
MQZ	**McQueen's Vall**	**7.50**	**210**	ePN	**P**	**15 27 39.5**	**-7.9**
WVZ	**Waitaha Valley**	**7.92**	**221**	eP	**P**	**15 27 47.3**	**-5.7**
WVZ	**Waitaha Valley**	**7.92**	**221**	ePN	**P**	**15 27 46.6**	**-6.4**
RPZ	**Rata Peaks**	**8.22**	**217**	P	**P**	**15 27 51.4**	**-5.8**
	7.8nm,0.3s,baz=102,slow=2.3,SNR=70						
RPZ				LR	LR	15 31 50.7	
	comp=Z,311nm,18.2s,baz=36,slow=42						
LBZ	**Lake Benmore**	**9.14**	**217**	ePN	**P**	**15 28 01.8**	**-7.9**
ODZ	**Otahua Downs**	**9.43**	**213**	eP	**P**	**15 28 07.0**	**-6.7**
ODZ	**Otahua Downs**	**9.43**	**213**	ePN	**P**	**15 28 05.6**	**-8.1**
WKZ	**Wanaka**	**10.03**	**219**	ePN	**P**	**15 28 14.5**	**-7.3**
TUZ	**Tuapeka**	**10.59**	**213**	eP	**P**	**15 28 20.5**	**-8.8**
TUZ	**Tuapeka**	**10.59**	**213**	ePN	**P**	**15 28 22.8**	**-6.5**
MLZ	**Mavora Lakes**	**10.82**	**219**	eP	**P**	**15 28 26.1**	**-6.3**
MLZ	**Mavora Lakes**	**10.82**	**219**	ePN	**P**	**15 28 25.7**	**-6.8**
RAR	**Rarotonga**	**25.17**	**57**	LR	LR	15 38 03.0	
	comp=Z,103nm,19.8s,baz=150,slow=29						
STKA	**Stephens Creek**	**30.23**	**269**	P	**P**	**15 32 04.6**	**+0.5**
	5.6nm,0.8s,mb4.2,baz=107,slow=10,SNR=8.4						
STKA				PcP	PcP	15 35 02.0	-1.4
	0.6nm,0.6s,baz=268,slow=4.7,SNR=4.1						
STKA				LR	LR	15 43 08.7	
	comp=Z,97nm,19.6s,baz=30,slow=34						
CTA	**Charters Tower**	**32.42**	**293**	eP	**P**	**15 32 24.5**	**+1.0**
	4.0nm,0.5s,mb4.4						
CTA	**Charters Tower**	**32.42**	**293**	P	**P**	**15 32 24.1**	**+0.6**
	5.1nm,0.5s,mb4.5,baz=125,slow=9.8,SNR=17						
CTA				LR	LR	15 43 51.8	
	comp=Z,96nm,21.9s,baz=49,slow=33						
CTAO	**Charters Tower**	**32.42**	**293**	eP	**P**	**15 32 24.3**	**+0.8**
	4.8nm,0.5s,mb4.5						
PMG	**Port Moresby**	**39.27**	**307**	LR	LR	15 46 32.5	
	comp=Z,48nm,21.5s,baz=150,slow=32						
ASAR	**Alice Springs**	**39.91**	**277**	P	**P**	**15 33 26.9**	**+0.2**
	2.9nm,0.5s,mb4.4,baz=89,slow=8.1,SNR=56						
ASAR				PcP	PcP	15 35 29.0	-2.7
	2.7nm,0.5s,baz=118,slow=4.0,SNR=9.2						
ASAR				LR	LR	15 48 39.0	
	comp=Z,38nm,21.3s,baz=199,slow=34						
ASAR	**Alice Springs**	**39.91**	**277**	P	**P**	**15 33 26.9**	**+0.2**
ASAR				PcP	PcP	15 35 29.0	-2.7
ASAR				LR	LR	15 48 39.0	
ASPA	**Alice Springs**	**39.91**	**277**	eP	**P**	**15 33 23.2**	**-3.5**
FORT	**Forrest**	**41.40**	**264**	eP	**P**	**15 33 38.3**	**-0.5**
	33nm,0.5s,mb5.4						
WB2	**Warramunga Arr**	**41.54**	**282**	eP	**P**	**15 33 39.9**	**-0.3**
WRAB	**Tennant Creek**	**41.55**	**282**	eP	**P**	**15 33 40.1**	**-0.1**
	12nm,0.6s,mb4.8						
WRA	**Warramunga Arr**	**41.55**	**282**	P	**P**	**15 33 40.2**	**0.0**
	6.9nm,0.7s,mb4.5,baz=133,slow=5.4,SNR=126						
WRA				LR	LR	15 50 34.4	
	comp=Z,70nm,20.2s,baz=110,slow=36						
CASY	**Casey**	**47.43**	**210**	eP	**P**	**15 34 26.5**	**-0.3**
NWAO	**Narrogin (SRO)**	**49.05**	**256**	P	**P**	**15 34 37.6**	**-2.2**
	24nm,1.3s,mb5.0						
FITZ	**Fitzroy Crossi**	**49.40**	**278**	eP	**P**	**15 34 42.1**	**-0.6**
	5.0nm,0.8s,mb4.5						
FITZ	**Fitzroy Crossi**	**49.40**	**278**	P	**P**	**15 34 42.5**	**-0.2**
	3.4nm,0.4s,mb4.6						
MUN	**Mundaring**	**50.22**	**257**	eP	**P**	**15 34 47.5**	**-1.4**
	6.9nm,0.5s,mb4.8						
MEEK	**Meekatharra**	**50.65**	**264**	eP	**P**	**15 34 50.6**	**-1.6**
	22nm,0.5s,mb5.5						
MAW	**Mawson**	**64.61**	**203**	⇓iP	**P**	**15 36 30.2**	**+0.6**
	4.9nm,0.9s,mb4.3						
MAW	**Mawson**	**64.61**	**203**	P	**P**	**15 36 29.9**	**+0.3**
	6.7nm,0.9s,mb4.5,baz=119,slow=7.5,SNR=20						
SYO	**Syowa Base**	**69.58**	**195**	⇓P	**P**	**15 37 00.3**	**-0.5**
SYO	**Syowa Base**	**69.58**	**195**	⇓pP	pP	15 37 16.6	-4.3
SYO	**Syowa Base**	**69.58**	**195**	⇓sP	sP	15 37 21.2	-7.7
SYO	**Syowa Base**	**69.58**	**195**	⇓PcP	PcP	15 37 24.9	+1.4
SNAA	**Sanae**	**71.30**	**180**	⇑i	**P**	**15 37 19.1**	**+8.0**
SNAA	**Sanae**	**71.30**	**180**	P	**P**	**15 37 12.1**	**+0.9**
	1.5nm,0.3s,mb4.2,baz=180,slow=8.4,SNR=13						
SNAA	**Sanae**	**71.30**	**180**	⇓iP	**P**	**15 37 12.4**	**+1.3**
	0.4nm,0.4s,mb3.6						
VNA3	**Neumayer Olymp**	**71.59**	**177**	⇑i	**P**	**15 37 16.5**	**+3.6**
VNA3	**Neumayer Olymp**	**71.59**	**177**	⇑i	**P**	**15 37 24.5**	**+12**
VNA2	**Neumayer--Watz**	**71.98**	**178**	⇑i	**P**	**15 37 19.2**	**+4.0**
VNA2	**Neumayer--Watz**	**71.98**	**178**	⇑i	**P**	**15 37 26.9**	**+12**
VNA1	**Neumayer--Stat**	**72.23**	**178**	⇑i	**P**	**15 37 21.1**	**+4.4**
VNA1	**Neumayer--Stat**	**72.23**	**178**	⇑i	**P**	**15 37 28.1**	**+11**
CMAR	**Chiang Mai Arr**	**92.56**	**291**	P	**P**	**15 39 03.5**	**+0.4**
	2.1nm,0.6s,mb4.6,baz=148,slow=3.6,SNR=13						
CMAR				LR	LR	16 19 36.4	
	comp=Z,29nm,18.3s,baz=115,slow=35						
NVAR	**Mina Array Bea**	**95.60**	**45**	P	**P**	**15 39 18.7**	**+2.3**
	0.2nm,0.4s,mb3.9,baz=233,slow=4.5,SNR=3.5						
ILAR	**Eielson Array**	**105.46**	**15**	PKiKP		15 44 11.9	
	0.3nm,0.5s,baz=291,slow=3.1,SNR=4.7						
KURK	**Kurchatov**	**123.20**	**311**	ePKPdf	PKPdf	15 44 45.7	-0.6
KEV	**Kevo**	**143.95**	**343**	epkp	PKPdf	15 45 38.0	+14
ARCES	**ARCESS Array B**	**144.46**	**344**	PKP	PKPdf	15 45 24.6	-0.2
	6.2nm,0.6s,baz=46,slow=2.0,SNR=42						
ASF	**Jabal al Asfar**	**147.69**	**273**	PKPbc	PKPdf	15 45 35.1	+3.6
	2.3nm,0.6s,baz=311,slow=3.3,SNR=5.8						
LIC	**Lamto**	**148.92**	**174**	eP	PKPdf	15 45 39.5	+5.5
	54nm,1.4s						
KIC	**Kosan Boka**	**149.08**	**175**	eP	PKPdf	15 45 37.7	+3.5
	90nm,1.2s						
TIC	**Toumodi**	**149.34**	**174**	eP	PKPdf	15 45 38.9	+4.2
	14nm,0.4s						
DBIC	**Dimbokro**	**149.38**	**175**	PKPbc	PKPdf	15 45 41.4	+6.7
	3.5nm,0.7s,baz=202,slow=7.5,SNR=7.5						
DBIC				PKPab	PKPab	15 45 46.4	+0.1
	4.6nm,0.6s,baz=122,slow=4.4,SNR=8.7						
DBIC	**Dimbokro**	**149.38**	**175**	PKPbc	PKPdf	15 45 41.4	+6.7
DBIC				PKPab	PKPab	15 45 46.4	+0.1
KAF	**Kangasniemi**	**149.60**	**334**	epkp	PKPdf	15 45 38.0	+4.4
FINES	**FINESS Array B**	**150.13**	**333**	PKPbc	PKPdf	15 45 40.2	+5.7
	3.9nm,0.4s,baz=45,slow=3.8,SNR=38						
FINES				PKPab	PKPab	15 45 46.0	-2.0
	2.0nm,0.4s,baz=64,slow=3.3,SNR=12						
FINES	**FINESS Array B**	**150.13**	**333**	PKPbc	PKPdf	15 45 40.2	+5.7
FINES				PKPab	PKPab	15 45 46.0	-1.9
BRTR	**Keskin Array B**	**152.03**	**286**	PKPbc	PKPdf	15 45 45.0	+7.0
	2.4nm,0.6s,baz=133,slow=4.6,SNR=13						
BRTR				PKPab	PKPab	15 45 55.0	-1.7
	2.2nm,1.0s,baz=127,slow=6.2,SNR=5.2						
AKASG	**Malin Array Be**	**154.02**	**311**	PKPbc	PKPdf	15 45 48.3	+8.0
	0.6nm,0.4s,baz=54,slow=2.4,SNR=4.3						
AKASG				PKPab	PKPab	15 46 03.0	-1.7
	6.1nm,0.7s,baz=57,slow=4.4,SNR=18						
MLR	**Muntele Rosu**	**157.51**	**300**	PKPab	PKPab	15 46 18.9	-0.9
	6.0nm,1.2s,baz=227,slow=4.5,SNR=3.6						
GERES	**GERESS Array B**	**163.73**	**320**	PKPab	PKPab	15 46 45.7	-0.8
	0.2nm,0.3s,slow=2.7,SNR=4.8						

MAN 01 15:27:43.5,7.34N×124.59E,h31^{km},mb3.9,ML2.6,MS2.2, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.36**	**251**	⇑iP	Pb	15 27 53.6	+1.6
CTBH				i S	Sb	15 27 59.9	+2.1
BUKP	**Musuan**	**0.71**	**41**	eP	Pb	15 27 58.3	+1.0
BUKP				eS	Sb	15 28 08.2	+1.4
PAGZ	**Pagadian**	**1.30**	**293**	eP	Pn	15 28 06.0	+0.1
PAGZ				eS	Sn	15 28 21.7	-0.7
IPIL	**Ipil**	**2.05**	**283**	eP	Pn	15 28 18.2	+1.5

DJA 01 15:28:27.8±1.0**,8.01S**×**115.24E,h2^{km},ML3.7**/1**,3C-3D, Error ellipse: s-maj=23.5km s-min=12.0km az=151.0, Bali region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	**Rata**	**0.77**	**158**	⇓iPn	Pn	15 28 41.8	-3.6
RATI				⇑iSn	Sn	15 28 52.7	-4.9
INGI	**Ingas**	**0.81**	**187**	⇑iPn	Pn	15 28 43.3	-2.7
INGI				⇓eSn	Sn	15 28 54.5	-4.2
KEDI	**Kedomdong**	**0.99**	**119**	⇓iPn	Pn	15 28 45.3	-3.2
	115nm,0.2s						
KEDI				⇑iSn	Sn	15 28 58.4	-4.8

*NEIC **01** 15:53:16.0±1.6,18.91S×169.37E,h248^{km}±13^{km},mb4.2/5, Error ellipse: s-maj=21.8km s-min=15.1km az=177.0*
*IDC **01** 15:53:20.0±3.1,19.01S×169.33E,h287^{km}±30^{km},mb3.7/7, mb1 3.9/7,mb1mx3.7/12,Error ellipse: s-maj=58.7km s-min=15.7km az=152.0*
ISC 01 15:53:14.6±0.9**,18.8S**±0.1×**169.2E**±0.1**,h244^{km}**±6^{km}**,n22, σ1^{s}09**/22**,mb4.0**/11**,1C-3D,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**1.43**	**319**	⇓iP	**P**	**15 53 50.5**	**-1.6**
BKM				S	**S**	**15 54 21.6**	**+0.2**
DZM	**Mont Dzumac**	**4.20**	**218**	eP	**P**	**15 54 21.3**	**+0.3**
NOUC	**Port Laguerre**	**4.30**	**219**	⇑iP	**P**	**15 54 23.5**	**+1.2**
CTA	**Charters Tower**	**21.70**	**263**	P	**P**	**15 57 49.9**	**+3.1**
	2.3nm,0.4s,mb4.1,baz=81,slow=11,SNR=13						
CTA	**Charters Tower**	**21.70**	**263**	P	**P**	**15 57 49.9**	**+3.1**
CTAO	**Charters Tower**	**21.70**	**263**	eP	**P**	**15 57 49.4**	**+2.6**
	3.0nm,0.4s,mb4.2						
STKA	**Stephens Creek**	**28.09**	**237**	P	**P**	**15 58 45.7**	**-0.2**
	5.3nm,0.7s,mb4.3,baz=67,slow=7.6,SNR=20						
WB2	**Warramunga Arr**	**32.89**	**262**	⇓iP	**P**	**15 59 27.4**	**-0.6**
WRAB	**Tennant Creek**	**32.89**	**262**	eP	**P**	**15 59 26.8**	**-1.2**
	3.5nm,0.3s,mb4.4						
WRA	**Warramunga Arr**	**32.90**	**262**	P	**P**	**15 59 27.7**	**-0.4**
	1.1nm,0.3s,mb3.9,baz=84,slow=6.5,SNR=87						
ASAR	**Alice Springs**	**33.23**	**255**	P	**P**	**15 59 30.7**	**-0.1**
	17nm,0.5s,mb4.9,baz=81,slow=8.8,SNR=572						
ASAR				S	**S**	**16 04 30.6**	**-1.3**
	0.2nm,0.6s,baz=81,slow=17,SNR=5.9						
ASPA	**Alice Springs**	**33.23**	**255**	⇓iP	**P**	**15 59 30.7**	**-0.2**
FITZ	**Fitzroy Crossi**	**41.28**	**264**	eP	**P**	**16 00 39.2**	**+1.3**
	4.0nm,0.4s,mb4.2						
MBWA	**Marble Bar**	**46.43**	**258**	eP	**P**	**16 01 19.3**	**+0.3**
	4.8nm,0.3s,mb4.3						
QSPA	**South Pole Qui**	**71.29**	**180**	P	**P**	**16 04 06.7**	**-2.0**
	0.6nm,0.5s,mb3.5						
SONM	**Songino Array**	**86.83**	**323**	P	**P**	**16 05 34.8**	**+2.2**
	0.5nm,0.5s,mb3.5,baz=150,slow=6.0,SNR=7.8						
NVAR	**Mina Array Bea**	**88.50**	**49**	P	**P**	**16 05 41.6**	**+1.0**
	1.0nm,0.9s,mb3.6,baz=219,slow=7.1,SNR=3.9						
ILAR	**Eielson Array**	**89.78**	**17**	P	**P**	**16 05 45.3**	**-0.8**
	0.5nm,0.7s,mb3.5,baz=238,slow=5.2,SNR=5.3						
VNA3	**Neumayer Olymp**	**90.22**	**180**		**P**	**16 05 47.4**	**-0.6**
VNA2	**Neumayer--Watz**	**90.52**	**181**	⇑i	**P**	**16 05 50.1**	**+0.8**
ARCES	**ARCESS Array B**	**124.61**	**345**	PKP	PKPdf	16 11 44.9	+0.4
	1.8nm,0.8s,baz=66,slow=2.8,SNR=13						
GERES	**GERESS Array B**	**144.07**	**332**	PKP	PKPdf	16 12 21.0	+0.2
	0.5nm,0.6s,slow=2.7,SNR=6.3						

OTT 01 15:59:34.6±0.4**,52.85N**×**67.39W,MN2.7**/7**,Blast, Mount Wright, Qc Mining explosion.,Northern Quebec**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**2.02**	**9**	PN	Pn	16 00 10.7	+0.5
SCHQ				SG	Sg	16 00 36.9	-4.8
SCHQ				Trac		16 00 43.8	
	comp=Z,8.9nm,0.1s						
MNQ	**Manicouagan**	**2.47**	**201**	PN	Pn	16 00 15.7	-1.1
MNQ				SG	Sg	16 00 49.6	-7.2
MNQ				Trac		16 00 52.9	
	comp=Z,6.2nm,0.1s						
SMQ	**Clarke City**	**2.66**	**170**	PN	Pn	16 00 17.3	-2.2
SMQ				Trac		16 00 56.8	
	comp=Z,5.0nm,0.1s						
ICQ	**Pointe Anglais**	**3.33**	**179**	PN	Pn	16 00 25.9	-3.1
ICQ				SN	Sn	16 01 05.5	-4.3
ICQ				Trac		16 01 10.3	
	comp=Z,2.9nm,0.1s						
CNQ	**Baie Comeau**	**3.58**	**187**	PN	Pn	16 00 30.9	-1.6
CNQ				Trac		16 01 34.4	
	comp=Z,2.6nm,0.1s						
GSQ	**Grosses Roches**	**3.95**	**177**	PN	Pn	16 00 35.0	-2.7
GSQ				SN	Sn	16 01 23.5	-2.0
GSQ				Trac		16 01 26.1	
	comp=Z,0.5nm,0.0s						
LG4Q	**La Grande 4**	**4.10**	**284**	PN	Pn	16 00 37.8	-2.2
LG4Q				PG	Pg	16 00 47.1	-9.4
LG4Q				SN	Sn	16 01 29.9	+0.4
LG4Q				Trac		16 01 47.1	
	comp=Z,3.7nm,0.2s						
LMQ	**La Malbaie**	**5.63**	**201**	PN	Pn	16 00 57.8	-3.8
DRLN	**Deer Lake**	**7.19**	**116**	PN	Pn	16 01 17.2	-6.4
LMN	**Caledonia Moun**	**7.20**	**165**	PN	Pn	16 01 19.7	-4.0
VLDQ	**Val d'Or**	**7.97**	**238**	PN	Pn	16 01 32.0	-2.6
MALO	**McAlpine Lake**	**8.23**	**255**	PN	P	16 01 33.8	-4.4
VIMO	**Victor Mine**	**9.90**	**276**	PN	P	16 01 56.5	-4.6
SILO	**Sutton Inlier**	**10.53**	**286**	PN	P	16 02 03.7	-5.9

DJA 01 16:18:51.6±0.9**,8.90S**×**117.17E,h135^{km}**±9^{km}**,MD4.9**/4**, ML4.0**/4**,3C-5D,Error ellipse: s-maj=47.7km s-min=22.0km az=179.0,Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**1.13**	**291**	⇑iPn	P	16 19 16.5	0.0
	174nm,0.2s						
KEDI				⇓iSn	S	16 19 34.4	-1.2
RATI	**Rata**	**1.63**	**276**	⇓iPn	P	16 19 21.6	-0.3
	104nm,0.2s						
RATI				⇓iSn	S	16 19 43.9	-1.2
INGI	**Ingas**	**2.01**	**272**	⇓iPn	P	16 19 25.8	-0.5
	185nm,0.2s						
INGI				⇓iSn	S	16 19 51.7	-1.1
KELI	**Kelakatan**	**2.74**	**284**	⇑iPn	P	16 19 35.7	-0.1
	34nm,0.2s						
KELI				⇑iSn	S	16 20 06.9	-2.5

*STR **01** 16:29:00.7±0.1,42.85N×0.26W,h5^{km}±1^{km},Ml2.2,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **01** 16:29:00.9±0.1,42.84N×0.27W,h2^{km},Md2.3/2,Ml2.2/3*
ISC 01 16:29:00.5±0.6**,42.87N**±0.05×**0.26W**±0.02**,h5^{km},n13, σ0^{s}82**/24**,Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIEF	**Viey**	**0.21**	**85**	Pg	**Pg**	**16 29 05.3**	**+0.5**
VIEF				Sg	**Sg**	**16 29 08.2**	**+0.6**
ETSF	**Etsaut**	**0.22**	**278**	ePg	**Pg**	**16 29 05.1**	**0.0**
ETSF				eSg	**Sg**	**16 29 08.1**	**0.0**
	48nm,0.2s						
REYF	**Montagne du Re**	**0.23**	**334**	Pg	**Pg**	**16 29 05.6**	**+0.5**
REYF				Sg	**Sg**	**16 29 09.0**	**+0.8**
FDAF	**Les Forges d'A**	**0.23**	**258**	Pg	**Pg**	**16 29 05.4**	**+0.1**
FDAF				Sg	**Sg**	**16 29 08.5**	**+0.1**
LABF	**Labassere**	**0.30**	**53**	Pg	**Pg**	**16 29 07.2**	**+0.5**
LABF				Sg	**Sg**	**16 29 11.6**	**+0.9**
RESF	**Ens**	**0.44**	**97**	Pg	**Pg**	**16 29 09.5**	**+0.1**
RESF				Sg	**Sg**	**16 29 15.6**	**+0.3**
EPF	**Esparros**	**0.47**	**69**	ePg	**Pg**	**16 29 10.3**	**+0.4**
EPF				eSg	**Sg**	**16 29 16.8**	**+0.6**
	17nm,0.2s						
LARF	**Larrau**	**0.56**	**288**	Pg	**Pg**	**16 29 11.6**	**-0.2**
LARF				Sg	**Sg**	**16 29 19.5**	**+0.2**
ORDF	**Ordiarp**	**0.61**	**305**	Pg	**Pg**	**16 29 13.0**	**+0.3**
ORDF				Sg	**Sg**	**16 29 21.1**	**+0.3**
SJPF	**Ste Jean**	**0.75**	**289**	ePg	**Pg**	**16 29 15.4**	**-0.2**
SJPF				eSg	**Sg**	**16 29 24.5**	**-1.1**
	7.5nm,0.2s						
MTLF	**Montolieu**	**1.87**	**75**	ePg	**Pg**	**16 29 36.0**	**-2.0**
MTLF				eSg	**Sg**	**16 30 00.9**	**-2.0**
	2.5nm,0.3s						
LFF	**La Frestale**	**2.19**	**19**	eSg	**Sg**	**16 30 10.6**	**-3.0**
	2.9nm,0.2s						
LASF	**Ste Croix**	**3.23**	**67**	eSg	**Sg**	**16 30 42.8**	**-5.3**
	1.9nm,0.3s						

DJA 01 16:36:06.3±1.0**,8.85S**×**116.14E,h15^{km},ML3.5**/1**,3C-3D, Error ellipse: s-maj=26.0km s-min=9.1km az=130.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**0.36**	**355**	⇑iPn	Pn	16 36 13.4	-3.1
KEDI				⇓iSn	Sn	16 36 18.5	-4.7
RATI	**Rata**	**0.62**	**281**	⇑iPn	Pn	16 36 17.1	-3.1
RATI				⇑iSn	Sn	16 36 25.2	-4.5
INGI	**Ingas**	**0.99**	**272**	⇓iPn	Pn	16 36 23.0	-2.5
	73nm,0.2s						
INGI				⇓eSn	Sn	16 36 35.2	-4.0

*NEIC **01** 16:42:11.7±2.8,11.72S×117.22E,h25^{km}±22^{km},mb4.5/7, Error ellipse: s-maj=17.7km s-min=7.3km az=54.0*
*IDC **01** 16:42:15.3±5.0,11.13S×117.84E,h43^{km}±51^{km},mb3.7/8, mb1 4.0/10,mb1mx3.9/15,ML4.4/3,MS3.4/7,Ms1 3.4/7, ms1mx3.3/17,Error ellipse: s-maj=45.7km s-min=19.9km az=70.0*
*DJA **01** 16:42:16.8±0.8,11.15S×117.06E,h160^{km},MD4.6/7, ML5.4/7,Error ellipse: s-maj=18.8km s-min=8.1km az=173.0*
*SYO **01** 16:42:18.4,11.25S×117.10E,h51^{km},MB4.4*
ISC 01 16:42:10.4±0.9**,11.69S**±0.06×**117.43E**±0.07**,h33^{km}**±9^{km}**, n40,σ1^{s}10**/54**,mb4.1**/12**,MS3.4**/4**,11C-5D,South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**3.44**	**338**	⇑ePn	**P**	**16 43 02.7**	**-0.2**
	2μm,0.2s						
KEDI				⇓iSn	**S**	**16 43 37.2**	**-5.8**
RATI	**Rata**	**3.49**	**327**	⇑ePn	**P**	**16 43 02.9**	**-0.7**
	4μm,0.2s						
RATI				⇑iSn	**S**	**16 43 38.0**	**-6.3**
INGI	**Ingas**	**3.63**	**322**	ePn	**P**	**16 43 04.2**	**-1.5**
	2μm,0.2s						
INGI				⇑eSn	**S**	**16 43 43.5**	**-4.5**
KELI	**Kelakatan**	**4.50**	**320**	⇑ePn	**P**	**16 43 17.3**	**-0.8**
	5μm,0.2s						
KELI				⇑iSn	**S**	**16 43 59.7**	**-10**
NINI	**Niniconang**	**7.58**	**18**	⇓iPn	**P**	**16 44 02.0**	**+0.8**
	168nm,0.2s						
NINI				⇓eSn	**S**	**16 45 18.1**	**-8.7**
TANI	**Tanete Lipujan**	**8.42**	**13**	⇓ePn	**P**	**16 44 12.3**	**-0.7**
	22nm,0.3s						
BUNI	**Buntu Taipa**	**8.48**	**20**	⇑iPn	**P**	**16 44 16.0**	**+2.3**
	23nm,0.3s						
MBWA	**Marble Bar**	**9.67**	**167**	eP	**P**	**16 44 30.5**	**+0.2**
MBWA				eS	**S**	**16 46 09.1**	**-10**
FITZ	**Fitzroy Crossi**	**10.17**	**130**	eP	**P**	**16 44 37.1**	**-0.2**
	15nm,0.3s						
FITZ				eS	**S**	**16 46 26.1**	**-5.2**
FITZ	**Fitzroy Crossi**	**10.17**	**130**	P	**P**	**16 44 37.8**	**+0.6**
	7.6nm,0.3s,baz=352,slow=11,SNR=147						
FITZ				S	**S**	**16 46 26.4**	**-4.9**
	8.0nm,0.3s,baz=183,slow=20,SNR=14						
FITZ				LR	LR	16 48 37.3	
	comp=Z,118nm,18.9s,baz=264,slow=37						
KAKA	**Kakadu**	**14.67**	**95**	eP	**P**	**16 45 42.5**	**+5.0**
	5.7nm,0.7s						
KAKA				eS	**S**	**16 48 18.7**	**-1.0**
WRA	**Warramunga Arr**	**18.21**	**119**	P	**P**	**16 46 23.1**	**+0.7**
	1.5nm,0.3s,baz=285,slow=15,SNR=54						
WRA				S	**S**	**16 49 34.9**	**-6.3**
	0.6nm,0.3s,baz=294,slow=26,SNR=5.8						
WRA				LR	LR	16 54 09.2	
	comp=Z,150nm,18.4s,baz=310,slow=39						
WRAB	**Tennant Creek**	**18.21**	**119**	eP	**P**	**16 46 23.2**	**+0.7**
	21nm,0.8s						
WB2	**Warramunga Arr**	**18.22**	**119**	eP	**P**	**16 46 22.9**	**+0.3**
WB2				eS	**S**	**16 49 34.5**	**-7.0**
ASPA	**Alice Springs**	**19.68**	**129**	eP	**P**	**16 46 46.1**	**+6.6**
ASPA				eS	**S**	**16 50 12.8**	**-1.5**
ASAR	**Alice Springs**	**19.68**	**129**	P	**P**	**16 46 43.2**	**+3.6**
	0.9nm,0.3s,baz=315,slow=13,SNR=57						
ASAR				S	**S**	**16 50 12.8**	**-1.5**
	0.6nm,0.3s,baz=307,slow=22,SNR=7.7						
ASAR				LR	LR	16 53 48.3	
	comp=Z,66nm,20.3s,baz=15,slow=35						
ASAR	**Alice Springs**	**19.68**	**129**	P	**P**	**16 46 43.2**	**+3.6**
ASAR				S	**S**	**16 50 12.8**	**-1.5**
ASAR				LR	LR	16 53 48.3	
KLBR	**Kellerberrin**	**19.81**	**179**	eP	**P**	**16 46 47.6**	**+6.6**
	6.9nm,0.5s						
KLBR				eS	**S**	**16 50 07.2**	**-10**
MUN	**Mundaring**	**20.22**	**183**	eP	**P**	**16 46 53.3**	**+7.9**
	5.3nm,0.3s						
MUN				eS	**S**	**16 50 18.3**	**-7.2**
NWAO	**Narrogin (SRO)**	**21.14**	**180**	P	**P**	**16 47 04.1**	**+9.3**
	17nm,0.6s,mb4.6,baz=5.5,slow=11,SNR=27						
NWAO				S	**S**	**16 50 39.0**	**-4.1**
	11nm,0.7s,baz=130,slow=16,SNR=5.1						
NWAO	**Narrogin (SRO)**	**21.14**	**180**	eP	**P**	**16 47 04.4**	**+10**
	14nm,0.6s,mb4.5						
FORT	**Forrest**	**21.40**	**154**	eP	**P**	**16 47 05.7**	**+8.3**
	53nm,0.6s,mb5.0						
FORT				eS	**S**	**16 50 48.0**	**0.0**
CTA	**Charters Tower**	**28.91**	**110**	LR	LR	16 59 40.1	
	comp=Z,77nm,20.5s,MS3.3,baz=44,slow=36						
PMG	**Port Moresby**	**29.31**	**88**	LR	LR	17 01 33.2	
	comp=Z,74nm,19.6s,MS3.3,baz=76,slow=40						
STKA	**Stephens Creek**	**29.99**	**136**	P	**P**	**16 48 20.5**	**+2.3**
	2.3nm,0.8s,mb4.0,baz=297,slow=7.4,SNR=4.4						
STKA				LR	LR	17 01 05.4	
	comp=Z,157nm,18.6s,MS3.7,baz=25,slow=38						
CMAR	**Chiang Mai Arr**	**35.07**	**328**	P	**P**	**16 49 01.9**	**-0.8**
	0.8nm,0.8s,mb3.7,baz=154,slow=7.4,SNR=4.7						
CMAR				LR	LR	17 05 18.9	
	comp=Z,47nm,18.6s,MS3.3,baz=155,slow=40						
SONM	**Songino Array**	**60.06**	**351**	P	**P**	**16 52 16.1**	**-0.5**
	1.0nm,0.7s,mb3.9,baz=174,slow=7.2,SNR=5.0						
MKAR	**Makanchi Array**	**66.17**	**334**	P	**P**	**16 52 56.5**	**-0.3**
	0.6nm,0.5s,mb3.9,baz=143,slow=7.2,SNR=6.1						
AAK	**Ala-Archa**	**66.84**	**327**	P	**P**	**16 53 02.4**	**+1.2**
	2.1nm,0.8s,mb4.2						
AAK				e		16 53 07.7	
AAK				e		16 53 17.4	
KURK	**Kurchatov**	**70.74**	**335**	eP	**P**	**16 53 26.0**	**+0.9**
	2.8nm,0.9s,mb4.2						
KURK				e		16 53 32.0	
KURK				e		16 53 41.5	
ZAL	**Zalesovo**	**71.01**	**340**	P	**P**	**16 53 25.1**	**-1.6**
	0.9nm,0.6s,mb3.9,baz=106,slow=2.3,SNR=3.3						
SYO	**Syowa Base**	**74.80**	**201**	⇑P	**P**	**16 53 52.9**	**+4.2**
SYO	**Syowa Base**	**74.80**	**201**	⇑PcP	PcP	16 54 05.0	+2.0
SYO	**Syowa Base**	**74.80**	**201**	⇓pP	pP	16 54 11.8	+13
BVAR	**Borovoye Array**	**75.95**	**333**	P	**P**	**16 53 55.8**	**+0.2**
	0.3nm,0.4s,mb3.5,baz=143,slow=7.2,SNR=2.9						
ZRNK	**Zerenda**	**76.52**	**332**	eP	**P**	**16 54 00.0**	**+1.2**
	2.9nm,0.7s,mb4.3						
ZRNK				e		16 54 06.1	
ZRNK				e		16 54 15.0	
SNAA	**Sanae**	**88.01**	**196**	⇑i	**P**	**16 55 02.0**	**+4.1**
SNAA	**Sanae**	**88.01**	**196**	P	**P**	**16 55 02.5**	**+4.6**
	0.5nm,0.8s,mb3.8,baz=291,slow=2.1,SNR=5.8						
VNA2	**Neumayer--Watz**	**89.64**	**196**		**P**	**16 55 13.0**	**+7.3**
VNA3	**Neumayer Olymp**	**90.04**	**195**	⇑i	**P**	**16 55 14.6**	**+7.1**

*NEIC **01** 17:15:45.2,44.87N×6.66E,h3^{km},ML2.5(GEN), ML2.2(LDG),ML2.1(STR),After GEN.*
*STR **01** 17:15:45.1±1.1,44.96N×6.79E,h5^{km}±1^{km},Ml2.1,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **01** 17:15:46.0±0.1,44.89N×6.74E,h2^{km},Md2.5/1,Ml2.2/6, Error ellipse: s-maj=1.3km s-min=1.0km az=58.0*
ISC 01 17:15:45.0±0.3**,44.86N**±0.01×**6.69E**±0.02**,h11^{km}**±2^{km}**, n35,σ0^{s}51**/62**,France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RRL	**Cesana Torines**	**0.09**	**50**	P	**Pg**	**17 15 47.7**	**0.0**
RRL				S	**Sg**	**17 15 49.3**	**-0.2**
MBDF	**Montbardon**	**0.15**	**157**	ePg	**Pg**	**17 15 48.7**	**+0.1**
MBDF				eSg	**Sg**	**17 15 50.7**	**-0.3**
	63nm,0.2s						
OG22	**Abries**	**0.19**	**102**	Pg	**Pg**	**17 15 49.4**	**+0.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
OG22				Sg	Sg	17 15 51.9	-0.2
BNI	Bardonecchia	0.19	358	ePg	Pg	17 15 49.4	+0.1
BNI				eSg	Sg	17 15 52.6	+0.4
FENE	Fenestrelle	0.31	58	P	Pg	17 15 51.6	0.0
FENE				S	Sg	17 15 56.2	+0.2
SURF	Saint Ours	0.39	167	Pg	Pg	17 15 53.7	+0.6
SURF				Sg	Sg	17 15 59.7	+1.2
BHB	Bricherasio	0.41	93	P	Pg	17 15 53.5	0.0
BHB				S	Sg	17 15 59.3	+0.2
PZZ	Prazzo	0.46	140	P	Pg	17 15 54.6	+0.1
PZZ				S	Sg	17 16 01.1	+0.3
RSP	Reno Superiore	0.50	54	P	Pg	17 15 55.2	+0.1
RSP				S	Sg	17 16 02.1	+0.2
ORIF	Oris-en-Rattie	0.58	276	ePg	Pg	17 15 57.3	+0.6
ORIF				eSg	Sg	17 16 05.0	+0.5
	31nm,0.3s						
LPG	La Plagne	0.64	4	ePg	Pg	17 15 58.0	+0.1
LPG				eSg	Sg	17 16 06.0	-0.5
	7.9nm,0.2s						
LPL	La Plagne	0.65	3	ePg	Pg	17 15 58.2	0.0
LPL				eSg	Sg	17 16 06.4	-0.7
	16nm,0.3s						
LSD	Ceresole Reale	0.68	29	P	Pb	17 15 58.4	0.0
LSD				S	Sb	17 16 07.3	-0.2
STV	Sta Anna Valdi	0.77	143	P	Pb	17 16 00.1	+0.2
STV				S	Sb	17 16 10.2	+0.1
STV2	Anna di Valdie	0.77	143	P	Pb	17 16 00.1	+0.2
STV2				S	Sb	17 16 10.2	+0.1
ENR	Entracque	0.82	140	P	Pb	17 16 01.1	+0.2
ENR				S	Sb	17 16 11.9	+0.2
TOUF	Mont Tournerai	0.94	155	Pg	Pg	17 16 03.9	0.0
TRAV		0.99	49	P	Pb	17 16 04.1	+0.3
TRAV				S	Sb	17 16 16.7	+0.1
AUTN	L'Aution	1.02	148	Pg	Pg	17 16 05.0	-0.4
ROB	Roburent	1.02	124	P	Pb	17 16 04.5	+0.3
ROB				S	Sb	17 16 17.5	+0.2
SAOF	Saorge	1.07	144	Pg	Pg	17 16 06.1	-0.5
AURF	Auriere	1.08	155	Pg	Pg	17 16 06.7	+0.1
MONE	Monesi	1.09	135	P	Pb	17 16 05.8	+0.3
MONE				S	Sb	17 16 19.8	+0.2
CALN	Calern	1.12	173	Pg	Pg	17 16 09.0	+1.5
CALN				Sg	Sg	17 16 26.0	+3.5
SBF	Sospel	1.13	152	ePg	Pg	17 16 07.0	-0.8
SBF				eSg	Sg	17 16 22.2	-0.7
	13nm,0.4s						
SMRF	Simiane la Rot	1.19	222	ePg	Pg	17 16 09.5	+0.6
SMRF				eSg	Sg	17 16 25.2	+0.3
	3.9nm,0.3s						
RORO		1.24	127	P	Pb	17 16 07.4	-0.6
NEGI	Negi	1.25	144	P	Pb	17 16 07.7	-0.5
FIN	Finale Ligure	1.27	121	P	Pb	17 16 07.9	-0.6
IMI	Imperia	1.28	137	P	Pb	17 16 08.0	-0.8
FRF	La Foret Royal	1.30	181	ePg	Pg	17 16 10.8	-0.3
FRF				eSg	Sg	17 16 28.0	-0.5
	5.1nm,0.3s						
PCP	Pian Castagno	1.36	103	P	Pn	17 16 10.2	+0.2
VIVF	Saint-Julien-l	1.43	270	ePn	Pn	17 16 11.8	+0.7
VIVF				ePg	Pg	17 16 13.7	0.0
VIVF				eSg	Sg	17 16 32.7	-0.2
	3.3nm,0.3s						
LMR	La Mourre	1.54	185	ePg	Pg	17 16 15.1	-0.6
LMR				eSg	Sg	17 16 35.2	-1.0
	4.7nm,0.3s						
LASF	Ste Croix	2.17	250	ePg	Pg	17 16 27.3	-1.2
LASF				eSn	Sn	17 16 48.5	-0.3
	1.2nm,0.2s						

*CSEM **01** 17:36:49.0±0.4, 38.43N×39.16E, MD3.6, Error ellipse: s-maj=3.0km s-min=1.9km az=177.0*
*ISK **01** 17:36:49.3, 38.44N×39.18E, h5km, MD3.6*
*NSSC **01** 17:36:58.0, 37.30N×39.52E, h40km*

ISC 01 17:36:50.0±0.6**, 38.38N**±0.03×**39.19E**±0.03**, h4**km±5km**, n34, σ1s14**/48**, 2D, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ELZG	Elazig	0.20	307	i P	Pg	17 36 49.7	-4.4
ELZG				i S	Sg	17 36 54.4	-2.3
PTK	Pertek	0.54	17	ePG	Pg	17 36 59.6	-1.2
PTK				eSG	Sg	17 37 08.3	+0.3
MYA	Malataya	0.60	265	i PG	Pg	17 37 01.8	-0.2
MYA				i SG	Sg	17 37 11.4	+1.3
DIY	Diyarbakir	0.95	120	i PG	Pg	17 37 09.5	+0.5
DIY				i SG	Sg	17 37 23.8	+2.1
BINT	Bingol	1.14	64	i PN	Pn	17 37 11.4	-1.3
EZC	Erzincan	1.45	20	i PN	Pn	17 37 15.1	-2.1
GZT	Gaziantep	1.64	232	i P	Pn	17 37 20.0	+0.1
GZT				i S	Sb	17 37 43.7	+2.1
BEST	Besiri	1.71	106	i P	Pn	17 37 21.1	+0.2
BEST				i S	Sn	17 37 43.6	+0.1
KELT	Kelkit	1.77	2	i P	Pn	17 37 22.2	+0.5
BTMT	Batman	1.82	95	i PN	Pn	17 37 21.5	-1.0
KAHT	Ahir Dag	1.97	248	i P	Pn	17 37 25.2	+0.6
KAHT				i S	Sn	17 37 59.9	+10
GAZ	Gaziantep	1.98	233	i PN	Pn	17 37 25.5	+0.8
VRT	Varto	1.98	67	i PN	Pn	17 37 25.8	+1.1
GUMT	Gumushane	2.09	6	PN	Pn	17 37 26.0	-0.3
SVST	Sivas	2.23	309	i P	Pn	17 37 29.3	+1.0
SVST				i S	Sg	17 38 06.3	+2.2
EZM	Erzurum	2.28	47	ePN	Pn	17 37 28.1	-0.9
ERZM	Erzurum	2.28	47	i P	Pn	17 37 30.2	+1.2
ERZM				i S	Sg	17 38 10.2	+4.3
SVSK	Karacayir	2.29	313	ePN	Pn	17 37 30.1	+0.9
BNN	Bunyan	2.66	281	i PN	Pn	17 37 35.6	+1.1
DRWC	Darouich	2.66	230	⇑P	Pn	17 37 34.3	-0.2
DRWC				⇑S	Sn	17 38 01.8	-5.9
DRWC	Darouich	2.66	230	⇑iP	Pn	17 37 34.3	-0.2
TOKT	Tokat	2.82	314	ePN	Pn	17 37 36.7	-0.1
COBT	Iskenderun	2.98	232	i P	Pg	17 37 48.2	-1.4
COBT				i S	Sg	17 38 28.8	-0.5
BTCH	Batrach	3.19	224	⇑P	Pn	17 37 40.1	-1.9
BTCH				⇑S	Sn	17 38 10.4	-11
BTCH	Batrach	3.19	224	⇑iP	Pn	17 37 40.1	-2.0
TVAN	Van	3.32	86	i P	Pn	17 37 45.0	+1.1
AVNT	Avonos	3.42	278	i P	Pn	17 37 45.4	+0.1
ARNB	Al Arnab	3.59	227	⇓P	Pn	17 37 46.6	-1.2
ARNB				⇓S	Sn	17 38 21.6	-10
NIG	Nigde	3.61	267	ePN	Pn	17 37 47.9	-0.1
SLNF	Slenfeh	3.65	221	⇑P	Pn	17 37 45.5	-3.1
SLNF				⇑S	Sn	17 38 20.0	-13
SLNF	Slenfeh	3.65	221	⇑iP	Pn	17 37 45.5	-3.1
MSL	Mosul	3.75	123	ePn	Pn	17 37 49.0	-0.9
ELDT	Eldivan	4.93	297	i P	Pn	17 38 06.6	-0.2
SGKT	Sivrigoynuk	5.94	294	i P	Pn	17 38 20.6	-0.3

MAN 01 17:50:00.9, 15.06N×123.61E, h27km, mb4.1, ML3.0, MS2.7, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PVCP	Virac	1.54	160	eP	Pn	17 50 27.0	-0.1
PVCP				eS	Sn	17 50 46.3	-0.1
GQP	Guinayangan	1.61	225	⇓iP	Pn	17 50 27.3	-0.7
GQP				i S	Sn	17 50 48.0	-0.1
POLP	Polilio Island	1.65	259	eP	Pn	17 50 28.5	-0.2
POLP				eS	Sn	17 50 49.3	+0.2
BALP	Baler	2.08	289	eP	Pn	17 50 33.4	-1.4
LQP	Lukban	2.22	245	eP	Pn	17 50 38.6	+1.8
LQP				eS	Sn	17 51 07.5	+3.9
BOAC	Boac	2.34	227	eP	Pn	17 50 38.2	-0.2
ARP	Angono	2.44	258	⇑iP	Pn	17 50 40.5	+0.6

TIF 01 18:03:46.5, 41.41N×44.06E, h8km, Mpv4.0, 1C-2D, Western Caucasus

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AKH	Akhalkalaki	0.43	270	⇑iP	Pg	18 03 55.4	+0.3
AKH				i S	Sg	18 04 00.9	0.0
STE	Stepanavan	0.48	148	i P	Pg	18 03 56.1	-0.1
STE				i S	Sg	18 04 02.5	-0.3
TBLG	Delisi	0.60	58	i P	Pg	18 03 59.0	+0.4
TBLG				eS	Sg	18 04 08.1	+1.4
MTA	Mtatsminda	0.62	62	⇓iP	Pg	18 03 59.6	+0.7
MTA				i S	Sg	18 04 08.5	+1.3
DUS	Dusheti	0.83	35	eP	Pb	18 04 05.2	+2.4
DUS				i S	Sb	18 04 17.8	+3.9
ONI	Oni	1.25	339	⇓iP	Pb	18 04 10.6	+0.6
ONI				i S	Sb	18 04 28.2	+2.1

JMA 01 18:15:15.3±0.1**, 28.10N×128.06E, h15**km±2km**, M1.6, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JTK	Tokunoshima	0.85	111	P	Pb	18 15 31.3	+0.1
JTK				S	Sb	18 15 42.4	+0.3
JIH	Iheya	1.06	184	P	Pb	18 15 34.8	-0.1
JIH				S	Sb	18 15 48.7	+0.3
JOW	Kunigami	1.28	171	P	Pb	18 15 38.3	-0.2
JOW				S	Sb	18 15 55.3	+0.7
JAM	Amami Oshima	1.40	77	P	Pn	18 15 40.4	0.0

*NIED **01** 18:15:00, 28.10N×128.00E, h5km, Mw4.2 Best double couple: M0 1.91×10^15 NP1:φs99°, δ82°, λ-48°. NP2:φs198°, δ43°, λ-168°.*
*IDC **01** 18:15:47.9±1.4, 28.10N×128.58E, mb3.6/6, mb1 3.8/6, mb1mx3.6/21, MS3.5/4, Ms1 3.6/4, ms1mx3.1/28, Error ellipse: s-maj=55.8km s-min=15.3km az=75.0*
*NEIC **01** 18:15:50.3±1.2, 28.09N×128.66E, h15km, mb4.2/2, Error ellipse: s-maj=49.1km s-min=11.8km az=72.0*
*JMA **01** 18:15:50.3±0.1, 28.10N×128.04E, h14km±1km, M3.5*

ISC 01 18:15:51.9±1.4**, 28.04N**±0.05×**128.09E**±0.07**, h26**km±10km**, n18, σ0s99**/19**, mb3.7**/8**, MS3.6**/3**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JTK	Tokunoshima	0.80	108	P	Pb	18 16 06.5	-0.6
JTK				S	Sb	18 16 17.9	+0.3
JIH	Iheya	1.01	186	P	Pn	18 16 10.0	-0.5
JIH				S	Sb	18 16 23.9	+0.4
JOW	Kunigami	1.22	172	Pn	Pn	18 16 13.4	0.0
	74nm,0.3s,baz=352,slow=15,SNR=50						
JOW				Sn	Sn	18 16 30.4	+1.2
	66nm,0.3s,baz=183,slow=26,SNR=13						
JOW	Kunigami	1.22	172	P	Pn	18 16 13.5	0.0
JOW				S	Sn	18 16 30.5	+1.3
JAM	Amami Oshima	1.39	74	P	Pn	18 16 15.6	-0.3
JAM				S	Sn	18 16 34.1	+0.6
JHJ	Hachijo jima 2	11.27	60	LR	LR	18 22 10.9	
	comp=Z,123nm,19.9s,baz=27,slow=35						
SONM	Songino Array	25.98	325	P	P	18 21 23.8	-0.4
	0.7nm,1.0s,mb3.2,baz=141,slow=9.2,SNR=2.7						
CMAR	Chiang Mai Arr	28.37	257	LR	LR	18 34 18.4	
	comp=Z,26nm,19.0s,MS2.9,baz=250,slow=39						
MKAR	Makanchi Array	40.25	310	P	P	18 23 29.7	+1.5
	2.9nm,1.1s,mb3.9,baz=117,slow=8.1,SNR=5.4						
MKAR	Makanchi Array	40.25	310	P	P	18 23 29.7	+1.5
ZAL	Zalesovo	40.75	322	P	P	18 23 31.8	-0.4
	0.5nm,0.4s,mb3.5,baz=100,slow=12,SNR=2.8						
KURK	Kurchatov	43.43	315	P	P	18 23 56.8	+2.6
	8.5nm,1.5s,mb4.2						
WRA	Warramunga Arr	48.08	172	P	P	18 24 30.4	-1.1
	0.6nm,0.8s,mb3.7,baz=350,slow=8.4,SNR=3.8						
BRVK	Borovoye	48.92	317	P	P	18 24 37.1	-0.4
	1.3nm,0.6s,mb4.1						
ASAR	Alice Springs	51.71	173	P	P	18 24 57.5	-1.7
	0.3nm,1.1s,mb3.1,baz=304,slow=5.2,SNR=3.5						
STKA	Stephens Creek	60.96	167	P	P	18 26 01.1	-4.2
	1.1nm,0.7s,mb4.1,baz=343,slow=21,SNR=6.4						
NOA	NORSAR Array B	77.64	334	LR	LR	19 02 47.4	
	comp=Z,45nm,18.6s,MS3.8,baz=260,slow=36						
RPZ	Rata Peaks	81.55	150	LR	LR	18 59 02.7	
	comp=Z,105nm,18.1s,MS4.2,baz=199,slow=32						

*NEIC **01** 18:15:57.3, 35.56N×21.37E, h5km, MD4.0(ATH), After ATH.*
*ATH **01** 18:15:57.3, 35.56N×21.37E, h5km, MD4.0/12*
*CSEM **01** 18:16:04.0±0.1, 35.70N×21.64E, h60km, MD4.0*
*MOS **01** 18:16:05.6±0.7, 35.85N×21.61E, h33km, mb3.9/5, Error ellipse: s-maj=27.8km s-min=12.3km az=84.9*
*IDC **01** 18:16:07.2±2.2, 35.86N×21.72E, h57km±21km, mb3.4/8, mb1 3.5/14, mb1mx3.4/27, ML3.5/6, Error ellipse: s-maj=35.1km s-min=13.8km az=9.0*

ISC 01 18:16:04.1±0.8**, 35.73N**±0.07×**21.54E**±0.05**, h56**km±8km**, n63, σ0s92**/65**, mb3.6**/7**, 1D, Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KYTH	Kithira	1.33	65	ePB	P	18 16 26.2	-0.7
ITM	Ithomi	1.48	12	ePG	P	18 16 28.4	-0.6
VAM	Vamos	2.19	98	ePN	P	18 16 39.1	+0.3
RLS	Riolos of Patr	2.33	359	ePN	P	18 16 41.8	+1.0
NAIG	Nisos Aigina	2.56	37	ePG	P	18 16 49.5	+5.4
VLS	Valsamata	2.56	343	ePN	P	18 16 44.1	0.0
NSAL	Nisos Salamina	2.67	35	ePG	P	18 16 50.3	+4.7
IDI	Anoyia	2.77	98	P	P	18 16 46.1	-0.9
	2.1nm,0.3s,baz=305,slow=12,SNR=16						
MKIT	Kithairon Oros	2.81	29	ePN	P	18 16 50.0	+2.3
MPAR	Parnis Oros	2.99	35	ePB	P	18 16 50.0	-0.2
LKD	Levkas	3.06	347	eP	P	18 16 52.2	+1.1
THR5	Thira Island,	3.16	76	eP	P	18 16 52.9	+0.4
EVR	Evrytania	3.19	4	ePB	P	18 16 55.3	+2.3
AGG	Agios Georgios	3.35	11	eP	P	18 16 55.9	+0.7
NEO	Neokhori	3.81	20	ePN	P	18 17 01.0	-0.8
XOR	Xorichti	3.86	19	eP	P	18 17 02.5	+0.1
JAN	Janina	3.96	352	ePN	P	18 17 03.9	+0.1
MEV	Metsovon	4.06	357	eP	P	18 17 06.3	+1.1
KEK	Kerkira	4.21	341	ePN	P	18 17 06.6	-0.8
LIT	Litokhoron	4.43	9	eP	P	18 17 10.4	0.0
SOI	Samo	4.98	300	ePn	P	18 17 18.0	-0.2
OUR	Ouranopolis	4.99	22	eP	P	18 17 18.1	-0.1
MTTG	Motta San Giov	5.21	298	ePn	P	18 17 21.4	+0.1
SOH	Sokhos	5.28	15	eP	P	18 17 21.9	-0.4
LCI	Lecce	5.34	331	ePn	P	18 17 22.1	-1.0
PZI	Palazzolo	5.48	286	ePn	P	18 17 25.0	-0.1
TDS	Terranova Siba	5.69	315	ePn	P	18 17 28.2	+0.2
TDS	Terranova Siba	5.69	315	ePn	P	18 17 28.2	+0.2
VAE	Valguarnera	6.00	289	P	P	18 17 33.4	+1.2
	1.8nm,0.3s,baz=292,slow=4.6,SNR=3.9						
VAE				S	S	18 18 45.8	+5.4
	2.6nm,0.3s,baz=60,slow=14,SNR=3.1						
PE1	Pezze di Greco	6.02	329	ePn	P	18 17 31.4	-1.1
SKO	Skopje	6.24	359	eP	S	18 18 40.5	-5.9
SG1	Sgolgore (BA)	6.38	325	ePn	P	18 17 36.6	-1.0
MGR	Morigerati	6.46	315	ePn	P	18 17 38.1	-0.8
MGR	Morigerati	6.46	315	ePn	P	18 17 38.1	-0.7
SLCN	Sala Consilina	6.59	317	ePn	P	18 17 42.6	+2.0
CDT	Castel del Mon	6.76	324	ePn	P	18 17 41.5	-1.5
SGO	Sicignano	6.88	316	ePn	P	18 17 44.7	0.0
SGO	Sicignano	6.88	316	ePn	P	18 17 44.7	0.0
MRLC	Muro Lucano	6.92	318	ePn	P	18 17 45.7	+0.5
MRLC	Muro Lucano	6.92	318	ePn	P	18 17 45.7	+0.5
MS1	Monte Sant'Ang	7.40	325	ePn	P	18 17 50.6	-1.3
STON	Ston	7.73	339	i Pn	P	18 17 53.5	-2.9
STON				i Sn	S	18 19 12.6	-11
DIVS	Divcibare	8.44	352	⇓iPn	P	18 18 01.9	-4.4
MLR	Muntele Rosu	10.31	18	P	P	18 18 32.0	+0.2
	0.1nm,0.3s,baz=121,slow=19,SNR=2.2						
BRTR	Keskin Array B	10.38	64	P	P	18 18 32.4	-0.3
	0.1nm,0.3s,baz=250,slow=15,SNR=3.5						
GERES	GERESS Array B	14.32	339	P	P	18 19 25.5	+0.3
	0.1nm,0.3s,baz=164,slow=14,SNR=3.1						
AKASG	Malin Array Be	15.96	18	P	P	18 19 46.3	+0.1
	0.6nm,0.3s,baz=214,slow=11,SNR=4.9						
AKASG	Malin Array Be	15.96	18	P	P	18 19 46.3	+0.1
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ESDC	Sonseca Array	20.54	289	P	P	18 20 43.4	+3.2
	comp=Z,1.5nm,0.8s,baz=294,slow=37,SNR=3.5						
HFS	Hagfors	24.95	351	P	P	18 21 23.2	0.0
	comp=Z,0.7nm,0.3s,mb3.6,baz=166,slow=12,SNR=9.9						
HFS	Hagfors	24.95	351	P	P	18 21 23.2	-0.1
HFS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FINES	FINESS Array B	25.90	5	P	P	18 21 31.4	-0.8
	comp=Z,0.7nm,0.5s,mb3.5,baz=166,slow=9.5,SNR=8.3						
FINES	FINESS Array B	25.90	5	P	P	18 21 31.4	-0.8
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
EKA	Eskdalemuir Ar	25.91	327	P	P	18 21 33.0	+0.7
	comp=Z,0.9nm,0.6s,mb3.5,baz=129,slow=6.7,SNR=4.0						
EKA	Eskdalemuir Ar	25.91	327	P	P	18 21 33.1	+0.7
EKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
EKA	Eskdalemuir Ar	25.91	327	P	P	18 21 33.0	+0.6
NB2	NORSAR Subarra	26.18	349	P	P	18 21 34.3	-0.5
	comp=Z,1.4nm,0.8s,mb3.5,baz=144,slow=9.3						
NOA	NORSAR Array B	26.18	349	P	P	18 21 34.6	-0.2
	comp=Z,0.2nm,0.5s,mb2.9,baz=163,slow=12,SNR=3.2						
ARCES	ARCESS Array B	33.93	2	P	P	18 22 43.4	-0.2
	comp=Z,2.1nm,0.8s,mb4.1,baz=191,slow=10,SNR=15						
ARCES	ARCESS Array B	33.93	2	P	P	18 22 43.4	-0.1
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MKAR	Makanchi Array	45.93	57	P	P	18 24 22.5	-0.4
	comp=Z,0.8nm,0.4s,mb4.0,baz=276,slow=8.0,SNR=16						
MKAR	Makanchi Array	45.93	57	P	P	18 24 22.5	-0.4
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SONM	Songino Array	61.40	50	P	P	18 26 17.2	+0.8
	comp=Z,0.2nm,0.7s,mb3.4,baz=72,slow=3.9,SNR=4.6						

*STR **01** 18:32:18.2±0.1, 42.85N×1.47W, h2km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **01** 18:32:18.9±0.5, 42.84N×1.39W, mbLg1.2/5, Error ellipse: s-maj=3.9km s-min=2.3km az=47.0, PRXIMO AftershockPLICA*
*LDG **01** 18:32:19.5±0.7, 42.92N×1.43W, h9km, Md2.2/2, Ml1.8/2, Error ellipse: s-maj=11.2km s-min=6.3km az=58.0*

ISC 01 18:32:17.6±0.7**, 42.84N**±0.04×**1.42W**±0.05**, h9**km**, n14, σ0s94**/22**, 2D, Pyrenees**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.31	28	ePg	Pg	18 32 24.5	+0.6
SJPF				eSg	Sg	18 32 27.3	-0.8
	19nm,0.2s						
LARF	Larrau	0.37	58	Pg	Pg	18 32 25.8	+0.6
LARF				Sg	Sg	18 32 31.5	+1.2
LARF	Larrau	0.37	58	P	Pg	18 32 25.8	+0.5
LARF				S	Sg	18 32 31.0	+0.7
EALK	Alkurruntz	0.38	351	⇓Pg	Pg	18 32 25.8	+0.4
	1.4nm,0.1s,SNR=18						
EALK				Lg		18 32 32.0	
	8.9nm,0.2s,SNR=17						
OSSF	Osses	0.43	16	Pg	Pg	18 32 26.5	+0.2
OSSF				Sg	Sg	18 32 32.6	+0.5
OSSF	Osses	0.43	16	P	Pg	18 32 26.5	+0.2
OSSF				S	Sg	18 32 32.7	+0.5
ETSF	Etsaut	0.64	85	ePg	Pg	18 32 29.9	-0.5
ETSF				eSg	Sg	18 32 39.1	+0.1
	2.4nm,0.2s						
EPF	Esparros	1.31	81	ePn	Pn	18 32 42.1	0.0
EPF				ePg	Pg	18 32 44.6	+0.8
EPF				eSg	Sg	18 33 01.0	-0.2
	3.3nm,0.2s						
EPF	Esparros	1.31	81	Pn	Pn	18 32 42.1	0.0
EPF				Lg		18 33 01.0	
	1.6nm,0.2s						
ESAC	San Caprasio	1.32	147	⇓Pg	Pg	18 32 42.8	-1.3
	6.0nm,0.2s,SNR=18						
ESAC				Lg		18 33 01.7	
	11nm,0.3s,SNR=7.9						
ELAN	Lanestosa	1.52	285	Pg	Pg	18 32 46.9	-1.2
	SNR=5.0						
ELAN				Lg		18 33 08.2	
	0.8nm,0.2s,SNR=7.9						
ETOR	Torete	2.08	193	Sn	Sn	18 33 21.1	+1.8
	SNR=7.9						
LFF	La Frestale	2.61	36	eSg	Sg	18 33 38.5	-6.2
	0.6nm,0.2s						
MTLF	Montolieu	2.71	78	ePg	Pg	18 33 09.5	-2.3

*NEIC **01** 18:47:35.9, 45.10N×6.46E, h5km, ML2.5(GEN), ML2.4(STR), ML2.3(LDG), After STR.*
*CSEM **01** 18:47:35.5±0.1, 45.09N×6.58E, h5km, MD2.4/1, ML2.3/11, Error ellipse: s-maj=3.6km s-min=2.6km az=60.0*
*GEN **01** 18:47:35.6, 45.08N×6.45E, h9km, ML2.5*
*STR **01** 18:47:35.9±0.4, 45.10N×6.46E, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **01** 18:47:36.5±0.1, 45.11N×6.50E, h2km, Md2.4/3, Ml2.3/11, Error ellipse: s-maj=2.4km s-min=1.6km az=73.0*

ISC 01 18:47:34.8±0.2**, 45.10N**±0.01×**6.46E**±0.02**, h11**km±2km**, n62, σ0s93**/105**, France**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BNI	Bardonecchia	0.16	106	ePg	Pg	18 47 38.5	0.0
BNI				eSg	Sg	18 47 40.8	-0.3
BNI	Bardonecchia	0.16	106	ePg	Pg	18 47 38.5	0.0
BNI				eSg	Sg	18 47 40.8	-0.3
GDM	Grand'Maison	0.26	294	Pg	Pg	18 47 41.0	+0.6
GDM				Sg	Sg	18 47 44.4	+0.3
RRL	Cesana Torines	0.29	128	P	Pg	18 47 41.8	+0.9
RRL				S	Sg	18 47 45.7	+0.7
RRL	Cesana Torines	0.29	128	P	Pg	18 47 41.8	+0.9
MBDF	Montbardon	0.43	149	ePg	Pg	18 47 43.5	-0.1
MBDF				eSg	Sg	18 47 48.9	-0.6
	28nm,0.3s						
FENE	Fenestrelle	0.43	99	P	Pg	18 47 43.8	+0.1
FENE				S	Sg	18 47 49.7	+0.2
FENE	Fenestrelle	0.43	99	P	Pg	18 47 43.8	+0.2
OG22	Abries	0.44	128	Pg	Pg	18 47 43.6	-0.2
OG22				Sg	Sg	18 47 50.0	+0.2
ORIF	Oris-en-Rattie	0.45	246	ePg	Pg	18 47 44.3	+0.4
ORIF				eSg	Sg	18 47 49.2	-0.8
	79nm,0.4s						
LPG	La Plagne	0.45	27	ePg	Pg	18 47 44.6	+0.7
LPG				eSg	Sg	18 47 50.4	+0.3
	9.2nm,0.2s						
LPL	La Plagne	0.46	25	ePg	Pg	18 47 44.9	+0.8
LPL				eSg	Sg	18 47 50.4	0.0
	17nm,0.3s						
GRN	Grenoble	0.52	286	Pg	Pg	18 47 46.7	+1.3
RSP	Reno Superiore	0.57	84	P	Pg	18 47 46.6	+0.3
RSP				S	Sg	18 47 54.3	+0.3
RSP	Reno Superiore	0.57	84	P	Pg	18 47 46.6	+0.3
RSP				S	Sg	18 47 54.3	+0.4
RSL	Roselend	0.60	11	Pg	Pg	18 47 48.3	+1.4
LSD	Ceresole Reale	0.61	54	P	Pb	18 47 47.4	+0.4
LSD				S	Sb	18 47 55.6	+0.3
LSD	Ceresole Reale	0.61	54	P	Pb	18 47 47.4	+0.4
LSD				S	Sb	18 47 55.6	+0.3
BHB	Bricherasio	0.63	114	P	Pb	18 47 47.3	0.0
BHB				S	Sb	18 47 55.3	-0.5
BHB	Bricherasio	0.63	114	P	Pb	18 47 47.3	0.0
SURF	Saint Ours	0.67	158	Pg	Pg	18 47 48.6	+0.4
SURF				Sg	Sg	18 47 57.7	+0.5
PZZ	Prazzo	0.75	142	P	Pb	18 47 49.4	+0.1
PZZ				S	Sb	18 47 59.2	-0.2
PZZ	Prazzo	0.75	142	S	Sb	18 47 59.2	-0.2
PZZ	Prazzo	0.75	142	P	Pb	18 47 49.4	0.0
TRAV		1.00	65	P	Pb	18 47 54.0	+0.4
TRAV				S	Sb	18 48 06.8	+0.2
TRAV		1.00	65	P	Pb	18 47 54.0	+0.4
TRAV				S	Sb	18 48 06.8	+0.2
STV2	Anna di Valdie	1.05	144	P	Pb	18 47 54.6	0.0
STV2				S	Sb	18 48 07.4	-0.8
STV2	Anna di Valdie	1.05	144	P	Pb	18 47 54.6	0.0
STV	Sta Anna Valdi	1.05	144	P	Pb	18 47 54.5	-0.1
STV				S	Sb	18 48 07.4	-0.8
ENR	Entracque	1.11	141	P	Pb	18 47 55.5	0.0
ENR				S	Sb	18 48 08.7	-1.1
SMRF	Simiane la Rot	1.29	210	ePg	Pg	18 48 00.9	+0.4
SMRF				eSg	Sg	18 48 18.3	+0.5
	4.2nm,0.2s						
ROB	Roburent	1.29	128	P	Pb	18 47 58.5	-0.1
ROB	Roburent	1.29	128	P	Pb	18 47 58.5	-0.1
VIVF	Saint-Julien-l	1.29	260	ePn	Pn	18 48 00.8	+2.0
VIVF				ePg	Pg	18 48 01.8	+1.2
VIVF				eSg	Sg	18 48 18.0	+0.2
	13nm,0.2s						
MVIF	Mont Vial	1.30	157	Pg	Pg	18 48 02.8	+2.0
AUTN	L'Aution	1.30	148	Pg	Pg	18 48 00.3	-0.5
SAOF	Saorge	1.36	144	Pg	Pg	18 48 00.2	-1.8
AURF	Auriere	1.36	153	Pg	Pg	18 48 02.2	+0.2
MONE	Monesi	1.38	137	P	Pn	18 47 59.5	-0.6
MONE	Monesi	1.38	137	P	Pn	18 47 59.5	-0.6
CALN	Calern	1.38	167	Pg	Pg	18 48 02.9	+0.5
SBF	Sospel	1.42	150	ePn	Pn	18 48 02.4	+1.7
SBF				ePg	Pg	18 48 03.9	+0.7
SBF				eSg	Sg	18 48 21.6	-0.5
	18nm,0.4s						
RORO		1.51	130	P	Pn	18 48 00.6	-1.4
RORO		1.51	130	P	Pn	18 48 00.6	-1.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FIN	Finale Ligure	1.53	125	P	Pn	18 48 01.0	-1.3
FIN	Finale Ligure	1.53	125	P	Pn	18 48 01.0	-1.3
CABF	La Chapelle	1.54	350	ePn	Pn	18 48 03.1	+0.8
CABF				ePg	Pg	18 48 05.5	0.0
CABF				eSg	Sg	18 48 24.8	-1.2
	1.7nm,0.2s						
NEGI	Negi	1.54	144	P	Pn	18 48 00.9	-1.5
NEGI	Negi	1.54	144	P	Pn	18 48 00.9	-1.4
FRF	La Foret Royal	1.54	175	ePn	Pn	18 48 04.4	+2.0
FRF				ePg	Pg	18 48 05.4	-0.2
FRF				eSn	Sn	18 48 25.7	+3.1
	8.2nm,0.3s						
IMI	Imperia	1.57	139	P	Pn	18 48 01.5	-1.3
IMI	Imperia	1.57	139	P	Pn	18 48 01.5	-1.3
PCP	Pian Castagno	1.59	110	P	Pn	18 48 02.6	-0.4
PCP	Pian Castagno	1.59	110	P	Pn	18 48 02.6	-0.4
LMR	La Mourre	1.77	179	ePn	Pn	18 48 07.5	+1.9
LMR				ePg	Pg	18 48 09.0	-1.0
LMR				eSn	Sn	18 48 28.5	+0.3
LMR				eSg	Sg	18 48 32.1	-1.5
	5.3nm,0.3s						
LASF	Ste Croix	2.12	242	ePn	Pn	18 48 11.4	+0.7
LASF				ePg	Pg	18 48 16.4	-0.7
LASF				eSn	Sn	18 48 37.6	+0.3
LASF				eSg	Sg	18 48 45.2	-0.2
	2.5nm,0.4s						
SMF	Signal de Mont	2.40	311	ePn	Pn	18 48 14.9	+0.3
SMF				ePg	Pg	18 48 21.1	-1.5
SMF				eSg	Sg	18 48 51.7	-2.9
	2.5nm,0.3s						
HINF	Hinteralfeld	2.73	6	ePn	Pn	18 48 19.1	-0.3
HINF				eSg	Sg	18 49 01.7	-4.1
	1.3nm,0.3s						
LOR	Lormes	2.82	321	ePg	Pg	18 48 29.6	-1.5
LOR				eSg	Sg	18 49 05.3	-3.5
	1.8nm,0.3s						
HAU	Haudompre	2.91	359	ePn	Pn	18 48 22.0	0.0
BGF	Bois d'Agland	2.92	301	ePn	Pn	18 48 22.0	-0.1
BGF				ePg	Pg	18 48 29.6	-3.4
BGF				eSg	Sg	18 49 08.5	-3.4
	4.9nm,0.3s						
CAF	Calviac	3.12	268	ePn	Pn	18 48 25.1	+0.1

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*NAO **01** 18:49:54.4±3.2, 60.19N×25.15E, ML2.0*
*HEL **01** 18:49:54.6±0.1, 60.10N×25.31E, ML2.2, ML2.4(UPP), ML2.0(NAO), Explosion*
*BER **01** 18:49:54.3±3.5, 60.12N×25.37E, h0km±20km, ML2.0(NAO)*
ISC 01 18:49:52.7±0.6**, 60.09N**±0.04×**25.33E**±0.09**, n22,** σ1s**11**/34**, Finland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PVF	Pernaja	0.53	30	eP	Pg	18 50 03.8	+0.5
PVF				eS	Sg	18 50 09.1	-1.2
VJF	Virojoki	1.20	67	eP	Pb	18 50 16.6	+0.6
VJF				eS	Sb	18 50 30.7	-1.2
FIA0	FINESS Array S	1.41	15	eP	Pb	18 50 19.4	-0.2
FIA0				eS	Sb	18 50 37.2	-0.8
FIA0	FINESS Array S	1.41	15	Pn	Pn	18 50 19.3	-0.4
	baz=188,slow=18						
FIA0				Lg		18 50 36.6	
	baz=189,slow=28						
KAF	Kangasniemi	2.09	13	eP	Pn	18 50 31.0	+1.6
KAF				eS	Sn	18 50 57.0	+0.6
KEF	Keuruu	2.10	354	eP	Pn	18 50 31.3	+1.8
KEF				eS	Sn	18 50 57.0	+0.3
AAL	Aland	2.67	274	eP	Pn	18 50 38.2	+0.5
SUF	Sumiainen	2.67	8	eP	Pn	18 50 39.1	+1.5
SUF				eSB	Sb	18 51 13.8	-0.8
SUF				MSG		18 51 15.0	
	comp=Z,7.6nm,0.3s						
VAF	Ylistaro	3.23	338	eP	Pn	18 50 46.9	+1.3
VAF				eS	Sn	18 51 25.0	-0.3
NYNU	Nynaeshamn	3.88	257	eP	Pn	18 50 55.5	+0.6
KJN	Kajaani	4.17	15	eP	Pn	18 51 00.6	+1.6
KJN				eS	Sn	18 51 46.4	-2.7
KJN				eSG	Sg	18 52 02.1	-9.3
KJN				MSG		18 52 06.0	
	comp=Z,4.7nm,0.3s						
GOTU	Gotland	4.25	238	eP	Pn	18 51 00.9	+0.7
VIKU	Vikbolandet	4.70	254	eP	Pn	18 51 06.2	-0.3
BYXU	Byxelkrok	5.17	241	eP	Pn	18 51 13.8	+0.7
BYXU				eS	Sn	18 52 11.8	-2.5
LNKU	Linkoeping	5.39	254	eP	Pn	18 51 16.3	0.0
OSKU	Oskarshamn	5.62	243	eP	Pn	18 51 19.0	-0.6
EKSU	Eksjoe	5.79	249	eP	Pn	18 51 20.9	-0.9
HFS	Hagfors	5.82	275	Pn	Pn	18 51 20.9	-1.4
	baz=103,slow=14						
HFS				Sn	Sn	18 52 24.6	-6.1
	baz=80,slow=37						
HFS				Lg		18 52 52.8	
	baz=84,slow=37						
HFS	Hagfors	5.82	275	eP	Pn	18 51 20.9	-1.4
HFS				eS	Sn	18 52 24.6	-6.1
HFS				eSG		18 52 52.8	
HFS	Hagfors	5.82	275	Pn	Pn	18 51 20.9	-1.4
	baz=103,slow=13,SNR=50						
ARA0	ARCESS Array S	9.49	0	Pn	P	18 52 09.8	-3.8
	baz=174,slow=14						
ARA0				Sn		18 53 50.8	
	baz=183,slow=22						
ARA0	ARCESS Array S	9.49	0	eP	P	18 52 09.8	-3.8
ARA0				eS		18 53 50.8	

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*IDC **01** 18:51:56.0±1.7, 45.78N×38.14E, mb3.3/4, mb1 3.4/8, mb1mx3.3/22, ML3.6/4, Error ellipse: s-maj=21.6km s-min=18.5km az=16.0*
*MOS **01** 18:51:55.7±0.8, 45.77N×38.11E, h14km, mb3.6/3, Error ellipse: s-maj=13.7km s-min=9.0km az=103.6*
ISC 01 18:51:56.7±2.6**, 45.77N**±0.05×**38.12E**±0.06**, h24**km±24km**, n23,** σ0s**98**/32**, mb3.2**/3**, Ukraine - Moldova - Southwestern Russia region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KGUR	Krasnodar	0.98	139	P	Pn	18 52 16.7	+1.7
KGUR				S	Sn	18 52 28.2	0.0
ANN	Anapa	1.08	207	P	Pn	18 52 18.0	+1.5
ANN				S	Sn	18 52 31.7	+0.9
SOC	Sochi	2.46	152	P	Pn	18 52 36.6	+0.4
SOC				e		18 53 05.0	
SIM	Simferopol'	2.94	255	P	Pn	18 52 42.4	-0.6
YAL	Yalta	3.09	247	P	Pn	18 52 45.1	0.0
YAL				e		18 53 20.6	
KIV	Kislovodsk	3.72	118	P	Pn	18 52 53.3	-0.7
KIV				S	Sn	18 53 36.2	-1.4
SHAR	Shatzhatmas	3.82	120	P	Pn	18 52 54.9	-0.6
SHAR				S	Sn	18 53 40.1	-0.1
BRTR	Keskin Array B	6.88	210	Pn	Pn	18 53 37.2	-1.6
	0.2nm,0.3s,baz=158,slow=17,SNR=3.2						
BRTR				Sn	Sn	18 54 52.6	-4.5
	0.2nm,0.3s,baz=28,slow=20,SNR=3.8						
AKASG	Malin Array Be	7.72	313	Pn	Pn	18 53 49.3	-1.2
	0.9nm,0.3s,baz=120,slow=14,SNR=4.6						
AKASG				Sn	Sn	18 55 11.6	-6.5
	5.6nm,0.3s,baz=121,slow=24,SNR=12						
AKASG				Lg		18 55 59.7	
	4.5nm,0.3s,baz=124,slow=30,SNR=8.4						
AKASG	Malin Array Be	7.72	313	P	Pn	18 53 49.9	-0.6
AKASG				S	Sn	18 55 13.1	-5.0
MLR	Muntele Rosu	8.54	272	Pn	P	18 54 02.1	+0.2
	0.4nm,0.3s,baz=143,slow=14,SNR=9.2						
MLR				Sn	Sn	18 55 32.3	-6.2
	0.3nm,0.3s,baz=182,slow=6.6,SNR=3.2						
MLR	Muntele Rosu	8.54	272	P	P	18 54 02.3	+0.4
MLR				S	Sn	18 55 36.0	-2.5
FINES	FINESS Array B	17.20	340	P	P	18 55 57.1	+0.3
	0.2nm,0.3s,baz=153,slow=16,SNR=7.3						
KAF	Kangasniemi	17.74	342	ep	P	18 56 13.1	+10
	1.0nm,0.6s						
KAF	Kangasniemi	17.74	342	eP	P	18 56 13.1	+10
KAF				pmax	pmax		
	comp=Z,1.0nm,0.6s						
HFS	Hagfors	20.40	324	P	P	18 56 34.3	-0.1
	comp=Z,1.0nm,0.6s,baz=117,slow=9.7,SNR=4.1						
HFS	Hagfors	20.40	324	P	P	18 56 34.3	-0.1
HFS				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NB2	NORSAR Subarra	21.93	324	P	P	18 56 49.0	-0.8
	comp=Z,0.7nm,0.6s,mb3.3,baz=120,slow=10						
NOA	NORSAR Array B	21.93	324	P	P	18 56 51.0	+1.2
	comp=Z,0.9nm,0.9s,mb3.2,baz=122,slow=8.0,SNR=3.2						
NOA	NORSAR Array B	21.93	324	P	P	18 56 51.0	+1.2
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BVAR	Borovoye Array	22.08	59	P	P	18 56 51.7	+0.3
	comp=Z,0.2nm,0.5s,mb2.9,baz=259,slow=7.3,SNR=3.6						
ARCES	ARCESS Array B	24.66	349	P	P	18 57 17.6	+1.2
	comp=Z,2.0nm,0.9s,mb3.6,baz=167,slow=8.7,SNR=5.1						
ARCES	ARCESS Array B	24.66	349	P	P	18 57 17.6	+1.2
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						

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*IDC **01** 18:52:33.0±2.8, 15.10S×177.69W, h378km±28km, mb3.7/11, mb1 3.9/11, mb1mx3.8/15, Error ellipse: s-maj=25.7km s-min=11.7km az=147.0*
*NEIC **01** 18:52:37.2±3.4, 14.72S×177.98W, h415km±35km, mb4.2/17, Error ellipse: s-maj=16.8km s-min=10.9km az=132.0*
ISC 01 18:52:32.7±3.4**, 14.8S**±0.1×**178.0W**±0.1**, h381**km±34km**, n47,** σ0s**92**/38**, mb4.1**/27**, 2C-1D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	23.79	190	P	P	18 57 09.3	-5.1
	5.8nm,0.4s,mb4.2,baz=98,slow=3.1,SNR=12						
PMG	Port Moresby	34.51	275	eP	P	18 58 50.2	+2.0
	8.6nm,0.9s,mb4.0						
CTA	Charters Tower	34.51	256	P	P	18 58 48.7	+0.5
	2.4nm,0.6s,mb3.6,baz=74,slow=13,SNR=6.4						
CTA	Charters Tower	34.51	256	P	P	18 58 48.7	+0.5
STKA	Stephens Creek	40.59	238	P	P	18 59 38.3	0.0
	6.7nm,0.7s,mb4.0,baz=95,slow=7.5,SNR=15						
WB2	Warramunga Arr	45.70	256	eP	P	19 00 19.0	-0.3
WRAB	Tennant Creek	45.70	256	eP	P	19 00 19.0	-0.3
	6.3nm,0.8s,mb3.8						
WRA	Warramunga Arr	45.71	256	P	P	19 00 18.6	-0.8
	3.0nm,0.8s,mb3.5,baz=90,slow=6.9,SNR=26						
WRA				PcP	PcP	19 01 50.8	+0.4
	0.6nm,0.6s,baz=84,slow=3.9,SNR=4.5						
ASAR	Alice Springs	46.14	251	P	P	19 00 22.7	+0.1
	25nm,0.6s,mb4.5,baz=84,slow=8.4,SNR=423						
ASAR				PcP	PcP	19 01 52.0	+0.1
	1.0nm,0.4s,baz=103,slow=4.5,SNR=4.9						
ASAR				S	S	19 06 39.0	0.0
	1.1nm,0.9s,baz=85,slow=16,SNR=7.0						
ASPA	Alice Springs	46.14	251	⇓iP	P	19 00 22.6	0.0
KAKA	Kakadu	48.20	266	eP	P	19 00 43.8	+5.3
	6.8nm,0.5s,mb4.1						
FORT	Forrest	51.79	242	eP	P	19 01 04.3	-0.9
	50nm,0.6s,mb5.0						
FITZ	Fitzroy Crossi	54.04	258	eP	P	19 01 22.5	+0.8
	4.1nm,0.6s,mb3.9						
FITZ	Fitzroy Crossi	54.04	258	P	P	19 01 21.7	0.0
	3.7nm,0.6s,mb3.9,baz=84,slow=5.7,SNR=5.4						
MBWA	Marble Bar	59.31	254	eP	P	19 01 57.8	-0.3
	22nm,1.1s,mb4.5						
KLBR	Kellerberrin	60.65	242	eP	P	19 02 10.5	+3.6
	16nm,0.6s,mb4.6						
NWAO	Narrogin (SRO)	61.10	240	eP	P	19 02 08.9	-1.0
	43nm,1.4s,mb4.7						
SBA	Scott Base	63.55	184	eP	P	19 02 25.4	+0.2
	4.7nm,0.6s,mb4.3						
CASY	Casey	69.15	204	eP	P	19 02 59.5	-0.8
	9.9nm,1.0s,mb4.5						
QSPA	South Pole Qui	75.26	180	eP	P	19 03 35.4	-0.2
	6.1nm,0.7s,mb4.4						
NVAR	Mina Array Bea	76.88	44	P	P	19 03 43.5	-1.9
	0.5nm,0.4s,mb3.6,baz=219,slow=6.9,SNR=6.5						
TPNV	Topopah Spring	77.54	46	eP	P	19 03 48.7	-0.4
	1.9nm,0.7s,mb3.9						
TUC	Tucson	79.45	53	eP	P	19 04 00.5	+1.1
	2.2nm,0.9s,mb3.9						
HLID	Hailey	81.99	41	eP	P	19 04 13.0	+0.7
	2.5nm,0.7s,mb4.2						
COLA	College	82.64	12	P	P	19 04 15.0	-0.2
	3.1nm,0.4s,mb4.5						
ILAR	Eielson Array	82.75	13	P	P	19 04 15.8	+0.1
	1.4nm,0.5s,mb4.1,baz=220,slow=5.2,SNR=27						
PV10	Paradox Valley	83.29	48	eP	P	19 04 19.4	+0.4
PV01	Paradox Valley	83.52	48	P	P	19 04 19.9	-0.3
TXAR	Lajitas Array	83.96	58	P	P	19 04 22.7	+0.1
	1.1nm,0.6s,mb3.9,baz=216,slow=6.1,SNR=6.2						
BW06	Boulder Array	84.79	43	eP	P	19 04 26.2	-0.2
	0.7nm,0.4s,mb3.8						
PDAR	Pinedale Array	84.79	43	P	P	19 04 26.0	-0.4
	0.7nm,0.6s,mb3.7,baz=258,slow=3.6,SNR=6.8						
MAW	Mawson	86.94	200	eP	P	19 04 36.6	+0.5
	4.1nm,0.6s,mb4.4						
MAW	Mawson	86.94	200	P	P	19 04 36.4	+0.3
	4.7nm,0.6s,mb4.5,baz=124,slow=5.3,SNR=20						
SNAA	Sanae	93.70	178	⇑i	P	19 05 04.3	-3.1
SNAA	Sanae	93.70	178	eP	P	19 05 06.6	-0.8
	0.7nm,0.5s,mb4.0						
VNA3	Neumayer Olymp	93.82	176	⇑i	P	19 05 11.0	+3.0
VNA2	Neumayer--Watz	94.26	177		P	19 05 12.6	+2.6
BVAR	Borovoye Array	114.69	322	PKP	PKPdf	19 10 29.3	+1.2
	0.4nm,0.6s,baz=180,slow=1.5,SNR=3.7						
ZRNK	Zerenda	115.53	322	ePKPdf	PKPdf	19 10 30.0	+0.2
ARCES	ARCESS Array B	123.33	350	PKP	PKPdf	19 10 45.2	+0.7
	2.3nm,0.8s,baz=24,slow=1.7,SNR=15						
BRTR	Keskin Array B	142.83	318	PKP	PKPdf	19 11 20.8	-0.7
	1.6nm,0.9s,baz=90,slow=2.5,SNR=6.7						
ASF	Jabal al Asfar	143.86	305	PKP	PKPdf	19 11 24.0	+0.5
	3.4nm,0.8s,baz=124,slow=3.6						
KHC	Kasperske Hory	144.46	347	ePKP	PKPdf	19 11 24.0	0.0
GERES	GERESS Array B	144.70	347	PKPbc	PKPbc	19 11 26.0	+1.2
	1.1nm,0.7s,baz=18,slow=4.2,SNR=11						
DAVOX	Davos	147.43	350	PKPbc	PKPdf	19 11 34.4	+5.4
	2.4nm,0.6s,baz=139,slow=3.2,SNR=5.2						
DAVOX	Davos	147.43	350	PKPbc	PKPdf	19 11 34.4	+5.4
MBAR	Mbarara	147.77	244	ePKPbc	PKPdf	19 11 35.3	+4.7

IDC 01 19:07:37.2±13.0**, 0.06S**×**124.98E, mb3.8**/3**, mb1 4.1**/4**, mb1mx3.7**/16**, ML4.2**/1**, Error ellipse: s-maj=221.0km s-min=111.0km az=137.0, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	17.94	178	eP	P	19 11 49.0	-0.9
	1.1nm,0.2s						
FITZ	Fitzroy Crossi	17.94	178	P	P	19 11 49.0	-0.9
	0.6nm,0.3s,baz=5.8,slow=10.0,SNR=28						
WRA	Warramunga Arr	21.78	156	P	P	19 12 30.5	-2.3
	1.5nm,0.4s,baz=333,slow=11,SNR=37						
WB2	Warramunga Arr	21.79	156	eP	P	19 12 31.0	-1.8
ASPA	Alice Springs	25.01	160	eP	P	19 13 03.4	-1.1
ASAR	Alice Springs	25.02	160	P	P	19 13 03.1	-1.4
	1.2nm,0.5s,baz=339,slow=8.3,SNR=28						
STKA	Stephens Creek	35.33	155	P	P	19 14 34.4	-2.1
	0.8nm,0.4s,baz=319,slow=11,SNR=4.3						

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*NEIC **01** 19:22:18.6, 37.41N×117.12W, h11km, ML3.9(REN), MW3.9(SLM), After REN.*
ISC 01 19:22:19.1±0.7**, 37.39N**±0.03×**117.08W**±0.03**, h22**km±7km**, n53,** σ0s**95**/55**, 2C, California-Nevada border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TPH	Tonopah	0.69	350	⇑eP	Pb	19 22 31.5	-0.9
TPH				eS	Sb	19 22 40.4	-1.1
TPNV	Topopah Spring	0.79	124	eP	Pb	19 22 34.0	-0.1
MTUM	Tungsten Hills	1.19	269	eP	Pn	19 22 41.0	+0.4
DAC	Darwin (Calif)	1.19	201	eP	Pn	19 22 40.8	+0.2
DAC				eS	Sb	19 22 55.8	0.0
MNV	Mina	1.34	321	⇑iP	Pn	19 22 43.4	+0.5
TRCR	Troy Canyon	1.52	51	eP	Pn	19 22 45.6	+0.2
OMM	Old Mammoth Mi	1.54	279	eP	Pn	19 22 46.4	+0.7
NEN	Nelson	2.50	133	ePn	Pn	19 23 00.1	+0.6
CMB	Columbia Colle	2.70	285	ePn	Pn	19 23 02.4	+0.1
LDFC	Landfair	2.80	145	ePn	Pn	19 23 03.4	-0.3
WCN	Washoe City	2.84	313	ePn	Pn	19 23 04.1	-0.2
ARUT	Antelope Range	2.91	81	ePn	Pn	19 23 05.3	0.0
PAHR	Pah Rah Range	2.94	323	Pn	Pn	19 23 06.9	+1.3
BMN	Battle Mountai	3.04	358	ePn	Pn	19 23 06.7	-0.3
MWC	Mount Wilson	3.26	194	ePn	Pn	19 23 10.8	+0.6
LRV	Little Rabbit	3.30	254	Pn	Pn	19 23 12.4	+1.6
SAO	San Andreas Ge	3.55	261	ePn	Pn	19 23 13.0	-1.4
BEKR	Beckwourth	3.57	315	ePn	Pn	19 23 14.7	+0.2
ELK	Elko	3.64	23	ePn	Pn	19 23 15.5	-0.1
PFO	Pinyon Flat Ob	3.81	172	ePn	Pn	19 23 17.8	-0.2
OHCM	Honcut	3.97	301	Pn	Pn	19 23 20.6	+0.3
LKC	Lake Chabot	3.98	276	Pn	Pn	19 23 19.4	-1.0
MVU	Marysvale	4.00	72	ePn	Pn	19 23 21.7	+0.9
MSU	Marysvale	4.03	72	ePn	Pn	19 23 22.2	+1.1
DUG	Dugway	4.35	49	ePn	Pn	19 23 25.6	-0.1
NSHM	Saint Helena R	4.51	286	Pn	Pn	19 23 29.5	+1.5
NLU	North Lily Min	4.67	55	Pn	Pn	19 23 31.8	+1.5
BAR	Barrett	4.71	176	ePn	Pn	19 23 29.9	-0.9
BGU	Big Grassy Mou	4.72	40	ePn	Pn	19 23 31.6	+0.6
TMUT	Trail Mountain	4.99	66	ePn	Pn	19 23 33.9	-0.8
MPU	Maple Canyon	5.00	57	Pn	Pn	19 23 34.8	-0.1
MOD	Modoc	5.15	332	ePn	Pn	19 23 37.2	+0.2
CTU	Camp Tracy	5.29	50	ePn	Pn	19 23 39.5	+0.4
SPUT	South Promonto	5.30	41	Pn	Pn	19 23 39.4	+0.2
WDC	Whiskeytown Da	5.32	308	ePn	Pn	19 23 39.3	-0.1
JLU	Jordanelle	5.43	52	Pn	Pn	19 23 40.8	-0.1
SRU	San Rafael	5.43	70	ePn	Pn	19 23 39.9	-1.1
DAU	Daniels Canyon	5.45	55	Pn	Pn	19 23 42.0	+0.8
HVU	Hansel Valley	5.50	36	Pn	Pn	19 23 43.0	+1.1
TCUT	Toone Canyon	5.76	48	ePn	Pn	19 23 46.5	+0.9
HWUT	Hardware Ranch	5.99	44	ePn	Pn	19 23 47.4	-1.4
PV10	Paradox Valley	6.43	79	ePn	Pn	19 23 55.0	-0.1
HLID	Hailey	6.49	17	ePn	Pn	19 23 54.7	-1.2
PV01	Paradox Valley	6.78	81	ePn	Pn	19 23 58.1	-1.9
TUC	Tucson	7.24	133	Pn	Pn	19 24 03.6	-2.8
TPAW	Teton Pass	7.67	36	Pn	Pn	19 24 11.2	-1.4
LOHW	Long Hollow	7.93	36	Pn	Pn	19 24 18.2	+2.1
MCMT	McKenzie Canyo	8.08	22	Pn	P	19 24 22.4	+4.2
ANMO	Albuquerque	8.92	103	Pn	P	19 24 31.8	+1.9
SSE	Sheshan	92.79	313	eP	P	19 35 29.5	-1.7
SSE				AMB	AMB		
	comp=Z,18nm,0.6s						
NJ2	Nanjing	93.42	315	eP	P	19 35 32.9	-1.1
WMQ	Urumqi	96.10	342	eP	P	19 35 46.0	-0.1
LZH	Lanzhou	97.64	328	eP	P	19 35 52.3	-0.9

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*IDC **01** 19:32:38.9±5.3, 7.29S×120.83E, h142km±59km, mb3.0/2, mb1 3.0/4, mb1mx2.9/16, Error ellipse: s-maj=156.0km s-min=16.5km az=52.0*
*DJA **01** 19:32:42.3±1.1, 6.69S×119.35E, h150km±76km, MD4.7/4, ML4.3/3, Error ellipse: s-maj=97.5km s-min=32.0km az=178.0*
ISC 01 19:32:43.1±2.3**, 8.4S**±0.2×**119.6E**±0.2**, h221**km±32km**, n8,** σ0s**87**/14**, mb3.4**/1**, 3C-5D, Flores region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KEDI	Kedomdong	3.44	268	⇓iPn	P	19 33 39.4	-0.1
	62nm,0.3s						
KEDI				⇑iSn	S	19 34 29.1	+5.9
RATI	Rata	4.03	265	⇓iPn	P	19 33 46.7	+0.2
	38nm,0.2s						
RATI				⇓iSn	S	19 34 35.5	-0.2
INGI	Ingas	4.41	264	⇓iPn	P	19 33 52.5	+1.2
	106nm,0.2s						
INGI				⇑iSn	S	19 34 44.4	+0.1
KELI	Kelakatan	5.05	272	⇑iPn	P	19 33 58.1	-1.1
KELI				⇓iSn	S	19 34 51.8	-6.7
FITZ	Fitzroy Crossi	11.31	149	P	P	19 35 20.1	+0.5
	0.2nm,0.3s,baz=353,slow=6.5,SNR=18						
FITZ				S	S	19 37 21.7	-0.9
	0.1nm,0.3s,baz=192,slow=18,SNR=3.5						
WRA	Warramunga Arr	18.32	130	P	P	19 36 42.4	-0.9
	0.1nm,0.3s,baz=305,slow=11,SNR=14						
WRA				S	S	19 40 01.8	+5.3
	0.1nm,0.3s,baz=316,slow=24,SNR=3.0						
ASAR	Alice Springs	20.46	140	P	P	19 37 07.0	+2.0
	0.2nm,0.3s,baz=330,slow=15,SNR=8.0						
MKAR	Makanchi Array	64.18	332	P	P	19 42 55.8	-0.5
	0.7nm,0.7s,mb3.4,baz=142,slow=7.5,SNR=4.9						

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*NIED **01** 19:35:00, 28.10N×128.10E, h5km, Mw4.1 Best double couple: Mo1.49×10^15 NP1:φs145°, δ77°, λ26°. NP2:φs49°, δ65°, λ165°.*
JMA 01 19:35:14.4±0.3**, 28.08N**×**128.05E, h9**km**, M3.5, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JTK	Tokunoshima	0.85	110	P	Pb	19 35 30.5	-0.4
JTK				S	Sb	19 35 41.7	-0.4
JIH	Iheya	1.04	184	P	Pb	19 35 34.0	-0.2
JIH				S	Sb	19 35 48.3	+0.5
JOW	Kunigami	1.26	171	P	Pb	19 35 37.5	-0.4
JOW				eS	Sb	19 35 54.5	+0.5
JAM	Amami Oshima	1.41	76	P	Pn	19 35 40.0	-0.4
JAM				S	Sb	19 35 58.1	-0.3
JAGN	Aguni-jima	1.65	206	P	Pn	19 35 43.1	-0.7
JZK	Kikaishima	1.71	82	P	Pn	19 35 46.1	+1.4
JJT2	Tamagusuku 2	1.95	188	P	Pn	19 35 48.9	+0.8

MEX 01 19:42:02.7±1.3**, 17.73N**×**95.19W, h129**km±9km**, MD4.5, Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.70	155	i P	P	19 42 21.8	-1.3
CMIG				i S	S	19 42 35.8	-2.9
EVV	El Vigia	0.74	348	i P	P	19 42 20.9	-2.5
TUIG	Tuzandepetl	0.79	67	i P	P	19 42 22.8	-1.0
TUIG				i S	S	19 42 37.9	-2.0
OXX	Oaxaca	1.60	246	eP	P	19 42 31.5	-0.8
VHO	Vista Hermosa	1.61	246	i P	P	19 42 31.2	-1.2
VHO				i S	S	19 42 54.2	-0.8
HUIG	Huatulco	2.14	204	i P	P	19 42 35.6	-3.2
HUIG				i S	S	19 43 03.2	-3.1
LVIG	Laguna Verde	2.30	330	i P	P	19 42 37.9	-3.0
LVIG				i S	S	19 43 04.6	-5.4
IISM	Ciudad Serdan	2.42	301	i P	P	19 42 40.7	-1.9
IISM				eP		19 42 41.0	
SCX	San Cristobal	2.63	112	eP	P	19 42 44.0	-1.3
PNIG	Pinotepa	3.11	245	i P	P	19 42 47.2	-4.3
PNIG				i S	S	19 43 24.2	-4.5
CCIG	Comitan	3.26	116	i P	P	19 42 51.9	-1.7
CCIG				i S	S	19 43 31.1	-1.2
PPM	Popocatepetl	3.52	293	eP	P	19 42 57.5	+0.5
YAIG	Yautepec	3.85	288	i P	P	19 43 00.5	-1.0
YAIG				eS	S	19 43 41.4	-5.0
SCIG		4.00	71	i P	P	19 43 01.0	-2.4
SCIG				i S	S	19 43 45.2	-4.7
UNM	Universidad Na	4.11	293	eP	P	19 43 03.0	-1.8
PLIG	Platanillo	4.16	280	i P	P	19 43 04.3	-1.2
PLIG				eS	S	19 43 52.0	-1.7
ACX	Acapulco	4.60	260	i P	P	19 43 06.7	-4.7
ZIIG	Zihuatanejo	5.98	270	eP	P	19 43 28.1	-1.9
ZIIG				eS	S	19 44 34.7	-3.1
MOIG	Morelia	6.01	290	eP	P	19 43 28.1	-2.2
MOIG				eS	S	19 44 35.0	-3.4

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*NIED **01** 19:45:00, 28.10N×128.00E, h5km, Mw4.2 Best double couple: Mo2.27×10^15 NP1:φs291°, δ83°, λ18°. NP2:φs199°, δ72°, λ172°.*
*IDC **01** 19:45:02.8±0.9, 27.92N×127.77E, mb3.9/7, mb1 4.1/8, mb1mx3.8/25, ML4.0/1, MS3.4/1, Ms1 3.4/1, ms1mx2.9/31, Error ellipse: s-maj=31.4km s-min=14.6km az=67.0*
*JMA **01** 19:45:02.6±0.4, 28.09N×128.02E, h11km±4km, M3.9*
*NEIC **01** 19:45:04.0±3.9, 27.82N×127.69E, h12km±26km, mb4.2/5, Error ellipse: s-maj=14.8km s-min=7.9km az=55.0*
*BJI **01** 19:45:03.9, 27.80N×127.70E, h12km, mb4.3, Ms4.0*
ISC 01 19:45:02.9±1.1**, 28.08N**±0.03×**127.99E**±0.05**, h15**km±9km**, n28,** σ0s**94**/36**, mb4.0**/11**, Northwest of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JTK	Tokunoshima	0.90	109	P	Pb	19 45 19.1	-0.6
JTK				S	Sb	19 45 30.7	-0.4
JIH	Iheya	1.04	181	P	Pb	19 45 22.3	+0.2
JIH				S	Sb	19 45 36.2	+0.9
JOW	Kunigami	1.27	169	Pn	Pn	19 45 25.6	-0.6
	baz=354,slow=14						
JOW				Sn	Sn	19 45 42.4	-0.5
JOW	Kunigami	1.27	169	P	Pb	19 45 25.8	-0.2
JOW				S	Sb	19 45 42.1	+0.2
JAM	Amami Oshima	1.46	77	P	Pn	19 45 28.4	-0.5
JAM				S	Sb	19 45 46.8	-0.7
JAGN	Aguni-jima	1.63	204	P	Pn	19 45 30.7	-0.6

JAGN S Sn 19 45 50.2 -1.9
JZK Kikaishima 1.76 82 P **Pn 19 45 34.3 +1.1**
NAH1 Naha 1.89 188 P **Pn 19 45 36.0 +1.0**
NAH1 S **Sn 19 45 59.6 +0.9**
JJT2 Tamagusuku 2 1.95 186 P **Pn 19 45 37.2 +1.3**
JJT2 S **Sn 19 46 02.1 +2.0**
JKE Kume jima 2 2.05 212 P **Pn 19 45 37.3 -0.1**
JKE S **Sn 19 46 02.4 -0.4**
JTN Tanegashima 3 3.66 45 P **Pn 19 46 01.8 +1.5**
JNU Nakatsue 5.61 26 Pn **Pn 19 46 32.4 +4.5**
4.0nm,0.3s,baz=149,slow=6.4,SNR=13
JHJ Hachijo jima 2 11.33 61 LR LR 19 51 57.2
comp=Z,156nm,18.7s,baz=318,slow=36
BJT Baijiatuau 15.40 324 *e*P **P 19 48 41.4 0.0**
8.6nm,0.8s
BJI Beijing 15.42 324 P **P 19 48 48.3 +6.8**
BJI AMB AMB
comp=Z,14nm,0.8s
BJI AMB AMB
comp=Z,135nm,3.4s
BJI LR LR
comp=N,282nm,11.2s
BJI LR LR
comp=E,214nm,10.8s
CN2 Changchun 15.82 353 *e*P **P 19 48 53.5 +6.8**
CN2 AMB AMB
comp=Z,10.0nm,1.0s
CD2 Chengdu 21.27 283 *e*P **P 19 49 53.0 +2.0**
GUMO Guam 21.33 129 P **P 19 49 50.9 -0.8**
comp=Z,69nm,1.3s,mb4.8
SONM Songino Array 25.90 325 P **P 19 50 36.1 +0.2**
comp=Z,3.2nm,1.0s,mb3.8,baz=140,slow=9.4,SNR=19
MKAR Makanchi Array 40.16 310 P **P 19 52 40.3 +0.3**
comp=Z,1.4nm,0.7s,mb3.8,baz=111,slow=10,SNR=8.1
ZAL Zalesovo 40.67 322 P **P 19 52 44.5 +0.4**
comp=Z,0.6nm,0.6s,mb3.4,baz=100,slow=2.0,SNR=2.6
KURK Kurchatov 43.35 315 *e*P **P 19 53 05.7 -0.3**
comp=Z,1.0nm,0.5s,mb3.8
FITZ Fitzroy Crossi 45.96 183 P **P 19 53 28.1 +0.7**
comp=Z,4.7nm,0.8s,mb4.5,baz=43,slow=3.9,SNR=4.5
BVAR Borovoye Array 48.77 317 P **P 19 53 48.5 -0.4**
comp=Z,0.5nm,0.5s,mb3.8,baz=68,slow=8.0,SNR=6.0
BRVK Borovoye 48.84 317 *e*P **P 19 53 49.5 0.0**
comp=Z,2.2nm,0.7s,mb4.3
ZRNK Zerenda 49.59 317 *e*P **P 19 53 54.1 -1.2**
comp=Z,2.4nm,0.9s,mb4.2
ILAR Eielson Array 62.92 29 P **P 19 55 31.8 +1.3**
comp=Z,0.3nm,0.7s,mb3.6,baz=284,slow=7.4,SNR=4.6
PDAR Pinedale Array 91.85 38 P **P 19 58 14.6 +2.9**
comp=Z,0.5nm,1.0s,mb3.8,baz=45,slow=2.1,SNR=3.8

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*IDC **01** 19:46:03.5±0.5, 22.37S×173.22E, mb5.1/21, mb1 5.2/22, mb1mx5.2/23, ML4.3/1, MS5.2/15, Ms1 5.2/15, ms1mx5.1/21, Error ellipse: s-maj=14.9km s-min=11.5km az=113.0*
*LDG **01** 19:46:04.2±0.1, 22.04S×173.75E, h10^{km}, Mb5.0/2, Ms5.3/9, Error ellipse: s-maj=16.4km s-min=4.1km az=171.0*
*BJI **01** 19:46:04.5, 22.17S×173.23E, h10^{km}, mB5.6, mb5.2, Ms5.4, Msz5.2*
*NEIC **01** 19:46:05.2±0.1, 22.42S×173.27E, h10^{km}, mb5.4/56, MS5.4/66, MW5.7, Error ellipse: s-maj=6.7km s-min=4.2km az=152.0, Moment Tensor Solution. s36 Moment tensor: Scale 10^{17}Nm; M_{rr}3.68; $M_{\theta\theta}$-4.45; $M_{\phi\phi}$0.78; $M_{r\theta}$0.90; $M_{\theta\phi}$-0.69; $M_{\phi r}$-0.35; Best double couple: $M_0$4.2×10^{17} NP1:ϕ_s253°, δ40°, λ76°. NP2:ϕ_s91°, δ51°, λ101°. Principal axes: T 3.84, Plg79°, Azm50°; N .79, Plg9°, Azm264°; P -4.63, Plg6°, Azm173°;*
*SYO **01** 19:46:05.1, 22.47S×173.25E, h10^{km}, MB5.5, MS5.4*
*HRVD **01** 19:46:05.2±0.1, 22.64S×173.33E, h22^{km}, MW5.9/77, Centroid moment Tensor Solution. LP body waves: s72,c154; Mantle waves: s77,c168; Half duration: 2s1 Moment tensor: Scale 10^{18}Nm; M_{rr}0.69±.01; $M_{\theta\theta}$-0.76±.01; $M_{\phi\phi}$0.07±.01; $M_{r\theta}$0.23±.01; $M_{\theta\phi}$-0.08±.01; $M_{\phi r}$0.06±.01; Best double couple: M_0.77×10^{18} NP1:ϕ_s268°, δ36°, λ96°. NP2:ϕ_s81°, δ54°, λ86°. Principal axes: T .73, Plg80°, Azm334°; N .08, Plg3°, Azm84°; P -.81, Plg9°, Azm174°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **01** 19:46:08.1±1.7, 22.52S×173.36E, h33^{km}, mb5.7/23, MS5.4/31 Error ellipse: s-maj=17.0km s-min=10.3km az=65.0*

ISC 01 19:46:05.2±0.2**, 22.47S**±0.04×**173.22E**±0.03**, h18**^{km}**, h18**^{km}±3.2^{km}**:pP-P, n366,** σ**0**s**90**/195**, mb5.3**/81**, MS5.3**/99**, 40C-6D, Southeast of Loyalty Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
DZM Mont Dzumac 6.29 272 *e*P **Pn 19 47 41.6 +2.1**
DZM *e*S **Sn 19 48 49.7 -2.0**
DZM Mont Dzumac 6.29 272 *e*P **Pn 19 47 41.6 +2.1**
DZM *e*S **Sn 19 48 49.7 -2.0**
NOUC Port Laguerre 6.42 272 *e*P **Pn 19 47 43.3 +2.0**
NOUC *e*S **Sn 19 48 56.2 +1.3**
NOUC Port Laguerre 6.42 272 *e*P **Pn 19 47 43.3 +2.0**
NOUC *e*S **Sn 19 48 56.2 +1.3**
BKM Butte a Klehm 6.69 315⇑*i*P **Pn 19 47 44.8 -0.3**
URZ Urewera 16.09 169 Pn **P 19 49 52.0 -0.2**
1.1nm,0.3s,baz=347,slow=9.6,SNR=15
URZ Sn **S 19 52 59.0 +9.0**
0.2nm,0.3s,baz=87,slow=5.4,SNR=2.8
URZ LR LR 19 53 43.6
comp=Z,6μm,20.1s,baz=172,slow=28
URZ Urewera 16.09 169 *e*P **P 19 49 54.4 +2.2**
NNZ Nelson 18.70 180 P **P 19 50 26.7 +1.9**
SNZO South Karori 18.83 177 *e*P **P 19 50 25.7 -0.7**
THZ Tophouse 19.24 181 *e*P **P 19 50 31.8 +0.6**
RPZ Rata Peaks 21.27 184 P **P 19 50 53.4 +0.6**
108nm,0.8s,mb5.2,baz=47,slow=15,SNR=16
RPZ S **S 19 54 52.8 +9.4**
29nm,1.1s,baz=323,slow=13,SNR=2.0
RPZ Rata Peaks 21.27 184 P **P 19 50 53.2 +0.4**
CNB Canberra Magne 24.43 233 *e*P **P 19 51 26.6 +2.6**
408nm,1.3s,mb5.7
RAR Rarotonga 25.09 92 P **P 19 51 30.8 +0.4**
15nm,0.7s,mb4.6,baz=232,slow=11,SNR=2.7
RAR LR LR 20 00 01.2
comp=Z,2μm,18.8s,MS4.5,baz=260,slow=33
CTA Charters Tower 25.23 270 *e*P **P 19 51 32.6 +0.8**
7.8nm,0.4s,mb4.6
CTA Charters Tower 25.23 270 P **P 19 51 31.5 -0.3**
9.5nm,0.4s,mb4.7,baz=96,slow=12,SNR=22
CTA S **S 19 56 04.8 +11**
5.1nm,1.1s,baz=53,slow=23,SNR=1.7
CTAO Charters Tower 25.23 270 *e*P **P 19 51 30.8 -1.0**
CTAO pmax pmax
comp=Z,30nm,1.0s,mb4.8
CTAO MLR MLR
comp=Z,12μm,19.0s,MS5.4
CTAO Charters Tower 25.23 270 *e*P **P 19 51 30.8 -1.0**
comp=Z,30nm,0.9s,mb4.8
CTAO LR LR
comp=Z,12μm,19.0s,MS5.4
TOO Toolangi 28.20 231⇑*i*P **P 19 51 59.9 +0.9**
comp=Z,27nm,1.1s,mb4.8
STKA Stephens Creek 29.57 245 P **P 19 52 11.2 -0.1**
comp=Z,38nm,1.1s,mb5.0,baz=80,slow=9.0,SNR=18
STKA LR LR 20 02 57.7
comp=Z,8μm,19.5s,MS5.3,baz=72,slow=34
TAU Tasmania Unive 29.65 220 PFAKE 19 52 20.0 +8.1
TAU LR LR
comp=Z,2μm,19.0s,MS4.8
KWAJ Kwajalein Atol 31.56 349 PFAKE 19 52 40.0 +11
KWAJ LR LR
comp=Z,939nm,21.0s,MS4.4
ADE Adelaide 32.57 240 *e*P **P 19 52 38.0 +0.3**
TBI Tubuai 34.32 99 *e*S **S 19 58 15.7 -2.8**
TBI *e*L 20 00 09.7
TBI *e*R 20 01 40.2
comp=Z,4μm,27.0s,baz=266
PPT Papeete 35.23 89 *e*S **S 19 58 28.5 -4.1**
PPT *e*L 20 00 28.4
PPT *e*R 20 02 11.6
baz=253
ASAR Alice Springs 36.12 260 P **P 19 53 07.7 -0.6**
comp=Z,27nm,0.9s,mb5.2,baz=86,slow=8.3,SNR=92
ASAR S **S 19 58 44.7 -1.5**
comp=Z,0.3nm,0.8s,baz=78,slow=8.3,SNR=2.4
ASAR LR LR 20 07 57.6
comp=Z,3μm,19.1s,MS5.1,baz=97,slow=36
ASPA Alice Springs 36.12 260 *e*P **P 19 53 08.2 -0.1**
WB2 Warramunga Arr 36.26 267 *e*P **P 19 53 08.1 -1.4**
WRAB Tennant Creek 36.26 267 P **P 19 53 07.9 -1.6**
comp=Z,129nm,1.1s,mb5.8,SNR=11
WRAB Tennant Creek 36.26 267 *e*P **P 19 53 07.6 -1.9**
comp=Z,48nm,1.2s,mb5.3
WRAB LR LR
comp=Z,3μm,20.0s,MS5.1
WRA Warramunga Arr 36.27 267 P **P 19 53 07.8 -1.9**
comp=Z,5.7nm,0.4s,mb4.9,baz=97,slow=8.5,SNR=56
WRA S **S 19 58 44.0 -4.7**
comp=Z,0.8nm,0.9s,baz=128,slow=41,SNR=3.2
WRA LR LR 20 08 07.0
comp=Z,8μm,19.2s,MS5.5,baz=105,slow=36
YOMI Yo Moklole 37.32 297⇑*e*P **P 19 53 19.4 +0.9**
comp=Z,57nm,1.0s,mb5.4
MENI Mendum Tagoi 37.51 297 *e*P **P 19 53 21.2 +1.1**
comp=Z,144nm,1.1s,mb5.6
KAKA Kakadu 40.00 277 *e*P **P 19 53 44.9 +4.1**
comp=Z,43nm,1.1s,mb5.1
FORT Forrest 40.99 248 *e*P **P 19 53 49.2 +0.3**
comp=Z,214nm,0.6s,mb6.0
FITZ Fitzroy Crossi 44.70 267 *e*P **P 19 54 19.5 +0.2**
comp=Z,58nm,0.9s,mb5.4
FITZ Fitzroy Crossi 44.70 267 P **P 19 54 19.7 +0.4**
comp=Z,71nm,0.9s,mb5.5,baz=141,slow=5.4,SNR=41
GUMO Guam 45.35 320 PFAKE 19 54 40.0 +16
GUMO LR LR
comp=Z,3μm,22.0s,MS5.2
RKT Rikitea 47.55 101 *e*S **S 20 01 31.6 -3.4**
RKT *e*L 20 05 41.8
RKT *e*R 20 07 07.2
comp=Z,3μm,26.0s
DRV Dumont d'Urvil 48.94 197 P **P 19 54 59.0 +7.0**
MBWA Marble Bar 49.46 261 *e*P **P 19 54 55.7 -0.9**
comp=Z,77nm,1.0s,mb5.7
MBWA LR LR
comp=Z,5μm,19.0s,MS5.5
MEEK Meekatharra 49.54 254 *e*P **P 19 54 56.9 -0.2**
comp=Z,24nm,0.7s,mb5.3
KLBR Kellerberrin 49.79 247 *e*P **P 19 54 58.1 -0.9**
comp=Z,93nm,1.0s,mb5.8
NWAO Narrogin (SRO) 50.16 245 P **P 19 55 00.0 -1.8**
comp=Z,55nm,1.1s,mb5.5,baz=86,slow=8.1,SNR=8.6
NWAO LR LR 20 17 08.9
comp=Z,4μm,19.2s,MS5.4,baz=291,slow=37
NWAO Narrogin (SRO) 50.16 245 *e*P **P 19 55 00.2 -1.6**
NWAO pmax pmax
comp=Z,64nm,1.1s
NWAO MLR MLR
comp=Z,3μm,19.0s
NWAO Narrogin (SRO) 50.16 245 *e*P **P 19 55 00.2 -1.6**
comp=Z,64nm,1.1s,mb5.6
NWAO LR LR
comp=Z,3μm,19.0s,MS5.4
MUN Mundaring 51.08 246 *e*P **P 19 55 10.1 +1.3**
comp=Z,33nm,1.2s,mb5.1
MIDW Midway 51.20 11 PFAKE 19 55 20.0 +10
MIDW LR LR
comp=Z,3μm,19.0s,MS5.4
KIP Kipapa 51.86 35 PFAKE 19 55 30.0 +15
KIP LR LR
comp=Z,3μm,20.0s,MS5.3
POHA Pohakuloa 51.89 38 PFAKE 19 55 30.0 +15
POHA LR LR
comp=Z,4μm,19.0s,MS5.5
BUNI Buntu Taipa 54.48 282⇑*e*P **P 19 55 34.3 -0.1**
comp=Z,6.3nm,0.4s,mb4.9
NINI Niniconang 54.68 281 *i* P **P 19 55 36.5 +0.6**
comp=Z,155nm,1.0s,mb6.0
SBA Scott Base 55.52 182 *e*P **P 19 55 41.4 +0.2**
comp=Z,164nm,1.2s,mb5.9
SBA LR LR
comp=Z,1μm,22.0s,MS5.0
KEDI Kedomdong 56.46 275⇑*i*P **P 19 55 47.6 -1.1**
comp=Z,48nm,1.1s,mb5.4
RATI Rata 56.91 274 *e*P **P 19 55 51.3 -0.6**
comp=Z,273nm,1.0s,mb6.2
INGI Ingas 57.23 274⇑*e*P **P 19 55 54.1 -0.1**
CBIJ Chichi jima 57.70 327 P **P 19 55 57.2 -0.1**
comp=Z,138nm,0.9s,mb6.0,baz=216,slow=8.7,SNR=2.4
KELI Kelakatan 58.05 274⇑*e*P **P 19 55 59.2 -0.7**
comp=Z,170nm,0.5s,mb6.3
CASY Casey 58.72 205⇑*i*P **P 19 56 02.5 -1.4**
JHJ Hachijo jima 2 63.82 329 LR LR 20 24 38.2
comp=Z,1μm,18.2s,MS5.1,baz=150,slow=36
MIR Mirnyy 65.72 206α*e*P **P 19 56 51.2 +0.6**
MIR *e*S S 20 05 35.0 +0.7
MIR pmax pmax
comp=Z,900nm,5.6s
MIR pmax pmax
comp=Z,150nm,1.6s,mb5.8
MIR smax
comp=E,900nm,9.0s
MIR smax
comp=N,700nm,10.0s
MAJO Matsushiro 67.37 330 *e*P **P 19 57 01.1 -0.5**
MAJO pmax pmax
comp=Z,68nm,1.1s,mb5.6
MAJO MLR MLR
comp=Z,1μm,21.0s,MS5.0
MAJO Matsushiro 67.37 330 *e*P **P 19 57 01.1 -0.5**
comp=Z,68nm,1.1s,mb5.6
MAJO LR LR
comp=Z,1μm,21.0s,MS5.0
MAT Matsushiro 67.37 330 P **P 19 57 01.4 -0.2**
MAT S S 20 05 56.0 +1.3
MAT Matsushiro 67.37 330 *e*P **P 19 57 01.0 -0.6**
comp=Z,23nm,0.9s,mb5.2
MAT *e*S S 20 05 56.0 +1.3
MAT LR LR
comp=Z,1μm,21.0s,MS5.0
QSPA South Pole Qui 67.60 180 *e*P **P 19 57 01.6 -0.8**
comp=Z,130nm,1.2s,mb5.8
QSPA LR LR
comp=Z,3μm,19.5s,MS5.5
QZH Quanzhou 70.93 308 P **P 19 57 22.1 -1.7**
QZH S S 20 06 43.5 +6.4
QZH PS PS 20 07 09.9 +2.4
QZH LR LR
comp=Z,3μm,21.9s,MS5.5
ASAJ Asahikawa 71.96 337 P **P 19 57 29.4 -0.2**
comp=Z,37nm,1.2s,mb5.2,baz=170,slow=6.1,SNR=2.6
ASAJ LR LR 20 23 46.2
comp=Z,3μm,21.3s,MS5.5,baz=170,slow=32
SSE Sheshan 72.97 315 P **P 19 57 34.8 -1.1**
SSE XP sP 19 57 39.5 -4.1
SSE S S 20 07 03.5 +3.1
SSE XS 20 07 10.0
SSE SCS ScS 20 07 43.5 +4.2
SSE AMB AMB
comp=Z,22nm,1.3s,mb4.9
SSE AMB AMB
comp=Z,565nm,12.0s
SSE LR LR
comp=N,787nm,19.1s,MS5.1
SSE LR LR
comp=E,558nm,19.1s,MS5.1
SSE LR LR
comp=Z,970nm,19.4s,MS5.1
COCO West Island 72.99 264 PFAKE 19 57 50.0 +14
COCO LR LR
comp=Z,663nm,20.0s,MS4.9
INCN Inchon 74.01 323 PFAKE 19 57 50.0 +8.2
INCN LR LR
comp=Z,1μm,19.0s,MS5.2
YSS Yuzh-Sakhalins 74.38 339*c i*P **P 19 57 45.0 +1.4**
YSS *e* 19 57 56.5
YSS *e*S S 20 07 22.0 +6.2
YSS pmax pmax
comp=Z,90nm,1.2s,mb5.6
YSS pmax pmax
comp=Z,500nm,12.0s
YSS MLR MLR
comp=N,1μm,18.0s,MS5.3
YSS MLR MLR
comp=E,1μm,18.0s,MS5.3
YSS MLR MLR
comp=Z,2μm,18.0s,MS5.3
YSS Yuzh-Sakhalins 74.38 339 *e*P **P 19 57 44.7 +1.1**
comp=Z,117nm,1.4s,mb5.6
YSS LR LR
comp=Z,4μm,20.0s,MS5.7
SKR Severo-Kuril's 74.38 349 *e*P **P 19 57 32.0 -12**
SKR *e* 19 57 50.0
SKR *e* 20 00 38.0
SKR *e*PPP PPP 20 02 17.0 +0.2
SKR *e*S S 20 07 19.0 +3.3
SKR *e*PS PS 20 07 47.0 -5.8
SKR *e*SS SS 20 12 06.0 +1.6
SKR pmax pmax
comp=Z,3μm,10.0s
SKR smax
comp=N,3μm,16.0s
SKR MLR MLR
comp=N,3μm,20.0s,MS5.8
SKR MLR MLR
comp=E,3μm,20.0s,MS5.8
SKR MLR MLR
comp=Z,3μm,20.0s,MS5.6
QIZ Qiongzhong 74.40 299 P **P 19 57 44.9 +0.6**
QIZ XP sP 19 57 52.1 0.0
QIZ S S 20 07 17.6 +1.0
QIZ PS PS 20 07 54.1 +0.4
QIZ LR LR
comp=N,766nm,20.7s,MS5.0
QIZ LR LR
comp=E,481nm,22.1s,MS5.0
QIZ LR LR
comp=Z,930nm,19.0s,MS5.1
SMY Shemya 74.88 1 PFAKE 19 58 00.0 +14
SMY LR LR
comp=Z,3μm,19.0s,MS5.6
NJ2 Nanjing 75.11 314 *e*P **P 19 57 49.3 +1.1**
NJ2 AP pP 19 57 58.6 +4.6
NJ2 PP PP 20 00 40.4 +1.7
NJ2 S S 20 07 15.6 -8.7
NJ2 AMB AMB
comp=Z,50nm,1.1s,mb5.4
NJ2 LR LR
comp=N,2μm,17.2s
NJ2 LR LR
comp=E,2μm,25.0s
NJ2 LR LR
comp=Z,2μm,23.7s
VLA Vladivostok 75.53 330⇓*i*P **P 19 57 51.0 +0.6**
VLA *e* 19 58 07.0
VLA *e*S S 20 07 37.0 +8.3
VLA *e*PS PS 20 08 23.0 +15
VLA pmax pmax
comp=N,600nm,7.6s
VLA pmax pmax
comp=Z,1μm,7.6s
VLA pmax pmax
comp=E,600nm,9.0s
VLA pmax pmax
comp=Z,600nm,7.0s
VLA pmax pmax
comp=N,600nm,8.0s
VLA pmax pmax
comp=E,500nm,7.0s
VLA smax
comp=N,900nm,12.0s
VLA smax
comp=E,850nm,12.0s
VLA MLR MLR
comp=N,600nm,17.0s,MS5.1
VLA MLR MLR
comp=E,500nm,17.0s,MS5.1
VLA MLR MLR
comp=Z,2μm,17.0s,MS5.4
PET Petropavlovsk 76.23 351 *e*P **P 19 57 56.1 +2.0**
PET *e* 20 08 27.3
PET *e*SS SS 20 12 32.5 -0.6
PET *e*SSS SSS 20 15 55.9 +7.5
PET pmax pmax
comp=Z,1μm,6.6s
PET pmax pmax
comp=Z,49nm,1.7s,mb5.2
PET pmax pmax
comp=Z,1μm,10.5s
PET pmax pmax
comp=Z,900nm,14.4s
PET pmax pmax
comp=Z,300nm,15.4s
PET MLR MLR
comp=Z,2μm,17.8s,MS5.5
PET MLR MLR
comp=Z,2μm,17.8s
PET Petropavlovsk 76.23 351 PFAKE 19 58 10.0 +16
PET LR LR
comp=Z,2μm,20.0s,MS5.5
MAW Mawson 76.84 202⇑*i*P **P 19 57 57.1 -0.2**
comp=Z,24nm,0.9s,mb5.1
MAW *e*S S 20 07 43.8 +1.3
MAW Mawson 76.84 202 P **P 19 57 56.9 -0.4**
comp=Z,25nm,0.8s,mb5.2,baz=114,slow=7.0,SNR=55
MAW LR LR 20 29 12.1
comp=Z,2μm,18.5s,MS5.4,baz=336,slow=34
MAW Mawson 76.84 202 *e*P **P 19 57 56.8 -0.5**
MAW pmax pmax
comp=Z,78nm,1.2s
MAW MLR MLR
comp=Z,2μm,20.0s
MDJ Mudanjiang 77.75 330 P **P 19 58 03.3 +0.6**
MDJ PP PP 20 00 58.4 -1.8
MDJ S S 20 07 57.0 +4.2
MDJ XS 20 08 01.7
MDJ SCS ScS 20 08 21.6 +4.2
MDJ AMB AMB
comp=Z,22nm,1.0s,mb5.0
MDJ AMB AMB
comp=Z,797nm,9.7s
MDJ LR LR
comp=N,1μm,26.8s,MS5.2
MDJ LR LR
comp=E,1μm,28.4s,MS5.2
MDJ LR LR
comp=Z,754nm,23.6s,MS4.9
MDJ Mudanjiang 77.75 330 *e*P **P 19 58 03.1 +0.3**
comp=Z,28nm,1.0s,mb5.2
DL2 Dalian 77.84 321 P **P 19 58 06.3 +2.9**
DL2 LR LR
comp=N,490nm,24.0s
DL2 LR LR
comp=Z,560nm,16.1s
SNY Shenyang 78.74 324 ⇑P **P 19 58 06.5 -1.8**
SNY PP PP 20 01 05.4 -3.1
SNY LR LR
comp=N,760nm,16.1s,MS5.3
SNY LR LR
comp=E,950nm,19.6s,MS5.3
SNY LR LR
comp=Z,1μm,18.6s,MS5.2
CN2 Changchun 79.16 327 *e*P **P 19 58 10.6 +0.1**
CN2 *e*AP pP 19 58 15.5 -0.8
CN2 PP PP 20 01 08.6 -3.2
CN2 *e*S S 20 08 10.9 +3.0
CN2 AMB AMB
comp=Z,30nm,1.3s,mb5.1
CN2 AMB AMB
comp=Z,800nm,9.0s
CN2 LR LR
comp=N,800nm,21.0s,MS5.2
CN2 LR LR
comp=E,700nm,21.0s,MS5.2
CN2 LR LR
comp=Z,1μm,21.0s,MS5.2
ENH Enshi 80.59 308 *e*P **P 19 58 17.6 -0.9**
comp=Z,46nm,1.3s,mb5.2
GYA Guiyang 80.71 304⇑*i*P **P 19 58 23.2 +4.1**
GYA S S 20 08 26.7 +2.3
GYA LR LR
comp=N,560nm,20.6s,MS5.1
GYA LR LR
comp=E,730nm,20.3s,MS5.1
GYA LR LR
comp=Z,820nm,21.5s,MS5.0
BJT Baijiatuau 81.78 319 *e*P **P 19 58 24.2 -0.3**
comp=Z,21nm,1.1s,mb5.0
PMSA Palmer Station 82.59 159 *e*P **P 19 58 27.4 -0.7**
comp=Z,181nm,1.3s,mb5.9
PMSA LR LR
comp=Z,1μm,21.0s,MS5.2
SYO Syowa Base 82.85 195 ⇑P **P 19 58 26.5 -2.9**
SYO Syowa Base 82.85 195 ⇑pP pP 19 58 31.5 -3.8
SYO Syowa Base 82.85 195 ⇑sP sP 19 58 32.8 -4.4
XAN Xi'an 83.03 311 P **P 19 58 31.2 +0.1**
XAN PP PP 20 01 45.1 +1.2
XAN S S 20 08 52.1 +4.0
XAN AMB AMB
comp=Z,14nm,1.3s,mb4.8

XAN LR LR
comp=N,417nm,20.5s,MS5.0
XAN LR LR
comp=E,425nm,19.6s,MS5.0
XAN LR LR
comp=Z,871nm,20.0s,MS5.1
KMI Kunming 83.13 301 *e*P **P** **19 58 32.4 +0.7**
KMI AP pP 19 58 35.7 -1.9
KMI PP PP 20 01 47.7 +2.8
KMI PPP PPP 20 03 35.6 -2.5
KMI S S 20 08 52.4 +3.2
KMI PS PS 20 09 46.5 +2.6
KMI SS SS 20 14 18.8 +1.8
KMI AMB AMB
comp=Z,481nm,9.2s
KMI LR LR
comp=N,394nm,20.8s,MS5.1
KMI LR LR
comp=E,703nm,20.8s,MS5.1
KMI LR LR
comp=Z,763nm,21.7s,MS5.0
CM31 Chiang Mai Arr 83.21 293 *e*P **P** **19 58 33.5 +1.2**
comp=Z,12nm,1.0s,mb4.9
CM31 LR LR
comp=Z,982nm,20.0s,MS5.2
CMAR Chiang Mai Arr 83.21 293 P **P** **19 58 32.5 +0.3**
comp=Z,4.8nm,0.9s,mb4.5,baz=130,slow=4.1,SNR=14
CMAR LR LR 20 34 45.4
comp=Z,439nm,19.8s,MS4.8,baz=120,slow=35
MA2 Magadan 83.80 349 *e*P **P** **19 58 33.5 -0.9**
MA2 *e* 20 01 49.7
MA2 *e*S S 20 08 54.4 -0.8
MA2 *e*PS PS 20 09 50.8 -0.5
MA2 pmax pmax
comp=Z,3μm,12.6s
MA2 Magadan 83.80 349 PFAKE 19 58 50.0 +16
MA2 LR LR
comp=Z,993nm,20.0s,MS5.2
KDAK Kodiak Island 84.89 18 PFAKE 19 58 50.0 +10
KDAK LR LR
comp=Z,513nm,21.0s,MS4.9
HHC Hu-ho-hao-te 85.09 318 *e*P **P** **19 58 42.4 +1.0**
HHC PP PP 20 01 57.8 -2.5
HHC SKS SKS 20 09 05.3 -2.9
HHC S S 20 09 10.3 +1.8
HHC XS 20 09 19.3
HHC AMB AMB
comp=Z,27nm,1.6s,mb5.1
HHC AMB AMB
comp=Z,634nm,10.0s
HHC LR LR
comp=N,411nm,18.6s,MS5.0
HHC LR LR
comp=E,486nm,18.3s,MS5.0
HHC LR LR
comp=Z,642nm,19.6s,MS5.0
SAO San Andreas Ge 85.20 47 *e*P **P** **19 58 42.2 +0.2**
comp=Z,20nm,0.9s,mb5.2
SAO LR LR
comp=Z,1μm,19.0s,MS5.3
LRV Little Rabbit 85.31 48 P **P** **19 58 43.6 +1.1**
HOPS Hopland 85.34 45 *e*P **P** **19 58 42.7 +0.1**
comp=Z,61nm,1.3s,mb5.6
HOPS LR LR
comp=Z,4μm,19.0s,MS5.8
NSHM Saint Helena R 85.38 45 *e*P **P** **19 58 43.0 +0.1**
HIA Hailar 85.79 328 *e*P **P** **19 58 44.7 +0.1**
comp=Z,34nm,1.4s,mb5.4
BTO Baotou 85.92 317 *e*P **P** **19 58 47.0 +1.5**
KHMM Horse Mountain 85.97 43 *e*P **P** **19 58 46.2 +0.4**
SNAA Sanae 86.07 181⇑*i*P **P** **19 58 44.1 -1.4**
SNAA Sanae 86.07 181 **P** **19 58 46.2 +0.7**
SNAA Sanae 86.07 181⇑*i* **P** **19 58 48.3 +2.8**
SNAA Sanae 86.07 181 *e*P **P** **19 58 43.9 -1.6**
SNAA pmax pmax
comp=Z,94nm,1.2s
MAIT Maitri 86.10 186 *e*P **P** **19 58 45.0 -0.7**
NVL N'lazarevskaya 86.10 186⇑*e*P **P** **19 58 44.0 -1.7**
NVL *e*S S 20 09 05.0 -13
NVL pmax pmax
comp=Z,699nm,4.2s
NVL MLR MLR
comp=Z,3μm,15.0s,MS5.8
KRMB Red Mountain 86.23 42 *e*P **P** **19 58 47.8 +0.8**
VNA3 Neumayer Olymp 86.52 179⇑*i*P **P** **19 58 49.2 +1.5**
VNA3 Neumayer Olymp 86.52 179⇑*i* **P** **19 58 51.4 +3.7**
VNA3 Neumayer Olymp 86.52 179⇑*i* **P** **19 58 52.7 +5.0**
VNA3 Neumayer Olymp 86.52 179⇓*i* **P** **19 58 53.7 +6.0**
WDC Whiskeytown Da 86.56 43 *e*P **P** **19 58 48.7 +0.1**
comp=Z,13nm,0.9s,mb5.2
WDC LR LR
comp=Z,3μm,20.0s,MS5.7
OHCM Honcut 86.56 45 *e*P **P** **19 58 48.8 +0.1**
CMB Columbia Colle 86.59 46 *e*P **P** **19 58 48.7 -0.2**
CMB pmax pmax
comp=Z,33nm,1.0s,mb5.5
CMB MLR MLR
comp=Z,2μm,22.0s,MS5.4
CMB Columbia Colle 86.59 46 *e*P **P** **19 58 48.7 -0.2**
comp=Z,33nm,1.0s,mb5.5
CMB LR LR
comp=Z,2μm,22.0s,MS5.4
SEY Seymchan 86.70 351 *e*P **P** **19 58 48.9 +0.1**
SEY pP 19 58 56.0 +1.4
SEY *e* 20 09 23.9
SEY pmax pmax
comp=Z,140nm,1.1s,mb6.1
SEY pmax pmax
comp=N,40nm,1.2s
SEY pmax pmax
comp=E,20nm,0.9s
VNA2 Neumayer--Watz 86.86 180⇑*i*P **P** **19 58 51.0 +1.6**
VNA2 Neumayer--Watz 86.86 180⇑*i* **P** **19 58 54.8 +5.4**
YBH Yreka Blue Hor 87.09 42 P **P** **19 58 51.3 +0.2**
comp=E,8.7nm,0.7s,mb5.1,baz=178,slow=1.3,SNR=19
YBH Yreka Blue Hor 87.09 42 *e*P **P** **19 58 51.7 +0.6**
comp=E,8.6nm,0.8s,mb5.0
YBH LR LR
comp=Z,2μm,20.0s,MS5.6
PFO Pinyon Flat Ob 87.10 52 PFAKE 19 59 00.0 +8.6
PFO LR LR
comp=Z,399nm,19.0s,MS4.8
VNA1 Neumayer--Stat 87.13 180⇑*i*P **P** **19 58 52.1 +1.4**
VNA1 Neumayer--Stat 87.13 180⇑*i* **P** **19 58 55.1 +4.4**
VNA1 Neumayer--Stat 87.13 180⇑*i* **P** **19 58 56.6 +5.9**
OMM Old Mammoth Mi 87.32 47 *e*P **P** **19 58 52.6 +0.2**
HUMO Hull Mountain 87.42 42 *e*P **P** **19 58 53.3 +0.5**
comp=Z,25nm,0.9s,mb5.4
HUMO LR LR
comp=Z,2μm,20.0s,MS5.4
MTUM Tungsten Hills 87.48 48 *e*P **P** **19 58 53.6 +0.4**
BEKR Beckwourth 87.58 45 *e*P **P** **19 58 53.6 0.0**
comp=Z,14nm,0.8s,mb5.2
DAC Darwin (Calif) 87.61 49 PFAKE 19 59 00.0 +6.2
DAC LR LR
comp=Z,1μm,20.0s,MS5.4
LZH Lanzhou 87.65 311⇑P **P** **19 58 54.6 +0.6**
LZH AP pP 19 58 57.7 -2.2
LZH XP sP 19 58 59.3 -2.5
LZH PP PP 20 02 23.0 +1.1
LZH SKS SKS 20 09 20.1 -5.1
LZH S S 20 09 35.0 +1.9
LZH XS 20 09 41.0
LZH SS SS 20 15 23.3 +0.5
LZH AMB AMB
comp=Z,25nm,1.0s,mb5.4
LZH AMB AMB
comp=Z,96nm,4.0s
LZH LR LR
comp=E,923nm,18.4s
LZH LR LR
comp=Z,1μm,19.7s,MS5.3
NVAR Mina Array Bea 88.20 47 P **P** **19 58 57.0 +0.3**
comp=Z,6.8nm,0.8s,mb4.9,baz=214,slow=5.3,SNR=34
NVAR LR LR 20 32 18.4
comp=Z,971nm,20.6s,MS5.2,baz=275,slow=32
MNV Mina 88.30 47 *e*P **P** **19 58 57.0 -0.1**
MNV pmax pmax
comp=Z,16nm,1.0s,mb5.2
MNV Mina 88.30 47 *e*P **P** **19 58 57.0 -0.1**
comp=Z,16nm,1.1s,mb5.2
COR Corvallis 88.32 40 PFAKE 19 59 10.0 +13
COR LR LR
comp=Z,314nm,22.0s,MS4.7
MOD Modoc 88.69 43 *e*P **P** **19 58 59.1 +0.2**
comp=Z,24nm,1.1s,mb5.5
MOD LR LR
comp=Z,3μm,20.0s,MS5.7
TPH Tonopah 88.76 48 *e*P **P** **19 58 59.3 0.0**
comp=Z,24nm,1.1s,mb5.4
TPH LR LR
comp=Z,1μm,21.0s,MS5.2
LDFC Landfair 88.78 51 *e*P **P** **19 58 59.9 +0.4**
CLNS Chul'man 88.82 336 *e*P **P** **19 58 59.0 -0.1**
CLNS pmax pmax
comp=Z,20nm,1.1s,mb5.4
CLNS pmax pmax
comp=N,14nm,0.9s
CLNS pmax pmax
comp=E,8.0nm,0.9s
TPNV Topopah Spring 88.88 49 *e*P **P** **19 58 59.8 -0.1**
TPNV pmax pmax
comp=Z,19nm,0.9s,mb5.4
TPNV Topopah Spring 88.88 49 *e*P **P** **19 58 59.8 -0.1**
comp=Z,19nm,0.9s,mb5.4
SSOR Sweet Springs 88.97 40 *e*P **P** **19 58 59.9 -0.2**
PMR Palmer 89.05 17 *e*P **P** **19 58 59.5 -0.6**
PMR pmax pmax
comp=Z,44nm,1.2s,mb5.7
PMR MLR MLR
comp=Z,1μm,19.0s,MS5.3
PMR Palmer 89.05 17 *e*P **P** **19 58 59.5 -0.6**
comp=Z,44nm,1.3s,mb5.6
PMR LR LR
comp=Z,1μm,19.0s,MS5.3
NEN Nelson 89.25 51 *e*P **P** **19 59 01.8 +0.1**
BMW Boistfort Moun 89.42 38 *e*P **P** **19 59 02.8 +0.6**
OCWA Octopus Mounta 89.61 37 *e*P **P** **19 59 02.6 -0.4**
comp=Z,52nm,1.2s,mb5.7
OCWA LR LR
comp=Z,1μm,20.0s,MS5.4
BMN Battle Mountai 89.93 46 *e*P **P** **19 59 04.9 +0.1**
comp=Z,42nm,0.9s,mb5.8
BMN LR LR
comp=Z,2μm,21.0s,MS5.5
TRCR Troy Canyon 90.02 48 *e*P **P** **19 59 05.4 +0.2**
BBB Bella Bella 90.19 32 P **P** **19 59 06.6 +1.0**
comp=Z,19nm,1.1s,mb5.3,baz=206,slow=15,SNR=4.2
BBB LR LR 20 33 44.5
comp=Z,2μm,18.6s,MS5.6,baz=238,slow=32
SIT Sitka 90.19 25 PFAKE 19 59 20.0 +14
SIT LR LR
comp=Z,2μm,20.0s,MS5.5
GNW Green Mountain 90.26 37 *e*P **P** **19 59 06.3 +0.2**
VGB Gordon Butte 90.32 40 *e*P **P** **19 59 07.0 +0.5**
LON Longmire 90.39 39 *e*P **P** **19 59 06.1 -0.6**
PGC Sidney 90.52 36 *e*P **P** **19 59 06.8 -0.4**
comp=Z,72nm,1.1s,mb5.9
TUC Tucson 90.72 55 *e*P **P** **19 59 09.0 +0.4**
comp=Z,8.8nm,1.1s,mb5.0
TUC LR LR
comp=Z,1μm,20.0s,MS5.3
RMW Rattlesnake Mo 90.78 38 *e*P **P** **19 59 08.6 +0.1**
YAK Yakutsk 91.09 341 *e*P **P** **19 59 08.9 -0.6**
YAK pmax pmax
comp=Z,19nm,0.9s,mb5.4
YAK MLR MLR
comp=Z,1μm,18.0s,MS5.4
YAK Yakutsk 91.09 341 *e*P **P** **19 59 09.2 -0.3**
comp=Z,17nm,0.8s,mb5.4
YAK LR LR
comp=Z,2μm,19.0s,MS5.5
ARUT Antelope Range 91.24 49 *e*P **P** **19 59 11.7 +0.8**
ELK Elko 91.40 46 *e*P **P** **19 59 11.7 +0.2**
ELK pmax pmax
comp=Z,20nm,1.1s
ELK Elko 91.40 46 *e*P **P** **19 59 11.7 +0.2**
comp=Z,20nm,1.1s,mb5.4
HAWA Hanford 91.52 40 *e*P **P** **19 59 11.9 0.0**
HAWA LR LR
comp=Z,996nm,20.0s,MS5.2
ULN Ulaanbaatar 91.68 322 PFAKE 19 59 20.0 +7.4
ULN LR LR
comp=Z,1μm,22.0s,MS5.2
IMA Indian Mountai 91.77 13 *e*P **P** **19 59 13.2 +0.6**
comp=Z,58nm,1.4s,mb5.7
NLW Nelson Butte 91.94 38 *e*P **P** **19 59 13.6 -0.2**
SONM Songino Array 92.04 322 P **P** **19 59 13.9 -0.4**
comp=Z,11nm,1.2s,mb5.0,baz=135,slow=3.5,SNR=25
SONM PKKPbc 20 16 30.0
comp=Z,0.5nm,0.8s,slow=2.5,SNR=3.5
GTA Gaotai 92.04 312 *e*P **P** **19 59 15.0 +0.5**
GTA AP pP 19 59 22.7 +2.3
GTA XP sP 19 59 26.5 +4.2
GTA LR LR
comp=N,208nm,19.9s,MS4.8
GTA LR LR
comp=E,276nm,19.9s,MS4.8
COLA College 92.08 16 *e*P **P** **19 59 12.4 -1.7**
COLA pmax pmax
comp=Z,34nm,1.1s,mb5.6
COLA College 92.08 16 *e*P **P** **19 59 12.3 -1.7**
comp=Z,34nm,1.1s,mb5.6
ILAR Eielson Array 92.24 16 P **P** **19 59 13.3 -1.5**
comp=Z,16nm,0.8s,mb5.4,baz=237,slow=5.6,SNR=45
MVU Marysvale 92.43 49 *e*P **P** **19 59 17.1 +0.8**
comp=Z,7.5nm,1.1s,mb4.9
MSU Marysvale 92.46 49 *e*P **P** **19 59 17.4 +1.0**
DUG Dugway 92.78 47 *e*P **P** **19 59 17.9 0.0**
DUG pmax pmax
comp=Z,54nm,1.0s,mb5.9
DUG MLR MLR
comp=Z,14μm,22.0s,MS6.4
DUG Dugway 92.78 47 *e*P **P** **19 59 17.9 0.0**
comp=Z,4.0nm,0.9s,mb4.8
DUG LR LR
comp=Z,883nm,22.0s,MS5.2
DPW Davenport 93.06 39 *e*P **P** **19 59 18.3 -0.7**
DLBC Dease Lake 93.23 26 P **P** **19 59 20.1 +0.7**
comp=Z,4.9nm,1.0s,mb4.9,baz=251,slow=8.9,SNR=3.9
DLBC LR LR 20 37 05.1
comp=Z,2μm,18.1s,MS5.5,baz=142,slow=33
HLID Hailey 93.28 44 *e*P **P** **19 59 19.7 -0.4**
comp=Z,5.9nm,0.9s,mb5.0
HLID LR LR
comp=Z,2μm,20.0s,MS5.5
EFI East Falkland 93.61 151 PFAKE 19 59 30.0 +8.6
EFI LR LR
comp=Z,301nm,21.0s,MS4.7
DAWY Dawson 93.78 19 *e*P **P** **19 59 21.0 -0.9**
SRU San Rafael 93.88 49 *e*P **P** **19 59 22.3 -0.7**
NEW Newport 93.89 39 *e*P **P** **19 59 22.0 -0.8**
NEW MLR MLR
comp=Z,910nm,19.0s
DAU Daniels Canyon 93.94 48 *e*P **P** **19 59 24.4 +1.2**
TCUT Toone Canyon 94.15 47 *e*P **P** **19 59 23.2 -1.0**
HWUT Hardware Ranch 94.26 47 PFAKE 19 59 40.0 +15
HWUT LR LR
comp=Z,2μm,22.0s,MS5.5
PV10 Paradox Valley 94.62 50 *e*P **P** **19 59 25.7 -0.7**
BNM Barren Site 94.65 55 *e*P **P** **19 59 26.7 +0.1**
PV01 Paradox Valley 94.85 51 *e*P **P** **19 59 27.6 +0.2**
MCMT McKenzie Canyo 94.86 43 *e*P **P** **19 59 27.1 -0.3**
PALK Pallekele 95.06 276 PFAKE 19 59 40.0 +11
PALK LR LR
comp=Z,672nm,20.0s,MS5.1
LTX Lajitas 95.07 60 PFAKE 19 59 40.0 +11
LTX LR LR
comp=Z,2μm,20.0s,MS5.5
TXAR Lajitas Array 95.07 60 P **P** **19 59 28.9 +0.3**
comp=Z,2.0nm,0.8s,mb4.6,baz=214,slow=4.5,SNR=5.8
TXAR LR LR 20 34 42.6
comp=Z,1μm,19.9s,MS5.4,baz=230,slow=31
AHID Auburn Hatcher 95.08 46 PFAKE 19 59 40.0 +12
AHID LR LR
comp=Z,1μm,20.0s,MS5.3
MSO Missoula 95.09 41 PFAKE 19 59 40.0 +12
MSO LR LR
comp=Z,838nm,22.0s,MS5.2
ANMO Albuquerque 95.10 54 *e*P **P** **19 59 27.3 -1.4**
ANMO Albuquerque 95.10 54 *e*P **P** **19 59 28.9 +0.2**
comp=Z,6.0nm,1.0s,mb5.0
GDL2 Guadalupe Moun 95.62 58 *e*P **P** **19 59 31.0 -0.2**
IMW Indian Meadow 95.68 45 *e*P **P** **19 59 30.8 -0.3**
PAYG Puerto Ayora 95.75 93 PFAKE 19 59 40.0 +7.9
PAYG LR LR
comp=Z,888nm,20.0s,MS5.2
LOHW Long Hollow 95.77 45 *e*P **P** **19 59 32.0 +0.4**
BOZ Bozeman (W) 96.00 43 PFAKE 19 59 40.0 +7.5
BOZ LR LR
comp=Z,4μm,20.0s,MS5.8
BW06 Boulder Array 96.11 46 *e*P **P** **19 59 32.4 -0.7**
BW06 LR LR
comp=Z,1μm,20.0s,MS5.4
PDAR Pinedale Array 96.11 46 P **P** **19 59 32.2 -0.9**
comp=Z,1.1nm,0.8s,mb4.3,baz=225,slow=2.1,SNR=7.4
PDAR LR LR 20 37 13.2
comp=Z,1μm,18.9s,MS5.3,baz=252,slow=32
SDCO Great Sand Dun 96.92 52 PFAKE 19 59 50.0 +13
SDCO LR LR
comp=Z,1μm,20.0s,MS5.4
ISCO Idaho Springs 97.63 50 PFAKE 19 59 50.0 +10
ISCO LR LR
comp=Z,896nm,19.0s,MS5.3
INK Inuvik 98.45 18 P **P** **19 59 42.0 -1.1**
comp=Z,20nm,1.4s,mb5.5,baz=225,slow=5.7,SNR=2.7
INK Inuvik 98.45 18 P **P** **19 59 42.0 -1.1**
RSSD Black Hills 100.34 47 P P 19 59 49.5 -2.7
HYB Hyderabad 100.66 284 *i* P P 19 59 54.0 -0.2
HYB *e*PP PP 20 04 06.0 +1.6
HYB *e*SKS SKS 20 10 40.0 +2.5
HYB *e*S S 20 11 34.0 +7.4
HYB *e*SP SP 20 13 12.0 +11
HYB *e*SS SS 20 18 40.0 +12
WMQ Urumqi 102.12 312 *e*P Pdif 20 00 00.0 -0.3
WMQ PP PP 20 04 14.0 -0.5
WMQ SKS SKS 20 10 38.0 -5.9
WMQ S S 20 11 39.0 +0.8
WMQ PS PS 20 13 17.0 -0.8
WMQ SS SS 20 18 47.0 -0.5
WMQ PP PP
comp=Z,258nm,12.0s
WMQ LR LR
comp=N,542nm,20.0s,MS5.2
WMQ LR LR
comp=E,482nm,20.0s,MS5.2
WMQ LR LR
comp=Z,557nm,22.0s,MS5.0
NDI New Delhi 105.45 295 *e*P PP 20 04 36.0 -4.1
NDI *e*S SP 20 13 50.0 -0.2
MKAR Makanchi Array 106.64 314 Pdiff Pdif 20 00 21.8 +1.6
comp=Z,0.6nm,0.6s,baz=72,slow=7.7,SNR=3.9
BVAR Borovoye Array 115.27 319 PKP PKPdf 20 04 44.9 -4.5
comp=Z,0.5nm,0.6s,baz=63,slow=3.3,SNR=5.4
BVAR PKKPbc 20 15 25.0
comp=Z,0.2nm,0.6s,baz=180,slow=1.5,SNR=3.6
ZRNK Zerenda 116.10 319 *e*PKPdf PKPdf 20 04 47.6 -3.5
SVE Sverdlovsk 120.84 324⇑*e*PKIKP PKPdf 20 04 56.0 -4.2
ARU Arti 122.03 323 *i* PKIKP PKPdf 20 04 59.2 -3.3
ARU *e* 20 06 37.6
ARU *e* 20 11 56.6
ARU *i* PS PS 20 16 36.5 +9.0
ARU *e*SS Sx 20 23 35.8
ARU MLR MLR
comp=N,800nm,18.0s,MS5.5
ARU MLR MLR
comp=E,700nm,18.0s,MS5.5
ARU MLR MLR
comp=Z,1μm,18.0s,MS5.6
ARU Arti 122.03 323 *e*PKPdf PKPdf 20 04 57.6 -4.9
HRV Harvard--Oak R 123.18 53 *e*PKIKP PKPdf 20 05 00.7 -4.3
BDFB Brasilia 124.64 129 PKP PKPdf 20 05 03.5 -5.1
comp=Z,2.9nm,0.7s,baz=299,slow=8.8,SNR=3.3
SUMG Summit 126.83 11 *e*PKPdf PKPdf 20 05 07.9 -3.4
APA Apatity 128.47 342 *i* PKIKP PKPdf 20 05 14.0 -0.6
APA *i* 20 07 21.0
APA *e* 20 12 21.0
APA MLR MLR
comp=Z,700nm,20.0s,MS5.3
KEV Kevo 128.60 346 *e*pkp PKPdf 20 05 10.0 -4.8
ARCES ARCESS Array B 129.10 346 PKP PKPdf 20 05 10.6 -5.2
comp=Z,6.0nm,0.8s,baz=43,slow=1.6,SNR=15
ARCES ARCESS Array B 129.10 346 PKP PKPdf 20 05 10.6 -5.2
ARE0 ARCESS Array S 129.10 346 *e*PKPdf PKPdf 20 05 12.5 -3.3
OBN Obninsk 134.23 327 *i* PKIKP PKPdf 20 05 22.2 -3.5
OBN *e*PPS PPS 20 20 01.2 +5.8
OBN pmax pmax
comp=Z,7.0nm,0.6s
OBN MLR MLR
comp=Z,900nm,20.0s,MS5.5
KAF Kangasniemi 134.41 339 *e*pkp 20 05 10.0
FINES FINESS Array B 134.96 338 PKP PKPdf 20 05 21.6 -5.4
comp=Z,3.9nm,0.9s,baz=180,slow=5.7,SNR=8.6
SOC Sochi 136.37 310 *i* PKIKP PKPdf 20 05 28.3 -1.7
SOC *e* 20 08 11.5
SOC *e*PPP PPP 20 11 06.3 -4.2
SOC *e*SSS SSS 20 31 10.7 -3.3
SOC pmax pmax
comp=Z,43nm,1.9s
SOC pmax pmax
comp=N,14nm,0.6s
SOC pmax pmax
comp=E,23nm,1.2s
ANN Anapa 137.64 313 *e*PKHKP 20 05 00.8
ANN pmax pmax
comp=Z,33nm,0.8s
ANN MLR MLR
comp=Z,626nm,22.0s,MS5.3
ANN MLR MLR
comp=N,544nm,19.0s,MS5.4
ANN MLR MLR
comp=E,296nm,19.0s,MS5.4
NB2 NORSAR Subarra 139.47 347 PKPbc 20 05 22.9
comp=E,5.5nm,1.0s,baz=26,slow=2.1
NOA NORSAR Array B 139.47 347 PKhKP 20 05 23.6
comp=E,1.9nm,1.1s,baz=58,slow=8.4,SNR=4.0
SIM Simferopol' 139.82 314 *e*PKIKP 20 05 29.1
SIM *e* 20 08 36.0
SIM *e*PPS PPS 20 20 48.0 -0.9
AKASG Malin Array Be 140.28 324 PKhKP 20 05 26.6
comp=E,1.3nm,0.7s,baz=345,slow=36,SNR=3.0
BRTR Keskin Array B 141.72 306 PKhKP 20 05 32.2
comp=E,0.6nm,0.8s,baz=56,slow=5.2,SNR=3.3
KIS Kishinev 142.36 319 *e*PKHKP 20 05 30.0
KIS *e* 20 08 48.0
KIS *e*PS PS 20 21 10.0 0.0
KIS MLR MLR
comp=N,900nm,20.0s,MS5.6
KIS MLR MLR
comp=E,600nm,20.0s,MS5.6
KIS MLR MLR
comp=Z,1μm,20.0s,MS5.6
KIS MLR MLR
comp=Z,1μm,20.0s
BSD Bornholm Skovb 143.59 339 *i* P PKPbc 20 05 35.6 -1.7
BSD *i* 20 08 54.9
comp=Z,750nm,20.0s
GKP Gorka Klasztor 144.22 335 *e*PKHKP 20 05 37.7
GKP MLR MLR
comp=Z,1μm,20.0s,MS5.6
GKP Gorka Klasztor 144.22 335 *e*PKP PKPdf 20 05 37.7 -6.0
GKP MLR MLR 21 13 01.3
comp=Z,1μm,20.0s
KWP Kalwaria 144.32 327 *e*PKHKP 20 05 37.5
KWP MLR MLR
comp=Z,1μm,20.8s,MS5.7
KWP Kalwaria 144.32 327 *e*PKP PKPdf 20 05 37.5 -6.5
KWP MLR MLR 21 09 10.9
comp=Z,1μm,20.8s
KOLS Kolonicke sedl 144.97 326 *i* PKP PKPdf 20 05 41.4 -3.8
KOLS *e* 20 05 48.2
OJC Ojcow 145.35 330 *e*PKP2 PKPdf 20 05 41.4 -4.4
OJC *e* 20 08 59.7
OJC Ojcow 145.35 330 *e*PKP PKPdf 20 05 41.4 -4.4
OJC *e*PP PP 20 08 59.7 -5.7
CRVS Cervenica-Dubn 145.41 327 *e*PKP PKPdf 20 05 45.4 -0.5
CRVS *e* 20 05 52.8
NIE Niedzica 145.65 328⇑*i*PKP PKPdf 20 05 43.7 -2.6
RUE Ruedersdorf 146.13 337 *e*PKPdf PKPdf 20 05 44.3 -2.7
KECS Kecovo 146.18 327 *e*PKP PKPdf 20 05 46.5 -0.7
RAC Raciborz 146.18 331 *e*PKP2 PKPdf 20 05 45.4 -1.8
RAC MLR MLR
comp=Z,1μm,20.8s,MS5.7
RAC Raciborz 146.18 331 *e*PKP(df) 20 05 45.4
RAC MLR MLR 21 10 58.6
comp=Z,1μm,20.8s
OKC Ostrava-Krasne 146.38 330 *e*PKP PKPdf 20 05 45.5 -2.0
OKC *e*PP PP 20 09 08.7 -2.9
OKC AMS AMS 21 11 50.0
comp=Z,1μm,21.7s
KSP Ksiaz 146.45 333 *e*PKIKP PKPdf 20 05 44.9 -2.7
KSP *e* 20 05 52.4
KSP *e* 20 09 07.0
KSP *e*SS SS 20 28 13.0 +7.5
KSP *e*SSS SSS 20 33 36.0 -0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP				MLR	MLR		
	comp=Z,2µm,22.2s,MS5.9						
KSP	**Ksiaz**	**146.45**	**333**	ePKP	PKPdf	20 05 43.7	-3.9
KSP				MLR	MLR	21 08 15.9	
	comp=Z,2µm,22.2s						
MORC	**Moravsky Berou**	**146.70**	**331**	ePKIKP	PKPdf	20 05 45.0	-3.1
MORC	**Moravsky Berou**	**146.70**	**331**	ePKPdf	PKPdf	20 05 44.9	-3.2
DPC	**Dobruska-Polom**	**146.81**	**333**	ePKP2	PKPdf	20 05 46.8	-1.4
DPC				e		20 09 14.6	
DPC				MLR	MLR		
	comp=Z,900nm,17.6s,MS5.6						
DPC	**Dobruska-Polom**	**146.81**	**333**	ePKP	PKPdf	20 05 46.8	-1.4
DPC				eSKP		20 09 14.6	
DPC				ex	x	20 19 27.5	
DPC				AMS	AMS	21 20 50.0	
	comp=Z,900nm,17.6s						
UPC	**Upice**	**146.82**	**333**	ePKP	PKPdf	20 05 46.8	-1.5
PSZ	**Piszkesteto**	**146.84**	**326**	⇓ePKP/p	PKPdf	20 05 47.0	-1.4
PSZ	**Piszkesteto**	**146.84**	**326**	ePKPdf	PKPdf	20 05 45.8	-2.6
KOLL	**Kolacno**	**147.14**	**329**	ePKP	PKPdf	20 05 48.0	-0.8
KOLL				e		20 05 55.8	
BRG	**Berggiesshubel**	**147.37**	**335**	ePKP2	PKPdf	20 05 48.2	-0.9
BRG				e		20 09 16.0	
BRG				eSS	Sx	20 28 56.0	
BRG				pmax	pmax		
	comp=Z,38nm,1.0s						
BRG				MLR	MLR		
	comp=N,950nm,27.0s,MS5.5						
BRG				MLR	MLR		
	comp=E,510nm,27.0s,MS5.5						
BRG				MLR	MLR		
	comp=Z,820nm,21.0s						
CLL	**Collm**	**147.37**	**337**	⇑iPKIKP	PKPdf	20 05 47.9	-1.2
	comp=Z,logA/T=1.7						
CLL				i *PPKP		20 05 55.1	
CLL				i		20 05 59.4	
CLL				e		20 06 30.0	
CLL	**Collm**	**147.37**	**337**	i PKIKP	PKPdf	20 05 47.9	-1.2
CLL				i		20 05 55.1	
CLL				pmax	pmax		
	comp=Z,46nm,1.0s						
CLL				MLR	MLR		
	comp=Z,1µm,18.8s,MS5.7						
PVCC	**Panska Ves**	**147.39**	**334**	ePKP	PKPdf	20 05 48.3	-0.9
PVCC				eSKP		20 09 20.9	
PVCC				AMS	AMS	21 23 40.0	
	comp=Z,900nm,19.3s						
SMOL	**Smolenice**	**147.65**	**329**	ePKP	PKPdf	20 05 49.3	-0.4
PRU	**Pruhonice**	**147.83**	**334**	ePKP	PKPdf	20 05 49.1	-0.8
PRU				eSKP		20 09 19.7	
PRU				ex	x	20 19 35.0	
PRU				AMS	AMS	21 26 40.0	
WIT	**Witteveen**	**148.00**	**345**	eP	PKPdf	20 05 50.4	+0.3
	comp=Z,232nm,1.4s						
ZST	**Bratislava**	**148.03**	**329**	ePKP	PKPdf	20 05 50.5	+0.2
MOX	**Moxa**	**148.41**	**337**	i P	PKPdf	20 05 50.6	-0.2
	comp=Z,logA/T=1.3						
MOX				SS	Sx	20 29 10.0	
MOX				L		21 23 57.0	
MOX	**Moxa**	**148.41**	**337**	ePKIKP	PKPdf	20 05 50.6	-0.2
MOX				pmax	pmax		
	comp=Z,21nm,1.0s						
MOX				MLR	MLR		
	comp=Z,500nm,19.0s,MS5.3						
NKC	**Novy Kostel**	**148.45**	**336**	ePKP	PKPdf	20 05 51.0	+0.1
NKC				AMS	AMS	21 20 10.0	
	comp=Z,700nm,20.4s						
PKSM	**Moragy**	**148.60**	**325**	eP	PKPdf	20 05 48.2	-3.1
DMUB	**Kingscourt**	**148.62**	**0**	eP	PKPdf	20 05 50.0	-1.0
WTSB	**Winterswijk**	**148.74**	**344**	eP	PKPdf	20 05 51.4	+0.1
	comp=Z,51nm,1.1s						
GRUS	**Gruza**	**148.84**	**320**	⇑iP	PKPdf	20 05 52.2	+0.5
KHC	**Kasperske Hory**	**148.89**	**334**	ePKIKP	PKPdf	20 05 51.5	-0.1
KHC				e		20 06 03.5	
KHC				e		20 09 31.6	
KHC				MLR	MLR		
	comp=Z,700nm,20.4s,MS5.4						
KHC	**Kasperske Hory**	**148.89**	**334**	ePKP	PKPdf	20 05 51.5	-0.1
KHC				ex	x	20 06 03.5	
KHC				eSKP		20 09 31.6	
KHC				ex	x	20 19 39.8	
KHC				AMS	AMS	21 24 00.0	
	comp=Z,700nm,20.4s						
RHK1	**Bakonya**	**148.98**	**325**	⇑eP	PKPdf	20 05 52.2	+0.3
GERES	**GERESS Array B**	**149.06**	**333**	PKPbc	PKPdf	20 05 51.5	-0.4
	comp=Z,21nm,1.2s,baz=45,slow=1.9,SNR=40						
DIVS	**Divcibare**	**149.15**	**321**	eP	PKPdf	20 05 51.0	-1.2
DCN	**Croghan**	**149.17**	**1**	eP	PKPdf	20 05 44.7	-7.2
DCN	**Croghan**	**149.17**	**1**	⇑iP	PKPdf	20 05 52.0	+0.1
DCN	**Croghan**	**149.17**	**1**	⇑iP	PKPdf	20 05 52.0	+0.1
DLF	**Lyons Farm**	**149.22**	**360**	eP	PKPdf	20 05 43.2	-8.8
DLF	**Lyons Farm**	**149.22**	**360**	⇑iP	PKPdf	20 05 50.8	-1.2
DLF	**Lyons Farm**	**149.22**	**360**	⇑iP	PKPdf	20 05 50.8	-1.2
GRA1	**Grafenberg Arr**	**149.35**	**337**	ePKP	PKPdf	20 05 53.3	+1.0
GRA1				LR	LR		
	comp=Z,800nm,21.6s,MS5.5						
GRF	**Grafenberg Arr**	**149.35**	**337**	ePKHKP		20 05 53.3	
GRF				MLR	MLR		
	comp=Z,800nm,21.6s,MS5.5						
SKO	**Skopje**	**149.43**	**316**	i PKP	PKPdf	20 05 53.5	+0.8
SKO				i		20 06 01.0	
ARSA	**Arzberg**	**149.45**	**329**	⇓iP	PKPdf	20 05 49.7	-2.9
HGN	**Heimansgroeve**	**150.06**	**344**	eP	PKPdf	20 05 54.9	+1.4
	comp=Z,20nm,1.2s						
TOD	**Tromm**	**150.25**	**339**	PKP	PKPdf	20 05 54.7	+0.9
ABH	**Alteburg**	**150.41**	**341**	PKP	PKPdf	20 05 55.5	+1.5
PDKS	**Podkum**	**150.55**	**328**	ePKPbc	PKPdf	20 05 55.8	+1.4
KBA	**Koelnbreinsper**	**150.57**	**331**	⇓iP	PKPdf	20 05 55.8	+1.5
RUP	**Ruppelstein**	**150.71**	**341**	PKP	PKPdf	20 05 56.6	+2.1
LJU	**Ljubljana**	**150.80**	**329**	ePKPbc	PKPdf	20 05 56.6	+1.9
LJU				e		20 05 57.7	
LJU				ePKPab	PKPab	20 06 03.6	-2.3
LJU				e		20 06 08.2	
BOJS	**Bojanci**	**150.83**	**327**	ePKPbc	PKPdf	20 05 56.8	+2.0
BOJS				e		20 09 41.4	
STU	**Stuttgart**	**150.84**	**338**	ePKIKP	PKPdf	20 05 57.1	+2.4
GIVF	**Givet**	**150.95**	**345**	ePKP1	PKPdf	20 05 56.9	+2.1
	comp=Z,134nm,1.1s						
WLF	**Walferdange**	**151.00**	**343**	ePKIKP	PKPdf	20 05 53.3	-1.6
PTCC	**Patocco-Chiusa**	**151.08**	**330**	ePKP	PKPdf	20 05 57.6	+2.4
VOJS	**Vojsko**	**151.11**	**329**	e	PKPdf	20 05 54.4	-0.8
VOJS				ePKPbc	PKPdf	20 05 56.8	+1.6
VOJS				e		20 05 58.0	
LANF	**Langenberg**	**151.12**	**340**	PKP	PKPdf	20 05 57.7	+2.6
WATA	**Walderalm**	**151.13**	**334**	⇑iP	PKPdf	20 05 57.0	+1.8
BAIF	**Baives**	**151.14**	**345**	ePKP1	PKPdf	20 05 57.6	+2.5
	comp=Z,76nm,1.2s						
WTTA	**Wattenberg**	**151.16**	**334**	⇑iP	PKPdf	20 05 57.3	+2.1
FVI	**Forni Avoltri**	**151.19**	**331**	ePKP	PKPdf	20 05 58.3	+3.0
MOTA	**Moosalm**	**151.31**	**334**	⇑iP	PKPdf	20 05 57.3	+1.9
SQTA	**Sankt Quirin**	**151.37**	**334**	⇓iP	PKPdf	20 05 57.6	+2.1
SPAK	**Spaichingen**	**151.56**	**338**	PKP	PKPdf	20 06 02.2	+6.4
WLS	**Welschbruch**	**151.76**	**340**	PKP	PKPdf	20 05 58.6	+2.5
CDF	**Champ du Feu**	**151.79**	**340**	ePKP1	PKPdf	20 05 58.7	+2.6
	comp=Z,84nm,1.2s						
ECH	**Echery**	**152.00**	**340**	PKP	PKPdf	20 05 59.9	+3.5
FELD	**Feldberg**	**152.02**	**339**	PKP	PKPdf	20 05 59.2	+2.7
BRMO	**Bormio**	**152.31**	**334**	ePKP	PKPdf	20 06 00.4	+3.5
MOF	**Molkenrain**	**152.33**	**340**	PKP	PKPdf	20 05 59.4	+2.5
THEF	**They Montfort**	**152.35**	**341**	PKP	PKPdf	20 06 00.7	+3.8
MEZF	**Maizieres J'vi**	**152.36**	**343**	ePKP1	PKPdf	20 06 00.5	+3.6
	comp=Z,97nm,1.2s						
HAU	**Haudompre**	**152.44**	**341**	ePKP1	PKPdf	20 06 00.2	+3.1
	comp=Z,40nm,0.9s						
HAU				eR			
	comp=Z,933nm,20.0s						
HINF	**Hinteralfeld**	**152.45**	**340**	ePKP1	PKPdf	20 05 59.9	+2.8
	comp=Z,25nm,0.9s						
BBS	**Basel-Blauen**	**152.54**	**339**	PKP	PKPdf	20 06 01.4	+4.2
LOMF	**Lomont**	**152.87**	**339**	PKP	PKPdf	20 06 02.5	+4.8
FLN	**La Foliniere**	**153.29**	**351**	ePKP1	PKPdf	20 06 01.8	+3.6
	comp=Z,174nm,1.6s						
FLN				eR			
	comp=Z,856nm,21.0s						
LDF	**La Druitiere**	**153.40**	**350**	ePKP1	PKPdf	20 06 01.9	+3.5
	comp=Z,46nm,1.2s						
ARV	**Arcevia**	**153.42**	**327**	ePKP	PKPdf	20 06 04.5	+6.0
VAI	**Varese**	**153.45**	**335**	ePKP	PKPdf	20 06 01.7	+3.2
MCGN	**Macugnaga**	**153.67**	**336**	ePKP	PKPdf	20 06 03.1	+4.2
GRR	**Gorron**	**153.71**	**351**	ePKP1	PKPdf	20 06 02.7	+3.9
CABF	**La Chapelle**	**153.76**	**340**	ePKP1	PKPdf	20 06 02.5	+3.6
LOR	**Lormes**	**153.81**	**343**	ePKP1	PKPdf	20 06 03.1	+4.1
	comp=Z,44nm,1.2s						
LOR				eR			
	comp=Z,2µm,22.5s						
MRLC	**Muro Lucano**	**153.82**	**319**	ePKP	PKPdf	20 06 08.9	+10
AQU	**L'Aquila**	**153.98**	**324**	ePKIKP	PKPdf	20 06 04.5	+5.1
SGO	**Sicignano**	**154.05**	**319**	ePKP	PKPdf	20 06 04.9	+5.4
SSF	**Saint Saulge**	**154.10**	**344**	ePKP1	PKPdf	20 06 03.9	+4.5
	comp=Z,22nm,1.0s						
PTQR	**Pietraquaria**	**154.21**	**324**	ePKP	PKPdf	20 06 06.4	+6.7
SMF	**Signal de Mont**	**154.39**	**343**	ePKP1	PKPdf	20 06 04.2	+4.4
	comp=Z,54nm,1.4s						
LPL	**La Plagne**	**154.50**	**338**	ePKP1	PKPdf	20 06 05.1	+5.1
	comp=Z,32nm,1.3s						
LPG	**La Plagne**	**154.51**	**338**	ePKP1	PKPdf	20 06 05.3	+5.3
	comp=Z,37nm,1.4s						
BNI	**Bardonecchia**	**154.92**	**337**	ePKIKP	PKPdf	20 06 06.6	+6.1
SOI	**Samo**	**154.98**	**314**	ePKP	PKPdf	20 06 17.2	+16
TCF	**Toulx Ste Croi**	**155.14**	**345**	ePKP1	PKPdf	20 06 06.0	+5.2
	comp=Z,40nm,1.4s						
MBDF	**Montbardon**	**155.16**	**337**	ePKP1	PKPdf	20 06 05.9	+5.0
ORIF	**Oris-en-Rattie**	**155.32**	**338**	ePKP1	PKPdf	20 06 06.4	+5.3
	comp=Z,18nm,1.1s						
ORIF				eR			
	comp=Z,1µm,21.5s						
MFF	**Saint Martin d**	**155.33**	**349**	ePKP1	PKPdf	20 06 06.4	+5.4
	comp=Z,44nm,1.3s						
PVIS	**Viseu**	**161.78**	**3**	ePKPab	PKPab	20 06 52.8	-0.1
MTE	**Manteigas**	**162.11**	**2**	ePKPdf	PKPdf	20 06 06.5	-2.7
MTE				ePKPab	PKPab	20 06 53.0	-1.4
MTE				ePP	PP	20 10 42.1	+2.9
PCBR	**Castelo Branco**	**162.67**	**2**	ePKPab	PKPab	20 06 56.0	-0.8
ESDC	**Sonseca Array**	**162.68**	**353**	PKPab	PKPab	20 06 55.9	-1.0
	comp=Z,1.9nm,0.8s,baz=5.2,slow=3.7,SNR=8.5						
LIC	**Lamto**	**163.76**	**186**	ePKP2	PKPab	20 07 01.0	-1.3
	comp=Z,71nm,1.2s						
LIC	**Lamto**	**163.76**	**186**	eP	PKPab	20 07 00.0	-2.3
	comp=Z,76nm,1.2s						
KIC	**Kosan Boka**	**163.87**	**187**	eP	PKPab	20 07 00.8	-2.0
	comp=Z,121nm,1.1s						
TIC	**Toumodi**	**164.18**	**186**	eP	PKPab	20 07 01.9	-2.2
	comp=Z,229nm,1.5s						
DBIC	**Dimbokro**	**164.18**	**187**	PKPab	PKPab	20 07 02.6	-1.5
	comp=Z,9.0nm,1.0s,baz=192,slow=3.6,SNR=5.0						
PBEJ	**Beja**	**164.47**	**3**	ePKPab	PKPab	20 07 04.4	-0.3
PALC	**Alcoutim**	**165.04**	**2**	ePKPab	PKPab	20 07 08.6	+1.4

IDC 01 19:46:47.0±10.0**,26.91S**×**146.38E,mb1 3.5**/3**, mb1mx3.4**/9**,ML3.0**/3**,Error ellipse: s-maj=117.0km s-min=38.8km az=82.0,Queensland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**6.47**	**219**	Pn	Pn	19 48 23.4	-2.4
	0.2nm,0.3s,baz=53,slow=12,SNR=4.5						
STKA				Sn	Sn	19 49 37.3	-4.1
	0.7nm,0.3s,baz=317,slow=19,SNR=6.3						
CTA	**Charters Tower**	**6.79**	**359**	Lg		19 50 25.1	
	0.3nm,0.3s,baz=88,slow=19,SNR=3.8						
ASAR	**Alice Springs**	**11.74**	**283**	Pn	P	19 49 37.3	-1.5
	0.1nm,0.3s,baz=106,slow=13,SNR=11						
WRA	**Warramunga Arr**	**13.04**	**300**	Pn	P	19 49 53.2	-3.1
	0.1nm,0.3s,baz=126,slow=13,SNR=5.0						
WRA				Sn	S	19 52 18.3	-5.0
	0.0nm,0.3s,baz=121,slow=24,SNR=3.7						

*BJI **01** 20:24:28.3,25.00N×95.10E,h99km,mB4.6,mb4.5*
*NEIC **01** 20:24:29.1±0.8,24.99N×95.14E,h100km±8km,mb4.1/7, Error ellipse: s-maj=13.5km s-min=7.6km az=219.0*
*IDC **01** 20:24:31.9±2.4,25.01N×95.39E,h129km±23km,mb3.8/16, mb1 3.9/17,mb1mx3.8/24,Error ellipse: s-maj=22.8km s-min=10.1km az=49.0*
ISC 01 20:24:29.4±0.5**,24.90N**±0.05×**94.98E**±0.04**,h118**km±6km**,** **n54,**σ**1s31**/65**,mb4.1**/23**,2C,Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**0.96**	**263**	⇑iP	**P**	**20 24 52.0**	**+0.9**
IMP				i		20 25 21.0	
SHL	**Shillong**	**2.88**	**284**	i P	**P**	**20 25 17.0**	**+2.1**
SHL				eS	**S**	**20 25 49.0**	**-0.3**
AGT	**Agartala**	**3.55**	**254**	i PB	**P**	**20 25 33.0**	**+9.1**
AGT				i SG	Sx	20 26 35.0	
CHG	**Chiang Mai**	**7.09**	**148**	⇑P	**P**	**20 26 12.2**	**+0.3**
	27nm,0.9s						
CM31	**Chiang Mai Arr**	**7.40**	**149**	ePn	**P**	**20 26 16.3**	**+0.2**
	8.7nm,0.6s						
CMAR	**Chiang Mai Arr**	**7.40**	**149**	P	**P**	**20 26 16.6**	**+0.6**
	1.1nm,0.3s,baz=326,slow=13,SNR=64						
NANT	**Nan**	**8.07**	**138**	P	**P**	**20 26 25.0**	**-0.1**
BDT	**Bhumibol Dam**	**8.49**	**153**	P	**P**	**20 26 30.0**	**-0.8**
PKI	**Pulchoki**	**8.99**	**289**	ePn	**P**	**20 26 37.5**	**0.0**
PKI				eSn	**S**	**20 28 14.9**	**-2.7**
	90nm,0.8s						
PKI	**Pulchoki**	**8.99**	**289**	ePn	**P**	**20 26 37.5**	**0.0**
	45nm,0.8s						
PKI				eSn	**S**	**20 28 14.9**	**-2.7**
KKN	**Kakani**	**9.16**	**290**	ePn	**P**	**20 26 39.6**	**-0.1**
KKN				eSn	**S**	**20 28 18.0**	**-3.6**
	65nm,0.6s						
KKN	**Kakani**	**9.16**	**290**	ePn	**P**	**20 26 39.6**	**-0.1**
	32nm,0.6s						
KKN				eSn	**S**	**20 28 18.0**	**-3.6**
DMN	**Daman**	**9.26**	**289**	ePn	**P**	**20 26 40.7**	**-0.4**
DMN				eSn	**S**	**20 28 21.4**	**-2.6**
	74nm,0.7s						
DMN	**Daman**	**9.26**	**289**	ePn	**P**	**20 26 40.7**	**-0.4**
	37nm,0.7s						
DMN				eSn	**S**	**20 28 21.4**	**-2.6**
GKN	**Gorkha**	**9.77**	**291**	ePn	**P**	**20 26 47.6**	**-0.3**
GKN				eSn	**S**	**20 28 33.5**	**-2.7**
	131nm,0.6s						
GKN	**Gorkha**	**9.77**	**291**	ePn	**P**	**20 26 47.6**	**-0.3**
	65nm,0.6s						
GKN				eSn	**S**	**20 28 33.5**	**-2.7**
CD2	**Chengdu**	**9.80**	**50**	P	**P**	**20 26 46.2**	**-2.1**
KOLN	**Koldanda**	**10.60**	**288**	ePn	**P**	**20 26 58.1**	**-0.9**
KOLN				eSn	**S**	**20 28 52.1**	**-3.9**
	34nm,0.4s						
KOLN	**Koldanda**	**10.60**	**288**	ePn	**P**	**20 26 58.1**	**-0.9**
	17nm,0.4s						
KOLN				eSn	**S**	**20 28 52.1**	**-3.9**
GYA	**Guiyang**	**10.65**	**79**	P	**P**	**20 27 01.6**	**+1.9**
ENH	**Enshi**	**13.93**	**64**	ePn	**P**	**20 27 38.3**	**-4.3**
	11nm,0.6s						
ENH				eS	**S**	**20 30 21.1**	**+6.5**
GTA	**Gaotai**	**15.03**	**15**	eP	**P**	**20 27 58.4**	**+1.8**
GTA				AMB	AMB		
	comp=Z,5.0nm,0.7s						
HYB	**Hyderabad**	**17.02**	**247**	i P	**P**	**20 28 27.5**	**+5.9**
HYB				eS	**S**	**20 31 26.5**	**+1.1**
WMQ	**Urumqi**	**19.79**	**344**	eP	**P**	**20 28 53.2**	**+0.7**
POO	**Poona**	**20.62**	**256**	e	**P**	**20 29 03.0**	**+1.9**
POO				e		20 32 53.0	
MKAR	**Makanchi Array**	**24.08**	**338**	P	**P**	**20 29 36.1**	**+1.3**
	comp=Z,6.4nm,0.5s,mb4.2,baz=147,slow=9.9,SNR=87						
AAK	**Ala-Archa**	**24.45**	**321**	eP	**P**	**20 29 40.4**	**+2.1**
	comp=Z,1.1nm,0.5s,mb3.4						
SONM	**Songino Array**	**24.61**	**19**	P	**P**	**20 29 38.6**	**-1.3**
	comp=Z,2.7nm,0.8s,mb3.7,baz=202,slow=9.8,SNR=21						
TGY	**Tagaytay City**	**26.67**	**109**	P	**P**	**20 29 54.2**	**-5.1**
	comp=Z,86nm,0.4s						
KURK	**Kurchatov**	**28.70**	**338**	eP	**P**	**20 30 17.0**	**-0.3**
	comp=Z,2.2nm,0.8s,mb3.8						
BVAR	**Borovoye Array**	**33.64**	**333**	P	**P**	**20 31 01.1**	**+0.6**
	comp=Z,1.6nm,0.6s,mb4.0,baz=146,slow=11,SNR=6.9						
BVAR				ScP		20 37 10.3	
	comp=Z,0.6nm,0.6s,baz=135,slow=4.2,SNR=3.8						
ZRNK	**Zerenda**	**34.17**	**332**	eP	**P**	**20 31 05.0**	**0.0**
	comp=Z,1.2nm,0.6s,mb3.9						
ASF	**Jabal al Asfar**	**51.02**	**292**	P	**P**	**20 33 24.0**	**+2.6**
	comp=Z,2.9nm,0.7s,mb4.4,baz=328,slow=9.9,SNR=5.7						
FITZ	**Fitzroy Crossi**	**52.15**	**142**	P	**P**	**20 33 28.2**	**-1.9**
	comp=Z,1.2nm,0.6s,mb4.1,baz=217,slow=5.1,SNR=3.2						
BRTR	**Keskin Array B**	**52.95**	**302**	P	**P**	**20 33 36.5**	**+0.7**
	comp=Z,1.8nm,0.6s,mb4.3,baz=123,slow=7.9,SNR=9.9						
AKASG	**Malin Array Be**	**55.92**	**316**	P	**P**	**20 33 56.3**	**-1.0**
	comp=Z,0.8nm,0.5s,mb4.0,baz=75,slow=6.7,SNR=4.6						
MLR	**Muntele Rosu**	**58.25**	**309**	P	**P**	**20 34 14.9**	**+1.2**
	comp=Z,3.4nm,0.8s,mb4.4,baz=341,slow=4.6,SNR=7.8						
KAF	**Kangasniemi**	**58.34**	**329**	ep	**P**	**20 34 04.1**	**-10**
	comp=Z,0.4nm,0.3s,mb3.9						
FINES	**FINESS Array B**	**58.38**	**328**	P	**P**	**20 34 14.0**	**-0.3**
	comp=Z,1.5nm,0.7s,mb4.1,baz=90,slow=7.6,SNR=6.7						
FINES	**FINESS Array B**	**58.38**	**328**	P	**P**	**20 34 14.0**	**-0.3**
WRA	**Warramunga Arr**	**58.76**	**136**	P	**P**	**20 34 15.7**	**-1.9**
	comp=Z,1.8nm,0.6s,mb4.3,baz=324,slow=7.3,SNR=47						
WRAB	**Tennant Creek**	**58.76**	**136**	eP	**P**	**20 34 14.1**	**-3.4**
	comp=Z,3.7nm,0.6s,mb4.6						
WB2	**Warramunga Arr**	**58.77**	**136**	eP	**P**	**20 34 15.7**	**-1.9**
ARCES	**ARCESS Array B**	**59.74**	**338**	P	**P**	**20 34 23.8**	**+0.2**
	comp=Z,2.3nm,0.9s,mb4.2,baz=79,slow=6.2,SNR=3.6						
ASAR	**Alice Springs**	**61.27**	**139**	P	**P**	**20 34 33.0**	**-1.6**
	comp=Z,1.2nm,0.7s,mb4.1,baz=320,slow=6.8,SNR=24						
KMBO	**Kilima Mbogo**	**61.53**	**254**	P	**P**	**20 34 38.2**	**+1.7**
	comp=Z,2.4nm,0.9s,mb4.2,baz=37,slow=18,SNR=4.6						
NB2	**NORSAR Subarra**	**65.56**	**328**	P	**P**	**20 35 01.4**	**-0.8**
	comp=Z,1.7nm,0.6s,mb4.0,baz=83,slow=6.2						
NOA	**NORSAR Array B**	**65.56**	**328**	P	**P**	**20 35 01.7**	**-0.5**
	comp=Z,2.1nm,0.6s,mb4.1,baz=83,slow=6.4,SNR=10						
GERES	**GERESS Array B**	**66.09**	**314**	P	**P**	**20 35 06.2**	**+0.4**
	comp=Z,2.4nm,0.8s,mb4.1,baz=72,slow=4.2,SNR=14						
MBAR	**Mbarara**	**67.03**	**258**	eP	**P**	**20 35 12.9**	**+0.6**
	comp=Z,2.8nm,0.7s,mb4.2						
DAVOX	**Davos**	**69.05**	**313**	P	**P**	**20 35 24.1**	**-0.2**
	comp=Z,1.6nm,0.4s,mb4.2,baz=106,slow=7.4,SNR=6.2						
LSZ	**Lusaka**	**76.36**	**246**	eP	**P**	**20 36 08.9**	**+1.2**
	comp=Z,4.5nm,0.6s,mb4.4						
BAO	**Brasilia Array**	**144.16**	**278**	P	PKPbc	20 43 53.1	+1.8
BDFB	**Brasilia**	**144.18**	**278**	PKP	PKPdf	20 43 53.1	+1.3
	comp=Z,7.7nm,0.8s,baz=91,slow=2.8,SNR=10.0						

IDC 01 20:48:42.8±5.3**,6.78S**×**129.83E,h186**km±51km**,mb3.2**/1**, mb1 3.0**/4**,mb1mx2.9**/13**,Error ellipse: s-maj=63.1km s-min=23.5km az=71.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.97**	**200**	P	P	20 51 28.2	-0.4
	0.2nm,0.3s,baz=20,slow=12,SNR=10						
FITZ				S	S	20 53 39.8	+0.9
	0.2nm,0.3s,baz=11,slow=19,SNR=4.3						
WRA	**Warramunga Arr**	**13.80**	**162**	P	P	20 51 49.9	-1.8
	0.1nm,0.3s,baz=341,slow=12,SNR=10						
WRA				S	S	20 54 16.4	-4.5
	0.4nm,0.3s,baz=332,slow=23,SNR=8.8						
ASAR	**Alice Springs**	**17.24**	**167**	P	P	20 52 32.8	-1.0
	0.1nm,0.3s,baz=357,slow=11,SNR=4.7						
ASAR				S	S	20 55 41.7	+3.8
	0.1nm,0.3s,slow=29,SNR=4.3						
MKAR	**Makanchi Array**	**67.95**	**327**	P	P	20 59 21.4	-2.1
	0.4nm,0.5s,baz=108,slow=9.8,SNR=6.3						

*CSEM **01** 20:53:47.4±0.2,39.44N×20.00E,h2km,ML2.9,Error ellipse: s-maj=4.9km s-min=3.6km az=81.0*
*NEIC **01** 20:53:48.4,39.47N×20.30E,h31km,MD3.2(ATH),After ATH.*
*ATH **01** 20:53:48.4,39.47N×20.30E,h31km,MD3.2/4*
*THE **01** 20:53:49.8,39.42N×20.24E,h10km,ML2.9*
ISC 01 20:53:48.0±0.9**,39.42N**±0.03×**20.13E**±0.05**,h9**km±5km**,** **n16,**σ**1s02**/26**,Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.19**	**55**	ePg	**Pg**	**20 53 52.3**	**+0.2**
IGT				eSg	**Sg**	**20 53 55.0**	**+0.1**
KEK	**Kerkira**	**0.39**	**318**	ePB	**Pb**	**20 53 58.5**	**+1.9**
JAN	**Janina**	**0.60**	**67**	ePB	**Pb**	**20 53 58.3**	**-2.0**
LSK	**Leskovik**	**0.81**	**26**	ePg	**Pg**	**20 54 03.8**	**-0.5**
LSK				i Sg	**Sg**	**20 54 19.1**	**+4.0**
LKD	**Levkas**	**0.82**	**150**	ePg	**Pg**	**20 54 04.4**	**-0.1**
	comp=Z,17nm,0.4s						
LKD				eSg	**Sg**	**20 54 16.1**	**+0.6**
MEV	**Metsovon**	**0.92**	**67**	ePg	**Pg**	**20 54 05.5**	**-1.0**
	comp=Z,9.5nm,0.5s						
MEV				eSg	**Sg**	**20 54 18.6**	**-0.2**
VLS	**Valsamata**	**1.29**	**164**	ePN	**Pn**	**20 54 12.6**	**+0.3**
EVR	**Evrytania**	**1.40**	**111**	ePN	**Pn**	**20 54 12.7**	**-1.1**
FNA	**Florina**	**1.66**	**35**	ePb	**Pb**	**20 54 19.5**	**+1.1**
FNA				eSb	**Sb**	**20 54 41.8**	**+2.5**
AGG	**Agios Georgios**	**1.75**	**103**	ePb	**Pb**	**20 54 20.2**	**+0.2**
	comp=Z,2.0nm,0.4s						
AGG				eSb	**Sb**	**20 54 42.9**	**+0.8**
AGG	**Agios Georgios**	**1.75**	**103**	ePb	**Pb**	**20 54 20.2**	**+0.2**
	2.0nm,0.4s						
AGG				eSb	**Sb**	**20 54 42.8**	**+0.8**
LIT	**Litokhoron**	**1.94**	**69**	ePb	**Pb**	**20 54 22.2**	**-0.9**
LIT				eSb	**Sb**	**20 54 47.1**	**-0.3**
GRG	**Griva**	**2.32**	**48**	ePn	**Pn**	**20 54 27.6**	**+0.6**
GRG	**Griva**	**2.32**	**48**	ePn	**Pn**	**20 54 27.5**	**+0.6**
STON	**Ston**	**3.90**	**333**	i Pn	**Pn**	**20 54 49.3**	**-0.2**
STON				i Sn	**Sn**	**20 55 34.5**	**-1.5**
STON	**Ston**	**3.90**	**333**	i Pn	**Pn**	**20 54 49.3**	**-0.2**
STON				i Sn	**Sn**	**20 55 34.4**	**-1.6**

*BJI **01** 20:58:38.3,18.82N×145.30E,h510km,mB5.1,mb4.7*
*NEIC **01** 20:58:39.1±0.3,18.76N×145.17E,h502km±4km,mb4.6/50, Error ellipse: s-maj=5.4km s-min=4.6km az=102.0*
*IDC **01** 20:58:40.9±1.2,18.72N×145.20E,h524km±13km, mb4.1/22,mb1 4.2/24,mb1mx4.2/27,Error ellipse: s-maj=12.1km s-min=6.7km az=95.0*
*MOS **01** 20:58:41.1±1.1,18.73N×145.14E,h547km,mb4.5/7,Error ellipse: s-maj=20.3km s-min=10.2km az=103.1*
ISC 01 20:58:38.9±0.3**,18.69N**±0.04×**145.14E**±0.04**,h512**km±4km**,** **n170,**σ**0s92**/169**,mb4.5**/76**,8C-25D,Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**2.07**	**163**	⇑eP	**P**	**20 59 45.3**	**-0.6**
SARN				eS	**S**	**21 00 39.1**	**+0.1**
ANAT	**Anatahan**	**2.38**	**168**	⇑eP	**P**	**20 59 47.7**	**+0.1**
ANA2	**Anatahan**	**2.40**	**167**	⇑eP	**P**	**20 59 47.5**	**-0.2**
ANA2				eS	**S**	**21 00 43.4**	**+1.2**
SAPN	**Saipan**	**3.51**	**170**	⇓iP	**P**	**20 59 53.8**	**-1.1**
GUMO	**Guam**	**5.08**	**183**	eP	**P**	**21 00 06.8**	**-1.2**
	62nm,0.3s						
CBIJ	**Chichi jima**	**8.79**	**343**	P	**P**	**21 00 45.3**	**+0.4**
	71nm,0.3s,baz=224,slow=2.4,SNR=18						
CBIJ				S	**S**	**21 02 29.8**	**+4.7**
	18nm,0.3s,baz=270,slow=20,SNR=2.8						
JOW	**Kunigami**	**17.52**	**301**	P	**P**	**21 02 15.9**	**+2.0**
	15nm,0.3s,baz=114,slow=13,SNR=26						
MAJO	**Matsushiro**	**18.80**	**342**	eP	**P**	**21 02 25.2**	**-1.0**
	24nm,0.5s						
MAT	**Matsushiro**	**18.80**	**342**	P	**P**	**21 02 25.3**	**-0.9**
MAT				S	**S**	**21 05 27.5**	**-1.9**
MAT	**Matsushiro**	**18.80**	**342**	eP	**P**	**21 02 25.0**	**-1.2**
	22nm,0.5s						
MAT				eS	**S**	**21 05 28.0**	**-1.4**
SSE	**Sheshan**	**24.93**	**304**	eP	**P**	**21 03 20.6**	**-1.9**
SSE				AMB	AMB		
	comp=Z,25nm,1.4s,mb4.7						
SSE				AMB	AMB		
	comp=Z,248nm,3.4s						
ASAJ	**Asahikawa**	**25.44**	**356**	P	**P**	**21 03 27.2**	**+0.3**
	comp=Z,7.2nm,0.7s,mb4.4,baz=216,slow=14,SNR=5.2						
WAU	**Wau**	**25.92**	**176**	eP	**P**	**21 03 30.7**	**-0.7**
NJ2	**Nanjing**	**27.13**	**304**	eP	**P**	**21 03 40.1**	**-1.9**
NJ2				PCP	PcP	21 06 46.2	-0.2
NJ2				S	**S**	**21 07 44.3**	**-0.2**
NJ2				SCP		21 09 41.2	
NJ2				PCS		21 10 27.1	
PMG	**Port Moresby**	**27.99**	**176**	P	**P**	**21 03 49.0**	**-0.7**
	comp=Z,27nm,0.6s,mb5.0,baz=358,slow=6.6,SNR=19						
BJT	**Baijiatuau**	**32.76**	**317**	eP	**P**	**21 04 30.2**	**0.0**
	comp=Z,5.0nm,0.4s,mb4.4						
KAKA	**Kakadu**	**33.63**	**203**	⇑iP	**P**	**21 04 42.7**	**+4.9**
	comp=Z,16nm,0.6s,mb4.7						
ENH	**Enshi**	**34.30**	**297**	eP	**P**	**21 04 43.3**	**+0.1**
	comp=Z,6.6nm,0.7s,mb4.3						
HHC	**Hu-ho-hao-te**	**36.23**	**315**	eP	**P**	**21 05 00.5**	**+1.3**
HHC				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.2						
GYA	**Guiyang**	**36.25**	**289**	P	**P**	**21 05 01.5**	**+2.0**
GYA				PCP	PcP	21 07 12.0	+0.5
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
HIA	**Hailar**	**36.71**	**332**	eP	**P**	**21 05 03.0**	**-0.1**
	comp=Z,11nm,0.6s,mb4.6						
CTA	**Charters Tower**	**38.56**	**178**	⇓iP	**P**	**21 05 19.2**	**+0.8**
	comp=Z,23nm,0.9s,mb4.7						
CTA	**Charters Tower**	**38.56**	**178**	P	**P**	**21 05 19.0**	**+0.7**
	comp=Z,33nm,0.8s,mb4.9,baz=354,slow=7.9,SNR=34						
CTAO	**Charters Tower**	**38.56**	**178**	eP	**P**	**21 05 18.3**	**0.0**
	comp=Z,34nm,0.8s,mb4.9						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CD2	**Chengdu**	**39.27**	**296**	P	**P**	**21 05 25.6**	**+1.5**
WRAB	**Tennant Creek**	**39.82**	**196**	P	**P**	**21 05 28.9**	**+0.3**
	comp=Z,251nm,0.5s,mb6.0,SNR=20						
WRAB	**Tennant Creek**	**39.82**	**196**	⇑*e*P	**P**	**21 05 29.0**	**+0.4**
	comp=Z,36nm,0.6s,mb5.1						
WB2	**Warramunga Arr**	**39.83**	**196**	⇑*i*P	**P**	**21 05 29.2**	**+0.5**
WB2				*i* SCP		21 10 22.0	
WB2				*e*S	**S**	**21 10 55.2**	**-1.9**
WRA	**Warramunga Arr**	**39.83**	**196**	P	**P**	**21 05 29.3**	**+0.6**
	comp=Z,20nm,0.7s,mb4.8,baz=17,slow=8.5,SNR=207						
WRA				PP	PP	21 07 18.8	+6.9
	comp=Z,5.6nm,1.1s,baz=5.9,slow=7.5,SNR=4.8						
WRA				ScP		21 10 22.1	
	comp=Z,4.7nm,0.8s,baz=14,slow=4.3,SNR=17						
WRA				S	**S**	**21 10 58.1**	**+0.9**
	comp=Z,3.1nm,1.1s,baz=12,slow=15,SNR=4.8						
WRA	**Warramunga Arr**	**39.83**	**196**	P	**P**	**21 05 29.3**	**+0.6**
WRA				PP	PP	21 07 18.8	+6.9
WRA				S	**S**	**21 10 58.1**	**+0.9**
LZH	**Lanzhou**	**40.21**	**304**	*e*P	**P**	**21 05 33.0**	**+1.4**
LZH				AMB	AMB		
	comp=Z,56nm,1.5s,mb4.9						
LZH				AMB	AMB		
	comp=Z,174nm,5.5s						
FX1	**Attu Island--F**	**40.49**	**26**	P	**P**	**21 05 33.5**	**-0.2**
	comp=Z,52nm,0.7s,mb5.2,baz=288,slow=3.9,SNR=11						
FX1	**Attu Island--F**	**40.49**	**26**	P	**P**	**21 05 33.6**	**-0.1**
FX1	**Attu Island--F**	**40.49**	**26**	*e*P	**P**	**21 05 33.2**	**-0.5**
MA2	**Magadan**	**41.03**	**4**	*e*P	**P**	**21 05 37.9**	**-0.1**
	comp=Z,25nm,0.6s,mb4.9						
FITZ	**Fitzroy Crossi**	**41.28**	**209**	⇑*i*P	**P**	**21 05 41.1**	**+0.7**
	comp=Z,8.8nm,0.6s,mb4.5						
FITZ				*e*		21 06 06.6	
FITZ				*e*S	**S**	**21 11 16.6**	**-1.5**
SONM	**Songino Array**	**42.82**	**322**	P	**P**	**21 05 53.0**	**+0.7**
	comp=Z,6.7nm,0.6s,mb4.3,baz=137,slow=6.7,SNR=87						
SONM				PcP	PcP	21 07 32.3	-0.3
	comp=Z,4.3nm,0.7s,baz=138,slow=3.8,SNR=9.6						
ASAR	**Alice Springs**	**43.51**	**195**	P	**P**	**21 05 58.0**	**-0.1**
	comp=Z,12nm,0.7s,mb4.5,baz=18,slow=7.2,SNR=181						
ASAR				PcP	PcP	21 07 35.0	-0.2
	comp=Z,5.5nm,1.1s,baz=24,slow=4.9,SNR=6.1						
ASAR				ScP		21 10 36.9	
	comp=Z,1.8nm,0.8s,baz=17,slow=4.6,SNR=10.0						
ASAR				S	**S**	**21 11 47.6**	**-2.2**
	comp=Z,1.5nm,0.8s,baz=14,slow=15,SNR=5.2						
ASPA	**Alice Springs**	**43.51**	**195**	⇑*i*P	**P**	**21 05 57.9**	**-0.2**
ASPA				*e*S	**S**	**21 11 47.1**	**-2.7**
CM31	**Chiang Mai Arr**	**43.69**	**277**	*e*P	**P**	**21 06 00.8**	**+1.2**
	comp=Z,4.7nm,0.3s,mb4.5						
CMAR	**Chiang Mai Arr**	**43.69**	**277**	P	**P**	**21 06 01.0**	**+1.4**
	comp=Z,17nm,0.6s,mb4.8,baz=74,slow=5.5,SNR=142						
CMAR				PcP	PcP	21 07 36.0	+0.1
	comp=Z,3.3nm,1.0s,baz=113,slow=2.0,SNR=5.5						
GTA	**Gaotai**	**44.13**	**308**	*e*P	**P**	**21 06 03.9**	**+1.1**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.0						
YAK	**Yakutsk**	**44.63**	**350**	*e*P	**P**	**21 06 05.5**	**-0.8**
YAK				pmax	pmax		
	comp=Z,25nm,0.8s,mb4.8						
YAK				pmax	pmax		
	comp=N,8.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,3.0nm,0.8s						
YAK	**Yakutsk**	**44.63**	**350**	*e*P	**P**	**21 06 05.2**	**-1.1**
	comp=E,60nm,0.6s,mb5.3						
BOD	**Bodaibo**	**45.31**	**337**	*e*P	**P**	**21 06 10.8**	**-0.8**
MBWA	**Marble Bar**	**46.77**	**213**	*e*P	**P**	**21 06 22.8**	**-0.7**
	comp=E,6.3nm,0.6s,mb4.3						
LSA	**Lhasa**	**50.06**	**293**	P	**P**	**21 06 49.0**	**+0.9**
STKA	**Stephens Creek**	**50.40**	**184**	⇓*i*P	**P**	**21 06 50.0**	**-0.5**
	comp=E,4.2nm,0.4s,mb4.2						
STKA	**Stephens Creek**	**50.40**	**184**	P	**P**	**21 06 49.9**	**-0.6**
	comp=E,6.5nm,0.5s,mb4.3,baz=2.6,slow=8.3,SNR=17						
UNV	**Unalaska Valle**	**50.96**	**35**	*e*P	**P**	**21 06 52.6**	**-1.7**
FORT	**Forrest**	**51.86**	**199**	*e*P	**P**	**21 07 00.6**	**-0.6**
	comp=E,83nm,0.6s,mb5.2						
WMQ	**Urumqi**	**53.91**	**311**	*e*P	**P**	**21 07 16.3**	**+0.6**
WMQ				AMB	AMB		
	comp=Z,25nm,0.8s,mb4.6						
PKI	**Pulchoki**	**55.19**	**291**	*e*P	**P**	**21 07 24.9**	**0.0**
	comp=Z,26nm,0.5s,mb4.7						
KKN	**Kakani**	**55.29**	**291**	*e*P	**P**	**21 07 25.8**	**+0.2**
	comp=Z,28nm,0.7s,mb4.6						
DMN	**Daman**	**55.46**	**291**	*e*P	**P**	**21 07 26.8**	**+0.1**
	comp=Z,32nm,0.5s,mb4.8						
GKN	**Gorkha**	**55.84**	**292**	*e*P	**P**	**21 07 29.7**	**+0.3**
KOLN	**Koldanda**	**56.77**	**291**	*e*P	**P**	**21 07 35.7**	**-0.1**
	comp=Z,32nm,0.8s,mb4.6						
ZAL	**Zalesovo**	**57.71**	**323**	P	**P**	**21 07 41.4**	**-0.4**
	comp=Z,4.0nm,0.4s,mb4.0,baz=271,slow=5.0,SNR=22						
ZAL				PcP	PcP	21 08 26.2	-1.6
	comp=Z,1.4nm,0.6s,baz=151,slow=2.3,SNR=4.5						
MKAR	**Makanchi Array**	**58.08**	**314**	P	**P**	**21 07 44.5**	**+0.1**
	comp=Z,11nm,0.6s,mb4.3,baz=88,slow=8.2,SNR=117						
MKAR				PcP	PcP	21 08 27.8	-1.7
	comp=Z,3.6nm,0.6s,baz=88,slow=5.8,SNR=6.5						
MKAR	**Makanchi Array**	**58.08**	**314**	P	**P**	**21 07 44.5**	**+0.1**
MKAR				PcP	PcP	21 08 27.8	-1.7
NVS	**Novosibirsk**	**58.80**	**323**	*i* P	**P**	**21 07 47.9**	**-1.2**
NVS				*i*		21 08 28.7	
NVS				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.1						
NVS				pmax	pmax		
	comp=E,6.0nm,0.6s						
NVS				pmax	pmax		
	comp=N,3.0nm,0.7s						
SPU	**Mount Spurr**	**60.75**	**30**	*e*P	**P**	**21 08 01.4**	**-0.6**
KURK	**Kurchatov**	**60.92**	**318**	*d i*P	**P**	**21 08 02.6**	**-0.7**
KURK	**Kurchatov**	**60.92**	**318**	⇓*i*P	**P**	**21 08 02.7**	**-0.5**
	comp=N,44nm,0.8s,mb4.8						
IMA	**Indian Mountai**	**61.49**	**24**	*e*P	**P**	**21 08 06.8**	**0.0**
	comp=N,52nm,1.1s,mb4.8						
ULHL	**Ulahol**	**62.17**	**308**	P	**P**	**21 08 12.3**	**+0.8**
	SNR=9.0						
SML	**Sawmill**	**62.64**	**29**	⇓*e*P	**P**	**21 08 13.1**	**-1.1**
TKM2	**Tokmak 2**	**62.64**	**309**	P	**P**	**21 08 15.3**	**+0.7**
	SNR=16						
MCK	**McKinley**	**62.78**	**27**	*e*P	**P**	**21 08 13.7**	**-1.5**
	comp=N,5.3nm,0.8s,mb4.0						
KZA	**Kyzart**	**62.91**	**308**	P	**P**	**21 08 18.1**	**+1.8**
	SNR=27						
HYB	**Hyderabad**	**62.97**	**280**	*i* P	**P**	**21 08 17.0**	**0.0**
KBK	**Karagaybulak**	**63.12**	**309**	P	**P**	**21 08 18.3**	**+0.7**
	SNR=12						
CHMS	**Chumysh**	**63.26**	**309**	P	**P**	**21 08 18.8**	**+0.2**
	SNR=5.5						
USP	**Ospenovka**	**63.44**	**310**	P	**P**	**21 08 19.8**	**+0.1**
	SNR=11						
UCH	**Uchtor**	**63.46**	**308**	P	**P**	**21 08 21.4**	**+1.6**
	SNR=16						
AAK	**Ala-Archa**	**63.46**	**309**	P	**P**	**21 08 19.9**	**0.0**
	SNR=6.3						
AAK	**Ala-Archa**	**63.46**	**309**	⇓*e*P	**P**	**21 08 19.0**	**-0.8**
	comp=N,7.3nm,1.1s,mb4.0						
AAK				*e*PcP	PcP	21 08 49.1	-2.2
COLA	**College**	**63.50**	**26**	*e*P	**P**	**21 08 20.0**	**+0.3**
PALK	**Pallekele**	**63.52**	**269**	*e*P	**P**	**21 08 20.5**	**-0.2**
	comp=N,8.3nm,0.9s,mb4.2						
DIV	**Divide**	**63.72**	**30**	*e*P	**P**	**21 08 20.2**	**-1.0**
	comp=N,29nm,0.8s,mb4.8						
ILAR	**Eielson Array**	**63.88**	**26**	P	**P**	**21 08 20.0**	**-2.2**
	comp=N,12nm,0.8s,mb4.4,baz=250,slow=6.1,SNR=94						
EKS2	**Erkin-Say**	**63.99**	**309**	P	**P**	**21 08 23.8**	**+0.5**
	SNR=5.3						
AML	**Almayashu**	**64.07**	**308**	P	**P**	**21 08 25.0**	**+1.3**
	SNR=24						
BVAR	**Borovoye Array**	**66.14**	**320**	S	S	21 16 42.6	-1.8
	comp=N,0.7nm,0.7s,baz=101,slow=15,SNR=7.3						
BRVK	**Borovoye**	**66.20**	**320**	⇓*i*P	**P**	**21 08 36.6**	**-0.3**
	comp=N,24nm,0.7s,mb4.8						
ZRNK	**Zerenda**	**66.98**	**320**	⇓*i*P	**P**	**21 08 41.0**	**-0.7**
	comp=N,16nm,0.7s,mb4.7						
DAWY	**Dawson**	**67.00**	**28**	⇓*i*P	**P**	**21 08 41.3**	**-0.3**
DAWY				*e*PcP	PcP	21 09 05.4	-0.3
INK	**Inuvik**	**69.59**	**23**	P	**P**	**21 08 56.5**	**-0.7**
	comp=N,16nm,0.8s,mb4.6,baz=260,slow=6.0,SNR=20						
INK	**Inuvik**	**69.59**	**23**	⇓*e*P	**P**	**21 08 56.4**	**-0.8**
	comp=N,18nm,0.9s,mb4.6						
SVE	**Sverdlovsk**	**71.58**	**325**	⇓*e*P	**P**	**21 09 08.5**	**-0.6**
SVE				pmax	pmax		
	comp=Z,40nm,1.2s,mb4.7						
DLBC	**Dease Lake**	**71.59**	**34**	P	**P**	**21 09 09.8**	**+0.7**
	comp=Z,10nm,0.8s,mb4.3,baz=268,slow=6.8,SNR=6.8						
DLBC	**Dease Lake**	**71.59**	**34**	*e*P	**P**	**21 09 09.5**	**+0.4**
ARU	**Arti**	**72.76**	**325**	⇓*i*P	**P**	**21 09 15.5**	**-0.4**
ARU				*e*		21 09 29.8	
ARU				*e*		21 12 05.4	
ARU				*e*S	S	21 18 03.4	+3.4
ARU				pmax	pmax		
	comp=Z,21nm,1.0s,mb4.5						
ARU	**Arti**	**72.76**	**325**	⇓*i*P	**P**	**21 09 15.5**	**-0.4**
	comp=Z,33nm,0.6s,mb4.9						
OCWA	**Octopus Mounta**	**76.85**	**44**	*e*P	**P**	**21 09 39.7**	**+1.0**
BMW	**Boistfort Moun**	**77.78**	**45**	*e*P	**P**	**21 09 44.4**	**+0.6**
GNW	**Green Mountain**	**77.78**	**44**	*e*P	**P**	**21 09 44.8**	**+0.9**
YKA	**Yellowknife Ar**	**78.24**	**28**	P	**P**	**21 09 45.6**	**-0.3**
	comp=Z,10.0nm,0.7s,mb4.3,baz=287,slow=5.0,SNR=11						
RPW	**Rockport**	**78.41**	**43**	*e*P	**P**	**21 09 47.6**	**+0.4**
RMW	**Rattlesnake Mo**	**78.48**	**44**	P	**P**	**21 09 48.2**	**+0.7**
LON	**Longmire**	**78.66**	**44**	*e*P	**P**	**21 09 48.7**	**+0.1**
HUMO	**Hull Mountain**	**78.95**	**49**	*e*P	**P**	**21 09 50.8**	**+0.6**
	comp=Z,13nm,1.1s,mb4.2						
NLW	**Nelson Butte**	**79.27**	**43**	*e*P	**P**	**21 09 52.0**	**+0.3**
YBH	**Yreka Blue Hor**	**79.36**	**50**	P	**P**	**21 09 53.3**	**+1.0**
	comp=Z,7.0nm,0.6s,mb4.2,baz=240,slow=2.2,SNR=21						
YBH	**Yreka Blue Hor**	**79.36**	**50**	*e*P	**P**	**21 09 53.1**	**+0.8**
	comp=Z,14nm,1.1s,mb4.2						
RES	**Resolute Bay**	**79.55**	**14**	⇓*e*P	**P**	**21 09 52.5**	**-0.1**
	comp=Z,40nm,1.4s,mb4.6						
OHCM	**Honcut**	**80.92**	**52**	*e*P	**P**	**21 10 00.1**	**-0.4**
NEW	**Newport**	**81.28**	**42**	*e*P	**P**	**21 10 02.4**	**+0.3**
	comp=Z,11nm,0.9s,mb4.3						
BEKR	**Beckwourth**	**81.60**	**51**	*e*P	**P**	**21 10 04.1**	**+0.2**
	comp=Z,18nm,1.0s,mb4.5						
KEV	**Kevo**	**81.78**	**342**	*e*p	**P**	**21 10 01.6**	**-2.6**
	comp=Z,6.0nm,0.7s,mb4.1						
KEV	**Kevo**	**81.78**	**342**	*e*P	**P**	**21 10 01.6**	**-2.6**
KEV				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.1						
CMB	**Columbia Colle**	**82.12**	**53**	⇓*e*P	**P**	**21 10 06.9**	**+0.4**
	comp=Z,25nm,1.3s,mb4.5						
ARCES	**ARCESS Array B**	**82.34**	**342**	P	**P**	**21 10 06.8**	**-0.2**
	comp=Z,6.7nm,0.5s,mb4.4,baz=87,slow=8.4,SNR=94						
ARCES	**ARCESS Array B**	**82.34**	**342**	P	**P**	**21 10 06.7**	**-0.3**
ARE0	**ARCESS Array S**	**82.34**	**342**	*e*P	**P**	**21 10 06.6**	**-0.4**
KTK1	**Kautokeino**	**83.30**	**342**	*e*P	**P**	**21 10 10.8**	**-1.1**
KTK1				AMb	AMB	21 10 18.1	
	comp=Z,30nm,1.9s,mb4.5						
NVAR	**Mina Array Bea**	**83.56**	**52**	P	**P**	**21 10 14.7**	**+0.9**
	comp=Z,36nm,1.2s,mb4.8,baz=261,slow=4.3,SNR=75						
TRO	**Tromso**	**84.13**	**344**	*e*P	**P**	**21 10 14.1**	**-1.7**
TRO				AMb	AMB	21 10 18.1	
	comp=Z,28nm,2.1s,mb4.4						
MOS	**Moscow**	**84.18**	**327**	*e*P	**P**	**21 10 13.9**	**-2.5**
CHMT	**Chamberlain Mo**	**84.19**	**42**	*e*P	**P**	**21 10 16.1**	**-0.6**
TPH	**Tonopah**	**84.48**	**52**	*e*P	**P**	**21 10 18.6**	**+0.2**
	comp=Z,14nm,1.2s,mb4.4						
HLID	**Hailey**	**84.62**	**46**	⇓*i*P	**P**	**21 10 19.4**	**+0.6**
	comp=Z,12nm,0.9s,mb4.4						
OBN	**Obninsk**	**84.99**	**327**	*e*P	**P**	**21 10 19.5**	**-0.9**
OBN				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.1						
ELK	**Elko**	**85.02**	**49**	⇓*i*P	**P**	**21 10 21.6**	**+0.7**
	comp=Z,2.3nm,0.6s,mb3.9						
HRY	**Holter Researc**	**85.18**	**42**	*e*P	**P**	**21 10 22.1**	**+0.6**
TPNV	**Topopah Spring**	**85.59**	**53**	⇓*e*P	**P**	**21 10 24.2**	**+0.4**
	comp=Z,20nm,1.0s,mb4.7						
BOZ	**Bozeman (W)**	**85.71**	**43**	*e*P	**P**	**21 10 23.9**	**-0.2**
	comp=Z,4.0nm,1.0s,mb4.0						
GNI	**Garni**	**85.79**	**311**	*e*P	**P**	**21 10 26.3**	**+1.7**
GNI				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KIV	**Kislovodsk**	**85.83**	**315**	*e*P	**P**	**21 10 24.5**	**-0.2**
KIV				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.6						
KIV	**Kislovodsk**	**85.83**	**315**	*e*P	**P**	**21 10 24.2**	**-0.5**
	comp=Z,12nm,0.8s,mb4.6						
KAF	**Kangasniemi**	**86.20**	**336**	*e*p	**P**	**21 10 23.3**	**-2.7**
	comp=Z,4.6nm,0.6s,mb4.3,baz=53,slow=4.5						
KAF	**Kangasniemi**	**86.20**	**336**	*e*P	**P**	**21 10 23.3**	**-2.7**
KAF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.3						
FINES	**FINESS Array B**	**86.67**	**335**	P	**P**	**21 10 26.8**	**-1.5**
	comp=Z,6.4nm,0.5s,mb4.5,baz=63,slow=4.6,SNR=112						
FINES	**FINESS Array B**	**86.67**	**335**	P	**P**	**21 10 26.8**	**-1.5**
SPUT	**South Promonto**	**86.79**	**47**	⇓*e*P	**P**	**21 10 30.0**	**+0.6**
IMW	**Indian Meadow**	**86.83**	**45**	*e*P	**P**	**21 10 29.7**	**+0.2**
DUG	**Dugway**	**86.95**	**49**	⇓*i*P	**P**	**21 10 30.4**	**+0.3**
	comp=Z,4.0nm,0.6s,mb4.2						
MOOW	**Moose Ponds**	**87.02**	**45**	*e*P	**P**	**21 10 31.2**	**+0.9**
NEN	**Nelson**	**87.10**	**53**	*e*P	**P**	**21 10 31.2**	**+0.3**
HWUT	**Hardware Ranch**	**87.29**	**47**	⇓*e*P	**P**	**21 10 31.9**	**+0.2**
ARUT	**Antelope Range**	**87.38**	**51**	*e*P	**P**	**21 10 33.4**	**+1.2**
DAU	**Daniels Canyon**	**87.97**	**48**	*e*P	**P**	**21 10 35.5**	**+0.6**
MVU	**Marysvale**	**88.01**	**50**	*e*P	**P**	**21 10 36.0**	**+0.8**
	comp=Z,6.6nm,0.9s,mb4.4						
MSU	**Marysvale**	**88.04**	**50**	*e*P	**P**	**21 10 36.3**	**+1.0**
PDAR	**Pinedale Array**	**88.21**	**45**	P	**P**	**21 10 36.0**	**+0.1**
	comp=Z,1.2nm,0.7s,mb3.7,baz=270,slow=0.6,SNR=8.7						
SUMG	**Summit**	**88.93**	**1**	*e*P	**P**	**21 10 39.6**	**+1.0**
	comp=Z,4.5nm,0.6s,mb4.5						
SRU	**San Rafael**	**89.00**	**49**	⇓*e*P	**P**	**21 10 40.0**	**+0.2**
PV10	**Paradox Valley**	**90.35**	**49**	*e*P	**P**	**21 10 46.6**	**+0.6**
PV01	**Paradox Valley**	**90.79**	**49**	*e*P	**P**	**21 10 48.2**	**+0.1**
AKASG	**Malin Array Be**	**91.01**	**325**	P	**P**	**21 10 47.1**	**-1.6**
	comp=Z,0.2nm,0.3s,mb3.5,baz=49,slow=5.2,SNR=6.3						
RSSD	**Black Hills**	**91.24**	**42**	*e*P	**P**	**21 10 49.8**	**-0.2**
	comp=Z,10nm,1.1s,mb4.7						
RW3	**Ridgway**	**91.37**	**49**	*e*P	**P**	**21 10 51.5**	**+0.8**
ISCO	**Idaho Springs**	**92.16**	**47**	*e*P	**P**	**21 10 55.2**	**+0.9**
	comp=Z,5.9nm,1.0s,mb4.6						
NB2	**NORSAR Subarra**	**92.39**	**339**	P	**P**	**21 10 53.3**	**-1.6**
	comp=Z,1.4nm,0.6s,mb4.2,baz=54,slow=4.8						
NB2	**NORSAR Subarra**	**92.39**	**339**	P	**P**	**21 10 53.3**	**-1.6**
	baz=54,slow=5.1						
NOA	**NORSAR Array B**	**92.39**	**339**	P	**P**	**21 10 53.4**	**-1.5**
	comp=Z,0.4nm,0.7s,mb3.5,baz=51,slow=4.0,SNR=7.4						
NOA	**NORSAR Array B**	**92.39**	**339**	P	**P**	**21 10 53.4**	**-1.5**
BRTR	**Keskin Array B**	**93.73**	**314**	P	**P**	**21 11 00.8**	**-0.8**
	comp=Z,4.1nm,0.7s,mb4.7,baz=94,slow=3.4,SNR=21						
LSZ	**Lusaka**	**119.87**	**263**	*e*PKPdf	PKPdf	21 16 33.2	+2.0
SNAA	**Sanae**	**123.81**	**192**	⇓*i*P	PKPdf	21 16 38.1	+0.5
VNA2	**Neumayer--Watz**	**125.27**	**191**	⇓*i*P	PKPdf	21 16 44.2	+3.9
VNA3	**Neumayer Olymp**	**125.38**	**190**	P	PKPdf	21 16 44.0	+3.5
VNA1	**Neumayer--Stat**	**125.65**	**191**	P	PKPdf	21 16 45.1	+4.0
DBIC	**Dimbokro**	**141.13**	**308**	PKhKP		21 17 07.0	
	comp=Z,3.3nm,0.4s,baz=16,slow=3.9,SNR=15						
LVC	**Limon Verde**	**147.94**	**103**	*e*PKPbc	PKPdf	21 17 28.9	+6.3
LPAZ	**La Paz**	**148.20**	**91**	*e*PKPdf	PKPdf	21 17 25.9	+2.7
LPAZ				*e*PKPbc	PKPdf	21 17 29.9	+6.7
TRQA	**Tornquist**	**149.49**	**135**	*e*PKPbc	PKPdf	21 17 31.1	+6.5
SAML	**Samuel**	**150.88**	**74**	*e*PKPdf	PKPdf	21 17 29.1	+1.6
SAML				*e*PKPbc	PKPdf	21 17 34.6	+7.1
SAML				*e*PKPab	PKPab	21 17 43.8	-1.9
CPUP	**Villa Florida**	**157.92**	**114**	PKPab	PKPab	21 18 15.4	+0.2
	comp=Z,2.4nm,0.9s,baz=316,slow=3.8,SNR=5.7						
CPUP	**Villa Florida**	**157.92**	**114**	*e*PKPab	PKPab	21 18 15.3	+0.1

DJA 01 21:28:22.9±1.0**, 9.40S**×**117.27E, h160**^{km}**, ML3.6**/4**, 4C-3D, Error ellipse: s-maj=43.8km s-min=25.8km az=9.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**1.46**	**308**	⇑*i*Pn	P	21 28 53.3	+0.2
	17nm,0.2s						
KEDI				⇓*i*Sn	S	21 29 15.2	-1.3
RATI	**Rata**	**1.85**	**291**	⇑*i*Pn	P	21 28 57.3	+0.1
	31nm,0.2s						
RATI				⇓*i*Sn	S	21 29 22.2	-1.5
INGI	**Ingas**	**2.18**	**285**	⇓*i*Pn	P	21 29 00.7	-0.4
	111nm,0.2s						
INGI				⇑*i*Sn	S	21 29 29.1	-1.4
KELI	**Kelakatan**	**2.99**	**293**	⇑*i*Pn	P	21 29 15.6	+4.4
	21nm,0.3s						

*BJI **01** 21:29:06.3, 3.16N×129.34E, h10^{km}, mB5.1, mb4.7*
*IDC **01** 21:29:12.8±1.0, 3.66N×128.59E, mb4.1/9, mb1 4.3/9, mb1mx4.1/17, MS3.3/1, Ms1 3.5/1, ms1mx2.8/22, Error ellipse: s-maj=62.7km s-min=16.1km az=72.0*
*NEIC **01** 21:29:14.2±0.6, 3.62N×128.57E, h10^{km}, mb4.7/5, Error ellipse: s-maj=36.5km s-min=8.5km az=73.0*
ISC 01 21:29:13.8±0.7**, 3.6N**±0.1×**128.6E**±0.3**, h18**^{km}**, h18**^{km}±3.1^{km}**:pP-P, n26,** σ0^{s}**77**/25**, mb4.4**/19**, MS3.3**/1**, North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.80**	**188**	P	**P**	**21 34 05.9**	**-1.1**
	1.7nm,0.6s,mb3.7,baz=10,slow=11,SNR=4.3						
WRAB	**Tennant Creek**	**24.09**	**167**	*e*P	**P**	**21 34 29.9**	**+0.3**
	4.0nm,0.5s,mb4.1						
WRA	**Warramunga Arr**	**24.09**	**167**	P	**P**	**21 34 30.5**	**+0.8**
	1.4nm,0.4s,mb3.7,baz=343,slow=10,SNR=13						
ASAR	**Alice Springs**	**27.62**	**170**	P	**P**	**21 35 03.0**	**+0.4**
	0.6nm,0.5s,mb3.5,baz=350,slow=7.5,SNR=11						
ASAR				PcP	PcP	21 38 20.6	+0.3
	1.5nm,0.6s,baz=348,slow=2.4,SNR=21						
CMAR	**Chiang Mai Arr**	**32.55**	**299**	P	**P**	**21 35 46.0**	**-0.5**
	1.1nm,0.8s,mb3.9,baz=119,slow=7.5,SNR=7.2						
CMAR				LR	LR	21 49 25.0	
	comp=Z,52nm,18.5s,MS3.3,baz=295,slow=37						
XAN	**Xi'an**	**35.38**	**331**	P	**P**	**21 36 10.2**	**-0.5**
XAN				AP	pP	21 36 17.3	+1.3
XAN				AMB	AMB		
	comp=Z,19nm,1.1s,mb4.9						
STKA	**Stephens Creek**	**37.41**	**162**	PcP	PcP	21 38 47.6	+0.6
	comp=Z,1.5nm,0.5s,baz=333,slow=10,SNR=4.9						
BJT	**Baijiatuau**	**37.93**	**344**	*e*P	**P**	**21 36 32.6**	**+0.5**
	comp=Z,4.2nm,0.5s,mb4.4						
BJI	**Beijing**	**37.95**	**344**	P	**P**	**21 36 31.8**	**-0.5**
BJI				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.3						
LZH	**Lanzhou**	**39.56**	**328**	*e*P	**P**	**21 36 47.1**	**+1.3**
LZH				AP	pP	21 36 52.6	+1.4
LZH				XP	sP	21 36 55.1	+1.7
LZH				AMB	AMB		
	comp=Z,46nm,1.1s,mb5.1						
LZH				AMB	AMB		
	comp=Z,155nm,4.3s						
GTA	**Gaotai**	**44.16**	**328**	*e*P	**P**	**21 37 24.6**	**+1.1**
GTA				AP	pP	21 37 28.0	-0.9
GTA				XP	sP	21 37 30.7	-0.4
GTA				AMB	AMB		
	comp=Z,3.0nm,1.4s,mb3.8						
SONM	**Songino Array**	**48.01**	**340**	P	**P**	**21 37 54.2**	**+0.4**
	comp=Z,4.8nm,1.3s,mb4.4,baz=154,slow=8.7,SNR=9.8						
WMQ	**Urumqi**	**53.89**	**324**	P	**P**	**21 38 39.4**	**+0.9**
WMQ				AMB	AMB		
	comp=Z,21nm,0.6s,mb5.2						
MKAR	**Makanchi Array**	**58.72**	**324**	P	**P**	**21 39 12.6**	**-0.4**
	comp=Z,9.6nm,0.5s,mb5.1,baz=116,slow=8.4,SNR=214						
KZA	**Kyzart**	**60.96**	**317**	P	**P**	**21 39 29.5**	**+1.0**
	SNR=12						
TKM2	**Tokmak 2**	**61.07**	**318**	P	**P**	**21 39 29.3**	**+0.1**
	SNR=6.2						
UCH	**Uchtor**	**61.53**	**317**	P	**P**	**21 39 33.5**	**+1.2**
	SNR=5.1						
ZAL	**Zalesovo**	**61.54**	**332**	P	**P**	**21 39 31.3**	**-0.9**
	comp=Z,1.1nm,0.5s,mb4.3,baz=272,slow=2.7,SNR=6.8						
USP	**Ospenovka**	**61.95**	**318**	P	**P**	**21 39 34.8**	**-0.3**
	SNR=11						
AML	**Almayashu**	**62.05**	**316**	P	**P**	**21 39 36.6**	**+0.7**
	SNR=8.3						
EKS2	**Erkin-Say**	**62.20**	**317**	P	**P**	**21 39 36.9**	**+0.1**
	SNR=8.5						
KURK	**Kurchatov**	**62.84**	**327**	*e*P	**P**	**21 39 40.0**	**-0.9**
	comp=Z,8.3nm,0.6s,mb5.0						
BRVK	**Borovoye**	**68.50**	**326**	*e*P	**P**	**21 40 16.4**	**-0.9**
	comp=Z,2.7nm,0.9s,mb4.2						
ZRNK	**Zerenda**	**69.17**	**326**	*e*P	**P**	**21 40 20.4**	**-1.0**
	comp=Z,10nm,0.6s,mb4.9						
ARCES	**ARCESS Array B**	**91.18**	**340**	P	**P**	**21 42 18.3**	**-0.4**
	comp=Z,2.2nm,0.7s,mb4.6,baz=63,slow=8.1,SNR=5.9						
FINES	**FINESS Array B**	**92.80**	**332**	P	**P**	**21 42 25.2**	**-1.1**
	comp=Z,1.1nm,0.8s,mb4.3,baz=27,slow=4.3,SNR=4.4						

*BER **01** 21:30:14.2±2.0, 67.86N×20.02E, ML1.6, Suspected explosion*
HEL 01 21:30:13.7±0.1**, 67.87N**×**20.15E, ML1.8, ML1.4**(UPP)**, ML1.7**(BER)**, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.11**	**38**	*i* S	Sg	21 30 16.5	-1.0
NIKU	**Nikkaluokta**	**0.42**	**271**	*i* P	Pg	21 30 20.8	-1.4
NIKU				*i* S	Sg	21 30 27.1	-0.6
DUNU	**Dundret**	**0.77**	**168**	*i* S	Sg	21 30 35.1	-4.1
KIF	**Kilpisjarvi**	**1.17**	**12**	*e*P	Pb	21 30 35.5	-1.0
KIF				*e*S	Sb	21 30 51.5	-0.5
KTK1	**Kautokeino**	**1.62**	**43**	*e*P	Pn	21 30 42.9	-0.8
KTK1				*e*SN	Sn	21 31 06.3	+0.8
KTK1				AML	AML	21 31 08.6	
	comp=Z,11nm,0.3s						
TRO	**Tromso**	**1.83**	**346**	*e*P	Pn	21 30 45.2	-1.4
TRO				*e*SG	Sg	21 31 10.0	-4.7
TRO				AML	AML	21 31 14.3	
	comp=Z,5.3nm,0.3s						
SGF	**Sodankyl**	**2.47**	**97**	*e*P	Pn	21 30 55.0	-0.9
SGF				*e*S	Sn	21 31 25.8	-1.5
LOF	**Lofoten**	**2.50**	**279**	*e*SG	Sg	21 31 31.8	-5.3
LOF				AML	AML	21 31 38.0	
	comp=Z,4.1nm,0.4s						
MELS	**Mels**	**2.68**	**251**	*e*Sg	Sg	21 31 36.7	-6.3
MOR8	**Moi Rana**	**2.81**	**235**	*e*SG	Sg	21 31 34.8	-13
MOR8				AML	AML	21 31 37.7	
	comp=Z,9.6nm,0.3s						
KEV	**Kevo**	**3.13**	**50**	*e*P	Pn	21 31 04.1	-1.2
KEV				*e*S	Sn	21 31 42.8	-1.1
KEV				*e*		21 31 55.9	
OUL	**Oulu**	**3.62**	**138**	*e*PB	Pb	21 31 15.9	-2.5
OUL				*e*S	Sn	21 31 52.6	-3.6
OUL				*e*SG	Sg	21 32 05.2	-9.0
OUL				MSG		21 32 10.0	
	comp=Z,2.2nm,0.3s						
MSF	**Maaselka**	**4.02**	**115**	*e*SB	Sb	21 32 13.0	-1.7
NSS	**Namsos**	**4.71**	**229**	*e*SG	Sg	21 32 38.8	-12
NSS				AML	AML	21 32 40.5	
	comp=Z,3.4nm,0.4s						
KJN	**Kajaani**	**4.89**	**137**	*e*S	Sn	21 32 23.5	-5.0
KJN				*e*SG	Sg	21 32 42.9	-14
KJN				MSG		21 32 43.9	
	comp=Z,1.1nm,0.4s						

CASC 01 21:43:12.7±4.3**, 11.85N**×**86.85W, h68**^{km}±53^{km}**, MD3.7, ML3.4, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.42**	**37**	*e*P	P	21 43 25.7	+1.0
LEON	**Leon**	**0.57**	**356**	*e*P	P	21 43 27.6	+1.4
XAVN	**Gruta Xavier**	**0.60**	**60**	*e*P	P	21 43 26.9	+0.3
MIRN	**Miramar**	**0.61**	**13**	*e*P	P	21 43 26.7	+0.1
APYN	**Apoyeque**	**0.63**	**52**	*e*P	P	21 43 27.2	+0.4
TICN	**Ticuantepe**	**0.64**	**73**	*e*P	P	21 43 27.4	+0.5
MOMJ	**Momotombo**	**0.64**	**29**	*e*P	P	21 43 27.3	+0.4
MGAN	**Managua**	**0.66**	**63**	*e*P	P	21 43 26.3	-0.9
MGAN				*i*		21 43 37.6	
	comp=E,999nm,0.2s						
MGAN				*e*S	S	21 43 38.0	+0.1
CNGN	**Cerro Negro**	**0.67**	**13**	*e*P	P	21 43 27.6	+0.4
TEL3	**Telica 3**	**0.72**	**1**	*e*P	P	21 43 29.3	+1.4
WILN	**Americas 2**	**0.72**	**64**	*e*P	P	21 43 27.9	+0.1
WILN				*e*S	S	21 43 38.8	-0.4
APON	**Apoyo**	**0.77**	**85**	*e*P	P	21 43 28.5	0.0
CRIN	**San Cristobal**	**0.87**	**347**	*e*P	P	21 43 31.2	+1.5
PYTN	**Playitas**	**1.04**	**48**	*e*P	P	21 43 31.2	-0.7
PYTN				*e*S	S	21 43 44.5	-1.6
CRZC	**La Cruz**	**1.52**	**126**	*e*P	P	21 43 38.4	0.0
CRZC				*e*S	S	21 43 57.7	+0.4
CNCH	**Conchagua**	**1.71**	**326**	*e*P	P	21 43 41.3	+0.3
CNCH				*e*S	S	21 43 59.6	-2.3
BLLM	**Bellamira**	**2.08**	**320**	*e*P	P	21 43 47.0	+0.9
BLLM				*e*S	S	21 44 09.3	-1.6
SNVI	**San Vicente**	**2.62**	**312**	*e*P	P	21 43 55.3	+1.6
SNVI				*e*S	S	21 44 23.4	-0.8
JCR	**Jicaral**	**2.62**	**139**	*e*P	P	21 43 54.1	+0.4
JCR				*e*S	S	21 44 19.6	-4.8
LCBS	**La Ceiba**	**2.75**	**311**	*e*P	P	21 43 56.2	+0.7
LCBS				*e*S	S	21 44 25.9	-1.7
LFRS	**El Faro**	**2.79**	**310**	*e*P	P	21 43 57.0	+1.0
LFRS				*e*S	S	21 44 27.8	-0.8
CGA2	**Cerro Gallo 2**	**2.97**	**128**	*e*P	P	21 43 60.0	+1.4

*NEIC **01** 22:04:44.2, 41.34N×23.55E, h23^{km}, MD3.2(ATH), After ATH.*
*ATH **01** 22:04:44.2, 41.34N×23.55E, h23^{km}±2^{km}*

*THE **01** 22:04:45.1, 41.33N×23.50E, h5^{km}, ML2.8*
*CSEM **01** 22:04:45.0±0.1, 41.34N×23.51E, h11^{km}, ML2.8, Error ellipse: s-maj=2.8km s-min=1.6km az=168.0*
ISC 01 22:04:43.7±1.0**, 41.37N**±0.05×**23.52E**±0.04**, h9**^{km}±6^{km}**, n14, σ0^{s}77**/23**, Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SRS	**Serrai**	**0.25**	**168**	*e*Pg	**Pg**	**22 04 49.6**	**+0.6**
SRS				*e*Sg	**Sg**	**22 04 53.0**	**+0.5**
NVR	**Nevrokopi**	**0.26**	**93**	*e*PB	**Pb**	**22 04 50.4**	**+0.3**
NVR				*e*SB	**Sb**	**22 04 54.5**	**+0.3**
KNT	**Kendrikon**	**0.51**	**247**	*e*Pg	**Pg**	**22 04 54.6**	**+0.5**
KNT				*e*Sg	**Sg**	**22 05 01.3**	**+0.3**
SOH	**Sokhos**	**0.56**	**193**	*e*Pg	**Pg**	**22 04 54.8**	**-0.2**
SOH				*e*Sg	**Sg**	**22 05 02.5**	**0.0**
THE	**Thessaloniki**	**0.84**	**210**	*e*Pg	**Pg**	**22 05 00.0**	**-0.6**
THE				*e*Sg	**Sg**	**22 05 11.3**	**-0.7**
GRG	**Griva**	**0.94**	**245**	*e*Pg	**Pg**	**22 05 01.9**	**-0.6**
GRG				*e*Sg	**Sg**	**22 05 15.9**	**+0.8**
PLG	**Polygyros**	**0.99**	**183**	*e*PN	**Pn**	**22 05 02.7**	**-1.0**
OUR	**Ouranopolis**	**1.09**	**161**	*e*Pg	**Pg**	**22 05 05.2**	**-0.3**
OUR				*e*Sg	**Sg**	**22 05 20.4**	**+0.4**
PAIG	**Paliouri**	**1.44**	**175**	*e*Pb	**Pb**	**22 05 10.1**	**-0.2**
LIT	**Litokhoron**	**1.49**	**212**	*e*Pb	**Pb**	**22 05 10.6**	**-0.5**
LIT				*e*Sb	**Sb**	**22 05 31.7**	**+1.7**
RDO	**Rodhopi**	**1.54**	**98**	*e*PN	**Pn**	**22 05 12.2**	**+0.7**
FNA	**Florina**	**1.72**	**251**	*e*Pb	**Pb**	**22 05 14.3**	**-0.9**
FNA				*e*Sb	**Sb**	**22 05 37.7**	**+0.8**
LIA	**Limnos Island**	**1.94**	**139**	*e*PN	**Pn**	**22 05 17.4**	**+0.2**
NEO	**Neokhori**	**2.07**	**186**	*e*PB	**Pb**	**22 05 18.6**	**-2.5**

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*IDC **01** 22:28:56.5±2.5, 7.39N×82.09W, mb4.2/9, mb1 4.6/10, mb1mx4.4/18, ML4.6/3, MS4.1/15, Ms1 4.1/15, ms1mx4.1/17, Error ellipse: s-maj=68.4km s-min=28.0km az=20.0*
*NEIC **01** 22:28:57.9±0.3, 7.34N×82.03W, h10^{km}, mb4.8/28, Error ellipse: s-maj=14.7km s-min=5.6km az=52.0*
*CASC **01** 22:28:58.2±1.8, 7.02N×82.39W, h36^{km}±999^{km}, mb5.9, MD4.8, MW4.9*
ISC 01 22:28:55.2±1.2**, 7.16N**±0.04×**82.34W**±0.03**, h4**^{km}±7^{km}**, n122, σ1^{s}08**/119**, mb4.5**/36**, MS4.2**/16**, 12C-13D, South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTP1	**Petroterminal**	**1.04**	**355**	⇑*i*P	**Pb**	**22 29 18.7**	**+3.2**
DVD	**David**	**1.27**	**355**	⇑*i*P	**Pb**	**22 29 20.6**	**+1.1**
ACR	**Cerro Adams**	**1.70**	**331**	⇑*e*P	**Pn**	**22 29 25.6**	**-0.3**
ACR				*e*S	**Sn**	**22 29 47.4**	**-0.9**
AZU	**Azuero**	**2.14**	**73**	⇓*i*P	**Pn**	**22 29 32.7**	**+0.5**
CNI	**Changuinola**	**2.25**	**355**	⇓*e*P	**Pn**	**22 29 36.5**	**+2.7**
CNI				*e*S	**Sn**	**22 30 02.6**	**+0.3**
BUS	**Buena Vista**	**2.77**	**329**	⇑*e*P	**Pn**	**22 29 42.2**	**+1.0**
LIO	**Limon**	**2.91**	**346**	⇑*e*P	**Pn**	**22 29 44.8**	**+1.6**
LIO				*e*S	**Sn**	**22 30 20.1**	**+1.0**
URSC	**Urasca**	**3.02**	**332**	⇑*e*P	**Pn**	**22 29 45.5**	**+0.8**
LCR2	**La Lucha 2**	**3.05**	**327**	⇑*e*P	**Pn**	**22 29 45.9**	**+0.7**
ICR	**Volcan Irazu**	**3.17**	**332**	⇑*e*P	**Pn**	**22 29 48.3**	**+1.4**
LAJ	**Bijagual**	**3.22**	**327**	⇓*e*P	**Pn**	**22 29 49.0**	**+1.4**
SJS	**Escuela Geolog**	**3.24**	**329**	⇓*i*P	**Pn**	**22 29 47.8**	**-0.1**
SJS				*e*S	**Sn**	**22 30 27.6**	**0.0**
UPA	**Univ. de Panam**	**3.31**	**57**	⇓*i*P	**Pn**	**22 29 49.6**	**+0.7**
UPA				AMb	AMB	22 29 51.0	
	comp=Z,477nm,0.5s						
UPA				*e*S	**Sn**	**22 30 29.2**	**-0.1**
PRS1	**Puriscal**	**3.42**	**325**	*e*P	**Pn**	**22 29 49.6**	**-0.9**
CGA2	**Cerro Gallo 2**	**3.54**	**324**	*e*P	**Pn**	**22 29 52.2**	**+0.1**
VPS2	**Volcan Poas 2**	**3.55**	**328**	*e*P	**Pn**	**22 29 53.2**	**+0.9**
JEF	**Cerro Jefe**	**3.58**	**55**	⇓*i*P	**Pn**	**22 29 53.3**	**+0.6**
TRTC	**Tortuguero**	**3.66**	**338**	⇓*e*P	**Pn**	**22 29 55.0**	**+1.2**
JCR	**Jicaral**	**3.83**	**314**	*e*P	**Pn**	**22 29 55.5**	**-0.8**
JTS	**JuntasAbangare**	**4.05**	**320**	Pn	**Pn**	**22 29 57.6**	**-1.8**
	comp=Z,264nm,0.3s,baz=116,slow=9.7,SNR=400						
JTS				Sn	**Sn**	**22 30 44.9**	**-3.0**
	comp=Z,85nm,0.3s,baz=315,slow=23,SNR=5.7						
JTS				LR	LR	22 31 35.8	
	comp=Z,5μm,21.5s,baz=152,slow=40						
JTS	**JuntasAbangare**	**4.05**	**320**	Pn	**Pn**	**22 29 57.9**	**-1.4**
	comp=Z,9μm,0.4s						
JTS	**JuntasAbangare**	**4.05**	**320**	*e*Pn	**Pn**	**22 29 58.1**	**-1.3**
VCR	**Vista de Mar**	**4.39**	**312**	⇓*e*P	**Pn**	**22 30 03.9**	**-0.4**
LIM	**Lima**	**4.55**	**321**	⇑*e*P	**Pn**	**22 30 05.8**	**-0.6**
LIM				*e*S	**Sn**	**22 30 59.0**	**-1.6**
CRZC	**La Cruz**	**4.96**	**320**	⇑*e*P	**Pn**	**22 30 12.6**	**+0.3**
APON	**Apoyo**	**5.99**	**322**	*e*P	**Pn**	**22 30 26.2**	**-0.6**
WILN	**Americas 2**	**6.25**	**323**	*e*P	**Pn**	**22 30 29.6**	**-1.0**
MGAN	**Managua**	**6.28**	**322**	*e*P	**Pn**	**22 30 28.9**	**-2.0**
APYN	**Apoyeque**	**6.41**	**322**	*e*P	**Pn**	**22 30 30.9**	**-1.8**
PYTN	**Playitas**	**6.48**	**326**	⇓*e*P	**Pn**	**22 30 32.8**	**-1.0**
PYTN				*e*P		22 30 34.5	
COPN	**Copaltepe**	**6.52**	**320**	⇑*e*P	**Pn**	**22 30 33.3**	**-1.0**
MOMJ	**Momotombo**	**6.66**	**322**	⇓*e*P	**Pn**	**22 30 34.9**	**-1.4**
MIRN	**Miramar**	**6.79**	**321**	⇑*e*P	**Pn**	**22 30 37.4**	**-0.8**
CNGN	**Cerro Negro**	**6.83**	**321**	⇓*e*P	**Pn**	**22 30 37.8**	**-0.9**
LEON	**Leon**	**6.89**	**320**	⇓*e*P	**Pn**	**22 30 38.9**	**-0.6**
TEL3	**Telica 3**	**6.98**	**321**	⇓*e*P	**Pn**	**22 30 40.1**	**-0.6**
TELN	**Telica**	**6.99**	**321**	*e*P	**Pn**	**22 30 39.7**	**-1.2**
OTAV	**Otavalo**	**7.89**	**150**	*e*Pn	**Pn**	**22 30 53.0**	**-0.6**
OTAV				*e*		22 32 15.1	
ROSC	**El Rosal**	**8.28**	**106**	LR	LR	22 33 35.2	
	comp=Z,1μm,21.4s,baz=323,slow=34						
SDV	**Santo Domingo**	**11.71**	**81**	*e*P	**P**	**22 31 45.5**	**-0.8**
SDV				*e*Sn	**S**	**22 33 49.7**	**-9.0**
TEIG	**Tepich**	**14.21**	**337**	Pn	**P**	**22 32 27.3**	**+7.7**
	comp=Z,0.0nm,0.3s,baz=162,slow=20,SNR=5.3						
AOPR	**Arecibo Observ**	**18.81**	**52**	*e*P	**P**	**22 33 17.8**	**-0.4**
SJG	**San Juan**	**19.16**	**54**	P	**P**	**22 33 22.0**	**-0.3**
	comp=Z,2.5nm,0.3s,baz=255,slow=5.9,SNR=12						
SJG	**San Juan**	**19.16**	**54**	*e*P	**P**	**22 33 21.5**	**-0.8**
	comp=Z,92nm,1.1s						
HUMP	**Col San Antoni**	**19.42**	**54**	*e*P	**P**	**22 33 24.3**	**-1.0**
SAML	**Samuel**	**24.91**	**130**	*e*P	**P**	**22 34 20.7**	**-0.3**
	comp=Z,7.2nm,1.2s,mb4.1						
HKT	**Hockley**	**25.98**	**332**	*e*P	**P**	**22 34 28.9**	**-2.0**
	comp=Z,31nm,1.3s,mb4.7						
LRAL	**Lakeview Retre**	**26.11**	**351**	*e*P	**P**	**22 34 32.1**	**+0.1**
	comp=Z,50nm,1.3s,mb4.9						
LPAZ	**La Paz**	**27.21**	**149**	*e*P	**P**	**22 34 41.0**	**-1.3**
JCT	**Junction City**	**28.40**	**327**	*e*P	**P**	**22 34 52.1**	**-0.9**
	comp=Z,20nm,1.2s,mb4.6						
UALR	**University of**	**28.99**	**343**	*e*P	**P**	**22 34 56.1**	**-2.2**
	comp=Z,5.9nm,0.6s,mb4.5						
WVT	**Waverly**	**29.27**	**351**	*e*P	**P**	**22 34 58.8**	**-2.0**
	comp=Z,11nm,1.1s,mb4.5						
WVT				LR	LR		
	comp=Z,325nm,19.0s,MS4.0						
LTX	**Lajitas**	**29.84**	**320**	*e*P	**P**	**22 35 06.1**	**+0.2**
TXAR	**Lajitas Array**	**29.84**	**320**	P	**P**	**22 35 06.2**	**+0.3**
	comp=Z,2.7nm,0.9s,mb4.0,baz=140,slow=9.8,SNR=28						
TXAR				LR	LR	22 49 47.5	
	comp=Z,230nm,18.6s,MS3.8,baz=25,slow=42						
CCM	**Cathedral Cave**	**31.80**	**347**	*e*P	**P**	**22 35 21.2**	**-2.0**
	comp=Z,20nm,1.1s,mb4.9						
LVC	**Limon Verde**	**32.38**	**156**	P	**P**	**22 35 28.6**	**+0.4**
	comp=Z,9.4nm,1.3s,mb4.5						
ANMO	**Albuquerque**	**35.46**	**325**	*e*P	**P**	**22 35 55.4**	**+0.5**
	comp=Z,12nm,1.1s,mb4.7						
TUC	**Tucson**	**36.42**	**317**	*e*P	**P**	**22 36 04.1**	**+1.1**
	comp=Z,24nm,1.7s,mb4.9						
SDCO	**Great Sand Dun**	**37.00**	**329**	*e*P	**P**	**22 36 08.2**	**+0.4**
	comp=Z,13nm,1.2s,mb4.6						
PV01	**Paradox Valley**	**38.92**	**326**	*e*P	**P**	**22 36 24.2**	**+0.3**
PV10	**Paradox Valley**	**39.35**	**326**	*e*P	**P**	**22 36 27.3**	**-0.2**
SRU	**San Rafael**	**40.69**	**326**	*e*P	**P**	**22 36 39.1**	**+0.6**
BDFB	**Brasilia**	**40.85**	**124**	LR	LR	22 53 02.2	
	comp=Z,367nm,19.9s,MS4.2,baz=148,slow=36						
NEN	**Nelson**	**41.12**	**318**	*e*P	**P**	**22 36 43.3**	**+1.2**
CPUP	**Villa Florida**	**41.20**	**145**	LR	LR	22 56 33.6	
	comp=Z,268nm,18.9s,MS4.1,baz=340,slow=40						
TMUT	**Trail Mountain**	**41.20**	**325**	*e*P	**P**	**22 36 44.1**	**+1.4**
MSU	**Marysvale**	**41.23**	**324**	*e*P	**P**	**22 36 44.4**	**+1.4**
MVU	**Marysvale**	**41.25**	**324**	*e*P	**P**	**22 36 44.2**	**+1.1**
	comp=Z,20nm,1.4s,mb4.6						
ARUT	**Antelope Range**	**41.52**	**322**	*e*P	**P**	**22 36 47.3**	**+1.9**
DAU	**Daniels Canyon**	**42.00**	**327**	*e*P	**P**	**22 36 50.1**	**+0.8**
JLU	**Jordanelle**	**42.24**	**327**	*e*P	**P**	**22 36 51.9**	**+0.6**
DUG	**Dugway**	**42.72**	**325**	*e*P	**P**	**22 36 56.2**	**+1.0**
	comp=Z,27nm,1.6s,mb4.7						
TPNV	**Topopah Spring**	**42.79**	**319**	*e*P	**P**	**22 36 58.6**	**+2.7**
	comp=Z,22nm,1.3s,mb4.7						
BW06	**Boulder Array**	**42.82**	**330**	*e*P	**P**	**22 36 55.9**	**-0.1**
	comp=Z,15nm,1.4s,mb4.5						
PDAR	**Pinedale Array**	**42.82**	**330**	P	**P**	**22 36 55.6**	**-0.3**
	comp=Z,2.2nm,1.0s,mb3.8,baz=135,slow=8.4,SNR=13						
PDAR				LR	LR	22 59 05.6	
	comp=Z,206nm,20.3s,MS4.0,baz=339,slow=42						
HWUT	**Hardware Ranch**	**43.01**	**328**	*e*P	**P**	**22 36 57.5**	**0.0**
	comp=Z,6.7nm,0.8s,mb4.4						
HWUT				LR	LR		
	comp=Z,402nm,19.0s,MS4.3						
TRCR	**Troy Canyon**	**43.20**	**321**	*e*P	**P**	**22 37 01.0**	**+1.8**
SPUT	**South Promonto**	**43.27**	**327**	*e*P	**P**	**22 37 00.2**	**+0.5**
BGU	**Big Grassy Mou**	**43.34**	**326**	*e*P	**P**	**22 37 00.8**	**+0.6**
HVU	**Hansel Valley**	**43.78**	**327**	*e*P	**P**	**22 37 04.1**	**+0.4**
REDW	**Red Top Meadow**	**43.90**	**330**	*e*P	**P**	**22 37 04.6**	**-0.1**
LOHW	**Long Hollow**	**43.96**	**330**	*e*P	**P**	**22 37 05.0**	**-0.2**
TPAW	**Teton Pass**	**44.04**	**330**	*e*P	**P**	**22 37 07.2**	**+1.4**
TPH	**Tonopah**	**44.08**	**320**	*e*P	**P**	**22 37 07.9**	**+1.7**
	comp=Z,33nm,1.4s,mb4.9						
IMW	**Indian Meadow**	**44.33**	**330**	*e*P	**P**	**22 37 08.1**	**-0.1**
ULM	**Lac du Bonnet**	**44.42**	**348**	P	**P**	**22 37 06.4**	**-2.4**
	comp=Z,9.2nm,0.8s,mb4.5,baz=150,slow=5.4,SNR=5.4						
ULM	**Lac du Bonnet**	**44.42**	**348**	*e*P	**P**	**22 37 06.1**	**-2.8**
	comp=Z,20nm,1.0s,mb4.8						
ELK	**Elko**	**44.48**	**324**	*e*P	**P**	**22 37 10.5**	**+1.0**
	comp=Z,23nm,1.5s,mb4.7						
ELK				LR	LR		
	comp=Z,286nm,19.0s,MS4.2						
MTUM	**Tungsten Hills**	**44.55**	**318**	*e*P	**P**	**22 37 11.6**	**+1.4**
MNV	**Mina**	**44.88**	**319**	*e*P	**P**	**22 37 14.2**	**+1.4**
	comp=Z,19nm,1.3s,mb4.8						
NVAR	**Mina Array Bea**	**44.98**	**319**	P	**P**	**22 37 14.9**	**+1.4**
	comp=Z,6.6nm,0.8s,mb4.5,baz=124,slow=7.9,SNR=22						
NVAR				LR	LR	22 59 26.7	
	comp=Z,160nm,19.5s,MS4.0,baz=220,slow=41						
OMM	**Old Mammoth Mi**	**44.98**	**318**	*e*P	**P**	**22 37 15.0**	**+1.4**
DGMT	**Dagmar**	**45.15**	**340**	*e*P	**P**	**22 37 14.1**	**-0.6**
	comp=Z,43nm,1.3s,mb5.1						
GCMT	**Greycliff**	**45.15**	**333**	*e*P	**P**	**22 37 14.6**	**-0.2**
QLMT	**Earthquake Lak**	**45.25**	**331**	*e*P	**P**	**22 37 16.7**	**+1.1**
BMN	**Battle Mountai**	**45.47**	**322**	*e*P	**P**	**22 37 18.6**	**+1.2**
	comp=Z,58nm,1.1s,mb5.3						
HLID	**Hailey**	**45.88**	**327**	*e*P	**P**	**22 37 21.1**	**+0.5**
	comp=Z,2.7nm,0.7s,mb4.3						
BOZ	**Bozeman (W)**	**45.95**	**331**	*e*P	**P**	**22 37 20.5**	**-0.6**
	comp=Z,18nm,1.4s,mb4.8						
BEKR	**Beckwourth**	**47.10**	**320**	*e*P	**P**	**22 37 31.4**	**+1.0**
	comp=Z,7.6nm,1.1s,mb4.5						
SCHQ	**Schefferville**	**49.14**	**12**	P	**P**	**22 37 43.8**	**-2.2**
	comp=Z,8.1nm,1.0s,mb4.7,baz=187,slow=9.3,SNR=4.2						
SCHQ				LR	LR	22 57 38.5	
	comp=Z,334nm,21.0s,MS4.3,baz=68,slow=35						
SCHQ	**Schefferville**	**49.14**	**12**	P	**P**	**22 37 43.8**	**-2.2**
SCHQ				LR	LR	22 57 38.5	
LNOR	**Lincton Mounta**	**49.47**	**327**	*e*P	**P**	**22 37 48.4**	**-0.3**
VGB	**Gordon Butte**	**50.62**	**326**	*e*P	**P**	**22 37 57.7**	**+0.3**
DPW	**Davenport**	**50.73**	**329**	*e*P	**P**	**22 37 57.9**	**-0.3**
LON	**Longmire**	**51.93**	**326**	*e*P	**P**	**22 38 07.2**	**-0.2**
GNW	**Green Mountain**	**52.98**	**327**	*e*P	**P**	**22 38 14.2**	**-1.0**
YKA	**Yellowknife Ar**	**60.05**	**343**	P	**P**	**22 39 04.0**	**-1.6**
	comp=Z,1.8nm,0.6s,mb4.3,baz=146,slow=6.4,SNR=4.3						
YKA				LR	LR	23 07 13.2	
	comp=Z,174nm,19.8s,MS4.2,baz=130,slow=38						
YKA	**Yellowknife Ar**	**60.05**	**343**	P	**P**	**22 39 04.0**	**-1.6**
YKA				LR	LR	23 07 13.2	
INK	**Inuvik**	**69.75**	**342**	*e*P	**P**	**22 40 07.6**	**-0.6**
	comp=Z,19nm,1.3s,mb4.9						
SUMG	**Summit**	**70.52**	**13**	*e*P	**P**	**22 40 11.7**	**-1.1**
	comp=Z,8.3nm,0.9s,mb4.7						
ILAR	**Eielson Array**	**72.87**	**336**	P	**P**	**22 40 26.2**	**-0.7**
	comp=Z,1.1nm,0.6s,mb4.0,baz=106,slow=4.7,SNR=30						
ESDC	**Sonseca Array**	**76.52**	**51**	P	**P**	**22 40 48.3**	**-0.2**
	comp=Z,1.4nm,0.8s,mb3.9,baz=270,slow=6.3,SNR=5.2						
ESDC				LR	LR	23 09 25.9	
	comp=Z,135nm,21.4s,MS4.2,baz=305,slow=32						
DBIC	**Dimbokro**	**76.82**	**85**	LR	LR	23 11 24.7	
	comp=Z,99nm,21.9s,MS4.1,baz=253,slow=33						
NOA	**NORSAR Array B**	**85.51**	**29**	LR	LR	23 17 53.0	
	comp=Z,85nm,19.3s,MS4.2,baz=250,slow=34						
GRA1	**Grafenberg Arr**	**86.90**	**40**	*e*P	**P**	**22 41 42.7**	**+0.1**
	comp=Z,4.0nm,1.1s,mb4.6						
GERES	**GERESS Array B**	**88.62**	**41**	P	**P**	**22 41 49.0**	**-1.9**
	comp=Z,0.3nm,0.8s,mb3.7,baz=262,slow=6.9,SNR=3.8						
ARCES	**ARCESS Array B**	**89.49**	**20**	LR	LR	23 16 57.1	
	comp=Z,76nm,21.3s,MS4.1,baz=217,slow=32						
FINES	**FINESS Array B**	**92.41**	**27**	LR	LR	23 22 05.3	
	comp=Z,138nm,19.9s,MS4.4,baz=309,slow=35						
AKASG	**Malin Array Be**	**97.84**	**37**	LR	LR	23 23 51.7	
	comp=Z,129nm,18.4s,MS4.5,baz=290,slow=34						
ASAR	**Alice Springs**	**141.56**	**241**	PKP	PKPdf	22 48 28.8	-2.2
	comp=Z,0.4nm,0.8s,baz=124,slow=3.0,SNR=3.5						
WRA	**Warramunga Arr**	**142.25**	**247**	PKP	PKPdf	22 48 30.3	-2.0
	comp=Z,0.7nm,0.7s,baz=95,slow=2.1,SNR=4.1						
CMAR	**Chiang Mai Arr**	**154.52**	**357**	PKPbc	PKPdf	22 49 03.3	+12
	comp=Z,0.6nm,0.9s,baz=315,slow=2.6,SNR=3.4						

IDC 01 22:32:07.2±10.0**, 22.06S**×**178.37W, h417**^{km}±120^{km}**, mb3.2**/5**, mb1 3.3**/6**, mb1mx3.2**/15**, Error ellipse: s-maj=182.0km s-min=50.4km az=74.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**16.61**	**193**	P	P	22 35 36.2	-1.1
	0.6nm,0.3s,baz=23,slow=15,SNR=2.7						
URZ				S	S	22 38 27.5	+0.2
	0.9nm,0.3s,baz=271,slow=23,SNR=11						
CTA	**Charters Tower**	**33.03**	**267**	P	P	22 38 06.4	-0.9
	2.2nm,0.5s,baz=107,slow=11,SNR=5.8						
STKA	**Stephens Creek**	**36.82**	**246**	P	P	22 38 38.2	-0.9
	1.0nm,0.7s,baz=80,slow=11,SNR=2.9						
ASAR	**Alice Springs**	**43.85**	**258**	P	P	22 39 34.8	-1.3
	1.8nm,0.8s,baz=90,slow=8.1,SNR=13						
WRA	**Warramunga Arr**	**44.07**	**264**	P	P	22 39 35.5	-2.3
	0.7nm,0.3s,baz=95,slow=7.8,SNR=7.0						
FITZ	**Fitzroy Crossi**	**52.50**	**264**	P	P	22 40 40.4	-1.5
	1.9nm,0.9s,baz=63,slow=2.5,SNR=2.5						

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*IDC **01** 22:32:25.1±2.5, 9.35S×160.28E, mb4.1/6, mb1 4.2/6, mb1mx4.1/15, Error ellipse: s-maj=89.1km s-min=25.3km az=131.0*
ISC 01 22:32:29.7±2.5**, 9.2S**±0.4×**160.0E**±0.5**, h33**^{km}**, n6, σ1^{s}22**/6**, mb3.9**/6**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.99**	**244**	P	**P**	**22 38 10.9**	**+0.2**
	1.7nm,0.4s,mb3.9,baz=72,slow=9.1,SNR=12						
STKA	**Stephens Creek**	**28.30**	**215**	P	**P**	**22 38 26.8**	**+4.4**
	1.3nm,0.7s,mb3.7,baz=42,slow=16,SNR=5.8						
ASAR	**Alice Springs**	**28.79**	**237**	P	**P**	**22 38 26.4**	**-0.6**
	0.7nm,0.6s,mb3.5,baz=60,slow=10,SNR=7.3						
FITZ	**Fitzroy Crossi**	**34.49**	**251**	P	**P**	**22 39 16.6**	**-0.3**
	1.6nm,0.5s,mb4.2,baz=127,slow=5.9,SNR=8.0						
SONM	**Songino Array**	**73.90**	**326**	P	**P**	**22 44 03.9**	**+0.7**
	1.5nm,0.6s,mb4.1,baz=135,slow=5.3,SNR=16						
ILAR	**Eielson Array**	**83.66**	**20**	P	**P**	**22 44 55.5**	**-0.5**
	0.6nm,0.5s,mb4.0,baz=250,slow=5.1,SNR=13						

MEX 01 23:15:30.2±0.6**, 15.46N**×**95.21W, h16**^{km}±63^{km}**, MD3.6, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.92**	**290**	*e*P	Pb	23 15 44.4	-2.9
HUIG				*e*S	Sb	23 15 54.7	-4.3
CMIG	**Matias Romero**	**1.66**	**11**	*e*P	Pn	23 15 54.2	-4.6
CMIG				*e*S	Sn	23 16 14.4	-5.5
OXX	**Oaxaca**	**2.17**	**318**	*e*P	Pn	23 16 04.5	-1.8
OXX				*e*S	Sn	23 16 28.0	-5.1

IDC 01 23:27:36.2±1.6**, 1.89N**×**127.86E, mb3.4**/4**, mb1 3.6**/4**, mb1mx3.5**/15**, Error ellipse: s-maj=169.0km s-min=21.1km az=70.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.61**	**164**	P	P	23 32 38.6	-1.5
	1.1nm,0.6s,baz=346,slow=11,SNR=8.7						
ASAR	**Alice Springs**	**26.07**	**167**	P	P	23 33 11.8	-1.6
	0.3nm,0.6s,baz=345,slow=7.0,SNR=5.1						
SONM	**Songino Array**	**49.39**	**341**	P	P	23 36 28.5	-1.2
	0.3nm,1.0s,baz=153,slow=9.0,SNR=2.6						
MKAR	**Makanchi Array**	**59.70**	**325**	P	P	23 37 42.1	-2.9
	0.5nm,0.3s,baz=117,slow=7.8,SNR=13						

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*IDC **01** 23:28:55.1±7.9, 13.88S×74.63W, h56^{km}±70^{km}, mb4.0/12, mb1 4.2/12, mb1mx4.1/17, MS3.7/2, Ms1 3.6/2, ms1mx3.0/22, Error ellipse: s-maj=38.3km s-min=16.4km az=60.0*
*NEIC **01** 23:28:58.2±0.7, 13.75S×74.43W, h82^{km}±6^{km}, mb4.5/21, Error ellipse: s-maj=10.7km s-min=5.3km az=54.0*
ISC 01 23:28:56.1±1.0**, 13.76S**±0.08×**74.52W**±0.08**, h80**^{km}±9^{km}**, n49, σ1^{s}04**/44**, mb4.4**/29**, 1D, Central Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NNA	**Nana**	**2.87**	**308**	*e*Pn	**P**	**23 29 43.5**	**+2.8**
NNA				*e*Sn	**S**	**23 30 12.5**	**-1.7**
ARE	**Arequipa**	**3.98**	**133**	⇓*i*P	**P**	**23 29 57.7**	**+1.6**
LVC	**Limon Verde**	**10.29**	**150**	*e*Pn	**P**	**23 31 21.8**	**-1.1**
	8.0nm,0.3s						
LVC				*e*Sn	**S**	**23 33 08.6**	**-8.7**
SAML	**Samuel**	**12.10**	**68**	*e*Pn	**P**	**23 31 45.1**	**-2.1**
	20nm,0.3s						
OTAV	**Otavalo**	**14.44**	**344**	*e*Pn	**P**	**23 32 18.8**	**+0.9**
	2.2nm,0.6s						
CPUP	**Villa Florida**	**20.40**	**130**	P	**P**	**23 33 28.0**	**-0.9**
	4.0nm,0.9s,baz=314,slow=12,SNR=6.5						
CPUP	**Villa Florida**	**20.40**	**130**	*e*P	**P**	**23 33 28.4**	**-0.6**
	8.1nm,1.1s						
SDV	**Santo Domingo**	**22.83**	**10**	*e*P	**P**	**23 33 54.6**	**+1.4**
	5.9nm,0.7s,mb4.0						
BDFB	**Brasilia**	**25.70**	**97**	P	**P**	**23 34 21.6**	**+0.8**
	2.1nm,0.4s,mb3.9,baz=263,slow=11,SNR=4.0						
BDFB				LR	LR	23 44 20.5	
	comp=Z,74nm,20.5s,baz=279,slow=36						
JTS	**JuntasAbangare**	**26.04**	**336**	LR	LR	23 43 44.9	
	comp=Z,392nm,21.6s,baz=349,slow=34						
LRAL	**Lakeview Retre**	**48.03**	**346**	*e*P	**P**	**23 37 28.5**	**-0.8**
	9.0nm,0.9s,mb4.6						
BLA	**Blacksburg**	**51.00**	**354**	*e*P	**P**	**23 37 52.0**	**0.0**
	6.8nm,0.7s,mb4.8						
WVT	**Waverly**	**51.19**	**346**	*e*P	**P**	**23 37 51.8**	**-1.7**
	2.8nm,0.6s,mb4.5						
LTX	**Lajitas**	**51.25**	**327**	*e*P	**P**	**23 37 53.7**	**-0.4**
	4.3nm,0.8s,mb4.5						
TXAR	**Lajitas Array**	**51.25**	**327**	P	**P**	**23 37 54.1**	**+0.1**
	2.6nm,0.5s,mb4.5,baz=149,slow=8.9,SNR=48						
WCI	**Wyandotte Cave**	**52.88**	**348**	*e*P	**P**	**23 38 04.8**	**-1.3**
	20nm,0.7s,mb5.3						
WMOK	**Wichita Mounta**	**53.45**	**335**	*e*P	**P**	**23 38 09.6**	**-0.8**
	1.4nm,0.6s,mb4.2						
CCM	**Cathedral Cave**	**53.87**	**344**	*e*P	**P**	**23 38 13.4**	**-0.1**
	4.0nm,0.6s,mb4.6						
GDL2	**Guadalupe Moun**	**53.90**	**329**	*e*P	**P**	**23 38 13.8**	**+0.1**
BINY	**Binghamton**	**55.69**	**359**	*e*P	**P**	**23 38 26.8**	**+0.1**
	4.8nm,0.4s,mb4.9						
ANMO	**Albuquerque**	**57.14**	**329**	*e*P	**P**	**23 38 36.6**	**-0.4**
	1.8nm,0.7s,mb4.2						
TUC	**Tucson**	**57.47**	**324**	*e*P	**P**	**23 38 39.3**	**-0.1**
	2.1nm,0.8s,mb4.2						
SADO	**Sadowa**	**58.40**	**356**	P	**P**	**23 38 44.5**	**-1.1**
	5.9nm,0.6s,mb4.8,baz=188,slow=6.7,SNR=7.6						
SDCO	**Great Sand Dun**	**58.91**	**332**	*e*P	**P**	**23 38 49.5**	**+0.1**
	5.1nm,0.9s,mb4.5						
PV01	**Paradox Valley**	**60.69**	**330**	*e*P	**P**	**23 39 01.8**	**+0.3**
TPNV	**Topopah Spring**	**63.93**	**324**	*e*P	**P**	**23 39 22.4**	**-0.7**
	3.9nm,0.9s,mb4.2						
DUG	**Dugway**	**64.39**	**328**	*e*P	**P**	**23 39 26.6**	**+0.5**
	7.4nm,1.3s,mb4.4						
PDAR	**Pinedale Array**	**64.78**	**332**	P	**P**	**23 39 28.3**	**-0.3**
	0.3nm,0.5s,mb3.4,baz=127,slow=9.0,SNR=2.9						
TPH	**Tonopah**	**65.26**	**324**	*e*P	**P**	**23 39 32.4**	**+0.6**
	1.9nm,0.3s,mb4.4						
NVAR	**Mina Array Bea**	**66.12**	**324**	P	**P**	**23 39 38.1**	**+0.8**
	2.0nm,1.1s,mb3.9,baz=145,slow=7.5,SNR=6.7						
NVAR				PcP	PcP	23 40 07.0	+0.1
	1.4nm,0.9s,baz=149,slow=5.3,SNR=5.2						
ULM	**Lac du Bonnet**	**66.43**	**345**	P	**P**	**23 39 38.1**	**-0.9**
	5.9nm,0.5s,mb4.7,baz=159,slow=5.4,SNR=5.0						
PAHR	**Pah Rah Range**	**67.61**	**324**	*e*P	**P**	**23 39 48.1**	**+1.6**
	2.9nm,0.6s,mb4.3						
SCHQ	**Schefferville**	**68.63**	**5**	P	**P**	**23 39 52.5**	**-0.1**
	11nm,1.1s,mb4.6,baz=229,slow=8.9,SNR=4.0						
SCHQ	**Schefferville**	**68.63**	**5**	*e*P	**P**	**23 39 52.4**	**-0.2**
	13nm,1.0s,mb4.7						
SNAA	**Sanae**	**71.29**	**162**	P	**P**	**23 40 07.5**	**-1.0**
	1.1nm,0.6s,mb3.9,baz=284,slow=7.1,SNR=18						
SNAA	**Sanae**	**71.29**	**162**	*e*P	**P**	**23 40 07.4**	**-1.1**
	3.9nm,0.8s,mb4.3						
QSPA	**South Pole Qui**	**76.39**	**180**	*e*P	**P**	**23 40 37.8**	**-0.1**
	3.7nm,0.9s,mb4.1						
QSPA				LR	LR		
	comp=Z,200nm,18.1s						
ESDC	**Sonseca Array**	**84.30**	**47**	P	**P**	**23 41 22.6**	**+1.9**
	comp=Z,0.7nm,0.4s,mb3.8,baz=257,slow=5.3,SNR=6.4						
DLBC	**Dease Lake**	**84.92**	**334**	P	**P**	**23 41 24.7**	**+1.4**
	comp=Z,3.8nm,0.9s,mb4.3,baz=153,slow=6.0,SNR=6.2						
DLBC	**Dease Lake**	**84.92**	**334**	P	**P**	**23 41 24.7**	**+1.4**
SUMG	**Summit**	**89.35**	**10**	*e*P	**P**	**23 41 46.0**	**+1.6**
	comp=Z,8.3nm,0.9s,mb4.8						
MAW	**Mawson**	**93.20**	**165**	P	**P**	**23 42 02.4**	**+0.1**
	comp=Z,1.5nm,0.7s,mb4.5,baz=216,slow=1.0,SNR=6.6						
MAW	**Mawson**	**93.20**	**165**	*e*P	**P**	**23 42 02.3**	**-0.1**
ARU	**Arti**	**124.42**	**29**	*e*PKPdf	PKPdf	23 47 47.2	+1.3
ZRNK	**Zerenda**	**131.37**	**29**	*e*PKPdf	PKPdf	23 48 01.2	+1.8
ZAL	**Zalesovo**	**136.73**	**18**	PKP	PKPdf	23 48 10.7	+1.4
	comp=Z,2.2nm,0.8s,baz=158,slow=1.0,SNR=15						
MKAR	**Makanchi Array**	**141.76**	**26**	PKP	PKPdf	23 48 20.2	+1.7
	comp=Z,1.1nm,0.7s,baz=297,slow=2.7,SNR=5.6						
FITZ	**Fitzroy Crossi**	**142.61**	**213**	PKhKP		23 48 18.5	
	comp=Z,2.4nm,0.8s,baz=154,slow=10,SNR=3.3						
SONM	**Songino Array**	**146.02**	**359**	PKPbc	PKPbc	23 48 29.1	+2.1
	comp=Z,6.3nm,0.7s,baz=331,slow=2.4,SNR=55						

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*HEL **01** 23:34:31.3±0.1, 67.85N×20.18E, ML1.9, ML2.2(UPP), ML2.0(BER), Explosion*
*NAO **01** 23:34:32.6±2.9, 67.91N×20.46E, ML2.2*
*BER **01** 23:34:32.6±3.3, 67.89N×20.14E, ML1.9, ML2.2(NAO), Suspected explosion*
ISC 01 23:34:29.2±0.4**, 67.79N**±0.03×**20.12E**±0.07**, n22, σ0^{s}91**/36**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.19**	**26**	*i* P	**Pg**	**23 34 33.3**	**+0.4**
KUA				*i* S	**Sg**	**23 34 35.1**	**-0.3**
NIKU	**Nikkaluokta**	**0.42**	**282**	*i* P	**Pg**	**23 34 39.2**	**+1.6**
DUNU	**Dundret**	**0.69**	**165**	*i* P	**Pg**	**23 34 44.5**	**+1.5**
MASU	**Masugnsbyn**	**0.79**	**114**	*i* P	**Pg**	**23 34 45.6**	**+0.7**
KIF	**Kilpisjarvi**	**1.25**	**11**	*e*P	**Pb**	**23 34 52.9**	**-0.4**
KIF				*e*S	**Sb**	**23 35 08.8**	**-1.1**
PAJU	**Pajala**	**1.39**	**122**	*e*P	**Pb**	**23 34 56.1**	**+0.5**
KTK1	**Kautokeino**	**1.69**	**42**	*e*P	**Pn**	**23 35 01.2**	**+1.1**
KTK1				*e*SN	**Sn**	**23 35 22.4**	**-0.4**
KTK1				AML	AML	23 35 25.7	
	comp=Z,11nm,0.3s						
TRO	**Tromso**	**1.91**	**347**	*e*P	**Pn**	**23 35 03.3**	**+0.1**
TRO				*e*S	**Sn**	**23 35 27.7**	**-0.6**
TRO				AML	AML	23 35 30.8	
	comp=Z,19nm,0.5s						
SGF	**Sodankyl**	**2.48**	**95**	*e*P	**Pn**	**23 35 12.1**	**+0.7**
SGF				*e*S	**Sn**	**23 35 42.5**	**-0.3**
LOF	**Lofoten**	**2.51**	**281**	*e*	**Sg**	**23 35 52.9**	**+0.3**
LOF				AML	AML	23 35 56.8	
	comp=Z,9.1nm,0.6s						
LOF	**Lofoten**	**2.51**	**281**	*e*Sg	**Sg**	**23 35 52.9**	**+0.3**
LOF				AML	AML	23 35 56.8	
	comp=Z,9.1nm,0.6s						
ARA0	**ARCESS Array S**	**2.64**	**46**	*e*P	**Pn**	**23 35 14.1**	**+0.4**
ARA0				*e*SG	**Sg**	**23 35 49.9**	**-7.1**
ARA0	**ARCESS Array S**	**2.64**	**46**	Pn	**Pn**	**23 35 14.1**	**+0.4**
	baz=234,slow=14						
ARA0				Lg		23 35 49.9	
	baz=228,slow=28						
MELS	**Mels**	**2.65**	**252**	*e*Sg	**Sg**	**23 35 55.6**	**-1.7**
MOR8	**Moi Rana**	**2.76**	**237**	*e*SG	**Sg**	**23 35 54.6**	**-6.5**
MOR8				AML	AML	23 35 55.3	
	comp=Z,14nm,0.4s						
KEV	**Kevo**	**3.19**	**49**	*e*P	**Pn**	**23 35 22.6**	**+1.0**
KEV				*e*S	**Sn**	**23 36 00.3**	**-0.7**
OUL	**Oulu**	**3.57**	**137**	*e*PB	**Pb**	**23 35 33.2**	**+0.2**
OUL				*e*S	**Sn**	**23 36 10.8**	**+0.4**
OUL				*e*SG	**Sg**	**23 36 22.4**	**-5.6**
OUL				MSG		23 36 27.0	

	comp=Z,2.3nm,0.3s						
MSF	**Maaselka**	**3.99**	**114**	*e*P	**Pn**	**23 35 33.2**	**+0.2**
MSF				*e*S	**Sn**	**23 36 20.7**	**-0.5**
MSF				*e*SG	**Sg**	**23 36 34.6**	**-7.5**
MSF				MSG		23 36 38.5	
	comp=Z,3.0nm,0.4s						
NSS	**Namsos**	**4.65**	**229**	*e*SG	**Sg**	**23 36 58.3**	**-5.6**
NSS				AML	AML	23 36 59.0	
	comp=Z,7.0nm,0.4s						
KJN	**Kajaani**	**4.84**	**137**	*e*P	**Pn**	**23 35 45.1**	**+0.1**
KJN				*e*S	**Sn**	**23 36 41.3**	**-1.3**
KJN				*e*SG	**Sg**	**23 37 00.3**	**-10**
KJN				MSG		23 37 01.2	
	comp=Z,1.0nm,0.4s						
FIA0	**FINESS Array S**	**6.86**	**155**	*e*S	**Sn**	**23 37 30.6**	**-2.7**
FIA0				*e*SG	**Sg**	**23 38 06.7**	**-11**
FIA0	**FINESS Array S**	**6.86**	**155**	Sn	**Sn**	**23 37 30.6**	**-2.7**
	baz=349,slow=28						
FIA0				Lg		23 38 06.7	
	baz=334,slow=28						

*IDC **01** 23:40:15.4±0.9, 58.67S×158.12E, mb4.3/9, mb1 4.4/9, mb1mx4.4/12, MS3.9/8, Ms1 3.9/8, ms1mx3.9/11, Error ellipse: s-maj=34.3km s-min=18.3km az=82.0*
*NEIC **01** 23:40:17.1±0.5, 58.66S×158.13E, h10^{km}, mb4.6/7, Error ellipse: s-maj=17.7km s-min=8.4km az=81.0*
ISC 01 23:40:15.6±0.5**, 58.68S**±0.07×**158.0E**±0.3**, h10^{km}, n28, σ0^{s}93**/22**, mb4.3**/13**, MS3.9**/7**, 3C-1D, Macquarie Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**17.01**	**34**	LR	LR	23 49 24.1	
	comp=Z,663nm,20.4s,baz=180,slow=32						
SBA	**Scott Base**	**19.49**	**174**	*e*P	**P**	**23 44 44.7**	**-0.3**
	30nm,1.4s						
CASY	**Casey**	**22.69**	**231**	*e*P	**P**	**23 45 18.8**	**+0.9**
	6.6nm,0.9s,mb4.1						
URZ	**Urewera**	**23.86**	**39**	P	**P**	**23 45 31.7**	**+2.1**
	10nm,0.9s,mb4.3,baz=261,slow=10,SNR=3.9						
URZ				LR	LR	23 53 36.0	
	comp=Z,124nm,18.4s,MS3.4,baz=265,slow=34						
STKA	**Stephens Creek**	**29.02**	**330**	P	**P**	**23 46 18.1**	**+0.5**
	8.8nm,1.3s,mb4.3,baz=184,slow=5.1,SNR=4.0						
STKA				LR	LR	23 56 50.9	
	comp=Z,432nm,18.1s,MS4.1,baz=12,slow=34						
QSPA	**South Pole Qui**	**31.43**	**180**	*e*P	**P**	**23 46 37.9**	**-0.5**
ASAR	**Alice Springs**	**38.97**	**323**	P	**P**	**23 47 43.3**	**-0.1**
	4.0nm,1.0s,mb4.1,baz=163,slow=8.0,SNR=18						
ASAR				PcP	PcP	23 49 52.4	-2.1
	1.5nm,0.9s,baz=157,slow=3.8,SNR=6.5						
ASAR				LR	LR	00 01 07.8	
	comp=Z,113nm,19.2s,MS3.7,baz=185,slow=32						
CTA	**Charters Tower**	**39.48**	**342**	P	**P**	**23 47 47.5**	**-0.2**
	5.9nm,0.9s,mb4.3,baz=130,slow=4.5,SNR=5.7						
CTAO	**Charters Tower**	**39.48**	**342**	*e*P	**P**	**23 47 48.1**	**+0.4**
	24nm,1.3s,mb4.8						
MAW	**Mawson**	**39.69**	**217**	P	**P**	**23 47 50.4**	**+1.5**
	1.7nm,0.6s,mb4.0,baz=121,slow=9.7,SNR=7.8						
MAW				LR	LR	00 03 41.7	
	comp=Z,240nm,19.6s,MS4.0,baz=103,slow=35						
MAW	**Mawson**	**39.69**	**217**	*e*P	**P**	**23 47 50.7**	**+1.8**
MAW				LR	LR	00 03 41.7	
WRA	**Warramunga Arr**	**42.34**	**326**	P	**P**	**23 48 10.1**	**-1.1**
	2.6nm,0.7s,mb4.0,baz=162,slow=6.8,SNR=16						
WRA				PcP	PcP	23 50 02.8	-2.5
	1.1nm,0.6s,baz=160,slow=2.6,SNR=5.3						
WRA				LR	LR	00 05 56.7	
	comp=Z,100nm,18.4s,MS3.7,baz=220,slow=36						
WRAB	**Tennant Creek**	**42.34**	**326**	*e*P	**P**	**23 48 09.6**	**-1.6**
	7.6nm,0.9s,mb4.3						
FITZ	**Fitzroy Crossi**	**46.93**	**316**	P	**P**	**23 48 48.2**	**+0.2**
	6.0nm,0.8s,mb4.6,baz=174,slow=11,SNR=8.0						
SNAA	**Sanae**	**49.26**	**188**	⇓*i*	**P**	**23 49 04.8**	**-0.7**
SNAA	**Sanae**	**49.26**	**188**	P	**P**	**23 49 04.9**	**-0.6**
	0.9nm,1.0s,mb3.8,baz=164,slow=9.0,SNR=6.1						
VNA3	**Neumayer Olymp**	**50.08**	**185**	⇑*i*	**P**	**23 49 12.2**	**+0.4**
VNA2	**Neumayer--Watz**	**50.28**	**186**	⇑*i*	**P**	**23 49 13.5**	**+0.2**
VNA1	**Neumayer--Stat**	**50.60**	**186**	⇑*i*	**P**	**23 49 16.0**	**+0.2**
TBI	**Tubuai**	**51.08**	**70**	*e*L		00 01 06.1	
TBI				*e*R		00 03 13.2	
	139nm,22.8s,baz=246						
TRQA	**Tornquist**	**78.02**	**149**	*e*P	**P**	**23 52 13.5**	**-1.8**
	6.1nm,0.8s,mb4.6						
LVC	**Limon Verde**	**90.21**	**138**	*e*P	**P**	**23 53 17.7**	**+0.4**
	5.5nm,0.9s,mb4.9						
CPUP	**Villa Florida**	**90.36**	**149**	P	**P**	**23 53 17.5**	**-0.4**
	2.7nm,0.9s,mb4.6,baz=219,slow=7.9,SNR=6.0						
CPUP	**Villa Florida**	**90.36**	**149**	*e*P	**P**	**23 53 17.4**	**-0.5**
	3.0nm,0.9s,mb4.6						
CMAR	**Chiang Mai Arr**	**90.78**	**305**	LR	LR	00 31 38.4	
	comp=Z,92nm,19.2s,MS4.2,baz=175,slow=34						
LPAZ	**La Paz**	**96.31**	**136**	LR	LR	00 27 08.8	
	comp=Z,38nm,21.5s,MS3.8,baz=17,slow=29						
ILAR	**Eielson Array**	**129.96**	**27**	PKhKP		23 59 19.8	
	0.6nm,1.1s,baz=233,slow=4.5,SNR=3.7						
AKASG	**Malin Array Be**	**150.03**	**277**	PKPbc	PKPdf	00 00 05.4	+2.3
	0.4nm,0.3s,baz=93,slow=2.5,SNR=7.7						

*CASC **02** 00:58:24.7±1.9, 12.14N×87.34W, h46^{km}±23^{km}, MD4.1, ML4.3*
ISC 02 00:58:24.2±0.6**, 12.08N**±0.05×**87.37W**±0.02**, h46^{km}, n33, σ0^{s}69**/58**, 8C-14D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LEON	**Leon**	**0.57**	**54**	⇓*i*P	**P**	**00 58 36.3**	**+0.1**
CRIN	**San Cristobal**	**0.69**	**27**	⇓*e*P	**P**	**00 58 38.1**	**+0.4**
CRIN				*e*S	**S**	**00 58 48.0**	**+0.3**
TEL3	**Telica 3**	**0.71**	**46**	⇓*i*P	**P**	**00 58 37.9**	**0.0**
MIRN	**Miramar**	**0.74**	**60**	⇓*e*P	**P**	**00 58 38.3**	**0.0**
MIRN				*e*S	**S**	**00 58 48.2**	**-0.4**
TELN	**Telica**	**0.74**	**45**	⇓*e*P	**P**	**00 58 38.3**	**-0.1**
TELN				*e*S	**S**	**00 58 48.4**	**-0.4**
COPN	**Copaltepe**	**0.77**	**82**	⇓*i*P	**P**	**00 58 38.9**	**+0.2**
COPN				*e*S	**S**	**00 58 48.9**	**-0.5**
CNGN	**Cerro Negro**	**0.78**	**57**	⇓*e*P	**P**	**00 58 38.7**	**-0.2**
CNGN				*e*S	**S**	**00 58 49.2**	**-0.5**
MOMJ	**Momotombo**	**0.88**	**68**	⇑*e*P	**P**	**00 58 39.8**	**-0.5**
MOMJ				*e*S	**S**	**00 58 52.6**	**+0.6**
APYN	**Apoyeque**	**1.01**	**81**	⇓*e*P	**P**	**00 58 42.0**	**-0.1**
XAVN	**Gruta Xavier**	**1.02**	**86**	⇑*e*P	**P**	**00 58 42.1**	**-0.1**
XAVN				*e*S	**S**	**00 58 55.0**	**-0.7**
CRUN	**El Crucero**	**1.05**	**95**	*e*P	**P**	**00 58 42.7**	**0.0**
MGAN	**Managua**	**1.10**	**86**	⇑*e*P	**P**	**00 58 43.1**	**-0.2**
MGAN				*e*S	**S**	**00 58 57.3**	**-0.3**
	comp=N,7μm,0.3s						
MGAN				*i*		00 58 57.9	
	comp=E,7μm,0.3s						
TICN	**Ticuantepe**	**1.11**	**92**	⇑*e*P	**P**	**00 58 43.7**	**+0.1**
TICN				*e*S	**S**	**00 59 01.8**	**+3.8**
WILN	**Americas 2**	**1.16**	**86**	⇑*i*P	**P**	**00 58 44.0**	**-0.1**
WILN				*e*S	**S**	**00 58 58.7**	**-0.4**
MASN	**Masaya**	**1.19**	**94**	*e*P	**P**	**00 58 44.5**	**-0.2**
MASN				⇓*e*P		00 58 44.6	
MASN				*e*S	**S**	**00 59 01.1**	**+1.1**
MASN				*i*		00 59 03.7	
	comp=E,6μm,0.3s						
CNCH	**Conchagua**	**1.28**	**339**	⇓*e*P	**P**	**00 58 46.1**	**+0.1**
CNCH				*e*S	**S**	**00 59 01.6**	**-0.6**
APON	**Apoyo**	**1.28**	**97**	⇓*e*P	**P**	**00 58 46.0**	**0.0**
PYTN	**Playitas**	**1.36**	**70**	⇑*e*P	**P**	**00 58 46.4**	**-0.8**
PYTN				*e*S	**S**	**00 59 03.8**	**-0.5**
QUIN	**Quiabu**	**1.40**	**42**	⇓*i*P	**P**	**00 58 47.1**	**-0.6**
SOMN	**Somoto**	**1.53**	**29**	*e*P	**P**	**00 58 51.0**	**+1.4**
SOMN				*e*S	**S**	**00 59 10.4**	**+2.1**
BLLM	**Bellamira**	**1.60**	**328**	⇓*e*P	**P**	**00 58 50.9**	**+0.3**
BLLM				*e*S	**S**	**00 59 09.0**	**-1.2**
VSM	**San Miguel**	**1.61**	**327**	*e*P	**P**	**00 58 50.6**	**-0.1**
VSM				*e*S	**S**	**00 59 10.3**	**-0.1**
CAHU	**Cacacuatique**	**1.88**	**334**	⇑*e*P	**P**	**00 58 55.0**	**+0.5**
CAHU				*e*S	**S**	**00 59 18.9**	**+2.0**
SNVI	**San Vicente**	**2.10**	**317**	*e*P	**P**	**00 58 57.5**	**0.0**
SNVI				*e*S	**S**	**00 59 21.8**	**-0.7**
LCBS	**La Ceiba**	**2.22**	**315**	⇓*e*P	**P**	**00 58 59.2**	**-0.1**
LCBS				*e*S	**S**	**00 59 24.8**	**-0.8**
LFRS	**El Faro**	**2.26**	**313**	⇑*e*P	**P**	**00 58 59.7**	**-0.1**
LFRS				*e*S	**S**	**00 59 24.9**	**-1.7**
LBRS	**Las Brisas**	**2.32**	**316**	*e*P	**P**	**00 59 01.3**	**+0.5**
LBRS				*e*S	**S**	**00 59 27.3**	**-1.0**
LFU	**La Fuente**	**2.38**	**315**	*e*P	**P**	**00 59 02.7**	**+1.1**
BOQS	**Boqueron**	**2.49**	**312**	*e*P	**P**	**00 59 03.3**	**+0.1**
BOQS				*e*S	**S**	**00 59 31.8**	**-0.7**
SBLS	**San Blas**	**2.81**	**309**	*e*P	**P**	**00 59 08.5**	**+0.8**
SBLS				*e*S	**S**	**00 59 41.5**	**+0.8**
SNJE	**San Jose**	**2.82**	**310**	*e*P	**P**	**00 59 08.5**	**+0.6**
SNJE				*e*S	**S**	**00 59 40.6**	**-0.2**
RTR	**El Retiro**	**2.87**	**309**	*e*P	**P**	**00 59 09.4**	**+0.9**
RTR				*e*S	**S**	**00 59 46.6**	**+4.5**
MTO2	**Montecristo 2**	**3.02**	**320**	*e*P	**P**	**00 59 10.9**	**+0.2**

*STR **02** 01:08:20.6±0.2, 42.85N×1.44W, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **02** 01:08:20.2±0.5, 42.85N×1.51W, h2^{km}, Md2.3/2, Ml2.0/4, Error ellipse: s-maj=8.4km s-min=5.5km az=55.0*
*MDD **02** 01:08:21.8±0.4, 42.86N×1.39W, h4^{km}±5^{km}, mbLg1.6/8, Error ellipse: s-maj=3.1km s-min=1.9km az=41.0, PRXIMO AftershockPLICA*
ISC 02 01:08:20.1±0.6**, 42.87N**±0.03×**1.44W**±0.04**, h13^{km}**±3^{km}**, n23, σ1^{s}08**/43**, 1C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.29**	**32**	*e*Pg	**Pg**	**01 08 27.1**	**+0.8**
SJPF				*e*Sg	**Sg**	**01 08 29.7**	**-0.8**
	42nm,0.3s						
EALK	**Alkurruntz**	**0.35**	**352**	⇑Pg	**Pg**	**01 08 28.6**	**+1.0**
	SNR=18						
EALK				Lg		01 08 34.2	
	20nm,0.3s,SNR=37						
LARF	**Larrau**	**0.37**	**63**	Pg	**Pg**	**01 08 28.0**	**+0.1**
LARF				Pg	**Pg**	**01 08 28.1**	**+0.2**
LARF				Sg	**Sg**	**01 08 33.5**	**+0.5**
LARF	**Larrau**	**0.37**	**63**	P	**Pg**	**01 08 28.0**	**+0.2**
LARF				S	**Sg**	**01 08 33.5**	**+0.4**
OSSF	**Osses**	**0.41**	**18**	Pg	**Pg**	**01 08 29.1**	**+0.5**
OSSF				Sg	**Sg**	**01 08 35.1**	**+0.9**
OSSF	**Osses**	**0.41**	**18**	P	**Pg**	**01 08 29.1**	**+0.5**
OSSF				S	**Sg**	**01 08 35.0**	**+0.8**
ORDF	**Ordiarp**	**0.50**	**47**	Sg	**Sg**	**01 08 37.9**	**+0.6**
ORDF	**Ordiarp**	**0.50**	**47**	P	**Pb**	**01 08 31.1**	**+0.7**
ORDF				S	**Sb**	**01 08 38.1**	**+0.9**
ATE	**Arette**	**0.58**	**68**	P	**Pb**	**01 08 31.8**	**+0.1**
ATE				S	**Sb**	**01 08 39.9**	**+0.3**
FDAF	**Les Forges d'A**	**0.64**	**94**	Pg	**Pg**	**01 08 32.8**	**-0.3**
FDAF				Sg	**Sg**	**01 08 42.0**	**+0.2**
FDAF	**Les Forges d'A**	**0.64**	**94**	P	**Pb**	**01 08 32.9**	**+0.2**
FDAF				S	**Sb**	**01 08 42.0**	**+0.8**
ETSF	**Etsaut**	**0.65**	**87**	*e*Pg	**Pg**	**01 08 32.4**	**-0.8**
ETSF				*e*Sg	**Sg**	**01 08 41.9**	**0.0**
	11nm,0.3s						
VIEF	**Viey**	**1.07**	**89**	S	**Sb**	**01 08 55.4**	**+1.5**
EPF	**Esparros**	**1.31**	**82**	*e*Pn	**Pn**	**01 08 44.2**	**-0.1**
EPF				*e*Pg	**Pg**	**01 08 46.7**	**+0.2**
EPF				*e*Sg	**Sg**	**01 09 04.5**	**+0.5**
	3.7nm,0.2s						
ESAC	**San Caprasio**	**1.35**	**148**	Pg	**Pg**	**01 08 45.4**	**-1.8**
	4.5nm,0.2s,SNR=7.8						
ESAC				Lg		01 09 03.3	
	13nm,0.2s,SNR=7.5						
ELAN	**Lanestosa**	**1.51**	**285**	Pg	**Pg**	**01 08 50.0**	**-0.3**
	0.6nm,0.2s,SNR=7.9						
ELAN				Lg		01 09 10.9	
	2.6nm,0.3s,SNR=7.9						
ETOR	**Torete**	**2.10**	**193**	Pn	**Pn**	**01 08 56.3**	**+0.8**
	1.3nm,0.2s,SNR=5.8						
ETOR				Pg	**Pg**	**01 09 01.5**	**-0.6**
	1.8nm,0.3s,SNR=5.0						
ETOR				Sn	**Sn**	**01 09 24.1**	**+2.4**
	1.8nm,0.3s,SNR=7.9						
ETOR				Lg		01 09 28.1	
	3.4nm,0.3s,SNR=4.5						
EMIR	**Miracle**	**2.39**	**112**	Pn	**Pn**	**01 09 01.6**	**+1.9**
	0.3nm,0.2s,SNR=5.0						
EMIR				Sn	**Sn**	**01 09 28.0**	**-1.1**
	0.8nm,0.2s,SNR=5.0						
EMIR				Lg		01 09 36.1	
	2.0nm,0.2s,SNR=5.0						
EPOB	**Poblet**	**2.41**	**128**	Pn	**Pn**	**01 09 01.0**	**+1.1**
	0.7nm,0.2s,SNR=4.0						
EPOB				Lg		01 09 36.2	
	1.4nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**2.60**	**164**	Pg	**Pg**	**01 09 09.3**	**-2.9**
	0.2nm,0.3s,SNR=7.9						
EMOS				Lg		01 09 44.3	
	1.7nm,0.5s,SNR=5.0						
MTLF	**Montolieu**	**2.72**	**79**	*e*Pn	**Pn**	**01 09 04.8**	**+0.4**
MTLF				*e*Pg	**Pg**	**01 09 12.2**	**-2.2**
MTLF				*e*Sn	**Sn**	**01 09 37.0**	**-0.4**
	0.6nm,0.3s						
RJF	**Les Rejaudoux**	**3.23**	**40**	*e*Pn	**Pn**	**01 09 10.2**	**-1.5**
RJF				*e*Sn	**Sn**	**01 09 48.4**	**-2.0**
	2.2nm,0.3s						
CAF	**Calviac**	**3.26**	**50**	*e*Pn	**Pn**	**01 09 11.1**	**-1.0**
CAF				*e*Sn	**Sn**	**01 09 48.8**	**-2.3**
	0.5nm,0.2s						

*IDC **02** 02:29:40.5±1.8, 1.02N×91.52W, mb3.8/5, mb1 4.2/6, mb1mx4.0/17, ML2.9/1, MS3.3/3, Ms1 3.3/3, ms1mx2.8/19, Error ellipse: s-maj=73.3km s-min=23.1km az=44.0*
*NEIC **02** 02:29:42.6±0.7, 1.27N×91.14W, h10^{km}, mb4.1/6, Error ellipse: s-maj=24.4km s-min=9.6km az=58.0*
ISC 02 02:29:41.2±0.8**, 1.3N**±0.1×**91.1W**±0.2**, h10^{km}, n16, σ0^{s}77**/14**, mb3.9**/11**, MS3.1**/2**, Galapagos Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PAYG	**Puerto Ayora**	**2.17**	**157**	P	**Pn**	**02 30 17.6**	**-0.3**
ROSC	**El Rosal**	**17.13**	**78**	P	**P**	**02 33 48.8**	**+6.2**
	0.8nm,0.3s,baz=234,slow=14,SNR=2.9						
ROSC				LR	LR	02 39 04.7	
	comp=Z,136nm,20.3s,baz=326,slow=32						
SDV	**Santo Domingo**	**21.73**	**69**	*e*P	**P**	**02 34 35.1**	**+0.3**
	6.4nm,0.8s,mb4.1						
LPAZ	**La Paz**	**28.67**	**129**	P	**P**	**02 35 41.1**	**+0.5**
	0.5nm,0.3s,mb3.7,baz=125,slow=0.2,SNR=5.0						
LPAZ				LR	LR	02 46 30.3	
	comp=Z,27nm,18.4s,MS2.9,baz=69,slow=35						
SJG	**San Juan**	**29.65**	**54**	LR	LR	02 46 04.5	
	comp=Z,66nm,18.9s,MS3.3,baz=72,slow=33						
LTX	**Lajitas**	**30.30**	**338**	P	**P**	**02 35 55.0**	**-0.1**
TXAR	**Lajitas Array**	**30.30**	**338**	P	**P**	**02 35 55.1**	**0.0**
	0.8nm,0.9s,mb3.5,baz=153,slow=11,SNR=7.7						
WMOK	**Wichita Mounta**	**33.99**	**349**	P	**P**	**02 36 28.5**	**+1.1**
	0.9nm,0.4s,mb4.0						
ANMO	**Albuquerque**	**36.37**	**339**	*e*P	**P**	**02 36 47.8**	**+0.1**
	0.6nm,0.5s,mb3.8						
CCM	**Cathedral Cave**	**36.54**	**360**	*e*P	**P**	**02 36 47.5**	**-1.6**
	8.5nm,0.8s,mb4.6						
ISCO	**Idaho Springs**	**40.49**	**343**	*e*P	**P**	**02 37 22.3**	**+0.3**
	3.8nm,1.1s,mb4.0						
PDAR	**Pinedale Array**	**44.43**	**341**	P	**P**	**02 37 53.5**	**-0.6**
	0.6nm,0.7s,mb3.4,baz=144,slow=7.8,SNR=3.8						
NVAR	**Mina Array Bea**	**44.53**	**329**	P	**P**	**02 37 56.6**	**+1.6**
	1.4nm,0.8s,mb3.9,baz=151,slow=9.3,SNR=7.8						
HLID	**Hailey**	**46.89**	**337**	*e*P	**P**	**02 38 13.5**	**-0.2**
	2.0nm,0.7s,mb4.2						
ILAR	**Eielson Array**	**74.81**	**338**	P	**P**	**02 41 22.4**	**-0.9**
	1.5nm,0.8s,mb4.0,baz=134,slow=4.0,SNR=19						
CMAR	**Chiang Mai Arr**	**157.98**	**334**	PKPab	PKPab	02 50 14.2	-0.6
	0.6nm,0.4s,baz=11,slow=4.6,SNR=4.6						

*NEIC **02** 02:39:30.1, 37.22N×8.59W, h9^{km}, MN2.7(MDD), After MDD.*
*SFS **02** 02:39:30.0, 37.23N×8.46W, h10^{km}, ML2.5*
*MDD **02** 02:39:30.4±1.1, 37.20N×8.57W, h10^{km}±1^{km}, mbLg2.7/13, Error ellipse: s-maj=11.3km s-min=5.4km az=49.0, PRXIMO*
*CSEM **02** 02:39:32.2±0.2, 37.25N×8.57W, h30^{km}, ML2.9/13, Error ellipse: s-maj=3.6km s-min=1.7km az=40.0*
*IGIL **02** 02:39:34.7, 37.30N×8.50W, h1^{km}, ML3.0*
INMG 02 02:39:31.8±0.8**, 37.17N**×**8.57W, h17^{km}**±2^{km}**, ML2.7, Error ellipse: s-maj=4.4km s-min=1.9km az=46.0, Portugal**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**0.39**	**341**	*e*Pg	Pb	02 39 39.5	-0.4
PTEO				*e*Sg	Sb	02 39 45.1	-0.3
	532nm,0.1s						
PTEO	**Sao Teotonio**	**0.39**	**341**	*e*Pg	Pb	02 39 39.5	-0.4
PTEO				*e*Sg	Sb	02 39 45.1	-0.3
	532nm,0.1s						
PALC	**Alcoutim**	**0.92**	**71**	*e*P	Pb	02 39 47.9	-0.9
PALC				*e*-		02 39 48.5	
PALC				*e*S	Sb	02 40 00.6	0.0
	254nm,0.2s						
PBEJ	**Beja**	**1.02**	**33**	*e*P	Pb	02 39 48.9	-1.6
PBEJ				*i* -		02 39 50.2	
PBEJ				*e*S	Sb	02 40 03.8	+0.3
	64nm,0.1s						
PBEJ	**Beja**	**1.02**	**33**	S	Sb	02 40 03.8	+0.3
	32nm,0.1s						
MOE	**Montemor**	**1.36**	**7**	*e*P	Pn	02 39 54.3	-1.9
MOE				*e*S	Sb	02 40 11.7	-1.7
LIS	**Lisbon**	**1.61**	**344**	*e*P	Pn	02 39 59.9	+0.1
LIS				*e*S	Sn	02 40 19.7	-0.5
LIS				*e*S	Sn	02 40 19.8	-0.4
LIS				AML	AML	02 40 27.0	
	comp=E,128nm,0.4s						
EMIN	**Mina Concepcio**	**1.62**	**68**	Pn	Pn	02 39 57.1	-2.8
	comp=E,0.9nm,0.1s,SNR=20						
EMIN				Pg	Pn	02 39 59.8	-0.1
	SNR=7.9						
EMIN				Sn	Sn	02 40 18.0	-2.6
	comp=E,93nm,0.2s,SNR=4.0						
EMIN				Lg		02 40 22.0	
	comp=E,32nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.62**	**68**	Pn	Pn	02 39 57.1	-2.8
	comp=E,0.9nm,0.1s,SNR=20						
EMIN	**Mina Concepcio**	**1.62**	**68**	Pg	Pn	02 39 59.8	-0.1
	SNR=7.9						
EMIN				Sn	Sn	02 40 18.0	-2.5
	comp=E,93nm,0.2s,SNR=4.0						
PLOU	**Loures**	**1.77**	**345**	*e*P	Pn	02 40 00.2	-1.9
	comp=E,29nm,0.4s						
ALMR	**Almeirim**	**1.98**	**360**	*e*P	Pn	02 40 06.6	+1.5
ALMR				*e*S	Sn	02 40 28.4	-1.3
ALMR				*e*S	Sn	02 40 28.4	-1.3
ALMR				AML	AML	02 40 35.2	
	comp=N,120nm,0.2s						
EBAD	**Badajoz**	**2.00**	**37**	Pn	Pn	02 40 02.3	-3.1
	comp=N,1.1nm,0.1s,SNR=7.9						
EBAD				Pg	Pn	02 40 05.7	+0.3
	comp=N,1.8nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	02 40 27.5	-2.7
	SNR=7.9						
EBAD				Lg		02 40 33.7	
	comp=N,24nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**2.00**	**37**	Pn	Pn	02 40 02.3	-3.1
	comp=N,1.1nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**2.00**	**37**	Pg	Pn	02 40 05.7	+0.3
	comp=N,1.8nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	02 40 27.5	-2.7
	SNR=7.9						
ESPR	**Espera**	**2.19**	**97**	Pn	Pn	02 40 06.0	-2.1
	comp=N,2.3nm,0.1s,SNR=14						
ESPR				Sn	Sn	02 40 33.4	-1.6
	comp=N,20nm,0.3s,SNR=7.9						
ESPR				Lg		02 40 42.0	
	comp=N,36nm,0.2s,SNR=7.9						
ESPR	**Espera**	**2.19**	**97**	Pn	Pn	02 40 06.0	-2.1
	comp=N,2.3nm,0.1s,SNR=14						
ESPR				Sn	Sn	02 40 33.4	-1.6
	comp=N,20nm,0.3s,SNR=7.9						
LIJA	**Lijar**	**2.54**	**95**	*e*S	Sn	02 40 41.2	-2.8
EMIJ	**Mijas**	**3.10**	**100**	Pn	Pn	02 40 18.3	-2.8
	comp=N,0.5nm,0.1s,SNR=7.9						
EMIJ				Sn	Sn	02 40 53.8	-4.3
	comp=N,1.2nm,0.2s,SNR=7.9						
EMIJ				Lg		02 41 11.1	
	SNR=7.9						
EADA	**Adamuz**	**3.32**	**71**	Pn	Pn	02 40 20.8	-3.4
	comp=N,1.1nm,0.1s,SNR=13						
EADA				Sn	Sn	02 40 57.9	-5.7
	comp=N,3.7nm,0.1s,SNR=7.9						
EADA				Lg		02 41 14.2	
	comp=N,9.1nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**3.32**	**71**	Pn	Pn	02 40 20.8	-3.4
	comp=N,1.1nm,0.1s,SNR=13						
EADA				Sn	Sn	02 40 57.9	-5.7
	comp=N,3.7nm,0.1s,SNR=7.9						
MTE	**Manteigas**	**3.32**	**14**	*e*Pn	Pn	02 40 21.4	-2.8
MTE				*e*Sn	Sn	02 40 58.0	-5.6
MTE				*e*Sg	Sn	02 41 14.6	+11
	comp=N,21nm,0.6s						
MTE	**Manteigas**	**3.32**	**14**	Pn	Pn	02 40 21.4	-2.8
MTE				Sn	Sn	02 40 58.0	-5.6
MTE				Lg		02 41 14.6	
	comp=N,10nm,0.6s						
ELUQ	**Luque**	**3.45**	**82**	Pn	Pn	02 40 22.9	-3.1
	comp=N,0.3nm,0.1s,SNR=7.9						
ELUQ				Sn	Sn	02 41 01.5	-5.4
	comp=N,1.5nm,0.1s,SNR=7.9						
ELUQ				Lg		02 41 20.0	
	comp=N,4.6nm,0.2s,SNR=7.9						
ELOJ	**Sierra Loja**	**3.53**	**89**	Pn	Pn	02 40 24.4	-2.8
	comp=N,0.2nm,0.1s,SNR=7.9						
ELOJ				Sn	Sn	02 41 04.2	-4.7
	comp=N,0.6nm,0.1s,SNR=7.9						
ELOJ				Lg		02 41 24.7	
	comp=N,1.8nm,0.3s,SNR=7.9						
PVIS	**Viseu**	**3.58**	**8**	*e*Pn	Pn	02 40 25.0	-2.8
PVIS				*e*Sn	Sn	02 41 03.6	-6.5
	comp=N,10.0nm,0.1s						
PVIS	**Viseu**	**3.58**	**8**	Pn	Pn	02 40 25.0	-2.8
PVIS				Sn	Sn	02 41 03.6	-6.5
	comp=N,5.0nm,0.1s						
PVRL	**Vila Real**	**4.15**	**9**	*e*Sn	Sn	02 41 17.6	-7.1
	comp=N,10nm,0.2s						
PVRL	**Vila Real**	**4.15**	**9**	Sn	Sn	02 41 17.6	-7.1
	comp=N,5.2nm,0.2s						
ESDC	**Sonseca Array**	**4.39**	**54**	Pn	Pn	02 40 35.4	-4.1
	comp=N,1.0nm,0.1s,baz=238,slow=13,SNR=4.5						
ESDC				Sn	Sn	02 41 24.2	-6.6
	comp=N,1.3nm,0.2s,baz=240,slow=24,SNR=8.1						
ESDC				Lg		02 41 49.9	
	comp=N,6.8nm,0.6s,baz=229,slow=29,SNR=7.9						
ESDC	**Sonseca Array**	**4.39**	**54**	Pn	Pn	02 40 35.4	-4.1
ESDC				Sn	Sn	02 41 24.2	-6.6
ESDC				Lg		02 41 48.0	
ESDC	**Sonseca Array**	**4.39**	**54**	Pn	Pn	02 40 35.4	-4.1
	comp=N,1.0nm,0.1s,SNR=4.5						
ESDC				Sn	Sn	02 41 24.2	-6.6
	comp=N,1.3nm,0.2s,SNR=8.1						
EQES	**Quesada**	**4.42**	**80**	Pn	Pn	02 40 36.6	-3.2
	comp=N,0.4nm,0.1s,SNR=5.8						
EQES				Sn	Sn	02 41 24.8	-6.6
	comp=N,1.5nm,0.2s,SNR=7.9						
EQES				Lg		02 41 51.1	
	comp=N,6.2nm,0.4s,SNR=7.9						
EQES	**Quesada**	**4.42**	**80**	Pn	Pn	02 40 36.6	-3.2
	comp=N,0.4nm,0.1s,SNR=5.8						
EQES				Sn	Sn	02 41 24.8	-6.6
	comp=N,1.5nm,0.2s,SNR=7.9						
EBER	**Berja**	**4.55**	**92**	Pn	Pn	02 40 38.5	-3.1
	comp=N,0.3nm,0.1s,SNR=7.9						
EBER				Sn	Sn	02 41 28.4	-6.4
	comp=N,0.1nm,0.7s,SNR=7.9						
EBER	**Berja**	**4.55**	**92**	Pn	Pn	02 40 38.5	-3.2
	comp=N,0.3nm,0.1s,SNR=7.9						
EBER				Sn	Sn	02 41 28.4	-6.4
	comp=N,0.1nm,0.7s,SNR=7.9						
ELOB	**Lobios**	**4.70**	**5**	Pn	Pn	02 40 39.9	-3.9
	comp=N,0.8nm,0.1s,SNR=6.5						
ELOB				Sn	Sn	02 41 29.6	-9.1
	SNR=7.9						
ELOB				Lg		02 42 00.3	
	comp=N,3.0nm,0.3s,SNR=7.9						
ELOB	**Lobios**	**4.70**	**5**	Pn	Pn	02 40 39.9	-4.0
	comp=N,0.8nm,0.1s,SNR=6.5						
ELOB				Sn	Sn	02 41 29.6	-9.1
	SNR=7.9						
PBRG	**Braganca**	**4.84**	**16**	*e*Sn	Sn	02 41 34.4	-7.6
ECAL	**Calabor**	**4.97**	**16**	Pn	Pn	02 40 43.6	-4.0
	comp=N,0.5nm,0.2s,SNR=7.9						
ECAL				Sn	Sn	02 41 37.1	-8.2
	comp=N,1.5nm,0.2s,SNR=7.9						
ECAL				Lg		02 42 08.8	
	comp=N,17nm,0.6s,SNR=7.9						
ECAL	**Calabor**	**4.97**	**16**	Pn	Pn	02 40 43.6	-4.0
	comp=N,0.5nm,0.2s,SNR=7.9						
ECAL				Sn	Sn	02 41 37.1	-8.2
	comp=N,1.5nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**5.78**	**357**	Pn	Pn	02 40 54.6	-4.4
	comp=N,0.7nm,0.1s,SNR=7.9						
EMAZ				Sn	Sn	02 41 56.0	-10
	comp=N,1.6nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**5.78**	**357**	Pn	Pn	02 40 54.6	-4.4

comp=N,0.7nm,0.1s,SNR=7.9
EMAZ Sn Sn 02 41 56.0 -10
comp=N,1.6nm,0.1s,SNR=7.9
EPON Pontenova 6.24 10 Sn Sn 02 42 06.4 -11
comp=N,0.3nm,0.2s,SNR=7.9
EPON Pontenova 6.24 10 Sn Sn 02 42 06.4 -11
comp=N,0.3nm,0.2s,SNR=7.9
ETOR Torete 6.24 52 Pn Pn 02 41 01.5 -4.1
comp=N,0.2nm,0.2s,SNR=7.9
ETOR Sn Sn 02 42 07.9 -9.3
comp=N,0.3nm,0.2s,SNR=7.9
ETOR Lg 02 42 50.0
comp=N,2.8nm,0.4s,SNR=7.9
ETOR Torete 6.24 52 Pn Pn 02 41 01.5 -4.1
ETOR Sn Sn 02 42 08.0 -9.3
ETOR Lg 02 42 52.9
ETOR Torete 6.24 52 Pn Pn 02 41 01.5 -4.1
ETOR Sn Sn 02 42 07.9 -9.4
comp=N,0.3nm,0.2s,SNR=7.9
ETOR Sn Sn 02 42 07.9 -9.4
EARI Arriondas 6.64 22 Sn Sn 02 42 18.3 -8.8
SNR=7.9
EMOS Mosqueruela 7.08 61 Pn Pn 02 41 13.0 -4.3
comp=N,0.1nm,0.1s,SNR=7.9
EMOS Sn Sn 02 42 28.3 -10
comp=N,0.5nm,0.2s,SNR=7.9
EMOS Mosqueruela 7.08 61 Pn Pn 02 41 13.0 -4.4
EMOS Sn Sn 02 42 28.3 -10

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*CSEM **02** 02:54:33.3±0.3, 37.71N×25.23W, h30^{km}, ML2.6, Error ellipse: s-maj=8.1km s-min=6.5km az=4.0*
*SVSA **02** 02:54:35.8±0.9, 37.60N×25.20W, MD2.6, ML2.6, Error ellipse: s-maj=3.0km s-min=1.6km az=73.0*
*PDA **02** 02:54:35.8±0.9, 37.60N×25.20W, MD2.6, ML2.6, Error ellipse: s-maj=3.0km s-min=1.6km az=73.0*
ISC 02 02:54:33.9±0.8**, 37.66N**±0.05×**25.16W**±0.06**, h29**^{km}±2^{km}**, n36,** σ**0ˢ60**/57**, Azores Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
BART Pico Bartolome 0.12 356 *e*P **Pb 02 54 39.6 +0.4**
BART *e*S **Sb 02 54 42.3 -0.5**
2µm,0.2s
BART Pico Bartolome 0.12 356 *e*P **Pb 02 54 39.6 +0.4**
BART *e*S **Sb 02 54 42.3 -0.5**
2µm,0.2s
MIRA Miradouro 0.16 323 *e*P **Pb 02 54 39.6 +0.1**
MIRA *e*S **Sb 02 54 42.8 -0.5**
PCNG Congro 0.22 300 *e*P **Pb 02 54 40.2 0.0**
PCNG *e*S **Sb 02 54 43.7 -0.7**
731nm,0.3s
PCNG Congro 0.22 300 *e*P **Pb 02 54 40.2 0.0**
PCNG *e*S **Sb 02 54 43.7 -0.7**
731nm,0.3s
PFAD Fenais da Ajud 0.22 324 *e*P **Pb 02 54 40.6 +0.4**
PFAD *e*S **Sb 02 54 44.2 -0.3**
VIF Vila Franca 0.24 291 *i* P **Pb 02 54 40.5 +0.1**
VIF *i* S **Sb 02 54 44.3 -0.6**
602nm,0.2s
VIF Vila Franca 0.24 291 *i* S **Sb 02 54 44.3 -0.6**
602nm,0.2s
MESC Monte Escuro 0.26 300 *i* P **Pb 02 54 41.0 +0.2**
MESC *i* S **Sb 02 54 45.4 0.0**
PRCH Ribeira Ch 0.26 285 *e*P **Pb 02 54 40.7 -0.1**
PRCH *i* S **Sb 02 54 44.6 -0.8**
6µm,0.2s
PRCH Ribeira Ch 0.26 285 *e*P **Pb 02 54 40.7 -0.1**
PRCH *i* S **Sb 02 54 44.6 -0.8**
6µm,0.2s
LFA Lagoa do Fogo 0.28 294 *i* P **Pb 02 54 41.3 +0.3**
PMAT Coroa da Mata 0.29 302 *i* P **Pb 02 54 41.3 +0.1**
PMAT *i* S **Sb 02 54 45.9 -0.2**
492nm,0.1s
PMAT Coroa da Mata 0.29 302 *i* S **Sb 02 54 45.9 -0.2**
492nm,0.1s
PVER Pico Vermelho 0.31 296 *e*P **Pb 02 54 41.7 +0.3**
CML Cha da Macela 0.33 290 *i* P **Pb 02 54 41.7 +0.1**
CML *i* S **Sb 02 54 46.1 -0.8**
FAC Faja de Cima 0.41 286 *i* P **Pb 02 54 43.3 +0.5**
FAC *i* S **Sb 02 54 48.9 0.0**
PDA Ponta Delgada 0.41 282 *i* P **Pb 02 54 43.6 +0.8**
PDA *i* S **Sb 02 54 49.0 0.0**
PDA Ponta Delgada 0.41 282 *i* S **Sb 02 54 49.0 0.0**
PSET Sete Cidades 0.47 290 *e*P **Pb 02 54 44.4 +0.5**
PSET *e*S **Sb 02 54 51.1 +0.4**
712nm,0.2s
PSET Sete Cidades 0.47 290 *e*P **Pb 02 54 44.4 +0.5**
PSET *e*S **Sb 02 54 51.1 +0.4**
712nm,0.2s
PSAN Santo Antonio 0.49 293 *i* P **Pb 02 54 44.7 +0.6**
PSAN *i* S **Sb 02 54 51.7 +0.7**
PFET Feteiras 0.52 288 *i* P **Pb 02 54 45.1 +0.5**
PFET *e*S **Sb 02 54 52.5 +0.5**
SET2 Ginetes 0.55 290 *i* P **Pb 02 54 45.6 +0.6**
SET4 Mosteiros 0.55 293 *i* P **Pb 02 54 45.5 +0.4**
PSMN Pico do Norte, 0.66 174 *e*P **Pb 02 54 46.6 -0.3**
PSMN *i* S **Sb 02 54 54.9 -0.9**
PFAV Pico das Favas 1.84 305 *e*S **Sn 02 55 25.4 -1.4**
PSCM Serra do Cume 1.86 305 *e*P **Pn 02 55 04.5 0.0**
PSCM *e*S **Sn 02 55 25.8 -1.4**
28nm,0.2s
PSCM Serra do Cume 1.86 305 *e*P **Pn 02 55 04.5 0.0**
PSCM *e*S **Sn 02 55 25.8 -1.4**
28nm,0.2s
PVNV Vila Nova 1.92 306 *e*S **Sn 02 55 29.6 +0.9**
5.9nm,0.1s
PPAD Pico dos Padre 1.97 302 *e*S **Sn 02 55 29.8 -0.3**
5.7nm,0.1s
PBIS Biscoitos 1.98 304 *e*S **Sn 02 55 31.3 +1.0**
ASBA Santa Barbara 2.01 302 *e*S **Sn 02 55 29.3 -1.7**
PID Ribeirinha 2.46 289 *e*P **Pn 02 55 13.6 +0.5**
PICO Pico 2.71 289 *e*P **Pn 02 55 16.9 +0.2**
CALA Caldeira 2.94 289 *e*- **Pn 02 55 20.1 +0.2**

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*IDC **02** 03:01:25.5±0.5, 20.09S×68.39W, h147^{km}±3^{km}, mb4.5/13, mb1 4.7/16, mb1mx4.7/17, MS4.1/8, Ms1 4.1/8, ms1mx3.9/18, Error ellipse: s-maj=12.7km s-min=9.4km az=68.0*
*NEIC **02** 03:01:25.4±0.2, 20.03S×68.37W, mb5.1/102, Error ellipse: s-maj=6.4km s-min=4.2km az=43.0*
NEIC Felt [III] at Huara, Iquique, Pisagua and Quillagua; [II] at Arica and Pozo Almonte, Chile. Also felt [II] at Tacna, Peru.
*SYO **02** 03:01:25.4, 19.99S×68.27W, h147^{km}, MB4.9*
*HRVD **02** 03:01:25.4±0.2, 20.23S×68.80W, h157^{km}±1^{km}, MW5.4/71, Centroid moment Tensor Solution. LP body waves: s61,c94;Mantle waves: s71,c131; Half duration: 1ˢ2 Moment tensor: Scale 10^{17}Nm; M_{rr}0.11±.03; $M_{\theta\theta}$-0.15±.03; $M_{\phi\phi}$0.03±.04; $M_{r\theta}$0.59±.02; $M_{\theta\phi}$0.07±.03; $M_{\phi r}$-1.35±.02; Best double couple: $M_0$1.48×10^{17} NP1: ϕ_s265°, δ5°, λ19°. NP2: ϕ_s156°, δ88°, λ94°. Principal axes: T 1.51, Plg46°, Azm70°; N -.06, Plg4°, Azm336°; P -1.45, Plg43°, Azm242°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **02** 03:01:27.2±1.2, 20.06S×68.06W, h161^{km}, mb4.5/1 Error ellipse: s-maj=21.7km s-min=18.4km az=114.0*
*BJI **02** 03:01:27.3, 20.00S×68.40W, h147^{km}, mB5.0*
*LDG **02** 03:01:30.8, 19.19S×67.84W, h171^{km}*
ISC 02 03:01:24.3±0.2**, 20.14S**±0.03×**68.51W**±0.04**, h155**^{km}**, h155**^{km}±2.4^{km}**:pP-P, n265,** σ**1ˢ10**/213**, mb4.9**/114**, 13C-2D, Chile-Bolivia border region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
LVC Limon Verde 2.49 189⥣*i*P **P 03 02 04.4 -1.7**
LVC *i* S **S 03 02 34.4 -3.8**
LVC Limon Verde 2.49 189 *e*P **P 03 02 04.5 -1.6**
LPAZ La Paz 3.85 5 P **P 03 02 24.9 +1.4**
59nm,0.3s,baz=169,slow=0.8,SNR=252
LPAZ S **S 03 03 08.3 -0.7**
23nm,0.3s,baz=359,slow=9.4,SNR=4.6
LPAZ LR LR 03 04 08.6
comp=Z,1µm,20.6s,baz=204,slow=43
LPAZ La Paz 3.85 5 *e*P **P 03 02 24.8 +1.3**
ANCH Antofagasta 3.94 206 *e*P **P 03 02 17.7 -7.0**
ANCH *i* S **S 03 02 57.8 -13**
ARE Arequipa 4.63 322⥣*i*P **P 03 02 31.2 -2.5**
ARE *e*S **S 03 03 20.0 -7.3**
CPN1 Cerro Paranal 4.80 201 *e*P **P 03 02 31.4 -4.6**
CPN1 *i* S **S 03 03 20.5 -11**
CPCH Copiapo 7.38 193 *e*P **P 03 03 04.5 -5.9**
CPCH *i* S **S 03 04 22.3 -11**
NNA Nana 11.39 314 *e*P **P 03 04 01.0 -2.3**
17nm,0.8s
CPUP Villa Florida 11.98 123 P **P 03 04 08.8 -2.1**
0.8nm,0.3s,baz=322,slow=12,SNR=57
CPUP S **S 03 06 15.2 -6.6**
1.2nm,0.3s,baz=130,slow=17,SNR=1.5
CPUP Villa Florida 11.98 123 *e*P **P 03 04 08.6 -2.3**
148nm,1.4s
SAML Samuel 12.26 26 *e*P **P 03 04 11.6 -3.0**
8.3nm,0.8s
CLCH Cerro Calan 13.33 187⥣*i*P **P 03 04 27.8 -0.5**
LMEL Las Melosas 13.74 186 *e*P **P 03 04 29.1 -4.4**
TRQA Tornquist 18.73 164 *e*P **P 03 05 31.9 -1.6**
40nm,0.8s
BDFB Brasilia 20.00 80 P **P 03 05 45.8 -1.0**
20nm,0.3s,baz=262,slow=12,SNR=120
BDFB S **S 03 09 22.3 +4.5**
0.7nm,0.3s,baz=84,slow=24,SNR=1.4
BDFB LR LR 03 14 59.8
comp=Z,2µm,18.8s,baz=84,slow=41
BAO Brasilia Array 20.03 80 *e*P **P 03 05 46.5 -0.5**
BAO *i* 03 05 50.1
BAO *e* 03 06 11.4
OTAV Otavalo 22.47 333 *e*P **P 03 06 14.1 +2.9**
8.7nm,0.8s,mb4.2
ROSC El Rosal 25.49 346 P **P 03 06 41.4 +1.4**
23nm,0.4s,mb5.0,baz=46,slow=1.7,SNR=16
ROSC S **S 03 11 01.1 +7.7**
2.1nm,0.3s,baz=49,slow=23,SNR=2.5
ROSC LR LR 03 18 07.8
comp=Z,346nm,21.6s,baz=219,slow=39
SDV Santo Domingo 28.92 356 *e*P **P 03 07 09.5 -1.6**
50nm,1.1s,mb5.2
EFI East Falkland 32.52 168 *e*P **P 03 07 41.5 -0.8**
29nm,0.8s,mb5.1
USHA Ushuaia 34.63 180 P **P 03 08 00.6 +0.3**
6.6nm,0.8s,mb4.3,baz=342,slow=9.6,SNR=3.3
RCBR Riachuelo 34.71 70 *e*P **P 03 08 00.7 -0.7**
273nm,1.1s,mb5.8
MGP Maguayo 37.94 2 *e*P **P 03 08 26.6 -1.9**
SJG San Juan 38.08 4 P **P 03 08 27.8 -1.9**
355nm,1.1s,mb5.9,baz=171,slow=3.1,SNR=52
SJG San Juan 38.08 4 *e*P **P 03 08 27.5 -2.2**
170nm,0.8s,mb5.7
HUMP Col San Antoni 38.13 4 *e*P **P 03 08 27.6 -2.5**
AOPR Arecibo Observ 38.29 3 *e*P **P 03 08 29.0 -2.4**
NHSC New Hope 54.11 348 *e*P **P 03 10 34.5 -0.8**
210nm,1.3s,mb5.7
LRAL Lakeview Retre 55.75 341 *e*P **P 03 10 44.9 -2.4**
16nm,1.2s,mb4.7
HKT Hockley 56.33 331 *e*P **P 03 10 50.4 -1.0**
6.7nm,0.9s,mb4.5
CPCT Cooper Cave 57.33 344 *e*P **P 03 10 59.2 +0.9**
NATX Nacogdoches 57.37 334 *e*P **P 03 10 58.7 0.0**
54nm,1.1s,mb5.3
OXF Oxford 57.87 340 *e*P **P 03 10 59.9 -2.3**
25nm,0.8s,mb5.1
BLA Blacksburg 58.14 349 *e*P **P 03 11 03.0 -1.0**
80nm,1.5s,mb5.3
PWV Princeton 58.38 348 *e*P **P 03 11 05.0 -0.6**
FWV Forest Hill 58.57 349 *e*P **P 03 11 06.4 -0.6**
JCT Junction City 58.64 328 *e*P **P 03 11 06.8 -0.8**
6.7nm,0.8s,mb4.5
WVT Waverly 58.88 342 *e*P **P 03 11 07.0 -2.2**
39nm,0.9s,mb5.2
LTX Lajitas 59.74 324 *e*P **P 03 11 14.5 -0.7**
TXAR Lajitas Array 59.74 324 P **P 03 11 14.4 -0.8**
1.7nm,0.8s,mb3.9,baz=152,slow=9.0,SNR=18
TXAR pP pP 03 11 49.1 -2.7
4.9nm,0.8s,baz=141,slow=8.0,SNR=9.2
WCI Wyandotte Cave 60.42 344 *e*P **P 03 11 17.8 -1.8**
22nm,0.6s,mb5.2
MCWV Mont Chateau 60.42 350 *e*P **P 03 11 18.6 -1.1**
42nm,0.8s,mb5.3
VNA3 Neumayer Olymp 61.24 162 *e* PP 03 13 42.0 -1.4
VNA3 Neumayer Olymp 61.24 162⥣*i*P **P 03 11 27.0 +2.2**
VNA3 *e* 03 11 58.2
VNA3 *e* pP 03 12 04.0 +2.4
VNA3 *e* 03 12 13.9
VNA3 *e* 03 13 42.0
BLO Bloomington 61.36 344 *e*P **P 03 11 24.3 -1.7**
24nm,0.5s,mb5.3
FVM French Village 61.38 340 *e*P **P 03 11 24.8 -1.3**
55nm,1.9s,mb5.1
RKT Rikitea 61.38 254 *e*S **S 03 19 36.4 +3.7**
RKT *e*R 03 29 39.7
582nm,35.5s
VNA1 Neumayer--Stat 61.44 161 *e* PP 03 13 43.2 -2.0
VNA1 Neumayer--Stat 61.44 161⥣*i*P **P 03 11 28.7 +2.6**
VNA1 *e* 03 11 59.8
VNA1 *e* pP 03 12 05.8 +2.9
VNA1 *e* 03 12 15.6
VNA1 *e* 03 13 43.2
ACSO Alum Creek Sta 61.56 347 *e*P **P 03 11 26.0 -1.3**
78nm,1.1s,mb5.5
WMOK Wichita Mounta 61.70 332 *e*P **P 03 11 26.1 -2.3**
15nm,1.1s,mb4.7
CCM Cathedral Cave 61.71 340 *e*P **P 03 11 26.4 -2.0**
29nm,1.0s,mb5.1
VNA2 Neumayer--Watz 61.80 161 *e* PP 03 13 45.4 -3.1
VNA2 Neumayer--Watz 61.80 161⥣*i*P **P 03 11 30.6 +2.0**
VNA2 *e* 03 12 01.9
VNA2 *e* pP 03 12 07.8 +2.4
VNA2 *e* 03 12 17.7
VNA2 *e* 03 13 45.4
BRYW Bryant College 61.81 357 *e*P **P 03 11 27.9 -1.1**
96nm,0.9s,mb5.6
HRV Harvard--Oak R 62.39 357 *e*P **P 03 11 32.0 -0.8**
48nm,1.3s,mb5.2
BINY Binghamton 62.41 354 *e*P **P 03 11 31.9 -1.0**
45nm,1.1s,mb5.2
GENY Geneseo 63.18 352 *e*P **P 03 11 37.0 -0.9**
FFD Franklin Falls 63.36 357 *e*P **P 03 11 38.7 -0.5**
18nm,0.6s,mb5.1
SNAA Sanae 63.44 161⥣*i*P **P 03 11 38.9 -0.4**
SNAA *e* 03 12 10.1
SNAA *e* pP 03 12 16.3 0.0
SNAA *e* 03 12 26.2
SNAA *e* 03 13 53.7
NCB Newcomb 64.01 355 *e*P **P 03 11 42.3 -1.1**
KSU1 Kansas State U 64.54 336 *e*P **P 03 11 45.4 -1.6**
LOZ Lake Ozonia 64.68 355 *e*P **P 03 11 46.1 -1.6**
BNM Barren Site 65.05 326 *e*P **P 03 11 49.7 -0.7**
LPM Los Pinos Moun 65.18 326 *e*P **P 03 11 51.2 0.0**
CBKS Cedar Bluff 65.54 334 *e*P **P 03 11 52.5 -0.9**
32nm,0.9s,mb5.2
ANMO Albuquerque 65.58 326 *e*P **P 03 11 53.2 -0.5**
4.7nm,1.3s,mb4.2
SDCO Great Sand Dun 67.28 329 *e*P **P 03 12 04.5 +0.1**
12nm,0.6s,mb4.9
LIC Lamto 67.65 74⥣*i*P **P 03 12 05.9 -1.2**
290nm,1.3s,mb5.9
LIC Lamto 67.65 74 *e*P **P 03 12 05.9 -1.2**
73nm,0.9s,mb5.4
TIC Toumodi 67.83 74⥣*i*P **P 03 12 07.2 -1.0**
798nm,1.3s
MAIT Maitri 67.93 159⥣*i*P **P 03 12 08.8 +0.9**
KIC Kosan Boka 67.97 74⥣*i*P **P 03 12 08.2 -0.8**
875nm,1.2s
DBIC Dimbokro 67.99 74 P **P 03 12 08.1 -1.1**
108nm,0.9s,mb5.6,baz=219,slow=7.5,SNR=155
DBIC LR LR 03 40 26.3
comp=Z,262nm,21.1s,baz=318,slow=34
DBIC Dimbokro 67.99 74 *e*P **P 03 12 08.1 -1.1**
196nm,1.0s,mb5.8
CHIE El Hierro 68.23 47 P **P 03 12 12.2 +1.7**
121nm,1.3s,mb5.5
RW3 Ridgway 68.75 328 *e*P **P 03 12 13.4 0.0**
ISCO Idaho Springs 68.96 330 *e*P **P 03 12 15.1 +0.4**
12nm,1.1s,mb4.5
EGOM La Gomera 69.02 48 P **P 03 12 15.9 +0.7**
168nm,1.0s,mb5.7
PV01 Paradox Valley 69.11 327 *e*P **P 03 12 16.2 +0.6**
PV10 Paradox Valley 69.53 327 *e*P **P 03 12 17.9 -0.3**
NEN Nelson 70.75 321 *e*P **P 03 12 26.2 +0.6**
MSU Marysvale 71.28 325 *e*P **P 03 12 29.9 +1.2**
MVU Marysvale 71.29 325 *e*P **P 03 12 29.9 +1.1**
10nm,0.8s,mb4.6
ARUT Antelope Range 71.45 324 *e*P **P 03 12 31.5 +1.8**
RSSD Black Hills 71.74 334 *e*P **P 03 12 31.9 +0.6**
13nm,1.0s,mb4.6
MPU Maple Canyon 72.09 327 *e*P **P 03 12 34.3 +0.8**
DAU Daniels Canyon 72.19 327 *e*P **P 03 12 35.1 +1.0**
NLU North Lily Min 72.28 326 *e*P **P 03 12 35.7 +1.1**
JLU Jordanelle 72.43 327 *e*P **P 03 12 36.5 +1.1**
TPNV Topopah Spring 72.46 322 *e*P **P 03 12 37.2 +1.5**
6.7nm,0.8s,mb4.4
TCUT Toone Canyon 72.80 327 *e*P **P 03 12 37.1 -0.5**
DUG Dugway 72.84 326 *e*P **P 03 12 38.7 +0.8**
14nm,1.0s,mb4.6
BW06 Boulder Array 73.13 330 *e*P **P 03 12 39.4 -0.1**
4.7nm,1.0s,mb4.2
PDAR Pinedale Array 73.13 330 P **P 03 12 39.5 0.0**
1.6nm,0.4s,mb4.1,baz=120,slow=8.3,SNR=25
PDAR pP pP 03 13 15.9 -1.6
2.9nm,0.7s,baz=149,slow=8.6,SNR=3.6
HWUT Hardware Ranch 73.24 328 *e*P **P 03 12 40.6 +0.4**
15nm,0.7s,mb4.8
SPUT South Promonto 73.47 327 *e*P **P 03 12 42.1 +0.6**
BGU Big Grassy Mou 73.49 326 *e*P **P 03 12 42.0 +0.4**
TPH Tonopah 73.80 322 *e*P **P 03 12 44.7 +1.2**
11nm,1.3s,mb4.4
HVU Hansel Valley 73.98 327 *e*P **P 03 12 45.0 +0.6**
MTUM Tungsten Hills 74.10 321 *e*P **P 03 12 46.2 +0.9**
ULM Lac du Bonnet 74.14 342 P **P 03 12 44.6 -0.6**
9.2nm,0.4s,mb4.8,baz=155,slow=7.7,SNR=8.6
ULM pP pP 03 13 21.1 -2.3
11nm,0.8s,baz=153,slow=3.9,SNR=2.9
ULM Lac du Bonnet 74.14 342 *e*P **P 03 12 44.3 -0.9**
12nm,0.8s,mb4.7
REDW Red Top Meadow 74.20 329 *e*P **P 03 12 46.1 +0.4**
TBI Tubuai 74.30 251 *e*S S 03 22 12.5 +6.3
TBI *e*R 03 35 27.8
317nm,31.5s
TPAW Teton Pass 74.34 329 *e*P **P 03 12 47.2 +0.7**
ELK Elko 74.53 325 *e*P **P 03 12 48.3 +0.7**
6.2nm,1.1s,mb4.2
OMM Old Mammoth Mi 74.53 321 *e*P **P 03 12 48.7 +0.9**
MNV Mina 74.58 322 *e*P **P 03 12 48.5 +0.5**
4.9nm,1.1s,mb4.0
IMW Indian Meadow 74.64 330 *e*P **P 03 12 49.3 +1.1**
NVAR Mina Array Bea 74.66 322 P **P 03 12 49.1 +0.6**
1.5nm,0.5s,mb3.9,baz=140,slow=6.9,SNR=20
NVAR pP pP 03 13 25.7 -1.0
11nm,0.8s,baz=137,slow=7.5,SNR=14
NVAR LR LR 03 43 37.3
comp=Z,54nm,21.8s,baz=80,slow=34
SCHQ Schefferville 74.68 1 P **P 03 12 48.1 -0.1**
18nm,0.6s,mb4.8,baz=183,slow=4.1,SNR=17
SCHQ Schefferville 74.68 1 *e*P **P 03 12 47.2 -1.0**
35nm,1.0s,mb5.0
LRV Little Rabbit 75.00 319 *e*P **P 03 12 51.8 +1.4**
YFT Old Faithful 75.01 330 *e*P **P 03 12 51.7 +1.4**
YMR Madison River 75.24 330 *e*P **P 03 12 53.2 +1.7**
DGMT Dagmar 75.38 336 *e*P **P 03 12 53.0 +0.7**
17nm,0.9s,mb4.7
GCMT Greycliff 75.50 332 *e*P **P 03 12 53.9 +0.9**
QLMT Earthquake Lak 75.58 330 *e*P **P 03 12 55.3 +1.8**
CMB Columbia Colle 75.64 320 *e*P **P 03 12 54.1 +0.1**
6.0nm,1.3s,mb4.1
PPT Papeete 76.01 256 *e*S S 03 22 27.6 +2.5
PPT *e*L 03 33 09.2
PPT *e*R 03 36 23.9
238nm,26.0s
HLID Hailey 76.10 327 *e*P **P 03 12 57.8 +1.4**
18nm,0.8s,mb4.8
BOZ Bozeman (W) 76.28 330 *e*P **P 03 12 57.4 0.0**
9.0nm,1.1s,mb4.3
OHCM Honcut 77.13 321 *e*P **P 03 13 02.3 0.0**
NSHM Saint Helena R 77.30 319 *e*P **P 03 13 04.1 +0.9**
SYO Syowa Base 77.64 159 ⥣P **P 03 13 05.4 +0.9**
SYO Syowa Base 77.64 159 ⥣PcP PcP 03 13 12.9 -1.4
SYO Syowa Base 77.64 159 ⥥pP pP 03 13 43.8 +0.9
SYO Syowa Base 77.64 159 ⥥sP sP 03 13 59.1 -0.7
MOD Modoc 78.11 323 *e*P **P 03 13 08.2 +0.6**
3.8nm,0.7s,mb4.1
MSO Missoula 78.24 330 *e*P **P 03 13 09.5 +1.3**
6.4nm,0.9s,mb4.2
WDC Whiskeytown Da 78.55 321 *e*P **P 03 13 09.4 -0.6**
6.2nm,0.7s,mb4.3
WALA Waterton Lakes 79.86 332 *e*P **P 03 13 16.9 0.0**
17nm,1.0s,mb4.6
TSUM Tsumeb 80.07 107 *e*P **P 03 13 19.1 +0.5**
30nm,0.8s,mb5.0
PTEO Sao Teotonio 80.32 44 *e*P **P 03 13 21.8 +2.2**
75nm,1.3s,mb5.2
NEW Newport 80.77 329 *e*P **P 03 13 21.9 +0.2**
PLOU Loures 80.81 43 *e*P **P 03 13 28.1 +5.9**
81nm,1.2s,mb5.2
PALC Alcoutim 81.09 45 *e*P **P 03 13 25.1 +1.4**
61nm,1.1s,mb5.1
MOE Montemor 81.11 44 *e*P **P 03 13 27.4 +3.6**
PBEJ Beja 81.15 44 *e*P **P 03 13 25.3 +1.3**
39nm,1.6s,mb4.8
EVO Evora 81.34 44 *e*P **P 03 13 25.3 +0.3**
68nm,1.2s,mb4.8
EVO *e*R
240nm,20.8s
EMIN Mina Concepcio 81.79 45 P **P 03 13 28.3 +1.0**
67nm,1.2s,mb5.2
ESPR Espera 81.85 46 P **P 03 13 29.4 +1.7**
64nm,1.4s,mb5.1
EBAD Badajoz 82.11 44 P **P 03 13 30.1 +1.2**
36nm,1.0s,mb5.0
PCBR Castelo Branco 82.42 43 *e*P **P 03 13 31.8 +1.3**
EMIJ Mijas 82.43 47 P **P 03 13 31.8 +1.2**
27nm,0.9s,mb4.9
MTE Manteigas 82.69 42 *e*P **P 03 13 33.5 +1.6**
PVRL Vila Real 83.07 42 *e*P **P 03 13 35.0 +1.2**
40nm,1.6s,mb4.9
ELOJ Sierra Loja 83.16 47 P **P 03 13 35.6 +1.3**
15nm,0.8s,mb4.8
ELOB Lobios 83.19 41 P **P 03 13 35.1 +0.7**
46nm,1.9s,mb4.9
ELUQ Luque 83.30 46 P **P 03 13 36.0 +1.0**
72nm,1.2s,mb5.3
ERON Agron 83.33 47 P **P 03 13 36.1 +1.0**
5.8nm,0.6s,mb4.5
EADA Adamuz 83.41 45 P **P 03 13 36.5 +1.0**
25nm,1.0s,mb4.9
BOSA Boshof 83.75 118 *e*P **P 03 13 37.8 +0.3**
75nm,1.3s,mb5.3
EBER Berja 83.90 47 P **P 03 13 39.2 +1.1**
26nm,1.2s,mb4.8
PBRG Braganca 83.97 41 *e*P **P 03 13 39.2 +0.9**
54nm,1.5s,mb5.1
RAR Rarotonga 84.05 250 LR LR 03 40 30.2
comp=Z,96nm,21.3s,baz=270,slow=28
ECAL Calabor 84.05 41 P **P 03 13 39.6 +1.0**
106nm,1.3s,mb5.4
ERUA La Rua 84.05 41 P **P 03 13 40.1 +1.4**
68nm,1.2s,mb5.2
EQES Quesada 84.23 46 P **P 03 13 40.1 +0.4**
85nm,1.3s,mb5.3
EPON Pontenova 84.57 40 P **P 03 13 41.2 0.0**
77nm,1.6s,mb5.2
ESDC Sonseca Array 84.60 44 P **P 03 13 42.1 +0.6**
15nm,0.9s,mb4.7,baz=241,slow=5.3,SNR=45
ESDC pP pP 03 14 20.3 -0.2
14nm,1.1s,baz=244,slow=5.2,SNR=3.9
ESDC LR LR 03 46 49.9
comp=Z,140nm,20.2s,baz=310,slow=32
ESDC Sonseca Array 84.60 44 P **P 03 13 42.6 +1.1**
28nm,0.9s,mb5.0
ESLA Sonseca Array 84.60 44 *e*P **P 03 13 41.8 +0.3**
16nm,1.3s,mb4.6
EVIA Vianos 85.04 46 P **P 03 13 44.8 +1.0**
39nm,1.3s,mb5.0
MAW Mawson 85.52 163 P **P 03 13 46.5 +1.2**
2.9nm,0.5s,mb4.3,baz=229,slow=6.2,SNR=15
MAW pP pP 03 14 24.7 +0.2
7.1nm,0.8s,baz=218,slow=5.1,SNR=4.7
MAW LR LR 03 50 22.8
comp=Z,66nm,19.4s,baz=56,slow=34
MAW Mawson 85.52 163 *e*P **P 03 13 46.4 +1.0**
3.2nm,0.6s,mb4.2
EARI Arriondas 85.74 41 P **P 03 13 47.5 +0.5**
105nm,1.5s,mb5.3
ETOR Torete 86.44 44 P **P 03 13 51.3 +0.8**
95nm,1.9s,mb5.2
ELAN Lanestosa 86.80 42 P **P 03 13 52.2 +0.1**
52nm,1.5s,mb5.1
EMOS Mosqueruela 87.26 45 P **P 03 13 54.9 +0.4**
29nm,1.8s,mb4.8
SJPF Ste Jean 88.13 43 *e*P **P 03 13 57.9 -0.6**
12nm,0.9s,mb4.4
SJPF *e*pP pP 03 14 41.1 +3.2
ETSF Etsaut 88.45 43 *e*P **P 03 13 59.6 -0.4**

	23nm,1.2s,mb4.6						
EPOB	**Poblet**	**88.77**	**45**	P	**P**	**03 14 01.7**	**+0.2**
	25nm,1.5s,mb4.9						
EPF	**Esparros**	**89.09**	**43**	*e*P	**P**	**03 14 03.0**	**0.0**
EMIR	**Miracle**	**89.33**	**45**	P	**P**	**03 14 03.9**	**-0.3**
	32nm,1.6s,mb5.0						
QUIF	**Quistinic**	**89.40**	**38**	*e*P	**P**	**03 14 04.1**	**-0.3**
ROSF	**Rostrenen**	**89.56**	**37**	*e*P	**P**	**03 14 04.4**	**-0.7**
	139nm,1.5s,mb5.4						
YKA	**Yellowknife Ar**	**90.04**	**340**	P	**P**	**03 14 07.6**	**+0.6**
	25nm,0.5s,mb5.4,baz=131,slow=4.6,SNR=140						
YKA				pP	pP	03 14 44.9	-1.6
	19nm,0.7s,baz=136,slow=4.7,SNR=7.0						
LFF	**La Frestale**	**90.26**	**42**	*e*P	**P**	**03 14 08.8**	**+0.3**
	57nm,0.8s,mb5.3						
LFF				*e*pP	pP	03 14 50.9	+2.9
MTLF	**Montolieu**	**90.45**	**44**	*e*P	**P**	**03 14 08.9**	**-0.5**
	28nm,1.2s,mb4.8						
MFF	**Saint Martin d**	**90.52**	**40**	*e*P	**P**	**03 14 09.1**	**-0.5**
	50nm,1.1s,mb5.2						
RJF	**Les Rejaudoux**	**90.91**	**42**	*e*P	**P**	**03 14 11.0**	**-0.6**
	74nm,1.4s,mb5.2						
RJF				*e*R			
	193nm,18.8s						
LSZ	**Lusaka**	**90.92**	**107**	*e*P	**P**	**03 14 13.5**	**+1.3**
	11nm,0.9s,mb4.9						
GRR	**Gorron**	**90.97**	**38**	*e*P	**P**	**03 14 10.4**	**-1.3**
CAF	**Calviac**	**91.08**	**42**	*e*P	**P**	**03 14 11.9**	**-0.4**
	42nm,1.3s,mb5.0						
FLN	**La Foliniere**	**91.37**	**38**	*e*P	**P**	**03 14 12.7**	**-0.9**
FLN				*e*R			
	228nm,19.2s						
LDF	**La Druitiere**	**91.50**	**38**	*e*P	**P**	**03 14 13.5**	**-0.7**
TCF	**Toulx Ste Croi**	**91.80**	**41**	*e*P	**P**	**03 14 14.8**	**-0.8**
	27nm,1.3s,mb4.8						
TCF				*e*pP	pP	03 14 59.4	+4.2
LASF	**Ste Croix**	**91.84**	**43**	*e*P	**P**	**03 14 15.5**	**-0.3**
	36nm,1.4s,mb4.9						
BGF	**Bois d'Agland**	**92.32**	**41**	*e*P	**P**	**03 14 17.4**	**-0.6**
	65nm,1.2s,mb5.2						
HYF	**Humbligny**	**92.51**	**40**	*e*P	**P**	**03 14 18.3**	**-0.6**
VIVF	**Saint-Julien-l**	**92.71**	**43**	*e*P	**P**	**03 14 19.8**	**0.0**
SMRF	**Simiane la Rot**	**92.91**	**44**	*e*P	**P**	**03 14 20.9**	**+0.1**
	56nm,1.6s,mb5.2						
SSF	**Saint Saulge**	**92.95**	**41**	*e*P	**P**	**03 14 19.8**	**-1.1**
	37nm,1.4s,mb5.0						
SMF	**Signal de Mont**	**92.97**	**41**	*e*P	**P**	**03 14 20.5**	**-0.5**
	77nm,1.3s,mb5.4						
LMR	**La Mourre**	**93.25**	**45**	*e*P	**P**	**03 14 22.2**	**-0.2**
	47nm,1.3s,mb5.2						
LMR				*e*pP	pP	03 15 04.6	+2.6
LOR	**Lormes**	**93.25**	**41**	*e*P	**P**	**03 14 21.4**	**-0.9**
LOR				*e*R			
	208nm,22.0s						
FRF	**La Foret Royal**	**93.44**	**45**	*e*P	**P**	**03 14 23.1**	**-0.1**
ORIF	**Oris-en-Rattie**	**93.51**	**43**	*e*P	**P**	**03 14 24.0**	**+0.5**
	32nm,1.3s,mb5.0						
ORIF				*e*R			
	383nm,21.8s						
MBDF	**Montbardon**	**94.00**	**44**	*e*P	**P**	**03 14 25.0**	**-0.7**
	41nm,1.6s,mb5.0						
SBF	**Sospel**	**94.09**	**45**	*e*P	**P**	**03 14 24.7**	**-1.4**
	40nm,1.0s,mb5.2						
LPL	**La Plagne**	**94.31**	**43**	*e*P	**P**	**03 14 26.6**	**-0.4**
LPG	**La Plagne**	**94.31**	**43**	*e*P	**P**	**03 14 26.8**	**-0.3**
	20nm,1.2s,mb4.8						
CABF	**La Chapelle**	**94.35**	**42**	*e*P	**P**	**03 14 26.9**	**-0.3**
	121nm,1.9s,mb5.4						
MEZF	**Maizieres J'vi**	**94.52**	**40**	*e*P	**P**	**03 14 27.4**	**-0.5**
SUMG	**Summit**	**94.67**	**9**	*e*P	**P**	**03 14 29.2**	**+1.1**
	12nm,1.1s,mb5.0						
HAU	**Haudompre**	**95.09**	**41**	*e*P	**P**	**03 14 29.9**	**-0.7**
HAU				*e*R			
	293nm,18.0s						
HINF	**Hinteralfeld**	**95.32**	**41**	*e*P	**P**	**03 14 31.0**	**-0.7**
CDF	**Champ du Feu**	**95.83**	**40**	*e*P	**P**	**03 14 33.3**	**-0.6**
DAVOX	**Davos**	**96.81**	**43**	P	**P**	**03 14 38.9**	**+0.5**
	2.9nm,0.8s,mb4.7,baz=209,slow=21,SNR=3.0						
GERES	**GERESS Array B**	**99.95**	**42**	P	**P**	**03 14 52.4**	**-0.3**
	1.2nm,1.1s,mb4.3,baz=225,slow=5.7,SNR=5.5						
CLL	**Collm**	**100.33**	**39**	P	P	03 14 54.0	-0.3
CLL				*i* PP	PP	03 18 56.9	-7.4
NOA	**NORSAR Array B**	**102.56**	**29**	P	Pdif	03 15 05.0	+1.1
	0.7nm,0.8s,baz=263,slow=4.9,SNR=2.8						
ILAR	**Eielson Array**	**103.19**	**334**	Pdiff	Pdif	03 15 06.2	-0.5
	0.8nm,0.9s,baz=152,slow=8.4,SNR=10						
ILAR				PP	PP	03 19 27.9	+2.2
	1.8nm,1.1s,baz=111,slow=5.2,SNR=5.1						
KMBO	**Kilima Mbogo**	**104.39**	**97**	PP	PP	03 19 35.0	-0.7
	2.2nm,1.1s,baz=228,slow=21,SNR=2.5						
FINES	**FINESS Array B**	**109.65**	**31**	PP	PP	03 20 09.1	-4.8
	3.6nm,1.1s,baz=225,slow=2.7,SNR=6.2						
AKASG	**Malin Array Be**	**110.15**	**42**	PP	PP	03 20 10.4	-7.3
	0.3nm,0.3s,baz=270,slow=5.0,SNR=4.8						
BRTR	**Keskin Array B**	**111.74**	**54**	PKiKP		03 19 42.7	
	0.9nm,0.6s,baz=188,slow=3.6,SNR=4.6						
BRTR				PP	PP	03 20 17.7	-11
	2.4nm,1.0s,baz=233,slow=6.2,SNR=5.9						
KIV	**Kislovodsk**	**118.82**	**50**	*e*PKIKP	PKPdf	03 19 56.6	+2.4
KIV						03 21 22.0	
KIV				pmax	pmax		
	comp=Z,10.0nm,1.1s						
STKA	**Stephens Creek**	**120.78**	**210**	PKP	PKPdf	03 20 00.6	+2.3
	comp=Z,3.2nm,1.2s,baz=149,slow=5.9,SNR=3.6						
STKA				pPKP		03 20 39.2	
	comp=Z,1.7nm,0.7s,baz=1.0,slow=3.5,SNR=2.3						
ARU	**Arti**	**126.82**	**34**	*e*PKP	PKPdf	03 20 11.2	+2.0
NWAO	**Narrogin (SRO)**	**126.95**	**186**	PKP	PKPdf	03 20 12.2	+2.0
	comp=Z,4.1nm,0.7s,baz=144,slow=8.3,SNR=3.9						
CTA	**Charters Tower**	**127.49**	**222**	PKP	PKPdf	03 20 14.0	+2.5
	comp=Z,1.5nm,0.6s,baz=53,slow=5.1,SNR=4.3						
CTA	**Charters Tower**	**127.49**	**222**	PKP	PKPdf	03 20 14.0	+2.5
TIXI	**Tiksi**	**127.50**	**353**	*e*PKIKP	PKPdf	03 20 30.5	+20
TIXI				*e*SS	SS	03 39 29.8	+18
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.1s						
TIXI				MLR	MLR		
	comp=Z,100nm,19.0s						
SVE	**Sverdlovsk**	**127.73**	**33**	*e*PKIKP	PKPdf	03 20 13.0	+2.0
ASAR	**Alice Springs**	**131.29**	**208**	pPKP		03 20 57.3	
	comp=Z,9.3nm,1.2s,baz=148,slow=1.9,SNR=3.1						
ASAR				SKPbc		03 23 31.6	
	comp=Z,6.7nm,1.0s,baz=144,slow=4.8,SNR=14						
ZRNK	**Zerenda**	**133.77**	**34**	PKIKP	PKPdf	03 20 25.7	+3.2
ZRNK				pmax	pmax		
	comp=Z,23nm,1.5s						
ZRNK	**Zerenda**	**133.77**	**34**	*e*PKP	PKPdf	03 20 25.2	+2.7
WRA	**Warramunga Arr**	**134.31**	**211**	PKP	PKPdf	03 20 26.7	+2.2
	comp=Z,2.8nm,0.5s,baz=156,slow=1.8,SNR=7.0						
WRA				pPKP		03 21 05.0	
	comp=Z,2.7nm,0.6s,baz=172,slow=1.3,SNR=4.1						
WRA				SKPbc		03 23 41.5	
	comp=Z,5.1nm,1.1s,baz=168,slow=2.6,SNR=7.6						
BVAR	**Borovoye Array**	**134.46**	**34**	PKP	PKPdf	03 20 26.9	+3.0
	comp=Z,2.7nm,0.8s,baz=270,slow=2.9,SNR=5.7						
VOSK	**Vostochnaya**	**134.93**	**34**	PKIKP	PKPdf	03 20 27.0	+2.3
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NVS	**Novosibirsk**	**139.28**	**25**	*e*PKIKP	PKPdf	03 20 33.2	+0.6
NVS				*e*		03 21 19.6	
NVS				pmax	pmax		
	comp=Z,12nm,1.2s						
FITZ	**Fitzroy Crossi**	**139.54**	**201**	PKP	PKPdf	03 20 36.9	+2.8
	comp=Z,5.6nm,0.9s,baz=180,slow=12,SNR=4.1						
KURK	**Kurchatov**	**139.99**	**32**	*i* PKIKP	PKPdf	03 20 36.9	+2.9
KURK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KURK	**Kurchatov**	**139.99**	**32**	*e*PKP	PKPdf	03 20 35.0	+1.0
ZAL	**Zalesovo**	**140.57**	**25**	PKhKP		03 20 27.2	
	comp=Z,1.0nm,0.3s,baz=110,slow=2.2,SNR=3.3						
ZAL				PKP	PKPdf	03 20 37.2	+2.3
	comp=Z,5.2nm,0.7s,baz=358,slow=2.0,SNR=13						
ZAL				pPKP		03 21 15.4	
	comp=Z,2.4nm,0.7s,baz=111,slow=5.5,SNR=2.0						
ZAL				SKPbc		03 24 01.6	
	comp=Z,4.9nm,0.8s,baz=83,slow=3.6,SNR=12						
ZAL	**Zalesovo**	**140.57**	**25**	PKP	PKPdf	03 20 37.2	+2.3
ZAL				pPKP		03 21 15.4	
ZAL				SKPbc		03 24 01.6	
BOD	**Bodaibo**	**142.33**	**358**	*e*PKHKP		03 20 32.8	
KSH	**Kashi**	**143.95**	**50**	*i* PKP	PKPdf	03 20 43.3	+2.1
KSH				*e*PKP2	PKPab	03 20 46.1	+4.8
KSH				*e*PP	PP	03 24 02.4	+2.7
KSH				*e*PKS	PKS	03 24 17.3	+1.6
KSH				*e*PPP	PPP	03 27 24.4	+10
KSH				*e*SKS	SKS	03 27 34.7	+1.5
KSH				LR	LR		
	comp=N,230nm,9.5s						
KSH				LR	LR		
	comp=E,170nm,5.8s						
MKAR	**Makanchi Array**	**144.31**	**35**	PKP	PKPdf	03 20 42.9	+1.2
	comp=E,64nm,1.2s,baz=333,slow=2.7,SNR=61						
MKAR				pPKP		03 21 22.8	
	comp=E,5.1nm,0.8s,baz=311,slow=3.8,SNR=2.2						
MKAR	**Makanchi Array**	**144.31**	**35**	*i* PKIKP	PKPdf	03 20 42.8	+1.2
MKAR				pmax	pmax		
	comp=Z,59nm,1.1s						
MKAR	**Makanchi Array**	**144.31**	**35**	PKP	PKPdf	03 20 42.9	+1.2
MKAR				pPKP		03 21 22.8	
ASAJ	**Asahikawa**	**144.78**	**320**	PKP	PKPdf	03 20 45.5	+3.0
	comp=Z,8.7nm,0.7s,baz=289,slow=24,SNR=3.7						
MOY	**Mondy**	**147.48**	**12**	*e*PKHKP		03 20 43.9	
MOY				*e*		03 20 53.1	
NDI	**New Delhi**	**147.74**	**68**	*e*P	PKPdf	03 20 49.5	+1.5
NDI				*e*		03 24 18.0	
HYB	**Hyderabad**	**148.72**	**89**	*i* PKP	PKPdf	03 20 52.5	+2.6
HYB				*e*		03 20 56.5	
HYB				*e*		03 21 09.0	
HYB				*e*		03 21 37.0	
HYB				*e*PP	PP	03 24 24.5	-3.8
WMQ	**Urumqi**	**149.14**	**35**	PKP	PKPdf	03 20 51.5	+1.7
WMQ				PP	PP	03 24 32.0	+2.2
WMQ				SKS	SKS	03 27 42.0	+1.5
WMQ				SKKS		03 31 03.0	
WMQ				SS	SS	03 43 27.0	+0.1
WMQ				LR	LR		
	comp=N,138nm,20.0s						
WMQ				LR	LR		
	comp=E,146nm,22.0s						
WMQ				LR	LR		
	comp=Z,98nm,18.0s						
PTH	**Pithoragarh**	**150.19**	**66**	*e*P	PKPdf	03 20 59.0	+7.2
HIA	**Hailar**	**150.20**	**349**	*e*PKPbc	PKPdf	03 20 58.6	+7.5
MDJ	**Mudanjiang**	**151.33**	**332**	PKP	PKPdf	03 20 52.1	-0.9
MDJ				PP	PP	03 24 46.2	+3.7
MDJ				SS	SS	03 43 55.3	+4.5
MDJ				PP	PP		
	comp=Z,118nm,5.0s						
MDJ				LR	LR		
	comp=E,53nm,27.0s						
MDJ				LR	LR		
	comp=Z,52nm,22.8s						
MAT	**Matsushiro**	**151.50**	**311**	PKP	PKPdf	03 21 02.1	+8.6
SONM	**Songino Array**	**152.07**	**7**	PKP	PKPdf	03 20 57.5	+3.5
	comp=Z,3.1nm,0.8s,baz=311,slow=1.4,SNR=23						
SONM				PKPbc	PKPdf	03 21 03.8	+10
	comp=Z,13nm,0.8s,baz=298,slow=1.2,SNR=51						
SONM				PKPab	PKPab	03 21 13.6	+0.3
	comp=Z,7.1nm,0.6s,baz=327,slow=3.5,SNR=13						
SONM				pPKP		03 21 37.4	
	comp=Z,5.2nm,0.8s,baz=270,slow=1.1,SNR=2.0						
SONM				pPKPbc		03 21 43.9	
	comp=Z,13nm,0.9s,baz=287,slow=1.2,SNR=3.8						
CN2	**Changchun**	**153.68**	**337**	*e*PKP	PKPdf	03 20 56.3	-0.1
GTA	**Gaotai**	**158.32**	**25**	PKP	PKPdf	03 21 06.1	+3.4
GTA				PKP2	PKPab	03 21 40.2	0.0
GTA				PP	PP	03 25 24.3	+2.6
GTA				SS	SS	03 45 06.5	+0.3
GTA				LR	LR		
	comp=N,39nm,8.0s						
GTA				LR	LR		
	comp=E,64nm,8.4s						
GTA				LR	LR		
	comp=Z,52nm,6.1s						
HHC	**Hu-ho-hao-te**	**159.36**	**360**	*e*PKP	PKPdf	03 21 08.0	+4.1
LZH	**Lanzhou**	**162.75**	**21**	*e*PKP	PKPdf	03 21 07.3	-0.2
LZH				APKP		03 21 47.3	
LZH				XPKP		03 22 03.1	
LZH				PKS	PKS	03 24 40.1	+0.3
LZH				PP	PP	03 25 44.0	-0.9
LZH				SKKS		03 32 13.7	
LZH				SS	SS	03 45 50.8	-1.3
LZH				PP	PP		
	comp=Z,113nm,6.6s						
SSE	**Sheshan**	**166.03**	**323**	*e*PKP	PKPdf	03 21 10.2	-0.5
NJ2	**Nanjing**	**166.43**	**332**	*e*PKP	PKPdf	03 21 10.2	-0.7
NJ2				APKP		03 21 53.0	
NJ2				XPKP		03 22 09.0	
NJ2				PKS	PKS	03 24 43.0	+0.5
NJ2				PP	PP	03 26 06.0	+1.6
NJ2				SS	SS	03 46 28.0	-2.0
NJ2				LR	LR		
	comp=N,840nm,15.2s						
NJ2				LR	LR		
	comp=E,600nm,17.7s						
NJ2				LR	LR		
	comp=Z,1μm,14.8s						
CMAR	**Chiang Mai Arr**	**168.03**	**96**	PKP	PKPdf	03 21 16.1	+3.7
	comp=Z,0.9nm,0.5s,baz=280,slow=2.2,SNR=6.9						
CMAR				pPKP		03 21 56.0	
	comp=Z,1.0nm,0.4s,baz=291,slow=2.1,SNR=2.5						
CMAR				PKPab	PKPab	03 22 23.4	+0.5
	comp=Z,3.2nm,0.8s,baz=259,slow=5.1,SNR=10						
CMAR				PP	PP	03 26 14.4	+1.6
	comp=Z,1.4nm,0.5s,baz=260,slow=5.4,SNR=7.6						
CMAR	**Chiang Mai Arr**	**168.03**	**96**	PKIKP	PKPdf	03 21 16.2	+3.8
CMAR				PP	PP	03 26 14.4	+1.6
KMI	**Kunming**	**170.52**	**57**	*e*PKP	PKPdf	03 21 16.5	+2.8
KMI				PP	PP	03 26 25.0	-0.1
KMI				SS	SS	03 47 10.0	-0.5
KMI				PP	PP		
	comp=Z,167nm,9.7s						
KMI				LR	LR		
	comp=Z,107nm,45.7s						
GYA	**Guiyang**	**172.30**	**34**	PKP	PKPdf	03 21 12.3	-2.3
GYA				APKP		03 21 55.8	
GYA				XPKP		03 22 12.4	
GYA				PKS	PKS	03 24 43.6	-2.4
GYA				PP	PP		
	comp=Z,130nm,8.0s						
GYA				LR	LR		
	comp=N,160nm,18.7s						
GYA				LR	LR		
	comp=E,150nm,20.8s						
GYA				LR	LR		
	comp=Z,180nm,21.6s						

IDC ***02*** *03:14:21.6±0.7, 1.10N×126.41E, mb4.4/16, mb1 4.5/17, mb1mx4.4/19, ML4.0/1, MS3.2/1, Ms1 3.2/1, ms1mx2.7/24, Error ellipse: s-maj=42.6km s-min=13.1km az=72.0*
NEIC ***02*** *03:14:30.5±3.2, 0.91N×126.17E, h70km±31km, mb4.8/8, Error ellipse: s-maj=19.0km s-min=8.7km az=73.0*
ISC 02 03:14:24.9±0.4**, 0.97N**±0.07×**126.2E**±0.1**, h33km, n36, σ0.97**/35**, mb4.6**/23**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**14.04**	**339**	LR	LR	03 24 45.1	
	comp=Z,83nm,18.6s,baz=47,slow=44						
FITZ	**Fitzroy Crossi**	**18.96**	**182**	*e*P	**P**	**03 18 46.1**	**-0.1**
	5.6nm,0.8s						
FITZ	**Fitzroy Crossi**	**18.96**	**182**	P	**P**	**03 18 45.6**	**-0.6**
	0.4nm,0.3s,baz=8.2,slow=10,SNR=10						
WRAB	**Tennant Creek**	**22.26**	**159**	P	**P**	**03 19 20.0**	**-0.7**
	145nm,0.6s,mb5.6,SNR=31						
WRAB	**Tennant Creek**	**22.26**	**159**	*e*P	**P**	**03 19 20.3**	**-0.4**
	21nm,0.6s,mb4.8						
WRA	**Warramunga Arr**	**22.27**	**159**	P	**P**	**03 19 20.6**	**-0.1**
	9.6nm,0.4s,mb4.5,baz=340,slow=11,SNR=62						
WB2	**Warramunga Arr**	**22.27**	**159**	*e*P	**P**	**03 19 20.6**	**-0.2**
MBWA	**Marble Bar**	**22.88**	**196**	*e*P	**P**	**03 19 27.2**	**+0.3**
ASAR	**Alice Springs**	**25.61**	**163**	P	**P**	**03 19 53.2**	**0.0**
	6.8nm,1.0s,mb4.1,baz=349,slow=7.3,SNR=48						
ASPA	**Alice Springs**	**25.61**	**163**	*e*P	**P**	**03 19 53.7**	**+0.5**
CMAR	**Chiang Mai Arr**	**31.89**	**305**	P	**P**	**03 20 49.8**	**+0.1**
	1.1nm,0.3s,mb4.1,baz=139,slow=8.5,SNR=5.1						
NWAO	**Narrogin (SRO)**	**34.76**	**193**	P	**P**	**03 21 15.4**	**+1.1**
	5.0nm,0.5s,mb4.7,baz=14,slow=7.5,SNR=8.4						
STKA	**Stephens Creek**	**35.78**	**157**	P	**P**	**03 21 23.0**	**-0.1**
	7.7nm,0.7s,mb4.8,baz=328,slow=8.1,SNR=12						
STKA	**Stephens Creek**	**35.78**	**157**	P	**P**	**03 21 23.0**	**-0.1**
MAJO	**Matsushiro**	**37.10**	**16**	*e*P	**P**	**03 21 36.1**	**+1.8**
	33nm,0.7s,mb5.3						
HYB	**Hyderabad**	**49.59**	**292**	*i* P	**P**	**03 23 16.0**	**+0.6**
SONM	**Songino Array**	**49.74**	**343**	P	**P**	**03 23 16.9**	**+0.8**
	3.0nm,0.9s,mb4.3,baz=162,slow=4.6,SNR=3.5						
MKAR	**Makanchi Array**	**59.52**	**326**	P	**P**	**03 24 26.5**	**-0.9**
	6.8nm,0.6s,mb4.9,baz=120,slow=7.6,SNR=27						
ZAL	**Zalesovo**	**62.80**	**334**	P	**P**	**03 24 47.9**	**-1.6**
	2.5nm,0.3s,mb4.8,baz=298,slow=3.8,SNR=3.4						
ZAL	**Zalesovo**	**62.80**	**334**	P	**P**	**03 24 47.9**	**-1.6**
KURK	**Kurchatov**	**63.77**	**328**	*e*P	**P**	**03 24 54.5**	**-1.5**
	15nm,0.7s,mb5.1						
CASY	**Casey**	**68.03**	**187**	P	**P**	**03 25 21.0**	**-1.8**
	2.4nm,0.6s,mb4.4						
BVAR	**Borovoye Array**	**69.33**	**328**	P	**P**	**03 25 30.4**	**-0.7**
	1.4nm,0.4s,mb4.2,baz=139,slow=14,SNR=5.7						
ZRNK	**Zerenda**	**70.04**	**327**	*e*P	**P**	**03 25 34.6**	**-0.8**
	5.9nm,0.4s,mb4.9						
ARU	**Arti**	**76.97**	**328**	*e*P	**P**	**03 26 15.1**	**-0.8**
	11nm,0.8s,mb4.8						
MAW	**Mawson**	**80.99**	**200**	P	**P**	**03 26 39.4**	**+1.8**
	1.0nm,0.6s,mb3.9,baz=58,slow=7.5,SNR=3.9						
SBA	**Scott Base**	**81.70**	**172**	P	**P**	**03 26 40.5**	**-0.6**
ILAR	**Eielson Array**	**87.81**	**25**	P	**P**	**03 27 11.9**	**+0.2**
	0.3nm,0.6s,mb3.7,baz=245,slow=4.4,SNR=5.2						
ASF	**Jabal al Asfar**	**88.89**	**302**	P	**P**	**03 27 20.6**	**+3.0**
	5.5nm,0.8s,mb4.9,baz=357,slow=5.7,SNR=8.1						
KMBO	**Kilima Mbogo**	**88.95**	**269**	P	**P**	**03 27 23.6**	**+5.2**
	0.8nm,0.6s,mb4.3,baz=47,slow=10,SNR=3.5						
BRTR	**Keskin Array B**	**91.35**	**310**	P	**P**	**03 27 29.6**	**+0.6**
	1.0nm,0.8s,mb4.2,baz=90,slow=7.2,SNR=5.0						
ARCES	**ARCESS Array B**	**92.83**	**340**	P	**P**	**03 27 34.7**	**-0.4**
	1.4nm,0.7s,mb4.5,baz=74,slow=6.6,SNR=5.0						
ARCES	**ARCESS Array B**	**92.83**	**340**	P	**P**	**03 27 34.7**	**-0.4**
KAF	**Kangasniemi**	**93.77**	**332**	*e*p	**P**	**03 27 39.8**	**+0.3**
	1.3nm,0.5s,mb4.6						
FINES	**FINESS Array B**	**93.99**	**332**	P	**P**	**03 27 41.7**	**+1.2**
	1.3nm,0.6s,mb4.5,baz=65,slow=7.0,SNR=10						
FINES	**FINESS Array B**	**93.99**	**332**	P	**P**	**03 27 41.7**	**+1.2**

IDC ***02*** *03:21:42.8±16.0, 22.92S×174.93W, mb4.6/5, mb1 4.7/5, mb1mx4.2/15, Error ellipse: s-maj=306.0km s-min=144.8km az=81.0*
ISC 02 03:22:22.5±3.9**, 24.1S**±0.7×**179.8W**±0.5**, h33km, n13, σ1.35**/13**, mb4.6**/6**, 1C-5D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**31.68**	**270**	⇓*i*P	**P**	**03 28 48.0**	**+2.6**
	8.8nm,0.5s,mb4.8						
CTA	**Charters Tower**	**31.68**	**270**	P	**P**	**03 28 48.2**	**+2.8**
	13nm,0.6s,mb5.0,baz=96,slow=11,SNR=36						
STKA	**Stephens Creek**	**34.84**	**248**	P	**P**	**03 29 13.7**	**+1.1**
	1.0nm,0.3s,mb4.2,baz=103,slow=6.5,SNR=4.5						
ASAR	**Alice Springs**	**42.20**	**261**	P	**P**	**03 30 13.6**	**-0.6**
	1.9nm,0.3s,mb4.2,baz=97,slow=7.4,SNR=45						
ASPA	**Alice Springs**	**42.20**	**261**	*e*P	**P**	**03 30 14.1**	**-0.1**
WB2	**Warramunga Arr**	**42.58**	**266**	⇓*i*P	**P**	**03 30 16.5**	**-0.9**
WRA	**Warramunga Arr**	**42.59**	**266**	P	**P**	**03 30 16.7**	**-0.8**
	5.6nm,0.3s,mb4.7,baz=96,slow=8.3,SNR=92						
KAKA	**Kakadu**	**46.56**	**275**	⇓*i*P	**P**	**03 30 51.5**	**+2.2**
	3.7nm,0.2s,mb5.0						
FITZ	**Fitzroy Crossi**	**51.01**	**266**	*e*P	**P**	**03 31 21.5**	**-2.2**
	3.1nm,0.8s,mb4.3						
FITZ	**Fitzroy Crossi**	**51.01**	**266**	P	**P**	**03 31 21.0**	**-2.7**
	5.8nm,0.9s,mb4.5,baz=127,slow=4.8,SNR=16						
VNA3	**Neumayer Olymp**	**84.68**	**177**	⇑*i*	**P**	**03 34 53.8**	**+0.1**
VNA2	**Neumayer--Watz**	**85.10**	**177**	⇓*i*	**P**	**03 35 01.3**	**+5.5**
VNA1	**Neumayer--Stat**	**85.34**	**177**	⇓*i*	**P**	**03 34 50.1**	**-6.8**

NIED ***02*** *03:26:00, 33.00N×137.00E, h5km, Mw3.8 Best double couple: $M_0 5.22\times10^{14}$ NP1: φs139°, δ77°, λ-147°. NP2: φs40°, δ58°, λ-16°.*
JMA ***02*** *03:26:20.6±0.1, 33.03N×137.00E, h35km±4km, M3.6*
ISC 02 03:26:20.4±1.2**, 33.06N**±0.07×**136.97E**±0.04**, h23km**±9km**, n15, σ0.50**/26**, 1C-4D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.87**	**36**	P	**Pb**	**03 26 36.6**	**-0.1**
TK02	**Tokai 2**	**1.10**	**36**	⇓P	**Pn**	**03 26 40.1**	**-0.4**
TK02				*e*S	**Sb**	**03 26 54.3**	**-0.2**
JWZ	**Kozaga**	**1.16**	**294**	⇑P	**Pn**	**03 26 41.1**	**-0.2**
JWZ				S	**Sb**	**03 26 55.9**	**-0.2**
JIE	**Ise**	**1.35**	**351**	⇓P	**Pn**	**03 26 44.6**	**+0.5**
JIE				S	**Sn**	**03 27 01.4**	**0.0**
TK03	**Tokai 3**	**1.38**	**37**	P	**Pn**	**03 26 44.0**	**-0.5**
TK04	**Tokai 4**	**1.52**	**29**	⇓P	**Pn**	**03 26 46.3**	**-0.3**
TK04				S	**Sn**	**03 27 05.2**	**-0.6**
JWM	**Minabe**	**1.57**	**301**	P	**Pn**	**03 26 47.4**	**+0.2**
JWM				S	**Sn**	**03 27 06.3**	**-0.6**
JWY	**Kouya**	**1.63**	**315**	P	**Pn**	**03 26 49.1**	**+0.9**
JWY				S	**Sn**	**03 27 08.6**	**0.0**
TSUJ	**Tsu 2**	**1.71**	**344**	⇓P	**Pn**	**03 26 49.7**	**+0.4**
TSUJ				S	**Sn**	**03 27 10.6**	**0.0**
JHE	**Heguri**	**1.92**	**326**	P	**Pn**	**03 26 52.7**	**+0.5**
JHE				S	**Sn**	**03 27 15.9**	**0.0**
JAJ2	**Tsuna**	**2.21**	**309**	P	**Pn**	**03 26 57.2**	**+0.8**
JAJ2				S	**Sn**	**03 27 23.2**	**0.0**
JAI	**Aioi**	**2.23**	**290**	P	**Pn**	**03 26 57.0**	**+0.2**
JAI				S	**Sn**	**03 27 22.8**	**-1.1**
SHZ3	**Shizuoka 3**	**2.25**	**27**	P	**Pn**	**03 26 56.2**	**-0.8**
JIZS	**Izushimoda**	**2.29**	**43**	P	**Pn**	**03 26 57.9**	**+0.3**
MAT	**Matsushiro**	**3.62**	**16**	P	**Pn**	**03 27 16.9**	**+0.4**
MAT				S	**Sn**	**03 27 59.8**	**+0.8**

ISC 02 04:08:47.8±0.9**, 44.91N**±0.03×**15.05E**±0.09**, h10km, n7, σ0.64**/13**, 1C, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NVLJ	**Novalja**	**0.37**	**200**	*i* Pg	**Pg**	**04 08 55.3**	**0.0**
NVLJ				*i* Sg	**Sg**	**04 09 00.8**	**+0.4**
BOJS	**Bojanci**	**0.61**	**13**	⇑*i*Pg	**Pg**	**04 09 00.3**	**+0.1**
BOJS				*i* Sg	**Sg**	**04 09 09.7**	**+1.3**
	comp=Z,9.0nm,0.2s						
KNDS	**Knezji Dol**	**0.78**	**323**	*i* Pg	**Pg**	**04 09 02.5**	**-1.0**
KNDS				*i* Sg	**Sg**	**04 09 14.7**	**+0.8**
	comp=Z,6.0nm,0.2s						
VISS	**Visnje**	**0.91**	**351**	*i* Pg	**Pg**	**04 09 06.0**	**0.0**
VISS				*i* Sg	**Sg**	**04 09 17.6**	**-0.6**
	comp=Z,4.0nm,0.1s						
CEY	**Cerknica**	**0.94**	**332**	*e*Sg	**Sg**	**04 09 19.8**	**+0.5**
PDKS	**Podkum**	**1.17**	**358**	*i* Pg	**Pg**	**04 09 11.0**	**-0.2**
PDKS				*i* Sg	**Sg**	**04 09 26.2**	**-0.7**
	comp=Z,3.0nm,0.1s						
VOY	**Vojsko**	**1.39**	**324**	*e*Pg	**Pg**	**04 09 14.7**	**-0.8**
VOY				*e*Sg	**Sg**	**04 09 34.3**	**+0.2**

BJI ***02*** *04:15:33.4, 53.90N×165.30W, h59km, mB4.8, mb4.7, Ms4.9, Msz5.0*
IDC ***02*** *04:15:38.9±0.5, 53.91N×165.42W, h60km±4km, mb4.0/21, mb1 4.2/23, mb1mx4.2/28, MS3.6/7, Ms1 3.6/7, ms1mx3.3/31, Error ellipse: s-maj=16.2km s-min=11.2km az=1.0*
NEIC ***02*** *04:15:39.5±0.2, 53.93N×165.28W, mb4.5/17, ML4.5(AEIC), Error ellipse: s-maj=5.1km s-min=2.9km az=168.0*
NEIC Felt at Unalaska.
ISC 02 04:15:38.1±0.2**, 53.81N**±0.03×**165.15W**±0.04**, h59km, h59km**±1.3km**:pP-P, n111, σ1.00**/113**, mb4.4**/38**, MS3.9**/9**, 2C-2D, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKA	**Akutan**	**0.49**	**312**	P	**P**	**04 15 50.4**	**+0.4**
AHB	**Akutan Harbor**	**0.49**	**308**	P	**P**	**04 15 50.5**	**+0.5**
AKLV	**Akutan Long Va**	**0.59**	**307**	P	**P**	**04 15 51.3**	**+0.3**
AKLV				S	**S**	**04 16 01.1**	**+0.6**
LVA	**Lava Point**	**0.63**	**304**	P	**P**	**04 15 51.9**	**+0.5**
AKGG	**Akutan Green G**	**0.63**	**308**	P	**P**	**04 15 52.1**	**+0.6**
AKGG				S	**S**	**04 16 02.4**	**+1.0**
WESS	**West Dahl Sout**	**0.71**	**21**	P	**P**	**04 15 53.3**	**+0.8**
WESE	**West Dahl East**	**0.74**	**27**	P	**P**	**04 15 53.6**	**+0.8**
WFAR	**Faris Peak**	**0.76**	**17**	P	**P**	**04 15 53.9**	**+0.8**
UNV	**Unalaska Valle**	**0.80**	**273**	P	**P**	**04 15 53.7**	**+0.1**
UNV				S	**S**	**04 16 05.2**	**0.0**
WPOG	**Pogromni**	**0.82**	**17**	P	**P**	**04 15 54.7**	**+0.8**
WPOG				S	**S**	**04 16 07.3**	**+1.6**
WESN	**West Dahl Nort**	**0.83**	**24**	P	**P**	**04 15 55.0**	**+1.0**
WESN				S	**S**	**04 16 07.3**	**+1.4**
MNAT	**Makushin Natee**	**0.91**	**275**	P	**P**	**04 15 55.3**	**+0.2**
MNAT				S	**S**	**04 16 08.4**	**+0.6**
MTBL	**Makushin Table**	**0.92**	**280**	P	**P**	**04 15 55.5**	**+0.4**
MSW	**Makushin Switc**	**0.97**	**277**	P	**P**	**04 15 56.1**	**+0.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MGOD	**Makushin Gods**	**1.02**	**270**	P	**P**	**04 15 57.0**	**+0.4**
MCIR	**Makushin Cirqu**	**1.04**	**278**	P	**P**	**04 15 57.4**	**+0.5**
MCIR				S	**S**	**04 16 10.4**	**-0.3**
WTUG	**Tugumak**	**1.13**	**23**	P	**P**	**04 15 58.5**	**+0.4**
WTUG				S	**S**	**04 16 12.7**	**-0.2**
SSLN	**Shishaldin Nor**	**1.21**	**34**	P	**P**	**04 15 59.9**	**+0.7**
FALS	**False Pass**	**1.46**	**44**	P	**P**	**04 16 03.1**	**+0.3**
FALS				S	**S**	**04 16 21.4**	**+0.4**
OKCD	**Okmok Cone D**	**1.80**	**259**	P	**P**	**04 16 08.7**	**+1.2**
OKCE	**Okmok Cone E**	**1.83**	**259**	P	**P**	**04 16 08.9**	**+1.0**
BALA	**Baldy Mountain**	**1.96**	**44**	P	**P**	**04 16 10.9**	**+1.3**
NIKO	**Nikolski**	**2.37**	**251**	P	**P**	**04 16 15.9**	**+0.4**
SDPT	**Sand Point**	**3.13**	**59**	*e*P	**P**	**04 16 26.0**	**-0.2**
KAWH	**Katmai**	**7.38**	**47**	P	**P**	**04 17 25.8**	**+0.2**
KIWB	**Kanaga Island**	**7.53**	**260**	P	**P**	**04 17 26.0**	**-1.6**
KDAK	**Kodiak Island**	**8.12**	**56**	Pn	**P**	**04 17 32.0**	**-3.8**
	40nm,0.4s,SNR=15						
KDAK	**Kodiak Island**	**8.12**	**56**	*e*P	**P**	**04 17 32.5**	**-3.2**
SLKM	**Skilak Lake**	**10.51**	**44**	*e*P	**P**	**04 18 06.8**	**-1.5**
PWA	**Palmer West**	**11.30**	**40**	*e*P	**P**	**04 18 15.7**	**-3.3**
	7.5nm,0.6s						
PMR	**Palmer**	**11.56**	**41**	*e*P	**P**	**04 18 21.1**	**-1.3**
	5.1nm,0.6s						
FX1	**Attu Island--F**	**12.98**	**275**	P	**P**	**04 18 34.4**	**-7.1**
	0.8nm,0.3s,baz=72,slow=13,SNR=1.7						
COLA	**College**	**14.11**	**31**	P	**P**	**04 18 54.1**	**-1.8**
	16nm,1.1s						
ILAR	**Eielson Array**	**14.34**	**33**	P	**P**	**04 18 56.0**	**-3.0**
	0.2nm,0.3s,baz=218,slow=13,SNR=17						
ILAR				PcP	PcP	04 24 10.4	-2.6
	0.0nm,0.3s,baz=278,slow=2.8,SNR=5.3						
ILAR				ScP		04 27 40.0	
	0.0nm,0.3s,baz=259,slow=2.8,SNR=4.4						
DAWY	**Dawson**	**16.66**	**42**	*e*P	**P**	**04 19 28.5**	**-0.1**
DLBC	**Dease Lake**	**19.96**	**62**	P	**P**	**04 20 06.3**	**-1.4**
	7.4nm,0.9s,baz=251,slow=10,SNR=7.4						
DLBC	**Dease Lake**	**19.96**	**62**	*e*P	**P**	**04 20 05.5**	**-2.1**
INK	**Inuvik**	**20.74**	**33**	P	**P**	**04 20 13.0**	**-2.7**
	14nm,0.9s,baz=229,slow=11,SNR=18						
INK				PcP	PcP	04 24 21.1	-2.3
	1.9nm,0.7s,baz=142,slow=4.5,SNR=4.1						
INK				ScP		04 27 53.0	
	1.5nm,0.7s,baz=219,slow=6.5,SNR=5.0						
INK				LR	LR	04 28 31.9	
	comp=Z,135nm,19.5s,MS3.3,baz=328,slow=37						
INK	**Inuvik**	**20.74**	**33**	*e*P	**P**	**04 20 10.9**	**-4.8**
	21nm,0.8s						
YKA	**Yellowknife Ar**	**27.36**	**51**	P	**P**	**04 21 18.3**	**-0.9**
	3.1nm,0.7s,mb4.0,baz=275,slow=9.7,SNR=12						
YKA				pP	pP	04 21 33.9	+0.2
	1.9nm,0.7s,baz=272,slow=9.2,SNR=3.4						
YKA				LR	LR	04 33 18.9	
	comp=Z,75nm,20.8s,MS3.2,baz=60,slow=39						
YKA	**Yellowknife Ar**	**27.36**	**51**	P	**P**	**04 21 18.3**	**-0.9**
YKA				pP	pP	04 21 33.9	+0.2
YKA				LR	LR	04 33 18.9	
KHMM	**Horse Mountain**	**30.45**	**98**	*e*P	**P**	**04 21 48.0**	**+1.0**
YBH	**Yreka Blue Hor**	**30.51**	**96**	P	**P**	**04 21 48.8**	**+1.2**
	6.4nm,0.9s,mb4.5,baz=280,slow=7.5,SNR=16						
WDC	**Whiskeytown Da**	**31.33**	**97**	*e*P	**P**	**04 21 55.5**	**+0.7**
	7.0nm,1.0s,mb4.5						
HOPS	**Hopland**	**32.05**	**100**	*e*P	**P**	**04 22 01.5**	**+0.4**
	33nm,1.1s,mb5.1						
NSHM	**Saint Helena R**	**32.64**	**100**	*e*P	**P**	**04 22 06.7**	**+0.5**
BEKR	**Beckwourth**	**33.07**	**96**	*e*P	**P**	**04 22 10.6**	**+0.7**
PAHR	**Pah Rah Range**	**33.75**	**96**	P	**P**	**04 22 15.8**	**0.0**
WCN	**Washoe City**	**33.79**	**97**	*e*P	**P**	**04 22 16.7**	**+0.5**
	5.9nm,0.9s,mb4.5						
RES	**Resolute Bay**	**33.95**	**27**	P	**P**	**04 22 15.8**	**-1.5**
CMB	**Columbia Colle**	**34.26**	**99**	*e*P	**P**	**04 22 20.7**	**+0.5**
	7.8nm,0.9s,mb4.6						
LRV	**Little Rabbit**	**34.99**	**102**	*e*P	**P**	**04 22 27.9**	**+1.4**
NVAR	**Mina Array Bea**	**35.22**	**97**	P	**P**	**04 22 29.6**	**+1.1**
	4.6nm,0.8s,mb4.5,baz=295,slow=9.4,SNR=32						
NVAR				pP	pP	04 22 44.1	+0.7
	2.6nm,0.8s,baz=283,slow=13,SNR=7.3						
MNV	**Mina**	**35.31**	**96**	*e*P	**P**	**04 22 29.6**	**+0.4**
	2.5nm,1.1s,mb4.1						
OMM	**Old Mammoth Mi**	**35.36**	**98**	*e*P	**P**	**04 22 30.8**	**+1.3**
ELK	**Elko**	**35.55**	**91**	*e*P	**P**	**04 22 31.6**	**+0.5**
MTUM	**Tungsten Hills**	**35.79**	**98**	*e*P	**P**	**04 22 34.3**	**+1.1**
TPNV	**Topopah Spring**	**37.42**	**97**	*e*P	**P**	**04 22 47.3**	**+0.4**
	2.8nm,0.8s,mb4.1						
BW06	**Boulder Array**	**37.67**	**84**	P	**P**	**04 22 49.5**	**+0.5**
PDAR	**Pinedale Array**	**37.67**	**84**	P	**P**	**04 22 48.4**	**-0.6**
	1.0nm,0.9s,mb3.5,baz=307,slow=5.0,SNR=6.3						
PDAR				pP	pP	04 23 04.4	+0.3
	0.6nm,0.6s,baz=308,slow=3.7,SNR=3.2						
NEN	**Nelson**	**39.14**	**97**	*e*P	**P**	**04 23 01.8**	**+0.6**
LDFC	**Landfair**	**39.38**	**98**	*e*P	**P**	**04 23 03.2**	**0.0**
MDJ	**Mudanjiang**	**42.19**	**285**	P	**P**	**04 23 18.1**	**-8.1**
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,52nm,3.2s						
SDCO	**Great Sand Dun**	**43.25**	**87**	*e*P	**P**	**04 23 34.8**	**-0.2**
CN2	**Changchun**	**45.05**	**287**	*e*P	**P**	**04 23 44.2**	**-5.2**
FRB	**Frobisher Bay**	**46.30**	**38**	P	**P**	**04 23 58.8**	**-0.2**
	comp=Z,13nm,1.0s,mb4.8,baz=304,slow=3.6,SNR=3.9						
WMOK	**Wichita Mounta**	**49.27**	**85**	*e*P	**P**	**04 24 20.8**	**-1.8**
	comp=Z,1.5nm,0.6s,mb4.2						
LTX	**Lajitas**	**50.24**	**93**	*e*P	**P**	**04 24 29.4**	**-0.6**
	comp=Z,11nm,0.8s,mb5.0						
TXAR	**Lajitas Array**	**50.24**	**93**	P	**P**	**04 24 29.8**	**-0.3**
	comp=Z,9.0nm,0.7s,mb4.9,baz=299,slow=5.4,SNR=128						
SCHQ	**Schefferville**	**52.62**	**46**	P	**P**	**04 24 46.7**	**-1.0**
	comp=Z,4.4nm,0.8s,mb4.4,baz=306,slow=5.6,SNR=4.9						
SCHQ	**Schefferville**	**52.62**	**46**	P	**P**	**04 24 46.7**	**-1.0**
SONM	**Songino Array**	**52.71**	**302**	P	**P**	**04 24 46.6**	**-1.9**
	comp=Z,0.4nm,0.8s,mb3.4,baz=41,slow=9.3,SNR=2.8						
SONM				pP	pP	04 25 01.2	-2.8
	comp=Z,1.0nm,0.9s,baz=39,slow=6.4,SNR=5.1						
SONM				PcP	PcP	04 25 55.9	-1.6
	comp=Z,1.4nm,0.8s,baz=50,slow=2.2,SNR=7.2						
ARCES	**ARCESS Array B**	**56.72**	**356**	P	**P**	**04 25 14.5**	**-2.8**
	comp=Z,3.1nm,0.8s,mb4.4,baz=11,slow=7.3,SNR=12						
ARCES				PcP	PcP	04 26 10.0	-2.6
	comp=Z,2.9nm,1.0s,baz=11,slow=4.6,SNR=3.8						
ARCES				LR	LR	04 47 16.1	
	comp=Z,62nm,20.5s,MS3.7,baz=346,slow=34						
ARCES	**ARCESS Array B**	**56.72**	**356**	P	**P**	**04 25 14.5**	**-2.8**
ARCES				PcP	PcP	04 26 10.0	-2.6
ARCES				LR	LR	04 47 16.1	
NJ2	**Nanjing**	**56.83**	**280**	*e*P	**P**	**04 25 13.3**	**-5.3**
NJ2				XP	sP	04 25 35.3	-5.9
NJ2				S	**S**	**04 32 53.0**	**-13**
NJ2				AMB	AMB		
	comp=Z,50nm,1.2s,mb5.4						
NJ2				LR	LR		
	comp=N,770nm,15.6s,MS5.1						
NJ2				LR	LR		
	comp=E,800nm,15.2s,MS5.1						
NJ2				LR	LR		
	comp=Z,990nm,14.9s,MS5.0						
BVAR	**Borovoye Array**	**63.96**	**326**	P	**P**	**04 26 04.6**	**-2.1**
	comp=Z,1.5nm,1.0s,mb4.0,baz=63,slow=3.3,SNR=4.6						
BRVK	**Borovoye**	**63.97**	**326**	P	**P**	**04 26 02.1**	**-4.6**
KAF	**Kangasniemi**	**64.06**	**354**	*e*p	**P**	**04 26 03.5**	**-3.7**
	comp=Z,0.4nm,0.3s,mb3.9						
MKAR	**Makanchi Array**	**64.61**	**315**	LR	LR	04 55 33.5	
	comp=Z,45nm,18.3s,MS3.7,baz=201,slow=37						
FINES	**FINESS Array B**	**64.75**	**354**	P	**P**	**04 26 09.1**	**-2.5**
	comp=Z,2.6nm,0.7s,mb4.3,baz=30,slow=7.1,SNR=11						
FINES				pP	pP	04 26 25.0	-2.8
	comp=Z,2.3nm,1.0s,baz=45,slow=8.1,SNR=2.9						
FINES				LR	LR	04 55 26.4	
	comp=Z,90nm,18.0s,MS4.0,baz=145,slow=37						
NB2	**NORSAR Subarra**	**65.46**	**2**	P	**P**	**04 26 14.5**	**-1.8**
	comp=Z,1.0nm,0.6s,mb4.0,baz=360,slow=5.8						
NOA	**NORSAR Array B**	**65.46**	**2**	P	**P**	**04 26 14.4**	**-1.9**
	comp=Z,1.8nm,0.8s,mb4.2,baz=360,slow=6.4,SNR=5.4						
NOA				LR	LR	04 53 03.7	
	comp=Z,25nm,21.1s,MS3.4,baz=300,slow=34						
AKASG	**Malin Array Be**	**75.16**	**351**	P	**P**	**04 27 13.2**	**-1.9**
	comp=Z,0.6nm,0.3s,mb3.9,baz=12,slow=5.7,SNR=3.0						
GERES	**GERESS Array B**	**77.71**	**1**	P	**P**	**04 27 29.1**	**-0.4**
	comp=Z,0.6nm,0.7s,mb3.6,slow=4.0,SNR=5.5						
CMAR	**Chiang Mai Arr**	**78.73**	**286**	P	**P**	**04 27 34.0**	**-1.6**
	comp=Z,1.3nm,0.3s,mb4.3,baz=19,slow=4.8,SNR=5.5						
CMAR				pP	pP	04 27 49.7	-2.5
	comp=Z,0.8nm,0.4s,baz=271,slow=18,SNR=1.5						
CMAR				sP	sP	04 27 58.5	-0.2
	comp=Z,0.8nm,0.4s,baz=310,slow=45,SNR=1.7						
SSF	**Saint Saulge**	**79.04**	**8**	*e*P	**P**	**04 27 36.6**	**-0.2**
	comp=Z,6.9nm,0.7s,mb4.4						
MFF	**Saint Martin d**	**79.15**	**10**	*e*P	**P**	**04 27 38.1**	**+0.7**
SMF	**Signal de Mont**	**79.48**	**8**	*e*P	**P**	**04 27 38.9**	**-0.3**
LPL	**La Plagne**	**80.81**	**6**	*e*P	**P**	**04 27 46.8**	**+0.5**
	comp=Z,4.1nm,0.9s,mb4.1						
LPG	**La Plagne**	**80.83**	**6**	*e*P	**P**	**04 27 47.2**	**+0.8**
LFF	**La Frestale**	**80.89**	**10**	*e*P	**P**	**04 27 47.0**	**+0.2**
VIVF	**Saint-Julien-l**	**81.32**	**7**	*e*P	**P**	**04 27 48.5**	**-0.5**
ORIF	**Oris-en-Rattie**	**81.35**	**6**	*e*P	**P**	**04 27 49.8**	**+0.6**
MBDF	**Montbardon**	**81.59**	**6**	*e*P	**P**	**04 27 50.7**	**+0.2**
	comp=Z,14nm,1.0s,mb4.5						
SJPF	**Ste Jean**	**82.47**	**12**	*e*P	**P**	**04 27 54.7**	**-0.3**
	comp=Z,17nm,1.2s,mb4.6						
SBF	**Sospel**	**82.49**	**5**	*e*P	**P**	**04 27 55.1**	**0.0**
MTLF	**Montolieu**	**82.62**	**9**	*e*P	**P**	**04 27 55.1**	**-0.6**
	comp=Z,9.9nm,0.8s,mb4.6						
FRF	**La Foret Royal**	**82.75**	**6**	*e*P	**P**	**04 27 56.5**	**+0.1**
	comp=Z,11nm,1.0s,mb4.5						
PGF	**Pioggiola**	**83.88**	**4**	*e*P	**P**	**04 28 02.0**	**-0.1**
	comp=Z,51nm,1.1s,mb5.3						
BRTR	**Keskin Array B**	**85.44**	**346**	P	**P**	**04 28 09.1**	**-0.8**
	comp=Z,1.3nm,0.7s,mb4.2,baz=45,slow=3.5,SNR=5.9						
BRTR				pP	pP	04 28 26.6	0.0
	comp=Z,1.4nm,0.7s,baz=18,slow=3.9,SNR=4.3						
BRTR				LR	LR	05 08 02.3	
	comp=Z,33nm,19.9s,MS3.7,baz=20,slow=37						
ESDC	**Sonseca Array**	**85.48**	**14**	P	**P**	**04 28 11.5**	**+1.4**
	comp=Z,0.6nm,0.6s,mb3.9,baz=346,slow=5.9,SNR=4.1						
ROSC	**El Rosal**	**86.61**	**86**	P	**P**	**04 28 16.5**	**+0.3**
	comp=Z,9.0nm,0.6s,mb5.2,baz=326,slow=14,SNR=2.6						
WRA	**Warramunga Arr**	**89.91**	**235**	P	**P**	**04 28 30.3**	**-1.5**
	comp=Z,1.8nm,0.9s,mb4.4,baz=37,slow=5.5,SNR=8.8						
WRA				pP	pP	04 28 47.0	-1.7
	comp=Z,0.5nm,0.8s,baz=35,slow=5.9,SNR=1.8						
ASAR	**Alice Springs**	**93.28**	**233**	P	**P**	**04 28 46.4**	**-1.0**
	comp=Z,0.9nm,0.7s,mb4.3,baz=33,slow=4.4,SNR=12						
ASAR				pP	pP	04 29 03.4	-1.0
	comp=Z,0.5nm,0.8s,baz=26,slow=5.6,SNR=2.4						
KMBO	**Kilima Mbogo**	**124.32**	**333**	PKP	PKPdf	04 34 31.5	+0.9
	comp=Z,0.9nm,0.6s,baz=226,slow=22,SNR=5.1						
QSPA	**South Pole Qui**	**143.58**	**180**	*e*PKP	PKPdf	04 35 02.5	-1.7
QSPA				LR	LR		
	comp=Z,100nm,21.3s,MS4.5						
MAW	**Mawson**	**153.60**	**220**	PKPbc	PKPdf	04 35 28.1	+7.7
	comp=Z,1.9nm,0.7s,baz=304,slow=3.0,SNR=6.0						
MAW				PKPab	PKPab	04 35 41.9	-1.5
	comp=Z,3.1nm,1.0s,baz=108,slow=5.0,SNR=7.7						
MAW				pPKPab		04 35 58.9	
	comp=Z,3.0nm,1.0s,baz=69,slow=2.4,SNR=4.0						
VNA3	**Neumayer Olymp**	**159.46**	**158**	⇓*i*	PKPab	04 36 07.1	-1.3
VNA2	**Neumayer--Watz**	**160.20**	**158**	⇓*i*	PKPab	04 36 11.5	-0.1
VNA1	**Neumayer--Stat**	**160.21**	**157**	⇑*i*	PKPab	04 36 09.3	-2.3
SNAA	**Sanae**	**160.49**	**163**	⇑*i*	PKPab	04 36 14.2	+1.4

DJA 02 04:18:15.6±1.0**, 7.74S**×**116.79E, h2**km**, ML4.0**/3**, 5C-1D, Error ellipse: s-maj=59.0km s-min=22.1km az=140.0, Bali Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**1.00**	**222**	⇑*i*Pn	Pn	04 18 33.7	-2.8
	227nm,0.2s						
KEDI				⇑*i*Sn	Sn	04 18 46.7	-4.6
RATI	**Rata**	**1.58**	**232**	⇑*i*Pn	Pn	04 18 41.6	-3.2
	92nm,0.1s						
RATI				⇓*i*Sn	Sn	04 19 01.6	-4.5
INGI	**Ingas**	**1.95**	**237**	⇑*i*Pn	Pn	04 18 47.2	-2.8
	128nm,0.2s						
INGI				⇑*i*Sn	Sn	04 19 09.4	-6.0

*NEIC **02** 04:22:01.6, 35.04S×70.61W, h5km, ML3.2(GUC), After GUC.*
GUC 02 04:22:01.6±0.7**, 35.04S**×**70.61W, h5**km±3km**, MD3.8, ML3.2, 7C-6D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.54**	**322**	⇓*i*P	Pg	04 22 12.4	0.0
CICH	**Cipreses**	**0.74**	**13**	⇓*i*P	Pg	04 22 14.8	-1.5
CICH				*i* S	Sg	04 22 25.0	-1.2
TALC	**Talca**	**0.91**	**247**	⇓*i*P	Pb	04 22 18.8	-0.6
TALC				*i* S	Sb	04 22 31.8	+0.2
TALC				AMP		04 22 32.2	
	comp=E,4μm,0.4s						
CACH	**El Canelo**	**0.92**	**1**	⇑*i*P	Pb	04 22 18.2	-1.5
CACH				*i* S	Sb	04 22 30.9	-1.1
CHCH	**Chadas Angostu**	**1.10**	**358**	⇑*i*P	Pb	04 22 21.9	-0.9
CHCH				*i* S	Sb	04 22 37.9	+0.6
LMEL	**Las Melosas**	**1.24**	**16**	⇑*i*P	Pb	04 22 23.6	-1.5
LMEL				*i* S	Sb	04 22 40.8	-0.4
LMEL				AMP		04 22 41.1	
	comp=N,390nm,0.3s						
LNV	**Longovilo**	**1.27**	**328**	⇑*i*P	Pb	04 22 24.6	-0.9
LNV				*i* S	Sb	04 22 42.3	+0.2
TACH	**Talagante**	**1.41**	**349**	⇓*i*P	Pn	04 22 26.9	-1.1
TACH				*i* S	Sb	04 22 46.2	0.0
PCH	**Pirque**	**1.42**	**3**	⇓*i*P	Pn	04 22 27.1	-1.0
PCH				*i* S	Sb	04 22 47.1	+0.7
ANTU	**Antumapu**	**1.47**	**359**	*e*P	Pn	04 22 27.9	-0.9
ANTU				*i* S	Sb	04 22 47.7	-0.1
ANTU				AMP		04 22 49.6	
	comp=E,787nm,0.2s						
RCDM	**Rinconada Maip**	**1.56**	**354**	*e*P	Pn	04 22 29.3	-0.7
RCDM				*i* S	Sb	04 22 50.4	0.0
RCDM				AMP		04 22 51.5	
	comp=E,619nm,0.1s						
FSR	**Penalolen**	**1.56**	**3**	*i* P	Pn	04 22 29.6	-0.6
FSR				AMP		04 22 52.5	
	comp=E,359nm,0.3s						
CLCH	**Cerro Calan**	**1.64**	**2**	⇑*i*P	Pn	04 22 30.9	-0.5
CLCH				*i* S	Sb	04 22 52.8	-0.2
CLCH				AMP		04 22 56.0	
	comp=E,743nm,0.9s						
CLCH				AMP		04 22 60.0	
	comp=E,427nm,0.7s						
FCH	**Farellones**	**1.73**	**9**	⇑*i*P	Pn	04 22 32.4	-0.2
FCH				*i* S	Sn	04 22 55.9	+0.7
FCH				AMP		04 22 57.2	
	comp=N,412nm,0.3s						
LCCH	**Las Cruces**	**1.75**	**333**	⇓*i*P	Pn	04 22 32.6	-0.2
LCCH				*i* S	Sn	04 22 56.7	+0.9
PEL	**Peldehue**	**1.89**	**358**	*e*P	Pn	04 22 34.7	-0.2
JACH	**Jahuel**	**2.35**	**0**	⇑*i*P	Pn	04 22 42.4	+0.9
JACH				*i* S	Sn	04 23 12.6	+1.6

*IDC **02** 04:38:31.4±0.8, 18.17N×71.93W, mb4.0/9, mb1 4.2/11, mb1mx4.0/19, MS2.6/1, Ms1 2.6/1, ms1mx2.5/20, Error ellipse: s-maj=22.6km s-min=17.1km az=60.0*
*NEIC **02** 04:38:32.9±0.3, 18.09N×71.95W, h10km, mb3.9/5, MD4.4(RSPR), Error ellipse: s-maj=7.4km s-min=5.6km az=214.0*
*RSPR **02** 04:38:37.3, 17.40N×71.70W, h75km±25km, MD4.7/6, MD4.7/6*
ISC 02 04:38:34.4±1.2**, 18.06N**±0.06×**71.85W**±0.05**, h38**km±13km**, n45, σ1**s**09**/45**, mb3.8**/11**, 4C-3D, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AGP	**Aguadilla**	**4.49**	**85**	*e*P	**P**	**04 39 44.6**	**+2.9**
MGP	**Maguayo**	**4.53**	**90**	⇑*i*P	**P**	**04 39 42.2**	**-0.1**
MGP				*e*S	**S**	**04 40 32.5**	**-2.0**
LSP	**Las Mesas**	**4.53**	**88**	⇑*e*P	**P**	**04 39 43.1**	**+0.8**
LRS	**Lares**	**4.76**	**86**	⇑*e*P	**P**	**04 39 46.2**	**+0.5**
AOPR	**Arecibo Observ**	**4.85**	**86**	⇓*e*P	**P**	**04 39 47.5**	**+0.6**
AOPR	**Arecibo Observ**	**4.85**	**86**	*e*S	**S**	**04 40 45.5**	**+2.8**
AOPR	**Arecibo Observ**	**4.85**	**86**	*e*P	**P**	**04 39 47.5**	**+0.6**
OBIP	**Obispado Ponce**	**4.99**	**89**	⇓*e*P	**P**	**04 39 49.0**	**+0.2**
OBIP	**Obispado Ponce**	**4.99**	**89**	*e*S	**S**	**04 40 45.1**	**-0.9**
SJG	**San Juan**	**5.42**	**89**	*e*S	**S**	**04 40 55.0**	**-1.9**
SJG	**San Juan**	**5.42**	**89**	Pn	**P**	**04 39 54.9**	**0.0**
	25nm,0.3s,baz=271,slow=12,SNR=41						
SJG				Sn	**S**	**04 40 58.0**	**+1.1**
	13nm,0.3s,baz=46,slow=22,SNR=3.2						
SJG				LR	LR	04 41 11.8	
	comp=Z,59nm,18.5s,baz=120,slow=29						
SJG	**San Juan**	**5.42**	**89**	⇓*e*P	**P**	**04 39 54.5**	**-0.3**
SJG				*e*S	**S**	**04 40 55.0**	**-1.9**
HUMP	**Col San Antoni**	**5.71**	**88**	⇑*e*P	**P**	**04 39 58.8**	**0.0**
HUMP				*e*S	**S**	**04 41 03.1**	**-1.0**
SDV	**Santo Domingo**	**9.20**	**172**	*e*P	**P**	**04 40 47.9**	**+0.3**
	8.7nm,0.3s						
SDV				*e*S	**S**	**04 42 25.5**	**-5.4**
ROSC	**El Rosal**	**13.35**	**191**	Pn	**P**	**04 41 42.9**	**-0.9**
	1.8nm,0.3s,baz=130,slow=18,SNR=2.8						
OTAV	**Otavalo**	**18.87**	**201**	P	**P**	**04 42 53.2**	**-0.9**
	4.3nm,0.9s						
LRAL	**Lakeview Retre**	**20.19**	**320**	*e*P	**P**	**04 43 08.7**	**+0.2**
	5.5nm,1.0s						
BLA	**Blacksburg**	**20.51**	**340**	*e*P	**P**	**04 43 09.8**	**-2.1**
	29nm,1.1s						
CPCT	**Cooper Cave**	**20.65**	**329**	P	**P**	**04 43 12.9**	**-0.4**
PWV	**Princeton**	**20.83**	**339**	*e*P	**P**	**04 43 15.2**	**0.0**
CCM	**Cathedral Cave**	**26.16**	**324**	P	**P**	**04 44 06.0**	**-1.1**
SAML	**Samuel**	**28.17**	**162**	*e*P	**P**	**04 44 25.0**	**-0.6**
	3.3nm,1.1s,mb3.9						
TXAR	**Lajitas Array**	**31.12**	**297**	PcP	PcP	04 47 46.5	0.0
	0.5nm,0.6s,baz=137,slow=4.2,SNR=6.9						
LPAZ	**La Paz**	**34.33**	**174**	P	**P**	**04 45 23.0**	**+3.2**
	0.4nm,0.3s,mb3.8,baz=23,slow=7.7,SNR=2.4						
SCHQ	**Schefferville**	**36.90**	**5**	P	**P**	**04 45 41.4**	**+0.2**
	3.2nm,0.6s,mb4.3,baz=170,slow=12,SNR=4.6						
BW06	**Boulder Array**	**40.29**	**316**	P	**P**	**04 46 09.8**	**+0.2**
PDAR	**Pinedale Array**	**40.29**	**316**	P	**P**	**04 46 10.2**	**+0.6**
	0.8nm,0.9s,mb3.4,baz=124,slow=11,SNR=4.4						
PDAR				PcP	PcP	04 48 13.0	-0.4
	0.4nm,0.8s,baz=63,slow=2.0,SNR=3.1						
BDFB	**Brasilia**	**40.91**	**144**	P	**P**	**04 46 15.9**	**+1.0**
	3.2nm,0.5s,mb4.2,baz=319,slow=8.2,SNR=8.8						
REDW	**Red Top Meadow**	**41.41**	**316**	*e*P	**P**	**04 46 19.1**	**+0.4**
MOOW	**Moose Ponds**	**41.50**	**317**	*e*P	**P**	**04 46 19.9**	**+0.4**
TPNV	**Topopah Spring**	**43.20**	**305**	P	**P**	**04 46 34.8**	**+1.2**
HLID	**Hailey**	**43.87**	**315**	P	**P**	**04 46 36.0**	**-2.8**
NVAR	**Mina Array Bea**	**45.13**	**307**	PcP	PcP	04 48 31.1	+1.6
	0.9nm,1.0s,baz=135,slow=4.2,SNR=4.4						
ILAR	**Eielson Array**	**67.44**	**333**	P	**P**	**04 49 27.6**	**-0.3**
	0.5nm,0.8s,mb3.6,baz=110,slow=4.3,SNR=5.8						
NB2	**NORSAR Subarra**	**71.03**	**31**	P	**P**	**04 49 50.9**	**+0.8**
	0.8nm,0.6s,mb3.8,baz=274,slow=6.2						
NOA	**NORSAR Array B**	**71.03**	**31**	P	**P**	**04 49 51.2**	**+1.2**
	1.2nm,0.8s,mb3.9,baz=274,slow=6.3,SNR=4.9						
NOA	**NORSAR Array B**	**71.03**	**31**	P	**P**	**04 49 51.2**	**+1.2**
GERES	**GERESS Array B**	**73.73**	**43**	P	**P**	**04 50 06.4**	**+0.1**
	0.3nm,0.5s,mb3.5,baz=270,slow=5.3,SNR=4.6						
ARCES	**ARCESS Array B**	**75.78**	**21**	P	**P**	**04 50 18.2**	**+0.6**
	1.6nm,0.6s,mb4.1,baz=307,slow=6.1,SNR=5.5						
KAF	**Kangasniemi**	**77.96**	**28**	*e*p	**P**	**04 50 28.3**	**-1.7**
	0.2nm,0.3s,mb3.5						
FINES	**FINESS Array B**	**78.04**	**29**	P	**P**	**04 50 31.8**	**+1.3**
	1.0nm,0.7s,mb3.9,baz=243,slow=4.3,SNR=6.6						
FINES	**FINESS Array B**	**78.04**	**29**	P	**P**	**04 50 31.8**	**+1.3**
STKA	**Stephens Creek**	**146.86**	**239**	PKPbc	PKPbc	04 58 14.7	+1.9
	1.5nm,0.8s,baz=346,slow=13,SNR=3.1						
WRA	**Warramunga Arr**	**155.18**	**261**	PKPbc	PKPdf	04 58 34.7	+11
	0.5nm,0.7s,baz=88,slow=2.7,SNR=8.4						
ASAR	**Alice Springs**	**155.32**	**253**	PKPbc	PKPdf	04 58 35.0	+11
	0.7nm,0.7s,baz=103,slow=2.5,SNR=9.4						

BJI 02 04:41:35.0, 26.04N×**106.15E, h23**km**, mb4.7, ML3.5, Ms3.6, Msz3.6, Southeastern China**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GYA	**Guiyang**	**0.62**	**48**	PG	Pb	04 41 46.1	-1.0
GYA				SG	Sb	04 41 57.3	+1.9
GYA				Smax			
	comp=N,3μm,0.6s						
GYA				Smax			
	comp=E,2μm,0.6s						
KMI	**Kunming**	**3.21**	**254**	*e*PG	Pn	04 42 30.9	+5.6
KMI				S	Sn	04 43 02.4	-0.9
KMI				SG	Sn	04 43 13.4	+10
KMI				Smax			
	comp=N,136nm,0.9s						
KMI				Smax			
	comp=E,135nm,1.0s						
KMI				LR	LR		
	comp=N,679nm,6.7s						
KMI				LR	LR		
	comp=E,278nm,6.2s						
XAN	**Xi'an**	**8.33**	**16**	P	P	04 43 36.4	-1.0
XAN				AMB	AMB		
	comp=Z,27nm,0.6s						
LZH	**Lanzhou**	**10.21**	**349**	*e*P	P	04 43 58.6	-4.8
LZH				PP	PP	04 44 06.4	-4.7
LZH				AMB	AMB		
	comp=Z,12nm,1.0s						
LZH				LR	LR		
	comp=E,200nm,7.3s						
LZH				LR	LR		
	comp=Z,251nm,8.7s						

*STR **02** 04:46:11.7±0.4, 42.31N×2.13E, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **02** 04:46:11.6±0.2, 42.31N×2.21E, h4km, Md2.4/1, Ml2.2/10, Error ellipse: s-maj=3.9km s-min=2.9km az=140.0*
*MDD **02** 04:46:12.8±0.2, 42.33N×2.16E, mbLg1.7/7, Error ellipse: s-maj=2.4km s-min=1.9km az=159.0, PRXIMO AftershockPLICA*
ISC 02 04:46:11.2±0.4**, 42.37N**±0.02×**2.16E**±0.03**, h11**km±3km**, n39, σ1**s**35**/57**, Pyrenees**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBRU	**Bruguera**	**0.09**	**170**	Pg	**Pg**	**04 46 13.5**	**-0.3**
VALF	**Valcebollere**	**0.11**	**285**	Pg	**Pg**	**04 46 15.0**	**+0.9**
VALF				Sg	**Sg**	**04 46 16.8**	**+0.8**
VALF	**Valcebollere**	**0.11**	**285**	P	**Pg**	**04 46 15.0**	**+0.9**
VALF				S	**Sg**	**04 46 16.8**	**+0.8**
CLLI	**Llivia**	**0.17**	**308**	Pg	**Pg**	**04 46 16.3**	**+1.2**
CARF	**Carcanieres**	**0.34**	**353**	Pg	**Pg**	**04 46 19.9**	**+1.6**
CARF				Sg	**Sg**	**04 46 25.2**	**+2.1**
CARF	**Carcanieres**	**0.34**	**353**	P	**Pg**	**04 46 20.0**	**+1.7**
CARF				S	**Sg**	**04 46 24.9**	**+1.9**
FILF	**Fillols**	**0.35**	**58**	Pg	**Pg**	**04 46 18.1**	**-0.4**
FILF				Sg	**Sg**	**04 46 22.2**	**-1.1**
FILF	**Fillols**	**0.35**	**58**	P	**Pg**	**04 46 18.1**	**-0.3**
FILF				S	**Sg**	**04 46 22.2**	**-1.1**
EJON	**La Jonquera**	**0.55**	**82**	Pg	**Pg**	**04 46 22.9**	**+0.7**
	1.5nm,0.1s,SNR=9.5						
EJON				Lg		04 46 30.6	
	7.4nm,0.2s,SNR=7.9						
SJAF	**Saint Jean de**	**0.55**	**78**	Pg	**Pg**	**04 46 23.0**	**+0.7**
SJAF	**Saint Jean de**	**0.55**	**78**	P	**Pg**	**04 46 23.1**	**+0.8**
SJAF				S	**Sg**	**04 46 30.5**	**+0.8**
LRDF	**Laroque-de-Fa**	**0.63**	**26**	Pg	**Pg**	**04 46 25.1**	**+1.2**
LRDF				Sg	**Sg**	**04 46 35.2**	**+2.8**
LRDF	**Laroque-de-Fa**	**0.63**	**26**	P	**Pb**	**04 46 25.1**	**+1.3**
LRDF				S	**Sb**	**04 46 34.3**	**+2.0**
CORG	**Organya**	**0.64**	**257**	Pg	**Pg**	**04 46 24.6**	**+0.5**
CFON	**Fontmartina**	**0.65**	**161**	Pg	**Pg**	**04 46 23.6**	**-0.6**
EMIR	**Miracle**	**0.66**	**226**	Pg	**Pg**	**04 46 24.7**	**+0.2**
	4.2nm,0.1s,SNR=16						
EMIR				Lg		04 46 33.1	
	18nm,0.2s,SNR=7.9						
CSOR	**Sort**	**0.76**	**270**	Pg	**Pg**	**04 46 26.9**	**+0.4**
SALF	**Salau**	**0.81**	**299**	Pn	**Pg**	**04 46 27.9**	**+0.4**
SALF				Pg	**Pg**	**04 46 27.9**	**+0.4**
SALF	**Salau**	**0.81**	**299**	P	**Pb**	**04 46 28.0**	**+1.1**
MTLF	**Montolieu**	**0.97**	**3**	*e*Pg	**Pg**	**04 46 31.1**	**+0.5**
MTLF				*e*Sg	**Sg**	**04 46 45.1**	**+1.5**
	12nm,0.3s						
MELF	**Melles**	**1.15**	**296**	P	**Pb**	**04 46 34.5**	**+1.9**
CAVN	**Les Avellanes**	**1.16**	**245**	Pg	**Pg**	**04 46 33.6**	**-0.7**
EPOB	**Poblet**	**1.30**	**219**	Pg	**Pg**	**04 46 36.3**	**-0.9**
	1.9nm,0.1s,SNR=14						
EPOB				Lg		04 46 52.6	
	5.3nm,0.1s,SNR=7.9						
EPF	**Esparros**	**1.49**	**297**	*e*Pg	**Pg**	**04 46 40.3**	**-0.8**
EPF				*e*Sn	**Sn**	**04 46 58.0**	**+0.3**
EPF				*e*Sg	**Sg**	**04 47 01.8**	**+0.8**
	4.3nm,0.3s						
EPF	**Esparros**	**1.49**	**297**	Pg	**Pg**	**04 46 40.3**	**-0.8**
EPF				Lg		04 47 01.8	
	2.2nm,0.3s						
ESAC	**San Caprasio**	**2.06**	**252**	Pg	**Pg**	**04 46 51.0**	**-1.4**
	1.9nm,0.1s,SNR=7.9						
ESAC				Lg		04 47 18.0	
	6.5nm,0.2s,SNR=7.9						
ETSF	**Etsaut**	**2.07**	**286**	*e*Pg	**Pg**	**04 46 50.6**	**-2.0**
ETSF				*e*Sg	**Sg**	**04 47 18.7**	**-1.6**
	5.2nm,0.5s						
LASF	**Ste Croix**	**2.11**	**36**	*e*Pn	**Pn**	**04 46 44.8**	**-2.1**
LASF				*e*Pg	**Pg**	**04 46 49.8**	**-3.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LASF				eSg	Sg	04 47 18.5	-2.9
	0.5nm,0.2s						
CAF	Calviac	2.55	358	ePn	Pn	04 46 52.0	-1.3
CAF				ePg	Pg	04 47 00.7	-1.5
CAF				eSg	Sg	04 47 34.8	-1.4
	3.0nm,0.3s						
CAF	Calviac	2.55	358	Pg	Pg	04 47 00.7	-1.5
SJPF	Ste Jean	2.60	288	eSg	Sg	04 47 36.5	-1.3
	2.2nm,0.4s						
LFF	La Frestale	2.76	339	eSg	Sg	04 47 42.0	-1.2
	7.2nm,0.4s						
EALK	Alkurruntz	2.83	289	Lg		04 47 43.7	
	0.4nm,0.2s,SNR=4.0						
RJF	Les Rejaudoux	2.97	351	eSg	Sg	04 47 48.6	-1.4
	1.3nm,0.2s						
VIVF	Saint-Julien-l	3.08	35	ePn	Pn	04 46 58.2	-2.6
FRF	La Foret Royal	3.50	69	ePn	Pn	04 47 02.9	-3.9
ETOR	Torete	3.52	245	Pn	Pn	04 47 09.8	+2.7
	0.1nm,0.2s,SNR=4.0						
ETOR				Sn	Sn	04 47 50.3	+1.2
	0.3nm,0.1s,SNR=4.0						
ETOR				Lg		04 48 06.0	
	0.2nm,0.2s,SNR=4.0						
ORIF	Oris-en-Rattie	3.71	45	eSn	Sn	04 47 46.6	-7.3
	2.0nm,0.5s						
BGF	Bois d'Agland	4.21	6	eSg	Sg	04 48 27.3	-4.2
	3.2nm,0.4s						

*NEIC **02** 05:03:04.8±1.0, 33.87S×179.26W, h41km±8km, mb4.7/7, Error ellipse: s-maj=12.9km s-min=9.3km az=102.0*
*IDC **02** 05:03:05.4±0.7, 33.99S×179.29W, h45km±4km, mb4.2/6, mb1 4.4/7, mb1mx4.3/13, MS4.1/10, Ms1 4.1/10, ms1mx4.0/15, Error ellipse: s-maj=22.6km s-min=14.3km az=128.0*
ISC 02 05:03:05.5±1.5**, 34.06S**±0.06×**179.4W**±0.1**, h55**km±11km**, h50**km±3.3km**:pP-P, n110,** σ1§**46**/103**, mb4.5**/12**, MS4.1**/10**, 2C-4D, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	3.95	207	P	P	05 04 05.1	0.0
MXZ				S	S	05 04 54.5	+3.9
MXZ	Matakaoa Point	3.95	207	P	P	05 04 05.0	-0.1
MXZ				eS	S	05 04 52.7	+2.1
MXZ				T		05 07 56.1	
WIZ	White Island	4.42	218	P	P	05 04 11.8	+0.1
WIZ	White Island	4.42	218	P	P	05 04 11.4	-0.3
PUZ	Puketiti	4.42	204	P	P	05 04 11.1	-0.6
PUZ				S	S	05 05 03.9	+1.5
PUZ	Puketiti	4.42	204	P	P	05 04 11.1	-0.6
PUZ				eS	S	05 05 03.3	+0.9
KUZ	Kuaotunu	4.78	235	P	P	05 04 18.2	+1.4
KUZ	Kuaotunu	4.78	235	P	P	05 04 18.9	+2.1
MWZ	Matawai	4.92	209	P	P	05 04 18.4	-0.4
MWZ				S	S	05 05 17.8	+2.7
MWZ	Matawai	4.92	209	P	P	05 04 17.6	-1.2
MWZ				eS	S	05 05 17.6	+2.5
RAO	Raoul Island	4.97	15	eP	P	05 04 12.9	-6.5
MARZ	Manawahe	5.03	218	P	P	05 04 21.2	+0.9
MARZ	Manawahe	5.03	218	P	P	05 04 20.6	+0.3
URZ	Urewera	5.04	213	P	P	05 04 19.8	-0.6
	45nm,0.3s,baz=27,slow=3.7,SNR=110						
URZ				S	S	05 05 18.5	+0.5
	34nm,0.3s,baz=134,slow=20,SNR=4.1						
URZ	Urewera	5.04	213	P	P	05 04 19.6	-0.8
URZ	Urewera	5.04	213	P	P	05 04 19.1	-1.3
TGRZ	Tauranga	5.06	222	P	P	05 04 22.0	+1.3
EDRZ	Edgecumbe	5.09	216	P	P	05 04 22.2	+1.1
EDRZ	Edgecumbe	5.09	216	P	P	05 04 22.1	+1.0
LIRZ	Lichensteins R	5.19	220	P	P	05 04 24.3	+1.8
TAZ	Tarawera	5.30	217	P	P	05 04 25.3	+1.3
UTU	Utuhina	5.42	220	P	P	05 04 28.1	+2.4
WCZ	Waipu Caves	5.44	248	eP	P	05 04 27.5	+1.5
WCZ	Waipu Caves	5.44	248	⇑P	P	05 04 27.7	+1.7
KNZ	Kokohu	5.47	204	eP	P	05 04 24.3	-2.1
KNZ	Kokohu	5.47	204	eP	P	05 04 24.2	-2.2
KNZ				eS	S	05 05 26.7	-2.1
TOZ	Tahuroa Road	5.50	227	eP	P	05 04 29.0	+2.1
TOZ	Tahuroa Road	5.50	227	P	P	05 04 29.0	+2.1
PATZ	Paeroa	5.54	218	P	P	05 04 29.5	+2.1
OUZ	Omahuta	5.86	257	P	P	05 04 32.6	+0.8
BKZ	Black Stump Fm	6.06	212	eP	P	05 04 32.5	-2.1
BKZ	Black Stump Fm	6.06	212	P	P	05 04 32.4	-2.2
BKZ				eS	S	05 05 44.0	+0.6
MGZ	Maungaku	6.38	218	P	P	05 04 39.1	0.0
KAVZ	Karewarewa	6.40	217	P	P	05 04 38.9	-0.5
NGZ	Ngauruhoe	6.48	217	P	P	05 04 40.3	-0.2
NGZ	Ngauruhoe	6.48	217	P	P	05 04 39.9	-0.6
CNZ	Chateau	6.53	217	P	P	05 04 41.0	-0.1
CNZ	Chateau	6.53	217	eP	P	05 04 40.7	-0.5
TUVZ	Tukino	6.53	216	P	P	05 04 41.7	+0.5
TUVZ	Tukino	6.53	216	P	P	05 04 41.3	+0.1
MOVZ	Moawhango	6.59	215	P	P	05 04 38.9	-3.1
WNVZ	Wahianoa	6.60	216	P	P	05 04 42.1	-0.1
TSZ	Takapari Road	7.03	210	eP	P	05 04 45.0	-3.2
TSZ	Takapari Road	7.03	210	P	P	05 04 44.4	-3.8
BFZ	Birch Farm	7.45	206	eP	P	05 04 50.0	-4.0
BFZ	Birch Farm	7.45	206	eS	S	05 06 12.5	-5.4
MRZ	Mangatainoka R	7.69	210	eP	P	05 04 53.8	-3.5
MRZ	Mangatainoka R	7.69	210	eP	P	05 04 53.2	-4.1
MRZ				eS	S	05 06 16.9	-7.0
KIW	Kapiti Island	8.14	212	P	P	05 04 58.6	-4.9
KIW	Kapiti Island	8.14	212	eP	P	05 04 58.5	-5.0
KIW				eS	S	05 06 30.0	-5.1
MTW	Mount Morrison	8.14	208	P	P	05 04 59.8	-3.8
CAW	Cannon Point	8.28	210	P	P	05 05 01.1	-4.3
CAW	Cannon Point	8.28	210	eP	P	05 05 00.9	-4.5
MRW	Makara Radio	8.53	211	eP	P	05 05 06.0	-2.9
NNZ	Nelson	9.14	216	eP	P	05 05 12.9	-4.3
NNZ	Nelson	9.14	216	eP	P	05 05 12.1	-5.1
NNZ				eS	S	05 06 53.3	-6.4
QRZ	Quartz Range	9.29	221	eP	P	05 05 14.6	-4.8
QRZ	Quartz Range	9.29	221	eP	P	05 05 14.4	-5.0
THZ	Tophouse	9.78	216	eP	P	05 05 20.5	-5.6
THZ	Tophouse	9.78	216	P	P	05 05 20.5	-5.6
THZ				eS	S	05 07 06.8	-8.7
KHZ	Kahutara	10.00	211	P	P	05 05 24.6	-4.5
DSZ	Denniston Nort	10.33	220	eP	P	05 05 28.0	-5.5
DSZ	Denniston Nort	10.33	220	eP	P	05 05 27.9	-5.6
LTZ	Lake Taylor	10.87	214	eP	P	05 05 34.9	-5.9
MQZ	McQueen's Vall	11.43	210	eS	S	05 07 42.6	-13
RPZ	Rata Peaks	12.15	215	P	P	05 05 56.3	-1.8
	4.6nm,0.3s,baz=242,slow=5.5,SNR=3.0						
RPZ				S	S	05 08 04.0	-8.9
	2.4nm,0.3s,baz=115,slow=16,SNR=4.6						
ODZ	Otahua Downs	13.36	212	eP	P	05 06 08.3	-5.8
RAR	Rarotonga	21.57	59	LR	LR	05 13 46.2	
	comp=Z,311nm,21.4s,MS3.7,baz=235,slow=30						
STKA	Stephens Creek	32.64	263	P	P	05 09 35.0	+0.6
	1.8nm,0.8s,mb4.1,baz=117,slow=6.8,SNR=3.9						
STKA				LR	LR	05 22 39.7	
	comp=Z,585nm,18.5s,MS4.3,baz=278,slow=36						
STKA	Stephens Creek	32.64	263	P	P	05 09 35.0	+0.6
STKA				LR	LR	05 22 39.7	
CTA	Charters Tower	33.40	286	eP	P	05 09 41.7	+0.7
	5.8nm,0.5s,mb4.8						
CTA	Charters Tower	33.40	286	P	P	05 09 41.7	+0.6
	8.2nm,0.8s,mb4.7,baz=286,slow=2.4,SNR=3.1						
CTAO	Charters Tower	33.40	286	eP	P	05 09 41.7	+0.7
	8.7nm,0.7s,mb4.8						
PMG	Port Moresby	39.26	301	P	P	05 10 30.8	+0.3
	5.3nm,0.6s,mb4.5						
ASAR	Alice Springs	41.85	272	P	P	05 10 50.5	-1.3
	9.6nm,0.9s,mb4.4,baz=114,slow=7.7,SNR=25						
ASAR				pP	pP	05 11 05.1	-1.0
	8.6nm,0.7s,baz=114,slow=7.3,SNR=13						
ASAR				LR	LR	05 27 11.2	
	comp=Z,204nm,20.9s,MS4.0,baz=126,slow=34						
ASPA	Alice Springs	41.85	272	eP	P	05 10 51.7	-0.2
WB2	Warramunga Arr	43.16	277	eP	P	05 11 02.0	-0.6
WRAB	Tennant Creek	43.17	277	eP	P	05 11 00.9	-1.8
	9.6nm,0.6s,mb4.7						
WRA	Warramunga Arr	43.17	277	P	P	05 11 02.1	-0.6
	2.7nm,0.5s,mb4.3,baz=118,slow=7.6,SNR=26						
WRA				pP	pP	05 11 16.3	-0.7
	4.9nm,0.4s,baz=119,slow=7.5,SNR=12						
WRA				LR	LR	05 29 00.2	
	comp=Z,186nm,19.0s,MS4.0,baz=110,slow=36						
FITZ	Fitzroy Crossi	51.26	274	eP	P	05 12 05.5	-0.5
	5.2nm,1.2s,mb4.3						
CASY	Casey	51.35	209	eP	P	05 12 05.9	-0.2
	3.4nm,0.6s,mb4.5						
MBWA	Marble Bar	54.72	267	eP	P	05 12 29.1	-2.5
	9.0nm,1.0s,mb4.8						
QSPA	South Pole Qui	56.06	180	eP	P	05 12 43.0	+2.4
	31nm,0.9s,mb5.3						
MAW	Mawson	68.46	201	P	P	05 14 04.1	+0.8
	7.5nm,0.9s,mb4.7,baz=134,slow=7.5,SNR=20						
MAW				LR	LR	05 42 41.3	
	comp=Z,136nm,20.3s,MS4.2,baz=240,slow=35						
SYO	Syowa Base	73.28	194	⇑P	P	05 14 32.4	+0.3
SNAA	Sanae	74.53	179	⇓i	P	05 14 41.0	+1.6
VNA3	Neumayer Olymp	74.74	177	⇓i	P	05 14 44.1	+3.5
VNA2	Neumayer--Watz	75.15	177	⇓i	P	05 14 46.6	+3.6
VNA1	Neumayer--Stat	75.39	177	⇓i	P	05 14 48.4	+4.1
NVAR	Mina Array Bea	91.73	43	P	P	05 16 09.2	+0.9
	0.6nm,0.8s,mb4.0,baz=217,slow=6.1,SNR=5.3						
NVAR				pP	pP	05 16 22.5	-1.7
	0.9nm,0.7s,baz=213,slow=6.9,SNR=4.8						
NVAR				LR	LR	05 50 32.5	
	comp=Z,86nm,18.9s,MS4.2,baz=270,slow=31						
TXAR	Lajitas Array	95.36	58	LR	LR	05 56 12.6	
	comp=Z,68nm,18.2s,MS4.2,baz=210,slow=34						
LPAZ	La Paz	97.71	115	LR	LR	05 50 39.6	
	comp=Z,42nm,21.4s,MS3.9,baz=28,slow=29						
CPUP	Villa Florida	98.62	130	LR	LR	05 52 32.4	
	comp=Z,186nm,21.9s,MS4.5,baz=231,slow=30						
PDAR	Pinedale Array	99.60	45	LR	LR	05 54 27.3	
	comp=Z,84nm,18.6s,MS4.3,baz=246,slow=31						
MKAR	Makanchi Array	119.16	309	PKP	PKPdf	05 21 47.4	-0.8
	2.6nm,1.1s,baz=45,slow=3.4,SNR=4.9						
MKAR				pPKP		05 22 01.2	
	0.5nm,0.5s,baz=180,slow=3.6,SNR=2.6						
MKAR	Makanchi Array	119.16	309	PKP	PKPdf	05 21 47.4	-0.8
MKAR				pPKP		05 22 01.2	
BVAR	Borovoye Array	128.12	314	PKP	PKPdf	05 22 05.7	+0.4
	0.9nm,0.5s,baz=45,slow=2.0,SNR=4.9						
BVAR				pPKP		05 22 19.2	
ZRNK	Zerenda	128.94	314	eP	PKPdf	05 22 06.7	-0.1
ARCES	ARCESS Array B	141.87	346	PKhKP		05 22 25.4	
	1.3nm,0.6s,baz=90,slow=11,SNR=2.4						
ARCES				PKP	PKPdf	05 22 29.5	-0.6
	1.5nm,0.5s,baz=27,slow=2.7,SNR=12						
ARCES	ARCESS Array B	141.87	346	PKP	PKPdf	05 22 25.4	-4.8
ARCES				PKP	PKPdf	05 22 29.5	-0.6
KAF	Kangasniemi	147.53	338	ep	PKPdf	05 22 42.0	+2.0
	2.1nm,0.4s						
FINES	FINESS Array B	148.10	337	PKPbc	PKPdf	05 22 44.3	+3.4
	5.9nm,0.7s,baz=37,slow=3.9,SNR=39						
LIC	Lamto	151.82	168	eP	PKPdf	05 22 57.1	+9.0
	77nm,1.5s						
KIC	Kosan Boka	152.00	169	eP	PKPdf	05 23 00.3	+12
	50nm,1.0s						
NB2	NORSAR Subarra	152.14	349	PKP		05 22 54.2	
	3.4nm,0.7s,baz=18,slow=2.6						
NOA	NORSAR Array B	152.14	349	PKPbc	PKPdf	05 22 54.7	+7.6
	4.5nm,0.8s,baz=12,slow=4.0,SNR=18						
NOA				pPKPbc		05 23 08.0	
	2.5nm,0.7s,baz=13,slow=4.0,SNR=3.8						
NOA	NORSAR Array B	152.14	349	PKPbc	PKPdf	05 22 54.7	+7.6
NOA				pPKPbc		05 23 08.0	
TIC	Toumodi	152.23	168	eP	PKPdf	05 23 00.6	+12
	144nm,1.5s						
BRTR	Keskin Array B	153.05	292	PKPbc	PKPdf	05 22 57.2	+8.1
	1.1nm,0.6s,baz=117,slow=2.8,SNR=5.2						
BRTR				pPKPbc		05 23 11.2	
	3.2nm,0.6s,baz=136,slow=3.4,SNR=8.3						
AKASG	Malin Array Be	153.32	317	PKPbc	PKPdf	05 22 56.8	+7.7
	1.6nm,0.5s,baz=62,slow=2.6,SNR=9.6						
AKASG				PKPab	PKPab	05 23 10.3	-1.0
	4.2nm,0.7s,baz=64,slow=2.2,SNR=10						

*CSEM **02** 05:21:07.3±0.8, 38.64N×28.99W, ML1.9, Error ellipse: s-maj=10.3km s-min=9.8km az=15.0*
*PDA **02** 05:21:07.3±0.8, 38.64N×28.99W, MD3.0, ML1.9, Error ellipse: s-maj=10.3km s-min=9.8km az=15.0*
SVSA 02 05:21:07.3±0.8**, 38.64N**×**28.99W, MD3.0, ML1.9, Error ellipse: s-maj=10.3km s-min=9.8km az=15.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	Cedros	0.22	93	i P	Pg	05 21 11.5	-0.3
PCED				eS	Sg	05 21 14.8	0.0
	64nm,0.2s						
PCED	Cedros	0.22	93	eS	Sg	05 21 14.8	0.0
	64nm,0.2s						
CALA	Caldeira	0.23	105	eP	Pg	05 21 11.8	-0.1
CALA				eS	Sg	05 21 15.6	+0.6
PICO	Pico	0.46	107	eP	Pg	05 21 15.7	-0.8
PICO				eS	Sg	05 21 22.3	-0.4
ROSA	Rosais	0.59	82	eP	Pg	05 21 18.1	-1.0
PID	Ribeirinha	0.71	106	eP	Pg	05 21 19.7	-1.8

WEL 02 05:25:09.1±0.3**, 42.27S**×**172.74E, h11**km±2km**, ML3.5**/13**, 3C-1D, Error ellipse: s-maj=1.5km s-min=0.8km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THZ	Tophouse	0.52	14	⇑P*	Pb	05 25 18.3	-1.4
THZ				S*	Sb	05 25 26.3	-0.5
KHZ	Kahutara	0.61	104	P*	Pb	05 25 21.6	+0.3
KHZ				S*	Sb	05 25 29.1	-0.5
LTZ	Lake Taylor	0.62	214	⇑P*	Pb	05 25 20.8	-0.7
LTZ				S*	Sb	05 25 28.7	-1.2
DSZ	Denniston Nort	0.87	306	⇓P*	Pb	05 25 25.3	-0.4
DSZ				S*	Sb	05 25 36.3	-0.7
BSWZ	Blackbirch Sta	1.01	57	P*	Pb	05 25 27.6	-0.6
NNZ	Nelson	1.15	25	⇑P*	Pb	05 25 29.1	-1.4
NNZ				S*	Sb	05 25 45.1	-0.2
TUWZ	Tuamarina	1.23	48	P*	Pb	05 25 31.0	-0.8
TUWZ				S*	Sb	05 25 47.1	-0.3
CRLZ	Canterbury Las	1.31	184	PN	Pn	05 25 32.2	-1.2
CRLZ				SN	Sn	05 25 50.0	-0.9
MQZ	McQueen's Vall	1.44	182	PN	Pn	05 25 33.7	-1.5
MQZ				SN	Sn	05 25 51.0	-3.1
QRZ	Quartz Range	1.45	354	PN	Pn	05 25 34.7	-0.6
QRZ				SN	Sn	05 25 54.2	-0.2
WVZ	Waitaha Valley	1.68	241	PN	Pn	05 25 38.5	-0.2
WVZ				SN	Sn	05 26 00.6	+0.2
SNZO	South Karori	1.75	58	PN	Pn	05 25 39.5	-0.2
SNZO				SN	Sn	05 26 01.4	-0.7
MRW	Makara Radio	1.80	55	PN	Pn	05 25 40.1	-0.1
WEL	Wellington	1.81	58	PN	Pn	05 25 40.2	-0.2
BHW	Baring Head	1.81	62	PN	Pn	05 25 39.8	-0.7
RPZ	Rata Peaks	1.90	220	ePN	Pn	05 25 40.0	-1.8
MSWZ	Moikau Station	2.06	66	PN	Pn	05 25 42.8	-1.3
CAW	Cannon Point	2.09	57	PN	Pn	05 25 43.8	-0.7
KIW	Kapiti Island	2.15	50	PN	Pn	05 25 45.2	-0.2
MRZ	Mangatainoka R	2.67	54	PN	Pn	05 25 51.3	-1.5
MRZ				SN	Sn	05 26 22.2	-3.2
LBZ	Lake Benmore	2.82	220	PN	Pn	05 25 53.4	-1.6
LBZ				SN	Sn	05 26 26.9	-2.4
WAZ	Wanganui	3.03	35	PN	Pn	05 25 58.4	+0.4
ODZ	Otahua Downs	3.17	208	PN	Pn	05 25 57.4	-2.5
PKE	Pukeiti	3.21	18	PN	Pn	05 26 01.3	+0.8
TSZ	Takapari Road	3.28	49	PN	Pn	05 25 59.4	-2.1
JCZ	Jackson Bay	3.43	237	PN	Pn	05 26 02.0	-1.6
VRZ	Vera Road	3.49	27	ePN	Pn	05 26 05.8	+1.4
WNVZ	Wahianoa	3.65	37	PN	Pn	05 26 06.5	-0.2
MOVZ	Moawhango	3.66	40	ePN	Pn	05 26 08.1	+1.2
NGZ	Ngauruhoe	3.78	36	PN	Pn	05 26 08.1	-0.5

*CSEM **02** 05:38:01.2±0.2, 34.92N×3.83W, h12km, MD3.1, Error ellipse: s-maj=6.4km s-min=4.8km az=126.0*
*CNRM **02** 05:38:01.3, 35.02N×3.90W, MD3.1*
*NEIC **02** 05:38:05.1, 35.07N×3.88W, MG3.2(MDD), After MDD.*
*MDD **02** 05:38:05.2±2.1, 35.08N×3.87W, mb3.0/2, Error ellipse: s-maj=20.7km s-min=7.5km az=17.0, PRXIMO*
ISC 02 05:38:01.9±1.0**, 34.97N**±0.03×**3.92W**±0.03**, h9**km±7km**, n19,** σ1§**03**/36**, Morocco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	Touzarine	0.13	93	i P	Pg	05 38 03.5	-1.5
EMEL	Melilla	0.85	67	P	Pb	05 38 19.6	+1.2
	SNR=8.2						
EMEL				S	Sb	05 38 29.9	+0.2
	106nm,0.2s,SNR=4.0						
EMLI	Melilla	0.86	67	P	Pb	05 38 19.6	+1.1
	56nm,0.2s,SNR=8.2						
EMLI				S	Sb	05 38 29.9	0.0
	SNR=4.0						
TZK	Tazeka	0.91	194	i P	Pb	05 38 19.0	-0.4
TZK				i S	Sb	05 38 32.0	+0.7
ZAI	Zaio	0.96	90	i P	Pb	05 38 19.0	-1.3
ZAI				i S	Sb	05 38 32.0	-0.9
DKH	Dar Kharkhour	1.29	294	i P	Pb	05 38 25.0	-0.9
DKH				i S	Sb	05 38 43.0	+0.5
RSA	Sarsar	1.57	267	i P	Pn	05 38 30.0	-0.2
RSA				i S	Sb	05 38 50.0	-0.7
EMIJ	Mijas	1.74	337	P	Pn	05 38 33.5	+1.0
	2.0nm,0.3s,SNR=7.9						
EMIJ				S	Sn	05 38 54.8	-0.2
	1.4nm,0.2s,SNR=7.9						
EMIJ	Mijas	1.74	337	P	Pn	05 38 33.5	+1.0
EMIJ				S	Sn	05 38 52.9	-2.1
EMIJ	Mijas	1.74	337	P	Pn	05 38 33.5	+1.0
	2.0nm,0.3s,SNR=7.9						
EMIJ				S	Sn	05 38 52.9	-2.1
	SNR=7.9						
MIF	Mishlifen	1.90	215	i P	Pn	05 38 35.0	+0.1
MIF				i S	Sn	05 38 59.0	-0.1
EBER	Berja	2.10	23	P	Pn	05 38 38.0	+0.3
	0.9nm,0.1s,SNR=7.9						
EBER				S	Sn	05 39 04.3	+0.2
	0.7nm,0.2s,SNR=7.9						
EBER	Berja	2.10	23	P	Pn	05 38 38.0	+0.3
	0.9nm,0.1s,SNR=7.9						
EBER				S	Sn	05 39 04.3	+0.2
	SNR=7.9						
ELOJ	Sierra Loja	2.18	355	P	Pn	05 38 41.0	+2.1
	SNR=4.0						
ELOJ				S	Sn	05 39 06.3	0.0
	0.3nm,0.3s,SNR=5.0						
EQES	Quesada	2.91	13	P	Pn	05 38 51.0	+1.8
	0.3nm,0.1s,SNR=7.9						
EQES				S	Sn	05 39 23.2	-1.6
	0.5nm,0.2s,SNR=7.9						
EQES	Quesada	2.91	13	P	Pn	05 38 51.0	+1.7
	0.8nm,0.2s,SNR=7.9						
EQES				S	Sn	05 39 23.2	-1.5
	SNR=7.9						
EMIN	Mina Concepcio	3.57	322	P	Pn	05 38 59.8	+1.1
	0.3nm,0.2s,SNR=5.0						
EMIN				S	Sn	05 39 39.5	-2.0
	0.1nm,0.2s,SNR=5.0						
EMIN	Mina Concepcio	3.57	322	P	Pn	05 38 59.8	+1.1
EMIN				S	Sn	05 39 37.7	-3.7
EMIN	Mina Concepcio	3.57	322	P	Pn	05 38 59.8	+1.1
	0.3nm,0.2s,SNR=5.0						

*CSEM **02** 05:39:38.9±0.2, 34.96N×3.88W, h10km, MD3.7, Error ellipse: s-maj=4.3km s-min=3.6km az=95.0*
*CNRM **02** 05:39:40.0, 35.04N×3.98W, h5km, MD3.7*
*INMG **02** 05:39:44.0±0.7, 35.10N×3.90W, h10km, ML2.5, Error ellipse: s-maj=4.1km s-min=2.0km az=18.0*
*SFS **02** 05:39:44.0, 35.17N×3.87W, ML3.6*
*MDD **02** 05:39:44.3±1.4, 35.06N×3.86W, h10km±31km, mb3.5/6, Error ellipse: s-maj=36.5km s-min=7.4km az=173.0, PRXIMO*
*NEIC **02** 05:39:44.5, 35.08N×3.86W, h9km, MG3.5(MDD), After MDD.*
ISC 02 05:39:40.0±0.3**, 34.99N**±0.02×**3.98W**±0.03**, h10**km**, n47,** σ1§**27**/82**, Morocco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	Touzarine	0.19	99	i P	Pg	05 39 42.0	-2.1
EMEL	Melilla	0.89	69	P	Pb	05 39 58.1	+0.9
	143nm,0.3s,SNR=20						
EMEL				S	Sb	05 40 09.7	+0.8
	89nm,0.1s,SNR=5.4						
EMLI	Melilla	0.90	70	P	Pb	05 39 58.1	+0.9
	143nm,0.3s,SNR=20						
EMLI				S	Sb	05 40 09.7	+0.7
	89nm,0.1s,SNR=5.4						
TZK	Tazeka	0.92	191	i P	Pb	05 39 58.0	+0.5
TZK				i S	Sb	05 40 12.0	+2.5
ZAI	Zaio	1.01	91	i P	Pb	05 39 57.5	-1.7
ZAI				i S	Sb	05 40 11.0	-1.3
DKH	Dar Kharkhour	1.24	294	i P	Pb	05 40 03.0	0.0
DKH				i S	Sb	05 40 20.0	+1.2
RSA	Sarsar	1.52	266	i P	Pn	05 40 08.0	+0.5
RSA				i S	Sb	05 40 27.0	-0.2
MDAL	Dalia	1.53	307	i P	Pn	05 40 07.0	-0.5
MDAL				i S	Sb	05 40 26.0	-1.3
EMIJ	Mijas	1.70	338	P	Pn	05 40 11.4	+1.5
	0.6nm,0.1s,SNR=7.9						
EMIJ				S	Sn	05 40 31.9	-0.1
	SNR=7.9						
EMIJ	Mijas	1.70	338	P	Pn	05 40 11.7	+1.7
EMIJ				S	Sn	05 40 31.9	-0.1
REAL	Reales	1.79	326	eS	Sn	05 40 33.0	-1.4
REAL	Reales	1.79	326	i P	Pn	05 40 12.0	+0.6
MIF	Mishlifen	1.89	214	i P	Pn	05 40 13.0	+0.3
MIF				i S	Sn	05 40 36.0	-0.7
ERON	Agron	2.03	4	P	Pn	05 40 16.0	+1.3
	8.8nm,0.6s,SNR=5.0						
ERON				S	Sn	05 40 39.2	-1.1
	24nm,0.8s						
EBER	Berja	2.10	25	P	Pn	05 40 16.5	+0.8
	0.7nm,0.1s,SNR=6.1						
EBER				S	Sn	05 40 40.4	-1.7
	31nm,0.6s						
EBER	Berja	2.10	25	P	Pn	05 40 16.5	+0.8
	0.7nm,0.1s,SNR=6.1						
EBER				S	Sn	05 40 40.4	-1.7
	31nm,0.6s						
ELOJ	Sierra Loja	2.16	356	P	Pn	05 40 19.7	+3.2
	1.1nm,0.3s,SNR=14						
ELOJ				S	Sn	05 40 43.2	-0.4
	12nm,0.5s						
ESPR	Espera	2.42	321	P	Pn	05 40 24.2	+4.0
	1.0nm,0.2s,SNR=7.9						
ESPR				S	Sn	05 40 52.2	+2.0
	13nm,0.8s,SNR=5.0						
ESPR	Espera	2.42	321	P	Pn	05 40 23.2	+3.0
ESPR				S	Sn	05 40 52.2	+2.0
ELUQ	Luque	2.58	355	P	Pn	05 40 24.8	+2.3
	9.9nm,0.6s,SNR=5.0						
ELUQ				S	Sn	05 40 52.8	-1.4
	7.1nm,0.4s,SNR=5.0						
EQES	Quesada	2.90	14	P	Pn	05 40 29.1	+2.0
	0.8nm,0.1s,SNR=8.7						
EQES				S	Sn	05 41 02.8	+0.3
	14nm,0.4s,SNR=4.7						
EQES	Quesada	2.90	14	P	Pn	05 40 29.1	+2.0
EQES				S	Sn	05 40 59.1	-3.4
EQES	Quesada	2.90	14	P	Pn	05 40 29.1	+1.9
	0.8nm,0.1s,SNR=8.7						
EQES				S	Sn	05 41 02.8	+0.4
	14nm,0.4s,SNR=4.7						
ZFT	Errachidia	2.96	186	eP	Pn	05 40 26.0	-2.1
ZFT				i S	Sn	05 41 03.0	-1.1
EADA	Adamuz	3.21	352	P	Pn	05 40 33.5	+2.0
	0.2nm,0.1s,SNR=5.0						
EADA				S	Sn	05 41 10.2	0.0
	12nm,0.7s,SNR=5.0						
EADA	Adamuz	3.21	352	P	Pn	05 40 32.4	+0.8
EADA				S	Sn	05 41 08.4	-1.8
EADA	Adamuz	3.21	352	P	Pn	05 40 32.3	+0.8
EADA				S	Sn	05 41 10.2	0.0
	12nm,0.7s,SNR=5.0						
EMIN	Mina Concepcio	3.52	323	P	Pn	05 40 36.7	+0.7
	0.4nm,0.1s,SNR=8.7						
EMIN				S	Sn	05 41 16.9	-1.2
	3.7nm,0.4s						
EMIN	Mina Concepcio	3.52	323	P	Pn	05 40 36.7	+0.7
	0.4nm,0.1s,SNR=8.7						
EMIN				S	Sn	05 41 17.0	-1.2
PALC	Alcoutim	3.75	312	ePn	Pn	05 40 40.9	+1.6
PALC				eSn	Sn	05 41 23.3	-0.7
	6.3nm,0.4s						
PALC	Alcoutim	3.75	312	Pn	Pn	05 40 40.9	+1.6
PALC				Sn	Sn	05 41 23.3	-0.7
	3.2nm,0.4s						
PBEJ	Beja	4.36	315	eSn	Sn	05 41 38.0	-1.3
EBAD	Badajoz	4.48	328	P	Pn	05 40 50.3	+0.8
	1.0nm,0.1s,SNR=5.0						
EBAD				S	Sn	05 41 39.4	-2.9
	SNR=7.9						
EBAD	Badajoz	4.48	328	S	Sn	05 41 39.4	-2.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	SNR=7.9						
EBAD	Badajoz	4.48	328	P	Pn	05 40 50.3	+0.7
	1.0nm,0.1s,SNR=5.0						
PTEO	Sao Teotonio	4.61	305	*e*Sn	Sn	05 41 45.8	+0.2
	13nm,0.6s						
PTEO	Sao Teotonio	4.61	305	Sn	Sn	05 41 45.8	+0.2
	6.3nm,0.6s						
CIA	Chichaoua	5.26	231	*e*P	Pn	05 40 58.0	-2.7
PCBR	Castelo Branco	5.58	331	*e*Pn	Pn	05 41 05.6	+0.4
PCBR				*e*Sn	Sn	05 42 06.5	-3.7
	3.8nm,0.3s						
PCBR	Castelo Branco	5.58	331	Pn	Pn	05 41 05.6	+0.4
PCBR				Sn	Sn	05 42 06.5	-3.7
	1.9nm,0.3s						
EIBI	Ibiza	5.86	45	P	Pn	05 41 08.3	-0.8
	0.2nm,0.1s,SNR=5.0						
EIBI				S	Sn	05 42 10.6	-6.6
	SNR=4.0						
EIBI	Ibiza	5.86	45	P	Pn	05 41 08.3	-0.8
	0.2nm,0.1s,SNR=5.0						
PVRL	Vila Real	6.93	336	*e*Pn	Pn	05 41 24.0	-0.2
PVRL				*e*Sn	Sn	05 42 38.7	-5.2
	3.7nm,0.3s						
PVRL	Vila Real	6.93	336	Pn	Pn	05 41 24.0	-0.2
PVRL				Sn	Sn	05 42 38.7	-5.2
	1.9nm,0.3s						
PBRG	Braganca	7.14	343	*e*Pn	Pn	05 41 27.2	+0.1
ECAL	Calabor	7.27	344	P	Pn	05 41 29.5	+0.6
	3.1nm,0.4s,SNR=6.5						
ECAL				S	Sn	05 42 44.7	-7.7
	24nm,1.4s,SNR=5.0						
ECAL	Calabor	7.27	344	P	Pn	05 41 29.5	+0.6
	3.1nm,0.4s,SNR=6.5						

*MAN **02** 05:55:24.7, 7.15N×123.35E, h7^{km}, mb5.3, ML4.3, MS4.5*
MAN Zamboanga Intensity III.
*IDC **02** 05:55:29.7±6.4, 7.20N×123.56E, h52^{km}±59^{km}, mb3.8/19, mb1 4.0/19, mb1mx3.9/22, MS3.6/2, Ms1 3.6/2, ms1mx3.0/26, Error ellipse: s-maj=32.7km s-min=12.5km az=65.0*
*NEIC **02** 05:55:31.0±3.5, 7.19N×123.56E, h66^{km}±33^{km}, mb4.6/8, Error ellipse: s-maj=15.9km s-min=6.1km az=65.0*
NEIC Felt [III PIVS] at Zamboanga.
ISC 02 05:55:22.5±0.3**, 7.07N**±0.03×**123.28E**±0.03**, h7^{km}, n61, σ1^{s}11**/68**, mb4.2**/26**, MS3.5**/1**, 2C-7D, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PAGZ	Pagadian	0.78	7	*e*P	Pb	05 55 38.3	+0.3
PAGZ				*e*S	Sb	05 55 47.8	-0.7
IPIL	Ipil	1.00	315	*e*P	Pb	05 55 44.4	+2.5
IPIL				*e*S	Sb	05 55 56.9	+1.8
ZMPH	Zamboanga City	1.22	265⇓	*i*P	Pb	05 55 48.5	+3.0
ZMPH				*i* S	Sb	05 56 06.5	+5.3
DCPH	Dipolog City	1.50	3⇑	*e*P	Pn	05 55 50.5	+0.5
DCPH				*i* S	Sb	05 56 08.5	-1.1
KCP	Kidapawan	1.79	92⇓	*e*P	Pn	05 55 54.4	+0.3
KCP				*i* S	Sn	05 56 18.7	+1.3
GSPH	General Santos	1.92	120	*e*P	Pn	05 56 01.5	+5.5
BUKP	Musuan	1.94	65	*e*P	Pn	05 55 56.7	+0.4
DMPH	Davao City--Mi	2.21	90	*e*P	Pn	05 56 06.1	+6.0
DMPH				*e*S	Sn	05 56 29.6	+1.7
SNPH	Sibulan	2.26	359⇓	*e*P	Pn	05 56 02.5	+1.7
SNPH				*i* S	Sn	05 56 30.0	+0.8
DAV	Davao City (W)	2.28	90	*e*P	Pn	05 56 01.7	+0.6
TBP	Tagbilaran	2.67	12	*e*P	Pn	05 56 07.4	+0.8
TBP				*e*S	Sn	05 56 38.0	-1.5
MATI	Mati	2.95	92	*e*P	Pn	05 56 10.5	-0.2
BUTP	Butuan	2.99	51	*e*P	Pn	05 56 15.4	+4.2
LLP	Lapu-Lapu	3.30	12⇓	*e*P	Pn	05 56 16.9	+1.3
LLP				*i* S	Sn	05 56 55.4	-0.2
MSLP	Maasin	3.42	27	*e*P	Pn	05 56 18.3	+0.9
SCPH	Surigao	3.47	39⇓	*e*P	Pn	05 56 18.1	0.0
GUIM	Jordan	3.60	349	*e*P	Pn	05 56 17.9	-2.0
OCLP	Ormoc	4.17	18	*e*P	Pn	05 56 34.4	+6.4
CUYO	Cuyo Island	4.37	329	*e*P	Pn	05 56 31.4	+0.4
RCP	Roxas	4.49	353⇓	*e*P	Pn	05 56 37.5	+4.9
OTRP	Odiongan	5.40	347	*e*P	Pn	05 56 47.0	+1.5
ENPP	El Nido	5.60	317	*e*P	Pn	05 56 47.8	-0.5
TGY	Tagaytay City	7.36	342	LR	LR	06 00 28.9	
	comp=Z,425nm,18.2s,baz=65,slow=41						
KAKA	Kakadu	21.63	155⇓	*i*P	P	06 00 20.9	+5.4
	67nm,0.8s,mb5.1						
FITZ	Fitzroy Crossi	25.12	175⇑	*i*P	P	06 00 50.4	+0.6
	7.2nm,0.8s,mb4.2						
FITZ	Fitzroy Crossi	25.12	175	P	P	06 00 50.0	+0.3
	8.4nm,0.7s,mb4.4,baz=2.8,slow=9.0,SNR=25						
CMAR	Chiang Mai Arr	26.26	298	P	P	06 01 01.9	+1.5
	1.5nm,0.8s,mb3.6,baz=125,slow=9.1,SNR=7.1						
ENH	Enshi	26.47	332	*e*P	P	06 01 02.2	-0.1
	24nm,1.0s,mb4.7						
MBWA	Marble Bar	28.27	187	*e*P	P	06 01 18.7	0.0
WRAB	Tennant Creek	28.96	158	*e*P	P	06 01 24.0	-0.9
	4.5nm,0.8s,mb4.2						
WRA	Warramunga Arr	28.96	158	P	P	06 01 24.0	-0.9
	1.6nm,0.7s,mb3.9,baz=337,slow=9.8,SNR=12						
WB2	Warramunga Arr	28.97	158	*e*P	P	06 01 23.7	-1.3
ASAR	Alice Springs	32.26	162	P	P	06 01 53.6	-0.5
	1.4nm,0.7s,mb3.9,baz=343,slow=7.6,SNR=15						
ASAR				PcP	PcP	06 04 40.7	-1.9
	1.2nm,0.7s,baz=347,slow=3.1,SNR=7.8						
ASPA	Alice Springs	32.26	162	*e*P	P	06 01 54.9	+0.8
SHL	Shillong	35.15	305	*e*P	P	06 02 18.5	-0.6
CTA	Charters Tower	35.20	140	P	P	06 02 19.4	-0.2
	5.9nm,0.9s,mb4.5,baz=320,slow=11,SNR=3.6						
CTAO	Charters Tower	35.20	140	*e*P	P	06 02 19.0	-0.6
FORT	Forrest	37.91	173	*e*P	P	06 02 42.7	+0.4
	35nm,0.8s,mb5.1						
NWAO	Narrogin (SRO)	40.19	188	P	P	06 03 02.2	+0.9
	6.8nm,0.7s,mb4.5,baz=31,slow=8.9,SNR=5.0						
NWAO	Narrogin (SRO)	40.19	188	*e*P	P	06 03 02.3	+1.0
ASAJ	Asahikawa	40.58	21	LR	LR	06 17 29.8	
	comp=Z,68nm,20.1s,MS3.5,baz=127,slow=33						
STKA	Stephens Creek	42.49	157	*e*P	P	06 03 20.7	+0.4
	6.5nm,0.8s,mb4.3						
STKA	Stephens Creek	42.49	157	P	P	06 03 20.9	+0.6
	7.3nm,0.7s,mb4.4,baz=338,slow=6.6,SNR=17						
SONM	Songino Array	43.10	343	P	P	06 03 24.5	-0.5
	1.4nm,0.7s,mb3.8,baz=159,slow=9.2,SNR=12						
MKAR	Makanchi Array	52.88	326	P	P	06 04 41.0	-0.3
	0.9nm,0.7s,mb3.8,baz=121,slow=7.8,SNR=5.9						
MKAR				PcP	PcP	06 05 49.2	-1.2
	2.6nm,0.9s,baz=158,slow=6.5,SNR=5.3						
MKAR	Makanchi Array	52.88	326	P	P	06 04 41.0	-0.3
MKAR				PcP	PcP	06 05 49.2	-1.2
ZAL	Zalesovo	56.09	334	P	P	06 05 03.5	-1.1
	0.9nm,0.3s,mb4.3,baz=92,slow=3.5,SNR=2.1						
KURK	Kurchatov	57.10	328	P	P	06 05 11.5	-0.5
BVAR	Borovoye Array	62.67	327	P	P	06 05 49.5	-0.7
	0.4nm,0.3s,mb4.0,baz=90,slow=5.9,SNR=4.9						
BRVK	Borovoye	62.74	327	P	P	06 05 48.4	-2.2
	5.1nm,1.1s,mb4.6						
ZRNK	Zerenda	63.39	327	*e*P	P	06 05 53.4	-1.5
	1.7nm,0.8s,mb4.2						
ILAR	Eielson Array	83.58	26	P	P	06 07 50.3	-2.2
	0.3nm,0.6s,mb3.6,baz=241,slow=4.1,SNR=5.6						
BRTR	Keskin Array B	85.26	309	P	P	06 08 01.2	-0.3
	0.7nm,0.8s,mb3.8,baz=68,slow=7.8,SNR=3.1						
MAW	Mawson	85.71	200	P	P	06 08 03.1	0.0
	1.1nm,0.7s,mb4.2,baz=7.3,slow=4.6,SNR=3.6						
ARCES	ARCESS Array B	86.15	340	P	P	06 08 05.0	-0.3
	1.5nm,0.9s,mb4.2,baz=79,slow=6.2,SNR=5.6						
KMBO	Kilima Mbogo	86.20	268	P	P	06 08 09.2	+2.4
	0.7nm,0.5s,mb4.2,baz=67,slow=19,SNR=2.6						
AKASG	Malin Array Be	87.15	321	P	P	06 08 11.1	+0.5
	0.1nm,0.3s,mb3.5,baz=69,slow=4.4,SNR=3.5						
FINES	FINESS Array B	87.28	331	P	P	06 08 10.6	-0.3
	0.5nm,0.5s,mb4.0,baz=90,slow=7.6,SNR=6.9						
INK	Inuvik	88.32	21	*e*P	P	06 08 14.0	-1.8
	4.3nm,1.1s,mb4.6						
NOA	NORSAR Array B	94.28	333	P	P	06 08 42.9	-0.7
	1.4nm,0.9s,mb4.4,baz=8.9,slow=6.5,SNR=2.1						
RES	Resolute Bay	95.13	9	P	P	06 08 44.7	-2.5

*STR **02** 05:58:07.5±0.0, 42.84N×0.27W, h2^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 02 05:58:07.6±0.1**, 42.84N×0.27W, h2^{km}, Md2.2**/2**, Ml1.4**/1**, Error ellipse: s-maj=5.9km s-min=1.0km az=176.0, Pyrenees**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FDAF	Les Forges d'A	0.22	265	Pg	Pg	05 58 12.0	+0.1
FDAF				Sg	Sg	05 58 15.2	+0.4
ETSF	Etsaut	0.22	286	*e*Pg	Pg	05 58 11.8	-0.2
ETSF				*e*Sg	Sg	05 58 14.8	-0.1
	5.5nm,0.2s						
VIEF	Viey	0.22	78	Pg	Pg	05 58 11.2	-0.9
VIEF				Sg	Sg	05 58 14.7	-0.4
EPF	Esparros	0.49	67	*e*Pg	Pg	05 58 16.9	-0.5
EPF				*e*Sg	Sg	05 58 23.7	-0.2
	2.3nm,0.2s						
SJPF	Ste Jean	0.75	292	*e*Pg	Pg	05 58 22.0	-0.6
SJPF				*e*Sg	Sg	05 58 31.4	-1.2
	1.5nm,0.3s						
MTLF	Montolieu	1.89	74	*e*Sg	Sg	05 59 07.4	-3.2
	0.3nm,0.2s						

MAN 02 06:01:52.5, 6.80N×124.39E, h13^{km}, mb4.4, ML3.3, MS3.1, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTBH	Cotabato--PC H	0.45	341	*e*P	Pb	06 02 01.5	-0.2
CTBH				*i* S	Sg	06 02 13.3	+5.4
KCP	Kidapawan	0.72	73	*e*P	Pb	06 02 06.0	-0.4
BUKP	Musuan	1.26	32	*e*P	Pb	06 02 36.3	+21
PAGZ	Pagadian	1.45	316	*e*P	Pn	06 02 20.9	+2.4
PAGZ				*e*S	Sb	06 02 30.4	-6.6
IPIL	Ipil	2.06	299	*e*P	Pn	06 02 26.8	-0.5
IPIL				*e*S	Sn	06 02 39.6	-13
ZMPH	Zamboanga City	2.32	274⇓	*i*P	Pn	06 02 31.2	+0.2
ZMPH				*i* S	Sn	06 02 48.5	-11

*MOS **02** 06:09:23.6±0.7, 2.43N×122.28E, h542^{km}, mb5.1/15, Error ellipse: s-maj=24.7km s-min=9.0km az=116.9*
*BJI **02** 06:09:24.1, 2.22N×122.57E, h575^{km}, mB4.9, mb5.2*
*IDC **02** 06:09:25.5±0.9, 2.39N×122.35E, h546^{km}±9^{km}, mb4.4/26, mb1 4.5/27, mb1mx4.5/28, Error ellipse: s-maj=12.1km s-min=5.1km az=72.0*
*NEIC **02** 06:09:25.4±0.4, 2.38N×122.21E, h543^{km}±4^{km}, mb5.2/38, Error ellipse: s-maj=6.4km s-min=3.7km az=58.0*
*HRVD **02** 06:09:25.4±0.5, 2.40N×122.30E, h539^{km}±4^{km}, MW5.1/32, Centroid moment Tensor Solution. LP body waves: s32,c40; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.78±.29; $M_{\theta\theta}$1.80±.53; $M_{\phi\phi}$2.99±.53; $M_{r\theta}$-0.80±.65; $M_{\theta\phi}$1.66±.48; $M_{\phi r}$-1.24±.57; Best double couple: $M_0$4.71×10^{16} NP1:ϕ_s216°, δ36°, λ-89°. NP2:ϕ_s34°, δ54°, λ-91°. Principal axes: T 4.39, Plg9°, Azm125°; N .63, Plg1°, Azm35°; P -5.02, Plg81°, Azm301°; nsta1 refers to body waves, cutoff=40s.*
*DJA **02** 06:09:35.0±0.9, 2.22N×118.46E, h33^{km}, mb5.3/2, MD4.9/5, ML6.3/1 Error ellipse: s-maj=23.3km s-min=12.0km az=24.0*
*MAN **02** 06:09:55.9, 4.74N×121.70E, h20^{km}, mb5.3, ML4.3, MS4.5*
ISC 02 06:09:24.4±0.3**, 2.37N**±0.03×**122.27E**±0.04**, h546^{km}**±4^{km}**, h550^{km}**±11.9^{km}**:pP-P, n331, σ0^{s}96**/276**, mb5.1**/82**, 23C-29D, Celebes Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GSPH	General Santos	4.56	36⇑	*e*P	P	06 10 54.0	+3.0
KCP	Kidapawan	5.40	31⇑	*e*P	P	06 10 58.6	+0.5
PAGZ	Pagadian	5.56	11	*e*P	P	06 11 01.8	+2.2
DAV	Davao City (W)	5.72	35	*i* P	P	06 11 02.0	+1.0
BUKP	Musuan	6.14	27	*e*P	P	06 11 05.6	+0.7
BUNI	Buntu Taipa	6.29	198⇑	*e*P	P	06 11 06.1	-0.2
	169nm,0.2s						
KKM	Kota Kinabalu	7.06	301⇑	*i*P	P	06 11 12.6	-0.9
BIPH	Bislig	7.07	35⇓	*e*P	P	06 11 14.0	+0.4
BIPH				*e*S	S	06 12 41.1	+0.6
NINI	Niniconang	7.20	200⇓	*e*P	P	06 11 14.4	-0.5
TBP	Tagbilaran	7.45	12	*e*P	P	06 11 16.9	-0.5
BATP	Bataraza	7.78	325	*e*P	P	06 11 19.5	-1.2
PPR	Puerto Princes	8.16	335⇓	*e*P	P	06 11 24.2	-0.2
GUIM	Jordan	8.21	2	*e*P	P	06 11 24.4	-0.5
CUYO	Cuyo Island	8.52	352	*e*P	P	06 11 26.6	-1.4
ENPP	El Nido	9.22	342	*e*P	P	06 11 35.2	+0.1
BUSP	Coron	9.79	348	*e*P	P	06 11 40.9	-0.1
TGY	Tagaytay City	11.73	354	P	P	06 12 01.5	+0.9
	9.4nm,0.3s,baz=186,slow=2.9,SNR=24						
TGY				S	S	06 14 10.1	+3.8
	107nm,0.3s,baz=191,slow=5.6,SNR=4.0						
KEDI	Kedomdong	12.41	210	*e*Pn	P	06 12 06.6	-0.9
	384nm,1.0s						
KEDI	Kedomdong	12.41	210	*e*P	P	06 12 08.9	+1.4
KEDI				*e*S	S	06 14 24.5	+5.9
KEDI	Kedomdong	12.41	210	*e*P	P	06 12 06.4	-1.1
	192nm,1.0s						
KEDI				*e*S	S	06 14 25.2	+6.6
RATI	Rata	12.90	211	*e*Pn	P	06 12 14.1	+1.6
RATI	Rata	12.90	211⇑	*e*P	P	06 12 17.2	+4.7
RATI				*e*S	S	06 14 23.5	-4.2
RATI	Rata	12.90	211⇑	*e*P	P	06 12 13.8	+1.3
RATI				*e*Pn	P	06 12 17.3	+4.8
RATI				*e*S	S	06 14 34.9	+7.2
KELI	Kelakatan	13.06	216⇓	*e*P	P	06 12 15.2	+1.0
KAKA	Kakadu	18.04	146⇑	*i*P	P	06 13 08.7	+5.6
	701nm,0.6s						
KAKA				*i* S	S	06 16 06.8	+7.5
KAKA				*i* SCP		06 19 58.8	
PENI	Pendagan	18.81	245⇑	*e*P	P	06 13 11.2	+0.7
	258nm,0.6s						
FITZ	Fitzroy Crossi	20.61	171⇑	*i*P	P	06 13 26.7	-0.5
	52nm,0.9s						
FITZ				*i* S	S	06 16 40.8	-1.6
FITZ				*i* SCP		06 20 00.0	
FITZ	Fitzroy Crossi	20.61	171	P	P	06 13 26.8	-0.4
	47nm,0.6s,baz=5.0,slow=7.3,SNR=85						
FITZ				S	S	06 16 40.5	-1.9
	17nm,0.9s,baz=351,slow=18,SNR=5.7						
FITZ				ScP		06 20 00.1	
	11nm,0.6s,baz=284,slow=0.8,SNR=6.7						
IPM	Ipoh	21.32	276⇓	*e*P	P	06 13 33.5	-0.3
	28nm,0.4s,mb5.2						
MBWA	Marble Bar	23.51	186	*e*P	P	06 13 52.2	-1.5
	23nm,0.6s,mb5.0						
KKTK	Khon Kaen	23.64	307	⇑P	P	06 13 54.8	-0.1
	494nm,0.6s						
JOW	Kunigami	25.00	13	P	P	06 14 06.9	0.0
	30nm,1.1s,mb4.8,baz=31,slow=13,SNR=3.3						
WRAB	Tennant Creek	25.14	152	P	P	06 14 06.3	-1.9
	979nm,0.6s,SNR=97						
WRAB	Tennant Creek	25.14	152	*e*P	P	06 14 06.8	-1.4
	173nm,0.8s,mb5.7						
WRA	Warramunga Arr	25.14	152	P	P	06 14 06.2	-2.0
	81nm,0.5s,mb5.6,baz=335,slow=9.5,SNR=390						
WRA				PcP	PcP	06 17 23.5	-0.5
	6.4nm,0.5s,baz=325,slow=2.2,SNR=6.2						
WRA				S	S	06 17 50.8	-4.5
	19nm,0.7s,baz=332,slow=16,SNR=7.0						
WRA				ScP		06 20 11.3	
	18nm,0.6s,baz=339,slow=3.1,SNR=19						
WRA				PKiKP		06 25 02.5	
	1.0nm,0.6s,baz=306,slow=1.2,SNR=8.4						
WB2	Warramunga Arr	25.14	152⇑	*i*P	P	06 14 06.9	-1.4
WB2				*i* S	S	06 17 50.8	-4.6
WB2				*i* SCP		06 20 11.5	
WB2				*i* SCS	ScS	06 23 59.8	+0.2
WAU	Wau	26.23	112	*e*P	P	06 14 17.8	-0.1
NANT	Nan	26.70	309	P	P	06 14 32.0	+10
BDT	Bhumibol Dam	27.22	304	P	P	06 14 25.5	-1.1
PMG	Port Moresby	27.42	116	*e*P	P	06 14 28.0	-0.3
CMAR	Chiang Mai Arr	27.90	307	P	P	06 14 32.9	+0.4
	3.6nm,0.5s,mb4.3,baz=120,slow=8.3,SNR=12						
CMAR				PcP	PcP	06 17 30.8	+0.3
	15nm,0.8s,baz=162,slow=1.6,SNR=18						
CMAR				ScP		06 20 21.1	
	2.6nm,0.6s,baz=165,slow=2.2,SNR=9.5						
CMAR				PKiKP		06 25 04.8	
	0.5nm,0.4s,baz=267,slow=1.0,SNR=4.6						
CHG	Chiang Mai	28.09	307	⇓P	P	06 14 34.3	+0.2
	18nm,0.8s,mb4.8						
ASAR	Alice Springs	28.25	157	P	P	06 14 34.9	-0.6
	43nm,0.7s,mb5.2,baz=335,slow=7.4,SNR=694						
ASAR				PcP	PcP	06 17 31.1	-0.3
	32nm,1.2s,baz=341,slow=2.3,SNR=8.4						
ASAR				S	S	06 18 41.6	-2.3
	22nm,0.8s,baz=348,slow=20,SNR=7.9						
ASAR				ScP		06 20 21.4	
	14nm,0.6s,baz=340,slow=3.0,SNR=16						
ASAR				P3KPbc		06 46 40.3	
	0.6nm,0.7s,baz=147,slow=4.1,SNR=5.2						
ASAR	Alice Springs	28.25	157	P	P	06 14 34.9	-0.6
ASAR				PcP	PcP	06 17 31.1	-0.3
ASAR				S	S	06 18 41.6	-2.3
ASAR				ScP		06 20 21.4	
ASAR				*e*		06 46 40.3	
ASPA	Alice Springs	28.25	157⇑	*i*P	P	06 14 34.9	-0.5
ASPA				*i* S	S	06 18 41.4	-2.5
ASPA				*i* SCP		06 20 21.7	
ASPA				*i* SCS	ScS	06 24 11.6	-1.8
GYA	Guiyang	28.25	329	P	P	06 14 36.3	+0.8
GYA				PCP	PcP	06 17 31.8	+0.4
GYA				AMB	AMB		
	comp=Z,140nm,3.8s						
SSE	Sheshan	28.59	358	P	P	06 14 36.2	-2.2
SSE				S	S	06 18 48.6	-0.5
SSE				AMB	AMB		
	comp=Z,32nm,1.3s,mb4.8						
SSE				AMB	AMB		
	comp=Z,126nm,3.9s						
NJ2	Nanjing	29.70	354	*e*P	P	06 14 46.2	-1.7
NJ2				PCP	PcP	06 17 36.0	+1.0
NJ2				PCS		06 21 17.0	
NJ2				SCS	ScS	06 24 21.0	+0.7
NJ2				AMB	AMB		
	comp=Z,150nm,0.8s,mb5.6						
NJ2				AMB	AMB		
	comp=Z,240nm,5.2s						
ENH	Enshi	30.28	338	*e*P	P	06 14 53.6	+0.7
	comp=Z,58nm,0.8s,mb5.2						
CBIJ	Chichi jima	31.12	36	P	P	06 14 58.9	-1.2
	comp=Z,49nm,0.5s,mb5.3,baz=340,slow=23,SNR=5.4						
CBIJ				S	S	06 19 23.8	-4.6
	comp=Z,60nm,0.6s,baz=103,slow=23,SNR=8.0						
CTA	Charters Tower	32.43	135⇑	*i*P	P	06 15 12.1	+0.9
	comp=Z,39nm,0.8s,mb5.0						
CTA				*i* SCP		06 20 36.2	
CTA	Charters Tower	32.43	135	P	P	06 15 12.2	+1.1
	comp=Z,49nm,0.8s,mb5.1,baz=316,slow=10,SNR=60						
CTA				ScP		06 20 36.2	
	comp=Z,33nm,0.8s,baz=310,slow=5.8,SNR=19						
CTA	Charters Tower	32.43	135	P	P	06 15 12.2	+1.0
CTAO	Charters Tower	32.43	135	*e*P	P	06 15 12.0	+0.8
	comp=Z,62nm,0.9s,mb5.1						
CD2	Chengdu	33.35	330	P	P	06 15 19.0	+0.2
FORT	Forrest	33.42	171⇑	*i*P	P	06 15 19.1	-0.3
	comp=Z,190nm,0.5s,mb5.9						
FORT				*i* S	S	06 20 01.0	-2.5
XAN	Xi'an	33.89	340	P	P	06 15 23.0	-0.3
XAN				AMB	AMB		
	comp=Z,39nm,1.0s,mb4.9						
TIA	Tai'an	34.01	353	*e*P	P	06 15 24.1	-0.2
NWAO	Narrogin (SRO)	35.42	187	P	P	06 15 36.1	+0.1
	comp=Z,52nm,0.7s,mb5.2,baz=12,slow=7.9,SNR=51						
NWAO				PcP	PcP	06 17 50.8	-0.3
	comp=Z,11nm,0.8s,baz=88,slow=1.8,SNR=3.6						
NWAO	Narrogin (SRO)	35.42	187	*e*P	P	06 15 36.1	0.0
	comp=Z,54nm,0.8s,mb5.1						
NWAO				PcP	PcP	06 17 50.8	-0.3
SHL	Shillong	37.24	311	*e*P	P	06 15 49.5	-1.5
SHL				*e*S	S	06 21 00.0	-0.8
LZH	Lanzhou	37.64	335	⇓P	P	06 15 55.5	+1.4
LZH				AMB	AMB		
	comp=Z,94nm,1.5s,mb5.1						
BJI	Beijing	37.91	352	P	P	06 15 56.4	+0.1
BJI				AMB	AMB		
	comp=Z,56nm,0.7s,mb5.2						
STKA	Stephens Creek	38.68	153⇑	*i*P	P	06 16 03.5	+0.8
	comp=Z,77nm,0.7s,mb5.3						
STKA				*e*		06 17 44.1	
STKA				*i* SCP		06 20 58.1	
STKA				*i* S	S	06 21 21.2	-0.7
STKA	Stephens Creek	38.68	153	P	P	06 16 03.6	+1.0
	comp=Z,86nm,0.6s,mb5.4,baz=326,slow=8.0,SNR=172						
STKA				ScP		06 20 57.8	
	comp=Z,20nm,0.7s,baz=325,slow=7.0,SNR=10						
STKA				S	S	06 21 21.4	-0.5
	comp=Z,19nm,1.0s,baz=56,slow=24,SNR=11						
SNY	Shenyang	39.30	2	⇓P	P	06 16 07.0	-0.6
SNY				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.8						
BTO	Baotou	39.65	345	*e*P	P	06 16 08.8	-1.6
LSA	Lhasa	40.14	316	P	P	06 16 16.0	+1.5
ADE	Adelaide	40.21	159⇑	*i*P	P	06 16 16.6	+1.6
CN2	Changchun	41.35	3	*e*P	P	06 16 22.7	-1.3
PALK	Pallekele	41.69	278	*e*P	P	06 16 26.2	-0.9
	comp=Z,36nm,0.8s,mb5.0						
GTA	Gaotai	42.16	334	⇓P	P	06 16 31.6	+1.1
GTA				PCP	PcP	06 18 11.8	-0.9
GTA				AMB	AMB		
	comp=Z,54nm,0.8s,mb5.1						
MDJ	Mudanjiang	42.57	8	P	P	06 16 33.9	+0.2
MDJ				AMB	AMB		
	comp=Z,73nm,0.8s,mb5.3						
MDJ	Mudanjiang	42.57	8	*e*P	P	06 16 33.8	+0.1
	comp=Z,59nm,0.8s,mb5.2						
GUN	Gumba	43.04	310	*e*P	P	06 16 37.9	+0.3
	comp=Z,256nm,0.6s,mb5.9						
PKI	Pulchoki	43.23	309	*e*P	P	06 16 39.0	-0.2
	comp=Z,84nm,0.6s,mb5.4						
KKN	Kakani	43.44	309	*e*P	P	06 16 40.8	0.0
	comp=Z,113nm,0.6s,mb5.6						
DMN	Daman	43.49	309	*e*P	P	06 16 41.1	-0.1
	comp=Z,198nm,1.0s,mb5.6						
GKN	Gorkha	44.04	309	*e*P	P	06 16 45.1	-0.4
	comp=Z,145nm,0.7s,mb5.6						
KOLN	Koldanda	44.74	308	*e*P	P	06 16 51.0	+0.1
	comp=Z,287nm,0.7s,mb5.9						
TOO	Toolangi	45.20	154⇑	*i*P	P	06 16 55.6	+1.3
	comp=Z,7.7nm,1.2s,mb4.1						
ASAJ	Asahikawa	45.31	21	P	P	06 16 55.3	+0.2
	comp=Z,23nm,0.7s,mb4.8,baz=235,slow=9.1,SNR=10						
HYB	Hyderabad	45.44	292⇓	*i*P	P	06 16 56.0	-0.4
	comp=Z,171nm,0.8s,mb5.6						
HYB				*e*		06 17 09.5	
HYB				*e*PcP	PcP	06 18 23.5	-0.8
HYB				*e*pP	pP	06 18 39.0	+2.2
TRD	Trivandrum	45.49	280	*e*P	P	06 16 55.4	-1.4
TRD				AMb	AMB	06 16 57.6	
	comp=Z,160nm,1.1s,mb5.5						
HIA	Hailar	46.77	358	*e*P	P	06 17 06.0	-0.2
	comp=Z,62nm,0.8s,mb5.2						
HIA				*e*PcP	PcP	06 18 28.9	+0.3
SONM	Songino Array	47.33	345	P	P	06 17 10.7	+0.2
	comp=Z,77nm,0.7s,mb5.3,baz=164,slow=8.6,SNR=466						
SONM				PcP	PcP	06 18 29.9	-0.8
	comp=Z,14nm,0.8s,baz=162,slow=4.0,SNR=9.6						
SONM				ScP		06 21 32.7	
	comp=Z,2.8nm,0.8s,baz=155,slow=4.9,SNR=3.8						
BHPL	Bhopal	48.11	299	*e*P	P	06 17 15.7	-1.0
BHPL				AMb	AMB	06 17 16.6	
	comp=Z,155nm,0.7s,mb5.6						
PTH	Pithoragarh	48.20	308	*e*P	P	06 17 15.6	-1.7
PTH				*e*		06 18 33.0	
NOUC	Port Laguerre	49.40	122	*e*P	P	06 17 27.0	+0.7
NOUC	Port Laguerre	49.40	122	*e*P	P	06 17 27.0	+0.7
KAD	Karad	49.48	291	*e*P	P	06 17 24.9	-2.1
DZM	Mont Dzumac	49.50	122	*e*P	P	06 17 26.8	-0.3
POO	Poona	50.05	292⇓	*i*P	P	06 17 29.5	-1.7
	comp=Z,90nm,1.0s,mb5.2						
DDI	Dehra Dun	50.22	308	*e*P	P	06 17 30.0	-2.3
DDI				*e*		06 24 07.0	
NDI	New Delhi	50.22	306	*e*P	P	06 17 29.5	-2.8
NDI				*e*		06 23 58.0	
WMQ	Urumqi	51.41	328	P	P	06 17 40.8	+0.1
WMQ				AMB	AMB		
	comp=Z,124nm,0.8s,mb5.3						
AJM	Ajmer	51.56	302	*e*P	P	06 17 40.2	-1.9
AJM				AMb	AMB	06 17 41.9	
	comp=Z,67nm,0.9s,mb5.0						
MOY	Mondy	52.27	343	*e*P	P	06 17 47.2	+0.3
THN	Thein Dam	52.92	310	*e*P	P	06 17 49.4	-2.3
	comp=Z,48nm,0.6s,mb5.0						
BOD	Bodaibo	55.68	355	*e*P	P	06 18 09.3	-1.4
KSH	Kashi	55.94	318	P	P	06 18 14.0	+1.2
KSH				AMB	AMB		
	comp=Z,210nm,1.7s,mb5.1						
MKAR	Makanchi Array	56.23	328	P	P	06 18 14.6	-0.1
	comp=Z,98nm,0.4s,mb5.4,baz=123,slow=8.5,SNR=974						
MKAR				PcP	PcP	06 19 03.5	-0.9
	comp=Z,20nm,0.6s,baz=134,slow=3.7,SNR=8.2						
MKAR				S	S	06 25 24.3	+1.5
	comp=Z,8.0nm,1.1s,baz=141,slow=17,SNR=6.5						
MKAR	Makanchi Array	56.23	328	*i* P	P	06 18 14.6	-0.1
MKAR				pmax	pmax		

comp=Z,98nm,0.4s
MKAR Makanchi Array 56.23 328 P P 06 18 14.6 -0.1
MKAR PcP PcP 06 19 03.5 -0.9
MKAR S S **06 25 24.3 +1.5**
ULHL Ulahol 57.14 320 P P 06 18 21.6 +0.6
SNR=11
KZA Kyzart 57.69 320 P P 06 18 25.9 +1.1
SNR=90
TKM2 Tokmak 2 57.90 321 P P 06 18 26.6 +0.4
SNR=94
KBK Karagaybulak 58.17 320 P P 06 18 28.6 +0.6
SNR=25
UCH Uchtor 58.24 320 P P 06 18 29.4 +0.9
SNR=66
AAK Ala-Archa 58.45 320 P P 06 18 30.2 +0.3
SNR=32
AAK Ala-Archa 58.45 320 *d* *i*P **P 06 18 29.4 -0.5**
AAK Ala-Archa 58.45 320 *e*P **P 06 18 29.0 -0.9**
comp=Z,38nm,0.7s,mb4.7
CHMS Chumysh 58.47 321 P P 06 18 29.8 -0.2
SNR=18
FRU Bishkek 58.47 320 *e*P **P 06 18 29.0 -1.0**
FRU *e* 06 25 47.0
FRU pmax pmax
comp=Z,60nm,2.0s,mb4.5
AML Almayashu 58.72 319 P P 06 18 32.4 +0.7
SNR=9.1
USP Ospenovka 58.76 321 P P 06 18 32.0 0.0
SNR=102
EKS2 Erkin-Say 58.93 320 P P 06 18 33.7 +0.6
SNR=74
YAK Yakutsk 59.78 4 *e*P **P 06 18 37.9 -0.5**
YAK pmax pmax
comp=Z,50nm,0.9s,mb4.8
YAK pmax pmax
comp=N,20nm,1.1s
YAK Yakutsk 59.78 4 *e*P **P 06 18 38.0 -0.5**
comp=N,109nm,0.9s,mb5.2
ZAL Zalesovo 59.87 335 P P 06 18 38.0 -1.1
comp=N,24nm,0.4s,mb4.8,baz=262,slow=5.5,SNR=120
ZAL S **S 06 26 07.2 -1.7**
comp=N,11nm,1.1s,baz=0.5,slow=24,SNR=44
ZAL Zalesovo 59.87 335 *i*P **P 06 18 38.0 -1.1**
ZAL pmax pmax
comp=Z,24nm,0.4s
KURK Kurchatov 60.58 330 P P 06 18 43.3 -0.5
KURK pmax pmax
comp=Z,63nm,0.6s,mb5.1
KURK Kurchatov 60.58 330 *e*P **P 06 18 43.3 -0.5**
comp=Z,229nm,0.4s,mb5.9
NVS Novosibirsk 61.16 335 *i*P **P 06 18 45.6 -2.0**
NVS *e*S **S 06 26 22.0 -2.8**
NVS pmax pmax
comp=Z,58nm,0.8s,mb5.0
NVS pmax pmax
comp=N,31nm,0.5s
NVS pmax pmax
comp=E,23nm,0.5s
NVS smax
comp=E,85nm,1.4s
RPZ Rata Peaks 63.31 142 P P 06 19 02.3 +0.7
comp=E,16nm,0.6s,mb4.6,baz=354,slow=1.8,SNR=8.1
VOSK Vostochnaya 65.63 329 P P 06 19 15.1 -1.0
VOSK pmax pmax
comp=Z,33nm,0.7s,mb5.0
BVA0 Borovoye Array 66.09 329 *i*P **P 06 19 18.3 -0.7**
BVA0 pmax pmax
comp=Z,3.0nm,0.6s
BVAR Borovoye Array 66.09 329 P P 06 19 18.3 -0.6
comp=Z,49nm,0.7s,mb5.1,baz=135,slow=8.4,SNR=204
BVAR S S 06 27 23.7 -0.8
comp=Z,2.5nm,0.9s,baz=94,slow=19,SNR=7.2
BRVK Borovoye 66.16 329 *e*P **P 06 19 18.8 -0.6**
comp=Z,51nm,0.7s,mb5.2
ZRNK Zerenda 66.78 328 P P 06 19 22.6 -0.6
ZRNK pmax pmax
comp=Z,53nm,0.6s,mb5.2
ZRNK Zerenda 66.78 328 *e*P **P 06 19 22.5 -0.7**
comp=Z,152nm,0.6s,mb5.7
CASY Casey 69.01 185 ⇓*i*P **P 06 19 35.9 -0.6**
TIXI Tiksi 69.31 2 *e*P **P 06 19 37.2 -1.0**
TIXI *e* 06 19 55.5
TIXI *e**PP pP 06 21 34.4 +2.5
TIXI *e* 06 22 20.0
TIXI *e*S S 06 27 57.5 -4.0
TIXI *e*SS SS 06 32 42.5 -2.6
TIXI pmax pmax
comp=Z,48nm,1.1s,mb4.9
TIXI MLR MLR
comp=Z,100nm,23.0s
MIR Mirnyy 71.86 192 ⇓*e*P **P 06 19 54.0 +0.8**
MIR pmax pmax
comp=Z,65nm,1.1s,mb5.0
SVE Sverdlovsk 72.83 330 ⇓*i*P **P 06 19 58.0 -0.9**
SVE *e* 06 20 08.4
SVE pmax pmax
comp=Z,80nm,1.2s,mb5.0
ARU Arti 73.74 329 ⇓*i*P **P 06 20 03.0 -1.0**
ARU *e* 06 20 15.6
ARU *e* 06 22 51.3
ARU *e*S S 06 28 54.5 +3.4
ARU *e*SS SS 06 33 58.1 +5.5
ARU pmax pmax
comp=Z,82nm,0.8s,mb5.2
ARU Arti 73.74 329 *e*P **P 06 20 02.8 -1.2**
comp=Z,74nm,0.8s,mb5.2
MZLS Mizel 77.22 294 P P 06 20 23.5 -0.4
DJNS Zahran al Janu 78.55 287 P P 06 20 31.8 +0.8
TATS Tathlith 78.65 289 P P 06 20 31.7 +0.2
GNI Garni 78.94 310 *e*P **P 06 20 36.6 +3.9**
GNI Garni 78.94 310 *e*P **P 06 20 33.3 +0.6**
GNI Garni 78.94 310 *e*P **P 06 20 33.8 +1.1**
comp=Z,32nm,0.8s,mb4.7
ARSS Ar Rass 79.10 296 P P 06 20 33.9 0.0
NAMS An Nimas 79.84 289 P P 06 20 39.0 +1.2
FRSS Farasan al Kab 79.90 286 P P 06 20 39.0 +0.9
BLJS Baljurashi 80.43 290 P P 06 20 41.2 +1.0
HILS Ha'il 80.46 297 P P 06 20 41.7 +0.8
KIV Kislovodsk 80.86 314 *k* *i*P **P 06 20 42.6 0.0**
KIV pmax pmax
comp=Z,26nm,0.7s,mb4.8
MAW Mawson 80.97 200 ⇓*i*P **P 06 20 42.9 +0.2**
comp=Z,14nm,0.7s,mb4.5
MAW Mawson 80.97 200 P P 06 20 42.9 +0.3
comp=Z,18nm,0.7s,mb4.6,baz=57,slow=4.9,SNR=53
BTMT Batman 81.29 308 *i*P **P 06 20 45.8 +0.9**
VRT Varto 81.33 309 *i*P **P 06 20 46.8 +1.7**
BEST Besiri 81.44 308 *i*P **P 06 20 46.3 +0.6**
ERZM Erzurum 81.50 310 *i*P **P 06 20 47.2 +1.2**
EZM Erzurum 81.51 310 *i*P **P 06 20 47.7 +1.7**
LTHS Al Lith 81.55 290 P P 06 20 47.3 +0.7
KBRS Khaybar 82.68 296 P P 06 20 53.4 +1.2
EZC Erzincan 82.69 310 P P 06 20 54.9 +3.0
PTK Pertek 82.97 309 *i*P **P 06 20 54.6 +1.2**
SOC Sochi 82.98 313 *i*P **P 06 20 52.7 -0.6**
SOC *e**PP pP 06 22 46.2 -5.9
SOC *e* 06 24 13.6
SOC *e* 06 30 23.1
SOC *e*S S 06 30 35.3 +8.5
SOC *e*SS SS 06 36 13.3 +3.3
SOC *e*SSS SSS 06 39 40.5 -1.3
SOC pmax pmax
comp=Z,72nm,0.8s,mb5.2
GUMT Gumushane 82.98 310 P P 06 20 54.3 +0.9
ELZG Elazig 83.28 308 *i*P **P 06 20 56.3 +1.3**
SBA Scott Base 83.63 171 *e*P **P 06 20 57.4 +1.5**
comp=Z,3.5nm,0.8s
MYA Malataya 83.71 308 P P 06 20 58.0 +0.9
YNBS Yanbu' al Bahr 83.82 294 P P 06 20 58.7 +0.8
VOR Voronezh 83.85 322 *e*P **P 06 20 57.0 -0.5**
VOR pmax pmax
comp=Z,270nm,1.2s,mb5.7
GZT Gaziantep 84.36 307 *i*P **P 06 21 01.2 +0.8**
UMJS Umm Lajj 84.44 295 P P 06 21 02.0 +1.1
QURS Qurayyt al Mil 84.46 301 P P 06 21 01.9 +1.0
ANN Anapa 84.67 315 *c* *i*P **P 06 21 00.6 -1.1**
ANN *e* 06 30 35.4
ANN pmax pmax
comp=Z,271nm,0.9s,mb5.8
ASF Jabal al Asfar 84.83 302 P P 06 21 03.9 +1.2
comp=Z,60nm,0.7s,mb5.2,baz=330,slow=3.6,SNR=66
SVSK Karacayir 84.86 310 P P 06 21 03.3 +0.6
KAHT Ahir Dag 84.92 307 *i*P **P 06 21 03.6 +0.6**
MOS Moscow 85.03 326 *e*P **P 06 21 03.1 0.0**
MOS pmax pmax
comp=Z,100nm,1.2s,mb5.2
KMBO Kilima Mbogo 85.07 269 P P 06 21 05.4 +1.1
comp=Z,38nm,0.9s,mb4.9,baz=62,slow=7.3,SNR=87
TBKS Tabuk 85.12 298 P P 06 21 05.4 +1.1
TOKT Tokat 85.22 310 P P 06 21 05.1 +0.7
COBT Iskenderun 85.40 306 *i*P **P 06 21 06.2 +0.8**
IMA Indian Mountai 85.43 24 *e*P **P 06 21 06.6 +1.8**
comp=Z,20nm,0.7s,mb4.8
KVT Kavik 85.61 311 P P 06 21 07.2 +0.9
OBN Obninsk 85.61 325 P P 06 21 05.1 -0.8
comp=Z,331nm,0.5s,mb6.2,SNR=11
OBN Obninsk 85.61 325 *k* *i*P **P 06 21 05.3 -0.6**
OBN *e* pP 06 23 02.8 -2.7
OBN pmax pmax
comp=Z,114nm,1.6s,mb5.2
OBN Obninsk 85.61 325 *e*P **P 06 21 05.3 -0.6**
comp=Z,44nm,0.8s,mb5.1
JMQS Jabal Moqyreh 85.71 299 P P 06 21 07.6 +0.6
HRI Mount Hermon 85.81 303 P P 06 21 08.1 +0.6
GLH Golan-Tel Qazi 85.89 302 P P 06 21 08.9 +1.1
HMDT Nahal Hemdat 85.99 302 P P 06 21 09.0 +0.7
HMDT Nahal Hemdat 85.99 302 ⇓*i*P **P 06 21 09.0 +0.7**
MMLI Mount Malkishu 86.08 302 P P 06 21 09.7 +0.9
MMLI Mount Malkishu 86.08 302 ⇓*i*P **P 06 21 09.7 +0.9**
AYUS 'Aynunah 86.25 298 P P 06 21 10.0 +0.3
HNTI Hanita 86.28 303 P P 06 21 10.3 +0.6
ZFRI Zfri 86.30 300 P P 06 21 10.5 +0.6
JMOS Jabal al Moall 86.38 299 P P 06 21 10.7 +0.5
BDAS Al Bad' 86.39 298 P P 06 21 10.5 +0.1
SLTI Sal'it 86.40 302 P P 06 21 10.8 +0.5
HAF Haifa 86.41 303 P P 06 21 10.6 +0.3
AQBJ Aqaba 86.42 299 P P 06 21 11.0 +0.6
OFRI 'Ofer 86.45 302 P P 06 21 10.8 +0.3
OFRI 'Ofer 86.45 302 ⇓*i*P **P 06 21 10.8 +0.3**
PRNI Paran 86.45 300 P P 06 21 11.2 +0.6
PRNI Paran 86.45 300 ⇓*i*P **P 06 21 11.2 +0.6**
BQYT Boyabat 86.47 311 *i*P **P 06 21 10.4 +0.1**
EIL Eilat 86.51 299 P P 06 21 11.3 +0.5
AVNT Avnatos 86.51 309 *i*P **P 06 21 10.4 -0.2**
HAQS Haql 86.54 299 P P 06 21 11.4 +0.5
MBH Mount Berech 86.54 300 P P 06 21 11.6 +0.6
MBH Mount Berech 86.54 300 ⇓*i*P **P 06 21 11.6 +0.6**
CTKT Corum 86.56 310 *i*P **P 06 21 10.6 -0.3**
KMTI Karmit 86.70 300 P P 06 21 11.9 +0.2
KMTI Karmit 86.70 300 ⇓*i*P **P 06 21 11.9 +0.2**
NIG Nigde 86.71 308 P P 06 21 12.2 +0.6
KZIT Kziot 86.97 301 P P 06 21 13.1 +0.1
KZIT Kziot 86.97 301 ⇓*i*P **P 06 21 13.1 +0.1**
KAMT Kaman 87.40 309 *e*P **P 06 21 13.6 -1.2**
BRTR Keskin Array B 87.45 309 P P 06 21 14.5 -0.5
comp=Z,11nm,0.8s,mb4.5,baz=125,slow=5.7,SNR=7.8
BRTR PP PP 06 24 49.4 -1.8
comp=Z,2.2nm,0.9s,baz=121,slow=7.2,SNR=4.4
ELDT Eldivan 87.60 310 *i*P **P 06 21 15.5 -0.2**
BALT Daday 87.61 311 *i*P **P 06 21 14.8 -1.0**
COLA College 87.82 25 *e*P **P 06 21 16.1 0.0**
comp=Z,6.6nm,1.1s,mb4.3
ILAR Eielson Array 88.24 25 P P 06 21 17.2 -0.8
comp=Z,2.8nm,0.7s,mb4.1,baz=248,slow=5.0,SNR=66
ILAR PKKPbc 06 38 58.2
comp=Z,0.6nm,0.7s,baz=45,slow=2.0,SNR=5.4
SGKT Sivrigoynuk 88.64 310 *i*P **P 06 21 20.1 -0.4**
KIZT Kizilcal 88.83 309 P P 06 21 20.9 -0.6
SYO Syowa Base 89.56 201 ⇑P **P 06 21 24.5 +0.3**
KEV Kevo 89.62 340 *ep* **P 06 21 18.8 -5.7**
comp=Z,0.9nm,0.4s
AKASG Malin Array Be 90.12 321 P P 06 21 25.9 -1.2
comp=Z,8.9nm,0.7s,mb4.7,baz=71,slow=4.6,SNR=22
AKASG Malin Array Be 90.12 321 P P 06 21 25.9 -1.3
ARCES ARCESS Array B 90.17 340 P P 06 21 26.0 -1.0
comp=Z,12nm,0.8s,mb4.8,baz=86,slow=7.1,SNR=45
ARCES PKiKP 06 26 19.4
comp=Z,3.0nm,1.1s,SNR=5.0
ARCES ARCESS Array B 90.17 340 P P 06 21 25.9 -1.1
ARE0 ARCESS Array S 90.17 340 *e*P **P 06 21 25.7 -1.3**
KAF Kangasniemi 90.72 332 *ep* **P 06 21 27.4 -2.3**
comp=Z,9.8nm,0.6s,mb4.9,baz=80,slow=4.3
FINES FINESS Array B 90.91 331 P P 06 21 29.4 -1.2
comp=Z,6.4nm,0.6s,mb4.7,baz=90,slow=5.7,SNR=38
FINES PKiKP 06 26 20.2
comp=Z,0.9nm,0.7s,baz=113,slow=3.9,SNR=6.4
DAWY Dawson 91.54 26 *e*P **P 06 21 34.2 +0.9**
QSPA South Pole Qui 92.28 180 *e*P **P 06 21 37.3 +0.8**
comp=Z,7.9nm,0.6s,mb4.9
INK Inuvik 93.05 21 P P 06 21 40.2 0.0
comp=Z,4.4nm,0.6s,mb4.7,baz=287,slow=4.2,SNR=22
SUW Suwalki 93.44 324 *e*P **P 06 21 42.0 -0.4**
comp=Z,88nm,1.2s,mb5.7
LSZ Lusaka 94.55 255 *e*P **P 06 21 47.3 -0.9**
comp=Z,12nm,0.7s,mb5.1
KOLS Kolonicke sedl 94.79 319 *e*P **P 06 21 48.8 +0.2**
CRVS Cervenica-Dubn 95.33 319 *e*P **P 06 21 51.5 +0.5**
CRVS *e* 06 21 57.0
CRVS *e*SP SP 06 33 37.0 -8.1
NIE Niedzica 95.98 320 *e*P **P 06 21 54.5 +0.6**
OJC Ojcow 96.15 321 *e*P **P 06 21 54.4 -0.3**
OJC Ojcow 96.15 321 *e*P **P 06 21 54.4 -0.3**
DLBC Dease Lake 97.18 30 P P 06 22 00.6 +1.4
comp=Z,3.1nm,1.0s,mb4.5,baz=283,slow=4.2,SNR=4.8
OKC Ostrava-Krasne 97.27 321 *e*P **P 06 21 59.4 -0.4**
NB2 NORSAR Subarra 97.98 333 P P 06 22 00.9 -1.8
comp=Z,7.1nm,1.1s,mb4.9,baz=73,slow=4.5
NB2 NORSAR Subarra 97.98 333 P P 06 22 00.9 -1.8
baz=73,slow=4.4
NOA NORSAR Array B 97.98 333 P P 06 22 01.3 -1.4
comp=Z,2.8nm,0.8s,mb4.7,baz=73,slow=4.6,SNR=9.8
NOA PP PP 06 26 12.4 +0.4
comp=Z,1.9nm,0.8s,baz=78,slow=6.6,SNR=4.3
NOA PKiKP 06 26 32.6
comp=Z,0.6nm,0.7s,baz=167,slow=1.9,SNR=3.4
DPC Dobruska-Polom 98.30 322 *e*P **P 06 22 04.6 +0.2**
UPC Upice 98.45 322 *e*P **P 06 22 05.4 +0.3**
PRU Pruhonice 99.50 321 *e*P **P 06 22 09.9 +0.1**
BRG Berggiesshubel 99.63 322 *i*P **P 06 22 10.6 +0.2**
comp=Z,7.8nm,0.8s,mb5.2
CLL Collm 100.08 323 P P 06 22 12.0 -0.4
CLL Collm 100.08 323 *e*P **P 06 22 12.0 -0.4**
GERES GERESS Array B 100.33 320 P P 06 22 13.6 0.0
comp=Z,1.1nm,0.7s,baz=90,slow=4.0,SNR=8.6
KHC Kasperske Hory 100.33 321 *e*P **P 06 22 12.7 -0.9**
YKA Yellowknife Ar 102.54 23 PKiKP 06 26 40.6
comp=Z,0.7nm,0.6s,baz=308,slow=2.0,SNR=7.0
YKA PKKPbc 06 38 19.7
comp=Z,1.5nm,0.6s,baz=121,slow=3.3,SNR=8.8
VNA2 Neumayer--Watz 104.38 195 *e*PKPdf 06 26 46.4
VNA2 *e* 06 29 30.2
VNA3 Neumayer Olymp 104.76 194 ⇓*i*PKPdf 06 26 47.6
VNA3 *e* 06 29 31.4
VNA1 Neumayer--Stat 104.78 195 ⇑*i*PKPdf 06 26 46.3
VNA1 *e* 06 29 30.1
HINF Hinteralfeld 104.99 321 *e*PKIKP 06 26 47.4
LPG La Plagne 105.88 319 *e*PKIKP 06 26 47.6
LPL La Plagne 105.88 319 *e*PKIKP 06 26 47.6
CABF La Chapelle 105.91 320 *e*PKIKP 06 26 47.3
comp=Z,18nm,1.0s
MBDF Montbardon 106.13 318 *e*PKIKP 06 26 48.2
comp=Z,10nm,1.0s
ORIF Oris-en-Rattie 106.66 318 *e*PKIKP 06 26 48.7
comp=Z,9.1nm,0.9s
SSF Saint Saulge 107.38 321 *e*PKIKP 06 26 50.2
EDM Edmonton 107.85 31 *e*PKIKP 06 26 51.4
BGF Bois d'Agland 108.00 321 *e*PKIKP 06 26 52.0
RJF Les Rejaudoux 109.36 320 *e*PKIKP 06 26 54.2
MTLF Montelieu 109.69 318 *e*PKIKP 06 26 53.7
comp=Z,8.4nm,0.9s
MFF Saint Martin d 109.85 322 *e*PKIKP 06 26 53.9
comp=Z,9.5nm,0.7s
LFF La Frestale 110.01 320 *e*PKIKP PKPdf 06 26 55.3 +1.8
EPF Esparros 111.08 318 *e*PKIKP PKPdf 06 26 56.0 +0.3
NVAR Mina Array Bea 111.11 47 PKiKP PKPdf 06 26 59.1 +3.3
comp=Z,2.0nm,0.6s,baz=273,slow=0.6,SNR=22
NVAR PKKPbc 06 37 56.6
comp=Z,1.4nm,0.7s,baz=124,slow=4.9,SNR=14
NVAR PKKPab 06 38 07.4
comp=Z,2.4nm,0.6s,baz=119,slow=6.0,SNR=20
ETSF Etsaut 111.73 318 *e*PKIKP PKPdf 06 26 58.5 +1.6
comp=Z,4.2nm,0.7s
BGU Big Grassy Mou 113.84 43 *e*PKiKP PKPdf 06 27 03.9 +2.7
RRI2 Red Ridge 113.87 40 *e*PKiKP PKPdf 06 27 03.1 +1.9
DUG Dugway 114.31 44 *e*PKiKP PKPdf 06 27 04.4 +2.3
DUG *e*SKPdf 06 29 48.5
HWUT Hardware Ranch 114.52 42 *e*PKiKP PKPdf 06 27 04.9 +2.5
NEN Nelson 114.71 49 *e*PKiKP PKPdf 06 27 05.8 +2.8
NEN *e*SKPdf 06 29 50.2
LDFC Landfair 114.73 50 *e*PKiKP PKPdf 06 27 06.5 +3.5
TCUT Toone Canyon 114.85 42 *e*PKiKP PKPdf 06 27 04.3 +1.2
LAO LASA Array 115.22 35 *e*PKiKP PKPdf 06 27 06.6 +3.0
PDAR Pinedale Array 115.28 40 PKP PKPdf 06 27 05.9 +2.0
comp=Z,1.3nm,0.5s,baz=33,slow=2.0,SNR=12
PDAR PKKPbc 06 37 40.8
comp=Z,1.3nm,0.5s,baz=120,slow=5.6,SNR=16
PDAR PKKPab 06 37 48.1
comp=Z,4.7nm,0.6s,baz=119,slow=6.2,SNR=34
ESDC Sonseca Array 115.45 316 PKP PKPdf 06 27 06.0 +1.8
comp=Z,0.6nm,0.6s,baz=12,slow=1.1,SNR=4.2
MSU Marysvale 115.49 45 *e*PKiKP PKPdf 06 27 07.7 +3.3
TMUT Trail Mountain 115.82 44 *e*PKiKP PKPdf 06 27 08.2 +3.3
SRU San Rafael 116.38 44 *e*PKiKP PKPdf 06 27 08.2 +2.1
MTE Manteigas 117.52 319 *e*PKPdf PKPdf 06 27 10.5 +2.2
PVIS Viseu 117.59 319 *e*PKPdf PKPdf 06 27 09.3 +0.9
PV10 Paradox Valley 117.75 44 *e*PKPdf PKPdf 06 27 11.7 +2.9
PV10 *e*SKPdf 06 29 55.8
PCBR Castelo Branco 117.76 318 *e*PKPdf PKPdf 06 27 10.8 +2.1
RSSD Black Hills 117.95 36 *e*PKPdf PKPdf 06 27 10.4 +1.4
RSSD *e*SKPdf 06 29 54.8
PV01 Paradox Valley 118.19 44 *e*PKPdf PKPdf 06 27 12.6 +2.9
PV01 *e*SKPdf 06 29 56.6
ULM Lac du Bonnet 118.23 27 PKP PKPdf 06 27 10.1 +0.7
comp=Z,5.8nm,0.6s,baz=280,slow=1.1,SNR=4.7
ULM Lac du Bonnet 118.23 27 PKP PKPdf 06 27 10.1 +0.7
EVO Evora 118.77 317 *e*PKP1 PKPdf 06 27 12.6 +1.8
comp=Z,9.4nm,0.7s
PBEJ Beja 118.91 316 *e*PKPdf PKPdf 06 27 13.3 +2.2
PALC Alcoutim 118.91 316 *e*PKPdf PKPdf 06 27 13.2 +2.1
MOE Montemor 119.00 317 *e*PKPdf PKPdf 06 27 13.7 +2.5
ISCO Idaho Springs 119.35 41 *e*PKPdf PKPdf 06 27 14.4 +2.6
SDCO Great Sand Dun 120.49 43 *e*PKPdf PKPdf 06 27 16.5 +2.4
ANMO Albuquerque 121.20 46 *e*PKPdf PKPdf 06 27 18.4 +2.9
ANMO *e*SKPdf 06 30 02.3
BNM Barren Site 121.45 47 *e*PKPdf PKPdf 06 27 19.2 +3.1
SCHQ Schefferville 122.50 6 PKP PKPdf 06 27 19.2 +1.7
comp=Z,11nm,0.5s,baz=319,slow=1.2,SNR=16
SCHQ Schefferville 122.50 6 *e*PKPdf PKPdf 06 27 19.0 +1.4
SCHQ PKP PKPdf 06 27 19.2 +1.7
CBKS Cedar Bluff 123.67 39 *e*PKPdf PKPdf 06 27 22.0 +1.8
GDL2 Guadalupe Moun 124.05 48 *e*PKPdf PKPdf 06 27 23.2 +2.1
KSU1 Kansas State U 125.41 37 *e*PKPdf PKPdf 06 27 25.1 +1.4
TXAR Lajitas Array 125.93 51 PKP PKPdf 06 27 27.3 +2.4
comp=Z,2.0nm,0.6s,baz=212,slow=1.0,SNR=34
TXAR pPKP 06 29 36.6
comp=Z,2.3nm,1.2s,baz=270,slow=1.3,SNR=5.5
TXAR SKPbc 06 29 51.9
comp=Z,1.9nm,0.6s,baz=265,slow=2.2,SNR=13
TXAR PKKPbc 06 37 02.9
comp=Z,0.6nm,0.5s,baz=135,slow=5.7,SNR=11
KIC Kosan Boka 126.39 280 ⇑*i*PKIKP PKPdf 06 27 27.7 +1.5
comp=Z,24nm,0.6s
DBIC Dimbokro 126.46 280 PKP PKPdf 06 27 27.8 +1.4
comp=Z,8.5nm,0.7s,baz=56,slow=4.6,SNR=13
DBIC Dimbokro 126.46 280 PKP PKPdf 06 27 27.8 +1.4
TIC Toumodi 126.63 280 ⇑*i*PKIKP PKPdf 06 27 28.1 +1.5
comp=Z,37nm,0.7s
WMOK Wichita Mounta 126.68 42 *e*PKPdf PKPdf 06 27 28.2 +2.0
LIC Lamto 126.69 279 ⇑*i*PKIKP PKPdf 06 27 28.2 +1.4
comp=Z,23nm,0.7s
JCT Junction City 128.29 47 *e*PKPdf PKPdf 06 27 31.2 +1.8
WVT Waverly 132.51 33 *e*PKPdf PKPdf 06 27 38.4 +1.1
WVT *e*SKPdf 06 30 15.0
OXF Oxford 132.77 36 *e*PKPdf PKPdf 06 27 38.9 +1.1
OXF *e*SKPdf 06 30 16.0
SSPA Standing Stone 133.41 21 *e*PKPdf PKPdf 06 27 40.3 +1.6
SSPA *e*SKPdf 06 30 17.4
CBN Corbin 135.73 22 PKPdf PKPdf 06 27 44.9 +1.7
TRQA Tornquist 144.27 174 *e*PKPdf PKPdf 06 27 59.7 +1.5
TRQA *e*SKP 06 30 48.1
BBSR BB Station 144.83 10 *e*PKPdf PKPdf 06 28 01.6 +2.2
CPUP Villa Florida 156.17 181 PKP PKPdf 06 28 19.4 +2.8
comp=Z,4.2nm,0.7s,baz=105,slow=1.8,SNR=15
CPUP PKPab PKPab 06 28 50.3 +0.1
comp=Z,4.8nm,0.7s,baz=158,slow=3.5,SNR=8.2
OTAV Otavalo 159.12 83 *e*PKPdf PKPdf 06 28 25.5 +5.0
ROSC El Rosal 161.93 67 PKP PKPdf 06 28 26.6 +3.2
comp=Z,8.3nm,0.3s,baz=126,slow=16,SNR=5.3
LPAZ La Paz 162.79 144 PKP PKPdf 06 28 28.2 +4.0
comp=Z,5.3nm,0.9s,baz=24,slow=1.8,SNR=22
LPAZ PKPab PKPab 06 29 21.6 +2.7
comp=Z,1.8nm,0.7s,baz=168,slow=3.3,SNR=6.1
LPAZ La Paz 162.79 144 PKP PKPdf 06 28 28.2 +4.0
LPAZ PKPab PKPab 06 29 21.6 +2.7
SDV Santo Domingo 162.96 49 *e*PKPdf PKPdf 06 28 26.6 +2.1
BDFB Brasilia 163.70 215 PKP PKPdf 06 28 28.2 +3.2
comp=Z,6.3nm,1.1s,baz=63,slow=3.0,SNR=7.0
BDFB PKPab PKPab 06 29 23.2 +0.3
comp=Z,7.4nm,0.7s,baz=164,slow=2.3,SNR=11
SAML Samuel 171.50 141 *e*PKPdf PKPdf 06 28 32.4 +1.7
SAML *e*PKPab PKPab 06 29 58.1 +0.9

CSEM **02** *06:11:19.3±0.7, 38.67N×29.06W, h4km±3km, ML1.7, Error ellipse: s-maj=10.9km s-min=5.2km az=26.0, After PDA*
PDA **02** *06:11:19.3±0.7, 38.67N×29.06W, h4km±3km, MD3.2, ML1.7, Error ellipse: s-maj=10.9km s-min=5.2km az=26.0*

SVSA 02 06:11:19.3±0.7, 38.67N×29.06W, h4km±3km, MD3.2, ML1.7, Error ellipse: s-maj=10.9km s-min=5.2km az=26.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**0.28**	**99**	*e*P	Pg	06 11 24.3	-0.7
PCED				*e*S	Sg	06 11 28.4	-0.4
	42nm,0.2s						
	42nm,0.2s						
CALA	**Caldeira**	**0.29**	**108**	*e*P	Pg	06 11 24.8	-0.4
CALA				*e*S	Sg	06 11 28.6	-0.5
PICO	**Pico**	**0.52**	**109**	*e*P	Pg	06 11 28.3	-1.5
PICO				*e*S	Sg	06 11 35.5	-1.3
ROSA	**Rosais**	**0.64**	**86**	*e*P	Pg	06 11 30.3	-1.8
PMAN	**Manadas**	**0.76**	**93**	*e*S	Sg	06 11 41.1	-3.5
	9.3nm,0.1s						
PID	**Ribeirinha**	**0.77**	**107**	*e*-		06 11 29.5	

IDC 02 06:58:48.5±3.9, 29.12N×112.83W, mb3.4/1, mb1 3.8/4, mb1mx3.6/20, ML3.7/2, MS3.6/2, Ms1 3.6/2, ms1mx3.0/12, Error ellipse: s-maj=67.2km s-min=15.3km az=31.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**8.01**	**86**	Pn	P	07 00 47.0	-2.0
	0.8nm,0.3s,baz=260,slow=13,SNR=68						
TXAR				Lg		07 03 14.3	
	0.4nm,0.3s,baz=259,slow=27,SNR=6.2						
NVAR	**Mina Array Bea**	**10.34**	**335**	Pn	P	07 01 19.0	-2.2
	baz=158,slow=14,SNR=3.4						
NVAR				Lg		07 04 22.0	
	0.0nm,0.3s,baz=188,slow=14,SNR=2.0						
PDAR	**Pinedale Array**	**13.87**	**10**	Pn	P	07 02 11.4	+2.7
	0.0nm,0.3s,baz=192,slow=13,SNR=4.5						
BBB	**Bella Bella**	**25.68**	**338**	LR	LR	07 15 21.6	
	comp=Z,140nm,19.6s,baz=313,slow=39						
ILAR	**Eielson Array**	**41.57**	**339**	P	P	07 06 38.4	-0.8
	0.6nm,0.9s,baz=149,slow=7.9,SNR=5.2						
SCHQ	**Schefferville**	**41.70**	**39**	LR	LR	07 24 38.8	
	comp=Z,69nm,18.7s,baz=283,slow=37						

JMA 02 06:59:50.4±0.3, 43.55N×147.79E, h8km, M3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.50**	**264**	P	Pn	07 00 17.9	+0.1
NEM2				eS	Sb	07 00 37.8	+0.6
JRA	**Rausu**	**1.97**	**282**	P	Pn	07 00 24.7	+0.2
JRA				eS	Sn	07 00 49.7	+0.1
JAK	**Akkeshi**	**2.33**	**257**	P	Pn	07 00 29.5	-0.1
JAK				eS	Sn	07 00 58.6	0.0
JTKR	**Abashiri--Toko**	**2.84**	**280**	eS	Sn	07 01 13.8	+2.0
JAR	**Ashorobuto**	**2.94**	**266**	P	Pn	07 00 38.8	+0.5
JAR				eS	Sn	07 01 14.1	-0.1
JOB	**Onbets**	**2.96**	**259**	P	Pn	07 00 38.5	-0.2
JOB				eS	Sn	07 01 14.8	0.0
JCH	**Churui**	**3.38**	**255**	P	Pn	07 00 44.0	-0.5
JCH				eS	Sn	07 01 23.3	-1.9
JNBK	**Urakawa-nobuka**	**3.91**	**253**	P	Pn	07 00 51.7	-0.4
JNBK				eS	Sn	07 01 37.1	-1.7

*CSEM **02** 07:01:07.7±1.1, 39.03N×28.63W, h30km, ML2.1, Error ellipse: s-maj=24.8km s-min=11.2km az=148.0*
*PDA **02** 07:01:08.6±0.8, 39.17N×28.75W, h5km±14km, MD3.3, ML2.1, Error ellipse: s-maj=11.2km s-min=3.9km az=133.0*
SVSA 02 07:01:08.6±0.8**, 39.17N×28.75W, h5**km±14km**, MD3.3, ML2.1, Error ellipse: s-maj=11.2km s-min=3.9km az=133.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	Cedros	0.54	176	eP	Pg	07 01 17.6	-1.8
PCED				eS	Sg	07 01 24.7	-2.0
	68nm,0.3s						
PCED	Cedros	0.54	176	eP	Pg	07 01 17.6	-1.8
PCED				eS	Sg	07 01 24.7	-2.0
	68nm,0.3s						
CALA	Caldeira	0.59	176	eP	Pg	07 01 18.9	-1.5
CALA				eS	Sg	07 01 26.2	-2.0
STGR	Santa Cruz	0.59	98	eS	Sg	07 01 26.0	-2.3
	26nm,0.1s						
STGR	Santa Cruz	0.59	98	eS	Sg	07 01 26.0	-2.3
	26nm,0.1s						
ROSA	Rosais	0.60	138	eP	Pg	07 01 19.0	-1.6
ROSA				eS	Sg	07 01 26.4	-2.3
PICO	Pico	0.71	159	eP	Pg	07 01 20.4	-2.5
PICO				eS	Sg	07 01 29.6	-2.8
PMAN	Manadas	0.75	136	eS	Sg	07 01 30.1	-3.4
	19nm,0.1s						
PID	Ribeirinha	0.88	145	eP	Pb	07 01 23.6	-2.4

*NEIC **02** 07:29:58.9, 37.62S×177.15E, h137km, After WEL.*
WEL 02 07:29:58.9±0.3**, 37.62S×177.11E, h136**km±2km**, ML3.9**/8**, 6C-1D, Error ellipse: s-maj=1.6km s-min=1.4km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARZ	Manawahe	0.50	224	P	P	07 30 18.8	-0.4
MARZ	Manawahe	0.50	224	PN	P	07 30 18.9	-0.3
EDRZ	Edgecumbe	0.57	211	P	P	07 30 19.3	-0.2
EDRZ	Edgecumbe	0.57	211	PN	P	07 30 19.3	-0.2
URZ	Urewera	0.64	180	P	P	07 30 19.3	-0.6
URZ	Urewera	0.64	180	⇑PN	P	07 30 19.3	-0.7
URZ				SN	S	07 30 34.7	-1.4
TGRZ	Tauranga	0.69	261	P	P	07 30 20.0	-0.2
TGRZ	Tauranga	0.69	261	PN	P	07 30 20.0	-0.3
LIRZ	Lichensteins R	0.69	236	P	P	07 30 19.7	-0.6
LIRZ	Lichensteins R	0.69	236	PN	P	07 30 19.7	-0.6
TAZ	Tarawera	0.78	218	P	P	07 30 21.2	+0.4
TAZ	Tarawera	0.78	218	PN	P	07 30 21.1	+0.3
MWZ	Matawai	0.78	156	P	P	07 30 20.4	-0.5
MWZ				S	S	07 30 37.0	-0.7
MWZ	Matawai	0.78	156	⇑PN	P	07 30 20.4	-0.4
MWZ				SN	S	07 30 37.0	-0.7
UTU	Utuhina	0.92	232	P	P	07 30 22.5	+0.7
UTU	Utuhina	0.92	232	PN	P	07 30 22.1	+0.3
MXZ	Matakaoa Point	0.95	87	P	P	07 30 21.9	-0.2
MXZ	Matakaoa Point	0.95	87	⇑PN	P	07 30 21.9	-0.2
MXZ				SN	S	07 30 38.8	-1.1
PUZ	Puketiti	1.01	117	P	P	07 30 22.3	-0.3
PUZ	Puketiti	1.01	117	⇑PN	P	07 30 22.3	-0.3
PUZ				SN	S	07 30 40.2	-0.6
KUZ	Kuaotunu	1.42	308	P	P	07 30 26.3	-0.5
KUZ				S	S	07 30 46.4	-1.8
KUZ	Kuaotunu	1.42	308	⇓PN	P	07 30 26.3	-0.5
KUZ				SN	S	07 30 46.3	-1.9
KNZ	Kokohu	1.47	163	P	P	07 30 26.9	-0.5
KNZ	Kokohu	1.47	163	⇑PN	P	07 30 26.9	-0.4
KNZ				SN	S	07 30 48.6	-0.5
BKZ	Black Stump Fm	1.62	197	P	P	07 30 28.4	-0.7
BKZ	Black Stump Fm	1.62	197	⇑PN	P	07 30 28.4	-0.7
BKZ				SN	S	07 30 51.3	-0.9
MGZ	Maungaku	1.85	221	P	P	07 30 30.8	-1.0
MGZ	Maungaku	1.85	221	PN	P	07 30 32.1	+0.3
CNZ	Chateau	2.00	217	P	P	07 30 34.0	+0.5
CNZ	Chateau	2.00	217	PN	P	07 30 33.9	+0.4
TUVZ	Tukino	2.00	214	P	P	07 30 33.5	-0.1
TUVZ	Tukino	2.00	214	PN	P	07 30 33.1	-0.4
MOVZ	Moawhango	2.08	210	PN	P	07 30 33.5	-1.0
MOVZ				SN	S	07 31 00.5	-1.2
WNVZ	Wahianoa	2.08	214	P	P	07 30 34.1	-0.4
WNVZ	Wahianoa	2.08	214	PN	P	07 30 34.1	-0.4
PWZ	Pawanui	2.41	185	eP	P	07 30 36.8	-2.0
PWZ	Pawanui	2.41	185	PN	P	07 30 36.7	-2.1
TSZ	Takapari Road	2.60	200	P	P	07 30 39.4	-1.8
TSZ	Takapari Road	2.60	200	PN	P	07 30 39.4	-1.8
TSZ				SN	S	07 31 11.2	-2.2
WAZ	Wanganui	2.71	217	eP	P	07 30 41.8	-0.8
WAZ	Wanganui	2.71	217	PN	P	07 30 40.9	-1.8
WAZ				SN	S	07 31 16.5	+0.6
BFZ	Birch Farm	3.13	192	P	P	07 30 45.7	-2.5
BFZ	Birch Farm	3.13	192	PN	P	07 30 45.6	-2.6
BFZ				SN	S	07 31 19.0	-6.8
MRZ	Mangatainoka R	3.26	201	P	P	07 30 47.0	-3.0
MRZ	Mangatainoka R	3.26	201	PN	P	07 30 46.9	-3.0
MRZ				SN	S	07 31 25.0	-3.9
KIW	Kapiti Island	3.66	207	P	P	07 30 51.8	-3.4
KIW	Kapiti Island	3.66	207	PN	P	07 30 51.8	-3.4
MTW	Mount Morrison	3.75	199	P	P	07 30 52.4	-4.0
MTW	Mount Morrison	3.75	199	PN	P	07 30 52.4	-4.0
CAW	Cannon Point	3.83	204	P	P	07 30 53.6	-3.8
CAW	Cannon Point	3.83	204	PN	P	07 30 53.6	-3.8
PAWZ	Paruwai Farm	3.98	199	PN	P	07 30 55.2	-4.2
PAWZ				SN	S	07 31 39.9	-6.0
MSWZ	Moikau Station	4.05	200	SN	S	07 31 41.9	-5.8
MRW	Makara Radio	4.06	207	eSN	S	07 31 42.6	-5.2
TUWZ	Tuamarina	4.53	212	PN	P	07 31 02.2	-4.5
NNZ	Nelson	4.61	218	PN	P	07 31 04.4	-3.4
NNZ				SN	S	07 31 56.0	-5.0
QRZ	Quartz Range	4.79	227	PN	P	07 31 06.3	-3.9
THZ	Tophouse	5.26	217	eP	P	07 31 12.6	-3.9
THZ	Tophouse	5.26	217	PN	P	07 31 12.3	-4.2
THZ				SN	S	07 32 10.8	-5.7
KHZ	Kahutara	5.52	209	ePN	P	07 31 15.1	-4.8
KHZ				SN	S	07 32 15.7	-7.1
LTZ	Lake Taylor	6.35	214	PN	P	07 31 26.1	-5.1
MQZ	McQueen's Vall	6.96	208	SN	S	07 32 46.3	-11

*NEIC **02** 07:30:47.8±2.3, 24.34S×179.93E, h501km±25km, mb4.0/3, Error ellipse: s-maj=18.1km s-min=14.1km az=211.0*
*IDC **02** 07:30:48.4±1.6, 24.37S×179.90E, h507km±16km, mb3.2/10, mb1 3.4/11, mb1mx3.4/14, Error ellipse: s-maj=26.4km s-min=12.6km az=163.0*
ISC 02 07:30:47.2±2.3**, 24.26S**±0.10×**179.8E**±0.1**, h502**km±25km**, n23, σ0^{s}86**/21**, mb3.6**/12**, 2C-1D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	14.14	189	P	P	07 33 47.4	-1.4
	1.6nm,0.3s,baz=325,slow=6.0,SNR=6.6						
URZ				S	S	07 36 16.4	+1.1
	1.1nm,0.3s,baz=27,slow=22,SNR=9.0						
CTA	Charters Tower	31.32	271	P	P	07 36 27.9	+0.8
	4.4nm,0.4s,mb4.3,baz=92,slow=9.2,SNR=17						
CTA	Charters Tower	31.32	271	P	P	07 36 27.9	+0.8
CTAO	Charters Tower	31.32	271	eP	P	07 36 28.3	+1.2
	5.2nm,0.5s,mb4.2						
STKA	Stephens Creek	34.44	249	P	P	07 36 54.4	+1.0
	1.1nm,0.7s,mb3.4,baz=63,slow=11,SNR=2.8						
ASAR	Alice Springs	41.82	261	P	P	07 37 53.8	+0.1
	0.5nm,0.5s,mb3.2,baz=92,slow=7.4,SNR=11						
ASAR				ScP		07 42 40.3	
	0.6nm,0.9s,baz=109,slow=4.7,SNR=4.0						
ASAR				S	S	07 43 35.1	-0.3
	0.3nm,0.8s,baz=96,slow=16,SNR=3.7						
WRAB	Tennant Creek	42.22	267	eP	P	07 37 56.6	-0.3
	2.3nm,0.5s,mb3.9						
WRA	Warramunga Arr	42.22	267	P	P	07 37 56.6	-0.4
	1.7nm,0.4s,mb3.8,baz=100,slow=8.1,SNR=35						
WRA				S	S	07 43 40.8	-0.4
	0.9nm,1.2s,baz=101,slow=14,SNR=3.3						
FITZ	Fitzroy Crossi	50.64	266	P	P	07 39 01.5	0.0
	1.8nm,0.7s,mb3.5,baz=177,slow=11,SNR=4.2						
QSPA	South Pole Qui	65.82	180	eP	P	07 40 42.4	-0.8
	3.2nm,0.9s,mb4.0						
MAW	Mawson	77.36	200	P	P	07 41 49.3	-1.0
	1.5nm,0.7s,mb3.6,baz=139,slow=2.1,SNR=6.4						
SNAA	Sanae	84.31	179	⇑i	P	07 42 24.2	-1.6
VNA3	Neumayer Olymp	84.52	177	⇓i	P	07 42 28.2	+1.3
VNA2	Neumayer--Watz	84.94	178	⇑i	P	07 42 29.7	+0.8
NVAR	Mina Array Bea	85.12	44	P	P	07 42 31.0	+0.4
	0.6nm,0.7s,mb3.4,baz=228,slow=10,SNR=6.8						
TXAR	Lajitas Array	90.76	58	P	P	07 42 58.0	+0.7
	1.0nm,0.6s,mb3.9,baz=212,slow=6.7,SNR=17						
ILAR	Eielson Array	92.42	14	P	P	07 43 03.1	-0.9
	0.2nm,0.7s,mb3.2,baz=212,slow=5.4,SNR=5.0						
PDAR	Pinedale Array	93.06	44	P	P	07 43 08.1	+0.5
	0.2nm,0.6s,mb3.3,baz=180,slow=1.5,SNR=3.7						
ARCES	ARCESS Array B	132.21	348	PKP	PKPdf	07 49 02.9	+0.1
	0.7nm,0.5s,baz=90,slow=1.2,SNR=6.3						
FINES	FINESS Array B	138.74	341	PKhKP		07 49 08.0	
	1.2nm,0.9s,baz=72,slow=6.0,SNR=4.9						
FINES				PKP	PKPdf	07 49 16.4	+1.5
	0.5nm,0.5s,baz=90,slow=3.8,SNR=5.2						
FINES				SKP		07 52 02.3	
	0.6nm,0.5s,baz=90,slow=1.9,SNR=4.7						
FINES	FINESS Array B	138.74	341	PKP	PKPdf	07 49 08.0	-7.0
FINES				PKP	PKPdf	07 49 16.4	+1.5
FINES				SKP		07 52 02.3	
AKASG	Malin Array Be	145.19	327	PKPbc	PKPbc	07 49 27.6	+0.1
	0.3nm,0.3s,baz=42,slow=3.8,SNR=5.1						
BRTR	Keskin Array B	147.67	307	PKPbc	PKPdf	07 49 35.0	+4.1
	0.8nm,0.8s,baz=135,slow=4.1,SNR=2.7						

*NEIC **02** 07:57:51.7±3.3, 17.83S×178.31W, h585km±37km, mb4.1/9, Error ellipse: s-maj=20.9km s-min=16.6km az=146.0*
*IDC **02** 07:57:53.2±2.3, 17.84S×178.31W, h602km±25km, mb3.4/10, mb1 3.6/10, mb1mx3.5/15, Error ellipse: s-maj=49.0km s-min=12.1km az=152.0*
ISC 02 07:57:52.0±3.2**, 17.9S**±0.2×**178.4W**±0.1**, h604**km±40km**, n30, σ0^{s}95**/24**, mb3.9**/18**, 2C-3D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTAO	Charters Tower	33.48	260	eP	P	08 03 44.5	+0.2
	5.2nm,0.8s,mb4.2						
PMG	Port Moresby	34.48	280	P	P	08 03 54.4	+1.7
	14nm,0.7s,mb4.7,baz=83,slow=2.2,SNR=6.5						
STKA	Stephens Creek	38.67	241	⇑iP	P	08 04 27.9	+1.0
	5.2nm,1.0s,mb4.0						
STKA	Stephens Creek	38.67	241	P	P	08 04 27.9	+1.0
	5.8nm,0.7s,mb4.2,baz=100,slow=6.6,SNR=12						
WB2	Warramunga Arr	44.65	259	⇓iP	P	08 05 13.5	-0.8
WRAB	Tennant Creek	44.66	260	eP	P	08 05 13.7	-0.6
	8.3nm,0.6s,mb4.4						
WRA	Warramunga Arr	44.66	259	P	P	08 05 13.9	-0.5
	4.6nm,0.5s,mb4.3,baz=95,slow=7.2,SNR=166						
ASAR	Alice Springs	44.83	254	P	P	08 05 15.5	-0.1
	26nm,0.6s,mb5.0,baz=88,slow=8.5,SNR=550						
ASAR				PcP	PcP	08 06 43.9	-0.5
	1.3nm,0.7s,baz=106,slow=3.5,SNR=5.3						
ASAR				ScP		08 09 41.0	
	0.4nm,0.5s,baz=88,slow=8.3,SNR=7.7						
ASAR				S	S	08 11 10.7	0.0
	0.8nm,0.9s,baz=89,slow=15,SNR=5.2						
ASPA	Alice Springs	44.83	254	⇓iP	P	08 05 15.4	-0.2
KAKA	Kakadu	47.65	269	⇑iP	P	08 05 41.2	+4.1
	7.6nm,0.4s,mb4.6						
FORT	Forrest	50.05	245	⇓iP	P	08 05 53.5	-1.2
	24nm,0.5s,mb4.9						
FITZ	Fitzroy Crossi	53.06	261	eP	P	08 06 16.3	-0.1
	2.5nm,1.0s,mb3.5						
MBWA	Marble Bar	58.11	256	eP	P	08 06 50.5	-0.7
	4.9nm,0.7s,mb3.8						
SBA	Scott Base	60.46	184	eP	P	08 07 06.1	+0.1
	1.4nm,0.8s,mb3.2						
QSPA	South Pole Qui	72.18	180	eP	P	08 08 17.9	+0.1
	3.3nm,0.8s,mb3.9						
YBH	Yreka Blue Hor	78.48	39	P	P	08 08 53.4	+0.4
	0.9nm,0.8s,mb3.2,baz=326,slow=2.5,SNR=3.1						
NVAR	Mina Array Bea	79.38	44	P	P	08 08 58.0	+0.1
	0.7nm,0.7s,mb3.1,baz=223,slow=7.6,SNR=7.4						
ILAR	Eielson Array	85.84	13	P	P	08 09 27.7	-1.8
	0.5nm,0.5s,mb3.5,baz=225,slow=5.2,SNR=14						
TXAR	Lajitas Array	85.95	58	P	P	08 09 31.0	+0.1
	0.4nm,0.7s,mb3.2,baz=224,slow=5.8,SNR=5.5						
PDAR	Pinedale Array	87.31	43	P	P	08 09 36.8	-0.1
	0.6nm,0.7s,mb3.4,baz=234,slow=2.8,SNR=5.4						
CMAR	Chiang Mai Arr	88.90	290	P	P	08 09 47.0	+2.1
	1.0nm,0.5s,mb3.9,baz=88,slow=3.7,SNR=5.1						
VNA3	Neumayer Olymp	90.78	176	e	P	08 09 53.6	+1.2
VNA2	Neumayer--Watz	91.22	177	e	P	08 09 51.0	-3.4
MKAR	Makanchi Array	109.13	314	PKiKP		08 15 14.4	
	0.4nm,0.5s,baz=205,slow=3.1,SNR=2.9						
ARCES	ARCESS Array B	126.28	350	PKP	PKPdf	08 15 47.4	+1.0
	1.2nm,0.7s,baz=53,slow=6.1,SNR=4.6						
BRTR	Keskin Array B	144.78	315	PKP	PKPdf	08 16 23.3	+2.3
	2.5nm,0.8s,baz=135,slow=3.5,SNR=9.0						
CLL	Collm	145.43	347	i PKP1	PKPbc	08 16 24.5	+1.5
BRG	Berggiesshubel	145.64	346	i P	PKPdf	08 16 25.5	+3.4
KHC	Kasperske Hory	147.35	345	eP	PKPdf	08 16 30.0	+4.9
GERES	GERESS Array B	147.58	345	PKPbc	PKPdf	08 16 30.6	+5.2
	1.8nm,0.5s,baz=29,slow=3.1,SNR=20						

*ATH **02** 08:09:09.4, 38.89N×25.48E, h10km±4km, MD3.6/15, ML3.5*
*ISK **02** 08:09:09.1, 38.91N×25.60E, h10km, MD3.5*
*NEIC **02** 08:09:10.3, 38.94N×25.57E, h25km, ML3.6(ATH), After ATH.*
*CSEM **02** 08:09:10.2±0.1, 38.91N×25.67E, h15km, ML3.6, Error ellipse: s-maj=1.5km s-min=1.2km az=146.0*
*THE **02** 08:09:13.4, 38.86N×25.45E, h20km, ML3.3*
ISC 02 08:09:09.3±0.7**, 38.92N**±0.02×**25.51E**±0.02**, h6**km±6km**, n53, σ1^{s}18**/68**, 1C, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	Paraskevi	0.68	61	ePB	Pb	08 09 23.1	+0.1
PRK				eSB	Sb	08 09 31.9	-0.4
AYVA	Ayvalik	1.00	67	i P	Pb	08 09 29.7	+1.2
AYVA				i S	Sb	08 09 43.8	+2.2
LIA	Limnos Island	1.00	346	⇑iPN	Pn	08 09 29.8	+0.1
LIA				eSB	Sb	08 09 43.8	+1.9
BOZC	Bozcaada	1.01	25	⇑iP	Pb	08 09 29.2	+0.5
BOZC				i S	Sb	08 09 43.5	+1.5
LOS	Limnos	1.06	342	ePg	Pg	08 09 31.7	+1.2
LOS				eSg	Sg	08 09 47.6	+2.9
EZN	Ezine	1.10	35	PG	Pg	08 09 30.6	-0.7
EZN				SG	Sg	08 09 45.3	-0.7
IZM	Izmir	1.47	110	PN	Pn	08 09 35.2	-1.2
KDAG	Bornova	1.47	110	i P	Pn	08 09 36.9	+0.5
KDAG				i S	Sb	08 09 57.8	+2.3
PTL	Penteli	1.56	236	ePG	Pg	08 09 38.5	-1.9
MPAR	Parnis Oros	1.59	242	ePB	Pb	08 09 39.2	+0.5
SMG	Samos	1.60	139	ePB	Pb	08 09 39.2	+0.4
ATH	Athens Observa	1.70	237	ePB	Pb	08 09 41.5	+1.0
PAIG	Paliouri	1.74	306	ePb	Pb	08 09 41.4	+0.2
PAIG				eSb	Sb	08 10 02.3	-0.8
LPK	Lapseki	1.74	33	PN	Pn	08 09 39.9	-0.3
AKS	Akhisar	1.80	91	PN	Pn	08 09 40.2	-0.9
AKS				SN	Sn	08 10 02.8	-1.6
NEO	Neokhori	1.82	283	ePN	Pn	08 09 38.8	-2.6
OUR	Ouranopolis	1.84	321	ePb	Pb	08 09 42.6	-0.3
	comp=Z,6.0nm,0.5s						
APE	Apeiranthos	1.85	179	PN	Pn	08 09 41.4	-0.4
APE	Apeiranthos	1.85	179	ePN	Pn	08 09 42.8	+1.0
XOR	Xorichti	1.85	285	ePb	Pb	08 09 42.6	-0.6
NSAL	Nisos Salamina	1.90	238	ePN	Pn	08 09 43.5	+1.0
MKIT	Kithairon Oros	1.91	248	ePN	Pn	08 09 43.5	+0.8
NAIG	Nisos Aigina	1.97	234	ePN	Pn	08 09 44.0	+0.5
LKR	Lokris	1.98	263	ePN	Pn	08 09 44.4	+0.7
BTOK	Tokmak	2.13	66	i P	Pn	08 09 52.8	+7.0
BTOK				i S	Sn	08 10 18.0	+5.2
PLG	Polygyros	2.15	313	ePG	Pg	08 09 48.8	-3.5
RDO	Rodhopi	2.22	1	ePN	Pn	08 09 46.8	-0.3
AYDN	Tasoluk	2.25	123	i P	Pn	08 09 49.7	+2.2
MFT	Murefte	2.31	36	PN	Pn	08 09 48.2	-0.2
EDC	Edincik	2.31	51	PN	Pn	08 09 47.7	-0.7
BNT	Bandirma	2.35	52	PN	Pn	08 09 47.7	-1.2
BDRM	Kayabasi	2.40	140	i P	Pn	08 09 51.2	+1.4
BDRM				i S	Sn	08 10 29.5	+10
MLSB	Milas	2.42	132	PN	Pn	08 09 49.2	-0.7
MANT	Manisa	2.42	99	i P	Pn	08 09 51.5	+1.4
MANT				i S	Sn	08 10 27.9	+7.5
AGG	Agios Georgios	2.48	273	ePn	Pn	08 09 50.8	0.0
DST	Dursunbey	2.52	73	PN	Pn	08 09 50.6	-0.7
KCT	Karacabey	2.58	58	PN	Pn	08 09 51.3	-0.9
LIT	Litokhoron	2.62	298	ePn	Pn	08 09 54.3	+1.5
LIT				eSn	Sn	08 10 24.4	-0.8
NVR	Nevrokopi	2.73	333	ePB	Pb	08 09 54.8	-3.4
ORLT	Orhaneli	2.85	66	PN	Pn	08 09 54.9	-1.2
EVR	Evrytania	2.89	271	ePB	Pb	08 09 58.4	-2.4
VLI	Veliai	3.00	224	ePN	Pn	08 09 58.7	+0.5
DNZL	Cakiroluk	3.04	113	i P	Pn	08 10 02.3	+3.5
DNZL				i S	Sn	08 10 49.8	+14
ULDT	Uludag	3.06	65	i P	Pn	08 10 08.2	+9.1
ULDT				i S	Sn	08 10 46.5	+10
EDRB	Edirne	3.07	18	PN	Pn	08 09 59.1	-0.1
GRG	Griva	3.13	311	ePn	Pn	08 10 00.6	+0.4
CTT	Catalca	3.16	44	PN	Pn	08 09 59.3	-1.2
KYTH	Kithira	3.29	217	ePN	Pn	08 10 03.0	+0.7
BADT	Buyukada	3.38	54	PN	Pn	08 10 02.3	-1.3
YLV	Yalova	3.40	60	PN	Pn	08 10 03.2	-0.7
VAM	Vamos	3.66	197	ePB	Pb	08 10 12.0	-2.1
ESKT	Eskisehir	4.19	80	PN	Pn	08 10 13.8	-1.4
SGKT	Sivrigoynuk	5.31	70	i P	Pn	08 10 31.4	+0.4

IDC 02 08:20:40.1±7.6**, 17.02S×177.76W, mb3.7**/3**, mb1 4.0**/3**, mb1mx3.7**/13**, Error ellipse: s-maj=334.0km s-min=38.0km az=142.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	45.40	259	P	P	08 29 00.7	-1.8
	0.3nm,0.4s,baz=93,slow=7.3,SNR=2.3						
ASAR	Alice Springs	45.63	253	P	P	08 29 02.5	-1.8
	0.7nm,0.4s,baz=88,slow=8.3,SNR=26						
ILAR	Eielson Array	84.89	13	P	P	08 33 16.4	-1.2
	0.6nm,1.1s,baz=221,slow=5.5,SNR=4.4						

*IDC **02** 08:29:52.2±2.5, 27.87N×127.74E, mb3.7/3, mb1 3.8/3, mb1mx3.6/22, MS3.4/2, Ms1 3.5/2, ms1mx2.8/27, Error ellipse: s-maj=173.0km s-min=16.2km az=60.0*
*JMA **02** 08:29:52.9±0.2, 28.08N×128.04E, h16km±3km, M3.3*
ISC 02 08:29:53.4±1.5**, 28.07N**±0.06×**128.05E**±0.07**, h23**km±11km**, n11, σ0^{s}38**/14**, mb3.6**/3**, MS3.9**/1**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	Tokunoshima	0.84	109	P	Pb	08 30 09.0	-0.2
JTK				S	Sb	08 30 20.1	0.0
JIH	Iheya	1.03	184	P	Pb	08 30 12.0	-0.5
JIH				S	Sb	08 30 26.2	+0.5
JOW	Kunigami	1.25	171	Pn	Pn	08 30 15.6	-0.2
	116nm,0.3s,baz=351,slow=16,SNR=124						
JOW				Sn	Sn	08 30 32.1	+0.2
	84nm,0.3s,baz=173,slow=23,SNR=10.0						
JOW	Kunigami	1.25	171	P	Pn	08 30 15.5	-0.2
JOW				S	Sb	08 30 32.0	+0.1
JAM	Amami Oshima	1.41	76	P	Pn	08 30 18.4	+0.4
JAM				S	Sn	08 30 36.1	+0.1
JZK	Kikaishima	1.71	81	P	Pn	08 30 27.2	+4.9
ASAJ	Asahikawa	19.81	32	LR	LR	08 43 05.6	
	comp=Z,38nm,18.0s,baz=249,slow=39						
SONM	Songino Array	25.94	325	P	P	08 35 25.9	+0.2
	0.8nm,0.9s,mb3.3,baz=141,slow=9.2,SNR=2.9						
MKAR	Makanchi Array	40.21	310	P	P	08 37 30.1	+0.3
	1.2nm,0.7s,mb3.7,baz=108,slow=9.1,SNR=5.2						
WRA	Warramunga Arr	48.12	172	P	P	08 38 32.9	-0.8
	0.7nm,0.7s,mb3.8,baz=349,slow=8.9,SNR=4.6						
NOA	NORSAR Array B	77.60	334	LR	LR	09 19 29.2	
	comp=Z,54nm,18.9s,MS3.9,baz=255,slow=38						

*PRU **02** 08:33:14.5, 51.44N×16.07E*
*WAR **02** 08:33:14.2, 51.49N×16.09E, ML2.6, Mining Induced*
ISC 02 08:33:13.2±1.5**, 51.42N**±0.07×**15.94E**±0.07**, n8, σ0^{s}86**/13**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.62	159	ePG	Pg	08 33 26.0	+0.5
KSP				eSG	Sg	08 33 35.0	+1.2
UPC	Upice	0.91	177	ePG	Pg	08 33 32.1	+0.7
DPC	Dobruska-Polom	1.10	167	ePG	Pg	08 33 35.0	-0.1
DPC				eSG	Sg	08 33 49.8	+0.1
PVCC	Panska Ves	1.25	225	ePG	Pg	08 33 39.8	+1.7
PRU	Pruhonice	1.69	212	ePG	Pg	08 33 46.6	-0.3
PRU				i x	x	08 33 51.4	
PRU				eSG	Sg	08 34 08.9	-0.5
	11nm,0.7s						
CLL	Collm	1.85	268	i PG	Pg	08 33 49.6	-0.5
CLL				eSG	Sg	08 34 15.0	+0.3
OKC	Ostrava-Krasne	2.12	138	eSG	Sg	08 34 22.3	-1.3
KHC	Kasperske Hory	2.75	214	ePG	Pg	08 34 06.6	-1.4
KHC				ex	x	08 34 30.5	
KHC				eSG	Sg	08 34 44.3	-0.4

*IDC **02** 08:34:34.1±4.4, 4.09S×129.07E, h198km±41km, mb3.4/2, mb1 3.5/4, mb1mx3.2/16, Error ellipse: s-maj=92.1km s-min=15.5km az=72.0*
*NEIC **02** 08:34:35.5±4.3, 4.22S×128.86E, h210km±43km, mb4.0/2, Error ellipse: s-maj=55.8km s-min=28.1km az=62.0*
ISC 02 08:34:25.8±2.9**, 3.9S**±0.2×**129.3E**±0.4**, h130**km±28km**, n8, σ0^{s}96**/10**, mb3.6**/1**, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	9.28	161	eP	P	08 36 43.8	+6.2
	4.0nm,0.6s						
FITZ	Fitzroy Crossi	14.56	194	P	P	08 37 46.6	-0.1
	0.1nm,0.3s,baz=45,slow=13,SNR=2.6						
WRAB	Tennant Creek	16.70	163	eP	P	08 38 13.0	-0.5
	3.6nm,0.3s						
WRA	Warramunga Arr	16.70	163	P	P	08 38 13.3	-0.2
	0.8nm,0.3s,baz=346,slow=12,SNR=52						
WRA				S	S	08 41 12.0	-1.7
	0.1nm,0.3s,baz=344,slow=24,SNR=2.8						
WB2	Warramunga Arr	16.70	163	eP	P	08 38 14.1	+0.5
ASAR	Alice Springs	20.16	168	P	P	08 38 53.1	+1.1
	3.5nm,0.4s,baz=342,slow=11,SNR=34						
ASAR				S	S	08 42 26.8	+0.8
	0.2nm,0.5s,baz=353,slow=24,SNR=3.9						
ASPA	Alice Springs	20.16	168	eP	P	08 38 53.4	+1.4
MKAR	Makanchi Array	65.24	326	P	P	08 44 54.8	-1.0
	0.3nm,0.3s,mb3.6,baz=123,slow=7.8,SNR=4.8						

*BER **02** 08:35:40.7±3.5, 67.81N×20.20E, ML1.3, Suspected explosion*
HEL 02 08:35:41.3±0.1**, 67.85N×20.13E, ML1.5**(BER)**, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIF	Kilpisjarvi	1.19	12	eP	Pb	08 36 02.9	-1.4
KIF				eS	Sb	08 36 18.9	-1.2
KTK1	Kautokeino	1.64	43	eP	Pn	08 36 10.7	-0.8
KTK1				eS	Sb	08 36 31.2	-2.0
KTK1				AML	AML	08 36 35.4	
	comp=Z,6.0nm,0.3s						
TRO	Tromso	1.84	347	eP	Pn	08 36 12.6	-1.9
TRO				eSN	Sn	08 36 38.6	-0.3
TRO				AML	AML	08 36 41.0	
	comp=Z,2.7nm,0.3s						
SGF	Sodankyl	2.48	97	eP	Pn	08 36 22.9	-0.6
SGF				eS	Sn	08 36 53.1	-1.9
LOF	Lofoten	2.50	280	eSG	Sg	08 37 01.7	-2.8
LOF				AML	AML	08 37 02.5	
	comp=Z,3.1nm,0.4s						
MELS	Mels	2.67	251	eSg	Sg	08 37 03.0	-7.2
MOR8	Moi Rana	2.80	236	eSG	Sg	08 37 02.2	-12
MOR8				AML	AML	08 37 06.0	
	comp=Z,5.9nm,0.4s						
KEV	Kevo	3.15	49	eP	Pn	08 36 29.7	-3.4
KEV				eS	Sn	08 37 09.5	-2.4

*NEIC **02** 08:37:01.8±1.2, 14.28N×144.50E, h181km±8km, mb4.1/2, Error ellipse: s-maj=42.2km s-min=15.6km az=107.0*
*IDC **02** 08:37:13.1±24.0, 14.11N×144.65E, h295km±257km, mb3.2/6, mb1 3.4/6, mb1mx3.2/21, Error ellipse: s-maj=66.3km s-min=38.7km az=130.0*
ISC 02 08:36:59.9±1.6**, 14.2N**±0.2×**144.6E**±0.4**, h177**km±9km**, n11, σ0^{s}94**/12**, mb3.8**/8**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	0.70	158	eP	P	08 37 28.1	+2.5
GUMO				eS	S	08 37 44.0	-1.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	23.63	174	P	P	08 41 56.9	+0.7
	8.1nm,0.6s,mb4.5						
CTA	Charters Tower	34.15	177	P	P	08 43 30.4	+0.2
	1.7nm,0.7s,mb3.9,baz=18,slow=8.1,SNR=3.7						
CTAO	Charters Tower	34.15	177	eP	P	08 43 30.8	+0.7
	2.4nm,0.7s,mb4.0						
WRAB	Tennant Creek	35.42	197	eP	P	08 43 40.5	-0.4
	3.9nm,0.8s,mb4.1						
WRA	Warramunga Arr	35.44	197	P	P	08 43 40.8	-0.2
	1.7nm,0.7s,mb3.8,baz=20,slow=9.7,SNR=20						
FITZ	Fitzroy Crossi	37.18	211	P	P	08 43 55.7	+0.1
	4.0nm,1.1s,mb4.0,baz=49,slow=9.3,SNR=4.0						
ASAR	Alice Springs	39.10	196	P	P	08 44 11.8	+0.2
	0.3nm,0.6s,mb3.1,baz=16,slow=9.2,SNR=5.5						
STKA	Stephens Creek	45.94	184	P	P	08 45 06.0	-0.9
	1.8nm,0.5s,mb4.0,baz=0.8,slow=11,SNR=7.1						
STKA	Stephens Creek	45.94	184	P	P	08 45 06.0	-0.9
ILAR	Eielson Array	68.09	25	P	P	08 47 41.8	-0.4
	0.6nm,1.0s,mb3.3,baz=267,slow=6.1,SNR=5.9						

*ISK **02** 08:40:17.2, 38.12N×42.94E, h8^{km}, MD3.6*
*CSEM **02** 08:40:17.3±0.2, 38.13N×43.04E, h20^{km}, MD3.6, Error ellipse: s-maj=7.2km s-min=2.3km az=151.0*
ISC 02 08:40:19.0±1.0**, 38.12N**±0.07×**43.05E**±0.10**, h19**^{km}±10^{km}**, n19, σ1^{s}37**/27**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VANT	Van	0.42	40	i PG	Pb	08 40 25.5	-2.1
TVAN	Van	0.49	35	i P	Pb	08 40 28.4	-0.4
TVAN				i S	Sb	08 40 37.3	+1.7
VANB	Van	0.54	30	i PG	Pb	08 40 29.0	-0.7
BTMT	Batman	1.23	274	PN	Pn	08 40 42.1	+0.8
BEST	Besiri	1.42	261	i P	Pn	08 40 45.0	+1.0
BEST				i S	Sn	08 41 04.7	+2.3
VRT	Varto	1.56	311	i PN	Pn	08 40 44.3	-1.7
BINT	Bingol	2.14	291	PN	Pn	08 40 53.3	-1.1
BINT				eSN	Sn	08 41 19.2	-1.5
ERZM	Erzurum	2.21	324	i P	Pn	08 40 56.5	+1.2
ERZM				i S	Sn	08 41 22.8	+0.4
EZM	Erzurum	2.21	324	PN	Pn	08 40 55.3	-0.1
EZM				SN	Sn	08 41 22.0	-0.4
DIY	Diyarbakir	2.24	265	PN	Pn	08 40 54.7	-1.0
GNI	Garni	2.42	33	PN	Pn	08 40 58.9	+0.6
KARS	Kars	2.49	1	PN	Pn	08 40 59.7	+0.4
EZC	Erzincan	3.00	304	PN	Pn	08 41 10.4	+3.8
ELZG	Elazig	3.22	278	i P	Pn	08 41 09.5	-0.2
ELZG				i S	Sn	08 41 56.1	+8.2
KELT	Kelkit	3.58	306	i P	Pn	08 41 24.3	+10
MYA	Malataya	3.65	275	PN	Pn	08 41 14.4	-1.3
GZT	Gaziantep	4.41	262	i P	Pb	08 41 34.9	-0.8
GZT				i S	Sn	08 42 38.9	+21
KAHT	Ahir Dag	4.91	266	i P	Pb	08 41 41.6	-2.5
KAHT				i S	Sn	08 42 56.1	+25
COBT	Iskenderun	5.64	256	i P	Pb	08 42 02.7	+6.1
COBT				i S	Sb	08 43 09.3	+4.8

*IDC **02** 09:37:01.7±4.8, 1.48S×136.75E, h68^{km}±48^{km}, mb3.4/4, mb1 3.6/6, mb1mx3.5/15, ML3.9/2, MS3.0/3, Ms1 3.0/3, ms1mx2.8/18, Error ellipse: s-maj=56.0km s-min=21.7km az=81.0*
NEIC 02 09:37:01.7±7.2**, 1.64S×136.38E, h59**^{km}±64^{km}**, mb3.8**/3**, 1D, Error ellipse: s-maj=47.7km s-min=27.0km az=63.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	11.68	200	⇓iP	P	09 39 48.0	+0.1
	4.8nm,0.4s						
KAKA				eS	S	09 41 54.8	-2.7
WRAB	Tennant Creek	18.29	186	eP	P	09 41 11.0	-2.0
	2.5nm,0.5s						
WB2	Warramunga Arr	18.30	186	eP	P	09 41 09.6	-3.5
WB2				eS	S	09 44 22.5	-9.4
WRA	Warramunga Arr	18.30	186	P	P	09 41 07.4	-5.7
	0.4nm,0.3s,baz=8.5,slow=12,SNR=27						
WRA				S	S	09 44 23.1	-8.8
	0.1nm,0.3s,baz=8.4,slow=22,SNR=4.6						
WRA				LR	LR	09 49 07.0	
	comp=Z,84nm,19.5s,baz=10.0,slow=39						
FITZ	Fitzroy Crossi	19.46	212	eP	P	09 41 29.5	+3.1
	2.5nm,0.9s						
FITZ	Fitzroy Crossi	19.46	212	P	P	09 41 27.8	+1.4
	0.3nm,0.3s,baz=14,slow=7.0,SNR=6.1						
FITZ				S	S	09 44 53.0	-4.6
	0.1nm,0.3s,baz=214,slow=21,SNR=2.2						
FITZ				LR	LR	09 48 58.6	
	comp=Z,38nm,20.9s,baz=167,slow=36						
CTA	Charters Tower	20.72	153	P	P	09 41 37.6	-2.0
	3.0nm,0.9s,baz=350,slow=18,SNR=2.3						
CTA				LR	LR	09 50 46.8	
	comp=Z,38nm,19.6s,baz=239,slow=40						
ASAR	Alice Springs	22.03	186	P	P	09 41 52.0	-0.7
	2.3nm,0.5s,baz=15,slow=11,SNR=49						
ASAR				S	S	09 45 54.7	+7.8
	0.2nm,0.8s,baz=3.5,slow=30,SNR=2.5						
ASPA	Alice Springs	22.03	186	eP	P	09 41 52.3	-0.4
STKA	Stephens Creek	30.48	171	P	P	09 43 08.5	-2.8
	0.7nm,0.5s,baz=350,slow=12,SNR=3.8						
MKAR	Makanchi Array	67.53	323	P	P	09 47 51.6	-2.3
	0.2nm,0.5s,baz=117,slow=6.4,SNR=3.2						
QSPA	South Pole Qui	88.30	180	P	P	09 49 46.8	-0.6
	3.5nm,1.0s						

*STR **02** 09:40:12.4±0.2, 42.40N×0.46E, h10^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **02** 09:40:12.2±0.1, 42.37N×0.46E, h3^{km}, Md2.5/1, Ml2.4/6*
*CSEM **02** 09:40:13.0±0.1, 42.42N×0.46E, h2^{km}±1^{km}, ML2.5/5, Error ellipse: s-maj=1.8km s-min=1.7km az=35.0*
ISC 02 09:40:11.6±0.5**, 42.41N**±0.02×**0.48E**±0.04**, h12**^{km}±4^{km}**, n20, σ1^{s}07**/34**, Pyrenees**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EGRA	Graus	0.25	210	Pg	Pg	09 40 16.6	-0.4
	SNR=7.9						
EGRA				Lg		09 40 19.8	
	27nm,0.1s,SNR=7.9						
RESF	Ens	0.41	345	Pg	Pg	09 40 20.7	+0.6
RESF				Sg	Sg	09 40 26.8	+1.0
MELF	Melles	0.50	24	Pg	Pg	09 40 22.5	+0.6
MELF				Sg	Sg	09 40 29.9	+1.1
VIEF	Viey	0.58	324	Pg	Pg	09 40 23.4	0.0
VIEF				Sg	Sg	09 40 32.1	+0.8
SALF	Salau	0.63	56	Pg	Pg	09 40 25.0	+0.7
EPF	Esparros	0.63	350	ePg	Pg	09 40 24.7	+0.4
EPF				eSg	Sg	09 40 33.7	+0.8
	27nm,0.3s						
LABF	Labassere	0.70	335	Pg	Pg	09 40 26.0	+0.2
LABF				Sg	Sg	09 40 36.0	+0.6
ETSF	Etsaut	0.91	303	ePg	Pg	09 40 29.7	-0.2
ETSF				eSg	Sg	09 40 40.9	-1.3
ETSF				eSn	Sn	09 40 43.6	+0.5
	9.7nm,0.2s						
EMIR	Miracle	0.92	122	Pg	Pg	09 40 30.2	+0.1
	2.2nm,0.3s,SNR=12						
ESAC	San Caprasio	0.99	226	Pg	Pg	09 40 32.5	+1.0
	SNR=7.9						
EPOB	Poblet	1.15	157	Pg	Pg	09 40 33.4	-1.2
	SNR=7.9						
SJPF	Ste Jean	1.44	300	ePg	Pg	09 40 39.3	-1.2
SJPF				eSg	Sg	09 40 58.0	-1.7
	7.7nm,0.2s						
MTLF	Montolieu	1.58	53	ePg	Pg	09 40 42.2	-1.0
MTLF				eSg	Sg	09 41 04.2	0.0
	7.1nm,0.3s						
EALK	Alkurruntz	1.67	300	Pn	Pn	09 40 44.5	+3.5
	SNR=7.9						
EJON	La Jonquera	1.78	88	Pn	Pn	09 40 46.2	+3.7
	SNR=7.9						
EJON				Sn	Sn	09 41 10.0	+4.8
	SNR=7.9						
EMOS	Mosqueruela	2.17	200	Pg	Pg	09 40 53.1	-1.8
	SNR=7.9						
EMOS				Sn	Sn	09 41 16.6	+1.6
	SNR=7.9						
ETOR	Torete	2.48	231	Sn	Sn	09 41 24.1	+1.1
	SNR=7.9						
LFF	La Frestale	2.54	4	ePn	Pn	09 40 52.9	-0.4
LFF				eSn	Sn	09 41 22.9	-1.4
LFF				eSg	Sg	09 41 32.5	-3.6
	12nm,0.5s						
CAF	Calviac	2.76	24	ePn	Pn	09 40 56.2	-0.3
CAF				eSn	Sn	09 41 28.6	-1.5
	3.6nm,0.3s						
LASF	Ste Croix	2.97	55	eSg	Sg	09 41 46.6	-4.1
	1.0nm,0.3s						

*NEIC **02** 10:06:20.1, 32.67S×71.71W, h26^{km}, ML3.2(GUC), After GUC.*
GUC 02 10:06:20.1±0.7**, 32.67S×71.71W, h26**^{km}±6^{km}**, MD3.7, ML3.2, 6C-5D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.36	171	⇓iP	Pb	10 06 28.1	-0.1
IHA				i S	Sb	10 06 33.8	+0.1
LCCH	Las Cruces	0.82	172	eP	Pb	10 06 34.8	-0.8
LCCH				i S	Sb	10 06 45.3	-0.9
JACH	Jahuel	0.94	91	⇑iP	Pb	10 06 37.0	-0.7
JACH				i S	Sb	10 06 49.9	+0.1
PEL	Peldehue	0.98	119	i P	Pn	10 06 38.0	-0.4
PEL				i S	Sb	10 06 51.3	+0.3
RCDM	Rinconada Maip	1.12	138	eP	Pn	10 06 39.6	-0.7
RCDM				i S	Sb	10 06 54.7	-0.1
RCDM				AMP		10 06 56.0	
	comp=E,833nm,0.1s						
TACH	Talagante	1.18	147	⇓iP	Pn	10 06 40.8	-0.3
TACH				i S	Sn	10 06 56.0	-0.5
STL	Santa Lucia	1.18	131	i P	Pn	10 06 40.9	-0.3
STL				i S	Sn	10 06 56.4	-0.1
STL				AMP		10 06 57.5	
	comp=N,293nm,0.3s						
DSCH	Colegio Aleman	1.20	128	⇑iP	Pn	10 06 41.1	-0.4
DSCH				i S	Sn	10 06 57.3	+0.1
DSCH				AMP		10 06 58.2	
	comp=E,1μm,0.4s						
CLCH	Cerro Calan	1.23	127	⇑iP	Pn	10 06 41.5	-0.3
CLCH				i S	Sn	10 06 57.8	+0.2
CLCH				AMP		10 06 59.5	
	comp=N,777nm,0.4s						
CLCH				AMP		10 07 04.4	
	comp=E,657nm,0.4s						
ANTU	Antumapu	1.27	135	i P	Pn	10 06 42.8	+0.2
ANTU				i S	Sn	10 06 59.0	+0.1
ANTU				AMP		10 07 02.0	
	comp=N,683nm,0.3s						
FSR	Penalolen	1.28	130	⇑iP	Pn	10 06 42.7	+0.1
FSR				i S	Sn	10 06 59.5	+0.5
FSR				AMP		10 07 05.4	
	comp=N,520nm,0.4s						
LNV	Longovilo	1.31	169	i P	Pn	10 06 42.5	-0.5
LNV				i S	Sn	10 06 59.4	-0.4
FCH	Farellones	1.36	119	⇓iP	Pn	10 06 43.7	-0.1
FCH				i S	Sn	10 07 01.6	+0.5
FCH				AMP		10 07 02.6	
	comp=E,705nm,0.2s						
PCH	Pirque	1.38	134	eP	Pn	10 06 44.0	0.0
PCH				i S	Sn	10 07 02.7	+1.0
CHCH	Chadas Angostu	1.54	145	eP	Pn	10 06 46.6	+0.3
CHCH				i S	Sn	10 07 07.2	+1.5
CMCH	Combarbala	1.60	22	⇓iP	Pn	10 06 47.7	+0.5
CMCH				i S	Sn	10 07 08.6	+1.3
CMCH				AMP		10 07 14.3	
	comp=N,2μm,0.7s						
CACH	El Canelo	1.72	148	⇓iP	Pn	10 06 50.6	+1.8
CACH				i S	Sn	10 07 13.8	+3.6
LMEL	Las Melosas	1.73	134	⇑iP	Pn	10 06 49.7	+0.8
LMEL				i S	Sn	10 07 12.2	+1.8
LMEL				AMP		10 07 16.9	
	comp=N,717nm,0.2s						
CICH	Cipreses	1.97	147	⇑iP	Pn	10 06 53.3	+0.8
SFDO	San Fernando	2.03	164	i P	Pn	10 06 53.1	-0.2

*NEIC **02** 10:20:30.6±1.6, 18.06S×178.50W, h579^{km}±18^{km}, mb4.1/19, Error ellipse: s-maj=13.2km s-min=7.1km az=154.0*
*IDC **02** 10:20:34.0±1.7, 18.55S×178.35W, h628^{km}±21^{km}, mb3.6/14, mb1 3.8/14, mb1mx3.7/17, Error ellipse: s-maj=15.7km s-min=10.1km az=159.0*
ISC 02 10:20:29.0±2.0**, 18.1S**±0.1×**178.55W**±0.08**, h572**^{km}±25^{km}**, n90, σ0^{s}95**/55**, mb4.2**/29**, 9C, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	20.44	190	P	P	10 24 25.5	-3.6
	9.7nm,0.4s,baz=106,slow=2.8,SNR=13						
URZ				S	S	10 27 33.9	-8.1
	7.9nm,1.0s,baz=54,slow=17,SNR=2.6						
RPZ	Rata Peaks	27.00	197	P	P	10 25 26.6	-1.1
	10nm,0.8s,mb4.5,baz=209,slow=19,SNR=3.1						
PPT	Papeete	27.57	93	P	P	10 25 31.4	-1.5
	13nm,0.8s,mb4.6,baz=236,slow=7.3,SNR=4.7						
CNB	Canberra Magne	33.20	232	eP	P	10 26 22.5	+1.9
	48nm,1.5s,mb4.9						
CTA	Charters Tower	33.28	261	⇑iP	P	10 26 22.2	+0.8
	2.8nm,0.5s,mb4.2						
CTA	Charters Tower	33.28	261	P	P	10 26 22.1	+0.6
	4.2nm,0.7s,mb4.2,baz=90,slow=10,SNR=12						
CTAO	Charters Tower	33.28	261	eP	P	10 26 22.3	+0.8
	4.1nm,0.7s,mb4.2						
PMG	Port Moresby	34.36	280	P	P	10 26 35.0	+4.6
	4.0nm,0.6s,mb4.2,baz=277,slow=20,SNR=2.4						
TOO	Toolangi	36.95	231	eP	P	10 26 53.4	+1.9
	2.9nm,0.5s,mb4.1						
STKA	Stephens Creek	38.42	241	⇑iP	P	10 27 05.1	+1.4
	4.5nm,0.6s,mb4.2						
STKA	Stephens Creek	38.42	241	P	P	10 27 04.8	+1.1
	5.9nm,0.5s,mb4.3,baz=91,slow=10,SNR=31						
WB2	Warramunga Arr	44.46	260	eP	P	10 27 51.2	-0.5
WB2				i		10 29 22.1	
WRAB	Tennant Creek	44.46	260	eP	P	10 27 50.9	-0.9
	3.4nm,0.6s,mb4.0						
WRA	Warramunga Arr	44.47	260	P	P	10 27 51.4	-0.5
	3.4nm,0.8s,mb4.0,baz=96,slow=7.1,SNR=31						
WRA				PcP	PcP	10 29 21.9	-1.2
	1.2nm,0.5s,baz=89,slow=3.7,SNR=8.0						
WRA				S	S	10 33 44.4	-1.9
	0.3nm,0.8s,baz=95,slow=12,SNR=3.1						
ASAR	Alice Springs	44.61	254	P	P	10 27 53.2	+0.4
	19nm,0.6s,mb4.8,baz=88,slow=8.5,SNR=250						
ASAR				PcP	PcP	10 29 22.2	-1.3
	2.2nm,0.5s,baz=101,slow=3.9,SNR=10.0						
ASAR				S	S	10 33 46.3	-1.9
	0.3nm,0.6s,baz=87,slow=14,SNR=4.2						
ASPA	Alice Springs	44.62	254	⇑iP	P	10 27 53.1	+0.2
ASPA				i		10 29 22.3	
KAKA	Kakadu	47.49	269	eP	P	10 28 19.3	+4.4
	3.8nm,0.5s,mb4.2						
FORT	Forrest	49.81	245	⇑iP	P	10 28 31.0	-1.0
	26nm,0.5s,mb4.9						
FITZ	Fitzroy Crossi	52.87	261	eP	P	10 28 54.2	0.0
	3.5nm,1.4s,mb3.5						
MBWA	Marble Bar	57.90	256	eP	P	10 29 28.1	-1.0
	2.2nm,0.4s,mb3.6						
LUBP	Lubang	68.14	293	eP	P	10 30 25.5	-9.0
QSPA	South Pole Qui	71.96	180	eP	P	10 30 55.9	-0.1
	3.6nm,0.8s,mb4.0						
OMM	Old Mammoth Mi	78.75	44	eP	P	10 31 34.2	+0.1
MTUM	Tungsten Hills	78.89	45	eP	P	10 31 35.1	+0.2
NVAR	Mina Array Bea	79.65	44	P	P	10 31 38.9	+0.1
	5.5nm,0.8s,mb3.9,baz=218,slow=7.0,SNR=42						
MNV	Mina	79.75	44	eP	P	10 31 39.2	-0.2
	6.0nm,0.9s,mb3.9						
LDFC	Landfair	80.09	48	eP	P	10 31 41.4	+0.3
MOD	Modoc	80.31	40	eP	P	10 31 41.8	-0.4
	6.2nm,0.7s,mb4.0						
NEN	Nelson	80.56	48	eP	P	10 31 43.2	-0.4
BMN	Battle Mountai	81.44	43	eP	P	10 31 48.0	+0.1
	9.6nm,1.1s,mb4.1						
TUC	Tucson	81.92	52	eP	P	10 31 50.3	-0.3
	9.7nm,1.2s,mb4.2						
MAW	Mawson	83.64	200	P	P	10 31 57.9	-0.5
	2.1nm,0.7s,mb3.8,baz=148,slow=4.7,SNR=8.3						
MVU	Marysvale	83.80	46	eP	P	10 31 59.9	+0.1
	2.3nm,0.9s,mb3.7						
HLID	Hailey	84.86	41	eP	P	10 32 05.0	+0.1
	4.9nm,0.9s,mb4.1						
ILAR	Eielson Array	86.10	13	P	P	10 32 08.7	-1.7
	1.6nm,0.5s,mb3.9,baz=221,slow=4.9,SNR=51						
PV01	Paradox Valley	86.16	48	eP	P	10 32 11.0	-0.3
LTX	Lajitas	86.21	58	eP	P	10 32 12.3	+0.6
	11nm,0.9s,mb4.5						
TXAR	Lajitas Array	86.21	58	P	P	10 32 12.4	+0.7
	7.3nm,0.8s,mb4.4,baz=220,slow=6.1,SNR=91						
ANMO	Albuquerque	86.32	52	eP	P	10 32 11.8	-0.3
	3.5nm,1.0s,mb3.9						
MCMT	McKenzie Canyo	86.47	41	eP	P	10 32 12.9	+0.3
GDL2	Guadalupe Moun	86.79	55	eP	P	10 32 14.5	+0.1
REDW	Red Top Meadow	87.02	43	eP	P	10 32 15.2	0.0
IMW	Indian Meadow	87.22	42	eP	P	10 32 16.3	+0.2
LOHW	Long Hollow	87.30	42	eP	P	10 32 16.3	-0.2
QLMT	Earthquake Lak	87.35	41	eP	P	10 32 17.0	+0.3
YMR	Madison River	87.57	41	eP	P	10 32 18.7	+1.0
PDAR	Pinedale Array	87.58	43	P	P	10 32 17.3	-0.5
	3.6nm,0.7s,mb4.2,baz=227,slow=2.9,SNR=30						
CMAR	Chiang Mai Arr	88.82	290	P	P	10 32 25.7	+1.5
	0.8nm,0.5s,mb3.8,baz=105,slow=2.7,SNR=6.3						
SNAA	Sanae	90.41	179	⇑i	P	10 32 29.0	-1.4
VNA3	Neumayer Olymp	90.56	176	⇑i	P	10 32 32.7	+1.7
VNA2	Neumayer--Watz	91.00	177	⇑i	P	10 32 34.8	+1.7
VNA1	Neumayer--Stat	91.22	177	⇑i	P	10 32 36.9	+2.8
MKAR	Makanchi Array	109.17	314	PKiKP		10 37 53.6	
	0.6nm,0.5s,baz=195,slow=1.1,SNR=4.7						
ARCES	ARCESS Array B	126.48	350	PKP	PKPdf	10 38 26.5	-0.3
	4.3nm,0.8s,baz=29,slow=1.2,SNR=18						
ARCES	ARCESS Array B	126.48	350	PKP	PKPdf	10 38 26.5	-0.3
KAF	Kangasniemi	132.71	344	ep	PKPdf	10 38 36.3	-2.5
	0.5nm,0.4s						
FINES	FINESS Array B	133.34	344	PKP	PKPdf	10 38 40.6	+0.6
	1.0nm,0.6s,baz=63,slow=4.3,SNR=7.2						
NOA	NORSAR Array B	136.55	353	PKP	PKPdf	10 38 46.4	+0.5
	0.9nm,0.8s,baz=122,slow=18,SNR=1.5						
AKASG	Malin Array Be	140.67	332	PKhKP		10 38 47.8	
	1.2nm,0.4s,baz=43,slow=4.2,SNR=5.7						
BRTR	Keskin Array B	144.82	315	PKPbc	PKPbc	10 39 01.8	-0.1
	1.7nm,0.5s,baz=135,slow=3.5,SNR=11						
KOLS	Kolonicke sedl	144.92	336	ePKP	PKPdf	10 39 03.2	+2.2
OKC	Ostrava-Krasne	145.61	341	eP	PKPdf	10 39 03.7	+1.6
CLL	Collm	145.62	347	⇑iPKP1	PKPbc	10 39 04.3	+0.8
UPC	Upice	145.64	343	eP	PKPdf	10 39 04.5	+2.3
DPC	Dobruska-Polom	145.69	343	eP	PKPdf	10 39 05.1	+2.8
PVCC	Panska Ves	145.99	345	eP	PKPdf	10 39 06.0	+3.2
PRU	Pruhonice	146.49	345	eP	PKPdf	10 39 07.1	+3.5
NKC	Novy Kostel	146.75	347	eP	PKPdf	10 39 07.4	+3.3
GRA1	Grafenberg Arr	147.52	348	ePKP	PKPdf	10 39 09.8	+4.5
KHC	Kasperske Hory	147.53	345	eP	PKPdf	10 39 10.1	+4.8
GERES	GERESS Array B	147.76	345	PKPbc	PKPdf	10 39 10.3	+4.6
	3.5nm,0.5s,baz=15,slow=2.7,SNR=23						
GIVF	Givet	147.96	356	ePKP1	PKPdf	10 39 10.3	+4.3
	18nm,0.6s						
BAIF	Baives	148.04	357	ePKP1	PKPdf	10 39 10.7	+4.6
	8.1nm,0.6s						
FLN	La Foliniere	149.38	3	ePKP1	PKPdf	10 39 13.3	+5.0
CDF	Champ du Feu	149.40	352	ePKP1	PKPdf	10 39 13.8	+5.5
	8.1nm,0.6s						
MEZF	Maizieres J'vi	149.53	355	ePKP1	PKPdf	10 39 14.3	+5.8
LDF	La Druitiere	149.56	2	ePKP1	PKPdf	10 39 13.6	+5.0
	31nm,0.9s						
GRR	Gorron	149.73	3	ePKP1	PKPdf	10 39 14.3	+5.5
HINF	Hinteralfeld	150.03	353	ePKP1	PKPdf	10 39 15.1	+5.8
	6.5nm,0.6s						
LOR	Lormes	150.84	357	ePKP1	PKPdf	10 39 17.2	+6.6
	9.5nm,0.6s						
SSF	Saint Saulge	151.07	357	ePKP1	PKPdf	10 39 17.7	+6.8
	14nm,0.7s						
CABF	La Chapelle	151.31	353	ePKP1	PKPdf	10 39 18.7	+7.4
MFF	Saint Martin d	151.55	2	ePKP1	PKPdf	10 39 18.4	+6.8
	15nm,0.8s						
BGF	Bois d'Agland	151.60	358	ePKP1	PKPdf	10 39 18.7	+7.0
TCF	Toulx Ste Croi	151.88	359	ePKP1	PKPdf	10 39 19.3	+7.2
	11nm,1.0s						
LPL	La Plagne	152.31	352	ePKP1	PKPdf	10 39 21.2	+8.5
	4.5nm,0.7s						
LPG	La Plagne	152.33	352	ePKP1	PKPdf	10 39 21.2	+8.5
	14nm,1.1s						
ORIF	Oris-en-Rattie	153.00	353	ePKP1	PKPdf	10 39 22.1	+8.4
	6.7nm,0.9s						
MBDF	Montbardon	153.08	352	ePKP1	PKPdf	10 39 22.9	+9.1
	8.3nm,0.8s						
VIVF	Saint-Julien-l	153.19	355	ePKP1	PKPdf	10 39 22.5	+8.6
	4.2nm,0.7s						

MOS 02 10:24:44.0±3.0**, 50.99N×98.08E, h9**^{km}**, mb4.4**/1**, Error ellipse: s-maj=45.3km s-min=16.5km az=145.0, Tuva-Buryatia-Mongolia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ORL	Orlik	1.89	34	ePN	Pn	10 25 18.1	+1.3
ORL				e		10 25 42.7	
ORL				pmax	pmax		
	comp=Z,57nm,0.4s						
ORL				smax			
	comp=E,310nm,0.9s						
MOY	Mondy	1.95	69	ePN	Pn	10 25 19.5	+1.8
MOY				e		10 25 45.6	
MOY				pmax	pmax		
	comp=Z,103nm,0.3s						
MOY				smax			
	comp=N,572nm,0.7s						
ARS	Arshan	2.87	69	ePN	Pn	10 25 35.8	+4.9
ARS				e		10 26 14.6	
ARS				pmax	pmax		
	comp=Z,85nm,0.9s						
ARS				smax			
	comp=E,739nm,0.8s						
ZAK	Zakamensk	3.36	98	ePN	Pn	10 25 44.0	+6.2
ZAK				e		10 26 28.9	
ZAK				pmax	pmax		
	comp=Z,36nm,1.1s						
ZAK				smax			
	comp=N,173nm,1.1s						
TLY	Talaya	3.56	77	ePN	Pn	10 25 40.0	-0.6
TLY				e		10 25 47.4	
TLY				e		10 26 34.0	
TLY				pmax	pmax		
	comp=Z,21nm,0.5s						
TLY				smax			
	comp=N,174nm,1.2s						
IRK	Irkutsk	4.06	70	ePN	Pn	10 25 56.7	+9.0
IRK				e		10 26 48.8	
IRK				pmax	pmax		
	comp=Z,210nm,0.1s						
IRK				smax			
	comp=N,682nm,0.8s						
LSTR	Listvyanka	4.32	76	ePN	Pn	10 26 00.9	+10
LSTR				e		10 26 57.2	
LSTR				pmax	pmax		
	comp=Z,22nm,3.6s						
LSTR				smax			
	comp=N,112nm,1.3s						
TRG	Tyrgan	5.42	68	ePN	Pn	10 26 05.4	-1.6
TRG				e		10 26 20.9	
TRG				eS	Sn	10 27 06.8	-3.5
TRG				e		10 27 31.1	
TRG				pmax	pmax		
	comp=Z,4.0nm,0.3s						
TRG				smax			
	comp=N,155nm,1.1s						
OGRR	Ongureny	6.41	62	ePN	Pn	10 26 39.2	+18
OGRR				e		10 28 01.1	
OGRR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
OGRR				smax			
	comp=E,57nm,1.0s						

*NEIC **02** 10:40:36.3±1.7, 17.90S×178.64W, h558^{km}±19^{km}, mb4.4/11, Error ellipse: s-maj=14.5km s-min=13.6km az=152.0*
*IDC **02** 10:40:38.9±2.3, 18.02S×178.67W, h587^{km}±27^{km}, mb3.7/11, mb1 3.9/11, mb1mx3.8/16, Error ellipse: s-maj=22.0km s-min=11.4km az=156.0*
ISC 02 10:40:39.1±1.7**, 17.7S**±0.1×**178.9W**±0.1**, h596**^{km}±21^{km}**, n70, σ0^{s}97**/36**, mb4.3**/19**, 4C-4D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	14.44	250	eP	P	10 43 41.6	-0.3
DZM	Mont Dzumac	14.44	250	eP	P	10 43 41.6	-0.3
NOUC	Port Laguerre	14.58	250	eP	P	10 43 43.4	+0.2
NOUC	Port Laguerre	14.58	250	eP	P	10 43 43.4	+0.2
URZ	Urewera	20.80	189	P	P	10 44 35.8	-5.8
	10.0nm,0.6s,baz=143,slow=2.5,SNR=7.4						
RPZ	Rata Peaks	27.31	196	P	P	10 45 34.7	-4.6
	14nm,1.0s,mb4.6,baz=62,slow=2.9,SNR=5.5						
CTA	Charters Tower	33.00	260	eP	P	10 46 28.3	+0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	5.4nm,0.9s,mb4.2						
CTAO	**Charters Tower**	**33.00**	**260**	*e*P	**P**	**10 46 27.7**	**-0.2**
	3.0nm,0.5s,mb4.2						
PMG	**Port Moresby**	**33.94**	**280**	P	**P**	**10 46 37.7**	**+1.9**
	10nm,0.7s,mb4.6,baz=76,slow=8.3,SNR=3.9						
TOO	**Toolangi**	**36.94**	**230**	*e*P	**P**	**10 47 00.8**	**+0.6**
	10.0nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**38.31**	**241**	⇓*i*P	**P**	**10 47 12.5**	**+0.9**
	9.6nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**38.31**	**241**	P	**P**	**10 47 12.3**	**+0.7**
	13nm,0.5s,mb4.7,baz=91,slow=9.5,SNR=33						
WB2	**Warramunga Arr**	**44.18**	**259**	⇓*i*P	**P**	**10 47 57.8**	**-0.5**
WRAB	**Tennant Creek**	**44.19**	**259**	*e*P	**P**	**10 47 57.3**	**-1.0**
	6.6nm,0.6s,mb4.3						
WRA	**Warramunga Arr**	**44.19**	**259**	P	**P**	**10 47 57.9**	**-0.5**
	3.2nm,0.5s,mb4.1,baz=92,slow=6.9,SNR=118						
WRA				S	**S**	**10 53 50.3**	**+0.4**
	0.2nm,0.7s,baz=96,slow=13,SNR=2.6						
ASAR	**Alice Springs**	**44.38**	**254**	P	**P**	**10 48 00.1**	**+0.3**
	41nm,0.5s,mb5.2,baz=89,slow=8.2,SNR=880						
ASAR				ScP		10 52 30.8	
	0.4nm,0.7s,baz=98,slow=4.2,SNR=4.1						
ASAR				S	**S**	**10 53 52.7**	**+0.3**
	0.5nm,0.8s,baz=90,slow=16,SNR=4.9						
ASAR	**Alice Springs**	**44.38**	**254**	P	**P**	**10 48 00.1**	**+0.3**
ASAR				ScP		10 52 30.8	
ASAR				S	**S**	**10 53 52.7**	**+0.3**
ASPA	**Alice Springs**	**44.39**	**254**	⇓*i*P	**P**	**10 48 00.0**	**+0.2**
KAKA	**Kakadu**	**47.14**	**269**	⇑*i*P	**P**	**10 48 25.7**	**+4.8**
	4.9nm,0.3s,mb4.5						
FORT	**Forrest**	**49.67**	**244**	⇓*i*P	**P**	**10 48 38.7**	**-0.8**
	38nm,0.6s,mb5.0						
FITZ	**Fitzroy Crossi**	**52.59**	**260**	*e*P	**P**	**10 49 01.1**	**+0.4**
	1.4nm,0.4s,mb3.6						
MBWA	**Marble Bar**	**57.66**	**256**	*e*P	**P**	**10 49 35.4**	**-0.4**
	3.0nm,0.4s,mb3.8						
NWAO	**Narrogin (SRO)**	**58.89**	**242**	P	**P**	**10 49 41.6**	**-2.3**
	44nm,1.4s,mb4.4						
QSPA	**South Pole Qui**	**72.38**	**180**	*e*P	**P**	**10 51 05.8**	**-0.8**
	3.8nm,0.6s,mb4.1						
NVAR	**Mina Array Bea**	**79.60**	**44**	P	**P**	**10 51 46.1**	**-0.6**
	3.5nm,0.9s,mb3.7,baz=216,slow=7.3,SNR=25						
MAW	**Mawson**	**83.91**	**200**	P	**P**	**10 52 07.8**	**0.0**
	1.1nm,0.5s,mb3.7,baz=131,slow=6.5,SNR=8.4						
ILAR	**Eielson Array**	**85.77**	**13**	P	**P**	**10 52 15.8**	**-1.1**
	1.3nm,0.3s,mb4.0,baz=223,slow=5.2,SNR=79						
TXAR	**Lajitas Array**	**86.28**	**58**	P	**P**	**10 52 20.9**	**+0.8**
	2.8nm,0.8s,mb3.9,baz=219,slow=5.9,SNR=33						
IMW	**Indian Meadow**	**87.14**	**42**	*e*P	**P**	**10 52 24.4**	**+0.6**
PDAR	**Pinedale Array**	**87.52**	**44**	P	**P**	**10 52 25.6**	**-0.1**
	1.8nm,0.5s,mb4.0,baz=217,slow=3.1,SNR=24						
SNAA	**Sanae**	**90.84**	**179**	⇑*i*	**P**	**10 52 39.1**	**-1.3**
VNA3	**Neumayer Olymp**	**91.00**	**177**	⇑*i*	**P**	**10 52 43.1**	**+2.0**
VNA2	**Neumayer--Watz**	**91.43**	**177**	⇑*i*	**P**	**10 52 45.0**	**+1.9**
MKAR	**Makanchi Array**	**108.62**	**314**	PKiKP		10 58 01.8	
	0.5nm,0.8s,baz=186,slow=0.6,SNR=2.8						
MKAR	**Makanchi Array**	**108.62**	**314**	PKPdf		10 58 01.8	
BVAR	**Borovoye Array**	**116.36**	**321**	PKP	PKPdf	10 58 16.6	+1.1
	0.8nm,0.4s,baz=120,slow=2.4,SNR=5.3						
BDFB	**Brasilia**	**121.37**	**121**	PKP	PKPdf	10 58 27.3	+1.3
	1.4nm,0.4s,baz=198,slow=3.2,SNR=2.1						
ARCES	**ARCESS Array B**	**126.00**	**350**	PKP	PKPdf	10 58 35.2	+1.6
	0.7nm,0.6s,baz=145,slow=0.3,SNR=8.1						
FINES	**FINESS Array B**	**132.83**	**344**	PKP	PKPdf	10 58 47.5	+0.6
	0.3nm,0.5s,slow=1.9,SNR=3.7						
NOA	**NORSAR Array B**	**136.09**	**353**	PKP	PKPdf	10 58 53.3	+0.5
	0.6nm,0.9s,baz=311,slow=19,SNR=2.8						
BRTR	**Keskin Array B**	**144.27**	**315**	PKP	PKPdf	10 59 10.4	+2.5
	3.9nm,1.1s,baz=90,slow=2.5,SNR=7.7						
CLL	**Collm**	**145.13**	**347**	*i* PKP1	PKPbc	10 59 12.0	+1.9
BRG	**Berggiesshubel**	**145.32**	**346**	*e*P	PKPdf	10 59 13.5	+4.1
KHC	**Kasperske Hory**	**147.03**	**345**	*e*P	PKPdf	10 59 18.0	+5.6
GRA1	**Grafenberg Arr**	**147.03**	**348**	*e*PKP	PKPdf	10 59 17.7	+5.4
GRFO	**Grafenberg**	**147.03**	**348**	*e*PKP	PKPdf	10 59 18.5	+6.2
GEC2	**GERESS Array S**	**147.26**	**345**	*e*PKP	PKPdf	10 59 18.4	+5.6
GERES	**GERESS Array B**	**147.26**	**345**	PKPbc	PKPdf	10 59 18.2	+5.5
	2.2nm,0.4s,baz=28,slow=3.3,SNR=26						
GIVF	**Givet**	**147.51**	**356**	*e*PKP1	PKPdf	10 59 18.6	+5.5
BAIF	**Baives**	**147.60**	**356**	*e*PKP1	PKPdf	10 59 18.8	+5.5
	6.8nm,0.7s						
CDF	**Champ du Feu**	**148.93**	**352**	*e*PKP1	PKPdf	10 59 22.1	+6.8
	3.4nm,0.5s						
FLN	**La Foliniere**	**148.97**	**2**	*e*PKP1	PKPdf	10 59 21.7	+6.3
LDF	**La Druitiere**	**149.15**	**2**	*e*PKP1	PKPdf	10 59 22.0	+6.3
LFA	**Lagoa do Fogo**	**149.30**	**44**	*e*-		10 58 32.6	
MESC	**Monte Escuro**	**149.31**	**44**	*e*-		10 58 32.5	
PRCH	**Ribeira Ch**	**149.32**	**44**	*e*-		10 58 32.9	
GRR	**Gorron**	**149.33**	**3**	*e*PKP1	PKPdf	10 59 22.7	+6.7
	5.5nm,0.4s						
HAU	**Haudompre**	**149.44**	**353**	*e*PKP1	PKPdf	10 59 23.2	+7.0
HINF	**Hinteralfeld**	**149.57**	**352**	*e*PKP1	PKPdf	10 59 23.3	+6.9
LOR	**Lormes**	**150.40**	**356**	*e*PKP1	PKPdf	10 59 25.6	+7.9
	8.0nm,0.4s						
SSF	**Saint Saulge**	**150.63**	**357**	*e*PKP1	PKPdf	10 59 26.1	+8.1
	7.3nm,0.5s						
CABF	**La Chapelle**	**150.85**	**353**	*e*PKP1	PKPdf	10 59 27.1	+8.7
MFF	**Saint Martin d**	**151.14**	**2**	*e*PKP1	PKPdf	10 59 26.9	+8.1
	3.9nm,0.5s						
BGF	**Bois d'Agland**	**151.16**	**357**	*e*PKP1	PKPdf	10 59 27.2	+8.4
TCF	**Toulx Ste Croi**	**151.45**	**358**	*e*PKP1	PKPdf	10 59 27.6	+8.3
LPL	**La Plagne**	**151.84**	**352**	*e*PKP1	PKPdf	10 59 29.5	+10
LPG	**La Plagne**	**151.86**	**352**	*e*PKP1	PKPdf	10 59 29.6	+10
ORIF	**Oris-en-Rattie**	**152.54**	**353**	*e*PKP1	PKPdf	10 59 30.8	+10
	6.2nm,0.8s						
MBDF	**Montbardon**	**152.61**	**351**	*e*PKP1	PKPdf	10 59 30.9	+10
	4.0nm,0.7s						
VIVF	**Saint-Julien-l**	**152.74**	**354**	*e*PKP1	PKPdf	10 59 30.9	+10

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*IDC **02** 11:05:59.9±0.6, 73.82N×114.57E, mb4.1/21, mb1 4.3/21, mb1mx4.3/27, MS3.6/3, Ms1 3.6/3, ms1mx3.0/30, Error ellipse: s-maj=16.7km s-min=14.0km az=151.0*
*BJI **02** 11:06:00.4, 73.80N×114.50E, h10^{km}, mB4.6, mb4.5, Ms4.4, Msz4.2*
*NEIC **02** 11:06:01.5±0.3, 73.83N×114.48E, h10^{km}, mb4.5/9, Error ellipse: s-maj=8.8km s-min=6.4km az=145.0*
*MOS **02** 11:06:03.0±1.4, 73.84N×114.50E, h10^{km}, mb4.3/16, Error ellipse: s-maj=33.9km s-min=13.6km az=94.8*
ISC 02 11:05:59.4±2.8**, 73.83N**±0.05×**114.5E**±0.2**, h8**^{km}±17^{km}**, n69,** $\sigma 0^{s}95$/68**, mb4.2**/35**, MS3.7**/7**, 1C-3D, Near coast of northern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TIXI	**Tiksi**	**4.79**	**110**	⇓*i*P	**Pn**	**11 07 14.3**	**+0.7**
TIXI				*i*		11 08 07.9	
TIXI				pmax	pmax		
	comp=Z,25nm,0.6s						
TIXI				pmax	pmax		
	comp=Z,13nm,0.4s						
TIXI				smax			
	comp=E,131nm,0.8s						
YAK	**Yakutsk**	**13.07**	**147**	*e*P	**P**	**11 09 03.0**	**-4.9**
YAK				*e*SS	**S**	**11 11 34.0**	**-0.6**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
YAK				pmax	pmax		
	comp=Z,12nm,1.1s						
YAK				MLR	MLR		
	comp=Z,69nm,13.0s						
YAK				MLR	MLR		
	comp=N,78nm,6.0s						
YAK				MLR	MLR		
	comp=E,154nm,9.0s						
CLNS	**Chul'man**	**17.55**	**161**	*e*P	**P**	**11 10 05.9**	**+0.3**
CLNS				pmax	pmax		
	comp=Z,36nm,1.0s						
CLNS				pmax	pmax		
	comp=N,25nm,0.8s						
CLNS				pmax	pmax		
	comp=E,11nm,0.8s						
CLNS				pmax	pmax		
	comp=N,25nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,20nm,1.0s						
CLNS				pmax	pmax		
	comp=E,18nm,0.8s						
CLNS				MLR	MLR		
	comp=N,200nm,12.0s						
CLNS				MLR	MLR		
	comp=Z,200nm,12.0s						
CLNS				MLR	MLR		
	comp=E,400nm,14.0s						
NVS	**Novosibirsk**	**22.85**	**231**	*e*P	**P**	**11 11 02.3**	**-1.3**
NVS				pmax	pmax		
	comp=Z,35nm,1.1s,mb4.7						
NVS				pmax	pmax		
	comp=N,86nm,1.6s						
NVS				pmax	pmax		
	comp=E,25nm,1.0s						
ZAL	**Zalesovo**	**23.36**	**228**	P	**P**	**11 11 10.3**	**+1.8**
	comp=E,9.6nm,0.5s,mb4.5,baz=9.4,slow=7.9,SNR=28						
ZAL				LR	LR	11 21 43.5	
	comp=E,273nm,20.7s,MS3.7,baz=1.3,slow=40						
ZAL	**Zalesovo**	**23.36**	**228**	P	**P**	**11 11 10.3**	**+1.7**
ZAL				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ZAL				MLR	MLR		
	comp=Z,273nm,20.7s						
ZAL	**Zalesovo**	**23.36**	**228**	P	**P**	**11 11 10.3**	**+1.7**
ZAL				LR	LR	11 21 43.5	
HIA	**Hailar**	**24.75**	**172**	*e*P	**P**	**11 11 23.1**	**+1.0**
	comp=Z,16nm,1.3s,mb4.4						
KEV	**Kevo**	**25.30**	**306**	*e*p	**P**	**11 11 23.1**	**-4.0**
ARCES	**ARCESS Array B**	**25.81**	**306**	P	**P**	**11 11 31.8**	**-0.1**
	comp=Z,2.0nm,0.5s,mb3.9,baz=41,slow=9.8,SNR=52						
ARCES	**ARCESS Array B**	**25.81**	**306**	P	**P**	**11 11 31.8**	**-0.1**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ARE0	**ARCESS Array S**	**25.81**	**306**	*e*P	**P**	**11 11 31.7**	**-0.3**
SONM	**Songino Array**	**26.33**	**192**	P	**P**	**11 11 38.0**	**+1.1**
	comp=Z,5.1nm,0.8s,mb4.1,baz=356,slow=8.7,SNR=24						
SVE	**Sverdlovsk**	**26.80**	**260**	⇓*e*P	**P**	**11 11 31.8**	**-9.4**
BRVK	**Borovoye**	**27.57**	**246**	*e*P	**P**	**11 11 49.2**	**+1.0**
	comp=Z,8.8nm,1.0s,mb4.3						
BVAR	**Borovoye Array**	**27.57**	**245**	P	**P**	**11 11 48.7**	**+0.4**
	comp=Z,4.7nm,0.6s,mb4.3,baz=28,slow=8.0,SNR=20						
ARU	**Arti**	**27.71**	**262**	⇓*i*P	**P**	**11 11 52.4**	**+2.9**
ARU				*e*		11 12 38.5	
ARU				*e*PPP	PPP	11 12 44.8	-5.3
ARU				*e*		11 15 04.8	
ARU				*e*S	**S**	**11 16 35.3**	**+4.9**
ARU				*e*SS	SS	11 17 49.7	+0.2
ARU				*e*SSS	SSS	11 18 02.2	-5.4
ARU				*e*		11 22 33.9	
ARU				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.0						
ARU				MLR	MLR		
	comp=N,200nm,17.0s,MS3.8						
ARU				MLR	MLR		
	comp=E,100nm,17.0s,MS3.8						
ARU				MLR	MLR		
	comp=Z,300nm,17.0s,MS3.9						
KURK	**Kurchatov**	**27.72**	**233**	*e*P	**P**	**11 11 49.3**	**-0.3**
	comp=Z,5.5nm,0.5s,mb4.4						
ZRNK	**Zerenda**	**27.99**	**247**	*e*P	**P**	**11 11 52.4**	**+0.3**
	comp=Z,3.7nm,0.8s,mb4.1						
IMA	**Indian Mountai**	**29.20**	**57**	*e*P	**P**	**11 12 03.6**	**+0.7**
	comp=Z,16nm,1.1s,mb4.7						
MKAR	**Makanchi Array**	**30.65**	**226**	P	**P**	**11 12 14.7**	**-1.2**
	comp=Z,1.3nm,0.5s,mb4.1,baz=22,slow=6.5,SNR=10						
MKAR	**Makanchi Array**	**30.65**	**226**	P	**P**	**11 12 14.7**	**-1.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KAF	**Kangasniemi**	**31.65**	**296**	*e*p	**P**	**11 12 21.6**	**-3.0**
	comp=Z,1.4nm,0.6s,mb4.0						
KAF	**Kangasniemi**	**31.65**	**296**	*e*P	**P**	**11 12 21.6**	**-3.0**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8						
ILAR	**Eielson Array**	**31.85**	**53**	P	**P**	**11 12 27.1**	**+0.8**
	comp=Z,4.3nm,0.7s,mb4.4,baz=324,slow=9.3,SNR=67						
ILAR	**Eielson Array**	**31.85**	**53**	P	**P**	**11 12 27.2**	**+0.9**
ILAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
FINES	**FINESS Array B**	**32.28**	**296**	P	**P**	**11 12 29.0**	**-1.1**
	comp=Z,2.3nm,0.8s,mb4.1,baz=35,slow=9.2,SNR=12						
FINES	**FINESS Array B**	**32.28**	**296**	P	**P**	**11 12 29.0**	**-1.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
OBN	**Obninsk**	**34.99**	**282**	P	**P**	**11 12 53.0**	**-0.7**
OBN						11 14 18.0	
OBN				MLR	MLR		
	comp=Z,200nm,16.0s,MS4.0						
NOA	**NORSAR Array B**	**36.19**	**307**	P	**P**	**11 13 03.1**	**-0.6**
	comp=Z,0.7nm,0.5s,mb3.9,baz=28,slow=8.6,SNR=3.4						
NOA	**NORSAR Array B**	**36.19**	**307**	P	**P**	**11 13 03.1**	**-0.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AAK	**Ala-Archa**	**36.28**	**233**	*e*P	**P**	**11 13 04.5**	**-0.2**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
AAK				MLR	MLR		
	comp=Z,100nm,15.0s,MS3.7						
AAK	**Ala-Archa**	**36.28**	**233**	*e*P	**P**	**11 13 04.0**	**-0.8**
	comp=Z,5.9nm,0.9s,mb4.5						
HFS	**Hagfors**	**36.42**	**304**	P	**P**	**11 13 05.6**	**-0.1**
	comp=Z,0.7nm,0.4s,mb4.0,baz=53,slow=7.4,SNR=6.2						
HFS	**Hagfors**	**36.42**	**304**	P	**P**	**11 13 05.6**	**-0.1**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
HFS	**Hagfors**	**36.42**	**304**	P	**P**	**11 13 05.6**	**-0.1**
YKA	**Yellowknife Ar**	**40.09**	**33**	LR	LR	11 29 17.9	
	comp=Z,35nm,18.9s,MS3.2,baz=330,slow=35						
AKASG	**Malin Array Be**	**40.94**	**285**	P	**P**	**11 13 42.5**	**-1.0**
	comp=Z,1.0nm,0.4s,mb3.8,baz=27,slow=9.4,SNR=6.5						
AKASG	**Malin Array Be**	**40.94**	**285**	P	**P**	**11 13 42.5**	**-1.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NJ2	**Nanjing**	**41.91**	**175**	*e*P	**P**	**11 13 50.0**	**-1.5**
NJ2				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.0						
KIV	**Kislovodsk**	**43.37**	**268**	*e*P	**P**	**11 14 07.9**	**+4.7**
ANN	**Anapa**	**44.06**	**274**	*c i*P	**P**	**11 13 56.8**	**-12**
ANN				pmax	pmax		
	comp=Z,46nm,1.0s,mb5.2						
EKA	**Eskdalemuir Ar**	**44.49**	**314**	P	**P**	**11 14 12.7**	**+0.4**
	comp=Z,1.2nm,0.6s,mb3.8,baz=18,slow=8.2,SNR=5.3						
EKA	**Eskdalemuir Ar**	**44.49**	**314**	P	**P**	**11 14 12.7**	**+0.5**
EKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SOC	**Sochi**	**44.54**	**271**	*e*P	**P**	**11 14 16.9**	**+4.1**
SOC				*e*		11 16 03.7	
SOC				*e*PPP	PPP	11 16 38.3	+1.4
SOC				*e*S	**S**	**11 20 50.2**	**+2.2**
SOC				*e*SS	SS	11 23 57.1	-2.1
SOC				pmax	pmax		
	comp=Z,15nm,0.7s,mb4.9						
SOC				pmax	pmax		
	comp=N,6.0nm,0.5s						
SOC				pmax	pmax		
	comp=E,13nm,0.6s						
SOC				MLR	MLR		
	comp=Z,137nm,21.0s,MS3.9						
SOC				MLR	MLR		
	comp=N,90nm,19.0s,MS3.8						
SOC				MLR	MLR		
	comp=E,65nm,18.0s,MS3.8						
MLR	**Muntele Rosu**	**46.60**	**285**	P	**P**	**11 14 30.1**	**+1.0**
	comp=E,1.8nm,0.5s,mb4.2,baz=142,slow=4.5,SNR=4.3						
MLR	**Muntele Rosu**	**46.60**	**285**	P	**P**	**11 14 30.1**	**+1.0**
MLR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
GERES	**GERESS Array B**	**46.70**	**297**	P	**P**	**11 14 30.3**	**+0.5**
	comp=Z,0.8nm,0.5s,mb3.9,baz=37,slow=6.7,SNR=9.1						
GERES	**GERESS Array B**	**46.70**	**297**	P	**P**	**11 14 30.3**	**+0.5**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
DAVOX	**Davos**	**49.57**	**299**	P	**P**	**11 14 52.4**	**+0.2**
	comp=Z,3.2nm,0.8s,mb4.4,baz=1.6,slow=6.6,SNR=3.6						
BRTR	**Keskin Array B**	**49.82**	**275**	P	**P**	**11 14 55.5**	**+1.3**
	comp=Z,0.6nm,0.5s,mb3.9,baz=63,slow=2.8,SNR=4.1						
BRTR	**Keskin Array B**	**49.82**	**275**	P	**P**	**11 14 55.6**	**+1.4**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**56.06**	**198**	LR	LR	11 41 37.2	
	comp=Z,55nm,18.2s,MS3.7,baz=277,slow=38						
ESDC	**Sonseca Array**	**59.52**	**308**	P	**P**	**11 16 03.9**	**-1.1**
	comp=Z,1.0nm,0.7s,mb4.0,baz=3.1,slow=8.8,SNR=4.1						
PDAR	**Pinedale Array**	**59.92**	**36**	P	**P**	**11 16 07.0**	**-0.7**
	comp=Z,0.9nm,0.6s,mb4.0,baz=18,slow=2.9,SNR=9.2						
NVAR	**Mina Array Bea**	**62.53**	**45**	P	**P**	**11 16 25.5**	**+0.1**
	comp=Z,0.2nm,0.4s,mb3.6,baz=339,slow=4.3,SNR=3.9						
NVAR	**Mina Array Bea**	**62.53**	**45**	P	**P**	**11 16 25.5**	**+0.1**
SRU	**San Rafael**	**63.31**	**38**	*e*P	**P**	**11 16 30.7**	**+0.2**
MSU	**Marysvale**	**63.61**	**40**	*e*P	**P**	**11 16 32.8**	**+0.4**
PV10	**Paradox Valley**	**64.28**	**37**	*e*P	**P**	**11 16 37.0**	**+0.2**
PV01	**Paradox Valley**	**64.60**	**37**	*e*P	**P**	**11 16 38.9**	**+0.1**
SDCO	**Great Sand Dun**	**65.48**	**34**	*e*P	**P**	**11 16 43.5**	**-1.0**
	comp=Z,2.4nm,0.7s,mb4.3						
LTX	**Lajitas**	**74.00**	**34**	*e*P	**P**	**11 17 37.2**	**+0.5**
	comp=Z,6.7nm,0.9s,mb4.6						
TXAR	**Lajitas Array**	**74.00**	**34**	P	**P**	**11 17 37.1**	**+0.4**
	comp=Z,4.3nm,0.6s,mb4.6,baz=360,slow=3.4,SNR=66						
WRA	**Warramunga Arr**	**94.44**	**161**	P	**P**	**11 19 19.3**	**-1.4**
	comp=Z,1.4nm,1.1s,mb4.3,baz=352,slow=5.1,SNR=14						
WRA	**Warramunga Arr**	**94.44**	**161**	P	**P**	**11 19 19.3**	**-1.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.1s						
ASAR	**Alice Springs**	**98.09**	**162**	P	**P**	**11 19 36.1**	**-1.0**
	comp=Z,0.6nm,1.1s,mb4.0,baz=0.1,slow=4.5,SNR=4.1						
MAW	**Mawson**	**145.09**	**212**	PKPbc	PKPbc	11 25 35.8	+0.3
	comp=Z,3.8nm,0.8s,baz=311,slow=7.4,SNR=7.0						
MAW	**Mawson**	**145.09**	**212**	PKIKP	PKPdf	11 25 35.8	-2.2
MAW				pmax	pmax		
	comp=Z,4.0nm,0.8s						

DJA 02 11:06:45.8±0.8**, 8.60S**×**116.67E, h160**^{km}**, MD4.3**/2**, 2C-5D, Error ellipse: s-maj=53.6km s-min=24.1km az=167.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**0.56**	**281**	⇑*i*Pn	P	11 07 09.3	+0.3
KEDI				⇓*i*Sn	S	11 07 24.1	-2.7
RATI	**Rata**	**1.13**	**264**	⇑*i*Pn	P	11 07 12.7	-0.1
RATI				⇓*i*Sn	S	11 07 32.7	-1.0
INGI	**Ingas**	**1.52**	**262**	⇓*i*Pn	P	11 07 16.0	-0.7
INGI				⇓*i*Sn	S	11 07 39.8	-0.8
KELI	**Kelakatan**	**2.19**	**280**	⇓*i*Pn	P	11 07 24.1	0.0

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*NEIC **02** 11:31:44.7±5.3, 11.93S×167.71E, h299^{km}±53^{km}, mb4.1/5, Error ellipse: s-maj=19.8km s-min=13.3km az=216.0*
*IDC **02** 11:31:47.6±2.5, 12.08S×167.69E, h325^{km}±22^{km}, mb3.5/10, mb1 3.6/10, mb1mx3.5/17, Error ellipse: s-maj=20.0km s-min=17.7km az=137.0*
ISC 02 11:31:43.7±0.7**, 12.0S**±0.1×**167.7E**±0.1**, h300**^{km}**, n21,** $\sigma 0^{s}79$/20**, mb3.9**/13**, 1D, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**22.10**	**246**	P	**P**	**11 36 16.4**	**+0.8**
	3.2nm,0.9s,mb3.7,baz=63,slow=11,SNR=4.0						
CTAO	**Charters Tower**	**22.10**	**246**	*e*P	**P**	**11 36 16.2**	**+0.6**
	3.4nm,0.9s,mb3.7						
URZ	**Urewera**	**27.44**	**164**	P	**P**	**11 37 03.9**	**-0.7**
	4.6nm,0.7s,mb4.0,slow=7.1,SNR=4.6						
STKA	**Stephens Creek**	**31.11**	**226**	⇓*i*P	**P**	**11 37 38.1**	**+1.3**
	1.2nm,0.3s,mb3.9						
STKA	**Stephens Creek**	**31.11**	**226**	P	**P**	**11 37 36.8**	**+0.1**
	1.9nm,0.4s,mb4.0,baz=60,slow=10,SNR=18						
RPZ	**Rata Peaks**	**31.71**	**175**	P	**P**	**11 37 42.1**	**+0.3**
	6.2nm,0.5s,mb4.4,baz=114,slow=5.1,SNR=3.7						
WRAB	**Tennant Creek**	**32.97**	**252**	P	**P**	**11 37 51.9**	**-1.0**
	5.3nm,1.2s,mb4.0						
WB2	**Warramunga Arr**	**32.97**	**252**	*e*P	**P**	**11 37 52.8**	**0.0**
WRA	**Warramunga Arr**	**32.98**	**252**	P	**P**	**11 37 52.0**	**-0.9**
	0.4nm,0.3s,mb3.4,baz=82,slow=8.2,SNR=14						
WRA				ScP		11 43 40.6	
	0.8nm,0.9s,baz=81,slow=3.4,SNR=7.0						
ASAR	**Alice Springs**	**34.10**	**245**	P	**P**	**11 38 02.2**	**-0.3**
	0.6nm,0.4s,mb3.5,baz=71,slow=9.2,SNR=26						
ASAR				ScP		11 43 45.2	
	0.6nm,0.8s,baz=89,slow=3.5,SNR=5.7						
ASPA	**Alice Springs**	**34.10**	**245**	*e*P	**P**	**11 38 02.3**	**-0.2**
KAKA	**Kakadu**	**34.48**	**265**	*e*P	**P**	**11 38 10.9**	**+5.2**
	8.1nm,0.3s,mb4.7						
FX1	**Attu Island--F**	**64.81**	**4**	*e*P	**P**	**11 41 51.1**	**-1.3**
QSPA	**South Pole Qui**	**77.99**	**180**	*e*P	**P**	**11 43 10.5**	**+0.5**
	9.0nm,1.0s,mb4.5						
SONM	**Songino Array**	**80.59**	**323**	P	**P**	**11 43 26.3**	**+2.0**
	0.5nm,1.0s,mb3.2,baz=146,slow=5.2,SNR=2.9						
ILAR	**Eielson Array**	**83.84**	**18**	P	**P**	**11 43 40.3**	**-0.3**
	1.6nm,0.5s,mb4.1,baz=256,slow=5.9,SNR=32						
TXAR	**Lajitas Array**	**94.61**	**61**	P	**P**	**11 44 32.4**	**+0.2**
	0.3nm,0.7s,mb3.6,baz=215,slow=5.8,SNR=5.0						
TXAR	**Lajitas Array**	**94.61**	**61**	P	**P**	**11 44 32.4**	**+0.2**
MKAR	**Makanchi Array**	**95.55**	**317**	P	**P**	**11 44 36.5**	**+0.4**
	0.5nm,0.4s,mb4.0,baz=90,slow=3.6,SNR=4.0						
MKAR	**Makanchi Array**	**95.55**	**317**	P	**P**	**11 44 36.5**	**+0.4**
ARCES	**ARCESS Array B**	**117.75**	**346**	PKP	PKPdf	11 49 54.1	+0.2
	1.1nm,0.8s,baz=90,slow=1.2,SNR=6.2						

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*IDC **02** 11:50:10.1±0.7, 3.54N×128.59E, mb3.9/13, mb1 4.1/13, mb1mx4.0/20, MS3.3/2, Ms1 3.4/2, ms1mx2.9/23, Error ellipse: s-maj=38.4km s-min=14.4km az=73.0*
*NEIC **02** 11:50:11.7±0.3, 3.53N×128.57E, h10^{km}, mb4.4/3, Error ellipse: s-maj=17.5km s-min=6.3km az=70.0*
ISC 02 11:50:13.3±0.6**, 3.57N**±0.09×**128.6E**±0.2**, h33**^{km}**, n20,** $\sigma 0^{s}84$/20**, mb4.0**/14**, MS3.3**/2**, North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.73**	**188**	*e*P	**P**	**11 55 02.6**	**-1.1**
	4.7nm,1.2s,mb3.8						
FITZ	**Fitzroy Crossi**	**21.73**	**188**	P	**P**	**11 55 02.4**	**-1.3**
	1.8nm,0.7s,mb3.6,baz=358,slow=12,SNR=7.8						
WRA	**Warramunga Arr**	**24.04**	**167**	P	**P**	**11 55 27.3**	**+0.7**
	1.6nm,0.5s,mb3.7,baz=345,slow=10,SNR=28						
WRA				PcP	PcP	11 59 07.7	-1.6
	0.3nm,0.9s,baz=0.5,slow=1.5,SNR=2.8						
WB2	**Warramunga Arr**	**24.05**	**167**	*e*P	**P**	**11 55 27.7**	**+1.1**
MBWA	**Marble Bar**	**26.06**	**199**	P	**P**	**11 55 47.8**	**+2.0**
ASAR	**Alice Springs**	**27.57**	**169**	P	**P**	**11 55 58.6**	**-0.9**
	0.5nm,0.8s,mb3.2,baz=354,slow=8.1,SNR=12						
ASAR				PcP	PcP	11 59 17.4	+0.2
	0.4nm,0.5s,baz=357,slow=2.3,SNR=11						
CTA	**Charters Tower**	**29.23**	**144**	P	**P**	**11 56 14.2**	**-0.2**
	3.7nm,1.0s,mb4.0,baz=297,slow=18,SNR=2.6						
CTAO	**Charters Tower**	**29.23**	**144**	P	**P**	**11 56 13.4**	**-1.1**
CMAR	**Chiang Mai Arr**	**32.55**	**299**	P	**P**	**11 56 44.0**	**+0.2**
	0.8nm,0.6s,mb3.8,baz=112,slow=7.8,SNR=5.6						
CMAR				LR	LR	12 10 24.1	
	comp=Z,34nm,18.4s,MS3.1,baz=120,slow=37						
STKA	**Stephens Creek**	**37.36**	**162**	P	**P**	**11 57 24.2**	**-0.6**
	2.5nm,1.0s,mb4.0,baz=53,slow=5.7,SNR=3.7						
STKA	**Stephens Creek**	**37.36**	**162**	P	**P**	**11 57 24.2**	**-0.6**
NWAO	**Narrogin (SRO)**	**37.86**	**196**	P	**P**	**11 57 28.2**	**-0.7**
	3.7nm,0.8s,mb4.2,baz=29,slow=3.4,SNR=1.8						
SONM	**Songino Array**	**48.06**	**340**	P	**P**	**11 58 51.6**	**+0.1**
	0.5nm,0.6s,mb3.8,baz=153,slow=9.7,SNR=3.0						
MKAR	**Makanchi Array**	**58.75**	**324**	P	**P**	**12 00 10.1**	**-0.3**
	1.3nm,0.4s,mb4.3,baz=122,slow=8.4,SNR=6.1						
MKAR				LR	LR	12 27 55.9	
	comp=Z,39nm,18.1s,MS3.6,baz=228,slow=39						
ZAL	**Zalesovo**	**61.58**	**332**	P	**P**	**12 00 29.5**	**-0.2**
	0.8nm,0.5s,mb4.1,baz=336,slow=1.5,SNR=2.5						
KURK	**Kurchatov**	**62.87**	**327**	*e*P	**P**	**12 00 37.4**	**-1.0**
	5.5nm,0.8s,mb4.7						
MAW	**Mawson**	**84.25**	**201**	P	**P**	**12 02 43.3**	**+0.7**
	0.9nm,0.7s,mb4.0,baz=87,slow=13,SNR=5.5						
MAW	**Mawson**	**84.25**	**201**	*e*P	**P**	**12 02 42.6**	**+0.1**
	2.1nm,0.9s,mb4.3						
ILAR	**Eielson Array**	**84.45**	**25**	P	**P**	**12 02 44.5**	**+0.9**
	0.5nm,0.9s,mb3.6,baz=222,slow=4.8,SNR=5.2						
ARCES	**ARCESS Array B**	**91.23**	**340**	P	**P**	**12 03 16.6**	**+0.5**
	1.3nm,0.8s,mb4.3,baz=80,slow=5.5,SNR=2.5						

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*IDC **02** 11:59:42.4±1.3, 40.61N×145.86E, mb3.6/4, mb1 3.7/5, mb1mx3.5/23, ML3.0/1, Error ellipse: s-maj=42.9km s-min=27.8km az=75.0*
*JMA **02** 11:59:44.4±0.3, 40.52N×145.23E, h56^{km}, M3.4*
ISC 02 11:59:46.2±1.0**, 40.58N**±0.04×**144.99E**±0.07**, h42**^{km}±13^{km}**, n23,** $\sigma 1^{s}06$/37**, mb3.5**/4**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JEM	**Erimo**	**2.00**	**317**	P	**P**	**12 00 19.1**	**+0.9**
JEM				*e*S	**S**	**12 00 41.8**	**-0.2**
JCH	**Churui**	**2.38**	**330**	P	**P**	**12 00 23.9**	**+0.3**
JCH				*e*S	**S**	**12 00 51.3**	**-0.4**
JNBK	**Urakawa-nobuka**	**2.40**	**316**	P	**P**	**12 00 25.3**	**+1.4**
JNBK				*e*S	**S**	**12 00 53.6**	**+1.4**
JAK	**Akkeshi**	**2.43**	**355**	P	**P**	**12 00 23.9**	**-0.5**
JAK				*e*S	**S**	**12 00 51.7**	**-1.4**
JOB	**Onbets**	**2.48**	**340**	P	**P**	**12 00 25.8**	**+0.7**
JOB				*e*S	**S**	**12 00 54.6**	**+0.2**
JANG	**Nango**	**2.66**	**267**	P	**P**	**12 00 27.8**	**+0.1**
JANG				*e*S	**S**	**12 00 57.7**	**-1.2**
NEM2	**Nemuro 2**	**2.84**	**11**	*e*S	**S**	**12 00 59.4**	**-4.2**
JAR	**Ashorobuto**	**2.87**	**342**	P	**P**	**12 00 29.9**	**-0.7**
JAR				*e*S	**S**	**12 01 03.0**	**-1.2**
JOM	**Ohasama**	**3.05**	**250**	P	**P**	**12 00 33.7**	**+0.5**

JOM				eS	S	12 01 07.8	-0.9
JOT	Ohata	3.09	286	P	P	12 00 34.5	+0.7
JOT				eS	S	12 01 09.0	-0.9
JFR	Furan	3.15	326	P	P	12 00 34.9	+0.3
JFR				eS	S	12 01 09.9	-1.4
JKB	Kayabe	3.26	295	P	P	12 00 37.1	+0.9
JKB				eS	S	12 01 13.8	-0.4
JMK	Ichinoseki	3.33	242	P	P	12 00 37.5	+0.3
JMK				eS	S	12 01 14.7	-1.2
JRA	Rausu	3.36	2	P	P	12 00 36.6	-1.0
JRA				eS	S	12 01 13.0	-3.7
JEW	Eniwo	3.49	312	eS	S	12 01 20.5	+0.6
JTKR	Abashiri--Toko	3.49	347	eS	S	12 01 18.6	-1.3
JKK2	Kamakawa 2	3.69	334	eS	S	12 01 26.6	+1.5
ASAJ	Asahikawa	3.96	334	Pn	P	12 00 46.9	+0.8
	0.6nm,0.3s,baz=45,slow=10.0,SNR=5.0						
ASAJ				Sn	S	12 01 34.9	+3.0
	1.2nm,0.3s,baz=101,slow=22,SNR=3.6						
JHR	Hokuryu	3.99	324	eS	S	12 01 33.5	+0.9
SONM	Songino Array	28.37	298	P	P	12 05 44.0	+5.6
	0.4nm,0.8s,mb3.1,baz=90,slow=7.2,SNR=2.8						
WRA	Warramunga Arr	61.02	191	P	P	12 09 58.6	+0.7
	0.8nm,0.6s,mb4.0,baz=8.1,slow=7.0,SNR=8.9						
FINES	FINESS Array B	66.97	333	P	P	12 10 38.2	+2.2
	0.4nm,0.5s,mb3.7,baz=45,slow=5.4,SNR=5.9						
PDAR	Pinedale Array	73.21	48	P	P	12 11 12.4	-1.9
	0.2nm,0.8s,mb3.1,baz=326,slow=3.3,SNR=2.5						

IDC 02 12:13:58.4±7.8**, 17.91S**×**177.24W, mb3.5**/3**, mb1 3.9**/3**, mb1mx3.6**/13**, Error ellipse: s-maj=344.0km s-min=38.4km az=142.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	45.73	259	P	P	12 22 21.4	-2.1
	0.2nm,0.4s,baz=96,slow=7.5,SNR=6.0						
ASAR	Alice Springs	45.86	254	P	P	12 22 22.9	-1.5
	1.2nm,0.6s,baz=87,slow=8.4,SNR=12						
ILAR	Eielson Array	85.64	13	P	P	12 26 38.5	-1.3
	0.3nm,1.0s,baz=219,slow=4.4,SNR=4.8						

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*BJI **02** 12:22:05.1, 35.50N×120.80W, h5^{km}, mB4.7, mb4.0, Ms4.2, Msz4.0*
*IDC **02** 12:22:09.6±0.9, 35.65N×120.85W, mb3.9/6, mb1 4.1/10, mb1mx3.9/23, ML3.7/4, MS3.4/7, Ms1 3.4/7, ms1mx3.0/28, Error ellipse: s-maj=16.1km s-min=11.6km az=100.0*
*NEIC **02** 12:22:09.1, 35.54N×120.81W, h5^{km}, mb4.2/1, MW4.1(BRK), After NCEDC.*
NEIC Felt [IV] at Atascadero, Cambria, Cayucos, Paso Robles and Templeton; [III] at Arroyo Grande, Los Osos, Morro Bay, San Luis Obispo and San Miguel.
ISC 02 12:22:07.1±0.7**, 35.55N**±0.05×**120.77W**±0.05**, h5^{km}, n75, σ1^{s}39**/69**, mb3.9**/6**, MS3.4**/5**, 2C-1D, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRV	Little Rabbit	0.90	347	⇓iP	Pb	12 22 26.3	+1.5
SAO	San Andreas Ge	1.33	336	⇑eP	Pb	12 22 32.1	0.0
LKC	Lake Chabot	2.42	335	ePn	Pn	12 22 47.1	-0.8
SAC	San Andreas	2.42	327	ePn	Pn	12 22 46.6	-1.4
CMB	Columbia Colle	2.50	7	ePn	Pn	12 22 50.0	+0.9
OMM	Old Mammoth Mi	2.51	34	ePn	Pn	12 22 51.2	+2.0
MTUM	Tungsten Hills	2.53	44	ePn	Pn	12 22 50.8	+1.3
MWC	Mount Wilson	2.59	120	ePn	Pn	12 22 50.9	+0.5
DAC	Darwin (Calif)	2.68	73	ePn	Pn	12 22 53.0	+1.3
NSHM	Saint Helena R	3.31	334	ePn	Pn	12 22 58.8	-1.8
NVAR	Mina Array Bea	3.49	34	Pn	Pn	12 23 05.3	+2.2
	3.0nm,0.3s,baz=215,slow=14,SNR=60						
NVAR				Pg	Pg	12 23 11.1	-5.7
	18nm,0.3s,baz=225,slow=20,SNR=110						
NVAR				Lg		12 23 57.9	
	13nm,0.3s,baz=222,slow=34,SNR=2.8						
NVAR	Mina Array Bea	3.49	34	Pn	Pn	12 23 05.3	+2.2
NVAR				Pg	Pg	12 23 11.1	-5.7
NVAR				Lg		12 23 57.9	
MNV	Mina	3.56	35	ePn	Pn	12 23 05.7	+1.6
TPH	Tonopah	3.80	47	ePn	Pn	12 23 09.1	+1.5
OHCM	Honcut	3.82	352	ePn	Pn	12 23 07.8	-0.1
WCN	Washoe City	3.83	12	ePn	Pn	12 23 09.7	+1.7
HOPS	Hopland	3.90	333	ePn	Pn	12 23 06.6	-2.4
TPNV	Topopah Spring	3.91	68	ePn	Pn	12 23 10.5	+1.3
PFO	Pinyon Flat Ob	4.05	117	Pn	Pn	12 23 11.0	-0.1
	309nm,0.6s,SNR=36						
PFO	Pinyon Flat Ob	4.05	117	ePn	Pn	12 23 10.8	-0.3
BEKR	Beckwourth	4.32	4	ePn	Pn	12 23 16.0	+1.0
BAR	Barrett	4.44	129	ePn	Pn	12 23 15.2	-1.5
LDFC	Landfair	4.65	94	ePn	Pn	12 23 18.7	-1.0
NEN	Nelson	4.83	87	ePn	Pn	12 23 22.2	0.0
WDC	Whiskeytown Da	5.21	345	ePn	Pn	12 23 25.3	-2.3
BMN	Battle Mountai	5.62	29	ePn	Pn	12 23 31.0	-2.4
KHMM	Horse Mountain	5.81	337	ePn	Pn	12 23 35.0	-0.9
ARUT	Antelope Range	6.30	67	ePn	Pn	12 23 42.0	-0.9
MOD	Modoc	6.36	3	ePn	Pn	12 23 43.2	-0.5
YBH	Yreka Blue Hor	6.36	347	Pn	Pn	12 23 44.5	+0.7
	0.8nm,0.3s,baz=157,slow=6.7,SNR=33						
YBH				Lg		12 25 25.0	
	0.1nm,0.3s,baz=73,slow=21,SNR=4.4						
YBH	Yreka Blue Hor	6.36	347	ePn	Pn	12 23 43.5	-0.2
KRMB	Red Mountain	6.45	339	ePn	Pn	12 23 44.4	-0.7
ELK	Elko	6.78	38	ePn	Pn	12 23 49.0	-0.6
HUMO	Hull Mountain	7.25	347	ePn	Pn	12 23 53.6	-2.7
MVU	Marysvale	7.46	64	ePn	Pn	12 23 56.5	-2.7
MSU	Marysvale	7.48	64	ePn	Pn	12 23 59.2	-0.3
DUG	Dugway	7.82	51	ePn	Pn	12 24 02.9	-1.3
BGU	Big Grassy Mou	8.12	46	Pn	P	12 24 08.2	-0.2
HSO	Harness Mounta	8.17	348	ePn	P	12 24 04.1	-4.9
NLU	North Lily Min	8.17	55	ePn	P	12 24 09.2	0.0
TMUT	Trail Mountain	8.48	61	P	P	12 24 15.8	+2.4
SRU	San Rafael	8.90	63	Pn	P	12 24 19.0	-0.3
TUC	Tucson	8.90	108	ePn	P	12 24 16.7	-2.6
JLU	Jordanelle	8.91	53	Pn	P	12 24 18.1	-1.3
DAU	Daniels Canyon	8.94	54	Pn	P	12 24 18.3	-1.6
TCUT	Toone Canyon	9.22	50	Pn	P	12 24 24.0	+0.3
HWUT	Hardware Ranch	9.41	47	Pn	P	12 24 24.7	-1.5
PV10	Paradox Valley	9.80	70	Pn	P	12 24 30.7	-1.1
PV01	Paradox Valley	10.12	72	Pn	P	12 24 34.7	-1.3
RW3	Ridgway	10.82	72	ePn	P	12 24 44.6	-1.1
MCMT	McKenzie Canyo	11.07	31	Pn	P	12 24 50.5	+1.5
PDAR	Pinedale Array	11.30	47	Pn	P	12 24 58.2	+6.1
	0.0nm,0.3s,baz=243,slow=9.9,SNR=8.2						
PDAR				Lg		12 28 03.5	
	0.0nm,0.3s,baz=214,slow=34,SNR=2.7						
PDAR	Pinedale Array	11.30	47	Pn	P	12 24 58.2	+6.1
PDAR				Lg		12 28 03.5	
BOZ	Bozeman (W)	12.24	32	Pn	P	12 25 04.7	-0.2
WALA	Waterton Lakes	14.41	18	Pn	P	12 25 33.1	-0.6
	10nm,0.7s						
LAO	LASA Array	15.59	40	Pn	P	12 25 51.5	+2.4
	14nm,1.0s						
TXAR	Lajitas Array	15.71	108	Pn	P	12 25 55.5	+4.9
	0.1nm,0.3s,baz=287,slow=13,SNR=5.4						
TXAR				LR	LR	12 32 27.8	
	comp=Z,113nm,20.3s,baz=280,slow=39						
BBB	Bella Bella	17.44	345	LR	LR	12 33 15.8	
	comp=Z,68nm,19.7s,baz=296,slow=38						
EDM	Edmonton	18.43	14	ePn	P	12 26 24.7	-0.1
ULM	Lac du Bonnet	23.27	43	LR	LR	12 37 36.8	
	comp=Z,50nm,18.2s,MS3.0,baz=285,slow=40						
DLBC	Dease Lake	23.71	348	P	P	12 27 24.4	+4.0
	1.2nm,0.8s,mb3.4,baz=210,slow=8.8,SNR=3.6						
DLBC				LR	LR	12 36 44.7	
	comp=Z,82nm,18.4s,MS3.2,baz=31,slow=37						
YKA	Yellowknife Ar	27.25	6	LR	LR	12 37 59.2	
	comp=Z,70nm,18.1s,MS3.3,baz=155,slow=35						
ILAR	Eielson Array	33.20	340	P	P	12 28 48.0	+1.5
	2.5nm,0.6s,mb4.3,baz=156,slow=8.7,SNR=60						
FRB	Frobisher Bay	42.22	32	LR	LR	12 46 58.2	
	comp=Z,60nm,18.8s,MS3.5,baz=321,slow=35						
LPAZ	La Paz	71.70	126	P	P	12 33 35.0	+2.8
	0.7nm,0.8s,mb3.6,baz=315,slow=5.7,SNR=3.2						
LPAZ	La Paz	71.70	126	P	P	12 33 35.0	+2.8
ARCES	ARCESS Array B	72.35	12	LR	LR	13 06 40.1	
	comp=Z,52nm,19.2s,MS3.8,baz=192,slow=37						
FINES	FINESS Array B	79.66	15	P	P	12 34 18.3	+1.8
	0.8nm,0.8s,mb3.7,baz=333,slow=4.3,SNR=6.5						
CPUP	Villa Florida	85.88	126	P	P	12 34 52.8	+3.5
	2.1nm,1.0s,mb4.3,baz=14,slow=4.2,SNR=3.6						
SONM	Songino Array	86.90	330	P	P	12 34 55.9	+2.1
	0.7nm,0.7s,mb4.0,baz=21,slow=2.9,SNR=6.0						
WMQ	Urumqi	96.87	340	eP	P	12 35 41.0	+0.8
LZH	Lanzhou	97.52	325	eP	P	12 35 44.0	+0.7
LZH				AP	pP	12 35 47.0	+2.0
VNA3	Neumayer Olymp	129.99	157	⇑iP	PKPdf	12 41 19.7	+0.1
VNA2	Neumayer--Watz	130.77	157	P	PKPdf	12 41 22.7	+1.6
MAW	Mawson	147.83	183	PKPbc	PKPdf	12 41 54.5	+3.0
	2.0nm,0.8s,baz=164,slow=2.7,SNR=7.7						

IDC 02 12:26:41.4±1.6**, 3.40N**×**128.03E, mb3.6**/5**, mb1 3.7**/5**, mb1mx3.5**/18**, Error ellipse: s-maj=93.4km s-min=21.2km az=69.0, North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.50	186	P	P	12 31 32.4	-1.7
	2.7nm,1.1s,baz=189,slow=15,SNR=2.2						
WRA	Warramunga Arr	24.01	165	P	P	12 31 57.4	-1.6
	0.4nm,0.6s,baz=345,slow=11,SNR=10						
ASAR	Alice Springs	27.51	168	P	P	12 32 30.1	-1.7
	0.1nm,0.5s,baz=351,slow=7.0,SNR=4.2						
STKA	Stephens Creek	37.38	161	P	P	12 33 56.3	-1.6
	3.6nm,1.2s,baz=338,slow=11,SNR=3.8						
MKAR	Makanchi Array	58.56	325	P	P	12 36 39.8	-2.5
	1.2nm,0.4s,baz=116,slow=8.0,SNR=19						

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*IDC **02** 12:28:40.3±32.0, 17.90S×171.34E, mb4.1/4, mb1 4.2/4, mb1mx3.9/13, Error ellipse: s-maj=564.0km s-min=107.2km az=78.0*
ISC 02 12:29:16.0±3.2**, 19.3S**±0.1×**169.1E**±0.4**, h158^{km}**±10^{km}**, n7, σ0^{s}61**/10**, mb3.9**/4**, 1C, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	Butte a Klehm	1.81	334	⇑iP	P	12 29 49.8	0.0
BKM				S	S	12 30 16.1	+0.1
DZM	Mont Dzumac	3.69	221	eP	P	12 30 12.7	-0.5
DZM				eS	S	12 30 57.2	0.0
NOUC	Port Laguerre	3.80	223	eP	P	12 30 14.8	+0.2
NOUC				eS	S	12 30 59.9	+0.2
STKA	Stephens Creek	27.67	238	P	P	12 34 52.1	+0.9
	1.4nm,0.6s,mb3.9,baz=88,slow=11,SNR=6.4						
WRA	Warramunga Arr	32.69	263	P	P	12 35 34.3	-1.2
	0.4nm,0.4s,mb3.5,baz=89,slow=8.5,SNR=8.8						
ASAR	Alice Springs	32.96	256	P	P	12 35 37.3	-0.5
	1.9nm,0.4s,mb4.2,baz=84,slow=8.8,SNR=41						
FITZ	Fitzroy Crossi	41.08	264	P	P	12 36 46.7	+0.9
	2.1nm,0.5s,mb4.0,baz=121,slow=7.5,SNR=12						

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*MOS **02** 12:56:59.3±1.1, 51.62N×16.18E, h24^{km}, mb4.0/1, Error ellipse: s-maj=14.5km s-min=6.3km az=76.6*
*NEIC **02** 12:56:59.1±0.5, 51.51N×16.19E, h5^{km}, ML3.0(VIE), ML2.9(SZGRF), ML2.5(BRG), Error ellipse: s-maj=6.1km s-min=4.5km az=61.0*
*IDC **02** 12:57:00.6±0.8, 51.45N×16.07E, mb1 3.4/6, mb1mx3.3/22, ML2.9/6, Error ellipse: s-maj=17.7km s-min=7.0km az=109.0*
*WAR **02** 12:57:00.7, 51.46N×16.11E, ML3.0, Mining Induced*
*PRU **02** 12:57:00.5, 51.43N×16.11E*
ISC 02 12:56:57.2±0.4**, 51.50N**±0.03×**16.12E**±0.03**, n46, σ1^{s}29**/87**, 2C-3D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.67	171	ePG	Pg	12 57 12.0	+1.5
KSP				eSG	Sg	12 57 21.0	+1.6
KSP	Ksiaz	0.67	171	⇓iP	Pg	12 57 12.2	+1.7
KSP				e		12 57 20.7	
KSP	Ksiaz	0.67	171	⇓iPg	Pg	12 57 12.2	+1.7
KSP				e		12 57 13.5	
KSP				eSg	Sg	12 57 20.7	+1.3
KSP	Ksiaz	0.67	171	ePg	Pg	12 57 12.3	+1.8
KSP				ePn	Pn	12 57 13.6	0.0
KSP				eSg	Sg	12 57 20.8	+1.4
UPC	Upice	0.99	184	ePG	Pg	12 57 18.2	+1.1
DPC	Dobruska-Polom	1.16	174	eP	Pg	12 57 21.0	+0.7
DPC				e		12 57 35.4	
DPC				smax			
	comp=N,33nm,0.4s						
DPC	Dobruska-Polom	1.16	174	ePG	Pg	12 57 21.0	+0.7
DPC				eSG	Sg	12 57 35.4	-0.4
	comp=N,33nm,0.4s						
PVCC	Panska Ves	1.38	226	ePG	Pg	12 57 25.4	+0.6
BRG	Berggiesshubel	1.51	246	iP	Pn	12 57 26.7	+1.1
BRG				i		12 57 48.2	
BRG	Berggiesshubel	1.51	246	iPn	Pn	12 57 26.7	+1.1
BRG				iPg	Pg	12 57 28.2	+0.9
BRG				iSg	Sg	12 57 48.2	+0.8
RUE	Ruedersdorf	1.75	305	eP	Pn	12 57 29.9	+0.9
PRU	Pruhonice	1.81	214	eP	Pn	12 57 30.8	+0.8
PRU						12 57 55.8	
PRU				smax			
	comp=N,28nm,0.4s						
PRU	Pruhonice	1.81	214	ePN	Pn	12 57 30.8	+0.8
PRU				PG	Pg	12 57 32.5	-1.0
PRU				ix	x	12 57 36.8	
PRU				ix	x	12 57 49.4	
PRU				SG	Sg	12 57 55.8	-1.9
	comp=N,28nm,0.4s						
MORC	Moravsky Berou	1.95	152	eP	Pn	12 57 32.3	+0.4
CLL	Collm	1.96	266	iPN	Pn	12 57 33.3	+1.2
CLL				iPG	Pg	12 57 36.0	-0.4
CLL				i		12 57 40.2	
CLL				iSG	Sg	12 58 02.4	-0.2
CLL	Collm	1.96	266	iP	Pn	12 57 33.3	+1.2
CLL				i		12 58 02.4	
CLL	Collm	1.96	266	iPn	Pn	12 57 33.3	+1.2
CLL				iPg	Pg	12 57 36.0	-0.4
CLL				iSg	Sg	12 58 02.4	-0.2
OKC	Ostrava-Krasne	2.10	141	ePG	Pg	12 57 38.0	-1.3
OKC				eSG	Sg	12 58 04.9	-2.4
VRAC	Vranov	2.21	172	Pn	Pn	12 57 38.0	+2.3
	comp=N,2.1nm,0.3s,baz=326,slow=12,SNR=16						
VRAC				Lg		12 58 08.6	
	comp=N,4.5nm,0.3s,baz=91,slow=23,SNR=8.6						
VRAC	Vranov	2.21	172	P	Pn	12 57 37.9	+2.2
NKC	Novy Kostel	2.65	243	eP	Pn	12 57 43.4	+1.5
NKC				e		12 58 24.1	
NKC	Novy Kostel	2.65	243	ePN	Pn	12 57 43.4	+1.5
NKC				ePG	Pg	12 57 49.9	-0.2
NKC				eSG	Sg	12 58 24.1	-1.3
OJC	Ojcow	2.66	117	ePN	Pn	12 57 43.0	+0.9
OJC				iPG	Pg	12 57 50.6	+0.3
OJC				eSN	Sn	12 58 12.6	-2.9
OJC				eSG	Sg	12 58 26.6	+0.8
OJC	Ojcow	2.66	117	eP	Pn	12 57 42.8	+0.7
OJC				e		12 58 12.3	
OJC	Ojcow	2.66	117	ePn	Pn	12 57 42.8	+0.7
OJC				iPg	Pg	12 57 50.6	+0.3
OJC				eSn	Sn	12 58 12.3	-3.2
OJC				eSg	Sg	12 58 25.9	+0.1
OJC	Ojcow	2.66	117	ePn	Pn	12 57 42.8	+0.7
OJC				iPg	Pg	12 57 50.6	+0.3
OJC				eSn	Sn	12 58 12.3	-3.2
OJC				eSg	Sg	12 58 25.9	+0.1
OJC				Lubin			
OJC				Region))			
KHC	Kasperske Hory	2.88	215	eP	Pn	12 57 46.4	+1.2
KHC				e		12 58 20.0	
KHC	Kasperske Hory	2.88	215	ePN	Pn	12 57 46.4	+1.2
KHC				ePG	Pg	12 57 52.3	-2.4
KHC				eSN	Sn	12 58 20.0	-1.0
KHC				eSG	Sg	12 58 29.8	-3.2
MOX	Moxa	2.97	255	iP	Pn	12 57 47.8	+1.3
MOX				Pg	Pg	12 57 56.0	-0.5
MOX				Sg	Sg	12 58 36.0	0.0
MOX	Moxa	2.97	255	ePn	Pn	12 57 47.8	+1.3
MOX				ePg	Pg	12 57 55.8	-0.7
MOX				eSg	Sg	12 58 35.8	-0.2
GEC2	GERESS Array S	3.08	211	eP	Pn	12 57 49.5	+1.5
GERES	GERESS Array B	3.08	211	Pn	Pn	12 57 49.7	+1.6
	comp=N,0.8nm,0.3s,baz=30,slow=12,SNR=21						
GERES				Pg	Pg	12 57 55.8	-2.9
	comp=N,3.1nm,0.3s,baz=31,slow=17,SNR=34						
GERES				Sn	Sn	12 58 24.5	-1.6
	comp=N,1.5nm,0.3s,baz=13,slow=18,SNR=5.4						
GERES				Lg		12 58 36.8	
	comp=N,4.2nm,0.3s,baz=36,slow=30,SNR=10.0						
GERES	GERESS Array B	3.08	211	P	Pn	12 57 49.7	+1.7
GERES				S	Sn	12 58 24.5	-1.6
WET	Wettzell	3.14	223	eP	Pn	12 57 49.9	+0.9
NIE	Niedzica	3.39	126	eP	Pn	12 58 03.5	+11
NIE				eS	Sn	12 58 47.6	+14
GRA1	Grafenberg Arr	3.61	242	ePn	Pn	12 57 56.9	+1.3
GRF	Grafenberg Arr	3.61	242	eP	Pn	12 57 56.9	+1.3
BSD	Bornholm Skovb	3.69	349	iP	Pn	12 57 56.6	-0.2
BSD				i		12 58 03.3	
BSD				iS	Sn	12 58 39.6	-2.1
MOA	Molln	3.85	199	⇑iPN	Pn	12 58 00.1	+1.1
MOA				iSG	Sg	12 59 01.6	-3.7
	comp=N,5.8nm,0.3s						
ARSA	Arzberg	4.27	185	⇓iPN	Pn	12 58 04.5	-0.5
ARSA				iSG	Sg	12 59 12.5	-6.9
	comp=N,17nm,0.7s						
KBA	Koelnbreinsper	4.78	203	⇑iPN	Pn	12 58 10.6	-1.7
KBA				iSG	Sg	12 59 29.7	-6.8
	comp=N,5.4nm,0.6s						
DAVOX	Davos	6.25	223	Pn	Pn	12 58 33.4	+0.4
	comp=N,0.2nm,0.3s,baz=144,slow=5.9,SNR=2.7						
DAVOX				Lg		13 00 17.8	
	comp=N,0.3nm,0.3s,baz=349,slow=22,SNR=2.2						
HFS	Hagfors	8.76	352	Pn	P	12 59 06.5	-1.6
	comp=N,0.0nm,0.3s,baz=170,slow=16,SNR=3.7						
FINES	FINESS Array B	11.37	25	Pn	P	12 59 40.8	-3.1
	comp=N,0.1nm,0.3s,baz=211,slow=12,SNR=6.9						
FINES				Sn	S	13 01 42.5	-10
	comp=N,0.1nm,0.3s,baz=207,slow=17,SNR=4.1						
FINES	FINESS Array B	11.37	25	P	P	12 59 40.7	-3.1
ARCES	ARCESS Array B	18.63	10	Pn	P	13 01 14.3	-3.7
	comp=N,0.2nm,0.3s,baz=190,slow=10,SNR=7.5						

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*CSEM **02** 13:36:43.0±0.6, 38.81N×29.01W, h5^{km}±5^{km}, ML2.5, Error ellipse: s-maj=8.2km s-min=4.9km az=49.0*
*PDA **02** 13:36:43.0±0.6, 38.81N×29.01W, h5^{km}±5^{km}, MD3.2, ML2.5, Error ellipse: s-maj=8.2km s-min=4.9km az=49.0*
SVSA 02 13:36:43.0±0.6**, 38.81N**×**29.01W, h5^{km}**±5^{km}**, MD3.2, ML2.5, Error ellipse: s-maj=8.2km s-min=4.9km az=49.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	Cedros	0.30	127	iP	Pg	13 36 48.5	-0.6
PCED				eS	Sg	13 36 52.5	-0.7
	132nm,0.2s						
PCED	Cedros	0.30	127	eS	Sg	13 36 52.5	-0.7
	132nm,0.2s						
CALA	Caldeira	0.33	133	eP	Pg	13 36 49.2	-0.5
CALA				eS	Sg	13 36 54.0	-0.1
PICO	Pico	0.55	124	iP	Pg	13 36 52.6	-1.5
PICO				eS	Sg	13 36 59.6	-1.8
PICO	Pico	0.55	124	eS	Sg	13 36 59.6	-1.8
ROSA	Rosais	0.61	98	eS	Sg	13 37 01.1	-2.2

GUC 02 13:51:32.3±0.7**, 27.48S**×**70.89W, h55^{km}**±91^{km}**, ML3.5, 3C, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	Copiapo	0.50	75	⇑iP	P	13 51 44.3	+0.4
CPCH				iS	S	13 51 52.9	+0.6
CPCH				AMP		13 51 54.0	
	comp=E,18μm,0.1s						
VACH	Vallenar	1.09	174	⇑iP	P	13 51 51.9	+0.2
VACH				iS	S	13 52 06.2	+0.2
TLL	Tololo Astrono	2.67	178	iP	P	13 52 14.3	+0.4
TLL				iS	S	13 52 45.7	+0.4
TLL				AMP		13 53 05.2	
	comp=E,86nm,0.6s						
CPN1	Cerro Paranal	2.88	9	⇑iP	P	13 52 17.0	+0.1
CPN1				iS	S	13 52 50.6	+0.1
CPN1				AMP		13 52 51.6	
	comp=E,68nm,0.2s						

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*CSEM **02** 13:54:32.4±0.1, 33.99N×5.13W, h10^{km}, MD3.5, Error ellipse: s-maj=3.6km s-min=3.0km az=139.0*
*CNRM **02** 13:54:34.0, 33.99N×5.18W, h4^{km}, MD3.5*
*MDD **02** 13:54:37.3±3.4, 33.96N×5.86W, mb3.3/2, Error ellipse: s-maj=29.7km s-min=24.7km az=6.0, PRXIMO*
ISC 02 13:54:33.3±0.9**, 33.95N**±0.04×**5.15W**±0.05**, h10^{km}**±7^{km}**, n14, σ1^{s}09**/24**, Morocco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGT	Taghat	0.15	34	iP	Pg	13 54 36.0	-0.7
MIF	Mishlifen	0.54	187	iP	Pg	13 54 45.0	+0.8
TZK	Tazeka	0.82	80	iP	Pb	13 54 49.0	-0.2
TZK				iS	Sb	13 55 00.5	+0.5
RSA	Sarsar	1.08	329	iP	Pb	13 54 53.0	-0.7
RSA				iS	Sb	13 55 07.0	-0.7
RTC	Rabat Centre	1.42	272	iP	Pn	13 54 59.0	-0.2
TOU	Touzarine	1.54	48	eP	Pn	13 55 01.5	+0.5
TOU				iS	Sb	13 55 19.5	-1.4
DKH	Dar Kharkhour	1.55	354	eP	Pn	13 55 00.0	-1.1
ZFT	Errachidia	2.02	160	iP	Pn	13 55 09.0	+1.1
ZFT				iS	Sn	13 55 32.0	-1.5
EMIJ	Mijas	2.63	7	Pn	Pn	13 55 20.3	+3.7
	1.3nm,0.2s,SNR=5.0						
EMIJ				Sn	Sn	13 55 55.2	+6.2
	SNR=7.9						
EBER	Berja	3.48	31	Pn	Pn	13 55 36.5	+7.9
	0.6nm,0.2s,SNR=7.9						
EBER				Sn	Sn	13 56 18.9	+8.5
	0.3nm,0.2s,SNR=5.0						
EMIN	Mina Concepcio	4.01	343	Pn	Pn	13 55 36.9	+0.7
	0.1nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	13 56 20.1	-3.7
	0.3nm,0.1s,SNR=7.9						
EQES	Quesada	4.20	23	Pn	Pn	13 55 45.9	+6.9
	SNR=5.0						
EQES				Sn	Sn	13 56 34.3	+5.5
	0.0nm,0.2s,SNR=7.9						
EADA	Adamuz	4.24	6	Pn	Pn	13 55 43.0	+3.6
	0.2nm,0.1s,SNR=7.9						
EADA				Sn	Sn	13 56 31.6	+2.0
	0.0nm,0.2s,SNR=7.9						
EBAD	Badajoz	5.03	343	Pn	Pn	13 55 50.7	+0.1
	0.5nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	13 56 44.8	-4.7
	SNR=7.9						

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*IDC **02** 14:04:54.3±1.3, 3.66N×128.71E, mb3.8/8, mb1 3.9/8, mb1mx3.8/18, Error ellipse: s-maj=64.9km s-min=17.1km az=68.0*
*NEIC **02** 14:04:55.9±0.8, 3.65N×128.68E, h10^{km}, mb4.2/2, Error ellipse: s-maj=38.1km s-min=9.3km az=69.0*
ISC 02 14:04:57.3±1.0**, 3.7N**±0.2×**128.7E**±0.3**, h33^{km}, n11, σ0^{s}67**/11**, mb3.8**/10**, North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.84	188	P	P	14 09 48.0	-0.9
	1.7nm,0.7s,mb3.6,baz=18,slow=6.4,SNR=3.8						
WRAB	Tennant Creek	24.12	167	eP	P	14 10 11.8	+0.4
	5.2nm,0.8s,mb4.0						
WRA	Warramunga Arr	24.13	167	P	P	14 10 12.2	+0.8
	1.7nm,0.7s,mb3.6,baz=346,slow=10,SNR=20						
ASAR	Alice Springs	27.66	170	P	P	14 10 43.3	-1.1
	0.5nm,0.9s,mb3.1,baz=345,slow=4.6,SNR=4.0						
ASAR				PcP	PcP	14 14 01.1	-0.2
	0.4nm,0.7s,baz=356,slow=2.1,SNR=6.4						
CMAR	Chiang Mai Arr	32.56	299	P	P	14 11 28.6	+0.6
	1.3nm,0.7s,mb4.0,baz=110,slow=7.2,SNR=10						
STKA	Stephens Creek	37.44	162	P	P	14 12 09.8	+0.3
	2.1nm,1.1s,mb3.9,baz=345,slow=12,SNR=3.4						
STKA	Stephens Creek	37.44	162	P	P	14 12 09.8	+0.3
SONM	Songino Array	47.98	340	P	P	14 13 35.1	+0.2
	0.5nm,0.6s,mb3.7,baz=180,slow=6.2,SNR=4.1						
MKAR	Makanchi Array	58.70	324	P	P	14 14 54.0	-0.1
	1.3nm,0.5s,mb4.2,baz=115,slow=7.3,SNR=13						
ZRNK	Zerenda	69.15	326	eP	P	14 16 01.5	-0.9
	2.0nm,1.0s,mb4.0						
MAW	Mawson	84.37	201	P	P	14 17 27.9	+0.7
	1.0nm,0.8s,mb4.0,baz=45,slow=19,SNR=3.2						

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*THE **02** 14:06:11.0, 39.04N×23.26E, h10^{km}, ML2.6*
*NEIC **02** 14:06:11.1, 39.12N×23.12E, h17^{km}, MD2.7(ATH), After ATH.*
*ATH **02** 14:06:11.4, 39.10N×23.17E, h10^{km}, MD2.7/5*
*CSEM **02** 14:06:11.4±0.2, 39.08N×23.28E, h14^{km}±1^{km}, ML2.6,*

Error ellipse: s-maj=6.4km s-min=2.5km az=90.0
ISC 02 14:06:10.6±0.8**,39.06N**±0.03×**23.28E**±0.07**,h8**km±7km**,n12,**σ0^s**73**/15**,Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.25**	**350**	*e*PG	**Pg**	**14 06 16.3**	**+0.5**
NEO				*e*SG	**Sg**	**14 06 19.5**	**+0.2**
XOR	**Xorichti**	**0.32**	**347**	*e*Pg	**Pg**	**14 06 17.4**	**+0.3**
LKR	**Lokris**	**0.46**	**208**	*e*PB	**Pb**	**14 06 20.6**	**+0.1**
AGG	**Agios Georgios**	**0.74**	**268**	*e*Pg	**Pg**	**14 06 24.3**	**-1.2**
AGG				*e*Sg	**Sg**	**14 06 35.5**	**+0.1**
MKIT	**Kithairon Oros**	**0.87**	**181**	*e*PG	**Pg**	**14 06 28.5**	**+0.4**
MPAR	**Parnis Oros**	**0.97**	**158**	*e*PN	**Pn**	**14 06 32.0**	**+1.6**
LIT	**Litokhoron**	**1.21**	**330**	*e*Pb	**Pb**	**14 06 33.1**	**-0.2**
LIT				*e*Sb	**Sb**	**14 06 50.0**	**+1.1**
NAIG	**Nisos Aigina**	**1.31**	**173**	*e*PB	**Pb**	**14 06 34.2**	**-0.8**
PLG	**Polygyros**	**1.32**	**5**	*e*PN	**Pn**	**14 06 34.8**	**-0.6**
OUR	**Ouranopolis**	**1.39**	**23**	*e*Pb	**Pb**	**14 06 35.8**	**-0.5**
SRS	**Serrai**	**2.07**	**7**	*e*Pn	**Pn**	**14 06 45.4**	**-0.8**
SRS	**Serrai**	**2.07**	**7**	*e*Pn	**Pn**	**14 06 45.3**	**-0.8**

MAN 02 14:19:28.2,12.45N×125.07E,h21km,mb4.4,ML3.3,MS3.1,Samar

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**0.41**	**279**	*e*P	Pb	14 19 38.3	+1.7
CNP				*e*S	Sb	14 19 46.8	+4.4
BESP	**Borongan**	**0.92**	**157**	*e*P	Pb	14 19 44.3	-0.9
BESP				*e*S	Sb	14 20 05.1	+8.1
PLP	**Palo**	**1.28**	**184**	*e*P	Pn	14 19 50.8	-0.3
PLP				*e*S	Sb	14 20 08.0	+0.5
PVCP	**Virac**	**1.45**	**322**	*e*P	Pn	14 19 52.9	-0.6
OCLP	**Ormoc**	**1.46**	**198**	*e*P	Pn	14 19 57.9	+4.2

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*NEIC **02** 14:44:17.5,19.39N×68.89W,h135km,MD3.6(RSPR), After RSPR.*
RSPR 02 14:44:17.5,19.39N×68.89W,h135km±9km**,MD3.6**/5**,MD3.6**/5**,6C-2D,North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**1.67**	**127**	⇓*e*P	P	14 44 47.4	-0.7
IDE				*e*S	S	14 45 11.4	-0.3
LSP	**Las Mesas**	**2.09**	**125**	⇑*e*P	P	14 44 52.9	-0.3
LSP				*e*S	S	14 45 20.8	+0.3
AOPR	**Arecibo Observ**	**2.28**	**117**	⇑*e*P	P	14 44 55.6	0.0
AOPR	**Arecibo Observ**	**2.28**	**117**	*e*S	S	14 45 24.3	-0.4
AOPR	**Arecibo Observ**	**2.28**	**117**	*e*P	P	14 44 55.6	0.0
PORP	**Portuguez**	**2.52**	**122**	⇓*e*P	P	14 44 57.5	-1.3
PORP				*e*S	S	14 45 29.4	-0.7
CELP	**Cerrillos**	**2.55**	**121**	⇑*e*P	P	14 44 57.8	-1.4
CELP				*e*S	S	14 45 30.4	-0.5
CSB	**Colonia Sabana**	**2.81**	**113**	⇑*e*P	P	14 45 02.3	-0.3
CSB				*e*S	S	14 45 36.3	-0.6
SJG	**San Juan**	**2.89**	**116**	⇑*e*P	P	14 45 02.4	-1.2
SJG				*e*S	S	14 45 38.5	-0.3
HUMP	**Col San Antoni**	**3.14**	**113**	⇑*e*P	P	14 45 06.6	-0.3
HUMP				*e*S	S	14 45 44.2	-0.3

CASC 02 14:47:27.3±2.3**,12.21N×88.61W,h21**km±14km**,MD3.8,ML3.4,2C-2D,Off coast of central America**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VSM	**San Miguel**	**1.25**	**15**	*e*P	Pn	14 47 49.7	-0.2
BLLM	**Bellamira**	**1.28**	**16**	*e*P	Pn	14 47 49.8	-0.4
BLLM				*e*S	Sb	14 48 08.3	+1.8
CNCH	**Conchagua**	**1.30**	**35**	⇑*e*P	Pn	14 47 50.3	-0.3
SNVI	**San Vicente**	**1.41**	**351**	⇑*e*P	Pn	14 47 51.0	-1.1
LFRS	**El Faro**	**1.47**	**343**	*e*P	Pn	14 47 52.8	-0.1
LCBS	**La Ceiba**	**1.48**	**346**	*e*P	Pn	14 47 52.0	-1.1
LCBS				*e*S	Sn	14 48 11.1	-0.9
CAHU	**Cacacuatique**	**1.60**	**14**	*e*P	Pn	14 47 54.8	0.0
BOQS	**Boqueron**	**1.65**	**337**	*e*P	Pn	14 47 55.0	-0.5
LEON	**Leon**	**1.69**	**83**	*e*P	Pn	14 47 55.7	-0.4
TEL3	**Telica 3**	**1.76**	**78**	*e*P	Pn	14 47 56.4	-0.7
TELN	**Telica**	**1.78**	**77**	*e*P	Pn	14 47 58.2	+0.8
MIRN	**Miramar**	**1.87**	**83**	⇓*e*P	Pn	14 47 57.9	-0.8
MIRN				*e*S	Sn	14 48 20.9	-0.9
CNGN	**Cerro Negro**	**1.89**	**81**	*e*P	Pn	14 48 05.0	+6.1
SBLS	**San Blas**	**1.90**	**329**	*e*P	Pn	14 47 58.5	-0.5
SBLS				*e*S	Sn	14 48 25.7	+3.2
SNJE	**San Jose**	**1.91**	**330**	*e*P	Pn	14 47 59.2	0.0
SNJE				*e*S	Sn	14 48 23.6	+0.6
RTR	**El Retiro**	**1.96**	**329**	*e*P	Pn	14 47 57.7	-2.2
COPN	**Copaltepe**	**1.97**	**91**	*e*P	Pn	14 47 59.2	-1.0
COPN				*e*S	Sn	14 48 24.5	0.0
MOMJ	**Momotombo**	**2.03**	**84**	*e*P	Pn	14 48 01.1	+0.1
APYN	**Apoyeque**	**2.21**	**89**	⇓*e*P	Pn	14 48 03.1	-0.5
SOMN	**Somoto**	**2.29**	**58**	*e*P	Pn	14 48 05.3	+0.6
MGAN	**Managua**	**2.31**	**91**	*e*S	Sn	14 48 31.7	-1.3
TICN	**Ticuantepe**	**2.33**	**94**	*e*P	Pn	14 48 05.0	-0.3
TICN				*i*		14 48 34.7	
	comp=Z,306nm,0.3s						

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*IDC **02** 14:50:39.4±1.5,3.63N×128.57E,mb3.6/6,mb1 3.8/6, mb1mx3.7/18,Error ellipse: s-maj=69.4km s-min=19.2km az=64.0*
*NEIC **02** 14:50:40.3±1.0,3.69N×128.76E,h10km,mb3.9/1,Error ellipse: s-maj=41.3km s-min=12.8km az=60.0*
ISC 02 14:50:38.1±1.3**,3.8N**±0.2×**128.8E**±0.3**,h10**km**,n9,**σ0^s**88**/9**,mb3.6**/7**,North of Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.95**	**188**	P	**P**	**14 55 33.2**	**-0.7**
	3.6nm,1.0s,mb3.8,baz=170,slow=11,SNR=2.7						
WRAB	**Tennant Creek**	**24.17**	**167**	*e*P	**P**	**14 55 56.1**	**+0.3**
	3.3nm,1.0s,mb3.7						
WRA	**Warramunga Arr**	**24.18**	**167**	P	**P**	**14 55 57.5**	**+1.7**
	0.9nm,0.7s,mb3.3,baz=346,slow=10,SNR=14						
ASAR	**Alice Springs**	**27.71**	**170**	P	**P**	**14 56 28.3**	**-0.5**
	0.4nm,0.8s,mb3.1,baz=4.4,slow=12,SNR=3.3						
ASAR				PcP	PcP	14 59 45.5	-0.5
	0.3nm,0.6s,baz=6.7,slow=2.9,SNR=5.1						
CTAO	**Charters Tower**	**29.25**	**145**	P	**P**	**14 56 41.4**	**-1.4**
CMAR	**Chiang Mai Arr**	**32.65**	**299**	P	**P**	**14 57 12.3**	**-0.5**
	0.7nm,0.8s,mb3.6,baz=108,slow=6.5,SNR=4.9						
STKA	**Stephens Creek**	**37.48**	**162**	P	**P**	**14 57 54.4**	**+0.6**
	0.6nm,0.4s,mb3.8,baz=333,slow=9.0,SNR=3.7						
STKA	**Stephens Creek**	**37.48**	**162**	P	**P**	**14 57 54.4**	**+0.6**
MKAR	**Makanchi Array**	**58.72**	**324**	P	**P**	**15 00 39.0**	**+0.5**
	0.9nm,0.6s,mb4.0,baz=114,slow=7.8,SNR=12						

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*BER **02** 14:53:12.6±3.5,67.84N×20.17E,ML1.5,Suspected explosion*
HEL 02 14:53:16.3±0.2**,68.01N×20.65E,ML1.7,ML1.7**(BER)**,Explosion,Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KIF	**Kilpisjarvi**	**1.00**	**3**	*e*P	Pb	14 53 35.1	-1.2
KIF				*e*S	Sg	14 53 48.4	-1.3
KTK1	**Kautokeino**	**1.39**	**42**	*e*P	Pb	14 53 42.2	-0.6
KTK1				*e*SN	Sn	14 54 02.7	+0.5
KTK1				AML	AML	14 54 06.9	
	comp=Z,6.8nm,0.3s						
TRO	**Tromso**	**1.75**	**340**	*e*P	Pn	14 53 44.1	-4.0
TRO				*e*S	Sn	14 54 09.0	-2.5
TRO				AML	AML	14 54 11.9	
	comp=Z,5.2nm,0.3s						
SGF	**Sodankyl**	**2.31**	**102**	*e*P	Pn	14 53 54.8	-1.4
SGF				*e*S	Sn	14 54 23.9	-1.7
LOF	**Lofoten**	**2.67**	**276**	*e*S	Sn	14 54 33.0	-2.0
LOF				AML	AML	14 54 37.1	
	comp=Z,4.0nm,0.7s						
KEV	**Kevo**	**2.89**	**50**	*e*P	Pn	14 54 03.3	-1.1
KEV				*e*S	Sn	14 54 38.1	-2.4
KEV				MSG		14 54 49.0	
	comp=Z,2.7nm,0.3s						
MELS	**Mels**	**2.91**	**250**	*e*Sg	Sg	14 54 35.0	-18
MOR8	**Moi Rana**	**3.05**	**236**	AML	AML	14 54 35.7	
	comp=Z,11nm,0.3s						
MOR8	**Moi Rana**	**3.05**	**236**	*e*Sg	Sn	14 54 33.8	-11
MOR8				AML	AML	14 54 35.7	
	comp=Z,11nm,0.3s						
OUL	**Oulu**	**3.61**	**142**	*e*P	Pn	14 54 13.9	-0.7
OUL				*e*SG	Sg	14 55 07.4	-9.0
OUL				MSG		14 55 11.1	
	comp=Z,1.5nm,0.3s						
MSF	**Maaselka**	**3.91**	**119**	*e*P	Pn	14 54 17.8	-1.1
MSF				*e*SG	Sb	14 55 15.8	+1.6
MSF				MSG		14 55 16.1	
	comp=Z,0.9nm,0.3s						

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*NEIC **02** 15:06:20.7±1.3,17.67S×178.81W,h518km±14km, mb4.6/21,Error ellipse: s-maj=9.8km s-min=8.1km az=144.0*
*BJI **02** 15:06:20.6,17.70S×178.80W,h517km,mB4.4,mb4.5*
*IDC **02** 15:06:22.8±1.7,17.87S×178.80W,h544km±20km, mb3.8/14,mb1 4.0/14,mb1mx3.9/17,Error ellipse: s-maj=15.2km s-min=9.5km az=148.0*
*SYO **02** 15:06:23.3,17.67S×178.90W,h548km,MB4.4*
ISC 02 15:06:19.7±1.4**,17.75S**±0.07×**178.80W**±0.05**,h516**km±17km**,n81,**σ1^s**03**/67**,mb4.5**/35**,7C-10D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.53**	**250**	*e*P	**P**	**15 09 26.0**	**+1.1**
NOUC	**Port Laguerre**	**14.66**	**250**	*e*P	**P**	**15 09 27.8**	**+1.5**
URZ	**Urewera**	**20.75**	**189**	P	**P**	**15 10 23.5**	**-1.5**
	17nm,0.6s,baz=32,slow=5.8,SNR=7.3						
URZ				S	**S**	**15 13 40.2**	**-2.2**
	12nm,0.9s,baz=192,slow=11,SNR=3.6						
RPZ	**Rata Peaks**	**27.27**	**196**	P	**P**	**15 11 23.4**	**-0.3**
	7.0nm,0.8s,mb4.3,baz=40,slow=18,SNR=2.7						
PAE	**Paea**	**27.82**	**94**	*e*P	**P**	**15 11 28.4**	**-0.3**
	114nm,1.3s,mb5.4						
PPT	**Papeete**	**27.83**	**94**	P	**P**	**15 11 27.4**	**-1.4**
	17nm,0.6s,mb4.9,baz=62,slow=24,SNR=3.6						
PPT	**Papeete**	**27.83**	**94**	*e*P	**P**	**15 11 28.8**	**0.0**
	47nm,1.4s,mb4.9						
TIAR	**Tiarei**	**28.05**	**94**	*e*P	**P**	**15 11 30.9**	**+0.2**
	60nm,0.7s,mb5.3						
TVO	**Taravao**	**28.12**	**95**	*e*P	**P**	**15 11 31.2**	**-0.1**
	64nm,0.8s,mb5.3						
PMOR	**Pomariorio Ree**	**29.76**	**89**	*e*P	**P**	**15 11 44.8**	**-0.7**
	57nm,1.0s,mb5.1						
VAH	**Vaihoa**	**29.97**	**90**	*e*P	**P**	**15 11 46.9**	**-0.4**
CTA	**Charters Tower**	**33.11**	**260**	⇓*i*P	**P**	**15 12 13.9**	**0.0**
	36nm,0.8s,mb5.0						
CTA	**Charters Tower**	**33.11**	**260**	P	**P**	**15 12 13.9**	**0.0**
	40nm,0.7s,mb5.1,baz=88,slow=10,SNR=65						
CTAO	**Charters Tower**	**33.11**	**260**	*e*P	**P**	**15 12 13.7**	**-0.2**
	50nm,0.8s,mb5.1						
CNB	**Canberra Magne**	**33.23**	**232**	⇓*i*P	**P**	**15 12 16.0**	**+1.2**
	49nm,0.5s,mb5.3						
WAU	**Wau**	**35.15**	**283**	*e*P	**P**	**15 12 32.3**	**+1.3**
TOO	**Toolangi**	**36.98**	**230**	⇓*i*P	**P**	**15 12 47.0**	**+1.1**
	37nm,0.8s,mb5.0						
TAU	**Tasmania Unive**	**38.11**	**222**	*e*P	**P**	**15 12 56.0**	**+1.0**
	15nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**38.38**	**241**	⇓*i*P	**P**	**15 12 58.4**	**+1.0**
	57nm,1.0s,mb5.0						
STKA	**Stephens Creek**	**38.38**	**241**	P	**P**	**15 12 58.5**	**+1.2**
	40nm,0.6s,mb5.1,baz=89,slow=9.3,SNR=116						
ADE	**Adelaide**	**41.41**	**237**	*e*P	**P**	**15 13 22.7**	**+0.9**
WB2	**Warramunga Arr**	**44.29**	**259**	⇓*i*P	**P**	**15 13 43.5**	**-1.2**
WRAB	**Tennant Creek**	**44.29**	**259**	P	**P**	**15 13 43.0**	**-1.7**
	213nm,0.7s,SNR=15						
WRAB	**Tennant Creek**	**44.29**	**259**	*e*P	**P**	**15 13 43.5**	**-1.2**
	42nm,0.8s,mb5.0						
WRA	**Warramunga Arr**	**44.30**	**259**	P	**P**	**15 13 43.5**	**-1.3**
	19nm,0.7s,mb4.8,baz=94,slow=7.1,SNR=160						
WRA				PcP	PcP	15 15 16.6	-1.8
	2.9nm,0.7s,baz=87,slow=3.7,SNR=4.7						
ASAR	**Alice Springs**	**44.48**	**254**	P	**P**	**15 13 45.8**	**-0.4**
	166nm,0.6s,baz=90,slow=7.9,SNR=3420						
ASAR				ScP		15 18 19.9	
	1.5nm,0.8s,baz=110,slow=4.7,SNR=4.2						
ASAR				S	**S**	**15 19 39.4**	**-4.4**
	2.6nm,0.9s,baz=87,slow=15,SNR=6.6						
ASPA	**Alice Springs**	**44.48**	**254**	⇓*i*P	**P**	**15 13 45.8**	**-0.4**
KAKA	**Kakadu**	**47.26**	**269**	⇑*i*P	**P**	**15 14 11.6**	**+4.0**
	53nm,0.4s,mb5.4						
GUMO	**Guam**	**47.49**	**309**	*e*P	**P**	**15 14 09.2**	**-0.2**
	41nm,1.0s,mb4.9						
FORT	**Forrest**	**49.74**	**244**	⇓*i*P	**P**	**15 14 25.0**	**-1.1**
	279nm,0.6s						
FITZ	**Fitzroy Crossi**	**52.69**	**260**	*e*P	**P**	**15 14 47.0**	**-0.8**
	17nm,0.9s,mb4.4						
FITZ	**Fitzroy Crossi**	**52.69**	**260**	P	**P**	**15 14 47.2**	**-0.6**
	7.8nm,0.3s,mb4.5,baz=116,slow=1.6,SNR=15						
MBWA	**Marble Bar**	**57.76**	**256**	*e*P	**P**	**15 15 21.7**	**-1.3**
	20nm,0.6s,mb4.5						
NWAO	**Narrogin (SRO)**	**58.96**	**242**	*e*P	**P**	**15 15 29.0**	**-2.0**
	39nm,1.4s,mb4.5						
BLDU	**Ballidu**	**59.52**	**245**	⇓*i*P	**P**	**15 15 33.2**	**-1.5**
	6.4nm,0.7s,mb4.1						
MUN	**Mundaring**	**59.87**	**243**	⇑*i*P	**P**	**15 15 36.4**	**-0.6**
	10nm,0.9s,mb4.2						
SBA	**Scott Base**	**60.55**	**183**	*e*P	**P**	**15 15 42.3**	**+1.3**
	2.4nm,0.9s,mb3.5						
CASY	**Casey**	**66.13**	**205**	*e*P	**P**	**15 16 16.2**	**-0.4**
MAJO	**Matsushiro**	**67.56**	**324**	*e*P	**P**	**15 16 24.6**	**-1.3**
	6.3nm,0.4s,mb4.5						
QSPA	**South Pole Qui**	**72.30**	**180**	*e*P	**P**	**15 16 53.8**	**+0.5**
	4.8nm,0.8s,mb4.0						
KS15	**Wonju Array Si**	**74.36**	**318**	P	**P**	**15 17 05.2**	**-0.4**
MDJ	**Mudanjiang**	**77.84**	**325**	P	**P**	**15 17 24.2**	**-0.4**
MDJ				AMB	AMB		
	comp=Z,55nm,4.6s						
YBH	**Yreka Blue Hor**	**78.64**	**39**	P	**P**	**15 17 29.5**	**+0.6**
	comp=Z,3.0nm,0.9s,mb3.6,baz=196,slow=2.1,SNR=9.9						
MTUM	**Tungsten Hills**	**78.81**	**45**	*e*P	**P**	**15 17 30.5**	**+0.6**
HUMO	**Hull Mountain**	**79.01**	**38**	*e*P	**P**	**15 17 30.9**	**+0.1**
	comp=Z,3.2nm,1.0s,mb3.6						
NVAR	**Mina Array Bea**	**79.57**	**44**	P	**P**	**15 17 34.4**	**+0.6**
	comp=Z,1.9nm,0.7s,mb3.5,baz=214,slow=7.2,SNR=20						
MNV	**Mina**	**79.67**	**44**	*e*P	**P**	**15 17 33.7**	**-0.7**
	comp=Z,4.5nm,1.1s,mb3.7						
CN2	**Changchun**	**79.67**	**323**	*e*P	**P**	**15 17 36.0**	**+1.7**
MAW	**Mawson**	**83.88**	**200**	⇑*i*P	**P**	**15 17 55.7**	**+0.6**
	comp=Z,2.9nm,0.7s,mb3.9						
MAW	**Mawson**	**83.88**	**200**	P	**P**	**15 17 55.6**	**+0.5**
	comp=Z,3.4nm,0.7s,mb4.0,baz=124,slow=5.3,SNR=14						
COLA	**College**	**85.70**	**13**	P	**P**	**15 18 02.7**	**-1.2**
	comp=Z,6.1nm,1.1s,mb4.1						
ILAR	**Eielson Array**	**85.82**	**13**	P	**P**	**15 18 03.1**	**-1.4**
	comp=Z,1.1nm,0.4s,mb3.8,baz=241,slow=4.9,SNR=28						
TXAR	**Lajitas Array**	**86.22**	**58**	P	**P**	**15 18 08.5**	**+1.2**
	comp=Z,1.4nm,0.8s,mb3.6,baz=217,slow=6.3,SNR=7.2						
MCMT	**McKenzie Canyo**	**86.36**	**41**	*e*P	**P**	**15 18 07.2**	**-0.4**
RRI2	**Red Ridge**	**86.61**	**42**	*e*P	**P**	**15 18 09.2**	**+0.3**
MOOW	**Moose Ponds**	**87.17**	**42**	*e*P	**P**	**15 18 12.2**	**+0.7**
PDAR	**Pinedale Array**	**87.49**	**44**	P	**P**	**15 18 13.1**	**+0.1**
	comp=Z,1.1nm,0.7s,mb3.6,baz=215,slow=2.8,SNR=8.9						
CM31	**Chiang Mai Arr**	**88.48**	**290**	P	**P**	**15 18 19.0**	**+0.8**
	comp=Z,7.0nm,1.0s,mb4.3						
CMAR	**Chiang Mai Arr**	**88.48**	**290**	P	**P**	**15 18 19.1**	**+1.0**
	comp=Z,2.9nm,0.9s,mb4.0,baz=100,slow=2.7,SNR=14						
SYO	**Syowa Base**	**89.23**	**193**	⇑P	**P**	**15 18 19.4**	**-1.1**
SYO	**Syowa Base**	**89.23**	**193**	⇓PcP	PcP	15 18 21.6	-0.1
SYO	**Syowa Base**	**89.23**	**193**	⇑pP	pP	15 20 22.1	+6.4
LZH	**Lanzhou**	**90.50**	**308**	*e*P	**P**	**15 18 28.2**	**+1.1**
LZH				PP	PP	15 22 15.3	+2.9
LZH				AMB	AMB		
	comp=Z,23nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,73nm,4.0s						
SNAA	**Sanae**	**90.76**	**179**		**P**	**15 18 27.1**	**-0.4**
VNA3	**Neumayer Olymp**	**90.92**	**177**	⇑*i*	**P**	**15 18 30.7**	**+2.5**
VNA2	**Neumayer--Watz**	**91.36**	**177**	⇓*i*	**P**	**15 18 32.7**	**+2.4**
VNA1	**Neumayer--Stat**	**91.58**	**177**	⇑*i*	**P**	**15 18 31.9**	**+0.6**
MKAR	**Makanchi Array**	**108.76**	**314**	PKiKP		15 23 49.5	
	comp=Z,0.5nm,0.8s,baz=133,slow=1.1,SNR=2.8						
BVAR	**Borovoye Array**	**116.49**	**321**	PKP	PKPdf	15 24 04.1	0.0
	comp=Z,0.5nm,0.4s,baz=117,slow=3.3,SNR=4.6						
ZRNK	**Zerenda**	**117.33**	**321**	*e*PKPdf	PKPdf	15 24 05.3	-0.4
BDFB	**Brasilia**	**121.23**	**121**	PKP	PKPdf	15 24 15.3	+1.2
	comp=Z,2.0nm,0.4s,baz=42,slow=26,SNR=4.1						
ARCES	**ARCESS Array B**	**126.09**	**350**	PKP	PKPdf	15 24 22.2	-0.1
	comp=Z,3.7nm,1.1s,baz=45,slow=1.7,SNR=4.2						
FINES	**FINESS Array B**	**132.94**	**344**	SKPbc		15 27 14.2	
	comp=Z,3.1nm,0.9s,baz=90,slow=1.4,SNR=7.8						
BRTR	**Keskin Array B**	**144.41**	**315**	PKP	PKPdf	15 24 57.0	+0.3
	comp=Z,1.7nm,0.7s,baz=135,slow=3.5,SNR=8.1						
CLL	**Collm**	**145.23**	**347**	*i* PKP1	PKPbc	15 24 59.9	+1.3
BRG	**Berggiesshubel**	**145.42**	**346**	*i* P	PKPdf	15 25 01.2	+3.2
MLR	**Muntele Rosu**	**145.51**	**329**	PKPbc	PKPbc	15 25 00.9	+1.3
	comp=Z,1.1nm,0.4s,baz=41,slow=4.9,SNR=3.2						
MBAR	**Mbarara**	**145.69**	**241**	*e*PKPdf	PKPdf	15 25 01.7	+2.1
GRA1	**Grafenberg Arr**	**147.13**	**348**	*e*PKP	PKPdf	15 25 05.2	+4.4
KHC	**Kasperske Hory**	**147.13**	**345**	*e*P	PKPdf	15 25 05.0	+4.2
GERES	**GERESS Array B**	**147.36**	**345**	PKPbc	PKPdf	15 25 05.4	+4.2
	comp=Z,1.3nm,0.6s,baz=26,slow=2.2,SNR=12						

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*NIED **02** 15:22:00,28.10N×128.00E,h5km,Mw5.0 Best double couple: M0 3.09×10^16 NP1:φs293°,δ82°,λ34°. NP2:φs198°,δ57°,λ170°.*
*IDC **02** 15:22:05.5±0.6,28.01N×128.01E,mb4.2/19,mb1 4.4/22, mb1mx4.3/29,ML3.8/3,MS4.3/31,Ms1 4.3/31, ms1mx4.3/38,Error ellipse: s-maj=25.7km s-min=11.0km az=68.0*
*JMA **02** 15:22:05.3±0.2,28.11N×128.04E,h5km±3km,M5.0*
*MOS **02** 15:22:08.5±1.6,28.13N×128.23E,h33km,mb5.2/7,Error ellipse: s-maj=23.8km s-min=10.8km az=120.3*
*BJI **02** 15:22:10.3,27.99N×128.00E,h41km,mB5.0,mb4.9, ML4.8,Ms4.9,Msz4.8*
*NEIC **02** 15:22:11.4±1.1,27.93N×127.91E,h40km±10km,mb5.1/22, MS4.4/11,MW5.0(NIED),Error ellipse: s-maj=9.7km s-min=6.1km az=69.0*
*HRVD **02** 15:22:11.4±0.2,28.01N×128.01E,h12km,MW5.0/62, Centroid moment Tensor Solution. LP body waves: s31,c48;Mantle waves: s62,c115; Half duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}-0.11±.10; $M_{\theta\theta}$2.46±.09; $M_{\phi\phi}$-2.35±.10; $M_{r\theta}$-0.08±.26; $M_{\theta\phi}$2.82±.08; $M_{\phi r}$-1.24±.30; Best double couple: $M_0$3.91×10^16 NP1: φs289°,δ72°,λ-5°. NP2:φs21°,δ85°,λ-162°. Principal axes: T 3.85, Plg9°, Azm154°; N .11, Plg72°, Azm36°; P -3.96, Plg16°, Azm246°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 02 15:22:06.1±0.2**,28.04N**±0.02×**128.05E**±0.03**,h10**km**,n131,**σ1^s**39**/125**,mb4.8**/38**,MS4.4**/41**,3C-2D,Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.84**	**108**	P	**Pb**	**15 22 22.0**	**-0.2**
JTK				S	**Sb**	**15 22 33.6**	**+0.3**
JIH	**Iheya**	**1.00**	**184**	P	**Pb**	**15 22 25.6**	**+0.5**
JIH				S	**Sb**	**15 22 40.2**	**+2.0**
JOW	**Kunigami**	**1.22**	**171**	Pn	**Pn**	**15 22 29.6**	**+0.3**
JOW				Sn	**Sn**	**15 22 45.5**	**-0.3**
	528nm,0.3s,baz=160,slow=23,SNR=11						
JOW	**Kunigami**	**1.22**	**171**	P	**Pb**	**15 22 29.1**	**+0.3**
JOW				S	**Sb**	**15 22 46.1**	**+1.6**
JAM	**Amami Oshima**	**1.42**	**75**	P	**Pn**	**15 22 31.3**	**-0.8**
JAM				S	**Sb**	**15 22 50.6**	**+0.4**
JAGN	**Aguni-jima**	**1.62**	**207**	P	**Pn**	**15 22 35.2**	**+0.3**
NAH1	**Naha**	**1.86**	**190**	P	**Pn**	**15 22 39.4**	**+1.1**
JJT2	**Tamagusuku 2**	**1.92**	**188**	P	**Pn**	**15 22 40.5**	**+1.4**
JJT2				*e*S	**Sn**	**15 23 06.7**	**+3.2**
JKE	**Kume jima 2**	**2.05**	**214**	P	**Pn**	**15 22 42.1**	**+1.1**
JTN	**Tanegashima 3**	**3.65**	**44**	P	**Pn**	**15 23 05.7**	**+1.8**
JTA	**Tamana**	**5.35**	**23**	P	**Pn**	**15 23 32.4**	**+4.4**
JNU	**Nakatsue**	**5.62**	**25**	Pn	**Pn**	**15 23 34.8**	**+3.0**
	5.5nm,0.3s,baz=206,slow=6.8,SNR=17						
SSE	**Sheshan**	**6.71**	**299**	P	**Pn**	**15 23 44.9**	**-2.2**
SSE				S	**Sn**	**15 25 06.4**	**+2.0**
SSE				Smax			
	comp=N,253nm,1.6s						
SSE				Smax			
	comp=E,216nm,1.8s						
NJ2	**Nanjing**	**8.91**	**299**	*e*P	**P**	**15 24 19.6**	**+1.7**
NJ2				S	**Sn**	**15 25 58.8**	**-0.7**
NJ2				AMB	AMB		
	comp=Z,80nm,0.9s						
NJ2				LR	LR		
	comp=Z,18μm,13.8s						
QZH	**Quanzhou**	**9.02**	**252**	*e*P	**P**	**15 24 23.0**	**+3.7**
QZH				LR	LR		
	comp=Z,11μm,9.6s						
JHJ	**Hachijo jima 2**	**11.30**	**61**	LR	LR	15 29 00.6	
	comp=Z,1μm,20.9s,baz=333,slow=36						
MAJO	**Matsushiro**	**12.06**	**43**	*e*P	**P**	**15 25 06.9**	**+5.9**
MAT	**Matsushiro**	**12.06**	**43**	P	**P**	**15 25 02.3**	**+1.3**
MAT				S	**S**	**15 27 18.0**	**+1.3**
MAT	**Matsushiro**	**12.06**	**43**	P	**P**	**15 25 10.0**	**+9.0**
MAT				*e*S	Sx	15 27 32.0	
WHN	**Wuhan**	**12.22**	**285**	*e*P	**P**	**15 25 05.0**	**+1.9**
WHN				LR	LR		
	comp=Z,5μm,12.5s						
TIA	**Tai'an**	**12.32**	**314**	*e*P	**P**	**15 25 07.0**	**+2.4**
TIA				LR	LR		
	comp=N,3μm,12.0s						
TIA				LR	LR		
	comp=E,4μm,12.0s						
CBIJ	**Chichi jima**	**12.58**	**91**	Pn	**P**	**15 25 07.5**	**-0.5**
	comp=E,2.4nm,0.3s,baz=286,slow=20,SNR=3.7						
CBIJ				LR	LR	15 29 41.7	
	comp=E,1μm,18.9s,baz=152,slow=36						
TGY	**Tagaytay City**	**15.37**	**207**	LR	LR	15 31 55.9	
	comp=E,2μm,19.0s,baz=17,slow=38						
BJT	**Baijiatuau**	**15.46**	**324**	*e*P	**P**	**15 25 47.1**	**+1.2**
	comp=E,79nm,1.1s						
BJI	**Beijing**	**15.48**	**324**	P	**P**	**15 25 45.5**	**-0.6**
BJI				AMB	AMB		
	comp=Z,390nm,6.7s						
BJI				LR	LR		
	comp=N,2μm,13.9s						
BJI				LR	LR		
	comp=E,1μm,13.9s						
BJI				LR	LR		
	comp=Z,1μm,18.9s						
CN2	**Changchun**	**15.87**	**353**	*e*P	**P**	**15 25 56.5**	**+5.4**
CN2				*e*S	**S**	**15 28 51.3**	**+4.1**
CN2				AMB	AMB		
	comp=Z,300nm,6.0s						
CN2				LR	LR		
	comp=Z,5μm,15.0s						
TIY	**Taiyuan**	**16.26**	**310**	*e*P	**P**	**15 25 56.2**	**0.0**
TIY				S	**S**	**15 29 03.0**	**+6.5**
TIY				LR	LR		
	comp=Z,2μm,10.0s						
ENH	**Enshi**	**16.37**	**282**	*e*P	**P**	**15 26 01.9**	**+4.3**
	comp=Z,159nm,1.2s						
MDJ	**Mudanjiang**	**16.59**	**4**	P	**P**	**15 26 05.1**	**+4.8**
MDJ				AP		15 26 15.7	
MDJ				S	**S**	**15 29 11.3**	**+7.4**
MDJ				SCP		15 34 20.4	
MDJ				SCS	ScS	15 37 57.5	-5.6
MDJ				AMB	AMB		
	comp=Z,190nm,3.7s						
MDJ				LR	LR		
	comp=N,1μm,14.6s						
MDJ				LR	LR		
	comp=E,2μm,11.8s						
MDJ				LR	LR		
	comp=Z,2μm,16.4s						
MDJ	**Mudanjiang**	**16.59**	**4**	*e*P	**P**	**15 26 04.9**	**+4.6**
	comp=Z,41nm,1.1s						
XAN	**Xi'an**	**17.44**	**295**	P	**P**	**15 26 07.7**	**-3.4**
XAN				S	**S**	**15 29 30.0**	**+6.5**
XAN				LR	LR		
	comp=N,4μm,14.8s						
XAN				LR	LR		
	comp=E,2μm,15.8s						
XAN				LR	LR		
	comp=Z,3μm,14.6s						
HHC	**Hu-ho-hao-te**	**18.62**	**318**	*e*P	**P**	**15 26 28.9**	**+3.2**
HHC				XP		15 26 42.3	
HHC				PP	PP	15 26 47.6	+6.1
HHC				S	**S**	**15 29 58.0**	**+7.8**
HHC				AMB	AMB		
	comp=Z,345nm,4.6s						
HHC				LR	LR		
	comp=N,2μm,12.6s						
HHC				LR	LR		
	comp=E,2μm,12.2s						
HHC				LR	LR		
	comp=Z,2μm,12.6s						
QIZ	**Qiongzhong**	**18.93**	**246**	*e*P	**P**	**15 26 28.8**	**-0.8**
QIZ				*e*S	**S**	**15 29 50.3**	**-7.1**
QIZ				XS		15 30 10.8	
QIZ				LR	LR		
	comp=E,2μm,11.2s						
QIZ				LR	LR		
	comp=Z,3μm,11.3s						
GYA	**Guiyang**	**19.08**	**270**	P	**P**	**15 26 33.7**	**+2.4**

GYA PP PP 15 26 50.8 +2.7
GYA AMB AMB
comp=Z,500nm,4.2s
GYA LR LR
comp=Z,3μm,13.5s
BTO Baotou 19.42 315 *eP* **P 15 26 32.2 -3.0**
BTO AMB AMB
comp=Z,29nm,0.8s
ASAJ Asahikawa 19.84 32 P **P 15 26 38.1 -1.7**
comp=Z,0.2nm,0.3s,baz=345,slow=28,SNR=2.4
ASAJ LR LR 15 33 33.5
comp=Z,449nm,20.3s,baz=79,slow=35
GUMO Guam 21.27 129 *eP* **P 15 26 51.8 -3.1**
comp=Z,149nm,1.3s,mb5.2
CD2 Chengdu 21.33 284 ⇓*i* P **P 15 26 55.8 +0.3**
CD2 S **S 15 30 44.9 -2.5**
CD2 AMB AMB
comp=Z,90nm,1.1s,mb5.0
CD2 LR LR
comp=Z,2μm,15.0s,MS4.6
LZH Lanzhou 21.99 297 *eP* **P 15 27 01.8 -0.2**
LZH AP 15 27 18.4
LZH PP PP 15 27 30.4 +2.6
LZH S **S 15 30 52.5 -7.1**
LZH SS SS 15 31 37.4 -0.6
LZH AMB AMB
comp=Z,58nm,1.5s,mb4.8
LZH AMB AMB
comp=Z,136nm,4.0s
LZH LR LR
comp=Z,3μm,13.5s,MS4.9
YSS Yuzh-Sakhalins 22.12 27 PFAKE 15 27 20.0 +17
YSS LR LR
comp=Z,708nm,20.0s,MS4.1
HIA Hailar 22.14 345 *eP* **P 15 27 03.5 +0.1**
comp=Z,9.6nm,0.8s,mb4.3
HIA LR LR
comp=Z,2μm,19.0s,MS4.6
KMI Kunming 22.81 269 *eP* **P 15 27 10.7 +0.4**
KMI AP 15 27 21.1
KMI PP PP 15 27 39.6 +0.2
KMI PPP PPP 15 27 47.5 -1.9
KMI S **S 15 31 11.2 -3.5**
KMI AMB AMB
comp=Z,216nm,3.7s
KMI LR LR
comp=N,2μm,12.3s,MS4.9
KMI LR LR
comp=E,2μm,13.7s,MS4.9
KMI LR LR
comp=Z,1μm,14.7s,MS4.5
SONM Songino Array 25.96 325 P **P 15 27 39.7 -0.7**
comp=Z,16nm,1.1s,mb4.5,baz=140,slow=8.3,SNR=36
GTA Gaotai 25.97 303 *eP* **P 15 27 40.9 +0.3**
GTA XP sP 15 27 58.2 +13
GTA PP PP 15 28 23.3 +1.7
GTA S **S 15 31 59.7 -9.0**
GTA XS 15 32 29.3
GTA PCS 15 34 50.9
GTA SCS ScS 15 38 31.6 -4.6
GTA AMB AMB
comp=Z,83nm,5.4s
GTA LR LR
comp=N,2μm,18.0s,MS4.7
GTA LR LR
comp=E,922nm,16.4s,MS4.7
GTA LR LR
comp=Z,1μm,12.2s,MS4.6
CMAR Chiang Mai Arr 28.33 257 P **P 15 28 03.6 +1.3**
comp=Z,0.6nm,0.9s,baz=50,slow=7.0,SNR=4.4
CMAR LR LR 15 40 43.1
comp=Z,628nm,18.6s,baz=70,slow=40
BOD Bodaibo 31.36 346 *eP* **P 15 28 25.4 -3.4**
LSA Lhasa 32.27 282 P **P 15 28 35.3 -1.8**
LSA AMB AMB
comp=Z,70nm,4.5s
LSA LR LR
comp=N,1μm,13.2s,MS4.9
LSA LR LR
comp=E,940nm,12.0s,MS4.9
LSA LR LR
comp=Z,1μm,11.9s,MS4.8
SHL Shillong 32.30 274 *eP* **P 15 28 36.2 -1.3**
YAK Yakutsk 34.01 1 PFAKE 15 29 00.0 +8.1
YAK LR LR
comp=Z,1μm,19.0s,MS4.7
WMQ Urumqi 35.88 307 P **P 15 29 08.0 -0.1**
WMQ AP pP 15 29 18.0 +6.9
WMQ PP PP 15 30 32.0 +2.6
WMQ S **S 15 34 47.0 +1.7**
WMQ AMB AMB
comp=Z,32nm,1.2s,mb5.1
WMQ LR LR
comp=Z,985nm,16.0s,MS4.7
PKI Pulchoki 37.58 280 *eP* **P 15 29 22.8 +0.2**
comp=Z,62nm,1.2s,mb5.2
KKN Kakani 37.65 280 *eP* **P 15 29 22.8 -0.4**
comp=Z,121nm,1.4s,mb5.4
DMN Daman 37.84 280 *eP* **P 15 29 23.9 -0.8**
comp=Z,141nm,1.5s,mb5.5
GKN Gorkha 38.17 280 *eP* **P 15 29 26.8 -0.7**
comp=Z,96nm,1.2s,mb5.4
KOLN Koldanda 39.12 280 *eP* **P 15 29 33.5 -2.0**
MKAR Makanchi Array 40.23 310 P **P 15 29 44.1 -0.3**
comp=Z,5.6nm,0.8s,mb4.3,baz=108,slow=9.4,SNR=14
MKAR LR LR 15 46 43.0
comp=Z,408nm,20.1s,MS4.3,baz=109,slow=37
MKAR Makanchi Array 40.23 310 *i* P **P 15 29 43.6 -0.8**
MKAR pmax pmax
comp=Z,17nm,1.0s
ZAL Zalesovo 40.73 322 P **P 15 29 47.7 -0.8**
comp=Z,2.5nm,0.9s,mb3.9,baz=266,slow=9.3,SNR=11
ZAL LR LR 15 49 36.0
comp=Z,590nm,18.5s,MS4.5,baz=163,slow=40
ZAL Zalesovo 40.73 322 P **P 15 29 47.7 -0.8**
ZAL LR LR 15 49 36.0
PMG Port Moresby 41.56 151 P **P 15 29 55.4 -0.4**
comp=Z,13nm,1.0s,mb4.5,baz=23,slow=9.7,SNR=4.5
PMG LR LR 15 44 49.5
comp=Z,569nm,21.1s,MS4.4,baz=17,slow=33
NVS Novosibirsk 41.91 322 *i* P **P 15 29 58.7 +0.6**
NVS pmax pmax
comp=Z,57nm,2.2s,mb4.8
NVS pmax pmax
comp=E,41nm,1.7s
KURK Kurchatov 43.41 315 *i* P **P 15 30 09.3 -1.1**
KURK pmax pmax
comp=Z,61nm,1.8s,mb5.0
KURK Kurchatov 43.41 315 *eP* **P 15 30 09.2 -1.2**
comp=Z,68nm,1.4s,mb5.2
DDI Dehra Dun 43.43 286 *eP* **P 15 30 11.1 +0.2**
KSH Kashi 44.23 299 P **P 15 30 19.2 +2.0**
KSH *e*PCP PcP 15 32 01.7 -0.7
KSH *e*PP PP 15 32 06.1 +4.2
KSH *e*PPP PPP 15 32 46.6 +6.8
KSH *e*SCP 15 35 45.3
KSH *e*PCS 15 35 53.2
KSH *e*S **S 15 36 53.0 +2.9**
KSH *e*SS SS 15 40 03.7 +3.6
KSH *e*SCS ScS 15 40 07.3 -6.3
KSH AMB AMB
comp=Z,250nm,8.6s
NDI New Delhi 44.45 283 *eP* **P 15 30 18.0 -1.2**
FRU Bishkek 45.24 304 *eP* **P 15 30 27.0 +1.7**
FRU pmax pmax
comp=Z,40nm,1.8s,mb5.0
AAK Ala-Archa 45.33 303 *eP* **P 15 30 24.8 -1.2**
comp=Z,14nm,1.4s,mb4.6
AAK LR LR
comp=Z,220nm,19.0s,MS4.1
FITZ Fitzroy Crossi 45.93 183 *eP* **P 15 30 30.2 -0.9**
comp=Z,12nm,1.2s,mb4.7
WRAB Tennant Creek 48.08 172 *eP* **P 15 30 46.0 -2.1**
comp=Z,46nm,1.2s,mb5.4
WRAB LR LR
comp=Z,134nm,19.0s,MS3.9
WRA Warramunga Arr 48.09 172 P **P 15 30 46.2 -1.8**
comp=Z,13nm,1.1s,mb4.9,baz=349,slow=8.4,SNR=26
WRA LR LR 15 50 10.0
comp=Z,244nm,19.7s,MS4.2,baz=25,slow=35
WRA Warramunga Arr 48.09 172 P **P 15 30 46.2 -1.8**
WRA LR LR 15 50 10.0
WB2 Warramunga Arr 48.09 172 *eP* **P 15 30 46.7 -1.4**
VOSK Vostochnaya 48.44 317 P **P 15 30 48.3 -2.0**
VOSK pmax pmax
comp=Z,36nm,1.5s,mb5.2
BVA0 Borovoye Array 48.83 317 *i* P **P 15 30 52.3 -1.0**
BVAR Borovoye Array 48.83 317 P **P 15 30 52.6 -0.8**
comp=Z,13nm,1.1s,baz=104,slow=6.1,SNR=16
BVAR LR LR 15 53 28.6
comp=Z,25nm,19.4s,baz=210,slow=39
BRVK Borovoye 48.90 317 *eP* **P 15 30 52.5 -1.4**
comp=Z,59nm,1.2s,mb5.5
BRVK LR LR
comp=Z,544nm,20.0s,MS4.5
PALK Pallekele 49.24 254 PFAKE 15 31 10.0 +13
PALK LR LR
comp=Z,74nm,19.0s,MS3.7
ZRNK Zerenda 49.65 317 P **P 15 30 58.5 -1.2**
ZRNK pmax pmax
comp=Z,46nm,1.2s,mb5.4
ZRNK Zerenda 49.65 317 *eP* **P 15 30 58.6 -1.1**
comp=Z,39nm,1.1s,mb5.3
CTA Charters Tower 50.98 158 P **P 15 31 09.4 -0.9**
comp=Z,9.5nm,1.1s,mb4.6,baz=326,slow=11,SNR=2.8
CTA LR LR 15 52 32.6
comp=Z,428nm,18.1s,MS4.5,baz=161,slow=36
CTAO Charters Tower 50.98 158 P **P 15 31 09.0 -1.2**
comp=Z,24nm,1.4s,mb4.9
CTAO LR LR
comp=Z,405nm,19.0s,MS4.5
ASAR Alice Springs 51.72 173 P **P 15 31 14.8 -0.9**
comp=Z,6.9nm,1.1s,mb4.5,baz=359,slow=6.7,SNR=23
ASAR LR LR 15 54 32.7
comp=Z,126nm,19.2s,MS4.0,baz=4.8,slow=38
ASPA Alice Springs 51.72 173 *eP* **P 15 31 14.9 -0.9**
ARU Arti 55.88 321 ⇑*i* P **P 15 31 46.7 +0.7**
ARU *i* 15 33 51.2
ARU *e*PPP PPP 15 35 13.8 +6.6
ARU *e*S **S 15 39 46.8 +15**
ARU pmax pmax
comp=Z,20nm,1.4s,mb5.0
ARU MLR MLR
comp=Z,700nm,15.0s,MS4.9
ARU MLR MLR
comp=N,90nm,14.0s,MS4.8
ARU MLR MLR
comp=E,500nm,14.5s,MS4.8
ARU Arti 55.88 321 *eP* **P 15 31 43.1 -2.9**
comp=E,39nm,1.5s,mb5.2
STKA Stephens Creek 60.97 167 P **P 15 32 19.9 -2.0**
comp=E,6.7nm,1.0s,mb4.7,baz=338,slow=9.8,SNR=4.1
STKA LR LR 15 57 50.4
comp=E,172nm,21.3s,MS4.2,baz=26,slow=35
NWAO Narrogin (SRO) 61.50 190 *eP* **P 15 32 26.6 +1.2**
comp=E,106nm,1.6s,mb5.7
PMR Palmer 62.38 32 P **P 15 32 29.4 -1.7**
ILAR Eielson Array 62.93 29 P **P 15 32 33.5 -1.1**
comp=E,1.0nm,0.9s,mb4.0,baz=279,slow=9.2,SNR=6.1
INK Inuvik 67.30 23 LR LR 16 03 53.3
comp=E,201nm,20.0s,MS4.3,baz=221,slow=37
GNI Garni 67.71 305 LR LR 16 04 23.3
comp=E,179nm,18.1s,MS4.3,baz=317,slow=38
ARCES ARCESS Array B 68.27 338 LR LR 16 09 05.3
comp=E,484nm,18.2s,MS4.8,baz=282,slow=41
FINES FINESS Array B 71.22 330 P **P 15 33 26.9 -0.1**
comp=E,0.5nm,0.7s,baz=90,slow=7.6,SNR=4.1
FINES LR LR 16 07 43.8
comp=E,543nm,20.4s,baz=234,slow=38
FINES FINESS Array B 71.22 330 P **P 15 33 26.8 -0.1**
DLBC Dease Lake 72.44 33 LR LR 16 06 12.0
comp=E,160nm,18.3s,MS4.3,baz=76,slow=36
DLBC Dease Lake 72.44 33 P **P 15 33 35.1 +0.9**
AKASG Malin Array Be 74.06 319 P **P 15 33 45.8 +2.0**
comp=E,0.2nm,0.2s,baz=52,slow=5.8,SNR=3.9
AKASG LR LR 16 08 41.1
comp=E,795nm,18.7s,baz=55,slow=38
BRTR Keskin Array B 75.80 308 P **P 15 33 53.2 -0.9**
comp=E,1.2nm,1.0s,mb3.8,baz=108,slow=3.9,SNR=3.6
BRTR LR LR 16 11 50.0
comp=E,147nm,21.4s,MS4.3,baz=145,slow=39
BBB Bella Bella 76.21 38 LR LR 16 06 29.5
comp=E,97nm,19.7s,MS4.1,baz=55,slow=35
ASF Jabal al Asfar 76.54 299 LR LR 16 09 55.7
comp=E,129nm,19.6s,MS4.2,baz=312,slow=38
JMIC Jan Mayen 76.62 347 LR LR 16 08 02.6
comp=E,147nm,20.9s,MS4.3,baz=262,slow=36
YKA Yellowknife Ar 76.96 25 LR LR 16 09 14.0
comp=E,158nm,18.8s,MS4.4,baz=270,slow=37
NOA NORSAR Array B 77.62 334 P **P 15 34 01.9 -1.9**
comp=E,0.8nm,0.8s,mb3.7,baz=65,slow=4.9,SNR=2.7
NOA LR LR 16 12 51.6
comp=E,410nm,18.3s,MS4.8,baz=30,slow=39
RPZ Rata Peaks 81.57 150 LR LR 16 04 00.5
comp=E,244nm,20.2s,MS4.6,baz=23,slow=31
GERES GERESS Array B 83.67 323 P **P 15 34 37.5 +1.5**
comp=E,0.3nm,0.7s,baz=106,slow=7.1,SNR=3.8
RAR Rarotonga 85.17 117 LR LR 16 04 46.2
comp=E,100nm,19.8s,MS4.2,baz=321,slow=30
DAVOX Davos 86.97 323 P **P 15 34 56.9 +4.4**
comp=E,2.6nm,0.7s,mb4.6,baz=147,slow=9.6,SNR=3.2
DAVOX Davos 86.97 323 P **P 15 34 56.9 +4.4**
HLID Hailey 88.62 40 *eP* **P 15 34 59.6 -1.0**
comp=E,11nm,1.3s,mb5.0
NVAR Mina Array Bea 89.37 46 P **P 15 35 08.1 +3.9**
comp=E,0.5nm,0.5s,mb4.1,baz=297,slow=6.6,SNR=5.8
NVAR LR LR 16 18 40.5
comp=E,51nm,18.1s,MS4.0,baz=340,slow=38
KMBO Kilima Mbogo 91.23 269 PFAKE 15 35 20.0 +6.6
KMBO LR LR
comp=Z,168nm,20.0s,MS4.5
HWUT Hardware Ranch 91.49 40 *eP* **P 15 35 16.4 +2.5**
comp=Z,9.8nm,1.2s,mb5.0
TPNV Topopah Spring 91.56 46 *eP* **P 15 35 15.6 +1.2**
comp=Z,6.0nm,1.2s,mb4.8
DUG Dugway 91.66 42 P **P 15 35 13.1 -1.7**
comp=Z,4.9nm,1.0s,mb4.8
PDAR Pinedale Array 91.85 38 P **P 15 35 15.8 +0.2**
comp=Z,0.7nm,0.9s,mb4.0,baz=333,slow=3.3,SNR=4.6
PDAR LR LR 16 20 18.2
comp=Z,102nm,19.9s,MS4.3,baz=100,slow=38
DAU Daniels Canyon 92.44 41 *eP* **P 15 35 21.8 +3.4**
ULM Lac du Bonnet 92.88 26 LR LR 16 20 37.2
comp=Z,98nm,18.9s,MS4.3,baz=246,slow=38
MSU Marysvale 93.11 43 *eP* **P 15 35 24.4 +2.8**
DRV Dumont d'Urvil 94.84 175 S tx 15 45 48.0
PV10 Paradox Valley 95.07 41 *eP* **P 15 35 31.9 +1.4**
SCHQ Schefferville 96.48 9 LR LR 16 19 28.0
comp=Z,252nm,20.1s,MS4.7,baz=294,slow=36
ESDC Sonseca Array 99.16 324 LR LR 16 25 53.8
comp=Z,314nm,19.2s,MS4.8,baz=20,slow=39
ESLA Sonseca Array 99.16 324 PFAKE 15 36 00.0 +11
ESLA LR LR
comp=Z,2μm,19.0s
WMOK Wichita Mounta 103.46 38 PFAKE 15 36 20.0 +12
WMOK LR LR
comp=Z,253nm,20.0s,MS4.8
DBIC Dimbokro 122.94 300 PFAKE 15 41 20.0 +14
DBIC LR LR
comp=Z,158nm,19.0s,MS4.7
SNAA Sanae 128.81 198 PKPdf 15 41 21.2 +4.9
VNA2 Neumayer--Watz 130.44 198 ⇓*i* PKPdf 15 41 20.2 +0.7
VNA2 Neumayer--Watz 130.44 198 ⇑*i* PKPdf 15 41 31.3 +12
VNA3 Neumayer Olymp 130.85 197 ⇑*i* PKPdf 15 41 20.0 -0.2
LPAZ La Paz 161.01 55 PFAKE 15 42 20.0 +10
LPAZ LR LR
comp=Z,89nm,19.0s

WEL **02** *15:31:22.2±0.1, 42.34S×173.14E, h5km, ML4.5/23, Error ellipse: s-maj=1.3km s-min=0.8km az=90.0*
WEL Felt from West Coast to Canterbury, maximum reported intensity MM 4.
NEIC **02** *15:31:23.0, 42.34S×173.19E, h12km, mb4.5/6, ML4.8(WEL), After WEL.*
BJI **02** *15:31:23.9, 42.95S×172.64E, h22km*
SYO **02** *15:31:23, 42.34S×173.19E, h12km, MB4.5*
IDC **02** *15:31:24.0±1.2, 42.37S×172.95E, mb4.1/7, mb1 4.2/8, mb1mx4.2/12, ML3.6/1, MS3.9/2, Ms1 3.9/2, ms1mx3.1/15, Error ellipse: s-maj=29.2km s-min=23.1km az=83.0*
ISC 02 15:31:21.6±0.7, 42.37S±0.02×173.17E±0.04, h6km±5km, n150, σ1$14/149, mb4.2/10, MS3.9/2, 22C-8D, South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KHZ	**Kahutara**	**0.28**	**100**	P		**Pg**	**15 31 28.6**	**+1.3**
KHZ				S		**Sg**	**15 31 33.1**	**+2.0**
KHZ	**Kahutara**	**0.28**	**100**	⇓PG		**Pg**	**15 31 28.6**	**+1.3**
KHZ				SG		**Sg**	**15 31 33.1**	**+2.0**

THZ Tophouse 0.64 342 P **Pg 15 31 34.2 -0.2**
THZ Tophouse 0.64 342 ⇑P* **Pb 15 31 34.2 -0.6**
THZ SG **Sg 15 31 42.1 -0.8**
LTZ Lake Taylor 0.78 238 P **Pb 15 31 38.0 +0.8**
LTZ Lake Taylor 0.78 238 ⇓P* **Pb 15 31 38.0 +0.8**
LTZ *e*S* **Sb 15 31 47.8 -0.1**
BSWZ Blackbirch Sta 0.84 39 P **Pb 15 31 38.1 -0.2**
BSWZ Blackbirch Sta 0.84 39 ⇑P* **Pb 15 31 38.0 -0.3**
BSWZ *e*S* **Sb 15 31 50.9 +1.2**
CMWZ Cape Campbell 1.00 52 P **Pb 15 31 42.2 +1.3**
CMWZ Cape Campbell 1.00 52 ⇑P* **Pb 15 31 42.2 +1.3**
CMWZ *e*S* **Sb 15 31 56.3 +2.1**
TUWZ Tuamarina 1.10 32 ⇑P* **Pb 15 31 42.6 -0.2**
NNZ Nelson 1.16 8 *e*P **Pb 15 31 43.0 -0.8**
NNZ Nelson 1.16 8 ⇑P* **Pb 15 31 43.0 -0.8**
DSZ Denniston Nort 1.19 301 P **Pb 15 31 45.2 +0.9**
DSZ Denniston Nort 1.19 301 P* **Pb 15 31 45.2 +0.9**
CRLZ Canterbury Las 1.27 198 P* **Pb 15 31 46.0 +0.4**
MQZ McQueen's Vall 1.39 196 P **Pb 15 31 47.3 -0.3**
MQZ McQueen's Vall 1.39 196 ⇑PN **Pn 15 31 47.3 -0.4**
MQZ *e*SN **Sn 15 32 06.3 -0.2**
SNZO South Karori 1.56 48 *e*P **Pn 15 31 50.2 0.0**
SNZO South Karori 1.56 48 PN **Pn 15 31 50.1 -0.1**
BHW Baring Head 1.59 54 PN **Pn 15 31 50.2 -0.4**
QRZ Quartz Range 1.61 343 PN **Pn 15 31 51.3 +0.5**
WEL Wellington 1.61 48 PN **Pn 15 31 50.8 -0.1**
MRW Makara Radio 1.62 46 PN **Pn 15 31 50.8 -0.2**
MSWZ Moikau Station 1.82 59 PN **Pn 15 31 52.9 -1.0**
CAW Cannon Point 1.90 49 PN **Pn 15 31 54.5 -0.5**
WVZ Waitaha Valley 1.93 248 PN **Pn 15 31 56.5 +1.1**
PAWZ Paruwai Farm 1.96 60 PN **Pn 15 31 54.5 -1.3**
KIW Kapiti Island 2.00 42 PN **Pn 15 31 56.2 -0.1**
RPZ Rata Peaks 2.05 228 Pn **Pn 15 31 57.3 +0.2**
100nm,0.3s,baz=70,slow=2.2,SNR=504
RPZ Sn **Sn 15 32 24.1 +0.8**
120nm,0.3s,baz=233,slow=18,SNR=36
RPZ Rata Peaks 2.05 228 PN **Pn 15 31 56.9 -0.2**
MTW Mount Morrison 2.12 56 PN **Pn 15 31 56.6 -1.6**
MRZ Mangatainoka R 2.49 48 PN **Pn 15 32 01.9 -1.6**
BFZ Birch Farm 2.86 55 PN **Pn 15 32 06.1 -2.6**
WAZ Wanganui 2.95 28 P **Pn 15 32 11.4 +1.4**
WAZ Wanganui 2.95 28 *e*PN **Pn 15 32 10.5 +0.5**
LBZ Lake Benmore 2.96 226 PN **Pn 15 32 09.7 -0.5**
NRZ Ngariki Road 3.09 11 P **Pn 15 32 14.2 +2.3**
NRZ Ngariki Road 3.09 11 PN **Pn 15 32 14.1 +2.2**
DFE Dawson Falls 3.12 13 P **Pn 15 32 14.3 +1.9**
DFE Dawson Falls 3.12 13 *e*PN **Pn 15 32 13.7 +1.3**
TSZ Takapari Road 3.13 43 P **Pn 15 32 10.6 -1.9**
TSZ Takapari Road 3.13 43 *e*PN **Pn 15 32 10.6 -1.9**
NWEZ Newall Road 3.14 10 P **Pn 15 32 14.4 +1.7**
NWEZ Newall Road 3.14 10 *e*PN **Pn 15 32 14.2 +1.6**
NEZ North Egmont 3.17 13 P **Pn 15 32 15.2 +2.0**
NEZ North Egmont 3.17 13 PN **Pn 15 32 14.8 +1.7**
RAEZ Rainy Point 3.22 17 P **Pn 15 32 16.2 +2.4**
RAEZ Rainy Point 3.22 17 PN **Pn 15 32 16.1 +2.3**
PKE Pukeiti 3.23 11 P **Pn 15 32 15.8 +1.8**
PKE Pukeiti 3.23 11 PN **Pn 15 32 15.5 +1.5**
ODZ Otahua Downs 3.24 214 P **Pn 15 32 12.9 -1.2**
ODZ Otahua Downs 3.24 214 PN **Pn 15 32 12.7 -1.4**
VRZ Vera Road 3.46 21 *e*P **Pn 15 32 18.3 +1.1**
VRZ Vera Road 3.46 21 PN **Pn 15 32 18.0 +0.8**
MOVZ Moawhango 3.55 34 P **Pn 15 32 17.2 -1.3**
MOVZ Moawhango 3.55 34 PN **Pn 15 32 17.2 -1.3**
WNJZ Wahianoa 3.56 32 *e*PN **Pn 15 32 18.8 -0.4**
TUVZ Tukino 3.63 32 PN **Pn 15 32 19.1 -0.5**
WPVZ Whakapapa 3.64 31 *e*PN **Pn 15 32 19.7 -0.1**
JCZ Jackson Bay 3.64 241 *e*PN **Pn 15 32 19.2 -0.6**
CNZ Chateau 3.65 31 P **Pn 15 32 20.1 +0.2**
CNZ Chateau 3.65 31 *e*PN **Pn 15 32 19.6 -0.3**
NGZ Ngauruhoe 3.69 31 P **Pn 15 32 20.1 -0.4**
NGZ Ngauruhoe 3.69 31 PN **Pn 15 32 20.0 -0.5**
TWVZ Taurewa 3.72 28 P **Pn 15 32 20.6 -0.3**
TWVZ Taurewa 3.72 28 PN **Pn 15 32 20.6 -0.3**
WTVZ West Tongariro 3.73 30 P **Pn 15 32 20.7 -0.4**
WTVZ West Tongariro 3.73 30 *e*PN **Pn 15 32 20.6 -0.6**
KAVZ Karewarewa 3.77 31 P **Pn 15 32 21.3 -0.4**
KAVZ Karewarewa 3.77 31 *e*PN **Pn 15 32 21.3 -0.3**
MGZ Maungaku 3.82 29 P **Pn 15 32 22.5 +0.2**
WKZ Wanaka 3.89 229 *e*PN **Pn 15 32 21.6 -1.7**
KATZ Kakaramea 3.90 30 P **Pn 15 32 29.1 +5.7**
KATZ Kakaramea 3.90 30 *e*PN **Pn 15 32 24.3 +0.9**
HIZ Huiti 4.06 19 PN **Pn 15 32 26.0 +0.2**
BKZ Black Stump Fm 4.08 39 *e*P **Pn 15 32 23.3 -2.7**
BKZ Black Stump Fm 4.08 39 PN **Pn 15 32 22.9 -3.1**
TUZ Tuapeka 4.39 214 *e*P **Pn 15 32 28.3 -2.2**
TUZ Tuapeka 4.39 214 *e*PN **Pn 15 32 28.8 -1.7**
MLZ Mavora Lakes 4.68 229 *e*P **Pn 15 32 33.1 -1.4**
MLZ Mavora Lakes 4.68 229 *e*PN **Pn 15 32 32.5 -2.0**
TOZ Tahuroa Road 4.97 22 *e*P **Pn 15 32 37.7 -1.0**
TOZ Tahuroa Road 4.97 22 *e*PN **Pn 15 32 37.6 -1.1**
URZ Urewera 5.09 38 Pn **Pn 15 32 36.0 -4.4**
2.2nm,0.3s,baz=309,slow=22,SNR=13
URZ Sn **Sn 15 33 39.1 -1.3**
8.0nm,0.3s,baz=69,slow=20,SNR=2.9
URZ Lg 15 34 10.2
4.7nm,0.3s,baz=94,slow=23,SNR=3.4
URZ Urewera 5.09 38 *e*P **Pn 15 32 36.0 -4.4**
URZ Urewera 5.09 38 *e*PN **Pn 15 32 35.7 -4.7**
MWZ Matawai 5.23 41 *e*P **Pn 15 32 37.5 -4.8**
MWZ Matawai 5.23 41 *e*PN **Pn 15 32 37.4 -4.9**
MKAZ Moumakai 5.47 17 P **Pn 15 32 45.3 -0.5**
MKAZ Moumakai 5.47 17 PN **Pn 15 32 45.3 -0.5**
WTAZ Waiatarua 5.54 12 P **Pn 15 32 46.6 -0.1**
WTAZ Waiatarua 5.54 12 PN **Pn 15 32 46.6 0.0**
OTAZ Otara 5.58 15 P **Pn 15 32 47.1 -0.2**
OTAZ Otara 5.58 15 PN **Pn 15 32 47.1 -0.2**
MTAZ Motutapu 5.74 14 P **Pn 15 32 49.5 0.0**
MTAZ Motutapu 5.74 14 *e*PN **Pn 15 32 49.3 -0.2**
KUZ Kuaotunu 5.95 20 P **Pn 15 32 51.4 -1.1**
KUZ Kuaotunu 5.95 20 *e*PN **Pn 15 32 51.1 -1.5**
MXZ Matakaoa Point 6.21 41 *e*PN **Pn 15 32 52.8 -3.4**
WCZ Waipu Caves 6.49 8 P **Pn 15 32 59.1 -1.0**
WCZ Waipu Caves 6.49 8 *e*PN **Pn 15 32 59.1 -0.9**
TAU Tasmania Unive 19.00 260 *e*P **P 15 35 38.9 -7.5**
16nm,0.9s
STKA Stephens Creek 27.12 282 P **P 15 37 09.0 +1.7**
2.6nm,1.0s,mb3.7,baz=94,slow=6.6,SNR=3.6
RAR Rarotonga 30.99 56 LR LR 15 47 18.1
comp=Z,155nm,21.0s,MS3.6,baz=184,slow=31
CTA Charters Tower 31.75 306 P **P 15 37 49.4 +0.7**
4.9nm,1.1s,mb4.2,baz=159,slow=15,SNR=3.6
CTA Charters Tower 31.75 306 P **P 15 37 49.4 +0.6**
CTAO Charters Tower 31.75 306 P **P 15 37 49.2 +0.4**
6.9nm,1.1s,mb4.4
ASAR Alice Springs 37.43 287 P **P 15 38 37.8 +0.3**
1.3nm,0.6s,mb4.0,baz=132,slow=8.2,SNR=30
ASPA Alice Springs 37.43 287 *eP* **P 15 38 37.9 +0.4**
WB2 Warramunga Arr 39.57 292 *eP* **P 15 38 57.3 +1.9**
WRAB Tennant Creek 39.58 292 *eP* **P 15 38 54.6 -0.9**
4.4nm,0.7s,mb4.3
WRA Warramunga Arr 39.58 292 P **P 15 38 54.5 -1.0**
1.5nm,0.5s,mb4.0,baz=128,slow=8.1,SNR=18
PMG Port Moresby 39.99 318 P **P 15 39 00.8 +1.9**
9.7nm,0.8s,mb4.6,baz=141,slow=4.9,SNR=3.5
PMG Port Moresby 39.99 318 *eP* **P 15 39 00.5 +1.6**
14nm,1.0s,mb4.7
QSPA South Pole Qui 47.76 180 *eP* **P 15 40 02.9 +2.1**
4.9nm,1.0s,mb4.5
MAW Mawson 58.55 205 LR LR 16 05 20.8
comp=Z,142nm,18.1s,MS4.1,baz=232,slow=35
SYO Syowa Base 63.75 197 ⇓P **P 15 41 55.7 -0.2**
SYO Syowa Base 63.75 197 ⇓pP pP 15 41 56.7 -0.9
SYO Syowa Base 63.75 197 ⇑sP sP 15 42 01.1 +2.9
SYO Syowa Base 63.75 197 ⇓PcP PP 15 44 10.4 -7.4
SNAA Sanae 66.23 181 **P 15 42 12.7 +0.8**
SNAA Sanae 66.23 181 **P 15 42 12.7 +0.8**
SNAA Sanae 66.23 181 ⇑*i* **P 15 42 16.3 +4.4**
SNAA Sanae 66.23 181 ⇓*i* **P 15 42 19.6 +7.7**
SNAA Sanae 66.23 181 ⇓*i* **P 15 42 27.1 +15**
SNAA Sanae 66.23 181 P **P 15 42 14.1 +2.2**
0.5nm,0.8s,mb3.6,baz=194,slow=4.6,SNR=4.7
VNA3 Neumayer Olymp 66.68 179 ⇑*i* **P 15 42 17.7 +3.0**
VNA3 Neumayer Olymp 66.68 179 ⇑*i* **P 15 42 17.7 +3.0**
VNA3 Neumayer Olymp 66.68 179 ⇓*i* **P 15 42 21.3 +6.6**
VNA3 Neumayer Olymp 66.68 179 ⇑*i* **P 15 42 24.1 +9.4**
VNA3 Neumayer Olymp 66.68 179 ⇑*i* **P 15 42 29.8 +15**
VNA2 Neumayer--Watz 67.02 180 ⇑*i* **P 15 42 19.5 +2.6**
VNA2 Neumayer--Watz 67.02 180 ⇑*i* **P 15 42 19.5 +2.6**
VNA2 Neumayer--Watz 67.02 180 ⇑*i* **P 15 42 23.2 +6.3**
VNA2 Neumayer--Watz 67.02 180 ⇑*i* **P 15 42 25.7 +8.8**
VNA2 Neumayer--Watz 67.02 180 ⇑*i* **P 15 42 31.8 +15**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**67.29**	**179**	⇑*i*	**P**	**15 42 18.4**	**-0.2**
VNA1	**Neumayer--Stat**	**67.29**	**179**	⇑*i*	**P**	**15 42 18.4**	**-0.2**
VNA1	**Neumayer--Stat**	**67.29**	**179**	⇑*i*	**P**	**15 42 22.5**	**+3.9**
VNA1	**Neumayer--Stat**	**67.29**	**179**	⇑*i*	**P**	**15 42 24.8**	**+6.2**
VNA1	**Neumayer--Stat**	**67.29**	**179**	⇑*i*	**P**	**15 42 30.8**	**+12**
MAJO	**Matsushiro**	**84.78**	**332**	P	**P**	**15 43 56.2**	**-1.7**
	8.0nm,1.0s,mb4.8						
NJ2	**Nanjing**	**89.28**	**316**	*e*P	**P**	**15 44 21.4**	**+1.4**
CMAR	**Chiang Mai Arr**	**91.15**	**294**	P	**P**	**15 44 29.3**	**+0.4**
	1.1nm,0.8s,mb4.2,baz=138,slow=3.5,SNR=4.8						
WMQ	**Urumqi**	**114.89**	**307**	*e*PKP	PKPdf	15 50 06.0	+0.5
BVAR	**Borovoye Array**	**129.35**	**310**	PKP	PKPdf	15 50 34.8	+1.5
	0.6nm,0.8s,baz=104,slow=5.9,SNR=2.8						
ARCES	**ARCESS Array B**	**148.08**	**339**	PKPbc	PKPdf	15 51 08.4	+2.2
	0.8nm,0.6s,baz=45,slow=1.7,SNR=4.3						
BRTR	**Keskin Array B**	**149.56**	**279**	PKPbc	PKPdf	15 51 13.3	+3.8
	1.0nm,0.6s,baz=153,slow=9.7,SNR=4.8						
FINES	**FINESS Array B**	**152.60**	**325**	PKPbc	PKPdf	15 51 19.7	+6.4
	1.2nm,0.8s,slow=1.9,SNR=4.7						

WEL 02 15:31:29.0±0.2**, 42.35S**×**173.20E, h5**^{km}**, ML4.7**/25**, Error ellipse: s-maj=2.0km s-min=1.4km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.26**	**105**	PG	Pg	15 31 33.2	-1.1
KHZ				SG	Sg	15 31 38.4	+0.5
THZ	**Tophouse**	**0.62**	**340**	SG	Sg	15 31 48.3	-1.5
THZ				SG	Sg	15 31 48.6	-1.3
LTZ	**Lake Taylor**	**0.81**	**237**	*e*P*	Pb	15 31 45.8	+0.6
LTZ				S*	Sb	15 31 57.0	+0.8
BSWZ	**Blackbirch Sta**	**0.81**	**39**	P*	Pb	15 31 44.7	-0.5
BSWZ				S*	Sb	15 31 56.8	+0.6
CMWZ	**Cape Campbell**	**0.97**	**52**	S*	Sb	15 32 01.6	+0.9
TUWZ	**Tuamarina**	**1.07**	**32**	*e*P*	Pb	15 31 49.7	0.0
TUWZ				S*	Sb	15 32 04.9	+1.1
NNZ	**Nelson**	**1.14**	**7**	*e*P*	Pb	15 31 49.7	-1.1
NNZ				S*	Sb	15 32 06.7	+1.0
DSZ	**Denniston Nort**	**1.20**	**300**	P*	Pb	15 31 52.1	+0.2
DSZ				S*	Sb	15 32 07.6	+0.1
CRLZ	**Canterbury Las**	**1.30**	**199**	*e*P*	Pb	15 31 53.2	-0.3
MQZ	**McQueen's Vall**	**1.41**	**196**	*e*PN	Pn	15 31 53.9	-1.5
MQZ				SN	Sn	15 32 11.9	-2.8
SNZO	**South Karori**	**1.53**	**48**	*e*PN	Pn	15 31 54.7	-2.5
SNZO				SN	Sn	15 32 16.3	-1.4
BHW	**Baring Head**	**1.56**	**54**	*e*PN	Pn	15 31 56.4	-1.2
MRW	**Makara Radio**	**1.59**	**46**	*e*PN	Pn	15 31 58.4	+0.5
MRW				SN	Sn	15 32 19.6	+0.5
QRZ	**Quartz Range**	**1.60**	**342**	PN	Pn	15 31 58.1	-0.1
QRZ				SN	Sn	15 32 18.6	-0.9
MSWZ	**Moikau Station**	**1.79**	**59**	*e*PN	Pn	15 31 58.5	-2.4
MSWZ				SN	Sn	15 32 21.7	-2.6
CAW	**Cannon Point**	**1.87**	**49**	SN	Sn	15 32 23.5	-2.7
WVZ	**Waitaha Valley**	**1.95**	**247**	*e*PN	Pn	15 32 03.4	+0.2
WVZ				SN	Sn	15 32 28.3	0.0
KIW	**Kapiti Island**	**1.96**	**41**	*e*PN	Pn	15 32 02.4	-1.0
KIW				SN	Sn	15 32 28.0	-0.7
RPZ	**Rata Peaks**	**2.08**	**228**	PN	Pn	15 32 03.5	-1.6
RPZ				SN	Sn	15 32 29.7	-1.9
MTW	**Mount Morrison**	**2.10**	**56**	*e*PN	Pn	15 32 02.7	-2.5
MRZ	**Mangatainoka R**	**2.46**	**47**	*e*PN	Pn	15 32 09.2	-1.3
LBZ	**Lake Benmore**	**3.00**	**226**	*e*PN	Pn	15 32 19.1	+1.0
LBZ				SN	Sn	15 32 51.3	-3.5
TSZ	**Takapari Road**	**3.10**	**43**	*e*PN	Pn	15 32 17.5	-2.0
NGZ	**Ngauruhoe**	**3.66**	**31**	*e*PN	Pn	15 32 26.3	-1.2
OTAZ	**Otara**	**5.55**	**14**	*e*PN	Pn	15 32 53.2	-1.2
WCZ	**Waipu Caves**	**6.46**	**8**	*e*PN	Pn	15 33 05.4	-1.8

WEL 02 15:32:26.6±0.1**, 42.34S**×**173.14E, h5**^{km}**, ML3.7**/11**, Error ellipse: s-maj=1.7km s-min=1.0km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.31**	**106**	PG	Pg	15 32 32.8	-0.1
KHZ				SG	Sg	15 32 37.3	+0.2
THZ	**Tophouse**	**0.60**	**343**	P*	Pb	15 32 38.7	-0.5
THZ				*e*SG	Sg	15 32 46.3	-0.2
LTZ	**Lake Taylor**	**0.78**	**235**	P*	Pb	15 32 42.5	+0.2
LTZ				S*	Sb	15 32 52.7	-0.3
BSWZ	**Blackbirch Sta**	**0.83**	**42**	*e*P*	Pb	15 32 43.1	0.0
CMWZ	**Cape Campbell**	**0.99**	**54**	*e*P*	Pb	15 32 46.8	+0.9
CMWZ				*e*S*	Sb	15 33 01.5	+2.4
TUWZ	**Tuamarina**	**1.09**	**34**	P*	Pb	15 32 47.2	-0.3
NNZ	**Nelson**	**1.13**	**9**	P*	Pb	15 32 47.6	-0.6
DSZ	**Denniston Nort**	**1.16**	**300**	P*	Pb	15 32 47.6	-1.1
CRLZ	**Canterbury Las**	**1.30**	**197**	P*	Pb	15 32 50.7	-0.4
CRLZ				*e*S*	Sb	15 33 08.2	+0.2
MQZ	**McQueen's Vall**	**1.42**	**194**	PN	Pn	15 32 51.7	-1.4
MQZ				SN	Sn	15 33 10.2	-2.1
SNZO	**South Karori**	**1.56**	**49**	*e*PN	Pn	15 32 55.6	+0.5
QRZ	**Quartz Range**	**1.57**	**343**	*e*PN	Pn	15 32 55.5	+0.1
QRZ				*e*SN	Sn	15 33 15.3	-1.0
WEL	**Wellington**	**1.61**	**50**	PN	Pn	15 32 55.8	0.0
MSWZ	**Moikau Station**	**1.83**	**60**	*e*PN	Pn	15 32 57.6	-1.4
WKZ	**Wanaka**	**3.90**	**229**	*e*PN	Pn	15 33 28.2	-0.3

*NIED **02** 15:45:00, 28.10N×128.00E, h5^{km}, Mw4.0 Best double couple: M₀1.11×10^{15} NP1:φs285°, δ87°, λ24°. NP2:φs193°, δ66°, λ176°.*
*JMA **02** 15:45:35.4±0.3, 28.09N×128.03E, h7^{km}, M3.6*
*IDC **02** 15:45:38.6±1.1, 27.87N×127.99E, mb3.7/6, mb1 3.9/7, mb1mx3.7/24, Error ellipse: s-maj=51.0km s-min=13.8km az=70.0*
*NEIC **02** 15:45:40.5±0.8, 27.88N×127.99E, h15^{km}, mb4.4/3, Error ellipse: s-maj=28.0km s-min=11.7km az=72.0*
ISC 02 15:45:37.5±0.5**, 27.99N**±0.03×**128.13E**±0.04**, h7**^{km}**, n18, σ1^{s}10**/23**, mb4.0**/9**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.76**	**106**	P	**Pb**	**15 45 51.9**	**-0.6**
JTK				*e*S	**Sg**	**15 46 03.9**	**+1.2**
JIH	**Iheya**	**0.96**	**189**	P	**Pb**	**15 45 55.4**	**-0.7**
JIH				*e*S	**Sb**	**15 46 09.2**	**+0.4**
JOW	**Kunigami**	**1.16**	**174**	Pn	**Pn**	**15 45 58.8**	**-1.3**
	150nm,0.3s,baz=352,slow=18,SNR=25						
JOW				Sn	**Sn**	**15 46 15.7**	**-0.7**
	64nm,0.3s,baz=80,slow=28,SNR=15						
JOW	**Kunigami**	**1.16**	**174**	P	**Pb**	**15 45 58.5**	**-1.0**
JOW				S	**Sb**	**15 46 15.7**	**+1.1**
JAM	**Amami Oshima**	**1.37**	**72**	P	**Pb**	**15 46 01.6**	**-1.4**
JAM				S	**Sb**	**15 46 20.1**	**-0.5**
JAGN	**Aguni-jima**	**1.60**	**210**	*e*S	**Sb**	**15 46 28.5**	**+1.1**
JZK	**Kikaishima**	**1.66**	**78**	P	**Pn**	**15 46 08.5**	**+1.3**
JNU	**Nakatsue**	**5.64**	**24**	Pn	**Pn**	**15 47 05.8**	**+2.0**
	baz=301,slow=0.4,SNR=2.9						
BJT	**Baijiatuau**	**15.55**	**324**	P	**P**	**15 49 20.8**	**+2.1**
SONM	**Songino Array**	**26.04**	**325**	P	**P**	**15 51 13.6**	**+0.6**
	1.8nm,1.0s,mb3.6,baz=141,slow=7.9,SNR=9.5						
MKAR	**Makanchi Array**	**40.31**	**310**	P	**P**	**15 53 17.5**	**+0.5**
	1.0nm,0.8s,mb3.6,baz=103,slow=10,SNR=4.9						
WRAB	**Tennant Creek**	**48.02**	**172**	P	**P**	**15 54 15.2**	**-4.2**
	21nm,1.7s,mb4.9						
WRA	**Warramunga Arr**	**48.03**	**172**	P	**P**	**15 54 19.5**	**0.0**
	1.0nm,0.6s,mb4.0,baz=353,slow=8.2,SNR=14						
BVAR	**Borovoye Array**	**48.91**	**317**	P	**P**	**15 54 25.2**	**-0.6**
	0.8nm,0.8s,mb3.8,baz=53,slow=7.2,SNR=4.4						
BRVK	**Borovoye**	**48.98**	**317**	*e*P	**P**	**15 54 24.4**	**-2.0**
	3.3nm,1.1s,mb4.3						
ZRNK	**Zerenda**	**49.74**	**317**	P	**P**	**15 54 30.7**	**-1.5**
	1.9nm,1.0s,mb4.1						
ASAR	**Alice Springs**	**51.66**	**173**	P	**P**	**15 54 47.5**	**+0.3**
	0.3nm,0.6s,mb3.4,baz=0.3,slow=10,SNR=12						
STKA	**Stephens Creek**	**60.90**	**167**	P	**P**	**15 55 53.7**	**+0.4**
	0.6nm,0.6s,mb3.9,baz=63,slow=17,SNR=3.3						

*NIED **02** 15:55:00, 28.10N×128.10E, h5^{km}, Mw4.8 Best double couple: M₀1.6×10^{16} NP1:φs134°, δ82°, λ37°. NP2:φs38°, δ53°, λ170°.*
*IDC **02** 15:55:19.0±0.7, 28.00N×127.89E, mb4.1/14, mb1 4.3/15, mb1mx4.2/26, ML4.1/1, MS4.1/18, Ms1 4.1/18, ms1mx4.0/28, Error ellipse: s-maj=33.3km s-min=11.7km az=69.0*
*JMA **02** 15:55:19.1±0.3, 28.10N×128.05E, h5^{km}±3^{km}, M4.8*
JMA Felt II J1.
*BJI **02** 15:55:20.2, 27.66N×128.21E, h34^{km}, mB4.8, mb4.5, Ms4.8, Msz4.5*
*NEIC **02** 15:55:24.5±2.8, 27.91N×127.73E, h34^{km}±20^{km}, mb4.7/15, MW4.8(NIED), Error ellipse: s-maj=11.9km s-min=6.7km az=76.0*
NEIC Recorded [2 JMA] on Tokuno-shima.
ISC 02 15:55:19.1±0.3**, 28.06N**±0.02×**128.03E**±0.03**, h5**^{km}**, n71, σ1^{s}48**/78**, mb4.4**/31**, MS4.3**/19**, 1C, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.86**	**108**	P	**Pb**	**15 55 35.5**	**-0.6**
JTK				S	**Sb**	**15 55 47.0**	**-0.8**
JIH	**Iheya**	**1.02**	**183**	P	**Pb**	**15 55 39.2**	**+0.4**
JIH				S	**Sb**	**15 55 53.8**	**+1.5**
JOW	**Kunigami**	**1.24**	**170**	Pn	**Pn**	**15 55 42.8**	**-0.2**
	1μm,0.3s,baz=356,slow=14,SNR=656						
JOW				Sn	**Sn**	**15 55 59.4**	**-1.0**
	743nm,0.3s,baz=180,slow=24,SNR=11						
JOW	**Kunigami**	**1.24**	**170**	P	**Pb**	**15 55 42.6**	**0.0**
JOW				S	**Sb**	**15 55 59.7**	**+1.0**
JAM	**Amami Oshima**	**1.44**	**75**	P	**Pn**	**15 55 45.1**	**-0.8**
JAM				*e*S	**Sb**	**15 56 03.6**	**-0.9**
JAGN	**Aguni-jima**	**1.62**	**206**	P	**Pn**	**15 55 49.0**	**+0.5**
NAH1	**Naha**	**1.87**	**189**	P	**Pn**	**15 55 53.6**	**+1.6**
NAH1				*e*S	**Sn**	**15 56 18.2**	**+1.9**
JJT2	**Tamagusuku 2**	**1.93**	**187**	P	**Pn**	**15 55 53.8**	**+0.9**
JJT2				*e*S	**Sn**	**15 56 18.9**	**+1.1**
JKE	**Kume jima 2**	**2.05**	**213**	P	**Pn**	**15 55 54.9**	**+0.3**
JNN	**Nakanoshima**	**2.41**	**42**	P	**Pn**	**15 56 01.6**	**+1.9**
JTN	**Tanegashima 3**	**3.65**	**44**	P	**Pn**	**15 56 18.0**	**+0.5**
JNU	**Nakatsue**	**5.61**	**25**	Pn	**Pn**	**15 56 49.8**	**+4.5**
	5.7nm,0.3s,baz=222,slow=3.2,SNR=16						
SSE	**Sheshan**	**6.68**	**299**	P	**Pn**	**15 56 59.7**	**-0.6**
SSE				S	**Sn**	**15 58 29.9**	**+12**
SSE				AMB	AMB		
	comp=Z,21nm,0.8s						
SSE				AMB	AMB		
	comp=Z,173nm,8.1s						
SSE				LR	LR		
	comp=N,4μm,16.7s						
SSE				LR	LR		
	comp=E,2μm,16.7s						
SSE				LR	LR		
	comp=Z,3μm,12.4s						
NJ2	**Nanjing**	**8.89**	**299**	*e*P	**P**	**15 57 35.8**	**+4.7**
NJ2				AMB	AMB		
	comp=Z,60nm,1.0s						
JHJ	**Hachijo jima 2**	**11.31**	**61**	LR	LR	16 01 50.8	
	comp=Z,411nm,19.4s,baz=291,slow=34						
MAJO	**Matsushiro**	**12.06**	**43**	*e*P	**P**	**15 58 17.7**	**+3.1**
	comp=Z,32nm,1.3s						
CBIJ	**Chichi jima**	**12.60**	**91**	LR	LR	16 02 54.5	
	comp=Z,698nm,18.9s,baz=286,slow=36						
BJT	**Baijiatuau**	**15.44**	**324**	*e*P	**P**	**15 59 03.7**	**+4.6**
	comp=Z,72nm,1.1s						
BJI	**Beijing**	**15.45**	**324**	P	**P**	**15 59 04.9**	**+5.6**
BJI				S	**S**	**16 02 02.2**	**+11**
BJI				AMB	AMB		
	comp=Z,27nm,0.8s						
BJI				AMB	AMB		
	comp=Z,381nm,4.7s						
BJI				LR	LR		
	comp=N,445nm,15.3s						
BJI				LR	LR		
	comp=E,2μm,15.9s						
BJI				LR	LR		
	comp=Z,737nm,17.5s						
CN2	**Changchun**	**15.85**	**353**	*e*P	**P**	**15 59 08.3**	**+3.9**
CN2				*e*S	**S**	**16 02 03.1**	**+2.3**
CN2				AMB	AMB		
	comp=Z,30nm,1.2s						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,3μm,12.0s						
CN2				LR	LR		
	comp=E,2μm,12.0s						
CN2				LR	LR		
	comp=Z,2μm,12.0s						
ENH	**Enshi**	**16.34**	**282**	*e*P	**P**	**15 59 14.6**	**+3.6**
	comp=Z,100nm,1.4s						
MDJ	**Mudanjiang**	**16.57**	**4**	P	**P**	**15 59 18.5**	**+4.8**
MDJ				XP		15 59 30.2	
MDJ				S	**S**	**16 02 27.0**	**+9.4**
MDJ				XS		16 02 39.6	
MDJ				SCP		16 07 30.7	
MDJ				AMB	AMB		
	comp=Z,25nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,184nm,4.0s						
MDJ				LR	LR		
	comp=N,774nm,15.0s						
MDJ				LR	LR		
	comp=E,1μm,14.2s						
MDJ				LR	LR		
	comp=Z,1μm,17.4s						
MDJ	**Mudanjiang**	**16.57**	**4**	*e*P	**P**	**15 59 16.8**	**+3.1**
	comp=Z,37nm,1.2s						
XAN	**Xi'an**	**17.41**	**295**	P	**P**	**15 59 24.3**	**-0.1**
XAN				S	**S**	**16 02 45.4**	**+8.4**
XAN				AMB	AMB		
	comp=Z,19nm,1.8s						
XAN				LR	LR		
	comp=N,2μm,11.4s						
XAN				LR	LR		
	comp=E,2μm,12.9s						
XAN				LR	LR		
	comp=Z,2μm,14.9s						
HHC	**Hu-ho-hao-te**	**18.59**	**318**	*e*P	**P**	**15 59 41.5**	**+2.5**
HHC				XP		15 59 55.8	
HHC				PP	PP	16 00 01.7	+7.0
HHC				S	**S**	**16 03 18.0**	**+14**
HHC				AMB	AMB		
	comp=Z,19nm,1.2s						
HHC				AMB	AMB		
	comp=Z,305nm,5.0s						
HHC				LR	LR		
	comp=N,1μm,13.1s						
HHC				LR	LR		
	comp=E,1μm,14.9s						
HHC				LR	LR		
	comp=Z,800nm,12.6s						
GYA	**Guiyang**	**19.06**	**270**	⇑*i*P	**P**	**15 59 47.6**	**+2.9**
GYA				PP	PP	16 00 04.6	+3.2
GYA				PPP	PPP	16 00 46.8	+36
GYA				AMB	AMB		
	comp=Z,20nm,1.6s						
GYA				AMB	AMB		
	comp=Z,250nm,5.4s						
GYA				LR	LR		
	comp=N,910nm,11.7s						
GYA				LR	LR		
	comp=E,1μm,12.6s						
GYA				LR	LR		
	comp=Z,1μm,14.1s						
BTO	**Baotou**	**19.39**	**315**	*e*P	**P**	**15 59 50.2**	**+1.7**
BTO				AMB	AMB		
	comp=Z,57nm,0.9s						
BTO				LR	LR		
	comp=N,4μm,14.0s						
BTO				LR	LR		
	comp=E,4μm,13.1s						
ASAJ	**Asahikawa**	**19.84**	**32**	LR	LR	16 08 42.0	
	comp=E,588nm,18.2s,baz=231,slow=40						
CD2	**Chengdu**	**21.31**	**284**	P	**P**	**16 00 07.7**	**-1.2**
CD2				PP	PP	16 00 33.2	+0.7
CD2				PPP	PPP	16 00 42.5	+0.7
CD2				S	**S**	**16 04 06.9**	**+5.8**
CD2				AMB	AMB		
	comp=Z,30nm,0.9s,mb4.6						
CD2				LR	LR		
	comp=N,2μm,12.0s						
CD2				LR	LR		
	comp=Z,1μm,9.6s						
LZH	**Lanzhou**	**21.96**	**297**	*e*P	**P**	**16 00 15.4**	**-0.1**
LZH				AP		16 00 31.1	
LZH				PP	PP	16 00 44.7	+3.7
LZH				S	**S**	**16 04 07.0**	**-6.3**
LZH				XS		16 04 33.8	
LZH				SS	SS	16 04 51.1	-0.1
LZH				AMB	AMB		
	comp=Z,37nm,1.5s,mb4.6						
LZH				AMB	AMB		
	comp=Z,104nm,4.0s						
LZH				LR	LR		
	comp=N,1μm,11.1s						
LZH				LR	LR		
	comp=Z,2μm,12.0s,MS4.8						
HIA	**Hailar**	**22.12**	**345**	P	**P**	**16 00 19.0**	**+2.1**
	comp=Z,12nm,1.0s,mb4.3						
KMI	**Kunming**	**22.79**	**268**	*e*P	**P**	**16 00 23.3**	**-0.5**
KMI				XP		16 00 34.1	
KMI				PP	PP	16 00 51.5	-1.2
KMI				S	**S**	**16 04 21.9**	**-6.7**
KMI				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.2						
KMI				AMB	AMB		
	comp=Z,62nm,3.6s						
KMI				LR	LR		
	comp=N,1μm,11.7s,MS4.7						
KMI				LR	LR		
	comp=E,794nm,12.5s,MS4.7						
KMI				LR	LR		
	comp=Z,692nm,12.5s,MS4.3						
SONM	**Songino Array**	**25.94**	**325**	P	**P**	**16 00 53.4**	**-0.5**
	comp=Z,6.9nm,0.9s,mb4.2,baz=138,slow=8.9,SNR=35						
GTA	**Gaotai**	**25.95**	**303**	*e*P	**P**	**16 00 53.0**	**-1.0**
GTA				XP	sP	16 01 10.3	+14
GTA				PP	PP	16 01 36.9	+2.1
GTA				PPP	PPP	16 01 50.5	+3.8
GTA				S	**S**	**16 05 16.9**	**-5.6**
GTA				SS	SS	16 06 28.8	+0.9
GTA				AMB	AMB		
	comp=Z,2.0nm,0.6s,mb3.8						
GTA				AMB	AMB		
	comp=Z,128nm,6.9s						
GTA				LR	LR		
	comp=N,988nm,17.6s,MS4.5						
GTA				LR	LR		
	comp=E,573nm,13.8s,MS4.5						
GTA				LR	LR		
	comp=Z,871nm,14.5s,MS4.4						
CMAR	**Chiang Mai Arr**	**28.31**	**257**	LR	LR	16 11 42.9	
	comp=Z,595nm,20.6s,MS4.2,baz=75,slow=35						
SHL	**Shillong**	**32.28**	**274**	*e*P	**P**	**16 01 49.2**	**-1.8**
WMQ	**Urumqi**	**35.85**	**307**	*e*P	**P**	**16 02 21.0**	**-0.6**
WMQ				XP	sP	16 02 39.0	+15
WMQ				PP	PP	16 03 44.0	+1.3
WMQ				S	**S**	**16 07 52.0**	**-7.2**
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.8						
WMQ				LR	LR		
	comp=N,1μm,12.0s,MS4.9						
WMQ				LR	LR		
	comp=E,458nm,12.0s,MS4.9						
WMQ				LR	LR		
	comp=Z,375nm,12.0s,MS4.4						
MKAR	**Makanchi Array**	**40.20**	**310**	P	**P**	**16 02 56.7**	**-1.2**
	comp=Z,3.9nm,0.7s,mb4.3,baz=100,slow=10,SNR=26						
MKAR				LR	LR	16 20 16.0	
	comp=Z,237nm,18.4s,MS4.1,baz=109,slow=37						
MKAR	**Makanchi Array**	**40.20**	**310**	P	**P**	**16 02 56.7**	**-1.2**
ZAL	**Zalesovo**	**40.70**	**322**	P	**P**	**16 03 00.4**	**-1.6**
	comp=Z,2.3nm,1.0s,mb3.8,baz=265,slow=8.5,SNR=5.8						
ZAL				LR	LR	16 21 05.2	
	comp=Z,217nm,18.0s,MS4.0,baz=263,slow=38						
KURK	**Kurchatov**	**43.38**	**315**	*e*P	**P**	**16 03 21.4**	**-2.5**
	comp=Z,22nm,1.2s,mb4.8						
AAK	**Ala-Archa**	**45.30**	**303**	P	**P**	**16 03 38.3**	**-1.3**
	comp=Z,8.8nm,1.3s,mb4.4						
FITZ	**Fitzroy Crossi**	**45.94**	**183**	P	**P**	**16 03 43.9**	**-1.0**
	comp=Z,2.9nm,0.7s,mb4.3,baz=11,slow=10,SNR=6.1						
FITZ				LR	LR	16 21 16.7	
	comp=Z,61nm,20.6s,MS3.5,baz=304,slow=34						
WRAB	**Tennant Creek**	**48.10**	**172**	*e*P	**P**	**16 04 00.6**	**-1.3**
	comp=Z,13nm,1.0s,mb4.9						
WRA	**Warramunga Arr**	**48.11**	**172**	P	**P**	**16 04 00.3**	**-1.7**
	comp=Z,2.9nm,0.6s,mb4.5,baz=352,slow=8.3,SNR=12						
BVAR	**Borovoye Array**	**48.80**	**317**	P	**P**	**16 04 05.8**	**-1.1**
	comp=Z,1.7nm,0.7s,mb4.2,baz=79,slow=7.6,SNR=11						
BRVK	**Borovoye**	**48.87**	**317**	*e*P	**P**	**16 04 06.2**	**-1.2**
	comp=Z,25nm,1.1s,mb5.2						
MBWA	**Marble Bar**	**49.58**	**190**	*e*P	**P**	**16 04 12.3**	**-1.0**
	comp=Z,15nm,1.3s,mb4.9						
ZRNK	**Zerenda**	**49.63**	**317**	*e*P	**P**	**16 04 11.9**	**-1.3**
	comp=Z,12nm,0.9s,mb4.9						
CTA	**Charters Tower**	**51.01**	**158**	P	**P**	**16 04 23.1**	**-1.1**
	comp=Z,1.0nm,0.4s,mb4.1,baz=350,slow=10,SNR=2.7						
CTA				LR	LR	16 25 26.0	
	comp=Z,161nm,20.1s,MS4.0,baz=340,slow=35						
ASAR	**Alice Springs**	**51.73**	**173**	P	**P**	**16 04 28.1**	**-1.6**
	comp=Z,1.5nm,0.6s,mb4.1,baz=356,slow=7.2,SNR=16						
ASAR				LR	LR	16 24 28.0	
	comp=Z,119nm,18.0s,MS4.0,baz=7.6,slow=34						
ARU	**Arti**	**55.85**	**321**	*e*P	**P**	**16 04 57.5**	**-2.1**
	comp=Z,6.5nm,0.9s,mb4.7						
STKA	**Stephens Creek**	**60.99**	**167**	P	**P**	**16 05 33.6**	**-2.2**
	comp=Z,1.8nm,0.5s,mb4.5,baz=342,slow=8.5,SNR=6.7						
ILAR	**Eielson Array**	**62.92**	**29**	P	**P**	**16 05 46.1**	**-2.2**
	comp=Z,0.3nm,0.6s,mb3.6,baz=258,slow=7.3,SNR=4.2						
ARCES	**ARCESS Array B**	**68.25**	**338**	LR	LR	16 40 56.5	
	comp=Z,260nm,19.7s,MS4.5,baz=202,slow=40						
FINES	**FINESS Array B**	**71.19**	**330**	P	**P**	**16 06 36.6**	**-3.9**
	comp=Z,3.4nm,1.2s,mb4.2,baz=101,slow=9.7,SNR=4.9						
FINES				LR	LR	16 41 29.3	
	comp=Z,299nm,18.9s,MS4.6,baz=264,slow=39						
AKASG	**Malin Array Be**	**74.03**	**319**	LR	LR	16 41 19.9	
	comp=Z,240nm,18.6s,MS4.5,baz=40,slow=37						
BRTR	**Keskin Array B**	**75.78**	**308**	P	**P**	**16 07 05.5**	**-2.3**
	comp=Z,0.5nm,0.5s,mb3.7,baz=77,slow=5.2,SNR=2.8						
BRTR				LR	LR	16 42 30.4	
	comp=Z,102nm,21.1s,MS4.1,baz=220,slow=37						
JMIC	**Jan Mayen**	**76.60**	**347**	LR	LR	16 41 01.6	
	comp=Z,135nm,19.8s,MS4.3,baz=76,slow=36						
YKA	**Yellowknife Ar**	**76.95**	**25**	LR	LR	16 46 04.2	
	comp=Z,99nm,18.5s,MS4.2,baz=355,slow=40						
NOA	**NORSAR Array B**	**77.60**	**334**	LR	LR	16 42 14.6	
	comp=Z,147nm,19.7s,MS4.3,baz=25,slow=36						
FRB	**Frobisher Bay**	**87.57**	**7**	LR	LR	16 48 05.3	
	comp=Z,206nm,18.9s,MS4.6,baz=141,slow=36						
CMB	**Columbia Colle**	**88.26**	**47**	P	**P**	**16 08 14.9**	**+2.1**
	comp=Z,2.1nm,0.8s,mb4.4						
HLID	**Hailey**	**88.62**	**40**	P	**P**	**16 08 15.3**	**+0.9**
	comp=Z,2.5nm,1.1s,mb4.5						
NVAR	**Mina Array Bea**	**89.37**	**46**	P	**P**	**16 08 18.9**	**+0.9**
	comp=Z,0.2nm,0.3s,mb3.9,baz=278,slow=6.4,SNR=2.5						
NVAR				LR	LR	16 46 53.4	
	comp=Z,44nm,18.9s,MS3.9,baz=350,slow=35						
TPH	**Tonopah**	**90.27**	**46**	P	**P**	**16 08 26.3**	**+4.0**
HWUT	**Hardware Ranch**	**91.49**	**40**	*e*P	**P**	**16 08 31.9**	**+4.1**
	comp=Z,4.2nm,1.1s,mb4.7						
TPNV	**Topopah Spring**	**91.56**	**46**	*e*P	**P**	**16 08 30.5**	**+2.3**
	comp=Z,1.5nm,0.8s,mb4.4						
PDAR	**Pinedale Array**	**91.85**	**38**	P	**P**	**16 08 31.8**	**+2.3**
	comp=Z,1.4nm,1.1s,mb4.2,baz=315,slow=4.2,SNR=4.3						
DRV	**Dumont d'Urvil**	**94.86**	**175**	R		16 08 00.0	
PV10	**Paradox Valley**	**95.07**	**41**	*e*P	**P**	**16 08 44.8**	**+0.4**

JMA 02 15:56:47.9±0.2**, 28.04N**×**128.09E, h8**^{km}±3^{km}**, M3.8, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.80**	**108**	P	Pb	15 57 03.2	-0.5
JTK				*e*S	Sb	15 57 13.9	-0.5
JIH	**Iheya**	**1.01**	**186**	P	Pb	15 57 06.9	-0.3
JIH				S	Sb	15 57 20.1	-0.3
JOW	**Kunigami**	**1.21**	**172**	P	Pb	15 57 10.5	-0.2
JOW				*e*S	Sb	15 57 27.1	+0.7
JAM	**Amami Oshima**	**1.39**	**74**	P	Pn	15 57 13.4	-0.2
JAM				S	Sb	15 57 30.8	-0.6

*IDC **02** 16:00:27.1±4.0, 53.77N×163.74W, mb3.9/11, mb1 4.1/12, mb1mx3.9/24, Error ellipse: s-maj=97.8km s-min=18.3km az=154.0*
*NEIC **02** 16:00:32.5, 53.61N×163.54W, h33^{km}, ML3.3(AEIC), After AEIC.*
ISC 02 16:00:30.6±0.9**, 53.56N**±0.07×**163.50W**±0.06**, h46**^{km}±7^{km}**, n43, σ0^{s}75**/50**, mb4.0**/10**, Unimak Island region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**1.12**	**325**	P	**P**	**16 00 50.4**	**+0.3**
WESE				S	**S**	**16 01 02.8**	**-1.8**
WESS	**West Dahl Sout**	**1.17**	**322**	P	**P**	**16 00 51.0**	**+0.2**
WESS				S	**S**	**16 01 04.3**	**-1.6**
WESN	**West Dahl Nort**	**1.20**	**328**	P	**P**	**16 00 51.6**	**+0.4**

WFAR	Faris Peak	1.24	323	P	P	16 00 51.9	+0.1
SSLW	Shishaldin Wes	1.27	343	P	P	16 00 52.6	+0.3
WPOG	Pogromni	1.27	325	P	P	16 00 52.6	+0.2
WPOG				S	S	16 01 08.8	+0.2
SSLN	Shishaldin Nor	1.29	347	P	P	16 00 53.1	+0.5
FALS	False Pass	1.30	2	P	P	16 00 52.6	-0.2
FALS				S	S	16 01 10.5	+1.2
WTUG	Tugumak	1.39	338	P	P	16 00 54.5	+0.3
AKA	Akutan	1.47	294	P	P	16 00 55.0	-0.1
AKA				S	S	16 01 14.5	+1.2
AHB	Akutan Harbor	1.48	293	P	P	16 00 55.3	-0.1
AKLV	Akutan Long Va	1.58	294	P	P	16 00 56.5	-0.2
AKLV				S	S	16 01 16.7	+0.6
DRIA	Deer Island	1.58	27	P	P	16 00 57.0	+0.2
AKGG	Akutan Green G	1.61	294	P	P	16 00 57.2	0.0
LVA	Lava Point	1.62	293	P	P	16 00 57.2	-0.1
BALA	Baldy Mountain	1.69	14	P	P	16 00 59.3	+1.0
DT1	Dutton Round H	1.71	24	P	P	16 00 57.9	-0.6
DTNA	Dutton South F	1.75	24	P	P	16 00 58.6	-0.5
UNV	Unalaska Valle	1.81	280	P	P	16 00 59.3	-0.7
DOL	Dolgoi Island	1.86	30	P	P	16 00 59.8	-0.8
MNAT	Makushin Natee	1.92	281	P	P	16 01 01.1	-0.4
MTBL	Makushin Table	1.93	284	P	P	16 01 01.8	+0.1
HAG	Hague Volcano	1.99	27	P	P	16 01 02.8	+0.3
MGOD	Makushin Gods	2.02	278	P	P	16 01 02.7	-0.2
MCIR	Makushin Cirqu	2.05	282	P	P	16 01 03.4	0.0
PN7A	Pavlof North-7	2.07	24	P	P	16 01 04.5	+0.9
PVV	Pavlof Volcano	2.07	28	P	P	16 01 04.4	+0.7
SDPT	Sand Point	2.52	43	P	P	16 01 09.6	-0.4
SDPT				S	S	16 01 38.7	-0.9
OKCD	Okmok Cone D	2.76	269	P	P	16 01 13.3	-0.1
FX1	Attu Island--F	13.99	277	Pn	P	16 03 47.0	-0.6
	2µm,0.3s,baz=286,slow=23						
ILAR	Eielson Array	14.04	30	Pn	P	16 03 43.7	-4.5
	0.1nm,0.3s,baz=223,slow=11,SNR=6.7						
INK	Inuvik	20.42	32	P	P	16 05 02.5	-3.5
	3.3nm,0.7s,baz=240,slow=8.1,SNR=4.9						
SONM	Songino Array	53.68	303	P	P	16 09 49.6	+0.1
	1.9nm,1.0s,mb4.0,baz=39,slow=7.7,SNR=11						
ARCES	ARCESS Array B	57.04	356	P	P	16 10 12.1	-1.4
	1.3nm,0.9s,mb4.0,baz=15,slow=8.0,SNR=5.6						
ARCES	ARCESS Array B	57.04	356	P	P	16 10 12.1	-1.4
ZAL	Zalesovo	58.88	320	P	P	16 10 26.5	-0.1
	0.5nm,0.3s,mb4.1,baz=39,slow=6.5,SNR=3.1						
FINES	FINESS Array B	65.09	355	P	P	16 11 07.3	-0.5
	1.7nm,0.8s,mb4.1,baz=14,slow=5.7,SNR=6.1						
MKAR	Makanchi Array	65.48	316	P	P	16 11 09.9	-0.7
	1.4nm,0.9s,mb4.0,baz=53,slow=6.1,SNR=5.1						
NOA	NORSAR Array B	65.67	3	P	P	16 11 11.7	+0.2
	0.9nm,0.7s,mb3.9,baz=356,slow=6.7,SNR=3.7						
AKASG	Malin Array Be	75.56	352	P	P	16 12 11.3	0.0
	1.0nm,0.5s,mb4.0,baz=9.8,slow=5.3,SNR=8.3						
GERES	GERESS Array B	77.94	2	P	P	16 12 25.8	+1.1
	0.4nm,0.5s,mb3.6,slow=5.3,SNR=6.7						
CMAR	Chiang Mai Arr	79.74	287	P	P	16 12 35.5	+0.4
	1.2nm,0.9s,mb3.8,baz=14,slow=5.9,SNR=4.2						
BRTR	Keskin Array B	85.92	347	P	P	16 13 08.7	+2.5
	0.9nm,0.7s,mb4.1,baz=63,slow=3.2,SNR=4.1						

NEIC 02 16:24:04.3, 46.20N×122.19W, h0^{km}, MD3.5(SEA)**, 10C-7D, After SEA., Washington**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YEL	Yellow Rock	0.01	4	P	Pg	16 24 04.7	+0.2
ESD	East Dome	0.03	94	⇑P	Pg	16 24 05.2	+0.3
HSR	South Ridge	0.03	171	⇑P	Pg	16 24 05.2	+0.3
SHW	Mount Saint He	0.03	259	⇓P	Pg	16 24 05.3	+0.3
STD	Studebaker Rid	0.04	329	⇓P	Pg	16 24 05.6	+0.4
JLK	June Lake	0.06	154	⇑P	Pg	16 24 05.7	+0.3
SOSW	Source of Smit	0.06	39	⇑P	Pg	16 24 05.8	+0.3
FL2	Flat Top 2	0.11	269	⇑P	Pg	16 24 07.0	+0.5
CDFW	Cedar Flats	0.13	130	⇓P	Pg	16 24 07.4	+0.5
ERK	Elk Rock	0.15	315	⇑P	Pg	16 24 07.6	+0.3
TDL	Tradedollar La	0.15	353	P	Pg	16 24 07.9	+0.6
LVP	Lakeview Peak	0.20	229	⇓P	Pg	16 24 08.6	+0.3
KOSW	Kosmos	0.26	360	⇑P	Pg	16 24 09.9	+0.4
ASR	Mount Adams--S	0.42	96	⇓P	Pg	16 24 12.7	+0.1
LMW	Ladd Mountain	0.47	351	⇑P	Pg	16 24 15.1	+1.4
LON	Longmire	0.61	25	eP	Pg	16 24 16.0	-0.5
WPW	White Pass	0.67	41	P	Pg	16 24 17.5	-0.1
BMW	Boistfort Moun	0.77	291	⇑P	Pg	16 24 19.3	-0.4
FMW	Mount Fremont	0.81	26	⇓P	Pg	16 24 20.1	-0.5
VGB	Gordon Butte	1.20	124	eP	Pb	16 24 26.9	-0.7
EBG	Ellensburg	1.32	57	⇓P	Pb	16 24 30.7	+1.0
CROR	Criterion Ridg	1.48	145	P	Pn	16 24 32.5	+0.2
JCW	Jim Creek	2.00	5	⇑P	Pn	16 24 40.6	+0.9
NLW	Nelson Butte	2.27	33	ePn	Pn	16 24 44.7	+1.2
RPW	Rockport	2.30	11	ePn	Pn	16 24 43.7	-0.2

IDC 02 16:24:08.1±1.4**, 3.06N×126.93E, mb3.3**/4**, mb1 3.4**/4**, mb1mx3.3**/16**, Error ellipse: s-maj=141.0km s-min=19.8km az=70.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.99	163	P	P	16 29 24.4	-1.1
	0.2nm,0.3s,baz=341,slow=9.9,SNR=10.0						
ASAR	Alice Springs	27.42	166	P	P	16 29 55.5	-2.2
	0.3nm,0.9s,baz=350,slow=7.1,SNR=5.7						
SONM	Songino Array	47.99	341	P	P	16 32 49.1	-1.6
	0.2nm,0.5s,baz=163,slow=11,SNR=3.3						
MKAR	Makanchi Array	58.21	325	P	P	16 34 04.3	-2.2
	0.4nm,0.5s,baz=107,slow=7.2,SNR=7.9						

NEIC 02 16:34:24.1, 46.20N×122.19W, h1^{km}, MD3.8(SEA)**, 4C-11D, After SEA., Washington**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSR	South Ridge	0.03	166	⇓P	Pg	16 34 25.0	+0.3
ESD	East Dome	0.03	89	⇓P	Pg	16 34 25.3	+0.6
SHW	Mount Saint He	0.03	262	P	Pg	16 34 25.0	+0.3
STD	Studebaker Rid	0.05	332	⇑P	Pg	16 34 25.3	+0.3
JLK	June Lake	0.06	152	⇓P	Pg	16 34 25.5	+0.3
SOSW	Source of Smit	0.06	39	⇑P	Pg	16 34 25.6	+0.3
CDFW	Cedar Flats	0.13	129	⇑P	Pg	16 34 27.2	+0.5
ERK	Elk Rock	0.15	316	⇓P	Pg	16 34 27.4	+0.2
TDL	Tradedollar La	0.15	354	⇓P	Pg	16 34 27.8	+0.6
LVP	Lakeview Peak	0.20	229	⇓P	Pg	16 34 28.5	+0.4
KOSW	Kosmos	0.26	0	⇓P	Pg	16 34 29.8	+0.4
ASR	Mount Adams--S	0.42	96	P	Pg	16 34 32.4	-0.1
LON	Longmire	0.61	25	⇓P	Pg	16 34 36.0	-0.3
BMW	Boistfort Moun	0.77	292	⇓P	Pg	16 34 39.0	-0.4
FMW	Mount Fremont	0.82	26	⇑P	Pg	16 34 39.8	-0.6
RMW	Rattlesnake Mo	1.29	12	eP	Pb	16 34 48.2	-0.7
EBG	Ellensburg	1.33	57	⇓P	Pb	16 34 50.3	+0.7
GNW	Green Mountain	1.44	343	eP	Pn	16 34 50.1	-1.2
HAWA	Hanford	1.85	83	eP	Pn	16 34 57.4	+0.1
OCWA	Octopus Mounta	2.06	320	Pn	Pn	16 35 01.7	+1.4
RPW	Rockport	2.30	11	ePn	Pn	16 35 03.7	0.0
MCW	Mount Constitu	2.52	350	⇓P	Pn	16 35 10.5	+3.6
SBES	Silver Beach E	2.58	357	P	Pn	16 35 06.6	-1.1
HSO	Harness Mounta	2.75	194	P	Pn	16 35 06.5	-3.6

*NEIC **02** 17:04:29.6, 45.99S×166.41E, h33^{km}, ML3.7(WEL), After WEL.*

WEL 02 17:04:26.3±0.8**, 45.82S×166.34E, h5^{km}, ML3.6**/5**, Error ellipse: s-maj=7.9km s-min=5.0km az=90.0, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.66	60	P*	Pb	17 04 39.3	-0.6
DCZ				eSG	Sg	17 04 48.7	+0.3
WHZ	Wether Hill Ro	1.13	94	P	Pb	17 04 46.7	-1.1
WHZ				S	Sb	17 05 02.5	-0.1
WHZ	Wether Hill Ro	1.13	94	P*	Pb	17 04 46.7	-1.2
WHZ				S*	Sb	17 05 02.7	+0.1
MLZ	Mavora Lakes	1.37	71	eP	Pb	17 04 50.8	-1.2
MLZ				S	Sb	17 05 10.6	+0.9
MLZ	Mavora Lakes	1.37	71	P*	Pb	17 04 50.8	-1.2
MLZ				S*	Sb	17 05 09.5	-0.2
WKZ	Wanaka	2.13	63	PN	Pn	17 05 04.1	+1.1
TUZ	Tuapeka	2.30	95	P	Pn	17 05 05.0	-0.4
TUZ	Tuapeka	2.30	95	PN	Pn	17 05 04.9	-0.5
TUZ				SN	Sn	17 05 34.3	-0.2
JCZ	Jackson Bay	2.45	45	ePN	Pn	17 05 11.4	+3.9
LBZ	Lake Benmore	3.08	64	PN	Pn	17 05 16.4	-0.1
LBZ				eSN	Sn	17 05 54.3	+0.2
ODZ	Otahua Downs	3.13	77	PN	Pn	17 05 15.7	-1.5
WVZ	Waitaha Valley	4.17	51	PN	Pn	17 05 31.4	-0.7

*NIED **02** 17:08:00, 28.00N×128.00E, h8^{km}, Mw4.1 Best double couple: M$_0$1.64×10^{15} NP1:ϕ_s291°, δ84°, λ25°. NP2:ϕ_s198°, δ66°, λ173°.*
*BJI **02** 17:08:08.2, 27.35N×128.60E, h36^{km}, mB4.6, mb4.0, Ms4.0*
*JMA **02** 17:08:08.5±0.4, 28.05N×128.02E, h4^{km}±4^{km}, M4.2*
*IDC **02** 17:08:10.3±0.8, 27.70N×127.72E, mb3.7/7, mb1 3.9/8, mb1mx3.7/23, ML4.5/1, MS3.4/4, Ms1 3.4/4, ms1mx3.0/25, Error ellipse: s-maj=35.6km s-min=13.0km az=65.0*
*NEIC **02** 17:08:12.4±0.7, 27.73N×127.77E, h15^{km}, mb4.1/5, Error ellipse: s-maj=23.2km s-min=12.5km az=68.0*

ISC 02 17:08:09.1±0.4**, 28.00N**±0.03×**128.06E**±0.04**, h4^{km}, n29, σ1^{s}22**/31**, mb3.8**/13**, MS3.6**/3**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	Tokunoshima	0.81	105	P	Pg	17 08 25.3	-0.1
JTK				S	Sg	17 08 36.9	+0.7
JIH	Iheya	0.96	185	P	Pb	17 08 27.8	-0.1
JIH				S	Sb	17 08 41.6	+0.8
JOW	Kunigami	1.17	171	Pn	Pn	17 08 31.4	-0.8
	198nm,0.3s,baz=348,slow=14,SNR=119						
JOW				Sn	Sn	17 08 48.0	-0.8
	351nm,0.3s,baz=116,slow=27,SNR=18						
JOW	Kunigami	1.17	171	P	Pb	17 08 31.6	0.0
JOW				S	Sb	17 08 48.7	+1.7
JAM	Amami Oshima	1.42	73	P	Pn	17 08 34.9	-0.9
JAM				S	Sb	17 08 53.6	-0.6
JAGN	Aguni-jima	1.58	208	eS	Sb	17 08 58.1	-0.7
JZK	Kikaishima	1.71	79	P	Pn	17 08 40.9	+0.9
JJT2	Tamagusuku 2	1.87	189	P	Pn	17 08 42.9	+0.7
JTN	Tanegashima 3	3.67	43	P	Pn	17 09 08.3	+0.3
JNU	Nakatsue	5.66	25	Pn	Pn	17 09 40.1	+4.1
	13nm,0.3s,baz=207,slow=1.9,SNR=13						
JHJ	Hachijo jima 2	11.32	60	LR	LR	17 15 02.8	
	comp=Z,95nm,21.0s,baz=36,slow=35						
BJI	Beijing	15.52	324	P	P	17 11 57.4	+6.9
BJI				AMB	AMB		
	comp=Z,11nm,0.8s						
BJI				LR	LR		
	comp=N,334nm,11.1s						
BJI				LR	LR		
	comp=E,213nm,11.1s						
SONM	Songino Array	26.01	325	P	P	17 13 44.0	-0.7
	comp=E,1.8nm,0.8s,mb3.7,baz=131,slow=8.4,SNR=13						
GTA	Gaotai	26.01	303	eP	P	17 13 47.6	+2.8
GTA				AP	pP	17 13 52.1	+6.1
GTA				AMB	AMB		
	comp=Z,2.0nm,1.1s,mb3.6						
YAK	Yakutsk	34.05	1	P	P	17 15 02.9	+6.6
MKAR	Makanchi Array	40.27	310	P	P	17 15 50.2	+1.5
	comp=Z,2.2nm,0.7s,mb4.0,baz=99,slow=10,SNR=12						
MKAR	Makanchi Array	40.27	310	P	P	17 15 50.2	+1.5
ZAL	Zalesovo	40.77	322	P	P	17 15 54.0	+1.2
	comp=Z,0.6nm,0.7s,mb3.4,baz=333,slow=8.3,SNR=3.7						
ZAL				LR	LR	17 34 11.9	
	comp=Z,45nm,18.5s,MS3.4,baz=148,slow=38						
KURK	Kurchatov	43.45	315	eP	P	17 16 15.0	+0.3
	comp=Z,1.3nm,0.6s,mb3.8						
AAK	Ala-Archa	45.36	303	P	P	17 16 31.1	+0.9
	comp=Z,0.9nm,0.7s,mb3.7						
WRA	Warramunga Arr	48.04	172	P	P	17 16 49.9	-1.8
	comp=Z,0.4nm,0.5s,mb3.7,baz=354,slow=8.4,SNR=8.1						
BRVK	Borovoye	48.94	317	P	P	17 16 56.0	-2.1
	comp=Z,2.3nm,0.9s,mb4.2						
ZRNK	Zerenda	49.70	317	P	P	17 17 01.6	-2.4
	comp=Z,2.8nm,1.0s,mb4.2						
ASAR	Alice Springs	51.67	173	P	P	17 17 16.6	-2.8
	comp=Z,0.3nm,0.6s,mb3.4,baz=357,slow=8.5,SNR=7.9						
ILAR	Eielson Array	62.96	29	P	P	17 18 42.6	+3.8
	comp=Z,0.2nm,0.5s,mb3.5,baz=282,slow=8.3,SNR=4.0						
INK	Inuvik	67.34	23	eP	P	17 19 01.7	-5.3
	comp=Z,7.3nm,1.1s,mb4.6						
FINES	FINESS Array B	71.26	330	LR	LR	17 54 28.7	
	comp=Z,54nm,20.0s,MS3.8,baz=146,slow=39						
NOA	NORSAR Array B	77.67	334	P	P	17 20 08.1	0.0
	comp=Z,0.3nm,0.7s,mb3.4,baz=52,slow=9.0,SNR=2.5						
NVAR	Mina Array Bea	89.39	46	LR	LR	17 58 50.8	
	comp=Z,23nm,18.0s,MS3.6,baz=220,slow=34						

JMA 02 17:24:57.4±0.2**, 31.55N×140.86E, h64^{km}, M3.5, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	1.79	331	P	P	17 25 26.9	+0.2
JHJ2				S	S	17 25 48.9	+0.6
JOD2	Odawara 2	3.99	339	P	P	17 25 57.6	0.0
JHU	Hanno	4.49	343	P	P	17 26 03.7	-0.9
JNY	Yasuok	4.55	327	P	P	17 26 05.0	-0.4
JYT	Yasato	4.70	353	P	P	17 26 07.8	+0.3
JRY	Ryogami san	4.74	340	P	P	17 26 07.1	-1.0
JHO	Hitachi	5.05	357	P	P	17 26 10.4	-2.0
JFK	Kawauchi	5.80	0	P	P	17 26 20.2	-2.6
JMK	Ichinoseki	7.39	2	P	P	17 26 42.3	-2.6

*JMA **02** 17:51:03.5±0.4, 28.05N×128.03E, h13^{km}±5^{km}, M3.4*
*IDC **02** 17:51:04.5±1.1, 27.84N×127.89E, mb3.7/5, mb1 3.9/6, mb1mx3.6/23, Error ellipse: s-maj=50.2km s-min=13.8km az=67.0*
*NEIC **02** 17:51:06.6±0.7, 27.84N×127.90E, h15^{km}, mb4.2/2, Error ellipse: s-maj=24.0km s-min=11.1km az=75.0*

ISC 02 17:51:04.0±2.5**, 28.01N**±0.04×**128.08E**±0.05**, h10^{km}**±17^{km}**, n15, σ0^{s}86**/20**, mb3.8**/7**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	Tokunoshima	0.81	106	P	Pb	17 51 19.7	+0.1
JTK				S	Sb	17 51 31.1	+0.8
JIH	Iheya	0.98	186	P	Pb	17 51 22.2	-0.4
JIH				S	Sb	17 51 35.8	+0.5
JOW	Kunigami	1.19	171	Pn	Pn	17 51 25.9	-0.7
	55nm,0.3s,baz=345,slow=14,SNR=44						
JOW				Sn	Sn	17 51 42.1	-0.7
	54nm,0.3s,baz=123,slow=28,SNR=10						
JOW	Kunigami	1.19	171	P	Pb	17 51 25.8	-0.4
JOW				eS	Sb	17 51 42.6	+1.2
JAM	Amami Oshima	1.41	73	P	Pn	17 51 29.2	-0.6
JAM				eS	Sb	17 51 47.3	-0.5
JAGN	Aguni-jima	1.60	208	P	Pn	17 51 32.8	+0.3
JNU	Nakatsue	5.64	25	Pn	Pn	17 52 33.1	+3.2
	baz=66,slow=5.4,SNR=8.4						
SONM	Songino Array	26.00	325	P	P	17 56 38.4	-0.2
	0.9nm,0.8s,mb3.4,baz=141,slow=10,SNR=8.1						
YAK	Yakutsk	34.04	1	eP	P	17 57 46.0	-4.1
	3.9nm,0.6s,mb4.5						
MKAR	Makanchi Array	40.27	310	P	P	17 58 43.1	+0.5
	1.6nm,0.7s,mb3.9,baz=106,slow=8.8,SNR=10						
ZAL	Zalesovo	40.77	322	P	P	17 58 47.5	+0.7
	0.8nm,0.3s,mb3.8,baz=90,slow=6.1,SNR=2.8						
ZAL	Zalesovo	40.77	322	P	P	17 58 47.5	+0.7
KURK	Kurchatov	43.45	315	P	P	17 59 08.4	-0.2
	3.2nm,1.2s,mb3.9						
WRA	Warramunga Arr	48.05	172	P	P	17 59 43.8	-1.9
	0.7nm,1.0s,mb3.6,baz=354,slow=8.4,SNR=3.8						
ASAR	Alice Springs	51.68	173	P	P	18 00 14.1	+0.6
	0.3nm,0.7s,mb3.4,baz=351,slow=7.7,SNR=7.8						

*CASC **02** 17:57:31.6±2.4, 5.18N×82.61W, h35^{km}±76^{km}, MD4.5*

ISC 02 17:57:30.5±1.2**, 5.19N**±0.07×**82.67W**±0.06**, h35^{km}, n19, σ0^{s}91**/32**, 5C-7D, South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTP1	Petroterminal	3.01	5	⇓eP	P	17 58 16.5	-0.4
PTP1				eS	S	17 58 53.1	+0.9
DVD	David	3.24	4	⇓iP	P	17 58 20.0	-0.1
DVD				eS	S	17 58 59.7	+1.7
ACR	Cerro Adams	3.48	352	eP	P	17 58 23.2	-0.3
ACR				eS	S	17 59 03.3	-0.8
AZU	Azuero	3.52	42	⇑eP	P	17 58 24.0	0.0
AZU				eS	S	17 59 01.5	-3.5
BUS	Buena Vista	4.47	346	⇓eP	P	17 58 38.0	+0.3
BUS				eS	S	17 59 29.1	-0.1
LCR2	La Lucha 2	4.72	344	⇓eP	P	17 58 41.0	-0.2
LCR2				eS	S	17 59 32.4	-3.0
URSC	Urasca	4.75	347	⇓eP	P	17 58 41.7	+0.2
LAJ	Bijagual	4.87	343	⇑eP	P	17 58 42.3	-1.0
LAJ				eS	S	17 59 39.1	0.0
UPA	Univ. de Panam	4.89	39	⇑eP	P	17 58 44.1	+0.5
UPA				eS	S	17 59 39.4	-0.3
ICR	Volcan Irazu	4.90	346	⇓eP	P	17 58 44.4	+0.7
ICR				eS	S	17 59 40.9	+0.8
SJS	Escuela Geolog	4.92	344	eP	P	17 58 44.0	0.0
SJS				eS	S	17 59 40.4	0.0
PRS1	Puriscal	5.04	341	⇑eP	P	17 58 44.3	-1.4
PRS1				eS	S	17 59 42.1	-1.4
CGA2	Cerro Gallo 2	5.12	340	⇓eP	P	17 58 46.5	-0.3
CGA2				eS	S	17 59 45.0	-0.5
JEF	Cerro Jefe	5.17	39	eP	P	17 58 47.6	+0.1
VPS2	Volcan Poas 2	5.21	343	eP	P	17 58 48.3	+0.3
JCR	Jicaral	5.23	333	eP	P	17 58 47.9	-0.4
JCR				⇑iP		17 58 47.9	
TRTC	Tortuguero	5.45	349	eP	P	17 58 52.3	+0.8
VCR	Vista de Mar	5.72	329	eP	P	17 58 55.1	-0.1
CRZC	La Cruz	6.42	333	eP	P	17 59 07.7	+2.6
CRZC				eS	S	18 00 19.6	+1.5

*DJA **02** 17:59:15.4±0.9, 11.11S×113.03E, h33^{km}, MD4.8/3, ML4.6/3, Error ellipse: s-maj=27.3km s-min=17.2km az=130.0*
*IDC **02** 17:59:17.4±1.9, 10.11S×114.07E, mb3.6/5, mb1 3.9/6, mb1mx3.6/15, ML3.7/1, Error ellipse: s-maj=85.5km s-min=13.2km az=43.0*

ISC 02 17:59:15.8±2.7**, 10.91S**±0.06×**113.18E**±0.08**, h22^{km}**±20^{km}**, n11, σ0^{s}90**/18**, mb3.5**/5**, 3C-1D, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INGI	Ingas	2.84	43	⇑iPn	Pn	18 00 01.1	+0.2
INGI				eSn	Sn	18 00 35.0	+0.2
KELI	Kelakatan	2.97	26	⇓ePn	Pn	18 00 03.3	+0.5
	208nm,0.2s						
KELI				eSn	Sn	18 00 37.8	-0.4
RATI	Rata	3.18	47	⇑iPn	Pn	18 00 06.1	+0.4
	231nm,0.2s						
RATI				eSn	Sn	18 00 43.5	+0.2
KEDI	Kedomdong	3.76	50	⇑ePn	Pn	18 00 14.1	+0.1
	88nm,0.2s						
KEDI	Kedomdong	3.76	50	ePg	Pn	18 00 14.7	+0.7
KEDI				eSn	Sn	18 00 57.4	-0.7
FITZ	Fitzroy Crossi	14.01	122	Pn	P	18 02 33.0	-2.5
	0.3nm,0.3s,baz=315,slow=7.3,SNR=10						
FITZ				Sn	S	18 04 58.9	-12
	0.4nm,0.3s,baz=181,slow=16,SNR=6.7						
WRA	Warramunga Arr	22.26	116	P	P	18 04 13.0	0.0
	0.5nm,0.4s,mb3.3,baz=290,slow=11,SNR=9.3						
WRA				S	S	18 08 12.2	+0.4
	0.4nm,0.7s,baz=291,slow=25,SNR=3.2						
ASAR	Alice Springs	23.46	125	P	P	18 04 26.8	+2.0
	0.7nm,0.6s,mb3.3,baz=304,slow=9.7,SNR=16						
ASAR				S	S	18 08 44.1	+11
	0.2nm,0.7s,baz=299,slow=22,SNR=3.8						
CMAR	Chiang Mai Arr	32.39	334	P	P	18 05 46.1	-0.3
	0.8nm,0.8s,mb3.6,baz=167,slow=7.5,SNR=5.0						
MKAR	Makanchi Array	63.74	337	P	P	18 09 47.1	-1.1
	0.2nm,0.5s,mb3.5,baz=153,slow=7.7,SNR=3.7						
ZAL	Zalesovo	68.95	342	P	P	18 10 21.9	+0.7
	0.7nm,0.3s,mb4.1,baz=21,slow=18,SNR=3.2						

WEL 02 17:59:46.7±0.7**, 45.87S×166.32E, h5^{km}, ML3.8**/7**, 1D, Error ellipse: s-maj=6.5km s-min=3.9km az=90.0, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.70	57	P*	Pb	18 00 00.4	-0.7
DCZ				S*	Sb	18 00 10.3	-0.5
WHZ	Wether Hill Ro	1.14	92	⇓P*	Pb	18 00 07.8	-0.7
WHZ				S*	Sb	18 00 23.2	-0.2
MLZ	Mavora Lakes	1.40	69	PN	Pn	18 00 11.7	-1.3
MLZ				S*	Sb	18 00 31.5	+0.4
TUZ	Tuapeka	2.32	93	PN	Pn	18 00 25.6	-0.4
TUZ				eSN	Sn	18 00 55.6	+0.3
JCZ	Jackson Bay	2.49	45	ePN	Pn	18 00 29.1	+0.5
LBZ	Lake Benmore	3.11	63	ePN	Pn	18 00 36.3	-1.1
LBZ				eSN	Sn	18 01 13.4	-2.0
ODZ	Otahua Downs	3.15	76	PN	Pn	18 00 36.8	-1.2
WVZ	Waitaha Valley	4.22	50	PN	Pn	18 00 52.6	-0.5
WVZ				eSN	Sn	18 01 40.9	-2.6
THZ	Tophouse	6.29	52	eSN	Sn	18 02 32.4	-3.1

*FUNV **02** 18:03:22.9, 11.21N×61.70W, h31^{km}, MW2.4*
*TRN **02** 18:03:24.1, 11.27N×61.59W, h11^{km}, MD2.7*

ISC 02 18:03:23.1±0.7**, 11.25N**±0.05×**61.76W**±0.04**, h33^{km}, n8, σ0^{s}93**/16**, Windward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	Trinidad (W)	0.69	150	eP	P	18 03 36.8	+0.4
TRN				eS	S	18 03 46.4	+0.4
GUIV	Guiria	0.75	217	eP	P	18 03 37.2	-0.1
GUIV				eS	S	18 03 47.9	+0.3
GRW	Mount Saint Ca	0.91	6	eP	P	18 03 40.2	+0.8
GRW				eS	S	18 03 55.7	+4.1
TPR	Prospect	0.96	94	eP	P	18 03 39.1	-1.2
TPR				eS	S	18 03 51.6	-1.3
TPP	Pointe-a-Pierr	0.97	162	eP	P	18 03 42.2	+1.8
TPP				eS	S	18 03 56.8	+3.6
ITEV	Isla Los Testi	1.35	275	eP	P	18 03 46.0	+0.2
ITEV				eS	S	18 04 03.2	+0.3
CRUV	Carupano	1.56	249	eP	P	18 03 48.4	-0.4
CRUV				eS	S	18 04 07.3	-0.8
GUNV	Guanoco	1.59	227	eP	P	18 03 49.0	-0.2
GUNV				eS	S	18 04 08.0	-0.8

NEIC 02 18:03:44.9, 46.20N×122.20W, MD3.5(SEA)**, 13C-10D, After SEA., Washington**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSR	South Ridge	0.03	160	⇓P	Pg	18 03 45.5	0.0
SHW	Mount Saint He	0.03	255	⇓P	Pg	18 03 45.9	+0.4
STD	Studebaker Rid	0.04	334	⇑P	Pg	18 03 45.9	+0.2
JLK	June Lake	0.06	150	⇓P	Pg	18 03 46.2	+0.1
SOSW	Source of Smit	0.06	43	⇑P	Pg	18 03 46.3	+0.2
FL2	Flat Top 2	0.11	268	⇑P	Pg	18 03 47.6	+0.5
CDFW	Cedar Flats	0.13	129	⇓P	Pg	18 03 47.9	+0.3
ERK	Elk Rock	0.14	317	⇑P	Pg	18 03 48.2	+0.3
TDL	Tradedollar La	0.15	355	⇓P	Pg	18 03 48.4	+0.4
MTMW	Mount Mitchell	0.17	183	⇑P	Pg	18 03 48.7	+0.3
LVP	Lakeview Peak	0.20	228	⇑P	Pg	18 03 49.1	+0.2
KOSW	Kosmos	0.26	1	⇓P	Pg	18 03 50.4	+0.2
ASR	Mount Adams--S	0.42	96	⇓P	Pg	18 03 53.5	+0.2
LMW	Ladd Mountain	0.47	352	⇑P	Pg	18 03 55.3	+0.9
GLK	Glacier Lake	0.55	48	P	Pg	18 03 55.7	-0.1
LON	Longmire	0.61	26	P	Pg	18 03 56.8	-0.3
RCM	Mount Rainier-	0.71	27	⇑P	Pg	18 03 59.6	+0.5
RCS	Mount Rainier-	0.74	25	⇑P	Pg	18 03 60.0	+0.2
BMW	Boistfort Moun	0.77	291	⇑P	Pg	18 03 59.8	-0.4
PCFR	Pierce County	0.81	348	P	Pg	18 04 00.9	-0.1
FMW	Mount Fremont	0.82	26	⇑P	Pg	18 04 00.5	-0.7
TDH	Tom, Dick, Har	0.95	162	⇑P	Pg	18 04 03.4	-0.6
CPW	Capitol Peak	1.01	320	⇓P	Pb	18 04 03.8	-1.2
VFP	Flag Point	1.02	150	⇓P	Pb	18 04 04.3	-0.8
VGB	Gordon Butte	1.21	124	eP	Pb	18 04 07.2	-1.1
RMW	Rattlesnake Mo	1.29	12	eP	Pb	18 04 08.6	-1.1
EBG	Ellensburg	1.33	57	⇑P	Pb	18 04 10.7	+0.2
SSOR	Sweet Springs	1.36	188	eP	Pb	18 04 09.3	-1.6
GNW	Green Mountain	1.43	343	eP	Pb	18 04 10.5	-1.7
CROR	Criterion Ridg	1.48	145	⇓P	Pn	18 04 12.9	0.0
LTY	Liberty	1.49	44	P	Pn	18 04 11.2	-1.9
COR	Corvallis	1.79	206	eP	Pn	18 04 16.8	-0.5
HAWA	Hanford	1.86	83	eP	Pn	18 04 18.1	-0.2
OCWA	Octopus Mounta	2.06	320	ePn	Pn	18 04 21.5	+0.4
NLW	Nelson Butte	2.27	33	ePn	Pn	18 04 24.4	+0.2
RPW	Rockport	2.30	11	ePn	Pn	18 04 24.6	0.0
PGC	Sidney	2.59	341	ePn	Pn	18 04 28.2	-0.7
HSO	Harness Mounta	2.75	194	ePn	Pn	18 04 30.2	-0.8
DPW	Davenport	3.20	57	ePn	Pn	18 04 35.2	-2.2
HUMO	Hull Mountain	3.63	189	ePn	Pn	18 04 42.0	-1.6

*STR **02** 18:07:33.9±0.2, 42.85N×1.49W, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **02** 18:07:34.0±0.6, 42.87N×1.51W, h3km, Md2.4/2, Ml2.1/3, Error ellipse: s-maj=8.9km s-min=6.9km az=61.0*
*MDD **02** 18:07:34.8±0.4, 42.85N×1.42W, h6km±6km, mbLg1.6/9, Error ellipse: s-maj=3.4km s-min=2.2km az=41.0, PRXIMO AftershockPLICA*
ISC 02 18:07:32.9±0.6**, 42.82N**±0.03×**1.46W**±0.05**, h13**km±4km**, n19, σ0.96**/35**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.34	30	ePg	Pg	18 07 40.4	+0.4
SJPF				eSg	Sg	18 07 43.2	-1.5
	44nm,0.3s						
EALK	Alkurruntz	0.40	355	Pg	Pg	18 07 41.7	+0.5
	4.9nm,0.1s,SNR=25						
EALK				Lg		18 07 47.4	
	22nm,0.2s,SNR=20						
LARF	Larrau	0.41	58	Pg	Pg	18 07 41.9	+0.6
LARF				Sg	Sg	18 07 47.7	+0.8
LARF	Larrau	0.41	58	P	Pg	18 07 42.0	+0.7
LARF				S	Sg	18 07 47.8	+0.8
OSSF	Osses	0.46	18	Pg	Pg	18 07 42.4	+0.1
OSSF				Sg	Sg	18 07 48.5	-0.1
OSSF	Osses	0.46	18	P	Pg	18 07 42.5	+0.2
OSSF				S	Sg	18 07 48.5	-0.1
ORDF	Ordiarp	0.55	44	Pg	Pg	18 07 44.3	+0.3
ORDF				Sg	Sg	18 07 52.0	+0.5
ORDF	Ordiarp	0.55	44	P	Pb	18 07 44.4	+0.6
ORDF				S	Sb	18 07 51.3	0.0
ATE	Arette	0.61	64	P	Pb	18 07 45.9	+0.8
ATE				S	Sb	18 07 54.2	+0.9
ETSF	Etsaut	0.66	83	ePg	Pg	18 07 45.8	-0.5
ETSF				eSg	Sg	18 07 54.9	-0.4
	6.1nm,0.2s						
ESAC	San Caprasio	1.32	146	Pg	Pg	18 07 59.0	-0.4
	10nm,0.2s,SNR=6.9						
ESAC				Lg		18 08 17.1	
	23nm,0.3s,SNR=7.7						
EPF	Esparros	1.33	80	ePn	Pn	18 07 58.0	+0.6
EPF				ePg	Pg	18 08 00.7	+1.0
EPF				eSg	Sg	18 08 17.8	+0.3
	11nm,0.3s						
EPF	Esparros	1.33	80	Pn	Pn	18 07 58.0	+0.6
EPF				Lg		18 08 17.8	
	5.4nm,0.3s						
ELAN	Lanestosa	1.51	286	Pg	Pg	18 08 02.4	-0.7
	0.8nm,0.1s,SNR=6.0						
ELAN				Lg		18 08 22.7	
	3.8nm,0.2s,SNR=7.9						
ETOR	Torete	2.05	193	Pn	Pn	18 08 09.7	+2.1
	0.6nm,0.2s,SNR=7.7						
ETOR				Pg	Pg	18 08 13.6	-0.3
	1.0nm,0.2s,SNR=5.3						
ETOR				Lg		18 08 42.1	
	2.0nm,0.3s,SNR=4.6						
EPOB	Poblet	2.39	127	Pn	Pn	18 08 12.9	+0.4
	0.4nm,0.2s,SNR=4.0						
EPOB				Sn	Sn	18 08 40.9	-1.0
	SNR=4.0						
EPOB				Lg		18 08 51.3	
	0.9nm,0.2s,SNR=7.9						
EMOS	Mosqueruela	2.56	163	Pg	Pg	18 08 20.5	-3.7
	1.1nm,0.4s,SNR=4.0						
EMOS				Lg		18 08 57.7	
	1.0nm,0.3s,SNR=5.0						
MTLF	Montolieu	2.74	78	ePn	Pn	18 08 18.1	+0.6
MTLF				ePg	Pg	18 08 25.6	-2.1
MTLF				eSn	Sn	18 08 50.5	-0.3
	0.3nm,0.2s						
CAF	Calviac	3.30	49	ePn	Pn	18 08 23.8	-1.6
CAF				eSn	Sn	18 09 02.1	-2.9
	0.9nm,0.2s						

JMA 02 18:12:42.3±0.2**, 28.10N**×**128.06E, h10**km±2km**, M3.1, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTK	Tokunoshima	0.85	111	P	Pb	18 12 58.4	-0.3
JTK				S	Sb	18 13 09.7	-0.1
JIH	Iheya	1.06	184	P	Pb	18 13 02.3	-0.1
JIH				S	Sb	18 13 16.5	+0.4
JOW	Kunigami	1.28	171	P	Pb	18 13 05.7	-0.3
JOW				S	Sb	18 13 22.8	+0.5
JAM	Amami Oshima	1.40	77	P	Pn	18 13 07.8	-0.2
JAM				S	Sb	18 13 26.5	+0.7

*NIED **02** 18:13:00, 28.10N×128.10E, h5km, Mw5.1 Best double couple: $M_0$5.78×10[16] NP1:ϕ_s108°, δ82°, λ-24°. NP2: ϕ_s201°, δ66°, λ-171°.*
*IDC **02** 18:13:53.4±0.5, 28.07N×128.06E, mb4.2/18, mb1 4.3/19, mb1mx4.2/29, ML3.6/2, MS4.6/25, Ms1 4.6/25, ms1mx4.6/30, Error ellipse: s-maj=22.6km s-min=10.9km az=79.0*
*JMA **02** 18:13:54.1±0.2, 28.08N×128.06E, h6km, M5.3*
JMA Felt II J1.
*MOS **02** 18:13:56.1±1.4, 28.07N×128.15E, h33km, mb4.9/6, Error ellipse: s-maj=32.2km s-min=13.6km az=118.3*
*BJI **02** 18:14:00.0, 28.07N×128.10E, h61km, mB5.1, mb4.5, ML4.9, Ms5.4, Msz5.1*
*NEIC **02** 18:14:01.5±1.2, 28.07N×128.08E, h59km±12km, mb4.8/24, MW5.1(NIED), Error ellipse: s-maj=11.2km s-min=7.3km az=72.0*
NEIC Recorded [2 JMA] on Tokuno-shima.
ISC 02 18:13:53.7±0.2**, 28.06N**±0.02×**128.06E**±0.03**, h6**km**, n118, σ1.34**/117**, mb4.5**/45**, MS4.8**/31**, 4C-4D, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTK	Tokunoshima	0.83	109	P	Pb	18 14 10.2	0.0
JTK				eS	Sb	18 14 21.2	-0.2
JIH	Iheya	1.02	185	P	Pb	18 14 13.8	+0.3
JIH				S	Sb	18 14 28.1	+1.1
JOW	Kunigami	1.24	171	Pn	Pn	18 14 17.4	-0.2
	1μm,0.3s,baz=350,slow=16,SNR=138						
JOW				Sn	Sn	18 14 35.1	+0.4
	1μm,0.3s,baz=171,slow=28,SNR=26						
JOW	Kunigami	1.24	171	P	Pb	18 14 17.3	+0.2
JOW				S	Sb	18 14 34.5	+1.3
JAM	Amami Oshima	1.41	75	P	Pn	18 14 19.3	-0.7
JAM				S	Sb	18 14 37.6	-0.4
JAGN	Aguni-jima	1.64	207	P	Pn	18 14 23.6	+0.3
JAGN				eS	Sb	18 14 45.1	+0.3
JZK	Kikaishima	1.70	81	P	Pn	18 14 25.7	+1.5
NAH1	Naha	1.88	190	P	Pn	18 14 28.4	+1.7
JJT2	Tamagusuku 2	1.94	188	P	Pn	18 14 28.7	+1.2
JKE	Kume jima 2	2.07	214	P	Pn	18 14 29.2	-0.3
JNN	Nakanoshima	2.38	41	P	Pn	18 14 35.7	+1.8
JKC	Kuchinoerabu	3.03	37	P	Pn	18 14 46.0	+2.8
JTN	Tanegashima 3	3.63	44	P	Pn	18 14 52.8	+1.1
JNU	Nakatsue	5.60	25	Pn	Pn	18 15 23.6	+4.1
	2.3nm,0.3s,baz=139,slow=0.5,SNR=28						
JNU				Sn	Sn	18 16 26.0	+0.9
SSE	Sheshan	6.71	298	P	Pn	18 15 38.0	+2.8
SSE				S	Sn	18 16 51.2	-1.7
SSE				Smax			
	comp=N,189nm,1.4s						
SSE				Smax			
	comp=E,176nm,1.4s						
NJ2	Nanjing	8.91	299	eP	P	18 16 06.0	-0.1
NJ2				AP		18 16 12.5	
NJ2				S	Sn	18 17 43.0	-4.9
NJ2				PCS		18 26 06.0	
NJ2				AMB	AMB		
	comp=Z,40nm,0.8s						
NJ2				AMB	AMB		
	comp=Z,320nm,6.4s						
NJ2				LR	LR		
	comp=N,37μm,17.6s						
NJ2				LR	LR		
	comp=E,15μm,14.6s						
NJ2				LR	LR		
	comp=Z,16μm,13.2s						
KS15	Wonju Array Si	9.36	359	ePn	P	18 16 12.7	+0.5
JHJ	Hachijo jima 2	11.28	61	LR	LR	18 20 38.8	
	comp=Z,2μm,20.1s,baz=335,slow=36						
MAJO	Matsushiro	12.04	43	eP	P	18 16 48.8	-0.1
	comp=Z,8.6nm,0.8s						
MAT	Matsushiro	12.04	43	P	P	18 16 48.4	-0.5
MAT				S	S	18 19 00.0	-4.6
MAT	Matsushiro	12.04	43	P	P	18 16 50.0	+1.1
MAT				eS	S	18 19 00.0	-4.6
WHN	Wuhan	12.22	285	eP	P	18 16 55.8	+4.4
WHN				XP		18 17 10.7	
WHN				LR	LR		
	comp=N,10μm,11.4s						
WHN				LR	LR		
	comp=E,10μm,11.2s						
WHN				LR	LR		
	comp=Z,13μm,9.4s						
TIA	Tai'an	12.32	314	eP	P	18 16 54.6	+1.9
TIA				LR	LR		
	comp=N,9μm,13.0s						
TIA				LR	LR		
	comp=E,16μm,13.0s						
CBIJ	Chichi jima	12.56	91	LR	LR	18 21 30.2	
	comp=E,2μm,18.5s,baz=286,slow=36						
SNY	Shenyang	14.21	346	⇑P	P	18 17 18.8	+1.1
SNY				PP	PP	18 17 32.9	+3.9
SNY				S	S	18 20 03.9	+7.1
SNY				AMB	AMB		
	comp=Z,20nm,1.5s						
SNY				AMB	AMB		
	comp=Z,480nm,11.7s						
SNY				LR	LR		
	comp=E,8μm,11.8s						
SNY				LR	LR		
	comp=Z,8μm,13.4s						
TGY	Tagaytay City	15.39	207	LR	LR	18 23 35.2	
	comp=Z,3μm,18.4s,baz=9.1,slow=38						
BJI	Beijing	15.47	324	P	P	18 17 39.8	+5.7
BJI				AMB	AMB		
	comp=Z,54nm,1.1s						
BJI				AMB	AMB		
	comp=Z,719nm,5.2s						
BJI				LR	LR		
	comp=N,5μm,15.0s						
BJI				LR	LR		
	comp=E,2μm,14.2s						
BJI				LR	LR		
	comp=Z,3μm,19.5s						
CN2	Changchun	15.85	353	eP	P	18 17 41.7	+2.7
CN2				eXP		18 18 02.1	
CN2				eS	S	18 20 34.9	-0.4
CN2				AMB	AMB		
	comp=Z,30nm,1.3s						
CN2				AMB	AMB		
	comp=Z,1μm,10.0s						
CN2				LR	LR		
	comp=N,10μm,13.0s						
CN2				LR	LR		
	comp=E,5μm,13.0s						
CN2				LR	LR		
	comp=Z,11μm,14.0s						
ENH	Enshi	16.38	282	eP	P	18 17 49.7	+3.9
	comp=Z,62nm,1.2s						
MDJ	Mudanjiang	16.57	4	P	P	18 17 49.5	+1.3
MDJ				AP		18 18 03.1	
MDJ				XP		18 18 11.6	
MDJ				S	S	18 20 58.1	+6.1
MDJ				SS	SS	18 21 10.7	-1.2
MDJ				AMB	AMB		
	comp=Z,33nm,1.3s						
MDJ				AMB	AMB		
	comp=Z,317nm,3.4s						
MDJ				LR	LR		
	comp=E,4μm,14.2s						
MDJ				LR	LR		
	comp=Z,5μm,14.2s						
MDJ	Mudanjiang	16.57	4	eP	P	18 17 50.0	+1.8
	comp=Z,147nm,1.8s						
XAN	Xi'an	17.44	295	P	P	18 17 58.3	-1.0
XAN				S	S	18 21 13.5	+1.4
XAN				LR	LR		
	comp=N,8μm,15.8s						
XAN				LR	LR		
	comp=E,5μm,16.3s						
XAN				LR	LR		
	comp=Z,6μm,14.7s						
QIZ	Qiongzhong	18.95	246	P	P	18 18 21.7	+3.7
QIZ				eS	S	18 21 47.9	+1.5
QIZ				XS		18 22 05.8	
QIZ				AMB	AMB		
	comp=Z,614nm,7.7s						
QIZ				LR	LR		
	comp=N,3μm,11.8s						
QIZ				LR	LR		
	comp=E,3μm,14.3s						
QIZ				LR	LR		
	comp=Z,5μm,11.2s						
GYA	Guiyang	19.09	270	⇓iP	P	18 18 23.0	+3.3
GYA				PP	PP	18 18 40.2	+3.8
GYA				AMB	AMB		
	comp=Z,20nm,1.8s						
GYA				AMB	AMB		
	comp=Z,610nm,6.6s						
GYA				LR	LR		
	comp=N,7μm,12.3s						
GYA				LR	LR		
	comp=E,6μm,12.6s						
GYA				LR	LR		
	comp=Z,7μm,12.9s						
BTO	Baotou	19.41	315	eP	P	18 18 24.1	+0.8
BTO				AMB	AMB		
	comp=Z,47nm,1.4s						
BTO				LR	LR		
	comp=N,13μm,12.0s						
BTO				LR	LR		
	comp=E,11μm,13.1s						
ASAJ	Asahikawa	19.82	32	P	P	18 18 26.6	-1.3
	comp=E,0.3nm,0.3s,baz=83,slow=17,SNR=2.5						
ASAJ				LR	LR	18 25 22.2	
	comp=E,970nm,20.9s,baz=75,slow=35						
GUMO	Guam	21.27	129	eP	P	18 18 45.2	+2.0
	comp=E,199nm,1.4s,mb5.2						
CD2	Chengdu	21.34	284	⇓iP	P	18 18 42.8	-1.0
CD2				PP	PP	18 19 12.0	+4.5
CD2				S	S	18 22 40.0	+3.8
CD2				AMB	AMB		
	comp=Z,50nm,1.0s,mb4.8						
CD2				AMB	AMB		
	comp=Z,190nm,3.9s						
CD2				LR	LR		
	comp=N,12μm,12.6s						
CD2				LR	LR		
	comp=Z,5μm,11.4s,MS5.1						
LZH	Lanzhou	21.99	297	eP	P	18 18 52.2	+1.9
LZH				AP		18 19 06.9	
LZH				PP	PP	18 19 20.0	+4.1
LZH				S	S	18 22 46.1	-2.2
LZH				XS		18 23 10.9	
LZH				AMB	AMB		
	comp=Z,89nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,246nm,4.2s						
LZH				LR	LR		
	comp=N,3μm,13.0s						
LZH				LR	LR		
	comp=Z,3μm,14.0s,MS4.9						
YSS	Yuzh-Sakhalins	22.10	28	eP	P	18 18 53.7	+2.4
	comp=Z,20nm,1.0s,mb4.5						
HIA	Hailar	22.12	345	eP	P	18 18 50.9	-0.6
	comp=Z,38nm,1.7s,mb4.5						
KMI	Kunming	22.82	268	eP	P	18 18 59.9	+1.2
KMI				AP		18 19 08.4	
KMI				PP	PP	18 19 30.9	+3.2
KMI				AMB	AMB		
	comp=Z,14nm,1.4s,mb4.2						
KMI				AMB	AMB		
	comp=Z,95nm,3.1s						
KMI				LR	LR		
	comp=N,5μm,11.4s,MS5.3						
KMI				LR	LR		
	comp=E,4μm,12.3s,MS5.3						
KMI				LR	LR		
	comp=Z,3μm,12.8s,MS4.9						
SONM	Songino Array	25.95	325	P	P	18 19 28.4	-0.2
	comp=Z,11nm,1.0s,mb4.3,baz=139,slow=9.4,SNR=36						
GTA	Gaotai	25.97	303	eP	P	18 19 29.3	+0.5
GTA				AP	pP	18 19 43.6	+13
GTA				XP	sP	18 19 50.9	+20
GTA				PP	PP	18 20 10.8	+1.1
GTA				PPP	PPP	18 20 23.3	+1.6
GTA				S	S	18 23 56.4	-1.0
GTA				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb3.9						
GTA				AMB	AMB		
	comp=Z,62nm,5.3s						
GTA				LR	LR		
	comp=N,4μm,12.6s,MS5.2						
GTA				LR	LR		
	comp=E,2μm,13.0s,MS5.2						
GTA				LR	LR		
	comp=Z,2μm,11.9s,MS4.9						
CMAR	Chiang Mai Arr	28.35	257	LR	LR	18 32 31.9	
	comp=Z,1μm,18.4s,MS4.6,baz=75,slow=40						
CLNS	Chul'man	28.85	356	eP	P	18 19 56.7	+1.9
CLNS				ePPP	PPP	18 20 46.5	-14
CLNS				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3						
CLNS				pmax	pmax		
	comp=N,3.0nm,0.8s						
CLNS				pmax	pmax		
	comp=E,2.0nm,0.8s						
CLNS				pmax	pmax		
	comp=N,7.0nm,1.0s						
CLNS				pmax	pmax		
	comp=E,7.0nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.3						
CLNS				MLR	MLR		
	comp=N,4μm,13.0s,MS5.3						
CLNS				MLR	MLR		
	comp=Z,6μm,13.0s,MS5.4						
CLNS				MLR	MLR		
	comp=E,600nm,11.0s,MS5.3						
LSA	Lhasa	32.28	282	P	P	18 20 27.6	+2.1
	comp=E,3.9nm,1.1s,mb4.2						
WMQ	Urumqi	35.88	307	eP	P	18 20 56.0	-0.4
WMQ				AP	pP	18 21 11.0	+13
WMQ				PP	PP	18 22 18.0	+0.4
WMQ				S	S	18 26 28.0	-6.0
WMQ				SS	SS	18 28 52.0	-2.9
WMQ				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.9						
WMQ				LR	LR		
	comp=N,4μm,20.0s,MS5.3						
WMQ				LR	LR		
	comp=E,2μm,18.0s,MS5.3						
WMQ				LR	LR		
	comp=Z,2μm,16.0s,MS4.9						
MKAR	Makanchi Array	40.22	310	P	P	18 21 31.9	-0.8
	comp=Z,6.0nm,0.7s,mb4.4,baz=96,slow=9.9,SNR=20						
MKAR				LR	LR	18 38 51.1	
	comp=Z,805nm,18.0s,MS4.6,baz=316,slow=37						
MKAR	Makanchi Array	40.22	310	iP	P	18 21 31.9	-0.8
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
ZAL	Zalesovo	40.72	322	P	P	18 21 35.5	-1.2
	comp=Z,1.4nm,0.6s,mb3.8,baz=272,slow=10,SNR=9.7						
ZAL				LR	LR	18 41 24.3	
	comp=Z,1μm,18.1s,MS4.8,baz=263,slow=40						
PMG	Port Moresby	41.58	151	P	P	18 21 42.0	-2.2
	comp=Z,9.2nm,1.0s,mb4.4,slow=9.1,SNR=2.8						
PMG	Port Moresby	41.58	151	P	P	18 21 41.9	-2.3
NVS	Novosibirsk	41.90	322	eP	P	18 21 45.5	-0.8
NVS				pmax	pmax		
	comp=Z,45nm,2.5s,mb4.7						
NVS				pmax	pmax		
	comp=N,33nm,2.2s						
NVS				pmax	pmax		
	comp=E,17nm,2.0s						
KURK	Kurchatov	43.41	315	eP	P	18 21 56.8	-1.9
	comp=E,31nm,1.4s,mb4.8						
TIXI	Tiksi	43.63	0	P	P	18 21 51.5	-8.8
TIXI				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
TIXI				MLR	MLR		
	comp=Z,2μm,16.0s,MS5.0						
AAK	Ala-Archa	45.33	303	eP	P	18 22 16.3	+2.0
AAK				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.4						
AAK				MLR	MLR		
	comp=Z,2μm,16.0s,MS5.0						
AAK	Ala-Archa	45.33	303	eP	P	18 22 13.8	-0.5
	comp=Z,6.3nm,1.1s,mb4.4						
FITZ	Fitzroy Crossi	45.95	183	eP	P	18 22 18.8	-0.7
	comp=Z,6.6nm,0.8s,mb4.6						
FITZ	Fitzroy Crossi	45.95	183	LR	LR	18 41 58.1	
	comp=Z,116nm,18.2s,MS3.9,baz=26,slow=37						
WRAB	Tennant Creek	48.10	172	eP	P	18 22 34.6	-1.8
	comp=Z,20nm,0.9s,mb5.2						
WRA	Warramunga Arr	48.10	172	P	P	18 22 35.1	-1.4
	comp=Z,5.2nm,0.7s,mb4.7,baz=352,slow=8.1,SNR=42						
WRA				LR	LR	18 41 59.4	
	comp=Z,451nm,20.8s,MS4.4,baz=10.0,slow=35						
WB2	Warramunga Arr	48.11	172	eP	P	18 22 35.3	-1.2
BRVK	Borovoye	48.89	317	eP	P	18 22 40.2	-1.9
	comp=Z,66nm,1.3s,mb5.5						
MBWA	Marble Bar	49.59	190	P	P	18 22 47.7	-0.2
	comp=Z,4.8nm,0.8s,mb4.6						
ZRNK	Zerenda	49.65	317	eP	P	18 22 46.2	-1.8
	comp=Z,50nm,1.3s,mb5.4						
CTA	Charters Tower	51.00	158	P	P	18 22 57.5	-1.1
	comp=Z,3.2nm,0.7s,mb4.4,baz=355,slow=11,SNR=5.0						
CTAO	Charters Tower	51.00	158	eP	P	18 22 57.4	-1.3
	comp=Z,13nm,1.2s,mb4.7						
ASAR	Alice Springs	51.73	173	P	P	18 23 03.0	-1.3
	comp=Z,3.8nm,1.0s,mb4.3,baz=358,slow=7.6,SNR=31						
ASAR				LR	LR	18 43 04.7	
	comp=Z,299nm,21.3s,MS4.3,baz=356,slow=34						
ASPA	Alice Springs	51.73	173	eP	P	18 23 03.7	-0.5
SVE	Sverdlovsk	54.73	322	⇑eP	P	18 23 24.0	-2.0
ARU	Arti	55.87	321	⇑iP	P	18 23 33.5	-0.8
ARU				e		18 24 33.5	
ARU				e		18 25 37.3	
ARU				eS	S	18 31 13.6	-6.8
ARU				eSSS	SSS	18 37 16.3	+4.6
ARU				pmax	pmax		
	comp=Z,20nm,1.2s,mb5.0						
ARU				MLR	MLR		
	comp=Z,1μm,15.0s,MS5.1						
ARU				MLR	MLR		
	comp=N,500nm,12.0s,MS5.1						
ARU				MLR	MLR		
	comp=E,1μm,15.0s,MS5.1						
ARU	Arti	55.87	321	eP	P	18 23 33.3	-1.0
	comp=E,28nm,1.3s,mb5.1						
ARU				e		18 23 39.8	
STKA	Stephens Creek	60.98	167	P	P	18 24 08.5	-1.8
	comp=E,4.5nm,0.7s,mb4.7,baz=5.4,slow=4.1,SNR=6.7						
STKA				LR	LR	18 47 50.6	
	comp=E,375nm,21.4s,MS4.5,baz=266,slow=33						
STKA	Stephens Creek	60.98	167	P	P	18 24 08.5	-1.8
STKA				LR	LR	18 47 50.6	
NWAO	Narrogin (SRO)	61.52	190	P	P	18 24 13.2	-0.8
	comp=E,38nm,1.4s,mb5.3,baz=27,slow=12,SNR=4.5						
NWAO				LR	LR	18 49 16.4	
	comp=E,278nm,19.7s,MS4.4,baz=149,slow=34						
ILAR	Eielson Array	62.91	29	P	P	18 24 19.9	-2.9
	comp=E,1.0nm,0.8s,mb4.0,baz=270,slow=5.4,SNR=9.1						
INK	Inuvik	67.28	23	P	P	18 24 50.7	-0.1
	comp=E,2.3nm,0.8s,mb4.3,baz=288,slow=3.2,SNR=3.4						
INK	Inuvik	67.28	23	eP	P	18 24 53.3	+2.4
	comp=E,3.8nm,0.9s,mb4.4						
KIV	Kislovodsk	67.97	309	eP	P	18 24 55.9	+0.3
	comp=E,12nm,1.1s,mb4.8						
ARCES	ARCESS Array B	68.26	338	LR	LR	19 00 44.9	
	comp=E,782nm,18.7s,MS5.0,baz=42,slow=41						
FINES	FINESS Array B	71.20	330	P	P	18 25 12.0	-3.2
	comp=E,0.7nm,0.8s,mb3.6,baz=39,slow=8.9,SNR=4.7						
FINES				LR	LR	19 00 05.4	
	comp=E,1μm,20.7s,MS5.1,baz=229,slow=39						
FINES	FINESS Array B	71.20	330	iP	P	18 25 12.6	-2.6
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
DLBC	Dease Lake	72.42	33	P	P	18 25 20.3	-2.2
	comp=Z,1.5nm,0.8s,mb4.0,baz=312,slow=24,SNR=2.1						
DLBC	Dease Lake	72.42	33	P	P	18 25 20.3	-2.2
AKASG	Malin Array Be	74.05	319	P	P	18 25 31.5	-0.5
	comp=Z,0.4nm,0.5s,mb3.6,baz=56,slow=6.1,SNR=3.0						
AKASG				LR	LR	19 00 29.8	
	comp=Z,2μm,18.7s,MS5.3,baz=60,slow=38						
BRTR	Keskin Array B	75.80	308	P	P	18 25 40.9	-1.5
	comp=Z,0.8nm,0.8s,mb3.7,baz=117,slow=3.2,SNR=2.8						
BRTR				LR	LR	19 01 06.3	
	comp=Z,334nm,21.7s,MS4.6,baz=230,slow=37						
BRTR	Keskin Array B	75.80	308	P	P	18 25 40.8	-1.6
KIS	Kishinev	75.88	316	eP	P	18 25 38.0	-4.7
KIS				MLR	MLR		

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=E,2µm,15.0s						
KIS				MLR	MLR		
	comp=Z,1µm,15.0s,MS5.4						
KIS				MLR	MLR		
	comp=Z,1µm,16.0s						
BBB	Bella Bella	76.19	38	LR	LR	18 54 10.3	
	comp=Z,152nm,21.6s,MS4.3,baz=107,slow=32						
YKA	Yellowknife Ar	76.94	25	LR	LR	19 00 05.4	
	comp=Z,288nm,21.4s,MS4.6,baz=275,slow=36						
NOA	NORSAR Array B	77.61	334	LR	LR	19 03 37.9	
	comp=Z,819nm,18.1s,MS5.1,baz=35,slow=38						
MLR	Muntele Rosu	78.34	315	LR	LR	19 03 29.3	
	comp=Z,1µm,19.4s,MS5.3,baz=207,slow=38						
OKC	Ostrava-Krasne	80.70	322	AMS	AMS	19 05 00.0	
	comp=Z,2µm,15.7s						
DPC	Dobruska-Polom	81.40	323	AMS	AMS	19 05 40.0	
	comp=Z,2µm,14.5s						
PVCC	Panska Ves	82.22	324	AMS	AMS	19 06 10.0	
	comp=Z,2µm,17.9s						
PRU	Pruhonice	82.55	323	AMS	AMS	19 06 30.0	
	comp=Z,2µm,17.0s						
SKO	Skopje	82.92	314	eP	P	18 26 22.0	+1.3
KEBM	Edson Butte	83.06	45	eP	P	18 26 26.9	+5.5
SANT	Santorini	83.07	307	eP	P	18 26 26.3	+4.7
	comp=Z,25nm,0.9s,mb5.2						
NKC	Novy Kostel	83.49	324	AMS	AMS	19 07 10.0	
	comp=Z,2µm,15.9s						
KHC	Kasperske Hory	83.56	323	AMS	AMS	19 07 00.0	
	comp=Z,2µm,14.9s						
MOX	Moxa	83.67	325	eP	P	18 26 22.0	-2.4
MOX				L		19 08 20.0	
NEW	Newport	84.25	38	P	P	18 26 24.6	-2.7
	comp=Z,4.5nm,1.0s,mb4.5						
YBH	Yreka Blue Hor	84.69	45	P	P	18 26 30.9	+1.2
	comp=Z,0.4nm,0.4s,mb3.9,baz=221,slow=4.2,SNR=2.7						
FCC	Fort Churchill	86.68	21	eP	P	18 26 41.2	+2.0
	comp=Z,77nm,1.1s						
CMB	Columbia Colle	88.24	47	P	P	18 26 45.8	-1.4
	comp=Z,7.0nm,1.3s,mb4.7						
HLID	Hailey	88.60	40	eP	P	18 26 49.3	+0.5
	comp=Z,4.0nm,1.0s,mb4.7						
NVAR	Mina Array Bea	89.35	46	P	P	18 26 52.8	+0.3
	comp=Z,0.5nm,0.8s,mb3.9,baz=293,slow=5.0,SNR=3.5						
NVAR				LR	LR	19 04 46.0	
	comp=Z,108nm,20.5s,MS4.3,baz=305,slow=34						
TPH	Tonopah	90.24	46	eP	P	18 26 56.9	+0.2
	comp=Z,5.4nm,1.1s,mb4.8						
HWUT	Hardware Ranch	91.46	40	eP	P	18 27 02.4	+0.2
	comp=Z,5.9nm,1.0s,mb4.9						
PDAR	Pinedale Array	91.83	38	P	P	18 27 03.5	-0.3
	comp=Z,0.4nm,0.6s,mb3.9,baz=61,slow=2.4,SNR=4.4						
PDAR				LR	LR	19 12 07.1	
	comp=Z,219nm,19.2s,MS4.6,baz=102,slow=38						
ULM	Lac du Bonnet	92.85	26	LR	LR	19 13 56.8	
	comp=Z,175nm,18.2s,MS4.5,baz=303,slow=39						
SCHQ	Schefferville	96.46	9	LR	LR	19 11 38.6	
	comp=Z,500nm,21.9s,MS5.0,baz=307,slow=36						
ESDC	Sonseca Array	99.15	324	LR	LR	19 17 33.0	
	comp=Z,522nm,20.2s,MS5.0,baz=40,slow=38						
SNAA	Sanae	128.83	198	⇓iP	PKPdf	18 33 04.8	+0.6
VNA2	Neumayer--Watz	130.47	198	⇑iP	PKPdf	18 33 08.4	+1.0
VNA3	Neumayer Olymp	130.87	197	⇓iP	PKPdf	18 33 09.0	+0.9

IDC 02 18:28:38.0±16.0**, 6.69S**×**105.91E, h128**^{km}±151^{km}**, mb3.3**/9**, mb1 3.5**/9**, mb1mx3.4**/16**, Error ellipse: s-maj=109.0km s-min=26.4km az=54.0, Sunda Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	22.33	122	P	P	18 33 26.6	+0.7
	3.0nm,0.8s,baz=66,slow=7.2,SNR=2.5						
CMAR	Chiang Mai Arr	25.92	345	P	P	18 34 03.6	+3.3
	0.5nm,0.9s,baz=163,slow=9.4,SNR=3.4						
WRA	Warramunga Arr	30.57	118	P	P	18 34 39.3	-2.7
	1.3nm,0.7s,baz=288,slow=11,SNR=13						
ASAR	Alice Springs	31.75	125	P	P	18 34 49.6	-2.7
	0.6nm,0.9s,baz=299,slow=7.8,SNR=6.7						
STKA	Stephens Creek	41.65	132	P	P	18 36 13.9	-1.6
	1.7nm,0.5s,baz=325,slow=9.7,SNR=6.9						
SONM	Songino Array	54.29	0	P	P	18 37 53.7	+0.5
	0.2nm,0.6s,baz=158,slow=7.8,SNR=2.2						
MKAR	Makanchi Array	57.24	341	P	P	18 38 11.1	-3.2
	0.3nm,0.6s,baz=152,slow=8.7,SNR=4.5						
ZAL	Zalesovo	62.97	346	P	P	18 38 51.6	-1.6
	0.5nm,0.3s,baz=118,slow=10,SNR=3.5						
BRTR	Keskin Array B	80.82	312	P	P	18 40 38.0	-1.2
	0.9nm,0.8s,baz=135,slow=3.5,SNR=4.4						
TXAR	Lajitas Array	144.16	47	PKP	PKPdf	18 48 00.1	+0.9
	0.3nm,0.5s,baz=330,slow=0.7,SNR=4.3						

*IDC **02** 18:37:02.5±8.0, 0.31N×122.62E, h143^{km}±77^{km}, mb3.1/5, mb1 3.2/6, mb1mx3.1/17, Error ellipse: s-maj=103.0km s-min=18.8km az=64.0*
*NEIC **02** 18:37:05.1±5.3, 0.08N×122.14E, h167^{km}±51^{km}, mb4.0/2, Error ellipse: s-maj=39.8km s-min=17.4km az=70.0*
ISC 02 18:37:01.2±0.8**, 0.2N**±0.1×**122.1E**±0.3**, h150**^{km}**, n12,** σ**0**^{s}**93**/11**, mb3.5**/7**, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	18.49	169	P	P	18 41 08.2	-0.2
	0.3nm,0.3s,baz=7.1,slow=8.1,SNR=17						
MBWA	Marble Bar	21.33	186	P	P	18 41 38.5	+1.1
WRAB	Tennant Creek	23.29	150	P	P	18 41 58.7	+2.1
WRA	Warramunga Arr	23.30	150	P	P	18 41 55.8	-0.9
	0.4nm,0.4s,mb3.2,baz=326,slow=10,SNR=10						
ASAR	Alice Springs	26.31	155	P	P	18 42 25.0	+0.1
	0.2nm,0.4s,mb3.1,baz=324,slow=7.8,SNR=8.4						
ASAR				PcP	PcP	18 45 47.1	-0.4
	0.2nm,0.3s,baz=350,slow=2.0,SNR=14						
STKA	Stephens Creek	36.81	152	P	P	18 43 55.8	-0.6
	1.9nm,1.0s,mb3.7,baz=326,slow=15,SNR=2.6						
MAJO	Matsushiro	39.13	21	P	P	18 44 06.8	-9.0
SONM	Songino Array	49.40	346	P	P	18 45 37.1	-0.5
	0.2nm,0.6s,mb2.9,baz=176,slow=9.1,SNR=3.0						
MKAR	Makanchi Array	58.01	329	P	P	18 46 41.5	+1.0
	0.3nm,0.3s,mb3.5,baz=131,slow=9.1,SNR=6.7						
CASY	Casey	66.83	185	P	P	18 47 38.0	-0.6
	3.0nm,0.9s,mb4.1						
MAW	Mawson	78.87	200	P	P	18 48 47.8	-1.1
	3.5nm,1.2s,mb3.9						
DPW	Davenport	109.33	38	ePKPdf		18 55 17.2	

JMA 02 18:57:02.0±0.4**, 28.08N**×**128.01E, h5**^{km}±4^{km}**, M3.1, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	Tokunoshima	0.88	109	P	Pb	18 57 18.9	-0.5
JTK				S	Sb	18 57 31.0	-0.3
JIH	Iheya	1.04	182	P	Pb	18 57 21.8	-0.3
JIH				S	Sb	18 57 35.6	-0.3
JOW	Kunigami	1.27	169	P	Pb	18 57 25.5	-0.5
JAM	Amami Oshima	1.45	76	P	Pn	18 57 28.9	0.0
JAM				eS	Sb	18 57 46.8	-0.8

*NIED **02** 18:57:00, 28.10N×128.00E, h8^{km}, Mw4.2 Best double couple: $M_0$2.25×10^{15} NP1:ϕ_s288°, δ84°, λ31°. NP2:ϕ_s194°, δ59°, λ174°.*
*JMA **02** 18:57:42.4±0.3, 28.12N×127.95E, h7^{km}, M3.7*
*IDC **02** 18:57:43.6±1.0, 27.92N×127.68E, mb3.9/7, mb1 4.0/7, mb1mx3.7/23, MS3.5/3, Ms1 3.5/3, ms1mx3.0/32, Error ellipse: s-maj=46.3km s-min=14.9km az=67.0*
*NEIC **02** 18:57:45.9±0.6, 27.88N×127.62E, h15^{km}, mb4.0/2, Error ellipse: s-maj=20.8km s-min=10.0km az=71.0*
*BJI **02** 18:57:45.9, 27.90N×127.60E, h15^{km}, mb3.9, Ms4.1*
ISC 02 18:57:44.2±1.3**, 28.09N**±0.05×**128.00E**±0.06**, h22**^{km}±9^{km}**, n22,** σ**0**^{s}**59**/23**, mb3.8**/9**, MS3.6**/2**, Northwest of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	Tokunoshima	0.90	109	P	Pb	18 58 00.3	-0.6
JTK				S	Sb	18 58 12.6	+0.1
JIH	Iheya	1.05	181	P	Pb	18 58 02.6	-0.9
JIH				S	Sb	18 58 17.2	+0.4
JOW	Kunigami	1.28	169	Pn	Pn	18 58 06.8	-0.2
	127nm,0.3s,baz=350,slow=16,SNR=15						
JOW				Sn	Sn	18 58 23.1	-0.3
	74nm,0.3s,baz=92,slow=28,SNR=4.9						
JOW	Kunigami	1.28	169	P	Pn	18 58 06.8	-0.1
JOW				eS	Sb	18 58 24.3	+0.9
JAM	Amami Oshima	1.46	77	eS	Sn	18 58 28.4	+0.4
JNU	Nakatsue	5.60	26	Pn	Pn	18 59 13.9	+5.6
	baz=15,slow=9.3,SNR=6.2						
JHJ	Hachijo jima 2	11.32	61	LR	LR	19 04 18.1	
	comp=Z,128nm,21.4s,baz=335,slow=34						
BJT	Baijiatuau	15.40	324	eP	P	19 01 28.1	+6.3
	9.0nm,0.8s						
BJI	Beijing	15.41	324	P	P	19 01 27.8	+5.8
BJI				AMB	AMB		
	comp=Z,13nm,0.8s						
BJI				LR	LR		
	comp=N,547nm,13.2s						
BJI				LR	LR		
	comp=E,275nm,12.3s						
SONM	Songino Array	25.90	325	P	P	19 03 15.7	-0.4
	comp=E,1.3nm,0.8s,mb3.5,baz=132,slow=9.1,SNR=7.7						
GTA	Gaotai	25.91	303	eP	P	19 03 16.8	+0.4
GTA				AP	pP	19 03 21.4	-1.4
GTA				XP	sP	19 03 24.1	-1.6
GTA				AMB	AMB		
	comp=Z,3.0nm,1.5s,mb3.6						
CMAR	Chiang Mai Arr	28.30	257	LR	LR	19 15 56.9	
	comp=Z,53nm,18.1s,MS3.2,baz=65,slow=39						
MKAR	Makanchi Array	40.16	310	P	P	19 05 21.2	+1.0
	comp=Z,1.8nm,0.8s,mb3.9,baz=97,slow=9.8,SNR=9.0						
MKAR	Makanchi Array	40.16	310	P	P	19 05 21.2	+0.9
ZAL	Zalesovo	40.66	322	P	P	19 05 24.6	+0.4
	comp=Z,0.9nm,0.3s,mb3.9,baz=83,slow=7.5,SNR=3.2						
AAK	Ala-Archa	45.26	303	P	P	19 06 01.2	-0.6
	comp=Z,1.4nm,0.8s,mb3.8						
FITZ	Fitzroy Crossi	45.97	183	P	P	19 06 08.6	+0.8
	comp=Z,1.9nm,0.8s,mb4.0,baz=351,slow=23,SNR=2.1						
WRA	Warramunga Arr	48.14	172	P	P	19 06 23.9	-0.9
	comp=Z,1.1nm,0.7s,mb4.0,baz=354,slow=8.3,SNR=7.6						
ASAR	Alice Springs	51.77	173	P	P	19 06 52.2	-0.2
	comp=Z,0.4nm,0.7s,mb3.5,baz=355,slow=8.3,SNR=9.0						
STKA	Stephens Creek	61.02	167	P	P	19 07 58.2	-0.4
	comp=Z,1.6nm,0.8s,mb4.2,baz=255,slow=8.9,SNR=2.7						
STKA	Stephens Creek	61.02	167	P	P	19 07 58.2	-0.4
AKASG	Malin Array Be	73.99	319	LR	LR	19 43 55.0	
	comp=Z,67nm,19.7s,MS3.9,baz=25,slow=38						

*ATH **02** 18:59:20.4, 34.08N×26.20E, h10^{km}±9^{km}, MD3.7/6*
*NEIC **02** 18:59:24.9, 34.36N×26.16E, h25^{km}, mb4.1/6, MD3.7(ATH), After ATH.*
*CSEM **02** 18:59:24.5±0.3, 34.26N×26.21E, h60^{km}, mb4.0/4, Error ellipse: s-maj=8.7km s-min=4.4km az=172.0*
*MOS **02** 18:59:26.1±1.5, 34.43N×26.05E, h33^{km}, mb4.1/5, Error ellipse: s-maj=25.5km s-min=12.1km az=75.5*
*IDC **02** 18:59:31.4±2.4, 34.60N×26.15E, h78^{km}±15^{km}, mb3.6/9, mb1 3.6/12, mb1mx3.5/22, Error ellipse: s-maj=33.4km s-min=14.3km az=177.0*
ISC 02 18:59:22.8±0.8**, 34.14N**±0.08×**26.26E**±0.05**, h33**^{km}**, n47,** σ**1**^{s}**38**/48**, mb3.9**/16**, 1D, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	Khrisi	0.87	328	⇓iPB	Pb	18 59 37.5	-1.9
NPS	Neapolis	1.24	335	ePG	P	18 59 44.3	+0.4
IDI	Anoyia	1.61	316	P	P	18 59 51.8	+2.6
	8.6nm,0.3s,baz=130,slow=9.5,SNR=77						
IDI				S	S	19 00 10.2	+1.2
	18nm,0.3s,baz=341,slow=21,SNR=9.2						
GVD	Gavdhos	1.93	292	ePn	Pn	18 59 54.7	+0.8
VAM	Vamos	2.12	307	ePN	Pn	18 59 58.5	+1.9
SANT	Santorini	2.32	344	ePn	Pn	18 59 59.5	-0.1
SANT	Santorini	2.32	344	ePn	Pn	18 59 59.5	-0.1
THR3	Thira Island,	2.38	343	eS	Px	19 00 08.2	
THR5	Thira Island,	2.40	342	eP	P	19 00 00.3	-0.1
THR4	Thira Island,	2.42	343	eP	P	19 00 00.7	-0.2
ARG	Arkhangelos	2.58	36	ePN	Pn	19 00 05.8	+2.6
APE	Apeiranthos	2.99	349	ePN	Pn	19 00 09.8	+0.8
VLI	Veliai	3.74	314	ePN	Pn	19 00 18.5	-1.2
CSS	Prodhromos	5.89	80	ePn	Pn	19 00 48.3	-1.9
BRTR	Keskin Array B	8.12	45	P	P	19 01 22.0	+0.8
	0.1nm,0.3s,baz=230,slow=11,SNR=3.3						
BRTR				S	S	19 02 52.7	-0.2
	0.2nm,0.3s,baz=208,slow=26,SNR=3.2						
KIV	Kislovodsk	16.07	48	eP	P	19 03 11.0	+3.4
	10nm,0.8s						
AKASG	Malin Array Be	16.70	7	P	P	19 03 13.7	-1.9
	1.3nm,0.3s,baz=194,slow=11,SNR=16						
AKASG	Malin Array Be	16.70	7	P	P	19 03 13.7	-1.9
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GERES	GERESS Array B	17.41	331	P	P	19 03 23.8	-0.7
	comp=Z,0.1nm,0.3s,baz=144,slow=12,SNR=4.3						
OBN	Obninsk	22.18	16	eP	P	19 04 18.5	+1.2
OBN				pmax	pmax		
	comp=Z,25nm,2.4s,mb4.2						
ESDC	Sonseca Array	24.72	292	P	P	19 04 43.1	+0.9
	comp=Z,0.9nm,0.6s,mb3.5,baz=80,slow=9.6,SNR=8.2						
ESLA	Sonseca Array	24.72	292	eP	P	19 04 40.6	-1.7
	comp=Z,2.9nm,1.1s,mb3.7						
ESLA	Sonseca Array	24.72	292	eP	P	19 04 40.6	-1.7
	comp=Z,2.9nm,1.1s,mb3.7						
HFS	Hagfors	27.28	346	P	P	19 05 03.2	-2.7
	comp=Z,1.5nm,0.8s,mb3.6,baz=129,slow=9.5,SNR=5.5						
HFS	Hagfors	27.28	346	P	P	19 05 03.2	-2.7
HFS				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	FINESS Array B	27.32	360	P	P	19 05 03.4	-2.9
	comp=Z,0.3nm,0.2s,mb3.4,baz=175,slow=9.8,SNR=8.8						
NAO01	NORSAR Array S	28.52	344	P	P	19 05 13.7	-3.3
	comp=Z,3.5nm,0.7s,mb4.2						
NAO01	NORSAR Array S	28.52	344	P	P	19 05 13.7	-3.3
	comp=Z,3.5nm,0.7s,mb4.2						
ARCES	ARCESS Array B	35.45	360	P	P	19 06 14.9	-2.7
	comp=Z,1.5nm,0.9s,mb3.9,baz=188,slow=9.1,SNR=5.6						
ARCES	ARCESS Array B	35.45	360	P	P	19 06 14.9	-2.7
ARCES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ZRNK	Zerenda	35.58	45	P	P	19 06 19.6	+0.8
ZRNK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
ZRNK	Zerenda	35.58	45	eP	P	19 06 18.7	-0.2
	comp=Z,2.5nm,0.8s,mb4.2						
ZRNK				e		19 06 35.1	
ZRNK	Zerenda	35.58	45	eP	P	19 06 18.7	-0.1
VOSK	Vostochnaya	36.69	46	P	P	19 06 28.0	-0.2
VOSK				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.0						
AAK	Ala-Archa	38.31	63	eP	P	19 06 40.7	-1.2
	comp=Z,1.6nm,0.8s,mb3.8						
AAK	Ala-Archa	38.31	63	eP	P	19 06 40.7	-1.2
	comp=Z,1.5nm,0.8s,mb3.8						
KURK	Kurchatov	41.13	50	eP	P	19 07 06.0	+0.8
	comp=Z,4.3nm,0.6s,mb4.3						
KURK	Kurchatov	41.13	50	eP	P	19 07 06.0	+0.8
	comp=Z,4.3nm,0.6s,mb4.3						
MKAR	Makanchi Array	43.59	56	P	P	19 07 26.9	+1.5
	comp=Z,4.7nm,0.6s,mb4.4,baz=280,slow=6.5,SNR=34						
MKAR	Makanchi Array	43.59	56	i P	P	19 07 26.7	+1.4
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ZAL	Zalesovo	45.05	45	P	P	19 07 37.5	+0.5
	comp=Z,1.9nm,0.9s,mb3.9,baz=126,slow=6.0,SNR=7.5						
ZAL	Zalesovo	45.05	45	P	P	19 07 37.5	+0.5
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ZAL	Zalesovo	45.05	45	P	P	19 07 37.5	+0.5
SONM	Songino Array	59.44	50	P	P	19 09 25.5	+1.1
	comp=Z,0.8nm,0.6s,mb3.9,baz=290,slow=8.1,SNR=9.2						
SCHQ	Schefferville	64.55	320	P	P	19 09 58.0	-0.4
	comp=Z,1.3nm,0.3s,mb4.4,baz=213,slow=16,SNR=3.6						
CMAR	Chiang Mai Arr	65.79	84	P	P	19 10 07.8	+0.9
	comp=Z,0.5nm,0.7s,mb3.7,baz=301,slow=9.4,SNR=4.2						
CMAR	Chiang Mai Arr	65.79	84	P	P	19 10 07.9	+0.9
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

GUC 02 19:05:39.8±0.9**, 23.32S**×**68.88W, h90**^{km}**, MD3.5, ML3.1, 1D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	0.70	358	⇓iP	P	19 05 57.6	+1.1
LVC				i S	S	19 06 09.9	+0.9
LVC				AMP		19 06 11.5	
	comp=N,515nm,0.2s						
ANCH	Antofagasta	1.45	255	eP	P	19 06 03.0	-2.3
ANCH				i S	S	19 06 22.7	-1.6
ANCH				AMP		19 06 27.6	
	comp=N,767nm,0.1s						
CPN1	Cerro Paranal	1.91	227	eP	P	19 06 12.3	+1.0
CPN1				i S	S	19 06 36.6	+2.1
CPN1				AMP		19 06 40.9	
	comp=E,203nm,0.5s						

*NIED **02** 19:06:00, 28.10N×128.00E, h8^{km}, Mw4.1 Best double couple: $M_0$1.84×10^{15} NP1:ϕ_s290°, δ86°, λ30°. NP2:ϕ_s198°, δ60°, λ176°.*
*JMA **02** 19:06:05.6±0.3, 28.12N×127.98E, h7^{km}±4^{km}, M3.5*
*IDC **02** 19:06:06.0±1.2, 27.97N×127.91E, mb3.5/4, mb1 3.7/4, mb1mx3.5/22, MS3.4/2, Ms1 3.4/2, ms1mx2.9/25, Error ellipse: s-maj=51.4km s-min=15.7km az=70.0*
*NEIC **02** 19:06:11.4±1.5, 27.98N×128.16E, h46^{km}±18^{km}, mb4.1/3, Error ellipse: s-maj=25.8km s-min=13.7km az=75.0*
ISC 02 19:06:05.3±0.6**, 28.11N**±0.04×**127.98E**±0.05**, h7**^{km}**, n16,** σ**0**^{s}**93**/19**, mb3.7**/6**, MS3.6**/1**, Northwest of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	Tokunoshima	0.92	111	P	Pb	19 06 23.1	-0.1
JTK				S	Sb	19 06 35.3	-0.1
JIH	Iheya	1.07	180	P	Pb	19 06 26.0	+0.2
JIH				S	Sb	19 06 40.8	+0.9
JOW	Kunigami	1.30	168	Pn	Pn	19 06 29.6	-0.4
	112nm,0.3s,baz=3.2,slow=14,SNR=82						
JOW				Sn	Sn	19 06 47.1	-0.6
	112nm,0.3s,baz=167,slow=24,SNR=11						
JOW	Kunigami	1.30	168	P	Pb	19 06 29.6	-0.1
JOW				eS	Sb	19 06 47.5	+1.0
JAM	Amami Oshima	1.47	78	P	Pn	19 06 32.5	+0.2
JAM				S	Sb	19 06 51.1	-0.2
JNU	Nakatsue	5.58	26	Pn	Pn	19 07 32.7	+1.9
	baz=128,slow=12						
JHJ	Hachijo jima 2	11.33	61	LR	LR	19 13 01.6	
	comp=Z,125nm,21.8s,baz=333,slow=36						
BJT	Baijiatuau	15.37	324	eP	P	19 09 50.2	+5.9
	9.5nm,0.8s						
ENH	Enshi	16.29	282	P	P	19 09 59.8	+3.6
SONM	Songino Array	25.87	325	P	P	19 11 40.1	+0.9
	1.6nm,1.1s,mb3.5,baz=130,slow=9.6,SNR=6.3						
MKAR	Makanchi Array	40.13	310	P	P	19 13 43.6	+0.3
	0.9nm,0.8s,mb3.6,baz=94,slow=8.3,SNR=5.5						
PMG	Port Moresby	41.66	151	LR	LR	19 28 39.7	
	comp=Z,85nm,19.4s,MS3.6,baz=185,slow=33						
WRA	Warramunga Arr	48.17	172	P	P	19 14 47.0	-1.3
	0.6nm,0.8s,mb3.7,baz=354,slow=8.3,SNR=4.5						
BRVK	Borovoye	48.80	317	P	P	19 14 51.5	-1.3
	2.3nm,0.8s,mb4.3						
ZRNK	Zerenda	49.56	317	eP	P	19 14 57.5	-1.2
	1.9nm,0.9s,mb4.1						
ASAR	Alice Springs	51.79	173	P	P	19 15 15.3	-0.8
	0.3nm,0.6s,mb3.4,baz=0.8,slow=9.3,SNR=6.8						

*IDC **02** 19:21:43.2±16.0, 34.65N×23.87E, mb3.7/4, mb1 3.8/4, mb1mx3.6/20, Error ellipse: s-maj=337.0km s-min=45.4km az=26.0*
*NEIC **02** 19:21:52.3, 35.01N×24.27E, h18^{km}, MD3.5(ATH), After ATH.*
*ATH **02** 19:21:52.3, 35.01N×24.27E, h18^{km}±13^{km}, MD3.5/5*
*CSEM **02** 19:21:52.3, 35.01N×24.27E, h18^{km}, MD3.5/5, After ATH*
ISC 02 19:21:46.5±2.0**, 34.7N**±0.2×**24.4E**±0.1**, h18**^{km}**, n10,** σ**1**^{s}**20**/11**, mb3.6**/4**, 1C, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.28	310	ePg	Pb	19 21 53.0	+0.2
GVD				eSg	Sb	19 21 56.2	-0.9
VAM	Vamos	0.76	351	⇑iPB	Pb	19 22 00.5	-0.4
XRY	Khrisi	1.13	79	ePN	Pn	19 22 14.5	+7.0
NPS	Neapolis	1.20	59	ePN	Pn	19 22 13.5	+4.9
KYTH	Kithira	1.94	327	ePN	Pn	19 22 21.2	+2.0
VLI	Veliai	2.36	331	ePN	Pn	19 22 28.5	+3.4
NOA	NORSAR Array B	27.72	346	P	P	19 27 32.5	-3.1
	0.4nm,0.7s,mb3.2,baz=162,slow=11,SNR=2.7						
MKAR	Makanchi Array	44.61	56	P	P	19 29 59.8	+0.4
	0.6nm,0.5s,mb3.7,baz=277,slow=7.2,SNR=11						
ZAL	Zalesovo	45.82	46	P	P	19 30 08.3	-0.6
	1.5nm,0.3s,mb4.3,baz=104,slow=5.8,SNR=6.4						
SONM	Songino Array	60.32	50	P	P	19 31 56.3	-0.1
	0.1nm,0.4s,mb3.2,baz=306,slow=8.5,SNR=4.6						

*STR **02** 19:40:46.9±0.1, 42.85N×0.26W, h5^{km}±1^{km}, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **02** 19:40:47.2±0.1, 42.83N×0.28W, h3^{km}, Md2.8/2, Ml2.4/9, Error ellipse: s-maj=2.0km s-min=0.9km az=178.0*
*CSEM **02** 19:40:47.4±0.1, 42.84N×0.27W, h2^{km}, ML2.5/9, Error ellipse: s-maj=1.7km s-min=0.7km az=174.0*
MDD 02 19:40:47.8±0.2**, 42.88N**×**0.27W, h3**^{km}±4^{km}**, mbLg1.8**/13**, Error ellipse: s-maj=2.8km s-min=1.5km az=4.0, PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REYF	Montagne du Re	0.21	335	Pg	Pg	19 40 51.9	-0.2
REYF				Sg	Sg	19 40 55.3	+0.4
REYF	Montagne du Re	0.21	335	P	Pg	19 40 51.9	-0.1
REYF				S	Sg	19 40 55.4	+0.5
ETSF	Etsaut	0.21	275	ePg	Pg	19 40 51.5	-0.6
ETSF				eSg	Sg	19 40 54.4	-0.6
	140nm,0.2s						
VIEF	Viey	0.22	89	Pg	Pg	19 40 51.6	-0.6
VIEF				Sg	Sg	19 40 54.7	-0.4
VIEF	Viey	0.22	89	P	Pg	19 40 51.6	-0.6
VIEF				S	Sg	19 40 54.6	-0.5
FDAF	Les Forges d'A	0.23	255	Pg	Pg	19 40 51.6	-0.8
FDAF				Sg	Sg	19 40 54.8	-0.6
FDAF	Les Forges d'A	0.23	255	P	Pg	19 40 51.6	-0.8
FDAF				S	Sg	19 40 54.8	-0.6
LABF	Labassere	0.30	56	Pg	Pg	19 40 53.5	-0.4
LABF				Sg	Sg	19 40 57.9	-0.1
LABF	Labassere	0.30	56	P	Pg	19 40 53.6	-0.4
LABF				S	Sg	19 40 58.0	0.0
ATE	Arette	0.38	303	P	Pg	19 40 54.7	-0.7
ATE				S	Sg	19 41 00.0	-0.4
RESF	Ens	0.45	99	Pg	Pg	19 40 55.7	-1.2
RESF	Ens	0.45	99	P	Pg	19 40 55.7	-1.2
RESF				S	Sg	19 41 01.9	-1.1
EPF	Esparros	0.47	71	ePg	Pg	19 40 56.6	-0.7
EPF				eSg	Sg	19 41 02.9	-0.7
	50nm,0.2s						
LARF	Larrau	0.55	287	Pg	Pg	19 40 57.8	-1.0
LARF				Sg	Sg	19 41 05.9	-0.3
LARF	Larrau	0.55	287	P	Pg	19 40 57.8	-1.0
LARF				S	Sg	19 41 05.8	-0.4
ORDF	Ordiarp	0.59	305	Pg	Pg	19 40 59.1	-0.6
ORDF				Sg	Sg	19 41 07.4	-0.2
ORDF	Ordiarp	0.59	305	P	Pg	19 40 59.1	-0.5
ORDF				S	Sg	19 41 07.4	-0.1
SJPF	Ste Jean	0.74	289	ePg	Pg	19 41 01.8	-0.8
SJPF				eSg	Sg	19 41 10.9	-1.5
	20nm,0.2s						
MELF	Melles	0.76	90	Pg	Pg	19 41 01.1	-1.9
MELF	Melles	0.76	90	P	Pg	19 41 01.2	-1.7
OSSF	Osses	0.82	298	Pg	Pg	19 41 02.5	-1.7
OSSF	Osses	0.82	298	P	Pg	19 41 02.5	-1.7
OSSF				S	Sg	19 41 13.8	-1.3
EALK	Alkurruntz	0.97	291	Pg	Pg	19 41 05.5	-1.7
	2.4nm,0.3s,SNR=11						
EALK				Lg		19 41 18.4	
	8.4nm,0.2s,SNR=7.9						
SALF	Salau	1.08	96	Pg	Pg	19 41 07.5	-1.9
SALF	Salau	1.08	96	P	Pb	19 41 07.6	-1.3
SALF				S	Sb	19 41 21.7	-1.5
ESAC	San Caprasio	1.17	187	Pg	Pg	19 41 09.8	-1.3
	16nm,0.3s,SNR=23						
ESAC				Lg		19 41 26.6	
	26nm,0.1s,SNR=26						
ESAC	San Caprasio	1.17	187	Pg	Pg	19 41 09.8	-1.3
	16nm,0.3s,SNR=23						
EMIR	Miracle	1.64	125	Pg	Pg	19 41 18.5	-2.2
	1.8nm,0.3s,SNR=9.6						
EMIR				Lg		19 41 41.5	
	5.1nm,0.3s,SNR=9.5						
EMIR	Miracle	1.64	125	Pg	Pg	19 41 18.5	-2.1
	1.8nm,0.3s,SNR=9.6						

EPOB	Poblet	1.83	146	Pn	Pn	19 41 20.7	+0.3
	SNR=7.9						
EPOB				Lg		19 41 44.8	
	1.2nm,0.1s,SNR=9.8						
EPOB	Poblet	1.83	146	Pn	Pn	19 41 20.7	+0.3
	SNR=7.9						
MTLF	Montolieu	1.88	75	ePn	Pn	19 41 20.4	-0.8
MTLF				ePg	Pg	19 41 22.5	-2.9
MTLF				eSn	Sn	19 41 41.5	-4.2
MTLF				eSg	Sg	19 41 46.8	-3.6
	4.4nm,0.2s						
MTLF	Montolieu	1.88	75	Pn	Pn	19 41 20.4	-0.8
MTLF				Pg	Pg	19 41 22.5	-2.9
MTLF				Lg		19 41 46.8	
	2.2nm,0.2s						
EBR	Ebro Roquetas	2.13	164	eS*S*		19 41 58.0	
LFF	La Frestale	2.19	19	ePn	Pn	19 41 23.3	-2.3
LFF				ePg	Pg	19 41 28.6	-2.9
LFF				eSn	Sn	19 41 49.7	-3.8
LFF				eSg	Sg	19 41 57.0	-3.6
	5.0nm,0.2s						
EJON	La Jonquera	2.37	99	Pn	Pn	19 41 28.5	+0.3
	SNR=5.0						
EJON				Lg		19 42 03.3	
	2.6nm,0.2s,SNR=7.9						
EJON	La Jonquera	2.37	99	Pn	Pn	19 41 28.5	+0.3
	SNR=5.0						
ETOR	Torete	2.45	214	Pn	Pn	19 41 28.9	-0.5
	1.0nm,0.4s,SNR=6.0						
ETOR				Lg		19 42 06.0	
	0.5nm,0.1s,SNR=5.0						
EMOS	Mosqueruela	2.52	184	Pg	Pg	19 41 33.5	-4.5
	2.3nm,0.8s,SNR=7.1						
EMOS				Lg		19 42 08.6	
	0.5nm,0.1s,SNR=5.0						
CAF	Calviac	2.65	39	ePn	Pn	19 41 30.4	-1.9
CAF				eSn	Sn	19 42 00.8	-4.6
	2.8nm,0.2s						
RJF	Les Rejaudoux	2.75	27	ePn	Pn	19 41 31.5	-2.1
RJF				ePg	Pg	19 41 39.5	-3.1
RJF				eSn	Sn	19 42 03.2	-4.5
RJF				eSg	Sg	19 42 15.2	-4.0
	1.7nm,0.2s						
LASF	Ste Croix	3.23	67	ePn	Pn	19 41 37.8	-2.7
LASF				ePg	Pg	19 41 47.0	-5.4
LASF				eSn	Sn	19 42 14.4	-5.7
LASF				eSg	Sg	19 42 29.1	-6.4
	6.0nm,0.6s						
MFF	Saint Martin d	3.72	1	ePn	Pn	19 41 44.4	-3.1
TCF	Toulx Ste Croi	3.84	27	ePn	Pn	19 41 46.3	-2.9
TCF				eSn	Sn	19 42 29.7	-5.8
	0.5nm,0.2s						
VIVF	Saint-Julien-l	4.08	59	eSg	Sg	19 42 55.9	-7.9
	2.8nm,0.6s						
BGF	Bois d'Agland	4.30	30	ePn	Pn	19 41 52.1	-3.5
BGF				eSg	Sg	19 43 03.2	-7.7
	4.4nm,0.4s						
SMF	Signal de Mont	4.77	36	ePn	Pn	19 41 58.5	-3.8
QUIF	Quistinic	5.43	339	ePn	Pn	19 42 07.7	-4.0

*JMA **02** 19:56:26.8±0.3,28.10N×128.00E,h12km±3km,M3.2*
*IDC **02** 19:56:27.9±1.3,27.94N×128.21E,mb3.5/4,mb1 3.7/4, mb1mx3.5/22,MS4.0/1,Ms1 4.0/1,ms1mx3.1/16,Error ellipse: s-maj=52.1km s-min=15.7km az=77.0*
ISC 02 19:56:27.9±0.7**,28.06N**±0.04×**128.06E**±0.06**,h12**km**,n11,** σ**0^{s}85**/15**,mb3.5**/4**,MS4.1**/1**,Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	Tokunoshima	0.83	109	P	Pb	19 56 43.7	-0.2
JTK				eS	Sb	19 56 55.5	+0.7
JIH	Iheya	1.02	185	P	Pb	19 56 46.5	-0.6
JIH				S	Sb	19 57 01.0	+0.7
JOW	Kunigami	1.24	171	Pn	Pn	19 56 50.3	-0.8
	72nm,0.3s,baz=350,slow=17,SNR=25						
JOW				Sn	Sn	19 57 07.8	0.0
	50nm,0.3s,baz=160,slow=24,SNR=8.4						
JOW	Kunigami	1.24	171	P	Pb	19 56 50.1	-0.7
JOW				S	Sb	19 57 07.5	+1.0
JAM	Amami Oshima	1.41	75	P	Pn	19 56 53.0	-0.6
JAM				S	Sb	19 57 11.8	+0.3
JNU	Nakatsue	5.60	25	Pn	Pn	19 57 52.9	-0.3
	baz=356,slow=18						
MKAR	Makanchi Array	40.22	310	P	P	20 04 06.6	+0.6
	0.8nm,0.7s,mb3.5,baz=104,slow=5.9,SNR=3.7						
ZAL	Zalesovo	40.72	322	P	P	20 04 12.2	+2.3
	0.8nm,0.6s,mb3.5,baz=217,slow=10,SNR=2.9						
WRA	Warramunga Arr	48.10	172	P	P	20 05 08.2	-1.5
	0.5nm,0.7s,mb3.7,baz=354,slow=8.3,SNR=8.8						
ASAR	Alice Springs	51.73	173	P	P	20 05 36.9	-0.6
	0.3nm,0.7s,mb3.3,baz=356,slow=9.1,SNR=5.7						
BBB	Bella Bella	76.19	38	LR	LR	20 41 26.2	
	comp=Z,93nm,18.5s,MS4.1,baz=70,slow=35						

*NIED **02** 19:57:00,28.00N×128.00E,h5km,Mw4.5 Best double couple: $M_0$5.72×10^{15} NP1:ϕ_s91°,δ78°,λ-45°. NP2:ϕ_s192°, δ46°,λ-163°.*
*IDC **02** 19:57:32.3±1.1,27.80N×127.77E,mb4.0/5,mb1 4.3/5, mb1mx3.8/23,MS3.9/3,Ms1 3.9/3,ms1mx3.3/23,Error ellipse: s-maj=43.6km s-min=16.7km az=78.0*
*JMA **02** 19:57:32.4±0.5,28.03N×128.01E,h11km±5km,M4.7*
*BJI **02** 19:57:36.0,27.78N×128.23E,h45km,mB4.5,mb4.2, Ms4.3,Msz4.0*
*NEIC **02** 19:57:37.6±1.3,27.85N×128.19E,h42km±15km,mb4.5/11, MW4.5(NIED),Error ellipse: s-maj=15.9km s-min=10.2km az=82.0*
ISC 02 19:57:32.3±0.4**,28.01N**±0.03×**128.04E**±0.04**,h11**km**,n38,** σ**1^{s}47**/44**,mb4.4**/14**,MS4.0**/3**,Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	Tokunoshima	0.84	105	P	Pb	19 57 48.9	+0.4
JTK				S	Sb	19 58 00.5	+1.0
JIH	Iheya	0.97	184	P	Pb	19 57 51.0	+0.3
JIH				S	Sb	19 58 04.5	+1.1
JOW	Kunigami	1.19	170	Pn	Pb	19 57 54.6	+0.1
	baz=349,slow=15						
JOW				Sn	Sn	19 58 09.8	-1.3
	baz=128,slow=19						
JOW	Kunigami	1.19	170	P	Pb	19 57 54.6	+0.1
JOW				S	Sb	19 58 10.6	+0.9
JAM	Amami Oshima	1.44	74	P	Pn	19 57 58.2	-0.3
JAM				S	Sb	19 58 17.1	+0.1
JAGN	Aguni-jima	1.58	207	P	Pn	19 58 00.3	-0.2
JZK	Kikaishima	1.74	79	P	Pn	19 58 04.0	+1.3
NAH1	Naha	1.82	190	P	Pn	19 58 05.2	+1.2
JJT2	Tamagusuku 2	1.88	188	P	Pn	19 58 05.9	+1.1
JKE	Kume jima 2	2.01	214	P	Pn	19 58 08.1	+1.4
JNU	Nakatsue	5.65	25	Pn	Pn	19 59 02.0	+3.6
	baz=212,slow=9.5						
JNU				LR	LR	20 01 34.8	
	comp=Z,2µm,20.7s,baz=30,slow=41						
MAJO	Matsushiro	12.10	43	P	P	20 00 26.0	-1.6
	12nm,0.8s						
MAT	Matsushiro	12.10	43	P	P	20 00 27.4	-0.2
MAT				eS	S	20 02 43.0	-0.5
MAT	Matsushiro	12.10	43	P	P	20 00 27.0	-0.6
MAT				S	S	20 02 44.0	+0.5
BJT	Baijiatuau	15.48	324	eP	P	20 01 17.9	+5.6
	21nm,0.8s						
BJI	Beijing	15.49	324	P	P	20 01 18.1	+5.7
BJI				AMB	AMB		
	comp=Z,9.0nm,1.0s						
BJI				LR	LR		
	comp=N,514nm,15.9s						
BJI				LR	LR		
	comp=E,234nm,15.9s						
BJI				LR	LR		
	comp=Z,256nm,16.1s						
CN2	Changchun	15.90	353	eP	P	20 01 24.0	+6.4
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,500nm,12.0s						
CN2				LR	LR		
	comp=E,700nm,12.0s						
CN2				LR	LR		
	comp=Z,700nm,12.0s						
ENH	Enshi	16.36	282	eP	P	20 01 27.3	+3.7
	comp=Z,31nm,1.4s						
MDJ	Mudanjiang	16.62	4	P	P	20 01 30.9	+4.1
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.2s						
MDJ				AMB	AMB		
	comp=Z,95nm,4.5s						
MDJ				LR	LR		
	comp=E,372nm,16.6s						
MDJ				LR	LR		
	comp=Z,359nm,16.0s						
MDJ	Mudanjiang	16.62	4	P	P	20 01 30.1	+3.3
	comp=Z,10nm,1.1s						
GYA	Guiyang	19.07	270	P	P	20 02 02.9	+5.6
GYA				S	S	20 05 35.1	+8.6
GYA				AMB	AMB		
	comp=Z,10.0nm,1.2s						
GYA				LR	LR		
	comp=N,400nm,10.5s						
GYA				LR	LR		
	comp=E,300nm,11.1s						
GYA				LR	LR		
	comp=Z,500nm,10.2s						
GUMO	Guam	21.26	129	P	P	20 02 17.6	-3.3
	comp=Z,88nm,1.3s,mb4.9						
LZH	Lanzhou	21.99	298	eP	P	20 02 31.2	+3.0
LZH				AMB	AMB		
	comp=Z,27nm,1.4s,mb4.5						
LZH				AMB	AMB		
	comp=Z,63nm,4.0s						
LZH				LR	LR		
	comp=E,378nm,9.0s						
LZH				LR	LR		
	comp=Z,682nm,10.7s,MS4.3						
MKAR	Makanchi Array	40.24	310	LR	LR	20 22 10.1	
	comp=Z,73nm,18.3s,MS3.6,baz=303,slow=37						
FITZ	Fitzroy Crossi	45.90	183	eP	P	20 05 55.7	-1.2
	comp=Z,2.7nm,0.8s,mb4.2						
WRAB	Tennant Creek	48.05	172	eP	P	20 06 10.0	-3.8
	comp=Z,8.6nm,0.9s,mb4.8						
WRA	Warramunga Arr	48.06	172	P	P	20 06 12.3	-1.7
	comp=Z,3.6nm,0.7s,mb4.5,baz=353,slow=8.4,SNR=33						
WB2	Warramunga Arr	48.06	172	eP	P	20 06 12.3	-1.6
BVAR	Borovoye Array	48.84	317	P	P	20 06 18.5	-1.0
	comp=Z,2.0nm,1.0s,mb4.1,baz=101,slow=7.3,SNR=3.3						
BRVK	Borovoye	48.91	317	eP	P	20 06 18.3	-1.7
	comp=Z,4.7nm,0.9s,mb4.5						
MBWA	Marble Bar	49.53	190	eP	P	20 06 23.1	-2.2
	comp=Z,9.6nm,1.2s,mb4.7						
ZRNK	Zerenda	49.67	317	P	P	20 06 24.1	-1.8
	comp=Z,4.1nm,1.0s,mb4.4						
CTAO	Charters Tower	50.96	158	P	P	20 06 29.0	-7.1
	comp=Z,6.7nm,1.1s,mb4.5						
ASAR	Alice Springs	51.69	173	P	P	20 06 40.5	-1.2
	comp=Z,1.4nm,0.6s,mb4.1,baz=359,slow=8.9,SNR=26						
STKA	Stephens Creek	60.94	167	P	P	20 07 46.0	-1.8
	comp=Z,4.3nm,1.1s,mb4.5,baz=347,slow=8.4,SNR=3.1						
ILAR	Eielson Array	62.96	29	P	P	20 08 02.4	+1.5
	comp=Z,0.4nm,0.7s,mb3.6,baz=295,slow=7.3,SNR=4.3						
RES	Resolute Bay	73.84	11	eP	P	20 09 09.1	+0.9
	comp=Z,15nm,1.3s,mb4.8						
SCHQ	Schefferville	96.51	9	LR	LR	20 53 21.7	
	comp=Z,58nm,19.1s,MS4.1,baz=291,slow=35						

*MOS **02** 19:59:35.9±2.0,48.21N×104.24E,h10km,mb4.3/2,Error ellipse: s-maj=16.3km s-min=9.6km az=82.8*
*NEIC **02** 19:59:35.6±1.9,48.76N×104.55E,h18km±15km,mb3.8/4, Error ellipse: s-maj=31.5km s-min=10.4km az=217.0*
*BYKL **02** 19:59:35.9±0.3,48.19N×103.95E,h11km±15km*
*IDC **02** 19:59:36.8±3.6,48.99N×104.73E,h32km±20km,mb3.4/4, mb1 3.6/5,mb1mx3.3/22,ML3.1/1,MS2.9/1,Ms1 2.9/1, ms1mx2.2/27,Error ellipse: s-maj=65.6km s-min=16.6km az=31.0*
ISC 02 19:59:35.1±0.4**,48.07N**±0.03×**104.31E**±0.04**,h10**km**,n64,** σ**1^{s}46**/106**,mb3.7**/9**,MS4.0**/1**,23C-6D,Mongolia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	1.42	99	Pg	Pg	20 00 05.8	+2.3
	333nm,0.3s,baz=284,slow=18,SNR=9089						
SONM				Lg		20 00 28.9	
	949nm,0.3s,baz=321,slow=11,SNR=19						
ZAK	Zakamensk	2.41	344	⇑iPg	Pn	20 00 16.7	+1.4
ZAK				Pmax		20 00 16.8	
	380nm,0.2s						
ZAK				eSn	Sn	20 00 41.9	-3.3
ZAK				eSg	Sg	20 00 46.5	-9.0
ZAK				Smax		20 00 48.9	
	4µm,0.2s						
ZAK	Zakamensk	2.41	344	⇑ePN	Pn	20 00 14.0	-1.3
ZAK				i		20 00 16.1	
ZAK				e		20 00 45.8	
ZAK				pmax	pmax		
	comp=Z,770nm,0.7s						
ZAK				smax			
	comp=E,5µm,0.3s						
TLY	Talaya	3.64	353	e	Pn	20 00 33.6	+0.8
TLY				ePg	Pb	20 00 38.8	-0.5
TLY				Pmax		20 00 44.9	
	comp=E,239nm,0.6s						
TLY				eSg	Sb	20 01 24.5	+0.7
TLY				Smax		20 01 27.1	
	comp=E,1µm,0.2s						
TLY	Talaya	3.64	353	ePN	Pb	20 00 38.2	-1.1
TLY				e		20 01 24.1	
TLY				pmax	pmax		
	comp=Z,205nm,0.4s						
TLY				smax			
	comp=E,3µm,1.4s						
BTMB	Babushkin	3.77	15	⇑iPn	Pn	20 00 34.3	-0.3
BTMB				⇑iPg	Pb	20 00 41.5	+0.1
BTMB				Pmax		20 00 44.2	
	comp=E,276nm,0.5s						
BTMB				eSn	Sn	20 01 15.6	-3.9
BTMB				eSg	Sb	20 01 30.1	+2.7
BTMB				Smax		20 01 39.9	
	comp=E,3µm,0.8s						
LSTR	Listvyanka	3.82	5	ePn	Pn	20 00 35.0	-0.3
LSTR				ePg	Pb	20 00 43.2	+0.9
LSTR				Pmax		20 00 50.0	
	comp=E,156nm,0.8s						
LSTR				e		20 01 10.9	
LSTR				eSg	Sb	20 01 31.9	+3.0
LSTR				Smax		20 01 37.2	
	comp=E,1µm,1.2s						
LSTR	Listvyanka	3.82	5	ePN	Pb	20 00 43.1	+0.8
LSTR				e		20 01 31.5	
LSTR				pmax	pmax		
	comp=Z,58nm,0.5s						
LSTR				smax			
	comp=E,1µm,1.4s						
HRMR	Khuramsha	3.95	25	⇑iPn	Pn	20 00 37.5	+0.3
HRMR				⇑iPg	Pb	20 00 46.3	+1.7
HRMR				Pmax		20 00 52.7	
	comp=E,389nm,0.8s						
HRMR				eSn	Sn	20 01 20.3	-3.9
HRMR				eSg	Sb	20 01 38.2	+5.4
HRMR				Smax		20 01 42.3	
	comp=E,5µm,0.8s						
ARS	Arshan	4.04	343	ePn	Pn	20 00 36.4	-2.1
ARS				ePg	Pb	20 00 46.3	+0.1
ARS				Pmax		20 00 51.2	
	comp=E,208nm,0.8s						
ARS				eSg	Sb	20 01 36.2	+0.7
ARS				Smax		20 01 51.3	
	comp=E,6µm,1.0s						
ARS	Arshan	4.04	343	ePN	Pb	20 00 46.3	+0.1
IRK	Irkutsk	4.18	360	⇓iPn	Pn	20 00 39.0	-1.5
IRK				⇓iPg	Pb	20 00 48.9	+0.4
IRK				Pmax		20 00 49.0	
	comp=E,203nm,0.4s						
IRK				eSn	Sn	20 01 24.5	-5.5
IRK				eSg	Sb	20 01 41.5	+2.1
IRK				Smax		20 01 45.0	
	comp=E,6µm,0.5s						
IRK	Irkutsk	4.18	360	ePN	Pb	20 00 48.3	-0.2
IRK				eS	Sn	20 01 24.7	-5.3
IRK				e		20 01 41.5	
IRK				pmax	pmax		
	comp=Z,203nm,0.4s						
IRK				smax			
	comp=E,6µm,1.1s						
MOY	Mondy	4.19	330	e	Pn	20 00 39.6	-1.0
MOY				⇑iPg	Pb	20 00 47.7	-1.0
MOY				Pmax		20 00 48.8	
	comp=E,243nm,0.8s						
MOY				e		20 01 20.0	
MOY				eSg	Sb	20 01 40.0	+0.2
MOY				Smax		20 01 47.7	
	comp=E,2µm,1.1s						
MOY	Mondy	4.19	330	ePN	Pb	20 00 46.9	-1.8
MOY				eS	Sb	20 01 39.8	0.0
MOY				pmax	pmax		
	comp=Z,168nm,0.2s						
MOY				smax			
	comp=E,2µm,0.9s						
KAB	Kabansk	4.26	20	ePn	Pn	20 00 41.8	+0.2
KAB				⇑iPg	Pb	20 00 52.2	+2.3
KAB				Pmax		20 00 56.7	
	comp=E,235nm,0.9s						
KAB				eSn	Sn	20 01 30.8	-1.2
KAB				eSg	Sb	20 01 48.1	+6.3
KAB				Smax		20 02 01.7	
	comp=E,6µm,1.3s						
KAB	Kabansk	4.26	20	ePN	Pb	20 00 52.2	+2.3
KAB				e		20 01 48.1	
KAB				pmax	pmax		
	comp=Z,211nm,0.9s						
KAB				smax			
	comp=E,6µm,1.0s						
FFNB	Fofonovo	4.29	21	⇑iPn	Pn	20 00 42.2	+0.2
FFNB				ePg	Pb	20 00 51.9	+1.6
FFNB				Pmax		20 00 58.3	
	comp=E,98nm,0.1s						
FFNB				eSg	Sb	20 01 46.6	+4.1
FFNB				Smax		20 02 02.9	
	comp=E,3µm,1.2s						
DZD	Dalandzadgad	4.50	179	i Pn	Pn	20 00 46.0	+1.0
DZD				i Pg	Pg	20 00 58.9	-6.1
DZD				i Sg	Sg	20 02 01.9	-3.1
TRTB	Turuntaevo	4.68	26	⇓iPn	Pn	20 00 47.4	-0.2
TRTB				⇓iPg	Pb	20 00 59.3	+2.2
TRTB				Pmax		20 01 05.3	
	comp=E,146nm,0.5s						
TRTB				eSg	Sb	20 01 59.7	+5.8
TRTB				Smax		20 02 07.1	
	comp=E,2µm,1.2s						
TRG	Tyrgan	4.87	15	⇑iPn	Pn	20 00 49.3	-1.0
TRG				⇑iPg	Pb	20 01 02.1	+1.7
TRG				Pmax		20 01 06.6	
	comp=E,41nm,0.6s						
TRG				eSn	Sn	20 01 43.7	-3.8
TRG				eSg	Sb	20 02 05.2	+5.6
TRG				Smax		20 02 09.4	
	comp=E,620nm,0.6s						
TRG	Tyrgan	4.87	15	ePN	Pn	20 00 49.4	-0.9
TRG				e		20 01 02.1	
TRG				eS	Sn	20 01 43.8	-3.7
TRG				e		20 02 04.2	
TRG				pmax	pmax		
	comp=Z,36nm,0.2s						
TRG				smax			
	comp=E,628nm,0.4s						
ORL	Orlik	5.32	329	ePg	Pb	20 01 07.1	-1.0
ORL				Pmax		20 01 17.3	
	comp=E,79nm,1.1s						
ORL				eSg	Sb	20 02 14.3	+1.7
ORL				Smax		20 02 30.2	
	comp=E,642nm,1.4s						
ORL	Orlik	5.32	329	ePN	Pb	20 01 06.6	-1.5
ORL				e		20 02 14.8	
ORL				pmax	pmax		
	comp=Z,87nm,0.7s						
ORL				smax			
	comp=E,642nm,1.1s						
KPC	Khapcheranga	5.57	70	⇑iPn	Pn	20 01 00.8	+0.7
KPC				⇑iPg	Pb	20 01 19.6	+7.4
KPC				Pmax		20 01 21.6	
	comp=E,77nm,1.3s						
KPC				eSn	Sn	20 02 05.6	+0.7
KPC				eSg	Sb	20 02 33.0	+13
KPC				Smax		20 02 39.7	
	comp=E,848nm,1.4s						
KPC	Khapcheranga	5.57	70	ePN	Pn	20 01 00.8	+0.7
KPC				e		20 01 19.6	
KPC				e		20 02 33.6	
KPC				pmax	pmax		
	comp=Z,48nm,1.0s						
KPC				smax			
	comp=N,498nm,1.3s						
EBM	Esen Bulak	5.74	256	i Sg	Sb	20 02 27.0	+2.4
MXMB	Maximikha	5.92	27	eSg	Sx	20 02 40.5	
MXMB				Smax		20 02 44.6	
	comp=N,2µm,1.0s						
OGRR	Ongureny	5.96	19	⇑iPn	Pn	20 01 04.9	-0.7
OGRR				max		20 01 27.8	
	comp=N,37nm,1.0s						
OGRR				eSn	Sn	20 02 10.0	-4.7
OGRR				eSg	Sx	20 02 39.9	
OGRR				Smax		20 02 44.6	
	comp=N,690nm,1.4s						
OGRR	Ongureny	5.96	19	ePN	Pn	20 01 04.8	-0.8
OGRR				e		20 01 22.8	
OGRR				e		20 02 38.8	
OGRR				pmax	pmax		
	comp=Z,23nm,0.7s						
OGRR				smax			
	comp=E,294nm,0.9s						
SYVR	Suvo	6.65	31	⇓iPn	Pn	20 01 14.6	-0.8
SYVR				ePg	Px	20 01 37.1	
SYVR				Pmax		20 01 38.1	
	comp=E,80nm,0.8s						
SYVR				eSg	Sx	20 03 03.1	
SYVR				Smax		20 03 08.2	
	comp=E,629nm,1.6s						
SYVR	Suvo	6.65	31	ePN	Pn	20 01 14.9	-0.5
SYVR				e		20 01 35.2	
TDJR	Todzha	6.82	313	⇓iPg	Pb	20 01 32.7	-1.0
TDJR				eSg	Sb	20 02 58.6	+2.5
CIT	Chita	7.14	53	ePn	Pn	20 01 22.4	+0.1
CIT				eSn	Sn	20 02 41.6	-2.8
CIT				eSg	Sx	20 03 20.2	
CIT				Smax		20 03 31.7	
	comp=E,434nm,0.9s						
YLYR	Ulyunkhan	8.04	30	⇑iPn	P	20 01 33.7	-1.2
YLYR				max		20 01 34.2	
	comp=E,20nm,0.3s						
YLYR				⇑ePg	P	20 02 00.6	+26
YLYR				eSg	Sx	20 03 45.8	
YLYR				Smax		20 04 06.8	
	comp=E,237nm,1.2s						
YLYR	Ulyunkhan	8.04	30	ePN	P	20 01 33.6	-1.3
NIZ	Nizh Angarsk	8.37	21	ePn	P	20 01 38.4	-1.0
NIZ				ePg	Px	20 02 06.1	
NIZ				Pmax		20 02 10.7	
	comp=E,9.0nm,0.6s						
NIZ				e		20 03 00.7	
NIZ				eSg	Sx	20 03 54.8	
NIZ				Smax		20 04 00.8	
	comp=E,218nm,1.6s						
NIZ	Nizh Angarsk	8.37	21	ePN	P	20 01 38.5	-0.9
NIZ				e		20 02 05.9	
NIZ				pmax	pmax		
	comp=Z,8.0nm,0.4s						
KMO	Kumora	8.90	26	ePn	P	20 01 45.9	-0.9
KMO				⇑i		20 02 03.4	
KMO				max		20 02 25.9	
	comp=Z,5.0nm,0.1s						
KMO				eSg	Sx	20 04 13.8	
KMO				Smax		20 04 26.7	
	comp=Z,256nm,1.1s						
UKT	Uakit	9.40	34	⇑iPn	P	20 01 52.5	-1.2
UKT				ePg	Px	20 02 26.0	
UKT				Pmax		20 02 27.6	
	comp=Z,18nm,1.1s						
UKT				eSn	Sn	20 03 33.5	-7.1
UKT				eSg	Sx	20 04 28.3	
UKT				Smax		20 04 47.6	
	comp=Z,201nm,1.6s						
NLYR	Nelyaty	10.93	35	i Pn	P	20 02 13.2	-1.4
NLYR				i Pg	Px	20 02 53.5	
NLYR				Pmax		20 02 58.8	
	comp=Z,10.0nm,0.7s						
NLYR				eSg	Sx	20 05 17.4	
NLYR				Smax		20 05 42.8	
	comp=Z,353nm,1.4s						
TUP	Tupik	11.67	51	⇑iPn	P	20 02 23.5	-1.2
TUP				ePg	Px	20 03 07.1	
TUP				e		20 04 24.6	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TUP				eSg	Sx	20 05 37.8	
TUP				Smax		20 06 08.9	
	comp=Z,147nm,1.4s						
BJT	Baijiatuau	11.72	129	P	P	20 02 21.0	-4.4
	comp=Z,8.2nm,0.8s						
CRS	Chara	12.25	39⇑	iPn	P	20 02 31.2	-1.2
CRS			⇑	i		20 02 40.4	
CRS				eSg	Sx	20 05 57.2	
CRS				Smax		20 06 23.5	
	comp=Z,242nm,1.4s						
ZAL	Zalesovo	13.60	303	Lg		20 06 34.9	
	comp=Z,0.4nm,0.3s,baz=350,slow=20,SNR=7.9						
ZAL				LR	LR	20 08 40.7	
	comp=Z,54nm,20.8s,baz=90,slow=41						
NVS	Novosibirsk	14.75	305	eP	P	20 03 08.7	+3.3
MKAR	Makanchi Array	14.95	273	Pn	P	20 03 08.6	+0.5
	comp=Z,0.1nm,0.3s,baz=90,slow=12,SNR=6.9						
MKAR				Lg		20 07 15.8	
	baz=132,slow=31,SNR=4.4						
MKAR	Makanchi Array	14.95	273	Pn	P	20 03 08.6	+0.5
MKAR				Lg		20 07 15.8	
KURK	Kurchatov	16.91	289	eP	P	20 03 30.5	-2.7
KURK	Kurchatov	16.91	289	eP	P	20 03 30.1	-3.1
	comp=Z,5.1nm,1.1s						
AAK	Ala-Archa	21.57	267	eP	P	20 04 25.2	-1.5
AAK	Ala-Archa	21.57	267	eP	P	20 04 24.3	-2.4
	comp=Z,3.3nm,0.8s,mb3.8						
BVAR	Borovoye Array	21.98	296	P	P	20 04 26.2	-4.6
	comp=Z,1.1nm,0.6s,mb3.5,baz=97,slow=12,SNR=4.8						
BRVK	Borovoye	22.05	296	P	P	20 04 29.4	-2.0
	comp=Z,3.9nm,0.9s,mb3.8						
ZRNK	Zerenda	22.82	296	eP	P	20 04 35.8	-3.2
	comp=Z,5.8nm,0.9s,mb4.0						
TIXI	Tiksi	26.27	17	eP	P	20 05 21.4	+10
TIXI				e		20 05 56.3	
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.0						
TIXI				MLR	MLR		
	comp=Z,400nm,17.0s,MS4.0						
SVE	Sverdlovsk	27.59	305⇑	eP	P	20 05 26.9	+2.8
ARU	Arti	28.75	304⇑	iP	P	20 05 35.1	+0.6
ARU				e		20 06 23.5	
ARU				e		20 08 44.1	
ARU				eS	S	20 10 19.8	-2.6
ARU				eSSS	SSS	20 11 53.3	-15
ARU				e		20 16 21.7	
ARU				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.8						
ARU	Arti	28.75	304	P	P	20 05 28.9	-5.6
CM31	Chiang Mai Arr	29.86	190	P	P	20 05 47.5	+2.7
CMAR	Chiang Mai Arr	29.86	190	P	P	20 05 49.5	+4.7
	comp=Z,0.5nm,0.8s,mb3.3,baz=355,slow=11,SNR=4.2						
CMAR	Chiang Mai Arr	29.86	190	P	P	20 05 49.6	+4.7
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	Warramunga Arr	72.85	150	P	P	20 11 06.1	0.0
	comp=Z,0.4nm,0.8s,mb3.4,baz=341,slow=6.4,SNR=4.6						
ASAR	Alice Springs	76.19	152	P	P	20 11 25.8	+0.6
	comp=Z,0.5nm,0.7s,mb3.6,baz=346,slow=6.0,SNR=6.2						

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*NIED **02** 20:00:00, 28.10N×128.00E, h5km, Mw4.2 Best double couple: Mo2.48×10^15 NP1:φs294°, δ84°, λ21°. NP2:φs202°, δ69°, λ174°.*

JMA 02 20:00:51.9±0.4**, 28.10N×127.99E, h7**km±4km**, M3.7, Northwest of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JTK	Tokunoshima	0.91	110	P	Pb	20 01 09.2	-0.3
JTK				S	Sb	20 01 21.2	-0.4
JIH	Iheya	1.06	181	P	Pb	20 01 12.0	-0.2
JIH				S	Sb	20 01 26.7	+0.6
JOW	Kunigami	1.29	169	P	Pb	20 01 15.4	-0.7
JOW				S	Sb	20 01 33.1	+0.4
JAM	Amami Oshima	1.46	77	P	Pn	20 01 18.4	-0.4
JAM				S	Sb	20 01 37.2	-0.4
JZK	Kikaishima	1.76	83	P	Pn	20 01 26.1	+3.0
NAH1	Naha	1.91	188	P	Pn	20 01 26.1	+0.9
JJT2	Tamagusuku 2	1.97	186	P	Pn	20 01 26.9	+0.9
JKE	Kume jima 2	2.07	212	P	Pn	20 01 27.9	+0.4

DJA 02 20:36:44.9±0.9**, 9.97S×117.13E, h15**km**, MD5.0**/4**, ML4.9**/4**, 2C-2D, Error ellipse: s-maj=26.8km s-min=18.0km az=35.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KEDI	Kedomdong	1.79	326⇑	ePn	Pn	20 37 13.2	-2.4
	704nm,0.2s						
KEDI				eSn	Sn	20 37 34.4	-3.7
RATI	Rata	2.01	308⇓	ePn	Pn	20 37 16.2	-2.6
	689nm,0.2s						
RATI				eSn	Sn	20 37 38.9	-4.8
INGI	Ingas	2.27	300⇑	ePn	Pn	20 37 19.9	-2.6
	1µm,0.2s						
INGI				eSn	Sn	20 37 44.8	-5.6
KELI	Kelakatan	3.14	304⇓	ePn	Pn	20 37 32.3	-2.6
	166nm,0.2s						
KELI				eSn	Sn	20 38 07.5	-4.9

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*JMA **02** 20:47:49.1±0.2, 28.10N×128.05E, h10km±2km, M3.1*
*IDC **02** 20:47:50.1±2.7, 27.93N×127.72E, mb3.5/4, mb1 3.7/4, mb1mx3.5/22, MS2.9/1, Ms1 2.9/1, ms1mx2.6/19, Error ellipse: s-maj=164.0km s-min=18.4km az=61.0*

ISC 02 20:47:49.0±2.7**, 28.10N**±0.05×**128.06E**±0.06**, h9**km±18km**, n10, σ0§37**/14**, mb3.5**/4**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JTK	Tokunoshima	0.85	112	P	Pb	20 48 05.3	-0.1
JTK				eS	Sb	20 48 16.6	0.0
JIH	Iheya	1.07	185	P	Pb	20 48 09.0	-0.1
JIH				S	Sb	20 48 23.2	+0.2
JOW	Kunigami	1.28	171	Pn	Pn	20 48 13.1	0.0
	baz=350,slow=18						
JOW				Sn	Sn	20 48 29.9	-0.6
	55nm,0.3s,baz=139,slow=26,SNR=9.1						
JOW	Kunigami	1.28	171	P	Pb	20 48 12.5	-0.3
JOW				S	Sb	20 48 29.9	+0.7
JAM	Amami Oshima	1.40	77	P	Pn	20 48 14.7	0.0
JAM				S	Sb	20 48 32.7	+0.1
JHJ	Hachijo jima 2	11.27	61	LR	LR	20 54 42.0	
	comp=Z,49nm,18.4s,baz=110,slow=35						
SONM	Songino Array	25.92	325	P	P	20 53 23.8	+0.8
	0.9nm,1.1s,mb3.2,baz=141,slow=10,SNR=5.4						
MKAR	Makanchi Array	40.20	310	P	P	20 55 26.6	-0.6
	0.5nm,0.8s,mb3.3,baz=90,slow=7.2,SNR=3.0						
WRA	Warramunga Arr	48.15	172	P	P	20 56 31.5	0.0
	1.0nm,0.7s,mb3.9,baz=350,slow=8.7,SNR=7.6						
ASAR	Alice Springs	51.77	173	P	P	20 56 59.2	0.0
	0.4nm,0.7s,mb3.5,slow=5.5,SNR=6.4						

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*IDC **02** 20:55:12.1±1.4, 52.19N×31.27W, mb3.7/10, mb1 4.0/11, mb1mx3.8/26, ML4.5/1, MS3.4/3, Ms1 3.4/3, ms1mx2.9/26, Error ellipse: s-maj=39.6km s-min=20.4km az=13.0*
*NEIC **02** 20:55:13.5±0.7, 52.07N×31.07W, h10km, mb4.2/16, Error ellipse: s-maj=18.6km s-min=7.6km az=204.0*

ISC 02 20:55:12.1±0.8**, 52.2N**±0.1×**31.1W**±0.1**, h10**km**, n42, σ1§07**/39**, mb3.9**/24**, MS3.3**/3**, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ESK	Eskdalemuir	16.76	68	eP	P	20 59 10.1	+1.9
	16nm,0.9s						
EKA	Eskdalemuir Ar	16.78	68	Pn	P	20 59 10.7	+2.2
	1.0nm,0.3s,baz=268,slow=10,SNR=29						
SUMG	Summit	20.75	354	P	P	20 59 53.0	-2.0
	4.3nm,0.8s						
SJPF	Ste Jean	21.94	102	eP	P	21 00 05.3	-2.0
BAIF	Baives	22.14	81	eP	P	21 00 08.7	-0.6
	36nm,1.2s,mb4.4						
LFF	La Frestale	22.15	96	eP	P	21 00 08.3	-1.1
ESDC	Sonseca Array	22.48	113	P	P	21 00 13.2	+0.5
	1.3nm,0.5s,mb3.7,baz=314,slow=8.9,SNR=20						
ESLA	Sonseca Array	22.48	113	eP	P	21 00 13.3	+0.6
	1.0nm,0.9s,mb3.2						
BGF	Bois d'Agland	22.67	91	eP	P	21 00 14.9	+0.5
	37nm,1.2s,mb4.4						
SSF	Saint Saulge	22.85	89	eP	P	21 00 16.5	+0.3
	17nm,1.1s,mb4.1						
LOR	Lormes	22.98	88	eP	P	21 00 17.7	+0.2
	11nm,0.8s,mb4.0						
MEZF	Maizieres J'vi	23.21	85	eP	P	21 00 19.8	+0.1
	12nm,0.8s,mb4.1						
SMF	Signal de Mont	23.24	90	eP	P	21 00 20.3	+0.3
	12nm,1.0s,mb4.0						
MTLF	Montolieu	23.90	98	eP	P	21 00 25.1	-1.3
	14nm,1.2s,mb3.9						
HAU	Haudompre	24.20	85	eP	P	21 00 30.2	+0.8
LASF	Ste Croix	24.50	95	eP	P	21 00 31.3	-1.0
NOA	NORSAR Array B	24.52	52	LR	LR	21 08 27.1	
	comp=Z,73nm,18.0s,MS3.2,baz=270,slow=32						
VIVF	Saint-Julien-l	24.61	93	eP	P	21 00 32.8	-0.5
CDF	Champ du Feu	24.61	83	eP	P	21 00 34.3	+1.0
	2.7nm,0.6s,mb3.6						
LPL	La Plagne	25.55	90	eP	P	21 00 42.7	+0.4
	6.2nm,0.9s,mb3.9						
LPG	La Plagne	25.57	90	eP	P	21 00 42.9	+0.4
SMRF	Simiane la Rot	25.61	94	eP	P	21 00 42.0	-0.9
MOX	Moxa	26.42	76	eP	P	21 00 50.0	-0.3
CLL	Collm	27.02	74	P	P	21 00 56.0	+0.2
GERES	GERESS Array B	28.35	79	P	P	21 01 08.0	+0.1
	0.6nm,1.0s,mb3.2,baz=288,slow=12,SNR=4.1						
ARCES	ARCESS Array B	31.06	35	P	P	21 01 30.8	-1.0
	2.0nm,1.1s,mb3.9,baz=284,slow=11,SNR=3.5						
ARCES				LR	LR	21 11 08.8	
	comp=Z,62nm,19.4s,MS3.3,baz=33,slow=31						
ARE0	ARCESS Array S	31.06	35	P	P	21 01 37.9	+6.0
FINES	FINESS Array B	31.65	50	P	P	21 01 37.5	+0.4
	1.0nm,0.8s,mb3.7,baz=280,slow=8.5,SNR=3.9						
FINES				LR	LR	21 12 21.6	
	comp=Z,82nm,19.5s,MS3.4,baz=136,slow=32						
FCC	Fort Churchill	35.10	306	P	P	21 02 08.9	+1.8
	93nm,1.3s						
BRTR	Keskin Array B	45.24	79	P	P	21 03 32.4	+1.4
	0.6nm,0.5s,mb3.7,baz=277,slow=5.8,SNR=3.7						
INK	Inuvik	47.00	330	P	P	21 03 47.3	+2.8
	3.1nm,0.9s,mb4.2						
ARU	Arti	48.93	47	P	P	21 03 58.3	-1.4
	3.2nm,0.7s,mb4.5						
PDAR	Pinedale Array	51.41	293	P	P	21 04 18.1	-0.8
	0.7nm,0.7s,mb3.7,baz=72,slow=9.4,SNR=6.0						
NEW	Newport	52.08	302	P	P	21 04 25.0	+1.1
ILAR	Eielson Array	53.36	331	P	P	21 04 31.7	-1.4
	0.6nm,0.9s,mb3.5,baz=53,slow=4.5,SNR=4.1						
BRVK	Borovoye	56.32	45	eP	P	21 04 53.5	-1.4
	1.8nm,0.8s,mb4.2						
BVAR	Borovoye Array	56.39	45	P	P	21 04 55.4	0.0
	2.0nm,0.5s,mb4.4,baz=311,slow=7.4,SNR=24						
BMN	Battle Mountai	57.27	295	P	P	21 05 07.8	+5.9
	4.0nm,0.7s,mb4.6						
MKAR	Makanchi Array	66.16	44	P	P	21 06 01.4	+0.1
	1.2nm,0.7s,mb4.0,baz=331,slow=5.3,SNR=13						
SONM	Songino Array	73.98	28	P	P	21 06 48.5	-0.3
	0.2nm,0.8s,mb3.1,slow=8.6,SNR=2.6						
WRA	Warramunga Arr	145.90	25	PKPbc	PKPbc	21 14 53.0	+1.1
	1.2nm,0.8s,baz=344,slow=3.6,SNR=13						
ASAR	Alice Springs	149.32	28	PKPbc	PKPdf	21 15 02.2	+2.7
	0.4nm,0.5s,baz=346,slow=2.3,SNR=14						

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*IDC **02** 21:02:59.2±3.0, 39.54N×53.63E, mb3.3/3, mb1 3.5/5, mb1mx3.3/21, Error ellipse: s-maj=56.1km s-min=14.7km az=165.0*
*THR **02** 21:03:01.5±0.7, 39.08N×53.25E, h6km±31km, ML3.8*

ISC 02 21:03:01.1±1.8**, 39.18N**±0.08×**53.7E**±0.1**, h61**km±28km**, n9, σ1§13**/14**, mb3.3**/2**, Turkmenistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DAMV	Damavand	3.80	202	ePN	P	21 03 59.9	+1.3
DAMV				SN	S	21 04 42.6	+0.2
DAMV				AMP		21 04 44.7	
	comp=E,164nm,0.6s						
DAMV				AMP		21 04 45.4	
	comp=N,134nm,0.4s						
THKV	Tehran--Karaj	3.95	215	ePN	P	21 04 01.3	+0.5
THKV				SN	S	21 04 44.6	-1.7
THKV				AMP		21 04 48.4	
	comp=E,122nm,0.3s						
THKV				AMP		21 04 49.2	
	comp=N,331nm,0.4s						
GRMI	Germi	4.54	267	ePN	P	21 04 07.6	-1.4
GRMI				SN	S	21 04 56.6	-4.4
GNI	Garni	6.98	281	Pn	P	21 04 44.4	+1.3
	comp=N,1.4nm,0.3s,baz=17,slow=20,SNR=7.3						
GNI				Sn	S	21 06 02.5	+0.8
	comp=N,0.2nm,0.3s,baz=234,slow=8.7,SNR=2.0						
MAKU	Maku	7.00	274	ePN	P	21 04 42.8	-0.5
BVAR	Borovoye Array	17.98	34	P	P	21 07 06.7	-1.5
	comp=N,0.2nm,0.3s,baz=230,slow=11,SNR=5.2						
BVAR				Sn	S	21 10 14.7	-8.9
	comp=N,0.1nm,0.3s,baz=225,slow=22,SNR=3.0						
AKASG	Malin Array Be	20.70	312	P	P	21 07 38.2	-0.1
	comp=N,0.4nm,0.3s,baz=105,slow=9.0,SNR=5.5						
MKAR	Makanchi Array	22.17	61	P	P	21 07 55.7	+2.7
	comp=N,0.8nm,1.0s,mb3.1,baz=250,slow=13,SNR=2.9						
FINES	FINESS Array B	28.03	332	P	P	21 08 48.1	-0.2
	comp=N,1.4nm,0.9s,mb3.6,baz=120,slow=11,SNR=4.8						

IDC 02 21:18:11.3±6.8**, 24.10S×67.06W, h169**km±55km**, mb3.0**/1**, mb1 3.8**/3**, mb1mx3.4**/13**, Error ellipse: s-maj=59.8km s-min=28.5km az=24.0, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	7.84	352	P	P	21 20 04.4	+1.0
	2.4nm,0.3s,baz=161,slow=10,SNR=41						
LPAZ				S	S	21 21 30.0	-0.8
	0.1nm,0.3s,baz=336,slow=18,SNR=3.4						
BDFB	Brasilia	19.77	68	P	P	21 22 28.5	-1.9
	1.0nm,0.3s,baz=253,slow=11,SNR=22						
PDAR	Pinedale Array	77.20	329	P	P	21 29 46.8	-1.3
	0.2nm,0.4s,baz=162,slow=5.7,SNR=2.8						
ASAR	Alice Springs	128.34	205	PKP	PKPdf	21 36 57.7	-0.8
	0.3nm,0.6s,baz=132,slow=1.9,SNR=6.9						
WRA	Warramunga Arr	131.51	207	PKP	PKPdf	21 37 04.0	-0.6
	0.4nm,0.7s,baz=158,slow=1.7,SNR=9.5						
MKAR	Makanchi Array	146.64	40	PKPbc	PKPbc	21 37 33.1	+0.6
	0.4nm,0.5s,baz=319,slow=2.5,SNR=4.3						

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*NIED **02** 21:41:00, 28.10N×128.10E, h5km, Mw4.1 Best double couple: Mo1.59×10^15 NP1:φs295°, δ73°, λ34°. NP2:φs194°, δ57°, λ160°.*
*IDC **02** 21:41:08.1±2.8, 28.12N×128.25E, mb3.7/5, mb1 3.9/5, mb1mx3.6/21, MS3.1/3, Ms1 3.2/3, ms1mx2.7/29, Error ellipse: s-maj=133.0km s-min=17.4km az=69.0*
*JMA **02** 21:41:08.2±0.5, 28.08N×128.08E, h8km±5km, M3.8*

ISC 02 21:41:09.8±1.4**, 28.04N**±0.05×**128.13E**±0.07**, h21**km±11km**, n16, σ0§65**/18**, mb3.7**/5**, MS3.0**/1**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JTK	Tokunoshima	0.77	109	P	Pb	21 41 23.9	-0.5
JTK				S	Sb	21 41 34.9	+0.4
JIH	Iheya	1.01	188	P	Pb	21 41 27.7	-0.9
JIH				S	Sb	21 41 41.7	+0.2
JOW	Kunigami	1.21	174	Pn	Pn	21 41 31.2	-0.6
	141nm,0.3s,baz=354,slow=15,SNR=81						
JOW				Sn	Sn	21 41 47.0	-0.7
	90nm,0.3s,baz=94,slow=26,SNR=11						
JOW	Kunigami	1.21	174	P	Pn	21 41 31.2	-0.6
JOW				eS	Sb	21 41 47.9	+0.7
JAM	Amami Oshima	1.35	74	P	Pn	21 41 33.1	-0.7
JAM				eS	Sb	21 41 51.1	-0.2
JAGN	Aguni-jima	1.65	209	P	Pn	21 41 38.3	+0.3
JZK	Kikaishima	1.65	80	P	Pn	21 41 39.2	+1.2
JJT2	Tamagusuku 2	1.93	190	P	Pn	21 41 42.8	+0.8
JHJ	Hachijo jima 2	11.24	60	LR	LR	21 47 52.3	
	comp=Z,74nm,21.5s,baz=349,slow=36						
TGY	Tagaytay City	15.40	207	LR	LR	21 51 06.5	
	comp=Z,90nm,19.7s,baz=200,slow=39						
SONM	Songino Array	26.00	325	P	P	21 46 42.7	-0.2
	1.2nm,0.8s,mb3.5,baz=137,slow=9.6,SNR=11						
CMAR	Chiang Mai Arr	28.40	257	LR	LR	21 59 54.8	
	comp=Z,38nm,21.5s,MS3.0,baz=30,slow=40						
MKAR	Makanchi Array	40.28	310	P	P	21 48 46.8	-0.2
	3.2nm,1.1s,mb4.0,baz=103,slow=8.7,SNR=7.9						
WRA	Warramunga Arr	48.08	172	P	P	21 49 49.2	-1.0
	1.0nm,1.0s,mb3.8,baz=352,slow=8.1,SNR=5.2						
ASAR	Alice Springs	51.71	173	P	P	21 50 18.4	+0.6
	0.8nm,1.0s,mb3.6,baz=8.1,slow=8.4,SNR=5.5						
BRTR	Keskin Array B	75.86	308	P	P	21 52 57.1	+0.7
	0.4nm,0.7s,mb3.5,baz=63,slow=13,SNR=3.0						

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*BJI **02** 22:09:22.8, 57.10N×145.90W, h10km, mB4.9, mb4.2, Ms4.5, Msz4.4*
*NEIC **02** 22:09:23.8±0.1, 57.07N×145.88W, h10km, mb4.5/26, ML4.5(AEIC), ML4.7(PMR), Error ellipse: s-maj=2.8km s-min=1.7km az=217.0*
*IDC **02** 22:09:28.1±6.3, 57.22N×145.45W, h26km±41km, mb4.1/21, mb1 4.3/26, mb1mx4.3/31, ML3.9/5, MS3.9/16, Ms1 3.9/16, ms1mx3.8/24, Error ellipse: s-maj=23.5km s-min=13.2km az=43.0*

ISC 02 22:09:22.9±0.7**, 57.11N**±0.02×**145.93W**±0.03**, h15**km±4km**, h21**km±.5km**:pP-P, n208, σ1§09**/230**, mb4.4**/53**, MS3.9**/15**, Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MID	Middleton Isla	2.34	355	P	Pn	22 10 02.6	+1.1
MID				S	Sn	22 10 28.9	-1.1
LTI	Latouche	3.11	342	P	Pn	22 10 13.1	+0.7
HIN	Hinchinbrook I	3.31	355	P	Pn	22 10 16.4	+1.1
RAGM	Ragged Mountai	3.35	11	P	Pn	22 10 16.7	+0.8
RAGM				S	Sn	22 10 53.2	-2.6
SGAM	Sherman Glacie	3.42	6	P	Pn	22 10 18.8	+1.9
SGAM				S	Sn	22 10 56.3	-1.3
CVA	Cordova	3.45	1	P	Pn	22 10 18.3	+1.0
EYAK	Cordova Ski Ar	3.45	1	P	Pn	22 10 18.5	+1.2
EYAK				S	Sn	22 10 58.4	+0.1
CYK	Cape Yakataga	3.48	30	P	Pn	22 10 18.2	+0.4
SEW	Seward	3.52	330	P	Pn	22 10 18.3	0.0
SEW				S	Sn	22 10 59.1	-1.0
KDAK	Kodiak Island	3.66	283	Pn	Pn	22 10 20.0	-0.2
	3µm,0.4s						
KDAK	Kodiak Island	3.66	283	P	Pn	22 10 20.1	-0.1
KDAK				S	Sn	22 11 02.9	-0.7
FID	Port Fidalgo	3.66	356	P	Pn	22 10 21.1	+0.8
FID				S	Sn	22 11 02.6	-1.1
CNPM	China Poot	3.70	313	P	Pn	22 10 20.8	0.0
CNPM				S	Sn	22 11 04.4	-0.3
WAX	Waxell Ridge	3.71	24	P	Pn	22 10 21.3	+0.2
WAX				S	Sn	22 11 02.6	-2.3
BRLK	Bradley Lake	3.73	318	P	Pn	22 10 21.0	-0.2
BRLK				S	Sn	22 11 05.0	-0.3
GLI	Glacier Island	3.83	351	P	Pn	22 10 23.4	+0.8
MPA	Moose Pass	3.83	334	P	Pn	22 10 22.9	+0.2
CHX	Chaix Hills	3.89	38	P	Pn	22 10 24.1	+0.6
BMRM	Bremner River	3.93	9	P	Pn	22 10 24.4	+0.3
BMRM				S	Sn	22 11 08.4	-2.1
PWL	Port Wells	3.96	343	P	Pn	22 10 24.9	+0.4
JPK	Jack Peak	3.97	355	P	Pn	22 10 25.6	+0.9
DIV	Divide	4.03	1	P	Pn	22 10 26.1	+0.5
DIV				S	Sn	22 11 10.3	-2.8
VLZ	Valdez	4.04	357	P	Pn	22 10 26.1	+0.4
VLZ				S	Sn	22 11 11.2	-2.0
SLKM	Skilak Lake	4.08	329	P	Pn	22 10 27.0	+0.8
CFI	College Fiord	4.20	348	P	Pn	22 10 28.7	+0.8
CFI				S	Sn	22 11 17.1	-0.1
PCA	Pinnacle	4.22	42	P	Pn	22 10 27.6	-0.5
PNL	Peninsula	4.29	51	P	Pn	22 10 28.5	-0.7
BALM	Baldy	4.35	24	P	Pn	22 10 30.1	0.0
KLU	Klutina	4.40	0	P	Pn	22 10 31.1	+0.4
KLU				S	Sn	22 11 21.0	-1.3
RC01	Rabbit Creek A	4.45	335	P	Pn	22 10 31.9	+0.4
RC01				S	Sn	22 11 23.0	-0.6
GLB	Gilahina Butte	4.48	13	P	Pn	22 10 31.9	0.0
CTGM	Chitina Glacie	4.54	30	P	Pn	22 10 32.2	-0.5
ILIM	Iliamna	4.73	312	P	Pn	22 10 34.8	-0.7
KAPH	Katmai Pasha	4.74	292	P	Pn	22 10 35.4	-0.2
IVS	Iliamna South	4.74	311	P	Pn	22 10 35.2	-0.4
IVS				S	Sn	22 11 31.0	+0.1
PMR	Palmer	4.79	341	P	Pn	22 10 37.0	+0.8
PMR				S	Sn	22 11 30.3	-1.8
SCM	Sheep Creek Mo	4.79	352	P	Pn	22 10 37.2	+0.9
KAHG	Katmai Hook Gl	4.81	290	P	Pn	22 10 36.6	0.0
RDT	Redoubt	4.84	319	P	Pn	22 10 36.5	-0.5
RDT				S	Sn	22 11 32.4	-1.0
SML	Sawmill	4.87	346	P	Pn	22 10 38.6	+1.2
RSO	Redoubt South	4.89	316	eP	Pn	22 10 37.2	-0.5
GHO	Glory Hole Cre	4.92	343	P	Pn	22 10 39.2	+1.1
GHO				S	Sn	22 11 34.4	-1.1
KAWH	Katmai	4.92	289	P	Pn	22 10 38.3	+0.1
TZL	Tazlina	4.96	3	P	Pn	22 10 39.6	+0.9
KABR	Katmai Barrier	4.97	286	P	Pn	22 10 38.7	-0.1
PWA	Palmer West	4.98	338	eP	Pn	22 10 39.6	+0.6
NCT	North Crescent	5.02	317	P	Pn	22 10 39.2	-0.4
KAIC	Katmai Ikaglui	5.07	290	P	Pn	22 10 39.8	-0.4
KAIC				S	Sn	22 11 38.2	-1.0
CAHL	Cahill	5.13	285	P	Pn	22 10 41.1	0.0
CAHL				S	Sn	22 11 38.9	-1.9
BKG	Blockade Glaci	5.14	323	P	Pn	22 10 41.0	-0.3
SPU	Mount Spurr	5.16	325	P	Pn	22 10 41.3	-0.2
ACHA	Angle Creek He	5.17	286	P	Pn	22 10 41.9	+0.3
MGLS	Mageik LS	5.17	286	P	Pn	22 10 40.2	-1.4
MGLS				S	Sn	22 11 38.3	-3.3
ANCK	Angle Creek	5.25	286	P	Pn	22 10 43.2	+0.3
CKL	Chakachamna La	5.26	324	P	Pn	22 10 43.0	+0.1
KJL	Kejulik	5.28	284	P	Pn	22 10 43.0	-0.1
KJL				S	Sn	22 11 43.4	-1.0
STLK	Strandline Lak	5.34	328	P	Pn	22 10 44.4	+0.3
CNTC	Contact Creek	5.47	286	P	Pn	22 10 45.4	-0.4
SIT	Sitka	5.78	86	eP	Pn	22 10 44.9	-5.4
	34nm,0.3s						
PAX	Paxson	5.89	2	P	Pn	22 10 51.6	-0.2
BESE	Bessie Mountai	6.10	71	P	Pn	22 10 51.8	-2.9
BCA3	Beaver Creek A	6.32	17	P	Pn	22 10 57.2	-0.7
DOT	Dot Lake	6.63	7	P	Pn	22 11 02.1	-0.1
ANPK	Aniakchak Peak	6.68	273	P	Pn	22 11 02.7	-0.2
TRF	Thorofare Moun	6.72	343	P	Pn	22 11 04.2	+0.6
WHY	Whitehorse	6.74	54	P	Pn	22 11 02.8	-1.1
ANPB	Aniakchak Plen	6.76	273	P	Pn	22 11 03.6	-0.5
MCK	McKinley	6.81	349	eP	Pn	22 11 05.3	+0.5
KTH	Kantishna Hill	6.92	341	P	Pn	22 11 06.7	+0.4
TT01	Tatalina	7.70	323	P	Pn	22 11 15.8	-1.4
IL1	Eielson Array	7.70	357	P	Pn	22 11 14.1	-3.2
ILAR	Eielson Array	7.70	357	Pn	Pn	22 11 15.6	-1.7
	0.5nm,0.3s,baz=182,slow=12,SNR=12						
COLA	College	7.85	354	P	Pn	22 11 17.1	-2.2
SDPT	Sand Point	8.30	264	P	P	22 11 23.7	-1.9
DLBC	Dease Lake	8.60	74	Pn	P	22 11 26.4	-3.4
	1.7nm,0.3s,baz=264,slow=11,SNR=29						
DLBC				Sn	Sn	22 12 57.6	-10
	0.9nm,0.3s,baz=112,slow=16,SNR=1.9						
DLBC				LR	LR	22 14 20.6	
	comp=Z,429nm,20.6s,baz=269,slow=35						
DLBC	Dease Lake	8.60	74	P	P	22 11 26.4	-3.4
PVV	Pavlof Volcano	9.00	266	P	P	22 11 33.4	-2.0
DOL	Dolgoi Island	9.11	264	P	P	22 11 35.0	-1.9
BALA	Baldy Mountain	9.60	266	P	P	22 11 42.6	-0.9
IM3	Indian Mountai	9.65	341	P	P	22 11 42.5	-1.6
IMA	Indian Mountai	9.71	341	eP	P	22 11 44.7	-0.2
	32nm,1.3s						
FALS	False Pass	10.05	264	P	P	22 11 48.7	-1.0
COLD	Coldfoot	10.35	351	P	P	22 11 53.7	+0.1
BM3	Burnt Mountain	10.37	3	P	P	22 11 53.4	-0.6
BBB	Bella Bella	11.43	108	Pn	P	22 12 01.1	-7.4
	0.4nm,0.3s,baz=295,slow=14,SNR=10						
BBB				Sn	S	22 14 02.8	-14
	0.7nm,0.3s,baz=22,slow=22,SNR=9.1						
BBB				LR	LR	22 15 25.3	
	comp=Z,813nm,20.7s,baz=321,slow=32						
INK	Inuvik	12.56	22	Pn	P	22 12 23.2	-0.4
	0.3nm,0.3s,baz=210,slow=14,SNR=12						
INK				LR	LR	22 17 44.1	
	comp=Z,497nm,18.3s,baz=34,slow=40						
INK	Inuvik	12.56	22	eP	P	22 12 22.1	-1.6
PGC	Sidney	15.93	113	eP	P	22 13 07.5	-0.4
	50nm,1.2s						
OCWA	Octopus Mounta	16.17	116	eP	P	22 13 09.4	-1.6
YKA	Yellowknife Ar	16.54	58	Pn	P	22 13 14.6	-0.8
	0.3nm,0.3s,baz=259,slow=11,SNR=8.4						
YKA				LR	LR	22 19 36.6	
	comp=Z,599nm,18.1s,baz=260,slow=37						
GNW	Green Mountain	16.97	114	eP	P	22 13 19.8	-1.2
RPW	Rockport	17.05	110	eP	P	22 13 23.2	+1.2
BMW	Boistfort Moun	17.53	118	eP	P	22 13 28.0	-0.1
RMW	Rattlesnake Mo	17.55	113	eP	P	22 13 29.1	+0.8
NLW	Nelson Butte	17.89	109	eP	P	22 13 32.8	+0.3
SSOR	Sweet Springs	19.08	120	eP	P	22 13 45.8	-1.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
DPW	Davenport	19.12	107	eP	P	22 13 46.1	-1.6
VGB	Gordon Butte	19.41	116	eP	P	22 13 49.7	-1.3
HAWA	Hanford	19.41	112	eP	P	22 13 49.3	-1.7
	6.1nm,0.8s						
NEW	Newport	19.45	105	eP	P	22 13 49.5	-1.9
	21nm,1.2s						
HSO	Harness Mounta	19.80	124	eP	P	22 13 54.1	-1.4
LNOR	Lincton Mounta	20.40	112	eP	P	22 13 59.9	-1.9
HUMO	Hull Mountain	20.59	125	eP	P	22 14 02.3	-1.4
	9.7nm,0.9s						
WALA	Waterton Lakes	20.69	99	eP	P	22 14 02.7	-2.0
KRMB	Red Mountain	21.05	128	eP	P	22 14 07.3	-1.2
YBH	Yreka Blue Hor	21.40	126	P	P	22 14 12.0	+0.1
	11nm,1.0s,mb4.2,baz=357,slow=4.4,SNR=29						
YBH	Yreka Blue Hor	21.40	126	eP	P	22 14 11.4	-0.5
	19nm,1.2s,mb4.3						
KHMM	Horse Mountain	21.66	129	eP	P	22 14 14.2	-0.4
CHMT	Chamberlain Mo	22.34	103	eP	P	22 14 20.8	-0.6
WDC	Whiskeytown Da	22.41	128	eP	P	22 14 21.9	-0.2
	33nm,1.3s,mb4.6						
HRY	Holter Researc	23.22	102	eP	P	22 14 30.0	+0.1
HLID	Hailey	23.99	111	eP	P	22 14 37.8	+0.5
	12nm,1.2s,mb4.2						
BOZ	Bozeman (W)	24.01	104	eP	P	22 14 37.7	+0.1
	24nm,1.6s,mb4.4						
PAHR	Pah Rah Range	24.52	124	eP	P	22 14 41.3	-1.3
	9.1nm,0.8s,mb4.4						
QLMT	Earthquake Lak	24.66	105	eP	P	22 14 44.2	+0.3
BMN	Battle Mountai	24.95	120	eP	P	22 14 46.5	-0.2
YMR	Madison River	25.02	105	eP	P	22 14 47.7	+0.5
IMW	Indian Meadow	25.55	106	eP	P	22 14 52.9	+0.6
ELK	Elko	25.66	116	eP	P	22 14 53.5	+0.1
	12nm,0.9s,mb4.4						
RRI2	Red Ridge	25.74	107	eP	P	22 14 53.8	-0.3
MOOW	Moose Ponds	25.76	106	eP	P	22 14 53.8	-0.5
TPAW	Teton Pass	25.83	107	eP	P	22 14 54.3	-0.6
LOHW	Long Hollow	25.93	106	eP	P	22 14 55.6	-0.3
NVAR	Mina Array Bea	26.05	124	P	P	22 14 58.6	+1.6
	4.2nm,0.8s,mb4.0,baz=315,slow=12,SNR=2.7						
NVAR				LR	LR	22 23 18.7	
	comp=Z,331nm,21.0s,MS3.9,baz=265,slow=32						
SPUT	South Promonto	26.63	112	eP	P	22 15 02.0	-0.3
HWUT	Hardware Ranch	26.86	110	eP	P	22 15 04.5	+0.1
	8.6nm,0.8s,mb4.3						
BW06	Boulder Array	27.07	106	eP	P	22 15 05.5	-0.8
	4.3nm,1.1s,mb3.9						
PDAR	Pinedale Array	27.07	106	P	P	22 15 06.3	0.0
	2.1nm,0.7s,mb3.8,baz=316,slow=5.5,SNR=15						
PDAR				LR	LR	22 24 34.2	
	comp=Z,124nm,18.9s,MS3.5,baz=74,slow=34						
DUG	Dugway	27.28	114	eP	P	22 15 06.8	-1.5
	7.0nm,0.9s,mb4.2						
TCUT	Toone Canyon	27.30	111	eP	P	22 15 07.6	-0.8
JLU	Jordanelle	27.66	112	eP	P	22 15 10.8	-0.9
TMUT	Trail Mountain	28.76	113	eP	P	22 15 21.5	-0.2
MSU	Marysvale	28.89	116	eP	P	22 15 22.2	-0.6
RSSD	Black Hills	29.08	98	eP	P	22 15 24.1	-0.4
	13nm,1.4s,mb4.5						
SRU	San Rafael	29.25	113	eP	P	22 15 25.8	-0.3
ULM	Lac du Bonnet	29.84	82	LR	LR	22 27 13.1	
	comp=Z,143nm,19.0s,MS3.6,baz=307,slow=36						
WMOK	Wichita Mounta	38.65	105	eP	P	22 16 47.1	-0.1
	3.9nm,0.7s,mb4.2						
TXAR	Lajitas Array	40.44	115	P	P	22 17 02.4	+0.2
	2.2nm,0.8s,mb3.9,baz=323,slow=6.3,SNR=9.9						
TXAR				LR	LR	22 33 12.7	
	comp=Z,196nm,18.1s,MS4.0,baz=310,slow=35						
JCT	Junction City	41.46	110	eP	P	22 17 10.1	-0.4
	24nm,1.1s,mb4.8						
SCHQ	Schefferville	41.99	58	LR	LR	22 34 51.1	
	comp=Z,214nm,19.4s,MS4.0,baz=265,slow=36						
JMIC	Jan Mayen	48.69	17	LR	LR	22 43 25.1	
	comp=Z,103nm,19.1s,MS3.8,baz=347,slow=42						
MDJ	Mudanjiang	51.39	295	P	P	22 18 28.2	-0.4
MDJ				AP	pP	22 18 34.5	+1.4
MDJ				S	S	22 25 46.6	+0.5
MDJ				SS	SS	22 29 23.7	+3.7
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,80nm,4.5s						
MDJ				LR	LR		
	comp=N,49nm,27.2s,MS3.6						
MDJ				LR	LR		
	comp=E,61nm,25.6s,MS3.6						
MDJ				LR	LR		
	comp=Z,111nm,19.2s						
ARCES	ARCESS Array B	53.51	4	P	P	22 18 43.2	-0.9
	comp=Z,1.4nm,0.6s,mb4.1,baz=9.5,slow=7.4,SNR=9.4						
CN2	Changchun	54.02	297	eP	P	22 18 49.5	+1.3
SONM	Songino Array	59.49	312	P	P	22 19 29.6	+2.4
	comp=Z,5.2nm,0.9s,mb4.5,baz=44,slow=5.9,SNR=29						
NB2	NORSAR Subarra	60.83	13	P	P	22 19 35.8	-0.4
	comp=Z,2.3nm,0.7s,mb4.4,baz=348,slow=6.5						
NOA	NORSAR Array B	60.83	13	P	P	22 19 36.2	0.0
	comp=Z,3.0nm,0.7s,mb4.5,baz=348,slow=6.7,SNR=12						
NOA	NORSAR Array B	60.83	13	P	P	22 19 36.2	0.0
KAF	Kangasniemi	60.96	4	ep	P	22 19 35.8	-1.2
	comp=Z,0.3nm,0.4s,mb3.8						
FINES	FINESS Array B	61.62	4	P	P	22 19 41.4	-0.1
	comp=Z,3.0nm,0.6s,mb4.6,baz=5.5,slow=8.7,SNR=28						
FINES				LR	LR	22 48 11.2	
	comp=Z,76nm,18.4s,MS3.9,baz=355,slow=38						
ZAL	Zalesovo	61.86	329	P	P	22 19 44.6	+1.3
	comp=Z,0.7nm,0.4s,mb4.1,baz=18,slow=4.4,SNR=6.4						
ZAL				LR	LR	22 50 13.5	
	comp=Z,130nm,19.9s,MS4.1,baz=351,slow=40						
HFS	Hagfors	62.00	11	P	P	22 19 43.7	-0.4
	comp=Z,1.6nm,0.6s,mb4.3,baz=333,slow=3.3,SNR=9.4						
EKA	Eskdalemuir Ar	63.93	23	P	P	22 19 57.5	+0.7
	comp=Z,6.1nm,0.9s,mb4.6,baz=295,slow=5.7,SNR=9.0						
ARU	Arti	65.11	345	eP	P	22 20 04.6	+0.2
	comp=Z,4.1nm,0.8s,mb4.5						
BVAR	Borovoye Array	66.28	337	P	P	22 20 13.5	+1.5
	comp=Z,1.8nm,0.8s,mb4.2,baz=45,slow=6.3,SNR=12						
NJ2	Nanjing	66.39	293	eP	P	22 20 14.2	+1.1
ZRNK	Zerenda	66.64	338	eP	P	22 20 14.7	+0.5
	comp=Z,3.6nm,0.8s,mb4.5						
OBN	Obninsk	68.12	358	eP	P	22 20 23.7	+0.1
MKAR	Makanchi Array	68.95	327	P	P	22 20 29.9	+1.0
	comp=Z,2.3nm,1.0s,mb4.1,baz=53,slow=6.1,SNR=11						
MKAR				LR	LR	22 53 08.0	
	comp=Z,98nm,18.7s,MS4.1,baz=162,slow=38						
GTA	Gaotai	69.13	311	eP	P	22 20 32.4	+2.3
GTA				AP	pP	22 20 39.0	+4.3
GTA				XP	sP	22 20 42.3	+6.0
GTA				AMB	AMB		
	comp=Z,3.0nm,1.2s,mb4.1						
GTA				AMB	AMB		
	comp=Z,24nm,6.9s						
GTA				LR	LR		
	comp=N,78nm,9.9s						
GTA				LR	LR		
	comp=E,115nm,18.0s						
GTA				LR	LR		
	comp=Z,154nm,16.8s,MS4.3						
WMQ	Urumqi	69.88	322	P	P	22 20 38.0	+3.4
WMQ				XP	sP	22 20 48.0	+7.2
WMQ				PP	PP	22 23 15.0	+3.9
WMQ				S	S	22 29 46.0	+3.6
WMQ				SS	SS	22 34 18.0	+5.1
WMQ				LR	LR		
	comp=N,135nm,20.0s,MS4.3						
WMQ				LR	LR		
	comp=E,106nm,20.0s,MS4.3						
WMQ				LR	LR		
	comp=Z,134nm,20.0s,MS4.2						
LZH	Lanzhou	70.21	306	eP	P	22 20 35.0	-1.7
LZH				AP	pP	22 20 42.0	+0.7
LZH				XP	sP	22 20 46.0	+3.0
LZH				AMB	AMB		
	comp=Z,10.0nm,1.5s,mb4.5						
ROSF	Rostrenen	70.44	25	eP	P	22 20 39.1	+1.2
	comp=Z,47nm,1.1s,mb5.0						
CLL	Collm	70.56	14	P	P	22 20 40.0	+1.4
FLN	La Foliniere	70.67	23	eP	P	22 20 40.1	+0.8
	comp=Z,26nm,0.9s,mb4.8						
SGMF	Saint Gilles	70.69	25	eP	P	22 20 40.1	+0.7
	comp=Z,45nm,1.1s,mb5.0						
QUIF	Quistinic	70.86	26	eP	P	22 20 41.6	+1.1
LDF	La Druitiere	70.91	23	eP	P	22 20 41.4	+0.6
	comp=Z,9.4nm,0.6s,mb4.6						
GRR	Gorron	70.94	24	eP	P	22 20 41.9	+0.9
MOX	Moxa	71.02	15	i P	P	22 20 42.3	+0.9
MOX	Moxa	71.02	15	eP	P	22 20 42.3	+0.9
BRG	Berggiesshubel	71.11	13	eP	P	22 20 43.4	+1.5
	comp=Z,4.1nm,1.1s,mb4.3						
AKASG	Malin Array Be	72.48	3	P	P	22 20 50.4	+0.2
	comp=Z,1.5nm,0.5s,mb4.2,baz=355,slow=5.7,SNR=22						
CDF	Champ du Feu	72.52	18	eP	P	22 20 51.4	+1.1
HAU	Haudompre	72.75	19	eP	P	22 20 52.0	+0.4
KHC	Kasperske Hory	72.77	14	eP	P	22 20 53.0	+1.3
MFF	Saint Martin d	72.79	24	eP	P	22 20 52.4	+0.5
	comp=Z,41nm,1.2s,mb4.9						
VRAC	Vranov	72.97	12	P	P	22 20 53.2	+0.3
	comp=Z,1.6nm,0.4s,mb4.3,baz=5.9,slow=11,SNR=2.1						
LOR	Lormes	72.99	21	eP	P	22 20 54.2	+1.1
	comp=Z,13nm,0.9s,mb4.6						
LOR				eR			
	comp=Z,193nm,19.5s						
HINF	Hinteralfeld	73.02	19	eP	P	22 20 53.5	+0.3
GERES	GERESS Array B	73.07	14	P	P	22 20 54.3	+0.8
	comp=Z,0.8nm,0.7s,mb3.8,slow=5.3,SNR=10						
SSF	Saint Saulge	73.12	21	eP	P	22 20 54.3	+0.5
	comp=Z,11nm,1.0s,mb4.5						
SMF	Signal de Mont	73.58	21	eP	P	22 20 56.6	+0.1
TCF	Toulx Ste Croi	73.59	22	eP	P	22 20 57.0	+0.4
	comp=Z,29nm,1.3s,mb4.8						
CABF	La Chapelle	74.05	20	eP	P	22 20 59.9	+0.7
USP	Ospenovka	74.40	331	P	P	22 21 04.3	+3.0
	SNR=5.2						
TKM2	Tokmak 2	74.42	330	P	P	22 21 04.8	+3.3
	SNR=5.8						
DAVOX	Davos	74.53	17	P	P	22 21 04.1	+2.1
	comp=Z,2.5nm,0.9s,mb4.1,baz=350,slow=16,SNR=4.5						
LFF	La Frestale	74.56	24	eP	P	22 21 02.9	+0.7
	comp=Z,16nm,0.7s,mb4.7						
CHMS	Chumysh	74.58	330	P	P	22 21 05.4	+3.0
	SNR=5.8						
KBK	Karagaybulak	74.85	330	P	P	22 21 06.9	+2.9
	SNR=6.2						
AAK	Ala-Archa	74.99	330	eP	P	22 21 05.4	+0.7
	comp=Z,8.3nm,1.2s,mb4.5						
EKS2	Erkin-Say	75.16	331	P	P	22 21 08.8	+3.0
	SNR=9.7						
LPL	La Plagne	75.22	20	eP	P	22 21 07.6	+1.6
	comp=Z,9.8nm,1.0s,mb4.4						
LPG	La Plagne	75.24	20	eP	P	22 21 07.8	+1.7
VIVF	Saint-Julien-l	75.47	21	eP	P	22 21 08.1	+0.7
AML	Almayashu	75.67	331	P	P	22 21 11.8	+3.2
	SNR=6.0						
ROSC	El Rosal	75.99	103	LR	LR	22 52 50.5	
	comp=Z,66nm,22.0s,MS3.9,baz=14,slow=34						
ETSF	Etsaut	76.20	25	eP	P	22 21 13.7	+2.0
	comp=Z,15nm,0.8s,mb4.7						
MTLF	Montolieu	76.41	23	eP	P	22 21 14.2	+1.4
	comp=Z,16nm,1.1s,mb4.6						
GYA	Guiyang	77.00	299	P	P	22 21 19.7	+3.3
MLR	Muntele Rosu	77.54	6	P	P	22 21 22.0	+2.9
	comp=Z,4.0nm,1.3s,mb4.2,baz=191,slow=7.5,SNR=3.1						
ESDC	Sonseca Array	78.39	29	P	P	22 21 25.8	+2.0
	comp=Z,3.8nm,0.7s,mb4.4,baz=342,slow=5.8,SNR=23						
ESDC				LR	LR	22 53 55.9	
	comp=Z,110nm,18.9s,MS4.2,baz=340,slow=34						
PGF	Pioggiola	78.50	19	eP	P	22 21 25.3	+0.9
	comp=Z,12nm,0.8s,mb4.5						
LSA	Lhasa	81.08	312	P	P	22 21 41.1	+2.6
BRTR	Keskin Array B	83.53	0	P	P	22 21 53.4	+2.5
	comp=Z,2.2nm,1.0s,mb4.2,slow=1.2,SNR=5.9						
BRTR				LR	LR	22 58 38.9	
	comp=Z,44nm,19.1s,MS3.9,baz=90,slow=35						
CMAR	Chiang Mai Arr	87.49	301	P	P	22 22 14.2	+3.2
	comp=Z,2.2nm,0.8s,mb4.4,baz=20,slow=4.8,SNR=12						
QSPA	South Pole Qui	146.91	180	ePKP	PKPdf	22 29 04.1	-0.3

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*NIED **02** 22:28:00, 28.00N×128.00E, h5^{km}, Mw3.8 Best double couple: M$_0$5.39×10^{14} NP1:φ$_s$20°, δ81°, λ130°. NP2:φ$_s$121°, δ41°, λ14°.*

JMA 02 22:28:44.3±0.2**, 28.04N**×**128.01E, h9**^{km}±2^{km}**, M3.5, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JTK	Tokunoshima	0.87	107	P	Pb	22 29 00.8	-0.3
JTK				S	Sb	22 29 12.4	-0.2
JIH	Iheya	1.00	182	P	Pb	22 29 03.1	-0.3
JIH				S	Sb	22 29 16.6	+0.1
JOW	Kunigami	1.23	169	P	Pb	22 29 06.7	-0.5
JOW				S	Sb	22 29 23.2	+0.2
JAM	Amami Oshima	1.46	75	P	Pn	22 29 10.8	-0.1
JAM				S	Sb	22 29 30.1	+0.5

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*NEIC **02** 22:30:39.3±1.4, 20.73S×69.85W, h106^{km}±15^{km}, Error ellipse: s-maj=28.1km s-min=13.2km az=70.0*
*IDC **02** 22:30:41.0±5.1, 20.54S×69.68W, h93^{km}±36^{km}, mb3.8/8, mb1 3.8/10, mb1mx3.7/15, MS3.4/3, Ms1 3.4/3, ms1mx3.0/21, Error ellipse: s-maj=54.9km s-min=22.1km az=38.0*

ISC 02 22:30:39.3±1.2**, 20.66S**±0.10×**69.8W**±0.2**, h105**^{km}±14^{km}**, n14, σ1.11**/14**, mb4.0**/8**, Northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.11	158	ePn	P	22 31 13.0	-0.9
LVC				eSn	S	22 31 30.3	-9.5
LVC				eSg	S	22 31 41.2	+1.4
LPAZ	La Paz	4.62	20	P	P	22 31 48.8	+0.7
	2.3nm,0.3s,baz=219,slow=9.6,SNR=41						
CPUP	Villa Florida	12.74	119	P	P	22 33 37.5	-0.2
	0.1nm,0.3s,baz=325,slow=15,SNR=3.0						
CPUP				LR	LR	22 38 30.8	
	comp=Z,61nm,20.0s,baz=327,slow=37						
BDFB	Brasilia	21.26	80	P	P	22 35 17.9	-0.7
	2.6nm,0.5s,mb3.8,baz=259,slow=9.8,SNR=7.1						
BDFB				LR	LR	22 45 17.6	
	comp=Z,94nm,18.4s,baz=92,slow=41						
ROSC	El Rosal	25.74	350	P	P	22 36 01.8	-0.2
	5.8nm,0.5s,mb4.3,baz=142,slow=19,SNR=2.5						
SJG	San Juan	38.69	6	P	P	22 37 53.0	-1.5
	5.1nm,0.3s,mb4.8,baz=294,slow=21,SNR=3.5						
SJG	San Juan	38.69	6	P	P	22 37 53.0	-1.5
TXAR	Lajitas Array	59.48	326	P	P	22 40 31.4	-2.3
	0.4nm,0.5s,mb3.7,baz=143,slow=9.0,SNR=3.2						
DBIC	Dimbokro	69.28	74	P	P	22 41 38.4	+0.8
	2.1nm,0.9s,mb4.0,baz=299,slow=16,SNR=2.5						
DBIC				LR	LR	23 09 14.8	
	comp=Z,87nm,18.8s,baz=247,slow=34						
PDAR	Pinedale Array	72.98	330	P	P	22 42 00.8	+1.6
	0.3nm,0.3s,mb3.6,baz=139,slow=8.3,SNR=4.9						
NVAR	Mina Array Bea	74.33	322	P	P	22 42 07.7	+0.4
	0.6nm,0.8s,mb3.4,baz=156,slow=7.6,SNR=4.5						
SCHQ	Schefferville	75.22	2	P	P	22 42 13.2	+1.2
	2.2nm,0.7s,mb4.0,baz=283,slow=5.5,SNR=2.6						
MKAR	Makanchi Array	145.41	35	PKPbc	PKPbc	22 50 07.8	+2.4
	5.3nm,1.1s,baz=324,slow=4.2,SNR=14						
SONM	Songino Array	152.71	6	PKPbc	PKPdf	22 50 26.6	+10
	0.7nm,0.5s,baz=312,slow=1.2,SNR=13						

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*LDG **02** 22:35:18.6±0.1, 45.73N×7.11E, h3^{km}, Md2.4/2, Ml2.3/5, Error ellipse: s-maj=1.8km s-min=1.0km az=111.0*
*ZUR **02** 22:35:19.0, 45.76N×7.12E, h6^{km}, ML1.5/8*

ISC 02 22:35:18.3±0.6**, 45.75N**±0.02×**7.04E**±0.05**, h3**^{km}**, n18, σ1.11**/27**, 3C-1D, Northern Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RSL	Roselend	0.30	258	Pg	Pg	22 35 25.1	+0.8
RSL				Sg	Sg	22 35 29.2	+0.9
LPL	La Plagne	0.32	223	ePg	Pg	22 35 25.3	+0.6
LPL				eSg	Sg	22 35 29.4	+0.4
	19nm,0.3s						
LPG	La Plagne	0.33	219	ePg	Pg	22 35 25.4	+0.6
LPG				eSg	Sg	22 35 29.5	+0.3
	26nm,0.2s						
EMV	Vieux Emosson	0.33	342⇑	iPg	Pg	22 35 25.9	+1.0
	0.7nm,0.1s						
EMV				i Sg	Sg	22 35 30.6	+1.3
	0.7nm,0.1s						
SALAN	Lac Salanfe	0.40	353⇑	iPg	Pg	22 35 27.1	+0.9
	1.3nm,0.5s						
SALAN				i Sg	Sg	22 35 32.5	+1.0
	1.3nm,0.5s						
DIX	Grande Dixence	0.42	38⇓	iPg	Pg	22 35 26.9	+0.2
	1.1nm,0.2s						
DIX				eSg	Sg	22 35 32.3	0.0
	1.1nm,0.2s						
GRYON	Gryon	0.50	5⇑	iPg	Pg	22 35 29.0	+0.7
	1.0nm,0.2s						
GRYON				eSg	Sg	22 35 35.7	+0.6
	1.0nm,0.2s						
AIGLE	Aigle	0.59	354	ePg	Pg	22 35 30.8	+0.6
	1.0nm,0.4s						
SENIN	Lac Senin	0.64	16	ePg	Pg	22 35 31.5	+0.4
	0.8nm,0.4s						
MMK	Mattmark	0.71	65	ePg	Pg	22 35 31.5	-1.0
	0.3nm,0.2s						
MBDF	Montbardon	1.04	191	ePg	Pg	22 35 38.2	-0.9
CABF	La Chapelle	1.09	323	ePg	Pg	22 35 40.2	+0.2
CABF				eSg	Sg	22 35 54.6	+0.1
	4.7nm,0.2s						
ORIF	Oris-en-Rattie	1.17	225	ePg	Pg	22 35 40.6	-1.0
VIVF	Saint-Julien-l	1.90	243	ePg	Pg	22 35 54.9	-1.3
HINF	Hinteralfeld	2.07	356	ePg	Pg	22 35 57.6	-2.0
HINF				eSg	Sg	22 36 24.7	-2.6
	2.3nm,0.2s						
HAU	Haudompre	2.31	348	eSg	Sg	22 36 32.0	-3.1
	2.4nm,0.3s						
SMF	Signal de Mont	2.40	293	eSg	Sg	22 36 35.4	-2.7
	3.4nm,0.2s						
LOR	Lormes	2.67	306	eSg	Sg	22 36 44.1	-3.2
	1.9nm,0.3s						

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*NEIC **02** 22:42:50.7, 44.07N×7.58E, h10^{km}, ML2.8(GEN), ML2.5(STR), ML2.4(LDG), After STR.*
*STR **02** 22:42:50.7±0.6, 44.07N×7.58E, h10^{km}±1^{km}, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **02** 22:42:52.9±0.2, 43.96N×7.55E, h2^{km}, Md2.8/1, Ml2.4/9, Error ellipse: s-maj=4.0km s-min=3.2km az=101.0*
*GEN **02** 22:42:52.6, 43.99N×7.46E, h8^{km}, ML2.8*
*CSEM **02** 22:42:52.1±0.1, 44.03N×7.51E, h8^{km}, ML2.6/5, Error ellipse: s-maj=1.4km s-min=1.1km az=132.0*

ISC 02 22:42:52.4±0.3**, 44.00N**±0.01×**7.48E**±0.02**, h10**^{km}**, n56, σ0.81**/91**, Northern Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AUTN	L'Aution	0.03	262	Pg	Pg	22 42 53.9	-0.4
SAOF	Saorge	0.06	103	Pg	Pg	22 42 54.2	-0.3
SBF	Sospel	0.14	192	ePg	Pg	22 42 55.9	+0.2
SBF				eSg	Sg	22 42 58.4	+0.5
	272nm,0.2s						
AURF	Auriere	0.15	223	Pg	Pg	22 42 56.2	+0.2
TOUF	Mont Tournerai	0.16	275	Pg	Pg	22 42 56.3	+0.2
MONE	Monesi	0.22	68	P	Pg	22 42 57.4	+0.3
MONE				S	Sg	22 43 00.8	+0.6
MONE	Monesi	0.22	68	P	Pg	22 42 57.4	+0.3
NEGI	Negi	0.23	133	P	Pg	22 42 57.4	+0.2
NEGI				S	Sg	22 43 00.6	+0.2
NEGI	Negi	0.23	133	P	Pg	22 42 57.4	+0.2
ENR	Entracque	0.23	350	P	Pg	22 42 57.7	+0.4
ENR				S	Sg	22 43 01.0	+0.4
ENR	Entracque	0.23	350	P	Pg	22 42 57.7	+0.4
MVIF	Mont Vial	0.26	246	Pg	Pg	22 42 58.1	+0.3
STV	Sta Anna Valdi	0.27	336	P	Pg	22 42 58.2	+0.2
STV				S	Sg	22 43 01.9	+0.1
STV	Sta Anna Valdi	0.27	336	P	Pg	22 42 58.2	+0.2
STV2	Anna di Valdie	0.27	336	P	Pg	22 42 58.1	+0.1
STV2				S	Sg	22 43 01.9	+0.1
STV2	Anna di Valdie	0.27	336	P	Pg	22 42 58.1	+0.1
REVF	Revere	0.27	197	Pg	Pg	22 42 59.0	+0.9
REVF				Sg	Sg	22 43 03.4	+1.5
IMI	Imperia	0.31	107	P	Pg	22 42 59.3	+0.4
IMI				S	Sg	22 43 03.6	+0.4
IMI	Imperia	0.31	107	P	Pg	22 42 59.3	+0.4
ROB	Roburent	0.41	44	P	Pg	22 43 01.2	+0.5
ROB				S	Sg	22 43 06.7	+0.4
ROB	Roburent	0.41	44	P	Pg	22 43 01.2	+0.4
ROB				S	Sg	22 43 06.7	+0.3
RORO		0.44	75	P	Pg	22 43 01.3	-0.1
RORO				S	Sg	22 43 07.7	+0.3
RORO		0.44	75	P	Pg	22 43 01.3	-0.1
RORO				S	Sg	22 43 07.7	+0.3
CALN	Calern	0.49	240	Pg	Pg	22 43 02.8	+0.5
CALN				Sg	Sg	22 43 11.0	+2.0
FIN	Finale Ligure	0.57	68	P	Pg	22 43 03.9	0.0
FIN				S	Sg	22 43 11.5	0.0
FIN	Finale Ligure	0.57	68	S	Sg	22 43 11.5	0.0
FIN	Finale Ligure	0.57	68	P	Pg	22 43 03.9	0.0
PZZ	Prazzo	0.57	332	P	Pg	22 43 03.6	-0.3
PZZ				S	Sg	22 43 11.2	-0.4
PZZ	Prazzo	0.57	332	P	Pg	22 43 03.6	-0.3
PZZ				S	Sg	22 43 11.2	-0.5
FRF	La Foret Royal	0.74	234	ePg	Pg	22 43 07.0	-0.3
FRF				eSg	Sg	22 43 17.1	-0.2
	23nm,0.2s						
BHB	Bricherasio	0.85	350	P	Pb	22 43 08.0	-0.9
BHB				S	Sb	22 43 19.3	-0.9
BHB	Bricherasio	0.85	350	S	Sb	22 43 19.3	-0.8
BHB	Bricherasio	0.85	350	P	Pb	22 43 08.0	-0.9
MBDF	Montbardon	0.89	325	ePg	Pg	22 43 09.6	-0.5
MBDF				eSg	Sg	22 43 21.5	-0.5
	18nm,0.4s						
PCP	Pian Castagno	0.94	54	P	Pb	22 43 10.4	+0.1
PCP				S	Sb	22 43 22.1	-0.5
PCP	Pian Castagno	0.94	54	P	Pb	22 43 10.4	+0.1
PCP				S	Sb	22 43 22.1	-0.5
LMR	La Mourre	0.97	227	ePn	Pn	22 43 11.1	-0.8
LMR				eSg	Sg	22 43 23.5	-1.2
	28nm,0.3s						
RRL	Cesana Torines	1.04	332	P	Pb	22 43 12.0	-0.1
RRL				S	Sb	22 43 25.5	-0.2
RRL	Cesana Torines	1.04	332	P	Pb	22 43 12.0	-0.1
RRL				S	Sb	22 43 25.5	-0.1
FENE	Fenestrelle	1.07	344	P	Pb	22 43 12.2	-0.4
FENE				S	Sb	22 43 25.7	-0.8
FENE	Fenestrelle	1.07	344	S	Sb	22 43 25.7	-0.7
FENE	Fenestrelle	1.07	344	P	Pb	22 43 12.2	-0.4
RSP	Reno Superiore	1.16	352	P	Pb	22 43 12.9	-1.2
RSP				S	Sb	22 43 27.9	-1.2
RSP	Reno Superiore	1.16	352	P	Pb	22 43 12.9	-1.2
RSP				S	Sb	22 43 27.9	-1.2
SMRF	Simiane la Rot	1.37	270	ePg	Pg	22 43 19.2	-0.6
SMRF				eSg	Sg	22 43 38.8	+0.7
	12nm,0.2s						
ORIF	Oris-en-Rattie	1.47	309	ePn	Pn	22 43 19.8	+0.8
ORIF				eSn	Sn	22 43 40.2	+1.8
	11nm,0.4s						
LSD	Ceresole Reale	1.48	351	P	Pn	22 43 19.4	+0.2
TRAV		1.52	7	P	Pn	22 43 19.2	-0.7
TRAV		1.52	7	P	Pn	22 43 19.2	-0.7
LPG	La Plagne	1.58	341	ePn	Pn	22 43 21.4	+0.7
LPG				eSg	Sg	22 43 47.0	+1.8
	4.6nm,0.4s						
LPL	La Plagne	1.61	341	ePn	Pn	22 43 21.8	+0.8
LPL				eSg	Sg	22 43 47.5	+1.6
	4.5nm,0.3s						
PGF	Pioggiola	1.83	142	ePn	Pn	22 43 22.5	-1.7
PGF				eSn	Sn	22 43 44.6	-3.0
VIVF	Saint-Julien-l	2.18	294	ePn	Pn	22 43 30.2	+0.9
VIVF				eSn	Sn	22 43 56.6	0.0
	4.5nm,0.2s						
LASF	Ste Croix	2.61	273	ePn	Pn	22 43 35.1	-0.3
LASF				eSn	Sn	22 44 06.7	-0.8
	1.6nm,0.2s						
MTLF	Montolieu	3.87	262	ePn	Pn	22 43 52.1	-1.2
MTLF				eSn	Sn	22 44 36.3	-3.1
	0.9nm,0.4s						
CAF	Calviac	3.98	285	ePn	Pn	22 43 54.1	-0.8

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*CASC **02** 22:58:41.3±2.0, 13.24N×89.97W, h47^{km}±33^{km}, MD4.0, ML4.2, mb4.2(NEIC)*
*NEIC **02** 22:58:51.0±1.7, 13.74N×89.51W, h129^{km}±17^{km}, mb4.2/2, Error ellipse: s-maj=32.4km s-min=12.9km az=62.0*
*IDC **02** 22:58:52.9±2.8, 13.88N×89.51W, h137^{km}±25^{km}, mb3.5/3, mb1 3.7/4, mb1mx3.3/19, MS2.6/1, Ms1 2.6/1, ms1mx2.4/19, Error ellipse: s-maj=40.2km s-min=24.6km az=56.0*

ISC 02 22:58:40.6±0.8**, 13.16N**±0.07×**89.99W**±0.04**, h53**^{km}±11^{km}**, n33, σ0.65**/53**, mb4.2**/3**, 4C-9D, El Salvador**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CUSS	Cusmapa	0.75	3	eP	P	22 58 54.7	-0.4
CUSS				eS	S	22 59 05.8	-0.1
SBLS	San Blas	0.76	28⇓	eP	P	22 58 55.2	-0.1
SNJE	San Jose	0.80	28⇓	eP	P	22 58 55.6	-0.1
SNJE				eS	S	22 59 10.6	+3.6
RTR	El Retiro	0.80	24⇓	iP	P	22 58 55.9	0.0

RTR eS S 22 59 17.6 +10
BOQS Boqueron 0.89 50⇓eP **P 22 58 57.2 +0.1**
BOQS eS **S 22 59 09.3 -0.1**
SNET Serv Nac Est T 0.90 54 eP **P 22 58 57.3 +0.1**
SNET eP 22 58 57.8
SNET eS **S 22 59 08.8 -0.8**
SNET eS **S 22 59 09.8 +0.2**
SNET i 22 59 12.1
comp=Z,4µm,0.3s
RBDL Robledal 0.99 17 eP **P 22 58 59.0 +0.5**
LFRS El Faro 1.01 63 eP **P 22 58 58.5 -0.3**
LFRS eS **S 22 59 11.5 -0.7**
LFU La Fuente 1.03 55 eP **P 22 58 59.1 0.0**
LBRS Las Brisas 1.08 58⇑eP **P 22 59 00.0 +0.3**
LBRS eS **S 22 59 13.3 -0.7**
LCBS La Ceiba 1.10 63⇓eP **P 22 58 59.8 -0.2**
LCBS eS **S 22 59 13.9 -0.5**
IXG Ixpaco 1.11 336⇓eP **P 22 58 59.4 -0.7**
IXG eS **S 22 59 14.1 -0.4**
IXG AML AML 22 59 17.4
comp=E,15µm,0.3s
SNVI San Vicente 1.20 68 eP **P 22 59 01.6 +0.3**
SNVI eS **S 22 59 17.3 +0.4**
PCG Pacaya 1.37 334 eP **P 22 59 04.7 +0.9**
PCG eS **S 22 59 19.9 -1.2**
MTO2 Montecristo 2 1.37 26⇑iP **P 22 59 03.8 -0.1**
MTO2 eS **S 22 59 21.4 +0.1**
NBG Las Nubes 1.46 346⇑eP **P 22 59 05.6 +0.4**
NBG eS **S 22 59 24.8 +1.4**
NBG AML AML 22 59 26.7
comp=E,8µm,0.5s
FUG Fuego 3 1.53 327⇑eP **P 22 59 05.5 -0.6**
FUG eS **S 22 59 23.3 -1.6**
VSM San Miguel 1.69 81⇓eP **P 22 59 08.7 +0.4**
VSM eS **S 22 59 30.2 +1.5**
BLLM Bellamira 1.73 80⇓eP **P 22 59 09.1 +0.3**
BLLM eS **S 22 59 29.1 -0.6**
CAHU Cacacuatique 1.83 70 eP **P 22 59 10.0 -0.2**
TP2 Tecpan 2 1.90 328⇓eP **P 22 59 11.8 +0.6**
TP2 eS **S 22 59 34.8 +0.8**
TP2 AML AML 22 59 40.3
comp=E,2µm,0.5s
JAT Jato 1.97 306 eP **P 22 59 12.6 +0.3**
JAT eS **S 22 59 36.5 +0.7**
JAT AML AML 22 59 43.0
comp=E,1µm,0.3s
CNCH Conchagua 2.10 87 eP **P 22 59 13.9 -0.2**
CNCH eS **S 22 59 39.5 +0.5**
JTS JuntasAbangare 5.69 120 P **P 23 00 15.6 +11**
comp=E,2.7nm,0.3s,baz=333,slow=20,SNR=6.2
JTS S **S 23 01 09.8 +0.3**
comp=E,2.7nm,0.3s,baz=346,slow=19,SNR=2.1
JTS LR LR 23 02 46.5
comp=E,61nm,21.7s,baz=286,slow=41
JTS JuntasAbangare 5.69 120 eP **P 23 00 12.4 +7.8**
comp=E,14nm,0.7s
JTS S **S 23 01 09.8 +0.3**
TEIG Tepich 7.21 13 P **P 23 00 25.5 -0.4**
comp=E,0.0nm,0.3s,baz=3.2,slow=24,SNR=10
TXAR Lajitas Array 20.50 324 P **P 23 03 16.7 -0.1**
comp=E,0.6nm,0.5s,baz=139,slow=9.6,SNR=4.3
TXAR Lajitas Array 20.50 324 P **P 23 03 16.7 -0.1**
SAML Samuel 34.51 128 P **P 23 05 24.5 -1.5**
comp=E,2.5nm,0.9s,mb4.1
NVAR Mina Array Bea 35.56 320 P **P 23 05 35.2 +0.5**
comp=E,1.0nm,0.8s,mb3.8,baz=139,slow=8.3,SNR=8.3
NVAR PcP PcP 23 08 02.7 -0.4
comp=E,0.6nm,0.8s,baz=143,slow=5.3,SNR=4.5
SCHQ Schefferville 45.36 19 P **P 23 06 50.6 -4.7**
comp=E,4.6nm,0.4s,mb4.6,baz=219,slow=11,SNR=14
WRA Warramunga Arr 137.08 255 PKP PKPdf 23 18 01.5 +2.8
comp=E,0.3nm,0.4s,baz=85,slow=2.2,SNR=5.2
CMAR Chiang Mai Arr 147.37 344 PKPbc PKPdf 23 18 18.9 +2.1
comp=E,0.8nm,0.7s,baz=347,slow=3.7,SNR=5.3

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*NIED **02** 23:00:00, 33.40N×136.80E, h5km, Mw4.4 Best double couple: M₀3.98×10¹⁵ NP1:φs27°, δ63°, λ-69°. NP2:φs166°, δ34°, λ-125°.*
*IDC **02** 23:00:19.8±0.5, 33.45N×136.89E, mb4.3/17, mb1 4.4/19, mb1mx4.3/27, ML3.8/3, MS3.6/7, Ms1 3.6/7, ms1mx3.2/31, Error ellipse: s-maj=17.5km s-min=12.5km az=64.0*
*NEIC **02** 23:00:20.6±2.7, 33.43N×136.77E, h6km±16km, mb4.6/27, MW4.4(NIED), Error ellipse: s-maj=7.0km s-min=5.1km az=94.0*
NEIC Recorded [1 JMA] in Mie and Wakayama Prefectures.
*BJI **02** 23:00:20.6, 33.40N×136.80E, h6km, mB4.9, mb4.6, Ms4.3, Msz4.0*
*JMA **02** 23:00:21.2, 33.39N×136.84E, h41km±2km, M4.2*
JMA Felt I J1.
*MOS **02** 23:00:24.0±1.2, 33.46N×136.78E, h39km, mb4.6/14, Error ellipse: s-maj=23.9km s-min=12.4km az=111.7*
ISC 02 23:00:20.4±0.7, **33.38N**±0.03×**136.82E**±0.03, **h17**km±4km, **n106, σ0.98**/115, **mb4.5**/46, **MS3.8**/7, **2C-10D, Near south coast of western Honshu**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
TK01 Tokai 1 0.74 59 P **Pb 23 00 35.0 +0.5**
TK01 S **Sb 23 00 45.5 +1.4**
JWZ Kozaga 0.94 279 ⇓P **Pb 23 00 38.3 +0.5**
JWZ S **Sb 23 00 50.5 +0.8**
TK02 Tokai 2 0.96 54 ⇑P **Pb 23 00 38.1 -0.1**
TK02 S **Sb 23 00 51.1 +0.7**
JIE Ise 1.01 355 ⇓P **Pb 23 00 39.4 +0.4**
JIE S **Sb 23 00 52.5 +0.7**
TK03 Tokai 3 1.23 50 S **Sb 23 00 57.8 -0.4**
JAA Atsumi 1.27 12 ⇓P **Pn 23 00 43.0 -0.5**
JAA S **Sb 23 00 58.6 -0.8**
JWM Minabe 1.31 291 P **Pn 23 00 43.7 -0.3**
JWY Kouya 1.32 309 P **Pn 23 00 44.2 0.0**
JWY S **Sb 23 01 00.4 -0.4**
TK04 Tokai 4 1.33 41 P **Pn 23 00 43.6 -0.7**
TK04 S **Sb 23 01 00.8 -0.2**
TSUJ Tsu 2 1.36 346 ⇓P **Pn 23 00 44.4 -0.4**
TSUJ S **Sb 23 01 01.1 -1.0**
JHE Heguri 1.58 324 ⇓P **Pn 23 00 47.6 -0.3**
JHE S **Sn 23 01 06.9 -1.1**
JAJ2 Tsuna 1.91 303 P **Pn 23 00 53.1 +0.4**
JAJ2 S **Sn 23 01 16.5 0.0**
JHJ Hachijo jima 2 2.50 95 Pn **Pn 23 00 59.6 -1.4**
23nm,0.3s,baz=224,slow=20,SNR=5.3
JHJ Sn **Sn 23 01 30.0 -1.3**
40nm,0.3s,baz=65,slow=21,SNR=5.4
JHJ LR LR 23 01 33.1
comp=Z,418nm,18.3s,baz=341,slow=30
MAJO Matsushiro 3.35 19 ePn **Pn 23 01 13.6 +0.4**
MAJO ePg **Pn 23 01 24.2 +11**
MAT Matsushiro 3.35 19 P **Pn 23 01 13.4 +0.2**
MAT S **Sn 23 01 53.2 +0.2**
MAT Matsushiro 3.35 19 P **Pn 23 01 13.0 -0.2**
MAT eS **Sn 23 01 53.0 0.0**
JNU Nakatsue 4.99 269 Pn **Pn 23 01 35.5 -0.9**
4.4nm,0.3s,baz=112,slow=0.6,SNR=2.8
CBIJ Chichi jima 7.80 142 Pn **Pn 23 02 15.1 -0.8**
4.3nm,0.3s,baz=282,slow=18,SNR=2.8
KS15 Wonju Array Si 8.34 302 ePn **P 23 02 20.2 -3.3**
ASAJ Asahikawa 11.62 21 LR LR 23 08 05.3
comp=Z,122nm,19.2s,baz=163,slow=40
NJ2 Nanjing 15.19 270 eP **P 23 03 54.0 -1.8**
NJ2 AP 23 03 57.2
NJ2 PP PP 23 04 05.5 -2.5
NJ2 S **S 23 06 43.0 -1.3**
NJ2 XS 23 06 50.0
NJ2 AMB AMB
comp=Z,10.0nm,0.6s
NJ2 AMB AMB
comp=Z,600nm,4.2s
NJ2 LR LR
comp=N,750nm,23.0s
NJ2 LR LR
comp=E,1µm,12.7s
NJ2 LR LR
comp=Z,870nm,16.6s
BJT Baijiatuau 17.82 298 eP **P 23 04 32.2 +3.0**
comp=Z,15nm,0.8s
BJT e 23 04 50.2
BJI Beijing 17.82 298 P **P 23 04 31.6 +2.4**
BJI AMB AMB
comp=Z,18nm,0.7s
BJI AMB AMB
comp=Z,213nm,4.1s
BJI LR LR
comp=N,338nm,11.8s
BJI LR LR
comp=E,694nm,10.0s
BJI LR LR
comp=Z,235nm,17.2s
WHN Wuhan 19.27 268 eP **P 23 04 48.1 +1.2**
HIA Hailar 20.33 326 eP **P 23 04 56.8 -1.6**
comp=Z,7.4nm,0.8s
XAN Xi'an 23.19 279 P **P 23 05 29.3 +2.0**
XAN AP 23 05 35.9
XAN AMB AMB
comp=Z,9.0nm,0.9s,mb4.2
ENH Enshi 23.41 270 eP **P 23 05 30.4 +1.1**
comp=Z,39nm,1.0s,mb4.8
TGY Tagaytay City 24.02 221 P **P 23 05 38.0 +2.5**
comp=Z,96nm,0.3s,mb5.7
TGY Tagaytay City 24.02 221 P **P 23 05 38.0 +2.6**
TGY pmax pmax
comp=Z,96nm,0.3s
GYA Guiyang 26.97 263 P **P 23 06 02.4 -0.7**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.4
SONM Songino Array 27.03 311 P **P 23 06 03.2 -0.3**
comp=Z,2.0nm,0.8s,mb3.7,baz=123,slow=8.1,SNR=14
SONM PcP PcP 23 09 25.2 +0.1
comp=Z,1.0nm,0.7s,baz=108,slow=1.9,SNR=6.6
LZH Lanzhou 27.16 285 eP **P 23 06 05.0 +0.2**
LZH AP pP 23 06 08.6 -1.1
LZH AMB AMB
comp=Z,10.0nm,1.0s,mb4.3
CD2 Chengdu 28.04 274 P **P 23 06 12.4 -0.4**
CMAR Chiang Mai Arr 36.95 256 P **P 23 07 31.8 +1.2**
comp=Z,1.7nm,0.6s,mb4.0,baz=50,slow=7.6,SNR=14
CMAR PcP PcP 23 09 53.0 +0.8
comp=Z,0.9nm,0.9s,baz=32,slow=1.5,SNR=4.5
CMAR LR LR 23 23 53.2
comp=Z,64nm,18.3s,MS3.5,baz=70,slow=38
CMAR Chiang Mai Arr 36.95 256 P **P 23 07 31.8 +1.3**
CMAR 23 09 53.0
CMAR pmax pmax
comp=Z,2.0nm,0.6s
CMAR pmax pmax
comp=Z,1.0nm,0.9s
CMAR MLR MLR
comp=Z,64nm,18.3s
TIXI Tiksi 38.56 356 eP **P 23 07 43.6 0.0**
TIXI pmax pmax
comp=Z,10.0nm,1.1s,mb4.5
LSA Lhasa 38.86 277 P **P 23 07 48.7 +2.1**
LSA Lhasa 38.86 277 P **P 23 07 43.4 -3.2**
comp=Z,4.3nm,0.9s,mb4.2
WMQ Urumqi 39.27 300 eP **P 23 07 50.0 +0.2**
WMQ PP PP 23 09 24.0 +0.1
WMQ S **S 23 13 51.0 +1.6**
WMQ SS SS 23 16 35.0 -0.2
WMQ SCS ScS 23 17 58.0 +2.0
WMQ AMB AMB
comp=Z,8.0nm,0.7s,mb4.6
WMQ LR LR
comp=N,275nm,15.0s,MS4.2
WMQ LR LR
comp=E,76nm,14.0s,MS4.2
WMQ LR LR
comp=Z,79nm,15.0s,MS3.7
ZAL Zalesovo 41.75 316 P **P 23 08 10.6 +0.6**
comp=Z,0.6nm,0.3s,mb3.7,baz=330,slow=9.3,SNR=4.0
ZAL PcP PcP 23 10 06.8 -0.2
comp=Z,1.3nm,0.8s,baz=238,slow=4.2,SNR=6.9
ZAL LR LR 23 26 13.1
comp=Z,110nm,18.5s,MS3.8,baz=7.6,slow=37
ZAL Zalesovo 41.75 316 P **P 23 08 10.6 +0.6**
ZAL 23 10 06.8
ZAL pmax pmax
comp=Z,1.0nm,0.3s
ZAL pmax pmax
comp=Z,1.0nm,0.8s
ZAL MLR MLR
comp=Z,111nm,18.5s
NVS Novosibirsk 42.77 317 eP **P 23 08 17.8 -0.6**
MKAR Makanchi Array 42.99 305 P **P 23 08 20.8 +0.6**
comp=Z,7.0nm,0.9s,mb4.4,baz=91,slow=10,SNR=34
MKAR LR LR 23 27 21.6
comp=Z,128nm,18.6s,MS3.9,baz=91,slow=38
MKAR Makanchi Array 42.99 305 P **P 23 08 20.8 +0.5**
MKAR pmax pmax
comp=Z,7.0nm,0.9s
MKAR MLR MLR
comp=Z,128nm,18.6s
KURK Kurchatov 45.33 311 eP **P 23 08 38.6 -0.5**
comp=Z,6.0nm,0.9s,mb4.4
KAKA Kakadu 46.02 186⇓iP **P 23 08 49.8 +4.8**
comp=Z,6.0nm,0.6s,mb4.7
AAK Ala-Archa 48.98 300 eP **P 23 09 07.0 -0.8**
comp=Z,4.2nm,1.0s,mb4.4
BRVK Borovoye 50.38 314 eP **P 23 09 16.8 -1.6**
comp=Z,3.4nm,0.8s,mb4.4
ZRNK Zerenda 51.16 314 eP **P 23 09 23.8 -0.5**
comp=Z,7.4nm,1.0s,mb4.6
FITZ Fitzroy Crossi 52.30 193⇓iP **P 23 09 33.5 +0.1**
comp=Z,7.0nm,0.8s,mb4.6
WRAB Tennant Creek 53.07 183 P **P 23 09 39.0 -0.2**
comp=Z,115nm,1.0s,mb5.8,SNR=12
WRAB Tennant Creek 53.07 183 eP **P 23 09 38.6 -0.6**
comp=Z,39nm,1.1s,mb5.2
WB2 Warramunga Arr 53.08 183⇓iP **P 23 09 38.8 -0.5**
WRA Warramunga Arr 53.08 183 P **P 23 09 38.8 -0.4**
comp=Z,15nm,0.8s,mb5.0,baz=1.2,slow=7.7,SNR=103
WRA Warramunga Arr 53.08 183 P **P 23 09 38.8 -0.5**
WRA pmax pmax
comp=Z,15nm,0.8s
CTA Charters Tower 53.93 169⇑iP **P 23 09 45.5 +0.1**
comp=Z,4.0nm,0.8s,mb4.4
CTA Charters Tower 53.93 169 P **P 23 09 45.4 -0.1**
comp=Z,3.7nm,0.8s,mb4.3,baz=332,slow=6.7,SNR=12
CTA Charters Tower 53.93 169 P **P 23 09 45.4 0.0**
CTA pmax pmax
comp=Z,4.0nm,0.8s
CTAO Charters Tower 53.93 169 eP **P 23 09 45.2 -0.3**
comp=Z,7.0nm,0.9s,mb4.6
ARU Arti 56.64 319 eP **P 23 10 03.6 -1.0**
ARU Arti 56.64 319 eP **P 23 10 03.8 -0.9**
comp=Z,15nm,1.1s,mb4.9
MBWA Marble Bar 56.64 199 eP **P 23 10 04.0 -1.1**
comp=Z,4.2nm,0.6s,mb4.7
ASAR Alice Springs 56.80 183 P **P 23 10 05.9 -0.4**
comp=Z,5.4nm,0.6s,mb4.7,baz=14,slow=11,SNR=79
ASPA Alice Springs 56.80 183 eP **P 23 10 05.9 -0.4**
DLBC Dease Lake 63.80 36 eP **P 23 10 46.7 -6.7**
FORT Forrest 64.35 188⇓iP **P 23 10 57.3 -0.3**
comp=Z,44nm,0.8s,mb5.5
STKA Stephens Creek 65.07 176⇓iP **P 23 11 02.1 -0.1**
comp=Z,3.8nm,1.0s,mb4.4
STKA Stephens Creek 65.07 176 P **P 23 11 02.2 -0.1**
comp=Z,4.3nm,0.8s,mb4.5,baz=331,slow=8.3,SNR=8.4
ARCES ARCESS Array B 66.06 339 P **P 23 11 08.1 +0.1**
comp=Z,2.3nm,0.6s,mb4.4,baz=64,slow=8.8,SNR=14
ARCES ARCESS Array B 66.06 339 P **P 23 11 08.1 +0.1**
ARCES pmax pmax
comp=Z,2.0nm,0.6s
RES Resolute Bay 67.03 13 eP **P 23 11 14.1 0.0**
comp=Z,5.6nm,0.8s,mb4.7
NWAO Narrogin (SRO) 68.49 198 eP **P 23 11 23.7 -0.2**
OBN Obninsk 68.73 323 eP **P 23 11 24.6 -0.4**
OBN pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
OBN MLR MLR
comp=Z,100nm,12.0s,MS4.3
OBN Obninsk 68.73 323 eP **P 23 11 23.8 -1.2**
comp=Z,14nm,1.1s,mb4.8
KAF Kangasniemi 69.79 332 ep **P 23 11 29.6 -1.8**
comp=Z,1.3nm,0.6s,mb4.0
KAF Kangasniemi 69.79 332 eP **P 23 11 29.6 -1.8**
KAF pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
FINES FINESS Array B 70.25 331 P **P 23 11 33.7 -0.5**
comp=Z,3.1nm,0.9s,mb4.2,baz=54,slow=6.3,SNR=17
FINES FINESS Array B 70.25 331 P **P 23 11 33.7 -0.5**
FINES pmax pmax
comp=Z,3.0nm,0.9s
KIV Kislovodsk 70.41 310 eP **P 23 11 33.6 -1.9**
comp=Z,29nm,1.1s,mb5.1
SUMG Summit 74.28 359 eP **P 23 11 59.7 +1.9**
comp=Z,18nm,1.2s,mb4.9
AKASG Malin Array Be 74.82 321 P **P 23 12 01.2 -0.1**
comp=Z,3.3nm,0.7s,mb4.4,baz=52,slow=6.0,SNR=15
AKASG Malin Array Be 74.82 321 P **P 23 12 01.2 -0.1**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
YBH Yreka Blue Hor 75.56 49 P **P 23 12 07.5 +1.7**
comp=Z,0.4nm,0.3s,mb3.8,baz=270,slow=8.1,SNR=2.6
NOA NORSAR Array B 76.03 336 P **P 23 12 08.0 -0.1**
comp=Z,3.2nm,1.2s,mb4.1,baz=52,slow=6.3,SNR=3.2
NOA LR LR 23 49 22.8
comp=Z,57nm,19.3s,MS3.9,baz=340,slow=39
NOA NORSAR Array B 76.03 336 P **P 23 12 08.0 0.0**
NOA pmax pmax
comp=Z,3.0nm,1.2s
NOA MLR MLR
comp=Z,57nm,19.3s
BRTR Keskin Array B 78.38 310 P **P 23 12 22.6 +1.1**
comp=Z,3.1nm,0.9s,mb4.2,baz=108,slow=3.9,SNR=12
BRTR LR LR 23 47 01.6
comp=Z,28nm,19.8s,MS3.6,baz=5.0,slow=36
BRTR Keskin Array B 78.38 310 P **P 23 12 22.6 +1.1**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BRTR MLR MLR
comp=Z,28nm,19.8s
KWP Kalwaria 78.83 323 eP **P 23 12 24.8 +1.1**
comp=Z,25nm,1.2s,mb5.0
CMB Columbia Colle 79.06 52 P **P 23 12 25.8 +0.6**
comp=Z,2.4nm,1.0s,mb4.1
NVAR Mina Array Bea 80.19 50 P **P 23 12 31.6 +0.2**
comp=Z,0.5nm,0.6s,mb3.6,baz=300,slow=3.4,SNR=5.5
TPH Tonopah 81.09 50 eP **P 23 12 37.7 +1.6**
comp=Z,3.6nm,0.9s,mb4.3
CLL Collm 82.30 328 P **P 23 12 43.0 +0.9**
HWUT Hardware Ranch 82.46 45 P **P 23 12 42.7 -0.4**
comp=Z,3.9nm,1.2s,mb4.2
PDAR Pinedale Array 82.90 43 P **P 23 12 46.9 +1.5**
comp=Z,1.0nm,1.0s,mb3.8,baz=297,slow=6.6,SNR=4.4
KHC Kasperske Hory 83.59 326 eP **P 23 12 49.5 +0.8**
GERES GERESS Array B 83.73 326 P **P 23 12 50.4 +0.9**
comp=Z,1.4nm,0.9s,mb4.1,baz=56,slow=4.8,SNR=14
GERES GERESS Array B 83.73 326 P **P 23 12 50.4 +0.9**
GERES pmax pmax
comp=Z,1.0nm,0.9s
GRA1 Grafenberg Arr 84.25 328 eP **P 23 12 53.6 +1.5**
comp=Z,6.0nm,1.2s,mb4.6
GRF Grafenberg Arr 84.25 328 eP **P 23 12 53.6 +1.5**
GRF pmax pmax
comp=Z,6.0nm,1.2s,mb4.6
ESK Eskdalemuir 85.25 338 P **P 23 12 56.2 -0.7**
comp=Z,13nm,1.0s,mb5.0
DBIC Dimbokro 126.08 310 PKP PKPdf 23 19 24.2 -2.2
comp=Z,2.9nm,0.8s,baz=185,slow=7.3,SNR=2.9
DBIC Dimbokro 126.08 310 PKIKP PKPdf 23 19 24.2 -2.2
DBIC pmax pmax
comp=Z,3.0nm,0.8s
DBIC Dimbokro 126.08 310 PKP PKPdf 23 19 24.2 -2.2
LPAZ La Paz 151.79 59 PKPbc PKPdf 23 20 17.6 +5.6
comp=Z,0.9nm,0.8s,baz=259,slow=5.2,SNR=3.7
LPAZ La Paz 151.79 59 PKIKP PKPdf 23 20 17.6 +5.6
LPAZ pmax pmax
comp=Z,1.0nm,0.8s
USHA Ushuaia 152.19 148 PKPbc PKPdf 23 20 17.9 +6.5
comp=Z,15nm,1.0s,baz=297,slow=2.3,SNR=4.3

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*IDC **02** 23:18:10.7±1.4, 57.22N×145.14W, mb3.6/6, mb1 3.7/9, mb1mx3.6/23, ML3.5/3, MS3.1/5, Ms1 3.1/5, ms1mx2.8/23, Error ellipse: s-maj=37.1km s-min=16.3km az=41.0*
*NEIC **02** 23:18:12.9, 57.04N×145.81W, h31km, ML3.8(AEIC), After AEIC.*
ISC 02 23:18:10.8±1.3, **57.10N**±0.04×**145.86W**±0.05, **h32**km±12km, **n67, σ0.77**/76, **mb3.5**/6, **MS3.5**/1, **Gulf of Alaska**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MID Middleton Isla 2.35 354 P **Pn 23 18 49.3 +1.1**
CVA Cordova 3.46 1 P **Pn 23 19 04.8 +0.8**
EYAK Cordova Ski Ar 3.46 1 P **Pn 23 19 04.9 +0.9**
EYAK S **Sn 23 19 44.5 +0.2**
CYK Cape Yakataga 3.48 29 P **Pn 23 19 04.8 +0.6**
SEW Seward 3.55 330 P **Pn 23 19 05.4 +0.2**
SEW S **Sn 23 19 46.0 -0.6**
FID Port Fidalgo 3.68 355 P **Pn 23 19 07.4 +0.4**
KDAK Kodiak Island 3.70 284 Pn **Pn 23 19 06.0 -1.3**
606nm,0.3s
KDAK Kodiak Island 3.70 284 P **Pn 23 19 07.2 -0.1**
KDAK S **Sn 23 19 50.7 +0.4**
WAX Waxell Ridge 3.71 24 P **Pn 23 19 08.0 +0.6**
WAX S **Sn 23 19 48.7 -1.9**
CNPM China Poot 3.74 313 P **Pn 23 19 07.5 -0.3**
CNPM S **Sn 23 19 51.5 +0.2**
BRLK Bradley Lake 3.76 317 P **Pn 23 19 07.9 -0.2**
GLI Glacier Island 3.85 351 P **Pn 23 19 11.1 +1.6**
GLI S **Sn 23 19 54.8 +0.7**
MPA Moose Pass 3.86 333 P **Pn 23 19 09.9 +0.4**
MPA S **Sn 23 19 54.4 +0.1**
YAH Yahtse 3.92 32 P **Pn 23 19 10.9 +0.6**
BMRM Bremner River 3.94 9 P **Pn 23 19 10.9 +0.2**
PWL Port Wells 3.98 342 P **Pn 23 19 11.6 +0.2**
PWL S **Sn 23 19 57.0 -0.6**
TGL Tana Glacier 3.99 22 P **Pn 23 19 12.1 +0.6**
DIV Divide 4.04 1 P **Pn 23 19 12.3 +0.1**
VLZ Valdez 4.05 357 P **Pn 23 19 12.7 +0.3**
SLKM Skilak Lake 4.10 328 P **Pn 23 19 13.8 +0.7**
SLKM S **Sn 23 20 00.1 -0.5**
PCA Pinnacle 4.20 42 P **Pn 23 19 15.1 +0.7**
CFI College Fiord 4.21 347 P **Pn 23 19 14.9 +0.3**
PNL Peninsula 4.27 50 P **Pn 23 19 14.7 -0.8**
BALM Baldy 4.35 23 P **Pn 23 19 16.7 +0.2**
BALM S **Sn 23 20 05.5 -1.2**
KLU Klutina 4.41 360 P **Pn 23 19 17.8 +0.4**
KLU S **Sn 23 20 08.0 -0.3**
RC01 Rabbit Creek A 4.47 335 P **Pn 23 19 18.6 +0.3**
GLB Gilahina Butte 4.48 13 P **Pn 23 19 18.5 0.0**
KNK Knik Glacier 4.53 344 P **Pn 23 19 19.9 +0.8**
CTGM Chitina Glacie 4.53 29 P **Pn 23 19 19.2 +0.1**
ILIM Iliamna 4.77 312 P **Pn 23 19 21.6 -0.8**
IVS Iliamna South 4.78 311 P **Pn 23 19 22.1 -0.5**
PMR Palmer 4.81 341 eP **Pn 23 19 21.8 -1.3**
SCM Sheep Creek Mo 4.81 352 P **Pn 23 19 23.9 +0.9**
SML Sawmill 4.89 346 eP **Pn 23 19 25.1 +0.9**
RSO Redoubt South 4.92 316 eP **Pn 23 19 23.8 -0.8**
KAWH Katmai 4.96 289 P **Pn 23 19 25.0 -0.2**
TZL Tazlina 4.97 2 P **Pn 23 19 25.4 +0.1**
DFR Drift River 4.98 318 P **Pn 23 19 25.5 0.0**
KABR Katmai Barrier 5.00 286 P **Pn 23 19 25.5 -0.3**
NCT North Crescent 5.05 316 P **Pn 23 19 26.7 +0.2**
KAIC Katmai Ikaglui 5.11 290 P **Pn 23 19 26.6 -0.6**
CAHL Cahill 5.17 285 P **Pn 23 19 27.5 -0.6**
BKG Blockade Glaci 5.17 323 P **Pn 23 19 27.9 -0.3**
SPU Mount Spurr 5.19 325 P **Pn 23 19 28.2 -0.2**
CKL Chakachamna La 5.29 324 P **Pn 23 19 30.2 +0.4**
KJL Kejulik 5.31 284 P **Pn 23 19 30.0 -0.2**
BESE Bessie Mountai 6.07 71 P **Pn 23 19 38.6 -2.1**
BCA3 Beaver Creek A 6.33 17 P **Pn 23 19 44.0 -0.5**
WHY Whitehorse 6.72 53 P **Pn 23 19 48.8 -1.1**
TRF Thorofare Moun 6.74 343 P **Pn 23 19 50.5 +0.2**
MCK McKinley 6.83 348 eP **Pn 23 19 51.9 +0.4**
KTH Kantishna Hill 6.95 341 P **Pn 23 19 53.2 0.0**
ILAR Eielson Array 7.72 357 Pn **Pn 23 20 01.4 -2.5**
0.2nm,0.3s,baz=179,slow=13,SNR=7.5
DLBC Dease Lake 8.57 74 Pn **P 23 20 10.9 -4.9**
0.4nm,0.3s,baz=271,slow=13,SNR=9.2
DLBC LR LR 23 23 04.6
comp=Z,85nm,18.5s,baz=273,slow=36
IM3 Indian Mountai 9.67 340 P **P 23 20 29.6 -1.2**
IMA Indian Mountai 9.73 341 eP **P 23 20 31.2 -0.5**
BBB Bella Bella 11.39 108 Pn **P 23 20 49.8 -4.5**
0.2nm,0.3s,baz=94,slow=5.3,SNR=3.3
BBB Sn **S 23 22 50.2 -11**
0.5nm,0.3s,baz=80,slow=10,SNR=8.6
BBB LR LR 23 24 29.6
comp=Z,71nm,19.5s,baz=137,slow=34
INK Inuvik 12.56 21 LR LR 23 25 49.5
comp=Z,64nm,20.6s,baz=12,slow=37
YKA Yellowknife Ar 16.51 58 LR LR 23 28 01.7
comp=Z,47nm,18.1s,baz=270,slow=37
YBH Yreka Blue Hor 21.36 126 P **P 23 22 56.1 -1.3**
0.5nm,0.4s,mb3.2,baz=15,slow=3.7,SNR=4.2
NVAR Mina Array Bea 26.01 124 P **P 23 23 43.2 +0.8**
0.4nm,0.8s,mb3.0,baz=311,slow=8.3,SNR=3.7
NVAR Mina Array Bea 26.01 124 P **P 23 23 43.2 +0.8**
PDAR Pinedale Array 27.03 106 P **P 23 23 52.6 +0.9**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	0.2nm,0.5s,mb2.9,baz=328,slow=8.5,SNR=2.3						
SCHQ	**Schefferville**	**41.97**	**58**	LR	LR	23 42 30.3	
	comp=Z,61nm,19.0s,MS3.5,baz=259,slow=35						
SONM	**Songino Array**	**59.53**	**312**	P	**P**	**23 28 17.2**	**+4.2**
	0.8nm,0.8s,mb3.8,baz=53,slow=6.2,SNR=7.0						
FINES	**FINESS Array B**	**61.63**	**4**	P	**P**	**23 28 28.3**	**+1.2**
	1.7nm,0.8s,mb4.3,slow=7.6,SNR=7.1						
AKASG	**Malin Array Be**	**72.49**	**3**	P	**P**	**23 29 36.9**	**+1.2**
	0.6nm,0.5s,mb3.8,baz=352,slow=5.1,SNR=4.2						

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*MAN **02** 23:23:11.8, 10.69N×125.67E, h31km, mb4.4, ML3.3, MS3.0*
*IDC **02** 23:23:17.7±16.0, 10.45N×125.26E, h135km±162km, mb3.4/6, mb1 3.5/6, mb1mx3.3/18, Error ellipse: s-maj=164.0km s-min=19.0km az=67.0*
ISC 02 23:23:10.1±0.7**, 10.66N**±0.04×**125.76E**±0.07**, h76**km±6km**, n20,** σ1s**20**/27**, mb3.8**/6**, 1C-1D, Leyte**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.91**	**197⇓**	eP	**P**	**23 23 27.9**	**-0.1**
SCPH				eS	**S**	**23 23 39.2**	**-2.3**
PLP	**Palo**	**0.92**	**303**	eP	**P**	**23 23 27.0**	**-1.1**
PLP				eS	**S**	**23 23 38.1**	**-3.6**
BESP	**Borongan**	**0.99**	**341**	eP	**P**	**23 23 28.7**	**-0.3**
BESP				eS	**S**	**23 23 41.9**	**-1.2**
MSLP	**Maasin**	**1.03**	**240**	eP	**P**	**23 23 29.9**	**+0.4**
MSLP				eS	**S**	**23 23 43.8**	**-0.2**
OCLP	**Ormoc**	**1.20**	**289**	eP	**P**	**23 23 31.7**	**+0.1**
BUTP	**Butuan**	**1.69**	**185**	eP	**P**	**23 23 39.9**	**+1.7**
LLP	**Lapu-Lapu**	**1.80**	**259**	eP	**P**	**23 23 39.8**	**+0.1**
LLP				eS	**S**	**23 24 00.4**	**-1.2**
TBP	**Tagbilaran**	**2.10**	**243**	eP	**P**	**23 23 44.9**	**+1.0**
TBP				eS	**S**	**23 24 08.8**	**-0.1**
CNP	**Catarman**	**2.13**	**330**	eP	**P**	**23 23 44.2**	**0.0**
CNP				eS	**S**	**23 24 12.1**	**+2.5**
BUKP	**Musuan**	**2.85**	**194**	eP	**P**	**23 23 56.6**	**+2.2**
RCP	**Roxas**	**3.09**	**287⇑**	eP	**P**	**23 23 58.4**	**+0.6**
GUIM	**Jordan**	**3.12**	**270**	eP	**P**	**23 23 58.2**	**+0.1**
PVCP	**Virac**	**3.31**	**332**	eP	**P**	**23 24 03.2**	**+2.3**
PAGZ	**Pagadian**	**3.65**	**220**	eP	**P**	**23 24 06.9**	**+1.4**
WRA	**Warramunga Arr**	**31.56**	**164**	P	**P**	**23 29 25.6**	**-2.0**
	0.4nm,0.7s,mb3.3,baz=344,slow=9.3,SNR=3.7						
ASAR	**Alice Springs**	**35.03**	**167**	P	**P**	**23 29 56.8**	**-0.7**
	0.3nm,0.3s,mb3.6,baz=347,slow=7.0,SNR=8.6						
SONM	**Songino Array**	**40.48**	**340**	P	**P**	**23 30 43.4**	**+0.5**
	2.1nm,1.4s,mb3.8,baz=124,slow=10,SNR=2.6						
STKA	**Stephens Creek**	**44.93**	**161**	P	**P**	**23 31 19.7**	**+0.4**
	0.5nm,0.3s,mb3.7,baz=180,slow=24,SNR=2.9						
MKAR	**Makanchi Array**	**51.42**	**323**	P	**P**	**23 32 08.1**	**-1.3**
	2.2nm,0.8s,mb4.3,baz=124,slow=8.4,SNR=16						
FINES	**FINESS Array B**	**85.31**	**332**	P	**P**	**23 35 38.5**	**-1.1**
	1.5nm,0.9s,mb3.9,baz=90,slow=5.6,SNR=3.8						

CASC 03 00:59:45.0±2.0**, 12.45N**×**90.42W, h24**km±26km**, MD3.8, ML3.5, 8C-8D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CUSS	**Cusmapa**	**1.53**	**18⇑**	eP	Pn	01 00 10.5	-0.6
CUSS				eS	Sn	01 00 31.1	+0.7
SBLS	**San Blas**	**1.59**	**29**	eP	Pn	01 00 11.9	-0.2
SBLS				eS	Sn	01 00 32.9	+0.9
SNJE	**San Jose**	**1.62**	**29⇓**	eP	Pn	01 00 12.5	0.0
SNJE				eS	Sn	01 00 33.6	+0.8
RTR	**El Retiro**	**1.63**	**28⇑**	eP	Pn	01 00 12.3	-0.4
RTR				eS	Sn	01 00 35.3	+2.3
SNET	**Serv Nac Est T**	**1.69**	**43**	eP	Pn	01 00 12.7	-0.8
SNET				eS	Sn	01 00 35.0	+0.4
BOQS	**Boqueron**	**1.70**	**41⇑**	eP	Pn	01 00 13.4	-0.2
BOQS				eS	Sn	01 00 36.1	+1.4
IXG	**Ixpaco**	**1.72**	**359⇓**	eP	Pn	01 00 12.6	-1.3
IXG				eS	Sn	01 00 31.9	-3.4
LFRS	**El Faro**	**1.77**	**48⇓**	eP	Pn	01 00 14.1	-0.5
LFRS				eS	Sn	01 00 36.9	+0.4
LFU	**La Fuente**	**1.82**	**44⇓**	eP	Pn	01 00 15.3	0.0
LFU				eS	Sn	01 00 37.3	-0.5
LCBS	**La Ceiba**	**1.85**	**49⇑**	eP	Pn	01 00 15.3	-0.5
LCBS				eS	Sn	01 00 38.1	-0.5
LBRS	**Las Brisas**	**1.86**	**46⇓**	eP	Pn	01 00 15.9	0.0
LBRS				eS	Sn	01 00 39.7	+0.9
SNVI	**San Vicente**	**1.93**	**53⇑**	eP	Pn	01 00 16.1	-0.9
SNVI				eS	Sn	01 00 41.4	+0.7
NBG	**Las Nubes**	**2.13**	**2⇑**	eP	Pn	01 00 20.7	+0.8
NBG				eS	Sn	01 00 47.5	+1.7
MTO2	**Montecristo 2**	**2.20**	**28⇑**	eP	Pn	01 00 20.6	-0.2
MTO2				eS	Sn	01 00 47.0	-0.5
JAT	**Jato**	**2.21**	**328**	eP	Pn	01 00 20.6	-0.3
JAT				eS	Sn	01 00 48.1	+0.4
JAT				AML	AML	01 00 54.6	
	comp=E,370nm,0.3s						
VSM	**San Miguel**	**2.31**	**65⇓**	eP	Pn	01 00 22.2	-0.2
VSM				eS	Sn	01 00 52.1	+1.8
BLLM	**Bellamira**	**2.35**	**65⇓**	eP	Pn	01 00 22.4	-0.5
BLLM				eS	Sn	01 00 49.2	-2.0
BLLM				eS	Sn	01 00 51.5	+0.3
TP2	**Tecpan 2**	**2.40**	**346⇑**	eP	Pn	01 00 23.0	-0.6
TP2				eS	Sn	01 00 51.9	-0.6
CAHU	**Cacacuatique**	**2.52**	**58⇓**	eP	Pn	01 00 25.2	-0.3
CAHU				eS	Sn	01 00 56.9	+1.2

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*ATH **03** 01:21:54.7, 35.24N×27.46E, h10km±3km, MD4.1/17, ML4.4*
*ISK **03** 01:21:55.1, 35.07N×27.36E, h60km, MD4.0*
*MOS **03** 01:21:57.6±2.2, 35.13N×27.24E, h32km, mb4.0/5, Error ellipse: s-maj=16.5km s-min=8.7km az=90.1*
*CSEM **03** 01:21:57.3±0.1, 35.22N×27.61E, h60km, mb3.8/29, Error ellipse: s-maj=1.9km s-min=1.1km az=17.0*
*NEIC **03** 01:21:58.9±0.3, 35.21N×27.51E, h40km±4km, mb3.9/30, MD4.1(ATH), Error ellipse: s-maj=6.5km s-min=3.2km az=202.0*
*IDC **03** 01:21:59.8±2.6, 35.21N×27.48E, h37km±21km, mb3.7/10, mb1 3.8/18, mb1mx3.8/26, ML3.7/7, MS3.1/1, Ms1 3.1/1, ms1mx2.2/24, Error ellipse: s-maj=29.1km s-min=13.8km az=178.0*
ISC 03 01:21:57.0±0.3**, 35.15N**±0.02×**27.51E**±0.02**, h45**km±4km**, n205,** σ1s**10**/224**, mb3.8**/28**, 1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**1.18**	**25**	ePB	**P**	**01 22 16.8**	**-0.4**
ARG				eSB	**S**	**01 22 32.3**	**-0.1**
NISR	**Nisiros**	**1.49**	**348**	ePB	**P**	**01 22 21.0**	**-0.8**
XRY	**Khrisi**	**1.51**	**260**	ePN	**P**	**01 22 21.5**	**-0.6**
NPS	**Neapolis**	**1.56**	**275**	ePG	**P**	**01 22 23.9**	**+1.2**
NPS				eSG	**S**	**01 22 47.7**	**+5.8**
DALT	**Dalyan (Mudla)**	**1.86**	**29**	iPN	**P**	**01 22 27.6**	**+0.6**
BDRM	**Kayabasi**	**1.91**	**358**	iP	**P**	**01 22 26.8**	**-1.0**
BDRM				iS	**S**	**01 22 49.6**	**-1.1**
KSL	**Kastellorizon**	**1.96**	**59**	ePN	**P**	**01 22 29.7**	**+1.3**
THR1	**Thera Island**	**2.06**	**307**	eP	**P**	**01 22 30.1**	**+0.2**
SANT	**Santorini**	**2.06**	**307**	ePn	**P**	**01 22 29.9**	**0.0**
SANT	**Santorini**	**2.06**	**307**	ePn	**P**	**01 22 29.9**	**0.0**
YER	**Yerkesik**	**2.08**	**17**	PN	**P**	**01 22 31.1**	**+1.0**
THR6	**Thira Island,**	**2.10**	**306**	eP	**P**	**01 22 30.3**	**-0.1**
THR3	**Thira Island,**	**2.12**	**307**	eP	**P**	**01 22 30.7**	**-0.1**
IDI	**Anoyia**	**2.15**	**274**	Pn	**P**	**01 22 33.1**	**+2.0**
	29nm,0.3s,baz=79,slow=14,SNR=105						
IDI				Sn	**S**	**01 22 57.6**	**+1.0**
	37nm,0.3s,baz=64,slow=20,SNR=3.8						
IDI	**Anoyia**	**2.15**	**274**	Pn	**P**	**01 22 33.0**	**+1.9**
IDI				Sn	**S**	**01 22 57.6**	**+1.0**
MLSB	**Milas**	**2.15**	**6**	PN	**P**	**01 22 31.0**	**-0.2**
THR4	**Thira Island,**	**2.16**	**308**	eP	**P**	**01 22 30.8**	**-0.4**
THR5	**Thira Island,**	**2.17**	**306**	eP	**P**	**01 22 30.8**	**-0.5**
APE	**Apeiranthos**	**2.50**	**321**	PN	**P**	**01 22 34.6**	**-1.5**
APE	**Apeiranthos**	**2.50**	**321**	ePn	**P**	**01 22 35.1**	**-1.0**
ELL	**Elmali**	**2.52**	**50**	PN	**P**	**01 22 36.8**	**+0.4**
AYDN	**Tasoluk**	**2.52**	**7⇑**	iP	**P**	**01 22 36.0**	**-0.5**
AYDN				iS	**S**	**01 23 06.0**	**-0.1**
SMG	**Samos**	**2.61**	**348**	ePB	**P**	**01 22 36.9**	**-0.8**
VAM	**Vamos**	**2.72**	**276**	ePN	**P**	**01 22 41.8**	**+2.6**
DNZL	**Cakiroluk**	**2.82**	**26**	iP	**P**	**01 22 41.5**	**+0.8**
DNZL				iS	**S**	**01 23 15.5**	**+1.8**
GVD	**Gavdhos**	**2.83**	**265**	ePN	**P**	**01 22 43.5**	**+2.7**
DENT	**Denizli**	**2.88**	**25**	PN	**P**	**01 22 41.9**	**+0.4**
IZM	**Izmir**	**3.25**	**357**	PN	**P**	**01 22 46.3**	**-0.4**
KDAG	**Bornova**	**3.25**	**357**	iP	**P**	**01 22 45.8**	**-1.0**
KDAG				iS	**S**	**01 23 22.8**	**-1.9**
BCK	**Bucak**	**3.39**	**46**	PN	**P**	**01 22 50.0**	**+1.2**
MANT	**Manisa**	**3.44**	**14**	iP	**P**	**01 22 48.9**	**-0.6**
MANT				iS	**S**	**01 23 31.5**	**+2.1**
ISP	**Isparta**	**3.62**	**41**	PN	**P**	**01 22 52.2**	**+0.3**
ISP	**Isparta**	**3.62**	**41**	iP	**P**	**01 22 52.2**	**+0.2**
ISP				iS	**S**	**01 23 38.0**	**+4.2**
ISP	**Isparta**	**3.62**	**41**	ePn	**P**	**01 22 52.2**	**+0.3**
AKS	**Akhisar**	**3.73**	**4**	PN	**P**	**01 22 54.1**	**+0.5**
KYTH	**Kithira**	**3.81**	**289**	ePN	**P**	**01 22 54.8**	**+0.1**
VLI	**Veliai**	**4.03**	**294**	ePN	**P**	**01 22 57.2**	**-0.5**
PTL	**Penteli**	**4.12**	**316**	ePN	**P**	**01 22 59.2**	**+0.1**
ATH	**Athens Observa**	**4.15**	**314**	ePN	**P**	**01 22 59.2**	**-0.3**
NAIG	**Nisos Aigina**	**4.16**	**310**	ePB	**P**	**01 23 04.5**	**+4.9**
PRK	**Paraskevi**	**4.21**	**347**	ePN	**P**	**01 23 00.8**	**+0.5**
MPAR	**Parnis Oros**	**4.26**	**316**	ePN	**P**	**01 23 01.0**	**-0.1**
NSAL	**Nisos Salamina**	**4.26**	**311**	ePN	**P**	**01 23 02.2**	**+1.1**
LEF	**Lefka**	**4.41**	**89**	PN	**P**	**01 23 03.2**	**0.0**
ALT	**Altintas**	**4.42**	**27**	PN	**P**	**01 23 03.2**	**-0.1**
HDMB	**Hadim**	**4.42**	**64**	PN	**P**	**01 23 03.9**	**+0.6**
DST	**Dursunbey**	**4.54**	**11**	iPN	**P**	**01 23 04.5**	**-0.5**
BTOK	**Tokmak**	**4.62**	**5**	iP	**P**	**01 23 06.1**	**-0.1**
BTOK				iS	**S**	**01 23 59.3**	**+0.1**
EZN	**Ezine**	**4.76**	**349**	PN	**P**	**01 23 08.3**	**+0.2**
CSS	**Prodhromos**	**4.78**	**91**	iP	**P**	**01 23 08.3**	**-0.1**
CSS				iS	**S**	**01 24 03.3**	**+0.1**
CSS	**Prodhromos**	**4.78**	**91**	ePn	**P**	**01 23 07.5**	**-0.9**
CSS	**Prodhromos**	**4.78**	**91**	ePn	**P**	**01 23 07.5**	**-0.9**
KONT	**Konya--Tatoy**	**4.80**	**53**	PN	**P**	**01 23 09.8**	**+1.1**
ITM	**Ithomi**	**4.95**	**296**	ePN	**P**	**01 23 12.5**	**+1.7**
LKR	**Lokris**	**5.03**	**315**	ePN	**P**	**01 23 11.3**	**-0.5**
KIZT	**Kizilcal**	**5.11**	**42**	iPN	**P**	**01 23 13.2**	**+0.2**
ESKT	**Eskisehir**	**5.11**	**30**	PN	**P**	**01 23 13.4**	**+0.4**
ESKT	**Eskisehir**	**5.11**	**30**	iP	**P**	**01 23 12.5**	**-0.5**
IKL	**Isikli**	**5.14**	**76**	PN	**P**	**01 23 14.1**	**+0.6**
ULDT	**Uludag**	**5.15**	**14**	iP	**P**	**01 23 12.8**	**-0.8**
EDC	**Edincik**	**5.20**	**3**	PN	**P**	**01 23 13.6**	**-0.6**
BNT	**Bandirma**	**5.21**	**3**	PN	**P**	**01 23 14.2**	**-0.2**
LPK	**Lapseki**	**5.25**	**354**	iPN	**P**	**01 23 14.7**	**-0.2**
NEO	**Neokhori**	**5.38**	**322**	ePN	**P**	**01 23 16.0**	**-0.7**
XOR	**Xorichti**	**5.44**	**322**	eP	**P**	**01 23 19.0**	**+1.4**
MEST	**Erdemli**	**5.58**	**73**	iP	**P**	**01 23 20.1**	**+0.6**
MEST				iS	**S**	**01 24 23.3**	**+0.1**
RLS	**Riolos of Patr**	**5.66**	**303**	ePN	**P**	**01 23 22.8**	**+2.1**
AGG	**Agios Georgios**	**5.66**	**315**	eP	**P**	**01 23 21.1**	**+0.5**
AGG	**Agios Georgios**	**5.66**	**315**	eP	**P**	**01 23 21.1**	**+0.4**
EVR	**Evrytania**	**5.91**	**311**	ePN	**P**	**01 23 25.0**	**+0.9**
RDO	**Rodhopi**	**6.18**	**346**	ePN	**P**	**01 23 26.9**	**-1.1**
VLS	**Valsamata**	**6.33**	**301**	ePN	**P**	**01 23 29.7**	**-0.4**
LIT	**Litokhoron**	**6.35**	**323**	eP	**P**	**01 23 31.2**	**+0.9**
NIG	**Nigde**	**6.43**	**61**	PN	**P**	**01 23 31.2**	**-0.3**
KAMT	**Kaman**	**6.50**	**48**	PN	**P**	**01 23 32.5**	**+0.1**
SGKT	**Sivrigoynuk**	**6.50**	**32**	iP	**P**	**01 23 32.0**	**-0.4**
LKD	**Levkas**	**6.54**	**305**	eP	**P**	**01 23 34.2**	**+1.1**
BRTR	**Keskin Array B**	**6.68**	**45**	Pn	**P**	**01 23 34.6**	**-0.4**
	0.7nm,0.3s,baz=219,slow=14,SNR=26						
BRTR				Sn	**S**	**01 24 52.0**	**+1.3**
	0.6nm,0.3s,baz=215,slow=26,SNR=5.6						
BRTR	**Keskin Array B**	**6.68**	**45**	P	**P**	**01 23 34.6**	**-0.4**
BRTR						01 24 52.0	
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BRTR				smax			
	comp=N,1.0nm,0.3s						
HNTI	**Hanita**	**6.68**	**106**	S	**S**	**01 24 50.6**	**-0.1**
SLTI	**Sal'it**	**6.92**	**113**	P	**P**	**01 23 38.5**	**+0.2**
GRG	**Griva**	**7.06**	**327**	eP	**P**	**01 23 41.6**	**+1.3**
HRI	**Mount Hermon**	**7.07**	**103**	P	**P**	**01 23 39.0**	**-1.4**
KZIT	**Kziot**	**7.17**	**124**	P	**P**	**01 23 40.7**	**-1.1**
KZIT				S	**S**	**01 25 01.8**	**-0.9**
COBT	**Iskenderun**	**7.24**	**77**	iP	**P**	**01 23 42.5**	**-0.2**
COBT				iS	**S**	**01 25 03.1**	**-1.4**
RTMM	**Retamin**	**7.28**	**122**	P	**P**	**01 23 43.0**	**-0.3**
HMDT	**Nahal Hemdat**	**7.28**	**111**	P	**P**	**01 23 42.6**	**-0.8**
MASH	**Mash'abbe Sade**	**7.38**	**122**	P	**P**	**01 23 44.8**	**+0.1**
FNA	**Florina**	**7.42**	**321**	eP	**P**	**01 23 45.5**	**+0.1**
DRGI	**Dragot**	**7.49**	**116**	P	**P**	**01 23 45.6**	**-0.6**
MZDA	**Masada**	**7.61**	**118**	P	**P**	**01 23 48.0**	**0.0**
BNN	**Bunyan**	**7.62**	**59**	PN	**P**	**01 23 47.9**	**-0.3**
BALT	**Daday**	**7.87**	**34**	iP	**P**	**01 23 55.7**	**+4.1**
PRNI	**Paran**	**7.92**	**125**	P	**P**	**01 23 51.7**	**-0.5**
MBH	**Mount Berech**	**8.22**	**128**	P	**P**	**01 23 56.0**	**-0.5**
ASF	**Jabal al Asfar**	**8.37**	**108**	Pn	**P**	**01 23 58.2**	**-0.3**
	comp=N,0.6nm,0.3s,baz=152,slow=15,SNR=6.9						
ASF				Sn	**S**	**01 25 37.6**	**+4.9**
	comp=N,0.7nm,0.3s,baz=160,slow=23,SNR=3.3						
GZT	**Gaziantep**	**8.42**	**72**	iP	**P**	**01 23 57.5**	**-1.6**
GZT				iS	**S**	**01 25 18.0**	**-16**
HAQS	**Haql**	**8.75**	**132**	P	**P**	**01 24 04.1**	**+0.5**
JMOS	**Jabal al Moall**	**8.78**	**131**	P	**P**	**01 24 04.9**	**+0.8**
JMQS	**Jabal Moqyreh**	**9.46**	**129**	P	**P**	**01 24 13.3**	**-0.1**
AYUS	**'Aynunah**	**9.58**	**134**	P	**P**	**01 24 14.8**	**-0.4**
SOI	**Samo**	**9.66**	**291**	ePn	**P**	**01 24 15.1**	**-1.2**
SOI	**Samo**	**9.66**	**291**	ePn	**P**	**01 24 15.1**	**-1.1**
TDS	**Terranova Siba**	**9.96**	**300**	ePn	**P**	**01 24 20.1**	**-0.3**
TDS	**Terranova Siba**	**9.96**	**300**	ePn	**P**	**01 24 20.1**	**-0.2**
ORI	**Oriolo Calabro**	**10.05**	**302**	ePn	**P**	**01 24 19.0**	**-2.6**
ORI	**Oriolo Calabro**	**10.05**	**302**	ePn	**P**	**01 24 19.0**	**-2.6**
MLR	**Muntele Rosu**	**10.40**	**354**	Pn	**P**	**01 24 27.8**	**+1.4**
	baz=180,slow=15						
MGR	**Morigerati**	**10.70**	**301**	ePn	**P**	**01 24 29.0**	**-1.5**
MGR	**Morigerati**	**10.70**	**301**	ePn	**P**	**01 24 29.0**	**-1.5**
SLNA	**Salina**	**10.71**	**292**	ePn	**P**	**01 24 28.0**	**-2.6**
SLNA	**Salina**	**10.71**	**292**	ePn	**P**	**01 24 28.0**	**-2.6**
DBAS	**Duba**	**10.73**	**135**	P	**P**	**01 24 31.0**	**+0.1**
SLCN	**Sala Consilina**	**10.75**	**303**	ePn	**P**	**01 24 29.0**	**-2.2**
SLCN	**Sala Consilina**	**10.75**	**303**	ePn	**P**	**01 24 29.0**	**-2.2**
VAE	**Valguarnera**	**10.82**	**286**	Pn	**P**	**01 24 34.4**	**+2.3**
	comp=N,0.4nm,0.3s,baz=263,slow=19,SNR=2.4						
VAE				Sn	**S**	**01 26 31.9**	**-0.9**
	comp=N,1.6nm,0.3s,baz=128,slow=7.6,SNR=4.3						
MRLC	**Muro Lucano**	**11.01**	**304**	ePn	**P**	**01 24 33.2**	**-1.5**
MRLC	**Muro Lucano**	**11.01**	**304**	ePn	**P**	**01 24 33.2**	**-1.5**
SGO	**Sicignano**	**11.05**	**303**	ePn	**P**	**01 24 32.2**	**-3.0**
SGO	**Sicignano**	**11.05**	**303**	ePn	**P**	**01 24 32.2**	**-3.0**
SGG	**Gregorio Mates**	**12.05**	**305**	ePn	**P**	**01 24 50.1**	**+1.4**
GNI	**Garni**	**14.53**	**65**	Pn	**P**	**01 25 25.5**	**+4.1**
	comp=N,0.2nm,0.3s,baz=186,slow=15,SNR=2.3						
GNI				LR	LR	01 32 16.1	
	comp=N,75nm,21.7s,baz=45,slow=42						
KIV	**Kislovodsk**	**14.62**	**48**	eP	**P**	**01 25 29.8**	**+7.2**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,54nm,16.0s						
GOF	**Gofitskoye**	**15.44**	**45**	eP	**P**	**01 25 29.0**	**-4.1**
AKASG	**Malin Array Be**	**15.59**	**4**	Pn	**P**	**01 25 37.9**	**+2.8**
	comp=Z,1.3nm,0.3s,baz=192,slow=11,SNR=6.0						
AKASG	**Malin Array Be**	**15.59**	**4**	P	**P**	**01 25 37.9**	**+2.8**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PGF	**Pioggiola**	**16.18**	**303**	eP	**P**	**01 25 43.5**	**+0.9**
	comp=Z,22nm,0.9s						
GERES	**GERESS Array B**	**17.07**	**328**	P	**P**	**01 25 54.0**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=144,slow=12,SNR=20						
KHC	**Kasperske Hory**	**17.33**	**328**	eP	**P**	**01 25 56.5**	**-0.5**
KHC				ex	x	01 26 01.5	
DAVOX	**Davos**	**17.62**	**317**	P	**P**	**01 26 02.4**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=122,slow=11,SNR=3.6						
SBF	**Sospel**	**17.73**	**305**	eP	**P**	**01 26 02.7**	**+0.6**
	comp=Z,38nm,0.7s						
FRF	**La Foret Royal**	**18.16**	**304**	eP	**P**	**01 26 07.0**	**-0.3**
	comp=Z,14nm,0.8s						
LMR	**La Mourre**	**18.17**	**303**	eP	**P**	**01 26 07.1**	**-0.4**
	comp=Z,6.5nm,0.7s						
MBDF	**Montbardon**	**18.51**	**307**	eP	**P**	**01 26 11.3**	**-0.4**
	comp=Z,11nm,0.7s						
BNI	**Bardonecchia**	**18.71**	**308**	ePn	**P**	**01 26 14.9**	**+0.9**
BNI	**Bardonecchia**	**18.71**	**308**	ePn	**P**	**01 26 14.9**	**+0.9**
GRA1	**Grafenberg Arr**	**18.80**	**326**	eP	**P**	**01 26 13.1**	**-2.0**
	comp=Z,9.0nm,1.0s						
GRF	**Grafenberg Arr**	**18.80**	**326**	eP	**P**	**01 26 13.1**	**-2.0**
GRF				pmax	pmax		
	comp=Z,9.0nm,1.0s						
LPG	**La Plagne**	**18.85**	**310**	eP	**P**	**01 26 15.0**	**-0.7**
	comp=Z,13nm,0.8s						
LPL	**La Plagne**	**18.87**	**310**	eP	**P**	**01 26 15.1**	**-0.9**
SMRF	**Simiane la Rot**	**19.03**	**304**	eP	**P**	**01 26 15.9**	**-1.9**
ORIF	**Oris-en-Rattie**	**19.17**	**307**	eP	**P**	**01 26 16.6**	**-2.8**
CLL	**Collm**	**19.24**	**332**	P	**P**	**01 26 23.8**	**+3.7**
	comp=Z,logA/T=0.9						
CLL	**Collm**	**19.24**	**332**	iP	**P**	**01 26 23.8**	**+3.7**
CLL				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CLL	**Collm**	**19.24**	**332**	iP	**P**	**01 26 23.8**	**+3.7**
	comp=Z,8.0nm,0.9s						
MOX	**Moxa**	**19.31**	**328**	eP	**P**	**01 26 26.0**	**+5.1**
CABF	**La Chapelle**	**19.77**	**312**	eP	**P**	**01 26 23.9**	**-2.0**
	comp=Z,16nm,0.7s						
HINF	**Hinteralfeld**	**19.91**	**316**	eP	**P**	**01 26 26.1**	**-1.3**
VIVF	**Saint-Julien-l**	**19.94**	**306**	eP	**P**	**01 26 26.1**	**-1.7**
	comp=Z,11nm,0.7s						
CDF	**Champ du Feu**	**20.00**	**318**	eP	**P**	**01 26 27.4**	**-1.0**
LASF	**Ste Croix**	**20.23**	**303**	eP	**P**	**01 26 32.2**	**+1.4**
	comp=Z,2.1nm,0.5s						
HAU	**Haudompre**	**20.30**	**316**	eP	**P**	**01 26 30.8**	**-0.7**
OBN	**Obninsk**	**20.93**	**15**	eP	**P**	**01 26 36.7**	**-1.3**
	comp=Z,11nm,0.6s						
OBN	**Obninsk**	**20.93**	**15**	eP	**P**	**01 26 36.7**	**-1.2**
	comp=Z,11nm,0.6s						
MTLF	**Montolieu**	**21.17**	**300**	eP	**P**	**01 26 41.0**	**+0.6**
SMF	**Signal de Mont**	**21.17**	**310**	eP	**P**	**01 26 38.7**	**-1.8**
	comp=Z,8.5nm,0.6s,mb3.9						
MEZF	**Maizieres J'vi**	**21.30**	**316**	eP	**P**	**01 26 41.4**	**-0.3**
	comp=Z,11nm,0.7s,mb4.0						
LOR	**Lormes**	**21.43**	**312**	eP	**P**	**01 26 41.1**	**-1.9**
	comp=Z,34nm,1.2s,mb4.2						
SSF	**Saint Saulge**	**21.56**	**311**	eP	**P**	**01 26 42.3**	**-2.0**
	comp=Z,6.3nm,0.7s,mb4.2						
EPOB	**Poblet**	**21.61**	**295**	P	**P**	**01 26 44.4**	**-0.5**
	comp=Z,2.8nm,0.6s,mb3.9						
EPOB	**Poblet**	**21.61**	**295**	P	**P**	**01 26 44.4**	**-0.5**
	comp=Z,2.8nm,0.6s,mb3.9,SNR=8.2						
CAF	**Calviac**	**21.71**	**304**	eP	**P**	**01 26 45.0**	**-0.9**
BGF	**Bois d'Agland**	**21.77**	**309**	eP	**P**	**01 26 45.2**	**-1.2**
	comp=Z,7.8nm,0.7s,mb4.0						
TCF	**Toulx Ste Croi**	**22.07**	**308**	eP	**P**	**01 26 49.4**	**0.0**
	comp=Z,8.9nm,1.0s,mb3.8						
GIVF	**Givet**	**22.28**	**319**	eP	**P**	**01 26 50.7**	**-0.7**
EBEN	**Beniarda**	**22.42**	**287**	P	**P**	**01 26 53.9**	**+1.0**
	comp=Z,1.0nm,0.4s,mb3.6						
EBEN	**Beniarda**	**22.42**	**287**	P	**P**	**01 26 53.9**	**+1.0**
	comp=Z,1.0nm,0.4s,mb3.6,SNR=7.9						
BAIF	**Baives**	**22.59**	**318**	eP	**P**	**01 26 51.6**	**-2.8**
	comp=Z,8.2nm,0.6s,mb4.0						
MFF	**Saint Martin d**	**23.71**	**307**	eP	**P**	**01 27 07.0**	**+1.6**
	comp=Z,11nm,0.8s,mb4.0						
ETOR	**Torete**	**23.91**	**293**	P	**P**	**01 27 07.0**	**-0.4**
	comp=Z,0.7nm,0.4s,mb3.4						
ETOR	**Torete**	**23.91**	**293**	P	**P**	**01 27 07.0**	**-0.4**
	comp=Z,0.7nm,0.4s,mb3.5,SNR=7.9						
ETOR	**Torete**	**23.91**	**293**	P	**P**	**01 27 07.0**	**-0.4**
	comp=Z,0.7nm,0.4s,mb3.4						
EVIA	**Vianos**	**24.20**	**287**	P	**P**	**01 27 10.8**	**+0.5**
	comp=Z,0.4nm,0.2s,mb3.5						
EVIA	**Vianos**	**24.20**	**287**	P	**P**	**01 27 10.8**	**+0.5**
	comp=Z,0.4nm,0.2s,mb3.4,SNR=7.9						
LDF	**La Druitiere**	**24.41**	**312**	eP	**P**	**01 27 11.6**	**-0.6**
EBER	**Berja**	**24.60**	**283**	P	**P**	**01 27 16.5**	**+2.3**
	comp=Z,0.6nm,0.4s,mb3.5						
EBER	**Berja**	**24.60**	**283**	P	**P**	**01 27 16.5**	**+2.3**
	comp=Z,0.6nm,0.4s,mb3.5,SNR=6.1						
EQES	**Quesada**	**24.68**	**285**	P	**P**	**01 27 17.2**	**+2.3**
	comp=Z,0.9nm,0.6s,mb3.5						
FLN	**La Foliniere**	**24.70**	**312**	eP	**P**	**01 27 14.6**	**-0.4**
GRR	**Gorron**	**24.79**	**311**	eP	**P**	**01 27 16.5**	**+0.7**
	comp=Z,7.0nm,0.5s,mb4.1						
ESDC	**Sonseca Array**	**25.33**	**290**	P	**P**	**01 27 22.2**	**+1.1**
	comp=Z,1.9nm,0.6s,mb3.8,baz=81,slow=9.6,SNR=10						
ESDC	**Sonseca Array**	**25.33**	**290**	P	**P**	**01 27 22.2**	**+1.1**
	comp=Z,1.1nm,0.4s,mb3.7						
ELUQ	**Luque**	**25.64**	**285**	P	**P**	**01 27 25.5**	**+1.4**
	comp=Z,0.2nm,0.3s,mb3.1						
ELUQ	**Luque**	**25.64**	**285**	P	**P**	**01 27 25.5**	**+1.4**
	comp=Z,0.2nm,0.3s,mb3.1,SNR=7.9						
EMIJ	**Mijas**	**26.14**	**283**	P	**P**	**01 27 32.0**	**+3.3**
	comp=Z,2.2nm,0.5s,mb3.9						
FINES	**FINESS Array B**	**26.33**	**358**	P	**P**	**01 27 31.1**	**+0.9**
	comp=Z,0.5nm,0.3s,mb3.5,baz=161,slow=12,SNR=7.1						
FINES	**FINESS Array B**	**26.33**	**358**	P	**P**	**01 27 31.1**	**+0.9**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**26.33**	**358**	P	**P**	**01 27 31.0**	**+0.8**
HFS	**Hagfors**	**26.56**	**344**	P	**P**	**01 27 32.6**	**+0.2**
	comp=Z,2.5nm,0.6s,mb3.9,baz=153,slow=9.9,SNR=8.2						
HFS	**Hagfors**	**26.56**	**344**	P	**P**	**01 27 32.6**	**+0.3**
HFS				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KAF	**Kangasniemi**	**27.00**	**359**	ep	**P**	**01 27 41.8**	**+5.5**
EMIN	**Mina Concepcio**	**27.53**	**286**	P	**P**	**01 27 42.1**	**+0.7**
	comp=Z,0.2nm,0.3s,mb3.2						
EMIN	**Mina Concepcio**	**27.53**	**286**	P	**P**	**01 27 42.2**	**+0.8**
	comp=Z,0.2nm,0.3s,mb3.2						
NB2	**NORSAR Subarra**	**27.93**	**343**	P	**P**	**01 27 44.5**	**-0.4**
	comp=Z,1.1nm,0.6s,mb3.7,baz=161,slow=10						
NOA	**NORSAR Array B**	**27.93**	**343**	P	**P**	**01 27 47.0**	**+2.1**
	comp=Z,0.9nm,0.6s,mb3.6,baz=160,slow=10,SNR=3.7						
NOA	**NORSAR Array B**	**27.93**	**343**	P	**P**	**01 27 47.0**	**+2.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**27.93**	**343**	P	**P**	**01 27 47.0**	**+2.1**
ARCES	**ARCESS Array B**	**34.46**	**359**	P	**P**	**01 28 41.2**	**-0.9**
	comp=Z,0.4nm,0.4s,mb3.7,baz=180,slow=8.5,SNR=7.8						
MKAR	**Makanchi Array**	**42.17**	**57**	P	**P**	**01 29 48.8**	**+2.1**
	comp=Z,0.7nm,0.5s,mb3.5,baz=267,slow=8.6,SNR=12						
MKAR	**Makanchi Array**	**42.17**	**57**	P	**P**	**01 29 48.8**	**+2.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZAL	**Zalesovo**	**43.61**	**46**	P	**P**	**01 30 00.4**	**+2.1**
	comp=Z,0.8nm,0.7s,mb3.6,baz=349,slow=16,SNR=3.3						
ZAL	**Zalesovo**	**43.61**	**46**	P	**P**	**01 30 00.4**	**+2.1**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM	**Songino Array**	**58.00**	**51**	P	**P**	**01 31 49.2**	**+1.9**
	comp=Z,0.3nm,0.4s,mb3.7,baz=279,slow=7.4,SNR=4.0						
SCHQ	**Schefferville**	**64.43**	**320**	P	**P**	**01 32 31.6**	**+1.1**
	comp=Z,4.8nm,0.6s,mb4.7,baz=210,slow=12,SNR=9.9						
ILAR	**Eielson Array**	**80.31**	**358**	P	**P**	**01 34 07.0**	**+2.8**
	comp=Z,0.3nm,0.5s,mb3.5,baz=344,slow=4.5,SNR=5.3						

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*NEIC **03** 01:33:59.7, 30.69S×71.11W, h71km, MD3.9(GUC), After GUC.*
NEIC Felt [II] at Coquimbo and La Serena.
GUC 03 01:33:59.7±0.6**, 30.69S**×**71.11W, h71**km±2km**, MD3.9, ML4.3, 8C-5D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.11**	**315⇓**	iP	P	01 34 10.4	+0.3
OVCH				iS	S	01 34 18.3	+0.6
OVCH				AMP		01 34 18.8	
	comp=E,35μm,0.2s						
CMCH	**Combarbala**	**0.49**	**169**	iP	P	01 34 12.9	+0.3
CMCH				iS	S	01 34 22.7	+0.6
CMCH				AMP		01 34 24.6	
	comp=N,21μm,0.6s						
TLL	**Tololo Astrono**	**0.58**	**27⇑**	iP	P	01 34 14.1	+0.5
TLL				iS	S	01 34 25.2	+1.5
TLL				AMP		01 34 26.2	
	comp=E,32μm,0.4s						
LSCH	**La Serena**	**0.79**	**351⇑**	iP	P	01 34 15.8	0.0
LSCH				iS	S	01 34 27.9	+0.1
LSCH				AMP		01 34 28.8	
	comp=N,17μm,0.3s						
JACH	**Jahuel**	**2.04**	**168⇑**	iP	P	01 34 32.5	0.0
JACH				iS	S	01 34 57.2	+0.5
VACH	**Vallenar**	**2.13**	**8⇑**	iP	P	01 34 33.8	0.0
VACH				iS	S	01 34 59.3	+0.2
VACH				AMP		01 35 01.8	
	comp=N,4μm,0.1s						
PEL	**Peldehue**	**2.47**	**172⇓**	iP	P	01 34 38.2	-0.5
PEL				AMP		01 35 21.4	
	comp=N,1μm,0.4s						
FCH	**Farellones**	**2.72**	**165⇑**	iP	P	01 34 42.3	+0.1
FCH				iS	S	01 35 15.0	+1.0
DSCH	**Colegio Aleman**	**2.74**	**171⇓**	iP	P	01 34 42.1	-0.4
DSCH				iS	S	01 35 14.2	-0.2
DSCH				AMP		01 35 20.4	
	comp=N,2μm,0.8s						
CLCH	**Cerro Calan**	**2.74**	**170⇑**	iP	P	01 34 42.1	-0.3
CLCH				iS	S	01 35 14.6	+0.1
CLCH				AMP		01 35 34.4	
	comp=E,1μm,0.5s						
CLCH				AMP		01 35 35.0	
	comp=E,1μm,0.5s						
RCDM	**Rinconada Maip**	**2.80**	**175⇓**	iP	P	01 34 42.3	-1.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RCDM				*i* S	S	01 35 15.2	-0.9
RCDM				AMP		01 35 19.4	
	comp=E,640nm,0.2s						
FSR	**Penalolen**	**2.83**	**170**⇓	*i*P	P	01 34 43.5	-0.1
FSR				*i* S	S	01 35 16.2	-0.4
FSR				AMP		01 35 40.7	
	comp=N,771nm,0.5s						
ANTU	**Antumapu**	**2.90**	**172**	*i* P	P	01 34 44.1	-0.6
ANTU				*i* S	S	01 35 18.0	-0.5
ANTU				AMP		01 35 32.3	
	comp=E,556nm,0.3s						
TACH	**Talagante**	**2.96**	**177**	*i* P	P	01 34 44.5	-1.0
PCH	**Pirque**	**2.97**	**170**⇑	*i*P	P	01 34 45.0	-0.6
PCH				*i* S	S	01 35 19.8	-0.4
LMEL	**Las Melosas**	**3.24**	**167**⇑	*i*P	P	01 34 49.4	0.0
LMEL				*i* S	S	01 35 26.8	-0.2
LMEL				AMP		01 35 32.1	
	comp=N,440nm,0.1s						
LVC	**Limon Verde**	**8.28**	**14**	*e*Pn	P	01 35 54.0	-5.3
	comp=N,7.5nm,1.1s						
TRQA	**Tornquist**	**10.53**	**137**	*e*Pn	P	01 36 25.9	-4.0
	comp=N,2.6nm,0.6s						
LPAZ	**La Paz**	**14.59**	**11**	*e*P	P	01 37 22.2	-1.6

*IDC **03** 01:34:29.1±4.1, 6.12S×145.75E, h117km±48km, mb3.6/6, mb1 3.7/8, mb1mx3.6/15, MS3.0/1, Ms1 3.0/1, ms1mx2.4/23, Error ellipse: s-maj=43.0km s-min=27.2km az=120.0*
*NEIC **03** 01:34:31.1±1.2, 6.25S×145.97E, h146km±16km, mb4.1/4, Error ellipse: s-maj=25.9km s-min=13.5km az=123.0*
ISC 03 01:34:29.6±1.6**, 6.2S**±0.1×**145.8E**±0.2**, h141**km±23km**, n19,** σ**0**^{s}**93**/18**, mb3.7**/5**, 1C-1D, New Guinea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WAU	**Wau**	**1.45**	**142**⇑	*e*P	**P**	**01 34 58.3**	**0.0**
PMG	**Port Moresby**	**3.45**	**157**	P	**P**	**01 35 22.9**	**-0.3**
PMG				S	**S**	**01 36 04.5**	**+0.2**
PMG	**Port Moresby**	**3.45**	**157**⇓	*i*P	**P**	**01 35 23.1**	**-0.1**
CTA	**Charters Tower**	**13.81**	**178**	P	**P**	**01 37 46.4**	**+6.1**
	0.5nm,0.3s,baz=353,slow=13,SNR=3.7						
CTA				LR	LR	01 42 47.4	
	comp=Z,54nm,18.7s,baz=45,slow=36						
CTA	**Charters Tower**	**13.81**	**178**	P	**P**	**01 37 46.4**	**+6.1**
CTA				LR	LR	01 42 47.4	
CTAO	**Charters Tower**	**13.81**	**178**	*e*P	**P**	**01 37 46.5**	**+6.1**
	1.5nm,0.3s						
KAKA	**Kakadu**	**14.72**	**243**	*e*P	**P**	**01 37 55.2**	**+3.2**
	22nm,0.6s						
WRAB	**Tennant Creek**	**17.61**	**218**	*e*P	**P**	**01 38 26.3**	**-1.4**
	3.4nm,0.7s						
WB2	**Warramunga Arr**	**17.62**	**218**	*e*P	**P**	**01 38 27.0**	**-0.8**
WRA	**Warramunga Arr**	**17.63**	**218**	P	**P**	**01 38 27.4**	**-0.5**
	0.4nm,0.3s,baz=32,slow=11,SNR=19						
ASAR	**Alice Springs**	**20.80**	**212**	P	**P**	**01 39 02.7**	**+1.4**
	0.7nm,0.5s,baz=42,slow=11,SNR=0.4						
FITZ	**Fitzroy Crossi**	**22.96**	**237**	*e*P	**P**	**01 39 22.6**	**+0.1**
	7.0nm,0.6s,mb4.3						
FITZ	**Fitzroy Crossi**	**22.96**	**237**	P	**P**	**01 39 22.6**	**+0.1**
	8.6nm,0.6s,mb4.3,baz=60,slow=5.3,SNR=25						
CMAR	**Chiang Mai Arr**	**52.31**	**299**	P	**P**	**01 43 29.1**	**-0.1**
	2.4nm,0.7s,mb3.9,baz=127,slow=7.7,SNR=6.5						
SONM	**Songino Array**	**64.02**	**332**	P	**P**	**01 44 49.2**	**-1.1**
	0.4nm,0.9s,mb3.2,baz=135,slow=3.5,SNR=3.7						
MKAR	**Makanchi Array**	**76.91**	**321**	P	**P**	**01 46 07.9**	**0.0**
	1.5nm,0.6s,mb3.8,baz=101,slow=9.1,SNR=17						
BVAR	**Borovoye Array**	**86.24**	**324**	P	**P**	**01 46 57.3**	**+1.0**
	0.4nm,0.5s,mb3.4,baz=117,slow=6.4,SNR=4.3						
DBIC	**Dimbokro**	**150.85**	**273**	PKPbc	PKPdf	01 54 08.8	+8.4
	2.3nm,0.6s,baz=63,slow=2.3,SNR=6.0						
DBIC	**Dimbokro**	**150.85**	**273**	*e*PKPbc	PKPdf	01 54 09.0	+8.6

*IDC **03** 01:51:49.3±1.6, 5.05S×146.13E, mb4.0/4, mb1 4.2/7, mb1mx4.0/15, ML4.0/3, MS3.4/3, Ms1 3.4/3, ms1mx2.9/25, Error ellipse: s-maj=35.1km s-min=20.9km az=86.0*
*NEIC **03** 01:52:00.1±3.0, 5.32S×146.36E, h90km±25km, mb4.2/3, Error ellipse: s-maj=31.5km s-min=23.5km az=155.0*
ISC 03 01:51:55.4±4.3**, 5.2S**±0.2×**146.0E**±0.2**, h55**km±38km**, n17,** σ**1**^{s}**05**/17**, mb3.9**/4**, MS3.5**/2**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WAU	**Wau**	**2.29**	**162**	*e*P	**P**	**01 52 32.5**	**+0.8**
PMG	**Port Moresby**	**4.38**	**165**	Pn	**P**	**01 52 59.7**	**-1.5**
	19nm,0.3s,baz=346,slow=5.6,SNR=39						
PMG				Pg	**P**	**01 53 11.6**	**+10**
	17nm,0.3s,baz=357,slow=15,SNR=12						
PMG				Lg		01 54 08.7	
	11nm,0.3s,baz=204,slow=22,SNR=3.5						
PMG	**Port Moresby**	**4.38**	**165**	*e*P	**P**	**01 53 00.0**	**-1.1**
CTA	**Charters Tower**	**14.85**	**179**	*e*P	**P**	**01 55 25.2**	**+1.4**
	3.0nm,0.4s						
CTA	**Charters Tower**	**14.85**	**179**	Pn	**P**	**01 55 23.7**	**-0.1**
	1.4nm,0.3s,baz=356,slow=14,SNR=17						
CTA				LR	LR	02 00 00.3	
	comp=Z,82nm,20.9s,baz=44,slow=33						
CTAO	**Charters Tower**	**14.85**	**179**	*e*P	**P**	**01 55 24.5**	**+0.7**
	3.5nm,0.4s						
KAKA	**Kakadu**	**15.39**	**240**	*e*P	**P**	**01 55 37.7**	**+6.9**
	31nm,0.6s						
WRAB	**Tennant Creek**	**18.57**	**217**	*e*P	**P**	**01 56 09.7**	**-0.8**
	5.3nm,0.8s						
WB2	**Warramunga Arr**	**18.58**	**217**	*e*P	**P**	**01 56 09.7**	**-0.8**
WRA	**Warramunga Arr**	**18.58**	**217**	P	**P**	**01 56 09.3**	**-1.3**
	0.4nm,0.3s,baz=39,slow=12,SNR=15						
ASAR	**Alice Springs**	**21.80**	**211**	P	**P**	**01 56 45.0**	**+0.4**
	2.0nm,0.7s,mb3.7,baz=48,slow=6.6,SNR=20						
ASAR				LR	LR	02 05 03.0	
	comp=Z,52nm,19.9s,MS2.9,baz=32,slow=36						
ASPA	**Alice Springs**	**21.80**	**211**	*e*P	**P**	**01 56 46.5**	**+1.9**
FITZ	**Fitzroy Crossi**	**23.71**	**235**	*e*P	**P**	**01 57 04.7**	**+1.3**
	5.7nm,0.7s,mb4.1						
FITZ	**Fitzroy Crossi**	**23.71**	**235**	P	**P**	**01 57 04.7**	**+1.3**
	7.1nm,0.7s,mb4.2,baz=56,slow=5.7,SNR=30						
STKA	**Stephens Creek**	**26.91**	**188**	P	**P**	**01 57 32.6**	**-1.0**
	2.8nm,0.5s,mb4.1,baz=356,slow=8.6,SNR=7.3						
RPZ	**Rata Peaks**	**44.30**	**154**	LR	LR	02 15 30.7	
	comp=Z,163nm,19.0s,MS4.0,baz=1.6,slow=32						
ILAR	**Eielson Array**	**85.09**	**23**	P	**P**	**02 04 26.0**	**-0.3**
	0.3nm,0.6s,mb3.6,baz=243,slow=3.8,SNR=5.0						

*NEIC **03** 01:55:59.8, 46.97N×1.81W, h5km, ML2.6(STR), ML2.3(LDG), After STR.*
*STR **03** 01:55:59.8±0.3, 46.97N×1.81W, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **03** 01:55:59.8±0.1, 46.96N×1.83W, h2km, ML2.4/12, Error ellipse: s-maj=1.5km s-min=0.7km az=49.0*
LDG 03 01:55:59.9±0.1**, 46.97N×1.82W, h3**km**, Md2.9**/1**, Ml2.3**/13**, Error ellipse: s-maj=1.5km s-min=0.7km az=48.0, France**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LRYF	**La Roche-sur-Y**	**0.43**	**155**	Pg	Pg	01 56 08.0	-0.6
LRYF				Sg	Sg	01 56 14.3	-0.1
LCHF	**La Chataignera**	**0.80**	**112**	Pg	Pg	01 56 14.9	-0.9
LCHF				Sg	Sg	01 56 25.7	-0.8
MFF	**Saint Martin d**	**1.21**	**107**	*e*Pg	Pg	01 56 22.3	-1.7
MFF				*e*Sg	Sg	01 56 38.0	-2.1
	7.0nm,0.2s						
QUIF	**Quistinic**	**1.32**	**316**	*e*Pn	Pn	01 56 24.0	-1.2
QUIF				*e*Pg	Pg	01 56 24.5	-1.7
QUIF				*e*Sn	Sn	01 56 40.1	-3.4
QUIF				*e*Sg	Sg	01 56 41.4	-2.3
	6.3nm,0.2s						
QUIF	**Quistinic**	**1.32**	**316**	*e*Pg	Pg	01 56 24.5	-1.7
QUIF				*e*Sn	Sn	01 56 40.1	-3.4
QUIF				*e*Sg	Sg	01 56 41.4	-2.3
	3.2nm,0.2s						
SGMF	**Saint Gilles**	**1.38**	**339**	*e*Pn	Pn	01 56 24.3	-1.8
SGMF				*e*Pg	Pg	01 56 25.6	-1.8
SGMF				*e*Sn	Sn	01 56 42.0	-3.0
SGMF				*e*Sg	Sg	01 56 43.5	-2.3
	6.4nm,0.3s						
GRR	**Gorron**	**1.56**	**24**	*e*Pg	Pg	01 56 29.0	-2.0
GRR				*e*Sg	Sg	01 56 49.9	-1.9
	4.0nm,0.2s						
ROSF	**Rostrenen**	**1.68**	**325**	*e*Pg	Pg	01 56 31.0	-2.5
ROSF				*e*Sn	Sn	01 56 49.3	-3.5
ROSF				*e*Sg	Sg	01 56 52.9	-3.1
	2.5nm,0.3s						
LDF	**La Druitiere**	**1.98**	**35**	*e*Pg	Pg	01 56 36.9	-2.6
LDF				*e*Sn	Sn	01 56 56.7	-3.7
LDF				*e*Sg	Sg	01 57 01.0	-5.0
	3.7nm,0.2s						
FLN	**La Foliniere**	**2.00**	**26**	*e*Pg	Pg	01 56 37.3	-2.6
FLN				*e*Sn	Sn	01 56 57.5	-3.5
FLN				*e*Sg	Sg	01 57 03.0	-3.7
	3.9nm,0.2s						
LFF	**La Frestale**	**2.70**	**138**	*e*Pn	Pn	01 56 42.8	-2.2
LFF				*e*Pg	Pg	01 56 49.5	-4.4
LFF				*e*Sg	Sg	01 57 24.9	-5.0
	5.0nm,0.4s						
RJF	**Les Rejaudoux**	**2.85**	**125**	*e*Pn	Pn	01 56 44.4	-2.8
RJF				*e*Pg	Pg	01 56 53.5	-3.4
RJF				*e*Sn	Sn	01 57 17.3	-5.2
RJF				*e*Sg	Sg	01 57 29.3	-5.6
	2.9nm,0.3s						
TCF	**Toulx Ste Croi**	**2.86**	**102**	*e*Pn	Pn	01 56 45.2	-2.0
TCF				*e*Pg	Pg	01 56 53.2	-3.8
TCF				*e*Sn	Sn	01 57 18.0	-4.6
TCF				*e*Sg	Sg	01 57 29.4	-5.6
	1.7nm,0.2s						
HYF	**Humbligny**	**3.06**	**83**	*e*Sn	Sn	01 57 21.2	-6.5
BGF	**Bois d'Agland**	**3.23**	**96**	*e*Pn	Pn	01 56 49.9	-2.7
BGF				*e*Pg	Pg	01 56 58.0	-6.4
BGF				*e*Sn	Sn	01 57 26.3	-5.8
BGF				*e*Sg	Sg	01 57 41.2	-6.3
	5.4nm,0.4s						
CAF	**Calviac**	**3.39**	**126**	*e*Pn	Pn	01 56 51.9	-2.9
CAF				*e*Sn	Sn	01 57 30.1	-6.1
CAF				*e*Sg	Sg	01 57 45.7	-7.2
	1.2nm,0.2s						
SSF	**Saint Saulge**	**3.64**	**87**	*e*Pn	Pn	01 56 54.6	-3.8
LOR	**Lormes**	**3.89**	**84**	*e*Pn	Pn	01 56 58.1	-3.8
EPF	**Esparros**	**4.23**	**158**	*e*Sn	Sn	01 57 50.2	-7.1

*IDC **03** 02:26:25.9±10.0, 33.12N×136.50E, mb3.9/3, mb1 4.1/3, mb1mx3.6/23, MS2.9/1, Ms1 2.9/1, ms1mx2.1/29, Error ellipse: s-maj=392.0km s-min=29.4km az=62.0*
*JMA **03** 02:26:25.2, 33.39N×136.83E, h42km±2km, M3.2*
ISC 03 02:26:25.5±0.8**, 33.44N**±0.05×**136.82E**±0.03**, h29**km±6km**, n17,** σ**0**^{s}**63**/25**, mb3.9**/3**, 2C, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.72**	**63**	P	**Pb**	**02 26 39.1**	**-0.4**
TK01				S	**Sb**	**02 26 49.5**	**+0.4**
JWZ	**Kozaga**	**0.93**	**276**	⇑P	**Pn**	**02 26 42.2**	**-0.5**
JWZ				S	**Sb**	**02 26 54.4**	**-0.4**
TK02	**Tokai 2**	**0.93**	**57**	P	**Pn**	**02 26 42.1**	**-0.7**
TK02				S	**Sb**	**02 26 54.9**	**-0.1**
JIE	**Ise**	**0.95**	**354**	P	**Pn**	**02 26 43.3**	**+0.2**
JIE				S	**Sb**	**02 26 55.7**	**+0.1**
TK03	**Tokai 3**	**1.20**	**53**	S	**Sn**	**02 27 01.7**	**-0.3**
JAA	**Atsumi**	**1.22**	**13**	P	**Pn**	**02 26 47.0**	**+0.1**
JAA				S	**Sn**	**02 27 02.5**	**0.0**
JWY	**Kouya**	**1.28**	**308**	P	**Pn**	**02 26 48.3**	**+0.5**
JWY				S	**Sn**	**02 27 04.4**	**+0.3**
JWM	**Minabe**	**1.29**	**289**	⇑P	**Pn**	**02 26 47.6**	**-0.3**
JWM				S	**Sn**	**02 27 03.2**	**-1.0**
TK04	**Tokai 4**	**1.29**	**43**	S	**Sn**	**02 27 04.5**	**+0.2**
TSUJ	**Tsu 2**	**1.31**	**345**	P	**Pn**	**02 26 48.7**	**+0.5**
JHE	**Heguri**	**1.53**	**322**	P	**Pn**	**02 26 52.0**	**+0.6**
JHE				S	**Sn**	**02 27 10.1**	**-0.4**
JAJ2	**Tsuna**	**1.88**	**302**	P	**Pn**	**02 26 56.9**	**+0.6**
MAT	**Matsushiro**	**3.30**	**20**	P	**Pn**	**02 27 16.7**	**+0.1**
MAT				*e*S	**Sn**	**02 27 54.2**	**-1.1**
ASAJ	**Asahikawa**	**11.57**	**21**	LR	LR	02 34 01.5	
	comp=Z,57nm,19.2s,baz=179,slow=38						
MKAR	**Makanchi Array**	**42.95**	**305**	P	**P**	**02 34 26.1**	**+2.6**
	0.6nm,0.7s,mb3.4,baz=88,slow=11,SNR=3.8						
WRA	**Warramunga Arr**	**53.13**	**183**	P	**P**	**02 35 42.8**	**-0.4**
	2.3nm,0.8s,mb4.2,baz=1.2,slow=7.8,SNR=16						
ASAR	**Alice Springs**	**56.86**	**183**	P	**P**	**02 36 10.2**	**0.0**
	0.9nm,0.6s,mb4.0,baz=12,slow=8.2,SNR=13						

*MAN **03** 02:45:17.4, 11.36N×126.08E, h6km, mb5.0, ML3.9, MS4.0*
*IDC **03** 02:45:30.7±10.0, 11.20N×125.51E, h115km±95km, mb3.5/10, mb1 3.7/10, mb1mx3.5/19, MS3.3/1, Ms1 3.3/1, ms1mx2.6/16, Error ellipse: s-maj=63.6km s-min=14.5km az=65.0*
*NEIC **03** 02:45:31.3±0.6, 11.18N×125.48E, h120km, mb4.5/1, Error ellipse: s-maj=34.6km s-min=9.1km az=68.0*
ISC 03 02:45:16.7±1.5**, 11.38N**±0.04×**126.15E**±0.05**, h15**km±10km**, n25,** σ**1**^{s}**12**/30**, mb3.9**/11**, MS3.1**/1**, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.73**	**287**	*e*P	**Pb**	**02 45 30.5**	**-0.1**
PLP	**Palo**	**1.17**	**259**	*i* P	**Pb**	**02 45 36.3**	**-1.8**
OCLP	**Ormoc**	**1.55**	**258**	*e*P	**Pn**	**02 45 44.1**	**+0.1**
OCLP				*e*S	**Sn**	**02 46 04.2**	**+0.4**
SCPH	**Surigao**	**1.72**	**202**	*e*P	**Pn**	**02 45 46.3**	**-0.1**
SCPH				*e*S	**Sn**	**02 46 06.5**	**-1.7**
MSLP	**Maasin**	**1.77**	**226**	*e*P	**Pn**	**02 45 47.3**	**+0.1**
MSLP				*e*S	**Sn**	**02 46 11.3**	**+1.7**
CNP	**Catarman**	**1.84**	**308**	*e*P	**Pn**	**02 45 49.5**	**+1.4**
CNP				*e*S	**Sn**	**02 46 12.2**	**+1.1**
LLP	**Lapu-Lapu**	**2.39**	**244**	*e*P	**Pn**	**02 45 56.6**	**+0.5**
LLP				*i* S	**Sn**	**02 46 26.4**	**+1.1**
TBP	**Tagbilaran**	**2.81**	**233**	*e*P	**Pn**	**02 46 03.3**	**+1.3**
TBP				*e*S	**Sn**	**02 46 34.3**	**-1.6**
PVCP	**Virac**	**2.94**	**319**	*e*P	**Pn**	**02 46 09.5**	**+5.6**
GUIM	**Jordan**	**3.58**	**258**	*e*P	**Pn**	**02 46 13.3**	**+0.4**
BUKP	**Musuan**	**3.64**	**197**	*e*P	**Pn**	**02 46 15.2**	**+1.4**
JHJ	**Hachijo jima 2**	**24.99**	**28**	LR	LR	02 59 04.0	
	comp=Z,60nm,19.3s,MS3.1,baz=9.1,slow=32						
CMAR	**Chiang Mai Arr**	**27.19**	**288**	P	**P**	**02 50 58.9**	**-3.1**
	0.9nm,0.6s,mb3.5,baz=102,slow=7.6,SNR=4.0						
CMAR	**Chiang Mai Arr**	**27.19**	**288**	P	**P**	**02 50 58.9**	**-3.1**
FITZ	**Fitzroy Crossi**	**29.30**	**181**	P	**P**	**02 51 20.2**	**-0.8**
	1.9nm,0.8s,mb3.9,baz=343,slow=15,SNR=3.9						
WRA	**Warramunga Arr**	**32.16**	**165**	P	**P**	**02 51 46.5**	**+0.3**
	0.4nm,0.6s,mb3.4,baz=347,slow=9.3,SNR=3.4						
ASAR	**Alice Springs**	**35.65**	**168**	P	**P**	**02 52 18.6**	**+2.3**
	0.9nm,1.1s,mb3.6,baz=357,slow=7.7,SNR=5.5						
ASAR				PcP	PcP	02 54 43.9	-1.3
	0.7nm,1.0s,baz=337,slow=2.0,SNR=4.0						
SONM	**Songino Array**	**39.94**	**339**	P	**P**	**02 52 53.1**	**+1.0**
	0.3nm,0.5s,mb3.3,baz=151,slow=8.5,SNR=4.0						
STKA	**Stephens Creek**	**45.49**	**161**	P	**P**	**02 53 39.2**	**+1.7**
	1.7nm,0.8s,mb4.0,baz=357,slow=12,SNR=3.0						
STKA	**Stephens Creek**	**45.49**	**161**	P	**P**	**02 53 39.2**	**+1.7**
MKAR	**Makanchi Array**	**51.08**	**322**	P	**P**	**02 54 20.2**	**-0.4**
	1.6nm,0.7s,mb4.1,baz=122,slow=8.1,SNR=8.2						
ZAL	**Zalesovo**	**53.60**	**331**	P	**P**	**02 54 38.9**	**-0.6**
	1.1nm,0.4s,mb4.2,baz=228,slow=4.2,SNR=3.0						
KURK	**Kurchatov**	**55.09**	**325**	*e*P	**P**	**02 54 49.2**	**-1.2**
	4.0nm,0.7s,mb4.6						
ARCES	**ARCESS Array B**	**83.11**	**340**	P	**P**	**02 57 43.0**	**+0.1**
	1.5nm,0.8s,mb4.1,baz=80,slow=5.5,SNR=3.3						
FINES	**FINESS Array B**	**84.86**	**332**	P	**P**	**02 57 51.3**	**-0.5**
	0.9nm,0.7s,mb4.0,baz=90,slow=3.8,SNR=8.6						

MAN 03 02:50:19.4, 9.28N×125.75E, h3km**, mb3.8, ML2.6, MS2.2, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.34**	**203**	*e*P	Pg	02 50 26.2	+0.1
BUTP	**Butuan**	**0.34**	**203**	*e*P	Pg	02 50 26.2	+0.1
BUTP				*e*S	Sg	02 50 33.1	+2.4
SCPH	**Surigao**	**0.56**	**332**	*e*P	Pg	02 50 30.4	-0.2
SCPH				*e*S	Sg	02 50 38.0	-0.1
BUKP	**Musuan**	**1.55**	**206**	*e*P	Pn	02 50 47.5	-0.5
BATP	**Bataraza**	**7.87**	**267**	*e*P	Pn	02 52 16.0	-1.5

*IDC **03** 03:04:22.2±5.6, 0.06N×123.48E, h137km±52km, mb3.5/6, mb1 3.6/7, mb1mx3.5/16, Error ellipse: s-maj=70.7km s-min=13.7km az=62.0*
*NEIC **03** 03:04:23.8±0.5, 0.06S×123.40E, h150km, mb4.1/4, Error ellipse: s-maj=40.0km s-min=7.9km az=64.0*
ISC 03 03:04:22.1±0.7**, 0.1S**±0.2×**123.2E**±0.3**, h150**km**, n12,** σ**0**^{s}**67**/12**, mb3.9**/8**, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**15.50**	**144**	*e*P	**P**	**03 08 00.7**	**+6.7**
	9.4nm,0.6s						
FITZ	**Fitzroy Crossi**	**18.05**	**172**	*e*P	**P**	**03 08 23.7**	**-1.0**
	3.2nm,0.6s						
FITZ	**Fitzroy Crossi**	**18.05**	**172**	P	**P**	**03 08 23.9**	**-0.7**
	0.6nm,0.3s,baz=2.8,slow=8.4,SNR=17						
WRAB	**Tennant Creek**	**22.55**	**152**	*e*P	**P**	**03 09 10.7**	**+0.4**
	3.3nm,0.6s,mb3.9						
WRA	**Warramunga Arr**	**22.55**	**152**	P	**P**	**03 09 10.7**	**+0.3**
	2.3nm,0.5s,mb3.9,baz=331,slow=10,SNR=37						
WRA				PcP	PcP	03 12 59.7	-0.7
	2.1nm,1.4s,baz=339,slow=2.3,SNR=4.8						
WB2	**Warramunga Arr**	**22.55**	**152**	*e*P	**P**	**03 09 10.9**	**+0.5**
ASAR	**Alice Springs**	**25.64**	**157**	P	**P**	**03 09 39.5**	**-0.1**
	0.6nm,0.7s,mb3.4,baz=343,slow=14,SNR=7.6						
ASAR				PcP	PcP	03 13 06.7	-0.3
	1.1nm,0.6s,baz=347,slow=2.1,SNR=17						
CMAR	**Chiang Mai Arr**	**30.12**	**309**	P	**P**	**03 10 21.1**	**+1.0**
	0.9nm,0.7s,mb3.6,baz=137,slow=6.8,SNR=5.8						
ENH	**Enshi**	**32.90**	**338**	*e*P	**P**	**03 10 45.0**	**+0.7**
	13nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**36.09**	**153**	P	**P**	**03 11 11.1**	**-0.1**
	0.8nm,0.3s,mb3.8,baz=304,slow=11,SNR=5.4						
STKA				PcP	PcP	03 13 34.0	-0.3
	1.0nm,0.4s,baz=0.8,slow=2.3,SNR=5.6						
SONM	**Songino Array**	**49.93**	**345**	P	**P**	**03 13 01.8**	**-0.7**
	2.0nm,0.8s,mb3.8,baz=160,slow=9.2,SNR=13						
MKAR	**Makanchi Array**	**58.79**	**328**	P	**P**	**03 14 05.8**	**-1.1**
	0.7nm,0.4s,mb3.8,baz=117,slow=8.1,SNR=12						
MKAR				PcP	PcP	03 14 52.9	-1.7
	0.5nm,0.4s,baz=103,slow=3.1,SNR=5.5						

MAN 03 03:17:45.3, 6.99N×126.36E, h23km**, mb3.8, ML2.5, MS2.0, 1D, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.11**	**246**	*e*P	Pb	03 17 50.8	+1.0
MATI				*e*S	Sb	03 17 55.2	+2.4
KCP	**Kidapawan**	**1.26**	**271**⇓	*e*P	Pn	03 18 07.1	-0.7
KCP				*i* S	Sb	03 18 24.3	+0.3
BUKP	**Musuan**	**1.56**	**305**	*e*P	Pn	03 18 11.5	-0.6

*GUC **03** 03:30:08.3±0.7, 22.59S×68.53W, h113km±6km, ML5.1*
*NEIC **03** 03:30:10.3±0.2, 22.29S×68.34W, mb5.0/62, Error ellipse: s-maj=6.4km s-min=4.2km az=50.0*
*SYO **03** 03:30:10.2, 22.27S×68.30W, h108km, MB5.1*
*HRVD **03** 03:30:10.3±0.3, 22.38S×68.86W, h115km±4km, MW4.9/50, Centroid moment Tensor Solution. LP body waves: s26,c30;Mantle waves: s50,c70; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.12±.12; $M_{\theta\theta}$0.15±.13; $M_{\phi\phi}$2.98±.15; $M_{r\theta}$-0.62±.12; $M_{\theta\phi}$-0.48±.16; $M_{\phi r}$-0.06±.17; Best double couple: $M_0$3.15×10^{16} NP1:ϕ_s1°,δ46°,λ-75°. NP2:ϕ_s160°,δ46°,λ-105°. Principal axes: T 3.06, Plg0°, Azm261°; N .19, Plg11°, Azm170°; P -3.24, Plg79°, Azm353°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **03** 03:30:11.0±0.5, 22.28S×68.42W, h112km±4km, mb4.5/15, mb1 4.6/17, mb1mx4.6/18, MS3.8/3, Ms1 3.7/3, ms1mx3.4/16 Error ellipse: s-maj=17.6km s-min=10.8km az=63.0*
*BJI **03** 03:30:13.3, 22.30S×68.30W, h108km, mB5.1*
*LDG **03** 03:30:26.2±0.4, 20.65S×67.93W, h200km, Mb4.7/14, Ms4.1/6, Error ellipse: s-maj=21.7km s-min=12.1km az=18.0*
ISC 03 03:30:08.8±0.2**, 22.30S**±0.04×**68.42W**±0.05**, h108**km**, h108**km±.6km**:pP-P, n193,** σ**1**^{s}**06**/167**, mb5.0**/72**, 3C-8D, Northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.55**	**235**	*e*P	**P**	**03 30 25.7**	**-0.2**
LVC				*i* S	**S**	**03 30 38.2**	**-0.7**
LVC				AMP		03 30 39.9	
	comp=E,44μm,0.4s						
LVC	**Limon Verde**	**0.55**	**235**	*e*Pn	**P**	**03 30 25.9**	**0.0**
LVC				*e*Sn	**S**	**03 30 38.1**	**-0.8**
ANCH	**Antofagasta**	**2.29**	**233**	*e*P	**P**	**03 30 42.1**	**-4.0**
ANCH				*i* S	**S**	**03 31 07.9**	**-6.2**
ANCH				AMP		03 31 17.1	
	comp=N,11μm,0.3s						
CPN1	**Cerro Paranal**	**2.95**	**218**	*e*P	**P**	**03 30 53.2**	**-1.7**
CPN1				*i* S	**S**	**03 31 25.7**	**-4.1**
CPN1				AMP		03 31 37.9	
	comp=N,18μm,0.5s						
CPCH	**Copiapo**	**5.33**	**199**	*e*P	**P**	**03 31 22.6**	**-4.8**
CPCH				*i* S	**S**	**03 32 18.7**	**-9.4**
LPAZ	**La Paz**	**5.99**	**3**	P	**P**	**03 31 38.8**	**+2.6**
	comp=N,5.9nm,0.3s,baz=189,slow=8.2,SNR=95						
LPAZ	**La Paz**	**5.99**	**3**	*e*Pn	**P**	**03 31 37.9**	**+1.7**
	comp=N,9.1nm,0.4s						
ARE	**Arequipa**	**6.49**	**333**	*e*P	**P**	**03 31 40.0**	**-3.2**
ARE				*e*		03 31 51.0	
ARE				*e*S	**S**	**03 33 10.0**	**+14**
VACH	**Vallenar**	**6.60**	**198**⇑	*i*P	**P**	**03 31 39.1**	**-5.5**
VACH				*i* S	**S**	**03 32 48.6**	**-10**
CPUP	**Villa Florida**	**10.88**	**114**	P	**P**	**03 32 42.1**	**-0.3**
	comp=N,0.7nm,0.3s,baz=311,slow=12,SNR=58						
CPUP				LR	LR	03 37 38.0	
	comp=N,594nm,18.6s,baz=348,slow=41						
CPUP	**Villa Florida**	**10.88**	**114**	*e*Pn	**P**	**03 32 41.6**	**-0.9**
	comp=N,71nm,1.3s						
CPUP				*e*		03 33 24.2	
NNA	**Nana**	**13.03**	**321**	P	**P**	**03 33 13.1**	**+2.3**
	comp=N,16nm,0.9s						
SAML	**Samuel**	**14.20**	**22**	*e*P	**P**	**03 33 24.8**	**-1.2**
	comp=N,14nm,1.1s						
TRQA	**Tornquist**	**16.66**	**162**	*e*P	**P**	**03 33 55.3**	**-1.5**
	comp=N,33nm,0.8s						
BDFB	**Brasilia**	**20.39**	**75**	P	**P**	**03 34 38.5**	**-0.6**
	comp=N,24nm,0.8s,baz=256,slow=12,SNR=46						
BDFB				LR	LR	03 42 32.0	
	comp=N,188nm,20.5s,baz=287,slow=36						
BAO	**Brasilia Array**	**20.41**	**75**	*e*P	**P**	**03 34 38.8**	**-0.5**
BAO				*i*		03 34 44.5	
BAO				*e*		03 34 51.5	
BAO				*e*		03 35 03.7	
BAO				*e*		03 35 11.9	
ROSC	**El Rosal**	**27.60**	**347**	P	**P**	**03 35 48.4**	**+0.3**
	comp=N,11nm,1.0s,mb4.3,baz=324,slow=22,SNR=6.8						
ROSC				LR	LR	03 47 25.8	
	comp=N,175nm,18.3s,baz=174,slow=38						
ROSC	**El Rosal**	**27.60**	**347**	P	**P**	**03 35 48.4**	**+0.3**
ROSC				LR	LR	03 47 25.8	
SDV	**Santo Domingo**	**31.07**	**356**	*e*P	**P**	**03 36 16.7**	**-2.3**
	comp=N,10nm,0.2s,mb5.2						
USHA	**Ushuaia**	**32.49**	**180**	P	**P**	**03 36 30.5**	**-0.4**
	comp=N,3.8nm,0.5s,mb4.4,baz=346,slow=9.6,SNR=6.3						
JTS	**JuntasAbangare**	**36.22**	**332**	*e*P	**P**	**03 37 04.8**	**+1.7**
	comp=N,7.8nm,0.7s,mb4.8						
SJG	**San Juan**	**40.22**	**3**	P	**P**	**03 37 33.8**	**-2.6**
	comp=N,33nm,0.6s,mb5.3,baz=158,slow=4.3,SNR=14						
SJG				pP	pP	03 38 01.3	-0.2
	comp=N,22nm,0.9s,baz=158,slow=3.5,SNR=2.7						
SJG	**San Juan**	**40.22**	**3**	*e*P	**P**	**03 37 33.8**	**-2.6**
	comp=N,19nm,0.6s,mb5.1						
SJG				*e*pP	pP	03 38 01.1	-0.4
CSU	**Charleston Sou**	**56.09**	**348**	*e*P	**P**	**03 39 38.6**	**-0.5**
NHSC	**New Hope**	**56.23**	**348**	*e*P	**P**	**03 39 39.5**	**-0.6**
	comp=N,151nm,1.2s,mb5.9						
LRAL	**Lakeview Retre**	**57.81**	**342**	*e*P	**P**	**03 39 49.4**	**-1.9**
HKT	**Hockley**	**58.26**	**332**	*e*P	**P**	**03 39 53.4**	**-1.0**
	comp=N,85nm,1.6s,mb5.5						
VNA3	**Neumayer Olymp**	**59.18**	**161**⇓	*i*P	**P**	**03 40 02.0**	**+1.8**
VNA3				*e*	pP	03 40 28.1	+1.3
VNA1	**Neumayer--Stat**	**59.38**	**160**⇓	*i*P	**P**	**03 40 03.9**	**+2.3**
VNA1				*e*	pP	03 40 30.3	+2.0
CPCT	**Cooper Cave**	**59.42**	**345**	*e*P	**P**	**03 40 03.5**	**+1.0**
CPCT				*e*pP	pP	03 40 30.1	+1.1
SWET	**Sewanee**	**59.56**	**343**	*e*P	**P**	**03 40 01.4**	**-1.9**
SWET				*e*pP	pP	03 40 28.2	-1.8
SWET				*e*		03 40 41.1	
VNA2	**Neumayer--Watz**	**59.75**	**161**⇓	*i*P	**P**	**03 40 06.0**	**+1.8**
VNA2				*e*	pP	03 40 32.7	+1.9
OXF	**Oxford**	**59.92**	**340**	*e*P	**P**	**03 40 03.3**	**-2.5**
	comp=N,55nm,1.0s,mb5.5						
BLA	**Blacksburg**	**60.26**	**349**	*e*P	**P**	**03 40 07.4**	**-0.7**
	comp=N,37nm,0.9s,mb5.4						
PWV	**Princeton**	**60.50**	**348**	*e*P	**P**	**03 40 09.0**	**-0.7**
PWV				*e*pP	pP	03 40 35.8	-0.6

JCT	Junction City	60.52	329	eP	P	03 40 08.5	-1.4
	comp=N,62nm,0.8s,mb5.7						
JCT				epP	pP	03 40 35.9	-0.8
FWV	Forest Hill	60.69	349	eP	P	03 40 10.1	-1.0
WVT	Waverly	60.94	342	eP	P	03 40 10.2	-2.6
	comp=N,39nm,0.9s,mb5.4						
UALR	University of	61.14	338	eP	P	03 40 12.3	-1.8
	comp=N,31nm,1.0s,mb5.3						
UALR				epP	pP	03 40 39.4	-1.4
SNAA	Sanae	61.38	161	⇓i	P	03 40 14.8	-0.4
SNAA	Sanae	61.38	161	e	pP	03 40 41.4	-0.6
SNAA	Sanae	61.38	161	P	P	03 40 15.0	-0.3
	comp=N,6.3nm,0.7s,mb4.7,baz=288,slow=5.9,SNR=87						
SNAA				pP	pP	03 40 41.0	-1.0
	comp=N,5.2nm,1.2s,baz=303,slow=4.6,SNR=3.5						
SNAA				sP	sP	03 40 55.9	+1.8
	comp=N,3.3nm,1.0s,baz=275,slow=7.2,SNR=2.6						
SNAA	Sanae	61.38	161	⇓iP	P	03 40 14.8	-0.4
SNAA				e	pP	03 40 41.4	-0.6
UTMT	University of	61.44	341	eP	P	03 40 14.1	-2.0
	comp=N,34nm,0.6s,mb5.5						
LTX	Lajitas	61.54	325	eP	P	03 40 16.1	-0.8
	comp=N,14nm,1.4s,mb4.8						
TXAR	Lajitas Array	61.54	325	P	P	03 40 16.0	-0.9
	comp=N,3.9nm,0.7s,mb4.5,baz=147,slow=8.7,SNR=35						
TXAR				pP	pP	03 40 43.0	-0.6
	comp=N,11nm,1.3s,baz=140,slow=9.8,SNR=4.2						
WCI	Wyandotte Cave	62.50	344	eP	P	03 40 20.6	-2.6
	comp=N,23nm,1.0s,mb5.1						
WCI				epP	pP	03 40 48.0	-2.0
WCI				e		03 41 01.9	
MCWV	Mont Chateau	62.55	350	eP	P	03 40 22.8	-0.7
	comp=N,28nm,0.8s,mb5.2						
SSPA	Standing Stone	63.23	352	eP	P	03 40 26.6	-1.4
	comp=N,19nm,1.2s,mb4.9						
FVM	French Village	63.43	341	eP	P	03 40 26.9	-2.5
	comp=N,208nm,1.6s,mb5.8						
FVM				epP	pP	03 40 54.9	-1.3
WMOK	Wichita Mounta	63.63	332	eP	P	03 40 28.6	-2.2
	comp=N,8.3nm,0.8s,mb4.6						
ACSO	Alum Creek Sta	63.67	348	eP	P	03 40 29.0	-1.8
	comp=N,21nm,1.0s,mb4.9						
CCM	Cathedral Cave	63.75	340	eP	P	03 40 29.4	-2.1
	comp=N,20nm,0.8s,mb5.0						
CCM				epP	pP	03 40 56.1	-2.2
BRYW	Bryant College	63.95	357	eP	P	03 40 32.0	-0.7
CLNB	Carlsbad	63.98	327	eP	P	03 40 32.7	-0.3
GDL2	Guadalupe Moun	64.18	326	eP	P	03 40 33.9	-0.3
GDL2				epP	pP	03 41 00.8	-0.5
ALLY	Alegheny Colle	64.54	350	eP	P	03 40 35.5	-1.0
GENY	Geneseo	65.32	352	eP	P	03 40 40.7	-0.8
MAIT	Maitri	65.90	159	⇓iP	P	03 40 44.9	+0.2
KSU1	Kansas State U	66.53	336	eP	P	03 40 47.6	-1.7
LOZ	Lake Ozonia	66.83	355	eP	P	03 40 49.8	-1.3
BNM	Barren Site	66.88	326	eP	P	03 40 51.8	+0.3
LPM	Los Pinos Moun	67.00	326	eP	P	03 40 52.5	+0.2
LPM				e	pP	03 41 19.1	-0.4
LENM	Lemitar	67.07	326	eP	P	03 40 53.1	+0.4
MSNY	Massena	67.23	355	eP	P	03 40 53.1	-0.4
ANMO	Albuquerque	67.42	327	eP	P	03 40 55.1	+0.2
	comp=N,31nm,0.8s,mb5.2						
ANMO				e	pP	03 41 21.6	-0.5
CBKS	Cedar Bluff	67.50	334	eP	P	03 40 54.8	-0.6
	comp=N,95nm,0.9s,mb5.6						
CBKS				e	pP	03 41 21.9	-0.6
TUC	Tucson	67.74	322	eP	P	03 40 57.0	0.0
	comp=N,31nm,1.4s,mb5.0						
TUC				e	pP	03 41 24.3	+0.1
LIC	Lamto	68.18	73	eP	P	03 40 59.3	-0.6
	comp=N,48nm,0.7s,mb5.5						
TIC	Toumodi	68.37	73	eP	P	03 41 00.3	-0.8
	comp=N,76nm,0.9s,mb5.5						
KIC	Kosan Boka	68.49	73	eP	P	03 41 01.3	-0.6
	comp=N,148nm,0.7s,mb5.9						
DBIC	Dimbokro	68.53	73	P	P	03 41 01.7	-0.4
	comp=N,61nm,1.0s,mb5.4,baz=223,slow=6.3,SNR=57						
DBIC				pP	pP	03 41 29.5	+0.1
	comp=N,17nm,0.8s,baz=216,slow=6.8,SNR=4.8						
DBIC	Dimbokro	68.53	73	eP	P	03 41 01.8	-0.3
	comp=N,39nm,0.8s,mb5.3						
DBIC				e	pP	03 41 29.6	+0.2
SDCO	Great Sand Dun	69.16	329	eP	P	03 41 05.9	+0.3
	comp=N,46nm,0.9s,mb5.3						
SDCO				epP	pP	03 41 32.8	-0.2
SDCO				sP	sP	03 41 45.3	+0.7
RW3	Ridgway	70.61	328	eP	P	03 41 15.0	+0.6
ISCO	Idaho Springs	70.86	330	eP	P	03 41 15.9	0.0
	comp=N,24nm,1.0s,mb5.0						
BAR	Barrett	71.50	318	eP	P	03 41 20.5	+0.7
BAR				ePcP	PcP	03 41 37.8	-0.9
BAR				epP	pP	03 41 47.5	+0.3
LDFC	Landfair	72.23	321	eP	P	03 41 24.7	+0.6
NEN	Nelson	72.48	322	eP	P	03 41 26.0	+0.4
SRU	San Rafael	72.69	327	eP	P	03 41 27.1	+0.4
MSU	Marysvale	73.09	325	eP	P	03 41 30.1	+1.1
MSU				ePcP	PcP	03 41 45.5	+0.1
MSU				epP	pP	03 41 56.8	+0.1
MVU	Marysvale	73.10	325	eP	P	03 41 30.1	+0.9
	comp=N,26nm,0.9s,mb5.0						
MVU				ePcP	PcP	03 41 45.9	+0.4
MVU				epP	pP	03 41 57.5	+0.7
MVU				esP	sP	03 42 10.4	+1.9
TMUT	Trail Mountain	73.18	327	eP	P	03 41 30.2	+0.6
ARUT	Antelope Range	73.23	324	eP	P	03 41 31.3	+1.4
RSSD	Black Hills	73.71	334	eP	P	03 41 32.8	+0.2
	comp=N,30nm,1.1s,mb4.9						
MPU	Maple Canyon	73.93	327	eP	P	03 41 34.7	+0.7
DAU	Daniels Canyon	74.04	327	eP	P	03 41 35.5	+0.9
DAU				epP	pP	03 42 02.1	-0.2
NLU	North Lily Min	74.11	327	eP	P	03 41 35.8	+0.7
NLU				epP	pP	03 42 02.0	-0.7
TPNV	Topopah Spring	74.20	322	eP	P	03 41 36.6	+1.0
	comp=N,16nm,1.0s,mb4.7						
TPNV				epP	pP	03 42 04.4	+1.1
JLU	Jordanelle	74.28	327	eP	P	03 41 36.8	+0.8
CTU	Camp Tracy	74.50	327	eP	P	03 41 37.6	+0.4
TCUT	Toone Canyon	74.65	328	eP	P	03 41 37.5	-0.6
DUG	Dugway	74.67	326	eP	P	03 41 39.0	+0.8
	comp=N,17nm,1.1s,mb4.7						
TRCR	Troy Canyon	74.81	323	eP	P	03 41 40.2	+1.2
PDAR	Pinedale Array	75.02	330	P	P	03 41 40.1	0.0
	comp=N,3.1nm,0.8s,mb4.1,baz=135,slow=6.3,SNR=24						
PDAR				pP	pP	03 42 08.1	+0.2
	comp=N,1.7nm,0.7s,baz=188,slow=2.2,SNR=3.3						
HWUT	Hardware Ranch	75.10	328	eP	P	03 41 40.8	+0.2
	comp=N,20nm,0.8s,mb4.9						
HWUT				epP	pP	03 42 08.3	-0.1
SPUT	South Promonto	75.31	327	eP	P	03 41 42.4	+0.6
SPUT				PcP	PcP	03 41 54.7	-0.2
SPUT				epP	pP	03 42 09.5	-0.1
BGU	Big Grassy Mou	75.32	327	eP	P	03 41 41.9	0.0
BGU				epP	pP	03 42 09.2	-0.4
TPH	Tonopah	75.54	322	eP	P	03 41 44.1	+0.9
	comp=N,5.6nm,0.7s,mb4.4						
SYO	Syowa Base	75.60	159	⇑P	P	03 41 43.5	+0.6
SYO	Syowa Base	75.60	159	⇑pP	pP	03 42 11.2	+0.5
MTUM	Tungsten Hills	75.81	321	eP	P	03 41 45.5	+0.7
HVU	Hansel Valley	75.83	327	eP	P	03 41 45.0	+0.3
REDW	Red Top Meadow	76.09	330	eP	P	03 41 46.7	+0.5
LOHW	Long Hollow	76.16	330	epP	pP	03 42 14.8	+0.4
WUWY	Wally Ulrich	76.17	330	eP	P	03 41 46.6	0.0
WUWY				ePcP	PcP	03 41 58.1	-0.5
WUWY				epP	pP	03 42 14.8	+0.3
ULM	Lac du Bonnet	76.21	342	P	P	03 41 45.8	-0.9
	comp=N,10nm,0.8s,mb4.6,baz=152,slow=6.6,SNR=7.6						
TPAW	Teton Pass	76.23	330	eP	P	03 41 47.8	+0.8
TPAW				epP	pP	03 42 15.6	+0.7
OMM	Old Mammoth Mi	76.25	321	eP	P	03 41 48.0	+0.8
RRI2	Red Ridge	76.30	329	eP	P	03 41 48.2	+0.9
RRI2				epP	pP	03 42 16.0	+0.8
MNV	Mina	76.31	322	eP	P	03 41 47.7	+0.2
	comp=N,3.0nm,0.8s,mb4.1						
MOOW	Moose Ponds	76.33	330	eP	P	03 41 48.0	+0.5
MOOW				epP	pP	03 42 15.3	-0.1
ELK	Elko	76.33	325	eP	P	03 41 47.8	+0.2
	comp=N,12nm,0.9s,mb4.6						
NVAR	Mina Array Bea	76.40	322	P	P	03 41 48.9	+0.9
	comp=N,3.8nm,0.7s,mb4.2,baz=146,slow=7.1,SNR=36						
NVAR				pP	pP	03 42 17.1	+1.2
	comp=N,0.4nm,0.3s,baz=285,slow=24,SNR=2.4						
IMW	Indian Meadow	76.54	330	eP	P	03 41 49.4	+0.7
LRV	Little Rabbit	76.66	319	eP	P	03 41 50.5	+1.0
LRV				epP	pP	03 42 18.1	+0.7
LAO	LASA Array	76.70	334	eP	P	03 41 49.4	-0.1
	comp=N,93nm,1.6s,mb5.3						
SCHQ	Schefferville	76.83	1	P	P	03 41 49.9	-0.1
	comp=N,16nm,0.8s,mb4.8,baz=111,slow=2.9,SNR=9.0						
SCHQ	Schefferville	76.83	1	P	P	03 41 49.9	-0.1
YFT	Old Faithful	76.91	330	eP	P	03 41 53.1	+2.3
YMR	Madison River	77.14	330	eP	P	03 41 53.2	+1.2
CMB	Columbia Colle	77.34	320	eP	P	03 41 53.2	-0.1
	comp=N,3.2nm,0.9s,mb4.0						
DGMT	Dagmar	77.38	337	eP	P	03 41 53.8	+0.5
	comp=N,47nm,0.9s,mb5.2						
GCMT	Greycliff	77.43	332	eP	P	03 41 54.1	+0.6
QLMT	Earthquake Lak	77.48	330	eP	P	03 41 55.4	+1.5
PAHR	Pah Rah Range	77.88	322	eP	P	03 41 56.4	+0.2
	comp=N,19nm,0.8s,mb4.9						
HLID	Hailey	77.96	328	eP	P	03 41 57.7	+1.2
	comp=N,31nm,0.9s,mb5.0						
MCMT	McKenzie Canyo	78.14	329	eP	P	03 41 58.8	+1.3
BOZ	Bozeman (W)	78.19	331	eP	P	03 41 57.7	-0.1
	comp=N,39nm,1.8s,mb4.8						
BEKR	Beckwourth	78.55	322	eP	P	03 42 00.5	+0.7
	comp=N,4.1nm,0.7s,mb4.4						
OHCM	Honcut	78.84	321	eP	P	03 42 01.3	-0.2
HRY	Holter Researc	79.09	331	eP	P	03 42 03.4	+0.8
TSUM	Tsumeb	79.38	106	eP	P	03 42 05.7	+1.0
	comp=N,26nm,0.8s,mb5.1						
TSUM				epP	pP	03 42 34.1	+1.3
MOD	Modoc	79.88	323	eP	P	03 42 07.5	+0.5
	comp=N,16nm,0.9s,mb4.9						
WDC	Whiskeytown Da	80.27	321	eP	P	03 42 07.9	-1.3
	comp=N,12nm,0.7s,mb4.8						
YBH	Yreka Blue Hor	81.12	322	P	P	03 42 13.1	-0.5
	comp=N,6.8nm,0.8s,mb4.5,baz=86,slow=4.6,SNR=14						
KHMM	Horse Mountain	81.15	321	eP	P	03 42 13.8	0.0
KRMB	Red Mountain	81.67	321	eP	P	03 42 17.1	+0.6
WALA	Waterton Lakes	81.78	332	eP	P	03 42 17.1	+0.2
	comp=N,25nm,1.3s,mb4.9						
BOSA	Boshof	82.67	118	eP	P	03 42 22.6	+0.7
	comp=N,18nm,0.9s,mb4.9						
BOSA				epP	pP	03 42 51.2	+1.1
EVO	Evora	82.84	43	eP	P	03 42 22.1	-0.5
	comp=N,18nm,1.0s,mb4.5						
EVO				eR			
	comp=N,180nm,22.5s						
DPW	Davenport	82.89	329	eP	P	03 42 23.1	+0.5
MAW	Mawson	83.44	163	⇓iP	P	03 42 26.1	+1.1
	comp=N,9.3nm,0.7s,mb4.7						
MAW	Mawson	83.44	163	P	P	03 42 26.0	+1.0
	comp=N,11nm,0.7s,mb4.8,baz=212,slow=5.9,SNR=40						
MAW				pP	pP	03 42 55.3	+2.1
	comp=N,4.7nm,0.9s,baz=236,slow=5.3,SNR=2.8						
EDM	Edmonton	84.67	335	eP	P	03 42 30.8	-0.6
PGC	Sidney	86.01	327	eP	P	03 42 38.6	+0.6
ESDC	Sonseca Array	86.08	44	P	P	03 42 39.7	+1.0
	comp=N,5.1nm,1.0s,mb4.4,baz=237,slow=5.0,SNR=20						
ESDC				pP	pP	03 43 08.9	+1.8
	comp=N,0.6nm,0.7s,baz=237,slow=5.5,SNR=2.6						
ESLA	Sonseca Array	86.08	44	eP	P	03 42 40.0	+1.3
CASY	Casey	91.70	180	⇓iP	P	03 43 06.2	+1.6
LFF	La Frestale	91.81	42	eP	P	03 43 05.5	-0.1
	comp=N,18nm,0.9s,mb5.0						
YKA	Yellowknife Ar	92.09	340	P	P	03 43 06.6	+0.2
	comp=N,12nm,0.7s,mb5.3,baz=135,slow=4.5,SNR=28						
YKA	Yellowknife Ar	92.09	340	P	P	03 43 06.6	+0.2
MFF	Saint Martin d	92.11	40	eP	P	03 43 06.8	-0.2
	comp=N,18nm,1.0s,mb5.0						
CAF	Calviac	92.62	42	eP	P	03 43 09.3	-0.1
	comp=N,7.0nm,0.9s,mb4.7						
BGF	Bois d'Agland	93.89	41	eP	P	03 43 14.8	-0.3
	comp=N,15nm,1.0s,mb5.0						
SSF	Saint Saulge	94.53	41	eP	P	03 43 17.3	-0.7
	comp=N,8.9nm,1.0s,mb4.8						
SMF	Signal de Mont	94.53	41	eP	P	03 43 17.9	-0.1
	comp=N,21nm,1.2s,mb5.1						
LMR	La Mourre	94.72	45	eP	P	03 43 19.3	+0.4
	comp=N,16nm,1.1s,mb5.1						
LOR	Lormes	94.83	41	eP	P	03 43 18.8	-0.6
	comp=N,4.9nm,0.8s,mb4.7						
LOR				eR			
	comp=N,190nm,17.2s						
ORIF	Oris-en-Rattie	95.02	43	eP	P	03 43 21.0	+0.7
	comp=N,9.8nm,0.9s,mb4.9						
ORIF				eR			
	comp=N,146nm,19.5s						
MBDF	Montbardon	95.50	44	eP	P	03 43 23.2	+0.7
	comp=N,18nm,1.2s,mb5.1						
LPL	La Plagne	95.82	43	eP	P	03 43 24.8	+0.9
	comp=N,4.7nm,0.8s,mb4.7						
LPG	La Plagne	95.83	43	eP	P	03 43 24.9	+1.0
ILAR	Eielson Array	105.16	334	PP	PP	03 48 29.8	-0.4
	comp=N,0.9nm,1.0s,baz=101,slow=7.3,SNR=4.8						
AKASG	Malin Array Be	111.69	43	PKiKP		03 48 31.1	
	comp=N,0.3nm,0.3s,baz=269,slow=2.8,SNR=8.0						
CTA	Charters Tower	125.95	221	PKP	PKPdf	03 48 59.4	+0.6
	comp=N,2.8nm,0.8s,baz=52,slow=4.9,SNR=4.9						
CTA	Charters Tower	125.95	221	PKP	PKPdf	03 48 59.4	+0.6
ASAR	Alice Springs	129.41	207	PKP	PKPdf	03 49 06.8	+1.4
	comp=N,8.9nm,0.8s,baz=147,slow=2.3,SNR=33						
WRA	Warramunga Arr	132.49	210	PKP	PKPdf	03 49 12.9	+1.5
	comp=N,5.8nm,0.8s,baz=158,slow=1.8,SNR=24						
ZRNK	Zerenda	135.48	36	ePKPdf	PKPdf	03 49 18.4	+2.4
BRVK	Borovoye	136.12	35	ePKPdf	PKPdf	03 49 18.7	+1.6
FITZ	Fitzroy Crossi	137.56	200	PKP	PKPdf	03 49 23.1	+2.4
	comp=N,4.3nm,0.7s,baz=181,slow=5.2,SNR=6.8						
ZAL	Zalesovo	142.47	26	PKhKP		03 49 26.4	
	comp=N,6.2nm,1.0s,baz=43,slow=6.0,SNR=14						
ZAL				PKP	PKPdf	03 49 31.5	+3.1
	comp=N,7.4nm,0.8s,baz=82,slow=3.1,SNR=20						
ZAL	Zalesovo	142.47	26	PKP	PKPdf	03 49 26.4	-2.1
ZAL				PKP	PKPdf	03 49 31.5	+3.1
AAK	Ala-Archa	143.11	48	ePKPpre		03 49 28.3	
POO	Poona	144.50	89	eP	PKPbc	03 49 33.0	+0.2
YSS	Yuzh-Sakhalins	144.85	322	ePKPdf	PKPdf	03 49 33.5	+0.7
KSH	Kashi	145.24	52	ePKP	PKPdf	03 49 36.6	+2.9
KSH				ePKP2	PKPab	03 49 38.2	+2.2
KSH				eAPKP		03 50 04.7	
KSH				eXPKP		03 50 15.1	
KSH				ePP	PP	03 52 58.1	+1.0
KSH				ePKS	PKS	03 53 10.0	+1.8
KSH				ePPP	Px	03 57 16.1	
KSH				eSKKS		03 59 38.3	
KSH				eSS	SS	04 11 39.6	+2.4
MKAR	Makanchi Array	146.00	37	PKPbc	PKPbc	03 49 37.3	+1.4
	comp=N,37nm,0.7s,baz=312,slow=2.7,SNR=134						
MKAR				pPKPbc		03 50 07.8	
	comp=N,4.4nm,0.7s,baz=333,slow=5.4,SNR=2.1						
ASAJ	Asahikawa	146.44	318	PKPbc	PKPbc	03 49 39.4	+2.3
	comp=N,33nm,0.8s,baz=273,slow=4.9,SNR=18						
NDI	New Delhi	148.41	71	e	PKPdf	03 49 40.0	+0.7
HYB	Hyderabad	148.60	93	i PKP	PKPdf	03 49 40.5	+0.6
WMQ	Urumqi	150.84	37	ePKP	PKPdf	03 49 45.0	+2.4
WMQ				PP	PP	03 53 32.0	+2.4
WMQ				SKKS		04 00 10.0	
WMQ				SS	SS	04 12 43.0	+3.5
WMQ				LR	LR		
	comp=E,102nm,25.0s						
WMQ				LR	LR		
	comp=Z,73nm,22.0s						
HIA	Hailar	152.32	348	ePKPbc	PKPdf	03 49 53.4	+8.7
MAT	Matsushiro	152.92	308	PKP	PKPdf	03 49 48.3	+2.4
MAT	Matsushiro	152.92	308	eP	PKPdf	03 49 44.0	-1.9
SONM	Songino Array	154.18	8	PKP	PKPdf	03 49 49.9	+2.7
	comp=Z,5.5nm,0.9s,baz=286,slow=0.7,SNR=16						
SONM				PKPbc	PKPdf	03 49 58.1	+11
	comp=Z,4.1nm,0.7s,baz=325,slow=1.9,SNR=9.6						
SONM				PKPab	PKPab	03 50 11.9	-0.2
	comp=Z,3.1nm,0.7s,baz=327,slow=4.5,SNR=7.3						
CN2	Changchun	155.67	335	ePKP	PKPdf	03 49 51.9	+2.6
CN2				APKP		03 50 19.0	
CN2				PKP2	PKPab	03 50 21.0	+2.4
CN2				ePP	PP	03 53 58.6	+2.0
CN2				eSS	SS	04 13 35.1	+2.8
JNU	Nakatsue	159.83	306	PKP	PKPdf	03 49 57.8	+2.9
	comp=Z,29nm,0.4s,baz=218,slow=0.8,SNR=3.7						
LZH	Lanzhou	164.70	24	ePKP	PKPdf	03 50 01.7	+2.1
LZH				APKP		03 50 31.5	
LZH				XPKP		03 50 42.0	
LZH				SKKS		04 01 23.9	
LZH				SS	SS	04 15 10.4	+3.7
CMAR	Chiang Mai Arr	167.55	106	PKP	PKPdf	03 50 04.7	+2.3
	comp=Z,1.2nm,0.5s,baz=287,slow=2.6,SNR=8.7						
CMAR				PKPab	PKPab	03 51 10.9	+0.1
	comp=Z,1.7nm,0.4s,baz=251,slow=5.8,SNR=6.9						
XAN	Xi'an	168.07	11	PKP	PKPdf	03 50 05.1	+2.8
NJ2	Nanjing	168.33	328	ePKP	PKPdf	03 50 05.6	+3.1
NJ2				APKP		03 50 32.5	
NJ2				XPKP		03 50 43.0	
NJ2				PP	PP	03 55 06.0	+2.4
NJ2				SKS	SKS	03 56 58.0	+4.3
NJ2				LR	LR		
	comp=N,740nm,29.8s						
NJ2				LR	LR		
	comp=E,490nm,29.2s						
NJ2				LR	LR		
	comp=Z,1μm,28.8s						

LDG 03 03:30:56.4±1.5, 42.90N×1.47W, h2^{km}, Md1.9/2, Ml1.8/1, Error ellipse: s-maj=26.9km s-min=19.4km az=58.0
MDD 03 03:30:56.9±0.7, 42.85N×1.36W, h4^{km}±12^{km}, mb1.5/1, mbLg1.0/4, Error ellipse: s-maj=6.5km s-min=3.2km az=44.0, PRXIMO AftershockPLICA
ISC 03 03:30:55.2±1.2, 42.83N±0.06×1.42W±0.08, h5^{km}±15^{km}, n7, σ0^{s}66/11, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.32	26	ePg	Pg	03 31 02.1	+0.4
SJPF				eSg	Sg	03 31 04.9	-1.1
	8.2nm,0.2s						
EALK	Alkurruntz	0.40	351	Pg	Pg	03 31 03.8	+0.6
	0.2nm,0.4s,SNR=7.3						
EALK				Lg		03 31 09.7	
	3.6nm,0.2s,SNR=11						
ETSF	Etsaut	0.64	83	ePg	Pg	03 31 07.6	-0.3
ETSF				eSg	Sg	03 31 16.7	+0.2
	2.6nm,0.3s						
EPF	Esparros	1.31	80	ePn	Pn	03 31 19.7	-0.5
EPF				ePg	Pg	03 31 22.3	+1.0
EPF				eSg	Sg	03 31 39.2	+0.4
	2.1nm,0.3s						
EPF	Esparros	1.31	80	Pn	Pn	03 31 19.7	-0.5
EPF				Lg		03 31 39.2	
	1.1nm,0.3s						
ESAC	San Caprasio	1.31	147	Pg	Pg	03 31 20.3	-1.0
	3.2nm,0.2s,SNR=7.9						
ESAC				Lg		03 31 37.8	
	3.6nm,0.2s,SNR=5.0						
ETOR	Torete	2.06	194	Pn	Pn	03 31 31.2	+0.3
	0.1nm,0.4s,SNR=7.9						
ETOR				Lg		03 31 58.6	
	0.6nm,0.5s,SNR=7.9						

IDC 03 03:40:36.8±0.8, 3.64N×128.64E, mb4.2/11, mb1 4.3/11, mb1mx4.2/18, MS3.7/8, Ms1 3.7/8, ms1mx3.5/22, Error ellipse: s-maj=44.8km s-min=14.9km az=73.0
BJI 03 03:40:40.9, 3.69N×128.42E, h24^{km}, mB5.1, mb4.8
NEIC 03 03:40:41.5±0.4, 3.57N×128.47E, mb4.7/9, Error ellipse: s-maj=20.5km s-min=7.0km az=77.0
ISC 03 03:40:46.0±1.7, 3.51N±0.07×128.4E±0.2, h84^{km}±14^{km}, n35, σ0^{s}92/31, mb4.3/23, 1D, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	General Santos	4.28	307	eP	P	03 41 50.0	-0.3
DAV	Davao City (W)	4.51	322	eP	P	03 41 52.7	-0.8
KCP	Kidapawan	4.79	317	⇓eP	P	03 41 58.6	+1.4
FITZ	Fitzroy Crossi	21.64	187	eP	P	03 45 30.0	-1.0
	4.5nm,0.9s,mb3.8						
FITZ				e		03 49 22.8	
FITZ	Fitzroy Crossi	21.64	187	P	P	03 45 29.6	-1.4
	1.9nm,0.5s,mb3.7,baz=20,slow=8.9,SNR=11						
PMG	Port Moresby	22.68	125	LR	LR	03 54 57.2	
	comp=Z,95nm,20.1s,baz=68,slow=38						
WRAB	Tennant Creek	24.02	166	eP	P	03 45 55.1	+1.0
	5.7nm,0.6s,mb4.1						
WRA	Warramunga Arr	24.02	166	P	P	03 45 54.1	-0.1
	6.9nm,1.0s,mb4.0,baz=346,slow=10,SNR=62						
WB2	Warramunga Arr	24.02	166	eP	P	03 45 55.1	+0.8
WB2				e		03 49 13.1	
MBWA	Marble Bar	25.94	199	eP	P	03 46 11.3	-1.1
	1.7nm,0.5s,mb3.7						
ASAR	Alice Springs	27.54	169	P	P	03 46 26.4	-0.7
	0.6nm,0.6s,mb3.3,baz=354,slow=7.7,SNR=15						
ASAR				PcP	PcP	03 49 43.7	+0.3
	1.0nm,0.6s,baz=357,slow=2.5,SNR=5.5						
ASAR				LR	LR	03 57 58.0	
	comp=Z,83nm,18.1s,baz=343,slow=38						
CTA	Charters Tower	29.28	144	LR	LR	03 58 16.5	
	comp=Z,124nm,21.8s,baz=329,slow=36						
CMAR	Chiang Mai Arr	32.42	299	P	P	03 47 10.3	0.0
	2.7nm,0.8s,mb4.0,baz=104,slow=6.9,SNR=8.3						
CMAR				ScP		03 53 41.0	
	0.7nm,0.5s,baz=230,slow=0.9,SNR=4.1						
CMAR				LR	LR	03 59 53.6	
	comp=Z,63nm,19.6s,baz=105,slow=36						
KMI	Kunming	32.72	313	eP	P	03 47 13.1	+0.2
KMI				AMB	AMB		
	comp=Z,7.0nm,0.5s,mb4.8						
XAN	Xi'an	35.38	331	P	P	03 47 34.6	-1.0
XAN				AMB	AMB		
	comp=Z,8.0nm,1.5s,mb4.3						
STKA	Stephens Creek	37.36	161	P	P	03 47 52.4	+0.1
	comp=Z,3.2nm,0.8s,mb4.3,baz=337,slow=9.4,SNR=7.7						
STKA				LR	LR	04 02 06.7	
	comp=Z,154nm,20.0s,baz=206,slow=34						
NWAO	Narrogin (SRO)	37.74	195	eP	P	03 47 55.6	+0.1
	comp=Z,31nm,1.3s,mb5.0						
BJI	Beijing	38.01	345	eP	P	03 47 56.9	-0.7
BJI				AMB	AMB		
	comp=Z,11nm,0.7s,mb4.8						
LZH	Lanzhou	39.55	328	eP	P	03 48 12.1	+1.7
LZH				AP	pP	03 48 17.6	-13
LZH				AMB	AMB		
	comp=Z,28nm,1.5s,mb4.9						
LZH				AMB	AMB		
	comp=Z,138nm,4.7s						
SHL	Shillong	41.35	306	eP	P	03 48 26.7	+1.4
SONM	Songino Array	48.05	340	P	P	03 49 18.3	-0.6
	comp=Z,1.5nm,0.6s,mb4.0,baz=154,slow=7.3,SNR=8.7						
SONM	Songino Array	48.05	340	P	P	03 49 18.2	-0.6
MKAR	Makanchi Array	58.69	325	P	P	03 50 36.8	-0.3
	comp=Z,8.1nm,0.8s,mb4.8,baz=110,slow=6.8,SNR=10						
MKAR				LR	LR	04 19 14.1	
	comp=Z,86nm,18.3s,baz=342,slow=40						
KURK	Kurchatov	62.82	327	eP	P	03 51 04.4	-0.8
	comp=Z,7.1nm,0.6s,mb4.8						
BRVK	Borovoye	68.49	327	eP	P	03 51 40.7	-0.6
	comp=Z,6.9nm,0.8s,mb4.5						
BRVK				e		03 51 49.6	
ZRNK	Zerenda	69.15	326	P	P	03 51 44.9	-0.5
	comp=Z,5.0nm,0.6s,mb4.5						
ZRNK				e		03 51 53.5	
CASY	Casey	70.80	188	P	P	03 51 54.6	-0.5
	comp=Z,12nm,1.3s,mb4.5						
CASY				e		03 52 04.3	
IMA	Indian Mountai	81.92	24	eP	P	03 52 58.5	+1.0
	comp=Z,12nm,0.8s,mb4.8						
MAW	Mawson	84.12	201	P	P	03 53 10.8	+2.2
	comp=Z,1.7nm,0.7s,mb4.0,baz=79,slow=12,SNR=3.9						
ILAR	Eielson Array	84.59	25	P	P	03 53 10.7	-0.3
	comp=Z,0.5nm,0.8s,mb3.5,baz=246,slow=10.0,SNR=4.7						
ILAR	Eielson Array	84.59	25	P	P	03 53 10.7	-0.3
ASF	Jabal al Asfar	89.42	302	LR	LR	04 33 00.7	
	comp=Z,48nm,21.3s,baz=145,slow=35						
KMBO	Kilima Mbogo	91.20	269	LR	LR	04 29 54.8	
	comp=Z,88nm,18.7s,baz=275,slow=32						
ARCES	ARCESS Array B	91.23	340	P	P	03 53 41.5	-1.2
	comp=Z,2.3nm,1.0s,mb4.3,baz=90,slow=6.3,SNR=3.2						
FINES	FINESS Array B	92.81	332	P	P	03 53 51.6	+1.5
	comp=Z,2.3nm,1.1s,mb4.4,baz=90,slow=1.9,SNR=5.9						

WEL 03 04:18:32.7±0.2, 37.59S×176.13E, h281^{km}±3^{km}, ML3.8/6, 2C, Error ellipse: s-maj=6.4km s-min=5.2km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	1.03	131	⇑PN	P	04 19 11.2	-0.2
URZ				SN	S	04 19 41.3	-0.4
MWZ	Matawai	1.34	124	PN	P	04 19 13.2	0.0
MWZ				SN	S	04 19 44.4	-0.5
BKZ	Black Stump Fm	1.60	170	⇑PN	P	04 19 14.8	-0.2
BKZ				SN	S	04 19 47.8	-0.3
NGZ	Ngauruhoe	1.64	194	PN	P	04 19 15.5	+0.2
TUVZ	Tukino	1.72	192	PN	P	04 19 16.0	+0.1
MXZ	Matakaoa Point	1.73	90	PN	P	04 19 15.9	-0.1
PUZ	Puketiti	1.76	107	PN	P	04 19 15.9	-0.2
PUZ				SN	S	04 19 49.6	-0.5

WNVZ	Wahianoa	1.79	193	PN	P	04 19 16.5	+0.1
MOVZ	Moawhango	1.84	189	PN	P	04 19 16.4	-0.5
MOVZ				SN	S	04 19 50.2	-1.0
KNZ	Kokohu	1.88	140	PN	P	04 19 16.7	-0.4
WAZ	Wanganui	2.34	202	PN	P	04 19 20.7	-0.5
TSZ	Takapari Road	2.47	183	PN	P	04 19 21.2	-1.2
BFZ	Birch Farm	3.09	178	PN	P	04 19 27.0	-1.6
MRZ	Mangatainoka R	3.10	188	PN	P	04 19 26.5	-2.1
MRZ				SN	S	04 20 10.0	-2.2
KIW	Kapiti Island	3.41	196	PN	P	04 19 29.5	-2.5
KIW				SN	S	04 20 15.0	-3.0
MTW	Mount Morrison	3.60	188	PN	P	04 19 31.3	-2.8
CAW	Cannon Point	3.61	193	PN	P	04 19 31.6	-2.6
CAW				SN	S	04 20 19.6	-2.5
MRW	Makara Radio	3.80	196	PN	P	04 19 33.4	-2.8
MRW				SN	S	04 20 22.0	-3.8
SNZO	South Karori	3.88	196	PN	P	04 19 34.2	-2.9
SNZO				SN	S	04 20 23.1	-4.3
TUWZ	Tuamarina	4.20	203	PN	P	04 19 37.6	-3.1
NNZ	Nelson	4.21	210	PN	P	04 19 37.2	-3.7
NNZ				SN	S	04 20 31.2	-2.8
QRZ	Quartz Range	4.28	220	PN	P	04 19 37.9	-3.7
BSWZ	Blackbirch Sta	4.47	202	PN	P	04 19 40.3	-3.6
THZ	Tophouse	4.86	210	PN	P	04 19 44.5	-3.8
THZ				SN	S	04 20 43.4	-4.1
KHZ	Kahutara	5.22	202	PN	P	04 19 49.3	-3.4
DSZ	Denniston Nort	5.33	217	PN	P	04 19 49.5	-4.5
DSZ				SN	S	04 20 52.1	-5.5
ODZ	Otahua Downs	8.52	207	PN	P	04 20 28.9	-4.4

*IDC **03** 04:28:38.4±0.5, 16.13S×173.28E, mb5.0/13, mb1 5.2/13, mb1mx5.2/14, MS4.3/11, Ms1 4.3/11, ms1mx4.2/15, Error ellipse: s-maj=25.1km s-min=15.2km az=142.0*

*LDG **03** 04:28:41.7±0.1, 15.81S×172.48E, h10km, Mb5.0/2, Ms4.5/8, Error ellipse: s-maj=16.3km s-min=4.0km az=123.0*

*MOS **03** 04:28:42.9±1.2, 16.01S×173.12E, h33km, mb5.3/3, Error ellipse: s-maj=23.5km s-min=21.5km az=33.6*

*BJI **03** 04:28:42.9, 15.97S×173.45E, h36km, mB5.4, mb5.0, Ms5.2, Msz4.7*

*NEIC **03** 04:28:44.2±1.0, 16.17S×173.19E, h38km±8km, mb5.3/50, MS4.7/21, Error ellipse: s-maj=6.8km s-min=3.8km az=147.0*

*HRVD **03** 04:28:44.2±0.2, 16.18S×173.38E, h13km, MW5.2/65, Centroid moment Tensor Solution. LP body waves: s51,c79;Mantle waves: s65,c125; Half duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.69±.02; $M_{\theta\theta}$0.69±.02; $M_{\phi\phi}$0.00±.01; $M_{r\theta}$-0.16±.04; $M_{\theta\phi}$-0.17±.01; $M_{\phi r}$-0.09±.04; Best double couple: M_0.73×10^{17} NP1: ϕ_s293°,δ41°,λ-75°. NP2:ϕ_s93°,δ51°,λ-103°. Principal axes: T .74, Plg5°, Azm192°; N -.02, Plg10°, Azm101°; P -.72, Plg79°, Azm310°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*CSEM **03** 04:28:45.3, 15.88S×173.55E, h33km, mb5.5*

*SYO **03** 04:28:46.3, 16.24S×173.16E, h58km, MB5.3, MS4.7*

ISC 03 04:28:43.2±0.2**, 16.23S**±0.05×**173.16E**±0.04**, h42**km**, h42**km±2.4km**:pP-P, n326, σ0s75**/157**, mb5.2**/69**, MS4.6**/39**, 11C-30D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKM	Butte a Klehm	4.91	252	i P	P	04 29 55.2	-1.4
BKM				S	S	04 30 48.0	-5.0
DZM	Mont Dzumac	8.60	226	eP	P	04 30 46.4	-1.6
NOUC	Port Laguerre	8.72	227	eP	P	04 30 48.8	-0.8
NOUC	Port Laguerre	8.72	227	eP	P	04 30 48.8	-0.8
URZ	Urewera	22.22	172	P	P	04 33 38.3	+0.7
	41nm,0.8s,mb4.9,baz=17,slow=4.8,SNR=15						
URZ				LR	LR	04 40 14.2	
	comp=Z,2μm,21.7s,MS4.4,baz=38,slow=31						
SNZO	South Karori	25.02	177	eP	P	04 34 03.9	-1.0
CTA	Charters Tower	25.84	257	eP	P	04 34 13.8	+1.1
	46nm,0.9s,mb5.0						
CTA	Charters Tower	25.84	257	P	P	04 34 14.4	+1.7
	36nm,0.8s,mb5.0,baz=84,slow=12,SNR=49						
CTA				LR	LR	04 42 26.9	
	comp=Z,264nm,20.0s,MS3.8,baz=240,slow=32						
CTAO	Charters Tower	25.84	257	eP	P	04 34 13.6	+0.8
CTAO				LR	LR		
	comp=Z,361nm,19.0s,MS3.9						
RPZ	Rata Peaks	27.45	183	LR	LR	04 43 31.2	
	comp=Z,1μm,20.8s,MS4.5,baz=335,slow=32						
CNB	Canberra Magne	28.51	224	⇓iP	P	04 34 37.9	+0.9
	comp=Z,29nm,0.7s,mb5.1						
TOO	Toolangi	32.36	224	⇓iP	P	04 35 11.7	+0.7
	comp=Z,14nm,1.2s,mb4.7						
STKA	Stephens Creek	32.61	236	⇓iP	P	04 35 14.1	+0.9
	comp=Z,34nm,0.8s,mb5.3						
STKA	Stephens Creek	32.61	236	P	P	04 35 14.1	+0.9
	comp=Z,42nm,0.8s,mb5.4,baz=67,slow=7.6,SNR=58						
STKA				PcP	PcP	04 37 58.6	-0.3
	comp=Z,11nm,0.9s,baz=46,slow=4.1,SNR=6.3						
STKA				LR	LR	04 46 43.2	
	comp=Z,688nm,19.6s,MS4.4,baz=62,slow=33						
PPT	Papeete	35.65	98	eS	S	04 41 07.6	-4.6
PPT				eL		04 43 45.1	
PPT				eR		04 45 03.7	
	comp=Z,186nm,24.8s						
TBI	Tubuai	35.80	107	eS	S	04 41 13.9	-0.6
TBI				eL		04 43 47.0	
TBI				eR		04 45 14.7	
	comp=Z,251nm,26.2s						
ADE	Adelaide	35.99	232	⇑iP	P	04 35 43.9	+1.7
WB2	Warramunga Arr	37.02	258	⇓iP	P	04 35 50.1	-0.9
WRAB	Tennant Creek	37.02	258	P	P	04 35 50.0	-1.0
	comp=Z,118nm,0.8s,mb5.8,SNR=11						
WRAB	Tennant Creek	37.02	258	⇓eP	P	04 35 50.0	-0.9
	comp=Z,21nm,0.8s,mb5.0						
WRAB				ePcP	PcP	04 38 10.0	-1.7
WRA	Warramunga Arr	37.03	258	P	P	04 35 50.4	-0.7
	comp=Z,10nm,0.7s,mb4.8,baz=88,slow=9.1,SNR=24						
WRA				PP	PP	04 37 20.7	+2.5
	comp=Z,2.0nm,1.0s,baz=84,slow=11,SNR=5.1						
WRA				PcP	PcP	04 38 11.2	-0.6
	comp=Z,6.7nm,1.1s,baz=82,slow=2.7,SNR=6.7						
WRA				LR	LR	04 49 13.7	
	comp=Z,220nm,20.5s,MS3.9,baz=125,slow=33						
ASAR	Alice Springs	37.54	252	P	P	04 35 55.2	-0.1
	comp=Z,20nm,0.9s,mb4.8,baz=80,slow=9.1,SNR=173						
ASAR				PcP	PcP	04 38 12.6	-0.7
	comp=Z,8.7nm,0.9s,baz=102,slow=3.6,SNR=12						
ASAR				LR	LR	04 51 17.2	
	comp=Z,322nm,18.3s,MS4.2,baz=84,slow=36						
ASPA	Alice Springs	37.54	252	⇓iP	P	04 35 55.1	-0.3
KAKA	Kakadu	39.57	270	⇓iP	P	04 36 18.0	+5.7
	comp=Z,73nm,1.0s,mb5.4						
FORT	Forrest	43.52	242	eP	P	04 36 44.8	0.0
	comp=Z,81nm,1.5s,mb5.2						
FITZ	Fitzroy Crossi	45.34	260	⇓iP	P	04 36 59.9	+0.4
	comp=Z,81nm,1.0s,mb5.5						
MBWA	Marble Bar	50.65	256	⇓eP	P	04 37 40.6	-0.2
	comp=Z,85nm,0.9s,mb5.7						
MEEK	Meekatharra	51.49	249	⇓iP	P	04 37 46.5	-0.5
	comp=Z,75nm,0.9s,mb5.6						
KLBR	Kellerberrin	52.39	242	eP	P	04 37 52.8	-0.9
	comp=Z,43nm,0.8s,mb5.4						
NWAO	Narrogin (SRO)	52.91	241	eP	P	04 37 57.1	-0.6
	comp=Z,66nm,1.1s,mb5.5						
NWAO				e		04 38 03.9	
SBA	Scott Base	61.72	182	eP	P	04 38 58.9	-0.4
	comp=Z,185nm,1.9s,mb5.9						
SBA				LR	LR		
	comp=Z,500nm,19.0s,MS4.7						
MAJO	Matsushiro	62.00	329	eP	P	04 38 59.9	-1.8
	comp=Z,29nm,0.8s,mb5.5						
MAJO				LR	LR		
	comp=Z,122nm,20.0s,MS4.1						
MAT	Matsushiro	62.00	329	P	P	04 39 00.2	-1.5
MAT				S	S	04 47 22.6	+1.2
MAT	Matsushiro	62.00	329	eP	P	04 39 00.0	-1.7
	comp=Z,25nm,1.0s,mb5.3						
CASY	Casey	64.36	203	⇓iP	P	04 39 16.1	-0.6
SSE	Sheshan	68.60	313	P	P	04 39 48.5	+4.3
SSE				AP	pP	04 39 56.9	+0.4
SSE				S	S	04 48 48.0	+5.7
SSE				XS		04 49 04.2	
SSE				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.9						
SSE				AMB	AMB		
	comp=Z,97nm,3.1s						
SSE				LR	LR		
	comp=N,143nm,25.4s,MS4.2						
SSE				LR	LR		
	comp=E,138nm,25.4s,MS4.2						
SSE				LR	LR		
	comp=Z,142nm,26.2s,MS4.1						
PET	Petropavlovsk	70.10	351	eP	P	04 39 51.5	-1.5
NJ2	Nanjing	70.77	313	eP	P	04 40 01.0	+3.5
NJ2				AP	pP	04 40 11.8	+2.0
NJ2				XP	sP	04 40 16.6	+2.2
NJ2				S	S	04 49 15.0	+7.2
NJ2				SS	SS	04 53 47.0	+4.6
NJ2				AMB	AMB		
	comp=Z,540nm,5.0s						
NJ2				LR	LR		
	comp=N,320nm,15.4s,MS5.0						
NJ2				LR	LR		
	comp=E,530nm,14.8s,MS5.0						
NJ2				LR	LR		
	comp=Z,780nm,14.8s,MS5.1						
MDJ	Mudanjiang	72.38	329	P	P	04 40 06.9	+0.1
MDJ				AP	pP	04 40 21.1	+1.9
MDJ				PCP	PcP	04 40 23.4	-1.5
MDJ				XP	sP	04 40 26.9	+3.2
MDJ				PP	PP	04 42 46.4	-3.5
MDJ				S	S	04 49 30.0	+3.9
MDJ				SS	SS	04 54 07.0	+0.1
MDJ				AMB	AMB		
	comp=Z,26nm,1.0s,mb5.1						
MDJ				AMB	AMB		
	comp=Z,175nm,4.5s						
MDJ				LR	LR		
	comp=N,112nm,22.2s,MS4.3						
MDJ				LR	LR		
	comp=E,124nm,22.2s,MS4.3						
MDJ				LR	LR		
	comp=Z,238nm,24.2s,MS4.4						
MDJ	Mudanjiang	72.38	329	eP	P	04 40 06.6	-0.2
	comp=Z,27nm,1.0s,mb5.1						
WHN	Wuhan	73.21	310	eP	P	04 40 11.0	-1.1
QSPA	South Pole Qui	73.81	180	eP	P	04 40 14.5	-0.1
	comp=Z,44nm,0.9s,mb5.4						
QSPA				LR	LR		
	comp=Z,140nm,19.5s,MS4.3						
CN2	Changchun	73.95	326	⇓P	P	04 40 16.3	+0.2
CN2				eS	S	04 49 43.7	-0.1
CN2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,1μm,17.0s,MS5.2						
CN2				LR	LR		
	comp=E,500nm,17.0s,MS5.2						
CN2				LR	LR		
	comp=Z,600nm,18.0s,MS4.9						
IPM	Ipoh	74.23	280	⇑eP	P	04 40 18.8	+0.5
	comp=Z,41nm,0.9s,mb5.4						
ENH	Enshi	76.74	307	eP	P	04 40 32.5	+0.1
	comp=Z,138nm,1.8s,mb5.6						
ENH				LR	LR		
	comp=Z,250nm,21.0s,MS4.5						
BJI	Beijing	77.06	319	P	P	04 40 34.7	+0.7
BJI				S	S	04 50 19.7	+1.5
BJI				AMB	AMB		
	comp=Z,19nm,1.2s,mb4.9						
BJI				LR	LR		
	comp=Z,159nm,29.4s,MS4.2						
GYA	Guiyang	77.27	303	⇑P	P	04 40 35.8	+0.4
GYA				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.9						
XAN	Xi'an	78.93	310	P	P	04 40 45.4	+1.0
NANT	Nan	79.32	293	⇑P	P	04 40 46.0	-0.8
KMI	Kunming	79.94	300	eP	P	04 40 51.3	+1.3
KMI				AP	pP	04 41 04.3	+1.8
KMI				SKS	SKS	04 50 59.5	+0.7
KMI				AMB	AMB		
	comp=Z,29nm,1.6s,mb5.0						
KMI				AMB	AMB		
	comp=Z,247nm,4.9s						
CMAR	Chiang Mai Arr	80.75	292	P	P	04 40 56.2	+1.7
	comp=Z,16nm,0.9s,mb5.0,baz=110,slow=3.2,SNR=54						
CHG	Chiang Mai	80.88	293	⇓P	P	04 40 56.7	+1.6
	comp=Z,30nm,1.3s,mb5.1						
HOPS	Hopland	80.98	45	eP	P	04 40 55.0	-0.2
	comp=Z,44nm,1.1s,mb5.3						
SAO	San Andreas Ge	81.05	48	eP	P	04 40 55.5	-0.2
	comp=Z,24nm,1.0s,mb5.1						
NSHM	Saint Helena R	81.07	46	eP	P	04 40 55.5	-0.2
LKC	Lake Chabot	81.07	47	eP	P	04 40 55.8	0.0
RSO	Redoubt South	81.20	16	eP	P	04 40 55.1	-0.9
CD2	Chengdu	81.46	306	P	P	04 40 59.3	+1.4
KHMM	Horse Mountain	81.47	43	eP	P	04 40 58.3	+0.5
KRMB	Red Mountain	81.68	43	eP	P	04 40 59.2	+0.4
SLKM	Skilak Lake	81.95	17	eP	P	04 40 59.4	-0.4
WDC	Whiskeytown Da	82.11	44	eP	P	04 41 00.6	-0.5
	comp=Z,26nm,1.1s,mb5.1						
WDC				LR	LR		
	comp=Z,325nm,20.0s,MS4.7						
OHCM	Honcut	82.23	45	eP	P	04 41 00.6	-1.1
CMB	Columbia Colle	82.38	47	eP	P	04 41 01.6	-0.9
	comp=Z,30nm,1.1s,mb5.1						
CMB				LR	LR		
	comp=Z,372nm,19.0s,MS4.8						
MWC	Mount Wilson	82.39	51	eP	P	04 41 02.4	-0.2
YBH	Yreka Blue Hor	82.56	43	eP	P	04 41 03.7	+0.3
	comp=Z,37nm,1.1s,mb5.3						
YBH				LR	LR		
	comp=Z,322nm,21.0s,MS4.7						
MAW	Mawson	82.59	201	⇓iP	P	04 41 03.5	+0.5
	comp=Z,15nm,1.1s,mb4.9						
MAW	Mawson	82.59	201	P	P	04 41 03.3	+0.3
	comp=Z,20nm,1.1s,mb5.1,baz=107,slow=6.3,SNR=33						
MAW				LR	LR	05 14 50.5	
	comp=Z,183nm,18.0s,MS4.5,baz=312,slow=34						
BAR	Barrett	82.79	53	eP	P	04 41 04.3	-0.4
HUMO	Hull Mountain	82.83	42	eP	P	04 41 05.0	+0.3
	comp=Z,30nm,1.1s,mb5.2						
OMM	Old Mammoth Mi	83.18	48	eP	P	04 41 07.0	+0.3
HSO	Harness Mounta	83.20	41	eP	P	04 41 06.8	+0.2
BEKR	Beckwourth	83.25	45	eP	P	04 41 07.1	+0.2
	comp=Z,27nm,1.3s,mb5.1						
MTUM	Tungsten Hills	83.37	48	eP	P	04 41 08.1	+0.5
WCN	Washoe City	83.40	46	eP	P	04 41 08.0	+0.3
	comp=Z,24nm,1.2s,mb5.1						
WCN				e		04 41 11.3	
LZH	Lanzhou	83.57	310	⇓P	P	04 41 10.0	+1.3
LZH				AP	pP	04 41 25.2	+4.0
LZH				PP	PP	04 44 26.1	+2.9
LZH				S	S	04 51 28.3	+2.2
LZH				SS	SS	04 56 54.0	-1.9
LZH				AMB	AMB		
	comp=Z,56nm,1.5s,mb5.5						
LZH				AMB	AMB		
	comp=Z,164nm,4.0s						
LZH				LR	LR		
	comp=E,1μm,17.8s						
LZH				LR	LR		
	comp=Z,1μm,19.6s,MS5.3						
COR	Corvallis	83.60	40	eP	P	04 41 08.9	+0.3
	comp=Z,30nm,1.0s,mb5.4						
NVAR	Mina Array Bea	84.03	47	P	P	04 41 11.2	+0.2
	comp=Z,13nm,0.9s,mb5.0,baz=217,slow=6.4,SNR=52						
NVAR				LR	LR	05 10 19.7	
	comp=Z,247nm,21.0s,MS4.6,baz=300,slow=30						
MNV	Mina	84.13	47	eP	P	04 41 11.3	-0.2
	comp=Z,48nm,1.4s,mb5.4						
MNV				LR	LR		
	comp=Z,401nm,21.0s,MS4.8						
MOD	Modoc	84.22	43	eP	P	04 41 11.7	-0.2
	comp=Z,33nm,1.0s,mb5.4						
SSOR	Sweet Springs	84.25	40	eP	P	04 41 11.6	-0.3
BMW	Boistfort Moun	84.59	38	eP	P	04 41 13.7	+0.1
TPH	Tonopah	84.64	48	eP	P	04 41 14.0	0.0
	comp=Z,40nm,1.4s,mb5.4						
OCWA	Octopus Mounta	84.68	37	eP	P	04 41 14.5	+0.5
	comp=Z,38nm,1.0s,mb5.5						
TPNV	Topopah Spring	84.87	49	eP	P	04 41 15.4	+0.2
	comp=Z,24nm,1.1s,mb5.2						
TPNV				LR	LR		
	comp=Z,399nm,20.0s,MS4.8						
BBB	Bella Bella	84.95	32	P	P	04 41 15.3	+0.1
BBB	Bella Bella	84.95	32	P	P	04 41 15.3	+0.1
LDFC	Landfair	84.95	51	eP	P	04 41 16.1	+0.4
GNW	Green Mountain	85.38	38	eP	P	04 41 17.4	0.0
NEN	Nelson	85.38	51	eP	P	04 41 17.9	+0.1
PGC	Sidney	85.56	36	eP	P	04 41 17.9	-0.4
	comp=Z,81nm,1.4s,mb5.8						
BMN	Battle Mountai	85.65	46	eP	P	04 41 19.1	+0.1
	comp=Z,46nm,1.3s,mb5.5						
IMA	Indian Mountai	85.73	13	eP	P	04 41 18.5	-0.2
	comp=Z,68nm,1.4s,mb5.7						
RMW	Rattlesnake Mo	85.93	38	eP	P	04 41 19.1	-1.0
COLA	College	86.13	16	eP	P	04 41 19.6	-1.1
	comp=Z,23nm,1.1s,mb5.3						
COLA				LR	LR		
	comp=Z,249nm,20.0s,MS4.6						
ILAR	Eielson Array	86.30	16	P	P	04 41 19.5	-2.0
	comp=Z,6.6nm,0.9s,mb4.9,baz=236,slow=5.5,SNR=39						
HAWA	Hanford	86.79	40	eP	P	04 41 24.3	-0.1
	comp=Z,38nm,1.4s,mb5.4						
NLW	Nelson Butte	87.09	38	eP	P	04 41 25.4	-0.4
SONM	Songino Array	87.13	322	P	P	04 41 26.2	+0.2
	comp=Z,3.7nm,1.1s,mb4.5,baz=124,slow=4.5,SNR=16						
ELK	Elko	87.15	46	eP	P	04 41 26.1	-0.2
	comp=Z,16nm,1.1s,mb5.2						
ELK				LR	LR		
	comp=Z,241nm,21.0s,MS4.6						
TUC	Tucson	87.24	55	eP	P	04 41 27.1	+0.2
	comp=Z,12nm,1.3s,mb5.0						
ARUT	Antelope Range	87.26	49	eP	P	04 41 27.2	+0.4
DLBC	Dease Lake	87.69	26	eP	P	04 41 27.6	-0.9
GTA	Gaotai	87.84	312	P	P	04 41 31.4	+1.8
GTA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb5.0						
DPW	Davenport	88.27	39	eP	P	04 41 31.4	-0.1
BOD	Bodaibo	88.34	333	eP	P	04 41 30.4	-1.1
MVU	Marysvale	88.42	49	eP	P	04 41 33.3	+0.8
	comp=Z,30nm,1.5s,mb5.3						
MVU				LR	LR		
	comp=Z,365nm,22.0s,MS4.8						
MSU	Marysvale	88.45	49	eP	P	04 41 33.4	+0.8
DUG	Dugway	88.63	47	eP	P	04 41 33.3	-0.1
	comp=Z,25nm,1.4s,mb5.4						
DUG				LR	LR		
	comp=Z,315nm,20.0s,MS4.7						
BGU	Big Grassy Mou	88.76	47	eP	P	04 41 34.2	+0.2
SYO	Syowa Base	88.82	195	⇑P	P	04 41 33.0	-0.6
SYO	Syowa Base	88.82	195	⇓pP	pP	04 41 45.9	-0.4
HLID	Hailey	88.85	44	eP	P	04 41 34.6	+0.2
	comp=Z,14nm,0.9s,mb5.3						
HLID				LR	LR		
	comp=Z,314nm,20.0s,MS4.7						
NLU	North Lily Min	89.07	48	eP	P	04 41 35.6	+0.2
NEW	Newport	89.10	39	eP	P	04 41 34.7	-0.7
	comp=Z,14nm,1.1s,mb5.2						
NEW				LR	LR		
	comp=Z,237nm,19.0s,MS4.6						
HVU	Hansel Valley	89.27	46	eP	P	04 41 36.7	+0.3
SHL	Shillong	89.29	297	i P	P	04 41 37.7	+0.8
SPUT	South Promonto	89.31	47	eP	P	04 41 36.8	+0.2
MPU	Maple Canyon	89.40	48	eP	P	04 41 36.4	-0.7
TMUT	Trail Mountain	89.44	49	eP	P	04 41 38.2	+1.0
CTU	Camp Tracy	89.57	47	eP	P	04 41 37.4	-0.5
JLU	Jordanelle	89.75	47	eP	P	04 41 39.0	+0.3
DAU	Daniels Canyon	89.82	48	eP	P	04 41 39.9	+0.9
SRU	San Rafael	89.87	49	eP	P	04 41 39.5	+0.2
TCUT	Toone Canyon	89.97	47	eP	P	04 41 38.4	-1.3
HWUT	Hardware Ranch	90.04	46	eP	P	04 41 39.3	-0.7
	comp=Z,20nm,1.4s,mb5.2						
HWUT				LR	LR		
	comp=Z,319nm,22.0s,MS4.7						
MCMT	McKenzie Canyo	90.38	43	eP	P	04 41 41.8	+0.3
LAZ	Ladron	90.82	54	eP	P	04 41 44.4	+0.5
RRI2	Red Ridge	90.85	45	eP	P	04 41 43.9	+0.2
LENM	Lemitar	90.87	55	eP	P	04 41 44.6	+0.5
CHMT	Chamberlain Mo	90.93	41	eP	P	04 41 43.7	-0.3
BNM	Barren Site	91.14	55	eP	P	04 41 45.5	+0.2
TPAW	Teton Pass	91.15	45	eP	P	04 41 45.8	+0.6
REDW	Red Top Meadow	91.17	45	eP	P	04 41 45.1	-0.2
IMW	Indian Meadow	91.31	45	eP	P	04 41 46.4	+0.5
WUWY	Wally Ulrich	91.31	45	P	P	04 41 44.8	-1.1
QLMT	Earthquake Lak	91.32	44	eP	P	04 41 46.5	+0.6
BOZ	Bozeman (W)	91.49	43	eP	P	04 41 46.6	-0.1
	comp=Z,18nm,1.3s,mb5.2						
BOZ				LR	LR		
	comp=Z,443nm,22.0s,MS4.9						
ANMO	Albuquerque	91.53	54	eP	P	04 41 47.0	-0.1
	comp=Z,20nm,1.1s,mb5.4						
RW3	Ridgway	91.66	51	eP	P	04 41 48.2	+0.6
HRY	Holter Researc	91.76	42	eP	P	04 41 47.9	0.0
PDAR	Pinedale Array	91.85	46	P	P	04 41 48.2	-0.2
	comp=Z,1.7nm,0.9s,mb4.4,baz=225,slow=2.1,SNR=12						
PDAR				LR	LR	05 15 20.0	
	comp=Z,103nm,18.6s,MS4.3,baz=257,slow=31						
LTX	Lajitas	92.05	60	eP	P	04 41 49.8	+0.2
	comp=Z,13nm,0.9s,mb5.3						
LTX				LR	LR		
	comp=Z,304nm,21.0s,MS4.7						
TXAR	Lajitas Array	92.05	60	P	P	04 41 50.2	+0.6
	comp=Z,8.6nm,0.7s,mb5.2,baz=225,slow=5.3,SNR=80						
TXAR				LR	LR	05 16 07.8	
	comp=Z,192nm,18.0s,MS4.6,baz=260,slow=31						
TXAR	Lajitas Array	92.05	60	P	P	04 41 50.2	+0.6
TXAR				LR	LR	05 16 07.8	
MAIT	Maitri	92.26	186	eP	P	04 41 49.3	-0.3
SNAA	Sanae	92.27	181	⇓iP	P	04 41 48.9	-0.8
SNAA				e	pP	04 42 01.7	-0.7
SNAA				e		04 42 06.2	
SNAA				e		04 45 30.9	
GDL2	Guadalupe Moun	92.33	57	eP	P	04 41 51.2	+0.4
TIXI	Tiksi	92.62	347	eP	P	04 41 50.1	-1.2
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.8						
TIXI				MLR	MLR		
	comp=Z,500nm,18.0s,MS5.0						
VNA3	Neumayer Olymp	92.72	179	⇓iP	P	04 41 52.7	+0.9
VNA3				e	pP	04 42 05.2	+0.7
VNA3				e		04 42 09.7	
VNA3				e		04 45 35.4	
CLNB	Carlsbad	92.75	57	eP	P	04 41 52.6	-0.2
VNA2	Neumayer--Watz	93.06	180	⇓iP	P	04 41 54.5	+1.2
VNA2				e	pP	04 42 07.0	+0.9
VNA2				e		04 42 11.5	
VNA2				e		04 45 36.9	
EDM	Edmonton	93.32	35	P	P	04 41 54.1	-0.8
VNA1	Neumayer--Stat	93.34	180	⇓iP	P	04 41 56.1	+1.5
VNA1				e	pP	04 42 08.6	+1.3
VNA1				e		04 42 13.2	
VNA1				e		04 45 39.3	
JCT	Junction City	95.59	60	eP	P	04 42 04.7	-1.0
	comp=Z,9.2nm,1.2s,mb5.1						
JCT				LR	LR		
	comp=Z,281nm,21.0s,MS4.7						
YKA	Yellowknife Ar	96.31	26	P	P	04 42 08.6	+0.4
	comp=Z,3.3nm,0.8s,mb4.8,baz=257,slow=5.3,SNR=6.4						
YKA				LR	LR	05 18 03.8	
	comp=Z,200nm,20.0s,MS4.6,baz=260,slow=31						
WMQ	Urumqi	97.85	313	P	P	04 42 16.5	+0.8
WMQ				PP	PP	04 46 18.5	+1.2
WMQ				SKS	SKS	04 52 47.5	-1.1
WMQ				S	S	04 53 34.5	-0.5
WMQ				SS	SS	05 00 21.5	+0.8
WMQ				LR	LR		
	comp=N,126nm,24.0s,MS4.5						
WMQ				LR	LR		
	comp=E,115nm,25.0s,MS4.5						
WMQ				LR	LR		
	comp=Z,112nm,26.0s,MS4.2						
ZAL	Zalesovo	101.99	323	P	P	04 42 33.1	-1.0
	comp=Z,1.0nm,0.8s,baz=290,slow=10,SNR=4.8						
MKAR	Makanchi Array	102.23	315	P	Pdif	04 42 35.9	+0.5
	comp=Z,1.4nm,0.9s,baz=104,slow=5.0,SNR=7.4						
MKAR	Makanchi Array	102.23	315	P	Pdif	04 42 35.9	+0.5
BVAR	Borovoye Array	110.46	321	PKiKP		04 47 11.2	
	comp=Z,1.4nm,0.8s,baz=90,slow=3.0,SNR=6.7						
BRVK	Borovoye	110.53	321	ePKiKP		04 47 11.9	
ARCES	ARCESS Array B	123.06	347	PKP	PKPdf	04 47 35.5	+0.5
	comp=Z,5.1nm,0.7s,baz=45,slow=3.4,SNR=12						
ARCES	ARCESS Array B	123.06	347	PKP	PKPdf	04 47 35.5	+0.5
BDFB	Brasilia	128.48	126	PKP	PKPdf	04 47 47.5	+0.7
	comp=Z,3.9nm,1.0s,baz=246,slow=3.9,SNR=4.7						
OBN	Obninsk	128.93	329	ePKIKP	PKPdf	04 47 48.1	+1.6
OBN				e		04 49 54.2	
OBN				pmax	pmax		
	comp=Z,9.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,100nm,15.0s,MS4.6						
FINES	FINESS Array B	129.13	340	PKP	PKPdf	04 47 45.8	-1.0
	comp=Z,1.6nm,0.8s,baz=90,slow=5.7,SNR=5.9						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GNI	Garni	129.49	309	PKP	PKPdf	04 47 49.6	+1.6
	comp=Z,2.9nm,0.4s,baz=124,slow=11,SNR=3.6						
GNI	Garni	129.49	309	PKP	PKPdf	04 47 49.6	+1.6
KMBO	Kilima Mbogo	133.18	253	PKP	PKPdf	04 47 58.1	+2.3
	comp=Z,2.7nm,0.9s,baz=30,slow=5.3,SNR=6.3						
HFS	Hagfors	133.69	346	PKP	PKPdf	04 47 56.4	+1.0
	comp=Z,3.1nm,0.9s,baz=80,slow=8.8,SNR=3.1						
AKASG	Malin Array Be	135.09	328	PKP	PKPdf	04 47 59.0	+0.7
	comp=Z,5.7nm,1.1s,baz=36,slow=1.6,SNR=9.4						
BRTR	Keskin Array B	137.76	312	PKP	PKPdf	04 48 04.7	+1.2
	comp=Z,4.0nm,1.2s,SNR=6.5						
BRTR				PP	PP	04 50 54.2	-0.6
	comp=Z,1.1nm,1.1s,baz=106,slow=5.1,SNR=3.9						
OKC	Ostrava-Krasne	140.85	334	ePKPdf	PKPdf	04 48 10.7	+1.9
UPC	Upice	141.17	337	ePKPdf	PKPdf	04 48 13.7	+4.4
DPC	Dobruska-Polom	141.18	336	ePKPdf	PKPdf	04 48 11.9	+2.6
PSZ	Piszkesteto	141.50	331	ePKPdf	PKPdf	04 48 10.8	+0.9
CLL	Collm	141.58	340	i PKIKP	PKPdf	04 48 10.8	+0.8
	comp=Z,logA/T=0.9						
CLL	Collm	141.58	340	i PKIKP	PKPdf	04 48 10.8	+0.8
CLL				pmax	pmax		
	comp=Z,9.0nm,1.1s						
PVCC	Panska Ves	141.69	338	ePKPdf	PKPdf	04 48 10.5	+0.3
PRU	Pruhonice	142.15	337	ePKPpre		04 48 09.0	
PRU				i PKPdf	PKPdf	04 48 15.3	+4.3
KHC	Kasperske Hory	143.21	337	ePKPpre		04 48 10.2	
GERES	GERESS Array B	143.40	337	PKP	PKPdf	04 48 12.3	-0.9
	comp=Z,1.7nm,0.8s,slow=1.3,SNR=11						
MOA	Molln	143.99	336	⇑iP	PKPbc	04 48 14.1	+0.7
DIVS	Divcibare	144.12	326	⇓iP	PKPbc	04 48 13.8	-0.1
SIND	Sindeldorf	144.36	341	⇓eP	PKPbc	04 48 14.2	-0.2
TOD	Tromm	144.37	342	eP	PKPbc	04 48 14.8	+0.4
ABH	Alteburg	144.47	344	eP	PKPbc	04 48 15.1	+0.4
ABH	Alteburg	144.47	344	PKP	PKPdf	04 48 15.4	+0.4
SWS	Schriesheim	144.51	342	eP	PKPbc	04 48 15.0	+0.2
NVSS	Nova Varos 2	144.67	326	⇑iP	PKPbc	04 48 16.3	+0.8
SKO	Skopje	144.68	322	⇓iPKP	PKPdf	04 48 16.5	+0.9
	comp=Z,0.1nm,1.0s						
RUP	Ruppelstein	144.76	344	eP	PKPbc	04 48 16.2	+0.7
KTD	Kalmit	144.83	343	eP	PKPdf	04 48 16.3	+0.6
KTD	Kalmit	144.83	343	PKP	PKPdf	04 48 19.6	+3.9
HDH	Heidenheim	144.84	340	eP	PKPdf	04 48 16.3	+0.6
FUR	Furstenfeldbru	144.84	339	ePKIKP	PKPdf	04 48 17.0	+1.3
GIVF	Givet	144.92	347	ePKP1	PKPbc	04 48 16.0	+0.1
OBKA	Obir	144.95	334	⇑iP	PKPdf	04 48 16.6	+0.6
KBA	Koelnbreinsper	144.99	336	⇑iP	PKPdf	04 48 15.7	-0.3
STU	Stuttgart	145.00	341	ePKPbc	PKPbc	04 48 16.7	+0.5
WLF	Walferdange	145.02	345	ePKPdf	PKPdf	04 48 17.8	+1.8
BAIF	Baives	145.09	348	ePKP1	PKPbc	04 48 16.8	+0.4
	comp=Z,97nm,1.3s						
XOR	Xorichti	145.10	317	eP	PKPdf	04 48 16.7	+0.2
LBG	Lerchenberg	145.21	342	⇓eP	PKPdf	04 48 17.7	+1.4
LANF	Langenberg	145.22	343	PKP	PKPdf	04 48 17.9	+1.6
BUCH	Bad Urach	145.23	341	eP	PKPdf	04 48 18.1	+1.7
LJU	Ljubljana	145.33	333	ePKPdf	PKPdf	04 48 17.8	+1.2
VISS	Visnje	145.38	333	ePKPdf	PKPdf	04 48 17.9	+1.2
FNA	Florina	145.44	321	eP	PKPdf	04 48 18.1	+1.1
WATA	Walderalm	145.44	338	⇑iP	PKPdf	04 48 17.9	+1.1
CADS	Cadrg	145.52	334	ePKPdf	PKPdf	04 48 17.6	+0.7
PTCC	Patocco-Chiusa	145.53	335	ePKP	PKPdf	04 48 17.9	+1.0
STR	Strasbourg	145.59	343	PKP	PKPdf	04 48 16.4	-0.6
OHR	Ohrid	145.59	322	⇓iPKP	PKPdf	04 48 18.8	+1.6
FVI	Forni Avoltri	145.60	336	ePKP	PKPdf	04 48 18.4	+1.3
VOY	Vojsko	145.61	334	ePKPdf	PKPdf	04 48 17.8	+0.7
GUT	Gutenstein	145.64	341	⇓eP	PKPdf	04 48 18.9	+1.8
BFO	Black Forest	145.65	342	ePKIKP	PKPdf	04 48 18.8	+1.7
UBR	Uberruh	145.66	340	⇓eP	PKPdf	04 48 19.0	+1.9
SQTA	Sankt Quirin	145.67	338	⇑iP	PKPdf	04 48 19.3	+2.1
GMNA	Gemona	145.68	335	ePKP	PKPdf	04 48 18.8	+1.6
SPAK	Spaichingen	145.72	341	⇓eP	PKPdf	04 48 19.3	+2.1
WLS	Welschbruch	145.86	343	PKP	PKPdf	04 48 20.0	+2.6
CDF	Champ du Feu	145.88	343	ePKP1	PKPbc	04 48 19.4	+1.0
	comp=Z,258nm,1.2s						
TRI	Trieste	145.92	334	ePKP	PKPdf	04 48 19.6	+1.9
LIBD	Limburg	146.03	343	eP	PKPdf	04 48 20.5	+2.8
DAVA	Damuels	146.08	339	⇓iP	PKPdf	04 48 20.9	+3.0
ECH	Echery	146.09	343	PKP	PKPdf	04 48 20.4	+2.5
KIZ	Kirchzarten	146.11	342	⇓eP	PKPdf	04 48 20.2	+2.3
MEV	Metsovon	146.12	319	eP	PKPdf	04 48 20.9	+2.7
FELD	Feldberg	146.16	342	eP	PKPdf	04 48 20.4	+2.4
MEZF	Maizieres J'vi	146.37	346	ePKP1	PKPbc	04 48 21.2	+1.6
	comp=Z,327nm,1.3s						
THEF	They Montfort	146.40	344	PKP	PKPdf	04 48 21.6	+3.2
MOF	Molkenrain	146.43	343	PKP	PKPdf	04 48 21.5	+3.0
CTI	Castel Tesino	146.50	336	ePKP	PKPdf	04 48 21.4	+2.8
HAU	Haudompre	146.50	344	ePKP1	PKPbc	04 48 21.1	+1.2
	comp=Z,80nm,1.1s						
HAU				eR			
	comp=Z,137nm,17.5s						
HINF	Hinteralfeld	146.54	343	ePKP1	PKPbc	04 48 21.1	+1.1
	comp=Z,59nm,1.2s						
BRMO	Bormio	146.61	338	ePKP	PKPdf	04 48 22.2	+3.4
BBS	Basel-Blauen	146.67	342	eP	PKPdf	04 48 22.2	+3.3
IGT	Igoumenitsa	146.83	320	eP	PKPdf	04 48 20.4	+1.0
IGT				eS		04 48 29.2	
LOMF	Lomont	146.97	343	PKP	PKPdf	04 48 23.3	+3.9
FLN	La Foliniere	147.14	352	ePKP1	PKPdf	04 48 22.6	+3.0
	comp=Z,100nm,1.0s						
FLN				eR			
	comp=Z,153nm,22.2s						
LDF	La Druitiere	147.26	352	ePKP1	PKPdf	04 48 22.9	+3.1
	comp=Z,107nm,1.2s						
GRR	Gorron	147.56	353	ePKP1	PKPdf	04 48 24.0	+3.7
	comp=Z,241nm,1.4s						
LOR	Lormes	147.81	346	ePKP1	PKPdf	04 48 24.9	+4.2
	comp=Z,76nm,1.1s						
LOR				eR			
	comp=Z,277nm,22.5s						
ROSF	Rostrenen	147.85	356	ePKP1	PKPdf	04 48 24.5	+3.7
	comp=Z,148nm,1.2s						
CABF	La Chapelle	147.85	343	ePKP1	PKPdf	04 48 25.5	+4.7
	comp=Z,133nm,1.1s						
MCGN	Macugnaga	147.87	340	ePKP	PKPdf	04 48 26.0	+5.1
SGMF	Saint Gilles	147.87	355	ePKP1	PKPdf	04 48 24.6	+3.8
	comp=Z,84nm,0.9s						
OG01	Vacheresse	147.94	342	PKP	PKPdf	04 48 26.2	+5.2
ARV	Arcevia	148.03	332	ePKP	PKPdf	04 48 26.1	+4.9
HYF	Humbligny	148.07	348	ePKP1	PKPdf	04 48 25.9	+4.8
SSF	Saint Saulge	148.08	347	ePKP1	PKPdf	04 48 25.6	+4.4
	comp=Z,190nm,1.4s						
ZCCA	Zocca	148.17	335	ePKP	PKPdf	04 48 27.6	+6.2
PGD	Poggio Sodo	148.26	334	ePKP	PKPdf	04 48 27.5	+5.9
QUIF	Quistinic	148.26	355	ePKP1	PKPdf	04 48 25.6	+4.2
VMG	Vicchio	148.26	334	ePKP	PKPdf	04 48 28.4	+6.8
GSCL	Gusciola	148.33	336	ePKP	PKPdf	04 48 27.2	+5.5
ERBM	Eremo	148.34	336	ePKP	PKPdf	04 48 27.5	+5.8
TRAV		148.34	340	P	PKPdf	04 48 27.0	+5.4
CRE	Caprese Michel	148.37	334	ePKP	PKPdf	04 48 27.2	+5.4
SMF	Signal de Mont	148.40	346	ePKP1	PKPdf	04 48 26.1	+4.4
	comp=Z,146nm,1.7s						
GRAM		148.41	337	P	PKPdf	04 48 26.7	+4.9
VALM		148.46	336	P	PKPdf	04 48 26.9	+5.0
NRCA	Norcia	148.47	331	ePKP	PKPdf	04 48 26.9	+5.0
OG05	Jujurieux	148.55	343	PKP	PKPdf	04 48 27.5	+5.5
CODM		148.58	337	P	PKPdf	04 48 27.4	+5.3
LSD	Ceresole Reale	148.58	341	P	PKPdf	04 48 28.2	+6.2
BACM		148.59	336	P	PKPdf	04 48 27.8	+5.7
LPL	La Plagne	148.66	341	ePKP1	PKPdf	04 48 27.7	+5.6
	comp=Z,44nm,1.1s						
LPG	La Plagne	148.67	341	ePKP1	PKPdf	04 48 27.8	+5.6
	comp=Z,69nm,1.1s						
VINC	Vinca	148.67	336	P	PKPdf	04 48 26.4	+4.1
BGF	Bois d'Agland	148.71	347	ePKP1	PKPdf	04 48 27.2	+5.0
	comp=Z,53nm,0.8s						
AQU	L'Aquila	148.71	330	ePKP	PKPdf	04 48 28.1	+5.8
RSP	Reno Superiore	148.82	341	P	PKPdf	04 48 27.1	+4.7
PCP	Pian Castagno	148.93	338	P	PKPdf	04 48 27.4	+4.8
FENE	Fenestrelle	148.99	341	P	PKPdf	04 48 28.8	+6.1
SGO	Sicignano	149.07	326	ePKP	PKPdf	04 48 28.1	+5.1
BNI	Bardonecchia	149.09	341	ePKPbc	PKPdf	04 48 28.6	+5.8
TCF	Toulx Ste Croi	149.09	348	ePKP1	PKPdf	04 48 28.2	+5.4
	comp=Z,104nm,1.1s						
BHB	Bricherasio	149.10	340	P	PKPdf	04 48 27.4	+4.5
RRL	Cesana Torines	149.18	341	P	PKPdf	04 48 29.0	+6.0
MFF	Saint Martin d	149.21	351	ePKP1	PKPdf	04 48 28.3	+5.3
	comp=Z,49nm,0.8s						
MGR	Morigerati	149.24	325	ePKP	PKPdf	04 48 28.1	+4.8
FIN	Finale Ligure	149.34	339	P	PKPdf	04 48 27.9	+4.7
MBDF	Montbardon	149.36	341	ePKP1	PKPdf	04 48 29.0	+5.7
	comp=Z,22nm,1.0s						
ROB	Roburent	149.38	339	P	PKPdf	04 48 28.0	+4.6
PYM	Petit Puy Mans	149.44	346	PKP	PKPdf	04 48 30.8	+7.4
PZZ	Prazzo	149.45	340	P	PKPdf	04 48 28.3	+4.9
ORIF	Oris-en-Rattie	149.46	342	ePKP1	PKPdf	04 48 29.3	+5.8
	comp=Z,58nm,1.2s						
ORIF				eR			
	comp=Z,202nm,23.0s						
RORO		149.47	339	P	PKPdf	04 48 29.1	+5.6
ENR	Entracque	149.59	340	P	PKPdf	04 48 28.6	+4.9
STV2	Anna di Valdie	149.61	340	P	PKPdf	04 48 28.9	+5.1
MONE	Monesi	149.61	339	P	PKPdf	04 48 28.9	+5.1
STV	Sta Anna Valdi	149.61	340	P	PKPdf	04 48 28.9	+5.1
GRI	Girifalco	149.64	322	ePKP	PKPdf	04 48 30.7	+6.7
IMI	Imperia	149.71	339	P	PKPdf	04 48 29.5	+5.6
AUTN	L'Aution	149.79	339	PKP	PKPdf	04 48 30.4	+6.4
AUTN				PKP	PKPdf	04 48 31.4	+7.4
AUTN				PKP	PKPdf	04 48 31.6	+7.6
NEGI	Negi	149.83	339	P	PKPdf	04 48 29.3	+5.2
TOUF	Mont Tournerai	149.84	340	PKP	PKPdf	04 48 30.6	+6.5
VIVF	Saint-Julien-l	149.86	344	ePKP1	PKPdf	04 48 30.3	+6.2
	comp=Z,97nm,1.4s						
LBL	Lubilhac	149.87	346	PKP	PKPdf	04 48 32.3	+8.2
SBF	Sospel	149.91	339	ePKP1	PKPdf	04 48 29.8	+5.6
	comp=Z,129nm,1.2s						
AURF	Auriere	149.92	339	PKP	PKPdf	04 48 30.3	+6.1
REVF	Revere	150.04	339	PKP	PKPdf	04 48 30.1	+5.7
RJF	Les Rejaudoux	150.18	348	ePKP1	PKPdf	04 48 30.9	+6.3
	comp=Z,88nm,1.3s						
RJF				eR			
	comp=Z,212nm,19.8s						
CALN	Calern	150.19	340	PKP	PKPdf	04 48 31.5	+6.9
SMRF	Simiane la Rot	150.41	342	ePKP1	PKPdf	04 48 31.8	+6.8
	comp=Z,78nm,1.2s						
CAF	Calviac	150.43	347	ePKP1	PKPdf	04 48 31.6	+6.6
	comp=Z,79nm,1.5s						
FRF	La Foret Royal	150.44	340	ePKP1	PKPdf	04 48 31.1	+6.1
	comp=Z,101nm,1.3s						
PGF	Pioggiola	150.47	336	ePKP1	PKPdf	04 48 31.4	+6.3
	comp=Z,183nm,1.4s						
VILF	Villemus	150.47	341	PKP	PKPdf	04 48 32.6	+7.5
TAVF	Tavernes	150.58	341	PKP	PKPdf	04 48 32.3	+7.1
MTTG	Motta San Giov	150.61	322	ePKP	PKPdf	04 48 32.4	+6.9
LFF	La Frestale	150.68	349	ePKP1	PKPdf	04 48 32.1	+6.8
	comp=Z,58nm,1.1s						
LMR	La Mourre	150.69	340	ePKP1	PKPdf	04 48 31.8	+6.4
	comp=Z,78nm,1.2s						
PUYF	Puyloubier	150.77	341	PKP	PKPdf	04 48 32.3	+6.8
TREF	Trevaresse	150.78	342	PKP	PKPdf	04 48 33.3	+7.8
LASF	Ste Croix	150.80	344	ePKP1	PKPdf	04 48 32.6	+7.1
	comp=Z,58nm,1.2s						
GELF	Grande-Etoile	150.99	341	PKP	PKPdf	04 48 33.0	+7.2
MTLF	Montolieu	151.90	346	ePKP1	PKPdf	04 48 34.9	+7.7
	comp=Z,36nm,1.2s						
EPF	Esparros	152.59	349	ePKP1	PKPdf	04 48 36.4	+8.2
ETSF	Etsaut	152.88	350	ePKP1	PKPdf	04 48 37.5	+8.9
	comp=Z,48nm,1.1s						
ESDC	Sonseca Array	156.51	354	PKPab	PKPab	04 49 04.6	-0.3
	comp=Z,5.1nm,1.1s,baz=3.0,slow=3.8,SNR=9.6						
DBIC	Dimbokro	170.30	192	PKP	PKPdf	04 48 47.7	+0.5
	comp=Z,10nm,1.1s,baz=234,slow=2.9,SNR=3.6						

NEIC 03 04:29:01.7, 61.70N×149.65W, h40km, ML3.6(PMR), **ML3.1**(AEIC)**, After AEIC., Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PWA	Palmer West	0.12	247	P	P	04 29 07.9	-0.4
PMR	Palmer	0.27	113	P	P	04 29 08.8	-0.9
PMR				S	S	04 29 15.3	+0.1
GHO	Glory Hole Cre	0.35	77	P	P	04 29 09.9	-0.7
FIB	Fire Island	0.59	206	P	P	04 29 13.0	-0.7
RC01	Rabbit Creek A	0.61	184	P	P	04 29 12.7	-1.2
RC01				S	S	04 29 22.4	-0.4
SML	Sawmill	0.64	79	P	P	04 29 13.2	-1.1
CUT	Chulitna	0.77	338	P	P	04 29 14.9	-1.3
CFI	College Fiord	1.04	119	P	P	04 29 19.2	-0.8
PWL	Port Wells	1.05	142	P	P	04 29 19.0	-1.2
STLK	Strandline Lak	1.06	260	P	P	04 29 19.4	-0.9
STLK				S	S	04 29 33.7	-0.4
SCM	Sheep Creek Mo	1.11	82	P	P	04 29 20.4	-0.7
SCM				S	S	04 29 35.9	+0.5
MPA	Moose Pass	1.22	173	P	P	04 29 21.4	-1.2
SPU	Mount Spurr	1.27	247	P	P	04 29 22.4	-0.9
CRP	Crater Peak	1.28	251	P	P	04 29 23.1	-0.3
CRP				S	S	04 29 39.6	0.0
HUR	Hurricane	1.29	0	P	P	04 29 23.0	-0.5
HUR				S	S	04 29 39.9	0.0
CP2	Crater Peak Tw	1.32	252	P	P	04 29 23.6	-0.5
CKT	Bend	1.32	249	P	P	04 29 23.4	-0.7
BGL	Barrier Glacie	1.39	253	P	P	04 29 24.5	-0.5
CKL	Chakachamna La	1.39	250	P	P	04 29 24.2	-0.8
BKG	Blockade Glaci	1.41	245	P	P	04 29 24.3	-1.0
JPK	Jack Peak	1.60	112	P	P	04 29 27.3	-0.9
VLZ	Valdez	1.69	108	P	P	04 29 28.1	-1.3
DHY	Denali Highway	1.75	36	P	P	04 29 29.8	-0.3
RDT	Redoubt	1.75	231	P	P	04 29 28.8	-1.3
TRF	Thorofare Moun	1.79	351	P	P	04 29 30.0	-0.7
DFR	Drift River	1.84	234	P	P	04 29 30.3	-1.2
REF	Redoubt East F	1.91	232	P	P	04 29 31.2	-1.3
RDN	Redoubt North	1.92	233	P	P	04 29 31.3	-1.3
DIV	Divide	1.95	105	P	P	04 29 31.7	-1.3
KTH	Kantishna Hill	1.96	343	P	P	04 29 32.3	-0.8
NCT	North Crescent	1.96	236	P	P	04 29 32.2	-0.9
MCK	McKinley	2.07	9	P	P	04 29 33.4	-1.3
EYAK	Cordova Ski Ar	2.22	120	P	P	04 29 35.0	-1.8
ILIM	Iliamna	2.29	226	P	P	04 29 36.6	-1.3
CNPM	China Poot	2.31	200	P	P	04 29 36.3	-1.9
TT01	Tatalina	3.21	295	P	P	04 29 48.6	-2.4
IL1	Eielson Array	3.33	21	P	P	04 29 51.0	-1.7
IM3	Indian Mountai	4.67	339	P	P	04 30 09.3	-2.4

IDC 03 04:34:43.7±1.6**, 3.33N×127.95E, mb3.7**/4**, mb1 3.9**/4**, mb1mx3.6**/17**, Error ellipse: s-maj=131.0km s-min=22.1km az=66.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.97	165	P	P	04 40 01.1	+0.2
	1.0nm,0.4s,baz=345,slow=10,SNR=16						
ASAR	Alice Springs	27.46	168	P	P	04 40 30.1	-3.4
	0.1nm,0.3s,slow=8.1,SNR=4.1						
ASAR				PcP	PcP	04 43 49.9	-2.7
	0.2nm,0.5s,baz=352,slow=2.3,SNR=4.6						
STKA	Stephens Creek	37.34	161	P	P	04 41 58.5	-1.3
	1.0nm,0.5s,baz=334,slow=13,SNR=4.4						
MKAR	Makanchi Array	58.58	325	P	P	04 44 42.5	-2.2
	0.7nm,0.4s,baz=113,slow=8.1,SNR=14						

CASC 03 05:03:38.7±1.4**, 12.23N×88.23W, h30km**±11km**, MD4.1, ML3.1, 2C, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CNCH	Conchagua	1.12	20	eP	Pn	05 03 58.5	0.0
CNCH				eS	Sn	05 04 13.5	+0.6
VSM	San Miguel	1.20	358	eP	Pn	05 04 00.2	+0.5
VSM				eS	Sn	05 04 16.8	+1.8
BLLM	Bellamira	1.21	360	eP	Pn	05 03 59.9	+0.1
BLLM				eS	Sn	05 04 16.0	+0.7
CRIN	San Cristobal	1.25	68	eP	Pn	05 04 00.7	+0.3
CRIN				eS	Sn	05 04 23.4	+7.1
LEON	Leon	1.32	82	eP	Pn	05 04 00.6	-0.9
LEON				⇑iP		05 04 00.7	
LEON				eS	Sn	05 04 10.2	-8.1
TEL3	Telica 3	1.40	76	⇑eP	Pn	05 04 02.0	-0.5
TELN	Telica	1.42	74	eP	Pn	05 04 02.1	-0.8
MIRN	Miramar	1.50	82	eP	Pn	05 04 03.4	-0.7
CNGN	Cerro Negro	1.52	80	eP	Pn	05 04 03.6	-0.7
LCBS	La Ceiba	1.60	333	eP	Pn	05 04 05.0	-0.3
COPN	Copaltepe	1.61	91	eP	Pn	05 04 04.7	-0.8
LFRS	El Faro	1.61	330	eP	Pn	05 04 05.1	-0.4
LFRS				eS	Sn	05 04 25.6	+0.2
MOMJ	Momotombo	1.67	84	eP	Pn	05 04 05.5	-0.8
BOQS	Boqueron	1.81	326	eP	Pn	05 04 08.5	0.0
BOQS				eS	Sn	05 04 31.1	+0.4
APYN	Apoyeque	1.84	90	eP	Pn	05 04 08.2	-0.6
APYN				eS	Sn	05 04 32.3	+0.9
XAVN	Gruta Xavier	1.87	92	eP	Pn	05 04 09.4	+0.1
MGAN	Managua	1.94	92	eP	Pn	05 04 09.5	-0.9
MGAN				eS	Sn	05 04 33.2	-0.7
MGAN				i		05 04 37.6	
	comp=N,206nm,0.4s						
TICN	Ticuantepe	1.97	95	eP	Pn	05 04 11.8	+1.1
SBLS	San Blas	2.10	320	eP	Pn	05 04 12.3	-0.3
SBLS				eS	Sn	05 04 39.2	+1.2
SNJE	San Jose	2.11	321	eP	Pn	05 04 12.6	-0.1
SNJE				eS	Sn	05 04 38.0	-0.2
PYTN	Playitas	2.15	81	eP	Pn	05 04 12.7	-0.6
RTR	El Retiro	2.16	321	eP	Pn	05 04 12.9	-0.5
RTR				eS	Sn	05 04 40.1	+0.7

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*IDC **03** 05:14:33.2±1.4, 33.42N×136.90E, mb3.6/3, mb1 3.7/4, mb1mx3.4/24, ML3.1/1, MS2.9/1, Ms1 2.9/1, ms1mx2.5/23, Error ellipse: s-maj=36.5km s-min=24.4km az=23.0*

*NEIC **03** 05:14:34.9±0.8, 33.41N×136.88E, h10km, Error ellipse: s-maj=30.9km s-min=11.8km az=104.0*

*JMA **03** 05:14:34.5±0.1, 33.38N×136.84E, h35km±3km, M3.2*

ISC 03 05:14:34.7±0.8**, 33.44N**±0.05×**136.81E**±0.03**, h23km**±6km**, n19, σ0s55**/26**, mb3.6**/3**, 1C, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.72	63	P	Pb	05 14 48.0	-0.6
TK01				S	Sb	05 14 58.8	+0.7
JWZ	Kozaga	0.92	276	⇑P	Pb	05 14 51.7	-0.2
JWZ				S	Sb	05 15 03.9	+0.1
TK02	Tokai 2	0.93	57	P	Pb	05 14 51.7	-0.4
TK02				S	Sb	05 15 04.6	+0.5
JIE	Ise	0.95	355	P	Pb	05 14 52.3	-0.1
TK03	Tokai 3	1.20	53	S	Sb	05 15 11.2	-0.6
JAA	Atsumi	1.22	13	P	Pn	05 14 56.4	-0.1
JAA				S	Sb	05 15 11.9	-0.3
JWY	Kouya	1.28	308	P	Pn	05 14 57.3	-0.1
JWM	Minabe	1.28	289	P	Pn	05 14 57.4	-0.1
TK04	Tokai 4	1.29	43	P	Pn	05 14 58.4	+0.8
TK04				S	Sn	05 15 14.9	+0.7
TSUJ	Tsu 2	1.31	346	P	Pn	05 14 58.0	+0.2
JHE	Heguri	1.53	323	P	Pn	05 15 01.8	+0.8
JHE				S	Sn	05 15 20.1	-0.2
JHJ	Hachijo jima 2	2.51	97	Pn	Pn	05 15 15.3	+0.3
	8.9nm,0.3s,baz=322,slow=19,SNR=3.5						
JHJ				Sn	Sn	05 15 44.9	-0.4
	13nm,0.3s,baz=73,slow=19,SNR=2.6						
MAJO	Matsushiro	3.30	20	ePn	Pn	05 15 26.6	+0.3
MAT	Matsushiro	3.30	20	P	Pn	05 15 25.8	-0.4
MAT				eS	Sn	05 16 03.8	-1.4
MAT	Matsushiro	3.30	20	eP	Pn	05 15 27.0	+0.8
ASAJ	Asahikawa	11.57	21	LR	LR	05 22 23.2	
	comp=Z,56nm,20.1s,baz=183,slow=41						
MKAR	Makanchi Array	42.95	305	P	P	05 22 34.3	+0.9
	0.4nm,0.7s,mb3.2,baz=80,slow=8.8,SNR=2.9						
WRA	Warramunga Arr	53.14	183	P	P	05 23 52.3	-0.8
	0.8nm,0.5s,mb3.9,baz=360,slow=7.6,SNR=14						
ASAR	Alice Springs	56.86	183	P	P	05 24 19.9	-0.3
	0.6nm,0.8s,mb3.7,baz=12,slow=9.4,SNR=8.7						

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*CSEM **03** 05:29:26.5±1.4, 38.22N×24.02E, h2km, MD2.4, Error ellipse: s-maj=34.6km s-min=10.0km az=105.0*

ATH 03 05:29:27.6, 38.21N×23.94E, h5km, MD2.4/4**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MPAR	Parnis Oros	0.17	250	ePG	Pg	05 29 31.0	-0.1
MPAR				eSG	Sg	05 29 33.7	+0.2
PTL	Penteli	0.17	200	ePG	Pg	05 29 29.9	-1.2
PTL				eSG	Sg	05 29 33.5	0.0
NSAL	Nisos Salamina	0.48	231	ePB	Pb	05 29 37.5	-0.7
NAIG	Nisos Aigina	0.57	218	ePB	Pb	05 29 40.0	+0.3

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*MOS **03** 05:33:17.7±1.2, 51.60N×16.10E, h16km, mb4.0/1, Error ellipse: s-maj=13.6km s-min=6.5km az=82.1*

*NEIC **03** 05:33:17.7±0.4, 51.55N×16.14E, h5km, ML2.7(VIE), ML2.5(BRG), Error ellipse: s-maj=5.5km s-min=4.0km az=83.0*

*IDC **03** 05:33:19.9±0.7, 51.46N×15.84E, mb1 3.3/7, mb1mx3.2/23, ML2.9/7, Error ellipse: s-maj=13.7km s-min=6.9km az=108.0*

*WAR **03** 05:33:19.8, 51.47N×16.04E, ML2.9, Mining Induced*

*PRU **03** 05:33:19.6, 51.45N×16.05E*

ISC 03 05:33:16.1±0.4**, 51.53N**±0.03×**16.06E**±0.03**, n36,** σ**1s31**/68**, 1C-3D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.70	168	i PG	Pg	05 33 31.7	+1.6
KSP				eSG	Sg	05 33 40.7	+1.3
KSP	Ksiaz	0.70	168	⇓iP	Pg	05 33 31.7	+1.6
KSP				i		05 33 40.5	
KSP	Ksiaz	0.70	168	⇓iPg	Pg	05 33 31.7	+1.6
KSP				e		05 33 39.3	
KSP				i Sg	Sg	05 33 40.5	+1.1
KSP	Ksiaz	0.70	168	ePg	Pg	05 33 31.8	+1.7
KSP				eSg	Sg	05 33 40.4	+1.0
UPC	Upice	1.02	182	ePG	Pg	05 33 37.5	+1.0
DPC	Dobruska-Polom	1.19	172	eP	Pg	05 33 40.3	+0.5
DPC				e		05 33 54.9	
DPC				smax			
	comp=N,20nm,0.3s						
DPC	Dobruska-Polom	1.19	172	ePG	Pg	05 33 40.3	+0.5
DPC				eSG	Sg	05 33 54.9	-0.8
	comp=N,20nm,0.3s						
PVCC	Panska Ves	1.37	224	ePG	Pg	05 33 44.2	+0.7
BRG	Berggiesshubel	1.48	245	eP	Pn	05 33 45.3	+1.2
BRG				i		05 34 06.3	
BRG	Berggiesshubel	1.48	245	ePn	Pn	05 33 45.3	+1.2
BRG				i Pg	Pg	05 33 46.7	+1.0
BRG				i Sg	Sg	05 34 06.3	+0.8
RUE	Ruedersdorf	1.70	305	ePn	Pn	05 33 48.2	+1.0
PRU	Pruhonice	1.82	213	eP	Pn	05 33 48.8	-0.1
PRU						05 34 14.4	
PRU				smax			
	comp=N,23nm,0.4s						
PRU	Pruhonice	1.82	213	ePN	Pn	05 33 48.8	-0.1
PRU				PG	Pg	05 33 51.6	-0.8
PRU				i x	x	05 33 54.6	
PRU				i x	x	05 34 08.3	
PRU				SG	Sg	05 34 14.4	-2.2
	comp=N,23nm,0.4s						
CLL	Collm	1.93	265	i PN	Pn	05 33 51.7	+1.3
CLL				ePG	Pg	05 33 55.0	+0.5
CLL				i SG	Sg	05 34 20.1	-0.1
CLL	Collm	1.93	265	i P	Pn	05 33 51.7	+1.3
CLL				i		05 34 20.1	
MORC	Moravsky Berou	1.99	151	ePn	Pn	05 33 52.5	+1.2
MORC				eSn	Sn	05 34 19.3	+1.9
OKC	Ostrava-Krasne	2.15	141	ePG	Pg	05 33 58.3	-0.7
OKC				eSG	Sg	05 34 25.5	-2.2
VRAC	Vranov	2.25	171	Pn	Pn	05 33 56.3	+1.3
	comp=N,1.1nm,0.3s,baz=339,slow=15,SNR=7.5						
VRAC				Lg		05 34 28.8	
	comp=N,3.3nm,0.3s,baz=78,slow=22,SNR=8.1						
NKC	Novy Kostel	2.63	242	eP	Pn	05 34 02.3	+1.8
NKC				e		05 34 42.1	
NKC	Novy Kostel	2.63	242	ePN	Pn	05 34 02.3	+1.8
NKC				ePG	Pg	05 34 09.3	+0.7
NKC				eSG	Sg	05 34 42.1	-1.5
OJC	Ojcow	2.71	117	ePN	Pn	05 34 01.0	-0.6
OJC				ePG	Pg	05 34 10.0	-0.1
OJC				eSG	Sg	05 34 46.0	-0.1
OJC	Ojcow	2.71	117	ePn	Pn	05 34 01.2	-0.4
OJC				ePg	Pg	05 34 10.4	+0.3
OJC				eSg	Sg	05 34 46.3	+0.2
OJC	Ojcow	2.71	117	ePn	Pn	05 34 01.2	-0.4
OJC				ePg	Pg	05 34 10.4	+0.3
OJC				eSg	Sg	05 34 46.3	+0.2
OJC				⇓((			
KHC	Kasperske Hory	2.88	215	eP	Pn	05 34 04.7	+0.7
KHC				e		05 34 38.5	
KHC	Kasperske Hory	2.88	215	ePN	Pn	05 34 04.7	+0.7
KHC				ePG	Pg	05 34 10.6	-2.9
KHC				eSN	Sn	05 34 38.5	-1.4
KHC				eSG	Sg	05 34 49.1	-2.8
MOX	Moxa	2.94	254	i P	Pn	05 34 06.2	+1.3
MOX				Pg	Pg	05 34 14.0	-0.7
MOX				Sg	Sg	05 34 54.0	+0.1
MOX	Moxa	2.94	254	ePn	Pn	05 34 06.2	+1.3
MOX				ePg	Pg	05 34 14.2	-0.5
MOX				eSg	Sg	05 34 53.5	-0.4
GERES	GERESS Array B	3.08	210	Pn	Pn	05 34 08.2	+1.2

	comp=N,0.4nm,0.3s,baz=30,slow=12,SNR=16						
GERES				Pg	Pg	05 34 14.3	-3.3
	comp=N,1.6nm,0.3s,baz=32,slow=17,SNR=30						
GERES				Sn	Sn	05 34 44.2	-0.9
	comp=N,1.0nm,0.3s,baz=29,slow=22,SNR=4.9						
GERES				Lg		05 34 53.7	
	comp=N,2.7nm,0.3s,baz=34,slow=25,SNR=13						
GERES	**GERESS Array B**	**3.08**	**210**	P	**Pn**	**05 34 08.2**	**+1.2**
GERES				S	**Sn**	**05 34 44.2**	**-0.9**
NIE	**Niedzica**	**3.44**	**126**	*e*P	**Pg**	**05 34 28.0**	**+3.3**
NIE				*e*S	**Sg**	**05 35 09.5**	**-1.1**
MOA	**Molln**	**3.86**	**198**	⇑*i*PN	**Pn**	**05 34 19.1**	**+1.1**
MOA				*i* SG	**Sg**	**05 35 21.0**	**-3.6**
	comp=N,3.5nm,0.4s						
AKASG	**Malin Array Be**	**8.33**	**91**	Pn	**P**	**05 35 21.1**	**+0.1**
	comp=N,0.3nm,0.3s,baz=278,slow=12,SNR=2.6						
HFS	**Hagfors**	**8.73**	**352**	Pn	**P**	**05 35 25.3**	**-1.2**
	comp=N,0.0nm,0.3s,baz=150,slow=20,SNR=5.0						
NOA	**NORSAR Array B**	**9.90**	**346**	Pn	**P**	**05 35 40.8**	**-1.8**
	comp=N,0.1nm,0.3s,baz=301,slow=5.3,SNR=3.0						
FINES	**FINESS Array B**	**11.36**	**25**	Pn	**P**	**05 36 00.1**	**-2.4**
	comp=N,0.2nm,0.3s,baz=214,slow=11,SNR=11						
ARCES	**ARCESS Array B**	**18.61**	**10**	Pn	**P**	**05 37 34.0**	**-2.5**
	comp=N,0.1nm,0.3s,baz=201,slow=13,SNR=4.0						

*NEIC **03** 05:38:51.8±0.8,6.74N×72.93W,h170km±9km,Error ellipse: s-maj=33.6km s-min=14.1km az=130.0*
*IDC **03** 05:38:53.9±6.5,6.64N×73.20W,h179km±40km,mb2.6/1, mb1 3.2/2,mb1mx2.9/20,Error ellipse: s-maj=108.0km s-min=37.2km az=73.0*
ISC 03 05:38:51.2±1.2**,6.8N**±0.2×**73.0W**±0.2**,h170**km**,n6,**σ**0§77**/4**, mb2.7**/1**,Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.33**	**214**	P	**P**	**05 39 32.4**	**+0.6**
	13nm,0.3s,baz=271,slow=18,SNR=106						
ROSC				S	**S**	**05 40 02.7**	**-0.4**
	39nm,0.3s,baz=276,slow=19,SNR=18						
SDV	**Santo Domingo**	**3.14**	**48**	*e*Pn	**P**	**05 39 41.6**	**-0.1**
TXAR	**Lajitas Array**	**36.56**	**312**	P	**P**	**05 45 42.4**	**0.0**
	0.1nm,0.5s,mb2.7,baz=138,slow=7.6,SNR=3.8						
ASAR	**Alice Springs**	**149.19**	**234**	PKPbc	PKPdf	05 58 21.0	+5.3
	0.4nm,0.5s,baz=123,slow=3.7,SNR=8.2						
WRAB	**Tennant Creek**	**150.42**	**241**	*e*PKPbc	PKPdf	05 58 24.4	+6.7
WRA	**Warramunga Arr**	**150.42**	**241**	PKPbc	PKPdf	05 58 24.2	+6.5
	0.5nm,0.4s,baz=110,slow=2.5,SNR=15						

CASC 03 05:46:26.4±2.5**,13.28N×87.91W,h152**km±9km**,MD3.8, ML3.2,5C-3D,Honduras**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.08**	**93**	*e*P	P	05 46 46.6	-0.4
CNCH				*e*S	S	05 47 02.1	-0.6
BLLM	**Bellamira**	**0.35**	**297**	⇑*i*P	P	05 46 47.2	-0.6
BLLM				*e*S	S	05 47 08.4	+4.2
VSM	**San Miguel**	**0.38**	**293**	⇓*e*P	P	05 46 47.7	-0.2
VSM				*e*S	S	05 47 04.4	0.0
CAHU	**Cacacuatique**	**0.57**	**329**	*e*P	P	05 46 48.7	-0.1
CAHU				*e*S	S	05 47 05.4	-0.5
LCBS	**La Ceiba**	**1.10**	**290**	*e*P	P	05 46 52.0	-0.4
LCBS				*e*S	S	05 47 15.1	+2.6
LFRS	**El Faro**	**1.17**	**287**	⇑*e*P	P	05 46 52.3	-0.8
LFRS				*e*S	S	05 47 14.3	+0.7
LFU	**La Fuente**	**1.26**	**292**	*e*P	P	05 46 54.4	+0.5
LEON	**Leon**	**1.31**	**131**	⇑*e*P	P	05 46 54.0	-0.5
LEON				*e*S	S	05 47 15.5	-0.8
CNGN	**Cerro Negro**	**1.42**	**123**	*e*P	P	05 46 55.5	-0.1
CNGN				*e*S	S	05 47 20.4	+2.3
MIRN	**Miramar**	**1.44**	**125**	⇓*e*P	P	05 46 55.6	-0.2
MIRN				*e*S	S	05 47 19.8	+1.3
MOMJ	**Momotombo**	**1.60**	**123**	*e*P	P	05 46 57.4	0.0
MOMJ				*e*S	S	05 47 20.9	-0.5
COPN	**Copaltepe**	**1.69**	**130**	⇑*e*P	P	05 46 58.4	-0.1
COPN				*e*S	S	05 47 22.3	-0.9
SBLS	**San Blas**	**1.75**	**289**	*e*P	P	05 46 58.8	-0.4
SBLS				*e*S	S	05 47 25.9	+1.5
RTR	**El Retiro**	**1.79**	**290**	*e*P	P	05 46 59.8	+0.2
RTR				*e*S	S	05 47 26.9	+1.8
APYN	**Apoyeque**	**1.85**	**124**	*e*P	P	05 47 00.2	+0.1
APYN				*e*S	S	05 47 27.7	+1.4
XAVN	**Gruta Xavier**	**1.91**	**126**	*e*P	P	05 47 02.2	+1.3
MGAN	**Managua**	**1.98**	**125**	⇑*e*P	P	05 47 03.2	+1.6
MGAN				*e*S	S	05 47 29.6	+0.8
MGAN				*i*		05 47 32.1	
	comp=N,167nm,0.2s						
WILN	**Americas 2**	**2.02**	**123**	*e*P	P	05 47 01.1	-1.0
WILN				*e*S	S	05 47 31.2	+1.5
TICN	**Ticuantepe**	**2.06**	**127**	*e*P	P	05 47 03.8	+1.1
TICN				*e*S	S	05 47 32.0	+1.5
APON	**Apoyo**	**2.26**	**127**	⇓*e*P	P	05 47 05.5	+0.4
APON				*e*S	S	05 47 35.6	+0.8
JCR	**Jicaral**	**4.38**	**141**	*e*P	P	05 47 33.9	+1.4
CGA2	**Cerro Gallo 2**	**4.68**	**133**	*e*S	S	05 48 29.4	-1.2
PRS1	**Puriscal**	**4.81**	**132**	*e*P	P	05 47 40.3	+2.0
PRS1				*e*S	S	05 48 34.2	+0.5
LCR2	**La Lucha 2**	**5.20**	**132**	*e*P	P	05 47 44.7	+1.3
BUS	**Buena Vista**	**5.50**	**132**	*e*S	S	05 48 52.6	+2.5

*LDG **03** 06:22:07.3±1.1,42.90N×1.47W,h2km,Md2.0/2,Ml2.2/1, Error ellipse: s-maj=19.1km s-min=13.5km az=59.0*
*MDD **03** 06:22:07.7±0.5,42.87N×1.41W,h5km±13km,mbLg1.2/6, Error ellipse: s-maj=4.7km s-min=2.8km az=33.0,PRXIMO AftershockPLICA*
ISC 03 06:22:05.6±1.0**,42.82N**±0.05×**1.45W**±0.07**,h8**km±15km**,n8,** σ**0§71**/13**,Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.34**	**29**	*e*Pg	**Pg**	**06 22 13.1**	**+0.6**
SJPF				*e*Sg	**Sg**	**06 22 15.9**	**-1.2**
	16nm,0.2s						
LARF	**Larrau**	**0.40**	**56**	P	**Pg**	**06 22 14.6**	**+0.8**
LARF				S	**Sg**	**06 22 19.6**	**+0.4**
EALK	**Alkurruntz**	**0.41**	**354**	Pg	**Pg**	**06 22 14.4**	**+0.5**
	0.7nm,0.1s,SNR=119						
EALK				Lg		06 22 20.0	
	11nm,0.2s,SNR=7.9						
ETSF	**Etsaut**	**0.66**	**82**	*e*Pg	**Pg**	**06 22 18.5**	**-0.3**
ETSF				*e*Sg	**Sg**	**06 22 27.7**	**+0.1**
	4.1nm,0.3s						
ESAC	**San Caprasio**	**1.31**	**146**	Pg	**Pg**	**06 22 32.0**	**+0.2**
	1.9nm,0.2s,SNR=7.9						
ESAC				Lg		06 22 49.4	
	6.5nm,0.2s,SNR=7.9						
EPF	**Esparros**	**1.33**	**80**	*e*Pn	**Pn**	**06 22 30.6**	**+0.1**
EPF				*e*Pg	**Pg**	**06 22 32.8**	**+0.6**
EPF				*e*Sg	**Sg**	**06 22 50.2**	**+0.3**
	4.3nm,0.3s						
ETOR	**Torete**	**2.05**	**193**	Pg	**Pg**	**06 22 46.1**	**-0.4**
	0.4nm,0.2s,SNR=5.0						
ETOR				Lg		06 23 14.7	
	0.6nm,0.2s,SNR=5.0						
MTLF	**Montolieu**	**2.73**	**78**	*e*Pg	**Pg**	**06 22 58.4**	**-1.8**

IDC 03 06:39:49.6±9.7**,8.16S×128.22E,h120**km±79km**,mb3.5**/1**, mb1 3.3**/4**,mb1mx3.1**/13**,Error ellipse: s-maj=71.5km s-min=55.2km az=13.0,Timor Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.20**	**194**	P	P	06 42 13.0	-0.8
	0.6nm,0.3s,baz=9.2,slow=10.0,SNR=24						
FITZ				S	S	06 44 06.5	0.0
	0.5nm,0.3s,baz=5.0,slow=15,SNR=4.3						
WRA	**Warramunga Arr**	**13.13**	**154**	P	P	06 42 50.9	-1.5
	0.2nm,0.3s,baz=323,slow=14,SNR=10						
WRA				S	S	06 45 14.5	-1.5
	0.6nm,0.3s,baz=332,slow=22,SNR=11						
ASAR	**Alice Springs**	**16.35**	**161**	P	P	06 43 33.2	-0.2
	0.1nm,0.3s,baz=336,slow=10,SNR=7.4						
ASAR				S	S	06 46 34.5	+4.1
	0.2nm,0.3s,baz=224,slow=40,SNR=6.2						
STKA	**Stephens Creek**	**26.68**	**154**	P	P	06 45 17.4	-2.0
	0.9nm,0.6s,baz=340,slow=12,SNR=3.0						

*NEIC **03** 06:46:10.9±0.3,54.73N×163.11W,h87km±3km,Error ellipse: s-maj=13.6km s-min=3.7km az=155.0*
*IDC **03** 06:46:16.6±9.0,54.87N×163.16W,h141km±81km,mb3.3/7, mb1 3.5/8,mb1mx3.3/23,Error ellipse: s-maj=51.8km s-min=19.0km az=23.0*
ISC 03 06:46:10.0±0.4**,54.78N**±0.10×**163.12W**±0.09**,h94**km±3km**, n32,**σ**0§71**/39**,mb3.5**/7**,Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FALS	**False Pass**	**0.19**	**296**	P	**P**	**06 46 22.9**	**-0.6**
FALS				S	**S**	**06 46 32.3**	**-1.3**
BALA	**Baldy Mountain**	**0.46**	**25**	P	**P**	**06 46 25.5**	**+0.5**
SSLN	**Shishaldin Nor**	**0.51**	**274**	P	**P**	**06 46 25.7**	**+0.3**
DRIA	**Deer Island**	**0.53**	**69**	P	**P**	**06 46 24.7**	**-0.9**
DT1	**Dutton Round H**	**0.59**	**55**	P	**P**	**06 46 25.5**	**-0.6**
DTNA	**Dutton South F**	**0.63**	**53**	P	**P**	**06 46 26.0**	**-0.4**
DTNA				S	**S**	**06 46 37.5**	**-1.1**
WTUG	**Tugumak**	**0.74**	**276**	P	**P**	**06 46 27.5**	**+0.1**
WTUG				S	**S**	**06 46 40.6**	**+0.2**
DOL	**Dolgoi Island**	**0.82**	**62**	P	**P**	**06 46 28.0**	**-0.3**
WESN	**West Dahl Nort**	**0.87**	**257**	P	**P**	**06 46 29.3**	**+0.4**
WESN				S	**S**	**06 46 43.1**	**+0.2**
HAG	**Hague Volcano**	**0.89**	**52**	P	**P**	**06 46 29.7**	**+0.7**
WESE	**West Dahl East**	**0.91**	**251**	P	**P**	**06 46 29.5**	**+0.4**
PVV	**Pavlof Volcano**	**0.97**	**51**	P	**P**	**06 46 30.6**	**+0.7**
WESS	**West Dahl Sout**	**0.98**	**253**	P	**P**	**06 46 30.3**	**+0.3**
WFAR	**Faris Peak**	**0.99**	**257**	P	**P**	**06 46 30.4**	**+0.3**
PS1A	**Pavlof South-1**	**1.02**	**50**	P	**P**	**06 46 31.4**	**+0.9**
BLHA	**Black Hill**	**1.11**	**33**	P	**P**	**06 46 32.2**	**+0.6**
BLHA				S	**S**	**06 46 48.0**	**+0.3**
SDPT	**Sand Point**	**1.63**	**68**	P	**P**	**06 46 37.8**	**-0.2**
AKA	**Akutan**	**1.67**	**249**	P	**P**	**06 46 39.0**	**+0.4**
AKLV	**Akutan Long Va**	**1.77**	**251**	P	**P**	**06 46 39.9**	**+0.1**
AKGG	**Akutan Green G**	**1.77**	**252**	P	**P**	**06 46 40.2**	**+0.3**
UNV	**Unalaska Valle**	**2.19**	**246**	P	**P**	**06 46 45.1**	**-0.4**
UNV				S	**S**	**06 47 10.9**	**-0.9**
MTBL	**Makushin Table**	**2.23**	**250**	P	**P**	**06 46 46.7**	**+0.7**
MNAT	**Makushin Natee**	**2.27**	**248**	P	**P**	**06 46 46.5**	**-0.1**
MSW	**Makushin Switc**	**2.31**	**250**	P	**P**	**06 46 47.0**	**-0.1**
MSW				S	**S**	**06 47 15.5**	**+0.8**
ILAR	**Eielson Array**	**12.88**	**32**	P	**P**	**06 49 13.6**	**+3.0**
	0.2nm,0.3s,baz=229,slow=11,SNR=15						
YKA	**Yellowknife Ar**	**25.83**	**53**	P	**P**	**06 51 34.1**	**+0.4**
	0.9nm,0.7s,mb3.3,baz=277,slow=9.6,SNR=4.7						
NVAR	**Mina Array Bea**	**34.18**	**100**	P	**P**	**06 52 47.6**	**-0.2**
	0.3nm,0.6s,mb3.3,baz=296,slow=9.8,SNR=4.2						
TXAR	**Lajitas Array**	**49.13**	**96**	P	**P**	**06 54 50.6**	**+0.9**
	0.4nm,0.5s,mb3.6,baz=305,slow=5.5,SNR=10						
SONM	**Songino Array**	**53.20**	**303**	P	**P**	**06 55 19.6**	**-0.6**
	0.3nm,0.8s,mb3.4,baz=31,slow=8.4,SNR=2.1						
FINES	**FINESS Array B**	**63.90**	**355**	P	**P**	**06 56 32.7**	**-1.5**
	1.0nm,0.8s,mb3.7,baz=9.5,slow=8.5,SNR=3.5						
MKAR	**Makanchi Array**	**64.75**	**316**	P	**P**	**06 56 38.9**	**-1.1**
	0.6nm,0.8s,mb3.5,baz=53,slow=5.2,SNR=3.7						
CMAR	**Chiang Mai Arr**	**79.60**	**287**	P	**P**	**06 58 07.7**	**-0.5**
	0.9nm,0.3s,mb4.0,slow=4.5,SNR=4.9						

*NEIC **03** 07:15:29.3,37.73N×26.70E,h44km,MD3.2(ATH),After ATH.*
*ATH **03** 07:15:29.3,37.73N×26.70E,h44km±14km,MD3.2/4*
*ISK **03** 07:15:29.4,37.97N×26.60E,h6km,MD2.9*
*CSEM **03** 07:15:30.6±0.1,37.95N×26.69E,h12km,MD2.9,Error ellipse: s-maj=5.3km s-min=2.2km az=59.0*
ISC 03 07:15:30.4±1.0**,37.96N**±0.05×**26.59E**±0.09**,h11**km±8km**, n9,**σ**0§93**/11**,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SMG	**Samos**	**0.32**	**141**	*e*P	**Pg**	**07 15 37.2**	**+0.2**
SMG				*e*S	**Sg**	**07 15 42.2**	**+0.8**
IZM	**Izmir**	**0.69**	**50**	*i* PG	**Pg**	**07 15 42.9**	**-1.4**
MLSB	**Milas**	**1.15**	**125**	PN	**Pn**	**07 15 52.0**	**-0.4**
MLSB				*e*SN	**Sn**	**07 16 08.2**	**+0.1**
APE	**Apeiranthos**	**1.22**	**224**	*i* PN	**Pn**	**07 15 53.5**	**+0.1**
APE	**Apeiranthos**	**1.22**	**224**	*i* Pn	**Pn**	**07 15 53.5**	**+0.1**
APE	**Apeiranthos**	**1.22**	**224**	*e*P	**Pb**	**07 15 50.0**	**-3.0**
PRK	**Paraskevi**	**1.31**	**349**	*e*P	**Pb**	**07 15 55.2**	**+0.6**
AKS	**Akhisar**	**1.33**	**46**	PN	**Pn**	**07 15 54.9**	**-0.1**
LIA	**Limnos Island**	**2.23**	**331**	*e*P	**Pn**	**07 16 08.9**	**+1.1**

*IDC **03** 07:47:48.6±3.1,30.51S×177.44W,h28km±6km,mb3.9/4, mb1 4.0/5,mb1mx3.8/14,ML3.7/1,Error ellipse: s-maj=63.2km s-min=34.1km az=116.0*
*NEIC **03** 07:47:49.2±1.3,30.26S×177.60W,mb4.3/3,Error ellipse: s-maj=36.7km s-min=18.2km az=218.0*
ISC 03 07:47:49.4±1.0**,30.64S**±0.09×**177.9W**±0.2**,h28**km**, (h28**km±.5km**:pP-P),n14,**σ**1§22**/14**,mb4.1**/7**,2C-1D, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.66**	**207**	Pn	**P**	**07 49 53.9**	**-2.0**
	0.8nm,0.3s,baz=349,slow=22,SNR=4.9						
URZ				Sn	**Sn**	**07 51 34.4**	**+0.8**
	0.6nm,0.3s,baz=271,slow=23,SNR=3.4						
STKA	**Stephens Creek**	**34.53**	**257**	P	**P**	**07 54 39.4**	**+2.0**
	4.2nm,0.7s,mb4.5,baz=92,slow=10.0,SNR=8.4						
STKA				pP	pP	07 54 47.3	+1.5
	5.1nm,0.5s,baz=96,slow=9.3,SNR=8.0						
STKA	**Stephens Creek**	**34.53**	**257**	P	**P**	**07 54 39.4**	**+1.9**
STKA				pP	pP	07 54 47.3	+1.5
ASAR	**Alice Springs**	**43.20**	**267**	P	**P**	**07 55 50.0**	**+0.2**
	0.6nm,0.5s,mb3.6,baz=104,slow=7.2,SNR=17						
ASAR				pP	pP	07 55 58.5	+0.2
	1.4nm,0.6s,baz=104,slow=7.5,SNR=11						
WB2	**Warramunga Arr**	**44.20**	**272**	*e*P	**P**	**07 55 57.8**	**-0.2**
WB2				*e*	pP	07 56 06.4	0.0
WRAB	**Tennant Creek**	**44.20**	**272**	*e*P	**P**	**07 55 58.0**	**0.0**
	3.7nm,0.5s,mb4.4						
WRA	**Warramunga Arr**	**44.21**	**272**	P	**P**	**07 55 58.1**	**+0.1**
	1.3nm,0.4s,mb4.0,baz=110,slow=8.1,SNR=29						
WRA				pP	pP	07 56 06.6	+0.1
	3.1nm,0.6s,baz=111,slow=7.8,SNR=12						
FITZ	**Fitzroy Crossi**	**52.46**	**270**	P	**P**	**07 57 01.1**	**-1.0**
	1.5nm,0.9s,mb3.9,baz=102,slow=9.3,SNR=2.4						
CASY	**Casey**	**54.98**	**208**	P	**P**	**07 57 18.4**	**-1.7**
	0.5nm,0.4s,mb3.9						
QSPA	**South Pole Qui**	**59.48**	**180**	*e*P	**P**	**07 57 52.4**	**+0.7**
	1.2nm,0.4s,mb4.3						
VNA3	**Neumayer Olymp**	**78.06**	**176**	⇑*i*	**P**	**07 59 47.5**	**+1.0**
VNA2	**Neumayer--Watz**	**78.50**	**177**	⇓*i*	**P**	**07 59 50.3**	**+1.4**
VNA1	**Neumayer--Stat**	**78.73**	**176**	⇑*i*	**P**	**07 59 47.3**	**-2.9**
FINES	**FINESS Array B**	**145.40**	**340**	PKPbc	PKPbc	08 07 22.4	-2.1
	0.8nm,0.5s,baz=45,slow=2.0,SNR=10						

*NNC **03** 07:48:04.8±17.0,44.49N×83.69E,h16km±82km,mpv3.1, Error ellipse: s-maj=104.3km s-min=97.7km az=67.0*
BJI 03 07:48:05.9,44.62N×83.65E,h14km**,ML3.0,1C-1D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**2.37**	**337**	⇓Pn	Pn	07 48 47.7	+2.6
	3.4nm,0.3s,baz=146,slow=14						
MK31				Pg	Pg	07 48 50.5	-2.8
	baz=155,slow=18						
MK31				⇑Lg		07 49 24.7	
	11nm,0.5s,baz=160,slow=29						
WMQ	**Urumqi**	**3.02**	**104**	*e*PG	Pg	07 48 59.2	-7.0
WMQ				S	Sn	07 49 35.4	+4.9
WMQ				Smax			
	comp=N,22nm,0.5s						
WMQ				Smax			
	comp=E,23nm,0.5s						

*ATH **03** 08:06:58.3,34.55N×25.30E,h42km±4km,MD4.2/15*
*CSEM **03** 08:06:58.2±0.1,34.58N×25.45E,h60km,mb3.9/15,Error ellipse: s-maj=3.4km s-min=1.7km az=4.0*
*NEIC **03** 08:07:01.6±0.7,34.80N×25.32E,h53km±5km,mb3.9/19, MD4.2(ATH),Error ellipse: s-maj=11.8km s-min=4.2km az=185.0*
*ISK **03** 08:07:01.6,34.81N×25.47E,h54km,MD4.1*
*THE **03** 08:07:02.5,34.74N×25.27E,h20km*
*MOS **03** 08:07:02.9±2.4,35.19N×25.36E,h33km,mb4.2/8,Error ellipse: s-maj=14.9km s-min=8.1km az=90.3*
*IDC **03** 08:07:03.5±1.3,35.22N×25.51E,h47km±10km,mb3.8/9, mb1 3.9/16,mb1mx3.7/29,ML3.8/7,Error ellipse: s-maj=22.2km s-min=16.3km az=153.0*
ISC 03 08:06:56.2±0.5**,34.38N**±0.05×**25.24E**±0.03**,h42**km**,n153,** σ**1§32**/165**,mb4.0**/19**,1C,Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.62**	**37**	*e*P	**P**	**08 07 09.0**	**+0.5**
NPS	**Neapolis**	**0.93**	**19**	*e*P	**P**	**08 07 13.4**	**+0.5**
NPS				*e*S	**S**	**08 07 24.3**	**-0.9**
IDI	**Anoyia**	**0.95**	**342**	P	**P**	**08 07 14.3**	**+1.2**
	258nm,0.3s,baz=148,slow=15,SNR=961						
IDI				S	**S**	**08 07 25.6**	**-0.1**
	1µm,0.3s,baz=250,slow=18,SNR=49						
GVD	**Gavdhos**	**1.05**	**296**	*e*Pn	**P**	**08 07 19.6**	**+4.9**
VAM	**Vamos**	**1.33**	**320**	*e*P	**P**	**08 07 21.6**	**+2.9**
THR6	**Thira Island,**	**1.97**	**4**	*e*Pb	**P**	**08 07 27.8**	**0.0**
SANT	**Santorini**	**1.99**	**5**	*e*Pn	**P**	**08 07 25.9**	**-2.1**
THR1	**Thera Island**	**1.99**	**5**	*e*Pb	**P**	**08 07 27.9**	**-0.1**
THR3	**Thira Island,**	**2.02**	**4**	*e*Pb	**P**	**08 07 28.6**	**+0.1**
THR5	**Thira Island,**	**2.03**	**2**	*e*Pb	**P**	**08 07 28.7**	**+0.1**
THR4	**Thira Island,**	**2.08**	**3**	*e*Pb	**P**	**08 07 29.9**	**+0.7**
KYTH	**Kithira**	**2.61**	**317**	*e*P	**P**	**08 07 39.5**	**+2.6**
APE	**Apeiranthos**	**2.69**	**5**	*i* PN	**P**	**08 07 37.9**	**-0.1**
APE				*i* SN	**S**	**08 08 04.3**	**-5.3**
APE	**Apeiranthos**	**2.69**	**5**	*e*P	**P**	**08 07 37.6**	**-0.4**
APE	**Apeiranthos**	**2.69**	**5**	*i* Pn	**P**	**08 07 37.9**	**-0.1**
APE				*i* Sn	**S**	**08 08 04.3**	**-5.3**
ARG	**Arkhangelos**	**2.98**	**51**	*e*P	**P**	**08 07 43.7**	**+1.5**
VLI	**Veliai**	**2.99**	**322**	*e*P	**P**	**08 07 43.2**	**+0.9**
MLSB	**Milas**	**3.56**	**35**	PN	**P**	**08 07 50.8**	**+0.4**
DALT	**Dalyan (Mudla)**	**3.65**	**48**	PN	**P**	**08 07 52.4**	**+0.8**
NSAL	**Nisos Salamina**	**3.80**	**338**	*e*P	**P**	**08 07 55.5**	**+1.8**
PTL	**Penteli**	**3.82**	**343**	*e*P	**P**	**08 07 53.5**	**-0.6**
ITM	**Ithomi**	**3.88**	**317**	*e*P	**P**	**08 07 55.6**	**+0.7**
AYDN	**Tasoluk**	**3.91**	**32**	*i* P	**P**	**08 07 55.2**	**-0.1**
MPAR	**Parnis Oros**	**3.95**	**343**	*e*P	**P**	**08 07 55.5**	**-0.4**
IZM	**Izmir**	**4.33**	**22**	PN	**P**	**08 08 00.7**	**-0.5**
KDAG	**Bornova**	**4.33**	**22**	*i* P	**P**	**08 08 01.6**	**+0.3**
ELL	**Elmali**	**4.48**	**57**	PN	**P**	**08 08 03.6**	**+0.3**
DNZL	**Cakiroluk**	**4.51**	**42**	*i* P	**P**	**08 08 03.6**	**-0.3**
DENT	**Denizli**	**4.55**	**41**	PN	**P**	**08 08 04.7**	**+0.3**
MANT	**Manisa**	**4.89**	**32**	*i* P	**P**	**08 08 08.4**	**-0.8**
PRK	**Paraskevi**	**4.92**	**9**	*e*P	**P**	**08 08 12.0**	**+2.4**
AGG	**Agios Georgios**	**5.19**	**334**	*e*Pn	**P**	**08 08 14.1**	**+0.8**
AGG				*e*Sn	**S**	**08 09 06.2**	**-6.5**
XOR	**Xorichti**	**5.24**	**342**	*e*Pn	**P**	**08 08 14.0**	**0.0**
EVR	**Evrytania**	**5.30**	**330**	*e*P	**P**	**08 08 17.5**	**+2.6**
BCK	**Bucak**	**5.32**	**53**	PN	**P**	**08 08 15.5**	**+0.4**
VLS	**Valsamata**	**5.33**	**317**	*e*P	**P**	**08 08 16.9**	**+1.6**
LKD	**Levkas**	**5.68**	**321**	*e*Pn	**P**	**08 08 21.2**	**+1.1**
LKD				*e*Sn	**S**	**08 09 20.7**	**-4.3**
LKD	**Levkas**	**5.68**	**321**	*e*Pn	**P**	**08 08 21.2**	**+1.0**
LKD				*e*Sn	**S**	**08 09 20.7**	**-4.4**
LIT	**Litokhoron**	**6.11**	**340**	*e*Pn	**P**	**08 08 26.4**	**+0.2**
LIT				*e*Sn	**S**	**08 09 29.3**	**-6.6**
MEV	**Metsovon**	**6.27**	**330**	*e*Pn	**P**	**08 08 29.4**	**+0.9**
MEV				*e*Sn	**S**	**08 09 34.4**	**-5.4**
JAN	**Janina**	**6.33**	**328**	*e*P	**P**	**08 08 30.0**	**+0.7**
LEF	**Lefka**	**6.34**	**81**	PN	**P**	**08 08 31.5**	**+2.0**
LEF	**Lefka**	**6.34**	**81**	Pn	**P**	**08 08 30.5**	**+1.0**
HDMB	**Hadim**	**6.43**	**64**	PN	**P**	**08 08 30.9**	**+0.1**
IGT	**Igoumenitsa**	**6.47**	**324**	*e*Pn	**P**	**08 08 31.5**	**+0.2**
IGT				*e*Sn	**S**	**08 09 37.8**	**-6.9**
ULDT	**Uludag**	**6.53**	**27**	*i* P	**P**	**08 08 30.9**	**-1.3**
CSS	**Prodhromos**	**6.69**	**83**	*e*Pn	**P**	**08 08 33.0**	**-1.4**
CSS				Sn	**S**	**08 09 37.0**	**-13**
CSS	**Prodhromos**	**6.69**	**83**	*e*Pn	**P**	**08 08 33.0**	**-1.4**
KIZT	**Kizilcal**	**6.97**	**48**	*i* PN	**P**	**08 08 37.3**	**-1.1**
FNA	**Florina**	**7.09**	**335**	*e*Pn	**P**	**08 08 39.4**	**-0.5**
FNA				*e*Sn	**S**	**08 09 53.4**	**-6.6**
IKL	**Isikli**	**7.15**	**73**	PN	**P**	**08 08 41.4**	**+0.6**
IKL	**Isikli**	**7.15**	**73**	Pn	**P**	**08 08 40.1**	**-0.7**
MMB	**Musomiste**	**7.29**	**351**	*e*P	**P**	**08 08 44.0**	**+1.2**
RZN	**Rozhen**	**7.30**	**357**	*e*P	**P**	**08 08 47.5**	**+4.5**
MEST	**Erdemli**	**7.59**	**71**	*i* P	**P**	**08 08 45.9**	**-1.0**
KKB	**Krupnik**	**7.66**	**348**	*e*P	**P**	**08 08 50.0**	**+2.1**
SOI	**Samo**	**8.28**	**299**	*e*Pn	**P**	**08 08 57.3**	**+0.8**
SOI				*e*Sn	**S**	**08 10 17.2**	**-13**
SOI	**Samo**	**8.28**	**299**	*e*Pn	**P**	**08 08 57.3**	**+0.8**
KZIT	**Kziot**	**8.46**	**112**	Sn	**S**	**08 10 28.9**	**-5.4**
MTTG	**Motta San Giov**	**8.52**	**298**	*e*Pn	**P**	**08 09 01.1**	**+1.2**
MTTG	**Motta San Giov**	**8.52**	**298**	*e*Pn	**P**	**08 09 01.0**	**+1.2**
BRTR	**Keskin Array B**	**8.57**	**49**	P	**P**	**08 08 55.6**	**-4.9**
	0.2nm,0.3s,baz=233,slow=12,SNR=6.5						
AGST	**Augusta-Monte**	**8.62**	**292**	*e*Pn	**P**	**08 09 01.9**	**+0.7**
AGST	**Augusta-Monte**	**8.62**	**292**	*e*Pn	**P**	**08 09 01.9**	**+0.7**
MASH	**Mash‘abbe Sade**	**8.72**	**110**	Sn	**S**	**08 10 33.5**	**-7.3**
HMDT	**Nahal Hemdat**	**8.87**	**101**	Sn	**S**	**08 10 38.7**	**-5.6**
PE1	**Pezze di Greco**	**8.92**	**318**	*e*Pn	**P**	**08 09 02.5**	**-2.8**
DRGI	**Dragot**	**8.97**	**105**	Sn	**S**	**08 10 40.7**	**-6.1**
ORI	**Oriolo Calabro**	**9.01**	**312**	*e*Pn	**P**	**08 09 05.8**	**-0.8**
ORI	**Oriolo Calabro**	**9.01**	**312**	*e*Pn	**P**	**08 09 05.8**	**-0.8**
MZDA	**Masada**	**9.05**	**107**	Sn	**S**	**08 10 42.1**	**-6.8**
KMTI	**Karmit**	**9.09**	**115**	Sn	**S**	**08 10 43.8**	**-6.1**
PRNI	**Paran**	**9.18**	**113**	Sn	**S**	**08 10 45.9**	**-6.2**
ZFRI	**Zfri**	**9.22**	**112**	Sn	**S**	**08 10 47.5**	**-5.6**
VAE	**Valguarnera**	**9.31**	**292**	P	**P**	**08 09 13.5**	**+2.8**
	1.7nm,0.3s,baz=137,slow=15,SNR=3.2						
VAE				S	**S**	**08 10 52.1**	**-3.1**
	3.1nm,0.3s,baz=172,slow=10,SNR=4.4						
SG1	**Sgolgore (BA)**	**9.36**	**316**	*e*Pn	**P**	**08 09 08.1**	**-3.3**
MBH	**Mount Berech**	**9.40**	**117**	Sn	**S**	**08 10 53.7**	**-3.7**
BAI	**Bari**	**9.42**	**318**	*e*Pn	**P**	**08 09 09.5**	**-2.8**
MGR	**Morigerati**	**9.62**	**309**	*e*Pn	**P**	**08 09 13.3**	**-1.7**
MGR	**Morigerati**	**9.62**	**309**	*e*Pn	**P**	**08 09 13.3**	**-1.7**
SLCN	**Sala Consilina**	**9.71**	**311**	*e*Pn	**P**	**08 09 15.4**	**-0.9**
SLCN	**Sala Consilina**	**9.71**	**311**	*e*Pn	**P**	**08 09 15.4**	**-0.8**
SGO	**Sicignano**	**10.01**	**311**	*e*Pn	**P**	**08 09 19.0**	**-1.4**
MRLC	**Muro Lucano**	**10.01**	**312**	*e*Pn	**P**	**08 09 18.4**	**-1.9**
MRLC	**Muro Lucano**	**10.01**	**312**	*e*Pn	**P**	**08 09 18.5**	**-1.9**
CSSN	**Cassano Irpino**	**10.36**	**312**	*e*Pn	**P**	**08 09 23.2**	**-1.9**
CSSN	**Cassano Irpino**	**10.36**	**312**	*e*Pn	**P**	**08 09 23.2**	**-1.9**
MLR	**Muntele Rosu**	**11.11**	**3**	P	**P**	**08 09 28.7**	**-6.6**
	0.1nm,0.3s,baz=155,slow=11,SNR=2.4						
FSSB	**Fossombrone**	**13.41**	**318**	*e*Pn	**P**	**08 10 05.7**	**-0.4**
SOC	**Sochi**	**14.51**	**46**	*e*P	**P**	**08 10 23.6**	**+3.1**
SOC				*e*S	**S**	**08 13 01.8**	**+1.0**
SOC				pmax	pmax		
	comp=Z,8.0nm,0.6s						
SOC				pmax	pmax		
	comp=N,11nm,0.8s						
SOC				pmax	pmax		
	comp=E,5.0nm,0.5s						
SOC				MLR	MLR		
	comp=Z,89nm,18.0s						
SOC				MLR	MLR		
	comp=N,63nm,15.0s						
SOC				MLR	MLR		
	comp=E,112nm,21.0s						
VRAC	**Vranov**	**16.23**	**339**	P	**P**	**08 10 40.6**	**-1.8**
	comp=E,0.2nm,0.3s,baz=148,slow=8.3,SNR=4.5						
KIV	**Kislovodsk**	**16.54**	**50**	*e*P	**P**	**08 10 49.6**	**+3.2**
KIV				pmax	pmax		
	comp=Z,14nm,0.9s						
KIV				pmax	pmax		
	comp=E,7.0nm,0.8s						
AKASG	**Malin Array Be**	**16.57**	**9**	P	**P**	**08 10 44.0**	**-2.7**
	comp=E,1.9nm,0.3s,baz=202,slow=11,SNR=32						
AKASG	**Malin Array Be**	**16.57**	**9**	P	**P**	**08 10 44.0**	**-2.7**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.3s						
GERES	**GERESS Array B**	**16.80**	**333**	P	**P**	**08 10 49.2**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=149,slow=11,SNR=9.5						
DAVOX	**Davos**	**16.98**	**321**	P	**P**	**08 10 53.2**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=326,slow=17,SNR=4.3						
DAVOS	**Davos**	**17.06**	**321**	P	**P**	**08 10 53.2**	**+0.2**
KHC	**Kasperske Hory**	**17.08**	**333**	*e*P	**P**	**08 10 56.0**	**+2.8**
FRF	**La Foret Royal**	**17.09**	**308**	*e*P	**P**	**08 10 52.7**	**-0.7**
	comp=Z,6.9nm,0.8s						
MBDF	**Montbardon**	**17.55**	**312**	*e*P	**P**	**08 10 57.8**	**-1.4**
LPG	**La Plagne**	**17.96**	**314**	*e*P	**P**	**08 11 02.9**	**-1.3**
SMRF	**Simiane la Rot**	**17.97**	**308**	*e*P	**P**	**08 11 06.2**	**+1.9**
LPL	**La Plagne**	**17.98**	**314**	*e*P	**P**	**08 11 02.9**	**-1.6**
	comp=Z,4.9nm,0.5s						
GRA1	**Grafenberg Arr**	**18.45**	**330**	*e*P	**P**	**08 11 09.5**	**-0.9**
	comp=Z,3.0nm,0.8s						
GRF	**Grafenberg Arr**	**18.45**	**330**	*e*P	**P**	**08 11 09.5**	**-0.9**
GRF				pmax	pmax		
	comp=Z,3.0nm,0.8s						
VIVF	**Saint-Julien-l**	**18.93**	**310**	*e*P	**P**	**08 11 17.0**	**+0.9**
CABF	**La Chapelle**	**18.95**	**316**	*e*P	**P**	**08 11 14.5**	**-1.8**
	comp=Z,9.6nm,0.8s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CLL	Collm	19.10	336	P	P	08 11 16.0	-2.0
CLL				e*PP		08 11 23.0	
CLL				e*SP		08 11 32.0	
CLL				e		08 12 01.0	
HINF	Hinteralfeld	19.22	320	eP	P	08 11 17.6	-1.8
	comp=Z,4.9nm,0.5s						
CDF	Champ du Feu	19.38	322	eP	P	08 11 16.9	-4.1
	comp=Z,11nm,0.8s						
HAU	Haudompre	19.61	320	eP	P	08 11 22.7	-0.9
	comp=Z,10nm,0.5s						
SMF	Signal de Mont	20.29	314	eP	P	08 11 29.3	-1.5
LOR	Lormes	20.59	315	eP	P	08 11 33.3	-0.7
	comp=Z,3.9nm,0.5s						
MEZF	Maizieres J'vi	20.60	319	eP	P	08 11 33.2	-0.9
	comp=Z,12nm,0.5s						
SSF	Saint Saulge	20.70	314	eP	P	08 11 33.7	-1.4
BGF	Bois d'Agland	20.85	312	eP	P	08 11 36.8	+0.2
	comp=Z,16nm,0.8s						
TCF	Toulx Ste Croi	21.12	311	eP	P	08 11 40.8	+1.4
RJF	Les Rejaudoux	21.15	308	eP	P	08 11 44.9	+5.2
EPF	Esparros	21.20	301	eP	P	08 11 44.5	+4.2
LFF	La Frestale	21.53	307	eP	P	08 11 46.1	+2.6
	comp=Z,3.9nm,0.5s,mb3.8						
ETSF	Etsaut	21.81	301	eP	P	08 11 50.8	+4.5
	comp=Z,3.6nm,0.6s,mb3.7						
BAIF	Baives	21.98	322	eP	P	08 11 47.2	-0.7
	comp=Z,13nm,0.7s,mb4.2						
OBN	Obninsk	22.18	17⇑	eP	P	08 11 55.5	+5.6
OBN				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.2						
OBN				MLR	MLR		
	comp=Z,200nm,7.0s						
SJPF	Ste Jean	22.34	301	eP	P	08 11 55.8	+4.3
MFF	Saint Martin d	22.73	310	eP	P	08 11 56.2	+0.9
	comp=Z,24nm,1.1s,mb4.3						
LDF	La Druitiere	23.58	315	eP	P	08 12 03.4	-0.1
	comp=Z,5.5nm,0.6s,mb3.9						
ESDC	Sonseca Array	23.85	291	P	P	08 12 10.1	+3.8
	comp=Z,0.4nm,0.4s,mb3.2,baz=80,slow=9.3,SNR=5.3						
ESLA	Sonseca Array	23.85	291	P	P	08 12 10.1	+3.8
	comp=Z,1.2nm,1.0s,mb3.3						
ESLA	Sonseca Array	23.85	291	P	P	08 12 10.1	+3.8
	comp=Z,1.2nm,1.0s,mb3.3						
FLN	La Foliniere	23.86	315	eP	P	08 12 07.4	+1.1
	comp=Z,11nm,0.5s,mb4.2						
GRR	Gorron	23.92	314	eP	P	08 12 07.6	+0.7
SGMF	Saint Gilles	24.89	312	eP	P	08 12 17.7	+1.4
QUIF	Quistinic	25.14	311	eP	P	08 12 20.1	+1.4
	comp=Z,8.2nm,0.6s,mb4.1						
HFS	Hagfors	26.84	347	P	P	08 12 32.3	-2.1
	comp=Z,2.0nm,0.9s,mb3.6,baz=135,slow=12,SNR=4.0						
HFS	Hagfors	26.84	347	P	P	08 12 32.3	-2.1
HFS				pmax	pmax		
	comp=Z,2.0nm,0.9s						
FINES	FINESS Array B	27.08	1	P	P	08 12 33.4	-3.2
	comp=Z,2.9nm,1.0s,mb3.8,baz=159,slow=12,SNR=9.9						
FINES	FINESS Array B	27.08	1	P	P	08 12 33.4	-3.2
FINES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KAF	Kangasniemi	27.76	1	ep	P	08 12 39.1	-3.6
EKA	Eskdalemuir Ar	28.71	326	P	P	08 12 51.0	-0.4
	comp=Z,8.5nm,1.1s,mb4.4,baz=128,slow=9.5,SNR=6.9						
EKA	Eskdalemuir Ar	28.71	326	P	P	08 12 51.0	-0.3
EKA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
ARCES	ARCESS Array B	35.20	0	P	P	08 13 45.0	-2.9
	comp=Z,0.9nm,0.5s,mb4.0,baz=180,slow=7.3,SNR=8.0						
ARCES	ARCESS Array B	35.20	0	P	P	08 13 45.0	-2.9
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZRNK	Zerenda	36.01	45	eP	P	08 13 54.2	-0.7
	comp=Z,2.0nm,0.7s,mb4.2						
AAK	Ala-Archa	38.95	63	eP	P	08 14 22.8	+3.2
DBIC	Dimbokro	39.14	232	P	P	08 14 33.6	+12
	comp=Z,1.7nm,0.6s,mb4.0,baz=16,slow=8.6,SNR=4.6						
DBIC	Dimbokro	39.14	232	P	P	08 14 33.7	+12
DBIC				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR	Makanchi Array	44.15	56	P	P	08 15 02.5	+0.3
	comp=Z,1.2nm,0.6s,mb3.8,baz=283,slow=6.0,SNR=13						
MKAR	Makanchi Array	44.15	56	P	P	08 15 02.5	+0.2
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM	Songino Array	59.93	50	P	P	08 17 00.9	+0.7
	comp=Z,0.7nm,0.5s,mb3.9,baz=306,slow=7.7,SNR=5.3						
SCHQ	Schefferville	63.82	320	P	P	08 17 27.2	+1.2
	comp=Z,3.5nm,0.6s,mb4.6,baz=329,slow=3.7,SNR=5.8						
WRA	Warramunga Arr	116.43	97	PKP	PKPdf	08 25 41.5	+5.7
	comp=Z,0.5nm,1.0s,baz=310,slow=1.8,SNR=3.9						
WRA	Warramunga Arr	116.43	97	PKIKP	PKPdf	08 25 41.5	+5.7
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ASAR	Alice Springs	117.84	101	PKP	PKPdf	08 25 44.5	+6.2
	comp=Z,0.1nm,0.4s,baz=283,slow=0.9,SNR=4.2						

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*IDC **03** 08:27:36.8±7.4,25.40N×125.04E,mb3.3/3,mb1 3.5/3, mb1mx3.3/22,Error ellipse: s-maj=434.0km s-min=29.2km az=60.0*

*JMA **03** 08:27:48.7±0.1,25.13N×124.49E,h90km±3km,M2.9*

ISC 03 08:27:48.0±1.0,**25.1N**±0.1×**124.50E**±0.08,**h97**km±7km, **n10,**σ**0.36**/17,**mb3.3**/3,**Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTJ	Tarama	0.49	158	P	P	08 28 03.8	+0.2
JTJ				S	S	08 28 15.0	-0.3
JMJ	Miyako jima 2	0.77	111	P	P	08 28 06.2	+0.1
JMJ				S	S	08 28 19.2	-0.3
JIJ	Ishigaki jima	0.80	204	P	P	08 28 06.3	-0.1
JIJ				S	S	08 28 19.3	-0.7
JOGS	Gusukube	0.89	112	P	P	08 28 07.5	+0.3
JOGS				S	S	08 28 21.7	+0.1
JKRS	Kuro-shima	0.97	208	P	P	08 28 08.5	+0.4
JKRS				S	S	08 28 23.3	+0.1
IRIF	Iriomote-Funau	1.04	223	P	P	08 28 09.1	+0.2
IRIF				S	S	08 28 24.4	-0.2
HATJ	Hateruma jima	1.22	212	P	P	08 28 11.6	+0.4
HATJ				eS	S	08 28 28.7	+0.3
MKAR	Makanchi Array	39.84	314	P	P	08 35 12.9	-0.3
	0.5nm,0.6s,mb3.5,baz=91,slow=8.5,SNR=4.6						
WRA	Warramunga Arr	45.78	167	P	P	08 36 01.0	-0.8
	0.3nm,0.9s,mb3.0,baz=350,slow=8.6,SNR=4.6						
ASAR	Alice Springs	49.32	169	P	P	08 36 29.9	+0.5
	0.2nm,0.4s,mb3.4,baz=353,slow=9.0,SNR=6.3						

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*CASC **03** 08:30:08.6±2.6,7.27N×71.72W,h2km±999km,MD4.8, mb4.9(NEIC)*

*NEIC **03** 08:30:29.9±0.1,6.75N×72.94W,mb4.9/75,Error ellipse: s-maj=4.2km s-min=3.3km az=51.0*

*HRVD **03** 08:30:29.9±0.5,6.83N×73.04W,h172km±5km,MW4.8/39, Centroid moment Tensor Solution. LP body waves: s6,c6; Mantle waves: s39,c62; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.20±.12; $M_{\theta\theta}$-1.82±.15; $M_{\phi\phi}$2.02±.16; $M_{r\theta}$-1.09±.09; $M_{\theta\phi}$0.74±.13; $M_{\phi r}$-0.27±.11; Best double couple: $M_0$2.35×10^{16} NP1:ϕ_s148°,δ64°,λ-170°. NP2: ϕ_s54°,δ81°,λ-27°. Principal axes: T 2.26, Plg12°, Azm104°; N .18, Plg62°, Azm217°; P -2.44, Plg25°, Azm8°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **03** 08:30:29.9,6.80N×72.90W,h155km,mB5.0*

*IDC **03** 08:30:30.7±0.4,6.71N×72.97W,h162km±4km,mb4.6/19, mb1 4.8/21,mb1mx4.7/24,MS3.5/4,Ms1 3.4/4, ms1mx3.1/23,Error ellipse: s-maj=10.3km s-min=7.4km az=85.0*

*FUNV **03** 08:30:31.0,6.86N×73.09W,h173km,MW4.4*

ISC 03 08:30:29.4±0.3,**6.77N**±0.03×**72.94W**±0.02,**h167**km±2km, **h158**km±1.3km**:pP-P,n275,**σ**0.93**/273,**mb4.9**/94,**12C-40D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	Capacho	1.25	30	eP	P	08 30 59.7	+1.4
CAPV				eS	S	08 31 20.7	+0.1
ROSC	El Rosal	2.35	216	P	P	08 31 11.6	+1.5
	6μm,0.3s,baz=91,slow=21,SNR=7552						
ROSC				S	S	08 31 41.4	-0.1
	11μm,0.3s,baz=128,slow=20,SNR=12						
SOCV	Socops	2.56	54	eP	P	08 31 14.7	+2.0
SOCV				eS	S	08 31 46.0	+0.2
VIGV	El Vigia	2.58	37	eP	P	08 31 13.7	+0.7
VIGV				eS	S	08 31 44.5	-2.0
SDV	Santo Domingo	3.11	47⇑	iPn	P	08 31 21.5	+2.0
SDV				eSn	S	08 31 57.6	-0.3
VIRV	Villa del Rosa	3.75	8	eP	P	08 31 26.4	-1.3
VIRV				eS	S	08 32 07.5	-5.1
QARV	Quebrada Arrib	4.17	35	eP	P	08 31 33.6	+0.5
CURV	Curarigua	4.37	42	eP	P	08 31 36.1	+0.4
DABV	Dabajuro	4.71	29	eP	P	08 31 40.1	-0.1
TEPV	Terepaima	4.88	49	eP	P	08 31 42.1	-0.3
SIQV	Siquisique	4.95	39	eP	P	08 31 42.6	-0.7
BAUV	El Baul	5.31	66	eP	P	08 31 47.8	-0.2
BAUV				eS	S	08 32 46.2	-2.7
IMOV	Isla Los Monje	5.91	20	eP	P	08 31 54.5	-1.3
CAOV	Caicara del Or	6.59	85⇓	eP	P	08 32 05.0	0.0
JEF	Cerro Jefe	6.82	291⇑	eP	P	08 32 04.5	-3.6
UPA	Univ. de Panam	6.89	289⇑	eP	P	08 32 05.7	-3.3
FUNV	FUNVISIS	7.09	58	eP	P	08 32 11.0	-0.6
AZU	Azuero	7.35	278⇑	eP	P	08 32 12.8	-2.2
CUPV	Cœpira	7.79	65	eP	P	08 32 20.8	-0.1
OTAV	Otavalo	8.50	221	ePn	P	08 32 29.2	-1.1
	53nm,0.9s						
PTP1	Petroterminal	9.52	279⇓	iP	P	08 32 49.5	+5.8
DVD	David	9.57	281	eP	P	08 32 44.4	-0.1
ACR	Cerro Adams	10.31	281	eP	P	08 32 53.4	-0.7
LIO	Limon	10.49	289	eP	P	08 32 57.9	+1.4
BUS	Buena Vista	11.06	285	eP	P	08 33 04.6	+0.7
URSC	Urasca	11.15	287	eP	P	08 33 04.5	-0.6
ICR	Volcan Irazu	11.24	287	eP	P	08 33 06.3	+0.1
TRTC	Tortuguero	11.30	290	eP	P	08 33 04.9	-2.2
LCR2	La Lucha 2	11.34	286	eP	P	08 33 08.0	+0.4
SJS	Escuela Geolog	11.44	287⇓	eP	P	08 33 08.6	-0.2
LAJ	Bijagual	11.49	286	eP	P	08 33 15.8	+6.4
PRS1	Puriscal	11.70	287	eP	P	08 33 14.0	+1.9
HOJ	Hope	11.77	342⇓	eP	P	08 33 15.1	+1.9
CGA2	Cerro Gallo 2	11.85	287	eP	P	08 33 11.7	-2.5
STH	Stony Hill	11.86	342	eP	P	08 33 14.4	+0.2
STH				eS	S	08 35 11.6	-12
TPP	Pointe-a-Pierr	11.89	72	eP	P	08 33 25.4	+11
MCJ	Malvern	12.02	338	eP	P	08 33 16.9	+0.6
MCJ				eS	S	08 35 17.0	-10
MCJ				eS	S	08 35 17.9	-10
TRN	Trinidad (W)	12.04	71	eP	P	08 33 25.6	+9.1
TRN				eS	S	08 35 45.5	+18
GRW	Mount Saint Ca	12.35	63	eP	P	08 33 26.2	+5.7
JTS	JuntasAbangare	12.39	287	P	P	08 33 21.4	+0.4
	7.6nm,0.3s,baz=83,slow=9.2,SNR=31						
JTS	JuntasAbangare	12.39	287	Pn	P	08 33 21.1	+0.1
	741nm,0.8s,SNR=32						
JTS	JuntasAbangare	12.39	287⇑	ePn	P	08 33 20.1	-0.9
JTS				eS	Sx	08 36 14.5	
JCR	Jicaral	12.43	285	eP	P	08 33 23.0	+1.4
MGP	Maguayo	12.54	27	ePn	P	08 33 19.6	-3.5
TPR	Prospect	12.79	69	eP	P	08 33 29.0	+2.8
AGP	Aguadilla	12.88	25	ePn	P	08 33 26.2	-1.0
VCR	Vista de Mar	12.99	286	eP	P	08 33 34.6	+5.8
AOPR	Arecibo Observ	12.99	27	ePn	P	08 33 27.0	-1.8
SJG	San Juan	13.07	30	P	P	08 33 27.8	-2.0
	49nm,0.3s,baz=208,slow=11,SNR=115						
SJG				S	S	08 35 44.5	-7.4
	1.9nm,0.3s,baz=2.0,slow=22,SNR=3.0						
SJG				LR	LR	08 38 22.1	
	comp=Z,50nm,18.9s,baz=77,slow=36						
SJG	San Juan	13.07	30	eP	P	08 33 29.8	0.0
HUMP	Col San Antoni	13.25	31	eP	P	08 33 31.7	-0.4
SAML	Samuel	18.39	148	eP	P	08 34 33.2	-1.1
SAML				pP		08 35 00.5	
SAML				eS	S	08 37 54.4	+3.8
NNA	Nana	19.03	192	eP	P	08 34 40.8	-0.2
	13nm,0.9s						
TEIG	Tepich	20.01	313	P	P	08 34 51.3	+0.2
	0.0nm,0.3s,baz=123,slow=24,SNR=8.9						
DWPF	Disney	22.70	340	eP	P	08 35 18.8	+1.2
	182nm,1.3s,mb5.3						
ARE	Arequipa	23.12	176	eP	P	08 35 22.0	+0.2
LPAZ	La Paz	23.39	168	P	P	08 35 26.1	+1.7
	5.8nm,0.4s,mb4.4,baz=339,slow=5.1,SNR=40						
LPAZ				pP		08 35 55.3	
	32nm,0.7s,baz=347,slow=14,SNR=6.4						
LPAZ	La Paz	23.39	168	eP	P	08 35 25.7	+1.3
	0.1nm,0.4s						
LPAZ				pP		08 35 55.8	
BBSR	BB Station	26.61	16	eP	P	08 35 54.9	+0.7
NHSC	New Hope	27.06	347⇓	eP	P	08 35 59.2	+0.9
	37nm,0.6s,mb5.2						
LRAL	Lakeview Retre	29.22	335⇓	eP	P	08 36 18.2	+0.5
	27nm,0.6s,mb5.2						
LVC	Limon Verde	29.46	172	eP	P	08 36 19.1	-0.9
	38nm,0.9s,mb5.1						
CPCT	Cooper Cave	30.47	341⇓	iP	P	08 36 32.4	+3.6
BLA	Blacksburg	31.06	348⇓	eP	P	08 36 34.7	+0.7
	40nm,1.0s,mb5.1						
OXF	Oxford	31.52	333	eP	P	08 36 37.4	-0.6
	51nm,0.8s,mb5.3						
HKT	Hockley	31.55	320	eP	P	08 36 37.6	-0.6
	28nm,1.4s,mb4.8						
CBN	Corbin	31.55	353	eP	P	08 36 38.6	+0.4
	39nm,0.4s,mb5.5						
WVT	Waverly	32.25	337⇓	iP	P	08 36 44.3	0.0
	68nm,0.6s,mb5.6						
UTMT	University of	32.85	336	eP	P	08 36 49.5	+0.1
	209nm,1.1s,mb5.8						
HBAR	Harrisburg	32.95	333	eP	P	08 36 50.7	+0.4
UALR	University of	33.12	330	eP	P	08 36 51.0	-0.8
	11nm,0.6s,mb4.8						
BDFB	Brasilia	33.24	132	P	P	08 36 54.2	+1.2
	55nm,0.6s,mb5.4,baz=298,slow=10,SNR=178						
BDFB				LR	LR	08 52 16.2	
	comp=Z,115nm,20.0s,baz=128,slow=39						
BAO	Brasilia Array	33.26	132	iP	P	08 36 54.6	+1.6
MCWV	Mont Chateau	33.33	350⇓	iP	P	08 36 54.9	+1.4
	66nm,1.1s,mb5.3						
WCI	Wyandotte Cave	33.58	341⇓	iP	P	08 36 56.1	+0.5
	72nm,0.6s,mb5.6						
USIN	University of	33.81	339⇓	eP	P	08 36 57.7	+0.2
	346nm,1.1s						
SSPA	Standing Stone	34.01	353	eP	P	08 37 00.0	+0.7
	35nm,1.0s,mb5.0						
SSPA				ePcP	PcP	08 39 33.8	+0.3
BLO	Bloomington	34.51	341⇓	iP	P	08 37 04.2	+0.7
	146nm,0.6s,mb5.8						
ACSO	Alum Creek Sta	34.52	346	eP	P	08 37 04.6	+1.1
	80nm,1.0s,mb5.3						
JCT	Junction City	34.52	316	eP	P	08 37 02.2	-1.5
	4.5nm,0.5s,mb4.3						
FVM	French Village	34.89	335⇓	iP	P	08 37 06.9	+0.1
	148nm,0.9s,mb5.6						
CCM	Cathedral Cave	35.30	335⇓	iP	P	08 37 10.1	-0.1
	150nm,0.6s,mb5.8						
CCM				epP	pP	08 37 44.6	-1.6
CCM				sP	sP	08 38 00.6	-5.0
CCM				ePcP	PcP	08 39 34.6	-2.6
CCM				eS	S	08 42 29.3	-1.7
ALLY	Alegheny Colle	35.32	351	eP	P	08 37 11.8	+1.4
SLM	Saint Louis	35.37	336	eP	P	08 37 09.9	-0.9
	52nm,0.5s,mb5.4						
BINY	Binghamton	35.39	356⇓	iP	P	08 37 12.4	+1.5
	25nm,0.7s,mb5.0						
HRV	Harvard--Oak R	35.61	2	eP	P	08 37 14.1	+1.3
	70nm,1.1s,mb5.2						
GENY	Geneseo	36.11	354	eP	P	08 37 18.4	+1.4
CPUP	Villa Florida	36.22	156	P	P	08 37 15.8	-2.2
	4.5nm,0.8s,mb4.2,baz=349,slow=7.3,SNR=18						
CPUP				pP	pP	08 37 52.4	-1.7
	1.7nm,0.5s,baz=5.9,slow=10,SNR=2.7						
CPUP				ScP		08 43 09.4	
	1.9nm,0.7s,baz=346,slow=4.9,SNR=4.3						
CPUP	Villa Florida	36.22	156	P	P	08 37 15.8	-2.2
CPUP				pP	pP	08 37 52.4	-1.7
CPUP				ScP		08 43 09.4	
ACCN	Adirondack Com	36.48	359	eP	P	08 37 21.5	+1.5
WMOK	Wichita Mounta	36.63	323	eP	P	08 37 20.3	-1.1
	25nm,0.7s,mb5.0						
WMOK				epP	pP	08 37 54.6	-3.0
TXAR	Lajitas Array	36.63	312	P	P	08 37 21.4	-0.1
	8.9nm,0.5s,mb4.7,baz=128,slow=9.2,SNR=175						
TXAR				pP	pP	08 37 54.3	-3.3
	4.0nm,0.6s,baz=140,slow=9.8,SNR=3.8						
TXAR				PcP	PcP	08 39 42.8	+1.6
	2.7nm,0.5s,baz=145,slow=5.1,SNR=7.7						
TXAR				ScP		08 43 14.4	
	0.6nm,0.7s,baz=130,slow=7.0,SNR=4.5						
LTX	Lajitas	36.63	312	eP	P	08 37 21.4	-0.1
	12nm,0.7s,mb4.6						
LTX				epP	pP	08 37 54.2	-3.4
LTX				ePcP	PcP	08 39 41.1	-0.2
NCB	Newcomb	37.07	358	eP	P	08 37 26.1	+1.1
	19nm,0.6s,mb4.9						
LOZ	Lake Ozonia	37.73	358	eP	P	08 37 30.8	+0.3
EMMW	East Machias	38.10	6⇓	iP	P	08 37 35.0	+1.4
	332nm,0.7s						
MSNY	Massena	38.12	358	eP	P	08 37 35.1	+1.3
SADO	Sadowa	38.24	353	P	P	08 37 35.8	+0.9
	37nm,0.5s,mb5.2,baz=182,slow=8.2,SNR=42						
CLNB	Carlsbad	38.39	315	eP	P	08 37 35.9	-0.3
KSU1	Kansas State U	38.62	330⇓	eP	P	08 37 37.0	-1.0
GDL2	Guadalupe Moun	38.69	315	eP	P	08 37 39.0	+0.4
RCBR	Riachuelo	39.02	108⇑	eP	P	08 37 43.1	+1.5
	14nm,0.6s,mb4.8						
JFWS	Jewell Farm	39.11	340⇓	iP	P	08 37 41.8	-0.2
	154nm,0.6s,mb5.8						
CBKS	Cedar Bluff	40.04	327	eP	P	08 37 48.9	-0.8
	59nm,1.0s,mb5.2						
BNM	Barren Site	41.35	316	eP	P	08 38 00.6	+0.1
LPM	Los Pinos Moun	41.44	316	eP	P	08 38 01.6	+0.3
LENM	Lemitar	41.60	316	eP	P	08 38 02.5	-0.1
ANMO	Albuquerque	41.68	317	eP	P	08 38 03.7	+0.5
	9.0nm,0.8s,mb4.5						
LAZ	Ladron	41.84	316	eP	P	08 38 05.7	+1.1
SDCO	Great Sand Dun	42.70	321⇑	iP	P	08 38 12.6	+1.1
	28nm,0.8s,mb4.9						
SDCO				epP	pP	08 38 47.7	-0.7
TUC	Tucson	43.42	311⇓	eP	P	08 38 17.6	+0.3
	11nm,0.8s,mb4.5						
TUC				epP	pP	08 38 52.0	-2.3
ISCO	Idaho Springs	44.06	323⇓	iP	P	08 38 23.4	+1.0
	36nm,0.9s,mb5.0						
ISCO				epP	pP	08 38 58.3	-1.0
RW3	Ridgway	44.39	320	eP	P	08 38 26.1	+1.1
TRQA	Tornquist	45.75	168	eP	P	08 38 33.8	-2.1
RSSD	Black Hills	46.08	329⇓	eP	P	08 38 38.2	-0.1
	13nm,0.6s,mb4.8						
SRU	San Rafael	46.70	319⇓	eP	P	08 38 43.6	+0.3
TMUT	Trail Mountain	47.25	319	eP	P	08 38 48.1	+0.6
ULM	Lac du Bonnet	47.40	340	P	P	08 38 47.8	-0.7
	58nm,0.5s,mb5.5,baz=143,slow=7.0,SNR=51						
ULM				LR	LR	08 58 38.1	
	comp=Z,81nm,19.0s,baz=359,slow=36						
ULM	Lac du Bonnet	47.40	340⇓	iP	P	08 38 47.6	-0.9
	87nm,0.6s,mb5.6						
MSU	Marysvale	47.47	318	eP	P	08 38 50.1	+0.9
MVU	Marysvale	47.49	318⇓	iP	P	08 38 50.3	+0.9
	47nm,1.0s,mb5.1						
MVU				epP	pP	08 39 25.2	-1.6
LDFC	Landfair	47.88	312	eP	P	08 38 53.1	+0.6
DAU	Daniels Canyon	47.89	320	eP	P	08 38 53.2	+0.7
MPU	Maple Canyon	47.91	320⇓	iP	P	08 38 53.0	+0.3
MPU				epP	pP	08 39 28.2	-2.1
NEN	Nelson	47.94	313	eP	P	08 38 53.2	+0.2
NEN				epP	pP	08 39 29.0	-1.6
ARUT	Antelope Range	47.96	316	eP	P	08 38 53.4	+0.4
JLU	Jordanelle	48.12	320⇓	iP	P	08 38 54.8	+0.5
NLU	North Lily Min	48.17	319⇓	eP	P	08 38 55.1	+0.5
SCHQ	Schefferville	48.18	5	P	P	08 38 55.2	+0.7
	73nm,0.8s,mb5.3,baz=186,slow=6.3,SNR=59						
SCHQ				ScP		08 43 59.9	
	4.0nm,0.5s,baz=330,slow=0.8,SNR=4.3						
SCHQ	Schefferville	48.18	5⇓	eP	P	08 38 55.0	+0.4
	82nm,0.8s,mb5.4						
PDAR	Pinedale Array	48.23	324	P	P	08 38 55.0	0.0
	16nm,0.7s,mb4.7,baz=127,slow=8.9,SNR=108						
PDAR				PcP	PcP	08 40 22.7	+2.8
	1.9nm,0.4s,baz=115,slow=7.9,SNR=4.8						
PDAR				ScP		08 43 59.3	
	1.4nm,1.0s,baz=129,slow=5.8,SNR=4.7						
CTU	Camp Tracy	48.36	320	eP	P	08 38 56.3	+0.2
TCUT	Toone Canyon	48.38	321⇓	iP	P	08 38 55.2	-1.1
TCUT				epP	pP	08 39 30.8	-3.1
HWUT	Hardware Ranch	48.76	321	eP	P	08 38 58.6	-0.5
	21nm,0.7s,mb4.9						
DUG	Dugway	48.77	319⇓	eP	P	08 38 59.6	+0.3
	16nm,0.7s,mb4.8						
DUG				epP	pP	08 39 34.4	-2.6
LAO	LASA Array	48.97	330	eP	P	08 38 59.8	-0.9
	21nm,0.5s,mb5.0						
SPUT	South Promonto	49.14	321⇓	eP	P	08 39 02.0	-0.1
DGMT	Dagmar	49.28	333⇑	eP	P	08 39 03.3	+0.3
	178nm,0.6s,mb5.9						
BGU	Big Grassy Mou	49.30	320	eP	P	08 39 03.5	+0.2
BGU				epP	pP	08 39 39.0	-2.0
REDW	Red Top Meadow	49.34	324	eP	P	08 39 03.5	-0.1
REDW				epP	pP	08 39 38.7	-2.7
LOHW	Long Hollow	49.35	324	eP	P	08 39 03.6	-0.1
WUWY	Wally Ulrich	49.39	324	eP	P	08 39 03.9	0.0
TPAW	Teton Pass	49.48	324	eP	P	08 39 04.5	-0.1
MOOW	Moose Ponds	49.51	324	eP	P	08 39 04.7	-0.2
TPNV	Topopah Spring	49.54	314⇓	eP	P	08 39 05.3	+0.1
	22nm,1.0s,mb4.7						
TPNV				epP	pP	08 39 41.0	-2.0
HVU	Hansel Valley	49.60	321	eP	P	08 39 05.2	-0.4
RRI2	Red Ridge	49.61	324⇓	iP	P	08 39 05.8	+0.2
TRCR	Troy Canyon	49.71	316	eP	P	08 39 07.0	+0.6
IMW	Indian Meadow	49.71	324⇓	eP	P	08 39 06.5	+0.1
YFT	Old Faithful	49.99	325	eP	P	08 39 09.9	+1.4
GCMT	Greycliff	50.17	327	eP	P	08 39 09.9	+0.1
YMR	Madison River	50.19	325	eP	P	08 39 10.8	+0.8
QLMT	Earthquake Lak	50.55	325	eP	P	08 39 14.0	+1.2
ELK	Elko	50.64	319	eP	P	08 39 13.3	-0.2
	12nm,1.1s,mb4.4						
TPH	Tonopah	50.73	315	eP	P	08 39 14.3	+0.1
	17nm,1.1s,mb4.6						
BOZ	Bozeman (W)	51.16	326	eP	P	08 39 17.0	-0.4
	20nm,0.6s,mb4.9						
BOZ				epP	pP	08 39 53.0	-2.3
MCMT	McKenzie Canyo	51.37	324	eP	P	08 39 19.4	+0.5
MTUM	Tungsten Hills	51.38	313	eP	P	08 39 19.1	0.0
MNV	Mina	51.55	315	eP	P	08 39 20.3	-0.1
	19nm,1.4s,mb4.5						
HLID	Hailey	51.59	322	eP	P	08 39 20.6	0.0
	20nm,0.8s,mb4.8						
HLID				epP	pP	08 39 56.5	-2.2
NVAR	Mina Array Bea	51.65	315	P	P	08 39 21.4	+0.3
	9.2nm,0.7s,mb4.5,baz=119,slow=7.7,SNR=76						
NVAR				pP	pP	08 39 58.3	-0.9
	2.9nm,0.7s,baz=120,slow=7.4,SNR=3.3						
NVAR				PcP	PcP	08 40 33.2	+0.7
	3.4nm,0.5s,baz=131,slow=5.1,SNR=8.1						
NVAR	Mina Array Bea	51.65	315	P	P	08 39 21.4	+0.3
NVAR				pP	pP	08 39 58.3	-0.9
NVAR				PcP	PcP	08 40 33.2	+0.7
OMM	Old Mammoth Mi	51.80	313	eP	P	08 39 22.6	+0.3
BMN	Battle Mountai	51.81	317	eP	P	08 39 21.9	-0.4
	20nm,1.0s,mb4.7						
HRY	Holter Researc	51.92	327	eP	P	08 39 23.0	0.0
HRY				epP	pP	08 39 58.6	-2.4
LRV	Little Rabbit	52.82	311	eP	P	08 39 29.3	-0.6
CMB	Columbia Colle	52.98	313	eP	P	08 39 30.2	-0.8
	5.1nm,1.1s,mb4.2						
WCN	Washoe City	53.05	315	eP	P	08 39 31.8	+0.3
	7.7nm,0.7s,mb4.5						
MSO	Missoula	53.15	326	eP	P	08 39 31.1	-1.0
	11nm,1.0s,mb4.5						
SAO	San Andreas Ge	53.27	311	eP	P	08 39 32.8	-0.3
	6.0nm,0.8s,mb4.4						
BEKR	Beckwourth	53.71	315	eP	P	08 39 36.2	-0.1
	18nm,1.2s,mb4.7						
LKC	Lake Chabot	54.09	312	eP	P	08 39 39.5	+0.4
OHCM	Honcut	54.28	314	eP	P	08 39 40.2	-0.3
FCC	Fort Churchill	54.37	347	eP	P	08 39 39.6	-1.2
WALA	Waterton Lakes	54.45	328	eP	P	08 39 40.7	-0.9
	28nm,1.7s,mb4.7						
MOD	Modoc	54.55	318	eP	P	08 39 41.5	-0.9
	8.1nm,0.6s,mb4.6						
NSHM	Saint Helena R	54.77	313	eP	P	08 39 44.1	0.0
WDC	Whiskeytown Da	55.52	315	eP	P	08 39 46.7	-2.8
	9.2nm,1.0s,mb4.6						
NEW	Newport	55.74	326	eP	P	08 39 49.9	-1.0
	22nm,1.3s,mb4.8						
YBH	Yreka Blue Hor	56.10	316	P	P	08 39 51.8	-1.8
	12nm,0.6s,mb4.9,baz=118,slow=2.9,SNR=110						
YBH	Yreka Blue Hor	56.10	316	eP	P	08 39 51.7	-2.0
	10nm,0.6s,mb4.8						
DPW	Davenport	56.14	325	eP	P	08 39 53.4	-0.4
KHMM	Horse Mountain	56.47	315	eP	P	08 39 56.0	-0.2
HUMO	Hull Mountain	56.63	317	eP	P	08 39 55.3	-2.0
	2.9nm,0.6s,mb4.3						
EDM	Edmonton	56.76	332⇓	iP	P	08 39 56.9	-1.1
KRMB	Red Mountain	56.84	316	eP	P	08 39 58.5	-0.3
KRMB				epP	pP	08 40 34.5	-3.0

HSO	Harness Mounta	57.10	318	eP	P	08 39 59.7	-0.8
KBO	Bosley Butte	57.33	316	⇓iP	P	08 40 02.6	+0.3
NLW	Nelson Butte	57.48	324	eP	P	08 40 01.7	-1.5
KEBM	Edson Butte	57.66	317	eP	P	08 40 04.8	+0.2
EOSO	Osorio	58.14	61	P	P	08 40 04.6	-3.5
	0.8nm,0.2s,mb4.2						
GNW	Green Mountain	58.70	323	eP	P	08 40 10.7	-1.1
PGC	Sidney	59.58	324	eP	P	08 40 17.3	-0.4
	36nm,0.9s,mb5.2						
USHA	Ushuaia	61.49	177	P	P	08 40 28.7	-1.8
	14nm,0.7s,mb4.9,baz=355,slow=4.8,SNR=11						
YKA	Yellowknife Ar	63.38	340	P	P	08 40 42.2	-0.7
	45nm,0.6s,mb5.5,baz=133,slow=6.6,SNR=257						
YKA				PcP	PcP	08 41 20.7	+2.6
	9.0nm,0.6s,baz=128,slow=7.1,SNR=4.6						
YKA				LR	LR	09 08 26.6	
	comp=Z,40nm,18.8s,baz=100,slow=36						
YKA	Yellowknife Ar	63.38	340	P	P	08 40 42.2	-0.7
YKA				PcP	PcP	08 41 20.8	+2.6
YKA				LR	LR	09 08 26.6	
YKW3	Yellowknife Ar	63.43	340	eP	P	08 40 41.7	-1.6
TIC	Toumodi	67.40	86	eP	P	08 41 09.0	-0.4
	19nm,0.3s,mb5.5						
LIC	Lamto	67.42	86	eP	P	08 41 09.3	-0.3
	93nm,0.5s,mb5.9						
DLBC	Dease Lake	67.46	331	P	P	08 41 09.4	+0.3
	12nm,0.5s,mb4.9,baz=114,slow=3.8,SNR=43						
DLBC	Dease Lake	67.46	331	eP	P	08 41 09.2	+0.1
DBIC	Dimbokro	67.56	86	P	P	08 41 10.2	-0.2
	15nm,0.5s,mb5.0,baz=267,slow=5.7,SNR=63						
DBIC	Dimbokro	67.56	86	eP	P	08 41 09.9	-0.5
KIC	Kosan Boka	67.70	86	eP	P	08 41 11.1	-0.2
	155nm,0.6s,mb5.9						
EADA	Adamuz	68.86	52	P	P	08 41 17.0	-1.0
SUMG	Summit	69.01	11	eP	P	08 41 19.0	+0.7
	65nm,0.7s,mb5.5						
RES	Resolute Bay	69.05	354	eP	P	08 41 17.9	-0.7
	12nm,1.0s,mb4.6						
ELOJ	Sierra Loja	69.05	53	P	P	08 41 20.1	+0.9
	0.4nm,0.2s,mb3.8						
ESDC	Sonseca Array	69.55	50	P	P	08 41 21.5	-0.7
	0.6nm,0.5s,baz=265,slow=6.0,SNR=4.6						
ESDC	Sonseca Array	69.55	50	P	P	08 41 21.5	-0.7
	0.7nm,0.6s						
EQES	Quesada	69.99	52	P	P	08 41 24.9	0.0
EBER	Berja	70.02	53	P	P	08 41 24.9	-0.3
DCN	Croghan	70.18	36	eP	P	08 41 24.0	-1.8
EVIA	Vianos	70.53	52	P	P	08 41 29.2	+1.0
DMUB	Kingscourt	70.54	35	eP	P	08 41 23.0	-4.9
SJPF	Ste Jean	72.07	47	eP	P	08 41 37.1	-0.1
ETSF	Etsaut	72.52	47	eP	P	08 41 39.9	0.0
	1.5nm,0.5s						
GRR	Gorron	73.09	42	eP	P	08 41 42.6	-0.5
	9.5nm,0.4s,mb4.6						
EPF	Esparros	73.19	47	eP	P	08 41 43.7	-0.2
	4.4nm,0.5s,mb4.1						
MFF	Saint Martin d	73.30	43	eP	P	08 41 44.0	-0.4
FLN	La Foliniere	73.39	41	eP	P	08 41 44.5	-0.4
	21nm,0.6s,mb4.8						
LDF	La Druitiere	73.60	41	eP	P	08 41 45.6	-0.5
	8.0nm,0.5s,mb4.4						
EMIR	Miracle	73.95	48	P	P	08 41 47.3	-1.0
RJF	Les Rejaudoux	74.29	45	eP	P	08 41 49.9	-0.3
CAF	Calviac	74.64	45	eP	P	08 41 51.0	-1.1
	2.8nm,0.3s,mb4.0						
TCF	Toulx Ste Croi	74.88	44	eP	P	08 41 53.5	0.0
BGF	Bois d'Agland	75.34	44	eP	P	08 41 55.9	-0.2
	5.8nm,0.4s,mb4.3						
SSF	Saint Saulge	75.84	43	eP	P	08 41 57.6	-1.3
	1.1nm,0.4s						
SMF	Signal de Mont	76.04	44	eP	P	08 41 58.8	-1.2
LOR	Lormes	76.10	43	eP	P	08 41 59.2	-1.1
GIVF	Givet	76.99	40	eP	P	08 42 05.0	-0.2
ILAR	Eielson Array	77.09	335	P	P	08 42 05.7	+0.2
	7.6nm,0.8s,mb4.4,baz=101,slow=4.2,SNR=67						
ILAR				pP	pP	08 42 45.6	-0.9
	3.4nm,0.6s,baz=107,slow=3.9,SNR=4.1						
ILAR				PP	PP	08 45 00.5	-1.8
	1.7nm,0.7s,baz=79,slow=7.3,SNR=4.8						
ORIF	Oris-en-Rattie	77.34	46	eP	P	08 42 07.5	+0.2
COLA	College	77.51	335	eP	P	08 42 07.8	0.0
	7.7nm,0.9s,mb4.3						
COLA				ePP	PP	08 45 04.4	-1.7
PMR	Palmer	77.52	332	eP	P	08 42 08.3	+0.4
	12nm,0.8s,mb4.6						
LMR	La Mourre	77.72	47	eP	P	08 42 09.4	0.0
FRF	La Foret Royal	77.83	47	eP	P	08 42 10.0	0.0
LPL	La Plagne	77.97	45	eP	P	08 42 11.8	+1.1
	3.3nm,0.5s,mb3.9						
LPG	La Plagne	77.98	45	eP	P	08 42 11.1	+0.3
HINF	Hinteralfeld	78.17	43	eP	P	08 42 12.0	+0.3
	5.6nm,0.5s,mb4.1						
CDF	Champ du Feu	78.48	42	eP	P	08 42 12.7	-0.7
SPU	Mount Spurr	78.86	331	eP	P	08 42 15.3	+0.2
IMA	Indian Mountai	80.09	336	eP	P	08 42 22.5	+0.8
	35nm,0.8s,mb5.0						
NB2	NORSAR Subarra	81.29	29	P	P	08 42 29.2	+1.1
	4.3nm,0.5s,mb4.3,baz=268,slow=5.3						
NOA	NORSAR Array B	81.29	29	P	P	08 42 29.4	+1.2
	4.6nm,0.5s,mb4.4,baz=267,slow=5.4,SNR=24						
GERES	GERESS Array B	82.74	42	P	P	08 42 36.3	+0.5
	1.1nm,0.5s,mb3.8,baz=265,slow=4.0,SNR=13						
ARCES	ARCESS Array B	86.66	20	P	P	08 42 55.9	+1.1
	2.2nm,0.3s,mb4.5,baz=274,slow=4.0,SNR=56						
ARCES				pP	pP	08 43 38.2	+1.4
	3.2nm,0.6s,baz=281,slow=4.6,SNR=3.1						
ARE0	ARCESS Array S	86.66	20	eP	P	08 42 55.0	+0.1
VNA3	Neumayer Olymp	88.06	163	⇓i	P	08 43 04.4	+2.9
VNA3	Neumayer Olymp	88.06	163	⇑i	P	08 43 10.4	+8.9
VNA1	Neumayer--Stat	88.21	162	⇓i	P	08 43 05.7	+3.5
VNA1	Neumayer--Stat	88.21	162	⇑i	P	08 43 11.7	+10
FINES	FINESS Array B	88.40	28	P	P	08 43 04.5	+1.2
	1.7nm,0.7s,mb4.0,baz=292,slow=3.5,SNR=16						
FINES				pP	pP	08 43 46.5	+1.1
	1.3nm,0.6s,baz=206,slow=2.8,SNR=2.3						
FINES	FINESS Array B	88.40	28	P	P	08 43 04.5	+1.2
FINES				pP	pP	08 43 46.5	+1.2
VNA2	Neumayer--Watz	88.59	163	⇑i	P	08 43 06.7	+2.7
VNA2	Neumayer--Watz	88.59	163	⇑i	P	08 43 12.8	+8.8
SNAA	Sanae	90.23	163	⇓i	P	08 43 12.1	+0.4
SNAA	Sanae	90.23	163		P	08 43 18.3	+6.6
QSPA	South Pole Qui	96.78	180	eP	P	08 43 42.5	+1.0
	4.6nm,0.9s,mb4.8						
ZAL	Zalesovo	116.68	15	PKP	PKPdf	08 48 55.6	+2.0
	5.3nm,0.4s,baz=111,slow=2.1,SNR=14						
MKAR	Makanchi Array	122.31	20	PKP	PKPdf	08 49 06.6	+1.9
	3.8nm,0.4s,baz=300,slow=2.7,SNR=55						
MKAR	Makanchi Array	122.31	20	PKP	PKPdf	08 49 06.6	+1.9
SONM	Songino Array	125.63	1	PKP	PKPdf	08 49 13.8	+2.7
	4.8nm,0.5s,baz=307,slow=1.1,SNR=46						
WMQ	Urumqi	126.69	17	ePKP	PKPdf	08 49 14.0	+0.8
BJI	Beijing	132.67	350	ePKP	PKPdf	08 49 28.3	+3.5
LZH	Lanzhou	137.27	4	ePKP	PKPdf	08 49 33.2	-0.2
LZH				XPKP		08 50 31.5	
LZH				PP	PP	08 52 23.0	-0.3
LZH				eSKS	SKS	08 56 26.3	+0.9
LZH				eSKKS		08 58 56.2	
LZH				SS	SS	09 10 14.0	0.0
LZH				PP	PP		
	comp=Z,64nm,5.3s						
LZH				LR	LR		
	comp=E,180nm,18.2s						
LZH				LR	LR		
	comp=Z,273nm,20.0s						
STKA	Stephens Creek	139.25	228	PKP	PKPdf	08 49 36.2	-0.9
	comp=Z,1.2nm,0.7s,baz=79,slow=5.2,SNR=3.8						
STKA	Stephens Creek	139.25	228	PKP	PKPdf	08 49 36.2	-0.9
GYA	Guiyang	146.97	1	PKP	PKPdf	08 49 54.1	+3.5
ASAR	Alice Springs	149.23	234	PKP	PKPdf	08 49 56.8	+2.4
	comp=Z,4.3nm,0.5s,baz=107,slow=1.6,SNR=42						
ASAR				PKPbc	PKPdf	08 50 00.5	+6.1
	comp=Z,5.4nm,0.5s,baz=117,slow=3.0,SNR=74						
ASAR				pPKPbc		08 50 42.6	
	comp=Z,6.2nm,0.8s,baz=125,slow=2.8,SNR=2.6						
ASPA	Alice Springs	149.23	234	eP	PKPdf	08 49 58.5	+4.1
WB2	Warramunga Arr	150.46	241	eP	PKPdf	08 49 59.7	+3.4
WRAB	Tennant Creek	150.46	241	ePKPdf	PKPdf	08 49 58.8	+2.4
WRAB				ePKPbc	PKPdf	08 50 03.6	+7.2
WRA	Warramunga Arr	150.47	241	PKP	PKPdf	08 49 58.7	+2.4
	comp=Z,4.1nm,0.6s,baz=100,slow=1.6,SNR=73						
WRA				PKPbc	PKPdf	08 50 03.7	+7.4
	comp=Z,10nm,0.5s,baz=108,slow=2.5,SNR=114						
WRA				pPKPbc		08 50 45.3	
	comp=Z,5.4nm,0.4s,baz=107,slow=2.7,SNR=3.0						
CMAR	Chiang Mai Arr	153.69	18	PKP	PKPdf	08 50 04.8	+3.7
	comp=Z,1.8nm,0.5s,baz=286,slow=1.6,SNR=11						
CMAR				PKPbc	PKPdf	08 50 11.6	+11
	comp=Z,7.1nm,0.5s,baz=320,slow=3.2,SNR=23						
CMAR				pPKPbc		08 50 54.2	
	comp=Z,3.0nm,0.8s,baz=323,slow=3.1,SNR=2.1						

MEX 03 08:34:12.9±0.8, 13.23N×93.88W, h33km±999km, MD4.3, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	3.32	320	i P	P	08 35 00.8	-2.9
HUIG				i S	S	08 35 38.8	-3.8
CCIG	Comitan	3.48	29	eP	P	08 35 02.6	-3.4
CCIG				i S	S	08 35 42.4	-4.1
CMIG	Matias Romero	3.96	346	i P	P	08 35 11.7	-1.2
CMIG				i S	S	08 35 53.8	-5.0
VHO	Vista Hermosa	4.71	325	eP	P	08 35 22.1	-1.5
VHO				i S	S	08 36 17.0	-0.7
OXX	Oaxaca	4.71	325	eP	P	08 35 23.0	-0.6
OXX				i S	S	08 36 16.5	-1.3
PLIG	Platanillo	7.46	314	i P	P	08 36 01.8	-0.3
ZIIG	Zihuatanejo	8.51	302	i P	P	08 36 14.5	-2.2
MOIG	Morelia	9.50	313	i P	P	08 36 28.0	-2.6

*CSEM **03** 09:02:01.1, 45.16N×29.09E, h2km, mb5.0*

*IDC **03** 09:02:02.2±0.5, 45.21N×28.95E, mb4.7/20, mb1 4.8/33, mb1mx4.7/35, ML3.9/11, MS3.9/14, Ms1 3.9/14, ms1mx3.6/25, Error ellipse: s-maj=9.0km s-min=7.3km az=26.0*

*BUC **03** 09:02:04.8±1.5, 45.21N×28.92E, h4km±4km, Error ellipse: s-maj=11.6km s-min=7.2km az=114.0*

*MOS **03** 09:02:04.8±1.3, 45.29N×28.98E, h33km, mb5.1/14, Error ellipse: s-maj=6.6km s-min=3.8km az=123.1*

MOS Felt (IV-V) at Kishinev.

*BGS **03** 09:02:04.6±2.3, 45.18N×28.99E, h25km, mb5.2*

*PDG **03** 09:02:05.3±0.3, 45.25N×29.12E, h38km±4km*

*NEIC **03** 09:02:07.0±0.8, 45.20N×28.97E, h31km±5km, mb4.8/121, Error ellipse: s-maj=3.4km s-min=2.1km az=222.0*

NEIC Felt at Braila and Tulcea, Romania. Felt [V] at Chisinau, Moldova.

*ZUR_RM **03** 09:02:06, 45.20N×28.97E, h9km, Mw4.7/25, Moment Tensor Solution. s25 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.30; $M_{\theta\theta}$0.97; $M_{\phi\phi}$0.33; $M_{r\theta}$-0.00; $M_{\theta\phi}$-0.70; $M_{\phi r}$0.01; Best double couple: $M_0$1.36×10^{16} NP1:ϕ_s123°,δ45°,λ-90°. NP2:ϕ_s303°,δ45°,λ-90°. Principal axes: T 1.422, Plg0°, Azm213°; N -.125, Plg0°, Azm303°; P -1.297, Plg90°, Azm88°;*

*BJI **03** 09:02:06.9, 45.20N×29.00E, h31km, mB5.1, mb5.0, Ms5.0, Msz4.8*

*HRVD **03** 09:02:07.0±0.7, 45.20N×28.56E, h12km, MW4.8/43, Centroid moment Tensor Solution. LP body waves: s7,c7; Mantle waves: s43,c54; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.37±.08; $M_{\theta\theta}$0.88±.08; $M_{\phi\phi}$0.49±.08; $M_{r\theta}$-0.43±.32; $M_{\theta\phi}$-0.70±.08; $M_{\phi r}$1.46±.37; Best double couple: $M_0$2.05×10^{16} NP1:ϕ_s289°,δ27°,λ-129°. NP2: ϕ_s152°,δ70°,λ-72°. Principal axes: T 1.93, Plg23°, Azm228°; N .24, Plg17°, Azm325°; P -2.17, Plg61°, Azm88°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MED_RC **03** 09:02:07.0±0.5, 45.18N×29.07E, h17km, MW4.7/18, Moment Tensor Solution. Body waves: s18,c23; Duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.42±.08; $M_{\theta\theta}$0.96±.05; $M_{\phi\phi}$0.46±.04; $M_{r\theta}$-0.18±.04; $M_{\theta\phi}$-0.58±.02; $M_{\phi r}$-0.12±.04; Best double couple: $M_0$1.39×10^{16} NP1:ϕ_s311°,δ44°,λ-79°. NP2:ϕ_s116°,δ47°, λ-100°. Principal axes: T 1.34, Plg2°, Azm213°; N .11, Plg7°, Azm123°; P -1.45, Plg82°, Azm317°; nsta1 refers to waves, cutoff=35s.*

*SOF **03** 09:02:10.0, 44.85N×28.37E, h10km, MD4.4*

*UPP **03** 09:02:59.6, 48.72N×25.66E, h10km, ML3.7*

ISC 03 09:02:01.9±0.4, 45.18N±0.01×28.94E±0.01, h8km±2km, n727, σ1s33/833, mb5.0/130, MS4.1/17, 50C-40D, Ukraine - Moldova - Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLCR		0.09	272	⇓iP	Pg	09 02 06.4	+2.2
TLCR				S	Sg	09 02 08.2	+2.5
KGL	Cahul	0.89	324	⇑iP	Pb	09 02 22.6	+3.3
KGL				i S	Sb	09 02 34.6	+3.5
KGL				pmax	pmax		
	comp=Z,3.0nm,2.4s						
KGL				smax			
	comp=N,47nm,1.2s						
KGL				smax			
	comp=E,37nm,1.8s						
TUDR		0.99	295	⇓iP	Pb	09 02 23.4	+2.5
TUDR				S	Sb	09 02 38.0	+4.1
AMRR		1.28	244	⇑iP	Pb	09 02 29.0	+3.1
AMRR				S	Sb	09 02 47.2	+4.9
LEOM	Leovo	1.38	340	i P	Pb	09 02 29.3	+1.7
LEOM				i S	Sb	09 02 47.6	+2.3
LEOM				pmax	pmax		
	comp=Z,17nm,0.8s						
LEOM				smax			
	comp=N,40nm,1.0s						
LEOM				smax			
	comp=E,39nm,1.0s						
BRD	Bordesti	1.40	286	⇓iP	Pn	09 02 32.1	+4.2
BRD				i S	Sb	09 02 49.7	+3.8
BRD	Bordesti	1.40	286	⇑iP	Pn	09 02 32.2	+4.3
BRD	Bordesti	1.40	286	⇓iP	Pn	09 02 32.1	+4.2
BRD				i S	Sb	09 02 49.7	+3.9
PSN	Preselentsi	1.60	200	i P	Pn	09 02 34.0	+3.3
ISR	Istrita	1.70	269	⇓iP	Pn	09 02 36.4	+4.2
ISR	Istrita	1.70	269	⇓iP	Pn	09 02 36.5	+4.3
ISR				S	Sg	09 03 04.5	+5.9
ISR	Istrita	1.70	269	⇓iP	Pn	09 02 36.4	+4.2
VRI	Vrincioaia	1.70	294	⇓iP	Pn	09 02 35.2	+3.0
VRI				i S	Sn	09 02 55.2	+0.9
VRI	Vrincioaia	1.70	294	⇓iP	Pn	09 02 35.9	+3.7
VRI				S	Sn	09 02 58.8	+4.4
VRI	Vrincioaia	1.70	294	⇓iP	Pn	09 02 35.2	+3.0
VRI				i S	Sn	09 02 55.2	+0.8
KIS	Kishinev	1.82	357	αiP	Pn	09 02 36.0	+2.1
KIS				i S	Sn	09 02 59.5	+2.2
KIS				pmax	pmax		
	comp=Z,12μm,1.0s						
KIS				pmax	pmax		
	comp=N,17μm,0.5s						
KIS				pmax	pmax		
	comp=E,7μm,0.5s						
KIS				smax			
	comp=N,50μm,0.7s						
KIS				smax			
	comp=E,76μm,0.7s						
KIS	Kishinev	1.82	357	⇑iP	Pn	09 02 36.0	+2.1
	comp=E,17μm,0.5s						
KIS				i S	Sn	09 02 59.5	+2.2
	comp=E,50μm,0.7s						
MLR	Muntele Rosu	2.14	279	Pn	Pn	09 02 41.5	+3.1
	comp=E,74nm,0.3s,baz=104,slow=2.8,SNR=508						
MLR				Lg		09 03 10.7	
	comp=E,331nm,0.3s,baz=242,slow=17,SNR=16						
MLR	Muntele Rosu	2.14	279	⇓iP	Pn	09 02 42.0	+3.5
MLR				i S	Sn	09 03 10.8	+5.3
MLR	Muntele Rosu	2.14	279	⇓iP	Pn	09 02 42.0	+3.6
MLR				S	Sn	09 03 11.4	+6.0
MLR	Muntele Rosu	2.14	279	⇓iP	Pn	09 02 42.0	+3.6
MLR				i S	Sn	09 03 10.8	+5.3
IAS	Iasi	2.23	335	⇑iP	Pn	09 02 43.2	+3.4
IAS				i S	Sn	09 03 09.4	+1.6
IAS	Iasi	2.23	335	⇓iP	Pn	09 02 43.4	+3.6
IAS				S	Sn	09 03 12.0	+4.2
IAS	Iasi	2.23	335	i S	Sn	09 03 09.4	+1.6
BUC1	Bucharest	2.24	249	⇑iP	Pn	09 02 43.1	+3.2
BUC1				i S	Sn	09 03 15.4	+7.3
BUC1	Bucharest	2.24	249	⇑iP	Pn	09 02 46.0	+6.1
BUC1				S	Sn	09 03 13.0	+5.0
BUC1	Bucharest	2.24	249	⇑iP	Pn	09 02 43.1	+3.2
PRD	Provadia	2.27	210	i P	Pn	09 02 43.0	+2.6
MTUR	Matau	2.74	272	⇓iP	Pn	09 02 50.2	+3.0
MTUR				i S	Sn	09 03 26.1	+5.2
MTUR	Matau	2.74	272	⇑iP	Pn	09 02 50.7	+3.6
MTUR	Matau	2.74	272	⇓iP	Pn	09 02 50.2	+3.1
MTUR				i S	Sn	09 03 26.1	+5.3
SZH	Strazhica	2.89	230	P	Pn	09 02 50.0	+0.8
SZH				Pg	Pg	09 02 56.0	-3.6
JMB	Yambol	3.21	213	P	Pn	09 02 55.0	+1.3
JMB				Pg	Pg	09 03 04.0	-2.0
PVL	Pavlikeni	3.26	234	ePg	Pg	09 03 06.8	-0.1
PVL				i P		09 02 57.3	
BURAR	Bucovina Array	3.54	315	⇓iP	Pn	09 03 00.2	+1.7
BURAR				i S	Sg	09 03 57.7	-2.2
BURAR	Bucovina Array	3.54	315	⇓iP	Pn	09 03 00.4	+1.9
BURAR	Bucovina Array	3.54	315	⇓iP	Pn	09 03 00.2	+1.7
SIM	Simferopol'	3.67	92	i P	Pn	09 03 02.8	+2.5
SIM				eS	Sn	09 03 45.5	+1.1
SIM				pmax	pmax		
	comp=Z,190nm,0.9s						
SIM				MLR	MLR		
	comp=N,410nm,9.0s						
EDRB	Edirne	3.70	206	i P	Pn	09 03 02.8	+2.1
KMPD	K-Podol'skiy	3.79	334	P	Pn	09 03 02.0	+0.1
DIM	Dimitrovgrad	3.99	220	P	Pn	09 03 06.0	+1.1
DIM				Pg	Pg	09 03 20.0	-1.6
CTT	Catalca	4.05	185	i P	Pn	09 03 06.7	+1.0
ISK	Istanbul-Kandi	4.12	179	i P	Pn	09 03 07.7	+1.1
BADT	Buyukada	4.33	178	i P	Pn	09 03 10.9	+1.2
PGB	Panagyurishte	4.34	234	i P	Pn	09 03 11.2	+1.4
PLD	Plovdiv	4.35	226	P	Pn	09 03 10.2	+0.2
PLD				Pg	Pg	09 03 26.0	-2.8
KDZ	Kurdzhali	4.37	217	P	Pn	09 03 12.0	+1.8
HRT	Hereke	4.39	173	i P	Pn	09 03 11.4	+0.9
MFT	Murefte	4.56	196	i P	Pn	09 03 14.5	+1.6
HENT	Hendek	4.59	161	i P	Pn	09 03 12.5	-0.8
DJES	Djerdap	4.59	265	⇑iPn	Pn	09 03 14.0	+0.6
DJES				Sn	Sn	09 04 06.1	-1.6
ARMT	Armutlu	4.62	181	i P	Pn	09 03 15.0	+1.3
YLV	Yalova	4.62	176	i P	Pn	09 03 14.4	+0.5
RZN	Rozhen	4.66	223	i P	Pn	09 03 15.0	+0.7
EYL	Eskiyayla	4.70	169	i P	Pn	09 03 15.5	+0.6
RDO	Rodhopi	4.74	213	eP	Pn	09 03 11.5	-4.0
RDO	Rodhopi	4.74	213	P	Pn	09 03 16.6	+1.1
SAFT	Safranbolu	4.80	144	i P	Pn	09 03 15.4	-0.9
BALT	Daday	4.88	137	i P	Pn	09 03 16.1	-1.3
BNT	Bandirma	4.88	189	i P	Pn	09 03 18.7	+1.2
VTS	Vitosha	4.89	240	i P	Pn	09 03 18.8	+1.2
VTS	Vitosha	4.89	240	⇓iP	Pn	09 03 18.9	+1.3
VTS	Vitosha	4.89	240	P	Pn	09 03 18.6	+1.0
BZK	Bozkurt	4.89	129	i P	Pn	09 03 16.1	-1.5
KCT	Karacabey	4.93	185	i P	Pn	09 03 19.3	+1.1
GPA	Golpazari	4.99	168	i P	Pn	09 03 20.1	+1.0
MDU	Mudurnu	5.00	160	i P	Pn	09 03 19.3	+0.1
ULDT	Uludag	5.04	178	i P	Pn	09 03 19.9	+0.2
LPK	Lapseki	5.07	199	i P	Pn	09 03 21.9	+1.8
ORLT	Orhaneli	5.13	180	P	Pn	09 03 22.5	+1.4
SGKT	Sivrigoynuk	5.14	153	i P	Pn	09 03 21.0	-0.2
BOLS	Boljevac	5.17	257	⇓iPn	Pn	09 03 21.0	-0.7
BOLS				Sn	Sn	09 04 22.3	0.0
MMB	Musomiste	5.23	228	i P	Pn	09 03 23.0	+0.6
NVR	Nevrokopi	5.33	226	eP	Pn	09 03 24.4	+0.6
KKB	Krupnik	5.40	234	i P	Pn	09 03 25.0	+0.2
BTOK	Tokmak	5.46	187	i P	Pn	09 03 21.9	-3.8
KIEV	Kiev	5.52	2	P	Pn	09 03 25.0	-1.5
AKASG	Malin Array Be	5.53	2	Pn	Pn	09 03 25.4	-1.2
	comp=N,11nm,0.3s,baz=185,slow=12,SNR=51						
AKASG				Sn	Sn	09 04 28.1	-3.0
	comp=N,238nm,0.3s,baz=185,slow=23,SNR=9.1						
AKASG				Lg		09 04 54.5	
	comp=N,475nm,0.3s,baz=186,slow=28,SNR=9.4						
TOS	Tosya	5.57	136	P	Pn	09 03 26.4	-0.8
SVIS	Svilajnac	5.57	264	⇑iPn	Pn	09 03 27.2	0.0
SVIS				Sn	Sn	09 04 30.4	-1.9
DST	Dursunbey	5.58	183	P	Pn	09 03 27.9	+0.6
BYBT	Boyabat	5.64	129	P	Pn	09 03 27.0	-1.2
BARS	Barje	5.65	248	⇑iPn	Pn	09 03 29.4	+1.0
BARS				Sn	Sn	09 04 32.2	-2.1
LVV	L'vov	5.71	326	eP	Pn	09 03 28.7	-0.4
UZH	Uzhgorod	5.71	309	eP	Pn	09 03 30.0	+0.8
UZH				eS	Sn	09 04 37.0	+1.1
CANT	Cankiri	5.72	141	P	Pn	09 03 29.2	-0.1
ELDT	Eldivan	5.73	143	i P	Pn	09 03 28.7	-0.8
BOYT	Boyabat	5.75	129	i P	Pn	09 03 28.5	-1.2
BOZC	Bozcaada	5.75	203	i P	Pn	09 03 29.5	-0.2
ESKT	Eskisehir	5.83	165	i P	Pn	09 03 30.7	-0.2
ESKT	Eskisehir	5.83	165	i P	Pn	09 03 30.5	-0.4
KOLS	Kolonicke sedl	5.90	312	i PN	Pn	09 03 32.6	+0.7
LOS	Limnos	5.97	210	eS	Sg	09 05 13.8	-6.9
SOH	Sokhos	5.98	225	eP	Pn	09 03 34.0	+1.0
GRUS	Gruza	6.02	260	⇓iPn	Pn	09 03 33.6	0.0
GRUS				Sn	Sn	09 04 43.0	-0.6
ANTO	Ankara	6.02	150	P	Pn	09 03 32.1	-1.5
ANN	Anapa	6.03	91	d iP	Pn	09 03 30.8	-2.9
ANN				eS	Sn	09 04 39.3	-4.6
ANN				pmax	pmax		
	comp=Z,126nm,0.9s						
ANN				MLR	MLR		
	comp=Z,1μm,11.0s						
ANN				MLR	MLR		
	comp=N,1μm,13.0s						
ANN				MLR	MLR		
	comp=E,656nm,12.0s						
VAY	Valandovo	6.04	233	i Pn	Pn	09 03 34.9	+1.0
VAY				i Pb	Pb	09 03 45.8	-1.6
VAY				i Pg	Pg	09 04 00.4	-2.2
VAY				i Sn	Sn	09 04 41.9	-2.3
VAY				i Sb	Sb	09 05 00.5	-0.2
VAY				i Sg	Sg	09 05 15.8	-7.4
VAY	Valandovo	6.04	233	i Pn	Pn	09 03 34.9	+1.0
VAY				i Sn	Sn	09 04 41.9	-2.3
OUR	Ouranopolis	6.07	219	eP	Pn	09 03 34.2	0.0
AYVA	Ayvalik	6.10	197	i P	Pn	09 03 35.0	+0.3
KWP	Kalwaria	6.14	319	eP	Pn	09 03 35.3	+0.1
KWP				e		09 04 47.1	
KWP	Kalwaria	6.14	319	ePn	Pn	09 03 35.3	+0.1
KWP				ePg	Pg	09 04 00.1	-4.4
KWP				eSn	Sn	09 04 47.1	+0.6
KWP				eSg	Sg	09 05 23.0	-3.4
KWP	Kalwaria	6.14	319	ePn	Pn	09 03 35.3	+0.1
KWP				ePg	Pg	09 04 00.1	-4.4
KWP				eSn	Sn	09 04 47.1	+0.6
KWP				eSg	Sg	09 05 23.0	-3.4
ALT	Altintas	6.18	172	P	Pn	09 03 36.2	+0.3
CTKT	Corum	6.26	135	i P	Pn	09 03 35.1	-1.9
PLG	Polygyros	6.28	222	eP	Pn	09 03 37.0	-0.2
THE	Thessaloniki	6.32	226	eP	Pn	09 03 38.9	+1.1
THE				eS	Sg	09 05 30.5	-1.8
CRVS	Cervenica-Dubn	6.32	309	i PN	Pn	09 03 38.0	+0.2
SKO	Skopje	6.32	242	i Pn	Pn	09 03 39.0	+1.2
SKO				i		09 03 41.0	
SKO				i		09 03 48.7	
SKO				i		09 04 11.6	
SKO				i Sn	Sn	09 04 54.0	+2.9
SKO				Lg		09 05 48.0	
	comp=Z,0.3nm,0.9s						
SKO	Skopje	6.32	242	i Pn	Pn	09 03 39.0	+1.2
	comp=Z,330nm,0.9s						
SKO				i		09 03 41.0	
SKO				i		09 03 48.7	
SKO				i		09 04 11.6	
SKO				i Sn	Sn	09 04 54.0	+2.9
SKO				Lg		09 05 48.0	
AKS	Akhisar	6.36	188	P	Pn	09 03 39.1	+0.8
BRTR	Keskin Array B	6.46	146	Pn	Pn	09 03 38.6	-1.2
	comp=Z,8.1nm,0.3s,baz=334,slow=11,SNR=189						
BRTR				Sn	Sn	09 04 52.7	-1.9
	comp=Z,1.8nm,0.3s,baz=150,slow=24,SNR=7.4						
BRTR				LR	LR	09 06 57.3	
	comp=Z,206nm,18.4s,baz=330,slow=46						
BRTR	Keskin Array B	6.46	146	P	Pn	09 03 38.7	-1.1
BRTR						09 04 52.7	
BRTR				pmax	pmax		
	comp=Z,8.0nm,0.3s						
BRTR				MLR	MLR		
	comp=Z,206nm,18.4s						
DIVS	Divcibare	6.48	264	⇑iPn	Pn	09 03 39.1	-0.9
DIVS				Sn	Sn	09 04 49.9	-5.1
PAIG	Paliouri	6.53	218	eS	Sg	09 05 31.8	-7.6
PAIG	Paliouri	6.53	218	eP	Pn	09 03 40.8	0.0
PKSN	Nyarlorinc	6.55	288	eP	Pn	09 03 40.5	-0.5
KIZT	Kizilcal	6.67	160	P	Pn	09 03 41.5	-1.2
KECS	Kecovo	6.67	303	i PN	Pn	09 03 43.1	+0.3
KAMT	Kaman	6.80	147	P	Pn	09 03 43.9	-0.7
PSZ	Piszkesteto	6.81	297	⇑iPn	Pn	09 03 44.1	-0.6

PSZ				eSn	Sn	09 05 01.0	-2.4
PSZ	Piszkesteto	6.81	297	⇓iP	Pn	09 03 44.2	-0.5
NVSS	Nova Varos 2	6.83	259	⇑iPn	Pn	09 03 43.7	-1.4
NVSS				Sn	Sn	09 05 00.5	-3.4
IZM	Izmir	6.89	191	iP	Pn	09 03 46.1	+0.2
IVA	Berane	6.92	254	⇑iPn	Pn	09 03 46.8	+0.6
IVA				eSn	Sn	09 05 03.5	-2.5
BIA	Bitola	6.96	236	⇑iPn	Pn	09 03 48.3	+1.6
BIA				i		09 03 54.8	
BIA				i		09 04 00.7	
BIA				iSn	Sn	09 05 10.8	+3.9
BIA				i		09 05 19.3	
LIT	Litokhoron	6.96	225	eP	Pn	09 03 48.9	+2.2
PVY	Plav	6.98	251	⇑iPn	Pn	09 03 47.9	+0.9
PVY				eSn	Sn	09 05 04.9	-2.5
FNA	Florina	7.08	234	eS	Sg	09 05 51.6	-6.0
FNA	Florina	7.08	234	eP	Pn	09 03 50.2	+1.8
PLE	Pljevlja	7.10	258	⇑iPn	Pn	09 03 49.7	+0.9
PLE				eSn	Sn	09 05 07.9	-2.7
KZN	Kozani	7.18	230	eP	Pn	09 03 52.0	+2.1
XOR	Xorichti	7.21	218	eP	Pn	09 03 50.3	0.0
OHR	Ohrid	7.21	239	iPn	Pn	09 03 52.0	+1.7
OHR				iSn	Sn	09 05 09.4	-3.9
OHR				iSb	Sb	09 05 34.9	+0.3
OHR				iSg	Sg	09 05 50.3	-12
NIE	Niedzica	7.24	309	eP	Pn	09 03 51.1	+0.4
NIE				eS	Sn	09 06 12.3	+58
NEO	Neokhori	7.24	218	eP	Pn	09 03 50.5	-0.3
PKSM	Moragy	7.29	282	P	Pn	09 03 50.9	-0.5
PKS8	Sarbogard	7.34	287	eP	Pn	09 03 57.2	+5.0
TOKT	Tokat	7.41	128	P	Pn	09 03 49.8	-3.3
ISP	Isparta	7.43	170	P	Pn	09 03 51.6	-1.7
ISP	Isparta	7.43	170	P	Pn	09 03 53.2	-0.1
UPM	Unac-Piva	7.48	258	⇑iPn	Pn	09 03 54.9	+0.9
UPM				eSn	Sn	09 05 17.1	-2.9
TTG	Podgorica	7.53	252	⇑iPn	Pn	09 03 55.4	+0.7
TTG				eSn	Sn	09 05 18.1	-3.0
NKY	Niksic	7.55	255	⇑iPn	Pn	09 03 55.4	+0.3
NKY				eSn	Sn	09 05 19.0	-2.8
PKSG		7.64	291	eP	Pn	09 04 00.0	+3.7
TIR	Tirane	7.65	243	ep	Pn	09 04 01.0	+4.5
KONT	Konya--Tatoy	7.67	159	P	Pn	09 03 55.6	-1.2
RHK1	Bakonya	7.67	281	⇓iP	Pn	09 03 57.8	+1.0
SRO2	Moca	7.73	293	ePN	Pn	09 03 57.6	+0.1
ULC	Ulcinj	7.74	249	⇓iPn	Pn	09 03 59.0	+1.3
ULC				eSn	Sn	09 05 23.5	-3.0
LIKS	Likavka	7.74	303	ePN	Pn	09 03 56.7	-1.1
AVNT	Avonos	7.76	143	iP	Pn	09 03 56.9	-1.2
SRO	Srobarova	7.79	294	ePN	Pn	09 03 57.3	-1.2
BCK	Bucak	7.81	170	P	Pn	09 03 58.5	-0.3
BUM	Brajici-Budva	7.82	252	⇑iPn	Pn	09 04 00.2	+1.3
BUM				eSn	Sn	09 05 25.3	-3.3
SRO1	Iza	7.83	293	eSN	Sn	09 05 28.1	-0.7
BRY	Bratogost	7.83	257	⇑iPn	Pn	09 03 60.0	+0.9
BRY				eSn	Sn	09 05 25.5	-3.4
MEV	Metsovon	7.85	229	eP	Pn	09 04 02.2	+3.0
AGG	Agios Georgios	7.88	221	eP	Pn	09 03 59.8	+0.2
SOC	Sochi	7.88	98	iP	Pn	09 03 56.9	-2.8
SOC				eS	Sn	09 05 22.2	-7.9
SOC				pmax	pmax		
	comp=Z,164nm,0.9s						
SOC				pmax	pmax		
	comp=N,69nm,0.8s						
SOC				pmax	pmax		
	comp=E,129nm,0.8s						
SOC				MLR	MLR		
	comp=N,629nm,16.0s						
SOC				MLR	MLR		
	comp=Z,538nm,16.0s						
SOC				MLR	MLR		
	comp=E,88nm,17.0s						
SVSK	Karacayir	7.94	129	P	Pn	09 03 58.6	-1.9
OJC	Ojcow	7.96	313	⇑iP	Pn	09 03 59.8	-1.0
OJC				e		09 05 28.9	
OJC	Ojcow	7.96	313	⇑iPn	Pn	09 03 59.8	-1.0
OJC				ePg	Pg	09 04 43.0	+2.1
OJC				eSn	Sn	09 05 28.9	-3.2
OJC				eSg	Sg	09 06 22.0	-5.0
OJC	Ojcow	7.96	313	⇑iPn	Pn	09 03 59.8	-1.0
OJC				ePg	Pg	09 04 43.0	+2.1
OJC				eSn	Sn	09 05 28.9	-3.2
OJC				eSg	Sg	09 06 22.0	-5.0
KOLL	Kolacno	7.98	299	ePN	Pn	09 03 59.8	-1.3
KOLL				eSN	Sn	09 05 34.3	+1.8
SVST	Sivas	8.02	130	iP	P	09 03 59.1	-2.5
MPAR	Parnis Oros	8.03	211	eP	P	09 04 01.5	-0.3
HCY	Herceg Novi	8.03	254	⇑iPn	P	09 04 03.0	+1.2
HCY				eSn	Sn	09 05 30.3	-3.6
JAN	Janina	8.14	230	eP	P	09 04 07.0	+3.7
BNN	Bunyan	8.15	139	P	P	09 04 02.3	-1.1
EVR	Evrytania	8.21	223	eP	P	09 04 05.5	+1.3
NIG	Nigde	8.24	147	P	P	09 04 04.4	-0.3
NSAL	Nisos Salamina	8.35	211	eP	P	09 04 05.5	-0.7
DALT	Dalyan (Mudla)	8.41	182	P	P	09 04 05.1	-1.9
STON	Ston	8.43	258	iPn	P	09 04 07.9	+0.7
STON				iSn	Sn	09 05 42.6	-1.0
ELL	Elmali	8.46	175	P	P	09 04 06.9	-0.8
APE	Apeiranthos	8.50	199	P	P	09 04 07.5	-0.9
IGT	Igoumenitsa	8.51	231	eP	P	09 04 11.5	+3.0
JAVC	Velka Javorina	8.53	300	P	P	09 04 10.5	+1.7
SMOL	Smolenice	8.57	297	ePN	P	09 04 08.9	-0.3
OKC	Ostrava-Krasne	8.66	306	eP	P	09 04 09.0	-1.6
OKC				MLR	MLR		
	comp=Z,1µm,7.9s						
OKC	Ostrava-Krasne	8.66	306	eP	P	09 04 09.0	-1.6
OKC				ex	x	09 04 16.8	
OKC				AMS	AMS	09 08 30.0	
	comp=Z,1µm,7.9s						
ZST	Bratislava	8.68	295	eP	P	09 04 09.7	-1.1
ZST				e		09 05 52.9	
ZST	Bratislava	8.68	295	ePn	P	09 04 09.7	-1.1
ZST				e		09 04 21.3	
ZST				eSn	Sn	09 05 52.9	+2.9
KEK	Kerkira	8.69	234	eP	P	09 04 16.0	+5.0
RAC	Raciborz	8.76	308	eP	P	09 04 10.8	-1.1
RAC				eSg	Sg	09 06 51.2	-2.2
RAC	Raciborz	8.76	308	eP	P	09 04 10.8	-1.1
RAC				eSg	Sg	09 06 51.2	-2.2
WAR	Warsaw	8.79	326	eP	P	09 04 13.3	+1.0
WAR				eSn	Sn	09 05 55.2	+2.5
WAR				eSg	Sg	09 06 46.4	-8.1
WAR	Warsaw	8.79	326	eP	P	09 04 13.3	+1.0
WAR				eSn	Sn	09 05 55.2	+2.5
WAR				eSg	Sg	09 06 46.4	-8.1
SOP	Sopron	8.91	291	⇑e	P	09 04 13.2	-0.8
GUMT	Gumushane	9.06	118	iP	P	09 04 12.4	-3.8
LCI	Lecce	9.32	242	ePn	P	09 04 22.5	+2.8
MNK	Minsk	9.36	356	eP	P	09 04 13.0	-7.2
MNK				MLR	MLR		
	comp=N,6µm,4.0s						
MNK				MLR	MLR		
	comp=Z,6µm,4.0s						
VRAC	Vranov	9.36	301	Pn	P	09 04 19.1	-1.0
	comp=Z,0.3nm,0.3s,baz=100,slow=13,SNR=7.6						
VRAC				Lg		09 07 08.2	
	comp=Z,1.7nm,0.3s,baz=99,slow=18,SNR=2.3						
VRAC	Vranov	9.36	301	eP	P	09 04 20.4	+0.2
GOLS	Golise	9.38	280	P	P	09 04 20.6	+0.1
KRUC	Moravsky	9.39	299	P	P	09 04 20.8	+0.1
DOBS	Dobrina	9.49	281	P	P	09 04 22.0	0.0
PE1	Pezze di Greco	9.51	247	ePn	P	09 04 22.8	+0.6
ARSA	Arzberg	9.53	287	⇑iP	P	09 04 23.0	+0.5
	comp=Z,29nm,0.8s						
LEGS	Legarje	9.59	279	P	P	09 04 23.3	0.0
SUW	Suwalki	9.59	339	eP	P	09 04 20.2	-3.1
SUW				eSn	Sn	09 06 04.7	-7.8
SUW				eSg	Sg	09 07 05.7	-16
SUW	Suwalki	9.59	339	eP	P	09 04 20.2	-3.1
SUW				eSn	Sn	09 06 04.7	-7.8
SUW				eSg	Sg	09 07 05.7	-16
KAHT	Ahir Dag	9.61	139	iP	P	09 04 19.1	-4.5
IKL	Isikli	9.63	156	iP	P	09 04 23.4	-0.5
BOJS	Bojanci	9.65	277	ePn	P	09 04 23.7	-0.5
EZC	Erzincan	9.69	120	P	P	09 04 19.1	-5.7
BAI	Bari	9.71	249	ePn	P	09 04 25.6	+0.6
PERS	Pernice	9.75	283	ePn	P	09 04 26.1	+0.6
KIV	Kislovodsk	9.89	92	eP	P	09 04 27.1	-0.3
KIV				eS	Sn	09 06 17.8	-2.0
KIV				pmax	pmax		
	comp=Z,25nm,0.9s						
KIV				pmax	pmax		

	comp=E,15nm,1.0s						
KIV				MLR	MLR		
	comp=Z,276nm,17.0s						
KIV				MLR	MLR		
	comp=N,261nm,16.0s						
KIV				MLR	MLR		
	comp=E,213nm,16.0s						
KIV	Kislovodsk	9.89	92	ePn	P	09 04 26.1	-1.3
	comp=E,16nm,0.6s						
VISS	Visnje	9.93	279	ePn	P	09 04 27.6	-0.4
DPC	Dobruska-Polom	9.94	306	eP	P	09 04 29.2	+1.0
DPC				AMS	AMS	09 09 10.0	
	comp=E,1µm,8.9s						
GOF	Gofitskoye	9.96	86	⇓iP	P	09 04 25.5	-3.0
GOF				iS	Sn	09 06 10.0	-12
GOF				pmax	pmax		
	comp=Z,220nm,1.2s						
GOF				smax			
	comp=E,2µm,3.0s						
GOF				smax			
	comp=N,1µm,1.4s						
BCA	Borcka	9.97	108	iP	P	09 04 24.2	-4.3
SG1	Sgolgore (BA)	9.97	249	ePn	P	09 04 28.0	-0.6
PTK	Pertek	9.99	125	P	P	09 04 24.6	-4.3
NVLJ	Novalja	10.01	271	iPn	P	09 04 29.8	+0.7
NVLJ				iSn	S	09 06 15.7	-7.2
FGMS	Monte Sant'Ang	10.06	254	ePn	P	09 04 30.8	+1.0
FGMS	Monte Sant'Ang	10.06	254	ePn	P	09 04 30.8	+0.9
MS1	Monte Sant'Ang	10.07	254	ePn	P	09 04 29.3	-0.7
OBKA	Obir	10.13	283	P	P	09 04 31.7	+0.9
LJU	Ljubljana	10.14	280	ePn	P	09 04 31.6	+0.7
KSP	Ksiaz	10.19	308	eP	P	09 04 29.5	-2.0
KSP				ePP	PP	09 04 36.8	-2.8
KSP				e		09 05 20.0	
KSP	Ksiaz	10.19	308	eP	P	09 04 29.8	-1.7
KSP				eS	S	09 06 17.6	-10
UPC	Upice	10.19	306	eP	P	09 04 30.4	-1.2
IDID	Didziasalis	10.24	353	eP	P	09 04 27.9	-4.3
COBT	Iskenderun	10.27	145	iP	P	09 04 32.6	-0.1
IIGN	Ignalina	10.33	351	eP	P	09 04 30.1	-3.3
IIGN				AMPL	AML	09 04 44.3	
	comp=Z,48nm,0.7s						
IDI	Anoyia	10.36	199	Pn	P	09 04 33.9	+0.1
	comp=Z,0.7nm,0.3s,baz=31,slow=18,SNR=2.9						
IDI				Lg		09 07 26.5	
	comp=Z,0.2nm,0.3s,baz=287,slow=18,SNR=1.9						
MOA	Molln	10.46	290	⇓iP	P	09 04 38.3	+3.0
	comp=Z,19nm,1.1s						
ORI	Oriolo Calabro	10.53	245	ePn	P	09 04 37.2	+0.9
ORI	Oriolo Calabro	10.53	245	ePn	P	09 04 37.2	+1.0
ISAL	Salakas	10.55	351	eP	P	09 04 32.8	-3.7
ISAL				AMPb	AMB	09 04 44.0	
	comp=Z,27nm,0.7s						
ISAL				eS	S	09 06 26.6	-9.5
EZM	Erzurum	10.57	116	P	P	09 04 33.8	-3.0
VOY	Vojsko	10.58	280	ePn	P	09 04 36.3	-0.7
TRI	Trieste	10.68	278	ePn	P	09 04 38.5	+0.2
TRI	Trieste	10.68	278	ePn	P	09 04 38.5	+0.2
FG5	Orsara di Pugl	10.71	253	ePn	P	09 04 39.5	+0.8
IZAR	Zarasai	10.72	352	eP	P	09 04 33.5	-5.2
IZAR				AMPL	AML	09 04 40.9	
	comp=Z,21nm,0.8s						
IZAR				eS	S	09 06 28.0	-12
CSS	Prodhromos	10.74	160	Pn	P	09 04 37.5	-1.7
	comp=Z,11nm,0.8s						
CSS	Prodhromos	10.74	160	Pn	P	09 04 37.5	-1.7
	comp=Z,11nm,0.8s						
MRLC	Muro Lucano	10.80	251	ePn	P	09 04 39.8	-0.2
MRLC	Muro Lucano	10.80	251	ePn	P	09 04 39.8	-0.2
TDS	Terranova Siba	10.83	244	ePn	P	09 04 42.8	+2.5
PRU	Pruhonice	10.85	301	eP	P	09 04 39.5	-1.0
PRU				ex	x	09 05 50.3	
PRU				AMS	AMS	09 10 20.0	
SLCN	Sala Consilina	10.89	249	ePn	P	09 04 41.6	+0.4
SLCN	Sala Consilina	10.89	249	ePn	P	09 04 41.6	+0.4
PTCC	Patocco-Chiusa	10.96	282	ePn	P	09 04 42.6	+0.5
KBA	Koelnbreinsper	10.99	285	⇑iP	P	09 04 44.5	+1.9
	comp=Z,57nm,0.8s						
SGO	Sicignano	11.02	250	ePn	P	09 04 43.4	+0.4
SGO	Sicignano	11.02	250	ePn	P	09 04 43.4	+0.5
GEC2	GERESS Array S	11.03	295	eP	P	09 04 43.7	+0.6
GERES	GERESS Array B	11.03	295	Pn	P	09 04 42.2	-0.9
	comp=Z,0.3nm,0.3s,baz=104,slow=11,SNR=28						
GERES				Sn	S	09 06 48.6	+0.8
	comp=Z,0.4nm,0.3s,baz=93,slow=19,SNR=3.0						
GERES				Lg		09 07 51.0	
	comp=Z,0.4nm,0.3s,baz=74,slow=25,SNR=2.5						
PVCC	Panska Ves	11.03	304	eP	P	09 04 41.2	-1.9
GMNA	Gemona	11.04	281	ePn	P	09 04 44.3	+1.1
GMNA	Gemona	11.04	281	ePn	P	09 04 44.3	+1.1
CSSN	Cassano Irpino	11.07	252	ePn	P	09 04 44.0	+0.5
CSSN	Cassano Irpino	11.07	252	ePn	P	09 04 44.0	+0.4
MGR	Morigerati	11.07	248	ePn	P	09 04 44.1	+0.4
MGR	Morigerati	11.07	248	ePn	P	09 04 44.1	+0.5
OBN	Obninsk	11.07	23	Pn	P	09 04 38.1	-5.5
	comp=Z,722nm,0.7s,SNR=12						
OBN	Obninsk	11.07	23	ceP	P	09 04 41.5	-2.1
OBN				eS	S	09 06 46.5	-2.2
OBN				pmax	pmax		
	comp=Z,54nm,0.6s						
OBN				MLR	MLR		
	comp=Z,500nm,7.0s						
OBN	Obninsk	11.07	23	Pn	P	09 04 40.1	-3.5
	comp=Z,62nm,0.6s						
OBN				eSn	S	09 06 36.1	-13
GKP	Gorka Klasztor	11.13	321	eP	P	09 04 41.2	-3.2
GKP				eS	S	09 06 40.7	-9.4
GKP	Gorka Klasztor	11.13	321	eP	P	09 04 41.2	-3.2
GKP				eS	S	09 06 40.7	-9.4
KHC	Kasperske Hory	11.18	296	eP	P	09 04 45.6	+0.5
KHC				MLR	MLR		
	comp=Z,1µm,12.6s						
KHC	Kasperske Hory	11.18	296	ePn	P	09 04 45.6	+0.5
KHC				e		09 04 58.5	
KHC				e		09 07 25.5	
KHC	Kasperske Hory	11.18	296	eP	P	09 04 45.6	+0.5
KHC				ex	x	09 04 58.5	
KHC				x	x	09 07 25.5	
KHC				AMS	AMS	09 09 40.0	
	comp=Z,1µm,12.6s						
CII	Carovilli	11.19	257	ePn	P	09 04 45.6	+0.3
CII	Carovilli	11.19	257	ePn	P	09 04 45.6	+0.3
CPI2	Carpinone	11.23	256	ePn	P	09 04 46.2	+0.3
CPI2	Carpinone	11.23	256	ePn	P	09 04 46.2	+0.3
GRI	Girifalco	11.27	240	ePn	P	09 04 50.2	+3.8
FVI	Forni Avoltri	11.36	283	ePn	P	09 04 48.5	+0.9
FVI	Forni Avoltri	11.36	283	ePn	P	09 04 48.5	+1.0
INTR	Introdacqua	11.36	259	ePn	P	09 04 47.3	-0.3
INTR	Introdacqua	11.36	259	ePn	P	09 04 47.3	-0.3
TERO	Teramo	11.36	262	ePn	P	09 04 46.8	-0.8
TERO	Teramo	11.36	262	ePn	P	09 04 46.8	-0.8
SDI	San Donato	11.54	258	ePn	P	09 04 51.0	+1.0
SDI	San Donato	11.54	258	ePn	P	09 04 51.0	+1.0
BRG	Berggiesshubel	11.54	305	eP	P	09 04 47.8	-2.2
BRG				pmax	pmax		
	comp=Z,16nm,1.2s						
BRG				MLR	MLR		
	comp=N,870nm,15.8s						
BRG				MLR	MLR		
	comp=E,540nm,15.8s						
BRG				MLR	MLR		
	comp=Z,720nm,9.1s						
BRG	Berggiesshubel	11.54	305	eP	P	09 04 47.8	-2.2
	comp=Z,16nm,1.1s						
BRG				i		09 05 48.7	
BRG				i		09 08 38.8	
ARV	Arcevia	11.59	267	ePn	P	09 04 50.2	-0.5
AQU	L'Aquila	11.59	261	ePn	P	09 04 50.6	-0.1
AQU	L'Aquila	11.59	261	ePn	P	09 04 50.6	-0.1
WET	Wettzell	11.63	296	eP	P	09 04 51.8	+0.6
FSSB	Fossombrone	11.66	268	ePn	P	09 04 50.3	-1.3
PTQR	Pietraquaria	11.70	260	ePn	P	09 04 52.6	+0.3
PTQR	Pietraquaria	11.70	260	ePn	P	09 04 52.6	+0.3
MOS	Moscow	11.92	24	eP	P	09 04 51.1	-4.0
MOS				eSS	SS	09 07 14.5	-9.0
MOS				pmax	pmax		
	comp=Z,80nm,0.7s						
MOS				MLR	MLR		
	comp=Z,1µm,11.0s						
MOS				MLR	MLR		
	comp=N,1µm,12.0s						
SOI	Samo	11.97	238	ePn	P	09 04 56.9	+1.0
CERT	Cerreto	12.02	260	ePn	P	09 04 56.2	-0.4

MNS	Montasola	12.08	262	ePn	P	09 04 57.2	-0.2
MNS	Montasola	12.08	262	ePn	P	09 04 57.2	-0.2
WTTA	Wattenberg	12.17	286	⇑iP	P	09 04 59.4	+0.9
	comp=N,30nm,1.1s						
NKC	Novy Kostel	12.20	300	eP	P	09 04 58.6	-0.3
NKC				MLR	MLR		
	comp=Z,1µm,8.4s						
NKC	Novy Kostel	12.20	300	eP	P	09 04 58.6	-0.3
NKC				ex	x	09 05 11.2	
NKC				AMS	AMS	09 11 00.0	
	comp=Z,1µm,8.4s						
WATA	Walderalm	12.21	286	⇓iP	P	09 05 00.0	+0.9
	comp=Z,52nm,1.1s						
MTTG	Motta San Giov	12.23	239	ePn	P	09 05 00.9	+1.5
MTTG	Motta San Giov	12.23	239	ePn	P	09 05 00.9	+1.5
CLL	Collm	12.26	306	P	P	09 04 57.5	-2.2
	comp=Z,logA/T=1.1						
CLL				ePPP	PPP	09 05 16.0	-0.5
CLL				e		09 07 49.0	
CLL				e		09 08 37.0	
CLL				L		09 08 58.0	
CLL	Collm	12.26	306	iP	P	09 04 57.5	-2.2
CLL				pmax	pmax		
	comp=Z,13nm,1.0s						
CLL	Collm	12.26	306	iP	P	09 04 57.5	-2.2
	comp=Z,13nm,1.0s						
CLL				e		09 05 16.0	
CRE	Caprese Michel	12.26	269	ePn	P	09 04 59.6	-0.1
CRE	Caprese Michel	12.26	269	ePn	P	09 04 59.6	-0.1
SFI	Santa Sofia	12.27	270	ePn	P	09 05 02.2	+2.4
RUE	Ruedersdorf	12.36	312	ePn	P	09 04 58.7	-2.3
PGD	Poggio Sodo	12.36	270	ePn	P	09 04 59.7	-1.5
PGD	Poggio Sodo	12.36	270	ePn	P	09 04 59.7	-1.4
SQTA	Sankt Quirin	12.46	286	⇓iP	P	09 05 04.0	+1.6
	comp=Z,16nm,0.6s						
FUR	Furstenfeldbru	12.49	290	eP	P	09 05 03.3	+0.4
MOTA	Moosalm	12.54	286	⇓iP	P	09 05 04.8	+1.4
	comp=Z,27nm,1.0s						
SEI	Scarperia	12.59	271	ePn	P	09 05 03.9	-0.2
SEI	Scarperia	12.59	271	ePn	P	09 05 03.9	-0.2
GNI	Garni	12.67	108	Pn	P	09 05 04.1	-1.1
	comp=Z,0.8nm,0.3s,baz=166,slow=9.8,SNR=2.6						
GNI				LR	LR	09 11 31.9	
	comp=Z,305nm,19.4s,baz=182,slow=45						
GNI	Garni	12.67	108	P	P	09 05 04.1	-1.1
GNI				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GNI				MLR	MLR		
	comp=Z,305nm,19.4s						
CSNT	Castellina Chi	12.76	269	ePn	P	09 05 06.7	+0.2
CSNT	Castellina Chi	12.76	269	ePn	P	09 05 06.7	+0.3
GRA1	Grafenberg Arr	12.81	297	ePn	P	09 05 07.0	-0.1
GRF	Grafenberg Arr	12.81	297	eP	P	09 05 07.0	-0.1
MOX	Moxa	12.83	301	iP	P	09 05 05.0	-2.4
MOX				L		09 11 24.0	
MOX	Moxa	12.83	301	eP	P	09 05 05.0	-2.4
MOX				MLR	MLR		
	comp=Z,500nm,16.0s						
MOX	Moxa	12.83	301	ePn	P	09 05 05.0	-2.4
GIB	Gibilmanna	13.27	242	ePn	P	09 05 15.9	+2.8
GIB	Gibilmanna	13.27	242	ePn	P	09 05 15.9	+2.7
VALM		13.31	273	P	P	09 05 23.7	+10
VAE	Valguarnera	13.35	240	Pn	P	09 05 15.2	+0.9
	comp=Z,0.1nm,0.3s,baz=255,slow=16,SNR=2.1						
DAVOX	Davos	13.36	284	Pn	P	09 05 14.1	-0.2
	comp=Z,0.3nm,0.3s,baz=320,slow=22,SNR=18						
VSU	Vasula	13.37	355	P	P	09 05 11.2	-3.3
BSD	Bornholm Skovb	13.38	323	iP	P	09 05 08.6	-6.0
BSD				iS	S	09 07 30.8	-14
BSD				i		09 09 09.9	
GRAM		13.42	274	P	P	09 05 24.7	+10
VINC	Vinca	13.42	272	P	P	09 05 25.1	+10
BACM		13.45	273	P	P	09 05 24.8	+9.2
CODM		13.59	273	P	P	09 05 26.8	+9.5
RGN	Rugen	13.73	319	ePn	P	09 05 16.0	-3.1
	comp=Z,88nm,0.5s						
RGN	Rugen	13.73	319	ePn	P	09 05 16.0	-3.1
	comp=Z,88nm,0.5s						
STU	Stuttgart	13.95	292	ePn	P	09 05 20.5	-1.5
STU	Stuttgart	13.95	292	ePn	P	09 05 20.5	-1.5
CLZ	Clausthal	13.98	305	ePn	P	09 05 24.5	+2.1
GOTU	Gotland	14.07	337	P	P	09 05 20.0	-3.6
VAI	Varese	14.16	280	ePn	P	09 05 26.4	+1.5
VAI	Varese	14.16	280	ePn	P	09 05 26.4	+1.5
GENL	Genova Univers	14.21	274	P	P	09 05 31.9	+6.5
ASF	Jabal al Asfar	14.39	152	Pn	P	09 05 28.9	+0.9
	comp=Z,0.2nm,0.3s,baz=107,slow=0.8,SNR=6.7						
PCP	Pian Castagno	14.48	275	P	P	09 05 35.7	+6.6
PGF	Pioggiola	14.62	267	eP	P	09 05 33.2	+2.2
	comp=Z,114nm,1.0s						
PUL	Pulkovo	14.63	3	eP	P	09 05 28.8	-2.1
PUL				pmax	pmax		
	comp=Z,111nm,0.6s						
PUL				pmax	pmax		
	comp=N,81nm,0.5s						
PUL				pmax	pmax		
	comp=E,62nm,0.5s						
PUL				MLR	MLR		
	comp=N,728nm,9.0s						
PUL				MLR	MLR		
	comp=Z,822nm,9.0s						
PUL				MLR	MLR		
	comp=E,85nm,6.0s						
FELD	Feldberg	14.66	288	eP	P	09 05 37.1	+5.7
MCGN	Macugnaga	14.70	280	ePn	P	09 05 38.7	+6.8
FIN	Finale Ligure	14.78	274	ePn	P	09 05 38.6	+5.6
LANF	Langenberg	14.88	292	eP	P	09 05 39.5	+5.2
BSEG	Bad Segeberg	14.89	313	eP	P	09 05 32.3	-2.0
RORO		14.90	273	P	P	09 05 40.0	+5.4
TRAV		14.91	279	P	P	09 05 37.6	+2.9
TRAV		14.91	279	P	P	09 05 37.6	+3.0
BBS	Basel-Blauen	14.98	286	eP	P	09 05 40.4	+4.8
ROB	Roburent	15.00	274	P	P	09 05 40.0	+4.1
IMI	Imperia	15.06	273	ePn	P	09 05 42.1	+5.4
MONE	Monesi	15.12	273	P	P	09 05 42.5	+5.0
CDF	Champ du Feu	15.18	290	eP	P	09 05 37.8	-0.4
	comp=E,22nm,1.0s						
NEGI	Negi	15.21	273	P	P	09 05 41.7	+3.1
NEGI	Negi	15.21	273	P	P	09 05 41.7	+3.1
ECH	Echery	15.24	289	eP	P	09 05 44.1	+5.1
MOF	Molkenrain	15.24	288	eP	P	09 05 43.9	+4.9
SAOF	Saorge	15.29	273	eP	P	09 05 45.1	+5.5
RSP	Reno Superiore	15.29	278	P	P	09 05 41.8	+2.1
LSD	Ceresole Reale	15.33	279	P	P	09 05 41.6	+1.4
LSD	Ceresole Reale	15.33	279	P	P	09 05 41.6	+1.5
ENR	Entracque	15.33	274	P	P	09 05 42.7	+2.5
BHB	Bricherasio	15.34	276	P	P	09 05 42.7	+2.5
AUTN	L'Aution	15.37	273	eP	P	09 05 46.2	+5.5
SBF	Sospel	15.40	273	eP	P	09 05 42.3	+1.3
	comp=E,106nm,1.0s						
STV2	Anna di Valdie	15.40	274	P	P	09 05 44.1	+3.1
STV	Sta Anna Valdi	15.40	274	P	P	09 05 44.9	+3.8
HINF	Hinteralfeld	15.43	288	eP	P	09 05 40.8	-0.7
LOMF	Lomont	15.44	286	eP	P	09 05 45.8	+4.2
AURF	Auriere	15.47	273	eP	P	09 05 47.3	+5.3
REVF	Revere	15.47	272	eP	P	09 05 47.0	+5.0
TOUF	Mont Tournerai	15.50	273	eP	P	09 05 48.0	+5.7
PZZ	Prazzo	15.51	275	P	P	09 05 44.9	+2.4
LPG	La Plagne	15.61	279	eP	P	09 05 43.6	-0.1
	comp=E,100nm,1.1s						
LPL	La Plagne	15.62	279	eP	P	09 05 44.5	+0.6
	comp=E,27nm,0.7s						
RRL	Cesana Torines	15.66	277	P	P	09 05 46.8	+2.4
MBDF	Montbardon	15.70	276	eP	P	09 05 45.1	+0.1
	comp=E,53nm,0.7s						
BNI	Bardonecchia	15.71	277	eP	P	09 05 47.2	+2.0
	comp=E,21nm,1.1s						
HAU	Haudompre	15.78	288	eP	P	09 05 45.2	-0.7
	comp=E,32nm,1.0s						
HAU				eR			
	comp=E,205nm,20.4s						
CALN	Calern	15.81	273	eP	P	09 05 51.4	+5.0
CABF	La Chapelle	15.97	283	eP	P	09 05 45.9	-2.5
	comp=E,44nm,0.9s						
CABF	La Chapelle	15.97	283	eP	P	09 05 51.5	+3.1
	comp=E,22nm,0.9s						
FRF	La Foret Royal	16.02	272	eP	P	09 05 49.3	+0.2
	comp=E,106nm,0.8s						
WLF	Walferdange	16.04	294	eP	P	09 05 48.4	-1.0
	comp=E,10.0nm,0.8s						
WLF	Walferdange	16.04	294	eP	P	09 05 48.3	-1.0
	comp=E,10.0nm,0.8s						
WTSB	Winterswijk	16.11	303	eP	P	09 05 54.7	+4.5
	comp=E,51nm,1.3s						

LMR La Mourre 16.17 271 eP P 09 05 54.3 +3.2
comp=E,92nm,0.9s
ORIF Oris-en-Rattie 16.30 277 eP P 09 05 52.5 -0.1
comp=E,48nm,0.8s
ORIF eR
comp=E,390nm,21.5s
ORIF Oris-en-Rattie 16.30 277 eP P 09 05 55.7 +3.1
comp=E,24nm,0.8s
HGN Heimansgroeve 16.36 298 eP P 09 05 57.8 +4.4
comp=E,21nm,1.3s
FINES FINESS Array B 16.38 355 Pn P 09 05 46.8 -6.7
comp=E,2.3nm,0.3s,baz=170,slow=11,SNR=42
FINES Sn S 09 08 38.0 -17
comp=E,4.9nm,0.3s,baz=176,slow=25,SNR=6.3
FINES Lg 09 10 35.0
comp=E,3.2nm,0.3s,baz=173,slow=24,SNR=3.4
FINES LR LR 09 12 16.9
comp=E,477nm,20.1s,baz=167,slow=38
FINES FINESS Array B 16.38 355 i P P 09 05 46.8 -6.7
FINES pmax pmax
comp=E,6.0nm,0.4s
MEZF Maizieres J'vi 16.66 290 eP P 09 05 55.7 -1.5
SMRF Simiane la Rot 16.68 274 eP P 09 05 59.2 +1.6
comp=E,56nm,0.9s
MUD Monsted U'grnd 16.76 319 i P P 09 05 41.8 -17
MUD i 09 06 03.0
MUD eS S 09 09 12.3 +8.2
MUD e 09 11 12.9
GIVF Givet 16.95 296 eP P 09 05 59.3 -1.6
KAF Kangasniemi 17.03 356 ep P 09 05 55.4 -6.4
comp=E,79nm,0.7s,baz=162,slow=13
KAF Kangasniemi 17.03 356 eP P 09 05 55.4 -6.4
KAF pmax pmax
comp=E,79nm,0.7s
VIVF Saint-Julien-l 17.15 278 eP P 09 06 00.8 -2.6
comp=E,12nm,0.7s
VIVF Saint-Julien-l 17.15 278 eP P 09 06 04.7 +1.3
comp=E,6.2nm,0.7s
BAIF Baives 17.34 295 eP P 09 06 05.0 -0.8
comp=E,77nm,1.3s
SNF Seneffe 17.35 297 P P 09 06 07.2 +1.3
LOR Lormes 17.46 286 eP P 09 06 06.1 -1.2
comp=E,88nm,1.1s
LOR eR
comp=E,320nm,22.4s
SMF Signal de Mont 17.51 284 eP P 09 06 07.7 -0.2
comp=E,95nm,1.0s
HFS Hagfors 17.53 334 Pn P 09 06 02.5 -5.6
comp=E,0.8nm,0.3s,baz=139,slow=14,SNR=85
HFS Sn S 09 08.9 -13
comp=E,2.2nm,0.3s,baz=132,slow=24,SNR=10
HFS Lg 09 11 16.5
comp=E,0.7nm,0.3s,baz=139,slow=27,SNR=3.7
SSF Saint Saulge 17.71 285 eP P 09 06 09.5 -0.9
comp=E,33nm,1.0s
LASF Ste Croix 17.88 275 eP P 09 06 12.4 -0.1
comp=E,53nm,0.9s
BGF Bois d'Agland 18.20 284 eP P 09 06 14.8 -1.8
comp=E,62nm,0.8s
OSL Oslo 18.37 330 eP P 09 06 14.2 -4.4
OSL AMb AMB 09 06 28.6
comp=E,85nm,0.7s
OSL Oslo 18.37 330 eP P 09 06 14.2 -4.4
comp=E,17nm,0.7s
OSL Oslo 18.37 330 eP P 09 06 14.1 -4.4
comp=E,85nm,0.7s,SNR=49
VERF Verneugheol 18.54 281 eP P 09 06 22.0 +1.2
TCF Toulx Ste Croi 18.67 283 eP P 09 06 22.2 -0.1
comp=E,138nm,1.0s
CAF Calviac 18.97 279 eP P 09 06 26.3 +0.4
comp=E,51nm,0.9s
SJAF Saint Jean de 18.97 271 eP P 09 06 25.6 -0.3
NAO01 NORSAR Array S 18.97 332 P P 09 06 22.4 -3.5
comp=E,0.1nm,0.7s
NAO01 NORSAR Array S 18.97 332 P P 09 06 22.4 -3.4
comp=E,0.1nm,0.7s
EJON La Jonquera 18.97 271 P P 09 06 24.9 -1.1
comp=E,46nm,1.4s
EJON La Jonquera 18.97 271 P P 09 06 24.9 -1.1
comp=E,46nm,1.4s,SNR=11
NB2 NORSAR Subarra 19.01 333 P P 09 06 20.0 -6.3
comp=E,44nm,0.8s,baz=139,slow=11
NB2 NORSAR Subarra 19.01 333 P P 09 06 20.0 -6.3
baz=139,slow=11
NOA NORSAR Array B 19.01 333 Pn P 09 06 20.6 -5.7
comp=E,3.7nm,0.3s,baz=138,slow=10,SNR=40
NOA Sn S 09 09 43.5 -12
comp=E,3.2nm,0.3s,baz=143,slow=20,SNR=7.0
NOA Lg 09 12 02.6
comp=E,1.7nm,0.3s,baz=85,slow=6.9,SNR=4.6
NOA LR LR 09 14 02.1
comp=E,357nm,18.1s,baz=130,slow=38
FILF Fillols 19.17 272 eP P 09 06 28.7 +0.3
MTLF Montolieu 19.20 274 eP P 09 06 28.3 -0.4
comp=E,20nm,0.8s
RJF Les Rejaudoux 19.28 280 eP P 09 06 29.2 -0.4
comp=E,123nm,1.0s
RJF eR
comp=E,330nm,21.8s
UMAU Umeaa 19.31 349 P P 09 06 24.5 -5.3
LPEF Le Peyrat 19.52 273 eP P 09 06 32.0 -0.5
VALF Valcebollere 19.60 271 eP P 09 06 32.3 -1.0
BLS5 Blasjo 19.66 324 eP P 09 06 32.6 -1.3
BLS5 AMb AMB 09 06 44.6
comp=E,34nm,1.4s
BLS5 Blasjo 19.66 324 eP P 09 06 32.6 -1.3
comp=E,34nm,1.4s
BLS5 Blasjo 19.66 324 eP P 09 06 32.6 -1.3
comp=E,34nm,1.4s,SNR=47
LFF La Frestale 19.89 279 eP P 09 06 35.1 -1.4
comp=E,140nm,0.9s
ODD1 Odda 19.89 326 eP P 09 06 34.3 -2.2
ODD1 AMb AMB 09 06 43.3
comp=E,80nm,1.5s
ODD1 Odda 19.89 326 eP P 09 06 34.3 -2.2
comp=E,80nm,1.5s
ODD1 Odda 19.89 326 eP P 09 06 34.3 -2.1
comp=E,80nm,1.5s,SNR=47
SALF Salau 20.09 273 eP P 09 06 36.7 -1.9
MLS Moulis 20.10 274 eP P 09 06 37.7 -1.0
LDF La Druitiere 20.10 290 eP P 09 06 35.1 -3.6
comp=E,66nm,0.9s
EMIR Miracle 20.10 270 P P 09 06 36.9 -1.9
comp=E,32nm,1.3s
EMIR Miracle 20.10 270 P P 09 06 36.9 -1.9
comp=E,32nm,1.3s,SNR=7.1
MFF Saint Martin d 20.25 284 eP P 09 06 37.4 -2.9
comp=E,171nm,1.1s
FLN La Foliniere 20.34 291 eP P 09 06 37.5 -3.7
comp=E,128nm,1.1s
FLN eR
comp=E,232nm,19.5s
DOMB Dombas 20.45 333 eP P 09 06 38.7 -3.6
DOMB AMb AMB 09 06 48.2
comp=E,59nm,1.4s
DOMB Dombas 20.45 333 eP P 09 06 38.7 -3.6
comp=E,59nm,1.4s
DOMB Dombas 20.45 333 eP P 09 06 38.7 -3.6
comp=E,59nm,1.4s,SNR=46
GRR Gorron 20.59 290 eP P 09 06 40.5 -3.4
comp=E,73nm,0.9s
EPOB Poblet 20.60 269 P P 09 06 42.9 -1.1
comp=E,141nm,1.5s
EPOB Poblet 20.60 269 P P 09 06 42.9 -1.2
comp=E,141nm,1.5s,SNR=17
EPF Esparros 20.61 274 eP P 09 06 41.8 -2.3
comp=E,34nm,0.7s
LCHF La Chataignera 20.65 285 eP P 09 06 42.5 -2.0
EGD Espegrend 20.67 325 eP P 09 06 42.7 -1.9
BER Bergen 20.69 326 eP P 09 06 44.5 -0.4
comp=E,30nm,1.5s
BER Bergen 20.69 326 eP P 09 06 44.5 -0.3
SNR=46
EGRA Graus 20.87 272 P P 09 06 45.2 -1.6
comp=E,26nm,0.7s
EGRA Graus 20.87 272 P P 09 06 45.2 -1.6
comp=E,26nm,0.7s,SNR=7.9
VIEF Viey 20.87 274 eP P 09 06 46.0 -0.8
TRON Trondheim 21.10 337 eP P 09 06 49.2 +0.2
MIB Mutribah 21.11 130 eP P 09 06 48.7 -0.6
MIB AMb AMB 09 06 52.6
comp=E,375nm,0.9s,mb5.7
RST Umm Al-Ruwaisa 21.16 132 eP P 09 06 49.5 -0.4
RST AMb AMB 09 06 57.2
comp=E,379nm,0.8s,mb5.8
EBR Ebro Roquetas 21.21 268 eP P 09 06 49.0 -1.2
ETSF Etsaut 21.28 274 eP P 09 06 49.9 -1.1
comp=Z,146nm,1.0s,mb5.0
FDAF Les Forges d'A 21.31 274 eP P 09 06 50.3 -0.9
EIBI Ibiza 21.32 263 P P 09 06 50.4 -1.0
comp=Z,37nm,0.9s,mb4.7,SNR=7.9
UMR Umm Al-Rimmam 21.51 130 eP P 09 06 53.5 +0.2
UMR AMb AMB 09 06 59.7
comp=Z,164nm,0.9s,mb5.5
LARF Larrau 21.54 275 eP P 09 06 52.2 -1.4
FOO Floro 21.55 328 eP P 09 06 51.9 -1.7
FOO AMb AMB 09 07 01.2
comp=Z,65nm,1.4s,mb4.9
FOO Floro 21.55 328 eP P 09 06 51.9 -1.7
comp=Z,65nm,1.4s,mb4.9
FOO Floro 21.55 328 eP P 09 06 51.9 -1.7
comp=Z,65nm,1.4s,mb4.9,SNR=40
NSS Namsos 21.57 340 eP P 09 06 51.0 -2.8
NSS AMb AMB 09 06 55.5
comp=Z,85nm,1.0s,mb5.1
NSS Namsos 21.57 340 eP P 09 06 51.0 -2.8
comp=Z,85nm,1.0s,mb5.1
NSS Namsos 21.57 340 eP P 09 06 51.0 -2.8
comp=Z,85nm,1.0s,mb5.1,SNR=40
ESAC San Caprasio 21.57 271 P P 09 06 52.6 -1.4
comp=Z,44nm,0.7s,mb5.0
ESAC San Caprasio 21.57 271 P P 09 06 52.6 -1.4
comp=Z,44nm,0.7s,mb5.0,SNR=8.2
ARU Arti 21.66 48⇓ iP P 09 06 52.8 -1.9
ARU e 09 07 14.7
ARU eS S 09 10 51.5 +1.8
ARU eSS SS 09 11 18.6 -7.2
ARU pmax pmax
comp=Z,141nm,1.0s,mb5.3
ARU MLR MLR
comp=N,200nm,16.5s,MS3.9
ARU MLR MLR
comp=E,400nm,18.0s,MS3.9
ARU MLR MLR
comp=Z,500nm,18.0s,MS4.0
ARU Arti 21.66 48⇓ eP P 09 06 52.7 -1.9
comp=Z,180nm,1.0s,mb5.3
ARU Arti 21.66 48⇓ eP P 09 06 52.7 -2.0
comp=Z,180nm,1.0s,mb5.5
SJPF Ste Jean 21.69 275 eP P 09 06 53.9 -1.2
comp=Z,26nm,0.6s,mb4.5
SGMF Saint Gilles 21.73 289 eP P 09 06 54.3 -1.2
comp=Z,122nm,0.9s,mb5.0
KBD Kabd 21.79 131 eP P 09 06 56.6 +0.4
HAE Alders End 21.80 300 eP P 09 06 54.6 -1.5
HAE AMb AMB 09 06 57.6
comp=Z,212nm,1.1s,mb5.5
HGH Gray Hill 21.92 299⇑ eP P 09 06 56.1 -1.2
HGH AMb AMB 09 07 00.5
comp=Z,272nm,1.1s,mb5.6
HLM1 Long Mynd 22.05 301⇑ eP P 09 06 57.8 -0.9
HLM1 AMb AMB 09 07 02.8
comp=Z,115nm,1.1s,mb5.2
EMOS Mosqueruela 22.06 268 P P 09 06 58.7 -0.1
comp=Z,46nm,0.8s,mb5.0
EMOS Mosqueruela 22.06 268 P P 09 06 58.7 -0.1
comp=Z,46nm,0.8s,mb5.0,SNR=18
MCH1 Michaelchurch 22.07 299⇑ eP P 09 06 57.9 -1.0
QUIF Quistinic 22.17 289 eP P 09 06 56.9 -2.9
comp=Z,66nm,0.9s,mb4.8
SSP1 Stoney Pound 22.18 301⇑ eP P 09 06 59.2 -0.7
ROSF Rostrenen 22.21 290 eP P 09 06 57.4 -2.8
comp=Z,66nm,0.8s,mb4.8
HTR Trewern Hill 22.25 300⇑ eP P 09 06 59.4 -1.2
HTR AMb AMB 09 07 03.2
comp=Z,90nm,1.2s,mb5.1
SBD Saint Breward 22.33 302⇑ eP P 09 07 00.5 -0.9
MOR8 Moi Rana 22.45 345 eP P 09 07 02.1 -0.5
MOR8 AMb AMB 09 07 07.3
comp=Z,159nm,1.1s,mb5.4
MOR8 Moi Rana 22.45 345 eP P 09 07 02.1 -0.5
comp=Z,159nm,1.1s,mb5.4
MOR8 Moi Rana 22.45 345 eP P 09 07 02.1 -0.5
comp=Z,159nm,1.1s,mb5.4,SNR=40
EBEN Beniarda 22.56 264 P P 09 07 05.7 +1.9
comp=Z,103nm,1.4s,mb5.1
APA Apatity 22.57 4⇓ iP P 09 07 08.7 +5.2
APA i S S 09 11 02.6 -3.6
APA pmax pmax
comp=Z,117nm,1.0s,mb5.3
APA MLR MLR
comp=Z,4μm,6.0s
EKA Eskdalemuir Ar 22.70 308 P P 09 07 04.6 -0.4
comp=Z,12nm,0.6s,mb4.5,baz=109,slow=11,SNR=20
EKA Eskdalemuir Ar 22.70 308 P P 09 07 04.6 -0.4
EKA pmax pmax
comp=Z,12nm,0.6s
ESK Eskdalemuir 22.72 308 eP P 09 07 05.0 -0.2
comp=Z,19nm,0.8s,mb4.6
ESK Eskdalemuir 22.72 308 eP P 09 07 05.0 -0.2
comp=Z,19nm,0.8s,mb4.6
SVE Sverdlovsk 22.87 48⇓ eP P 09 07 05.7 -0.9
SVE eS S 09 11 14.0 +2.2
SVE eSS SS 09 12 08.0 +13
SVE pmax pmax
comp=Z,140nm,1.3s,mb5.2
SVE MLR MLR
comp=N,400nm,8.0s
SVE MLR MLR
comp=E,2μm,8.0s
SVE MLR MLR
comp=Z,2μm,8.0s
LVZ Lovozero 22.97 6 eP P 09 07 07.0 -0.5
LVZ eS S 09 11 14.4 +1.0
LVZ pmax pmax
comp=N,62nm,0.9s
LVZ pmax pmax
comp=E,22nm,0.9s
LVZ pmax pmax
comp=Z,128nm,0.9s,mb5.3
LVZ smax
comp=E,71nm,1.2s
LVZ smax
comp=N,58nm,1.1s
LVZ smax
comp=Z,67nm,1.1s
LVZ MLR MLR
comp=N,454nm,8.0s
LVZ MLR MLR
comp=E,240nm,9.0s
LVZ MLR MLR
comp=Z,762nm,9.0s
ETOR Torete 23.01 270 P P 09 07 06.9 -1.2
comp=Z,7.1nm,0.6s,mb4.3
ETOR Torete 23.01 270 P P 09 07 06.9 -1.2
comp=Z,7.1nm,0.6s,mb4.3
ETOR Torete 23.01 270 P P 09 07 06.9 -1.2
comp=Z,7.1nm,0.6s,mb4.3,SNR=8.9
ELAN Lanestosa 23.21 277 P P 09 07 08.8 -1.2
comp=Z,25nm,0.6s,mb4.8
ELAN Lanestosa 23.21 277 P P 09 07 08.8 -1.3
comp=Z,25nm,0.6s,mb4.8,SNR=10.0
EMUR La Murta 23.67 263 P P 09 07 14.7 +0.2
comp=Z,97nm,1.5s,mb5.0
EMUR La Murta 23.67 263 P P 09 07 14.7 +0.2
comp=Z,97nm,1.5s,mb5.0,SNR=7.0
KTK1 Kautokeino 24.07 355 eP P 09 07 17.9 -0.3
KTK1 epP 09 07 24.6
KTK1 AMb AMB 09 07 27.6
comp=Z,172nm,1.0s,mb5.4
KTK1 Kautokeino 24.07 355 eP P 09 07 17.9 -0.3
comp=Z,172nm,1.0s,mb5.4
AFFS 'Afif 24.09 147 P P 09 07 20.4 +1.6
EVIA Vianos 24.20 265 P P 09 07 20.1 +0.4
comp=Z,20nm,0.7s,mb4.7
EVIA Vianos 24.20 265 P P 09 07 20.1 +0.4
comp=Z,20nm,0.7s,mb4.7,SNR=12
DSB Dublin 24.24 302 eP P 09 07 19.7 -0.2
comp=Z,49nm,1.0s,mb4.9
DSB Dublin 24.24 302 eP P 09 07 19.7 -0.2
comp=Z,49nm,1.0s,mb4.9
DLF Lyons Farm 24.33 302 eP P 09 07 17.0 -3.9
LOF Lofoten 24.36 346 eP P 09 07 22.7 +1.7
LOF epP 09 07 30.9
EARI Arriondas 24.44 278 P P 09 07 21.2 -0.8
comp=Z,30nm,0.6s,mb4.9
EARI Arriondas 24.44 278 P P 09 07 21.2 -0.8
comp=Z,30nm,0.6s,mb4.9,SNR=20
ARCES ARCESS Array B 24.48 357 P P 09 07 21.7 -0.5
comp=Z,41nm,0.9s,mb4.8,baz=180,slow=8.5,SNR=46
ARCES S S 09 11 48.1 +8.5
comp=Z,8.6nm,0.6s,baz=170,slow=27,SNR=5.0
ARCES Lg 09 14 51.8
comp=Z,92nm,1.0s,baz=172,slow=27,SNR=4.1
ARCES ARCESS Array B 24.48 357 P P 09 07 21.7 -0.5
ARCES S S 09 11 48.1 +8.5
ARCES Lg 09 14 51.8
ARE0 ARCESS Array S 24.48 357 eP P 09 07 21.9 -0.3
DMUB Kingscourt 24.61 304 eP P 09 07 18.0 -5.6
KEV Kevo 24.66 358 ep P 09 07 23.8 -0.1
comp=Z,41nm,0.8s,mb5.0
KEV Kevo 24.66 358 eP P 09 07 23.8 -0.1
KEV pmax pmax
comp=Z,41nm,0.8s,mb5.0
DCN Croghan 24.78 302 eP P 09 07 21.0 -4.2
ESDC Sonseca Array 24.80 269 P P 09 07 24.1 -1.4
comp=Z,5.8nm,0.8s,mb4.2,baz=69,slow=9.4,SNR=18
ESDC Sonseca Array 24.80 269 P P 09 07 23.8 -1.7
comp=Z,6.9nm,0.8s,mb4.2
ESDC Sonseca Array 24.80 269 P P 09 07 23.8 -1.7
comp=Z,6.9nm,0.8s,mb4.2,SNR=27
ESLA Sonseca Array 24.80 269 eP P 09 07 23.8 -1.7
comp=Z,3.7nm,1.0s,mb3.9
MZLS Mizel 24.90 143 P P 09 07 28.1 +1.5
EQES Quesada 24.97 264 P P 09 07 27.0 -0.2
comp=Z,8.2nm,0.8s,mb4.3
EQES Quesada 24.97 264 P P 09 07 27.0 -0.2
comp=Z,8.2nm,0.8s,mb4.3,SNR=5.7
TRO Tromso 25.03 352 eP P 09 07 26.6 -0.8
TRO epP pP 09 07 35.1 +5.5
TRO AMb AMB 09 07 38.8
comp=Z,88nm,1.3s,mb5.1
TRO Tromso 25.03 352 eP P 09 07 26.6 -0.8
comp=Z,88nm,1.3s,mb5.1
EBER Berja 25.27 262 P P 09 07 29.7 -0.3
comp=Z,29nm,1.0s,mb4.8
EBER Berja 25.27 262 P P 09 07 29.7 -0.3
comp=Z,29nm,1.0s,mb4.8,SNR=9.2
RAYN Ar Rayn 25.47 143 P P 09 07 33.9 +1.8
comp=Z,253nm,0.7s,mb5.9,SNR=44
EPON Pontenova 25.79 279 P P 09 07 32.9 -2.0
comp=Z,24nm,1.0s,mb4.7
EPON Pontenova 25.79 279 P P 09 07 32.9 -1.9
comp=Z,24nm,1.0s,mb4.7,SNR=7.2
EADA Adamuz 25.87 266 P P 09 07 34.3 -1.3
comp=Z,5.2nm,0.8s,mb4.1,SNR=5.4
ELUQ Luque 25.92 265 P P 09 07 35.1 -1.1
comp=Z,13nm,0.9s,mb4.5,SNR=9.3
ECAL Calabor 25.93 276 P P 09 07 34.4 -1.7
comp=Z,23nm,0.9s,mb4.7,SNR=8.8
PBRG Braganca 25.98 275 eP P 09 07 35.1 -1.5
comp=Z,26nm,1.9s,mb4.4
ELOJ Sierra Loja 26.04 264 P P 09 07 36.6 -0.6
comp=Z,2.7nm,0.5s,mb4.0,SNR=6.5
ERUA La Rua 26.07 277 P P 09 07 35.3 -2.1
comp=Z,4.3nm,0.6s,mb4.2
ERUA La Rua 26.07 277 P P 09 07 35.3 -2.1
comp=Z,4.3nm,0.6s,mb4.2,SNR=7.9
LTHS Al Lith 26.59 155 P P 09 07 44.0 +1.5
EMIJ Mijas 26.75 263 P P 09 07 41.0 -2.8
comp=Z,4.5nm,0.6s,mb4.2
EMIJ Mijas 26.75 263 P P 09 07 41.0 -2.8
comp=Z,4.5nm,0.6s,mb4.2,SNR=7.9
PVRL Vila Real 26.84 275 eP P 09 07 42.4 -2.2
comp=Z,35nm,1.7s,mb4.6
STS Santiago 26.90 279 P P 09 07 41.5 -3.6
STS Santiago 26.90 279 P P 09 07 41.5 -3.6
SNR=7.9
MTE Manteigas 27.05 273 eP P 09 07 44.4 -2.0
comp=Z,33nm,1.5s,mb4.6
MTE Manteigas 27.05 273 eP P 09 07 44.0 -2.4
comp=Z,19nm,0.9s,mb4.6
ZRNK Zerendi 27.08 59 eP P 09 07 46.8 +0.2
comp=Z,18nm,0.9s,mb4.6
PVIS Viseu 27.17 274 eP P 09 07 45.8 -1.8
comp=Z,24nm,1.2s,mb4.6
EMAZ Mazaricos 27.18 279 P P 09 07 44.5 -3.1
comp=Z,13nm,0.6s,mb4.6
EMAZ Mazaricos 27.18 279 P P 09 07 44.5 -3.1
comp=Z,13nm,0.6s,mb4.6,SNR=6.0
PCBR Castelo Branco 27.21 272 eP P 09 07 45.5 -2.5
comp=Z,16nm,1.5s,mb4.3
ESPR Espera 27.37 265 P P 09 07 47.7 -1.8
comp=Z,12nm,1.0s,mb4.4
ESPR Espera 27.37 265 P P 09 07 47.7 -1.7
comp=Z,12nm,1.0s,mb4.4,SNR=5.2
BRVK Borovoye 27.85 59 eP P 09 07 53.7 +0.1
comp=Z,9.3nm,0.8s,mb4.5
BVAR Borovoye Array 27.91 59 P P 09 07 54.1 -0.1
comp=Z,6.0nm,0.7s,mb4.3,baz=281,slow=7.6,SNR=29
NAMS An Nimas 28.18 153 P P 09 07 58.5 +1.5
TATS Tatihiih 28.27 150 P P 09 07 58.5 +0.7
EKS2 Erkin-Say 32.08 78 P P 09 08 32.4 +1.0
SNR=8.9
AML Almayashu 32.21 79 P P 09 08 33.7 +1.1
SNR=6.4
AAK Ala-Archa 32.59 78 P P 09 08 36.8 +1.0
SNR=14
AAK Ala-Archa 32.59 78 di P P 09 08 35.8 0.0
AAK Ala-Archa 32.59 78 eP P 09 08 35.6 -0.2
comp=Z,17nm,0.9s,mb5.0
UCH Uchtor 32.74 79 P P 09 08 38.5 +1.4
SNR=5.5
KURK Kurchatov 33.21 62⇑ eP P 09 08 41.1 0.0
TKM2 Tokmak 2 33.25 77 P P 09 08 42.5 +1.0
SNR=6.1
ZAL Zalesovo 36.40 56 P P 09 09 08.5 0.0
comp=Z,10.0nm,0.7s,mb4.8,baz=104,slow=8.4,SNR=61
ZAL LR LR 09 26 02.1
comp=Z,345nm,19.0s,MS4.2,baz=237,slow=40
ZAL Zalesovo 36.40 56 P P 09 09 08.5 +0.1
ZAL pmax pmax
comp=Z,10.0nm,0.7s
ZAL MLR MLR
comp=Z,345nm,19.0s
MKAR Makanchi Array 36.51 68 P P 09 09 09.7 +0.3
comp=Z,12nm,0.6s,mb4.9,baz=283,slow=7.6,SNR=132
MKAR LR LR 09 26 07.0
comp=Z,332nm,20.5s,MS4.1,baz=287,slow=40
MKAR Makanchi Array 36.51 68 P P 09 09 09.7 +0.3
MKAR pmax pmax
comp=Z,12nm,0.6s
MKAR MLR MLR
comp=Z,332nm,20.5s
DAG Danmarks Havn 37.08 344⇑ iP P 09 09 13.9 0.0
comp=Z,23nm,0.5s,mb5.3
DAG Danmarks Havn 37.08 344⇑ eP P 09 09 13.9 0.0
comp=Z,23nm,0.5s,mb5.3
WMQ Urumqi 41.12 70 P P 09 09 49.0 +1.2
WMQ PP PP 09 11 27.0 +1.1
WMQ PCP PcP 09 11 49.0 +1.0
WMQ S S 09 16 03.0 +2.1
WMQ SS SS 09 18 59.0 +0.5
WMQ AMB AMB
comp=Z,32nm,0.7s,mb5.1
WMQ LR LR
comp=N,340nm,16.0s,MS4.4
WMQ LR LR
comp=E,178nm,15.0s,MS4.4
WMQ LR LR
comp=Z,152nm,14.0s,MS4.0
MBAR Mbarara 45.62 177 P P 09 10 24.7 0.0
MBAR Mbarara 45.62 177 eP P 09 10 24.2 -0.5
comp=Z,9.2nm,0.9s,mb4.7
POO Poona 45.69 111 eP P 09 10 25.0 -0.1
KOLN Koldanda 46.35 93 eP P 09 10 30.7 +0.4
comp=Z,131nm,1.5s,mb5.7
MOY Mondy 46.46 55 eP P 09 10 32.2 +1.4
GKN Gorkha 46.95 92 eP P 09 10 34.8 -0.2
DMN Daman 47.52 92 eP P 09 10 39.1 -0.4
comp=Z,79nm,1.1s,mb5.7
KKN Kakani 47.53 91 eP P 09 10 39.2 -0.4
comp=Z,52nm,0.6s,mb5.7
PKI Pulchoki 47.75 92 eP P 09 10 41.0 -0.4
comp=Z,26nm,0.8s,mb5.3
GUN Gumba 47.88 91 eP P 09 10 42.5 +0.1
comp=Z,106nm,1.1s,mb5.8
DBIC Dimbokro 48.29 228 P P 09 10 45.0 -0.7
comp=Z,20nm,0.9s,mb5.2,baz=12,slow=9.7,SNR=12
DBIC LR LR 09 32 40.9
comp=Z,93nm,18.3s,MS3.8,baz=345,slow=38
DBIC Dimbokro 48.29 228 P P 09 10 45.0 -0.7
DBIC pmax pmax
comp=Z,20nm,0.9s
DBIC MLR MLR
comp=Z,93nm,18.3s
DBIC Dimbokro 48.29 228 eP P 09 10 45.1 -0.6
TIC Toumodi 48.40 228 eP P 09 10 45.7 -0.8
comp=Z,134nm,1.3s,mb5.8
KIC Kosan Boka 48.49 227 eP P 09 10 46.5 -0.8
comp=Z,107nm,1.0s,mb5.8

LIC Lamto 48.76 228 eP P 09 10 48.6 -0.7
comp=Z,100nm,1.1s,mb5.8
LIC Lamto 48.76 228 eP P 09 10 48.4 -0.9
comp=Z,40nm,1.1s,mb5.4
HYB Hyderabad 49.62 107 i P P 09 10 55.0 -0.9
TIXI Tiksi 50.80 24⇑eP P 09 11 04.8 +0.6
TIXI e 09 12 20.4
TIXI eS S 09 18 18.5 -0.4
TIXI pmax pmax
comp=Z,21nm,1.0s,mb5.0
BOD Bodaibo 50.96 43 eP P 09 11 03.3 -2.3
GTA Gaotai 51.20 70 eP P 09 11 08.1 +0.4
GTA S S 09 18 20.0 -4.8
GTA AMB AMB
comp=Z,6.0nm,0.8s,mb4.6
GTA AMB AMB
comp=Z,43nm,3.8s
SONM Songino Array 51.25 57 P P 09 11 08.0 +0.1
comp=Z,9.3nm,0.9s,mb4.7,baz=294,slow=8.5,SNR=56
SONM PcP PcP 09 12 23.2 -0.1
comp=Z,2.8nm,0.8s,baz=291,slow=5.5,SNR=3.9
SHL Shillong 53.56 89 eP P 09 11 24.5 -1.0
FRB Frobisher Bay 53.69 327 P P 09 11 24.7 -1.2
comp=Z,90nm,1.3s,mb5.5,baz=78,slow=3.9,SNR=4.6
FRB Frobisher Bay 53.69 327 P P 09 11 24.7 -1.2
FRB pmax pmax
comp=Z,90nm,1.3s
FRB Frobisher Bay 53.69 327 P P 09 11 24.7 -1.2
LZH Lanzhou 55.68 71 ⇓P P 09 11 41.0 +0.1
LZH PP PP 09 13 47.0 +0.2
LZH S S 09 19 25.7 +0.1
LZH SS SS 09 23 09.4 -1.4
LZH AMB AMB
comp=Z,37nm,1.0s,mb5.4
LZH AMB AMB
comp=Z,119nm,4.0s
LZH LR LR
comp=N,949nm,14.0s
LZH LR LR
comp=Z,2µm,16.0s,MS5.2
YAK Yakutsk 55.85 34c iP P 09 11 40.9 -0.8
YAK pmax pmax
comp=Z,56nm,0.9s,mb5.6
YAK MLR MLR
comp=Z,100nm,18.0s,MS3.9
YAK Yakutsk 55.85 34 eP P 09 11 40.9 -0.8
comp=Z,52nm,0.8s,mb5.6
BTO Baotou 57.19 63 eP P 09 11 51.5 -0.2
SCHQ Schefferville 57.63 317 P P 09 11 52.7 -1.8
comp=Z,7.5nm,0.9s,mb4.7,baz=94,slow=2.8,SNR=4.6
SCHQ Schefferville 57.63 317 P P 09 11 52.7 -1.8
HHC Hu-ho-hao-te 58.03 62 ⇑P P 09 11 58.2 +0.7
HHC AMB AMB
comp=Z,21nm,1.4s,mb5.0
HHC AMB AMB
comp=Z,76nm,4.3s
HIA Hailar 58.15 50 eP P 09 11 58.4 +0.2
comp=Z,24nm,1.0s,mb5.2
XAN Xi'an 60.26 70 P P 09 12 11.9 -1.2
XAN AMB AMB
comp=Z,15nm,1.4s,mb4.8
BJI Beijing 61.36 61 P P 09 12 20.3 -0.2
BJI S S 09 20 44.1 +4.4
BJI AMB AMB
comp=Z,23nm,0.8s,mb5.4
BJI LR LR
comp=N,208nm,24.0s,MS4.4
BJI LR LR
comp=E,256nm,21.4s,MS4.4
BJI LR LR
comp=Z,198nm,26.4s,MS4.1
BJT Baijiatuau 61.37 61 eP P 09 12 20.3 -0.2
comp=Z,23nm,1.0s,mb5.3
KMI Kunming 61.48 82 eP P 09 12 21.3 -0.2
KMI S S 09 20 41.6 +0.2
KMI SS SS 09 24 40.4 -3.4
KMI SSS SSS 09 27 20.5 -2.5
KMI AMB AMB
comp=Z,14nm,1.0s,mb5.0
KMI LR LR
comp=Z,92nm,25.4s,MS3.8
CHG Chiang Mai 62.89 90 ⇓P P 09 12 30.0 -0.9
comp=Z,15nm,0.9s,mb5.1
ENH Enshi 62.93 73 eP P 09 12 30.8 -0.3
comp=Z,29nm,1.0s,mb5.4
CMAR Chiang Mai Arr 63.12 90 P P 09 12 31.9 -0.6
comp=Z,8.8nm,0.9s,mb4.9,baz=304,slow=7.6,SNR=34
CMAR Chiang Mai Arr 63.12 90 P P 09 12 31.9 -0.6
CMAR pmax pmax
comp=Z,9.0nm,1.0s
GYA Guiyang 63.38 78⇑iP P 09 12 34.1 0.0
GYA AMB AMB
comp=Z,10.0nm,1.2s,mb4.8
GYA AMB AMB
comp=Z,360nm,5.0s
NANT Nan 64.14 89 P P 09 12 37.0 -2.2
CN2 Changchun 64.56 53 eP P 09 12 41.4 -0.1
CN2 eS S 09 21 18.9 -0.7
CN2 AMB AMB
comp=Z,20nm,0.9s,mb5.2
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,400nm,15.0s,MS4.8
CN2 LR LR
comp=E,200nm,15.0s,MS4.8
CN2 LR LR
comp=Z,500nm,16.0s,MS4.8
TSUM Tsumeb 64.90 192 LR LR 09 40 32.8
comp=Z,100nm,19.4s,MS4.0,baz=151,slow=36
WHN Wuhan 66.02 70 eP P 09 12 52.7 +1.5
YKA Yellowknife Ar 68.78 343 P P 09 13 07.2 -0.8
comp=Z,8.0nm,0.8s,mb4.7,baz=23,slow=6.4,SNR=15
YKA LR LR 09 41 32.0
comp=Z,51nm,21.1s,MS3.7,baz=5.0,slow=34
IMA Indian Mountai 69.07 1 eP P 09 13 10.4 +0.7
comp=Z,132nm,0.9s,mb5.9
COLA College 70.26 359 eP P 09 13 17.8 +0.8
comp=Z,24nm,1.0s,mb5.1
ILAR Eielson Array 70.34 358 P P 09 13 16.8 -0.7
comp=Z,4.0nm,0.8s,mb4.4,baz=349,slow=3.6,SNR=27
ILAR Eielson Array 70.34 358 P P 09 13 16.8 -0.7
ILAR pmax pmax
comp=Z,4.0nm,0.8s
YSS Yuzh-Sakhalins 71.37 41 eP P 09 13 22.0 -2.1
YSS pmax pmax
comp=Z,60nm,1.0s,mb5.5
YSS Yuzh-Sakhalins 71.37 41 eP P 09 13 22.0 -2.1
comp=Z,59nm,1.1s,mb5.4
SSPA Standing Stone 72.38 310 eP P 09 13 30.5 +0.3
comp=Z,9.2nm,1.0s,mb4.7
ASAJ Asahikawa 73.38 44 LR LR 09 48 43.3
comp=Z,178nm,18.0s,MS4.4,baz=78,slow=38
ULM Lac du Bonnet 73.57 327 P P 09 13 36.7 -0.2
comp=Z,11nm,0.8s,mb4.9,baz=12,slow=6.4,SNR=6.5
ULM Lac du Bonnet 73.57 327 P P 09 13 36.7 -0.2
SPU Mount Spurr 73.99 1 eP P 09 13 39.6 +0.6
MCWV Mont Chateau 74.12 311 eP P 09 13 40.8 +0.5
comp=Z,64nm,1.4s,mb5.4
DLBC Dease Lake 75.28 349 P P 09 13 48.0 +1.4
comp=Z,7.6nm,0.9s,mb4.6,baz=346,slow=7.3,SNR=11
DLBC Dease Lake 75.28 349 eP P 09 13 48.0 +1.4
EDM Edmonton 76.80 338 eP P 09 13 55.5 +0.3
BLO Bloomington 77.97 314 eP P 09 14 01.6 -0.4
comp=Z,21nm,0.9s,mb5.1
WCI Wyandotte Cave 78.57 313 eP P 09 14 04.9 -0.4
comp=Z,23nm,0.9s,mb5.1
NHSC New Hope 79.05 306 eP P 09 14 08.5 +0.4
USIN University of 79.47 314 eP P 09 14 10.1 -0.2
comp=Z,34nm,1.0s,mb5.2
CPCT Cooper Cave 79.73 310 eP P 09 14 14.7 +2.9
LAO LASA Array 80.36 331 eP P 09 14 16.4 +1.6
comp=Z,73nm,1.0s,mb5.6
WALA Waterton Lakes 80.70 336 eP P 09 14 16.7 +0.2
comp=Z,17nm,0.9s,mb5.0
FVM French Village 80.84 316 eP P 09 14 17.5 -0.1
comp=Z,13nm,0.9s,mb4.8
WVT Waverly 80.96 313 eP P 09 14 17.3 -1.0
comp=Z,19nm,0.9s,mb5.0
CCM Cathedral Cave 81.19 316 eP P 09 14 19.1 -0.3
comp=Z,17nm,1.0s,mb4.9
RSSD Black Hills 81.77 328 eP P 09 14 23.4 +1.1
comp=Z,4.9nm,0.8s,mb4.5
HRY Holter Researc 82.19 334 eP P 09 14 25.4 +1.0
GNAR Gosnell 82.21 314 eP P 09 14 26.4 +1.7
NEW Newport 82.31 338 eP P 09 14 26.4 +1.4
comp=Z,13nm,1.0s,mb4.8
GCMT Greycliff 82.31 332 eP P 09 14 26.6 +1.6
CHMT Chamberlain Mo 82.44 335 eP P 09 14 26.4 +0.8
KSU1 Kansas State U 82.87 320 eP P 09 14 28.4 +0.3
LRAL Lakeview Retre 82.89 310 eP P 09 14 28.3 0.0
comp=Z,22nm,0.9s,mb5.2
DPW Davenport 82.95 338 eP P 09 14 29.7 +1.4
BOZ Bozeman (W) 83.07 333 eP P 09 14 30.5 +1.5
comp=Z,7.0nm,1.1s,mb4.6
NLW Nelson Butte 83.30 340 eP P 09 14 31.2 +1.0
PGC Sidney 83.48 342 eP P 09 14 32.2 +1.2
comp=Z,30nm,0.8s,mb5.4
QLMT Earthquake Lak 83.73 333 P P 09 14 33.9 +1.6
YFT Old Faithful 83.88 332 eP P 09 14 35.8 +2.7
MCMT McKenzie Canyo 84.19 334 eP P 09 14 36.2 +1.6
UALR University of 84.31 315 eP P 09 14 35.9 +0.4
comp=Z,19nm,1.0s,mb5.2
GNW Green Mountain 84.37 341 eP P 09 14 36.8 +1.3
IMW Indian Meadow 84.41 332 eP P 09 14 38.5 +2.7
MOOW Moose Ponds 84.47 332 eP P 09 14 38.1 +2.1
CBKS Cedar Bluff 84.49 322 eP P 09 14 37.1 +0.8
comp=Z,6.8nm,0.7s,mb4.9
OCWA Octopus Mounta 84.49 342 eP P 09 14 37.9 +1.8
LOHW Long Hollow 84.55 332 eP P 09 14 38.5 +2.0
WUWY Wally Ulrich 84.66 332 eP P 09 14 37.7 +0.7
HAWA Hanford 84.66 339 eP P 09 14 37.6 +0.7
comp=Z,17nm,1.0s,mb5.1
TPAW Teton Pass 84.77 332 eP P 09 14 39.9 +2.3
REDW Red Top Meadow 84.85 332 eP P 09 14 39.7 +1.7
PDAR Pinedale Array 84.94 331 P P 09 14 39.4 +0.9
comp=Z,5.6nm,0.8s,mb4.8,baz=52,slow=4.2,SNR=31
PDAR PP PP 09 17 49.9 -7.0
comp=Z,0.8nm,0.9s,baz=45,slow=6.3,SNR=4.0
PDAR LR LR 09 57 12.2
comp=Z,50nm,19.8s,MS3.9,baz=243,slow=39
RRI2 Red Ridge 85.02 332 eP P 09 14 41.1 +2.2
HLID Hailey 85.81 334 eP P 09 14 44.0 +1.2
comp=Z,2.5nm,0.8s,mb4.5
HWUT Hardware Ranch 86.65 331 eP P 09 14 48.2 +1.2
comp=Z,14nm,1.0s,mb5.2
HVU Hansel Valley 86.90 332 eP P 09 14 49.8 +1.6
TCUT Toone Canyon 87.04 331 eP P 09 14 48.3 -0.6
WMOK Wichita Mounta 87.44 319 eP P 09 14 51.2 +0.3
comp=Z,2.6nm,0.7s,mb4.6
JLU Jordanelle 87.51 331 eP P 09 14 52.5 +1.3
DAU Daniels Canyon 87.61 331 eP P 09 14 53.5 +1.9
BGU Big Grassy Mou 87.75 332 eP P 09 14 54.0 +1.7
DUG Dugway 88.34 332 eP P 09 14 56.6 +1.5
comp=Z,6.0nm,0.8s,mb4.9
SRU San Rafael 88.51 330 eP P 09 14 56.3 +0.3
MOD Modoc 89.04 338 eP P 09 14 60.0 +1.5
comp=Z,8.8nm,1.1s,mb5.0
HUMO Hull Mountain 89.07 340 eP P 09 14 59.1 +0.5
MSU Marysvale 89.63 330 eP P 09 15 02.9 +1.6
MVU Marysvale 89.65 331 eP P 09 15 03.0 +1.5
comp=Z,11nm,1.1s,mb5.1
YBH Yreka Blue Hor 89.83 339 P P 09 15 01.2 -0.9
comp=Z,0.9nm,0.8s,mb4.1,baz=86,slow=2.9,SNR=2.7
SDV Santo Domingo 90.44 283 eP P 09 15 06.6 +0.9
comp=Z,15nm,0.8s,mb5.4
ANMO Albuquerque 90.60 325 eP P 09 15 07.0 +1.1
comp=Z,2.4nm,1.0s,mb4.5
ARUT Antelope Range 90.72 331 eP P 09 15 08.8 +2.5
BNM Barren Site 91.36 324 eP P 09 15 10.1 +0.7
MNV Mina 91.65 335 eP P 09 15 11.8 +1.1
comp=Z,1.9nm,0.8s,mb4.5
NVAR Mina Array Bea 91.69 335 P P 09 15 12.3 +1.5
comp=Z,1.1nm,0.7s,mb4.3,baz=46,slow=4.1,SNR=9.6
NVAR PP PP 09 18 52.9 +0.9
comp=Z,0.4nm,0.8s,baz=41,slow=3.4,SNR=4.5
NVAR LR LR 09 58 34.8
comp=Z,55nm,18.9s,MS4.0,baz=255,slow=37
NVAR Mina Array Bea 91.69 335 P P 09 15 12.3 +1.5
NVAR PP PP 09 18 52.9 +0.9
NVAR LR LR 09 58 34.8
BDFB Brasilia 92.04 250 P P 09 15 14.3 +1.4
comp=Z,2.6nm,0.8s,mb4.6,baz=95,slow=3.7,SNR=8.9
BDFB LR LR 10 01 18.5
comp=Z,63nm,18.8s,MS4.1,baz=107,slow=39
TXAR Lajitas Array 94.22 320 P P 09 15 23.1 +0.5
comp=Z,1.9nm,0.8s,mb4.5,baz=54,slow=3.5,SNR=13
TXAR PP PP 09 19 11.7 -0.5
comp=Z,1.4nm,1.1s,baz=53,slow=6.3,SNR=3.9
TXAR LR LR 09 57 05.0
comp=Z,55nm,18.5s,MS4.0,baz=75,slow=35
TUC Tucson 94.64 327 eP P 09 15 26.0 +1.4
comp=Z,4.8nm,1.0s,mb4.9
WRA Warramunga Arr 114.60 94 PKP PKPdf 09 20 43.5 -2.1
comp=Z,1.0nm,0.8s,baz=306,slow=2.0,SNR=6.9
WRA PKKPbc 09 31 29.0
comp=Z,1.1nm,1.0s,baz=128,slow=3.9,SNR=6.0
MAW Mawson 115.35 166 PKP PKPdf 09 20 44.3 -1.7
comp=Z,2.0nm,0.9s,baz=320,slow=6.7,SNR=6.7
MAW Mawson 115.35 166 PKIKP PKPdf 09 20 44.3 -1.7
MAW pmax pmax
comp=Z,2.0nm,0.9s
ASAR Alice Springs 116.72 97 PKP PKPdf 09 20 47.8 -2.0
comp=Z,1.6nm,0.7s,baz=324,slow=1.3,SNR=23
ASAR PP PP 09 21 58.8 -1.0
comp=Z,1.8nm,1.0s,baz=300,slow=6.0,SNR=9.0
ASAR PKKPbc 09 31 17.6
comp=Z,1.1nm,0.9s,baz=125,slow=4.1,SNR=7.8
VNA1 Neumayer--Stat 118.61 193⇑iP PKPdf 09 20 49.5 -2.8
VNA2 Neumayer--Watz 118.71 193 P PKPdf 09 20 52.3 -0.2
SNAA Sanae 118.71 191⇓iP PKPdf 09 20 48.7 -3.8
VNA3 Neumayer Olymp 119.35 193⇑iP PKPdf 09 20 54.2 +0.5
STKA Stephens Creek 127.10 100 PKP PKPdf 09 21 06.8 -2.7
comp=Z,3.3nm,0.7s,baz=337,slow=3.3,SNR=6.3
QSPA South Pole Qui 135.02 180 ePKP PKPdf 09 21 20.1 -3.3

ISC 03 09:03:00.4±1.2**, 38.02N**±0.04×**26.78E**±0.09**, h10**km**, n6, σ0.99**/11**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAG	**Bornova**	**0.55**	**45**	*i* P	**Pg**	**09 03 11.3**	**-0.2**
KDAG				*i* S	**Sg**	**09 03 20.0**	**+1.1**
AYDN	**Tasoluk**	**0.94**	**112**	*i* P	**Pb**	**09 03 18.4**	**0.0**
AYDN				*i* S	**Sb**	**09 03 30.5**	**-0.2**
BDRM	**Kayabasi**	**1.09**	**151**	*i* P	**Pb**	**09 03 20.5**	**-0.4**
BDRM				*i* S	**Sb**	**09 03 35.6**	**+0.7**
PRK	**Paraskevi**	**1.29**	**342**	*e*P	**Pb**	**09 03 24.0**	**-0.4**
MANT	**Manisa**	**1.48**	**71**	*i* P	**Pn**	**09 03 29.1**	**+1.8**
MANT				*i* S	**Sb**	**09 03 44.2**	**-2.1**
DNZL	**Cakiroluk**	**1.83**	**100**	*i* P	**Pn**	**09 03 31.0**	**-1.2**
DNZL				*i* S	**Sn**	**09 03 56.2**	**+0.6**

CASC 03 09:13:56.3±2.9**, 8.36N×82.78W, h0**km±14km**, MD3.7, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.33**	**77**	*e*P	Pg	09 14 03.8	+0.9
PTP1	**Petroterminal**	**0.38**	**115**	*e*P	Pg	09 14 00.1	-3.8
BUS	**Buena Vista**	**1.53**	**321**	*e*P	Pn	09 14 23.6	-1.4
BUS				*e*S	Sb	09 14 45.0	-0.1
URSC	**Urasca**	**1.77**	**326**	*e*P	Pn	09 14 27.8	-0.5
URSC				*e*S	Sn	09 14 52.0	+0.2
LCR2	**La Lucha 2**	**1.83**	**319**	*e*P	Pn	09 14 29.8	+0.6
LCR2				*e*S	Sn	09 14 55.3	+1.9
LAJ	**Bijagual**	**2.00**	**318**	*e*P	Pn	09 14 35.9	+4.3
PRS1	**Puriscal**	**2.21**	**317**	*e*P	Pn	09 14 34.5	-0.2
PRS1				*e*S	Sn	09 15 04.5	+1.4

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*IDC **03** 09:56:06.9±0.6, 25.62N×102.08E, mb4.1/16, mb1 4.3/17, mb1mx4.2/22, ML4.1/1, MS3.8/4, Ms1 3.8/4, ms1mx3.2/20, Error ellipse: s-maj=24.2km s-min=11.7km az=67.0*
*MOS **03** 09:56:09.7±1.0, 25.58N×102.05E, h33km, mb4.8/5, Error ellipse: s-maj=22.5km s-min=10.4km az=111.2*
*BJI **03** 09:56:09.4, 25.54N×102.07E, h22km, mB4.8, mb4.8, ML4.4, Ms4.3, Msz4.0*
*NEIC **03** 09:56:11.7±3.0, 25.56N×102.11E, h28km±21km, mb4.5/14, Error ellipse: s-maj=10.3km s-min=6.6km az=66.0*
ISC 03 09:56:06.9±0.3**, 25.49N**±0.04×**102.10E**±0.04**, h10**km**, n80, σ1.27**/88**, mb4.4**/37**, MS3.9**/6**, 3C-2D, Yunnan**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KMI Kunming 0.68 122 ePG Pg 09 56 23.2 +2.5
KMI SG Sg 09 56 34.6 +4.7
GYA Guiyang 4.22 76 P Pn 09 57 16.1 +3.3
CD2 Chengdu 5.60 15 P Pn 09 57 34.2 +1.9
CD2 PG Pg 09 57 53.0 -5.6
CD2 S Sn 09 58 41.4 +4.0
CD2 SG Sg 09 59 05.5 -7.7
CD2 LR LR
comp=E,5µm,8.2s
CD2 LR LR
comp=Z,2µm,9.9s
NANT Nan 6.78 191 PN Pn 09 57 47.0 -2.0
NANT PG Pg 09 58 12.0 -10
NANT SG Sn 09 59 00.0 -7.0
CM31 Chiang Mai Arr 7.58 203 Pn Pn 09 58 04.8 +4.5
comp=Z,26nm,0.6s
CM31 e 09 58 28.1
CMAR Chiang Mai Arr 7.58 203 Pn Pn 09 58 01.9 +1.7
comp=Z,0.7nm,0.3s,baz=18,slow=15,SNR=9.2
CMAR Pg Pg 09 58 28.6 -10
comp=Z,1.4nm,0.3s,baz=2.9,slow=16,SNR=30
CMAR Lg 10 00 11.2
comp=Z,3.8nm,0.3s,baz=8.1,slow=30,SNR=14
CMAR LR LR 10 01 12.8
comp=Z,387nm,18.1s,baz=10.0,slow=40
CMAR Chiang Mai Arr 7.58 203 P Pn 09 58 01.9 +1.7
ENH Enshi 8.09 52 ePn P 09 58 08.0 +0.7
comp=Z,37nm,0.8s
BDT Bhumibol Dam 8.70 200 P P 09 58 20.0 +4.3
comp=Z,18nm,1.0s
KKTK Khon Kaen 9.13 176 P P 09 58 22.0 +0.3
SHL Shillong 9.23 273 eP P 09 58 23.5 +0.4
XAN Xi'an 10.38 33 P P 09 58 37.6 -1.3
XAN LG2 10 01 43.6
XAN LR LR
comp=N,977nm,7.6s
XAN LR LR
comp=E,845nm,7.4s
XAN LR LR
comp=Z,1µm,7.0s
LZH Lanzhou 10.67 8 ⇑P P 09 58 45.0 +2.1
LZH AP 09 58 49.0
LZH XP 09 58 51.9
LZH PP PP 09 58 53.4 +2.3
LZH S S 10 00 46.0 +2.5
LZH XS 10 00 50.0
LZH SS SS 10 00 59.0 +1.8
LZH AMB AMB
comp=Z,28nm,1.0s
LZH AMB AMB
comp=Z,145nm,4.0s
LZH LR LR
comp=E,861nm,10.1s
LZH LR LR
comp=Z,1µm,11.0s
WHN Wuhan 11.94 62 eP P 09 59 04.8 +4.6
WHN S S 10 01 12.0 -2.4
WHN LR LR
comp=Z,710nm,16.7s
TIA Tai'an 16.73 47 eP P 10 00 03.2 +0.2
SSE Sheshan 17.71 67 P P 10 00 14.2 -1.1
SSE AP 10 00 21.4
SSE XP 10 00 23.4
SSE S S 10 03 27.5 -3.0
SSE XS 10 03 46.4
SSE AMB AMB
comp=Z,17nm,0.8s
SSE AMB AMB
comp=Z,62nm,3.9s
SSE LR LR
comp=N,382nm,19.0s
SSE LR LR
comp=E,73nm,18.9s
SSE LR LR
comp=Z,119nm,19.5s
BJT Baijiatuau 18.67 36 eP P 10 00 26.7 -0.5
comp=Z,18nm,0.8s
BJI Beijing 18.69 36 eP P 10 00 28.3 +0.9
BJI AMB AMB
comp=Z,105nm,2.1s
BJI LR LR
comp=N,433nm,11.3s
BJI LR LR
comp=E,379nm,10.7s
BJI LR LR
comp=Z,221nm,16.1s
WMQ Urumqi 21.73 331 eP P 10 01 00.0 -0.3
WMQ AMB AMB
comp=Z,25nm,0.6s,mb4.8
SONM Songino Array 22.56 8 P P 10 01 08.4 -0.1
comp=Z,4.9nm,0.9s,mb3.9,baz=191,slow=9.3,SNR=22
SNY Shenyang 24.09 42 ⇓P P 10 01 24.7 +1.3
SNY AMB AMB
comp=Z,30nm,0.8s,mb4.8
SNY LR LR
comp=N,330nm,12.3s
SNY LR LR
comp=E,300nm,17.4s
SNY LR LR
comp=Z,200nm,15.1s,MS3.7
CN2 Changchun 26.36 40 eP P 10 01 44.9 -0.1
CN2 AMB AMB
comp=Z,30nm,0.8s,mb4.9
MKAR Makanchi Array 26.47 329 P P 10 01 44.0 -1.9
comp=Z,2.2nm,0.5s,mb3.9,baz=135,slow=10,SNR=21
MKAR Makanchi Array 26.47 329 i P P 10 01 47.0 +1.1
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR Makanchi Array 26.47 329 P P 10 01 44.0 -1.9
HIA Hailar 27.43 26 eP P 10 01 54.2 -0.5
comp=Z,34nm,0.9s,mb4.9
AAK Ala-Archa 28.38 314⇑eP P 10 02 02.9 -0.4
AAK Ala-Archa 28.38 314 eP P 10 02 01.6 -1.6
comp=Z,5.3nm,0.7s,mb4.3
KURK Kurchatov 30.98 331c iP P 10 02 25.9 -0.5
ZAL Zalesovo 31.20 340 P P 10 02 27.7 -0.7
comp=Z,1.4nm,0.8s,mb3.9,baz=238,slow=11,SNR=6.0
ZAL LR LR 10 16 31.0
comp=Z,102nm,20.1s,MS3.5,baz=225,slow=39
BOD Bodaibo 33.41 12 eP P 10 02 45.6 -2.0
BVAR Borovoye Array 36.34 328 P P 10 03 12.7 -0.1
comp=Z,1.0nm,0.5s,mb4.0,baz=111,slow=13,SNR=6.8
BRVK Borovoye 36.41 328 eP P 10 03 12.8 -0.6
comp=Z,3.7nm,0.8s,mb4.4
YAK Yakutsk 40.97 19d iP P 10 03 51.9 +0.7
YAK pmax pmax
comp=Z,19nm,0.8s,mb4.8
YAK MLR MLR
comp=Z,100nm,8.0s
TIXI Tiksi 48.58 11 eP P 10 04 52.6 +0.5
TIXI pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
FITZ Fitzroy Crossi 49.01 150 P P 10 04 56.1 0.0
comp=Z,4.0nm,0.9s,mb4.5,baz=239,slow=3.8,SNR=3.7
MBWA Marble Bar 49.43 158 eP P 10 04 58.4 -0.8
KIV Kislovodsk 51.09 307 eP P 10 05 08.7 -2.9
KIV pmax pmax
comp=Z,21nm,1.4s,mb4.9
KIV MLR MLR
comp=Z,39nm,16.0s,MS3.5
KIV MLR MLR
comp=E,37nm,18.0s
SOC Sochi 53.24 307 eP P 10 05 28.1 +0.3
SOC e 10 07 27.0
SOC ePPP PPP 10 08 32.1 -3.7
SOC eS S 10 12 54.3 -2.9
SOC ePS PS 10 13 08.4 0.0
SOC eSSS SSS 10 18 27.7 +3.1
SOC pmax pmax
comp=Z,14nm,0.8s,mb4.9
SOC pmax pmax
comp=N,2.0nm,0.3s
SOC pmax pmax
comp=E,10.0nm,0.8s
SOC MLR MLR
comp=Z,407nm,23.0s,MS4.4
SOC MLR MLR
comp=N,420nm,20.0s,MS4.5
SOC MLR MLR
comp=E,163nm,19.0s,MS4.5
WRAB Tennant Creek 54.96 142 eP P 10 05 40.4 -0.4
comp=E,9.5nm,1.0s,mb4.8
WRA Warramunga Arr 54.97 142 P P 10 05 40.4 -0.4
comp=E,2.7nm,0.6s,mb4.5,baz=330,slow=8.1,SNR=34
WB2 Warramunga Arr 54.97 142 eP P 10 05 40.4 -0.4
ASAR Alice Springs 57.76 145 P P 10 06 00.8 0.0
comp=E,1.7nm,0.5s,mb4.3,baz=327,slow=6.9,SNR=29
BRTR Keskin Array B 58.11 302 P P 10 06 01.7 -1.3
comp=E,0.7nm,0.4s,mb4.0,baz=90,slow=6.2,SNR=5.3

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKASG	Malin Array Be	60.03	315	P	P	10 06 13.8	-2.3
	comp=E,1.4nm,0.5s,mb4.2,baz=74,slow=6.7,SNR=5.5						
KEV	Kevo	61.17	337	ep	P	10 06 21.2	-2.5
KAF	Kangasniemi	61.18	329	ep	P	10 06 23.4	-0.4
FINES	FINESS Array B	61.30	328	P	P	10 06 22.6	-2.0
	comp=E,2.7nm,0.7s,mb4.5,baz=124,slow=6.9,SNR=12						
FINES				LR	LR	10 33 27.2	
	comp=E,86nm,18.3s,MS3.9,baz=220,slow=37						
ARCES	ARCESS Array B	61.69	337	P	P	10 06 25.2	-1.9
	comp=E,2.6nm,0.9s,mb4.3,baz=80,slow=7.2,SNR=9.6						
CTA	Charters Tower	62.40	132	P	P	10 06 33.3	+0.8
	comp=E,2.0nm,0.7s,mb4.3,baz=265,slow=9.9,SNR=3.8						
STKA	Stephens Creek	68.38	144	P	P	10 07 10.7	-0.2
	comp=E,1.7nm,0.8s,mb4.2,baz=312,slow=8.6,SNR=3.4						
NB2	NORSAR Subarra	68.47	328	P	P	10 07 09.9	-1.1
	comp=E,2.6nm,0.8s,mb4.3,baz=77,slow=6.5						
NOA	NORSAR Array B	68.47	328	P	P	10 07 10.4	-0.6
	comp=E,1.5nm,0.6s,mb4.2,baz=77,slow=6.3,SNR=9.2						
LEGS	Legarje	70.00	312	eP	P	10 07 22.8	+2.2
GERES	GERESS Array B	70.25	315	P	P	10 07 21.0	-1.1
	comp=E,1.1nm,0.6s,mb4.0,baz=61,slow=6.0,SNR=12						
JAVS	Javornik	70.86	312	eP	P	10 07 22.8	-3.1
CDF	Champ du Feu	74.42	316	eP	P	10 07 47.3	+0.5
	comp=E,3.7nm,0.8s,mb4.1						
HINF	Hinteralfeld	74.90	316	eP	P	10 07 48.9	-0.7
HAU	Haudompre	75.15	316	eP	P	10 07 52.0	+1.0
ILAR	Eielson Array	75.66	24	P	P	10 07 52.5	-1.1
	comp=E,0.6nm,0.4s,mb3.9,baz=324,slow=8.2,SNR=12						
ILAR	Eielson Array	75.66	24	P	P	10 07 52.4	-1.2
LPG	La Plagne	75.82	314	eP	P	10 07 54.3	-0.6
	comp=E,23nm,0.7s,mb4.9						
LPL	La Plagne	75.83	314	eP	P	10 07 54.3	-0.7
	comp=E,27nm,0.7s,mb5.0						
BNI	Bardonecchia	76.03	313	eP	P	10 07 56.9	+0.7
	comp=E,4.0nm,0.6s,mb4.5						
MBDF	Montbardon	76.09	313	eP	P	10 07 58.0	+1.5
	comp=E,9.1nm,0.8s,mb4.4						
ORIF	Oris-en-Rattie	76.61	313	eP	P	10 08 00.1	+0.7
	comp=E,8.7nm,0.8s,mb4.4						
LOR	Lormes	76.99	316	eP	P	10 08 02.0	+0.6
SMF	Signal de Mont	77.25	316	eP	P	10 08 03.2	+0.3
SSF	Saint Saulge	77.29	316	eP	P	10 08 03.1	0.0
VIVF	Saint-Julien-l	77.42	314	eP	P	10 08 04.9	+1.0
	comp=E,6.1nm,0.7s,mb4.4						
LASF	Ste Croix	78.27	313	eP	P	10 08 09.7	+1.1
	comp=E,11nm,0.9s,mb4.5						
TCF	Toulx Ste Croi	78.42	316	eP	P	10 08 10.2	+0.9
	comp=E,16nm,1.1s,mb4.6						
CAF	Calviac	79.09	315	eP	P	10 08 14.3	+1.3
RJF	Les Rejaudoux	79.28	315	eP	P	10 08 15.5	+1.5
MTLF	Montolieu	79.66	313	eP	P	10 08 17.5	+1.4
ETSF	Etsaut	81.68	314	eP	P	10 08 28.4	+1.6
	comp=E,8.1nm,0.8s,mb4.4						
SJPF	Ste Jean	82.02	314	eP	P	10 08 30.5	+1.9
MAW	Mawson	97.30	194	LR	LR	10 45 19.6	
	comp=E,67nm,21.9s,MS4.1,baz=238,slow=30						
TXAR	Lajitas Array	120.14	26	PKP	PKPdf	10 15 01.5	0.0
	comp=E,0.1nm,0.5s,baz=215,slow=1.3,SNR=5.8						
TXAR	Lajitas Array	120.14	26	PKP	PKPdf	10 15 01.5	0.0

IDC 03 10:02:51.0±11.0**, 10.93S**×**167.20E, mb4.1**/5**, mb1 4.3**/5**, mb1mx3.9**/16**, Error ellipse: s-maj=194.0km s-min=97.9km az=67.0, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	22.12	243	eP	P	10 07 49.1	-0.8
	4.2nm,0.8s						
CTA	Charters Tower	22.12	243	P	P	10 07 49.0	-0.9
	5.8nm,0.8s,baz=62,slow=11,SNR=6.6						
STKA	Stephens Creek	31.52	225	P	P	10 09 16.0	-1.1
	3.8nm,1.1s,baz=63,slow=11,SNR=4.2						
WRA	Warramunga Arr	32.87	250	P	P	10 09 26.7	-2.3
	2.2nm,0.7s,baz=84,slow=9.0,SNR=20						
ASAR	Alice Springs	34.13	244	P	P	10 09 37.0	-2.8
	2.1nm,0.7s,baz=72,slow=9.5,SNR=30						
FITZ	Fitzroy Crossi	40.80	255	P	P	10 10 34.2	-1.7
	1.3nm,0.7s,baz=100,slow=6.1,SNR=3.9						

TAP 03 10:07:26.4, 24.64N×121.80E, h5km±1km, ML1.2
JMA 03 10:07:57.3±0.3**, 24.89N**×**123.09E, h117**km**, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IRIF	Iriomote-Funau	0.80	133	P	P	10 08 17.3	-0.1
IRIF				eS	S	10 08 32.6	+0.1
HATJ	Hateruma jima	1.05	142	eS	S	10 08 36.7	-0.2
JKRS	Kuro-shima	1.06	128	P	P	10 08 20.0	0.0
JKRS				eS	S	10 08 36.9	-0.1
JIJ	Ishigaki jima	1.09	118	P	P	10 08 19.9	-0.4
JIJ				eS	S	10 08 36.9	-0.7
JTJ	Tarama	1.49	99	P	P	10 08 24.8	0.0

IDC 03 10:54:16.6±1.0, 52.36N×172.81E, mb3.9/15, mb1 4.1/15, mb1mx3.9/26, Error ellipse: s-maj=19.7km s-min=16.0km az=161.0
NEIC 03 10:54:20.8±1.9, 52.39N×172.88E, h27km±9km, mb4.2/5, Error ellipse: s-maj=20.6km s-min=7.5km az=193.0
ISC 03 10:54:20.7±2.6**, 52.4N**±0.2×**172.8E**±0.2**, h41**km±15km**, n24, σ0.65**/24**, mb4.0**/20**, Near Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FX1	Attu Island--F	0.51	22	Pn	P	10 54 31.1	-0.5
	495nm,0.3s,baz=210,slow=5.4,SNR=29						
FX1	Attu Island--F	0.51	22	eP	P	10 54 31.4	-0.2
SMY	Shemya	0.83	67	eP	P	10 54 36.6	+0.6
IMA	Indian Mountai	21.55	38	eP	P	10 59 07.0	-1.0
	18nm,0.8s,mb4.5						
ILAR	Eielson Array	23.87	43	P	P	10 59 31.8	+1.1
	0.6nm,0.5s,mb3.3,baz=252,slow=9.0,SNR=5.4						
ILAR	Eielson Array	23.87	43	P	P	10 59 31.8	+1.1
DLBC	Dease Lake	32.10	56	P	P	11 00 46.2	+0.5
	2.0nm,0.8s,mb4.0,baz=268,slow=15,SNR=4.4						
SONM	Songino Array	41.50	291	P	P	11 02 06.1	+1.0
	0.4nm,0.6s,mb3.2,baz=63,slow=8.3,SNR=4.1						
YBH	Yreka Blue Hor	43.79	77	P	P	11 02 22.9	-0.9
	0.5nm,0.6s,mb3.4,baz=210,slow=6.4,SNR=2.5						
WALA	Waterton Lakes	44.64	64	eP	P	11 02 30.5	-0.1
	14nm,1.0s,mb4.8						
HLID	Hailey	47.56	70	eP	P	11 02 53.4	-0.3
	0.8nm,0.7s,mb3.9						
NVAR	Mina Array Bea	48.48	78	P	P	11 03 01.4	+0.4
	0.5nm,0.6s,mb3.7,baz=302,slow=5.5,SNR=5.4						
TPNV	Topopah Spring	50.69	78	eP	P	11 03 17.4	-0.5
	1.4nm,0.8s,mb3.9						
BW06	Boulder Array	50.83	68	eP	P	11 03 18.6	-0.3
	1.0nm,0.6s,mb3.9						
PDAR	Pinedale Array	50.83	68	P	P	11 03 19.1	+0.1
	1.3nm,0.7s,mb4.0,baz=324,slow=3.1,SNR=10						
ULM	Lac du Bonnet	53.33	53	P	P	11 03 37.3	-0.3
	3.3nm,0.7s,mb4.4,baz=328,slow=7.0,SNR=2.2						
MKAR	Makanchi Array	55.23	303	P	P	11 03 50.7	-0.8
	0.4nm,0.5s,mb3.7,baz=55,slow=5.9,SNR=5.4						
ARCES	ARCESS Array B	56.05	347	P	P	11 03 57.5	+0.5
	3.4nm,1.1s,mb4.3,baz=45,slow=8.9,SNR=3.3						
BVAR	Borovoye Array	56.63	315	P	P	11 04 00.4	-1.0
	0.6nm,0.4s,mb4.0,baz=49,slow=8.1,SNR=5.8						
SCHQ	Schefferville	62.24	34	P	P	11 04 40.1	0.0
	5.9nm,0.7s,mb4.8,baz=344,slow=7.3,SNR=5.4						
FINES	FINESS Array B	63.45	343	P	P	11 04 47.5	-0.5
	0.4nm,0.5s,mb3.8,baz=191,slow=31,SNR=3.6						
TXAR	Lajitas Array	63.52	76	P	P	11 04 49.3	+0.4
	4.2nm,0.8s,mb4.5,baz=301,slow=4.2,SNR=48						
NOA	NORSAR Array B	65.95	350	P	P	11 05 04.3	+0.3
	1.3nm,1.1s,mb3.9,baz=12,slow=5.9,SNR=3.1						
GERES	GERESS Array B	77.57	346	P	P	11 06 14.7	+1.3
	0.3nm,0.4s,mb3.5,baz=27,slow=6.0,SNR=4.0						

MEX 03 11:00:49.5±0.7**, 17.62N**×**95.49W, h32**km±9km**, MD4.0, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.78	132	iP	Pn	11 01 01.8	-2.5
CMIG				eS	Sn	11 01 12.1	-2.8
EVV	El Vigia	0.84	9	eP	Pn	11 01 02.5	-2.6
EVV				eS	Sn	11 01 11.0	-5.4
TUIG	Tuzandepetl	1.09	68	eP	Pn	11 01 07.2	-1.5
TUIG				eS	Sn	11 01 19.9	-2.9
OXX	Oaxaca	1.30	246	eP	Pn	11 01 09.5	-2.2
VHO	Vista Hermosa	1.31	246	iP	Pn	11 01 09.9	-2.0
VHO				iS	Sn	11 01 25.9	-2.5
HUIG	Huatulco	1.94	198	eP	Pn	11 01 17.2	-3.6
HUIG				eS	Sn	11 01 40.4	-3.8
PNIG	Pinotepa	2.81	245	iP	Pn	11 01 28.8	-4.5
CCIG	Comitan	3.47	112	iP	Pn	11 01 41.4	-1.3
CCIG				iS	Sn	11 02 19.2	-4.0

IDC 03 11:18:59.9±7.3, 1.79N×128.11E, h137km±68km, mb4.0/10, mb1 4.1/11, mb1mx3.9/17, Error ellipse: s-maj=57.4km s-min=14.0km az=65.0
NEIC 03 11:19:00.1±0.3, 1.79N×128.13E, h140km, mb4.1/6, Error ellipse: s-maj=23.8km s-min=6.0km az=74.0
ISC 03 11:19:01.1±5.1**, 1.8N**±0.1×**128.0E**±0.3**, h165**km±50km**, n24, σ0.45**/23**, mb4.2**/13**, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	15.01	163	eP	P	11 22 25.9	-0.3
	4.6nm,0.5s						
FITZ	Fitzroy Crossi	19.86	187	eP	P	11 23 21.3	-0.1
	3.5nm,1.1s						
FITZ	Fitzroy Crossi	19.86	187	P	P	11 23 20.5	-0.9
	0.1nm,0.3s,baz=348,slow=9.3,SNR=3.5						
WRAB	Tennant Creek	22.43	164	P	P	11 23 48.0	+1.2
	58nm,0.5s,mb5.3,SNR=10						
WRAB	Tennant Creek	22.43	164	eP	P	11 23 47.3	+0.4
	6.5nm,0.4s,mb4.4						
WRA	Warramunga Arr	22.44	164	P	P	11 23 47.5	+0.6
	4.2nm,0.4s,mb4.2,baz=344,slow=11,SNR=77						
WB2	Warramunga Arr	22.44	164	eP	P	11 23 47.1	+0.2
MBWA	Marble Bar	24.16	199	eP	P	11 24 03.9	+0.4
	1.2nm,0.5s,mb3.7						
ASAR	Alice Springs	25.91	168	P	P	11 24 19.4	-0.4
	1.7nm,0.5s,mb3.9,baz=350,slow=7.7,SNR=54						
ASAR				PcP	PcP	11 27 44.9	+0.1
	1.0nm,0.5s,baz=353,slow=2.3,SNR=15						
ASPA	Alice Springs	25.91	168	eP	P	11 24 19.1	-0.7
STKA	Stephens Creek	35.85	160	eP	P	11 25 46.5	-0.3
	5.8nm,0.4s,mb4.6						
STKA	Stephens Creek	35.85	160	P	P	11 25 46.9	+0.2
	6.2nm,0.3s,mb4.7,baz=345,slow=8.1,SNR=35						
SONM	Songino Array	49.56	341	P	P	11 27 37.5	+0.3
	5.0nm,0.6s,mb4.3,baz=153,slow=7.8,SNR=37						
MKAR	Makanchi Array	59.89	325	P	P	11 28 52.2	+0.5
	12nm,0.5s,mb4.9,baz=119,slow=8.6,SNR=93						
ZAL	Zalesovo	62.91	333	P	P	11 29 11.3	-0.6
	0.7nm,0.3s,mb3.9,baz=248,slow=9.1,SNR=4.6						
ZAL	Zalesovo	62.91	333	P	P	11 29 11.3	-0.6
KURK	Kurchatov	64.08	328	eP	P	11 29 19.3	-0.2
BVAR	Borovoye Array	69.66	327	P	P	11 29 54.8	+0.2
	2.2nm,0.5s,mb4.1,baz=127,slow=7.4,SNR=14						
BRVK	Borovoye	69.73	327	eP	P	11 29 54.9	-0.1
	3.9nm,0.6s,mb4.3						
ILAR	Eielson Array	86.34	25	P	P	11 31 25.3	0.0
	0.3nm,0.5s,mb3.3,baz=253,slow=5.1,SNR=7.7						
ARCES	ARCESS Array B	92.73	340	P	P	11 31 55.0	-0.2
	2.8nm,0.7s,mb4.5,baz=80,slow=7.4,SNR=4.8						
FINES	FINESS Array B	94.16	332	P	P	11 32 01.9	+0.1
	1.4nm,1.0s,mb4.1,baz=90,slow=1.9,SNR=5.1						
FINES	FINESS Array B	94.16	332	P	P	11 32 01.9	+0.1
LPAZ	La Paz	158.53	133	PKPab	PKPab	11 39 18.8	+1.1
	1.9nm,0.3s,baz=10,slow=0.2,SNR=7.2						

BJI 03 11:20:27.9, 32.26N×91.65E, h51km, mb4.4, ML4.6, Ms3.9
MOS 03 11:20:34.8±1.6, 32.55N×92.41E, h33km, mb4.4/8, Error ellipse: s-maj=38.9km s-min=10.7km az=117.2
NEIC 03 11:20:36.5±1.5, 32.49N×92.24E, h39km±15km, mb4.1/6, Error ellipse: s-maj=13.6km s-min=7.0km az=48.0
IDC 03 11:20:37.5±4.4, 32.54N×92.33E, h48km±43km, mb3.8/13, mb1 3.9/16, mb1mx3.8/24, ML3.8/3, MS2.7/1, Ms1 3.0/1, ms1mx2.3/30, Error ellipse: s-maj=31.8km s-min=13.3km az=48.0
ISC 03 11:20:32.9±2.7**, 32.50N**±0.04×**92.38E**±0.08**, h26**km±20km**, n48, σ0.86**/46**, mb4.1**/16**, MS3.9**/1**, 1C-2D, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHL	Shillong	6.92	184	ePN	Pn	11 22 15.5	+0.1
SHL				eSN	Sn	11 23 33.5	-0.6
GTA	Gaotai	9.15	39	eP	P	11 22 46.8	+0.3
GTA				AP		11 22 53.5	
GTA				AMB	AMB		
	comp=Z,4.0nm,1.6s						
GYA	Guiyang	13.81	112	⇑iP	P	11 23 49.5	0.0
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
ENH	Enshi	14.78	94	eP	P	11 24 06.8	+4.7
	comp=Z,41nm,1.2s						
CMAR	Chiang Mai Arr	15.18	156	P	P	11 24 07.8	+0.3
	comp=Z,0.1nm,0.3s,baz=331,slow=12,SNR=9.3						
CMAR				LR	LR	11 31 13.6	
	comp=Z,31nm,19.2s,baz=337,slow=42						
MKAR	Makanchi Array	16.23	334	P	P	11 24 19.4	-1.4
	comp=Z,0.2nm,0.3s,baz=143,slow=12,SNR=12						
AAK	Ala-Archa	17.39	311	⇓eP	P	11 24 38.0	+2.6
AAK	Ala-Archa	17.39	311	P	P	11 24 34.1	-1.3
	comp=Z,3.7nm,1.0s						
SONM	Songino Array	18.64	31	P	P	11 24 50.8	-0.1
	comp=Z,0.2nm,0.3s,baz=218,slow=10,SNR=16						
BJT	Baijiatuau	20.56	62	eP	P	11 25 12.2	0.0
	comp=Z,12nm,0.9s						
BJI	Beijing	20.57	62	eP	P	11 25 10.9	-1.5
BJI				AMB	AMB		
	comp=Z,10.0nm,0.9s						
BJI				LR	LR		
	comp=N,363nm,13.7s,MS3.9						
BJI				LR	LR		
	comp=E,186nm,16.4s,MS3.9						
KURK	Kurchatov	20.85	335	d iP	P	11 25 15.3	+0.1
KURK	Kurchatov	20.85	335	P	P	11 25 14.3	-0.8
	comp=E,9.0nm,0.9s						
ZAL	Zalesovo	22.11	348	P	P	11 25 28.8	+1.0
	comp=E,1.9nm,0.8s,mb3.6,baz=191,slow=8.2,SNR=9.5						
ZAL	Zalesovo	22.11	348	P	P	11 25 28.8	+1.0
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NVS	Novosibirsk	23.25	347	eP	P	11 25 39.6	+0.6
BVAR	Borovoye Array	25.92	329	P	P	11 26 05.4	+0.8
	comp=Z,2.3nm,0.8s,mb3.8,baz=140,slow=12,SNR=11						
BRVK	Borovoye	25.99	329	eP	P	11 26 06.1	+0.9
	comp=Z,6.3nm,1.0s,mb4.1						
HIA	Hailar	26.41	43	eP	P	11 26 08.8	-0.3
ZRNK	Zerenda	26.49	327	eP	P	11 26 11.3	+1.6
	comp=Z,3.6nm,1.1s,mb3.8						
BRTR	Keskin Array B	47.27	296	P	P	11 29 06.1	+0.2
	comp=Z,2.2nm,0.7s,mb4.2,baz=90,slow=7.4,SNR=9.6						
BRTR	Keskin Array B	47.27	296	P	P	11 29 06.1	+0.2
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	FINESS Array B	50.80	325	P	P	11 29 33.5	+0.8
	comp=Z,0.3nm,0.5s,mb3.5,baz=101,slow=9.7,SNR=4.8						
FINES	FINESS Array B	50.80	325	iP	P	11 29 34.1	+1.3
MLR	Muntele Rosu	51.85	305	P	P	11 29 40.7	-0.3
	comp=Z,2.8nm,0.7s,mb4.3,baz=128,slow=12,SNR=6.4						
MLR	Muntele Rosu	51.85	305	P	P	11 29 40.7	-0.3
MLR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
HFS	Hagfors	56.92	324	P	P	11 30 16.0	-1.9
	comp=Z,1.7nm,0.6s,mb4.3,baz=76,slow=12,SNR=4.8						
HFS	Hagfors	56.92	324	P	P	11 30 16.0	-1.9
HFS				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NB2	NORSAR Subarra	57.98	325	P	P	11 30 25.3	0.0
	comp=Z,0.9nm,0.6s,mb4.0,baz=80,slow=6.5						
NOA	NORSAR Array B	57.98	325	P	P	11 30 23.8	-1.5
	comp=Z,1.5nm,0.7s,mb4.2,baz=80,slow=6.9,SNR=5.3						
NOA	NORSAR Array B	57.98	325	P	P	11 30 23.8	-1.5
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GERES	GERESS Array B	59.27	311	P	P	11 30 33.2	-1.3
	comp=Z,0.8nm,0.6s,mb3.9,baz=76,slow=5.5,SNR=8.1						
GERES	GERESS Array B	59.27	311	P	P	11 30 33.2	-1.3
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MBWA	Marble Bar	59.42	150	eP	P	11 30 35.1	-0.8
	comp=Z,7.8nm,0.8s,mb4.8						
WRAB	Tennant Creek	65.80	136	eP	P	11 31 18.7	+0.3
WRA	Warramunga Arr	65.80	136	P	P	11 31 18.6	+0.3
	comp=Z,2.5nm,0.8s,mb4.3,baz=328,slow=7.0,SNR=22						
WRA	Warramunga Arr	65.80	136	P	P	11 31 18.6	+0.3
WRA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
WB2	Warramunga Arr	65.81	136	eP	P	11 31 18.6	+0.2
ASPA	Alice Springs	68.49	139	eP	P	11 31 35.8	+0.5
ASAR	Alice Springs	68.49	139	P	P	11 31 35.4	+0.1
	comp=Z,2.4nm,0.6s,mb4.4,baz=326,slow=6.6,SNR=54						
ILAR	Eielson Array	72.66	23	P	P	11 31 59.1	-0.6
	comp=Z,1.1nm,0.9s,mb3.8,baz=313,slow=7.5,SNR=6.9						
ILAR	Eielson Array	72.66	23	P	P	11 31 59.2	-0.5
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
CTA	Charters Tower	73.40	128	P	P	11 32 05.6	+0.7
	comp=Z,3.9nm,1.1s,mb4.2,baz=1.5,slow=9.5,SNR=3.9						
CTA	Charters Tower	73.40	128	P	P	11 32 05.6	+0.7
CTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
STKA	Stephens Creek	79.12	139	P	P	11 32 37.6	+0.7
	comp=Z,1.1nm,0.6s,mb4.0,baz=318,slow=12,SNR=2.9						
SAML	Samuel	147.43	311	ePKPbc	PKPdf	11 40 16.8	-0.6
CPUP	Villa Florida	152.97	275	PKPbc	PKPdf	11 40 28.4	+2.9
	comp=Z,1.5nm,0.6s,baz=83,slow=3.3,SNR=4.9						
CPUP	Villa Florida	152.97	275	PKIKP	PKPdf	11 40 28.4	+2.9
CPUP				pmax	pmax		
	comp=Z,2.0nm,0.6s						

BUC 03 11:41:37.1±2.7**, 45.12N**×**28.91E, MD3.9**/4**, 5C-4D, Error ellipse: s-maj=23.8km s-min=9.3km az=88.0, Ukraine - Moldova - Southwestern Russia region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TLCR		0.09	316	⇓iP	Pg	11 41 39.0	0.0
TLCR				iS	Sg	11 41 40.6	+0.4
AMRR		1.23	246	⇓iP	Pb	11 42 02.0	+1.1
AMRR				iS	Sb	11 42 19.6	+2.5
BRD	Bordesti	1.39	289	⇓iP	Pb	11 42 05.4	+1.7
BRD				iS	Sb	11 42 27.2	+5.2
ISR	Istrita	1.67	271	⇑iP	Pn	11 42 09.8	+2.0
ISR				S	Sb	11 42 34.6	+4.5
VRI	Vrincioaia	1.71	297	⇑iP	Pn	11 42 08.7	+0.4
VRI				iS	Sb	11 42 32.2	+1.2
MLR	Muntele Rosu	2.12	281	⇑iP	Pn	11 42 15.6	+1.3
MLR				S	Sn	11 42 45.4	+3.7
IAS	Iasi	2.28	336	⇑iP	Pn	11 42 17.4	+0.9
BURAR	Bucovina Array	3.57	316	⇓iP	Pn	11 42 33.4	-1.5
VTS	Vitosha	4.83	240	⇑iP	Pn	11 42 52.0	-0.8
VTS				iS	Sn	11 43 45.3	-5.1

IDC 03 11:45:01.7±3.4, 4.37N×126.19E, h148km±30km, mb3.8/13, mb1 3.9/13, mb1mx3.8/20, Error ellipse: s-maj=46.4km s-min=11.6km az=69.0
NEIC 03 11:45:12.8±4.0, 4.21N×125.92E, h255km±41km, mb4.1/8, Error ellipse: s-maj=29.0km s-min=10.6km az=69.0
ISC 03 11:45:02.2±0.7**, 4.33N**±0.06×**126.0E**±0.1**, h166**km±7km**, n33, σ0.83**/37**, mb4.0**/18**, 1C-1D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GSPH	General Santos	2.02	330	eP	P	11 45 39.0	+0.1
GSPH				iS	S	11 46 05.0	-2.2
MATI	Mati	2.61	6	eP	P	11 45 46.2	+0.2
KCP	Kidapawan	2.80	342	⇓eP	P	11 45 49.5	+1.1
KCP				iS	S	11 46 24.0	+0.2
BUKP	Musuan	3.64	346	eP	P	11 45 59.7	+0.7
BUKP				eS	S	11 46 43.6	+0.9
BIPH	Bislig	3.84	6	eP	P	11 46 01.1	-0.6
BIPH				eS	S	11 46 46.9	-0.6
PAGZ	Pagadian	4.34	324	eP	P	11 46 08.2	+0.1
KAKA	Kakadu	18.08	159	eP	P	11 49 07.2	+3.2
	3.8nm,0.6s						
FITZ	Fitzroy Crossi	22.30	181	eP	P	11 49 46.9	+0.4
	5.9nm,0.3s,mb4.5						
FITZ	Fitzroy Crossi	22.30	181	P	P	11 49 47.0	+0.5
	6.5nm,0.3s,mb4.5,baz=5.6,slow=10,SNR=77						
WRAB	Tennant Creek	25.48	161	eP	P	11 50 18.1	+1.2
	4.6nm,0.7s,mb4.1						
WRA	Warramunga Arr	25.48	161	P	P	11 50 16.5	-0.4
	2.2nm,0.3s,mb4.1,baz=339,slow=10,SNR=44						
WB2	Warramunga Arr	25.49	161	eP	P	11 50 17.5	+0.5
MBWA	Marble Bar	26.06	193	eP	P	11 50 21.7	-0.6
ASAR	Alice Springs	28.88	165	P	P	11 50 46.8	-1.0
	0.4nm,0.3s,mb3.6,baz=342,slow=7.1,SNR=13						
ASAR				ScP		11 57 20.1	
	0.3nm,0.5s,baz=337,slow=2.9,SNR=4.9						
CMAR	Chiang Mai Arr	29.92	300	P	P	11 50 58.1	+1.1
	1.0nm,0.9s,mb3.5,baz=91,slow=6.4,SNR=6.4						
MUN	Mundaring	37.29	194	eP	P	11 51 59.5	-0.4
	4.8nm,0.5s,mb4.4						
NWAO	Narrogin (SRO)	37.97	192	P	P	11 52 05.3	-0.3
	4.8nm,0.9s,mb4.1,baz=30,slow=9.8,SNR=6.7						
NWAO	Narrogin (SRO)	37.97	192	eP	P	11 52 05.3	-0.3
	1.5nm,0.4s,mb4.0						
SHL	Shillong	38.92	306	⇑iP	P	11 52 14.0	+0.4
STKA	Stephens Creek	38.96	159	P	P	11 52 12.8	-1.0
	2.6nm,1.0s,mb3.8,baz=318,slow=14,SNR=3.0						
STKA	Stephens Creek	38.96	159	P	P	11 52 12.8	-1.0
SONM	Songino Array	46.49	342	P	P	11 53 14.7	+0.2
	0.4nm,0.6s,mb3.2,baz=164,slow=7.9,SNR=5.2						
SONM				PcP	PcP	11 54 46.1	-0.4
	0.3nm,0.7s,baz=157,slow=3.9,SNR=3.6						
MKAR	Makanchi Array	56.64	325	P	P	11 54 29.8	-0.4
	2.2nm,0.4s,mb4.4,baz=123,slow=7.3,SNR=30						
MKAR				PcP	PcP	11 55 24.8	+0.4
	1.2nm,0.6s,baz=115,slow=4.8,SNR=7.4						
MKAR	Makanchi Array	56.64	325	P	P	11 54 29.8	-0.4
MKAR				PcP	PcP	11 55 24.8	+0.4
KURK	Kurchatov	60.83	328	P	P	11 54 58.2	-0.9
	5.9nm,0.6s,mb4.6						
BVAR	Borovoye Array	66.41	327	P	P	11 55 35.2	-0.4
	1.3nm,0.8s,mb3.8,baz=112,slow=8.0,SNR=8.2						
BRVK	Borovoye	66.48	327	eP	P	11 55 34.7	-1.4
	3.1nm,1.0s,mb4.1						
CASY	Casey	71.32	187	eP	P	11 56 05.2	-0.1
	3.3nm,1.0s,mb4.0						
BRTR	Keskin Array B	89.06	310	P	P	11 57 41.4	+1.5
	0.4nm,0.4s,mb3.7,baz=117,slow=3.2,SNR=3.2						
BRTR	Keskin Array B	89.06	310	P	P	11 57 41.4	+1.5
ARCES	ARCESS Array B	89.63	340	P	P	11 57 42.4	+0.6
	1.2nm,0.6s,mb4.0,baz=78,slow=6.2,SNR=7.3						
FINES	FINESS Array B	90.95	332	P	P	11 57 48.1	-0.1
	4.4nm,1.2s,mb4.4,baz=27,slow=3.1,SNR=5.8						
NOA	NORSAR Array B	97.92	334	P	P	11 58 19.8	-0.2
	1.0nm,0.7s,mb4.3,baz=72,slow=4.2,SNR=3.7						

NEIC 03 12:01:57.0±2.4, 12.02S×166.57E, h133km±21km, mb4.2/10, Error ellipse: s-maj=14.4km s-min=11.6km az=180.0
IDC 03 12:01:57.2±8.0, 11.99S×166.58E, h133km±70km, mb3.9/14, mb1 4.1/14, mb1mx4.0/18, MS4.0/3, Ms1 4.0/3, ms1mx3.3/19, Error ellipse: s-maj=26.1km s-min=24.0km az=72.0
ISC 03 12:01:56.8±3.4**, 12.1S**±0.1×**166.5E**±0.1**, h143**km±30km**, n31, σ0.85**/31**, mb4.2**/21**, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	9.93	180	eP	P	12 04 17.1	+0.1
DZM				eS	S	12 06 02.0	-4.6
CTA	Charters Tower	21.01	245	eP	P	12 06 31.6	+1.2
	4.2nm,0.9s,mb3.8						
CTA	Charters Tower	21.01	245	P	P	12 06 31.5	+1.1
	5.1nm,0.7s,mb3.9,baz=60,slow=10,SNR=7.3						
CTA				LR	LR	12 13 18.4	
	comp=Z,86nm,18.4s,baz=227,slow=32						
CTAO	Charters Tower	21.01	245	eP	P	12 06 31.0	+0.6
	5.1nm,0.7s,mb4.0						
STKA	Stephens Creek	30.23	225	P	P	12 07 57.3	+1.0
	3.9nm,0.7s,mb4.2,baz=41,slow=9.6,SNR=9.0						
RPZ	Rata Peaks	31.76	174	P	P	12 08 09.4	-0.2
	10nm,0.6s,mb4.7,baz=340,slow=21,SNR=5.6						
RPZ				LR	LR	12 18 33.9	
	comp=Z,657nm,18.3s,baz=191,slow=31						
WRAB	Tennant Creek	31.84	252	eP	P	12 08 09.8	-0.7
	1.6nm,0.4s,mb4.1						
WB2	Warramunga Arr	31.84	252	eP	P	12 08 09.3	-1.2
WRA	Warramunga Arr	31.85	252	P	P	12 08 09.7	-0.9
	0.9nm,0.4s,mb3.9,baz=82,slow=8.9,SNR=15						
WRA				PcP	PcP	12 10 57.7	-0.3
	0.4nm,0.7s,baz=72,slow=3.0,SNR=6.1						
ASAR	Alice Springs	33.02	245	P	P	12 08 20.2	-0.4
	3.5nm,0.6s,mb4.3,baz=69,slow=9.7,SNR=62						
ASAR				PcP	PcP	12 11 01.0	-0.1
	0.9nm,0.6s,baz=84,slow=2.7,SNR=10.0						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASPA	Alice Springs	33.02	245	eP	P	12 08 20.0	-0.7
KAKA	Kakadu	33.31	265	eP	P	12 08 27.2	+4.0
	4.5nm,0.4s,mb4.5						
FITZ	Fitzroy Crossi	39.85	256	eP	P	12 09 18.7	+0.7
	5.7nm,0.8s,mb4.2						
FITZ	Fitzroy Crossi	39.85	256	P	P	12 09 19.0	+1.0
	6.8nm,0.8s,mb4.3,baz=66,slow=2.9,SNR=15						
FORT	Forrest	40.08	236	eP	P	12 09 20.8	+1.0
	61nm,0.7s,mb5.3						
MBWA	Marble Bar	45.59	252	eP	P	12 10 05.3	+0.8
	9.4nm,0.8s,mb4.5						
KLBR	Kellerberrin	48.80	239	eP	P	12 10 29.2	-0.3
	3.8nm,0.5s,mb4.3						
NWAO	Narrogin (SRO)	49.52	237	P	P	12 10 34.9	-0.1
	5.3nm,0.7s,mb4.3,baz=97,slow=8.1,SNR=3.9						
NWAO	Narrogin (SRO)	49.52	237	eP	P	12 10 34.6	-0.3
	1.6nm,0.6s,mb3.8						
CASY	Casey	65.69	202	eP	P	12 12 27.0	-0.9
	1.9nm,0.5s,mb4.2						
CMAR	Chiang Mai Arr	73.21	294	P	P	12 13 15.5	+1.0
	1.4nm,0.6s,mb3.9,baz=114,slow=4.3,SNR=7.5						
QSPA	South Pole Qui	77.93	180	eP	P	12 13 40.3	+0.3
	1.6nm,0.5s,mb3.9						
SONM	Songino Array	79.94	324	P	P	12 13 51.5	+0.1
	0.3nm,0.4s,mb3.3,baz=140,slow=5.5,SNR=4.1						
MAW	Mawson	84.05	202	P	P	12 14 12.5	+0.4
	5.3nm,1.2s,mb4.1,baz=70,slow=5.7,SNR=6.1						
MAW	Mawson	84.05	202	eP	P	12 14 12.4	+0.3
	3.7nm,1.1s,mb4.0						
ILAR	Eielson Array	84.25	18	P	P	12 14 12.4	-0.8
	2.4nm,1.1s,mb3.9,baz=239,slow=5.1,SNR=13						
BBB	Bella Bella	85.01	34	LR	LR	12 48 40.5	
	comp=Z,129nm,18.1s,baz=290,slow=33						
NVAR	Mina Array Bea	86.12	50	P	P	12 14 24.1	+1.1
	0.6nm,0.8s,mb3.4,baz=218,slow=6.8,SNR=4.1						
MKAR	Makanchi Array	94.79	317	P	P	12 15 03.5	+0.2
	1.2nm,0.6s,mb4.3,baz=93,slow=6.3,SNR=11						
MKAR				pP	pP	12 15 29.4	-11
	0.5nm,0.7s,baz=101,slow=6.2,SNR=3.6						
MKAR	Makanchi Array	94.79	317	P	P	12 15 03.5	+0.2
MKAR				pP	pP	12 15 29.4	-11
ZAL	Zalesovo	94.84	324	P	P	12 15 01.6	-1.7
	1.0nm,0.4s,mb4.4,baz=357,slow=5.9,SNR=3.4						

IDC 03 12:07:12.1±3.6**, 10.09S**×**107.75E, mb3.5**/4**, mb1 3.8**/5**, mb1mx3.6**/15**, ML4.0**/1**, MS3.5**/1**, Ms1 3.5**/1**, ms1mx2.9**/12**, Error ellipse: s-maj=141.0km s-min=23.5km az=49.0, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	19.08	117	P	P	12 11 38.4	-0.4
	0.4nm,0.3s,baz=313,slow=5.5,SNR=12						
FITZ				S	S	12 14 52.3	-17
	0.1nm,0.3s,baz=5.1,slow=23,SNR=5.0						
NWAO	Narrogin (SRO)	24.35	160	LR	LR	12 22 13.6	
	comp=Z,114nm,19.1s,baz=288,slow=37						
WRA	Warramunga Arr	27.45	114	P	P	12 12 59.0	-2.9
	0.6nm,0.4s,baz=288,slow=10,SNR=12						
ASAR	Alice Springs	28.37	122	P	P	12 13 08.0	-2.2
	0.3nm,0.8s,baz=290,slow=8.6,SNR=3.7						
SONM	Songino Array	57.68	359	P	P	12 17 06.2	-0.5
	0.2nm,0.4s,baz=166,slow=5.9,SNR=3.1						
MKAR	Makanchi Array	61.03	340	P	P	12 17 26.3	-3.6
	0.3nm,0.5s,baz=136,slow=8.1,SNR=4.3						

CASC 03 12:21:01.5±1.4**, 11.44N**×**88.09W, h35**km±999km**, MD4.1, ML3.0, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LEON	Leon	1.52	50	eP	P	12 21 26.7	+0.1
LEON				eS	S	12 21 45.0	-0.5
COPN	Copaltepe	1.64	63	eP	P	12 21 28.1	-0.2
MIRN	Miramar	1.68	53	eP	P	12 21 28.6	-0.2
TELN	Telica	1.69	47	eP	P	12 21 28.8	-0.3
CNGN	Cerro Negro	1.72	52	eP	P	12 21 29.2	-0.3
CNGN				eS	S	12 21 49.8	-0.8
MOMJ	Momotombo	1.80	57	eP	P	12 21 30.0	-0.6
MOMJ				eS	S	12 21 52.9	+0.5
MGAN	Managua	1.94	68	eP	P	12 21 31.9	-0.7
MGAN				eS	S	12 21 56.5	+0.6
MGAN				i		12 21 57.7	
	comp=N,137nm,0.2s						
JCR	Jicaral	3.33	118	eP	P	12 21 50.3	-2.1
PRS1	Puriscal	3.98	111	eP	P	12 22 00.8	-0.9
VPS2	Volcan Poas 2	3.98	108	eP	P	12 21 57.5	-4.2
LAJ	Bijagual	4.20	111	eP	P	12 21 58.6	-6.3
LCR2	La Lucha 2	4.36	112	eP	P	12 22 06.1	-1.0
URSC	Urasca	4.53	110	eP	P	12 22 09.2	-0.3
BUS	Buena Vista	4.65	113	eP	P	12 22 10.5	-0.8

*BJI **03** 12:26:51.3, 51.57N×176.87W, h27km, mB4.9, mb5.1, Ms4.5, Msz4.1*
*MOS **03** 12:26:52.1±1.4, 51.34N×176.56W, h40km, mb4.7/15, Error ellipse: s-maj=18.5km s-min=9.6km az=107.8*
*NEIC **03** 12:26:53.8±0.2, 51.29N×176.62W, mb4.6/63, MS4.0/5, Error ellipse: s-maj=6.3km s-min=3.0km az=183.0*
*IDC **03** 12:26:56.0±2.7, 51.35N×176.54W, h60km±23km, mb4.1/25, mb1 4.2/26, mb1mx4.2/30, ML4.2/1, MS3.8/9, Ms1 3.8/9, ms1mx3.6/24, Error ellipse: s-maj=16.7km s-min=9.7km az=167.0*
ISC 03 12:26:53.5±0.8**, 51.28N**±0.06×**176.60W**±0.03**, h53**km±6km**, h43**km±2.1km**: pP-P, n225,** σ**0**s**98**/228**, mb4.7**/100**, MS4.0**/28**, 11C-7D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KIWB	Kanaga Island	0.67	329⇓	iP	P	12 27 07.6	+0.6
GSTR	Great Sitkin T	0.88	22⇓	iP	P	12 27 10.4	+0.6
SMY	Shemya	5.92	288	eP	P	12 28 19.4	-1.3
FX1	Attu Island--F	6.51	288	P	P	12 28 28.3	-0.7
	16nm,0.3s,baz=153,slow=5.0,SNR=35						
FX1				S	S	12 29 44.2	+1.6
	baz=272,slow=19,SNR=2.1						
FX1	Attu Island--F	6.51	288	P	P	12 28 28.3	-0.7
FX1				S	S	12 29 44.2	+1.5
FX1				pmax	pmax		
	comp=Z,16nm,0.3s						
FX1	Attu Island--F	6.51	288	eP	P	12 28 28.0	-1.0
PET	Petropavlovsk	15.27	286	eP	P	12 30 31.9	+5.0
PET				pmax	pmax		
	comp=Z,134nm,0.9s						
PET				MLR	MLR		
	comp=Z,700nm,21.0s						
KDAK	Kodiak Island	15.33	56	P	P	12 30 29.3	+1.7
	comp=Z,256nm,0.4s,SNR=10						
KDAK	Kodiak Island	15.33	56	eP	P	12 30 24.2	-3.4
	comp=Z,27nm,0.6s						
RSO	Redoubt South	16.14	46	P	P	12 30 37.0	-0.9
SPU	Mount Spurr	16.76	44	eP	P	12 30 45.9	+0.2
SLKM	Skilak Lake	17.32	48	eP	P	12 30 51.0	-1.8
PWA	Palmer West	17.90	44	eP	P	12 30 59.6	-0.4
	comp=Z,8.7nm,0.7s						
PMR	Palmer	18.21	45	eP	P	12 31 02.8	-1.0
	comp=Z,21nm,1.1s						
IMA	Indian Mountai	18.83	29	eP	P	12 31 11.6	+0.4
	comp=Z,23nm,1.0s						
MA2	Magadan	20.11	307	eP	P	12 31 27.0	+1.9
MA2				e		12 34 56.5	
MA2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
COLA	College	20.15	37c	iP	P	12 31 25.7	+0.1
COLA	College	20.15	37	eP	P	12 31 25.2	-0.4
	comp=Z,12nm,2.3s						
COLA				LR	LR		
	comp=Z,500nm,17.0s,MS3.9						
SEY	Seymchan	20.25	317	eP	P	12 31 28.1	+1.5
SEY				e		12 32 02.8	
SEY				eS	S	12 35 09.8	+4.0
SEY				eSS	SS	12 35 37.6	+0.4
SEY				pmax	pmax		
	comp=Z,140nm,1.1s						
SEY				pmax	pmax		
	comp=N,30nm,1.0s						
SEY				pmax	pmax		
	comp=E,110nm,1.0s						
ILAR	Eielson Array	20.47	37	P	P	12 31 25.8	-3.1
	comp=E,3.6nm,0.5s,baz=252,slow=7.2,SNR=32						
ILAR				S	S	12 35 10.2	+0.1
	comp=E,1.3nm,0.9s,baz=229,slow=17,SNR=3.2						
ILAR	Eielson Array	20.47	37	P	P	12 31 25.8	-3.1
ILAR				S	S	12 35 10.2	+0.1
ILAR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ILAR				smax			
	comp=N,1.0nm,0.9s						
YSS	Yuzh-Sakhalins	26.70	277	eP	P	12 32 29.5	+0.2
YSS				e	pP	12 32 42.0	-0.5
YSS				e		12 33 33.0	
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb4.8						
YSS				pmax	pmax		
	comp=E,30nm,0.9s						
DLBC	Dease Lake	27.26	57	P	P	12 32 32.0	-2.4
	comp=E,1.8nm,0.8s,mb3.6,baz=298,slow=16,SNR=3.1						
ASAJ	Asahikawa	28.09	271	P	P	12 32 41.3	-0.7
	comp=E,23nm,1.1s,mb4.7						
ASAJ				LR	LR	12 41 48.0	
	comp=E,103nm,21.7s,MS3.4,baz=266,slow=32						
BBB	Bella Bella	29.60	69	P	P	12 32 55.5	+0.1
	comp=E,4.5nm,0.8s,mb4.2,baz=285,slow=4.8,SNR=4.0						
YAK	Yakutsk	30.52	312⇑	eP	P	12 33 00.2	-3.2
YAK				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.8						
YAK				MLR	MLR		
	comp=Z,200nm,16.0s,MS3.9						
TIXI	Tiksi	31.40	330	eP	P	12 33 05.9	-5.2
TIXI				e		12 36 06.5	
TIXI				eS	S	12 38 07.5	-6.2
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
TIXI				MLR	MLR		
	comp=Z,500nm,18.0s,MS4.2						
YKA	Yellowknife Ar	34.30	47	P	P	12 33 35.3	-1.0
	comp=Z,1.1nm,0.4s,mb4.1,baz=284,slow=7.3,SNR=10						
YKA				PcP	PcP	12 36 11.3	-0.5
	comp=Z,0.8nm,0.5s,baz=290,slow=3.3,SNR=5.4						
YKA				LR	LR	12 49 49.6	
	comp=Z,275nm,18.5s,MS4.0,baz=280,slow=40						
YKA	Yellowknife Ar	34.30	47	P	P	12 33 35.3	-1.0
YKA						12 36 11.3	
YKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA				MLR	MLR		
	comp=Z,275nm,18.5s						
GNW	Green Mountain	34.52	75	eP	P	12 33 39.0	+0.6
MAT	Matsushiro	35.14	263	P	P	12 33 43.3	-0.5
MAT	Matsushiro	35.14	263	eP	P	12 33 43.0	-0.8
	comp=Z,14nm,1.0s,mb4.8						
RMW	Rattlesnake Mo	35.19	74	eP	P	12 33 44.7	+0.6
NLW	Nelson Butte	35.79	72	eP	P	12 33 49.6	+0.4
SSOR	Sweet Springs	36.03	79	P	P	12 33 51.9	+0.6
HSO	Harness Mounta	36.33	81	P	P	12 33 55.2	+1.4
HUMO	Hull Mountain	36.90	82	eP	P	12 33 58.9	+0.3
	comp=Z,2.5nm,0.9s,mb4.0						
HAWA	Hanford	37.06	75	eP	P	12 34 00.1	+0.2
	comp=Z,14nm,0.8s,mb4.8						
DPW	Davenport	37.16	72	eP	P	12 34 00.8	+0.1
KHMM	Horse Mountain	37.37	85	P	P	12 34 04.6	+2.1
YBH	Yreka Blue Hor	37.53	83	eP	P	12 34 06.1	+2.2
	comp=Z,2.7nm,0.9s,mb4.0						
NEW	Newport	37.62	71	eP	P	12 34 04.0	-0.6
	comp=Z,17nm,0.8s,mb4.8						
EDM	Edmonton	37.65	62	eP	P	12 34 04.5	-0.3
CN2	Changchun	38.92	282	eP	P	12 34 14.1	-1.3
MOD	Modoc	38.93	81	eP	P	12 34 16.1	+0.5
	comp=Z,3.1nm,0.7s,mb4.2						
WALA	Waterton Lakes	39.13	68	eP	P	12 34 16.5	-0.6
	comp=Z,9.3nm,0.9s,mb4.5						
BOD	Bodaibo	39.14	307	eP	P	12 34 15.0	-2.1
HIA	Hailar	39.60	293	eP	P	12 34 20.2	-0.8
	comp=Z,25nm,0.7s,mb5.1						
MSO	Missoula	40.20	71	eP	P	12 34 25.4	-0.6
	comp=Z,7.7nm,0.9s,mb4.4						
CHMT	Chamberlain Mo	40.56	70	eP	P	12 34 28.6	-0.4
WCN	Washoe City	40.76	84	eP	P	12 34 31.7	+1.0
	comp=Z,3.1nm,0.8s,mb4.0						
CMB	Columbia Colle	41.13	86	P	P	12 34 35.8	+2.0
	comp=Z,8.2nm,1.4s,mb4.2						
CMB				LR	LR		
	comp=Z,180nm,19.0s,MS4.0						
SNY	Shenyang	41.15	281⇑	iP	P	12 34 34.2	+0.3
SNY				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8						
HRY	Holter Researc	41.51	70	eP	P	12 34 36.8	+0.1
HLID	Hailey	41.63	75	eP	P	12 34 38.2	+0.4
	comp=Z,12nm,1.4s,mb4.3						
LRV	Little Rabbit	41.73	89	P	P	12 34 41.2	+2.6
MCMT	McKenzie Canyo	41.89	73	eP	P	12 34 40.0	+0.1
BOZ	Bozeman (W)	42.19	71	eP	P	12 34 42.1	-0.2
	comp=Z,13nm,0.8s,mb4.6						
NVAR	Mina Array Bea	42.19	84	P	P	12 34 44.0	+1.6
	comp=Z,2.4nm,0.9s,mb3.9,baz=301,slow=6.8,SNR=8.9						
NVAR				LR	LR	12 48 43.0	
	comp=Z,96nm,18.9s,MS3.7,baz=275,slow=31						
MNV	Mina	42.28	84	eP	P	12 34 44.5	+1.3
	comp=Z,3.1nm,1.0s,mb3.9						
MTUM	Tungsten Hills	42.69	86	eP	P	12 34 48.2	+1.7
ELK	Elko	42.72	79	eP	P	12 34 47.3	+0.6
	comp=Z,3.4nm,0.8s,mb4.1						
QLMT	Earthquake Lak	42.74	72	eP	P	12 34 47.2	+0.3
TPH	Tonopah	43.08	84	eP	P	12 34 51.3	+1.6
	comp=Z,1.5nm,0.6s,mb3.9						
YMR	Madison River	43.11	72	eP	P	12 34 50.2	+0.3
YNR	Norris Junctio	43.25	72	eP	P	12 34 51.9	+0.9
GCMT	Greycliff	43.27	70	eP	P	12 34 51.3	+0.2
YFT	Old Faithful	43.30	72	eP	P	12 34 52.6	+1.2
IMW	Indian Meadow	43.55	73	eP	P	12 34 54.0	+0.6
RRI2	Red Ridge	43.63	74	eP	P	12 34 54.7	+0.6
HVU	Hansel Valley	43.64	77	eP	P	12 34 54.6	+0.4
MOOW	Moose Ponds	43.75	73	eP	P	12 34 54.6	-0.5
TPAW	Teton Pass	43.77	73	eP	P	12 34 55.9	+0.7
REDW	Red Top Meadow	43.90	74	eP	P	12 34 55.4	-0.9
SNOW	Snow King Moun	43.90	73	P	P	12 35 00.3	+4.0
LOHW	Long Hollow	43.91	73	eP	P	12 34 56.3	0.0
BGU	Big Grassy Mou	43.98	78	eP	P	12 34 57.9	+0.9
TPNV	Topopah Spring	44.39	84	eP	P	12 35 00.7	+0.4
	comp=Z,6.7nm,0.9s,mb4.4						
TPNV				LR	LR		
	comp=Z,226nm,20.0s,MS4.1						
HWUT	Hardware Ranch	44.48	76	eP	P	12 35 01.4	+0.4
	comp=Z,5.9nm,0.8s,mb4.4						
DUG	Dugway	44.54	78	eP	P	12 35 01.6	+0.1
	comp=Z,4.4nm,0.8s,mb4.3						
DUG				LR	LR		
	comp=Z,138nm,19.0s,MS3.9						
LAO	LASA Array	44.80	67	eP	P	12 35 03.1	-0.3
	comp=Z,14nm,0.8s,mb4.8						
TCUT	Toone Canyon	44.86	76	eP	P	12 35 02.9	-1.1
BW06	Boulder Array	45.02	73	eP	P	12 35 05.4	+0.1
	comp=Z,14nm,0.8s,mb4.8						
PDAR	Pinedale Array	45.02	73	P	P	12 35 05.8	+0.5
	comp=Z,12nm,0.8s,mb4.8,baz=311,slow=4.0,SNR=97						
JLU	Jordanelle	45.14	77	eP	P	12 35 06.2	0.0
DAU	Daniels Canyon	45.37	77	eP	P	12 35 08.8	+0.8
MVU	Marysvale	45.94	80	eP	P	12 35 12.4	-0.2
	comp=Z,3.6nm,0.9s,mb4.3						
MSU	Marysvale	45.95	80	eP	P	12 35 12.5	-0.2
TMUT	Trail Mountain	46.07	78	P	P	12 35 13.6	-0.1
NEN	Nelson	46.09	85	eP	P	12 35 14.5	+0.6
SRU	San Rafael	46.60	78	eP	P	12 35 18.2	+0.4
BJI	Beijing	46.74	284	eP	P	12 35 18.4	-0.5
BJI				AMB	AMB		
	comp=Z,24nm,0.8s,mb5.2						
BJI				LR	LR		
	comp=Z,86nm,24.4s,MS3.6						
BJT	Baijiatuau	46.76	284	eP	P	12 35 17.8	-1.2
	comp=Z,13nm,0.6s,mb5.0						
RSSD	Black Hills	47.52	69	eP	P	12 35 24.1	-0.9
	comp=Z,5.6nm,0.7s,mb4.7						
SONM	Songino Array	47.92	298	P	P	12 35 28.3	+0.3
	comp=Z,10nm,0.7s,mb5.0,baz=51,slow=9.1,SNR=95						
TIA	Tai'an	48.54	279	eP	P	12 35 32.1	-0.9
ULM	Lac du Bonnet	48.58	58	P	P	12 35 32.2	-0.9
	comp=Z,6.1nm,0.6s,mb4.8,baz=283,slow=9.3,SNR=5.4						
RW3	Ridgway	48.88	77	eP	P	12 35 35.3	-0.3
HHC	Hu-ho-hao-te	49.04	287	⇓P	P	12 35 38.3	+1.5
HHC				AP	pP	12 35 50.6	-0.2
HHC				XP	sP	12 35 53.5	-3.4
HHC				AMB	AMB		
	comp=Z,24nm,1.3s,mb5.1						
HHC				AMB	AMB		
	comp=Z,106nm,4.5s						
HHC				LR	LR		
	comp=N,150nm,15.7s,MS4.2						
HHC				LR	LR		
	comp=E,109nm,12.9s,MS4.2						
HHC				LR	LR		
	comp=Z,95nm,17.6s,MS3.8						
ISCO	Idaho Springs	49.17	74	eP	P	12 35 37.7	-0.2
	comp=Z,6.0nm,1.1s,mb4.5						
SSE	Sheshan	49.38	271	eP	P	12 35 40.1	+0.6
SSE				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.2						
SSE				AMB	AMB		
	comp=Z,98nm,8.2s						
BTO	Baotou	50.11	288	eP	P	12 35 45.8	+0.7
NJ2	Nanjing	50.19	274	eP	P	12 35 46.0	+0.2
NJ2				AP	pP	12 35 59.0	-0.9
NJ2				PP	PP	12 37 40.0	-2.2
NJ2				S	S	12 42 51.0	-1.5
NJ2				XS		12 43 12.0	
NJ2				SS	SS	12 46 21.0	-2.2
NJ2				AMB	AMB		
	comp=Z,340nm,7.2s						
NJ2				LR	LR		
	comp=N,150nm,14.8s,MS4.5						
NJ2				LR	LR		
	comp=E,320nm,13.5s,MS4.5						
NJ2				LR	LR		
	comp=Z,440nm,15.1s,MS4.6						
SDCO	Great Sand Dun	50.53	76	eP	P	12 35 47.9	-0.4
	comp=Z,5.1nm,0.9s,mb4.5						
SDCO				LR	LR		
	comp=Z,124nm,20.0s,MS3.9						
TUC	Tucson	50.82	85	eP	P	12 35 50.0	-0.6
	comp=Z,1.4nm,0.7s,mb4.0						
LAZ	Ladron	51.70	81	P	P	12 35 56.4	-0.7
ANMO	Albuquerque	51.76	80⇑	eP	P	12 36 04.9	+7.3
ANMO	Albuquerque	51.76	80	eP	P	12 35 56.9	-0.6
	comp=Z,4.8nm,1.2s,mb4.3						
BNM	Barren Site	52.18	81	P	P	12 36 01.0	+0.3
WHN	Wuhan	54.04	275	eP	P	12 36 10.5	-4.1
KSU1	Kansas State U	54.99	69	eP	P	12 36 18.6	-2.8
XAN	Xi'an	55.03	282	P	P	12 36 22.2	+0.4
XAN				AP	pP	12 36 31.0	-5.1
XAN				AMB	AMB		
	comp=Z,25nm,1.0s,mb5.2						
ZAL	Zalesovo	55.11	315	P	P	12 36 20.8	-1.3
	comp=Z,1.1nm,0.7s,mb4.0,baz=17,slow=6.2,SNR=4.6						
ZAL				PcP	PcP	12 37 22.9	+0.2
	comp=Z,3.1nm,0.9s,baz=342,slow=2.9,SNR=11						
ZAL				LR	LR	13 03 24.9	
	comp=Z,100nm,18.1s,MS3.9,baz=319,slow=40						
ZAL	Zalesovo	55.11	315	P	P	12 36 20.8	-1.2
ZAL						12 37 22.9	
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ZAL				MLR	MLR		
	comp=Z,100nm,18.1s						
NVS	Novosibirsk	55.20	316	eP	P	12 36 20.8	-1.9
WMOK	Wichita Mounta	56.60	75	eP	P	12 36 31.9	-1.1
	comp=Z,7.6nm,1.1s,mb4.6						
WMOK				LR	LR		
	comp=Z,184nm,22.0s,MS4.1						
LZH	Lanzhou	56.73	288	⇑P	P	12 36 34.0	0.0
LZH				AP	pP	12 36 46.9	-1.5
LZH				XP	sP	12 36 52.3	-2.1
LZH				PP	PP	12 38 41.5	-0.5
LZH				eS	S	12 44 21.0	0.0
LZH				XS		12 44 42.0	
LZH				SS	SS	12 48 08.2	-2.1
LZH				AMB	AMB		
	comp=Z,26nm,1.1s,mb5.2						
LZH				AMB	AMB		
	comp=Z,113nm,4.9s						
LZH				LR	LR		
	comp=E,638nm,16.1s						
LZH				LR	LR		
	comp=Z,943nm,18.0s,MS4.9						
GTA	Gaotai	56.88	293	eP	P	12 36 34.8	-0.2
GTA				AP	pP	12 36 47.0	-2.4
GTA				XP	sP	12 36 52.9	-2.5
GTA				S	S	12 44 18.2	-4.7
GTA				XS		12 44 41.7	
GTA				SS	SS	12 48 09.3	-3.4
GTA				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.8						
GTA				AMB	AMB		
	comp=Z,53nm,5.3s						
GTA				LR	LR		
	comp=N,81nm,19.1s,MS3.9						
GTA				LR	LR		
	comp=E,59nm,19.9s,MS3.9						
GTA				LR	LR		
	comp=Z,62nm,13.4s						
ENH	Enshi	57.26	279	eP	P	12 36 36.3	-1.5
	comp=Z,9.9nm,0.7s,mb5.0						
LTX	Lajitas	57.30	83	eP	P	12 36 37.5	-0.6
	comp=Z,1.5nm,0.5s,mb4.3						
TXAR	Lajitas Array	57.30	83	P	P	12 36 37.0	-1.2
	comp=Z,3.3nm,1.1s,mb4.3,baz=294,slow=4.6,SNR=15						
TXAR				LR	LR	12 58 12.7	
	comp=Z,65nm,18.8s,MS3.8,baz=5.0,slow=33						
TXAR	Lajitas Array	57.30	83	P	P	12 36 37.0	-1.2
TXAR				LR	LR	12 58 12.7	
ARCES	ARCESS Array B	58.41	351	P	P	12 36 44.6	-0.7
	comp=Z,1.1nm,0.6s,mb4.1,baz=30,slow=7.0,SNR=10						
ARCES				PcP	PcP	12 37 34.9	-0.5
	comp=Z,6.4nm,0.7s,baz=14,slow=5.0,SNR=13						
ARCES	ARCESS Array B	58.41	351	P	P	12 36 44.6	-0.7
ARCES						12 37 34.9	
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARCES				pmax	pmax		
	comp=Z,6.0nm,0.7s						
CCM	Cathedral Cave	58.81	67	eP	P	12 36 46.2	-2.4
	comp=Z,3.9nm,0.7s,mb4.5						
JCT	Junction City	58.90	79	P	P	12 36 47.5	-1.7
	comp=Z,2.9nm,0.4s,mb4.7						
SCHQ	Schefferville	59.22	39	P	P	12 36 49.8	-1.3
	comp=Z,6.8nm,0.8s,mb4.7,baz=310,slow=7.5,SNR=3.8						
KURK	Kurchatov	60.08	315c	iP	P	12 36 56.1	-1.0
KURK	Kurchatov	60.08	315	eP	P	12 36 55.6	-1.5
	comp=Z,21nm,0.8s,mb5.2						
CD2	Chengdu	60.34	283	P	P	12 36 59.3	+0.1
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.2						
WMQ	Urumqi	60.54	304	eP	P	12 37 01.0	+0.6
WMQ				PP	PP	12 39 16.0	-0.2
WMQ				S	S	12 45 11.0	+0.6
WMQ				SS	SS	12 49 11.0	+0.6
WMQ				LR	LR		
	comp=N,238nm,20.0s,MS4.4						
WMQ				LR	LR		
	comp=E,135nm,20.0s,MS4.4						
WMQ				LR	LR		
	comp=Z,138nm,18.0s,MS4.1						
BLO	Bloomington	60.73	63	eP	P	12 37 00.1	-1.6
	comp=Z,11nm,0.6s,mb5.2						
MKAR	Makanchi Array	61.16	310	P	P	12 37 03.0	-1.5
	comp=Z,7.3nm,0.9s,mb4.8,baz=51,slow=6.3,SNR=32						
MKAR				PcP	PcP	12 37 45.3	-1.3
	comp=Z,0.7nm,0.4s,baz=34,slow=4.4,SNR=4.3						
MKAR				LR	LR	13 03 14.2	
	comp=Z,78nm,19.3s,MS3.9,baz=157,slow=36						
MKAR	Makanchi Array	61.16	310	iP	P	12 37 03.0	-1.5
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
WCI	Wyandotte Cave	61.52	64	eP	P	12 37 05.5	-1.6
	comp=Z,9.4nm,0.8s,mb5.0						
GYA	Guiyang	61.70	278⇑	iP	P	12 37 07.7	-0.7
GYA				AP	pP	12 37 19.8	-3.2
GYA				XP	sP	12 37 25.6	-3.4
GYA				PP	PP	12 39 24.4	-2.5
GYA				S	S	12 45 23.6	-1.8
GYA				PS	PS	12 45 45.8	-3.6
GYA				SS	SS	12 49 23.4	-5.8
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.9						
GYA				AMB	AMB		
	comp=Z,110nm,4.1s						
GYA				LR	LR		
	comp=N,140nm,16.5s,MS4.4						
GYA				LR	LR		
	comp=E,160nm,17.4s,MS4.4						
GYA				LR	LR		

	comp=Z,180nm,16.8s,MS4.3						
BRVK	**Borovoye**	**61.86**	**321**	*e*P	**P**	**12 37 07.4**	**-1.7**
	comp=Z,24nm,0.9s,mb5.3						
WVT	**Waverly**	**62.11**	**66**	*e*P	**P**	**12 37 09.6**	**-1.5**
	comp=Z,3.9nm,0.8s,mb4.6						
OXF	**Oxford**	**62.34**	**69**	P	**P**	**12 37 11.7**	**-0.9**
	comp=Z,31nm,0.8s,mb5.5						
SVE	**Sverdlovsk**	**62.41**	**329**⇓	*e*P	**P**	**12 37 13.0**	**+0.3**
ZRNK	**Zerenda**	**62.44**	**322**	*e*P	**P**	**12 37 11.9**	**-1.1**
	comp=Z,34nm,0.9s,mb5.5						
ALLY	**Alegheny Colle**	**62.47**	**57**	*e*P	**P**	**12 37 12.7**	**-0.6**
ALLY				*e*pP	pP	12 37 25.2	-2.7
MSNY	**Massena**	**62.76**	**51**	P	**P**	**12 37 13.6**	**-1.7**
ARU	**Arti**	**63.40**	**329**⇓	*i*P	**P**	**12 37 19.5**	**+0.2**
ARU				*e*		12 37 56.4	
ARU				*e*		12 39 39.6	
ARU				*e*PPP	PPP	12 41 07.5	-4.8
ARU				*e*S	**S**	**12 45 47.5**	**+1.2**
ARU				*e*SS	SS	12 49 50.9	-4.7
ARU				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb5.0						
ARU				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.1						
ARU				MLR	MLR		
	comp=N,80nm,18.0s,MS4.1						
ARU				MLR	MLR		
	comp=E,90nm,17.0s,MS4.1						
ARU	**Arti**	**63.40**	**329**	*e*P	**P**	**12 37 18.4**	**-0.9**
	comp=E,6.0nm,0.5s,mb5.0						
BINY	**Binghamton**	**64.23**	**54**	*e*P	**P**	**12 37 24.2**	**-0.6**
	comp=E,32nm,0.9s,mb5.3						
SSPA	**Standing Stone**	**64.38**	**57**	*e*P	**P**	**12 37 24.8**	**-1.0**
	comp=E,21nm,0.9s,mb5.2						
ACCN	**Adirondack Com**	**64.52**	**52**	*e*P	**P**	**12 37 25.0**	**-1.7**
KMI	**Kunming**	**65.10**	**280**	*e*P	**P**	**12 37 30.9**	**+0.1**
KMI				AP	pP	12 37 46.1	+0.6
KMI				PCP	PcP	12 38 05.2	+2.2
KMI				S	S	12 46 06.5	-1.2
KMI				AMB	AMB		
	comp=Z,26nm,0.8s,mb5.3						
KMI				LR	LR		
	comp=Z,39nm,30.6s,MS3.4						
BLA	**Blacksburg**	**65.50**	**61**	*e*P	**P**	**12 37 32.6**	**-0.6**
	comp=Z,10nm,0.8s,mb4.9						
FINES	**FINESS Array B**	**66.17**	**348**	P	**P**	**12 37 36.1**	**-0.8**
	comp=Z,2.9nm,0.9s,mb4.3,slow=5.7,SNR=7.3						
FINES	**FINESS Array B**	**66.17**	**348**	P	**P**	**12 37 36.2**	**-0.7**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TKM2	**Tokmak 2**	**67.23**	**311**	P	**P**	**12 37 44.3**	**+0.4**
	SNR=16						
ULHL	**Ulahol**	**67.44**	**310**	P	**P**	**12 37 46.0**	**+0.8**
	SNR=5.3						
USP	**Ospenovka**	**67.49**	**312**	P	**P**	**12 37 46.3**	**+0.8**
	SNR=26						
CHMS	**Chumysh**	**67.58**	**311**	P	**P**	**12 37 46.8**	**+0.7**
	SNR=8.4						
NB2	**NORSAR Subarra**	**67.85**	**356**	P	**P**	**12 37 46.4**	**-1.1**
	comp=Z,4.8nm,1.0s,mb4.5,baz=7.0,slow=6.5						
NOA	**NORSAR Array B**	**67.85**	**356**	P	**P**	**12 37 46.9**	**-0.6**
	comp=Z,2.3nm,0.8s,mb4.2,baz=4.3,slow=6.3,SNR=6.4						
NOA	**NORSAR Array B**	**67.85**	**356**	P	**P**	**12 37 46.9**	**-0.6**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AAK	**Ala-Archa**	**67.98**	**311**	P	**P**	**12 37 48.9**	**+0.3**
	SNR=21						
AAK	**Ala-Archa**	**67.98**	**311**	*e*P	**P**	**12 37 47.3**	**-1.3**
	comp=Z,17nm,0.8s,mb5.1						
KZA	**Kyzart**	**68.04**	**310**	P	**P**	**12 37 50.0**	**+0.9**
	SNR=9.8						
UCH	**Uchtor**	**68.28**	**311**	P	**P**	**12 37 51.4**	**+0.9**
	SNR=9.0						
EKS2	**Erkin-Say**	**68.29**	**312**	P	**P**	**12 37 51.3**	**+0.7**
	SNR=18						
HFS	**Hagfors**	**68.63**	**354**	P	**P**	**12 37 51.9**	**-0.4**
	comp=Z,2.0nm,0.5s,mb4.3,slow=1.5,SNR=11						
HFS	**Hagfors**	**68.63**	**354**	P	**P**	**12 37 51.9**	**-0.4**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NHSC	**New Hope**	**68.65**	**64**	*e*P	**P**	**12 37 52.9**	**-0.1**
	comp=Z,26nm,0.8s,mb5.2						
NHSC				*e*pP	pP	12 38 04.6	-3.2
AML	**Almayashu**	**68.74**	**311**	P	**P**	**12 37 54.3**	**+0.9**
	SNR=31						
OBN	**Obninsk**	**70.43**	**341**⇑	*e*P	**P**	**12 38 03.3**	**-0.2**
OBN				*e*		12 38 25.3	
OBN				*e*		12 40 35.6	
OBN				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
OBN				MLR	MLR		
	comp=Z,100nm,14.0s,MS4.2						
SHL	**Shillong**	**71.40**	**288**	*e*P	**P**	**12 38 10.0**	**+0.2**
CMAR	**Chiang Mai Arr**	**72.39**	**278**	P	**P**	**12 38 15.8**	**0.0**
	comp=Z,6.2nm,0.8s,mb4.6,baz=28,slow=6.9,SNR=32						
CMAR				LR	LR	13 14 10.8	
	comp=Z,66nm,18.1s,MS4.0,baz=20,slow=39						
CMAR	**Chiang Mai Arr**	**72.39**	**278**	P	**P**	**12 38 15.8**	**0.0**
CMAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CMAR				MLR	MLR		
	comp=Z,66nm,18.1s						
GUN	**Gumba**	**73.17**	**294**	*e*P	**P**	**12 38 21.4**	**+1.2**
	comp=Z,203nm,0.7s						
KKN	**Kakani**	**73.60**	**294**	*e*P	**P**	**12 38 23.8**	**+1.1**
	comp=Z,73nm,0.7s,mb5.7						
EKA	**Eskdalemuir Ar**	**73.61**	**4**	P	**P**	**12 38 22.3**	**+0.1**
	comp=Z,1.5nm,0.6s,mb4.1,baz=346,slow=4.5,SNR=7.4						
EKA	**Eskdalemuir Ar**	**73.61**	**4**	P	**P**	**12 38 22.3**	**+0.1**
EKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
PKI	**Pulchoki**	**73.69**	**294**	*e*P	**P**	**12 38 24.0**	**+0.7**
	comp=Z,76nm,0.9s,mb5.6						
GKN	**Gorkha**	**73.81**	**294**	*e*P	**P**	**12 38 24.7**	**+0.8**
	comp=Z,97nm,0.8s						
DMN	**Daman**	**73.84**	**294**	*e*P	**P**	**12 38 25.5**	**+1.4**
	comp=Z,74nm,0.9s,mb5.6						
KOLN	**Koldanda**	**74.58**	**295**	*e*P	**P**	**12 38 29.2**	**+0.8**
	comp=Z,52nm,0.9s,mb5.5						
AKASG	**Malin Array Be**	**76.05**	**343**	P	**P**	**12 38 35.8**	**-0.5**
	comp=Z,1.2nm,0.4s,mb4.2,baz=16,slow=5.9,SNR=12						
AKASG				LR	LR	13 14 17.7	
	comp=Z,59nm,18.1s,MS3.9,baz=20,slow=37						
AKASG	**Malin Array Be**	**76.05**	**343**	P	**P**	**12 38 35.8**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG				MLR	MLR		
	comp=Z,59nm,18.1s						
GOF	**Gofitskoye**	**78.10**	**332**⇓	*i*P	**P**	**12 38 48.5**	**+0.6**
GOF				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.3						
CTAO	**Charters Tower**	**78.18**	**215**	P	**P**	**12 38 47.3**	**-1.5**
BAIF	**Baives**	**79.03**	**359**	*e*P	**P**	**12 38 53.3**	**+0.4**
KIV	**Kislovodsk**	**79.21**	**332**	*e*P	**P**	**12 38 54.9**	**+0.9**
KIV				pmax	pmax		
	comp=N,6.0nm,0.9s						
KIV				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
GERES	**GERESS Array B**	**79.86**	**353**	P	**P**	**12 38 57.7**	**+0.3**
	comp=Z,1.5nm,0.9s,mb3.9,baz=34,slow=4.8,SNR=5.2						
GERES	**GERESS Array B**	**79.86**	**353**	P	**P**	**12 38 57.7**	**+0.3**
GERES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SOC	**Sochi**	**80.39**	**334**	*e*P	**P**	**12 38 52.6**	**-7.8**
SOC				*e*	pP	12 39 03.6	-12
SOC				*e*PS	tx	12 48 56.7	
SOC				pmax	pmax		
	comp=Z,24nm,1.1s,mb5.0						
SOC				pmax	pmax		
	comp=N,19nm,0.7s						
SOC				pmax	pmax		
	comp=E,18nm,0.7s						
SOC				MLR	MLR		
	comp=Z,150nm,26.0s,MS4.2						
SOC				MLR	MLR		
	comp=N,112nm,18.0s						
SOC				MLR	MLR		
	comp=E,64nm,19.0s						
LDF	**La Druitiere**	**80.46**	**2**	*e*P	**P**	**12 39 00.2**	**-0.4**
MEZF	**Maizieres J'vi**	**80.58**	**359**	*e*P	**P**	**12 39 01.9**	**+0.6**
CDF	**Champ du Feu**	**80.63**	**357**	*e*P	**P**	**12 39 02.4**	**+0.9**
	comp=E,12nm,1.0s,mb4.5						
HINF	**Hinteralfeld**	**81.24**	**358**	*e*P	**P**	**12 39 05.0**	**+0.3**
	comp=E,3.1nm,0.6s,mb4.1						
MLR	**Muntele Rosu**	**81.66**	**344**	P	**P**	**12 39 08.5**	**+1.5**
	comp=E,3.1nm,0.6s,mb4.4,baz=319,slow=11,SNR=5.9						
MLR	**Muntele Rosu**	**81.66**	**344**	P	**P**	**12 39 08.5**	**+1.6**
MLR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
LOR	**Lormes**	**81.83**	**360**	*e*P	**P**	**12 39 08.9**	**+1.1**
	comp=Z,4.6nm,0.7s,mb4.2						
SSF	**Saint Saulge**	**82.04**	**360**	*e*P	**P**	**12 39 09.4**	**+0.5**
	comp=Z,5.5nm,0.8s,mb4.3						
GNI	**Garni**	**82.05**	**329**	P	**P**	**12 39 11.3**	**+2.2**
	comp=Z,8.8nm,0.7s,mb4.8,baz=6.4,slow=12,SNR=3.0						
GNI	**Garni**	**82.05**	**329**	P	**P**	**12 39 11.3**	**+2.2**
GNI				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MFF	**Saint Martin d**	**82.45**	**2**	*e*P	**P**	**12 39 11.4**	**+0.4**
SMF	**Signal de Mont**	**82.45**	**360**	*e*P	**P**	**12 39 11.4**	**+0.4**
	comp=Z,5.4nm,0.7s,mb4.3						
WRAB	**Tennant Creek**	**82.90**	**226**	P	**P**	**12 39 12.8**	**-1.1**
WB2	**Warramunga Arr**	**82.91**	**226**	*e*P	**P**	**12 39 23.8**	**+10**
WRA	**Warramunga Arr**	**82.92**	**226**	P	**P**	**12 39 12.7**	**-1.2**
	comp=Z,0.9nm,0.7s,mb3.9,baz=34,slow=6.3,SNR=8.1						
WRA	**Warramunga Arr**	**82.92**	**226**	P	**P**	**12 39 12.7**	**-1.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
LFF	**La Frestale**	**84.13**	**2**	*e*P	**P**	**12 39 19.9**	**+0.4**
MBDF	**Montbardon**	**84.33**	**358**	*e*P	**P**	**12 39 24.5**	**+4.1**
	comp=Z,6.0nm,0.8s,mb4.5						
FITZ	**Fitzroy Crossi**	**85.51**	**234**	*e*P	**P**	**12 39 26.9**	**0.0**
	comp=Z,5.4nm,1.0s,mb4.7						
HYB	**Hyderabad**	**85.53**	**292**	*i* P	**P**	**12 39 27.0**	**0.0**
BRTR	**Keskin Array B**	**85.59**	**337**	P	**P**	**12 39 28.2**	**+1.4**
	comp=Z,46nm,1.2s,mb5.6,baz=54,slow=2.7,SNR=57						
BRTR				LR	LR	13 20 21.9	
	comp=Z,34nm,19.2s,MS3.8,baz=270,slow=38						
BRTR	**Keskin Array B**	**85.59**	**337**	P	**P**	**12 39 28.2**	**+1.4**
BRTR				pmax	pmax		
	comp=Z,46nm,1.2s						
BRTR				MLR	MLR		
	comp=Z,34nm,19.2s						
MTLF	**Montolieu**	**85.75**	**1**	*e*P	**P**	**12 39 28.8**	**+1.3**
SJPF	**Ste Jean**	**85.90**	**3**	*e*P	**P**	**12 39 29.1**	**+0.8**
ASAR	**Alice Springs**	**86.36**	**224**	P	**P**	**12 39 30.6**	**-0.3**
	comp=Z,1.0nm,0.7s,mb4.2,baz=22,slow=4.8,SNR=10						
POO	**Poona**	**87.34**	**296**⇓	*i*P	**P**	**12 39 36.0**	**+0.1**
ASF	**Jabal al Asfar**	**91.82**	**332**	P	**P**	**12 39 57.7**	**+1.0**
	comp=Z,8.0nm,0.8s,mb5.1,baz=119,slow=1.2,SNR=9.2						
QSPA	**South Pole Qui**	**141.04**	**180**	*e*PKP	PKPdf	12 46 19.3	+3.1
QSPA				*e*		12 49 52.2	
MAW	**Mawson**	**147.25**	**218**	*e*P	PKPdf	12 46 30.1	+3.0
	comp=Z,9.7nm,1.0s						
MAW	**Mawson**	**147.25**	**218**	PKPbc	PKPdf	12 46 30.1	+3.1
	comp=Z,3.9nm,0.9s,baz=66,slow=3.4,SNR=12						
MAW	**Mawson**	**147.25**	**218**	PKP2	PKPab	12 46 30.1	-3.3
MAW				pmax	pmax		
	comp=Z,4.0nm,0.9s						
VNA3	**Neumayer Olymp**	**159.11**	**168**⇑	*i*	PKPdf	12 46 54.9	+11
VNA3	**Neumayer Olymp**	**159.11**	**168**⇑	*i*PKPdf	PKPdf	12 46 41.5	-2.3
VNA3			⇑	*i*P		12 46 54.9	
VNA2	**Neumayer--Watz**	**159.68**	**170**		PKPdf	12 46 56.9	+12
VNA2	**Neumayer--Watz**	**159.68**	**170**		PKPdf	12 47 01.7	+17
VNA2	**Neumayer--Watz**	**159.68**	**170**	PKPdf	PKPdf	12 46 43.1	-1.3
VNA2				P		12 46 56.9	
VNA2				P		12 47 01.7	

WEL 03 12:28:15.2±0.7**,37.68S**×**179.25E,h12**km**,ML3.5**/11**,**
Error ellipse: s-maj=5.8km s-min=5.0km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.76**	**278**	P*	Pb	12 28 29.6	-0.2
MXZ				S*	Sb	12 28 39.2	-0.6
PUZ	**Puketiti**	**0.88**	**243**	P*	Pb	12 28 32.3	+0.5
PUZ				S*	Sb	12 28 44.0	+0.7
MWZ	**Matawai**	**1.51**	**244**	PN	Pn	12 28 40.8	-1.4
MWZ				SN	Sn	12 28 59.0	-2.9
URZ	**Urewera**	**1.79**	**250**	PN	Pn	12 28 45.7	-0.5
URZ				SN	Sn	12 29 07.6	-1.4
KNZ	**Kokohu**	**1.83**	**222**	PN	Pn	12 28 45.6	-1.1
TGRZ	**Tauranga**	**2.37**	**268**	PN	Pn	12 28 52.5	-2.1
BKZ	**Black Stump Fm**	**2.63**	**235**	PN	Pn	12 28 56.1	-2.1
BKZ				SN	Sn	12 29 27.4	-2.8
KUZ	**Kuaotunu**	**2.97**	**287**	PN	Pn	12 28 59.8	-3.2
KUZ				SN	Sn	12 29 33.3	-5.5
NGZ	**Ngauruhoe**	**3.23**	**241**	PN	Pn	12 29 04.7	-2.1
CNZ	**Chateau**	**3.28**	**241**	PN	Pn	12 29 05.5	-2.0
WNVZ	**Wahianoa**	**3.31**	**239**	PN	Pn	12 29 05.3	-2.5
TSZ	**Takapari Road**	**3.50**	**226**	PN	Pn	12 29 06.9	-3.6
TSZ				SN	Sn	12 29 47.5	-4.8
BFZ	**Birch Farm**	**3.80**	**217**	PN	Pn	12 29 10.9	-3.9
MRZ	**Mangatainoka R**	**4.13**	**223**	PN	Pn	12 29 15.1	-4.4
MRZ				SN	Sn	12 30 02.2	-6.0
CAW	**Cannon Point**	**4.72**	**222**	PN	Pn	12 29 22.1	-5.8
CAW				SN	Sn	12 30 15.3	-7.8
SNZO	**South Karori**	**5.05**	**223**	PN	Pn	12 29 26.1	-6.5

NEIC ***03*** *13:08:50.0,29.74S×69.59W,h137km,MD3.2(GUC),After GUC.*

GUC 03 13:08:50.0±0.4**,29.74S**×**69.59W,h137**km±9km**,MD3.2,**
ML3.5,2C,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**1.14**	**248**	*i* P	P	13 09 15.8	+0.6
TLL				*i* S	S	13 09 35.1	+0.7
TLL				AMP		13 09 37.1	
	comp=N,364nm,0.5s						
LSCH	**La Serena**	**1.45**	**263**⇑	*i*P	P	13 09 18.3	-0.1
LSCH				*i* S	S	13 09 39.5	-0.7
LSCH				AMP		13 09 40.1	
	comp=E,416nm,0.2s						
VACH	**Vallenar**	**1.55**	**318**	*i* P	P	13 09 19.3	-0.2
VACH				*i* S	S	13 09 41.8	-0.3
VACH				AMP		13 09 43.6	
	comp=E,2μm,0.1s						
CMCH	**Combarbala**	**1.88**	**220**⇑	*i*P	P	13 09 23.2	0.0
CMCH				*i* S	S	13 09 48.8	+0.2
CMCH				AMP		13 09 49.5	
	comp=E,540nm,0.5s						

NIED ***03*** *13:13:00,28.10N×128.00E,h8km,Mw3.9 Best double couple: M₀9.31×10¹⁴ NP1:φs214°,δ82°,λ143°. NP2: φs309°,δ53°,λ10°.*
IDC ***03*** *13:13:49.0±2.4,28.28N×128.27E,mb3.4/4,mb1 3.6/4, mb1mx3.5/22,Error ellipse: s-maj=112.0km s-min=19.3km az=69.0*
JMA ***03*** *13:13:51.1±0.4,28.10N×128.00E,h7km±5km,M3.5*
ISC 03 13:13:51.8±1.5**,28.12N**±0.06×**128.00E**±0.06**,h21**km±10km**,**
n13,σ**0^{s}83**/18**,mb3.4**/4**,Northwest of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.91**	**112**	P	**Pb**	**13 14 08.2**	**-0.5**
JTK				S	**Sb**	**13 14 20.2**	**-0.1**
JIH	**Iheya**	**1.08**	**182**	P	**Pb**	**13 14 10.9**	**-0.8**
JIH				S	**Sb**	**13 14 25.5**	**0.0**
JOW	**Kunigami**	**1.31**	**169**	Pn	**Pn**	**13 14 15.0**	**-0.1**
	236nm,0.3s,baz=353,slow=16,SNR=178						
JOW				Sn	**Sn**	**13 14 31.1**	**-1.0**
	186nm,0.3s,baz=165,slow=23,SNR=12						
JOW	**Kunigami**	**1.31**	**169**	P	**Pn**	**13 14 14.5**	**-0.6**
JOW				*e*S	**Sb**	**13 14 31.9**	**0.0**
JAM	**Amami Oshima**	**1.45**	**78**	P	**Pn**	**13 14 17.4**	**+0.3**
JAM				S	**Sn**	**13 14 36.0**	**+0.4**
JAGN	**Aguni-jima**	**1.67**	**204**	P	**Pn**	**13 14 21.1**	**+0.8**
JZK	**Kikaishima**	**1.75**	**83**	P	**Pn**	**13 14 22.1**	**+0.7**
JJT2	**Tamagusuku 2**	**1.99**	**187**	P	**Pn**	**13 14 26.1**	**+1.2**
JKE	**Kume jima 2**	**2.09**	**211**	P	**Pn**	**13 14 27.8**	**+1.5**
SONM	**Songino Array**	**25.87**	**325**	P	**P**	**13 19 21.4**	**-2.3**
	0.3nm,0.8s,mb2.9,baz=124,slow=10,SNR=3.1						
MKAR	**Makanchi Array**	**40.14**	**310**	P	**P**	**13 21 28.1**	**+0.2**
	0.6nm,0.8s,mb3.4,baz=108,slow=9.1,SNR=4.3						
WRA	**Warramunga Arr**	**48.17**	**172**	P	**P**	**13 22 32.2**	**-0.7**
	0.7nm,0.7s,mb3.8,baz=353,slow=8.0,SNR=8.6						
ASAR	**Alice Springs**	**51.80**	**173**	P	**P**	**13 23 00.6**	**0.0**
	0.3nm,0.5s,mb3.5,slow=11,SNR=5.0						

IDC ***03*** *13:18:51.4±0.9,23.60S×177.22W,mb3.9/8,mb1 4.2/8, mb1mx4.1/13,MS3.7/4,Ms1 3.7/4,ms1mx3.4/18,Error ellipse: s-maj=48.6km s-min=21.4km az=154.0*
NEIC ***03*** *13:19:04.3±0.4,23.53S×177.40W,h100km,mb4.4/5, Error ellipse: s-maj=16.9km s-min=12.9km az=132.0*
ISC 03 13:18:55.3±0.5**,23.6S**±0.1×**177.4W**±0.1**,h33**km**,n27,**
σ**0^{s}89**/18**,mb4.1**/12**,MS3.7**/4**,8C,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**22.26**	**203**	LR	LR	13 30 34.0	
	comp=Z,131nm,18.2s,MS3.4,baz=163,slow=32						
CTA	**Charters Tower**	**33.90**	**269**	P	**P**	**13 25 37.9**	**+0.5**
	0.7nm,0.3s,mb4.0,baz=108,slow=10,SNR=4.1						
STKA	**Stephens Creek**	**37.09**	**248**	LR	LR	13 38 12.2	
	comp=Z,154nm,19.1s,MS3.8,baz=166,slow=31						
ASAR	**Alice Springs**	**44.48**	**260**	P	**P**	**13 27 06.0**	**+0.5**
	2.3nm,0.9s,mb3.9,baz=92,slow=8.3,SNR=16						
ASAR				LR	LR	13 45 39.6	
	comp=Z,95nm,18.5s,MS3.8,baz=17,slow=36						
WRA	**Warramunga Arr**	**44.85**	**265**	P	**P**	**13 27 07.9**	**-0.5**
	1.8nm,1.0s,mb3.9,baz=100,slow=7.9,SNR=12						
WRA				LR	LR	13 42 58.6	
	comp=Z,90nm,18.3s,MS3.7,baz=155,slow=32						
WRA	**Warramunga Arr**	**44.85**	**265**	P	**P**	**13 27 07.9**	**-0.5**
WRA				LR	LR	13 42 58.6	
SBA	**Scott Base**	**54.87**	**184**	*e*P	**P**	**13 28 24.9**	**+0.5**
	9.2nm,1.2s,mb4.7						
CASY	**Casey**	**61.48**	**206**	*e*P	**P**	**13 29 08.8**	**-1.9**
	3.3nm,0.8s,mb4.5						
QSPA	**South Pole Qui**	**66.52**	**180**	*e*P	**P**	**13 29 42.6**	**-0.8**
	8.5nm,1.2s,mb4.7						
MAW	**Mawson**	**78.90**	**200**	*e*P	**P**	**13 30 56.4**	**-0.1**
	3.7nm,1.1s,mb4.2						
MAW	**Mawson**	**78.90**	**200**	P	**P**	**13 30 56.2**	**-0.3**
	3.2nm,0.9s,mb4.2,baz=113,slow=4.4,SNR=7.7						
NVAR	**Mina Array Bea**	**82.84**	**43**	P	**P**	**13 31 17.7**	**-0.2**
	0.3nm,0.6s,mb3.5,baz=234,slow=13,SNR=4.1						
SNAA	**Sanae**	**84.95**	**178**⇑	*i*	**P**	**13 31 26.2**	**-1.6**
SNAA	**Sanae**	**84.95**	**178**⇑	*i*	pP	13 31 31.9	-6.4
VNA3	**Neumayer Olymp**	**85.06**	**176**⇑	*i*	**P**	**13 31 29.1**	**+0.8**
VNA3	**Neumayer Olymp**	**85.06**	**176**⇑	*i*	pP	13 31 35.5	-3.3
VNA2	**Neumayer--Watz**	**85.51**	**177**⇑	*i*	**P**	**13 31 32.4**	**+1.9**
VNA2	**Neumayer--Watz**	**85.51**	**177**⇑	*i*	pP	13 31 37.5	-3.5
VNA1	**Neumayer--Stat**	**85.74**	**176**⇑	*i*	**P**	**13 31 32.7**	**+1.1**
VNA1	**Neumayer--Stat**	**85.74**	**176**⇑	*i*	pP	13 31 38.1	-4.0
LTX	**Lajitas**	**88.21**	**57**	P	**P**	**13 31 44.3**	**-0.3**
	2.8nm,0.9s,mb4.5						
TXAR	**Lajitas Array**	**88.21**	**57**	P	**P**	**13 31 44.9**	**+0.3**
	0.2nm,0.3s,mb3.9,baz=217,slow=4.5,SNR=6.0						
PDAR	**Pinedale Array**	**90.78**	**43**	P	**P**	**13 31 56.3**	**-0.1**
	0.1nm,0.4s,mb3.5,baz=243,slow=4.0,SNR=2.6						
ILAR	**Eielson Array**	**91.15**	**13**	P	**P**	**13 31 57.4**	**-0.2**
	0.6nm,0.9s,mb3.9,baz=207,slow=6.0,SNR=3.8						
CLL	**Collm**	**151.16**	**346**	*i* PKP1	PKPdf	13 38 46.4	+7.6
CLL				*i* PKP1		13 38 51.6	
CLL				*i* PKP2	PKPab	13 38 55.5	+0.6
BRG	**Berggiesshubel**	**151.36**	**345**	*e*P	PKPdf	13 38 48.2	+9.1
GERES	**GERESS Array B**	**153.29**	**344**	PKP	PKPdf	13 38 43.3	+1.3
	0.2nm,0.5s,baz=344,slow=39,SNR=2.2						

NIED ***03*** *13:21:00,28.10N×128.10E,h11km,Mw4.1 Best double couple: M₀1.53×10¹⁵ NP1:φs103°,δ82°,λ-30°. NP2: φs198°,δ61°,λ-170°.*
IDC ***03*** *13:21:49.9±1.0,28.12N×128.22E,mb3.7/5,mb1 3.9/5, mb1mx3.7/22,MS3.4/3,Ms1 3.4/3,ms1mx3.1/29,Error ellipse: s-maj=39.6km s-min=17.2km az=77.0*
JMA ***03*** *13:21:51.3±0.4,28.07N×128.05E,h9km±4km,M3.9*
NEIC ***03*** *13:21:52.1±0.7,28.09N×128.23E,h15km,mb4.3/3,Error ellipse: s-maj=32.2km s-min=10.3km az=72.0*
BJI ***03*** *13:21:52.1,28.10N×128.20E,h15km,mB4.8,mb4.3, Ms4.2,Msz4.1*
ISC 03 13:21:52.7±1.3**,28.07N**±0.05×**128.08E**±0.06**,h27**km±10km**,**
n23,σ**0^{s}82**/25**,mb3.8**/9**,MS3.5**/2**,Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.82**	**110**	P	**Pb**	**13 22 07.4**	**-0.7**
JTK				*e*S	**Sb**	**13 22 18.5**	**-0.3**
JIH	**Iheya**	**1.03**	**186**	P	**Pn**	**13 22 10.6**	**-0.9**
JIH				S	**Sb**	**13 22 24.9**	**-0.1**
JOW	**Kunigami**	**1.24**	**172**	Pn	**Pn**	**13 22 14.2**	**-0.3**
	412nm,0.3s,baz=351,slow=15,SNR=263						
JOW				Sn	**Sn**	**13 22 29.6**	**-0.8**
	169nm,0.3s,baz=173,slow=23,SNR=11						
JOW	**Kunigami**	**1.24**	**172**	P	**Pn**	**13 22 14.0**	**-0.5**
JOW				S	**Sn**	**13 22 31.0**	**+0.6**
JAM	**Amami Oshima**	**1.39**	**75**	P	**Pn**	**13 22 16.7**	**+0.2**
JAM				S	**Sn**	**13 22 34.8**	**+0.7**
JAGN	**Aguni-jima**	**1.65**	**207**	P	**Pn**	**13 22 20.6**	**+0.3**
JZK	**Kikaishima**	**1.69**	**81**	P	**Pn**	**13 22 22.5**	**+1.7**
NAH1	**Naha**	**1.89**	**191**	P	**Pn**	**13 22 24.6**	**+0.9**
JJT2	**Tamagusuku 2**	**1.94**	**189**	P	**Pn**	**13 22 24.9**	**+0.4**
JKE	**Kume jima 2**	**2.08**	**214**	P	**Pn**	**13 22 27.7**	**+1.2**
TGY	**Tagaytay City**	**15.40**	**207**	LR	LR	13 31 38.9	
	comp=Z,87nm,18.4s,baz=342,slow=38						
BJI	**Beijing**	**15.47**	**324**	*e*P	**P**	**13 25 36.2**	**+5.4**
BJI				AMB	AMB		
	comp=Z,8.0nm,1.0s						
BJI				LR	LR		
	comp=N,224nm,18.9s						
BJI				LR	LR		
	comp=E,159nm,20.7s						
SONM	**Songino Array**	**25.96**	**325**	P	**P**	**13 27 24.9**	**+0.3**
	comp=E,2.6nm,1.1s,mb3.7,baz=135,slow=8.7,SNR=12						
GTA	**Gaotai**	**25.98**	**303**	*e*P	**P**	**13 27 25.8**	**+0.9**
GTA				AP	pP	13 27 29.7	-3.2
GTA				AMB	AMB		
	comp=Z,1.0nm,1.2s,mb3.2						
MKAR	**Makanchi Array**	**40.23**	**310**	P	**P**	**13 29 28.2**	**-0.4**
	comp=Z,0.7nm,0.7s,mb3.5,baz=98,slow=11,SNR=3.6						
ZAL	**Zalesovo**	**40.73**	**322**	LR	LR	13 47 13.5	
	comp=Z,39nm,19.0s,MS3.3,baz=175,slow=37						
WRAB	**Tennant Creek**	**48.10**	**172**	*e*P	**P**	**13 30 31.6**	**-0.7**
	comp=Z,2.2nm,0.6s,mb4.4						
WRA	**Warramunga Arr**	**48.11**	**172**	P	**P**	**13 30 31.4**	**-0.9**
	comp=Z,1.4nm,0.7s,mb4.1,baz=353,slow=8.3,SNR=13						
BRVK	**Borovoye**	**48.90**	**317**	P	**P**	**13 30 38.0**	**0.0**
	comp=Z,2.8nm,1.0s,mb4.2						
ZRNK	**Zerenda**	**49.66**	**317**	*e*P	**P**	**13 30 43.0**	**-0.8**
	comp=Z,3.8nm,1.1s,mb4.3						
ASAR	**Alice Springs**	**51.74**	**173**	P	**P**	**13 31 00.7**	**+0.6**
	comp=Z,0.4nm,0.6s,mb3.5,baz=353,slow=7.3,SNR=12						
ILAR	**Eielson Array**	**62.89**	**29**	P	**P**	**13 32 16.2**	**-2.1**
	comp=Z,0.4nm,0.7s,mb3.6,baz=292,slow=7.1,SNR=6.1						
NOA	**NORSAR Array B**	**77.62**	**334**	LR	LR	14 09 13.7	
	comp=Z,37nm,18.1s,MS3.8,baz=300,slow=37						

IDC ***03*** *13:42:06.1±1.6,15.05S×69.85W,h204km±22km,mb2.9/2, mb1 3.1/2,mb1mx3.0/15,Error ellipse: s-maj=72.1km s-min=24.7km az=22.0*
NEIC ***03*** *13:42:06.0±1.2,15.19S×69.97W,h212km±11km,Error ellipse: s-maj=21.2km s-min=15.5km az=52.0*
ISC 03 13:42:03.0±1.3**,15.5S**±0.1×**70.2W**±0.2**,h220**km±16km**,n10,**
σ**1^{s}29**/10**,mb3.3**/2**,1C,Southern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.16**	**112**	P	**P**	**13 42 47.1**	**+2.0**
	42nm,0.3s,baz=301,slow=7.8,SNR=940						
LPAZ				S	**S**	**13 43 17.8**	**+0.2**
	4.8nm,0.3s,baz=178,slow=23,SNR=8.4						
LPAZ	**La Paz**	**2.16**	**112**⇑	*i*Pn	**P**	**13 42 47.0**	**+2.0**
LPAZ				*e*Sn	**S**	**13 43 17.0**	**-0.5**
LPAZ				S	**S**	**13 43 17.8**	**+0.2**
LVC	**Limon Verde**	**7.20**	**170**	*e*Pn	**P**	**13 43 45.2**	**-1.4**
	10nm,0.3s						
LVC				*e*Sn	rx	13 44 36.3	
SAML	**Samuel**	**9.46**	**47**	Pn	**P**	**13 44 13.8**	**-2.0**
OTAV	**Otavalo**	**17.61**	**332**	*e*P	**P**	**13 45 55.4**	**-0.5**
OTAV				*e*		13 46 04.2	
BDFB	**Brasilia**	**21.39**	**93**	P	**P**	**13 46 34.5**	**+0.4**
	1.2nm,0.5s,mb3.7,baz=255,slow=16,SNR=3.0						
TXAR	**Lajitas Array**	**55.03**	**324**	P	**P**	**13 51 15.4**	**+1.4**
	0.2nm,0.6s,mb2.8,baz=135,slow=6.4,SNR=2.9						
ASAR	**Alice Springs**	**134.50**	**212**	PKP	PKPdf	14 01 00.7	+5.0
	0.1nm,0.6s,baz=117,slow=2.0,SNR=2.9						
WRA	**Warramunga Arr**	**137.31**	**215**	PKP	PKPdf	14 01 05.9	+5.0
	0.1nm,0.3s,baz=142,slow=1.9,SNR=5.0						
SONM	**Songino Array**	**147.62**	**4**	PKPbc	PKPdf	14 01 25.5	+7.3
	0.4nm,0.4s,baz=335,slow=3.5,SNR=6.3						

NEIC ***03*** *13:43:10.4±0.6,28.05S×66.43W,h162km±7km,mb3.5/2, Error ellipse: s-maj=15.1km s-min=8.1km az=158.0*

*GUC **03** 13:43:11.0±0.9,27.99S×66.52W,h150km,ML5.2*
*IDC **03** 13:43:15.5±7.6,28.19S×66.10W,h203km±62km,mb3.2/2, mb1 3.5/3,mb1mx3.2/13,Error ellipse: s-maj=59.4km s-min=33.2km az=7.0*
ISC 03 13:43:09.5±0.9**,27.93S**±0.10×**66.48W**±0.08**, h159**km±14km**,n18,**σ**0**^{s}**71**/24**,mb3.4**/3**,2C,Catamarca Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	Copiapo	3.48	279	eP	P	13 44 04.8	+0.8
CPCH				iS	S	13 44 45.7	-0.3
CPCH				AMP		13 44 52.6	
	comp=E,3μm,0.1s						
CPCH	Copiapo	3.48	279	eP	P	13 44 04.8	+0.8
CPCH				iS	S	13 44 45.1	-0.9
VACH	Vallenar	3.83	259	iP	P	13 44 09.7	+1.1
VACH				iS	S	13 44 52.9	-1.1
VACH				iS	S	13 44 53.6	-0.4
VACH	Vallenar	3.83	259	eP	P	13 44 08.5	-0.1
VACH				iS	S	13 44 53.0	-1.0
TLL	Tololo Astrono	4.39	238	⇑iP	P	13 44 16.9	+1.0
TLL				iS	S	13 45 07.9	+0.8
TLL	Tololo Astrono	4.39	238	⇑iP	P	13 44 16.8	+0.9
TLL				iS	S	13 45 07.9	+0.7
CMCH	Combarbala	5.09	230	iP	P	13 44 26.1	+0.9
CMCH				iS	S	13 45 22.4	-1.2
CMCH	Combarbala	5.09	230	eP	P	13 44 24.9	-0.3
CMCH				iS	S	13 45 22.4	-1.3
CPUP	Villa Florida	8.31	81	ePn	P	13 45 07.7	-0.3
LPAZ	La Paz	11.69	352	P	P	13 46 02.6	+10
	comp=E,0.5nm,0.3s,baz=148,slow=9.5,SNR=7.5						
LPAZ	La Paz	11.69	352	ePn	P	13 46 02.4	+10
SAML	Samuel	19.14	10	eP	P	13 47 22.9	+0.2
	comp=E,1.1nm,0.4s						
BDFB	Brasilia	21.03	58	P	P	13 47 41.1	-0.8
	comp=E,1.4nm,0.3s,mb3.7,baz=231,slow=6.5,SNR=5.6						
BW06	Boulder Array	80.75	329	eP	P	13 55 06.6	+0.1
	comp=E,0.5nm,0.5s,mb3.4						
PDAR	Pinedale Array	80.75	329	P	P	13 55 06.7	+0.2
	comp=E,0.3nm,0.5s,mb3.2,baz=127,slow=9.0,SNR=3.9						
ASAR	Alice Springs	125.06	203	PKP	PKPdf	14 01 51.5	+0.1
	comp=E,0.3nm,0.7s,baz=148,slow=1.6,SNR=6.9						
WRA	Warramunga Arr	128.32	205	PKP	PKPdf	14 01 58.1	+0.3
	comp=E,0.2nm,0.3s,baz=154,slow=2.0,SNR=7.8						
MKAR	Makanchi Array	149.14	44	PKPbc	PKPdf	14 02 39.8	+5.5
	comp=E,2.4nm,1.0s,baz=306,slow=3.0,SNR=8.1						
MKAR				PKPab	PKPab	14 02 45.2	-0.5
	comp=E,0.9nm,0.7s,baz=308,slow=3.5,SNR=6.4						

KRSC 03 13:47:06.8±1.2**,49.91N**×**156.69E,h24**km±20km**,ML3.8, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.86	335	eP	Pb	13 47 22.1	-0.8
SKR				eS	Sb	13 47 35.2	+1.2
PAU	Pauzhetka	1.56	3	iP	Pn	13 47 34.7	+1.2
PAU				iS	Sn	13 47 54.7	+1.6
PAU				Smax			
	300nm,0.2s						
MIPR	Malaya Ipel'ka	2.37	1	eP	Pn	13 47 45.3	+0.3
RUS	Russkaya	2.77	24	eP	Pn	13 47 51.1	+0.3
RUS				eS	Sn	13 48 23.3	-0.6
GRL	Gorelyy	2.79	18	eP	Pn	13 47 52.5	+1.5
GRL				eS	Sn	13 48 25.0	+0.8
APC	Apacha	3.03	5	eP	Pn	13 47 54.8	+0.3
PET	Petropavlovsk	3.35	21	P	Pn	13 48 00.2	+1.2
PET				eS	Sn	13 48 38.7	+0.2
AVH	Avacha	3.59	20	eP	Pn	13 48 03.7	+1.2
KOK	Koryaka	3.60	19	eP	Pn	13 48 04.8	+2.3
SMAR	Somma	3.61	21	eP	Pn	13 48 03.6	+1.0
SDLR	Sedlovina	3.64	21	eP	Pn	13 48 03.5	+0.4
NLC	Nalytchevo	3.66	26	eP	Pn	13 48 02.6	-0.8
NLC				eS	Sn	13 48 42.9	-3.5
SPN	Mys Shipunski	3.81	32	eP	Pn	13 48 05.9	+0.4
SPN				eS	Sn	13 48 47.7	-2.4
GNL	Ganaly	3.87	11	eP	Pn	13 48 06.0	-0.4
MKZ	Mys Kozlova	5.59	32	eP	Pn	13 48 27.9	-2.8
MKZ				eS	Sn	13 49 30.2	-4.7
KBTR	Krutoberegovo	7.31	28	eP	Pn	13 48 52.3	-2.6

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*IDC **03** 13:48:36.7±1.7,8.90S×124.51E,mb3.7/2,mb1 4.1/5, mb1mx3.8/13,ML3.9/3,Error ellipse: s-maj=105.0km s-min=23.9km az=61.0*
ISC 03 13:48:53.1±0.9**,9.97S**±0.08×**124.13E**±0.09**,h200**km**,n8,** σ**0**^{s}**83**/14**,mb3.3**/2**,Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	8.21	170	eP	P	13 50 50.4	+0.5
	5.2nm,0.4s						
FITZ				eS	S	13 52 21.5	+0.3
FITZ	Fitzroy Crossi	8.21	170	Pn	P	13 50 50.7	+0.8
	1.8nm,0.3s,baz=1.9,slow=13,SNR=25						
FITZ				Sn	S	13 52 21.7	+0.5
	7.6nm,0.3s,baz=162,slow=21,SNR=10						
KAKA	Kakadu	8.55	109	eP	P	13 50 56.1	+1.8
	8.0nm,0.3s						
KAKA				eS	S	13 52 29.2	+0.1
WRA	Warramunga Arr	13.97	136	Pn	P	13 52 03.9	+0.1
	0.7nm,0.3s,baz=315,slow=15,SNR=16						
WRA				Sn	S	13 54 33.0	-1.4
	1.8nm,0.3s,baz=318,slow=24,SNR=15						
WB2	Warramunga Arr	13.98	136	eP	P	13 52 04.1	+0.2
WB2				eS	S	13 54 33.7	-0.8
ASAR	Alice Springs	16.51	147	P	P	13 52 39.2	+4.3
	0.4nm,0.3s,baz=323,slow=12,SNR=31						
ASAR				S	S	13 55 38.4	+7.2
	0.6nm,0.3s,baz=326,slow=24,SNR=13						
CMAR	Chiang Mai Arr	37.63	319	P	P	13 55 49.8	-0.7
	0.5nm,0.6s,mb3.3,baz=144,slow=7.5,SNR=5.0						
MKAR	Makanchi Array	67.71	330	P	P	13 59 30.6	-0.3
	0.5nm,0.6s,mb3.4,baz=128,slow=7.7,SNR=4.1						

IDC 03 13:57:09.5±1.8**,2.97N**×**125.72E,mb3.5**/4**,mb1 3.7**/4**, mb1mx3.5**/17**,Error ellipse: s-maj=118.0km s-min=23.6km az=68.0,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	20.93	180	P	P	14 01 53.8	-2.6
	1.6nm,0.8s,baz=22,slow=11,SNR=11						
WRA	Warramunga Arr	24.29	160	P	P	14 02 29.3	-0.4
	0.5nm,0.5s,baz=340,slow=10.0,SNR=12						
ASAR	Alice Springs	27.64	164	P	P	14 02 58.8	-2.3
	0.2nm,0.4s,baz=342,slow=7.0,SNR=8.2						
MKAR	Makanchi Array	57.61	326	P	P	14 07 01.3	-2.5
	0.2nm,0.3s,baz=127,slow=7.3,SNR=7.5						

IDC 03 14:00:26.5±8.0**,31.80S**×**179.59E,h388**km±85km**,mb2.9**/2**, mb1 3.2**/3**,mb1mx3.0**/12**,Error ellipse: s-maj=98.6km s-min=46.5km az=15.0,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.75	197	P	P	14 02 08.1	+0.3
	4.1nm,0.3s,baz=347,slow=4.7,SNR=23						
URZ				S	S	14 03 27.6	0.0
	2.6nm,0.3s,baz=242,slow=22,SNR=12						
ASAR	Alice Springs	41.00	270	P	P	14 07 33.9	-0.9
	0.5nm,0.5s,baz=105,slow=7.3,SNR=9.5						
WRA	Warramunga Arr	42.12	275	P	P	14 07 42.3	-1.6
	0.5nm,0.3s,baz=112,slow=7.8,SNR=9.7						
FINES	FINESS Array B	145.70	338	PKP	PKPdf	14 19 17.6	-0.7
	1.8nm,0.8s,baz=45,slow=4.6,SNR=14						

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*IDC **03** 14:16:44.7±1.3,6.09S×148.02E,mb4.1/7,mb1 4.3/9, mb1mx4.2/14,ML4.1/2,MS3.5/5,Ms1 3.5/5,ms1mx3.4/15, Error ellipse: s-maj=41.3km s-min=17.5km az=95.0*
*NEIC **03** 14:16:53.1±0.8,6.21S×147.72E,h53km±8km,mb4.2/8, Error ellipse: s-maj=12.2km s-min=6.3km az=132.0*
ISC 03 14:16:51.5±1.1**,6.15S**±0.08×**147.68E**±0.10**,h56**km±12km**, n29,**σ**0**^{s}**91**/31**,mb4.1**/11**,MS3.3**/3**,Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAU	Wau	1.52	219	eP	P	14 17 16.4	-0.5
KMBE	Kimbe	2.53	77	eP	P	14 17 30.6	-0.5
PMG	Port Moresby	3.27	189	Pn	P	14 17 40.5	-1.1
PMG				Sn	S	14 18 21.5	+1.9
PMG	Port Moresby	3.27	189	eP	P	14 17 41.7	+0.1
RAB	Rabaul	4.87	67	eP	P	14 18 04.9	+0.8
CTA	Charters Tower	13.92	186	eP	P	14 20 08.0	+0.4
	5.5nm,1.0s						
CTA	Charters Tower	13.92	186	Pn	P	14 20 07.3	-0.3
	0.2nm,0.3s,baz=353,slow=19,SNR=3.9						
CTA				LR	LR	14 24 59.8	
	comp=Z,225nm,21.8s,baz=38,slow=35						
CTAO	Charters Tower	13.92	186	Pn	P	14 20 06.8	-0.8
KAKA	Kakadu	16.41	246	eP	P	14 20 45.5	+5.9
	8.5nm,0.6s						
WRAB	Tennant Creek	18.85	222	eP	P	14 21 08.5	-1.2
	10nm,0.8s						
WB2	Warramunga Arr	18.86	222	eP	P	14 21 08.8	-1.0
WB2				eS	S	14 24 47.3	+13
WRA	Warramunga Arr	18.87	222	P	P	14 21 08.8	-1.0
	1.2nm,0.3s,baz=50,slow=11,SNR=34						
WRA				S	S	14 24 42.4	+7.6
	0.0nm,0.3s,baz=41,slow=20,SNR=3.9						
WRA				LR	LR	14 29 26.8	
	comp=Z,160nm,19.3s,baz=60,slow=40						
ASAR	Alice Springs	21.88	216	P	P	14 21 42.1	+0.7
	5.1nm,0.4s,mb4.3,baz=50,slow=8.9,SNR=151						
ASAR				S	S	14 25 41.0	+6.4
	2.2nm,0.8s,baz=33,slow=24,SNR=7.2						
ASAR				ScP		14 29 16.2	
	1.7nm,1.1s,baz=54,slow=2.3,SNR=4.5						
ASAR				LR	LR	14 31 18.0	
	comp=Z,72nm,20.3s,MS3.1,baz=42,slow=40						
ASPA	Alice Springs	21.88	216	eP	P	14 21 41.6	+0.2
ASPA				eS	S	14 25 41.6	+6.9
FITZ	Fitzroy Crossi	24.57	239	eP	P	14 22 09.3	+1.6
	11nm,0.6s,mb4.6						
FITZ	Fitzroy Crossi	24.57	239	P	P	14 22 09.4	+1.7
	14nm,0.7s,mb4.6,baz=52,slow=5.5,SNR=47						
FITZ				LR	LR	14 32 58.3	
	comp=Z,62nm,18.8s,MS3.1,baz=80,slow=39						
STKA	Stephens Creek	26.22	192	eP	P	14 22 22.7	-0.4
	8.0nm,1.1s,mb4.2						
STKA	Stephens Creek	26.22	192	P	P	14 22 22.3	-0.8
	9.2nm,0.9s,mb4.3,baz=2.7,slow=11,SNR=9.2						
MBWA	Marble Bar	30.90	238	eP	P	14 23 05.6	+0.3
	1.6nm,0.4s,mb4.2						
URZ	Urewera	41.63	144	LR	LR	14 38 18.8	
	comp=Z,123nm,21.4s,MS3.8,baz=166,slow=31						
CMAR	Chiang Mai Arr	53.92	298	P	P	14 26 13.3	+1.3
	0.4nm,0.7s,mb3.5,baz=108,slow=5.7,SNR=3.5						
SONM	Songino Array	64.86	331	P	P	14 27 27.6	+0.5
	1.1nm,1.0s,mb3.8,baz=135,slow=10,SNR=7.3						
CASY	Casey	65.29	196	eP	P	14 27 29.1	-0.5
	4.2nm,1.0s,mb4.4						
SBA	Scott Base	72.36	176	eP	P	14 28 11.9	-1.0
	0.3nm,0.3s,mb3.7						
MKAR	Makanchi Array	78.04	320	P	P	14 28 46.0	0.0
	0.4nm,0.4s,mb3.7,baz=98,slow=9.4,SNR=6.5						
ZAL	Zalesovo	79.51	328	P	P	14 28 52.9	-0.9
	0.7nm,0.3s,mb4.1,baz=79,slow=12,SNR=2.9						
QSPA	South Pole Qui	83.82	180	eP	P	14 29 16.4	+0.8
	2.7nm,0.6s,mb4.5						
SAML	Samuel	145.77	116	ePKPbc	PKPbc	14 36 27.0	+1.1
SAML				e		14 36 39.4	
BDFB	Brasilia	153.35	144	PKPbc	PKPdf	14 36 46.4	+10
	7.5nm,0.8s,baz=260,slow=1.2,SNR=12						

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*IDC **03** 14:28:04.1±1.6,24.23S×177.57W,mb3.8/4,mb1 4.1/4, mb1mx3.9/12,MS3.4/1,Ms1 3.4/1,ms1mx3.0/16,Error ellipse: s-maj=64.7km s-min=35.6km az=168.0*
*NEIC **03** 14:28:05.9±1.1,24.18S×177.64W,h10km,mb4.5/2,Error ellipse: s-maj=31.8km s-min=24.3km az=188.0*
ISC 03 14:28:08.2±1.1**,24.2S**±0.2×**177.7W**±0.2**,h33**km**,n13,** σ**0**^{s}**99**/9**,mb4.0**/6**,MS3.4**/1**,3C,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	44.02	260	P	P	14 36 15.9	+1.3
	1.6nm,0.9s,mb3.7,baz=87,slow=8.1,SNR=11						
ASAR				LR	LR	14 54 43.8	
	comp=Z,52nm,20.4s,MS3.4,baz=198,slow=36						
WRA	Warramunga Arr	44.45	266	P	P	14 36 17.4	-0.7
	0.9nm,0.9s,mb3.5,baz=100,slow=8.0,SNR=6.4						
CASY	Casey	60.75	206	eP	P	14 38 17.8	-0.9
	3.1nm,0.9s,mb4.4						
QSPA	South Pole Qui	65.89	180	eP	P	14 38 52.4	+0.1
	3.9nm,1.0s,mb4.4						
MAW	Mawson	78.18	200	P	P	14 40 04.6	-0.9
	1.4nm,0.8s,mb4.0,baz=112,slow=5.1,SNR=5.3						
SNAA	Sanae	84.32	178	⇑i	P	14 40 36.4	-1.1
SNAA	Sanae	84.32	178		pP	14 40 41.9	-6.1
VNA3	Neumayer Olymp	84.45	176	⇑i	P	14 40 39.3	+1.1
VNA3	Neumayer Olymp	84.45	176	⇑i	pP	14 40 44.9	-3.8
VNA2	Neumayer--Watz	84.89	177		P	14 40 42.0	+1.6
VNA2	Neumayer--Watz	84.89	177		pP	14 40 47.7	-3.2
TXAR	Lajitas Array	88.85	57	P	P	14 41 00.3	-0.3
	0.3nm,0.8s,mb3.7,baz=220,slow=7.0,SNR=3.8						
CLL	Collm	151.70	346	iPKP1	PKPdf	14 47 56.1	+3.5
CLL				ePKP2	PKPab	14 48 01.0	-9.1

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*BJI **03** 14:40:39.6,51.49N×176.44W,h42km,mb4.7*
*NEIC **03** 14:40:42.4±1.8,51.30N×176.52W,h45km±12km,mb4.2/9, ML3.9(AEIC),Error ellipse: s-maj=25.2km s-min=8.2km az=182.0*
*IDC **03** 14:40:44.0±3.7,51.62N×176.59W,h46km±34km,mb3.8/11, mb1 4.1/12,mb1mx3.9/24,Error ellipse: s-maj=40.6km s-min=14.6km az=3.0*
ISC 03 14:40:43.4±1.1**,51.5N**±0.2×**176.53W**±0.07**,h62**km±6km**, n43,**σ**1**^{s}**08**/43**,mb4.4**/20**,Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADAG	Mount Adagdak	0.50	355	P	P	14 40 56.5	+0.9
KIMD	Kanaga Island	0.52	303	P	P	14 40 55.0	-0.9
KIWB	Kanaga Island	0.54	314	P	P	14 40 55.9	-0.1
KIKV	Kanaga Island	0.56	316	P	P	14 40 56.4	+0.1
GSTD	Great Sitkin T	0.63	23	P	P	14 40 57.7	+0.7
GSIG	Igitkin Island	0.63	36	P	P	14 40 56.8	-0.3
GSMY	Great Sitkin M	0.64	27	P	P	14 40 57.5	+0.4
GSTR	Great Sitkin T	0.68	25	P	P	14 40 58.6	+0.9
ATKA	Atka Island	1.62	63	P	P	14 41 07.2	-3.2
ATKA				S	S	14 41 30.3	+0.1
FX1	Attu Island--F	6.49	287	P	P	14 42 16.5	-2.0
	baz=205,slow=4.2,SNR=0.2						
IMA	Indian Mountai	18.64	30	eP	P	14 44 59.6	+1.4
	30nm,0.9s						
COLA	College	19.97	37	eP	P	14 45 12.9	+0.2
	5.4nm,0.8s						
ILAR	Eielson Array	20.29	38	P	P	14 45 13.5	-2.6
	1.7nm,0.5s,baz=243,slow=8.7,SNR=19						
YKA	Yellowknife Ar	34.13	47	P	P	14 47 22.2	-1.7
	0.8nm,0.7s,mb3.8,baz=264,slow=11,SNR=2.7						
NEW	Newport	37.52	71	eP	P	14 47 50.1	-2.5
	5.4nm,0.9s,mb4.3						
EDM	Edmonton	37.52	62	eP	P	14 47 52.9	+0.3
HIA	Hailar	39.56	293	eP	P	14 48 09.0	-0.6
	12nm,0.9s,mb4.6						
HLID	Hailey	41.55	76	eP	P	14 48 23.3	-2.7
	2.5nm,1.0s,mb3.8						
MCMT	McKenzie Canyo	41.80	73	eP	P	14 48 28.0	+0.1
BOZ	Bozeman (W)	42.08	71	eP	P	14 48 30.6	+0.3
	3.0nm,0.9s,mb3.9						
NVAR	Mina Array Bea	42.13	84	P	P	14 48 32.7	+1.9
	0.7nm,0.8s,baz=307,slow=9.0,SNR=3.1						
TPNV	Topopah Spring	44.33	85	eP	P	14 48 49.3	+0.6
	2.1nm,1.0s,mb3.8						
BW06	Boulder Array	44.92	74	eP	P	14 48 53.3	-0.1
	3.8nm,0.8s,mb4.3						
PDAR	Pinedale Array	44.92	74	P	P	14 48 54.0	+0.7
	6.3nm,1.1s,mb4.3,baz=317,slow=4.6,SNR=23						
SONM	Songino Array	47.86	298	P	P	14 49 16.4	-0.1
	3.0nm,0.7s,mb4.4,baz=52,slow=9.1,SNR=29						
HHC	Hu-ho-hao-te	49.02	287	eP	P	14 49 27.9	+2.4
HHC				AP	pP	14 49 34.4	-7.2
HHC				AMB	AMB		
	comp=Z,15nm,1.0s,mb5.0						
BTO	Baotou	50.09	288	eP	P	14 49 34.1	+0.3
LZH	Lanzhou	56.71	288	eP	P	14 50 23.4	+0.7
TXAR	Lajitas Array	57.23	83	P	P	14 50 26.5	0.0
	comp=Z,0.5nm,0.6s,mb3.7,baz=296,slow=6.0,SNR=4.8						
TXAR	Lajitas Array	57.23	83	P	P	14 50 26.5	0.0
ARCES	ARCESS Array B	58.23	351	P	P	14 50 32.1	-0.7
	comp=Z,2.4nm,1.1s,mb4.2,baz=30,slow=7.3,SNR=4.9						
ARCES				PcP	PcP	14 51 23.2	-0.2
	comp=Z,2.9nm,0.7s,baz=37,slow=4.5,SNR=6.7						
MKAR	Makanchi Array	61.07	310	P	P	14 50 51.0	-1.7
	comp=Z,2.2nm,0.9s,mb4.3,baz=49,slow=6.0,SNR=12						
BVAR	Borovoye Array	61.72	321	P	P	14 50 57.2	+0.2
	comp=Z,5.7nm,0.6s,mb4.9,baz=53,slow=7.4,SNR=44						
ALLY	Alegheny Colle	62.32	57	eP	P	14 51 01.0	-0.2
FINES	FINESS Array B	65.99	348	PcP	PcP	14 51 54.5	-0.2
	comp=Z,1.2nm,0.7s,baz=27,slow=3.1,SNR=4.8						
AAK	Ala-Archa	67.88	311	eP	P	14 51 35.7	-1.2
	comp=Z,5.9nm,0.8s,mb4.7						
CMAR	Chiang Mai Arr	72.41	278	P	P	14 52 04.2	-0.6
	comp=Z,1.7nm,0.7s,mb4.1,baz=31,slow=6.7,SNR=9.1						
GUN	Gumba	73.13	294	eP	P	14 52 09.8	+1.1
	comp=Z,73nm,0.7s						
KKN	Kakani	73.56	294	eP	P	14 52 12.1	+0.8
	comp=Z,28nm,0.9s,mb5.2						
PKI	Pulchoki	73.65	294	eP	P	14 52 12.3	+0.5
	comp=Z,17nm,0.9s,mb5.0						
GKN	Gorkha	73.77	294	eP	P	14 52 13.1	+0.6
	comp=Z,37nm,1.0s,mb5.3						
KOLN	Koldanda	74.53	295	eP	P	14 52 17.3	+0.4
BRTR	Keskin Array B	85.43	337	P	P	14 53 16.1	+1.3
	comp=Z,4.2nm,0.7s,mb4.7,baz=60,slow=2.4,SNR=18						

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*MAN **03** 14:44:20.1,13.61N×120.32E,h42km,mb4.2,ML3.0, MS4.7*
*IDC **03** 14:44:21.8±0.7,13.64N×120.66E,h72km±7km,mb3.7/11, mb1 3.9/11,mb1mx3.7/20,Error ellipse: s-maj=22.5km s-min=9.9km az=82.0*
*NEIC **03** 14:44:21.5±0.4,13.63N×120.63E,mb4.6/5,Error ellipse: s-maj=18.0km s-min=7.7km az=70.0*
ISC 03 14:44:19.9±0.5**,13.59N**±0.03×**120.31E**±0.06**,h68**km±5km**, h65**km±2.1km**:pP-P,n42,**σ**0**^{s}**98**/48**,mb4.2**/15**,3C-1D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.16	338	eP	P	14 44 29.6	-0.5
LUBP	Lubang	0.16	338	⇓eP	P	14 44 29.6	-0.5
PAZ	Puerto Azul	0.73	29	eP	P	14 44 34.2	-0.9
TGY	Tagaytay City	0.80	50	⇑iP	P	14 44 36.2	+0.2
TGY				iS	S	14 44 48.0	+0.1
TGY	Tagaytay City	0.80	50	P	P	14 44 36.2	+0.2
	1μm,0.3s,baz=245,slow=2.1,SNR=127						
TGY				S	S	14 44 47.0	-0.9
	2μm,0.3s,baz=126,slow=23,SNR=90						
SHMP	Susana Heights	1.05	41	eP	P	14 44 35.8	-3.4
NBP	Mount Natib	1.15	5	eP	P	14 44 40.3	-0.3
ARP	Angono	1.25	41	iP	P	14 44 40.2	-1.7
LQP	Lukban	1.30	66	⇑iP	P	14 44 42.4	-0.4
LQP				iS	S	14 44 52.5	-7.1
SJMP	San Jose	1.37	145	eP	P	14 44 44.7	+1.1
BOAC	Boac	1.50	95	eP	P	14 44 45.2	-0.1
BOAC				eS	S	14 45 04.5	+0.5
BUSP	Coron	1.58	184	eP	P	14 44 47.6	+1.3
BUSP				eS	S	14 45 06.8	+1.0
POLP	Polilio Island	1.95	54	eP	P	14 44 51.2	-0.1
GQP	Guinayangan	2.10	81	⇑eP	P	14 44 54.5	+0.9
AUQP	San Andres	2.32	96	eP	P	14 44 58.7	+2.1
BALP	Baler	2.47	30	eP	P	14 44 59.1	+0.4
CUYO	Cuyo Island	2.81	166	eP	P	14 45 03.6	+0.1
CUYO				eS	S	14 45 35.8	-0.4
CAUP	Cauayan	3.65	23	eP	P	14 45 15.9	+0.7
PVCP	Virac	3.74	89	eP	P	14 45 16.6	0.0
BATP	Bataraza	5.36	208	eP	S	14 46 38.2	-1.8
IPIL	Ipil	6.17	159	eP	P	14 45 51.5	+1.1
IPIL	Ipil	6.17	159	eP	S	14 46 58.8	-1.6
PAGZ	Pagadian	6.45	152	eP	P	14 45 48.1	-6.2
CMAR	Chiang Mai Arr	21.09	286	P	P	14 49 04.4	+3.6
	1.0nm,0.8s,mb3.2,baz=95,slow=8.9,SNR=9.6						
MBWA	Marble Bar	34.53	181	eP	P	14 51 04.7	+0.7
	2.6nm,0.4s,mb4.4						
SONM	Songino Array	36.06	344	P	P	14 51 16.8	+0.1
	5.4nm,0.6s,mb4.6,baz=162,slow=9.9,SNR=31						
SONM				pP	pP	14 51 34.1	+0.6
	0.8nm,0.8s,baz=139,slow=13,SNR=1.8						
WRAB	Tennant Creek	36.06	157	P	P	14 51 16.4	-0.5
	33nm,0.4s,mb5.6,SNR=14						
WRAB	Tennant Creek	36.06	157	eP	P	14 51 16.1	-0.8
	4.9nm,0.7s,mb4.5						
WRA	Warramunga Arr	36.06	157	P	P	14 51 16.1	-0.8
	2.1nm,0.4s,mb4.4,baz=333,slow=9.8,SNR=54						
WRA				pP	pP	14 51 31.8	-2.1
	1.6nm,0.8s,baz=335,slow=9.6,SNR=6.8						
WB2	Warramunga Arr	36.07	157	eP	P	14 51 16.0	-1.0
ASAR	Alice Springs	39.34	160	P	P	14 51 44.5	+0.3
	3.2nm,0.6s,mb4.4,baz=336,slow=7.3,SNR=83						
ASAR				pP	pP	14 52 00.6	-0.6
	2.2nm,0.8s,baz=336,slow=7.1,SNR=7.2						
ASPA	Alice Springs	39.34	160	eP	P	14 51 44.4	+0.2
MKAR	Makanchi Array	45.90	324	P	P	14 52 38.9	+1.5
	1.5nm,0.8s,mb3.8,baz=124,slow=8.7,SNR=6.8						
NWAO	Narrogin (SRO)	46.34	184	P	P	14 52 41.8	+0.7
	3.8nm,0.6s,mb4.3,baz=121,slow=11,SNR=5.1						
NWAO	Narrogin (SRO)	46.34	184	eP	P	14 52 42.3	+1.2
	1.4nm,0.5s,mb4.0						
ZAL	Zalesovo	48.99	333	P	P	14 53 01.2	-0.2
	0.9nm,0.3s,mb4.1,baz=42,slow=2.9,SNR=3.5						
STKA	Stephens Creek	49.60	156	P	P	14 53 05.4	-1.0
	1.3nm,0.7s,mb3.9,baz=338,slow=11,SNR=4.1						
KURK	Kurchatov	50.07	327	eP	P	14 53 10.8	+1.0
	8.7nm,0.8s,mb4.7						
BVAR	Borovoye Array	55.65	326	P	P	14 53 51.6	+0.4
	3.0nm,0.8s,mb4.4,baz=108,slow=9.4,SNR=8.6						
BRVK	Borovoye	55.73	326	eP	P	14 53 51.7	-0.1
	10.0nm,1.0s,mb4.8						
ILAR	Eielson Array	79.02	26	P	P	14 56 15.2	-2.6
	0.2nm,0.5s,mb3.2,baz=284,slow=3.7,SNR=5.7						
FINES	FINESS Array B	80.20	331	P	P	14 56 23.8	-0.5
	0.6nm,0.7s,mb3.5,baz=45,slow=2.0,SNR=3.9						

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*BJI **03** 14:45:44.5,14.83N×119.71E,h94km,mb4.4*
*MAN **03** 14:45:44.7,15.48N×119.84E,h54km,mb5.3,ML4.3, MS4.4*
*IDC **03** 14:45:47.3±1.1,15.48N×120.30E,h107km±10km, mb3.8/14,mb1 4.0/14,mb1mx3.9/20,Error ellipse: s-maj=35.2km s-min=11.2km az=64.0*
*NEIC **03** 14:45:47.6±0.9,15.43N×120.34E,h112km±8km,mb4.4/8, Error ellipse: s-maj=16.3km s-min=6.2km az=63.0*
ISC 03 14:45:43.6±0.4**,15.42N**±0.03×**119.74E**±0.04**,h76**km±4km**, n56,**σ**1**^{s}**30**/70**,mb4.2**/21**,4C,Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	Santa Cruz	0.39	26	eP	P	14 45 55.5	-0.6
SCZP				eS	S	14 46 03.8	-1.8
NBP	Mount Natib	0.94	136	eP	P	14 46 03.6	+1.6
BOLP	Bolinao	0.97	10	eP	P	14 46 01.9	-0.4
BOLP				eS	S	14 46 15.3	-1.0
NZB	Bigte	1.43	113	iP	P	14 46 07.9	-0.5
PAZ	Puerto Azul	1.50	143	eP	P	14 46 09.7	+0.4
ARP	Angono	1.63	123	eP	P	14 46 10.3	-0.7
LUBP	Lubang	1.75	164	eP	P	14 46 17.3	+4.6
TGY	Tagaytay City	1.75	138	⇑iP	P	14 46 14.2	+1.5
TGY				iS	S	14 46 35.9	+1.8
TGY	Tagaytay City	1.75	138	P	P	14 46 14.2	+1.6
	375nm,0.3s,baz=354,slow=1.0,SNR=6.7						
TGY				S	S	14 46 34.3	+0.2
	321nm,0.3s,baz=160,slow=13,SNR=3.5						
BALP	Baler	1.80	80	eP	P	14 46 11.8	-1.5
BALP				eS	S	14 46 34.1	-1.1
LQP	Lukban	2.18	127	⇑iP	P	14 46 18.8	+0.3
LQP				iS	S	14 46 46.3	+2.0
POLP	Polilio Island	2.24	108	eP	P	14 46 18.7	-0.6
POLP				eS	S	14 46 51.8	+6.0
ABRA	Dolores	2.40	23	eP	P	14 46 20.7	-1.0
ABRA				eS	S	14 46 49.4	-0.6
CAUP	Cauayan	2.51	53	eP	P	14 46 22.4	-0.8
CAUP				eS	S	14 46 56.0	+3.3
APYP	Conner	2.82	31	eP	P	14 46 27.6	0.0
APYP				eS	S	14 46 59.9	-0.6
BOAC	Boac	2.82	133	eP	P	14 46 28.0	+0.4
PIP	Pasuquin	3.01	16	⇑iP	P	14 46 31.7	+1.5
PIP				iS	S	14 47 06.6	+1.4
CVP	Callao Caves	3.02	41	⇑iP	P	14 46 33.0	+2.6
GQP	Guinayangan	3.02	120	eP	P	14 46 29.7	-0.7
PALP	Palanan	3.05	57	eP	P	14 46 22.2	-8.6
PALP				eS	S	14 47 07.1	+0.8
AUQP	San Andres	3.53	126	eS	P	14 46 39.0	+1.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PVCP	Virac	4.65	112	eP	P	14 46 52.0	-0.9
CNP	Catarman	5.59	121	eP	P	14 47 05.8	-0.1
BESP	Borongan	6.72	124	eP	P	14 47 21.9	+0.3
BUKP	Musuan	9.13	145	eP	P	14 47 57.2	+2.5
QIZ	Qiongzhong	10.11	292	eP	P	14 48 10.8	+2.7
QIZ				S	S	14 50 00.0	-0.6
KMI	Kunming	18.62	304	eP	P	14 49 57.5	-0.1
KMI				AMB	AMB		
	comp=Z,8.0nm,1.1s						
CM31	Chiang Mai Arr	20.12	282	eP	P	14 50 18.9	+4.9
	comp=Z,5.5nm,0.8s						
CMAR	Chiang Mai Arr	20.12	282	P	P	14 50 18.9	+5.0
	comp=Z,2.8nm,0.7s,baz=89,slow=7.8,SNR=10						
BJT	Baijiatuau	24.70	353	eP	P	14 50 59.8	+0.7
	comp=Z,13nm,1.3s,mb4.2						
LZH	Lanzhou	25.00	328	eP	P	14 51 03.9	+2.0
LZH				AMB	AMB		
	comp=Z,26nm,1.2s,mb4.5						
SONM	Songino Array	34.15	344	P	P	14 52 23.0	-0.4
	comp=Z,1.9nm,0.6s,mb4.1,baz=164,slow=9.9,SNR=8.9						
SONM				PcP	PcP	14 54 56.6	-2.5
	comp=Z,0.4nm,0.9s,baz=180,slow=1.4,SNR=3.2						
MBWA	Marble Bar	36.35	180	eP	P	14 52 40.4	-2.0
	comp=Z,4.0nm,0.5s,mb4.6						
WRAB	Tennant Creek	37.96	157	eP	P	14 52 52.2	-3.5
	comp=Z,5.5nm,0.8s,mb4.4						
WRA	Warramunga Arr	37.96	157	P	P	14 52 52.9	-2.9
	comp=Z,3.3nm,0.8s,mb4.2,baz=341,slow=8.9,SNR=34						
WRA				PcP	PcP	14 55 09.7	-1.1
	comp=Z,1.1nm,0.5s,baz=341,slow=3.2,SNR=10						
WRA				S	S	14 58 31.8	-10
	comp=Z,0.3nm,0.9s,baz=340,slow=15,SNR=3.0						
WB2	Warramunga Arr	37.97	157	eP	P	14 52 52.6	-3.2
ASAR	Alice Springs	41.24	160	P	P	14 53 20.1	-2.8
	comp=Z,2.5nm,0.6s,mb4.2,baz=336,slow=7.4,SNR=14						
ASAR				PcP	PcP	14 55 20.1	-1.1
	comp=Z,1.0nm,0.5s,baz=337,slow=3.4,SNR=13						
ASPA	Alice Springs	41.24	160	eP	P	14 53 20.6	-2.3
MKAR	Makanchi Array	44.10	323	P	P	14 53 46.6	+0.6
	comp=Z,1.9nm,0.8s,mb3.9,baz=133,slow=9.5,SNR=8.1						
MKAR				pP	pP	14 54 04.3	-0.4
	comp=Z,0.9nm,0.7s,baz=124,slow=8.7,SNR=3.0						
MKAR				PcP	PcP	14 55 30.1	-0.5
	comp=Z,3.1nm,1.0s,baz=108,slow=3.2,SNR=5.8						
MKAR				pPcP		14 55 46.6	
	comp=Z,1.0nm,0.9s,baz=108,slow=3.8,SNR=2.8						
MKAR	Makanchi Array	44.10	323	P	P	14 53 46.6	+0.6
MKAR				pP	pP	14 54 04.3	-0.4
MKAR				PcP	PcP	14 55 30.1	-0.5
MKAR				pPcP		14 55 46.6	
ZAL	Zalesovo	47.11	332	P	P	14 54 08.9	-0.9
	comp=Z,0.7nm,0.4s,mb3.8,baz=278,slow=11,SNR=2.8						
ZAL				PcP	PcP	14 55 39.1	-1.8
	comp=Z,0.6nm,0.3s,baz=278,slow=24,SNR=3.3						
NWAO	Narrogin (SRO)	48.13	183	P	P	14 54 15.8	-2.3
	comp=Z,6.8nm,1.0s,mb4.4,baz=21,slow=3.6,SNR=4.3						
NWAO	Narrogin (SRO)	48.13	183	eP	P	14 54 16.7	-1.4
KURK	Kurchatov	48.25	326	eP	P	14 54 19.0	+0.3
	comp=Z,4.7nm,0.8s,mb4.4						
STKA	Stephens Creek	51.49	156	P	P	14 54 40.0	-3.7
	comp=Z,2.6nm,0.9s,mb4.3,baz=326,slow=2.5,SNR=3.4						
BVAR	Borovoye Array	53.83	325	P	P	14 55 01.1	+0.2
	comp=Z,0.9nm,0.6s,mb4.0,baz=158,slow=7.8,SNR=3.6						
BVAR				PcP	PcP	14 56 05.2	-0.4
	comp=Z,3.1nm,0.7s,baz=124,slow=5.3,SNR=8.6						
ARCES	ARCESS Array B	77.15	339	P	P	14 57 30.3	0.0
	comp=Z,4.1nm,0.7s,mb4.3,baz=72,slow=7.7,SNR=8.9						
ARCES	ARCESS Array B	77.15	339	P	P	14 57 30.3	0.0
AKASG	Malin Array Be	78.55	320	P	P	14 57 37.9	-0.5
	comp=Z,0.6nm,0.5s,mb3.7,baz=62,slow=6.5,SNR=5.0						
CASY	Casey	81.75	184	eP	P	14 57 54.5	-0.6
	comp=Z,2.5nm,0.8s,mb4.1						
KMBO	Kilima Mbogo	83.05	267	P	P	14 58 05.8	+2.9
	comp=Z,1.1nm,0.6s,mb3.9,baz=48,slow=12,SNR=5.1						
NB2	NORSAR Subarra	85.31	332	P	P	14 58 12.8	-0.3
	comp=Z,5.3nm,0.7s,mb4.6,baz=69,slow=5.3						
NOA	NORSAR Array B	85.31	332	P	P	14 58 11.8	-1.4
	comp=Z,4.3nm,0.7s,mb4.5,baz=68,slow=4.9,SNR=16						
NOA				pP	pP	14 58 33.3	-0.7
	comp=Z,1.3nm,0.7s,baz=63,slow=4.9,SNR=3.2						
BRG	Berggiesshubel	87.81	322	P	P	14 58 26.9	+1.3
	comp=Z,6.2nm,1.2s,mb4.5						
GERES	GERESS Array B	88.72	321	P	P	14 58 30.9	+1.0
	comp=Z,1.4nm,0.9s,mb4.0,baz=72,slow=4.2,SNR=11						
GRA1	Grafenberg Arr	89.88	322	eP	P	14 58 36.8	+1.5
	comp=Z,7.0nm,1.0s,mb4.8						

IDC 03 14:52:23.0±4.9, 51.93N×176.49W, h45km±42km, mb3.5/3, mb1 3.6/5, mb1mx3.3/24, Error ellipse: s-maj=84.9km s-min=25.0km az=177.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FX1	Attu Island--F	6.40	283	P	P	14 53 54.4	-2.7
	baz=302,slow=12,SNR=0.1						
ILAR	Eielson Array	19.91	38	P	P	14 56 50.6	-2.6
	baz=232,slow=10,SNR=3.4						
PDAR	Pinedale Array	44.77	74	P	P	15 00 32.0	-1.6
	0.4nm,0.6s,baz=315,slow=3.8,SNR=4.6						
SONM	Songino Array	47.68	297	P	P	15 00 55.0	-1.6
	0.5nm,0.7s,baz=44,slow=9.6,SNR=6.4						
TXAR	Lajitas Array	57.15	83	pP	pP	15 02 16.4	-3.7
	0.1nm,0.4s,baz=301,slow=5.3,SNR=2.7						
BVAR	Borovoye Array	61.39	321	P	P	15 02 33.6	-2.7
	1.4nm,0.6s,baz=40,slow=7.6,SNR=4.3						

BER 03 14:56:36.6±2.0, 60.10N×25.53E, ML2.2(NAO), Suspected explosion
IDC 03 14:56:39.2±0.9, 60.27N×25.15E, mb1 3.4/3, mb1mx3.1/20, ML2.9/3, Error ellipse: s-maj=10.7km s-min=7.0km az=119.0
NAO 03 14:56:36.8±3.3, 60.16N×25.25E, ML2.2, Finland

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FIA0	FINESS Array S	1.35	17	Pn	Pn	14 57 02.2	-0.7
	baz=188,slow=18						
FIA0				Lg		14 57 19.4	
	baz=190,slow=28						
FINES	FINESS Array B	1.35	17	Pg	Pg	14 57 02.2	-1.6
	6.4nm,0.3s,baz=201,slow=16,SNR=163						
FINES				Pn	Pn	14 57 04.6	+1.6
	6.4nm,0.3s,baz=197,slow=13,SNR=162						
FINES				Lg		14 57 19.6	
	12nm,0.3s,baz=204,slow=30,SNR=34						
FINES				Sn	Sn	14 57 24.5	+2.6
	12nm,0.3s,baz=202,slow=23,SNR=32						
FINES				Rg		14 57 26.6	
	35nm,0.8s,baz=194,slow=31,SNR=27						
HFS	Hagfors	5.77	275	Pn	Pn	14 58 03.0	-2.8
	baz=82,slow=12						
HFS				Sn	Sn	14 59 08.3	-5.4
	baz=74,slow=28						
NOA	NORSAR Array B	6.97	283	Pn	Pn	14 58 19.1	-3.5
	0.2nm,0.3s,baz=357,slow=17,SNR=2.6						
NOA				Sn	Sn	14 59 35.0	-8.5
	0.3nm,0.3s,baz=51,slow=6.3,SNR=3.3						
ARA0	ARCESS Array S	9.42	1	Pn	P	14 58 52.8	-4.0
	baz=176,slow=14						
ARA0				Sn	Sn	15 00 32.8	-12
	baz=178,slow=28						
ARCES	ARCESS Array B	9.42	1	Pn	P	14 58 52.9	-3.9
	0.1nm,0.3s,baz=181,slow=12,SNR=6.1						
ARCES				Sn	Sn	15 00 33.6	-11
	0.1nm,0.3s,baz=182,slow=23,SNR=3.0						
AKASG	Malin Array Be	9.74	165	Pn	P	14 58 56.8	-4.3
	0.4nm,0.3s,baz=343,slow=13,SNR=2.3						

MAN 03 15:05:05.8, 9.38N×126.31E, h20km, mb4.4, ML3.3, MS3.1, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BUTP	Butuan	0.79	239	eP	Pb	15 05 20.0	-0.7
BUTP				eS	Sb	15 05 33.3	+2.4
SCPH	Surigao	0.90	297	eP	Pb	15 05 22.5	-0.1
SCPH				i S	Sb	15 05 35.8	+1.7
BIPH	Bislig	1.19	177⇓	iP	Pn	15 05 23.9	-3.5
BIPH				i S	Sb	15 05 37.3	-5.1
BUKP	Musuan	1.93	220	eP	Pn	15 05 38.2	+0.1
BUKP				eS	Sn	15 06 05.3	+3.3
BESP	Borongan	2.37	339	eP	Pn	15 05 44.0	-0.4
BESP				eS	Sn	15 06 12.5	-0.6
MATI	Mati	2.42	181	eP	Pn	15 05 44.9	-0.2
CNP	Catarman	3.51	333	eP	Pn	15 05 59.9	-0.7
CNP				eS	Sn	15 06 39.9	-2.0
PVCP	Virac	4.69	333	eP	Pn	15 06 18.2	+0.8
SJMP	San Jose	5.94	301	eP	Pn	15 06 58.2	+23
SJMP				eS	Sn	15 07 15.5	-28
BUSP	Coron	6.54	294	eP	Pn	15 07 01.1	+18
BUSP				eS	Sn	15 07 20.1	-38
LUBP	Lubang	7.35	307⇑	eP	Pn	15 06 49.0	-5.8

NEIC 03 15:14:10.4, 33.09S×69.02W, h5km, ML2.6(GUC), After GUC.
GUC 03 15:14:10.4±0.8, 33.09S×69.02W, h5km, MD3.6, ML2.6, 1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MDZ	Mendoza	0.25	34	i P	Pg	15 14 14.3	-1.1
MDZ				i S	Sg	15 14 19.4	+0.6
FCH	Farellones	1.09	257⇓	iP	Pb	15 14 30.9	-0.5
FCH				i S	Sb	15 14 47.2	+1.4
FCH				AMP		15 14 47.8	
	comp=E,226nm,0.5s						
LMEL	Las Melosas	1.25	232	eP	Pb	15 14 33.1	-1.0
LMEL				i S	Sb	15 14 51.2	+0.9
LMEL				AMP		15 14 53.9	
	comp=N,331nm,0.2s						
CLCH	Cerro Calan	1.31	256	eP	Pb	15 14 33.8	-1.3
CLCH				i S	Sb	15 14 52.2	+0.1
CLCH				AMP		15 14 55.0	
	comp=N,171nm,0.5s						
PCH	Pirque	1.36	247	eP	Pb	15 14 35.3	-0.7
JACH	Jahuel	1.39	287	i P	Pb	15 14 36.0	-0.4
JACH				i S	Sb	15 14 54.9	+0.6
CHCH	Chadas Angostu	1.60	238	eP	Pn	15 14 39.3	-0.3
CICH	Cipreses	1.70	223	eP	Pn	15 14 40.6	-0.3
CICH				i S	Sn	15 15 03.7	+0.5

NIC 03 15:28:43.2±0.3, 37.04N×34.52E, h55km, ML3.5, MW3.1
NEIC 03 15:28:44.7, 36.83N×34.32E, h7km, MG3.4(ISK), After ISK.
ISK 03 15:28:44.8, 36.83N×34.32E, h8km, MD3.4
CSEM 03 15:28:44.3±0.1, 36.84N×34.32E, h5km, Mw3.1, Error ellipse: s-maj=2.9km s-min=1.9km az=149.0
ISC 03 15:28:45.3±0.8, 36.83N±0.04×34.31E±0.05, h7km±6km, n21, σ1s05/31, 2C, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MEST	Erdemli	0.28	209	i P	Pg	15 28 51.3	+0.4
MEST				i S	Sg	15 28 55.4	+0.7
IKL	Isikli	0.78	221	i PG	Pg	15 28 59.9	-0.9
IKL				i SG	Sg	15 29 11.7	+0.5
IKL	Isikli	0.78	221	Pg	Pg	15 28 59.9	-0.9
IKL				Sg	Sg	15 29 11.9	+0.7
CEYT	Ceyhan	1.17	81	PN	Pn	15 29 07.8	-0.2
NIG	Nigde	1.30	10	PN	Pn	15 29 09.1	-0.8
HDMB	Hadim	1.47	276	PN	Pn	15 29 12.2	-0.1
COBT	Iskenderun	1.59	101⇑	iP	Pn	15 29 13.8	-0.3
COBT				i S	Sb	15 29 35.4	+0.4
HTY	Hatay	1.63	115	PN	Pn	15 29 14.2	-0.5
PHNC	Paralimni	1.83	187	P	Pn	15 29 15.7	-1.9
	3.3nm,0.5s						
PHNC				S	Sn	15 29 44.0	+2.7
MAMC	Mammari	1.88	208	P	Pn	15 29 17.4	-0.7
KONT	Konya--Tatoy	1.91	306	PN	Pn	15 29 19.1	+0.5
AVNT	Avonos	2.00	12	i P	Pn	15 29 20.4	+0.6
AVNT				i S	Sn	15 29 48.5	+3.2
CSS	Prodhromos	2.02	203	P	Pn	15 29 19.1	-1.2
	1.5nm,0.4s						
CSS				S	Sn	15 29 46.6	+0.5
CSS	Prodhromos	2.02	203	ePn	Pn	15 29 19.0	-1.3
CSS	Prodhromos	2.02	203	ePn	Pn	15 29 19.0	-1.3
CSS				S	Sn	15 29 46.6	+0.5
LEF	Lefka	2.06	214	PN	Pn	15 29 21.2	+0.4
ALFC	Alevga	2.17	220	P	Pn	15 29 20.5	-1.9
	3.0nm,0.3s						
ALFC				S	Sn	15 29 47.9	-1.9
GAZ	Gaziantep	2.35	81	PN	Pn	15 29 24.9	0.0
SZAC	Souni-Zanaja	2.37	210	⇑P	Pn	15 29 26.3	+1.1
	2.9nm,0.3s						
SZAC				S	Sn	15 29 55.2	+0.3
PPCY	Paphos	2.51	220	P	Pn	15 29 29.1	+1.9
KIZT	Kizilcal	2.81	318	PN	Pn	15 29 31.5	0.0

IDC 03 15:37:12.9±3.5, 14.14S×165.99E, mb3.8/6, mb1 4.0/6, mb1mx3.8/15, Error ellipse: s-maj=126.0km s-min=28.3km az=139.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	30.78	255	P	P	15 43 31.1	-1.4
	0.4nm,0.6s,baz=86,slow=9.8,SNR=8.2						
ASAR	Alice Springs	31.74	248	P	P	15 43 37.7	-3.3
	0.8nm,0.5s,baz=77,slow=9.0,SNR=27						
FITZ	Fitzroy Crossi	38.91	259	P	P	15 44 41.8	-0.5
	2.6nm,0.7s,baz=76,slow=12,SNR=7.1						
SONM	Songino Array	81.29	324	P	P	15 49 30.9	-1.6
	0.3nm,0.7s,baz=135,slow=4.1,SNR=3.8						
ILAR	Eielson Array	86.36	18	P	P	15 49 57.1	-0.7
	0.3nm,0.7s,baz=230,slow=7.0,SNR=3.3						
MKAR	Makanchi Array	95.93	317	P	P	15 50 40.6	-2.4
	0.3nm,0.6s,baz=90,slow=4.3,SNR=4.3						

OTT 03 15:59:05.9±0.2, 52.78N×67.30W, MN2.7/7, Blast, Mount Wright, Qc Mining explosion., Northern Quebec

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCHQ	Schefferville	2.08	7	PN	Pn	15 59 41.8	-0.6
SCHQ				SG	Sg	16 00 10.7	-4.3
SCHQ				Trac		16 00 13.1	
	comp=Z,28nm,0.2s						
MNQ	Manicouagan	2.43	203	PN	Pn	15 59 46.5	-1.0
MNQ				SN	Sn	16 00 19.4	+1.0
MNQ				Trac		16 00 25.9	
	comp=Z,15nm,0.2s						
SMQ	Clarke City	2.59	171	PN	Pn	15 59 48.7	-1.1
SMQ				SN	Sn	16 00 20.3	-2.0
SMQ				Trac		16 00 29.5	
	comp=Z,7.3nm,0.1s						
ICQ	Pointe Anglais	3.26	180	PN	Pn	15 59 56.9	-2.5
ICQ				SN	Sn	16 00 35.2	-4.3
ICQ				Trac		16 00 39.3	
	comp=Z,9.2nm,0.2s						
CNQ	Baie Comeau	3.52	188	PN	Pn	16 00 01.8	-1.1
CNQ				SN	Sn	16 00 43.9	-2.1
CNQ				Trac		16 01 01.3	
	comp=Z,7.6nm,0.3s						
GSQ	Grosses Roches	3.88	178	PN	Pn	16 00 06.6	-1.5
GSQ				SN	Sn	16 00 55.7	+0.7
GSQ				Trac		16 01 10.4	
	comp=Z,7.2nm,0.2s						
LG4Q	La Grande 4	4.17	284	PN	Pn	16 00 08.7	-3.6
LG4Q				PG	Pg	16 00 19.5	-10
LG4Q				SN	Sn	16 00 57.3	-5.2
LG4Q				SG	Sg	16 01 11.6	-13
DAQ	Lac Daran	5.44	209	PN	Pn	16 00 30.4	+0.1
DAQ				Trac		16 02 05.5	
	comp=Z,2.0nm,0.2s						
LMQ	La Malbaie	5.59	202	PN	Pn	16 00 29.7	-2.6
DRLN	Deer Lake	7.11	116	PN	Pn	16 00 48.5	-5.3
DRLN				SN	Sn	16 02 06.5	-10
DRLN				LG		16 02 39.3	
LMN	Caledonia Moun	7.12	166	PN	Pn	16 00 49.4	-4.5
LMN				SN	Sn	16 02 07.5	-9.2
VLDQ	Val d'Or	7.99	238	PN	Pn	16 01 03.4	-2.6
VLDQ				SN	Sn	16 02 34.5	-3.8
VLDQ				SG	Sg	16 03 10.4	-21
MALO	McAlpine Lake	8.27	255	PN	P	16 01 04.4	-5.5
MALO				SN	Sn	16 02 32.3	-13
MALO				LG		16 03 20.1	
VIMO	Victor Mine	9.96	277	PN	P	16 01 26.9	-6.4
VIMO				SN	Sn	16 03 12.4	-15
VIMO				LG		16 04 12.5	
SILO	Sutton Inlier	10.60	286	PN	P	16 01 34.0	-8.0
SILO				SN	S	16 03 28.6	-14

IDC 03 15:59:50.6±13.0, 36.21N×71.26E, h54km±92km, mb3.5/6, mb1 3.7/8, mb1mx3.4/21, ML3.1/2, Error ellipse: s-maj=111.0km s-min=29.1km az=5.0
NEIC 03 15:59:51.3±1.8, 36.15N×71.28E, h69km±19km, mb3.4/4, Error ellipse: s-maj=22.1km s-min=6.4km az=63.0
NDI 03 16:00:51.0±3.5, 32.74N×74.53E, h106km±224km, mb3.1
ISC 03 15:59:53.6±1.2, 36.23N±0.05×71.4E±0.1, h110km±14km, n35, σ1s07/37, mb3.6/6, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
THN	Thein Dam	5.20	136	eP	P	16 01 12.5	+2.2
	58nm,0.3s						
THN				e		16 02 12.4	
AML	Almayashu	6.16	16	P	P	16 01 23.4	0.0
	SNR=66						
UCH	Uchtor	6.46	21	P	P	16 01 27.8	+0.3
	SNR=11						
KZA	Kyzart	6.56	26	P	P	16 01 29.2	+0.3
	SNR=7.5						
EKS2	Erkin-Say	6.68	15	P	P	16 01 30.6	0.0
	SNR=19						
AAK	Ala-Archa	6.83	19	P	P	16 01 33.0	+0.4
	SNR=9.4						
AAK	Ala-Archa	6.83	19	ePn	P	16 01 31.8	-0.8
	4.9nm,0.4s						
AAK				eSn	S	16 02 44.4	-4.9
CHMS	Chumysh	7.24	20	P	P	16 01 38.0	-0.2
	SNR=6.8						
KLP	Kalpa	7.36	128	eP	P	16 01 41.8	+1.9
KLP				AMb	AMB	16 01 43.1	
	comp=Z,17nm,0.3s						
USP	Ospenovka	7.42	18	P	P	16 01 40.7	0.0
	SNR=5.5						
TKM2	Tokmak 2	7.42	24	P	P	16 01 40.8	+0.1
	SNR=11						
JOSI	Joshimath	8.85	127	eP	P	16 02 01.6	+1.6
KHET	Khetri	8.94	154	i P	P	16 01 59.8	-1.3
KHET				AMb	AMB	16 02 02.8	
	comp=Z,9.6nm,0.3s						
KUDL	Kundal	9.13	151	eP	P	16 02 03.8	+0.1
KUDL				AMb	AMB	16 02 06.2	
	comp=Z,8.0nm,0.3s						
SONA	Sohna	9.29	147	eP	P	16 02 01.9	-3.9
SONA				AMb	AMB	16 02 10.4	
	comp=Z,8.2nm,0.3s						
MKAR	Makanchi Array	13.32	34	P	P	16 02 58.5	-0.7
	comp=Z,0.0nm,0.3s,baz=216,slow=12,SNR=5.8						
KOLN	Koldanda	13.33	126	eP	P	16 02 58.5	-0.9
	comp=Z,7.8nm,0.3s						
KOLN				eS	S	16 05 18.2	-7.1
GKN	Gorkha	13.88	122	eP	P	16 03 05.5	-0.9
	comp=Z,20nm,0.3s						
DMN	Daman	14.45	123	eP	P	16 03 13.0	-0.7
	comp=Z,13nm,0.3s						
KKN	Kakani	14.45	122	eP	P	16 03 12.5	-1.3
	comp=Z,11nm,0.4s						
PKI	Pulchoki	14.68	122	eP	P	16 03 16.5	-0.2
GUN	Gumba	14.79	120	eP	P	16 03 17.8	-0.4
	comp=Z,13nm,0.3s						
KURK	Kurchatov	15.38	17	P	P	16 03 27.7	+2.2
	comp=Z,1.6nm,0.6s						
ZRNK	Zerenda	16.81	355	eP	P	16 03 41.9	-1.3
	comp=Z,1.7nm,0.5s						
BVAR	Borovoye Array	16.81	358	P	P	16 03 42.1	-1.2
	comp=Z,0.2nm,0.3s,baz=174,slow=13,SNR=6.6						
BRVK	Borovoye	16.85	358	P	P	16 03 42.6	-1.2
	comp=Z,1.4nm,0.6s						
ZAL	Zalesovo	20.01	24	P	P	16 04 18.8	-0.7
	comp=Z,6.4nm,0.4s,baz=178,slow=7.3,SNR=25						
ARU	Arti	22.00	341	eP	P	16 04 41.2	+1.8
	comp=Z,2.7nm,0.8s,mb3.6						
SONM	Songino Array	28.22	55	P	P	16 05 39.2	+1.3
	comp=Z,0.3nm,0.6s,mb3.0,baz=253,slow=8.4,SNR=3.4						
AKASG	Malin Array Be	33.38	309	P	P	16 06 22.9	-0.2
	comp=Z,0.2nm,0.3s,mb3.4,baz=106,slow=9.6,SNR=4.1						
FINES	FINESS Array B	37.90	326	P	P	16 07 00.5	-0.7
	comp=Z,1.1nm,0.6s,mb3.9,baz=104,slow=7.9,SNR=6.6						
FINES	FINESS Array B	37.90	326	P	P	16 07 00.5	-0.7
ARCES	ARCESS Array B	41.52	338	P	P	16 07 32.9	+1.9
	comp=Z,0.8nm,0.6s,mb3.6,baz=112,slow=9.7,SNR=3.4						
NB2	NORSAR Subarra	44.80	323	P	P	16 07 57.8	+0.2
	comp=Z,1.0nm,0.5s,mb3.8,baz=95,slow=7.9						
NOA	NORSAR Array B	44.80	323	P	P	16 07 58.0	+0.3
	comp=Z,1.2nm,0.5s,mb3.9,baz=96,slow=7.7,SNR=7.2						

MAN 03 16:04:54.5, 6.22N×124.10E, h30km, mb4.7, ML3.6, MS3.5, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GSPH	General Santos	0.85	99	i P	Pn	16 05 15.0	+4.5
GSPH				i S	Sb	16 05 28.0	+6.2
KCP	Kidapawan	1.26	51⇓	eP	Pn	16 05 15.3	-1.1
KCP				i S	Sn	16 05 33.0	+0.6
PAGZ	Pagadian	1.77	336	eP	Pn	16 05 23.0	-0.7
PAGZ				eS	Sn	16 05 47.2	+1.8
BUKP	Musuan	1.91	30	eP	Pn	16 05 25.6	0.0
BUKP				eS	Sn	16 05 48.8	-0.1
IPIL	Ipil	2.18	316	eP	Pn	16 05 30.0	+0.5
IPIL				eS	Sn	16 05 56.0	+0.3
MATI	Mati	2.26	71	eP	Pn	16 05 30.0	-0.7
MATI				eS	Sn	16 05 57.9	0.0
BUTP	Butuan	3.12	29	eP	Pn	16 05 45.0	+2.0

IDC 03 16:50:11.2±27.0, 37.29N×72.42E, h411km±273km, mb2.8/3, mb1 2.9/5, mb1mx2.6/20, Error ellipse: s-maj=300.0km s-min=31.4km az=41.0
ISC 03 16:49:52.0±2.3, 36.4N±0.1×71.4E±0.4, h249km±17km, n11, σ0s48/12, mb3.1/3, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
THN	Thein Dam	5.35	137	eP	P	16 51 13.2	+0.6
	29nm,0.1s						
THN				eS	S	16 52 14.9	-0.6
AML	Almayashu	5.98	17	P	P	16 51 20.0	-0.4
	SNR=61						
UCH	Uchtor	6.29	22	P	P	16 51 24.5	+0.2
	SNR=26						
EKS2	Erkin-Say	6.50	16	P	P	16 51 26.7	-0.3
	SNR=8.5						
AAK	Ala-Archa	6.65	20	P	P	16 51 29.3	+0.4
	SNR=10.0						
USP	Ospenovka	7.25	18	P	P	16 51 37.2	+0.8
	SNR=6.1						
MKAR	Makanchi Array	13.18	35	P	P	16 52 50.8	-0.2
	0.3nm,0.3s,baz=203,slow=10,SNR=11						
BVAR	Borovoye Array	16.62	358	P	P	16 53 31.1	-0.9
	0.5nm,0.3s,baz=161,slow=12,SNR=12						
ARCES	ARCESS Array B	41.34	338	P	P	16 57 14.6	-0.1
	0.8nm,0.8s,mb3.2,baz=108,slow=8.6,SNR=4.2						
WRA	Warramunga Arr	81.68	122	P	P	17 01 44.2	+0.2
	0.5nm,1.1s,mb3.1,baz=325,slow=4.9,SNR=6.8						
ASAR	Alice Springs	83.95	125	P	P	17 01 55.7	+0.2
	0.3nm,0.7s,mb3.1,baz=305,slow=4.2,SNR=4.4						

IDC 03 16:56:49.0±7.0, 19.16S×176.78W, mb3.6/2, mb1 3.9/2, mb1mx3.6/13, Error ellipse: s-maj=282.0km s-min=112.4km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WB2	Warramunga Arr	45.93	260	eP	P	17 05 14.1	-1.5
WRA	Warramunga Arr	45.94	260	P	P	17 05 14.1	-1.5
	0.3nm,0.3s,baz=97,slow=7.5,SNR=25						
ASAR	Alice Springs	45.95	255	P	P	17 05 13.8	-2.0
	0.4nm,0.4s,baz=91,slow=8.2,SNR=22						
AKASG	Malin Array Be	142.37	333	PKP	PKPdf	17 16 22.9	-2.4
	0.5nm,0.4s,baz=40,slow=4.2,SNR=7.0						

ATH 03 17:15:30.8, 41.42N×20.80E, h5km, MD3.5/6
TIR 03 17:15:32.7, 41.21N×20.74E, h6km, Ml3.1
SKO 03 17:15:33.5, 41.15N×20.74E, h13km, ML3.1
CSEM 03 17:15:34.3±0.1, 41.28N×20.77E, h2km, ML3.1, Error ellipse: s-maj=2.7km s-min=1.8km az=29.0
THE 03 17:15:35.3, 41.20N×20.87E, h10km, ML3.3
NEIC 03 17:15:35.3±0.5, 41.17N×20.83E, h10km, MD3.5(ATH), MD3.4(PDG), ML3.1(SKO), Error ellipse: s-maj=7.0km

s-min=5.3km az=222.0
NEIC Felt [IV] in the Ohrid-Struga area.
*PDG **03** 17:15:36.1±0.1,41.19N×20.51E,h10^{km}±1^{km}*
ISC 03 17:15:33.7±0.2,**41.20N**±0.02×**20.76E**±0.02,**h2^{km},n65, σ1^{s}32**/95,**10C-1D,Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.10**	**161**	⇑iPg	**Pg**	**17 15 36.0**	**+0.3**
OHR				⇑iSg	**Sg**	**17 15 37.7**	**+0.7**
BIA	**Bitola**	**0.47**	**113**	⇑iPg	**Pg**	**17 15 42.6**	**-0.4**
BIA				i Sg	**Sg**	**17 15 49.0**	**-0.2**
KBN	**Korca**	**0.58**	**178**	i Pg	**Pg**	**17 15 44.8**	**-0.5**
KBN				i Sg	**Sg**	**17 15 53.4**	**+0.4**
FNA	**Florina**	**0.63**	**132**	ePg	**Pg**	**17 15 45.9**	**-0.4**
	comp=Z,54nm,0.3s						
FNA				eSg	**Sg**	**17 15 54.9**	**+0.3**
TIR	**Tirane**	**0.69**	**282**	ePg	**Pg**	**17 15 46.9**	**-0.6**
TIR				i Sg	**Sg**	**17 15 57.8**	**+1.2**
QSH	**Qafa e Shtames**	**0.72**	**297**	i pg?	**Pg**	**17 15 45.3**	**-2.7**
QSH				i Sg	**Sg**	**17 15 53.5**	**-4.1**
PRZA	**Preza**	**0.85**	**286**	i pg?	**Pg**	**17 15 52.0**	**+1.3**
SKO	**Skopje**	**0.92**	**33**	i Pg	**Pg**	**17 15 52.4**	**+0.3**
SKO				⇑iSg	**Sg**	**17 16 05.5**	**+1.0**
SKO				Lg		17 16 10.5	
	comp=Z,0.3nm,0.4s						
LSK	**Leskovik**	**1.06**	**187**	i Pg	**Pg**	**17 15 53.4**	**-1.4**
LSK				i Sg	**Sg**	**17 16 09.1**	**+0.2**
PUK	**Puka**	**1.06**	**323**	i Pg	**Pg**	**17 15 53.8**	**-1.1**
PUK				i Sg	**Sg**	**17 16 10.5**	**+1.5**
KZN	**Kozani**	**1.18**	**139**	ePB	**Pb**	**17 15 56.0**	**-0.5**
KZN				eSB	**Sb**	**17 16 15.0**	**+2.9**
GRG	**Griva**	**1.27**	**101**	ePb	**Pb**	**17 15 57.4**	**-0.6**
GRG				eSb	**Sb**	**17 16 15.1**	**+0.5**
ULC	**Ulcinj**	**1.36**	**304**	⇑iPg	**Pg**	**17 15 58.6**	**-2.3**
ULC				eSg	**Sg**	**17 16 17.9**	**-1.2**
VAY	**Valandovo**	**1.37**	**84**	i Sg	**Sg**	**17 16 19.5**	**+0.1**
MEV	**Metsovon**	**1.46**	**166**	ePb	**Pb**	**17 16 02.2**	**+0.9**
	comp=Z,6.5nm,0.5s						
MEV				eSb	**Sb**	**17 16 23.3**	**+3.0**
PVY	**Plav**	**1.51**	**337**	ePg	**Pg**	**17 16 02.2**	**-1.6**
PVY				eSg	**Sg**	**17 16 26.3**	**+2.3**
JAN	**Janina**	**1.54**	**177**	ePN	**Pn**	**17 16 04.0**	**+1.6**
KEK	**Kerkira**	**1.66**	**207**	ePN	**Pn**	**17 16 05.9**	**+1.9**
TTG	**Podgorica**	**1.66**	**318**	ePg	**Pg**	**17 16 04.6**	**-2.2**
TTG				eSg	**Sg**	**17 16 29.5**	**+0.5**
LIT	**Litokhoron**	**1.72**	**129**	ePb	**Pb**	**17 16 04.7**	**-1.0**
	comp=Z,7.5nm,0.5s						
THE	**Thessaloniki**	**1.77**	**108**	ePb	**Pb**	**17 16 05.2**	**-1.3**
THE				eSb	**Sb**	**17 16 28.5**	**-0.6**
BUM	**Brajici-Budva**	**1.77**	**309**	ePn	**Pn**	**17 16 06.3**	**+0.6**
BUM				eSn	**Sn**	**17 16 31.9**	**+2.9**
IVA	**Berane**	**1.79**	**339**	⇑iPn	**Pn**	**17 16 07.5**	**+1.7**
IVA				eSn	**Sn**	**17 16 34.3**	**+4.9**
BARS	**Barje**	**1.80**	**26**	⇓iPn	**Pn**	**17 16 06.4**	**+0.4**
BARS				Sn	**Sn**	**17 16 31.1**	**+1.3**
KKB	**Krupnik**	**1.87**	**68**	P	**Pn**	**17 16 07.0**	**0.0**
KKB				Pg	**Pg**	**17 16 09.0**	**-2.0**
SOH	**Sokhos**	**2.00**	**100**	ePb	**Pb**	**17 16 09.0**	**-1.5**
NKY	**Niksic**	**2.08**	**321**	⇑iPn	**Pn**	**17 16 11.8**	**+1.8**
NKY				eSn	**Sn**	**17 16 40.0**	**+3.3**
HCY	**Herceg Novi**	**2.10**	**307**	ePn	**Pn**	**17 16 11.7**	**+1.4**
HCY				eSn	**Sn**	**17 16 39.3**	**+2.0**
SRS	**Serrai**	**2.14**	**91**	ePn	**Pn**	**17 16 10.7**	**-0.3**
SRS				eSn	**Sn**	**17 16 38.5**	**+0.1**
LCI	**Lecce**	**2.19**	**248**	ePn	**Pn**	**17 16 14.9**	**+3.3**
LCI	**Lecce**	**2.19**	**248**	ePn	**Pn**	**17 16 14.9**	**+3.3**
PLG	**Polygyros**	**2.20**	**111**	ePN	**Pn**	**17 16 11.5**	**-0.3**
MMB	**Musomiste**	**2.27**	**79**	eP	**Pn**	**17 16 13.0**	**+0.3**
VTS	**Vitosha**	**2.30**	**52**	P	**Pn**	**17 16 14.0**	**+0.9**
PLE	**Pljevlja**	**2.35**	**335**	ePn	**Pn**	**17 16 16.3**	**+2.3**
PLE				eSn	**Sn**	**17 16 47.8**	**+4.0**
BRY	**Bratogost**	**2.37**	**317**	⇑iPn	**Pn**	**17 16 15.8**	**+1.7**
BRY				eSn	**Sn**	**17 16 46.7**	**+2.6**
EVR	**Evrytania**	**2.42**	**160**	ePN	**Pn**	**17 16 17.4**	**+2.5**
UPM	**Unac-Piva**	**2.42**	**326**	⇑iPn	**Pn**	**17 16 16.9**	**+1.9**
UPM				eSn	**Sn**	**17 16 49.3**	**+3.7**
NVSS	**Nova Varos 2**	**2.43**	**342**	ePn	**Pn**	**17 16 14.5**	**-0.6**
NVSS				Sn	**Sn**	**17 16 43.4**	**-2.4**
AGG	**Agios Georgios**	**2.49**	**151**	ePn	**Pn**	**17 16 15.7**	**-0.2**
	comp=Z,2.5nm,0.5s						
AGG				eSn	**Sn**	**17 16 47.3**	**+0.1**
LKD	**Levkas**	**2.49**	**182**	ePn	**Pn**	**17 16 17.1**	**+1.2**
LKD	**Levkas**	**2.49**	**182**	ePn	**Pn**	**17 16 17.1**	**+1.2**
OUR	**Ouranopolis**	**2.60**	**108**	ePn	**Pn**	**17 16 16.8**	**-0.7**
XOR	**Xorichti**	**2.61**	**134**	ePn	**Pn**	**17 16 16.9**	**-0.8**
NEO	**Neokhori**	**2.67**	**134**	ePB	**Pb**	**17 16 17.7**	**-4.3**
DIVS	**Divcibare**	**2.95**	**349**	⇑iPn	**Pn**	**17 16 22.1**	**-0.3**
DIVS				Sn	**Sn**	**17 16 57.6**	**-1.4**
SG1	**Sgolgore (BA)**	**3.11**	**265**	ePn	**Pn**	**17 16 23.5**	**-1.2**
CDT	**Castel del Mon**	**3.39**	**269**	ePn	**Pn**	**17 16 27.3**	**-1.4**
SLCN	**Sala Consilina**	**3.97**	**260**	ePn	**Pn**	**17 16 37.1**	**+0.1**
SLCN	**Sala Consilina**	**3.97**	**260**	ePn	**Pn**	**17 16 37.1**	**+0.1**
MRLC	**Muro Lucano**	**4.01**	**265**	ePn	**Pn**	**17 16 37.5**	**-0.1**
MGR	**Morigerati**	**4.10**	**257**	ePn	**Pn**	**17 16 37.6**	**-1.2**
MGR	**Morigerati**	**4.10**	**257**	ePn	**Pn**	**17 16 37.6**	**-1.2**
SGO	**Sicignano**	**4.18**	**263**	ePn	**Pn**	**17 16 38.1**	**-1.9**
SGO	**Sicignano**	**4.18**	**263**	ePn	**Pn**	**17 16 38.1**	**-1.9**
CSSN	**Cassano Irpino**	**4.35**	**267**	ePn	**Pn**	**17 16 41.8**	**-0.5**
CSSN	**Cassano Irpino**	**4.35**	**267**	ePn	**Pn**	**17 16 41.8**	**-0.6**
SGG	**Gregorio Mates**	**4.81**	**274**	ePn	**Pn**	**17 16 48.4**	**-0.4**
SGG	**Gregorio Mates**	**4.81**	**274**	ePn	**Pn**	**17 16 48.4**	**-0.5**
NRCA	**Norcia**	**5.92**	**288**	ePn	**Pn**	**17 17 03.0**	**-1.6**
NRCA	**Norcia**	**5.92**	**288**	ePn	**Pn**	**17 17 03.0**	**-1.6**
ARV	**Arcevia**	**6.23**	**294**	ePn	**Pn**	**17 17 07.5**	**-1.4**
FSSB	**Fossombrone**	**6.41**	**295**	ePn	**Pn**	**17 17 09.3**	**-2.1**
VOY	**Vojsko**	**6.94**	**316**	ePn	**Pn**	**17 17 17.8**	**-1.1**
VOY				eSn	**Sn**	**17 18 36.9**	**-2.4**
FVI	**Forni Avoltri**	**7.89**	**316**	ePn	**Pn**	**17 17 31.9**	**-0.3**

*NEIC **03** 17:23:44.9,41.14N×20.73E,h13^{km},MD2.7(PDG),After SKO.*
NEIC Felt [III] in the Ohrid-Struga area.
*SKO **03** 17:23:44.9,41.14N×20.73E,h13^{km}*
*PDG **03** 17:23:46.2±0.2,41.09N×20.60E,h10^{km}±1^{km}*
*CSEM **03** 17:23:46.8±0.1,41.11N×20.87E,h2^{km},ML3.0,Error ellipse: s-maj=2.3km s-min=1.8km az=36.0*
*THE **03** 17:23:47.3,41.24N×20.98E,h10^{km},ML3.0*
ISC 03 17:23:46.5±0.3,**41.15N**±0.02×**20.81E**±0.03,**h2^{km},n26, σ1^{s}46**/48,**2C-1D,Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.04**	**193**	⇓iPg	**Pg**	**17 23 47.4**	**0.0**
OHR				⇑iSg	**Sg**	**17 23 49.1**	**+1.1**
BIA	**Bitola**	**0.41**	**109**	⇑iPg	**Pg**	**17 23 54.0**	**-0.6**
BIA				i Sg	**Sg**	**17 24 01.9**	**+1.8**
KBN	**Korca**	**0.53**	**182**	i Pg	**Pg**	**17 23 56.6**	**-0.4**
KBN				i Sg	**Sg**	**17 24 04.5**	**+0.5**
KBN	**Korca**	**0.53**	**182**	ePg	**Pg**	**17 23 56.6**	**-0.4**
KBN				i Sg	**Sg**	**17 24 04.5**	**+0.5**
FNA	**Florina**	**0.56**	**131**	ePg	**Pg**	**17 23 57.2**	**-0.5**
	comp=Z,30nm,0.3s						
FNA				eSg	**Sg**	**17 24 06.0**	**+0.8**
TIR	**Tirane**	**0.74**	**286**	i Pg	**Pg**	**17 23 58.2**	**-3.0**
TIR				i Sg	**Sg**	**17 24 08.7**	**-2.4**
QSH	**Qafa e Shtames**	**0.78**	**299**	i Pg	**Pg**	**17 23 59.0**	**-3.0**
QSH				i Sg	**Sg**	**17 24 11.0**	**-1.3**
SKO	**Skopje**	**0.94**	**30**	i Pg	**Pg**	**17 24 05.0**	**-0.3**
SKO				i		17 24 06.2	
SKO				i Sg	**Sg**	**17 24 17.1**	**-0.8**
LACI	**Lac**	**0.96**	**301**	i Pg	**Pg**	**17 24 03.6**	**-2.0**
LACI				i Sg	**Sg**	**17 24 16.1**	**-2.3**
GRG	**Griva**	**1.22**	**99**	ePg	**Pg**	**17 24 08.6**	**-2.1**
GRG				eSg	**Sg**	**17 24 24.4**	**-2.6**
MEV	**Metsovon**	**1.40**	**167**	ePb	**Pb**	**17 24 14.3**	**+1.3**
MEV				eSb	**Sb**	**17 24 35.1**	**+3.8**
ULC	**Ulcinj**	**1.43**	**305**	ePg	**Pg**	**17 24 10.2**	**-4.7**
ULC				eSg	**Sg**	**17 24 31.9**	**-2.0**
PVY	**Plav**	**1.57**	**337**	ePn	**Pn**	**17 24 15.1**	**-0.5**
PVY				eSn	**Sn**	**17 24 39.9**	**+3.2**
LIT	**Litokhoron**	**1.65**	**129**	ePb	**Pb**	**17 24 16.2**	**-1.2**
LIT				eSb	**Sb**	**17 24 39.2**	**+0.6**
TTG	**Podgorica**	**1.73**	**318**	ePn	**Pn**	**17 24 16.7**	**-1.0**
TTG				eSn	**Sn**	**17 24 43.0**	**+2.5**
BUM	**Brajici-Budva**	**1.83**	**309**	ePn	**Pn**	**17 24 18.4**	**-0.8**
BUM				eSn	**Sn**	**17 24 44.8**	**+1.4**
IVA	**Berane**	**1.85**	**339**	ePn	**Pn**	**17 24 19.3**	**-0.2**
IVA				eSn	**Sn**	**17 24 47.5**	**+3.8**
KKB	**Krupnik**	**1.85**	**67**	eP	**Pn**	**17 24 28.0**	**+8.5**
SRS	**Serrai**	**2.10**	**90**	ePb	**Pb**	**17 24 21.4**	**-3.6**
NKY	**Niksic**	**2.14**	**321**	ePn	**Pn**	**17 24 23.8**	**+0.1**
NKY				eSn	**Sn**	**17 24 53.5**	**+2.3**
HCY	**Herceg Novi**	**2.16**	**308**	ePn	**Pn**	**17 24 23.4**	**-0.6**
HCY				eSn	**Sn**	**17 24 52.6**	**+0.9**
MMB	**Musomiste**	**2.24**	**78**	eP	**Pn**	**17 24 27.0**	**+2.0**
VTS	**Vitosha**	**2.30**	**50**	P	**Pn**	**17 24 25.0**	**-0.9**
PLE	**Pljevlja**	**2.42**	**335**	ePn	**Pn**	**17 24 28.9**	**+1.3**
PLE				eSn	**Sn**	**17 25 00.3**	**+2.1**
BRY	**Bratogost**	**2.43**	**317**	ePn	**Pn**	**17 24 27.4**	**-0.4**
BRY				eSn	**Sn**	**17 24 59.6**	**+1.1**
UPM	**Unac-Piva**	**2.49**	**326**	ePn	**Pn**	**17 24 29.5**	**+0.9**
UPM				eSn	**Sn**	**17 25 01.8**	**+1.8**

MAN 03 18:12:15.8,7.69N×127.76E,h34^{km},mb4.8,ML3.7,MS3.6, 1C,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.47**	**290**	⇑iP	P	18 12 38.0	-2.2
BIPH				i S	S	18 12 42.0	-16
MATI	**Mati**	**1.66**	**244**	eP	P	18 12 42.9	0.0
MATI				eS	S	18 13 02.1	-1.2
BUTP	**Butuan**	**2.47**	**301**	eP	P	18 12 53.9	-0.6
BUTP				eS	S	18 13 23.4	-0.4
BUKP	**Musuan**	**2.68**	**274**	eP	P	18 12 58.1	+0.6
BUKP				eS	S	18 13 29.3	+0.2

*NIED **03** 18:15:00,40.90N×143.20E,h35^{km},Mw4.0 Best double couple: Mo1.04×10^{15} NP1:φs16°,δ65°,λ69°. NP2:φs238°, δ32°,λ127°.*
*IDC **03** 18:15:36.2±1.1,40.86N×142.91E,mb3.8/8,mb1 3.9/9, mb1mx3.8/23,ML3.6/1,Error ellipse: s-maj=30.1km s-min=17.6km az=84.0*
*MOS **03** 18:15:38.1±1.4,40.87N×143.04E,h33^{km},mb4.1/4,Error ellipse: s-maj=27.3km s-min=14.1km az=81.3*
*JMA **03** 18:15:38.5±0.1,40.89N×143.17E,h14^{km},M4.2*
*NEIC **03** 18:15:45.4±1.8,40.88N×142.89E,h72^{km}±16^{km},mb4.2/2, Error ellipse: s-maj=18.6km s-min=12.9km az=77.0*
ISC 03 18:15:39.5±0.6,**40.88N**±0.03×**143.31E**±0.06,**h51^{km}**±6^{km}, **n38,σ1^{s}00**/54,**mb3.8**/10,**6C,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ERM	**Erimo**	**1.14**	**354**	Pn	**P**	**18 15 59.9**	**+0.6**
	13µm,0.5s						
JEM	**Erimo**	**1.14**	**354**	⇑P	**P**	**18 15 59.5**	**+0.1**
JEM				eS	**S**	**18 16 14.5**	**+0.4**
JTH	**Tanohata**	**1.46**	**230**	P	**P**	**18 16 03.4**	**-0.6**
JTH				eS	**S**	**18 16 21.5**	**-0.6**
JNBK	**Urakawa-nobuka**	**1.46**	**343**	⇑P	**P**	**18 16 04.0**	**0.0**
JANG	**Nango**	**1.46**	**250**	P	**P**	**18 16 03.1**	**-1.0**
JANG				eS	**S**	**18 16 20.7**	**-1.5**
JTM	**Tenmabayashi**	**1.71**	**267**	P	**P**	**18 16 06.9**	**-0.6**
JTM				eS	**S**	**18 16 28.0**	**-0.2**
JCH	**Churui**	**1.73**	**1**	P	**P**	**18 16 08.1**	**+0.3**
JCH				eS	**S**	**18 16 29.6**	**+0.9**
JOT	**Ohata**	**1.78**	**287**	P	**P**	**18 16 07.5**	**-1.0**
JOT				eS	**S**	**18 16 29.0**	**-1.0**
JKB	**Kayabe**	**1.99**	**301**	⇑P	**P**	**18 16 10.9**	**-0.5**
JKB				eS	**S**	**18 16 35.0**	**-0.1**
JOM	**Ohasama**	**2.09**	**228**	P	**P**	**18 16 13.6**	**+0.7**
JOM				eS	**S**	**18 16 39.0**	**+1.2**
JFR	**Furan**	**2.34**	**347**	P	**P**	**18 16 18.8**	**+2.4**
JAK	**Akkeshi**	**2.35**	**26**	⇑P	**P**	**18 16 16.7**	**+0.1**
JAK				eS	**S**	**18 16 43.5**	**-0.8**
JEW	**Eniwo**	**2.40**	**325**	P	**P**	**18 16 19.2**	**+1.9**
JEW				eS	**S**	**18 16 48.5**	**+2.9**
JAR	**Ashorobuto**	**2.44**	**8**	⇑P	**P**	**18 16 17.4**	**-0.4**
JAR				eS	**S**	**18 16 45.0**	**-1.4**
JMK	**Ichinoseki**	**2.51**	**221**	⇑P	**P**	**18 16 19.5**	**+0.6**
ASAJ	**Asahikawa**	**3.27**	**351**	Pn	**P**	**18 16 29.9**	**+0.2**
	4.3nm,0.3s,baz=214,slow=12,SNR=41						
ASAJ				Sn	**S**	**18 17 10.1**	**+2.4**
	6.1nm,0.3s,baz=122,slow=30,SNR=4.9						
ASAJ	**Asahikawa**	**3.27**	**351**	P	**P**	**18 16 29.9**	**+0.2**
ASAJ						18 17 10.1	
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				smax			
	comp=N,6.0nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.67**	**30**	eP	**P**	**18 16 34.5**	**-0.8**
YUK				eS	**S**	**18 17 15.2**	**-2.5**
YUK				pmax	pmax		
	comp=Z,220nm,0.4s						
YUK				smax			
	comp=E,350nm,0.4s						
YUK				smax			
	comp=N,570nm,0.5s						
KUR	**Kuril'sk**	**5.48**	**36**	P	**P**	**18 17 00.5**	**-0.1**
KUR				eS	**S**	**18 17 58.8**	**-4.3**
KUR				pmax	pmax		
	comp=N,30nm,0.7s						
KUR				pmax	pmax		
	comp=E,30nm,0.7s						
KUR				pmax	pmax		
	comp=Z,70nm,0.7s						
KUR				smax			
	comp=N,120nm,0.6s						
KUR				smax			
	comp=E,90nm,0.6s						
MAJO	**Matsushiro**	**5.89**	**224**	ePn	**P**	**18 17 07.0**	**+0.6**
	comp=E,5.6nm,0.6s						
MAT	**Matsushiro**	**5.89**	**224**	P	**P**	**18 17 06.6**	**+0.2**
MAT				eS	**S**	**18 18 14.3**	**+0.8**
MAT	**Matsushiro**	**5.89**	**224**	eP	**P**	**18 17 07.0**	**+0.6**
MAT				eS	**S**	**18 18 20.0**	**+6.5**
BOD	**Bodaibo**	**25.23**	**322**	eP	**P**	**18 21 00.3**	**-1.6**
SONM	**Songino Array**	**27.10**	**297**	P	**P**	**18 21 19.5**	**+0.1**
	comp=E,0.9nm,0.5s,mb3.5,baz=80,slow=8.2,SNR=12						
ZAL	**Zalesovo**	**40.54**	**309**	P	**P**	**18 23 14.9**	**-0.2**
	comp=E,1.4nm,0.7s,mb3.7,baz=304,slow=7.0,SNR=6.7						
ZAL	**Zalesovo**	**40.54**	**309**	P	**P**	**18 23 14.9**	**-0.2**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**43.44**	**299**	P	**P**	**18 23 38.1**	**-0.8**
	comp=Z,1.2nm,0.6s,mb3.8,baz=86,slow=11,SNR=15						
MKAR	**Makanchi Array**	**43.44**	**299**	P	**P**	**18 23 38.1**	**-0.8**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**43.98**	**253**	P	**P**	**18 23 42.8**	**-0.9**
	comp=Z,0.9nm,1.0s,mb3.5,baz=50,slow=5.9,SNR=5.2						
CMAR	**Chiang Mai Arr**	**43.98**	**253**	P	**P**	**18 23 42.8**	**-0.8**
CMAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
KURK	**Kurchatov**	**44.82**	**305**	eP	**P**	**18 23 49.8**	**-0.1**
	comp=Z,4.0nm,0.6s,mb4.4						
ILAR	**Eielson Array**	**45.47**	**34**	P	**P**	**18 23 58.5**	**+3.5**
	comp=Z,0.3nm,0.5s,mb3.4,baz=264,slow=5.4,SNR=4.1						
ZRNK	**Zerenda**	**49.97**	**310**	eP	**P**	**18 24 30.7**	**+0.5**
	comp=Z,1.1nm,0.8s,mb3.9						
ZRNK				e		18 24 36.8	
WRA	**Warramunga Arr**	**61.09**	**190**	P	**P**	**18 25 51.3**	**+0.5**
	comp=Z,0.4nm,0.5s,mb3.8,baz=6.6,slow=7.0,SNR=10						
ASAR	**Alice Springs**	**64.81**	**190**	P	**P**	**18 26 16.6**	**+1.2**
	comp=Z,0.6nm,0.7s,mb3.7,baz=8.9,slow=4.8,SNR=11						
FINES	**FINESS Array B**	**66.11**	**332**	P	**P**	**18 26 22.8**	**-0.2**
	comp=Z,0.8nm,0.4s,mb4.1,baz=47,slow=8.2,SNR=15						
FINES	**FINESS Array B**	**66.11**	**332**	P	**P**	**18 26 22.8**	**-0.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**66.11**	**332**	P	**P**	**18 26 22.8**	**-0.2**

IDC 03 18:28:26.0±7.7,**5.90S**×**146.79E,h133^{km}**±47^{km},**mb3.3**/3, **mb1 3.3**/6,**mb1mx3.2**/15,**Error ellipse: s-maj=82.9km s-min=53.4km az=52.0,Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.50**	**174**	P	P	18 29 19.8	-0.4
	7.2nm,0.3s,baz=19,slow=5.2,SNR=56						
PMG				S	S	18 30 00.9	-0.7
	3.7nm,0.3s,baz=147,slow=18,SNR=3.3						
CTA	**Charters Tower**	**14.11**	**182**	P	P	18 31 45.6	+4.6
	0.4nm,0.3s,baz=1.9,slow=15,SNR=7.9						
CTA				S	S	18 34 23.0	+8.4
	0.3nm,0.3s,baz=37,slow=19,SNR=1.2						
WRA	**Warramunga Arr**	**18.47**	**220**	P	P	18 32 31.3	-3.0
	0.1nm,0.3s,baz=38,slow=12,SNR=7.6						
ASAR	**Alice Springs**	**21.58**	**214**	P	P	18 33 05.9	-0.2
	0.8nm,0.5s,baz=50,slow=9.1,SNR=20						
FITZ	**Fitzroy Crossi**	**23.94**	**238**	P	P	18 33 27.7	-1.5
	0.8nm,0.3s,baz=48,slow=8.0,SNR=7.7						
STKA	**Stephens Creek**	**26.29**	**190**	P	P	18 33 49.4	-1.7
	1.5nm,0.7s,baz=355,slow=11,SNR=3.0						

*SYO **03** 18:34:16.7,56.57S×141.93W,h10^{km},MB4.8,MS4.9*
*IDC **03** 18:34:17.6±0.8,56.88S×142.32W,mb4.4/7,mb1 4.5/7, mb1mx4.4/13,MS4.7/10,Ms1 4.7/10,ms1mx4.6/11,Error ellipse: s-maj=30.2km s-min=22.3km az=178.0*
*NEIC **03** 18:34:17.3±0.6,56.56S×141.91W,h10^{km},mb4.7/7, MS5.0/101,Error ellipse: s-maj=16.9km s-min=12.5km az=190.0*
*HRVD **03** 18:34:17.3±0.1,56.85S×141.75W,h12^{km},MW5.5/71, Centroid moment Tensor Solution. LP body waves: s60,c103;Mantle waves: s71,c135; Half duration: 1^{s}5 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.20±.03; $M_{\theta\theta}$1.95±.04; $M_{\phi\phi}$-1.74±.03; $M_{r\theta}$0.07±.09; $M_{\theta\phi}$1.42±.03; $M_{\phi r}$-0.07±.09; Best double couple: $M_0$2.33×10^{17} NP1: φs26°,δ88°,λ-179°. NP2:φs296°,δ89°,λ-2°. Principal axes: T 2.43, Plg1°, Azm341°; N -.2, Plg87°, Azm93°; P -2.23, Plg3°, Azm251°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **03** 18:34:18.0,56.60S×141.90W,h10^{km},mB4.9,Ms5.2, Msz5.2*
ISC 03 18:34:15.3±0.8,**56.6S**±0.1×**141.9W**±0.2,**h10^{km},n147, σ0^{s}95**/25,**mb4.5**/11,**MS4.9**/113,**8C-1D,Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SBA	**Scott Base**	**27.48**	**201**	P	**P**	**18 40 03.5**	**+0.5**
	28nm,1.7s,mb4.5						
SBA				LR	LR		
	comp=Z,2µm,22.0s,MS4.7						
SNZO	**South Karori**	**31.69**	**280**	PFAKE		18 40 50.0	+9.1
SNZO				LR	LR		
	comp=Z,3µm,22.0s,MS5.0						
URZ	**Urewera**	**32.58**	**287**	LR	LR	18 51 02.1	
	comp=Z,2µm,21.0s,MS4.7,baz=121,slow=31						
PTCN	**Pitcairn Islan**	**32.61**	**20**	PFAKE		18 41 00.0	+11
PTCN				LR	LR		
	comp=Z,3µm,20.0s,MS5.0						
TBI	**Tubuai**	**33.63**	**347**	eS	**S**	**18 46 08.8**	**-11**
TBI				eR		18 49 31.8	
	comp=Z,5µm,29.8s,baz=174						
RKT	**Rikitea**	**33.79**	**12**	eS	**S**	**18 46 13.4**	**-8.5**
RKT				eL		18 48 36.5	
RKT				eR		18 49 40.5	
	comp=Z,5µm,30.0s,baz=191						
PMSA	**Palmer Station**	**36.66**	**135**	P	**P**	**18 41 22.7**	**-0.6**
	comp=Z,2.8nm,0.6s,mb4.3						
RPN	**Rapa Nui**	**37.50**	**52**	PFAKE		18 41 40.0	+9.2
RPN				LR	LR		
	comp=Z,689nm,19.0s,MS4.5						
RAR	**Rarotonga**	**37.69**	**332**	PFAKE		18 41 40.0	+7.6
RAR				LR	LR		
	comp=Z,3µm,20.0s,MS5.0						
PPT	**Papeete**	**39.35**	**348**	eS	**S**	**18 47 35.4**	**-12**
PPT				eR		18 52 07.1	
	comp=Z,6µm,29.0s,baz=181						
USHA	**Ushuaia**	**39.63**	**120**	LR	LR	18 55 11.4	
	comp=Z,641nm,19.5s,MS4.5,baz=213,slow=32						
CASY	**Casey**	**46.05**	**212**	eP	**P**	**18 42 38.8**	**-1.3**
	comp=Z,32nm,0.8s,mb5.3						
CASY				e		18 42 53.1	
CASY				LR	LR		
	comp=Z,1µm,21.0s,MS4.9						
EFI	**East Falkland**	**46.50**	**121**	PFAKE		18 43 00.0	+16
EFI				LR	LR		
	comp=Z,360nm,20.0s,MS4.3						
VNA3	**Neumayer Olymp**	**48.13**	**161**	⇑i	**P**	**18 42 57.8**	**+1.3**
VNA2	**Neumayer--Watz**	**48.80**	**162**	⇑i	**P**	**18 43 03.1**	**+1.5**
VNA1	**Neumayer--Stat**	**48.88**	**161**	⇑i	**P**	**18 43 03.5**	**+1.2**
SNAA	**Sanae**	**48.89**	**164**	⇑i	**P**	**18 43 01.4**	**-0.9**
SNAA	**Sanae**	**48.89**	**164**	P	**P**	**18 43 01.4**	**-0.9**
	comp=Z,3.8nm,0.6s,mb4.6,baz=222,slow=6.7,SNR=116						
SNAA				LR	LR	19 02 20.9	
	comp=Z,250nm,18.4s,MS4.2,baz=230,slow=35						
SNAA	**Sanae**	**48.89**	**164**	⇑iP	**P**	**18 43 01.4**	**-0.9**
TRQA	**Tornquist**	**54.03**	**106**	P	**P**	**18 43 40.8**	**-0.8**
	comp=Z,13nm,1.3s,mb4.7						
TRQA				LR	LR		
	comp=Z,574nm,20.0s,MS4.6						
SYO	**Syowa Base**	**54.74**	**181**	⇓P	**P**	**18 43 44.5**	**-1.9**
SYO	**Syowa Base**	**54.74**	**181**	⇑pP	pP	18 43 45.9	-3.5
SYO	**Syowa Base**	**54.74**	**181**	⇑sP	sP	18 43 51.4	+0.8
SYO	**Syowa Base**	**54.74**	**181**	⇑PcP	PcP	18 44 46.6	-2.3
MAW	**Mawson**	**54.79**	**191**	eP	**P**	**18 43 46.7**	**-0.1**
	comp=Z,5.7nm,1.0s,mb4.6						
MAW	**Mawson**	**54.79**	**191**	P	**P**	**18 43 46.8**	**0.0**
	comp=Z,5.7nm,0.9s,mb4.6,baz=162,slow=8.2,SNR=17						
MAW				LR	LR	19 04 04.0	
	comp=Z,1µm,20.5s,MS4.9,baz=157,slow=33						
STKA	**Stephens Creek**	**56.78**	**261**	eP	**P**	**18 44 02.5**	**+0.8**
	comp=Z,7.8nm,0.9s,mb4.7						
STKA	**Stephens Creek**	**56.78**	**261**	P	**P**	**18 44 02.5**	**+0.9**
	comp=Z,9.7nm,0.9s,mb4.8,baz=133,slow=7.7,SNR=13						
CTAO	**Charters Tower**	**63.46**	**274**	PFAKE		18 45 00.0	+12
CTAO				LR	LR		
	comp=Z,805nm,19.0s,MS4.9						
CPUP	**Villa Florida**	**65.54**	**101**	LR	LR	19 08 28.6	
	comp=Z,349nm,21.0s,MS4.5,baz=238,slow=31						
ASAR	**Alice Springs**	**67.42**	**261**	P	**P**	**18 45 12.4**	**-0.5**
	comp=Z,5.5nm,0.8s,mb4.6,baz=140,slow=6.3,SNR=42						
ASAR				LR	LR	19 10 24.1	
	comp=Z,410nm,19.6s,MS4.7,baz=150,slow=32						
ASPA	**Alice Springs**	**67.42**	**261**	eP	**P**	**18 45 12.6**	**-0.3**
ASPA				e		18 45 20.4	
LPAZ	**La Paz**	**67.64**	**86**	P	**P**	**18 45 18.3**	**+3.9**
	comp=Z,1.8nm,0.8s,mb4.1,baz=209,slow=2.9,SNR=8.0						
LPAZ	**La Paz**	**67.64**	**86**	eP	**P**	**18 45 14.8**	**+0.4**
	comp=Z,10.0nm,1.3s,mb4.7						
LPAZ				LR	LR		
	comp=Z,380nm,20.0s,MS4.6						
NWAO	**Narrogin (SRO)**	**68.72**	**242**	PFAKE		18 45 30.0	+9.1
NWAO				LR	LR		
	comp=Z,2µm,20.0s,MS5.3						
PAYG	**Puerto Ayora**	**69.31**	**57**	PFAKE		18 45 40.0	+15
PAYG				LR	LR		
	comp=Z,875nm,20.0s,MS5.0						
WRA	**Warramunga Arr**	**70.17**	**264**	LR	LR	19 11 56.2	
	comp=Z,609nm,18.6s,MS4.9,baz=135,slow=32						
PMG	**Port Moresby**	**71.70**	**281**	LR	LR	19 11 32.0	
	comp=Z,616nm,18.1s,MS4.9,baz=55,slow=31						
PMG	**Port Moresby**	**71.70**	**281**	PFAKE		18 45 50.0	+11
PMG				LR	LR		
	comp=Z,943nm,22.0s,MS5.0						
OTAV	**Otavalo**	**75.89**	**67**	PFAKE		18 46 20.0	+16
OTAV				LR	LR		
	comp=Z,184nm,20.0s,MS4.4						
SAML	**Samuel**	**76.39**	**86**	eP	**P**	**18 46 06.4**	**0.0**
SAML				LR	LR		
	comp=Z,247nm,19.0s,MS4.5						
FITZ	**Fitzroy Crossi**	**76.42**	**258**	P	**P**	**18 46 07.1**	**+0.5**
	comp=Z,3.4nm,0.9s,mb4.3,baz=146,slow=6.1,SNR=4.1						
MBWA	**Marble Bar**	**77.06**	**251**	PFAKE		18 46 20.0	+10
MBWA				LR	LR		
	comp=Z,915nm,20.0s,MS5.1						
BDFB	**Brasilia**	**79.24**	**102**	LR	LR	19 17 50.3	
	comp=Z,806nm,18.1s,MS5.1,baz=19,slow=33						
JTS	**JuntasAbangare**	**81.42**	**57**	PFAKE		18 46 50.0	+16
JTS				LR	LR		
	comp=Z,210nm,21.0s,MS4.5						
ROSC	**El Rosal**	**81.94**	**69**	LR	LR	19 15 54.1	
	comp=Z,349nm,21.4s,MS4.7,baz=224,slow=30						
WAKE	**Wake Island**	**86.97**	**312**	PFAKE		18 47 10.0	+8.3
WAKE				LR	LR		
	comp=Z,42µm,22.0s						
SDV	**Santo Domingo**	**87.27**	**70**	PFAKE		18 47 20.0	+17
SDV				LR	LR		
	comp=Z,310nm,20.0s,MS4.7						
LTX	**Lajitas**	**91.51**	**33**	PFAKE		18 47 30.0	+7.2
LTX				LR	LR		
	comp=Z,401nm,21.0s,MS4.8						
TXAR	**Lajitas Array**	**91.51**	**33**	P	**P**	**18 47 28.9**	**+6.1**
	comp=Z,0.2nm,0.7s,mb3.6,baz=217,slow=6.3,SNR=3.4						
PFO	**Pinyon Flat Ob**	**92.39**	**21**	PFAKE		18 47 40.0	+13
PFO				LR	LR		
	comp=Z,187nm,21.0s,MS4.5						
TUC	**Tucson**	**92.39**	**26**	PFAKE		18 47 40.0	+13

TUC LR LR
comp=Z,329nm,19.0s,MS4.8
JCT Junction City 93.77 35 PFAKE 18 47 50.0 +17
JCT LR LR
comp=Z,319nm,19.0s,MS4.8
RCBR Riachuelo 93.91 107 PFAKE 18 47 50.0 +16
RCBR LR LR
comp=Z,545nm,21.0s,MS5.0
BOSA Boshof 94.47 169 PFAKE 18 47 50.0 +13
BOSA LR LR
comp=Z,845nm,20.0s,MS5.2
SAO San Andreas Ge 94.57 16 PFAKE 18 47 50.0 +13
SAO LR LR
comp=Z,610nm,20.0s,MS5.1
HKT Hockley 94.61 39 PFAKE 18 47 50.0 +13
HKT LR LR
comp=Z,276nm,20.0s,MS4.7
DAC Darwin (Calif) 94.76 20 PFAKE 18 47 50.0 +12
DAC LR LR
comp=Z,792nm,21.0s,MS5.2
TPNV Topopah Spring 95.66 20 PFAKE 18 47 50.0 +8.2
TPNV LR LR
comp=Z,781nm,21.0s,MS5.2
CMB Columbia Colle 95.98 17 PFAKE 18 48 00.0 +17
CMB LR LR
comp=Z,624nm,22.0s,MS5.0
ANMO Albuquerque 96.00 29 PFAKE 18 48 00.0 +17
ANMO LR LR
comp=Z,460nm,22.0s,MS4.9
HOPS Hopland 96.52 15 PFAKE 18 48 00.0 +14
HOPS LR LR
comp=Z,517nm,20.0s,MS5.0
TPH Tonopah 96.57 19 PFAKE 18 48 00.0 +14
TPH LR LR
comp=Z,672nm,19.0s,MS5.1
MNV Mina 96.75 19 PFAKE 18 48 00.0 +13
MNV LR LR
comp=Z,727nm,21.0s,MS5.1
SJG San Juan 97.35 68 PFAKE 18 48 00.0 +10
SJG LR LR
comp=Z,171nm,19.0s,MS4.5
MVU Marysvale 97.99 23 PFAKE 18 48 00.0 +7.7
MVU LR LR
comp=Z,509nm,21.0s,MS5.0
WMOK Wichita Mounta 98.03 35 PFAKE 18 48 00.0 +7.5
WMOK LR LR
comp=Z,319nm,21.0s,MS4.8
WDC Whiskeytown Da 98.15 15 PFAKE 18 48 00.0 +7.1
WDC LR LR
comp=Z,503nm,19.0s,MS5.0
DWPF Disney 98.60 51 PFAKE 18 48 10.0 +15
DWPF LR LR
comp=Z,270nm,22.0s,MS4.7
BMN Battle Mountai 98.86 19 PFAKE 18 48 10.0 +14
BMN LR LR
comp=Z,608nm,20.0s,MS5.1
SDCO Great Sand Dun 98.89 28 PFAKE 18 48 10.0 +14
SDCO LR LR
comp=Z,645nm,19.0s,MS5.1
YBH Yreka Blue Hor 99.26 14 PFAKE 18 48 10.0 +12
YBH LR LR
comp=Z,434nm,19.0s,MS5.0
DUG Dugway 99.49 22 PFAKE 18 48 10.0 +11
DUG LR LR
comp=Z,621nm,21.0s,MS5.1
ELK Elko 99.53 20 PFAKE 18 48 10.0 +11
ELK LR LR
comp=Z,473nm,20.0s,MS5.0
MIAR Mount Ida 99.58 39 PFAKE 18 48 10.0 +10
MIAR LR LR
comp=Z,268nm,20.0s,MS4.7
MOD Modoc 99.78 16 PFAKE 18 48 10.0 +10
MOD LR LR
comp=Z,363nm,22.0s,MS4.8
HUMO Hull Mountain 100.08 14 PFAKE 18 48 10.0 +8.3
HUMO LR LR
comp=Z,723nm,22.0s,MS5.1
LRAL Lakeview Retre 100.64 44 PFAKE 18 48 20.0 +16
LRAL LR LR
comp=Z,328nm,20.0s,MS4.8
ISCO Idaho Springs 100.79 28 PFAKE 18 48 20.0 +15
ISCO LR LR
comp=Z,601nm,20.0s,MS5.1
OXF Oxford 101.04 42 PFAKE 18 48 20.0 +14
OXF LR LR
comp=Z,283nm,20.0s,MS4.8
CBKS Cedar Bluff 101.50 32 PFAKE 18 48 20.0 +12
CBKS LR LR
comp=Z,561nm,22.0s,MS5.0
COR Corvallis 101.98 13 PFAKE 18 48 20.0 +10
COR LR LR
comp=Z,708nm,20.0s,MS5.2
AHID Auburn Hatcher 102.31 23 PFAKE 18 48 20.0 +8.3
AHID LR LR
comp=Z,332nm,19.0s,MS4.9
HLID Hailey 102.41 20 PFAKE 18 48 20.0 +7.9
HLID LR LR
comp=Z,739nm,20.0s,MS5.2
TSUM Tsumeb 102.59 160 PFAKE 18 48 30.0 +17
TSUM LR LR
comp=Z,789nm,19.0s,MS5.3
BW06 Boulder Array 102.65 24 PFAKE 18 48 30.0 +17
BW06 LR LR
comp=Z,613nm,22.0s,MS5.1
WVT Waverly 103.06 42 PFAKE 18 48 30.0 +15
WVT LR LR
comp=Z,141nm,21.0s,MS4.5
NHSC New Hope 103.46 49 PFAKE 18 48 30.0 +13
NHSC LR LR
comp=Z,315nm,19.0s,MS4.9
CCM Cathedral Cave 103.55 39 PFAKE 18 48 30.0 +13
CCM LR LR
comp=Z,278nm,20.0s,MS4.8
HAWA Hanford 104.28 16 PFAKE 18 48 30.0 +10
HAWA LR LR
comp=Z,487nm,21.0s,MS5.0
BOZ Bozeman (W) 104.96 21 PFAKE 18 48 40.0 +17
BOZ LR LR
comp=Z,606nm,20.0s,MS5.1
OCWA Octopus Mounta 104.99 12 PFAKE 18 48 40.0 +17
OCWA LR LR
comp=Z,688nm,20.0s,MS5.2
WCI Wyandotte Cave 105.49 42 PFAKE 18 52 50.0
WCI LR LR
comp=Z,237nm,20.0s,MS4.7
MSO Missoula 105.65 20 PFAKE 18 52 50.0
MSO LR LR
comp=Z,368nm,21.0s,MS4.9
NEW Newport 106.48 17 PFAKE 18 52 50.0
NEW LR LR
comp=Z,395nm,20.0s,MS5.0
BLA Blacksburg 106.89 47 PFAKE 18 52 50.0
BLA LR LR
comp=Z,251nm,22.0s,MS4.7
LAO LASA Array 107.13 25 PFAKE 18 52 50.0
LAO LR LR
comp=Z,713nm,20.0s,MS5.2
LSZ Lusaka 107.96 170 PFAKE 18 53 00.0
LSZ LR LR
comp=Z,730nm,19.0s,MS5.3
JFWS Jewell Farm 108.23 37 PFAKE 18 53 00.0
JFWS LR LR
comp=Z,470nm,21.0s,MS5.0
ACSO Alum Creek Sta 108.49 44 PFAKE 18 53 00.0
ACSO LR LR
comp=Z,638nm,19.0s,MS5.2
CBN Corbin 109.00 49 PFAKE 18 53 00.0
CBN LR LR
comp=Z,443nm,19.0s,MS5.0
MCWV Mont Chateau 109.22 46 PFAKE 18 53 00.0
MCWV LR LR
comp=Z,443nm,19.0s,MS5.0
DGMT Dagmar 109.28 26 PFAKE 18 53 00.0
DGMT LR LR
comp=Z,581nm,21.0s,MS5.1
BBSR BB Station 109.89 61 PFAKE 18 53 00.0
BBSR LR LR
comp=Z,219nm,19.0s,MS4.8
EYMN Ely 112.29 34 PFAKE 18 53 00.0 +6.6
EYMN LR LR
comp=Z,12nm,20.0s
BINY Binghamton 112.93 47 PFAKE 18 53 10.0 +15
BINY LR LR
comp=Z,795nm,21.0s,MS5.3
ULM Lac du Bonnet 113.07 30 PFAKE 18 53 10.0 +15
ULM LR LR
comp=Z,660nm,20.0s,MS5.2
SIT Sitka 113.39 4 PFAKE 18 53 10.0 +15
SIT LR LR
comp=Z,834nm,21.0s,MS5.3
KDAK Kodiak Island 114.31 354 PFAKE 18 53 10.0 +13
KDAK LR LR
comp=Z,284nm,21.0s,MS4.8
HRV Harvard--Oak R 115.03 50 PFAKE 18 53 10.0 +11
HRV LR LR
comp=Z,337nm,19.0s,MS5.0
WES Weston 115.03 50 PFAKE 18 53 10.0 +11
WES LR LR
comp=Z,1μm,20.0s,MS5.4
NCB Newcomb 115.12 48 PFAKE 18 53 10.0 +11
NCB LR LR
comp=Z,314nm,22.0s,MS4.9
WVL Waterville 117.51 50 PFAKE 18 53 10.0 +6.3
WVL LR LR
comp=Z,6μm,21.0s
PMR Palmer 117.94 356 PFAKE 18 53 10.0 +5.9
PMR LR LR
comp=Z,633nm,21.0s,MS5.2
EMMW East Machias 118.57 51 PFAKE 18 53 20.0 +14
EMMW LR LR
comp=Z,3μm,22.0s,MS5.8
SSE Sheshan 119.00 283 PKP PKPdf 18 53 07.1 +0.1
SSE PP PP 18 54 32.7 +4.4
SSE SS SS 19 10 50.3 +5.9
SSE LR LR
comp=N,163nm,27.6s,MS4.8
SSE LR LR
comp=E,281nm,27.6s,MS4.8
SSE LR LR
comp=Z,171nm,20.5s
PET Petropavlovsk 119.57 323 PFAKE 18 53 20.0 +13
PET LR LR
comp=Z,636nm,22.0s,MS5.2
PQI Presque Isle 119.88 50 PFAKE 18 53 20.0 +12
PQI LR LR
comp=Z,3μm,21.0s,MS5.8
DBIC Dimbokro 119.92 129 PFAKE 18 53 20.0 +11
DBIC LR LR
comp=Z,276nm,20.0s,MS4.9
YSS Yuzh-Sakhalins 120.69 310 PFAKE 18 53 20.0 +10
YSS LR LR
comp=Z,248nm,22.0s,MS4.8
ILAR Eielson Array 121.06 358 PKP PKPdf 18 53 09.6 -0.6
comp=Z,2.4nm,0.9s,baz=227,slow=1.9,SNR=6.9
COLA College 121.19 357 PFAKE 18 53 20.0 +10
COLA LR LR
comp=Z,438nm,19.0s,MS5.1
KMBO Kilima Mbogo 122.50 179 PFAKE 18 53 20.0 +6.0
KMBO LR LR
comp=Z,749nm,22.0s,MS5.3
MBAR Mbarara 122.71 171 PFAKE 18 53 20.0 +5.6
MBAR LR LR
comp=Z,167nm,19.0s,MS4.7
ENH Enshi 124.77 273 PFAKE 18 53 30.0 +12
ENH LR LR
comp=Z,229nm,19.0s,MS4.9
MDJ Mudanjiang 124.91 299 PFAKE 18 53 30.0 +12
MDJ LR LR
comp=Z,179nm,22.0s,MS4.7
CN2 Changchun 126.35 296 PKP PKPdf 18 53 16.1 -4.5
SCHQ Schefferville 126.64 44 PFAKE 18 53 30.0 +9.2
SCHQ LR LR
comp=Z,792nm,20.0s,MS5.4
MA2 Magadan 127.45 324 PFAKE 18 53 30.0 +7.7
MA2 LR LR
comp=Z,173nm,19.0s,MS4.8
BJT Baijiatuau 128.39 287 PFAKE 18 53 40.0 +15
BJT LR LR
comp=Z,223nm,22.0s,MS4.8
LZH Lanzhou 132.25 274 *e*PKP PKPdf 18 53 27.4 -4.8
LZH XPKP 18 53 31.7
LZH PP PP 18 55 55.0 -0.6
LZH SS SS 19 13 30.0 -1.1
LZH LR LR
comp=E,293nm,18.0s
LZH LR LR
comp=Z,421nm,20.0s,MS5.1
HIA Hailar 132.98 298 PFAKE 18 53 40.0 +6.8
HIA LR LR
comp=Z,165nm,22.0s,MS4.7
LSA Lhasa 134.41 257 PFAKE 18 53 50.0 +14
LSA LR LR
comp=Z,140nm,22.0s,MS4.6
YAK Yakutsk 136.64 317 PFAKE 18 53 50.0 +11
YAK LR LR
comp=Z,198nm,19.0s,MS4.9
ULN Ulaanbaatar 138.53 288 PFAKE 18 53 50.0 +6.5
ULN LR LR
comp=Z,162nm,19.0s,MS4.8
WMQ Urumqi 146.53 269 *e*PKP PKPdf 18 53 57.0 -0.4
WMQ PP PP 18 57 26.0 +3.0
WMQ SKS SKS 19 01 04.0 -1.4
WMQ SS SS 19 16 22.0 +4.1
WMQ SKKS 20 04 15.0
WMQ LR LR
comp=N,239nm,25.0s,MS5.0
WMQ LR LR
comp=E,164nm,26.0s,MS5.0
WMQ LR LR
comp=Z,153nm,25.0s,MS4.7
ESDC Sonseca Array 147.88 104 PKPbc PKPdf 18 54 04.9 +5.2
comp=Z,5.1nm,1.1s,baz=227,slow=2.4,SNR=7.8
ESLA Sonseca Array 147.88 104 PKP PKPdf 18 53 57.4 -2.4
ESLA LR LR
comp=Z,1μm,20.0s,MS5.7
KSH Kashi 149.96 252 *e*PKP PKPdf 18 54 09.3 +6.2
KSH *e*SKS SKS 19 01 10.8 +0.5
MKAR Makanchi Array 151.36 269 PKPbc PKPdf 18 54 10.2 +5.3
comp=Z,6.6nm,1.0s,baz=118,slow=4.2,SNR=12
MKAR PKPab PKPab 18 54 20.1 +1.5
comp=Z,5.4nm,0.7s,baz=117,slow=3.2,SNR=12
AAK Ala-Archa 152.96 255 PFAKE 18 54 20.0 +13
AAK LR LR
comp=Z,50nm,21.0s,MS4.3
KURK Kurchatov 155.54 273 PFAKE 18 54 20.0 +9.4
KURK LR LR
comp=Z,54nm,19.0s,MS4.4
BRVK Borovoye 161.20 273 PFAKE 18 54 30.0 +13
BRVK LR LR
comp=Z,54nm,21.0s
LJU Ljubljana 162.00 116 *e*PKPdf PKPdf 18 54 22.0 +3.7
KIV Kislovodsk 167.05 195 PFAKE 18 54 30.0 +7.0
KIV LR LR
comp=Z,54nm,20.0s
ARU Arti 168.67 278 PFAKE 18 54 30.0 +6.4
ARU LR LR
comp=Z,96nm,20.0s
OBN Obninsk 178.32 149 PFAKE 18 54 40.0 +13
OBN LR LR
comp=Z,74nm,19.0s

*LDG **03** 18:38:40.6±0.2, 19.10S×169.56E, h10km, Mb5.1/2, Error ellipse: s-maj=27.0km s-min=3.6km az=125.0*
*BJI **03** 18:38:41.0, 19.60S×169.90E, h34km, mB5.2, mb4.7, Msz4.0*
*NEIC **03** 18:38:43.1±4.6, 19.63S×169.87E, h34km±31km, mb5.0/16, Error ellipse: s-maj=13.8km s-min=10.2km az=64.0*
*HRVD **03** 18:38:43.1±0.4, 19.55S×169.97E, h21km±1km, MW5.1/39, Centroid moment Tensor Solution. LP body waves: s13,c14;Mantle waves: s39,c59; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.27±.74; $M_{\theta\theta}$2.73±.44; $M_{\phi\phi}$2.55±.41; $M_{r\theta}$2.78±.81; $M_{\theta\phi}$-3.11±.22; $M_{\phi r}$-0.97±.78; Best double couple: $M_0$6.26×10^{16} NP1:ϕs147°, δ33°, λ-69°. NP2:ϕs302°, δ59°, λ-103°. Principal axes: T 6.38, Plg13°, Azm42°; N -.23, Plg11°, Azm309°; P -6.14, Plg73°, Azm180°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **03** 18:38:46.2±6.6, 19.69S×169.84E, h60km±57km, mb4.2/15, mb1 4.4/16, mb1mx4.3/18, ML4.0/1, MS4.4/6, Ms1 4.4/6, ms1mx4.1/15 Error ellipse: s-maj=24.4km s-min=17.7km az=41.0*
ISC 03 18:38:41.4±3.0, 19.63S±0.05×169.78E±0.07, h30km±20km, n122, σ0°89/52, mb4.7/33, MS4.4/8, 10C-6D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**2.44**	**323**	⇑*i*	P	**Pn**	**18 39 19.8**	**-0.3**
DZM	**Mont Dzumac**	**3.96**	**232**	*e*	P	**Pn**	**18 39 41.7**	**+0.1**
DZM				*e*	S	**Sn**	**18 40 28.1**	**+0.5**
NOUC	**Port Laguerre**	**4.08**	**232**	⇑*e*	P	**Pn**	**18 39 43.6**	**+0.2**
NOUC				*e*	S	**Sn**	**18 40 30.2**	**-0.5**
URZ	**Urewera**	**19.63**	**163**	P	P	**P**	**18 43 10.9**	**+0.4**
	0.4nm,0.3s,baz=331,slow=13,SNR=4.9							
CTA	**Charters Tower**	**22.13**	**265**	*e*P	P	**P**	**18 43 38.2**	**+1.9**
	19nm,1.0s,mb4.5							
CTA	**Charters Tower**	**22.13**	**265**	P	P	**P**	**18 43 37.8**	**+1.5**
	9.5nm,0.7s,mb4.3,baz=93,slow=13,SNR=14							
CTA				LR	LR		18 51 24.2	
	comp=Z,523nm,20.9s,MS3.9,baz=327,slow=34							
CTAO	**Charters Tower**	**22.13**	**265**	*e*P	P	**P**	**18 43 37.9**	**+1.6**
	60nm,1.4s,mb4.8							
CNB	**Canberra Magne**	**23.85**	**225**	*e*P	P	**P**	**18 43 55.6**	**+2.6**
	87nm,1.3s,mb5.0							
RPZ	**Rata Peaks**	**24.04**	**178**	P	P	**P**	**18 43 54.2**	**-0.6**
	18nm,0.9s,mb4.5,baz=87,slow=13,SNR=2.1							
PMG	**Port Moresby**	**24.11**	**292**	P	P	**P**	**18 43 56.9**	**+1.1**
	27nm,0.8s,mb4.8							
STKA	**Stephens Creek**	**28.07**	**239**	P	P	**P**	**18 44 32.1**	**-0.4**
	6.5nm,1.0s,mb4.2,baz=59,slow=7.6,SNR=4.9							
WB2	**Warramunga Arr**	**33.30**	**263**	*e*P	P	**P**	**18 45 17.5**	**-1.3**
WRAB	**Tennant Creek**	**33.30**	**263**	*e*P	P	**P**	**18 45 17.3**	**-1.5**
	29nm,1.0s,mb5.2							
WRA	**Warramunga Arr**	**33.31**	**263**	P	P	**P**	**18 45 17.8**	**-1.1**
	6.2nm,0.9s,mb4.5,baz=89,slow=8.5,SNR=41							
ASAR	**Alice Springs**	**33.53**	**257**	P	P	**P**	**18 45 20.4**	**-0.4**
	14nm,0.6s,mb5.1,baz=83,slow=9.1,SNR=164							
ASAR				LR	LR		18 58 54.3	
	comp=Z,719nm,18.4s,MS4.4,baz=100,slow=36							
ASAR	**Alice Springs**	**33.53**	**257**	P	P	**P**	**18 45 20.4**	**-0.4**
ASAR				LR	LR		18 58 54.3	
KAKA	**Kakadu**	**36.50**	**275**	*e*P	P	**P**	**18 45 51.0**	**+4.8**
	12nm,0.8s,mb4.9							
FORT	**Forrest**	**39.15**	**245**	*e*P	P	**P**	**18 46 07.9**	**-0.3**
	67nm,0.7s,mb5.5							
FITZ	**Fitzroy Crossi**	**41.71**	**265**	*e*P	P	**P**	**18 46 30.0**	**+0.4**
	13nm,0.8s,mb4.6							
FITZ	**Fitzroy Crossi**	**41.71**	**265**	P	P	**P**	**18 46 30.2**	**+0.7**
	12nm,0.6s,mb4.7,baz=86,slow=4.5,SNR=25							
MBWA	**Marble Bar**	**46.78**	**259**	*e*P	P	**P**	**18 47 10.4**	**+0.1**
	11nm,0.7s,mb4.9							
KLBR	**Kellerberrin**	**48.01**	**245**	*e*P	P	**P**	**18 47 19.2**	**-0.7**
	51nm,1.2s,mb5.4							
NWAO	**Narrogin (SRO)**	**48.49**	**243**	P	P	**P**	**18 47 22.5**	**-1.1**
	11nm,0.8s,mb5.0,baz=95,slow=7.7,SNR=7.7							
NWAO	**Narrogin (SRO)**	**48.49**	**243**	*e*P	P	**P**	**18 47 22.9**	**-0.7**
	12nm,0.9s,mb4.9							
SBA	**Scott Base**	**58.28**	**181**	*e*P	P	**P**	**18 48 35.0**	**-0.3**
	54nm,1.6s,mb5.3							
CASY	**Casey**	**59.97**	**204**	*e*P	P	**P**	**18 48 45.9**	**-1.2**
ASAJ	**Asahikawa**	**68.14**	**339**	LR	LR		19 17 28.5	
	comp=Z,114nm,20.1s,MS4.1,baz=173,slow=34							
QSPA	**South Pole Qui**	**70.43**	**180**	*e*P	P	**P**	**18 49 53.7**	**-0.6**
	10nm,1.1s,mb4.7							
YSS	**Yuzh-Sakhalins**	**70.61**	**341**	*e*P	P	**P**	**18 49 56.3**	**+0.4**
	43nm,1.3s,mb5.2							
WHN	**Wuhan**	**72.99**	**312**	⇑P	P	**P**	**18 50 10.5**	**0.0**
MDJ	**Mudanjiang**	**73.71**	**331**	P	P	**P**	**18 50 13.7**	**-0.6**
MDJ					AMB	AMB		
	comp=Z,8.0nm,1.6s,mb4.4							
MDJ					AMB	AMB		
	comp=Z,109nm,4.7s							
CN2	**Changchun**	**75.06**	**328**	P	P	**P**	**18 50 22.2**	**0.0**
CN2					AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8							
BJI	**Beijing**	**77.56**	**321**	*e*P	P	**P**	**18 50 36.8**	**+0.5**
BJI					AMB	AMB		
	comp=Z,11nm,1.6s,mb4.5							
BJI				LR	LR			
	comp=Z,115nm,44.7s,MS3.9							
MAW	**Mawson**	**78.27**	**202**	*e*P	P	**P**	**18 50 40.0**	**+0.4**
	comp=Z,4.0nm,0.8s,mb4.4							
MAW	**Mawson**	**78.27**	**202**	P	P	**P**	**18 50 40.1**	**+0.5**
	comp=Z,4.0nm,0.7s,mb4.4,baz=121,slow=6.8,SNR=20							
MAW					LR	LR	19 20 39.7	
	comp=Z,402nm,19.5s,MS4.8,baz=318,slow=32							
XAN	**Xi'an**	**78.75**	**312**	P	P	**P**	**18 50 42.7**	**-0.3**
XAN					AMB	AMB		
	comp=Z,12nm,1.9s,mb4.5							
KMI	**Kunming**	**78.91**	**302**	⇓*e*	P	**P**	**18 50 43.3**	**-0.7**
KMI					LR	LR		
	comp=Z,180nm,30.8s,MS4.2							
CM31	**Chiang Mai Arr**	**79.13**	**294**	*e*P	P	**P**	**18 50 45.1**	**-0.2**
	comp=Z,8.1nm,1.0s,mb4.6							
CMAR	**Chiang Mai Arr**	**79.13**	**294**	P	P	**P**	**18 50 46.6**	**+1.3**
	comp=Z,3.6nm,0.9s,mb4.3,baz=132,slow=4.4,SNR=23							
LZH	**Lanzhou**	**83.37**	**312**	⇑P	P	**P**	**18 51 09.1**	**+1.9**
LZH					AP	pP	18 51 15.8	-1.0
LZH					XP	sP	18 51 19.5	-0.4
LZH					AMB	AMB		
	comp=Z,45nm,1.7s,mb5.2							
YBH	**Yreka Blue Hor**	**87.22**	**44**	P	P	**P**	**18 51 26.4**	**+0.1**
	comp=Z,1.5nm,1.0s,mb4.2,baz=250,slow=6.3,SNR=3.3							
YAK	**Yakutsk**	**87.40**	**342**	P	P	**P**	**18 51 26.2**	**-0.4**
	comp=Z,18nm,1.1s,mb5.2							
GTA	**Gaotai**	**87.77**	**313**	*e*P	P	**P**	**18 51 29.5**	**+0.5**
GTA					AP	pP	18 51 36.6	-2.0
GTA					AMB	AMB		
	comp=Z,4.0nm,2.0s,mb4.3							
SONM	**Songino Array**	**87.84**	**323**	P	P	**P**	**18 51 29.6**	**+0.5**
	comp=Z,3.7nm,0.9s,mb4.6,baz=144,slow=4.9,SNR=32							
NVAR	**Mina Array Bea**	**88.68**	**48**	P	P	**P**	**18 51 33.3**	**-0.1**
	comp=Z,0.4nm,0.7s,mb3.9,baz=240,slow=4.6,SNR=4.1							
SNAA	**Sanae**	**88.80**	**182**	*i*	P	**P**	**18 51 32.3**	**-0.9**
SNAA	**Sanae**	**88.80**	**182**	P	P	**P**	**18 51 32.3**	**-0.9**
	comp=Z,0.9nm,0.8s,mb4.2,baz=194,slow=4.4,SNR=19							
VNA3	**Neumayer Olymp**	**89.37**	**180**	⇑*i*	P	**P**	**18 51 37.5**	**+1.6**
VNA2	**Neumayer--Watz**	**89.67**	**181**		P	**P**	**18 51 39.0**	**+1.7**
ILAR	**Eielson Array**	**90.45**	**17**	P	P	**P**	**18 51 39.2**	**-1.8**
	comp=Z,0.6nm,0.8s,mb4.0,baz=239,slow=6.6,SNR=5.1							
TXAR	**Lajitas Array**	**96.50**	**61**	P	P	**P**	**18 52 09.7**	**0.0**
	comp=Z,2.7nm,0.7s,mb4.8,baz=270,slow=1.8,SNR=15							
TXAR				LR	LR		19 28 31.6	
	comp=Z,224nm,18.5s,MS4.7,baz=230,slow=31							
PDAR	**Pinedale Array**	**96.50**	**47**	LR	LR		19 25 12.5	
	comp=Z,461nm,22.0s,MS4.9,baz=212,slow=29							
MKAR	**Makanchi Array**	**102.37**	**315**	P	Pdif		18 52 34.9	-0.7
	comp=Z,0.6nm,0.8s,baz=107,slow=4.9,SNR=3.4							
MKAR	**Makanchi Array**	**102.37**	**315**	P	Pdif		18 52 34.9	-0.7
ARCES	**ARCESS Array B**	**125.57**	**345**	PKP	PKPdf		18 57 39.4	-5.1
	comp=Z,2.4nm,0.8s,baz=27,slow=5.4,SNR=5.6							
BDFB	**Brasilia**	**128.91**	**131**	PKP	PKPdf		18 57 45.9	-6.4
	comp=Z,1.5nm,0.4s,baz=119,slow=5.4,SNR=3.3							
AKASG	**Malin Array Be**	**136.11**	**324**	PKP	PKPdf		18 58 00.6	-4.3
	comp=Z,0.8nm,0.7s,baz=48,slow=2.0,SNR=4.8							
BRG	**Berggiesshubel**	**143.44**	**334**	P		PKPbc	18 58 13.9	+2.6
CLL	**Collm**	**143.48**	**335**	*e*PKIKP		PKPdf	18 58 12.0	-6.0
CLL				*e*PPKP			18 58 22.0	
PKSM	**Moragy**	**144.44**	**325**	‖*e*P		PKPbc	18 58 14.5	+0.1
MOX	**Moxa**	**144.55**	**336**	*i* P		PKPbc	18 58 14.4	-0.1
	comp=Z,logA/T=1.0							
MOX	**Moxa**	**144.55**	**336**	*e*P		PKPbc	18 58 14.4	-0.1
RHK1	**Bakonya**	**144.83**	**325**	⇑*i*P		PKPbc	18 58 16.5	+1.1
KHC	**Kasperske Hory**	**144.91**	**333**	*e*P		PKPbc	18 58 16.0	+0.4
KHC				*e*			18 58 23.0	
KHC	**Kasperske Hory**	**144.91**	**333**	*e*P		PKPbc	18 58 16.0	+0.4
KHC				x		x	18 58 23.0	
GERES	**GERESS Array B**	**145.07**	**332**	PKPbc		PKPbc	18 58 16.8	+0.7
	comp=Z,3.1nm,0.8s,baz=27,slow=3.0,SNR=37							
SKO	**Skopje**	**145.16**	**317**	‖*i*P		PKPbc	18 58 17.3	+0.8
LIT	**Litokhoron**	**145.35**	**313**	*e*P		PKPbc	18 58 16.5	-0.5
ARSA	**Arzberg**	**145.37**	**329**	⇑*i*P		PKPbc	18 58 18.2	+1.4
GRA1	**Grafenberg Arr**	**145.46**	**335**	*e*PKP		PKPdf	18 58 17.9	-3.6
MOA	**Molln**	**145.55**	**330**	‖*i*P		PKPbc	18 58 18.0	+0.8
FNA	**Florina**	**145.79**	**315**	*e*P		PKPbc	18 58 18.5	+0.5
OHR	**Ohrid**	**146.01**	**316**	‖*i*P		PKPbc	18 58 19.7	+1.1
OHR				⇑*i*			18 58 20.7	
KBA	**Koelnbreinsper**	**146.54**	**330**	⇑*i*P		PKPbc	18 58 19.8	+0.2
LJU	**Ljubljana**	**146.71**	**328**	*e*PP		PKPdf	18 58 21.0	-2.7
VOY	**Vojsko**	**147.03**	**328**	*e*PP		PKPab	18 58 22.2	-2.6
WTTA	**Wattenberg**	**147.18**	**332**	⇑*i*P		PKPdf	18 58 20.7	-3.8
WLF	**Walferdange**	**147.30**	**340**	PKPdf		PKPdf	18 58 19.0	-5.6
GIVF	**Givet**	**147.32**	**342**	*e*PKP1		PKPdf	18 58 22.9	-1.7
MOTA	**Moosalm**	**147.35**	**333**	‖*i*P		PKPdf	18 58 23.2	-1.5
BAIF	**Baives**	**147.53**	**343**	*e*PKP1		PKPdf	18 58 23.4	-1.6
	comp=Z,28nm,1.1s							
CDF	**Champ du Feu**	**147.99**	**338**	*e*PKP1		PKPdf	18 58 24.6	-1.1
	comp=Z,30nm,1.2s							
BRMO	**Bormio**	**148.34**	**332**	*e*PKP		PKPdf	18 58 26.4	0.0
HINF	**Hinteralfeld**	**148.65**	**338**	*e*PKP1		PKPdf	18 58 25.9	-0.9

HAU	Haudompre	148.67	338	ePKP1	PKPdf	18 58 26.1	-0.7
	comp=Z,41nm,1.3s						
MEZF	Maizieres J'vi	148.67	340	ePKP1	PKPdf	18 58 26.6	-0.2
FSSB	Fossombrone	149.24	326	ePKP	PKPdf	18 58 28.9	+1.0
RSM	Repubblica di	149.24	327	ePKP	PKPdf	18 58 29.8	+1.9
ARV	Arcevia	149.28	326	ePKP	PKPdf	18 58 29.1	+1.1
VAI	Varese	149.51	333	ePKP	PKPdf	18 58 28.8	+0.6
SFI	Santa Sofia	149.56	328	ePKP	PKPdf	18 58 30.4	+1.9
NRCA	Norcia	149.64	325	ePKP	PKPdf	18 58 29.7	+1.1
PGD	Poggio Sodo	149.65	328	ePKP	PKPdf	18 58 30.1	+1.6
ZCCA	Zocca	149.67	329	ePKP	PKPdf	18 58 30.9	+2.4
TDS	Terranova Siba	149.67	317	ePKP	PKPdf	18 58 30.2	+1.5
FNVD	Fontana Vidola	149.73	329	ePKP	PKPdf	18 58 30.0	+1.3
MCGN	Macugnaga	149.76	334	ePKP	PKPdf	18 58 30.2	+1.5
CPI2	Carpinone	149.78	322	ePKP	PKPdf	18 58 30.4	+1.6
AQU	L'Aquila	149.80	324	ePKPbc	PKPdf	18 58 30.0	+1.2
SGO	Sicignano	149.81	319	ePKP	PKPdf	18 58 28.7	-0.2
CABF	La Chapelle	149.95	337	ePKP1	PKPdf	18 58 29.9	+1.0
	comp=Z,110nm,1.6s						
SDI	San Donato	149.99	322	ePKP	PKPdf	18 58 30.2	+1.1
GRI	Girifalco	150.07	315	ePKP	PKPdf	18 58 31.6	+2.2
LOR	Lormes	150.13	341	ePKP1	PKPdf	18 58 29.8	+0.6
	comp=Z,47nm,1.3s						
SSF	Saint Saulge	150.43	341	ePKP1	PKPdf	18 58 30.7	+1.0
	comp=Z,40nm,1.2s						
LPL	La Plagne	150.62	335	ePKP1	PKPdf	18 58 31.6	+1.6
	comp=Z,22nm,1.1s						
LPG	La Plagne	150.63	335	ePKP1	PKPdf	18 58 31.7	+1.7
	comp=Z,37nm,1.2s						
SMF	Signal de Mont	150.69	340	ePKP1	PKPdf	18 58 31.1	+1.0
	comp=Z,15nm,1.1s						
SOI	Samo	150.71	314	ePKP	PKPdf	18 58 32.7	+2.3
BNI	Bardonecchia	151.03	335	ePKPbc	PKPdf	18 58 33.1	+2.5
BGF	Bois d'Agland	151.08	341	ePKP1	PKPdf	18 58 32.1	+1.5
MBDF	Montbardon	151.26	334	ePKP1	PKPdf	18 58 32.5	+1.5
	comp=Z,33nm,1.4s						
ORIF	Oris-en-Rattie	151.45	336	ePKP1	PKPdf	18 58 33.9	+2.6
TCF	Toulx Ste Croi	151.51	342	ePKP1	PKPdf	18 58 33.1	+1.8
	comp=Z,17nm,1.0s						
SBF	Sospel	151.68	332	ePKP1	PKPdf	18 58 33.2	+1.6
	comp=Z,30nm,0.9s						
VIVF	Saint-Julien-l	151.96	337	ePKP1	PKPdf	18 58 34.2	+2.2
	comp=Z,28nm,1.3s						
PGF	Pioggiola	151.97	329	ePKP1	PKPdf	18 58 34.1	+2.0
	comp=Z,58nm,1.1s						
FRF	La Foret Royal	152.26	333	ePKP1	PKPdf	18 58 34.5	+2.0
	comp=Z,16nm,1.2s						
SMRF	Simiane la Rot	152.36	335	ePKP1	PKPdf	18 58 35.2	+2.6
	comp=Z,33nm,1.2s						
LMR	La Mourre	152.50	333	ePKP1	PKPdf	18 58 35.0	+2.2
RJF	Les Rejaudoux	152.61	342	ePKP1	PKPdf	18 58 35.6	+2.7
LASF	Ste Croix	152.93	337	ePKP1	PKPdf	18 58 36.5	+3.1
	comp=Z,20nm,1.3s						

IDC 03 18:54:13.2±1.2**,19.40N**×**144.67E,mb3.5**/5**,mb1 3.7**/5**, mb1mx3.5**/20**,Error ellipse: s-maj=55.4km s-min=24.0km az=92.0,Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	40.38	195	P	P	19 01 53.2	-1.5
	0.3nm,0.5s,baz=17,slow=9.0,SNR=6.3						
ASAR	Alice Springs	44.07	194	P	P	19 02 23.1	-1.8
	0.3nm,0.9s,baz=18,slow=8.6,SNR=3.4						
STKA	Stephens Creek	51.06	183	P	P	19 03 16.9	-2.6
	1.0nm,0.7s,baz=356,slow=14,SNR=3.3						
MKAR	Makanchi Array	57.28	314	P	P	19 04 02.5	-2.4
	0.4nm,0.8s,baz=104,slow=5.9,SNR=3.6						
ILAR	Eielson Array	63.46	26	P	P	19 04 44.7	-2.1
	0.5nm,0.8s,baz=255,slow=5.5,SNR=4.2						

IDC 03 19:20:09.8±16.0**,27.41S**×**178.64W,h109**km±160km**, mb2.8**/2**,mb1 3.3**/3**,mb1mx3.2**/12**,ML4.3**/1**,Error ellipse: s-maj=141.0km s-min=51.1km az=176.0,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	11.39	197	P	P	19 22 49.0	-1.1
	2.0nm,0.3s,baz=9.0,slow=16,SNR=17						
URZ				S	S	19 24 34.0	-22
	6.0nm,0.3s,baz=270,slow=22,SNR=28						
ASAR	Alice Springs	42.78	264	P	P	19 27 56.2	-2.1
	0.4nm,1.0s,baz=104,slow=7.4,SNR=4.7						
ASAR				pP	pP	19 28 31.9	+8.3
	0.1nm,0.5s,baz=90,slow=8.1,SNR=1.1						
WRA	Warramunga Arr	43.49	269	P	P	19 28 03.0	-1.0
	0.2nm,0.6s,baz=108,slow=7.9,SNR=3.5						
WRA				pP	pP	19 28 40.3	+11
	0.4nm,0.5s,baz=107,slow=6.8,SNR=3.9						
FINES	FINESS Array B	142.15	341	PKP	PKPdf	19 39 25.6	-2.8
	0.8nm,0.3s,baz=48,slow=4.0,SNR=20						
AKASG	Malin Array Be	148.56	325	PKPbc	PKPdf	19 39 43.2	+3.6
	0.2nm,0.3s,baz=45,slow=3.3,SNR=5.4						
GERES	GERESS Array B	156.56	339	PKPab	PKPab	19 40 20.7	-2.3
	0.2nm,0.6s,baz=336,slow=13,SNR=2.8						

*NEIC **03** 19:54:51.7,32.16S×71.72W,h5km,ML2.7(GUC),After GUC.*

GUC 03 19:54:51.7±0.6**,32.16S**×**71.72W,h5**km±4km**,MD3.8, ML2.7,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	Jahuel	1.09	119	eP	Pb	19 55 12.6	0.0
JACH				i S	Sb	19 55 27.6	+0.6
CMCH	Combarbala	1.15	32	eP	Pb	19 55 13.2	-0.5
CMCH				i S	Sb	19 55 29.2	+0.4
CMCH				AMP		19 55 35.0	
	comp=N,571nm,0.7s						
CLCH	Cerro Calan	1.59	142	eP	Pn	19 55 19.9	-0.7
CLCH				i S	Sb	19 55 41.6	+0.1
CLCH				AMP		19 55 47.0	
	comp=N,158nm,0.6s						
TACH	Talagante	1.63	156	eP	Pn	19 55 20.4	-0.9
FCH	Farellones	1.68	135	eP	Pn	19 55 21.8	-0.1
FCH				i S	Sn	19 55 44.9	+0.9
FCH				AMP		19 55 46.8	
	comp=N,90nm,0.2s						
LMEL	Las Melosas	2.11	143	eP	Pn	19 55 28.6	+0.4
LMEL				i S	Sn	19 55 56.5	+1.3
LMEL				AMP		19 56 02.8	
	comp=N,100nm,0.4s						
TLL	Tololo Astrono	2.13	22	eP	Pn	19 55 29.0	+0.6
TLL				i S	Sn	19 55 57.4	+1.8
TLL				AMP		19 56 02.0	
	comp=E,93nm,0.4s						
SFDO	San Fernando	2.52	167	eP	Pn	19 55 34.3	+0.3
SFDO				i S	Sn	19 56 07.4	+1.9

DJA 03 20:03:55.4±0.9**,10.48S**×**116.21E,h80**km**,MD4.9**/3**, ML4.0**/4**,2C-7D,Error ellipse: s-maj=26.3km s-min=18.0km az=32.0,South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	Rata	1.87	339	⇑ePn	P	20 04 25.7	-0.4
	89nm,0.2s						
RATI	Rata	1.87	339	⇓eP	P	20 04 26.4	+0.3
RATI				⇓eSn	S	20 04 47.5	-1.3
INGI	Ingas	1.96	327	⇓ePn	P	20 04 26.4	-0.9
	96nm,0.2s						
INGI	Ingas	1.96	327	⇓eP	P	20 04 27.0	-0.3
INGI				⇑eSn	S	20 04 49.9	-0.9
KEDI	Kedomdong	1.98	357	⇓ePn	P	20 04 27.1	-0.6
	49nm,0.2s						
KELI	Kelakatan	2.82	323	⇓ePn	P	20 04 39.1	-0.3
	158nm,0.3s						
KELI				⇓eSn	S	20 05 09.5	-2.8

*NEIC **03** 20:14:11.0,42.87N×0.27W,h5km,ML2.9(STR), MN2.7(MDD),After STR.*
NEIC Felt [II] at Sallent de Gallego, Spain.
*STR **03** 20:14:11.0±0.2,42.87N×0.27W,h5km±1km,Ml2.9,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **03** 20:14:11.9±0.2,42.88N×0.27W,mbLg2.7/27,Error ellipse: s-maj=2.1km s-min=1.3km az=5.0,PRXIMO*
MDD EMS: II SALLENT DE LLEGO BALNEARIO PANTICOSA.
*LDG **03** 20:14:11.6±0.1,42.84N×0.31W,h3km,Md3.3/3,Ml3.2/21, Error ellipse: s-maj=2.3km s-min=1.3km az=5.0*
*INMG **03** 20:14:12.3±0.6,42.91N×0.29W,h11km±3km,ML2.2,Error ellipse: s-maj=2.4km s-min=2.2km az=57.0*
*MRB **03** 20:14:12.1,42.95N×0.18W,h10km±5km,ML2.8/7*
*CSEM **03** 20:14:12.2±0.1,42.85N×0.28W,h5km,ML3.4/32,Error ellipse: s-maj=1.4km s-min=1.1km az=161.0*

ISC 03 20:14:10.2±0.2**,42.91N**±0.01×**0.25W**±0.01**,h13**km±1km**, n132,**σ1**§29**/239**,1D,Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REYF	Montagne du Re	0.19	326	Pg	Pg	20 14 15.9	+1.3
REYF				Sg	Sg	20 14 18.6	+1.1
REYF	Montagne du Re	0.19	326	P	Pg	20 14 16.0	+1.4
REYF				S	Sg	20 14 19.5	+1.9
VIEF	Viey	0.20	99	Pg	Pg	20 14 15.5	+0.7
VIEF				Sg	Sg	20 14 18.2	+0.3
VIEF	Viey	0.20	99	P	Pg	20 14 15.6	+0.8
VIEF				S	Sg	20 14 18.6	+0.6
ETSF	Etsaut	0.23	266	ePg	Pg	20 14 15.5	+0.2
ETSF				eSg	Sg	20 14 17.4	-1.3
	665nm,0.2s						
FDAF	Les Forges d'A	0.25	248	Pg	Pg	20 14 15.6	-0.2
FDAF				Sg	Sg	20 14 18.7	-0.8
FDAF	Les Forges d'A	0.25	248	P	Pg	20 14 15.6	-0.1
FDAF				S	Sg	20 14 18.9	-0.6
LABF	Labassere	0.27	60	Pg	Pg	20 14 17.6	+1.5
LABF				Sg	Sg	20 14 22.0	+2.0
LABF	Labassere	0.27	60	P	Pg	20 14 17.6	+1.5
LABF				S	Sg	20 14 22.0	+2.0
ATE	Arette	0.37	297	P	Pg	20 14 18.6	+0.6
ATE				S	Sg	20 14 24.1	+0.9
RESF	Ens	0.44	104	P	Pb	20 14 19.7	+0.3
RESF				S	Sg	20 14 26.0	+0.5
EPF	Esparros	0.45	75	ePg	Pg	20 14 20.5	+1.1
EPF				eSg	Sg	20 14 26.4	+0.8
	471nm,0.2s						
LARF	Larrau	0.56	283	Pg	Pg	20 14 21.8	+0.3
LARF				Sg	Sg	20 14 29.8	+0.7
LARF	Larrau	0.56	283	P	Pb	20 14 21.7	+0.4
LARF				S	Sb	20 14 29.8	+0.9
ORDF	Ordiarp	0.59	301	Pg	Pg	20 14 22.9	+0.8
ORDF				Sg	Sg	20 14 31.3	+1.2
ORDF	Ordiarp	0.59	301	P	Pb	20 14 22.8	+1.0
ORDF				S	Sb	20 14 31.0	+1.3
MELF	Melles	0.74	93	P	Pb	20 14 25.1	+0.7
MELF				S	Sb	20 14 35.9	+1.7
SJPF	Ste Jean	0.74	286	ePg	Pg	20 14 25.4	+0.2
SJPF				ePn	Pn	20 14 26.8	+0.6
SJPF				eSg	Sg	20 14 35.4	+0.2
	169nm,0.2s						
OSSF	Osses	0.82	295	Pg	Pg	20 14 26.5	-0.2
OSSF				Sg	Sg	20 14 36.7	-1.0
OSSF	Osses	0.82	295	P	Pb	20 14 26.6	+0.9
OSSF				S	Sb	20 14 37.8	+1.4
EALK	Alkurruntz	0.97	289	Pg	Pg	20 14 29.5	-0.2
	24nm,0.2s,SNR=12						
EALK				Lg		20 14 42.3	
	333nm,0.3s,SNR=9.0						
MLS	Moulis	0.99	87	Pg	Pg	20 14 29.4	-0.6
MLS				Sg	Sg	20 14 45.5	+2.2
MLS	Moulis	0.99	87	P	Pb	20 14 29.5	+0.9
MLS				S	Sb	20 14 43.4	+2.1
SALF	Salau	1.07	98	Pg	Pg	20 14 32.2	+0.6
SALF				Sg	Sg	20 14 45.7	-0.3
SALF	Salau	1.07	98	P	Pb	20 14 31.3	+1.3
SALF				S	Sb	20 14 45.6	+1.9
CSOR	Sort	1.15	117	Pg	Pg	20 14 32.7	-0.6
CSOR				Lg		20 14 49.1	
	126nm,0.2s						
CSOR	Sort	1.15	117	Sg	Sg	20 14 49.2	+0.4
	251nm,0.2s						
ESAC	San Caprasio	1.20	188	Pg	Pg	20 14 33.7	-0.6
	186nm,0.2s,SNR=68						
ESAC				Lg		20 14 50.2	
	1μm,0.3s,SNR=35						
ESAC	San Caprasio	1.20	188	Pg	Pg	20 14 33.7	-0.6
	186nm,0.2s,SNR=68						
CAVN	Les Avellanes	1.27	144	Pn	Pn	20 14 35.2	+1.5
CAVN				Sn	Sn	20 14 51.2	+0.6
	302nm,0.2s						
GRBF	Gourbit	1.31	93	Pn	Pn	20 14 35.5	+1.2
CORG	Organya	1.34	120	Pg	Pg	20 14 36.0	-1.1
CORG				Lg		20 14 54.9	
	10nm,0.1s						
CORG	Organya	1.34	120	Pg	Pg	20 14 36.0	-1.1
CORG				Sg	Sg	20 14 55.0	-0.1
	21nm,0.1s						
LPEF	Le Peyrat	1.58	88	Pg	Pg	20 14 42.7	+0.8
EMIR	Miracle	1.65	127	Pg	Pg	20 14 41.7	-1.5
	21nm,0.2s,SNR=50						
EMIR				Lg		20 15 05.5	
	53nm,0.1s,SNR=5.0						
EMIR	Miracle	1.65	127	Pg	Pg	20 14 41.7	-1.5
	21nm,0.2s,SNR=50						
CLLI	Llivia	1.69	104	Pg	Pg	20 14 43.4	-0.7
CLLI				Sg	Sg	20 15 06.4	-0.3
	85nm,0.2s						
CARF	Carcanieres	1.74	96	Pg	Pg	20 14 44.2	-0.8
CARF				Sg	Sg	20 15 07.6	-0.7
CARF	Carcanieres	1.74	96	P	Pn	20 14 43.9	+3.5
CARF				S	Sn	20 15 06.9	+4.2
VALF	Valcebollere	1.75	106	Pg	Pg	20 14 45.3	+0.2
VALF	Valcebollere	1.75	106	P	Pn	20 14 43.8	+3.3
EPOB	Poblet	1.85	147	Pn	Pn	20 14 43.1	+1.2
	0.3nm,0.1s,SNR=34						
EPOB				Pg	Pg	20 14 44.7	-2.4
	4.7nm,0.1s,SNR=14						
EPOB				Lg		20 15 08.5	
	92nm,0.3s,SNR=7.9						
EPOB	Poblet	1.85	147	Pn	Pn	20 14 43.1	+1.2
	0.3nm,0.1s,SNR=34						
EPOB	Poblet	1.85	147	Pg	Pg	20 14 44.7	-2.4
	4.7nm,0.1s,SNR=14						
MTLF	Montolieu	1.85	76	ePn	Pn	20 14 43.6	+1.6
MTLF				ePg	Pg	20 14 46.5	-0.8
MTLF				eSn	Sn	20 15 07.2	+1.7
MTLF				eSg	Sg	20 15 11.5	-0.5
	59nm,0.3s						
CBRU	Bruguera	1.90	109	Pg	Pg	20 14 47.0	-1.2
CGAR	Garraf	1.92	147	Pg	Pg	20 14 53.2	+4.7
LRDF	Laroque-de-Fa	2.05	88	Pg	Pg	20 14 49.8	-1.3
LRDF				Sg	Sg	20 15 16.8	-1.6
FILF	Fillols	2.10	99	Pg	Pg	20 14 48.8	-3.3
LFF	La Frestale	2.15	19	ePn	Pn	20 14 48.0	+1.8
LFF				ePg	Pg	20 14 52.8	-0.3
LFF				eSn	Sn	20 15 14.4	+1.5
LFF				eSg	Sg	20 15 22.2	+0.5
	55nm,0.3s						
EBR	Ebro Roquetas	2.16	165	eP*	Pb	20 14 51.5	+2.7
EBR				eS*	Sb	20 15 21.0	+5.5
CFON	Fontmartina	2.30	119	Pn	Pn	20 14 50.0	+1.6
CFON				Sg	Sg	20 15 23.2	-3.6
	141nm,0.2s						
SJAF	Saint Jean de	2.35	99	Pg	Pg	20 14 54.5	-2.6
ELAN	Lanestosa	2.36	279	Pn	Pn	20 14 51.8	+2.6
	2.6nm,0.2s,SNR=14						
ELAN	Lanestosa	2.36	279	Pn	Pn	20 14 51.9	+2.6
ELAN				Lg		20 15 22.8	
ELAN	Lanestosa	2.36	279	Pn	Pn	20 14 51.8	+2.6
	2.6nm,0.2s,SNR=14						
EJON	La Jonquera	2.36	100	Pn	Pn	20 14 52.7	+3.4
	0.5nm,0.2s,SNR=6.2						
EJON				Pg	Pg	20 14 56.1	-1.2
	6.9nm,0.2s,SNR=18						
EJON				Lg		20 15 26.8	
	61nm,0.3s,SNR=5.0						
EJON	La Jonquera	2.36	100	Pn	Pn	20 14 52.7	+3.4
	0.5nm,0.2s,SNR=6.2						
EJON	La Jonquera	2.36	100	Pg	Pg	20 14 56.1	-1.2
	6.9nm,0.2s,SNR=18						
ETOR	Torete	2.49	213	⇓Pn	Pn	20 14 52.7	+1.6
	4.7nm,0.2s,SNR=18						
ETOR				Pg	Pg	20 14 58.4	-1.5
	13nm,0.4s,SNR=14						
ETOR				Sn	Sn	20 15 21.7	+0.1
	12nm,0.3s,SNR=5.8						
ETOR				Lg		20 15 29.0	
	23nm,0.2s,SNR=5.0						
ETOR	Torete	2.49	213	Pg	Pg	20 14 58.4	-1.6
	13nm,0.4s,SNR=14						
ETOR	Torete	2.49	213	Pg	Pg	20 14 58.5	-1.5
ETOR				Sn	Sn	20 15 21.7	+0.1
	12nm,0.3s,SNR=5.8						
EMOS	Mosqueruela	2.55	184	Pn	Pn	20 14 53.9	+1.8
	1.3nm,0.2s,SNR=14						
EMOS				Pg	Pg	20 14 59.3	-1.9
	10nm,0.4s,SNR=22						
EMOS				Lg		20 15 33.0	
	18nm,0.3s,SNR=5.0						
EMOS	Mosqueruela	2.55	184	Pn	Pn	20 14 53.9	+1.8
EMOS				Pg	Pg	20 14 59.3	-1.9
EMOS				Lg		20 15 29.3	
EMOS	Mosqueruela	2.55	184	Pn	Pn	20 14 53.9	+1.9
	1.3nm,0.2s,SNR=14						
EMOS	Mosqueruela	2.55	184	Pg	Pg	20 14 59.3	-1.9
	10nm,0.4s,SNR=22						
CAF	Calviac	2.61	39	ePn	Pn	20 14 54.5	+1.6
CAF				ePg	Pg	20 15 01.5	-0.9
CAF				eSn	Sn	20 15 25.6	+0.8
CAF				eSg	Sg	20 15 36.7	-0.6
	26nm,0.3s						
RJF	Les Rejaudoux	2.71	27	ePn	Pn	20 14 55.5	+1.3
RJF				ePg	Pg	20 15 02.9	-1.4
RJF				eSn	Sn	20 15 28.5	+1.4
	17nm,0.2s						
RJF				eSg	Sg	20 15 39.3	-1.1
LASF	Ste Croix	3.20	67	ePn	Pn	20 15 02.0	+0.7
LASF				ePg	Pg	20 15 12.2	-2.0
LASF				eSn	Sn	20 15 39.5	-0.2
LASF				eSg	Sg	20 15 53.3	-3.6
	80nm,0.6s						
EARI	Arriondas	3.65	278	Pn	Pn	20 15 09.3	+1.6
	1.3nm,0.2s,SNR=7.5						
EARI				Sn	Sn	20 15 52.2	+1.1
	2.9nm,0.2s,SNR=5.0						
EARI				Lg		20 16 08.4	
	5.7nm,0.7s,SNR=7.9						
EARI	Arriondas	3.65	278	Pn	Pn	20 15 09.3	+1.6
	1.3nm,0.2s,SNR=7.5						
EARI				Sn	Sn	20 15 52.2	+1.1
	2.9nm,0.2s,SNR=5.0						
MFF	Saint Martin d	3.69	1	ePn	Pn	20 15 07.9	-0.3
MFF				ePg	Pg	20 15 20.5	-3.3
MFF				eSn	Sn	20 15 49.7	-2.3
MFF				eSg	Sg	20 16 09.8	-3.2
	17nm,0.5s						
TCF	Toulx Ste Croi	3.80	27	ePn	Pn	20 15 10.6	+0.8
TCF				ePg	Pg	20 15 22.5	-3.6
TCF				eSn	Sn	20 15 54.5	-0.3
	14nm,0.4s						
VIVF	Saint-Julien-l	4.05	60	ePn	Pn	20 15 14.1	+0.8
VIVF				ePg	Pg	20 15 27.7	-3.4
VIVF				eSn	Sn	20 15 59.3	-1.9
VIVF				eSg	Sg	20 16 20.7	-4.4
	26nm,0.5s						
EIBI	Ibiza	4.07	162	Pn	Pn	20 15 14.6	+1.0
	0.6nm,0.2s,SNR=5.0						
EIBI				Sn	Sn	20 15 57.0	-4.6
	5.8nm,0.3s,SNR=7.1						
EIBI	Ibiza	4.07	162	Pn	Pn	20 15 14.6	+1.1
	0.6nm,0.2s,SNR=5.0						
EIBI				Sn	Sn	20 15 57.0	-4.5
	5.8nm,0.3s,SNR=7.1						
EBEN	Beniarda	4.21	180	Pn	Pn	20 15 15.4	-0.1
	0.4nm,0.2s,SNR=7.9						
EBEN				Sn	Sn	20 16 01.4	-3.7
	1.4nm,0.3s,SNR=7.9						
EBEN				Lg		20 16 23.8	
	2.2nm,0.3s,SNR=4.0						
EBEN	Beniarda	4.21	180	Pn	Pn	20 15 15.4	-0.1
	0.4nm,0.2s,SNR=7.9						
EBEN				Sn	Sn	20 16 01.4	-3.7
	1.4nm,0.3s,SNR=7.9						
BGF	Bois d'Agland	4.26	30	ePn	Pn	20 15 18.0	+1.7
BGF				eSn	Sn	20 16 05.2	-1.2
BGF				eSg	Sg	20 16 27.8	-4.2
	56nm,0.5s						
ESDC	Sonseca Array	4.28	222	Pn	Pn	20 15 16.0	-0.5
	2.7nm,0.2s,baz=41,slow=13,SNR=64						
ESDC				Sn	Sn	20 16 03.6	-3.3
	5.5nm,0.3s,baz=43,slow=24,SNR=12						
ESDC				Lg		20 16 26.8	
	3.1nm,0.3s,baz=45,slow=29,SNR=4.0						
ESDC	Sonseca Array	4.28	222	Pn	Pn	20 15 16.0	-0.5
ESDC				Sn	Sn	20 16 02.0	-4.9
ESDC				Lg		20 16 23.5	
ESDC	Sonseca Array	4.28	222	Sn	Sn	20 16 02.0	-4.9
	5.5nm,0.3s,SNR=12						
ESDC	Sonseca Array	4.28	222	Pn	Pn	20 15 16.0	-0.6
	2.7nm,0.2s,SNR=64						
SMRF	Simiane la Rot	4.37	74	ePn	Pn	20 15 18.1	+0.2
SMRF				eSn	Sn	20 16 07.6	-1.6
SMRF				eSg	Sg	20 16 31.1	-4.6
	6.9nm,0.4s						
SMF	Signal de Mont	4.73	37	ePn	Pn	20 15 23.7	+0.7
SMF				eSg	Sg	20 16 43.3	-4.4
	4.9nm,0.4s						
HYF	Humbligny	4.81	24	ePn	Pn	20 15 24.1	0.0
HYF				eSn	Sn	20 16 18.1	-2.2
HYF				eSg	Sg	20 16 46.2	-4.1
ORIF	Oris-en-Rattie	4.86	64	eP	Pn	20 15 28.8	+4.0
ORIF				eSn	Sn	20 16 20.2	-1.4
	11nm,0.6s						
ECAL	Calabor	4.90	261	Pn	Pn	20 15 25.6	+0.2
	3.8nm,0.3s,SNR=8.8						
ECAL				Sn	Sn	20 16 21.3	-1.4
	6.3nm,0.4s,SNR=5.0						
ECAL				Lg		20 16 48.0	
	6.0nm,0.4s,SNR=5.0						
ECAL	Calabor	4.90	261	Pn	Pn	20 15 25.6	+0.2
	3.8nm,0.3s,SNR=8.8						
ECAL				Sn	Sn	20 16 21.3	-1.3
	6.3nm,0.4s,SNR=5.0						
SSF	Saint Saulge	4.93	31	ePn	Pn	20 15 26.4	+0.6
SSF				eSn	Sn	20 16 21.4	-1.9
SSF				eSg	Sg	20 16 49.0	-5.3
	11nm,0.6s						
PBRG	Braganca	4.94	259	ePn	Pn	20 15 25.1	-0.8
PBRG				eSn	Sn	20 16 20.8	-2.8
	2.6nm,0.1s						
PBRG	Braganca	4.94	259	ePn	Pn	20 15 25.1	-0.8
PBRG				eSn	Sn	20 16 20.8	-2.8
	2.6nm,0.1s						
LMR	La Mourre	4.96	83	ePn	Pn	20 15 25.8	-0.5
LMR				eSn	Sn	20 16 21.1	-3.1
	2.5nm,0.3s						
EPON	Pontenova	5.07	277	Pn	Pn	20 15 28.8	+1.1
	3.0nm,0.3s,SNR=8.7						
EPON				Sn	Sn	20 16 23.7	-3.2
	3.1nm,0.3s						
EPON	Pontenova	5.07	277	Pn	Pn	20 15 28.8	+1.1
EPON				Sn	Sn	20 16 25.9	-0.9
EPON	Pontenova	5.07	277	Pn	Pn	20 15 28.8	+1.0
	3.0nm,0.3s,SNR=8.7						
EPON				Sn	Sn	20 16 25.9	-1.0
	3.1nm,0.3s						
FRF	La Foret Royal	5.08	80	ePn	Pn	20 15 28.7	+0.8
FRF				eSn	Sn	20 16 23.6	-3.5
	4.3nm,0.4s						
ERUA	La Rua	5.11	266	Pn	Pn	20 15 28.3	0.0
	2.6nm,0.4s,SNR=10						
ERUA				Sn	Sn	20 16 24.4	-3.5
	2.4nm,0.3s,SNR=5.0						
ERUA				Lg		20 16 57.4	
	1.4nm,0.4s,SNR=5.0						
ERUA	La Rua	5.11	266	Pn	Pn	20 15 28.3	0.0
ERUA				Sn	Sn	20 16 26.5	-1.5
ERUA				Lg		20 16 57.4	
ERUA	La Rua	5.11	266	Pn	Pn	20 15 28.3	-0.1
	2.6nm,0.4s,SNR=10						
ERUA				Sn	Sn	20 16 26.5	-1.4
	2.4nm,0.3s,SNR=5.0						
LOR	Lormes	5.23	32	ePn	Pn	20 15 30.3	+0.2
LOR				eSn	Sn	20 16 28.3	-2.7
LOR				eSg	Sg	20 16 58.4	-6.1
	5.1nm,0.4s						
QUIF	Quistinic	5.41	339	eSn	Sn	20 16 31.5	-3.9
	5.7nm,0.3s						
GRR	Gorron	5.49	356	ePn	Pn	20 15 33.4	-0.3
GRR				eSn	Sn	20 16 34.2	-3.3
EQES	Quesada	5.54	204	Pn	Pn	20 15 34.6	+0.2
	0.9nm,0.3s,SNR=6.6						
EQES				Lg		20 17 09.0	
	1.8nm,0.3s,SNR=4.0						
EQES	Quesada	5.54	204	Pn	Pn	20 15 34.6	+0.2
	0.9nm,0.3s,SNR=6.6						
SGMF	Saint Gilles	5.58	344	ePn	Pn	20 15 34.4	-0.6
SGMF				eSn	Sn	20 16 34.4	-5.3

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	3.0nm,0.2s						
LPL	**La Plagne**	**5.65**	**60**	*e*P	**Pn**	**20 15 40.4**	**+4.4**
LPL				*e*Sg	**Sg**	**20 17 11.6**	**-6.7**
	1.6nm,0.4s						
LPL	**La Plagne**	**5.65**	**60**	Lg		20 17 11.6	
	0.8nm,0.4s						
LPG	**La Plagne**	**5.66**	**60**	*e*P	**Pn**	**20 15 40.6**	**+4.6**
LPG				*e*Sg	**Sg**	**20 17 11.9**	**-6.6**
	1.9nm,0.3s						
LPG	**La Plagne**	**5.66**	**60**	Lg		20 17 11.9	
	0.9nm,0.3s						
LDF	**La Druitiere**	**5.68**	**1**	*e*Pn	**Pn**	**20 15 37.6**	**+1.2**
EADA	**Adamuz**	**5.78**	**216**	Pn	**Pn**	**20 15 37.1**	**-0.6**
	0.9nm,0.2s,SNR=9.0						
EADA				Sn	**Sn**	**20 16 39.2**	**-5.3**
	1.0nm,0.2s,SNR=4.0						
EADA				Lg		20 17 12.3	
	1.3nm,0.3s,SNR=5.0						
EADA	**Adamuz**	**5.78**	**216**	Pn	**Pn**	**20 15 37.1**	**-0.6**
	0.9nm,0.2s,SNR=9.0						
EADA	**Adamuz**	**5.78**	**216**	Sn	**Sn**	**20 16 39.2**	**-5.4**
	1.0nm,0.2s,SNR=4.0						
PVRL	**Vila Real**	**5.79**	**256**	*e*Pn	**Pn**	**20 15 37.2**	**-0.8**
PVRL				*e*Sn	**Sn**	**20 16 40.7**	**-4.3**
ROSF	**Rostrenen**	**5.82**	**340**	*e*Pn	**Pn**	**20 15 37.6**	**-0.8**
ELOB	**Lobios**	**5.88**	**262**	Pn	**Pn**	**20 15 38.5**	**-0.7**
	0.9nm,0.2s,SNR=4.7						
ELOB				Sn	**Sn**	**20 16 43.8**	**-3.4**
	1.8nm,0.2s,SNR=5.0						
ELOB	**Lobios**	**5.88**	**262**	Pn	**Pn**	**20 15 38.5**	**-0.7**
	0.9nm,0.2s,SNR=4.7						
ELOB				Sn	**Sn**	**20 16 43.8**	**-3.4**
	1.8nm,0.2s,SNR=5.0						
PVIS	**Viseu**	**6.12**	**252**	*e*Pn	**Pn**	**20 15 41.4**	**-1.2**
PVIS				*e*Sn	**Sn**	**20 16 48.5**	**-4.7**
ELUQ	**Luque**	**6.17**	**211**	Pn	**Pn**	**20 15 43.1**	**-0.2**
	0.8nm,0.2s,SNR=7.9						
PCBR	**Castelo Branco**	**6.25**	**243**	*e*Sn	**Sn**	**20 16 51.8**	**-4.5**
	2.0nm,0.2s						
PCBR	**Castelo Branco**	**6.25**	**243**	Sn	**Sn**	**20 16 51.8**	**-4.5**
	1.0nm,0.2s						
EBER	**Berja**	**6.34**	**200**	Pn	**Pn**	**20 15 46.9**	**+1.2**
	0.6nm,0.3s,SNR=7.9						
EBER	**Berja**	**6.34**	**200**	Pn	**Pn**	**20 15 46.9**	**+1.2**
	0.6nm,0.3s,SNR=7.9						
EMAZ	**Mazaricos**	**6.41**	**273**	Pn	**Pn**	**20 15 46.0**	**-0.6**
	1.4nm,0.2s,SNR=5.0						
EMAZ				Sn	**Sn**	**20 16 56.3**	**-4.1**
	3.4nm,0.4s,SNR=5.0						
EMAZ	**Mazaricos**	**6.41**	**273**	Pn	**Pn**	**20 15 46.0**	**-0.7**
	1.4nm,0.2s,SNR=5.0						
EMAZ				Sn	**Sn**	**20 16 56.3**	**-4.1**
	3.4nm,0.4s,SNR=5.0						
EBAD	**Badajoz**	**6.60**	**233**	Pn	**Pn**	**20 15 47.8**	**-1.5**
	0.6nm,0.2s,SNR=7.9						
EBAD				Sn	**Sn**	**20 16 59.1**	**-6.1**
	1.7nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**6.60**	**233**	Pn	**Pn**	**20 15 47.8**	**-1.6**
EBAD				Sn	**Sn**	**20 16 59.1**	**-6.1**
PGF	**Pioggiola**	**6.82**	**90**	*e*Pn	**Pn**	**20 15 51.4**	**-1.1**
EMIN	**Mina Concepcio**	**7.11**	**226**	Pn	**Pn**	**20 15 54.4**	**-2.0**
	0.2nm,0.1s,SNR=7.9						
EMIN				Sn	**Sn**	**20 17 10.0**	**-7.8**
	0.8nm,0.4s,SNR=7.9						
EMIN	**Mina Concepcio**	**7.11**	**226**	Pn	**Pn**	**20 15 54.4**	**-2.1**
EMIJ	**Mijas**	**7.24**	**210**	Pn	**Pn**	**20 15 57.9**	**-0.4**
	1.0nm,0.3s,SNR=5.0						

*STR **03** 20:21:32.8±0.1, 42.84N×0.26W, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **03** 20:21:33.1±0.1, 42.83N×0.27W, h5km, Md2.1/2, Ml1.7/2, Error ellipse: s-maj=3.0km s-min=1.2km az=174.0*
ISC 03 20:21:32.7±0.7**, 42.87N**±0.05×**0.26W**±0.03**, h5km, n9, σ0ˢ96**/17**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIEF	**Viey**	**0.21**	**85**	Pg	**Pg**	**20 21 37.5**	**+0.5**
VIEF				Sg	**Sg**	**20 21 40.5**	**+0.7**
ETSF	**Etsaut**	**0.23**	**279**	*e*Pg	**Pg**	**20 21 37.7**	**+0.4**
ETSF				*e*Sg	**Sg**	**20 21 39.5**	**-0.9**
	24nm,0.2s						
REYF	**Montagne du Re**	**0.23**	**334**	Pg	**Pg**	**20 21 38.1**	**+0.7**
REYF				Sg	**Sg**	**20 21 41.6**	**+1.1**
FDAF	**Les Forges d'A**	**0.23**	**259**	Pg	**Pg**	**20 21 37.8**	**+0.3**
FDAF				Sg	**Sg**	**20 21 41.0**	**+0.4**
LABF	**Labassere**	**0.30**	**53**	Pg	**Pg**	**20 21 39.7**	**+0.8**
LABF				Sg	**Sg**	**20 21 44.2**	**+1.2**
EPF	**Esparros**	**0.47**	**69**	*e*Pg	**Pg**	**20 21 42.7**	**+0.6**
EPF				*e*Sg	**Sg**	**20 21 48.5**	**+0.1**
	5.1nm,0.2s						
SJPF	**Ste Jean**	**0.75**	**290**	*e*Pn	**Pn**	**20 21 48.8**	**-0.9**
SJPF				*e*Sg	**Sg**	**20 21 57.5**	**-0.3**
	2.6nm,0.2s						
MTLF	**Montolieu**	**1.87**	**74**	*e*Pg	**Pg**	**20 22 08.5**	**-1.7**
MTLF				*e*Sg	**Sg**	**20 22 33.4**	**-1.7**
	0.7nm,0.2s						
LFF	**La Frestale**	**2.19**	**19**	*e*Sg	**Sg**	**20 22 44.1**	**-1.7**
	1.3nm,0.3s						

*NEIC **03** 20:34:41.1, 32.16S×71.77W, h13km, ML2.8(GUC), After GUC.*
GUC 03 20:34:41.1±0.7**, 32.16S×71.77W, h13km**±5km**, MD3.6, ML2.8, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**1.12**	**118**	*e*P	Pb	20 35 01.4	-0.5
JACH				*i* S	Sb	20 35 16.7	+0.5
CMCH	**Combarbala**	**1.19**	**34**	*i* P	Pb	20 35 02.2	-0.7
CMCH				*i* S	Sb	20 35 18.1	0.0
CMCH				AMP		20 35 23.7	
	comp=N,597nm,0.8s						
LCCH	**Las Cruces**	**1.32**	**173**	*e*P	Pb	20 35 03.7	-1.5
LCCH				*i* S	Sb	20 35 21.6	-0.2
RCDM	**Rinconada Maip**	**1.55**	**149**	*e*P	Pn	20 35 07.9	-0.7
RCDM				*i* S	Sb	20 35 28.1	-0.6
RCDM				AMP		20 35 29.5	
	comp=E,183nm,0.1s						
TACH	**Talagante**	**1.64**	**155**	*e*P	Pn	20 35 09.5	-0.4
TACH				*i* S	Sn	20 35 30.3	-0.7
FCH	**Farellones**	**1.71**	**133**	*e*P	Pn	20 35 10.7	-0.1
FCH				*i* S	Sn	20 35 33.2	+0.6
FCH				AMP		20 35 35.6	
	comp=N,107nm,0.2s						
PCH	**Pirque**	**1.80**	**144**	*i* S	Sn	20 35 35.5	+0.6
LMEL	**Las Melosas**	**2.14**	**142**	*e*P	Pn	20 35 17.1	+0.2
LMEL				*i* S	Sn	20 35 44.9	+1.5
LMEL				AMP		20 35 51.5	
	comp=N,111nm,0.3s						

*NEIC **03** 20:35:02.2, 18.45N×68.62W, h162km, MD3.6(RSPR), After RSPR.*
RSPR 03 20:35:02.2, 18.45N×68.62W, h162km±5km**, MD3.6**/8**, MD3.6**/8**, 8C, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**1.08**	**93**	*e*S	S	20 35 49.5	-0.2
LSP	**Las Mesas**	**1.48**	**100**⇑	*e*P	P	20 35 32.5	-0.3
LSP				*e*S	S	20 35 56.8	+0.3
MGP	**Maguayo**	**1.52**	**107**⇑	*e*P	P	20 35 31.8	-1.4
MGP				*e*S	S	20 35 56.4	-0.7
LRS	**Lares**	**1.69**	**95**⇑	*e*P	P	20 35 33.9	-1.1
LRS				*e*S	S	20 36 00.1	-0.2
AOPR	**Arecibo Observ**	**1.78**	**93**⇑	*e*P	P	20 35 36.2	+0.3
AOPR	**Arecibo Observ**	**1.78**	**93**	*e*S	S	20 36 00.9	-1.0
AOPR	**Arecibo Observ**	**1.78**	**93**	*e*P	P	20 35 35.6	-0.3
PORP	**Portuguez**	**1.92**	**101**⇑	*e*P	P	20 35 37.0	-0.5
PORP				*e*S	S	20 36 06.1	+1.3
CELP	**Cerrillos**	**1.97**	**101**⇑	*e*P	P	20 35 38.1	0.0
CELP				*e*S	S	20 36 05.0	-0.7
CSB	**Colonia Sabana**	**2.34**	**93**⇑	*e*P	P	20 35 41.4	-1.1
CSB				*e*S	S	20 36 13.3	-0.2
SJG	**San Juan**	**2.37**	**98**	*e*S	S	20 36 13.3	-0.8
HUMP	**Col San Antoni**	**2.65**	**96**⇑	*e*P	P	20 35 46.5	+0.3
HUMP				*e*S	S	20 36 20.8	+0.7

IDC 03 20:40:16.6±1.8**, 1.34N×124.87E, mb3.3**/3**, mb1 3.6**/4**, mb1mx3.4**/16**, ML3.4**/1**, Error ellipse: s-maj=120.0km s-min=24.4km az=67.0, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.33**	**178**	P	P	20 44 42.2	-4.1
	0.1nm,0.3s,baz=190,slow=23,SNR=4.7						
WRA	**Warramunga Arr**	**23.10**	**157**	P	P	20 45 24.9	-0.4
	0.7nm,0.4s,baz=333,slow=10,SNR=8.7						
ASAR	**Alice Springs**	**26.36**	**161**	P	P	20 45 54.7	-1.7
	0.1nm,0.5s,baz=353,slow=7.3,SNR=3.0						
MKAR	**Makanchi Array**	**58.49**	**327**	P	P	20 50 14.8	-2.2
	0.2nm,0.5s,baz=121,slow=8.3,SNR=5.4						

*STR **03** 20:45:28.1±0.1, 42.85N×0.25W, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **03** 20:45:28.3±0.1, 42.83N×0.27W, h4km, Md2.4/2, Ml1.6/2, Error ellipse: s-maj=3.6km s-min=1.2km az=175.0*
*MDD **03** 20:45:29.2±0.3, 42.88N×0.27W, mbLg1.2/5, Error ellipse: s-maj=3.8km s-min=1.9km az=3.0, PRXIMO*
ISC 03 20:45:28.1±0.5**, 42.89N**±0.04×**0.26W**±0.02**, h8km**±7km**, n21, σ0ˢ84**/36**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.20**	**331**	Pg	**Pg**	**20 45 33.2**	**+0.8**
REYF				Sg	**Sg**	**20 45 36.7**	**+1.4**
REYF	**Montagne du Re**	**0.20**	**331**	P	**Pg**	**20 45 33.3**	**+0.8**
REYF				S	**Sg**	**20 45 36.8**	**+1.5**
VIEF	**Viey**	**0.21**	**92**	Pg	**Pg**	**20 45 32.7**	**+0.2**
VIEF				Sg	**Sg**	**20 45 35.7**	**+0.3**
VIEF	**Viey**	**0.21**	**92**	P	**Pg**	**20 45 32.8**	**+0.3**
VIEF				S	**Sg**	**20 45 35.9**	**+0.5**
ETSF	**Etsaut**	**0.22**	**272**	*e*Pg	**Pg**	**20 45 32.7**	**-0.1**
ETSF				*e*Sg	**Sg**	**20 45 34.6**	**-1.3**
	18nm,0.3s						
FDAF	**Les Forges d'A**	**0.24**	**252**	Pg	**Pg**	**20 45 32.9**	**-0.2**
FDAF				Sg	**Sg**	**20 45 36.2**	**-0.2**
FDAF	**Les Forges d'A**	**0.24**	**252**	P	**Pg**	**20 45 33.0**	**-0.2**
LABF	**Labassere**	**0.29**	**57**	Pg	**Pg**	**20 45 34.5**	**+0.4**
LABF				Sg	**Sg**	**20 45 38.7**	**+0.7**
LABF	**Labassere**	**0.29**	**57**	P	**Pg**	**20 45 34.8**	**+0.8**
LABF				S	**Sg**	**20 45 39.3**	**+1.2**
ATE	**Arette**	**0.38**	**301**	P	**Pg**	**20 45 36.1**	**+0.2**
ATE				S	**Sg**	**20 45 41.4**	**+0.5**
EPF	**Esparros**	**0.46**	**72**	*e*Pg	**Pg**	**20 45 37.8**	**+0.4**
EPF				*e*Sg	**Sg**	**20 45 43.8**	**+0.2**
	7.0nm,0.2s						
LARF	**Larrau**	**0.56**	**285**	Pg	**Pg**	**20 45 39.4**	**+0.1**
LARF				Sg	**Sg**	**20 45 47.3**	**+0.5**
LARF	**Larrau**	**0.56**	**285**	P	**Pg**	**20 45 39.5**	**+0.2**
LARF				S	**Sg**	**20 45 47.0**	**+0.2**
SJPF	**Ste Jean**	**0.74**	**288**	*e*Pg	**Pg**	**20 45 42.8**	**-0.2**
SJPF				*e*Pn	**Pn**	**20 45 44.1**	**-0.6**
SJPF				*e*Sg	**Sg**	**20 45 52.7**	**-0.3**
	2.5nm,0.2s						
SJPF	**Ste Jean**	**0.74**	**288**	Pg	**Pg**	**20 45 42.8**	**-0.2**
SJPF				Lg		20 45 52.7	
	1.2nm,0.2s						
EALK	**Alkurruntz**	**0.97**	**290**	Pg	**Pg**	**20 45 47.2**	**-0.4**
	SNR=5.0						
EALK				Lg		20 46 00.4	
	3.1nm,0.4s,SNR=8.7						
ESAC	**San Caprasio**	**1.18**	**188**	Pg	**Pg**	**20 45 52.4**	**+0.7**
	SNR=7.9						
ESAC				Lg		20 46 07.3	
	14nm,0.3s,SNR=19						
EMIR	**Miracle**	**1.64**	**126**	Pg	**Pg**	**20 45 60.0**	**-1.0**
	SNR=5.0						
EMIR				Lg		20 46 22.0	
	4.0nm,0.8s,SNR=5.6						
EPOB	**Poblet**	**1.83**	**147**	Sn	**Sn**	**20 46 26.1**	**+2.2**
	SNR=7.9						
MTLF	**Montolieu**	**1.87**	**75**	*e*Pg	**Pg**	**20 46 03.7**	**-1.8**
MTLF				*e*Sg	**Sg**	**20 46 28.8**	**-1.6**
	1.0nm,0.2s						
LFF	**La Frestale**	**2.17**	**19**	*e*Sg	**Sg**	**20 46 39.5**	**-0.9**
	0.5nm,0.2s						

CASC 03 20:56:12.0±2.9**, 10.99N×86.49W, MD3.6, 1C-1D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRZC	**La Cruz**	**0.88**	**92**	*e*P	Pg	20 56 29.6	0.0
CRZC				*e*S	Sg	20 56 41.7	+0.5
APON	**Apoyo**	**1.01**	**24**	*e*P	Pb	20 56 30.8	-1.2
TICN	**Ticuantepe**	**1.07**	**14**	*e*P	Pb	20 56 31.8	-1.2
TICN				*e*S	Sb	20 56 50.3	+3.0
MGAN	**Managua**	**1.17**	**12**	*e*P	Pb	20 56 34.2	-0.6
MGAN				*e*S	Sb	20 56 52.5	+2.0
COPN	**Copaltepe**	**1.19**	**355**⇑	*e*P	Pb	20 56 34.8	-0.3
COPN				*e*S	Sb	20 56 51.5	+0.7
VCR	**Vista de Mar**	**1.21**	**135**	*e*P	Pb	20 56 35.0	-0.4
TEL3	**Telica 3**	**1.61**	**348**	*e*P	Pn	20 56 39.6	-2.2
CGA2	**Cerro Gallo 2**	**2.21**	**116**	*e*P	Pn	20 56 51.0	+0.5
CGA2				*e*S	Sn	20 57 19.3	+0.3
PRS1	**Puriscal**	**2.37**	**115**⇓	*e*P	Pn	20 56 53.8	+1.1
LAJ	**Bijagual**	**2.59**	**115**	*e*P	Pn	20 56 51.9	-3.9
BUS	**Buena Vista**	**3.04**	**118**	*e*P	Pn	20 57 06.0	+3.7

*STR **03** 20:57:51.7±0.5, 44.83N×7.79E, h5km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **03** 20:57:52.0, 44.82N×7.79E, h5km, ML2.5(GEN), ML2.1(LDG), ML2.0(STR), After GEN.*
*LDG **03** 20:57:52.0±0.1, 44.83N×7.78E, h2km, Md2.5/1, Ml2.1/5, Error ellipse: s-maj=2.8km s-min=1.1km az=69.0*
ISC 03 20:57:51.3±0.5**, 44.81N**±0.02×**7.77E**±0.03**, h10km**±3km**, n29, σ0ˢ59**/55**, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHB	**Bricherasio**	**0.36**	**275**	P	**Pg**	**20 57 59.4**	**+0.8**
BHB				S	**Sg**	**20 58 04.3**	**+0.7**
RSP	**Reno Superiore**	**0.49**	**313**	P	**Pg**	**20 58 01.5**	**+0.2**
RSP				S	**Sg**	**20 58 08.1**	**+0.1**
ROB	**Roburent**	**0.52**	**172**	P	**Pg**	**20 58 02.1**	**+0.3**
ROB				S	**Sg**	**20 58 08.7**	**-0.2**
FENE	**Fenestrelle**	**0.54**	**294**	P	**Pg**	**20 58 02.7**	**+0.4**
FENE				S	**Sg**	**20 58 09.9**	**+0.2**
PZZ	**Prazzo**	**0.56**	**237**	P	**Pg**	**20 58 03.1**	**+0.4**
PZZ				S	**Sg**	**20 58 10.4**	**+0.1**
OG22	**Abries**	**0.58**	**271**	Pg	**Pg**	**20 58 03.5**	**+0.5**
OG22				Sg	**Sg**	**20 58 11.2**	**+0.3**
PCP	**Pian Castagno**	**0.62**	**116**	P	**Pb**	**20 58 03.4**	**-0.3**
PCP				S	**Sg**	**20 58 11.2**	**-0.9**
ENR	**Entracque**	**0.64**	**203**	P	**Pb**	**20 58 04.3**	**+0.3**
ENR				S	**Sg**	**20 58 12.7**	**+0.1**
STV2	**Anna di Valdie**	**0.65**	**209**	P	**Pb**	**20 58 04.6**	**+0.4**
STV2				S	**Sg**	**20 58 13.1**	**+0.1**
STV	**Sta Anna Valdi**	**0.65**	**209**	P	**Pb**	**20 58 04.5**	**+0.3**
STV				S	**Sg**	**20 58 13.2**	**+0.1**
FIN	**Finale Ligure**	**0.68**	**152**	P	**Pb**	**20 58 05.2**	**+0.4**
FIN				S	**Sb**	**20 58 14.0**	**0.0**
TRAV		**0.70**	**359**	P	**Pb**	**20 58 05.3**	**+0.2**
TRAV				S	**Sb**	**20 58 14.2**	**-0.4**
RRL	**Cesana Torines**	**0.70**	**279**	P	**Pb**	**20 58 05.8**	**+0.6**
RRL				S	**Sb**	**20 58 15.1**	**+0.4**
MBDF	**Montbardon**	**0.71**	**263**	*e*Pg	**Pg**	**20 58 06.0**	**+0.4**
MBDF				*e*Sg	**Sg**	**20 58 15.0**	**-0.2**
	11nm,0.3s						
RORO		**0.73**	**163**	P	**Pb**	**20 58 06.1**	**+0.4**
RORO				S	**Sb**	**20 58 15.5**	**0.0**
MONE	**Monesi**	**0.73**	**181**	P	**Pb**	**20 58 06.0**	**+0.4**
MONE				S	**Sb**	**20 58 15.3**	**-0.2**
LSD	**Ceresole Reale**	**0.78**	**326**	P	**Pb**	**20 58 06.5**	**+0.1**
SAOF	**Saorge**	**0.84**	**190**	Pg	**Pg**	**20 58 07.9**	**-0.2**
AUTN	**L'Aution**	**0.85**	**197**	Pg	**Pg**	**20 58 07.4**	**-0.9**
AUTN				Sg	**Sg**	**20 58 20.7**	**+0.9**
TOUF	**Mont Tournerai**	**0.88**	**205**	Pg	**Pg**	**20 58 08.8**	**-0.1**
IMI	**Imperia**	**0.91**	**174**	P	**Pb**	**20 58 09.3**	**+0.6**
NEGI	**Negi**	**0.96**	**183**	P	**Pb**	**20 58 10.2**	**+0.6**
AURF	**Auriere**	**0.98**	**199**	Pg	**Pg**	**20 58 10.7**	**-0.1**
AURF				Sg	**Sg**	**20 58 24.3**	**+0.4**
SBF	**Sospel**	**0.98**	**194**	*e*Pg	**Pg**	**20 58 10.8**	**-0.1**
SBF				*e*Sg	**Sg**	**20 58 23.9**	**0.0**
	18nm,0.2s						
LPG	**La Plagne**	**0.99**	**314**	*e*Pg	**Pg**	**20 58 10.8**	**-0.3**
LPG				*e*Sg	**Sg**	**20 58 23.9**	**-0.5**
	2.2nm,0.3s						
LPG				*e*Sn	**Sn**	**20 58 24.9**	**-0.3**
LPL	**La Plagne**	**1.01**	**314**	*e*Pg	**Pg**	**20 58 11.3**	**-0.3**
ORIF	**Oris-en-Rattie**	**1.34**	**275**	*e*Pn	**Pn**	**20 58 16.4**	**+0.2**
ORIF				*e*Sn	**Sn**	**20 58 33.5**	**-0.7**
ORIF				*e*Sg	**Sg**	**20 58 34.0**	**-2.1**
	2.2nm,0.2s						
FRF	**La Foret Royal**	**1.49**	**213**	*e*Pn	**Pn**	**20 58 18.4**	**+0.2**
FRF				*e*Pg	**Pg**	**20 58 19.4**	**-1.6**
FRF				*e*Sg	**Sg**	**20 58 39.0**	**-1.9**
	2.2nm,0.2s						
LMR	**La Mourre**	**1.73**	**212**	*e*Pn	**Pn**	**20 58 22.4**	**+0.7**
LMR				*e*Sn	**Sn**	**20 58 43.0**	**-1.1**
	1.6nm,0.2s						

*MOS **03** 20:59:03.1±0.6, 67.83N×34.89E, h12km, mb3.5/1, Error ellipse: s-maj=20.8km s-min=7.9km az=76.2*
*IDC **03** 20:59:05.7±1.4, 67.94N×34.46E, mb3.4/2, mb1 3.9/7, mb1mx3.6/23, ML3.9/5, Error ellipse: s-maj=15.4km s-min=9.3km az=60.0*
*NAO **03** 20:59:06.0±2.0, 67.90N×34.37E, ML3.4*
*HEL **03** 20:59:07.6±0.3, 67.85N×34.26E, h10km, ML3.2, ML3.2(UPP), ML3.5(BER)*
*UPP **03** 20:59:08.4, 67.92N×33.90E, h0km, ML3.3, Suspected Mining explosion.*
*CSEM **03** 20:59:11.3±0.4, 68.07N×33.48E, h2km, ML4.2/1, Error ellipse: s-maj=9.8km s-min=6.4km az=65.0, Mining explosion.*
ISC 03 20:59:06.5±0.8**, 67.73N**±0.03×**33.6E**±0.1**, n55, σ1ˢ42**/113**, mb3.4**/2**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.18**	**208**	P	**Pg**	**20 59 17.3**	**+7.2**
APA				S	**Sg**	**20 59 22.0**	**+10**
APA				S	**Sg**	**20 59 28.5**	**+16**
APA0	**Apatity Array**	**0.27**	**244**	Pg	**Pg**	**20 59 17.3**	**+5.4**
	baz=75,slow=14						
APA0				Lg		20 59 26.0	
	baz=66,slow=37						
APA0				Rg		20 59 28.7	
	baz=98,slow=37						
LVZ	**Lovozero**	**0.43**	**66**	*e*P	**Pg**	**20 59 07.2**	**-7.8**
MSF	**Maaselka**	**2.57**	**227**	*e*P	**Pn**	**20 59 53.9**	**+3.8**
MSF				*e*S	**Sn**	**21 00 26.0**	**+3.5**
MSF				*e*SG	**Sg**	**21 00 34.5**	**+2.4**
MSF				MSG		21 00 39.2	
	comp=Z,92nm,0.3s						
SGF	**Sodankyl**	**2.73**	**267**	*e*P	**Pn**	**20 59 55.0**	**+2.6**
SGF				*e*PB	**Pb**	**20 59 59.4**	**+3.4**
SGF				*e*S	**Sn**	**21 00 31.4**	**+4.7**
SGF				*e*SG	**Sg**	**21 00 38.0**	**+0.5**
SGF				MSG		21 00 40.0	
	comp=Z,126nm,0.3s						
SGF	**Sodankyl**	**2.73**	**267**	*e*P	**Pn**	**20 59 55.0**	**+2.6**
SGF				*e*S	**Sn**	**21 00 31.4**	**+4.7**
SGF	**Sodankyl**	**2.73**	**267**	P	**Pn**	**20 59 55.0**	**+2.6**
SGF				S	**Sn**	**21 00 31.3**	**+4.6**
KEV	**Kevo**	**3.16**	**313**	*e*P	**Pn**	**20 59 59.1**	**+0.7**
KEV				*e*S	**Sn**	**21 00 37.6**	**+0.2**
KEV				*e*SG	**Sg**	**21 00 48.4**	**-3.2**
KEV				MSG		21 00 53.0	
	comp=Z,76nm,0.3s						
KEV	**Kevo**	**3.16**	**313**	P	**Pn**	**20 59 59.1**	**+0.7**
KEV				S	**Sn**	**21 00 37.5**	**+0.2**
ARA0	**ARCESS Array S**	**3.48**	**305**	Pn	**Pn**	**21 00 03.8**	**+0.8**
	baz=122,slow=10						
ARA0				Sn	**Sn**	**21 00 46.1**	**+0.5**
	baz=119,slow=37						
ARA0				Lg		21 00 57.4	
	baz=119,slow=28						
ARA0	**ARCESS Array S**	**3.48**	**305**	*e*P	**Pn**	**21 00 03.9**	**+0.8**
ARA0				*e*S	**Sn**	**21 00 45.6**	**0.0**
ARA0				*e*SG	**Sg**	**21 00 57.1**	**-5.3**
ARA0	**ARCESS Array S**	**3.48**	**305**	P	**Pn**	**21 00 03.8**	**+0.8**
ARA0				S	**Sn**	**21 00 45.6**	**0.0**
ARCES	**ARCESS Array B**	**3.48**	**305**	Pn	**Pn**	**21 00 03.9**	**+0.8**
	comp=Z,9.0nm,0.3s,baz=120,slow=15,SNR=408						
ARCES				Sn	**Sn**	**21 00 45.6**	**0.0**
	comp=Z,13nm,0.3s,baz=112,slow=26,SNR=15						
ARCES				Lg		21 00 57.4	
	comp=Z,21nm,0.3s,baz=124,slow=31,SNR=9.7						
ARCES	**ARCESS Array B**	**3.48**	**305**	P	**Pn**	**21 00 03.9**	**+0.9**
ARCES						21 00 45.6	
ARCES				pmax	pmax		
	comp=Z,9.0nm,0.3s						
ARCES				smax			
	comp=N,13nm,0.3s						
KTK1	**Kautokeino**	**4.05**	**293**	*e*P	**Pn**	**21 00 11.7**	**+0.5**
KTK1				*e*S	**Sn**	**21 01 00.6**	**+0.5**
KTK1				AML	AML	21 01 17.5	
	comp=Z,88nm,0.4s						
KTK1	**Kautokeino**	**4.05**	**293**	P	**Pn**	**21 00 11.6**	**+0.4**
KTK1				*e*S	**Sn**	**21 01 00.6**	**+0.5**
	comp=Z,88nm,0.4s,SNR=49						
OUL	**Oulu**	**4.08**	**233**	*e*P	**Pn**	**21 00 13.5**	**+2.0**
OUL				*e*PG	**Pg**	**21 00 25.2**	**-2.8**
OUL				*e*S	**Sn**	**21 01 03.7**	**+2.9**
OUL				*e*SG	**Sg**	**21 01 20.9**	**-1.5**
OUL	**Oulu**	**4.08**	**233**	*e*P	**Pn**	**21 00 13.5**	**+1.9**
OUL				*e*S	**Sn**	**21 01 03.7**	**+2.9**
PAJU	**Pajala**	**4.12**	**265**	*e*P	**Pn**	**21 00 13.4**	**+1.3**
KJN	**Kajaani**	**4.38**	**216**	*e*P	**Pn**	**21 00 17.8**	**+1.9**
KJN				*e*S	**Sn**	**21 01 10.3**	**+1.9**
KJN				*e*SG	**Sg**	**21 01 29.6**	**-2.9**
KJN				MSG		21 01 34.5	
	comp=Z,59nm,0.3s						
MASU	**Masugnsbyn**	**4.46**	**272**	*e*P	**Pn**	**21 00 17.6**	**+0.7**
ERTU	**Ertsjaerv**	**4.61**	**261**	*e*P	**Pn**	**21 00 20.0**	**+0.9**
KIF	**Kilpisjarvi**	**4.91**	**291**	*e*P	**Pn**	**21 00 23.7**	**+0.3**
KIF				*e*S	**Sn**	**21 01 20.3**	**-1.5**
KIF				*e*SB	**Sb**	**21 01 39.1**	**+5.5**
KUA	**Kurravaara**	**5.04**	**279**	*e*P	**Pn**	**21 00 25.3**	**+0.2**
KUA				*e*S	**Sn**	**21 01 24.8**	**-0.1**
DUNU	**Dundret**	**5.07**	**269**	*e*P	**Pn**	**21 00 26.5**	**+1.0**
SJUU	**Sjulsmark**	**5.28**	**251**	*e*P	**Pn**	**21 00 30.0**	**+1.5**
NIKU	**Nikkaluokta**	**5.53**	**278**	*e*P	**Pn**	**21 00 31.9**	**-0.2**
TRO	**Tromso**	**5.69**	**296**	*e*P	**Pn**	**21 00 34.9**	**+0.6**
TRO				*e*S	**Sn**	**21 01 39.0**	**-2.3**
SUF	**Sumiainen**	**5.92**	**215**	*e*P	**Pn**	**21 00 38.3**	**+0.7**
SUF				*e*S	**Sn**	**21 01 48.4**	**+1.2**
SUF				*e*SG	**Sg**	**21 02 17.2**	**-6.5**
SUF				MSG		21 02 21.1	
	comp=Z,40nm,0.5s						
KAF	**Kangasniemi**	**6.43**	**212**	*e*P	**Pn**	**21 00 45.2**	**+0.4**
KAF				*e*S	**Sn**	**21 01 59.2**	**-0.7**
KAF				*e*SG	**Sg**	**21 02 32.1**	**-8.6**
KAF				MSG		21 02 38.3	
	comp=Z,19nm,0.3s						
KAF	**Kangasniemi**	**6.43**	**212**	*e*P	**Pn**	**21 00 45.2**	**+0.4**
KAF				*e*S	**Sn**	**21 01 59.2**	**-0.7**
VAF	**Ylistaro**	**6.55**	**229**	*e*P	**Pn**	**21 00 47.5**	**+1.0**
VAF				*e*S	**Sn**	**21 02 03.3**	**+0.4**
VAF				*e*SG	**Sg**	**21 02 36.7**	**-7.9**
KEF	**Keuruu**	**6.70**	**218**	*e*P	**Pn**	**21 00 49.1**	**+0.6**
KEF				*e*S	**Sn**	**21 02 05.8**	**-0.7**
KEF				*e*SG	**Sg**	**21 02 39.7**	**-10**
KEF				MSG		21 02 44.7	
	comp=Z,13nm,0.3s						
FIA0	**FINESS Array S**	**7.09**	**211**	Pn	**Pn**	**21 00 52.8**	**-1.3**
	baz=21,slow=14						
FIA0				Sn	**Sn**	**21 02 16.1**	**-0.2**
	baz=35,slow=22						
FIA0				Lg		21 02 50.5	
	baz=29,slow=28						
FIA0	**FINESS Array S**	**7.09**	**211**	*e*P	**Pn**	**21 00 53.9**	**-0.2**
FIA0				*e*S	**Sn**	**21 02 14.4**	**-1.9**
FIA0				*e*SG	**Sg**	**21 02 52.5**	**-10**
FIA0				MSG		21 02 59.6	
	comp=Z,18nm,0.3s						
FINES	**FINESS Array B**	**7.09**	**211**	Pn	**Pn**	**21 00 52.7**	**-1.3**
	comp=Z,1.5nm,0.3s,baz=27,slow=13,SNR=79						
FINES				Sn	**Sn**	**21 02 15.8**	**-0.6**
	comp=Z,2.4nm,0.3s,baz=28,slow=23,SNR=8.4						
FINES				Lg		21 02 50.5	
	comp=Z,3.6nm,0.3s,baz=35,slow=23,SNR=7.7						
FINES	**FINESS Array B**	**7.09**	**211**	P	**Pn**	**21 00 52.7**	**-1.3**
FINES						21 02 15.8	
FINES				pmax	pmax		
	comp=Z,2.0nm,0.3s						
FINES				smax			
	comp=N,2.0nm,0.3s						
LOF	**Lofoten**	**7.57**	**282**	*e*P	**Pn**	**21 00 59.7**	**-1.0**

LOF				eS	Sn	21 02 20.1	-8.1
MOR8	Moi Rana	7.68	267	eP	Pn	21 00 59.3	-3.0
MOR8				eS	Sn	21 02 22.9	-8.2
MOR8				AML	AML	21 03 15.2	
	comp=Z,48nm,0.4s						
VJF	Virojoki	7.68	203	eP	Pn	21 01 01.2	-1.2
VJF				eS	Sn	21 02 25.5	-5.7
VJF				eSG	Sg	21 03 06.7	-16
MELS	Mels	7.74	273	eP	Pn	21 01 01.3	-1.8
MELS				eS	Sn	21 02 25.8	-6.7
PVF	Pernaja	7.96	209	eP	Pn	21 01 05.5	-0.8
PVF				eS	Sn	21 02 33.1	-5.0
PVF				eSG	Sg	21 03 19.3	-12
PVF				MSG		21 03 24.6	
	comp=Z,23nm,0.4s						
STOK	Stokkvaagen	8.17	270	eS	Sn	21 02 41.0	-2.3
STOK				AML	AML	21 02 45.0	
	comp=Z,27nm,0.7s						
NSS	Namsos	9.32	260	eP	P	21 01 23.6	-1.5
NSS				eS	Sn	21 03 06.3	-5.6
HFS	Hagfors	11.55	238	Pn	P	21 01 53.3	-2.2
	baz=48,slow=12						
HFS				Sn	S	21 03 59.5	-7.0
	baz=47,slow=22						
HFS				Lg		21 05 12.0	
	baz=52,slow=28						
HFS	Hagfors	11.55	238	eP	P	21 01 53.3	-2.2
HFS				eS	S	21 03 59.5	-7.0
HFS				eSG		21 05 12.0	
HFS	Hagfors	11.55	238	Pn	P	21 01 52.9	-2.6
	comp=Z,0.2nm,0.3s,baz=40,slow=12,SNR=17						
HFS				Sn	S	21 04 01.0	-5.6
	comp=Z,0.3nm,0.3s,baz=45,slow=23,SNR=9.5						
HFS				Lg		21 05 12.8	
	comp=Z,0.2nm,0.3s,baz=42,slow=18,SNR=5.5						
HFS	Hagfors	11.55	238	P	P	21 01 53.0	-2.6
HFS				S	S	21 04 04.8	-1.7
HFS				S	S	21 04 09.9	+3.4
HFS				S	S	21 04 20.3	+14
HFS	Hagfors	11.55	238	Sn	S	21 03 59.5	-7.0
	SNR=6.3						
NOA	NORSAR Array B	11.73	246	Pn	P	21 01 56.4	-1.5
	comp=Z,0.6nm,0.3s,baz=48,slow=11,SNR=5.1						
NOA				Sn	S	21 04 04.3	-6.4
	comp=Z,0.6nm,0.3s,baz=272,slow=9.5,SNR=4.4						
NOA				Lg		21 05 19.1	
	comp=Z,1.1nm,0.3s,baz=43,slow=7.9,SNR=5.2						
AKASG	Malin Array Be	17.22	189	Pn	P	21 03 02.0	-7.5
	comp=Z,2.1nm,0.3s,baz=6.8,slow=13,SNR=19						
AKASG				Sn	S	21 06 09.6	-11
	comp=Z,0.8nm,0.3s,baz=0.7,slow=22,SNR=4.3						
AKASG	Malin Array Be	17.22	189	P	P	21 03 02.1	-7.5
AKASG						21 06 09.6	
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AKASG				smax			
	comp=N,1.0nm,0.3s						
GERES	GERESS Array B	21.44	218	P	P	21 03 58.0	0.0
	comp=N,0.5nm,0.4s,mb3.2,baz=34,slow=9.1,SNR=7.2						
GERES	GERESS Array B	21.44	218	P	P	21 03 58.0	0.0
GERES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVAR	Borovoye Array	22.89	112	P	P	21 04 07.8	-4.5
	comp=Z,0.9nm,0.4s,mb3.7,baz=326,slow=11,SNR=6.8						

IDC 03 21:19:48.1±38.0, 7.52S×159.30E, mb3.8/3, mb1 4.0/3, mb1mx3.6/14, Error ellipse: s-maj=633.0km s-min=97.6km az=49.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WB2	Warramunga Arr	27.15	240	eP	P	21 25 34.0	-1.2
WRA	Warramunga Arr	27.16	240	P	P	21 25 33.9	-1.4
	0.7nm,0.6s,baz=67,slow=9.0,SNR=8.1						
ASAR	Alice Springs	29.17	234	P	P	21 25 51.1	-2.4
	0.6nm,0.4s,baz=62,slow=9.6,SNR=13						
ASPA	Alice Springs	29.18	234	eP	P	21 25 50.9	-2.6
STKA	Stephens Creek	29.32	212	P	P	21 25 52.4	-2.3
	1.1nm,0.8s,baz=52,slow=15,SNR=3.8						

STR 03 21:34:35.6±0.1, 42.85N×0.27W, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0
LDG 03 21:34:36.0±0.1, 42.85N×0.28W, h2km, Md2.2/2, Ml1.7/2, Error ellipse: s-maj=3.5km s-min=1.2km az=175.0
ISC 03 21:34:35.6±0.7, 42.87N±0.05×0.26W±0.03, h2km, n9, $\sigma 0^{s}91$/17, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VIEF	Viey	0.21	85	Pg	Pg	21 34 40.5	+0.7
VIEF				Sg	Sg	21 34 43.4	+0.8
ETSF	Etsaut	0.22	279	ePg	Pg	21 34 40.5	+0.4
ETSF				eSg	Sg	21 34 42.4	-0.6
	30nm,0.3s						
REYF	Montagne du Re	0.23	335	Pg	Pg	21 34 40.7	+0.6
REYF				Sg	Sg	21 34 44.2	+1.0
FDAF	Les Forges d'A	0.23	258	Pg	Pg	21 34 40.5	+0.3
FDAF				Sg	Sg	21 34 43.6	+0.3
LABF	Labassere	0.30	53	Pg	Pg	21 34 42.5	+0.8
LABF				Sg	Sg	21 34 46.9	+1.1
EPF	Esparros	0.47	69	ePg	Pg	21 34 45.5	+0.5
EPF				eSg	Sg	21 34 51.4	+0.1
	5.8nm,0.2s						
SJPF	Ste Jean	0.75	290	ePn	Pn	21 34 51.7	-1.2
SJPF				eSg	Sg	21 35 00.4	-0.2
	2.8nm,0.2s						
MTLF	Montolieu	1.88	74	ePg	Pg	21 35 11.4	-1.7
MTLF				eSg	Sg	21 35 36.5	-1.6
	0.6nm,0.2s						
LFF	La Frestale	2.20	19	eSg	Sg	21 35 47.2	-1.5
	1.1nm,0.2s						

IDC 03 21:50:24.9±3.6, 14.01N×92.15W, mb3.8/4, mb1 4.2/5, mb1mx3.8/18, ML3.5/1, Error ellipse: s-maj=133.0km s-min=62.3km az=49.0
MEX 03 21:50:27.0±0.6, 13.72N×93.23W, h20km±999km, MD4.4
ISC 03 21:50:26.6±3.7, 14.1N±0.1×93.3W±0.1, h3km±27km, n9, $\sigma 1^{s}45$/10, mb3.9/4, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CCIG	Comitan	2.48	26	i P	Pn	21 51 07.7	-0.9
CCIG				i S	Sn	21 51 39.6	-0.1
SCX	San Cristobal	2.74	13	i P	Pn	21 51 14.5	+2.1
CMIG	Matias Romero	3.41	333	i P	Pn	21 51 20.2	-1.6
CMIG				i S	Sn	21 52 03.3	0.0
TXAR	Lajitas Array	18.01	329	P	P	21 54 44.4	+4.6
	0.0nm,0.3s,baz=146,slow=11,SNR=11						
PDAR	Pinedale Array	31.88	337	P	P	21 56 56.9	+1.5
	0.2nm,0.6s,mb3.1,baz=141,slow=5.8,SNR=2.0						
NVAR	Mina Array Bea	32.87	322	P	P	21 57 06.5	+2.5
	0.9nm,0.7s,mb3.8,baz=130,slow=9.6,SNR=11						
YKA	Yellowknife Ar	50.71	347	P	P	21 59 27.7	-1.7
	4.5nm,0.7s,mb4.5,baz=151,slow=7.3,SNR=13						
ILAR	Eielson Array	62.32	337	P	P	22 00 51.4	-1.0
	1.2nm,1.0s,mb4.0,baz=114,slow=5.7,SNR=7.1						
CMAR	Chiang Mai Arr	145.53	339	PKPbc	PKPbc	22 10 06.8	-1.0
	1.8nm,0.7s,baz=334,slow=3.6,SNR=13						

BER 03 22:00:15.7±2.3, 67.86N×20.11E, ML1.5, Suspected explosion
HEL 03 22:00:15.2±0.3, 67.86N×20.27E, ML1.8, ML1.7(BER), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KIF	Kilpisjarvi	1.16	9	eP	Pb	22 00 36.2	-1.6
KIF				eS	Sb	22 00 52.6	-0.7
KTK1	Kautokeino	1.59	42	eP	Pn	22 00 44.3	-0.4
KTK1				eSN	Sn	22 01 07.0	+0.7
KTK1				AML	AML	22 01 11.3	
	comp=Z,6.5nm,0.3s						
TRO	Tromso	1.84	345	eP	Pn	22 00 46.5	-1.9
TRO				eSG	Sg	22 01 11.8	-4.8
TRO				AML	AML	22 01 15.6	
	comp=Z,8.6nm,0.4s						
SGF	Sodankyl	2.43	97	ePB	Pb	22 00 57.1	-2.4
SGF				eSB	Sb	22 01 28.2	-1.9
LOF	Lofoten	2.55	279	eSG	Sg	22 01 35.1	-5.0
LOF				AML	AML	22 01 40.8	
	comp=Z,4.0nm,0.4s						
MELS	Mels	2.73	251	eSg	Sg	22 01 38.2	-7.7
MOR8	Moi Rana	2.85	236	eSG	Sg	22 01 37.2	-13
MOR8				AML	AML	22 01 41.4	
	comp=Z,7.7nm,0.5s						
KEV	Kevo	3.10	49	eP	Pn	22 01 04.0	-2.3
KEV				eS	Sn	22 01 43.8	-0.7
KEV				MSG		22 01 50.2	
	comp=Z,2.5nm,0.3s						
OUL	Oulu	3.59	138	eSG	Sg	22 02 05.4	-9.2
NSS	Namsos	4.74	229	eSG	Sg	22 02 41.8	-11
NSS				AML	AML	22 02 43.1	
	comp=Z,2.7nm,0.4s						

NIED 03 22:04:00, 28.10N×128.10E, h5km, Mw3.9 Best double couple: Mo8.58×10^14 NP1:φs298°, δ72°, λ22°. NP2:φs201°, δ69°, λ161°.
JMA 03 22:04:45.9±0.1, 28.10N×128.06E, h9km±2km, M3.5
IDC 03 22:04:47.5±1.3, 27.69N×127.41E, mb3.5/3, mb1 3.7/3, mb1mx3.4/22, Error ellipse: s-maj=83.5km s-min=12.0km az=48.0
ISC 03 22:04:46.3±0.8, 28.08N±0.04×128.10E±0.05, h9km, n11, $\sigma 0^{s}88$/15, mb3.4/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTK	Tokunoshima	0.81	111	P	Pb	22 05 02.0	-0.1
JTK				S	Sb	22 05 13.6	+0.7
JIH	Iheya	1.05	186	P	Pb	22 05 05.9	-0.3
JIH				S	Sb	22 05 20.0	+0.1
JOW	Kunigami	1.26	173	Pg	Pg	22 05 09.4	-2.0
	98nm,0.3s,baz=351,slow=15,SNR=135						
JOW				Lg		22 05 25.9	
	55nm,0.3s,baz=92,slow=29,SNR=17						
JOW	Kunigami	1.26	173	P	Pb	22 05 09.3	-0.4
JOW				S	Sb	22 05 25.9	+0.1
JAM	Amami Oshima	1.37	76	P	Pn	22 05 11.6	-0.1
JAM				S	Sb	22 05 29.7	+0.6
JAGN	Aguni-jima	1.67	207	S	Sn	22 05 39.5	+1.8
NAH1	Naha	1.91	191	S	Sn	22 05 44.2	+0.5
JJT2	Tamagusuku 2	1.96	189	S	Sn	22 05 45.2	+0.1
SONM	Songino Array	25.95	325	P	P	22 10 21.3	+0.7
	1.0nm,0.8s,mb3.4,baz=137,slow=9.4,SNR=9.4						
MKAR	Makanchi Array	40.23	310	P	P	22 12 24.8	0.0
	0.5nm,0.7s,mb3.3,baz=108,slow=7.7,SNR=4.5						
WRA	Warramunga Arr	48.12	172	P	P	22 13 26.8	-1.9
	0.5nm,0.8s,mb3.6,baz=351,slow=8.1,SNR=5.2						

GUC 03 22:12:37.0±0.7, 33.13S×70.25W, h3km±3km, MD3.5, ML2.1, 1C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FCH	Farellones	0.20	189	⇑iP	Pg	22 12 42.0	+1.0
FCH				i S	Sg	22 12 44.8	+1.1
FCH				AMP		22 12 45.2	
	comp=E,551nm,0.2s						
CLCH	Cerro Calan	0.35	222	eP	Pg	22 12 44.8	+0.7
CLCH				i S	Sg	22 12 50.0	+1.2
CLCH				AMP		22 12 53.4	
	comp=E,408nm,0.9s						
JACH	Jahuel	0.53	327	i P	Pg	22 12 48.0	+0.4
JACH				i S	Sg	22 12 56.3	+1.6
PCH	Pirque	0.54	204	i P	Pg	22 12 48.2	+0.5
PCH				i S	Sg	22 12 55.7	+0.9
TACH	Talagante	0.77	227	i P	Pg	22 12 52.1	-0.3
SFDO	San Fernando	1.61	203	eP	Pn	22 13 05.7	-0.7
SFDO				i S	Sb	22 13 27.9	+0.3

IDC 03 22:34:07.0±14.0, 23.53S×177.36W, h67km±121km, mb3.9/8, mb1 4.1/8, mb1mx4.0/12, MS3.5/2, Ms1 3.5/2, ms1mx3.3/12, Error ellipse: s-maj=44.4km s-min=28.8km az=134.0
NEIC 03 22:34:10.6±0.4, 23.58S×177.40W, h100km, mb4.6/6, Error ellipse: s-maj=14.7km s-min=11.6km az=133.0
ISC 03 22:34:01.6±0.5, 23.6S±0.1×177.3W±0.1, h33km, n34, $\sigma 0^{s}92$/20, mb4.3/14, MS3.4/1, 2C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	15.37	197	LR	LR	22 43 21.9	
	comp=Z,154nm,18.2s,baz=234,slow=36						
RPZ	Rata Peaks	22.23	203	LR	LR	22 47 16.7	
	comp=Z,130nm,18.5s,MS3.4,baz=142,slow=35						
CTAO	Charters Tower	33.91	269	eP	P	22 40 44.7	+0.9
	5.8nm,0.6s,mb4.7						
STKA	Stephens Creek	37.10	248	P	P	22 41 11.2	+0.5
	1.2nm,0.5s,mb4.0,baz=329,slow=22,SNR=4.1						
ASAR	Alice Springs	44.49	260	P	P	22 42 12.2	+0.4
	3.6nm,0.9s,mb4.1,baz=92,slow=8.4,SNR=29						
WRAB	Tennant Creek	44.85	265	eP	P	22 42 14.2	-0.6
	4.5nm,0.8s,mb4.3						
WRA	Warramunga Arr	44.86	265	P	P	22 42 14.3	-0.5
	2.7nm,0.7s,mb4.2,baz=101,slow=8.1,SNR=14						
SBA	Scott Base	54.84	184	eP	P	22 43 31.3	+0.8
	8.3nm,1.1s,mb4.7						
CASY	Casey	61.45	206	eP	P	22 44 14.6	-2.2
	4.0nm,0.7s,mb4.7						
QSPA	South Pole Qui	66.49	180	eP	P	22 44 49.5	0.0
	5.0nm,0.9s,mb4.5						
MAW	Mawson	78.88	200	P	P	22 46 02.8	+0.1
	3.7nm,0.7s,mb4.5,baz=135,slow=6.4,SNR=15						
NVAR	Mina Array Bea	82.86	43	P	P	22 46 23.7	-0.5
	0.5nm,0.7s,mb3.6,baz=234,slow=7.8,SNR=3.0						
NVAR	Mina Array Bea	82.86	43	P	P	22 46 23.7	-0.5
SNAA	Sanae	84.92	178		P	22 46 33.2	-0.7
VNA3	Neumayer Olymp	85.03	176	⇑i	P	22 46 35.7	+1.2
VNA2	Neumayer--Watz	85.48	177		P	22 46 38.1	+1.4
VNA1	Neumayer--Stat	85.70	176	⇑i	P	22 46 35.7	-2.1
TXAR	Lajitas Array	88.21	57	P	P	22 46 51.7	+0.8
	0.9nm,0.9s,mb4.0,baz=211,slow=7.3,SNR=9.1						
TXAR	Lajitas Array	88.21	57	P	P	22 46 51.7	+0.8
PDAR	Pinedale Array	90.79	43	P	P	22 47 03.0	+0.2
	1.3nm,1.1s,mb4.2,baz=225,slow=4.2,SNR=4.9						
COLA	College	91.08	12	P	P	22 47 03.5	-0.1
	6.6nm,0.9s,mb5.0						
ILAR	Eielson Array	91.18	13	P	P	22 47 03.6	-0.5
	1.3nm,0.8s,mb4.3,baz=224,slow=6.0,SNR=7.5						
ARCES	ARCESS Array B	132.06	349	PKP	PKPdf	22 53 10.6	-0.9
	1.6nm,0.8s,slow=1.2,SNR=5.4						
FINES	FINESS Array B	138.90	343	PKP	PKPdf	22 53 25.1	+0.8
	0.9nm,0.7s,slow=3.8,SNR=4.8						
AKASG	Malin Array Be	145.99	329	PKPbc	PKPbc	22 53 38.2	+0.3
	1.7nm,0.7s,baz=43,slow=4.0,SNR=7.7						
KWP	Kalwaria	149.62	334	ePKPbc	PKPdf	22 53 48.9	+6.1
KOLS	Kolonicke sedl	150.35	333	i PKP	PKPdf	22 53 51.6	+7.6
KOLS				e		22 53 57.1	
KSP	Ksiaz	150.81	342	ePKP	PKPdf	22 53 52.2	+7.6
CLZ	Clausthal	151.18	350	ePKP	PKPdf	22 53 53.3	+8.2
CLL	Collm	151.20	346	i PKP1	PKPdf	22 53 52.6	+7.4
CLL				ePKP2	PKPab	22 53 58.0	-3.3
CLL				e		22 54 01.0	
MORC	Moravsky Berou	151.38	340	ePKPbc	PKPdf	22 53 52.4	+6.8
BRG	Berggiesshubel	151.39	345	i P	PKPdf	22 53 53.6	+8.1
KHC	Kasperske Hory	153.09	344	eP	PKPdf	22 53 56.5	+8.5
GERES	GERESS Array B	153.33	344	PKP	PKPdf	22 53 49.6	+1.2
	0.1nm,0.4s,baz=315,slow=3.8,SNR=4.2						
GERES				PKPbc	PKPdf	22 53 57.4	+9.0
	0.5nm,0.6s,SNR=6.6						

MAN 03 22:37:27.3, 10.71N×124.96E, h9km, mb4.2, ML3.0, MS2.7, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLP	Palo	0.45	3	eP	Pg	22 37 36.8	+0.3
PLP				i S	Sg	22 37 44.4	+1.8
OCLP	Ormoc	0.48	315	eP	Pg	22 37 37.3	+0.3
OCLP				eS	Sg	22 37 45.6	+2.1
MSLP	Maasin	0.58	190	eP	Pg	22 37 39.1	+0.1
MSLP				eS	Sg	22 37 49.7	+2.9
BESP	Borongan	1.00	28	eP	Pb	22 37 45.9	-0.4
BESP				eS	Sb	22 38 01.5	+2.0
LLP	Lapu-Lapu	1.05	248	eP	Pb	22 37 46.0	-1.2
LLP				eS	Sb	22 38 00.4	-0.5
SCPH	Surigao	1.06	150	eP	Pb	22 37 47.3	-0.1
SCPH				eS	Sb	22 37 59.1	-2.0
TBP	Tagbilaran	1.48	227	eP	Pn	22 37 54.0	-0.3
TBP				eS	Sb	22 38 13.9	+0.6
CNP	Catarman	1.81	351	eP	Pn	22 37 59.8	+0.8
CNP				eS	Sn	22 38 25.1	+2.8
SNPH	Sibulan	2.17	231	eP	Pn	22 38 10.5	+6.4
RCP	Roxas	2.33	291	⇑eP	Pn	22 38 07.3	+1.0
PVCP	Virac	2.97	345	eP	Pn	22 38 07.2	-8.4

WEL 03 23:33:26.4±0.4, 38.29S×176.11E, h161km±3km, ML3.5/5, 1C, Error ellipse: s-maj=6.8km s-min=4.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	0.79	88	PN	P	23 33 50.4	-0.5
URZ				SN	S	23 34 09.2	-0.6
URZ				SN	S	23 34 09.2	-0.6
BKZ	Black Stump Fm	0.93	161	PN	P	23 33 51.9	+0.1
BKZ				SN	S	23 34 11.0	-0.5
BKZ				SN	S	23 34 11.3	-0.1
MWZ	Matawai	1.12	93	PN	P	23 33 53.6	+0.2
MWZ				SN	S	23 34 13.6	-0.6
MWZ				SN	S	23 34 13.8	-0.5
KNZ	Kokohu	1.43	121	SN	S	23 34 17.9	-1.7
TSZ	Takapari Road	1.77	184	PN	P	23 33 59.1	-0.9
MRZ	Mangatainoka R	2.41	190	⇑PN	P	23 34 05.1	-2.3
MRZ				SN	S	23 34 35.3	-3.7
KIW	Kapiti Island	2.73	199	PN	P	23 34 08.4	-3.1
MTW	Mount Morrison	2.91	189	PN	P	23 34 10.3	-3.4
CAW	Cannon Point	2.93	196	PN	P	23 34 10.8	-3.2
MRW	Makara Radio	3.13	200	PN	P	23 34 12.8	-3.7
KHZ	Kahutara	4.57	205	PN	P	23 34 30.3	-4.8

NIED 03 23:41:00, 42.00N×142.60E, h53km, Mw4.4 Best double couple: Mo5.03×10^15 NP1:φs22°, δ69°, λ74°. NP2:φs241°, δ26°, λ126°.
MOS 03 23:41:21.7±1.2, 41.96N×142.57E, h68km, mb4.7/14, Error ellipse: s-maj=14.7km s-min=7.6km az=101.0
BJI 03 23:41:22.0, 41.88N×142.42E, h71km, mB5.1, mb4.7, Ms4.0, Msz3.7
JMA 03 23:41:22.8±0.1, 41.98N×142.56E, h62km±2km, M4.2 Broadband fault plane solution: P waves. NP1:φs227°, δ24°, λ119°. NP2:φs16°, δ69°, λ78°. Principal axes: T Plg64°, Azm266°; N Plg11°, Azm20°; P Plg23°, Azm115°;
JMA Felt II J1.
SKHL 03 23:41:23.7±5.5, 42.00N×142.60E, h57km±28km, mb4.9/5, mbv6.5/1
NEIC 03 23:41:23.7±0.2, 42.00N×142.44E, mb4.7/28, MW4.4(NIED), Error ellipse: s-maj=6.9km s-min=5.1km az=116.0
NEIC Recorded [2 JMA] in south-central Hokkaido and [1 JMA] in the Chitose-Noboribetsu area.
IDC 03 23:41:24.1±0.8, 42.00N×142.44E, h69km±6km, mb4.1/18, mb1 4.2/19, mb1mx4.2/23, MS3.5/8, Ms1 3.5/8, ms1mx3.3/29, Error ellipse: s-maj=14.7km s-min=8.7km az=91.0
ISC 03 23:41:22.1±0.3, 41.97N±0.03×142.53E±0.03, h67km±2km, h67km±2.6km:pP-P, n154, $\sigma 0^{s}96$/178, mb4.5/55, 14C-11D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNBK	Urakawa-nobuka	0.35	28	⇑P	P	23 41 33.2	-0.3
JNBK				eS	S	23 41 41.0	-0.9
ERM	Erimo	0.47	84	Pn	P	23 41 34.9	+0.4
	99μm,0.5s						
JEM	Erimo	0.47	84	⇑P	P	23 41 34.6	+0.1
JEM				eS	S	23 41 43.1	-0.5
JBT2	Biratori 2	0.82	351	⇓P	P	23 41 38.4	0.0
JBT2				eS	S	23 41 50.3	-0.1
JCH	Churui	0.89	43	⇑P	P	23 41 39.4	+0.1
JCH				eS	S	23 41 51.7	-0.3
JKB	Kayabe	1.12	266	⇓P	P	23 41 42.5	+0.2
JKB				eS	S	23 41 57.1	-0.3
JEW	Eniwo	1.18	318	⇓P	P	23 41 43.5	+0.4
JFR	Furan	1.19	2	⇓P	P	23 41 43.3	0.0
JFR				eS	S	23 41 58.9	-0.2
JNB	Noboribetsu	1.22	295	⇓P	P	23 41 43.2	-0.4
JNB				eS	S	23 41 59.4	-0.2
JOT	Ohata	1.26	243	⇓P	P	23 41 44.5	+0.3
JOT				eS	S	23 42 00.7	+0.1
JOB	Onbets	1.34	46	⇑P	P	23 41 46.3	+0.9
JOB				eS	S	23 42 03.6	+0.9
JAB	Ashibetsu	1.55	352	⇓P	P	23 41 48.6	+0.4
JAB				eS	S	23 42 09.3	+1.8
JAR	Ashorobuto	1.61	34	⇑P	P	23 41 48.9	-0.1
JAR				eS	S	23 42 08.7	-0.2
JTM	Tenmabayashi	1.62	223	⇓P	P	23 41 49.9	+0.8
JTM				eS	S	23 42 09.8	+0.8
JYM2	Yakumo 2	1.62	276	P	P	23 41 49.1	0.0
JSR	Shiriuchi	1.64	255	⇓P	P	23 41 49.5	0.0
JSR				eS	S	23 42 10.3	+0.7
ASAJ	Asahikawa	2.15	1	P	P	23 41 57.0	+0.6
	100nm,0.3s,baz=215,slow=5.8,SNR=100						
ASAJ				S	S	23 42 23.2	+1.4
	65nm,0.3s,baz=81,slow=31,SNR=13						
ASAJ				LR	LR	23 42 52.5	
	comp=Z,372nm,21.7s,baz=348,slow=42						
ASAJ	Asahikawa	2.15	1	P	P	23 41 57.1	+0.7
ASAJ				S	S	23 42 23.3	+1.5
ASAJ				pmax	pmax		
	comp=Z,100nm,0.3s						
ASAJ				smax			
	comp=N,65nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,373nm,21.7s						
YUK	Yuzh-Kuril'sk	3.20	49	⇑iP	P	23 42 10.5	-0.7
YUK				AMB	AMB	23 42 12.7	
	comp=Z,690nm,0.5s						
YUK				AMB	AMB	23 42 12.7	
	comp=Z,190nm,0.5s						
YUK				AMB	AMB	23 42 12.7	
	comp=Z,810nm,0.5s						
YUK				AMB	AMB	23 42 15.9	
	comp=Z,2μm,1.0s						
YUK				AMB	AMB	23 42 15.9	
	comp=Z,2μm,2.0s						
YUK				AMB	AMB	23 42 15.9	
	comp=Z,2μm,2.0s						
YUK				AMB	AMB	23 42 15.9	
	comp=Z,6μm,2.0s						
YUK				i S	S	23 42 45.6	-2.7
YUK				A		23 42 50.5	
	comp=Z,2μm,0.3s						
YUK				A		23 42 50.5	
	comp=Z,880nm,0.4s						
YUK				A		23 42 57.7	
	comp=Z,6μm,1.0s						
YUK				A		23 42 57.7	
	comp=Z,4μm,1.0s						
YUK	Yuzh-Kuril'sk	3.20	49	⇑iP	P	23 42 10.5	-0.7
YUK				i S	S	23 42 45.6	-2.7
YUK				pmax	pmax		
	comp=Z,350nm,0.4s						
YUK				pmax	pmax		
	comp=N,250nm,0.5s						
YUK				pmax	pmax		
	comp=E,190nm,0.5s						
YUK				pmax	pmax		
	comp=Z,2μm,1.0s						
YUK				pmax	pmax		
	comp=N,2μm,2.0s						
YUK				pmax	pmax		
	comp=E,2μm,2.0s						
YUK				smax			
	comp=E,2μm,0.4s						
YUK				smax			
	comp=N,880nm,0.4s						
YUK				smax			
	comp=N,6μm,1.0s						
YSS	Yuzh-Sakhalins	4.99	2	eP	P	23 42 37.1	+0.9
YSS				AMB	AMB	23 42 38.3	
	comp=N,70nm,1.0s						
YSS	Yuzh-Sakhalins	4.99	2	⇑eP	P	23 42 37.8	+1.6
YSS	Yuzh-Sakhalins	4.99	2	eP	P	23 42 37.5	+1.4
KUR	Kuril'sk	5.06	48	eP	P	23 42 34.5	-2.7
KUR				AMB	AMB	23 42 37.0	
	comp=N,99nm,0.5s						
KUR				AMB	AMB	23 42 37.0	
	comp=N,122nm,0.5s						

KUR AMB AMB 23 42 37.0
comp=N,190nm,0.5s
KUR eS S 23 43 32.4 -2.6
KUR A 23 43 40.9
comp=N,182nm,0.5s
KUR A 23 43 40.9
comp=N,266nm,0.5s
KUR Kuril'sk 5.06 48 eP P 23 42 34.5 -2.7
KUR eS S 23 43 32.4 -2.6
KUR pmax pmax
comp=N,100nm,0.5s
KUR pmax pmax
comp=E,120nm,0.5s
KUR pmax pmax
comp=Z,190nm,0.5s
KUR smax
comp=N,180nm,0.5s
KUR smax
comp=E,270nm,0.5s
TEY Ternei 5.29 307 eP P 23 42 40.0 -0.3
TEY AMB AMB 23 42 41.0
comp=E,30nm,0.5s
MAJO Matsushiro 6.37 213 eP P 23 42 56.2 +0.7
comp=E,16nm,0.6s
MAT Matsushiro 6.37 213 P P 23 42 55.9 +0.5
MAT eS S 23 44 08.5 +0.9
MAT Matsushiro 6.37 213 eP P 23 42 56.0 +0.6
comp=E,10nm,0.8s
MAT S S 23 44 11.0 +3.4
TYV Tymovskoe 8.90 1 eP P 23 43 29.5 -0.7
MDJ Mudanjiang 9.80 290 P P 23 43 41.5 -1.0
MDJ AMB AMB
comp=Z,14nm,1.0s
MDJ AMB AMB
comp=Z,24nm,4.3s
MDJ Mudanjiang 9.80 290 eP P 23 43 44.4 +1.9
comp=Z,11nm,0.8s
CN2 Changchun 12.67 284 P P 23 44 21.6 +0.6
CN2 eS S 23 46 39.0 -1.9
CN2 AMB AMB
comp=Z,10.0nm,0.6s
CN2 AMB AMB
comp=Z,200nm,3.0s
ZEA Zeya 15.57 324 eP P 23 44 58.2 -0.4
ZEA AMB AMB 23 44 59.4
comp=Z,27nm,0.9s
BJI Beijing 19.96 273 eP P 23 45 48.3 -2.9
BJI AMB AMB
comp=Z,20nm,1.0s
BJI LR LR
comp=N,118nm,16.0s
BJI LR LR
comp=E,100nm,17.4s
BJI LR LR
comp=Z,139nm,28.8s
BJT Baijiatuan 19.97 273 eP P 23 45 48.6 -2.7
comp=Z,15nm,0.8s
SSE Sheshan 20.24 244 P P 23 45 52.9 -1.3
SSE AP 23 46 08.8
SSE XP 23 46 19.2
SSE S S 23 49 29.6 -2.9
SSE AMB AMB
comp=Z,15nm,0.9s
SSE AMB AMB
comp=Z,143nm,3.9s
NJ2 Nanjing 21.28 250 eP P 23 46 02.5 -2.3
NJ2 AP 23 46 22.6
NJ2 PP PP 23 46 30.3 +0.2
NJ2 S S 23 49 46.0 -6.2
NJ2 XS 23 50 19.0
NJ2 AMB AMB
comp=Z,30nm,1.1s,mb4.5
NJ2 LR LR
comp=Z,190nm,12.0s
YAK Yakutsk 21.51 343|| eP P 23 46 07.9 +1.1
YAK pmax pmax
comp=Z,7.0nm,0.7s,mb4.1
YAK MLR MLR
comp=Z,100nm,21.0s
BOD Bodaibo 24.01 321 eP P 23 46 28.6 -2.5
WHN Wuhan 25.31 252 ||P P 23 46 45.5 +1.6
SONM Songino Array 26.09 295 P P 23 46 51.0 0.0
comp=Z,4.0nm,0.6s,mb4.0,baz=76,slow=8.9,SNR=34
SONM PcP PcP 23 50 17.6 -0.1
comp=Z,0.5nm,0.8s,baz=118,slow=2.2,SNR=3.7
ENH Enshi 28.96 257 P P 23 47 14.4 -2.8
comp=Z,8.4nm,0.6s,mb4.5
LZH Lanzhou 30.44 272 eP P 23 47 29.5 -0.8
LZH PP PP 23 48 32.0 0.0
LZH eS S 23 52 21.5 -3.5
LZH XS 23 52 58.0
LZH SS SS 23 54 07.0 -2.2
LZH AMB AMB
comp=Z,13nm,1.2s,mb4.4
LZH AMB AMB
comp=Z,28nm,4.0s
LZH LR LR
comp=E,317nm,14.8s
LZH LR LR
comp=Z,521nm,16.0s
TIXI Tiksi 30.52 352 eP P 23 47 30.1 -0.5
TIXI i pP 23 47 43.5 -3.5
TIXI e 23 48 32.0
TIXI e 23 50 22.5
TIXI pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
TIXI MLR MLR
comp=Z,2μm,19.0s
GTA Gaotai 32.25 280 eP P 23 47 46.2 +0.1
GTA AMB AMB
comp=Z,3.0nm,0.6s,mb4.2
KMI Kunming 36.80 256 eP P 23 48 21.4 -3.8
KMI AMB AMB
comp=Z,9.0nm,1.3s,mb4.5
ZAL Zalesovo 39.40 308 P P 23 48 46.3 -0.2
comp=Z,6.8nm,0.7s,mb4.6,baz=294,slow=8.7,SNR=49
ZAL LR LR 00 06 23.7
comp=Z,77nm,18.6s,baz=20,slow=38
ZAL Zalesovo 39.40 308 P P 23 48 46.3 -0.2
ZAL pmax pmax
comp=Z,7.0nm,0.7s
ZAL MLR MLR
comp=Z,77nm,18.6s
WMQ Urumqi 39.60 292 eP P 23 48 47.5 -0.7
WMQ AP pP 23 49 10.5 +5.4
WMQ PP PP 23 50 23.5 -0.4
WMQ S S 23 54 42.5 -3.4
WMQ SS SS 23 57 32.5 -4.3
WMQ AMB AMB
comp=Z,30nm,1.0s,mb5.1
WMQ LR LR
comp=N,108nm,18.0s
WMQ LR LR
comp=E,56nm,18.0s
WMQ LR LR
comp=Z,65nm,18.0s
MKAR Makanchi Array 42.41 298 P P 23 49 11.1 -0.2
comp=Z,8.5nm,0.7s,mb4.6,baz=83,slow=9.4,SNR=68
MKAR PcP PcP 23 51 03.6 -0.4
comp=Z,0.9nm,0.6s,baz=55,slow=3.5,SNR=3.0
MKAR LR LR 00 07 45.7
comp=Z,28nm,20.9s,baz=246,slow=37
MKAR Makanchi Array 42.41 298 *i* P P 23 49 11.1 -0.2
MKAR pmax pmax
comp=Z,9.0nm,0.7s
MKAR Makanchi Array 42.41 298 P P 23 49 11.1 -0.2
MKAR PcP PcP 23 51 03.6 -0.4
MKAR LR LR 00 07 45.7
KURK Kurchatov 43.72 304 *c iP* P 23 49 21.4 -0.5
KURK Kurchatov 43.72 304 *eP* P 23 49 21.2 -0.6
comp=Z,18nm,0.8s,mb4.9
CMAR Chiang Mai Arr 43.75 251 P P 23 49 23.6 +0.9
comp=Z,2.4nm,0.9s,mb3.9,baz=33,slow=6.0,SNR=8.3
CMAR LR LR 00 08 45.5
comp=Z,48nm,19.4s,baz=55,slow=38
CMAR Chiang Mai Arr 43.75 251 P P 23 49 23.6 +1.0
CMAR pmax pmax
comp=Z,2.0nm,0.9s
CMAR MLR MLR
comp=Z,48nm,19.4s
COLA College 44.49 35|| eP P 23 49 28.2 +0.3
ILAR Eielson Array 44.91 35 P P 23 49 30.6 -0.6
comp=Z,1.2nm,0.6s,mb3.8,baz=272,slow=4.6,SNR=6.1
ILAR Eielson Array 44.91 35 P P 23 49 30.7 -0.6
ILAR pmax pmax
comp=Z,1.0nm,0.6s

GUN Gumba 47.70 272 eP P 23 49 54.4 +0.6
comp=Z,73nm,0.6s,mb5.7
BRVK Borovoye 48.05 309 eP P 23 49 55.9 -0.4
comp=Z,3.4nm,0.5s,mb4.4
TKM2 Tokmak 2 48.19 295 P P 23 49 58.0 +0.6
SNR=23
KKN Kakani 48.21 272 eP P 23 49 57.9 +0.1
comp=Z,37nm,0.8s,mb5.3
PKI Pulchoki 48.23 272 eP P 23 49 58.0 0.0
GKN Gorkha 48.58 273 eP P 23 50 00.6 0.0
KBK Karagaybulak 48.73 295 P P 23 50 01.9 +0.3
SNR=24
KZA Kyzart 48.76 294 P P 23 50 03.0 +1.2
SNR=7.4
USP Ospenovka 48.79 296 P P 23 50 01.9 -0.1
SNR=10
ZRNK Zerenda 48.82 310 eP P 23 50 01.9 -0.2
comp=Z,12nm,0.7s,mb4.9
AAK Ala-Archa 49.05 295 P P 23 50 03.9 -0.2
SNR=5.4
AAK Ala-Archa 49.05 295 *c iP* P 23 50 02.8 -1.2
AAK Ala-Archa 49.05 295 eP P 23 50 02.8 -1.2
comp=Z,2.4nm,0.6s,mb4.3
KSH Kashi 49.33 291 eP P 23 50 08.2 +1.9
KSH eAP pP 23 50 27.4 +4.0
KSH eXP sP 23 50 38.1 +7.0
KSH ePCP PcP 23 51 26.6 -1.7
KSH ePP PP 23 52 05.5 +4.4
KSH AMB AMB
comp=Z,70nm,4.0s
KOLN Koldanda 49.47 273 eP P 23 50 07.7 +0.2
comp=Z,28nm,1.0s,mb5.2
EKS2 Erkin-Say 49.52 295 P P 23 50 07.6 -0.1
SNR=12
AML Almayashu 49.79 295 P P 23 50 10.4 +0.6
SNR=7.1
SVE Sverdlovsk 52.10 316|| eP P 23 50 26.2 -0.8
ARU Arti 53.31 316|| *iP* P 23 50 35.2 -0.9
ARU *i* 23 51 39.9
ARU *e* 23 52 35.9
ARU ePPP PPP 23 53 42.4 -4.2
ARU eS S 23 58 02.7 +1.9
ARU eSS SS 00 01 44.3 +3.6
ARU pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
ARU Arti 53.31 316 eP P 23 50 34.1 -1.9
comp=Z,19nm,1.3s,mb5.0
BBB Bella Bella 57.98 47 LR LR 00 18 31.8
comp=Z,34nm,18.9s,baz=277,slow=38
KEV Kevo 59.16 339 ep P 23 51 15.7 -1.9
HYB Hyderabad 59.30 266 *i* P P 23 51 19.0 -0.3
ARCES ARCESS Array B 59.70 339 P P 23 51 19.9 -1.4
comp=Z,4.7nm,1.1s,mb4.4,baz=45,slow=8.2,SNR=14
ARCES LR LR 00 25 21.8
comp=Z,68nm,18.0s,baz=16,slow=44
WRAB Tennant Creek 62.05 189 eP P 23 51 36.3 -1.6
comp=Z,6.6nm,0.9s,mb4.7
WB2 Warramunga Arr 62.06 189 eP P 23 51 36.8 -1.2
WRA Warramunga Arr 62.06 189 P P 23 51 36.8 -1.2
comp=Z,3.1nm,0.8s,mb4.4,baz=3.4,slow=6.9,SNR=30
WRA Warramunga Arr 62.06 189 P P 23 51 36.8 -1.2
WRA pmax pmax
comp=Z,3.0nm,0.8s
KAF Kangasniemi 64.34 332 ep P 23 51 49.8 -2.5
comp=Z,4.4nm,0.7s,mb4.4,baz=46,slow=6.2
KAF Kangasniemi 64.34 332 eP P 23 51 49.8 -2.5
KAF pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
OBN Obninsk 64.69 322|| eP P 23 51 53.6 -1.1
OBN *e*PP pP 23 52 13.5 +0.8
OBN *e*SP sP 23 52 21.9 +1.7
OBN *e* 23 54 17.6
OBN pmax pmax
comp=Z,8.0nm,0.4s,mb4.9
OBN MLR MLR
comp=Z,100nm,14.0s
FINES FINESS Array B 64.87 332 P P 23 51 54.6 -1.1
comp=Z,8.2nm,0.6s,mb4.7,baz=53,slow=7.8,SNR=61
FINES LR LR 00 21 24.6
comp=Z,72nm,19.3s,baz=140,slow=37
FINES FINESS Array B 64.87 332 P P 23 51 54.7 -1.1
FINES pmax pmax
comp=Z,8.0nm,0.6s
FINES MLR MLR
comp=Z,72nm,19.3s
EDM Edmonton 64.98 40 eP P 23 51 56.8 +0.2
ASAR Alice Springs 65.79 189 P P 23 52 01.9 -0.4
comp=Z,1.3nm,0.8s,mb3.8,baz=6.7,slow=6.0,SNR=14
KIV Kislovodsk 68.36 310 eP P 23 52 18.8 +0.7
KIV pmax pmax
comp=Z,19nm,0.9s,mb4.9
KIV Kislovodsk 68.36 310 eP P 23 52 18.8 +0.7
comp=Z,23nm,1.1s,mb4.9
NB2 NORSAR Subarra 69.98 337 P P 23 52 26.8 -0.9
comp=Z,6.1nm,0.7s,mb4.5,baz=36,slow=6.2
NOA NORSAR Array B 69.98 337 P P 23 52 26.8 -0.9
comp=Z,4.8nm,0.7s,mb4.5,baz=36,slow=6.1,SNR=22
NOA NORSAR Array B 69.98 337 P P 23 52 26.8 -0.9
NOA pmax pmax
comp=Z,5.0nm,0.7s
SOC Sochi 70.28 311 eP P 23 52 27.9 -1.9
SOC *e* 23 52 52.0
SOC pmax pmax
comp=Z,30nm,0.8s,mb5.2
SOC pmax pmax
comp=N,31nm,1.0s
SOC pmax pmax
comp=E,31nm,1.0s
CMB Columbia Colle 70.36 56 eP P 23 52 31.0 +0.6
comp=E,70nm,1.3s,mb5.3
AKASG Malin Array Be 70.94 322 P P 23 52 32.9 -0.8
comp=E,5.0nm,0.6s,mb4.6,baz=45,slow=6.2,SNR=32
AKASG pP pP 23 52 51.5 -0.5
comp=E,1.8nm,0.5s,baz=43,slow=6.0,SNR=4.7
AKASG Malin Array Be 70.94 322 P P 23 52 32.9 -0.8
AKASG *P pP 23 52 51.6 -0.4
AKASG pmax pmax
comp=Z,5.0nm,0.6s
AKASG pmax pmax
comp=N,2.0nm,0.5s
NVAR Mina Array Bea 71.39 55 P P 23 52 38.3 +1.7
comp=N,2.8nm,1.0s,mb4.0,baz=311,slow=4.3,SNR=13
NVAR pP pP 23 52 56.0 +1.1
comp=N,1.2nm,0.7s,baz=302,slow=4.2,SNR=5.8
STKA Stephens Creek 73.49 181 P P 23 52 48.8 -0.3
comp=N,1.1nm,0.7s,mb3.8,baz=336,slow=12,SNR=2.4
TPNV Topopah Spring 73.59 55 eP P 23 52 50.3 +0.7
PDAR Pinedale Array 73.63 47 P P 23 52 50.8 +1.1
comp=N,1.3nm,0.7s,mb3.8,baz=285,slow=2.3,SNR=10
PDAR pP pP 23 53 08.8 +0.7
comp=N,1.6nm,0.9s,baz=315,slow=2.1,SNR=5.1
KWP Kalwaria 74.63 324 eP P 23 52 55.7 +0.3
comp=N,4.0nm,0.4s,mb4.5
KOLS Kolonicke sedl 75.34 324 eP P 23 53 00.0 +0.6
BRTR Keskin Array B 76.24 311 P P 23 53 05.0 +0.2
comp=N,2.7nm,0.7s,mb4.1,baz=76,slow=3.7,SNR=15
BRTR pP pP 23 55 58.9 +0.7
comp=N,0.7nm,0.9s,baz=56,slow=8.9,SNR=3.7
BRTR LR LR 00 29 55.5
comp=N,29nm,18.5s,baz=310,slow=38
BRTR Keskin Array B 76.24 311 P P 23 53 05.0 +0.2
BRTR 23 55 58.9
BRTR pmax pmax
comp=Z,3.0nm,0.7s
BRTR pmax pmax
comp=Z,1.0nm,0.9s
BRTR MLR MLR
comp=Z,29nm,18.5s
OKC Ostrava-Krasne 76.41 327 eP P 23 53 04.5 -1.0
UPC Upice 76.74 328 eP P 23 53 08.0 +0.7
DPC Dobruska-Polom 76.74 328 eP P 23 53 08.0 +0.7
CLL Collm 77.25 330 P P 23 53 09.9 -0.3
comp=Z,logA/T=0.8,mb4.3
CLL *e*PP pP 23 53 26.0 -2.7
CLL Collm 77.25 330 *i* P 23 53 06.0 -4.2
CLL 23 53 09.9
PVCC Panska Ves 77.28 329 eP P 23 53 10.8 +0.4
PRU Pruhonice 77.73 329 eP P 23 53 13.4 +0.6
SMOL Smolenice 77.73 326 eP P 23 53 14.0 +1.1
SRO1 Iza 77.98 325 eP P 23 53 15.2 +0.9
KHC Kasperske Hory 78.79 329 eP P 23 53 19.1 +0.4
GERES GERESS Array B 78.97 328 P P 23 53 20.0 +0.3
comp=Z,3.7nm,1.1s,mb4.1,baz=37,slow=5.3,SNR=17
GERES GERESS Array B 78.97 328 P P 23 53 20.0 +0.3
GERES pmax pmax
comp=Z,4.0nm,1.1s

GRA1 Grafenberg Arr 79.23 330 eP P 23 53 21.8 +0.7
comp=Z,6.0nm,0.8s,mb4.5
GRF Grafenberg Arr 79.23 330 eP P 23 53 21.8 +0.7
GRF pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
GROS Grobnik 80.16 326 *i* P P 23 53 26.3 +0.1
GROS *e* pP 23 53 44.6 -0.1
SCHQ Schefferville 80.36 17 P P 23 53 26.7 -0.3
comp=Z,5.8nm,1.0s,mb4.3,baz=262,slow=6.5,SNR=3.6
VISS Visnje 80.96 326 *i* P P 23 53 30.3 -0.1
VISS *e* pP 23 53 48.6 -0.4
CEY Cerknica 81.18 326 *i* P P 23 53 31.4 -0.2
JAVS Javornik 81.21 326 eP P 23 53 31.3 -0.4
CDF Champ du Feu 81.72 332 eP P 23 53 34.4 +0.1
comp=Z,9.0nm,0.9s,mb4.3
HAU Haudompre 82.40 332 eP P 23 53 37.7 -0.1
MEZF Maizieres J'vi 82.42 333 eP P 23 53 38.2 +0.3
LOR Lormes 83.89 333 eP P 23 53 45.5 +0.2
comp=Z,27nm,1.0s,mb4.7
SSF Saint Saulge 84.19 333 eP P 23 53 47.0 +0.2
LPL La Plagne 84.38 330 eP P 23 53 48.7 +0.9
LPG La Plagne 84.39 330 eP P 23 53 48.3 +0.4
comp=Z,4.9nm,0.6s,mb4.2
SMF Signal de Mont 84.44 333 eP P 23 53 48.4 +0.4
comp=Z,9.6nm,0.8s,mb4.4
MBDF Montbardon 85.04 330 eP P 23 53 51.3 +0.2
comp=Z,5.7nm,0.8s,mb4.3
ORIF Oris-en-Rattie 85.21 331 eP P 23 53 52.7 +0.8
comp=Z,8.0nm,0.8s,mb4.4
SBF Sospel 85.53 329 eP P 23 53 53.4 -0.1
comp=Z,22nm,0.9s,mb4.8
VIVF Saint-Julien-l 85.70 331 eP P 23 53 55.1 +0.8
comp=Z,15nm,1.0s,mb4.6
MFF Saint Martin d 85.78 335 eP P 23 53 55.0 +0.3
PGF Pioggiola 86.03 328 eP P 23 53 56.0 0.0
comp=Z,8.7nm,0.9s,mb4.4
FRF La Foret Royal 86.08 330 eP P 23 53 56.9 +0.6
LMR La Mourre 86.33 329 eP P 23 53 57.7 +0.2
comp=Z,7.6nm,0.6s,mb4.5
TXAR Lajitas Array 86.45 53 P P 23 54 00.1 +1.8
comp=Z,0.5nm,0.4s,mb3.8,baz=252,slow=4.0,SNR=8.8
CAF Calviac 86.54 333 eP P 23 53 59.9 +1.4
comp=Z,20nm,0.8s,mb4.8
LASF Ste Croix 86.66 332 eP P 23 54 00.2 +1.1
MTLF Montolieu 87.88 332 eP P 23 54 06.2 +1.2
ETSF Etsaut 89.22 334 eP P 23 54 12.5 +1.2
comp=Z,3.1nm,0.5s,mb4.3
BDFB Brasilia 152.23 22 PKPbc PKPdf 00 01 12.5 +9.1
comp=Z,3.2nm,0.9s,baz=328,slow=0.3,SNR=4.7
BDFB Brasilia 152.23 22 PKIKP PKPdf 00 01 12.5 +9.1
BDFB pmax pmax
comp=Z,3.0nm,0.9s

PRU ***04*** *00:01:20.6, 51.45N×16.08E*
WAR 04 00:01:19.8, 51.50N×16.09E, ML2.6, 1C, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67**	**169**	*e*PG	Pg	00 01 32.0	-1.2
KSP				eSG	Sg	00 01 41.0	-1.2
UPC	**Upice**	**1.00**	**183**	*e*PG	Pg	00 01 38.3	-1.4
DPC	**Dobruska-Polom**	**1.16**	**173**	*e*PG	Pg	00 01 41.0	-2.0
DPC				eSG	Sg	00 01 55.7	-2.8
	16nm,0.5s						
PVCC	**Panska Ves**	**1.37**	**225**	*e*PG	Pg	00 01 45.4	-1.7
PRU	**Pruhonice**	**1.81**	**214**	*e*PG	Pg	00 01 53.2	-2.6
PRU				*i* x	x	00 01 56.7	
PRU				*i* x	x	00 02 09.5	
PRU				SG	Sg	00 02 16.0	-3.9
	13nm,0.4s						
CLL	**Collm**	**1.94**	**265**	*e*PG	Pg	00 01 56.0	-2.6
CLL				eSG	Sg	00 02 21.0	-3.5
OKC	**Ostrava-Krasne**	**2.12**	**141**	*e*PG	Pg	00 02 01.0	-1.1
OKC				eSG	Sg	00 02 26.3	-4.1
NKC	**Novy Kostel**	**2.63**	**243**	*e*PG	Pg	00 02 10.8	-1.6
NKC				eSG	Sg	00 02 42.9	-4.5
KHC	**Kasperske Hory**	**2.87**	**215**	*e*PN	Pn	00 02 05.7	-1.9
KHC				ePG	Pg	00 02 12.2	-4.8
KHC				eSN	Sn	00 02 40.9	-2.4
KHC				eSG	Sg	00 02 49.8	-5.4
MOA	**Molln**	**3.84**	**199**||	*i*PN	Pn	00 02 19.9	-1.6
MOA				*i* SG	Sg	00 03 22.8	-4.9
	3.0nm,0.6s						

BJI ***04*** *00:10:03.3, 5.60N×126.60E, h10km, mB4.8, mb4.7, Ms4.7, Msz4.2*
HRVD ***04*** *00:10:03.3±0.6, 5.63N×126.68E, h38km±3km, MW4.8/39, Centroid moment Tensor Solution. LP body waves: s4,c4; Mantle waves: s39,c46; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.03±.32; Mθθ-0.62±.19; Mφφ0.64±.19; Mrθ-0.42±.19; Mrφ-1.59±.08; Mθφ-0.64±.18; Best double couple: Ms1.87×10^16 NP1:φs102°, δ68°, λ-172°. NP2: φs10°, δ83°, λ-22°. Principal axes: T 1.78, Plg10°, Azm58°; N .18, Plg67°, Azm173°; P -1.96, Plg20°, Azm324°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***04*** *00:10:03.3±0.2, 5.56N×126.64E, h10km, mb4.9/26 Error ellipse: s-maj=10.3km s-min=4.4km az=71.0*
IDC ***04*** *00:10:07.5±1.7, 5.59N×126.73E, h40km±14km, mb4.4/18, mb1 4.5/18, mb1mx4.5/21, MS3.7/10, Ms1 3.8/10, ms1mx3.5/24, Error ellipse: s-maj=22.9km s-min=10.0km az=81.0*
MAN ***04*** *00:10:07.6, 5.33N×126.70E, h66km, mb5.4, ML4.4, MS4.6*
MOS ***04*** *00:10:07.8±0.8, 6.00N×126.24E, h33km, mb5.3/12, Error ellipse: s-maj=48.3km s-min=13.9km az=119.0*
SYO ***04*** *00:10:10.2, 5.51N×126.51E, h63km, MB4.9*
ISC 04 00:10:09.5±0.6, 5.46N±0.03×126.56E±0.06, h71km±4km, h44km±11.4km: pP-P, n124, σ1°13/129, mb4.7/59, 12C-11D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.51**	**349**	*e*P	P	**00 10 33.7**	**-1.5**
GSPH	**General Santos**	**1.72**	**291**	*i* P	P	**00 10 38.0**	**0.0**
GSPH				*i* S	S	**00 10 57.2**	**-1.8**
DAV	**Davao City (W)**	**1.88**	**329**||	*e*P	P	**00 10 41.4**	**+1.3**
KCP	**Kidapawan**	**2.13**	**317**||	*e*P	P	**00 10 44.4**	**+0.9**
KCP				*i* S	S	**00 11 12.7**	**+3.9**
BIPH	**Bislig**	**2.72**	**356**	*e*P	P	**00 10 50.4**	**-1.5**
BIPH				eS	S	**00 11 21.9**	**-1.8**
BUKP	**Musuan**	**2.83**	**328**	*e*P	P	**00 10 52.2**	**-1.3**
CTBH	**Cotabato--PC H**	**2.89**	**307**||	*i*P	P	**00 10 55.1**	**+0.7**
CTBH				eS	Sx	00 11 41.1	
BUTP	**Butuan**	**3.61**	**345**	*e*P	P	**00 11 05.7**	**+1.3**
PAGZ	**Pagadian**	**3.95**	**307**	*e*P	P	**00 11 08.9**	**-0.2**
SCPH	**Surigao**	**4.43**	**346**	*e*P	P	**00 11 16.7**	**+0.9**
SCPH				eS	S	**00 12 08.3**	**+1.8**
MSLP	**Maasin**	**4.94**	**340**	*e*P	P	**00 11 23.2**	**+0.2**
TBP	**Tagbilaran**	**4.99**	**328**	*i* P	P	**00 11 23.3**	**-0.3**
TBP				eS	S	**00 12 18.0**	**-2.4**
LLP	**Lapu-Lapu**	**5.47**	**332**||	*e*P	P	**00 11 31.0**	**+0.8**
LLP				eS	S	**00 12 32.5**	**0.0**
PLP	**Palo**	**5.88**	**345**	*e*P	P	**00 11 37.0**	**+1.1**
GUIM	**Jordan**	**6.47**	**323**	*e*P	P	**00 11 44.9**	**+0.8**
RCP	**Roxas**	**7.14**	**328**||	*e*P	P	**00 11 54.1**	**+0.6**
PVCP	**Virac**	**8.43**	**344**	*e*P	P	**00 12 14.2**	**+3.2**
SCZP	**Santa Cruz**	**12.16**	**328**	*e*P	P	**00 13 11.2**	**+10**
KAKA	**Kakadu**	**18.95**	**162**||	*i*P	P	**00 14 30.1**	**+2.4**
	23nm,0.6s						
KAKA				eSCP	P	00 21 30.6	
QIZ	**Qiongzhong**	**21.16**	**311**	P	P	**00 14 52.3**	**+1.5**
FITZ	**Fitzroy Crossi**	**23.43**	**182**	*e*P	P	**00 15 14.0**	**+0.8**
	9.6nm,0.4s,mb4.5						
FITZ	**Fitzroy Crossi**	**23.43**	**182**	P	P	**00 15 13.7**	**+0.6**
	15nm,0.8s,mb4.4,baz=10,slow=7.2,SNR=23						
FITZ				S	S	**00 19 27.5**	**+10**
	4.1nm,0.8s,baz=353,slow=7.4,SNR=3.1						
FITZ				ScP		00 22 33.1	
	2.1nm,0.7s,baz=238,slow=3.6,SNR=3.8						
PMG	**Port Moresby**	**25.29**	**126**	LR	LR	00 25 39.8	
	comp=Z,74nm,21.0s,baz=285,slow=37						
IPM	**Ipoh**	**25.45**	**269**||	*e*P	P	**00 15 34.1**	**+1.4**
SSE	**Sheshan**	**26.00**	**349**	P	P	**00 15 39.2**	**+1.5**
SSE				S	S	**00 20 04.4**	**+3.4**
SSE				PCS		00 22 48.3	
SSE				AMB	AMB		
	comp=Z,14nm,0.8s,mb4.4						
CBIJ	**Chichi jima**	**26.17**	**33**	P	P	**00 15 35.5**	**-3.7**

comp=Z,67nm,0.5s,mb5.4,baz=284,slow=15,SNR=9.8
WRAB Tennant Creek 26.37 163 P **P** **00 15 42.0 +0.8**
comp=Z,251nm,0.6s,mb5.8,SNR=22
WRAB Tennant Creek 26.37 163 *eP* **P** **00 15 41.5 +0.3**
comp=Z,20nm,0.8s,mb4.6
WRA Warramunga Arr 26.37 163 P **P** **00 15 40.2 -1.0**
comp=Z,10nm,0.5s,mb4.5,baz=344,slow=10,SNR=60
WRA SCP 00 22 41.2
comp=Z,1.0nm,0.7s,baz=338,slow=3.3,SNR=6.2
WB2 Warramunga Arr 26.38 163 *eP* **P** **00 15 40.4 -0.8**
WB2 *e*S **S** **00 20 21.2 +14**
WB2 *e*SCP 00 22 42.1
WB2 *e*SCS ScS 00 26 30.3 +3.5
MBWA Marble Bar 27.28 194 *eP* **P** **00 15 49.1 -0.5**
comp=Z,17nm,0.9s,mb4.6
NJ2 Nanjing 27.43 346 *eP* **P** **00 15 52.5 +1.7**
NJ2 AP pP 00 15 59.5 -8.0
NJ2 S **S** **00 20 29.0 +4.8**
NJ2 AMB AMB
comp=Z,30nm,0.9s,mb4.8
WHN Wuhan 27.48 337 *eP* **P** **00 15 54.0 +2.8**
ENH Enshi 29.46 329 *eP* **P** **00 16 07.9 -1.1**
comp=Z,9.3nm,0.6s,mb4.6
ASAR Alice Springs 29.82 166 P **P** **00 16 11.1 -1.1**
comp=Z,2.2nm,0.5s,mb4.0,baz=341,slow=6.5,SNR=32
ASAR PcP PcP 00 19 14.0 -0.2
comp=Z,2.9nm,0.4s,baz=349,slow=2.3,SNR=9.6
ASAR ScP 00 22 52.3
comp=Z,1.1nm,0.6s,baz=341,slow=3.1,SNR=5.0
ASPA Alice Springs 29.82 166 *eP* **P** **00 16 11.3 -0.9**
ASPA *e*PP Px 00 16 40.6
ASPA *e*PCP PcP 00 19 14.5 +0.3
ASPA *e*S 00 21 35.2
CM31 Chiang Mai Arr 29.89 298 *eP* **P** **00 16 12.0 -0.9**
comp=Z,3.5nm,0.6s,mb4.2
CMAR Chiang Mai Arr 29.89 298 P **P** **00 16 12.1 -0.8**
comp=Z,3.5nm,0.7s,mb4.1,baz=109,slow=7.4,SNR=19
CMAR PcP PcP 00 19 16.1 +1.7
comp=Z,0.7nm,0.3s,baz=135,slow=1.3,SNR=4.6
CMAR ScP 00 22 53.4
comp=Z,1.2nm,0.3s,baz=129,slow=1.6,SNR=15
CMAR LR LR 00 27 24.7
comp=Z,64nm,20.2s,baz=120,slow=35
KMI Kunming 30.07 313 *eP* **P** **00 16 15.5 +1.1**
KMI S **S** **00 21 08.1 +1.7**
KMI AMB AMB
comp=Z,7.0nm,0.6s,mb4.5
KMI LR LR
comp=Z,176nm,26.9s
CTAO Charters Tower 31.93 143 *eP* **P** **00 16 30.2 -0.6**
XAN Xi'an 32.81 332 P **P** **00 16 36.5 -1.9**
XAN XP sP 00 16 44.5 -20
XAN AMB AMB
comp=Z,10.0nm,0.9s,mb4.7
BJT Baijiatuau 35.66 346 *eP* **P** **00 17 02.7 -0.1**
comp=Z,12nm,0.6s,mb5.0
BJI Beijing 35.68 346 *eP* **P** **00 17 02.6 -0.3**
BJI S **S** **00 22 37.3 +3.8**
BJI AMB AMB
comp=Z,24nm,1.0s,mb5.1
BJI LR LR
comp=Z,79nm,20.2s
FORT Forrest 36.06 178 *eP* **P** **00 17 07.2 +1.0**
comp=Z,54nm,0.6s,mb5.7
FORT *ep*P pP 00 17 23.5 -0.1
SNY Shenyang 36.31 356 ⇑P **P** **00 17 12.5 +4.3**
SNY AMB AMB
comp=Z,10.0nm,0.4s,mb5.1
LZH Lanzhou 36.95 329 ⇑P **P** **00 17 14.5 +0.9**
LZH PP PP 00 18 42.5 +1.5
LZH *e*S **S** **00 22 55.0 +2.1**
LZH SS SS 00 25 27.0 +1.7
LZH AMB AMB
comp=Z,29nm,1.2s,mb5.1
LZH AMB AMB
comp=Z,69nm,4.0s
LZH LR LR
comp=N,615nm,14.0s
LZH LR LR
comp=Z,899nm,15.7s
HHC Hu-ho-hao-te 37.72 341 *eP* **P** **00 17 20.3 +0.3**
HHC AP pP 00 17 29.2 -8.3
HHC XP sP 00 17 34.0 -12
HHC AMB AMB
comp=Z,9.0nm,1.1s,mb4.5
HHC AMB AMB
comp=Z,70nm,5.8s
KLBR Kellerberrin 37.78 192 *eP* **P** **00 17 20.7 +0.1**
comp=Z,22nm,1.1s,mb4.9
CN2 Changchun 38.20 359 *eP* **P** **00 17 26.5 +2.5**
CN2 *e*S **S** **00 23 16.0 +4.1**
CN2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.9
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,800nm,19.0s
CN2 LR LR
comp=E,400nm,19.0s
CN2 LR LR
comp=Z,600nm,21.0s
MUN Mundaring 38.51 194 *eP* **P** **00 17 27.3 +0.7**
comp=Z,6.9nm,0.5s,mb4.7
SHL Shillong 38.74 305 ⇓*i*P **P** **00 17 29.0 +0.4**
SHL *e*P 00 23 24.0
MDJ Mudanjiang 39.09 3 P **P** **00 17 31.5 +0.1**
MDJ PP PP 00 19 03.0 -2.8
MDJ S **S** **00 23 20.0 -5.4**
MDJ AMB AMB
comp=Z,7.0nm,1.4s,mb4.3
MDJ AMB AMB
comp=Z,75nm,4.8s
NWAO Narrogin (SRO) 39.18 192 P **P** **00 17 33.0 +0.8**
comp=Z,6.5nm,0.5s,mb4.7,baz=13,slow=8.0,SNR=15
NWAO Narrogin (SRO) 39.18 192 *eP* **P** **00 17 33.0 +0.7**
STKA Stephens Creek 39.79 160 *eP* **P** **00 17 37.6 +0.3**
comp=Z,14nm,0.8s,mb4.8
STKA Stephens Creek 39.79 160 P **P** **00 17 37.6 +0.3**
comp=Z,18nm,0.8s,mb4.9,baz=342,slow=8.7,SNR=21
STKA PcP PcP 00 19 42.8 -0.2
comp=Z,4.0nm,0.7s,baz=330,slow=7.1,SNR=3.1
STKA LR LR 00 33 41.3
comp=Z,170nm,21.5s,baz=24,slow=36
ASAJ Asahikawa 41.01 18 P **P** **00 17 47.8 +0.6**
comp=Z,10nm,0.7s,mb4.8,baz=215,slow=10,SNR=5.8
GTA Gaotai 41.54 328 *eP* **P** **00 17 52.1 +0.4**
GTA PP PP 00 19 31.1 -0.6
GTA SCP 00 23 35.4
GTA S **S** **00 23 58.1 -3.9**
GTA AMB AMB
comp=Z,3.0nm,0.9s,mb4.0
GTA AMB AMB
comp=Z,65nm,6.5s
GTA LR LR
comp=N,79nm,26.0s
GTA LR LR
comp=E,81nm,27.5s
GTA LR LR
comp=Z,107nm,21.4s
GUN Gumba 44.59 305 *eP* **P** **00 18 16.7 0.0**
comp=Z,45nm,0.7s,mb5.3
PKI Pulchoki 44.85 304 *eP* **P** **00 18 18.3 -0.4**
comp=Z,34nm,1.1s,mb5.0
KKN Kakani 45.04 304 *eP* **P** **00 18 19.4 -0.8**
SONM Songino Array 45.62 341 P **P** **00 18 24.8 +0.3**
comp=Z,1.4nm,0.5s,mb3.9,baz=154,slow=8.5,SNR=16
SONM PcP PcP 00 20 01.1 -1.2
comp=Z,2.2nm,0.9s,baz=154,slow=3.4,SNR=3.6
GKN Gorkha 45.65 304 *eP* **P** **00 18 24.2 -0.8**
KOLN Koldanda 46.42 304 *eP* **P** **00 18 31.0 -0.2**
comp=Z,49nm,0.7s,mb5.4
HYB Hyderabad 48.40 288 *i* P **P** **00 18 47.0 +0.3**
WMQ Urumqi 51.23 324 *eP* **P** **00 19 08.6 +0.6**
WMQ PP PP 00 21 07.0 +0.9
WMQ S **S** **00 26 21.0 +1.3**
WMQ SS SS 00 29 55.0 +1.3
WMQ LR LR
comp=N,298nm,18.0s
WMQ LR LR
comp=E,135nm,17.0s
WMQ LR LR
comp=Z,168nm,16.0s
BOD Bodaibo 53.14 352 *eP* **P** **00 19 19.5 -2.7**
MKAR Makanchi Array 56.05 325 P **P** **00 19 42.4 -1.1**
comp=Z,8.8nm,0.5s,mb5.1,baz=119,slow=7.8,SNR=143
MKAR PcP PcP 00 20 40.1 -0.6
comp=Z,4.0nm,0.7s,baz=117,slow=5.4,SNR=4.4
MKAR ScP 00 24 35.1
comp=Z,3.0nm,0.9s,baz=126,slow=5.1,SNR=7.2
MKAR LR LR 00 45 50.8
comp=Z,71nm,18.6s,baz=107,slow=38
MKAR Makanchi Array 56.05 325 *i* P **P** **00 19 42.4 -1.1**
MKAR pmax pmax
comp=Z,9.0nm,0.5s
YAK Yakutsk 56.50 2⇑ *e*P **P** **00 19 46.7 +0.2**
YAK pmax pmax
comp=Z,14nm,0.6s,mb5.2
AAK Ala-Archa 58.98 317⇓ *e*P **P** **00 20 03.0 -1.1**
AAK Ala-Archa 58.98 317 *eP* **P** **00 20 02.5 -1.6**
comp=Z,1.4nm,0.5s,mb4.2
ZAL Zalesovo 58.99 333 P **P** **00 20 02.6 -1.4**
comp=Z,3.0nm,0.4s,mb4.7,baz=271,slow=7.3,SNR=7.1
ZAL PcP PcP 00 20 51.8 -0.3
comp=Z,2.0nm,0.7s,baz=262,slow=4.0,SNR=3.1
ZAL LR LR 00 47 21.2
comp=Z,77nm,20.4s,baz=26,slow=38
KURK Kurchatov 60.21 327 *d*i P **P** **00 20 11.1 -1.4**
KURK Kurchatov 60.21 327 *eP* **P** **00 20 10.7 -1.7**
comp=Z,16nm,0.6s,mb5.2
NVS Novosibirsk 60.27 333 *eP* **P** **00 20 10.7 -2.1**
NVS pmax pmax
comp=N,12nm,1.1s
NVS pmax pmax
comp=E,16nm,1.1s
NVS pmax pmax
comp=Z,21nm,1.1s,mb5.1
FX1 Attu Island--F 60.68 30 P **P** **00 20 13.6 -2.1**
comp=Z,26nm,0.8s,mb5.3,baz=26,slow=15,SNR=9.9
URZ Urewera 63.91 137 LR LR 00 47 48.1
comp=Z,119nm,19.1s,baz=339,slow=35
BRVK Borovoye 65.86 327 *eP* **P** **00 20 48.3 -1.4**
comp=Z,20nm,0.8s,mb5.0
TIXI Tiksi 66.13 1*de*P **P** **00 20 51.2 0.0**
TIXI pmax pmax
comp=Z,8.0nm,1.1s,mb4.5
ZRNK Zerenda 66.53 326 *eP* **P** **00 20 52.7 -1.2**
comp=Z,14nm,0.6s,mb5.0
SVE Sverdlovsk 72.41 328⇑ *e*P **P** **00 21 28.0 -1.8**
CASY Casey 72.50 187 *eP* **P** **00 21 30.6 +0.5**
comp=Z,3.2nm,0.8s,mb4.2
ARU Arti 73.40 327⇓ *i*P **P** **00 21 34.3 -1.3**
ARU *e* pP 00 21 50.6 -4.2
ARU *e* 00 24 19.9
ARU *e*S S 00 31 01.6 +3.9
ARU *e*SS SS 00 35 43.0 -0.6
ARU pmax pmax
comp=Z,9.0nm,0.7s,mb4.7
ARU Arti 73.40 327 *eP* **P** **00 21 34.1 -1.5**
comp=Z,12nm,0.6s,mb4.9
IMA Indian Mountai 80.89 24 *eP* **P** **00 22 18.3 +1.1**
comp=Z,37nm,0.6s,mb5.4
KIV Kislovodsk 81.83 313 *eP* **P** **00 22 22.0 -0.5**
KIV pmax pmax
comp=Z,8.0nm,0.7s,mb4.7
KIV MLR MLR
comp=N,27nm,18.0s
KIV MLR MLR
comp=E,31nm,18.0s
KIV MLR MLR
comp=Z,37nm,18.0s
KIV Kislovodsk 81.83 313 *eP* **P** **00 22 23.0 +0.4**
comp=Z,9.2nm,0.6s,mb4.8
MCK McKinley 82.70 27 *eP* **P** **00 22 26.9 +0.3**
comp=Z,9.8nm,0.8s,mb4.7
COLA College 83.22 25⇑ *e*P **P** **00 22 29.2 0.0**
COLA College 83.22 25 *eP* **P** **00 22 29.0 -0.2**
ILAR Eielson Array 83.63 25 P **P** **00 22 30.3 -0.9**
comp=Z,3.9nm,0.9s,mb4.2,baz=236,slow=5.1,SNR=23
SOC Sochi 83.99 313 *eP* **P** **00 22 31.9 -1.6**
SOC *e* 00 22 42.9
SOC *e*S S 00 32 50.6 +0.2
SOC pmax pmax
comp=Z,61nm,1.3s,mb5.3
SOC pmax pmax
comp=N,29nm,0.8s
SOC pmax pmax
comp=E,14nm,0.7s
SOC MLR MLR
comp=Z,62nm,20.0s
SOC MLR MLR
comp=N,61nm,18.0s
SOC MLR MLR
comp=E,70nm,22.0s
MOS Moscow 84.93 325 *eP* **P** **00 22 39.0 +1.1**
MOS *e* 00 27 54.2
MOS pmax pmax
comp=Z,30nm,0.7s,mb5.3
MAW Mawson 85.30 200 P **P** **00 22 40.9 +1.4**
comp=Z,1.1nm,0.7s,mb3.9,baz=37,slow=3.9,SNR=4.7
OBN Obninsk 85.56 325⇑ *e*P **P** **00 22 41.5 +0.5**
OBN *e* 00 26 01.4
OBN pmax pmax
comp=Z,31nm,0.9s,mb5.2
OBN MLR MLR
comp=Z,100nm,18.0s
OBN Obninsk 85.56 325 P **P** **00 22 42.0 +1.0**
comp=Z,25nm,0.8s,mb5.2
ANN Anapa 85.58 314 *eP* **P** **00 22 41.0 -0.4**
ANN pmax pmax
comp=Z,48nm,1.0s,mb5.4
GZT Gaziantep 85.93 307 *i* P **P** **00 22 43.8 +0.5**
KEV Kevo 88.22 340 *ep* **P** **00 22 54.8 +1.2**
comp=Z,0.5nm,0.3s,mb4.0
KEV Kevo 88.22 340 *eP* **P** **00 22 54.8 +1.2**
KEV pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
ARCES ARCESS Array B 88.78 340 P **P** **00 22 56.1 -0.2**
comp=Z,3.1nm,0.5s,mb4.6,baz=83,slow=6.1,SNR=31
ARCES LR LR 01 04 04.0
comp=Z,57nm,19.0s,baz=195,slow=36
ARE0 ARCESS Array S 88.78 340 *eP* **P** **00 22 56.8 +0.5**
BRTR Keskin Array B 88.80 310 P **P** **00 22 56.4 -0.7**
comp=Z,1.5nm,0.8s,mb4.1,baz=117,slow=5.5,SNR=6.4
BRTR LR LR 01 05 52.1
comp=Z,21nm,20.1s,baz=160,slow=38
KAF Kangasniemi 90.00 332 *ep* **P** **00 23 02.0 -0.1**
comp=Z,0.9nm,0.4s,mb4.2,baz=76,slow=4.2
KAF Kangasniemi 90.00 332 *eP* **P** **00 23 02.0 -0.1**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb4.3
FINES FINESS Array B 90.24 332 P **P** **00 23 03.2 -0.1**
comp=Z,2.5nm,0.4s,mb4.7,baz=78,slow=4.9,SNR=33
FINES FINESS Array B 90.24 332 *i* P **P** **00 23 04.0 +0.7**
FINES pmax pmax
comp=Z,3.0nm,0.4s
FINES FINESS Array B 90.24 332 P **P** **00 23 03.2 -0.1**
AKASG Malin Array Be 90.46 321 P **P** **00 23 03.8 -0.8**
comp=Z,1.0nm,0.5s,mb4.2,baz=73,slow=3.7,SNR=6.3
DLBC Dease Lake 92.36 31 LR LR 01 03 11.9
comp=Z,51nm,18.2s,baz=300,slow=35
SYO Syowa Base 93.96 201 ⇑P **P** **00 23 20.8 +0.6**
SYO Syowa Base 93.96 201 ⇓pP pP 00 23 36.8 -3.4
NB2 NORSAR Subarra 97.18 334 P **P** **00 23 34.3 -0.8**
comp=Z,1.5nm,0.7s,mb4.5,baz=66,slow=4.6
NOA NORSAR Array B 97.18 334 P **P** **00 23 34.5 -0.6**
comp=Z,1.3nm,0.7s,mb4.5,baz=66,slow=4.6,SNR=5.4
NOA LR LR 01 09 28.9
comp=Z,82nm,19.6s,baz=300,slow=37
NOA NORSAR Array B 97.18 334 P **P** **00 23 34.5 -0.6**
NOA LR LR 01 09 28.9
GERES GERESS Array B 100.64 322 P **P** **00 23 51.6 +0.6**
comp=Z,0.4nm,0.7s,baz=63,slow=3.0,SNR=4.5
SNAA Sanae 106.83 195⇑ *i* Pdif Pdif 00 24 20.1 +2.2
VNA2 Neumayer--Watz 108.44 194 Pdif Pdif 00 24 25.0 0.0
VNA3 Neumayer Olymp 108.78 194⇑ *i* Pdif Pdif 00 24 37.2 +11
VNA1 Neumayer--Stat 108.84 194⇑ *i* Pdif Pdif 00 24 28.5 +1.8
TXAR Lajitas Array 120.67 51 PKP PKPdf 00 28 56.0 +2.0
comp=Z,0.2nm,0.4s,baz=27,slow=2.8,SNR=3.8
USHA Ushuaia 129.30 169 PKP PKPdf 00 29 13.1 +3.1
comp=Z,6.7nm,1.1s,baz=37,slow=5.1,SNR=3.6
JTS JuntasAbangare 144.93 64 *e*PKPdf PKPdf 00 29 41.4 +1.8

*IDC **04** 00:31:40.7±39.0, 18.81S×169.86E, mb4.3/4, mb1 4.5/4, mb1mx4.0/12, Error ellipse: s-maj=676.0km s-min=109.9km az=77.0*
ISC 04 00:31:59.8±4.4, 17.1S±0.2×167.1E±0.5, h10km, n7, σ0s74/8, mb4.2/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.98**	**187**	*eP*		**Pn**		**00 33 16.1**	**-0.4**
DZM					*e*S		**Sn**	**00 34 15.1**	**+0.1**
NOUC	**Port Laguerre**	**5.03**	**188**	⇑*i*P			**Pn**	**00 33 17.5**	**+0.3**
STKA	**Stephens Creek**	**27.39**	**233**	P		**P**		**00 37 38.3**	**-9.2**
	2.6nm,0.8s,mb3.8,baz=68,slow=7.7,SNR=6.6								
WB2	**Warramunga Arr**	**31.16**	**260**	*eP*		**P**		**00 38 21.6**	**+0.3**
WRA	**Warramunga Arr**	**31.17**	**260**	P		**P**		**00 38 21.5**	**+0.1**
	0.6nm,0.3s,mb4.0,baz=86,slow=6.5,SNR=56								
ASAR	**Alice Springs**	**31.74**	**253**	P		**P**		**00 38 24.8**	**-1.6**
	5.3nm,0.4s,mb4.7,baz=83,slow=9.0,SNR=110								
FITZ	**Fitzroy Crossi**	**39.48**	**262**	P		**P**		**00 39 33.3**	**+1.0**
	3.2nm,0.8s,mb4.1,baz=69,slow=5.4,SNR=7.1								

*IDC **04** 00:34:09.0±0.7, 9.08N×127.27E, mb4.2/11, mb1 4.3/11, mb1mx4.1/19, MS3.1/1, Ms1 3.3/1, ms1mx2.8/21, Error ellipse: s-maj=41.8km s-min=15.1km az=72.0*
*NEIC **04** 00:34:14.6±0.4, 9.03N×127.17E, mb4.5/7, Error ellipse: s-maj=23.9km s-min=7.1km az=73.0*
ISC 04 00:34:12.6±2.1, 9.00N±0.07×127.1E±0.1, h36km±18km, h39km±.8km; pP-P, n25, σ0s76/26, mb4.2/17, MS3.0/1, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.41**	**217**	*eP*			Px	00 34 58.0	
PLP	**Palo**	**2.96**	**317**	*eP*		**P**		**00 34 58.5**	**+0.2**
PLP					*e*S	**S**		**00 35 32.1**	**-1.1**
TBP	**Tagbilaran**	**3.22**	**283**	*eP*		**P**		**00 35 03.1**	**+1.1**
TBP					*e*S	**S**		**00 35 39.4**	**-0.3**
FITZ	**Fitzroy Crossi**	**26.96**	**183**	P		**P**		**00 39 53.5**	**+0.4**
	6.4nm,1.0s,mb4.1,baz=18,slow=13,SNR=3.0								
CMAR	**Chiang Mai Arr**	**28.84**	**292**	P		**P**		**00 40 10.9**	**+0.9**
	0.7nm,0.4s,mb3.7,baz=90,slow=7.2,SNR=4.7								
CMAR					LR	LR		00 51 26.1	
	comp=Z,36nm,18.6s,MS3.0,baz=108,slow=36								
WRA	**Warramunga Arr**	**29.64**	**166**	P		**P**		**00 40 16.0**	**-1.1**
	0.9nm,0.5s,mb3.7,baz=348,slow=9.4,SNR=11								
WB2	**Warramunga Arr**	**29.64**	**166**	*eP*		**P**		**00 40 16.8**	**-0.3**
MBWA	**Marble Bar**	**30.82**	**193**	*eP*		**P**		**00 40 25.7**	**-1.9**
	1.9nm,0.5s,mb4.2								
ASAR	**Alice Springs**	**33.15**	**168**	P		**P**		**00 40 47.9**	**-0.1**
	0.8nm,0.5s,mb3.9,baz=352,slow=7.0,SNR=12								
ASAR					PcP	PcP		00 43 30.9	+0.4
	0.6nm,0.4s,baz=339,slow=2.8,SNR=5.0								
FORT	**Forrest**	**39.56**	**179**	*eP*		**P**		**00 41 43.6**	**+1.6**
	21nm,0.6s,mb5.0								
SONM	**Songino Array**	**42.47**	**339**	P		**P**		**00 42 06.1**	**+0.2**
	2.1nm,0.5s,mb4.0,baz=157,slow=9.5,SNR=24								
STKA	**Stephens Creek**	**42.96**	**162**	P		**P**		**00 42 10.3**	**+0.2**
	1.1nm,0.6s,mb3.8,baz=345,slow=12,SNR=4.7								
MKAR	**Makanchi Array**	**53.50**	**323**	P		**P**		**00 43 32.3**	**+0.5**
	2.6nm,0.6s,mb4.3,baz=117,slow=7.9,SNR=17								
KURK	**Kurchatov**	**57.54**	**326**	*eP*		**P**		**00 44 00.8**	**-0.1**
	5.5nm,0.9s,mb4.6								
BRVK	**Borovoye**	**63.21**	**326**	*eP*		**P**		**00 44 39.3**	**-0.2**
BRVK					*e*	pP		00 44 50.6	+0.1
ZRNK	**Zerenda**	**63.89**	**325**	*eP*		**P**		**00 44 43.5**	**-0.4**
	5.9nm,0.7s,mb4.7								
ZRNK					*e*	pP		00 44 55.0	0.0
ARU	**Arti**	**70.70**	**327**	*eP*		**P**		**00 45 26.3**	**-0.3**
	5.2nm,0.5s,mb4.7								
ARU					*e*	pP		00 45 38.4	+0.7
ILAR	**Eielson Array**	**80.24**	**26**	P		**P**		**00 46 20.6**	**-0.3**
	0.7nm,0.5s,mb3.8,baz=250,slow=6.0,SNR=11								
ARCES	**ARCESS Array B**	**85.64**	**340**	P		**P**		**00 46 49.5**	**+1.2**
	1.8nm,0.6s,mb4.5,baz=79,slow=6.2,SNR=9.0								
KAF	**Kangasniemi**	**87.10**	**332**	*ep*		**P**		**00 46 55.4**	**-0.2**
	0.6nm,0.4s,mb4.2,baz=76,slow=4.9								
FINES	**FINESS Array B**	**87.37**	**332**	P		**P**		**00 46 57.3**	**+0.4**
	1.8nm,0.7s,mb4.4,baz=95,slow=4.0,SNR=18								
NB2	**NORSAR Subarra**	**94.23**	**334**	P		**P**		**00 47 27.9**	**-1.0**
	2.3nm,0.9s,mb4.6,baz=69,slow=4.5								
NB2	**NORSAR Subarra**	**94.23**	**334**	P		**P**		**00 47 27.9**	**-1.0**
	baz=68,slow=4.4								
NOA	**NORSAR Array B**	**94.23**	**334**	P		**P**		**00 47 28.8**	**-0.1**
	1.3nm,0.8s,mb4.4,baz=66,slow=4.5,SNR=4.7								
NOA	**NORSAR Array B**	**94.23**	**334**	P		**P**		**00 47 28.8**	**-0.1**

*IDC **04** 00:44:12.3±5.4, 17.78S×178.73W, h603km±66km, mb3.7/11, mb1 3.9/11, mb1mx3.8/17, Error ellipse: s-maj=47.6km s-min=21.3km az=146.0*
*NEIC **04** 00:44:14.2±2.2, 17.80S×178.81W, h628km±27km, mb4.1/13, Error ellipse: s-maj=21.3km s-min=10.7km az=146.0*
ISC 04 00:44:14.9±2.9, 17.8S±0.2×178.9W±0.2, h654km±38km, n39, σ0s54/37, mb4.1/24, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.39**	**251**	*eP*		**P**		**00 47 15.9**	**-0.7**
CTA	**Charters Tower**	**32.98**	**260**	*eP*		**P**		**00 50 00.8**	**+0.1**
	6.0nm,0.7s,mb4.2								
CTA	**Charters Tower**	**32.98**	**260**	P		**P**		**00 50 00.3**	**-0.4**
	8.7nm,0.8s,mb4.3,baz=98,slow=9.6,SNR=11								
CTAO	**Charters Tower**	**32.98**	**260**	*eP*		**P**		**00 50 00.7**	**+0.1**
	6.3nm,0.7s,mb4.2								
CNB	**Canberra Magne**	**33.09**	**232**	*eP*		**P**		**00 50 01.9**	**+0.5**
	15nm,0.5s,mb4.8								
PMG	**Port Moresby**	**33.97**	**280**	P		**P**		**00 50 10.4**	**+1.5**
	24nm,1.0s,mb4.7,baz=78,slow=9.3,SNR=4.9								
TOO	**Toolangi**	**36.84**	**230**	*eP*		**P**		**00 50 32.6**	**+0.3**
	6.2nm,0.6s,mb4.3								
STKA	**Stephens Creek**	**38.24**	**241**	*eP*		**P**		**00 50 44.3**	**+0.6**
	11nm,0.5s,mb4.5								
STKA	**Stephens Creek**	**38.24**	**241**	P		**P**		**00 50 44.5**	**+0.7**
	12nm,0.4s,mb4.7,baz=93,slow=10,SNR=66								
WB2	**Warramunga Arr**	**44.16**	**260**	*eP*		**P**		**00 51 29.8**	**-0.7**
WB2					*e*			00 54 18.0	
WRAB	**Tennant Creek**	**44.16**	**260**	P		**P**		**00 51 30.0**	**-0.6**
	69nm,0.5s,mb5.2,SNR=14								
WRAB	**Tennant Creek**	**44.16**	**260**	*eP*		**P**		**00 51 29.8**	**-0.7**
	9.4nm,0.6s,mb4.3								
WRA	**Warramunga Arr**	**44.17**	**260**	P		**P**		**00 51 30.2**	**-0.4**
	5.4nm,0.5s,mb4.2,baz=96,slow=6.9,SNR=138								
ASAR	**Alice Springs**	**44.35**	**254**	P		**P**		**00 51 32.1**	**+0.2**
	58nm,0.5s,mb5.1,baz=88,slow=8.3,SNR=845								
ASPA	**Alice Springs**	**44.35**	**254**	*eP*		**P**		**00 51 32.1**	**+0.2**
KAKA	**Kakadu**	**47.14**	**269**⇑	*i*P		**P**		**00 51 58.2**	**+5.0**
	11nm,0.4s,mb4.5								
FORT	**Forrest**	**49.60**	**245**	*eP*		**P**		**00 52 10.6**	**-0.6**
	45nm,0.6s,mb5.0								
FITZ	**Fitzroy Crossi**	**52.56**	**261**	*eP*		**P**		**00 52 33.2**	**+0.7**
	1.3nm,0.3s,mb3.6								
FITZ					*e*			00 55 42.2	
FITZ	**Fitzroy Crossi**	**52.56**	**261**	P		**P**		**00 52 33.0**	**+0.4**
	2.0nm,0.3s,mb3.8,baz=109,slow=4.8,SNR=17								
MBWA	**Marble Bar**	**57.62**	**256**	*eP*		**P**		**00 53 07.4**	**0.0**
	5.1nm,0.6s,mb3.8								
KLBR	**Kellerberrin**	**58.43**	**244**	*eP*		**P**		**00 53 12.2**	**-0.4**
	7.5nm,0.6s,mb4.0								
NWAO	**Narrogin (SRO)**	**58.82**	**242**	P		**P**		**00 53 15.1**	**-0.1**
	baz=102,slow=6.7								
NWAO	**Narrogin (SRO)**	**58.82**	**242**	*eP*		**P**		**00 53 15.0**	**-0.2**
	1.7nm,0.6s,mb3.4								
MUN	**Mundaring**	**59.73**	**243**	*eP*		**P**		**00 53 21.6**	**+0.4**
	2.3nm,0.4s,mb3.7								
CASY	**Casey**	**66.00**	**205**	*eP*		**P**		**00 54 00.1**	**-0.4**
	1.8nm,0.8s,mb3.5								
YBH	**Yreka Blue Hor**	**78.77**	**39**	P		**P**		**00 55 13.7**	**+0.2**
	1.4nm,0.5s,mb3.8,baz=250,slow=3.1,SNR=3.1								
NVAR	**Mina Array Bea**	**79.70**	**44**	P		**P**		**00 55 17.9**	**-0.5**
	2.6nm,0.8s,mb3.7,baz=215,slow=7.1,SNR=19								
MNV	**Mina**	**79.80**	**44**	*eP*		**P**		**00 55 18.5**	**-0.4**
	3.1nm,1.3s,mb3.6								
TPNV	**Topopah Spring**	**80.31**	**46**	*eP*		**P**		**00 55 21.6**	**+0.1**
	1.5nm,0.8s,mb3.5								
ELK	**Elko**	**82.93**	**43**	*eP*		**P**		**00 55 34.5**	**-0.1**
ILAR	**Eielson Array**	**85.92**	**13**	P		**P**		**00 55 47.5**	**-1.0**
	0.8nm,0.4s,mb3.7,baz=224,slow=5.1,SNR=16								
LTX	**Lajitas**	**86.36**	**58**	*eP*		**P**		**00 55 52.2**	**+0.7**
TXAR	**Lajitas Array**	**86.36**	**58**	P		**P**		**00 55 52.2**	**+0.8**
	1.8nm,0.6s,mb3.9,baz=216,slow=6.0,SNR=28								
MCMT	**McKenzie Canyo**	**86.49**	**41**	*eP*		**P**		**00 55 52.2**	**+0.5**
RRI2	**Red Ridge**	**86.75**	**42**	*eP*		**P**		**00 55 53.4**	**+0.4**
BW06	**Boulder Array**	**87.63**	**44**	*eP*		**P**		**00 55 57.0**	**-0.2**
	1.4nm,0.5s,mb3.9								
PDAR	**Pinedale Array**	**87.63**	**44**	P		**P**		**00 55 56.5**	**-0.6**
	1.8nm,0.6s,mb3.9,baz=207,slow=3.3,SNR=9.6								
BRTR	**Keskin Array B**	**144.38**	**315**	PKP		PKPdf		01 02 41.8	+3.2
	0.6nm,0.4s,baz=92,slow=2.4,SNR=3.8								
GERES	**GERESS Array B**	**147.41**	**344**	PKPbc		PKPdf		01 02 49.5	+6.2
	0.4nm,0.6s,baz=18,slow=4.2,SNR=5.4								

*IDC **04** 00:49:06.2±1.2, 6.73S×154.29E, mb3.9/7, mb1 4.1/7, mb1mx4.0/14, MS3.1/2, Ms1 3.1/2, ms1mx2.7/16, Error ellipse: s-maj=45.0km s-min=24.9km az=127.0*
*NEIC **04** 00:49:07.6±1.0, 6.88S×154.49E, h10km, mb4.0/1, Error ellipse: s-maj=35.6km s-min=17.2km az=145.0*
ISC 04 00:49:09.2±1.1**, 6.9S**±0.2×**154.5E**±0.2**, h33km, n13, σ0s54**/10**, mb3.8**/8**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.66**	**251**	LR	LR	00 53 43.2	
	comp=Z,92nm,20.1s,baz=59,slow=37						
PMG	**Port Moresby**	**7.66**	**251**	P	**P**	**00 51 01.7**	**+0.6**
CTA	**Charters Tower**	**15.34**	**211**	LR	LR	00 57 15.6	
	comp=Z,107nm,21.8s,baz=50,slow=32						
WRAB	**Tennant Creek**	**23.43**	**234**	P	**P**	**00 54 17.1**	**+0.6**
	2.9nm,0.6s,mb3.9						
WRA	**Warramunga Arr**	**23.45**	**234**	P	**P**	**00 54 16.6**	**0.0**
	2.1nm,0.9s,mb3.6,baz=55,slow=9.5,SNR=8.3						
ASAR	**Alice Springs**	**25.85**	**228**	P	**P**	**00 54 39.6**	**-0.1**
	0.8nm,0.8s,mb3.3,baz=59,slow=9.0,SNR=4.0						
STKA	**Stephens Creek**	**27.60**	**204**	P	**P**	**00 54 55.6**	**-0.1**
	0.9nm,0.5s,mb3.6,baz=51,slow=10,SNR=3.0						
FITZ	**Fitzroy Crossi**	**30.22**	**246**	P	**P**	**00 55 18.0**	**-1.2**
	1.9nm,0.7s,mb3.9,baz=72,slow=6.4,SNR=3.7						
MKAR	**Makanchi Array**	**83.00**	**319**	P	**P**	**01 01 32.0**	**-0.5**
	0.5nm,0.5s,mb3.9,baz=89,slow=7.8,SNR=8.3						
ZAL	**Zalesovo**	**83.82**	**326**	P	**P**	**01 01 36.9**	**+0.3**
	0.6nm,0.3s,mb4.2,baz=111,slow=8.6,SNR=2.1						
NVAR	**Mina Array Bea**	**92.07**	**52**	P	**P**	**01 02 16.9**	**+0.3**
	0.8nm,0.8s,mb4.1,baz=248,slow=3.7,SNR=6.1						
NVAR	**Mina Array Bea**	**92.07**	**52**	P	**P**	**01 02 16.9**	**+0.3**
BDFB	**Brasilia**	**148.41**	**135**	PKPbc	PKPdf	01 08 57.4	+7.7
	1.5nm,0.8s,baz=170,slow=4.3,SNR=3.0						

IDC 04 01:17:56.8±2.2**, 25.42N×142.55E, mb3.5**/4**, mb1 3.7**/4**, mb1mx3.5**/21**, Error ellipse: s-maj=112.0km s-min=17.8km az=83.0, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.70**	**349**	Pn	Pn	01 18 28.4	+0.6
	88nm,0.3s,baz=276,slow=19,SNR=51						
CBIJ				Sn	Sn	01 18 52.8	+2.1
	144nm,0.3s,baz=124,slow=23,SNR=28						
WRA	**Warramunga Arr**	**45.79**	**191**	P	P	01 26 20.3	-1.9
	1.1nm,0.6s,baz=12,slow=8.6,SNR=18						
ASAR	**Alice Springs**	**49.51**	**190**	P	P	01 26 49.7	-1.6
	0.1nm,0.4s,baz=9.0,slow=7.9,SNR=2.7						
MKAR	**Makanchi Array**	**51.80**	**311**	P	P	01 27 06.3	-2.1
	0.2nm,0.5s,baz=90,slow=9.4,SNR=5.3						
FINES	**FINESS Array B**	**79.59**	**334**	P	P	01 30 04.7	-2.2
	0.7nm,0.6s,baz=62,slow=4.2,SNR=7.6						

*BJI **04** 01:38:42.6, 6.69S×151.13E, h54km, mB4.9, mb4.9, Ms4.6, Msz4.5*
*IDC **04** 01:38:45.2±6.4, 5.73S×151.05E, h37km±51km, mb4.2/10, mb1 4.4/11, mb1mx4.3/14, ML3.9/1, MS4.0/11, Ms1 4.0/11, ms1mx3.8/16, Error ellipse: s-maj=33.5km s-min=22.2km az=101.0*
*NEIC **04** 01:38:47.6±0.8, 5.80S×150.97E, h54km±7km, mb4.6/13, Error ellipse: s-maj=11.9km s-min=5.0km az=124.0*
*SYO **04** 01:38:48, 5.85S×150.95E, h58km, MB4.6*
ISC 04 01:38:46.2±1.2**, 5.88S**±0.06×**151.01E**±0.08**, h52km**±10km**, n55, σ1s06**/51**, mb4.6**/24**, MS4.1**/11**, 2C, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAB	**Rabaul**	**2.03**	**35**	*e*P	**P**	**01 39 18.8**	**+0.1**
PMG	**Port Moresby**	**5.18**	**227**	Pn	**P**	**01 40 02.6**	**-0.5**
PMG				Sn	**S**	**01 41 02.1**	**-0.2**
PMG				LR	LR	01 41 24.7	
	comp=Z,344nm,20.0s,baz=233,slow=30						
PMG	**Port Moresby**	**5.18**	**227**	*e*P	**P**	**01 40 03.4**	**+0.3**
CTA	**Charters Tower**	**14.86**	**198**	*e*P	**P**	**01 42 20.8**	**+6.0**
	6.4nm,0.6s						
CTA	**Charters Tower**	**14.86**	**198**	Pn	**P**	**01 42 15.1**	**+0.3**
	0.3nm,0.3s,baz=51,slow=15,SNR=3.4						
CTA				LR	LR	01 47 22.3	
	comp=Z,582nm,21.2s,baz=34,slow=34						
CTA	**Charters Tower**	**14.86**	**198**	Pn	**P**	**01 42 15.1**	**+0.3**
CTA				*e*P		01 42 20.8	
CTA				LR	LR	01 47 22.3	
CTAO	**Charters Tower**	**14.86**	**198**	P	**P**	**01 42 15.0**	**+0.2**
KAKA	**Kakadu**	**19.57**	**248**	*e*P	**P**	**01 43 15.8**	**+3.2**
	16nm,0.4s						
KAKA				*e*S	**S**	**01 46 49.7**	**+4.5**
WRAB	**Tennant Creek**	**21.39**	**228**	P	**P**	**01 43 30.4**	**-1.1**
	84nm,0.4s,mb5.4,SNR=12						
WRAB	**Tennant Creek**	**21.39**	**228**	*e*P	**P**	**01 43 30.9**	**-0.6**
	12nm,0.5s,mb4.5						
WB2	**Warramunga Arr**	**21.39**	**228**	*e*P	**P**	**01 43 31.0**	**-0.5**
WB2				*e*S	**S**	**01 47 24.2**	**+3.4**
WRA	**Warramunga Arr**	**21.40**	**228**	P	**P**	**01 43 31.1**	**-0.5**
	7.9nm,0.5s,mb4.3,baz=53,slow=10,SNR=106						
WRA				S	**S**	**01 47 26.2**	**+5.2**
	7.1nm,1.3s,baz=52,slow=20,SNR=7.4						
WRA				LR	LR	01 51 54.8	
	comp=Z,271nm,20.8s,MS3.6,baz=45,slow=37						
ASAR	**Alice Springs**	**24.16**	**221**	P	**P**	**01 43 59.8**	**+1.1**
	13nm,0.7s,mb4.5,baz=56,slow=9.3,SNR=136						
ASAR				S	**S**	**01 48 22.4**	**+12**
	2.0nm,1.1s,baz=50,slow=15,SNR=4.1						
ASAR				LR	LR	01 53 29.5	
	comp=Z,314nm,20.2s,MS3.8,baz=46,slow=36						
ASPA	**Alice Springs**	**24.16**	**221**	*e*P	**P**	**01 44 00.5**	**+1.8**
ASPA				*e*S	**S**	**01 48 19.1**	**+8.8**
STKA	**Stephens Creek**	**27.32**	**198**	*e*P	**P**	**01 44 27.3**	**-1.0**
	8.8nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**27.32**	**198**	P	**P**	**01 44 27.6**	**-0.7**
	8.2nm,1.0s,mb4.2,baz=15,slow=8.0,SNR=12						
STKA				LR	LR	01 54 39.9	
	comp=Z,604nm,20.1s,MS4.2,baz=140,slow=35						
FITZ	**Fitzroy Crossi**	**27.58**	**242**	*e*P	**P**	**01 44 29.7**	**-1.1**
	8.4nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**27.58**	**242**	P	**P**	**01 44 29.5**	**-1.2**
	4.1nm,0.4s,mb4.4,baz=28,slow=4.8,SNR=23						
FITZ				LR	LR	01 56 12.5	
	comp=Z,150nm,18.2s,MS3.6,baz=85,slow=38						
MBWA	**Marble Bar**	**33.89**	**240**	*e*P	**P**	**01 45 25.5**	**-0.8**
URZ	**Urewera**	**40.01**	**147**	LR	LR	02 00 33.6	
	comp=Z,216nm,18.8s,MS4.0,baz=21,slow=33						
KLBR	**Kellerberrin**	**40.27**	**226**	*e*P	**P**	**01 46 19.4**	**-0.5**
	24nm,1.3s,mb4.8						
RPZ	**Rata Peaks**	**41.61**	**158**	LR	LR	02 00 40.4	
	comp=Z,494nm,19.2s,MS4.4,baz=6.5,slow=32						
SSE	**Sheshan**	**46.52**	**324**	P	**P**	**01 47 11.3**	**+0.8**
SSE				S	**S**	**01 53 53.8**	**-0.4**
SSE				XS		01 54 20.5	
SSE				SS	SS	01 57 21.1	+7.9
SSE				AMB	AMB		
	comp=Z,15nm,0.9s,mb4.9						
SSE				AMB	AMB		
	comp=Z,111nm,9.5s						
SSE				LR	LR		
	comp=N,137nm,26.5s,MS3.9						
SSE				LR	LR		
	comp=E,121nm,26.5s,MS3.9						
SSE				LR	LR		
	comp=Z,211nm,23.8s,MS4.0						
NJ2	**Nanjing**	**48.59**	**323**	*e*P	**P**	**01 47 28.1**	**+1.5**
NJ2				AP	pP	01 47 43.6	+3.0
NJ2				XP	sP	01 47 50.7	+3.9
NJ2				PP	PP	01 49 19.6	0.0
NJ2				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.5						
NJ2				LR	LR		
	comp=N,1µm,20.0s,MS5.2						
NJ2				LR	LR		
	comp=E,2µm,20.1s,MS5.2						
NJ2				LR	LR		
	comp=Z,1µm,18.3s,MS4.9						
WHN	**Wuhan**	**50.42**	**318**	*e*P	**P**	**01 47 43.5**	**+2.7**
LZH	**Lanzhou**	**60.78**	**317**	*e*P	**P**	**01 48 56.0**	**+0.7**
LZH				AP	pP	01 49 11.5	+1.8
LZH				XP	sP	01 49 18.0	+2.2
LZH				PP	PP	01 51 12.8	+1.2
LZH				AMB	AMB		
	comp=Z,24nm,1.0s,mb5.3						
LZH				AMB	AMB		
	comp=Z,126nm,4.7s						
HIA	**Hailar**	**61.30**	**337**	*e*P	**P**	**01 48 57.7**	**-0.9**
	comp=Z,11nm,1.2s,mb4.8						
SONM	**Songino Array**	**66.30**	**329**	P	**P**	**01 49 30.4**	**-0.9**
	comp=Z,1.5nm,0.7s,mb4.1,baz=147,slow=5.5,SNR=7.1						
CASY	**Casey**	**66.47**	**197**	P	**P**	**01 49 31.6**	**-0.6**
	comp=Z,2.7nm,0.7s,mb4.4						
WMQ	**Urumqi**	**75.33**	**318**	*e*P	**P**	**01 50 26.5**	**+0.6**
MKAR	**Makanchi Array**	**79.97**	**319**	P	**P**	**01 50 50.6**	**-0.9**
	comp=Z,1.6nm,0.8s,mb4.0,baz=117,slow=11,SNR=8.0						
MKAR				LR	LR	02 24 35.2	
	comp=Z,99nm,21.0s,MS4.1,baz=85,slow=34						
ZAL	**Zalesovo**	**81.07**	**327**	P	**P**	**01 50 55.2**	**-2.0**
	comp=Z,1.1nm,0.6s,mb4.0,baz=231,slow=12,SNR=4.2						
ZAL				LR	LR	02 29 25.6	
	comp=Z,94nm,19.2s,MS4.2,baz=89,slow=38						
MCK	**McKinley**	**82.54**	**23**	*e*P	**P**	**01 51 04.1**	**-0.4**
COLA	**College**	**83.51**	**22**	P	**P**	**01 51 08.2**	**-1.2**
	comp=Z,3.2nm,0.6s,mb4.6						
KURK	**Kurchatov**	**83.52**	**322**	*e*P	**P**	**01 51 09.1**	**-0.7**
	comp=Z,7.8nm,1.2s,mb4.7						
ILAR	**Eielson Array**	**83.82**	**22**	P	**P**	**01 51 08.2**	**-2.9**
	comp=Z,1.9nm,0.7s,mb4.3,baz=253,slow=3.8,SNR=17						
MAW	**Mawson**	**83.90**	**203**	P	**P**	**01 51 11.8**	**+0.5**
	comp=Z,0.7nm,0.6s,mb4.0,baz=96,slow=9.1,SNR=6.8						
QSPA	**South Pole Qui**	**84.09**	**180**	*e*P	**P**	**01 51 13.1**	**+1.0**
	comp=Z,1.9nm,0.7s,mb4.3						
HUMO	**Hull Mountain**	**91.02**	**47**	*e*P	**P**	**01 51 46.6**	**+0.2**
SYO	**Syowa Base**	**92.06**	**200**	⇑P	**P**	**01 51 49.5**	**-1.0**
SYO	**Syowa Base**	**92.06**	**200**	⇑pP	pP	01 52 06.0	+0.1
CMB	**Columbia Colle**	**92.48**	**52**	*e*P	**P**	**01 51 53.8**	**+0.6**
	comp=Z,1.5nm,0.7s,mb4.4						
MTUM	**Tungsten Hills**	**93.86**	**53**	*e*P	**P**	**01 52 00.8**	**+1.3**
NVAR	**Mina Array Bea**	**94.15**	**52**	P	**P**	**01 52 01.0**	**+0.3**
	comp=Z,4.4nm,0.8s,mb5.0,baz=252,slow=4.6,SNR=35						
MNV	**Mina**	**94.27**	**52**	*e*P	**P**	**01 52 01.4**	**+0.1**
	comp=Z,6.6nm,1.0s,mb5.0						
MNV				*e*		01 52 11.0	
TPNV	**Topopah Spring**	**95.68**	**54**	*e*P	**P**	**01 52 08.5**	**+0.7**
	comp=Z,4.4nm,0.9s,mb4.9						
TPNV				*e*		01 52 18.2	
ELK	**Elko**	**96.64**	**50**	P	**P**	**01 52 12.4**	**+0.4**
	comp=Z,1.8nm,1.0s,mb4.5						
YKA	**Yellowknife Ar**	**97.20**	**28**	LR	LR	02 32 03.9	
	comp=Z,123nm,18.9s,MS4.4,baz=280,slow=33						
PDAR	**Pinedale Array**	**100.89**	**48**	P	P	01 52 30.8	-0.4
	comp=Z,0.8nm,0.7s,baz=242,slow=1.7,SNR=5.1						
ARCES	**ARCESS Array B**	**107.36**	**343**	PKiKP		01 57 07.5	
	comp=Z,1.7nm,0.9s,baz=90,slow=2.4,SNR=5.0						
AKASG	**Malin Array Be**	**114.31**	**324**	PKiKP		01 57 19.3	
	comp=Z,0.4nm,0.4s,baz=51,slow=2.5,SNR=4.3						
BRTR	**Keskin Array B**	**114.67**	**311**	PKP	PKPdf	01 57 21.6	+0.4
	comp=Z,0.4nm,0.6s,baz=123,slow=2.4,SNR=5.3						
KHC	**Kasperske Hory**	**123.91**	**328**	*e*PKPDF	PKPdf	01 57 39.5	+0.7
GERES	**GERESS Array B**	**124.01**	**327**	PKP	PKPdf	01 57 39.9	+0.9
	comp=Z,1.1nm,0.8s,baz=73,slow=2.0,SNR=12						
BDFB	**Brasilia**	**151.50**	**139**	PKPbc	PKPdf	01 58 37.1	+8.0
	comp=Z,1.7nm,0.6s,baz=294,slow=1.8,SNR=4.3						

*NIED **04** 01:40:00, 28.10N×128.10E, h5km, Mw4.6 Best double couple: Mo1.01×10^16 NP1: φs204°, δ69°, λ147°. NP2: φs307°, δ60°, λ24°.*
*IDC **04** 01:40:06.6±1.7, 28.02N×128.05E, mb4.1/6, mb1 4.3/6, mb1mx3.9/23, MS4.1/17, Ms1 4.1/17, ms1mx4.0/25, Error ellipse: s-maj=79.5km s-min=13.9km az=68.0*
*JMA **04** 01:40:06.5±0.5, 28.10N×128.06E, h5km±5km, M4.7*
JMA Felt II J1.
*NEIC **04** 01:40:08.0±6.7, 28.13N×128.46E, h17km±46km, mb4.5/5, MW4.6(NIED), Error ellipse: s-maj=23.8km s-min=12.1km az=82.0*
NEIC Recorded [2 JMA] on Tokuno-shima.
*BJI **04** 01:40:08.3, 28.10N×128.50E, h16km, mB4.6, mb4.3, Ms4.7, Msz4.4*
ISC 04 01:40:06.1±0.4**, 28.10N**±0.03×**128.08E**±0.04**, h5km, n44, σ1s04**/40**, mb4.2**/12**, MS4.2**/16**, 1D, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.83**	**112**	P	**Pb**	**01 40 22.8**	**+0.1**
JTK				S	**Sg**	**01 40 34.3**	**+0.3**
JIH	**Iheya**	**1.07**	**185**	P	**Pb**	**01 40 26.7**	**0.0**
JIH				S	**Sb**	**01 40 41.1**	**+0.3**
JOW	**Kunigami**	**1.28**	**172**	Pn	**Pn**	**01 40 30.1**	**-0.5**
	263nm,0.3s,baz=351,slow=16,SNR=240						
JOW				Sn	**Sn**	**01 40 47.9**	**-0.4**
	436nm,0.3s,baz=180,slow=19,SNR=18						
JOW	**Kunigami**	**1.28**	**172**	P	**Pb**	**01 40 30.1**	**-0.2**
JOW				S	**Sb**	**01 40 47.4**	**+0.5**
JAM	**Amami Oshima**	**1.38**	**77**	P	**Pb**	**01 40 32.2**	**+0.1**
JAM				S	**Sb**	**01 40 50.2**	**+0.3**
JAGN	**Aguni-jima**	**1.68**	**206**	P	**Pn**	**01 40 36.6**	**+0.2**
JZK	**Kikaishima**	**1.69**	**82**	P	**Pn**	**01 40 38.1**	**+1.6**
JNU	**Nakatsue**	**5.55**	**25**	LR	LR	01 43 41.5	
	comp=Z,6µm,20.7s,baz=28,slow=38						
JHJ	**Hachijo jima 2**	**11.25**	**61**	LR	LR	01 47 00.7	
	comp=Z,400nm,19.4s,baz=154,slow=36						
MAT	**Matsushiro**	**12.00**	**43**	P	**P**	**01 43 00.4**	**-0.4**
MAT				*e*S	**S**	**01 45 15.0**	**-1.2**
MAT	**Matsushiro**	**12.00**	**43**	P	**P**	**01 42 55.0**	**-5.8**
MAT				S	**S**	**01 45 15.0**	**-1.2**
CBIJ	**Chichi jima**	**12.55**	**91**	LR	LR	01 47 33.2	
	comp=Z,488nm,18.7s,baz=326,slow=36						
SNY	**Shenyang**	**14.18**	**346**	⇓P	**P**	**01 43 29.8**	**+0.1**
SNY				LR	LR		
	comp=N,2µm,11.1s						
SNY				LR	LR		
	comp=Z,2µm,12.3s						
BJT	**Baijiatuau**	**15.43**	**323**	P	**P**	**01 43 49.8**	**+3.7**
	comp=Z,15nm,0.7s						
BJI	**Beijing**	**15.44**	**324**	*e*P	**P**	**01 43 52.9**	**+6.6**
BJI				S	**S**	**01 46 49.7**	**+11**
BJI				AMB	AMB		
	comp=Z,20nm,0.7s						
BJI				AMB	AMB		
	comp=Z,214nm,3.6s						
BJI				LR	LR		
	comp=N,978nm,18.3s						
BJI				LR	LR		
	comp=E,1µm,16.6s						
BJI				LR	LR		
	comp=Z,513nm,18.3s						
CN2	**Changchun**	**15.81**	**353**	*e*P	**P**	**01 43 56.9**	**+5.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
MDJ	**Mudanjiang**	**16.52**	**4**	P	**P**	**01 44 03.4**	**+3.3**
MDJ				PP	PP	01 44 17.0	+3.2
MDJ				AMB	AMB		
	comp=Z,9.0nm,0.7s						
MDJ				AMB	AMB		
	comp=Z,62nm,4.6s						
MDJ				LR	LR		
	comp=N,419nm,14.8s						
MDJ				LR	LR		
	comp=E,867nm,10.8s						
MDJ				LR	LR		
	comp=Z,710nm,15.1s						
MDJ	**Mudanjiang**	**16.52**	**4**	P	**P**	**01 43 57.3**	**-2.8**
	comp=Z,6.5nm,0.4s						
XAN	**Xi'an**	**17.44**	**295**	P	**P**	**01 44 14.9**	**+3.2**
XAN				AMB	AMB		
	comp=Z,8.0nm,1.0s						
XAN				LR	LR		
	comp=N,1µm,12.0s						
XAN				LR	LR		
	comp=E,1µm,11.3s						
XAN				LR	LR		
	comp=Z,999nm,14.0s						
HHC	**Hu-ho-hao-te**	**18.59**	**317**	*e*P	**P**	**01 44 31.3**	**+5.3**
HHC				AP		01 44 39.6	
HHC				XP		01 44 44.5	
HHC				PP	PP	01 44 50.0	+8.2
HHC				AMB	AMB		
	comp=Z,15nm,1.1s						
HHC				AMB	AMB		
	comp=Z,151nm,5.2s						
HHC				LR	LR		
	comp=N,926nm,11.8s						
HHC				LR	LR		
	comp=E,601nm,12.9s						
HHC				LR	LR		
	comp=Z,789nm,12.0s						
BTO	**Baotou**	**19.39**	**315**	*e*P	**P**	**01 44 35.7**	**+0.1**
ASAJ	**Asahikawa**	**19.77**	**32**	LR	LR	01 53 28.6	
	comp=Z,380nm,18.2s,baz=171,slow=40						
CD2	**Chengdu**	**21.34**	**283**	P	**P**	**01 44 56.1**	**-0.2**
CD2				AP		01 45 05.1	
CD2				XP		01 45 10.4	
CD2				S	**S**	**01 48 59.0**	**+10**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.2						
CD2				AMB	AMB		
	comp=Z,60nm,4.0s						
CD2				LR	LR		
	comp=N,2µm,13.0s						
CD2				LR	LR		
	comp=Z,910nm,11.5s,MS4.4						
LZH	**Lanzhou**	**21.98**	**297**	*e*P	**P**	**01 45 08.5**	**+5.8**
LZH				AP		01 45 15.8	
LZH				PP	PP	01 45 33.3	+5.0
LZH				AMB	AMB		
	comp=Z,36nm,1.5s,mb4.6						
LZH				AMB	AMB		
	comp=Z,110nm,5.1s						
LZH				LR	LR		
	comp=Z,2µm,13.5s,MS4.7						
SONM	**Songino Array**	**25.93**	**325**	P	**P**	**01 45 40.9**	**+0.1**
	comp=Z,3.0nm,0.7s,mb3.9,baz=145,slow=9.8,SNR=25						
GTA	**Gaotai**	**25.96**	**303**	*e*P	**P**	**01 45 43.2**	**+2.0**
GTA				S	**S**	**01 50 22.4**	**+13**
GTA				XS		01 50 30.1	
GTA				AMB	AMB		
	comp=Z,3.0nm,1.2s,mb3.7						
GTA				AMB	AMB		
	comp=Z,54nm,4.6s						
GTA				LR	LR		
	comp=N,585nm,16.8s,MS4.3						
GTA				LR	LR		
	comp=E,383nm,13.8s,MS4.3						
GTA				LR	LR		
	comp=Z,452nm,13.0s,MS4.2						
CMAR	**Chiang Mai Arr**	**28.37**	**257**	LR	LR	01 58 44.3	
	comp=Z,236nm,19.2s,MS3.8,baz=80,slow=40						
MKAR	**Makanchi Array**	**40.20**	**310**	P	**P**	**01 47 44.3**	**-0.8**
	comp=Z,2.8nm,0.9s,mb4.0,baz=97,slow=8.6,SNR=12						
ZAL	**Zalesovo**	**40.70**	**322**	P	**P**	**01 47 48.1**	**-0.9**
	comp=Z,1.0nm,0.6s,mb3.6,baz=267,slow=9.5,SNR=4.8						
ZAL				LR	LR	02 04 29.0	
	comp=Z,228nm,18.2s,MS4.1,baz=76,slow=36						
KURK	**Kurchatov**	**43.38**	**315**	*e*P	**P**	**01 48 09.3**	**-1.7**
	comp=Z,7.5nm,1.1s,mb4.3						
WRA	**Warramunga Arr**	**48.15**	**172**	P	**P**	**01 48 47.2**	**-2.1**
	comp=Z,2.2nm,0.6s,mb4.3,baz=354,slow=8.3,SNR=6.2						
WRA				LR	LR	02 07 32.9	
	comp=Z,112nm,21.0s,MS3.8,baz=50,slow=34						
BVAR	**Borovoye Array**	**48.80**	**317**	P	**P**	**01 48 54.7**	**+0.7**
	comp=Z,1.9nm,0.7s,mb4.2,baz=121,slow=8.4,SNR=6.6						
BRVK	**Borovoye**	**48.87**	**317**	P	**P**	**01 48 54.2**	**-0.3**
	comp=Z,11nm,1.0s,mb4.8						
ZRNK	**Zerenda**	**49.62**	**317**	*e*P	**P**	**01 48 59.6**	**-0.7**
	comp=Z,12nm,1.1s,mb4.8						
ASAR	**Alice Springs**	**51.77**	**173**	P	**P**	**01 49 17.1**	**0.0**
	comp=Z,8.1nm,1.3s,mb4.5,baz=359,slow=9.1,SNR=6.0						
ASAR				LR	LR	02 11 42.8	
	comp=Z,73nm,18.4s,MS3.7,baz=104,slow=37						
STKA	**Stephens Creek**	**61.02**	**167**	LR	LR	02 14 01.6	
	comp=Z,158nm,21.8s,MS4.1,baz=22,slow=33						
ARCES	**ARCESS Array B**	**68.22**	**338**	LR	LR	02 24 09.6	
	comp=Z,183nm,21.9s,MS4.3,baz=191,slow=39						
FINES	**FINESS Array B**	**71.17**	**330**	LR	LR	02 26 27.4	
	comp=Z,319nm,18.1s,MS4.6,baz=83,slow=39						
AKASG	**Malin Array Be**	**74.03**	**319**	LR	LR	02 26 33.1	
	comp=Z,228nm,18.3s,MS4.5,baz=70,slow=38						
BRTR	**Keskin Array B**	**75.78**	**308**	LR	LR	02 27 07.1	
	comp=Z,68nm,20.2s,MS4.0,baz=95,slow=37						
NOA	**NORSAR Array B**	**77.58**	**334**	LR	LR	02 29 49.8	
	comp=Z,135nm,18.3s,MS4.3,baz=50,slow=38						
PDAR	**Pinedale Array**	**91.79**	**38**	LR	LR	02 30 44.9	
	comp=Z,158nm,21.5s,MS4.4,baz=268,slow=33						
ULM	**Lac du Bonnet**	**92.81**	**26**	LR	LR	02 37 28.8	
	comp=Z,132nm,20.1s,MS4.4,baz=325,slow=37						
SCHQ	**Schefferville**	**96.41**	**9**	LR	LR	02 37 29.3	
	comp=Z,147nm,18.9s,MS4.5,baz=56,slow=36						

*IDC **04** 01:41:37.4±1.5, 3.19S×146.00E, mb3.8/4, mb1 4.2/5, mb1mx4.0/13, ML3.9/1, Error ellipse: s-maj=63.9km s-min=25.6km az=107.0*
*NEIC **04** 01:41:38.8±0.9, 3.28S×146.01E, h10km, mb4.3/4, Error ellipse: s-maj=26.3km s-min=13.1km az=98.0*
ISC 04 01:41:47.3±1.2**, 3.6S**±0.1×**146.1E**±0.3**, h100km, n10, σ0s85**/10**, mb3.7**/4**, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**16.26**	**235**	*e*P	**P**	**01 45 36.6**	**+5.5**
	17nm,0.6s						
CTA	**Charters Tower**	**16.41**	**179**	Pn	**P**	**01 45 33.7**	**+0.8**
	0.3nm,0.3s,baz=4.6,slow=11,SNR=3.2						
CTAO	**Charters Tower**	**16.41**	**179**	*e*P	**P**	**01 45 33.2**	**+0.3**
	21nm,1.1s						
WRAB	**Tennant Creek**	**19.86**	**214**	*e*P	**P**	**01 46 11.5**	**-1.3**
	13nm,0.7s						
WB2	**Warramunga Arr**	**19.87**	**214**	*e*P	**P**	**01 46 12.9**	**0.0**
WRA	**Warramunga Arr**	**19.88**	**214**	P	**P**	**01 46 12.4**	**-0.6**
	4.5nm,1.0s,baz=33,slow=12,SNR=5.3						
ASAR	**Alice Springs**	**23.16**	**209**	P	**P**	**01 46 49.7**	**+4.0**
	2.5nm,0.7s,mb3.7,baz=45,slow=7.6,SNR=5.2						
FITZ	**Fitzroy Crossi**	**24.66**	**233**	*e*P	**P**	**01 47 01.4**	**+1.2**
	4.8nm,0.8s,mb4.0						
MKAR	**Makanchi Array**	**75.04**	**320**	P	**P**	**01 53 19.9**	**+0.1**
	0.7nm,0.8s,mb3.4,baz=117,slow=6.4,SNR=3.3						
ILAR	**Eielson Array**	**83.65**	**23**	P	**P**	**01 54 05.5**	**-0.2**
	0.7nm,0.7s,mb3.6,baz=266,slow=5.3,SNR=5.1						

MAN 04 02:20:51.5, 8.04N×126.11E, h33km, mb3.8, ML2.6, MS2.2, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.29**	**60**	⇓*i*P	P	02 20 59.7	+0.6
BIPH				*i*S	S	02 21 05.6	+1.1
BUTP	**Butuan**	**1.04**	**333**	*e*P	P	02 21 10.8	+1.0
BUKP	**Musuan**	**1.05**	**261**	*e*P	P	02 21 10.2	+0.4
CGP	**Cagayan de Oro**	**1.46**	**287**	⇓*e*P	P	02 21 15.0	-0.7
CGP				*e*S	S	02 21 33.9	0.0

*IDC **04** 02:52:50.7±0.7, 17.39S×174.26W, h116km±5km, mb4.6/12, mb1 4.7/13, mb1mx4.6/18, Error ellipse: s-maj=23.2km s-min=11.3km az=140.0*
*NEIC **04** 02:52:50.7±0.2, 17.36S×174.30W, mb4.8/21, Error ellipse: s-maj=9.6km s-min=5.3km az=142.0*
ISC 04 02:52:49.2±0.3**, 17.31S**±0.08×**174.39W**±0.08**, h116km, h116km**±1.9km**:pP-P, n124, σ0s77**/47**, mb4.8**/29**, 6C-9D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**14.34**	**108**	P	**P**	**02 56 04.9**	**-3.0**
	2.9nm,0.3s,baz=239,slow=18,SNR=6.5						
RAR				S	**S**	**02 58 32.3**	**-12**
	1.9nm,0.3s,baz=135,slow=4.9,SNR=3.4						
URZ	**Urewera**	**22.16**	**198**	P	**P**	**02 57 36.3**	**-0.1**
	22nm,0.7s,mb4.6,baz=51,slow=2.2,SNR=17						
URZ				S	**S**	**03 01 28.8**	**+0.9**
	8.1nm,0.7s,baz=197,slow=18,SNR=2.8						
RPZ	**Rata Peaks**	**29.07**	**202**	P	**P**	**02 58 40.1**	**-0.7**
	7.2nm,0.5s,mb4.6,baz=5.2,slow=24,SNR=9.1						
CNB	**Canberra Magne**	**36.85**	**234**	*e*P	**P**	**02 59 48.3**	**+0.3**
	85nm,1.7s,mb5.4						
CTA	**Charters Tower**	**37.32**	**259**	*e*P	**P**	**02 59 52.3**	**+0.2**
	12nm,0.6s,mb5.0						
CTA	**Charters Tower**	**37.32**	**259**	P	**P**	**02 59 52.7**	**+0.6**
	11nm,0.6s,mb5.0,baz=95,slow=11,SNR=30						
CTAO	**Charters Tower**	**37.32**	**259**	*e*P	**P**	**02 59 52.4**	**+0.4**
	11nm,0.6s,mb5.0						
TOO	**Toolangi**	**40.54**	**232**	*e*P	**P**	**03 00 18.7**	**+0.2**
	5.9nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**42.28**	**241**	⇓*i*P	**P**	**03 00 33.5**	**+0.6**
	15nm,0.6s,mb4.9						
STKA	**Stephens Creek**	**42.28**	**241**	P	**P**	**03 00 33.8**	**+0.8**
	24nm,0.7s,mb5.0,baz=89,slow=9.1,SNR=95						
WB2	**Warramunga Arr**	**48.49**	**258**	*e*P	**P**	**03 01 21.6**	**-0.8**
WRAB	**Tennant Creek**	**48.50**	**258**	P	**P**	**03 01 22.0**	**-0.4**
	196nm,0.5s,SNR=80						
WRAB	**Tennant Creek**	**48.50**	**258**	*e*P	**P**	**03 01 22.0**	**-0.4**
	25nm,0.5s,mb5.3						
WRA	**Warramunga Arr**	**48.51**	**258**	P	**P**	**03 01 22.0**	**-0.5**
	16nm,0.3s,mb5.4,baz=96,slow=7.0,SNR=603						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	48.64	253	P	P	03 01 23.9	+0.4
	96nm,0.6s,mb5.9,baz=89,slow=8.3,SNR=1300						
ASAR				pP	pP	03 01 51.6	+1.0
	13nm,0.7s,baz=88,slow=8.4,SNR=1.3						
ASAR				PcP	PcP	03 02 47.5	-0.1
	3.1nm,1.0s,baz=97,slow=4.4,SNR=4.2						
ASPA	Alice Springs	48.64	253	⇓*i*P	P	03 01 23.5	0.0
KAKA	Kakadu	51.47	267	*e*P	P	03 01 49.8	+4.6
	8.0nm,0.4s,mb5.1						
FORT	Forrest	53.72	244	*e*P	P	03 02 00.9	-0.8
	30nm,0.5s,mb5.6						
FITZ	Fitzroy Crossi	56.90	259	⇓*i*P	P	03 02 24.5	-0.3
	3.5nm,0.5s,mb4.7						
SBA	Scott Base	61.28	184	*e*P	P	03 02 55.1	+0.9
	6.9nm,0.7s,mb4.8						
MBWA	Marble Bar	61.93	255	*e*P	P	03 02 58.5	-0.7
	5.2nm,0.5s,mb4.8						
KLBR	Kellerberrin	62.52	243	*e*P	P	03 03 02.4	-0.7
	14nm,0.7s,mb5.0						
NWAO	Narrogin (SRO)	62.87	241	P	P	03 03 04.6	-0.7
	6.7nm,0.8s,mb4.7,baz=86,slow=3.4,SNR=7.2						
NWAO	Narrogin (SRO)	62.87	241	*e*P	P	03 03 04.7	-0.7
	11nm,1.0s,mb4.7						
MUN	Mundaring	63.80	242	*e*P	P	03 03 11.3	-0.2
	9.6nm,0.8s,mb4.7						
CASY	Casey	68.29	205	*e*P	P	03 03 39.2	-0.2
	14nm,1.0s,mb4.7						
QSPA	South Pole Qui	72.75	180	*e*P	P	03 04 06.9	+0.9
	12nm,1.0s,mb4.7						
NVAR	Mina Array Bea	76.38	42	P	P	03 04 27.6	+0.1
	2.7nm,0.7s,mb4.1,baz=218,slow=7.7,SNR=31						
NVAR				pP	pP	03 04 57.5	+0.5
	1.3nm,0.8s,baz=229,slow=9.6,SNR=4.2						
TPH	Tonopah	76.87	43	*e*P	P	03 04 30.5	+0.2
	2.6nm,0.6s,mb4.1						
TPNV	Topopah Spring	76.88	44	*e*P	P	03 04 30.2	-0.2
HLID	Hailey	81.70	40	*e*P	P	03 04 56.7	+0.5
	3.4nm,1.0s,mb4.1						
TXAR	Lajitas Array	82.46	56	P	P	03 05 01.2	+0.8
	0.6nm,0.7s,baz=219,slow=8.0,SNR=8.2						
TXAR				pP	pP	03 05 30.4	+0.1
	0.4nm,0.8s,baz=198,slow=7.9,SNR=2.4						
MCK	McKinley	83.17	11	*e*P	P	03 05 02.5	-0.8
	8.2nm,0.8s,mb4.6						
MCMT	McKenzie Canyo	83.33	39	*e*P	P	03 05 04.8	+0.3
RRI2	Red Ridge	83.49	41	*e*P	P	03 05 06.0	+0.6
QLMT	Earthquake Lak	84.19	40	*e*P	P	03 05 09.9	+1.1
PDAR	Pinedale Array	84.31	42	P	P	03 05 09.4	-0.1
	3.5nm,0.7s,mb4.3,baz=225,slow=2.6,SNR=33						
PDAR				pP	pP	03 05 38.0	-1.4
	1.5nm,1.1s,baz=252,slow=4.7,SNR=3.1						
COLA	College	84.40	11	*e*P	P	03 05 09.1	-0.3
	25nm,0.8s,mb5.1						
ILAR	Eielson Array	84.49	11	P	P	03 05 09.5	-0.4
	5.0nm,0.8s,mb4.4,baz=235,slow=5.8,SNR=88						
ILAR				pP	pP	03 05 40.7	+0.8
	0.8nm,0.5s,baz=246,slow=5.6,SNR=2.3						
MAW	Mawson	85.69	199	P	P	03 05 16.8	+1.1
	8.1nm,0.6s,mb4.8,baz=132,slow=6.3,SNR=27						
MAW	Mawson	85.69	199	*e*P	P	03 05 16.6	+0.9
	5.8nm,0.6s,mb4.7						
EDM	Edmonton	87.60	32	*e*P	P	03 05 24.7	-0.6
SYO	Syowa Base	90.55	192	⇑P	P	03 05 38.6	-0.3
CMAR	Chiang Mai Arr	92.31	288	P	P	03 05 51.0	+2.8
	2.6nm,0.6s,mb4.7,baz=106,slow=2.6,SNR=12						
LVC	Limon Verde	97.04	116	*e*P	P	03 06 13.5	+3.8
	6.3nm,0.5s,mb5.3						
MKAR	Makanchi Array	111.47	314	PKiKP		03 11 10.9	
	1.3nm,0.6s,baz=64,slow=1.5,SNR=13						
BVAR	Borovoye Array	118.78	321	PKP	PKPdf	03 11 25.1	+1.4
	7.8nm,0.9s,baz=108,slow=4.6,SNR=17						
ARCES	ARCESS Array B	126.35	351	PKP	PKPdf	03 11 39.4	+1.5
	2.3nm,0.7s,baz=21,slow=1.0,SNR=25						
FINES	FINESS Array B	133.58	347	PKP	PKPdf	03 11 52.8	+1.0
	0.5nm,0.5s,slow=8.3,SNR=3.6						
AKASG	Malin Array Be	141.70	336	PKhKP		03 12 02.2	
	0.5nm,0.4s,baz=36,slow=3.9,SNR=4.3						
KMBO	Kilima Mbogo	143.83	243	PKP	PKPdf	03 12 12.9	+1.3
	6.8nm,1.0s,baz=59,slow=4.9,SNR=5.9						
TATS	Tathlith	144.05	280	P	PKPbc	03 12 13.5	+2.3
KWP	Kalwaria	144.92	341	*e*P	PKPdf	03 12 13.5	+1.0
NAMS	An Nimas	145.23	279	P	PKPdf	03 12 17.7	+3.7
OJC	Ojcow	145.24	344	*e*PKP	PKPdf	03 12 15.2	+2.2
OJC	Ojcow	145.24	344	*e*PKP	PKPdf	03 12 15.2	+2.2
CLZ	Clausthal	145.34	355	*e*PKPbc	PKPbc	03 12 15.1	+1.4
KSP	Ksiaz	145.47	348	*e*PKP	PKPdf	03 12 16.0	+2.6
CLL	Collm	145.57	352	⇓*i*PKP1	PKPbc	03 12 15.7	+1.4
CLL				*e*		03 12 24.0	
KOLS	Kolonicke sedl	145.67	340	*e*PKP	PKPdf	03 12 17.4	+3.6
NIE	Niedzica	145.83	343	⇓*i*PKP	PKPdf	03 12 17.3	+3.3
BLJS	Baljurashi	145.83	280	P	PKPdf	03 12 19.3	+4.4
UPC	Upice	145.84	348	*i* PKP	PKPdf	03 12 17.1	+3.1
BRG	Berggiesshubel	145.85	351	*e*P	PKPdf	03 12 16.9	+2.9
BRG				*e*		03 12 48.3	
DPC	Dobruska-Polom	145.93	348	*i* PKP	PKPdf	03 12 17.6	+3.4
DPC				*e*pPKP		03 12 48.1	
OKC	Ostrava-Krasne	146.01	345	*i* PKP	PKPdf	03 12 17.5	+3.2
PVCC	Panska Ves	146.09	350	*i* PKP	PKPdf	03 12 17.7	+3.3
MOX	Moxa	146.40	353	*e*P	PKPdf	03 12 18.0	+3.1
MOX				pPKP		03 12 50.0	
PRU	Pruhonice	146.61	350	*i* PKP	PKPdf	03 12 19.2	+3.9
NKC	Novy Kostel	146.70	352	*i* PKP	PKPdf	03 12 19.4	+4.0
NKC				*e*pPKP		03 12 51.0	
BRTR	Keskin Array B	146.99	318	PKPbc	PKPbc	03 12 20.9	+2.9
	5.2nm,0.8s,baz=333,slow=5.5,SNR=24						
GIVF	Givet	147.28	1	*e*PKP1	PKPdf	03 12 20.9	+4.5
BAIF	Baives	147.31	2	*e*PKP1	PKPdf	03 12 21.1	+4.6
GRA1	Grafenberg Arr	147.38	353	*e*PKPbc	PKPdf	03 12 21.8	+5.2
KHC	Kasperske Hory	147.60	350	*i* PKP	PKPdf	03 12 22.0	+5.0
KHC				*e*pPKP		03 12 52.3	
KBRS	Khaybar	147.65	291	P	PKPdf	03 12 21.3	+3.5
WET	Wettzell	147.70	351	*e*PKPbc	PKPdf	03 12 22.1	+5.0
GEC2	GERESS Array S	147.86	350	*e*PKPbc	PKPdf	03 12 22.8	+5.4
GERES	GERESS Array B	147.86	350	PKPbc	PKPdf	03 12 22.3	+4.8
	3.1nm,0.7s,baz=22,slow=2.9,SNR=29						
FLN	La Foliniere	148.24	8	*e*PKP1	PKPdf	03 12 23.0	+5.0
	21nm,0.6s						
SGMF	Saint Gilles	148.42	10	*e*PKP1	PKPdf	03 12 23.2	+4.9
	65nm,1.0s						
LDF	La Druitiere	148.45	7	*e*PKP1	PKPdf	03 12 23.5	+5.1
	9.4nm,0.5s						
GRR	Gorron	148.55	8	*e*PKP1	PKPdf	03 12 24.1	+5.5
	20nm,0.6s						
HRI	Mount Hermon	148.61	306	P	PKPdf	03 12 25.9	+6.8
MOA	Molln	148.72	349	⇑*i*P	PKPdf	03 12 24.7	+5.9
FUR	Furstenfeldbru	148.88	353	*e*PKPbc	PKPdf	03 12 25.3	+6.2
CDF	Champ du Feu	148.95	358	*e*PKP1	PKPdf	03 12 25.4	+6.2
	13nm,0.8s						
BFO	Black Forest	148.98	356	*e*PKPbc	PKPdf	03 12 25.8	+6.6
HMDT	Nahal Hemdat	149.16	304	P	PKPdf	03 12 27.3	+7.3
HMDT	Nahal Hemdat	149.16	304	⇓P	PKPdf	03 12 27.3	+7.3
MMLI	Mount Malkishu	149.17	305	P	PKPdf	03 12 27.4	+7.3
HAU	Haudompre	149.38	359	*e*PKP1	PKPdf	03 12 26.4	+6.5
	14nm,0.8s						
UMJS	Umm Lajj	149.48	290	P	PKPdf	03 12 28.0	+7.3
DRGI	Dragot	149.50	303	P	PKPdf	03 12 27.9	+7.3
HINF	Hinteralfeld	149.56	358	*e*PKP1	PKPdf	03 12 26.4	+6.2
	5.7nm,0.7s						
KBA	Koelnbreinsper	149.63	350	⇓*i*P	PKPdf	03 12 27.4	+7.1
WATA	Walderalm	149.65	352	⇑*i*P	PKPdf	03 12 27.3	+7.0
MOTA	Moosalm	149.71	353	⇑*i*P	PKPdf	03 12 27.5	+7.1
WTTA	Wattenberg	149.72	352	⇓*i*P	PKPdf	03 12 27.7	+7.3
SQTA	Sankt Quirin	149.81	352	⇑*i*P	PKPdf	03 12 27.7	+7.1
DAVA	Damuels	149.90	354	⇑*i*P	PKPdf	03 12 28.3	+7.6
JMQS	Jabal Moqyreh	149.95	298	P	PKPdf	03 12 28.9	+7.5
HYF	Humbligny	150.02	4	*e*PKP1	PKPdf	03 12 28.3	+7.4
ZFRI	Zfri	150.03	302	P	PKPdf	03 12 29.3	+7.9
LOR	Lormes	150.09	2	*e*PKP1	PKPdf	03 12 28.2	+7.2
	14nm,0.8s						
PRNI	Paran	150.24	301	P	PKPdf	03 12 29.8	+8.0
PRNI	Paran	150.24	301	⇓P	PKPdf	03 12 29.8	+8.0
SSF	Saint Saulge	150.28	3	*e*PKP1	PKPdf	03 12 28.7	+7.4
	19nm,0.9s						
AQBJ	Aqaba	150.40	300	P	PKPdf	03 12 30.1	+8.1
MFF	Saint Martin d	150.40	8	*e*PKP1	PKPdf	03 12 28.5	+7.0
	28nm,1.0s						
MBH	Mount Berech	150.49	300	P	PKPdf	03 12 30.3	+8.1
JMOS	Jabal al Moall	150.52	299	P	PKPdf	03 12 30.1	+7.9
VOJS	Vojsko	150.54	348	*i* PKP	PKPdf	03 12 28.4	+6.7
KZIT	Kziot	150.54	303	P	PKPdf	03 12 30.2	+8.0
AYUS	‘Aynunah	150.66	297	P	PKPdf	03 12 30.3	+7.8
SMF	Signal de Mont	150.71	2	*e*PKP1	PKPdf	03 12 30.3	+8.4
BDAS	Al Bad‘	150.73	298	P	PKPdf	03 12 30.7	+8.2
BGF	Bois d’Agland	150.74	4	*e*PKP1	PKPdf	03 12 29.7	+7.7
	18nm,0.7s						
CABF	La Chapelle	150.78	359	*e*PKP1	PKPdf	03 12 30.4	+8.4
	47nm,1.1s						
TCF	Toulx Ste Croi	150.97	5	*e*PKP1	PKPdf	03 12 29.9	+7.6
	10nm,0.8s						
LPL	La Plagne	151.86	358	*e*PKP1	PKPdf	03 12 33.3	+10
LPG	La Plagne	151.88	358	*e*PKP1	PKPdf	03 12 33.4	+10
MBDF	Montbardon	152.65	358	*e*PKP1	PKPdf	03 12 35.0	+10
	2.2nm,0.5s						
LASF	Ste Croix	153.27	3	*e*PKP1	PKPdf	03 12 35.8	+10
	25nm,1.2s						

*LDG **04** 03:01:14.7±0.4, 42.24N×2.25E, h4km, Md2.2/1, Ml2.0/7, Error ellipse: s-maj=6.0km s-min=2.5km az=158.0*
*STR **04** 03:01:16.5±0.3, 42.33N×2.15E, h3km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **04** 03:01:17.0±0.3, 42.33N×2.16E, mbLg1.4/9, Error ellipse: s-maj=2.5km s-min=2.1km az=161.0, PRXIMO AftershockPLICA*
ISC 04 03:01:15.3±0.5, **42.35N**±0.03×**2.16E**±0.03, **h11**km±5km, **n26**, σ**1ˢ11**/39, **Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBRU	Bruguera	0.07	166	Pg	Pg	03 01 17.7	0.0
VALF	Valcebollere	0.12	295	Pg	Pg	03 01 19.1	+0.7
VALF				Sg	Sg	03 01 21.0	+0.6
VALF	Valcebollere	0.12	295	P	Pg	03 01 19.1	+0.8
VALF				S	Sg	03 01 21.0	+0.6
CLLI	Llivia	0.19	313	Pg	Pg	03 01 20.5	+1.0
FILF	Fillols	0.36	55	Pg	Pg	03 01 22.4	-0.4
FILF				Sg	Sg	03 01 26.6	-1.3
FILF	Fillols	0.36	55	P	Pg	03 01 22.4	-0.4
FILF				S	Sg	03 01 26.6	-1.2
CARF	Carcanieres	0.36	354	Pg	Pg	03 01 24.2	+1.3
CARF				Sg	Sg	03 01 29.5	+1.6
CARF	Carcanieres	0.36	354	P	Pg	03 01 24.2	+1.4
CARF				S	Sg	03 01 29.1	+1.2
EJON	La Jonquera	0.55	80	Pg	Pg	03 01 27.3	+0.8
	0.7nm,0.1s,SNR=6.0						
EJON				Lg		03 01 34.8	
	7.4nm,0.1s						
SJAF	Saint Jean de	0.55	76	S	Sg	03 01 35.1	+1.1
CFON	Fontmartina	0.62	161	Pg	Pg	03 01 28.0	0.0
CORG	Organya	0.64	259	Pg	Pg	03 01 28.6	+0.4
EMIR	Miracle	0.64	227	Pg	Pg	03 01 28.5	+0.2
	1.0nm,0.1s,SNR=8.3						
EMIR				Lg		03 01 38.0	
	2.4nm,0.1s						
CSOR	Sort	0.76	272	Pg	Pg	03 01 30.9	+0.3
SALF	Salau	0.82	300	Pg	Pg	03 01 32.4	+0.5
SALF				Sg	Sg	03 01 43.6	+0.7
SALF	Salau	0.82	300	P	Pb	03 01 32.4	+1.2
SALF				S	Sb	03 01 43.6	+1.6
MTLF	Montolieu	0.99	3	*e*Pg	Pg	03 01 35.5	+0.3
MTLF				*e*Sg	Sg	03 01 49.5	+1.1
	2.7nm,0.2s						
CAVN	Les Avellanes	1.15	246	Pg	Pg	03 01 37.8	-0.5
EPOB	Poblet	1.28	219	Pg	Pg	03 01 40.2	-0.8
	1.8nm,0.1s,SNR=9.6						
EPOB				Lg		03 01 56.9	
	3.7nm,0.1s						
EPF	Esparros	1.50	297	*e*Pg	Pg	03 01 44.5	-0.9
EPF				*e*Sn	Sn	03 02 02.4	+0.3
EPF				*e*Sg	Sg	03 02 06.4	+1.0
	2.1nm,0.3s						
ESAC	San Caprasio	2.06	253	Pg	Pg	03 01 53.0	-3.5
	1.9nm,0.2s,SNR=5.0						
ESAC				Lg		03 02 21.9	
	7.5nm,0.3s,SNR=4.0						
ETSF	Etsaut	2.08	286	*e*Pg	Pg	03 01 55.1	-1.8
ETSF				*e*Sg	Sg	03 02 23.2	-1.4
	1.8nm,0.3s						
LASF	Ste Croix	2.12	35	*e*Sg	Sg	03 02 22.9	-3.2
	0.9nm,0.3s						
CAF	Calviac	2.57	359	*e*Pg	Pg	03 02 05.1	-1.6
CAF				*e*Sg	Sg	03 02 39.1	-2.0
	1.3nm,0.2s						
SJPF	Ste Jean	2.61	288	*e*Sg	Sg	03 02 40.8	-1.3
	0.6nm,0.2s						
LFF	La Frestale	2.78	339	*e*Sg	Sg	03 02 46.4	-1.6
	1.7nm,0.2s						

*IDC **04** 03:01:44.1±1.6, 3.51S×27.99E, mb3.8/6, mb1 3.9/8, mb1mx3.7/19, ML1.8/1, Error ellipse: s-maj=40.8km s-min=26.7km az=148.0*
*NEIC **04** 03:01:45.3±0.5, 3.54S×28.02E, h10km, Error ellipse: s-maj=14.1km s-min=9.5km az=120.0*
ISC 04 03:01:41.2±0.6, **3.91S**±0.06×**28.1E**±0.1, **h10**km, **n11**, σ**0ˢ93**/15, **mb3.8**/6, **Lake Tanganyika region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MBAR	Mbarara	4.22	39	*e*Pn	Pn	03 02 46.0	-1.1
MBAR				*e*		03 02 52.4	
MBAR				*e*		03 03 00.1	
MBAR				*e*S	Sn	03 03 44.8	+7.8
KMBO	Kilima Mbogo	9.56	73	Pn	P	03 04 03.0	+1.0
	0.4nm,0.3s,baz=233,slow=20,SNR=7.6						
KMBO				Sn	Sn	03 05 41.3	-9.4
	0.4nm,0.3s,baz=281,slow=22,SNR=3.1						
KMBO				Lg		03 06 38.8	
	1.3nm,0.3s,baz=192,slow=18,SNR=11						
LSZ	Lusaka	11.29	180	*e*Pn	P	03 04 31.7	+5.9
	3.4nm,0.4s						
LSZ				*e*Sn	S	03 06 32.4	-0.7
TSUM	Tsumeb	18.34	213	P	P	03 06 03.3	+5.8
	0.2nm,0.3s,baz=263,slow=18,SNR=3.9						
TSUM				S	S	03 09 19.5	+0.4
	0.2nm,0.3s,baz=290,slow=19,SNR=2.7						
DBIC	Dimbokro	34.53	288	P	P	03 08 33.1	+1.0
	2.1nm,0.5s,mb4.3,baz=145,slow=8.3,SNR=6.7						
DBIC	Dimbokro	34.53	288	*e*P	P	03 08 32.6	+0.5
BRTR	Keskin Array B	43.72	6	P	P	03 09 49.0	+0.6
	0.5nm,0.6s,mb3.4,baz=170,slow=8.8,SNR=3.4						
GERES	GERESS Array B	54.02	348	P	P	03 11 06.8	-1.0
	0.4nm,0.8s,mb3.4,baz=153,slow=9.0,SNR=3.5						
NOA	NORSAR Array B	66.08	351	P	P	03 12 30.1	-0.2
	1.6nm,0.8s,mb4.1,baz=163,slow=6.0,SNR=3.5						
MKAR	Makanchi Array	69.41	37	P	P	03 12 53.0	+1.5
	0.8nm,0.6s,mb3.8,baz=241,slow=7.0,SNR=5.9						
ARCES	ARCESS Array B	73.32	359	P	P	03 13 13.2	-1.3
	0.4nm,0.6s,mb3.6,baz=162,slow=7.7,SNR=3.9						

DJA 04 03:31:42.3±1.0, **8.11S**×**115.49E**, **h97**km±13km, **MD4.9**/3, **2C-5D, Error ellipse: s-maj=30.0km s-min=11.8km az=175.0, Bali region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RATI	Rata	0.61	176	⇓*e*Pg	P	03 31 57.9	-1.0
	474nm,0.2s						
RATI				⇑*e*Sg	S	03 32 09.7	-1.6
KEDI	Kedomdong	0.73	121	⇓*e*Pg	P	03 31 59.5	-0.4
	609nm,0.2s						
KEDI				⇓*e*Sg	S	03 32 12.1	-1.0
INGI	Ingas	0.78	205	⇓*e*Pg	P	03 32 00.5	0.0
	472nm,0.2s						
INGI				⇓*e*Sg	S	03 32 13.8	-0.2
KELI	Kelakatan	0.99	264	⇑*e*Pg	P	03 32 02.2	-0.5

*HEL **04** 03:36:55.4±0.2, 67.85N×20.16E, ML1.7, ML2.0(UPP), ML1.6(BER), Explosion*
*BER **04** 03:36:55.9±2.4, 67.85N×20.20E, ML1.5, Suspected explosion*
ISC 04 03:36:53.5±0.5, **67.82N**±0.03×**20.15E**±0.06, **n19**, σ**1ˢ32**/27, **Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUA	Kurravaara	0.16	27	*i* P	Pg	03 36 57.2	+0.6
KUA				*i* S	Sg	03 36 59.1	+0.4
NIKU	Nikkaluokta	0.42	277	*i* P	Pg	03 37 02.7	+0.7
NIKU				*i* S	Sg	03 37 08.4	+0.7
DUNU	Dundret	0.72	167	*i* S	Sg	03 37 17.9	+0.6
MASU	Masugnsbyn	0.80	116	*i* S	Sg	03 37 20.1	+0.1
KIF	Kilpisjarvi	1.22	11	*e*P	Pb	03 37 18.7	+1.6
KIF				*e*S	Sb	03 37 34.4	+1.1
PAJU	Pajala	1.40	123	*e*P	Pb	03 37 19.4	-0.8
PAJU				*e*S	Sb	03 37 37.9	-0.6
ERTU	Ertsjaerv	1.50	147	*e*P	Pn	03 37 22.6	+0.9
KTK1	Kautokeino	1.66	42	*e*P	Pn	03 37 24.8	+0.7
KTK1				*e*SG	Sg	03 37 46.3	-2.4
KTK1				AML	AML	03 37 50.7	
	comp=Z,5.3nm,0.3s						
TRO	Tromso	1.88	347	*e*P	Pn	03 37 26.8	-0.4
TRO				*e*SG	Sg	03 37 52.9	-3.2
TRO				AML	AML	03 37 56.1	
	comp=Z,6.9nm,0.4s						
SJUU	Sjulsmark	2.39	165	*e*P	Pn	03 37 37.3	+2.8
SGF	Sodankyl	2.47	96	*e*P	Pn	03 37 38.0	+2.4
SGF				*e*S	Sn	03 38 06.3	-0.6
LOF	Lofoten	2.51	280	*e*SG	Sg	03 38 16.2	-0.9
LOF				AML	AML	03 38 21.8	
	comp=Z,4.5nm,0.7s						
MELS	Mels	2.67	252	*e*Sg	Sg	03 38 19.4	-2.8
MOR8	Moi Rana	2.78	236	*e*SG	Sg	03 38 17.6	-8.6
MOR8				AML	AML	03 38 20.2	
	comp=Z,6.2nm,0.4s						
KEV	Kevo	3.17	49	*e*P	Pn	03 37 46.5	+0.9
KEV				*e*SB	Sb	03 38 27.4	-2.4
KEV				MSG		03 38 32.1	
	comp=Z,2.1nm,0.3s						
MSF	Maaselka	4.00	114	*e*SG	Sg	03 38 59.4	-7.2
NSS	Namsos	4.68	229	*e*SG	Sg	03 39 23.0	-6.2
NSS				AML	AML	03 39 23.4	
	comp=Z,2.7nm,0.4s						
KJN	Kajaani	4.86	137	*e*S	Sn	03 39 05.9	-1.5
KJN				MSG		03 39 26.9	
	comp=Z,0.7nm,0.3s						
VAF	Ylistaro	4.91	166	*e*SG	Sg	03 39 28.6	-8.3

*IDC **04** 03:46:52.7±1.4, 25.38N×124.78E, mb3.4/3, mb1 3.6/4, mb1mx3.4/23, ML3.7/1, Error ellipse: s-maj=39.0km s-min=27.9km az=65.0*
*JMA **04** 03:46:52.0±0.1, 24.40N×124.99E, h59km±3km, M3.3*
ISC 04 03:46:51.7±1.1, **24.4N**±0.2×**124.99E**±0.08, **h62**km±7km, **n14**, σ**0ˢ50**/20, **mb3.4**/1, **Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTJ	Tarama	0.35	311	P	P	03 47 02.5	0.0
JTJ				S	S	03 47 10.1	-0.4
JMJ	Miyako jima 2	0.49	35	P	P	03 47 03.9	+0.1
JMJ				S	S	03 47 12.9	+0.2
JOGS	Gusukube	0.52	47	P	P	03 47 04.1	0.0
JOGS				S	S	03 47 13.8	+0.6
JIJ	Ishigaki jima	0.77	267	P	P	03 47 07.3	+0.2
JIJ				S	S	03 47 18.1	-0.4
JKRS	Kuro-shima	0.91	259	P	P	03 47 09.3	+0.5
JKRS				S	S	03 47 21.8	+0.2
HATJ	Hateruma jima	1.14	252	P	P	03 47 11.8	-0.1
HATJ				*e*S	S	03 47 26.7	-0.2
IRIF	Iriomote-Funau	1.15	267	P	P	03 47 12.3	+0.2
IRIF				*e*S	S	03 47 27.5	+0.2
YOJ	Yonaguni jima	1.80	272	P	P	03 47 21.0	-0.1
YOJ				*e*S	S	03 47 42.6	-0.3
JKE	Kume jima 2	2.51	40	P	P	03 47 31.5	+0.5
JOW	Kunigami	3.82	50	Pn	P	03 47 47.8	-1.8
	13nm,0.3s,baz=206,slow=12,SNR=15						
JOW	Kunigami	3.82	50	P	P	03 47 47.7	-1.9
MKAR	Makanchi Array	40.63	314	P	P	03 54 27.6	+0.6
	0.7nm,0.7s,mb3.4,baz=104,slow=10,SNR=6.2						
WRA	Warramunga Arr	45.02	168	P	pP	03 55 16.9	-2.1
	0.2nm,0.7s,baz=348,slow=8.9,SNR=4.9						
ASAR	Alice Springs	48.57	169	P	pP	03 55 46.3	-0.8
	0.4nm,0.7s,baz=354,slow=9.1,SNR=3.5						

IDC 04 03:55:18.5±47.0, **15.99S**×**171.35W**, **mb3.9**/3, **mb1 4.1**/3, **mb1mx3.7**/15, **Error ellipse: s-maj=915.0km s-min=195.1km az=80.0, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	45.47	241	P	P	04 03 40.4	-0.9
	1.9nm,1.1s,baz=90,slow=14,SNR=3.5						
WRA	Warramunga Arr	51.64	257	P	P	04 04 26.9	-2.5
	0.3nm,0.5s,baz=98,slow=6.9,SNR=11						
ASAR	Alice Springs	51.81	252	P	P	04 04 28.4	-2.2
	2.7nm,0.5s,baz=89,slow=8.3,SNR=41						

MAN 04 03:56:20.4, 9.25N×126.15E, h14km, mb4.3, ML3.1, MS2.9, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUTP	Butuan	0.59	242	*e*P	Pb	03 56 31.6	-0.4
SCPH	Surigao	0.84	309	*e*P	Pb	03 56 35.7	-0.6
SCPH				*e*S	Sb	03 56 49.7	+2.6
BIPH	Bislig	1.08	169	*e*P	Pb	03 56 38.4	-2.0
BIPH				*e*S	Sb	03 56 49.4	-4.7
BUKP	Musuan	1.73	218	*e*P	Pn	03 56 50.5	+0.1
PLP	Palo	2.23	329	*e*P	Pn	03 56 57.1	-0.4
PLP				*e*S	Sn	03 57 25.9	+0.9
LUBP	Lubang	7.30	308	*e*P	Pn	03 58 07.3	-2.0

IDC 04 04:00:58.7±37.0, **15.56S**×**161.97E**, **mb3.9**/3, **mb1 4.1**/3, **mb1mx3.7**/12, **Error ellipse: s-maj=613.0km s-min=91.1km az=62.0, Northwest of New Caledonia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	24.66	225	P	P	04 06 21.4	-1.1
	1.2nm,0.4s,baz=46,slow=12,SNR=9.2						
WRA	Warramunga Arr	26.66	257	P	P	04 06 39.2	-2.0
	0.5nm,0.5s,baz=87,slow=9.1,SNR=9.4						
ASAR	Alice Springs	27.60	249	P	P	04 06 48.2	-1.7
	1.0nm,0.4s,baz=75,slow=9.2,SNR=22						

DJA 04 04:25:04.8±1.0, **7.96S**×**114.04E**, **h80**km, **MD5.0**/3, **ML4.3**/2, **1C-6D, Error ellipse: s-maj=33.6km s-min=22.8km az=20.0, Bali Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KELI	Kelakatan	0.51	120	⇓*e*Pg	P	04 25 13.6	-5.2
	904nm,0.3s						
INGI	Ingas	1.39	128	⇓*e*Pn	P	04 25 28.5	-0.7
INGI				⇑*e*Sn	S	04 25 45.6	-1.6
RATI	Rata	1.66	117	⇓*e*Pn	P	04 25 31.8	-0.9
	341nm,0.2s						
RATI				⇓*e*Sn	S	04 25 51.9	-1.4
KEDI	Kedomdong	2.12	105	⇓*e*Pn	P	04 25 37.8	-1.1
	95nm,0.2s						
KEDI				⇓*e*Sn	S	04 26 01.8	-2.3

*STR **04** 04:29:41.8±0.4, 42.81N×1.43W, h7km±1km, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **04** 04:29:41.8, 42.81N×1.43W, h7km, ML2.7(STR), ML2.7(LDG), MN2.0(MDD), After STR.*
*LDG **04** 04:29:42.5±0.4, 42.84N×1.45W, h7km, Md2.7/2, Ml2.7/10, Error ellipse: s-maj=7.9km s-min=4.2km az=35.0*
*MDD **04** 04:29:43.0±0.3, 42.86N×1.42W, h7km±3km, mbLg2.0/11, Error ellipse: s-maj=2.9km s-min=2.1km az=29.0, AftershockPLICA PRXIMO*
*CSEM **04** 04:29:42.8±0.1, 42.85N×1.41W, h5km, ML2.8/9, Error ellipse: s-maj=1.4km s-min=1.2km az=151.0*
ISC 04 04:29:41.1±0.4, **42.86N**±0.02×**1.45W**±0.02, **h14**km±2km, **n61**, σ**1ˢ20**/100, **1C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.30	33	*e*Pg	Pg	04 29 48.6	+1.0
SJPF				*e*Sg	Sg	04 29 51.4	-0.6
	148nm,0.3s						
EALK	Alkurruntz	0.36	353	⇑Pg	Pg	04 29 49.8	+1.1
	7.7nm,0.1s,SNR=18						
EALK				Lg		04 29 55.6	
	49nm,0.2s,SNR=7.9						
LARF	Larrau	0.38	62	Pg	Pg	04 29 49.6	+0.5
LARF				Sg	Sg	04 29 56.1	+1.6
LARF	Larrau	0.38	62	P	Pg	04 29 49.6	+0.4
LARF				S	Sg	04 29 55.9	+1.3
OSSF	Osses	0.42	19	Pg	Pg	04 29 50.5	+0.7
OSSF	Osses	0.42	19	P	Pb	04 29 50.6	+0.8
OSSF				S	Sg	04 29 56.9	+1.2
ORDF	Ordiarp	0.52	47	P	Pb	04 29 52.4	+1.0

ORDF				S	Sb	04 30 00.2	+1.7
ATE	Arette	0.59	67	P	Pb	04 29 53.3	+0.5
ATE				S	Sb	04 30 02.1	+1.4
FDAF	Les Forges d'A	0.65	93	Pg	Pg	04 29 54.1	-0.2
FDAF	Les Forges d'A	0.65	93	P	Pb	04 29 54.1	+0.4
FDAF				S	Sb	04 30 03.9	+1.5
ETSF	Etsaut	0.66	86	ePg	Pg	04 29 53.8	-0.6
ETSF				eSg	Sg	04 30 03.3	0.0
	54nm,0.4s						
REYF	Montagne du Re	0.80	74	Pg	Pg	04 29 57.1	-0.2
REYF				Sg	Sg	04 30 08.3	+0.1
REYF	Montagne du Re	0.80	74	P	Pb	04 29 57.1	+0.8
REYF				S	Sb	04 30 08.2	+1.3
VIEF	Viey	1.08	88	Pg	Pg	04 30 01.7	-1.2
VIEF	Viey	1.08	88	P	Pb	04 30 01.8	+0.6
VIEF				S	Sb	04 30 16.9	+2.0
LABF	Labassere	1.13	80	Pn	Pn	04 30 03.0	+0.4
LABF				Sg	Sg	04 30 18.9	-0.2
LABF	Labassere	1.13	80	P	Pb	04 30 03.2	+1.2
LABF				S	Sb	04 30 19.0	+2.5
RESF	Ens	1.32	92	Pg	Pg	04 30 06.6	-0.9
RESF				Sg	Sg	04 30 25.0	-0.1
RESF	Ens	1.32	92	P	Pb	04 30 06.5	+1.3
RESF				S	Sb	04 30 25.1	+3.4
EPF	Esparros	1.32	82	ePn	Pn	04 30 06.2	+0.9
EPF				ePg	Pg	04 30 08.7	+1.0
EPF				eSg	Sg	04 30 25.8	+0.4
	31nm,0.2s						
ESAC	San Caprasio	1.35	147	Pg	Pg	04 30 07.1	-1.1
	30nm,0.2s,SNR=33						
ESAC				Lg		04 30 24.6	
	48nm,0.2s,SNR=7.9						
ESAC	San Caprasio	1.35	147	Pg	Pg	04 30 07.1	-1.1
	30nm,0.2s,SNR=33						
ELAN	Lanestosa	1.50	285	Pn	Pn	04 30 10.5	+2.6
	2.6nm,0.1s,SNR=8.1						
ELAN				Lg		04 30 31.6	
	1.8nm,0.3s,SNR=7.9						
ELAN	Lanestosa	1.50	285	Pn	Pn	04 30 10.5	+2.7
	2.6nm,0.1s,SNR=8.1						
MELF	Melles	1.62	89	Pg	Pg	04 30 12.7	-0.9
SALF	Salau	1.94	92	Pg	Pg	04 30 18.2	-1.8
SALF				Sg	Sg	04 30 44.2	-1.8
ETOR	Torete	2.09	193	Pn	Pn	04 30 17.1	+0.9
	1.5nm,0.2s,SNR=21						
ETOR				Pg	Pg	04 30 21.9	-1.0
	4.1nm,0.3s,SNR=7.9						
ETOR				Lg		04 30 49.0	
	7.8nm,0.5s,SNR=7.9						
ETOR	Torete	2.09	193	Pn	Pn	04 30 17.1	+0.9
ETOR				Pg	Pg	04 30 21.9	-1.0
ETOR				Lg		04 30 45.6	
EPOB	Poblet	2.41	128	Pn	Pn	04 30 20.8	-0.1
	1.5nm,0.2s,SNR=7.9						
EPOB				Lg		04 30 59.3	
	2.3nm,0.2s,SNR=7.9						
EPOB	Poblet	2.41	128	Pn	Pn	04 30 20.8	-0.1
EPOB				Lg		04 30 55.8	
EPOB	Poblet	2.41	128	Pn	Pn	04 30 20.8	0.0
	1.5nm,0.2s,SNR=7.9						
EBR	Ebro Roquetas	2.50	144	eS*S*	Sb	04 31 05.3	+9.2
EMOS	Mosqueruela	2.60	163	Pn	Pn	04 30 24.5	+1.0
	0.4nm,0.2s,SNR=5.0						
EMOS				Pg	Pg	04 30 30.3	-2.7
	1.8nm,0.2s,SNR=9.6						
EMOS				Sn	Sn	04 30 54.9	-0.2
	SNR=5.0						
EMOS				Lg		04 31 05.7	
	0.8nm,0.1s,SNR=5.0						
EMOS	Mosqueruela	2.60	163	Pn	Pn	04 30 24.5	+1.0
EMOS				Pg	Pg	04 30 30.3	-2.7
EMOS				Sn	Sn	04 30 54.9	-0.2
EMOS				Lg		04 31 03.3	
EMOS	Mosqueruela	2.60	163	Pn	Pn	04 30 24.5	+1.0
	0.4nm,0.2s,SNR=5.0						
EMOS	Mosqueruela	2.60	163	Pg	Pg	04 30 30.3	-2.7
	1.8nm,0.2s,SNR=9.6						
EMOS				Sn	Sn	04 30 54.9	-0.3
	SNR=5.0						
LFF	La Frestale	2.61	37	ePn	Pn	04 30 23.8	0.0
LFF				eSn	Sn	04 30 54.1	-1.5
	6.0nm,0.3s						
MTLF	Montolieu	2.73	79	ePn	Pn	04 30 26.3	+0.9
MTLF				ePg	Pg	04 30 33.8	-1.8
MTLF				eSn	Sn	04 30 58.5	0.0
	3.3nm,0.3s						
EARI	Arriondas	2.79	280	Pn	Pn	04 30 27.6	+1.3
	0.1nm,0.1s,SNR=7.9						
EARI				Sn	Sn	04 31 01.5	+1.5
	SNR=7.9						
EARI				Lg		04 31 12.0	
	0.7nm,0.2s,SNR=7.9						
EARI	Arriondas	2.79	280	Pn	Pn	04 30 27.6	+1.3
EARI				Sn	Sn	04 31 01.5	+1.5
EARI				Lg		04 31 10.6	
EARI	Arriondas	2.79	280	Pn	Pn	04 30 27.6	+1.3
	0.1nm,0.1s,SNR=7.9						
EARI				Sn	Sn	04 31 01.5	+1.5
	SNR=7.9						
EJON	La Jonquera	3.23	96	Lg		04 31 24.8	
	1.7nm,0.2s,SNR=5.0						
RJF	Les Rejaudoux	3.25	40	ePn	Pn	04 30 31.9	-0.9
RJF				eSn	Sn	04 31 09.8	-1.8
	4.9nm,0.3s						
CAF	Calviac	3.27	50	ePn	Pn	04 30 32.6	-0.6
CAF				eSn	Sn	04 31 10.3	-2.0
	6.4nm,0.3s						
MFF	Saint Martin d	3.86	13	ePn	Pn	04 30 40.6	-0.8
MFF				ePg	Pg	04 30 52.8	-5.3
MFF				eSn	Sn	04 31 24.2	-2.8
	4.7nm,0.4s						
ECAL	Calabor	4.02	259	Pn	Pn	04 30 43.7	-0.1
	0.5nm,0.1s,SNR=5.0						
ECAL				Sn	Sn	04 31 30.0	-1.2
	SNR=7.9						
ECAL				Lg		04 31 51.1	
	1.6nm,0.2s,SNR=7.9						
ECAL	Calabor	4.02	259	Pn	Pn	04 30 43.6	-0.1
ECAL				Sn	Sn	04 31 30.0	-1.2
ECAL				Lg		04 31 47.5	
ECAL	Calabor	4.02	259	Pn	Pn	04 30 43.7	-0.1
	0.5nm,0.1s,SNR=5.0						
ECAL				Sn	Sn	04 31 30.0	-1.2
	SNR=7.9						
LASF	Ste Croix	4.05	71	ePn	Pn	04 30 43.9	-0.3
LASF				eSn	Sn	04 31 30.1	-1.8
	3.4nm,0.4s						
EPON	Pontenova	4.20	278	Pn	Pn	04 30 47.4	+1.1
	SNR=5.0						
EPON	Pontenova	4.20	278	Pn	Pn	04 30 47.4	+1.1
ERUA	La Rua	4.23	266	Pn	Pn	04 30 47.2	+0.5
	0.3nm,0.3s,SNR=7.9						
TCF	Toulx Ste Croi	4.31	36	ePn	Pn	04 30 46.0	-1.9
TCF				eSn	Sn	04 31 34.1	-4.5
	2.9nm,0.4s						
BGF	Bois d'Agland	4.80	38	ePn	Pn	04 30 52.8	-2.0
BGF				eSn	Sn	04 31 47.4	-3.5
	6.5nm,0.4s						
VIVF	Saint-Julien-l	4.86	64	ePn	Pn	04 30 54.7	-0.9
QUIF	Quistinic	5.20	347	ePn	Pn	04 30 59.9	-0.6
SMRF	Simiane la Rot	5.24	75	ePn	Pn	04 31 01.2	+0.2
EADA	Adamuz	5.26	208	Pn	Pn	04 31 00.7	-0.6
	0.6nm,0.1s,SNR=8.3						
EADA	Adamuz	5.26	208	Pn	Pn	04 31 00.7	-0.6
SSF	Saint Saulge	5.48	38	ePn	Pn	04 31 01.8	-2.6
FRF	La Foret Royal	5.96	80	eSg	Sx	04 32 47.4	
	2.0nm,0.5s						

*MDD **04** 04:31:35.6±0.5, 42.86N×1.40W, h6km±5km, mbLg1.7/8, Error ellipse: s-maj=3.9km s-min=3.2km az=67.0, PRXIMO AftershockPLICA*
*LDG **04** 04:31:36.0±0.5, 42.93N×1.47W, h7km, Md2.6/2, Ml2.2/6, Error ellipse: s-maj=9.4km s-min=7.8km az=57.0*
ISC 04 04:31:33.0±0.6, **42.85N**±0.03×**1.44W**±0.05, **h7**km, **n15**, σ**1s21**/25, **Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.31	31	ePg	Pg	04 31 41.1	+1.7
SJPF				eSg	Sg	04 31 44.0	+0.4
	49nm,0.2s						
EALK	Alkurruntz	0.38	353	Pg	Pg	04 31 42.4	+1.8
	2.5nm,0.0s,SNR=7.9						
EALK				Lg		04 31 48.2	
	19nm,0.2s,SNR=7.9						
ETSF	Etsaut	0.65	85	ePg	Pg	04 31 46.6	+0.5
ETSF				eSg	Sg	04 31 55.7	+0.9
	12nm,0.3s						
EPF	Esparros	1.32	81	ePn	Pn	04 31 58.8	+0.8
EPF				ePg	Pg	04 32 01.2	+1.7
EPF				eSg	Sg	04 32 18.5	+1.4
	13nm,0.2s						
ESAC	San Caprasio	1.34	147	Pg	Pg	04 31 59.4	-0.3
	16nm,0.2s,SNR=7.9						
ESAC				Lg		04 32 17.5	
	22nm,0.3s,SNR=7.9						
ELAN	Lanestosa	1.51	285	Pg	Pg	04 32 03.2	0.0
	1.1nm,0.1s,SNR=7.9						
ELAN				Lg		04 32 24.7	
	2.6nm,0.2s,SNR=7.9						
ETOR	Torete	2.08	193	Pn	Pn	04 32 10.1	+1.4
	1.3nm,0.3s,SNR=7.9						
ETOR				Pg	Pg	04 32 14.2	-0.3
	3.3nm,0.3s,SNR=7.9						
ETOR				Lg		04 32 41.3	
	4.1nm,0.3s,SNR=7.9						
EPOB	Poblet	2.40	128	Sn	Sn	04 32 43.0	-0.4
	0.7nm,0.4s,SNR=4.0						
EMOS	Mosqueruela	2.59	163	Pg	Pg	04 32 23.1	-1.6
	0.6nm,0.3s,SNR=7.9						
EMOS				Lg		04 32 57.7	
	0.9nm,0.3s,SNR=7.9						
LFF	La Frestale	2.62	36	ePn	Pn	04 32 16.1	-0.4
LFF				eSg	Sg	04 32 55.3	-5.0
	2.9nm,0.3s						
MTLF	Montolieu	2.73	78	ePn	Pn	04 32 19.0	+1.0
MTLF				eSn	Sn	04 32 50.8	-0.8
	1.5nm,0.3s						
RJF	Les Rejaudoux	3.25	40	ePn	Pn	04 32 24.5	-1.0
RJF				eSn	Sn	04 33 02.5	-2.5
	1.6nm,0.2s						
CAF	Calviac	3.28	49	ePn	Pn	04 32 25.2	-0.7
CAF				eSn	Sn	04 33 02.8	-2.8
	1.5nm,0.3s						
LASF	Ste Croix	4.05	71	ePn	Pn	04 32 36.4	-0.4
VIVF	Saint-Julien-l	4.86	63	ePn	Pn	04 32 47.1	-1.2
VIVF				eSn	Sn	04 33 41.3	-4.3
	0.3nm,0.2s						

*THE **04** 04:58:51.7, 40.05N×24.83E, h14km, ML2.9*
*ATH **04** 04:58:51.5, 40.13N×24.85E, h10km, MD3.2/3*
*CSEM **04** 04:58:51.7±0.1, 40.05N×24.83E, h12km, ML2.9, Error ellipse: s-maj=3.9km s-min=2.2km az=27.0*
ISC 04 04:58:51.2±0.6, **40.04N**±0.05×**24.80E**±0.04, **h15**km±5km, **n13**, σ**0s85**/21, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LOS	Limnos	0.24	116	ePg	Pg	04 58 56.4	-0.3
LOS				eSg	Sg	04 59 00.4	-0.1
OUR	Ouranopolis	0.69	295	ePg	Pg	04 59 05.1	-0.2
OUR				eSg	Sg	04 59 15.4	+0.8
PAIG	Paliouri	0.87	263	ePg	Pg	04 59 08.6	-0.1
PAIG				eSg	Sg	04 59 20.5	+0.1
PLG	Polygyros	1.09	288	eP	Pb	04 59 11.8	+0.5
PLG				eS	Sb	04 59 27.0	+1.9
RDO	Rodhopi	1.24	27	ePB	Pb	04 59 13.0	-0.9
SOH	Sokhos	1.35	306	ePb	Pb	04 59 15.7	-0.1
SOH				eSb	Sb	04 59 33.2	+0.5
PRK	Paraskevi	1.39	124	ePB	Pb	04 59 18.0	+1.6
PRK	Paraskevi	1.39	124	eS	Sb	04 59 37.5	+3.7
XOR	Xorichti	1.41	242	ePb	Pb	04 59 16.4	-0.3
SRS	Serrai	1.41	320	ePb	Pb	04 59 16.2	-0.7
SRS				eSb	Sb	04 59 34.8	+0.3
LIT	Litokhoron	1.77	273	ePb	Pb	04 59 21.3	-1.6
GRG	Griva	2.04	297	ePn	Pn	04 59 25.9	+0.3
GRG				eSn	Sn	04 59 49.9	-1.1
AGG	Agios Georgios	2.16	243	ePn	Pn	04 59 27.0	-0.4
AGG				eSn	Sn	04 59 53.6	-0.4

*IDC **04** 05:30:21.1±0.7, 33.41N×101.16E, mb4.3/12, mb1 4.4/15, mb1mx4.3/23, ML3.9/3, MS3.5/2, Ms1 3.6/2, ms1mx3.0/26, Error ellipse: s-maj=28.2km s-min=14.7km az=58.0*
*NEIC **04** 05:30:22.4±0.3, 33.26N×100.96E, h10km, mb4.6/10, Error ellipse: s-maj=7.6km s-min=5.8km az=161.0*
*BJI **04** 05:30:23.6, 33.46N×101.13E, h13km, mB4.6, mb4.6, ML4.1, Ms4.3, Msz4.1*
*MOS **04** 05:30:25.1±0.8, 33.39N×101.23E, h33km, mb4.8/11, Error ellipse: s-maj=20.2km s-min=10.0km az=111.9*
ISC 04 05:30:20.0±0.3, **33.17N**±0.04×**101.06E**±0.04, **h10**km, **n76**, σ**1s10**/79, **mb4.5**/26, **MS3.7**/6, **4C-1D**, **Qinghai**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CD2	Chengdu	3.21	134	PG	Pg	05 31 22.9	-1.2
CD2				SG	Sg	05 32 06.9	-0.1
CD2				Smax			
	comp=N,380nm,0.9s						
CD2				Smax			
	comp=E,380nm,1.0s						
CD2				LR	LR		
	comp=E,4μm,6.0s						
CD2				LR	LR		
	comp=Z,2μm,10.4s						
LZH	Lanzhou	3.71	37	⇑P	Pn	05 31 20.2	+1.6
LZH				PG	Pg	05 31 26.3	-7.7
LZH				SG	Sg	05 32 14.0	-9.4
LZH				Smax			
	comp=N,865nm,1.2s						
LZH				Smax			
	comp=E,465nm,1.0s						
LZH				LR	LR		
	comp=E,5μm,5.0s						
LZH				LR	LR		
	comp=Z,5μm,7.8s						
XAN	Xi'an	6.62	80	P	Pn	05 32 00.3	+0.6
XAN				PG	Pg	05 32 22.9	-9.2
XAN				SG	Sg	05 33 54.2	-6.1
XAN				Smax			
	comp=N,130nm,1.1s						
XAN				Smax			
	comp=E,83nm,1.0s						
ENH	Enshi	7.74	110	P	Pn	05 32 17.4	+1.9
	comp=E,13nm,0.9s						
GYA	Guiyang	8.27	143	P	P	05 32 28.1	+5.2
GYA				S	Sn	05 33 55.3	-2.0
GYA				AMB	AMB		
	comp=Z,10.0nm,1.3s						
GYA				LR	LR		
	comp=N,2μm,9.6s						
GYA				LR	LR		
	comp=E,2μm,11.4s						
GYA				LR	LR		
	comp=Z,1μm,8.4s						
LSA	Lhasa	9.15	250	P	P	05 32 38.4	+3.3
LSA				LR	LR		
	comp=N,340nm,7.6s						
LSA				LR	LR		
	comp=E,690nm,8.7s						
LSA				LR	LR		
	comp=Z,980nm,9.2s						
SHL	Shillong	11.02	229	eP	P	05 33 02.0	+1.2
SHL				eS	tx	05 36 20.5	
HHC	Hu-ho-hao-te	11.36	45	eP	P	05 33 07.3	+1.8
HHC				PP	PP	05 33 15.9	+1.7
HHC				XP		05 33 19.1	
HHC				AMB	AMB		
	comp=Z,17nm,1.3s						
HHC				AMB	AMB		
	comp=Z,85nm,4.9s						
HHC				LR	LR		
	comp=N,618nm,10.8s						
HHC				LR	LR		
	comp=E,661nm,10.7s						
HHC				LR	LR		
	comp=Z,591nm,10.5s						
GUN	Gumba	14.09	252	eP	P	05 33 40.9	-1.0
	comp=Z,30nm,0.5s						
PKI	Pulchoki	14.61	252	eP	P	05 33 49.4	+0.6
	comp=Z,31nm,0.6s						
KKN	Kakani	14.62	253	eP	P	05 33 47.9	-1.0
	comp=Z,57nm,0.7s						
CMAR	Chiang Mai Arr	14.77	188	Pn	P	05 33 56.8	+5.9
	comp=Z,0.1nm,0.3s,baz=351,slow=10,SNR=13						
CMAR				LR	LR	05 40 19.6	
	comp=Z,190nm,20.6s,baz=15,slow=40						
DMN	Daman	14.84	252	eP	P	05 33 51.6	-0.1
	comp=Z,37nm,0.6s						
NJ2	Nanjing	15.04	89	eP	P	05 33 54.8	+0.5
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s						
NJ2				LR	LR		
	comp=N,1μm,19.2s						
NJ2				LR	LR		
	comp=E,2μm,21.7s						
GKN	Gorkha	15.05	254	eP	P	05 33 53.0	-1.5
	comp=E,158nm,0.8s						
SONM	Songino Array	15.20	14	Pn	P	05 33 54.8	-1.5
	comp=E,0.3nm,0.3s,baz=197,slow=12,SNR=12						
SONM				Lg		05 38 10.3	
	comp=E,0.1nm,0.3s,baz=188,slow=32,SNR=2.2						
KOLN	Koldanda	15.98	255	eP	P	05 34 05.7	-0.9
	comp=E,66nm,0.8s						
SSE	Sheshan	17.17	91	P	P	05 34 22.2	+0.6
SSE				S	S	05 37 29.7	-1.6
SSE				PCP	PcP	05 39 08.0	+1.4
SSE				AMB	AMB		
	comp=Z,12nm,0.6s						
SSE				AMB	AMB		
	comp=Z,153nm,4.2s						
MKAR	Makanchi Array	19.73	319	P	P	05 34 52.0	-0.7
	comp=Z,0.4nm,0.3s,baz=129,slow=12,SNR=36						
MKAR				PcP	PcP	05 39 09.8	-1.1
	comp=Z,0.1nm,0.3s,baz=153,slow=2.7,SNR=3.7						
MKAR	Makanchi Array	19.73	319	P	P	05 34 52.0	-0.7
MKAR				PcP	PcP	05 39 09.8	-1.1
HIA	Hailar	21.27	35	eP	P	05 35 08.4	-0.2
	comp=Z,22nm,1.3s,mb4.3						
CN2	Changchun	21.77	54	eP	P	05 35 13.9	+0.2
CN2				AMB	AMB		
	comp=Z,30nm,0.8s,mb4.8						
FRU	Bishkek	22.89	303	eP	P	05 35 28.0	+3.2
AAK	Ala-Archa	22.92	302	eP	P	05 35 26.4	+1.3
AAK				pmax	pmax		
	comp=Z,12nm,1.7s,mb4.0						
AAK				MLR	MLR		
	comp=Z,200nm,19.0s,MS3.6						
AAK	Ala-Archa	22.92	302	eP	P	05 35 26.5	+1.4
	comp=Z,7.7nm,1.1s,mb4.0						
ZAL	Zalesovo	23.76	336	P	P	05 35 34.1	+1.0
	comp=Z,2.5nm,0.4s,mb4.0,baz=242,slow=8.7,SNR=11						
ZAL				LR	LR	05 46 01.7	
	comp=Z,142nm,20.0s,MS3.4,baz=44,slow=40						
ZAL	Zalesovo	23.76	336	P	P	05 35 34.1	+0.9
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ZAL				MLR	MLR		
	comp=Z,142nm,20.0s						
KURK	Kurchatov	24.05	323	deP	P	05 35 37.1	+1.1
KURK	Kurchatov	24.05	323	eP	P	05 35 35.8	-0.2
	comp=Z,17nm,1.4s,mb4.3						
MDJ	Mudanjiang	24.85	54	P	P	05 35 45.6	+1.8
MDJ				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,72nm,5.9s						
MDJ				LR	LR		
	comp=N,545nm,16.5s,MS4.2						
MDJ				LR	LR		
	comp=E,279nm,14.6s,MS4.2						
MDJ				LR	LR		
	comp=Z,253nm,11.8s,MS4.0						
MDJ	Mudanjiang	24.85	54	P	P	05 35 43.8	0.0
	comp=Z,25nm,1.1s,mb4.7						
BOD	Bodaibo	26.18	16	eP	P	05 35 54.5	-1.6
BVAR	Borovoye Array	29.57	321	P	P	05 36 26.5	-0.5
	comp=Z,0.9nm,0.7s,mb3.6,baz=112,slow=8.0,SNR=5.1						
BRVK	Borovoye	29.65	321	eP	P	05 36 26.9	-0.8
	comp=Z,1.9nm,0.8s,mb3.9						
YAK	Yakutsk	34.17	24	eP	P	05 37 06.4	-0.8
YAK				pmax	pmax		
	comp=Z,17nm,0.6s,mb5.2						
YAK				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.6						
SVE	Sverdlovsk	36.31	323	⇑eP	P	05 37 21.5	-3.9
ARU	Arti	37.22	322	⇑iP	P	05 37 33.4	+0.3
ARU				e		05 38 58.8	
ARU				e		05 39 49.6	
ARU				eS	S	05 43 20.3	+0.8
ARU				e		05 47 43.5	
ARU				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
ARU	Arti	37.22	322	eP	P	05 37 32.7	-0.4
	comp=Z,12nm,0.6s,mb4.9						
TIXI	Tiksi	41.28	13	eP	P	05 38 06.1	-0.6
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.3						
TIXI				MLR	MLR		
	comp=Z,4μm,21.0s						
SOC	Sochi	48.22	301	eP	P	05 39 02.8	+0.2
SOC				e		05 40 25.0	
SOC				e		05 40 57.9	
SOC				eS	S	05 45 57.1	-3.8
SOC				ePS	PS	05 46 15.1	+5.1
SOC				pmax	pmax		
	comp=Z,34nm,0.9s,mb5.4						
SOC				pmax	pmax		
	comp=N,32nm,1.0s						
SOC				pmax	pmax		
	comp=E,33nm,0.9s						
SOC				MLR	MLR		
	comp=N,91nm,20.0s,MS3.9						
SOC				MLR	MLR		
	comp=Z,72nm,20.0s,MS3.6						
SOC				MLR	MLR		
	comp=E,61nm,18.0s,MS3.9						
OBN	Obninsk	49.22	317	eP	P	05 39 10.1	-0.1
OBN				pmax	pmax		
	comp=Z,33nm,1.3s,mb5.2						
OBN				MLR	MLR		
	comp=Z,100nm,20.0s,MS3.8						
BRTR	Keskin Array B	53.49	298	P	P	05 39 43.0	+0.3
	comp=Z,7.6nm,1.2s,mb4.5,baz=87,slow=7.3,SNR=12						
BRTR	Keskin Array B	53.49	298	P	P	05 39 43.0	+0.3
BRTR				pmax	pmax		
	comp=Z,8.0nm,1.2s						
AKASG	Malin Array Be	54.09	312	P	P	05 39 46.3	-0.6
	comp=Z,2.5nm,0.4s,mb4.5,baz=66,slow=7.6,SNR=12						
AKASG	Malin Array Be	54.09	312	P	P	05 39 46.3	-0.6
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ARCES	ARCESS Array B	54.32	335	P	P	05 39 47.5	-0.9
	comp=Z,4.1nm,0.5s,mb4.6,baz=83,slow=7.7,SNR=38						
ARCES	ARCESS Array B	54.32	335	P	P	05 39 47.5	-0.8
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ARCES	ARCESS Array B	54.32	335	P	P	05 39 47.5	-0.9
FINES	FINESS Array B	54.41	325	P	P	05 39 48.3	-0.8
	comp=Z,4.7nm,0.8s,mb4.5,baz=83,slow=8.8,SNR=13						
FINES	FINESS Array B	54.41	325	P	P	05 39 48.3	-0.8
FINES				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KWP	Kalwaria	58.41	312	eP	P	05 40 18.1	+0.2
KWP	Kalwaria	58.41	312	eP	P	05 40 18.1	+0.2
NB2	NORSAR Subarra	61.53	326	P	P	05 40 37.7	-1.5
	comp=Z,2.1nm,0.7s,mb4.4,baz=74,slow=6.5						
NOA	NORSAR Array B	61.53	326	P	P	05 40 37.7	-1.5
	comp=Z,3.1nm,0.8s,mb4.5,baz=75,slow=6.6,SNR=8.3						
NOA	NORSAR Array B	61.53	326	P	P	05 40 37.7	-1.5
NOA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NOA	NORSAR Array B	61.53	326	P	P	05 40 37.7	-1.5
WRAB	Tennant Creek	61.63	144	eP	P	05 40 41.0	+0.5
	comp=Z,3.9nm,0.8s,mb4.6						
WRA	Warramunga Arr	61.64	144	P	P	05 40 41.6	+1.2
	comp=Z,2.3nm,0.8s,mb4.4,baz=338,slow=7.2,SNR=18						
WRA	Warramunga Arr	61.64	144	P	P	05 40 41.6	+1.1
WRA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GERES	GERESS Array B	64.26	313	P	P	05 40 58.0	+0.6
	comp=Z,1.0nm,0.8s,mb3.9,baz=82,slow=9.4,SNR=7.5						
GERES	GERESS Array B	64.26	313	P	P	05 40 58.0	+0.6
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	Alice Springs	64.61	147	P	P	05 41 01.9	+1.7
	comp=Z,1.8nm,0.8s,mb4.2,baz=330,slow=6.3,SNR=17						
GRA1	Grafenberg Arr	65.44	314	eP	P	05 41 05.8	+0.8
	comp=Z,5.0nm,0.9s,mb4.5						
GRF	Grafenberg Arr	65.44	314	eP	P	05 41 05.8	+0.8
GRF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
COLA	College	68.68	25	eP	P	05 41 25.1	-0.2
COLA	College	68.68	25	eP	P	05 41 24.7	-0.5
	comp=Z,10.0nm,0.9s,mb4.8						
KMBO	Kilima Mbogo	68.93	254	P	P	05 41 29.0	+1.3
	comp=Z,1.0nm,0.3s,mb4.2,baz=43,slow=12,SNR=6.4						
KMBO	Kilima Mbogo	68.93	254	eP	P	05 41 29.4	+1.8
ILAR	Eielson Array	69.08	25	P	P	05 41 26.6	-1.2
	comp=Z,2.4nm,0.8s,mb4.2,baz=296,slow=5.6,SNR=24						
ILAR	Eielson Array	69.08	25	P	P	05 41 26.6	-1.1
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
VNA2	Neumayer--Watz	126.98	203		Pdif	05 46 04.8	0.0
VNA3	Neumayer Olymp	127.68	202	⇑i	Pdif	05 46 07.1	-0.8
OTAV	Otavalo	146.77	359	ePKPbc	PKPbc	05 50 05.7	+3.0
BDFB	Brasilia	147.05	294	PKPbc	PKPdf	05 50 05.6	+1.0
	comp=Z,2.9nm,0.8s,baz=75,slow=5.8,SNR=5.7						
BDFB	Brasilia	147.05	294	PKP2	PKPab	05 50 05.6	-1.7
BDFB				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SAML	Samuel	151.85	325	ePKPdf	PKPdf	05 50 11.8	-0.4
SAML				ePKPbc	PKPdf	05 50 17.0	+4.8

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*STR **04** 05:49:47.7±0.5, 42.82N×1.44W, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **04** 05:49:47.7, 42.82N×1.44W, h5km, ML2.5(LDG), ML2.3(STR), MN2.0(MDD), After STR.*
*LDG **04** 05:49:48.3±0.5, 42.86N×1.49W, h7km, Md2.7/2, Ml2.5/7, Error ellipse: s-maj=9.0km s-min=6.5km az=57.0*
*MDD **04** 05:49:48.8±0.4, 42.84N×1.41W, h4km±4km, mbLg1.9/8, Error ellipse: s-maj=3.1km s-min=1.9km az=43.0, PRXIMO AftershockPLICA*
*CSEM **04** 05:49:48.4±0.1, 42.84N×1.41W, h2km, ML2.6/7, Error ellipse: s-maj=1.8km s-min=1.3km az=108.0*
ISC 04 05:49:47.2±0.5, **42.86N**±0.03×**1.44W**±0.03, **h12**km±3km, **n41**, σ**1s10**/68, **2C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.30	32	ePg	Pg	05 49 54.3	+0.7
SJPF				eSg	Sg	05 49 57.2	-0.7
	124nm,0.3s						
EALK	Alkurruntz	0.37	353	⇑Pg	Pg	05 49 55.6	+0.7
	6.8nm,0.1s,SNR=18						
EALK				Lg		05 50 01.5	
	61nm,0.2s,SNR=23						
LARF	Larrau	0.38	61	Pg	Pg	05 49 55.3	+0.2
LARF				Sg	Sg	05 50 01.6	+1.2
LARF	Larrau	0.38	61	P	Pg	05 49 55.3	+0.2
LARF				S	Sg	05 50 01.3	+0.9
OSSF	Osses	0.42	18	Pg	Pg	05 49 56.3	+0.4
OSSF				Sg	Sg	05 50 03.0	+1.3
OSSF	Osses	0.42	18	P	Pg	05 49 56.4	+0.5
OSSF				S	Sg	05 50 02.0	+0.2
ORDF	Ordiarp	0.52	46	P	Pb	05 49 58.2	+0.4
ORDF				S	Sb	05 50 05.8	+0.9
ATE	Arette	0.59	67	P	Pb	05 49 59.1	+0.1
ATE				S	Sb	05 50 07.6	+0.5
FDAF	Les Forges d'A	0.65	93	Pg	Pg	05 50 00.1	-0.2
FDAF	Les Forges d'A	0.65	93	P	Pb	05 50 00.3	+0.4
FDAF				S	Sb	05 50 08.7	+0.1
ETSF	Etsaut	0.65	86	ePg	Pg	05 49 59.8	-0.6
ETSF				eSg	Sg	05 50 08.8	-0.4
	24nm,0.2s						
REYF	Montagne du Re	0.80	74	S	Sb	05 50 14.2	+1.0
VIEF	Viey	1.08	88	S	Sb	05 50 22.9	+1.7
LABF	Labassere	1.13	80	Pn	Pn	05 50 08.8	-0.1
LABF				Sg	Sg	05 50 24.7	-0.3
LABF	Labassere	1.13	80	P	Pb	05 50 08.9	+0.7
LABF				S	Sb	05 50 24.7	+2.0
RESF	Ens	1.31	91	Pn	Pn	05 50 11.8	+0.3
RESF	Ens	1.31	91	P	Pb	05 50 12.3	+0.9
RESF				S	Sb	05 50 30.8	+2.8
EPF	Esparros	1.32	82	ePn	Pn	05 50 12.0	+0.4
EPF				ePg	Pg	05 50 14.4	+0.7
EPF				eSg	Sg	05 50 31.5	+0.1
	21nm,0.2s						
ESAC	San Caprasio	1.34	147	⇑Pg	Pg	05 50 12.7	-1.4
	35nm,0.3s,SNR=18						
ESAC				Lg		05 50 30.0	
	41nm,0.3s,SNR=7.6						
ESAC	San Caprasio	1.34	147	Pg	Pg	05 50 12.7	-1.4
	35nm,0.3s,SNR=18						
ETOR	Torete	2.08	193	Pn	Pn	05 50 23.1	+0.6
	2.1nm,0.2s,SNR=12						
ETOR				Pg	Pg	05 50 27.4	-1.5
	4.2nm,0.3s,SNR=13						
ETOR				Sn	Sn	05 50 49.8	+1.2
	6.3nm,0.3s,SNR=7.9						
ETOR	Torete	2.08	193	Pn	Pn	05 50 23.1	+0.6
ETOR				Pg	Pg	05 50 27.4	-1.5
ETOR				Lg		05 50 49.8	
EMIR	Miracle	2.39	112	Pg	Pg	05 50 32.5	-2.5
	3.5nm,0.2s,SNR=7.9						
EMIR				Lg		05 51 03.2	
	SNR=7.9						
EMIR	Miracle	2.39	112	Pg	Pg	05 50 32.5	-2.5
	3.5nm,0.2s,SNR=7.9						
EPOB	Poblet	2.40	128	Pn	Pn	05 50 27.0	-0.1
	0.9nm,0.1s,SNR=7.9						
EPOB				Lg		05 51 04.4	
	3.0nm,0.2s,SNR=7.9						
EPOB	Poblet	2.40	128	Pn	Pn	05 50 27.0	-0.1
EPOB				Lg		05 51 01.4	
EPOB	Poblet	2.40	128	Pn	Pn	05 50 27.0	-0.1
	0.9nm,0.1s,SNR=7.9						
EBR	Ebro Roquetas	2.50	144	eS*S*		05 51 10.7	
EMOS	Mosqueruela	2.59	163	Pn	Pn	05 50 30.0	+0.2
	0.1nm,0.1s,SNR=5.0						
EMOS				Pg	Pg	05 50 35.5	-3.5
	0.7nm,0.2s,SNR=7.9						
EMOS				Lg		05 51 12.3	
	3.5nm,0.4s,SNR=5.0						
EMOS	Mosqueruela	2.59	163	Pn	Pn	05 50 30.0	+0.2
EMOS				Pg	Pg	05 50 35.5	-3.5
EMOS				Lg		05 51 06.0	
EMOS	Mosqueruela	2.59	163	Pn	Pn	05 50 30.0	+0.2
	0.1nm,0.1s,SNR=5.0						
EMOS	Mosqueruela	2.59	163	Pg	Pg	05 50 35.5	-3.5
	0.7nm,0.2s,SNR=7.9						
LFF	La Frestale	2.61	36	ePn	Pn	05 50 29.5	-0.6
LFF				eSg	Sg	05 51 08.6	-5.7
	7.0nm,0.3s						
MTLF	Montolieu	2.73	78	ePn	Pn	05 50 32.2	+0.5
MTLF				eSn	Sn	05 51 04.2	-0.7
	2.0nm,0.3s						
EARI	Arriondas	2.79	280	Pn	Pn	05 50 33.8	+1.2
	10.0nm,0.9s,SNR=7.9						
EARI				Sn	Sn	05 51 07.1	+0.5
	2.4nm,0.4s,SNR=7.9						
EARI				Lg		05 51 18.4	
	0.9nm,0.3s,SNR=7.9						
EARI	Arriondas	2.79	280	Pn	Pn	05 50 33.8	+1.2
EARI				Sn	Sn	05 51 07.2	+0.5
EARI				Lg		05 51 16.8	
EARI	Arriondas	2.79	280	Pn	Pn	05 50 33.8	+1.1
EARI				Sn	Sn	05 51 07.2	+0.6
RJF	Les Rejaudoux	3.25	40	ePn	Pn	05 50 37.6	-1.5
RJF				eSn	Sn	05 51 15.3	-2.8
	3.1nm,0.3s						
CAF	Calviac	3.27	50	ePn	Pn	05 50 38.3	-1.2
CAF				eSn	Sn	05 51 16.2	-2.6
	4.5nm,0.3s						
LASF	Ste Croix	4.05	71	ePn	Pn	05 50 49.4	-1.1
LASF				eSn	Sn	05 51 35.8	-2.5
	1.1nm,0.3s						
VIVF	Saint-Julien-l	4.85	64	ePn	Pn	05 51 00.4	-1.5
VIVF				eSn	Sn	05 51 54.5	-4.3
	1.3nm,0.3s						

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*NIED **04** 05:53:00, 25.20N×126.80E, h53km, Mw4.5 Best double couple: M0 6.62×10^15 NP1:φs40°, δ85°, λ66°. NP2:φs299°, δ24°, λ168°.*
*IDC **04** 05:53:51.0±0.8, 25.17N×126.85E, h32km±4km, mb3.9/13, mb1 4.0/14, mb1mx3.9/23, ML2.7/1, MS3.6/7, Ms1 3.7/7, ms1mx3.4/25, Error ellipse: s-maj=24.3km s-min=14.1km az=71.0*
*NEIC **04** 05:53:51.3±0.4, 25.16N×126.87E, mb4.6/5, MW4.5(NIED), Error ellipse: s-maj=8.8km s-min=7.9km az=85.0*
*JMA **04** 05:53:51.0±0.1, 25.25N×126.83E, h77km, M3.6*
*BJI **04** 05:53:58.1, 25.78N×126.24E, h36km, mB4.6, mb4.5*
ISC 04 05:53:50.3±0.7, **25.15N**±0.06×**126.95E**±0.05, **h46**km±5km, **h36**km±2.4km**:pP-P, n41**, σ**0s83**/45, **mb4.2**/19, **MS3.7**/7, **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	Kume jima 2	1.18	353	P	P	05 54 10.9	+0.3
JKE				eS	S	05 54 26.4	+0.6
JJT2	Tamagusuku 2	1.22	36	P	P	05 54 13.0	+1.7
NAH1	Naha	1.24	33	eS	S	05 54 28.4	+0.9
JOGS	Gusukube	1.45	255	P	P	05 54 14.9	+0.3
JOGS				eS	S	05 54 32.9	+0.2
JAGN	Aguni-jima	1.46	11	P	P	05 54 15.2	+0.5
JMJ	Miyako jima 2	1.54	258	P	P	05 54 15.9	+0.1
JOW	Kunigami	2.06	35	Pn	P	05 54 23.6	+0.5
	3.4nm,0.3s,baz=140,slow=21,SNR=8.6						
JOW	Kunigami	2.06	35	P	P	05 54 23.8	+0.7
JOW				eS	S	05 54 46.7	-0.9
JIH	Iheya	2.09	26	P	P	05 54 24.0	+0.4
JTJ	Tarama	2.10	256	P	P	05 54 23.3	-0.5
JTJ				eS	S	05 54 45.1	-3.7
JIJ	Ishigaki jima	2.67	253	P	P	05 54 30.9	-1.0
JIJ				eS	S	05 55 02.6	-0.5
JKRS	Kuro-shima	2.82	252	P	P	05 54 35.0	+0.9
IRIF	Iriomote-Funau	3.04	255	P	P	05 54 37.3	+0.2
JTK	Tokunoshima	3.18	34	P	P	05 54 38.3	-0.8
JTK				eS	S	05 55 13.3	-2.9
JMZ	Minamidaito 2	3.92	79	P	P	05 54 45.7	-3.9
JAM	Amami Oshima	4.02	36	P	P	05 54 49.3	-1.8
JAM				eS	S	05 55 32.4	-5.1
LZH	Lanzhou	22.62	304	eP	P	05 58 48.9	+0.7
LZH				AP		05 58 54.8	
LZH				XP		05 58 57.9	
LZH				AMB	AMB		
	comp=Z,25nm,1.0s,mb4.6						
CMAR	Chiang Mai Arr	26.81	261	P	P	05 59 27.8	-0.5
	comp=Z,1.6nm,1.0s,mb3.5,baz=53,slow=8.6,SNR=7.0						
CMAR				LR	LR	06 12 24.4	
	comp=Z,111nm,18.2s,MS3.5,baz=75,slow=42						
SONM	Songino Array	27.86	330	P	P	05 59 36.2	-1.5
	comp=Z,2.1nm,0.7s,mb3.9,baz=144,slow=10,SNR=8.2						
PKI	Pulchoki	37.17	283	eP	P	06 00 58.9	+0.1
	comp=Z,11nm,0.7s,mb4.8						
KKN	Kakani	37.27	283	eP	P	06 00 59.9	+0.4
	comp=Z,17nm,0.6s,mb5.0						
DMN	Daman	37.44	283	eP	P	06 01 00.4	-0.6
GKN	Gorkha	37.81	284	eP	P	06 01 03.6	-0.5
	comp=Z,20nm,0.8s,mb4.9						
KOLN	Koldanda	38.75	284	eP	P	06 01 12.7	+0.8
	comp=Z,16nm,0.9s,mb4.8						
PMG	Port Moresby	39.60	148	LR	LR	06 15 16.8	
	comp=Z,49nm,21.1s,MS3.3,baz=255,slow=32						
MKAR	Makanchi Array	41.41	313	P	P	06 01 33.2	-0.5
	comp=Z,5.9nm,0.6s,mb4.4,baz=100,slow=10,SNR=79						
MKAR				pP	pP	06 01 44.1	-2.2
	comp=Z,1.6nm,0.5s,baz=97,slow=10,SNR=6.0						
MKAR				LR	LR	06 20 17.5	
	comp=Z,47nm,20.0s,MS3.4,baz=260,slow=38						
MKAR	Makanchi Array	41.41	313	P	P	06 01 33.2	-0.5
MKAR				pP	pP	06 01 44.1	-2.2
MKAR				LR	LR	06 20 17.5	
ZAL	Zalesovo	42.42	324	P	P	06 01 41.2	-0.7
	comp=Z,1.3nm,0.4s,mb3.9,baz=303,slow=8.0,SNR=5.1						
ZAL				pP	pP	06 01 52.1	-2.5
	comp=Z,1.1nm,0.8s,baz=259,slow=5.7,SNR=2.1						
WRAB	Tennant Creek	45.39	170	eP	P	06 02 06.2	-0.1
	comp=Z,7.7nm,1.0s,mb4.5						
WRA	Warramunga Arr	45.40	170	P	P	06 02 06.3	-0.1
	comp=Z,2.4nm,0.8s,mb4.1,baz=351,slow=8.5,SNR=17						
ASAR	Alice Springs	48.99	172	P	P	06 02 35.0	+0.5
	comp=Z,0.9nm,0.6s,mb4.0,baz=356,slow=8.7,SNR=15						
ASAR				pP	pP	06 02 44.5	-2.8
	comp=Z,1.3nm,0.9s,baz=357,slow=6.0,SNR=6.6						
BVAR	Borovoye Array	50.32	319	P	P	06 02 43.9	-0.4
	comp=Z,1.1nm,0.6s,mb4.0,baz=100,slow=9.0,SNR=6.7						
ILAR	Eielson Array	65.93	28	P	P	06 04 34.0	+0.7
	comp=Z,0.4nm,0.7s,mb3.6,baz=255,slow=6.1,SNR=6.5						
GNI	Garni	68.55	305	LR	LR	06 39 25.1	
	comp=Z,36nm,19.0s,MS3.6,baz=154,slow=40						
ARCES	ARCESS Array B	70.58	339	P	P	06 05 02.6	+0.5
	comp=Z,2.0nm,1.0s,mb4.0,baz=82,slow=8.6,SNR=3.9						
ARCES				LR	LR	06 39 00.1	
	comp=Z,66nm,18.4s,MS3.9,baz=359,slow=38						
FINES	FINESS Array B	73.23	330	P	P	06 05 18.2	+0.3
	comp=Z,3.6nm,1.1s,mb4.2,slow=3.8,SNR=5.1						
AKASG	Malin Array Be	75.60	319	P	P	06 05 31.6	-0.2
	comp=Z,1.0nm,0.6s,mb3.9,baz=56,slow=6.4,SNR=5.3						
BRTR	Keskin Array B	76.78	308	P	P	06 05 40.0	+1.2
	comp=Z,1.3nm,0.9s,mb3.8,baz=108,slow=7.8,SNR=5.5						
BRTR				sP	sP	06 05 52.8	-4.7
	comp=Z,1.7nm,0.9s,baz=90,slow=4.9,SNR=4.6						
MLR	Muntele Rosu	79.70	315	LR	LR	06 45 40.9	
	comp=Z,60nm,20.2s,MS3.9,baz=312,slow=39						
NB2	NORSAR Subarra	79.76	334	P	P	06 05 55.5	+0.8
	comp=Z,0.7nm,0.6s,mb3.8,baz=53,slow=5.3						
NOA	NORSAR Array B	79.76	334	P	P	06 05 55.6	+0.9
	comp=Z,0.9nm,0.6s,mb3.9,baz=53,slow=5.8,SNR=4.1						
NOA				LR	LR	06 45 40.7	
	comp=Z,68nm,18.3s,MS4.0,baz=35,slow=39						

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*NIED **04** 05:56:00, 25.20N×126.80E, h20km, Mw4.3 Best double couple: M0 3.5×10^15 NP1:φs47°, δ72°, λ82°. NP2:φs251°, δ20°, λ113°.*
*JMA **04** 05:56:48.5±0.2, 25.21N×126.84E, h66km, M3.6*
*IDC **04** 05:56:49.2±3.6, 25.20N×126.90E, h41km±35km, mb3.7/12, mb1 3.8/12, mb1mx3.8/22, ML2.5/1, Error ellipse: s-maj=28.7km s-min=16.4km az=72.0*
*NEIC **04** 05:56:49.0±1.6, 25.17N×126.90E, h42km±17km, mb4.2/3, Error ellipse: s-maj=16.0km s-min=8.6km az=71.0*
ISC 04 05:56:47.9±0.7, **25.16N**±0.06×**126.92E**±0.06, **h50**km±6km, **n32**, σ**0s79**/39, **mb3.9**/15, **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	Kume jima 2	1.17	354	P	P	05 57 08.4	+0.3
JKE				eS	S	05 57 23.5	+0.3
JJT2	Tamagusuku 2	1.23	37	P	P	05 57 10.2	+1.2
NAH1	Naha	1.25	34	P	P	05 57 10.4	+1.1
NAH1				eS	S	05 57 25.8	+0.5
JOGS	Gusukube	1.43	254	P	P	05 57 12.3	+0.3
JAGN	Aguni-jima	1.45	11	P	P	05 57 12.7	+0.4
JMJ	Miyako jima 2	1.52	257	P	P	05 57 12.3	-0.9
JOW	Kunigami	2.06	36	P	P	05 57 21.4	+0.6
	2.3nm,0.3s,baz=173,slow=16,SNR=5.3						
JOW	Kunigami	2.06	36	P	P	05 57 21.6	+0.8
JTJ	Tarama	2.08	256	P	P	05 57 20.8	-0.3
JTJ				eS	S	05 57 46.0	+0.2
JIJ	Ishigaki jima	2.65	253	P	P	05 57 28.4	-0.8
JIJ				eS	S	05 58 00.2	0.0
JKRS	Kuro-shima	2.80	252	P	P	05 57 31.8	+0.4
JTK	Tokunoshima	3.19	34	P	P	05 57 36.3	-0.5
JTK				eS	S	05 58 10.9	-3.0
JMZ	Minamidaito 2	3.94	79	P	P	05 57 43.1	-4.3
JMZ				eS	S	05 58 24.3	-8.6
JAM	Amami Oshima	4.03	36	P	P	05 57 46.8	-1.9
JAM				eS	S	05 58 29.8	-5.4
LUBP	Lubang	12.99	210	eP	P	06 00 01.6	+10
CMAR	Chiang Mai Arr	26.79	261	P	P	06 02 25.6	+0.2
	0.7nm,0.4s,mb3.5,baz=64,slow=7.8,SNR=4.1						
SONM	Songino Array	27.84	330	P	P	06 02 34.1	-0.6
	2.1nm,0.8s,mb3.9,baz=146,slow=8.9,SNR=8.6						
MKAR	Makanchi Array	41.38	313	P	P	06 04 30.6	-0.1
	4.5nm,0.5s,mb4.4,baz=99,slow=10,SNR=38						
MKAR				pP	pP	06 04 42.0	-2.0
	1.4nm,0.5s,baz=97,slow=9.8,SNR=5.9						
ZAL	Zalesovo	42.41	324	P	P	06 04 38.9	-0.1
	0.9nm,0.3s,mb3.8,baz=264,slow=9.2,SNR=2.8						
ZAL	Zalesovo	42.41	324	P	P	06 04 38.9	-0.1
KURK	Kurchatov	44.80	318	eP	P	06 04 57.8	-0.7
	1.7nm,0.4s,mb4.2						
WRAB	Tennant Creek	45.40	170	eP	P	06 05 03.1	-0.5
	1.1nm,0.6s,mb3.9						
WRA	Warramunga Arr	45.41	170	P	P	06 05 04.0	+0.3
	2.1nm,0.7s,mb4.0,baz=352,slow=8.6,SNR=11						
ASAR	Alice Springs	49.00	172	P	P	06 05 32.2	+0.4
	0.6nm,0.5s,mb3.9,baz=355,slow=14,SNR=12						
BVAR	Borovoye Array	50.30	319	P	P	06 05 41.1	-0.3
	1.0nm,0.7s,mb4.0,baz=90,slow=5.9,SNR=4.7						
BRVK	Borovoye	50.37	319	eP	P	06 05 41.1	-0.7
	3.6nm,1.0s,mb4.4						
ILAR	Eielson Array	65.94	28	P	P	06 07 30.3	-0.3
	0.2nm,0.6s,mb3.3,baz=265,slow=5.8,SNR=5.2						
ARCES	ARCESS Array B	70.57	339	P	P	06 07 59.6	+0.3
	0.6nm,0.5s,mb3.8,baz=72,slow=7.7,SNR=4.8						
FINES	FINESS Array B	73.21	330	P	P	06 08 16.6	+1.6
	0.8nm,0.8s,mb3.7,baz=56,slow=5.0,SNR=3.9						
BRTR	Keskin Array B	76.76	308	P	P	06 08 36.5	+0.7
	0.7nm,0.5s,mb3.9,baz=56,slow=4.5,SNR=3.7						
NB2	NORSAR Subarra	79.75	334	P	P	06 08 52.3	+0.5
	3.5nm,1.0s,mb4.2,baz=60,slow=5.0						
NOA	NORSAR Array B	79.75	334	P	P	06 08 52.2	+0.4
	1.4nm,0.8s,mb3.9,baz=54,slow=5.5,SNR=4.2						

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*GUC **04** 06:01:14.1±0.8, 29.11S×67.84W, h140km, ML4.4*
*NEIC **04** 06:01:14.1, 29.11S×67.84W, h140km, mb3.5/1, After GUC.*
ISC 04 06:01:13.9±2.4, **29.13S**±0.06×**67.9W**±0.3, **h144**km±43km, **n8**, σ**0s98**/14, **1D, La Rioja Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	Vallenar	2.56	282	eP	P	06 01 57.3	+1.2
VACH				i S	S	06 02 29.1	+0.8
VACH				AMP		06 02 32.2	
	comp=N,1μm,0.1s						
TLL	Tololo Astrono	2.72	247	eP	P	06 01 59.1	+0.9
TLL				i S	S	06 02 33.9	+2.0
TLL				AMP		06 02 39.1	
	comp=N,539nm,0.5s						
CPCH	Copiapo	2.78	309	⇓iP	P	06 01 58.1	-0.8
CPCH				i S	S	06 02 32.2	-1.2
CPCH				AMP		06 02 39.0	
	comp=E,1μm,0.1s						
LSCH	La Serena	3.00	254	eP	P	06 02 00.9	-1.0
LSCH				i S	S	06 02 37.8	-0.6
CMCH	Combarbala	3.36	232	eP	P	06 02 05.4	-1.1
CMCH				i S	S	06 02 45.9	-0.8
CMCH				AMP		06 02 47.3	
	comp=N,620nm,0.6s						
CPN1	Cerro Paranal	5.01	333	eP	P	06 02 29.1	+0.8
CPN1				i S	S	06 03 25.4	-0.2
TRQA	Tornquist	10.18	153	ePn	P	06 03 30.4	-6.8
SAML	Samuel	20.56	13	eP	P	06 05 43.2	+0.2
	comp=N,2.0nm,1.0s						

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*MOS **04** 06:28:53.5±1.4, 38.99N×14.97E, h198km, mb4.0/10, Error ellipse: s-maj=31.1km s-min=11.0km az=81.1*
*ROM **04** 06:29:00.5±0.3, 38.93N×15.23E, h294km±3km, MD2.9/14, ML3.6, Error ellipse: s-maj=2.1km s-min=1.5km az=90.0*
*CSEM **04** 06:29:01.0±0.1, 38.93N×15.20E, h293km±1km, mb3.4/2, Error ellipse: s-maj=2.1km s-min=1.5km az=109.0*
*IDC **04** 06:29:02.7±1.1, 39.17N×14.93E, h278km±11km, mb3.5/13, mb1 3.5/20, mb1mx3.4/29, Error ellipse: s-maj=14.3km s-min=10.9km az=115.0*
*NEIC **04** 06:29:02.5±0.3, 38.95N×15.23E, h285km±2km, mb3.8/14, Error ellipse: s-maj=6.5km s-min=5.3km az=70.0*
ISC 04 06:29:01.6±0.3, **38.97N**±0.04×**15.24E**±0.05, **h290**km±3km, **n144**, σ**1s09**/143, **mb3.7**/14, **16C-26D, Sicily**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLNA	Salina	0.51	218	⇓iP	P	06 29 39.3	-0.1
	402nm,0.4s						
SLNA	Salina	0.51	218	⇓iP	P	06 29 39.3	-0.1
	402nm,0.4s						
MSRU	Castanea	0.73	163	⇓iP	P	06 29 39.1	-0.9
SCLL	Scilla	0.80	152	eP	P	06 29 39.5	-0.8
	226nm,0.2s						
SCLL	Scilla	0.80	152	eP	P	06 29 39.5	-0.8
	226nm,0.2s						
ATN	Antennamare	0.82	167	eP	P	06 29 39.6	-0.8
GMB	Gambarie	0.92	150	⇓iP	P	06 29 40.6	-0.1
GMB	Gambarie	0.92	150	⇓iPg	P	06 29 40.6	-0.1
GRI	Girifalco	0.94	98	⇓iP	P	06 29 41.0	+0.2
GRI				S	S	06 30 10.0	-1.5
GRI	Girifalco	0.94	98	⇓iPg	P	06 29 41.0	+0.2
MTTG	Motta San Giov	1.03	159	⇓iP	P	06 29 41.2	0.0
MTTG	Motta San Giov	1.03	159	⇓iPg	P	06 29 41.2	0.0
MMME	Mongiuffi-Meli	1.03	179	⇓iP	P	06 29 41.4	+0.2
SOI	Samo	1.10	144	⇓iP	P	06 29 41.3	-0.3
SOI	Samo	1.10	144	⇓iPg	P	06 29 41.4	-0.3
TDS	Terranova Siba	1.10	51	eP	P	06 29 42.0	+0.4
TDS	Terranova Siba	1.10	51	ePg	P	06 29 42.0	+0.3
MNO	Monte Soro	1.12	203	eP	P	06 29 42.5	+0.8
	323nm,0.2s						
MNO	Monte Soro	1.12	203	ePg	P	06 29 42.5	+0.8
MNO	Monte Soro	1.12	203	eP	P	06 29 42.5	+0.8
	323nm,0.2s						
CUC	Castrocucco	1.12	23	⇓iP	P	06 29 41.6	-0.1
MGR	Morigerati	1.20	12	⇓iP	P	06 29 42.2	0.0
	67nm,0.6s						
MGR	Morigerati	1.20	12	⇓iP	P	06 29 42.2	0.0
	67nm,0.6s						
GIB	Gibilmanna	1.36	225	⇓iP	P	06 29 42.7	-0.5
	135nm,0.5s						
GIB	Gibilmanna	1.36	225	⇓iP	P	06 29 42.7	-0.5
	135nm,0.5s						
CSLB	Castelbuono	1.38	222	eP	P	06 29 42.7	-0.6
	167nm,0.5s						
CSLB	Castelbuono	1.38	222	ePg	P	06 29 42.7	-0.6
CSLB	Castelbuono	1.38	222	eP	P	06 29 42.7	-0.6
	167nm,0.5s						
ORI	Oriolo Calabro	1.44	40	eP	P	06 29 44.1	+0.4
	143nm,0.4s						
ORI	Oriolo Calabro	1.44	40	ePg	P	06 29 44.1	+0.4
ORI	Oriolo Calabro	1.44	40	eP	P	06 29 44.1	+0.4
	143nm,0.4s						
SLCN	Sala Consilina	1.46	12	⇑iP	P	06 29 44.4	+0.6
	44nm,0.3s						
SLCN	Sala Consilina	1.46	12	⇑iPg	P	06 29 44.4	+0.6
SLCN	Sala Consilina	1.46	12	⇑iP	P	06 29 44.4	+0.6
	44nm,0.3s						
SGO	Sicignano	1.59	2	⇓iP	P	06 29 45.3	+0.6
	50nm,0.4s						
SGO	Sicignano	1.59	2	⇓iP	P	06 29 45.3	+0.6
	50nm,0.4s						
VAE	Valguarnera	1.62	204	P	P	06 29 45.9	+1.1
	17nm,0.3s,baz=141,slow=5.9,SNR=12						
VAE	Valguarnera	1.62	204	P	P	06 29 46.0	+1.1
USI	Ustica	1.63	262	eP	P	06 29 44.8	-0.1
	73nm,0.5s						
USI	Ustica	1.63	262	ePg	P	06 29 44.8	-0.2
USI	Ustica	1.63	262	eP	P	06 29 44.8	-0.1
	73nm,0.5s						
AGST	Augusta-Monte	1.71	180	⇓iP	P	06 29 45.1	-0.4
	248nm,0.4s						
AGST	Augusta-Monte	1.71	180	⇓iPg	P	06 29 45.1	-0.4
AGST	Augusta-Monte	1.71	180	⇓iP	P	06 29 45.1	-0.4
	248nm,0.4s						
CLLN	Colliano	1.75	2	eP	P	06 29 46.4	+0.6
ISOR	Termini	1.76	337	⇑iP	P	06 29 45.5	-0.4
MRLC	Muro Lucano	1.80	6	⇑iP	P	06 29 47.1	+0.9
	9.0nm,0.4s						
MRLC	Muro Lucano	1.80	6	⇑iPg	P	06 29 47.1	+0.9
MRLC	Muro Lucano	1.80	6	⇑iP	P	06 29 47.1	+0.9
	9.0nm,0.4s						
SSY	Sortino	1.81	184	eP	P	06 29 46.6	+0.3
MEU	Monte Lauro	1.88	187	eP	P	06 29 47.2	+0.4
	319nm,0.3s						
MEU	Monte Lauro	1.88	187	ePg	P	06 29 47.2	+0.4
MEU	Monte Lauro	1.88	187	eP	P	06 29 47.2	+0.4
	319nm,0.3s						
PZI	Palazzolo	1.92	187	⇓iP	P	06 29 47.4	+0.3
	158nm,0.5s						
PZI	Palazzolo	1.92	187	⇓iPg	P	06 29 47.4	+0.3
CRJA	Costa Raja	2.10	237	eP	P	06 29 48.9	+0.3
CRJA	Costa Raja	2.10	237	ePg	P	06 29 48.9	+0.2
CLTB	Caltabellotta	2.11	230	⇓iP	P	06 29 48.4	-0.3
	123nm,0.3s						
CLTB	Caltabellotta	2.11	230	⇓iP	P	06 29 48.4	-0.3
	123nm,0.3s						
MFNL	Monte Finestre	2.16	238	eP	P	06 29 49.1	-0.1
MFNL				S	S	06 30 25.5	-0.7
MFNL	Monte Finestre	2.16	238	ePg	P	06 29 49.1	-0.1
MFNL				eSg	S	06 30 25.5	-0.7
MMGO	Monte Magaggia	2.20	234	eP	P	06 29 48.9	-0.6
MMGO	Monte Magaggia	2.20	234	ePg	P	06 29 48.9	-0.6
VENT	Ventotene	2.30	323	⇑iP	P	06 29 50.3	-0.1
SGG	Gregorio Mates	2.50	345	⇑iP	P	06 29 52.8	+0.5
SGG	Gregorio Mates	2.50	345	⇑iPg	P	06 29 52.8	+0.5
LCI	Lecce	2.61	57	ePg	P	06 29 52.9	-0.3
LCI	Lecce	2.61	57	ePg	P	06 29 52.9	-0.3
SDI	San Donato	2.95	339	⇑iPg	P	06 29 57.0	+0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SDI	San Donato	2.95	339	⇑iPg	P	06 29 57.0	+0.5
AQU	L'Aquila	3.66	338	ePn	P	06 30 05.4	+1.3
AQU	L'Aquila	3.66	338	ePn	P	06 30 05.4	+1.3
TERO	Teramo	3.86	342	⇑iPn	P	06 30 06.8	+0.6
TERO	Teramo	3.86	342	⇑iPn	P	06 30 06.8	+0.6
NRCA	Norcia	4.18	338	ePn	P	06 30 10.5	+0.7
NRCA	Norcia	4.18	338	ePn	P	06 30 10.5	+0.6
GRFL	Gerfalco	5.27	324	⇑iPn	P	06 30 23.0	+0.5
GRFL	Gerfalco	5.27	324	⇑iPn	P	06 30 23.0	+0.5
PGF	Pioggiola	5.93	309	eP	P	06 30 29.6	-0.8
	20nm,0.6s						
VLC	Villacollemand	6.33	327	eP	P	06 30 35.2	-0.1
VLC	Villacollemand	6.33	327	eP	P	06 30 35.2	-0.1
SBF	Sospel	7.63	312	eP	P	06 30 48.7	-2.6
MABI	Malga Bissina	7.89	335	ePn	P	06 30 56.5	+1.9
FRF	La Foret Royal	7.93	308	eP	P	06 30 52.6	-2.4
	38nm,0.7s						
IDI	Anoyia	8.54	112	P	P	06 31 06.3	+3.7
	1.7nm,0.3s,baz=68,slow=16,SNR=8.2						
MBDF	Montbardon	8.54	315	eP	P	06 31 04.9	+2.3
	21nm,0.6s						
DAVOX	Davos	8.74	335	P	P	06 31 05.6	+0.6
	1.1nm,0.3s,baz=321,slow=14,SNR=4.6						
BNI	Bardonecchia	8.80	316	eP	P	06 31 11.3	+5.5
LPG	La Plagne	9.06	319	eP	P	06 31 10.9	+1.9
	10nm,0.4s						
LPL	La Plagne	9.09	319	eP	P	06 31 11.0	+1.7
	13nm,0.6s						
ORIF	Oris-en-Rattie	9.16	313	eP	P	06 31 11.9	+1.7
	9.1nm,0.6s						
VIVF	Saint-Julien-l	9.82	310	eP	P	06 31 19.7	+1.3
	24nm,1.0s						
GERES	GERESS Array B	9.94	354	P	P	06 31 17.4	-2.4
	0.4nm,0.3s,baz=283,slow=13,SNR=4.8						
LASF	Ste Croix	9.94	305	eP	P	06 31 16.9	-2.9
	15nm,0.8s						
CABF	La Chapelle	10.17	322	eP	P	06 31 21.5	-1.2
KHC	Kasperske Hory	10.23	354	eP	P	06 31 15.5	-7.9
MLR	Muntele Rosu	10.27	47	P	P	06 31 28.8	+4.9
	0.6nm,0.3s,baz=329,slow=2.2,SNR=8.1						
MLR	Muntele Rosu	10.27	47	P	P	06 31 28.8	+4.9
MLR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
HINF	Hinteralfeld	10.74	328	eP	P	06 31 27.8	-1.9
SMF	Signal de Mont	11.35	316	eP	P	06 31 36.1	-1.2
LOR	Lormes	11.73	319	eP	P	06 31 41.7	-0.4
BGF	Bois d'Agland	11.84	314	eP	P	06 31 44.2	+0.8
	comp=Z,6.3nm,0.5s						
RJF	Les Rejaudoux	11.99	306	eP	P	06 31 46.4	+1.2
ETSF	Etsaut	12.57	293	eP	P	06 31 53.9	+1.6
	comp=Z,3.7nm,0.3s						
SJPF	Ste Jean	13.10	294	eP	P	06 31 58.2	-0.5
MFF	Saint Martin d	13.62	309	eP	P	06 32 05.5	+0.5
BRTR	Keskin Array B	14.27	81	P	P	06 32 16.8	+3.9
	comp=Z,0.2nm,0.3s,baz=276,slow=11,SNR=5.2						
ESDC	Sonseca Array	14.88	279	P	P	06 32 18.1	-2.0
	comp=Z,0.5nm,0.3s,baz=71,slow=13,SNR=3.2						
AKASG	Malin Array Be	15.33	36	P	P	06 32 24.1	-1.1
	comp=Z,2.2nm,0.3s,baz=232,slow=9.9,SNR=11						
AKASG	Malin Array Be	15.33	36	P	P	06 32 24.1	-1.1
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.3s						
EKA	Eskdalemuir Ar	20.50	329	P	P	06 33 17.0	-1.4
	comp=Z,2.7nm,0.4s,baz=143,slow=11,SNR=17						
EKA	Eskdalemuir Ar	20.50	329	P	P	06 33 17.0	-1.3
EKA				pmax	pmax		
	comp=Z,3.0nm,0.4s						
HFS	Hagfors	21.21	358	P	P	06 33 23.9	-1.4
	comp=Z,2.1nm,0.6s,mb3.6,baz=172,slow=10,SNR=6.9						
HFS	Hagfors	21.21	358	P	P	06 33 23.9	-1.4
HFS				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NOA	NORSAR Array B	22.24	355	P	P	06 33 33.8	-1.4
	comp=Z,1.5nm,1.0s,mb3.3,baz=166,slow=11,SNR=3.0						
NOA	NORSAR Array B	22.24	355	P	P	06 33 33.8	-1.4
NOA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
FINES	FINESS Array B	23.48	13	P	P	06 33 46.5	-0.3
	comp=Z,3.0nm,0.3s,mb4.1,baz=188,slow=8.9,SNR=39						
FINES	FINESS Array B	23.48	13	P	P	06 33 46.5	-0.3
FINES				pmax	pmax		
	comp=Z,3.0nm,0.3s						
KAF	Kangasniemi	24.15	13	ep	P	06 33 52.7	-0.2
	comp=Z,0.4nm,0.3s,mb3.2						
ARCES	ARCESS Array B	31.12	7	P	P	06 34 53.1	-2.0
	comp=Z,1.0nm,0.3s,mb3.8,baz=190,slow=8.6,SNR=34						
ARCES	ARCESS Array B	31.12	7	P	P	06 34 53.2	-1.9
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KEV	Kevo	31.48	8	ep	P	06 34 56.0	-2.2
	comp=Z,0.5nm,0.3s,mb3.5						
KEV	Kevo	31.48	8	eP	P	06 34 56.0	-2.2
KEV				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.8						
DBIC	Dimbokro	36.92	215	P	P	06 35 44.9	+0.1
	comp=Z,1.3nm,0.3s,mb3.8,baz=103,slow=7.4,SNR=19						
DBIC	Dimbokro	36.92	215	P	P	06 35 44.9	+0.1
DBIC				pmax	pmax		
	comp=Z,1.0nm,0.3s						
DBIC	Dimbokro	36.92	215	eP	P	06 35 45.4	+0.6
	comp=Z,1.7nm,0.4s,mb3.8						
ZAL	Zalesovo	48.24	48	P	P	06 37 16.0	+1.0
	comp=Z,1.6nm,0.3s,mb3.8,baz=49,slow=2.4,SNR=3.7						
ZAL	Zalesovo	48.24	48	P	P	06 37 16.0	+1.0
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ZAL	Zalesovo	48.24	48	P	P	06 37 16.0	+1.0
MKAR	Makanchi Array	48.40	58	P	P	06 37 17.6	+1.2
	comp=Z,1.8nm,0.5s,mb3.6,baz=285,slow=6.9,SNR=18						
MKAR				PcP	PcP	06 38 39.0	+0.6
	comp=Z,0.4nm,0.5s,baz=256,slow=3.2,SNR=4.0						
MKAR	Makanchi Array	48.40	58	P	P	06 37 17.6	+1.2
MKAR						06 38 39.0	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR	Makanchi Array	48.40	58	P	P	06 37 17.6	+1.2
MKAR				PcP	PcP	06 38 39.0	+0.6
SCHQ	Schefferville	55.04	316	P	P	06 38 03.6	-1.4
	comp=Z,4.6nm,0.9s,mb3.9,baz=64,slow=11,SNR=3.8						
SONM	Songino Array	63.12	49	P	P	06 39 01.5	+1.3
	comp=Z,0.6nm,0.5s,mb3.5,baz=288,slow=7.8,SNR=6.0						
BDFB	Brasilia	80.20	241	P	P	06 40 43.2	+1.7
	comp=Z,1.6nm,1.0s,mb3.7,baz=45,slow=4.3,SNR=6.7						
BDFB	Brasilia	80.20	241	P	P	06 40 43.2	+1.7
BDFB				pmax	pmax		
	comp=Z,2.0nm,1.0s						
TXAR	Lajitas Array	91.36	310	P	P	06 41 37.1	+1.3
	comp=Z,0.3nm,0.8s,mb3.2,baz=45,slow=3.5,SNR=3.6						
LPAZ	La Paz	95.05	253	P	P	06 41 53.5	+0.5
	comp=Z,0.9nm,0.4s,mb4.2,baz=69,slow=3.7,SNR=10						
LPAZ	La Paz	95.05	253	P	P	06 41 53.5	+0.5
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.4s						
LPAZ	La Paz	95.05	253	eP	P	06 41 53.0	0.0
	comp=Z,0.9nm,0.4s,mb4.2						
MDZ	Mendoza	105.71	240	eP	Pdif	06 42 48.4	+8.0
MAW	Mawson	112.16	162	eP	Pdif	06 43 17.6	+10
WRA	Warramunga Arr	124.69	88	PKP	PKPdf	06 47 29.1	+2.0
	comp=Z,0.2nm,0.5s,baz=320,slow=1.8,SNR=6.7						
ASAR	Alice Springs	126.36	93	PKP	PKPdf	06 47 32.8	+2.6
	comp=Z,0.1nm,0.3s,baz=315,slow=1.3,SNR=2.9						

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*NEIC **04** 06:46:20.8, 32.67S×71.64W, h10km, ML2.6(GUC), After GUC.*

GUC 04 06:46:20.8±0.9**, 32.67S×71.64W, h10**km±5km**, MD3.7, ML2.6, 3C-5D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.35	180	eP	Pg	06 46 28.4	+0.3
IHA				iS	Sg	06 46 33.8	+0.8
LCCH	Las Cruces	0.81	176	⇓iP	Pb	06 46 35.1	-1.4
JACH	Jahuel	0.89	91	iP	Pb	06 46 37.4	-0.4
JACH				iS	Sb	06 46 49.3	-0.2
PEL	Peldehue	0.93	121	eP	Pb	06 46 37.8	-0.9
PEL				iS	Sb	06 46 50.8	-0.1
PEL				AMP		06 46 53.9	
	comp=N,419nm,0.3s						
PUEX	Pudahuel	1.07	136	eP	Pb	06 46 40.1	-0.9
PUEX				iS	Sb	06 46 55.5	+0.6
PUEX				AMP		06 46 57.5	
	comp=E,366nm,0.6s						
RCDM	Rinconada Maip	1.08	140	⇑iP	Pb	06 46 40.2	-0.9
RCDM				iS	Sb	06 46 55.0	-0.1
RCDM				AMP		06 46 56.7	
	comp=N,353nm,0.1s						
STL	Santa Lucia	1.14	133	eP	Pb	06 46 41.3	-0.8
STL				iS	Sb	06 46 57.2	+0.4
STL				AMP		06 47 02.1	
	comp=N,57nm,0.1s						
TACH	Talagante	1.15	149	⇓iP	Pb	06 46 41.1	-1.1
DSCH	Colegio Aleman	1.16	129	⇑iP	Pb	06 46 41.9	-0.7
DSCH				iS	Sb	06 46 57.6	+0.2
DSCH				AMP		06 46 58.9	
	comp=E,382nm,0.3s						
CLCH	Cerro Calan	1.18	128	⇓iP	Pb	06 46 42.2	-0.6
CLCH				iS	Sb	06 46 58.1	+0.2
CLCH				AMP		06 47 03.6	
	comp=E,233nm,0.4s						
ANTU	Antumapu	1.23	137	eP	Pb	06 46 43.0	-0.7
ANTU				iS	Sb	06 46 59.8	+0.2
ANTU				AMP		06 47 04.1	
	comp=E,180nm,0.2s						
FSR	Penalolen	1.24	131	⇓iP	Pb	06 46 43.1	-0.7
FSR				iS	Sb	06 46 59.7	+0.1
FSR				AMP		06 47 04.0	
	comp=E,127nm,0.8s						
FCH	Farellones	1.31	120	iP	Pb	06 46 44.5	-0.6
FCH				iS	Sb	06 47 01.8	-0.1
FCH				AMP		06 47 04.9	
	comp=E,181nm,0.2s						
PCH	Pirque	1.34	135	eP	Pb	06 46 44.6	-1.0
PCH				iS	Sb	06 47 03.0	+0.3
CHCH	Chadas Angostu	1.51	147	eP	Pn	06 46 47.4	-0.7
CMCH	Combarbala	1.59	20	⇑iP	Pn	06 46 48.5	-0.7
CMCH				iS	Sb	06 47 10.0	+0.1
CMCH				AMP		06 47 12.7	
	comp=E,436nm,0.4s						
LMEL	Las Melosas	1.68	135	⇓iP	Pn	06 46 50.5	-0.1
LMEL				iS	Sn	06 47 12.9	+0.6
LMEL				AMP		06 47 18.1	
	comp=N,181nm,0.1s						
SFDO	San Fernando	2.01	165	eP	Pn	06 46 54.8	-0.4

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*SYO **04** 06:47:23.8, 3.54N×128.55E, h15km, MB5.0, MS4.3*

*BJI **04** 06:47:24.0, 3.13N×128.72E, h49km, mB5.1, mb5.0, Ms4.8, Msz4.5*

*MOS **04** 06:47:25.3±0.9, 3.57N×128.35E, h33km, mb5.2/12, Error ellipse: s-maj=21.1km s-min=10.6km az=110.1*

*NEIC **04** 06:47:25.9±0.2, 3.54N×128.56E, mb5.1/31, MS4.4/7, Error ellipse: s-maj=8.7km s-min=5.1km az=80.0*

*IDC **04** 06:47:26.3±2.2, 3.51N×128.47E, h29km±14km, mb4.4/18, mb1 4.4/18, mb1mx4.4/22, MS4.3/16, Ms1 4.4/16, ms1mx4.2/24, Error ellipse: s-maj=25.1km s-min=10.5km az=72.0*

*HRVD **04** 06:47:26.0±0.2, 3.63N×128.63E, h13km, MW5.2/69, Centroid moment Tensor Solution. LP body waves: s56,c80;Mantle waves: s69,c124; Half duration: 1s0 Moment tensor: Scale 10^16Nm; M_{rr}5.32±.20; $M_{\theta\theta}$0.51±.12; $M_{\phi\phi}$-5.83±.15; $M_{r\theta}$-0.07±.35; $M_{\theta\phi}$0.14±.10; $M_{\phi r}$4.93±.44; Best double couple: $M_0$7.44×10^16 NP1:ϕ_s178°,δ24°,λ89°. NP2:ϕ_s359°,δ66°,λ90°. Principal axes: T 7.19, Plg69°, Azm270°; N .51, Plg0°, Azm179°; P -7.7, Plg21°, Azm89°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 04 06:47:23.8±1.2**, 3.51N**±0.03**×128.56E**±0.05**, h25**km±8km**, h28**km±1.4km**:pP-P, n149, σ1s17**/158**, mb5.0**/67**, MS4.4**/44**, 11C-9D, North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KCP	Kidapawan	4.90	315	⇓eP	Pn	06 48 43.1	+5.2
BUKP	Musuan	5.56	321	eP	Pn	06 48 49.4	+2.2
PAGZ	Pagadian	6.71	310	eP	Pn	06 49 04.9	+1.5
KEDI	Kedomdong	17.20	226	eP	P	06 51 25.5	+1.1
	156nm,0.7s						
RATI	Rata	17.79	227	⇑eP	P	06 51 32.6	+1.0
	199nm,0.7s						
KELI	Kelakatan	18.23	230	⇓eP	P	06 51 31.9	-5.4
SRDI	Scrawed	18.67	230	⇑eP	P	06 51 38.2	-4.4
FITZ	Fitzroy Crossi	21.67	188	eP	P	06 52 13.2	-1.6
	11nm,1.0s,mb4.2						
FITZ				iS	S	06 56 14.2	+5.8
FITZ	Fitzroy Crossi	21.67	188	P	P	06 52 13.5	-1.3
	3.2nm,0.3s,mb4.2,baz=20,slow=7.5,SNR=31						
PMG	Port Moresby	22.55	125	P	P	06 52 25.4	+1.6
	15nm,0.6s,mb4.6,baz=301,slow=8.1,SNR=12						
PMG				LR	LR	07 00 58.5	
	comp=Z,1μm,19.9s,MS4.3,baz=310,slow=36						
JOW	Kunigami	23.19	359	P	P	06 52 33.6	+3.7
	40nm,0.7s,mb5.0,baz=208,slow=8.0,SNR=6.5						
QIZ	Qiongzhong	23.93	312	P	P	06 52 36.9	-0.2
QIZ				S	S	06 56 51.2	+2.3
QIZ				SS	SS	06 57 40.1	+0.2
QIZ				AMB	AMB		
	comp=Z,680nm,8.7s						
QIZ				LR	LR		
	comp=N,2μm,15.8s,MS4.7						
QIZ				LR	LR		
	comp=E,1μm,18.3s,MS4.7						
QIZ				LR	LR		
	comp=Z,2μm,25.1s						
WRAB	Tennant Creek	23.98	166	P	P	06 52 30.5	-7.1
	comp=Z,150nm,0.9s,mb5.4,SNR=20						
WRAB	Tennant Creek	23.98	166	eP	P	06 52 37.8	+0.2
	comp=Z,38nm,1.0s,mb4.8						
WRA	Warramunga Arr	23.99	167	P	P	06 52 38.9	+1.2
	comp=Z,13nm,0.7s,mb4.5,baz=346,slow=10,SNR=60						
WRA				S	S	06 56 59.5	+9.5
	comp=Z,8.1nm,1.1s,baz=349,slow=18,SNR=4.7						
WB2	Warramunga Arr	23.99	166	eP	P	06 52 38.5	+0.8
WB2				eS	S	06 56 50.0	0.0
WB2				e		07 05 38.9	
GZH	Guangzhou	24.40	324	P	P	06 52 43.2	+1.5
GZH				AMB	AMB		
	comp=Z,511nm,3.5s						
GZH				LR	LR		
	comp=N,1μm,15.5s,MS4.7						
GZH				LR	LR		
	comp=E,1μm,13.1s,MS4.7						
GZH				LR	LR		
	comp=Z,2μm,16.2s,MS4.6						
PENI	Pendagan	25.04	249	⇑eP	P	06 52 48.7	+0.8
	comp=Z,148nm,0.8s,mb5.2						
PASI	Pasiripis	25.07	246	⇓eP	P	06 52 48.6	+0.4
MBWA	Marble Bar	26.00	199	eP	P	06 52 56.2	-0.6
	comp=Z,18nm,0.9s,mb4.6						
MBWA				LR	LR		
	comp=Z,809nm,21.0s,MS4.2						
ASAR	Alice Springs	27.51	169	P	P	06 53 10.8	+0.1
	comp=Z,2.2nm,0.6s,mb4.0,baz=360,slow=8.4,SNR=19						
ASAR				PcP	PcP	06 56 28.6	-0.3
	comp=Z,1.6nm,0.6s,baz=350,slow=2.2,SNR=5.1						
ASAR				S	S	06 57 50.7	+2.3
	comp=Z,1.7nm,0.8s,baz=351,slow=17,SNR=3.2						
ASAR				ScP		07 00 05.3	
	comp=Z,2.7nm,1.1s,baz=350,slow=4.4,SNR=6.0						
ASAR				LR	LR	07 04 30.2	
	comp=Z,234nm,19.0s,MS3.8,baz=341,slow=37						
ASPA	Alice Springs	27.51	169	eP	P	06 53 10.8	+0.1
ASPA				eS	S	06 57 46.7	-1.7
ASPA				e		07 05 55.2	
SSE	Sheshan	28.30	347	P	P	06 53 19.7	+1.9
SSE				S	S	06 58 05.1	+4.0
SSE				PCS		07 00 14.1	
SSE				AMB	AMB		
	comp=Z,26nm,0.9s,mb4.9						
SSE				AMB	AMB		
	comp=Z,256nm,5.8s						
SSE				LR	LR		
	comp=N,126nm,25.8s,MS4.0						
SSE				LR	LR		
	comp=E,458nm,25.7s,MS4.0						
SSE				LR	LR		
	comp=Z,232nm,21.7s,MS3.7						
KKTK	Khon Kaen	28.32	299	P	P	06 53 18.5	+0.5
CTA	Charters Tower	29.19	144	LR	LR	07 05 25.7	
	comp=Z,316nm,20.9s,MS3.9,baz=329,slow=37						
NJ2	Nanjing	29.82	343	eP	P	06 53 31.4	0.0
NJ2				AP	pP	06 53 41.0	+2.4
NJ2				PP	PP	06 54 28.9	+0.2
NJ2				S	S	06 58 25.0	-0.3
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,150nm,5.0s						
NJ2				LR	LR		
	comp=N,910nm,13.3s						
NJ2				LR	LR		
	comp=E,2μm,24.1s						
NJ2				LR	LR		
	comp=Z,2μm,23.5s						
WHN	Wuhan	30.05	335	eP	P	06 53 34.0	+0.5
WHN				S	S	06 58 36.0	+7.0
WHN				LR	LR		
	comp=N,627nm,14.0s,MS4.5						
WHN				LR	LR		
	comp=E,269nm,12.0s,MS4.5						
WHN				LR	LR		
	comp=Z,1μm,17.2s						
NST	Nakhon Sawan	30.47	295	P	P	06 53 38.0	+0.8
	comp=Z,78nm,0.8s,mb5.5						
NANT	Nan	31.19	301	⇑P	P	06 53 42.0	-1.6
	comp=Z,62nm,0.8s,mb5.5						
BDT	Bhumibol Dam	32.04	297	P	P	06 53 52.0	+0.9
ENH	Enshi	32.15	328	eP	P	06 53 50.5	-1.4
	comp=Z,17nm,0.8s,mb4.9						
CM31	Chiang Mai Arr	32.56	299	eP	P	06 53 56.5	+0.9
	comp=Z,7.0nm,0.6s,mb4.8						
CMAR	Chiang Mai Arr	32.56	299	P	P	06 53 56.2	+0.6
	comp=Z,12nm,0.8s,mb4.9,baz=105,slow=6.8,SNR=36						
CMAR				PcP	PcP	06 56 41.9	-0.1
	comp=Z,0.8nm,0.3s,baz=90,slow=1.8,SNR=3.4						
CMAR				ScP		07 00 24.6	
	comp=Z,3.5nm,0.9s,baz=149,slow=2.1,SNR=18						
CMAR				LR	LR	07 07 56.2	
	comp=Z,522nm,19.4s,MS4.2,baz=105,slow=38						
CHG	Chiang Mai	32.70	300	⇑P	P	06 53 57.2	+0.4
	comp=Z,35nm,0.7s,mb5.4						
MAJO	Matsushiro	34.05	14	eP	P	06 54 05.9	-2.5
	comp=Z,10.0nm,0.6s,mb4.9						
MAT	Matsushiro	34.05	14	P	P	06 54 06.3	-2.1
MAT				S	S	06 59 26.0	-5.4
MAT	Matsushiro	34.05	14	P	P	06 54 06.0	-2.4
MAT				eS	S	06 59 26.0	-5.4
MAT				LR	LR		
	comp=Z,1μm,19.0s,MS4.6						
FORT	Forrest	34.10	181	eP	P	06 54 07.5	-1.3
	comp=Z,49nm,0.6s,mb5.6						
XAN	Xi'an	35.46	331	P	P	06 54 19.9	-0.5
XAN				AP	pP	06 54 29.2	+1.4
XAN				S	S	06 59 52.6	-0.6
XAN				AMB	AMB		
	comp=Z,35nm,1.1s,mb5.2						
XAN				LR	LR		
	comp=N,364nm,20.1s,MS4.4						
XAN				LR	LR		
	comp=E,580nm,22.7s,MS4.4						
XAN				LR	LR		
	comp=Z,542nm,23.5s,MS4.2						
CD2	Chengdu	35.91	322	eP	P	06 54 24.6	+0.3
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
KLBR	Kellerberrin	36.39	196	eP	P	06 54 26.8	-1.5
	comp=Z,23nm,1.0s,mb5.1						
MUN	Mundaring	37.19	197	eP	P	06 54 34.4	-0.7
	comp=Z,6.0nm,0.7s,mb4.5						
STKA	Stephens Creek	37.31	162	eP	P	06 54 35.9	-0.2
	comp=Z,20nm,0.9s,mb5.0						
STKA	Stephens Creek	37.31	162	P	P	06 54 36.0	0.0
	comp=Z,3.2nm,0.4s,mb4.5,baz=342,slow=9.2,SNR=17						
STKA				LR	LR	07 10 30.2	
	comp=Z,857nm,21.7s,MS4.5,baz=240,slow=37						
NWAO	Narrogin (SRO)	37.79	196	P	P	06 54 39.5	-0.6
	comp=Z,9.0nm,0.7s,mb4.6,baz=30,slow=7.8,SNR=4.3						
NWAO	Narrogin (SRO)	37.79	196	eP	P	06 54 38.9	-1.1
	comp=Z,8.2nm,0.8s,mb4.5						
BJT	Baijiatuau	38.03	344	eP	P	06 54 41.7	-0.3
	comp=Z,30nm,0.8s,mb5.1						
BJT				LR	LR		
	comp=Z,617nm,21.0s,MS4.4						
BJI	Beijing	38.05	345	eP	P	06 54 42.1	-0.1
BJI				S	S	07 00 27.2	-5.7
BJI				SS	SS	07 03 14.9	+4.3
BJI				AMB	AMB		
	comp=Z,29nm,0.7s,mb5.1						
BJI				AMB	AMB		
	comp=Z,107nm,3.1s						
BJI				LR	LR		
	comp=N,312nm,15.3s,MS4.6						
BJI				LR	LR		
	comp=E,702nm,17.9s,MS4.6						
BJI				LR	LR		
	comp=Z,296nm,29.0s						
SNY	Shenyang	38.41	354	⇓P	P	06 54 48.7	+3.5
SNY				S	S	07 00 37.2	-1.0
SNY				LR	LR		
	comp=N,380nm,13.5s,MS4.6						
SNY				LR	LR		
	comp=E,520nm,15.0s,MS4.6						
SNY				LR	LR		
	comp=Z,530nm,13.8s,MS4.5						
LZH	Lanzhou	39.63	328	eP	P	06 54 56.8	+1.3
LZH				PP	PP	06 56 31.9	+1.5
LZH				S	S	07 01 00.0	+3.2
LZH				SS	SS	07 03 48.0	+2.5
LZH				AMB	AMB		
	comp=Z,152nm,1.7s,mb5.5						
LZH				LR	LR		
	comp=E,2μm,15.2s						
LZH				LR	LR		
	comp=Z,2μm,16.5s,MS5.0						
HHC	Hu-ho-hao-te	40.20	340	eP	P	06 55 00.1	0.0
HHC				PP	PP	06 56 38.8	+2.6
HHC				PCP	PcP	06 57 01.7	-2.8
HHC				PCS		07 00 52.1	
HHC				S	S	07 01 07.4	+2.1
HHC				AMB	AMB		
	comp=Z,23nm,1.3s,mb4.8						
HHC				AMB	AMB		
	comp=Z,208nm,4.9s						
HHC				LR	LR		
	comp=N,388nm,13.0s,MS4.5						
HHC				LR	LR		
	comp=E,252nm,13.7s,MS4.5						
HHC				LR	LR		
	comp=Z,370nm,16.7s,MS4.3						
CN2	Changchun	40.22	357	eP	P	06 55 01.4	+1.2
CN2				eS	S	07 01 09.0	+3.6
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
CN2				LR	LR		
	comp=N,800nm,17.0s,MS4.8						
CN2				LR	LR		
	comp=E,800nm,17.0s,MS4.8						
CN2				LR	LR		
	comp=Z,1μm,19.0s,MS4.7						
MDJ	Mudanjiang	40.95	1	P	P	06 55 06.4	+0.3
MDJ				PCP	PcP	06 57 07.6	+0.7
MDJ				S	S	07 01 15.5	-0.8
MDJ				SS	SS	07 04 16.8	+2.8
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,75nm,5.8s						
MDJ				LR	LR		
	comp=N,200nm,15.8s,MS4.5						
MDJ				LR	LR		
	comp=E,449nm,15.2s,MS4.5						
MDJ				LR	LR		
	comp=Z,443nm,13.1s,MS4.5						
SHL	Shillong	41.48	305	⇑iP	P	06 55 11.0	+0.3
ASAJ	Asahikawa	42.30	15	P	P	06 55 17.5	+0.2
	comp=Z,4.4nm,0.3s,mb4.6,baz=146,slow=7.3,SNR=4.2						
GTA	Gaotai	44.24	328	eP	P	06 55 33.6	+0.5
GTA				PP	PP	06 57 18.7	+1.0
GTA				PCP	PcP	06 57 19.9	+1.9
GTA				S	S	07 02 05.3	+0.7
GTA				SS	SS	07 05 13.5	-1.3
GTA				AMB	AMB		
	comp=Z,118nm,7.3s						
GTA				LR	LR		
	comp=N,375nm,18.0s,MS4.5						
GTA				LR	LR		
	comp=E,383nm,17.6s,MS4.5						
GTA				LR	LR		
	comp=Z,523nm,18.4s,MS4.5						
YSS	Yuzh-Sakhalins	44.99	14	P	P	06 55 41.7	+2.6
YSS				eS	S	07 02 16.0	+0.6
YSS						07 05 38.0	
YSS				smax			

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=E,400nm,14.0s						
YSS				MLR	MLR		
	comp=Z,400nm,17.0s,MS4.4						
YSS				MLR	MLR		
	comp=E,400nm,16.0s						
HIA	**Hailar**	**46.20**	**352**	P	**P**	**06 55 46.5**	**-2.2**
	comp=E,17nm,1.6s,mb4.7						
GUN	**Gumba**	**47.33**	**305**	eP	**P**	**06 55 58.0**	**+0.1**
PKI	**Pulchoki**	**47.59**	**305**	eP	**P**	**06 55 59.5**	**-0.4**
	comp=E,26nm,0.9s,mb5.3						
KKN	**Kakani**	**47.77**	**305**	eP	**P**	**06 55 59.9**	**-1.5**
	comp=E,126nm,1.4s,mb5.7						
DMN	**Daman**	**47.85**	**305**	eP	**P**	**06 56 01.5**	**-0.4**
	comp=E,48nm,0.8s,mb5.6						
SONM	**Songino Array**	**48.10**	**340**	P	**P**	**06 56 03.7**	**+0.1**
	comp=E,2.8nm,1.0s,mb4.2,baz=153,slow=8.3,SNR=11						
SONM				ScP		07 01 23.5	
	comp=E,0.8nm,0.6s,baz=153,slow=5.5,SNR=5.8						
KOLN	**Koldanda**	**49.15**	**304**	eP	**P**	**06 56 12.3**	**+0.3**
	comp=E,95nm,0.7s,mb5.9						
HYB	**Hyderabad**	**50.91**	**290**	i P	**P**	**06 56 25.5**	**0.0**
HYB				ePP	PP	06 58 24.0	+1.3
HYB				eS	**S**	**07 03 44.0**	**+4.9**
HYB				eScS	ScS	07 06 12.0	+0.5
HYB				e		07 07 44.0	
HYB	**Hyderabad**	**50.91**	**290**	eP	**P**	**06 56 25.5**	**0.0**
BHPL	**Bhopal**	**53.13**	**296**	eP	**P**	**06 56 42.6**	**+0.5**
BHPL				e		06 56 43.1	
	comp=Z,26nm,0.8s						
JOSI	**Joshimath**	**53.44**	**306**	eP	**P**	**06 56 44.8**	**+0.4**
AGRA	**Agra**	**53.73**	**301**	eP	**P**	**06 56 45.8**	**-0.6**
AGRA				eP		06 56 46.1	
AGRA				e		06 56 47.0	
	comp=Z,49nm,0.5s						
WMQ	**Urumqi**	**53.96**	**324**	P	**P**	**06 56 47.5**	**-0.4**
WMQ				PP	PP	06 58 51.0	+0.2
WMQ				S	**S**	**07 04 21.0**	**+0.6**
WMQ				SS	SS	07 08 02.0	+0.7
WMQ				AMB	AMB		
	comp=Z,28nm,1.0s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,86nm,8.0s						
WMQ				LR	LR		
	comp=N,2µm,20.0s,MS5.1						
WMQ				LR	LR		
	comp=E,501nm,18.0s,MS5.1						
WMQ				LR	LR		
	comp=Z,516nm,18.0s,MS4.6						
ASOR	**Ausora**	**54.32**	**303**	eP	**P**	**06 56 47.4**	**-3.4**
DDI	**Dehra Dun**	**54.58**	**305**	eP	**P**	**06 56 51.9**	**-0.8**
DDI				e		06 57 12.2	
SONA	**Sohna**	**54.75**	**302**	eP	**P**	**06 56 53.3**	**-0.7**
SONA				e		06 56 54.5	
	comp=Z,51nm,0.6s						
NDI	**New Delhi**	**54.77**	**303**	eP	**P**	**06 56 51.5**	**-2.6**
AYAN	**Aya Nagar**	**54.78**	**303**	eP	**P**	**06 56 52.7**	**-1.5**
AYAN				e		06 56 55.9	
	comp=Z,36nm,2.3s						
KUDL	**Kundal**	**55.22**	**302**	eP	**P**	**06 56 56.2**	**-1.2**
KUDL				e		06 56 57.9	
	comp=Z,50nm,0.6s						
PET	**Petropavlovsk**	**55.24**	**22**	eP	**P**	**06 57 03.7**	**+6.5**
PET				e		06 59 08.5	
PET				eS	**S**	**07 04 38.8**	**+1.3**
PET				pmax	pmax		
	comp=Z,100nm,15.7s						
PET				smax			
	comp=E,300nm,15.8s						
PET				MLR	MLR		
	comp=Z,200nm,17.7s,MS4.2						
BOD	**Bodaibo**	**55.36**	**351**	eP	**P**	**06 56 56.6**	**-1.4**
KKR	**Kurukshetra**	**55.48**	**304**	eP	**P**	**06 56 59.9**	**+0.6**
POO	**Poona**	**55.50**	**290**	⇑iP	**P**	**06 56 58.0**	**-1.6**
	comp=Z,58nm,0.9s,mb5.6						
POO				e		07 07 19.5	
KHET	**Khetri**	**55.78**	**302**	eP	**P**	**06 57 00.8**	**-0.6**
KHET				e		06 57 04.0	
	comp=Z,73nm,0.9s						
KHET				eS	**S**	**07 04 45.0**	**-0.1**
THN	**Thein Dam**	**57.16**	**307**	eP	**P**	**06 57 10.6**	**-0.7**
	comp=Z,29nm,0.8s,mb5.4						
YAK	**Yakutsk**	**58.39**	**1**	deP	**P**	**06 57 18.9**	**-0.6**
YAK				pmax	pmax		
	comp=Z,60nm,0.7s,mb5.7						
YAK				MLR	MLR		
	comp=Z,200nm,17.0s,MS4.3						
YAK	**Yakutsk**	**58.39**	**1**	eP	**P**	**06 57 18.9**	**-0.6**
	comp=Z,55nm,0.6s,mb5.8						
YAK				LR	LR		
	comp=Z,290nm,22.0s,MS4.3						
MA2	**Magadan**	**58.49**	**13**	eP	**P**	**06 57 22.4**	**+2.2**
MA2				pmax	pmax		
	comp=Z,29nm,1.1s,mb5.2						
MA2				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.0						
MKAR	**Makanchi Array**	**58.78**	**325**	P	**P**	**06 57 22.1**	**-0.3**
	comp=Z,5.7nm,0.5s,mb4.8,baz=112,slow=8.1,SNR=69						
MKAR				pP	pP	06 57 31.0	+0.9
	comp=Z,25nm,0.5s,baz=118,slow=8.4,SNR=34						
MKAR				ScP		07 02 09.7	
	comp=Z,1.5nm,0.8s,baz=114,slow=3.8,SNR=4.0						
MKAR				LR	LR	07 24 16.6	
	comp=Z,484nm,19.7s,MS4.6,baz=125,slow=38						
MKAR	**Makanchi Array**	**58.78**	**325**	i P	**P**	**06 57 22.1**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.5s						
MKAR	**Makanchi Array**	**58.78**	**325**	P	**P**	**06 57 22.1**	**-0.3**
MKAR				pP	pP	06 57 31.0	+0.9
MKAR				ScP		07 02 09.7	
MKAR				LR	LR	07 24 16.6	
KSH	**Kashi**	**59.49**	**315**	eP	**P**	**06 57 27.0**	**-0.5**
KSH				ePCP	PcP	06 58 12.7	-1.9
KSH				ePP	PP	06 59 41.0	+0.3
KSH				ePPP	Px	07 01 27.8	
KSH				eSCP		07 02 12.7	
KSH				ePCS		07 02 15.0	
KSH				S	**S**	**07 05 38.0**	**+4.4**
KSH				ePS	PS	07 05 55.7	+4.1
KSH				eSCS	ScS	07 07 13.2	+0.9
KSH				eSS	SS	07 09 33.9	+3.5
KSH				AMB	AMB		
	comp=Z,290nm,3.1s						
KSH				LR	LR		
	comp=N,240nm,11.4s						
KSH				LR	LR		
	comp=E,210nm,5.8s						
JASL	**Jaisalmer**	**59.72**	**299**	eP	**P**	**06 57 28.4**	**-0.8**
KZA	**Kyzart**	**61.01**	**317**	P	**P**	**06 57 40.3**	**+2.5**
	SNR=5.6						
TKM2	**Tokmak 2**	**61.12**	**318**	P	**P**	**06 57 38.8**	**+0.2**
	SNR=9.5						
UCH	**Uchtor**	**61.57**	**317**	P	**P**	**06 57 42.6**	**+1.0**
	SNR=14						
ZAL	**Zalesovo**	**61.62**	**332**	LR	LR	07 26 34.7	
	comp=E,281nm,18.0s,MS4.5,baz=240,slow=38						
FRU	**Bishkek**	**61.74**	**318**	eP	**P**	**06 57 42.0**	**-0.8**
FRU				pmax	pmax		
	comp=Z,130nm,2.8s,mb5.6						
AAK	**Ala-Archa**	**61.75**	**317**	c iP	**P**	**06 57 41.7**	**-1.1**
AAK				pmax	pmax		
	comp=Z,20nm,2.0s,mb4.9						
AAK				MLR	MLR		
	comp=Z,300nm,18.0s,MS4.5						
AAK	**Ala-Archa**	**61.75**	**317**	eP	**P**	**06 57 42.2**	**-0.6**
	comp=Z,26nm,1.6s,mb5.1						
USP	**Ospenovka**	**62.00**	**318**	P	**P**	**06 57 44.1**	**-0.4**
	SNR=9.8						
AML	**Almayashu**	**62.10**	**317**	P	**P**	**06 57 46.3**	**+1.1**
	SNR=10.0						
EKS2	**Erkin-Say**	**62.24**	**317**	P	**P**	**06 57 46.5**	**+0.4**
	SNR=11						
NVS	**Novosibirsk**	**62.90**	**332**	eP	**P**	**06 57 46.6**	**-3.6**
NVS				pmax	pmax		
	comp=N,8.0nm,1.1s						
NVS				pmax	pmax		
	comp=E,11nm,1.1s						
NVS				pmax	pmax		
	comp=Z,23nm,1.1s,mb5.2						
KURK	**Kurchatov**	**62.91**	**327**	ceP	**P**	**06 57 49.6**	**-0.8**
KURK	**Kurchatov**	**62.91**	**327**	eP	**P**	**06 57 48.4**	**-2.0**
	comp=Z,16nm,0.7s,mb5.3						
KURK				e		06 57 58.6	
KURK				LR	LR		
	comp=Z,58nm,20.0s,MS3.8						
TIXI	**Tiksi**	**68.05**	**0**	eP	**P**	**06 58 21.8**	**-1.3**
TIXI				e		07 00 52.7	
TIXI				eS	S	07 07 25.1	+5.6
TIXI				pmax	pmax		
	comp=Z,24nm,2.0s,mb4.9						
TIXI				MLR	MLR		
	comp=Z,400nm,20.0s,MS4.6						
BVAR	**Borovoye Array**	**68.50**	**327**	P	**P**	**06 58 25.0**	**-1.2**
	comp=Z,8.6nm,0.6s,mb4.8,baz=121,slow=8.6,SNR=38						
BVAR				pP	pP	06 58 34.1	+0.2
	comp=Z,12nm,0.6s,baz=141,slow=7.0,SNR=15						
BRVK	**Borovoye**	**68.57**	**327**	eP	**P**	**06 58 25.3**	**-1.3**
	comp=Z,21nm,0.6s,mb5.2						
BRVK				e	pP	06 58 34.5	+0.2
ZRNK	**Zerenda**	**69.24**	**326**	eP	**P**	**06 58 29.5**	**-1.3**
	comp=Z,17nm,0.7s,mb5.1						
ZRNK				e	pP	06 58 38.5	0.0
CASY	**Casey**	**70.83**	**188**	eP	**P**	**06 58 39.8**	**-0.4**
MIR	**Mirnyy**	**74.38**	**194**	⇑eP	**P**	**06 59 02.2**	**+1.1**
MIR				pmax	pmax		
	comp=Z,45nm,1.8s,mb5.1						
SVE	**Sverdlovsk**	**75.10**	**328**	⇓eP	**P**	**06 59 03.9**	**-1.6**
SVE				eS	S	07 08 29.0	-12
SVE				pmax	pmax		
	comp=Z,50nm,2.8s,mb5.0						
SVE				MLR	MLR		
	comp=N,100nm,12.0s,MS5.0						
SVE				MLR	MLR		
	comp=E,400nm,12.0s,MS5.0						
SVE				MLR	MLR		
	comp=Z,500nm,12.0s,MS5.0						
ARU	**Arti**	**76.10**	**327**	⇓iP	**P**	**06 59 10.0**	**-1.1**
ARU				e	pP	06 59 17.6	-1.3
ARU				e		07 02 00.9	
ARU				eS	S	07 08 51.0	-0.8
ARU				e		07 09 14.9	
ARU				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
ARU				MLR	MLR		
	comp=Z,200nm,19.0s,MS4.5						
ARU				MLR	MLR		
	comp=E,200nm,21.0s						
ARU	**Arti**	**76.10**	**327**	eP	**P**	**06 59 10.1**	**-1.0**
	comp=E,9.4nm,0.5s,mb5.0						
IMA	**Indian Mountai**	**81.85**	**24**	eP	**P**	**06 59 44.1**	**+2.0**
	comp=E,26nm,0.8s,mb5.2						
PPT	**Papeete**	**83.31**	**108**	eS	S	07 09 54.1	-14
PPT				eSS	SS	07 15 32.6	-4.3
PPT				eL		07 22 31.7	
PPT				eR		07 25 27.6	
	comp=E,489nm,30.5s,baz=278						
MCK	**McKinley**	**83.55**	**26**	P	**P**	**06 59 50.4**	**-0.5**
	comp=E,4.5nm,0.9s,mb4.6						
MCK				LR	LR		
	comp=Z,155nm,21.0s,MS4.4						
SML	**Sawmill**	**83.66**	**28**	eP	**P**	**06 59 52.9**	**+1.3**
SBA	**Scott Base**	**83.87**	**172**	eP	**P**	**06 59 53.9**	**+1.5**
	comp=Z,6.5nm,1.1s,mb4.7						
TBI	**Tubuai**	**84.03**	**114**	eS	S	07 10 00.2	-15
TBI				eSS	SS	07 15 48.2	+1.1
TBI				eR		07 26 27.6	
	comp=Z,494nm,32.8s,baz=283						
COLA	**College**	**84.11**	**25**	eP	**P**	**06 59 53.8**	**+0.1**
COLA	**College**	**84.11**	**25**	eP	**P**	**06 59 55.1**	**+1.3**
COLA				LR	LR		
	comp=Z,187nm,19.0s,MS4.5						
MAW	**Mawson**	**84.19**	**201**	eP	**P**	**06 59 53.9**	**-0.1**
	comp=Z,5.4nm,0.9s,mb4.7						
MAW	**Mawson**	**84.19**	**201**	P	**P**	**06 59 54.7**	**+0.7**
	comp=Z,1.8nm,0.6s,mb4.3,baz=56,slow=6.9,SNR=6.5						
MAW				LR	LR	07 33 05.7	
	comp=Z,181nm,18.2s,MS4.5,baz=256,slow=33						
DJNS	**Zahran al Janu**	**84.20**	**287**	P	**P**	**06 59 57.0**	**+1.8**
TATS	**Tathlith**	**84.20**	**289**	P	**P**	**06 59 52.3**	**-3.0**
ILAR	**Eielson Array**	**84.52**	**25**	P	**P**	**06 59 56.2**	**+0.4**
	comp=Z,3.8nm,1.2s,mb4.4,baz=250,slow=4.9,SNR=26						
KIV	**Kislovodsk**	**84.61**	**314**	eP	**P**	**06 59 55.2**	**-1.5**
KIV				e		07 03 08.9	
KIV				ePPP	PPP	07 05 02.1	-7.7
KIV				e		07 10 17.1	
KIV				eSS	SS	07 15 54.1	-1.1
KIV				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.7						
DIV	**Divide**	**84.85**	**29**	P	**P**	**06 59 57.1**	**-0.4**
	comp=Z,27nm,0.6s,mb5.6						
NAMS	**An Nimas**	**85.41**	**289**	P	**P**	**07 00 03.2**	**+1.9**
HILS	**Ha'il**	**85.53**	**297**	P	**P**	**07 00 03.2**	**+1.4**
BLJS	**Baljurashi**	**85.96**	**290**	P	**P**	**07 00 06.2**	**+2.1**
SOC	**Sochi**	**86.76**	**313**	eP	**P**	**07 00 06.4**	**-1.0**
SOC				e	pP	07 00 13.0	-2.3
SOC				e		07 03 30.3	
SOC				e		07 10 29.7	
SOC				eS	S	07 10 39.5	-2.2
SOC				eSS	SS	07 16 22.3	-4.5
SOC				pmax	pmax		
	comp=Z,16nm,0.7s,mb5.4						
SOC				pmax	pmax		
	comp=N,29nm,1.1s						
SOC				pmax	pmax		
	comp=E,16nm,1.2s						
OBN	**Obninsk**	**88.29**	**325**	eP	**P**	**07 00 14.1**	**-0.3**
OBN				i PS	Px	07 12 25.5	
OBN				eSS	SS	07 16 48.3	-0.5
OBN				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.2						
OBN				MLR	MLR		
	comp=Z,300nm,22.0s,MS4.7						
ARCES	**ARCESS Array B**	**91.28**	**340**	P	**P**	**07 00 27.4**	**-0.8**
	comp=Z,1.8nm,0.5s,mb4.7,baz=81,slow=6.5,SNR=16						
ARCES				LR	LR	07 44 41.1	
	comp=Z,261nm,19.4s,MS4.7,baz=204,slow=38						
KMBO	**Kilima Mbogo**	**91.37**	**269**	P	**P**	**07 00 30.8**	**+1.0**
	comp=Z,0.9nm,0.8s,mb4.2,baz=178,slow=11,SNR=2.8						
KMBO				LR	LR	07 36 19.1	
	comp=Z,106nm,21.8s,MS4.2,baz=95,slow=32						
BRTR	**Keskin Array B**	**91.56**	**310**	LR	LR	07 52 07.6	
	comp=Z,76nm,19.2s,MS4.2,baz=45,slow=42						
SYO	**Syowa Base**	**92.88**	**201**	⇑P	**P**	**07 00 36.5**	**+1.0**
SYO	**Syowa Base**	**92.88**	**201**	⇓PcP	PcP	07 00 37.7	+1.3
SYO	**Syowa Base**	**92.88**	**201**	⇓pP	pP	07 00 42.5	-0.9
FINES	**FINESS Array B**	**92.88**	**332**	P	**P**	**07 00 34.6**	**-1.0**
	comp=Z,1.1nm,0.6s,mb4.4,baz=72,slow=6.0,SNR=6.7						
FINES				LR	LR	07 50 37.4	
	comp=Z,154nm,20.2s,MS4.5,baz=63,slow=41						
DLBC	**Dease Lake**	**92.99**	**31**	LR	LR	07 37 07.4	
	comp=Z,278nm,20.9s,MS4.7,baz=119,slow=32						
AKASG	**Malin Array Be**	**93.21**	**321**	P	**P**	**07 00 36.0**	**-1.4**
	comp=Z,1.8nm,0.6s,mb4.7,baz=64,slow=5.5,SNR=9.5						
AKASG				LR	LR	07 48 12.1	
	comp=Z,146nm,20.2s,MS4.4,baz=65,slow=39						
BBB	**Bella Bella**	**95.38**	**37**	LR	LR	07 35 43.0	
	comp=Z,159nm,20.5s,MS4.5,baz=236,slow=30						
RKT	**Rikitea**	**97.31**	**113**	eS	S	07 11 59.4	-16
RKT				eR		07 32 28.4	
	comp=Z,503nm,39.2s						
NOA	**NORSAR Array B**	**99.79**	**334**	LR	LR	07 52 43.5	
	comp=Z,181nm,18.1s,MS4.6,baz=45,slow=39						
TXAR	**Lajitas Array**	**120.28**	**53**	PKP	PKPdf	07 06 16.5	-1.7
	comp=Z,1.0nm,1.1s,baz=180,slow=1.3,SNR=5.1						
JCT	**Junction City**	**122.81**	**50**	ePKPdf	PKPdf	07 06 20.7	-2.3
DBIC	**Dimbokro**	**132.41**	**282**	PKP	PKPdf	07 06 37.5	-4.6
	comp=Z,2.3nm,0.6s,baz=149,slow=2.1,SNR=4.7						
DBIC	**Dimbokro**	**132.41**	**282**	PKIKP	PKPdf	07 06 37.4	-4.6
LPAZ	**La Paz**	**159.26**	**129**	PKPbc	PKPdf	07 07 34.8	+9.4
	comp=Z,0.9nm,1.0s,baz=170,slow=2.7,SNR=4.0						
LPAZ				PKPab	PKPab	07 08 02.9	+2.4
	comp=Z,1.4nm,0.7s,baz=169,slow=5.2,SNR=5.1						

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*NEIC **04** 06:51:50.0, 32.70S×71.67W, h26km, ML3.5(GUC), After GUC.*

GUC 04 06:51:50.0±0.7**, 32.70S**×**71.67W, h26**km±6km**, MD4.1, ML3.5, 4C-4D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.33**	**176**	⇑iP	Pb	06 51 57.5	0.0
IHA				i S	Sb	06 52 03.0	+0.4
LCCH	**Las Cruces**	**0.78**	**174**	⇓iP	Pb	06 52 04.0	-0.9
LCCH				i S	Sb	06 52 14.3	-0.7
JACH	**Jahuel**	**0.91**	**89**	⇑iP	Pb	06 52 06.6	-0.4
JACH				i S	Sb	06 52 19.0	+0.3
PEL	**Peldehue**	**0.94**	**119**	eP	Pb	06 52 07.1	-0.5
PEL				i S	Sb	06 52 20.1	+0.5
PEL				AMP		06 52 22.7	
	comp=N,3µm,0.3s						
PUEX	**Pudahuel**	**1.06**	**134**	eP	Pn	06 52 09.0	-0.4
PUEX				i S	Sb	06 52 23.2	-0.1
PUEX				AMP		06 52 26.7	
	comp=E,4µm,0.4s						
RCDM	**Rinconada Maip**	**1.07**	**138**	eP	Pn	06 52 08.8	-0.7
RCDM				i S	Sb	06 52 23.1	-0.3
RCDM				AMP		06 52 26.1	
	comp=E,2µm,0.2s						
TACH	**Talagante**	**1.13**	**147**	⇑iP	Pn	06 52 10.0	-0.4
TACH				i S	Sb	06 52 24.7	-0.4
STL	**Santa Lucia**	**1.13**	**131**	eP	Pn	06 52 10.2	-0.3
STL				AMP		06 52 33.1	
	comp=E,356nm,0.6s						
DSCH	**Colegio Aleman**	**1.16**	**127**	⇑iP	Pn	06 52 10.8	+0.1
DSCH				i S	Sn	06 52 26.0	+0.2
DSCH				AMP		06 52 27.8	
	comp=E,3µm,0.4s						
CLCH	**Cerro Calan**	**1.18**	**127**	⇓iP	Pn	06 52 11.1	0.0
CLCH				i S	Sn	06 52 26.8	+0.4
CLCH				AMP		06 52 28.9	
	comp=N,2µm,0.5s						
ANTU	**Antumapu**	**1.23**	**135**	eP	Pn	06 52 11.5	-0.2
ANTU				i S	Sn	06 52 28.1	+0.4
ANTU				AMP		06 52 33.2	
	comp=E,2µm,0.4s						
FSR	**Penalolen**	**1.23**	**129**	eP	Pn	06 52 11.8	-0.1
FSR				i S	Sn	06 52 28.8	+1.0
FSR				AMP		06 52 36.8	
	comp=N,1µm,0.4s						
FCH	**Farellones**	**1.32**	**119**	⇓iP	Pn	06 52 13.3	+0.3
FCH				i S	Sn	06 52 30.9	+1.0
FCH				AMP		06 52 32.4	
	comp=E,922nm,0.2s						
PCH	**Pirque**	**1.34**	**134**	eP	Pn	06 52 13.4	+0.1
CHCH	**Chadas Angostu**	**1.50**	**146**	eP	Pn	06 52 16.0	+0.4
CHCH				i S	Sn	06 52 34.8	+0.4
CMCH	**Combarbala**	**1.62**	**21**	⇓iP	Pn	06 52 17.5	+0.1
CMCH				i S	Sn	06 52 39.0	+1.3
CMCH				AMP		06 52 41.7	
	comp=E,4µm,0.4s						
CACH	**El Canelo**	**1.67**	**148**	eP	Pn	06 52 19.0	+0.9
LMEL	**Las Melosas**	**1.68**	**133**	eP	Pn	06 52 18.8	+0.6
LMEL				AMP		06 52 46.4	
	comp=N,819nm,0.3s						
CICH	**Cipreses**	**1.93**	**148**	eP	Pn	06 52 21.8	0.0
SFDO	**San Fernando**	**1.99**	**164**	eP	Pn	06 52 22.5	-0.1
TLL	**Tololo Astrono**	**2.63**	**17**	eP	Pn	06 52 32.7	+0.9
TLL				AMP		06 53 18.8	
	comp=E,620nm,0.3s						

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*IDC **04** 07:10:10.7±5.3, 26.05S×71.09E, mb3.8/5, mb1 4.0/5, mb1mx3.8/16, Error ellipse: s-maj=149.0km s-min=36.5km az=54.0*

*NEIC **04** 07:10:11.9±1.2, 26.14S×71.05E, h10km, mb4.6/1, Error ellipse: s-maj=39.1km s-min=22.8km az=88.0*

ISC 04 07:10:10.0±1.5**, 26.1S**±0.2×**71.1E**±0.4**, h10**km**, n6, σ1.10**/6**, mb3.9**/6**, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**51.92**	**34**	P	**P**	**07 19 20.6**	**-0.8**
	0.9nm,0.3s,mb4.1,baz=225,slow=7.3,SNR=5.7						
ASAR	**Alice Springs**	**56.54**	**102**	P	**P**	**07 19 54.6**	**-0.5**
	1.4nm,1.1s,mb3.9,baz=256,slow=6.2,SNR=5.2						
WRA	**Warramunga Arr**	**58.05**	**98**	P	**P**	**07 20 06.6**	**+0.7**
	0.6nm,0.7s,mb3.8,baz=254,slow=6.2,SNR=4.5						
QSPA	**South Pole Qui**	**64.01**	**180**	P	**P**	**07 20 45.3**	**-0.2**
	4.6nm,1.1s,mb4.4						
MKAR	**Makanchi Array**	**73.27**	**8**	P	**P**	**07 21 42.8**	**-0.6**
	0.8nm,0.7s,mb3.8,baz=198,slow=7.7,SNR=5.0						
SONM	**Songino Array**	**80.17**	**23**	P	**P**	**07 22 23.3**	**+1.4**
	0.5nm,0.8s,mb3.5,baz=214,slow=5.2,SNR=3.1						

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*NEIC **04** 07:12:57.3±0.7, 78.43N×5.69E, h10km, mb4.2/1, Error ellipse: s-maj=19.6km s-min=9.7km az=193.0*

*IDC **04** 07:12:58.0±1.3, 78.69N×6.45E, mb3.4/3, mb1 3.8/4, mb1mx3.5/20, ML3.2/1, MS4.1/1, Ms1 4.1/1, ms1mx2.7/21, Error ellipse: s-maj=51.4km s-min=19.4km az=47.0*

*CSEM **04** 07:12:58.1±0.1, 78.44N×5.45E, h30km, mb4.2/1, Error ellipse: s-maj=6.9km s-min=3.6km az=21.0*

*NAO **04** 07:13:00.6±4.0, 78.44N×7.76E, ML3.4*

*BER **04** 07:13:04.7±4.1, 78.18N×8.17E, h0km±63km, ML3.4(NAO)*

ISC 04 07:12:55.7±0.7**, 78.3N**±0.1×**5.6E**±0.3**, h10**km**, n19, σ1.05**/21**, mb3.6**/4**, MS4.1**/1**, 1D, Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**2.21**	**88**	Pn	**Pn**	**07 13 31.6**	**-1.4**
	baz=267,slow=11						
SPA0				Lg		07 13 57.3	
	baz=258,slow=22						
SPA0	**Spitsbergen Ar**	**2.21**	**88**	Pn	**Pn**	**07 13 31.6**	**-1.5**
	SNR=449						
HSP	**Hornsund**	**2.50**	**116**	eP	**Pn**	**07 13 37.3**	**+0.1**
HSP				e(S)	**Sn**	**07 14 03.2**	**-4.9**
DAG	**Danmarks Havn**	**5.44**	**266**	⇓iP	**Pn**	**07 14 19.3**	**+0.4**
	6.8nm,0.7s						
DAG				i		07 15 19.9	
ARA0	**ARCESS Array S**	**10.29**	**138**	Pn	**P**	**07 15 26.1**	**-0.3**
	baz=342,slow=11						
ARA0				Sn	**S**	**07 17 11.9**	**-11**
	baz=348,slow=18						
ARA0	**ARCESS Array S**	**10.29**	**138**	Pn	**P**	**07 15 26.0**	**-0.3**
	SNR=5.9						
ARA0	**ARCESS Array S**	**10.29**	**138**	Sn	**S**	**07 17 11.9**	**-11**
	SNR=8.1						
ARCES	**ARCESS Array B**	**10.29**	**138**	Pn	**P**	**07 15 26.5**	**+0.1**
	0.3nm,0.3s,baz=340,slow=12,SNR=9.6						
ARCES				Sn	**S**	**07 17 12.1**	**-11**
	0.5nm,0.3s,baz=348,slow=21,SNR=4.3						
ARCES	**ARCESS Array B**	**10.29**	**138**	Sn	**S**	**07 17 12.1**	**-11**
SUMG	**Summit**	**12.13**	**265**	eP	**P**	**07 15 49.7**	**-1.7**
SUMG	**Summit**	**12.13**	**265**	eP	**P**	**07 15 49.7**	**-1.6**
ILAR	**Eielson Array**	**36.21**	**340**	P	**P**	**07 19 59.1**	**-0.8**
	0.5nm,0.8s,mb3.5,baz=352,slow=6.6,SNR=5.2						
KURK	**Kurchatov**	**37.48**	**92**	eP	**P**	**07 20 11.3**	**+0.6**
KURK				e		07 20 20.0	
KURK	**Kurchatov**	**37.48**	**92**	eP	**P**	**07 20 11.4**	**+0.7**
MKAR	**Makanchi Array**	**41.97**	**91**	P	**P**	**07 20 48.7**	**+1.0**
	0.8nm,0.7s,mb3.5,baz=341,slow=6.6,SNR=8.0						
MKAR	**Makanchi Array**	**41.97**	**91**	P	**P**	**07 20 48.7**	**+0.9**
AAK	**Ala-Archa**	**44.37**	**100**	eP	**P**	**07 21 11.1**	**+3.8**
	2.7nm,0.7s,mb4.1						
PDAR	**Pinedale Array**	**53.24**	**304**	LR	LR	07 43 39.4	
	comp=Z,157nm,18.6s,MS4.1,baz=301,slow=35						
TXAR	**Lajitas Array**	**65.27**	**295**	P	**P**	**07 23 41.0**	**+1.7**
	0.2nm,0.6s,mb3.4,baz=36,slow=6.2,SNR=3.8						

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*IDC **04** 07:24:45.1±1.9, 53.21N×164.18W, mb3.3/3, mb1 3.6/4, mb1mx3.4/23, ML2.9/1, Error ellipse: s-maj=39.5km s-min=30.3km az=35.0*

*NEIC **04** 07:24:51.6, 53.79N×163.14W, h3km, ML3.1(AEIC), After AEIC.*

ISC 04 07:24:49.3±1.4**, 53.70N**±0.04×**163.07W**±0.05**, h9**km±11km**, n31, σ0.63**/42**, mb3.4**/3**, Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSLS	**Shishaldin Sou**	**1.15**	**332**	P	**Pb**	**07 25 11.2**	**+0.3**
FALS	**False Pass**	**1.18**	**350**	P	**Pb**	**07 25 11.3**	**0.0**
FALS				S	**Sb**	**07 25 27.0**	**+0.5**
WESE	**West Dahl East**	**1.18**	**311**	P	**Pb**	**07 25 11.5**	**+0.1**
WESE				S	**Sb**	**07 25 26.7**	**+0.1**
SSLW	**Shishaldin Wes**	**1.24**	**330**	P	**Pb**	**07 25 12.7**	**+0.3**
SSLW				S	**Sb**	**07 25 28.3**	**0.0**
SSLN	**Shishaldin Nor**	**1.24**	**334**	P	**Pb**	**07 25 12.6**	**+0.2**
WESN	**West Dahl Nort**	**1.24**	**315**	P	**Pb**	**07 25 12.9**	**+0.4**
WESS	**West Dahl Sout**	**1.25**	**309**	P	**Pb**	**07 25 12.2**	**-0.4**
WESS				S	**Sb**	**07 25 28.7**	**+0.2**
WFAR	**Faris Peak**	**1.31**	**310**	P	**Pb**	**07 25 13.1**	**-0.5**
WPOG	**Pogromni**	**1.33**	**313**	P	**Pb**	**07 25 13.9**	**-0.1**
DRIA	**Deer Island**	**1.35**	**20**	P	**Pb**	**07 25 13.5**	**-0.9**
WTUG	**Tugumak**	**1.38**	**327**	P	**Pn**	**07 25 14.2**	**-0.6**
BALA	**Baldy Mountain**	**1.50**	**6**	P	**Pn**	**07 25 17.1**	**+0.5**
BALA				S	**Sb**	**07 25 36.7**	**+0.7**
DTNA	**Dutton South F**	**1.53**	**18**	P	**Pn**	**07 25 16.4**	**-0.5**
DTNA				S	**Sb**	**07 25 36.6**	**-0.1**
DOL	**Dolgoi Island**	**1.61**	**25**	P	**Pn**	**07 25 17.3**	**-0.8**
DOL				S	**Sb**	**07 25 37.2**	**-1.9**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AKA	**Akutan**	**1.66**	**286**	P	**Pn**	**07 25 18.8**	**+0.1**
AHB	**Akutan Harbor**	**1.68**	**285**	P	**Pn**	**07 25 19.4**	**+0.3**
HAG	**Hague Volcano**	**1.75**	**22**	P	**Pn**	**07 25 20.4**	**+0.2**
HAG				S	**Sn**	**07 25 42.9**	**+0.1**
AKLV	**Akutan Long Va**	**1.77**	**286**	P	**Pn**	**07 25 19.9**	**-0.5**
AKLV				S	**Sn**	**07 25 41.4**	**-1.7**
AKGG	**Akutan Green G**	**1.80**	**287**	P	**Pn**	**07 25 21.6**	**+0.8**
LVA	**Lava Point**	**1.81**	**286**	P	**Pn**	**07 25 21.8**	**+0.8**
PVV	**Pavlof Volcano**	**1.83**	**23**	P	**Pn**	**07 25 20.9**	**-0.3**
PVV				S	**Sn**	**07 25 45.7**	**+0.9**
PS1A	**Pavlof South-1**	**1.89**	**24**	P	**Pn**	**07 25 22.1**	**0.0**
PS1A				S	**Sn**	**07 25 46.4**	**+0.3**
UNV	**Unalaska Valle**	**2.04**	**275**	P	**Pn**	**07 25 24.0**	**-0.3**
MTBL	**Makushin Table**	**2.16**	**279**	P	**Pn**	**07 25 26.2**	**+0.3**
MSW	**Makushin Switc**	**2.21**	**277**	P	**Pn**	**07 25 26.8**	**+0.1**
SDPT	**Sand Point**	**2.24**	**41**	P	**Pn**	**07 25 27.1**	**+0.1**
MGOD	**Makushin Gods**	**2.26**	**274**	P	**Pn**	**07 25 27.3**	**-0.1**
ILAR	**Eielson Array**	**13.79**	**30**	Pn	**P**	**07 28 11.2**	**+4.2**
	0.0nm,0.3s,baz=228,slow=12,SNR=3.4						
NVAR	**Mina Array Bea**	**33.98**	**98**	P	**P**	**07 31 36.4**	**+1.5**
	0.3nm,0.7s,mb3.4,baz=297,slow=4.0,SNR=3.4						
TXAR	**Lajitas Array**	**48.99**	**95**	P	**P**	**07 33 37.1**	**-0.8**
	0.2nm,0.8s,mb3.2,baz=297,slow=6.0,SNR=2.9						
MKAR	**Makanchi Array**	**65.55**	**317**	P	**P**	**07 35 29.6**	**-5.2**
	0.5nm,0.8s,mb3.6,baz=45,slow=6.9,SNR=3.8						

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*NIED **04** 08:06:00, 28.00N×128.00E, h5^{km}, Mw4.6 Best double couple: $M_0$9.31×10^{15} NP1:ϕ_s100°, δ75°, λ-28°. NP2: ϕ_s198°, δ63°, λ-163°.*
*IDC **04** 08:06:19.8±0.7, 27.88N×127.80E, mb4.0/10, mb1 4.3/11, mb1mx4.1/24, ML4.4/1, MS3.9/15, Ms1 4.0/15, ms1mx3.7/30, Error ellipse: s-maj=29.0km s-min=12.3km az=69.0*
*JMA **04** 08:06:20.6±0.3, 28.04N×128.02E, h18^{km}±4^{km}, M4.6*
*NEIC **04** 08:06:21.4±4.7, 27.89N×127.84E, h11^{km}±30^{km}, mb4.6/9, MW4.6(NIED), Error ellipse: s-maj=14.5km s-min=5.9km az=67.0*
*BJI **04** 08:06:22.6, 27.90N×128.14E, h21^{km}, mB4.7, mb4.5, Ms4.6, Msz4.3*
ISC 04 08:06:23.7±0.3**, 27.93N**±0.02×**128.15E**±0.04**, h33**^{km}**, n57, σ1^{s}49**/58**, mb4.3**/21**, MS4.0**/17**, 1C-1D, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.72**	**101**	P	**P**	**08 06 36.6**	**-0.8**
JTK				S	**S**	**08 06 48.4**	**+1.0**
JIH	**Iheya**	**0.91**	**190**	P	**P**	**08 06 39.1**	**-0.9**
JIH				S	**S**	**08 06 52.4**	**+0.4**
JOW	**Kunigami**	**1.10**	**174**	Pn	**Pn**	**08 06 42.5**	**-0.4**
	459nm,0.3s,baz=351,slow=15,SNR=490						
JOW				LR	LR	08 06 54.1	
	comp=Z,2μm,19.8s,baz=338,slow=30						
JOW				Sn	**Sn**	**08 06 59.2**	**+2.2**
	597nm,0.3s,baz=299,slow=29,SNR=14						
JOW	**Kunigami**	**1.10**	**174**	P	**P**	**08 06 42.3**	**-0.5**
JOW				S	**S**	**08 06 57.8**	**+0.9**
JAM	**Amami Oshima**	**1.37**	**69**	P	**P**	**08 06 46.2**	**-0.5**
JAM				S	**S**	**08 07 04.8**	**+0.9**
JAGN	**Aguni-jima**	**1.56**	**211**	P	**P**	**08 06 48.7**	**-0.7**
JAGN				S	**S**	**08 07 08.9**	**+0.3**
NAH1	**Naha**	**1.77**	**193**	P	**P**	**08 06 53.1**	**+0.7**
NAH1				S	**S**	**08 07 16.6**	**+2.7**
JJT2	**Tamagusuku 2**	**1.82**	**191**	P	**P**	**08 06 52.4**	**-0.7**
JJT2				S	**S**	**08 07 16.6**	**+1.4**
JKE	**Kume jima 2**	**2.00**	**218**	P	**P**	**08 06 54.2**	**-1.6**
JKE				S	**S**	**08 07 18.9**	**-1.0**
JNU	**Nakatsue**	**5.69**	**24**	Pn	**Pn**	**08 07 49.6**	**+1.4**
	9.4nm,0.3s,baz=237,slow=3.0,SNR=18						
JHJ	**Hachijo jima 2**	**11.28**	**60**	LR	LR	08 13 05.3	
	comp=Z,461nm,19.8s,baz=332,slow=35						
MAJO	**Matsushiro**	**12.09**	**42**	*e*P	**P**	**08 09 27.0**	**+10**
MAT	**Matsushiro**	**12.09**	**42**	P	**P**	**08 09 13.7**	**-2.8**
MAT				*e*S	**S**	**08 11 29.0**	**-2.1**
MAT	**Matsushiro**	**12.09**	**42**	*e*P	**P**	**08 09 26.0**	**+10**
	34nm,1.2s						
MAT				*e*S	Sx	08 12 35.0	
SNY	**Shenyang**	**14.36**	**346**	⇓P	**P**	**08 09 46.6**	**0.0**
SNY				LR	LR		
	comp=N,1μm,10.5s						
SNY				LR	LR		
	comp=E,2μm,10.5s						
SNY				LR	LR		
	comp=Z,1μm,14.1s						
BJT	**Baijiatuau**	**15.61**	**324**	*e*P	**P**	**08 10 06.3**	**+3.5**
	comp=Z,23nm,0.9s						
BJI	**Beijing**	**15.62**	**324**	*e*P	**P**	**08 10 06.3**	**+3.4**
BJI				AMB	AMB		
	comp=Z,26nm,0.9s						
BJI				LR	LR		
	comp=N,877nm,10.7s						
BJI				LR	LR		
	comp=E,766nm,11.4s						
BJI				LR	LR		
	comp=Z,491nm,17.1s						
CN2	**Changchun**	**15.99**	**353**	*e*P	**P**	**08 10 11.4**	**+3.8**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
ENH	**Enshi**	**16.48**	**283**	*e*P	**P**	**08 10 17.7**	**+3.8**
	comp=Z,35nm,1.2s						
MDJ	**Mudanjiang**	**16.69**	**4**	P	**P**	**08 10 19.0**	**+2.5**
MDJ				AP		08 10 23.5	
MDJ				XP		08 10 25.1	
MDJ				S	**S**	**08 13 30.5**	**+11**
MDJ				PCP	PcP	08 15 02.3	-3.4
MDJ				SCP		08 18 37.5	
MDJ				PCS		08 18 39.5	
MDJ				SCS	ScS	08 22 18.1	+3.5
MDJ				AMB	AMB		
	comp=Z,11nm,1.4s						
MDJ				AMB	AMB		
	comp=Z,77nm,5.8s						
MDJ				LR	LR		
	comp=N,549nm,15.5s						
MDJ				LR	LR		
	comp=E,390nm,12.9s						
MDJ				LR	LR		
	comp=Z,612nm,16.2s						
XAN	**Xi'an**	**17.57**	**295**	P	**P**	**08 10 28.7**	**+1.1**
XAN				LG2		08 15 10.4	
XAN				LR	LR		
	comp=N,1μm,16.5s						
XAN				LR	LR		
	comp=E,718nm,17.7s						
XAN				LR	LR		
	comp=Z,1μm,10.3s						
GYA	**Guiyang**	**19.17**	**271**	⇑*i*P	**P**	**08 10 49.9**	**+2.7**
GYA				AMB	AMB		
	comp=Z,20nm,1.5s						
GYA				LR	LR		
	comp=N,890nm,11.1s						
GYA				LR	LR		
	comp=E,690nm,11.4s						
GYA				LR	LR		
	comp=Z,1μm,14.0s						
BTO	**Baotou**	**19.56**	**315**	*e*P	**P**	**08 10 50.8**	**-0.6**
BTO				S	**S**	**08 14 35.5**	**+11**
BTO				AMB	AMB		
	comp=Z,15nm,0.8s						
BTO				LR	LR		
	comp=N,965nm,11.4s						
BTO				LR	LR		
	comp=E,984nm,12.4s						
CD2	**Chengdu**	**21.44**	**284**	P	**P**	**08 11 11.4**	**+0.3**
CD2				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.5						
LZH	**Lanzhou**	**22.12**	**298**	*e*P	**P**	**08 11 21.5**	**+3.7**
LZH				AP		08 11 28.2	
LZH				XP		08 11 31.4	
LZH				PP	PP	08 11 46.0	+1.6
LZH				S	**S**	**08 15 16.3**	**+1.7**
LZH				XS		08 15 25.0	
LZH				SS	SS	08 15 54.0	-0.6
LZH				AMB	AMB		
	comp=Z,42nm,1.5s,mb4.7						
LZH				AMB	AMB		
	comp=Z,120nm,4.0s						
LZH				LR	LR		
	comp=N,2μm,13.6s						
LZH				LR	LR		
	comp=Z,3μm,15.5s,MS4.9						
HIA	**Hailar**	**22.27**	**345**	P	**P**	**08 11 18.7**	**-0.5**
	comp=Z,10nm,1.3s,mb4.1						
SONM	**Songino Array**	**26.11**	**325**	P	**P**	**08 11 54.4**	**-1.8**
	comp=Z,3.6nm,0.9s,mb3.9,baz=139,slow=9.2,SNR=15						
GTA	**Gaotai**	**26.11**	**303**	*e*P	**P**	**08 11 56.6**	**+0.3**
GTA				AP	pP	08 12 01.6	-4.1
GTA				XP	sP	08 12 04.7	-4.9
GTA				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb3.8						
GTA				AMB	AMB		
	comp=Z,86nm,8.4s						
GTA				LR	LR		
	comp=N,509nm,17.1s,MS4.2						
GTA				LR	LR		
	comp=E,276nm,15.6s,MS4.2						
GTA				LR	LR		
	comp=Z,346nm,15.2s,MS4.0						
CMAR	**Chiang Mai Arr**	**28.39**	**257**	LR	LR	08 24 56.3	
	comp=Z,246nm,18.3s,MS3.8,baz=65,slow=40						
WMQ	**Urumqi**	**36.02**	**307**	*e*P	**P**	**08 13 20.5**	**-3.1**
WMQ				AP	pP	08 13 30.5	-2.9
WMQ				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.8						
WMQ				LR	LR		
	comp=N,562nm,12.0s,MS4.6						
WMQ				LR	LR		
	comp=E,256nm,12.0s,MS4.6						
WMQ				LR	LR		
	comp=Z,247nm,12.0s,MS4.2						
MKAR	**Makanchi Array**	**40.37**	**310**	P	**P**	**08 13 57.8**	**-2.1**
	comp=Z,3.4nm,0.6s,mb4.2,baz=98,slow=10,SNR=28						
MKAR				LR	LR	08 32 30.4	
	comp=Z,124nm,18.2s,MS3.8,baz=111,slow=39						
KAKA	**Kakadu**	**40.60**	**174**	*e*P	Px	08 14 20.3	
	comp=Z,8.5nm,0.6s						
ZAL	**Zalesovo**	**40.87**	**322**	P	**P**	**08 14 01.6**	**-2.4**
	comp=Z,1.5nm,0.8s,mb3.7,baz=268,slow=8.5,SNR=6.0						
ZAL				LR	LR	08 32 34.4	
	comp=Z,206nm,18.0s,MS4.0,baz=237,slow=39						
PMG	**Port Moresby**	**41.42**	**151**	LR	LR	08 28 29.8	
	comp=Z,196nm,20.4s,MS4.0,baz=266,slow=32						
KURK	**Kurchatov**	**43.55**	**315**	*e*P	**P**	**08 14 23.2**	**-2.8**
	comp=Z,22nm,1.4s,mb4.7						
FITZ	**Fitzroy Crossi**	**45.82**	**183**	*e*P	**P**	**08 14 43.5**	**-1.1**
	comp=Z,4.8nm,1.5s,mb4.2						
FITZ	**Fitzroy Crossi**	**45.82**	**183**	LR	LR	08 32 26.2	
	comp=Z,47nm,19.7s,MS3.4,baz=175,slow=34						
WRAB	**Tennant Creek**	**47.96**	**172**	*e*P	**P**	**08 15 00.1**	**-1.3**
WRA	**Warramunga Arr**	**47.96**	**172**	P	**P**	**08 15 00.4**	**-1.0**
	comp=Z,2.0nm,0.7s,mb4.2,baz=353,slow=8.4,SNR=18						
WRA				LR	LR	08 32 31.1	
	comp=Z,97nm,19.5s,MS3.8,baz=170,slow=33						
WB2	**Warramunga Arr**	**47.97**	**172**	*e*P	**P**	**08 14 59.9**	**-1.5**
BVAR	**Borovoye Array**	**48.97**	**317**	P	**P**	**08 15 05.9**	**-2.8**
	comp=Z,2.1nm,0.8s,mb4.2,baz=108,slow=9.4,SNR=8.9						
BRVK	**Borovoye**	**49.04**	**317**	*e*P	**P**	**08 15 07.2**	**-2.0**
	comp=Z,14nm,1.1s,mb4.9						
ZRNK	**Zerenda**	**49.80**	**317**	P	**P**	**08 15 12.2**	**-2.8**
	comp=Z,17nm,1.1s,mb5.0						
CTA	**Charters Tower**	**50.85**	**158**	LR	LR	08 36 53.8	
	comp=Z,98nm,19.8s,MS3.8,baz=48,slow=36						
ASAR	**Alice Springs**	**51.59**	**173**	P	**P**	**08 15 28.6**	**-0.5**
	comp=Z,0.7nm,0.6s,mb3.8,baz=356,slow=8.3,SNR=11						
ASAR				LR	LR	08 34 12.9	
	comp=Z,90nm,20.7s,MS3.8,baz=7.6,slow=32						
STKA	**Stephens Creek**	**60.84**	**167**	P	**P**	**08 16 34.0**	**-1.3**
	comp=Z,1.7nm,0.7s,mb4.3,baz=337,slow=6.2,SNR=4.1						
ILAR	**Eielson Array**	**62.98**	**29**	P	**P**	**08 16 49.5**	**+0.4**
	comp=Z,1.0nm,1.0s,mb3.9,baz=270,slow=6.3,SNR=6.4						
ARCES	**ARCESS Array B**	**68.41**	**338**	LR	LR	08 53 21.3	
	comp=Z,141nm,18.2s,MS4.2,baz=174,slow=41						
FINES	**FINESS Array B**	**71.36**	**330**	LR	LR	08 51 49.1	
	comp=Z,152nm,20.0s,MS4.3,baz=15,slow=38						
AKASG	**Malin Array Be**	**74.20**	**319**	LR	LR	08 52 56.5	
	comp=Z,248nm,19.1s,MS4.5,baz=85,slow=38						
BRTR	**Keskin Array B**	**75.94**	**308**	LR	LR	08 53 20.7	
	comp=Z,52nm,20.6s,MS3.8,baz=50,slow=37						
YKA	**Yellowknife Ar**	**77.02**	**25**	LR	LR	08 55 42.6	
	comp=Z,52nm,18.1s,MS3.9,baz=250,slow=38						
NOA	**NORSAR Array B**	**77.77**	**334**	LR	LR	08 55 55.7	
	comp=Z,126nm,19.2s,MS4.3,baz=30,slow=38						
HLID	**Hailey**	**88.65**	**40**	*e*P	**P**	**08 19 16.3**	**+1.6**
	comp=Z,4.9nm,1.1s,mb4.8						
NVAR	**Mina Array Bea**	**89.39**	**46**	P	**P**	**08 19 19.9**	**+1.6**
	comp=Z,0.7nm,0.8s,mb4.0,baz=292,slow=4.9,SNR=5.4						
TPNV	**Topopah Spring**	**91.57**	**46**	P	**P**	**08 19 29.1**	**+0.5**
	comp=Z,2.6nm,1.0s,mb4.5						
PDAR	**Pinedale Array**	**91.89**	**39**	P	**P**	**08 19 30.4**	**+0.6**
	comp=Z,1.0nm,0.8s,mb4.2,baz=333,slow=3.3,SNR=8.1						

MEX 04 08:14:45.7±1.1**, 16.88N**×**94.87W, h113**^{km}±9^{km}**, MD4.0, Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.21**	**355**	*i* P	P	08 15 00.1	-1.5
CMIG				*i* S	S	08 15 11.3	-2.2
HUIG	**Huatulco**	**1.63**	**227**	*i* P	P	08 15 11.9	-2.8
HUIG				*i* S	S	08 15 34.9	-1.6
OXX	**Oaxaca**	**1.79**	**277**	*i* P	P	08 15 15.0	-1.6
OXX				*e*S	S	08 15 38.0	-1.9
VHO	**Vista Hermosa**	**1.80**	**276**	*i* P	P	08 15 15.7	-1.0
VHO				*i* S	S	08 15 38.6	-1.4
SCX	**San Cristobal**	**2.14**	**94**	*e*S	S	08 15 45.0	-2.9
CCIG	**Comitan**	**2.68**	**102**	*i* P	P	08 15 27.4	-1.1
CCIG				*i* S	S	08 15 58.9	-1.8
IISM	**Ciudad Serdan**	**3.18**	**312**	*e*P	P	08 15 30.0	-5.1

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*NEIC **04** 08:28:53.9, 34.43N×25.58E, h18^{km}, MD3.5(ATH), After ATH.*
*CSEM **04** 08:28:53.9, 34.43N×25.58E, h18^{km}, MD3.5/4, After ATH*
ATH 04 08:28:53.9, 34.43N×**25.58E, h18**^{km}±11^{km}**, MD3.5**/4**, Crete**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NPS	**Neapolis**	**0.83**	**2**	*e*PN	Pn	08 29 09.5	-1.1
NPS				*e*SN	Sn	08 29 21.0	-1.4
VAM	**Vamos**	**1.50**	**311**	*e*PN	Pn	08 29 22.5	+2.4
KARP	**Karpathos**	**1.71**	**49**	*e*PN	Pn	08 29 25.0	+1.8
VLI	**Veliai**	**3.14**	**317**	*e*PN	Pn	08 29 44.3	+0.7

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*ATH **04** 08:49:32.3, 37.68N×26.97E, h18^{km}±4^{km}, MD3.2/3*
*ISK **04** 08:49:32.4, 37.78N×26.96E, h5^{km}, MD3.2*
*CSEM **04** 08:49:33.7±0.1, 37.80N×26.96E, h10^{km}, MD3.2, Error ellipse: s-maj=3.2km s-min=1.9km az=123.0*
ISC 04 08:49:33.7±0.5**, 37.75N**±0.03×**26.89E**±0.05**, h10**^{km}**, n16, σ1^{s}02**/25**, 2C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.06**	**223**	⇑*i*PB	**Pb**	**08 49 36.7**	**+0.2**
SMG				*e*SB	**Sb**	**08 49 38.6**	**+0.3**
IZM	**Izmir**	**0.71**	**25**	*i* PG	**Pg**	**08 49 46.6**	**-1.3**
IZM				*i* SG	**Sg**	**08 49 56.7**	**-0.8**
KDAG	**Bornova**	**0.71**	**25**	⇑*i*P	**Pb**	**08 49 46.6**	**-1.1**
KDAG				*i* S	**Sb**	**08 49 58.8**	**+1.5**
AYDN	**Tasoluk**	**0.79**	**96**	*i* P	**Pb**	**08 49 48.1**	**-1.0**
AYDN				*i* S	**Sb**	**08 50 01.3**	**+1.7**
BDRM	**Kayabasi**	**0.82**	**147**	*i* P	**Pb**	**08 49 48.9**	**-0.6**
BDRM				*i* S	**Sb**	**08 50 00.8**	**+0.5**
MLSB	**Milas**	**0.84**	**123**	PG	**Pg**	**08 49 48.3**	**-2.2**
MLSB				SG	**Sg**	**08 50 01.7**	**-0.1**
YER	**Yerkesik**	**1.27**	**119**	PN	**Pn**	**08 49 56.9**	**-0.6**
APE	**Apeiranthos**	**1.28**	**238**	PN	**Pn**	**08 49 59.0**	**+1.4**
APE	**Apeiranthos**	**1.28**	**238**	*e*PN	**Pn**	**08 49 57.0**	**-0.6**
AKS	**Akhisar**	**1.34**	**33**	PN	**Pn**	**08 49 57.7**	**-0.8**
MANT	**Manisa**	**1.51**	**60**	*i* P	**Pn**	**08 50 01.9**	**+1.0**
MANT				*i* S	**Sb**	**08 50 20.9**	**+0.5**
PRK	**Paraskevi**	**1.57**	**342**	*e*PN	**Pn**	**08 50 02.1**	**+0.3**
PRK				*e*SN	**Sn**	**08 50 25.0**	**+2.7**
DENT	**Denizli**	**1.70**	**89**	PN	**Pn**	**08 50 04.2**	**+0.5**
DALT	**Dalyan (Mudla)**	**1.71**	**125**	PN	**Pn**	**08 50 04.2**	**+0.5**
DNZL	**Cakiroluk**	**1.71**	**91**	*i* P	**Pn**	**08 50 03.4**	**-0.5**
DNZL				*i* S	**Sn**	**08 50 29.7**	**+3.8**
DST	**Dursunbey**	**2.30**	**36**	PN	**Pn**	**08 50 11.8**	**-0.4**

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*IDC **04** 09:03:40.5±0.6, 20.60S×174.11W, mb4.9/16, mb1 5.0/17, mb1mx4.9/20, ML4.8/1, MS4.0/12, Ms1 4.0/12, ms1mx3.9/16, Error ellipse: s-maj=27.9km s-min=15.5km az=141.0*
*BJI **04** 09:03:47.5, 20.40S×174.12W, h52^{km}, mB5.1, mb5.1, Ms5.0, Msz4.7*
*HRVD **04** 09:03:48.2±0.5, 20.65S×173.42W, h79^{km}±5^{km}, MW4.9/47, Centroid moment Tensor Solution. LP body waves: s19,c22;Mantle waves: s47,c68; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.25±.22; $M_{\theta\theta}$0.22±.22; $M_{\phi\phi}$-1.47±.20; $M_{r\theta}$1.79±.10; $M_{\theta\phi}$-1.30±.18; $M_{\phi r}$0.99±.10; Best double couple: $M_0$2.77×10^{16} NP1:ϕ_s175°, δ32°, λ32°. NP2:ϕ_s57°, δ74°, λ118°. Principal axes: T 2.6, Plg53°, Azm360°; N .35, Plg26°, Azm228°; P -2.95, Plg24°, Azm126°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **04** 09:03:48.2±0.2, 20.47S×174.22W, mb4.9/35 Error ellipse: s-maj=9.7km s-min=4.4km az=146.0*
*SYO **04** 09:03:48.2, 20.42S×174.27W, h53^{km}, MB4.9*
*MOS **04** 09:03:50.7±2.8, 19.36S×175.06W, h33^{km}, mb5.6/5, Error ellipse: s-maj=28.5km s-min=16.2km az=101.7*
*ORF **04** 09:03:53.6, 19.18S×172.47W, h30^{km}, mb5.7*
ISC 04 09:03:46.6±0.2**, 20.63S**±0.07×**174.18W**±0.05**, h54**^{km}**, h54**^{km}±1.7^{km}**:pP-P, n260, σ1^{s}01**/123**, mb5.0**/60**, MS4.3**/20**, 21C-5D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**18.11**	**262**	⇑*i*P	**P**	**09 07 58.8**	**+2.8**
NOUC	**Port Laguerre**	**18.24**	**262**	*e*P	**P**	**09 07 59.8**	**+2.1**
NOUC	**Port Laguerre**	**18.24**	**262**	*e*P	**P**	**09 07 59.8**	**+2.1**
URZ	**Urewera**	**19.12**	**201**	P	**P**	**09 08 08.4**	**+0.6**
	3.0nm,0.3s,baz=352,slow=4.2,SNR=11						
URZ				S	**S**	**09 11 32.1**	**-3.3**
	1.3nm,0.3s,baz=135,slow=20,SNR=4.2						
CTA	**Charters Tower**	**37.04**	**264**	*e*P	**P**	**09 10 52.8**	**-0.5**
	9.7nm,0.4s,mb5.0						
CTA	**Charters Tower**	**37.04**	**264**	LR	LR	09 23 50.9	
	comp=Z,160nm,21.8s,MS3.8,baz=232,slow=33						
CTAO	**Charters Tower**	**37.04**	**264**	*e*P	**P**	**09 10 52.8**	**-0.5**
	24nm,0.8s,mb5.1						
CTAO				*e*pP	pP	09 11 07.4	+0.1
TOO	**Toolangi**	**38.74**	**235**	*e*P	**P**	**09 11 07.5**	**+0.2**
	9.1nm,0.6s,mb4.7						
PMG	**Port Moresby**	**38.88**	**281**	LR	LR	09 24 21.3	
	comp=Z,199nm,20.9s,MS3.9,baz=74,slow=32						
PMG	**Port Moresby**	**38.88**	**281**	⇑*e*P	**P**	**09 11 07.9**	**-0.7**
	21nm,0.8s,mb4.9						
PMG				*e*pP	pP	09 11 22.5	-0.3
STKA	**Stephens Creek**	**40.97**	**245**	*e*P	**P**	**09 11 25.7**	**-0.1**
	8.1nm,0.7s,mb4.5						
STKA	**Stephens Creek**	**40.97**	**245**	P	**P**	**09 11 25.4**	**-0.3**
	11nm,0.7s,mb4.6,baz=93,slow=9.3,SNR=35						
STKA				LR	LR	09 27 11.6	
	comp=Z,238nm,19.9s,MS4.0,baz=28,slow=34						
ASAR	**Alice Springs**	**47.97**	**256**	P	**P**	**09 12 21.0**	**-1.2**
	20nm,0.7s,mb5.2,baz=99,slow=7.6,SNR=222						
ASAR				PcP	PcP	09 13 50.2	+0.2
	8.4nm,0.8s,baz=105,slow=4.2,SNR=11						
ASAR				S	**S**	**09 19 12.7**	**-2.2**
	0.9nm,0.9s,baz=94,slow=16,SNR=4.2						
ASPA	**Alice Springs**	**47.98**	**256**	*e*P	**P**	**09 12 21.0**	**-1.2**
ASPA				*e*PCP	PcP	09 13 50.2	+0.1
WB2	**Warramunga Arr**	**48.12**	**261**	⇑*i*P	**P**	**09 12 21.7**	**-1.6**
WB2				*e*PCP	PcP	09 13 50.8	+0.2
WRAB	**Tennant Creek**	**48.12**	**261**	P	**P**	**09 12 22.0**	**-1.4**
	143nm,0.9s,mb6.0,SNR=14						
WRAB	**Tennant Creek**	**48.12**	**261**	⇑*e*P	**P**	**09 12 21.4**	**-2.0**
	33nm,0.9s,mb5.4						
WRAB				*e*pP	pP	09 12 36.2	-1.5
WRA	**Warramunga Arr**	**48.13**	**261**	P	**P**	**09 12 21.6**	**-1.8**
	16nm,0.9s,mb5.0,baz=95,slow=7.4,SNR=187						
WRA				PcP	PcP	09 13 50.9	+0.2
	4.9nm,0.6s,baz=95,slow=3.4,SNR=8.8						
WRA				S	**S**	**09 19 16.6**	**-0.5**
	0.4nm,1.1s,baz=94,slow=11,SNR=3.4						
KAKA	**Kakadu**	**51.60**	**270**	*e*P	**P**	**09 12 53.0**	**+3.0**
	25nm,0.4s,mb5.5						
FORT	**Forrest**	**52.53**	**247**	*e*P	**P**	**09 12 55.4**	**-1.4**
	65nm,0.6s,mb5.7						
FITZ	**Fitzroy Crossi**	**56.56**	**261**	*e*P	**P**	**09 13 25.0**	**-1.3**
	6.3nm,0.5s,mb4.9						
SBA	**Scott Base**	**58.00**	**185**	*e*P	**P**	**09 13 38.0**	**+2.2**
	9.1nm,1.0s,mb4.8						
KLBR	**Kellerberrin**	**61.24**	**245**	*e*P	**P**	**09 13 57.6**	**-1.0**
	14nm,0.7s,mb5.2						
MBWA	**Marble Bar**	**61.31**	**257**	⇑*i*P	**P**	**09 13 57.9**	**-1.4**
NWAO	**Narrogin (SRO)**	**61.51**	**243**	*e*P	**P**	**09 14 00.1**	**-0.3**
	8.3nm,1.0s,mb4.8						
MUN	**Mundaring**	**62.49**	**244**	*e*P	**P**	**09 14 07.0**	**0.0**
	15nm,1.0s,mb5.1						
CASY	**Casey**	**65.38**	**205**	*e*P	**P**	**09 14 25.7**	**+0.4**
MAJO	**Matsushiro**	**72.50**	**321**	*e*P	**P**	**09 15 08.8**	**-0.8**
	15nm,0.6s,mb5.1						
MAJO				*e*	pP	09 15 25.8	+0.9
MAT	**Matsushiro**	**72.50**	**321**	P	**P**	**09 15 08.3**	**-1.3**
JOW	**Kunigami**	**73.03**	**308**	P	**P**	**09 15 13.7**	**+0.7**
	45nm,0.9s,mb5.4,baz=117,slow=11,SNR=3.9						
FX1	**Attu Island--F**	**74.03**	**352**	P	**P**	**09 15 16.1**	**-2.2**
	32nm,0.6s,mb5.5,baz=70,slow=4.1,SNR=9.8						
ASAJ	**Asahikawa**	**75.61**	**329**	P	**P**	**09 15 28.6**	**+1.1**
	14nm,0.7s,mb5.0,baz=220,slow=3.5,SNR=15						
ASAJ				LR	LR	09 42 17.0	
	comp=Z,170nm,21.8s,MS4.3,baz=159,slow=31						
CMB	**Columbia Colle**	**77.17**	**41**	⇑*e*P	**P**	**09 15 36.0**	**-0.5**
OHCM	**Honcut**	**77.34**	**39**	*e*P	**P**	**09 15 35.2**	**-2.2**
WDC	**Whiskeytown Da**	**77.54**	**38**	*e*P	**P**	**09 15 36.1**	**-2.4**
	16nm,1.4s,mb4.8						
YSS	**Yuzh-Sakhalins**	**77.67**	**331**	*e*P	**P**	**09 15 39.5**	**+0.4**
YSS				pmax	pmax		
	comp=Z,61nm,0.9s,mb5.5						
YSS				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.2						
OMM	**Old Mammoth Mi**	**77.78**	**42**	*e*P	**P**	**09 15 39.7**	**-0.2**
MTUM	**Tungsten Hills**	**77.88**	**42**	*e*P	**P**	**09 15 40.6**	**+0.1**
YBH	**Yreka Blue Hor**	**78.20**	**37**	P	**P**	**09 15 42.3**	**+0.2**
	comp=Z,5.7nm,0.7s,mb4.6,baz=147,slow=2.2,SNR=16						
YBH	**Yreka Blue Hor**	**78.20**	**37**	*e*P	**P**	**09 15 41.9**	**-0.2**
	comp=Z,9.6nm,1.3s,mb4.6						
BEKR	**Beckwourth**	**78.35**	**39**	*e*P	**P**	**09 15 42.3**	**-0.6**
	comp=Z,19nm,1.6s,mb4.8						
WCN	**Washoe City**	**78.35**	**40**	*e*P	**P**	**09 15 42.7**	**-0.3**
	comp=Z,25nm,1.3s,mb5.0						
NVAR	**Mina Array Bea**	**78.70**	**42**	P	**P**	**09 15 45.1**	**+0.2**
	comp=Z,18nm,0.8s,mb5.0,baz=225,slow=8.9,SNR=138						
NVAR				LR	LR	09 45 41.1	
	comp=Z,57nm,18.1s,MS3.9,baz=75,slow=32						
LDFC	**Landfair**	**78.79**	**46**	*e*P	**P**	**09 15 45.5**	**0.0**
MNV	**Mina**	**78.80**	**42**	*e*P	**P**	**09 15 45.4**	**-0.1**
	comp=Z,24nm,1.0s,mb5.1						
TPNV	**Topopah Spring**	**79.12**	**44**	⇑*i*P	**P**	**09 15 47.4**	**+0.1**
	comp=Z,14nm,0.8s,mb4.9						
TPH	**Tonopah**	**79.17**	**42**	⇑*i*P	**P**	**09 15 47.4**	**-0.1**
	comp=Z,16nm,0.8s,mb5.0						
NEN	**Nelson**	**79.29**	**45**	*e*P	**P**	**09 15 48.1**	**-0.1**
NEN				*e*pP	pP	09 16 02.8	-0.9
MOD	**Modoc**	**79.68**	**38**	⇑*e*P	**P**	**09 15 49.0**	**-1.2**
	comp=Z,6.5nm,0.7s,mb4.7						
TUC	**Tucson**	**80.28**	**50**	*e*P	**P**	**09 15 53.6**	**0.0**
	comp=Z,5.2nm,1.3s,mb4.3						
SSE	**Sheshan**	**80.55**	**308**	P	**P**	**09 15 56.1**	**+1.0**
SSE				S	S	09 25 55.7	-0.5
SSE				XS		09 26 24.4	
SSE				SS	SS	09 31 07.7	-4.6
SSE				AMB	AMB		
	comp=Z,13nm,0.8s,mb4.9						
SSE				AMB	AMB		
	comp=Z,135nm,5.3s						
SSE				LR	LR		
	comp=N,114nm,19.8s,MS4.3						
SSE				LR	LR		
	comp=E,89nm,19.7s,MS4.3						
SSE				LR	LR		
	comp=Z,88nm,20.0s,MS4.1						
BMN	**Battle Mountai**	**80.59**	**40**	⇑*e*P	**P**	**09 15 54.9**	**-0.2**
ARUT	**Antelope Range**	**81.43**	**44**	*e*P	**P**	**09 16 00.1**	**+0.6**
OCWA	**Octopus Mounta**	**81.50**	**32**	*e*P	**P**	**09 16 00.1**	**+0.5**
ELK	**Elko**	**81.98**	**41**	*e*P	**P**	**09 16 02.3**	**-0.1**
	comp=Z,18nm,1.7s,mb4.7						
MAW	**Mawson**	**82.63**	**199**	*e*P	**P**	**09 16 06.5**	**+1.4**
	comp=Z,2.1nm,0.5s,mb4.4						
MAW	**Mawson**	**82.63**	**199**	P	**P**	**09 16 06.6**	**+1.5**
	comp=Z,2.6nm,0.8s,mb4.3,baz=108,slow=7.1,SNR=9.8						
MAW				LR	LR	09 48 57.9	
	comp=Z,110nm,20.9s,MS4.2,baz=74,slow=33						
MVU	**Marysvale**	**82.63**	**44**	*e*P	**P**	**09 16 06.0**	**+0.3**
	comp=Z,11nm,0.9s,mb4.9						
MSU	**Marysvale**	**82.66**	**44**	*e*P	**P**	**09 16 06.9**	**+1.0**
MDJ	**Mudanjiang**	**82.73**	**323**	P	**P**	**09 16 06.9**	**+0.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MDJ				AP	pP	09 16 21.3	-0.3
MDJ				XP	sP	09 16 27.5	0.0
MDJ				PP	PP	09 19 16.8	-1.4
MDJ				S	S	09 26 21.0	+2.9
MDJ				XS		09 26 44.8	
MDJ				AMB	AMB		
	comp=Z,26nm,0.8s,mb5.3						
MDJ				AMB	AMB		
	comp=Z,39nm,3.6s						
MDJ	**Mudanjiang**	**82.73**	**323**	eP	**P**	**09 16 07.0**	**+1.0**
	comp=Z,30nm,1.1s,mb5.2						
NJ2	**Nanjing**	**82.75**	**308**	eP	**P**	**09 16 07.3**	**+0.8**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.4						
BBB	**Bella Bella**	**82.87**	**27**	P	**P**	**09 16 05.4**	**-1.2**
	comp=Z,11nm,1.2s,mb4.8,baz=354,slow=9.2,SNR=3.4						
HAWA	**Hanford**	**82.97**	**35**	⇑eP	**P**	**09 16 07.1**	**-0.2**
	comp=Z,31nm,1.3s,mb5.2						
DUG	**Dugway**	**83.19**	**43**	eP	**P**	**09 16 08.4**	**0.0**
	comp=Z,8.1nm,1.4s,mb4.6						
SPU	**Mount Spurr**	**83.46**	**11**	eP	**P**	**09 16 08.2**	**-1.2**
BGU	**Big Grassy Mou**	**83.46**	**42**	eP	**P**	**09 16 09.8**	**-0.1**
NLW	**Nelson Butte**	**83.64**	**33**	eP	**P**	**09 16 10.2**	**-0.4**
TMUT	**Trail Mountain**	**83.72**	**44**	⇑eP	**P**	**09 16 12.4**	**+1.1**
LAZ	**Ladron**	**83.97**	**50**	eP	**P**	**09 16 13.4**	**+0.8**
SPUT	**South Promonto**	**84.04**	**42**	eP	**P**	**09 16 13.0**	**+0.3**
SRU	**San Rafael**	**84.07**	**45**	eP	**P**	**09 16 13.3**	**+0.3**
HVU	**Hansel Valley**	**84.10**	**41**	⇑eP	**P**	**09 16 13.2**	**+0.2**
HLID	**Hailey**	**84.13**	**39**	⇑eP	**P**	**09 16 13.6**	**+0.5**
	comp=Z,14nm,0.8s,mb5.1						
CTU	**Camp Tracy**	**84.14**	**43**	eP	**P**	**09 16 12.9**	**-0.3**
TXAR	**Lajitas Array**	**84.14**	**56**	P	**P**	**09 16 13.7**	**+0.1**
	comp=Z,1.4nm,0.9s,mb4.1,baz=213,slow=8.9,SNR=13						
TXAR				LR	LR	09 47 35.5	
	comp=Z,59nm,18.5s,MS4.0,baz=5.0,slow=31						
BNM	**Barren Site**	**84.21**	**50**	eP	**P**	**09 16 14.1**	**+0.3**
JLU	**Jordanelle**	**84.28**	**43**	eP	**P**	**09 16 13.5**	**-0.5**
DAU	**Daniels Canyon**	**84.30**	**43**	eP	**P**	**09 16 14.6**	**+0.5**
TCUT	**Toone Canyon**	**84.59**	**42**	eP	**P**	**09 16 14.4**	**-1.1**
CN2	**Changchun**	**84.63**	**321**	eP	**P**	**09 16 16.3**	**+0.6**
CN2				eAP	pP	09 16 33.3	+2.0
CN2				eS	S	09 26 37.1	0.0
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.9						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,800nm,19.0s,MS5.3						
CN2				LR	LR		
	comp=E,900nm,19.0s,MS5.3						
CN2				LR	LR		
	comp=Z,1μm,21.0s,MS5.3						
DIV	**Divide**	**84.63**	**13**	eP	**P**	**09 16 15.1**	**-0.2**
ANMO	**Albuquerque**	**84.72**	**50**	eP	**P**	**09 16 17.0**	**+0.6**
	comp=Z,11nm,1.1s,mb4.9						
HWUT	**Hardware Ranch**	**84.76**	**42**	⇑iP	**P**	**09 16 16.3**	**-0.1**
	comp=Z,5.8nm,0.8s,mb4.8						
MA2	**Magadan**	**84.91**	**343**	eP	**P**	**09 16 16.1**	**-0.6**
MA2				eS	S	09 26 39.5	0.0
MA2				pmax	pmax		
	comp=Z,40nm,2.0s,mb5.2						
MA2				MLR	MLR		
	comp=Z,780nm,31.0s,MS4.9						
GDL2	**Guadalupe Moun**	**84.94**	**53**	eP	**P**	**09 16 17.9**	**+0.4**
GDL2				pP	pP	09 16 32.4	-0.7
MCMT	**McKenzie Canyo**	**85.78**	**39**	eP	**P**	**09 16 21.6**	**+0.3**
TIA	**Tai'an**	**86.04**	**311**	eP	**P**	**09 16 25.7**	**+2.9**
MCK	**McKinley**	**86.37**	**11**	eP	**P**	**09 16 22.9**	**-0.9**
	comp=Z,28nm,0.9s,mb5.5						
QLMT	**Earthquake Lak**	**86.61**	**39**	P	**P**	**09 16 26.0**	**+0.6**
PDAR	**Pinedale Array**	**86.64**	**42**	P	**P**	**09 16 25.0**	**-0.6**
	comp=Z,3.8nm,0.8s,mb4.7,baz=223,slow=2.5,SNR=31						
PDAR				LR	LR	09 47 20.8	
	comp=Z,75nm,18.8s,MS4.1,baz=248,slow=30						
CHMT	**Chamberlain Mo**	**86.73**	**37**	eP	**P**	**09 16 25.4**	**-0.5**
BOZ	**Bozeman (W)**	**86.95**	**39**	eP	**P**	**09 16 26.7**	**-0.3**
	comp=Z,8.7nm,1.3s,mb4.8						
SYO	**Syowa Base**	**87.35**	**192**	⇓P	**P**	**09 16 27.1**	**-1.3**
SYO	**Syowa Base**	**87.35**	**192**	⇓PcP	PcP	09 16 31.5	+0.7
SEY	**Seymchan**	**87.36**	**345**	eP	**P**	**09 16 30.4**	**+1.8**
SEY				pmax	pmax		
	comp=Z,100nm,0.9s,mb6.0						
SEY				pmax	pmax		
	comp=N,30nm,0.8s						
COLA	**College**	**87.61**	**11**	ceP	**P**	**09 16 29.5**	**-0.3**
COLA	**College**	**87.61**	**11**	⇑iP	**P**	**09 16 29.4**	**-0.4**
	comp=N,37nm,1.1s,mb5.5						
COLA				pP	pP	09 16 43.8	-1.7
ILAR	**Eielson Array**	**87.69**	**11**	P	**P**	**09 16 29.9**	**-0.3**
	comp=N,5.9nm,0.7s,mb4.9,baz=225,slow=5.8,SNR=63						
ILAR	**Eielson Array**	**87.69**	**11**	P	**P**	**09 16 29.8**	**-0.4**
VNA3	**Neumayer Olymp**	**87.74**	**175**	e	pP	09 16 41.0	-4.9
VNA3	**Neumayer Olymp**	**87.74**	**175**	⇓iP	**P**	**09 16 34.0**	**+3.7**
VNA3				e		09 16 41.0	
SNAA	**Sanae**	**87.74**	**177**	⇑i	**P**	**09 16 28.5**	**-1.8**
SNAA	**Sanae**	**87.74**	**177**	e	**P**	**09 16 35.7**	**+5.4**
SNAA	**Sanae**	**87.74**	**177**	P	**P**	**09 16 31.5**	**+1.3**
	comp=N,0.6nm,0.9s,baz=269,slow=1.9,SNR=5.6						
SNAA	**Sanae**	**87.74**	**177**	eP	**P**	**09 16 32.3**	**+2.0**
	comp=N,3.2nm,1.0s,mb4.5						
VNA2	**Neumayer--Watz**	**88.22**	**176**	e	**P**	**09 16 41.2**	**+8.6**
VNA2	**Neumayer--Watz**	**88.22**	**176**	P	**P**	**09 16 33.7**	**+1.1**
VNA2				e		09 16 41.2	
VNA1	**Neumayer--Stat**	**88.43**	**175**	e	**P**	**09 16 40.0**	**+6.5**
VNA1	**Neumayer--Stat**	**88.43**	**175**	⇓iP	**P**	**09 16 34.1**	**+0.6**
VNA1				e		09 16 40.0	
BJI	**Beijing**	**88.53**	**314**	eP	**P**	**09 16 35.9**	**+1.1**
BJI				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb5.0						
ENH	**Enshi**	**89.10**	**303**	eP	**P**	**09 16 39.2**	**+1.5**
GYA	**Guiyang**	**89.85**	**298**	P	**P**	**09 16 42.7**	**+1.4**
GYA				XP	sP	09 17 05.4	+2.8
GYA				PP	PP	09 20 17.6	+1.0
GYA				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb5.0						
GYA				LR	LR		
	comp=N,120nm,18.2s,MS4.6						
GYA				LR	LR		
	comp=E,140nm,17.4s,MS4.6						
GYA				LR	LR		
	comp=Z,130nm,18.0s,MS4.4						
EDM	**Edmonton**	**90.31**	**32**	eP	**P**	**09 16 42.2**	**-0.5**
XAN	**Xi'an**	**91.08**	**306**	P	**P**	**09 16 48.6**	**+1.7**
XAN				AMB	AMB		
	comp=Z,12nm,0.9s,mb5.2						
XAN				LR	LR		
	comp=N,125nm,16.6s						
HHC	**Hu-ho-hao-te**	**92.03**	**313**	eP	**P**	**09 16 53.0**	**+1.9**
HHC				AMB	AMB		
	comp=Z,15nm,1.3s,mb5.2						
HHC				AMB	AMB		
	comp=Z,106nm,5.7s						
KMI	**Kunming**	**92.62**	**296**	eP	**P**	**09 16 54.9**	**+0.7**
KMI				S	S	09 27 55.3	+3.8
DGMT	**Dagmar**	**92.75**	**39**	eP	**P**	**09 16 54.6**	**+0.4**
CMAR	**Chiang Mai Arr**	**93.55**	**288**	P	**P**	**09 17 00.4**	**+1.9**
	comp=Z,4.6nm,0.9s,mb4.9,baz=109,slow=3.0,SNR=24						
CMAR				LR	LR	09 53 35.4	
	comp=Z,64nm,19.5s,MS4.1,baz=145,slow=32						
YAK	**Yakutsk**	**93.61**	**337**	eP	**P**	**09 16 57.2**	**-0.6**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb5.2						
YKA	**Yellowknife Ar**	**95.16**	**24**	P	**P**	**09 17 04.8**	**0.0**
	comp=Z,2.4nm,0.6s,mb4.8,baz=237,slow=4.9,SNR=5.1						
YKA				LR	LR	09 52 25.9	
	comp=Z,81nm,19.6s,MS4.2,baz=220,slow=31						
YKA	**Yellowknife Ar**	**95.16**	**24**	P	**P**	**09 17 04.8**	**0.0**
YKA				LR	LR	09 52 25.9	
SONM	**Songino Array**	**98.23**	**318**	P	**P**	**09 17 19.7**	**+0.6**
	comp=Z,0.7nm,0.6s,mb4.4,baz=135,slow=5.2,SNR=5.4						
ULM	**Lac du Bonnet**	**98.43**	**39**	LR	LR	09 57 33.2	
	comp=Z,82nm,19.2s,MS4.2,baz=45,slow=33						
LPAZ	**La Paz**	**98.68**	**111**	LR	LR	09 52 20.5	
	comp=Z,45nm,20.0s,MS4.0,baz=298,slow=30						
TIXI	**Tiksi**	**99.82**	**344**	eP	**P**	**09 17 25.2**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.5						
TIXI				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.6						
MKAR	**Makanchi Array**	**113.90**	**313**	PKiKP		09 22 20.3	
	comp=Z,3.2nm,0.6s,baz=94,slow=0.9,SNR=28						
KURK	**Kurchatov**	**116.52**	**317**	i PKIKP	PKPdf	09 22 25.3	+0.8
KURK	**Kurchatov**	**116.52**	**317**	ePKPdf	PKPdf	09 22 25.0	+0.5
ULHL	**Ulahol**	**117.89**	**308**	P	PKPdf	09 22 29.1	+1.8
	SNR=7.1						
TKM2	**Tokmak 2**	**118.40**	**308**	P	PKPdf	09 22 29.9	+1.6
	SNR=5.8						
UCH	**Uchtor**	**119.17**	**308**	P	PKPdf	09 22 32.3	+2.5
	SNR=9.3						
AAK	**Ala-Archa**	**119.20**	**308**	i PKIKP	PKPdf	09 22 30.0	+0.1
AAK				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.5						
AAK	**Ala-Archa**	**119.20**	**308**	ePKPdf	PKPdf	09 22 30.1	+0.2
USP	**Ospenovka**	**119.21**	**309**	P	PKPdf	09 22 31.4	+1.5
	SNR=7.3						
AML	**Almayashu**	**119.78**	**307**	P	PKPdf	09 22 33.4	+2.4
	SNR=8.6						
BVAR	**Borovoye Array**	**121.48**	**320**	PKP	PKPdf	09 22 34.7	+0.7
	comp=Z,4.0nm,0.5s,baz=90,slow=1.5,SNR=23						
BRVK	**Borovoye**	**121.54**	**320**	ePKPdf	PKPdf	09 22 35.0	+0.9
ZRNK	**Zerenda**	**122.32**	**320**	ePKPdf	PKPdf	09 22 36.2	+0.6
ARU	**Arti**	**127.32**	**326**	i PKIKP	PKPdf	09 22 46.7	+1.5
ARU				e		09 24 44.1	
ARU				e		09 29 48.9	
ARU				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.5						
ARU				MLR	MLR		
	comp=N,50nm,17.0s,MS4.5						
ARU				MLR	MLR		
	comp=E,80nm,19.0s,MS4.5						
ARU	**Arti**	**127.32**	**326**	ePKPdf	PKPdf	09 22 46.3	+1.1
ARCES	**ARCESS Array B**	**129.65**	**351**	PKP	PKPdf	09 22 50.1	+0.8
	comp=E,2.8nm,0.5s,baz=18,slow=1.3,SNR=39						
ARE0	**ARCESS Array S**	**129.65**	**351**	ePKPdf	PKPdf	09 22 49.2	-0.1
FINES	**FINESS Array B**	**136.84**	**346**	PKhKP		09 22 57.6	
	comp=E,1.6nm,0.9s,baz=18,slow=4.4,SNR=4.3						
FINES	**FINESS Array B**	**136.84**	**346**	i PKIKP	PKPdf	09 23 05.7	+2.8
HFS	**Hagfors**	**140.14**	**354**	PKhKP		09 23 01.8	
	comp=E,1.4nm,0.5s,baz=63,slow=3.3,SNR=7.7						
KIV	**Kislovodsk**	**141.58**	**316**	i PKIKP	PKPdf	09 23 12.1	+0.1
KMBO	**Kilima Mbogo**	**142.39**	**239**	PKP	PKPdf	09 23 14.6	+0.4
	comp=E,1.8nm,0.8s,baz=310,slow=10,SNR=5.6						
KMBO	**Kilima Mbogo**	**142.39**	**239**	ePKPpre		09 23 12.9	
EZM	**Erzurum**	**144.11**	**310**	P	PKPbc	09 23 17.5	+1.7
SUW	**Suwalki**	**144.14**	**343**	ePKHKP		09 23 16.1	
SUW	**Suwalki**	**144.14**	**343**	ePKP	PKPdf	09 23 16.1	+0.1
VRT	**Varto**	**144.27**	**309**	P	PKPbc	09 23 18.8	+2.6
DJNS	**Zahran al Janu**	**144.31**	**272**	P	PKPbc	09 23 19.2	+2.3
TATS	**Tathlith**	**144.67**	**275**	P	PKPbc	09 23 20.7	+2.8
EKA	**Eskdalemuir Ar**	**144.70**	**9**	PKP	PKPdf	09 23 16.7	-0.3
	comp=E,9.0nm,0.9s,baz=332,slow=3.1,SNR=14						
AKASG	**Malin Array Be**	**144.78**	**334**	PKP	PKPdf	09 23 17.4	+0.2
	comp=E,16nm,0.4s,baz=40,slow=4.3,SNR=124						
AKASG	**Malin Array Be**	**144.78**	**334**	PKHKP		09 23 17.4	
GUMT	**Gumushane**	**145.22**	**312**	P	PKPdf	09 23 20.9	+2.5
ARSS	**Ar Rass**	**145.31**	**286**	P	PKPdf	09 23 21.6	+2.6
AFFS	**‘Afif**	**145.51**	**282**	P	PKPdf	09 23 22.0	+2.6
NAMS	**An Nimas**	**145.80**	**274**	P	PKPdf	09 23 24.6	+4.6
PTK	**Pertek**	**145.90**	**310**	P	PKPdf	09 23 23.1	+3.5
GKP	**Gorka Klasztor**	**146.26**	**348**	ePKIKP	PKPdf	09 23 23.3	+3.6
GKP	**Gorka Klasztor**	**146.26**	**348**	ePKP	PKPdf	09 23 23.3	+3.6
BLJS	**Baljurashi**	**146.47**	**275**	P	PKPdf	09 23 26.4	+5.3
HILS	**Ha'il**	**146.55**	**289**	P	PKPdf	09 23 26.1	+5.0
BSEG	**Bad Segeberg**	**146.58**	**355**	ePKP2	PKPab	09 23 23.8	-1.3
MYA	**Malataya**	**146.82**	**309**	P	PKPdf	09 23 26.2	+5.0
SVSK	**Karacayir**	**147.17**	**313**	P	PKPdf	09 23 27.1	+5.4
LTHS	**Al Lith**	**147.63**	**276**	P	PKPdf	09 23 28.9	+6.0
MBAR	**Mbarara**	**147.75**	**232**	ePKPbc	PKPdf	09 23 27.7	+4.3
KWP	**Kalwaria**	**148.09**	**339**	ePKIKP	PKPdf	09 23 28.2	+5.4
KWP	**Kalwaria**	**148.09**	**339**	ePKP	PKPdf	09 23 28.2	+5.4
GAZ	**Gaziantep**	**148.15**	**308**	P	PKPdf	09 23 29.3	+6.0
BNN	**Bunyan**	**148.44**	**312**	P	PKPdf	09 23 29.8	+6.0
CLZ	**Clausthal**	**148.65**	**355**	ePKPbc	PKPdf	09 23 29.7	+6.0
CLZ				ePKPab	PKPab	09 23 33.1	-0.2
CLZ				ePP	PP	09 26 57.7	-3.4
KSP	**Ksiaz**	**148.74**	**347**	ePKP	PKPdf	09 23 26.1	+2.3
KSP				ePKPdf	PKPdf	09 23 30.2	+6.4
KSP	**Ksiaz**	**148.74**	**347**	ePKP	PKPdf	09 23 30.4	+6.6
KOLS	**Kolonicke sedl**	**148.84**	**339**	ePKP	PKPdf	09 23 30.4	+6.3
CLL	**Collm**	**148.87**	**351**	⇑iPKP1	PKPdf	09 23 30.0	+6.0
CLL				i PKP2	PKPab	09 23 32.9	-1.4
CLL				i		09 23 38.1	
CLL	**Collm**	**148.87**	**351**	i PKIKP	PKPdf	09 23 30.0	+6.0
CLL				i		09 23 32.9	
CLL				i		09 23 38.1	
CLL				pmax	pmax		
	comp=Z,30nm,0.8s						
KBRS	**Khaybar**	**148.90**	**286**	P	PKPdf	09 23 32.1	+7.2
NIE	**Niedzica**	**149.04**	**341**	ePKP	PKPdf	09 23 31.4	+7.0
UPC	**Upice**	**149.12**	**347**	ePKPbc	PKPdf	09 23 30.9	+6.4
BRG	**Berggiesshubel**	**149.15**	**350**	i PKIKP	PKPdf	09 23 30.9	+6.4
BRG				pmax	pmax		
	comp=Z,23nm,0.8s						
DPC	**Dobruska-Polom**	**149.20**	**347**	ePKPbc	PKPdf	09 23 31.2	+6.6
DPC				ePKPab	PKPab	09 23 35.8	+0.1
OKC	**Ostrava-Krasne**	**149.26**	**344**	ePKPbc	PKPdf	09 23 30.9	+6.2
CEYT	**Ceyhan**	**149.29**	**309**	P	PKPdf	09 23 32.2	+7.0
SAFT	**Safranbolu**	**149.34**	**318**	P	PKPdf	09 23 26.1	+1.0
PVCC	**Panska Ves**	**149.38**	**349**	ePKPbc	PKPdf	09 23 31.5	+6.6
MORC	**Moravsky Berou**	**149.46**	**345**	ePKPbc	PKPdf	09 23 31.5	+6.5
BRTR	**Keskin Array B**	**149.53**	**315**	PKP	PKPdf	09 23 26.7	+1.2
	comp=Z,6.3nm,0.7s,baz=135,slow=1.7,SNR=7.0						
BRTR				PKPbc	PKPdf	09 23 32.1	+6.6
	comp=Z,12nm,0.8s,baz=137,slow=4.2,SNR=32						
BRTR				PKPab	PKPab	09 23 37.9	+0.5
	comp=Z,6.0nm,0.9s,baz=108,slow=3.9,SNR=7.6						
BRTR	**Keskin Array B**	**149.53**	**315**	PKHKP		09 23 26.7	
BRTR				P		09 23 32.1	
BRTR				P		09 23 37.8	
NIG	**Nigde**	**149.64**	**311**	P	PKPdf	09 23 27.7	+2.0
KAMT	**Kaman**	**149.66**	**314**	P	PKPdf	09 23 32.4	+6.7
MOX	**Moxa**	**149.70**	**353**	ePKIKP	PKPdf	09 23 32.3	+6.9
MOX				pmax	pmax		
	comp=Z,38nm,1.6s						
KECS	**Kecovo**	**149.82**	**340**	ePKP	PKPdf	09 23 33.0	+7.3
PRU	**Pruhonice**	**149.90**	**349**	ePKPbc	PKPdf	09 23 32.5	+6.8
PRU				ePKPab	PKPab	09 23 38.0	-0.5
NKC	**Novy Kostel**	**150.00**	**351**	ePKPbc	PKPdf	09 23 33.0	+7.1
YNBS	**Yanbu‘ al Bahr**	**150.09**	**283**	P	PKPdf	09 23 35.0	+8.2
VRAC	**Vranov**	**150.12**	**346**	PKPbc	PKPdf	09 23 33.4	+7.3
	comp=Z,11nm,0.9s,baz=73,slow=2.1,SNR=10						
VRAC				PKPab	PKPab	09 23 39.1	-0.4
	comp=Z,6.3nm,0.7s,baz=43,slow=8.4,SNR=6.1						
MLR	**Muntele Rosu**	**150.19**	**331**	PKPbc	PKPdf	09 23 33.7	+7.4
	comp=Z,32nm,1.1s,baz=15,slow=2.9,SNR=22						
KOLL	**Kolacno**	**150.34**	**343**	i PKP	PKPdf	09 23 34.2	+7.7
KOLL				e		09 23 40.9	
PSZ	**Piszkesteto**	**150.50**	**341**	ePKP/F		09 23 34.3	
GIVF	**Givet**	**150.58**	**1**	ePKP1	PKPdf	09 23 33.9	+7.1
	comp=Z,35nm,0.8s						
BAIF	**Baives**	**150.61**	**2**	ePKP1	PKPdf	09 23 34.1	+7.3
HRI	**Mount Hermon**	**150.63**	**302**	P	PKPdf	09 23 35.8	+8.4
SMOL	**Smolenice**	**150.66**	**344**	ePKP	PKPdf	09 23 35.7	+8.8
UMJS	**Umm Lajj**	**150.68**	**285**	P	PKPdf	09 23 36.0	+8.3
GRA1	**Grafenberg Arr**	**150.69**	**353**	ePKPbc	PKPdf	09 23 34.7	+7.8
GRA1				ePKPab	PKPab	09 23 41.5	-0.3
GRF	**Grafenberg Arr**	**150.69**	**353**	ePKHKP		09 23 34.7	
MDU	**Mudurnu**	**150.70**	**318**	P	PKPdf	09 23 35.0	+7.7
GLH	**Golan-Tel Qazi**	**150.86**	**301**	P	PKPdf	09 23 36.4	+8.6
KHC	**Kasperske Hory**	**150.90**	**350**	ePKPbc	PKPdf	09 23 35.2	+7.9
KHC				ePKPab	PKPab	09 23 42.1	-0.6
ZST	**Bratislava**	**151.04**	**344**	ePKP	PKPdf	09 23 34.5	+7.0
ZST				e		09 23 43.2	
TBKS	**Tabuk**	**151.08**	**291**	P	PKPdf	09 23 36.5	+8.3
HMDT	**Nahal Hemdat**	**151.09**	**300**	P	PKPdf	09 23 36.8	+8.7
IKL	**Isikli**	**151.12**	**309**	P	PKPdf	09 23 35.8	+7.8
MMLI	**Mount Malkishu**	**151.12**	**300**	P	PKPdf	09 23 36.9	+8.7
KIZT	**Kizilcal**	**151.13**	**315**	P	PKPdf	09 23 35.9	+7.9
GEC2	**GERESS Array S**	**151.15**	**349**	ePKHKP		09 23 35.7	
GERES	**GERESS Array B**	**151.15**	**349**	PKPbc	PKPdf	09 23 35.7	+8.0
	comp=Z,7.8nm,0.8s,baz=45,slow=1.9,SNR=39						
GERES				PKPab	PKPab	09 23 42.6	-1.2
	comp=Z,11nm,1.0s,baz=45,slow=1.9,SNR=16						
DRGI	**Dragot**	**151.38**	**298**	P	PKPdf	09 23 37.2	+8.6
FLN	**La Foliniere**	**151.48**	**9**	ePKP1	PKPdf	09 23 35.4	+7.2
	comp=Z,34nm,0.7s						
JMQS	**Jabal Moqyreh**	**151.56**	**293**	P	PKPdf	09 23 37.7	+8.8
LDF	**La Druitiere**	**151.70**	**8**	ePKP1	PKPdf	09 23 35.9	+7.4
DBAS	**Duba**	**151.72**	**289**	P	PKPdf	09 23 37.9	+8.7
GRR	**Gorron**	**151.79**	**9**	ePKP1	PKPdf	09 23 36.2	+7.6
	comp=Z,39nm,0.6s						
ZFRI	**Zfri**	**151.82**	**296**	P	PKPdf	09 23 38.2	+9.0
MOA	**Molln**	**152.00**	**348**	⇑iP	PKPdf	09 23 37.4	+8.4
PRNI	**Paran**	**152.01**	**296**	P	PKPdf	09 23 38.7	+9.2
JMOS	**Jabal al Moall**	**152.17**	**294**	P	PKPdf	09 23 39.0	+9.2
LEF	**Lefka**	**152.17**	**307**	P	PKPdf	09 23 37.2	+7.6
ALWS	**Ilw as Safayha**	**152.18**	**294**	P	PKPdf	09 23 39.2	+9.4
FUR	**Furstenfeldbru**	**152.18**	**352**	ePKIKP	PKPdf	09 23 38.2	+9.0
AYUS	**‘Aynunah**	**152.20**	**291**	P	PKPdf	09 23 39.2	+9.3
EIL	**Elat**	**152.20**	**295**	P	PKPdf	09 23 39.0	+9.2
MBH	**Mount Berech**	**152.21**	**295**	P	PKPdf	09 23 39.1	+9.3
MBH	**Mount Berech**	**152.21**	**295**	⇑P	PKPdf	09 23 39.1	+9.3
CDF	**Champ du Feu**	**152.26**	**358**	ePKP1	PKPdf	09 23 37.8	+8.5
	comp=Z,81nm,1.4s						
BFO	**Black Forest**	**152.29**	**356**	ePKIKP		09 23 47.8	
BFO	**Black Forest**	**152.29**	**356**	ePKPbc	PKPdf	09 23 38.0	+8.6
BFO				ePKPab	PKPab	09 23 47.8	-0.8
KMTI	**Karmit**	**152.30**	**296**	P	PKPdf	09 23 39.0	+9.0
BDAS	**Al Bad‘**	**152.31**	**292**	P	PKPdf	09 23 39.4	+9.4
HAQS	**Haql**	**152.34**	**293**	P	PKPdf	09 23 39.5	+9.4
TAYS	**Tayyib Ism**	**152.49**	**292**	P	PKPdf	09 23 40.0	+10
HAU	**Haudompre**	**152.69**	**359**	ePKP1	PKPdf	09 23 38.5	+8.6
DST	**Dursunbey**	**152.81**	**319**	P	PKPdf	09 23 36.8	+6.4
HINF	**Hinteralfeld**	**152.87**	**358**	ePKP1	PKPdf	09 23 38.7	+8.5
KBA	**Koelnbreinsper**	**152.92**	**349**	⇓iP	PKPdf	09 23 39.4	+9.1
WTTA	**Wattenberg**	**153.02**	**351**	⇑iP	PKPdf	09 23 39.9	+9.5
LOR	**Lormes**	**153.38**	**3**	ePKP1	PKPdf	09 23 40.2	+9.3
	comp=Z,11nm,0.8s						
SSF	**Saint Saulge**	**153.57**	**4**	ePKP1	PKPdf	09 23 40.6	+9.4
	comp=Z,19nm,0.8s						
DAVOX	**Davos**	**153.71**	**354**	PKPbc		09 23 41.6	
	comp=Z,9.8nm,1.0s,baz=310,slow=7.9,SNR=5.9						
DAVOX				PKPab	PKPab	09 23 54.4	-0.2
	comp=Z,4.3nm,0.5s,baz=355,slow=6.2,SNR=3.8						
AKS	**Akhisar**	**153.75**	**319**	P	Px	09 24 17.3	
CABF	**La Chapelle**	**154.09**	**360**	ePKP1		09 23 42.4	
TCF	**Toulx Ste Croi**	**154.24**	**6**	ePKP1	PKPdf	09 23 41.5	+9.4
MLSB	**Milas**	**154.71**	**316**	P	PKPdf	09 23 34.5	+1.5
BNI	**Bardonecchia**	**155.64**	**359**	ePKPab	PKPab	09 24 02.1	-0.8

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*IDC **04** 09:15:07.9±5.1, 57.36S×25.81W, h60km±45km, mb4.1/7, mb1 4.1/8, mb1mx4.0/13, ML3.8/1, MS3.2/2, Ms1 3.2/2, ms1mx3.1/14, Error ellipse: s-maj=34.1km s-min=16.3km az=48.0*

*NEIC **04** 09:15:08.6±2.1, 57.36S×25.77W, h69km±18km, mb4.4/6, Error ellipse: s-maj=15.9km s-min=7.4km az=224.0*

ISC 04 09:15:06.7±4.7, **57.3S**±0.1×**25.7W**±0.3, **h68**km±45km, **n34**, σ**0.79**/17, **mb4.4**/11, **2C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**17.26**	**156**	⇑i	**P**	**09 19 04.2**	**0.0**
SNAA	**Sanae**	**17.26**	**156**	P	**P**	**09 19 04.6**	**+0.4**
	0.3nm,0.3s,baz=322,slow=14,SNR=31						
SNAA				PcP	PcP	09 23 44.1	-0.7
	0.1nm,0.3s,baz=183,slow=24,SNR=5.1						
SNAA				LR	LR	09 24 07.5	
	comp=Z,27nm,21.6s,baz=351,slow=31						
SNAA	**Sanae**	**17.26**	**156**	⇑iP	**P**	**09 19 04.2**	**0.0**
EFI	**East Falkland**	**19.49**	**273**	eP	**P**	**09 19 30.3**	**-0.2**
	5.8nm,0.5s						
USHA	**Ushuaia**	**23.69**	**258**	P	**P**	**09 20 13.7**	**+1.3**
	5.3nm,0.7s,mb4.0,baz=104,slow=10,SNR=5.6						
USHA				LR	LR	09 27 23.6	
	comp=Z,202nm,18.5s,baz=141,slow=31						
TRQA	**Tornquist**	**30.57**	**293**	eP	**P**	**09 21 14.3**	**-1.4**
	1.9nm,0.6s,mb4.0						
QSPA	**South Pole Qui**	**32.95**	**180**	eP	**P**	**09 21 36.1**	**0.0**
	16nm,0.6s,mb5.0						
CPUP	**Villa Florida**	**38.25**	**311**	P	**P**	**09 22 21.1**	**-0.5**
	1.0nm,0.3s,mb4.1,baz=141,slow=7.1,SNR=8.3						
CPUP				PcP	PcP	09 24 35.0	-0.3
	1.3nm,0.5s,baz=176,slow=3.8,SNR=4.7						
CPUP	**Villa Florida**	**38.25**	**311**	eP	**P**	**09 22 20.8**	**-0.8**
	1.3nm,0.5s,mb4.0						
CPUP				PcP	PcP	09 24 35.0	-0.2
MAW	**Mawson**	**38.66**	**142**	P	**P**	**09 22 24.4**	**-0.2**
	1.1nm,0.6s,mb3.9,baz=237,slow=8.6,SNR=13						
MAW				PcP	PcP	09 24 36.1	-0.1
	1.1nm,0.5s,baz=226,slow=2.1,SNR=6.2						
BDFB	**Brasilia**	**44.86**	**329**	P	**P**	**09 23 17.0**	**+1.2**
	5.5nm,0.6s,mb4.5,baz=54,slow=3.7,SNR=10						
LPAZ	**La Paz**	**51.76**	**304**	P	**P**	**09 24 09.4**	**+0.1**
	5.7nm,0.4s,mb5.0,baz=149,slow=5.7,SNR=30						
LPAZ				PcP	PcP	09 25 22.4	+0.5
	1.6nm,0.5s,baz=211,slow=2.5,SNR=2.0						
SAML	**Samuel**	**56.26**	**314**	eP	**P**	**09 24 41.3**	**-1.0**
	4.4nm,0.4s,mb4.8						
DBIC	**Dimbokro**	**65.99**	**23**	P	**P**	**09 25 48.0**	**0.0**
	5.3nm,1.1s,mb4.3,baz=159,slow=7.8,SNR=4.1						
DBIC	**Dimbokro**	**65.99**	**23**	eP	**P**	**09 25 48.2**	**+0.2**
SDV	**Santo Domingo**	**75.47**	**314**	eP	**P**	**09 26 46.2**	**+1.1**
	6.2nm,0.7s,mb4.5						
ASAR	**Alice Springs**	**97.55**	**161**	P	**P**	**09 28 33.6**	**-0.5**
	0.4nm,0.6s,mb4.1,baz=186,slow=5.1,SNR=4.3						
JLU	**Jordanelle**	**120.91**	**298**	ePKPdf	PKPdf	09 33 53.2	+2.4
PDAR	**Pinedale Array**	**121.69**	**301**	PKP	PKPdf	09 33 53.0	+0.8
	0.5nm,0.5s,baz=128,slow=5.0,SNR=5.8						
HWUT	**Hardware Ranch**	**121.75**	**298**	ePKPdf	PKPdf	09 33 53.7	+1.5
BGU	**Big Grassy Mou**	**121.92**	**297**	ePKPdf	PKPdf	09 33 54.6	+2.0
NVAR	**Mina Array Bea**	**122.62**	**291**	PKP	PKPdf	09 33 56.2	+2.1
	0.7nm,0.6s,baz=118,slow=4.9,SNR=9.2						
NVAR	**Mina Array Bea**	**122.62**	**291**	PKP	PKPdf	09 33 56.2	+2.1
FINES	**FINESS Array B**	**125.11**	**27**	PKP	PKPdf	09 33 59.6	+1.5
	1.2nm,0.5s,baz=153,slow=4.3,SNR=7.4						
ARCES	**ARCESS Array B**	**131.81**	**22**	PKP	PKPdf	09 34 11.8	+1.1
	0.7nm,0.6s,baz=180,slow=1.2,SNR=5.9						
ARCES	**ARCESS Array B**	**131.81**	**22**	PKP	PKPdf	09 34 11.8	+1.1
BVAR	**Borovoye Array**	**134.76**	**58**	PKP	PKPdf	09 34 18.7	+2.0
	0.4nm,0.4s,SNR=3.9						
YKA	**Yellowknife Ar**	**137.64**	**316**	PKP	PKPdf	09 34 23.3	+1.6
	2.1nm,0.4s,baz=133,slow=1.9,SNR=16						
YKA	**Yellowknife Ar**	**137.64**	**316**	PKP	PKPdf	09 34 23.3	+1.6
SONM	**Songino Array**	**149.98**	**88**	PKPbc	PKPdf	09 34 50.3	+7.2
	3.8nm,0.8s,baz=230,slow=2.8,SNR=22						
DIV	**Divide**	**150.03**	**303**	ePKPbc	PKPdf	09 34 50.2	+7.4
ILAR	**Eielson Array**	**151.55**	**310**	PKPbc	PKPdf	09 34 53.2	+8.3
	8.4nm,0.6s,baz=140,slow=3.9,SNR=131						
COLA	**College**	**151.98**	**310**	ePKPbc	PKPdf	09 34 53.5	+7.8
COLA				ePKPab	PKPab	09 35 03.5	-0.6
MCK	**McKinley**	**152.19**	**307**	ePKPbc	PKPdf	09 34 54.9	+9.0

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*NEIC **04** 09:19:28.9±0.7, 24.30S×68.45W, h100km±9km, MD3.7(GUC), Error ellipse: s-maj=14.3km s-min=11.9km az=89.0*

*GUC **04** 09:19:29.7±1.0, 24.16S×68.49W, h120km, MD3.7, ML3.7*

*IDC **04** 09:19:30.8±4.5, 24.13S×68.14W, h114km±39km, mb3.5/2, mb1 3.5/4, mb1mx3.4/14, Error ellipse: s-maj=49.5km s-min=32.3km az=57.0*

ISC 04 09:19:28.2±0.7, **24.25S**±0.07×**68.4W**±0.1, **h119**km±16km, **n12**, σ**1.48**/14, **mb3.9**/1, **Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.70**	**343**	eP	**P**	**09 19 59.6**	**+1.3**
LVC				i S	**S**	**09 20 21.6**	**+0.5**
LVC				AMP		09 20 24.6	
	comp=E,844nm,0.3s						
CPN1	**Cerro Paranal**	**1.88**	**258**	eP	**P**	**09 20 02.3**	**+1.8**
CPN1				i S	**S**	**09 20 26.5**	**+1.6**
CPN1				AMP		09 20 36.8	
	comp=E,799nm,0.5s						
ANCH	**Antofagasta**	**1.94**	**287**	eP	**P**	**09 19 59.2**	**-2.0**
ANCH				i S	**S**	**09 20 23.9**	**-2.3**
ANCH				AMP		09 20 31.3	
	comp=E,659nm,0.4s						
VACH	**Vallenar**	**4.80**	**206**	eP	**P**	**09 20 38.2**	**-1.4**
VACH				i S	**S**	**09 21 34.5**	**-0.1**
LPAZ	**La Paz**	**7.93**	**2**	P	**P**	**09 21 22.1**	**0.0**
	comp=E,1.1nm,0.3s,baz=187,slow=6.9,SNR=15						
LPAZ	**La Paz**	**7.93**	**2**	ePn	**P**	**09 21 22.1**	**+0.1**
CPUP	**Villa Florida**	**10.22**	**104**	P	**P**	**09 21 52.8**	**+0.1**
	comp=E,0.1nm,0.3s,baz=293,slow=15,SNR=3.7						
BDFB	**Brasilia**	**20.96**	**70**	P	**P**	**09 24 01.2**	**-2.1**
	comp=E,1.1nm,0.3s,baz=214,slow=3.6,SNR=3.2						
MAW	**Mawson**	**81.57**	**163**	P	**P**	**09 31 35.7**	**+2.0**
	comp=E,1.1nm,0.5s,mb3.9,baz=191,slow=5.2,SNR=6.7						
MAW	**Mawson**	**81.57**	**163**	eP	**P**	**09 31 35.8**	**+2.1**
ASAR	**Alice Springs**	**127.69**	**206**	PKP	PKPdf	09 38 23.2	+3.0
	comp=E,0.2nm,0.4s,baz=125,slow=2.0,SNR=6.6						
MKAR	**Makanchi Array**	**147.52**	**39**	PKPbc	PKPdf	09 39 01.1	+5.7
	comp=E,0.7nm,0.5s,baz=316,slow=3.2,SNR=6.2						

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*ISK **04** 09:29:03.4, 38.42N×26.46E, h12km, MD2.9*

*ATH **04** 09:29:05.2, 38.30N×26.41E, h36km±8km, MD3.1/3*

*NEIC **04** 09:29:05.2, 38.30N×26.41E, h36km, MD3.1(ATH), After ATH.*

CSEM 04 09:29:05.2±0.1,38.38N×26.58E,h15km,MD2.9,Error ellipse: s-maj=3.9km s-min=2.7km az=50.0
ISC 04 09:29:04.3±1.2,**38.32N**±0.03×**26.47E**±0.06,**h9**km±7km,**n15**,σ1s05/24,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IZM	Izmir	0.63	83	iPG	Pg	09 29 16.7	-0.2
IZM				iSG	Sg	09 29 25.2	-0.1
KDAG	Bornova	0.63	83	iP	Pg	09 29 16.9	-0.1
KDAG				iS	Sg	09 29 25.3	-0.2
SMG	Samos	0.68	155	ePN	Pn	09 29 18.6	-1.2
SMG				eSN	Sn	09 29 29.4	-1.1
PRK	Paraskevi	0.93	350	ePN	Pn	09 29 23.4	0.0
PRK				eSN	Sn	09 29 36.9	0.0
AYVA	Ayvalik	1.00	10	iP	Pb	09 29 24.8	+1.6
AYVA				iS	Sb	09 29 39.1	+2.8
AKS	Akhisar	1.19	62	PN	Pn	09 29 26.2	-0.9
AKS				SN	Sn	09 29 42.4	-1.0
AYDN	Tasoluk	1.29	120	eP	Pb	09 29 29.7	+1.4
AYDN				iS	Sb	09 29 45.8	+0.8
APE	Apeiranthos	1.46	211	PN	Pn	09 29 31.2	+0.3
APE	Apeiranthos	1.46	211	ePN	Pn	09 29 30.4	-0.5
MLSB	Milas	1.46	134	PN	Pn	09 29 31.2	+0.3
BDRM	Kayabasi	1.48	148	iP	Pn	09 29 30.9	-0.3
BDRM				iS	Sb	09 29 52.8	+2.6
BOZC	Bozcaada	1.55	348	iP	Pn	09 29 32.1	-0.1
BOZC				iS	Sb	09 29 57.7	+5.3
LIA	Limnos Island	1.86	328	ePN	Pn	09 29 36.5	-0.2
DNZL	Cakiroluk	2.13	106	iP	Pn	09 29 45.7	+5.1
KCT	Karacabey	2.43	36	PN	Pn	09 29 42.6	-2.2

NIED 04 09:30:00,28.00N×128.00E,h5km,Mw3.9 Best double couple: Mo7.48×10^14 NP1:φs280°,δ69°,λ-28°. NP2:φs21°,δ64°,λ-156°.
JMA 04 09:30:23.4±0.4,**28.01N**×**128.05E**,**h6**km±4km,**M3.5**,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTK	Tokunoshima	0.83	105	P	Pb	09 30 39.3	-0.5
JTK				S	Sb	09 30 50.5	-0.4
JIH	Iheya	0.97	184	P	Pb	09 30 41.9	-0.4
JIH				S	Sb	09 30 55.2	0.0
JOW	Kunigami	1.19	170	P	Pb	09 30 45.4	-0.6
JOW				eS	Sb	09 31 01.3	-0.2
JAM	Amami Oshima	1.43	73	P	Pn	09 30 49.4	-0.6
JAM				eS	Sb	09 31 08.0	-0.4
JAGN	Aguni-jima	1.59	207	P	Pn	09 30 52.0	-0.2
JZK	Kikaishima	1.72	79	P	Pn	09 30 55.3	+1.1
JKE	Kume jima 2	2.02	214	P	Pn	09 30 58.7	+0.3

IDC 04 09:30:45.8±37.0,**30.21S**×**179.48W**,**h481**km±350km,**mb3.2**/4,**mb1 3.3**/4,**mb1mx3.1**/12,**Error ellipse: s-maj=232.0km s-min=100.0km az=91.0**,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	32.51	280	P	P	09 36 36.3	-0.8
	4.1nm,0.7s,baz=117,slow=9.0,SNR=5.5						
STKA	Stephens Creek	33.27	257	P	P	09 36 41.5	-1.9
	1.0nm,0.5s,baz=100,slow=13,SNR=4.4						
ASAR	Alice Springs	41.84	267	P	P	09 37 52.8	-1.1
	0.5nm,0.4s,baz=105,slow=7.2,SNR=13						
WB2	Warramunga Arr	42.80	273	eP	P	09 38 00.4	-1.2
WRA	Warramunga Arr	42.81	273	P	P	09 38 00.7	-1.0
	1.1nm,0.3s,baz=110,slow=7.9,SNR=21						
FINES	FINESS Array B	144.52	339	PKP	PKPdf	09 49 25.3	-0.3
	1.2nm,0.6s,baz=90,slow=1.4,SNR=6.0						

MAN 04 09:49:05.3,**12.61N**×**123.46E**,**h4**km,**mb4.0**,**ML2.8**,**MS2.4**,**3C-1D**,**Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MMPH	Masbate	0.30	147	⇑iP	Pg	09 49 11.6	+0.3
MMPH				iS	Sg	09 49 16.4	+1.0
AUQP	San Andres	1.04	313	eP	Pb	09 49 26.3	+0.8
AUQP	San Andres	1.04	313	eP	Pb	09 49 27.1	+1.5
PVCP	Virac	1.19	35	eP	Pb	09 49 26.4	-1.7
RCP	Roxas	1.25	214	⇑eP	Pb	09 49 28.3	-0.9
RCP				eS	Sb	09 49 47.2	+1.7
OTRP	Odiongan	1.42	260	eP	Pn	09 49 30.9	-1.1
GQP	Guinayangan	1.62	323	⇑eP	Pn	09 49 33.9	-0.9
GQP				eS	Sb	09 49 56.9	+0.7
GUIM	Jordan	2.15	203	eP	Pn	09 49 45.3	+2.9
BESP	Borongan	2.18	117	eP	Pn	09 49 43.6	+0.7
LLP	Lapu-Lapu	2.33	168	⇓eP	Pn	09 49 49.5	+4.5
CUYO	Cuyo Island	2.96	234	eP	Pn	09 49 53.7	-0.3

IDC 04 09:56:27.7±2.4,**3.49N**×**128.30E**,**mb3.3**/3,**mb1 3.4**/3,**mb1mx3.3**/17,**Error ellipse: s-maj=175.0km s-min=24.5km az=69.0**,**North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.03	166	P	P	10 01 45.2	-0.2
	0.3nm,0.5s,baz=347,slow=10.0,SNR=7.4						
ASAR	Alice Springs	27.54	169	P	P	10 02 15.8	-2.5
	0.2nm,0.9s,baz=355,slow=10.0,SNR=3.1						
MKAR	Makanchi Array	58.65	325	P	P	10 06 26.9	-2.3
	0.3nm,0.4s,baz=114,slow=7.4,SNR=6.2						

PRU 04 10:03:46.5,51.44N×16.13E
WAR 04 10:03:47.1,51.45N×16.08E,ML2.8,Mining Induced
NEIC 04 10:03:50.8±1.0,51.15N×15.87E,h5km,ML2.9(VIE),ML2.0(BRG),Error ellipse: s-maj=11.8km s-min=5.5km az=192.0
ISC 04 10:03:44.1±0.9,**51.44N**±0.05×**16.10E**±0.04,**n19**,σ1s28/35,**1C-2D**,**Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.61	168	ePG	Pg	10 03 58.0	+1.8
KSP				eSG	Sg	10 04 06.0	+1.7
KSP	Ksiaz	0.61	168	⇑iPg	Pg	10 03 58.5	+2.3
KSP				eSg	Sg	10 04 06.9	+2.6
KSP	Ksiaz	0.61	168	ePg	Pg	10 03 58.5	+2.3
KSP				eSg	Sg	10 04 07.1	+2.8
UPC	Upice	0.93	183	ePG	Pg	10 04 04.5	+1.8
DPC	Dobruska-Polom	1.10	172	ePG	Pg	10 04 07.2	+1.2
DPC				eSG	Sg	10 04 21.6	+1.0
	19nm,0.4s						
PVCC	Panska Ves	1.33	227	ePG	Pg	10 04 11.5	+1.0
BRG	Berggiesshubel	1.47	248	iPg	Pg	10 04 14.1	+0.7
BRG				iSg	Sg	10 04 34.1	+1.2
PRU	Pruhonice	1.75	215	PG	Pg	10 04 18.6	-0.5
PRU				ix	x	10 04 23.2	
PRU				ix	x	10 04 35.1	
PRU				eSG	Sg	10 04 40.6	-1.9
	18nm,0.4s						
MORC	Moravsky Berou	1.90	150	ePn	Pn	10 04 20.9	+2.8
MORC				eSn	Sn	10 04 42.8	-0.2
CLL	Collm	1.94	267	ePG	Pg	10 04 23.0	+0.2
CLL				i		10 04 43.7	
CLL				eSG	Sg	10 04 48.0	-0.7
CLL	Collm	1.94	267	ePg	Pg	10 04 23.0	+0.2
CLL				eSg	Sg	10 04 48.0	-0.7
OKC	Ostrava-Krasne	2.07	140	eSG	Sg	10 04 51.5	-1.4
NKC	Novy Kostel	2.61	244	ePG	Pg	10 04 36.3	+0.2
OJC	Ojcow	2.65	116	ePG	Pg	10 04 35.0	-1.9
OJC				eSG	Sg	10 05 11.0	-1.1
OJC	Ojcow	2.65	116	ePg	Pg	10 04 34.8	-2.1
OJC				eSg	Sg	10 05 11.0	-1.1
OJC	Ojcow	2.65	116	ePg	Pg	10 04 34.8	-2.1
OJC				eSg	Sg	10 05 11.0	-1.1
OJC				⇓((			
KHC	Kasperske Hory	2.82	216	ePG	Pg	10 04 37.5	-2.8
KHC				eSN	Sn	10 05 05.9	-0.4
KHC				eSG	Sg	10 05 17.1	-0.7
MOX	Moxa	2.94	256	ePg	Pg	10 04 41.9	-0.8
MOX				eSg	Sg	10 05 21.9	+0.1
MOA	Molln	3.78	199	⇓iPN	Pn	10 04 45.2	+0.3
MOA				iSG	Sg	10 05 48.5	-1.5
	4.1nm,0.4s						

IDC 04 10:07:15.7±3.8,**5.36S**×**104.71E**,**mb3.4**/4,**mb1 3.5**/4,**mb1mx3.4**/15,**Error ellipse: s-maj=162.0km s-min=24.8km az=54.0**,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	32.26	119	P	P	10 13 46.5	-1.9
	0.2nm,0.8s,baz=302,slow=9.0,SNR=5.3						
ASAR	Alice Springs	33.49	126	P	P	10 13 56.5	-2.6
	0.2nm,0.6s,baz=299,slow=7.8,SNR=3.0						
SONM	Songino Array	52.98	1	P	P	10 16 35.3	-1.1
	0.6nm,0.5s,baz=171,slow=8.3,SNR=6.5						
MKAR	Makanchi Array	55.60	341	P	P	10 16 52.3	-3.2
	0.5nm,0.4s,baz=153,slow=8.8,SNR=11						

IDC 04 10:18:20.6±3.6,2.06N×126.71E,h64km±31km,mb3.6/8,mb1 3.7/8,mb1mx3.6/17,Error ellipse: s-maj=76.5km s-min=12.5km az=70.0
NEIC 04 10:18:33.3±5.8,1.94N×126.71E,h190km±60km,mb4.1/5,Error ellipse: s-maj=80.4km s-min=19.6km az=71.0
ISC 04 10:18:12.0±4.5,**2.1N**±0.2×**126.5E**±0.4,**h9**km±27km,**n15**,σ0s65/16,**mb3.9**/10,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	15.81	158	eP	P	10 22 05.9	+9.2
	5.4nm,0.6s						
FITZ	Fitzroy Crossi	20.09	182	eP	P	10 22 48.9	0.0
	1.5nm,0.6s						
FITZ	Fitzroy Crossi	20.09	182	P	P	10 22 48.2	-0.7
	2.0nm,0.6s,baz=21,slow=5.8,SNR=8.4						
WRAB	Tennant Creek	23.20	161	eP	P	10 23 20.5	+0.2
	5.3nm,0.6s,mb4.2						
WRA	Warramunga Arr	23.20	161	P	P	10 23 19.6	-0.7
	4.3nm,0.8s,mb4.0,baz=336,slow=11,SNR=24						
WRA				S	S	10 27 27.9	-0.1
	0.3nm,0.7s,baz=337,slow=22,SNR=3.0						
WB2	Warramunga Arr	23.21	161	eP	P	10 23 20.5	+0.1
ASAR	Alice Springs	26.59	165	P	P	10 23 53.9	+1.3
	0.8nm,0.4s,mb3.6,baz=344,slow=11,SNR=16						
ASAR				PcP	PcP	10 27 16.7	-0.7
	0.4nm,0.6s,baz=351,slow=2.2,SNR=5.0						
STKA	Stephens Creek	36.69	158	P	P	10 25 20.5	-0.8
	1.1nm,0.4s,mb4.0,baz=278,slow=5.6,SNR=5.1						
SONM	Songino Array	48.77	342	P	P	10 27 00.1	+0.8
	0.3nm,0.5s,mb3.6,baz=149,slow=7.8,SNR=3.7						
MKAR	Makanchi Array	58.78	326	P	P	10 28 12.0	-0.9
	0.9nm,0.5s,mb4.0,baz=120,slow=7.4,SNR=13						
MKAR	Makanchi Array	58.78	326	P	P	10 28 12.0	-0.9
KURK	Kurchatov	63.00	328	P	P	10 28 41.0	-0.6
	2.6nm,0.6s,mb4.5						
BVAR	Borovoye Array	68.57	327	P	P	10 29 17.5	+0.2
	0.6nm,0.7s,mb3.6,baz=104,slow=12,SNR=3.4						
ZRNK	Zerenda	69.29	327	eP	P	10 29 21.7	+0.1
	1.0nm,0.5s,mb4.0						
MAW	Mawson	82.16	200	P	P	10 30 35.0	+0.7
	0.8nm,0.7s,mb3.8,baz=51,slow=6.5,SNR=4.7						

IDC 04 10:35:53.7±1.3,41.43S×88.32W,mb3.6/5,mb1 4.0/5,mb1mx3.9/14,MS3.7/5,Ms1 3.7/5,ms1mx3.6/14,Error ellipse: s-maj=55.8km s-min=29.4km az=76.0
NEIC 04 10:35:55.4±0.9,41.40S×88.26W,h10km,mb4.2/3,Error ellipse: s-maj=22.0km s-min=18.8km az=46.0
ISC 04 10:35:53.8±1.1,**41.4S**±0.2×**88.2W**±0.2,**h10**km,**n14**,σ0s81/10,**mb3.7**/7,**MS3.6**/4,**West Chile Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
USHA	Ushuaia	18.71	142	LR	LR	10 45 58.2	
	comp=Z,409nm,18.1s,baz=288,slow=32						
TRQA	Tornquist	20.41	89	eP	P	10 40 33.7	+0.1
	14nm,1.1s						
LVC	Limon Verde	24.80	47	eP	P	10 41 17.7	+0.5
	17nm,1.3s,mb4.4						
CPUP	Villa Florida	29.54	69	LR	LR	10 52 18.9	
	comp=Z,112nm,21.9s,MS3.5,baz=263,slow=33						
LPAZ	La Paz	30.46	41	P	P	10 42 09.3	+0.4
	2.4nm,1.0s,mb3.9,baz=172,slow=6.4,SNR=6.8						
LPAZ				LR	LR	10 51 47.2	
	comp=Z,96nm,19.6s,MS3.5,baz=131,slow=31						
LPAZ	La Paz	30.46	41	eP	P	10 42 09.4	+0.5
SAML	Samuel	39.19	41	eP	P	10 43 22.5	-1.3
	1.4nm,0.7s,mb3.8						
BDFB	Brasilia	43.11	65	LR	LR	11 01 06.7	
	comp=Z,116nm,19.7s,MS3.8,baz=142,slow=35						
ROSC	El Rosal	47.79	19	LR	LR	11 03 48.7	
	comp=Z,104nm,18.5s,MS3.8,baz=165,slow=35						
SNAA	Sanae	49.85	156	P	P	10 44 48.4	-0.1
	0.2nm,0.7s,mb3.3,baz=247,slow=7.7,SNR=2.9						
TXAR	Lajitas Array	71.86	346	P	P	10 47 17.9	-0.9
	0.4nm,0.6s,mb3.5,baz=171,slow=7.0,SNR=6.6						
NVAR	Mina Array Bea	84.11	337	P	P	10 48 25.7	-0.2
	0.3nm,0.8s,mb3.5,baz=196,slow=6.6,SNR=2.6						
NVAR	Mina Array Bea	84.11	337	P	P	10 48 25.7	-0.2
PDAR	Pinedale Array	86.01	344	P	P	10 48 36.9	+1.6
	0.2nm,0.4s,mb3.7,baz=170,slow=5.5,SNR=2.9						

IDC 04 11:00:49.4±2.2,**3.25N**×**127.89E**,**mb3.3**/3,**mb1 3.5**/3,**mb1mx3.3**/16,**Error ellipse: s-maj=153.0km s-min=26.5km az=67.0**,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.90	165	P	P	11 06 05.3	-0.6
	0.4nm,0.7s,baz=345,slow=10,SNR=6.0						
ASAR	Alice Springs	27.39	168	P	P	11 06 36.2	-2.4
	0.1nm,0.6s,baz=348,slow=7.2,SNR=3.8						
MKAR	Makanchi Array	58.61	325	P	P	11 10 48.5	-2.1
	0.4nm,0.3s,baz=130,slow=8.2,SNR=4.8						

NIED 04 11:04:00,28.10N×142.50E,h8km,Mw4.2 Best double couple: Mo2.31×10^15 NP1:φs272°,δ83°,λ-115°. NP2: φs168°,δ26°,λ-16°.
IDC 04 11:04:57.8±2.8,28.22N×141.87E,h34km±21km,mb3.9/17,mb1 4.1/19,mb1mx4.0/26,ML3.7/2,MS3.4/2,Ms1 3.5/2,ms1mx3.0/25,Error ellipse: s-maj=21.3km s-min=11.7km az=83.0
NEIC 04 11:04:58.5±1.2,28.23N×141.88E,h40km±11km,mb4.3/13,Error ellipse: s-maj=10.1km s-min=6.5km az=97.0
ISC 04 11:04:56.1±1.0,**28.20N**±0.05×**141.8E**±0.1,**h35**km±9km,**n44**,σ0s85/45,**mb4.2**/29,**MS3.4**/2,**1C**,**Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	1.17	161	Pn	P	11 05 17.1	+1.0
	366nm,0.3s,baz=87,slow=3.0,SNR=91						
CBIJ				Sn	S	11 05 30.6	-0.5
	814nm,0.3s,baz=288,slow=20,SNR=35						
JHJ	Hachijo jima 2	5.19	341	Pn	P	11 06 14.2	+0.8
	6.2nm,0.3s,baz=53,slow=19,SNR=3.8						
MAJO	Matsushiro	8.84	341	ePn	P	11 07 03.7	-0.8
MAT	Matsushiro	8.84	341	P	P	11 07 04.4	-0.1
MAT				eS	S	11 08 36.4	-7.6
MAT	Matsushiro	8.84	341	P	P	11 07 04.0	-0.5
MAT				S	S	11 08 36.0	-8.0
ASAJ	Asahikawa	15.89	2	Pn	P	11 08 38.7	-0.1
	0.5nm,0.3s,baz=289,slow=6.8,SNR=3.9						
SONM	Songino Array	33.66	315	P	P	11 11 36.8	+1.1
	0.8nm,0.9s,mb3.6,baz=121,slow=8.4,SNR=3.5						
SONM				ScP		11 17 56.2	
	0.9nm,0.8s,baz=122,slow=4.7,SNR=4.3						
CMAR	Chiang Mai Arr	40.33	266	LR	LR	11 28 37.7	
	comp=Z,46nm,19.8s,MS3.3,baz=85,slow=35						
WRAB	Tennant Creek	48.39	189	P	P	11 13 36.0	-0.9
	89nm,0.6s,SNR=9.1						
WRAB	Tennant Creek	48.39	189	eP	P	11 13 36.9	0.0
	14nm,0.7s,mb5.1						
WB2	Warramunga Arr	48.40	189	eP	P	11 13 36.9	-0.1
WRA	Warramunga Arr	48.40	189	P	P	11 13 36.9	-0.1
	7.9nm,0.5s,mb5.0,baz=10,slow=8.4,SNR=61						
FITZ	Fitzroy Crossi	48.61	201	⇑iP	P	11 13 39.6	+1.0
	3.2nm,0.5s,mb4.6						
FITZ	Fitzroy Crossi	48.61	201	P	P	11 13 39.5	+0.9
	4.1nm,0.5s,mb4.7,baz=9.7,slow=6.5,SNR=17						
MKAR	Makanchi Array	49.49	309	P	P	11 13 43.5	-1.5
	0.3nm,0.3s,mb3.8,baz=84,slow=9.0,SNR=5.1						
MKAR				PcP	PcP	11 15 06.1	-0.9
	0.9nm,0.4s,baz=84,slow=6.0,SNR=6.1						
MKAR				LR	LR	11 36 10.5	
	comp=Z,42nm,18.7s,MS3.5,baz=221,slow=38						
ASAR	Alice Springs	52.12	189	P	P	11 14 05.1	-0.2
	0.6nm,0.4s,mb3.9,baz=12,slow=7.9,SNR=17						
MBWA	Marble Bar	53.49	206	P	P	11 14 15.4	-0.1
	14nm,1.3s,mb4.7						
COLA	College	56.52	29	P	P	11 14 34.7	-2.3
	1.5nm,0.5s,mb4.3						
ILAR	Eielson Array	56.92	29	P	P	11 14 37.8	-2.0
	1.3nm,0.7s,mb4.1,baz=260,slow=6.2,SNR=18						
ILAR	Eielson Array	56.92	29	P	P	11 14 37.8	-2.0
BVAR	Borovoye Array	56.98	317	P	P	11 14 39.9	-0.5
	2.2nm,0.5s,mb4.4,baz=80,slow=9.0,SNR=14						
BRVK	Borovoye	57.04	317	eP	P	11 14 41.1	+0.3
	2.4nm,0.7s,mb4.3						
ZRNK	Zerenda	57.82	317	eP	P	11 14 46.1	-0.3
	1.6nm,0.4s,mb4.4						
STKA	Stephens Creek	59.75	180	P	P	11 14 58.6	-1.4
	0.9nm,0.6s,mb4.0,baz=0.4,slow=13,SNR=3.1						
ARU	Arti	63.33	322	eP	P	11 15 22.9	-0.9
	10nm,0.8s,mb5.0						
ARCES	ARCESS Array B	72.38	341	P	P	11 16 20.7	+0.8
	0.7nm,0.5s,mb3.9,baz=72,slow=7.0,SNR=7.6						
ARCES	ARCESS Array B	72.38	341	P	P	11 16 20.7	+0.8
YBH	Yreka Blue Hor	75.63	50	P	P	11 16 39.7	+0.4
	1.6nm,0.9s,mb4.0,baz=315,slow=1.4,SNR=2.8						
FINES	FINESS Array B	76.79	334	P	P	11 16 46.2	+0.7
	1.0nm,0.3s,mb4.2,baz=78,slow=5.1,SNR=13						
FINES	FINESS Array B	76.79	334	P	P	11 16 46.2	+0.6
NVAR	Mina Array Bea	80.13	52	P	P	11 17 04.9	+0.7
	1.0nm,0.7s,mb3.9,baz=297,slow=6.0,SNR=8.0						
HLID	Hailey	80.24	46	eP	P	11 17 04.4	-0.3
	1.6nm,0.9s,mb4.0						
BOZ	Bozeman (W)	80.90	43	eP	P	11 17 08.7	+0.4
	1.4nm,0.7s,mb4.0						
ELK	Elko	81.09	49	eP	P	11 17 09.2	-0.1
	1.2nm,0.8s,mb3.9						
HFS	Hagfors	82.26	337	P	P	11 17 15.0	0.0
	4.2nm,0.8s,mb4.4,baz=72,slow=4.6,SNR=4.4						
TPNV	Topopah Spring	82.27	52	eP	P	11 17 15.7	+0.2
	2.2nm,0.8s,mb4.1						
NB2	NORSAR Subarra	82.45	338	P	P	11 17 16.1	+0.2
	1.0nm,0.6s,mb3.9,baz=42,slow=5.0						
NOA	NORSAR Array B	82.45	338	P	P	11 17 15.8	-0.1
	1.1nm,0.5s,mb4.1,baz=42,slow=4.9,SNR=4.2						
DUG	Dugway	82.97	48	eP	P	11 17 19.4	+0.5
	1.7nm,0.7s,mb4.2						
HWUT	Hardware Ranch	83.04	46	eP	P	11 17 20.0	+0.7
	2.8nm,0.8s,mb4.3						
PDAR	Pinedale Array	83.69	45	P	P	11 17 22.4	-0.2
	0.5nm,0.7s,mb3.7,baz=225,slow=2.1,SNR=4.1						
BRTR	Keskin Array B	84.98	313	P	P	11 17 31.1	+2.0
	1.0nm,0.8s,mb4.0,baz=101,slow=3.0,SNR=3.3						
TXAR	Lajitas Array	95.24	53	P	P	11 18 18.9	+1.2
	1.0nm,0.7s,mb4.3,baz=304,slow=2.4,SNR=16						
LPAZ	La Paz	149.98	73	PKPbc	PKPdf	11 24 46.4	+7.8
	1.9nm,0.9s,baz=354,slow=6.3,SNR=6.2						

IDC 04 11:11:06.6±3.1,**31.28S**×**178.78W**,**mb4.0**/3,**mb1 4.2**/4,**mb1mx4.0**/13,**ML3.5**/1,**Error ellipse: s-maj=65.8km s-min=36.2km az=107.0**,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	7.75	205	Pn	Pn	11 13 01.2	-2.1
	0.6nm,0.3s,baz=320,slow=23,SNR=3.4						
URZ				Sn	Sn	11 14 27.8	-5.1
	2.5nm,0.3s,baz=341,slow=23,SNR=11						
STKA	Stephens Creek	33.64	258	P	P	11 17 50.1	-1.0
	0.5nm,0.5s,baz=131,slow=11,SNR=2.6						
ASAR	Alice Springs	42.41	268	P	P	11 19 02.8	-1.9
	0.8nm,0.4s,baz=109,slow=7.7,SNR=20						
WRA	Warramunga Arr	43.47	273	P	P	11 19 10.9	-2.4
	2.4nm,0.3s,baz=111,slow=8.0,SNR=5.8						
FINES	FINESS Array B	145.73	339	PKPbc	PKPbc	11 30 45.8	-1.2
	3.7nm,1.1s,baz=56,slow=5.0,SNR=4.2						

IDC 04 11:15:22.9±2.3,**6.14S**×**129.82E**,**mb3.7**/1,**mb1 4.2**/4,**mb1mx3.8**/12,**ML4.1**/3,**Error ellipse: s-maj=101.0km s-min=28.3km az=76.0**,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.57	199	Pn	P	11 18 24.7	-1.3
	1.3nm,0.3s,baz=22,slow=11,SNR=26						
FITZ				Sn	S	11 20 34.9	-13
	1.0nm,0.3s,baz=157,slow=16,SNR=5.8						
WRA	Warramunga Arr	14.41	163	Pn	P	11 18 46.7	-3.7
	1.3nm,0.3s,baz=332,slow=14,SNR=37						
WRA				Sn	S	11 21 15.0	-17
	0.8nm,0.3s,baz=332,slow=22,SNR=7.1						
ASAR	Alice Springs	17.86	168	P	P	11 19 32.8	-1.9
	0.6nm,0.3s,baz=348,slow=10,SNR=25						
ASAR				S	S	11 22 40.3	-12
	0.2nm,0.3s,baz=354,slow=27,SNR=5.0						
MKAR	Makanchi Array	67.41	327	P	P	11 26 20.4	-2.1
	0.4nm,0.5s,baz=122,slow=7.7,SNR=5.2						

ATH 04 11:37:59.9,37.78N×27.01E,h10km,MD3.0/3
CSEM 04 11:38:00.7±0.1,37.81N×27.09E,h5km,MD3.0,Error ellipse: s-maj=2.9km s-min=2.4km az=96.0
ISK 04 11:38:02.9,37.88N×27.27E,h9km,MD3.0
ISC 04 11:38:00.4±0.7,**37.78N**±0.03×**26.97E**±0.05,**h2**km±8km,**n12**,σ0s59/17,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SMG	Samos	0.13	238	ePG	Pg	11 38 03.0	0.0
IZM	Izmir	0.66	20	PG	Pg	11 38 13.2	-0.4
KDAG	Bornova	0.67	20	iP	Pg	11 38 13.1	-0.6
KDAG				iS	Sg	11 38 23.6	+1.0
AYDN	Tasoluk	0.73	99	iP	Pg	11 38 14.8	-0.2
AYDN				iS	Sg	11 38 24.6	0.0
MLSB	Milas	0.80	127	PG	Pg	11 38 17.6	+1.2
MLSB				SG	Sg	11 38 26.8	-0.2
BDRM	Kayabasi	0.80	152	iP	Pg	11 38 15.7	-0.7
BDRM				iS	Sg	11 38 26.9	-0.2
YER	Yerkesik	1.22	121	PN	Pn	11 38 24.2	-0.3
AKS	Akhisar	1.28	31	PN	Pn	11 38 24.6	-0.8
APE	Apeiranthos	1.35	239	ePB	Pb	11 38 26.5	+0.4
MANT	Manisa	1.44	60	iP	Pn	11 38 28.4	+0.8
MANT				iS	Sb	11 38 46.0	-0.3
PRK	Paraskevi	1.57	340	ePB	Pb	11 38 29.5	-0.3
DALT	Dalyan (Mudla)	1.67	127	PN	Pn	11 38 31.5	+0.7

ATH 04 11:46:02.6,37.72N×26.92E,h17km±1km,MD3.3/5
ISK 04 11:46:02.6,37.79N×26.98E,h14km,MD3.2
NEIC 04 11:46:02.6,37.72N×26.92E,h17km,MD3.3(ATH),After ATH.
CSEM 04 11:46:02.4±0.1,37.80N×27.01E,h10km,MD3.3,Error ellipse: s-maj=3.8km s-min=2.1km az=138.0
ISC 04 11:46:02.5±0.8,**37.76N**±0.03×**26.94E**±0.04,**h7**km±6km,**n16**,σ0s86/26,**3C**,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SMG	Samos	0.10	239	ePB	Pb	11 46 06.2	-0.1
SMG				eSB	Sb	11 46 08.0	-0.7
IZM	Izmir	0.69	21	iPG	Pg	11 46 15.7	-0.5
KDAG	Bornova	0.69	22	⇑iP	Pg	11 46 16.0	-0.3
KDAG				iS	Sg	11 46 25.6	0.0
AYDN	Tasoluk	0.75	97	⇑iP	Pg	11 46 17.6	+0.1
AYDN				iS	Sg	11 46 27.2	-0.3
BDRM	Kayabasi	0.80	150	iP	Pb	11 46 18.4	+0.1
BDRM				iS	Sg	11 46 30.0	+0.8
MLSB	Milas	0.81	125	PG	Pg	11 46 18.8	+0.1
MLSB				SG	Sg	11 46 30.1	+0.6
NISR	Nisiros	1.16	173	ePN	Pn	11 46 23.5	-1.5
AKS	Akhisar	1.31	31	PN	Pn	11 46 26.6	-0.6
AKS				SN	Sn	11 46 44.2	-0.9
APE	Apeiranthos	1.32	239	PN	Pn	11 46 27.6	+0.2
APE				SN	Sn	11 46 46.4	+1.0
APE	Apeiranthos	1.32	239	ePN	Pn	11 46 28.4	+1.0
APE				eSN	Sn	11 46 44.5	-0.9
MANT	Manisa	1.47	60	⇑iP	Pn	11 46 31.2	+1.8
MANT				iS	Sb	11 46 48.9	+0.4
PRK	Paraskevi	1.57	341	ePN	Pn	11 46 31.6	+0.6
PRK				eSN	Sn	11 46 54.4	+2.5
DENT	Denizli	1.66	90	PN	Pn	11 46 31.4	-0.8
DALT	Dalyan (Mudla)	1.67	126	PN	Pn	11 46 31.9	-0.6
ARG	Arkhangelos	1.81	148	ePN	Pn	11 46 35.0	+0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DST	Dursunbey	2.27	35	PN	Pn	11 46 39.8	-1.1

TAP 04 12:23:48.4, 23.80N×121.75E, h41km±1km, ML2.6
JMA 04 12:23:28.2±0.2, 23.89N×122.90E, h29km±4km, M1.9, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.58	10	P	Pb	12 23 39.7	-0.1
HATJ	Hateruma jima	0.84	78	P	Pn	12 23 43.8	-0.4
HATJ				eS	Sb	12 23 54.9	-0.3
IRIF	Iriomote-Funau	0.88	60	P	Pn	12 23 44.3	-0.4
IRIF				eS	Sb	12 23 55.8	-0.4
JKRS	Kuro-shima	1.07	71	P	Pn	12 23 47.6	+0.2
JKRS				eS	Sn	12 24 01.4	0.0
JIJ	Ishigaki jima	1.23	67	P	Pn	12 23 49.6	-0.1
JIJ				S	Sn	12 24 05.3	-0.1

IDC 04 12:27:54.9±1.0, 36.82N×11.58W, mb3.6/8, mb1 3.9/9, mb1mx3.7/23, ML4.9/1, Error ellipse: s-maj=27.8km s-min=23.0km az=153.0
NEIC 04 12:27:56.4±0.5, 36.84N×11.46W, h10km, MG4.6(MDD), Error ellipse: s-maj=6.5km s-min=5.4km az=34.0
CSEM 04 12:27:56.9±0.2, 36.31N×11.18W, h30km, ML4.3/3, Error ellipse: s-maj=4.8km s-min=3.1km az=103.0
SFS 04 12:27:57.0, 36.88N×11.30W, ML4.6
MDD 04 12:27:57.6±1.3, 36.76N×11.56W, h26km±54km, mb4.6/23, Error ellipse: s-maj=54.8km s-min=9.0km az=57.0, PRXIMO
LDG 04 12:27:58.7±0.2, 36.82N×11.43W, h10km, Md4.2/1, Ml4.2/7, Error ellipse: s-maj=4.1km s-min=2.8km az=50.0
INMG 04 12:27:59.7±0.6, 36.82N×11.33W, h10km, ML3.7, Error ellipse: s-maj=3.4km s-min=2.1km az=75.0
IGIL 04 12:27:59.1, 36.80N×11.20W, h0km, ML4.1
CNRM 04 12:28:04.8, 36.12N×10.52W, h26km, MD4.0
ISC 04 12:28:00.0±0.7, 37.09N±0.03×10.97W±0.04, h10km, n104, σ1.35/178, mb3.5/8, 4C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	1.84	75	ePn	Pn	12 28 34.6	+2.5
PTEO				eSn	Sn	12 29 00.7	+5.1
	489nm,0.4s						
PTEO	Sao Teotonio	1.84	75	Pn	Pn	12 28 34.6	+2.5
PTEO				Sn	Sn	12 29 00.7	+5.1
	245nm,0.4s						
LIS	Lisbon	2.17	41	eP	Pn	12 28 38.3	+1.6
LIS				eS	Sn	12 29 08.5	+4.6
LIS				eS	Sn	12 29 08.5	+4.6
LIS				AML	AML	12 29 14.1	
	comp=E,957nm,0.1s						
LIS	Lisbon	2.17	41	P	Pn	12 28 38.3	+1.6
LIS				P		12 28 38.8	
LIS				S	Sn	12 29 08.5	+4.6
LIS				S	Sn	12 29 08.5	+4.6
LIS				S	Sn	12 29 08.5	+4.6
PLOU	Loures	2.29	38	ePn	Pn	12 28 41.3	+2.8
PLOU				eSn	Sn	12 29 12.3	+5.2
	comp=E,225nm,0.2s						
PLOU	Loures	2.29	38	Pn	Pn	12 28 41.3	+2.8
PLOU				Sn	Sn	12 29 12.3	+5.2
	comp=E,112nm,0.2s						
MOE	Montemor	2.52	55	ePn	Pn	12 28 44.2	+2.5
MOE				eSn	Sn	12 29 17.5	+4.7
EVO	Evora	2.75	58	ePn	Pn	12 28 45.8	+0.8
EVO				eSn	Sn	12 29 20.1	+1.5
	comp=E,248nm,0.3s						
ALMR	Almeirim	2.79	42	eP	Pn	12 28 47.8	+2.1
ALMR				eS	Sn	12 29 24.3	+4.5
ALMR				eS	Sn	12 29 24.3	+4.5
ALMR				AML	AML	12 29 27.1	
	comp=E,556nm,0.6s						
ALMR	Almeirim	2.79	42	P	Pn	12 28 47.8	+2.1
ALMR				P		12 28 47.8	
ALMR				S	Sn	12 29 24.3	+4.5
ALMR				S	Sn	12 29 24.3	+4.5
ALMR				S	Sn	12 29 24.3	+4.5
PALC	Alcoutim	2.81	81	ePn	Pn	12 28 47.4	+1.5
PALC				eSn	Sn	12 29 23.0	+2.8
	comp=E,212nm,0.6s						
PALC	Alcoutim	2.81	81	Pn	Pn	12 28 47.4	+1.5
PALC				Sn	Sn	12 29 23.0	+2.8
	comp=E,106nm,0.6s						
ERIP	Rio Piedras	2.98	83	⇑P	Pn	12 28 49.8	+1.5
	comp=E,16nm,0.1s,SNR=18						
ERIP				S	Sn	12 29 28.0	+3.7
	comp=E,142nm,0.2s,SNR=7.9						
ERIP	Rio Piedras	2.98	83	⇑P	Pn	12 28 49.8	+1.5
ERIP				S	Sn	12 29 28.1	+3.7
EMIN	Mina Concepcio	3.48	78	⇑P	Pn	12 28 56.5	+1.0
	comp=E,6.4nm,0.1s,SNR=18						
EMIN				S	Sn	12 29 39.5	+2.3
	comp=E,51nm,0.2s,SNR=7.9						
EBAD	Badajoz	3.54	61	P	Pn	12 28 57.9	+1.6
	comp=E,6.3nm,0.1s,SNR=7.9						
EBAD				S	Sn	12 29 41.6	+2.9
	comp=E,77nm,0.2s,SNR=7.9						
EBAD	Badajoz	3.54	61	S	Sn	12 29 41.6	+2.9
	comp=E,77nm,0.2s,SNR=7.9						
EBAD	Badajoz	3.54	61	P	Pn	12 28 57.9	+1.6
	comp=E,6.3nm,0.1s,SNR=7.9						
PCBR	Castelo Branco	3.88	44	ePn	Pn	12 29 02.5	+1.4
PCBR				eSn	Sn	12 29 49.6	+2.4
	comp=E,74nm,0.3s						
PCBR	Castelo Branco	3.88	44	ePn	Pn	12 29 02.5	+1.4
PCBR				eSn	Sn	12 29 49.6	+2.4
	comp=E,74nm,0.3s						
CNIL	Conil	4.01	99	eS	Sn	12 29 46.0	-4.6
ESPR	Espera	4.10	92	⇑P	Pn	12 29 04.1	-0.1
	comp=E,58nm,0.2s,SNR=18						
ESPR				S	Sn	12 29 52.4	-0.3
	comp=E,307nm,0.2s,SNR=7.9						
ESPR	Espera	4.10	92	P	Pn	12 29 04.1	-0.1
	comp=E,58nm,0.2s,SNR=18						
ESPR				S	Sn	12 29 52.4	-0.4
	comp=E,307nm,0.2s,SNR=7.9						
MTE	Manteigas	4.25	38	ePn	Pn	12 29 07.8	+1.4
MTE				eSn	Sn	12 29 59.1	+2.4
	comp=E,100nm,0.5s						
MTE	Manteigas	4.25	38	Pn	Pn	12 29 07.8	+1.4
MTE				Sn	Sn	12 29 59.1	+2.4
	comp=E,50nm,0.5s						
MTE	Manteigas	4.25	38	ePn	Pn	12 29 06.5	+0.1
MTE				eSn	Sn	12 29 59.5	+2.9
MTE	Manteigas	4.25	38	ePn	Pn	12 29 07.8	+1.4
MTE				eSn	Sn	12 29 59.5	+2.8
PVIS	Viseu	4.34	33	ePn	Pn	12 29 08.8	+1.1
PVIS				eSn	Sn	12 30 00.9	+2.0
	comp=E,78nm,0.1s						
PVIS	Viseu	4.34	33	Pn	Pn	12 29 08.8	+1.1
PVIS				Sn	Sn	12 30 00.9	+2.0
	comp=E,39nm,0.1s						
LIJA	Lijar	4.46	91	iP	Pn	12 29 09.0	-0.3
LIJA				eS	Sn	12 30 02.0	+0.1
MDAL	Dalia	4.58	103	iP	Pn	12 29 05.5	-5.5
REAL	Reales	4.66	96	iP	Pn	12 29 12.0	-0.2
REAL				eS	Sn	12 30 06.0	-1.1
RSA	Sarsar	4.72	116	iP	Pn	12 29 04.0	-9.0
PVRL	Vila Real	4.88	30	ePn	Pn	12 29 16.1	+0.8
PVRL				eSn	Sn	12 30 12.6	0.0
	comp=E,71nm,0.2s						
PVRL	Vila Real	4.88	30	Pn	Pn	12 29 16.1	+0.8
PVRL				Sn	Sn	12 30 12.6	0.0
	comp=E,35nm,0.2s						
EMIJ	Mijas	5.00	94	P	Pn	12 29 15.8	-1.1
	comp=E,8.2nm,0.3s,SNR=7.9						
EMIJ				S	Sn	12 30 13.9	-1.5
	comp=E,64nm,0.4s,SNR=7.9						
EMIJ	Mijas	5.00	94	P	Pn	12 29 15.9	-1.1
	comp=E,8.2nm,0.3s,SNR=7.9						
EMIJ				S	Sn	12 30 13.9	-1.6
	comp=E,64nm,0.4s,SNR=7.9						
EADA	Adamuz	5.18	76	P	Pn	12 29 19.9	+0.3
	comp=E,10nm,0.3s,SNR=7.9						
EADA				S	Sn	12 30 20.4	+0.2
	comp=E,107nm,0.3s,SNR=7.9						
EADA	Adamuz	5.18	76	P	Pn	12 29 19.9	+0.3
EADA				S	Sn	12 30 20.9	+0.7
EADA	Adamuz	5.18	76	P	Pn	12 29 19.9	+0.3
	comp=E,10nm,0.3s,SNR=7.9						
ELOB	Lobios	5.27	24	P	Pn	12 29 20.8	-0.1
	comp=E,8.4nm,0.3s,SNR=7.9						
ELOB				S	Sn	12 30 22.9	+0.4
	comp=E,52nm,0.2s,SNR=7.9						
EZAM	Zamans	5.35	18	P	Pn	12 29 20.9	-1.0
	comp=E,5.8nm,0.2s,SNR=9.5						
EZAM				S	Sn	12 30 22.6	-1.7
	comp=E,15nm,0.2s,SNR=11						
ELUQ	Luque	5.36	83	P	Pn	12 29 22.3	+0.2
	comp=E,3.4nm,0.3s,SNR=8.8						
ELUQ				S	Sn	12 30 23.7	-0.9
	comp=E,18nm,0.2s						
ELOJ	Sierra Loja	5.45	87	P	Pn	12 29 22.4	-0.9
	comp=E,1.3nm,0.1s,SNR=7.2						
ELOJ				S	Sn	12 30 26.6	-0.2
	comp=E,32nm,0.4s						
ELOJ	Sierra Loja	5.45	87	P	Pn	12 29 22.4	-0.9
ELOJ				S	Sn	12 30 27.2	+0.4
JHA	Jbel Lahdid	5.49	166	iP	Pn	12 29 09.0	-15
ERON	Agron	5.73	89	P	Pn	12 29 27.7	+0.4
	comp=E,3.5nm,0.2s,SNR=14						
ERON				S	Sn	12 30 32.4	-1.4
	comp=E,12nm,0.3s						
ERON	Agron	5.73	89	P	Pn	12 29 27.9	+0.6
ERON				S	Sn	12 30 32.9	-0.9
ERON	Agron	5.73	89	P	Pn	12 29 27.7	+0.4
	comp=E,3.5nm,0.2s,SNR=14						
ERON				S	Sn	12 30 32.9	-0.9
PBRG	Braganca	5.73	33	ePn	Pn	12 29 27.5	+0.2
PBRG				eSn	Sn	12 30 33.5	-0.4
	comp=E,43nm,0.2s						
PBRG	Braganca	5.73	33	Pn	Pn	12 29 27.5	+0.2
PBRG				Sn	Sn	12 30 33.5	-0.4
	comp=E,21nm,0.2s						
CIA	Chichaoua	5.81	161	iP	Pn	12 29 14.0	-14
ECAL	Calabor	5.84	33	P	Pn	12 29 29.2	+0.3
	comp=E,10nm,0.3s,SNR=7.9						
ECAL				S	Sn	12 30 36.6	-0.2
	comp=E,169nm,0.6s,SNR=7.9						
EMAZ	Mazaricos	6.05	14	P	Pn	12 29 30.0	-1.8
	comp=E,4.4nm,0.1s,SNR=7.9						
EMAZ				S	Sn	12 30 36.9	-5.0
	comp=E,36nm,0.2s,SNR=7.9						
ERUA	La Rua	6.06	28	P	Pn	12 29 31.9	0.0
	comp=E,3.3nm,0.3s,SNR=7.9						
ERUA				S	Sn	12 30 40.4	-1.8
	comp=E,8.7nm,0.2s,SNR=7.9						
ESDC	Sonseca Array	6.08	63	Pn	Pn	12 29 32.4	+0.2
	comp=E,8.8nm,0.3s,baz=249,slow=13,SNR=24						
ESDC				Sn	Sn	12 30 42.9	+0.3
	comp=E,26nm,0.3s,baz=248,slow=23,SNR=16						
ESDC	Sonseca Array	6.08	63	P	Pn	12 29 32.8	+0.7
	comp=E,7.9nm,0.1s,baz=247,slow=13,SNR=21						
ESDC				S	Sn	12 30 43.1	+0.5
	comp=E,36nm,0.3s,baz=247,slow=23,SNR=7.9						
ESDC	Sonseca Array	6.08	63	P	Pn	12 29 32.8	+0.6
	comp=E,7.9nm,0.1s,SNR=21						
ESLA	Sonseca Array	6.08	63	ePn	Pn	12 29 32.9	+0.7
	comp=E,0.5nm,0.4s						
ESLA				eSn	Sn	12 30 39.2	-3.4
ESLA	Sonseca Array	6.08	63	ePn	Pn	12 29 32.8	+0.6
	comp=E,0.5nm,0.4s						
STS	Santiago	6.08	17	P	Pn	12 29 30.2	-2.0
	comp=E,7.7nm,0.1s,SNR=5.0						
STS				S	Sn	12 30 39.1	-3.5
	comp=E,12nm,0.2s,SNR=7.9						
EQES	Quesada	6.32	81	P	Pn	12 29 35.7	+0.1
	comp=E,4.4nm,0.2s,SNR=7.9						
EQES				S	Sn	12 30 47.6	-1.1
	comp=E,53nm,0.3s,SNR=7.9						
EQES	Quesada	6.32	81	P	Pn	12 29 35.7	+0.1
	comp=E,4.4nm,0.2s,SNR=7.9						
OUK	Oukaimeden	6.40	155	iP	Pn	12 29 23.0	-14
EBER	Berja	6.47	89	P	Pn	12 29 36.8	-0.9
	comp=E,4.7nm,0.3s,SNR=7.9						
EBER				S	Sn	12 30 51.9	-0.5
	comp=E,38nm,0.5s,SNR=7.9						
EBER	Berja	6.47	89	P	Pn	12 29 36.8	-0.9
	comp=E,4.7nm,0.3s,SNR=7.9						
EBER				S	Sn	12 30 51.9	-0.4
	comp=E,38nm,0.5s,SNR=7.9						
EVIA	Vianos	6.87	74	P	Pn	12 29 43.0	-0.4
	comp=E,3.0nm,0.2s,SNR=6.0						
EVIA				S	Sn	12 31 01.0	-1.5
	comp=E,17nm,0.3s,SNR=11						
EPON	Pontenova	6.88	24	P	Pn	12 29 42.5	-1.0
	comp=E,11nm,0.3s,SNR=7.9						
EPON				S	Sn	12 30 58.9	-3.7
	comp=E,25nm,0.2s,SNR=7.9						
ZFT	Errachidia	7.43	131	iP	Pn	12 29 39.0	-12
EARI	Arriondas	7.61	34	P	Pn	12 29 53.7	0.0
	comp=E,2.9nm,0.2s,SNR=7.9						
EARI				S	Sn	12 31 19.6	-1.3
	comp=E,9.0nm,0.2s,SNR=7.9						
EMUR	La Murta	7.77	82	P	Pn	12 29 54.8	-1.2
	comp=E,2.5nm,0.3s,SNR=7.9						
EMUR				S	Sn	12 31 22.0	-3.0
	comp=E,26nm,0.4s,SNR=7.9						
EMUR	La Murta	7.77	82	P	Pn	12 29 54.8	-1.2
	comp=E,2.5nm,0.3s,SNR=7.9						
ETOR	Torete	7.88	59	P	Pn	12 29 57.5	+0.1
	comp=E,3.0nm,0.2s,SNR=28						
ETOR				S	Sn	12 31 25.1	-2.5
	comp=E,15nm,0.4s						
ELAN	Lanestosa	8.42	41	P	P	12 30 04.5	-0.5
	comp=E,0.2nm,0.1s,SNR=7.9						
ELAN				S	Sn	12 31 39.7	-1.3
	comp=E,8.4nm,0.2s,SNR=6.1						
EBEN	Beniarda	8.64	76	P	P	12 30 08.4	+0.2
	comp=E,0.7nm,0.2s,SNR=5.0						
EBEN				S	Sn	12 31 44.2	-2.5
	comp=E,12nm,0.4s,SNR=7.8						
EBEN	Beniarda	8.64	76	P	P	12 30 08.4	+0.3
	comp=E,0.7nm,0.2s,SNR=5.0						
EMOS	Mosqueruela	8.83	65	P	P	12 30 13.0	+2.4
	comp=E,2.5nm,0.2s,SNR=7.9						
EMOS				S	Sn	12 31 48.8	-2.5
	comp=E,44nm,0.8s,SNR=7.9						
EMOS	Mosqueruela	8.83	65	P	P	12 30 12.4	+1.7
EMOS	Mosqueruela	8.83	65	P	P	12 30 12.4	+1.7
ESAC	San Caprasio	9.35	57	P	P	12 30 20.7	+2.9
	comp=E,12nm,0.3s,SNR=5.0						
ESAC				S	Sn	12 32 02.6	-1.5
	comp=E,16nm,0.2s,SNR=5.8						
ESAC	San Caprasio	9.35	57	P	P	12 30 20.7	+2.8
EALK	Alkurruntz	9.48	47	P	P	12 30 20.0	+0.4
	comp=E,0.9nm,0.2s,SNR=7.9						
EALK				S	Sn	12 32 05.0	-2.3
	comp=E,20nm,0.4s,SNR=7.0						
SJPF	Ste Jean	9.58	48	ePn	P	12 30 20.7	-0.4
SJPF				eSn	Sn	12 32 06.0	-3.9
	comp=E,12nm,0.4s						
EBR	Ebro Roquetas	9.67	64	eSN	Sn	12 32 17.0	+4.9
ETSF	Etsaut	9.87	51	ePn	P	12 30 25.0	0.0
ETSF				eSn	Sn	12 32 14.2	-2.7
	comp=E,4.9nm,0.3s						
EPF	Esparros	10.50	52	ePn	P	12 30 33.4	-0.2
EPF				eSn	S	12 32 29.2	-3.2
	comp=E,27nm,0.7s						
MTLF	Montolieu	11.85	54	ePn	P	12 30 51.0	-1.1
QUIF	Quistinic	12.25	25	ePn	P	12 30 55.7	-1.7
QUIF				eSn	S	12 33 08.5	-6.5
	comp=E,7.7nm,0.4s						
RJF	Les Rejaudoux	12.47	45	eSn	S	12 33 15.2	-5.2
	comp=E,2.9nm,0.3s						
CAF	Calviac	12.56	47	ePn	P	12 31 00.8	-0.9
CAF				eSn	S	12 33 17.5	-5.2
	comp=E,2.8nm,0.2s						
TCF	Toulx Ste Croi	13.45	43	ePn	P	12 31 13.4	0.0
SSF	Saint Saulge	14.63	43	ePn	P	12 31 28.8	-0.1
GERES	GERESS Array B	21.43	49	P	P	12 32 51.6	+1.3
	comp=E,0.9nm,0.7s,mb3.2,baz=247,slow=10,SNR=3.7						
DBIC	Dimbokro	30.79	168	P	P	12 34 11.2	-7.0
	comp=E,4.1nm,0.9s,mb4.3,baz=328,slow=3.1,SNR=4.0						
FINES	FINESS Array B	33.56	32	P	P	12 34 40.7	-1.2
	comp=E,1.3nm,0.8s,mb3.9,baz=207,slow=8.5,SNR=4.5						
FINES	FINESS Array B	33.56	32	P	P	12 34 40.7	-1.2
ARCES	ARCESS Array B	37.98	20	P	P	12 35 18.7	-0.7
	comp=E,0.6nm,0.6s,mb3.5,baz=230,slow=7.0,SNR=10.0						
ARCES	ARCESS Array B	37.98	20	P	P	12 35 18.6	-0.7
MKAR	Makanchi Array	66.10	49	P	P	12 38 46.9	-2.4
	comp=E,0.4nm,0.8s,mb3.5,baz=315,slow=4.1,SNR=3.6						
PDAR	Pinedale Array	71.44	310	P	P	12 39 16.1	-6.3
	comp=E,0.3nm,0.7s,mb3.3,baz=56,slow=9.8,SNR=2.3						
ILAR	Eielson Array	72.76	342	P	P	12 39 23.8	-6.0
	comp=E,0.3nm,0.9s,mb3.2,baz=14,slow=5.7,SNR=3.0						
TXAR	Lajitas Array	74.94	295	P	P	12 39 37.1	-6.0
	comp=E,0.3nm,0.8s,mb3.3,baz=69,slow=7.7,SNR=3.1						
TXAR	Lajitas Array	74.94	295	P	P	12 39 37.2	-6.0
ASAR	Alice Springs	147.07	76	PKPbc	PKPdf	12 47 40.6	-3.8
	comp=E,1.3nm,0.7s,baz=308,slow=2.8,SNR=15						

IDC 04 13:09:11.0±2.9, 47.94N×148.28E, h306km±42km, mb3.1/9, mb1 3.3/10, mb1mx3.2/22, Error ellipse: s-maj=49.4km s-min=15.9km az=180.0
NEIC 04 13:09:13.7±1.0, 48.00N×148.25E, h334km±16km, mb3.6/2, Error ellipse: s-maj=41.8km s-min=12.1km az=180.0
ISC 04 13:09:12.4±1.3, 47.7N±0.3×148.2E±0.2, h346km±22km, n14, σ0.74/14, mb3.4/11, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YSS	Yuzh-Sakhalins	3.77	260	eP	P	13 10 20.4	+1.2
ASAJ	Asahikawa	5.31	229	P	P	13 10 34.5	-1.3
	0.5nm,0.3s,baz=81,slow=7.8,SNR=3.8						
SONM	Songino Array	27.84	286	P	P	13 14 33.5	+0.9
	0.5nm,0.4s,mb3.1,baz=86,slow=8.7,SNR=3.0						
ILAR	Eielson Array	37.90	39	P	P	13 15 57.0	-1.2
	0.6nm,0.5s,mb3.0,baz=263,slow=7.3,SNR=11						
ILAR	Eielson Array	37.90	39	P	P	13 15 57.0	-1.2
MKAR	Makanchi Array	43.49	294	P	P	13 16 43.8	+0.2
	2.0nm,0.6s,mb3.4,baz=68,slow=7.8,SNR=22						
KURK	Kurchatov	44.00	301	eP	P	13 16 47.3	-0.4
	2.6nm,0.5s,mb3.6						
ZRNK	Zerenda	48.39	307	eP	P	13 17 21.5	-0.3
	1.1nm,0.6s,mb3.3						
ARCES	ARCESS Array B	55.78	339	P	P	13 18 15.2	-0.4
	1.1nm,0.9s,mb3.2,baz=72,slow=5.7,SNR=3.4						
FINES	FINESS Array B	61.67	332	P	P	13 18 55.1	-0.6
	1.3nm,0.5s,mb3.7,baz=41,slow=8.3,SNR=12						
NVAR	Mina Array Bea	64.91	60	P	P	13 19 17.3	+0.5
	0.3nm,0.8s,mb3.0,baz=286,slow=6.6,SNR=5.2						
NOA	NORSAR Array B	66.16	339	P	P	13 19 24.5	+0.2
	1.0nm,0.6s,mb3.7,baz=38,slow=3.6,SNR=2.2						
PDAR	Pinedale Array	66.83	52	P	P	13 19 29.5	+0.6
	0.5nm,0.4s,mb3.6,baz=315,slow=3.0,SNR=5.3						
TXAR	Lajitas Array	79.87	57	P	P	13 20 44.8	+0.6
	0.4nm,0.5s,mb3.4,baz=292,slow=3.8,SNR=3.6						

GRAL 04 13:15:48.0±4.3, 33.00N×35.14E, MD3.0
GII 04 13:15:52.3±0.1, 33.13N×35.47E, h8km±4km, ML2.1/6, Mw2.3/5
ISC 04 13:15:51.9±0.7, 33.12N±0.03×35.44E±0.05, h13km±8km, n13, σ0.66/20, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSDI	Kefar Szold	0.19	69	Pg	Pg	13 15 56.6	+0.2
KSDI				Sg	Sg	13 15 59.5	+0.1
HNTI	Hanita	0.23	260	Pg	Pg	13 15 57.2	+0.2
HNTI				Sg	Sg	13 16 01.1	+0.6
HRI	Mount Hermon	0.28	60	Pg	Pg	13 15 57.8	-0.2
HRI				Sg	Sg	13 16 02.2	+0.1
MATL	Matirih	0.38	346	iPG	Pg	13 15 57.8	-2.0
GLH	Golan-Tel Qazi	0.44	157	Pg	Pg	13 16 01.7	+0.7
HAF	Haifa	0.49	226	Pg	Pg	13 16 02.4	+0.4
OFRI	‘Ofer	0.63	218	Pg	Pg	13 16 04.7	0.0
MMLI	Mount Malkishu	0.68	181	Pg	Pg	13 16 05.4	-0.4
MMLI				Sg	Sg	13 16 15.2	+0.2
BHL	Bhannes	0.80	13	iPG	Pg	13 16 03.1	-4.9
BHL				iSG	Sg	13 16 19.9	+1.1
HMDT	Nahal Hemdat	0.87	175	Pg	Pg	13 16 08.5	-0.9
SLTI	Sal’it	0.94	201	Pg	Pg	13 16 10.0	-0.9
SLTI				Sg	Sg	13 16 23.5	-0.1
HWQ	Hawqa	1.23	20	iPG	Pg	13 16 16.4	0.0
HWQ				iSG	Sg	13 16 32.6	-0.3
DRGI	Dragot	1.53	182	Pn	Pn	13 16 19.8	+0.7

STR 04 13:27:54.5±0.1, 42.84N×0.27W, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0
LDG 04 13:27:55.0±0.1, 42.84N×0.27W, h2km, Md2.1/2, Ml2.0/1, Error ellipse: s-maj=3.8km s-min=0.8km az=173.0
ISC 04 13:27:54.8±0.7, 42.87N±0.09×0.26W±0.03, h2km, n7, σ0.65/13, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VIEF	Viey	0.21	87	Pg	Pg	13 27 59.4	+0.4
VIEF				Sg	Sg	13 28 02.3	+0.5
ETSF	Etsaut	0.22	277	ePg	Pg	13 27 59.3	+0.1
ETSF				eSg	Sg	13 28 02.3	+0.1
	14nm,0.2s						
FDAF	Les Forges d’A	0.23	257	Pg	Pg	13 27 59.4	0.0
FDAF				Sg	Sg	13 28 02.6	+0.1
LABF	Labassere	0.30	54	Pg	Pg	13 28 01.3	+0.4
LABF				Sg	Sg	13 28 05.7	+0.8
EPF	Esparros	0.47	70	ePg	Pg	13 28 04.4	+0.2
EPF				eSg	Sg	13 28 10.3	-0.2
	6.0nm,0.2s						
SJPF	Ste Jean	0.75	289	ePg	Pg	13 28 09.3	-0.4
SJPF				eSg	Sg	13 28 19.4	-0.3
	6.2nm,0.3s						
MTLF	Montolieu	1.88	75	eSg	Sg	13 28 55.0	-2.2
	2.0nm,0.3s						

JMA 04 14:01:49.0±0.2, 31.76N×140.94E, h16km, M3.6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	Mitsune	1.65	325	P	Pn	14 02 17.7	+0.1
JHJ2				eS	Sn	14 02 38.2	-0.3
BSO1	Boso 1	2.89	1	P	Pn	14 02 36.0	+0.7
BSO2	Boso 2	2.99	357	eS	Sn	14 03 13.2	+0.7
BSO3	Boso 3	3.06	353	P	Pn	14 02 38.4	+0.7
BSO3				eS	Sn	14 03 15.1	+0.9
BSO4	Boso 4	3.26	351	eS	Sn	14 03 21.6	+2.2
JHU	Hanno	4.31	342	P	Pn	14 02 56.6	+1.1
JHU				eS	Sn	14 03 44.0	-2.0
JHO	Hitachi	4.85	356	P	Pn	14 03 02.4	-0.8
JHO				eS	Sn	14 03 57.3	-2.3

IDC 04 14:20:15.9±1.3, 3.45N×128.28E, mb3.5/5, mb1 3.7/5, mb1mx3.6/16, Error ellipse: s-maj=89.6km s-min=19.1km az=74.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.57	187	P	P	14 25 06.7	-2.6
	5.8nm,1.3s,baz=62,slow=5.9,SNR=3.1						
WRA	Warramunga Arr	24.00	166	P	P	14 25 33.2	-0.1
	1.3nm,0.7s,baz=346,slow=10,SNR=11						
ASAR	Alice Springs	27.50	169	P	P	14 26 04.0	-2.2
	0.2nm,0.6s,baz=349,slow=7.5,SNR=6.5						
ASAR				PcP	PcP	14 29 21.9	-3.0
	0.2nm,0.6s,baz=338,slow=1.8,SNR=4.4						
SONM	Songino Array	48.07	340	P	P	14 28 57.1	-2.0
	0.1nm,0.5s,baz=135,slow=10,SNR=2.4						
MKAR	Makanchi Array	58.67	325	P	P	14 30 15.6	-1.9
	0.3nm,0.4s,baz=111,slow=8.3,SNR=8.2						

NIED 04 14:35:00, 37.50N×142.30E, h32km, Mw3.4 Best double couple: $M_0$1.57×10[14] NP1:ϕ_s187°, δ54°, λ92°. NP2:ϕ_s4°, δ36°, λ88°.
JMA 04 14:35:48.4±0.2, 37.55N×142.30E, h35km±4km, M3.5
ISC 04 14:35:47.9±1.7, 37.57N±0.06×142.3E±0.1, h16km±11km, n12, σ0.43/18, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIO	Ouri	1.15	320	P	Pb	14 36 09.1	+0.2
JIO				eS	Sb	14 36 23.3	-0.2
JMM	Marumori	1.23	284	P	Pb	14 36 09.9	-0.3
ONAJ	Iwakimizuishiy	1.28	249	P	Pn	14 36 10.3	-0.9
JOU	Okura	1.51	302	P	Pn	14 36 14.8	+0.3
JFT	Otama	1.56	269	P	Pn	14 36 15.4	+0.3
JFT				eS	Sn	14 36 34.7	-0.3
JMK	Ichinoseki	1.61	329	P	Pn	14 36 15.9	-0.1
JYS	Shirataka	1.88	291	P	Pn	14 36 20.1	+0.4
JYS				eS	Sn	14 36 43.8	+0.6
JYK	Kaneyama	2.03	312	P	Pn	14 36 22.2	+0.3
JOM	Ohasama	2.05	338	P	Pn	14 36 22.3	+0.1
JOM				eS	Sn	14 36 46.9	-0.7
JFY	Yanaizu	2.07	266	P	Pn	14 36 22.7	+0.3

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JFY				eS	Sn	14 36 48.1	+0.1
JAG	Ashikaga	2.55	244	P	Pn	14 36 28.8	-0.5
MAT	Matsushiro	3.43	254	P	Pn	14 36 42.5	+0.7
MAT				eS	Sn	14 37 22.1	-0.4

*MOS **04** 15:13:28.5±1.5,47.42N×154.05E,h33km,mb4.5/5,Error ellipse: s-maj=20.3km s-min=15.7km az=60.8*
*BJI **04** 15:13:28.6,47.06N×153.94E,h24km,mB4.2,mb4.4*
*IDC **04** 15:13:31.7±1.1,47.47N×154.05E,h39km±6km,mb3.7/11, mb1 3.9/12,mb1mx3.8/22,ML3.5/1,Error ellipse: s-maj=27.4km s-min=18.3km az=138.0*
*NEIC **04** 15:13:31.7±0.8,47.59N×154.16E,mb4.2/4,Error ellipse: s-maj=20.2km s-min=10.3km az=143.0*
ISC 04 15:13:29.9±0.8**,47.61N**±0.10×**154.0E**±0.1**,h39km, h39km**±1.3km**:pP-P,n34,**σ1s**10**/36**,mb4.0**/15**,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.37	23	ePN	P	15 14 20.6	-0.8
SKR				eS	S	15 15 01.2	+0.5
SKR				pmax	pmax		
	comp=N,40nm,0.6s						
SKR				pmax	pmax		
	comp=E,20nm,0.6s						
SKR				pmax	pmax		
	comp=Z,40nm,0.6s						
SKR				smax			
	comp=E,80nm,0.5s						
SKR				smax			
	comp=N,60nm,0.8s						
SKR				smax			
	comp=Z,80nm,0.8s						
SKR				MLR	MLR		
	comp=E,1μm,14.0s						
SKR				MLR	MLR		
	comp=Z,1μm,14.0s						
KUR	Kuril'sk	4.87	243	ePN	P	15 14 38.0	-4.7
KUR				eS	S	15 15 38.4	-0.2
KUR				pmax	pmax		
	comp=Z,80nm,0.6s						
KUR				smax			
	comp=N,90nm,0.7s						
KUR				smax			
	comp=E,150nm,0.7s						
PET	Petropavlovsk	6.18	27	Pn	P	15 14 58.7	-2.3
YSS	Yuzh-Sakhalins	7.69	269	ePN	P	15 15 21.8	-0.3
YSS				MLR	MLR		
	comp=N,300nm,14.0s						
YSS				MLR	MLR		
	comp=E,300nm,15.0s						
YSS	Yuzh-Sakhalins	7.69	269	ePn	P	15 15 23.9	+1.8
ASAJ	Asahikawa	8.70	250	Pn	P	15 15 33.8	-2.3
	comp=E,0.6nm,0.3s,baz=82,slow=16,SNR=5.1						
ASAJ	Asahikawa	8.70	250	PN	P	15 15 33.8	-2.3
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	Matsushiro	16.09	232	eP	P	15 17 15.7	+0.9
	comp=Z,13nm,1.0s						
MDJ	Mudanjiang	17.18	269	P	P	15 17 27.5	-0.8
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.7s						
MDJ				AMB	AMB		
	comp=Z,51nm,4.8s						
SONM	Songino Array	31.64	288	P	P	15 19 51.1	-0.1
	comp=Z,0.9nm,1.0s,mb3.6,baz=58,slow=8.0,SNR=7.9						
ILAR	Eielson Array	35.49	39	P	P	15 20 23.4	-0.9
	comp=Z,0.5nm,0.6s,mb3.6,baz=248,slow=7.8,SNR=9.1						
ILAR	Eielson Array	35.49	39	P	P	15 20 23.5	-0.8
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CD2	Chengdu	41.56	265	P	P	15 21 16.1	+0.8
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
MKAR	Makanchi Array	47.09	297	P	P	15 21 59.4	-0.1
	comp=Z,2.3nm,0.8s,mb4.2,baz=66,slow=7.8,SNR=23						
MKAR	Makanchi Array	47.09	297	P	P	15 21 59.4	-0.1
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KURK	Kurchatov	47.40	303	eP	P	15 22 01.4	-0.4
	comp=Z,7.0nm,0.9s,mb4.6						
KURK				e	pP	15 22 13.3	+0.3
BRVK	Borovoye	50.83	309	eP	P	15 22 28.2	0.0
	comp=Z,2.5nm,0.8s,mb4.2						
BRVK				epP	pP	15 22 39.7	+0.2
LSA	Lhasa	50.84	273	P	P	15 22 30.0	+1.4
CMAR	Chiang Mai Arr	53.17	256	P	P	15 22 46.1	-0.1
	comp=Z,0.5nm,0.8s,mb3.5,baz=39,slow=5.8,SNR=4.1						
CMAR				pP	pP	15 22 57.2	-0.4
	comp=Z,0.6nm,0.6s,baz=40,slow=6.8,SNR=4.9						
CMAR	Chiang Mai Arr	53.17	256	P	P	15 22 46.2	0.0
CMAR				*PP	pP	15 22 57.3	-0.3
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CMAR				pmax	pmax		
	comp=N,1.0nm,0.6s						
AAK	Ala-Archa	54.00	296	eP	P	15 22 51.6	-0.4
	comp=N,0.9nm,0.5s,mb4.0						
ARU	Arti	54.79	317	eP	P	15 22 55.3	-2.3
FINES	FINESS Array B	63.52	335	P	P	15 23 58.6	+0.8
	comp=N,1.4nm,0.5s,mb4.3,baz=34,slow=7.7,SNR=12						
FINES	FINESS Array B	63.52	335	P	P	15 23 58.6	+0.8
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
PDAR	Pinedale Array	63.74	55	P	P	15 24 01.1	+1.4
	comp=Z,0.4nm,0.8s,mb3.5,slow=4.5,SNR=3.3						
NB2	NORSAR Subarra	67.61	341	P	P	15 24 25.2	+1.2
	comp=Z,2.5nm,0.7s,mb4.3,baz=26,slow=6.5						
NOA	NORSAR Array B	67.61	341	P	P	15 24 25.5	+1.5
	comp=Z,3.5nm,0.7s,mb4.5,baz=26,slow=6.4,SNR=10						
NOA				pP	pP	15 24 36.9	+1.1
	comp=Z,2.7nm,0.7s,baz=26,slow=6.4,SNR=5.1						
NOA	NORSAR Array B	67.61	341	P	P	15 24 25.5	+1.5
NOA				*PP	pP	15 24 36.9	+1.2
NOA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
NOA				pmax	pmax		
	comp=N,3.0nm,0.7s						
AKASG	Malin Array Be	71.17	327	P	P	15 24 46.5	+0.5
	comp=N,3.2nm,0.7s,mb4.4,baz=32,slow=6.0,SNR=15						
AKASG				pP	pP	15 24 57.6	-0.2
	comp=N,1.9nm,0.6s,baz=33,slow=6.2,SNR=4.4						
AKASG	Malin Array Be	71.17	327	P	P	15 24 46.6	+0.6
AKASG				*PP	pP	15 24 57.6	-0.2
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AKASG				pmax	pmax		
	comp=N,2.0nm,0.6s						
ASAR	Alice Springs	73.22	199	P	P	15 24 57.4	-1.3
	comp=N,0.7nm,0.7s,mb3.7,baz=14,slow=5.1,SNR=7.4						
GERES	GERESS Array B	77.95	334	P	P	15 25 25.8	+0.8
	comp=N,0.2nm,0.3s,mb3.5,baz=18,slow=4.2,SNR=4.1						
BRTR	Keskin Array B	78.18	317	P	P	15 25 27.9	+1.4
	comp=N,1.2nm,0.8s,mb3.9,baz=72,slow=3.9,SNR=4.2						
BRTR				pP	pP	15 25 40.2	+1.9
	comp=N,1.7nm,0.9s,baz=45,slow=1.7,SNR=3.5						
BRTR	Keskin Array B	78.18	317	P	P	15 25 27.9	+1.4
BRTR				*PP	pP	15 25 40.3	+1.9
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRTR				pmax	pmax		
	comp=N,2.0nm,0.9s						

*IDC **04** 15:17:57.0±1.7,4.93S×153.52E,mb3.9/5,mb1 4.0/5, mb1mx3.8/11,MS3.1/1,Ms1 3.1/1,ms1mx2.5/14,Error ellipse: s-maj=51.6km s-min=19.0km az=112.0*
*NEIC **04** 15:18:06.2±2.7,4.97S×153.31E,h66km±18km,mb4.1/6, Error ellipse: s-maj=35.1km s-min=10.9km az=97.0*
ISC 04 15:18:05.5±3.8**,5.0S**±0.1×**153.3E**±0.3**,h73km**±24km**,n14, σ0s80**/14**,mb3.8**/11**,New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAB	Rabaul	1.38	304	eP	P	15 18 29.5	+0.1
PMG	Port Moresby	7.53	234	LR	LR	15 22 49.5	
	comp=Z,114nm,18.1s,baz=181,slow=38						
WRAB	Tennant Creek	23.71	229	eP	P	15 23 12.7	+1.0
	3.2nm,0.4s,mb4.0						
WB2	Warramunga Arr	23.71	229	eP	P	15 23 12.7	+0.9
WRA	Warramunga Arr	23.72	229	P	P	15 23 12.5	+0.7
	1.2nm,0.6s,mb3.4,baz=54,slow=9.3,SNR=21						
WRA				S	S	15 27 31.5	+13
	0.2nm,0.6s,baz=46,slow=13,SNR=2.7						
ASAR	Alice Springs	26.38	223	P	P	15 23 36.4	-0.7
	0.4nm,0.5s,mb3.1,baz=58,slow=8.9,SNR=8.9						
ASAR				PcP	PcP	15 27 01.8	+0.2
	0.5nm,0.7s,baz=67,slow=2.6,SNR=6.4						
STKA	Stephens Creek	28.94	201	P	P	15 23 59.0	-1.2
	1.9nm,1.1s,mb3.6,baz=34,slow=15,SNR=2.6						
FITZ	Fitzroy Crossi	30.03	242	eP	P	15 24 08.5	-1.5
	1.4nm,0.6s,mb3.8						
SONM	Songino Array	66.73	328	P	P	15 28 51.1	-0.1
	0.6nm,0.5s,mb3.7,baz=140,slow=5.6,SNR=11						
MKAR	Makanchi Array	80.78	319	P	P	15 30 12.9	+0.1
	1.3nm,0.5s,mb4.0,baz=101,slow=6.6,SNR=23						
KURK	Kurchatov	84.21	322	P	P	15 30 30.9	+0.7
	1.0nm,0.6s,mb3.8						
QSPA	South Pole Qui	85.00	180	eP	P	15 30 34.4	+0.8
	2.9nm,0.5s,mb4.5						
AAK	Ala-Archa	85.15	313	eP	P	15 30 35.1	0.0
	1.1nm,0.6s,mb4.0						
ZRNK	Zerenda	90.49	323	eP	P	15 30 59.6	-0.9
	0.7nm,0.5s,mb4.0						

*NIED **04** 15:25:00,37.30N×141.60E,h38km,Mw3.7 Best double couple: $M_0$3.69×10^14 NP1:ϕ_s207°,δ72°,λ67°. NP2:ϕ_s79°, δ29°,λ139°.*
*JMA **04** 15:25:48.7±0.1,37.33N×141.64E,h43km±2km,M4.1*
JMA Felt I J1.
*IDC **04** 15:25:49.2±6.2,37.31N×141.61E,h32km±49km,mb3.4/5, mb1 3.6/7,mb1mx3.4/23,ML3.6/2,Error ellipse: s-maj=33.6km s-min=17.3km az=93.0*
*NEIC **04** 15:25:52.3±2.3,37.29N×141.57E,h61km±18km,mb4.2/2, Error ellipse: s-maj=23.4km s-min=14.6km az=74.0*
NEIC Recorded [1 JMA] in Fukushima Prefecture.
ISC 04 15:25:47.3±0.9**,37.31N**±0.04×**141.77E**±0.07**,h39km**±9km**, n21,**σ1s**08**/33**,mb3.7**/7**,2C-5D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.80	256	⇑P	P	15 26 02.3	+0.2
ONAJ				S	S	15 26 11.4	-1.6
JMM	Marumori	0.95	306	⇓P	P	15 26 04.4	0.0
JMM				S	S	15 26 15.7	-1.3
JFT	Otama	1.16	281	⇓P	P	15 26 08.1	+0.9
JFT				eS	S	15 26 21.4	-0.7
JHO	Hitachi	1.18	234	⇑P	P	15 26 07.5	-0.1
JHO				eS	S	15 26 20.8	-2.0
JIO	Ouri	1.19	344	⇓P	P	15 26 08.3	+0.6
JIO				S	S	15 26 21.6	-1.4
JOU	Okura	1.37	321	P	P	15 26 10.9	+0.5
JYS	Shirataka	1.63	305	⇓P	P	15 26 14.7	+0.7
JYS				eS	S	15 26 35.3	+1.3
JFY	Yanaizu	1.65	274	P	P	15 26 14.8	+0.5
JFY				eS	S	15 26 34.5	+0.1
JMK	Ichinoseki	1.70	345	⇓P	P	15 26 15.8	+0.8
JMK				eS	S	15 26 35.9	+0.2
MAJO	Matsushiro	2.95	256	ePn	P	15 26 35.2	+2.3
MAT	Matsushiro	2.95	256	P	P	15 26 34.0	+1.1
MAT				eS	S	15 27 08.7	+1.2
MAT	Matsushiro	2.95	256	P	P	15 26 34.0	+1.1
MAT				S	S	15 27 09.0	+1.5
JHJ	Hachijo jima 2	4.48	202	Pn	P	15 26 55.1	+0.6
	10.0nm,0.3s,baz=80,slow=14,SNR=5.2						
JHJ				Sn	S	15 27 43.5	-2.7
	23nm,0.3s,baz=55,slow=22,SNR=5.4						
ASAJ	Asahikawa	6.83	5	Pn	P	15 27 26.4	-1.2
	1.0nm,0.3s,baz=207,slow=6.8,SNR=7.1						
ASAJ				Sn	S	15 28 42.4	-2.6
	0.3nm,0.3s,baz=107,slow=19,SNR=3.3						
SONM	Songino Array	27.87	303	P	P	15 31 35.2	0.0
	0.2nm,0.4s,mb3.1,baz=101,slow=8.9,SNR=4.9						
MKAR	Makanchi Array	44.21	302	P	P	15 33 54.1	-0.1
	1.1nm,0.6s,mb3.7,baz=88,slow=9.7,SNR=12						
KURK	Kurchatov	45.99	308	eP	P	15 34 07.9	-0.4
	2.5nm,0.8s,mb4.2						
ILAR	Eielson Array	49.12	32	P	P	15 34 34.0	+1.5
	0.6nm,0.7s,mb3.7,baz=271,slow=6.5,SNR=5.4						
ZRNK	Zerenda	51.43	312	eP	P	15 34 50.2	-0.1
	1.2nm,0.6s,mb4.0						
WRA	Warramunga Arr	57.37	188	P	P	15 35 33.9	-0.3
	0.3nm,0.4s,mb3.7,baz=6.2,slow=7.2,SNR=15						
ASAR	Alice Springs	61.09	188	P	P	15 35 59.9	0.0
	0.2nm,0.8s,mb3.3,baz=353,slow=3.8,SNR=5.3						

IDC 04 15:43:43.8±48.0**,18.32S**×**177.32W,mb4.0**/3**,mb1 4.1**/3**, mb1mx3.8**/12**,Error ellipse: s-maj=879.0km s-min=159.5km az=80.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.35	242	P	P	15 51 15.4	-1.3
	1.7nm,1.0s,baz=75,slow=12,SNR=3.7						
WB2	Warramunga Arr	45.57	260	eP	P	15 52 05.8	-1.8
WRA	Warramunga Arr	45.58	260	P	P	15 52 05.9	-1.8
	0.8nm,0.4s,baz=98,slow=7.6,SNR=51						
ASAR	Alice Springs	45.68	255	P	P	15 52 06.5	-2.0
	0.9nm,0.3s,baz=86,slow=8.2,SNR=66						

IDC 04 15:51:47.9±2.4**,3.64N**×**128.68E,mb3.2**/3**,mb1 3.4**/3**, mb1mx3.3**/15**,Error ellipse: s-maj=157.0km s-min=27.1km az=68.0,North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.09	167	P	P	15 57 04.7	-1.5
	0.3nm,0.5s,baz=347,slow=10,SNR=5.3						
ASAR	Alice Springs	27.62	170	P	P	15 57 37.6	-1.6
	0.2nm,0.9s,baz=345,slow=7.5,SNR=3.2						
MKAR	Makanchi Array	58.75	324	P	P	16 01 47.9	-2.2
	0.2nm,0.4s,baz=120,slow=6.8,SNR=4.5						

*PRU **04** 16:02:19.5,51.50N×16.10E*
WAR 04 16:02:19,51.52N×**16.11E,ML2.7,Mining Induced, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.69	170	ePG	Pg	16 02 32.0	-0.7
KSP				eSG	Sg	16 02 41.0	-0.9
UPC	Upice	1.02	184	ePG	Pg	16 02 38.7	-0.6
DPC	Dobruska-Polom	1.18	173	ePG	Pg	16 02 40.8	-1.7
DPC				eSG	Sg	16 02 56.1	-2.2
PVCC	Panska Ves	1.39	225	ePG	Pg	16 02 45.4	-1.4
PRU	Pruhonice	1.83	214	ePG	Pg	16 02 52.5	-3.0
PRU				eSG	Sg	16 03 16.6	-3.3
	4.9nm,0.3s						
CLL	Collm	1.96	265	i PN	Pn	16 02 52.2	-1.6
CLL				ePG	Pg	16 02 55.0	-3.1
CLL				eSG	Sg	16 03 22.0	-2.2
OKC	Ostrava-Krasne	2.12	142	eSG	Sg	16 03 28.2	-1.6
NKC	Novy Kostel	2.65	242	ePG	Pg	16 03 09.4	-2.6
KHC	Kasperske Hory	2.89	215	ePG	Pg	16 03 12.0	-4.7
KHC				eSG	Sg	16 03 51.1	-4.1

*ATH **04** 16:42:08.5,39.94N×24.88E,h38km±16km,MD2.7/3*
*NEIC **04** 16:42:08.5,39.94N×24.88E,h38km,MD2.7(ATH),After ATH.*
*THE **04** 16:42:09.9,40.08N×24.83E,h9km,ML2.6*
*CSEM **04** 16:42:10.0±0.2,40.01N×24.80E,h15km,MD2.7,Error ellipse: s-maj=8.4km s-min=2.5km az=24.0*
ISC 04 16:42:09.4±0.7**,40.06N**±0.08×**24.83E**±0.06**,h12km**±6km**, n10,**σ**0s47**/17**,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LOS	Limnos	0.23	123	ePg	Pg	16 42 14.9	+0.3
LOS				eSg	Sg	16 42 18.2	+0.2
LIA	Limnos Island	0.32	121	ePB	Pb	16 42 16.8	+0.2
LIA				eSB	Sb	16 42 21.5	+0.2
OUR	Ouranopolis	0.70	293	ePg	Pg	16 42 23.2	-0.4
OUR				eSg	Sg	16 42 33.3	+0.2
OUR	Ouranopolis	0.70	293	ePg	Pg	16 42 23.2	-0.4
OUR				eSg	Sg	16 42 33.3	+0.2
PLG	Polygyros	1.10	287	ePB	Pb	16 42 29.0	-0.9
PLG				eSN	Sn	16 42 45.5	-0.3
RDO	Rodhopi	1.21	26	ePN	Pn	16 42 31.7	-0.5
ALN	Alexandroupoli	1.25	48	ePb	Pb	16 42 32.2	-0.2
SOH	Sokhos	1.36	304	ePb	Pb	16 42 34.4	+0.1
SOH				eSb	Sb	16 42 52.5	+1.1
SRS	Serrai	1.41	319	ePb	Pb	16 42 34.7	-0.5
SRS				eSb	Sb	16 42 53.6	+0.6
NVR	Nevrokopi	1.48	331	ePB	Pb	16 42 36.5	+0.1

*NIC **04** 16:52:36.8±0.4,38.22N×30.29E,h25km,mb4.5,ML4.2, MW4.0*
*IDC **04** 16:52:43.5±1.1,36.93N×30.40E,mb4.2/6,mb1 4.1/12, mb1mx4.0/23,ML3.6/6,MS3.6/10,Ms1 3.6/10, ms1mx3.5/26,Error ellipse: s-maj=22.4km s-min=17.2km az=2.0*
*CSEM **04** 16:52:43.4±0.1,36.98N×30.28E,h5km,mb4.2/17,Ms3.3, Mw3.5,Error ellipse: s-maj=1.8km s-min=1.3km az=49.0*
*ISK **04** 16:52:43.3,36.94N×30.32E,h6km,ML4.2*
*MOS **04** 16:52:45.0±1.5,36.98N×30.42E,h24km,mb4.5/6,Error ellipse: s-maj=12.3km s-min=7.6km az=95.4*
*NEIC **04** 16:52:46.4±2.0,37.02N×30.35E,h14km±15km,mb4.3/18, Error ellipse: s-maj=5.0km s-min=3.1km az=217.0*
ISC 04 16:52:44.0±0.5**,36.96N**±0.02×**30.32E**±0.02**,h8km**±3km**, n146,**σ**1s15**/181**,mb4.2**/15**,MS3.5**/8**,2D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ELL	Elmali	0.39	238	i PG	Pg	16 52 50.7	-1.3
BCK	Bucak	0.55	23	i PG	Pg	16 52 54.2	-0.8
ISP	Isparta	0.90	10	i PG	Pg	16 53 00.9	-1.1
ISP				i SG	Sg	16 53 14.1	+0.1
ISP	Isparta	0.90	10	Pg	Pg	16 53 00.9	-1.1
ISP				Sg	Sg	16 53 14.9	+0.9
KSL	Kastellorizon	1.00	217	ePB	Pb	16 53 04.2	+1.0
DNZL	Cakiroluk	1.25	306	i P	Pb	16 53 07.1	-0.3
DNZL				i S	Sb	16 53 26.1	+2.5
DENT	Denizli	1.30	308	i PN	Pn	16 53 09.3	+0.8
DALT	Dalyan (Mudla)	1.36	263	Pn	Pn	16 53 09.7	+0.3
DALT				Sg	Sg	16 53 28.7	-0.8
DALT	Dalyan (Mudla)	1.36	263	i Pn	Pn	16 53 09.7	+0.3
DALT				i Sn	Sn	16 53 28.0	+0.2
DALT				Sg	Sg	16 53 28.7	-0.8
KHL	Karahalli	1.50	335	i PN	Pn	16 53 11.1	-0.3
YER	Yerkesik	1.64	277	i PN	Pn	16 53 13.4	0.0
HDMB	Hadim	1.73	89	PN	Pn	16 53 14.9	+0.2
KONT	Konya--Tatoy	1.90	58	PN	Pn	16 53 18.0	+0.9
ARG	Arkhangelos	1.92	248	ePN	Pn	16 53 20.0	+2.7
MLSB	Milas	2.06	280	PN	Pn	16 53 20.3	+0.9
AYDN	Tasoluk	2.07	291	i P	Pn	16 53 20.8	+1.2
AYDN				i S	Sn	16 53 48.5	+2.7
MANT	Manisa	2.07	318	i P	Pn	16 53 19.5	-0.1
MANT				i S	Sn	16 53 46.4	+0.5
ALT	Altintas	2.10	356	PN	Pn	16 53 19.5	-0.5
KIZT	Kizilcal	2.28	32	PN	Pn	16 53 22.6	+0.1
BDRM	Kayabasi	2.31	274	i P	Pn	16 53 24.5	+1.6
BDRM				i S	Sn	16 53 52.7	+0.9
AKMC	Akamas	2.52	139	P	Pn	16 53 29.5	+3.5
ALFC	Alevga	2.58	134	P	Pn	16 53 29.3	+2.6
	9.7nm,0.8s						
ALFC				S	Sn	16 54 10.3	+12
ESKT	Eskisehir	2.59	9	PN	Pn	16 53 27.2	+0.2
ESKT	Eskisehir	2.59	9	i P	Pn	16 53 27.7	+0.7
ESKT				i S	Sn	16 54 02.8	+3.7
PPCY	Paphos	2.64	141	P	Pn	16 53 31.5	+3.8
AKS	Akhisar	2.76	315	PN	Pn	16 53 30.3	+0.9
LEF	Lefka	2.77	131	PN	Pn	16 53 29.8	+0.2
IKL	Isikli	2.80	104	PN	Pn	16 53 30.3	+0.3
KDAG	Bornova	2.82	302	i P	Pn	16 53 30.2	0.0
KDAG				i S	Sn	16 54 05.7	+0.9
IZM	Izmir	2.82	302	PN	Pn	16 53 29.5	-0.8
SMG	Samos	2.88	286	ePB	Pb	16 53 32.9	-2.4
KARP	Karpathos	2.92	242	ePN	Pn	16 53 33.9	+2.3
MAMC	Mammari	2.95	126	P	Pn	16 53 33.6	+1.6
DST	Dursunbey	2.96	334	PN	Pn	16 53 31.8	-0.5
SZAC	Souni-Zanaja	3.02	136	P	Pn	16 53 36.6	+3.4
	12nm,1.0s						
SZAC				S	Sn	16 54 22.8	+13
MEST	Erdemli	3.09	96	i P	Pn	16 53 35.2	+1.1
MEST				i S	Sn	16 54 22.3	+11
CSS	Prodhromos	3.15	128	P	Pn	16 53 35.7	+0.8
	6.8nm,1.0s						
CSS				S	Sn	16 54 23.4	+10
CSS	Prodhromos	3.15	128	ePn	Pn	16 53 35.9	+0.9
ULDT	Uludag	3.31	344	i P	Pn	16 53 37.2	0.0
ULDT				i S	Sg	16 54 36.4	+2.0
GPA	Golpazari	3.33	360	PN	Pn	16 53 37.9	+0.5
ANTO	Ankara	3.50	33	PN	Pn	16 53 39.5	-0.3
PHNC	Paralimni	3.58	122	P	Pn	16 53 42.4	+1.3
PHNC				S	Sg	16 54 42.1	-1.3
KAMT	Kaman	3.60	47	PN	Pn	16 53 41.0	-0.3
NIG	Nigde	3.60	70	PN	Pn	16 53 41.0	-0.3
YLV	Yalova	3.68	349	PN	Pn	16 53 42.5	0.0
BRTR	Keskin Array B	3.80	42	Pn	Pn	16 53 43.9	-0.3
	2.5nm,0.3s,baz=217,slow=14,SNR=56						
BRTR				Sn	Sn	16 54 29.9	+0.4
	8.0nm,0.3s,baz=217,slow=25,SNR=18						
BRTR				LR	LR	16 55 35.0	
	comp=Z,572nm,19.3s,baz=195,slow=45						
BRTR	Keskin Array B	3.80	42	P	Pn	16 53 43.9	-0.3
BRTR						16 54 30.0	
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
BRTR				smax			
	comp=N,8.0nm,0.3s						
BRTR				MLR	MLR		
	comp=Z,572nm,19.3s						
BRTR	Keskin Array B	3.80	42	Pn	Pn	16 53 43.8	-0.4
BRTR				Sn	Sn	16 54 30.0	+0.4
APE	Apeiranthos	3.84	273	ePN	Pn	16 53 44.5	-0.2
SGKT	Sivrigoynuk	3.86	20	i P	Pn	16 53 45.0	0.0
SGKT				i S	Sn	16 54 37.0	+6.0
HENT	Hendek	3.89	6	i P	Pn	16 53 44.5	-0.9
HENT				i S	Sn	16 54 42.1	+10
HRT	Hereke	3.89	353	PN	Pn	16 53 45.6	+0.1
PRK	Paraskevi	3.93	307	ePN	Pn	16 53 45.0	-1.0
AVNT	Avonos	4.02	62	i P	Pn	16 53 47.7	+0.4
AVNT				i S	Sg	16 54 59.4	+1.4
NPS	Neapolis	4.17	247	ePN	Pn	16 53 51.0	+1.6
ELDT	Eldivan	4.28	34	i P	Pn	16 53 51.0	0.0
ELDT				i S	Sn	16 54 41.7	-0.1
IDI	Anoyia	4.70	251	Pn	Pn	16 53 57.7	+0.7
	comp=Z,1.1nm,0.3s,baz=52,slow=19,SNR=7.5						
IDI				Sn	Sn	16 54 52.6	+0.1
	comp=Z,2.7nm,0.3s,baz=288,slow=20,SNR=2.4						
COBT	Iskenderun	4.79	93	i P	Pn	16 53 58.8	+0.6
COBT				i S	Sn	16 54 56.5	+2.0
CTKT	Corum	5.06	42	i P	Pn	16 54 03.1	+1.1
CTKT				i S	Sn	16 55 02.8	+1.4
BALT	Daday	5.15	27	i P	Pn	16 54 04.2	+0.8
BALT				i S	Sn	16 55 10.0	+6.3
HNTI	Hanita	5.55	133	Pn	Pn	16 54 10.1	+1.2
HNTI				Sn	Sn	16 55 14.2	+0.5
BOYT	Boyabat	5.70	37	i P	Pn	16 54 10.4	-0.7
BOYT				i S	Sn	16 55 19.5	+1.9
HRI	Mount Hermon	5.76	128	Pn	Pn	16 54 13.4	+1.4
KSDI	Kefar Szold	5.77	129	Pn	Pn	16 54 12.2	+0.2
KSDI				Sn	Sn	16 55 19.8	+0.6
OFRI	'Ofer	5.78	137	Pn	Pn	16 54 13.0	+0.8
GLH	Golan-Tel Qazi	6.09	132	Pn	Pn	16 54 17.2	+0.6
SLTI	Sal'it	6.10	139	Pn	Pn	16 54 16.6	-0.2
SLTI				Sn	Sn	16 55 28.2	+0.6
MMLI	Mount Malkishu	6.16	136	Pn	Pn	16 54 18.1	+0.5
MMLI				Sn	Sn	16 55 28.7	-0.3
HMDT	Nahal Hemdat	6.36	136	Pn	Pn	16 54 20.7	+0.4
RZN	Rozhen	6.42	319	eP	Pn	16 54 20.0	-1.2
DRGI	Dragot	6.80	140	Pn	Pn	16 54 25.7	-0.9
MMB	Musomiste	6.90	314	eP	Pn	16 54 27.0	-0.9
KZIT	Kziot	6.92	150	Pn	Pn	16 54 26.6	-1.7
KZIT				Sn	Sn	16 55 46.1	-1.9
MASH	Mash'abbe Sade	7.00	147	Pn	Pn	16 54 28.6	-0.9
MZDA	Masada	7.01	142	Pn	Pn	16 54 29.2	-0.4
MZDA				Sn	Sn	16 55 49.5	-0.8
ASF	Jabal al Asfar	7.22	129	Pn	Pn	16 54 34.7	+2.2
	comp=Z,0.4nm,0.3s,baz=125,slow=3.0,SNR=3.9						
ASF				Sn	Sn	16 55 59.8	+4.2
	baz=74,slow=7.4,SNR=2.0						
ASF				LR	LR	16 57 40.9	
	comp=Z,430nm,19.8s,baz=168,slow=42						
PVL	Pavlikeni	7.33	330	eP	Pn	16 54 32.0	-2.0
KKB	Krupnik	7.44	313	eP	Pn	16 54 35.0	-0.6
PRNI	Paran	7.66	148	Pn	Pn	16 54 37.1	-1.5
PRNI				Sn	Sn	16 56 05.1	-1.3
KMTI	Karmit	7.76	150	Pn	Pn	16 54 38.5	-1.5
VTS	Vitosha	7.85	318	eP	Pn	16 54 40.0	-1.3
MBH	Mount Berech	8.11	150	Pn	P	16 54 43.9	-1.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SIM	**Simferopol'**	**8.48**	**19**	P	**P**	**16 54 51.3**	**+1.2**
SIM				*e*S	**Sn**	**16 56 23.2**	**-3.9**
SIM				pmax	pmax		
	comp=Z,44nm,0.5s						
SIM				MLR	MLR		
	comp=Z,100nm,13.0s						
MLR	**Muntele Rosu**	**9.14**	**340**	Pn	**P**	**16 54 57.2**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=223,slow=3.8,SNR=6.2						
SOC	**Sochi**	**9.76**	**44**	*e*P	**P**	**16 55 05.7**	**-2.0**
SOC				*e*S	**Sn**	**16 56 54.1**	**-4.5**
SOC				pmax	pmax		
	comp=Z,34nm,0.9s						
SOC				pmax	pmax		
	comp=N,13nm,0.7s						
SOC				pmax	pmax		
	comp=E,21nm,0.9s						
SOC				MLR	MLR		
	comp=Z,149nm,14.0s						
SOC				MLR	MLR		
	comp=N,85nm,12.0s						
SOC				MLR	MLR		
	comp=E,194nm,19.0s						
TDS	**Terranova Siba**	**11.31**	**288**	*e*P	**P**	**16 55 33.0**	**+3.9**
KIV	**Kislovodsk**	**11.72**	**50**	*e*P	**P**	**16 55 30.4**	**-4.1**
KIV				*e*S	**S**	**16 57 44.8**	**-1.9**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,73nm,22.0s						
KIV				MLR	MLR		
	comp=N,25nm,18.0s						
GNI	**Garni**	**11.73**	**70**	LR	LR	17 00 50.6	
	comp=N,631nm,19.0s,baz=85,slow=42						
MGR	**Morigerati**	**11.99**	**290**	*e*P	**P**	**16 55 38.6**	**+0.4**
MGR	**Morigerati**	**11.99**	**290**	*e*P	**P**	**16 55 38.6**	**+0.4**
MRLC	**Muro Lucano**	**12.17**	**293**	*e*P	**P**	**16 55 41.0**	**+0.3**
MRLC	**Muro Lucano**	**12.17**	**293**	*e*P	**P**	**16 55 41.0**	**+0.4**
SGO	**Sicignano**	**12.26**	**292**	*e*P	**P**	**16 55 45.0**	**+3.2**
AKASG	**Malin Array Be**	**13.76**	**357**	Pn	**P**	**16 55 58.8**	**-2.9**
	comp=N,0.4nm,0.3s,baz=176,slow=12,SNR=4.4						
PTQR	**Pietraquaria**	**14.01**	**296**	*e*P	**P**	**16 56 13.7**	**+8.7**
CERT	**Cerreto**	**14.29**	**296**	*e*P	**P**	**16 56 16.8**	**+8.2**
NRCA	**Norcia**	**14.45**	**299**	*e*P	**P**	**16 56 18.7**	**+7.9**
GERES	**GERESS Array B**	**16.97**	**320**	Pn	**P**	**16 56 45.4**	**+2.2**
	comp=N,0.1nm,0.3s,baz=131,slow=12,SNR=6.4						
KHC	**Kasperske Hory**	**17.21**	**320**	*e*P	**P**	**16 56 51.0**	**+4.8**
PGF	**Pioggiola**	**17.30**	**295**	*e*P	**P**	**16 56 47.8**	**+0.3**
	comp=N,22nm,1.1s						
SBF	**Sospel**	**18.71**	**299**	*e*P	**P**	**16 57 05.0**	**+0.1**
MOX	**Moxa**	**19.15**	**321**	*e*P	**P**	**16 57 12.0**	**+1.9**
FRF	**La Foret Royal**	**19.20**	**297**	*e*P	**P**	**16 57 10.2**	**-0.6**
	comp=N,15nm,1.0s						
MBDF	**Montbardon**	**19.39**	**301**	*e*P	**P**	**16 57 13.6**	**+0.6**
	comp=N,27nm,0.8s						
BNI	**Bardonecchia**	**19.54**	**302**	*e*P	**P**	**16 57 15.0**	**+0.3**
	comp=N,8.7nm,1.0s						
BNI	**Bardonecchia**	**19.54**	**302**	*e*P	**P**	**16 57 15.0**	**+0.3**
	comp=N,8.7nm,1.0s						
LPG	**La Plagne**	**19.62**	**303**	*e*P	**P**	**16 57 15.4**	**-0.2**
	comp=N,40nm,1.0s						
LPL	**La Plagne**	**19.64**	**303**	*e*P	**P**	**16 57 15.5**	**-0.3**
	comp=N,24nm,0.9s						
ORIF	**Oris-en-Rattie**	**20.05**	**301**	*e*P	**P**	**16 57 19.2**	**-1.2**
	comp=N,20nm,0.8s						
CDF	**Champ du Feu**	**20.36**	**311**	*e*P	**P**	**16 57 23.4**	**-0.2**
	comp=N,41nm,1.1s						
HINF	**Hinteralfeld**	**20.37**	**310**	*e*P	**P**	**16 57 23.0**	**-0.7**
CABF	**La Chapelle**	**20.41**	**306**	*e*P	**P**	**16 57 23.1**	**-1.0**
	comp=N,25nm,0.9s						
HAU	**Haudompre**	**20.76**	**310**	*e*P	**P**	**16 57 27.1**	**-0.6**
VIVF	**Saint-Julien-l**	**20.87**	**300**	*e*P	**P**	**16 57 26.5**	**-2.4**
	comp=N,26nm,1.0s						
SMF	**Signal de Mont**	**21.90**	**305**	*e*P	**P**	**16 57 37.6**	**-1.6**
	comp=N,28nm,1.0s,mb4.4						
LOR	**Lormes**	**22.07**	**306**	*e*P	**P**	**16 57 40.0**	**-1.0**
SSF	**Saint Saulge**	**22.24**	**305**	*e*P	**P**	**16 57 41.9**	**-0.7**
	comp=N,7.2nm,1.0s,mb4.1						
TCF	**Toulx Ste Croi**	**22.89**	**303**	*e*P	**P**	**16 57 48.1**	**-0.9**
	comp=N,33nm,1.1s,mb4.4						
RJF	**Les Rejaudoux**	**23.15**	**300**	*e*P	**P**	**16 57 52.6**	**+1.0**
RJF				*e*R			
	comp=N,222nm,19.5s						
MFF	**Saint Martin d**	**24.55**	**303**	*e*P	**P**	**16 58 04.1**	**-1.0**
	comp=N,45nm,1.0s,mb4.7						
FINES	**FINESS Array B**	**24.66**	**355**	P	**P**	**16 58 06.8**	**+0.8**
	comp=N,2.9nm,0.8s,mb3.9,baz=157,slow=14,SNR=7.6						
FINES				LR	LR	17 08 19.8	
	comp=N,83nm,19.6s,MS3.2,baz=310,slow=38						
FINES	**FINESS Array B**	**24.66**	**355**	P	**P**	**16 58 06.8**	**+0.8**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FINES				MLR	MLR		
	comp=Z,83nm,19.6s						
FINES	**FINESS Array B**	**24.66**	**355**	P	**P**	**16 58 06.8**	**+0.8**
FINES				LR	LR	17 08 19.8	
ESDC	**Sonseca Array**	**26.94**	**286**	P	**P**	**16 58 26.8**	**-0.9**
	comp=Z,3.1nm,1.0s,mb3.8,baz=76,slow=10,SNR=5.4						
ESDC				LR	LR	17 09 23.8	
	comp=Z,67nm,19.3s,MS3.2,baz=20,slow=37						
NOA	**NORSAR Array B**	**26.96**	**339**	LR	LR	17 11 13.4	
	comp=Z,109nm,18.5s,MS3.4,baz=165,slow=41						
ARU	**Arti**	**27.15**	**35**⇓	*i*P	**P**	**16 58 25.9**	**-3.5**
ARU				*e*PPP	PPP	16 59 17.1	-11
ARU				*e*S	**S**	**17 03 04.6**	**-1.6**
ARU				*e*SS	SS	17 04 13.3	-7.7
ARU				*e*		17 09 12.3	
ARU				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.4						
ARU	**Arti**	**27.15**	**35**	*e*P	**P**	**16 58 30.1**	**+0.7**
	comp=Z,9.8nm,0.8s,mb4.4						
ARU	**Arti**	**27.15**	**35**	*e*P	**P**	**16 58 30.0**	**+0.6**
	comp=Z,9.8nm,0.8s,mb4.4						
SVE	**Sverdlovsk**	**28.33**	**36**⇓	*e*P	**P**	**16 58 39.6**	**-0.5**
ZRNK	**Zerenda**	**31.24**	**47**	*e*P	**P**	**16 59 05.8**	**-0.2**
	comp=Z,4.1nm,1.0s,mb4.2						
ZRNK	**Zerenda**	**31.24**	**47**	*e*P	**P**	**16 59 05.8**	**-0.2**
	comp=Z,4.1nm,1.0s,mb4.2						
BRVK	**Borovoye**	**32.02**	**47**	P	**P**	**16 59 11.6**	**-1.2**
	comp=Z,1.1nm,0.5s,mb3.9						
BRVK	**Borovoye**	**32.02**	**47**	P	**P**	**16 59 11.6**	**-1.2**
	comp=Z,1.1nm,0.5s,mb3.9						
ARCES	**ARCESS Array B**	**32.74**	**357**	P	**P**	**16 59 18.0**	**-1.0**
	comp=Z,8.5nm,1.2s,mb4.5,baz=158,slow=6.5,SNR=5.3						
ARCES	**ARCESS Array B**	**32.74**	**357**	P	**P**	**16 59 18.0**	**-1.0**
ARCES				pmax	pmax		
	comp=Z,9.0nm,1.2s						
AAK	**Ala-Archa**	**34.11**	**66**	*e*P	**P**	**16 59 27.6**	**-3.5**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.7s,mb4.1						
AAK				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.6						
KURK	**Kurchatov**	**36.79**	**52**	*e*P	**P**	**16 59 51.4**	**-2.4**
KURK	**Kurchatov**	**36.79**	**52**	*e*P	**P**	**16 59 52.8**	**-1.0**
	comp=Z,4.1nm,0.9s,mb4.3						
MKAR	**Makanchi Array**	**39.28**	**59**	P	**P**	**17 00 13.4**	**-1.4**
	comp=Z,12nm,1.1s,mb4.5,baz=279,slow=6.4,SNR=24						
MKAR				PcP	PcP	17 02 23.6	-0.6
	comp=Z,1.2nm,0.8s,baz=270,slow=4.9,SNR=3.8						
MKAR				LR	LR	17 19 18.1	
	comp=Z,41nm,18.5s,MS3.3,baz=13,slow=41						
MKAR	**Makanchi Array**	**39.28**	**59**	P	**P**	**17 00 13.4**	**-1.4**
MKAR						17 02 23.6	
MKAR				pmax	pmax		
	comp=Z,12nm,1.1s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR				MLR	MLR		
	comp=Z,41nm,18.5s						
SONM	**Songino Array**	**55.09**	**53**	P	**P**	**17 02 17.0**	**-1.7**
	comp=Z,0.9nm,0.6s,mb4.0,baz=291,slow=7.9,SNR=12						
CMAR	**Chiang Mai Arr**	**62.25**	**87**	P	**P**	**17 03 06.5**	**-2.4**
	comp=Z,2.2nm,0.8s,mb4.3,baz=295,slow=8.0,SNR=14						
CMAR				LR	LR	17 36 07.1	
	comp=Z,29nm,18.3s,MS3.5,baz=195,slow=42						
CMAR	**Chiang Mai Arr**	**62.25**	**87**	P	**P**	**17 03 06.5**	**-2.4**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CMAR				MLR	MLR		
	comp=Z,29nm,18.3s						
ULM	**Lac du Bonnet**	**81.07**	**328**	LR	LR	17 38 43.9	
	comp=Z,66nm,18.9s,MS4.0,baz=209,slow=34						
JHJ	**Hachijo jima 2**	**84.17**	**53**	LR	LR	17 46 12.2	
	comp=Z,78nm,19.2s,MS4.1,baz=328,slow=38						
ASAR	**Alice Springs**	**114.29**	**102**	PKP	PKPdf	17 11 24.2	-3.1
	comp=Z,0.5nm,0.8s,baz=321,slow=1.3,SNR=5.2						

MEX 04 17:15:13.6±0.7**, 16.08N×96.31W, h51**km±12km**, MD3.8, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.36**	**148**	*i* P	P	17 15 21.8	-1.7
HUIG				*i* S	S	17 15 28.9	-1.6
VHO	**Vista Hermosa**	**1.07**	**338**	*i* P	P	17 15 30.8	-1.8
VHO				*i* S	S	17 15 43.9	-2.7
OXX	**Oaxaca**	**1.07**	**338**	*i* P	P	17 15 31.0	-1.6
OXX				*i* S	S	17 15 44.5	-2.2
CMIG	**Matias Romero**	**1.69**	**53**	*i* P	P	17 15 39.1	-2.3
CMIG				*i* S	S	17 16 00.1	-1.8

MAN 04 17:28:11.6, 10.55N×125.73E, h53km**, mb4.3, ML3.1, MS2.9, 1C, Leyte**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.95**	**244**	*e*P	P	17 28 29.3	+0.5
MSLP				*e*S	S	17 28 44.6	+2.9
PLP	**Palo**	**0.95**	**310**	*e*P	P	17 28 29.8	+0.8
PLP				*e*S	S	17 28 43.8	+2.0
BESP	**Borongan**	**1.08**	**345**	*e*P	P	17 28 31.1	+0.4
BESP				*e*S	S	17 28 45.3	+0.4
OCLP	**Ormoc**	**1.21**	**294**	*e*P	P	17 28 33.9	+1.5
BUTP	**Butuan**	**1.57**	**184**	*e*P	P	17 28 37.8	+0.1
LLP	**Lapu-Lapu**	**1.75**	**263**⇑	*e*P	P	17 28 40.2	+0.1
LLP				*e*S	S	17 29 01.4	+0.2
TBP	**Tagbilaran**	**2.02**	**245**	*e*P	P	17 28 44.4	+0.5
TBP				*e*S	S	17 29 08.6	+0.6
BUKP	**Musuan**	**2.73**	**194**	*e*P	P	17 28 54.7	+0.6

*NIED **04** 17:34:00, 21.50N×121.30E, h62km, Mw4.0 Best double couple: Mo1.1×10¹⁵ NP1:φs226°, δ82°, λ140°. NP2:φs323°, δ51°, λ11°.*

TAP 04 17:34:00.9, 21.75N×121.36E, h3km±1km**, ML3.3, Taiwan region**

*NEIC **04** 17:50:39.7, 19.09N×66.72W, h7km, ML3.5(RSPR), After RSPR.*

RSPR 04 17:50:39.7, 19.09N×66.72W, h7km±9km**, 3C, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**0.74**	**182**	*e*P	Pb	17 50 53.9	-0.7
CSB	**Colonia Sabana**	**0.96**	**146**⇑	*e*P	Pb	17 50 56.2	-2.1
CSB				*e*S	Sb	17 51 09.3	-1.7
PORP	**Portuguez**	**1.04**	**176**⇑	*e*P	Pb	17 50 57.6	-2.0
PORP				*e*S	Sb	17 51 10.9	-2.3
HUMP	**Col San Antoni**	**1.25**	**139**⇑	*e*P	Pb	17 51 00.4	-2.9
HUMP				*e*S	Sb	17 51 16.9	-2.6

PRE 04 18:01:32.3±1.7**, 28.13S×26.77E, h2**km**, ML3.7, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BOSA	**Boshof**	**1.42**	**250**	*e*P	Pn	18 01 58.7	-0.5
BOSA				*e*S	Sb	18 02 16.3	-1.4
KSR	**Koster**	**2.27**	**3**	*e*P	Pn	18 02 10.3	-1.0
KSR				*e*S	Sn	18 02 38.6	-1.6
KSR				*e*		18 02 39.9	
	comp=Z,452nm,0.2s						
SLR	**Silverton**	**2.73**	**30**	*e*P	Pn	18 02 15.1	-2.9
SLR				*e*S	Sn	18 02 53.4	+1.3
SLR				*e*		18 03 01.6	
	comp=Z,132nm,0.3s						
NWL	**Newcastle**	**2.84**	**83**	*e*P	Pn	18 02 17.9	-1.6
NWL				*e*S	Sn	18 02 51.8	-3.0
NWL				*e*		18 03 06.9	
	comp=Z,461nm,0.6s						
UPI	**Upington**	**4.88**	**266**	*e*P	Pn	18 02 45.6	-2.8

*NEIC **04** 18:07:14.7, 41.56N×2.57E, ML3.4(STR), ML3.1(LDG), MN2.7(MDD), After MDD.*
NEIC Felt [II] at Arenys de Munt.
*MDD **04** 18:07:14.6±0.5, 41.55N×2.61E, mbLg2.8/7, Error ellipse: s-maj=5.3km s-min=3.1km az=137.0, PRXIMO*
MDD EMS: II ARENYS DE MUNT.
*CSEM **04** 18:07:15.9±0.1, 41.62N×2.52E, h10km, ML3.1/18, Error ellipse: s-maj=2.4km s-min=1.2km az=135.0*
*LDG **04** 18:07:15.5±0.1, 41.60N×2.52E, h5km, Md3.2/3, Ml3.1/20, Error ellipse: s-maj=2.7km s-min=1.8km az=163.0*
*STR **04** 18:07:17.7±0.4, 41.71N×2.53E, h5km±1km, Ml3.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 04 18:07:12.8±0.4**, 41.58N**±0.02×**2.67E**±0.02**, h10**km**, n85,** σ**1**§**45**/151**, Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBRU	**Bruguera**	**0.79**	**333**	Pg	**Pg**	**18 07 28.9**	**+0.2**
EJON	**La Jonquera**	**0.88**	**11**	Pg	**Pg**	**18 07 31.5**	**+1.1**
	6.7nm,0.1s,SNR=7.9						
EJON				Lg		18 07 44.1	
	65nm,0.1s,SNR=7.9						
EJON	**La Jonquera**	**0.88**	**11**	Pg	**Pg**	**18 07 31.5**	**+1.0**
	6.7nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**0.92**	**292**	Pg	**Pg**	**18 07 30.3**	**-0.8**
	SNR=7.9						
EMIR				Lg		18 07 42.6	
	115nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**0.92**	**292**	Pg	**Pg**	**18 07 30.3**	**-0.8**
	SNR=7.9						
SJAF	**Saint Jean de**	**0.92**	**10**	Pg	**Pg**	**18 07 32.4**	**+1.3**
SJAF				Sg	**Sg**	**18 07 45.1**	**+1.7**
SJAF	**Saint Jean de**	**0.92**	**10**	P	**Pb**	**18 07 32.1**	**+1.8**
SJAF				S	**Sb**	**18 07 45.1**	**+2.8**
VALF	**Valcebollere**	**0.95**	**330**	Pg	**Pg**	**18 07 31.6**	**-0.2**
VALF	**Valcebollere**	**0.95**	**330**	P	**Pb**	**18 07 31.6**	**+0.7**
VALF				S	**Sb**	**18 07 44.6**	**+1.3**
FILF	**Fillols**	**0.98**	**355**	Pg	**Pg**	**18 07 33.0**	**+0.6**
FILF				Sg	**Sg**	**18 07 45.9**	**+0.3**
FILF	**Fillols**	**0.98**	**355**	P	**Pb**	**18 07 33.0**	**+1.6**
FILF				S	**Sg**	**18 07 45.9**	**+0.3**
CLLI	**Llivia**	**1.03**	**330**	Pg	**Pg**	**18 07 33.0**	**-0.4**
CLLI				Sg	**Sg**	**18 07 47.5**	**+0.2**
CLLI	**Llivia**	**1.03**	**330**	Pg	**Pg**	**18 07 33.0**	**-0.5**
CLLI				Sg	**Sg**	**18 07 47.5**	**+0.2**
CGAR	**Garraf**	**1.19**	**257**	Pg	Px	18 07 25.0	
CORG	**Organya**	**1.20**	**303**	Pg	**Pg**	**18 07 35.6**	**-1.1**
CORG				Sn	**Sn**	**18 07 50.7**	**-1.2**
CORG	**Organya**	**1.20**	**303**	Pg	**Pg**	**18 07 35.6**	**-1.1**
CORG				Sn	**Sn**	**18 07 50.7**	**-1.2**
CARF	**Carcanieres**	**1.21**	**340**	Pg	**Pg**	**18 07 37.0**	**+0.1**
CARF				Sg	**Sg**	**18 07 52.6**	**-0.5**
CARF	**Carcanieres**	**1.21**	**340**	P	**Pb**	**18 07 36.7**	**+1.5**
CARF				S	**Sb**	**18 07 52.6**	**+1.8**
EPOB	**Poblet**	**1.22**	**260**	Pg	**Pg**	**18 07 35.3**	**-1.8**
	21nm,0.1s,SNR=7.9						
EPOB				Lg		18 07 50.3	
	30nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**1.22**	**260**	Pg	**Pg**	**18 07 35.3**	**-1.8**
EPOB				Lg		18 07 50.3	
EPOB	**Poblet**	**1.22**	**260**	Pg	**Pg**	**18 07 35.3**	**-1.8**
	21nm,0.1s,SNR=7.9						
LRDF	**Laroque-de-Fa**	**1.36**	**356**	Pg	**Pg**	**18 07 40.0**	**+0.1**
LRDF				Sg	**Sg**	**18 07 58.1**	**0.0**
LRDF	**Laroque-de-Fa**	**1.36**	**356**	P	**Pb**	**18 07 39.2**	**+1.3**
LRDF				S	**Sg**	**18 07 58.1**	**0.0**
CAVN	**Les Avellanes**	**1.46**	**283**	Pg	**Pg**	**18 07 40.3**	**-1.7**
CAVN				Sg	**Sg**	**18 07 58.8**	**-2.8**
CAVN	**Les Avellanes**	**1.46**	**283**	Pg	**Pg**	**18 07 40.3**	**-1.7**
CAVN				Sg	**Sg**	**18 07 58.8**	**-2.8**
LPEF	**Le Peyrat**	**1.48**	**338**	Pn	**Pn**	**18 07 41.4**	**+1.8**
LPEF	**Le Peyrat**	**1.48**	**338**	P	**Pn**	**18 07 41.6**	**+2.0**
LPEF				S	**Sb**	**18 08 01.6**	**+3.0**
GRBF	**Gourbit**	**1.51**	**327**	Pg	**Pg**	**18 07 41.9**	**-1.2**
GRBF	**Gourbit**	**1.51**	**327**	Pg	**Pg**	**18 07 41.9**	**-1.1**
SALF	**Salau**	**1.61**	**318**	Pn	**Pn**	**18 07 42.9**	**+1.4**
SALF	**Salau**	**1.61**	**318**	P	**Pn**	**18 07 43.0**	**+1.6**
SALF				S	**Sb**	**18 08 03.5**	**+1.1**
MTLF	**Montolieu**	**1.79**	**349**	*e*Pn	**Pn**	**18 07 44.9**	**+0.9**
MTLF				*e*P		18 07 47.1	
MTLF				*e*Pg	**Pg**	**18 07 48.4**	**-0.1**
MTLF				*e*Sn	**Sn**	**18 08 06.5**	**-0.5**
MTLF				*e*Sg	**Sg**	**18 08 10.2**	**-2.2**
	68nm,0.2s						
MLS	**Moulis**	**1.80**	**320**	Pn	**Pn**	**18 07 46.4**	**+2.2**
MLS				Sg	**Sg**	**18 08 10.5**	**-2.4**
MLS	**Moulis**	**1.80**	**320**	P	**Pn**	**18 07 46.4**	**+2.2**
MLS				S	**Sn**	**18 08 09.2**	**+1.9**
EBR	**Ebro Roquetas**	**1.81**	**246**	*e*P*	**Pb**	**18 07 47.1**	**+1.6**
EBR	**Ebro Roquetas**	**1.81**	**246**	*e*SG	**Sg**	**18 08 12.0**	**-1.0**
MELF	**Melles**	**1.92**	**313**	Pn	**Pn**	**18 07 47.7**	**+1.9**
MELF	**Melles**	**1.92**	**313**	P	**Pn**	**18 07 47.7**	**+1.9**
MELF				S	**Sn**	**18 08 12.2**	**+2.0**
RESF	**Ens**	**2.12**	**306**	Pn	**Pn**	**18 07 50.2**	**+1.4**
RESF	**Ens**	**2.12**	**306**	P	**Pn**	**18 07 50.2**	**+1.5**
EPF	**Esparros**	**2.25**	**311**	*e*Pn	**Pn**	**18 07 51.5**	**+0.8**
EPF				*e*Pg	**Pg**	**18 07 55.2**	**-2.6**
EPF				*e*Sn	**Sn**	**18 08 16.3**	**-2.5**
EPF				*e*Sg	**Sg**	**18 08 22.8**	**-5.0**
	96nm,0.3s						
ESAC	**San Caprasio**	**2.35**	**274**	Pn	**Pn**	**18 07 53.2**	**+1.1**
	2.0nm,0.1s,SNR=4.0						
ESAC				Pg	**Pg**	**18 07 56.0**	**-3.7**
	6.8nm,0.1s,SNR=7.9						
ESAC				Lg		18 08 26.6	
	245nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**2.35**	**274**	Pn	**Pn**	**18 07 53.2**	**+1.1**
ESAC				Pg	**Pg**	**18 07 54.4**	**-5.4**
ESAC				Lg		18 08 25.7	
ESAC	**San Caprasio**	**2.35**	**274**	Pn	**Pn**	**18 07 53.2**	**+1.1**
	2.0nm,0.1s,SNR=4.0						
ESAC	**San Caprasio**	**2.35**	**274**	Pg	**Pg**	**18 07 54.4**	**-5.4**
	6.8nm,0.1s,SNR=7.9						
VIEF	**Viey**	**2.35**	**304**	Pn	**Pn**	**18 07 53.7**	**+1.6**
LABF	**Labassere**	**2.42**	**308**	Pn	**Pn**	**18 07 55.0**	**+2.0**
LABF	**Labassere**	**2.42**	**308**	P	**Pn**	**18 07 54.9**	**+1.9**
LASF	**Ste Croix**	**2.64**	**19**	*e*Pn	**Pn**	**18 07 57.6**	**+1.4**
LASF				*e*Pg	**Pg**	**18 08 04.8**	**-0.7**
LASF				*e*Sn	**Sn**	**18 08 27.7**	**-1.0**
LASF				*e*Sg	**Sg**	**18 08 39.2**	**-1.6**
	15nm,0.4s						
LASF	**Ste Croix**	**2.64**	**19**	Pn	**Pn**	**18 07 57.6**	**+1.4**
LASF				Pg	**Pg**	**18 08 04.8**	**-0.7**
LASF				Lg		18 08 39.2	
	7.6nm,0.4s						
EMOS	**Mosqueruela**	**2.67**	**244**	Pn	**Pn**	**18 07 56.8**	**+0.2**
	1.0nm,0.4s,SNR=7.9						
EMOS				Pg	**Pg**	**18 08 03.5**	**-2.6**
	2.3nm,0.2s,SNR=7.9						
EMOS				Lg		18 08 39.2	
	2.9nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**2.67**	**244**	Pn	**Pn**	**18 07 56.8**	**+0.2**
	1.0nm,0.4s,SNR=7.9						
EMOS	**Mosqueruela**	**2.67**	**244**	Pg	**Pg**	**18 08 03.5**	**-2.6**
	2.3nm,0.2s,SNR=7.9						
ETSF	**Etsaut**	**2.73**	**300**	*e*Pn	**Pn**	**18 07 58.3**	**+0.8**
ETSF				*e*Pg	**Pg**	**18 08 04.4**	**-2.9**
ETSF				*e*Sn	**Sn**	**18 08 27.4**	**-3.5**
ETSF				*e*Sg	**Sg**	**18 08 37.0**	**-6.8**
	33nm,0.2s						
EIBI	**Ibiza**	**2.75**	**202**	Pn	**Pn**	**18 07 56.4**	**-1.2**
	1.3nm,0.1s,SNR=7.9						
EIBI				Sn	**Sn**	**18 08 26.2**	**-5.0**
	8.3nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**2.75**	**202**	Sn	**Sn**	**18 08 26.2**	**-5.0**
	8.3nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**2.75**	**202**	Pn	**Pn**	**18 07 56.4**	**-1.3**
	1.3nm,0.1s,SNR=7.9						
LARF	**Larrau**	**3.08**	**299**	Pn	**Pn**	**18 08 03.5**	**+1.1**
SMRF	**Simiane la Rot**	**3.21**	**41**	*e*Pn	**Pn**	**18 08 06.5**	**+2.2**
SMRF				*e*Sn	**Sn**	**18 08 42.2**	**-0.8**
SMRF				*e*Sg	**Sg**	**18 08 57.7**	**-2.0**
	13nm,0.6s						
SJPF	**Ste Jean**	**3.27**	**299**	*e*Pn	**Pn**	**18 08 05.8**	**+0.7**
SJPF				*e*Pg	**Pg**	**18 08 14.7**	**-3.3**
SJPF				*e*Sg	**Sg**	**18 08 54.5**	**-7.0**
	32nm,0.4s						
LMR	**La Mourre**	**3.34**	**57**	*e*Pn	**Pn**	**18 08 07.0**	**+0.9**
LMR				*e*Sn	**Sn**	**18 08 45.3**	**-1.0**
	3.4nm,0.2s						
CAF	**Calviac**	**3.37**	**353**	*e*Pn	**Pn**	**18 08 07.3**	**+0.7**
CAF				*e*Pg	**Pg**	**18 08 16.9**	**-3.2**
CAF				*e*Sg	**Sg**	**18 08 59.8**	**-5.2**
	12nm,0.2s						
FRF	**La Foret Royal**	**3.54**	**55**	*e*Pn	**Pn**	**18 08 09.7**	**+0.7**
FRF				*e*Sn	**Sn**	**18 08 50.8**	**-0.6**
	3.5nm,0.2s						
VIVF	**Saint-Julien-l**	**3.59**	**23**	*e*Pn	**Pn**	**18 08 10.6**	**+1.0**
VIVF				*e*Sn	**Sn**	**18 08 50.8**	**-1.7**
VIVF				*e*Sg	**Sg**	**18 09 08.9**	**-3.3**
	6.8nm,0.3s						
LFF	**La Frestale**	**3.64**	**338**	*e*Pn	**Pn**	**18 08 10.3**	**-0.1**
LFF				*e*Pg	**Pg**	**18 08 21.2**	**-4.2**
LFF				*e*Sg	**Sg**	**18 09 07.6**	**-6.4**
	21nm,0.3s						
ETOR	**Torete**	**3.64**	**259**	Pn	**Pn**	**18 08 11.6**	**+1.2**
	1.3nm,0.4s,SNR=7.9						
ETOR				Pg	**Pg**	**18 08 21.2**	**-4.3**
	4.7nm,0.3s,SNR=7.9						
ETOR				Lg		18 09 07.9	
	6.6nm,0.4s,SNR=7.9						
ETOR	**Torete**	**3.64**	**259**	Pn	**Pn**	**18 08 11.6**	**+1.2**
ETOR				Pg	**Pg**	**18 08 21.2**	**-4.3**
ETOR				Lg		18 09 07.2	
RJF	**Les Rejaudoux**	**3.81**	**348**	*e*Pn	**Pn**	**18 08 12.3**	**-0.6**
RJF				*e*Pg	**Pg**	**18 08 24.5**	**-4.4**
RJF				*e*Sg	**Sg**	**18 09 13.8**	**-6.0**
	6.4nm,0.2s						
ORIF	**Oris-en-Rattie**	**4.08**	**34**	*e*Pn	**Pn**	**18 08 17.9**	**+1.3**
ORIF				*e*Sn	**Sn**	**18 09 03.2**	**-1.8**
	6.9nm,0.6s						
SBF	**Sospel**	**4.19**	**55**	*e*Pn	**Pn**	**18 08 18.7**	**+0.5**
SBF				*e*Sn	**Sn**	**18 09 05.5**	**-2.3**
	7.8nm,0.4s						
MBDF	**Montbardon**	**4.35**	**42**	*e*Pn	**Pn**	**18 08 20.4**	**-0.1**
MBDF				*e*Sn	**Sn**	**18 09 09.5**	**-2.3**
	3.3nm,0.4s						
TCF	**Toulx Ste Croi**	**4.72**	**356**	*e*Pn	**Pn**	**18 08 25.0**	**-0.7**
TCF				*e*Pg	**Pg**	**18 08 42.3**	**-4.6**
TCF				*e*Sg	**Sg**	**18 09 42.9**	**-6.9**
	4.3nm,0.2s						
ELAN	**Lanestosa**	**4.81**	**292**	Pn	**Pn**	**18 08 27.7**	**+0.7**
	0.8nm,0.2s,SNR=7.9						
ELAN				Sn	**Sn**	**18 09 19.4**	**-4.1**
	1.6nm,0.4s,SNR=7.9						
ELAN	**Lanestosa**	**4.81**	**292**	Pn	**Pn**	**18 08 27.7**	**+0.7**
ELAN				Sn	**Sn**	**18 09 19.4**	**-4.1**
ELAN				Lg		18 09 44.7	
ELAN	**Lanestosa**	**4.81**	**292**	Pn	**Pn**	**18 08 27.7**	**+0.7**
	0.8nm,0.2s,SNR=7.9						
ELAN				Sn	**Sn**	**18 09 19.4**	**-4.1**
	1.6nm,0.4s,SNR=7.9						
PGF	**Pioggiola**	**4.81**	**76**	*e*Pn	**Pn**	**18 08 26.3**	**-0.8**
PGF				*e*Sn	**Sn**	**18 09 18.9**	**-4.7**
	5.3nm,0.3s						
LPG	**La Plagne**	**4.91**	**36**	*e*Pn	**Pn**	**18 08 30.2**	**+1.7**
LPL	**La Plagne**	**4.92**	**36**	*e*Pn	**Pn**	**18 08 30.7**	**+2.1**
BGF	**Bois d'Agland**	**4.98**	**1**	*e*Pn	**Pn**	**18 08 28.4**	**-1.0**
BGF				*e*Pg	**Pg**	**18 08 47.5**	**-4.6**
BGF				*e*Sg	**Sg**	**18 09 51.3**	**-7.2**
	19nm,0.4s						
SMF	**Signal de Mont**	**5.13**	**9**	*e*Sg	**Sg**	**18 09 56.4**	**-7.3**
	3.6nm,0.4s						
MFF	**Saint Martin d**	**5.41**	**339**	*e*Pn	**Pn**	**18 08 33.7**	**-1.8**
MFF				*e*Pg	**Pg**	**18 08 54.7**	**-6.1**
EARI	**Arriondas**	**6.08**	**289**	Pn	**Pn**	**18 08 43.1**	**-1.8**
	0.4nm,0.2s,SNR=5.0						
EARI				Sn	**Sn**	**18 09 48.9**	**-6.3**
	0.6nm,0.4s,SNR=5.0						
EARI	**Arriondas**	**6.08**	**289**	Pn	**Pn**	**18 08 43.1**	**-1.8**
	0.4nm,0.2s,SNR=5.0						
EARI				Sn	**Sn**	**18 09 48.9**	**-6.4**
MEZF	**Maizieres J'vi**	**7.12**	**13**	*e*Pn	**Pn**	**18 08 58.6**	**-1.0**
ROSF	**Rostrenen**	**7.96**	**330**	*e*Pg	**Pb**	**18 09 39.5**	**+8.8**

IDC 04 18:27:45.9±33.0**, 20.23S×68.32W, h173**km±212km**, mb3.9**/1**, mb1 3.5**/3**, mb1mx3.3**/14**, ML4.7**/1**, Error ellipse: s-maj=458.0km s-min=49.8km az=19.0, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.92**	**3**	P	P	18 28 46.5	-0.1

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	0.7nm,0.3s,baz=220,slow=8.4,SNR=9.9						
BDFB	**Brasilia**	**19.85**	**80**	P	P	18 32 03.9	-1.6
	1.1nm,0.3s,baz=258,slow=12,SNR=7.7						
DBIC	**Dimbokro**	**67.85**	**74**	P	P	18 38 26.1	-2.0
	2.4nm,0.7s,baz=225,slow=5.7,SNR=3.5						
MKAR	**Makanchi Array**	**144.28**	**35**	PKP	PKPdf	18 47 00.7	-0.4
	0.7nm,0.6s,baz=295,slow=4.2,SNR=5.6						

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*STR **04** 18:48:05.2±0.7, 41.53N×2.57E, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*MDD **04** 18:48:06.8±0.8, 41.56N×2.57E, h6^{km}±5^{km}, mbLg1.9/6, Error ellipse: s-maj=7.0km s-min=3.5km az=130.0, PRXIMO*

*LDG **04** 18:48:07.5±0.2, 41.61N×2.51E, h5^{km}, Md2.7/1, Ml2.3/7, Error ellipse: s-maj=4.5km s-min=2.4km az=168.0*

ISC 04 18:48:03.5±0.8**, 41.49N**±0.03×**2.57E**±0.05**, h3**^{km}±4^{km}**, n32,** σ**1**^{s}**00**/52**, Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBRU	**Bruguera**	**0.85**	**340**	Pg	**Pg**	**18 48 21.0**	**+0.5**
EMIR	**Miracle**	**0.89**	**299**	Pg	**Pg**	**18 48 22.8**	**+1.5**
	3.6nm,0.3s,SNR=8.4						
EMIR				Lg		18 48 34.3	
	5.9nm,0.1s,SNR=14						
EJON	**La Jonquera**	**0.99**	**14**	Pg	**Pg**	**18 48 23.6**	**+0.4**
	6.6nm,0.3s,SNR=36						
EJON				Lg		18 48 36.2	
	2.7nm,0.1s,SNR=16						
VALF	**Valcebollere**	**1.00**	**336**	Pn	**Pn**	**18 48 23.5**	**-0.8**
VALF	**Valcebollere**	**1.00**	**336**	P	**Pb**	**18 48 23.6**	**+0.4**
VALF				S	**Sb**	**18 48 38.1**	**+1.5**
SJAF	**Saint Jean de**	**1.02**	**13**	Pg	**Pg**	**18 48 24.1**	**+0.2**
SJAF				Sg	**Sg**	**18 48 37.0**	**-0.5**
SJAF				Sg	**Sg**	**18 48 37.8**	**+0.3**
SJAF	**Saint Jean de**	**1.02**	**13**	P	**Pb**	**18 48 24.2**	**+0.7**
SJAF				S	**Sb**	**18 48 37.0**	**-0.1**
FILF	**Fillols**	**1.07**	**359**	Pg	**Pg**	**18 48 25.0**	**+0.1**
FILF				Sg	**Sg**	**18 48 39.0**	**-0.2**
FILF	**Fillols**	**1.07**	**359**	P	**Pb**	**18 48 24.9**	**+0.6**
FILF				S	**Sb**	**18 48 38.9**	**+0.4**
CLLI	**Llivia**	**1.09**	**336**	Pn	**Pn**	**18 48 25.1**	**-0.4**
CGAR	**Garraf**	**1.10**	**260**	Pg	Px	18 48 17.0	
EPOB	**Poblet**	**1.13**	**264**	Pg	**Pg**	**18 48 27.7**	**+1.6**
	5.2nm,0.4s,SNR=11						
EPOB				Lg		18 48 42.1	
	1.9nm,0.1s,SNR=11						
CORG	**Organya**	**1.20**	**309**	Pn	**Pn**	**18 48 27.6**	**+0.5**
CARF	**Carcanieres**	**1.28**	**344**	Pg	**Pg**	**18 48 29.0**	**0.0**
CARF				Sg	**Sg**	**18 48 46.0**	**0.0**
CARF	**Carcanieres**	**1.28**	**344**	P	**Pb**	**18 48 29.1**	**+1.2**
CARF				S	**Sb**	**18 48 44.6**	**+0.1**
CAVN	**Les Avellanes**	**1.42**	**287**	Pg	**Pg**	**18 48 32.5**	**+0.6**
SALF	**Salau**	**1.64**	**321**	S	**Sb**	**18 48 55.0**	**0.0**
MTLF	**Montolieu**	**1.87**	**352**	*e*Pn	**Pn**	**18 48 36.6**	**-0.1**
MTLF				*e*P		18 48 38.8	
MTLF				*e*Pg	**Pg**	**18 48 40.2**	**-0.6**
MTLF				*e*Sn	**Sn**	**18 48 58.1**	**-3.1**
MTLF				*e*Sg	**Sg**	**18 49 01.9**	**-3.9**
	5.9nm,0.2s						
EPF	**Esparros**	**2.26**	**314**	*e*Pn	**Pn**	**18 48 43.2**	**+0.8**
EPF				*e*Pg	**Pg**	**18 48 46.8**	**-1.9**
EPF				*e*Sg	**Sg**	**18 49 14.7**	**-4.2**
	11nm,0.3s						
ESAC	**San Caprasio**	**2.29**	**277**	Pg	**Pg**	**18 48 46.9**	**-2.4**
	SNR=5.0						
ESAC				Lg		18 49 17.9	
	52nm,0.3s,SNR=5.9						
EMOS	**Mosqueruela**	**2.57**	**245**	Pg	**Pg**	**18 48 55.2**	**+0.5**
	SNR=7.9						
EMOS				Lg		18 49 30.7	
	0.4nm,0.1s,SNR=7.9						
EIBI	**Ibiza**	**2.63**	**201**	Sn	**Sn**	**18 49 20.1**	**-0.4**
	SNR=7.9						
ETSF	**Etsaut**	**2.72**	**302**	*e*Pn	**Pn**	**18 48 49.9**	**+1.0**
ETSF				*e*Pg	**Pg**	**18 48 56.2**	**-1.6**
ETSF				*e*Sn	**Sn**	**18 49 19.3**	**-3.5**
ETSF				*e*Sg	**Sg**	**18 49 28.8**	**-5.3**
	4.2nm,0.2s						
LASF	**Ste Croix**	**2.75**	**20**	*e*Pn	**Pn**	**18 48 49.3**	**-0.1**
LASF				*e*Sn	**Sn**	**18 49 19.5**	**-4.1**
LASF				*e*Sg	**Sg**	**18 49 30.9**	**-4.3**
	1.3nm,0.3s						
LASF	**Ste Croix**	**2.75**	**20**	Pn	**Pn**	**18 48 49.3**	**-0.1**
LASF				Lg		18 49 30.9	
	0.6nm,0.3s						
SJPF	**Ste Jean**	**3.25**	**301**	*e*Pn	**Pn**	**18 48 57.4**	**+0.9**
SJPF				*e*Sg	**Sg**	**18 49 46.2**	**-5.6**
	2.0nm,0.2s						
SMRF	**Simiane la Rot**	**3.33**	**41**	*e*Pn	**Pn**	**18 48 58.1**	**+0.6**
LMR	**La Mourre**	**3.45**	**56**	*e*Sn	**Sn**	**18 49 36.9**	**-4.3**
	0.8nm,0.3s						
CAF	**Calviac**	**3.46**	**354**	*e*Pn	**Pn**	**18 48 58.9**	**-0.5**
ETOR	**Torete**	**3.56**	**261**	Pg	**Pg**	**18 49 13.4**	**-1.2**
	SNR=7.9						
ETOR				Lg		18 50 01.1	
	1.2nm,0.3s,SNR=7.9						
VIVF	**Saint-Julien-l**	**3.70**	**24**	*e*Pn	**Pn**	**18 49 02.4**	**-0.4**
VIVF				*e*Sn	**Sn**	**18 49 42.5**	**-5.0**
VIVF				*e*Sg	**Sg**	**18 50 00.6**	**-6.1**
	0.5nm,0.3s						
SBF	**Sospel**	**4.30**	**55**	*e*Pn	**Pn**	**18 49 10.6**	**-0.7**

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*LDG **04** 18:49:42.2±0.3, 41.63N×2.53E, h3^{km}, Md2.3/1, Ml1.9/6, Error ellipse: s-maj=5.2km s-min=2.5km az=162.0*

MDD 04 18:49:42.7±1.4**, 41.60N**×**2.54E, h11**^{km}±2^{km}**, mbLg1.4**/5**, Error ellipse: s-maj=14.2km s-min=5.6km az=147.0, PRXIMO, Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EMIR	**Miracle**	**0.82**	**293**	Pg	Pg	18 49 58.2	-1.1
	SNR=5.0						
EMIR				Lg		18 50 08.8	
	3.6nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**0.89**	**17**	Pg	Pg	18 49 58.4	-2.2
	SNR=7.9						
EJON				Lg		18 50 10.9	
	2.4nm,0.2s,SNR=7.9						
CLLI	**Llivia**	**0.98**	**335**	Pn	Pn	18 50 00.5	-1.7
EPOB	**Poblet**	**1.13**	**258**	Pg	Pg	18 50 02.7	-2.5
	SNR=7.9						
EPOB				Lg		18 50 17.2	
	1.3nm,0.1s,SNR=7.9						
CAVN	**Les Avellanes**	**1.37**	**283**	Pg	Pg	18 50 07.6	-2.5
MTLF	**Montolieu**	**1.76**	**352**	*e*P	Pn	18 50 13.3	-0.1
MTLF				*e*Pg	Pg	18 50 14.6	-3.3
MTLF				*e*Sn	Sn	18 50 32.7	-3.2
MTLF				*e*Sg	Sg	18 50 36.5	-4.9
	2.7nm,0.3s						
EPF	**Esparros**	**2.17**	**312**	*e*Pn	Pn	18 50 17.6	-1.7
EPF				*e*Sn	Sn	18 50 42.5	-3.9
EPF				*e*Sg	Sg	18 50 49.0	-6.1
	1.4nm,0.2s						
ESAC	**San Caprasio**	**2.26**	**274**	Lg		18 50 52.9	
	4.2nm,0.2s,SNR=5.0						
ETSF	**Etsaut**	**2.64**	**301**	*e*Pg	Pg	18 50 30.4	-5.1
ETSF				*e*Sn	Sn	18 50 53.7	-4.7
ETSF				*e*Sg	Sg	18 51 03.2	-7.6
	1.2nm,0.3s						
LASF	**Ste Croix**	**2.66**	**21**	*e*Pn	Pn	18 50 23.5	-2.8
LASF				*e*Sg	Sg	18 51 05.3	-6.0
	0.2nm,0.2s						
SJPF	**Ste Jean**	**3.18**	**300**	*e*Pn	Pn	18 50 32.1	-1.5
SJPF				*e*Sg	Sg	18 51 20.8	-7.7
	0.7nm,0.2s						
VIVF	**Saint-Julien-l**	**3.61**	**25**	*e*Pn	Pn	18 50 36.7	-3.1
VIVF				*e*Sn	Sn	18 51 16.8	-6.0
VIVF				*e*Sg	Sg	18 51 34.8	-8.2
	0.7nm,0.3s						

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*STR **04** 19:10:08.7±0.0, 43.37N×0.70W, h10^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **04** 19:10:08.9±0.6, 42.88N×1.51W, h3^{km}, Md2.3/1, Ml2.0/3, Error ellipse: s-maj=9.3km s-min=6.5km az=53.0*

*MDD **04** 19:10:09.6±0.7, 42.83N×1.44W, mbLg1.7/2, Error ellipse: s-maj=6.2km s-min=5.9km az=168.0, PRXIMO AftershockPLICA*

ISC 04 19:10:07.9±0.8**, 42.85N**±0.04×**1.45W**±0.05**, h15**^{km}±4^{km}**, n15,** σ**0**^{s}**98**/24**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.31**	**32**	*e*Pg	**Pg**	**19 10 15.2**	**+0.5**
SJPF				*e*Sg	**Sg**	**19 10 18.0**	**-1.2**
	50nm,0.4s						
LARF	**Larrau**	**0.39**	**61**	Pg	**Pg**	**19 10 16.7**	**+0.6**
LARF				Sg	**Sg**	**19 10 22.6**	**+1.0**
LARF	**Larrau**	**0.39**	**61**	P	**Pb**	**19 10 16.9**	**+0.9**
OSSF	**Osses**	**0.43**	**19**	Pg	**Pg**	**19 10 17.2**	**+0.3**
OSSF				Sg	**Sg**	**19 10 23.5**	**+0.7**
ORDF	**Ordiarp**	**0.52**	**46**	P	**Pb**	**19 10 19.2**	**+0.9**
ATE	**Arette**	**0.60**	**67**	P	**Pb**	**19 10 20.0**	**+0.4**
ETSF	**Etsaut**	**0.66**	**86**	*e*Pg	**Pg**	**19 10 20.7**	**-0.6**
ETSF				*e*Sg	**Sg**	**19 10 29.9**	**-0.4**
	5.7nm,0.3s						
EPF	**Esparros**	**1.33**	**82**	*e*Pn	**Pn**	**19 10 32.7**	**+0.7**
EPF				*e*Pg	**Pg**	**19 10 35.1**	**+0.5**
EPF				*e*Sg	**Sg**	**19 10 52.9**	**+0.6**
	5.6nm,0.2s						
EPF	**Esparros**	**1.33**	**82**	Pg	**Pg**	**19 10 35.1**	**+0.5**
EPF				Lg		19 10 52.9	
	2.8nm,0.2s						
ESAC	**San Caprasio**	**1.34**	**147**	Pg	**Pg**	**19 10 33.3**	**-1.6**
	8.2nm,0.3s,SNR=5.9						
ESAC				Lg		19 10 51.7	
	7.5nm,0.2s,SNR=8.4						
ELAN	**Lanestosa**	**1.50**	**285**	Pg	**Pg**	**19 10 37.4**	**-0.6**
	4.0nm,0.7s,SNR=5.6						
ELAN				Lg		19 10 58.7	
	0.5nm,0.2s,SNR=7.9						
ETOR	**Torete**	**2.08**	**193**	Pn	**Pn**	**19 10 44.3**	**+1.4**
	SNR=7.9						
ETOR				Lg		19 11 15.7	
	SNR=7.9						
MTLF	**Montolieu**	**2.73**	**78**	*e*Pn	**Pn**	**19 10 52.9**	**+0.8**
MTLF				*e*Pg	**Pg**	**19 11 00.2**	**-2.3**
MTLF				*e*Sn	**Sn**	**19 11 25.1**	**0.0**
	0.4nm,0.3s						
RJF	**Les Rejaudoux**	**3.25**	**40**	*e*Pn	**Pn**	**19 10 58.7**	**-0.8**
CAF	**Calviac**	**3.28**	**50**	*e*Pn	**Pn**	**19 10 59.0**	**-0.9**
CAF				*e*Sn	**Sn**	**19 11 36.9**	**-2.1**
	0.7nm,0.2s						

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*ROM **04** 19:12:22.8±0.3, 38.88N×14.24E, h421^{km}±2^{km}, MD3.2/7, ML2.9/22, Error ellipse: s-maj=2.5km s-min=2.3km az=0.0*

*CSEM **04** 19:12:25.8±0.1, 39.14N×13.88E, h400^{km}, mb4.3/6, Error ellipse: s-maj=1.8km s-min=1.3km az=48.0*

*IDC **04** 19:12:26.6±1.1, 39.15N×13.80E, h406^{km}±13^{km}, mb3.4/8, mb1 3.5/17, mb1mx3.4/29, Error ellipse: s-maj=21.1km s-min=14.5km az=21.0*

*NEIC **04** 19:12:26.6±0.2, 39.05N×13.91E, h410^{km}±2^{km}, mb4.3/50, Error ellipse: s-maj=4.2km s-min=3.0km az=187.0*

*LDG **04** 19:12:27.4±0.7, 39.54N×14.04E, h410^{km}, Mb4.4/31, Error ellipse: s-maj=23.0km s-min=12.5km az=177.0*

ISC 04 19:12:25.1±0.2**, 39.04N**±0.03×**13.90E**±0.03**, h418**^{km}±2^{km}**, n256,** σ**1**^{s}**00**/264**, mb3.7**/8**, 9C-28D, Tyrrhenian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
USI	**Ustica**	**0.65**	**240**	⇓*i*P	**P**	**19 13 17.5**	**+0.1**
USI	**Ustica**	**0.65**	**240**	⇓*i*Pg	**P**	**19 13 17.4**	**+0.1**
SLNA	**Salina**	**0.87**	**123**	⇓*i*P	**P**	**19 13 17.3**	**-0.6**
SLNA	**Salina**	**0.87**	**123**	⇓*i*Pg	**P**	**19 13 17.3**	**-0.6**
GIB	**Gibilmanna**	**1.05**	**175**	*e*P	**P**	**19 13 18.2**	**-0.3**
GIB				S	**S**	**19 13 58.7**	**-1.9**
CRJA	**Costa Raja**	**1.42**	**210**	*e*P	**P**	**19 13 20.6**	**+0.5**
CRJA	**Costa Raja**	**1.42**	**210**	*e*Pg	**P**	**19 13 20.6**	**+0.5**
MFNL	**Monte Finestre**	**1.46**	**212**	⇓*i*P	**P**	**19 13 20.7**	**+0.4**
MFNL	**Monte Finestre**	**1.46**	**212**	⇓*i*Pg	**P**	**19 13 20.7**	**+0.5**
MSRU	**Castanea**	**1.48**	**121**	*e*P	**P**	**19 13 18.4**	**-1.9**
MSRU				S	**S**	**19 14 00.0**	**-3.8**
MMME	**Mongiuffi-Meli**	**1.53**	**136**	*e*P	**P**	**19 13 19.5**	**-1.1**
CLTB	**Caltabellotta**	**1.55**	**201**	*e*P	**P**	**19 13 20.4**	**-0.3**
	123nm,0.4s						
CLTB	**Caltabellotta**	**1.55**	**201**	*e*P	**P**	**19 13 20.4**	**-0.3**
	123nm,0.4s						
MMGO	**Monte Magaggia**	**1.55**	**208**	⇓*i*P	**P**	**19 13 20.6**	**-0.1**
MMGO	**Monte Magaggia**	**1.55**	**208**	⇓*i*Pg	**P**	**19 13 20.6**	**-0.1**
VAE	**Valguarnera**	**1.61**	**165**	P	**P**	**19 13 21.3**	**+0.4**
	1.4nm,0.3s,baz=300,slow=5.5,SNR=8.8						
LVI	**Isola Levanzo**	**1.61**	**230**	*e*P	**P**	**19 13 21.2**	**+0.2**
SCLL	**Scilla**	**1.62**	**118**	⇑*i*P	**P**	**19 13 19.2**	**-1.8**
MGR	**Morigerati**	**1.69**	**49**	*e*P	**P**	**19 13 21.5**	**+0.1**
	8.0nm,0.6s						
MGR	**Morigerati**	**1.69**	**49**	*e*Pg	**P**	**19 13 21.5**	**+0.1**
MGR	**Morigerati**	**1.69**	**49**	*e*P	**P**	**19 13 21.5**	**+0.1**
	8.0nm,0.6s						
CEL	**Celeste**	**1.74**	**116**	*e*P	**P**	**19 13 19.7**	**-2.0**
CEL	**Celeste**	**1.74**	**116**	S	**S**	**19 14 02.8**	**-3.3**
MTTG	**Motta San Giov**	**1.74**	**126**	*e*P	**P**	**19 13 20.6**	**-1.1**
MTTG	**Motta San Giov**	**1.74**	**126**	*e*Pg	**P**	**19 13 20.6**	**-1.1**
CUC	**Castrocucco**	**1.76**	**57**	⇓*i*P	**P**	**19 13 21.4**	**-0.4**
FAVR	**Favara**	**1.77**	**186**	*e*P	**P**	**19 13 22.4**	**+0.5**
	25nm,0.5s						
FAVR	**Favara**	**1.77**	**186**	*e*Pg	**P**	**19 13 22.4**	**+0.5**
FAVR	**Favara**	**1.77**	**186**	*e*P	**P**	**19 13 22.4**	**+0.5**
	25nm,0.5s						
SGO	**Sicignano**	**1.87**	**35**	*e*P	**P**	**19 13 22.7**	**+0.3**
	7.0nm,0.5s						
SGO	**Sicignano**	**1.87**	**35**	*e*Pg	**P**	**19 13 22.7**	**+0.3**
SGO	**Sicignano**	**1.87**	**35**	*e*P	**P**	**19 13 22.7**	**+0.3**
	7.0nm,0.5s						
SLCN	**Sala Consilina**	**1.90**	**44**	*e*P	**P**	**19 13 23.0**	**+0.4**
	11nm,0.5s						
SLCN	**Sala Consilina**	**1.90**	**44**	*e*Pg	**P**	**19 13 23.0**	**+0.5**
SLCN	**Sala Consilina**	**1.90**	**44**	*e*P	**P**	**19 13 23.0**	**+0.4**
	11nm,0.5s						
SOI	**Samo**	**1.94**	**119**	⇓*i*P	**P**	**19 13 20.7**	**-2.1**
SOI				S	**S**	**19 14 03.2**	**-4.9**
	70nm,0.6s						
SOI	**Samo**	**1.94**	**119**	⇓*i*Pg	**P**	**19 13 20.7**	**-2.1**
SOI	**Samo**	**1.94**	**119**	⇓*i*P	**P**	**19 13 20.7**	**-2.1**
	70nm,0.6s						
GRI	**Girifalco**	**1.98**	**95**	*e*P	**P**	**19 13 21.8**	**-1.2**
GRI				S	**S**	**19 14 04.1**	**-4.4**
	91nm,0.5s						
GRI	**Girifalco**	**1.98**	**95**	*e*Pg	**P**	**19 13 21.8**	**-1.2**
GRI	**Girifalco**	**1.98**	**95**	*e*P	**P**	**19 13 21.8**	**-1.2**
	91nm,0.5s						
GRI				S	**S**	**19 14 04.1**	**-4.4**
TDS	**Terranova Siba**	**1.99**	**71**	*e*P	**P**	**19 13 22.9**	**-0.2**
TDS	**Terranova Siba**	**1.99**	**71**	*e*Pg	**P**	**19 13 22.9**	**-0.2**
CSSN	**Cassano Irpino**	**2.02**	**25**	*e*P	**P**	**19 13 23.8**	**+0.6**
AGST	**Augusta-Monte**	**2.06**	**149**	*e*P	**P**	**19 13 22.1**	**-1.4**
MEU	**Monte Lauro**	**2.10**	**157**	*e*P	**P**	**19 13 22.9**	**-0.8**
MRLC	**Muro Lucano**	**2.11**	**35**	*e*P	**P**	**19 13 24.4**	**+0.6**
	5.0nm,0.6s						
MRLC	**Muro Lucano**	**2.11**	**35**	*e*Pg	**P**	**19 13 24.4**	**+0.6**
MRLC	**Muro Lucano**	**2.11**	**35**	*e*P	**P**	**19 13 24.4**	**+0.6**
	5.0nm,0.6s						
PZI	**Palazzolo**	**2.14**	**157**	⇓*i*P	**P**	**19 13 23.4**	**-0.6**
PZI	**Palazzolo**	**2.14**	**157**	⇓*i*Pg	**P**	**19 13 23.4**	**-0.6**
ORI	**Oriolo Calabro**	**2.22**	**62**	*e*P	**P**	**19 13 23.9**	**-0.6**
	34nm,0.5s						
ORI	**Oriolo Calabro**	**2.22**	**62**	*e*Pg	**P**	**19 13 23.9**	**-0.6**
ORI	**Oriolo Calabro**	**2.22**	**62**	*e*P	**P**	**19 13 23.9**	**-0.6**
	34nm,0.5s						
SDI	**San Donato**	**2.67**	**359**	⇓*i*P	**P**	**19 13 28.4**	**+0.8**
	9.0nm,0.4s						
SDI	**San Donato**	**2.67**	**359**	⇓*i*Pg	**P**	**19 13 28.4**	**+0.8**
SDI	**San Donato**	**2.67**	**359**	⇓*i*P	**P**	**19 13 28.4**	**+0.8**
	9.0nm,0.4s						
PTQR	**Pietraquaria**	**3.01**	**353**	*e*P	**P**	**19 13 31.3**	**+1.2**
PTQR	**Pietraquaria**	**3.01**	**353**	*e*Pg	**P**	**19 13 31.3**	**+1.1**
WDD	**Wield Dalam**	**3.20**	**171**	*e*P	**P**	**19 13 31.8**	**+0.1**
AQU	**L'Aquila**	**3.34**	**354**	*e*Pn	**P**	**19 13 34.7**	**+1.8**
AQU	**L'Aquila**	**3.34**	**354**	*e*Pn	**P**	**19 13 34.7**	**+1.8**
MNS	**Montasola**	**3.47**	**345**	*e*P	**P**	**19 13 34.8**	**+0.7**
	14nm,0.7s						
MNS	**Montasola**	**3.47**	**345**	*e*Pg	**P**	**19 13 34.8**	**+0.8**
MNS	**Montasola**	**3.47**	**345**	*e*P	**P**	**19 13 34.8**	**+0.7**
	14nm,0.7s						
LCI	**Lecce**	**3.50**	**67**	⇑*i*P	**P**	**19 13 33.5**	**-0.8**
TERO	**Teramo**	**3.59**	**356**	*e*P	**P**	**19 13 36.0**	**+0.9**
TERO	**Teramo**	**3.59**	**356**	*e*Pg	**P**	**19 13 36.0**	**+0.9**
NRCA	**Norcia**	**3.84**	**351**	*e*Pg	**P**	**19 13 38.3**	**+1.0**
NRCA	**Norcia**	**3.84**	**351**	*e*Pg	**P**	**19 13 38.3**	**+1.0**
MURB	**Monte Urbino**	**4.35**	**347**	*e*Pg	**P**	**19 13 43.1**	**+1.0**
MURB	**Monte Urbino**	**4.35**	**347**	*e*Pg	**P**	**19 13 43.2**	**+1.0**
ARV	**Arcevia**	**4.52**	**351**	⇓*i*Pg	**P**	**19 13 44.1**	**+0.3**
ARV	**Arcevia**	**4.52**	**351**	⇓*i*Pg	**P**	**19 13 44.1**	**+0.3**
CRE	**Caprese Michel**	**4.81**	**343**	*e*Pg	**P**	**19 13 47.4**	**+0.7**
CRE	**Caprese Michel**	**4.81**	**343**	*e*Pg	**P**	**19 13 47.4**	**+0.7**
CSNT	**Castellina Chi**	**4.85**	**337**	*e*Pg	**P**	**19 13 48.4**	**+1.3**
CSNT	**Castellina Chi**	**4.85**	**337**	*e*Pg	**P**	**19 13 48.4**	**+1.3**
RSM	**Repubblica di**	**5.01**	**348**	⇓*i*Pg	**P**	**19 13 49.2**	**+0.5**
RSM	**Repubblica di**	**5.01**	**348**	⇓*i*Pg	**P**	**19 13 49.2**	**+0.5**
SFI	**Santa Sofia**	**5.10**	**343**	*e*Pg	**P**	**19 13 50.3**	**+0.7**
SFI	**Santa Sofia**	**5.10**	**343**	*e*Pg	**P**	**19 13 50.3**	**+0.6**
PGD	**Poggio Sodo**	**5.11**	**342**	*e*Pg	**P**	**19 13 50.5**	**+0.8**
PGF	**Pioggiola**	**5.11**	**315**	*e*P	**P**	**19 13 50.0**	**+0.2**
	7.2nm,0.5s						
LKD	**Levkas**	**5.28**	**91**	*e*P	**P**	**19 13 52.3**	**+0.9**
PII	**Pisa**	**5.33**	**333**	⇓*i*Pg	**P**	**19 13 53.0**	**+1.1**
PII	**Pisa**	**5.33**	**333**	⇓*i*Pg	**P**	**19 13 53.0**	**+1.1**
FNVD	**Fontana Vidola**	**5.53**	**339**	*e*Pg	**P**	**19 13 54.5**	**+0.4**
NVLJ	**Novalja**	**5.57**	**7**	*i* P	**P**	**19 13 53.4**	**-1.0**
BDI	**Bagni Di Lucca**	**5.60**	**335**	*e*Pg	**P**	**19 13 55.3**	**+0.5**
ZCCA	**Zocca**	**5.74**	**339**	*e*Pg	**P**	**19 13 57.6**	**+1.3**
GSCL	**Gusciola**	**5.86**	**336**	⇓*i*Pg	**P**	**19 13 58.3**	**+0.8**
ERBM	**Eremo**	**5.98**	**335**	⇓*i*Pg	**P**	**19 14 00.2**	**+1.4**
FNA	**Florina**	**6.01**	**71**	*e*P	**P**	**19 14 00.0**	**+1.0**
GENL	**Genova Univers**	**6.51**	**327**	P	**P**	**19 14 04.8**	**+0.2**
GENL	**Genova Univers**	**6.51**	**327**	P	**P**	**19 14 04.8**	**+0.2**
TEOL	**Teolo**	**6.53**	**346**	⇑*i*Pg	**P**	**19 14 03.7**	**-1.1**
AGG	**Agios Georgios**	**6.56**	**87**	*e*P	**P**	**19 14 06.8**	**+1.6**
BOB	**Bobbio (Coli)**	**6.62**	**331**	*e*Pg	**P**	**19 14 06.9**	**+1.1**
IMI	**Imperia**	**6.64**	**319**	P	**P**	**19 14 06.8**	**+0.8**
IMI	**Imperia**	**6.64**	**319**	P	**P**	**19 14 06.8**	**+0.8**
NEGI	**Negi**	**6.69**	**318**	P	**P**	**19 14 07.3**	**+0.7**
NEGI	**Negi**	**6.69**	**318**	P	**P**	**19 14 07.3**	**+0.7**
FIN	**Finale Ligure**	**6.70**	**322**	*e*Pg	**P**	**19 14 07.7**	**+1.0**
VISS	**Visnje**	**6.80**	**6**	⇓*i*P	**P**	**19 14 07.0**	**-0.7**
GRG	**Griva**	**6.80**	**71**	*e*P	**P**	**19 14 08.2**	**+0.4**
GRG	**Griva**	**6.80**	**71**	*e*P	**P**	**19 14 08.2**	**+0.4**
PCP	**Pian Castagno**	**6.80**	**326**	P	**P**	**19 14 08.1**	**+0.3**
PCP	**Pian Castagno**	**6.80**	**326**	P	**P**	**19 14 08.1**	**+0.3**
MONE	**Monesi**	**6.83**	**320**	P	**P**	**19 14 09.1**	**+0.9**
MONE	**Monesi**	**6.83**	**320**	P	**P**	**19 14 09.1**	**+1.0**
SBF	**Sospel**	**6.84**	**317**	*e*P	**P**	**19 14 08.3**	**0.0**
	22nm,0.8s						
ROB	**Roburent**	**6.93**	**321**	P	**P**	**19 14 10.1**	**+0.9**
ROB	**Roburent**	**6.93**	**321**	P	**P**	**19 14 10.1**	**+0.9**
LMR	**La Mourre**	**7.04**	**310**	*e*P	**P**	**19 14 10.8**	**+0.4**
	8.4nm,0.6s						
FRF	**La Foret Royal**	**7.09**	**312**	*e*P	**P**	**19 14 11.4**	**+0.4**
	8.0nm,0.3s						
ENR	**Entracque**	**7.10**	**319**	P	**P**	**19 14 12.0**	**+0.8**
ENR	**Entracque**	**7.10**	**319**	P	**P**	**19 14 12.0**	**+0.8**
THE	**Thessaloniki**	**7.16**	**74**	*e*P	**P**	**19 14 11.7**	**0.0**
STV	**Sta Anna Valdi**	**7.16**	**319**	P	**P**	**19 14 12.9**	**+1.0**
STV	**Sta Anna Valdi**	**7.16**	**319**	P	**P**	**19 14 12.9**	**+1.1**
STV2	**Anna di Valdie**	**7.16**	**319**	P	**P**	**19 14 12.6**	**+0.7**
STV2	**Anna di Valdie**	**7.16**	**319**	P	**P**	**19 14 12.6**	**+0.8**
KNT	**Kendrikon**	**7.22**	**70**	*e*P	**P**	**19 14 13.1**	**+0.6**
XOR	**Xorichti**	**7.22**	**84**	*e*P	**P**	**19 14 14.3**	**+1.8**
PZZ	**Prazzo**	**7.46**	**319**	P	**P**	**19 14 15.7**	**+0.5**
PZZ	**Prazzo**	**7.46**	**319**	P	**P**	**19 14 15.6**	**+0.4**
SOH	**Sokhos**	**7.48**	**73**	*e*P	**P**	**19 14 16.1**	**+0.7**
OBKA	**Obir**	**7.49**	**3**	⇑*i*P	**P**	**19 14 14.5**	**-0.9**
	11nm,0.5s						
SURF	**Saint Ours**	**7.59**	**318**	*e*P	**P**	**19 14 18.7**	**+2.0**
PAIG	**Paliouri**	**7.62**	**80**	*e*P	**P**	**19 14 16.9**	**0.0**
BHB	**Bricherasio**	**7.62**	**322**	P	**P**	**19 14 16.2**	**-0.8**
BHB	**Bricherasio**	**7.62**	**322**	P	**P**	**19 14 16.2**	**-0.8**
OG22	**Abries**	**7.76**	**320**	*e*P	**P**	**19 14 18.8**	**+0.2**
MBDF	**Montbardon**	**7.79**	**319**	*e*P	**P**	**19 14 20.4**	**+1.6**
	74nm,0.7s						
RSP	**Reno Superiore**	**7.86**	**323**	P	**P**	**19 14 19.4**	**-0.2**
RSP	**Reno Superiore**	**7.86**	**323**	P	**P**	**19 14 19.4**	**-0.2**
FENE	**Fenestrelle**	**7.86**	**322**	P	**P**	**19 14 19.5**	**-0.2**
FENE	**Fenestrelle**	**7.86**	**322**	P	**P**	**19 14 19.5**	**-0.2**
OUR	**Ouranopolis**	**7.88**	**77**	*e*P	**P**	**19 14 20.3**	**+0.4**
RRL	**Cesana Torines**	**7.92**	**320**	P	**P**	**19 14 20.6**	**+0.3**
RRL	**Cesana Torines**	**7.92**	**320**	P	**P**	**19 14 20.6**	**+0.3**
TRAV		**7.92**	**327**	P	**P**	**19 14 19.6**	**-0.7**
TRAV		**7.92**	**327**	P	**P**	**19 14 19.6**	**-0.7**
SMRF	**Simiane la Rot**	**7.96**	**311**	*e*P	**P**	**19 14 21.6**	**+0.8**
	4.3nm,0.4s						
KBA	**Koelnbreinsper**	**8.05**	**357**	⇑*i*P	**P**	**19 14 21.0**	**-0.8**
	4.4nm,0.7s						
BNI	**Bardonecchia**	**8.06**	**321**	*e*Pn	**P**	**19 14 22.8**	**+0.8**
	15nm,0.4s						
LSD	**Ceresole Reale**	**8.13**	**324**	P	**P**	**19 14 22.7**	**-0.1**
LSD	**Ceresole Reale**	**8.13**	**324**	P	**P**	**19 14 22.7**	**-0.1**
DAVOX	**Davos**	**8.28**	**340**	P	**P**	**19 14 23.5**	**-1.0**
	1.9nm,0.3s,baz=205,slow=8.3,SNR=17						
ARSA	**Arzberg**	**8.30**	**8**	⇑*i*P	**P**	**19 14 24.3**	**-0.3**
	7.5nm,0.6s						
LPG	**La Plagne**	**8.35**	**323**	*e*P	**P**	**19 14 26.3**	**+1.1**
	65nm,0.6s						
LPL	**La Plagne**	**8.38**	**323**	*e*P	**P**	**19 14 26.5**	**+1.0**
	72nm,0.6s						
ORIF	**Oris-en-Rattie**	**8.38**	**317**	*e*P	**P**	**19 14 25.8**	**+0.3**
	43nm,0.6s						
WTTA	**Wattenberg**	**8.39**	**349**	⇑*i*P	**P**	**19 14 24.1**	**-1.6**
	4.7nm,0.9s						
GDM	**Grand'Maison**	**8.45**	**319**	*e*P	**P**	**19 14 27.3**	**+0.9**
GRN	**Grenoble**	**8.67**	**318**	*e*P	**P**	**19 14 29.5**	**+0.7**
DAVA	**Damuels**	**8.75**	**342**	⇑*i*P	**P**	**19 14 27.8**	**-2.0**
	4.2nm,0.7s						
MOA	**Molln**	**8.81**	**2**	⇑*i*P	**P**	**19 14 30.0**	**-0.5**
	4.1nm,0.4s						
VIVF	**Saint-Julien-l**	**9.00**	**313**	*e*P	**P**	**19 14 32.0**	**-0.6**
	22nm,0.7s						
OG01	**Vacheresse**	**9.02**	**326**	*e*P	**P**	**19 14 31.8**	**-1.0**
LASF	**Ste Croix**	**9.06**	**307**	*e*P	**P**	**19 14 33.0**	**-0.3**
CABF	**La Chapelle**	**9.50**	**325**	*e*P	**P**	**19 14 36.7**	**-1.6**
	48nm,0.7s						
IDI	**Anoyia**	**9.53**	**110**	P	**P**	**19 14 40.0**	**+1.3**
	1.2nm,0.3s,baz=258,slow=9.9,SNR=5.8						
GEC2	**GERESS Array S**	**9.81**	**359**	*e*Pn	**P**	**19 14 40.2**	**-1.6**
GERES	**GERESS Array B**	**9.81**	**359**	P	**P**	**19 14 40.0**	**-1.8**
	0.7nm,0.3s,baz=176,slow=12,SNR=19						
GERES				S	**S**	**19 16 28.8**	**-1.3**
	baz=221,slow=10,SNR=3.6						
PSZ	**Piszkesteto**	**9.88**	**24**	*e*Pn	**P**	**19 14 43.0**	**+0.3**
LBL	**Lubilhac**	**10.04**	**311**	*e*P	**P**	**19 14 45.9**	**+1.4**
EPOB	**Poblet**	**10.08**	**287**	P	**P**	**19 14 45.1**	**+0.2**
	5.2nm,0.4s						
KHC	**Kasperske Hory**	**10.10**	**359**	*e*P	**P**	**19 14 43.6**	**-1.5**
BFO	**Black Forest**	**10.13**	**338**	*e*Pn	**P**	**19 14 45.1**	**-0.4**
WET	**Wettzell**	**10.13**	**356**	*e*Pn	**P**	**19 14 43.8**	**-1.7**
HINF	**Hinteralfeld**	**10.16**	**332**	*e*P	**P**	**19 14 43.7**	**-2.1**
	12nm,0.4s						
KRUC	**Moravsky**	**10.18**	**9**	*e*P	**P**	**19 14 46.7**	**+0.6**
JAVC	**Velka Javorina**	**10.19**	**14**	*e*P	**P**	**19 14 47.7**	**+1.5**
VRAC	**Vranov**	**10.45**	**10**	P	**P**	**19 14 49.3**	**+0.1**
	0.7nm,0.3s,baz=194,slow=11,SNR=26						
VRAC	**Vranov**	**10.45**	**10**	*e*P	**P**	**19 14 49.4**	**+0.2**
HAU	**Haudompre**	**10.51**	**331**	*e*P	**P**	**19 14 47.7**	**-2.1**
	6.9nm,0.3s						
CDF	**Champ du Feu**	**10.52**	**335**	*e*P	**P**	**19 14 47.5**	**-2.6**
	4.3nm,0.3s						
CAF	**Calviac**	**10.59**	**308**	*e*P	**P**	**19 14 50.8**	**-0.1**
	7.1nm,0.7s						
SMF	**Signal de Mont**	**10.60**	**319**	*e*P	**P**	**19 14 49.0**	**-1.9**
	16nm,0.6s						
GRA1	**Grafenberg Arr**	**10.82**	**351**	*e*Pn	**P**	**19 14 53.1**	**-0.4**
PRU	**Pruhonice**	**10.96**	**2**	*e*P	**P**	**19 14 54.3**	**-0.7**
	16nm,1.0s						
MLR	**Muntele Rosu**	**11.01**	**50**	P	**P**	**19 14 56.9**	**+1.3**
	0.7nm,0.3s,baz=214,slow=4.8,SNR=31						
MLR				S	**S**	**19 16 56.9**	**+1.9**
	0.0nm,0.3s,baz=195,slow=19,SNR=2.4						
LOR	**Lormes**	**11.02**	**322**	*e*P	**P**	**19 14 53.8**	**-1.9**
	14nm,0.5s						
SSF	**Saint Saulge**	**11.05**	**320**	*e*P	**P**	**19 14 54.8**	**-1.2**
	5.5nm,0.4s						
MORC	**Moravsky Berou**	**11.05**	**12**	*e*Pn	**P**	**19 14 55.9**	**-0.1**
MORC	**Moravsky Berou**	**11.05**	**12**	*e*P	**P**	**19 14 56.1**	**+0.1**
RJF	**Les Rejaudoux**	**11.12**	**308**	*e*P	**P**	**19 14 56.7**	**-0.1**
EMOS	**Mosqueruela**	**11.16**	**281**	P	**P**	**19 14 57.8**	**+0.5**
	3.2nm,0.9s						
OKC	**Ostrava-Krasne**	**11.21**	**14**	*e*P	**P**	**19 14 56.1**	**-1.8**
NKC	**Novy Kostel**	**11.24**	**355**	*e*P	**P**	**19 14 59.2**	**+1.0**
MEZF	**Maizieres J'vi**	**11.41**	**329**	*e*P	**P**	**19 14 59.7**	**-0.4**
	23nm,0.5s						
LFF	**La Frestale**	**11.43**	**305**	*e*P	**P**	**19 15 00.8**	**+0.5**
	12nm,0.4s						
DPC	**Dobruska-Polom**	**11.44**	**8**	*e*P	**P**	**19 15 00.3**	**-0.1**
PVCC	**Panska Ves**	**11.50**	**2**	*e*P	**P**	**19 15 01.1**	**0.0**
UPC	**Upice**	**11.57**	**7**	*e*P	**P**	**19 15 01.5**	**-0.3**

ETSF	Etsaut	11.59	294	eP	P	19 15 03.6	+1.5
	5.1nm,0.4s						
MOX	Moxa	11.72	353	i P	P	19 15 03.5	0.0
MOX	Moxa	11.72	353	eP	P	19 15 03.5	0.0
	27nm,1.1s						
BRG	Berggiesshubel	11.84	0	eP	P	19 15 04.9	+0.1
	14nm,1.1s						
OJC	Ojcow	11.94	19	eP	P	19 15 06.1	+0.1
WLF	Walferdange	11.98	335	ePn	P	19 15 06.1	-0.3
WLF	Walferdange	11.98	335	P	P	19 15 06.5	+0.1
SJPF	Ste Jean	12.12	294	eP	P	19 15 09.6	+1.6
	2.7nm,0.4s						
CLL	Collm	12.29	357	⇓P	P	19 15 09.7	-0.2
	logA/T=1.2						
CLL				i		19 15 11.7	
CLL	Collm	12.29	357	⇓iP	P	19 15 09.7	-0.2
	10.0nm,0.6s						
CLL				i		19 15 11.7	
ETOR	Torete	12.38	283	P	P	19 15 10.8	-0.1
	2.6nm,0.5s						
ETOR	Torete	12.38	283	P	P	19 15 10.8	-0.1
	2.6nm,0.5s						
MFF	Saint Martin d	12.78	311	eP	P	19 15 14.6	-0.7
	46nm,0.5s						
GIVF	Givet	12.81	333	eP	P	19 15 14.5	-1.1
	7.9nm,0.3s						
MEM	Membach	12.85	337	P	P	19 15 16.2	+0.2
	9.1nm,1.3s						
BAIF	Baives	13.00	331	eP	P	19 15 15.7	-2.0
	3.8nm,0.4s						
CLZ	Clausthal	13.04	350	ePn	P	19 15 18.1	0.0
LCHF	La Chataignera	13.16	310	eP	P	19 15 18.9	-0.6
EQES	Quesada	13.37	270	P	P	19 15 21.9	+0.1
	2.8nm,0.4s						
EBER	Berja	13.42	266	P	P	19 15 21.1	-1.2
	5.6nm,0.7s						
ELAN	Lanestosa	13.72	293	P	P	19 15 26.4	+1.0
	15nm,1.0s						
ESDC	Sonseca Array	13.84	278	P	P	19 15 26.4	-0.3
	0.4nm,0.3s,baz=80,slow=12,SNR=7.4						
ESDC				pP		19 16 18.6	
	0.6nm,0.3s,baz=74,slow=10,SNR=3.9						
ESDC	Sonseca Array	13.84	278	P	P	19 15 26.4	-0.3
	1.2nm,0.3s						
ESLA	Sonseca Array	13.84	278	ePn	P	19 15 26.6	-0.1
LDF	La Druitiere	13.90	318	eP	P	19 15 25.5	-1.8
	38nm,0.4s						
GRR	Gorron	14.17	316	eP	P	19 15 28.5	-1.6
	64nm,0.5s						
FLN	La Foliniere	14.19	318	eP	P	19 15 28.9	-1.4
	42nm,0.4s						
ELUQ	Luque	14.35	270	P	P	19 15 32.1	+0.1
	24nm,0.6s						
EADA	Adamuz	14.48	272	P	P	19 15 34.0	+0.6
	15nm,0.4s						
EMIJ	Mijas	14.97	266	P	P	19 15 38.0	-0.4
	8.0nm,0.5s						
EARI	Arriondas	15.01	293	P	P	19 15 39.1	+0.3
	20nm,1.2s						
SGMF	Saint Gilles	15.04	313	eP	P	19 15 37.6	-1.5
	42nm,0.8s						
QUIF	Quistinic	15.21	311	eP	P	19 15 40.3	-0.6
	36nm,0.5s						
BRTR	Keskin Array B	15.28	81	P	P	19 15 43.5	+1.8
	0.5nm,0.3s,baz=264,slow=8.6,SNR=32						
ROSF	Rostrenen	15.49	312	eP	P	19 15 43.0	-0.6
	14nm,0.5s						
EJIF	Jimena Fronter	15.54	266	P	P	19 15 46.2	+2.0
	9.7nm,0.5s						
ESPR	Espera	15.74	268	P	P	19 15 45.7	-0.5
	7.2nm,0.5s						
AKASG	Malin Array Be	15.90	38	P	P	19 15 46.4	-1.4
	2.3nm,0.3s,baz=237,slow=9.4,SNR=7.2						
AKASG				S	S	19 18 29.0	-2.6
	0.8nm,0.3s,baz=239,slow=23,SNR=5.9						
ECAL	Calabor	15.97	287	P	P	19 15 48.4	-0.2
	12nm,1.0s						
CSS	Prodhromos	16.04	99	eP	P	19 15 50.7	+1.3
	10nm,0.6s						
CSS	Prodhromos	16.04	99	eP	P	19 15 50.7	+1.4
	10nm,0.6s						
EMIN	Mina Concepcio	16.18	272	P	P	19 15 51.5	+0.7
	2.8nm,0.4s						
SUW	Suwalki	16.26	20	eP	P	19 15 51.2	-0.3
	57nm,1.0s						
SUW	Suwalki	16.26	20	eP	P	19 15 51.2	-0.2
	57nm,1.0s						
EBAD	Badajoz	16.29	276	P	P	19 15 52.5	+0.7
	2.3nm,0.4s						
EPON	Pontenova	16.41	292	P	P	19 15 52.1	-0.9
	17nm,1.2s						
ELOB	Lobios	16.95	287	P	P	19 15 58.8	+0.4
	8.9nm,1.0s						
ELOB	Lobios	16.95	287	P	P	19 15 58.8	+0.3
	8.9nm,1.0s						
EKA	Eskdalemuir Ar	19.92	331	P	P	19 16 27.7	+0.1
	0.9nm,0.3s,baz=143,slow=11,SNR=15						
HFS	Hagfors	21.12	360	P	P	19 16 39.5	+0.3
	7.7nm,0.6s,mb4.3,baz=172,slow=10,SNR=20						
NB2	NORSAR Subarra	22.09	357	P	P	19 16 48.8	+0.5
	0.7nm,0.5s,mb3.4,baz=169,slow=10						
NOA	NORSAR Array B	22.09	357	P	P	19 16 48.5	+0.1
	4.6nm,0.6s,mb4.1,baz=174,slow=9.8,SNR=13						
FINES	FINESS Array B	23.67	15	P	P	19 17 02.2	-0.3
	3.9nm,0.5s,mb4.1,baz=193,slow=8.7,SNR=22						
ARCES	ARCESS Array B	31.19	8	P	P	19 18 08.7	-0.1
	2.0nm,0.6s,mb3.6,baz=180,slow=8.0,SNR=26						
ARCES	ARCESS Array B	31.19	8	P	P	19 18 08.6	-0.2
MKAR	Makanchi Array	49.24	57	P	P	19 20 35.8	+0.8
	0.7nm,0.3s,mb3.4,baz=285,slow=6.5,SNR=16						
SCHQ	Schefferville	54.26	315	P	P	19 21 11.1	-0.6
	3.6nm,0.5s,mb3.9,baz=47,slow=10.0,SNR=8.5						
SONM	Songino Array	63.85	49	P	P	19 22 17.0	+0.7
	0.5nm,1.0s,mb3.0,baz=288,slow=8.9,SNR=3.9						
PDAR	Pinedale Array	83.79	322	P	P	19 24 12.1	+2.5
	0.5nm,0.7s,mb3.4,baz=68,slow=8.0,SNR=5.2						

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*IDC **04** 19:17:49.1±3.4, 40.23S×175.89E, h37^{km}±26^{km}, mb4.6/5, mb1 4.6/7, mb1mx4.5/12, ML4.0/2, MS3.5/1, Ms1 3.5/1, ms1mx3.5/18, Error ellipse: s-maj=26.4km s-min=19.9km az=128.0*

*NEIC **04** 19:17:50.6, 40.33S×175.95E, h35^{km}, mb4.8/9, MS4.2/1, ML4.9(WEL), After WEL.*

NEIC Felt at Feilding, Palmerston North and Wanganui.

*WEL **04** 19:17:50.8±0.1, 40.30S×175.97E, h30^{km}, ML5.0/28, Error ellipse: s-maj=1.0km s-min=0.8km az=90.0, maximum reported intensity MM 6.*

WEL Felt from King Country to Wellington, and from Taranaki to Hawke's Bay.

*SYO **04** 19:17:50.6, 40.33S×175.95E, h35^{km}, MB4.8*

ISC 04 19:17:48.3±0.3**, 40.40S**±0.02×**176.02E**±0.04**, h60**^{km}±3^{km}**, n171, **σ**1**^{s}**14**/181**, mb4.7**/13**, 14C-10D, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BFZ	Birch Farm	0.33	149	P	P	19 18 00.1	+1.3
BFZ				S	S	19 18 08.0	+1.5
BFZ	Birch Farm	0.33	149	⇑P*	P	19 18 00.1	+1.3
BFZ				S*	S	19 18 08.0	+1.5
TSZ	Takapari Road	0.34	352	P	P	19 17 56.9	-2.0
TSZ				S	S	19 18 02.0	-4.6
TSZ	Takapari Road	0.34	352	⇓P*	P	19 17 56.9	-1.9
TSZ				S*	S	19 18 02.0	-4.6
MRZ	Mangatainoka R	0.43	232	P	P	19 17 59.9	+0.3
MRZ	Mangatainoka R	0.43	232	⇑P*	P	19 17 59.9	+0.3
MRZ				S*	S	19 18 07.3	-0.6
PWZ	Pawanui	0.74	61	P	P	19 18 04.3	+1.1
PWZ	Pawanui	0.74	61	⇓P*	P	19 18 04.3	+1.1
PWZ				S*	S	19 18 16.1	+1.9
MTW	Mount Morrison	0.86	207	P	P	19 18 05.9	+1.3
MTW	Mount Morrison	0.86	207	⇑P*	P	19 18 05.9	+1.3
KIW	Kapiti Island	0.96	241	P	P	19 18 07.2	+1.1
KIW	Kapiti Island	0.96	241	⇓P*	P	19 18 07.2	+1.1
KIW				S*	S	19 18 20.2	+0.8
MOVZ	Moawhango	1.01	348	⇑PN	P	19 18 06.6	-0.2
MOVZ				SN	S	19 18 19.1	-1.3
CAW	Cannon Point	1.01	225	P	P	19 18 08.0	+1.2
CAW	Cannon Point	1.01	225	⇓P*	P	19 18 08.0	+1.2
CAW				S*	S	19 18 22.0	+1.6
WAZ	Wanganui	1.02	309	P	P	19 18 07.5	+0.6
WAZ	Wanganui	1.02	309	PN	P	19 18 07.5	+0.7
WAZ				⇑PN	P	19 18 07.6	+0.7
WAZ				SN	S	19 18 20.8	+0.2
WAZ				eSN	S	19 18 21.1	+0.5
PAWZ	Paruwai Farm	1.08	204	P*	P	19 18 08.9	+1.1
PAWZ				S*	S	19 18 27.3	+5.2
WNVZ	Wahianoa	1.12	343	P	P	19 18 08.4	+0.2
WNVZ	Wahianoa	1.12	343	⇑PN	P	19 18 08.4	+0.2
TUVZ	Tukino	1.16	346	⇑PN	P	19 18 09.2	+0.4
TUVZ				SN	S	19 18 24.0	0.0
MSWZ	Moikau Station	1.17	210	P	P	19 18 09.8	+0.9
MSWZ	Moikau Station	1.17	210	⇑P*	P	19 18 09.8	+0.9
DRZ	Dome Shelter	1.17	342	P	P	19 18 09.4	+0.5
DRZ	Dome Shelter	1.17	342	PN	P	19 18 09.4	+0.5
WPVZ	Whakapapa	1.25	343	P	P	19 18 10.4	+0.4
WPVZ	Whakapapa	1.25	343	⇑PN	P	19 18 10.4	+0.4
WPVZ				SN	S	19 18 26.3	+0.3
CNZ	Chateau	1.25	343	P	P	19 18 10.5	+0.4
CNZ	Chateau	1.25	343	⇓PN	P	19 18 10.5	+0.5
NGZ	Ngauruhoe	1.26	345	P	P	19 18 10.7	+0.5
NGZ	Ngauruhoe	1.26	345	⇑PN	P	19 18 10.7	+0.5
BKZ	Black Stump Fm	1.28	17	P	P	19 18 10.6	+0.1
BKZ	Black Stump Fm	1.28	17	⇑PN	P	19 18 10.6	+0.1
WEL	Wellington	1.30	227	P	P	19 18 11.6	+0.8
WEL	Wellington	1.30	227	PN	P	19 18 11.6	+0.8
MRW	Makara Radio	1.30	230	P	P	19 18 11.3	+0.4
MRW	Makara Radio	1.30	230	PN	P	19 18 11.3	+0.5
WTVZ	West Tongariro	1.32	345	P	P	19 18 11.5	+0.3
WTVZ	West Tongariro	1.32	345	⇑PN	P	19 18 11.5	+0.4
WTVZ				SN	S	19 18 28.2	+0.2
KAVZ	Karewarewa	1.33	347	P	P	19 18 11.7	+0.4
KAVZ	Karewarewa	1.33	347	PN	P	19 18 11.7	+0.4
BHW	Baring Head	1.33	220	P	P	19 18 11.8	+0.5
BHW	Baring Head	1.33	220	PN	P	19 18 11.8	+0.5
TWVZ	Taurewa	1.40	341	P	P	19 18 12.2	0.0
TWVZ	Taurewa	1.40	341	PN	P	19 18 12.2	0.0
TWVZ				SN	S	19 18 29.4	-0.4
RITZ	Rihia Road	1.42	355	P	P	19 18 12.9	+0.4
RITZ	Rihia Road	1.42	355	PN	P	19 18 12.9	+0.4
KATZ	Kakaramea	1.44	350	P	P	19 18 13.1	+0.3
KATZ	Kakaramea	1.44	350	ePN	P	19 18 13.1	+0.3
MGZ	Maungaku	1.44	345	P	P	19 18 13.0	+0.2
MGZ	Maungaku	1.44	345	PN	P	19 18 12.8	0.0
HATZ	Hinemaiaia	1.50	2	P	P	19 18 13.5	-0.1
HATZ	Hinemaiaia	1.50	2	PN	P	19 18 13.5	-0.1
RATZ	Rangitukua	1.54	353	P	P	19 18 14.0	-0.1
RATZ	Rangitukua	1.54	353	PN	P	19 18 14.0	-0.1
VRZ	Vera Road	1.60	322	P	P	19 18 15.0	+0.1
VRZ	Vera Road	1.60	322	PN	P	19 18 15.0	0.0
RAEZ	Rainy Point	1.67	311	P	P	19 18 21.5	+5.6
WATZ	Wairara	1.70	352	P	P	19 18 16.1	-0.2
WATZ	Wairara	1.70	352	PN	P	19 18 16.1	-0.2
WHTZ	Whakaora	1.73	358	P	P	19 18 16.9	+0.2
WHTZ	Whakaora	1.73	358	PN	P	19 18 16.9	+0.2
NEZ	North Egmont	1.86	307	P	P	19 18 19.8	+1.3
NEZ	North Egmont	1.86	307	PN	P	19 18 19.8	+1.3
KNZ	Kokohu	1.88	43	eP	P	19 18 18.2	-0.5
KNZ	Kokohu	1.88	43	PN	P	19 18 18.2	-0.5
TUWZ	Tuamarina	1.88	236	PN	P	19 18 18.5	-0.3
CMWZ	Cape Campbell	1.92	225	P	P	19 18 19.8	+0.5
CMWZ	Cape Campbell	1.92	225	PN	P	19 18 19.8	+0.5
NRZ	Ngariki Road	1.92	303	P	P	19 18 20.7	+1.3
NRZ	Ngariki Road	1.92	303	PN	P	19 18 20.5	+1.1
PKE	Pukeiti	1.97	307	P	P	19 18 21.1	+1.0
PKE	Pukeiti	1.97	307	PN	P	19 18 21.1	+1.1
PKE				SN	S	19 18 45.2	+1.7
NWEZ	Newall Road	2.00	303	P	P	19 18 21.8	+1.3
NWEZ	Newall Road	2.00	303	PN	P	19 18 21.7	+1.2
PATZ	Paeroa	2.02	5	P	P	19 18 20.9	+0.1
PATZ	Paeroa	2.02	5	PN	P	19 18 20.9	+0.1
HIZ	Hauiti	2.09	334	eP	P	19 18 21.6	-0.1
HIZ	Hauiti	2.09	334	PN	P	19 18 21.1	-0.6
BSWZ	Blackbirch Sta	2.09	230	P	P	19 18 21.6	-0.1
BSWZ	Blackbirch Sta	2.09	230	PN	P	19 18 21.6	-0.1
NNZ	Nelson	2.17	247	eP	P	19 18 22.6	-0.2
NNZ	Nelson	2.17	247	PN	P	19 18 22.6	-0.2
NNZ				SN	S	19 18 57.7	+9.3
TAZ	Tarawera	2.19	10	P	P	19 18 22.7	-0.5
TAZ	Tarawera	2.19	10	PN	P	19 18 22.7	-0.5
UTU	Utuhina	2.22	4	P	P	19 18 23.5	-0.1
UTU	Utuhina	2.22	4	PN	P	19 18 23.4	-0.1
MKRZ	Makatiti	2.28	9	P	P	19 18 32.4	+7.9
URZ	Urewera	2.30	22	Pn	P	19 18 22.7	-2.0
	44nm,0.3s,baz=215,slow=5.7,SNR=112						
URZ				Sn	S	19 18 50.6	-1.2
	163nm,0.3s,baz=290,slow=23,SNR=7.5						
URZ				Lg		19 19 03.0	
	172nm,0.3s,baz=302,slow=17,SNR=8.6						
URZ	Urewera	2.30	22	eP	P	19 18 23.1	-1.6
URZ	Urewera	2.30	22	⇓PN	P	19 18 23.1	-1.6
EDRZ	Edgecumbe	2.35	14	P	P	19 18 25.2	-0.3
EDRZ	Edgecumbe	2.35	14	PN	P	19 18 25.0	-0.5
MWZ	Matawai	2.37	30	P	P	19 18 24.3	-1.4
MWZ	Matawai	2.37	30	⇓PN	P	19 18 24.3	-1.4
LIRZ	Lichensteins R	2.41	7	P	P	19 18 26.3	+0.1
LIRZ	Lichensteins R	2.41	7	PN	P	19 18 26.3	0.0
MARZ	Manawahe	2.46	12	P	P	19 18 26.6	-0.4
MARZ	Manawahe	2.46	12	PN	P	19 18 26.6	-0.4
QRZ	Quartz Range	2.69	260	ePN	P	19 18 28.5	-1.7
TOZ	Tahuroa Road	2.69	351	eP	P	19 18 29.5	-0.8
TOZ	Tahuroa Road	2.69	351	ePN	P	19 18 29.3	-1.0
THZ	Tophouse	2.72	239	P	P	19 18 29.4	-1.3
THZ	Tophouse	2.72	239	PN	P	19 18 29.4	-1.3
KHZ	Kahutara	2.75	222	P	P	19 18 29.8	-1.3
KHZ	Kahutara	2.75	222	PN	P	19 18 29.8	-1.3
KHZ				S*	S	19 19 01.2	-1.9
PUZ	Puketiti	2.90	38	eP	P	19 18 31.1	-2.1
PUZ	Puketiti	2.90	38	PN	P	19 18 30.9	-2.4
MXZ	Matakaoa Point	3.34	33	P	P	19 18 37.7	-1.8
MXZ	Matakaoa Point	3.34	33	PN	P	19 18 37.7	-1.8
MKAZ	Moumakai	3.35	348	P	P	19 18 38.9	-0.6
MKAZ	Moumakai	3.35	348	PN	P	19 18 38.9	-0.6
DSZ	Denniston Nort	3.46	246	P	P	19 18 39.4	-1.7
DSZ	Denniston Nort	3.46	246	PN	P	19 18 39.4	-1.6
OTAZ	Otara	3.55	346	ePN	P	19 18 43.7	+1.3
WTAZ	Waiatarua	3.64	341	P	P	19 18 43.7	+0.1
WTAZ	Waiatarua	3.64	341	PN	P	19 18 43.7	+0.1
LTZ	Lake Taylor	3.69	229	eP	P	19 18 42.1	-2.1
LTZ	Lake Taylor	3.69	229	PN	P	19 18 42.1	-2.2
LTZ				SN	S	19 19 23.7	-3.1
MTAZ	Motutapu	3.71	346	P	P	19 18 43.9	-0.7
MTAZ	Motutapu	3.71	346	PN	P	19 18 43.9	-0.6
KAAZ	Kauri Point	3.71	343	P	P	19 18 45.1	+0.5
KAAZ	Kauri Point	3.71	343	PN	P	19 18 42.6	-2.0
CRLZ	Canterbury Las	4.06	217	eP	P	19 18 47.5	-2.0
CRLZ	Canterbury Las	4.06	217	PN	P	19 18 47.5	-2.1
CRLZ				SN	S	19 19 33.2	-3.0
MQZ	McQueen's Vall	4.15	216	eP	P	19 18 47.5	-3.3
MQZ	McQueen's Vall	4.15	216	PN	P	19 18 47.5	-3.2
WCZ	Waipu Caves	4.64	343	ePN	P	19 18 56.2	-1.4
WVZ	Waitaha Valley	4.77	234	eP	P	19 18 57.0	-2.5
WVZ	Waitaha Valley	4.77	234	ePN	P	19 18 57.0	-2.5
RPZ	Rata Peaks	4.96	226	Pn	P	19 19 00.5	-1.7
	6.5nm,0.3s,baz=42,slow=3.7,SNR=24						
RPZ				Sn	S	19 19 53.8	-5.1
	39nm,0.3s,baz=353,slow=23,SNR=24						
RPZ				LR	LR	19 21 00.1	
	comp=Z,566nm,20.6s,baz=61,slow=38						
LBZ	Lake Benmore	5.88	225	eP	P	19 19 12.0	-2.8
LBZ	Lake Benmore	5.88	225	PN	P	19 19 11.3	-3.4
ODZ	Otahua Downs	6.10	219	PN	P	19 19 13.9	-4.0
JCZ	Jackson Bay	6.52	233	eP	P	19 19 19.9	-3.9
JCZ	Jackson Bay	6.52	233	PN	P	19 19 18.5	-5.3
WKZ	Wanaka	6.80	227	ePN	P	19 19 23.9	-3.8
TUZ	Tuapeka	7.25	218	eP	P	19 19 31.8	-2.2
TUZ	Tuapeka	7.25	218	PN	P	19 19 31.8	-2.2
TOO	Toolangi	23.84	267	eP	P	19 22 59.6	+3.0
	15nm,1.1s,mb4.3						
STKA	Stephens Creek	28.93	276	eP	P	19 23 45.1	+1.3
	5.7nm,1.2s,mb4.2						
STKA	Stephens Creek	28.93	276	P	P	19 23 43.7	-0.1
	20nm,1.3s,mb4.7,baz=106,slow=9.2,SNR=11						
STKA				PcP	PcP	19 26 51.9	+0.1
	2.0nm,0.7s,baz=84,slow=1.8,SNR=3.6						
CTA	Charters Tower	32.48	300	P	P	19 24 15.7	+0.4
	3.7nm,0.7s,mb4.3,baz=134,slow=14,SNR=4.0						
ASAR	Alice Springs	39.00	282	P	P	19 25 11.0	+0.5
	16nm,0.7s,mb4.9,baz=135,slow=10.0,SNR=241						
ASPA	Alice Springs	39.01	282	⇓iP	P	19 25 10.9	+0.4
PMG	Port Moresby	40.11	312	eP	P	19 25 21.4	+1.6
	12nm,0.6s,mb4.8						
WB2	Warramunga Arr	40.92	287	⇓iP	P	19 25 26.7	+0.3
WRAB	Tennant Creek	40.93	287	eP	P	19 25 26.5	+0.1
	36nm,0.6s,mb5.2						
WRA	Warramunga Arr	40.93	287	P	P	19 25 26.6	+0.2
	21nm,0.6s,mb4.9,baz=127,slow=8.0,SNR=228						
CASY	Casey	44.06	212	eP	P	19 25 53.6	+2.2
FITZ	Fitzroy Crossi	48.50	282	⇓iP	P	19 26 27.3	+0.2
	8.2nm,0.6s,mb4.9						
QSPA	South Pole Qui	49.73	180	eP	P	19 26 40.6	+4.8
	6.5nm,0.9s,mb4.7						
QSPA				LR	LR		
	comp=Z,270nm,19.9s						
MBWA	Marble Bar	51.15	274	eP	P	19 26 46.5	-0.9
	comp=Z,9.6nm,0.7s,mb4.8						
MAW	Mawson	61.23	204	P	P	19 28 00.8	+2.0
	comp=Z,3.1nm,0.8s,mb4.5,baz=125,slow=11,SNR=7.6						
PMSA	Palmer Station	65.17	156	eP	P	19 28 28.3	+3.6
	comp=Z,6.0nm,0.8s,mb4.7						
SYO	Syowa Base	66.25	196	⇑P	P	19 28 31.5	0.0
SYO	Syowa Base	66.25	196	⇑pP	pP	19 28 44.9	-3.1
SNAA	Sanae	68.23	180	eP	P	19 28 46.9	+3.0
	comp=Z,12nm,1.2s,mb4.8						
KMBO	Kilima Mbogo	124.17	233	PKP	PKPdf	19 36 43.2	+2.6
	comp=Z,1.4nm,0.7s,baz=110,slow=6.5,SNR=3.7						
LIC	Lamto	145.96	178	ePKP2	PKPab	19 37 26.7	+2.4
	comp=Z,69nm,1.1s						
KIC	Kosan Boka	146.10	179	ePKP2	PKPab	19 37 25.7	+0.9
	comp=Z,47nm,0.8s						
ASF	Jabal al Asfar	146.28	269	PKPbc	PKPbc	19 37 26.0	+4.0
	comp=Z,5.7nm,0.9s,baz=153,slow=2.3,SNR=4.9						
TIC	Toumodi	146.38	178	ePKP2	PKPab	19 37 26.9	+1.0
	comp=Z,16nm,0.2s						
DBIC	Dimbokro	146.41	178	PKPbc	PKPbc	19 37 27.1	+4.3
	comp=Z,4.1nm,0.7s,baz=165,slow=8.1,SNR=8.9						
ARCES	ARCESS Array B	146.94	341	PKPbc	PKPbc	19 37 24.2	+1.9
	comp=Z,8.6nm,0.7s,baz=21,slow=1.4,SNR=12						
BRTR	Keskin Array B	151.34	281	PKPbc	PKPdf	19 37 37.6	+9.1
	comp=Z,6.7nm,0.8s,baz=140,slow=4.9,SNR=9.0						
AKASG	Malin Array Be	154.77	305	PKPbc	PKPdf	19 37 45.9	+13
	comp=Z,1.1nm,0.6s,baz=61,slow=9.0,SNR=3.0						
AKASG				PKPab	PKPab	19 37 58.8	-0.5
	comp=Z,5.1nm,0.9s,baz=48,slow=6.2,SNR=5.5						
NOA	NORSAR Array B	157.32	341	PKPbc	PKPdf	19 37 50.0	+14
	comp=Z,2.6nm,0.8s,baz=46,slow=8.5,SNR=4.3						
NOA				PKPab	PKPab	19 38 10.2	+0.2
	comp=Z,6.0nm,1.1s,baz=34,slow=7.1,SNR=3.6						
GERES	GERESS Array B	164.87	310	PKPab	PKPab	19 38 43.0	+0.1
	comp=Z,1.3nm,0.7s,baz=56,slow=4.8,SNR=5.0						
DAVOX	Davos	168.10	307	PKPab	PKPab	19 38 58.3	+1.2
	comp=Z,6.0nm,0.7s,baz=116,slow=3.7,SNR=5.9						
ESDC	Sonseca Array	179.28	181	PKP	PKPdf	19 37 55.1	+3.8
	comp=Z,0.2nm,0.4s,baz=11,slow=2.8,SNR=4.3						

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*BJI **04** 19:20:33.3, 14.72N×147.45E, h16^{km}, mB6.1, mb5.7, Ms5.9, Msz5.8*

*NEIC **04** 19:20:35.0±0.1, 14.55N×146.99E, mb5.9/103, ME5.9, MS5.9/22, MW5.9, Error ellipse: s-maj=3.5km s-min=3.2km az=108.0, Moment Tensor Solution. s55 Moment tensor: Scale 10^{17}Nm; M_{rr}-8.32; $M_{\theta\theta}$1.12; $M_{\phi\phi}$7.19; $M_{r\theta}$1.40; $M_{\theta\phi}$1.99; $M_{\phi r}$2.18; Best double couple: $M_0$8.5×10^{17} NP1: ϕ_s12°, δ37°, λ-97°. NP2: ϕ_s201°, δ54°, λ-85°. Principal axes: T 8.16, Plg9°, Azm287°; N .59, Plg4°, Azm18°; P -8.75, Plg80°, Azm134°; Depth from synthetics of broadband displacement seismograms. Energy computed from MT mechanism.*

NEIC Felt on Rota and Saipan.

*HRVD **04** 19:20:35.0±0.1, 14.51N×147.37E, h12^{km}, MW6.0/79, Centroid moment Tensor Solution. LP body waves: s74,c163; Mantle waves: s79,c187; Half duration: 2^{s}4 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.97±.01; $M_{\theta\theta}$-0.12±.01; $M_{\phi\phi}$1.08±.01; $M_{r\theta}$0.23±.03; $M_{\theta\phi}$0.44±.01; $M_{\phi r}$0.18±.03; Best double couple: $M_0$1.14×10^{18} NP1: ϕ_s6°, δ40°, λ-109°. NP2: ϕ_s209°, δ52°, λ-75°. Principal axes: T 1.25, Plg6°, Azm289°; N -.23, Plg12°, Azm20°; P -1.03, Plg77°, Azm171°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*SYO **04** 19:20:35, 14.60N×146.93E, h7^{km}, MB6.0, MS5.8*

*IDC **04** 19:20:37.0±2.9, 14.56N×147.00E, h22^{km}±17^{km}, mb5.5/31, mb1 5.5/33, mb1mx5.5/33, ML4.9/2, MS5.8/20, Ms1 5.8/20, ms1mx5.6/27, Error ellipse: s-maj=14.8km s-min=9.8km az=79.0*

*MOS **04** 19:20:38.5±0.9, 14.69N×146.85E, h38^{km}, mb6.1/47, MS5.7/28, Error ellipse: s-maj=8.5km s-min=6.0km az=78.9*

ISC 04 19:20:33.9±0.1**, 14.59N**±0.02×**147.02E**±0.02**, h8**^{km}**, h8**^{km}±.4^{km}**:pP-P, n583, **σ**1**^{s}**14**/502**, mb5.9**/173**, MS5.8**/83**, 32C-21D, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAPN	Saipan	1.37	297	⇑iP	Pb	19 21 02.6	+3.1
ANA2	Anatahan	2.15	324	⇑eP	Pn	19 21 14.4	+3.8
ANAT	Anatahan	2.19	323	⇑eP	Pn	19 21 14.3	+3.1
GUMO	Guam	2.31	245	ePn	Pn	19 21 14.0	+1.0
GUMO				eSn	Sn	19 21 32.4	-10
SARN	Sarigan	2.42	330	eP	Pn	19 21 16.8	+2.3
CBIJ	Chichi jima	13.23	341	Pn	P	19 23 43.6	-1.2
	15nm,0.3s,baz=258,slow=3.5,SNR=12						
CBIJ				Sn	S	19 26 03.6	-10
	30nm,0.3s,baz=263,slow=23,SNR=4.0						
RAB	Rabaul	19.35	164	eP	P	19 25 03.7	+0.9
JHJ	Hachijo jima 2	19.58	342	P	P	19 25 03.9	-1.5
	72nm,0.3s,baz=94,slow=13,SNR=17						
JHJ				S	S	19 28 36.6	-3.8
	15nm,0.3s,baz=34,slow=21,SNR=3.0						
KWAJ	Kwajalein Atol	20.96	104	eP	P	19 25 20.1	+0.1
KWAJ				eS	S	19 29 08.1	-0.9
BESP	Borongan	21.23	265	eP	P	19 25 24.7	+1.9
JOW	Kunigami	21.31	308	P	P	19 25 22.9	-0.6
	308nm,0.5s,mb5.9,baz=143,slow=10,SNR=54						
JOW				S	S	19 29 17.4	+1.8
	26nm,1.0s,baz=126,slow=27,SNR=1.5						
JOW				LR	LR	19 33 27.4	
	comp=Z,30µm,19.7s,MS5.7,baz=131,slow=36						
BUTP	Butuan	21.67	257	eP	P	19 25 35.5	+8.2
MATI	Mati	21.75	252	eP	P	19 25 31.3	+3.2
PLP	Palo	21.75	264	eP	P	19 25 29.4	+1.3
WAU	Wau	21.80	181	eP	P	19 25 27.1	-1.4
CNP	Catarman	21.83	267	eP	P	19 25 31.7	+2.8
MSLP	Maasin	22.09	261	eP	P	19 25 40.4	+8.9
OCLP	Ormoc	22.13	263	eP	P	19 25 23.1	-8.8
PVCP	Virac	22.20	270	eP	P	19 25 35.0	+2.4
DAV	Davao City (W)	22.33	253	⇓eP	P	19 25 38.0	+4.1
BUKP	Musuan	22.53	255	eP	P	19 25 37.3	+1.3
KCP	Kidapawan	22.81	253	⇓iP	P	19 25 42.1	+3.4
LLP	Lapu-Lapu	22.90	262	eP	P	19 25 42.7	+3.1
TBP	Tagbilaran	23.15	260	eP	P	19 25 45.0	+2.9
MAJO	Matsushiro	23.23	342	eP	P	19 25 40.1	-2.6
MAJO				pmax	pmax		
	comp=Z,190nm,1.0s,mb5.5						
MAJO	Matsushiro	23.23	342	eP	P	19 25 40.1	-2.6
	comp=Z,186nm,1.0s,mb5.5						
MAT	Matsushiro	23.23	342	P	P	19 25 39.6	-3.1
MAT				eS	S	19 29 48.5	-2.2
MAT	Matsushiro	23.23	342	P	P	19 25 40.0	-2.7
	comp=Z,65nm,0.7s,mb5.2						
MAT				eS	S	19 29 53.0	+2.3
MAT				LR	LR		
	comp=Z,11µm,21.0s,MS5.3						
GSPH	General Santos	23.28	251	eP	P	19 25 50.0	+6.7
JNU	Nakatsue	23.57	324	P	P	19 25 46.4	+0.4
	comp=Z,67nm,0.5s,mb5.3,baz=18,slow=2.5,SNR=17						
JNU				S	S	19 29 59.7	+3.1
	comp=Z,16nm,0.6s,baz=304,slow=1.1,SNR=2.6						
JNU				LR	LR	19 34 53.3	
	comp=Z,13µm,18.5s,MS5.4,baz=132,slow=36						
AUQP	San Andres	23.66	270	eP	P	19 25 52.6	+5.7
RCP	Roxas	23.83	266	⇑eP	P	19 25 50.0	+1.3
	comp=Z,192µm,1.0s						
PMG	Port Moresby	23.84	180	eP	P	19 25 48.8	0.0
PAGZ	Pagadian	24.12	256	eP	P	19 25 55.8	+4.3
GUIM	Jordan	24.16	263	eP	P	19 25 56.1	+4.2
POLP	Polilio Island	24.26	274	eP	P	19 25 56.2	+3.3
CAUP	Cauayan	24.36	279	eP	P	19 25 58.2	+4.5
CAUP	Cauayan	24.36	279	eP	P	19 25 58.2	+4.5
CVP	Callao Caves	24.39	281	⇑eP	P	19 25 58.5	+4.4
OTRP	Odiongan	24.41	268	eP	P	19 25 55.8	+1.6
BOAC	Boac	24.45	270	eP	P	19 25 57.5	+2.8
BBP	Basco	24.58	287	eP	P	19 26 01.0	+5.1
BALP	Baler	24.58	276	eP	P	19 26 02.8	+6.9
BALP	Baler	24.58	276	eP	P	19 26 02.8	+6.9
IPIL	Ipil	24.90	257	eP	P	19 26 04.5	+5.5

APYP Conner 24.95 281 *e*P P **19 26 00.5 +1.0**
APYP Conner 24.95 281 *e*P P **19 26 00.4 +0.9**
SJMP San Jose 25.27 268 *e*P P **19 26 03.9 +1.4**
ABRA Dolores 25.45 280 *e*P P **19 26 03.4 -0.7**
ABRA Dolores 25.45 280 *e*P P **19 26 03.4 -0.7**
BCPH Baguio City Da 25.54 277⇑ *i*P P **19 26 10.0 +5.0**
CUYO Cuyo Island 25.63 265 *e*P P **19 26 09.9 +4.1**
LUBP Lubang 25.97 271 *e*P P **19 26 09.9 +0.8**
LUBP Lubang 25.97 271 *e*P P **19 26 09.8 +0.7**
TATO Taipei 26.11 297 *e*P P **19 26 10.6 +0.3**
comp=Z,96nm,0.7s,mb5.4
BUSP Coron 26.22 268 *e*P P **19 26 13.3 +1.9**
ERM Erimo 27.53 354 P P **19 26 26.1 +3.0**
comp=Z,1μm,0.8s,mb6.7,SNR=8.9
PPR Puerto Princes 28.05 263 *e*P P **19 26 30.1 +2.0**
KS15 Wonju Array Si 28.41 327 *e*P P **19 26 29.5 -1.6**
QZH Quanzhou 28.61 296⇑ *i*P P **19 26 33.3 +0.3**
QZH S **S** **19 31 13.0 -7.2**
QZH AMB AMB
comp=Z,290nm,1.0s,mb6.0
QZH AMB AMB
comp=Z,4μm,6.1s
QZH LR LR
comp=N,5μm,14.8s,MS5.7
QZH LR LR
comp=E,13μm,16.8s,MS5.7
QZH LR LR
comp=Z,20μm,22.0s
SSE Sheshan 28.82 309 P P **19 26 35.5 +0.7**
SSE S **S** **19 31 18.8 -4.7**
SSE AMB AMB
comp=Z,89nm,1.3s,mb5.3
SSE AMB AMB
comp=Z,2μm,9.5s
SSE LR LR
comp=N,4μm,12.8s,MS5.4
SSE LR LR
comp=E,4μm,12.8s,MS5.4
SSE LR LR
comp=Z,11μm,17.0s,MS5.5
INCN Inchon 29.12 325 *e*P P **19 26 37.4 -0.1**
comp=Z,119nm,1.4s,mb5.4
BATP Bataraza 29.17 262 *e*P P **19 26 41.5 +3.3**
YUK Yuzh-Kuril'sk 29.36 358 *e*P P **19 26 40.1 +0.5**
YUK pmax pmax
comp=Z,2μm,2.0s,mb6.6
YUK pmax pmax
comp=N,8μm,5.0s
YUK pmax pmax
comp=E,6μm,2.0s
ASAJ Asahikawa 29.67 354 P P **19 26 41.9 -0.5**
comp=E,98nm,0.5s,mb5.8,baz=226,slow=9.5,SNR=60
PcP PcP
ASAJ 19 29 46.1 -0.7
comp=E,47nm,0.8s,baz=228,slow=6.1,SNR=3.8
ASAJ S **S** **19 31 32.7 -4.2**
comp=E,13nm,0.9s,baz=270,slow=15,SNR=2.7
KAKA Kakadu 30.74 209 *e*P P **19 26 55.6 +3.5**
comp=E,87nm,0.8s,mb5.6
NJ2 Nanjing 31.02 309 *e*P P **19 26 53.2 -1.3**
NJ2 PP PP 19 27 52.8 -3.7
NJ2 XS 19 32 09.0
NJ2 AMB AMB
comp=Z,3μm,6.0s
NJ2 LR LR
comp=N,18μm,18.7s,MS5.9
NJ2 LR LR
comp=E,17μm,17.8s,MS5.9
NJ2 LR LR
comp=Z,21μm,14.8s,MS5.9
VLA Vladivostok 31.26 338⇑ *i*P P **19 26 56.0 -0.4**
VLA *i* 19 28 06.0
VLA *i* PPP PPP 19 28 20.0 +5.6
VLA *i* S **S** **19 31 58.0 -4.0**
VLA *i* SS SS 19 33 40.0 -7.8
VLA *i* SSS SSS 19 34 10.0 -0.1
VLA pmax pmax
comp=N,1μm,7.0s
VLA pmax pmax
comp=Z,2μm,7.0s
VLA pmax pmax
comp=E,500nm,5.0s
VLA pmax pmax
comp=Z,600nm,6.0s
VLA pmax pmax
comp=N,500nm,5.0s
VLA pmax pmax
comp=E,500nm,5.0s
VLA smax
comp=N,3μm,10.0s
VLA smax
comp=Z,2μm,10.0s
VLA smax
comp=E,2μm,9.0s
VLA MLR MLR
comp=N,11μm,17.0s,MS5.7
VLA MLR MLR
comp=Z,17μm,17.0s,MS5.8
VLA MLR MLR
comp=E,7μm,15.0s,MS5.7
KKM Kota Kinabalu 31.44 258⇓ *e*P P **19 27 01.5 +3.2**
comp=E,97nm,0.9s,mb5.6
HKC Hong Kong 32.04 289 P P **19 27 12.0 +8.5**
YSS Yuzh-Sakhalins 32.46 355⇓ *e*P P **19 27 05.8 -1.1**
YSS *e**PP pP 19 27 21.0 +12
YSS *e* 19 28 15.0
YSS *e*PPP PPP 19 28 32.0 +1.5
YSS *e*S **S** **19 32 15.0 -5.7**
YSS *e*SSS SSS 19 34 34.0 -5.6
YSS pmax pmax
comp=Z,90nm,0.7s,mb5.7
YSS pmax pmax
comp=N,2μm,5.0s
YSS pmax pmax
comp=Z,6μm,5.0s
YSS pmax pmax
comp=Z,120nm,1.0s,mb5.7
YSS pmax pmax
comp=E,50nm,0.9s
YSS pmax pmax
comp=Z,2μm,5.0s
YSS pmax pmax
comp=N,1μm,4.0s
YSS smax
comp=N,2μm,10.0s
YSS smax
comp=E,2μm,8.0s
YSS MLR MLR
comp=Z,7μm,19.0s,MS5.4
YSS MLR MLR
comp=N,6μm,17.0s,MS5.6
YSS MLR MLR
comp=E,10μm,17.0s,MS5.6
YSS Yuzh-Sakhalins 32.46 355 *e*P P **19 27 06.2 -0.7**
comp=E,92nm,0.7s,mb5.7
GZH Guangzhou 32.91 290 P P **19 27 10.6 -0.5**
GZH AMB AMB
comp=Z,94nm,1.5s,mb5.5
GZH LR LR
comp=N,8μm,19.9s,MS5.8
GZH LR LR
comp=E,17μm,18.6s,MS5.8
GZH LR LR
comp=Z,30μm,19.9s,MS6.0
DL2 Dalian 32.97 322 P P **19 27 13.5 +2.1**
DL2 PP PP 19 28 18.9 -2.8
DL2 S **S** **19 32 31.6 +2.9**
DL2 AMB AMB
comp=Z,100nm,0.7s,mb5.8
DL2 AMB AMB
comp=Z,930nm,5.9s
MDJ Mudanjiang 33.39 337 P P **19 27 15.7 +0.6**
MDJ PP PP 19 28 28.7 +1.9
MDJ PCP PcP 19 29 56.9 +0.1
MDJ S **S** **19 32 38.5 +3.3**
MDJ AMB AMB
comp=Z,1μm,7.6s
MDJ LR LR
comp=N,6μm,23.7s,MS5.4
MDJ LR LR
comp=E,5μm,20.8s,MS5.4
MDJ LR LR
comp=Z,11μm,21.8s,MS5.5
MDJ Mudanjiang 33.39 337 *e*P P **19 27 13.8 -1.3**
comp=Z,50nm,0.9s,mb5.4
MDJ *e*PcP PcP 19 29 55.1 -1.7
SNY Shenyang 33.88 328 PR 19 27 19.7
SNY AP pP 19 27 30.5 +8.9
SNY PP PP 19 28 37.0 +4.3
SNY S **S** **19 32 48.4 +5.5**
SNY AMB AMB
comp=Z,1μm,6.3s
SNY LR LR
comp=N,8μm,14.7s,MS5.7
SNY LR LR
comp=E,9μm,17.4s,MS5.7
SNY LR LR
comp=Z,15μm,17.2s,MS5.8
WHN Wuhan 33.93 303 *e*P P **19 27 20.0 +0.1**
WHN AMB AMB
comp=Z,1μm,7.0s
WHN LR LR
comp=N,7μm,14.0s,MS5.6
WHN LR LR
comp=E,4μm,14.0s,MS5.6
WHN LR LR
comp=Z,16μm,16.5s,MS5.8
TIA Tai'an 34.31 314 *e*P P **19 27 23.8 +0.7**
TIA *e*S **S** **19 32 42.0 -7.5**
TIA LR LR
comp=N,9μm,19.0s,MS5.7
TIA LR LR
comp=E,10μm,18.0s,MS5.7
CN2 Changchun 34.45 332 *e*P P **19 27 22.6 -1.7**
CN2 *e*XP sP 19 27 29.6 +2.1
CN2 *e*S **S** **19 32 49.8 -1.9**
CN2 AMB AMB
comp=Z,1μm,8.0s
CN2 LR LR
comp=N,12μm,16.0s,MS5.8
CN2 LR LR
comp=E,9μm,16.0s,MS5.8
CN2 LR LR
comp=Z,17μm,18.0s,MS5.8
CTA Charters Tower 34.47 181 *e*P P **19 27 23.2 -1.4**
comp=Z,39nm,0.6s,mb5.5
CTA *e*S **S** **19 32 53.0 +0.8**
CTA Charters Tower 34.47 181 P P **19 27 23.4 -1.2**
comp=Z,48nm,0.6s,mb5.6,baz=358,slow=9.2,SNR=50
CTA S **S** **19 32 47.9 -4.4**
comp=Z,4.3nm,0.9s,baz=218,slow=20,SNR=2.2
CTA LR LR 19 40 50.7
comp=Z,12μm,19.8s,MS5.6,baz=8.6,slow=35
CTAO Charters Tower 34.47 181 *e*P P **19 27 23.8 -0.8**
CTAO pmax pmax
comp=Z,120nm,1.0s,mb5.8
CTAO Charters Tower 34.47 181 *e*P P **19 27 23.8 -0.8**
QIZ Qiongzhong 35.82 282⇑ *i*P P **19 27 38.4 +2.3**
QIZ PP PP 19 28 58.2 +1.1
QIZ S **S** **19 33 12.9 -0.2**
QIZ SS SS 19 35 35.4 +1.8
QIZ AMB AMB
comp=Z,1μm,8.8s
QIZ LR LR
comp=N,5μm,19.3s,MS5.6
QIZ LR LR
comp=E,9μm,19.9s,MS5.6
WRAB Tennant Creek 36.50 200 P P **19 27 41.0 -0.9**
comp=E,1μm,1.0s,mb6.6,SNR=68
WRAB Tennant Creek 36.50 200 *e*P P **19 27 41.0 -0.9**
comp=E,273nm,1.0s,mb6.0
WB2 Warramunga Arr 36.51 200 *e*P P **19 27 41.1 -0.9**
WB2 *e*S **S** **19 33 20.8 -2.9**
WRA Warramunga Arr 36.51 200 P P **19 27 40.7 -1.3**
comp=E,97nm,0.8s,mb5.7,baz=21,slow=9.2,SNR=108
WRA PcP PcP 19 30 04.9 -1.2
comp=E,30nm,0.7s,baz=24,slow=3.6,SNR=6.6
WRA S **S** **19 33 22.6 -1.2**
comp=E,2.8nm,0.9s,baz=21,slow=13,SNR=4.7
WRA LR LR 19 42 09.0
comp=E,12μm,19.1s,MS5.7,baz=20,slow=35
WRA PKPPKP 20 00 33.4
comp=E,3.2nm,1.0s,baz=152,slow=2.0,SNR=6.3
SKR Severo-Kuril's 36.74 10 *e*P P **19 27 41.0 -2.6**
SKR *e* 19 29 08.0
SKR *e*PPP PPP 19 29 30.0 +1.3
SKR *e* 19 30 10.0
SKR *i*S **S** **19 33 24.0 -3.0**
SKR *e*SS Sx 19 36 22.0
SKR pmax pmax
comp=N,2μm,6.0s
SKR pmax pmax
comp=E,3μm,6.0s
SKR pmax pmax
comp=Z,4μm,6.0s
SKR smax
comp=N,3.0nm,8.0s
SKR smax
comp=E,7μm,8.0s
SKR MLR MLR
comp=N,4μm,20.0s,MS5.4
SKR MLR MLR
comp=E,5μm,20.0s,MS5.4
SKR MLR MLR
comp=Z,6μm,20.0s,MS5.4
BJT Baijiatuau 37.00 319 *e*P P **19 27 45.2 -0.7**
comp=Z,377nm,1.3s,mb6.1
BJI Beijing 37.01 319 *e*P P **19 27 45.9 0.0**
BJI PP PP 19 29 09.8 -2.4
BJI PCP PcP 19 30 06.3 -1.0
BJI S **S** **19 33 29.5 -1.6**
BJI SCS ScS 19 37 54.4 -5.0
BJI AMB AMB
comp=Z,191nm,1.7s,mb5.7
BJI LR LR
comp=N,12μm,20.3s,MS5.8
BJI LR LR
comp=E,11μm,19.4s,MS5.8
BJI LR LR
comp=Z,16μm,18.7s,MS5.8
ENH Enshi 37.84 301 *e*P P **19 27 53.2 +0.2**
comp=Z,318nm,1.0s,mb6.0
TIY Taiyuan 38.31 313⇑ P P **19 27 53.0 -4.0**
TIY S **S** **19 33 42.0 -9.1**
TIY AMB AMB
comp=Z,2μm,6.0s
TIY LR LR
comp=N,9μm,18.0s
TIY LR LR
comp=Z,10μm,18.0s,MS5.7
FITZ Fitzroy Crossi 38.73 214 *e*P P **19 28 00.4 -0.2**
comp=Z,133nm,1.0s,mb5.6
FITZ *e*S **S** **19 33 58.0 +0.5**
PET Petropavlovsk 39.44 11 *d i*P P **19 28 06.8 +0.6**
PET *e* 19 29 42.1
PET *e* 19 30 14.1
PET *e*S **S** **19 34 08.3 +0.4**
PET *e*SS SS 19 36 58.3 +4.2
PET pmax pmax
comp=Z,477nm,0.8s,mb6.3
PET pmax pmax
comp=N,315nm,0.8s
PET pmax pmax
comp=E,157nm,0.8s
PET pmax pmax
comp=N,1μm,7.3s
PET pmax pmax
comp=Z,2μm,7.2s
PET pmax pmax
comp=Z,4μm,5.3s
PET pmax pmax
comp=N,2μm,5.1s
PET pmax pmax
comp=Z,1μm,7.8s
PET pmax pmax
comp=Z,1μm,7.6s
PET smax
comp=N,2μm,11.7s
PET smax
comp=E,2μm,10.4s
PET MLR MLR
comp=Z,6μm,16.0s,MS5.5
PET MLR MLR
comp=Z,6μm,15.0s
PET Petropavlovsk 39.44 11 *e*P P **19 28 07.0 +0.8**
comp=Z,334nm,0.8s,mb6.1
GYA Guiyang 39.44 294⇑ *i*P P **19 28 08.1 +1.6**
GYA PP PP 19 29 42.6 +1.7
GYA S **S** **19 34 10.7 +2.5**
GYA AMB AMB
comp=Z,200nm,1.3s,mb5.7
GYA AMB AMB
comp=Z,2μm,5.7s
GYA LR LR
comp=N,5μm,16.2s,MS5.6
GYA LR LR
comp=E,6μm,19.8s,MS5.6
GYA LR LR
comp=Z,8μm,20.1s,MS5.5
XAN Xi'an 39.45 306 P P **19 28 06.3 -0.2**
XAN PP PP 19 29 41.7 +0.7
XAN S **S** **19 34 05.7 -2.6**
XAN AMB AMB
comp=Z,2μm,8.3s
XAN LR LR
comp=E,6μm,19.6s
XAN LR LR
comp=Z,11μm,19.6s,MS5.7
ASAR Alice Springs 40.13 199 P P **19 28 11.1 -1.1**
comp=Z,56nm,1.0s,mb5.2,baz=20,slow=6.7,SNR=56
ASAR PP PP 19 29 48.6 +0.3
comp=Z,68nm,1.1s,baz=19,slow=9.9,SNR=6.9
ASAR LR LR 19 45 11.8
comp=Z,8μm,19.5s,MS5.6,baz=18,slow=37
ASPA Alice Springs 40.13 199 *e*P P **19 28 11.1 -1.1**
ASPA *e*S **S** **19 34 07.8 -11**
HHC Hu-ho-hao-te 40.41 317 *e*P P **19 28 15.3 +0.9**
HHC AP pP 19 28 19.9 +3.2
HHC XP sP 19 28 25.5 +7.9
HHC PCP PcP 19 30 18.7 +0.7
HHC SCP 19 34 06.8
HHC S **S** **19 34 24.6 +1.9**
HHC XS 19 34 31.8
HHC SS SS 19 37 21.1 +5.3
HHC SCS ScS 19 38 20.1 +1.1
HHC AMB AMB
comp=Z,186nm,1.5s,mb5.6
HHC AMB AMB
comp=Z,3μm,4.2s
HHC LR LR
comp=N,3μm,18.0s,MS5.3
HHC LR LR
comp=E,3μm,18.2s,MS5.3
HHC LR LR
comp=Z,5μm,17.6s,MS5.4
NOUC Port Laguerre 41.08 152 *e*P P **19 28 17.9 -2.1**
DZM Mont Dzumac 41.11 152 *e*P P **19 28 17.2 -3.1**
HIA Hailar 41.16 333 *e*P P **19 28 19.5 -0.9**
comp=Z,72nm,0.8s,mb5.3
HIA *e*PcP PcP 19 30 19.3 -1.0
BTO Baotou 41.32 316 *e*P P **19 28 22.6 +0.8**
BTO PP PP 19 30 02.6 +2.2
BTO S **S** **19 34 26.4 -10**
BTO AMB AMB
comp=Z,300nm,1.2s,mb5.8
KMI Kunming 42.77 291 *e*P P **19 28 35.6 +1.6**
KMI PPP PPP 19 30 49.5 +0.1
KMI S **S** **19 34 57.6 -0.2**
KMI AMB AMB
comp=Z,113nm,1.2s,mb5.5
KMI AMB AMB
comp=Z,2μm,6.9s
KMI LR LR
comp=N,7μm,18.2s,MS5.8
KMI LR LR
comp=E,10μm,18.2s,MS5.8
KMI LR LR
comp=Z,12μm,18.8s,MS5.8
CD2 Chengdu 42.78 300⇑ *i*P P **19 28 34.4 +0.4**
CD2 XP sP 19 28 47.5 +10
CD2 S **S** **19 34 52.0 -5.9**
CD2 XS 19 35 12.3
CD2 AMB AMB
comp=Z,1μm,7.7s
CD2 LR LR
comp=E,5μm,18.0s
CD2 LR LR
comp=Z,6μm,18.6s,MS5.5
FX1 Attu Island--F 43.46 23 P P **19 28 39.0 -0.1**
comp=Z,315nm,0.8s,mb6.1,baz=187,slow=4.2,SNR=38
FX1 PcP PcP 19 30 27.0 -0.9
comp=Z,52nm,0.7s,baz=75,slow=7.5,SNR=3.5
FX1 Attu Island--F 43.46 23 *e*P P **19 28 39.2 0.0**
FX1 *e*PcP PcP 19 30 27.0 -0.9
SMY Shemya 43.70 24⇓ *i*P P **19 28 43.8 +2.7**
SMY pmax pmax
comp=Z,2μm,1.5s,mb6.5
SMY Shemya 43.70 24 *e*P P **19 28 43.0 +1.9**
SMY LR LR
comp=Z,18μm,22.0s,MS5.9
LZH Lanzhou 44.05 307⇓ P P **19 28 45.3 +1.1**
LZH AP pP 19 28 47.4 +0.9
LZH PP PP 19 30 29.3 +0.8
LZH S **S** **19 35 17.0 +0.7**
LZH AMB AMB
comp=Z,749nm,1.7s,mb6.1
LZH AMB AMB
comp=Z,1μm,4.2s
LZH LR LR
comp=E,6μm,14.9s
LZH LR LR
comp=Z,12μm,17.8s,MS5.9
NANT Nan 44.47 282⇑ P P **19 28 47.0 -0.8**
comp=Z,125nm,1.0s,mb5.6
MBWA Marble Bar 44.50 218 *e*P P **19 28 47.0 -1.1**
comp=Z,136nm,0.8s,mb5.7
MBWA LR LR
comp=Z,4μm,21.0s,MS5.3
MA2 Magadan 44.99 3 *d i*P P **19 28 51.7 +0.2**
MA2 *e* 19 30 34.2
MA2 *e*S **S** **19 35 27.2 -2.4**
MA2 pmax pmax
comp=Z,300nm,0.8s,mb6.2
MA2 pmax pmax
comp=E,20nm,0.9s
MA2 pmax pmax
comp=N,100nm,0.8s
MA2 MLR MLR
comp=Z,18μm,17.0s,MS6.1
MA2 Magadan 44.99 3 *e*P P **19 28 51.8 +0.3**
comp=Z,380nm,0.8s,mb6.3
MA2 *e* 19 30 34.2
NST Nakhon Sawan 45.20 278 P P **19 28 54.8 +1.1**
comp=Z,117nm,0.9s,mb5.7
CLNS Chul'man 45.41 343 *e*P P **19 28 58.1 +3.3**
CLNS *e* 19 30 36.0
CLNS *e* 19 30 41.7
CLNS *e*S **S** **19 35 31.3 -4.2**
CLNS *e*SS SS 19 38 49.8 -0.5
CLNS *e*SSS SSS 19 39 41.6 -9.2
CLNS pmax pmax
comp=Z,94nm,0.9s,mb5.6
CLNS pmax pmax
comp=N,55nm,0.7s
CLNS pmax pmax
comp=E,10.0nm,0.7s
CLNS pmax pmax
comp=N,33nm,0.8s
CLNS pmax pmax
comp=E,19nm,0.8s
CLNS pmax pmax
comp=Z,42nm,0.8s,mb5.3
CLNS smax
comp=N,41nm,1.3s
CLNS smax
comp=Z,13nm,1.3s
CLNS smax
comp=E,33nm,1.4s
CLNS MLR MLR
comp=Z,11μm,21.0s,MS5.8
CLNS MLR MLR
comp=N,6μm,18.0s,MS5.5
CLNS MLR MLR
comp=E,1μm,21.0s,MS5.5
NNT Nongplab 45.94 274 P P **19 29 02.7 +3.1**
SNG Songkhla 46.09 266 P P **19 29 03.0 +2.2**
comp=E,190nm,0.9s,mb6.0
CHG Chiang Mai 46.13 282⇑ P P **19 29 01.5 +0.5**
comp=E,100nm,0.8s,mb5.8
CM31 Chiang Mai Arr 46.15 282 *e*P P **19 29 01.4 +0.3**
comp=E,155nm,0.9s,mb5.9
CMAR Chiang Mai Arr 46.15 282 P P **19 29 01.1 0.0**
comp=E,71nm,0.7s,mb5.7,baz=80,slow=6.3,SNR=110
CMAR S **S** **19 35 45.4 -1.2**
comp=E,1.1nm,0.9s,baz=48,slow=5.7,SNR=2.6
BDT Bhumibol Dam 46.16 280 P P **19 29 02.0 +0.7**
comp=E,47nm,0.8s,mb5.5
IPM Ipoh 46.34 262⇓ *e*P P **19 29 05.8 +3.0**

comp=E,43nm,0.7s,mb5.5
STKA Stephens Creek 46.49 186 *e*P P **19 29 02.0 -1.7**
comp=E,40nm,0.6s,mb5.5
STKA Stephens Creek 46.49 186 P P **19 29 02.4 -1.4**
comp=E,33nm,0.5s,mb5.5,baz=353,slow=8.1,SNR=42
STKA LR LR 19 49 16.3
comp=E,11µm,18.9s,MS5.8,baz=7.1,slow=37
KIWB Kanaga Island 46.90 30 *e*P P **19 29 06.9 +0.3**
SONM Songino Array 47.15 323 P P **19 29 07.7 -1.0**
comp=E,46nm,0.6s,mb5.6,baz=134,slow=6.6,SNR=219
SONM ScP 19 34 30.4
comp=E,2.2nm,0.9s,baz=185,slow=31,SNR=2.9
SONM S S **19 35 58.1 -2.4**
comp=E,2.1nm,0.9s,baz=135,slow=10,SNR=2.9
SONM ScS ScS 19 39 01.4 +0.5
comp=E,0.8nm,0.7s,baz=135,slow=4.1,SNR=3.1
GTA Gaotai 48.10 310 P P **19 29 16.8 +0.5**
GTA AP pP 19 29 21.5 +2.9
GTA XP sP 19 29 24.2 +4.7
GTA PP PP 19 31 09.0 +1.1
GTA PPP PPP 19 31 59.2 +0.7
GTA SCP 19 34 37.9
GTA PCS 19 34 39.3
GTA S S **19 36 14.5 +0.5**
GTA SCS ScS 19 39 07.4 +0.3
GTA SS SS 19 39 37.2 -0.7
GTA AMB AMB
comp=Z,2µm,5.7s
GTA LR LR
comp=N,2µm,19.5s,MS5.4
GTA LR LR
comp=E,4µm,19.5s,MS5.4
GTA LR LR
comp=Z,5µm,21.4s,MS5.5
SEY Seymchan 48.43 3 *e*P P **19 29 20.5 +2.0**
SEY *e* 19 30 43.9
SEY 19 31 13.1
SEY *e*PPP PPP 19 32 05.2 +2.8
SEY *e*S S **19 36 17.5 -0.8**
SEY 19 39 06.7
SEY pmax pmax
comp=N,400nm,0.9s
SEY pmax pmax
comp=Z,1µm,0.9s,mb6.8
SEY smax
comp=N,9µm,7.8s
SEY smax
comp=E,6µm,8.9s
FORT Forrest 48.66 202 *e*P P **19 29 20.2 -0.5**
comp=E,352nm,0.7s,mb6.5
FORT *e*S S **19 36 20.5 -1.5**
YAK Yakutsk 48.97 349 P P **19 29 21.5 -1.1**
YAK pmax pmax
comp=Z,350nm,0.8s,mb6.4
YAK Yakutsk 48.97 349 *e*P P **19 29 21.2 -1.4**
comp=Z,354nm,0.8s,mb6.5
YAK LR LR
comp=Z,5µm,19.0s,MS5.5
BOD Bodaibo 49.76 338 *e*P P **19 29 27.1 -1.7**
BOD *e*S ScS 19 39 16.7 -1.2
ADE Adelaide 49.91 189 *e*P P **19 29 30.0 -0.3**
IRK Irkutsk 50.61 327 *e*P P **19 29 34.5 -0.9**
IRK *e* 19 29 52.8
IMP Imphal 50.73 290⇑ *i*P P **19 29 37.0 +0.3**
TOO Toolangi 51.90 182 *e*P P **19 29 45.5 +0.1**
comp=Z,106nm,0.9s,mb5.8
TOO *e*S S **19 37 15.5 +8.6**
MOY Mondy 52.08 325 *e*P P **19 29 45.2 -1.3**
KIP Kipapa 52.50 74 *e*P P **19 29 51.1 +1.0**
KIP *e* 19 30 05.4
SHL Shillong 52.61 291⇑ *i*P P **19 29 50.8 0.0**
SHL *i* 19 35 02.5
SHL *i* 19 37 12.0
AGT Agartala 53.18 289⇑ *i* P **19 30 05.0 +10**
AGT *i* 19 30 42.0
UNV Unalaska Valle 53.37 32 *e*P P **19 29 56.6 +0.6**
comp=Z,1µm,1.3s,mb6.7
UNV *e* 19 30 11.9
LSA Lhasa 53.41 296 P P **19 29 56.3 -0.5**
LSA XP sP 19 30 13.4 +13
LSA PP PP 19 32 02.7 +3.9
LSA S S **19 37 29.7 +2.1**
LSA SCS ScS 19 39 40.9 -2.5
LSA AMB AMB
comp=Z,130nm,0.5s,mb6.1
LSA LR LR
comp=N,2µm,19.1s,MS5.5
LSA LR LR
comp=E,4µm,21.5s,MS5.5
LSA LR LR
comp=Z,3µm,20.5s,MS5.4
HKL Haleakala 54.17 75 P P **19 30 03.8 +1.4**
HKL Haleakala 54.17 75 *e*P P **19 30 03.5 +1.1**
POHA Pohakuloa 54.92 76 *e*P P **19 30 07.5 -0.4**
comp=Z,426nm,1.1s,mb6.4
POHA *e* 19 30 21.5
MUN Mundaring 54.92 212 *e*P P **19 30 06.6 -1.2**
comp=Z,62nm,0.6s,mb5.8
NWAO Narrogin (SRO) 55.16 211 LR LR 19 56 46.2
comp=Z,15µm,18.0s,MS6.1,baz=33,slow=39
NWAO Narrogin (SRO) 55.16 211 P P **19 30 07.9 -1.7**
NWAO pmax pmax
comp=Z,43nm,0.6s
NWAO Narrogin (SRO) 55.16 211 *e*P P **19 30 07.6 -2.0**
comp=Z,43nm,0.6s,mb5.7
CAL Calcutta 55.91 287 *e*P P **19 30 13.8 -1.3**
CAL *e*S S **19 38 01.6 +0.4**
COCO West Island 56.39 244 P P **19 30 18.8 +0.2**
comp=Z,938nm,1.4s,mb6.6
WCZ Waipu Caves 56.52 153 P P **19 30 18.0 -1.3**
TAU Tasmania Unive 57.22 180 P P **19 30 25.2 +1.0**
TAU pmax pmax
comp=Z,140nm,1.0s,mb6.0
TAU Tasmania Unive 57.22 180 *e*P P **19 30 23.7 -0.4**
comp=Z,139nm,1.0s,mb5.9
WMQ Urumqi 57.98 313 P P **19 30 29.6 +0.1**
WMQ XP sP 19 30 37.0 +4.3
WMQ PP PP 19 32 40.0 +0.3
WMQ S S **19 38 28.0 -0.2**
WMQ SCS ScS 19 40 15.0 -0.9
WMQ SS SS 19 42 20.0 -0.8
WMQ AMB AMB
comp=Z,274nm,1.0s,mb6.2
WMQ AMB AMB
comp=Z,417nm,8.0s
WMQ LR LR
comp=N,10µm,20.0s,MS6.0
WMQ LR LR
comp=E,6µm,20.0s,MS6.0
WMQ LR LR
comp=Z,6µm,20.0s,MS5.7
WMQ Urumqi 57.98 313 P P **19 30 29.7 +0.2**
WMQ S S **19 38 29.5 +1.3**
GUN Gumba 57.99 294 *e*P P **19 30 29.7 -0.1**
comp=Z,726nm,0.7s,mb6.8
TIXI Tiksi 58.07 353 *e*P P **19 30 28.0 -1.8**
TIXI pmax pmax
comp=Z,21nm,1.0s,mb5.1
TIXI MLR MLR
comp=Z,3µm,17.0s,MS5.5
TIXI Tiksi 58.07 353 *e*P P **19 30 28.1 -1.7**
PKI Pulchoki 58.41 294 *e*P P **19 30 32.1 -0.6**
comp=Z,226nm,0.7s,mb6.3
KKN Kakani 58.52 294 *e*P P **19 30 32.6 -0.9**
comp=Z,198nm,0.7s,mb6.2
DMN Daman 58.67 294 *e*P P **19 30 33.8 -0.8**
comp=Z,532nm,0.8s,mb6.6
GKN Gorkha 59.09 294 *e*P P **19 30 37.0 -0.4**
comp=Z,695nm,0.8s,mb6.7
TNA Tin City 59.19 20 *e*P P **19 30 37.2 -0.5**
TNA *e* 19 30 51.2
ANM Nome 59.49 22 *e*P P **19 30 40.4 +0.7**
MGZ Maungaku 59.61 154 P P **19 30 40.4 -0.5**
URZ Urewera 59.66 153 P P **19 30 38.5 -2.8**
comp=Z,52nm,0.6s,mb5.8,baz=2.6,slow=2.5,SNR=28
URZ LR LR 19 53 44.9
comp=Z,10µm,19.8s,MS6.0,baz=335,slow=33
CNZ Chateau 59.78 155 P P **19 30 41.5 -0.6**
NGZ Ngauruhoe 59.78 155 P P **19 30 40.6 -1.5**
TUVZ Tukino 59.88 155 P P **19 30 42.2 -0.6**
KOLN Koldanda 60.01 294 *e*P P **19 30 42.7 -1.1**
comp=Z,757nm,1.2s,mb6.6
KNZ Kokohu 60.54 153 P P **19 30 45.1 -2.2**
VIS Vishakhapatnam 61.01 282 *e*P P **19 30 49.0 -1.7**
SNZO South Karori 61.23 156 *e*P P **19 30 50.3 -1.7**
comp=Z,236nm,0.8s,mb6.4
BFZ Birch Farm 61.31 155 P P **19 30 49.1 -3.4**
LTZ Lake Taylor 61.62 159 P P **19 30 51.7 -2.9**
RPZ Rata Peaks 62.05 160 P P **19 30 54.1 -3.3**
comp=Z,62nm,0.5s,mb6.0,baz=312,slow=3.8,SNR=18
RPZ LR LR 19 54 55.3
comp=Z,10µm,20.2s,MS6.0,baz=323,slow=33
ZAL Zalesovo 62.05 324 P P **19 30 55.6 -1.7**
comp=Z,34nm,0.5s,mb5.7,baz=275,slow=5.7,SNR=84
ZAL S S **19 39 19.1 -1.4**
comp=Z,8.2nm,1.3s,baz=94,slow=16,SNR=4.6
ZAL ScS ScS 19 40 44.5 -1.3
comp=Z,1.2nm,0.8s,baz=175,slow=23,SNR=2.0
ZAL LR LR 19 58 07.4
comp=Z,8µm,21.3s,MS5.9,baz=278,slow=36
ZAL PKPPKP 20 00 03.5
comp=Z,2.7nm,0.9s,baz=142,slow=2.4,SNR=9.7
KDAK Kodiak Island 62.12 32 P P **19 30 59.3 +1.6**
comp=Z,703nm,1.1s,mb6.7,SNR=14
KDAK Kodiak Island 62.12 32 *e*P P **19 30 56.9 -0.9**
comp=Z,125nm,1.0s,mb6.0
KDAK *e* 19 31 14.3
MKAR Makanchi Array 62.23 315 P P **19 30 57.5 -1.1**
comp=Z,98nm,0.4s,mb6.3,baz=91,slow=8.3,SNR=714
MKAR S S **19 39 22.8 -0.2**
comp=Z,14nm,1.0s,baz=98,slow=18,SNR=12
MKAR ScS ScS 19 40 48.8 +1.4
comp=Z,0.3nm,0.4s,baz=132,slow=44,SNR=3.0
MKAR PKP2bc 20 00 11.8
comp=Z,15nm,0.9s,baz=270,slow=3.6,SNR=24
MKAR LR LR 20 00 19.5
comp=Z,4µm,19.2s,MS5.6,baz=234,slow=38
MKAR Makanchi Array 62.23 315 *i* P P **19 30 57.5 -1.1**
MKAR pmax pmax
comp=Z,98nm,0.4s
MKAR Makanchi Array 62.23 315 P P **19 30 57.5 -1.1**
MKAR S S **19 39 22.8 -0.2**
MKAR ScS ScS 19 40 48.8 +1.4
MKAR ⇑*e* 20 00 11.8
MKAR LR LR 20 00 19.5
TTA Tatalina 62.35 26 *e*P P **19 30 58.0 -1.2**
comp=Z,2.8nm,0.3s,mb4.9
MQZ McQueen's Vall 62.57 159 P P **19 31 00.8 -0.1**
RSO Redoubt South 62.89 29 *e*P P **19 31 02.9 +0.1**
LGTI Lohaghat 62.91 296 *e*P P **19 31 03.7 +0.4**
PTH Pithoragarh 62.93 296 *e*P P **19 31 04.0 +0.6**
PTH *e*S S **19 39 31.0 -0.9**
NVS Novosibirsk 63.15 324 *i* P P **19 31 02.6 -2.0**
NVS *i* S S **19 39 30.9 -3.5**
NVS *i* 19 40 53.1
NVS pmax pmax
comp=Z,199nm,1.3s,mb6.1
NVS pmax pmax
comp=E,175nm,0.7s
NVS pmax pmax
comp=N,110nm,1.1s
NVS smax
comp=N,242nm,2.4s
NVS smax
comp=E,175nm,2.3s
RAR Rarotonga 63.19 123 LR LR 19 53 03.7
comp=E,8µm,20.4s,MS5.9,baz=316,slow=31
SPU Mount Spurr 63.45 28 *e*P P **19 31 06.4 -0.1**
SLKM Skilak Lake 64.10 29 *e*P P **19 31 11.1 +0.4**
SLKM *e* 19 31 27.0
IMA Indian Mountai 64.52 23 *e*P P **19 31 13.3 0.0**
PWA Palmer West 64.59 28 *e*P P **19 31 12.0 -1.9**
comp=E,151nm,1.0s,mb6.0
NGP Nagpur 64.61 287 *e* P **19 31 16.3 +1.6**
NGP *e*S S **19 39 53.0 0.0**
DDI Dehra Dun 64.77 297 *e*P P **19 31 14.0 -1.6**
DDI *e* 19 39 52.2
PMR Palmer 64.92 28 *e*P P **19 31 15.9 -0.1**
PMR pmax pmax
comp=Z,170nm,1.1s,mb6.0
PMR MLR MLR
comp=Z,6µm,20.0s,MS5.8
PMR Palmer 64.92 28 *e*P P **19 31 14.9 -1.1**
comp=Z,215nm,1.2s,mb6.0
PMR LR LR
comp=Z,6µm,23.0s,MS5.8
KURK Kurchatov 65.18 319 *de*P P **19 31 16.8 -1.0**
KURK Kurchatov 65.18 319 *e*P P **19 31 15.9 -1.9**
comp=Z,320nm,0.8s,mb6.4
SML Sawmill 65.34 28 *e*P P **19 31 17.9 -0.8**
SML *e* 19 31 36.0
HYB Hyderabad 65.56 283 *i* P P **19 31 20.0 -0.9**
comp=Z,140nm,1.0s,mb6.0
HYB *e* 19 31 34.0
HYB *e*PcP PcP 19 31 51.0 -1.5
HYB *e*S S 19 40 04.0 -0.7
HYB *e* 19 40 34.0
HYB *e*PKPPKP 19 59 58.0
HYB Hyderabad 65.56 283 *e*P P **19 31 20.0 -0.9**
comp=Z,140nm,1.0s,mb6.0
HYB *e* 19 31 34.0
HYB *e*S S 19 40 04.0 -0.7
NDI New Delhi 65.59 295 *e*P P **19 31 20.0 -0.9**
NDI *e*S S 19 40 04.0 -1.0
MCK McKinley 65.62 26 *e*P P **19 31 19.1 -1.4**
MCK pmax pmax
comp=Z,69nm,1.2s,mb5.6
MCK MLR MLR
comp=Z,3µm,20.0s,MS5.5
MCK McKinley 65.62 26 *e*P P **19 31 19.1 -1.4**
comp=Z,69nm,1.3s,mb5.5
MCK LR LR
comp=Z,3µm,20.0s,MS5.5
AAA Alma-Ata 65.67 311 *e*P P **19 31 21.0 -0.1**
AAA *e*S S 19 40 08.0 +2.3
AAA pmax pmax
comp=Z,3µm,10.0s
AAA smax
comp=N,2µm,7.0s
AAA MLR MLR
comp=Z,4µm,18.0s,MS5.6
BHPL Bhopal 65.88 289 *e*P P **19 31 21.8 -1.0**
BHPL *e* 19 31 26.8
comp=Z,110nm,0.5s
BHPL 19 40 03.9
EYAK Cordova Ski Ar 66.25 30 *e*P P **19 31 24.2 -0.3**
KSH Kashi 66.30 307⇑ *i*P P **19 31 27.5 +2.2**
KSH XP sP 19 31 35.0 +6.5
KSH PCP PcP 19 31 56.2 +1.0
KSH PP PP 19 33 56.1 +2.7
KSH PPP PPP 19 35 33.2 +4.2
KSH SCP 19 35 57.4
KSH PCS 19 35 59.2
KSH S S 19 40 17.5 +4.0
KSH XS 19 40 25.1
KSH PS PS 19 40 41.7 +5.4
KSH SCS ScS 19 41 20.3 +1.8
KSH SS SS 19 44 37.3 +6.2
KSH AMB AMB
comp=Z,2µm,5.9s
KSH LR LR
comp=N,6µm,18.9s,MS5.9
KSH LR LR
comp=E,3µm,14.9s,MS5.9
DIV Divide 66.36 29 *e*P P **19 31 24.9 -0.3**
comp=E,418nm,1.0s,mb6.4
COLA College 66.41 25 *e*P P **19 31 25.2 -0.3**
COLA pmax pmax
comp=Z,181nm,1.5s,mb5.9
COLA MLR MLR
comp=Z,10µm,21.0s,MS6.0
COLA College 66.41 25 *e*P P **19 31 25.2 -0.3**
comp=Z,181nm,1.5s,mb5.9
COLA LR LR
comp=Z,10µm,21.0s,MS6.0
AKL Akola 66.55 286 *i* P **19 31 34.1 +7.0**
comp=Z,228nm,1.6s,mb6.0
AKL *i* 19 31 51.6
THN Thein Dam 66.67 299 *e*P P **19 31 26.1 -1.6**
comp=Z,52nm,0.8s,mb5.6
ILAR Eielson Array 66.78 25 P P **19 31 25.6 -2.2**
comp=Z,94nm,1.0s,mb5.8,baz=250,slow=5.4,SNR=79
ILAR PKPPKP 19 59 55.4
comp=Z,2.8nm,1.1s,baz=90,slow=1.8,SNR=7.0
LATR Latur 67.29 284 *e*P P **19 31 33.0 +1.1**
FRU Bishkek 67.36 311 *e*P P **19 31 32.0 0.0**
FRU *e*S S 19 40 28.0 +1.8
FRU pmax pmax
comp=Z,330nm,2.1s,mb6.0
FRU pmax pmax
comp=Z,2µm,7.0s
FRU MLR MLR
comp=Z,6µm,18.0s,MS5.9
AAK Ala-Archa 67.45 310 *e*P P **19 31 30.8 -1.7**
AAK *e* 19 31 43.8
AAK pmax pmax
comp=Z,39nm,1.0s,mb5.4
AAK Ala-Archa 67.45 310 *e*P P **19 31 30.8 -1.7**
comp=Z,39nm,1.0s,mb5.4
AAK *e* 19 31 43.8
AJM Ajmer 68.05 293⇑ *i*P P **19 31 35.0 -1.6**
KAD Karad 69.70 283 *e*P P **19 31 46.0 -0.8**
KAD *e* pP 19 31 49.4 +0.2
comp=Z,146nm,0.8s
KAD *e* 19 40 51.1
POO Poona 69.82 285 *e*P P **19 31 46.5 -1.0**
POO *e* pP 19 31 50.1 +0.2
comp=Z,165nm,0.6s
POO *e* 19 40 51.2
MNGI Mangalore 69.86 279 *i* P **19 31 51.6 +3.8**
PPT Papeete 70.22 115 P P **19 31 51.1 +1.1**
comp=Z,29nm,0.5s,mb5.5,baz=333,slow=4.5,SNR=4.6
PPT Papeete 70.22 115 *e*P P **19 31 51.8 +1.8**
comp=Z,39nm,0.9s,mb5.3
PAE Paea 70.25 115 *e*P P **19 31 51.7 +1.5**
comp=Z,194nm,1.1s,mb6.0
TIAR Tiarei 70.42 115 *e*P P **19 31 53.0 +1.8**
comp=Z,195nm,0.8s,mb6.1
BVAR Borovoye Array 70.44 321 P P **19 31 49.7 -1.1**
comp=Z,38nm,0.4s,mb5.7,baz=109,slow=6.7,SNR=217
BVAR S S 19 40 59.5 -3.1
comp=Z,6.7nm,0.9s,baz=102,slow=14,SNR=9.3
BVAR PKPPKP 19 59 49.6
comp=Z,2.9nm,1.0s,baz=315,slow=4.2,SNR=7.9
BVAR LR LR 20 06 53.3
comp=Z,135nm,18.1s,baz=305,slow=39
BRVK Borovoye 70.51 321 *e*P P **19 31 50.2 -1.0**
BRVK *e*S S 19 41 01.0 -2.3
BRVK pmax pmax
comp=Z,130nm,0.8s,mb5.9
BRVK Borovoye 70.51 321 *e*P P **19 31 50.2 -1.0**
comp=Z,134nm,0.8s,mb5.9
BRVK *e*S S 19 41 01.0 -2.3
TVO Taravao 70.59 115 *e*P P **19 31 54.2 +2.0**
comp=Z,217nm,0.9s,mb6.1
PMOR Pomariorio Ree 70.75 112 *e*P P **19 31 54.6 +1.4**
comp=Z,145nm,1.1s,mb5.8
SIT Sitka 71.17 34 *e*P P **19 31 55.4 +0.3**
SIT *e* 19 32 09.8
ZRNK Zerenda 71.28 321 *e*P P **19 31 54.7 -1.1**
comp=Z,365nm,1.5s,mb6.1
MEH Mehetia 71.67 115 *e*P P **19 32 00.5 +1.7**
comp=Z,116nm,1.1s,mb5.7
VIB Van Inlet 72.74 38 P P **19 32 04.6 +0.1**
VIB T 20 52 27.8
SNR=7.8
DLBC Dease Lake 74.01 33 P P **19 32 11.9 +0.1**
comp=Z,105nm,1.1s,mb5.7,baz=290,slow=6.2,SNR=43
DLBC Dease Lake 74.01 33 *e*P P **19 32 12.2 +0.4**
DLBC *e* 19 32 28.2
BBB Bella Bella 75.49 39 P P **19 32 20.2 -0.2**
comp=Z,39nm,0.9s,mb5.2,baz=260,slow=6.7,SNR=10
SVE Sverdlovsk 75.95 326⇓ *e*P P **19 32 22.3 -0.7**
SVE *e* 19 35 18.4
SVE *i*S S 19 42 00.0 -4.7
SVE *e*PS PS 19 42 56.0 +13
SVE pmax pmax
comp=Z,600nm,2.2s,mb6.1
SVE pmax pmax
comp=E,2µm,5.0s
SVE pmax pmax
comp=Z,2µm,5.0s
SVE smax
comp=N,2µm,7.0s
SVE smax
comp=E,4µm,7.0s
ARU Arti 77.14 325⇓ *i*P P **19 32 28.2 -1.4**
ARU *i* 19 32 39.3
ARU *i* 19 32 45.7
ARU *i* 19 35 21.7
ARU *i*S S 19 42 12.2 -5.4
ARU *i*PS 19 42 34.2
ARU *i* 19 42 41.0
ARU *e*SS SS 19 47 10.4 -7.6
ARU *e*SSS SSS 19 50 33.5 -0.8
ARU pmax pmax
comp=Z,27nm,0.8s,mb5.2
ARU MLR MLR
comp=Z,4µm,20.0s,MS5.7
ARU MLR MLR
comp=N,2µm,18.0s,MS5.6
ARU MLR MLR
comp=E,2µm,20.0s,MS5.6
ARU Arti 77.14 325 *e*P P **19 32 28.4 -1.2**
comp=E,365nm,1.4s,mb6.1
ARU *i* pP 19 32 30.6 -1.5
ARU *e* 19 32 44.1
ARU *e*S S 19 42 14.4 -3.2
ARU LR LR
comp=Z,993nm,20.0s,MS5.1
OCWA Octopus Mounta 78.56 44 *e*P P **19 32 38.0 +0.4**
comp=Z,212nm,1.4s,mb5.9
OCWA *e*pP pP 19 32 40.3 +0.3
OCWA *e* 19 32 56.0
STW Striped Peak 78.83 43 P P **19 32 39.9 +0.8**
PGC Sidney 78.89 43 *e*P P **19 32 39.8 +0.4**
comp=Z,443nm,1.4s,mb6.2
PGC *e* 19 32 55.0
KEBM Edson Butte 79.25 48 *e*P P **19 32 41.6 +0.1**
KEBM *e*pP pP 19 32 44.0 +0.1
KEBM *e* 19 32 59.2
BMW Boistfort Moun 79.41 45 *e*P P **19 32 42.6 +0.3**
BMW *i* pP 19 32 44.7 0.0
BMW *e* 19 32 59.3
GNW Green Mountain 79.49 44 *e*P P **19 32 43.4 +0.7**
GNW *e*pP pP 19 32 45.8 +0.6
GNW *e* 19 33 00.2
COR Corvallis 79.69 47 P P **19 32 46.4 +2.6**
COR Corvallis 79.69 47 *e*P P **19 32 43.9 +0.1**
COR *e**PP pP 19 32 46.1 -0.2
COR *e* 19 33 00.0
COR pmax pmax
comp=Z,200nm,1.4s,mb5.8
COR Corvallis 79.69 47 *e*P P **19 32 43.9 +0.1**
comp=Z,201nm,1.4s,mb5.9
COR *e*pP pP 19 32 46.1 -0.1
COR *e* 19 33 00.0
KRMB Red Mountain 79.80 50 *e*P P **19 32 45.3 +0.8**
KRMB *e*pP pP 19 32 46.9 0.0
KRMB *e* 19 33 00.6
MBW Mount Baker 79.88 42 P P **19 32 45.4 +0.6**
HSO Harness Mounta 80.03 48 *e*P P **19 32 47.5 +1.8**
KHMM Horse Mountain 80.05 50 *e*P P **19 32 46.8 +0.9**
KHMM *e*pP pP 19 32 48.6 +0.3
RMW Rattlesnake Mo 80.19 44 *e*P P **19 32 46.9 +0.4**
RMW *e* 19 33 04.3
RMW Rattlesnake Mo 80.19 44 *e*P P **19 32 46.9 +0.4**
RMW *e*pP pP 19 32 49.1 +0.2
RMW *e* 19 33 04.3
RPW Rockport 80.19 42 *e*P P **19 32 46.5 0.0**
RPW *e*pP pP 19 32 48.9 0.0
SSOR Sweet Springs 80.23 46 P P **19 32 47.3 +0.6**
SSOR Sweet Springs 80.23 46 *e*P P **19 32 47.0 +0.3**
HUMO Hull Mountain 80.30 49 *e*P P **19 32 47.5 +0.3**
comp=Z,103nm,1.2s,mb5.6
LON Longmire 80.32 44 *e*P P **19 32 47.8 +0.6**
LON *e**PP pP 19 33 01.8 +12
LON Longmire 80.32 44 *e*P P **19 32 47.0 -0.1**
LON *e*pP pP 19 32 48.9 -0.7
LON *e* 19 33 01.4
VAN Vannovskaya 80.34 307 *e*P P **19 32 48.0 +0.5**
YBH Yreka Blue Hor 80.64 49 S S 19 42 56.7 +1.6
comp=Z,0.4nm,0.5s,baz=97,slow=12,SNR=1.9
YBH Yreka Blue Hor 80.64 49 *e*P P **19 32 49.1 +0.1**
YBH *e* 19 33 05.4
YBH pmax pmax
comp=Z,140nm,1.3s
YBH Yreka Blue Hor 80.64 49 *e*P P **19 32 49.1 +0.1**
comp=Z,144nm,1.3s,mb5.7
YBH *e*pP pP 19 32 51.5 +0.1
YBH *e* 19 33 05.4
HOPS Hopland 80.90 52 *e*P P **19 32 50.6 +0.2**
comp=Z,166nm,1.1s,mb5.9
HOPS *e*pP pP 19 32 52.5 -0.4

YKW3 **Yellowknife Ar** 80.99 28 *e*P P 19 32 50.0 -0.3
YKW3 *e*pP pP 19 32 51.7 -1.2
WDC Whiskeytown Da 80.99 50 *e*P P 19 32 51.0 +0.1
WDC pmax pmax
comp=Z,150nm,1.4s,mb5.7
WDC Whiskeytown Da 80.99 50 *e*P P 19 32 51.0 +0.1
comp=Z,147nm,1.4s,mb5.7
WDC *e*pP pP 19 32 53.0 -0.3
YKA Yellowknife Ar 81.01 28 P P 19 32 49.9 -0.6
comp=Z,70nm,0.8s,mb5.6,baz=286,slow=5.3,SNR=46
YKA PP PP 19 35 55.4 -2.2
comp=Z,3.1nm,0.7s,baz=281,slow=6.3,SNR=2.9
YKA LR LR 20 12 25.2
comp=Z,6µm,19.1s,MS6.0,baz=295,slow=38
YKA Yellowknife Ar 81.01 28 P P 19 32 49.9 -0.6
YKA PP PP 19 35 55.4 -2.2
YKA LR LR 20 12 25.2
NLW Nelson Butte 81.04 43 *e*P P 19 32 51.2 +0.3
NLW *e*pP pP 19 32 53.7 +0.3
NLW *e* 19 33 07.1
VGB Gordon Butte 81.27 45 *e*P P 19 32 54.2 +2.0
VGB *e* 19 33 08.2
NSHM Saint Helena R 81.35 53 *e*P P 19 32 53.0 +0.2
NSHM *e*pP pP 19 32 55.8 +0.6
WTV Waterville 81.37 43 P P 19 32 52.6 -0.1
SAC San Andreas 81.69 53 *e*P P 19 32 54.4 -0.2
SAC *e* 19 33 12.0
SAC San Andreas 81.69 53 *e*P P 19 32 54.4 -0.2
SAC *e*pP pP 19 32 56.9 -0.2
SAC *e* 19 33 11.9
HAWA Hanford 81.93 44 *e*P P 19 32 55.6 0.0
comp=Z,130nm,1.2s,mb5.7
HAWA *e* 19 33 11.4
LKC Lake Chabot 81.93 53 *e*P P 19 32 56.3 +0.4
LKC *e*pP pP 19 32 59.0 +0.7
LKC *e* 19 33 11.6
OHCM Honcut 82.04 52 *e*P P 19 32 56.4 +0.1
OHCM *e*pP pP 19 32 58.7 -0.1
OHCM *e* 19 33 11.4
MOD Modoc 82.37 49 *e*P P 19 32 58.3 +0.3
comp=Z,142nm,1.2s,mb5.8
MOD *e* 19 33 13.8
DPW Davenport 82.48 43 *e*P P 19 32 58.6 +0.1
DPW *e* 19 33 16.0
DPW *e* 19 36 07.5
SAO San Andreas Ge 82.62 54 *e*P P 19 32 59.5 +0.1
SAO pmax pmax
comp=Z,140nm,1.1s,mb5.9
SAO San Andreas Ge 82.62 54 *e*P P 19 32 59.5 0.0
comp=Z,141nm,1.2s,mb5.9
BEKR Beckwourth 82.78 51 *e*P P 19 33 00.2 +0.1
comp=Z,124nm,1.1s,mb5.8
BEKR *e* 19 33 15.9
LRV Little Rabbit 83.03 54 *e*P P 19 33 03.9 +2.3
RES Resolute Bay 83.09 14 P P 19 33 01.5 +0.4
RES pmax pmax
comp=Z,120nm,0.8s,mb6.0
RES Resolute Bay 83.09 14 *e*P P 19 33 01.1 0.0
comp=Z,125nm,0.8s,mb6.0
NEW Newport 83.10 42 P P 19 33 02.0 +0.4
NEW pmax pmax
comp=Z,230nm,1.4s
NEW Newport 83.10 42 *e*P P 19 33 01.8 +0.1
comp=Z,232nm,1.4s,mb6.0
NEW LR LR
comp=Z,3µm,21.0s,MS5.7
CMB Columbia Colle 83.17 53 P P 19 33 02.3 +0.1
CMB S S 19 43 22.9 +1.8
CMB Columbia Colle 83.17 53 *e*P P 19 33 02.2 0.0
CMB *e* 19 33 18.2
CMB pmax pmax
comp=Z,190nm,1.1s,mb6.0
CMB Columbia Colle 83.17 53 *e*P P 19 33 02.2 -0.1
comp=Z,187nm,1.1s,mb6.0
CMB *e* 19 33 18.1
WCN Washoe City 83.36 51 P P 19 33 04.6 +1.4
WCN pmax pmax
comp=Z,200nm,1.5s,mb5.9
WCN Washoe City 83.36 51 *e*P P 19 33 03.9 +0.8
comp=Z,204nm,1.5s,mb5.9
PAHR Pah Rah Range 83.54 51 *e*P P 19 33 04.3 +0.1
comp=Z,146nm,1.3s,mb6.0
EDM Edmonton 84.11 37 *e*P P 19 33 06.9 +0.2
OMM Old Mammoth Mi 84.33 53 *e*P P 19 33 08.7 +0.5
NVAR Mina Array Bea 84.67 52 P P 19 33 10.5 +0.6
comp=Z,62nm,0.8s,mb5.8,baz=264,slow=4.9,SNR=100
LVZ Lovozero 84.70 339 *e*P P 19 33 08.3 -1.0
LVZ *e*S S 19 43 26.8 -8.9
LVZ pmax pmax
comp=Z,25nm,0.8s,mb5.4
LVZ pmax pmax
comp=N,5.0nm,0.7s
LVZ pmax pmax
comp=E,4.0nm,0.9s
LVZ pmax pmax
comp=Z,1µm,4.4s
LVZ pmax pmax
comp=N,227nm,4.0s
LVZ pmax pmax
comp=E,176nm,3.0s
LVZ smax
comp=N,1µm,6.0s
LVZ smax
comp=Z,514nm,4.9s
LVZ smax
comp=E,2µm,6.9s
LVZ Lovozero 84.70 339 *e*P P 19 33 09.1 -0.2
MTUM Tungsten Hills 84.73 53 *e*P P 19 33 10.6 +0.4
MTUM *e*pP pP 19 33 13.3 +0.7
MTUM *e* 19 33 27.9
MNV Mina 84.78 52 *e*P P 19 33 10.6 +0.2
MNV *e* 19 33 25.4
MNV pmax pmax
comp=Z,130nm,1.2s,mb5.9
MNV Mina 84.78 52 *e*P P 19 33 10.6 +0.1
comp=Z,131nm,1.3s,mb5.9
MNV *e*pP pP 19 33 12.7 -0.2
MNV *e* 19 33 25.4
WALA Waterton Lakes 84.94 41 *e*P P 19 33 11.4 +0.5
comp=Z,266nm,1.5s,mb6.2
WALA *e*pP pP 19 33 13.6 +0.3
WALA *e* 19 33 28.0
BMN Battle Mountai 84.97 50 *e*P P 19 33 11.5 +0.2
BMN *e* 19 33 26.9
BMN pmax pmax
comp=Z,93nm,1.1s,mb5.8
BMN Battle Mountai 84.97 50 *e*P P 19 33 11.5 +0.2
comp=Z,93nm,1.1s,mb5.8
BMN *e*pP pP 19 33 13.7 -0.1
BMN *e* 19 33 26.9
PECR Pechory 85.00 327 *e*P P 19 33 10.0 -1.1
PECR *e* 19 36 31.0
PECR *i* S S 19 43 33.0 -5.9
PECR *e* 19 44 31.0
PECR pmax pmax
comp=Z,2µm,5.0s
PECR pmax pmax
comp=E,1µm,6.5s
PECR pmax pmax
comp=E,1µm,6.0s
PECR pmax pmax
comp=Z,800nm,6.0s
PECR smax
comp=N,2µm,7.0s
PECR smax
comp=E,7µm,9.0s
PECR MLR MLR
comp=Z,5µm,22.0s,MS5.8
PECR MLR MLR
comp=N,2µm,16.0s
PECR MLR MLR
comp=E,3µm,21.0s,MS5.9
PECR MLR MLR
comp=Z,4µm,19.0s
PECR MLR MLR
comp=N,3µm,16.0s,MS5.9
PECR MLR MLR
comp=E,4µm,17.0s
CASY Casey 85.07 194 *e*P P 19 33 11.1 -0.1
APA Apatity 85.28 339 ǁ *i*P P 19 33 11.2 -1.0
APA *i* 19 33 28.5
APA *e* 19 36 32.0
APA *i* 19 43 32.0
APA pmax pmax
comp=Z,965nm,2.5s,mb6.5
APA pmax pmax
comp=Z,3µm,8.0s
APA MLR MLR
comp=Z,2µm,17.0s,MS5.5
MSO Missoula 85.55 43 *e*P P 19 33 14.0 0.0
comp=Z,48nm,1.5s,mb5.5
MSO *e* 19 33 30.8
TPH Tonopah 85.58 52 *e*P P 19 33 14.9 +0.5
TPH *e* 19 33 30.4
TPH pmax pmax
comp=Z,98nm,1.0s,mb6.0
TPH Tonopah 85.58 52 *e*P P 19 33 14.9 +0.5
comp=Z,98nm,1.1s,mb6.0
TPH *e* 19 33 30.4
DAC Darwin (Calif) 85.75 54 *e*P P 19 33 16.0 +0.7
DAC *e* 19 33 33.0
DAC pmax pmax
comp=Z,86nm,1.0s,mb5.9
DAC Darwin (Calif) 85.75 54 *e*P P 19 33 15.9 +0.6
comp=Z,86nm,1.0s,mb5.9
DAC *e* 19 33 33.0
MWC Mount Wilson 85.91 56 *e*P P 19 33 16.0 -0.2
MWC *e* 19 33 32.4
CHMT Chamberlain Mo 85.98 43 *e*P P 19 33 15.8 -0.4
CHMT *e* 19 33 33.4
HLID Hailey 86.15 46 *e*P P 19 33 17.5 +0.4
comp=Z,90nm,1.2s,mb5.9
HLID *e* 19 33 34.8
HLID *e*PP PP 19 36 37.1 -2.2
HLID LR LR
comp=Z,6µm,21.0s,MS6.0
KEV Kevo 86.21 342 *e*p P 19 33 15.6 -1.2
comp=Z,7.6nm,0.4s,mb5.3
KEV Kevo 86.21 342 *e*P P 19 33 15.6 -1.2
KEV pmax pmax
comp=Z,8.0nm,0.4s,mb5.3
ELK Elko 86.35 49 *e*P P 19 33 17.7 -0.5
ELK *e* 19 33 34.0
ELK pmax pmax
comp=Z,140nm,1.0s
ELK MLR MLR
comp=Z,8µm,20.0s
ELK Elko 86.35 49 *e*P P 19 33 18.6 +0.5
comp=Z,143nm,1.0s,mb6.2
ELK *e*pP pP 19 33 21.2 +0.6
ELK *e* 19 33 34.0
ELK LR LR
comp=Z,8µm,20.0s,MS6.1
TPNV Topopah Spring 86.62 53 *e*P P 19 33 19.4 -0.2
TPNV pmax pmax
comp=Z,150nm,1.2s,mb6.1
TPNV MLR MLR
comp=Z,4µm,19.0s,MS5.9
TPNV Topopah Spring 86.62 53 *e*P P 19 33 19.8 +0.2
comp=Z,153nm,1.3s,mb6.1
TPNV *e*pP pP 19 33 22.2 +0.2
TPNV LR LR
comp=Z,4µm,19.0s,MS5.9
TRCR Troy Canyon 86.75 51 *e*P P 19 33 20.6 +0.5
ARCES ARCESS Array B 86.77 343 P P 19 33 18.8 -0.7
comp=Z,33nm,0.7s,mb5.7,baz=68,slow=5.3,SNR=70
ARCES PKKPbc 19 51 12.1
comp=Z,4.3nm,0.8s,baz=270,slow=2.4,SNR=3.7
ARCES LR LR 20 18 30.0
comp=Z,4µm,20.0s,MS5.8,baz=68,slow=40
ARE0 ARCESS Array S 86.77 343 *e*P P 19 33 18.5 -1.0
MCMT McKenzie Canyo 86.86 45 *e*P P 19 33 21.0 +0.5
MCMT *e*pP pP 19 33 23.8 +0.8
HRY Holter Researc 86.97 43 *e*P P 19 33 21.1 +0.1
HRY *e* 19 33 37.6
MAK Makhachkala 86.99 314 *c i*P P 19 33 23.0 +1.8
MAK *e**PP pP 19 33 38.0 +14
MAK *e* 19 36 47.0
MAK *e*PPP PPP 19 38 38.0 -5.9
MAK *e*S S 19 43 46.0 -12
MAK pmax pmax
comp=N,600nm,7.0s
MAK pmax pmax
comp=E,800nm,7.0s
MAK pmax pmax
comp=Z,3µm,7.0s
MAK pmax pmax
comp=Z,2µm,8.0s
MAK smax
comp=N,2µm,8.0s
MAK smax
comp=E,4µm,8.0s
MAK MLR MLR
comp=Z,4µm,18.0s,MS5.9
PFO Pinyon Flat Ob 87.36 56 P P 19 33 23.9 +0.7
comp=Z,419nm,1.0s,mb6.6,SNR=25
PFO Pinyon Flat Ob 87.36 56 *e*P P 19 33 23.0 -0.2
PFO *e* 19 33 40.2
PFO pmax pmax
comp=Z,100nm,1.1s,mb6.0
PFO Pinyon Flat Ob 87.36 56 *e*P P 19 33 23.0 -0.2
comp=Z,102nm,1.1s,mb6.0
PFO *e*pP pP 19 33 25.4 -0.3
PFO *e* 19 33 40.2
BAR Barrett 87.43 57 *e*P P 19 33 23.1 -0.5
BAR *e*pP pP 19 33 25.4 -0.7
BAR *e* 19 33 40.2
BOZ Bozeman (W) 87.44 44 *e*P P 19 33 23.0 -0.3
BOZ *e* 19 33 40.3
BOZ pmax pmax
comp=Z,91nm,1.0s,mb6.0
BOZ MLR MLR
comp=Z,5µm,20.0s,MS6.0
BOZ Bozeman (W) 87.44 44 *e*P P 19 33 23.0 -0.3
comp=Z,91nm,0.9s,mb6.0
BOZ *e*pP pP 19 33 25.6 -0.2
BOZ *e* 19 33 40.3
BOZ LR LR
comp=Z,5µm,20.0s,MS6.0
KTK1 Kautokeino 87.73 343 *e*P P 19 33 23.1 -1.1
KTK1 *e*pP pP 19 33 25.7 -0.9
KTK1 AMb AMB 19 33 27.5
comp=Z,76nm,1.8s,mb5.6
KTK1 Kautokeino 87.73 343 *e*P P 19 33 23.1 -1.1
comp=Z,76nm,1.8s,mb5.6
QLMT Earthquake Lak 87.82 44 *e*P P 19 33 26.3 +1.1
QLMT *e* 19 33 43.9
HVU Hansel Valley 87.83 47 *e*P P 19 33 26.1 +0.8
HVU *e* 19 33 43.8
BGU Big Grassy Mou 87.90 48 *e*P P 19 33 25.4 -0.3
LDFC Landfair 88.02 54 *e*P P 19 33 26.6 +0.2
LDFC *e* 19 33 44.0
NEN Nelson 88.07 54 *e*P P 19 33 27.1 +0.5
NEN *e* 19 33 44.5
YMR Madison River 88.19 44 *e*P P 19 33 28.2 +1.3
YMR *e* 19 33 46.3
SPUT South Promonto 88.20 48 *e*P P 19 33 27.3 +0.2
SPUT *e* 19 33 44.9
DUG Dugway 88.28 49 *e*P P 19 33 27.7 +0.2
DUG *e* 19 33 45.7
DUG pmax pmax
comp=Z,4µm,1.3s
DUG MLR MLR
comp=Z,99µm,20.0s
DUG Dugway 88.28 49 *e*P P 19 33 27.7 +0.2
comp=Z,281nm,1.3s,mb6.3
DUG *e* 19 33 45.7
DUG LR LR
comp=Z,6µm,20.0s,MS6.0
YFT Old Faithful 88.35 44 *e*P P 19 33 30.0 +2.3
RRI2 Red Ridge 88.37 46 *e*P P 19 33 28.7 +0.9
RRI2 *e* 19 33 46.2
YNR Norris Junctio 88.37 44 *e*P P 19 33 29.9 +2.1
YNR *e* 19 33 44.2
DAG Danmarks Havn 88.42 357 ǁ *i*P P 19 33 27.6 +0.2
comp=Z,71nm,0.9s,mb5.9
ARUT Antelope Range 88.53 51 P P 19 33 29.8 +1.0
ARUT Antelope Range 88.53 51 *e*P P 19 33 29.4 +0.6
TRO Tromso 88.55 344 *e*P P 19 33 26.2 -1.9
TRO *e*pP pP 19 33 28.1 -2.4
TRO AMb AMB 19 33 32.5
comp=Z,45nm,1.8s,mb5.5
TRO Tromso 88.55 344 *e*P P 19 33 26.2 -1.9
comp=Z,45nm,1.8s,mb5.5
TPAW Teton Pass 88.58 45 *e*P P 19 33 29.3 +0.4
TPAW *e* 19 33 47.5
TPAW *e*PP PP 19 36 56.7 -2.9
MOS Moscow 88.59 328 *e*P P 19 33 29.4 +0.8
MOS *e* PP 19 37 00.1 +0.7
MOS *e*S SKS 19 43 55.4 -4.9
MOS *e*SSS SSS 19 53 41.0 +0.6
MOS pmax pmax
comp=Z,140nm,2.2s,mb5.9
MOS pmax pmax
comp=Z,2µm,5.9s
MOS pmax pmax
comp=E,1µm,5.6s
MOS smax
comp=E,4µm,8.0s
MOS MLR MLR
comp=Z,8µm,20.0s,MS6.1
MOS MLR MLR
comp=N,2µm,19.0s,MS6.0
MOS MLR MLR
comp=E,6µm,19.0s,MS6.0
MOOW Moose Ponds 88.64 45 *e*P P 19 33 29.8 +0.6
MOOW *e* 19 33 46.5
REDW Red Top Meadow 88.69 45 *e*P P 19 33 30.1 +0.7
GCMT Greycliff 88.69 43 *e*P P 19 33 30.1 +0.7
GCMT *e* 19 33 46.5
WUWY Wally Ulrich 88.70 45 *e*P P 19 33 30.3 +0.8
WUWY *e*pP pP 19 33 32.0 +0.1
WUWY *e* 19 33 46.1
HWUT Hardware Ranch 88.74 47 *e*P P 19 33 29.9 +0.2
comp=E,149nm,1.1s,mb6.2
HWUT *e*pP pP 19 33 32.3 +0.2
HWUT *e* 19 33 45.7
NLU North Lily Min 88.89 49 *e*P P 19 33 30.7 +0.2
NLU *e*pP pP 19 33 32.7 -0.2
NLU *e* 19 33 46.4
CTU Camp Tracy 88.90 48 *e*P P 19 33 31.0 +0.6
TCUT Toone Canyon 89.01 48 *e*P P 19 33 29.6 -1.4
TCUT *e* 19 33 47.4
JLU Jordanelle 89.14 48 *e*P P 19 33 32.4 +0.8
JLU *e* 19 33 47.5
MPU Maple Canyon 89.19 49 *e*P P 19 33 32.0 +0.2
MPU *e* 19 33 49.4
MVU Marysvale 89.24 50 *e*P P 19 33 32.8 +0.7
comp=E,99nm,1.2s,mb6.0
MVU *e* 19 33 48.5
MSU Marysvale 89.26 50 *e*P P 19 33 33.1 +0.9
MSU *e* 19 33 48.9
TI2 Plekhanov 89.31 313 *e*P P 19 33 34.6 +2.2
TI2 *e* 19 37 01.0
TI2 *e* 19 39 00.0
TI2 *i* S SKS 19 44 01.0 -4.1
TI2 *e* 19 45 31.0
TI2 MLR MLR
comp=N,2µm,17.0s,MS5.9
TI2 MLR MLR
comp=E,3µm,17.0s,MS5.9
TI2 MLR MLR
comp=Z,2µm,17.0s,MS5.6
VOR Voronezh 89.33 324 *e*P P 19 33 31.0 -1.2
VOR *e**PP pP 19 33 46.0 +11
VOR *e* 19 44 19.0
VOR pmax pmax
comp=Z,230nm,2.2s,mb6.1
VOR pmax pmax
comp=N,60nm,1.7s
VOR pmax pmax
comp=E,60nm,2.0s
DAU Daniels Canyon 89.34 48 *e*P P 19 33 32.9 +0.3
DAU *e* 19 33 48.8
GOF Gofitskoye 89.38 317 ǁ *i*P P 19 33 33.5 +0.9
GOF *i* S S 19 44 20.0 -0.7
GOF pmax pmax
comp=Z,200nm,2.8s,mb6.0
GOF pmax pmax
comp=Z,50nm,1.3s,mb5.7
GOF smax
comp=N,570nm,2.0s
OBN Obninsk 89.40 327 *de*P P 19 33 31.4 -1.0
OBN *i* S 19 43 59.4
OBN *e*PS PS 19 45 32.2 +2.9
OBN pmax pmax
comp=Z,110nm,2.0s,mb5.8
OBN MLR MLR
comp=E,6µm,21.0s,MS6.0
OBN Obninsk 89.40 327 *e*P P 19 33 32.5 +0.1
comp=Z,44nm,1.0s,mb5.7
TMUT Trail Mountain 89.73 49 *e*P P 19 33 35.0 +0.6
PDAR Pinedale Array 89.78 46 P P 19 33 34.0 -0.5
comp=Z,10nm,0.8s,mb5.2,baz=244,slow=2.6,SNR=26
PDAR PP PP 19 37 05.0 -4.3
comp=Z,3.9nm,1.0s,baz=297,slow=6.6,SNR=4.3
PDAR LR LR 20 11 32.3
comp=Z,4µm,19.2s,MS5.9,baz=299,slow=34
FFC Flin Flon 89.85 33 *e*P P 19 33 34.3 -0.3
FFC pmax pmax
comp=Z,220nm,1.6s,mb6.2
FFC Flin Flon 89.85 33 *e*P P 19 33 34.3 -0.3
comp=Z,224nm,1.6s,mb6.2
KIV Kislovodsk 90.00 316 *c i*P P 19 33 34.7 -0.8
KIV *e* 19 37 09.8
KIV *e*PPP PPP 19 39 07.1 -2.8
KIV *i* 19 44 02.3
KIV *e*SS SS 19 50 22.7 -5.5
KIV pmax pmax
comp=N,29nm,0.9s
KIV pmax pmax
comp=Z,55nm,0.9s,mb5.9
KIV Kislovodsk 90.00 316 *e*P P 19 33 34.8 -0.7
comp=Z,59nm,0.9s,mb5.9
MIR Mirnyy 90.10 199 *ke*P P 19 33 37.5 +2.0
MIR *e* 19 37 11.0
MIR *e*S S 19 44 26.0 -0.8
MIR *e*SS SS 19 50 37.0 +7.9
MIR pmax pmax
comp=Z,180nm,2.2s,mb6.0
MIR pmax pmax
comp=Z,1µm,5.6s
MIR smax
comp=N,200nm,9.0s
MIR smax
comp=E,700nm,8.0s
MIR MLR MLR
comp=Z,5µm,19.0s,MS6.0
MIR MLR MLR
comp=N,2µm,19.0s,MS5.7
MIR MLR MLR
comp=E,2µm,19.0s,MS5.7
PUL Pulkovo 90.24 333 *e*P P 19 33 35.8 -0.5
PUL *e*S SKS 19 43 57.5 -13
PUL pmax pmax
comp=Z,75nm,0.7s,mb6.1
PUL pmax pmax
comp=Z,760nm,2.6s,mb6.6
SRU San Rafael 90.30 49 P P 19 33 37.5 +0.5
SRU San Rafael 90.30 49 *e*P P 19 33 37.2 +0.2
LAO LASA Array 90.61 41 *e*P P 19 33 38.6 +0.3
comp=Z,133nm,0.9s,mb6.3
LAO *e* 19 33 55.1
KAF Kangasniemi 90.66 336 *e*p P 19 33 36.1 -2.1
comp=Z,4.4nm,0.4s,mb5.1,baz=52,slow=4.3
KAF Kangasniemi 90.66 336 *e*P P 19 33 36.1 -2.1
KAF pmax pmax
comp=Z,4.0nm,0.4s,mb5.1
UMR Umm Al-Rimmam 90.78 301 *e*P P 19 33 38.8 -0.7
UMR AMb AMB 19 33 45.0
comp=Z,111nm,0.9s,mb6.2
KBD Kabd 90.91 300 *e*P P 19 33 39.5 -0.6
MIB Mutribah 91.02 301 *e*P P 19 33 39.4 -1.1
MIB AMb AMB 19 33 43.6
comp=Z,235nm,0.7s,mb6.6
RDF Al-Radifah 91.10 300 *e*P P 19 33 39.9 -1.0
RDF AMb AMB 19 33 46.1
comp=Z,132nm,1.0s,mb6.2
FINES FINESS Array B 91.13 336 P P 19 33 38.8 -1.5
comp=Z,21nm,0.5s,mb5.7,baz=66,slow=5.0,SNR=85
FINES PKKPbc 19 51 00.4
comp=Z,3.7nm,0.9s,baz=225,slow=14,SNR=3.2
FINES LR LR 20 19 20.6
comp=Z,3µm,19.7s,MS5.7,baz=251,slow=39
FINES FINESS Array B 91.13 336 *i*P P 19 33 38.8 -1.5
FINES pmax pmax
comp=Z,21nm,0.5s
RST Umm Al-Ruwaisa 91.39 301 *e*P P 19 33 40.9 -1.4
RST AMb AMB 19 33 45.3
comp=Z,151nm,0.6s,mb6.5
PV10 Paradox Valley 91.64 50 *e*P P 19 33 43.6 +0.4
PV10 *e* 19 34 00.3
PV01 Paradox Valley 92.07 50 *e*P P 19 33 45.2 0.0

PV01 e 19 34 02.3
SOC Sochi 92.14 316 *i* P **P** **19 33 45.5 +0.1**
SOC e 19 37 28.3
SOC e 19 44 14.3
SOC eS S 19 44 37.9 -7.5
SOC eSS SS 19 50 54.8 -3.5
SOC pmax pmax
comp=Z,27nm,0.9s,mb5.6
SOC pmax pmax
comp=N,52nm,1.4s
SOC pmax pmax
comp=E,45nm,1.2s
SOC pmax pmax
comp=Z,326nm,2.7s,mb6.2
SOC pmax pmax
comp=N,94nm,1.6s
SOC pmax pmax
comp=E,109nm,1.6s
TUC Tucson 92.29 56 P **P** **19 33 47.4 +1.0**
TUC pmax pmax
comp=Z,79nm,1.3s,mb5.9
TUC Tucson 92.29 56 *e*P **P** **19 33 47.2 +0.8**
comp=Z,79nm,1.4s,mb5.8
TUC LR LR
comp=Z,4μm,19.0s,MS5.9
VSU Vasula 92.50 333 *e*Pr 19 33 46.0
RW3 Ridgway 92.68 49 P **P** **19 33 49.4 +1.4**
RW3 Ridgway 92.68 49 *e*P **P** **19 33 49.0 +1.0**
SBA Scott Base 92.96 176 *e*P **P** **19 33 47.8 -0.6**
SBA pmax pmax
comp=Z,340nm,2.0s,mb6.4
SBA MLR MLR
comp=Z,2μm,20.0s,MS5.6
SBA Scott Base 92.96 176 *e*P **P** **19 33 47.8 -0.6**
comp=Z,337nm,2.0s,mb6.4
SBA LR LR
comp=Z,2μm,20.0s,MS5.6
SUMG Summit 92.96 2 *e*P **P** **19 33 49.4 +0.9**
comp=Z,65nm,1.1s,mb6.0
RSSD Black Hills 93.02 43 *e*P **P** **19 33 49.4 0.0**
RSSD e 19 34 05.4
RSSD e 19 37 32.0
RSSD pmax pmax
comp=Z,110nm,1.2s,mb6.2
RSSD MLR MLR
comp=Z,830nm,20.0s,MS5.2
RSSD Black Hills 93.02 43 *e*P **P** **19 33 49.4 -0.1**
comp=Z,110nm,1.2s,mb6.2
RSSD e 19 34 05.3
RSSD *e*PP PP 19 37 32.0 -3.2
RSSD LR LR
comp=Z,830nm,20.0s,MS5.2
ANN Anapa 93.17 318 *e*P **P** **19 33 49.7 -0.4**
ANN *e**PP pP 19 34 06.4 +14
ANN e 19 37 40.2
ANN e 19 44 20.2
ANN e 19 44 57.9
ANN eSS SS 19 51 14.8 +1.2
ANN pmax pmax
comp=Z,83nm,1.7s,mb5.9
ANN Anapa 93.17 318 *e*P **P** **19 33 45.0 -5.1**
ANN SKS SKS 19 44 23.4 -4.0
ISCO Idaho Springs 93.61 47 P **P** **19 33 53.4 +1.1**
ISCO pmax pmax
comp=Z,21nm,0.9s,mb5.6
ISCO Idaho Springs 93.61 47 *e*P **P** **19 33 52.5 +0.3**
comp=Z,21nm,0.9s,mb5.6
MNK Minsk 94.13 329 *e*P **P** **19 33 53.0 -1.3**
SDCO Great Sand Dun 94.47 49 *e*P **P** **19 33 56.5 +0.2**
comp=Z,48nm,1.1s,mb5.8
SDCO *i* pP 19 33 59.0 +0.3
SDCO e 19 34 13.3
RAYN Ar Rayn 94.48 296 P **P** **19 33 55.8 -0.8**
comp=Z,113nm,0.7s,mb6.4,SNR=14
MZLS Mizel 94.58 296 P **P** **19 33 55.4 -1.7**
ANMO Albuquerque 94.78 52 *e*P **P** **19 33 58.3 +0.5**
ANMO e 19 34 14.3
ANMO e 19 37 45.6
ANMO pmax pmax
comp=Z,53nm,1.3s
ANMO Albuquerque 94.78 52 *e*P **P** **19 33 58.3 +0.5**
comp=Z,53nm,1.3s,mb5.8
ANMO e 19 34 14.3
ANMO *e*PP PP 19 37 45.6 -3.1
ULM Lac du Bonnet 95.23 35 P **P** **19 33 58.5 -1.0**
comp=Z,22nm,0.8s,mb5.6,baz=311,slow=4.4,SNR=15
ULM LR LR 20 15 04.4
comp=Z,5μm,19.6s,MS6.0,baz=317,slow=34
ULM Lac du Bonnet 95.23 35 *e*P **P** **19 33 58.6 -0.9**
comp=Z,38nm,0.9s,mb5.8
SIM Simferopol' 95.24 319 *e*P **P** **19 33 58.6 -1.0**
SIM e 19 37 55.0
SIM *e*PS PS 19 46 33.0 -2.8
SIM pmax pmax
comp=Z,200nm,4.3s
AKASG Malin Array Be 95.39 326 P **P** **19 33 57.8 -2.3**
comp=Z,4.9nm,0.7s,mb5.0,baz=48,slow=5.1,SNR=14
AKASG PKKPbc 19 50 50.0
comp=Z,3.0nm,0.7s,baz=258,slow=3.0,SNR=21
AKASG PKPPKP 19 58 59.5
comp=Z,0.1nm,0.3s,baz=268,slow=4.6,SNR=4.3
AKASG LR LR 20 23 11.3
comp=Z,4μm,19.6s,MS5.8,baz=50,slow=39
KAMS Al Khamasin 96.28 293 P **P** **19 34 04.2 -0.8**
HILS Ha'il 96.41 300 P **P** **19 34 05.0 -0.4**
AFFS 'Afif 96.53 297 P **P** **19 34 05.4 -0.6**
HFS Hagfors 96.65 338 P **P** **19 34 04.7 -0.9**
comp=Z,3.9nm,0.5s,mb5.1,baz=90,slow=4.4,SNR=13
SUW Suwalki 96.67 330 *e*P **P** **19 34 06.2 +0.3**
SUW *e**PP pP 19 34 15.9 +7.5
SUW MLR MLR
comp=Z,4μm,24.0s,MS5.8
SUW Suwalki 96.67 330 *e*P **P** **19 34 06.2 +0.3**
SUW *e*PcP PcP 19 34 08.6 +2.3
SUW *e*pP pP 19 34 15.9 +7.5
SUW Suwalki 96.67 330 *e*P **P** **19 34 06.2 +0.3**
SUW *e*PcP PcP 19 34 08.6 +2.3
SUW *e*pP pP 19 34 15.9 +7.5
SUW MLR MLR 20 17 43.8
comp=Z,4μm,24.0s
NB2 NORSAR Subarra 96.84 340 P **P** **19 34 04.8 -1.7**
comp=Z,9.2nm,0.8s,mb5.3,baz=43,slow=4.8
NB2 NORSAR Subarra 96.84 340 P **P** **19 34 04.8 -1.7**
baz=43,slow=5.1
NOA NORSAR Array B 96.84 340 P **P** **19 34 05.1 -1.4**
comp=Z,7.1nm,0.8s,mb5.2,baz=45,slow=4.4,SNR=15
TATS Tathlith 97.50 292 P **P** **19 34 10.3 -0.1**
KIS Kishinev 97.51 323 *e*P **P** **19 34 10.0 +0.1**
KIS *e* 19 34 25.0
KIS *e* 19 38 10.0
KIS *e* 19 44 48.0
KIS *e* 19 45 28.0
KIS *e*PS PS 19 47 02.0 +1.9
KIS MLR MLR
comp=Z,4μm,20.0s,MS5.9
KIS MLR MLR
comp=N,3μm,18.0s,MS5.9
KIS MLR MLR
comp=E,2μm,17.0s,MS5.9
KIS MLR MLR
comp=Z,4μm,20.0s
BRTR Keskin Array B 97.87 314 P **P** **19 34 10.4 -1.3**
comp=Z,7.4nm,0.8s,mb5.2,baz=90,slow=2.5,SNR=14
BRTR S 19 44 43.0
comp=Z,0.4nm,0.7s,baz=37,slow=7.2,SNR=2.5
BRTR PKKPbc 19 50 45.9
comp=Z,6.2nm,1.0s,baz=212,slow=3.5,SNR=12
BRTR LR LR 20 26 45.3
comp=Z,2μm,19.3s,MS5.6,baz=20,slow=40
DJNS Zahran al Janu 98.01 291 P **P** **19 34 13.0 +0.2**
ASF Jabal al Asfar 98.62 306 P **P** **19 34 14.9 -0.4**
comp=Z,10nm,0.8s,mb5.4,baz=15,slow=0.9,SNR=17
ASF PP PP 19 38 15.2 -3.4
comp=Z,2.7nm,0.7s,baz=291,slow=1.6,SNR=3.0
ASF S 19 44 52.5
comp=Z,0.6nm,0.4s,baz=286,slow=22,SNR=2.8
LTX Lajitas 99.07 57 *e*P **P** **19 34 19.3 +2.0**
LTX pmax pmax
comp=Z,15nm,1.0s,mb5.5
LTX Lajitas 99.07 57 *e*P **P** **19 34 19.3 +1.9**
comp=Z,15nm,1.0s,mb5.5
TXAR Lajitas Array 99.07 57 P **P** **19 34 17.9 +0.5**
comp=Z,5.9nm,0.9s,mb5.1,baz=270,slow=3.8,SNR=19
TXAR PP PP 19 38 20.6 -1.2
comp=Z,3.2nm,1.0s,baz=280,slow=7.6,SNR=4.0
TXAR LR LR 20 13 48.7
comp=Z,9μm,20.1s,MS6.2,baz=245,slow=32
TXAR Lajitas Array 99.07 57 P **P** **19 34 17.9 +0.5**
TXAR PP PP 19 38 20.6 -1.2
TXAR LR LR 20 13 48.7
BLJS Baljurashi 99.07 293 P **P** **19 34 17.9 +0.3**
KBRS Khaybar 99.08 300 P **P** **19 34 18.2 +0.8**
KWP Kalwaria 99.48 327 *e*P **P** **19 34 18.3 -0.4**
KWP MLR MLR
comp=Z,4μm,26.2s,MS5.8
KWP Kalwaria 99.48 327 *e*P **P** **19 34 18.3 -0.4**
KWP MLR MLR 20 17 51.7
comp=Z,4μm,26.2s
MLR Muntele Rosu 100.00 322 P **P** **19 34 20.5 -0.7**
comp=Z,4.6nm,0.7s,mb5.0,baz=148,slow=9.5
MLR PKKPbc 19 50 39.9
comp=Z,11nm,0.8s,baz=176,slow=3.2,SNR=20
CSS Prodhromos 100.18 310 *e*Pdif P 19 34 21.6 -0.7
comp=Z,6.4nm,0.6s
TBKS Tabuk 100.43 303 P P 19 34 24.9 +1.3
WMOK Wichita Mounta 100.65 50 *e*P P 19 34 24.3 -0.1
WMOK *e* 19 38 29.4
WMOK pmax pmax
comp=Z,20nm,1.3s
WMOK Wichita Mounta 100.65 50 *e*Pdif P 19 34 24.3 -0.2
comp=Z,20nm,1.3s
WMOK *e*PP PP 19 38 29.4 -5.0
YNBS Yanbu' al Bahr 100.68 299 P P 19 34 25.6 +0.8
JMQS Jabal Moqyreh 100.72 304 P P 19 34 26.1 +1.2
NIE Niedzica 100.86 328 *e*P P 19 34 28.5 +3.5
UMJS Umm Lajj 100.93 300 P P 19 34 26.7 +0.8
MAW Mawson 101.15 203 *e*P P 19 34 25.5 -0.4
comp=Z,5.8nm,0.7s
MAW Mawson 101.15 203 P P 19 34 25.1 -0.8
comp=Z,7.5nm,0.7s,baz=74,slow=6.3,SNR=21
MAW PP PP 19 38 34.6 -2.9
comp=Z,8.0nm,1.1s,baz=61,slow=8.1,SNR=5.1
MAW PKKPbc 19 50 34.5
comp=Z,4.2nm,0.8s,baz=275,slow=3.6,SNR=9.2
JMOS Jabal al Moall 101.22 304 P P 19 34 28.5 +1.4
HAQS Haql 101.41 304 P P 19 34 29.4 +1.5
BDAS Al Bad' 101.52 304 P P 19 34 29.9 +1.4
TAYS Tayyib Ism 101.66 304 P P 19 34 30.6 +1.5
JCT Junction City 101.69 54 P P 19 34 29.6 +0.4
JCT pmax pmax
comp=Z,56nm,1.3s
JCT Junction City 101.69 54 *e*Pdif P 19 34 29.0 -0.2
comp=Z,56nm,1.3s
OKC Ostrava-Krasne 101.69 329 *e*SKS SKS 19 45 07.9 -3.5
OKC AMS AMS 20 26 10.0
comp=Z,5μm,17.6s
OKC Ostrava-Krasne 101.69 329 *e*SKS SKS 19 45 07.9 -3.5
DPC Dobruska-Polom 102.25 330 *e*PP PP 19 38 39.5 -6.3
DPC *e*SKS SKS 19 45 11.4 -2.7
DPC AMS AMS 20 27 10.0
comp=Z,6μm,18.9s
DPC Dobruska-Polom 102.25 330 *e*PP PP 19 38 39.5 -6.3
DPC *e*SKS SKS 19 45 11.4 -2.7
UPC Upice 102.30 330 *e*PP PP 19 38 38.5 -7.7
UPC Upice 102.30 330 *e*PP PP 19 38 38.5 -7.7
PVCC Panska Ves 102.97 331 *e*SKS SKS 19 45 13.9 -3.5
PVCC AMS AMS 20 27 10.0
comp=Z,5μm,18.8s
PVCC Panska Ves 102.97 331 *e*SKS SKS 19 45 13.9 -3.5
BRG Berggiesshubel 103.02 332 *e*P Pdif 19 34 35.7 +1.1
BRG *e* 19 38 51.6
BRG *e* 19 45 12.0
BRG *e*S S 19 46 09.0 -8.4
BRG pmax pmax
comp=Z,51nm,2.1s
BRG MLR MLR
comp=N,5μm,31.5s,MS6.0
BRG MLR MLR
comp=E,4μm,31.5s,MS6.0
BRG MLR MLR
comp=Z,2μm,20.4s
BRG Berggiesshubel 103.02 332 *e*P Pdif 19 34 35.7 +1.1
comp=Z,51nm,2.1s
BRG *e*PP Px 19 38 22.0
BRG *e* 19 38 51.6
BRG *e*SKS SKS 19 45 12.0 -5.7
BRG *e*S S 19 46 09.0 -8.4
BRG *e*SS Sx 19 53 10.0
BRG LR LR
comp=Z,2μm,20.4s,MS5.7
CLL Collm 103.14 332 *e* Pdif 19 34 41.0 +5.9
CLL *e**PP 19 35 01.0
CLL *e* 19 37 55.0
CLL *e* 19 38 49.0
CLL *e* 19 39 00.0
CLL *e* 19 39 17.0
CLL *e* 19 39 32.0
CLL *e* SKS 19 45 10.0 -8.2
CLL *e*SP SP 19 47 51.0 -7.3
CLL *e* 19 49 10.0
CLL *e*SS Sx 19 54 06.0
CLL Collm 103.14 332 *e*P Pdif 19 34 41.0 +5.9
CLL *e* 19 45 10.0
CLL MLR MLR
comp=Z,4μm,18.7s,MS6.0
CLL Collm 103.14 332 *e*P Pdif 19 34 41.0 +5.9
CLL *e*pP 19 35 01.0
CLL *e*SKS SKS 19 45 10.0 -8.2
CLL LR LR
comp=Z,4μm,18.7s,MS6.0
VTS Vitosha 103.24 321 *e*P Pdif 19 34 35.0 -0.8
ZST Bratislava 103.27 328 *e*PP PP 19 39 04.8 +11
PRU Pruhonice 103.34 331 P Pdif 19 34 46.4 +10
PRU MLR MLR
comp=Z,5μm,20.0s,MS6.0
PRU Pruhonice 103.34 331 Pdif Pdif 19 34 46.4 +10
PRU *e*PP PP 19 38 45.1 -9.1
PRU LR LR
comp=Z,5μm,20.0s,MS6.0
MMB Musomiste 103.48 320 *e*P Pdif 19 34 39.0 +2.1
NKC Novy Kostel 104.15 332 *e*SKS SKS 19 45 30.5 +7.6
NKC AMS AMS 20 31 30.0
NKC Novy Kostel 104.15 332 *e*SKS SKS 19 45 30.5 +7.6
MOX Moxa 104.23 333 *e*P 19 38 48.0
MOX PP PP 19 39 00.0 -0.7
MOX SKS SKS 19 45 24.0 +0.8
MOX *e* 19 48 03.0
MOX PKKP PKKP 19 53 28.0 -4.2
MOX SS SS 19 53 53.0 +5.6
MOX LQ 20 06 00.0
MOX L 20 28 22.0
KHC Kasperske Hory 104.39 331 P Pdif 19 34 40.0 -0.7
KHC *e* 19 38 56.9
KHC *e* 19 45 21.5
KHC MLR MLR
comp=Z,4μm,18.6s,MS6.0
KHC Kasperske Hory 104.39 331 PDIF Pdif 19 34 40.0 -0.7
KHC *ex* x 19 38 00.0
KHC *e*PP PP 19 38 56.9 -5.0
KHC *e*SKS SKS 19 45 21.5 -2.5
KHC AMS AMS 20 30 00.0
comp=Z,4μm,18.6s
QSPA South Pole Qui 104.43 180 *e*P Pdif 19 34 42.5 +2.3
comp=Z,11nm,1.4s
QSPA *e* 19 38 56.1
QSPA *e* 19 50 28.7
QSPA LR LR
comp=Z,4μm,19.2s,MS6.0
GERES GERESS Array B 104.53 330 Pdiff Pdif 19 34 39.4 -1.9
comp=Z,0.8nm,0.6s,baz=63,slow=6.0,SNR=7.7
GERES PP PP 19 38 57.3 -5.8
comp=Z,2.1nm,0.8s,baz=53,slow=6.7,SNR=5.8
GERES S 19 45 21.7
comp=Z,0.2nm,0.3s,baz=119,slow=28,SNR=2.4
GERES PKKPbc 19 50 27.2
comp=Z,2.5nm,0.8s,baz=225,slow=3.8,SNR=10.0
SKO Skopje 104.67 321 *i* P Pdif 19 34 44.2 +2.1
EKA Eskdalemuir Ar 105.93 343 PP PP 19 39 03.5 -10
comp=Z,2.8nm,0.8s,baz=40,slow=6.5,SNR=4.5
BOJS Bojanci 106.00 327 *i* PP PP 19 39 02.1 -12
VISS Visnje 106.01 327 *i* PP PP 19 39 02.4 -12
LJU Ljubljana 106.02 328 *i* PP PP 19 39 02.8 -11
CEY Cerknica 106.27 328 *i* PP PP 19 39 02.2 -14
DAVOX Davos 107.81 331 PP PP 19 39 24.4 -3.2
comp=Z,6.1nm,0.8s,baz=35,slow=3.5,SNR=5.8
ALLY Alegheny Colle 109.12 36 *e*PKP 19 39 05.6
KMBO Kilima Mbogo 109.41 274 PP PP 19 39 38.7 -1.8
comp=Z,0.7nm,0.6s,baz=61,slow=21,SNR=4.4
CABF La Chapelle 109.69 333 *e*PKIKP 19 39 07.4
SYO Syowa Base 109.76 201 ⇓⇓pPdiff 19 35 09.5
SYO Syowa Base 109.76 201 ⇑⇑P 19 50 11.2
SYO Syowa Base 109.76 201 ⇓P 19 50 23.0
LRAL Lakeview Retre 110.00 46 *e*PKPdf 19 39 07.2
LOR Lormes 110.14 334 *e*PKIKP PKPdf 19 39 07.1 -1.9
LOR *e*R
comp=Z,5μm,20.2s
LPL La Plagne 110.22 331 *e*PKIKP PKPdf 19 39 08.2 -1.0
comp=Z,36nm,1.2s
LPG La Plagne 110.23 331 *e*PKIKP PKPdf 19 39 08.3 -0.9
comp=Z,19nm,0.8s
SSF Saint Saulge 110.45 334 *e*PKIKP PKPdf 19 39 09.0 -0.6
comp=Z,40nm,1.4s
BNI Bardonecchia 110.59 331 *e*PKIKP PKPdf 19 39 08.7 -1.2
MBDF Montbardon 110.80 331 *e*PKIKP PKPdf 19 39 09.8 -0.5
comp=Z,8.4nm,0.8s
ORIF Oris-en-Rattie 111.07 331 *e*PKIKP PKPdf 19 39 09.4 -1.4
comp=Z,15nm,0.8s
ORIF *e*R
comp=Z,5μm,19.5s
SBF Sospel 111.12 330 *e*PKIKP PKPdf 19 39 09.0 -2.0
comp=Z,26nm,1.0s
PGF Pioggiola 111.30 328 *e*PKIKP PKPdf 19 39 09.8 -1.5
comp=Z,41nm,0.8s
FWV Forest Hill 111.36 39 *e*PKP PKPdf 19 39 09.7 -1.9
PWV Princeton 111.38 40 PKP PKPdf 19 39 10.0 -1.5
TCF Toulx Ste Croi 111.61 335 *e*PKIKP PKPdf 19 39 10.4 -1.4
VIVF Saint-Julien-l 111.67 332 *e*PKIKP PKPdf 19 39 10.6 -1.3
FRF La Foret Royal 111.73 330 *e*PKIKP PKPdf 19 39 10.5 -1.5
comp=Z,12nm,0.8s
SMRF Simiane la Rot 111.92 331 *e*PKIKP PKPdf 19 39 11.5 -0.9
comp=Z,20nm,1.0s
LMR La Mourre 111.96 330 *e*PKIKP PKPdf 19 39 10.9 -1.6
comp=Z,14nm,0.8s
LASF Ste Croix 112.64 332 *e*PKIKP PKPdf 19 39 12.6 -1.3
comp=Z,22nm,0.9s
CAF Calviac 112.76 334 *e*PKIKP PKPdf 19 39 13.1 -1.0
MTLF Montolieu 113.95 333 *e*PKIKP PKPdf 19 39 15.0 -1.6
comp=Z,21nm,1.0s
EPF Esparros 115.03 334 *e*PKIKP PKPdf 19 39 17.3 -1.3
ETSF Etsaut 115.52 334 *e*PKIKP PKPdf 19 39 18.7 -0.9
comp=Z,15nm,0.8s
SJPF Ste Jean 115.62 335 *e*PKIKP PKPdf 19 39 19.5 -0.3
comp=Z,15nm,0.8s
ESDC Sonseca Array 119.62 334 PKP PKPdf 19 39 25.7 -1.8
comp=Z,3.7nm,0.8s,baz=38,slow=2.3,SNR=15
ESDC PP PP 19 40 44.9 -6.9
comp=Z,3.1nm,0.8s,baz=26,slow=8.0,SNR=3.5
ESDC PKKPbc 19 49 37.3
comp=Z,4.1nm,0.9s,baz=211,slow=4.0,SNR=11
ESLA Sonseca Array 119.62 334 *e*PKPdf PKPdf 19 39 26.2 -1.4
PVRL Vila Real 119.70 338 *e*PKPdf PKPdf 19 39 26.8 -0.8
SNAA Sanae 120.16 191 ⇑*i* PKPdf 19 39 25.1 -2.8
SNAA Sanae 120.16 191 ⇑*i* PKPdf 19 39 43.3 +15
SNAA Sanae 120.16 191 ⇑*i* PKPdf 19 39 49.6 +22
SNAA Sanae 120.16 191 PKKPbc 19 49 35.6
comp=Z,0.6nm,0.7s,baz=243,slow=2.3,SNR=5.5
SNAA Sanae 120.16 191 *e*PKIKP PKPdf 19 39 25.1 -2.8
SNAA *e* 19 40 50.9
PVIS Viseu 120.25 338 *e*PKPdf PKPdf 19 39 27.6 -1.2
MTE Manteigas 120.40 338 *e*PKPdf PKPdf 19 39 27.8 -1.3
MTE *e*LQ 20 12 11.2
MTE *e*- 20 19 58.0
MTE *i*- 20 24 31.9
MTE Manteigas 120.40 338 *e*PKPdf PKPdf 19 39 27.7 -1.4
PCBR Castelo Branco 120.87 337 *e*PKPdf PKPdf 19 39 27.8 -2.3
LSZ Lusaka 121.07 261 *e*PKIKP PKPdf 19 39 29.7 -1.3
VNA2 Neumayer--Watz 121.57 190 PKPdf 19 39 32.5 +1.8
VNA2 Neumayer--Watz 121.57 190 PKPdf 19 39 49.4 +19
VNA2 Neumayer--Watz 121.57 190 PKPdf 19 39 56.5 +26
VNA3 Neumayer Olymp 121.64 189 ⇑*i* PKPdf 19 39 32.5 +1.7
VNA3 Neumayer Olymp 121.64 189 ⇑*i* PKPdf 19 39 49.4 +19
VNA3 Neumayer Olymp 121.64 189 ⇑*i* PKPdf 19 39 56.5 +26
VNA1 Neumayer--Stat 121.95 189 PKPdf 19 39 33.9 +2.5
VNA1 Neumayer--Stat 121.95 189 ⇑*i* PKPdf 19 39 50.8 +19
VNA1 Neumayer--Stat 121.95 189 ⇑*i* PKPdf 19 39 58.0 +27
EVO Evora 122.21 337 *e*PKIKP PKPdf 19 39 30.3 -2.4
comp=Z,34nm,0.9s
EVO *e*R
comp=Z,4μm,22.5s
PBEJ Beja 122.60 337 *e*PKPdf PKPdf 19 39 32.1 -1.2
PALC Alcoutim 122.93 336 *e*PKPdf PKPdf 19 39 33.0 -1.0
PTEO Sao Teotonio 123.35 337 *e*PKPdf PKPdf 19 39 33.9 -1.0
PMSA Palmer Station 125.56 164 *e*PKPdf PKPdf 19 39 36.3 -2.2
USHA Ushuaia 131.34 153 PKP PKPdf 19 39 48.3 -1.5
comp=Z,30nm,0.7s,baz=175,slow=2.6,SNR=17
TSUM Tsumeb 131.53 257 *e*PKPdf PKPdf 19 39 46.9 -4.2
TSUM *e*SKPdf 19 43 19.1
OTAV Otavalo 132.68 76 *e*PKPdf PKPdf 19 39 52.8 -0.7
OTAV *e*SKPdf 19 43 23.0
AOPR Arecibo Observ 133.32 47 *e*PKPdf PKPdf 19 39 52.0 -2.5
HUMP Col San Antoni 134.09 46 *e*PKPdf PKPdf 19 39 54.0 -1.8
ROSC El Rosal 134.68 68 PKP PKPdf 19 39 55.9 -1.3
comp=Z,42nm,1.0s,baz=276,slow=0.4,SNR=14
SDV Santo Domingo 135.97 60 *e*PKPpre 19 39 46.9
SDV *e*PKPdf PKPdf 19 39 56.9 -2.6
ARE Arequipa 142.88 98 *e*P PKPdf 19 40 08.0 -3.9
DBIC Dimbokro 145.01 305 PKPbc PKPbc 19 40 12.8 -0.4
comp=Z,349nm,0.7s,baz=29,slow=4.0,SNR=234
DBIC Dimbokro 145.01 305 PKPbc PKPbc 19 40 12.7 -0.5
DBIC PKPbc PKPbc 19 40 13.8 +0.6
DBIC Dimbokro 145.01 305 *e*PKPdf PKPdf 19 40 12.9 -2.8
LVC Limon Verde 145.09 109 *e*PKPbc PKPbc 19 40 14.7 +1.6
LVC *e* 19 40 30.3
KIC Kosan Boka 145.10 305 ⇑*i* PKP1 PKPbc 19 40 14.1 +0.7
comp=Z,2μm,0.8s
TIC Toumodi 145.16 305 ⇑*i* PKP1 PKPbc 19 40 14.2 +0.7
comp=Z,1μm,0.8s
TRQA Tornquist 145.30 138 PKPbc PKPbc 19 40 13.1 -0.1
TRQA PKPbc PKPbc 19 40 15.7 +2.5
TRQA Tornquist 145.30 138 *e*PKPbc PKPbc 19 40 13.2 0.0
LIC Lamto 145.41 305 *e*PKIKP PKPdf 19 40 14.2 -2.2
comp=Z,952nm,0.7s
LIC Lamto 145.41 305 ⇑*i* PKP1 PKPbc 19 40 15.1 +0.9
comp=Z,2μm,0.7s
LPAZ La Paz 146.10 98 PKPbc PKPbc 19 40 16.9 +1.2
comp=Z,81nm,0.6s,baz=310,slow=3.1,SNR=55
LPA La Plata 149.77 136 *e*PKP PKPdf 19 40 25.0 +2.0
LPA *e*PP PP 19 44 00.0 -2.0
comp=Z,3μm,21.0s
TRIS Tristan da Cun 151.03 216 *e*PKPbc PKPdf 19 40 29.1 +4.3
CPUP Villa Florida 154.42 121 PKP PKPdf 19 40 28.2 -1.7
comp=Z,9.5nm,0.9s,baz=323,slow=0.5,SNR=16
CPUP PKPab PKPab 19 40 49.7 -2.6
comp=Z,36nm,0.9s,baz=351,slow=2.4,SNR=8.9
CPUP Villa Florida 154.42 121 PKPdf PKPdf 19 40 30.1 +0.2
CPUP PKPab PKPab 19 40 53.7 +1.4
CPUP Villa Florida 154.42 121 *e*PKPdf PKPdf 19 40 29.7 -0.2
CPUP *e*PKPbc PKPdf 19 40 37.7 +7.8
BDFB Brasilia 165.44 96 PKP PKPdf 19 40 42.2 -0.3
comp=Z,14nm,0.8s,baz=339,slow=1.1,SNR=15
BDFB PKPab PKPab 19 41 40.2 +0.1
comp=Z,28nm,1.1s,baz=248,slow=7.3,SNR=5.6
BAO Brasilia Array 165.47 96 P PKPdf 19 40 43.3 +0.7
BAO *e* 19 41 41.6

IDC 04 19:36:49.4±24.0, 17.42S×171.88W, mb4.1/4, mb1 4.3/4, mb1mx3.9/16, Error ellipse: s-maj=460.0km s-min=166.5km az=72.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
CTA	**Charters Tower**	**39.66**	**259**	P P	19 44 22.5	-2.5
	5.2nm,0.9s,baz=104,slow=14,SNR=6.4					
STKA	**Stephens Creek**	**44.34**	**242**	P P	19 45 02.0	-1.2
	1.0nm,0.6s,baz=100,slow=6.1,SNR=3.9					
WRA	**Warramunga Arr**	**50.84**	**258**	P P	19 45 51.8	-2.4
	0.4nm,0.5s,baz=98,slow=6.2,SNR=1.3					
ASAR	**Alice Springs**	**50.91**	**253**	P P	19 45 53.4	-1.3
	4.8nm,0.5s,baz=91,slow=8.4,SNR=73					
ASPA	**Alice Springs**	**50.91**	**253**	*e*P P	19 45 53.2	-1.5

*NEIC **04** 19:43:20.8, 34.63S×71.92W, h41km, MD3.9(GUC), After GUC.*

GUC 04 19:43:20.8±0.9, 34.63S×71.92W, h41km±4km, MD3.9, ML3.3, 1C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
SFDO	**San Fernando**	**0.75**	**89**	*i* P P	19 43 35.5	+0.5
LNV	**Longovilo**	**0.80**	**32**	*e*P P	19 43 35.2	-0.4

LNV				iS	S	19 43 45.8	-0.7
TALC	**Talca**	**0.80**	**163**	⇑iP	P	19 43 36.0	+0.3
TALC				iS	S	19 43 47.2	+0.6
LCCH	**Las Cruces**	**1.19**	**14**	⇓iP	P	19 43 41.8	+0.6
CACH	**El Canelo**	**1.21**	**65**	⇓iP	P	19 43 43.2	+1.7
CACH				iS	S	19 43 59.6	+2.7
CHCH	**Chadas Angostu**	**1.26**	**57**	eP	P	19 43 43.4	+1.1
CHCH				iS	S	19 43 59.5	+1.1
TACH	**Talagante**	**1.27**	**40**	eP	P	19 43 43.1	+0.7
CICH	**Cipreses**	**1.28**	**76**	iP	P	19 43 43.9	+1.4
RCDM	**Rinconada Maip**	**1.47**	**39**	eP	P	19 43 46.0	+0.8
RCDM				eS	S	19 44 04.9	+1.4
RCDM				AMP		19 44 12.3	
	comp=E,572nm,0.1s						
PCH	**Pirque**	**1.54**	**50**	iP	P	19 43 48.2	+1.9
PCH				iS	S	19 44 06.8	+1.4
LMEL	**Las Melosas**	**1.62**	**62**	⇓iP	P	19 43 49.7	+2.2
LMEL				iS	S	19 44 11.0	+3.6
LMEL				AMP		19 44 12.3	
	comp=N,995nm,0.3s						
CLCH	**Cerro Calan**	**1.69**	**43**	AMP		19 44 18.7	
	comp=N,491nm,0.6s						
CLCH				AMP		19 44 24.4	
	comp=N,584nm,0.6s						
PEL	**Peldehue**	**1.81**	**35**	iS	S	19 44 12.8	+1.0
PEL				AMP		19 44 19.6	
	comp=N,504nm,0.3s						
FCH	**Farellones**	**1.88**	**47**	⇓iP	P	19 43 52.8	+1.7
FCH				iS	S	19 44 15.6	+1.9
FCH				AMP		19 44 22.5	
	comp=N,422nm,0.4s						

*BJI **04** 19:56:41.5, 14.60N×147.20E, h10km, mb4.7*
*NEIC **04** 19:56:43.5±0.4, 14.61N×147.22E, h10km, mb4.5/8, Error ellipse: s-maj=10.6km s-min=6.7km az=74.0*
*IDC **04** 19:56:50.5±0.6, 14.66N×147.10E, h63km±5km, mb4.0/14, mb1 4.1/14, mb1mx4.0/23, Error ellipse: s-maj=19.8km s-min=13.5km az=94.0*
ISC 04 19:56:46.7±1.5**, 14.62N**±0.05×**147.2E**±0.1**, h47**km±11km**, h61**km±3.0km**:pP-P, n42, σ0s74**/36**, mb4.3**/21**, 2C, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAPN	**Saipan**	**1.48**	**294**	⇑iP	**P**	**19 57 11.6**	**+0.2**
ANA2	**Anatahan**	**2.21**	**321**	eP	**P**	**19 57 22.3**	**+0.6**
ANA2				eS	**S**	**19 57 48.9**	**+1.0**
ANAT	**Anatahan**	**2.25**	**320**	eP	**P**	**19 57 22.2**	**-0.2**
GUMO	**Guam**	**2.44**	**246**	ePn	**P**	**19 57 23.6**	**-1.5**
GUMO				eSn	**S**	**19 57 54.2**	**+0.4**
SARN	**Sarigan**	**2.46**	**327**	⇑eP	**P**	**19 57 25.2**	**-0.2**
JOW	**Kunigami**	**21.40**	**308**	P	**P**	**20 01 31.8**	**-0.7**
	20nm,0.6s,mb4.6,baz=115,slow=13,SNR=7.3						
PMG	**Port Moresby**	**23.87**	**180**	eP	**P**	**20 01 56.7**	**-0.1**
	37nm,0.9s,mb4.8						
KS15	**Wonju Array Si**	**28.46**	**327**	eP	**P**	**20 02 37.8**	**-1.6**
ASAJ	**Asahikawa**	**29.66**	**353**	P	**P**	**20 02 50.1**	**+0.1**
	3.8nm,0.5s,mb4.4,baz=224,slow=16,SNR=6.7						
WRAB	**Tennant Creek**	**36.57**	**200**	eP	**P**	**20 03 50.0**	**-0.2**
	5.6nm,0.8s,mb4.5						
WB2	**Warramunga Arr**	**36.58**	**200**	eP	**P**	**20 03 51.0**	**+0.8**
WRA	**Warramunga Arr**	**36.58**	**200**	P	**P**	**20 03 50.2**	**0.0**
	0.8nm,0.5s,mb3.8,baz=24,slow=9.1,SNR=12						
WRA				pP	pP	20 04 07.0	+4.0
	2.5nm,0.8s,baz=28,slow=9.5,SNR=6.8						
ENH	**Enshi**	**37.94**	**301**	P	**P**	**20 04 01.3**	**-0.2**
	6.2nm,0.7s,mb4.5						
FITZ	**Fitzroy Crossi**	**38.82**	**214**	eP	**P**	**20 04 09.5**	**+0.6**
	2.6nm,0.8s,mb4.0						
FITZ	**Fitzroy Crossi**	**38.82**	**214**	P	**P**	**20 04 09.5**	**+0.6**
	3.2nm,0.8s,mb4.1,baz=358,slow=11,SNR=6.4						
ASAR	**Alice Springs**	**40.19**	**199**	P	**P**	**20 04 20.6**	**+0.3**
	0.5nm,0.6s,mb3.5,baz=22,slow=9.3,SNR=12						
CM31	**Chiang Mai Arr**	**46.27**	**282**	P	**P**	**20 05 10.2**	**+0.4**
	2.2nm,0.7s,mb4.2						
CMAR	**Chiang Mai Arr**	**46.27**	**282**	P	**P**	**20 05 09.6**	**-0.1**
	1.4nm,0.7s,mb4.0,baz=79,slow=6.2,SNR=9.9						
SONM	**Songino Array**	**47.21**	**323**	P	**P**	**20 05 16.7**	**0.0**
	3.0nm,0.7s,mb4.3,baz=135,slow=6.7,SNR=20						
LSA	**Lhasa**	**53.52**	**296**	P	**P**	**20 06 05.3**	**+0.3**
ZAL	**Zalesovo**	**62.11**	**324**	P	**P**	**20 07 04.3**	**-0.7**
	0.7nm,0.3s,mb4.2,baz=298,slow=4.3,SNR=3.9						
ZAL	**Zalesovo**	**62.11**	**324**	P	**P**	**20 07 04.3**	**-0.7**
MKAR	**Makanchi Array**	**62.31**	**315**	P	**P**	**20 07 06.5**	**+0.1**
	2.5nm,0.4s,mb4.7,baz=94,slow=8.1,SNR=43						
MKAR				pP	pP	20 07 23.2	+3.3
	4.8nm,0.5s,baz=92,slow=8.2,SNR=9.3						
MKAR	**Makanchi Array**	**62.31**	**315**	P	**P**	**20 07 06.5**	**+0.1**
MKAR				pP	pP	20 07 23.2	+3.3
KURK	**Kurchatov**	**65.24**	**319**	eP	**P**	**20 07 24.7**	**-0.9**
	7.2nm,0.8s,mb4.8						
ILAR	**Eielson Array**	**66.70**	**25**	P	**P**	**20 07 33.9**	**-0.7**
	2.2nm,0.7s,mb4.3,baz=255,slow=5.2,SNR=10						
BVAR	**Borovoye Array**	**70.50**	**321**	P	**P**	**20 07 58.1**	**-0.3**
	2.7nm,0.6s,mb4.4,baz=106,slow=7.7,SNR=17						
BRVK	**Borovoye**	**70.57**	**321**	eP	**P**	**20 08 00.3**	**+1.6**
	4.3nm,0.8s,mb4.4						
ARU	**Arti**	**77.19**	**325**	eP	**P**	**20 08 37.5**	**+0.4**
	2.0nm,0.5s,mb4.3						
NVAR	**Mina Array Bea**	**84.55**	**52**	P	**P**	**20 09 18.3**	**+1.9**
	1.1nm,0.7s,mb4.1,baz=280,slow=3.9,SNR=7.6						
NVAR				pP	pP	20 09 34.1	+3.8
	1.3nm,0.8s,baz=263,slow=4.7,SNR=5.1						
ARCES	**ARCESS Array B**	**86.78**	**343**	P	**P**	**20 09 26.5**	**-0.1**
	1.6nm,0.7s,mb4.4,baz=45,slow=8.6,SNR=4.7						
ARCES	**ARCESS Array B**	**86.78**	**343**	P	**P**	**20 09 26.5**	**-0.1**
FINES	**FINESS Array B**	**91.16**	**336**	P	**P**	**20 09 46.5**	**-1.1**
	7.5nm,1.2s,mb4.9,baz=63,slow=4.3,SNR=7.7						
FINES	**FINESS Array B**	**91.16**	**336**	P	**P**	**20 09 46.5**	**-1.1**
LVC	**Limon Verde**	**144.98**	**109**	ePKPdf	PKPdf	20 16 22.9	+3.3
DBIC	**Dimbokro**	**145.10**	**305**	PKPbc	PKPbc	20 16 21.8	+1.5
	6.2nm,0.5s,baz=79,slow=6.8,SNR=15						
DBIC				pPKPbc		20 16 38.8	
	4.7nm,0.5s,baz=331,slow=2.0,SNR=3.2						
DBIC	**Dimbokro**	**145.10**	**305**	PKPbc	PKPbc	20 16 21.8	+1.5
DBIC				pPKPbc		20 16 38.8	
KIC	**Kosan Boka**	**145.20**	**305**	ePKP1	PKPbc	20 16 22.4	+1.9
	28nm,0.6s						
TIC	**Toumodi**	**145.25**	**306**	ePKP1	PKPbc	20 16 22.4	+1.7
	70nm,0.2s						
LIC	**Lamto**	**145.51**	**305**	ePKP1	PKPbc	20 16 23.3	+2.0
	62nm,0.9s						
LPAZ	**La Paz**	**145.97**	**98**	PKPbc	PKPbc	20 16 26.2	+3.8
	2.5nm,1.0s,baz=276,slow=3.2,SNR=6.1						
LPAZ				pPKPbc		20 16 42.0	
	2.3nm,0.5s,baz=330,slow=6.5,SNR=6.8						
LPAZ	**La Paz**	**145.97**	**98**	PKPbc	PKPbc	20 16 26.2	+3.8
LPAZ				pPKPbc		20 16 42.0	

*IDC **04** 20:07:13.4±1.2, 14.55N×147.16E, h36km±4km, mb3.7/7, mb1 3.8/7, mb1mx3.6/19, Error ellipse: s-maj=36.0km s-min=20.6km az=93.0*
ISC 04 20:07:11.1±1.3**, 14.6N**±0.2×**147.2E**±0.3**, h33**km**, n8, σ0s37**/7**, mb4.0**/7**, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**36.54**	**201**	P	**P**	**20 14 15.7**	**0.0**
	0.3nm,0.6s,mb3.3,baz=19,slow=9.0,SNR=6.8						
WRA				pP	pP	20 14 25.5	0.0
	0.4nm,0.3s,baz=101,slow=6.3,SNR=4.3						
CMAR	**Chiang Mai Arr**	**46.28**	**282**	P	**P**	**20 15 35.9**	**+0.3**
	0.7nm,0.5s,mb3.8,baz=80,slow=6.3,SNR=8.9						
CMAR				sP	sP	20 15 51.1	+1.5
	0.4nm,0.6s,baz=79,slow=6.6,SNR=2.6						
SONM	**Songino Array**	**47.24**	**323**	P	**P**	**20 15 43.0**	**+0.2**
	0.9nm,0.5s,mb3.9,baz=137,slow=6.6,SNR=11						
SONM				sP	sP	20 15 58.3	+1.5
	0.8nm,0.5s,baz=144,slow=7.2,SNR=5.2						
ZAL	**Zalesovo**	**62.14**	**324**	P	**P**	**20 17 30.4**	**-0.7**
	0.7nm,0.6s,mb4.0,baz=304,slow=4.1,SNR=3.3						
MKAR	**Makanchi Array**	**62.33**	**315**	P	**P**	**20 17 32.9**	**+0.3**
	3.1nm,0.4s,mb4.8,baz=92,slow=8.2,SNR=72						
MKAR				sP	sP	20 17 47.9	+1.3
	1.2nm,0.4s,baz=92,slow=8.2,SNR=5.4						
ILAR	**Eielson Array**	**66.74**	**25**	P	**P**	**20 18 01.1**	**+0.3**
	0.3nm,0.5s,mb3.6,baz=240,slow=6.6,SNR=3.7						
FINES	**FINESS Array B**	**91.19**	**336**	P	**P**	**20 20 13.4**	**-0.4**
	1.7nm,0.9s,mb4.3,baz=333,slow=8.5,SNR=5.4						
DBIC	**Dimbokro**	**145.12**	**305**	PKPbc	PKPbc	20 26 48.0	+1.5
	3.4nm,0.5s,baz=347,slow=7.1,SNR=7.1						

SKHL 04 20:18:34.2±1.7**, 54.77N**×**125.62E, h6**km±1km**, mb3.7**/4**, Southeastern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KROS	**Kirovskiy**	**0.86**	**113**	iPg	Pg	20 18 50.1	-1.2
KROS				AMB	AMB	20 18 50.5	
	37nm,0.3s						
KROS				irx	rx	20 18 58.3	
KROS				iSg	Sg	20 19 01.4	-1.3
KROS				A		20 19 02.6	
	210nm,0.5s						
KROS				A		20 19 02.6	
	130nm,0.5s						
ZEA	**Zeya**	**1.41**	**137**	ePg	Pg	20 19 00.5	-1.8
ZEA				AMB	AMB	20 19 01.3	
	32nm,0.2s						
ZEA				pPg		20 19 02.4	
ZEA				sPg		20 19 03.1	
ZEA				eSg	Sg	20 19 19.2	-1.9
ZEA				A		20 19 20.3	
	160nm,0.4s						
ZEA				A		20 19 20.3	
	95nm,0.4s						
YASR	**Yasnyy**	**2.03**	**136**	ePg	Pg	20 19 11.0	-3.8
YASR				AMB	AMB	20 19 13.2	
	4.0nm,0.6s						
YASR				AMB	AMB	20 19 13.2	
	7.0nm,0.6s						
YASR				AMB	AMB	20 19 13.2	
	8.0nm,0.6s						
YASR				eSg	Sg	20 19 36.6	-5.3
YASR				A		20 19 39.2	
	32nm,0.6s						
YASR				A		20 19 39.2	
	110nm,0.6s						
TUP	**Tupik**	**3.31**	**266**	ePn	Pn	20 19 27.6	-0.1
TUP				ePg	Pg	20 19 35.3	-5.1
TUP				AMB	AMB	20 19 39.2	
	9.0nm,0.3s						
TUP				eSn	Sn	20 20 06.4	-1.5
TUP				eSg	Sg	20 20 16.5	-8.1
TUP				A		20 20 19.5	
	75nm,0.3s						
EKMR	**Ekimchan**	**4.66**	**108**	ePn	Pn	20 19 44.9	-1.8
EKMR				AMB	AMB	20 19 45.2	
	4.0nm,0.4s						
EKMR				eSg	Sg	20 20 58.2	-11
EKMR				A		20 21 07.9	
	12nm,0.4s						
EKMR				A		20 21 07.9	
	5.0nm,0.4s						

GUC 04 20:50:15.6±0.8**, 35.04S**×**70.57W, h4**km**, MD3.6, ML2.4, 2C-5D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.56**	**319**	⇓iP	Pg	20 50 26.8	0.0
SFDO				iS	Sg	20 50 35.7	+1.3
CICH	**Cipreses**	**0.73**	**9**	⇓iP	Pg	20 50 29.6	-0.6
CICH				iS	Sg	20 50 40.5	+0.6
CACH	**El Canelo**	**0.92**	**358**	⇓iP	Pb	20 50 33.0	-0.8
CACH				iS	Sb	20 50 46.6	+0.4
CHCH	**Chadas Angostu**	**1.11**	**356**	eP	Pb	20 50 35.9	-1.0
CHCH				iS	Sb	20 50 51.6	0.0
LMEL	**Las Melosas**	**1.23**	**14**	⇑iP	Pb	20 50 38.3	-0.7
LMEL				iS	Sb	20 50 55.7	+0.6
LMEL				AMP		20 50 56.6	
	comp=N,78nm,0.2s						
LNV	**Longovilo**	**1.29**	**327**	⇓iP	Pb	20 50 39.0	-1.0
LNV				iS	Sb	20 50 57.3	+0.5
PCH	**Pirque**	**1.42**	**2**	⇓iP	Pn	20 50 41.8	-0.4
TACH	**Talagante**	**1.42**	**347**	eP	Pn	20 50 41.4	-0.8
TACH				eS	Sb	20 51 01.3	+0.7
RCDM	**Rinconada Maip**	**1.56**	**353**	eP	Pn	20 50 44.0	-0.3
RCDM				iS	Sb	20 51 05.5	+0.7
RCDM				AMP		20 51 06.7	
	comp=E,190nm,0.1s						
FCH	**Farellones**	**1.73**	**8**	⇑iP	Pn	20 50 47.1	+0.5
FCH				iS	Sn	20 51 11.6	+2.2
FCH				AMP		20 51 23.7	
	comp=N,63nm,0.2s						
LCCH	**Las Cruces**	**1.77**	**332**	eP	Pn	20 50 47.0	-0.3
LCCH				iS	Sn	20 51 11.4	+0.9

*MDD **04** 21:05:05.4±3.7, 36.27N×10.86W, h27km±167km, mb3.3/2, Error ellipse: s-maj=166.0km s-min=29.1km az=53.0, PRXIMO*
*CSEM **04** 21:05:06.6±0.6, 36.25N×10.49W, h2km, ML2.8/4, Error ellipse: s-maj=15.7km s-min=10.3km az=157.0*
INMG 04 21:05:06.5±0.6**, 36.31N**×**10.69W, h10**km**, ML1.9, Error ellipse: s-maj=6.7km s-min=5.5km az=109.0, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**2.00**	**51**	ePn	Pn	21 05 38.4	-2.4
PTEO				eSn	Sn	21 06 02.8	-3.3
	3.1nm,0.1s						
PTEO	**Sao Teotonio**	**2.00**	**51**	ePn	Pn	21 05 38.4	-2.4
PTEO				eSn	Sn	21 06 02.8	-3.3
	3.1nm,0.1s						
PALC	**Alcoutim**	**2.82**	**65**	ePn	Pn	21 05 50.0	-2.5
PALC				eSn	Sn	21 06 21.9	-5.1
	4.6nm,0.1s						
PALC	**Alcoutim**	**2.82**	**65**	ePn	Pn	21 05 50.0	-2.5
PALC				eSn	Sn	21 06 21.9	-5.1
	4.6nm,0.1s						
PBEJ	**Beja**	**2.83**	**52**	eSn	Sn	21 06 22.4	-4.8
MOE	**Montemor**	**2.89**	**39**	eSn	Sn	21 06 24.1	-4.6
EMIN	**Mina Concepcio**	**3.53**	**64**	Pn	Pn	21 05 59.6	-3.0
	1.1nm,0.8s,SNR=7.4						
EMIN				Sn	Sn	21 06 39.1	-5.7
	0.4nm,0.1s,SNR=6.6						
EMIN	**Mina Concepcio**	**3.53**	**64**	Pn	Pn	21 05 59.6	-3.0
	1.1nm,0.8s,SNR=7.4						
EMIN				Sn	Sn	21 06 39.1	-5.7
	0.4nm,0.1s,SNR=6.6						
EBAD	**Badajoz**	**3.81**	**49**	Pn	Pn	21 06 02.8	-3.7
	0.4nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	21 06 46.2	-5.7
	2.6nm,0.8s,SNR=8.4						
EBAD	**Badajoz**	**3.81**	**49**	Pn	Pn	21 06 02.8	-3.7
	0.4nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	21 06 46.2	-5.7
	2.6nm,0.8s,SNR=8.4						
ESPR	**Espera**	**3.93**	**80**	Sn	Sn	21 06 48.4	-6.6
	SNR=7.9						
ESPR	**Espera**	**3.93**	**80**	Sn	Sn	21 06 48.4	-6.6
	SNR=7.9						
EADA	**Adamuz**	**5.22**	**67**	Pn	Pn	21 06 22.9	-3.7
	0.2nm,0.1s,SNR=7.9						
EADA				Sn	Sn	21 07 19.8	-7.7
	SNR=7.9						
EADA	**Adamuz**	**5.22**	**67**	Pn	Pn	21 06 22.9	-3.6
	0.2nm,0.1s,SNR=7.9						
EADA				Sn	Sn	21 07 19.8	-7.7
	SNR=7.9						
ELOB	**Lobios**	**5.92**	**19**	Sn	Sn	21 07 34.7	-10
	SNR=7.9						
EQES	**Quesada**	**6.27**	**74**	Sn	Sn	21 07 46.6	-7.3
	SNR=7.9						

*ATH **04** 21:18:21.3, 37.82N×27.02E, h13km±5km, MD3.4/4*
*ISK **04** 21:18:21.9, 37.75N×26.90E, h5km, MD3.2*
*CSEM **04** 21:18:22.8±0.1, 37.79N×27.01E, h5km, MD3.4, Error ellipse: s-maj=2.2km s-min=1.8km az=82.0*
ISC 04 21:18:23.1±0.6**, 37.77N**±0.03×**26.98E**±0.03**, h3**km±5km**, n23, σ0s95**/34**, 3C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.13**	**243**	⇑iPG	**Pg**	**21 18 26.1**	**+0.4**
SMG				eSG	**Sg**	**21 18 28.0**	**+0.6**
IZM	**Izmir**	**0.67**	**19**	iPG	**Pg**	**21 18 35.9**	**-0.6**
KDAG	**Bornova**	**0.68**	**20**	⇑iP	**Pg**	**21 18 35.9**	**-0.7**
KDAG				iS	**Sg**	**21 18 45.5**	**-0.1**
AYDN	**Tasoluk**	**0.72**	**98**	⇑iP	**Pg**	**21 18 37.4**	**-0.1**
AYDN				iS	**Sg**	**21 18 48.7**	**+1.6**
MLSB	**Milas**	**0.79**	**126**	iPG	**Pg**	**21 18 38.3**	**-0.6**
MLSB				iSG	**Sg**	**21 18 49.9**	**+0.5**
BDRM	**Kayabasi**	**0.79**	**152**	iP	**Pg**	**21 18 38.3**	**-0.6**
BDRM				iS	**Sg**	**21 18 49.6**	**+0.1**
YER	**Yerkesik**	**1.21**	**121**	iPN	**Pn**	**21 18 46.5**	**-0.4**
AKS	**Akhisar**	**1.29**	**30**	PN	**Pn**	**21 18 47.3**	**-0.7**
APE	**Apeiranthos**	**1.35**	**239**	iPN	**Pn**	**21 18 46.7**	**-2.1**
APE	**Apeiranthos**	**1.35**	**239**	ePB	**Pb**	**21 18 48.7**	**+0.1**
APE				eSB	**Sb**	**21 19 07.0**	**+0.9**
APE	**Apeiranthos**	**1.35**	**239**	ePb	**Pb**	**21 18 48.7**	**+0.1**
APE				eSb	**Sb**	**21 19 07.0**	**+0.9**
MANT	**Manisa**	**1.44**	**59**	iP	**Pn**	**21 18 51.2**	**+1.1**
MANT				iS	**Sb**	**21 19 08.1**	**-0.7**
AYVA	**Ayvalik**	**1.56**	**352**	iP	**Pn**	**21 18 52.3**	**+0.5**
AYVA				iS	**Sb**	**21 19 14.0**	**+1.7**
PRK	**Paraskevi**	**1.58**	**340**	ePB	**Pb**	**21 18 50.2**	**-2.4**
DENT	**Denizli**	**1.63**	**90**	PN	**Pn**	**21 18 53.0**	**+0.2**
DNZL	**Cakiroluk**	**1.64**	**92**	iP	**Pn**	**21 18 52.6**	**-0.4**
DNZL				iS	**Sb**	**21 19 18.0**	**+3.3**
DALT	**Dalyan (Mudla)**	**1.66**	**126**	PN	**Pn**	**21 18 53.0**	**-0.2**
ARG	**Arkhangelos**	**1.80**	**149**	ePN	**Pn**	**21 18 54.5**	**-0.8**
BOZC	**Bozcaada**	**2.19**	**341**	iP	**Pn**	**21 19 03.6**	**+2.7**
BOZC				iS	**Sn**	**21 19 36.1**	**+7.1**
DST	**Dursunbey**	**2.25**	**35**	PN	**Pn**	**21 19 01.5**	**-0.1**
ORLT	**Orhaneli**	**2.72**	**33**	PN	**Pn**	**21 19 08.3**	**-0.2**
YLV	**Yalova**	**3.36**	**33**	PN	**Pn**	**21 19 17.3**	**-0.2**
ESKT	**Eskisehir**	**3.50**	**59**	PN	**Pn**	**21 19 19.4**	**-0.1**

*IDC **04** 21:21:28.6±1.7, 14.57N×147.49E, mb4.0/9, mb1 4.1/9, mb1mx4.0/20, Error ellipse: s-maj=57.0km s-min=20.7km az=83.0*
*NEIC **04** 21:21:31.9±8.2, 14.50N×147.30E, h18km±46km, mb4.5/1, Error ellipse: s-maj=33.7km s-min=10.5km az=89.0*
ISC 04 21:21:33.3±3.6**, 14.51N**±0.10×**147.2E**±0.3**, h41**km±22km**, n16, σ0s52**/15**, mb4.1**/10**, 2D, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAPN	**Saipan**	**1.60**	**296**	⇓iP	**P**	**21 22 00.1**	**+0.5**
GUMO	**Guam**	**2.47**	**249**	eP	**P**	**21 22 11.2**	**-0.8**
SARN	**Sarigan**	**2.60**	**327**	⇓eP	**P**	**21 22 14.0**	**+0.2**
JOW	**Kunigami**	**21.53**	**308**	P	**P**	**21 26 20.9**	**0.0**
	9.9nm,0.6s,mb4.4,baz=346,slow=24,SNR=3.6						
WRA	**Warramunga Arr**	**36.51**	**201**	P	**P**	**21 28 37.1**	**+0.2**
	0.4nm,0.6s,mb3.5,baz=19,slow=9.1,SNR=10						
ASAR	**Alice Springs**	**40.11**	**199**	P	**P**	**21 29 07.1**	**+0.2**
	0.5nm,0.8s,mb3.3,baz=32,slow=7.9,SNR=3.8						
CMAR	**Chiang Mai Arr**	**46.37**	**282**	P	**P**	**21 29 58.6**	**+0.9**
	0.9nm,0.6s,mb3.9,baz=75,slow=6.7,SNR=7.8						
SONM	**Songino Array**	**47.34**	**323**	P	**P**	**21 30 04.6**	**-0.4**
	0.8nm,0.5s,mb3.9,baz=139,slow=7.1,SNR=13						
ZAL	**Zalesovo**	**62.24**	**324**	P	**P**	**21 31 52.7**	**-0.4**
	0.5nm,0.4s,mb4.0,baz=9.3,slow=9.0,SNR=3.4						
ZAL	**Zalesovo**	**62.24**	**324**	P	**P**	**21 31 52.7**	**-0.4**
MKAR	**Makanchi Array**	**62.44**	**315**	P	**P**	**21 31 54.9**	**+0.3**
	3.2nm,0.4s,mb4.8,baz=92,slow=8.3,SNR=90						
MKAR				pP	pP	21 32 09.6	+3.0
	1.1nm,0.5s,baz=89,slow=9.2,SNR=4.8						
KURK	**Kurchatov**	**65.38**	**319**	eP	**P**	**21 32 13.0**	**-0.7**
	3.1nm,0.9s,mb4.3						
ARCES	**ARCESS Array B**	**86.91**	**343**	P	**P**	**21 34 15.3**	**+0.7**
	3.4nm,1.1s,mb4.5,baz=51,slow=7.8,SNR=3.9						
ARCES	**ARCESS Array B**	**86.91**	**343**	P	**P**	**21 34 15.3**	**+0.7**
FINES	**FINESS Array B**	**91.29**	**336**	P	**P**	**21 34 34.8**	**-0.7**
	1.2nm,0.7s,mb4.3,baz=45,slow=2.7,SNR=5.7						
DBIC	**Dimbokro**	**145.23**	**305**	PKPbc	PKPbc	21 41 10.0	+2.0
	3.0nm,0.5s,baz=326,slow=8.0,SNR=7.8						

*NEIC **04** 21:36:34.7, 34.87S×70.45W, h6km, ML2.5(GUC), After GUC.*
GUC 04 21:36:34.7±0.7**, 34.87S**×**70.45W, h6**km**, MD3.5, ML2.5, 2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.53**	**298**	⇓iP	Pg	21 36 45.5	+0.2
SFDO				iS	Sg	21 36 54.0	+1.5
CICH	**Cipreses**	**0.55**	**2**	⇓iP	Pg	21 36 44.9	-0.7
CICH				iS	Sg	21 36 53.2	+0.2
CACH	**El Canelo**	**0.76**	**350**	eP	Pg	21 36 48.8	-1.1
CACH				iS	Sg	21 37 00.3	+0.3
CHCH	**Chadas Angostu**	**0.95**	**350**	eP	Pb	21 36 52.9	-0.2
CHCH				eS	Sb	21 37 06.7	+1.0
LMEL	**Las Melosas**	**1.04**	**11**	eP	Pb	21 36 53.1	-1.5
LMEL				iS	Sb	21 37 07.9	-0.4
LMEL				AMP		21 37 11.3	
	comp=N,221nm,0.2s						
FCH	**Farellones**	**1.54**	**5**	eP	Pn	21 37 02.6	-0.2
FCH				iS	Sb	21 37 24.2	+1.2
FCH				AMP		21 37 24.8	
	comp=E,124nm,0.3s						

*BER **04** 21:37:42.1±0.9, 67.83N×20.01E, ML1.6, Suspected explosion*
HEL 04 21:37:40.2±0.2**, 67.80N**×**19.69E, ML1.8, ML1.8**(BER)**, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIF	**Kilpisjarvi**	**1.28**	**18**	eP	Pb	21 38 03.8	-1.0
KIF				eS	Sb	21 38 20.8	-1.0
KTK1	**Kautokeino**	**1.79**	**45**	eP	Pn	21 38 10.5	-2.1
KTK1				eS	Sn	21 38 34.5	-1.9
KTK1				AML	AML	21 38 36.9	
	comp=Z,7.8nm,0.3s						
TRO	**Tromso**	**1.86**	**352**	eP	Pn	21 38 13.0	-0.6
TRO				eSG	Sg	21 38 39.8	-2.5
TRO				AML	AML	21 38 41.8	
	comp=Z,11nm,0.4s						
LOF	**Lofoten**	**2.34**	**281**	e	Pn	21 38 58.8	+38
LOF				AML	AML	21 39 03.1	
	comp=Z,7.9nm,0.8s						
LOF	**Lofoten**	**2.34**	**281**	eSg	Sg	21 38 58.8	+0.6
LOF				AML	AML	21 39 03.1	
	comp=Z,7.9nm,0.8s						
MELS	**Mels**	**2.50**	**251**	eSg	Sg	21 39 03.2	-0.1
MOR8	**Moi Rana**	**2.63**	**234**	e	Pn	21 39 03.4	+39
MOR8				AML	AML	21 39 06.2	
	comp=Z,9.0nm,0.4s						
MOR8	**Moi Rana**	**2.63**	**234**	eSg	Sg	21 39 03.4	-4.4
MOR8				AML	AML	21 39 06.2	
	comp=Z,9.0nm,0.4s						
SGF	**Sodankyl**	**2.64**	**95**	eP	Pn	21 38 23.6	-1.2
SGF				eS	Sn	21 38 56.0	-2.0
KEV	**Kevo**	**3.31**	**50**	eS	Sn	21 39 12.2	-2.7
KEV				MSG		21 39 17.6	
	comp=Z,2.6nm,0.3s						
OUL	**Oulu**	**3.69**	**135**	eSG	Sg	21 39 33.9	-9.2
MSF	**Maaselka**	**4.15**	**113**	eS	Sn	21 39 32.5	-3.6
NSS	**Namsos**	**4.54**	**227**	e	Pb	21 40 06.7	+66
NSS	**Namsos**	**4.54**	**227**	eSg	Sg	21 40 06.7	-4.5
KJN	**Kajaani**	**4.96**	**135**	eS	Sn	21 39 51.4	-5.4
KJN				MSG		21 40 14.2	
	comp=Z,0.9nm,0.3s						

DJA 04 21:42:12.0±0.5**, 3.88S**×**119.43E, h33**km**, ML3.6**/1**, 5D, Error ellipse: s-maj=21.2km s-min=7.9km az=70.0, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TANI	**Tanete Lipujan**	**0.45**	**354**	⇓ePg	P	21 42 20.9	-0.8
TANI				⇓eSg	Sb	21 42 28.3	-0.2
NINI	**Niniconang**	**0.63**	**149**	⇓ePg	P	21 42 24.0	-0.3
NINI				⇓eSg	Sb	21 42 31.5	-1.7
BUNI	**Buntu Taipa**	**0.92**	**76**	⇓ePn	Pn	21 42 27.6	-1.1
	90nm,0.2s						

*NEIC **04** 21:56:19.4±0.6, 14.56N×147.12E, h10km, mb4.7/3, Error ellipse: s-maj=13.5km s-min=10.0km az=83.0*
*IDC **04** 21:56:27.2±9.7, 14.64N×146.94E, h66km±87km, mb3.8/12, mb1 3.9/12, mb1mx3.8/21, Error ellipse: s-maj=34.8km s-min=17.4km az=82.0*
ISC 04 21:56:24.0±1.7**, 14.57N**±0.07×**146.9E**±0.1**, h57**km±12km**, n25, σ0s86**/25**, mb4.4**/15**, 1C, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAPN	**Saipan**	**1.30**	**300**	⇑iP	**P**	**21 56 47.1**	**+0.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ANAT	Anatahan	2.16	326	eP	P	21 56 58.5	+0.1
GUMO	Guam	2.22	244	eP	P	21 56 58.1	-1.2
SARN	Sarigan	2.40	332	eP	P	21 57 01.3	-0.5
SARN				eS	S	21 57 30.8	+0.8
JOW	Kunigami	21.26	308	P	P	22 01 07.8	+0.2
	14nm,0.5s,mb4.6,baz=113,slow=19,SNR=5.6						
WRAB	Tennant Creek	36.45	200	P	P	22 03 24.7	-0.8
WRA	Warramunga Arr	36.46	200	P	P	22 03 25.8	+0.2
	0.5nm,0.6s,mb3.6,baz=24,slow=9.6,SNR=7.9						
FITZ	Fitzroy Crossi	38.66	214	P	P	22 03 44.6	+0.6
	1.2nm,0.5s,mb3.9,baz=18,slow=10,SNR=4.3						
ASAR	Alice Springs	40.08	199	P	P	22 03 57.5	+1.9
	0.3nm,0.7s,baz=22,slow=8.3,SNR=3.8						
CMAR	Chiang Mai Arr	46.07	282	P	P	22 04 45.1	+0.7
	1.5nm,0.5s,mb4.1,baz=83,slow=5.9,SNR=14						
SONM	Songino Array	47.12	323	P	P	22 04 52.4	+0.1
	1.6nm,0.6s,mb4.1,baz=134,slow=6.7,SNR=22						
GUN	Gumba	57.91	294	eP	P	22 06 13.0	0.0
	19nm,0.4s						
PKI	Pulchoki	58.33	294	eP	P	22 06 15.9	0.0
	11nm,0.6s,mb5.0						
KKN	Kakani	58.45	294	eP	P	22 06 16.5	-0.2
GKN	Gorkha	59.01	294	eP	P	22 06 20.4	-0.2
	16nm,0.4s,mb5.4						
KOLN	Koldanda	59.93	294	eP	P	22 06 26.7	-0.3
ZAL	Zalesovo	62.02	324	P	P	22 06 39.8	-0.9
	1.2nm,0.4s,mb4.4,baz=298,slow=4.0,SNR=6.0						
MKAR	Makanchi Array	62.19	315	P	P	22 06 42.1	+0.2
	5.5nm,0.4s,mb5.0,baz=91,slow=8.3,SNR=148						
KURK	Kurchatov	65.14	319	eP	P	22 07 00.2	-0.9
	10nm,0.9s,mb4.9						
ILAR	Eielson Array	66.84	25	P	P	22 07 09.9	-1.8
	0.4nm,0.8s,mb3.5,baz=254,slow=5.1,SNR=4.1						
NVAR	Mina Array Bea	84.75	52	P	P	22 08 56.4	+2.7
	0.7nm,0.7s,mb3.9,baz=283,slow=4.6,SNR=5.0						
ARCES	ARCESS Array B	86.76	343	P	P	22 09 03.7	+0.9
	7.6nm,1.3s,mb4.8,baz=74,slow=6.6,SNR=4.1						
BW06	Boulder Array	89.86	46	P	P	22 09 18.1	-0.1
	1.0nm,0.5s,mb4.4						
FINES	FINESS Array B	91.11	336	P	P	22 09 22.6	-1.0
	1.3nm,0.7s,mb4.4,baz=45,slow=2.7,SNR=6.8						
DBIC	Dimbokro	144.95	305	PKP	PKPdf	22 15 57.4	+1.5
	5.4nm,0.6s,baz=90,slow=7.6,SNR=13						

IDC 04 22:08:01.1±1.9, 2.39N×128.49E, mb3.6/5, mb1 3.8/5, mb1mx3.6/17, Error ellipse: s-maj=106.0km s-min=23.8km az=69.0, Halmahera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	20.55	188	P	P	22 12 41.7	-2.4
	4.9nm,1.2s,baz=189,slow=10.0,SNR=2.8						
WRA	Warramunga Arr	22.92	166	P	P	22 13 06.8	-1.3
	1.3nm,0.7s,baz=345,slow=10,SNR=7.4						
ASAR	Alice Springs	26.43	169	P	P	22 13 38.9	-2.7
	0.3nm,0.6s,slow=8.1,SNR=4.9						
STKA	Stephens Creek	36.27	161	P	P	22 15 06.8	-1.5
	1.4nm,0.6s,baz=341,slow=9.1,SNR=5.1						
MKAR	Makanchi Array	59.66	325	P	P	22 18 07.6	-2.0
	0.2nm,0.4s,baz=118,slow=9.6,SNR=6.0						

*NEIC **04** 22:20:05.1±0.5, 14.53N×147.21E, h10km, mb4.5/6, Error ellipse: s-maj=13.0km s-min=8.0km az=86.0*
*IDC **04** 22:20:10.7±1.1, 14.57N×147.27E, h53km±6km, mb3.7/9, mb1 3.9/9, mb1mx3.8/19, MS3.9/1, Ms1 3.9/1, ms1mx3.1/26, Error ellipse: s-maj=33.7km s-min=15.1km az=92.0*
ISC 04 22:20:07.9±1.9, 14.52N±0.07×147.2E±0.1, h46km±14km, h53km±.9km:pP-P, n29, σ0s73/24, mb4.3/15, MS3.7/1, 1D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SAPN	Saipan	1.56	296⇓	iP	P	22 20 33.9	+0.1
SAPN				eS	S	22 20 54.2	+1.2
GUMO	Guam	2.45	248	eP	P	22 20 44.9	-1.4
SARN	Sarigan	2.57	328	eP	P	22 20 47.9	-0.2
JOW	Kunigami	21.50	308	LR	LR	22 32 37.8	
	comp=Z,319nm,20.9s,MS3.7,baz=338,slow=35						
WRAB	Tennant Creek	36.50	201	eP	P	22 27 09.8	-1.1
	2.2nm,0.5s,mb4.3						
WB2	Warramunga Arr	36.51	201	eP	P	22 27 11.3	+0.3
WRA	Warramunga Arr	36.51	201	P	P	22 27 11.5	+0.5
	0.7nm,0.5s,mb3.7,baz=23,slow=9.2,SNR=6.9						
FITZ	Fitzroy Crossi	38.77	214	eP	P	22 27 30.9	+1.0
	1.9nm,0.8s,mb3.9						
FITZ	Fitzroy Crossi	38.77	214	P	P	22 27 30.9	+1.0
	1.9nm,0.8s,mb3.9,baz=26,slow=8.9,SNR=5.7						
FITZ				pP	pP	22 27 44.8	+2.5
	2.5nm,0.8s,baz=8.6,slow=5.3,SNR=3.2						
ASAR	Alice Springs	40.12	199	P	P	22 27 41.8	+0.7
	0.6nm,0.6s,mb3.5,baz=26,slow=8.1,SNR=7.9						
CMAR	Chiang Mai Arr	46.34	282	P	P	22 28 32.1	+0.5
	1.1nm,0.4s,mb4.1,baz=80,slow=5.8,SNR=12						
STKA	Stephens Creek	46.45	187	P	P	22 28 32.7	+0.4
	0.7nm,0.6s,mb3.8,slow=10,SNR=2.9						
SONM	Songino Array	47.31	323	P	P	22 28 38.9	0.0
	1.1nm,0.5s,mb4.0,baz=138,slow=6.6,SNR=17						
SONM				pP	pP	22 28 53.2	+1.7
	1.1nm,0.5s,baz=134,slow=6.5,SNR=5.7						
GUN	Gumba	58.18	294	eP	P	22 30 00.4	+0.5
	13nm,0.5s,mb5.2						
PKI	Pulchoki	58.60	294	eP	P	22 30 01.6	-1.2
DMN	Daman	58.87	294	eP	P	22 30 04.3	-0.4
	6.9nm,0.5s,mb4.9						
GKN	Gorkha	59.28	294	eP	P	22 30 07.2	-0.3
	10nm,0.4s,mb5.2						
MKAR	Makanchi Array	62.41	315	P	P	22 30 28.5	0.0
	4.5nm,0.4s,mb5.0,baz=92,slow=8.3,SNR=114						
MKAR				pP	pP	22 30 43.5	+2.0
	1.9nm,0.5s,baz=94,slow=7.6,SNR=7.8						
MKAR	Makanchi Array	62.41	315	P	P	22 30 28.5	0.0
MKAR				pP	pP	22 30 43.5	+2.0
KURK	Kurchatov	65.35	319	eP	P	22 30 46.6	-1.0
	6.0nm,0.8s,mb4.7						
COLA	College	66.39	25	P	P	22 30 55.4	+1.3
ILAR	Eielson Array	66.76	25	P	P	22 30 56.1	-0.2
	0.7nm,1.0s,mb3.6,baz=252,slow=5.7,SNR=3.6						
BRVK	Borovoye	70.67	321	eP	P	22 31 20.3	-0.5
	1.7nm,0.6s,mb4.2						
FINES	FINESS Array B	91.26	336	P	P	22 33 09.2	-0.3
	1.8nm,0.8s,mb4.5,baz=90,slow=7.6,SNR=9.6						
FINES				pP	pP	22 33 24.1	+0.9
	0.9nm,0.8s,baz=101,slow=9.7,SNR=1.2						
DBIC	Dimbokro	145.20	305	PKPbc	PKPbc	22 39 43.4	+1.5
	6.0nm,0.5s,baz=57,slow=3.1,SNR=19						
DBIC				pPKPbc		22 39 58.5	
	4.4nm,0.6s,baz=27,slow=6.2,SNR=2.3						
DBIC	Dimbokro	145.20	305	PKPbc	PKPbc	22 39 43.4	+1.5
DBIC				pPKPbc		22 39 58.5	
KIC	Kosan Boka	145.29	305	ePKP1	PKPbc	22 39 44.3	+2.1
	31nm,0.6s						
TIC	Toumodi	145.34	306	ePKP1	PKPbc	22 39 44.4	+2.1
	217nm,1.7s						
LIC	Lamto	145.60	305	ePKP1	PKPbc	22 39 45.3	+2.3
	77nm,1.4s						

*ATH **04** 22:30:43.5, 37.72N×26.99E, h14km±8km, MD3.4/4*
*ISK **04** 22:30:43.1, 37.71N×26.89E, h4km, MD3.2*
*NEIC **04** 22:30:43.5, 37.72N×26.99E, h14km, MD3.4(ATH), After ATH.*
*CSEM **04** 22:30:44.7±0.1, 37.71N×26.97E, h12km, MD3.4, Error ellipse: s-maj=3.5km s-min=2.7km az=165.0*
ISC 04 22:30:44.6±0.6, 37.72N±0.03×26.97E±0.04, h7km±5km, n23, σ1s07/33, 1C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SMG	Samos	0.10	264	ePG	Pg	22 30 47.5	+0.4
SMG				eSG	Sg	22 30 49.3	+0.6
IZM	Izmir	0.71	19	i PG	Pg	22 30 57.4	-1.6
KDAG	Bornova	0.72	19⇑	iP	Pb	22 30 57.2	-1.9
AYDN	Tasoluk	0.72	94	i P	Pb	22 30 58.8	-0.3
BDRM	Kayabasi	0.76	150	i P	Pb	22 30 59.5	-0.2
MLSB	Milas	0.77	123	i PG	Pg	22 30 59.5	-0.6
MLSB				i SG	Sg	22 31 11.1	+0.7
YER	Yerkesik	1.20	119	i PN	Pn	22 31 08.0	+0.3
APE	Apeiranthos	1.32	241	PN	Pn	22 31 07.4	-2.0
APE				SN	Sn	22 31 25.8	-1.5
APE	Apeiranthos	1.32	241	ePB	Pb	22 31 05.2	-4.0
APE				eSB	Sb	22 31 28.0	+1.8
APE	Apeiranthos	1.32	241	ePn	Pn	22 31 07.4	-2.0
APE				eSn	Sn	22 31 25.8	-1.5
APE				eSb	Sb	22 31 28.0	+1.8
AKS	Akhisar	1.33	30	PN	Pn	22 31 09.9	+0.2
MANT	Manisa	1.47	58	eP	Pn	22 31 12.5	+0.9
MANT				i S	Sb	22 31 29.7	-1.0
AYVA	Ayvalik	1.60	352	i P	Pn	22 31 13.5	0.0
AYVA				i S	Sb	22 31 36.8	+2.4
PRK	Paraskevi	1.62	340	ePB	Pb	22 31 13.9	-0.5
DALT	Dalyan (Mudla)	1.64	125	PN	Pn	22 31 14.2	+0.2
DENT	Denizli	1.64	88	PN	Pn	22 31 15.4	+1.4
DNZL	Cakiroluk	1.65	90	i P	Pn	22 31 14.0	-0.2
DNZL				i S	Sn	22 31 39.8	+4.0
ARG	Arkhangelos	1.77	148	ePN	Pn	22 31 15.9	+0.1
DST	Dursunbey	2.29	34	PN	Pn	22 31 23.2	-0.1
ORLT	Orhaneli	2.77	32	PN	Pn	22 31 31.0	+0.8
ULDT	Uludag	2.95	34	i P	Pn	22 31 39.6	+6.8
ULDT				i S	Sn	22 32 17.9	+9.1
YLV	Yalova	3.40	33	PN	Pn	22 31 39.9	+0.7
SGKT	Sivrigoynuk	4.87	53	i P	Pg	22 32 18.3	-3.6

*NEIC **04** 22:34:27.5±0.9, 14.45N×147.24E, h10km, mb4.3/3, Error ellipse: s-maj=20.1km s-min=10.2km az=80.0*
*IDC **04** 22:34:34.1±2.3, 14.49N×147.11E, h53km±7km, mb3.6/5, mb1 3.8/5, mb1mx3.6/18, Error ellipse: s-maj=81.5km s-min=17.4km az=82.0*
ISC 04 22:34:28.3±4.1, 14.46N±0.09×147.3E±0.1, h32km±28km, h47km±2.9km:pP-P, n16, σ0s74/12, mb4.0/8, 1C-1D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SAPN	Saipan	1.69	297⇓	eP	Pn	22 34 56.6	+0.4
SAPN				eS	Sn	22 35 17.0	+0.2
GUMO	Guam	2.53	250	eP	Pn	22 35 07.1	-1.0
SARN	Sarigan	2.68	326⇑	eP	Pn	22 35 10.6	+0.3
WRAB	Tennant Creek	36.48	201	eP	P	22 41 32.1	-0.5
	1.9nm,0.7s,mb4.1						
WRA	Warramunga Arr	36.49	201	P	P	22 41 32.5	-0.2
	1.2nm,0.8s,mb3.9,baz=22,slow=9.3,SNR=5.3						
WRA				pP	pP	22 41 48.0	+5.8
	2.0nm,0.9s,baz=23,slow=9.9,SNR=5.1						
ASAR	Alice Springs	40.09	199	P	P	22 42 04.6	+1.8
	0.7nm,0.9s,mb3.4,baz=28,slow=8.2,SNR=3.9						
ASAR				pP	pP	22 42 18.4	+6.0
	0.5nm,0.7s,baz=27,slow=9.2,SNR=4.3						
CMAR	Chiang Mai Arr	46.46	282	P	P	22 42 55.1	+0.7
	1.2nm,0.7s,mb3.9,baz=80,slow=5.5,SNR=6.7						
SONM	Songino Array	47.43	323	P	P	22 43 01.7	-0.1
	0.6nm,0.5s,mb3.8,baz=135,slow=6.6,SNR=9.3						
SONM				pP	pP	22 43 15.2	+3.8
	0.7nm,0.6s,baz=133,slow=8.4,SNR=4.1						
MKAR	Makanchi Array	62.53	315	P	P	22 44 51.5	+0.1
	2.7nm,0.5s,mb4.6,baz=90,slow=8.2,SNR=29						
MKAR				pP	pP	22 45 06.2	+4.9
	1.4nm,0.4s,baz=92,slow=8.4,SNR=6.5						
KURK	Kurchatov	65.47	319	eP	P	22 45 09.3	-1.1
	5.1nm,0.9s,mb4.5						
BRVK	Borovoye	70.79	321	eP	P	22 45 43.1	-0.5
	1.6nm,0.7s,mb4.1						
DBIC	Dimbokro	145.32	305	PKPbc	PKPbc	22 54 06.7	+2.3
	5.0nm,0.6s,baz=54,slow=6.1,SNR=6.7						
DBIC				pPKPbc		22 54 21.6	
	5.2nm,0.7s,baz=22,slow=6.1,SNR=2.7						
DBIC	Dimbokro	145.32	305	PKPbc	PKPbc	22 54 06.7	+2.3
DBIC				pPKPbc		22 54 21.6	
KIC	Kosan Boka	145.42	305	ePKP1	PKPbc	22 54 07.1	+2.5
TIC	Toumodi	145.47	306	ePKP1	PKPbc	22 54 07.1	+2.3
TIC				ePKIKP	PKPdf		
	242nm,1.7s						
LIC	Lamto	145.73	305	ePKP1	PKPbc	22 54 08.0	+2.6
LIC				ePKIKP	PKPdf		
	40nm,0.9s						

*IDC **04** 22:34:53.6±2.3, 14.64N×147.53E, mb4.0/7, mb1 4.1/7, mb1mx3.9/18, Error ellipse: s-maj=74.8km s-min=20.7km az=86.0*
*NEIC **04** 22:34:55.7±0.9, 14.61N×147.32E, h10km, mb4.5/2, Error ellipse: s-maj=23.3km s-min=11.4km az=94.0*
ISC 04 22:34:57.5±1.1, 14.6N±0.1×147.3E±0.2, h33km, n12, σ0s54/11, mb4.0/9, Mariana Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	Guam	2.55	247	P	P	22 35 37.1	-0.3
WRAB	Tennant Creek	36.60	201	P	P	22 42 02.3	-0.4
WRA	Warramunga Arr	36.62	201	P	P	22 42 03.1	+0.3
	1.0nm,0.8s,mb3.7,baz=20,slow=9.0,SNR=2.9						
FITZ	Fitzroy Crossi	38.88	214	P	P	22 42 22.7	+0.9
	1.6nm,0.7s,mb3.9,baz=22,slow=15,SNR=3.2						
ASAR	Alice Springs	40.22	199	P	P	22 42 32.5	-0.4
	0.6nm,0.9s,mb3.3,baz=26,slow=8.9,SNR=3.3						
CMAR	Chiang Mai Arr	46.39	282	P	P	22 43 23.1	+0.1
	0.9nm,0.5s,mb3.9,baz=83,slow=5.5,SNR=5.2						
SONM	Songino Array	47.29	323	P	P	22 43 30.2	+0.5
	0.9nm,0.6s,mb3.9,baz=142,slow=5.9,SNR=7.2						
MKAR	Makanchi Array	62.40	315	P	P	22 45 19.8	+0.3
	3.0nm,0.4s,mb4.8,baz=92,slow=8.6,SNR=18						
MKAR				pP	pP	22 45 34.4	+4.7
	1.5nm,0.5s,baz=88,slow=8.7,SNR=4.0						
KURK	Kurchatov	65.33	319	P	P	22 45 37.5	-1.1
	3.2nm,0.4s,mb4.7						
BRVK	Borovoye	70.66	321	eP	P	22 46 12.2	+0.5
	1.0nm,0.6s,mb3.9						
FINES	FINESS Array B	91.22	336	P	P	22 48 00.1	-0.3
	1.3nm,0.8s,mb4.3,baz=63,slow=3.1,SNR=5.6						
DBIC	Dimbokro	145.21	306	PKPbc	PKPbc	22 54 33.8	+0.6
	5.0nm,0.7s,baz=46,slow=1.9,SNR=6.0						

*IDC **04** 22:42:58.2±5.4, 59.91S×28.73W, h69km±48km, mb4.0/8, mb1 4.0/9, mb1mx3.9/13, ML3.8/1, MS3.9/9, Ms1 3.9/9, ms1mx3.8/12, Error ellipse: s-maj=32.4km s-min=16.5km az=52.0*
*NEIC **04** 22:42:58.2±1.8, 59.81S×28.56W, h70km±16km, mb4.7/4, Error ellipse: s-maj=20.6km s-min=10.2km az=60.0*
ISC 04 22:42:56.1±2.8, 59.8S±0.1×28.5W±0.3, h65km±27km, n30, σ0s96/20, mb4.3/11, 2C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	13.71	151		P	22 46 10.2	+1.8
VNA3	Neumayer Olymp	13.80	154⇑	i	P	22 46 08.7	-0.9
VNA2	Neumayer--Watz	14.11	151		P	22 46 14.2	+0.6
SNAA	Sanae	15.72	150⇑	i	P	22 46 31.7	-2.8
SNAA	Sanae	15.72	150	P	P	22 46 32.7	-1.7
	0.4nm,0.3s,baz=315,slow=14,SNR=16						
SNAA				LR	LR	22 51 23.7	
	comp=Z,165nm,19.2s,baz=176,slow=32						
USHA	Ushuaia	21.87	265	LR	LR	22 54 20.7	
	comp=Z,539nm,18.2s,baz=85,slow=31						
QSPA	South Pole Qui	30.45	180	eP	P	22 49 04.4	+0.3
	16nm,1.3s,mb4.6						
MAW	Mawson	37.61	141	P	P	22 50 05.8	+0.2
	2.0nm,0.8s,mb3.9,baz=250,slow=12,SNR=8.3						
MAW				PcP	PcP	22 52 22.7	+0.1
	2.5nm,1.1s,baz=226,slow=6.5,SNR=4.2						
MAW				LR	LR	23 03 08.8	
	comp=Z,188nm,21.6s,baz=229,slow=32						
CPUP	Villa Florida	38.90	316	P	P	22 50 16.4	-0.4
	4.7nm,0.7s,mb4.3,baz=182,slow=7.4,SNR=17						
CPUP				LR	LR	23 04 24.5	
	comp=Z,132nm,18.6s,baz=170,slow=33						
CPUP	Villa Florida	38.90	316	eP	P	22 50 15.9	-0.8
BDFB	Brasilia	46.34	334	P	P	22 51 18.9	+1.7
	2.0nm,0.6s,mb4.2,baz=149,slow=9.4,SNR=3.6						
BDFB				LR	LR	23 06 58.4	
	comp=Z,81nm,21.1s,baz=119,slow=31						
CASY	Casey	50.62	160	eP	P	22 51 50.0	+0.1
LPAZ	La Paz	52.08	309	P	P	22 52 02.0	+0.5
	3.2nm,0.6s,mb4.4,baz=154,slow=4.7,SNR=18						
LPAZ				LR	LR	23 11 40.0	
	comp=Z,72nm,20.2s,baz=124,slow=33						
LPAZ	La Paz	52.08	309	eP	P	22 52 01.6	+0.1
	6.5nm,0.9s,mb4.6						
TSUM	Tsumeb	52.16	60	P	P	22 52 02.3	+0.3
	1.6nm,0.7s,mb4.0,baz=178,slow=11,SNR=3.2						
TSUM	Tsumeb	52.16	60	eP	P	22 52 00.7	-1.4
SAML	Samuel	57.03	318	eP	P	22 52 36.0	-1.6
	5.5nm,0.6s,mb4.8						
DBIC	Dimbokro	68.86	25	P	P	22 53 56.1	+0.3
	1.7nm,0.7s,mb4.1,baz=149,slow=5.9,SNR=3.3						
DBIC				LR	LR	23 16 30.1	
	comp=Z,77nm,18.3s,baz=195,slow=29						
ROSC	El Rosal	73.82	312	LR	LR	23 26 59.9	
	comp=Z,124nm,20.0s,baz=140,slow=36						
SDV	Santo Domingo	76.21	317	eP	P	22 54 39.2	+0.2
	10nm,0.9s,mb4.8						
SDV				e		22 54 45.7	
KMBO	Kilima Mbogo	77.03	69	LR	LR	23 24 51.7	
	comp=Z,166nm,20.8s,baz=86,slow=33						
STKA	Stephens Creek	88.31	172	P	P	22 55 41.4	+0.1
	2.7nm,0.9s,mb4.5,baz=74,slow=6.9,SNR=3.5						
ASAR	Alice Springs	95.61	164	P	P	22 56 14.8	-0.3
	0.6nm,0.7s,mb4.2,baz=183,slow=3.9,SNR=6.5						
CMAR	Chiang Mai Arr	124.29	114	PKP	PKPdf	23 01 49.2	+1.7
	0.3nm,0.5s,baz=225,slow=3.8,SNR=3.0						
FINES	FINESS Array B	128.01	30	PKP	PKPdf	23 01 54.4	+0.9
	1.5nm,0.7s,baz=207,slow=4.3,SNR=5.8						
FINES	FINESS Array B	128.01	30	PKP	PKPdf	23 01 54.4	+0.9
ARCES	ARCESS Array B	134.67	24	PKP	PKPdf	23 02 07.1	+1.2
	1.1nm,0.7s,baz=225,slow=1.7,SNR=4.5						
ARCES	ARCESS Array B	134.67	24	PKP	PKPdf	23 02 07.1	+1.2
SONM	Songino Array	151.41	94	PKPbc	PKPdf	23 02 42.8	+7.8
	0.8nm,0.5s,baz=224,slow=2.3,SNR=6.5						
ILAR	Eielson Array	151.94	307	PKPbc	PKPdf	23 02 42.2	+6.9
	1.1nm,0.5s,baz=319,slow=1.4,SNR=17						

*NEIC **04** 23:00:23.1, 36.05N×10.65W, h23km, MN3.0(MDD), After MDD.*
*INMG **04** 23:00:24.9±0.8, 36.11N×10.49W, h10km, ML2.3, Error ellipse: s-maj=5.0km s-min=3.1km az=72.0*
*CSEM **04** 23:00:25.7±0.8, 36.27N×10.27W, h30km, ML2.3, Error ellipse: s-maj=14.0km s-min=10.3km az=50.0*
MDD 04 23:00:23.5±1.7, 36.06N×10.59W, h19km±53km, mb3.9/6, Error ellipse: s-maj=62.1km s-min=11.6km az=48.0, PRXIMO, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	2.10	45	ePn	Pn	23 00 56.9	-1.5
PTEO				eSn	Sn	23 01 21.5	-2.8
	13nm,0.2s						
PTEO	Sao Teotonio	2.10	45	Pn	Pn	23 00 56.9	-1.5
PTEO				P		23 00 56.9	
PTEO				S	Sn	23 01 20.9	-3.3
PTEO				Sn	Sn	23 01 21.5	-2.8
	6.7nm,0.2s						
PTEO	Sao Teotonio	2.10	45	P	Pn	23 00 56.9	-1.5
PTEO				S	Sn	23 01 20.9	-3.3
PTEO	Sao Teotonio	2.10	45	P	Pn	23 00 56.9	-1.5
PTEO				S	Sn	23 01 20.9	-3.4
PALC	Alcoutim	2.86	60	ePn	Pn	23 01 07.7	-1.5
PALC				eSn	Sn	23 01 38.9	-4.6
	11nm,0.1s						
PALC	Alcoutim	2.86	60	P	Pn	23 01 07.7	-1.5
PALC				Pn	Pn	23 01 07.7	-1.5
PALC				Sn	Sn	23 01 38.9	-4.6
	5.6nm,0.1s						
PALC				S	Sn	23 01 38.9	-4.6
PALC	Alcoutim	2.86	60	P	Pn	23 01 07.7	-1.5
PALC				S	Sn	23 01 38.9	-4.6
PALC	Alcoutim	2.86	60	S	Sn	23 01 38.9	-4.6
PBEJ	Beja	2.93	47	ePn	Pn	23 01 08.0	-2.2
PBEJ				eSn	Sn	23 01 40.9	-4.3
	6.3nm,0.1s						
PBEJ	Beja	2.93	47	P	Pn	23 01 07.8	-2.4
PBEJ				Pn	Pn	23 01 08.0	-2.2
PBEJ				S	Sn	23 01 40.9	-4.3
PBEJ				Sn	Sn	23 01 40.9	-4.3
	3.2nm,0.1s						
PBEJ	Beja	2.93	47	P	Pn	23 01 07.8	-2.4
PBEJ				S	Sn	23 01 40.9	-4.3
PBEJ	Beja	2.93	47	S	Sn	23 01 40.9	-4.3
MOE	Montemor	3.04	35	eSn	Sn	23 01 43.9	-4.0
MOE	Montemor	3.04	35	P	Pn	23 01 10.1	-1.6
MOE				S	Sn	23 01 43.9	-4.0
MOE				Sn	Sn	23 01 43.9	-4.0
MOE	Montemor	3.04	35	P	Pn	23 01 10.1	-1.6
PLOU	Loures	3.04	22	ePn	Pn	23 01 10.1	-1.7
PLOU				eSn	Sn	23 01 44.6	-3.4
	17nm,0.1s						
PLOU	Loures	3.04	22	eP	Pn	23 01 10.1	-1.7
PLOU				eS	Sn	23 01 44.6	-3.4
	17nm,0.1s						
EMIN	Mina Concepcio	3.57	60	P	Pn	23 01 16.8	-2.5
	1.1nm,0.1s,SNR=12						
EMIN				S	Sn	23 01 56.2	-5.2
	4.1nm,0.1s,SNR=10						
EMIN	Mina Concepcio	3.57	60	P	Pn	23 01 16.8	-2.4
	1.1nm,0.1s,SNR=12						
EMIN				S	Sn	23 01 56.2	-5.2
	4.1nm,0.1s,SNR=10						
ESPR	Espera	3.90	77	P	Pn	23 01 21.7	-2.2
	5.0nm,0.1s,SNR=27						
ESPR				S	Sn	23 02 04.1	-5.6
	22nm,0.2s,SNR=6.1						
ESPR	Espera	3.90	77	P	Pn	23 01 21.7	-2.2
	5.0nm,0.1s,SNR=27						
ESPR				S	Sn	23 02 04.1	-5.6
	22nm,0.2s,SNR=6.1						
EBAD	Badajoz	3.91	46	P	Pn	23 01 21.2	-2.9
	0.5nm,0.1s,SNR=5.9						
EBAD				S	Sn	23 02 04.2	-5.9
	6.0nm,0.1s,SNR=9.3						
EBAD	Badajoz	3.91	46	P	Pn	23 01 21.2	-3.0
	0.5nm,0.1s,SNR=5.9						
EBAD				S	Sn	23 02 04.2	-5.9
	6.0nm,0.1s,SNR=9.3						
PCBR	Castelo Branco	4.50	32	ePn	Pn	23 01 29.6	-2.9
PCBR				eSn	Sn	23 02 18.5	-6.5
	1.5nm,0.1s						
PCBR	Castelo Branco	4.50	32	Pn	Pn	23 01 29.6	-2.9
PCBR				Sn	Sn	23 02 18.5	-6.5
	0.8nm,0.1s						
EMIJ	Mijas	4.72	82	P	Pn	23 01 31.7	-3.9
	0.3nm,0.2s,SNR=7.9						
EMIJ				S	Sn	23 02 24.2	-6.3
	2.1nm,0.3s,SNR=7.9						
MTE	Manteigas	4.95	28	eSn	Sn	23 02 29.4	-6.9
	4.2nm,0.5s						
MTE	Manteigas	4.95	28	Sn	Sn	23 02 29.4	-6.9
	2.1nm,0.5s						
PVIS	Viseu	5.11	24	ePn	Pn	23 01 38.6	-2.4
PVIS				eSn	Sn	23 02 33.3	-6.9
	5.1nm,0.1s						
PVIS	Viseu	5.11	24	P	Pn	23 01 38.5	-2.6
PVIS				Pn	Pn	23 01 38.6	-2.4
PVIS				Sn	Sn	23 02 33.3	-6.9
	2.5nm,0.1s						
PVIS				S	Sn	23 02 33.6	-6.6
PVIS	Viseu	5.11	24	P	Pn	23 01 38.5	-2.6
PVIS				S	Sn	23 02 33.6	-6.6
PVIS	Viseu	5.11	24	P	Pn	23 01 38.5	-2.5
PVIS				S	Sn	23 02 33.6	-6.6
EADA	Adamuz	5.24	65	P	Pn	23 01 39.8	-3.1
	2.1nm,0.2s,SNR=15						
EADA				S	Sn	23 02 35.8	-7.8
	3.3nm,0.1s,SNR=6.5						
EADA	Adamuz	5.24	65	P	Pn	23 01 39.8	-3.2
	2.1nm,0.2s,SNR=15						
EADA				S	Sn	23 02 35.8	-7.8
	3.3nm,0.1s,SNR=6.5						
ELUQ	Luque	5.29	72	S	Sn	23 02 37.8	-6.9
	3.5nm,0.3s,SNR=4.0						
ELOJ	Sierra Loja	5.29	76	P	Pn	23 01 40.7	-2.9
	0.5nm,0.2s,SNR=4.0						
ELOJ				S	Sn	23 02 38.1	-6.7
	0.8nm,0.3s,SNR=4.0						
PVRL	Vila Real	5.67	22	eSn	Sn	23 02 46.8	-7.6
	4.6nm,0.2s						
PVRL	Vila Real	5.67	22	Sn	Sn	23 02 46.8	-7.6
	2.3nm,0.2s						
ELOB	Lobios	6.12	18	P	Pn	23 01 51.3	-4.1
	0.6nm,0.2s,SNR=5.0						
ELOB				S	Sn	23 02 56.6	-9.1
	2.2nm,0.1s,SNR=6.1						
ELOB	Lobios	6.12	18	S	Sn	23 02 56.6	-9.1
	2.2nm,0.1s,SNR=6.1						
ELOB	Lobios	6.12	18	P	Pn	23 01 51.3	-4.1
	0.6nm,0.2s,SNR=5.0						
EQES	Quesada	6.26	72	P	Pn	23 01 53.7	-3.7
	0.3nm,0.1s,SNR=7.9						
EQES				S	Sn	23 03 00.6	-8.6
	2.4nm,0.2s,SNR=9.6						
EQES	Quesada	6.26	72	P	Pn	23 01 53.7	-3.7
	0.3nm,0.1s,SNR=7.9						
EQES				S	Sn	23 03 00.6	-8.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	2.4nm,0.2s,SNR=9.6						
ESDC	Sonseca Array	6.36	53	P	Pn	23 01 55.1	-3.6
	0.3nm,0.1s,baz=234,slow=13,SNR=10						
ESDC				S	Sn	23 03 03.8	-7.8
	3.5nm,0.2s,baz=240,slow=24,SNR=19						
ESDC	Sonseca Array	6.36	53	P	Pn	23 01 55.1	-3.6
	0.3nm,0.1s,SNR=10						
PBRG	Braganca	6.47	26	*e*Sn	Sn	23 03 05.5	-8.9
PBRG	Braganca	6.47	26	S	Sn	23 03 05.5	-8.9
PBRG				Sn	Sn	23 03 05.5	-8.9
ECAL	Calabor	6.59	26	S	Sn	23 03 09.6	-7.8
	1.1nm,0.1s,SNR=7.9						
ECAL	Calabor	6.59	26	S	Sn	23 03 09.6	-7.8
	1.1nm,0.1s,SNR=7.9						
EMAZ	Mazaricos	6.99	10	S	Sn	23 03 16.4	-11
	4.8nm,0.2s,SNR=7.9						
EPON	Pontenova	7.72	19	S	Sn	23 03 34.3	-11
	0.7nm,0.3s,SNR=4.0						
ETOR	Torete	8.21	52	P	P	23 02 20.4	-4.2
	0.3nm,0.2s,SNR=7.9						
ETOR				S	Sn	23 03 47.4	-10
	0.2nm,0.1s,SNR=4.0						
ETOR	Torete	8.21	52	P	P	23 02 20.4	-4.2
ETOR				S	Sn	23 03 47.3	-10
ETOR				S	Sn	23 03 47.4	-10
	0.2nm,0.1s,SNR=4.0						
EMOS	Mosqueruela	9.04	59	S	Sn	23 04 08.0	-11
	0.7nm,0.3s,SNR=5.0						
EMOS	Mosqueruela	9.04	59	S	Sn	23 04 08.0	-11
	0.7nm,0.3s,SNR=5.0						

ISC 04 23:09:46.0±0.7**, 46.39N**±0.04×**15.09E**±0.05**, n5,** $\sigma 0^{s}$**36**/9**, 2C, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GROS	Grobnik	0.29	76	*e*Pg	Pg	23 09 51.7	-0.1
GROS				*i* Sg	Sg	23 09 56.0	+0.2
OBKA	Obir	0.39	288	⇑*i*PG	Pg	23 09 54.1	+0.2
OBKA				*i* SG	Sg	23 09 59.5	+0.4
	4.2nm,0.3s						
GOLS	Golise	0.53	135	*i* Pg	Pg	23 09 56.7	+0.1
GOLS				*i* Sg	Sg	23 10 04.1	+0.4
VISS	Visnje	0.61	197	*i* Pg	Pg	23 09 57.7	-0.6
ARSA	Arzberg	0.91	19	⇑*i*PG	Pg	23 10 03.6	-0.6
ARSA				*i* SG	Sg	23 10 16.5	+0.1
	1.1nm,0.3s						

*ISK **04** 23:12:31.1, 37.74N×26.88E, h6^{km}, MD3.0*
*ATH **04** 23:12:32.3, 37.76N×26.96E, h10^{km}, MD3.1/3*
*CSEM **04** 23:12:32.3±0.1, 37.76N×26.99E, h8^{km}, MD3.0, Error ellipse: s-maj=2.6km s-min=2.5km az=78.0*
ISC 04 23:12:32.4±0.7**, 37.76N**±0.03×**26.96E**±0.05**, h6**^{km}±8^{km}**, n11,** $\sigma 0^{s}$**50**/16**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SMG	Samos	0.11	244	*e*PG	Pg	23 12 35.0	+0.2
IZM	Izmir	0.68	20	*i* PG	Pg	23 12 45.4	-0.6
IZM				*i* SG	Sg	23 12 56.1	+1.0
KDAG	Bornova	0.69	20	*i* P	Pg	23 12 45.3	-0.8
KDAG				*i* S	Sg	23 12 55.3	0.0
AYDN	Tasoluk	0.73	97	*i* P	Pg	23 12 46.8	-0.2
AYDN				*i* S	Sg	23 12 56.3	-0.5
BDRM	Kayabasi	0.79	151	*i* P	Pb	23 12 47.6	-0.5
BDRM				*i* S	Sg	23 12 59.1	+0.4
MLSB	Milas	0.79	125	*i* PG	Pg	23 12 47.7	-0.6
MLSB				*i* SG	Sg	23 12 59.7	+0.8
YER	Yerkesik	1.22	120	PN	Pn	23 12 56.0	0.0
AKS	Akhisar	1.30	31	PN	Pn	23 12 57.1	-0.1
APE	Apeiranthos	1.33	239	*e*PB	Pb	23 12 57.5	+0.1
PRK	Paraskevi	1.58	340	*e*PB	Pb	23 13 02.0	+0.3
DENT	Denizli	1.64	90	PN	Pn	23 13 02.3	+0.3

WEL 04 23:13:27.4±0.9**, 35.27S**×**178.03E, h33**^{km}**, ML5.2**/1**, Error ellipse: s-maj=23.4km s-min=6.3km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.30	175	T		23 15 43.2	
PUZ	Puketiti	2.80	176	PN	Pn	23 14 09.6	-1.4
PUZ				SN	Sn	23 14 39.7	-4.4
PUZ				SN	Sn	23 14 40.9	-3.2
MWZ	Matawai	3.08	187	P*	Pb	23 14 13.2	-8.3
MWZ				S*	Sb	23 14 47.5	-11
MWZ				S*	Sb	23 14 49.6	-9.4
KNZ	Kokohu	3.75	184	*e*PN	Pn	23 14 22.4	-2.1
KNZ				SN	Sn	23 15 01.5	-6.7
KNZ				SN	Sn	23 15 01.6	-6.6
MQZ	McQueen's Vall	9.39	205	SN	Sn	23 17 15.2	-14

*BER **04** 23:20:33.9±2.2, 67.83N×20.17E, ML1.9, Suspected explosion*
HEL 04 23:20:33.9±0.2**, 67.85N**×**20.23E, ML2.0, ML1.9**(BER)**, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KIF	Kilpisjarvi	1.18	10	*e*P	Pb	23 20 55.8	-1.1
KIF				*e*S	Sb	23 21 11.7	-0.9
KTK1	Kautokeino	1.61	42	*e*P	Pn	23 21 02.6	-1.2
KTK1				*e*SN	Sn	23 21 25.2	-0.4
KTK1				AML	AML	23 21 29.3	
	comp=Z,10nm,0.3s						
TRO	Tromso	1.86	346	*e*P	Pn	23 21 05.3	-1.9
TRO				*e*SN	Sn	23 21 31.0	-0.7
TRO				AML	AML	23 21 32.8	
	comp=Z,18nm,0.4s						
SGF	Sodankyl	2.44	97	*e*P	Pn	23 21 14.8	-0.9
SGF				*e*S	Sn	23 21 46.5	-0.1
SGF				*e*SG	Sg	23 21 48.2	-7.0
LOF	Lofoten	2.54	280	*e*SG	Sg	23 21 53.6	-4.7
LOF				AML	AML	23 21 59.2	
	comp=Z,8.6nm,0.8s						
MOR8	Moi Rana	2.83	236	*e*SG	Sg	23 21 55.2	-13
MOR8				AML	AML	23 21 58.7	
	comp=Z,22nm,0.4s						
KEV	Kevo	3.12	49	*e*SB	Sb	23 22 08.0	-0.9
KEV				MSG		23 22 09.7	
	comp=Z,3.9nm,0.3s						
OUL	Oulu	3.59	138	*e*SG	Sg	23 22 24.1	-9.2
NSS	Namsos	4.72	229	*e*SG	Sg	23 22 59.8	-11
NSS				AML	AML	23 23 05.2	
	comp=Z,6.6nm,0.5s						
KJN	Kajaani	4.86	137	*e*S	Sn	23 22 42.9	-5.0
KJN				MSG		23 23 06.8	
	comp=Z,2.0nm,0.4s						

*NIED **04** 23:33:00, 35.90N×136.40E, h11^{km}, Mw4.4 Best double couple: $M_0$4.86×10^{15} NP1:ϕ_s57°, δ88°, λ173°. NP2:ϕ_s147°, δ83°, λ3°.*
*NEIC **04** 23:33:51.4±0.4, 35.86N×136.36E, h10^{km}, mb4.4/4, Error ellipse: s-maj=10.0km s-min=7.2km az=152.0*
NEIC Felt in Aichi, Osaka and Shizuoka. Recorded [3 JMA] in Aichi, Fukui and Gifu; [2 JMA] in Hyogo, Ishikawa, Kyoto, Mie, Nagano, Nara, Osaka, Shiga and Shizuoka; [1 JMA] in Hiroshima, Okayama and Wakayama Prefectures.
*JMA **04** 23:33:51.4, 35.93N×136.38E, h12^{km}±1^{km}, M4.8 Broadband fault plane solution: P waves. NP1:ϕ_s146°, δ73°, λ7°. NP2:ϕ_s54°, δ83°, λ163°. Principal axes: T Plg17°, Azm9°; N Plg72°, Azm213°; P Plg7°, Azm101°;*
JMA Felt IV J1.
*MOS **04** 23:33:52.9±2.0, 35.91N×136.34E, h33^{km}, mb4.2/5 Error ellipse: s-maj=29.8km s-min=15.9km az=80.7*
*BJI **04** 23:33:52.8, 35.96N×136.19E, h10^{km}, mB4.6, mb4.5, Ms4.2, Msz3.7*
*IDC **04** 23:33:54.9±5.5, 35.83N×136.41E, h31^{km}±41^{km}, mb3.8/13, mb1 4.0/16, mb1mx3.9/27, ML3.8/3, MS3.3/1, Ms1 3.5/1, ms1mx2.8/34, Error ellipse: s-maj=19.0km s-min=15.4km az=73.0*
ISC 04 23:33:50.1±0.8**, 35.87N**±0.04×**136.29E**±0.04**, h10**^{km}±5^{km}**, n51,** $\sigma 1^{s}$**22**/61**, mb4.1**/21**, MS4.1**/4**, 2C-1D, Western Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JGM	Miyama	0.38	115	⇓P	Pg	23 33 58.5	+0.5
JGM				*e*S	Sg	23 34 03.6	+0.4
JKG	Kaga	0.41	4	⇑P	Pg	23 33 58.5	0.0
JKG				*e*S	Sg	23 34 03.4	-0.8
JTT	Ttatey	1.12	48	⇑P	Pb	23 34 11.0	-0.2
MAJO	Matsushiro	1.69	66	*e*P	Pn	23 34 19.8	-0.2
MAJO				*e*S	Sn	23 34 42.6	+0.8
MAT	Matsushiro	1.69	66	P	Pn	23 34 19.6	-0.4
MAT				S	Sn	23 34 42.4	+0.5
MAT	Matsushiro	1.69	66	*e*P	Pn	23 34 20.0	0.0
MAT				*e*S	Sn	23 34 42.0	+0.1
JHJ	Hachijo jima 2	3.98	133	Pn	Pn	23 34 53.0	+0.3
	11nm,0.3s,baz=249,slow=21,SNR=4.4						
JNU	Nakatsue	5.24	240	Pn	Pn	23 35 11.5	+1.0
	4.3nm,0.3s,baz=99,slow=3.9,SNR=2.5						
KS15	Wonju Array Si	6.94	286	P	Pn	23 35 31.9	-2.6
ASAJ	Asahikawa	9.55	28	Pn	P	23 36 11.2	+0.3
	1.3nm,0.3s,baz=240,slow=26,SNR=4.3						
ASAJ	Asahikawa	9.55	28	P	P	23 36 11.2	+0.4
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MDJ	Mudanjiang	10.13	332	P	P	23 36 16.3	-2.4
MDJ				S	S	23 38 18.8	+5.3
MDJ				SCP		23 45 57.9	
MDJ				PCS		23 45 59.1	
MDJ				SCS	ScS	23 49 32.1	-0.2
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.4s						
MDJ				AMB	AMB		
	comp=Z,30nm,4.1s						
MDJ				LR	LR		
	comp=N,601nm,14.8s						
MDJ				LR	LR		
	comp=E,861nm,14.2s						
MDJ				LR	LR		
	comp=Z,358nm,11.8s						
CN2	Changchun	11.49	317	*e*P	P	23 36 41.6	+4.2
CN2				*e*XP		23 36 46.0	
CN2				*e*S	S	23 38 54.3	+7.3
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,1µm,15.0s						
CN2				LR	LR		
	comp=E,900nm,15.0s						
CN2				LR	LR		
	comp=Z,400nm,14.0s						
YSS	Yuzh-Sakhalins	12.09	22	*e*P	P	23 36 44.0	-1.4
YSS	Yuzh-Sakhalins	12.09	22	*e*P	P	23 36 43.4	-2.0
NJ2	Nanjing	14.96	260	*e*P	P	23 37 23.5	0.0
NJ2				AP		23 37 28.0	
NJ2				XP		23 37 32.0	
NJ2				PP	PP	23 37 34.0	-1.5
NJ2				S	S	23 40 09.0	-1.1
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s						
NJ2				LR	LR		
	comp=N,1µm,13.4s						
NJ2				LR	LR		
	comp=E,690nm,12.8s						
NJ2				LR	LR		
	comp=Z,670nm,14.8s						
BJI	Beijing	16.40	291	*e*P	P	23 37 45.2	+3.2
BJI				AMB	AMB		
	comp=Z,10.0nm,1.0s						
BJI				LR	LR		
	comp=N,621nm,18.5s						
BJI				LR	LR		
	comp=E,384nm,13.0s						
BJI				LR	LR		
	comp=Z,120nm,30.4s						
HHC	Hu-ho-hao-te	20.00	292	*e*P	P	23 38 28.3	+2.6
HHC				AP		23 38 32.6	
HHC				XP		23 38 35.5	
HHC				PP	PP	23 38 45.8	+0.9
HHC				S	S	23 42 13.9	+9.0
HHC				SS	SS	23 42 33.0	-0.2
HHC				AMB	AMB		
	comp=Z,28nm,1.2s						
HHC				AMB	AMB		
	comp=Z,106nm,3.3s						
HHC				LR	LR		
	comp=N,184nm,14.5s						
HHC				LR	LR		
	comp=E,141nm,10.6s						
HHC				LR	LR		
	comp=Z,125nm,11.6s						
BTO	Baotou	21.14	291	*e*P	P	23 38 41.7	+4.2
BTO				AMB	AMB		
	comp=Z,28nm,1.2s,mb4.5						
XAN	Xi'an	22.48	273	P	P	23 38 52.1	+1.0
XAN				AP		23 39 00.0	
XAN				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.0						
ENH	Enshi	23.11	264	*e*P	P	23 38 59.0	+1.7
	comp=Z,14nm,0.9s,mb4.4						
SONM	Songino Array	25.11	308	P	P	23 39 17.7	+1.2
	comp=Z,11nm,0.8s,mb4.5,baz=111,slow=9.9,SNR=30						
LZH	Lanzhou	26.20	280	*e*P	P	23 39 33.0	+6.3
LZH				AP	pP	23 39 38.8	+9.3
LZH				XP	sP	23 39 41.8	+11
LZH				AMB	AMB		
	comp=Z,40nm,1.5s,mb4.7						
LZH				AMB	AMB		
	comp=Z,98nm,4.0s						
LZH				LR	LR		
	comp=N,512nm,11.6s						
LZH				LR	LR		
	comp=Z,737nm,13.6s,MS4.4						
BOD	Bodaibo	26.50	333	*e*P	P	23 39 25.5	-3.7
GYA	Guiyang	26.95	258	P	P	23 39 40.7	+7.0
GYA				AP	pP	23 39 45.0	+8.5
GYA				XP	sP	23 39 48.2	+10
GYA				PP	PP	23 40 20.8	+1.5
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
GYA				LR	LR		
	comp=N,1µm,15.2s,MS4.8						
GYA				LR	LR		
	comp=E,1µm,15.0s,MS4.8						
GYA				LR	LR		
	comp=Z,1µm,15.8s,MS4.6						
CMAR	Chiang Mai Arr	37.21	252	P	P	23 41 03.9	+0.4
	comp=Z,0.4nm,0.5s,mb3.5,baz=49,slow=9.6,SNR=3.8						
CMAR				LR	LR	23 56 22.3	
	comp=Z,42nm,19.7s,MS3.2,baz=55,slow=36						
WMQ	Urumqi	37.69	297	*e*P	P	23 41 08.0	+0.6
WMQ				PP	PP	23 42 37.0	+0.8
WMQ				S	S	23 47 07.0	+10
WMQ				SS	SS	23 49 31.0	-0.3
WMQ				SCS	ScS	23 51 18.0	-0.7
WMQ				LR	LR		
	comp=N,218nm,14.0s,MS4.2						
WMQ				LR	LR		
	comp=E,62nm,12.0s,MS4.2						
WMQ				LR	LR		
	comp=Z,84nm,12.0s,MS3.8						
MKAR	Makanchi Array	41.25	303	P	P	23 41 36.1	-0.8
	comp=Z,1.1nm,0.6s,mb3.7,baz=90,slow=8.5,SNR=11						
MKAR	Makanchi Array	41.25	303	P	P	23 41 36.1	-0.8
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURK	Kurchatov	43.42	309	*e*P	P	23 41 52.7	-1.8
	comp=Z,4.3nm,0.7s,mb4.3						
BVAR	Borovoye Array	48.31	312	P	P	23 42 34.1	+0.8
	comp=Z,1.5nm,0.8s,mb4.0,baz=106,slow=10,SNR=6.2						
ZRNK	Zerenda	49.15	312	*e*P	P	23 42 39.5	-0.3
	comp=Z,2.8nm,0.9s,mb4.3						
IMA	Indian Mountai	49.78	30	P	P	23 42 44.7	+0.2
ILAR	Eielson Array	52.67	32	P	P	23 43 04.7	-1.8
	comp=Z,0.9nm,1.0s,mb3.7,baz=287,slow=7.4,SNR=6.4						
ILAR	Eielson Array	52.67	32	P	P	23 43 04.7	-1.8
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
WRAB	Tennant Creek	55.52	182	*e*P	P	23 43 26.0	-1.9
	comp=Z,4.2nm,0.8s,mb4.5						
WB2	Warramunga Arr	55.53	182	*e*P	P	23 43 26.0	-2.0
WRA	Warramunga Arr	55.53	182	P	P	23 43 26.3	-1.8
	comp=Z,4.1nm,0.8s,mb4.5,baz=0.2,slow=7.6,SNR=23						
WRA	Warramunga Arr	55.53	182	P	P	23 43 26.3	-1.7
WRA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ASAR	Alice Springs	59.25	183	P	P	23 43 53.0	-1.3
	comp=Z,2.3nm,0.7s,mb4.3,baz=9.0,slow=6.8,SNR=25						
STKA	Stephens Creek	67.57	175	P	P	23 44 48.7	-0.4
	comp=Z,1.7nm,0.7s,mb4.2,baz=333,slow=9.9,SNR=3.2						
STKA	Stephens Creek	67.57	175	P	P	23 44 48.7	-0.4
AKASG	Malin Array Be	72.63	320	P	P	23 45 21.4	+2.0
	comp=Z,0.9nm,0.5s,mb4.0,baz=48,slow=6.2,SNR=4.9						
AKASG	Malin Array Be	72.63	320	P	P	23 45 21.4	+1.9
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NEW	Newport	73.80	42	P	P	23 45 28.2	+1.9
BRTR	Keskin Array B	76.46	309	P	P	23 45 42.1	+0.4
	comp=Z,1.4nm,0.8s,mb3.9,baz=90,slow=2.5,SNR=7.2						
BRTR	Keskin Array B	76.46	309	P	P	23 45 42.2	+0.4
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
NVAR	Mina Array Bea	78.95	50	P	P	23 45 55.5	0.0
	comp=Z,0.6nm,0.6s,mb3.7,baz=304,slow=5.3,SNR=3.8						
PDAR	Pinedale Array	81.38	43	P	P	23 46 08.1	-0.3
	comp=Z,0.4nm,0.6s,mb3.5,baz=90,slow=1.5,SNR=3.4						
GERES	GERESS Array B	81.44	326	P	P	23 46 09.8	+1.2
	comp=Z,0.2nm,0.3s,mb3.5,baz=138,slow=32,SNR=3.3						
PV10	Paradox Valley	84.60	46	*e*P	P	23 46 25.2	+0.2

*JMA **04** 23:42:12.5±0.3, 24.79N×122.40E, h93^{km}, M2.6*
TAP 04 23:42:13.0, 24.71N×122.38E, h88^{km}±1^{km}**, ML3.5, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.62	113	P	P	23 42 28.8	0.0
YOJ				*e*S	S	23 42 41.4	+0.8
IRIF	Iriomote-Funau	1.28	107	P	P	23 42 35.8	-0.6
IRIF				*e*S	S	23 42 53.6	-0.3
HATJ	Hateruma jima	1.45	116	P	P	23 42 38.5	0.0
HATJ				*e*S	S	23 42 57.9	+0.5
JKRS	Kuro-shima	1.56	107	P	P	23 42 39.7	-0.1
JKRS				*e*S	S	23 42 59.8	+0.1
JIJ	Ishigaki jima	1.64	102	P	P	23 42 40.4	-0.5
JIJ				*e*S	S	23 43 00.7	-0.9
JTJ	Tarama	2.11	91	P	P	23 42 47.4	+0.2
JTJ				*e*S	S	23 43 12.8	+0.3

*BJI **04** 23:50:01.3, 10.85S×162.40E, h40^{km}, mB5.2, mb5.3, Ms5.0, Msz4.8*
*HRVD **04** 23:50:03.2±0.2, 10.91S×162.28E, h40^{km}, MW5.3/78, Centroid moment Tensor Solution. LP body waves: s70,c122;Mantle waves: s78,c143; Half duration: 1^{s}2 Moment tensor: Scale 10^{17}Nm; M_{rr}0.51±.02; $M_{\theta\theta}$-0.32±.02; $M_{\phi\phi}$-0.19±.02; $M_{r\theta}$0.52±.02; $M_{\theta\phi}$0.84±.02; $M_{\phi r}$0.59±.02; Best double couple: $M_0$1.22×10^{17} NP1:ϕ_s97°, δ60°, λ33°. NP2:ϕ_s349°, δ62°, λ146°. Principal axes: T 1.34, Plg43°, Azm312°; N -.24, Plg47°, Azm134°; P -1.1, Plg1°, Azm43°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **04** 23:50:03.2±0.2, 10.83S×162.29E, mb5.3/21, MS4.9/110 Error ellipse: s-maj=8.0km s-min=5.3km az=127.0*
*SYO **04** 23:50:03.3, 10.92S×162.30E, h34^{km}, MB5.3, MS4.9*
*IDC **04** 23:50:05.5±3.7, 10.85S×162.29E, h54^{km}±30^{km}, mb4.9/13, mb1 5.0/15, mb1mx5.0/17, ML4.4/2, MS4.7/19, Ms1 4.7/19, ms1mx4.5/26, Error ellipse: s-maj=25.8km s-min=15.4km az=122.0*
ISC 04 23:50:01.8±0.2**, 10.89S**±0.05×**162.20E**±0.05**, h34**^{km}**, h34**^{km}±1.6^{km}**:pP-P, n285,** $\sigma 0^{s}$**85**/87**, mb5.4**/45**, MS4.8**/134**, 11C-5D, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BKM	Butte a Klehm	8.92	140	⇑*i*P	P	23 52 09.7	-1.7
BKM				S	S	23 53 42.1	-10
NOUC	Port Laguerre	11.82	161	*e*P	P	23 52 50.5	-0.5
NOUC				*e*S	S	23 54 52.6	-10
DZM	Mont Dzumac	11.84	160	*e*P	P	23 52 50.1	-1.2
DZM				*e*S	S	23 54 52.0	-11
PMG	Port Moresby	14.88	274	P	P	23 53 36.8	+5.1
	0.6nm,0.3s,baz=105,slow=7.2,SNR=16						
WAU	Wau	15.69	282	*e*P	P	23 53 46.9	+4.8
CTA	Charters Tower	17.87	237	*e*P	P	23 54 13.4	+3.9
	170nm,1.0s						
CTA	Charters Tower	17.87	237	P	P	23 54 12.3	+2.8
	8.1nm,0.3s,baz=68,slow=12,SNR=71						
CTAO	Charters Tower	17.87	237	*e*P	P	23 54 11.7	+2.2
	450nm,1.3s						
AFI	Afiamalu	25.59	99	PFAKE		23 55 40.0	+10
AFI				LR	LR		
	comp=Z,2µm,20.0s,MS4.6						
RAO	Raoul Island	26.04	137	PFAKE		23 55 50.0	+16
RAO				LR	LR		
	comp=Z,2µm,21.0s,MS4.7						
STKA	Stephens Creek	28.25	219	*e*P	P	23 55 55.3	+1.2
	comp=Z,12nm,0.6s,mb4.7						
STKA				*e*PCP	PcP	23 59 06.3	-0.8
STKA	Stephens Creek	28.25	219	P	P	23 55 55.3	+1.2
	comp=Z,9.6nm,0.6s,mb4.6,baz=33,slow=13,SNR=26						
STKA				PcP	PcP	23 59 06.1	-1.0
	comp=Z,8.8nm,0.8s,baz=43,slow=7.8,SNR=3.3						
STKA				ScP		00 02 42.5	
	comp=Z,1.1nm,0.4s,baz=11,slow=6.8,SNR=5.2						
STKA				LR	LR	00 07 04.4	
	comp=Z,2µm,19.2s,MS4.8,baz=22,slow=36						
WRAB	Tennant Creek	28.27	248	P	P	23 55 53.9	-0.5
	comp=Z,145nm,0.5s,mb5.9,SNR=17						
WRAB	Tennant Creek	28.27	248	*e*P	P	23 55 54.0	-0.4
	comp=Z,2µm,2.8s,mb6.3						
WRAB				LR	LR		
	comp=Z,2µm,20.0s,MS4.6						
WB2	Warramunga Arr	28.28	248	⇑*i*P	P	23 55 54.3	-0.1
WB2				*i* PCP	PcP	23 59 06.5	-0.8
WB2				*e*S	S	00 00 35.5	-1.2
WB2				*i* PCS		00 02 47.3	
WB2				*e*SCS	ScS	00 06 35.7	-0.1
WRA	Warramunga Arr	28.29	248	P	P	23 55 54.5	0.0
	comp=Z,9.9nm,0.5s,mb4.7,baz=78,slow=9.3,SNR=77						
WRA				PcP	PcP	23 59 06.9	-0.5
	comp=Z,18nm,0.9s,baz=75,slow=2.6,SNR=16						
WRA				LR	LR	00 06 41.1	
	comp=Z,4µm,20.2s,MS5.0,baz=75,slow=35						
WRA	Warramunga Arr	28.29	248	P	P	23 55 54.5	0.0
WRA				PcP	PcP	23 59 06.9	-0.5
WRA				LR	LR	00 06 41.1	
KAKA	Kakadu	29.22	263	⇑*i*P	P	23 56 07.5	+4.7
	comp=Z,140nm,0.6s,mb5.9						
ASAR	Alice Springs	29.78	241	P	P	23 56 07.2	-0.6
	comp=Z,13nm,0.6s,mb4.8,baz=70,slow=9.5,SNR=120						
ASAR				LR	LR	00 07 22.2	
	comp=Z,1µm,21.7s,MS4.5,baz=64,slow=35						
ASPA	Alice Springs	29.79	241	⇑*i*P	P	23 56 07.2	-0.6
ASPA				*e*PcS		00 02 51.5	
ASPA				*e*ScS	ScS	00 06 41.6	-1.2
URZ	Urewera	30.35	156	LR	LR	00 06 51.7	
	comp=Z,1µm,18.2s,MS4.6,baz=203,slow=33						
TOO	Toolangi	30.52	207	*e*P	P	23 56 15.5	+1.3
	comp=Z,16nm,0.8s,mb4.9						
ADE	Adelaide	32.12	218	*e*P	P	23 56 30.0	+1.7
RPZ	Rata Peaks	33.59	168	LR	LR	00 07 40.1	
	comp=Z,988nm,20.4s,MS4.5,baz=345,slow=31						
FITZ	Fitzroy Crossi	36.06	254	⇑*i*P	P	23 57 02.2	-0.2
	comp=Z,61nm,0.8s,mb5.6						
FITZ				*e*PCP	PcP	23 59 28.2	-0.2
FITZ	Fitzroy Crossi	36.06	254	LR	LR	00 11 57.3	
	comp=Z,1µm,19.1s,MS4.6,baz=86,slow=36						
FORT	Forrest	37.32	233	*e*P	P	23 57 13.7	+0.9
	comp=Z,165nm,0.8s,mb5.9						
RAR	Rarotonga	37.86	111	LR	LR	00 09 27.8	
	comp=Z,599nm,19.3s,MS4.4,baz=266,slow=31						
MBWA	Marble Bar	41.96	250	*e*P	P	23 57 51.8	+0.3
	comp=Z,199nm,1.4s,mb5.5						
MBWA				LR	LR		
	comp=Z,2µm,20.0s,MS5.0						
NWAO	Narrogin (SRO)	46.68	235	LR	LR	00 18 18.6	
	comp=Z,2µm,18.9s,MS5.1,baz=98,slow=36						
NWAO	Narrogin (SRO)	46.68	235	*e*P	P	23 58 29.3	0.0
	comp=Z,25nm,0.9s,mb5.1						
PPT	Papeete	47.11	104	*e*S	S	00 05 28.3	+6.4
PPT				*e*L		00 10 04.0	
PPT				*e*R		00 11 49.7	
	comp=Z,1µm,30.5s,baz=284						
MUN	Mundaring	47.24	236	*e*P	P	23 58 34.1	+0.3
	comp=Z,35nm,0.9s,mb5.3						
TBI	Tubuai	47.62	112	*e*S	S	00 05 41.2	+12

TBI eL 00 10 12.2
TBI eR 00 12 33.8
comp=Z,1µm,32.5s,baz=285
TGY Tagaytay City 47.87 300 LR LR 00 16 42.7
comp=Z,438nm,19.6s,MS4.4,baz=22,slow=33
JHJ Hachijo jima 2 48.71 335 P **P** **23 58 44.1 -1.0**
comp=Z,158nm,0.8s,mb6.1,baz=142,slow=6.2,SNR=4.0
JHJ LR LR 00 17 01.8
comp=Z,488nm,21.4s,MS4.5,baz=132,slow=33
MAJO Matsushiro 52.31 336 eP **P** **23 59 11.8 -0.7**
comp=Z,82nm,1.4s,mb5.5
MAJO LR LR
comp=Z,523nm,20.0s,MS4.6
MAT Matsushiro 52.31 336 P **P** **23 59 11.3 -1.2**
MAT S **S** **00 06 40.0 +6.0**
MAT Matsushiro 52.31 336 eP **P** **23 59 11.0 -1.5**
comp=Z,55nm,1.2s,mb5.4
TATO Taipei 53.35 312 PFAKE 23 59 30.0 +10
TATO LR LR
comp=Z,2µm,19.0s,MS5.1
DRV Dumont d'Urvil 57.69 190 S **S** **00 07 57.0 +11**
DRV L 00 14 00.0
DRV R 00 17 00.0
INCN Inchon 58.55 327 PFAKE 00 00 10.0 +12
INCN LR LR
comp=Z,371nm,19.0s,MS4.5
YSS Yuzh-Sakhalins 60.15 345 PFAKE 00 00 20.0 +11
YSS LR LR
comp=Z,425nm,20.0s,MS4.6
RKT Rikitea 60.90 110 eS **S** **00 08 39.4 +12**
RKT eR 00 18 32.5
comp=Z,2µm,29.0s
MDJ Mudanjiang 62.65 334 P **P** **00 00 25.7 +0.4**
MDJ AP pP 00 00 34.9 -0.8
MDJ XP sP 00 00 38.7 -0.9
MDJ PCP PcP 00 01 03.0 -0.8
MDJ PP PP 00 02 44.3 -0.7
MDJ AMB AMB
comp=Z,52nm,1.1s,mb5.6
MDJ AMB AMB
comp=Z,224nm,6.4s
MDJ LR LR
comp=N,244nm,25.3s,MS4.6
MDJ LR LR
comp=E,397nm,21.5s,MS4.6
MDJ LR LR
comp=Z,585nm,21.5s,MS4.7
MDJ Mudanjiang 62.65 334 PFAKE 00 00 40.0 +15
MDJ LR LR
comp=Z,502nm,22.0s,MS4.6
IPM Ipoh 62.80 281⇓ eP **P** **00 00 25.8 -1.0**
PET Petropavlovsk 63.73 358 PFAKE 00 00 40.0 +7.6
PET LR LR
comp=Z,319nm,20.0s,MS4.5
CN2 Changchun 63.88 331 eP **P** **00 00 33.0 -0.5**
CN2 AMB AMB
comp=Z,80nm,1.0s,mb5.7
COCO West Island 63.92 262 PFAKE 00 00 50.0 +16
COCO LR LR
comp=Z,154nm,21.0s,MS4.2
FX1 Attu Island--F 64.21 7 P **P** **00 00 34.0 -1.5**
comp=Z,60nm,0.7s,mb5.7,baz=215,slow=7.6,SNR=11
CASY Casey 65.28 200 eP **P** **00 00 40.9 -1.2**
comp=Z,44nm,1.4s,mb5.3
CASY LR LR
comp=Z,299nm,19.0s,MS4.5
BJT Baijiatuau 66.21 323 PFAKE 00 01 00.0 +11
BJT LR LR
comp=Z,571nm,20.0s,MS4.8
SBA Scott Base 66.99 179 eP **P** **00 00 53.7 +0.8**
comp=Z,10nm,0.9s,mb4.8
KMI Kunming 68.09 303⇑ eP **P** **00 01 01.3 +0.7**
KMI AP pP 00 01 09.1 -2.1
KMI XP sP 00 01 11.9 -3.0
KMI PP PP 00 03 32.2 -0.8
KMI S S 00 10 02.8 +6.3
KMI SKS SKS 00 10 50.1 -2.3
KMI AMB AMB
comp=Z,29nm,1.4s,mb5.1
KMI LR LR
comp=N,302nm,21.5s,MS4.8
KMI LR LR
comp=E,448nm,17.7s,MS4.8
KMI LR LR
comp=Z,524nm,24.4s
CMAR Chiang Mai Arr 68.87 295 P **P** **00 01 05.8 +0.2**
comp=Z,12nm,0.7s,mb4.9,baz=113,slow=4.6,SNR=70
CMAR LR LR 00 30 11.6
comp=Z,159nm,20.1s,MS4.2,baz=115,slow=35
HHC Hu-ho-hao-te 69.50 321 ⇑P **P** **00 01 09.5 +0.4**
HHC AP pP 00 01 21.0 +1.4
HHC XP sP 00 01 24.1 +0.7
HHC PP PP 00 03 42.8 -2.1
HHC S S 00 10 11.3 -1.6
HHC AMB AMB
comp=Z,25nm,1.0s,mb5.1
HHC AMB AMB
comp=Z,226nm,4.8s
HHC LR LR
comp=N,152nm,17.7s,MS4.5
HHC LR LR
comp=E,185nm,16.5s,MS4.5
HHC LR LR
comp=Z,264nm,22.5s
BTO Baotou 70.32 320 eP **P** **00 01 13.8 -0.3**
BTO AMB AMB
comp=Z,22nm,1.0s,mb5.0
HIA Hailar 70.56 332 PFAKE 00 01 30.0 +15
HIA LR LR
comp=Z,822nm,20.0s,MS5.0
MA2 Magadan 70.83 354 PFAKE 00 01 30.0 +13
MA2 LR LR
comp=Z,198nm,20.0s,MS4.4
LZH Lanzhou 72.10 314 ⇓P **P** **00 01 25.2 +0.4**
LZH AMB AMB
comp=Z,83nm,1.5s,mb5.4
ULN Ulaanbaatar 76.16 325 PFAKE 00 02 00.0 +12
ULN LR LR
comp=Z,529nm,22.0s,MS4.8
GTA Gaotai 76.47 315 P **P** **00 01 50.8 +0.6**
GTA AP pP 00 02 03.3 +2.6
GTA XP sP 00 02 11.4 +6.9
GTA AMB AMB
comp=Z,113nm,7.2s
GTA LR LR
comp=E,175nm,24.3s
GTA LR LR
comp=Z,229nm,22.8s,MS4.4
SONM Songino Array 76.52 325 P **P** **00 01 51.1 +0.8**
comp=Z,47nm,0.8s,mb5.5,baz=144,slow=5.9,SNR=331
YAK Yakutsk 77.00 345 PFAKE 00 02 00.0 +7.3
YAK LR LR
comp=Z,384nm,21.0s,MS4.7
KDAK Kodiak Island 77.75 23 PFAKE 00 02 10.0 +13
KDAK LR LR
comp=Z,105nm,21.0s,MS4.1
QSPA South Pole Qui 79.11 180 eP **P** **00 02 04.7 +0.7**
comp=Z,63nm,1.2s,mb5.4
QSPA e 00 14 51.9
QSPA LR LR
comp=Z,290nm,21.8s,MS4.6
LSA Lhasa 79.34 303 P **P** **00 02 06.0 -0.2**
LSA Lhasa 79.34 303 PFAKE 00 02 20.0 +14
LSA LR LR
comp=Z,325nm,21.0s,MS4.6
TNA Tin City 79.42 12 PFAKE 00 02 20.0 +14
TNA LR LR
comp=Z,252nm,21.0s,MS4.5
SLKM Skilak Lake 80.52 22 eP **P** **00 02 11.4 -0.5**
FIB Fire Island 80.98 21 PFAKE 00 02 30.0 +16
FIB LR LR
comp=Z,1µm,20.0s,MS5.3
PMR Palmer 81.64 21 PFAKE 00 02 30.0 +12
PMR LR LR
comp=Z,629nm,20.0s,MS5.0
SML Sawmill 82.07 21 eP **P** **00 02 20.6 +0.6**
DIV Divide 82.58 23 PFAKE 00 02 30.0 +7.4
DIV LR LR
comp=Z,2µm,19.0s,MS5.5
PALK Pallekele 83.08 279 PFAKE 00 02 40.0 +14
PALK LR LR
comp=Z,104nm,21.0s,MS4.2
MCK McKinley 83.14 20 PFAKE 00 02 40.0 +15
MCK LR LR
comp=Z,341nm,21.0s,MS4.7

GUN Gumba 83.22 300 eP **P** **00 02 26.6 +0.1**
comp=Z,131nm,1.1s,mb5.9
IMA Indian Mountai 83.33 17 eP **P** **00 02 27.2 +0.9**
comp=Z,184nm,1.4s,mb5.9
PKI Pulchoki 83.52 300 eP **P** **00 02 27.9 -0.3**
comp=Z,189nm,1.4s,mb6.0
MAW Mawson 83.55 202 eP **P** **00 02 28.0 +0.7**
MAW Mawson 83.55 202 P **P** **00 02 28.1 +0.7**
comp=Z,16nm,0.8s,mb5.2,baz=98,slow=5.8,SNR=46
MAW LR LR 00 36 52.0
comp=Z,220nm,18.0s,MS4.6,baz=62,slow=34
KKN Kakani 83.69 300 eP **P** **00 02 28.9 -0.2**
comp=Z,186nm,1.6s,mb6.0
DMN Daman 83.79 300 eP **P** **00 02 29.5 -0.1**
comp=Z,206nm,1.1s,mb6.2
COLA College 84.26 19 PFAKE 00 02 40.0 +9.0
COLA LR LR
comp=Z,486nm,20.0s,MS4.9
GKN Gorkha 84.30 300 eP **P** **00 02 31.4 -0.7**
comp=Z,173nm,1.2s,mb6.1
VIB Van Inlet 84.44 33 T 01 36 04.6
SNR=19
ILAR Eielson Array 84.50 20 P **P** **00 02 31.9 -0.4**
comp=Z,5.6nm,0.6s,mb4.9,baz=241,slow=4.4,SNR=39
SIT Sitka 84.79 29 PFAKE 00 02 40.0 +6.2
SIT LR LR
comp=Z,1µm,19.0s,MS5.3
KOLN Koldanda 85.12 299 eP **P** **00 02 35.0 -1.2**
comp=Z,75nm,1.3s,mb5.7
HOPS Hopland 85.18 49 PFAKE 00 02 50.0 +14
HOPS LR LR
comp=Z,606nm,19.0s,MS5.0
KHMM Horse Mountain 85.29 47 eP **P** **00 02 37.5 +0.7**
TIXI Tiksi 85.31 350 PFAKE 00 02 50.0 +14
TIXI LR LR
comp=Z,336nm,19.0s,MS4.8
SAO San Andreas Ge 85.74 51 PFAKE 00 02 50.0 +11
SAO LR LR
comp=Z,971nm,19.0s,MS5.2
WDC Whiskeytown Da 86.06 48 PFAKE 00 02 50.0 +9.5
WDC LR LR
comp=Z,572nm,19.0s,MS5.0
YBH Yreka Blue Hor 86.29 46 PFAKE 00 02 50.0 +8.4
YBH LR LR
comp=Z,372nm,19.0s,MS4.8
HUMO Hull Mountain 86.39 46 PFAKE 00 02 50.0 +7.9
HUMO LR LR
comp=Z,529nm,19.0s,MS5.0
WMQ Urumqi 86.54 316 eP **P** **00 02 42.4 -0.4**
WMQ AMB AMB
comp=Z,16nm,1.0s,mb5.2
COR Corvallis 86.78 44 PFAKE 00 02 50.0 +6.1
COR LR LR
comp=Z,306nm,22.0s,MS4.7
CMB Columbia Colle 86.91 51 PFAKE 00 03 00.0 +15
CMB LR LR
comp=Z,542nm,19.0s,MS5.0
OCWA Octopus Mounta 87.23 40 eP **P** **00 02 47.0 +0.9**
comp=Z,14nm,1.2s,mb5.1
OCWA LR LR
comp=Z,523nm,19.0s,MS5.0
DLBC Dease Lake 87.95 29 LR LR 00 40 01.8
comp=Z,814nm,18.4s,MS5.2,baz=23,slow=34
MOD Modoc 88.06 47 PFAKE 00 03 00.0 +10
MOD LR LR
comp=Z,345nm,20.0s,MS4.8
NVAR Mina Array Bea 88.60 51 P **P** **00 02 53.4 +0.5**
comp=Z,4.2nm,0.7s,mb4.9,baz=225,slow=6.1,SNR=31
NVAR LR LR 00 38 34.9
comp=Z,426nm,18.9s,MS4.9,baz=335,slow=33
DAC Darwin (Calif) 88.60 53 PFAKE 00 03 00.0 +7.1
DAC LR LR
comp=Z,1µm,20.0s,MS5.2
MNV Mina 88.72 51 eP **P** **00 02 53.4 0.0**
comp=Z,13nm,1.2s,mb5.1
MNV epP pP 00 03 04.5 +0.3
MNV LR LR
comp=Z,497nm,20.0s,MS4.9
PFO Pinyon Flat Ob 88.86 56 PFAKE 00 03 10.0 +16
PFO LR LR
comp=Z,126nm,19.0s,MS4.4
TPH Tonopah 89.33 51 PFAKE 00 03 10.0 +14
TPH LR LR
comp=Z,623nm,19.0s,MS5.0
TPNV Topopah Spring 89.81 52 eP **P** **00 02 59.0 +0.4**
comp=Z,9.6nm,1.1s,mb5.0
TPNV epP pP 00 03 09.4 0.0
TPNV LR LR
comp=Z,894nm,20.0s,MS5.2
HAWA Hanford 89.84 43 PFAKE 00 03 10.0 +11
HAWA LR LR
comp=Z,278nm,19.0s,MS4.7
BMN Battle Mountai 89.92 49 PFAKE 00 03 10.0 +11
BMN LR LR
comp=Z,315nm,21.0s,MS4.7
SYO Syowa Base 90.89 198 ⇓P **P** **00 03 01.7 -1.2**
SYO Syowa Base 90.89 198 ⇓PcP PcP 00 03 03.7 -0.5
SYO Syowa Base 90.89 198 ⇑pP pP 00 03 12.9 -0.9
MKAR Makanchi Array 91.04 317 P **P** **00 03 04.0 -0.2**
comp=Z,12nm,0.6s,mb5.4,baz=98,slow=6.2,SNR=132
MKAR LR LR 00 44 02.4
comp=Z,193nm,21.7s,MS4.5,baz=94,slow=36
MKAR Makanchi Array 91.04 317 P **P** **00 03 04.0 -0.2**
MKAR LR LR 00 44 02.4
DPW Davenport 91.11 41 eP **P** **00 03 04.2 -0.2**
DPW epP pP 00 03 15.0 -0.3
ZAL Zalesovo 91.42 325 LR LR 00 44 11.5
comp=Z,607nm,21.0s,MS5.0,baz=276,slow=36
ELK Elko 91.46 49 eP **P** **00 03 06.5 +0.3**
comp=Z,13nm,1.0s,mb5.2
ELK epP pP 00 03 17.8 +0.8
ELK LR LR
comp=Z,298nm,21.0s,MS4.7
NEW Newport 91.91 41 PFAKE 00 03 20.0 +12
NEW LR LR
comp=Z,296nm,20.0s,MS4.7
HLID Hailey 92.68 46 eP **P** **00 03 12.6 +0.9**
comp=Z,7.7nm,1.1s,mb5.0
HLID epP pP 00 03 23.2 +0.6
HLID LR LR
comp=Z,511nm,19.0s,MS5.0
DUG Dugway 93.15 50 eP **P** **00 03 14.6 +0.6**
DUG LR LR
comp=Z,214nm,19.0s,MS4.6
TUC Tucson 93.24 58 PFAKE 00 03 30.0 +15
TUC LR LR
comp=Z,375nm,19.0s,MS4.9
MVU Marysvale 93.27 52 eP **P** **00 03 15.3 +0.7**
MVU epP pP 00 03 26.6 +1.1
MVU LR LR
comp=Z,656nm,19.0s,MS5.1
MSO Missoula 93.69 43 PFAKE 00 03 30.0 +14
MSO LR LR
comp=Z,192nm,21.0s,MS4.5
MCMT McKenzie Canyo 94.04 45 eP **P** **00 03 18.8 +0.9**
KURK Kurchatov 94.31 321 PFAKE 00 03 30.0 +11
KURK LR LR
comp=Z,113nm,20.0s,MS4.3
HWUT Hardware Ranch 94.35 49 eP **P** **00 03 19.8 +0.5**
HWUT LR LR
comp=Z,522nm,19.0s,MS5.0
AHID Auburn Hatcher 94.90 48 PFAKE 00 03 30.0 +8.1
AHID LR LR
comp=Z,396nm,19.0s,MS4.9
BOZ Bozeman (W) 95.04 45 PFAKE 00 03 30.0 +7.6
BOZ LR LR
comp=Z,348nm,20.0s,MS4.8
AAK Ala-Archa 95.61 312 PFAKE 00 03 40.0 +15
AAK LR LR
comp=Z,92nm,21.0s,MS4.2
BW06 Boulder Array 96.02 48 PFAKE 00 03 40.0 +13
BW06 LR LR
comp=Z,356nm,19.0s,MS4.9
PDAR Pinedale Array 96.02 48 P **P** **00 03 27.1 +0.1**
comp=Z,1.2nm,0.8s,mb4.4,baz=270,slow=1.5,SNR=4.7
PDAR LR LR 00 40 05.7
comp=Z,238nm,20.6s,MS4.7,baz=266,slow=31
YKA Yellowknife Ar 96.44 28 P **P** **00 03 27.4 -1.0**
comp=Z,6.0nm,0.8s,mb5.0,baz=252,slow=4.5,SNR=9.3
YKA LR LR 00 44 34.3
comp=Z,361nm,18.6s,MS4.9,baz=240,slow=34
SNAA Sanae 97.02 185⇑ *i* **P** **00 03 29.3 -1.6**
ANMO Albuquerque 97.23 56 PFAKE 00 03 40.0 +7.3
ANMO LR LR
comp=Z,297nm,20.0s,MS4.8
VNA3 Neumayer Olymp 97.87 183⇓ *i* **P** **00 03 35.6 +0.9**

VNA2 Neumayer--Watz 98.06 183 **P** **00 03 37.3 +1.7**
SDCO Great Sand Dun 98.38 53 PFAKE 00 03 50.0 +12
SDCO LR LR
comp=Z,718nm,21.0s,MS5.1
VNA1 Neumayer--Stat 98.39 183⇑ *i* **P** **00 03 34.8 -2.2**
ISCO Idaho Springs 98.54 51 PFAKE 00 03 50.0 +12
ISCO LR LR
comp=Z,926nm,19.0s,MS5.3
LTX Lajitas 98.82 62 PFAKE 00 03 50.0 +10
LTX LR LR
comp=Z,502nm,20.0s,MS5.0
TXAR Lajitas Array 98.82 62 LR LR 00 39 57.8
comp=Z,261nm,19.8s,MS4.7,baz=210,slow=30
LAO LASA Array 98.90 44 PFAKE 00 03 50.0 +10
LAO LR LR
comp=Z,327nm,20.0s,MS4.8
BVAR Borovoye Array 99.69 322 LR LR 00 52 18.3
comp=Z,4.9nm,20.1s,baz=305,slow=37
BRVK Borovoye 99.76 322 PFAKE 00 04 00.0 +16
BRVK LR LR
comp=Z,105nm,20.0s,MS4.3
DGMT Dagmar 100.44 42 PFAKE 00 04 00.0 +13
DGMT LR LR
comp=Z,471nm,19.0s,MS5.0
FFC Flin Flon 102.17 36 PFAKE 00 04 10.0 +16
FFC LR LR
comp=Z,87nm,20.0s,MS4.3
JCT Junction City 102.28 61 PFAKE 00 04 10.0 +14
JCT LR LR
comp=Z,350nm,20.0s,MS4.9
CBKS Cedar Bluff 102.99 53 PFAKE 00 04 10.0 +11
CBKS LR LR
comp=Z,632nm,21.0s,MS5.1
WMOK Wichita Mounta 103.49 57 PFAKE 00 04 10.0 +9.2
WMOK LR LR
comp=Z,385nm,20.0s,MS4.9
HKT Hockley 105.67 62 PFAKE 00 08 40.0
HKT LR LR
comp=Z,355nm,19.0s,MS4.9
ULM Lac du Bonnet 105.92 41 PFAKE 00 08 30.0
ULM LR LR
comp=Z,440nm,19.0s,MS5.0
ARU Arti 106.55 326 PFAKE 00 08 40.0
ARU LR LR
comp=Z,122nm,19.0s,MS4.5
NATX Nacogdoches 106.77 60 PFAKE 00 08 40.0
NATX LR LR
comp=Z,442nm,21.0s,MS5.0
MIAR Mount Ida 107.77 57 PFAKE 00 08 40.0
MIAR LR LR
comp=Z,552nm,21.0s,MS5.1
EYMN Ely 108.93 43 PFAKE 00 08 40.0
EYMN LR LR
comp=Z,11nm,19.0s
CCM Cathedral Cave 109.64 53 PFAKE 00 08 40.0
CCM LR LR
comp=Z,307nm,19.0s,MS4.9
JFWS Jewell Farm 110.18 48 PFAKE 00 08 40.0 +10
JFWS LR LR
comp=Z,314nm,19.0s,MS4.9
WVT Waverly 112.44 55 PFAKE 00 08 50.0 +15
WVT LR LR
comp=Z,288nm,19.0s,MS4.9
LRAL Lakeview Retre 113.26 59 PFAKE 00 08 50.0 +14
LRAL LR LR
comp=Z,514nm,20.0s,MS5.1
WCI Wyandotte Cave 113.53 53 PFAKE 00 08 50.0 +13
WCI LR LR
comp=Z,331nm,21.0s,MS4.9
JTS JuntasAbangare 114.12 84 PFAKE 00 08 50.0 +11
JTS LR LR
comp=Z,110nm,19.0s,MS4.5
AAM Ann Arbor 115.08 48 PFAKE 00 08 50.0 +10
AAM LR LR
comp=Z,481nm,20.0s,MS5.1
ARCES ARCESS Array B 115.29 345 PKP PKPdf 00 08 40.1 +0.5
comp=Z,3.9nm,0.8s,baz=94,slow=1.3,SNR=15
MYNC Murphy 115.52 56 PFAKE 00 08 50.0 +9.2
MYNC LR LR
comp=Z,383nm,19.0s,MS5.0
ACSO Alum Creek Sta 115.88 51 PFAKE 00 08 50.0 +8.6
ACSO LR LR
comp=Z,812nm,20.0s,MS5.3
DWPF Disney 118.25 64 PFAKE 00 09 00.0 +14
DWPF LR LR
comp=Z,252nm,20.0s,MS4.8
BLA Blacksburg 118.27 54 PFAKE 00 09 00.0 +14
BLA LR LR
comp=Z,339nm,21.0s,MS5.0
MCWV Mont Chateau 118.34 51 PFAKE 00 09 00.0 +14
MCWV LR LR
comp=Z,715nm,21.0s,MS5.3
KIV Kislovodsk 118.64 314 PFAKE 00 09 00.0 +13
KIV LR LR
comp=Z,46nm,19.0s,MS4.1
OTAV Otavalo 118.83 96 PFAKE 00 09 00.0 +12
OTAV LR LR
comp=Z,110nm,19.0s,MS4.5
OBN Obninsk 118.84 328 PFAKE 00 09 00.0 +13
OBN LR LR
comp=Z,139nm,20.0s,MS4.6
NHSC New Hope 118.97 58 PFAKE 00 09 00.0 +12
NHSC LR LR
comp=Z,656nm,21.0s,MS5.2
SSPA Standing Stone 119.64 49 PFAKE 00 09 00.0 +11
SSPA LR LR
comp=Z,570nm,20.0s,MS5.2
FINES FINESS Array B 120.32 337 PKP PKPdf 00 08 49.8 +0.3
comp=Z,3.0nm,0.8s,baz=112,slow=10,SNR=5.2
DJNS Zahran al Janu 120.38 284 P PKPdf 00 08 52.5 +1.9
CBN Corbin 120.50 52 PFAKE 00 09 00.0 +10
CBN LR LR
comp=Z,738nm,21.0s,MS5.3
TATS Tathlith 120.50 286 P PKPdf 00 08 52.6 +1.8
ARSS Ar Rass 120.66 294 P PKPdf 00 08 52.4 +1.4
BINY Binghamton 120.69 47 PFAKE 00 09 00.0 +9.3
BINY LR LR
comp=Z,665nm,21.0s,MS5.3
AFFS 'Afif 120.94 291 P PKPdf 00 08 52.7 +1.1
NCB Newcomb 121.47 45 PFAKE 00 09 00.0 +7.9
NCB LR LR
comp=Z,508nm,19.0s,MS5.2
SCHQ Schefferville 121.72 31 PFAKE 00 09 00.0 +7.7
SCHQ LR LR
comp=Z,1µm,21.0s,MS5.5
HILS Ha'il 121.87 295 P PKPdf 00 08 55.0 +1.8
BLJS Baljurashi 122.28 287 P PKPdf 00 08 56.4 +2.2
BOSA Boshof 122.79 226 PFAKE 00 09 10.0 +15
BOSA LR LR
comp=Z,358nm,19.0s,MS5.0
LPAZ La Paz 123.35 118 PKP PKPdf 00 08 57.4 +1.0
comp=Z,2.2nm,0.6s,baz=270,slow=0.6,SNR=12
LTHS Al Lith 123.40 287 P PKPdf 00 08 57.9 +1.5
ROSC El Rosal 123.75 91 PKP PKPdf 00 08 58.6 +1.3
comp=Z,7.6nm,0.6s,baz=112,slow=20,SNR=5.2
HRV Harvard--Oak R 123.76 46 PFAKE 00 09 10.0 +13
HRV LR LR
comp=Z,343nm,20.0s,MS5.0
WES Weston 123.97 46 PFAKE 00 09 10.0 +13
WES LR LR
comp=Z,620nm,22.0s,MS5.2
KMBO Kilima Mbogo 123.98 261 PKP PKPdf 00 08 59.4 +1.7
comp=Z,2.7nm,0.9s,baz=25,slow=5.1,SNR=6.8
KMBO Kilima Mbogo 123.98 261 PKP PKPdf 00 08 59.4 +1.7
KMBO LR LR
comp=Z,363nm,22.0s,MS5.0
KBRS Khaybar 124.25 294 P PKPdf 00 08 59.7 +1.8
WVL Waterville 124.40 43 PFAKE 00 09 10.0 +12
WVL LR LR
comp=Z,3µm,21.0s,MS5.9
PQI Presque Isle 124.68 40 PFAKE 00 09 10.0 +12
PQI LR LR
comp=Z,2µm,21.0s,MS5.8
AKASG Malin Array Be 124.80 325 PKP PKPdf 00 08 58.8 +0.4
comp=Z,3.5nm,0.8s,baz=61,slow=2.4,SNR=14
NB2 NORSAR Subarra125.60 343 PKPdf PKPdf 00 09 00.2 +0.6
comp=Z,1.2nm,0.7s,baz=31,slow=1.9
NOA NORSAR Array B125.60 343 PKP PKPdf 00 09 00.3 +0.7
comp=Z,2.5nm,0.8s,baz=37,slow=1.9,SNR=4.2
EMMW East Machias 125.80 42 PFAKE 00 09 10.0 +10
EMMW LR LR
comp=Z,2µm,21.0s,MS5.8
UMJS Umm Lajj 126.05 293 P PKPdf 00 09 03.2 +1.7
BRTR Keskin Array B 126.28 312 PKP PKPdf 00 09 02.3 +0.8
comp=Z,6.5nm,1.2s,baz=117,slow=2.8,SNR=12

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TBKS	**Tabuk**	**126.41**	**297**	P	PKPdf	00 09 03.9	+1.8
CPUP	**Villa Florida**	**126.66**	**135**	PKP	PKPdf	00 09 03.1	+0.4
	comp=Z,6.5nm,0.9s,baz=289,slow=0.9,SNR=16						
CPUP	**Villa Florida**	**126.66**	**135**	*e*PKP	PKPdf	00 09 02.7	+0.1
JMQS	**Jabal Moqyreh**	**126.90**	**298**	P	PKPdf	00 09 04.8	+1.7
AYUS	**'Aynunah**	**127.53**	**297**	P	PKPdf	00 09 05.8	+1.5
LSZ	**Lusaka**	**127.55**	**241**	PFAKE		00 09 20.0	+15
LSZ				LR	LR		
	comp=Z,348nm,20.0s,MS5.0						
BDAS	**Al Bad'**	**127.64**	**297**	P	PKPdf	00 09 06.5	+2.0
HAQS	**Haql**	**127.70**	**298**	P	PKPdf	00 09 06.3	+1.7
TAYS	**Tayyib Ism**	**127.83**	**298**	P	PKPdf	00 09 05.9	+1.1
SDV	**Santo Domingo**	**127.96**	**87**	*e*PKP	PKPdf	00 09 05.5	0.0
SDV				LR	LR		
	comp=Z,141nm,20.0s,MS4.7						
MBAR	**Mbarara**	**130.42**	**260**	PFAKE		00 09 20.0	+10
MBAR				LR	LR		
	comp=Z,78nm,22.0s,MS4.4						
SAML	**Samuel**	**130.74**	**112**	*e*PKP	PKPdf	00 09 10.4	-0.3
SAML				LR	LR		
	comp=Z,270nm,20.0s,MS4.9						
BBSR	**BB Station**	**131.91**	**56**	PFAKE		00 09 30.0	+17
BBSR				LR	LR		
	comp=Z,371nm,20.0s,MS5.1						
BRG	**Berggiesshubel**	**132.42**	**333**	*e*PKP	PKPdf	00 09 13.9	+1.0
BRG				LR	LR		
	comp=Z,480nm,24.9s,MS5.1						
SJG	**San Juan**	**132.75**	**75**	PFAKE		00 09 30.0	+16
SJG				LR	LR		
	comp=Z,188nm,20.0s,MS4.8						
PRU	**Pruhonice**	**132.77**	**332**	*e*P	PKPdf	00 09 14.8	+1.2
MOX	**Moxa**	**133.59**	**334**	*e*P	PKPdf	00 09 20.0	+4.8
MOX				L		00 11 33.0	
KHC	**Kasperske Hory**	**133.82**	**332**	*e*P	PKPdf	00 09 16.5	+0.8
GERES	**GERESS Array B**	**133.96**	**331**	PKP	PKPdf	00 09 16.5	+0.6
	comp=Z,1.1nm,0.6s,baz=90,slow=1.3,SNR=12						
TSUM	**Tsumeb**	**134.06**	**230**	PFAKE		00 09 30.0	+13
TSUM				LR	LR		
	comp=Z,753nm,20.0s,MS5.4						
GRA1	**Grafenberg Arr**	**134.47**	**334**	*e*PKP	PKPdf	00 09 17.6	+0.8
PERS	**Pernice**	**134.77**	**328**	*i* PKPdf	PKPdf	00 09 18.1	+0.6
BOJS	**Bojanci**	**135.44**	**327**	*i* PKPdf	PKPdf	00 09 19.7	+1.0
LJU	**Ljubljana**	**135.47**	**328**	*i* PKPdf	PKPdf	00 09 20.1	+1.3
CEY	**Cerknica**	**135.72**	**328**	*i* PKPdf	PKPdf	00 09 19.9	+0.8
ROBS	**Robic**	**135.85**	**329**	*i* PKPdf	PKPdf	00 09 19.9	+0.4
FSSB	**Fossombrone**	**137.96**	**327**	*e*PKP	PKPdf	00 09 24.7	+1.4
ARV	**Arcevia**	**138.00**	**326**	*e*PKP	PKPdf	00 09 24.7	+1.3
MRLC	**Muro Lucano**	**138.23**	**321**	*e*PKP	PKPdf	00 09 24.8	+0.9
SDI	**San Donato**	**138.66**	**324**	*e*PKP	PKPdf	00 09 24.9	+0.2
PTQR	**Pietraquaria**	**138.70**	**324**	*e*PKP	PKPdf	00 09 25.9	+1.2
CAM4	**Nova Friburgo**	**138.99**	**144**	(P)	PKPdf	00 09 27.4	+1.6
CAM4				*i*		00 09 38.9	
CAM4				*i*		00 09 50.6	
LPL	**La Plagne**	**139.62**	**333**	*e*PKIKP	PKPdf	00 09 24.6	-1.7
	comp=Z,4.0nm,0.7s						
LPG	**La Plagne**	**139.63**	**333**	*e*PKIKP	PKPdf	00 09 24.6	-1.7
BNI	**Bardonecchia**	**140.00**	**333**	*e*PKP	PKPdf	00 09 27.7	+0.7
BDFB	**Brasilia**	**140.12**	**131**	PKhKP		00 09 22.1	
	comp=Z,2.4nm,0.6s,baz=34,slow=1.2,SNR=5.5						
BDFB				PKP	PKPdf	00 09 29.4	+1.4
	comp=Z,4.0nm,0.5s,baz=206,slow=2.2,SNR=6.7						
SBF	**Sospel**	**140.56**	**331**	*e*PKIKP	PKPdf	00 09 25.3	-2.8
	comp=Z,26nm,1.0s						
PGF	**Pioggiola**	**140.75**	**328**	*e*PKIKP	PKPdf	00 09 25.5	-3.0
	comp=Z,16nm,0.9s						
EPF	**Esparros**	**144.30**	**337**	*e*PKIKP	PKPdf	00 09 33.4	-1.2
	comp=Z,18nm,0.9s						
ETSF	**Etsaut**	**144.75**	**338**	*e*PKIKP	PKPdf	00 09 33.1	-2.3
	comp=Z,87nm,1.0s						
EMIR	**Miracle**	**144.76**	**335**	PKP	PKPdf	00 09 34.7	-0.7
SJPF	**Ste Jean**	**144.81**	**339**	*e*PKIKP	PKPdf	00 09 32.9	-2.6
	comp=Z,15nm,0.8s						
EPOB	**Poblet**	**145.41**	**335**	PKP	PKPdf	00 09 37.9	+1.3
ELAN	**Lanestosa**	**145.45**	**341**	PKP	PKPdf	00 09 38.2	+1.7
ESAC	**San Caprasio**	**145.73**	**337**	PKP	PKPdf	00 09 38.8	+1.7
EARI	**Arriondas**	**145.91**	**344**	PKP	PKPdf	00 09 39.7	+2.3
EBR	**Ebro Roquetas**	**146.10**	**335**	*e*PKPDF	PKPdf	00 09 40.2	+2.4
EBR				*e*Rs		00 27 00.0	
EPON	**Pontenova**	**146.39**	**346**	PKP	PKPdf	00 09 41.2	+3.0
EMOS	**Mosqueruela**	**146.88**	**335**	PKP	PKPdf	00 09 42.9	+3.8
ETOR	**Torete**	**147.11**	**338**	PKP	PKPdf	00 09 43.5	+4.1
STS	**Santiago**	**147.12**	**347**	PKP	PKPdf	00 09 43.1	+3.7
EMAZ	**Mazaricos**	**147.15**	**348**	PKP	PKPdf	00 09 43.1	+3.6
ECAL	**Calabor**	**147.59**	**345**	PKP	PKPdf	00 09 44.5	+4.3
PBRG	**Braganca**	**147.72**	**344**	*e*PKPdf	PKPdf	00 09 44.1	+3.7
ELOB	**Lobios**	**147.99**	**346**	PKP	PKPdf	00 09 45.9	+5.1
EBEN	**Beniarda**	**148.17**	**333**	PKP	PKPdf	00 09 46.4	+5.2
PVRL	**Vila Real**	**148.46**	**345**	*e*PKPdf	PKPdf	00 09 47.1	+5.5
ESDC	**Sonseca Array**	**148.81**	**339**	PKPbc	PKPdf	00 09 47.4	+5.2
	comp=Z,2.2nm,0.7s,baz=16,slow=2.3,SNR=12						
ESDC	**Sonseca Array**	**148.81**	**339**	PKP	PKPdf	00 09 48.0	+5.8
ESLA	**Sonseca Array**	**148.81**	**339**	PFAKE		00 10 00.0	+18
ESLA				LR	LR		
	comp=Z,1μm,22.0s,MS5.7						
PVIS	**Viseu**	**149.03**	**345**	*e*PKPdf	PKPdf	00 09 46.4	+3.9
EVIA	**Vianos**	**149.17**	**336**	PKP	PKPdf	00 09 48.5	+5.6
MTE	**Manteigas**	**149.24**	**345**	*e*PKPdf	PKPdf	00 09 48.8	+5.9
MTE	**Manteigas**	**149.24**	**345**	*e*PKPbc	PKPdf	00 09 48.8	+5.9
EMUR	**La Murta**	**149.32**	**334**	PKP	PKPdf	00 09 48.2	+5.1
PCBR	**Castelo Branco**	**149.75**	**344**	*e*PKPdf	PKPdf	00 09 45.6	+1.9
EQES	**Quesada**	**150.12**	**336**	PKP	PKPdf	00 09 50.7	+6.3
EADA	**Adamuz**	**150.37**	**339**	PKP	PKPdf	00 09 51.4	+6.7
EBAD	**Badajoz**	**150.63**	**343**	PKP	PKPdf	00 09 51.5	+6.4
ELUQ	**Luque**	**150.79**	**338**	PKP	PKPdf	00 09 52.6	+7.2
EBER	**Berja**	**150.82**	**335**	PKP	PKPdf	00 09 52.0	+6.6
PLOU	**Loures**	**151.08**	**346**	*e*PKPdf	PKPdf	00 09 54.2	+8.4
ERON	**Agron**	**151.09**	**336**	PKP	PKPdf	00 09 52.0	+6.1
ELOJ	**Sierra Loja**	**151.11**	**337**	PKP	PKPdf	00 09 52.7	+6.8
EVO	**Evora**	**151.12**	**344⇑**	*i*PKIKP	PKPdf	00 09 53.4	+7.6
	comp=Z,59nm,1.1s						
EMIN	**Mina Concepcio**	**151.44**	**341**	PKP	PKPdf	00 09 54.5	+8.1
PBEJ	**Beja**	**151.55**	**343**	*e*PKPdf	PKPdf	00 09 54.6	+8.1
EMIJ	**Mijas**	**151.86**	**337**	PKP	PKPdf	00 09 53.1	+6.1
PALC	**Alcoutim**	**151.96**	**342**	*e*PKPdf	PKPdf	00 09 55.7	+8.6
ESPR	**Espera**	**151.98**	**339**	PKP	PKPdf	00 09 54.8	+7.6
RCBR	**Riachuelo**	**155.49**	**132**	PFAKE		00 10 10.0	+17
RCBR				LR	LR		
	comp=Z,205nm,19.0s,MS5.0						
DBIC	**Dimbokro**	**166.54**	**253**	PFAKE		00 10 20.0	+15
DBIC				LR	LR		
	comp=Z,353nm,20.0s						

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*NIED **05** 00:04:00, 44.30N×151.30E, h29km, Mw4.1 Best double couple: $M_0$1.81×10^{15} NP1:ϕ_s273°, δ80°, λ-63°. NP2:ϕ_s21°, δ29°, λ-159°.*
*SKHL **05** 00:04:32.3±5.2, 44.10N×151.80E, h33km, mb5.0/2, ms4.3/1, msh5.3/1*
*MOS **05** 00:04:38.3±1.9, 44.11N×151.17E, h33km, mb4.3/8, Error ellipse: s-maj=23.1km s-min=13.4km az=35.4*
*BJI **05** 00:04:38.4, 44.10N×151.16E, h34km, mB4.8, mb4.7, Ms4.5, Msz4.5*
*NEIC **05** 00:04:40.2±2.3, 43.81N×151.23E, h43km±20km, mb4.5/10, Error ellipse: s-maj=16.2km s-min=14.7km az=100.0*
*IDC **05** 00:04:42.3±4.3, 43.93N×151.30E, h56km±38km, mb3.8/15, mb1 4.0/16, mb1mx3.9/24, ML4.3/1, Error ellipse: s-maj=19.4km s-min=15.7km az=125.0*
ISC 05 00:04:38.7±1.2**, 43.94N**±0.08×**151.12E**±0.06**, h39**km±9km**, n57, σ1.27**/60**, mb4.3**/27**, MS4.8**/4**, 1C-2D, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.66**	**300⇑**	*i*P	**P**	**00 05 17.0**	**-3.1**
KUR				AMB	AMB	00 05 17.5	
	70nm,0.5s						
KUR				AMB	AMB	00 05 17.5	
	60nm,0.5s						
KUR				AMB	AMB	00 05 17.5	
	150nm,0.5s						
KUR				*i* S	**S**	**00 05 50.5**	**-1.0**
KUR				A		00 05 53.5	
	3μm,2.0s						
KUR				A		00 05 53.5	
	2μm,2.0s						
KUR				A		00 05 53.5	
	450nm,0.5s						
KUR				A		00 05 53.5	
	680nm,0.5s						
KUR	**Kuril'sk**	**2.66**	**300⇓**	*i*PN	**P**	**00 05 17.0**	**-3.1**
KUR				*i* S	**S**	**00 05 50.5**	**-1.0**
KUR				pmax	pmax		
	comp=N,70nm,0.5s						
KUR				pmax	pmax		
	comp=E,60nm,0.5s						
KUR				pmax	pmax		
	comp=Z,150nm,0.5s						
KUR				smax			
	comp=N,450nm,0.5s						
KUR				smax			
	comp=E,680nm,0.5s						
KUR				smax			
	comp=N,3μm,2.0s						
KUR				smax			
	comp=E,2μm,2.0s						
YUK	**Yuzh-Kuril'sk**	**3.80**	**273**	*e*P	**P**	**00 05 37.0**	**+0.7**
YUK				AMB	AMB	00 05 39.0	
	comp=E,210nm,0.4s						
YUK				*i* S	**S**	**00 06 19.0**	**-1.3**
YUK				A		00 06 21.8	
	comp=E,370nm,0.5s						
YUK				A		00 06 21.8	
	comp=E,570nm,0.5s						
ASAJ	**Asahikawa**	**6.15**	**275**	P	**P**	**00 06 11.8**	**+2.4**
	comp=E,7.0nm,0.3s,baz=83,slow=7.5,SNR=12						
ASAJ	**Asahikawa**	**6.15**	**275**	PN	**P**	**00 06 11.8**	**+2.4**
ASAJ				pmax	pmax		
	comp=Z,7.0nm,0.3s						
YSS	**Yuzh-Sakhalins**	**6.61**	**300**	*e*P	**P**	**00 06 17.0**	**+1.1**
YSS				*e*rx	rx	00 08 12.0	
YSS	**Yuzh-Sakhalins**	**6.61**	**300**	P	**P**	**00 06 18.7**	**+2.8**
SKR	**Severo-Kuril's**	**7.55**	**25**	*e*rx	rx	00 07 53.0	
TYV	**Tymovskoe**	**8.99**	**323**	*e*rx	rx	00 09 14.0	
TEY	**Ternei**	**10.44**	**281**	*e*P	**P**	**00 07 10.0**	**+1.2**
MAJO	**Matsushiro**	**12.32**	**238**	*e*P	**P**	**00 07 32.1**	**-2.2**
MDJ	**Mudanjiang**	**15.44**	**280**	P	**P**	**00 08 14.7**	**-0.4**
MDJ				S	**S**	**00 11 05.2**	**+0.1**
MDJ				PCP	PcP	00 13 15.2	-2.8
MDJ				PCS		00 16 50.7	
MDJ				AMB	AMB		
	comp=Z,18nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,108nm,6.6s						
MDJ				LR	LR		
	comp=N,178nm,21.0s						
MDJ				LR	LR		
	comp=E,454nm,22.3s						
MDJ				LR	LR		
	comp=Z,599nm,24.9s						
MDJ	**Mudanjiang**	**15.44**	**280**	*e*P	**P**	**00 08 13.9**	**-1.2**
	comp=Z,18nm,0.7s						
CN2	**Changchun**	**18.49**	**279**	*e*P	**P**	**00 08 52.7**	**-0.9**
CN2				*e*S	**S**	**00 12 13.7**	**-1.4**
CN2				AMB	AMB		
	comp=Z,20nm,0.7s						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,700nm,19.0s						
CN2				LR	LR		
	comp=E,700nm,19.0s						
CN2				LR	LR		
	comp=Z,800nm,22.0s						
HIA	**Hailar**	**22.11**	**295**	*e*P	**P**	**00 09 32.5**	**+0.5**
	comp=Z,10nm,0.8s,mb4.3						
BJT	**Baijiatuau**	**26.16**	**274**	P	**P**	**00 10 12.6**	**+1.6**
	comp=Z,5.2nm,0.4s,mb4.4						
BOD	**Bodaibo**	**26.82**	**314**	*e*P	**P**	**00 10 13.1**	**-3.9**
NJ2	**Nanjing**	**27.89**	**256**	*e*P	**P**	**00 10 30.1**	**+3.1**
NJ2				AP	pP	00 10 34.4	-3.2
NJ2				XP	sP	00 10 37.1	-5.3
NJ2				PP	PP	00 11 18.7	+1.8
NJ2				S	**S**	**00 15 12.0**	**+5.9**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.0						
NJ2				LR	LR		
	comp=N,710nm,17.6s						
NJ2				LR	LR		
	comp=E,1μm,22.7s						
NJ2				LR	LR		
	comp=Z,3μm,20.9s,MS4.8						
SONM	**Songino Array**	**31.04**	**293**	P	**P**	**00 10 55.8**	**+0.9**
	comp=Z,2.3nm,0.7s,mb4.1,baz=78,slow=8.1,SNR=22						
LZH	**Lanzhou**	**36.63**	**274**	*e*P	**P**	**00 11 45.0**	**+1.9**
LZH				XP	sP	00 12 01.0	+2.0
LZH				*e*S	**S**	**00 17 22.2**	**-0.7**
LZH				SS	SS	00 19 49.0	-1.9
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
LZH				AMB	AMB		
	comp=Z,121nm,6.2s						
LZH				LR	LR		
	comp=E,801nm,13.1s						
LZH				LR	LR		
	comp=Z,942nm,15.1s,MS4.7						
ILAR	**Eielson Array**	**39.63**	**36**	P	**P**	**00 12 08.6**	**+0.7**
	comp=Z,1.8nm,1.1s,mb3.7,baz=266,slow=8.0,SNR=6.9						
ILAR	**Eielson Array**	**39.63**	**36**	P	**P**	**00 12 08.6**	**+0.8**
ILAR				pmax	pmax		
	comp=Z,2.0nm,1.1s						
GYA	**Guiyang**	**39.77**	**259⇓**	*i*P	**P**	**00 12 10.2**	**+0.8**
GYA				AP	pP	00 12 25.6	+5.2
GYA				S	**S**	**00 18 09.8**	**-0.8**
GYA				SCS	ScS	00 22 09.8	-1.8
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
GYA				LR	LR		
	comp=N,1μm,15.4s,MS5.1						
GYA				LR	LR		
	comp=E,1μm,15.0s,MS5.1						
GYA				LR	LR		
	comp=Z,2μm,15.8s,MS5.0						
NVS	**Novosibirsk**	**43.83**	**309**	*e*P	**P**	**00 12 40.0**	**-2.3**
WMQ	**Urumqi**	**44.68**	**293**	*e*P	**P**	**00 12 51.4**	**+2.1**
WMQ				PP	PP	00 14 38.0	+3.2
WMQ				S	**S**	**00 19 24.0**	**+1.5**
WMQ				SS	SS	00 22 37.0	+2.4
WMQ				LR	LR		
	comp=N,270nm,16.0s,MS4.5						
WMQ				LR	LR		
	comp=E,406nm,16.0s,MS4.5						
WMQ				LR	LR		
	comp=Z,525nm,18.0s,MS4.5						
MKAR	**Makanchi Array**	**47.03**	**299**	P	**P**	**00 13 08.6**	**+0.8**
	comp=Z,2.0nm,0.7s,mb4.2,baz=77,slow=6.8,SNR=15						
MKAR				PcP	PcP	00 14 39.3	-0.7
	comp=Z,0.4nm,0.6s,baz=69,slow=5.1,SNR=2.2						
MKAR	**Makanchi Array**	**47.03**	**299**	P	**P**	**00 13 08.6**	**+0.8**
MKAR						00 14 39.3	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KURK	**Kurchatov**	**47.79**	**305**	*e*P	**P**	**00 13 14.1**	**+0.3**
	comp=Z,9.3nm,0.7s,mb4.9						
CMAR	**Chiang Mai Arr**	**50.35**	**257**	P	**P**	**00 13 35.4**	**+1.4**
	comp=Z,1.4nm,1.0s,mb4.0,baz=29,slow=11,SNR=4.7						
CMAR				PcP	PcP	00 14 53.8	+1.4
	comp=Z,0.4nm,0.4s,baz=1.0,slow=2.9,SNR=4.0						
CMAR	**Chiang Mai Arr**	**50.35**	**257**	P	**P**	**00 13 35.4**	**+1.4**
CMAR						00 14 53.8	
CMAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
BVAR	**Borovoye Array**	**51.59**	**310**	P	**P**	**00 13 44.5**	**+1.7**
	comp=Z,1.2nm,0.5s,mb4.1,baz=86,slow=6.0,SNR=4.9						
BRVK	**Borovoye**	**51.63**	**311**	*e*P	**P**	**00 13 41.6**	**-1.5**
	comp=Z,5.6nm,1.0s,mb4.5						
ZRNK	**Zerenda**	**52.38**	**311**	*e*P	**P**	**00 13 49.1**	**+0.4**
	comp=Z,3.3nm,0.8s,mb4.3						
AAK	**Ala-Archa**	**53.85**	**297**	*e*P	**P**	**00 13 59.3**	**-0.6**
	comp=Z,2.6nm,0.8s,mb4.2						
ARU	**Arti**	**56.15**	**318**	*e*P	**P**	**00 14 15.7**	**-0.6**
	comp=Z,3.2nm,0.6s,mb4.5						
CTAO	**Charters Tower**	**63.87**	**185**	P	**P**	**00 14 59.3**	**-10**
	comp=Z,14nm,1.2s,mb4.8						
NVAR	**Mina Array Bea**	**65.02**	**60**	P	**P**	**00 15 17.6**	**+0.7**
	comp=Z,0.5nm,0.6s,mb3.7,baz=304,slow=6.1,SNR=3.9						
WRAB	**Tennant Creek**	**65.39**	**197**	*e*P	**P**	**00 15 14.8**	**-4.8**
	comp=Z,4.8nm,0.7s,mb4.6						
WRA	**Warramunga Arr**	**65.41**	**197**	P	**P**	**00 15 18.1**	**-1.6**
	comp=Z,2.3nm,0.7s,mb4.3,baz=17,slow=6.8,SNR=11						
WRA	**Warramunga Arr**	**65.41**	**197**	P	**P**	**00 15 18.1**	**-1.6**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	**FINESS Array B**	**65.98**	**334**	P	**P**	**00 15 21.2**	**-1.3**
	comp=Z,2.1nm,0.8s,mb4.2,slow=11,SNR=7.5						
FINES	**FINESS Array B**	**65.98**	**334**	P	**P**	**00 15 21.3**	**-1.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FITZ	**Fitzroy Crossi**	**66.00**	**207**	P	**P**	**00 15 23.2**	**-0.3**
	comp=Z,4.8nm,0.7s,mb4.6,baz=20,slow=4.4,SNR=6.9						
PDAR	**Pinedale Array**	**67.56**	**52**	P	**P**	**00 15 31.7**	**-1.2**
	comp=Z,0.5nm,0.8s,mb3.6,baz=315,slow=2.1,SNR=3.2						
ASAR	**Alice Springs**	**69.11**	**197**	P	**P**	**00 15 42.8**	**-0.1**
	comp=Z,1.5nm,1.0s,mb3.9,baz=8.3,slow=5.5,SNR=5.9						
NOA	**NORSAR Array B**	**70.42**	**341**	P	**P**	**00 15 49.5**	**-0.7**
	comp=Z,3.1nm,1.0s,mb4.2,baz=27,slow=6.3,SNR=3.5						
NOA	**NORSAR Array B**	**70.42**	**341**	P	**P**	**00 15 49.5**	**-0.7**
NOA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
PV10	**Paradox Valley**	**70.70**	**55**	*e*P	**P**	**00 15 51.5**	**-0.9**
AKASG	**Malin Array Be**	**73.09**	**326**	P	**P**	**00 16 06.0**	**-0.2**
	comp=Z,1.0nm,0.5s,mb4.0,baz=33,slow=5.3,SNR=5.1						
AKASG	**Malin Array Be**	**73.09**	**326**	P	**P**	**00 16 06.1**	**-0.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRTR	**Keskin Array B**	**79.45**	**316**	P	**P**	**00 16 43.6**	**+1.2**
	comp=Z,1.0nm,0.8s,mb3.8,baz=85,slow=4.2,SNR=4.8						
BRTR	**Keskin Array B**	**79.45**	**316**	P	**P**	**00 16 43.7**	**+1.3**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TXAR	**Lajitas Array**	**80.12**	**59**	P	**P**	**00 16 45.0**	**-1.3**
	comp=Z,1.2nm,0.8s,mb3.9,baz=301,slow=4.7,SNR=4.6						
BDFB	**Brasilia**	**147.44**	**36**	PKPbc	PKPdf	00 24 19.2	+3.1
	comp=Z,1.7nm,0.5s,baz=207,slow=1.4,SNR=4.2						
BDFB	**Brasilia**	**147.44**	**36**	PKP2	PKPab	00 24 19.2	-3.5
BDFB				pmax	pmax		
	comp=Z,2.0nm,0.5s						
SNAA	**Sanae**	**149.47**	**196**	PKPbc	PKPdf	00 24 23.8	+6.0
	comp=Z,0.5nm,0.6s,baz=191,slow=5.2,SNR=5.1						
SNAA	**Sanae**	**149.47**	**196**	PKP2	PKPab	00 24 23.8	-5.6
SNAA				pmax	pmax		
	comp=Z,1.0nm,0.6s						

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*IDC **05** 00:05:01.6±1.7, 32.67S×179.90E, mb4.1/4, mb1 4.3/5, mb1mx4.2/13, ML3.5/1, MS4.2/4, Ms1 4.2/4, ms1mx3.8/17, Error ellipse: s-maj=49.8km s-min=32.4km az=151.0*
*NEIC **05** 00:05:06.6±0.7, 32.72S×179.87E, h35km, mb4.4/3, Error ellipse: s-maj=17.5km s-min=14.3km az=72.0*
ISC 05 00:05:05.8±5.4**, 32.8S**±0.2×**179.8E**±0.2**, h37**km±43km**, n13, σ0.25**/9**, mb4.1**/7**, MS4.2**/4**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.84**	**201**	Pn	**P**	**00 06 32.1**	**0.0**
	1.2nm,0.3s,baz=7.3,slow=7.0,SNR=7.1						
CTA	**Charters Tower**	**32.43**	**285**	LR	LR	00 23 42.4	
	comp=Z,209nm,19.2s,MS3.8,baz=46,slow=34						
ASAR	**Alice Springs**	**41.16**	**271**	P	**P**	**00 12 48.7**	**+0.5**
	2.1nm,0.7s,mb3.9,baz=112,slow=7.7,SNR=19						
WB2	**Warramunga Arr**	**42.36**	**276**	*e*P	**P**	**00 12 58.2**	**0.0**
WRAB	**Tennant Creek**	**42.37**	**276**	*e*P	**P**	**00 12 57.7**	**-0.5**
	3.3nm,0.7s,mb4.1						
WRAB				*e*		00 13 05.2	
WRA	**Warramunga Arr**	**42.37**	**276**	P	**P**	**00 12 58.4**	**+0.1**
	1.7nm,0.6s,mb3.9,baz=117,slow=7.8,SNR=11						
WRA				LR	LR	00 28 50.4	
	comp=Z,177nm,19.0s,MS4.0,baz=70,slow=34						
FITZ	**Fitzroy Crossi**	**50.52**	**273**	P	**P**	**00 14 02.7**	**0.0**
	2.5nm,0.8s,mb4.2,baz=126,slow=8.8,SNR=2.7						
QSPA	**South Pole Qui**	**57.29**	**180**	*e*P	**P**	**00 14 51.8**	**+0.2**
	7.7nm,0.9s,mb4.7						
SNAA	**Sanae**	**75.78**	**179**	*e*P	**P**	**00 16 48.6**	**-0.2**
	3.4nm,1.0s,mb4.2						
NVAR	**Mina Array Bea**	**91.30**	**44**	P	**P**	**00 18 08.8**	**0.0**
	0.4nm,0.7s,mb3.9,baz=209,slow=5.1,SNR=4.5						
LPAZ	**La Paz**	**98.85**	**116**	LR	LR	00 50 58.7	
	comp=Z,183nm,21.7s,MS4.5,baz=218,slow=28						
CPUP	**Villa Florida**	**99.93**	**130**	LR	LR	00 59 30.8	
	comp=Z,142nm,19.9s,MS4.5,baz=240,slow=33						
FINES	**FINESS Array B**	**146.70**	**337**	PKPbc	PKPbc	00 24 42.4	-0.3
	4.0nm,1.0s,baz=27,slow=3.1,SNR=3.6						

IDC 05 00:08:22.5±1.5**, 3.68N**×**128.11E, mb3.7**/5**, mb1 3.8**/5**, mb1mx3.7**/16**, Error ellipse: s-maj=151.0km s-min=20.8km az=68.0, North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.26**	**166**	P	P	00 13 41.5	-1.1
	0.7nm,0.5s,baz=344,slow=9.9,SNR=5.3						
STKA	**Stephens Creek**	**37.62**	**161**	P	P	00 15 39.2	-1.8
	1.1nm,0.7s,baz=343,slow=6.2,SNR=3.3						
SONM	**Songino Array**	**47.79**	**340**	P	P	00 17 01.0	-2.6
	0.4nm,0.8s,baz=149,slow=8.4,SNR=3.5						
MKAR	**Makanchi Array**	**58.38**	**325**	P	P	00 18 20.3	-1.8
	1.0nm,0.4s,baz=116,slow=8.4,SNR=30						
BVAR	**Borovoye Array**	**68.11**	**327**	P	P	00 19 24.3	-2.1
	0.4nm,0.5s,baz=108,slow=4.6,SNR=3.7						

IDC 05 00:15:37.8±32.0**, 15.96S**×**175.08W, mb4.0**/4**, mb1 4.2**/4**, mb1mx3.9**/14**, MS3.4**/1**, Ms1 3.4**/1**, ms1mx3.1**/20**, Error ellipse: s-maj=625.0km s-min=160.9km az=85.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**15.42**	**112**	LR	LR	00 22 49.1	
	comp=Z,134nm,20.6s,baz=4.4,slow=28						
STKA	**Stephens Creek**	**42.35**	**240**	P	P	00 23 34.4	-1.0
	1.8nm,0.7s,baz=100,slow=8.6,SNR=4.8						
WB2	**Warramunga Arr**	**48.13**	**257**	*e*P	P	00 24 19.3	-2.5
WRA	**Warramunga Arr**	**48.14**	**257**	P	P	00 24 19.3	-2.6
	0.4nm,0.5s,baz=96,slow=6.9,SNR=6.4						
ASAR	**Alice Springs**	**48.40**	**252**	P	P	00 24 21.6	-2.3
	5.8nm,0.6s,baz=89,slow=8.0,SNR=65						
ASPA	**Alice Springs**	**48.40**	**252**	*e*P	P	00 24 21.7	-2.1
KAKA	**Kakadu**	**50.88**	**266**	*e*P	P	00 24 47.3	+4.3
	1.4nm,0.2s						
FITZ	**Fitzroy Crossi**	**56.51**	**259**	*e*P	P	00 25 22.8	-1.7
	1.4nm,0.9s						
FITZ	**Fitzroy Crossi**	**56.51**	**259**	P	P	00 25 22.7	-1.8
	1.1nm,0.9s,baz=98,slow=7.1,SNR=4.6						

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*ISK **05** 00:17:40.1, 36.88N×41.23E, h9km, MD3.8*
*CSEM **05** 00:17:40.3±0.2, 36.87N×41.24E, h15km, MD3.8, Error ellipse: s-maj=4.5km s-min=2.0km az=2.0*
ISC 05 00:17:39.7±1.9**, 36.79N**±0.09×**41.23E**±0.05**, h9**km±15km**, n15, σ1.00**/22**, Iraq**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BEST	**Besiri**	**1.10**	**2**	*i* P	**Pb**	**00 17 59.8**	**-0.8**
BEST				*i* S	**Sb**	**00 18 16.6**	**+1.8**
DIY	**Diyarbakir**	**1.36**	**324**	PN	**Pn**	**00 18 04.9**	**-0.2**
DIY				SN	**Sn**	**00 18 22.3**	**-1.1**
BTMT	**Batman**	**1.42**	**8**	*i* PN	**Pn**	**00 18 04.0**	**-1.8**
HKR	**Hakkari**	**2.15**	**68**	*i* PN	**Pn**	**00 18 16.2**	**-0.2**
HKR				*i* SN	**Sn**	**00 18 43.6**	**+0.1**
BINT	**Bingol**	**2.17**	**345**	PN	**Pn**	**00 18 16.1**	**-0.4**
TVAN	**Van**	**2.45**	**44**	*i* P	**Pn**	**00 18 21.6**	**+1.0**
TVAN				*i* S	**Sn**	**00 18 59.6**	**+8.6**
ELZG	**Elazig**	**2.47**	**314**	*i* P	**Pn**	**00 18 21.4**	**+0.5**
ELZG				*i* S	**Sn**	**00 18 53.4**	**+1.9**
VANB	**Van**	**2.49**	**43**	PN	**Pn**	**00 18 21.1**	**0.0**
PTK	**Pertek**	**2.56**	**326**	PN	**Pn**	**00 18 21.7**	**-0.4**
PTK				*e*SN	**Sn**	**00 18 52.0**	**-1.7**
MYA	**Malataya**	**2.71**	**305**	PN	**Pn**	**00 18 24.3**	**0.0**
EZM	**Erzurum**	**3.11**	**2**	PN	**Pn**	**00 18 29.5**	**-0.6**
EZC	**Erzincan**	**3.16**	**340**	PN	**Pn**	**00 18 32.4**	**+1.7**
GAZ	**Gaziantep**	**3.24**	**278**	PN	**Pn**	**00 18 32.3**	**+0.4**
COBT	**Iskenderun**	**4.01**	**268**	*i* P	**Pn**	**00 18 38.4**	**-4.4**
COBT				*i* S	**Sn**	**00 19 38.8**	**+8.4**
SVSK	**Karacayir**	**4.56**	**314**	PN	**Pn**	**00 18 50.7**	**+0.1**

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*JMA **05** 00:24:31.6±0.2, 29.84N×139.52E, h445km, M4.4*
*IDC **05** 00:24:32.4±0.8, 29.80N×138.90E, h414km±9km, mb3.5/21, mb1 3.8/23, mb1mx3.7/27, Error ellipse: s-maj=13.6km s-min=8.3km az=87.0*
*BJI **05** 00:24:32.0, 29.80N×138.90E, h409km, mB4.3, mb4.2*
*SYO **05** 00:24:32, 29.76N×138.75E, h411km, MB4.1*
*NEIC **05** 00:24:32.1±0.8, 29.76N×138.86E, h409km±8km, mb4.1/16, Error ellipse: s-maj=10.6km s-min=7.8km az=95.0*
ISC 05 00:24:30.8±0.4**, 29.70N**±0.04×**138.82E**±0.08**, h412**km±4km**, n68, σ0.90**/78**, mb3.9**/40**, 1D, Southeast of Honshu**

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

JHJ	Hachijo jima 2	3.51	13	P	P	00 25 41.1	+1.4
	118nm,0.3s,baz=86,slow=20,SNR=30						
JHJ				S	S	00 26 34.2	+0.3
	26nm,0.3s,baz=346,slow=15,SNR=3.1						
JHJ2	Mitsune	3.51	14	P	P	00 25 41.2	+1.5
JHJ2				eS	S	00 26 34.3	+0.4
CBIJ	Chichi jima	3.93	130	P	P	00 25 43.6	+0.1
	22nm,0.3s,baz=320,slow=23,SNR=27						
CBIJ				S	S	00 26 39.9	-0.9
	184nm,0.3s,baz=300,slow=23,SNR=44						
CBIJ	Chichi jima	3.93	130	P	P	00 25 43.4	-0.2
CBIJ				S	S	00 26 39.5	-1.2
JHHJ	Haha-jima-NKT	4.25	135	P	P	00 25 46.6	-0.1
JHHJ				S	S	00 26 45.1	-1.1
JIE	Ise	5.01	340	P	P	00 25 58.1	+3.8
JIM2	Oshima 3	5.03	6	P	P	00 25 55.7	+1.3
JIM2				eS	S	00 27 01.3	+1.3
BSO1	Boso 1	5.27	20	P	P	00 25 56.6	-0.2
BSO1				S	S	00 27 03.7	-0.6
JOD2	Odawara 2	5.56	2	P	P	00 25 59.1	-0.7
JRY	Ryogami san	6.30	1	P	P	00 26 08.2	+0.3
JRY				S	S	00 27 24.7	+0.4
MAJO	Matsushiro	6.85	356	ePn	P	00 26 14.0	+0.1
	20nm,0.6s						
MAT	Matsushiro	6.85	356	P	P	00 26 12.7	-1.2
MAT				S	S	00 27 33.2	-2.0
MAT	Matsushiro	6.85	356	P	P	00 26 13.8	-0.1
MAT				eS	S	00 27 35.1	-0.1
MAT	Matsushiro	6.85	356	eP	P	00 26 13.0	-0.9
	16nm,0.8s						
MAT				eS	S	00 27 33.0	-2.2
JMK	Ichinoseki	9.44	11	P	P	00 26 43.4	0.0
JMK				S	S	00 28 26.0	-2.3
NJ2	Nanjing	17.30	283	eP	P	00 28 08.3	0.0
NJ2				XP		00 29 51.8	
NJ2				PCP	PcP	00 32 29.6	+0.9
NJ2				PCS		00 36 04.0	
NJ2				AMB	AMB		
	comp=Z,40nm,0.9s						
CN2	Changchun	17.66	326	eP	P	00 28 12.3	+0.5
HHC	Hu-ho-hao-te	24.79	304	eP	P	00 29 25.7	+6.6
HHC				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.1						
HHC				AMB	AMB		
	comp=Z,107nm,4.9s						
XAN	Xi'an	25.72	287	P	P	00 29 32.8	+5.3
XAN				AMB	AMB		
	comp=Z,14nm,1.3s,mb4.2						
LZH	Lanzhou	29.95	292	eP	P	00 30 05.0	+0.3
LZH				AP		00 31 20.2	
LZH				XP	sP	00 32 08.5	+1.1
LZH				AMB	AMB		
	comp=Z,14nm,1.5s,mb4.1						
SONM	Songino Array	30.79	315	P	P	00 30 12.3	+0.5
	comp=Z,0.6nm,0.5s,mb3.2,baz=119,slow=8.7,SNR=6.7						
SONM				ScP		00 35 58.4	
	comp=Z,0.8nm,0.8s,baz=152,slow=3.2,SNR=8.6						
CMAR	Chiang Mai Arr	37.92	262	P	P	00 31 14.2	+2.1
	comp=Z,0.6nm,0.3s,mb3.3,baz=90,slow=5.9,SNR=4.9						
KAKA	Kakadu	42.60	189	eP	P	00 31 55.9	+5.7
	comp=Z,9.7nm,0.8s,mb4.2						
WMQ	Urumqi	42.67	304	eP	P	00 31 51.3	+0.9
MKAR	Makanchi Array	46.55	308	P	P	00 32 20.6	-0.2
	comp=Z,0.5nm,0.3s,mb3.3,baz=84,slow=9.6,SNR=14						
MKAR				pP	pP	00 33 46.7	+4.3
	comp=Z,0.5nm,0.4s,baz=79,slow=12,SNR=7.0						
MKAR	Makanchi Array	46.55	308	P	P	00 32 20.6	-0.2
MKAR				pP	pP	00 33 46.7	+4.3
KURK	Kurchatov	49.06	313	P	P	00 32 38.7	-1.2
	comp=Z,1.7nm,0.3s,mb3.9						
FITZ	Fitzroy Crossi	49.19	197	eP	P	00 32 42.0	+0.7
	comp=Z,4.0nm,0.6s,mb3.9						
FITZ	Fitzroy Crossi	49.19	197	P	P	00 32 42.1	+0.7
	comp=Z,6.1nm,0.8s,mb4.0,baz=6.9,slow=6.9,SNR=17						
WRAB	Tennant Creek	49.53	186	P	P	00 32 43.0	-0.8
	comp=Z,46nm,0.5s,SNR=16						
WRAB	Tennant Creek	49.53	186	eP	P	00 32 43.3	-0.5
	comp=Z,11nm,0.7s,mb4.3						
WB2	Warramunga Arr	49.54	186	eP	P	00 32 43.6	-0.3
WRA	Warramunga Arr	49.54	186	P	P	00 32 44.0	0.0
	comp=Z,3.7nm,0.3s,mb4.2,baz=1.9,slow=8.3,SNR=30						
WRA				pP	pP	00 34 14.1	+7.4
	comp=Z,1.8nm,0.8s,baz=5.8,slow=8.4,SNR=5.6						
CTAO	Charters Tower	50.01	171	eP	P	00 32 47.9	+0.4
	comp=Z,4.2nm,0.8s,mb3.8						
ASAR	Alice Springs	53.26	186	P	P	00 33 11.0	-0.3
	comp=Z,3.0nm,0.5s,mb3.8,baz=9.0,slow=8.2,SNR=42						
ASPA	Alice Springs	53.27	186	eP	P	00 33 10.9	-0.5
MBWA	Marble Bar	53.80	202	eP	P	00 33 14.5	-0.7
	comp=Z,6.7nm,0.6s,mb4.0						
BVAR	Borovoye Array	54.13	316	P	P	00 33 16.2	-1.0
	comp=Z,5.4nm,0.4s,mb4.1,baz=94,slow=7.5,SNR=63						
BVAR				PcP	PcP	00 34 14.5	-1.1
	comp=Z,0.8nm,0.5s,baz=72,slow=4.6,SNR=4.9						
BRVK	Borovoye	54.19	316	eP	P	00 33 15.9	-1.6
	comp=Z,4.0nm,0.5s,mb3.9						
ZRNK	Zerenda	54.97	316	eP	P	00 33 22.1	-1.0
	comp=Z,3.5nm,0.5s,mb3.9						
ILAR	Eielson Array	56.89	30	P	P	00 33 34.5	-1.8
	comp=Z,1.6nm,0.7s,mb3.5,baz=297,slow=8.3,SNR=13						
FORT	Forrest	61.01	191	eP	P	00 34 04.9	+0.5
	comp=Z,88nm,0.5s						
STKA	Stephens Creek	61.29	177	eP	P	00 34 06.9	+0.7
	comp=Z,3.4nm,0.4s,mb4.1						
STKA	Stephens Creek	61.29	177	P	P	00 34 06.6	+0.4
	comp=Z,4.5nm,0.4s,mb4.3,baz=350,slow=6.2,SNR=17						
KEV	Kevo	69.54	340	ep	P	00 34 56.5	-1.1
	comp=Z,2.3nm,0.7s,mb3.8						
ARCES	ARCESS Array B	70.11	340	P	P	00 35 00.9	-0.1
	comp=Z,3.4nm,0.5s,mb4.1,baz=66,slow=8.4,SNR=28						
YKA	Yellowknife Ar	71.26	28	P	P	00 35 07.0	-0.8
	comp=Z,1.2nm,0.4s,mb3.8,baz=298,slow=6.0,SNR=8.6						
KAF	Kangasniemi	73.84	333	ep	P	00 35 21.1	-1.7
	comp=Z,2.4nm,0.7s,mb3.9,baz=53,slow=5.4						
FINES	FINESS Array B	74.30	333	P	P	00 35 24.9	-0.4
	comp=Z,1.9nm,0.3s,mb4.1,baz=68,slow=5.1,SNR=32						
YBH	Yreka Blue Hor	76.65	50	P	P	00 35 39.8	+1.0
	comp=Z,1.4nm,0.7s,mb3.7,baz=330,slow=6.4,SNR=5.2						
AKASG	Malin Array Be	78.77	322	P	P	00 35 49.7	-0.4
	comp=Z,0.6nm,0.3s,mb3.7,baz=49,slow=6.0,SNR=5.4						
BEKR	Beckwourth	79.11	50	P	P	00 35 52.1	0.0
	comp=Z,4.0nm,0.6s,mb4.2						
HFS	Hagfors	79.86	335	P	P	00 35 55.1	-0.6
	comp=Z,3.5nm,0.5s,mb4.2,baz=90,slow=4.4,SNR=22						
NB2	NORSAR Subarra	80.09	337	P	P	00 35 56.2	-0.6
	comp=Z,1.8nm,0.5s,mb4.0,baz=47,slow=5.0						
NOA	NORSAR Array B	80.09	337	P	P	00 35 56.5	-0.4
	comp=Z,2.5nm,0.5s,mb4.1,baz=45,slow=5.1,SNR=7.8						
HLID	Hailey	81.02	45	eP	P	00 36 02.8	+0.7
	comp=Z,1.4nm,0.8s,mb3.7						
NVAR	Mina Array Bea	81.21	51	P	P	00 36 04.2	+1.0
	comp=Z,2.4nm,0.6s,mb4.1,baz=287,slow=6.4,SNR=26						
BRTR	Keskin Array B	82.07	311	P	P	00 36 08.2	+0.7
	comp=Z,1.5nm,0.7s,mb3.8,baz=73,slow=4.8,SNR=7.6						
TPNV	Topopah Spring	83.37	51	eP	P	00 36 14.6	+0.5
	comp=Z,8.3nm,0.8s,mb4.5						
MLR	Muntele Rosu	83.55	319	P	P	00 36 15.7	+0.9
	comp=Z,0.9nm,0.6s,mb3.7,baz=307,slow=10,SNR=8.6						
HWUT	Hardware Ranch	83.86	45	eP	P	00 36 17.5	+1.0
	comp=Z,6.6nm,0.8s,mb4.4						
DUG	Dugway	83.86	47	eP	P	00 36 17.3	+0.7
	comp=Z,2.6nm,0.6s,mb4.1						
PDAR	Pinedale Array	84.41	43	P	P	00 36 19.8	+0.6
	comp=Z,1.0nm,0.8s,mb3.6,baz=315,slow=2.1,SNR=6.2						
GERES	GERESS Array B	87.75	327	P	P	00 36 34.4	-0.6
	comp=Z,0.4nm,0.4s,mb3.5,baz=37,slow=6.7,SNR=5.6						
ISCO	Idaho Springs	88.57	44	eP	P	00 36 40.0	+0.9
	comp=Z,2.1nm,0.8s,mb3.9						
ANMO	Albuquerque	91.02	48	eP	P	00 36 52.2	+1.6
	comp=Z,1.5nm,0.6s,mb4.0						
SYO	Syowa Base	120.67	204	⇓Pdiff	Pdif	00 39 03.0	+1.4
LPAZ	La Paz	151.91	68	PKPbc	PKPdf	00 43 40.5	+9.4
	comp=Z,1.3nm,0.8s,baz=290,slow=4.7,SNR=5.3						

*NEIC **05** 00:25:37.1±1.1, 14.64N×147.07E, h10km, mb4.6/4, Error ellipse: s-maj=24.9km s-min=14.2km az=82.0*
*IDC **05** 00:25:47.5±19.0, 15.42N×147.60E, h86km±170km, mb3.8/4, mb1 3.8/4, mb1mx3.5/19, Error ellipse: s-maj=387.0km s-min=22.2km az=56.0*
ISC 05 00:25:44.6±2.2**, 14.7N**±0.1×**146.5E**±0.3**, h72**km±15km**, n11, σ0.77**/9**, mb4.0**/6**, 1C, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAPN	Saipan	0.92	307	⇑iP	P	00 26 03.8	+1.4
GUMO	Guam	1.91	236	ePn	P	00 26 15.1	-0.7
SARN	Sarigan	2.15	341	eP	P	00 26 18.2	-1.0
SONM	Songino Array	46.80	323	P	P	00 34 08.1	-0.7
	1.1nm,1.0s,mb3.5,baz=108,slow=9.1,SNR=5.4						
URZ	Urewera	59.95	152	P	P	00 35 46.1	+0.3
	3.9nm,0.3s,mb4.9,baz=252,slow=3.2,SNR=9.8						
MKAR	Makanchi Array	61.84	315	P	P	00 35 59.0	+0.5
	0.8nm,0.4s,mb4.1,baz=91,slow=8.0,SNR=16						
KURK	Kurchatov	64.81	319	eP	P	00 36 17.2	-0.8
	3.3nm,0.9s,mb4.2						
BVAR	Borovoye Array	70.08	321	P	P	00 36 51.7	+0.8
	0.7nm,0.7s,mb3.6,baz=90,slow=5.8,SNR=4.1						
ZRNK	Zerenda	70.92	321	P	P	00 36 56.2	+0.3
	1.9nm,0.9s,mb3.9						
DBIC	Dimbokro	144.57	305	PKP	PKPdf	00 45 14.3	+0.4
	5.2nm,1.1s,baz=100,slow=7.7,SNR=6.4						
DBIC	Dimbokro	144.57	305	PKP	PKPdf	00 45 14.3	+0.4

*STR **05** 00:26:06.1±0.6, 42.85N×1.55W, h5km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **05** 00:26:07.8, 42.84N×1.43W, h5km, ML2.8(LDG), ML2.5(STR), MN2.4(MDD), After MDD.*
*CSEM **05** 00:26:07.6±0.1, 42.85N×1.43W, h5km, ML2.8/19, Error ellipse: s-maj=1.5km s-min=1.2km az=146.0*
*MDD **05** 00:26:07.7±0.3, 42.86N×1.44W, h5km±3km, mbLg2.4/16, Error ellipse: s-maj=2.8km s-min=2.4km az=139.0, PRXIMO AftershockPLICA*
*LDG **05** 00:26:08.8±0.4, 42.90N×1.42W, h7km, Md2.9/2, Ml2.8/12, Error ellipse: s-maj=7.1km s-min=4.2km az=42.0*
ISC 05 00:26:05.6±0.4**, 42.84N**±0.02×**1.50W**±0.02**, h14**km±2km**, n93, σ1.27**/162**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.34	37	ePg	Pg	00 26 13.5	+0.7
SJPF				eSg	Sg	00 26 16.3	-1.3
	430nm,0.3s						
LARF	Larrau	0.43	63	Pg	Pg	00 26 14.6	+0.1
LARF				Sg	Sg	00 26 20.9	+0.5
LARF	Larrau	0.43	63	P	Pb	00 26 14.7	+0.3
LARF				S	Sb	00 26 20.7	+0.3
OSSF	Osses	0.45	23	Pg	Pg	00 26 15.4	+0.5
OSSF				Sg	Sg	00 26 21.6	+0.5
OSSF	Osses	0.45	23	P	Pb	00 26 15.4	+0.7
OSSF				S	Sg	00 26 21.6	+0.5
ORDF	Ordiarp	0.56	48	P	Pb	00 26 17.4	+0.8
ORDF				S	Sb	00 26 24.7	+0.6
ATE	Arette	0.64	67	P	Pb	00 26 18.7	+0.7
ATE				S	Sb	00 26 26.9	+0.5
FDAF	Les Forges d'A	0.69	92	Pg	Pg	00 26 19.2	-0.4
FDAF				Sg	Sg	00 26 30.5	+1.6
FDAF	Les Forges d'A	0.69	92	P	Pb	00 26 19.3	+0.4
FDAF				S	Sb	00 26 30.0	+2.0
ETSF	Etsaut	0.70	85	ePg	Pg	00 26 19.2	-0.5
ETSF				eSg	Sg	00 26 27.9	-1.3
	58nm,0.3s						
REYF	Montagne du Re	0.85	74	Pg	Pg	00 26 22.4	-0.3
REYF	Montagne du Re	0.85	74	P	Pb	00 26 22.5	+1.0
REYF				S	Sb	00 26 33.3	+0.8
VIEF	Viey	1.12	87	Pn	Pn	00 26 27.3	+0.4
VIEF	Viey	1.12	87	P	Pb	00 26 26.9	+0.6
VIEF				S	Sb	00 26 43.0	+2.4
LABF	Labassere	1.18	80	P	Pb	00 26 28.4	+1.2
RESF	Ens	1.36	91	Pn	Pn	00 26 31.6	+1.4
RESF	Ens	1.36	91	P	Pn	00 26 32.2	+2.0
RESF				S	Sb	00 26 49.7	+2.4
ESAC	San Caprasio	1.36	145	Pg	Pg	00 26 31.6	-1.2
	72nm,0.2s,SNR=41						
ESAC				Lg		00 26 50.8	
	233nm,0.4s,SNR=14						
ESAC	San Caprasio	1.36	145	Pg	Pg	00 26 31.6	-1.2
	72nm,0.2s,SNR=41						
EPF	Esparros	1.37	82	ePn	Pn	00 26 31.4	+1.0
EPF				ePg	Pg	00 26 34.1	+1.1
EPF				eSg	Sg	00 26 50.9	-0.4
	35nm,0.2s						
ELAN	Lanestosa	1.47	286	Pg	Pg	00 26 35.1	+0.1
	8.6nm,0.1s,SNR=115						
ELAN				Lg		00 26 56.3	
	32nm,0.2s,SNR=5.0						
ELAN	Lanestosa	1.47	286	Pg	Pg	00 26 35.1	+0.1
	8.6nm,0.1s,SNR=115						
SALF	Salau	1.98	92	P	Pn	00 26 42.1	+3.0
ETOR	Torete	2.06	192	Pn	Pn	00 26 42.4	+2.0
	3.1nm,0.3s,SNR=25						
ETOR				Pg	Pg	00 26 46.5	-0.4
	15nm,0.4s,SNR=12						
ETOR				Sn	Sn	00 27 08.9	+2.9
	54nm,0.6s,SNR=5.0						
ETOR				Lg		00 27 16.0	
	SNR=7.9						
ETOR	Torete	2.06	192	Pn	Pn	00 26 42.4	+2.0
ETOR				Pg	Pg	00 26 46.5	-0.4
ETOR				Lg		00 27 10.8	
EMIR	Miracle	2.43	111	Pn	Pn	00 26 46.6	+1.0
	1.8nm,0.2s,SNR=15						
EMIR				Pg	Pg	00 26 51.2	-3.0
	4.0nm,0.2s,SNR=9.2						
EMIR				Lg		00 27 24.1	
	26nm,0.5s,SNR=5.0						
EMIR	Miracle	2.43	111	Pn	Pn	00 26 46.6	+1.0
	1.8nm,0.2s,SNR=15						
EMIR	Miracle	2.43	111	Pg	Pg	00 26 51.2	-3.0
	4.0nm,0.2s,SNR=9.2						
EPOB	Poblet	2.43	127	Pn	Pn	00 26 45.9	+0.3
	0.9nm,0.1s,SNR=8.4						
EPOB				Pg	Pg	00 26 51.0	-3.2
	4.7nm,0.2s,SNR=13						
EPOB				Sn	Sn	00 27 14.6	-0.8
	2.0nm,0.1s,SNR=7.9						
EPOB				Lg		00 27 25.7	
	15nm,0.4s,SNR=5.5						
EPOB	Poblet	2.43	127	Pn	Pn	00 26 45.9	+0.3
EPOB				Pg	Pg	00 26 51.0	-3.2
EPOB				Sn	Sn	00 27 14.6	-0.8
EPOB				Lg		00 27 21.6	
EPOB	Poblet	2.43	127	Pn	Pn	00 26 45.9	+0.3
	0.9nm,0.1s,SNR=8.4						
EPOB	Poblet	2.43	127	Pg	Pg	00 26 51.0	-3.2
	4.7nm,0.2s,SNR=13						
EPOB				Sn	Sn	00 27 14.6	-0.8
	2.0nm,0.1s,SNR=7.9						
EBR	Ebro Roquetas	2.51	143	eSG	Sg	00 27 28.0	-1.4
EBR				eS*S*		00 27 30.5	
EMOS	Mosqueruela	2.60	162	Pn	Pn	00 26 49.0	+1.1
	0.4nm,0.1s,SNR=10						
EMOS				Pg	Pg	00 26 55.5	-2.0
	6.9nm,0.4s,SNR=16						
EMOS				Sn	Sn	00 27 18.4	-1.2
	SNR=7.9						
EMOS				Lg		00 27 30.5	
	9.9nm,0.3s,SNR=5.0						
EMOS	Mosqueruela	2.60	162	Pn	Pn	00 26 49.0	+1.1
EMOS				Pg	Pg	00 26 55.5	-2.0
EMOS				Lg		00 27 27.5	
EMOS	Mosqueruela	2.60	162	Pn	Pn	00 26 49.0	+1.0
	0.4nm,0.1s,SNR=10						
EMOS	Mosqueruela	2.60	162	Pg	Pg	00 26 55.5	-2.0
	6.9nm,0.4s,SNR=16						
LFF	La Frestale	2.65	37	ePn	Pn	00 26 49.0	+0.3
LFF				eSn	Sn	00 27 18.8	-2.1
LFF				eSg	Sg	00 27 27.8	-6.1
	12nm,0.3s						
EARI	Arriondas	2.75	281	Pn	Pn	00 26 52.8	+2.6
	0.9nm,0.2s,SNR=9.4						
EARI				Sn	Sn	00 27 25.6	+2.1
	2.3nm,0.3s,SNR=5.0						
EARI				Lg		00 27 35.8	
	4.4nm,0.4s,SNR=5.0						
EARI	Arriondas	2.75	281	Pn	Pn	00 26 52.8	+2.6
	0.9nm,0.2s,SNR=9.4						
EARI				Sn	Sn	00 27 25.6	+2.1
	2.3nm,0.3s,SNR=5.0						
MTLF	Montolieu	2.77	78	ePn	Pn	00 26 51.4	+1.0
MTLF				ePg	Pg	00 26 58.7	-2.3
MTLF				eSn	Sn	00 27 23.6	-0.4
	4.7nm,0.3s						
EJON	La Jonquera	3.27	95	Pn	Pn	00 26 58.0	+0.5
	0.6nm,0.2s,SNR=5.0						
EJON				Pg	Pg	00 27 06.8	-4.0
	2.4nm,0.3s,SNR=5.6						
EJON				Lg		00 27 50.0	
	16nm,0.7s,SNR=5.0						
EJON	La Jonquera	3.27	95	Pn	Pn	00 26 58.0	+0.5
	0.6nm,0.2s,SNR=5.0						
EJON	La Jonquera	3.27	95	Pg	Pg	00 27 06.8	-4.0
	2.4nm,0.3s,SNR=5.6						
RJF	Les Rejaudoux	3.28	40	ePn	Pn	00 26 57.4	-0.3
RJF				eSn	Sn	00 27 34.8	-2.2
	8.6nm,0.3s						
CAF	Calviac	3.31	50	ePn	Pn	00 26 57.7	-0.5
CAF				eSn	Sn	00 27 35.5	-2.2
	3.5nm,0.2s						
ESDC	Sonseca Array	3.67	211	Pn	Pn	00 27 03.2	0.0
	1.2nm,0.2s,baz=36,slow=14,SNR=14						
ESDC				Pg	Pg	00 27 15.5	-3.4
	1.0nm,0.2s,baz=33,slow=18,SNR=6.5						
ESDC				Sn	Sn	00 27 44.9	-1.8
	0.9nm,0.2s,baz=36,slow=26,SNR=5.2						
ESDC				Lg		00 28 04.6	
	3.3nm,0.5s,baz=31,slow=32,SNR=26						
ESDC	Sonseca Array	3.67	211	Pn	Pn	00 27 03.2	0.0
ESDC				Pg	Pg	00 27 15.5	-3.4
ESDC				Sn	Sn	00 27 44.9	-1.8
ESDC				Lg		00 28 02.1	
ESDC	Sonseca Array	3.67	211	Pn	Pn	00 27 03.2	0.0
	1.2nm,0.2s,slow=14,SNR=14						
ESDC	Sonseca Array	3.67	211	Pg	Pg	00 27 15.5	-3.4
	1.0nm,0.2s,baz=33,slow=18,SNR=6.5						
ESDC				Sn	Sn	00 27 44.9	-1.8
	0.9nm,0.2s,slow=26,SNR=5.2						
ESLA	Sonseca Array	3.67	211	ePn	Pn	00 27 02.9	-0.3
ESLA	Sonseca Array	3.67	211	ePn	Pn	00 27 02.9	-0.3
MFF	Saint Martin d	3.88	14	ePn	Pn	00 27 05.9	-0.3
MFF				ePg	Pg	00 27 18.0	-5.1
MFF				eSn	Sn	00 27 49.1	-2.9
	4.3nm,0.3s						
ECAL	Calabor	3.98	259	Pn	Pn	00 27 08.8	+1.2
	1.5nm,0.1s,SNR=11						
ECAL				Sn	Sn	00 27 54.4	-0.1
	4.0nm,0.3s,SNR=5.0						
ECAL				Lg		00 28 17.7	
	9.1nm,0.3s,SNR=4.8						
ECAL	Calabor	3.98	259	Pn	Pn	00 27 08.8	+1.2
ECAL				Sn	Sn	00 27 54.4	-0.1
ECAL				Lg		00 28 12.1	
ECAL	Calabor	3.98	259	Pn	Pn	00 27 08.8	+1.2
	1.5nm,0.1s,SNR=11						
ECAL				Sn	Sn	00 27 54.4	-0.1
	4.0nm,0.3s,SNR=5.0						
LASF	Ste Croix	4.09	71	ePn	Pn	00 27 09.0	-0.2
LASF				eSn	Sn	00 27 54.9	-2.5
	8.6nm,0.6s						
EPON	Pontenova	4.16	279	Pn	Pn	00 27 12.3	+2.1
	2.3nm,0.2s,SNR=10.0						
EPON				Sn	Sn	00 27 59.7	+0.5
	0.9nm,0.1s,SNR=7.9						
EPON				Lg		00 28 19.3	
	3.1nm,0.4s,SNR=7.9						
EPON	Pontenova	4.16	279	Pn	Pn	00 27 12.3	+2.1
	2.3nm,0.2s,SNR=10.0						
EPON				Sn	Sn	00 27 59.7	+0.5
	0.9nm,0.1s,SNR=7.9						
ERUA	La Rua	4.18	266	Pn	Pn	00 27 11.8	+1.3
	2.2nm,0.3s,SNR=9.2						
ERUA				Sn	Sn	00 27 59.4	-0.4
	1.2nm,0.3s,SNR=4.0						
ERUA				Lg		00 28 22.0	
	5.0nm,0.7s,SNR=5.0						
ERUA	La Rua	4.18	266	Pn	Pn	00 27 11.8	+1.3
ERUA				Sn	Sn	00 27 59.4	-0.4
ERUA				Lg		00 28 20.0	
EBEN	Beniarda	4.25	166	Pn	Pn	00 27 12.5	+1.0
	0.3nm,0.2s,SNR=4.0						
EBEN	Beniarda	4.25	166	Pn	Pn	00 27 12.5	+1.1
	0.3nm,0.2s,SNR=4.0						
EVIA	Vianos	4.27	191	Pn	Pn	00 27 13.3	+1.6
	3.9nm,0.3s,SNR=9.1						
EVIA				Lg		00 28 22.9	
	4.7nm,0.4s,SNR=5.0						
TCF	Toulx Ste Croi	4.35	36	ePn	Pn	00 27 10.8	-2.0
TCF				eSn	Sn	00 27 58.7	-5.2
	2.6nm,0.2s						
EIBI	Ibiza	4.38	150	Pn	Pn	00 27 12.1	-1.2
	0.9nm,0.2s,SNR=7.9						
EIBI	Ibiza	4.38	150	Pn	Pn	00 27 12.1	-1.2
	0.9nm,0.2s,SNR=7.9						
VIVF	Saint-Julien-l	4.90	64	ePn	Pn	00 27 19.9	-0.8
ELOB	Lobios	4.96	261	Pn	Pn	00 27 21.7	+0.2
	0.6nm,0.1s,SNR=7.9						
ELOB				Sn	Sn	00 28 18.1	-1.1
	0.9nm,0.2s,SNR=4.0						
ELOB				Lg		00 28 48.2	
	2.5nm,0.3s,SNR=7.9						
ELOB	Lobios	4.96	261	Pn	Pn	00 27 21.7	+0.2
ELOB				Sn	Sn	00 28 18.1	-1.1
ELOB				Lg		00 28 43.2	
ELOB	Lobios	4.96	261	Pn	Pn	00 27 21.7	+0.2
	0.6nm,0.1s,SNR=7.9						
ELOB				Sn	Sn	00 28 18.1	-1.1
	0.9nm,0.2s,SNR=4.0						
EQES	Quesada	5.18	194	Pn	Pn	00 27 25.3	+0.7
	0.6nm,0.1s,SNR=14						
EQES				Pg	Pg	00 27 43.9	-5.1
	1.9nm,0.3s,SNR=5.5						
EQES				Sn	Sn	00 28 21.7	-3.1
	0.9nm,0.3s,SNR=4.0						
EQES				Lg		00 28 53.5	
	1.9nm,0.5s,SNR=5.0						
EQES	Quesada	5.18	194	Pn	Pn	00 27 25.3	+0.7
EQES				Pg	Pg	00 27 43.9	-5.1
EQES				Sn	Sn	00 28 21.7	-3.1
EQES				Lg		00 28 51.8	
EQES	Quesada	5.18	194	Pn	Pn	00 27 25.3	+0.7
	0.6nm,0.1s,SNR=14						
EQES	Quesada	5.18	194	Pg	Pg	00 27 43.9	-5.0
	1.9nm,0.3s,SNR=5.5						
EQES				Sn	Sn	00 28 21.7	-3.1
	0.9nm,0.3s,SNR=4.0						
QUIF	Quistinic	5.21	348	ePn	Pn	00 27 25.1	+0.1
EADA	Adamuz	5.22	208	Pn	Pn	00 27 25.3	0.0
	0.8nm,0.2s,SNR=14						
EADA				Sn	Sn	00 28 22.1	-3.9
	0.5nm,0.2s,SNR=7.9						
EADA				Lg		00 28 56.2	
	1.3nm,0.3s,SNR=5.0						
EADA	Adamuz	5.22	208	Pn	Pn	00 27 25.3	0.0
EADA				Sn	Sn	00 28 22.1	-3.9
EADA				Lg		00 28 53.5	
EADA	Adamuz	5.22	208	Pn	Pn	00 27 25.3	0.0
	0.8nm,0.2s,SNR=14						
EADA				Sn	Sn	00 28 22.1	-3.9
	0.5nm,0.2s,SNR=7.9						
HYF	Humbligny	5.31	32	ePn	Pn	00 27 25.7	-0.7
EMAZ	Mazaricos	5.49	274	Pn	Pn	00 27 29.2	+0.2
	1.0nm,0.1s,SNR=5.7						
EMAZ				Sn	Sn	00 28 31.2	-1.4
	1.6nm,0.3s,SNR=4.0						
EMAZ	Mazaricos	5.49	274	Pn	Pn	00 27 29.2	+0.2
EMAZ				Sn	Sn	00 28 31.2	-1.5
SSF	Saint Saulge	5.51	38	ePn	Pn	00 27 26.6	-2.8
SSF				eSn	Sn	00 28 27.3	-6.0
	0.8nm,0.3s						
ROSF	Rostrenen	5.63	348	ePn	Pn	00 27 30.5	-0.5
ROSF				eSn	Sn	00 28 30.8	-5.4
	1.4nm,0.2s						
ORIF	Oris-en-Rattie	5.73	66	ePn	Pn	00 27 32.0	-0.3
LDF	La Druitiere	5.83	9	eSn	Sn	00 28 35.6	-5.6
	1.0nm,0.3s						
EBAD	Badajoz	5.84	228	Pn	Pn	00 27 33.1	-0.9
	0.5nm,0.2s,SNR=7.9						
EBAD	Badajoz	5.84	228	Pn	Pn	00 27 33.1	-0.9
FRF	La Foret Royal	6.00	80	ePn	Pn	00 27 35.7	-0.5
EBER	Berja	6.03	191	Pn	Pn	00 27 38.3	+1.6
	1.7nm,0.4s,SNR=6.3						
EBER				Sn	Sn	00 28 42.8	-3.5
	0.6nm,0.3s,SNR=5.0						
EBER	Berja	6.03	191	Pn	Pn	00 27 38.3	+1.6
EBER				Sn	Sn	00 28 42.8	-3.5
EMIN	Mina Concepcio	6.43	220	Pn	Pn	00 27 41.0	-1.2
	0.2nm,0.2s,SNR=5.0						
EMIN				Lg		00 29 33.0	
	0.5nm,0.4s,SNR=5.0						
EMIN	Mina Concepcio	6.43	220	Pn	Pn	00 27 41.0	-1.2

*STR **05** 00:40:25.8±1.6, 43.44N×0.80W, h10km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **05** 00:40:26.5±0.4, 42.90N×1.47W, h2km, Md2.5/2, Ml2.2/6, Error ellipse: s-maj=6.6km s-min=4.7km az=51.0*
*MDD **05** 00:40:26.6±0.4, 42.88N×1.43W, h5km±4km, mbLg2.0/8, Error ellipse: s-maj=3.3km s-min=3.0km az=113.0, PRXIMO AftershockPLICA*
ISC 05 00:40:24.9±0.5**, 42.87N**±0.03×**1.47W**±0.03**, h13**km±3km**, n27, σ1.17**/50**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.30	36	ePg	Pg	00 40 32.1	+0.9
SJPF				eSg	Sg	00 40 35.1	-0.4
	80nm,0.2s						
LARF	Larrau	0.39	65	Pg	Pg	00 40 33.6	+0.6
LARF				Sg	Sg	00 40 39.6	+1.3
LARF	Larrau	0.39	65	P	Pg	00 40 33.5	+0.6
LARF				S	Sg	00 40 39.4	+1.1
OSSF	Osses	0.41	21	Pg	Pg	00 40 34.1	+0.7
OSSF				Sg	Sg	00 40 40.1	+1.0
OSSF	Osses	0.41	21	P	Pg	00 40 34.1	+0.7
OSSF				S	Sg	00 40 38.7	-0.4
ORDF	Ordiarp	0.52	49	P	Pb	00 40 36.1	+0.8
ORDF				S	Sb	00 40 42.9	+0.5
ATE	Arette	0.60	69	P	Pb	00 40 37.3	+0.5
ATE				S	Sb	00 40 45.4	+0.5
FDAF	Les Forges d'A	0.66	94	Pg	Pg	00 40 37.9	-0.4
FDAF				Sg	Sg	00 40 48.4	+1.1
FDAF	Les Forges d'A	0.66	94	P	Pb	00 40 38.2	+0.4
FDAF				S	Sb	00 40 48.0	+1.3
ETSF	Etsaut	0.67	88	ePg	Pg	00 40 38.0	-0.4
ETSF				eSg	Sg	00 40 46.6	-0.8
	14nm,0.3s						
VIEF	Viey	1.10	89	S	Sb	00 41 01.6	+2.4
EPF	Esparros	1.34	83	ePn	Pn	00 40 50.1	+0.7
EPF				ePg	Pg	00 40 52.7	+1.1
EPF				eSg	Sg	00 41 09.6	+0.1
	9.6nm,0.2s						
ESAC	San Caprasio	1.37	147	Pg	Pg	00 40 51.1	-1.2
	23nm,0.4s,SNR=8.6						
ESAC				Lg		00 41 08.6	
	25nm,0.2s						
ELAN	Lanestosa	1.49	285	Pg	Pg	00 40 54.5	-0.1
	1.1nm,0.1s,SNR=10						
ELAN				Lg		00 41 15.2	
	4.6nm,0.2s						
ETOR	Torete	2.10	192	Pn	Pn	00 41 01.5	+1.2
	0.2nm,0.1s,SNR=6.5						
ETOR				Pg	Pg	00 41 05.4	-1.5
	2.4nm,0.3s,SNR=13						
ETOR				Sn	Sn	00 41 28.6	+2.1
	SNR=7.9						
ETOR				Lg		00 41 33.9	
	6.3nm,0.3s						
EMIR	Miracle	2.42	112	Pg	Pg	00 41 09.5	-3.6
	0.9nm,0.1s,SNR=7.9						
EMIR				Lg		00 41 43.2	
	1.8nm,0.2s,SNR=7.9						
EPOB	Poblet	2.43	128	Pn	Pn	00 41 04.8	-0.2
	0.2nm,0.1s,SNR=5.0						
EPOB				Pg	Pg	00 41 09.6	-3.8
	0.6nm,0.1s,SNR=5.0						
EPOB				Lg		00 41 43.1	
	1.6nm,0.2s,SNR=7.9						
LFF	La Frestale	2.61	37	ePn	Pn	00 41 07.8	+0.2
LFF				eSg	Sg	00 41 46.4	-5.4
	4.7nm,0.4s						
EMOS	Mosqueruela	2.62	163	Pn	Pn	00 41 08.8	+1.2
	0.1nm,0.1s,SNR=5.0						
EMOS				Pg	Pg	00 41 14.8	-2.4
	0.5nm,0.1s,SNR=5.5						
EMOS				Lg		00 41 50.2	
	0.8nm,0.3s,SNR=7.9						
MTLF	Montolieu	2.74	79	ePn	Pn	00 41 10.1	+0.7
MTLF				ePg	Pg	00 41 17.1	-2.5
MTLF				eSn	Sn	00 41 42.3	-0.4
	1.5nm,0.3s						
EARI	Arriondas	2.77	280	Pn	Pn	00 41 11.1	+1.2
	0.1nm,0.1s,SNR=7.9						
EARI				Sn	Sn	00 41 44.9	+1.2
	0.4nm,0.2s,SNR=7.9						
EJON	La Jonquera	3.24	96	Pn	Pn	00 41 15.4	-1.2
	1.3nm,0.4s,SNR=4.0						
EJON				Lg		00 42 08.8	
	1.5nm,0.3s,SNR=7.9						
RJF	Les Rejaudoux	3.24	40	ePn	Pn	00 41 16.1	-0.5
RJF				eSn	Sn	00 41 53.4	-2.1
	1.6nm,0.2s						
CAF	Calviac	3.27	50	ePn	Pn	00 41 16.3	-0.7
CAF				eSn	Sn	00 41 54.0	-2.2
	1.0nm,0.3s						
ESDC	Sonseca Array	3.71	211	Lg		00 42 21.8	
	0.4nm,0.3s,baz=31,slow=30,SNR=7.9						
ECAL	Calabor	4.01	258	Pn	Pn	00 41 27.3	-0.2
	0.8nm,0.2s,SNR=7.9						
ECAL				Sn	Sn	00 42 13.4	-1.5
	0.8nm,0.2s,SNR=7.9						
ECAL				Lg		00 42 35.8	
	2.6nm,0.2s,SNR=7.9						
LASF	Ste Croix	4.06	71	ePn	Pn	00 41 27.7	-0.5
LASF				eSn	Sn	00 42 13.5	-2.6
	0.4nm,0.2s						

IGQ 05 01:06:27.3, 2.29S×80.91W, h12km±23km**, mb4.1, 1C-6D, Error ellipse: s-maj=23.1km s-min=10.3km az=144.8, Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IGUA	Igualata	2.40	71	⇓P	Pn	01 07 08.5	+1.4
IGUA				S	Sn	01 07 39.0	+2.3
QIL1	Quilotoa	2.44	54	P	Pn	01 07 07.3	-0.4
ARRY	Arrayan	2.57	72	P	Pn	01 07 10.7	+1.2
PATA	Patacocha	2.59	72	P	Pn	01 07 11.2	+1.4
RETU	Refugio	2.60	71	P	Pn	01 07 12.0	+2.2
PISA	Pisayambo	2.80	64	P	Pn	01 07 15.5	+2.7
NAS1	Nasa	2.93	56	⇑P	Pn	01 07 17.6	+2.9
VC1	Cotopaxi 1	2.99	57	⇓P	Pn	01 07 18.1	+2.6
TAMB	Tambo	2.99	58	⇓P	Pn	01 07 17.9	+2.3
JUA2	San Juan 2	3.09	48	P	Pn	01 07 18.2	+1.3
CGGP	Crater GGP	3.12	48	P	Pn	01 07 18.7	+1.4
GGP	Refugio Guagua	3.12	48	P	Pn	01 07 18.3	+0.9
PINO	Pino	3.13	47	⇓P	Pn	01 07 18.2	+0.8
YANA	Yana	3.18	47	⇓P	Pn	01 07 19.4	+1.2
JOR1	San Jorge 1	3.21	45	P	Pn	01 07 16.6	-2.0
ANTI	Antisana	3.30	56	⇓P	Pn	01 07 22.5	+2.7
COTA	Cotacachi	3.66	45	P	Pn	01 07 27.0	+2.0
CAYR	Refugio Cayamb	3.70	52	P	Pn	01 07 28.8	+3.3
CAYA	Cayambe	3.74	51	P	Pn	01 07 29.6	+3.4

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*BJI **05** 01:22:46.7, 3.39N×128.99E, h10km, mB4.9, mb4.8, Ms4.2, Msz4.1*
*HRVD **05** 01:22:50.4±0.4, 3.70N×128.71E, h17km±1km, MW5.0/66, Centroid moment Tensor Solution. LP body waves: s39,c45;Mantle waves: s66,c103; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.57±.19; $M_{\theta\theta}$-0.08±.10; $M_{\phi\phi}$-2.49±.14; $M_{r\theta}$0.18±.28; $M_{\theta\phi}$0.00±.07; $M_{\phi r}$2.84±.36; Best double couple: $M_0$3.81×10^{16} NP1: ϕ_s178°,δ21°,λ85°. NP2:ϕ_s3°,δ69°,λ92°. Principal axes: T 3.85, Plg66°, Azm276°; N -.08, Plg2°, Azm182°; P -3.76, Plg24°, Azm91°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **05** 01:22:50.4±0.4, 3.62N×128.65E, h10km, mb5.0/12 Error ellipse: s-maj=21.3km s-min=6.3km az=74.0*
*IDC **05** 01:22:51.7±2.5, 3.55N×128.63E, h19km±14km, mb4.2/14, mb1 4.3/14, mb1mx4.2/19, MS4.0/13, Ms1 4.0/13, ms1mx3.8/22, Error ellipse: s-maj=34.1km s-min=10.2km az=78.0*
ISC 05 01:22:50.7±0.4**, 3.64N**±0.06×**128.8E**±0.1**, h25**km**, h25**km±4.2km**:pP-P, n55, σ1.26**/58**, mb4.6**/33**, MS4.0**/18**, 2C, North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GSPH	General Santos	4.54	303	eP	Pn	01 24 06.9	+7.2
DAV	Davao City (W)	4.68	317	eP	Pn	01 24 06.0	+4.3
KCP	Kidapawan	4.99	312	eP	Pn	01 24 08.1	+2.1
KCP				eS	Sn	01 25 07.7	+4.1
BUKP	Musuan	5.62	319	eP	Pn	01 24 18.8	+3.9
TGY	Tagaytay City	12.97	324	LR	LR	01 31 06.2	
	comp=Z,758nm,18.2s,baz=92,slow=38						
FITZ	Fitzroy Crossi	21.82	188	eP	P	01 27 42.1	-1.1
	5.0nm,0.7s,mb4.0						
FITZ	Fitzroy Crossi	21.82	188	P	P	01 27 41.4	-1.8
	2.3nm,0.5s,mb3.9,baz=11,slow=6.6,SNR=20						
FITZ				S	S	01 31 40.8	+2.7
	2.1nm,0.8s,baz=180,slow=7.1,SNR=3.5						
FITZ				LR	LR	01 37 16.8	
	comp=Z,164nm,19.5s,MS3.5,baz=163,slow=40						
PMG	Port Moresby	22.42	125	LR	LR	01 36 26.8	
	comp=Z,368nm,20.0s,MS3.8,baz=241,slow=36						
QIZ	Qiongzhong	24.02	311	P	P	01 28 06.5	+1.6
QIZ				S	S	01 32 17.3	0.0
QIZ				LR	LR		
	comp=N,597nm,16.9s,MS4.2						
QIZ				LR	LR		
	comp=E,530nm,18.4s,MS4.2						
QIZ				LR	LR		
	comp=Z,458nm,16.7s,MS4.0						
WRAB	Tennant Creek	24.05	167	eP	P	01 28 06.2	+1.1
	comp=Z,58nm,1.1s,mb4.9						
WRAB				eS	S	01 32 20.4	+2.7
WRA	Warramunga Arr	24.05	167	P	P	01 28 06.4	+1.2
	comp=Z,8.0nm,0.5s,mb4.4,baz=346,slow=10,SNR=40						
WRA				S	S	01 32 23.5	+5.7
	comp=Z,4.8nm,1.0s,baz=342,slow=18,SNR=5.0						
WB2	Warramunga Arr	24.06	167	eP	P	01 28 07.8	+2.6
WB2				eS	S	01 32 17.7	-0.2
MBWA	Marble Bar	26.19	199	eP	P	01 28 23.0	-2.5
	comp=Z,21nm,1.1s,mb4.6						
CBIJ	Chichi jima	26.61	27	LR	LR	01 38 26.2	
	comp=Z,125nm,19.7s,MS3.5,baz=318,slow=35						
ASAR	Alice Springs	27.59	170	P	P	01 28 37.9	-0.3
	comp=Z,1.0nm,0.5s,mb3.7,baz=355,slow=7.9,SNR=17						
ASAR				LR	LR	01 41 05.2	
	comp=Z,162nm,18.4s,MS3.6,baz=343,slow=40						
ASPA	Alice Springs	27.59	170	eP	P	01 28 39.5	+1.3
ASPA				eS	S	01 33 14.8	-1.6
CTA	Charters Tower	29.15	145	LR	LR	01 42 04.3	
	comp=Z,261nm,19.3s,MS3.9,baz=211,slow=40						
NANT	Nan	31.33	301	P	P	01 29 10.5	-1.1
ENH	Enshi	32.17	328	eP	P	01 29 19.3	+0.3
	comp=Z,34nm,1.2s,mb5.1						
CMAR	Chiang Mai Arr	32.71	299	P	P	01 29 23.4	-0.2
	comp=Z,3.1nm,0.7s,mb4.3,baz=105,slow=6.8,SNR=21						
CMAR				ScP		01 35 52.5	
	comp=Z,2.7nm,0.9s,baz=152,slow=1.6,SNR=12						
CMAR				LR	LR	01 43 12.4	
	comp=Z,204nm,18.5s,MS3.9,baz=105,slow=37						
CHG	Chiang Mai	32.85	300	⇑P	P	01 29 24.7	-0.2
	comp=Z,16nm,0.9s,mb5.0						
FORT	Forrest	34.23	181	eP	P	01 29 35.6	-1.2
	comp=Z,36nm,0.7s,mb5.4						
XAN	Xi'an	35.46	331	P	P	01 29 47.2	-0.1
XAN				S	S	01 35 15.6	-4.5
XAN				AMB	AMB		
	comp=Z,23nm,1.1s,mb5.0						
XAN				LR	LR		
	comp=N,168nm,14.0s						
XAN				LR	LR		
	comp=E,195nm,19.6s						
XAN				LR	LR		
	comp=Z,262nm,15.0s,MS4.1						
CD2	Chengdu	35.97	322	eP	P	01 29 57.3	+5.7
CD2				XP	sP	01 30 06.7	+4.3
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
CD2				AMB	AMB		
	comp=Z,100nm,4.3s						
CD2				LR	LR		
	comp=N,260nm,18.0s						
CD2				LR	LR		
	comp=Z,200nm,16.8s,MS4.0						
KLBR	Kellerberrin	36.58	196	eP	P	01 29 56.7	0.0
	comp=Z,36nm,1.3s,mb5.0						
STKA	Stephens Creek	37.35	162	P	P	01 30 02.5	-0.7
	comp=Z,1.9nm,0.4s,mb4.3,baz=339,slow=8.8,SNR=12						
STKA				LR	LR	01 45 57.5	
	comp=Z,289nm,22.0s,MS4.0,baz=182,slow=37						
NWAO	Narrogin (SRO)	37.98	196	P	P	01 30 08.1	-0.3
	comp=Z,7.4nm,1.0s,mb4.4,baz=343,slow=11,SNR=2.9						
BJI	Beijing	38.00	344	P	P	01 30 08.9	+0.3
BJI				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.5						
BJI				LR	LR		
	comp=N,162nm,15.4s						
BJI				LR	LR		
	comp=E,216nm,24.1s						
BJI				LR	LR		
	comp=Z,740nm,37.9s						
LZH	Lanzhou	39.66	328	⇑P	P	01 30 24.5	+2.0
LZH				AP	pP	01 30 29.5	-0.6
LZH				AMB	AMB		
	comp=Z,66nm,1.6s,mb5.1						
LZH				AMB	AMB		
	comp=Z,201nm,4.8s						
LZH				LR	LR		
	comp=N,891nm,13.6s						
LZH				LR	LR		
	comp=Z,1μm,15.3s,MS4.9						
HHC	Hu-ho-hao-te	40.17	340	eP	P	01 30 25.4	-1.2
HHC				AP	pP	01 30 37.4	+3.1
HHC				PP	PP	01 32 06.0	+3.3
HHC				S	S	01 36 34.6	+3.1
HHC				AMB	AMB		
	comp=Z,19nm,1.3s,mb4.7						
HHC				AMB	AMB		
	comp=Z,130nm,4.8s						
HHC				LR	LR		
	comp=N,132nm,12.8s,MS4.1						
HHC				LR	LR		
	comp=E,121nm,14.0s,MS4.1						
HHC				LR	LR		
	comp=Z,169nm,14.3s,MS4.0						
SHL	Shillong	41.60	305	eP	P	01 30 39.0	+0.3
ASAJ	Asahikawa	42.12	15	LR	LR	01 47 22.5	
	comp=Z,238nm,21.2s,MS4.0,baz=204,slow=35						
GTA	Gaotai	44.26	327	P	P	01 31 02.0	+1.9
GTA				AP	pP	01 31 09.0	+1.2
GTA				XP	sP	01 31 12.5	+1.6
GTA				AMB	AMB		
	comp=Z,66nm,7.2s						
GTA				LR	LR		
	comp=N,130nm,17.5s,MS4.1						
GTA				LR	LR		
	comp=E,138nm,16.0s,MS4.1						
GTA				LR	LR		
	comp=Z,169nm,18.6s,MS4.0						
SONM	Songino Array	48.07	340	P	P	01 31 30.3	+0.1
	comp=Z,1.0nm,0.5s,mb4.1,baz=162,slow=6.4,SNR=11						
SONM				ScP		01 36 51.8	
	comp=Z,1.1nm,1.0s,baz=180,slow=3.7,SNR=4.6						
HYB	Hyderabad	51.09	289	i P	P	01 31 53.0	-0.7
HYB	Hyderabad	51.09	289	eP	P	01 31 53.0	-0.7
WMQ	Urumqi	54.00	324	eP	P	01 32 15.3	+0.3
WMQ				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.9						
DDI	Dehra Dun	54.71	305	e	P	01 32 18.0	-2.5
THN	Thein Dam	57.28	307	eP	P	01 32 37.6	-1.3
	comp=Z,25nm,0.9s,mb5.2						
MKAR	Makanchi Array	58.82	324	P	P	01 32 48.9	-0.6
	comp=Z,1.7nm,0.3s,mb4.5,baz=112,slow=7.8,SNR=67						
MKAR				ScP		01 37 37.6	
	comp=Z,1.0nm,0.8s,baz=135,slow=3.4,SNR=4.3						
MKAR				LR	LR	02 01 26.9	
	comp=Z,206nm,18.4s,MS4.3,baz=120,slow=39						
AAK	Ala-Archa	61.82	317	eP	P	01 33 09.2	-0.9
	comp=Z,17nm,1.4s,mb5.0						
AAK				e		01 33 25.6	
KURK	Kurchatov	62.94	327	eP	P	01 33 16.6	-0.7
	comp=Z,15nm,0.7s,mb5.2						
BVAR	Borovoye Array	68.53	326	P	P	01 33 52.5	-0.7
	comp=Z,5.5nm,0.8s,mb4.5,baz=127,slow=7.4,SNR=20						
BRVK	Borovoye	68.60	326	eP	P	01 33 52.4	-1.3
	comp=Z,8.7nm,0.8s,mb4.7						
ZRNK	Zerenda	69.27	326	eP	P	01 33 57.0	-0.8
	comp=Z,10nm,0.7s,mb4.9						
ZRNK				e	pP	01 34 05.6	-0.2
CASY	Casey	70.98	188	eP	P	01 34 07.7	-0.3
	comp=Z,8.7nm,1.0s,mb4.6						
ARU	Arti	76.12	327	eP	P	01 34 36.5	-1.6
	comp=Z,5.4nm,0.8s,mb4.5						
ILAR	Eielson Array	84.30	25	P	P	01 35 22.9	+1.4
	comp=Z,0.8nm,0.8s,mb3.9,baz=259,slow=5.8,SNR=6.5						
MAW	Mawson	84.39	201	P	P	01 35 22.8	+1.0
	comp=Z,5.6nm,1.2s,mb4.6,baz=58,slow=12,SNR=3.8						
ARCES	ARCESS Array B	91.25	340	P	P	01 35 54.5	-0.3
	comp=Z,3.9nm,1.0s,mb4.7,baz=63,slow=8.1,SNR=3.7						
ARCES	ARCESS Array B	91.25	340	P	P	01 35 54.5	-0.3
FINES	FINESS Array B	92.89	332	P	P	01 36 02.0	-0.5
	comp=Z,2.3nm,0.8s,mb4.6,baz=323,slow=9.5,SNR=3.0						
FINES				LR	LR	02 18 51.3	
	comp=Z,104nm,18.9s,MS4.3,baz=7.2,slow=36						
AKASG	Malin Array Be	93.26	321	P	P	01 36 03.5	-1.0
	comp=Z,0.2nm,0.3s,mb4.0,baz=60,slow=5.4,SNR=4.6						
AKASG				LR	LR	02 23 48.5	
	comp=Z,67nm,19.7s,MS4.1,baz=95,slow=39						
QSPA	South Pole Qui	93.54	180	eP	P	01 36 07.3	+2.1
NOA	NORSAR Array B	99.78	334	LR	LR	02 27 59.9	
	comp=Z,72nm,18.2s,MS4.2,baz=45,slow=39						

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*ATH **05** 01:35:04.8, 37.77N×26.98E, h18km±3km, MD3.5/4*
*NEIC **05** 01:35:04.8, 37.77N×26.98E, h18km, MD3.5(ATH), After ATH.*
*CSEM **05** 01:35:05.4±0.3, 37.79N×27.03E, h1km±2km, MD3.3, Error ellipse: s-maj=3.0km s-min=1.7km az=59.0*
*ISK **05** 01:35:06.2, 37.79N×26.97E, h10km, MD3.3*
*THE **05** 01:35:08.5, 37.91N×26.83E, h3km, ML3.3*
ISC 05 01:35:06.1±0.6**, 37.81N**±0.03×**26.95E**±0.03**, h11**km±4km**, n27, σ1.02**/37**, 1D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SMG	Samos	0.13	222	⇓i PB	Pg	01 35 09.1	-0.4
SMG				eSB	Sg	01 35 11.2	-0.5
IZM	Izmir	0.64	23	i PG	Pg	01 35 19.1	+0.1
KDAG	Bornova	0.64	23	i P	Pb	01 35 19.1	+0.2
KDAG				i S	Sb	01 35 30.1	+2.5
AYDN	Tasoluk	0.75	101	i P	Pb	01 35 20.4	-0.4
AYDN				i S	Sb	01 35 29.1	-1.6
MLSB	Milas	0.83	128	i PG	Pg	01 35 21.7	-1.2
MLSB				i SG	Sg	01 35 34.7	+0.6
BDRM	Kayabasi	0.84	152	i P	Pb	01 35 21.4	-0.9
BDRM				i S	Sb	01 35 32.0	-1.3
YER	Yerkesik	1.26	122	i PN	Pn	01 35 29.5	-0.2
AKS	Akhisar	1.27	32	i PN	Pn	01 35 31.2	+1.4
APE	Apeiranthos	1.35	237	PN	Pn	01 35 32.1	+1.1
APE	Apeiranthos	1.35	237	ePN	Pn	01 35 30.7	-0.3
PRK	Paraskevi	1.53	340	ePN	Pn	01 35 34.0	+0.4
DENT	Denizli	1.65	91	PN	Pn	01 35 35.5	+0.2
DALT	Dalyan (Mudla)	1.70	127	PN	Pn	01 35 36.2	+0.2
THR4	Thira Island,	1.83	223	ePb	Pb	01 35 39.3	+0.1
THR4				eSb	Sb	01 36 04.2	+2.1
ARG	Arkhangelos	1.85	149	ePN	Pn	01 35 37.2	-0.9
THR3	Thira Island,	1.87	222	ePb	Pb	01 35 40.8	+1.0
THR3				eSb	Sb	01 36 04.9	+1.8
THR6	Thira Island,	1.91	221	ePb	Pb	01 35 41.0	+0.4
DST	Dursunbey	2.22	36	PN	Pn	01 35 44.5	+1.0
ELL	Elmali	2.59	113	PN	Pn	01 35 49.2	+0.5
KCT	Karacabey	2.69	24	PN	Pn	01 35 51.1	+1.0
ORLT	Orhaneli	2.70	34	PN	Pn	01 35 51.1	+0.8
ALN	Alexandroupoli	3.16	347	ePn	Pn	01 35 56.0	-0.9
ALN				eSn	Sn	01 36 33.9	-1.1
YLV	Yalova	3.34	34	PN	Pn	01 36 00.5	+1.1
OUR	Ouranopolis	3.42	318	ePn	Pn	01 36 00.4	-0.1
OUR				eSn	Sn	01 36 39.8	-1.7
AGG	Agios Georgios	3.83	290	ePn	Pn	01 36 06.0	-0.3
AGG				eSn	Sn	01 36 50.3	-1.5
KIZT	Kizilcal	4.02	73	PN	Pn	01 36 09.1	0.0
SRS	Serrai	4.20	323	ePn	Pn	01 36 10.0	-1.7

DJA 05 01:47:29.5±1.0**, 8.58S×116.25E, h118**km±6km**, ML3.8**/2**, 4C-3D, Error ellipse: s-maj=49.6km s-min=18.0km az=174.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	Kedomdong	0.16	303	⇑ePn	P	01 47 45.8	-0.1
KEDI				⇓eSn	S	01 47 56.8	-1.4
RATI	Rata	0.73	258	⇑ePn	P	01 47 48.7	-0.3
RATI				⇑eSn	S	01 48 03.6	-0.2
KELI	Kelakatan	1.78	281	⇑ePn	P	01 48 00.5	-0.1
	67nm,0.2s						
SRDI	Scrawed	2.09	272	⇓ePn	P	01 48 03.8	-0.7
	61nm,0.2s						
SRDI				⇓eSn	S	01 48 29.2	-1.6

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*CSEM **05** 01:48:02.7±0.3, 42.36N×2.19E, h10km, ML2.0, Error ellipse: s-maj=12.2km s-min=6.8km az=133.0*
*STR **05** 01:48:03.5±0.5, 42.79N×2.53E, h5km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **05** 01:48:03.1±0.3, 42.34N×2.16E, mbLg1.3/3, Error ellipse: s-maj=3.0km s-min=2.4km az=159.0, PRXIMO AftershockPLICA*
ISC 05 01:48:01.5±1.0**, 42.33N**±0.05×**2.19E**±0.06**, h12**km±11km**, n15, σ0.64**/20**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBRU	Bruguera	0.05	190	Pg	Pg	01 48 04.2	+0.4
VALF	Valcebollere	0.15	298	P	Pg	01 48 05.3	+0.2
VALF				S	Sg	01 48 07.1	-0.4
CLLI	Llivia	0.22	312	Pg	Pg	01 48 06.6	+0.3
FILF	Fillols	0.36	50	Pg	Pg	01 48 08.5	-0.4
FILF				Sg	Sg	01 48 12.5	-1.3
FILF	Fillols	0.36	50	P	Pg	01 48 08.6	-0.3
FILF				S	Sg	01 48 12.5	-1.3
CARF	Carcanieres	0.39	351	Pg	Pg	01 48 10.2	+0.7
CARF				Sg	Sg	01 48 14.7	-0.2
CARF	Carcanieres	0.39	351	P	Pg	01 48 10.3	+0.8
CARF				S	Sg	01 48 15.3	+0.4
EJON	La Jonquera	0.53	77	Pg	Pg	01 48 13.5	+1.3
	0.3nm,0.1s,SNR=7.9						
EJON				Lg		01 48 20.8	
	1.6nm,0.1s,SNR=9.2						
EJON	La Jonquera	0.53	77	Pg	Pg	01 48 13.5	+1.2
	0.3nm,0.1s,SNR=7.9						
EMIR	Miracle	0.65	230	Pg	Pg	01 48 14.7	+0.1
	1.1nm,0.1s,SNR=7.9						
EMIR				Lg		01 48 23.5	
	2.0nm,0.1s,SNR=5.6						
EMIR	Miracle	0.65	230	Pg	Pg	01 48 14.7	+0.1
	1.1nm,0.1s,SNR=7.9						
CORG	Organya	0.66	261	Pg	Pg	01 48 14.8	+0.1
CAVN	Les Avellanes	1.16	248	Pg	Pg	01 48 24.1	-0.7
EPOB	Poblet	1.28	221	Pg	Pg	01 48 26.6	-0.6
	1.6nm,0.1s,SNR=7.9						
EPOB				Lg		01 48 43.2	
	2.5nm,0.1s,SNR=8.0						
EPOB	Poblet	1.28	221	Pg	Pg	01 48 26.6	-0.6
	1.6nm,0.1s,SNR=7.9						

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*PRU **05** 01:50:52.2, 51.41N×16.06E*
WAR 05 01:50:52.2, 51.50N×16.09E, ML2.7, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.67	169	ePG	Pg	01 51 04.0	-1.6
KSP				eSG	Sg	01 51 12.0	-2.6
UPC	Upice	1.00	183	ePG	Pg	01 51 10.1	-2.0
DPC	Dobruska-Polom	1.16	173	ePG	Pg	01 51 12.1	-3.3
DPC				eSG	Sg	01 51 27.0	-3.9
PVCC	Panska Ves	1.37	225	ePG	Pg	01 51 16.3	-3.2
PRU	Pruhonice	1.81	214	ePG	Pg	01 51 23.4	-4.9
PRU				SG	Sg	01 51 46.7	-5.7
	6.3nm,0.3s						
CLL	Collm	1.94	265	i PG	Pg	01 51 28.2	-2.8
CLL				i SG	Sg	01 51 52.3	-4.6
OKC	Ostrava-Krasne	2.12	141	eSG	Sg	01 51 57.4	-5.4
NKC	Novy Kostel	2.63	243	eSG	Sg	01 52 14.1	-5.8
KHC	Kasperske Hory	2.87	215	eSN	Sn	01 52 09.5	-6.3
KHC				eSG	Sg	01 52 20.7	-7.0

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*NEIC **05** 02:12:22.1±1.1, 24.31S×179.88W, h486km±13km, mb4.1/9, Error ellipse: s-maj=13.0km s-min=9.4km az=140.0*
*IDC **05** 02:12:24.4±2.6, 24.40S×179.92W, h508km±27km, mb3.4/11, mb1 3.6/12, mb1mx3.6/15, Error ellipse: s-maj=18.5km s-min=18.2km az=67.0*
ISC 05 02:12:20.6±1.7**, 24.33S**±0.07×**180.0W**±0.1**, h471**km±21km**, n44, σ0.82**/34**, mb3.9**/16**, 1D, South of Fiji Islands**

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

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	12.92	38	P	P	02 15 09.9	-0.6
URZ	Urewera	14.11	189	P	P	02 15 22.7	-0.1
	6.9nm,0.3s,baz=286,slow=2.7,SNR=22						
URZ				S	S	02 17 49.3	-0.5
	1.4nm,0.3s,baz=50,slow=16,SNR=4.7						
NNZ	Nelson	17.74	197	eP	P	02 15 59.8	+0.4
THZ	Tophouse	18.38	197	P	P	02 16 06.7	+1.1
KHZ	Kahutara	18.83	195	P	P	02 16 10.0	0.0
RPZ	Rata Peaks	20.70	199	P	P	02 16 27.7	0.0
	23nm,0.5s,baz=34,slow=1.8,SNR=17						
CTA	Charters Tower	31.52	271	eP	P	02 18 05.4	+1.2
	1.9nm,0.3s,mb4.0						
CTA	Charters Tower	31.52	271	P	P	02 18 05.5	+1.4
	1.9nm,0.3s,mb4.0,baz=102,slow=12,SNR=7.6						
CTAO	Charters Tower	31.52	271	eP	P	02 18 05.1	+1.0
	3.2nm,0.3s,mb4.2						
STKA	Stephens Creek	34.60	249	eP	P	02 18 31.0	+1.0
	3.2nm,0.3s,mb4.2						
STKA	Stephens Creek	34.60	249	P	P	02 18 31.0	+1.0
	9.8nm,0.9s,mb4.2,baz=96,slow=9.0,SNR=25						
ASAR	Alice Springs	42.00	261	P	P	02 19 30.9	+0.1
	1.7nm,0.6s,mb3.7,baz=100,slow=7.6,SNR=21						
ASPA	Alice Springs	42.01	261	eP	P	02 19 30.9	+0.1
ASPA				eS	S	02 25 10.2	-5.1
WB2	Warramunga Arr	42.41	267	eP	P	02 19 33.4	-0.6
WB2				eS	S	02 25 13.5	-7.6
WRAB	Tennant Creek	42.41	267	eP	P	02 19 33.2	-0.8
	3.3nm,0.4s,mb4.1						
WRA	Warramunga Arr	42.42	267	P	P	02 19 33.5	-0.5
	1.7nm,0.4s,mb3.9,baz=104,slow=8.0,SNR=19						
WRA				ScP		02 24 16.9	
	0.5nm,0.6s,baz=100,slow=3.8,SNR=6.0						
WRA				S	S	02 25 13.9	-7.4
	0.8nm,0.8s,baz=104,slow=14,SNR=4.1						
FORT	Forrest	46.20	250	eP	P	02 20 02.4	-1.1
	44nm,0.5s,mb5.2						
KAKA	Kakadu	46.42	276	eP	P	02 20 09.2	+3.8
	2.6nm,0.4s,mb4.0						
FITZ	Fitzroy Crossi	50.83	266	eP	P	02 20 38.7	+0.1
	1.6nm,0.6s,mb3.5						
CASY	Casey	59.75	206	eP	P	02 21 38.6	-1.6
	5.4nm,0.8s,mb4.0						
CASY				e		02 22 12.6	
QSPA	South Pole Qui	65.76	180	eP	P	02 22 19.3	+0.5
	6.1nm,0.7s,mb4.3						
MAW	Mawson	77.36	200	P	P	02 23 26.8	+0.3
	3.2nm,0.6s,mb4.0,baz=134,slow=7.5,SNR=9.7						
MAW	Mawson	77.36	200	eP	P	02 23 26.5	0.0
	3.7nm,0.5s,mb4.2						
SNAA	Sanae	84.24	179	P	P	02 24 01.3	-0.5
	0.2nm,0.3s,mb3.1,baz=187,slow=13,SNR=3.2						
SNAA	Sanae	84.24	179	eP	P	02 24 01.5	-0.2
	0.6nm,0.3s,mb3.6						
NVAR	Mina Array Bea	85.03	44	P	P	02 24 07.1	+0.7
	0.2nm,0.5s,mb3.0,baz=236,slow=9.8,SNR=4.2						
NVAR	Mina Array Bea	85.03	44	P	P	02 24 07.1	+0.7
CMAR	Chiang Mai Arr	89.71	290	P	P	02 24 29.9	+1.0
	0.5nm,0.3s,mb3.8,baz=152,slow=3.6,SNR=4.1						
TXAR	Lajitas Array	90.62	58	P	P	02 24 34.1	+1.2
	0.5nm,0.6s,mb3.6,baz=198,slow=7.9,SNR=5.4						
ILAR	Eielson Array	92.43	14	P	P	02 24 38.8	-1.6
	0.4nm,0.7s,mb3.5,baz=227,slow=5.0,SNR=6.1						
BVAR	Borovoye Array	120.78	319	PKP	PKPdf	02 30 17.2	-0.7
	0.9nm,0.4s,baz=144,slow=4.2,SNR=5.9						
ARCES	ARCESS Array B	132.31	348	PKP	PKPdf	02 30 38.9	-0.6
	2.6nm,0.8s,baz=56,slow=4.4,SNR=5.4						
FINES	FINESS Array B	138.86	341	PKhKP		02 30 42.4	
	1.3nm,0.8s,baz=63,slow=4.3,SNR=7.0						
FINES				PKP	PKPdf	02 30 52.5	+0.8
	3.6nm,1.1s,baz=90,slow=1.9,SNR=3.9						
NOA	NORSAR Array B	142.51	351	PKP	PKPdf	02 30 58.1	+0.1
	1.1nm,1.1s,baz=30,slow=1.2,SNR=2.8						
HFS	Hagfors	142.97	349	PKhKP		02 30 56.0	
	6.3nm,0.4s,baz=63,slow=3.3,SNR=54						
AKASG	Malin Array Be	145.35	327	PKPbc	PKPbc	02 31 03.9	-0.4
	1.6nm,0.4s,baz=45,slow=4.1,SNR=12						
ASF	Jabal al Asfar	146.73	292	PKPbc	PKPbc	02 31 09.7	+1.5
	0.8nm,0.4s,baz=6.3,slow=5.0,SNR=4.8						
BRTR	Keskin Array B	147.86	307	PKPbc	PKPdf	02 31 11.6	+3.8
	1.5nm,0.8s,baz=152,slow=5.7,SNR=8.7						
EKA	Eskdalemuir Ar	148.94	4	PKPbc	PKPdf	02 31 13.4	+4.5
	1.4nm,0.5s,baz=356,slow=2.6,SNR=6.2						
MLR	Muntele Rosu	150.27	322	PKPbc	PKPdf	02 31 16.8	+5.4
	0.9nm,0.4s,baz=224,slow=9.4,SNR=9.2						
CLL	Collm	151.27	343	⇓iPKP1	PKPdf	02 31 19.3	+6.6
BRG	Berggiesshubel	151.40	341	iP	PKPdf	02 31 20.2	+7.3
GERES	GERESS Array B	153.27	340	PKPab	PKPab	02 31 38.9	-1.2
	0.2nm,0.5s,baz=45,slow=3.8,SNR=4.3						
DAVOX	Davos	156.25	343	PKPab	PKPab	02 31 52.1	-0.7
	1.7nm,0.6s,baz=294,slow=5.7,SNR=5.0						

CASC 05 02:16:39.1±1.2**, 8.96N**×**83.03W, MD3.7, 7C-2D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	Cerro Adams	0.33	204	⇓iP	Pg	02 16 46.8	+1.1
ACR				eS	Sg	02 16 53.5	+3.5
BUS	Buena Vista	0.93	310	⇑eP	Pg	02 16 57.7	+0.1
BUS				eS	Sg	02 17 12.3	+2.2
LIO	Limon	1.04	360	eP	Pb	02 16 58.3	-1.4
URSC	Urasca	1.14	320	⇑eP	Pb	02 17 01.3	-0.1
LCR2	La Lucha 2	1.23	309	⇑eP	Pb	02 17 02.6	-0.4
LCR2				eS	Sb	02 17 21.3	+2.0
ICR	Volcan Irazu	1.29	322	⇑eP	Pb	02 17 04.0	+0.1
ICR				eS	Sb	02 17 22.8	+2.0
LAJ	Bijagual	1.40	310	⇑eP	Pb	02 17 09.9	+4.1
LAJ				eS	Sb	02 17 33.8	+10
SJS	Escuela Geolog	1.40	314	eP	Pb	02 17 05.7	-0.2
SJS				eS	Sb	02 17 26.0	+1.8
PRS1	Puriscal	1.62	309	⇓eP	Pn	02 17 08.0	-1.1
PRS1				eS	Sb	02 17 30.8	+0.2
VPS2	Volcan Poas 2	1.71	316	eP	Pn	02 17 10.7	+0.4
TRTC	Tortuguero	1.74	337	⇑eP	Pn	02 17 09.4	-1.4
TRTC				eS	Sn	02 17 35.5	+1.5
CGA2	Cerro Gallo 2	1.76	307	⇑eP	Pn	02 17 10.8	-0.3
CGA2				eS	Sn	02 17 35.5	+1.0

CASC 05 02:45:24.3±3.3**, 15.05N**×**87.09W, MD4.0, 2C-1D, Honduras**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAHU	Cacacuatique	1.67	221	eP	Pn	02 45 54.3	-0.7
CAHU				eS	Sb	02 46 18.5	+1.3
CNCH	Conchagua	1.90	202	eP	Pn	02 45 57.3	-1.1
CNCH				eS	Sn	02 46 22.9	-0.5
VSM	San Miguel	1.98	216	eS	Sn	02 46 24.2	-1.0
SNVI	San Vicente	2.22	230	eP	Pn	02 46 02.5	-0.3
SNVI				eS	Sn	02 46 32.0	+0.7
MTO2	Montecristo 2	2.29	254	⇑eP	Pn	02 46 03.7	-0.2
MTO2				eS	Sn	02 46 34.9	+1.7
LCBS	La Ceiba	2.30	233	⇓eP	Pn	02 46 03.0	-1.0
LCBS				eS	Sn	02 46 33.5	+0.1
LBRS	Las Brisas	2.30	236	eP	Pn	02 46 02.7	-1.3
LBRS				eS	Sn	02 46 34.3	+0.9
LFRS	El Faro	2.38	234	⇑eP	Pn	02 46 04.7	-0.4
LFRS				eS	Sn	02 46 35.9	+0.5
TEL3	Telica 3	2.47	174	eP	Pn	02 46 07.1	+0.6
TEL3				eS	Sn	02 46 38.6	+0.8
CNGN	Cerro Negro	2.56	171	eP	Pn	02 46 04.6	-3.1
MIRN	Miramar	2.62	172	eP	Pn	02 46 08.8	+0.3
MIRN				eS	Sn	02 46 44.3	+2.8
MOMJ	Momotombo	2.68	168	eP	Pn	02 46 07.5	-1.9
MOMJ				eS	Sn	02 46 44.5	+1.5
PYTN	Playitas	2.69	158	eP	Pn	02 46 10.0	+0.4
PYTN				eS	Sn	02 46 43.3	0.0
SNJE	San Jose	2.71	245	eP	Pn	02 46 10.2	+0.4
RTR	El Retiro	2.73	246	eP	Pn	02 46 13.8	+3.7
RTR				eS	Sn	02 46 47.5	+3.2
SBLS	San Blas	2.73	244	eP	Pn	02 46 10.6	+0.4
MGAN	Managua	3.00	164	eP	Pn	02 46 07.9	-6.1
MGAN				eS	Sn	02 46 53.2	+2.1
APON	Apoyo	3.27	162	eP	Pn	02 46 15.4	-2.4

*IDC **05** 03:19:45.0±1.3, 3.87N×128.83E, mb3.9/7, mb1 4.0/7, mb1mx3.9/16, Error ellipse: s-maj=69.3km s-min=16.6km az=68.0*

*NEIC **05** 03:19:46.6±0.9, 3.86N×128.78E, h10km, mb4.2/3, Error ellipse: s-maj=49.1km s-min=11.3km az=68.0*

ISC 05 03:19:48.0±1.0**, 3.9N**±0.2×**128.7E**±0.4**, h33km, n11, σ1§05**/11**, mb3.9**/9**, North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	22.06	188	P	P	03 24 40.1	-1.7
	1.0nm,0.6s,mb3.4,baz=347,slow=19,SNR=3.3						
WRAB	Tennant Creek	24.31	167	eP	P	03 25 04.5	+0.6
	5.8nm,1.2s,mb3.9						
WRA	Warramunga Arr	24.32	167	P	P	03 25 04.2	+0.2
	1.2nm,0.5s,mb3.6,baz=344,slow=10,SNR=19						
WB2	Warramunga Arr	24.32	167	eP	P	03 25 04.8	+0.8
ASAR	Alice Springs	27.85	170	P	P	03 25 36.2	-0.7
	0.4nm,0.4s,mb3.4,baz=355,slow=7.9,SNR=9.3						
CMAR	Chiang Mai Arr	32.52	299	P	P	03 26 20.3	+2.0
	1.0nm,0.4s,mb4.1,baz=111,slow=7.7,SNR=5.5						
STKA	Stephens Creek	37.62	162	eP	P	03 27 02.2	+0.5
	2.2nm,1.0s,mb3.8						
STKA	Stephens Creek	37.62	162	P	P	03 27 02.3	+0.6
	1.7nm,0.6s,mb4.0,baz=336,slow=8.9,SNR=6.6						
SONM	Songino Array	47.81	340	P	P	03 28 24.7	+0.4
	0.4nm,0.5s,mb3.7,baz=147,slow=8.7,SNR=6.2						
MKAR	Makanchi Array	58.57	324	P	P	03 29 43.3	-0.6
	2.1nm,0.4s,mb4.5,baz=118,slow=8.2,SNR=52						
KURK	Kurchatov	62.68	327	eP	P	03 30 10.3	-1.5
	3.0nm,0.5s,mb4.7						

IDC 05 03:25:18.1±2.5**, 9.06S**×**112.01E, mb3.5**/3**, mb1 3.7**/4**, mb1mx3.5**/14**, ML3.4**/1**, Error ellipse: s-maj=128.0km s-min=27.2km az=48.0, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	16.00	126	Pn	P	03 29 01.3	-5.0
	0.1nm,0.3s,baz=275,slow=11,SNR=3.4						
WRA	Warramunga Arr	24.14	119	P	P	03 30 35.5	-1.4
	0.6nm,0.6s,baz=292,slow=12,SNR=9.6						
ASAR	Alice Springs	25.48	127	P	P	03 30 49.0	-0.7
	0.6nm,0.5s,baz=303,slow=9.1,SNR=11						
MKAR	Makanchi Array	61.60	337	P	P	03 35 37.1	-2.6
	0.2nm,0.4s,baz=145,slow=5.3,SNR=4.6						

*IDC **05** 03:35:02.7±0.8, 38.26N×72.41E, mb4.0/13, mb1 4.2/15, mb1mx4.2/21, ML3.9/2, MS3.8/3, Ms1 3.8/3, ms1mx3.1/25, Error ellipse: s-maj=17.8km s-min=16.5km az=170.0*

*BJI **05** 03:35:04.5, 38.39N×72.35E, h26km, mB4.6, mb4.7, ML5.1, Ms4.2, Msz3.8*

*NEIC **05** 03:35:07.2±3.4, 38.30N×72.37E, h32km±24km, mb4.4/15, Error ellipse: s-maj=11.5km s-min=7.8km az=212.0*

*MOS **05** 03:35:10.7±1.3, 38.82N×72.13E, h33km, mb4.4/15, Error ellipse: s-maj=16.5km s-min=7.6km az=95.2*

*NNC **05** 03:35:13.8±3.0, 39.23N×72.46E, mpv4.8, Error ellipse: s-maj=42.7km s-min=25.4km az=114.0*

ISC 05 03:35:08.0±0.6**, 38.31N**±0.03×**72.42E**±0.05**, h57km**±6km**, h42km**±7.7km**: pP-P, n122, σ1§18**/133**, mb4.2**/35**, MS3.7**/11**, 10C-7D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	Kashi	3.02	65	PG	P	03 35 57.3	+2.7
KSH				SG	S	03 36 37.1	+7.4
KSH				Smax			
	comp=N,4μm,1.4s						
KSH				Smax			
	comp=E,2μm,0.7s						
AML	Almayashu	3.94	14	P	P	03 36 07.3	-0.2
	SNR=258						
UCH	Uchtor	4.23	22	P	P	03 36 11.5	-0.1
	SNR=36						
KZA	Kyzart	4.34	29	P	P	03 36 12.9	-0.3
	SNR=9.0						
EKS2	Erkin-Say	4.47	13	P	P	03 36 16.2	+1.2
	SNR=19						
CEP	Cherat	4.49	185	⇓P	P	03 36 18.2	+3.0
AAK	Ala-Archa	4.60	19	⇑Pn	P	03 36 16.5	-0.3
	comp=E,212nm,0.8s						
AAK				⇓Lg		03 37 12.4	
	comp=E,867nm,1.1s						
AAK	Ala-Archa	4.60	19	P	P	03 36 17.2	+0.5
	SNR=35						
AAK	Ala-Archa	4.60	19	ePN	P	03 36 15.8	-1.0
AAK				pmax	pmax		
	comp=Z,101nm,0.7s						
AAK	Ala-Archa	4.60	19	ePn	P	03 36 16.1	-0.7
CHCP	Chirah Chowk	4.69	171	⇑P	P	03 36 20.8	+2.8
KBK	Karagaybulak	4.75	23	P	P	03 36 23.4	+4.5
	SNR=21						
FRU	Bishkek	4.82	20	ePN	P	03 36 24.0	+4.2
FRU				pmax	pmax		
	comp=Z,550nm,2.0s						
ULHL	Ulahol	4.90	35	P	P	03 36 21.6	+0.6
	SNR=12						
CHMS	Chumysh	5.01	20	P	P	03 36 25.3	+2.8
	SNR=45						
USP	Ospenovka	5.20	17	P	P	03 36 24.4	-0.7
	SNR=20						
TKM2	Tokmak 2	5.20	27	P	P	03 36 25.2	+0.1
	SNR=11						
THW	Thamme Wali	5.53	186	P	P	03 36 30.8	+1.2
SBDP	Sheikh Budin	6.14	193	P	P	03 36 38.8	+0.7
THN	Thein Dam	6.45	154	eP	P	03 36 41.9	-0.6
THN				eS	S	03 37 56.0	+0.5
DRP	Derazinda	6.79	196	P	P	03 36 48.1	+0.7
BHK	Bhakra	7.62	153	eP	P	03 37 02.6	+3.9
BHK				eS	S	03 38 26.6	+2.2
DDI	Dehra Dun	9.22	148	eP	P	03 37 19.0	-1.8
DDI				eS	S	03 39 02.3	-1.9
NDI	New Delhi	10.39	156	e	P	03 37 34.0	-2.9
NDI				eS	S	03 39 29.0	-3.8
PTH	Pithoragarh	10.87	141	e	Px	03 37 21.0	
PTH				eS	S	03 39 38.4	-5.8
LGTI	Lohaghat	10.96	141	eP	P	03 37 43.5	-1.0
LGTI				eS	S	03 39 40.5	-6.0
MK31	Makanchi Array	11.17	37	⇑Pn	P	03 37 46.7	-0.5
	comp=Z,22nm,1.0s,baz=230,slow=16,SNR=75						
MK31				⇑Lg		03 40 53.4	
	comp=Z,66nm,1.6s						
MKAR	Makanchi Array	11.17	37	Pn	P	03 37 46.8	-0.4
	comp=Z,0.7nm,0.3s,baz=229,slow=15,SNR=42						
MKAR				Lg		03 40 58.2	
	comp=Z,0.2nm,0.3s,baz=229,slow=26,SNR=5.3						
MKAR	Makanchi Array	11.17	37	iP	P	03 37 46.5	-0.8
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
AJM	Ajmer	11.94	170	eP	P	03 37 54.6	-3.1
AJM				eS	S	03 40 03.3	-6.9
WMQ	Urumqi	12.77	60	eP	P	03 38 05.7	-3.0
WMQ				PP	PP	03 38 12.7	-6.4
WMQ				AMB	AMB		
	comp=Z,15nm,1.0s						
WMQ				LR	LR		
	comp=N,475nm,8.0s						
WMQ				LR	LR		
	comp=E,214nm,8.0s						
WMQ				LR	LR		
	comp=Z,115nm,9.0s						
KURK	Kurchatov	13.16	18	⇑Pn	P	03 38 09.6	-4.3
	comp=Z,5.6nm,1.1s,baz=183,slow=8.0,SNR=9.7						
KURK				⇑Lg		03 41 55.0	
	comp=Z,67nm,1.3s						
KURK	Kurchatov	13.16	18	iP	P	03 38 09.9	-4.0
KURK				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KURK	Kurchatov	13.16	18	eP	P	03 38 09.3	-4.6
	comp=Z,8.7nm,1.0s						
KOLN	Koldanda	14.07	135	eP	P	03 38 19.1	-6.7
	comp=Z,4.4nm,0.3s						
KOLN				eS	S	03 40 43.1	-18
VOSK	Vostochnaya	14.45	356	⇑Pn	P	03 38 26.8	-3.8
	comp=Z,9.9nm,0.9s						
VOSK	Vostochnaya	14.45	356	P	P	03 38 26.8	-3.9
VOSK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
GKN	Gorkha	14.48	132	eP	P	03 38 25.6	-5.6
	comp=Z,28nm,0.4s						
GKN				eS	S	03 40 55.6	-15
BVA0	Borovoye Array	14.79	355	⇓Pn	P	03 38 30.9	-4.1
	comp=Z,2.4nm,0.9s,baz=236,slow=41,SNR=44						
BVA0				⇓Lg		03 42 50.2	
	comp=Z,10nm,1.4s						
BVA0	Borovoye Array	14.79	355	P	P	03 38 31.2	-3.8
BVAR	Borovoye Array	14.79	355	Pn	P	03 38 29.7	-5.3
	comp=Z,0.7nm,0.3s,baz=164,slow=11,SNR=19						
BVAR				Lg		03 43 02.1	
	comp=Z,0.3nm,0.3s,baz=180,slow=24,SNR=3.4						
BRVK	Borovoye	14.83	355	⇓Pn	P	03 38 31.2	-4.3
	comp=Z,11nm,0.8s						
BRVK	Borovoye	14.83	355	P	P	03 38 34.1	-1.4
	comp=Z,21nm,0.7s						
ZRNK	Zerenda	14.84	352	⇓Pn	P	03 38 31.3	-4.4
	comp=Z,14nm,0.8s						
ZRNK				⇓Lg		03 42 58.7	
	comp=Z,97nm,1.6s						
ZRNK	Zerenda	14.84	352	P	P	03 38 31.2	-4.4
ZRNK				pmax	pmax		
	comp=Z,11nm,0.8s						
KKN	Kakani	15.02	130	eP	P	03 38 32.6	-5.6
PKI	Pulchoki	15.26	131	eP	P	03 38 33.4	-7.9
	comp=Z,8.3nm,0.6s						
GUN	Gumba	15.30	129	eP	P	03 38 35.7	-6.1
	comp=Z,7.7nm,0.3s						
BHPL	Bhopal	15.61	163	AMb	AMB	03 37 57.0	
	comp=Z,13nm,0.9s						
BHPL				i		03 38 38.1	
BHPL				e		03 41 31.3	
NVS	Novosibirsk	18.09	20	iP	P	03 39 16.2	-0.5
NVS				iS	S	03 42 38.1	+4.7
NVS				pmax	pmax		
	comp=Z,22nm,1.1s						
NVS				pmax	pmax		
	comp=E,51nm,1.6s						
NVS				smax			
	comp=N,34nm,1.9s						
NVS				smax			
	comp=E,12nm,1.3s						
POO	Poona	19.74	176	eP	P	03 39 38.0	+2.3
SVE	Sverdlovsk	20.11	341	⇑eP	P	03 39 35.0	-4.4
SVE				eS	S	03 43 17.0	-0.1
SVE				pmax	pmax		
	comp=Z,20nm,2.2s						
SVE				MLR	MLR		
	comp=N,500nm,11.0s,MS4.3						
SVE				MLR	MLR		
	comp=E,600nm,11.0s,MS4.3						
SVE				MLR	MLR		
	comp=Z,1μm,11.0s,MS4.4						
ARU	Arti	20.35	337	⇑iP	P	03 39 40.8	-1.1
ARU				eS	S	03 43 13.6	-8.1
ARU				pmax	pmax		
	comp=Z,13nm,0.7s						
ARU				MLR	MLR		
	comp=N,100nm,16.0s,MS3.4						
ARU				MLR	MLR		
	comp=Z,200nm,16.0s,MS3.6						
ARU				MLR	MLR		
	comp=E,100nm,18.5s,MS3.4						
ARU	Arti	20.35	337	eP	P	03 39 39.6	-2.2
	comp=E,21nm,0.6s						
SHL	Shillong	20.78	122	eP	P	03 39 47.0	+0.5
GTA	Gaotai	21.33	78	eP	P	03 39 53.8	+1.8
GTA				AP		03 40 00.4	
GTA				XP		03 40 03.3	
GTA				AMB	AMB		
	comp=Z,5.0nm,1.3s,mb3.7						
GTA				AMB	AMB		
	comp=Z,29nm,6.5s						
GTA				LR	LR		
	comp=N,83nm,16.1s,MS3.4						
GTA				LR	LR		
	comp=E,79nm,12.2s,MS3.4						
GTA				LR	LR		
	comp=Z,96nm,13.0s,MS3.4						
HYB	Hyderabad	21.49	164	iP	P	03 39 53.0	-0.7
HYB	Hyderabad	21.49	164	eP	P	03 39 53.0	-0.7
GOF	Gofitskoye	22.88	297	⇑iP	P	03 40 16.0	+8.8
GOF				pmax	pmax		
	comp=Z,30nm,1.2s,mb4.6						
KIV	Kislovodsk	23.03	294	eP	P	03 40 14.4	+5.8
KIV				eS	S	03 44 14.4	+3.3
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.1						
KIV				MLR	MLR		
	comp=Z,85nm,17.0s,MS3.3						
KIV	Kislovodsk	23.03	294	eP	P	03 40 13.9	+5.3
	comp=Z,24nm,0.7s,mb4.7						
LZH	Lanzhou	25.07	85	eP	P	03 40 29.9	+1.4
LZH				AP	pP	03 40 34.6	-7.7
LZH				XP	sP	03 40 37.6	-12
LZH				AMB	AMB		
	comp=Z,17nm,1.5s,mb4.3						
SOC	Sochi	25.16	293	eP	P	03 40 35.3	+6.0
SOC				e		03 41 13.4	
SOC				eS	S	03 44 46.5	-1.1
SOC				eSSS	SSS	03 46 02.8	-6.0
SOC				pmax	pmax		
	comp=Z,47nm,1.0s,mb5.0						
SOC				pmax	pmax		
	comp=N,30nm,0.9s						
SOC				pmax	pmax		
	comp=E,72nm,1.1s						
SOC				MLR	MLR		
	comp=Z,155nm,20.0s,MS3.5						
SOC				MLR	MLR		
	comp=N,314nm,23.0s,MS3.8						
SOC				MLR	MLR		
	comp=E,102nm,19.0s,MS3.8						
SONM	Songino Array	26.40	58	P	P	03 40 41.7	+1.0
	comp=E,5.3nm,0.9s,mb4.1,baz=258,slow=11,SNR=14						
ANN	Anapa	26.83	295	eP	P	03 40 32.8	-12
ANN				e*PP	pP	03 40 45.1	-14
ANN				pmax	pmax		
	comp=Z,29nm,0.8s,mb4.9						
KMI	Kunming	28.80	108	eP	P	03 41 03.0	+0.3
KMI				AP	pP	03 41 14.5	-2.5
KMI				XP	sP	03 41 19.3	-4.6
KMI				S	S	03 45 47.9	+0.9
KMI				XS		03 46 09.0	
KMI				SS	SS	03 47 17.4	-0.3
KMI				AMB	AMB		
	comp=Z,39nm,4.9s						
KMI				LR	LR		
	comp=N,244nm,21.2s,MS3.8						
KMI				LR	LR		
	comp=E,134nm,24.0s,MS3.8						
KMI				LR	LR		
	comp=Z,100nm,19.1s,MS3.4						
OBN	Obninsk	29.36	317	eP	P	03 41 07.2	-0.2
OBN				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.8						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.5						
BRTR	Keskin Array B	30.01	285	P	P	03 41 13.8	+0.5
	comp=Z,2.2nm,0.9s,mb3.9,baz=100,slow=7.5,SNR=8.0						
BRTR	Keskin Array B	30.01	285	P	P	03 41 13.9	+0.5
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CMAR	Chiang Mai Arr	30.41	123	P	P	03 41 25.7	+8.6
	comp=Z,0.9nm,0.6s,mb3.6,baz=301,slow=10,SNR=3.8						
CMAR	Chiang Mai Arr	30.41	123	P	P	03 41 25.7	+8.6
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	Malin Array Be	32.74	306	P	P	03 41 36.1	-1.1
	comp=Z,0.3nm,0.3s,mb3.6,baz=111,slow=8.1,SNR=7.6						
BOD	Bodaibo	33.24	40	eP	P	03 41 39.5	-1.9
FINES	FINESS Array B	36.65	324	P	P	03 42 10.7	+0.2
	comp=Z,4.0nm,0.5s,mb4.5,baz=116,slow=8.9,SNR=27						
FINES				LR	LR	03 58 04.4	
	comp=Z,118nm,18.7s,MS3.7,baz=117,slow=38						
FINES	FINESS Array B	36.65	324	P	P	03 42 10.7	+0.2
FINES				pmax	pmax		
	comp=Z,4.0nm,0.5s						
FINES				MLR	MLR		
	comp=Z,118nm,18.7s						
KAF	Kangasniemi	36.75	326	ep	P	03 42 11.3	0.0
	comp=Z,0.5nm,0.3s,mb3.8						
KAF	Kangasniemi	36.75	326	eP	P	03 42 11.3	0.0
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.1						
ARCES	ARCESS Array B	39.93	336	P	P	03 42 38.5	+0.9
	comp=Z,1.2nm,0.3s,mb4.0,baz=111,slow=9.2,SNR=17						
ARCES				LR	LR	04 00 15.4	
	comp=Z,154nm,18.8s,MS3.9,baz=180,slow=38						
ARCES	ARCESS Array B	39.93	336	P	P	03 42 38.6	+0.9
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ARCES				MLR	MLR		
	comp=Z,154nm,18.8s						
YAK	Yakutsk	41.84	36	eP	P	03 43 00.7	+7.3
YAK				pmax	pmax		
	comp=Z,21nm,0.8s,mb4.8						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
YAK				MLR	MLR		
	comp=Z,100nm,17.0s,MS3.8						
BRG	**Berggiesshubel**	**42.42**	**307**	*e*P	**P**	**03 42 58.9**	**+0.5**
BRG				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.0						
BRG	**Berggiesshubel**	**42.42**	**307**	*e*P	**P**	**03 42 58.9**	**+0.5**
	comp=Z,3.8nm,1.0s,mb4.0						
BRG				*e*		03 43 05.1	
GERES	**GERESS Array B**	**42.84**	**304**	P	**P**	**03 43 03.9**	**+2.1**
	comp=Z,1.0nm,0.7s,mb3.7,baz=68,slow=7.2,SNR=4.2						
GERES	**GERESS Array B**	**42.84**	**304**	P	**P**	**03 43 03.9**	**+2.1**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CLL	**Collm**	**42.97**	**308**	*i* *SP	sP	03 43 22.1	-2.3
NB2	**NORSAR Subarra**	**43.64**	**322**	P	**P**	**03 43 07.4**	**-0.8**
	comp=Z,2.5nm,0.5s,mb4.2,baz=94,slow=7.4						
NOA	**NORSAR Array B**	**43.64**	**322**	P	**P**	**03 43 08.0**	**-0.2**
	comp=Z,1.0nm,0.7s,mb3.6,baz=105,slow=8.6,SNR=6.4						
NOA				LR	LR	04 02 01.1	
	comp=Z,102nm,19.4s,MS3.7,baz=105,slow=37						
NOA	**NORSAR Array B**	**43.64**	**322**	P	**P**	**03 43 08.0**	**-0.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,102nm,19.4s						
TIXI	**Tiksi**	**43.68**	**22**	*e*P	**P**	**03 43 08.4**	**+0.1**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.1						
GRA1	**Grafenberg Arr**	**44.31**	**305**	*e*P	**P**	**03 43 15.7**	**+2.0**
	comp=Z,4.0nm,0.9s,mb4.2						
GRF	**Grafenberg Arr**	**44.31**	**305**	*e*P	**P**	**03 43 15.7**	**+2.0**
GRF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
CDF	**Champ du Feu**	**47.11**	**304**	*e*P	**P**	**03 43 35.2**	**-0.7**
PGF	**Pioggiola**	**47.47**	**296**	*e*P	**P**	**03 43 38.8**	**0.0**
HAU	**Haudompre**	**47.81**	**304**	*e*P	**P**	**03 43 40.6**	**-0.8**
SBF	**Sospel**	**48.18**	**298**	*e*P	**P**	**03 43 44.6**	**+0.3**
	comp=Z,31nm,1.0s,mb5.0						
LPG	**La Plagne**	**48.18**	**301**	*e*P	**P**	**03 43 44.4**	**+0.1**
	comp=Z,5.5nm,0.7s,mb4.4						
LPL	**La Plagne**	**48.19**	**301**	*e*P	**P**	**03 43 44.4**	**0.0**
	comp=Z,3.2nm,0.5s,mb4.3						
MBDF	**Montbardon**	**48.38**	**300**	*e*P	**P**	**03 43 45.7**	**-0.2**
	comp=Z,2.3nm,0.6s,mb4.1						
MEZF	**Maizieres J'vi**	**48.53**	**305**	*e*P	**P**	**03 43 46.6**	**-0.3**
BAIF	**Baives**	**48.69**	**307**	*e*P	**P**	**03 43 47.4**	**-0.8**
FRF	**La Foret Royal**	**48.81**	**298**	*e*P	**P**	**03 43 49.0**	**-0.2**
ORIF	**Oris-en-Rattie**	**48.94**	**300**	*e*P	**P**	**03 43 50.1**	**0.0**
LOR	**Lormes**	**49.62**	**304**	*e*P	**P**	**03 43 54.5**	**-0.9**
	comp=Z,2.8nm,0.5s,mb4.2						
VIVF	**Saint-Julien-l**	**49.78**	**300**	*e*P	**P**	**03 43 56.3**	**-0.3**
	comp=Z,2.8nm,0.4s,mb4.3						
SSF	**Saint Saulge**	**49.91**	**304**	*e*P	**P**	**03 43 56.8**	**-0.8**
KMBO	**Kilima Mbogo**	**50.88**	**228**	P	**P**	**03 44 06.5**	**+1.0**
	comp=Z,0.4nm,0.3s,mb3.8,baz=17,slow=19,SNR=3.6						
LDF	**La Druitiere**	**51.81**	**306**	*e*P	**P**	**03 44 11.3**	**-0.7**
	comp=Z,7.1nm,0.7s,mb4.4						
FLN	**La Foliniere**	**51.99**	**307**	*e*P	**P**	**03 44 12.5**	**-0.8**
SGMF	**Saint Gilles**	**53.46**	**307**	*e*P	**P**	**03 44 23.9**	**-0.4**
	comp=Z,10nm,0.7s,mb4.6						
ETSF	**Etsaut**	**53.99**	**300**	*e*P	**P**	**03 44 28.5**	**+0.2**
SUMG	**Summit**	**59.73**	**341**	*e*P	**P**	**03 45 14.4**	**+5.8**
	comp=Z,9.0nm,0.6s,mb5.0						
ILAR	**Eielson Array**	**72.73**	**17**	P	**P**	**03 46 32.4**	**+1.2**
	comp=Z,0.7nm,0.8s,mb3.6,baz=292,slow=4.9,SNR=5.0						
ILAR	**Eielson Array**	**72.73**	**17**	P	**P**	**03 46 32.4**	**+1.3**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**79.39**	**3**	P	**P**	**03 47 10.3**	**+1.5**
	comp=Z,1.1nm,0.6s,mb4.0,baz=350,slow=5.4,SNR=5.5						
YKA	**Yellowknife Ar**	**79.39**	**3**	P	**P**	**03 47 10.3**	**+1.5**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**82.00**	**123**	P	**P**	**03 47 24.4**	**+0.9**
	comp=Z,2.2nm,1.0s,mb4.0,baz=323,slow=5.2,SNR=15						
WRA	**Warramunga Arr**	**82.00**	**123**	P	**P**	**03 47 24.4**	**+0.9**
WRA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
WRAB	**Tennant Creek**	**82.00**	**123**	*e*P	**P**	**03 47 23.7**	**+0.2**
	comp=Z,8.2nm,1.0s,mb4.6						
WB2	**Warramunga Arr**	**82.01**	**123**	*e*P	**P**	**03 47 22.0**	**-1.5**
ASAR	**Alice Springs**	**84.37**	**126**	P	**P**	**03 47 35.8**	**+0.3**
	comp=Z,0.9nm,0.8s,mb3.9,baz=317,slow=4.0,SNR=5.7						
CPUP	**Villa Florida**	**136.37**	**271**	PKP	PKPdf	03 54 25.3	+1.8
	comp=Z,2.4nm,1.1s,baz=79,slow=10,SNR=3.3						
CPUP	**Villa Florida**	**136.37**	**271**	PKIKP	PKPdf	03 54 25.3	+1.8
CPUP				pmax	pmax		
	comp=Z,2.0nm,1.1s						

*STR **05** 03:47:24.8±0.4, 42.83N×1.47W, $h5^{km}\pm1^{km}$, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **05** 03:47:25.1±0.5, 42.86N×1.49W, $h2^{km}$, Md2.4/2, Ml2.2/5, Error ellipse: s-maj=7.7km s-min=6.2km az=53.0*
*MDD **05** 03:47:25.9±0.5, 42.86N×1.42W, $h5^{km}\pm5^{km}$, mbLg1.6/8, Error ellipse: s-maj=3.9km s-min=3.2km az=110.0, PRXIMO AftershockPLICA*
ISC 05 03:47:24.1±0.6, **42.85N**±0.03×**1.46W**±0.04, **$h12^{km}\pm3^{km}$**, **n23, $\sigma 1^{s}13$**/43, **Pyrenees**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.32**	**33**	*e*Pg	**Pg**	**03 47 31.7**	**+1.0**
SJPF				*e*Sg	**Sg**	**03 47 34.5**	**-0.7**
	41nm,0.3s						
LARF	**Larrau**	**0.40**	**61**	Pg	**Pg**	**03 47 32.4**	**+0.2**
LARF				Sg	**Sg**	**03 47 38.7**	**+1.0**
LARF	**Larrau**	**0.40**	**61**	P	**Pg**	**03 47 32.5**	**+0.3**
LARF				S	**Sg**	**03 47 38.3**	**+0.6**
OSSF	**Osses**	**0.43**	**20**	Pg	**Pg**	**03 47 33.7**	**+0.8**
OSSF				Sg	**Sg**	**03 47 39.8**	**+0.9**
OSSF	**Osses**	**0.43**	**20**	P	**Pg**	**03 47 33.7**	**+0.8**
OSSF				S	**Sg**	**03 47 39.8**	**+0.9**
ORDF	**Ordiarp**	**0.53**	**46**	Pg	**Pg**	**03 47 35.4**	**+0.5**
ORDF				Sg	**Sg**	**03 47 42.9**	**+0.8**
ORDF	**Ordiarp**	**0.53**	**46**	P	**Pg**	**03 47 35.6**	**+0.7**
ORDF				S	**Sg**	**03 47 42.9**	**+0.8**
ATE	**Arette**	**0.61**	**67**	P	**Pb**	**03 47 36.3**	**+0.2**
ATE				S	**Sb**	**03 47 45.2**	**+0.8**
ETSF	**Etsaut**	**0.67**	**85**	*e*Pg	**Pg**	**03 47 37.0**	**-0.5**
ETSF				*e*Sg	**Sg**	**03 47 46.1**	**-0.4**
	14nm,0.3s						
VIEF	**Viey**	**1.09**	**88**	S	**Sb**	**03 47 59.7**	**+1.2**
LABF	**Labassere**	**1.15**	**79**	S	**Sb**	**03 48 01.4**	**+1.5**
EPF	**Esparros**	**1.34**	**82**	*e*Pn	**Pn**	**03 47 49.0**	**+0.4**
EPF				*e*Pg	**Pg**	**03 47 51.6**	**+0.8**
EPF				*e*Sg	**Sg**	**03 48 09.1**	**+0.4**
	11nm,0.2s						
ESAC	**San Caprasio**	**1.35**	**146**	Pg	**Pg**	**03 47 49.9**	**-1.1**
	9.0nm,0.2s,SNR=5.7						
ESAC				Lg		03 48 07.8	
	20nm,0.3s,SNR=6.6						
ELAN	**Lanestosa**	**1.50**	**286**	Pg	**Pg**	**03 47 53.7**	**-0.3**
	0.6nm,0.1s,SNR=6.9						
ELAN				Lg		03 48 14.2	
	3.8nm,0.3s						
ETOR	**Torete**	**2.08**	**193**	Pn	**Pn**	**03 48 00.7**	**+1.5**
	0.4nm,0.2s,SNR=11						
ETOR				Pg	**Pg**	**03 48 05.1**	**-0.4**
	0.8nm,0.2s,SNR=9.4						
ETOR				Sn	**Sn**	**03 48 26.5**	**+1.3**
	SNR=7.9						
ETOR				Lg		03 48 32.3	
	1.4nm,0.2s						
EMIR	**Miracle**	**2.40**	**112**	Pg	**Pg**	**03 48 09.1**	**-3.0**
	0.6nm,0.1s,SNR=4.0						
EMIR				Lg		03 48 40.6	
	1.1nm,0.1s,SNR=5.0						
EPOB	**Poblet**	**2.41**	**127**	Pg	**Pg**	**03 48 08.5**	**-3.7**
	0.4nm,0.1s,SNR=5.0						
EPOB				Sn	**Sn**	**03 48 32.9**	**-0.8**
	SNR=7.9						
EPOB				Lg		03 48 42.7	
	0.3nm,0.1s,SNR=5.0						
EMOS	**Mosqueruela**	**2.59**	**163**	Pn	**Pn**	**03 48 08.2**	**+1.6**
	0.2nm,0.2s,SNR=5.0						
EMOS				Pg	**Pg**	**03 48 13.1**	**-2.7**
	0.4nm,0.3s,SNR=5.0						
EMOS				Sn	**Sn**	**03 48 38.9**	**+0.6**
	0.2nm,0.2s,SNR=4.0						
EMOS				Lg		03 48 47.3	
	0.4nm,0.2s,SNR=5.0						
LFF	**La Frestale**	**2.63**	**37**	*e*Pn	**Pn**	**03 48 06.8**	**-0.3**
LFF				*e*Sg	**Sg**	**03 48 46.1**	**-5.5**
	4.2nm,0.3s						
MTLF	**Montolieu**	**2.74**	**78**	*e*Pg	**Pg**	**03 48 16.9**	**-1.9**
MTLF				*e*Sn	**Sn**	**03 48 41.8**	**-0.3**
	0.6nm,0.2s						
MTLF	**Montolieu**	**2.74**	**78**	Sn	**Sn**	**03 48 41.8**	**-0.3**
	0.3nm,0.2s						
RJF	**Les Rejaudoux**	**3.26**	**40**	*e*Pn	**Pn**	**03 48 15.4**	**-0.7**
RJF				*e*Sn	**Sn**	**03 48 53.1**	**-2.2**
	1.7nm,0.3s						
CAF	**Calviac**	**3.29**	**50**	*e*Pn	**Pn**	**03 48 15.4**	**-1.1**
CAF				*e*Sn	**Sn**	**03 48 53.8**	**-2.1**
	1.0nm,0.2s						

*IDC **05** 04:02:27.2±0.7, 5.43N×82.75W, mb4.8/17, mb1 5.0/18, mb1mx4.9/21, ML3.2/2, MS4.5/15, Ms1 4.5/15, ms1mx4.5/18, Error ellipse: s-maj=26.6km s-min=12.3km az=57.0*
*BJI **05** 04:02:28.5, 5.50N×82.70W, $h10^{km}$, mB5.4, Ms5.2, Msz4.9*
*HRVD **05** 04:02:29.5±0.1, 5.50N×82.57W, $h20^{km}$, MW5.4/78, Centroid moment Tensor Solution. LP body waves: s71,c135; Mantle waves: s78,c165; Half duration: $1^{s}3$ Moment tensor: Scale 10^{17}Nm; M_{rr}-0.12±.03; $M_{\theta\theta}$0.04±.02; $M_{\phi\phi}$0.08±.03; $M_{r\theta}$0.28±.05; $M_{\theta\phi}$1.73±.03; $M_{\phi r}$0.13±.06; Best double couple: $M_0$1.76×10^{17} NP1: ϕ_s359°, δ81°, λ177°. NP2: ϕ_s90°, δ87°, λ9°. Principal axes: T 1.83, Plg8°, Azm315°; N -.16, Plg81°, Azm110°; P -1.68, Plg4°, Azm224°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **05** 04:02:29.5±0.2, 5.48N×82.69W, $h10^{km}$, mb5.3/91, MS4.7/31, MW5.5 Error ellipse: s-maj=6.3km s-min=3.8km az=222.0, Moment Tensor Solution. s13 Moment tensor: Scale 10^{17}Nm; M_{rr}0.29; $M_{\theta\theta}$0.49; $M_{\phi\phi}$-0.78; $M_{r\theta}$0.16; $M_{\theta\phi}$1.51; $M_{\phi r}$0.46; Best double couple: $M_0$1.7×10^{17} NP1: ϕ_s102°, δ72°, λ6°. NP2: ϕ_s10°, δ84°, λ162°. Principal axes: T 1.61, Plg17°, Azm325°; N .21, Plg71°, Azm172°; P -1.83, Plg8°, Azm57°;*
*CASC **05** 04:02:31.0±3.0, 5.83N×82.59W, MD4.7, ML5.4, MW4.5, mb5.3(NEIC)*
ISC 05 04:02:29.5±1.0, **5.68N**±0.03×**82.63W**±0.03, **$h12^{km}\pm6^{km}$**, **n299, $\sigma 1^{s}17$**/275, **mb5.2**/105, **MS4.7**/48, **59C-18D, South of Panama**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PTP1	**Petroterminal**	**2.52**	**4⇑**	*e*P	**Pn**	**04 03 10.7**	**-0.3**
PTP1				*e*S	**Sn**	**04 03 41.2**	**-0.6**
DVD	**David**	**2.74**	**4⇓**	*e*P	**Pn**	**04 03 14.3**	**+0.1**
ACR	**Cerro Adams**	**3.00**	**350⇓**	*e*P	**Pn**	**04 03 16.5**	**-1.4**
ACR				*e*S	**Sn**	**04 03 48.7**	**-5.5**
AZU	**Azuero**	**3.14**	**48⇓**	*e*P	**Pn**	**04 03 19.7**	**-0.2**
CNI	**Changuinola**	**3.71**	**2**	*e*P	**Pn**	**04 03 29.4**	**+1.4**
BUS	**Buena Vista**	**4.01**	**344⇑**	*e*P	**Pn**	**04 03 31.7**	**-0.6**
BUS				*e*S	**Sn**	**04 04 20.1**	**+0.4**
LCR2	**La Lucha 2**	**4.26**	**341⇑**	*e*P	**Pn**	**04 03 34.6**	**-1.2**
LCR2				*e*S	**Sn**	**04 04 26.5**	**+0.5**
URSC	**Urasca**	**4.28**	**345⇑**	*e*P	**Pn**	**04 03 35.3**	**-0.8**
URSC				*e*S	**Sn**	**04 04 25.1**	**-1.5**
LIO	**Limon**	**4.32**	**355⇑**	*e*P	**Pn**	**04 03 37.9**	**+1.3**
LAJ	**Bijagual**	**4.41**	**340⇓**	*e*P	**Pn**	**04 03 36.2**	**-1.8**
ICR	**Volcan Irazu**	**4.43**	**344⇑**	*e*P	**Pn**	**04 03 37.9**	**-0.4**
SJS	**Escuela Geolog**	**4.46**	**342⇓**	*i*P	**Pn**	**04 03 37.9**	**-0.8**
SJS				*e*S	**Sn**	**04 04 30.1**	**-1.0**
UPA	**Univ. de Panam**	**4.49**	**43⇓**	*e*P	**Pn**	**04 03 39.2**	**+0.1**
UPA				*e*S	**Sn**	**04 04 32.1**	**+0.2**
PRS1	**Puriscal**	**4.59**	**339⇑**	*e*P	**Pn**	**04 03 37.6**	**-2.9**
CGA2	**Cerro Gallo 2**	**4.68**	**337⇓**	*e*P	**Pn**	**04 03 40.5**	**-1.2**
VPS2	**Volcan Poas 2**	**4.75**	**341**	*e*P	**Pn**	**04 03 42.9**	**0.0**
JEF	**Cerro Jefe**	**4.77**	**42**	*e*P	**Pn**	**04 03 43.3**	**+0.3**
JCR	**Jicaral**	**4.82**	**329⇓**	*e*P	**Pn**	**04 03 41.5**	**-2.2**
JCR				*e*S	**Sn**	**04 04 36.6**	**-3.6**
TRTC	**Tortuguero**	**4.98**	**348⇓**	*e*P	**Pn**	**04 03 45.2**	**-0.8**
JTS	**JuntasAbangare**	**5.13**	**333**	Pn	**Pn**	**04 03 48.6**	**+0.5**
	baz=300,slow=22,SNR=5.0						
JTS				Sn	**Sn**	**04 04 50.0**	**+2.1**
	baz=7.6,slow=23,SNR=5.7						
JTS				LR	LR	04 05 22.0	
	comp=Z,1µm,22.0s,baz=198,slow=33						
JTS	**JuntasAbangare**	**5.13**	**333**	Pn	**Pn**	**04 03 46.9**	**-1.2**
	7µm,0.7s						
VCR	**Vista de Mar**	**5.33**	**326**	*e*P	**Pn**	**04 03 49.1**	**-1.8**
LIM	**Lima**	**5.62**	**333⇓**	*e*P	**Pn**	**04 03 54.8**	**-0.3**
LIM				*e*S	**Sn**	**04 05 00.4**	**0.0**
OTAV	**Otavalo**	**6.83**	**142**	*e*Pn	**Pn**	**04 04 05.7**	**-6.4**
ROSC	**El Rosal**	**8.30**	**95**	Pn	**P**	**04 04 32.6**	**-0.1**
	29nm,0.3s,baz=351,slow=4.1,SNR=32						
CNCH	**Conchagua**	**9.13**	**326⇑**	*e*P	**P**	**04 04 45.3**	**+1.2**
CNCH				*e*S	**Sn**	**04 06 28.3**	**+0.4**
BLLM	**Bellamira**	**9.49**	**325**	*e*P	**P**	**04 04 50.3**	**+1.2**
VSM	**San Miguel**	**9.50**	**325**	*e*P	**P**	**04 04 51.5**	**+2.3**
CAHU	**Cacacuatique**	**9.74**	**326⇓**	*e*P	**P**	**04 04 54.5**	**+1.8**
PAYG	**Puerto Ayora**	**9.92**	**231**	*e*P	**P**	**04 04 50.5**	**-4.7**
	375nm,1.3s						
SNVI	**San Vicente**	**9.98**	**323**	*e*P	**P**	**04 04 57.6**	**+1.6**
LCBS	**La Ceiba**	**10.10**	**322⇑**	*e*P	**P**	**04 04 58.8**	**+1.1**
LFRS	**El Faro**	**10.12**	**322⇑**	*e*P	**P**	**04 04 59.4**	**+1.4**
LFRS				*e*S	**S**	**04 06 48.4**	**-4.1**
LBRS	**Las Brisas**	**10.20**	**322**	*e*P	**P**	**04 05 01.1**	**+2.0**
LFU	**La Fuente**	**10.25**	**322**	*e*P	**P**	**04 05 00.9**	**+1.2**
BOQS	**Boqueron**	**10.34**	**321⇑**	*e*P	**P**	**04 05 03.1**	**+2.1**
BOQS				*e*S	**S**	**04 06 58.5**	**+0.5**
SBLS	**San Blas**	**10.64**	**320**	*e*P	**P**	**04 05 07.3**	**+2.2**
SNJE	**San Jose**	**10.65**	**320⇑**	*e*P	**P**	**04 05 07.2**	**+2.0**
RTR	**El Retiro**	**10.70**	**320⇑**	*e*P	**P**	**04 05 08.2**	**+2.4**
MTO2	**Montecristo 2**	**10.91**	**323⇑**	*e*P	**P**	**04 05 11.6**	**+2.9**
SDV	**Santo Domingo**	**12.31**	**74⇓**	*e*P	**P**	**04 05 27.3**	**-0.5**
	142nm,0.8s						
LMGC	**Las Mercedes**	**15.30**	**20**	*e*P	**P**	**04 06 08.0**	**+0.7**
LMGC				*e*S	**S**	**04 09 07.2**	**+10**
	comp=N,2µm,4.6s						
	comp=E,2µm,5.5s						
TEIG	**Tepich**	**15.47**	**340**	Pn	**P**	**04 06 09.7**	**+0.3**
	comp=E,0.0nm,0.3s,baz=323,slow=24,SNR=2.0						
RCC	**Rio Carpintero**	**15.74**	**25**	*e*P	**P**	**04 06 15.4**	**+2.4**
RCC				*e*S	**S**	**04 09 21.5**	**+14**
	comp=N,1µm,1.4s						
	comp=E,2µm,1.4s						
MASC	**Masc**	**16.56**	**29**	*e*P	**P**	**04 06 26.6**	**+3.2**
MASC				*e*S	**S**	**04 09 41.7**	**+15**
	comp=N,2µm,1.6s						
	comp=E,2µm,3.6s						
SOR	**Soroa**	**17.02**	**359**	*e*P	**P**	**04 06 29.7**	**+0.6**
SOR				*e*S	**S**	**04 09 18.8**	**-18**
	comp=N,9µm,1.0s						
	comp=E,1µm,3.3s						
NNA	**Nana**	**18.47**	**162**	*e*P	**P**	**04 06 43.2**	**-4.1**
	comp=E,93nm,0.9s						
MGP	**Maguayo**	**19.50**	**50**	P	**P**	**04 06 59.3**	**-0.3**
AOPR	**Arecibo Observ**	**19.96**	**50⇓**	*e*P	**P**	**04 07 04.1**	**-0.6**
SJG	**San Juan**	**20.29**	**51**	P	**P**	**04 07 08.3**	**+0.2**
	comp=E,216nm,1.0s,baz=238,slow=6.6,SNR=42						
SJG				LR	LR	04 14 18.7	
	comp=E,2µm,21.9s,MS4.4,baz=228,slow=35						
SJG	**San Juan**	**20.29**	**51**	P	**P**	**04 07 08.3**	**+0.2**
SJG				LR	LR	04 14 18.7	
HUMP	**Col San Antoni**	**20.54**	**51⇓**	*e*P	**P**	**04 07 10.1**	**-0.6**
TRN	**Trinidad (W)**	**21.57**	**75**	*e*P	**P**	**04 07 19.0**	**-2.3**
DWPF	**Disney**	**22.34**	**3**	*e*P	**P**	**04 07 29.1**	**+0.2**
	comp=E,356nm,1.2s,mb5.7						
DWPF				LR	LR		
	comp=Z,835nm,21.0s,MS4.1						
SAML	**Samuel**	**24.23**	**127**	*e*P	**P**	**04 07 44.1**	**-3.4**
	comp=Z,64nm,0.6s,mb5.2						
SAML				LR	LR		
	comp=Z,2µm,19.0s,MS4.7						
ARE	**Arequipa**	**24.60**	**154**	*e*P	**P**	**04 07 50.0**	**-1.2**
LPAZ	**La Paz**	**26.12**	**147**	P	**P**	**04 08 02.8**	**-2.7**
	comp=Z,13nm,0.8s,mb4.5,baz=342,slow=8.4,SNR=26						
LPAZ				LR	LR	04 19 23.0	
	comp=Z,4µm,20.1s,MS4.9,baz=310,slow=39						
LPAZ	**La Paz**	**26.12**	**147**	*e*P	**P**	**04 08 02.7**	**-2.7**
	comp=Z,97nm,1.4s,mb5.1						
LPAZ				LR	LR		
	comp=Z,4µm,20.0s,MS5.0						
HKT	**Hockley**	**27.16**	**334**	*e*P	**P**	**04 08 13.2**	**-1.8**
	comp=Z,118nm,1.6s,mb5.2						
HKT				LR	LR		
	comp=Z,1µm,22.0s,MS4.4						
NHSC	**New Hope**	**27.38**	**4**	*e*P	**P**	**04 08 16.8**	**-0.1**
	comp=Z,111nm,1.1s,mb5.3						
LRAL	**Lakeview Retre**	**27.52**	**352⇑**	*e*P	**P**	**04 08 17.6**	**-0.5**
	comp=Z,43nm,0.7s,mb5.2						
LRAL				LR	LR		
	comp=Z,588nm,20.0s,MS4.2						
NATX	**Nacogdoches**	**28.29**	**338⇑**	*e*P	**P**	**04 08 24.1**	**-1.0**
	comp=Z,39nm,0.9s,mb5.0						
MYNC	**Murphy**	**29.28**	**357⇑**	*e*P	**P**	**04 08 33.6**	**-0.5**
	comp=Z,37nm,0.9s,mb5.1						
OXF	**Oxford**	**29.37**	**349⇑**	*e*P	**P**	**04 08 33.1**	**-1.7**
	comp=Z,212nm,1.2s,mb5.8						
JCT	**Junction City**	**29.49**	**329**	*e*P	**P**	**04 08 35.2**	**-0.7**
	comp=Z,68nm,1.2s,mb5.2						
JCT				LR	LR		
	comp=Z,1µm,21.0s,MS4.5						
CPCT	**Cooper Cave**	**29.68**	**357⇑**	*i*P	**P**	**04 08 39.5**	**+1.9**
UALR	**University of**	**30.31**	**344⇑**	*e*P	**P**	**04 08 41.5**	**-1.8**
	comp=Z,25nm,0.8s,mb5.0						
HBAR	**Harrisburg**	**30.64**	**347⇑**	*e*P	**P**	**04 08 44.5**	**-1.6**
WVT	**Waverly**	**30.68**	**352⇑**	*e*P	**P**	**04 08 44.4**	**-2.0**
	comp=Z,43nm,0.7s,mb5.4						
HALT	**Halls**	**30.71**	**349⇑**	*e*P	**P**	**04 08 44.4**	**-2.3**
LTX	**Lajitas**	**30.80**	**322⇑**	*e*P	**P**	**04 08 47.3**	**-0.3**
	comp=Z,18nm,1.2s,mb4.8						
LTX				LR	LR		
	comp=Z,859nm,19.0s,MS4.4						
TXAR	**Lajitas Array**	**30.80**	**322**	P	**P**	**04 08 47.0**	**-0.6**
	comp=Z,2.7nm,0.9s,mb4.1,baz=146,slow=9.0,SNR=23						
TXAR				LR	LR	04 21 29.8	
	comp=Z,721nm,19.7s,MS4.3,baz=140,slow=37						
TXAR	**Lajitas Array**	**30.80**	**322**	P	**P**	**04 08 47.0**	**-0.6**
TXAR				LR	LR	04 21 29.8	
GNAR	**Gosnell**	**30.90**	**348**	*e*P	**P**	**04 08 46.6**	**-1.7**
UTMT	**University of**	**31.05**	**350**	*e*P	**P**	**04 08 47.1**	**-2.5**
	comp=Z,356nm,1.1s,mb6.1						
GLAT	**Glass**	**31.05**	**350**	*e*P	**P**	**04 08 48.3**	**-1.4**
LVC	**Limon Verde**	**31.16**	**155**	*e*P	**P**	**04 08 48.1**	**-2.7**
	comp=Z,34nm,1.1s,mb5.1						
LVC				LR	LR		
	comp=Z,1µm,19.0s,MS4.6						
BLA	**Blacksburg**	**31.45**	**3⇑**	*e*P	**P**	**04 08 52.7**	**-0.5**
	comp=Z,61nm,0.9s,mb5.4						
PWV	**Princeton**	**31.54**	**2**	*e*P	**P**	**04 08 53.4**	**-0.6**
FWV	**Forest Hill**	**31.80**	**3**	*e*P	**P**	**04 08 55.7**	**-0.6**
USIN	**University of**	**32.46**	**353⇑**	*e*P	**P**	**04 09 00.1**	**-1.9**
	comp=Z,99nm,0.7s,mb5.8						
WMOK	**Wichita Mounta**	**32.54**	**335⇑**	*e*P	**P**	**04 09 01.0**	**-1.8**
	comp=Z,22nm,1.0s,mb5.0						
WMOK				LR	LR		
	comp=Z,803nm,21.0s,MS4.4						
WCI	**Wyandotte Cave**	**32.57**	**355⇑**	*e*P	**P**	**04 09 01.4**	**-1.5**
	comp=Z,164nm,1.2s,mb5.8						
CBN	**Corbin**	**32.72**	**8**	*e*P	**P**	**04 09 04.4**	**+0.1**
	comp=Z,54nm,1.1s,mb5.4						
FVM	**French Village**	**32.93**	**349⇑**	*e*P	**P**	**04 09 04.1**	**-2.0**
	comp=Z,133nm,1.1s,mb5.8						
CLNB	**Carlsbad**	**33.07**	**326**	*e*P	**P**	**04 09 07.7**	**+0.3**
CCM	**Cathedral Cave**	**33.17**	**348⇑**	*e*P	**P**	**04 09 06.0**	**-2.2**
	comp=Z,160nm,1.2s,mb5.8						
GDL2	**Guadalupe Moun**	**33.30**	**325**	*e*P	**P**	**04 09 09.7**	**+0.3**
SLM	**Saint Louis**	**33.52**	**349**	*e*P	**P**	**04 09 09.4**	**-1.9**
	comp=Z,165nm,0.9s,mb6.0						
BLO	**Bloomington**	**33.53**	**355⇑**	*e*P	**P**	**04 09 09.2**	**-2.1**
	comp=Z,90nm,0.7s,mb5.8						
MCWV	**Mont Chateau**	**33.92**	**4⇑**	*e*P	**P**	**04 09 14.2**	**-0.5**
	comp=Z,114nm,1.3s,mb5.6						
ACSO	**Alum Creek Sta**	**34.40**	**360**	*e*P	**P**	**04 09 17.6**	**-1.3**
	comp=Z,77nm,1.0s,mb5.6						
SSPA	**Standing Stone**	**35.06**	**6⇑**	*e*P	**P**	**04 09 24.2**	**-0.4**
	comp=Z,64nm,1.3s,mb5.4						
SSPA				*e*		04 09 37.1	
SSPA				*e*PcP	PcP	04 11 50.1	-6.4
SSPA				LR	LR		
	comp=Z,1µm,20.0s,MS4.6						
KSU1	**Kansas State U**	**35.59**	**341⇑**	*e*P	**P**	**04 09 27.2**	**-1.9**
BNM	**Barren Site**	**36.01**	**325**	*e*P	**P**	**04 09 33.7**	**+1.0**
BNM				*e*PP	PP	04 10 57.2	+2.7
LPM	**Los Pinos Moun**	**36.13**	**325**	*e*P	**P**	**04 09 34.5**	**+0.8**
LENM	**Lemitar**	**36.22**	**325**	*e*P	**P**	**04 09 35.1**	**+0.7**
LENM				*e*PP	PP	04 10 59.9	+2.6
CBKS	**Cedar Bluff**	**36.45**	**337⇑**	*e*P	**P**	**04 09 35.6**	**-0.6**
	comp=Z,48nm,1.0s,mb5.4						
LAZ	**Ladron**	**36.49**	**325**	*e*P	**P**	**04 09 38.0**	**+1.3**
LAZ				*e*PP	PP	04 11 04.0	+3.3
ANMO	**Albuquerque**	**36.50**	**326⇑**	*e*P	**P**	**04 09 37.5**	**+0.7**
	comp=Z,61nm,1.2s,mb5.3						
ANMO				LR	LR		
	comp=Z,1µm,19.0s,MS4.7						
BINY	**Binghamton**	**36.84**	**8**	*e*P	**P**	**04 09 39.6**	**0.0**
	comp=Z,62nm,1.0s,mb5.4						
BINY				LR	LR		
	comp=Z,975nm,19.0s,MS4.6						
GENY	**Geneseo**	**37.18**	**6**	*e*P	**P**	**04 09 41.6**	**-0.7**
TUC	**Tucson**	**37.32**	**319⇑**	*e*P	**P**	**04 09 44.3**	**+0.7**
	comp=Z,53nm,1.6s,mb5.1						
JFWS	**Jewell Farm**	**37.69**	**351⇑**	*e*P	**P**	**04 09 44.2**	**-2.5**
	comp=Z,43nm,0.7s,mb5.3						
SDCO	**Great Sand Dun**	**38.11**	**330⇓**	*e*P	**P**	**04 09 51.3**	**+1.0**
	comp=Z,103nm,1.2s,mb5.4						
SDCO				LR	LR		
	comp=Z,854nm,21.0s,MS4.5						
ACCN	**Adirondack Com**	**38.37**	**11**	*e*P	**P**	**04 09 52.5**	**+0.1**
HNH	**Hanover**	**38.95**	**12**	*e*P	**P**	**04 09 57.1**	**-0.2**
	comp=Z,2.5nm,0.9s,mb3.9						
SADO	**Sadowa**	**39.05**	**4**	P	**P**	**04 09 56.6**	**-1.4**
	comp=Z,20nm,1.1s,mb4.8,baz=204,slow=7.4,SNR=3.9						
LOZ	**Lake Ozonia**	**39.42**	**9**	*e*P	**P**	**04 09 59.6**	**-1.5**
RW3	**Ridgway**	**39.61**	**328**	*e*P	**P**	**04 10 04.3**	**+1.5**
ISCO	**Idaho Springs**	**39.78**	**332**	*e*P	**P**	**04 10 05.2**	**+1.0**
	comp=Z,23nm,1.3s,mb4.8						
ISCO				LR	LR		
	comp=Z,679nm,20.0s,MS4.5						
PV01	**Paradox Valley**	**39.99**	**328**	*e*P	**P**	**04 10 07.0**	**+1.1**
CPUP	**Villa Florida**	**40.18**	**144**	P	**P**	**04 10 03.5**	**-4.1**
	comp=Z,7.4nm,0.9s,mb4.4,baz=349,slow=8.1,SNR=12						
CPUP				LR	LR	04 28 58.3	
	comp=Z,1µm,19.1s,MS4.8,baz=207,slow=40						
CPUP	**Villa Florida**	**40.18**	**144**	*e*P	**P**	**04 10 03.0**	**-4.6**
	comp=Z,10nm,1.0s,mb4.5						
CPUP				LR	LR		
	comp=Z,1µm,20.0s,MS4.7						
BDFB	**Brasilia**	**40.29**	**122**	P	**P**	**04 10 05.2**	**-3.4**
	comp=Z,6.7nm,0.8s,mb4.5,baz=292,slow=10,SNR=11						
BDFB				PP	PP	04 11 40.2	-4.8
	comp=Z,12nm,1.1s,baz=300,slow=14,SNR=2.8						
BDFB				LR	LR	04 27 02.1	
	comp=Z,2µm,20.0s,MS4.9,baz=300,slow=37						
BAO	**Brasilia Array**	**40.31**	**122**	P	**P**	**04 10 05.8**	**-3.0**
PV10	**Paradox Valley**	**40.42**	**327**	*e*P	**P**	**04 10 09.9**	**+0.5**
SRU	**San Rafael**	**41.75**	**327**	*e*P	**P**	**04 10 21.4**	**+1.0**
LDFC	**Landfair**	**41.86**	**319**	*e*P	**P**	**04 10 22.4**	**+1.0**
PFO	**Pinyon Flat Ob**	**41.92**	**316**	P	**P**	**04 10 23.0**	**+1.1**
	comp=Z,137nm,1.1s,mb5.5,SNR=9.0						
NEN	**Nelson**	**42.03**	**320**	*e*P	**P**	**04 10 23.6**	**+0.8**
MSU	**Marysvale**	**42.26**	**325**	*e*P	**P**	**04 10 24.1**	**-0.5**
TMUT	**Trail Mountain**	**42.26**	**326**	*e*P	**P**	**04 10 24.5**	**-0.1**
MVU	**Marysvale**	**42.27**	**325⇑**	*e*P	**P**	**04 10 25.7**	**+1.0**
	comp=Z,34nm,1.1s,mb4.9						
MVU				PP	PP	04 11 59.1	-6.6
ARUT	**Antelope Range**	**42.51**	**323**	*e*P	**P**	**04 10 28.0**	**+1.3**
RSSD	**Black Hills**	**42.65**	**337⇑**	*e*P	**P**	**04 10 28.2**	**+0.5**
	comp=Z,83nm,1.3s,mb5.3						
MPU	**Maple Canyon**	**43.00**	**327**	*e*P	**P**	**04 10 31.1**	**+0.4**
DAU	**Daniels Canyon**	**43.08**	**328**	*e*P	**P**	**04 10 32.1**	**+0.8**
NLU	**North Lily Min**	**43.20**	**326**	*e*P	**P**	**04 10 32.7**	**+0.5**
NLU				*e*		04 12 20.7	
JLU	**Jordanelle**	**43.31**	**328⇑**	*e*P	**P**	**04 10 33.8**	**+0.6**
MWC	**Mount Wilson**	**43.37**	**316⇑**	*e*P	**P**	**04 10 34.2**	**+0.5**
CTU	**Camp Tracy**	**43.54**	**328⇑**	*e*P	**P**	**04 10 35.5**	**+0.5**
TCUT	**Toone Canyon**	**43.66**	**328⇑**	*e*P	**P**	**04 10 35.0**	**-1.0**
TPNV	**Topopah Spring**	**43.72**	**320⇑**	*e*P	**P**	**04 10 37.6**	**+1.1**
	comp=Z,35nm,1.1s,mb5.0						
TPNV				*e*		04 10 52.9	
TPNV				LR	LR		
	comp=Z,2µm,21.0s,MS4.9						
DUG	**Dugway**	**43.77**	**326⇑**	*e*P	**P**	**04 10 37.4**	**+0.5**
	comp=Z,19nm,1.0s,mb4.8						
DUG				LR	LR		
	comp=Z,2µm,19.0s,MS5.0						
PDAR	**Pinedale Array**	**43.95**	**331**	P	**P**	**04 10 38.2**	**-0.1**
	comp=Z,12nm,1.0s,mb4.6,baz=141,slow=9.5,SNR=55						
PDAR				LR	LR	04 30 06.0	
	comp=Z,778nm,18.9s,MS4.6,baz=328,slow=38						
HWUT	**Hardware Ranch**	**44.10**	**329⇑**	*e*P	**P**	**04 10 39.8**	**+0.3**
	comp=Z,65nm,0.9s,mb5.4						
HWUT				*e*		04 12 23.7	
SPUT	**South Promonto**	**44.35**	**328⇑**	*e*P	**P**	**04 10 42.0**	**+0.4**
BGU	**Big Grassy Mou**	**44.40**	**327**	*e*P	**P**	**04 10 42.6**	**+0.7**
AHID	**Auburn Hatcher**	**44.71**	**330**	PFAKE		04 11 00.0	+16

AHID LR LR
comp=Z,863nm,19.0s,MS4.7
HVU Hansel Valley 44.85 328⇑ *e*P **P 04 10 45.4 -0.3**
TPH Tonopah 45.02 321⇑ *e*P **P 04 10 47.2 +0.2**
comp=Z,55nm,1.2s,mb5.3
TPH *e* 04 12 37.5
MOOW Moose Ponds 45.27 331 *e*P **P 04 10 48.4 -0.5**
MTUM Tungsten Hills 45.45 319 *e*P **P 04 10 50.9 +0.4**
LAO LASA Array 45.64 337⇑ *e*P **P 04 10 51.1 -0.8**
comp=Z,82nm,1.1s,mb5.6
ULM Lac du Bonnet 45.79 348 P **P 04 10 50.8 -2.1**
comp=Z,22nm,0.9s,mb5.1,baz=153,slow=8.5,SNR=10
ULM Lac du Bonnet 45.79 348 *e*P **P 04 10 50.6 -2.4**
comp=Z,49nm,0.9s,mb5.4
MNV Mina 45.82 320⇑ *e*P **P 04 10 53.8 +0.5**
comp=Z,46nm,1.0s,mb5.4
YFT Old Faithful 45.84 332 *e*P **P 04 10 55.0 +1.6**
YNR Norris Junctio 45.96 332 *e*P **P 04 10 55.0 +0.7**
YMR Madison River 46.06 332⇑ *e*P **P 04 10 55.9 +0.8**
GCMT Greycliff 46.34 334 *e*P **P 04 10 57.0 -0.3**
QLMT Earthquake Lak 46.40 332 *e*P **P 04 10 58.9 +1.1**
DGMT Dagmar 46.42 340⇓ *e*P **P 04 10 57.3 -0.7**
comp=Z,77nm,1.0s,mb5.6
DGMT LR LR
comp=Z,611nm,20.0s,MS4.5
BMN Battle Mountai 46.46 323⇑ *e*P **P 04 10 58.3 0.0**
comp=Z,80nm,1.2s,mb5.5
LRV Little Rabbit 46.59 316 *e*P **P 04 10 58.8 -0.7**
HLID Hailey 46.97 328⇑ *e*P **P 04 11 02.3 0.0**
comp=Z,16nm,1.1s,mb4.9
HLID LR LR
comp=Z,2μm,20.0s,MS5.1
CMB Columbia Colle 47.03 319⇑ *e*P **P 04 11 02.5 -0.4**
comp=Z,8.8nm,0.9s,mb4.7
SAO San Andreas Ge 47.06 317 PFAKE 04 11 10.0 +6.8
SAO LR LR
comp=Z,1μm,20.0s,MS4.8
BOZ Bozeman (W) 47.11 332⇑ *e*P **P 04 11 03.2 -0.3**
comp=Z,76nm,1.2s,mb5.5
BOZ LR LR
comp=Z,1μm,20.0s,MS4.8
TRQA Tornquist 47.56 158 PFAKE 04 11 20.0 +13
TRQA LR LR
comp=Z,1μm,21.0s,MS4.9
OHCM Honcut 48.47 319 *e*P **P 04 11 13.9 -0.3**
NSHM Saint Helena R 48.77 318 *e*P **P 04 11 16.2 -0.3**
YBH Yreka Blue Hor 50.57 321 *e*P **P 04 11 27.9 -2.4**
comp=Z,8.9nm,1.0s,mb4.7
SCHQ Schefferville 50.64 12 P **P 04 11 29.3 -1.2**
comp=Z,26nm,1.0s,mb5.1,baz=184,slow=5.1,SNR=8.7
SCHQ LR LR 04 32 10.9
comp=Z,740nm,20.2s,MS4.7,baz=173,slow=35
SCHQ Schefferville 50.64 12 *e*P **P 04 11 29.2 -1.4**
comp=Z,46nm,0.9s,mb5.4
KHMM Horse Mountain 50.75 320⇑ *e*P **P 04 11 31.3 -0.3**
KRMB Red Mountain 51.21 321 *e*P **P 04 11 34.5 -0.6**
HAWA Hanford 51.56 328 *e*P **P 04 11 36.1 -1.5**
comp=Z,52nm,1.4s,mb5.3
HAWA LR LR
comp=Z,725nm,22.0s,MS4.7
NEW Newport 51.59 331 *e*P **P 04 11 36.5 -1.5**
KBO Bosley Butte 51.78 321 *e*P **P 04 11 39.1 -0.3**
RMW Rattlesnake Mo 53.44 328 *e*P **P 04 11 50.4 -1.4**
RPW Rockport 53.91 329 *e*P **P 04 11 53.6 -1.5**
GNW Green Mountain 54.05 327 *e*P **P 04 11 54.4 -1.8**
OCWA Octopus Mounta 54.89 327 PFAKE 04 12 10.0 +7.6
OCWA LR LR
comp=Z,1μm,19.0s,MS5.0
RKT Rikitea 58.58 239 *e*S **S 04 20 29.7 -1.3**
RKT *e*L 04 27 05.9
RKT *e*R 04 29 54.7
comp=Z,2μm,26.8s
YKA Yellowknife Ar 61.38 344 P **P 04 12 45.9 -1.7**
comp=Z,39nm,0.8s,mb5.6,baz=139,slow=6.6,SNR=65
YKA LR LR 04 39 17.2
comp=Z,411nm,21.9s,MS4.5,baz=180,slow=36
YKA Yellowknife Ar 61.38 344 P **P 04 12 45.9 -1.7**
YKA LR LR 04 39 17.2
YKW3 Yellowknife Ar 61.44 344 *e*P **P 04 12 46.5 -1.5**
USHA Ushuaia 61.45 171 P **P 04 12 43.8 -4.4**
comp=Z,5.7nm,0.9s,mb4.7,baz=194,slow=5.2,SNR=3.3
DLBC Dease Lake 64.03 334 *e*P **P 04 13 05.0 -0.2**
PPT Papeete 69.99 249 *e*S S 04 22 49.0 -3.3
PPT *e*SS SS 04 27 16.1 -7.1
PPT *e*R 04 34 59.6
comp=Z,633nm,22.2s,baz=67
DAWY Dawson 70.84 337 *e*P **P 04 13 47.1 -1.0**
TBI Tubuai 71.27 243 *e*S S 04 23 06.9 -0.4
TBI *e*SS Sx 04 27 17.2
TBI *e*L 04 32 38.9
TBI *e*R 04 35 52.4
comp=Z,2μm,29.2s,baz=70
SUMG Summit 72.01 13 *e*P **P 04 13 53.9 -1.0**
comp=Z,42nm,1.1s,mb5.3
ILAR Eielson Array 74.09 336 P **P 04 14 06.7 -0.5**
comp=Z,12nm,1.1s,mb4.7,baz=117,slow=3.1,SNR=42
EVO Evora 74.45 52 *e*P **P 04 14 10.5 +0.7**
comp=Z,46nm,1.0s,mb5.1
EVO *e*R
comp=Z,428nm,22.0s
MCK McKinley 74.58 335 *e*P **P 04 14 09.3 -0.7**
comp=Z,15nm,1.2s,mb4.8
SPU Mount Spurr 75.20 332 *e*P **P 04 14 12.3 -1.3**
EBAD Badajoz 75.25 52 P **P 04 14 13.5 -0.9**
comp=Z,43nm,2.0s,mb5.0
EMIN Mina Concepcio 75.44 53 P **P 04 14 16.8 +1.3**
comp=Z,34nm,1.7s,mb5.0
ESPR Espera 76.03 54 P **P 04 14 19.4 +0.5**
comp=Z,73nm,2.2s,mb5.2
EMIJ Mijas 76.88 54 P **P 04 14 24.3 +0.6**
comp=Z,38nm,2.1s,mb5.0
TIC Toumodi 77.09 84 *e*P **P 04 14 26.0 +0.8**
comp=Z,294nm,1.8s,mb5.9
LIC Lamto 77.11 85 *e*P **P 04 14 26.3 +0.9**
comp=Z,19nm,0.7s,mb4.8
LIC Lamto 77.11 85 *e*P **P 04 14 27.0 +1.6**
comp=Z,82nm,1.2s,mb5.5
EADA Adamuz 77.12 52 P **P 04 14 24.6 -0.3**
comp=Z,39nm,1.7s,mb5.1
IMA Indian Mountai 77.20 337 *e*P **P 04 14 24.1 -0.7**
comp=Z,77nm,1.4s,mb5.4
DBIC Dimbokro 77.25 84 P **P 04 14 26.3 +0.2**
comp=Z,11nm,0.8s,mb4.8,baz=241,slow=7.0,SNR=7.2
DBIC LR LR 04 50 49.6
comp=Z,175nm,18.2s,MS4.4,baz=254,slow=38
DBIC Dimbokro 77.25 84 *e*P **P 04 14 22.8 -3.3**
comp=Z,15nm,0.9s,mb4.9
DBIC LR LR 04 50 49.6
KIC Kosan Boka 77.38 85 *e*P **P 04 14 28.7 +1.8**
comp=Z,198nm,1.4s,mb5.9
ELOJ Sierra Loja 77.41 53 P **P 04 14 26.9 +0.3**
comp=Z,33nm,1.6s,mb5.0
TTA Tatalina 77.43 333 *e*P **P 04 14 25.4 -0.7**
ESDC Sonseca Array 77.67 51 P **P 04 14 28.4 +0.4**
comp=Z,4.0nm,0.7s,mb4.4,baz=272,slow=5.3,SNR=18
ESDC LR LR 04 41 51.8
comp=Z,302nm,21.4s,MS4.6,baz=275,slow=30
ESDC Sonseca Array 77.67 51 P **P 04 14 28.1 +0.2**
comp=Z,10nm,1.3s,mb4.6
ESLA Sonseca Array 77.67 51 *e*P **P 04 14 29.8 +1.9**
comp=Z,10nm,1.4s,mb4.6
ERON Agron 77.68 53 P **P 04 14 28.6 +0.6**
comp=Z,15nm,1.2s,mb4.8
EQES Quesada 78.29 53 P **P 04 14 31.9 +0.5**
comp=Z,54nm,1.7s,mb5.2
EBER Berja 78.41 54 P **P 04 14 33.1 +1.1**
comp=Z,77nm,2.1s,mb5.3
SJPF Ste Jean 79.87 47 *e*P **P 04 14 40.5 +0.6**
comp=Z,44nm,1.3s,mb4.9
GRR Gorron 80.31 42 *e*P **P 04 14 43.7 +1.6**
comp=Z,44nm,1.2s,mb5.0
ETSF Etsaut 80.35 48 *e*P **P 04 14 44.1 +1.7**
comp=Z,38nm,1.4s,mb4.8
FLN La Foliniere 80.58 42 *e*P **P 04 14 44.7 +1.2**
comp=Z,125nm,1.6s,mb5.3
FLN *e*R
comp=Z,601nm,22.2s
MFF Saint Martin d 80.73 44 *e*P **P 04 14 45.7 +1.3**
comp=Z,14nm,0.9s,mb4.6
LDF La Druitiere 80.81 42 *e*P **P 04 14 46.0 +1.3**
comp=Z,262nm,1.9s,mb5.5
EPF Esparros 81.01 47 *e*P **P 04 14 47.1 +1.2**
comp=Z,94nm,1.7s,mb5.2
LFF La Frestale 81.32 46 *e*P **P 04 14 48.6 +1.1**
RJF Les Rejaudoux 81.87 45 *e*P **P 04 14 51.4 +1.0**
comp=Z,75nm,1.5s,mb5.1
RJF *e*R
comp=Z,285nm,21.8s
CAF Calviac 82.26 46 *e*P **P 04 14 53.5 +1.1**
comp=Z,59nm,1.5s,mb5.0
TCF Toulx Ste Croi 82.36 44 *e*P **P 04 14 53.6 +0.7**
comp=Z,37nm,1.5s,mb4.8
MTLF Montolieu 82.39 47 *e*P **P 04 14 53.5 +0.4**
comp=Z,50nm,1.4s,mb5.0
HYF Humbligny 82.65 43 *e*P **P 04 14 55.5 +1.2**
SSF Saint Saulge 83.24 43 *e*P **P 04 14 58.0 +0.6**
LOR Lormes 83.48 43 *e*P **P 04 14 59.3 +0.7**
LOR *e*R
comp=Z,436nm,17.5s
SMF Signal de Mont 83.48 44 *e*P **P 04 14 59.3 +0.7**
GIVF Givet 84.05 40 *e*P **P 04 15 02.5 +1.1**
VIVF Saint-Julien-l 84.12 46 *e*P **P 04 15 02.1 +0.2**
MEZF Maizieres J'vi 84.25 42 *e*P **P 04 15 03.4 +0.9**
SMRF Simiane la Rot 84.80 46 *e*P **P 04 15 06.2 +0.8**
ORIF Oris-en-Rattie 84.97 45 *e*P **P 04 15 07.1 +0.9**
ORIF *e*R
comp=Z,310nm,22.0s
CABF La Chapelle 85.03 44 *e*P **P 04 15 07.3 +0.8**
comp=Z,118nm,1.7s,mb5.4
HAU Haudompre 85.13 42 *e*P **P 04 15 07.7 +0.8**
HAU *e*R
comp=Z,344nm,22.0s
HINF Hinteralfeld 85.48 43 *e*P **P 04 15 09.7 +1.0**
LMR La Mourre 85.52 47 *e*P **P 04 15 09.2 +0.2**
comp=Z,115nm,1.8s,mb5.5
LPL La Plagne 85.54 45 *e*P **P 04 15 10.1 +1.1**
comp=Z,20nm,1.2s,mb4.9
LPG La Plagne 85.55 45 *e*P **P 04 15 10.1 +1.0**
FRF La Foret Royal 85.60 47 *e*P **P 04 15 09.1 -0.3**
comp=Z,35nm,1.3s,mb5.1
MBDF Montbardon 85.62 46 *e*P **P 04 15 09.9 +0.5**
comp=Z,62nm,1.6s,mb5.3
CDF Champ du Feu 85.73 42 *e*P **P 04 15 11.1 +1.2**
NB2 NORSAR Subarra 86.94 29 P **P 04 15 14.9 -0.6**
comp=Z,20nm,1.2s,mb5.2,baz=274,slow=4.6
NB2 NORSAR Subarra 86.94 29 P **P 04 15 14.9 -0.6**
baz=274,slow=4.6
NOA NORSAR Array B 86.94 29 P **P 04 15 15.1 -0.4**
comp=Z,7.5nm,1.0s,mb4.9,baz=276,slow=4.6,SNR=7.9
NOA LR LR 04 46 30.5
comp=Z,165nm,21.4s,MS4.4,baz=270,slow=30
BSEG Bad Segeberg 87.19 36 *e*P **P 04 15 18.7 +1.8**
PGF Pioggiola 87.40 48 *e*P **P 04 15 19.1 +0.9**
comp=Z,18nm,1.1s,mb4.9
CLZ Clausthal 87.43 38 *e*P **P 04 15 20.0 +1.9**
comp=Z,21nm,1.1s,mb5.3
GRA1 Grafenberg Arr 88.20 40 *e*P **P 04 15 23.5 +1.6**
comp=Z,52nm,1.7s,mb5.5
GRA1 *e*S S 04 25 50.7 -13
GRA1 *e*SS SS 04 32 11.4 +15
GRA1 LR LR
comp=Z,500nm,21.8s,MS4.9
MOX Moxa 88.34 39 *i* P **P 04 15 21.9 -0.6**
MOX S S 04 25 49.0 -16
MOX L 04 49 16.0
MOX Moxa 88.34 39 *e*P **P 04 15 21.9 -0.6**
MOX LR LR
comp=Z,400nm,22.0s,MS4.8
CLL Collm 89.12 39 P **P 04 15 27.6 +1.3**
comp=Z,logA/T=1.1,mb5.2
CLL Collm 89.12 39 P **P 04 15 27.6 +1.3**
comp=Z,16nm,1.4s,mb5.2
WET Wettzell 89.34 41 *e*P **P 04 15 29.2 +1.9**
comp=Z,13nm,1.2s,mb5.1
KHC Kasperske Hory 89.80 41 *e*P **P 04 15 29.0 -0.5**
GERES GERESS Array B 89.92 41 P **P 04 15 29.8 -0.3**
comp=Z,1.5nm,0.9s,mb4.3,baz=297,slow=3.0,SNR=9.5
VNA3 Neumayer Olymp 89.92 162 *e* **P 04 15 23.1 -6.5**
VNA3 Neumayer Olymp 89.92 162 *e* **P 04 15 24.6 -5.0**
VNA3 Neumayer Olymp 89.92 162⇓ *iP* **P 04 15 19.4 -10**
VNA3 *e* pP 04 15 23.1 -10
VNA3 *e* pP 04 15 24.6 -8.7
VNA2 Neumayer--Watz 90.54 161 P **P 04 15 29.1 -3.3**
ARCES ARCESS Array B 90.97 20 P **P 04 15 33.0 -1.4**
comp=Z,5.3nm,1.0s,mb4.8,baz=59,slow=7.1,SNR=5.3
ARCES LR LR 04 56 30.0
comp=Z,129nm,19.8s,MS4.4,baz=359,slow=36
ARCES ARCESS Array B 90.97 20 P **P 04 15 33.0 -1.4**
ARCES LR LR 04 56 30.0
SNAA Sanae 92.15 162 *e* **P 04 15 42.4 +2.6**
SNAA Sanae 92.15 162 *e* **P 04 15 44.2 +4.4**
SNAA Sanae 92.15 162⇓ *iP* **P 04 15 39.0 -0.8**
SNAA *e* pP 04 15 42.4 -1.2
SNAA *e* pP 04 15 44.2 +0.6
MORC Moravsky Berou 92.24 40 P **P 04 15 39.3 -1.4**
FINES FINESS Array B 93.85 27 LR LR 04 52 05.2
comp=Z,288nm,21.0s,MS4.7,baz=330,slow=32
QSPA South Pole Qui 95.69 180 *e*P **P 04 15 54.7 -1.3**
comp=Z,33nm,1.4s,mb5.6
QSPA LR LR
comp=Z,50nm,21.5s,MS4.0
AKASG Malin Array Be 99.19 37 LR LR 04 56 30.0
comp=Z,162nm,20.0s,MS4.5,baz=290,slow=33
MDJ Mudanjiang 122.17 333 PKP PKPdf 04 21 25.2 -2.7
MDJ PKS PKS 04 25 01.2 +0.8
MDJ SS SS 04 39 39.7 -0.5
MDJ PP PP
comp=Z,52nm,5.3s
MDJ LR LR
comp=N,184nm,29.6s,MS4.9
MDJ LR LR
comp=E,409nm,29.6s,MS4.9
MDJ LR LR
comp=Z,158nm,29.6s,MS4.5
CN2 Changchun 124.61 336 *e*PKP PKPdf 04 21 25.1 -7.6
CN2 LR LR
comp=Z,600nm,21.0s,MS5.2
MKAR Makanchi Array 126.07 13 PKP PKPdf 04 21 31.8 -3.6
comp=Z,1.9nm,0.8s,baz=18,slow=8.3,SNR=8.3
MKAR PP PP 04 23 22.8 -7.6
comp=Z,1.3nm,1.0s,slow=7.3,SNR=4.2
MKAR Makanchi Array 126.07 13 PKP PKPdf 04 21 31.8 -3.6
MKAR PP PP 04 23 22.8 -7.6
SONM Songino Array 126.12 352 PKP PKPdf 04 21 32.9 -2.6
comp=Z,1.8nm,0.8s,baz=196,slow=1.1,SNR=13
SONM PP PP 04 23 26.5 -4.2
comp=Z,2.1nm,1.1s,baz=18,slow=3.9,SNR=5.5
AAK Ala-Archa 127.61 21 *e*PKPdf PKPdf 04 21 34.7 -3.8
WMQ Urumqi 129.96 9 *e*PKP PKPdf 04 21 39.6 -3.4
WMQ PP PP 04 23 55.0 -0.8
WMQ SKS SKS 04 28 48.0 -3.6
WMQ SKKS 04 30 46.0
WMQ SS SS 04 41 17.6 +0.1
WMQ PP PP
comp=Z,35nm,9.0s
WMQ LR LR
comp=N,297nm,28.0s,MS5.0
WMQ LR LR
comp=E,331nm,28.0s,MS5.0
WMQ LR LR
comp=Z,374nm,27.0s,MS5.0
SSE Sheshan 136.93 330 PKP PKPdf 04 21 54.1 -2.1
SSE SS SS 04 42 45.4 +3.2
SSE LR LR
comp=N,111nm,20.0s,MS5.0
SSE LR LR
comp=E,279nm,20.0s,MS5.0
SSE LR LR
comp=Z,151nm,21.9s,MS4.7
NJ2 Nanjing 137.26 333 *e*PKP PKPdf 04 21 49.4 -7.5
LZH Lanzhou 138.01 352 *e*PKP PKPdf 04 21 51.3 -6.9
LZH XPKP 04 21 56.2
LZH PP PP 04 24 43.6 -3.8
LZH PP PP
comp=Z,131nm,5.1s
LZH LR LR
comp=E,250nm,18.0s
LZH LR LR
comp=Z,361nm,20.0s,MS5.1
KLP Kalpa 138.74 25 *e*PKP PKPdf 04 21 57.5 -2.1
KLP AMb AMB 04 22 01.1
comp=Z,8.5nm,0.5s
KHET Khetri 140.51 31 *e*PKP PKPdf 04 21 59.6 -3.4
KHET AMb AMB 04 22 01.4
comp=Z,4.1nm,1.6s
ASAR Alice Springs 140.57 239 PKhKP 04 21 51.2
comp=Z,1.0nm,0.8s,baz=126,slow=3.2,SNR=8.3
KUDL Kundal 140.80 30 *e*PKP PKPdf 04 22 01.4 -2.2
KUDL AMb AMB 04 22 03.9
comp=Z,5.4nm,1.1s
SONA Sohna 141.00 29 *e*PKP PKPdf 04 21 59.9 -4.0
comp=Z,4.7nm,0.3s
SONA AMb AMB 04 22 01.7
comp=Z,4.7nm,0.3s
AJM Ajmer 141.18 34 *e*PKP PKPdf 04 22 01.9 -2.4
WB2 Warramunga Arr 141.38 245 *e*P PKPdf 04 21 57.4 -7.4
WRAB Tennant Creek 141.38 245 PKPdf PKPdf 04 21 57.7 -7.0
WRAB LR LR
comp=Z,119nm,19.0s,MS4.7
WRA Warramunga Arr 141.39 245 PKhKP 04 21 54.6
comp=Z,3.6nm,1.1s,baz=115,slow=2.3,SNR=11
ENH Enshi 142.41 343 *e*PKPdf PKPdf 04 21 57.9 -8.3
GKN Gorkha 144.33 20 *e*P PKPbc 04 22 04.6 -1.3
comp=Z,120nm,1.3s
KKN Kakani 144.74 19 *e*P PKPbc 04 22 06.1 -1.0
comp=Z,140nm,1.1s
KAKA Kakadu 144.76 256⇑ *i*P PKPbc 04 22 10.6 +3.1
comp=Z,38nm,0.9s
GUN Gumba 144.81 18 *e*P PKPbc 04 22 06.9 -0.4
comp=Z,234nm,1.1s
DMN Daman 144.85 19 *e*P PKPbc 04 22 07.0 -0.4
comp=Z,149nm,1.0s
PKI Pulchoki 144.98 19 *e*P PKPbc 04 22 07.1 -0.7
comp=Z,131nm,1.2s
BHPL Bhopal 145.27 33 *e*PKP PKPdf 04 22 08.9 -2.5
BHPL AMb AMB 04 22 14.2
comp=Z,39nm,1.1s
GYA Guiyang 146.81 345 *i* PKP PKPdf 04 22 11.8 -2.1
GYA PKP2 PKPab 04 22 18.0 +2.1
GYA PP PP 04 25 45.2 +4.7
GYA PP PP
comp=Z,430nm,9.4s
GYA LR LR
comp=Z,760nm,25.2s,MS5.4
KAD Karad 147.65 45 *e*PKP PKPdf 04 22 09.5 -6.0
KAD AMb AMB 04 22 21.3
comp=Z,24nm,1.1s
KLBR Kellerberrin 147.92 214 *e*P PKPdf 04 22 16.6 +1.0
comp=Z,27nm,1.1s
KMI Kunming 148.94 351 *e*PKP PKPdf 04 22 13.4 -4.0
KMI XPKP 04 22 18.5
KMI PP PP 04 25 52.7 +0.3
KMI SKKS 04 32 37.4
KMI SS SS 04 45 02.2 +1.6
KMI LR LR
comp=N,196nm,20.3s,MS5.1
KMI LR LR
comp=E,234nm,20.6s,MS5.1
KMI LR LR
comp=Z,215nm,25.9s
HYB Hyderabad 150.46 39 *i* PKP PKPdf 04 22 24.0 +4.0
CMAR Chiang Mai Arr 155.97 356 PKP PKPdf 04 22 25.1 -2.5
comp=Z,2.3nm,0.9s,baz=290,slow=2.3,SNR=7.0
CMAR PKPab PKPab 04 22 51.9 -2.2
comp=Z,4.1nm,1.0s,baz=324,slow=3.3,SNR=7.4

IDC ***05*** *04:12:21.0±1.4,30.11N×137.22E,h484km±19km, mb3.1/10,mb1 3.2/11,mb1mx3.2/22,Error ellipse: s-maj=26.6km s-min=11.3km az=75.0*
NEIC ***05*** *04:12:22.9±1.1,30.07N×137.11E,h506km±15km,mb3.9/5, Error ellipse: s-maj=24.4km s-min=9.9km az=78.0*
JMA ***05*** *04:12:22.3±0.2,30.15N×137.70E,h525km,M3.5*
ISC 05 04:12:21.2±0.6,30.07N±0.07×137.4E±0.2,h508km±11km, n26,σ0°91/30,mb3.5/14,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**5.17**	**124**	P	**P**	**04 13 50.7**	**-0.2**
	3.7nm,0.3s,baz=288,slow=19,SNR=16						
CBIJ				S	**S**	**04 15 01.9**	**-0.2**
	14nm,0.3s,baz=284,slow=22,SNR=9.1						
CBIJ	**Chichi jima**	**5.17**	**124**	P	**P**	**04 13 51.2**	**+0.3**
CBIJ				S	**S**	**04 15 00.9**	**-1.1**
BSO4	**Boso 4**	**5.52**	**26**	P	**P**	**04 13 54.2**	**+0.1**
JHU	**Hanno**	**5.99**	**15**	P	**P**	**04 13 58.8**	**+0.1**
JRY	**Ryogami san**	**6.08**	**12**	P	**P**	**04 14 00.7**	**+1.2**
JHS	**Saijyo**	**6.08**	**325**	P	**P**	**04 14 01.1**	**+1.6**
MAJO	**Matsushiro**	**6.50**	**6**	P	**P**	**04 14 04.3**	**+0.7**
	11nm,0.5s						
JAG	**Ashikaga**	**6.58**	**15**	P	**P**	**04 14 04.0**	**-0.4**
JAG				*e*S	**S**	**04 15 25.9**	**-0.4**
JHO	**Hitachi**	**7.06**	**22**	P	**P**	**04 14 09.3**	**+0.1**
JHO				S	**S**	**04 15 33.6**	**-1.3**
SONM	**Songino Array**	**29.63**	**315**	P	**P**	**04 17 45.9**	**-0.1**
	0.5nm,0.4s,mb3.3,baz=128,slow=8.2,SNR=7.2						
MKAR	**Makanchi Array**	**45.31**	**308**	P	**P**	**04 19 53.7**	**-0.6**
	1.1nm,0.3s,mb3.7,baz=88,slow=10,SNR=22						
MKAR	**Makanchi Array**	**45.31**	**308**	P	**P**	**04 19 53.7**	**-0.6**
FITZ	**Fitzroy Crossi**	**49.20**	**195**	P	**P**	**04 20 23.7**	**-0.5**
	0.8nm,0.6s,mb3.2,slow=9.1,SNR=4.6						
WRAB	**Tennant Creek**	**49.79**	**184**	*e*P	**P**	**04 20 28.1**	**-0.5**
	2.4nm,0.4s,mb3.9						
WRA	**Warramunga Arr**	**49.80**	**184**	P	**P**	**04 20 28.1**	**-0.6**
	0.9nm,0.4s,mb3.5,baz=360,slow=7.8,SNR=38						
BRVK	**Borovoye**	**53.04**	**316**	*e*P	**P**	**04 20 51.1**	**-0.7**
	2.9nm,0.6s,mb3.8						
ASAR	**Alice Springs**	**53.53**	**184**	P	**P**	**04 20 56.4**	**+0.7**
	0.7nm,1.0s,mb3.0,baz=13,slow=12,SNR=5.8						
MBWA	**Marble Bar**	**53.68**	**201**	*e*P	**P**	**04 20 55.8**	**-1.0**
	2.2nm,0.5s,mb3.7						
ZRNK	**Zerenda**	**53.82**	**316**	*e*P	**P**	**04 20 56.4**	**-1.0**
	1.7nm,0.3s,mb3.9						
STKA	**Stephens Creek**	**61.73**	**176**	P	**P**	**04 21 53.6**	**+2.3**
	2.6nm,0.8s,mb3.7,baz=350,slow=12,SNR=4.2						
ARCES	**ARCESS Array B**	**69.32**	**340**	P	**P**	**04 22 38.1**	**+0.1**
	1.8nm,0.6s,mb3.8,baz=56,slow=7.6,SNR=18						
FINES	**FINESS Array B**	**73.38**	**332**	P	**P**	**04 23 01.6**	**-0.2**
	1.0nm,0.5s,mb3.6,baz=45,slow=5.4,SNR=9.8						
NB2	**NORSAR Subarra**	**79.25**	**336**	P	**P**	**04 23 33.6**	**-0.2**
	1.0nm,0.5s,mb3.6,baz=44,slow=5.0						
NOA	**NORSAR Array B**	**79.25**	**336**	P	**P**	**04 23 33.8**	**0.0**
	1.1nm,0.5s,mb3.6,baz=45,slow=5.1,SNR=4.8						
NVAR	**Mina Array Bea**	**81.96**	**50**	P	**P**	**04 23 50.9**	**+2.7**
	0.2nm,0.5s,mb3.0,baz=292,slow=4.9,SNR=3.7						
NVAR	**Mina Array Bea**	**81.96**	**50**	P	**P**	**04 23 50.9**	**+2.7**

WEL 05 04:15:26.6±0.7,38.55S×175.98E,h184km±5km,ML3.5/2, 1D,Error ellipse: s-maj=4.1km s-min=3.7km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MOVZ	**Moawhango**	**0.87**	**191**	PN	P	04 15 54.6	+0.6
TOZ	**Tahuroa Road**	**0.90**	**335**	*e*PN	P	04 15 54.1	-0.1
TOZ				*e*SN	S	04 16 14.9	-0.7
TOZ				*e*SN	S	04 16 14.9	-0.6
MWZ	**Matawai**	**1.24**	**80**	PN	P	04 15 56.4	-0.4
MWZ				*e*SN	S	04 16 19.2	-1.0
MWZ				SN	S	04 16 19.4	-0.8
MRZ	**Mangatainoka R**	**2.13**	**188**	PN	P	04 16 05.5	-0.1
KIW	**Kapiti Island**	**2.45**	**199**	PN	P	04 16 08.6	-0.8
TUWZ	**Tuamarina**	**3.27**	**208**	PN	P	04 16 17.5	-1.8
TUWZ				*e*SN	S	04 16 58.1	-1.8
NNZ	**Nelson**	**3.33**	**216**	PN	P	04 16 17.7	-2.3
NNZ				SN	S	04 16 59.1	-2.1
KHZ	**Kahutara**	**4.28**	**205**	⇓PN	P	04 16 30.1	-2.0
KHZ				*e*SN	S	04 17 21.3	-1.5
MQZ	**McQueen's Vall**	**5.73**	**205**	*e*SN	S	04 17 50.1	-6.2

NEIC ***05*** *04:18:25.9±1.6,9.98S×111.42E,mb4.0/3,Error ellipse: s-maj=64.4km s-min=14.5km az=54.0*
DJA ***05*** *04:18:27.2±1.0,9.73S×111.99E,h2km,ML4.7/3,Error ellipse: s-maj=38.6km s-min=20.7km az=149.0*
IDC ***05*** *04:18:29.2±1.5,9.22S×112.07E,h35km±7km,mb3.7/5, mb1 3.9/6,mb1mx3.7/14,ML3.9/1,Error ellipse: s-maj=86.4km s-min=15.5km az=53.0*
ISC 05 04:18:25.7±3.9,9.4S±0.1×111.79E±0.09,h31km±28km, h34km±1.0km:pP-P,n15,σ0°93/19,mb3.9/6,2C-5D,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRDI	**Scrawed**	**2.49**	**69⇑**	*e*Pn	**Pn**	**04 19 04.7**	**-0.3**
	285nm,0.2s						
SRDI				⇓*e*Sn	**Sn**	**04 19 33.8**	**-0.9**
KELI	**Kelakatan**	**2.91**	**67⇑**	*e*Pn	**Pn**	**04 19 12.3**	**+1.3**
	247nm,0.2s						
KELI				⇓*e*Sn	**Sn**	**04 19 46.1**	**+0.8**
RATI	**Rata**	**3.75**	**80⇓**	*e*Pn	**Pn**	**04 19 24.0**	**+1.0**
	254nm,0.2s						
RATI				⇓*e*Sn	**Sn**	**04 20 01.5**	**-5.2**
KEDI	**Kedomdong**	**4.36**	**79⇓**	*e*Pn	**Pn**	**04 19 29.9**	**-1.8**

MBWA	**Marble Bar**	**14.00**	**148**	*e*P	**P**	**04 21 37.4**	**-7.0**
FITZ	**Fitzroy Crossi**	**16.00**	**124**	*e*P	**P**	**04 22 06.4**	**-4.0**
	8.6nm,1.0s						
FITZ	**Fitzroy Crossi**	**16.00**	**124**	Pn	**P**	**04 22 06.2**	**-4.2**
	0.3nm,0.3s,baz=276,slow=2.8,SNR=11						
FITZ				Sn	**S**	**04 24 58.6**	**-8.0**
	0.1nm,0.3s,baz=150,slow=23,SNR=2.6						
WRA	**Warramunga Arr**	**24.18**	**118**	P	**P**	**04 23 39.7**	**-1.1**
	2.1nm,0.6s,mb3.7,baz=291,slow=12,SNR=16						
WRA				PcP	PcP	04 27 23.0	+0.7
	0.3nm,0.7s,baz=289,slow=2.1,SNR=5.1						
WRAB	**Tennant Creek**	**24.19**	**118**	*e*P	**P**	**04 23 41.0**	**+0.2**
	4.0nm,0.4s,mb4.2						
WRAB				*e*		04 23 50.2	
WB2	**Warramunga Arr**	**24.19**	**118**	*e*P	**P**	**04 23 40.6**	**-0.2**
ASAR	**Alice Springs**	**25.47**	**127**	P	**P**	**04 23 53.2**	**+0.2**
	1.8nm,0.5s,mb3.9,baz=302,slow=9.2,SNR=29						
ASAR				pP	pP	04 24 03.1	+1.2
	1.9nm,0.7s,baz=303,slow=9.1,SNR=8.3						
STKA	**Stephens Creek**	**35.56**	**133**	*e*P	**P**	**04 25 24.0**	**+1.6**
	1.7nm,0.8s,mb4.0						
STKA	**Stephens Creek**	**35.56**	**133**	P	**P**	**04 25 23.2**	**+0.9**
	1.1nm,0.5s,mb4.0,baz=332,slow=12,SNR=4.1						
STKA				pP	pP	04 25 32.8	+1.3
	2.1nm,0.8s,baz=296,slow=11,SNR=3.2						
SONM	**Songino Array**	**57.15**	**356**	P	**P**	**04 28 11.8**	**-0.2**
	0.3nm,0.6s,mb3.5,baz=172,slow=10,SNR=2.6						
MKAR	**Makanchi Array**	**61.80**	**337**	P	**P**	**04 28 43.9**	**-0.2**
	1.0nm,0.4s,mb4.3,baz=151,slow=7.2,SNR=14						
MKAR				pP	pP	04 28 54.9	+1.2
	1.1nm,0.5s,baz=146,slow=7.3,SNR=6.5						

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*LDG **05** 04:34:56.7±0.2, 15.78S×166.65E, h10km, Mb5.0/3, Error ellipse: s-maj=29.9km s-min=5.2km az=86.0*
*BJI **05** 04:35:10.6, 14.99S×168.12E, h147km, mB4.9, mb4.8*
*IDC **05** 04:35:11.2±1.0, 15.06S×167.41E, h119km±7km, mb4.4/15, mb1 4.5/15, mb1mx4.5/17, MS3.7/3, Ms1 3.7/3, ms1mx3.2/19, Error ellipse: s-maj=15.4km s-min=13.3km az=160.0*
*NEIC **05** 04:35:12.4±1.5, 15.11S×167.36E, h127km±12km, mb4.7/18, Error ellipse: s-maj=10.0km s-min=8.2km az=184.0*
*SYO **05** 04:35:23.6, 15.23S×167.07E, h226km, MB4.7*
ISC 05 04:35:11.9±1.2**, 15.16S**±0.07×**167.33E**±0.05**, h137**km±10km**, h117**km±4.9km**:pP-P, n159, σ0.87**/62**, mb4.8**/39**, 5C-2D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**2.64**	**161**	⇑*i*P	**P**	**04 35 54.2**	**-0.7**
BKM				S	**S**	**04 36 28.1**	**+0.5**
DZM	**Mont Dzumac**	**6.92**	**187**	*e*P	**P**	**04 36 52.0**	**0.0**
DZM				*e*S	**S**	**04 38 08.8**	**-0.9**
DZM	**Mont Dzumac**	**6.92**	**187**	*e*P	**P**	**04 36 52.0**	**0.0**
DZM				*e*S	**S**	**04 38 08.8**	**-0.9**
NOUC	**Port Laguerre**	**6.97**	**188**	*e*P	**P**	**04 36 52.6**	**0.0**
PMG	**Port Moresby**	**20.51**	**284**	P	**P**	**04 39 42.3**	**+1.3**
	5.3nm,0.5s						
PMG	**Port Moresby**	**20.51**	**284**	*e*P	**P**	**04 39 42.4**	**+1.3**
	21nm,0.8s						
PMG				*e*		04 39 57.4	
CTA	**Charters Tower**	**20.66**	**253**	*e*P	**P**	**04 39 44.3**	**+1.7**
	6.2nm,0.9s						
CTA	**Charters Tower**	**20.66**	**253**	P	**P**	**04 39 44.3**	**+1.8**
	5.1nm,0.7s,baz=93,slow=13,SNR=7.7						
CTAO	**Charters Tower**	**20.66**	**253**	*e*P	**P**	**04 39 44.3**	**+1.7**
	11nm,0.8s						
CTAO				*e*		04 40 06.3	
ARMA	**Armidale**	**20.94**	**221**	*e*P	**P**	**04 39 47.7**	**+2.5**
RIV	**Riverview**	**23.64**	**215**	*e*P	**P**	**04 40 13.8**	**+2.2**
URZ	**Urewera**	**24.58**	**161**	P	**P**	**04 40 20.8**	**+0.2**
	55nm,0.8s,mb5.2,baz=0.1,slow=5.3,SNR=16						
CNB	**Canberra Magne**	**25.74**	**216**	⇑*i*P	**P**	**04 40 32.4**	**+1.0**
	20nm,1.1s,mb4.7						
RPZ	**Rata Peaks**	**28.64**	**174**	P	**P**	**04 40 56.9**	**-0.7**
	19nm,0.9s,mb4.8,baz=289,slow=3.4,SNR=6.1						
STKA	**Stephens Creek**	**28.76**	**230**	⇑*i*P	**P**	**04 40 59.7**	**+0.9**
	31nm,0.7s,mb5.2						
STKA				*e*		04 44 04.9	
STKA	**Stephens Creek**	**28.76**	**230**	P	**P**	**04 40 59.7**	**+0.9**
	45nm,0.8s,mb5.2,baz=44,slow=7.4,SNR=93						
STKA				PcP	PcP	04 44 05.0	-0.7
	5.2nm,0.7s,baz=85,slow=3.1,SNR=6.7						
STKA				ScP		04 47 36.7	
	0.9nm,0.6s,baz=336,slow=4.3,SNR=3.4						
STKA				LR	LR	04 51 43.3	
	comp=Z,104nm,18.1s,baz=31,slow=34						
TOO	**Toolangi**	**29.54**	**217**	*e*P	**P**	**04 41 06.2**	**+0.5**
	9.3nm,1.1s,mb4.4						
WB2	**Warramunga Arr**	**31.76**	**257**	*e*P	**P**	**04 41 23.7**	**-1.8**
WB2				*e*		04 44 13.0	
WRAB	**Tennant Creek**	**31.76**	**257**	*e*P	**P**	**04 41 24.0**	**-1.5**
	8.8nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**31.77**	**257**	P	**P**	**04 41 23.9**	**-1.7**
	4.2nm,0.8s,mb4.2,baz=86,slow=8.5,SNR=24						
WRA				pP	pP	04 41 51.5	-3.8
	2.6nm,1.1s,baz=86,slow=9.6,SNR=3.7						
WRA				PcP	PcP	04 44 13.5	-0.1
	3.7nm,0.8s,baz=87,slow=2.9,SNR=15						
WRA				ScP		04 47 47.0	
	17nm,1.6s,baz=88,slow=3.0,SNR=5.8						
WRA				PKiKP		04 51 39.9	
	0.8nm,0.5s,baz=1.4,slow=0.3,SNR=16						
WRA				LR	LR	04 53 53.6	
	comp=Z,118nm,19.9s,baz=100,slow=35						
ASAR	**Alice Springs**	**32.57**	**250**	P	**P**	**04 41 31.6**	**-0.9**
	20nm,0.7s,mb4.9,baz=79,slow=9.1,SNR=155						
ASAR				pP	pP	04 41 58.6	-3.6
	2.0nm,0.9s,baz=78,slow=9.0,SNR=2.4						
ASAR				PcP	PcP	04 44 14.9	-0.8
	1.5nm,0.6s,baz=71,slow=2.0,SNR=7.3						
ASAR				ScP		04 47 50.5	
	4.5nm,1.2s,baz=93,slow=2.8,SNR=10						
ASAR				PKiKP		04 51 40.8	
	1.3nm,1.0s,baz=79,slow=1.5,SNR=6.0						
ASPA	**Alice Springs**	**32.57**	**250**	*e*P	**P**	**04 41 31.7**	**-0.8**
ASPA				*e*S	**S**	**04 46 36.8**	**+0.1**
FORT	**Forrest**	**39.12**	**240**	*e*P	**P**	**04 42 28.2**	**+0.6**
	100nm,0.6s,mb5.6						
FITZ	**Fitzroy Crossi**	**39.99**	**260**	⇑*i*P	**P**	**04 42 34.6**	**-0.3**
	10nm,0.9s,mb4.5						
PAE	**Paea**	**41.35**	**100**	*e*P	**P**	**04 42 46.0**	**0.0**
	147nm,1.1s,mb5.5						
PPT	**Papeete**	**41.36**	**99**	P	**P**	**04 42 46.7**	**+0.6**
	69nm,0.7s,mb5.4,baz=212,slow=2.5,SNR=8.4						
PPT	**Papeete**	**41.36**	**99**	*e*P	**P**	**04 42 46.3**	**+0.2**
	124nm,1.2s,mb5.4						
TIAR	**Tiarei**	**41.58**	**99**	*e*P	**P**	**04 42 48.2**	**+0.2**
	180nm,0.8s,mb5.7						
TIAR				*e*pP	pP	04 43 11.8	-7.0
TVO	**Taravao**	**41.66**	**100**	*e*P	**P**	**04 42 48.8**	**+0.1**
	119nm,0.8s,mb5.6						
MEH	**Mehetia**	**42.78**	**100**	*e*P	**P**	**04 42 57.8**	**0.0**
	109nm,1.1s,mb5.4						
PMOR	**Pomariorio Ree**	**43.18**	**96**	*e*P	**P**	**04 43 01.1**	**0.0**
	259nm,1.2s,mb5.7						
VAH	**Vaihoa**	**43.41**	**96**	*e*P	**P**	**04 43 03.1**	**+0.2**
	162nm,1.1s,mb5.5						
MBWA	**Marble Bar**	**45.48**	**255**	*e*P	**P**	**04 43 19.6**	**+0.2**
	20nm,0.7s,mb4.9						
KLBR	**Kellerberrin**	**47.94**	**241**	⇓*i*P	**P**	**04 43 37.9**	**-0.6**
	12nm,0.7s,mb4.6						
NWAO	**Narrogin (SRO)**	**48.57**	**239**	P	**P**	**04 43 42.8**	**-0.6**
	17nm,0.7s,mb4.8,baz=95,slow=8.1,SNR=6.9						
NWAO	**Narrogin (SRO)**	**48.57**	**239**	*e*P	**P**	**04 43 42.8**	**-0.6**
	35nm,1.0s,mb4.9						
MUN	**Mundaring**	**49.30**	**241**	*e*P	**P**	**04 43 48.4**	**-0.6**
	15nm,0.8s,mb4.7						
SBA	**Scott Base**	**62.70**	**180**	*e*P	**P**	**04 45 24.1**	**0.0**
	35nm,1.0s,mb5.2						
CASY	**Casey**	**63.15**	**202**	*e*P	**P**	**04 45 26.4**	**-0.8**
MDJ	**Mudanjiang**	**68.69**	**332**	P	**P**	**04 46 02.7**	**+0.1**
MDJ				PP	PP	04 48 38.9	+1.1
MDJ				S	S	04 54 54.1	+1.1
MDJ				SCS	ScS	04 55 41.0	-4.8
MDJ				SS	SS	04 59 25.5	+3.5
MDJ				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,51nm,5.5s						
MDJ				LR	LR		
	comp=N,168nm,31.4s						
MDJ				LR	LR		
	comp=E,360nm,29.8s						
MDJ				LR	LR		
	comp=Z,192nm,20.4s						
CN2	**Changchun**	**70.04**	**329**	*e*P	**P**	**04 46 10.1**	**-0.8**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
ENH	**Enshi**	**71.68**	**310**	*e*P	**P**	**04 46 19.7**	**-1.2**
	comp=Z,21nm,0.8s,mb4.9						
BJT	**Baijiatuau**	**72.62**	**321**	P	**P**	**04 46 26.6**	**+0.3**
	comp=Z,8.1nm,0.5s,mb4.7						
XAN	**Xi'an**	**74.02**	**313**	P	**P**	**04 46 34.6**	**0.0**
XAN				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.7						
KMI	**Kunming**	**74.58**	**302**	*e*P	**P**	**04 46 39.2**	**+1.2**
KMI				S	S	04 55 54.7	-5.9
KMI				AMB	AMB		
	comp=Z,21nm,1.0s,mb4.7						
KMI				AMB	AMB		
	comp=Z,74nm,4.1s						
KMI				LR	LR		
	comp=N,216nm,27.0s						
KMI				LR	LR		
	comp=E,234nm,23.7s						
KMI				LR	LR		
	comp=Z,217nm,27.0s						
CMAR	**Chiang Mai Arr**	**75.17**	**294**	P	**P**	**04 46 42.1**	**+0.7**
	comp=Z,6.2nm,0.9s,mb4.2,baz=122,slow=4.1,SNR=24						
HHC	**Hu-ho-hao-te**	**75.95**	**320**	*e*P	**P**	**04 46 45.6**	**+0.2**
HHC				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
HHC				AMB	AMB		
	comp=Z,43nm,7.8s						
HIA	**Hailar**	**76.69**	**330**	*e*P	**P**	**04 46 48.9**	**-0.4**
	comp=Z,6.6nm,0.5s,mb4.5						
LZH	**Lanzhou**	**78.65**	**312**	*e*P	**P**	**04 47 02.0**	**+1.6**
LZH				AMB	AMB		
	comp=Z,36nm,1.1s,mb4.9						
MAW	**Mawson**	**81.50**	**202**	*e*P	**P**	**04 47 15.4**	**+0.4**
	comp=Z,4.7nm,0.6s,mb4.3						
MAW	**Mawson**	**81.50**	**202**	P	**P**	**04 47 15.4**	**+0.4**
	comp=Z,6.5nm,0.8s,mb4.3,baz=118,slow=5.3,SNR=18						
SONM	**Songino Array**	**82.88**	**324**	P	**P**	**04 47 22.8**	**+0.3**
	comp=Z,7.9nm,0.9s,mb4.4,baz=152,slow=7.5,SNR=39						
ILAR	**Eielson Array**	**86.92**	**18**	P	**P**	**04 47 40.0**	**-2.1**
	comp=Z,1.0nm,0.8s,mb3.7,baz=240,slow=3.2,SNR=15						
NVAR	**Mina Array Bea**	**87.51**	**49**	P	**P**	**04 47 45.5**	**-0.1**
	comp=Z,1.0nm,0.7s,mb3.8,baz=226,slow=4.3,SNR=10						
NVAR				LR	LR	05 25 47.3	
	comp=Z,45nm,18.0s,baz=310,slow=35						
SYO	**Syowa Base**	**88.31**	**197**	⇓P	**P**	**04 47 48.5**	**-0.1**
SYO	**Syowa Base**	**88.31**	**197**	⇑PcP	PcP	04 47 50.6	+0.1
SNAA	**Sanae**	**93.12**	**183**	*e*P	**P**	**04 48 10.3**	**-0.7**
	comp=Z,12nm,0.7s,mb5.1						
TXAR	**Lajitas Array**	**96.44**	**61**	P	**P**	**04 48 27.4**	**+0.4**
	comp=Z,0.2nm,0.6s,mb3.6,baz=225,slow=3.5,SNR=3.7						
MKAR	**Makanchi Array**	**97.55**	**316**	P	**P**	**04 48 32.0**	**+0.4**
	comp=Z,7.4nm,0.8s,mb5.2,baz=96,slow=6.4,SNR=45						
MKAR				pP	pP	04 49 03.2	-3.9
	comp=Z,1.1nm,0.7s,baz=79,slow=7.3,SNR=2.6						
ARCES	**ARCESS Array B**	**120.68**	**345**	PKP	PKPdf	04 53 47.6	+0.4
	comp=Z,11nm,0.6s,baz=74,slow=1.6,SNR=68						
FINES	**FINESS Array B**	**126.14**	**338**	PKP	PKPdf	04 53 58.7	+0.9
	comp=Z,2.6nm,0.8s,slow=1.9,SNR=13						
FINES	**FINESS Array B**	**126.14**	**338**	PKP	PKPdf	04 53 58.7	+0.9
KMBO	**Kilima Mbogo**	**128.06**	**256**	PKP	PKPdf	04 54 05.8	+3.0
	comp=Z,3.1nm,0.8s,baz=25,slow=4.0,SNR=7.1						
NB2	**NORSAR Subarra**	**131.06**	**345**	PKPdf	PKPdf	04 54 07.7	+0.5
	comp=Z,3.3nm,1.0s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**131.06**	**345**	PKP	PKPdf	04 54 08.7	+1.5
	comp=Z,2.1nm,0.6s,baz=35,slow=2.0,SNR=7.0						
AKASG	**Malin Array Be**	**131.12**	**326**	PKP	PKPdf	04 54 08.5	+0.8
	comp=Z,0.2nm,0.3s,baz=45,slow=2.4,SNR=7.6						
BRTR	**Keskin Array B**	**132.83**	**310**	PKP	PKPdf	04 54 12.1	+0.8
	comp=Z,1.5nm,0.9s,baz=146,slow=4.5,SNR=4.3						
KHC	**Kasperske Hory**	**139.89**	**333**	*e*PKP	PKPdf	04 54 19.5	-4.4
GERES	**GERESS Array B**	**140.05**	**333**	PKhKP		04 54 16.5	
	comp=Z,1.0nm,0.8s,baz=63,slow=3.0,SNR=6.0						
GERES				PKP	PKPdf	04 54 26.3	+2.1
	comp=Z,1.5nm,0.7s,baz=45,slow=1.9,SNR=9.2						
CDF	**Champ du Feu**	**143.00**	**338**	*e*PKP1	PKPdf	04 54 27.3	-2.0
	comp=Z,20nm,0.8s						
HINF	**Hinteralfeld**	**143.65**	**338**	*e*PKP1	PKPbc	04 54 29.0	-0.3
	comp=Z,8.7nm,0.9s						
HAU	**Haudompre**	**143.67**	**338**	*e*PKP1	PKPbc	04 54 29.4	+0.1
MEZF	**Maizieres J'vi**	**143.69**	**340**	*e*PKP1	PKPbc	04 54 29.8	+0.4
LOMF	**Lomont**	**144.05**	**337**	PKP	PKPdf	04 54 31.0	-0.1
AQU	**L'Aquila**	**144.82**	**326**	*e*PKP	PKPdf	04 54 34.8	+2.1
CABF	**La Chapelle**	**144.95**	**337**	*e*PKP1	PKPbc	04 54 34.4	+1.4
	comp=Z,213nm,1.0s						
OG01	**Vacheresse**	**144.96**	**336**	PKP	PKPdf	04 54 34.3	+1.5
GRAM		**144.98**	**331**	P	PKPdf	04 54 34.1	+1.2
VALM		**145.00**	**331**	P	PKPdf	04 54 33.8	+0.9
FLN	**La Foliniere**	**145.03**	**346**	*e*PKP1	PKPbc	04 54 33.7	+0.5
	comp=Z,105nm,0.9s						
LDF	**La Druitiere**	**145.10**	**345**	*e*PKP1	PKPbc	04 54 33.9	+0.6
	comp=Z,79nm,0.9s						
BACM		**145.14**	**331**	P	PKPdf	04 54 34.3	+1.1
CODM		**145.15**	**331**	P	PKPdf	04 54 34.0	+0.8
LOR	**Lormes**	**145.16**	**340**	*e*PKP1	PKPbc	04 54 34.7	+1.2
	comp=Z,179nm,1.1s						
TRAV		**145.20**	**335**	P	PKPdf	04 54 33.9	+0.7
VINC	**Vinca**	**145.20**	**331**	P	PKPdf	04 54 33.7	+0.5
SSF	**Saint Saulge**	**145.46**	**340**	*e*PKP1	PKPbc	04 54 35.8	+1.5
	comp=Z,217nm,0.9s						
GRR	**Gorron**	**145.47**	**346**	*e*PKP1	PKPbc	04 54 35.4	+1.1
	comp=Z,195nm,0.9s						
LSD	**Ceresole Reale**	**145.49**	**335**	P	PKPdf	04 54 36.1	+2.3
GENL	**Genova Univers**	**145.55**	**332**	P	PKPdf	04 54 35.1	+1.2
HYF	**Humbligny**	**145.55**	**341**	*e*PKP1	PKPbc	04 54 36.3	+1.8
	comp=Z,280nm,0.7s						
LPL	**La Plagne**	**145.61**	**336**	*e*PKP1	PKPbc	04 54 36.7	+2.0
	comp=Z,99nm,1.0s						
LPG	**La Plagne**	**145.62**	**336**	*e*PKP1	PKPbc	04 54 36.8	+2.1
	comp=Z,114nm,1.0s						
PCP	**Pian Castagno**	**145.63**	**333**	P	PKPdf	04 54 35.3	+1.3
OG05	**Jujurieux**	**145.66**	**337**	PKP	PKPdf	04 54 36.4	+2.4
RSP	**Reno Superiore**	**145.69**	**335**	P	PKPdf	04 54 36.1	+2.0
SMF	**Signal de Mont**	**145.71**	**340**	*e*PKP1	PKPbc	04 54 36.2	+1.3
	comp=Z,148nm,1.3s						
FENE	**Fenestrelle**	**145.87**	**335**	P	PKPdf	04 54 36.5	+2.2
BHB	**Bricherasio**	**145.94**	**334**	P	PKPdf	04 54 35.6	+1.1
SGMF	**Saint Gilles**	**145.96**	**348**	*e*PKP1	PKPbc	04 54 36.7	+1.2
	comp=Z,101nm,0.8s						
BNI	**Bardonecchia**	**146.01**	**335**	*e*PKPdf	PKPdf	04 54 36.3	+1.7
BNI				*e*PKPbc	PKPbc	04 54 37.7	+2.0
ROSF	**Rostrenen**	**146.02**	**349**	*e*PKP1	PKPbc	04 54 36.9	+1.2
FIN	**Finale Ligure**	**146.04**	**333**	P	PKPdf	04 54 36.1	+1.4
RRL	**Cesana Torines**	**146.08**	**335**	P	PKPdf	04 54 37.8	+3.1
OG22	**Abries**	**146.09**	**335**	PKP	PKPdf	04 54 37.1	+2.4
ROB	**Roburent**	**146.12**	**333**	P	PKPdf	04 54 36.7	+1.9
RORO		**146.18**	**333**	P	PKPdf	04 54 36.5	+1.5
MBDF	**Montbardon**	**146.24**	**335**	*e*PKP1	PKPbc	04 54 37.8	+1.5
	comp=Z,30nm,0.7s						
PZZ	**Prazzo**	**146.28**	**334**	P	PKPdf	04 54 36.5	+1.4
MONE	**Monesi**	**146.34**	**333**	P	PKPdf	04 54 37.3	+2.1
ENR	**Entracque**	**146.37**	**334**	P	PKPdf	04 54 36.9	+1.7
STV2	**Anna di Valdie**	**146.40**	**334**	P	PKPdf	04 54 37.1	+1.8
STV	**Sta Anna Valdi**	**146.40**	**334**	P	PKPdf	04 54 36.9	+1.6
QUIF	**Quistinic**	**146.41**	**348**	*e*PKP1	PKPbc	04 54 37.8	+1.3
	comp=Z,44nm,0.8s						
IMI	**Imperia**	**146.42**	**333**	*e*PKP	PKPdf	04 54 38.0	+2.7
ORIF	**Oris-en-Rattie**	**146.44**	**336**	*e*PKP1	PKPbc	04 54 38.9	+2.2
	comp=Z,67nm,0.8s						
SAOF	**Saorge**	**146.50**	**333**	PKP	PKPdf	04 54 38.2	+2.8
NEGI	**Negi**	**146.55**	**333**	P	PKPdf	04 54 37.6	+2.1
AUTN	**L'Aution**	**146.55**	**333**	PKP	PKPdf	04 54 39.0	+3.5
TCF	**Toulx Ste Croi**	**146.56**	**341**	*e*PKP1	PKPbc	04 54 38.7	+1.7
	comp=Z,94nm,1.0s						
TOUF	**Mont Tournerai**	**146.62**	**333**	PKP	PKPdf	04 54 38.8	+3.2
SBF	**Sospel**	**146.65**	**333**	*e*PKP1	PKPbc	04 54 38.7	+1.4
	comp=Z,152nm,1.2s						
AURF	**Auriere**	**146.68**	**333**	PKP	PKPdf	04 54 38.4	+2.7
REVF	**Revere**	**146.78**	**333**	PKP	PKPdf	04 54 39.2	+3.3
OG25	**Le Caire**	**146.82**	**335**	PKP	PKPdf	04 54 39.2	+3.3
MFF	**Saint Martin d**	**146.95**	**344**	*e*PKP1	PKPbc	04 54 39.8	+2.0
	comp=Z,152nm,0.7s						
PGF	**Pioggiola**	**146.96**	**330**	*e*PKP1	PKPbc	04 54 39.8	+1.8
	comp=Z,102nm,1.1s						
VIVF	**Saint-Julien-l**	**146.96**	**337**	*e*PKP1	PKPbc	04 54 40.0	+2.1
	comp=Z,27nm,0.8s						
CALN	**Calern**	**146.98**	**334**	PKP	PKPdf	04 54 39.9	+3.7
LCHF	**La Chataignera**	**147.04**	**345**	PKP	PKPdf	04 54 40.0	+3.8
FRF	**La Foret Royal**	**147.24**	**334**	*e*PKP1	PKPdf	04 54 40.3	+3.6
	comp=Z,93nm,1.2s						
SMRF	**Simiane la Rot**	**147.34**	**335**	*e*PKP1	PKPdf	04 54 41.4	+4.6
	comp=Z,41nm,0.9s						
VILF	**Villemus**	**147.39**	**335**	PKP	PKPdf	04 54 41.6	+4.7
LMR	**La Mourre**	**147.48**	**334**	*e*PKP1	PKPdf	04 54 41.2	+4.1
	comp=Z,51nm,1.0s						
PRAF	**Pradon**	**147.65**	**336**	PKP	PKPdf	04 54 42.3	+4.9
RJF	**Les Rejaudoux**	**147.65**	**341**	*e*PKP1	PKPdf	04 54 42.0	+4.7
	comp=Z,46nm,0.7s						
CAF	**Calviac**	**147.82**	**340**	*e*PKP1	PKPdf	04 54 42.5	+4.9
	comp=Z,38nm,1.0s						
BERF	**Bertagne**	**147.84**	**334**	PKP	PKPdf	04 54 42.7	+5.0
LASF	**Ste Croix**	**147.93**	**337**	*e*PKP1	PKPdf	04 54 42.9	+5.1
	comp=Z,58nm,0.9s						
LFF	**La Frestale**	**148.22**	**342**	*e*PKP1	PKPdf	04 54 43.5	+5.2
	comp=Z,86nm,0.8s						
MTLF	**Montolieu**	**149.16**	**339**	*e*PKP1	PKPdf	04 54 45.9	+6.1
	comp=Z,52nm,0.8s						
EPF	**Esparros**	**150.07**	**341**	*e*PKP1	PKPdf	04 54 48.4	+7.2
	comp=Z,36nm,0.9s						
VIEF	**Viey**	**150.30**	**341**	PKP	PKPdf	04 54 49.4	+7.9
SJPF	**Ste Jean**	**150.47**	**343**	*e*PKP1	PKPdf	04 54 49.2	+7.4
	comp=Z,16nm,0.7s						
ETSF	**Etsaut**	**150.47**	**342**	*e*PKP1	PKPdf	04 54 49.4	+7.6
	comp=Z,30nm,0.6s						
LARF	**Larrau**	**150.47**	**342**	PKP	PKPdf	04 54 49.5	+7.7
FDAF	**Les Forges d'A**	**150.54**	**342**	PKP	PKPdf	04 54 49.9	+8.0
ELAN	**Lanestosa**	**150.93**	**346**	PKP	PKPdf	04 54 50.2	+7.7
EARI	**Arriondas**	**151.24**	**349**	PKP	PKPdf	04 54 50.5	+7.6
EPOB	**Poblet**	**151.31**	**338**	PKP	PKPdf	04 54 50.9	+7.8
ESAC	**San Caprasio**	**151.51**	**341**	PKP	PKPdf	04 54 52.1	+8.7
EPON	**Pontenova**	**151.54**	**352**	PKP	PKPdf	04 54 51.3	+7.9
STS	**Santiago**	**152.15**	**354**	PKP	PKPdf	04 54 53.1	+8.8
ERUA	**La Rua**	**152.45**	**351**	PKP	PKPdf	04 54 52.4	+7.6
EMOS	**Mosqueruela**	**152.73**	**339**	PKP	PKPdf	04 54 54.8	+10
ETOR	**Torete**	**152.82**	**342**	PKP	PKPdf	04 54 54.6	+9.3
ESDC	**Sonseca Array**	**154.42**	**344**	PKPbc	PKPdf	04 54 57.4	+10
	comp=Z,0.2nm,0.3s,baz=117,slow=3.3,SNR=4.1						
ESDC				PKPab	PKPab	04 55 11.9	-1.4
	comp=Z,0.4nm,0.4s,baz=7.5,slow=4.7,SNR=4.4						
ESDC	**Sonseca Array**	**154.42**	**344**	PKP	PKPdf	04 54 57.5	+10
DBIC	**Dimbokro**	**168.59**	**223**	PKP	PKPdf	04 55 03.4	+0.5
	comp=Z,6.7nm,0.9s,baz=250,slow=1.0,SNR=4.1						

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*CSEM **05** 04:35:44.3±0.8, 38.63N×28.55W, h4km±5km, ML1.7, Error ellipse: s-maj=2.5km s-min=1.4km az=4.0, After PDA*
*PDA **05** 04:35:44.3±0.8, 38.63N×28.55W, h4km±5km, MD2.9, ML1.7, Error ellipse: s-maj=2.5km s-min=1.4km az=4.0*
SVSA 05 04:35:44.3±0.8**, 38.63N×28.55W, h4**km±5km**, MD2.9, ML1.7, Error ellipse: s-maj=2.5km s-min=1.4km az=4.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.12**	**271**	*e*P	Pg	04 35 46.5	-0.3
PCED				*e*S	Sg	04 35 48.6	+0.1
	78nm,0.2s						
	78nm,0.2s						
CALA	**Caldeira**	**0.13**	**250**	*e*P	Pg	04 35 46.9	-0.1
CALA				*e*S	Sg	04 35 49.0	+0.2
PICO	**Pico**	**0.16**	**143**	*e*P	Pg	04 35 47.0	-0.5
PICO				*e*S	Sg	04 35 49.6	-0.1
ROSA	**Rosais**	**0.26**	**69**	*e*P	Pg	04 35 48.8	-0.7
ROSA				*e*S	Sg	04 35 52.5	-0.4
PPNO	**Prainha do Nor**	**0.27**	**125**	*e*S	Sg	04 35 53.2	-0.2
	35nm,0.1s						
	35nm,0.1s						
PMAN	**Manadas**	**0.36**	**89**	*e*S	Sg	04 35 55.8	-0.5
	29nm,0.1s						
PID	**Ribeirinha**	**0.38**	**119**	*e*P	Pg	04 35 50.9	-1.1
PID				*e*S	Sg	04 35 56.6	-0.5

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*SYO **05** 04:53:04.3, 20.35S×178.25W, h501km, MB4.4*
*BJI **05** 04:53:05.6, 20.30S×178.30W, h519km, mB4.2, mb4.6*
*NEIC **05** 04:53:05.6±1.0, 20.32S×178.26W, h520km±11km, mb4.4/18, Error ellipse: s-maj=13.3km s-min=6.8km az=145.0*
*IDC **05** 04:53:09.8±1.9, 20.50S×178.28W, h567km±21km, mb3.8/12, mb1 4.1/13, mb1mx4.0/16, Error ellipse: s-maj=14.9km s-min=9.5km az=148.0*
ISC 05 04:53:02.5±1.1**, 20.39S**±0.07×**178.20W**±0.07**, h490**km±12km**, n128, σ0.85**/57**, mb4.4**/29**, 7C-11D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.90**	**45**	*e*P	**P**	**04 55 10.2**	**+0.8**
	90nm,0.8s						
AFI				*e*S	**S**	**04 56 48.4**	**-1.7**
URZ	**Urewera**	**18.27**	**192**	P	**P**	**04 56 46.4**	**+0.7**
	4.1nm,0.3s,baz=336,slow=7.0,SNR=14						
URZ				S	**S**	**04 59 45.5**	**-0.3**
	0.3nm,0.3s,baz=198,slow=20,SNR=3.2						
RPZ	**Rata Peaks**	**24.93**	**199**	P	**P**	**04 57 47.5**	**+0.2**
	16nm,0.7s,mb4.6,baz=353,slow=12,SNR=5.3						
ARMA	**Armidale**	**28.95**	**244**	⇑*i*P	**P**	**04 58 24.0**	**+1.1**
CTA	**Charters Tower**	**33.32**	**264**	P	**P**	**04 59 01.0**	**+0.9**
	13nm,0.5s,mb4.7,baz=92,slow=11,SNR=18						
CTA	**Charters Tower**	**33.32**	**264**	P	**P**	**04 59 01.0**	**+0.9**
CTAO	**Charters Tower**	**33.32**	**264**	*e*P	**P**	**04 59 00.7**	**+0.6**
	15nm,0.4s,mb4.8						
PMG	**Port Moresby**	**35.14**	**283**	P	**P**	**04 59 16.2**	**+0.8**
	35nm,0.8s,mb4.8,baz=90,slow=4.0						
PMG	**Port Moresby**	**35.14**	**283**	⇓*e*P	**P**	**04 59 15.8**	**+0.3**
	44nm,0.8s,mb4.9						
STKA	**Stephens Creek**	**37.67**	**244**	P	**P**	**04 59 37.2**	**+1.1**
	5.0nm,0.6s,mb4.1,baz=95,slow=9.8,SNR=13						
STKA				PcP	PcP	05 01 40.2	-1.5
	1.7nm,0.6s,baz=42,slow=3.7,SNR=2.9						
ASAR	**Alice Springs**	**44.37**	**257**	P	**P**	**05 00 29.9**	**-0.1**
	7.6nm,0.5s,mb4.4,baz=96,slow=7.4,SNR=92						
ASAR				PcP	PcP	05 02 02.4	-1.7
	3.8nm,0.6s,baz=105,slow=4.1,SNR=15						
ASAR				S	**S**	**05 06 23.4**	**-5.0**
	2.9nm,0.8s,baz=93,slow=16,SNR=15						
ASPA	**Alice Springs**	**44.37**	**257**	⇑*i*P	**P**	**05 00 30.0**	**-0.1**
ASPA				*i* PCP	PcP	05 02 02.2	-1.9
ASPA				*e*S	**S**	**05 06 23.0**	**-5.4**
ASPA				*e*SCS	ScS	05 09 28.5	-3.5
WB2	**Warramunga Arr**	**44.42**	**262**	*e*P	**P**	**05 00 29.6**	**-0.9**
WRAB	**Tennant Creek**	**44.43**	**262**	P	**P**	**05 00 29.3**	**-1.2**
	83nm,0.6s,mb5.3,SNR=8.2						
WRAB	**Tennant Creek**	**44.43**	**262**	*e*P	**P**	**05 00 29.5**	**-1.0**
	10nm,0.7s,mb4.4						
WRA	**Warramunga Arr**	**44.43**	**262**	P	**P**	**05 00 29.8**	**-0.8**
	8.0nm,0.6s,mb4.3,baz=97,slow=8.6,SNR=137						
WRA				PcP	PcP	05 02 02.5	-1.8
	1.5nm,0.6s,baz=94,slow=3.8,SNR=6.1						
WRA				S	**S**	**05 06 23.3**	**-6.1**
	0.6nm,0.8s,baz=98,slow=13,SNR=4.3						
KAKA	**Kakadu**	**47.83**	**271**	*e*P	**P**	**05 01 00.4**	**+3.6**
	16nm,0.6s,mb4.5						
MBWA	**Marble Bar**	**57.70**	**257**	*e*P	**P**	**05 02 05.1**	**-2.5**
	9.5nm,0.7s,mb4.2						
SBA	**Scott Base**	**57.97**	**184**	*e*P	**P**	**05 02 09.7**	**+1.0**
	8.2nm,0.6s,mb4.2						
CASY	**Casey**	**63.98**	**205**	*e*P	**P**	**05 02 47.1**	**-1.2**
KHMM	**Horse Mountain**	**79.18**	**39**	P	**P**	**05 04 18.0**	**+1.0**
CMB	**Columbia Colle**	**79.50**	**43**	*e*P	**P**	**05 04 18.6**	**-0.2**
	9.5nm,0.9s,mb4.3						
OHCM	**Honcut**	**79.59**	**41**	*e*P	**P**	**05 04 18.7**	**-0.5**
NJ2	**Nanjing**	**79.67**	**310**	*e*P	**P**	**05 04 20.2**	**+0.5**
NJ2				AP	pP	05 06 11.2	+3.8
NJ2				XP	sP	05 07 02.3	+5.0
NJ2				PP	PP	05 07 31.7	+2.3
NJ2				S	S	05 13 41.0	0.0
NJ2				XS		05 16 56.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.7						
WDC	**Whiskeytown Da**	**79.71**	**40**	⇓*e*P	**P**	**05 04 19.7**	**0.0**
	comp=Z,7.1nm,0.8s,mb4.2						
YBH	**Yreka Blue Hor**	**80.32**	**39**	P	**P**	**05 04 23.6**	**+0.7**
	comp=Z,9.0nm,0.7s,mb4.4,baz=205,slow=2.3,SNR=30						
YBH	**Yreka Blue Hor**	**80.32**	**39**	⇓*e*P	**P**	**05 04 23.4**	**+0.5**
	comp=Z,8.3nm,0.8s,mb4.3						
MDJ	**Mudanjiang**	**80.32**	**325**	P	**P**	**05 04 23.0**	**+0.1**
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,43nm,4.8s						
WCN	**Washoe City**	**80.65**	**42**	*e*P	**P**	**05 04 24.3**	**-0.3**
	comp=Z,14nm,0.9s,mb4.5						
HUMO	**Hull Mountain**	**80.72**	**38**	*e*P	**P**	**05 04 25.4**	**+0.4**
	comp=Z,8.5nm,1.2s,mb4.2						
NVAR	**Mina Array Bea**	**81.07**	**43**	P	**P**	**05 04 27.2**	**+0.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,5.5nm,0.8s,mb4.1,baz=231,slow=11,SNR=43						
PMSA	Palmer Station	81.46	157	eP	P	05 04 27.9	-0.4
	comp=Z,6.6nm,0.6s,mb4.3						
TPH	Tonopah	81.57	44	eP	P	05 04 29.3	-0.1
	comp=Z,9.6nm,0.8s,mb4.4						
MAW	Mawson	81.61	200	P	P	05 04 28.6	-0.4
	comp=Z,2.0nm,0.6s,mb3.8,baz=162,slow=6.6,SNR=7.6						
MAW	Mawson	81.61	200	eP	P	05 04 28.5	-0.5
	comp=Z,2.2nm,0.5s,mb3.9						
MOD	Modoc	81.85	40	⇓eP	P	05 04 30.9	+0.2
	comp=Z,10nm,0.7s,mb4.5						
CN2	Changchun	82.10	323	eP	P	05 04 32.7	+0.7
TUC	Tucson	83.06	52	eP	P	05 04 38.0	+1.0
	comp=Z,7.7nm,1.0s,mb4.2						
DIV	Divide	85.33	15	eP	P	05 04 46.4	-1.1
	comp=Z,40nm,0.8s,mb5.1						
SRU	San Rafael	86.58	46	eP	P	05 04 54.3	+0.2
SYO	Syowa Base	86.79	193	⇓P	P	05 04 53.0	-1.4
SYO	Syowa Base	86.79	193	⇓PcP	PcP	05 04 55.5	-0.8
TXAR	Lajitas Array	87.15	57	P	P	05 04 57.5	+0.5
	comp=Z,3.6nm,0.8s,mb4.2,baz=217,slow=6.8,SNR=43						
GDL2	Guadalupe Moun	87.83	55	eP	P	05 05 00.6	+0.5
MCMT	McKenzie Canyo	87.99	40	eP	P	05 05 01.2	+0.6
RRI2	Red Ridge	88.17	42	eP	P	05 05 01.5	0.0
ILAR	Eielson Array	88.25	13	P	P	05 04 59.6	-1.7
	comp=Z,4.6nm,0.5s,mb4.4,baz=222,slow=5.5,SNR=54						
TPAW	Teton Pass	88.48	42	eP	P	05 05 02.9	0.0
CHMT	Chamberlain Mo	88.84	38	eP	P	05 05 03.8	-0.8
QLMT	Earthquake Lak	88.86	41	eP	P	05 05 05.4	+0.7
PDAR	Pinedale Array	89.01	43	P	P	05 05 05.2	-0.3
	comp=Z,3.7nm,0.6s,mb4.4,baz=220,slow=2.9,SNR=32						
CMAR	Chiang Mai Arr	89.91	290	P	P	05 05 11.0	+0.9
	comp=Z,2.4nm,0.6s,mb4.2,baz=118,slow=3.5,SNR=16						
LZH	Lanzhou	92.56	308	eP	P	05 05 18.0	-3.9
LZH				AMB	AMB		
	comp=Z,17nm,1.5s,mb4.8						
MKAR	Makanchi Array	110.99	313	PKiKP		05 10 38.2	
	comp=Z,1.7nm,0.5s,baz=143,slow=0.6,SNR=17						
KURK	Kurchatov	113.79	317	PKPdf	PKPdf	05 10 42.7	-1.8
BVAR	Borovoye Array	118.88	320	PKP	PKPdf	05 10 53.4	-0.9
	comp=Z,3.1nm,0.4s,baz=135,slow=2.0,SNR=11						
ZRNK	Zerenda	119.72	320	ePKPdf	PKPdf	05 10 54.4	-1.5
ARCES	ARCESS Array B	128.78	350	PKP	PKPdf	05 11 11.8	-1.2
	comp=Z,1.9nm,0.5s,baz=44,slow=1.2,SNR=16						
ARCES	ARCESS Array B	128.78	350	PKP	PKPdf	05 11 11.8	-1.2
KAF	Kangasniemi	135.00	344	ep	PKPdf	05 11 22.4	-2.4
	comp=Z,0.6nm,0.3s						
FINES	FINESS Array B	135.62	344	PKhKP		05 11 21.2	
	comp=Z,1.1nm,0.5s,baz=63,slow=4.3,SNR=6.7						
FINES				SKP		05 14 07.5	
	comp=Z,0.9nm,0.6s,slow=1.9,SNR=4.1						
FINES	FINESS Array B	135.62	344	PKP	PKPdf	05 11 21.2	-4.7
FINES				SKP		05 14 07.5	
NB2	NORSAR Subarra	138.85	353	PKP		05 11 21.3	
	comp=Z,1.3nm,0.7s,baz=15,slow=3.3						
NOA	NORSAR Array B	138.85	353	PKhKP		05 11 23.3	
	comp=Z,1.5nm,0.7s,baz=15,slow=4.5,SNR=4.3						
BLJS	Baljurashi	142.70	276	P	PKPdf	05 11 38.8	-1.0
AKASG	Malin Array Be	142.83	331	PKhKP		05 11 35.5	
	comp=Z,30nm,0.6s,baz=44,slow=4.4,SNR=91						
ELZG	Elazig	143.24	308	i P	PKPbc	05 11 39.5	+0.5
LTHS	Al Lith	143.85	277	P	PKPbc	05 11 41.8	+0.6
GZT	Gaziantep	144.67	306	i P	PKPdf	05 11 43.6	+0.9
BOYT	Boyabat	145.02	314	i P	PKPdf	05 11 44.5	+1.3
KBRS	Khaybar	145.21	286	P	PKPdf	05 11 45.6	+1.6
BSEG	Bad Segeberg	145.88	351	ePKPbc	PKPbc	05 11 46.3	+0.6
COBT	Iskenderun	145.93	306	i P	PKPdf	05 11 47.2	+2.3
BALT	Daday	145.97	315	i P	PKPdf	05 11 47.1	+2.3
KWP	Kalwaria	146.41	335	ePKPdf	PKPdf	05 11 47.6	+2.4
ELDT	Eldivan	146.43	314	i P	PKPdf	05 11 47.9	+2.3
BRTR	Keskin Array B	146.63	312	PKPbc	PKPbc	05 11 48.2	+0.3
	comp=Z,5.9nm,0.5s,baz=136,slow=4.3,SNR=26						
UMJS	Umm Lajj	146.98	285	P	PKPdf	05 11 50.6	+3.7
KOLS	Kolonicke sedl	147.13	335	i PKP	PKPdf	05 11 50.1	+3.7
KOLS				e		05 11 53.2	
KSP	Ksiaz	147.53	343	ePKP	PKPdf	05 11 50.8	+3.8
OKC	Ostrava-Krasne	147.87	340	ePKPbc	PKPdf	05 11 49.4	+1.8
CLZ	Clausthal	147.90	350	ePKPbc	PKPdf	05 11 51.7	+4.2
UPC	Upice	147.91	343	⇓ePKPbc	PKPdf	05 11 51.8	+4.2
CLL	Collm	147.91	347	⇓i PKP1	PKPdf	05 11 51.5	+3.9
CLL				i PKP2	PKPab	05 11 55.8	-2.2
DPC	Dobruska-Polom	147.97	342	i PKPbc	PKPdf	05 11 52.0	+4.3
DPC				ePKPab	PKPab	05 11 56.9	-1.4
JMQS	Jabal Moqyreh	147.98	292	P	PKPdf	05 11 52.9	+4.5
BRG	Berggiesshubel	148.11	345	i PKP	PKPdf	05 11 52.4	+4.5
BRG				i		05 11 56.9	
PVCC	Panska Ves	148.28	344	⇓i PKPbc	PKPdf	05 11 52.7	+4.5
JMOS	Jabal al Moall	148.61	293	P	PKPdf	05 11 54.3	+4.9
ALWS	Ilw as Safayha	148.63	293	P	PKPdf	05 11 54.5	+5.1
BDAS	Al Bad'	148.72	291	P	PKPdf	05 11 54.4	+4.8
PRU	Pruhonice	148.78	344	⇓i PKPbc	PKPdf	05 11 53.6	+4.6
	comp=Z,17nm,0.6s						
PRU				i PKPab	PKPab	05 11 59.8	-1.8
HAQS	Haql	148.78	293	P	PKPdf	05 11 54.5	+4.8
MOX	Moxa	148.83	348	i P	PKPdf	05 11 54.0	+4.9
	comp=Z,logA/T=1.2						
MOX	Moxa	148.83	348	ePKP	PKPdf	05 11 54.0	+4.9
PSZ	Piszkesteto	148.88	336	⇑eP	PKPdf	05 11 54.3	+5.0
TAYS	Tayyib Ism	148.90	292	P	PKPdf	05 11 54.8	+4.9
NKC	Novy Kostel	149.05	347	ePKPbc	PKPdf	05 11 54.5	+5.1
NKC				ePKPab	PKPab	05 12 00.8	-1.9
KHC	Kasperske Hory	149.81	345	i PKPbc	PKPdf	05 11 56.2	+5.5
KHC				ePKPab	PKPab	05 12 04.3	-1.6
GRA1	Grafenberg Arr	149.81	348	ePKPbc	PKPdf	05 11 56.5	+5.8
GRA1				ePKPab	PKPab	05 12 04.2	-1.6
WET	Wettzell	149.97	345	ePKPbc	PKPdf	05 11 56.9	+5.9
WET				ePKPab	PKPab	05 12 04.9	-1.6
GEC2	GERESS Array S	150.05	344	ePKPbc	PKPdf	05 11 56.8	+5.7
GEC2				ePKPab	PKPab	05 12 04.7	-2.1
GERES	GERESS Array B	150.05	344	PKPbc	PKPdf	05 11 56.4	+5.3
	comp=Z,5.0nm,0.8s,baz=45,slow=1.9,SNR=32						
GERES				PKPab	PKPab	05 12 04.9	-1.9
	comp=Z,1.3nm,0.4s,baz=34,slow=4.8,SNR=8.5						
GIVF	Givet	150.25	356	ePKP1	PKPdf	05 11 57.0	+5.6
	comp=Z,30nm,0.8s						
BAIF	Baives	150.33	357	ePKP1	PKPdf	05 11 57.2	+5.7
	comp=Z,25nm,1.0s						
MOA	Molln	150.81	343	⇑i P	PKPdf	05 11 57.2	+4.9
BFO	Black Forest	151.63	351	ePKPab	PKPab	05 12 11.2	-2.3
FLN	La Foliniere	151.63	3	ePKP1	PKPdf	05 11 59.6	+6.2
CDF	Champ du Feu	151.70	352	ePKP1	PKPdf	05 12 00.1	+6.6
KBA	Koelnbreinsper	151.77	343	⇑i P	PKPdf	05 12 00.0	+6.4
LDF	La Druitiere	151.82	3	ePKP1	PKPdf	05 11 59.9	+6.2
	comp=Z,8.2nm,0.5s						
ROSF	Rostrenen	151.82	7	ePKP1	PKPdf	05 11 59.8	+6.1
WATA	Walderalm	151.97	346	⇑i P	PKPdf	05 12 00.9	+7.0
SGMF	Saint Gilles	151.98	6	ePKP1	PKPdf	05 12 00.3	+6.4
GRR	Gorron	151.99	4	ePKP1	PKPdf	05 12 00.4	+6.5
	comp=Z,6.1nm,0.5s						
WTTA	Wattenberg	152.02	346	⇓i P	PKPdf	05 12 01.0	+7.0
MOTA	Moosalm	152.07	346	⇑i P	PKPdf	05 12 01.1	+7.0
PDKS	Podkum	152.18	340	i PKPbc	PKPdf	05 12 01.3	+7.0
HINF	Hinteralfeld	152.34	353	ePKP1	PKPdf	05 12 01.2	+6.8
LJU	Ljubljana	152.36	341	i PKPbc	PKPdf	05 12 01.7	+7.2
VISS	Visnje	152.48	340	i PKPbc	PKPdf	05 12 01.9	+7.2
VISS				i PKPab	PKPab	05 12 14.8	-2.3
CEY	Cerknica	152.67	341	i PKPbc	PKPdf	05 12 02.3	+7.3
CEY				i PKPab	PKPab	05 12 15.4	-2.6
LOR	Lormes	153.14	357	ePKP1	PKPdf	05 12 03.3	+7.8
SSF	Saint Saulge	153.36	357	ePKP1	PKPdf	05 12 03.8	+8.0
SMF	Signal de Mont	153.76	357	ePKP1	PKPdf	05 12 04.1	+7.7
TCF	Toulx Ste Croi	154.17	359	ePKP1	PKPdf	05 12 06.3	+9.4
ESDC	Sonseca Array	160.15	13	PKPab	PKPab	05 12 49.1	-1.0
	comp=Z,0.4nm,0.4s,baz=334,slow=3.0,SNR=6.4						
DBIC	Dimbokro	164.91	154	PKPab	PKPab	05 13 10.7	-0.8
	comp=Z,5.9nm,0.8s,baz=155,slow=6.6,SNR=3.4						

FUNV 05 04:55:01.6,6.65N×73.16W,h167km,MD3.9,1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CAPV	Capacho	1.47	35	⇑i P	P	04 55 32.1	-0.4
CAPV				eS	S	04 55 53.4	-3.0
VIGV	El Vigia	2.81	39	eP	P	04 55 46.4	-1.6
VIGV				eS	S	04 56 19.6	-4.0
VIRV	Villa del Rosa	3.90	11	eP	P	04 55 59.2	-2.6
VIRV				eS	S	04 56 43.0	-5.1
BAUV	El Baul	5.56	65	eP	P	04 56 20.7	-2.8
BAUV				eS	S	04 57 19.4	-7.6
MONV	Montecano	6.14	31	eP	P	04 56 28.0	-3.1
CAOV	Caicara del Or	6.83	84	eP	P	04 56 37.4	-2.8

IDC 05 05:08:46.6±1.2,8.92N×126.05E,mb3.7/6,mb1 3.9/6, mb1mx3.7/18,Error ellipse: s-maj=67.8km s-min=22.1km az=79.0
MAN 05 05:08:50.3,8.90N×125.92E,h6km,mb4.9,ML3.9,MS3.9
NEIC 05 05:08:55.2±0.6,8.85N×126.22E,h65km,mb4.0/3,Error ellipse: s-maj=37.1km s-min=10.9km az=71.0
ISC 05 05:08:50.4±0.7**,8.93N**±0.04×**126.08E**±0.06**,h42**km±7km**, n26,σ1s14**/34**,mb3.8**/9**,3C-2D,Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BUTP	Butuan	0.46	275	eP	P	05 08 57.8	-2.9
BIPH	Bislig	0.79	160	⇓i P	P	05 09 04.5	-0.6
BIPH				i S	S	05 09 15.4	-0.6
SCPH	Surigao	1.03	325	eP	P	05 09 08.0	-0.6
SCPH				eS	S	05 09 20.9	-1.1
CGP	Cagayan de Oro	1.45	251	⇑eP	P	05 09 14.1	-0.6
CGP				i S	S	05 09 32.2	-0.5
BUKP	Musuan	1.45	224	eP	P	05 09 15.3	+0.6
MSLP	Maasin	1.70	315	eP	P	05 09 18.3	+0.1
MATI	Mati	1.98	175	eP	P	05 09 24.3	+2.2
KCP	Kidapawan	2.15	207	⇓eP	P	05 09 25.3	+0.8
KCP				i S	S	05 09 52.1	+2.1
TBP	Tagbilaran	2.32	289	⇑eP	P	05 09 25.6	-1.4
TBP				eS	S	05 09 55.1	+0.6
PLP	Palo	2.47	334	eP	P	05 09 31.4	+2.2
PLP				eS	S	05 10 03.9	+5.5
CTBH	Cotabato--PC H	2.49	227	eP	P	05 09 29.8	+0.4
CTBH				i S	S	05 10 04.6	+5.8
LLP	Lapu-Lapu	2.50	304	eP	P	05 09 29.1	-0.6
LLP				eS	S	05 09 58.7	-0.4
DCPH	Dipolog City	2.72	263	⇑i P	P	05 09 32.2	-0.5
BESP	Borongan	2.73	347	eP	P	05 09 36.1	+3.3
GSPH	General Santos	3.04	202	eP	P	05 09 49.0	+12
CNP	Catarman	3.82	339	eP	P	05 09 52.5	+4.2
FITZ	Fitzroy Crossi	26.86	181	P	P	05 14 29.8	+0.3
	0.9nm,0.4s,mb3.6,baz=13,slow=14,SNR=7.0						
WRAB	Tennant Creek	29.81	164	eP	P	05 14 55.2	-0.8
	1.7nm,0.6s,mb4.0						
WRA	Warramunga Arr	29.82	164	P	P	05 14 55.0	-1.0
	0.3nm,0.4s,mb3.4,baz=342,slow=9.0,SNR=11						
WB2	Warramunga Arr	29.82	164	eP	P	05 14 55.1	-0.9
ASAR	Alice Springs	33.28	167	P	P	05 15 25.9	-0.5
	0.5nm,0.3s,mb3.9,baz=348,slow=6.9,SNR=7.2						
CTAO	Charters Tower	35.01	146	P	P	05 15 39.8	-1.5
	1.7nm,0.6s,mb4.2						
STKA	Stephens Creek	43.20	161	P	P	05 16 49.4	0.0
	0.7nm,0.3s,mb3.9,baz=347,slow=12,SNR=4.9						
MKAR	Makanchi Array	52.98	323	P	P	05 18 04.9	-0.3
	0.3nm,0.5s,mb3.5,baz=119,slow=7.1,SNR=3.2						
ZRNK	Zerenda	63.41	325	P	P	05 19 19.7	+1.6
	1.2nm,0.7s,mb4.1						
ILAR	Eielson Array	80.72	26	P	P	05 21 01.7	+1.1
	0.3nm,0.6s,mb3.4,baz=255,slow=5.0,SNR=5.2						

IDC 05 05:20:24.9±2.3**,21.32S**×**70.31W,mb3.5**/1**,mb1 3.5**/2**, mb1mx3.4**/13**,ML3.1**/1**,Error ellipse: s-maj=67.0km s-min=53.1km az=160.0,Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	5.42	23	Pn	Pn	05 21 47.5	-1.3
	0.4nm,0.3s,baz=225,slow=10.0,SNR=11						
BDFB	Brasilia	21.87	79	P	P	05 25 19.7	-1.7
	1.0nm,0.5s,baz=247,slow=6.6,SNR=4.1						
MKAR	Makanchi Array	146.24	35	PKPbc	PKPbc	05 40 06.5	-0.8
	3.8nm,1.1s,baz=324,slow=3.6,SNR=11						
SONM	Songino Array	153.42	5	PKPbc	PKPdf	05 40 25.4	+6.3
	0.8nm,0.6s,baz=336,slow=2.0,SNR=4.8						

NEIC 05 06:03:37.9,38.15N×20.27E,h3km,MD3.8(ATH),After ATH.
CSEM 05 06:03:37.9,38.15N×20.27E,h3km,MD3.9/3,After ATH
ATH 05 06:03:37.9,38.15N×20.27E,h3km,MD3.8/3**,Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.25	84	ePG	Pg	06 03 43.0	0.0
EVR	Evrytania	1.43	57	ePN	Pn	06 04 05.0	+0.2
KEK	Kerkira	1.60	347	ePB	Pb	06 04 08.0	+0.2
ITM	Ithomi	1.63	126	ePB	Pb	06 04 08.5	+0.2

THE 05 06:07:04.6,38.91N×21.76E,h17km,ML2.9
ATH 05 06:07:05.2,39.05N×21.72E,h9km±4km,MD3.3/3
NEIC 05 06:07:05.2,39.05N×21.72E,h9km,MD3.3(ATH),After ATH.
CSEM 05 06:07:05.1±0.1,39.09N×21.74E,h5km,ML2.9,Error ellipse: s-maj=3.7km s-min=3.0km az=136.0
ISC 05 06:07:04.1±1.0**,39.07N**±0.06×**21.72E**±0.04**,h1**km±11km**, n11,σ0s99**/16**,Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EVR	Evrytania	0.17	155	ePG	Pg	06 07 08.5	+1.1
AGG	Agios Georgios	0.48	95	ePg	Pg	06 07 13.7	0.0
AGG				eSg	Sg	06 07 20.9	+0.8
LKD	Levkas	0.91	247	ePg	Pg	06 07 21.3	-0.9
LKD				eSg	Sg	06 07 34.0	-0.3
RLS	Riolos of Patr	1.03	191	ePB	Pb	06 07 24.4	+0.1
XOR	Xorichti	1.18	75	ePb	Pb	06 07 26.3	-0.7
XOR				eSb	Sb	06 07 42.4	-0.3
NEO	Neokhori	1.20	78	ePB	Pb	06 07 27.7	+0.5
VLS	Valsamata	1.25	225	ePB	Pb	06 07 28.6	+0.4
KEK	Kerkira	1.62	294	ePB	Pb	06 07 35.8	+1.3
FNA	Florina	1.73	351	ePb	Pb	06 07 35.0	-1.4
FNA				eSb	Sb	06 08 00.6	+1.9
GRG	Griva	1.96	15	ePn	Pn	06 07 37.9	-0.9
GRG				eSn	Sn	06 08 04.9	+0.5
OUR	Ouranopolis	2.16	53	ePn	Pn	06 07 39.5	-2.1

CSEM 05 06:12:59.3,27.58N×33.51E,h2km,ML3.1,After HLW
HLW 05 06:12:59.3,27.58N×33.51E,h2km,Mb3.1,17C-3D, Egypt

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GRB	Gharib	0.94	317	⇑P	Pb	06 13 16.8	-1.1
HKAT	Jabal Katrina	1.03	24	⇑P	Pb	06 13 19.0	-0.5
HSFG		1.08	160	⇓P	Pb	06 13 19.8	-0.5
HSFG				S	Sb	06 13 34.8	+0.2
HRDS	Abu Rudays	1.14	351	⇑P	Pb	06 13 21.4	-0.1
QEN		1.47	204	⇑P	Pn	06 13 25.9	-1.0
HDHB	Dhahab	1.50	40	⇑P	Pn	06 13 26.7	-0.6
ASUT		1.74	264	⇑P	Pn	06 13 29.4	-1.3
NUB		1.76	35	⇑P	Pn	06 13 29.6	-1.3
ZAF		1.90	334	⇑P	Pn	06 13 31.9	-1.0
HQSR		1.98	156	⇓P	Pn	06 13 33.1	-1.0
SUZ		2.33	345	⇑P	Pn	06 13 37.8	-1.3
HNKL	Nakhl	2.38	10	⇑P	Pn	06 13 38.9	-1.0
HADB		2.43	156	⇑P	Pn	06 13 39.5	-1.2
GLL	Jalalah	2.54	322	⇓P	Pn	06 13 40.7	-1.5
HSAF	As Saff	2.66	320	⇑P	Pn	06 13 42.6	-1.3
KOT	Kottamia	2.77	328	⇑P	Pn	06 13 43.9	-1.5
EMRS	Mersa Alam	2.82	155	⇑P	Pn	06 13 44.9	-1.3
EMRS				S	Sn	06 14 17.4	-3.8
AMAG	Maghara	3.06	355	⇑P	Pn	06 13 48.0	-1.6
AKRG	Al Kharijah	3.40	233	⇑P	Pn	06 13 53.2	-1.1
HAGS	Hagol	3.45	157	⇑P	Pn	06 13 53.8	-1.4

LDG 05 06:28:49.0±0.1,44.71N×7.79E,h3km,Md2.4/1,Ml2.4/8, Error ellipse: s-maj=2.6km s-min=1.4km az=91.0
NEIC 05 06:28:52.2,44.77N×7.58E,h34km,ML2.7(GEN), ML2.4(LDG),ML1.9(STR),After GEN.
STR 05 06:28:55.5±1.0,44.55N×7.20E,h5km±1km,Ml1.9,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0
ISC 05 06:28:51.3±0.3**,44.75N**±0.02×**7.64E**±0.04**,h29**km±3km**, n38,σ0s95**/66**,Northern Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BHB	Bricherasio	0.28	289	P	Pb	06 28 58.9	+0.5
BHB				S	Sb	06 29 03.3	+0.1
PZZ	Prazzo	0.46	238	P	Pb	06 29 01.1	+0.1
PZZ				S	Sb	06 29 07.5	0.0
RSP	Reno Superiore	0.48	326	P	Pb	06 29 01.2	-0.2
RSP				S	Sb	06 29 07.7	-0.6
ROB	Roburent	0.48	160	P	Pb	06 29 02.6	+1.2
ROB				S	Sb	06 29 09.8	+1.5
FENE	Fenestrelle	0.50	305	P	Pb	06 29 01.6	0.0
FENE				S	Sb	06 29 08.0	-0.6
ENR	Entracque	0.55	197	P	Pb	06 29 02.8	+0.4
ENR				S	Sb	06 29 10.1	+0.1
STV2	Anna di Valdie	0.55	204	P	Pb	06 29 02.6	+0.1
STV2				S	Sb	06 29 09.9	-0.2
STV	Sta Anna Valdi	0.55	204	P	Pb	06 29 02.7	+0.1
STV				S	Sb	06 29 10.0	-0.2
MBDF	Montbardon	0.62	268	ePg	Pb	06 29 04.0	+0.4
MBDF				eSg	Sb	06 29 12.5	+0.5
	17nm,0.2s						
RRL	Cesana Torines	0.63	286	P	Pb	06 29 04.3	+0.5
RRL				S	Sb	06 29 12.4	+0.1
MONE	Monesi	0.68	173	P	Pb	06 29 05.1	+0.6
MONE				S	Sb	06 29 13.7	+0.1
FIN	Finale Ligure	0.68	143	P	Pb	06 29 05.0	+0.4
FIN				S	Sb	06 29 13.7	+0.1
PCP	Pian Castagno	0.68	108	P	Pb	06 29 05.3	+0.7
PCP				S	Sb	06 29 14.2	+0.5
RORO		0.71	154	P	Pb	06 29 05.5	+0.4
RORO				S	Sb	06 29 14.1	-0.4
SAOF	Saorge	0.77	184	Pg	Pb	06 29 06.2	+0.2
SAOF				Sg	Sb	06 29 15.9	-0.2
TRAV		0.77	6	P	Pb	06 29 04.5	-1.5
AUTN	L'Aution	0.77	191	Pg	Pb	06 29 06.2	+0.1
AUTN				Sg	Sb	06 29 15.7	-0.5
LSD	Ceresole Reale	0.79	334	P	Pb	06 29 05.9	-0.4
TOUF	Mont Tournerai	0.79	201	Pg	Pb	06 29 06.3	-0.1
IMI	Imperia	0.86	168	P	Pn	06 29 08.0	+0.5
AURF	Auriere	0.89	195	Pg	Pn	06 29 08.1	+0.1
AURF				Sg	Sb	06 29 16.6	-3.0
SBF	Sospel	0.90	189	ePg	Pn	06 29 05.5	-2.6
SBF				eP		06 29 07.6	
SBF				eSg	Sb	06 29 17.4	-2.4
	14nm,0.2s						
NEGI	Negi	0.90	177	P	Pn	06 29 08.1	-0.1
MVIF	Mont Vial	0.92	202	Pg	Pn	06 29 08.4	0.0
MVIF				Sg	Sb	06 29 16.6	-3.9
LPG	La Plagne	0.98	320	ePg	Pn	06 29 09.5	+0.3
LPG				eSg	Sn	06 29 24.0	+1.9
	6.6nm,0.3s						
LPL	La Plagne	1.00	320	ePg	Pn	06 29 09.7	+0.2
LPL				eSg	Sn	06 29 24.7	+2.0
	6.7nm,0.4s						
ORIF	Oris-en-Rattie	1.26	278	ePg	Pn	06 29 15.3	+2.0
ORIF				eSg	Sn	06 29 32.3	+2.9
	14nm,0.3s						
FRF	La Foret Royal	1.39	211	ePg	Pn	06 29 15.8	+0.7
FRF				eSg	Sn	06 29 33.2	+0.6
	5.1nm,0.2s						
LMR	La Mourre	1.63	210	ePg	Pn	06 29 18.8	+0.2
LMR				eSn	Sn	06 29 37.9	-0.9
	5.5nm,0.2s						
SMRF	Simiane la Rot	1.67	243	ePn	Pn	06 29 18.7	-0.4
SMRF				ePg	Pn	06 29 21.7	+2.6
SMRF				eSn	Sn	06 29 40.3	+0.5
SMRF				eSg	Sn	06 29 44.2	+4.4
	5.5nm,0.3s						
VIVF	Saint-Julien-l	2.11	274	ePn	Pn	06 29 25.8	+0.3
VIVF				eSn	Sn	06 29 50.7	-0.4
	1.6nm,0.2s						
CABF	La Chapelle	2.15	330	ePn	Pn	06 29 25.3	-0.8
LASF	Ste Croix	2.79	257	ePn	Pn	06 29 34.4	-0.8
HINF	Hinteralfeld	3.12	350	ePn	Pn	06 29 38.3	-1.4
SMF	Signal de Mont	3.27	307	ePn	Pn	06 29 40.6	-1.3
HAU	Haudompre	3.38	345	ePn	Pn	06 29 41.7	-1.8
BGF	Bois d'Agland	3.82	300	ePn	Pn	06 29 49.4	-0.3
MTLF	Montolieu	4.15	252	ePn	Pn	06 29 52.1	-2.4

NEIC 05 06:58:21.5,34.01S×72.26W,h35km,ML3.3(GUC),After GUC.
GUC 05 06:58:21.5±0.6**,34.01S**×**72.26W,h35**km±1km**,MD4.1, ML3.3,3C-2D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.71	86	⇓i P	P	06 58 35.1	+0.1
LNV				i S	S	06 58 45.0	+0.1
LCCH	Las Cruces	0.79	47	⇑i P	P	06 58 36.1	-0.1
LCCH				i S	S	06 58 47.6	+0.7
IHA	Instituto Hidr	1.11	28	eP	P	06 58 40.5	-0.3
TACH	Talagante	1.16	72	eP	P	06 58 42.0	+0.6
TACH				i S	S	06 58 57.5	+1.1
SFDO	San Fernando	1.19	120	eP	P	06 58 42.6	+0.7
SFDO				i S	S	06 59 02.5	+5.3
RCDM	Rinconada Maip	1.32	67	eP	P	06 58 44.2	+0.4
RCDM				i S	S	06 59 01.6	+1.2
RCDM				AMP		06 59 03.9	
	comp=N,629nm,0.4s						
CHCH	Chadas Angostu	1.34	87	eP	P	06 58 44.9	+0.8
CACH	El Canelo	1.38	95	eP	P	06 58 46.3	+1.6
CACH				i S	S	06 59 05.2	+3.1
ANTU	Antumapu	1.43	72	eP	P	06 58 46.1	+0.8
ANTU				i S	S	06 59 05.0	+1.9
ANTU				AMP		06 59 10.1	
	comp=N,867nm,0.3s						
STL	Santa Lucia	1.47	67	eP	P	06 58 46.8	+0.9
STL				i S	S	06 59 05.9	+1.8
PCH	Pirque	1.51	75	eP	P	06 58 47.7	+1.3
PCH				i S	S	06 59 07.4	+2.2
DSCH	Colegio Aleman	1.54	67	eP	P	06 58 47.9	+1.0
DSCH				i S	S	06 59 08.6	+2.6
DSCH				AMP		06 59 13.3	
	comp=E,790nm,0.3s						
FSR	Penalolen	1.54	70	eP	P	06 58 47.7	+0.7
FSR				i S	S	06 59 08.2	+2.2
FSR				AMP		06 59 19.8	
	comp=E,512nm,0.6s						
CICH	Cipreses	1.56	102	⇓i P	P	06 58 48.3	+1.1
CICH				i S	S	06 59 08.6	+2.2
CLCH	Cerro Calan	1.56	67	⇑i P	P	06 58 48.1	+0.9
CLCH				i S	S	06 59 09.0	+2.4
CLCH				AMP		06 59 26.6	
	comp=E,656nm,0.8s						
PEL	Peldehue	1.58	57	eP	P	06 58 48.8	+1.3
PEL				i S	S	06 59 09.2	+2.4
PEL				AMP		06 59 22.1	
	comp=N,1μm,0.5s						
PACH	Papudo	1.63	25	eP	P	06 58 47.8	-0.4
LMEL	Las Melosas	1.72	85	eP	P	06 58 50.9	+1.4
LMEL				AMP		06 59 16.3	
	comp=N,522nm,0.4s						
FCH	Farellones	1.78	68	⇑i P	P	06 58 51.5	+1.1
FCH				i S	S	06 59 15.0	+3.0
FCH				AMP		06 59 20.7	
	comp=N,485nm,0.2s						
JACH	Jahuel	1.93	47	eP	P	06 58 55.4	+2.9
CMCH	Combarbala	3.03	21	eP	P	06 59 07.2	-1.0
CMCH				i S	S	06 59 42.5	-1.1

IDC 05 07:00:14.9±2.6,5.88S×130.47E,mb3.7/1,mb1 4.3/4, mb1mx3.9/12,ML4.2/3,Error ellipse: s-maj=118.0km s-min=28.8km az=77.0
NEIC 05 07:00:17.9±1.4,5.94S×130.55E,h20km,mb3.6/1,Error ellipse: s-maj=29.9km s-min=15.1km az=70.0
ISC 05 07:00:28.7±1.5**,6.54S**±0.10×**130.3E**±0.2**,h150**km**,n6, σ0s96**/8**,mb3.4**/1**,Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.36	201	Pn	P	07 03 21.2	+0.7
	1.9nm,0.3s,baz=17,slow=12,SNR=26						
FITZ				Sn	S	07 05 34.9	-0.6
	1.4nm,0.3s,baz=21,slow=16,SNR=7.5						
WRAB	Tennant Creek	13.87	164	eP	P	07 03 40.0	-0.1
	6.3nm,0.6s						
WRA	Warramunga Arr	13.88	164	Pn	P	07 03 40.4	+0.2
	1.1nm,0.3s,baz=334,slow=14,SNR=36						
WRA				Sn	S	07 06 10.3	-0.5
	1.3nm,0.3s,baz=336,slow=23,SNR=7.7						
ASAR	Alice Springs	17.37	169	P	P	07 04 27.2	+3.8
	0.8nm,0.3s,baz=350,slow=13,SNR=45						
MBWA	Marble Bar	17.78	214	P	P	07 04 32.2	+3.9
	3.0nm,0.6s						
MKAR	Makanchi Array	68.02	327	P	P	07 11 13.2	-0.7
	0.3nm,0.4s,mb3.4,baz=116,slow=7.7,SNR=5.0						

*BJI **05** 07:25:29.0, 51.10N×176.50W, h49km, mb4.6*
*NEIC **05** 07:25:29.1, 51.10N×176.48W, h50km, mb4.2/9, ML3.5(AEIC), After AEIC.*
*IDC **05** 07:25:30.8±3.4, 51.34N×176.52W, h48km±28km, mb3.8/9, mb1 4.0/10, mb1mx3.8/24, ML3.3/1, MS3.3/3, Ms1 3.3/3, ms1mx2.7/35, Error ellipse: s-maj=49.2km s-min=14.6km az=4.0*
ISC 05 07:25:29.8±1.2**, 51.3N**±0.1×**176.55W**±0.06**, h64**km±7km**, n39, σ0.96**/40**, mb4.2**/15**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KIMD	Kanaga Island	0.64	318	P	P	07 25 43.2	-0.5
KIWB	Kanaga Island	0.68	326	P	P	07 25 44.2	0.0
KIWB				S	S	07 25 55.9	+1.0
ADAG	Mount Adagdak	0.69	357	P	P	07 25 44.8	+0.5
KIKV	Kanaga Island	0.71	327	P	P	07 25 44.7	+0.2
GSIG	Igitkin Island	0.80	29	P	P	07 25 45.0	-0.6
GSIG				S	S	07 25 58.6	+1.2
GSTD	Great Sitkin T	0.81	18	P	P	07 25 45.9	+0.2
GSTD				S	S	07 25 57.9	+0.4
GSMY	Great Sitkin M	0.81	22	P	P	07 25 45.8	-0.1
GSTR	Great Sitkin T	0.86	20	P	P	07 25 46.9	+0.5
ATKA	Atka Island	1.72	57	P	P	07 25 56.0	-2.2
ATKA				S	S	07 26 18.2	-1.0
FX1	Attu Island--F	6.54	288	P	P	07 27 04.7	-0.8
	2.1nm,0.3s,baz=183,slow=6.6,SNR=7.1						
FX1				S	S	07 28 18.5	-1.0
	1.1nm,0.3s,baz=252,slow=19,SNR=1.7						
IMA	Indian Mountai	18.81	29	eP	P	07 29 43.6	-2.8
	37nm,1.0s						
MCK	McKinley	19.17	39	eP	P	07 29 49.7	-0.8
	3.8nm,0.8s						
COLA	College	20.13	37	eP	P	07 29 59.9	-0.8
	5.6nm,1.0s						
THY	Trims Highway	20.33	42	eP	P	07 30 03.1	+0.3
ILAR	Eielson Array	20.44	37	P	P	07 30 01.2	-2.8
	2.3nm,0.9s,baz=239,slow=9.3,SNR=17						
DLBC	Dease Lake	27.23	57	LR	LR	07 41 21.8	
	comp=Z,62nm,20.7s,baz=97,slow=35						
ASAJ	Asahikawa	28.12	271	LR	LR	07 41 12.3	
	comp=Z,26nm,18.8s,baz=338,slow=34						
YKA	Yellowknife Ar	34.27	47	LR	LR	07 48 44.0	
	comp=Z,80nm,18.2s,baz=290,slow=41						
EDM	Edmonton	37.62	62	eP	P	07 32 40.3	+0.6
HLID	Hailey	41.60	75	eP	P	07 33 12.4	-0.3
	1.1nm,0.8s,mb3.5						
MCMT	McKenzie Canyo	41.86	73	eP	P	07 33 15.6	+0.8
BOZ	Bozeman (W)	42.15	71	eP	P	07 33 17.0	-0.2
	2.2nm,0.8s,mb3.8						
NVAR	Mina Array Bea	42.16	84	P	P	07 33 19.5	+2.1
	0.5nm,0.8s,mb3.2,baz=344,slow=6.6,SNR=4.0						
BW06	Boulder Array	44.98	73	eP	P	07 33 40.5	+0.4
	1.8nm,0.6s,mb4.1						
PDAR	Pinedale Array	44.98	73	P	P	07 33 41.5	+1.3
	1.4nm,0.7s,mb3.9,baz=325,slow=4.5,SNR=12						
SONM	Songino Array	47.95	298	P	P	07 34 04.8	+1.3
	2.3nm,0.7s,mb4.3,baz=49,slow=9.4,SNR=20						
PV01	Paradox Valley	48.37	78	eP	P	07 34 06.9	0.0
GTA	Gaotai	56.91	293	eP	P	07 35 09.9	-0.5
GTA				AMB	AMB		
	comp=Z,2.0nm,0.4s,mb4.5						
TXAR	Lajitas Array	57.27	83	P	P	07 35 12.5	-0.5
	comp=Z,0.5nm,0.8s,mb3.6,baz=270,slow=3.8,SNR=5.5						
TXAR	Lajitas Array	57.27	83	P	P	07 35 12.5	-0.5
KURK	Kurchatov	60.10	315	eP	P	07 35 32.1	-0.3
	comp=Z,5.2nm,0.8s,mb4.6						
MKAR	Makanchi Array	61.19	310	P	P	07 35 39.1	-0.7
	comp=Z,0.5nm,0.4s,mb4.0,baz=45,slow=5.1,SNR=7.9						
BVAR	Borovoye Array	61.86	321	P	P	07 35 45.0	+0.8
	comp=Z,9.4nm,0.9s,mb4.9,baz=45,slow=8.4,SNR=26						
ZRNK	Zerenda	62.46	322	eP	P	07 35 48.3	0.0
	comp=Z,9.2nm,0.9s,mb4.9						
AAK	Ala-Archa	68.00	311	eP	P	07 36 23.3	-0.6
	comp=Z,5.1nm,0.9s,mb4.5						
OBN	Obninsk	70.44	341	P	P	07 36 39.1	+0.5
	comp=Z,48nm,0.7s						
CMAR	Chiang Mai Arr	72.43	278	P	P	07 36 50.7	-0.4
	comp=Z,2.1nm,0.5s,mb4.3,baz=37,slow=6.0,SNR=9.5						
BRTR	Keskin Array B	85.60	337	P	P	07 38 04.1	+2.2
	comp=Z,3.8nm,0.8s,mb4.7,baz=55,slow=2.4,SNR=11						
TSUM	Tsumeb	146.09	336	PKPbc	PKPbc	07 45 05.7	+3.0
	comp=Z,2.2nm,0.7s,baz=36,slow=8.2,SNR=5.2						

*NEIC **05** 07:32:31.1±0.7, 31.68N×84.92E, h10km, mb4.2/3, Error ellipse: s-maj=16.9km s-min=11.6km az=46.0*
*IDC **05** 07:32:38.8±6.7, 31.65N×85.00E, h74km±63km, mb3.7/7, mb1 3.9/9, mb1mx3.7/19, ML4.1/2, Error ellipse: s-maj=26.7km s-min=18.2km az=49.0*
ISC 05 07:32:36.7±3.6**, 31.6N**±0.1×**85.0E**±0.2**, h71**km±34km**, n14, σ0.80**/14**, mb4.0**/9**, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	Makanchi Array	15.35	353	P	P	07 36 11.2	+0.9
	0.2nm,0.3s,baz=168,slow=13,SNR=12						
CMAR	Chiang Mai Arr	18.15	133	P	P	07 36 45.0	-0.5
	0.6nm,0.3s,baz=322,slow=11,SNR=9.4						
CMAR	Chiang Mai Arr	18.15	133	P	P	07 36 45.0	-0.5
KURK	Kurchatov	19.71	348	eP	P	07 36 58.1	-4.7
	1.7nm,0.6s						
ENH	Enshi	21.05	87	P	P	07 37 15.1	-1.7
	5.2nm,0.4s,mb4.2						
SONM	Songino Array	23.02	39	P	P	07 37 36.9	+0.9
	1.7nm,0.8s,mb3.4,baz=230,slow=9.6,SNR=10.0						
FINES	FINESS Array B	48.04	326	P	P	07 41 09.7	-0.6
	2.9nm,0.9s,mb4.1,baz=104,slow=5.7,SNR=3.2						
NOA	NORSAR Array B	55.17	325	P	P	07 42 02.7	-1.2
	0.7nm,0.6s,mb3.9,baz=86,slow=6.7,SNR=3.1						
KMBO	Kilima Mbogo	55.68	244	P	P	07 42 08.4	+0.1
	0.8nm,0.6s,mb3.9,baz=46,slow=16,SNR=3.5						
WRA	Warramunga Arr	69.73	130	P	P	07 43 41.8	+0.5
	4.9nm,0.6s,mb4.5,baz=324,slow=6.3,SNR=116						
WRAB	Tennant Creek	69.73	130	eP	P	07 43 41.9	+0.6
	9.2nm,0.6s,mb4.8						
WB2	Warramunga Arr	69.74	130	eP	P	07 43 42.1	+0.8
ASAR	Alice Springs	72.16	133	P	P	07 43 56.0	+0.2
	1.8nm,0.6s,mb4.0,baz=319,slow=6.2,SNR=31						
ILAR	Eielson Array	75.83	20	P	P	07 44 16.1	-0.2
	0.5nm,0.8s,mb3.3,baz=311,slow=4.6,SNR=5.4						

*IDC **05** 07:34:34.1±2.0, 26.03N×98.27E, mb3.2/2, mb1 3.3/2, mb1mx3.2/17, Error ellipse: s-maj=60.1km s-min=23.4km az=86.0*
BJI 05 07:34:32.0, 25.97N×98.62E, h17km, ML3.5, Ms3.1, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMI	Kunming	3.82	102	ePG	Pn	07 35 41.8	+10
KMI				SG	Sn	07 36 31.3	+15
KMI				Smax			
	comp=N,46nm,1.2s						
KMI				Smax			
	comp=E,43nm,0.7s						
KMI				LR	LR		
	comp=N,196nm,7.7s						
KMI				LR	LR		
	comp=E,141nm,6.1s						
CMAR	Chiang Mai Arr	7.48	178	Pg	Pn	07 36 52.4	+29
	comp=E,0.4nm,0.3s,baz=352,slow=18,SNR=8.9						
CMAR				Lg		07 38 34.0	
	comp=E,0.4nm,0.3s,baz=353,slow=29,SNR=6.1						
SONM	Songino Array	22.67	14	P	P	07 39 37.6	+4.0
	comp=E,0.4nm,0.8s,baz=219,slow=9.2,SNR=3.0						
MKAR	Makanchi Array	24.50	332	P	P	07 39 53.0	+1.6
	comp=E,0.7nm,0.5s,baz=144,slow=8.9,SNR=6.0						

*MAN **05** 07:43:36.7, 8.66N×126.23E, h75km, mb4.5, ML3.4, MS3.2*
*NEIC **05** 07:43:49.2±0.6, 8.47N×126.11E, h225km, mb4.0/6, Error ellipse: s-maj=37.4km s-min=9.1km az=61.0*
*IDC **05** 07:43:51.3±15.0, 8.41N×126.06E, h245km±156km, mb3.5/9, mb1 3.6/9, mb1mx3.4/20, Error ellipse: s-maj=78.1km s-min=15.6km az=53.0*
ISC 05 07:43:34.6±0.6**, 8.66N**±0.05×**126.31E**±0.07**, h103**km±5km**, n30, σ0.82**/37**, mb4.0**/12**, 2D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BIPH	Bislig	0.47	174	⇓iP	P	07 43 51.1	+0.4
BIPH				i S	S	07 44 01.9	-0.9
BUTP	Butuan	0.75	294	eP	P	07 43 53.0	0.0
BUTP	Butuan	0.75	294	eP	P	07 43 53.1	+0.2
SCPH	Surigao	1.38	324	eP	P	07 44 01.1	+1.1
SCPH				eS	S	07 44 18.8	-0.2
BUKP	Musuan	1.46	238	eP	P	07 43 59.8	-1.2
BUKP	Musuan	1.46	238	eP	P	07 43 59.9	-1.1
BUKP				eS	S	07 44 20.9	+0.4
CGP	Cagayan de Oro	1.61	263	eP	P	07 44 03.1	+0.3
CGP				eS	S	07 44 22.5	-1.3
KCP	Kidapawan	2.04	216	⇓iP	P	07 44 09.1	+0.9
KCP				i S	S	07 44 34.0	+0.7
TBP	Tagbilaran	2.62	293	eP	P	07 44 16.9	+0.6
TBP				eS	S	07 44 47.4	-0.2
LLP	Lapu-Lapu	2.84	306	i P	P	07 44 19.8	+0.6
LLP				eS	S	07 44 52.5	-0.3
DCPH	Dipolog City	2.92	269	eP	P	07 44 16.5	-3.9
PAGZ	Pagadian	3.01	255	eP	P	07 44 22.2	+0.7
PAGZ	Pagadian	3.01	255	eP	P	07 44 21.5	0.0
KAKA	Kakadu	22.06	164	eP	P	07 48 29.3	+7.2
	9.5nm,0.9s,mb4.1						
FITZ	Fitzroy Crossi	26.60	181	eP	P	07 49 06.4	+1.0
	1.6nm,0.9s,mb3.5						
FITZ	Fitzroy Crossi	26.60	181	P	P	07 49 06.0	+0.6
	3.4nm,1.1s,mb3.8,baz=347,slow=12,SNR=5.1						
CMAR	Chiang Mai Arr	28.29	293	P	P	07 49 21.5	+0.7
	1.0nm,0.6s,mb3.5,baz=110,slow=6.1,SNR=4.1						
WRAB	Tennant Creek	29.49	164	eP	P	07 49 30.4	-1.1
	3.4nm,0.5s,mb4.2						
WRA	Warramunga Arr	29.50	165	P	P	07 49 30.6	-0.9
	0.8nm,0.3s,mb3.9,baz=345,slow=7.9,SNR=43						
WB2	Warramunga Arr	29.50	164	eP	P	07 49 30.6	-1.0
ASAR	Alice Springs	32.97	167	P	P	07 50 01.6	-0.2
	1.4nm,0.3s,mb4.3,baz=349,slow=7.2,SNR=45						
ASPA	Alice Springs	32.97	167	eP	P	07 50 01.8	-0.1
CTA	Charters Tower	34.66	146	P	P	07 50 18.2	+1.9
	2.0nm,0.7s,mb4.1,baz=308,slow=13,SNR=3.8						
CTAO	Charters Tower	34.66	146	eP	P	07 50 17.6	+1.3
	1.8nm,0.5s,mb4.2						
STKA	Stephens Creek	42.87	161	eP	P	07 51 25.6	+1.0
	1.9nm,0.6s,mb4.0						
STKA	Stephens Creek	42.87	161	P	P	07 51 24.6	+0.1
	2.5nm,0.5s,mb4.2,baz=336,slow=6.9,SNR=11						
MKAR	Makanchi Array	53.33	323	P	P	07 52 46.3	+0.8
	0.3nm,0.4s,mb3.7,baz=110,slow=6.7,SNR=7.2						
BVAR	Borovoye Array	63.01	326	P	P	07 53 51.5	-1.4
	0.3nm,0.3s,mb3.7,baz=108,slow=9.1,SNR=4.1						
ZRNK	Zerenda	63.75	325	P	P	07 53 56.6	-1.2
	1.0nm,0.3s,mb4.1						
FINES	FINESS Array B	87.32	332	P	P	07 56 11.1	+0.3
	1.7nm,0.9s,mb4.0,baz=72,slow=6.0,SNR=6.8						

*NIED **05** 07:55:00, 45.30N×150.80E, h50km, Mw3.9 Best double couple: Mo8.82×10^14 NP1:φs233°, δ72°, λ-153°. NP2: φs134°, δ64°, λ-20°.*
*MOS **05** 07:55:01.8±0.9, 45.27N×151.13E, h51km, mb4.6/9, Error ellipse: s-maj=17.2km s-min=14.6km az=88.7*
*SKHL **05** 07:55:04.3±0.6, 45.40N×151.00E, h70km, mb5.0/3, msh5.2/1*
*IDC **05** 07:55:08.9±4.4, 45.23N×150.73E, h89km±39km, mb3.8/15, mb1 3.9/16, mb1mx3.8/26, MS3.2/1, Ms1 3.2/1, ms1mx2.5/30, Error ellipse: s-maj=24.6km s-min=18.6km az=71.0*
*NEIC **05** 07:55:13.3±3.2, 45.28N×150.66E, h130km±28km, mb4.1/6, Error ellipse: s-maj=14.1km s-min=14.0km az=149.0*
ISC 05 07:55:02.9±1.2**, 45.47N**±0.09×**150.93E**±0.09**, h45**km±9km**, n46, σ1.15**/51**, mb4.2**/23**, MS3.1**/1**, 1C, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	Kuril'sk	2.17	265	⇑iP	P	07 55 37.0	-0.4
KUR				AMB	AMB	07 55 37.5	
	380nm,0.5s						
KUR				i S	S	07 56 02.0	-1.2
KUR				A		07 56 05.0	
	5μm,2.0s						
KUR				A		07 56 05.0	
	4μm,2.0s						
KUR				A		07 56 05.0	
	2μm,0.5s						
KUR				A		07 56 05.0	
	1μm,0.5s						
KUR	Kuril'sk	2.17	265	i PN	P	07 55 37.0	-0.4
KUR				i S	S	07 56 02.0	-1.2
KUR				pmax	pmax		
	comp=Z,380nm,0.5s						
KUR				smax			
	comp=N,2μm,0.5s						
KUR				smax			
	comp=E,1μm,0.5s						
KUR				smax			
	comp=N,5μm,2.0s						
KUR				smax			
	comp=E,4μm,2.0s						
YUK	Yuzh-Kuril'sk	3.88	250	eP	P	07 56 02.3	+0.7
YUK				AMB	AMB	07 56 03.4	
	comp=E,210nm,0.4s						
YUK				sP		07 56 09.0	
YUK				eS	S	07 56 45.4	-1.2
YUK				A		07 56 45.8	
	comp=E,2μm,0.8s						
YUK				A		07 56 45.8	
	comp=E,2μm,0.5s						
YUK				A		07 56 46.5	
	comp=E,740nm,0.5s						
YUK				A		07 56 46.5	
	comp=E,570nm,0.5s						
YUK	Yuzh-Kuril'sk	3.88	250	PN	P	07 56 02.3	+0.7
YUK				S	S	07 56 45.4	-1.2
YUK				smax			
	comp=E,2μm,0.8s						
YUK				smax			
	comp=N,2μm,0.5s						
YUK				smax			
	comp=N,740nm,0.5s						
YUK				smax			
	comp=E,570nm,0.5s						
YSS	Yuzh-Sakhalins	5.87	288	eP	P	07 56 31.7	+2.3
YSS				eS	S	07 57 37.0	+0.7
YSS				A		07 57 39.4	
	comp=E,30nm,0.9s						
ASAJ	Asahikawa	6.08	260	P	P	07 56 34.0	+1.5
	comp=E,5.0nm,0.3s,baz=75,slow=22,SNR=15						
ASAJ	Asahikawa	6.08	260	PN	P	07 56 34.0	+1.5
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
SKR	Severo-Kuril's	6.27	32	eP	P	07 56 35.0	-0.1
SKR				AMB	AMB	07 56 37.0	
	comp=Z,40nm,0.5s						
SKR				AMB	AMB	07 56 37.0	
	comp=Z,50nm,0.5s						
SKR				eS	S	07 57 44.5	-1.8
SKR				A		07 57 52.8	
	comp=Z,50nm,0.5s						
SKR				A		07 57 52.8	
	comp=Z,40nm,0.5s						
SKR	Severo-Kuril's	6.27	32	ePN	P	07 56 35.0	-0.1
SKR				pmax	pmax		
	comp=N,40nm,0.5s						
SKR				pmax	pmax		
	comp=E,40nm,0.5s						
SKR				pmax	pmax		
	comp=Z,50nm,0.5s						
TYV	Tymovskoe	7.73	317	erx	rx	07 56 47.0	
MDJ	Mudanjiang	15.11	274	P	P	07 58 38.1	+3.5
	comp=Z,7.6nm,0.7s						
SONM	Songino Array	30.35	291	P	P	08 01 11.3	-0.9
	comp=Z,0.7nm,0.6s,mb3.6,baz=84,slow=11,SNR=6.6						
IMA	Indian Mountai	35.73	35	eP	P	08 02 01.5	+2.8
MKAR	Makanchi Array	46.19	298	P	P	08 03 24.7	+0.1
	comp=Z,3.3nm,0.5s,mb4.5,baz=72,slow=7.7,SNR=29						
MKAR				LR	LR	08 25 11.9	
	comp=Z,23nm,19.0s,MS3.1,baz=174,slow=39						
MKAR	Makanchi Array	46.19	298	P	P	08 03 24.7	0.0
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MKAR				MLR	MLR		
	comp=Z,23nm,19.0s						
KURK	Kurchatov	46.81	304	eP	P	08 03 28.9	-0.6
	comp=Z,7.1nm,0.7s,mb4.7						
BVAR	Borovoye Array	50.50	309	P	P	08 03 57.5	-0.5
	comp=Z,3.1nm,0.9s,mb4.2,baz=67,slow=11,SNR=8.1						
BRVK	Borovoye	50.55	310	P	P	08 03 55.8	-2.6
	comp=Z,2.0nm,0.6s,mb4.2						
ZRNK	Zerenda	51.28	310	eP	P	08 04 03.0	-0.9
	comp=Z,2.3nm,0.6s,mb4.3						
KEV	Kevo	58.04	340	ep	P	08 04 51.9	-1.1
	comp=Z,0.4nm,0.3s,mb3.9						
ARCES	ARCESS Array B	58.56	340	P	P	08 04 56.9	+0.3
	comp=Z,0.8nm,0.6s,mb3.9,baz=27,slow=8.1,SNR=2.7						
ARCES	ARCESS Array B	58.56	340	P	P	08 04 56.9	+0.3
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KAF	Kangasniemi	63.96	334	ep	P	08 05 31.9	-1.1
	comp=Z,0.3nm,0.3s,mb3.8,baz=41,slow=6.2						
NVAR	Mina Array Bea	64.38	61	P	P	08 05 36.8	+0.6
	comp=Z,0.2nm,0.5s,mb3.4,baz=285,slow=10,SNR=3.1						
FINES	FINESS Array B	64.54	334	P	P	08 05 36.3	-0.5
	comp=Z,2.5nm,0.5s,mb4.5,baz=42,slow=6.3,SNR=23						
FINES	FINESS Array B	64.54	334	P	P	08 05 36.3	-0.5
FINES				pmax	pmax		
	comp=Z,3.0nm,0.5s						
WRA	Warramunga Arr	66.82	197	P	P	08 05 48.7	-3.3
	comp=Z,0.8nm,0.9s,mb3.8,baz=6.7,slow=6.4,SNR=6.2						
WRA	Warramunga Arr	66.82	197	P	P	08 05 48.7	-3.3
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
NB2	NORSAR Subarra	68.94	340	P	P	08 06 04.8	+0.3
	comp=Z,2.5nm,0.6s,mb4.3,baz=28,slow=6.5						
NOA	NORSAR Array B	68.94	340	P	P	08 06 05.1	+0.6
	comp=Z,2.3nm,0.4s,mb4.4,baz=29,slow=6.5,SNR=9.2						
NOA	NORSAR Array B	68.94	340	P	P	08 06 05.1	+0.6
NOA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
HFS	Hagfors	69.11	339	P	P	08 06 05.6	0.0
	comp=Z,3.4nm,0.4s,mb4.6,baz=56,slow=5.2,SNR=15						
HFS	Hagfors	69.11	339	P	P	08 06 05.6	0.0
HFS				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ASAR	Alice Springs	70.53	197	P	P	08 06 12.9	-2.0
	comp=Z,0.6nm,0.9s,mb3.5,baz=22,slow=4.7,SNR=5.2						
AKASG	Malin Array Be	71.75	325	P	P	08 06 21.7	0.0
	comp=Z,2.9nm,0.4s,mb4.5,baz=35,slow=6.3,SNR=18						
AKASG	Malin Array Be	71.75	325	P	P	08 06 21.7	0.0
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.4s						
MLR	Muntele Rosu	77.22	324	P	P	08 06 54.3	+0.9
	comp=Z,3.6nm,0.8s,mb4.3,baz=248,slow=10,SNR=4.8						
MLR	Muntele Rosu	77.22	324	P	P	08 06 54.3	+0.9
MLR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BRTR	Keskin Array B	78.27	316	P	P	08 06 59.6	+0.4
	comp=Z,0.4nm,0.3s,mb3.8,baz=113,slow=9.4,SNR=3.2						
QRN	Al-Qurain	78.42	299	eP	P	08 07 01.5	+1.2
QRN				AMb	AMB	08 07 08.3	
	comp=Z,17nm,0.9s,mb5.0						
RST	Umm Al-Ruwaisa	78.44	300	eP	P	08 07 01.0	+0.6
RST				AMb	AMB	08 07 04.2	
	comp=Z,15nm,0.6s,mb5.1						
RDF	Al-Radifah	78.52	300	eP	P	08 07 01.4	+0.6
RDF				AMb	AMB	08 07 02.4	
	comp=Z,16nm,0.5s,mb5.2						
GERES	GERESS Array B	78.92	333	P	P	08 07 03.8	+1.1
	comp=Z,1.0nm,0.6s,mb4.0,baz=45,slow=5.7,SNR=7.0						
GERES	GERESS Array B	78.92	333	P	P	08 07 03.8	+1.1
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	Lajitas Array	79.45	59	P	P	08 07 07.3	+1.4
	comp=Z,0.1nm,0.4s,mb3.1,baz=299,slow=5.2,SNR=8.6						
TXAR	Lajitas Array	79.45	59	P	P	08 07 07.3	+1.4

WEL 05 07:57:23.9±0.5**, 39.56S**×**174.27E, h246**km±4km**, ML3.5**/7**, 1C-4D, Error ellipse: s-maj=5.8km s-min=3.2km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WAZ	Wanganui	0.58	109	PN	P	07 57 57.2	+0.3
WAZ				SN	S	07 58 22.5	0.0
WAZ				SN	S	07 58 22.6	+0.1
CNZ	Chateau	1.05	70	PN	P	07 57 57.6	-1.4
NGZ	Ngauruhoe	1.10	70	PN	P	07 57 59.0	-0.4
TUVZ	Tukino	1.11	75	PN	P	07 57 59.2	-0.2
MGZ	Maungaku	1.13	61	PN	P	07 57 58.8	-0.7
MOVZ	Moawhango	1.16	83	⇓PN	P	07 57 59.0	-0.7
KIW	Kapiti Island	1.39	160	PN	P	07 58 01.3	0.0
KIW				SN	S	07 58 28.5	-1.9
TSZ	Takapari Road	1.39	111	PN	P	07 58 01.4	+0.1
TSZ				SN	S	07 58 29.2	-1.3
MRZ	Mangatainoka R	1.48	138	PN	P	07 58 01.8	-0.3
MRZ				SN	S	07 58 30.0	-1.7
CAW	Cannon Point	1.66	159	PN	P	07 58 03.3	-0.1
CAW				SN	S	07 58 33.0	-1.1
MRW	Makara Radio	1.69	169	PN	P	07 58 03.5	-0.2
MRW				SN	S	07 58 33.2	-1.3
BKZ	Black Stump Fm	1.76	78	⇓PN	P	07 58 03.5	-0.8
BKZ				SN	S	07 58 32.5	-3.1
NNZ	Nelson	1.79	202	⇑PN	P	07 58 04.1	-0.4
NNZ				SN	S	07 58 33.9	-2.0
QRZ	Quartz Range	1.84	226	PN	P	07 58 03.8	-1.1
QRZ				SN	S	07 58 33.3	-3.4
MTW	Mount Morrison	1.85	150	⇓PN	P	07 58 04.8	-0.3
MTW				SN	S	07 58 35.7	-1.1
BFZ	Birch Farm	1.88	127	⇓PN	P	07 58 05.1	-0.2
BFZ				SN	S	07 58 36.0	-1.3
TUWZ	Tuamarina	1.88	188	PN	P	07 58 04.9	-0.4
TUWZ				SN	S	07 58 35.7	-1.6
BHW	Baring Head	1.90	166	PN	P	07 58 05.3	-0.1
MSWZ	Moikau Station	1.99	158	PN	P	07 58 05.9	-0.4
PAWZ	Paruwai Farm	2.02	155	PN	P	07 58 06.3	-0.2
PAWZ				SN	S	07 58 38.5	-1.0
BSWZ	Blackbirch Sta	2.17	188	ePN	P	07 58 07.8	-0.2
THZ	Tophouse	2.43	205	PN	P	07 58 09.8	-0.8
THZ				SN	S	07 58 45.1	-1.7
KNZ	Kokohu	2.69	79	eSN	S	07 58 47.3	-4.3
MWZ	Matawai	2.82	65	PN	P	07 58 12.6	-2.0
MWZ				SN	S	07 58 48.5	-5.5
DSZ	Denniston Nort	2.88	220	PN	P	07 58 13.7	-1.6
KHZ	Kahutara	2.91	191	PN	P	07 58 14.6	-1.0
KHZ				SN	S	07 58 53.4	-2.2
LTZ	Lake Taylor	3.55	205	PN	P	07 58 21.3	-1.6
MQZ	McQueen's Vall	4.32	196	ePN	P	07 58 28.9	-3.0
MQZ				SN	S	07 59 19.9	-4.8
ODZ	Otahua Downs	6.10	205	ePN	P	07 58 52.0	-1.9

TIF 05 08:06:09.0, 43.02N×44.25E, h5km, Mpv5.0, 3C-2D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ONI	Oni	0.73	234	⇑iP	Pg	08 06 26.3	+2.6
ONI				i S	Sg	08 06 38.0	+4.5
DUS	Dusheti	0.99	160	⇑iP	Pb	08 06 29.9	+1.7
DUS				i S	Sb	08 06 45.5	+4.2
TBLG	Delisi	1.34	164	⇓iP	Pb	08 06 35.2	+1.0
	comp=Z,1μm,0.4s						
TBLG				i S	Sb	08 06 56.3	+4.8
	comp=N,2μm,0.6s						
TI2	Plekhanov	1.34	164	⇓iP	Pb	08 06 35.2	+1.0
TI2				i		08 06 35.3	
TI2				i S	Sb	08 06 54.0	+2.5
TI2				i S	Sb	08 06 56.3	+4.8
TI2				pmax	pmax		
	comp=E,4μm,0.6s						
MTA	Mtatsminda	1.39	163	⇑iP	Pb	08 06 36.3	+1.3
MTA				i S	Sb	08 06 59.4	+6.6
AKH	Akhalkalaki	1.70	200	i P	Pn	08 06 42.7	+3.1
	comp=Z,390nm,0.4s						
AKH				i S	Sn	08 07 07.1	+5.2
STE	Stepanavan	2.02	177	i P	Pn	08 06 46.0	+1.9
STE				i S	Sn	08 07 13.0	+3.0

CASC 05 08:11:05.9±2.8**, 11.53N**×**88.23W, h35**km±19km**, MD3.7, 8C-3D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LEON	Leon	1.58	56	⇑eP	P	08 11 31.1	-0.7
LEON				eS	S	08 11 51.9	+0.6
CRIN	San Cristobal	1.64	45	eP	P	08 11 32.5	-0.2
CRIN				eS	S	08 11 53.9	+1.1
COPN	Copaltepe	1.73	68	⇓eP	P	08 11 33.2	-0.8
COPN				eS	S	08 11 56.0	+0.9
TELN	Telica	1.73	52	eP	P	08 11 33.5	-0.6
TELN				eS	S	08 11 55.6	+0.4

MIRN	Miramar	1.74	59	eP	P	08 11 33.2	-0.9
CNCH	Conchagua	1.77	13	eP	P	08 11 35.1	+0.4
CNCH				eS	S	08 11 55.6	-0.7
CNGN	Cerro Negro	1.78	57	eP	P	08 11 33.8	-1.0
CNGN				eS	S	08 11 57.9	+1.4
MOMJ	Momotombo	1.87	62	⇑eP	P	08 11 34.6	-1.5
BLLM	Bellamira	1.90	360	eP	P	08 11 36.5	+0.1
BLLM				eS	S	08 11 58.8	-0.6
XAVN	Gruta Xavier	1.96	72	eP	P	08 11 36.2	-1.2
APYN	Apoyeque	1.97	69	⇓eP	P	08 11 36.3	-1.1
APYN				eS	S	08 12 01.3	+0.1
TICN	Ticuantepe	2.02	76	eP	P	08 11 37.2	-1.0
MGAN	Managua	2.04	72	⇑eP	P	08 11 37.1	-1.3
MGAN				eS	S	08 12 02.1	-0.7
WILN	Americas 2	2.10	72	⇑eP	P	08 11 38.0	-1.3
WILN				eS	S	08 12 04.3	-0.1
APON	Apoyo	2.15	80	⇓eP	P	08 11 38.8	-1.3
APON				eS	S	08 12 04.8	-1.1
LFRS	El Faro	2.23	339	eP	P	08 11 41.7	+0.5
LFRS				eS	S	08 12 07.6	-0.2
LCBS	La Ceiba	2.23	341	eP	P	08 11 40.8	-0.5
LCBS				eS	S	08 12 09.9	+2.0
PYTN	Playitas	2.35	65	⇑eP	P	08 11 41.3	-1.6
PYTN				eP		08 11 41.7	
PYTN				eS	S	08 12 10.1	-0.8
BOQS	Boqueron	2.42	335	⇑eP	P	08 11 43.3	-0.6
BOQS				eS	S	08 12 11.3	-1.3
SBLS	San Blas	2.66	329	eP	P	08 11 48.0	+0.6
SBLS				eS	S	08 12 17.6	-1.2
RTR	El Retiro	2.72	330	eP	P	08 11 48.3	+0.1
RTR				eS	S	08 12 20.0	-0.3
VCR	Vista de Mar	2.91	118	eP	P	08 11 48.9	-2.1
CGA2	Cerro Gallo 2	4.00	112	eP	P	08 12 06.0	-0.4
CGA2				eS	S	08 12 49.0	-3.6
VPS2	Volcan Poas 2	4.15	108	eP	P	08 12 08.3	-0.1
PRS1	Puriscal	4.15	111	eP	P	08 12 07.8	-0.7
LAJ	Bijagual	4.37	112	eP	P	08 12 05.6	-6.0
SJS	Escuela Geolog	4.40	111	eP	P	08 12 13.0	+1.0
LCR2	La Lucha 2	4.52	113	eP	P	08 12 13.0	-0.8
LCR2				eS	S	08 13 01.3	-4.6
TRTC	Tortuguero	4.54	102	eP	P	08 12 11.9	-2.1
ICR	Volcan Irazu	4.59	109	eP	P	08 12 16.4	+1.6
URSC	Urasca	4.69	111	⇑eP	P	08 12 16.0	-0.2
BUS	Buena Vista	4.82	114	eP	P	08 12 17.7	-0.3
BUS				eS	S	08 13 09.0	-4.3
ACR	Cerro Adams	5.75	119	⇑eP	P	08 12 30.3	-0.8

FUNV 05 08:49:51.6, 6.74N×73.15W, h166^{km}, MD3.7, 1C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	Capacho	1.40	37	⇑iP	P	08 50 21.1	-0.7
CAPV				eS	S	08 50 42.4	-2.7
VIGV	El Vigia	2.74	40	eP	P	08 50 35.6	-1.4
VIGV				eS	S	08 51 07.6	-4.3
VIRV	Villa del Rosa	3.81	11	eP	P	08 50 48.2	-2.4
VIRV				eS	S	08 51 30.8	-5.3
CURV	Curarigua	4.54	44	⇓eP	P	08 50 58.2	-1.8
CURV				eS	S	08 51 46.7	-6.2
BAUV	El Baul	5.52	66	eP	P	08 51 09.6	-3.3
BAUV				eS	S	08 52 08.7	-7.3

BJI 05 08:49:57.9, 40.62N×122.82E, h15^{km}, ML3.8, 1D, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNY	Shenyang	1.33	25	⇓PG	Pg	08 50 20.1	-4.6
SNY				SG	Sg	08 50 37.5	-5.1
SNY				Smax			
	comp=N,1μm,0.3s						
SNY				Smax			
	comp=E,570nm,0.4s						
DL2	Dalian	1.94	209	PG	Pg	08 50 31.7	-5.1
DL2				SG	Sg	08 50 57.5	-5.2
DL2				Smax			
	comp=N,798nm,0.5s						
DL2				Smax			
	comp=E,923nm,0.5s						
CN2	Changchun	3.73	31	ePG	Pg	08 51 04.4	-8.0
CN2				eSG	Sg	08 51 51.9	-10
CN2				Smax			
	comp=N,100nm,0.7s						
CN2				Smax			
	comp=E,100nm,0.7s						

*IDC **05** 08:56:17.9±2.3, 48.28N×128.58W, mb3.6/1, mb1 4.0/7, mb1mx3.7/24, ML3.6/5, MS3.6/7, Ms1 3.6/7, ms1mx3.2/20, Error ellipse: s-maj=57.4km s-min=15.5km az=66.0*
*NEIC **05** 08:56:20.6±1.3, 48.40N×128.34W, h10^{km}, mb3.6/3, Error ellipse: s-maj=23.3km s-min=11.2km az=64.0*
ISC 05 08:56:17.4±6.6, **48.33N**±0.09×**128.5W**±0.2, **h5**^{km}±48^{km}, **n19**, σ**0^{s}99**/14, **mb3.4**/2, **MS3.9**/5, **Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCWA	Octopus Mounta	2.96	100	P	Pn	08 57 05.6	-0.3
PGC	Sidney	3.38	83	eP	Pn	08 57 10.4	-1.4
BBB	Bella Bella	3.87	4	Pn	Pn	08 57 18.3	-0.6
	21nm,0.3s,baz=194,slow=11,SNR=56						
BBB	Bella Bella	3.87	4	Pn	Pn	08 57 18.3	-0.6
YBH	Yreka Blue Hor	7.76	146	Pn	Pn	08 58 13.9	+0.1
	0.1nm,0.3s,baz=349,slow=10,SNR=9.9						
DLBC	Dease Lake	10.17	355	LR	LR	09 02 08.7	
	comp=Z,34nm,20.0s,baz=288,slow=34						
NVAR	Mina Array Bea	12.35	139	Pn	P	08 59 17.4	+0.7
	baz=331,slow=12,SNR=6.9						
PDAR	Pinedale Array	14.38	106	Pn	P	08 59 47.4	+3.9
	0.1nm,0.3s,baz=299,slow=9.3,SNR=2.6						
YKA	Yellowknife Ar	16.19	24	Pn	P	09 00 10.4	+3.6
	0.1nm,0.3s,baz=216,slow=11,SNR=7.4						
YKA				LR	LR	09 06 21.7	
	comp=Z,63nm,20.0s,baz=215,slow=37						
FFC	Flin Flon	17.64	59	eP	P	09 00 26.7	+1.5
	8.9nm,0.8s						
ILAR	Eielson Array	19.22	336	P	P	09 00 44.5	0.0
	0.0nm,0.3s,baz=152,slow=10,SNR=7.1						
SDCO	Great Sand Dun	19.79	114	P	P	09 00 51.9	+0.7
	1.0nm,0.8s						
ULM	Lac du Bonnet	21.28	73	LR	LR	09 10 14.1	
	comp=Z,169nm,18.2s,MS3.5,baz=350,slow=39						
WMOK	Wichita Mounta	25.88	111	eP	P	09 01 51.0	-0.5
	0.7nm,0.5s,mb3.5						
TXAR	Lajitas Array	26.90	126	P	P	09 01 59.9	-1.0
	1.1nm,1.2s,mb3.3,baz=315,slow=7.1,SNR=3.8						
TXAR				LR	LR	09 13 48.0	
	comp=Z,278nm,18.4s,MS3.9,baz=165,slow=39						
TXAR	Lajitas Array	26.90	126	P	P	09 01 59.9	-1.0
TXAR				LR	LR	09 13 48.0	
SCHQ	Schefferville	37.76	56	LR	LR	09 20 03.8	
	comp=Z,296nm,18.6s,MS4.1,baz=308,slow=38						
MKAR	Makanchi Array	81.54	339	LR	LR	09 45 07.2	
	comp=Z,42nm,18.5s,MS3.8,baz=86,slow=36						
PMG	Port Moresby	93.20	260	LR	LR	09 45 54.0	
	comp=Z,62nm,20.3s,MS4.0,baz=332,slow=32						

PGC 05 08:56:44.1, 48.12N×129.05W, h10^{km}, MLSn3.7/1, Northern Juan de Fuca ridge., Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDB	Eliza Dome	2.17	35	Pn	Pn	08 57 18.1	-2.7
OZB	Mount Ozzard	2.51	69	Pn	Pn	08 57 21.2	-4.4
OZB				Sn	Sn	08 57 50.6	-6.0
OZB				Trac		08 57 51.7	
	comp=Z,12nm,0.2s						
GDR	Gold River	2.59	49	Pn	Pn	08 57 24.6	-2.3
GDR				Sn	Sn	08 57 54.0	-4.7
	comp=Z,44nm,0.6s						
GDR				Trac		08 57 55.0	
	comp=Z,44nm,0.6s						
HOLB	Holberg	2.59	13	Pn	Pn	08 57 25.3	-1.5
HOLB				Sn	Sn	08 57 54.5	-4.2
	comp=Z,38nm,0.4s						
HOLB				Trac		08 57 58.3	
	comp=Z,38nm,0.4s						
MAYB	Maynard	2.59	28	Pn	Pn	08 57 25.1	-1.8
MAYB				Sn	Sn	08 57 55.4	-3.3
	comp=Z,45nm,0.5s						
MAYB				Trac		08 57 57.2	
	comp=Z,45nm,0.5s						
WOSB	Woss	2.61	38	Pn	Pn	08 57 24.9	-2.2
BTB	Buttle Lake	2.69	59	Pn	Pn	08 57 26.4	-1.9
BTB				Sn	Sn	08 57 56.0	-5.3
	comp=Z,54nm,0.5s						
BTB				Trac		08 57 57.8	
	comp=Z,54nm,0.5s						
PHC	Port Hardy	2.80	22	Pn	Pn	08 57 27.6	-2.2
PHC				Trac		08 58 00.1	
	comp=Z,20nm,0.6s						
NCRB	Newcastle Ridg	3.01	40	Pn	Pn	08 57 30.9	-1.9
NCRB				Sn	Sn	08 58 05.2	-4.1
	comp=Z,26nm,0.3s						
NCRB				Trac		08 58 06.9	
	comp=Z,26nm,0.3s						
MGB	Mount Grey	3.03	71	Pn	Pn	08 57 29.1	-4.0
MGB				Sn	Sn	08 58 03.4	-6.3
	comp=Z,7.0nm,0.3s						
MGB				Trac		08 58 05.3	
	comp=Z,7.0nm,0.3s						
CBB	Campbell River	3.09	50	Pn	Pn	08 57 31.6	-2.3
CBB				Sn	Sn	08 58 06.4	-4.9
CBB				Trac		08 58 08.3	
	comp=Z,55nm,0.5s						
PFB	Port Renfrew	3.11	80	Pn	Pn	08 57 30.7	-3.5
PFB				Sn	Sn	08 58 04.2	-7.6
TXB	Texada	3.43	61	Pn	Pn	08 57 36.6	-2.2
TXB				Sn	Sn	08 58 14.9	-5.0
	comp=Z,83nm,1.0s						
TXB				Trac		08 58 18.9	
	comp=Z,83nm,1.0s						
LZB	Mount Lazard	3.52	80	Pn	Pn	08 57 36.7	-3.3
LZB				Sn	Sn	08 58 15.1	-7.1
LZB				Trac		08 58 18.9	
	comp=Z,2.0nm,0.3s						
NLLB	Nanaimo Lost L	3.53	70	Pn	Pn	08 57 37.4	-2.8
NLLB				Sn	Sn	08 58 16.2	-6.3
NLLB				Trac		08 58 26.7	
	comp=Z,19nm,0.8s						
SHB	Sechelt	3.72	65	Pn	Pn	08 57 40.3	-2.6
SHB				Sn	Sn	08 58 21.9	-5.5
SHB				Trac		08 58 23.6	
	comp=Z,14nm,0.3s						
PGC	Sidney	3.77	80	Pn	Pn	08 57 40.3	-3.3
PGC				Trac		08 58 34.4	
	comp=Z,6.0nm,0.5s						
GOBB	Galiano Island	3.77	75	Pn	Pn	08 57 41.0	-2.7
GOBB				Trac		08 58 28.1	
	comp=Z,9.0nm,0.4s						
VGZ	Gonzales	3.84	83	Pn	Pn	08 57 31.0	-14
VGZ				Sn	Sn	08 58 13.3	-17
VGZ				Trac		08 58 16.1	
	comp=Z,14nm,0.5s						
SNB	Saturna Island	3.97	78	Trac		08 58 29.7	
	comp=Z,15nm,0.9s						
BIB	Bowen Island	4.01	69	Pn	Pn	08 57 44.2	-2.9
BIB				Trac		08 58 36.2	
	comp=Z,5.0nm,0.4s						
BBB	Bella Bella	4.11	8	Pn	Pn	08 57 47.4	-1.1
BBB				Sn	Sn	08 58 32.3	-4.9
BBB				Trac		08 58 35.3	
	comp=Z,56nm,0.7s						
BBB	Bella Bella	4.11	8	Sn	Pn	08 57 47.5	-0.9
	51nm,0.3s,baz=198,slow=11,SNR=37						
BBB	Bella Bella	4.11	8	Sn	Pn	08 57 47.5	-0.9
WPB	Watts Point	4.15	66	Pn	Pn	08 57 46.4	-2.6
HNB	Haney	4.44	73	Pn	Pn	08 57 50.4	-2.8
WSLR	Whistler	4.50	61	Pn	Pn	08 57 52.1	-1.9
WSLR				Trac		08 58 56.6	
	comp=Z,8.0nm,0.5s						
VDB	Vedder Mountai	4.70	76	Pn	Pn	08 57 53.8	-3.0
VDB				Trac		08 58 54.7	
	comp=Z,1.0nm,0.2s						
LLLB	Lillooet	5.30	59	Pn	Pn	08 58 03.0	-2.4
LLLB				Trac		08 59 08.7	
	comp=Z,6.0nm,0.6s						

*NEIC **05** 09:33:20.6±5.3, 6.91S×129.98E, h20^{km}±37^{km}, mb4.3/8, Error ellipse: s-maj=23.1km s-min=14.8km az=221.0*
*IDC **05** 09:33:24.1±4.6, 6.99S×129.85E, h44^{km}±42^{km}, mb3.9/5, mb1 4.3/8, mb1mx4.0/14, ML4.7/3, MS2.9/2, Ms1 2.9/2, ms1mx2.6/15, Error ellipse: s-maj=43.1km s-min=20.2km az=58.0*
ISC 05 09:33:30.1±2.8, **7.34S**±0.10×**129.9E**±0.1, **h138**^{km}±31^{km}, **n23**, σ**1^{s}68**/29, **mb4.1**/8, **1D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	5.86	156	⇓iP	P	09 34 59.5	+3.7
	119nm,0.6s						
KAKA				eS	S	09 36 05.6	+3.3
FITZ	Fitzroy Crossi	11.49	201	eP	P	09 36 09.8	-1.1
	32nm,0.6s						
FITZ				eS	S	09 38 15.6	-1.4
FITZ	Fitzroy Crossi	11.49	201	P	P	09 36 10.0	-1.0
	5.5nm,0.3s,baz=22,slow=10,SNR=54						
FITZ				S	S	09 38 18.6	+1.6
	8.1nm,0.3s,baz=167,slow=11,SNR=4.7						
FITZ				LR	LR	09 40 07.7	
	comp=Z,31nm,20.1s,baz=100,slow=34						
WRAB	Tennant Creek	13.24	162	eP	P	09 36 31.2	-2.4
	22nm,0.7s						
WRAB				eS	S	09 38 53.1	-4.9
WRA	Warramunga Arr	13.24	162	P	P	09 36 31.8	-2.0
	3.9nm,0.3s,baz=343,slow=13,SNR=125						
WRA				S	S	09 38 54.4	-3.7
	7.7nm,0.3s,baz=329,slow=22,SNR=20						
WB2	Warramunga Arr	13.25	162	eP	P	09 36 31.3	-2.5
WB2				eS	S	09 38 50.2	-8.0
ASAR	Alice Springs	16.68	167	P	P	09 37 17.6	+0.4
	3.2nm,0.3s,baz=323,slow=8.5,SNR=132						
ASAR				LR	LR	09 44 51.6	
	comp=Z,78nm,18.7s,baz=242,slow=40						
ASPA	Alice Springs	16.68	167	eP	P	09 37 19.0	+1.9
ASPA				eS	S	09 40 13.1	-3.7
MBWA	Marble Bar	16.91	215	eP	P	09 37 22.5	+2.5
	11nm,0.4s						
MBWA				eS	S	09 40 21.9	-0.1
CTA	Charters Tower	20.28	130	P	P	09 38 00.4	+3.6
	4.4nm,0.8s,baz=323,slow=16,SNR=3.9						
CTAO	Charters Tower	20.28	130	P	P	09 37 59.5	+2.6
	7.5nm,0.9s						
FORT	Forrest	23.39	184	eP	P	09 38 33.3	+5.9
	35nm,0.7s,mb4.9						
STKA	Stephens Creek	26.73	158	eP	P	09 39 02.4	+3.7
	6.6nm,1.3s,mb4.1						
STKA	Stephens Creek	26.73	158	P	P	09 39 02.4	+3.7
	1.8nm,1.0s,mb3.7,baz=330,slow=10,SNR=3.8						
CMAR	Chiang Mai Arr	39.89	310	P	P	09 40 52.6	+0.4
	0.9nm,0.5s,mb3.7,baz=140,slow=8.4,SNR=6.2						
MKAR	Makanchi Array	68.47	327	P	P	09 44 18.9	-0.5
	5.2nm,0.6s,mb4.5,baz=119,slow=7.3,SNR=31						
KURK	Kurchatov	72.76	329	eP	P	09 44 44.6	-0.5
	2.0nm,0.4s,mb4.2						
MAW	Mawson	74.61	201	eP	P	09 45 00.9	+5.4
	0.6nm,0.6s,mb3.4						
MAW	Mawson	74.61	201	P	P	09 45 00.8	+5.3
	0.6nm,0.5s,mb3.5,baz=90,slow=14,SNR=5.2						
ZRNK	Zerenda	79.01	327	eP	P	09 45 20.1	-0.1
	1.8nm,0.5s,mb4.0						
QSPA	South Pole Qui	82.64	180	eP	P	09 45 43.5	+4.6
	2.1nm,0.8s,mb3.9						
CPUP	Villa Florida	145.80	168	PKPbc	PKPbc	09 52 59.5	+5.5
	2.0nm,0.8s,baz=346,slow=1.4,SNR=4.1						
LPAZ	La Paz	150.50	143	PKPbc	PKPdf	09 53 13.1	+12
	0.8nm,0.5s,baz=34,slow=3.0,SNR=5.6						

WEL 05 09:42:26.4±0.3, **37.85S**×**175.80E**, **h282**^{km}±3^{km}, **ML3.5**/6, **1D, Error ellipse: s-maj=7.1km s-min=6.0km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	1.11	112	PN	P	09 43 05.5	-0.2
URZ				SN	S	09 43 35.7	-0.7
TUVZ	Tukino	1.42	185	PN	P	09 43 07.9	+0.3
BKZ	Black Stump Fm	1.42	158	⇓PN	P	09 43 07.6	0.0
BKZ				SN	S	09 43 39.0	-0.8
MWZ	Matawai	1.45	110	PN	P	09 43 07.6	-0.2
MWZ				SN	S	09 43 40.1	0.0
MOVZ	Moawhango	1.56	181	PN	P	09 43 08.2	-0.3
KNZ	Kokohu	1.88	129	PN	P	09 43 10.5	-0.4
PUZ	Puketiti	1.96	97	SN	S	09 43 45.9	-0.8
WAZ	Wanganui	2.01	198	PN	P	09 43 11.6	-0.4
WAZ				SN	S	09 43 46.6	-0.8
TSZ	Takapari Road	2.21	177	PN	P	09 43 12.8	-1.0
TSZ				SN	S	09 43 49.5	-1.1
MRZ	Mangatainoka R	2.81	183	PN	P	09 43 17.6	-1.9
MRZ				SN	S	09 43 58.6	-2.2
BFZ	Birch Farm	2.85	173	PN	P	09 43 18.4	-1.4
KIW	Kapiti Island	3.09	193	PN	P	09 43 20.0	-2.3
KIW				SN	S	09 44 02.5	-3.3
CAW	Cannon Point	3.30	190	PN	P	09 43 21.9	-2.7
CAW				SN	S	09 44 07.1	-2.8
MTW	Mount Morrison	3.31	184	PN	P	09 43 21.9	-2.8
MRW	Makara Radio	3.48	194	SN	S	09 44 10.4	-2.9
MSWZ	Moikau Station	3.59	187	SN	S	09 44 11.7	-3.6
NNZ	Nelson	3.85	208	PN	P	09 43 27.4	-3.2
NNZ				SN	S	09 44 16.6	-4.0
TUWZ	Tuamarina	3.85	201	PN	P	09 43 27.8	-2.8
TUWZ				SN	S	09 44 16.1	-4.5
QRZ	Quartz Range	3.91	219	PN	P	09 43 27.9	-3.3
THZ	Tophouse	4.50	209	PN	P	09 43 34.7	-3.2
THZ				eSN	S	09 44 30.3	-3.6
KHZ	Kahutara	4.88	200	PN	P	09 43 39.3	-3.1
KHZ				SN	S	09 44 37.4	-4.5
MQZ	McQueen's Vall	6.32	201	eSN	S	09 45 05.6	-7.3

*ISK **05** 10:34:50.0, 36.80N×34.36E, h13^{km}, MD3.5*
*CSEM **05** 10:34:50.0, 36.80N×34.36E, h13^{km}, MD3.5, After ISK*
ISC 05 10:34:50.7±1.5, **36.82N**±0.08×**34.33E**±0.07, **h9**^{km}±17^{km}, **n12**, σ**1^{s}00**/17, **1C, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEST	Erdemli	0.28	213	i P	Pg	10 34 56.7	+0.2
MEST				i S	Sg	10 35 01.9	+1.5
IKL	Isikli	0.78	222	i PG	Pg	10 35 05.7	-0.7
IKL				i SG	Sg	10 35 16.7	-0.2
CEYT	Ceyhan	1.15	80	PN	Pn	10 35 12.1	-0.9
CEYT				SN	Sn	10 35 29.1	+0.2
NIG	Nigde	1.30	10	PN	Pn	10 35 14.1	-1.1
HDMB	Hadim	1.49	276	PN	Pn	10 35 17.6	-0.2
COBT	Iskenderun	1.57	100	⇑iP	Pn	10 35 19.3	+0.3
COBT				i S	Sb	10 35 41.0	+1.5
HTY	Hatay	1.61	115	PN	Pn	10 35 18.3	-1.3
KONT	Konya--Tatoy	1.93	306	PN	Pn	10 35 24.3	+0.1
AVNT	Avonos	2.00	12	i P	Pn	10 35 26.2	+1.1
AVNT				i S	Sn	10 35 52.8	+2.3
GAZ	Gaziantep	2.33	80	PN	Pn	10 35 28.6	-1.3
KAMT	Kaman	2.59	349	PN	Pn	10 35 32.7	-0.9
KIZT	Kizilcal	2.83	317	PN	Pn	10 35 37.1	+0.1

*CSEM **05** 10:40:29.0±0.6, 48.32N×6.65E, h1^{km}±3^{km}, ML1.5, Error ellipse: s-maj=7.1km s-min=3.0km az=1.0*
STR 05 10:40:28.5±0.1, **48.35N**×**6.67E**, **h5**^{km}±1^{km}, **Ml1.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECH	Echery	0.35	112	Pg	Pg	10 40 35.7	+0.1
ECH				Sg	Sg	10 40 40.1	-0.2
WLS	Welschbruch	0.46	82	Pg	Pg	10 40 37.5	-0.2
WLS				Sg	Sg	10 40 43.9	0.0
THEF	They Montfort	0.47	255	Pg	Pg	10 40 37.2	-0.8
THEF				Sg	Sg	10 40 44.2	-0.1
MOF	Molkenrain	0.59	148	Pg	Pg	10 40 39.6	-0.7
MOF				Sg	Sg	10 40 48.0	-0.1

*IDC **05** 10:41:29.9±0.5, 37.40N×20.61E, mb4.5/20, mb1 4.5/29, mb1mx4.5/34, ML4.3/10, MS4.2/12, Ms1 4.2/12, ms1mx3.9/25, Error ellipse: s-maj=12.8km s-min=10.7km az=92.0*
*ATH **05** 10:41:30.8, 37.22N×20.37E, h29^{km}±3^{km}, MD4.5/23, ML4.8*
*BJI **05** 10:41:30.9, 37.43N×20.58E, h25^{km}, mB5.1, mb5.0, Ms5.1, Msz4.9*
*THE **05** 10:41:31.6, 37.03N×20.61E, h20^{km}, ML4.9*
*MOS **05** 10:41:32.3±1.2, 37.43N×20.55E, h27^{km}, mb5.0/19, MS4.3/23, Error ellipse: s-maj=8.4km s-min=3.8km az=83.3*
*NEIC **05** 10:41:33.9±0.6, 37.31N×20.56E, h29^{km}±5^{km}, mb4.7/77, ML4.9(THE), ML4.8(ATH), Error ellipse: s-maj=3.4km s-min=1.9km az=190.0*
*ZUR_RM **05** 10:41:33, 37.31N×20.56E, h12^{km}, Mw4.8/29, Moment Tensor Solution. s29 Moment tensor: Scale 10^{16}Nm; M_{rr}0.09; $M_{\theta\theta}$0.14; $M_{\phi\phi}$-0.23; $M_{r\theta}$1.21; $M_{\theta\phi}$0.46; $M_{\phi r}$-1.38; Best double couple: $M_0$1.86×10^{16} NP1:ϕ_s138°, δ85°, λ86°. NP2:ϕ_s359°, δ6°, λ131°. Principal axes: T 1.646, Plg50°, Azm43°; N .433, Plg4°, Azm138°; P -2.079, Plg40°, Azm232°;*
*MED_RC **05** 10:41:33.9±0.3, 37.31N×20.56E, h15^{km}, MW4.7/8, Moment Tensor Solution. Body waves: s8,c9; Duration: 1^{s}0 Moment tensor: Scale 10^{16}Nm; M_{rr}7.12±.39; $M_{\theta\theta}$-3.62±.41; $M_{\phi\phi}$-3.50±.27; $M_{r\theta}$5.05±.79; $M_{\theta\phi}$5.74±.45; $M_{\phi r}$-6.86±.56; Best double couple: $M_0$1.19×10^{16} NP1: ϕ_s304°, δ23°, λ73°. NP2:ϕ_s142°, δ68°, λ97°. Principal axes: T 1.08, Plg66°, Azm65°; N .2, Plg7°, Azm320°; P -1.29, Plg23°, Azm227°; nsta1 refers to waves, cutoff=35s.*
*PDG **05** 10:41:34.4±0.8, 37.35N×20.44E, h40^{km}±1^{km}*
*CSEM **05** 10:41:34.8±0.0, 37.35N×20.53E, h60^{km}, mb4.5/42, Ms3.7, Mw4.9, Error ellipse: s-maj=1.3km s-min=0.8km az=16.0*
*ORF **05** 10:41:35.6, 37.33N×20.42E, h50^{km}, mb4.3, ML4.8*
ISC 05 10:41:33.7±0.2, **37.41N**±0.01×**20.53E**±0.01, **h44**^{km}±2^{km}, **h44**^{km}±1.8^{km}**:pP-P, n637**, σ**1^{s}33**/713, **mb4.9**/90, **MS4.6**/29, **48C-18D, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.77	4	ePB	P	10 41 48.8	+0.6
VLS				eSN	S	10 42 04.7	+5.8
RLS	Riolos of Patr	0.99	49	ePB	P	10 41 52.8	+1.5
ITM	Ithomi	1.14	101	ePN	P	10 41 54.2	+0.8
ITM				eSN	S	10 42 11.5	+3.4
LKD	Levkas	1.30	4	ePb	P	10 41 58.6	+2.8
EVR	Evrytania	1.81	33	ePB	P	10 42 06.3	+3.2
VLI	Veliai	2.05	109	ePB	P	10 42 07.7	+1.3
IGT	Igoumenitsa	2.13	356	ePn	P	10 42 10.0	+2.5
IGT				eSn	S	10 42 41.4	+8.6
JAN	Janina	2.26	6	ePB	P	10 42 11.9	+2.5
MKIT	Kithairon Oros	2.30	69	ePN	P	10 42 11.0	+1.0
KYTH	Kithira	2.31	119	ePB	P	10 42 11.1	+1.0
LKR	Lokris	2.31	57	ePN	P	10 42 11.2	+1.0
KEK	Kerkira	2.37	346	ePN	P	10 42 11.8	+0.8
NAIG	Nisos Aigina	2.38	81	ePN	P	10 42 11.5	+0.4
NSAL	Nisos Salamina	2.38	77	⇑iPN	P	10 42 12.0	+0.8
SRN	Sarande	2.50	351	ePn	P	10 42 14.8	+1.9
SRN				i Sn	S	10 42 44.0	+1.6
ATH	Athens Observa	2.59	77	ePN	P	10 42 14.9	+0.7
MPAR	Parnis Oros	2.65	73	⇑iPN	P	10 42 16.0	+1.0
PTL	Penteli	2.72	75	ePN	P	10 42 16.6	+0.6
PTL				eSN	S	10 42 50.5	+2.6
LSK	Leskovik	2.74	1	i Pn	P	10 42 18.6	+2.3
LSK				i Sn	S	10 42 52.3	+3.9
NEO	Neokhori	2.84	47	ePN	P	10 42 19.3	+1.6
XOR	Xorichti	2.86	46	ePn	P	10 42 19.8	+1.8
KZN	Kozani	3.05	18	ePN	P	10 42 23.4	+2.7
LIT	Litokhoron	3.09	29	ePn	P	10 42 23.0	+1.7
LIT				eSn	S	10 43 02.7	+5.2
KBN	Korca	3.22	4	i Pn	P	10 42 26.7	+3.6
KBN				i Sn	S	10 42 59.0	-1.5
FNA	Florina	3.43	11	ePn	P	10 42 28.4	+2.3
FNA				eSn	S	10 43 13.2	+7.2
FNA	Florina	3.43	11	S	S	10 43 13.2	+7.2
PAIG	Paliouri	3.52	43	ePn	P	10 42 27.9	+0.6
VAM	Vamos	3.57	123	ePN	P	10 42 27.6	-0.5
BIA	Bitola	3.66	9	⇓iPn	P	10 42 31.5	+2.2
BIA				i Pg	P	10 42 41.8	+13
BIA				i Sn	S	10 43 14.0	+2.3
BIA	Bitola	3.66	9	i Pn	P	10 42 31.5	+2.2
BIA				i Sn	S	10 43 14.0	+2.3
OHR	Ohrid	3.70	3	⇑iPn	P	10 42 32.1	+2.2
OHR				i Pg	P	10 42 45.6	+16

OHR				iSn	S	10 43 15.0	+2.2
OHR				iSb	S	10 43 26.3	+13
OHR				iSg	S	10 43 33.7	+21
OHR	Ohrid	3.70	3	⇑iPn	P	10 42 32.1	+2.2
OHR				iSn	S	10 43 15.0	+2.2
PLG	Polygyros	3.73	37	ePN	P	10 42 31.2	+0.8
THE	Thessaloniki	3.74	30	ePn	P	10 42 31.7	+1.3
GMB	Gambarie	3.80	283	ePn	P	10 42 31.1	-0.2
GMB	Gambarie	3.80	283	ePn	P	10 42 31.1	-0.2
GRG	Griva	3.83	22	ePn	P	10 42 32.9	+1.2
GRG				eSn	S	10 43 21.1	+5.1
GRG	Griva	3.83	22	ePn	P	10 42 32.9	+1.2
GRG				S	S	10 43 21.1	+5.1
GVD	Gavdhos	3.86	131	ePn	P	10 42 31.8	-0.3
MTTG	Motta San Giov	3.88	280	ePn	P	10 42 31.2	-1.3
MTTG	Motta San Giov	3.88	280	ePn	P	10 42 31.2	-1.2
SCLL	Scilla	3.91	284	ePn	P	10 42 31.4	-1.4
SCLL	Scilla	3.91	284	ePn	P	10 42 31.4	-1.4
TIR	Tirane	3.97	353	⇑iPn	P	10 42 35.5	+1.8
TIR				iSn	S	10 43 23.0	+3.5
OUR	Ouranopolis	3.97	42	ePn	P	10 42 34.4	+0.7
TDS	Terranova Siba	3.98	306	ePn	P	10 42 36.4	+2.5
TDS	Terranova Siba	3.98	306	ePn	P	10 42 36.4	+2.5
APE	Apeiranthos	4.00	93	PN	P	10 42 34.5	+0.3
APE	Apeiranthos	4.00	93	ePn	P	10 42 33.1	-1.1
THR4	Thira Island,	4.01	102	ePn	P	10 42 29.2	-5.2
THR4				eSn	S	10 43 15.2	-5.5
MSI	Messina ING	4.02	283	ePn	P	10 42 34.0	-0.4
MSI	Messina ING	4.02	283	ePn	P	10 42 34.0	-0.4
SOH	Sokhos	4.05	32	ePn	P	10 42 36.5	+1.6
SOH	Sokhos	4.05	32	ePn	P	10 42 36.5	+1.6
ATN	Antennamare	4.08	282	ePn	P	10 42 35.4	+0.1
ATN	Antennamare	4.08	282	ePn	P	10 42 35.4	+0.1
SANT	Santorini	4.08	103	eP	P	10 42 34.2	-1.1
SANT	Santorini	4.08	103	eP	P	10 42 34.2	-1.1
IDI	Anoyia	4.11	120	Pn	P	10 42 34.8	-0.8
	5.6nm,0.3s,baz=302,slow=14,SNR=17						
IDI				Sn	S	10 43 20.8	-2.3
	58nm,0.3s,baz=152,slow=23,SNR=11						
IDI	Anoyia	4.11	120	Sn	S	10 43 20.8	-2.3
QSH	Qafa e Shtames	4.13	353	ePn	P	10 42 36.8	+0.7
QSH				iSn	S	10 43 26.8	+3.0
ORI	Oriolo Calabro	4.15	311	ePn	P	10 42 36.9	+0.7
PE1	Pezze di Greco	4.16	325	ePn	P	10 42 36.7	+0.2
KNT	Kendrikon	4.17	25	ePn	P	10 42 38.6	+2.0
VAY	Valandovo	4.21	21	⇑iPn	P	10 42 38.4	+1.2
VAY				iPg	P	10 42 55.3	+18
VAY				iSn	S	10 43 25.3	-0.5
VAY				iSb	S	10 43 40.5	+15
VAY				i		10 43 55.1	
VAY	Valandovo	4.21	21	⇑iPn	P	10 42 38.4	+1.2
VAY				iSn	S	10 43 25.3	-0.5
AGST	Augusta-Monte	4.23	270	ePn	P	10 42 34.2	-3.2
AGST	Augusta-Monte	4.23	270	ePn	P	10 42 34.2	-3.2
SRS	Serrai	4.40	32	ePn	P	10 42 41.0	+1.1
SRS				eSn	S	10 43 35.1	+4.7
PZI	Palazzolo	4.47	267	ePn	P	10 42 37.9	-2.9
MEU	Monte Lauro	4.48	268	ePn	P	10 42 38.9	-2.0
MEU	Monte Lauro	4.48	268	ePn	P	10 42 38.9	-2.0
CUC	Castrocucco	4.50	306	P	P	10 42 41.7	+0.5
SG1	Sgolgore (BA)	4.55	320	ePn	P	10 42 42.1	+0.2
SKO	Skopje	4.61	8	⇑iPn	P	10 42 43.7	+0.9
	comp=Z,0.2nm,0.7s						
SKO				iPb	P	10 42 51.6	+8.8
SKO				iPg	P	10 43 04.7	+22
SKO				iSn	S	10 43 35.6	-0.1
SKO				iSg	S	10 44 01.5	+26
SKO				Lg		10 44 37.5	
	comp=Z,0.5nm,0.8s						
SKO				Lg		10 44 40.0	
	comp=E,4.2nm,2.5s						
SKO				Lg		10 44 45.0	
	comp=N,6.3nm,2.5s						
SKO	Skopje	4.61	8	⇑iPn	P	10 42 43.7	+0.9
SKO				iSn	S	10 43 35.6	-0.1
NPS	Neapolis	4.63	116	ePN	P	10 42 43.5	+0.5
SLNA	Salina	4.64	286	ePn	P	10 42 43.0	-0.3
SLNA	Salina	4.64	286	ePn	P	10 42 43.0	-0.3
PUK	Puka	4.65	354	ePn	P	10 42 44.1	+0.7
ULC	Ulcinj	4.65	348	⇑iPn	P	10 42 43.0	-0.4
ULC				eSn	S	10 43 35.1	-1.8
MNO	Monte Soro	4.66	278	ePn	P	10 42 42.4	-1.0
MNO	Monte Soro	4.66	278	ePn	P	10 42 42.4	-1.1
NVR	Nevrokopi	4.71	32	ePN	P	10 42 45.1	+1.0
MGR	Morigerati	4.75	307	ePn	P	10 42 44.2	-0.5
MGR	Morigerati	4.75	307	ePn	P	10 42 44.2	-0.5
MMB	Musomiste	4.85	30	⇑iP	P	10 42 46.0	-0.2
KKB	Krupnik	4.87	23	⇑iP	P	10 42 47.0	+0.6
VAE	Valguarnera	4.87	273	Pn	P	10 42 46.1	-0.3
	comp=N,31nm,0.3s,baz=163,slow=0.9,SNR=40						
VAE				Sn	S	10 43 44.8	+2.6
	comp=N,28nm,0.3s,baz=148,slow=19,SNR=2.9						
VAE	Valguarnera	4.87	273	Pn	P	10 42 46.2	-0.2
PRK	Paraskevi	4.87	66	ePN	P	10 42 47.3	+0.8
XRY	Khrisi	4.88	120	ePN	P	10 42 47.6	+1.0
CDT	Castel del Mon	4.94	319	ePn	P	10 42 47.4	+0.1
BOZC	Bozcaada	4.96	59	iP	P	10 42 52.3	+4.6
SMG	Samos	5.02	85	Pn	P	10 42 48.7	+0.2
BUM	Brajici-Budva	5.04	346	⇑iPn	P	10 42 48.2	-0.6
BUM				eSn	S	10 43 44.3	-2.3
BUM	Brajici-Budva	5.04	346	⇑iPn	P	10 42 48.2	-0.7
BUM				eSn	S	10 43 44.3	-2.3
WDD	Wield Dalam	5.07	254	Pn	P	10 42 47.8	-1.4
TTG	Podgorica	5.11	349	⇑iPn	P	10 42 49.3	-0.5
TTG				eSn	S	10 43 46.4	-1.9
CSLB	Castelbuono	5.16	278	ePn	P	10 42 49.4	-1.1
CSLB	Castelbuono	5.16	278	ePn	P	10 42 49.3	-1.2
GIB	Gibilmanna	5.19	278	ePn	P	10 42 49.6	-1.3
GIB	Gibilmanna	5.19	278	ePn	P	10 42 49.6	-1.3
PVY	Plav	5.20	355	⇑iPn	P	10 42 51.6	+0.6
PVY				eSn	S	10 43 49.5	-0.9
HCY	Herceg Novi	5.27	343	⇑iPn	P	10 42 50.7	-1.3
HCY				eSn	S	10 43 49.8	-2.4
RZN	Rozhen	5.36	36	⇑iP	P	10 42 54.0	+0.8
RDO	Rodhopi	5.39	45	ePn	P	10 42 51.0	-2.6
RDO				Pn	P	10 42 54.8	+1.2
RDO	Rodhopi	5.39	45	Pn	P	10 42 54.8	+1.2
IZM	Izmir	5.42	77	PN	P	10 42 52.0	-2.0
KDAG	Bornova	5.42	77	iP	P	10 42 54.1	0.0
FAVR	Favara	5.47	271	ePn	P	10 42 53.6	-1.2
FAVR	Favara	5.47	271	ePn	P	10 42 53.6	-1.2
IVA	Berane	5.48	355	⇑iPn	P	10 42 55.6	+0.7
IVA				eSn	S	10 43 55.9	-1.6
BARS	Barje	5.50	10	⇑iPn	P	10 42 55.2	+0.1
BARS				Sn	S	10 44 27.9	+30
CSSN	Cassano Irpino	5.50	311	ePn	P	10 42 56.1	+1.0
ALN	Alexandroupoli	5.52	49	ePn	P	10 42 55.9	+0.3
ALN	Alexandroupoli	5.52	49	ePn	P	10 42 55.8	+0.3
NKY	Niksic	5.52	348	⇑iPn	P	10 42 54.8	-0.8
NKY				eSn	S	10 43 55.7	-2.9
BDRM	Kayabasi	5.53	91	iP	P	10 42 57.1	+1.5
FGMS	Monte Sant'Ang	5.56	322	ePn	P	10 42 55.5	-0.6
FGMS	Monte Sant'Ang	5.56	322	ePn	P	10 42 55.5	-0.6
MS1	Monte Sant'Ang	5.56	322	ePn	P	10 42 55.5	-0.6
VTS	Vitosha	5.57	21	P	P	10 42 57.3	+1.1
FG5	Orsara di Pugl	5.62	315	ePn	P	10 42 58.0	+1.1
FG5	Orsara di Pugl	5.62	315	ePn	P	10 42 58.0	+1.1
KARP	Karpathos	5.66	107	ePN	P	10 42 57.1	-0.3
KDZ	Kurdzhali	5.67	40	⇑iP	P	10 42 57.0	-0.6
MRB1	Monte Rocchett	5.69	312	ePn	P	10 42 59.0	+1.2
MRB1	Monte Rocchett	5.69	312	ePn	P	10 42 59.0	+1.2
BRY	Bratogost	5.69	345	⇑iPn	P	10 42 56.5	-1.3
BRY				eSn	S	10 43 59.6	-3.3
BRY	Bratogost	5.69	345	⇑iPn	P	10 42 56.5	-1.4
BRY				eSn	S	10 43 59.6	-3.3
RGNG	Rignano Grg	5.72	320	ePn	P	10 42 58.0	-0.3
RGNG	Rignano Grg	5.72	320	ePn	P	10 42 58.0	-0.3
MLSB	Milas	5.78	89	ePN	P	10 42 59.9	+0.9
CLTB	Caltabellotta	5.82	274	ePn	P	10 42 58.5	-1.2
CLTB	Caltabellotta	5.82	274	ePn	P	10 42 58.5	-1.1
PGB	Panagyurishte	5.84	27	⇑iP	P	10 43 00.0	0.0
AYDN	Tasoluk	5.85	85	iP	P	10 43 03.5	+3.5
OVO	Vesuviano	5.86	307	ePn	P	10 43 00.8	+0.6
OVO	Vesuviano	5.86	307	ePn	P	10 43 00.8	+0.5
UPM	Unac-Piva	5.92	348	⇑iPn	P	10 43 00.5	-0.6
UPM				eSn	S	10 44 05.3	-3.2
AKS	Akhisar	5.93	73	PN	P	10 42 59.7	-1.4
USI	Ustica	5.94	285	ePn	P	10 42 59.2	-2.2
PLE	Pljevlja	5.98	352	⇑iPn	P	10 43 01.9	0.0
PLE				eSn	S	10 44 07.5	-2.5
FG2	Serracapriola	6.04	318	ePn	P	10 43 04.2	+1.5
FG2	Serracapriola	6.04	318	ePn	P	10 43 04.2	+1.5
NVSS	Nova Varos 2	6.12	354	⇓iPn	P	10 43 02.4	-1.6
NVSS				Sn	S	10 44 07.8	-5.9
SGG	Gregorio Mates	6.20	312	ePn	P	10 43 06.1	+1.0
SGG	Gregorio Mates	6.20	312	ePn	P	10 43 06.1	+1.1
ARG	Arkhangelos	6.21	99	ePN	P	10 43 04.8	-0.4
MANT	Manisa	6.44	78	iP	P	10 43 22.6	+14
CII	Carovilli	6.46	314	ePn	P	10 43 10.2	+1.6
CII	Carovilli	6.46	314	ePn	P	10 43 10.2	+1.6
GRUS	Gruza	6.47	1	⇓iPn	P	10 43 07.6	-1.3
GRUS				Sn	S	10 44 23.5	+1.1
BOLS	Boljevac	6.51	9	⇑iPn	P	10 43 08.3	-1.0
BOLS				Sn	S	10 44 52.9	+30
DALT	Dalyan (Mudla)	6.51	93	ePN	P	10 43 09.8	+0.4
LVI	Isola Levanzo	6.52	278	ePn	P	10 43 09.0	-0.6
LVI	Isola Levanzo	6.52	278	ePn	P	10 43 09.0	-0.5
EDRB	Edirne	6.53	45	ePN	P	10 43 06.7	-3.0
DIVS	Divcibare	6.69	357	⇓iPn	P	10 43 10.2	-1.8
DIVS				Sn	S	10 44 22.6	-5.2
DST	Dursunbey	6.72	68	ePN	P	10 43 10.6	-1.7
SDI	San Donato	6.74	312	ePn	P	10 43 12.2	-0.4
DNZL	Cakiroluk	6.77	85	iP	P	10 43 13.3	+0.2
PVL	Pavlikeni	6.86	31	⇓iP	P	10 43 13.0	-1.4
SVIS	Svilajnac	6.90	4	ePn	P	10 43 12.4	-2.5
PTQR	Pietraquaria	7.17	312	ePn	P	10 43 20.7	+2.1
CTT	Catalca	7.17	56	ePN	P	10 43 15.5	-3.2
ULDT	Uludag	7.26	65	iP	P	10 43 20.8	+1.0
DJES	Djerdap	7.37	11	⇑iPn	P	10 43 20.5	-0.9
AQU	L'Aquila	7.38	314	eP	P	10 43 21.4	0.0
	comp=N,39nm,0.8s						
AQU	L'Aquila	7.38	314	eP	P	10 43 21.5	0.0
	comp=N,39nm,0.8s						
TERO	Teramo	7.44	317	ePn	P	10 43 23.7	+1.3
TERO	Teramo	7.44	317	ePn	P	10 43 23.7	+1.4
ELL	Elmali	7.53	92	PN	P	10 43 24.6	+1.0
YLV	Yalova	7.57	63	ePN	P	10 43 21.4	-2.8
HOPOS	Hopovo Monaste	7.74	356	ePn	P	10 43 20.5	-6.0
MNS	Montasola	7.81	312	ePn	P	10 43 29.9	+2.4
NRCA	Norcia	7.85	316	ePn	P	10 43 28.4	+0.4
NRCA	Norcia	7.85	316	ePn	P	10 43 28.4	+0.4
HRT	Hereke	7.88	62	ePN	P	10 43 26.2	-2.2
ISP	Isparta	7.93	84	eP	P	10 43 29.6	+0.4
	comp=N,28nm,0.8s						
BUC1	Bucharest	8.09	29	⇓iP	P	10 43 31.9	+0.6
CING	Cingoli	8.17	319	ePn	P	10 43 32.8	+0.3
CING	Cingoli	8.17	319	ePn	P	10 43 32.8	+0.3
NVLJ	Novalja	8.33	331	iPn	P	10 43 33.6	-1.1
NVLJ				iSn	S	10 44 59.6	-8.8
NVLJ				iSg	S	10 45 47.6	+39
ESKT	Eskisehir	8.37	72	PN	P	10 43 33.0	-2.2
ESKT	Eskisehir	8.37	72	iP	P	10 43 36.2	+1.0
ESKT	Eskisehir	8.37	72	P	P	10 43 32.0	-3.2
ARV	Arcevia	8.39	319	ePn	P	10 43 34.6	-0.9
ARV	Arcevia	8.39	319	ePn	P	10 43 34.6	-0.9
MTUR	Matau	8.52	22	⇓iP	P	10 43 38.1	+0.8
FSSB	Fossombrone	8.61	319	ePn	P	10 43 37.6	-0.9
FSSB	Fossombrone	8.61	319	ePn	P	10 43 37.7	-0.9
RHK3	Tenkes	8.64	349	eP	P	10 43 36.5	-2.5
HENT	Hendek	8.75	64	iP	P	10 43 40.6	+0.1
MDU	Mudurnu	8.87	67	PN	P	10 43 39.7	-2.4
RHK1	Bakonya	8.87	349	⇑eP	P	10 43 39.8	-2.4
PKSM	Moragy	8.91	352	⇓eP	P	10 43 40.1	-2.6
PKSM				eS	S	10 45 15.9	-6.9
ISR	Istrita	8.93	29	⇓iP	P	10 43 44.2	+1.2
RSM	Repubblica di	8.95	319	ePn	P	10 43 44.2	+1.0
RSM	Repubblica di	8.95	319	ePn	P	10 43 44.2	+1.0
BOJS	Bojanci	9.00	336	iPn	P	10 43 42.0	-2.0
BOJS				eSn	S	10 45 19.1	-6.1
	comp=Z,850nm,4.1s						
MLR	Muntele Rosu	9.04	25	Pn	P	10 43 43.3	-1.1
	comp=Z,2.1nm,0.3s,baz=219,slow=6.3,SNR=30						
MLR				Lg		10 46 16.1	
	comp=Z,0.1nm,0.3s,baz=243,slow=16,SNR=1.5						
MLR	Muntele Rosu	9.04	25	⇑iP	P	10 43 45.8	+1.3
MLR	Muntele Rosu	9.04	25	⇑iP	P	10 43 45.8	+1.3
KIZT	Kizilcal	9.06	77	PN	P	10 43 43.5	-1.3
KRIT	Krib	9.24	267	⇓iP	P	10 43 47.0	-0.3
SFI	Santa Sofia	9.25	317	ePn	P	10 43 49.4	+2.0
BLIT	Baltah	9.28	269	⇑iP	P	10 43 47.5	-0.3
CSNT	Castellina Chi	9.29	314	ePn	P	10 43 49.2	+1.3
CSNT	Castellina Chi	9.29	314	ePn	P	10 43 49.2	+1.3
PGD	Poggio Sodo	9.30	317	ePn	P	10 43 50.0	+1.9
PKS9	Tamasi	9.32	350	eP	P	10 43 46.6	-1.8
GOLS	Golise	9.34	338	P	P	10 43 47.1	-1.6
VISS	Visnje	9.40	335	ePn	P	10 43 47.4	-2.1
VISS				eSn	S	10 45 28.9	-6.2
VMG	Vicchio	9.45	317	ePn	P	10 43 52.2	+2.0
CEY	Cerknica	9.49	333	ePn	P	10 43 49.5	-1.2
CEY				eSn	S	10 45 31.5	-5.7
DOBS	Dobrina	9.51	338	P	P	10 43 49.3	-1.7
SGKT	Sivrigoynuk	9.51	67	iP	P	10 43 53.0	+2.0
HDMB	Hadim	9.55	89	ePN	P	10 43 50.9	-0.7
PKS8	Sarbogard	9.56	352	eP	P	10 43 49.4	-2.2
PDKS	Podkum	9.60	336	iPn	P	10 43 49.6	-2.5
PDKS				eSn	S	10 45 32.1	-7.6
	comp=Z,701nm,3.0s						
VRI	Vrincioaia	9.64	27	⇑iP	P	10 43 53.0	+0.3
VRI	Vrincioaia	9.64	27	P	P	10 43 53.6	+0.9
LJU	Ljubljana	9.72	334	ePn	P	10 43 52.0	-1.8
LJU				eSn	S	10 45 36.7	-6.1
JAVS	Javornik	9.76	332	ePn	P	10 43 52.8	-1.5
JAVS				eSn	S	10 45 34.9	-8.7
GHAT	Ghardimaou	9.83	268	⇑iP	P	10 43 55.0	-0.3
VOY	Vojsko	9.94	332	ePn	P	10 43 54.7	-2.1
VOY				eSn	S	10 45 37.8	-10
PKSG		10.10	352	eP	P	10 43 56.9	-2.1
OBKA	Obir	10.12	336	⇑iPN	P	10 43 57.5	-1.8
OBKA				iSN	S	10 45 46.4	-6.2
PGF	Pioggiola	10.23	304	eP	P	10 43 59.2	-1.6
	comp=Z,98nm,1.2s						
GMNA	Gemona	10.39	331	ePn	P	10 44 05.5	+2.5
GMNA	Gemona	10.39	331	ePn	P	10 44 05.5	+2.5
PTCC	Patocco-Chiusa	10.45	332	ePn	P	10 44 02.0	-1.9
ARSA	Arzberg	10.51	341	⇑iPN	P	10 44 02.9	-1.7
ARSA				iSN	S	10 45 55.5	-6.5
ELDT	Eldivan	10.51	69	iP	P	10 44 04.2	-0.4
PSZ	Piszkesteto	10.51	358	⇑eP	P	10 44 03.7	-1.0
PSZ				eS	S	10 45 55.5	-6.6
PSZ	Piszkesteto	10.51	358	eP	P	10 44 02.6	-2.1
	comp=Z,41nm,0.8s						
CMAH	Djebel Manchou	10.51	270	P	P	10 44 04.5	-0.2
ABSA	Djebel Ababsia	10.52	268	P	P	10 44 06.0	+1.1
BRTR	Keskin Array B	10.52	73	Pn	P	10 44 06.5	+1.6
	comp=Z,0.3nm,0.3s,baz=256,slow=13,SNR=18						
BRTR				LR	LR	10 48 30.1	
	comp=Z,651nm,18.7s,baz=255,slow=40						
KAMT	Kaman	10.53	75	ePN	P	10 44 02.4	-2.6
IKL	Isikli	10.61	92	PN	P	10 44 05.5	-0.6
IKL	Isikli	10.61	92	P	P	10 44 03.8	-2.3
CSS	Prodhromos	10.63	99	P	P	10 44 00.4	-5.9
	comp=Z,18nm,0.8s						
BALT	Daday	10.76	64	iP	P	10 44 09.9	+1.9
FVI	Forni Avoltri	10.83	330	ePn	P	10 44 08.6	-0.5
FVI	Forni Avoltri	10.83	330	ePn	P	10 44 08.6	-0.5
CTI	Castel Tesino	10.88	325	ePn	P	10 44 08.8	-0.9
MEST	Erdemli	10.92	90	iP	P	10 44 10.5	+0.2
KBA	Koelnbreinsper	11.03	333	⇓iPN	P	10 44 11.0	-0.7
KBA				iSN	S	10 46 08.3	-6.3
KECS	Kecovo	11.07	360	ePN	P	10 44 11.2	-1.0
KECS				e		10 44 25.5	
ZST	Bratislava	11.07	348	ePn	P	10 44 11.1	-1.1
TOS	Tosya	11.08	67	ePN	P	10 44 09.4	-2.9
UZH	Uzhgorod	11.29	6	eP	P	10 44 14.0	-1.2
UZH				eS	S	10 46 20.0	-1.0
UZH				MLR	MLR		
	comp=Z,2µm,14.0s						
CASM	Ain Smara	11.31	268	P	P	10 44 16.0	+0.4
AVNT	Avonos	11.37	79	iP	P	10 44 20.4	+4.1
KIS	Kishinev	11.38	30	eP	P	10 44 15.0	-1.4
KIS				eS	S	10 46 24.0	+0.9
KIS				MLR	MLR		
	comp=Z,12µm,14.0s						
KIS				MLR	MLR		
	comp=N,5µm,12.0s						
KIS				MLR	MLR		
	comp=Z,12µm,14.0s						
MOA	Molln	11.40	338	⇓iPn	P	10 44 14.9	-1.8
MOA				iSn	S	10 46 17.4	-6.3
KOLS	Kolonicke sedl	11.59	6	iPN	P	10 44 18.6	-0.6
KOLS				e		10 44 36.8	
JAVC	Velka Javorina	11.63	351	ePn	P	10 44 19.1	-0.7
JAVC	Velka Javorina	11.63	351	P	P	10 44 19.7	-0.1
DFRA	Djebel Bou Aff	11.75	270	P	P	10 44 22.5	+1.0
BRMO	Bormio	11.79	323	ePn	P	10 44 23.6	+1.7
BRMO	Bormio	11.79	323	ePn	P	10 44 23.6	+1.6
BOYT	Boyabat	11.82	66	iP	P	10 44 30.2	+7.9
SAOF	Saorge	11.83	308	eP	P	10 44 22.3	-0.2
WTTA	Wattenberg	11.83	329	⇓iPn	P	10 44 21.2	-1.4
WTTA				iSn	S	10 46 28.4	-5.8
SBF	Sospel	11.85	307	eP	P	10 44 21.4	-1.3
	comp=Z,68nm,0.9s						
CMER	Merouana	11.91	266	P	P	10 44 24.0	+0.4
AUTN	L'Aution	11.91	308	eP	P	10 44 22.7	-1.0
WATA	Walderalm	11.92	329	⇓iPn	P	10 44 21.4	-2.3
WATA				iSn	S	10 46 31.5	-4.7
AURF	Auriere	11.93	307	eP	P	10 44 25.8	+2.0
NIE	Niedzica	12.01	359	eP	P	10 44 25.1	+0.3
KRUC	Moravsky	12.03	347	ePn	P	10 44 23.3	-1.9
MOTA	Moosalm	12.12	328	⇑iPn	P	10 44 27.0	+0.6
MOTA				iSn	S	10 46 33.7	-7.4
CALN	Calern	12.14	306	eP	P	10 44 24.5	-2.3
FRF	La Foret Royal	12.22	305	eP	P	10 44 26.1	-1.6
	comp=Z,77nm,1.4s						
VRAC	Vranov	12.23	348	Pn	P	10 44 26.6	-1.3
	comp=Z,0.7nm,0.3s,baz=177,slow=14,SNR=5.8						
VRAC	Vranov	12.23	348	ePn	P	10 44 26.3	-1.6
VDL	Val di Lei	12.24	321	⇓P	P	10 44 30.1	+2.1
DAVOX	Davos	12.25	323	Pn	P	10 44 30.1	+2.0
	comp=Z,0.9nm,0.3s,baz=141,slow=17,SNR=8.2						
DAVOX				Sn	S	10 46 38.2	-5.9
	comp=Z,1.8nm,0.3s,baz=315,slow=19,SNR=4.2						
KWP	Kalwaria	12.32	7	eP	P	10 44 29.5	+0.4
KWP				e		10 44 36.4	
KWP	Kalwaria	12.32	7	eP	P	10 44 29.5	+0.4
KWP				e		10 44 36.4	
KWP				MLR	MLR	10 52 44.5	
	comp=Z,2µm,15.3s						
GEC2	GERESS Array S	12.46	339	eP	P	10 44 29.3	-1.7
GEC2				pmax	pmax		
	comp=Z,30nm,1.7s						
GEC2	GERESS Array S	12.46	339	eP	P	10 44 29.3	-1.7
	comp=Z,30nm,1.7s						
GERES	GERESS Array B	12.46	339	Pn	P	10 44 29.1	-1.9
	comp=Z,0.5nm,0.3s,baz=156,slow=13,SNR=14						
GERES				Sn	S	10 46 39.4	-10
	comp=Z,1.0nm,0.3s,baz=151,slow=20,SNR=5.2						
GERES	GERESS Array B	12.46	339	P	P	10 44 29.1	-1.9
GERES						10 46 39.4	
GERES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GERES				smax			
	comp=N,1.0nm,0.3s						
OKC	Ostrava-Krasne	12.54	353	eP	P	10 44 30.9	-1.2
OKC				AMS	AMS	10 50 00.0	
	comp=N,2µm,11.1s						
MORC	Moravsky Berou	12.55	351	eP	P	10 44 29.9	-2.2
	comp=N,7.2nm,0.8s						
MORC	Moravsky Berou	12.55	351	ePn	P	10 44 31.0	-1.2
COBT	Iskenderun	12.61	89	iP	P	10 44 31.5	-1.5
LVV	L'vov	12.66	10	eP	P	10 44 34.0	+0.4
MBDF	Montbardon	12.69	309	eP	P	10 44 34.1	+0.1
	comp=N,61nm,0.9s						
SIM	Simferopol'	12.70	49	P	P	10 44 34.4	+0.3
SIM				pmax	pmax		
	comp=Z,16nm,0.8s						
SIM				MLR	MLR		
	comp=Z,600nm,15.0s						
HNTI	Hanita	12.72	105	Sn	S	10 46 40.2	-15
KHC	Kasperske Hory	12.76	339	eP	P	10 44 32.2	-2.7
KHC				MLR	MLR		
	comp=Z,2µm,11.3s						
KHC	Kasperske Hory	12.76	339	eP	P	10 44 32.2	-2.7
KHC				P		10 44 35.4	
KHC				e		10 44 41.5	
KHC				e		10 45 08.5	
KHC	Kasperske Hory	12.76	339	eP	P	10 44 32.2	-2.7
KHC				x	x	10 44 41.5	
KHC				x	x	10 45 08.5	
KHC				AMS	AMS	10 50 50.0	
	comp=Z,2µm,11.3s						
KHC	Kasperske Hory	12.76	339	P	P	10 44 35.4	+0.5
BNI	Bardonecchia	12.91	311	P	P	10 44 37.7	+0.7
	comp=Z,14nm,1.3s						
BNI	Bardonecchia	12.91	311	P	P	10 44 37.7	+0.7
	comp=Z,14nm,1.3s						
WET	Wettzell	12.98	337	eP	P	10 44 36.1	-1.7
WET				pmax	pmax		
	comp=Z,36nm,1.4s						
WET	Wettzell	12.98	337	eP	P	10 44 36.1	-1.7
	comp=Z,36nm,1.4s						
SLTI	Sal'it	12.99	109	Sn	S	10 46 46.2	-16
HRI	Mount Hermon	13.08	104	Pn	P	10 44 34.2	-5.1
LPG	La Plagne	13.11	312	eP	P	10 44 41.5	+2.0
	comp=Z,26nm,0.8s						
LPL	La Plagne	13.13	312	eP	P	10 44 42.0	+2.2
	comp=Z,16nm,0.8s						
KZIT	Kziot	13.18	115	Pn	P	10 44 34.9	-5.7
KZIT				Sn	S	10 46 49.4	-17
MMLI	Mount Malkishu	13.19	108	Pn	P	10 44 35.9	-4.7
DPC	Dobruska-Polom	13.28	348	eP	P	10 44 40.8	-1.1
DPC				AMS	AMS	10 50 50.0	
	comp=Z,2µm,11.8s						
GAZ	Gaziantep	13.29	86	ePN	P	10 44 41.0	-1.0
PRU	Pruhonice	13.29	343	P	P	10 44 40.3	-1.7
PRU				pmax	pmax		
	comp=Z,32nm,1.3s						
PRU				MLR	MLR		
	comp=Z,1µm,10.0s						
PRU	Pruhonice	13.29	343	P	P	10 44 40.3	-1.7
	comp=Z,32nm,1.3s						
PRU				AMS	AMS	10 50 40.0	
ORIF	Oris-en-Rattie	13.33	309	eP	P	10 44 43.6	+1.1
	comp=Z,23nm,0.7s						
ORIF				eR			
	comp=Z,505nm,21.0s						
HMDT	Nahal Hemdat	13.35	108	Pn	P	10 44 38.4	-4.3
HDH	Heidenheim	13.47	329	P	P	10 44 44.8	+0.5
UPC	Upice	13.49	348	eP	P	10 44 54.6	+10
GZT	Gaziantep	13.55	85	iP	P	10 44 50.8	+5.5
DRGI	Dragot	13.56	111	Pn	P	10 44 41.0	-4.5
MZDA	Masada	13.68	112	Pn	P	10 44 41.3	-5.7
MZDA				Sn	S	10 47 02.6	-16
KSP	Ksiaz	13.77	349	eP	P	10 44 45.0	-3.1
KSP				ePP	PP	10 44 58.0	-1.0
PVCC	Panska Ves	13.79	344	eP	P	10 44 48.0	-0.4
PVCC				AMS	AMS	10 52 20.0	
	comp=Z,1µm,8.9s						
KMTI	Karmit	13.87	118	Pn	P	10 44 43.9	-5.6
KMTI				Sn	S	10 47 05.6	-17
FELD	Feldberg	13.92	323	eP	P	10 44 51.6	+1.5
PRNI	Paran	13.93	116	Pn	P	10 44 43.9	-6.4
PRNI				Sn	S	10 47 07.6	-17
ZFRI	Zfri	13.94	115	Pn	P	10 44 44.6	-5.9
ABA	Alger-Bouzarea	13.98	273	P	P	10 44 50.0	-1.0
GRA1	Grafenberg Arr	13.99	334	eP	P	10 44 46.6	-4.5
	comp=Z,44nm,1.0s						
GRF	Grafenberg Arr	13.99	334	eP	P	10 44 46.6	-4.5
GRF				pmax	pmax		
	comp=Z,44nm,1.0s						
GRF				MLR	MLR		
	comp=Z,1µm,15.0s						
STU	Stuttgart	14.04	328	P	P	10 44 50.1	-1.5
VIVF	Saint-Julien-l	14.06	307	eP	P	10 44 48.8	-3.2
	comp=Z,21nm,0.9s						
NKC	Novy Kostel	14.07	338	eP	P	10 44 54.4	+2.3
NKC				AMS	AMS	10 51 30.0	
	comp=Z,2µm,11.0s						
BFO	Black Forest	14.09	325	eP	P	10 44 54.2	+1.8
BFO				pmax	pmax		
	comp=Z,34nm,1.2s						
BFO	Black Forest	14.09	325	eP	P	10 44 54.2	+1.8
	comp=Z,34nm,1.2s						
CABF	La Chapelle	14.12	315	eP	P	10 44 53.3	+0.6
	comp=Z,15nm,0.7s						
EMHD	Djebel Mahouad	14.14	270	P	P	10 44 54.0	+0.9
LOMF	Lomont	14.16	319	eP	P	10 44 59.4	+6.1
MYA	Malataya	14.17	81	ePN	P	10 44 52.3	-1.2
MBH	Mount Berech	14.18	118	Pn	P	10 44 47.7	-6.0
BRG	Berggiesshubel	14.26	343	eP	P	10 44 53.1	-1.4
BRG				pmax	pmax		
	comp=Z,10.0nm,1.1s						
BRG				MLR	MLR		
	comp=N,630nm,12.8s						
BRG				MLR	MLR		

comp=E,570nm,12.8s
BRG MLR MLR
comp=Z,1µm,16.9s
BRG Berggiesshubel 14.26 343 *e*P **P 10 44 53.1 -1.4**
comp=Z,10nm,1.1s
BRG *e* 10 48 24.7
LASF Ste Croix 14.28 303 *e*P **P 10 44 56.5 +1.7**
comp=Z,41nm,0.9s
EIL Elat 14.28 119 Pn **P 10 44 49.5 -5.5**
AQBJ Aqaba 14.31 118 Pn **P 10 44 50.1 -5.3**
ASF Jabal al Asfar 14.42 106 Pn **P 10 44 54.6 -2.2**
comp=Z,0.5nm,0.3s,baz=151,slow=5.2,SNR=4.6
HINF Hinteralfeld 14.45 320 *e*P **P 10 44 57.1 0.0**
comp=Z,62nm,1.1s
ECH Echery 14.57 322 *e*P **P 10 44 58.1 -0.5**
ALWS Ilw as Safayha 14.57 119 P **P 10 44 55.5 -3.3**
ELZG Elazig 14.61 80 *i* P **P 10 45 00.2 +1.1**
WLS Welschbruch 14.61 323 *e*P **P 10 45 07.2 +8.0**
HAQS Haql 14.64 121 P **P 10 44 56.3 -3.4**
CDF Champ du Feu 14.65 323 *e*P **P 10 44 58.0 -1.6**
comp=Z,62nm,0.9s
KIEV Kiev 14.66 22 P **P 10 44 58.0 -1.8**
AKASG Malin Array Be 14.67 22 Pn **P 10 44 58.9 -1.0**
comp=Z,2.3nm,0.3s,baz=210,slow=12,SNR=25
AKASG Malin Array Be 14.67 22 P **P 10 44 58.9 -1.0**
AKASG pmax pmax
comp=Z,2.0nm,0.3s
MOX Moxa 14.69 337 *i* P **P 10 45 00.8 +0.7**
comp=Z,logA/T=1.5
MOX *i* 10 45 08.0
MOX L 10 52 22.0
MOX Moxa 14.69 337 *e*P **P 10 45 00.8 +0.7**
MOX pmax pmax
comp=Z,44nm,1.3s
MOX MLR MLR
comp=Z,900nm,14.0s
MOX Moxa 14.69 337 *e*P **P 10 45 00.8 +0.7**
comp=Z,44nm,1.3s
MOX *e* 10 45 08.2
JMOS Jabal al Moall 14.69 120 P **P 10 44 56.6 -3.8**
ANN Anapa 14.71 55*c* *i*P **P 10 45 05.9 +5.4**
ANN pmax pmax
comp=Z,182nm,0.9s
LANF Langenberg 14.80 325 *e*P **P 10 45 10.7 +9.0**
HAU Haudompre 14.83 320 *e*P **P 10 45 03.1 +1.0**
comp=Z,99nm,0.9s
HAU *e*R
comp=Z,576nm,22.2s
WAR Warsaw 14.84 1 *e*P **P 10 45 09.4 +7.3**
WAR Warsaw 14.84 1 *e*P **P 10 45 09.4 +7.3**
TOD Tromm 14.84 329 *e*P **P 10 45 10.5 +8.3**
KELT Kelkit 14.86 74 *i* P **P 10 45 11.1 +8.7**
CLL Collm 14.89 341 P **P 10 45 04.0 +1.2**
comp=Z,logA/T=1.2
CLL *i* 10 45 09.7
CLL *i* 10 45 18.8
CLL *e* 10 48 53.0
CLL L 10 50 04.0
CLL Collm 14.89 341 *e*P **P 10 45 04.0 +1.2**
CLL pmax pmax
comp=Z,25nm,1.5s
CLL Collm 14.89 341 P **P 10 45 04.0 +1.2**
comp=Z,25nm,1.5s
CLL *i* 10 45 09.7
TAYS Tayyib Ism 14.92 122 P **P 10 45 01.3 -2.0**
PTK Pertek 14.92 79 *e*PN **P 10 45 01.5 -1.7**
KTD Kalmit 14.93 327 *e*P **P 10 45 11.5 +8.2**
GUMT Gumushane 15.06 72 *e*PN **P 10 45 03.1 -2.0**
BDAS Al Bad' 15.15 122 P **P 10 45 03.3 -2.9**
MTLF Montolieu 15.15 299 *e*P **P 10 45 04.2 -2.0**
comp=Z,31nm,1.1s
THEF They Montfort 15.16 320 *e*P **P 10 45 13.1 +6.8**
EZC Erzincan 15.27 75 *e*PN **P 10 45 01.7 -6.0**
JMQS Jabal Moqyreh 15.40 119 P **P 10 45 06.3 -3.2**
SMF Signal de Mont 15.43 312 *e*P **P 10 45 08.2 -1.6**
comp=Z,18nm,0.6s
EPOB Poblet 15.54 291 P **P 10 45 14.7 +3.4**
comp=Z,7.4nm,0.7s
ABH Alteburg 15.58 327 *e*P **P 10 45 16.7 +5.0**
ETRT Tiaret 15.62 268 P **P 10 45 14.0 +1.7**
EANR 'Ain N'Sour 15.66 271 P **P 10 45 12.0 -0.8**
LOR Lormes 15.75 314 *e*P **P 10 45 14.5 +0.6**
comp=Z,25nm,0.9s
LOR *e*R
comp=Z,369nm,21.2s
CAF Calviac 15.78 304 *e*P **P 10 45 16.6 +2.3**
RUE Ruedersdorf 15.80 345 *e*P **P 10 45 20.1 +5.6**
comp=Z,226nm,1.0s
MEZF Maizieres J'vi 15.82 319 *e*P **P 10 45 19.7 +4.9**
comp=Z,104nm,0.9s
SOC Sochi 15.83 61 *e*P **P 10 45 16.3 +1.3**
SOC *e*S **S 10 48 07.4 -1.6**
SOC pmax pmax
comp=Z,25nm,0.7s
SOC pmax pmax
comp=N,33nm,1.2s
SOC pmax pmax
comp=E,31nm,1.1s
SOC MLR MLR
comp=Z,398nm,16.0s
SOC MLR MLR
comp=N,145nm,13.0s
SOC MLR MLR
comp=E,315nm,16.0s
SSF Saint Saulge 15.84 313 *e*P **P 10 45 14.3 -0.8**
EBR Ebro Roquetas 15.92 289 *e*PNPN 10 45 33.5
BGF Bois d'Agland 15.98 310 *e*P **P 10 45 20.3 +3.4**
comp=E,50nm,1.0s
GKP Gorka Klasztor 16.03 353 *e*P **P 10 45 22.2 +4.8**
GKP Gorka Klasztor 16.03 353 *e*P **P 10 45 22.2 +4.8**
GKP MLR MLR 10 56 11.6
comp=E,2µm,14.1s
MELF Melles 16.06 296 *e*P **P 10 45 23.9 +6.0**
CLZ Clausthal 16.11 337 *e*P **P 10 45 24.1 +5.6**
comp=E,167nm,2.0s
EGRA Graus 16.24 293 P **P 10 45 23.6 +3.4**
TCF Toulx Ste Croi 16.25 309 *e*P **P 10 45 22.5 +2.3**
comp=E,90nm,1.4s
RJF Les Rejaudoux 16.29 305 *e*P **P 10 45 21.8 +1.1**
comp=E,26nm,1.0s
RJF *e*R
comp=E,566nm,18.5s
RESF Ens 16.35 296 *e*P **P 10 45 24.9 +3.4**
EPF Esparros 16.40 296 *e*P **P 10 45 23.4 +1.3**
comp=E,45nm,1.2s
EBEN Beniarda 16.40 281 P **P 10 45 23.9 +1.7**
comp=E,24nm,0.8s,SNR=4.6
EZM Erzurum 16.46 75 *e*PN **P 10 45 22.2 -0.7**
ERZM Erzurum 16.46 75 *i* P **P 10 45 24.8 +1.8**
LABF Labassere 16.59 296 *e*P **P 10 45 27.1 +2.5**
VIEF Viey 16.59 296 *e*P **P 10 45 27.1 +2.5**
EMOS Mosqueruela 16.61 287 P **P 10 45 29.3 +4.4**
LFF La Frestale 16.67 303 *e*P **P 10 45 26.4 +0.9**
comp=E,69nm,1.1s
SUW Suwalki 16.71 5 *e*P **P 10 45 25.9 0.0**
SUW MLR MLR
comp=Z,2µm,14.3s
SUW Suwalki 16.71 5 *e*P **P 10 45 25.9 0.0**
SUW *e* 10 45 33.2
SUW Suwalki 16.71 5 *e*P **P 10 45 25.9 0.0**
SUW *e* 10 45 33.2
SUW MLR MLR 10 54 12.6
comp=Z,2µm,14.3s
ESAC San Caprasio 16.75 291 P **P 10 45 33.2 +6.7**
comp=Z,35nm,0.7s
REYF Montagne du Re 16.93 296 *e*P **P 10 45 31.2 +2.4**
HGN Heimansgroeve 16.93 327 *e*P **P 10 45 35.4 +6.6**
comp=Z,15nm,1.6s
HGN *e*S **S 10 48 32.8 -1.5**
GIVF Givet 16.98 323 *e*P **P 10 45 34.1 +4.8**
comp=Z,78nm,1.0s
ETSF Etsaut 17.01 295 *e*P **P 10 45 31.0 +1.1**
comp=Z,110nm,1.0s
BAIF Baives 17.24 322 *e*P **P 10 45 36.8 +4.1**
comp=Z,32nm,0.9s
EMUR La Murta 17.25 278 P **P 10 45 33.2 +0.3**
comp=Z,13nm,0.7s
EMUR La Murta 17.25 278 P **P 10 45 33.2 +0.3**
comp=Z,13nm,0.7s,SNR=4.6
WTSB Winterswijk 17.48 331 *e*P **P 10 45 45.0 +9.4**
comp=Z,26nm,1.3s
SJPF Ste Jean 17.54 296 *e*P **P 10 45 37.5 +1.1**
comp=Z,74nm,0.9s
ETOR Torete 17.84 288 P **P 10 45 40.9 +0.7**
comp=Z,8.4nm,0.6s
ETOR Torete 17.84 288 P **P 10 45 40.9 +0.6**
comp=Z,8.4nm,0.6s,SNR=6.3
MFF Saint Martin d 17.86 307 *e*P **P 10 45 40.9 +0.5**
comp=Z,42nm,0.9s
BSEG Bad Segeberg 17.97 340 *e*P **P 10 45 42.9 +1.2**
BSEG pmax pmax
comp=Z,55nm,1.1s
KIV Kislovodsk 18.01 62*c* *i*P **P 10 45 42.8 +0.6**
KIV *e*S **S 10 48 59.3 +0.7**
KIV pmax pmax
comp=Z,25nm,0.9s
KIV pmax pmax
comp=N,5.0nm,0.7s
KIV MLR MLR
comp=Z,278nm,17.0s
KIV Kislovodsk 18.01 62 *e*P **P 10 45 41.7 -0.5**
comp=Z,53nm,0.9s
KIV Kislovodsk 18.01 62 *e*P **P 10 45 41.7 -0.5**
comp=Z,53nm,0.9s
TVAN Van 18.07 79 *i* P **P 10 45 42.9 -0.2**
BSD Bornholm Skovb 18.12 350 *i* P **P 10 45 43.2 -0.4**
comp=Z,41nm,0.9s
BSD *i* S **S 10 49 00.5 -0.6**
comp=Z,290nm,15.0s
EVIA Vianos 18.18 281 P **P 10 45 47.0 +2.5**
comp=Z,8.3nm,0.8s
EVIA Vianos 18.18 281 P **P 10 45 47.0 +2.5**
comp=Z,8.3nm,0.8s,SNR=4.5
GOF Gofitskoye 18.53 59⇑ *i*P **P 10 45 50.0 +1.2**
GOF pmax pmax
comp=Z,60nm,1.0s
GOF MLR MLR
comp=Z,1µm,14.0s
EBER Berja 18.67 276 P **P 10 45 50.0 -0.5**
comp=Z,24nm,0.9s
EBER Berja 18.67 276 P **P 10 45 50.0 -0.5**
comp=Z,24nm,0.9s,SNR=11
EQES Quesada 18.70 278 P **P 10 45 49.9 -0.9**
comp=Z,13nm,0.7s
EQES Quesada 18.70 278 P **P 10 45 49.9 -0.9**
comp=Z,13nm,0.7s,SNR=12
LDF La Druitiere 18.73 313 *e*P **P 10 45 51.4 +0.3**
comp=Z,151nm,1.4s
UMJS Umm Lajj 18.75 126 P **P 10 45 50.3 -1.2**
FLN La Foliniere 19.02 313 *e*P **P 10 45 56.3 +1.9**
comp=Z,57nm,0.9s
FLN *e*R
comp=Z,381nm,20.8s
GRR Gorron 19.06 312 *e*P **P 10 45 55.5 +0.5**
COP Copenhagen 19.09 346 *i* P **P 10 45 50.6 -4.6**
comp=Z,21nm,0.6s
COP *i* S **S 10 49 30.6 +7.8**
comp=Z,170nm,17.0s
TI2 Plekhanov 19.14 69 *e*P **P 10 45 54.0 -1.9**
TI2 MLR MLR
comp=N,2µm,13.0s
TI2 MLR MLR
comp=E,2µm,13.0s
ELAN Lanestosa 19.15 295 P **P 10 45 58.5 +2.6**
comp=E,24nm,0.9s
ESDC Sonseca Array 19.28 284 P **P 10 45 57.2 -0.2**
comp=E,0.7nm,0.3s,baz=81,slow=12,SNR=26
ESDC Sonseca Array 19.28 284 P **P 10 45 57.4 -0.1**
comp=E,13nm,1.0s
ESDC Sonseca Array 19.28 284 P **P 10 45 57.4 0.0**
comp=E,13nm,1.0s,SNR=12
ESLA Sonseca Array 19.28 284 *e*P **P 10 45 57.3 -0.1**
comp=E,13nm,1.0s
ESLA Sonseca Array 19.28 284 *e*P **P 10 45 57.3 -0.1**
comp=E,13nm,1.0s
ERON Agron 19.38 276 P **P 10 45 58.6 0.0**
comp=E,2.8nm,0.3s
ERON Agron 19.38 276 P **P 10 45 58.6 +0.1**
comp=E,2.8nm,0.3s,SNR=8.1
VOR Voronezh 19.46 37 *e*P **P 10 45 59.0 -0.3**
VOR pmax pmax
comp=N,140nm,1.2s
VOR pmax pmax
comp=E,170nm,1.2s
VOR pmax pmax
comp=Z,200nm,1.2s
ELOJ Sierra Loja 19.63 277 P **P 10 46 02.0 +0.7**
comp=Z,2.8nm,0.4s,SNR=8.9
ELUQ Luque 19.67 278 P **P 10 46 01.2 -0.5**
comp=Z,38nm,0.7s
ELUQ Luque 19.67 278 P **P 10 46 01.2 -0.5**
comp=Z,38nm,0.7s,SNR=27
KBRS Khaybar 19.68 121 P **P 10 46 01.1 -0.8**
YNBS Yanbu' al Bahr 19.82 126 P **P 10 46 02.6 -0.8**
MPAL Palemas 19.83 271 *e*P **P 10 46 02.5 -0.9**
EADA Adamuz 19.84 280 P **P 10 46 01.4 -2.2**
comp=Z,10nm,0.7s,SNR=10
SGMF Saint Gilles 20.03 310 *e*P **P 10 46 04.4 -1.0**
comp=Z,153nm,1.4s
EMIJ Mijas 20.22 275 P **P 10 46 06.3 -1.3**
EMIJ Mijas 20.22 275 P **P 10 46 06.3 -1.2**
SNR=7.9
QUIF Quistinic 20.27 309 *e*P **P 10 46 11.1 +3.1**
comp=Z,40nm,0.8s
EARI Arriondas 20.44 295 P **P 10 46 09.8 0.0**
comp=Z,23nm,1.0s
EARI Arriondas 20.44 295 P **P 10 46 09.8 0.0**
comp=Z,23nm,1.0s,SNR=4.8
ROSF Rostrenen 20.50 310 *e*P **P 10 46 09.8 -0.6**
HILS Ha'il 20.51 113 P **P 10 46 10.5 -0.1**
MUD Monsted U'grnd 20.52 342 *i* P **P 10 46 12.0 +1.5**
comp=Z,52nm,0.8s
comp=Z,280nm,16.0s
MUD Monsted U'grnd 20.52 342 *e*P **P 10 46 12.0 +1.5**
comp=Z,52nm,0.8s
OBN Obninsk 20.80 27 P **P 10 46 12.6 -0.9**
comp=Z,361nm,0.7s,SNR=10
OBN Obninsk 20.80 27⇑ *i*P **P 10 46 12.4 -1.1**
OBN *i* S **S 10 50 04.2 +6.0**
OBN pmax pmax
comp=Z,136nm,1.7s
OBN MLR MLR
comp=Z,2µm,14.0s,MS4.5
OBN Obninsk 20.80 27 *e*P **P 10 46 12.2 -1.3**
comp=Z,90nm,0.8s
OBN Obninsk 20.80 27 *e*P **P 10 46 12.2 -1.3**
comp=Z,90nm,0.8s
ESPR Espera 21.02 277 P **P 10 46 14.3 -1.5**
comp=Z,27nm,0.9s,mb4.6
ESPR Espera 21.02 277 P **P 10 46 14.4 -1.5**
comp=Z,27nm,0.9s,mb4.6
MAK Makhachkala 21.30 66 *i* P **P 10 46 18.0 -0.5**
MAK pmax pmax
comp=Z,900nm,1.8s,mb5.8
MAK MLR MLR
comp=N,1µm,10.0s,MS4.7
MAK MLR MLR
comp=E,1µm,10.0s,MS4.7
MAK MLR MLR
comp=Z,2µm,10.0s,MS4.7
PBRG Braganca 21.43 290 *e*P **P 10 46 19.8 -0.1**
comp=Z,37nm,1.5s,mb4.5
PBRG Braganca 21.43 290 *e*P **P 10 46 19.7 -0.2**
ECAL Calabor 21.43 291 P **P 10 46 20.2 +0.3**
comp=Z,37nm,1.0s,mb4.7
ECAL Calabor 21.43 291 P **P 10 46 20.2 +0.3**
comp=Z,37nm,1.0s,mb4.7,SNR=8.5
VSU Vasula 21.45 9 P **P 10 46 20.1 +0.1**
EMIN Mina Concepcio 21.54 279 P **P 10 46 18.7 -2.2**
comp=Z,18nm,0.8s,mb4.5
EMIN Mina Concepcio 21.54 279 P **P 10 46 18.7 -2.3**
comp=Z,18nm,0.8s,mb4.6,SNR=20
MOS Moscow 21.67 27 *e*P **P 10 46 21.2 -1.0**
MOS *e* 10 46 36.4
MOS *e*PPP PPP 10 46 49.7 -8.0
MOS *e*S **S 10 50 17.2 +2.8**
MOS pmax pmax
comp=Z,140nm,1.0s,mb5.3
MOS pmax pmax
comp=N,120nm,0.9s
MOS MLR MLR
comp=Z,2µm,13.0s,MS4.8
EBAD Badajoz 21.70 282 P **P 10 46 23.8 +1.2**
comp=Z,11nm,0.8s,mb4.3
ERUA La Rua 21.76 292 P **P 10 46 23.3 +0.1**
comp=Z,18nm,1.0s,mb4.5
ERUA La Rua 21.76 292 P **P 10 46 23.3 +0.1**
comp=Z,18nm,1.0s,mb4.5,SNR=5.8
PCBR Castelo Branco 21.98 285 *e*P **P 10 46 25.1 -0.3**
comp=Z,42nm,1.2s,mb4.7
PCBR Castelo Branco 21.98 285 *e*P **P 10 46 25.0 -0.4**
MTE Manteigas 22.01 286 *e*P **P 10 46 25.5 -0.2**
comp=Z,31nm,0.8s,mb4.8
MTE *e*S **S 10 50 28.3 +7.4**
MTE Manteigas 22.01 286 *e*P **P 10 46 25.1 -0.7**
comp=Z,46nm,0.8s,mb5.0
MTE *e* 10 46 29.7
PVRL Vila Real 22.14 289 *e*P **P 10 46 27.6 +0.6**
comp=Z,48nm,1.8s,mb4.6
PALC Alcoutim 22.21 279 *e*P **P 10 46 28.9 +1.2**
comp=Z,27nm,2.1s,mb4.3
PALC Alcoutim 22.21 279 *e*P **P 10 46 28.8 +1.1**
PVIS Viseu 22.27 287 *e*P **P 10 46 28.1 -0.2**
comp=Z,54nm,1.5s,mb4.8
PVIS Viseu 22.27 287 *e*P **P 10 46 27.4 -0.9**
ELOB Lobios 22.41 290 P **P 10 46 28.7 -1.0**
PBEJ Beja 22.44 280 *e*P **P 10 46 29.2 -0.8**
comp=Z,18nm,0.9s,mb4.5
PBEJ Beja 22.44 280 *e*P **P 10 46 29.1 -0.9**
EVO Evora 22.50 282 *e*P **P 10 46 30.7 +0.2**
comp=Z,24nm,1.0s,mb4.3
EVO *e*R
comp=Z,391nm,21.0s
STS Santiago 22.83 293 P **P 10 46 30.8 -2.9**
HFS Hagfors 23.16 351 P **P 10 46 37.9 +1.2**
comp=Z,22nm,0.7s,mb4.7,baz=164,slow=11,SNR=24
HFS Hagfors 23.16 351 P **P 10 46 37.9 +1.2**
HFS pmax pmax
comp=Z,22nm,0.7s
PTEO Sao Teotonio 23.18 279 *e*P **P 10 46 37.9 +0.7**
comp=Z,33nm,0.8s,mb4.8
PTEO Sao Teotonio 23.18 279 *e*P **P 10 46 38.3 +1.1**
RST Umm Al-Ruwaisa 23.40 102 *e*P **P 10 46 39.6 +0.2**
RST AMb AMB 10 46 40.8
comp=Z,189nm,0.7s,mb5.6
RST Umm Al-Ruwaisa 23.40 102 *e*P **S 10 50 49.7 +4.0**
RST AMb AMB 10 50 51.8
comp=Z,46nm,0.9s,mb4.9
MIB Mutribah 23.53 101 *e*P **P 10 46 40.3 -0.3**
MIB AMb AMB 10 46 43.2
comp=Z,222nm,0.7s,mb5.7
MIB Mutribah 23.53 101 *e*P **S 10 50 51.1 +3.1**
MIB AMb AMB 10 50 57.7
comp=Z,60nm,1.2s,mb4.9
UMR Umm Al-Rimmam 23.93 101 *e*P **P 10 46 44.9 +0.3**
UMR AMb AMB 10 46 47.6
comp=Z,106nm,0.6s,mb5.4
EKA Eskdalemuir Ar 24.06 326 P **P 10 46 47.4 +1.8**
comp=Z,6.0nm,0.7s,mb4.1,baz=132,slow=6.3,SNR=12
EKA Eskdalemuir Ar 24.06 326 P **P 10 46 47.4 +1.9**
EKA pmax pmax
comp=Z,6.0nm,0.7s
KBD Kabd 24.09 102 *e*P **P 10 46 46.4 +0.3**
KBD Kabd 24.09 102 *e*P **S 10 51 00.2 +2.5**
RDF Al-Radifah 24.09 103 *e*P **P 10 46 46.1 +0.1**
RDF AMb AMB 10 46 48.9
comp=Z,58nm,0.8s,mb5.0
NAO01 NORSAR Array S 24.24 348 *e*P **P 10 46 46.9 -0.3**
comp=Z,22nm,0.6s,mb4.8
FINES FINESS Array B 24.31 6 P **P 10 46 48.8 +0.9**
comp=Z,13nm,0.7s,mb4.5,baz=180,slow=9.9,SNR=23
FINES LR LR 10 57 33.7
comp=Z,913nm,18.1s,MS4.3,baz=320,slow=40
FINES FINESS Array B 24.31 6 P **P 10 46 48.8 +0.9**
FINES pmax pmax
comp=Z,13nm,0.7s
FINES MLR MLR
comp=Z,913nm,18.1s
NB2 NORSAR Subarra 24.37 349 P **P 10 46 49.6 +1.1**
comp=Z,2.0nm,0.8s,baz=155,slow=9.3
NOA NORSAR Array B 24.37 349 P **P 10 46 49.9 +1.4**
comp=Z,17nm,0.9s,baz=159,slow=8.9,SNR=38
NOA LR LR 10 56 53.2
comp=Z,132nm,19.9s,baz=170,slow=38
NOA NORSAR Array B 24.37 349 P **P 10 46 49.9 +1.4**
NOA pmax pmax
comp=Z,17nm,0.9s
NOA MLR MLR
comp=Z,132nm,19.9s
QRN Al-Qurain 24.46 103 *e*P **P 10 46 50.8 +1.1**
QRN AMb AMB 10 46 56.4
comp=Z,98nm,0.9s,mb5.2
PECR Pechory 24.63 32 *e*P **P 10 46 53.0 +1.9**
PECR MLR MLR
comp=N,2µm,12.0s,MS5.0
PECR MLR MLR
comp=E,2µm,12.0s,MS5.0
PECR MLR MLR
comp=Z,2µm,12.0s,MS4.8
CIA Chichaoua 24.78 265 *i* P **P 10 46 50.0 -2.8**
KAF Kangasniemi 24.99 6 *e*P **P 10 46 54.6 +0.1**
comp=Z,14nm,0.6s,mb4.7,baz=190,slow=9.6
KAF Kangasniemi 24.99 6 *e*P **P 10 46 54.6 +0.1**
KAF pmax pmax
comp=Z,15nm,0.6s,mb4.7
RAYN Ar Rayn 25.50 116 P **P 10 47 00.1 +0.5**
comp=Z,62nm,0.8s,mb5.2,SNR=15
APA Apatity 31.07 10⇓ *i*P **P 10 48 01.1 +12**
APA *i* 10 52 57.1
APA MLR MLR
comp=Z,2µm,11.0s,MS5.1
ARU Arti 31.63 41⇑ *i*P **P 10 47 53.5 -1.1**
ARU *i* 10 48 56.4
ARU *e* 10 50 40.4
ARU *e*S **S 10 52 58.9 -0.5**
ARU *e*SS SS 10 54 46.5 -4.2
ARU *i* 10 58 17.1
ARU pmax pmax
comp=Z,37nm,1.1s,mb5.1
ARU MLR MLR
comp=Z,700nm,15.0s,MS4.5
ARU MLR MLR
comp=N,200nm,13.0s,MS4.4
ARU MLR MLR
comp=E,500nm,15.0s,MS4.4
ARU Arti 31.63 41 *e*P **P 10 47 53.1 -1.4**
comp=E,71nm,1.2s,mb5.4
ARCES ARCESS Array B 32.30 3 P **P 10 47 59.8 -0.5**
comp=E,5.5nm,0.8s,mb4.4,baz=189,slow=11,SNR=14
ARCES LR LR 11 02 31.8
comp=E,517nm,18.4s,MS4.2,baz=8.9,slow=39
ARCES ARCESS Array B 32.30 3 P **P 10 47 59.8 -0.5**
ARCES pmax pmax
comp=Z,6.0nm,0.8s
ARCES MLR MLR
comp=Z,517nm,18.4s
SVE Sverdlovsk 32.85 41⇑ *i*P **P 10 48 04.5 -0.6**
SVE *e* 10 49 09.8
SVE *e*S **S 10 53 20.0 +1.7**
SVE *e* 10 55 41.0
SVE pmax pmax
comp=Z,160nm,1.1s,mb5.9
SVE MLR MLR
comp=N,500nm,11.0s,MS5.1
SVE MLR MLR
comp=E,2µm,11.0s,MS5.1
SVE MLR MLR
comp=Z,3µm,11.0s,MS5.2
ZRNK Zerenda 36.77 49 *e*P **P 10 48 38.3 -0.4**
comp=Z,40nm,1.1s,mb5.2
ZRNK *e* 10 48 55.1
ZRNK *e*PP PP 10 50 00.2 -4.5
BRVK Borovoye 37.55 49 *e*P **P 10 48 44.9 -0.3**
comp=Z,30nm,0.9s,mb5.0
BVA0 Borovoye Array 37.61 49 *i* P **P 10 48 45.6 -0.1**
BVAR Borovoye Array 37.61 49 P **P 10 48 45.8 +0.1**
comp=Z,3.0nm,0.6s,mb4.2,baz=270,slow=5.9,SNR=18
DBIC Dimbokro 38.34 223 P **P 10 48 52.0 -0.2**
comp=Z,24nm,0.8s,mb5.0,baz=8.1,slow=9.3,SNR=18
DBIC LR LR 11 05 35.1
comp=Z,275nm,18.3s,MS4.1,baz=17,slow=38
DBIC Dimbokro 38.34 223 P **P 10 48 52.0 -0.2**
DBIC pmax pmax
comp=Z,24nm,0.8s
DBIC MLR MLR
comp=Z,275nm,18.3s
DBIC Dimbokro 38.34 223 *e*P **P 10 48 51.7 -0.5**
comp=Z,31nm,0.8s,mb5.1
TIC Toumodi 38.45 224 *e*P **P 10 48 52.5 -0.6**
comp=Z,17nm,0.2s,mb5.4
KIC Kosan Boka 38.53 223 *e*P **P 10 48 53.2 -0.6**
comp=Z,153nm,1.0s,mb5.7
LIC Lamto 38.80 223 *e*P **P 10 48 55.6 -0.4**
comp=Z,111nm,0.8s,mb5.6
AAK Ala-Archa 41.07 65⇓ *i*P **P 10 49 14.4 -0.1**
AAK Ala-Archa 41.07 65 *e*P **P 10 49 13.9 -0.6**

comp=Z,18nm,1.1s,mb4.6
FRU Bishkek 41.12 65 *e*P **P 10 49 15.5 +0.6**
FRU MLR MLR
comp=Z,500nm,16.0s,MS4.5
KMBO Kilima Mbogo 41.35 154 P **P 10 49 19.2 +2.1**
comp=Z,3.4nm,1.0s,mb3.9,baz=323,slow=5.7,SNR=5.7
KURK Kurchatov 42.73 53 *i* P **P 10 49 27.4 -0.6**
KURK pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
KURK Kurchatov 42.73 53 *e*P **P 10 49 27.3 -0.8**
comp=Z,13nm,0.7s,mb4.8
KURK *e*PP PP 10 51 08.1 -1.9
KSH Kashi 42.88 69 *e*P **P 10 49 31.2 +1.8**
KSH *e*AP pP 10 49 43.1 +1.6
KSH AMB AMB
comp=Z,210nm,4.4s
KSH LR LR
comp=N,160nm,4.9s
KSH LR LR
comp=E,290nm,5.4s
NVS Novosibirsk 45.20 46 *i* P **P 10 49 47.7 -0.2**
NVS *i* pP 10 49 59.1 -0.9
NVS *e* 10 51 23.0
NVS *i* S **S 10 56 23.3 -0.6**
NVS pmax pmax
comp=N,14nm,1.3s
NVS pmax pmax
comp=E,13nm,1.3s
NVS pmax pmax
comp=Z,30nm,1.3s,mb5.0
NVS smax
comp=N,20nm,1.5s
NVS smax
comp=E,15nm,2.0s
MKAR Makanchi Array 45.70 58 P **P 10 49 51.7 -0.3**
comp=E,7.6nm,0.6s,mb4.8,baz=283,slow=6.5,SNR=78
MKAR LR LR 11 12 26.5
comp=E,285nm,18.7s,MS4.2,baz=286,slow=41
MKAR Makanchi Array 45.70 58 *i* P **P 10 49 51.0 -1.0**
MKAR pmax pmax
comp=Z,16nm,0.9s
MKAR Makanchi Array 45.70 58 P **P 10 49 51.7 -0.3**
ZAL Zalesovo 46.19 48 P **P 10 49 55.6 -0.1**
comp=Z,6.8nm,0.6s,mb4.7,baz=196,slow=7.7,SNR=32
ZAL LR LR 11 12 59.2
comp=Z,337nm,19.0s,MS4.3,baz=188,slow=41
ZAL Zalesovo 46.19 48 P **P 10 49 55.7 0.0**
ZAL pmax pmax
comp=Z,7.0nm,0.6s
ZAL MLR MLR
comp=Z,337nm,19.0s
WMQ Urumqi 50.13 60 *e*P **P 10 50 27.0 +0.5**
WMQ PP PP 10 52 23.0 +0.3
WMQ S **S 10 57 33.0 -0.6**
WMQ SS SS 11 01 03.0 -0.9
WMQ LR LR
comp=N,253nm,20.0s,MS4.3
WMQ LR LR
comp=E,167nm,18.0s,MS4.3
WMQ LR LR
comp=Z,172nm,20.0s,MS4.1
LSZ Lusaka 52.90 171 *e*P **P 10 50 48.0 +0.3**
comp=Z,7.5nm,0.7s,mb4.7
KOLN Koldanda 53.14 81 *e*P **P 10 50 48.4 -1.0**
comp=Z,90nm,1.1s,mb5.6
GKN Gorkha 53.84 80 *e*P **P 10 50 53.7 -0.9**
comp=Z,102nm,0.9s,mb5.8
HYB Hyderabad 54.37 95 *i* P **P 10 50 57.0 -1.5**
HYB Hyderabad 54.37 95 *e*P **P 10 50 57.0 -1.5**
DMN Daman 54.39 80 *e*P **P 10 50 58.0 -0.6**
comp=Z,127nm,0.9s,mb5.9
KKN Kakani 54.45 80 *e*P **P 10 50 58.3 -0.7**
comp=Z,54nm,0.8s,mb5.5
PKI Pulchoki 54.65 80 *e*P **P 10 50 59.8 -0.7**
comp=Z,119nm,1.3s,mb5.8
GUN Gumba 54.86 80 *e*P **P 10 51 01.4 -0.6**
comp=Z,112nm,1.1s,mb5.8
TSUM Tsumeb 56.37 183 P **P 10 51 12.3 -0.7**
comp=Z,5.2nm,0.8s,mb4.6,baz=356,slow=6.7,SNR=11
TSUM Tsumeb 56.37 183 *e*P **P 10 51 12.1 -0.9**
comp=Z,7.6nm,0.8s,mb4.8
LSA Lhasa 58.12 75 P **P 10 51 25.0 -0.3**
SCHQ Schefferville 59.03 318 P **P 10 51 31.4 +0.2**
comp=Z,2.1nm,0.5s,mb4.4,baz=58,slow=5.3,SNR=6.5
SCHQ Schefferville 59.03 318 *e*P **P 10 51 31.1 -0.1**
comp=Z,10.0nm,0.6s,mb5.0
GTA Gaotai 60.19 61 *e*P **P 10 51 40.0 +0.6**
GTA AP pP 10 51 52.8 +0.9
GTA PP PP 10 53 51.5 -2.8
GTA S **S 10 59 46.6 -1.5**
GTA XS 11 00 03.7
GTA AMB AMB
comp=Z,2.0nm,0.7s,mb4.3
GTA AMB AMB
comp=Z,45nm,6.1s
GTA LR LR
comp=N,63nm,19.8s
GTA LR LR
comp=E,74nm,12.2s
GTA LR LR
comp=Z,137nm,14.4s
TIXI Tiksi 60.37 20⇑ *i*P **P 10 51 39.7 -0.5**
TIXI *e* 10 53 50.9
TIXI pmax pmax
comp=Z,11nm,1.0s,mb4.8
TIXI MLR MLR
comp=Z,800nm,18.0s,MS4.9
SONM Songino Array 60.94 50 P **P 10 51 43.7 -0.7**
comp=Z,4.0nm,1.0s,mb4.5,baz=281,slow=8.5,SNR=27
BOD Bodaibo 60.98 38 *e*P **P 10 51 42.7 -1.8**
LZH Lanzhou 64.54 63 *e*P **P 10 52 08.4 0.0**
LZH AP pP 10 52 19.0 -2.1
LZH XP sP 10 52 26.0 0.0
LZH PP PP 10 54 32.1 -0.4
LZH *e*S **S 11 00 42.4 -0.5**
LZH XS 11 01 02.0
LZH SS SS 11 04 53.8 -1.7
LZH AMB AMB
comp=Z,28nm,1.5s,mb5.1
LZH AMB AMB
comp=Z,96nm,4.4s
LZH LR LR
comp=E,851nm,16.7s
LZH LR LR
comp=Z,2$_{\mu}$m,18.2s,MS5.2
YAK Yakutsk 65.78 29 *e*P **P 10 52 15.8 -0.1**
YAK pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
YAK pmax pmax
comp=E,6.0nm,1.4s
YAK MLR MLR
comp=Z,190nm,16.0s,MS4.4
YAK MLR MLR
comp=N,67nm,18.0s,MS4.3
YAK MLR MLR
comp=E,128nm,15.0s,MS4.3
YAK Yakutsk 65.78 29 *e*P **P 10 52 15.8 -0.1**
comp=E,36nm,0.7s,mb5.5
CLNS Chul'man 66.62 35 *e*P **P 10 52 21.7 +0.4**
CLNS pmax pmax
comp=Z,21nm,0.9s,mb5.2
CLNS pmax pmax
comp=N,14nm,1.0s
CLNS pmax pmax
comp=E,8.0nm,0.9s
CLNS MLR MLR
comp=N,400nm,13.0s,MS4.8
CLNS MLR MLR
comp=E,100nm,13.0s,MS4.8
CLNS MLR MLR
comp=Z,600nm,13.0s,MS5.0
CD2 Chengdu 67.05 68 P **P 10 52 25.2 +0.7**
CD2 AMB AMB
comp=Z,20nm,1.2s,mb5.0
HIA Hailar 68.06 44 *e*P **P 10 52 31.5 +1.0**
comp=Z,22nm,0.9s,mb5.2
XAN Xi'an 69.17 63 P **P 10 52 37.3 -0.3**
XAN AP pP 10 52 42.3 -8.2
XAN AMB AMB
comp=Z,10.0nm,1.8s,mb4.4
KMI Kunming 69.31 74 *e*P **P 10 52 38.8 +0.1**
KMI S S 11 01 39.2 -1.4
KMI AMB AMB
comp=Z,11nm,1.3s,mb4.6
KMI AMB AMB
comp=Z,111nm,7.6s
SUR Sutherland 69.43 180 P **P 10 52 40.1 +0.8**
comp=Z,4.2nm,0.7s,mb4.5,slow=5.1,SNR=3.9
CHG Chiang Mai 69.80 81⇑ P **P 10 52 41.6 -0.1**
comp=Z,12nm,0.9s,mb4.8
CMAR Chiang Mai Arr 69.99 82 P **P 10 52 42.5 -0.4**
comp=Z,7.7nm,1.0s,mb4.6,baz=304,slow=7.9,SNR=31
CMAR Chiang Mai Arr 69.99 82 P **P 10 52 42.5 -0.4**
CMAR pmax pmax
comp=Z,8.0nm,1.0s
BJI Beijing 70.88 54 P **P 10 52 49.1 +1.1**
BJI S S 11 01 58.7 0.0
BJI AMB AMB
comp=Z,9.0nm,0.5s,mb5.0
BJI LR LR
comp=N,306nm,12.7s,MS4.9
BJI LR LR
comp=E,281nm,11.6s,MS4.9
NANT Nan 71.18 80 P **P 10 52 50.5 +0.4**
GYA Guiyang 71.57 71⇑ *i*P **P 10 52 52.3 0.0**
GYA AP pP 10 53 06.0 +0.9
GYA S S 11 02 04.8 -2.0
GYA SKS SKS 11 02 47.3 -0.2
GYA AMB AMB
comp=Z,20nm,1.2s,mb4.9
GYA LR LR
comp=N,680nm,17.0s,MS5.2
GYA LR LR
comp=E,840nm,18.2s,MS5.2
GYA LR LR
comp=Z,720nm,17.4s,MS5.0
YKA Yellowknife Ar 74.11 340 P **P 10 53 11.2 +4.7**
comp=Z,1.5nm,0.8s,mb4.0,baz=32,slow=5.8,SNR=3.8
YKA Yellowknife Ar 74.11 340 P **P 10 53 11.2 +4.7**
YKA pmax pmax
comp=Z,2.0nm,0.8s
CN2 Changchun 74.41 47 *e*P **P 10 53 08.2 -0.4**
CN2 PCP PcP 10 53 24.1 +0.7
CN2 *e*S S 11 02 36.4 -2.2
CN2 AMB AMB
comp=Z,40nm,0.8s,mb5.4
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,13.0s,MS4.7
CN2 LR LR
comp=E,200nm,13.0s,MS4.7
CN2 LR LR
comp=Z,300nm,14.0s,MS4.7
SNY Shenyang 74.48 49⇓ P **P 10 53 09.8 +0.7**
SNY LR LR
comp=N,370nm,13.2s,MS4.9
SNY LR LR
comp=E,290nm,15.7s,MS4.9
SNY LR LR
comp=Z,420nm,13.2s,MS4.9
WHN Wuhan 74.92 63 *e*P **P 10 53 13.0 +1.1**
MDJ Mudanjiang 76.25 44 P **P 10 53 21.1 +2.0**
MDJ AMB AMB
comp=Z,9.0nm,0.9s,mb4.7
MDJ AMB AMB
comp=Z,64nm,5.5s
IMA Indian Mountai 76.75 358 *e*P **P 10 53 24.3 +2.7**
comp=Z,48nm,1.3s,mb5.3
NJ2 Nanjing 77.20 60 *e*P **P 10 53 24.5 -0.3**
NJ2 AP pP 10 53 37.6 -0.1
NJ2 PP PP 10 56 19.6 -0.8
NJ2 S S 11 03 08.0 -1.5
NJ2 XS 11 03 31.0
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.2
ILAR Eielson Array 77.67 355 P **P 10 53 28.8 +2.1**
comp=Z,1.0nm,0.9s,mb3.8,baz=352,slow=4.7,SNR=11
ILAR Eielson Array 77.67 355 P **P 10 53 28.8 +2.1**
ILAR pmax pmax
comp=Z,1.0nm,0.9s
SSE Sheshan 79.36 59 P **P 10 53 36.0 -0.7**
SSE S S 11 03 31.5 -1.2
SSE XS 11 03 53.9
SSE SS SS 11 08 39.1 -4.1
SSE AMB AMB
comp=Z,18nm,0.7s,mb5.1
SSE LR LR
comp=N,71nm,22.3s,MS4.0
SSE LR LR
comp=E,33nm,22.1s,MS4.0
SSE LR LR
comp=Z,66nm,18.2s,MS4.0
CPCT Cooper Cave 79.60 307 *e*P **P 10 53 41.8 +3.9**
CPCT *e* 10 53 50.1
WVT Waverly 81.25 309 *e*P **P 10 53 48.0 +1.4**
comp=Z,5.8nm,0.9s,mb4.5
YSS Yuzh-Sakhalins 81.39 36 P **P 10 53 48.8 +1.7**
YSS *e* pP 10 54 03.0 +2.9
YSS pmax pmax
comp=Z,40nm,1.1s,mb5.3
YSS MLR MLR
comp=N,300nm,15.0s,MS5.1
YSS MLR MLR
comp=E,500nm,15.0s,MS5.1
YSS MLR MLR
comp=Z,500nm,15.0s,MS5.0
YSS Yuzh-Sakhalins 81.39 36 *e*P **P 10 53 48.9 +1.9**
comp=Z,35nm,1.0s,mb5.2
CCM Cathedral Cave 82.06 312 *e*P **P 10 53 52.5 +1.8**
comp=Z,4.7nm,0.6s,mb4.6
LRAL Lakeview Retre 82.72 306 *e*P **P 10 53 56.2 +2.0**
comp=Z,7.3nm,0.6s,mb4.9
PET Petropavlovsk 82.88 24 *e*P **P 10 54 05.7 +11**
PET pmax pmax
comp=Z,15nm,1.4s,mb4.8
BDFB Brasilia 83.19 245 P **P 10 53 59.1 +2.2**
comp=Z,4.7nm,1.0s,mb4.5,baz=92,slow=6.8,SNR=3.4
BDFB LR LR 11 32 26.3
comp=Z,471nm,18.2s,MS4.9,baz=92,slow=37
BDFB Brasilia 83.19 245 P **P 10 53 59.2 +2.3**
BDFB pmax pmax
comp=Z,5.0nm,1.0s
BDFB MLR MLR
comp=Z,471nm,18.2s
KSU1 Kansas State U 84.41 316 *e*P **P 10 54 03.9 +1.3**
SDV Santo Domingo 85.59 278 *e*P **P 10 54 09.5 +0.4**
comp=Z,8.0nm,0.8s,mb5.0
MAT Matsushiro 86.52 46 P **P 10 54 14.5 +1.4**
MAT Matsushiro 86.52 46 *e*P **P 10 54 15.0 +1.9**
NEW Newport 86.74 333 P **P 10 54 14.5 +0.6**
comp=Z,3.6nm,0.6s,mb4.8
BOZ Bozeman (W) 86.78 329 *e*P **P 10 54 13.8 -0.3**
comp=Z,7.3nm,1.2s,mb4.8
DPW Davenport 87.46 334 *e*P **P 10 54 20.2 +2.8**
MOOW Moose Ponds 87.93 327 P **P 10 54 20.5 +0.7**
PDAR Pinedale Array 88.19 326 P **P 10 54 23.1 +2.1**
comp=Z,0.5nm,0.8s,mb3.8,baz=24,slow=8.9,SNR=3.0
PDAR LR LR 11 32 32.7
comp=Z,99nm,20.1s,MS4.2,baz=148,slow=35
WMOK Wichita Mounta 88.73 314 P **P 10 54 27.6 +3.8**
comp=Z,11nm,1.2s,mb5.1
HWUT Hardware Ranch 90.01 326 *e*P **P 10 54 28.6 -1.0**
comp=Z,7.1nm,1.0s,mb5.0
SDCO Great Sand Dun 90.15 320 *e*P **P 10 54 32.5 +2.1**
comp=Z,6.8nm,1.2s,mb4.8
SAML Samuel 90.42 259 P **P 10 54 31.1 -1.1**
comp=Z,5.0nm,1.3s,mb4.7
PV10 Paradox Valley 91.42 323 *e*P **P 10 54 40.0 +3.7**
SRU San Rafael 91.54 324 P **P 10 54 35.5 -1.3**
SRU *e* 10 54 56.6
DUG Dugway 91.71 326 P **P 10 54 38.1 +0.5**
comp=Z,2.8nm,0.9s,mb4.6
TXAR Lajitas Array 95.51 313 P **P 10 54 59.1 +3.9**
comp=Z,1.1nm,1.0s,mb4.2,baz=69,slow=3.7,SNR=6.4
NVAR Mina Array Bea 95.53 329 LR LR 11 43 44.6
comp=Z,86nm,18.4s,MS4.3,baz=30,slow=39
CPUP Villa Florida 96.69 242 LR LR 11 42 52.4
comp=Z,237nm,19.2s,MS4.7,baz=69,slow=38
LPAZ La Paz 98.67 256 LR LR 11 38 24.8
comp=Z,101nm,21.4s,MS4.3,baz=217,slow=35
WRA Warramunga Arr 120.50 93 PKP PKPdf 11 00 22.9 +1.9
comp=Z,0.6nm,0.8s,baz=326,slow=1.7,SNR=6.6
WRA Warramunga Arr 120.50 93 PKIKP PKPdf 11 00 22.9 +1.9
WRA pmax pmax
comp=Z,1.0nm,0.8s
ASAR Alice Springs 122.08 97 PKP PKPdf 11 00 27.1 +3.2
comp=Z,0.8nm,0.7s,baz=325,slow=1.2,SNR=12
ASAR Alice Springs 122.08 97 PKP PKPdf 11 00 27.1 +3.2
QSPA South Pole Qui 127.26 180 *e*PKP PKPdf 11 00 37.1 +4.6
STKA Stephens Creek 131.87 102 PKP PKPdf 11 00 49.4 +6.9
comp=Z,2.5nm,1.1s,baz=282,slow=16,SNR=2.5

*NAO **05** 11:40:40.7±6.3,59.33N×26.87E,ML2.4*
*HEL **05** 11:40:40.5±0.2,59.33N×27.05E,ML1.6,ML2.4(NAO), Explosion*
*BER **05** 11:40:40.9±2.7,59.32N×27.09E,ML2.4(NAO), Suspected explosion*

ISC 05 11:40:38.4±0.8,59.30N±0.03×27.0E±0.3,n11,σ0°86/14,
Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VSU	**Vasula**	**0.86**	**190**	*e*P		**Pg**	**11 40 56.4**	**+0.9**
VSU				*e*S		**Sg**	**11 41 06.0**	**-0.9**
VJF	**Virojoki**	**1.27**	**12**	*e*P		**Pb**	**11 41 02.3**	**-0.6**
VJF				*e*S		**Sb**	**11 41 19.4**	**-0.2**
PVF	**Pernaja**	**1.38**	**335**	*e*P		**Pb**	**11 41 05.1**	**+0.4**
PVF				*e*S		**Sb**	**11 41 22.1**	**-0.7**
FIA0	**FINESS Array S**	**2.20**	**348**	*e*P		**Pn**	**11 41 17.5**	**+0.8**
FIA0				*e*S		**Sn**	**11 41 45.7**	**+0.7**
FIA0				MSG			11 41 50.4	
	comp=Z,2.7nm,0.1s							
FIA0	**FINESS Array S**	**2.20**	**348**	Pn		**Pn**	**11 41 17.6**	**+0.9**
	baz=165,slow=18							
FIA0				Lg			11 41 48.5	
	baz=180,slow=37							
KAF	**Kangasniemi**	**2.84**	**353**	*e*P		**Pn**	**11 41 26.9**	**+1.0**
KAF				*e*S		**Sn**	**11 42 00.3**	**-1.0**
KAF				MSG			11 42 08.6	
	comp=Z,1.6nm,0.3s							
HFS	**Hagfors**	**6.79**	**283**	Lg			11 44 11.6	
	baz=87,slow=37							
HFS	**Hagfors**	**6.79**	**283**	*e*SG		**Sg**	**11 44 11.6**	**-13**
HFS	**Hagfors**	**6.79**	**283**	Lg			11 44 11.6	
	baz=87,slow=37							
ARA0	**ARCESS Array S**	**10.30**	**357**	Pn		**P**	**11 43 06.6**	**-3.7**
	baz=180,slow=12							
ARA0	**ARCESS Array S**	**10.30**	**357**	*e*P		**P**	**11 43 06.6**	**-3.7**

*IDC **05** 11:43:32.6±0.8,23.02S×175.33W,mb4.4/11,mb1 4.6/12, mb1mx4.6/16,ML4.0/1,Error ellipse: s-maj=34.8km s-min=15.2km az=155.0*
*BJI **05** 11:43:33.8,23.10S×175.30W,h10km,mB4.9,mb4.8*
*NEIC **05** 11:43:33.9±0.4,23.08S×175.30W,h10km,mb4.8/15, Error ellipse: s-maj=15.4km s-min=9.7km az=143.0*

ISC 05 11:43:36.2±0.5,23.2S±0.1×175.3W±0.1,h33km,n41,
σ1°24/36,mb4.6/24,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**9.81**	**21**	*e*P		**P**	**11 45 48.7**	**-9.4**
	38nm,0.5s							
URZ	**Urewera**	**16.37**	**202**	Pn		**P**	**11 47 26.0**	**+0.9**
	0.5nm,0.3s,baz=332,slow=15,SNR=2.4							
CTA	**Charters Tower**	**35.78**	**267**	*e*P		**P**	**11 50 34.1**	**-0.3**
	4.9nm,0.4s,mb4.8							
CTA	**Charters Tower**	**35.78**	**267**	P		**P**	**11 50 34.2**	**-0.3**
	7.1nm,0.5s,mb4.9,baz=94,slow=12,SNR=14							
CTAO	**Charters Tower**	**35.78**	**267**	*e*P		**P**	**11 50 33.5**	**-1.0**
	9.9nm,0.6s,mb4.9							
STKA	**Stephens Creek**	**38.97**	**248**	*e*P		**P**	**11 51 01.8**	**+0.8**
	2.0nm,0.9s,mb3.9							
STKA	**Stephens Creek**	**38.97**	**248**	P		**P**	**11 51 01.4**	**+0.3**
	0.8nm,0.4s,mb3.8,baz=109,slow=8.8,SNR=5.4							
ASAR	**Alice Springs**	**46.39**	**259**	P		**P**	**11 52 00.9**	**-0.6**
	2.5nm,0.7s,mb4.2,baz=99,slow=6.5,SNR=23							
WB2	**Warramunga Arr**	**46.73**	**264**	*e*P		**P**	**11 52 02.7**	**-1.6**
WRAB	**Tennant Creek**	**46.74**	**264**	P		**P**	**11 52 02.0**	**-2.3**
	54nm,0.6s,mb5.7,SNR=18							
WRAB	**Tennant Creek**	**46.74**	**264**	*e*P		**P**	**11 52 02.6**	**-1.7**
	6.3nm,0.6s,mb4.7							
WRAB				*e*			11 52 21.4	
WRA	**Warramunga Arr**	**46.74**	**264**	P		**P**	**11 52 02.8**	**-1.6**
	4.0nm,0.3s,mb4.8,baz=93,slow=8.4,SNR=148							
WRA				S		**S**	**11 58 55.5**	**+4.4**
	0.8nm,0.8s,baz=104,slow=14,SNR=4.8							
KAKA	**Kakadu**	**50.58**	**272**	*e*P		**P**	**11 52 36.6**	**+2.4**
	4.5nm,0.6s,mb4.6							
FITZ	**Fitzroy Crossi**	**55.17**	**264**	*e*P		**P**	**11 53 06.7**	**-1.5**
	7.8nm,0.7s,mb4.8							
FITZ	**Fitzroy Crossi**	**55.17**	**264**	P		**P**	**11 53 07.4**	**-0.9**
	15nm,1.0s,mb5.0,baz=124,slow=4.6,SNR=16							
MBWA	**Marble Bar**	**59.72**	**258**	*e*P		**P**	**11 53 38.9**	**-1.5**
	7.0nm,0.7s,mb4.8							
QSPA	**South Pole Qui**	**66.91**	**180**	*e*P		**P**	**11 54 26.4**	**-0.4**
	7.0nm,1.2s,mb4.6							
YSS	**Yuzh-Sakhalins**	**79.40**	**332**	*e*P		**P**	**11 55 39.6**	**-1.0**
	20nm,1.0s,mb5.0							
MAW	**Mawson**	**79.89**	**199**	*e*P		**P**	**11 55 43.8**	**+1.0**
	4.6nm,0.8s,mb4.5							
MAW	**Mawson**	**79.89**	**199**	P		**P**	**11 55 43.8**	**+1.0**
	5.6nm,0.7s,mb4.6,baz=97,slow=7.6,SNR=16							
YBH	**Yreka Blue Hor**	**80.86**	**37**	*e*P		**P**	**11 55 48.0**	**-0.5**
	3.2nm,0.8s,mb4.3							
NVAR	**Mina Array Bea**	**81.30**	**42**	P		**P**	**11 55 50.7**	**-0.2**
	1.9nm,0.7s,mb4.1,baz=225,slow=8.6,SNR=19							
NVAR	**Mina Array Bea**	**81.30**	**42**	P		**P**	**11 55 50.7**	**-0.2**
TPH	**Tonopah**	**81.75**	**43**	*e*P		**P**	**11 55 50.6**	**-2.6**
	5.5nm,1.2s,mb4.4							
MDJ	**Mudanjiang**	**84.13**	**324**	P		**P**	**11 56 07.2**	**+2.0**
MDJ				AMB	AMB			
	comp=Z,9.0nm,0.9s,mb4.9							
MDJ				AMB	AMB			
	comp=Z,51nm,4.1s							
MSU	**Marysvale**	**85.21**	**45**	*e*P		**P**	**11 56 11.1**	**+0.3**
SNAA	**Sanae**	**85.27**	**178**	*e*P		**P**	**11 56 10.3**	**+0.1**
	comp=Z,8.4nm,1.1s,mb4.8							
CN2	**Changchun**	**85.93**	**321**	*e*P		**P**	**11 56 15.0**	**+0.9**
CN2				AMB	AMB			
	comp=Z,10.0nm,1.3s,mb4.9							
TXAR	**Lajitas Array**	**86.44**	**56**	P		**P**	**11 56 16.8**	**-0.2**
	comp=Z,1.4nm,1.0s,mb4.1,baz=214,slow=9.0,SNR=9.0							
PDAR	**Pinedale Array**	**89.23**	**42**	P		**P**	**11 56 29.4**	**-0.8**
	comp=Z,0.8nm,0.8s,mb4.1,baz=270,slow=1.5,SNR=5.7							
ENH	**Enshi**	**89.58**	**303**	*e*P		**P**	**11 56 33.7**	**+1.6**
	comp=Z,21nm,1.0s,mb5.4							
ILAR	**Eielson Array**	**90.38**	**12**	P		**P**	**11 56 35.1**	**+0.2**
	comp=Z,0.6nm,0.8s,mb4.0,baz=217,slow=6.7,SNR=7.8							
XAN	**Xi'an**	**91.72**	**306**	P		**P**	**11 56 43.6**	**+1.6**
XAN				AMB	AMB			
	comp=Z,9.0nm,0.9s,mb5.1							
CM31	**Chiang Mai Arr**	**93.33**	**289**	*e*P		**P**	**11 56 50.8**	**+1.2**
	comp=Z,4.7nm,0.6s,mb5.1							
CMAR	**Chiang Mai Arr**	**93.33**	**289**	P		**P**	**11 56 51.6**	**+1.9**
	comp=Z,6.6nm,0.9s,mb5.1,baz=124,slow=3.2,SNR=43							
MKAR	**Makanchi Array**	**114.83**	**312**	PKiKP			12 02 13.4	
	comp=Z,0.5nm,0.8s,baz=180,slow=1.4,SNR=2.9							
BOSA	**Boshof**	**124.83**	**202**	*e*PKPdf		PKPdf	12 02 28.1	-5.3
AKASG	**Malin Array Be**	**146.54**	**331**	PKPbc		PKPbc	12 03 14.2	+0.4
	comp=Z,3.5nm,0.8s,baz=42,slow=4.0,SNR=9.1							
BRTR	**Keskin Array B**	**150.47**	**311**	PKPbc		PKPdf	12 03 26.1	+6.9
	comp=Z,2.4nm,0.9s,baz=152,slow=3.2,SNR=6.6							
CLL	**Collm**	**151.18**	**349**	*e*PKP1		PKPdf	12 03 27.0	+7.2
GERES	**GERESS Array B**	**153.40**	**347**	PKPab		PKPab	12 03 43.9	-1.5
	comp=Z,0.3nm,0.4s,slow=2.7,SNR=4.2							

*NEIC **05** 12:20:12.8,34.955S×70.54W,h5km,ML3.4(GUC),After GUC.*

GUC 05 12:20:12.8±0.6,34.95S×70.54W,h5km,MD4.1,ML3.4,
3C-4D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SFDO	**San Fernando**	**0.52**	**311**⇓	*i*P		Pg	12 20 23.1	-0.1
SFDO				*i* S		Sg	12 20 31.6	+1.5
CICH	**Cipreses**	**0.64**	**9**⇓	*i*P		Pg	12 20 24.9	-0.8
CICH				*i* S		Sg	12 20 35.0	+0.8
CACH	**El Canelo**	**0.84**	**356**⇑	*i*P		Pb	12 20 28.5	-0.9
CACH				*i* S		Sg	12 20 40.3	-0.4
TALC	**Talca**	**1.00**	**243**⇓	*i*P		Pb	12 20 30.3	-2.0
TALC				*i* S		Sb	12 20 44.0	-1.5
TALC				AMP			12 20 44.5	
	comp=E,4$_{\mu}$m,0.4s							
CHCH	**Chadas Angostu**	**1.02**	**355**⇓	*i*P		Pb	12 20 31.9	-0.7
CHCH				*i* S		Sb	12 20 46.9	+0.7
LMEL	**Las Melosas**	**1.14**	**14**	*e*P		Pb	12 20 33.5	-1.1
LMEL				*i* S		Sb	12 20 50.4	+0.9
LMEL				AMP			12 20 51.1	
	comp=N,587nm,0.2s							
LNV	**Longovilo**	**1.23**	**324**⇑	*i*P		Pb	12 20 35.2	-0.9
LNV				*i* S		Sb	12 20 52.3	+0.1
TACH	**Talagante**	**1.34**	**346**	*e*P		Pb	12 20 36.7	-1.3
TACH				*i* S		Sb	12 20 55.4	+0.1
ANTU	**Antumapu**	**1.38**	**357**	*e*P		Pb	12 20 38.0	-0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ANTU				iS	Sb	12 20 56.8	+0.2
ANTU				AMP		12 21 00.7	
	comp=E,1µm,0.7s						
RCDM	Rinconada Maip	1.48	351	eP	Pn	12 20 39.4	-0.8
RCDM				iS	Sb	12 21 00.7	+1.3
CLCH	Cerro Calan	1.55	0	eP	Pn	12 20 40.7	-0.6
CLCH				iS	Sb	12 21 01.9	+0.3
CLCH				AMP		12 21 12.7	
	comp=E,1µm,0.5s						
FCH	Farellones	1.64	7	⇑iP	Pn	12 20 42.2	-0.2
FCH				iS	Sb	12 21 05.0	+1.0
FCH				AMP		12 21 19.1	
	comp=N,515nm,0.8s						
LCCH	Las Cruces	1.71	330	eP	Pn	12 20 42.9	-0.5
CCHI	Chillan	2.07	217	eP	Pn	12 20 48.3	-0.3
CCHI				iS	Sn	12 21 15.9	+0.9
CCHI				AMP		12 21 26.0	
	comp=N,1µm,0.5s						
JACH	Jahuel	2.27	359	eP	Pn	12 20 52.6	+1.2

DHMR 05 12:23:20.4±0.7**, 11.73N×43.06E, h9**km±14km**, ML3.9, 1C-1D, Ethiopia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TRBA	At Turbah	1.80	35	iP	Pn	12 23 53.3	+1.3
TRBA				iS	Sn	12 24 18.0	+2.8
TRBA	At Turbah	1.80	35	⇑iP	Pn	12 23 53.3	+1.3
TRBA				iS	Sn	12 24 18.0	+2.8
UDYN	Al 'Udayn	2.41	22	iP	Pn	12 24 02.0	+1.4
UDYN				iS	Sn	12 24 34.9	+4.4
UDYN				AML	AML	12 24 45.9	
	comp=N,2µm,0.6s						
UDYN	Al 'Udayn	2.41	22	⇓iP	Pn	12 24 02.0	+1.4
UDYN				iS	Sn	12 24 33.5	+3.0
LBOS		3.02	45	iP	Pn	12 24 11.2	+1.9
LBOS				iS	Sn	12 24 51.3	+5.2
LBOS				AML	AML	12 25 04.3	
	comp=N,633nm,0.6s						
BDHA	Al Bayda'	3.31	47	iP	Pn	12 24 15.4	+1.9
BDHA				iS	Sn	12 24 58.4	+4.9
BDHA				AML	AML	12 25 07.7	
	comp=Z,532nm,0.5s						
BDHA	Al Bayda'	3.31	47	iP	Pn	12 24 14.7	+1.2
BDHA				iS	Sn	12 24 57.2	+3.7
HAJJ	Hajjah	3.98	7	iP	Pn	12 24 22.6	-0.5
HAJJ				iS	Sn	12 25 10.3	-0.2

NEIC 05 12:24:21.2, 35.01S×70.58W, h4km, ML2.9(GUC), After GUC.
GUC 05 12:24:21.2±0.7**, 35.01S×70.58W, h4**km±2km**, MD3.9, ML2.9, 1C, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SFDO	San Fernando	0.53	317	⇑iP	Pg	12 24 32.0	+0.2
SFDO				iS	Sg	12 24 40.4	+1.5
CICH	Cipreses	0.70	11	eP	Pg	12 24 33.7	-1.4
CICH				iS	Sg	12 24 44.0	-0.4
CACH	El Canelo	0.89	359	iP	Pb	12 24 37.6	-1.1
CACH				iS	Sb	12 24 49.5	-1.2
TALC	Talca	0.95	245	eP	Pb	12 24 39.0	-0.8
TALC				iS	Sb	12 24 52.9	+0.3
TALC				AMP		12 24 53.3	
	comp=E,3µm,0.4s						
CHCH	Chadas Angostu	1.07	357	eP	Pb	12 24 41.1	-0.8
CHCH				iS	Sb	12 24 56.8	+0.7
LMEL	Las Melosas	1.20	15	eP	Pb	12 24 42.9	-1.1
LMEL				iS	Sb	12 24 59.6	-0.1
TACH	Talagante	1.38	347	iP	Pb	12 24 46.4	-0.8
TACH				iS	Sb	12 25 05.1	0.0
PCH	Pirque	1.38	2	eP	Pb	12 24 46.4	-0.9
PCH				iS	Sb	12 25 05.3	+0.2
RCDM	Rinconada Maip	1.52	353	iP	Pn	12 24 48.9	-0.4
RCDM				iS	Sb	12 25 09.0	-0.2
RCDM				AMP		12 25 16.6	
	comp=E,162nm,0.4s						
CLCH	Cerro Calan	1.61	1	eP	Pn	12 24 47.5	-3.0
CLCH				AMP		12 25 20.9	
	comp=E,193nm,0.5s						
FCH	Farellones	1.69	8	eP	Pn	12 24 51.8	+0.1
FCH				iS	Sn	12 25 15.0	+1.0
FCH				AMP		12 25 17.4	
	comp=N,103nm,0.3s						
LCCH	Las Cruces	1.73	331	eP	Pn	12 24 51.9	-0.4
LCCH				iS	Sn	12 25 15.2	0.0
JACH	Jahuel	2.32	360	eP	Pn	12 25 01.9	+1.2
JACH				iS	Sn	12 25 32.6	+2.6

IDC 05 12:25:39.8±0.8, 50.65S×72.17W, mb4.6/6, mb1 4.6/7, mb1mx4.5/12, ML4.3/1, MS3.7/4, Ms1 3.7/4, ms1mx3.5/12, Error ellipse: s-maj=37.5km s-min=15.9km az=88.0
BJI 05 12:25:44.1, 50.60S×72.30W, h28km, mB4.3, Ms4.5, Msz4.4
NEIC 05 12:25:44.2±3.8, 50.63S×72.30W, h28km±26km, mb4.7/12, Error ellipse: s-maj=19.1km s-min=7.4km az=91.0
SYO 05 12:25:48.2, 50.55S×72.13W, h61km, MB4.7
ISC 05 12:25:40.2±1.8**, 50.62S**±0.05×**71.9W**±0.1**, h10**km±11km**, n48, σ1s06**/30**, mb4.6**/16**, MS3.7**/4**, 4C-1D, Southern Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
USHA	Ushuaia	4.70	155	Pn	Pn	12 26 52.2	-0.7
	12nm,0.3s,baz=316,slow=12,SNR=109						
USHA				Pg	Pg	12 27 13.3	-0.7
	16nm,0.3s,baz=298,slow=10,SNR=9.2						
USHA				Sn	Sn	12 27 48.2	0.0
	45nm,0.3s,baz=329,slow=12,SNR=9.6						
USHA				Lg		12 28 17.7	
	45nm,0.3s,baz=237,slow=5.3,SNR=4.3						
EFI	East Falkland	8.73	102	eP	P	12 27 53.6	+4.1
EFI				eS	Sn	12 29 27.8	-1.3
TRQA	Tornquist	14.39	33	eP	P	12 29 09.3	+3.4
	11nm,0.9s						
CPUP	Villa Florida	26.69	30	P	P	12 31 20.6	-0.6
	6.0nm,0.8s,mb4.2,baz=219,slow=10,SNR=12						
CPUP				LR	LR	12 43 45.8	
	comp=Z,116nm,19.8s,MS3.4,baz=218,slow=40						
CPUP	Villa Florida	26.69	30	eP	P	12 31 20.1	-1.1
	5.9nm,0.8s,mb4.2						
LVC	Limon Verde	28.05	6	P	P	12 31 34.0	+0.4
	6.3nm,1.0s,mb4.2						
LPAZ	La Paz	34.38	6	P	P	12 32 29.9	+0.4
	72nm,0.6s,baz=208,slow=0.1,SNR=8.2						
SNAA	Sanae	36.54	150	e	P	12 32 52.7	+5.4
SNAA	Sanae	36.54	150	P	P	12 32 48.6	+1.3
	6.4nm,0.8s,mb4.5,baz=270,slow=7.2,SNR=44						
SNAA				LR	LR	12 45 04.1	
	comp=Z,54nm,20.4s,MS3.3,baz=354,slow=32						
SNAA	Sanae	36.54	150	⇑iP	P	12 32 47.7	+0.4
SNAA				e		12 32 52.7	
QSPA	South Pole Qui	39.62	180	eP	P	12 33 13.9	+0.8
	17nm,0.7s,mb4.9						
QSPA				e		12 33 22.7	
QSPA				e		12 33 44.8	
BDFB	Brasilia	39.84	37	P	P	12 33 16.3	+0.8
	11nm,0.7s,mb4.7,baz=210,slow=7.1,SNR=14						
BDFB				LR	LR	12 51 59.0	
	comp=Z,193nm,20.6s,MS3.9,baz=22,slow=40						
BAO	Brasilia Array	39.85	37	P	P	12 33 16.5	+0.9
BAO				e		12 33 35.0	
MAIT	Maitri	41.33	150	⇑iP	P	12 33 29.1	+2.0
SAML	Samuel	42.16	13	eP	P	12 33 33.8	-0.7
	12nm,0.9s,mb4.5						
SBA	Scott Base	46.91	194	eP	P	12 34 12.5	+0.6
	18nm,1.2s,mb4.9						
SYO	Syowa Base	50.56	154	⇓P	P	12 34 40.3	0.0
SYO	Syowa Base	50.56	154	⇑pP	pP	12 34 53.8	+11
OTAV	Otavalo	50.98	351	eP	P	12 34 44.5	+0.3
	8.5nm,0.9s,mb4.7						
ROSC	El Rosal	55.30	357	P	P	12 35 16.7	+0.4
	7.3nm,0.4s,mb5.0,baz=270,slow=1.0,SNR=4.6						
MAW	Mawson	57.30	161	P	P	12 35 29.2	-0.7
	2.6nm,0.8s,mb4.3,baz=232,slow=4.9,SNR=8.3						
MAW				LR	LR	12 59 41.7	
	comp=Z,157nm,19.4s,MS4.1,baz=229,slow=36						
SDV	Santo Domingo	59.27	1	eP	P	12 35 42.4	-1.9
	8.6nm,0.9s,mb4.8						
CASY	Casey	63.41	181	eP	P	12 36 11.6	-0.1
	14nm,0.8s,mb5.2						
BOSA	Boshof	72.66	114	P	P	12 37 11.3	+1.5
	6.8nm,1.0s,mb4.5						
TUC	Tucson	89.46	328	P	P	12 38 36.5	-1.9
	1.4nm,0.8s,mb4.3						
ANMO	Albuquerque	90.52	332	eP	P	12 38 42.1	-1.2
	5.0nm,1.2s,mb4.7						
STKA	Stephens Creek	92.70	208	eP	P	12 38 52.8	-0.6
	2.7nm,0.8s,mb4.7						
STKA	Stephens Creek	92.70	208	P	P	12 38 53.0	-0.4
	3.0nm,0.7s,mb4.8,baz=190,slow=6.5,SNR=7.3						
ASAR	Alice Springs	102.61	204	P	Pdif	12 39 37.2	-1.4
	0.3nm,0.6s,baz=161,slow=4.2,SNR=4.4						
GERES	GERESS Array B	123.10	52	PKP	PKPdf	12 44 37.7	-1.7
	0.7nm,0.5s,baz=180,slow=1.3,SNR=6.9						
MLR	Muntele Rosu	127.49	61	PKP	PKPdf	12 44 46.1	-1.9
	3.4nm,0.8s,baz=175,slow=2.2,SNR=4.3						
BRTR	Keskin Array B	128.45	72	PKP	PKPdf	12 44 48.6	-1.4
	3.0nm,1.0s,baz=162,slow=3.9,SNR=7.3						
ILAR	Eielson Array	128.76	328	PKP	PKPdf	12 44 47.0	-2.9
	2.4nm,0.8s,baz=169,slow=1.5,SNR=27						
CMAR	Chiang Mai Arr	147.08	164	PKPbc	PKPdf	12 45 23.1	-1.0
	3.4nm,0.9s,baz=220,slow=3.5,SNR=16						
CHG	Chiang Mai	147.43	164	⇑P	PKPdf	12 45 25.8	+1.1
	14nm,1.1s						
NANT	Nan	147.70	167	P	PKPdf	12 45 26.5	+1.3
PET	Petropavlovsk	149.22	294	ePKPbc	PKPdf	12 45 27.5	+1.0
DDI	Dehra Dun	149.74	121	e	PKPdf	12 45 31.0	+2.8
ARU	Arti	150.50	59	ePKPbc	PKPdf	12 45 32.8	+4.3
ZRNK	Zerenda	155.87	69	ePKPdf	PKPdf	12 45 34.9	-1.2
NJ2	Nanjing	159.82	207	ePKP	PKPdf	12 45 44.5	+2.8
KURK	Kurchatov	161.33	78	ePKPdf	PKPdf	12 45 41.1	-1.5
KURK				ePKPab	PKPab	12 46 26.8	+0.7
MKAR	Makanchi Array	162.54	93	PKP	PKPdf	12 45 41.8	-2.2
	0.9nm,0.8s,baz=270,slow=1.2,SNR=6.6						
MKAR				PKPab	PKPab	12 46 31.0	-0.5
	1.5nm,0.8s,baz=257,slow=5.0,SNR=8.2						
MDJ	Mudanjiang	164.37	256	PKP	PKPdf	12 45 44.0	-1.8
WMQ	Urumqi	164.55	108	ePKP	PKPdf	12 45 44.5	-1.6
LZH	Lanzhou	165.14	166	ePKP	PKPdf	12 45 48.7	+1.8
ZAL	Zalesovo	165.34	68	PKP	PKPdf	12 45 43.8	-2.7
	1.2nm,0.3s,baz=56,slow=11,SNR=4.0						
SONM	Songino Array	176.98	157	PKP	PKPdf	12 45 49.8	-2.8
	0.4nm,0.8s,baz=135,slow=3.5,SNR=4.8						
SONM				PKPab	PKPab	12 47 33.9	-1.1
	1.7nm,0.9s,baz=198,slow=3.9,SNR=8.8						

HEL 05 12:45:05.0±0.6, 56.33N×22.81E, ML2.2, ML2.2(UPP), ML2.6(NAO), Explosion
CSEM 05 12:45:06.8±0.4, 56.65N×22.96E, h2km, ML2.2, Error ellipse: s-maj=10.6km s-min=3.3km az=149.0, Mining explosion.
UPP 05 12:45:06.8, 56.53N×22.90E, h0km, ML2.2, Suspected Mining explosion.
BER 05 12:45:07.4±3.8, 56.43N×22.87E, ML2.6(NAO), Suspected explosion
NAO 05 12:45:08.1±7.2, 56.59N×22.75E, ML2.6
ISC 05 12:45:08.9±1.4**, 56.82N**±0.07×**22.69E**±0.10**, n18, σ1s01**/33**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VSU	Vasula	2.73	51	eP	Pn	12 45 55.5	+0.7
VSU				eS	Sn	12 46 35.2	+6.2
VSU	Vasula	2.73	51	P	Pn	12 45 55.4	+0.6
VSU				S	Sn	12 46 35.1	+6.1
VIKU	Vikbolandet	3.63	300	eP	Pn	12 46 08.2	+0.6
PVF	Pernaja	4.09	23	eS	Sn	12 47 06.1	+2.7
PVF				eSG	Sg	12 47 25.5	+0.5
PVF				MSG		12 47 26.3	
	comp=Z,5.1nm,0.3s						
ESKU	Eskilstuna	4.13	308	eP	Pn	12 46 14.8	+0.1
FLYU	Flymyra	4.17	325	eP	Pn	12 46 16.2	+1.1
FLYU				eS	Sn	12 47 05.8	+0.4
FLYU	Flymyra	4.17	325	P	Pn	12 46 16.2	+1.0
BACU	Backbrunna	4.23	318	eP	Pn	12 46 16.8	+0.7
OSTU	Oestervaala	4.49	322	eP	Pn	12 46 19.6	-0.2
VJF	Virojoki	4.51	32	eSG	Sg	12 47 38.4	-0.8
FIA0	FINESS Array S	4.96	19	eP	Pn	12 46 25.7	-0.7
FIA0				eS	Sn	12 47 26.2	+0.9
FIA0				eSG	Sg	12 47 52.0	-2.0
FIA0				MSG		12 47 53.0	
	comp=Z,2.2nm,0.3s						
FIA0	FINESS Array S	4.96	19	Pn	Pn	12 46 25.8	-0.6
	baz=181,slow=14						
FIA0				Sn	Sn	12 47 26.1	+0.8
	baz=192,slow=22						
FIA0				Lg		12 47 49.7	
	baz=192,slow=28						
FIA0	FINESS Array S	4.96	19	P	Pn	12 46 25.6	-0.8
FIA0				S	Sn	12 47 26.2	+0.9
KEF	Keuruu	5.48	11	eP	Pn	12 46 32.5	-1.3
KEF				eS	Sn	12 47 38.9	+0.4
KEF	Keuruu	5.48	11	P	Pn	12 46 32.4	-1.4
KEF				S	Sn	12 47 38.8	+0.3
KAF	Kangasniemi	5.62	18	eP	Pn	12 46 35.1	-0.7
KAF				eS	Sn	12 47 42.7	+0.7
KAF				eSG	Sg	12 48 11.2	-4.9
KAF				MSG		12 48 16.8	
	comp=Z,1.3nm,0.3s						
HFS	Hagfors	5.77	309	Pn	Pn	12 46 36.0	-1.9
	baz=123,slow=12						
HFS				Sn	Sn	12 47 45.3	-0.5
	baz=118,slow=28						
HFS				Lg		12 48 14.3	
	baz=128,slow=28						
HFS	Hagfors	5.77	309	eP	Pn	12 46 36.0	-1.9
HFS				eS	Sn	12 47 45.3	-0.5
HFS				eSG	Sg	12 48 14.3	-6.7

IDC 05 13:05:49.3±1.6**, 3.83S×152.42E, mb4.0**/4**, mb1 4.3**/4**, mb1mx3.8**/13**, MS3.3**/1**, Ms1 3.3**/1**, ms1mx2.5**/14**, 1C, Error ellipse: s-maj=104.0km s-min=26.1km az=130.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	21.66	245	eP	P	13 10 48.7	+5.0
	5.1nm,0.6s						
WB2	Warramunga Arr	23.81	226	⇑iP	P	13 11 04.6	-0.2
WRA	Warramunga Arr	23.82	226	P	P	13 11 04.6	-0.4
	2.9nm,0.4s,baz=52,slow=10.0,SNR=22						
WRA				PcP	PcP	13 14 47.0	-3.1
	0.2nm,0.5s,baz=50,slow=2.4,SNR=5.9						
ASAR	Alice Springs	26.62	221	P	P	13 11 29.6	-2.0
	1.0nm,0.5s,baz=57,slow=8.7,SNR=9.9						
STKA	Stephens Creek	29.69	199	LR	LR	13 24 23.8	
	comp=Z,63nm,20.3s,baz=206,slow=38						
FITZ	Fitzroy Crossi	29.80	240	P	P	13 11 59.4	-1.0
	3.5nm,1.0s,baz=39,slow=7.6,SNR=9.8						
ILAR	Eielson Array	81.41	22	P	P	13 18 07.0	-2.3
	0.8nm,1.2s,baz=242,slow=6.0,SNR=4.1						

IDC 05 13:54:33.8±3.7, 5.62S×154.50E, h75km±31km, mb4.4/11, mb1 4.5/12, mb1mx4.5/15, MS3.2/5, Ms1 3.1/5, ms1mx3.0/12, Error ellipse: s-maj=24.5km s-min=16.9km az=101.0
BJI 05 13:54:42.7, 5.70S×154.40E, h160km, mB4.9, mb4.5
NEIC 05 13:54:42.7±0.4, 5.71S×154.38E, h160km, mb4.5/17, Error ellipse: s-maj=10.7km s-min=7.2km az=115.0
ISC 05 13:54:41.4±2.5**, 5.70S**±0.08×**154.35E**±0.10**, h162**km±22km**, n42, σ0s96**/42**, mb4.5**/26**, 4C, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.02	242	eP	P	13 56 35.5	-0.5
CTA	Charters Tower	16.33	208	eP	P	13 58 24.5	+1.6
	5.1nm,0.7s						
CTA	Charters Tower	16.33	208	P	P	13 58 24.2	+1.3
	0.4nm,0.3s,baz=36,slow=12,SNR=11						
CTA				LR	LR	14 03 44.0	
	comp=Z,45nm,19.1s,baz=47,slow=33						
CTAO	Charters Tower	16.33	208	eP	P	13 58 24.2	+1.3
	6.8nm,0.7s						
DZM	Mont Dzumac	20.05	145	eP	P	13 59 02.4	-1.5
DZM	Mont Dzumac	20.05	145	eP	P	13 59 02.4	-1.5
KAKA	Kakadu	22.74	251	eP	P	13 59 35.3	+4.8
	11nm,0.5s,mb4.5						
WRAB	Tennant Creek	24.05	232	P	P	13 59 44.0	+1.0
	277nm,0.6s,SNR=27						
WRAB	Tennant Creek	24.05	232	eP	P	13 59 43.9	+0.9
	54nm,0.7s,mb5.2						
WB2	Warramunga Arr	24.05	232	⇑iP	P	13 59 44.0	+0.9
WRA	Warramunga Arr	24.06	232	P	P	13 59 44.1	+1.0
	40nm,1.0s,mb4.9,baz=54,slow=9.6,SNR=220						
WRA				ScP		14 06 54.5	
	0.8nm,0.8s,baz=57,slow=3.1,SNR=6.8						
WRA				LR	LR	14 08 21.0	
	comp=Z,33nm,19.9s,baz=120,slow=34						
ARMA	Armidale	24.73	186	eP	P	13 59 50.1	+0.8
ASAR	Alice Springs	26.58	226	P	P	14 00 06.6	+0.1
	6.9nm,0.5s,mb4.6,baz=57,slow=9.2,SNR=266						
ASAR				LR	LR	14 09 08.2	
	comp=Z,91nm,18.1s,baz=216,slow=33						
ASPA	Alice Springs	26.58	226	⇑iP	P	14 00 06.3	-0.3
STKA	Stephens Creek	28.65	203	eP	P	14 00 24.2	-1.0
	5.4nm,0.6s,mb4.5						
STKA	Stephens Creek	28.65	203	P	P	14 00 24.4	-0.7
	6.3nm,0.5s,mb4.6,baz=8.4,slow=8.0,SNR=26						
STKA				LR	LR	14 09 43.8	
	comp=Z,99nm,21.8s,baz=205,slow=32						
FITZ	Fitzroy Crossi	30.62	244	⇑iP	P	14 00 41.7	-1.0
	8.0nm,0.6s,mb4.6						
FITZ	Fitzroy Crossi	30.62	244	P	P	14 00 41.9	-0.9
	13nm,0.7s,mb4.8,baz=79,slow=3.7,SNR=34						
FITZ				LR	LR	14 13 32.6	
	comp=Z,18nm,18.1s,baz=261,slow=37						
FORT	Forrest	35.10	222	eP	P	14 01 20.9	-0.3
	82nm,0.6s,mb5.5						
MBWA	Marble Bar	36.89	242	eP	P	14 01 35.7	-0.5
	4.3nm,0.5s,mb4.3						
RPZ	Rata Peaks	40.62	161	P	P	14 02 07.1	+0.2
	19nm,0.9s,mb4.7,baz=93,slow=21,SNR=5.4						
KLBR	Kellerberrin	42.84	228	⇑iP	P	14 02 24.6	-0.7
	33nm,1.4s,mb4.8						
MUN	Mundaring	44.18	229	eP	P	14 02 34.8	-1.2
	14nm,1.2s,mb4.5						
ENH	Enshi	55.89	313	eP	P	14 04 04.0	-0.8
	5.7nm,0.6s,mb4.6						
XAN	Xi'an	58.33	316	P	P	14 04 21.0	-0.9
XAN				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.4						
CM31	Chiang Mai Arr	59.65	295	P	P	14 04 30.6	-0.6
	comp=Z,3.5nm,0.6s,mb4.4						
CMAR	Chiang Mai Arr	59.65	295	P	P	14 04 32.2	+1.0
	comp=Z,5.5nm,0.9s,mb4.4,baz=108,slow=5.0,SNR=27						
GTA	Gaotai	67.36	317	eP	P	14 05 22.1	+0.7
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.1						
SONM	Songino Array	67.90	327	P	P	14 05 25.1	+0.5
	comp=Z,2.3nm,0.5s,mb4.2,baz=145,slow=5.4,SNR=21						
SBA	Scott Base	72.41	177	eP	P	14 05 49.3	-2.0
	comp=Z,5.7nm,0.9s,mb4.3						
SLKM	Skilak Lake	78.83	25	eP	P	14 06 28.0	+0.3
IMA	Indian Mountai	80.79	19	eP	P	14 06 39.5	+1.5
MCK	McKinley	81.10	22	eP	P	14 06 39.3	-0.4
	comp=Z,6.5nm,0.8s,mb4.3						
MKAR	Makanchi Array	82.01	319	P	P	14 06 45.6	+0.8
	comp=Z,2.2nm,0.7s,mb3.9,baz=100,slow=6.8,SNR=20						
COLA	College	82.11	21	P	P	14 06 43.9	-1.1
	comp=Z,8.0nm,0.7s,mb4.5						
ILAR	Eielson Array	82.41	22	P	P	14 06 45.9	-0.6
	comp=Z,2.6nm,0.8s,mb3.9,baz=246,slow=5.1,SNR=28						
QSPA	South Pole Qui	84.27	180	eP	P	14 06 56.7	+1.2
	comp=Z,8.4nm,0.6s,mb4.7						
MAW	Mawson	85.34	203	P	P	14 07 02.7	+1.6
	comp=Z,12nm,0.7s,mb4.7,baz=97,slow=6.1,SNR=34						
MAW	Mawson	85.34	203	eP	P	14 07 01.9	+0.8
	comp=Z,12nm,0.6s,mb4.8						
NVAR	Mina Array Bea	91.43	52	P	P	14 07 32.4	+1.7
	comp=Z,0.8nm,0.8s,mb3.8,baz=255,slow=7.8,SNR=5.2						
NVAR	Mina Array Bea	91.43	52	P	P	14 07 32.4	+1.7
ZRNK	Zerenda	91.69	323	P	P	14 07 30.4	-1.2
	comp=Z,0.9nm,0.6s,mb4.0						

NEIC 05 14:10:38.7±1.5, 15.34S×75.03W, h59km±16km, mb4.2/1, Error ellipse: s-maj=26.3km s-min=13.6km az=54.0
IDC 05 14:11:18.4±2.8, 15.02S×70.97W, h376km±23km, mb3.2/2, mb1 3.2/3, mb1mx2.9/18, Error ellipse: s-maj=45.5km s-min=42.2km az=52.0
ISC 05 14:10:39.6±1.8**, 15.1S**±0.2×**74.9W**±0.2**, h88**km±23km**, n11, σ0s59**/7**, mb3.6**/2**, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARE	Arequipa	3.58	113	eP	P	14 11 34.0	-0.1
NNA	Nana	3.62	329	ePn	P	14 11 34.6	0.0
LPAZ	La Paz	6.65	101	P	P	14 12 20.6	+4.1
	0.4nm,0.3s,baz=304,slow=7.8,SNR=29						
LVC	Limon Verde	9.39	144	eP	P	14 12 48.7	-5.1
	21nm,0.6s						
SAML	Samuel	13.01	63	eP	P	14 13 42.4	0.0
	2.9nm,0.8s						
BDFB	Brasilia	25.95	95	P	Px	14 15 44.4	
	5.1nm,0.4s,baz=278,slow=15,SNR=6.3						
SNAA	Sanae	70.14	161	P	P	14 21 43.8	-0.4
	0.3nm,0.8s,mb3.2,baz=337,slow=21,SNR=3.6						
QSPA	South Pole Qui	75.05	180	eP	P	14 22 13.2	+0.4
	2.1nm,0.7s,mb4.0						
ASAR	Alice Springs	132.25	217	PKhKP		14 29 45.1	
	0.6nm,1.0s,baz=107,slow=1.7,SNR=4.0						
ASAR				PKP		14 29 56.6	
	0.6nm,1.1s,baz=120,slow=2.3,SNR=4.0						
WRA	Warramunga Arr	134.82	220	PKhKP		14 29 51.3	
	0.5nm,0.7s,baz=142,slow=2.0,SNR=9.7						
WRA				PKP		14 30 00.3	
	0.4nm,0.5s,baz=129,slow=1.9,SNR=8.1						
SONM	Songino Array	147.35	358	PKPbc	PKPdf	14 30 17.4	+6.8
	1.0nm,0.8s,baz=336,slow=3.4,SNR=8.9						

MAN 05 14:47:58.8, 7.63N×127.08E, h4km**, mb3.8, ML2.5, MS2.1, 1C, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BIPH	Bislig	0.90	308	⇑iP	Pb	14 48 18.3	+1.8
BIPH				iS	Sb	14 48 24.2	-4.4
MATI	Mati	1.06	230	eP	Pb	14 48 19.0	-0.4
BUTP	Butuan	1.96	313	eP	Pn	14 48 32.8	-0.3
BUKP	Musuan	2.01	277	eP	Pn	14 48 34.6	+0.7

IDC 05 14:48:47.7±5.0, 7.24S×149.51E, h72km±42km, mb3.5/4, mb1 3.8/5, mb1mx3.5/13, ML4.0/1, MS3.1/2, Ms1 3.1/2, ms1mx2.6/18, Error ellipse: s-maj=66.6km s-min=32.9km az=127.0
NEIC 05 14:48:47.6±2.6, 7.12S×149.32E, h63km±22km, mb4.1/2, Error ellipse: s-maj=60.2km s-min=19.0km az=125.0
ISC 05 14:48:47.8±3.5**, 7.2S**±0.3×**149.4E**±0.4**, h85**km±26km**, n12, σ0s88**/11**, mb3.5**/4**, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.09	225	P	P	14 49 35.1	-0.4
PMG				S	S	14 50 12.6	+1.1
PMG	Port Moresby	3.09	225	eP	P	14 49 34.5	-1.0
CTA	Charters Tower	13.15	193	LR	LR	14 56 05.6	
	comp=Z,79nm,20.7s,baz=73,slow=33						
WRAB	Tennant Creek	19.29	228	eP	P	14 53 07.5	-1.1
	3.7nm,0.5s						
WB2	Warramunga Arr	19.30	228	eP	P	14 53 08.0	-0.6
WRA	Warramunga Arr	19.31	228	P	P	14 53 07.7	-1.0
	0.4nm,0.3s,baz=55,slow=11,SNR=48						
ASAR	Alice Springs	22.09	221	P	P	14 53 38.1	+1.0
	0.6nm,0.4s,mb3.3,baz=57,slow=9.5,SNR=12						
FITZ	Fitzroy Crossi	25.53	243	eP	P	14 54 11.0	+0.7
	5.1nm,0.4s,mb4.3						
FITZ	Fitzroy Crossi	25.53	243	P	P	14 54 11.1	+0.8
	6.1nm,0.4s,mb4.4,baz=37,slow=6.5,SNR=44						
STKA	Stephens Creek	25.58	195	LR	LR	15 04 01.9	
	comp=Z,52nm,19.4s,baz=25,slow=36						
MKAR	Makanchi Array	79.94	320	P	P	15 00 48.8	-0.3
	0.2nm,0.6s,mb3.1,baz=95,slow=11,SNR=3.3						
ILAR	Eielson Array	85.68	23	P	P	15 01 18.9	+1.0
	0.3nm,0.7s,mb3.3,baz=251,slow=4.8,SNR=5.1						

NIED 05 14:49:00, 37.60N×135.90E, h11km, Mw3.4 Best double couple: M0 1.37×10^14 NP1: φs333°, δ65°, λ60°. NP2: φs208°, δ38°, λ138°.
JMA 05 14:49:45.6±0.1, 37.64N×135.92E, M4.5
ISC 05 14:49:44.9±2.1**, 37.69N**±0.07×**135.8E**±0.1**, h10**km**, n6,**

σ0s47/11, **Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHG	Hegura jima	0.87	79	P	Pb	14 50 01.9	+0.2
JHG				S	Sb	14 50 13.2	0.0
JJH	Hakui	1.07	135	P	Pb	14 50 05.1	0.0
JJH				S	Sb	14 50 18.7	-0.3
JSZ	Suzu	1.24	101	P	Pb	14 50 07.8	-0.1
JSZ				S	Sb	14 50 23.7	0.0
JKG	Kaga	1.47	164	P	Pn	14 50 11.8	+0.2
JKG				eS	Sb	14 50 30.3	-0.1
JTT	Ttatey	1.61	132	P	Pn	14 50 14.3	+0.6
JTT				S	Sn	14 50 35.4	+0.7
MAT	Matsushiro	2.21	120	P	Pn	14 50 21.1	-1.2

NEIC 05 15:15:37.8, 40.39N×124.98W, h21km, MD3.5(NCEDC), 1C, After NCEDC., Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KHMM	Horse Mountain	1.06	62	⇑iP	Pb	15 15 56.0	-1.4
KRMB	Red Mountain	1.39	35	eP	Pn	15 15 59.8	-2.6
KRMB				eS	Sn	15 16 14.9	-5.3
WDC	Whiskeytown Da	1.87	83	eP	Pn	15 16 07.0	-2.1
KBO	Bosley Butte	1.91	17	eP	Pn	15 16 06.7	-3.0
HOPS	Hopland	2.02	133	ePn	Pn	15 16 08.3	-3.0
YBH	Yreka Blue Hor	2.18	51	ePn	Pn	15 16 11.5	-2.1
NSHM	Saint Helena R	2.62	135	ePn	Pn	15 16 16.1	-3.7
HUMO	Hull Mountain	2.69	34	ePn	Pn	15 16 18.1	-2.8
OHCM	Honcut	2.88	110	ePn	Pn	15 16 20.6	-3.1
SAC	San Andreas	3.44	144	ePn	Pn	15 16 28.0	-3.5
LKC	Lake Chabot	3.48	138	ePn	Pn	15 16 28.8	-3.4
BEKR	Beckwourth	3.58	97	ePn	Pn	15 16 31.3	-2.1
MOD	Modoc	3.84	65	ePn	Pn	15 16 33.6	-3.6
HLID	Hailey	8.48	65	eP	P	15 17 41.5	-1.1

*PRU **05** 15:19:31.7, 51.55N×16.08E*
*WAR **05** 15:19:32.3, 51.54N×16.06E, ML2.6, Mining Induced*
ISC 05 15:19:30.5±1.6, **51.53N**±0.06×**15.97E**±0.07, **n8**, σ**0s93**/14, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.72	163	ePG	Pg	15 19 45.0	+0.1
KSP				eSG	Sg	15 19 55.0	+0.6
UPC	Upice	1.02	179	ePG	Pg	15 19 51.5	+0.5
UPC				eSG	Sg	15 20 05.8	+1.2
DPC	Dobruska-Polom	1.20	169	ePG	Pg	15 19 54.1	-0.4
DPC				eSG	Sg	15 20 09.7	-0.9
PVCC	Panska Ves	1.34	222	ePG	Pg	15 19 58.0	+0.7
PVCC				eSG	Sg	15 20 16.7	+1.6
PRU	Pruhonice	1.79	211	ePG	Pg	15 20 05.5	-0.8
PRU				i x	x	15 20 22.2	
PRU				SG	Sg	15 20 29.6	-0.6
	7.4nm,0.4s						
CLL	Collm	1.87	264	ePG	Pg	15 20 07.0	-0.9
CLL				eSG	Sg	15 20 34.0	+1.1
NKC	Novy Kostel	2.58	241	eSG	Sg	15 20 55.9	-0.6
KHC	Kasperske Hory	2.85	213	eSG	Sg	15 21 03.7	-1.7

*IDC **05** 15:34:09.8±1.0, 35.90N×45.72E, mb4.1/14, mb1 4.2/17, mb1mx4.1/22, ML3.6/3, MS3.5/6, Ms1 3.5/6, ms1mx3.1/23, Error ellipse: s-maj=25.3km s-min=13.4km az=171.0*
*THR **05** 15:34:10.9±1.3, 35.82N×45.75E, h15km±11km, ML4.0*
*BJI **05** 15:34:12.5, 36.49N×45.71E, h10km, mB4.7, mb4.3, Ms3.9, Msz3.8*
*NEIC **05** 15:34:13.3±3.1, 35.89N×45.72E, h20km±19km, mb4.6/37, Error ellipse: s-maj=10.1km s-min=5.5km az=168.0*
*MOS **05** 15:34:15.1±1.6, 35.93N×45.61E, h33km, mb4.4/12, Error ellipse: s-maj=15.3km s-min=7.7km az=117.7*
*CSEM **05** 15:34:31.8, 36.98N×45.46E, h136km, mb4.6*
ISC 05 15:34:11.9±0.9, **35.80N**±0.02×**45.66E**±0.03, **h25**km±7km, **n152**, σ**1s14**/163, **mb4.4**/52, **MS3.5**/8, **8C-3D**, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNGE	Sanandaj	1.55	117	ePG	Pn	15 34 37.6	-0.6
SNGE				AMP		15 35 11.2	
	comp=N,3μm,0.7s						
HKR	Hakkari	2.35	320	eP	Pn	15 34 52.6	+2.8
HKR	Hakkari	2.35	320	Pn	Pn	15 34 52.5	+2.7
BHD	Baghdad	2.74	203	eSn	Sn	15 35 29.0	+1.0
BHD				i S	Sn	15 35 33.5	+5.5
BHD				i Sg	Sn	15 35 40.0	+12
BHD	Baghdad	2.74	203	ePn	Pn	15 34 55.5	+0.2
TVAN	Van	3.27	327	i P	Pn	15 35 05.0	+2.2
TVAN				i S	Sn	15 35 52.5	+11
VANB	Van	3.33	328	eP	Pn	15 35 04.7	+1.0
GRMI	Germi	3.49	30	ePN	Pn	15 35 05.8	-0.2
GRMI				AMP		15 35 58.8	
	comp=N,211nm,0.4s						
MAKU	Maku	3.63	348	ePN	Pn	15 35 09.0	+1.0
ASAO	Ashtian	3.79	108	ePN	Pn	15 35 10.9	+0.7
BEST	Besiri	4.09	302	i P	Pn	15 35 15.6	+1.0
BTMT	Batman	4.11	307	eP	Pn	15 35 22.5	+7.8
THKV	Tehran--Karaj	4.24	87	ePN	Pn	15 35 16.3	-0.3
DIY	Diyarbakir	4.83	297	eP	Pb	15 35 36.3	+0.6
DIY	Diyarbakir	4.83	297	Pn	Pb	15 35 36.2	+0.5
DAMV	Damavand	5.13	90	ePN	Pn	15 35 29.2	-0.1
BINT	Bingol	5.14	308	eP	Pb	15 35 44.4	+3.5
BINT	Bingol	5.14	308	Pn	Pb	15 35 44.3	+3.4
EZM	Erzurum	5.33	322	eP	Pn	15 35 38.7	+6.7
PTK	Pertek	5.87	304	eP	Pn	15 35 38.7	-1.0
ELZG	Elazig	5.97	299	i P	Pn	15 35 40.1	-1.0
MIB	Mutribah	6.14	166	eP	Pn	15 35 44.9	+1.4
MIB				eS	Sn	15 36 54.1	+0.3
MIB				AML	AML	15 36 55.8	
	comp=Z,58nm,0.6s						
MYA	Malataya	6.31	296	eP	Pn	15 35 42.8	-3.1
MYA	Malataya	6.31	296	Pn	Pn	15 35 42.7	-3.2
RST	Umm Al-Ruwaisa	6.38	169	eP	Pn	15 35 48.1	+1.2
RST				AML	AML	15 37 03.7	
	comp=Z,128nm,0.7s						
UMR	Umm Al-Rimmam	6.47	164	eP	Pn	15 35 49.2	+1.1
UMR				AML	AML	15 37 05.0	
	comp=Z,55nm,0.5s						
KBD	Kabd	6.83	165	eP	Pn	15 35 54.3	+1.2
KBD				eS	Sn	15 37 10.7	-0.1
GAZ	Gaziantep	6.95	284	eP	Pn	15 35 54.7	-0.1
RDF	Al-Radifah	7.04	166	eP	Pn	15 35 56.4	+0.3
RDF				AML	AML	15 37 19.8	
	comp=Z,56nm,0.5s						
QRN	Al-Qurain	7.29	164	eP	Pn	15 36 00.8	+1.2
QRN				eS	Sn	15 37 20.3	-2.2
QRN				AML	AML	15 37 24.3	
	comp=Z,37nm,0.4s						
ASF	Jabal al Asfar	8.13	246	Pn	P	15 36 10.5	-0.8
	comp=Z,0.9nm,0.3s,baz=286,slow=3.1,SNR=4.3						
ASF				Lg		15 38 31.5	
	comp=Z,1.9nm,0.3s,baz=109,slow=9.9,SNR=4.1						
ASF				LR	LR	15 39 42.7	
	comp=Z,126nm,18.8s,baz=294,slow=41						
KIV	Kislovodsk	8.46	345	eP	P	15 36 16.2	+0.3
KIV				pmax	pmax		
	comp=Z,11nm,1.0s						
KIV				pmax	pmax		
	comp=N,8.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,88nm,19.0s						
KIV				MLR	MLR		
	comp=E,60nm,15.0s						
KIV	Kislovodsk	8.46	345	P	P	15 36 13.4	-2.5
HILS	Ha’il	9.02	203	P	P	15 36 23.1	-0.6
HILS				S	Sn	15 38 06.4	+0.9
SOC	Sochi	9.02	331	eP	P	15 36 22.8	-0.9
SOC				eS	Sn	15 37 52.9	-13
SOC				pmax	pmax		
	comp=Z,18nm,0.7s						
SOC				pmax	pmax		
	comp=N,28nm,0.9s						
SOC				pmax	pmax		
	comp=E,1.0nm,0.2s						
SOC				MLR	MLR		
	comp=Z,258nm,16.0s						
SOC				MLR	MLR		
	comp=N,278nm,12.0s						
SOC				MLR	MLR		
	comp=E,233nm,17.0s						
GHIR	Ghir-Karzin	9.73	138	ePN	P	15 36 31.7	-1.8
GHIR				SN	Sn	15 38 16.9	-6.3
CSS	Prodhromos	10.11	269	P	P	15 36 38.3	-0.4
BRTR	Keskin Array B	10.29	296	Pn	P	15 36 38.8	-2.4
	comp=E,0.3nm,0.3s,baz=131,slow=13,SNR=3.8						
HASS	Wahat al Ahsa’	11.13	161	P	P	15 36 51.5	-1.2
HASS				S	S	15 39 00.6	+3.2
KBRS	Khaybar	11.39	211	P	P	15 36 55.6	-0.7
MZLS	Mizel	11.74	182	P	P	15 36 59.5	-1.5
AFFS	‘Afif	12.06	192	P	P	15 37 04.8	-0.4
RAYN	Ar Rayn	12.24	181	Pn	P	15 37 05.7	-2.0
	comp=E,137nm,0.4s,SNR=22						
TATS	Tathlith	16.31	187	P	P	15 38 05.2	+4.2
SANT	Santorini	16.35	278	P	P	15 37 58.5	-2.8
	comp=E,62nm,0.6s						
DJNS	Zahran al Janu	18.12	187	P	P	15 38 28.8	+5.1
AKASG	Malin Array Be	19.04	327	P	P	15 38 31.9	-2.8
	comp=E,0.4nm,0.3s,baz=132,slow=12,SNR=7.3						
OBN	Obninsk	20.31	345	i P	P	15 38 46.8	-1.8
OBN				i *PP		15 39 12.2	
OBN				pmax	pmax		
	comp=Z,9.0nm,0.6s						
OBN				MLR	MLR		
	comp=Z,100nm,15.0s,MS3.3						
OBN	Obninsk	20.31	345	eP	P	15 38 46.7	-2.0
OBN	Obninsk	20.31	345	eP	P	15 38 46.7	-1.9
KOLS	Kolonicke sedl	21.59	315	i P	P	15 39 02.0	+0.2
KOLS				e		15 39 22.4	
ARU	Arti	22.41	19	⇑iP	P	15 39 09.3	-0.6
ARU				i		15 39 29.8	
ARU				eS	S	15 43 02.5	-7.3
ARU				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb3.9						
ARU	Arti	22.41	19	eP	P	15 39 09.3	-0.7
	comp=Z,11nm,1.1s,mb4.2						
ARU	Arti	22.41	19	eP	P	15 39 09.3	-0.6
	comp=Z,11nm,1.1s,mb4.2						
KECS	Kecovo	22.44	312	eP	P	15 39 08.5	-1.8
PSZ	Piszkesteto	22.57	310	eP	P	15 39 13.9	+2.4
	comp=Z,8.3nm,0.9s,mb4.2						
PSZ	Piszkesteto	22.57	310	eP	P	15 39 13.9	+2.4
	comp=Z,8.2nm,0.9s,mb4.2						
AAK	Ala-Archa	23.29	64	⇓iP	P	15 39 25.1	+6.6
AAK	Ala-Archa	23.29	64	eP	P	15 39 20.1	+1.6
SVE	Sverdlovsk	23.34	21	⇓eP	P	15 39 24.0	+5.2
SVE				pmax	pmax		
	comp=Z,50nm,1.9s,mb4.6						
ZRNK	Zerenda	23.75	37	eP	P	15 39 22.1	-0.8
	comp=Z,11nm,1.4s,mb4.1						
ZRNK	Zerenda	23.75	37	eP	P	15 39 22.1	-0.8
	comp=Z,11nm,1.4s,mb4.1						
BRVK	Borovoye	24.44	37	eP	P	15 39 30.5	+0.9
	comp=Z,5.1nm,1.0s,mb3.9						
BRVK	Borovoye	24.44	37	eP	P	15 39 30.5	+0.9
	comp=Z,5.1nm,1.0s,mb3.9						
BVAR	Borovoye Array	24.47	38	P	P	15 39 31.0	+1.0
	comp=Z,0.8nm,0.5s,mb3.4,baz=248,slow=8.0,SNR=7.4						
BVAR	Borovoye Array	24.47	38	P	P	15 39 30.9	+1.0
MORC	Moravsky Berou	24.74	313	P	P	15 39 32.5	0.0
	comp=Z,3.6nm,0.8s,mb4.0						
MORC	Moravsky Berou	24.74	313	P	P	15 39 32.5	-0.1
	comp=Z,3.6nm,0.8s,mb4.0						
VAE	Valguarnera	25.08	283	P	P	15 39 38.2	+2.3
	comp=Z,12nm,0.5s,mb4.7,baz=77,slow=5.8,SNR=4.3						
VRAC	Vranov	25.13	312	P	P	15 39 37.2	+0.9
	comp=Z,7.8nm,1.0s,mb4.2,baz=98,slow=10,SNR=4.9						
ARSA	Arzberg	25.14	306	⇑iP	P	15 39 38.6	+2.2
	comp=Z,16nm,1.1s,mb4.5						
KRUC	Moravsky	25.16	311	eP	P	15 39 38.7	+2.1
PDKS	Podkum	25.20	303	i P	P	15 39 38.7	+1.8
LJU	Ljubljana	25.51	303	eP	P	15 39 39.9	+0.1
LJU				i		15 39 42.3	
OBKA	Obir	25.60	304	⇑iP	P	15 39 42.6	+1.9
	comp=Z,10nm,1.1s,mb4.3						
DPC	Dobruska-Polom	25.69	314	eP	P	15 39 42.0	+0.5
AQU	L’Aquila	25.78	295	eP	P	15 39 43.3	+0.9
	comp=Z,15nm,0.5s,mb4.8						
AQU	L’Aquila	25.78	295	eP	P	15 39 43.3	+0.8
	comp=Z,15nm,0.5s,mb4.8						
UPC	Upice	25.93	314	eP	P	15 39 44.6	+0.8
MOA	Molln	26.13	307	⇑iP	P	15 39 45.0	-0.6
KBA	Koelnbreinsper	26.54	305	⇑iP	P	15 39 50.0	+0.6
	comp=Z,27nm,1.0s,mb4.7						
PRU	Pruhonice	26.62	312	eP	P	15 39 52.2	+2.1
PRU				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.3						
PRU	Pruhonice	26.62	312	eP	P	15 39 52.2	+2.1
	comp=Z,8.0nm,0.8s,mb4.3						
GERES	GERESS Array B	26.77	309	P	P	15 39 51.3	-0.2
	comp=Z,1.4nm,0.6s,mb3.7,baz=121,slow=7.8,SNR=13						
GERES	GERESS Array B	26.77	309	P	P	15 39 51.3	-0.2
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PVCC	Panska Ves	26.80	313	eP	P	15 39 54.1	+2.4
KHC	Kasperske Hory	26.93	310	eP	P	15 39 53.8	+0.8
WTTA	Wattenberg	27.71	305	⇑iP	P	15 40 00.2	+0.1
	comp=Z,13nm,1.0s,mb4.5						
WATA	Walderalm	27.77	305	⇑iP	P	15 40 01.2	+0.6
	comp=Z,7.3nm,0.6s,mb4.5						
NKC	Novy Kostel	27.97	311	eP	P	15 40 03.0	+0.6
KURK	Kurchatov	27.97	48	i P	P	15 40 03.8	+1.4
KURK				i *PP	Px	15 40 46.6	
KURK	Kurchatov	27.97	48	eP	P	15 40 01.2	-1.2
	comp=Z,5.0nm,1.1s,mb4.1						
KURK	Kurchatov	27.97	48	eP	P	15 40 01.2	-1.2
	comp=Z,5.0nm,1.1s,mb4.1						
SQTA	Sankt Quirin	27.99	305	⇓iP	P	15 40 02.0	-0.6
	comp=Z,12nm,0.5s,mb4.8						
MOTA	Moosalm	28.09	305	⇑iP	P	15 40 03.6	+0.1
	comp=Z,11nm,0.9s,mb4.5						
FINES	FINESS Array B	28.51	340	P	P	15 40 05.3	-1.9
	comp=Z,1.4nm,0.7s,mb3.8,baz=135,slow=11,SNR=4.7						
FINES				LR	LR	15 53 18.8	
	comp=Z,37nm,21.4s,MS3.0,baz=170,slow=40						
FINES	FINESS Array B	28.51	340	P	P	15 40 05.3	-1.8
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES				MLR	MLR		
	comp=Z,37nm,21.4s						
GRA1	Grafenberg Arr	28.57	310	eP	P	15 40 09.1	+1.3
	comp=Z,8.0nm,0.9s,mb4.5						
GRF	Grafenberg Arr	28.57	310	eP	P	15 40 09.1	+1.3
GRF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
DAVOX	Davos	28.80	303	P	P	15 40 09.8	-0.1
	comp=Z,4.4nm,0.6s,mb4.4,baz=125,slow=6.2,SNR=7.5						
DAVOX	Davos	28.80	303	P	P	15 40 09.8	-0.1
PGF	Pioggiola	29.04	295	eP	P	15 40 12.4	+0.2
	comp=Z,24nm,1.1s,mb4.5						
MKAR	Makanchi Array	29.38	57	P	P	15 40 14.4	-0.7
	comp=Z,1.0nm,0.8s,mb3.6,baz=248,slow=6.5,SNR=3.9						
MKAR	Makanchi Array	29.38	57	P	P	15 40 14.5	-0.7
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MKAR	Makanchi Array	29.38	57	P	P	15 40 14.4	-0.8
SBF	Sospel	30.23	297	eP	P	15 40 22.4	-0.3
	comp=Z,44nm,0.8s,mb4.9						
MBDF	Montbardon	30.74	299	eP	P	15 40 26.6	-0.6
	comp=Z,8.4nm,0.6s,mb4.5						
FRF	La Foret Royal	30.79	297	eP	P	15 40 27.7	0.0
	comp=Z,14nm,0.8s,mb4.5						
LPG	La Plagne	30.81	300	eP	P	15 40 28.0	+0.2
LPL	La Plagne	30.82	300	eP	P	15 40 27.9	0.0
BNI	Bardonecchia	30.83	300	eP	P	15 40 27.6	-0.4
	comp=Z,16nm,0.9s,mb4.8						
BNI	Bardonecchia	30.83	300	eP	P	15 40 27.6	-0.4
	comp=Z,16nm,0.9s,mb4.8						
LMR	La Mourre	30.89	296	eP	P	15 40 28.2	-0.3
CABF	La Chapelle	31.37	302	eP	P	15 40 31.9	-0.8
	comp=Z,20nm,0.7s,mb4.7						
ORIF	Oris-en-Rattie	31.39	299	eP	P	15 40 32.9	0.0
	comp=Z,4.6nm,0.5s,mb4.2						
SMRF	Simiane la Rot	31.57	297	eP	P	15 40 33.8	-0.8
VIVF	Saint-Julien-l	32.24	299	eP	P	15 40 39.9	-0.5
ZAL	Zalesovo	32.60	44	P	P	15 40 42.4	-0.9
	comp=Z,4.2nm,1.1s,mb4.3,baz=240,slow=6.9,SNR=11						
ZAL				LR	LR	15 57 04.9	
	comp=Z,96nm,18.4s,MS3.5,baz=88,slow=42						
ZAL	Zalesovo	32.60	44	P	P	15 40 42.4	-1.0
ZAL				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ZAL				MLR	MLR		
	comp=Z,96nm,18.4s						
ZAL	Zalesovo	32.60	44	P	P	15 40 42.4	-1.0
LASF	Ste Croix	32.81	298	eP	P	15 40 45.3	-0.1
SMF	Signal de Mont	32.91	302	eP	P	15 40 45.8	-0.4
	comp=Z,26nm,0.9s,mb4.9						
LOR	Lormes	32.95	303	eP	P	15 40 45.8	-0.7
	comp=Z,11nm,0.8s,mb4.5						
WMQ	Urumqi	32.98	63	eP	P	15 40 48.0	+1.2
WMQ				PP	PP	15 41 58.0	+0.5
WMQ				S	S	15 46 03.0	+0.5
WMQ				SS	SS	15 48 03.0	+0.2
WMQ				LR	LR		
	comp=Z,62nm,15.0s,MS3.4						
SSF	Saint Saulge	33.17	303	eP	P	15 40 48.0	-0.5
	comp=Z,9.9nm,1.2s,mb4.6						
NOA	NORSAR Array B	33.38	330	P	P	15 40 47.3	-2.9
	comp=Z,0.5nm,0.8s,mb3.5,baz=119,slow=7.8,SNR=2.7						
NOA	NORSAR Array B	33.38	330	P	P	15 40 47.3	-2.9
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TCF	Toulx Ste Croi	34.02	302	eP	P	15 40 54.8	-1.1
	comp=Z,24nm,1.0s,mb4.8						
CAF	Calviac	34.10	299	eP	P	15 40 56.3	-0.2
RJF	Les Rejaudoux	34.49	300	eP	P	15 40 59.5	-0.4
	comp=Z,19nm,0.7s,mb4.8						
LFF	La Frestale	35.04	299	eP	P	15 41 04.4	-0.2
	comp=Z,21nm,0.5s,mb5.0						
ARCES	ARCESS Array B	35.55	348	P	P	15 41 07.5	-1.2
	comp=Z,8.5nm,1.2s,mb4.5,baz=135,slow=8.6,SNR=5.4						
ARCES				LR	LR	15 56 05.8	
	comp=Z,59nm,18.8s,MS3.4,baz=193,slow=37						
ARCES	ARCESS Array B	35.55	348	P	P	15 41 07.6	-1.1
ARCES				pmax	pmax		
	comp=Z,9.0nm,1.2s						
ARCES				MLR	MLR		
	comp=Z,59nm,18.8s						
MFF	Saint Martin d	35.66	302	eP	P	15 41 09.4	-0.5
	comp=Z,16nm,0.7s,mb4.8						
LDF	La Druitiere	35.72	305	eP	P	15 41 10.0	-0.4
	comp=Z,9.0nm,0.6s,mb4.5						
FLN	La Foliniere	35.97	306	eP	P	15 41 11.8	-0.7
ETSF	Etsaut	36.07	296	eP	P	15 41 12.7	-0.7
	comp=Z,15nm,1.0s,mb4.6						
GRR	Gorron	36.20	305	eP	P	15 41 13.8	-0.6
	comp=Z,24nm,0.6s,mb5.0						
SJPF	Ste Jean	36.54	296	eP	P	15 41 17.1	-0.2
KMBO	Kilima Mbogo	37.57	194	LR	LR	15 57 25.2	
	comp=Z,78nm,18.7s,MS3.5,baz=93,slow=37						
QUIF	Quistinic	37.73	304	eP	P	15 41 26.8	-0.5
	comp=Z,16nm,0.4s,mb4.8						
ESDC	Sonseca Array	39.04	291	P	P	15 41 38.1	-0.2
	comp=Z,5.0nm,0.7s,mb4.3,baz=68,slow=8.7,SNR=14						
SONM	Songino Array	45.72	55	P	P	15 42 30.8	-1.8
	comp=Z,0.3nm,1.0s,mb3.2,baz=281,slow=7.3,SNR=2.6						
KMI	Kunming	49.73	86	eP	P	15 43 07.4	+3.2
KMI				AP	pP	15 43 18.2	+6.4
KMI				S	S	15 50 12.5	+2.0
KMI				SS	SS	15 53 41.5	+2.1
KMI				AMB	AMB		
	comp=Z,4.0nm,1.4s,mb4.3						
KMI				AMB	AMB		
	comp=Z,63nm,5.7s						
KMI				LR	LR		
	comp=Z,98nm,11.4s,MS4.0						
CMAR	Chiang Mai Arr	49.86	96	P	P	15 43 04.5	-0.8
	comp=Z,0.9nm,0.6s,mb4.0,baz=296,slow=8.2,SNR=7.3						
CMAR	Chiang Mai Arr	49.86	96	P	P	15 43 04.5	-0.8
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TIXI	Tiksi	54.35	23	eP	P	15 43 38.7	+0.5
TIXI				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.7						
DBIC	Dimbokro	54.51	250	P	P	15 43 39.3	-0.8
	comp=Z,3.0nm,0.8s,mb4.4,baz=96,slow=19,SNR=6.4						
DBIC	Dimbokro	54.51	250	P	P	15 43 39.3	-0.9
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.8s						
DBIC	Dimbokro	54.51	250	P	P	15 43 40.3	+0.1
	comp=Z,3.0nm,0.5s,mb4.6						
BOSA	Boshof	66.89	199	P	P	15 45 06.5	+2.2
	comp=Z,0.9nm,0.5s,mb4.1						
PDAR	Pinedale Array	98.60	342	LR	LR	16 31 42.5	
	comp=Z,55nm,18.1s,MS4.1,baz=261,slow=35						

IDC 05 15:58:22.1±3.4, **0.29N**×**99.04E**, **mb3.5**/4, **mb1 3.5**/5, **mb1mx3.4**/17, **ML3.3**/1, **Error ellipse: s-maj=129.0km s-min=23.8km az=61.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	18.06	360	P	P	16 02 35.5	-0.8
	0.0nm,0.3s,baz=189,slow=12,SNR=3.3						
WRA	Warramunga Arr	39.99	122	P	P	16 05 58.4	-2.1
	0.2nm,0.5s,baz=304,slow=8.9,SNR=3.5						
ASAR	Alice Springs	41.38	128	P	P	16 06 10.5	-1.3
	0.2nm,0.7s,baz=299,slow=7.6,SNR=4.4						
SONM	Songino Array	47.79	7	P	P	16 07 01.8	-1.3
	0.4nm,0.5s,baz=190,slow=8.8,SNR=4.7						
MKAR	Makanchi Array	48.59	345	P	P	16 07 06.7	-2.7
	1.1nm,0.6s,baz=152,slow=8.6,SNR=6.8						

IDC 05 16:05:13.8±1.3, **3.54N**×**127.82E**, **mb3.8**/5, **mb1 3.9**/5, **mb1mx3.7**/17, **Error ellipse: s-maj=118.0km s-min=19.4km az=69.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.20	165	P	P	16 10 32.1	-1.1
	0.7nm,0.7s,baz=344,slow=10,SNR=8.0						
ASAR	Alice Springs	27.68	168	P	P	16 11 04.2	-1.5
	0.1nm,0.4s,baz=350,slow=7.5,SNR=7.0						
STKA	Stephens Creek	37.58	161	P	P	16 12 29.7	-2.3
	6.6nm,1.4s,baz=330,slow=8.1,SNR=2.6						
SONM	Songino Array	47.83	341	P	P	16 13 52.3	-2.9
	1.4nm,1.2s,baz=148,slow=9.3,SNR=4.8						
MKAR	Makanchi Array	58.33	325	P	P	16 15 11.4	-1.7
	0.9nm,0.4s,baz=116,slow=7.9,SNR=27						

*IDC **05** 16:06:41.0±1.4, 3.82N×128.52E, mb3.6/7, mb1 3.8/7, mb1mx3.7/18, Error ellipse: s-maj=74.7km s-min=17.7km az=68.0*
*NEIC **05** 16:06:42.5±0.7, 3.82N×128.50E, h10km, mb4.4/3, Error ellipse: s-maj=39.0km s-min=8.9km az=69.0*
ISC 05 16:06:43.9±1.0, **3.8N**±0.2×**128.5E**±0.4, **h33**km, **n10**, σ**0s53**/10, **mb3.7**/10, **North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.98	187	P	P	16 11 36.2	-0.5
	1.5nm,0.8s,mb3.5,baz=32,slow=13,SNR=2.0						
WRAB	Tennant Creek	24.32	166	eP	P	16 12 00.2	+0.3
	2.0nm,0.4s,mb3.9						
WRA	Warramunga Arr	24.33	166	P	P	16 12 00.7	+0.7
	1.0nm,0.7s,mb3.4,baz=345,slow=10,SNR=6.8						
ASAR	Alice Springs	27.85	169	P	P	16 12 32.1	-0.6
	0.2nm,0.5s,mb3.0,baz=350,slow=7.5,SNR=5.4						
CMAR	Chiang Mai Arr	32.31	299	P	P	16 13 12.9	+0.6
	0.6nm,0.9s,mb3.4,baz=106,slow=6.6,SNR=4.2						
STKA	Stephens Creek	37.65	162	P	P	16 13 57.9	+0.1
	1.2nm,0.8s,mb3.7,baz=351,slow=8.4,SNR=3.1						
SONM	Songino Array	47.76	340	P	P	16 15 20.2	+0.4
	0.2nm,0.4s,mb3.5,baz=161,slow=9.0,SNR=4.5						
MKAR	Makanchi Array	58.46	324	P	P	16 16 39.1	+0.1
	1.3nm,0.4s,mb4.3,baz=116,slow=8.0,SNR=23						
KURK	Kurchatov	62.58	327	eP	P	16 17 07.0	0.0
	1.8nm,0.5s,mb4.5						
ZRNK	Zerenda	68.91	326	eP	P	16 17 46.4	-1.1
	1.1nm,0.4s,mb4.1						

*IDC **05** 16:38:58.9±0.7, 59.79S×28.56W, mb4.2/8, mb1 4.3/9, mb1mx4.2/14, ML3.3/1, MS3.3/3, Ms1 3.3/3, ms1mx3.1/13, Error ellipse: s-maj=31.5km s-min=18.4km az=42.0*
*NEIC **05** 16:39:02.1±0.4, 59.76S×28.47W, mb4.7/6, Error ellipse: s-maj=18.8km s-min=9.9km az=51.0*
ISC 05 16:39:07.5±3.7, **59.7S**±0.1×**28.6W**±0.3, **h80**km±35km, **n23**, σ**0s68**/18, **mb4.3**/12, **2C-1D**, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	13.78	151	⇑i	P	16 42 20.4	+0.3
VNA3	Neumayer Olymp	13.87	154	⇓i	P	16 42 25.8	+4.6
SNAA	Sanae	15.80	150	⇑i	P	16 42 41.9	-4.1
SNAA	Sanae	15.80	150	Pn	P	16 42 41.5	-4.5
	0.1nm,0.3s,baz=315,slow=16,SNR=8.4						

SNAA				LR	LR	16 47 07.0	
	comp=Z,20nm,19.7s,baz=353,slow=31						
SNAA	Sanae	15.80	150	eP	P	16 42 41.4	-4.5
	10nm,1.0s						
USHA	Ushuaia	21.81	265	P	P	16 43 53.7	-0.4
	13nm,1.2s,mb4.1,baz=62,slow=5.7,SNR=4.5						
USHA				LR	LR	16 50 11.8	
	comp=Z,282nm,19.4s,baz=12,slow=31						
QSPA	South Pole Qui	30.50	180	eP	P	16 45 13.8	-0.6
	19nm,1.2s,mb4.7						
QSPA				epP	pP	16 45 19.3	-14
MAW	Mawson	37.69	141	P	P	16 46 16.0	-0.2
	3.6nm,0.7s,mb4.3,baz=207,slow=9.9,SNR=6.1						
CPUP	Villa Florida	38.82	317	P	P	16 46 25.8	-0.2
	4.2nm,0.7s,mb4.4,baz=192,slow=7.4,SNR=12						
BDFB	Brasilia	46.27	334	P	P	16 47 26.2	-0.3
	3.0nm,0.8s,mb4.1,baz=132,slow=5.1,SNR=3.3						
LVC	Limon Verde	46.63	305	P	P	16 47 30.6	+1.2
	12nm,1.2s,mb4.5						
LPAZ	La Paz	52.00	309	P	P	16 48 11.1	+0.5
	2.0nm,0.6s,mb4.4,baz=150,slow=5.9,SNR=12						
LPAZ	La Paz	52.00	309	eP	P	16 48 11.0	+0.3
	3.8nm,0.6s,mb4.6						
TSUM	Tsumeb	52.19	60	P	P	16 48 11.9	-0.1
	1.4nm,0.3s,mb4.4,baz=100,slow=4.4,SNR=4.5						
SAML	Samuel	56.95	318	eP	P	16 48 46.1	-0.7
	9.2nm,0.9s,mb4.8						
DBIC	Dimbokro	68.84	25	LR	LR	17 11 26.5	
	comp=Z,36nm,20.4s,baz=143,slow=28						
SDV	Santo Domingo	76.14	317	eP	P	16 50 48.2	-0.1
	6.6nm,0.8s,mb4.4						
SDV				epP	pP	16 50 55.8	-14
STKA	Stephens Creek	88.37	172	P	P	16 51 52.6	+1.5
	1.4nm,0.8s,mb4.0,baz=123,slow=5.5,SNR=5.4						
ASAR	Alice Springs	95.67	164	P	P	16 52 24.2	-0.8
	0.3nm,0.6s,mb3.9,baz=178,slow=4.2,SNR=6.8						
FINES	FINESS Array B	128.00	30	PKP	PKPdf	16 58 05.5	+2.6
	4.9nm,1.0s,baz=225,slow=8.1,SNR=4.1						
ZAL	Zalesovo	144.53	69	PKP	PKPdf	16 58 33.0	-0.2
	1.8nm,0.6s,baz=201,slow=3.0,SNR=6.6						
SONM	Songino Array	151.47	94	PKPbc	PKPdf	16 58 52.6	+8.0
	0.5nm,0.4s,baz=222,slow=3.5,SNR=13						
ILAR	Eielson Array	151.86	307	PKPbc	PKPdf	16 58 53.1	+8.5
	1.5nm,1.0s,baz=169,slow=3.4,SNR=7.8						

IDC 05 16:46:49.2±1.6, 9.85S×129.38E, mb3.3/1, mb1 3.3/5, mb1mx3.2/12, ML2.9/4, Error ellipse: s-maj=45.5km s-min=26.5km az=63.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	8.97	203	Pn	P	16 48 59.3	-3.7
	0.1nm,0.3s,baz=20,slow=12,SNR=3.9						
FITZ				Sn	Sn	16 50 56.8	+11
	0.1nm,0.3s,baz=58,slow=6.8,SNR=2.7						
WRA	Warramunga Arr	11.12	155	Pn	P	16 49 29.3	-3.4
	0.1nm,0.3s,baz=336,slow=13,SNR=7.8						
WRA				Sn	S	16 51 50.3	+11
	0.1nm,0.3s,baz=335,slow=22,SNR=4.7						
ASAR	Alice Springs	14.40	163	Pn	P	16 50 13.2	-3.4
	0.0nm,0.3s,baz=349,slow=14,SNR=3.1						
CTA	Charters Tower	19.20	124	P	P	16 51 16.2	-1.1
	0.2nm,0.3s,baz=292,slow=19,SNR=2.6						
MKAR	Makanchi Array	70.28	328	P	P	16 58 04.4	-2.0
	0.1nm,0.4s,baz=120,slow=6.8,SNR=5.0						

STR 05 16:50:54.6±0.2, 43.05N×0.19W, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0
LDG 05 16:50:55.0±0.1, 43.04N×0.20W, h2km, Md1.9/2, Ml1.8/1, Error ellipse: s-maj=2.1km s-min=0.8km az=179.0
ISC 05 16:50:54.0±1.3, 43.05N±0.06×0.20W±0.03, h15km±20km, n9, σ0s59/16, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REYF	Montagne du Re	0.14	276	Pg	Pg	16 50 58.1	+0.1
REYF				Sg	Sg	16 51 00.6	0.0
LABF	Labassere	0.20	92	Pg	Pg	16 50 59.1	+0.3
LABF				Sg	Sg	16 51 01.3	-0.7
VIEF	Viey	0.23	137	Pg	Pg	16 50 59.5	+0.1
VIEF				Sg	Sg	16 51 02.6	-0.5
ETSF	Etsaut	0.31	240	ePg	Pg	16 51 00.8	0.0
ETSF				eSg	Sg	16 51 04.4	-0.9
	14nm,0.3s						
FDAF	Les Forges d'A	0.36	229	Pg	Pg	16 51 01.7	0.0
FDAF				Sg	Sg	16 51 06.7	-0.2
EPF	Esparros	0.39	93	ePg	Pg	16 51 02.7	+0.4
EPF				eSg	Sg	16 51 07.6	-0.3
	8.0nm,0.2s						
RESF	Ens	0.46	122	Pg	Pg	16 51 03.8	+0.1
RESF				Sg	Sg	16 51 10.5	+0.4
SJPF	Ste Jean	0.76	275	eSg	Sg	16 51 19.3	-0.3
	3.6nm,0.2s						
MTLF	Montolieu	1.79	80	eSg	Sg	16 51 51.3	-2.4
	1.3nm,0.3s						

NAO 05 16:58:31.6±1.4, 60.12N×12.93E, h15km±18km, ML2.5
BER 05 16:58:32.8±1.1, 60.12N×13.01E, h15km±7km, MD2.4, ML2.2, ML2.5(NAO), Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HFS	Hagfors	0.34	87	Pg	Pg	16 58 38.9	-1.2
	baz=270,slow=18						
HFS				Lg		16 58 43.7	
	baz=266,slow=37						
HFS				Rg		16 58 45.3	
	baz=269,slow=37						
NB2	NORSAR Subarra	1.28	317	Pn	Pn	16 58 54.5	-1.7
NB2				Lg		16 59 12.6	
KONO	Kongsberg	1.78	256	eP	Px	17 00 07.7	
KONO				eSg	Sx	17 00 31.9	
KONO				AML	AML	17 00 34.2	
	comp=Z,41nm,0.9s						

STR 05 17:22:37.6±0.0, 43.37N×0.69W, h10km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0
LDG 05 17:22:38.1±1.1, 42.86N×1.47W, h2km, Md2.2/2, Ml2.0/1, Error ellipse: s-maj=16.8km s-min=8.5km az=36.0
MDD 05 17:22:39.1±0.5, 42.88N×1.41W, mbLg1.3/6, Error ellipse: s-maj=3.8km s-min=2.6km az=50.0, PRXIMO AftershockPLICA, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.28	30	ePg	Pg	17 22 44.3	-0.3
SJPF				eSg	Sg	17 22 47.2	-1.0
	28nm,0.2s						
EALK	Alkurruntz	0.35	349	Pg	Pg	17 22 45.5	-0.6
	SNR=12						
EALK				Lg		17 22 50.3	
	4.6nm,0.1s,SNR=13						
LARF	Larrau	0.35	62	Pg	Pg	17 22 45.7	-0.4
LARF				Sg	Sg	17 22 51.7	+0.9
LARF	Larrau	0.35	62	P	Pg	17 22 45.7	-0.4
LARF				S	Sg	17 22 51.6	+0.8
OSSF	Osses	0.40	16	Pg	Pg	17 22 46.3	-0.7
OSSF				Sg	Sg	17 22 52.6	+0.3
OSSF	Osses	0.40	16	P	Pg	17 22 46.3	-0.7
OSSF				S	Sg	17 22 52.8	+0.5
ETSF	Etsaut	0.63	88	ePg	Pg	17 22 50.0	-1.6
ETSF				eSg	Sg	17 22 58.6	-1.4
	4.3nm,0.3s						
EPF	Esparros	1.30	82	ePg	Pg	17 23 04.9	-0.1
EPF				eSg	Sg	17 23 21.7	-0.5
	2.6nm,0.2s						
EPF	Esparros	1.30	82	Lg		17 23 21.7	
	1.3nm,0.2s						
ESAC	San Caprasio	1.35	148	Pg	Pg	17 23 03.3	-2.7
	SNR=7.9						
ESAC				Lg		17 23 22.3	
	4.9nm,0.2s,SNR=7.9						
ELAN	Lanestosa	1.52	284	Pn	Pn	17 23 06.7	-1.0
	19nm,1.1s,SNR=6.9						
ELAN				Lg		17 23 28.1	
	3.3nm,0.3s,SNR=7.9						
ETOR	Torete	2.11	193	Pg	Pg	17 23 17.4	-3.8
	SNR=7.9						
ETOR				Sn	Sn	17 23 41.6	-1.8
	SNR=7.9						

IGQ 05 17:23:32.4, 0.95S×79.27W, h107km±2km, mb4.0, 11C-7D, Error ellipse: s-maj=3.6km s-min=1.2km az=175.9, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QIL1	Quilotoa	0.35	73	⇑P	P	17 23 48.6	+0.4
QIL1				S	S	17 24 00.5	+0.5
MARY	Rancho Maria	0.81	75	P	P	17 23 52.4	+0.6
IGUA	Igualata	0.83	130	P	P	17 23 53.1	+1.2
NAS1	Nasa	0.85	68	⇑P	P	17 23 53.1	+0.9
PISA	Pisayambo	0.89	97	⇑P	P	17 23 53.1	+0.6
PISA				S	S	17 24 08.9	+1.2
VC1	Cotopaxi 1	0.92	70	⇑P	P	17 23 53.7	+0.8
JUIV	Juive	0.93	120	⇓P	P	17 23 53.4	+0.5
TAMB	Tambo	0.94	74	⇑P	P	17 23 53.8	+0.8
RETU	Refugio	0.96	121	P	P	17 23 54.0	+0.8
ARRY	Arrayan	0.98	124	⇑P	P	17 23 53.8	+0.3
ARRY				S	S	17 24 09.0	-0.3
JUA2	San Juan 2	0.99	42	⇓P	P	17 23 54.7	+1.2
ULBA	Ulba	0.99	120	⇑P	P	17 23 53.9	+0.3
ULBA				S	S	17 24 09.0	-0.6
PATA	Patacocha	1.00	123	P	P	17 23 54.2	+0.6
CGGP	Crater GGP	1.02	41	⇓P	P	17 23 54.8	+1.0
CGGP				S	S	17 24 11.4	+1.5
GGP	Refugio Guagua	1.03	41	⇑P	P	17 23 54.7	+0.8
GGP				S	S	17 24 09.0	-1.1
PINO	Pino	1.03	40	⇓P	P	17 23 55.0	+1.1
PINO				S	S	17 24 11.3	+1.1
YANA	Yana	1.08	40	⇑P	P	17 23 55.3	+0.8
JOR1	San Jorge 1	1.14	34	⇓P	P	17 23 53.8	-1.4
JOR1				S	S	17 24 08.9	-3.5
ANTI	Antisana	1.22	66	⇑P	P	17 23 56.7	+0.5
COTA	Cotacachi	1.58	36	⇓P	P	17 24 01.3	+0.9
CAYR	Refugio Cayamb	1.59	53	⇑P	P	17 24 01.4	+0.8
CAYA	Cayambe	1.64	52	⇓P	P	17 24 02.0	+0.9
CONE	Cono NE Rev Vo	1.85	62	P	P	17 24 04.3	+0.5

ATH 05 17:25:49.8, 37.80N×26.90E, h19km±2km, MD3.8/16, ML3.8
NEIC 05 17:25:49.8, 37.80N×26.90E, h19km, ML3.8(ATH), ML3.0(THE), After ATH.
ISK 05 17:25:50.3, 37.73N×26.91E, h5km, MD3.6
CSEM 05 17:25:51.2±0.1, 37.76N×26.82E, h14km, ML3.8, Error ellipse: s-maj=2.2km s-min=1.5km az=137.0
THE 05 17:25:58.0, 37.66N×26.96E, h20km, ML4.2
ISC 05 17:25:51.7±0.2, 37.78N±0.02×26.90E±0.02, h14km, n87, σ1s42/114, 2D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	Samos	0.09	214	ePB	Pb	17 25 53.9	-0.7
SMG				eSB	Sb	17 25 55.7	-0.8
IZM	Izmir	0.68	25	i PG	Pg	17 26 05.4	-0.1
KDAG	Bornova	0.69	25	i P	Pb	17 26 03.8	-1.2
KDAG				i S	Sb	17 26 13.3	-0.7
AYDN	Tasoluk	0.79	98	i P	Pb	17 26 05.3	-1.4
AYDN				i S	Sb	17 26 15.5	-1.4
BDRM	Kayabasi	0.84	148	i P	Pb	17 26 06.2	-1.3
BDRM				i S	Sb	17 26 17.7	-0.6
MLSB	Milas	0.85	124	i PG	Pg	17 26 07.2	-1.6
MLSB				i SG	Sg	17 26 19.4	-0.8
NISR	Nisiros	1.18	171	ePN	Pn	17 26 13.7	-0.1
APE	Apeiranthos	1.30	237	i PN	Pn	17 26 15.8	+0.3
APE				i SN	Sn	17 26 34.8	+2.1
APE	Apeiranthos	1.30	237	⇓iPN	Pn	17 26 14.3	-1.2
APE				eSN	Sn	17 26 33.9	+1.2
AKS	Akhisar	1.31	33	i PN	Pn	17 26 16.8	+1.1
MANT	Manisa	1.49	61	i P	Pn	17 26 19.5	+1.3
MANT				i S	Sb	17 26 36.4	-0.9
AYVA	Ayvalik	1.54	354	i P	Pn	17 26 20.3	+1.4
PRK	Paraskevi	1.54	342	ePN	Pn	17 26 18.1	-0.9
DENT	Denizli	1.69	90	PN	Pn	17 26 22.3	+1.2
DNZL	Cakiroluk	1.71	92	i P	Pn	17 26 20.2	-1.1
DNZL				i S	Sn	17 26 46.7	+3.6
DALT	Dalyan (Mudla)	1.72	125	PN	Pn	17 26 21.9	+0.4
THR4	Thira Island,	1.78	223	ePb	Pb	17 26 25.1	+1.4
THR4				eSb	Sb	17 26 46.5	+0.7
THR4	Thira Island,	1.78	223	P	Pn	17 26 24.9	+2.5
THR4	Thira Island,	1.78	223	ePb	Pb	17 26 25.0	+1.4
THR4				eSb	Sb	17 26 46.5	+0.7
SANT	Santorini	1.82	220	ePn	Pn	17 26 21.4	-1.5
SANT	Santorini	1.82	220	ePn	Pn	17 26 21.4	-1.5
THR1	Thera Island	1.82	220	ePb	Pb	17 26 25.1	+0.9
THR1				eSb	Sb	17 26 47.0	+0.2
THR3	Thira Island,	1.82	222	ePb	Pb	17 26 25.9	+1.6
THR3				eSb	Sb	17 26 47.0	+0.2
THR3	Thira Island,	1.82	222	P	Pn	17 26 26.1	+3.1
THR5	Thira Island,	1.84	223	ePb	Pb	17 26 26.1	+1.4
THR5	Thira Island,	1.84	223	ePb	Pb	17 26 26.0	+1.4
THR6	Thira Island,	1.86	221	ePb	Pb	17 26 26.2	+1.2
THR6				eSb	Sb	17 26 48.1	0.0
KHL	Karahalli	2.14	75	PN	Pn	17 26 28.0	+0.4
BOZC	Bozcaada	2.16	343	i P	Pn	17 26 27.0	-0.8
BOZC				i S	Sn	17 27 02.6	+8.0
KARP	Karpathos	2.24	174	ePB	Pb	17 26 27.1	-4.4
DST	Dursunbey	2.27	36	PN	Pn	17 26 30.6	+1.2
PTL	Penteli	2.41	277	ePB	Pb	17 26 30.6	-3.9
ATH	Athens Observa	2.52	275	ePN	Pn	17 26 31.1	-1.9
MPAR	Parnis Oros	2.52	279	ePB	Pb	17 26 32.5	-3.9
LOS	Limnos	2.58	327	ePn	Pn	17 26 38.4	+4.6
LOS				eSn	Sn	17 27 10.6	+5.5
LOS	Limnos	2.58	327	P	Pn	17 26 31.5	-2.3
LOS				S	Sn	17 26 58.1	-7.1
LOS	Limnos	2.58	327	P	Pn	17 26 31.5	-2.3
ELL	Elmali	2.61	112	PN	Pn	17 26 34.8	+0.5
BNT	Bandirma	2.69	17	PN	Pn	17 26 37.5	+2.0
KSL	Kastellorizon	2.70	126	ePN	Pn	17 26 35.1	-0.4
NAIG	Nisos Aigina	2.70	271	ePN	Pn	17 26 29.5	-6.1
NPS	Neapolis	2.72	203	ePN	Pn	17 26 34.0	-1.8
ORLT	Orhaneli	2.75	34	PN	Pn	17 26 38.2	+2.0
ALT	Altintas	2.83	62	PN	Pn	17 26 38.8	+1.4
ISP	Isparta	2.86	88	PN	Pn	17 26 39.5	+1.6
MKIT	Kithairon Oros	2.90	279	ePB	Pb	17 26 38.5	-4.3
ULDT	Uludag	2.94	36	i P	Pn	17 26 45.6	+6.7
ULDT				i S	Sn	17 27 23.8	+10
BCK	Bucak	2.95	95	PN	Pn	17 26 39.7	+0.6
XRY	Khrisi	3.06	199	ePN	Pn	17 26 39.0	-1.6
ALN	Alexandroupoli	3.18	348	ePn	Pn	17 26 47.4	+4.9
ALN				eSn	Sn	17 27 24.8	+4.2
ALN	Alexandroupoli	3.18	348	P	Pn	17 26 40.1	-2.3
ALN				S	Sn	17 27 14.6	-5.9
ALN	Alexandroupoli	3.18	348	P	Pn	17 26 40.2	-2.2
VLI	Veliai	3.33	253	ePN	Pn	17 26 44.5	0.0
YLV	Yalova	3.38	34	PN	Pn	17 26 46.4	+1.1
OUR	Ouranopolis	3.41	319	ePn	Pn	17 26 50.9	+5.2
OUR	Ouranopolis	3.41	319	P	Pn	17 26 43.2	-2.5
OUR	Ouranopolis	3.41	319	P	Pn	17 26 43.2	-2.5
RDO	Rodhopi	3.52	343	⇓iPN	Pn	17 26 45.8	-1.4
ESKT	Eskisehir	3.55	59	PN	Pn	17 26 48.3	+0.7
ESKT	Eskisehir	3.55	59	i P	Pg	17 26 57.5	-5.1
ESKT				i S	Sg	17 27 47.1	-2.8
ISK	Istanbul-Kandi	3.68	26	PN	Pn	17 26 51.4	+1.9
HRT	Hereke	3.72	34	PN	Pn	17 26 51.9	+1.8
AGG	Agios Georgios	3.80	290	ePn	Pn	17 26 56.2	+5.1
AGG	Agios Georgios	3.80	290	P	Pn	17 26 48.6	-2.5
AGG				S	Sn	17 27 29.0	-7.1
AGG	Agios Georgios	3.80	290	P	Pn	17 26 48.6	-2.5
KDZ	Kurdzhali	4.03	344	i P	Pn	17 26 52.0	-2.5
EDRB	Edirne	4.06	358	PN	Pn	17 26 56.8	+1.9
KIZT	Kizilcal	4.07	73	PN	Pn	17 26 56.0	+1.0
EVR	Evrytania	4.16	287	ePN	Pn	17 26 56.5	+0.2
SRS	Serrai	4.20	324	ePn	Pn	17 27 01.2	+4.3
RZN	Rozhen	4.25	337	i P	Pn	17 26 56.0	-1.6
HENT	Hendek	4.34	44	i P	Pg	17 27 11.4	-7.0
HENT				i S	Sg	17 28 08.3	-8.1
MMB	Musomiste	4.52	328	i P	Pn	17 26 59.5	-1.9
KNT	Kendrikon	4.58	319	ePn	Pn	17 27 07.4	+5.1
GRG	Griva	4.71	314	ePn	Pn	17 27 07.5	+3.3
GRG				eSn	Sn	17 28 03.1	+3.8
GRG	Griva	4.71	314	P	Pn	17 27 01.8	-2.4
GRG	Griva	4.71	314	P	Pn	17 27 01.8	-2.3
ANTO	Ankara	5.06	64	PN	Pn	17 27 10.8	+1.8
VTS	Vitosha	5.57	331	i P	Pn	17 27 15.0	-1.3
SAFT	Safranbolu	5.66	51	PN	Pn	17 27 19.4	+2.0
BALT	Daday	6.25	51	i P	Pg	17 27 47.6	-9.0
BALT				i S	Sx	17 29 06.1	
HAQS	Haql	10.98	140	P	P	17 28 26.0	-5.5
JMOS	Jabal al Moall	10.98	139	P	P	17 28 28.6	-2.9
JMOS				S	S	17 30 23.0	-12
TAYS	Tayyib Ism	11.37	142	P	P	17 28 30.9	-5.8
BDAS	Al Bad‘	11.58	141	P	P	17 28 33.9	-5.7
BDAS				S	S	17 30 34.8	-15
AYUS	‘Aynunah	11.86	141	P	P	17 28 37.4	-6.1
AYUS				S	S	17 30 42.0	-15
KHC	Kasperske Hory	14.88	324	eP	P	17 29 28.5	+5.2

IDC 05 17:30:36.9±9.4, 1.86N×96.27E, mb4.1/4, mb1 4.1/5, mb1mx3.8/17, ML3.6/1, Error ellipse: s-maj=189.0km s-min=94.8km az=149.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	16.70	9	Pn	P	17 34 32.5	-1.5
	0.1nm,0.3s,baz=201,slow=11,SNR=12						
MKAR	Makanchi Array	46.39	347	P	P	17 39 05.2	-1.7
	4.8nm,0.9s,baz=161,slow=7.9,SNR=24						
SONM	Songino Array	46.63	9	P	P	17 39 06.9	-1.9
	0.6nm,0.4s,baz=192,slow=9.0,SNR=8.4						
ZAL	Zalesovo	52.76	352	P	P	17 39 53.5	-2.4
	2.2nm,0.6s,baz=304,slow=4.9,SNR=7.9						
BVAR	Borovoye Array	55.33	341	P	P	17 40 12.2	-2.5
	0.7nm,0.5s,baz=135,slow=8.4,SNR=6.0						

BJI 05 17:30:40.6, 3.94N×128.54E, h9km, mB5.1, mb4.9, Ms4.7, Msz4.5
HRVD 05 17:30:42.1±0.2, 3.92N×128.43E, h16km, MW5.2/74, Centroid moment Tensor Solution. LP body waves: s58,c89;Mantle waves: s74,c128; Half duration: 1s0 Moment tensor: Scale 10^16Nm; Mrr4.86±.13; Mθθ0.58±.11; Mφφ-5.44±.12; Mrθ1.46±.38; Mθφ0.19±.09; Mφr5.87±.30; Best double couple: M0 7.96×10^16 NP1:φs164°, δ22°, λ66°. NP2:φs10°, δ70°, λ99°. Principal axes: T 7.79, Plg64°, Azm296°; N .32, Plg9°, Azm187°; P -8.12, Plg25°, Azm93°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
NEIC 05 17:30:42.1±0.3, 3.82N×128.49E, h10km, mb5.1/23, MS4.4/15 Error ellipse: s-maj=13.2km s-min=5.1km az=71.0
IDC 05 17:30:44.5±3.2, 3.81N×128.45E, h24km±20km, mb4.4/21, mb1 4.4/21, mb1mx4.4/24, MS4.4/16, Ms1 4.4/16, ms1mx4.3/25, Error ellipse: s-maj=24.8km s-min=11.4km az=78.0
MOS 05 17:30:44.5±0.9, 3.88N×128.36E, h39km, mb5.0/8, Error ellipse: s-maj=25.5km s-min=10.2km az=112.7
ISC 05 17:30:43.5±1.3, 3.84N±0.04×128.56E±0.07, h32km±8km, h27km±2.8km:pP-P, n124, σ1s06/131, mb4.9/62, MS4.5/51, 12C-3D, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	4.38	317	⇑eP	Pn	17 31 54.5	+4.9
DAV	Davao City (W)	4.38	317	i S	Sn	17 32 56.5	+16
KCP	Kidapawan	4.68	312	⇓eP	Pn	17 31 55.6	+1.8
KCP				i S	Sn	17 32 59.8	+12
SCPH	Surigao	6.65	333	eP	Pn	17 32 24.2	+2.5
SCPH				eS	Px	17 32 39.8	
TBP	Tagbilaran	7.46	321	i P	Pn	17 32 28.3	-4.7
TBP				eS	Sn	17 34 05.9	+8.6
KAKA	Kakadu	16.86	167	eP	P	17 34 45.9	+6.8
	20nm,0.5s						
FITZ	Fitzroy Crossi	21.99	187	eP	P	17 35 35.5	-1.3
	5.1nm,0.5s,mb4.2						
FITZ				eS	S	17 39 40.6	+8.0
FITZ	Fitzroy Crossi	21.99	187	P	P	17 35 35.6	-1.2
	3.8nm,0.5s,mb4.0,baz=14,slow=9.1,SNR=22						
FITZ				LR	LR	17 44 48.1	
	comp=Z,410nm,19.3s,MS3.9,baz=30,slow=38						
JOW	Kunigami	22.87	359	LR	LR	17 43 43.5	
	comp=Z,737nm,20.1s,MS4.1,baz=332,slow=34						
QZH	Quanzhou	23.07	336	P	P	17 35 44.3	-3.3
QZH				S	S	17 39 52.0	-0.2
QZH				AMB	AMB		
	comp=Z,120nm,1.4s,mb5.1						
QZH				LR	LR		
	comp=Z,3μm,16.8s,MS4.8						
QIZ	Qiongzhong	23.72	311	P	P	17 35 50.6	-3.3
QIZ				AP		17 36 00.1	
QIZ				XP		17 36 04.2	
QIZ				S	S	17 40 02.3	-1.2
QIZ				XS		17 40 17.4	
QIZ				SS	SS	17 40 54.0	+0.7
QIZ				AMB	AMB		
	comp=Z,472nm,9.5s						
QIZ				LR	LR		
	comp=N,954nm,15.9s,MS4.6						
QIZ				LR	LR		
	comp=E,1μm,16.4s,MS4.6						
QIZ				LR	LR		
	comp=Z,2μm,16.0s,MS4.6						
GZH	Guangzhou	24.14	324	P	P	17 35 59.6	+1.6
GZH				S	S	17 40 20.4	+10
GZH				LR	LR		
	comp=N,828nm,15.4s,MS4.6						
GZH				LR	LR		
	comp=E,1μm,14.4s,MS4.6						
GZH				LR	LR		
	comp=Z,2μm,15.4s,MS4.8						
WRAB	Tennant Creek	24.30	167	P	P	17 36 00.0	+0.5
	comp=Z,281nm,1.1s,mb5.6,SNR=15						
WRAB	Tennant Creek	24.30	167	eP	P	17 35 59.8	+0.3
	comp=Z,47nm,1.1s,mb4.8						
WRA	Warramunga Arr	24.30	167	P	P	17 35 59.9	+0.4
	comp=Z,12nm,0.6s,mb4.5,baz=346,slow=10,SNR=111						
WB2	Warramunga Arr	24.30	167	eP	P	17 35 59.9	+0.3
WB2				eS	S	17 40 14.0	+0.5
CBIJ	Chichi jima	26.54	28	P	P	17 36 21.1	+0.5
	comp=Z,46nm,0.7s,mb5.1,baz=85,slow=21,SNR=10						
CBIJ				LR	LR	17 45 31.9	
	comp=Z,691nm,19.7s,MS4.2,baz=300,slow=33						
ASAR	Alice Springs	27.83	169	P	P	17 36 31.6	-0.6
	comp=Z,2.3nm,0.5s,mb4.0,baz=354,slow=8.0,SNR=87						
ASPA	Alice Springs	27.83	169	eP	P	17 36 32.5	+0.2
ASPA				eS	S	17 41 12.3	+0.7
SSE	Sheshan	27.99	346	P	P	17 36 32.5	-1.2
SSE				XP	sP	17 36 45.0	-2.1
SSE				S	S	17 41 13.1	-1.1
SSE				XS		17 41 28.1	
SSE				AMB	AMB		
	comp=Z,16nm,0.8s,mb4.7						
SSE				LR	LR		
	comp=N,215nm,24.9s,MS4.1						
SSE				LR	LR		
	comp=E,524nm,24.8s,MS4.1						
SSE				LR	LR		
	comp=Z,325nm,22.9s,MS3.9						
KKTK	Khon Kaen	28.17	298	⇑P	P	17 36 37.5	+2.0
	comp=Z,247nm,1.0s,mb5.8						
CTAO	Charters Tower	29.45	144	P	P	17 36 55.2	+8.2
	comp=Z,8.7nm,1.0s,mb4.4						
CTAO				LR	LR		
	comp=Z,1μm,19.0s,MS4.5						
NJ2	Nanjing	29.51	343	eP	P	17 36 46.4	-1.0
NJ2				AP	pP	17 36 56.0	-0.7
NJ2				XP	sP	17 37 00.0	-0.8
NJ2				PP	PP	17 37 42.6	-0.9
NJ2				S	S	17 41 38.4	-0.2
NJ2				XS		17 41 54.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.1						
NJ2				LR	LR		
	comp=Z,1μm,20.2s,MS4.5						
WHN	Wuhan	29.76	335	eP	P	17 36 50.0	+0.3
WHN				S	S	17 41 48.0	+5.4
WHN				LR	LR		
	comp=Z,1μm,19.5s,MS4.6						
NST	Nakhon Sawan	30.34	295	P	P	17 36 54.0	-0.8
NANT	Nan	31.03	301	P	P	17 37 00.5	-0.4
ENH	Enshi	31.88	328	⇑eP	P	17 37 07.5	-0.8
	comp=Z,21nm,0.9s,mb5.0						
ENH				LR	LR		
	comp=Z,725nm,22.0s,MS4.3						
BDT	Bhumibol Dam	31.90	297	P	P	17 37 09.0	+0.4
CM31	Chiang Mai Arr	32.41	299	eP	P	17 37 12.7	-0.3
	comp=Z,11nm,0.7s,mb4.8						
CM31				LR	LR		

comp=Z,967nm,19.0s,MS4.5
CMAR Chiang Mai Arr 32.41 299 P **P** **17 37 13.1 +0.1**
comp=Z,6.9nm,0.7s,mb4.6,baz=116,slow=6.9,SNR=20
CMAR ScP 17 43 43.2
comp=Z,1.6nm,1.1s,baz=162,slow=2.2,SNR=7.4
CMAR LR LR 17 50 31.6
comp=Z,787nm,18.6s,MS4.4,baz=110,slow=37
CHG Chiang Mai 32.55 300 ⇑P **P** **17 37 13.5 -0.7**
comp=Z,25nm,0.8s,mb5.2
KMI Kunming 32.62 313 ⇑*i*P **P** **17 37 15.2 +0.4**
KMI AP pP 17 37 24.9 +0.7
KMI XP sP 17 37 27.3 -0.9
KMI PP PP 17 38 20.8 -3.3
KMI S **S** **17 42 20.9 -6.6**
KMI XS 17 42 36.4
KMI AMB AMB
comp=Z,14nm,1.5s,mb4.7
KMI AMB AMB
comp=Z,231nm,6.2s
KMI LR LR
comp=N,974nm,18.7s,MS4.7
KMI LR LR
comp=E,854nm,16.7s,MS4.7
KMI LR LR
comp=Z,1μm,18.6s,MS4.6
MAJO Matsushiro 33.74 14 PFAKE 17 37 40.0 +16
MAJO LR LR
comp=Z,845nm,20.0s,MS4.5
FORT Forrest 34.42 181 *e*P **P** **17 37 29.5 -0.9**
comp=Z,69nm,0.8s,mb5.6
XAN Xi'an 35.18 331 P **P** **17 37 36.3 -0.5**
XAN AP pP 17 37 42.8 -3.4
XAN AMB AMB
comp=Z,35nm,1.2s,mb5.2
XAN AMB AMB
comp=Z,254nm,9.0s
XAN LR LR
comp=N,275nm,17.3s,MS4.2
XAN LR LR
comp=E,252nm,16.3s,MS4.2
XAN LR LR
comp=Z,632nm,16.8s,MS4.4
CD2 Chengdu 35.66 322 *e*P **P** **17 37 40.6 -0.4**
CD2 AP pP 17 37 48.2 -2.2
CD2 AMB AMB
comp=Z,160nm,7.2s
CD2 LR LR
comp=E,860nm,17.4s
CD2 LR LR
comp=Z,810nm,18.0s,MS4.5
KLBR Kellerberrin 36.70 196 *e*P **P** **17 37 49.6 -0.1**
comp=Z,22nm,1.1s,mb4.9
MUN Mundaring 37.51 197 *e*P **P** **17 37 56.6 +0.2**
comp=Z,13nm,1.1s,mb4.6
STKA Stephens Creek 37.62 162 *e*P **P** **17 37 57.5 +0.1**
comp=Z,14nm,0.8s,mb4.7
STKA Stephens Creek 37.62 162 P **P** **17 37 56.8 -0.5**
comp=Z,4.8nm,0.5s,mb4.5,baz=333,slow=8.3,SNR=25
STKA PcP PcP 17 40 16.3 +1.3
comp=Z,1.7nm,0.4s,baz=332,slow=7.4,SNR=3.7
STKA LR LR 17 55 23.1
comp=Z,843nm,18.7s,MS4.6,baz=158,slow=39
BJT Baijiatuau 37.72 344⇈*e*P **P** **17 37 57.9 -0.3**
comp=Z,25nm,0.8s,mb5.0
BJT LR LR
comp=Z,372nm,21.0s,MS4.2
BJI Beijing 37.74 344 P **P** **17 37 57.9 -0.4**
BJI S **S** **17 43 46.4 +0.1**
BJI AMB AMB
comp=Z,13nm,0.6s,mb4.8
BJI LR LR
comp=N,341nm,12.9s,MS4.5
BJI LR LR
comp=E,437nm,17.4s,MS4.5
BJI LR LR
comp=Z,361nm,24.3s
SNY Shenyang 38.09 354 ⇓P **P** **17 37 56.5 -4.7**
SNY S **S** **17 43 51.5 0.0**
SNY LR LR
comp=N,510nm,18.6s
SNY LR LR
comp=E,320nm,12.3s
SNY LR LR
comp=Z,530nm,20.6s,MS4.3
NWAO Narrogin (SRO) 38.11 196 P **P** **17 38 01.9 +0.4**
comp=Z,6.3nm,0.6s,mb4.5,baz=350,slow=5.2,SNR=10
VLA Vladivostok 39.23 4 *e*P **P** **17 38 24.0 +13**
VLA *i* 17 44 09.0
VLA MLR MLR
comp=Z,500nm,16.0s,MS4.4
VLA MLR MLR
comp=N,500nm,12.0s,MS4.7
VLA MLR MLR
comp=E,500nm,16.0s,MS4.7
LZH Lanzhou 39.36 328 ⇑P **P** **17 38 13.4 +1.4**
LZH AP pP 17 38 16.1 -5.3
LZH XP sP 17 38 18.6 -6.8
LZH PP PP 17 39 43.0 -3.2
LZH *e*S **S** **17 44 07.3 -3.6**
LZH AMB AMB
comp=Z,148nm,1.7s,mb5.4
LZH AMB AMB
comp=Z,353nm,4.3s
LZH LR LR
comp=N,2μm,15.8s
LZH LR LR
comp=Z,3μm,16.2s,MS5.2
HHC Hu-ho-hao-te 39.90 340 *e*P **P** **17 38 17.4 +1.1**
HHC PCP PcP 17 40 18.4 -3.7
HHC SCP 17 44 07.4
HHC PCS 17 44 10.3
HHC S **S** **17 44 23.2 +4.3**
HHC SCS ScS 17 48 19.1 +0.2
HHC AMB AMB
comp=Z,20nm,1.1s,mb4.8
HHC AMB AMB
comp=Z,153nm,4.3s
HHC LR LR
comp=N,267nm,16.0s,MS4.3
HHC LR LR
comp=E,277nm,17.8s,MS4.3
HHC LR LR
comp=Z,269nm,18.4s,MS4.1
BTO Baotou 40.24 338 *e*P **P** **17 38 17.8 -1.3**
SHL Shillong 41.30 305 *e*P **P** **17 38 29.0 +1.0**
ASAJ Asahikawa 41.98 15 P **P** **17 38 35.2 +1.8**
comp=Z,2.8nm,0.5s,mb4.2,baz=250,slow=17,SNR=4.7
LSA Lhasa 43.76 310 P **P** **17 38 45.1 -3.0**
LSA S **S** **17 45 17.3 +1.5**
LSA LR LR
comp=N,230nm,18.0s
LSA LR LR
comp=Z,240nm,17.3s,MS4.2
GTA Gaotai 43.97 328 *e*P **P** **17 38 50.2 +0.6**
GTA AP pP 17 38 58.1 -1.0
GTA XP sP 17 39 00.8 -2.3
GTA PP PP 17 40 35.3 +1.7
GTA SCP 17 44 26.9
GTA S **S** **17 45 18.2 -0.6**
GTA XS 17 45 31.9
GTA SS SS 17 48 31.4 +3.6
GTA SCS ScS 17 48 44.7 +1.1
GTA AMB AMB
comp=Z,155nm,11.4s
GTA LR LR
comp=N,382nm,16.0s,MS4.5
GTA LR LR
comp=E,362nm,16.0s,MS4.5
GTA LR LR
comp=Z,493nm,16.7s,MS4.5
YSS Yuzh-Sakhalins 44.68 14 *e*P **P** **17 38 56.0 +0.7**
YSS *e*S **S** **17 45 30.0 +1.0**
YSS *e* 17 48 54.0
YSS MLR MLR
comp=Z,300nm,17.0s,MS4.3
GUN Gumba 47.15 305 *e*P **P** **17 39 15.0 -0.2**
comp=Z,17nm,0.7s,mb5.1
PKI Pulchoki 47.41 304 *e*P **P** **17 39 18.3 +1.1**
KKN Kakani 47.60 305 *e*P **P** **17 39 18.1 -0.6**
comp=Z,96nm,1.5s,mb5.6
DMN Daman 47.67 304 *e*P **P** **17 39 19.6 +0.3**
comp=Z,73nm,1.3s,mb5.5
SONM Songino Array 47.80 340 P **P** **17 39 20.1 +0.1**
comp=Z,4.4nm,0.6s,mb4.7,baz=156,slow=9.7,SNR=30
SONM ScP 17 44 39.9
comp=Z,0.7nm,0.8s,baz=180,slow=3.7,SNR=5.0

GKN Gorkha 48.20 305 *e*P **P** **17 39 22.7 -0.7**
comp=Z,68nm,1.3s,mb5.5
KOLN Koldanda 48.97 304 *e*P **P** **17 39 29.1 -0.2**
comp=Z,149nm,1.5s,mb5.8
HYB Hyderabad 50.80 289 *i* P **P** **17 39 43.0 -0.4**
HYB *e*PP PP 17 41 42.0 +1.6
HYB *e*S **S** **17 46 58.0 +2.3**
TRD Trivandrum 51.48 278 *e*P **P** **17 39 51.4 +2.8**
MOY Mondy 52.92 339 *e*P **P** **17 40 01.7 +2.7**
WMQ Urumqi 53.70 324 P **P** **17 40 05.0 +0.2**
WMQ PP PP 17 42 08.0 +0.9
WMQ S **S** **17 47 37.0 +2.0**
WMQ SCS ScS 17 49 47.0 -1.2
WMQ SS SS 17 51 19.0 +3.8
WMQ AMB AMB
comp=Z,15nm,1.0s,mb4.9
WMQ AMB AMB
comp=Z,71nm,8.0s
WMQ LR LR
comp=N,667nm,15.0s,MS4.9
WMQ LR LR
comp=E,537nm,16.0s,MS4.9
WMQ LR LR
comp=Z,582nm,15.0s,MS4.8
DDI Dehra Dun 54.40 305 *e* **P** **17 40 09.0 -1.1**
PET Petropavlovsk 54.94 22 *e*P **P** **17 40 19.7 +5.9**
PET *e*S **S** **17 47 55.6 +4.1**
PET pmax pmax
comp=Z,100nm,18.3s
PET smax
comp=E,200nm,19.3s
PET smax
comp=N,200nm,18.5s
BOD Bodaibo 55.04 351 *e*P **P** **17 40 12.5 -1.9**
THN Thein Dam 56.97 306 *e*P **P** **17 40 23.9 -4.8**
comp=N,12nm,0.9s,mb4.9
YAK Yakutsk 58.07 1 *e*P **P** **17 40 35.6 -0.3**
YAK *e*S ScS 17 50 20.8 +1.5
YAK pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
YAK pmax pmax
comp=N,4.0nm,1.2s
YAK pmax pmax
comp=E,2.0nm,1.2s
YAK smax
comp=N,6.0nm,1.3s
YAK smax
comp=E,5.0nm,1.4s
MKAR Makanchi Array 58.52 324 P **P** **17 40 39.0 -0.3**
comp=E,16nm,0.4s,mb5.4,baz=117,slow=8.2,SNR=211
MKAR LR LR 18 07 20.4
comp=E,806nm,19.3s,MS4.8,baz=122,slow=38
MKAR Makanchi Array 58.52 324 P **P** **17 40 38.9 -0.4**
MKAR pmax pmax
comp=Z,3.0nm,0.4s
KSH Kashi 59.27 314 *e*P **P** **17 40 46.1 +1.5**
KSH *e*XP sP 17 40 58.7 +0.7
KSH AMB AMB
comp=Z,170nm,5.1s
TKM2 Tokmak 2 60.89 318 P **P** **17 40 55.8 +0.2**
SNR=10
ZAL Zalesovo 61.34 332 P **P** **17 40 57.7 -0.8**
comp=Z,1.7nm,0.6s,mb4.3,baz=342,slow=7.6,SNR=8.2
ZAL LR LR 18 08 34.7
comp=Z,223nm,21.4s,MS4.3,baz=335,slow=37
ZAL Zalesovo 61.34 332 P **P** **17 40 57.7 -0.8**
UCH Uchtor 61.34 317 P **P** **17 40 59.8 +1.1**
SNR=17
AAK Ala-Archa 61.51 317 *i* P **P** **17 40 58.4 -1.5**
AAK Ala-Archa 61.51 317⇈*e*P **P** **17 40 57.9 -2.0**
comp=Z,11nm,1.0s,mb5.0
USP Ospenovka 61.76 318 P **P** **17 41 01.4 -0.2**
SNR=16
AML Almayashu 61.87 316 P **P** **17 41 03.0 +0.7**
SNR=10
EKS2 Erkin-Say 62.01 317 P **P** **17 41 03.6 +0.3**
SNR=15
NVS Novosibirsk 62.61 332 *i* P **P** **17 41 05.2 -1.9**
NVS *i* S **S** **17 49 27.0 -4.2**
NVS pmax pmax
comp=N,37nm,1.9s
NVS pmax pmax
comp=E,24nm,1.9s
NVS pmax pmax
comp=Z,37nm,1.9s,mb5.2
NVS smax
comp=N,55nm,2.5s
NVS smax
comp=E,49nm,2.5s
KURK Kurchatov 62.64 327 P **P** **17 41 06.7 -0.6**
KURK pmax pmax
comp=Z,6.0nm,0.7s,mb4.8
KURK Kurchatov 62.64 327 *e*P **P** **17 41 06.5 -0.8**
comp=Z,26nm,0.5s,mb5.6
KURK LR LR
comp=Z,76nm,20.0s,MS3.9
TIXI Tiksi 67.72 0 *i* P **P** **17 41 38.6 -1.2**
TIXI *i* S S 17 50 30.6 -3.0
TIXI pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
TIXI MLR MLR
comp=Z,900nm,14.0s,MS5.2
VOSK Vostochnaya 67.78 326 P **P** **17 41 39.4 -1.0**
VOSK pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
BVA0 Borovoye Array 68.23 326 P **P** **17 41 43.0 -0.2**
BVAR Borovoye Array 68.23 326 P **P** **17 41 42.6 -0.6**
comp=Z,2.9nm,0.4s,mb4.6,baz=110,slow=5.1,SNR=25
BRVK Borovoye 68.31 326 PFAKE 17 42 00.0 +16
BRVK LR LR
comp=Z,88nm,19.0s,MS4.0
ZRNK Zerenda 68.97 326 P **P** **17 41 47.1 -0.7**
ZRNK pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
ZRNK Zerenda 68.97 326⇈*e*P **P** **17 41 47.0 -0.8**
comp=Z,12nm,0.5s,mb5.1
RAR Rarotonga 74.40 113 LR LR 18 09 47.6
comp=Z,225nm,18.7s,MS4.5,baz=293,slow=32
MIR Mirnyy 74.69 194⇓*e*P **P** **17 42 30.7 +9.1**
MIR pmax pmax
comp=Z,30nm,1.3s,mb5.1
SVE Sverdlovsk 74.83 328⇈*e*P **P** **17 42 21.8 -0.8**
SVE *e*S S 17 52 00.0 +4.1
SVE pmax pmax
comp=Z,60nm,2.1s,mb5.2
SVE MLR MLR
comp=Z,500nm,11.0s,MS5.1
SVE MLR MLR
comp=N,300nm,13.0s,MS5.0
SVE MLR MLR
comp=E,400nm,13.0s,MS5.0
ARU Arti 75.83 327⇑*i*P **P** **17 42 26.8 -1.5**
ARU *e* 17 42 38.9
ARU *e* 17 45 16.6
ARU *e*S S 17 52 06.7 -0.2
ARU *e* 17 52 38.9
ARU *e*SS SS 17 56 56.6 -5.4
ARU pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
ARU MLR MLR
comp=Z,300nm,19.0s,MS4.6
ARU MLR MLR
comp=N,40nm,16.0s,MS4.5
ARU MLR MLR
comp=E,200nm,20.0s,MS4.5
ARU Arti 75.83 327 *e*P **P** **17 42 27.0 -1.3**
comp=E,5.4nm,0.6s,mb4.7
ARU LR LR
comp=Z,63nm,19.0s,MS3.9
IMA Indian Mountai 81.55 24 *e*P **P** **17 43 02.2 +3.1**
comp=Z,45nm,1.1s,mb5.3
MCK McKinley 83.25 26 *e*P **P** **17 43 09.8 +1.7**
comp=Z,15nm,1.2s,mb4.9
MCK LR LR
comp=Z,97nm,20.0s,MS4.2
PPT Papeete 83.41 108 *e*S S 17 53 56.2 +29
PPT *e*R 18 09 42.4
comp=Z,404nm,31.5s,baz=284
COLA College 83.82 25 PFAKE 17 43 20.0 +9.1
COLA LR LR
comp=Z,145nm,22.0s,MS4.3
TBI Tubuai 84.16 114 *e*S S 17 54 02.2 +27
TBI *e*R 18 10 43.3
comp=Z,415nm,28.8s,baz=299
SBA Scott Base 84.19 172 PFAKE 17 43 20.0 +7.4
SBA LR LR
comp=Z,300nm,19.0s,MS4.7
ILAR Eielson Array 84.22 25 P **P** **17 43 14.6 +1.6**
comp=Z,1.2nm,0.6s,mb4.2,baz=246,slow=4.7,SNR=9.5
KIV Kislovodsk 84.39 314 *e*P **P** **17 43 15.5 +1.2**
KIV *e* 17 53 36.3
KIV pmax pmax
comp=Z,5.0nm,1.0s,mb4.6
MAW Mawson 84.49 201 P **P** **17 43 14.8 +0.6**
comp=Z,1.4nm,0.8s,mb4.1,baz=27,slow=6.8,SNR=3.4
MAW LR LR 18 22 16.0
comp=Z,97nm,18.2s,MS4.2,baz=253,slow=37
MAW Mawson 84.49 201 P **P** **17 43 14.7 +0.5**
SOC Sochi 86.55 313 *e*P **P** **17 43 23.8 -1.2**
SOC *e* 17 43 31.0
SOC *e* 17 46 45.5
SOC *e*S S 17 53 54.4 -3.2
SOC pmax pmax
comp=N,10.0nm,0.8s
SOC pmax pmax
comp=Z,19nm,0.8s,mb5.4
SOC pmax pmax
comp=E,9.0nm,0.7s
OBN Obninsk 88.03 325⇑*i*P **P** **17 43 30.9 -0.9**
OBN *e*S S 17 54 04.1 -7.2
OBN pmax pmax
comp=Z,17nm,1.2s,mb5.2
OBN MLR MLR
comp=Z,200nm,15.0s,MS4.7
ASF Jabal al Asfar 89.39 302 P **P** **17 43 40.2 +1.3**
comp=Z,0.7nm,0.3s,mb4.5,baz=307,slow=17,SNR=3.3
ARCES ARCESS Array B 90.98 340 P **P** **17 43 45.0 -0.4**
comp=Z,1.7nm,0.6s,mb4.6,baz=84,slow=6.1,SNR=15
BRTR Keskin Array B 91.36 310 P **P** **17 43 48.3 +0.5**
comp=Z,0.4nm,0.4s,mb4.1,baz=56,slow=5.2,SNR=2.8
KMBO Kilima Mbogo 91.38 269 P **P** **17 43 48.9 +0.3**
comp=Z,0.6nm,0.4s,mb4.3,baz=221,slow=24,SNR=3.1
KMBO LR LR 18 25 12.6
comp=Z,91nm,18.9s,MS4.2,baz=89,slow=36
FINES FINESS Array B 92.60 332 P **P** **17 43 52.1 -0.9**
comp=Z,0.7nm,0.4s,mb4.4,baz=63,slow=4.3,SNR=6.2
FINES LR LR 18 26 37.2
comp=Z,223nm,21.5s,MS4.6,baz=37,slow=36
DLBC Dease Lake 92.71 31 LR LR 18 21 39.0
comp=Z,169nm,21.4s,MS4.5,baz=306,slow=33
AKASG Malin Array Be 92.96 321 P **P** **17 43 54.3 -0.6**
comp=Z,1.3nm,0.6s,mb4.5,baz=67,slow=3.9,SNR=6.1
AKASG LR LR 18 30 52.2
comp=Z,162nm,18.7s,MS4.5,baz=60,slow=39
QSPA South Pole Qui 93.74 180 *e*P **P** **17 43 58.3 +0.4**
comp=Z,7.5nm,0.8s,mb5.2
QSPA LR LR
comp=Z,452nm,21.0s,MS4.9
BBB Bella Bella 95.12 37 LR LR 18 18 54.9
comp=Z,177nm,20.9s,MS4.5,baz=160,slow=30
YKA Yellowknife Ar 98.64 25 LR LR 18 25 16.9
comp=Z,129nm,20.3s,MS4.4,baz=300,slow=33
HFS Hagfors 98.77 333 P **P** **17 44 20.1 -1.0**
comp=Z,4.4nm,0.8s,mb5.0,baz=117,slow=6.6,SNR=4.5
NOA NORSAR Array B 99.50 334 LR LR 18 36 11.8
comp=Z,152nm,18.1s,MS4.5,baz=45,slow=40
TPNV Topopah Spring 107.48 49 PFAKE 17 49 20.0
TPNV LR LR
comp=Z,324nm,21.0s,MS4.9
TUC Tucson 113.29 52 PFAKE 17 49 30.0 +6.2
TUC LR LR
comp=Z,137nm,19.0s,MS4.6
CPUP Villa Florida 156.93 166 PKPab PKPab 17 51 09.7 +0.9
comp=Z,2.1nm,0.8s,baz=224,slow=3.9,SNR=3.6
LPAZ La Paz 159.45 128 PKPab PKPab 17 51 22.2 +2.3
comp=Z,0.7nm,0.5s,baz=307,slow=3.8,SNR=2.8

CSEM ***05*** *17:32:34.7±0.2,37.75N×26.91E,h5km,MD2.9,Error ellipse: s-maj=6.2km s-min=3.9km az=58.0*
ISK ***05*** *17:32:35.6,37.78N×27.05E,h5km,MD2.9*
ISC 05 17:32:35.8±1.3,37.76N±0.03×26.97E±0.10,h4km±7km,n8,σ0s51/15,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IZM	**Izmir**	**0.68**	**20**	*i*	PG	**Pg**	**17 32 49.0**	**-0.3**
IZM				*i*	SG	**Sg**	**17 32 59.0**	**+0.6**
KDAG	**Bornova**	**0.68**	**20**	*i*	P	**Pg**	**17 32 48.6**	**-0.8**
KDAG				*i*	S	**Sg**	**17 32 58.9**	**+0.3**
AYDN	**Tasoluk**	**0.72**	**97**	*i*	P	**Pg**	**17 32 50.2**	**0.0**
AYDN				*i*	S	**Sg**	**17 32 59.7**	**-0.2**
BDRM	**Kayabasi**	**0.79**	**151**	*i*	P	**Pg**	**17 32 51.1**	**-0.4**
BDRM				*i*	S	**Sg**	**17 33 02.4**	**+0.4**
MLSB	**Milas**	**0.79**	**126**		PG	**Pg**	**17 32 51.3**	**-0.2**
MLSB					SG	**Sg**	**17 33 02.6**	**+0.6**
AKS	**Akhisar**	**1.30**	**30**		PN	**Pn**	**17 33 01.0**	**+0.2**
AKS					SN	**Sn**	**17 33 18.9**	**+0.1**
MANT	**Manisa**	**1.45**	**59**	*i*	P	**Pn**	**17 33 04.0**	**+1.1**
MANT				*i*	S	**Sb**	**17 33 20.9**	**-0.8**
DNZL	**Cakiroluk**	**1.65**	**92**	*i*	P	**Pn**	**17 33 05.3**	**-0.4**

ATH ***05*** *17:34:00.5,37.75N×26.98E,h10km,MD3.1/3*
ISK ***05*** *17:34:00.4,37.72N×26.92E,h6km,MD2.9,ML3.0*
CSEM ***05*** *17:34:00.4±0.1,37.73N×27.00E,h2km,MD2.9,Error ellipse: s-maj=4.3km s-min=1.4km az=64.0*
ISC 05 17:34:01.0±0.9,37.72N±0.04×26.94E±0.06,h3km±7km,n7,σ0s49/11,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.09**	**261**	*e*	PG	**Pg**	**17 34 02.6**	**-0.2**
IZM	**Izmir**	**0.72**	**20**	*i*	PG	**Pg**	**17 34 15.0**	**-0.4**
IZM				*i*	SG	**Sg**	**17 34 25.7**	**+0.7**
MLSB	**Milas**	**0.79**	**122**	*i*	PG	**Pg**	**17 34 16.2**	**-0.6**
MLSB				*i*	SG	**Sg**	**17 34 27.8**	**+0.5**
APE	**Apeiranthos**	**1.30**	**240**	*e*	PB	**Pb**	**17 34 26.7**	**+0.9**
AKS	**Akhisar**	**1.34**	**30**		PN	**Pn**	**17 34 26.5**	**-0.2**
AKS					SN	**Sn**	**17 34 45.5**	**+0.2**
PRK	**Paraskevi**	**1.61**	**341**	*e*	PB	**Pb**	**17 34 30.5**	**-0.6**
DALT	**Dalyan (Mudla)**	**1.65**	**125**		PN	**Pn**	**17 34 30.8**	**-0.3**
DALT				*e*	SN	**Sn**	**17 34 53.1**	**-0.1**

GUC 05 17:44:09.7±0.8,34.99S×70.53W,h4km,MD3.6,ML2.4, 6C-3D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.54**	**313**	⇑*i*	P	Pg	17 44 20.4	-0.1
SFDO				*i*	S	Sg	17 44 29.0	+1.1
CICH	**Cipreses**	**0.67**	**8**	⇓*i*	P	Pg	17 44 22.3	-0.9
CICH				*i*	S	Sg	17 44 32.5	+0.3
CACH	**El Canelo**	**0.87**	**356**	⇑*i*	P	Pb	17 44 25.8	-1.2
CACH				*i*	S	Sg	17 44 38.1	-0.6
CHCH	**Chadas Angostu**	**1.06**	**355**	⇑*i*	P	Pb	17 44 29.5	-0.7
CHCH				*i*	S	Sb	17 44 44.9	+0.7
LMEL	**Las Melosas**	**1.17**	**14**	⇓*i*	P	Pb	17 44 31.1	-1.0
LMEL				*i*	S	Sb	17 44 47.7	+0.2
LMEL					AMP		17 44 53.7	
	comp=N,106nm,0.2s							
LNV	**Longovilo**	**1.26**	**325**	⇓*i*	P	Pb	17 44 32.7	-1.0
LNV				*i*	S	Sb	17 44 50.2	+0.1
PCH	**Pirque**	**1.36**	**1**	⇑*i*	P	Pb	17 44 34.8	-0.7
PCH				*i*	S	Sb	17 44 53.5	+0.3
TACH	**Talagante**	**1.37**	**346**	*e*	P	Pb	17 44 34.8	-0.8
TACH				*i*	S	Sb	17 44 53.7	+0.3
RCDM	**Rinconada Maip**	**1.51**	**351**	⇑*i*	P	Pn	17 44 37.2	-0.5
RCDM				*i*	S	Sb	17 44 57.9	+0.4
RCDM					AMP		17 44 59.3	
	comp=E,191nm,0.1s							
FCH	**Farellones**	**1.67**	**7**	*e*	P	Pn	17 44 39.9	-0.1
FCH				*i*	S	Sb	17 45 03.0	+1.1
FCH					AMP		17 45 04.1	
	comp=N,65nm,0.4s							
LCCH	**Las Cruces**	**1.74**	**330**	⇑*i*	P	Pn	17 44 40.9	0.0
LCCH				*i*	S	Sn	17 45 04.3	+0.5

MAN ***05*** *18:12:56.7,20.17N×121.22E,h5km,mb5.6,ML4.6,MS4.8*
MOS ***05*** *18:12:58.4±0.9,20.10N×121.45E,h33km,mb5.0/9,Error ellipse: s-maj=20.8km s-min=8.7km az=120.5*
IDC ***05*** *18:12:59.7±6.4,20.06N×121.48E,h31km±47km,mb4.1/20, mb1 4.3/21,mb1mx4.3/24,ML4.6/1,MS3.8/4,Ms1 3.9/4, ms1mx3.3/27,Error ellipse: s-maj=19.6km s-min=12.0km az=72.0*
NIED ***05*** *18:13:00,20.40N×121.40E,h17km,Mw4.5 Best double*

couple: $M_0 7.11\times10^{15}$ NP1:ϕ_s255°,δ69°,λ-38°. NP2:ϕ_s1°, δ55°,λ-153°.
NEIC 05 18:13:01.3±1.0,20.04N×121.48E,h47km±9km,mb4.8/15, Error ellipse: s-maj=8.1km s-min=5.7km az=68.0
BJI 05 18:13:03.4,20.40N×121.10E,h47km,mB4.6,mb4.4, ML4.3,Ms3.9,Msz3.9
ISC 05 18:12:59.6±0.5,20.13N±0.02×121.44E±0.04,h43km±5km, h42km±2.8km:pP-P,n125,σ1.03/138,mb4.5/46,MS3.8/8, 10C-8D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BBP	Basco	0.58	57	eP	P	18 13 11.2	-0.4
PIP	Pasuquin	1.95	204	⇓iP	P	18 13 30.1	-0.8
PIP				iS	S	18 13 52.8	-1.5
SGCP	Mt. Cagua	1.96	163	eP	P	18 13 32.1	+1.1
SGCP				eS	S	18 14 02.9	+8.4
APYP	Conner	2.26	185	eP	P	18 13 36.0	+0.7
APYP				eS	S	18 14 04.0	+1.9
CVP	Callao Caves	2.44	171	eP	P	18 13 39.0	+1.2
CVP				eS	S	18 14 08.0	+1.4
ABRA	Dolores	2.56	196	eP	P	18 13 38.6	-1.0
CAUP	Cauayan	3.18	173	eP	P	18 13 51.1	+2.6
BCPH	Baguio City Da	3.81	192	⇑iP	P	18 13 57.2	-0.2
BCPH				iS	S	18 14 40.5	-1.0
BOLP	Bolinao	4.00	202	eP	P	18 13 59.4	-0.6
BALP	Baler	4.36	178	eP	P	18 14 05.1	-0.1
SCZP	Santa Cruz	4.56	199	eP	P	18 14 07.9	-0.1
TATO	Taipei	4.83	1	eP	P	18 14 15.4	+3.7
POLP	Polilio Island	5.39	175	eP	P	18 14 21.9	+2.3
QZH	Quanzhou	5.47	332	P	P	18 14 17.8	-2.9
QZH				S	S	18 15 14.7	-8.5
QZH				Smax			
	comp=N,120nm,0.6s						
QZH				Smax			
	comp=E,110nm,0.7s						
LQP	Lukban	5.98	179	⇑iP	P	18 14 28.1	+0.3
LQP				iS	Px	18 14 54.7	
GZH	Guangzhou	8.09	293	P	P	18 14 51.4	-5.8
GZH				Smax			
	comp=N,92nm,1.0s						
GZH				Smax			
	comp=E,85nm,0.6s						
GZH				LR	LR		
	comp=N,374nm,14.2s						
GZH				LR	LR		
	comp=E,558nm,17.3s						
JOW	Kunigami	9.16	42	Pn	P	18 15 09.9	-2.2
	comp=E,16nm,0.3s,baz=189,slow=10,SNR=21						
JOW				Sn	S	18 16 51.2	-3.7
	comp=E,2.0nm,0.3s,baz=124,slow=30,SNR=2.4						
JOW				LR	LR	18 19 01.7	
	comp=E,740nm,18.1s,baz=76,slow=39						
SSE	Sheshan	10.93	359	eP	P	18 15 35.5	-0.8
SSE				S	S	18 17 38.9	+0.7
SSE				AMB	AMB		
	comp=Z,24nm,0.7s						
SSE				AMB	AMB		
	comp=Z,32nm,9.1s						
SSE				LR	LR		
	comp=N,180nm,21.0s						
SSE				LR	LR		
	comp=E,83nm,21.3s						
SSE				LR	LR		
	comp=Z,277nm,21.0s						
QIZ	Qiongzhong	10.99	266	⇓P	P	18 15 33.7	-3.5
QIZ				S	S	18 17 29.0	-11
QIZ				LR	LR		
	comp=N,310nm,16.0s						
QIZ				LR	LR		
	comp=E,401nm,14.7s						
QIZ				LR	LR		
	comp=Z,616nm,20.3s						
ENH	Enshi	14.79	315	P	P	18 16 27.7	0.0
	comp=Z,24nm,1.2s						
GYA	Guiyang	14.96	298	⇑iP	P	18 16 27.9	-2.0
GYA				AP		18 16 42.2	
GYA				S	S	18 19 16.9	+1.9
GYA				AMB	AMB		
	comp=Z,10.0nm,1.3s						
GYA				LR	LR		
	comp=N,360nm,12.0s						
GYA				LR	LR		
	comp=E,270nm,13.5s						
GYA				LR	LR		
	comp=Z,380nm,13.5s						
TIA	Tai'an	16.47	348	eP	P	18 16 51.0	+1.9
XAN	Xi'an	17.76	324	P	P	18 17 05.2	-0.1
XAN				AP		18 17 14.8	
XAN				AMB	AMB		
	comp=Z,12nm,1.4s						
XAN				LR	LR		
	comp=N,177nm,11.8s						
XAN				LR	LR		
	comp=Z,336nm,13.1s						
KMI	Kunming	17.96	290	eP	P	18 17 09.0	+1.1
KMI				AP		18 17 20.2	
KMI				PP	PP	18 17 25.7	+2.9
KMI				AMB	AMB		
	comp=Z,10.0nm,1.6s						
KMI				AMB	AMB		
	comp=Z,150nm,4.5s						
KMI				LR	LR		
	comp=N,226nm,12.1s						
KMI				LR	LR		
	comp=E,314nm,14.7s						
KMI				LR	LR		
	comp=Z,294nm,14.1s						
KS15	Wonju Array Si	18.15	17	eP	P	18 17 10.7	+0.6
CD2	Chengdu	19.21	307	P	P	18 17 22.4	-0.4
CD2				AMB	AMB		
	comp=Z,20nm,1.1s						
NANT	Nan	19.60	270	P	P	18 17 27.0	-0.1
CBIJ	Chichi jima	20.22	66	P	P	18 17 34.0	+0.2
	comp=Z,38nm,0.4s,baz=275,slow=23,SNR=8.3						
CBIJ				LR	LR	18 23 30.4	
	comp=Z,242nm,20.3s,MS3.5,baz=306,slow=31						
BJT	Baijiatuau	20.34	348	eP	P	18 17 34.5	-0.4
	comp=Z,33nm,0.6s						
BJI	Beijing	20.36	348	P	P	18 17 34.5	-0.6
JHJ	Hachijo jima 2	20.85	48	LR	LR	18 24 11.4	
	comp=Z,278nm,21.4s,MS3.6,baz=152,slow=32						
CHG	Chiang Mai	21.25	270	⇑P	P	18 17 44.3	0.0
	comp=Z,18nm,1.0s,mb4.4						
CM31	Chiang Mai Arr	21.30	269	eP	P	18 17 43.7	-1.1
CMAR	Chiang Mai Arr	21.30	269	P	P	18 17 44.8	0.0
	comp=Z,6.8nm,0.7s,mb4.1,baz=72,slow=9.0,SNR=31						
CMAR				PcP	PcP	18 21 49.2	+0.6
	comp=Z,0.7nm,0.5s,baz=291,slow=0.7,SNR=6.6						
CMAR				LR	LR	18 26 11.3	
	comp=Z,210nm,19.0s,MS3.5,baz=85,slow=37						
SNY	Shenyang	21.71	4	⇑P	P	18 17 50.5	+1.7
SNY				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.5						
LZH	Lanzhou	22.16	320	eP	P	18 17 53.0	-0.3
LZH				AMB	AMB		
	comp=Z,80nm,1.6s,mb4.9						
BTO	Baotou	22.63	337	eP	P	18 18 01.8	+3.9
CN2	Changchun	23.84	7	eP	P	18 18 10.5	+0.8
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.5						
MDJ	Mudanjiang	25.35	14	P	P	18 18 23.7	-0.5
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,52nm,5.1s						
MDJ				LR	LR		
	comp=N,87nm,16.6s,MS3.4						
MDJ				LR	LR		
	comp=E,45nm,16.6s,MS3.4						
MDJ				LR	LR		
	comp=Z,140nm,16.6s,MS3.6						
LSA	Lhasa	29.00	295	P	P	18 18 58.3	+0.6
SONM	Songino Array	30.21	340	P	P	18 19 08.3	+0.1
	comp=Z,3.7nm,0.9s,mb4.1,baz=157,slow=10.0,SNR=15						
SONM				PcP	PcP	18 22 09.5	+0.9
	comp=Z,0.4nm,0.5s,baz=135,slow=2.0,SNR=4.8						
GUN	Gumba	33.30	290	eP	P	18 19 35.4	-0.1
	comp=Z,36nm,0.8s,mb5.3						
KKN	Kakani	33.82	290	eP	P	18 19 39.5	-0.5
	comp=Z,17nm,0.9s,mb5.0						
GKN	Gorkha	34.41	290	eP	P	18 19 44.1	-0.9
	comp=Z,34nm,1.1s,mb5.2						
KOLN	Koldanda	35.30	290	eP	P	18 19 52.1	-0.6
	comp=Z,14nm,0.8s,mb4.9						
WMQ	Urumqi	36.72	318	eP	P	18 20 04.0	-0.5
WMQ				S	S	18 25 42.0	-2.5
WMQ				LR	LR		
	comp=N,95nm,16.0s,MS3.8						
WMQ				LR	LR		
	comp=E,88nm,16.0s,MS3.8						
FITZ	Fitzroy Crossi	38.21	174	P	P	18 20 14.8	-2.4
	comp=E,1.1nm,0.7s,mb3.7,baz=338,slow=2.1,SNR=3.6						
HYB	Hyderabad	40.62	274	iP	P	18 20 37.5	+0.3
HYB	Hyderabad	40.62	274	eP	P	18 20 37.5	+0.3
MKAR	Makanchi Array	41.48	319	P	P	18 20 44.9	+0.9
	comp=E,14nm,0.9s,mb4.6,baz=114,slow=9.1,SNR=89						
MKAR				PcP	PcP	18 22 41.8	+0.1
	comp=E,2.6nm,1.0s,baz=104,slow=5.9,SNR=3.2						
MKAR	Makanchi Array	41.48	319	eP	P	18 20 44.8	+0.8
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MKAR	Makanchi Array	41.48	319	P	P	18 20 44.9	+0.9
MKAR				PcP	PcP	18 22 41.8	+0.1
WRAB	Tennant Creek	41.77	162	P	P	18 20 45.9	-0.8
	comp=Z,68nm,0.4s,mb5.6,SNR=21						
WRAB	Tennant Creek	41.77	162	eP	P	18 20 45.0	-1.7
	comp=Z,13nm,0.6s,mb4.8						
WRA	Warramunga Arr	41.77	162	P	P	18 20 45.3	-1.5
	comp=Z,8.4nm,0.8s,mb4.4,baz=342,slow=9.1,SNR=42						
WB2	Warramunga Arr	41.78	162	eP	P	18 20 45.2	-1.6
WB2				eS	S	18 26 56.3	-4.7
YAK	Yakutsk	42.26	6	d iP	P	18 20 48.8	-1.4
YAK				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.5						
YAK	Yakutsk	42.26	6	eP	P	18 20 48.5	-1.7
	comp=Z,8.0nm,0.6s,mb4.5						
PET	Petropavlovsk	43.56	32	eP	P	18 21 02.4	+1.4
PET				pmax	pmax		
	comp=Z,14nm,0.6s,mb4.9						
PET				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.8						
ZAL	Zalesovo	43.81	329	P	P	18 21 03.4	+0.4
	comp=Z,3.8nm,0.8s,mb4.2,baz=358,slow=8.6,SNR=26						
NVS	Novosibirsk	45.08	330	iP	P	18 21 11.0	-2.1
ASAR	Alice Springs	45.19	164	P	P	18 21 13.7	-0.8
	comp=Z,4.4nm,0.5s,mb4.5,baz=346,slow=6.8,SNR=65						
ASPA	Alice Springs	45.19	164	eP	P	18 21 13.6	-0.8
ASPA				eS	S	18 27 51.7	+1.2
AAK	Ala-Archa	45.23	311	⇓iP	P	18 21 14.7	+0.2
KURK	Kurchatov	45.40	323	⇓iP	P	18 21 15.8	+0.1
KURK	Kurchatov	45.40	323	eP	P	18 21 15.3	-0.4
	comp=Z,13nm,1.3s,mb4.6						
VOSK	Vostochnaya	50.55	323	P	P	18 21 55.4	-0.4
VOSK				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4						
BVA0	Borovoye Array	50.99	323	iP	P	18 21 59.2	+0.1
BVAR	Borovoye Array	50.99	323	P	P	18 21 58.1	-1.0
	comp=Z,2.4nm,0.7s,mb4.2,baz=113,slow=11,SNR=12						
BVAR				PcP	PcP	18 23 14.1	-0.9
	comp=Z,2.8nm,0.8s,baz=90,slow=1.5,SNR=5.8						
FORT	Forrest	51.01	173	eP	P	18 21 59.0	-0.6
	comp=Z,57nm,0.7s,mb5.6						
BRVK	Borovoye	51.07	323	eP	P	18 21 59.4	-0.3
	comp=Z,9.0nm,0.9s,mb4.7						
TIXI	Tiksi	51.72	3	⇑iP	P	18 22 03.9	-0.4
TIXI				i	pP	18 22 14.0	-2.4
TIXI				e		18 24 02.9	
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
ZRNK	Zerenda	51.76	322	P	P	18 22 05.1	+0.2
ZRNK				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
ZRNK	Zerenda	51.76	322	eP	P	18 22 04.7	-0.2
	comp=Z,9.6nm,1.0s,mb4.7						
NWAO	Narrogin (SRO)	52.90	184	P	P	18 22 11.8	-2.0
	comp=Z,6.0nm,0.7s,mb4.6,baz=342,slow=9.6,SNR=4.7						
NWAO	Narrogin (SRO)	52.90	184	P	P	18 22 11.8	-2.0
STKA	Stephens Creek	55.20	159	eP	P	18 22 30.1	-0.5
	comp=Z,2.8nm,1.2s,mb4.2						
STKA	Stephens Creek	55.20	159	P	P	18 22 29.4	-1.2
	comp=Z,2.5nm,0.8s,mb4.3,baz=320,slow=11,SNR=6.5						
SVE	Sverdlovsk	57.47	325	⇓eP	P	18 22 46.6	+0.1
ARU	Arti	58.51	325	⇓iP	P	18 22 52.8	-0.9
ARU				e		18 23 39.8	
ARU				eS	S	18 30 56.6	+4.2
ARU				eSS	SS	18 34 50.3	+3.4
ARU				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.7						
ARU	Arti	58.51	325	eP	P	18 22 52.9	-0.8
	comp=Z,8.6nm,1.0s,mb4.7						
KIV	Kislovodsk	68.35	310	⇓iP	P	18 23 59.0	+0.4
KIV				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.9						
IMA	Indian Mountai	69.73	26	eP	P	18 24 05.2	-1.6
RAYN	Ar Rayn	69.80	288	P	P	18 24 07.6	-0.3
	comp=Z,33nm,0.8s,mb5.3,SNR=12						
MZLS	Mizel	69.94	289	P	P	18 24 08.7	-0.1
SOC	Sochi	70.53	310	eP	P	18 24 11.8	-0.2
SOC				e		18 24 34.5	
SOC				e		18 26 43.7	
SOC				eS	S	18 33 22.2	+1.3
SOC				e		18 34 04.8	
SOC				eSSS	SSS	18 40 52.9	-7.3
SOC				pmax	pmax		
	comp=N,13nm,0.9s						
SOC				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.1						
SOC				pmax	pmax		
	comp=E,7.0nm,0.8s						
SOC				MLR	MLR		
	comp=Z,118nm,21.0s,MS4.1						
SOC				MLR	MLR		
	comp=N,63nm,17.0s,MS4.1						
SOC				MLR	MLR		
	comp=E,70nm,16.0s,MS4.1						
OBN	Obninsk	70.84	323	⇑iP	P	18 24 13.7	0.0
OBN				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.8						
OBN				MLR	MLR		
	comp=Z,100nm,15.0s,MS4.2						
AFFS	'Afif	71.92	289	P	P	18 24 20.6	0.0
HILS	Ha'il	72.14	293	P	P	18 24 22.3	+0.4
ILAR	Eielson Array	72.71	27	P	P	18 24 23.9	-0.7
	comp=Z,0.6nm,0.4s,mb3.8,baz=272,slow=4.8,SNR=12						
KEV	Kevo	72.82	339	ep	P	18 24 25.3	+0.1
	comp=Z,0.9nm,0.3s,mb4.2						
KEV	Kevo	72.82	339	eP	P	18 24 25.3	+0.1
KEV				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.2						
ARCES	ARCESS Array B	73.38	339	P	P	18 24 28.7	+0.2
	comp=Z,3.0nm,0.9s,mb4.2,baz=76,slow=5.0,SNR=6.9						
BLJS	Baljurashi	74.24	286	P	P	18 24 34.7	+0.3
KBRS	Khaybar	74.73	292	P	P	18 24 38.3	+1.1
KAF	Kangasniemi	74.79	331	ep	P	18 24 36.7	-0.1
	comp=Z,0.5nm,0.4s,mb3.8						
KAF	Kangasniemi	74.79	331	eP	P	18 24 36.7	-0.1
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
FINES	FINESS Array B	75.06	330	P	P	18 24 39.0	+0.7
	comp=Z,2.1nm,0.7s,mb4.2,baz=57,slow=7.3,SNR=17						
BRTR	Keskin Array B	75.79	307	P	P	18 24 42.8	-0.2
	comp=Z,0.5nm,0.4s,mb3.8,baz=102,slow=11,SNR=5.1						
BRTR	Keskin Array B	75.79	307	P	P	18 24 42.7	-0.2
DAWY	Dawson	76.03	27	P	P	18 24 43.8	0.0
AKASG	Malin Array Be	76.06	319	P	P	18 24 44.0	-0.3
	comp=Z,1.2nm,0.5s,mb4.1,baz=64,slow=5.7,SNR=6.5						
AKASG	Malin Array Be	76.06	319	P	P	18 24 43.9	-0.4
UMJS	Umm Lajj	76.58	292	P	P	18 24 48.4	+0.7
AYUS	'Aynunah	77.52	296	P	P	18 24 53.3	+0.3
HAQS	Haql	77.56	297	P	P	18 24 54.0	+0.8
NB2	NORSAR Subarra	81.91	333	P	P	18 25 15.5	-0.3
	comp=Z,0.9nm,0.7s,mb3.8,baz=64,slow=5.3						
NOA	NORSAR Array B	81.91	333	P	P	18 25 15.2	-0.7
	comp=Z,1.8nm,0.7s,mb4.1,baz=62,slow=5.1,SNR=4.3						
NIE	Niedzica	81.92	320	eP	P	18 25 18.0	+1.9
OJC	Ojcow	81.93	321	eP	P	18 25 16.9	+0.7
OJC	Ojcow	81.93	321	eP	P	18 25 16.9	+0.7
KECS	Kecovo	82.15	319	eP	P	18 25 21.6	+4.3
KSP	Ksiaz	83.75	322	eP	P	18 25 26.5	+1.1
KSP				e*PP	pP	18 25 39.8	+1.6
DPC	Dobruska-Polom	83.94	322	eP	P	18 25 27.3	+1.0
DPC				epP	pP	18 25 37.4	-1.8
UPC	Upice	84.05	322	eP	P	18 25 28.3	+1.4
UPC				epP	pP	18 25 41.4	+1.6
KMBO	Kilima Mbogo	84.92	267	P	P	18 25 33.6	+1.5
	comp=Z,1.2nm,0.6s,mb4.2,baz=53,slow=22,SNR=4.6						
BRG	Berggiesshubel	85.09	323	eP	P	18 25 33.2	+1.1
BRG				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.8						
BRG	Berggiesshubel	85.09	323	eP	P	18 25 33.2	+1.1
	comp=Z,9.2nm,1.1s,mb4.8						
PRU	Pruhonice	85.13	322	eP	P	18 25 33.2	+0.9
PRU				epP	pP	18 25 47.5	+2.3
CLL	Collm	85.43	323	⇑P	P	18 25 34.6	+0.8
	comp=Z,logA/T=1.0,mb4.9						
CLL				e*PP	pP	18 25 48.0	+1.4
CLL				e*SP	sP	18 26 02.0	+11
CLL	Collm	85.43	323	⇑iP	P	18 25 34.6	+0.8
CLL				e	pP	18 25 48.0	+1.4
CLL				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.9						
CLL	Collm	85.43	323	⇑iP	P	18 25 34.6	+0.8
	comp=Z,14nm,1.3s,mb4.9						
CLL				e	pP	18 25 48.0	+1.4
GERES	GERESS Array B	86.12	321	P	P	18 25 38.0	+0.8
	comp=Z,0.8nm,0.6s,mb4.1,baz=90,slow=5.3,SNR=8.7						
YKA	Yellowknife Ar	86.61	23	P	P	18 25 40.2	+1.0
	comp=Z,2.2nm,0.6s,mb4.6,baz=311,slow=4.9,SNR=6.3						
YKA	Yellowknife Ar	86.61	23	P	P	18 25 40.2	+1.0

IDC 05 18:13:49.5±50.0,2.55S×156.41E,mb4.0/3,mb1 4.2/3, mb1mx3.8/14,Error ellipse: s-maj=845.0km s-min=110.7km az=38.0,North of Solomon Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	27.63	230	P	P	18 19 39.7	-1.2
	2.2nm,0.7s,baz=54,slow=9.6,SNR=19						
ASAR	Alice Springs	30.24	224	P	P	18 20 01.9	-2.5
	0.6nm,0.3s,baz=57,slow=9.3,SNR=16						
STKA	Stephens Creek	32.34	204	P	P	18 20 20.1	-2.7
	0.7nm,0.5s,baz=26,slow=12,SNR=3.7						

IDC 05 18:16:04.3±5.6,1.35N×96.69E,mb4.1/4,mb1 4.2/5, mb1mx3.7/18,ML3.8/1,Error ellipse: s-maj=116.0km s-min=93.7km az=135.0
NEIC 05 18:16:07.7±3.9,1.65N×96.68E,h10km,mb4.2/4,Error ellipse: s-maj=76.4km s-min=35.8km az=134.0
ISC 05 18:16:12.4±3.2,2.0N±0.4×96.2E±0.1,h33km,n13, σ0.82/13,mb4.2/8,1D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IPM	Ipoh	5.45	61	⇓eP	P	18 17 33.9	+0.6
CMAR	Chiang Mai Arr	16.61	9	P	P	18 20 03.7	-0.8
	0.1nm,0.3s,baz=198,slow=11,SNR=10						
PKI	Pulchoki	27.50	339	eP	P	18 21 59.5	+1.5
GUN	Gumba	27.64	340	eP	P	18 22 00.3	+0.9
KKN	Kakani	27.74	339	eP	P	18 22 00.5	+0.2
	9.2nm,0.8s,mb4.5						
GKN	Gorkha	28.18	338	eP	P	18 22 04.3	+0.2
KOLN	Koldanda	28.37	336	eP	P	18 22 06.6	+0.7
	9.9nm,0.8s,mb4.5						
MKAR	Makanchi Array	46.28	347	P	P	18 24 36.9	+0.2
	2.1nm,0.5s,mb4.3,baz=159,slow=9.1,SNR=19						
SONM	Songino Array	46.54	9	P	P	18 24 38.3	-0.4
	0.7nm,0.4s,mb3.9,baz=190,slow=9.2,SNR=12						
SONM				ScP		18 30 03.9	
	0.3nm,0.8s,baz=180,slow=5.8,SNR=3.9						
KURK	Kurchatov	50.82	346	P	P	18 25 09.9	-1.9
	2.1nm,0.8s,mb4.1						
ZAL	Zalesovo	52.66	352	P	P	18 25 25.6	0.0
	2.5nm,0.5s,mb4.4,baz=324,slow=3.5,SNR=10						
BVAR	Borovoye Array	55.23	341	P	P	18 25 43.9	-0.6
	0.7nm,0.4s,mb4.0,baz=135,slow=8.2,SNR=4.4						
ZRNK	Zerenda	55.62	340	P	P	18 25 46.6	-0.7
	0.7nm,0.4s,mb4.0						

PRU 05 18:34:32.2,51.47N×16.01E
WAR 05 18:34:32.0,51.51N×15.99E,ML2.7,Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.69	164	ePG	Pg	18 34 45.0	-0.8
KSP				eSG	Sg	18 34 54.0	-1.1
UPC	Upice	1.00	179	ePG	Pg	18 34 50.3	-1.7
DPC	Dobruska-Polom	1.18	170	ePG	Pg	18 34 53.9	-1.6
DPC				eSG	Sg	18 35 09.1	-2.1
PVCC	Panska Ves	1.33	223	ePG	Pg	18 34 56.7	-1.9
PRU	Pruhonice	1.78	212	ePN	Pn	18 35 02.5	-1.8
PRU				ePG	Pg	18 35 04.2	-3.3
PRU				ix	x	18 35 21.4	
PRU				eSN	Sn	18 35 25.5	-2.4
PRU				eSG	Sg	18 35 28.0	-3.3
	11nm,0.5s						
CLL	Collm	1.88	265	ePG	Pg	18 35 07.0	-2.6
CLL				eSG	Sg	18 35 32.0	-2.7
OKC	Ostrava-Krasne	2.16	140	eSG	Sg	18 35 39.1	-4.9
NKC	Novy Kostel	2.58	242	ePN	Pn	18 35 14.5	-1.3
NKC				ePG	Pg	18 35 20.5	-3.1
NKC				eSG	Sg	18 35 54.7	-3.3
KHC	Kasperske Hory	2.84	214	ePG	Pg	18 35 23.9	-4.8
KHC				eSN	Sn	18 35 52.1	-2.7
KHC				eSG	Sg	18 36 01.5	-5.0

IDC 05 18:35:14.3±1.3,45.84N×96.40E,mb3.8/3,mb1 3.8/7, mb1mx3.6/23,ML3.4/4,Error ellipse: s-maj=24.7km s-min=16.6km az=17.0
BJI 05 18:35:17.7,45.82N×96.43E,h26km,ML4.1,Ms3.5, Msz3.3
NEIC 05 18:35:18.3±4.0,45.83N×96.36E,h27km±34km,mb3.5/4, Error ellipse: s-maj=19.1km s-min=10.7km az=197.0
ISC 05 18:35:14.3±0.5,45.77N±0.07×96.3E±0.1,h10km,n18, σ1.26/23,mb3.7/4,Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WMQ	Urumqi	6.41	255	eP	Pn	18 36 56.0	+4.8
WMQ				S	Sn	18 38 00.0	-5.3
WMQ				Smax			
	comp=N,85nm,1.0s						
WMQ				Smax			
	comp=E,87nm,1.0s						
GTA	Gaotai	6.87	156	P	Pn	18 36 59.2	+1.6
GTA				PG	Pg	18 37 22.3	-9.2
GTA				S	Sn	18 38 14.1	-2.6
GTA				SG	Sg	18 38 54.1	-8.9
GTA				Smax			
	comp=N,19nm,1.0s						
GTA				Smax			
	comp=E,27nm,1.1s						
GTA				LR	LR		
	comp=N,83nm,11.8s						
GTA				LR	LR		
	comp=E,213nm,8.7s						
GTA				LR	LR		
	comp=Z,139nm,11.0s						
SONM	Songino Array	7.24	70	Pn	Pn	18 37 01.7	-1.2
	comp=Z,1.0nm,0.3s,baz=257,slow=14,SNR=46						
SONM				Pg	Pg	18 37 25.4	-14
	comp=Z,4.1nm,0.3s,baz=251,slow=17,SNR=19						
SONM				Lg		18 39 00.1	
	comp=Z,9.8nm,0.3s,baz=254,slow=32,SNR=13						
MKAR	Makanchi Array	9.74	281	Pn	P	18 37 37.7	+0.1
	comp=Z,0.3nm,0.3s,baz=95,slow=15,SNR=11						
MKAR				Lg		18 40 30.0	
	comp=Z,1.0nm,0.3s,baz=90,slow=30,SNR=5.8						
MKAR	Makanchi Array	9.74	281	Pn	P	18 37 37.7	+0.1
MKAR				Lg		18 40 30.0	
ZAL	Zalesovo	11.02	322	Pn	P	18 37 53.2	-1.8
	comp=Z,0.2nm,0.3s,baz=304,slow=7.3,SNR=2.5						
ZAL				Lg		18 41 06.0	
	comp=Z,0.3nm,0.3s,baz=58,slow=18,SNR=5.7						
KURK	Kurchatov	12.76	299	P	P	18 38 18.1	-0.4
	comp=Z,3.0nm,0.6s						
AAK	Ala-Archa	15.93	266	eP	P	18 39 07.1	+7.1
	comp=Z,2.6nm,0.7s						
BVAR	Borovoye Array	18.28	303	P	P	18 39 28.2	-1.3
	comp=Z,0.4nm,0.3s,baz=104,slow=12,SNR=10						
BVAR	Borovoye Array	18.28	303	P	P	18 39 28.2	-1.3
BRVK	Borovoye	18.35	303	eP	P	18 39 31.0	+0.6
	comp=Z,1.6nm,0.5s						
ZRNK	Zerenda	19.08	302	eP	P	18 39 39.6	+0.3
	comp=Z,1.9nm,0.6s						
CN2	Changchun	20.75	85	eP	P	18 39 59.0	+1.5
GYA	Guiyang	20.98	153	P	P	18 40 02.5	+2.4
ARU	Arti	25.65	308	eP	P	18 40 46.5	+1.0

comp=Z,5.6nm,0.5s,mb4.3
CMAR Chiang Mai Arr 27.32 174 P **P 18 41 01.1 -0.2**
comp=Z,0.4nm,0.6s,mb3.1,baz=348,slow=9.2,SNR=5.2
ARCES ARCESS Array B 41.44 330 P **P 18 43 01.9 -0.3**
comp=Z,0.7nm,0.4s,mb3.6,baz=80,slow=9.1,SNR=10
AKASG Malin Array Be 43.56 302 P **P 18 43 20.6 +1.0**
comp=Z,0.8nm,0.4s,mb3.9,baz=60,slow=9.4,SNR=8.2

IDC 05 18:35:38.4±9.7**, 0.95N×124.21E, mb3.7**/3**, mb1 3.9**/3**, mb1mx3.5**/15**, Error ellipse: s-maj=184.0km s-min=148.6km az=59.0, Minahassa Peninsula, Sulawesi**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 23.01 155 P P 18 40 43.3 -3.1
0.8nm,0.5s,baz=332,slow=10,SNR=12
ASAR Alice Springs 26.22 160 P P 18 41 15.7 -1.3
1.4nm,0.8s,baz=338,slow=6.9,SNR=16
STKA Stephens Creek 36.56 155 P P 18 42 47.4 -0.7
0.8nm,0.6s,baz=320,slow=7.9,SNR=4.1

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*NNC **05** 18:45:47.6±2.8, 36.64N×69.19E, h135km±29km, mpv5.4, Error ellipse: s-maj=39.1km s-min=8.3km az=76.0*
*MOS **05** 18:45:53.3±1.3, 37.48N×69.51E, h33km, mb4.8/17, Error ellipse: s-maj=12.7km s-min=7.0km az=93.7*
*BJI **05** 18:45:53.6, 37.61N×69.48E, h37km, mB4.9, mb4.8, ML5.2, Ms4.6, Msz4.1*
*NEIC **05** 18:45:54.4±0.3, 37.37N×69.50E, mb4.6/22, Error ellipse: s-maj=9.1km s-min=5.7km az=214.0*
*IDC **05** 18:45:55.0±0.6, 37.30N×69.54E, h44km±3km, mb3.9/16, mb1 4.1/19, mb1mx4.1/25, MS3.8/7, Ms1 3.8/7, ms1mx3.5/25, Error ellipse: s-maj=19.3km s-min=10.2km az=29.0*
ISC 05 18:45:53.3±0.6**, 37.31N**±0.02×**69.39E**±0.04**, h48**km±6km**, h45**km±1.8km**:pP-P, n162,** σ1**ˢ26**/170**, mb4.4**/44**, MS3.8**/13**, 15C-9D, Afghanistan-Tajikistan border region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CEP Cherat 4.04 149 ⇓P **P 18 46 59.0 +4.8**
CHCP Chirah Chowk 4.82 138 P **P 18 47 09.0 +3.7**
THW Thamme Wali 4.90 156 ⇓P **P 18 47 08.9 +2.5**
SBDP Sheikh Budin 5.13 166 P **P 18 47 12.6 +3.0**
DRP Derazinda 5.59 173 P **P 18 47 09.2 -6.8**
KSH Kashi 5.62 65 P **P 18 47 18.4 +2.0**
KSH S **S 18 48 21.1 +0.6**
KSH Smax
comp=N,1μm,1.0s
KSH Smax
comp=E,4μm,1.8s
AML Almayashu 5.85 33 P **P 18 47 20.0 +0.5**
SNR=101
SARP Sargodha 6.01 152 P **P 18 47 23.4 +1.5**
SARP S **S 18 48 31.0 +0.6**
UCH Uchtor 6.30 37 P **P 18 47 26.6 +0.7**
SNR=379
EKS2 Erkin-Say 6.32 31 P **P 18 47 27.2 +1.0**
SNR=63
KZA Kyzart 6.56 42 P **P 18 47 30.7 +1.0**
SNR=10
AAK Ala-Archa 6.60 35 ⇑Pn **P 18 47 31.0 +0.8**
comp=E,138nm,0.5s
AAK ⇑Lg 18 49 17.7
comp=E,852nm,1.6s
AAK Ala-Archa 6.60 35 P **P 18 47 31.0 +0.8**
SNR=241
AAK Ala-Archa 6.60 35*c i*PN **P 18 47 29.5 -0.7**
AAK Ala-Archa 6.60 35 *e*Pn **P 18 47 30.0 -0.2**
comp=E,124nm,1.1s
FRU Bishkek 6.82 34⇑*i*PN **P 18 47 34.0 +0.8**
FRU *e*S **S 18 48 46.0 -4.3**
FRU pmax pmax
comp=E,4μm,2.4s
KBK Karagaybulak 6.83 37 P **P 18 47 34.4 +0.9**
SNR=371
CHMS Chumysh 7.01 34 P **P 18 47 36.2 +0.4**
SNR=304
USP Ospenovka 7.12 32 P **P 18 47 37.0 -0.3**
SNR=74
THN Thein Dam 7.12 131 *e*P **P 18 47 38.0 +0.6**
THN *e*S **S 18 48 57.7 0.0**
ULHL Ulahol 7.22 45 P **P 18 47 38.8 +0.1**
SNR=82
TKM2 Tokmak 2 7.35 38 P **P 18 47 40.9 +0.3**
SNR=32
KLP Kalpa 9.31 126 *e*P **P 18 48 08.5 +0.9**
KLP *e*S **S 18 49 45.7 -6.3**
KLP *e*S **S 18 49 46.4 -5.6**
KKR Kurukshetra 9.59 138 *e*P **P 18 48 13.1 +1.5**
DDI Dehra Dun 10.02 132 *e*P **P 18 48 20.3 +2.9**
DDI *e* 18 50 10.1
RTK Rohtak 10.13 143 *e*P **P 18 48 18.2 -0.7**
JASL Jaisalmer 10.43 173 *e*P **P 18 48 22.1 -0.9**
KHET Khetri 10.67 148 *e*P **P 18 48 24.1 -2.2**
KHET *e*S **S 18 50 15.2 -10**
BHGR Bahadurgarh 10.67 141 *e*P **P 18 48 24.8 -1.6**
BHGR *e* 18 48 24.9
comp=Z,80nm,0.2s
JOSI Joshimath 10.79 126 *e*P **P 18 48 29.4 +1.4**
JOSI *e* 18 48 31.0
comp=Z,117nm,1.0s
NDI New Delhi 10.82 140 *e*P **P 18 48 28.0 -0.3**
NDI *e* 18 50 47.0
KUDL Kundal 10.91 145 *e*P **P 18 48 29.1 -0.5**
AYAN Aya Nagar 10.94 141 *e*P **P 18 48 29.4 -0.5**
AYAN *e*S **S 18 50 25.8 -5.9**
SONA Sohna 11.11 142 *e*P **P 18 48 31.6 -0.6**
SONA *e*S **S 18 50 26.7 -9.2**
SONA AML AML 18 51 37.4
comp=N,25nm,0.5s
SONA AML AML 18 51 37.6
comp=E,33nm,0.5s
AJM Ajmer 11.68 156⇑*i*P **P 18 48 38.0 -1.9**
PTH Pithoragarh 11.89 127 *e* **P 18 48 51.0 +8.2**
PTH *e* 18 51 34.8
LGTI Lohaghat 11.98 128 *e* **P 18 48 56.0 +12**
LGTI *e* 18 50 56.0
MK31 Makanchi Array 13.46 41 ⇑Pn **P 18 49 01.9 -1.7**
comp=E,23nm,0.8s,baz=224,slow=10,SNR=85
MK31 ⇓Lg 18 53 05.4
comp=E,46nm,1.1s
MKAR Makanchi Array 13.46 41 P **P 18 49 02.0 -1.5**
comp=E,0.5nm,0.3s,baz=229,slow=13,SNR=69
MKAR Lg 18 53 03.5
comp=E,0.3nm,0.3s,baz=256,slow=26,SNR=3.4
MKAR Makanchi Array 13.46 41 *i* P **P 18 49 01.5 -2.0**
MKAR pmax pmax
comp=Z,130nm,1.4s
KURK Kurchatov 14.94 23 ⇑Pn **P 18 49 18.3 -4.5**
comp=Z,12nm,1.0s,baz=201,slow=10,SNR=8.3
KURK ⇑Lg 18 53 35.0
comp=Z,106nm,1.5s
KURK Kurchatov 14.94 23 *i* P **P 18 49 18.2 -4.6**
KURK pmax pmax
comp=Z,13nm,1.2s
KURK Kurchatov 14.94 23 P **P 18 49 19.0 -3.8**
comp=Z,26nm,1.2s
KOLN Koldanda 15.28 124 *e*P **P 18 49 25.2 -2.2**
comp=Z,10nm,0.5s
WMQ Urumqi 15.34 59 P **P 18 49 26.6 -1.4**
WMQ AMB AMB
comp=Z,45nm,1.0s
WMQ LR LR
comp=N,358nm,10.0s
WMQ LR LR
comp=E,412nm,11.0s
WMQ LR LR
comp=Z,475nm,10.0s
VOSK Vostochnaya 15.45 4 ⇑P **P 18 49 26.1 -3.3**
comp=Z,17nm,0.8s
VOSK ⇓S **S 18 52 26.7 +7.3**
comp=Z,59nm,1.1s
VOSK Vostochnaya 15.45 4 P **P 18 49 26.0 -3.4**
VOSK pmax pmax
comp=Z,9.0nm,0.8s
BHPL Bhopal 15.63 152 *e*P **P 18 49 30.8 -1.1**
BHPL *e* 18 52 11.4
ZRNK Zerenda 15.64 359 ⇓P **P 18 49 29.4 -2.5**
comp=Z,40nm,1.1s
ZRNK ⇓S **S 18 52 29.2 +5.4**
comp=Z,33nm,1.1s
ZRNK Zerenda 15.64 359 P **P 18 49 29.3 -2.5**
ZRNK S **S 18 52 29.2 +5.4**
ZRNK pmax pmax
comp=Z,44nm,1.1s
ZRNK smax
comp=Z,35nm,1.1s
ZRNK Zerenda 15.64 359 *e*P **P 18 49 29.5 -2.3**
comp=Z,38nm,1.0s
ZRNK *e* 18 49 46.5
BVA0 Borovoye Array 15.73 2 ⇑P **P 18 49 29.8 -3.1**
comp=Z,2.1nm,0.8s
BVA0 ⇑S **S 18 52 32.7 +6.9**
comp=Z,8.9nm,1.3s
BVA0 Borovoye Array 15.73 2 P **P 18 49 29.8 -3.1**
BVA0 S **S 18 52 31.8 +6.0**
BVAR Borovoye Array 15.73 2 P **P 18 49 29.7 -3.2**
comp=Z,0.5nm,0.3s,baz=173,slow=12,SNR=79
BRVK Borovoye 15.76 2 *e*P **P 18 49 30.2 -3.1**
comp=Z,38nm,0.6s
BRVK *e*S **S 18 52 29.9 +3.5**
GKN Gorkha 15.82 122 *e*P **P 18 49 32.0 -2.3**
comp=Z,7.1nm,0.3s
GKN *e*S **S 18 52 17.9 -10**
DMN Daman 16.39 122 *e*P **P 18 49 40.5 -1.0**
comp=Z,11nm,0.5s
KKN Kakani 16.40 121 *e*P **P 18 49 39.2 -2.3**
comp=Z,5.6nm,0.2s
PKI Pulchoki 16.62 121 *e*P **P 18 49 43.3 -1.1**
GUN Gumba 16.74 119 *e*P **P 18 49 44.1 -1.7**
LSA Lhasa 19.64 106 P **P 18 50 21.3 +0.7**
ZAL Zalesovo 19.74 28 P **P 18 50 19.8 -1.8**
comp=Z,2.2nm,0.3s,baz=248,slow=9.5,SNR=43
ZAL pP 18 50 31.8
comp=Z,1.9nm,0.3s,baz=255,slow=11,SNR=12
ZAL LR LR 18 59 28.7
comp=Z,150nm,20.7s,baz=248,slow=41
ZAL Zalesovo 19.74 28 P **P 18 50 19.8 -1.8**
ZAL pmax pmax
comp=Z,2.0nm,0.3s
ZAL pmax pmax
comp=N,2.0nm,0.3s
ZAL MLR MLR
comp=Z,150nm,20.7s
NVS Novosibirsk 19.93 24 *i* P **P 18 50 21.1 -2.4**
NVS *e*S **S 18 53 54.6 -5.4**
NVS pmax pmax
comp=Z,33nm,1.3s
NVS pmax pmax
comp=E,26nm,1.5s
NVS pmax pmax
comp=N,66nm,1.4s
NVS smax
comp=N,97nm,1.7s
NVS smax
comp=E,32nm,2.0s
SVE Sverdlovsk 20.39 346⇓*e*P **P 18 50 27.0 -1.3**
SVE pmax pmax
comp=Z,80nm,2.8s
SVE MLR MLR
comp=Z,700nm,11.0s,MS4.3
SVE MLR MLR
comp=N,500nm,13.0s,MS4.2
SVE MLR MLR
comp=E,500nm,13.0s,MS4.2
ARU Arti 20.46 343⇑*i*P **P 18 50 27.3 -1.9**
ARU *i* 18 50 40.5
ARU *e*S **S 18 54 14.1 +3.5**
ARU *i* SS SS 18 54 37.2 -5.3
ARU pmax pmax
comp=Z,38nm,0.7s
ARU MLR MLR
comp=E,100nm,18.0s
ARU MLR MLR
comp=Z,400nm,18.0s,MS3.8
ARU Arti 20.46 343 *e*P **P 18 50 28.5 -0.7**
comp=Z,78nm,0.8s
ARU *e* 18 50 40.6
GOF Gofitskoye 21.23 300⇓*i*P **P 18 50 38.0 +0.9**
GOF pmax pmax
comp=Z,60nm,1.0s,mb4.9
KIV Kislovodsk 21.27 297 *e*P **P 18 50 36.5 -1.0**
KIV *e*S **S 18 54 29.6 +3.6**
KIV pmax pmax
comp=Z,21nm,0.8s,mb4.5
KIV MLR MLR
comp=Z,186nm,21.0s,MS3.5
KIV MLR MLR
comp=N,104nm,18.0s,MS3.5
KIV MLR MLR
comp=E,139nm,19.0s,MS3.5
KIV Kislovodsk 21.27 297 *e*P **P 18 50 37.4 -0.1**
comp=E,39nm,0.7s,mb4.8
KIV *e* 18 50 51.3
KIV *e*S **S 18 54 30.8 +4.7**
HYB Hyderabad 21.40 155 *i* P **P 18 50 40.5 +1.6**
HYB *e* 18 50 55.5
HYB *e* 18 51 14.0
HYB Hyderabad 21.40 155 *e*P **P 18 50 40.5 +1.6**
ERZM Erzurum 22.02 285 *i* P **P 18 50 50.9 +5.9**
SHL Shillong 22.42 115 *e*P 18 51 03.0
SOC Sochi 23.36 295 *e*P **P 18 50 51.6 -6.4**
SOC *e*PPP PPP 18 51 39.3 -1.6
SOC *e*S **S 18 54 55.1 -8.7**
SOC *e*SSS SSS 18 55 58.3 -11
SOC pmax pmax
comp=Z,30nm,0.8s,mb4.8
SOC pmax pmax
comp=N,21nm,0.9s
SOC pmax pmax
comp=E,15nm,0.8s
SOC MLR MLR
comp=Z,227nm,19.0s,MS3.6
SOC MLR MLR
comp=N,228nm,20.0s,MS3.7
SOC MLR MLR
comp=E,140nm,22.0s,MS3.7
GTA Gaotai 23.89 76 *e*P **P 18 51 05.1 +1.9**
GTA AP 18 51 12.2
GTA XP 18 51 15.5
GTA AMB AMB
comp=Z,9.0nm,1.8s,mb3.9
GTA AMB AMB
comp=Z,51nm,7.6s
GTA LR LR
comp=N,99nm,13.7s,MS3.6
GTA LR LR
comp=E,130nm,16.0s,MS3.6
GTA LR LR
comp=Z,197nm,15.6s,MS3.7
RAYN Ar Rayn 24.68 243 P **P 18 51 13.5 +2.5**
comp=Z,121nm,0.8s,mb5.5,SNR=14
GZT Gaziantep 25.25 280 *i* P **P 18 51 15.6 -0.8**
VOR Voronezh 25.68 314 P **P 18 51 20.0 -0.2**
VOR *e* pP 18 51 35.0 +2.5
VOR pmax pmax
comp=Z,50nm,1.0s,mb5.0
VOR pmax pmax
comp=E,70nm,1.2s
KAHT Ahir Dag 25.75 281 *i* P pP 18 51 34.7 +1.4
BOYT Boyabat 26.87 290 *i* P sP 18 51 50.2 +0.6
ASF Jabal al Asfar 27.11 269 pP pP 18 51 46.3 +0.2
comp=E,1.6nm,0.3s,baz=103,slow=4.6,SNR=2.0
ASF LR LR 19 05 11.5
comp=E,168nm,18.9s,MS3.6,baz=314,slow=42
AVNT Avonos 27.15 284 *i* P pP 18 51 48.3 +2.0
SIM Simferopol' 27.48 297 P sP 18 51 55.7 +0.5
SIM pmax pmax
comp=Z,26nm,0.9s,mb4.8
BRTR Keskin Array B 27.97 286 P **P 18 51 43.0 +1.6**
comp=Z,1.6nm,0.6s,mb3.9,baz=104,slow=9.3,SNR=7.7
BRTR pP pP 18 51 54.4 +0.5
comp=Z,2.4nm,0.6s,baz=97,slow=8.0,SNR=6.0
BRTR Keskin Array B 27.97 286 P **P 18 51 43.0 +1.6**
BRTR *PP pP 18 51 54.4 +0.6
BRTR pmax pmax
comp=Z,2.0nm,0.6s
BRTR pmax pmax
comp=N,2.0nm,0.6s
OBN Obninsk 28.49 319⇑*i*P **P 18 51 44.1 -1.7**
OBN pmax pmax
comp=Z,21nm,1.4s,mb4.6
OBN MLR MLR
comp=Z,200nm,15.0s,MS3.8
SONM Songino Array 28.95 57 P **P 18 51 49.5 -0.6**
comp=Z,1.1nm,0.7s,mb3.7,baz=268,slow=9.1,SNR=12
SONM pP pP 18 52 01.5 -1.1
comp=Z,3.7nm,1.0s,baz=265,slow=10,SNR=11
AKASG Malin Array Be 31.43 308 P **P 18 52 12.2 +0.2**
comp=Z,9.1nm,0.9s,mb4.6,baz=83,slow=7.5,SNR=21
AKASG pP pP 18 52 24.4 -0.3
comp=Z,4.7nm,0.8s,baz=83,slow=7.6,SNR=5.5
AKASG Malin Array Be 31.43 308 P **P 18 52 12.3 +0.3**
AKASG *PP pP 18 52 24.4 -0.3
AKASG pmax pmax
comp=Z,9.0nm,0.9s
AKASG pmax pmax
comp=N,5.0nm,0.8s
BTO Baotou 31.57 71 *e*P **P 18 52 12.0 -1.3**
CM31 Chiang Mai Arr 31.97 118 *e*P **P 18 52 17.9 +0.8**
comp=N,7.9nm,0.9s,mb4.5
CMAR Chiang Mai Arr 31.97 118 P **P 18 52 16.0 -1.0**
comp=N,1.9nm,1.0s,mb3.9,baz=301,slow=8.5,SNR=9.5
CMAR pP pP 18 52 28.6 -1.2
comp=N,2.4nm,0.8s,baz=299,slow=8.3,SNR=12
CMAR LR LR 19 06 57.0
comp=N,120nm,21.6s,MS3.5,baz=305,slow=40
CMAR Chiang Mai Arr 31.97 118 P **P 18 52 16.0 -1.0**
CMAR *PP pP 18 52 28.6 -1.1
CMAR pmax pmax
comp=Z,2.0nm,1.0s
CMAR pmax pmax
comp=N,2.0nm,0.8s
CMAR MLR MLR
comp=Z,120nm,21.6s
MLR Muntele Rosu 33.26 298 P **P 18 52 29.4 +1.4**
comp=Z,6.6nm,0.8s,mb4.6,baz=104,slow=8.3,SNR=13
MLR LR LR 19 08 16.1
comp=Z,113nm,18.1s,MS3.6,baz=82,slow=40
MLR Muntele Rosu 33.26 298 P **P 18 52 29.4 +1.4**
MLR pmax pmax
comp=Z,7.0nm,0.8s
MLR MLR MLR
comp=Z,113nm,18.2s
BOD Bodaibo 35.55 40 *e*P **P 18 52 46.8 -0.7**
FINES FINESS Array B 36.09 326 P **P 18 52 53.2 +1.2**
comp=Z,2.0nm,0.8s,mb4.1,baz=124,slow=6.9,SNR=5.0
FINES pP pP 18 53 04.7 -0.2
comp=Z,5.3nm,0.8s,baz=123,slow=10,SNR=5.9
FINES sP sP 18 53 10.8 -0.2
comp=Z,3.9nm,0.5s,baz=117,slow=8.5,SNR=5.9
FINES LR LR 19 08 44.1
comp=Z,295nm,19.1s,MS4.1,baz=28,slow=38
FINES FINESS Array B 36.09 326 P **P 18 52 53.2 +1.2**
FINES *PP pP 18 53 04.7 -0.2
FINES *SP sP 18 53 10.8 -0.2
FINES pmax pmax
comp=Z,2.0nm,0.8s
FINES pmax pmax
comp=N,5.0nm,0.8s
FINES pmax pmax
comp=N,4.0nm,0.5s
FINES MLR MLR
comp=Z,295nm,19.1s
KAF Kangasniemi 36.25 327 *e*p pP 18 53 07.5 +1.3
comp=Z,0.5nm,0.4s
KAF Kangasniemi 36.25 327 *e*P pP 18 53 07.5 +1.3
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
BJI Beijing 36.30 71 P **P 18 52 55.9 +1.9**
WHN Wuhan 37.63 87 *e*P **P 18 53 07.5 +2.2**
VRAC Vranov 39.48 305 P **P 18 53 22.0 +1.6**
comp=Z,2.6nm,0.8s,mb4.0,baz=83,slow=10,SNR=4.1
VRAC pP pP 18 53 34.0 +0.6
comp=Z,3.1nm,0.8s,baz=77,slow=11,SNR=2.4
ARCES ARCESS Array B 39.91 338 P **P 18 53 24.4 +0.6**
comp=Z,4.5nm,0.7s,mb4.3,baz=100,slow=7.4,SNR=10
ARCES pP pP 18 53 36.3 -0.5
comp=Z,5.6nm,0.7s,baz=106,slow=8.8,SNR=5.7
ARCES sP sP 18 53 42.2 -0.4
comp=Z,19nm,0.9s,baz=117,slow=8.1,SNR=8.9
ARCES LR LR 19 10 45.0
comp=Z,130nm,21.7s,MS3.7,baz=13,slow=37
ARCES ARCESS Array B 39.91 338 P **P 18 53 24.4 +0.6**
ARCES *PP pP 18 53 36.3 -0.5
ARCES *SP sP 18 53 42.2 -0.4
ARCES pmax pmax
comp=Z,5.0nm,0.7s
ARCES pmax pmax
comp=N,6.0nm,0.7s
ARCES pmax pmax
comp=N,19nm,1.0s
ARCES MLR MLR
comp=Z,130nm,21.7s
NJ2 Nanjing 40.64 82 *e*P **P 18 53 32.1 +1.9**
PRU Pruhonice 40.78 306 *e*P Px 18 53 50.2
BRG Berggiesshubel 41.11 307 *e*P pP 18 53 49.5 +2.6
BRG *e* Px 18 54 01.1
BRG pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
BRG Berggiesshubel 41.11 307 *e*P pP 18 53 49.5 +2.6
BRG *e* Px 18 54 01.1
GERES GERESS Array B 41.41 304 P **P 18 53 40.7 +4.3**
comp=Z,0.2nm,0.3s,baz=307,slow=9.8,SNR=3.6
GERES pP pP 18 53 51.0 +1.6
comp=Z,0.9nm,0.7s,baz=68,slow=7.2,SNR=5.7
GERES GERESS Array B 41.41 304 P **P 18 53 40.7 +4.3**
GERES *PP pP 18 53 51.0 +1.6
GERES pmax pmax
comp=N,1.0nm,0.7s
KHC Kasperske Hory 41.47 305 *e*P **P 18 53 46.5 +10**
KHC *e*PP PP 18 55 19.5 +3.4
HFS Hagfors 41.64 322 P **P 18 53 39.0 +1.0**
comp=N,3.2nm,0.5s,mb4.2,baz=98,slow=10,SNR=16
HFS pP pP 18 53 51.1 +0.1
comp=N,11nm,0.7s,baz=90,slow=10,SNR=8.2
HFS Hagfors 41.64 322 P **P 18 53 39.0 +1.0**
HFS *PP pP 18 53 51.1 +0.1
HFS pmax pmax
comp=Z,3.0nm,0.5s
HFS pmax pmax
comp=N,11nm,0.7s
HFS Hagfors 41.64 322 P **P 18 53 39.0 +1.0**
HFS pP pP 18 53 51.1 +0.1
MOX Moxa 42.60 307 *e*P **P 18 53 48.0 +1.9**
MOX pP sP 18 54 06.0 +1.1
MOX Moxa 42.60 307 *e*P sP 18 54 05.6 +0.7
SSE Sheshan 42.84 82 P **P 18 53 48.9 +0.6**
SSE XP sP 18 54 08.3 +1.1
SSE S **S 19 00 11.9 +3.0**
SSE AMB AMB
comp=Z,27nm,0.7s,mb5.1
SSE LR LR
comp=N,154nm,20.0s,MS3.9
SSE LR LR
comp=E,72nm,20.0s,MS3.9
NB2 NORSAR Subarra 42.96 323 P **P 18 53 48.9 0.0**
comp=E,9.4nm,0.6s,mb4.7,baz=96,slow=8.6
NOA NORSAR Array B 42.96 323 P **P 18 53 49.6 +0.7**
comp=E,2.4nm,0.7s,mb4.0,baz=97,slow=8.1,SNR=6.7
NOA pP pP 18 54 01.6 -0.3
comp=E,9.5nm,0.9s,baz=97,slow=8.1,SNR=12
NOA LR LR 19 12 50.9
comp=E,170nm,18.6s,MS4.0,baz=80,slow=38
NOA NORSAR Array B 42.96 323 P **P 18 53 49.6 +0.7**
NOA *PP pP 18 54 01.6 -0.3
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA pmax pmax
comp=N,10.0nm,0.9s
NOA MLR MLR
comp=Z,170nm,18.6s
IPM Ipoh 43.56 131⇓*e*P **P 18 53 56.1 +1.7**
YAK Yakutsk 44.06 36*c i*P **P 18 53 57.0 -0.8**
YAK *e*S **S 19 00 25.7 -0.5**
YAK pmax pmax
comp=Z,20nm,0.9s,mb4.8
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=E,10.0nm,1.3s
YAK smax
comp=E,7.0nm,1.2s
YAK smax
comp=N,7.0nm,1.1s
YAK Yakutsk 44.06 36 *e*P **P 18 53 58.0 +0.2**
comp=N,42nm,0.8s,mb5.2
TIXI Tiksi 45.51 22⇑*i*P **P 18 54 09.6 +0.3**
TIXI *i* pP 18 54 22.6 +0.2
TIXI *i* S **S 19 00 45.5 -1.5**
TIXI pmax pmax
comp=Z,12nm,1.0s,mb4.8
PGF Pioggiola 45.76 296 *e*P **P 18 54 11.6 0.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,10nm,1.0s,mb4.4						
SBF	**Sospel**	**46.54**	**298**	*e*P	**P**	**18 54 17.3**	**-0.4**
	comp=Z,29nm,0.9s,mb4.9						
LPG	**La Plagne**	**46.63**	**301**	*e*P	**P**	**18 54 18.7**	**+0.3**
	comp=Z,3.0nm,0.6s,mb4.1						
LPL	**La Plagne**	**46.64**	**301**	*e*P	**P**	**18 54 18.3**	**-0.2**
	comp=Z,2.0nm,0.4s,mb4.1						
MBDF	**Montbardon**	**46.79**	**300**	*e*P	**P**	**18 54 19.5**	**-0.2**
	comp=Z,10nm,1.0s,mb4.4						
ORIF	**Oris-en-Rattie**	**47.36**	**300**	*e*P	**P**	**18 54 24.0**	**-0.2**
	comp=Z,1.9nm,0.6s,mb3.9						
SMRF	**Simiane la Rot**	**47.81**	**299**	*e*P	**P**	**18 54 26.8**	**-0.9**
	comp=Z,25nm,1.1s,mb4.9						
LOR	**Lormes**	**48.18**	**304**	*e*P	**P**	**18 54 29.1**	**-1.4**
VIVF	**Saint-Julien-l**	**48.21**	**300**	*e*P	**P**	**18 54 30.2**	**-0.6**
SSF	**Saint Saulge**	**48.46**	**304**	*e*P	**P**	**18 54 31.5**	**-1.2**
	comp=Z,7.1nm,0.9s,mb4.4						
LASF	**Ste Croix**	**48.98**	**300**	*e*P	**P**	**18 54 35.8**	**-0.9**
	comp=Z,40nm,1.3s,mb5.0						
TCF	**Toulx Ste Croi**	**49.52**	**303**	*e*P	**P**	**18 54 40.3**	**-0.6**
	comp=Z,12nm,0.8s,mb4.7						
CAF	**Calviac**	**49.98**	**301**	*e*P	**P**	**18 54 44.2**	**-0.2**
RJF	**Les Rejaudoux**	**50.25**	**302**	*e*P	**P**	**18 54 46.2**	**-0.3**
LDF	**La Druitiere**	**50.46**	**306**	*e*P	**P**	**18 54 47.9**	**-0.2**
FLN	**La Foliniere**	**50.65**	**307**	*e*P	**P**	**18 54 49.5**	**0.0**
EKA	**Eskdalemuir Ar**	**50.81**	**315**	P	**P**	**18 54 51.2**	**+0.6**
	comp=Z,5.2nm,0.9s,mb4.5,baz=84,slow=8.4,SNR=5.4						
EKA				pP	pP	18 55 03.6	-0.2
	comp=Z,8.1nm,0.8s,baz=88,slow=8.1,SNR=6.9						
EKA	**Eskdalemuir Ar**	**50.81**	**315**	P	**P**	**18 54 51.2**	**+0.6**
EKA				*PP	pP	18 55 03.7	-0.1
EKA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
EKA				pmax	pmax		
	comp=N,8.0nm,0.9s						
LFF	**La Frestale**	**50.88**	**301**	*e*P	**P**	**18 54 51.2**	**-0.1**
	comp=N,7.4nm,0.6s,mb4.5						
EPF	**Esparros**	**51.73**	**299**	*e*P	**P**	**18 54 57.5**	**-0.2**
	comp=N,4.1nm,0.7s,mb4.2						
ETSF	**Etsaut**	**52.40**	**299**	*e*P	**P**	**18 55 02.2**	**-0.5**
	comp=N,7.1nm,0.5s,mb4.5						
YSS	**Yuzh-Sakhalins**	**53.41**	**55**	P	**P**	**18 55 02.0**	**-8.2**
YSS				*e*		18 55 10.0	
ESDC	**Sonseca Array**	**55.94**	**297**	pP	pP	18 55 41.7	-0.5
	comp=N,1.1nm,0.6s,baz=58,slow=8.1,SNR=2.8						
SUMG	**Summit**	**59.88**	**341**	P	**P**	**18 55 56.9**	**+1.0**
	comp=N,26nm,1.1s,mb5.2						
LSZ	**Lusaka**	**65.11**	**224**	*e*P	**P**	**18 56 41.1**	**+10**
	comp=N,6.0nm,0.7s,mb4.7						
IMA	**Indian Mountai**	**71.73**	**17**	*e*P	**P**	**18 57 13.1**	**+1.4**
INK	**Inuvik**	**73.31**	**9**	P	**P**	**18 57 21.4**	**+0.5**
	comp=N,3.3nm,0.9s,mb4.3,baz=350,slow=5.7,SNR=2.9						
INK				sP	sP	18 57 39.1	-0.8
	comp=N,2.9nm,0.7s,baz=50,slow=5.1,SNR=3.2						
INK	**Inuvik**	**73.31**	**9**	P	**P**	**18 57 21.4**	**+0.6**
INK				*SP	sP	18 57 39.2	-0.8
INK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
INK				pmax	pmax		
	comp=N,3.0nm,0.7s						
TSUM	**Tsumeb**	**74.42**	**230**	pP	pP	18 57 41.9	-0.2
	comp=N,2.3nm,0.6s,baz=350,slow=9.5,SNR=5.5						
TSUM	**Tsumeb**	**74.42**	**230**	P	pP	18 57 40.6	-1.6
YKA	**Yellowknife Ar**	**80.49**	**2**	P	**P**	**18 58 03.2**	**+2.2**
	comp=N,2.6nm,0.9s,mb4.2,baz=346,slow=6.0,SNR=3.0						
YKA				pP	pP	18 58 14.3	-0.8
	comp=N,3.0nm,0.8s,baz=351,slow=5.4,SNR=3.1						
YKA	**Yellowknife Ar**	**80.49**	**2**	P	**P**	**18 58 03.3**	**+2.2**
YKA				*PP	pP	18 58 14.3	-0.9
YKA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
YKA				pmax	pmax		
	comp=N,3.0nm,0.8s						
WRA	**Warramunga Arr**	**83.51**	**121**	P	**P**	**18 58 16.9**	**-0.7**
	comp=N,0.3nm,1.0s,mb3.4,baz=323,slow=5.0,SNR=8.1						
WRA				pP	pP	18 58 31.6	-0.1
	comp=N,1.4nm,0.9s,baz=322,slow=4.8,SNR=7.4						
WRA	**Warramunga Arr**	**83.51**	**121**	P	**P**	**18 58 16.9**	**-0.7**
WRA				*PP	pP	18 58 31.6	-0.1
WRA				pmax	pmax		
	comp=N,1.0nm,0.9s						
WRAB	**Tennant Creek**	**83.51**	**121**	P	pP	18 58 28.5	-3.2
ASAR	**Alice Springs**	**85.77**	**124**	P	**P**	**18 58 28.9**	**+0.1**
	comp=N,0.4nm,0.9s,mb3.6,baz=320,slow=5.2,SNR=5.2						
ASAR				pP	pP	18 58 42.2	-0.8
	comp=N,0.8nm,0.6s,baz=308,slow=4.9,SNR=6.3						

IDC 05 18:54:02.2±9.8**, 1.94N**×**96.36E, mb3.9**/3**, mb1 3.9**/4**, mb1mx3.6**/17**, ML3.2**/1**, Error ellipse: s-maj=193.0km s-min=115.5km az=147.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.61**	**9**	Pn	P	18 57 57.0	-1.2
	0.0nm,0.3s,baz=201,slow=12,SNR=5.7						
MKAR	**Makanchi Array**	**46.33**	**347**	P	P	19 02 29.9	-1.9
	0.9nm,0.5s,baz=158,slow=8.5,SNR=9.3						
SONM	**Songino Array**	**46.53**	**9**	P	P	19 02 31.1	-2.2
	0.9nm,1.0s,baz=190,slow=9.1,SNR=6.5						
ZAL	**Zalesovo**	**52.70**	**351**	P	P	19 03 18.7	-2.0
	1.3nm,0.4s,baz=303,slow=2.4,SNR=5.3						

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*IDC **05** 19:02:32.0±3.0, 32.93N×136.43E, h378^{km}±37^{km}, mb3.0/5, mb1 3.2/6, mb1mx2.9/24, Error ellipse: s-maj=29.2km s-min=19.8km az=103.0*
*JMA **05** 19:02:35.1±0.3, 32.80N×136.58E, h431^{km}, M3.4*
*NEIC **05** 19:02:36.5±1.0, 32.89N×136.45E, h431^{km}±11^{km}, mb4.2/1, Error ellipse: s-maj=21.2km s-min=15.9km az=149.0*
ISC 05 19:02:34.4±0.5**, 32.82N**±0.06×**136.70E**±0.08**, h435**^{km}±6^{km}**, n25,** σ**0^{s}96**/34**, mb3.3**/6**, Southeast of Shikoku**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JWZ	**Kozaga**	**1.09**	**311**	P	**P**	**19 03 29.7**	**0.0**
JIE	**Ise**	**1.57**	**0**	P	**P**	**19 03 32.4**	**+0.6**
JWY	**Kouya**	**1.67**	**327**	P	**P**	**19 03 32.6**	**+0.3**
JAI	**Aioi**	**2.12**	**298**	P	**P**	**19 03 34.5**	**-0.2**
JMN	**Monobe**	**2.53**	**292**	P	**P**	**19 03 37.2**	**-0.2**
JWT	**Wachi**	**2.68**	**337**	P	**P**	**19 03 38.5**	**0.0**
JNY	**Yasuok**	**2.71**	**21**	P	**P**	**19 03 40.1**	**+1.4**
JHU	**Hanno**	**3.71**	**35**	P	**P**	**19 03 47.5**	**+0.9**
JHU				S	**S**	**19 04 43.6**	**+0.1**
BSO4	**Boso 4**	**3.72**	**53**	P	**P**	**19 03 47.5**	**+0.7**
BSO4				S	**S**	**19 04 44.4**	**+0.6**
MAJO	**Matsushiro**	**3.92**	**18**	*e*Pn	**P**	**19 03 49.7**	**+1.3**
MAT	**Matsushiro**	**3.92**	**18**	P	**P**	**19 03 49.1**	**+0.6**
MAT				S	**S**	**19 04 47.8**	**+0.9**
MAT	**Matsushiro**	**3.92**	**18**	*e*P	**P**	**19 03 49.0**	**+0.5**
MAT				*e*S	**S**	**19 04 48.0**	**+1.1**
JAG	**Ashikaga**	**4.25**	**31**	P	**P**	**19 03 51.3**	**-0.3**
JAG				S	**S**	**19 04 51.0**	**-1.4**
JYT	**Yasato**	**4.46**	**39**	P	**P**	**19 03 52.9**	**-0.6**
JYT				S	**S**	**19 04 52.1**	**-3.7**
JHO	**Hitachi**	**4.95**	**39**	P	**P**	**19 03 57.8**	**-0.5**
JHO				S	**S**	**19 05 01.2**	**-3.1**
JFT	**Otama**	**5.55**	**31**	P	**P**	**19 04 04.7**	**+0.3**
JFT				S	**S**	**19 05 12.4**	**-2.8**
CBIJ	**Chichi jima**	**7.43**	**139**	P	**P**	**19 04 24.1**	**-0.3**
	4.7nm,0.3s,baz=266,slow=16,SNR=4.9						
CBIJ				S	**S**	**19 05 50.5**	**-1.0**
	7.2nm,0.3s,baz=288,slow=22,SNR=4.2						
INCN	**Inchon**	**9.46**	**302**	*e*P	**P**	**19 04 46.0**	**-1.2**
ENH	**Enshi**	**23.31**	**271**	P	**P**	**19 07 06.8**	**-1.0**
	4.4nm,0.5s,mb4.1						
CMAR	**Chiang Mai Arr**	**36.71**	**256**	P	**P**	**19 09 03.6**	**-0.4**
	0.4nm,0.6s,mb2.9,baz=45,slow=7.6,SNR=4.6						
WRA	**Warramunga Arr**	**52.51**	**183**	P	**P**	**19 11 08.7**	**+1.2**
	0.1nm,0.3s,mb2.5,baz=360,slow=7.5,SNR=8.4						
ILAR	**Eielson Array**	**55.10**	**31**	P	**P**	**19 11 26.8**	**+1.4**
	0.5nm,0.6s,mb2.9,baz=259,slow=5.3,SNR=5.1						
ARCES	**ARCESS Array B**	**66.56**	**339**	P	**P**	**19 12 41.3**	**+0.5**
	2.2nm,0.9s,mb3.8,baz=51,slow=7.8,SNR=5.9						
FINES	**FINESS Array B**	**70.70**	**332**	P	**P**	**19 13 05.0**	**-1.0**
	1.4nm,0.8s,mb3.5,baz=45,slow=5.4,SNR=7.7						
FINES	**FINESS Array B**	**70.70**	**332**	P	**P**	**19 13 05.0**	**-1.0**

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*NIED **05** 19:11:00, 45.40N×139.70E, h8^{km}, Mw3.5 Best double couple: M$_0$1.69×10^{14} NP1:ϕ_s3°, δ53°, λ66°. NP2:ϕ_s220°, δ43°, λ119°.*
*JMA **05** 19:11:30.6±0.2, 45.37N×139.65E, h12^{km}±2^{km}, M3.6*
*SKHL **05** 19:11:31.8±1.9, 45.42N×139.69E, h20^{km}, mb3.9/1*
ISC 05 19:11:30.5±0.5**, 45.39N**±0.04×**139.66E**±0.04**, h12**^{km}**, n14,** σ**0^{s}97**/21**, Eastern Sea of Japan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JRR	**Rishiri**	**1.20**	**102**	P	**Pb**	**19 11 52.5**	**-0.1**
JRR				*e*S	**Sb**	**19 12 08.8**	**+1.0**
JWK2	**Keihoku**	**1.58**	**92**	P	**Pn**	**19 11 58.8**	**+0.3**
JWK2				*e*S	**Sn**	**19 12 19.5**	**+0.5**
JYG	**Yagishiri**	**1.58**	**127**	P	**Pn**	**19 11 58.7**	**+0.1**
JYG				*e*S	**Sn**	**19 12 19.5**	**+0.4**
JSS	**Shosan**	**1.85**	**122**	P	**Pn**	**19 12 02.3**	**-0.1**
JSE	**Soyaes**	**2.12**	**101**	P	**Pn**	**19 12 06.3**	**+0.1**
JSK	**Shakotan**	**2.12**	**164**	*e*S	**Sn**	**19 12 30.9**	**-1.9**
TEY	**Ternei**	**2.19**	**262**	*e*rx	**Pg**	**19 12 17.0**	**+2.8**
TEY				*e*Sn	**Sn**	**19 12 34.8**	**+0.3**
TEY				*e*Sg	**Sg**	**19 12 42.6**	**-0.8**
TEY				A		19 12 52.5	
	105nm,0.5s						
JHR	**Hokuryu**	**2.21**	**137**	P	**Pn**	**19 12 07.8**	**+0.2**
YSS	**Yuzh-Sakhalins**	**2.66**	**53**	*e*Pn	**Pn**	**19 12 14.0**	**0.0**
YSS				*e*rx	rx	19 12 22.1	
YSS				*e*Sn	**Sn**	**19 12 45.0**	**-1.4**
YSS				A		19 12 47.2	
	50nm,0.3s						
UGL	**Uglegorsk**	**4.04**	**23**	*e*rx	**Sb**	**19 13 31.2**	**+0.9**
GRNR	**Gornyy**	**5.80**	**339**	*e*rx	**Pg**	**19 13 27.0**	**+0.7**
GRNR				*e*Sg	**Sg**	**19 14 29.8**	**-14**
TYV	**Tymovskoe**	**5.83**	**19**	*e*Pn	**Pn**	**19 12 59.0**	**+0.1**
TYV				AMB	AMB	19 12 59.6	
	8.0nm,0.5s						
TYV				*e*Sn	**Sn**	**19 14 04.0**	**-2.4**
TYV				A		19 14 07.0	
	14nm,0.5s						
TYV				A		19 14 07.0	
	11nm,0.5s						
EKMR	**Ekimchan**	**8.84**	**333**	*e*Sg	**Sg**	**19 16 07.0**	**-18**
YASR	**Yasnyy**	**10.96**	**320**	*e*rx	rx	19 17 15.5	
YASR				*e*Sg	Sx	19 17 32.6	
YASR				A		19 17 35.7	
	7.0nm,1.0s						
YASR				A		19 17 35.7	
	2.0nm,1.0s						

MAN 05 19:24:20.6, 7.71N×**126.53E, h8**^{km}**, mb4.5, ML3.4, MS3.2, 1D, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.50**	**340**	⇓*i*P	Pg	19 24 32.1	+1.5
BIPH				*i* S	Sg	19 24 42.9	+5.5
MATI	**Mati**	**0.81**	**200**	*e*P	Pb	19 24 36.1	-0.4
BUTP	**Butuan**	**1.54**	**324**	*e*P	Pn	19 24 48.1	-0.4
SCPH	**Surigao**	**2.30**	**333**	*e*P	Pn	19 24 58.8	-0.6
SCPH				*e*S	Sn	19 25 30.9	+2.7
PAGZ	**Pagadian**	**3.12**	**273**	*e*P	Pn	19 25 16.1	+4.9

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*NIED **05** 19:45:00, 33.20N×141.40E, h5^{km}, Mw3.8 Best double couple: M$_0$5.82×10^{14} NP1:ϕ_s52°, δ83°, λ112°. NP2:ϕ_s157°, δ23°, λ17°.*
*JMA **05** 19:45:24.7±0.4, 33.21N×141.40E, M3.7*
*IDC **05** 19:45:27.4±5.2, 33.07N×141.57E, h32^{km}±41^{km}, mb3.6/5, mb1 3.8/7, mb1mx3.6/23, ML3.6/2, MS3.0/2, Ms1 3.1/2, ms1mx2.6/26, Error ellipse: s-maj=23.7km s-min=17.4km az=79.0*
*NEIC **05** 19:45:28.0±2.7, 33.10N×141.61E, h40^{km}±24^{km}, mb4.2/3, Error ellipse: s-maj=36.6km s-min=18.8km az=76.0*
ISC 05 19:45:25.1±0.9**, 33.04N**±0.04×**141.58E**±0.08**, h35**^{km}±10^{km}**, n25,** σ**0^{s}98**/33**, mb3.9**/8**, MS3.1**/1**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.48**	**273**	P	**P**	**19 45 50.2**	**+0.5**
JHJ	**Hachijo jima 2**	**1.51**	**273**	Pn	**P**	**19 45 51.6**	**+1.5**
	60nm,0.3s,baz=229,slow=18,SNR=8.4						
JHJ				Sn	**S**	**19 46 08.2**	**-0.6**
	143nm,0.3s,baz=247,slow=22,SNR=8.0						
BSO1	**Boso 1**	**1.68**	**343**	P	**P**	**19 45 52.6**	**+0.1**
BSO1				S	**S**	**19 46 13.2**	**+0.1**
BSO2	**Boso 2**	**1.84**	**338**	S	**S**	**19 46 17.5**	**+0.5**
BSO3	**Boso 3**	**1.97**	**333**	P	**P**	**19 45 57.0**	**+0.4**
BSO4	**Boso 4**	**2.20**	**332**	P	**P**	**19 45 59.5**	**-0.4**
BSO4				S	**S**	**19 46 27.4**	**+1.2**
KTR	**Katsuura**	**2.35**	**334**	S	**S**	**19 46 30.0**	**+0.1**
JIZS	**Izushimoda**	**2.80**	**307**	P	**P**	**19 46 08.4**	**-0.1**
JIZS				S	**S**	**19 46 40.9**	**-0.6**
JYN	**Shimob**	**3.51**	**315**	P	**P**	**19 46 18.7**	**+0.1**
JRY	**Ryogami san**	**3.70**	**324**	P	**P**	**19 46 22.8**	**+1.5**
JRY				S	**S**	**19 47 03.4**	**-0.9**
JAG	**Ashikaga**	**3.80**	**333**	P	**P**	**19 46 22.9**	**+0.2**
JAG				S	**S**	**19 47 05.3**	**-1.6**
MAJO	**Matsushiro**	**4.46**	**322**	*e*Pn	**P**	**19 46 32.3**	**+0.2**
MAT	**Matsushiro**	**4.46**	**322**	P	**P**	**19 46 32.8**	**+0.7**
MAT				S	**S**	**19 47 21.1**	**-2.4**
MAT	**Matsushiro**	**4.46**	**322**	*e*P	**P**	**19 46 33.0**	**+0.9**
MAT				*e*S	**S**	**19 47 21.0**	**-2.5**
CBIJ	**Chichi jima**	**5.95**	**175**	Pn	**P**	**19 46 52.6**	**-0.5**
	4.1nm,0.3s,baz=267,slow=18,SNR=6.0						
CBIJ				Sn	**S**	**19 47 59.6**	**-1.4**
	2.8nm,0.3s,baz=292,slow=22,SNR=1.8						
CBIJ				LR	LR	19 49 12.9	
	comp=Z,111nm,19.5s,baz=259,slow=38						
ASAJ	**Asahikawa**	**11.08**	**4**	Pn	**P**	**19 48 03.0**	**-1.3**
	0.5nm,0.3s,baz=180,slow=17,SNR=3.8						
SONM	**Songino Array**	**30.28**	**310**	P	**P**	**19 51 36.4**	**+1.4**
	1.0nm,0.9s,mb3.6,baz=104,slow=7.3,SNR=6.6						
CMAR	**Chiang Mai Arr**	**40.78**	**260**	LR	LR	20 13 17.3	
	comp=Z,23nm,18.3s,MS3.1,baz=56,slow=41						
MKAR	**Makanchi Array**	**46.45**	**305**	P	**P**	**19 53 50.6**	**+0.4**
	0.6nm,0.6s,mb3.7,baz=79,slow=7.3,SNR=7.7						
KURK	**Kurchatov**	**48.57**	**311**	P	**P**	**19 54 04.7**	**-2.1**
	1.7nm,0.7s,mb4.2						
ILAR	**Eielson Array**	**52.82**	**31**	P	**P**	**19 54 38.7**	**-0.1**
	1.0nm,0.7s,mb3.9,baz=268,slow=6.4,SNR=9.1						
WRAB	**Tennant Creek**	**53.13**	**189**	*e*P	**P**	**19 54 41.3**	**-0.5**
	3.4nm,0.7s,mb4.4						
WRA	**Warramunga Arr**	**53.14**	**189**	P	**P**	**19 54 41.7**	**-0.2**
	1.4nm,0.5s,mb4.2,baz=6.3,slow=7.7,SNR=29						
ZRNK	**Zerenda**	**54.25**	**315**	P	**P**	**19 54 50.5**	**+0.9**
	2.1nm,1.1s,mb4.0						
ASAR	**Alice Springs**	**56.87**	**188**	P	**P**	**19 55 10.8**	**+1.9**
	0.5nm,0.7s,mb3.7,baz=18,slow=13,SNR=5.0						

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*IDC **05** 19:51:30.7±1.1, 45.92N×96.46E, mb3.8/4, mb1 3.9/7, mb1mx3.7/22, ML3.8/3, Error ellipse: s-maj=25.4km s-min=16.9km az=2.0*
*BJI **05** 19:51:33.0, 45.91N×96.53E, h32^{km}, mb4.3, ML4.1, Ms3.6*
*NEIC **05** 19:51:36.1±0.6, 46.01N×96.52E, h35^{km}, mb4.0/8, Error ellipse: s-maj=10.6km s-min=10.3km az=164.0*
ISC 05 19:51:30.6±0.5**, 45.95N**±0.07×**96.39E**±0.07**, h10**^{km}**, n20,** σ**1^{s}07**/25**, mb3.8**/5**, Mongolia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**6.53**	**254**	*e*P	**Pn**	**19 53 08.0**	**-1.1**
WMQ				S	**Sn**	**19 54 23.0**	**-1.5**
WMQ				Smax			
	comp=N,79nm,1.0s						
WMQ				Smax			
	comp=E,76nm,1.0s						
GTA	**Gaotai**	**7.00**	**158**	P	**Pn**	**19 53 14.6**	**-1.2**
GTA				PG	**Pg**	**19 53 37.5**	**-13**
GTA				S	**Sn**	**19 54 29.6**	**-6.7**
GTA				SG	**Sg**	**19 55 07.2**	**-17**
GTA				Smax			
	comp=N,19nm,1.0s						
GTA				Smax			
	comp=E,28nm,1.1s						
GTA				LR	LR		
	comp=N,91nm,5.3s						
GTA				LR	LR		
	comp=E,194nm,6.5s						
SONM	**Songino Array**	**7.11**	**71**	Pn	**Pn**	**19 53 17.1**	**-0.3**
	comp=E,1.1nm,0.3s,baz=256,slow=14,SNR=17						
SONM				Pg	**Pg**	**19 53 40.4**	**-12**
	comp=E,3.4nm,0.3s,baz=257,slow=18,SNR=15						
SONM				Lg		19 55 16.1	
	comp=E,14nm,0.3s,baz=262,slow=30,SNR=13						
MKAR	**Makanchi Array**	**9.78**	**280**	Pn	**P**	**19 53 54.4**	**0.0**
	comp=E,0.2nm,0.3s,baz=95,slow=12,SNR=7.9						
MKAR				Lg		19 56 45.4	
	comp=E,0.9nm,0.3s,baz=90,slow=28,SNR=6.4						
MKAR	**Makanchi Array**	**9.78**	**280**	Pn	**P**	**19 53 54.4**	**0.0**
MKAR				Lg		19 56 45.4	
AAK	**Ala-Archa**	**16.01**	**266**	*e*P	**P**	**19 55 21.9**	**+4.5**
	comp=E,2.2nm,0.7s						
LSA	**Lhasa**	**16.73**	**196**	P	**P**	**19 55 30.2**	**+3.6**
BVAR	**Borovoye Array**	**18.25**	**302**	P	**P**	**19 55 46.4**	**+1.0**
	comp=E,0.4nm,0.3s,baz=90,slow=7.2,SNR=5.0						
ZRNK	**Zerenda**	**19.05**	**302**	*e*P	**P**	**19 55 55.3**	**+0.1**
	comp=E,1.8nm,0.6s						
KKN	**Kakani**	**20.15**	**210**	*e*P	**P**	**19 56 08.0**	**+0.3**
	comp=E,12nm,0.8s						
GKN	**Gorkha**	**20.18**	**211**	*e*P	**P**	**19 56 07.5**	**-0.5**
	comp=E,25nm,1.3s						
PKI	**Pulchoki**	**20.30**	**209**	*e*P	**P**	**19 56 11.5**	**+2.2**
	comp=E,9.2nm,0.6s						
DMN	**Daman**	**20.37**	**210**	*e*P	**P**	**19 56 10.8**	**+0.7**
	comp=E,8.2nm,0.8s						
CN2	**Changchun**	**20.66**	**85**	*e*P	**P**	**19 56 13.4**	**+0.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
KOLN	**Koldanda**	**20.78**	**214**	*e*P	**P**	**19 56 16.1**	**+1.8**
	comp=Z,16nm,1.1s						
ARU	**Arti**	**25.60**	**308**	*e*P	**P**	**19 57 01.5**	**+0.3**
	comp=Z,6.6nm,0.5s,mb4.4						
CMAR	**Chiang Mai Arr**	**27.50**	**175**	P	**P**	**19 57 19.9**	**+0.9**
	comp=Z,0.5nm,0.8s,mb3.1,baz=342,slow=9.4,SNR=4.7						
AKASG	**Malin Array Be**	**43.52**	**302**	P	**P**	**19 59 35.8**	**+0.2**
	comp=Z,0.7nm,0.4s,mb3.8,baz=60,slow=9.3,SNR=4.9						
ILAR	**Eielson Array**	**59.15**	**26**	P	**P**	**20 01 32.4**	**-0.9**
	comp=Z,0.7nm,0.6s,mb3.9,baz=317,slow=5.0,SNR=8.0						
WRA	**Warramunga Arr**	**74.06**	**143**	P	**P**	**20 03 06.6**	**-1.9**
	comp=Z,1.7nm,1.4s,mb3.8,baz=341,slow=6.2,SNR=4.8						

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*HEL **05** 19:58:23.5±0.1, 67.07N×20.92E, ML2.0, ML2.1(UPP), Explosion*
*IDC **05** 19:58:25.4±0.8, 67.07N×21.54E, mb1 3.1/4, mb1mx3.0/21, ML2.5/4, Error ellipse: s-maj=16.7km s-min=6.4km az=117.0*
ISC 05 19:58:22.4±0.4**, 67.07N**±0.03×**21.00E**±0.07**, n23,** σ**0^{s}93**/33**, Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.18**	**289**	*i* P	**Pg**	**19 58 26.1**	**+0.1**
MASU	**Masugnsbyn**	**0.55**	**44**	*i* P	**Pg**	**19 58 33.8**	**+0.4**
ERTU	**Ertsjaerv**	**0.70**	**137**	*i* P	**Pg**	**19 58 36.1**	**-0.3**
PAJU	**Pajala**	**0.83**	**92**	*i* P	**Pg**	**19 58 38.8**	**-0.2**
KUA	**Kurravaara**	**0.93**	**344**	*e*P	**Pg**	**19 58 39.8**	**-1.2**
NIKU	**Nikkaluokta**	**1.11**	**318**	*e*P	**Pb**	**19 58 42.9**	**-1.2**
SJUU	**Sjulsmark**	**1.58**	**171**	*e*P	**Pn**	**19 58 52.0**	**+0.1**
KIF	**Kilpisjarvi**	**1.95**	**358**	*e*P	**Pn**	**19 58 58.4**	**+1.3**
KIF				*e*S	**Sn**	**19 59 22.1**	**-0.6**
KTK1	**Kautokeino**	**2.13**	**22**	*e*P	**Pn**	**19 59 01.7**	**+2.0**
SGF	**Sodankyl**	**2.18**	**77**	*e*P	**Pn**	**19 59 01.7**	**+1.2**
SGF				*e*S	**Sn**	**19 59 28.8**	**+0.3**
SGF				MSG		19 59 36.6	
	comp=Z,15nm,0.2s						
SVAU	**Svanoeiden**	**2.65**	**193**	*e*P	**Pn**	**19 59 07.7**	**+0.6**
MOR8	**Moi Rana**	**2.77**	**254**	*e*	**Sn**	**19 59 44.7**	**+1.4**
OUL	**Oulu**	**2.82**	**133**	*e*P	**Pn**	**19 59 10.4**	**+0.9**
OUL				*e*S	**Sn**	**19 59 45.6**	**+1.0**
OUL				MSG		19 59 57.5	
	comp=Z,3.3nm,0.2s						
MELS	**Mels**	**2.87**	**269**	*e*	**Sn**	**19 59 51.0**	**+5.0**
ARCES	**ARCESS Array B**	**2.99**	**32**	Pn	**Pn**	**19 59 12.0**	**-0.1**
	comp=Z,1.1nm,0.3s,baz=212,slow=13,SNR=70						
ARCES				Sn	**Sn**	**19 59 48.9**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=208,slow=25,SNR=4.4						
ARCES				Lg		19 59 56.6	
	comp=Z,1.1nm,0.3s,baz=216,slow=29,SNR=7.1						
LOF	**Lofoten**	**3.05**	**294**	*e*	**Sn**	**19 59 57.7**	**+7.1**
BREU	**Bredtraesk**	**3.34**	**199**	*e*P	**Pn**	**19 59 16.7**	**-0.3**
MSF	**Maaselka**	**3.42**	**106**	*e*P	**Pn**	**19 59 18.2**	**+0.1**
MSF				*e*S	**Sn**	**19 59 59.7**	**-0.3**
MSF				MSG		20 00 19.8	
	comp=Z,3.2nm,0.2s						
KEV	**Kevo**	**3.50**	**37**	*e*P	**Pn**	**19 59 18.7**	**-0.5**
KEV				*e*S	**Sn**	**20 00 00.5**	**-1.4**
KEV				MSG		20 00 09.9	
	comp=Z,2.8nm,0.2s						
KJN	**Kajaani**	**4.09**	**134**	*e*P	**Pn**	**19 59 28.6**	**+1.0**
KJN				*e*S	**Sn**	**20 00 15.8**	**-1.1**
KJN				MSG		20 00 31.6	
	comp=Z,2.2nm,0.2s						
FINES	**FINESS Array B**	**6.06**	**156**	Pn	**Pn**	**19 59 55.0**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=349,slow=14,SNR=5.8						
FINES				Sn	**Sn**	**20 01 04.8**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=349,slow=21,SNR=4.3						
NOA	**NORSAR Array B**	**7.41**	**220**	Pn	**Pn**	**20 00 15.4**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=64,slow=14,SNR=2.2						
NOA				Sn	**Sn**	**20 01 38.4**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=31,slow=18,SNR=2.8						
HFS	**Hagfors**	**7.67**	**208**	Pn	**Pn**	**20 00 18.2**	**0.0**
	comp=Z,0.0nm,0.3s,baz=23,slow=14,SNR=4.6						
HFS				Sn	**Sn**	**20 01 42.6**	**-4.3**
	comp=Z,0.0nm,0.3s,baz=33,slow=24,SNR=2.9						

GUC 05 20:00:18.1±0.7**, 34.93S**×**70.36W, h3**^{km}**, MD3.6, ML2.4, 1C-2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CICH	**Cipreses**	**0.61**	**355**	*e*P	Pg	20 00 30.5	+0.1
CICH				*i* S	Sg	20 00 40.0	+1.4
SFDO	**San Fernando**	**0.63**	**300**	⇓*i*P	Pg	20 00 30.6	0.0
SFDO				*i* S	Sg	20 00 40.5	+1.5
CACH	**El Canelo**	**0.84**	**346**	*e*P	Pg	20 00 34.5	-0.3
CACH				*i* S	Sg	20 00 46.7	+0.6
CHCH	**Chadas Angostu**	**1.03**	**346**	*e*P	Pb	20 00 37.6	-0.6
LMEL	**Las Melosas**	**1.09**	**7**	⇓*i*P	Pb	20 00 38.9	-0.4
LMEL				*i* S	Sb	20 00 54.4	+0.7
LMEL				AMP		20 00 57.6	
	comp=N,182nm,0.2s						
LNV	**Longovilo**	**1.31**	**318**	⇑*i*P	Pb	20 00 41.9	-1.0
LNV				*i* S	Sb	20 01 00.6	+0.6
FCH	**Farellones**	**1.60**	**2**	*e*P	Pn	20 00 47.8	+0.3
FCH				*i* S	Sb	20 01 10.5	+1.9
FCH				AMP		20 01 12.5	
	comp=N,87nm,0.2s						
LCCH	**Las Cruces**	**1.77**	**325**	*e*P	Pn	20 00 49.9	0.0
LCCH				*e*S	Sn	20 01 13.8	+0.7

MEX 05 20:07:04.9±0.5**, 15.95N**×**97.62W, h16**^{km}±999^{km}**, MD3.7, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.66**	**312**	*i* P	Pb	20 07 15.8	-1.7
PNIG				*i* S	Sb	20 07 23.9	-2.4
VHO	**Vista Hermosa**	**1.40**	**37**	*i* P	Pn	20 07 26.4	-3.5
VHO				*i* S	Sb	20 07 42.9	-4.9
OXX	**Oaxaca**	**1.42**	**37**	*i* P	Pn	20 07 26.5	-3.7
OXX				*i* S	Sb	20 07 43.5	-4.6
CMIG	**Matias Romero**	**2.86**	**66**	*i* P	Pn	20 07 46.3	-4.4
CMIG				*i* S	Sn	20 08 20.8	-4.3

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*LDG **05** 20:31:47.7±0.1, 39.66N×74.25E, h10^{km}, Mb4.4/13, Ms3.2/1, Error ellipse: s-maj=8.6km s-min=4.4km az=31.0*
*MOS **05** 20:31:51.8±1.2, 39.75N×74.13E, h33^{km}, mb4.1/10, Error ellipse: s-maj=20.3km s-min=10.9km az=93.2*
*BJI **05** 20:31:51.1, 40.14N×74.00E, h31^{km}, mB4.7, mb4.6, ML4.5, Ms4.4, Msz4.3*
*IDC **05** 20:31:53.8±6.7, 39.83N×74.16E, h31^{km}±48^{km}, mb3.8/12, mb1 4.0/15, mb1mx4.0/22, ML3.7/3, MS3.1/3, Ms1 3.2/3, ms1mx2.7/23, Error ellipse: s-maj=30.9km s-min=13.7km az=23.0*
*NNC **05** 20:31:54.8±4.6, 40.22N×74.40E, mpv4.6, Error ellipse: s-maj=52.3km s-min=35.3km az=61.0*
*NEIC **05** 20:31:54.4±1.7, 39.84N×74.25E, h35^{km}±15^{km}, mb4.5/13, Error ellipse: s-maj=13.9km s-min=5.8km az=202.0*
ISC 05 20:31:55.4±0.5**, 39.96N**±0.03×**74.28E**±0.06**, h60**^{km}±5^{km}**, n101,** σ**0^{s}94**/105**, mb4.1**/24**, 10C-3D, Southern Xinjiang**

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

Code	Station	Δ°	AZ°	Op	ISC	Time	Res
KSH	**Kashi**	**1.38**	**108**	PG	**P**	**20 32 19.9**	**+0.8**
KSH				SG	**S**	**20 32 39.9**	**+3.4**
KSH				Smax			
	comp=N,4μm,0.3s						
KSH				Smax			
	comp=E,4μm,0.7s						
AML	**Almayashu**	**2.21**	**349**	P	**P**	**20 32 29.8**	**-0.8**
	SNR=1452						
KZA	**Kyzart**	**2.24**	**19**	P	**P**	**20 32 31.0**	**0.0**
	SNR=118						
UCH	**Uchtor**	**2.27**	**4**	P	**P**	**20 32 31.1**	**-0.3**
	SNR=6254						
AAK	**Ala-Archa**	**2.67**	**3**	⇑Pn	**P**	**20 32 37.3**	**+0.2**
	comp=E,1μm,0.5s						
AAK				⇓Lg		20 33 11.3	
	comp=E,823nm,0.5s						
AAK	**Ala-Archa**	**2.67**	**3**	P	**P**	**20 32 37.2**	**0.0**
	SNR=3166						
AAK	**Ala-Archa**	**2.67**	**3**	*e*Pn	**P**	**20 32 36.2**	**-1.0**
AAK				*e*S	**S**	**20 33 09.7**	**+1.3**
ULHL	**Ulahol**	**2.72**	**32**	P	**P**	**20 32 37.4**	**-0.4**
	SNR=67						
EKS2	**Erkin-Say**	**2.72**	**352**	P	**P**	**20 32 37.4**	**-0.4**
	SNR=246						
KBK	**Karagaybulak**	**2.74**	**10**	P	**P**	**20 32 38.2**	**+0.1**
	SNR=1044						
CHMS	**Chumysh**	**3.06**	**7**	P	**P**	**20 32 42.3**	**-0.2**
	SNR=50						
TKM2	**Tokmak 2**	**3.12**	**18**	P	**P**	**20 32 43.3**	**-0.1**
	SNR=206						
USP	**Ospenovka**	**3.31**	**3**	P	**P**	**20 32 45.3**	**-0.8**
	SNR=118						
AAA	**Alma-Ata**	**3.86**	**30**	*e*PN	**P**	**20 32 59.9**	**+6.0**
AAA				*i*		20 33 50.7	
AAA				pmax	pmax		
	comp=Z,509nm,0.2s						
AAA				smax			
	comp=E,1μm,0.3s						
AAA				MLR	MLR		
	comp=Z,600nm,8.0s						
CHCP	**Chirah Chowk**	**6.34**	**188**	P	**P**	**20 33 30.4**	**+1.9**
CEP	**Cherat**	**6.41**	**198**	P	**P**	**20 33 31.6**	**+2.2**
CEP				S	**S**	**20 34 46.0**	**+3.9**
THW	**Thamme Wali**	**7.44**	**197**	P	**P**	**20 33 44.5**	**+0.8**
THN	**Thein Dam**	**7.60**	**171**	*e*P	**P**	**20 33 47.1**	**+1.2**
THN				*e*		20 35 12.2	
SBDP	**Sheikh Budin**	**8.14**	**201**	P	**P**	**20 33 53.3**	**-0.1**
DRP	**Derazinda**	**8.84**	**203**	P	**P**	**20 34 02.7**	**-0.3**
MK31	**Makanchi Array**	**8.98**	**38**	⇑Pn	**P**	**20 34 04.1**	**-0.8**
	comp=Z,3.4nm,0.8s,baz=258,slow=171,SNR=14						
MK31				⇑Lg		20 36 27.8	
	comp=Z,46nm,1.1s,baz=224,slow=30,SNR=4.1						
MKAR	**Makanchi Array**	**8.98**	**38**	Pn	**P**	**20 34 04.5**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=222,slow=13,SNR=11						
MKAR				Lg		20 36 33.9	
	comp=Z,1.8nm,0.3s,baz=220,slow=27,SNR=4.3						
KLP	**Kalpa**	**9.01**	**158**	*e*P	**P**	**20 34 02.6**	**-2.7**
KLP				*e*S	Sx	20 35 34.3	
KLP				*e*		20 35 48.1	
	comp=E,497nm,0.4s						
KLP				*e*		20 35 48.7	
	comp=N,368nm,0.8s						
DDI	**Dehra Dun**	**10.10**	**161**	*e*P	**P**	**20 34 18.0**	**-2.2**
DDI				*e*		20 36 11.0	
JOSI	**Joshimath**	**10.33**	**154**	*e*P	**P**	**20 34 18.8**	**-4.4**
WMQ	**Urumqi**	**10.72**	**65**	*e*P	**P**	**20 34 28.0**	**-0.5**
WMQ				AMB	AMB		
	comp=Z,11nm,1.0s						
WMQ				LR	LR		
	comp=N,588nm,6.0s						
WMQ				LR	LR		
	comp=E,684nm,5.0s						
WMQ				LR	LR		
	comp=Z,661nm,5.0s						
KURK	**Kurchatov**	**11.18**	**14**	⇑Pn	**P**	**20 34 34.0**	**-0.6**
	comp=Z,4.9nm,1.1s,baz=199,slow=8.8,SNR=12						
KURK				⇑Lg		20 37 36.5	
	comp=Z,63nm,0.9s						
KURK	**Kurchatov**	**11.18**	**14**	*i* P	**P**	**20 34 35.4**	**+0.7**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KURK	**Kurchatov**	**11.18**	**14**	*e*P	**P**	**20 34 33.9**	**-0.8**
	comp=Z,10.0nm,1.0s						
NDI	**New Delhi**	**11.51**	**167**	*e*P	**P**	**20 34 40.0**	**+0.8**
NDI				*e*S	Sx	20 36 35.5	
LGTI	**Lohaghat**	**11.57**	**153**	*e*	**P**	**20 34 40.0**	**-0.1**
LGTI				*e*		20 36 45.0	
SONA	**Sohna**	**11.91**	**168**	*e*P	**P**	**20 34 42.0**	**-2.7**
SONA				*e*S	Sx	20 36 44.5	
SONA				*e*		20 36 52.1	
	comp=N,22nm,0.6s						
SONA				*e*		20 36 52.2	
	comp=E,41nm,0.6s						
KHET	**Khetri**	**11.93**	**173**	*e*P	**P**	**20 34 43.3**	**-1.5**
KHET				*e*S	**S**	**20 36 47.4**	**-10**
KHET				*e*		20 36 51.4	
	comp=N,21nm,0.5s						
KHET				*e*		20 36 51.6	
	comp=E,22nm,0.5s						
VOSK	**Vostochnaya**	**12.96**	**351**	⇓Pn	**P**	**20 34 52.4**	**-6.2**
	comp=E,11nm,0.8s						
VOSK				⇑Lg		20 38 39.6	
	comp=E,28nm,1.2s						
VOSK	**Vostochnaya**	**12.96**	**351**	P	**P**	**20 34 51.5**	**-7.1**
VOSK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
BVA0	**Borovoye Array**	**13.34**	**350**	⇓Pn	**P**	**20 34 58.3**	**-5.2**
	comp=Z,3.4nm,0.8s,baz=157,slow=14,SNR=110						
BVA0				⇑Lg		20 38 29.7	
	comp=Z,6.6nm,0.9s						
BVA0	**Borovoye Array**	**13.34**	**350**	*i* P	**P**	**20 34 58.2**	**-5.2**
BVAR	**Borovoye Array**	**13.34**	**350**	Pn	**P**	**20 34 58.7**	**-4.8**
	comp=Z,1.7nm,0.3s,baz=156,slow=14,SNR=52						
BVAR				Lg		20 38 57.6	
	comp=Z,0.9nm,0.3s,baz=163,slow=25,SNR=5.4						
BRVK	**Borovoye**	**13.38**	**350**	*e*P	**P**	**20 34 59.1**	**-4.9**
	comp=Z,4.2nm,0.5s						
BRVK				*e*		20 35 05.6	
ZRNK	**Zerenda**	**13.49**	**346**	⇑Pn	**P**	**20 35 00.6**	**-4.8**
	comp=Z,6.2nm,0.7s						
ZRNK				⇑Lg		20 38 52.8	
	comp=Z,57nm,1.6s						
ZRNK	**Zerenda**	**13.49**	**346**	P	**P**	**20 35 00.0**	**-5.4**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ZAL	**Zalesovo**	**15.69**	**24**	Pn	**P**	**20 35 33.5**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=270,slow=12,SNR=7.3						
ZAL				Lg		20 40 08.7	
	comp=Z,0.3nm,0.3s,baz=245,slow=8.7,SNR=3.1						
ZAL				LR	LR	20 41 06.3	
	comp=Z,33nm,20.1s,baz=347,slow=35						
NVS	**Novosibirsk**	**16.05**	**19**	*e*P	**P**	**20 35 40.3**	**+1.9**
NVS				pmax	pmax		
	comp=N,12nm,1.1s						
NVS				pmax	pmax		
	comp=E,7.0nm,1.1s						
NVS				pmax	pmax		
	comp=Z,10.0nm,1.1s						
LSA	**Lhasa**	**17.20**	**121**	P	**P**	**20 35 54.2**	**+1.2**
SVE	**Sverdlovsk**	**19.09**	**337**⇑	*e*P	**P**	**20 36 21.1**	**+5.5**
ARU	**Arti**	**19.45**	**333**	*e*P	**P**	**20 36 20.3**	**+0.8**
ARU	**Arti**	**19.45**	**333**	*e*P	**P**	**20 36 19.4**	**-0.1**
	comp=Z,5.9nm,0.8s						
GTA	**Gaotai**	**19.64**	**83**	*e*P	**P**	**20 36 21.7**	**-0.1**
GTA				AP		20 36 26.3	
HYB	**Hyderabad**	**22.77**	**169**	*i* P	**P**	**20 36 58.5**	**+5.0**
HYB	**Hyderabad**	**22.77**	**169**	*e*P	**P**	**20 36 58.5**	**+5.0**
KIV	**Kislovodsk**	**23.75**	**290**	*e*P	**P**	**20 37 08.2**	**+5.5**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.0						
KIV				MLR	MLR		
	comp=Z,63nm,18.0s						
KIV	**Kislovodsk**	**23.75**	**290**	*e*P	**P**	**20 37 04.0**	**+1.2**
	comp=Z,18nm,0.9s,mb4.5						
SONM	**Songino Array**	**24.31**	**60**	P	**P**	**20 37 10.0**	**+1.8**
	comp=Z,8.1nm,0.7s,mb4.2,baz=265,slow=9.8,SNR=78						
CMAR	**Chiang Mai Arr**	**30.20**	**128**	P	**P**	**20 38 00.6**	**-1.7**
	comp=Z,0.4nm,0.8s,mb3.2,baz=346,slow=7.4,SNR=3.2						
CMAR				LR	LR	20 52 42.3	
	comp=Z,27nm,18.6s,baz=113,slow=41						
BRTR	**Keskin Array B**	**31.02**	**283**	P	**P**	**20 38 07.0**	**-2.4**
	comp=Z,1.6nm,0.9s,mb3.9,baz=90,slow=9.9,SNR=5.7						
BRTR	**Keskin Array B**	**31.02**	**283**	P	**P**	**20 38 07.0**	**-2.4**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
AKASG	**Malin Array Be**	**32.97**	**304**	P	**P**	**20 38 24.7**	**-1.6**
	comp=Z,0.8nm,0.6s,mb3.8,baz=76,slow=7.5,SNR=4.0						
AKASG	**Malin Array Be**	**32.97**	**304**	P	**P**	**20 38 24.7**	**-1.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**36.18**	**323**	P	**P**	**20 38 53.8**	**+0.2**
	comp=Z,1.7nm,0.4s,mb4.3,baz=114,slow=10,SNR=34						
FINES				LR	LR	20 54 13.6	
	comp=Z,83nm,18.1s,baz=6.8,slow=37						
FINES	**FINESS Array B**	**36.18**	**323**	P	**P**	**20 38 53.8**	**+0.2**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
FINES				MLR	MLR		
	comp=Z,83nm,18.1s						
KAF	**Kangasniemi**	**36.24**	**324**	*e*p	**P**	**20 38 55.4**	**+1.2**
	comp=Z,0.3nm,0.3s,mb3.7						
ARCES	**ARCESS Array B**	**39.01**	**335**	P	**P**	**20 39 17.8**	**+0.5**
	comp=Z,1.6nm,0.5s,mb4.0,baz=106,slow=8.7,SNR=16						
ARCES	**ARCESS Array B**	**39.01**	**335**	P	**P**	**20 39 17.8**	**+0.6**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
GERES	**GERESS Array B**	**43.14**	**303**	P	**P**	**20 39 52.6**	**+1.3**
	comp=Z,1.0nm,0.7s,mb3.7,baz=61,slow=7.5,SNR=8.1						
GERES	**GERESS Array B**	**43.14**	**303**	P	**P**	**20 39 52.6**	**+1.3**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NB2	**NORSAR Subarra**	**43.26**	**321**	P	**P**	**20 39 51.1**	**-1.0**
	comp=Z,1.6nm,0.6s,mb3.9,baz=90,slow=7.9						
NOA	**NORSAR Array B**	**43.26**	**321**	P	**P**	**20 39 52.2**	**+0.1**
	comp=Z,1.8nm,0.5s,mb4.0,baz=91,slow=8.0,SNR=7.4						
NOA	**NORSAR Array B**	**43.26**	**321**	P	**P**	**20 39 52.3**	**+0.2**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
CDF	**Champ du Feu**	**47.38**	**304**	*e*P	**P**	**20 40 25.4**	**+0.3**
	comp=Z,4.9nm,0.7s,mb4.2						
HINF	**Hinteralfeld**	**47.82**	**303**	*e*P	**P**	**20 40 29.0**	**+0.4**
HAU	**Haudompre**	**48.09**	**303**	*e*P	**P**	**20 40 30.8**	**+0.1**
LPG	**La Plagne**	**48.59**	**300**	*e*P	**P**	**20 40 35.6**	**+1.0**
	comp=Z,4.3nm,0.3s,mb4.6						
LPL	**La Plagne**	**48.60**	**300**	*e*P	**P**	**20 40 35.5**	**+0.8**
	comp=Z,7.4nm,0.7s,mb4.5						
CABF	**La Chapelle**	**48.68**	**302**	*e*P	**P**	**20 40 35.7**	**+0.5**
MEZF	**Maizieres J'vi**	**48.77**	**304**	*e*P	**P**	**20 40 36.4**	**+0.5**
MBDF	**Montbardon**	**48.83**	**299**	*e*P	**P**	**20 40 36.6**	**+0.2**
BAIF	**Baives**	**48.85**	**306**	*e*P	**P**	**20 40 37.2**	**+0.7**
LOR	**Lormes**	**49.92**	**303**	*e*P	**P**	**20 40 44.8**	**0.0**
SMF	**Signal de Mont**	**50.13**	**302**	*e*P	**P**	**20 40 46.6**	**+0.1**
VIVF	**Saint-Julien-l**	**50.19**	**300**	*e*P	**P**	**20 40 47.0**	**+0.1**
	comp=Z,5.9nm,0.7s,mb4.5						
SSF	**Saint Saulge**	**50.22**	**303**	*e*P	**P**	**20 40 46.5**	**-0.6**
	comp=Z,4.0nm,0.7s,mb4.2						
LASF	**Ste Croix**	**51.02**	**299**	*e*P	**P**	**20 40 53.1**	**-0.1**
TCF	**Toulx Ste Croi**	**51.32**	**302**	*e*P	**P**	**20 40 54.8**	**-0.6**
LDF	**La Druitiere**	**52.00**	**306**	*e*P	**P**	**20 40 59.8**	**-0.7**
	comp=Z,15nm,0.8s,mb4.7						
RJF	**Les Rejaudoux**	**52.12**	**301**	*e*P	**P**	**20 41 01.5**	**0.0**
	comp=Z,6.6nm,0.7s,mb4.4						
MTLF	**Montolieu**	**52.40**	**299**	*e*P	**P**	**20 41 03.2**	**-0.3**
	comp=Z,17nm,1.1s,mb4.6						
MFF	**Saint Martin d**	**52.73**	**303**	*e*P	**P**	**20 41 05.8**	**-0.2**
LFF	**La Frestale**	**52.77**	**301**	*e*P	**P**	**20 41 06.5**	**+0.2**
SGMF	**Saint Gilles**	**53.64**	**306**	*e*P	**P**	**20 41 12.2**	**-0.5**
	comp=Z,7.2nm,0.6s,mb4.5						
EPF	**Esparros**	**53.78**	**299**	*e*P	**P**	**20 41 13.6**	**-0.2**
ROSF	**Rostrenen**	**54.05**	**306**	*e*P	**P**	**20 41 15.3**	**-0.4**
QUIF	**Quistinic**	**54.15**	**306**	*e*P	**P**	**20 41 15.6**	**-0.8**
ETSF	**Etsaut**	**54.44**	**299**	*e*P	**P**	**20 41 18.5**	**-0.1**
	comp=Z,5.3nm,0.7s,mb4.3						
SJPF	**Ste Jean**	**54.79**	**300**	*e*P	**P**	**20 41 21.5**	**+0.3**
ESDC	**Sonseca Array**	**58.15**	**297**	P	**P**	**20 41 44.7**	**-0.5**
	comp=Z,1.7nm,0.5s,mb4.3,baz=58,slow=7.3,SNR=7.8						
ILAR	**Eielson Array**	**70.73**	**17**	P	**P**	**20 43 05.2**	**-1.1**
	comp=Z,0.5nm,0.9s,mb3.5,baz=331,slow=3.7,SNR=4.9						
ILAR	**Eielson Array**	**70.73**	**17**	P	**P**	**20 43 05.3**	**-1.1**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
WRA	**Warramunga Arr**	**81.72**	**125**	P	**P**	**20 44 09.8**	**+0.7**
	comp=Z,1.5nm,0.7s,mb4.1,baz=324,slow=5.1,SNR=26						
WRA	**Warramunga Arr**	**81.72**	**125**	P	**P**	**20 44 09.8**	**+0.7**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WB2	**Warramunga Arr**	**81.73**	**125**	*e*P	**P**	**20 44 09.6**	**+0.5**
ASAR	**Alice Springs**	**84.20**	**127**	P	**P**	**20 44 21.8**	**+0.1**
	comp=Z,0.9nm,0.6s,mb4.1,baz=315,slow=5.4,SNR=12						

IDC 05 20:47:09.6±17.0**,22.37S**×**175.09W,mb4.1**/5**,mb1 4.2**/5**, mb1mx4.0**/15**,Error ellipse: s-maj=326.0km s-min=142.8km az=81.0,Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.04**	**266**	P	P	20 54 14.2	-0.5
	6.8nm,0.7s,baz=91,slow=11,SNR=12						
STKA	**Stephens Creek**	**39.48**	**247**	P	P	20 54 40.2	-3.2
	0.7nm,0.6s,baz=100,slow=11,SNR=3.9						
ASAR	**Alice Springs**	**46.76**	**258**	P	P	20 55 40.0	-2.6
	0.8nm,0.8s,baz=97,slow=8.4,SNR=6.7						
WB2	**Warramunga Arr**	**47.04**	**263**	*e*P	P	20 55 42.4	-2.5
WRA	**Warramunga Arr**	**47.05**	**263**	P	P	20 55 42.7	-2.3
	1.1nm,0.3s,baz=98,slow=8.3,SNR=58						
FITZ	**Fitzroy Crossi**	**55.48**	**263**	P	P	20 56 47.5	-1.3
	2.5nm,0.8s,baz=120,slow=8.1,SNR=6.2						

IDC ***05*** *20:48:54.2±0.5, 13.06N×88.15W, h58km±3km, mb4.4/19, mb1 4.6/20, mb1mx4.6/23, MS3.8/9, Ms1 3.8/9, ms1mx3.7/15, Error ellipse: s-maj=19.8km s-min=10.8km az=61.0*

CASC ***05*** *20:48:54.8±3.0, 12.83N×88.60W, h44km±46km, MD4.5, ML5.1, mb4.7(NEIC)*

BJI ***05*** *20:48:54.9, 12.80N×88.60W, h50km, Ms5.3, Msz4.6*

NEIC ***05*** *20:48:54.3, 12.81N×88.64W, h50km, mb4.7/42, MD5.3(SNET), After SNET.*

NEIC Felt [IV] at San Salvador. Also felt at Olocuilta.

ISC 05 20:48:52.5±0.3**,12.73N**±0.04×**88.65W**±0.03**,h59**km**, h59**km±.6km**:pP-P,n227,**σ**1ˢ25**/196**,mb4.7**/50**,MS4.1**/11**, 7C-24D,Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSM	**San Miguel**	**0.78**	**28**⇓	*i*P	**P**	**20 49 08.7**	**+0.9**
BLLM	**Bellamira**	**0.81**	**30**⇓	*i*P	**P**	**20 49 08.8**	**+0.6**
SNVI	**San Vicente**	**0.89**	**348**⇓	*i*P	**P**	**20 49 10.2**	**+0.9**
CNCH	**Conchagua**	**0.96**	**56**⇓	*e*P	**P**	**20 49 10.2**	**0.0**
CNCH	**Conchagua**	**0.96**	**56**⇓	*e*P	**P**	**20 49 10.2**	**-0.1**
CNCH				*e*S	**S**	**20 49 26.4**	**+3.0**
LCBS	**La Ceiba**	**0.97**	**341**⇓	*i*P	**P**	**20 49 11.1**	**+0.8**
LFRS	**El Faro**	**0.97**	**336**⇓	*i*P	**P**	**20 49 11.1**	**+0.8**
LBRS	**Las Brisas**	**1.07**	**339**⇓	*i*P	**P**	**20 49 12.8**	**+1.1**
SNET	**Serv Nac Est T**	**1.10**	**329**	*e*P	**P**	**20 49 13.1**	**+0.9**
SNET				*e*S	**S**	**20 49 27.1**	**+0.3**
SNET	**Serv Nac Est T**	**1.10**	**329**⇑	*e*P	**P**	**20 49 12.8**	**+0.6**
LFU	**La Fuente**	**1.11**	**336**⇓	*e*P	**P**	**20 49 13.2**	**+1.0**
LFU				⇑*e*S	**S**	**20 49 27.5**	**+0.7**
CAHU	**Cacacuatique**	**1.12**	**23**⇓	*i*P	**P**	**20 49 13.2**	**+0.9**
CAHU				*e*S	**S**	**20 49 28.3**	**+1.3**
BOQS	**Boqueron**	**1.17**	**329**	*e*P	**P**	**20 49 14.3**	**+1.3**
BOQS	**Boqueron**	**1.17**	**329**⇓	*e*P	**P**	**20 49 14.3**	**+1.3**
SBLS	**San Blas**	**1.45**	**319**	*e*P	**P**	**20 49 18.4**	**+1.3**
SBLS	**San Blas**	**1.45**	**319**⇓	*e*P	**P**	**20 49 18.2**	**+1.2**
SNJE	**San Jose**	**1.46**	**321**	*e*P	**P**	**20 49 18.2**	**+1.1**
RTR	**El Retiro**	**1.51**	**320**⇓	*e*P	**P**	**20 49 19.2**	**+1.4**
CRIN	**San Cristobal**	**1.56**	**91**	*e*P	**P**	**20 49 20.1**	**+1.5**
CRIN				*e*S	**S**	**20 49 36.2**	**-1.6**
CHIN	**Chinandega**	**1.59**	**93**	*e*P	Px	20 49 08.6	
CHIN				*e*S	Sx	20 49 19.9	
CHIN				*e*		20 49 22.0	
	comp=Z,111μm,0.6s						
PYN	**Poneloya**	**1.63**	**102**	*e*P	**P**	**20 49 19.7**	**+0.2**
RBDL	**Robledal**	**1.70**	**324**⇓	*e*P	**P**	**20 49 21.4**	**+0.9**
CUSS	**Cusmapa**	**1.72**	**313**⇓	*e*P	**P**	**20 49 21.8**	**+1.1**
LEON	**Leon**	**1.75**	**100**⇓	*e*P	**P**	**20 49 21.4**	**+0.3**
TEL3	**Telica 3**	**1.77**	**95**⇓	*e*P	**P**	**20 49 22.3**	**+0.9**
TELN	**Telica**	**1.78**	**94**⇓	*e*P	**P**	**20 49 22.4**	**+0.9**
MTO2	**Montecristo 2**	**1.80**	**337**⇓	*i*P	**P**	**20 49 23.0**	**+1.2**
MIRN	**Miramar**	**1.92**	**98**⇑	*e*P	**P**	**20 49 23.9**	**+0.5**
CNGN	**Cerro Negro**	**1.92**	**97**⇓	*e*P	**P**	**20 49 24.3**	**+0.8**
COPN	**Copaltepe**	**2.09**	**105**⇑	*e*P	**P**	**20 49 26.3**	**+0.5**
COPN				*e*S	**S**	**20 49 48.4**	**-2.1**
MOMJ	**Momotombo**	**2.09**	**99**⇓	*e*P	**P**	**20 49 26.6**	**+0.7**
APYN	**Apoyeque**	**2.30**	**102**⇓	*e*P	**P**	**20 49 29.6**	**+0.7**
XAVN	**Gruta Xavier**	**2.34**	**104**	*e*P	**P**	**20 49 30.2**	**+0.7**
MGAN	**Managua**	**2.42**	**104**	*e*P	**P**	**20 49 31.0**	**+0.5**
MGAN				*e*S	**S**	**20 49 58.3**	**-0.7**
MGAN				*i*		20 50 14.4	
	comp=E,1μm,0.6s						
TICN	**Ticuantepe**	**2.46**	**106**	*e*P	**P**	**20 49 32.1**	**+0.9**
WILN	**Americas 2**	**2.47**	**103**⇑	*e*P	**P**	**20 49 31.5**	**+0.2**
WILN				*e*S	**S**	**20 49 59.9**	**-0.5**
PYTN	**Playitas**	**2.54**	**94**⇓	*e*P	**P**	**20 49 32.5**	**+0.3**
PYTN				*e*S	**S**	**20 49 57.6**	**-4.5**
MASN	**Masaya**	**2.55**	**107**	*e*P	**P**	**20 49 33.7**	**+1.2**
MASN				*e*S	**S**	**20 50 02.8**	**+0.4**
APON	**Apoyo**	**2.65**	**108**	*e*P	**P**	**20 49 35.7**	**+1.8**
CRZC	**La Cruz**	**3.47**	**120**	*e*P	**P**	**20 49 47.6**	**+2.2**
VCR	**Vista de Mar**	**3.93**	**131**	*e*P	**P**	**20 49 54.9**	**+3.0**
JTS	**JuntasAbangare**	**4.36**	**123**	Pn	**P**	**20 50 05.9**	**+8.0**
	comp=E,4μm,0.4s,SNR=15						
CGA2	**Cerro Gallo 2**	**4.91**	**123**	*e*P	**P**	**20 50 09.5**	**+3.9**
VPS2	**Volcan Poas 2**	**5.01**	**120**	*e*P	**P**	**20 50 11.8**	**+4.8**
PRS1	**Puriscal**	**5.06**	**122**	*e*P	**P**	**20 50 11.3**	**+3.7**
LAJ	**Bijagual**	**5.28**	**122**	*e*P	**P**	**20 50 09.8**	**-0.9**
TRTC	**Tortuguero**	**5.29**	**113**	*e*P	**P**	**20 50 11.8**	**+0.9**
SJS	**Escuela Geolog**	**5.29**	**121**	*e*P	**P**	**20 50 16.3**	**+5.4**
LCR2	**La Lucha 2**	**5.44**	**123**	*e*P	**P**	**20 50 15.8**	**+2.9**
ICR	**Volcan Irazu**	**5.46**	**120**	*e*P	**P**	**20 50 16.4**	**+3.2**
URSC	**Urasca**	**5.58**	**121**⇑	*e*P	**P**	**20 50 17.6**	**+2.8**
BUS	**Buena Vista**	**5.75**	**123**⇓	*e*P	**P**	**20 50 20.8**	**+3.7**
ACR	**Cerro Adams**	**6.74**	**126**	*e*P	**P**	**20 50 34.1**	**+3.0**
TEIG	**Tepich**	**7.46**	**3**	P	**P**	**20 50 42.1**	**+1.0**
	comp=E,0.0nm,0.3s,baz=175,slow=24,SNR=33						
OTAV	**Otavalo**	**16.01**	**140**	P	**P**	**20 52 32.9**	**-2.6**
	comp=E,3.6nm,0.6s						
ROSC	**El Rosal**	**16.16**	**118**	P	**P**	**20 52 40.8**	**+3.4**
	comp=E,2.5nm,0.3s,baz=356,slow=23,SNR=7.0						
DWPF	**Disney**	**16.72**	**23**	P	**P**	**20 52 43.2**	**-1.1**
	comp=E,69nm,0.8s						
SDV	**Santo Domingo**	**18.11**	**100**	*e*P	**P**	**20 52 59.2**	**-2.5**
	comp=E,44nm,0.8s						
HKT	**Hockley**	**18.38**	**340**	*e*P	**P**	**20 53 06.3**	**+1.4**
	comp=E,51nm,1.6s						
NATX	**Nacogdoches**	**19.73**	**345**	*e*P	**P**	**20 53 19.8**	**-0.3**
	comp=E,158nm,1.1s						
LRAL	**Lakeview Retre**	**20.27**	**4**	*e*P	**P**	**20 53 26.1**	**+0.4**
	comp=E,7.3nm,0.7s						
JCT	**Junction City**	**20.45**	**331**	*e*P	**P**	**20 53 26.8**	**-0.9**
	comp=E,46nm,0.6s						
TXAR	**Lajitas Array**	**21.62**	**322**	P	**P**	**20 53 41.0**	**+1.5**
	comp=E,22nm,0.6s,mb4.8,baz=143,slow=10,SNR=64						
TXAR				pP		20 53 53.7	
	comp=E,6.1nm,0.6s,baz=149,slow=7.3,SNR=4.7						
TXAR				PcP	PcP	20 57 40.8	+0.7
	comp=E,3.2nm,0.8s,baz=162,slow=4.0,SNR=6.1						
TXAR				pPcP		20 57 55.0	
	comp=E,5.3nm,1.0s,baz=149,slow=7.3,SNR=4.0						
TXAR				LR	LR	21 04 16.4	
	comp=E,42nm,19.1s,baz=40,slow=42						
TXAR	**Lajitas Array**	**21.62**	**322**	P	**P**	**20 53 41.0**	**+1.5**
TXAR				pP		20 53 53.7	
TXAR				PcP	PcP	20 57 40.8	+0.7
TXAR				pPcP		20 57 55.0	
LTX	**Lajitas**	**21.62**	**322**	*e*P	**P**	**20 53 40.9**	**+1.5**
	comp=E,30nm,0.6s,mb4.9						
OXF	**Oxford**	**21.69**	**358**	P	**P**	**20 53 41.4**	**+1.3**
NHSC	**New Hope**	**21.71**	**20**	P	**P**	**20 53 40.9**	**+0.6**
UALR	**University of**	**22.20**	**352**	*e*P	**P**	**20 53 46.1**	**+1.0**
	comp=E,39nm,0.7s,mb5.0						
SJG	**San Juan**	**22.33**	**73**	P	**P**	**20 53 45.3**	**-1.3**
	comp=E,19nm,0.6s,mb4.7,baz=282,slow=14,SNR=6.2						
SJG	**San Juan**	**22.33**	**73**	*e*P	**P**	**20 53 44.8**	**-1.7**
	comp=E,19nm,0.8s,mb4.6						
SWET	**Sewanee**	**22.52**	**6**	*e*P	**P**	**20 53 47.8**	**-0.6**
HUMP	**Col San Antoni**	**22.62**	**73**	*e*P	**P**	**20 53 48.0**	**-1.5**
CBYP	**Canovanas**	**22.64**	**73**	P	**P**	**20 53 48.1**	**-1.5**
CPCT	**Cooper Cave**	**22.93**	**9**	P	**P**	**20 53 52.5**	**+0.3**
GNAR	**Gosnell**	**23.16**	**357**	P	**P**	**20 53 56.3**	**+1.7**
WVT	**Waverly**	**23.31**	**2**	*e*P	**P**	**20 53 55.9**	**-0.1**
	comp=E,9.8nm,0.7s,mb4.3						
GLAT	**Glass**	**23.44**	**359**	P	**P**	**20 53 59.3**	**+2.0**
WMOK	**Wichita Mounta**	**23.76**	**339**	*e*P	**P**	**20 54 00.5**	**+0.2**
	comp=E,12nm,0.5s,mb4.6						
CLNB	**Carlsbad**	**23.94**	**327**	*e*P	**P**	**20 54 03.1**	**+1.0**
GDL2	**Guadalupe Moun**	**24.16**	**326**	*e*P	**P**	**20 54 03.8**	**-0.4**
CCM	**Cathedral Cave**	**25.32**	**355**	*e*P	**P**	**20 54 14.0**	**-1.5**
	comp=E,34nm,0.8s,mb4.9						
BLA	**Blacksburg**	**25.47**	**15**	*e*P	**P**	**20 54 15.8**	**-0.9**
BLA				*e*pP	pP	20 54 30.8	-0.2
WCI	**Wyandotte Cave**	**25.48**	**4**	*e*P	**P**	**20 54 14.6**	**-2.2**
	comp=E,16nm,0.6s,mb4.7						
FWV	**Forest Hill**	**25.72**	**14**	*e*P	**P**	**20 54 18.0**	**-1.1**
SLM	**Saint Louis**	**25.84**	**357**	P	**P**	**20 54 22.4**	**+2.2**
BNM	**Barren Site**	**26.87**	**326**	*e*P	**P**	**20 54 30.3**	**+0.5**
LENM	**Lemitar**	**27.07**	**325**	*e*P	**P**	**20 54 32.8**	**+1.2**
KSU1	**Kansas State U**	**27.19**	**346**	*e*P	**P**	**20 54 31.6**	**-1.1**
LAZ	**Ladron**	**27.34**	**325**	*e*P	**P**	**20 54 34.6**	**+0.6**
ANMO	**Albuquerque**	**27.38**	**327**	*e*P	**P**	**20 54 35.2**	**+0.8**
	comp=E,6.3nm,0.7s,mb4.2						
CBKS	**Cedar Bluff**	**27.78**	**341**	*e*P	**P**	**20 54 37.3**	**-0.8**
	comp=E,26nm,0.9s,mb4.8						
ACSO	**Alum Creek Sta**	**27.84**	**9**	*e*P	**P**	**20 54 36.2**	**-2.4**
	comp=E,18nm,0.6s,mb4.9						
TUC	**Tucson**	**28.14**	**317**	*e*P	**P**	**20 54 41.4**	**+0.1**
	comp=E,4.0nm,0.9s,mb4.0						
SDCO	**Great Sand Dun**	**29.10**	**332**	*e*P	**P**	**20 54 50.0**	**+0.1**
	comp=E,13nm,0.8s,mb4.7						
SDCO				*e*PcP	PcP	20 57 56.6	-0.1
SSPA	**Standing Stone**	**29.36**	**17**	P	**P**	**20 54 49.2**	**-2.9**
LUPA	**Lehigh Univers**	**30.11**	**20**	*e*P	**P**	**20 54 57.4**	**-1.4**
ISCO	**Idaho Springs**	**30.84**	**334**	*e*P	**P**	**20 55 05.1**	**-0.1**
	comp=E,15nm,0.8s,mb4.9						
ISCO				*e*PcP	PcP	20 58 00.8	-0.3
PV01	**Paradox Valley**	**30.90**	**328**	*e*P	**P**	**20 55 06.5**	**+0.7**
PV10	**Paradox Valley**	**31.32**	**328**	*e*P	**P**	**20 55 08.9**	**-0.6**
PV10				*e*PcP	PcP	20 58 02.4	-0.1
SRU	**San Rafael**	**32.64**	**327**	*e*P	**P**	**20 55 20.8**	**-0.2**
NEN	**Nelson**	**32.84**	**318**	*e*P	**P**	**20 55 23.3**	**+0.5**
SADO	**Sadowa**	**32.95**	**12**	P	**P**	**20 55 20.7**	**-2.9**
	comp=E,15nm,0.7s,mb5.1,baz=214,slow=9.9,SNR=12						
SADO				pP	pP	20 55 35.2	-3.2
	comp=E,12nm,0.8s,baz=233,slow=10,SNR=3.3						
SADO	**Sadowa**	**32.95**	**12**	P	**P**	**20 55 20.7**	**-2.9**
SADO				pP	pP	20 55 35.2	-3.2
MSU	**Marysvale**	**33.11**	**325**	*e*P	**P**	**20 55 25.4**	**+0.4**
TMUT	**Trail Mountain**	**33.14**	**327**	*e*P	**P**	**20 55 25.4**	**+0.1**
SAML	**Samuel**	**33.23**	**129**	*e*P	**P**	**20 55 24.9**	**-1.5**
	comp=E,28nm,0.8s,mb5.2						
ARUT	**Antelope Range**	**33.34**	**323**	*e*P	**P**	**20 55 28.0**	**+1.0**
MPU	**Maple Canyon**	**33.89**	**327**	*e*P	**P**	**20 55 32.0**	**+0.3**
RSSD	**Black Hills**	**33.95**	**340**	*e*P	**P**	**20 55 32.2**	**-0.1**
	comp=E,9.3nm,0.4s,mb5.1						
DAU	**Daniels Canyon**	**33.98**	**328**	*e*P	**P**	**20 55 32.5**	**-0.1**
DAU				*e*pP	pP	20 55 47.9	+0.4
CTU	**Camp Tracy**	**34.44**	**328**	*e*P	**P**	**20 55 36.7**	**+0.2**
TPNV	**Topopah Spring**	**34.53**	**319**	*e*P	**P**	**20 55 37.7**	**+0.4**
	comp=E,5.0nm,0.8s,mb4.5						
TPNV				*e*PcP	PcP	20 58 11.7	+0.3
TCUT	**Toone Canyon**	**34.59**	**329**	*e*P	**P**	**20 55 36.5**	**-1.2**
TCUT				*e*PcP	PcP	20 58 10.0	-1.5
DUG	**Dugway**	**34.64**	**327**	*e*P	**P**	**20 55 38.4**	**+0.1**
	comp=E,3.0nm,0.8s,mb4.3						
BW06	**Boulder Array**	**34.98**	**333**	*e*P	**P**	**20 55 40.5**	**-0.6**
	comp=E,9.5nm,0.8s,mb4.8						
PDAR	**Pinedale Array**	**34.98**	**333**	P	**P**	**20 55 40.9**	**-0.2**
	comp=E,8.7nm,0.6s,mb4.9,baz=127,slow=9.9,SNR=58						
PDAR				sP	sP	20 56 02.5	-0.8
	comp=E,5.4nm,0.8s,baz=128,slow=17,SNR=5.4						
PDAR				PcP	PcP	20 58 11.6	-1.0
	comp=E,2.8nm,0.6s,baz=133,slow=4.0,SNR=9.3						
PDAR				pPcP		20 58 27.5	
	comp=E,1.2nm,0.5s,baz=118,slow=3.6,SNR=4.2						
PDAR				ScP		21 01 53.7	
	comp=E,0.9nm,0.8s,baz=135,slow=4.2,SNR=5.2						
HWUT	**Hardware Ranch**	**35.03**	**329**	*e*P	**P**	**20 55 41.1**	**-0.5**
	comp=E,12nm,0.6s,mb5.0						
HWUT				*e*PcP	PcP	20 58 11.8	-1.0
SPUT	**South Promonto**	**35.26**	**328**	*e*P	**P**	**20 55 43.5**	**+0.1**
LPAZ	**La Paz**	**35.26**	**144**	P	**P**	**20 55 45.5**	**+1.8**
	comp=E,4.4nm,0.7s,mb4.5,baz=323,slow=8.7,SNR=19						
LPAZ				LR	LR	21 11 17.8	
	comp=E,106nm,21.8s,MS3.6,baz=104,slow=38						
LPAZ	**La Paz**	**35.26**	**144**	*e*P	**P**	**20 55 44.9**	**+1.2**
	comp=E,2.9nm,0.6s,mb4.4						
HVU	**Hansel Valley**	**35.77**	**328**	*e*P	**P**	**20 55 47.7**	**-0.1**
REDW	**Red Top Meadow**	**36.03**	**332**	*e*P	**P**	**20 55 50.0**	**-0.1**
REDW				*e*pP	pP	20 56 04.6	-0.4
SNOW	**Snow King Moun**	**36.06**	**332**	*e*P	**P**	**20 55 50.9**	**+0.5**
WUWY	**Wally Ulrich**	**36.12**	**332**	*e*P	**P**	**20 55 50.9**	**+0.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TPAW	Teton Pass	36.18	332	eP	P	20 55 51.4	+0.1
RRI2	Red Ridge	36.23	332	eP	P	20 55 51.6	-0.1
MOOW	Moose Ponds	36.28	333	eP	P	20 55 51.9	-0.3
ELK	Elko	36.36	325	eP	P	20 55 53.1	+0.4
	comp=E,6.7nm,0.7s,mb4.7						
MNV	Mina	36.63	320	eP	P	20 55 56.1	+1.0
	comp=E,5.5nm,0.7s,mb4.5						
NVAR	Mina Array Bea	36.72	319	P	P	20 55 57.7	+1.8
	comp=E,7.1nm,0.7s,mb4.6,baz=119,slow=8.8,SNR=48						
NVAR				PcP	PcP	20 58 19.0	+1.2
	comp=E,16nm,0.9s,baz=119,slow=5.0,SNR=30						
NVAR				pPcP		20 58 33.9	
	comp=E,6.0nm,0.6s,baz=117,slow=4.8,SNR=11						
NVAR				ScP		21 02 00.2	
	comp=E,1.3nm,0.6s,baz=115,slow=5.3,SNR=7.3						
NVAR				LR	LR	21 13 00.1	
	comp=E,180nm,20.4s,MS3.8,baz=155,slow=39						
NVAR	Mina Array Bea	36.72	319	P	P	20 55 57.7	+1.8
NVAR				PcP	PcP	20 58 19.0	+1.2
NVAR				pPcP		20 58 33.9	
NVAR				ScP		21 02 00.2	
YFT	Old Faithful	36.88	333	eP	P	20 55 58.1	+1.0
YNR	Norris Junctio	37.02	334	eP	P	20 55 58.6	+0.4
YMR	Madison River	37.11	333	eP	P	20 55 59.6	+0.6
BMN	Battle Mountai	37.29	323	eP	P	20 56 01.3	+0.7
	comp=E,9.8nm,0.7s,mb4.8						
QLMT	Earthquake Lak	37.44	333	eP	P	20 56 03.0	+1.2
GCMT	Greycliff	37.46	336	eP	P	20 56 01.5	-0.5
CMB	Columbia Colle	37.85	317	eP	P	20 56 05.9	+0.6
ULM	Lac du Bonnet	37.88	352	P	P	20 56 03.0	-2.3
	comp=E,20nm,0.5s,mb5.1,baz=169,slow=9.0,SNR=18						
ULM				pP	pP	20 56 18.4	-2.0
	comp=E,8.6nm,0.6s,baz=168,slow=11,SNR=3.8						
ULM				sP	sP	20 56 25.1	-2.5
	comp=E,8.6nm,0.7s,baz=164,slow=5.4,SNR=2.4						
ULM				LR	LR	21 12 56.7	
	comp=E,202nm,22.0s,MS3.9,baz=188,slow=38						
ULM	Lac du Bonnet	37.88	352	eP	P	20 56 02.6	-2.8
	comp=E,27nm,0.6s,mb5.2						
HLID	Hailey	37.89	329	eP	P	20 56 05.3	-0.2
	comp=E,5.4nm,0.7s,mb4.4						
DGMT	Dagmar	37.90	343	eP	P	20 56 05.1	-0.5
	comp=E,102nm,0.6s						
BOZ	Bozeman (W)	38.17	334	eP	P	20 56 07.8	0.0
	comp=E,25nm,0.7s,mb5.0						
BEKR	Beckwourth	38.86	320	eP	P	20 56 14.7	+1.0
	comp=E,2.7nm,0.7s,mb4.1						
HRY	Holter Researc	39.09	335	eP	P	20 56 15.4	-0.1
CHMT	Chamberlain Mo	39.86	334	eP	P	20 56 21.5	-0.4
MSO	Missoula	40.10	333	eP	P	20 56 23.3	-0.6
	comp=E,9.3nm,0.8s,mb4.6						
YBH	Yreka Blue Hor	41.39	321	P	P	20 56 33.1	-1.4
	comp=E,2.1nm,0.6s,mb3.9,baz=77,slow=5.2,SNR=8.3						
YBH				PcP	PcP	20 58 32.3	-0.2
	comp=E,3.5nm,0.7s,baz=88,slow=5.6,SNR=8.1						
LNOR	Lincton Mounta	41.48	329	eP	P	20 56 36.0	+0.8
KHMM	Horse Mountain	41.56	319	eP	P	20 56 35.8	-0.2
WALA	Waterton Lakes	41.81	335	eP	P	20 56 37.8	-0.1
	comp=E,18nm,0.8s,mb4.8						
VGB	Gordon Butte	42.55	326	eP	P	20 56 44.2	+0.2
KBO	Bosley Butte	42.59	320	eP	P	20 56 44.8	+0.3
NEW	Newport	42.60	332	eP	P	20 56 43.3	-1.1
	comp=E,3.9nm,0.6s,mb4.3						
FFC	Flin Flon	43.19	349	eP	P	20 56 47.6	-1.5
	comp=E,16nm,0.4s,mb5.1						
NLW	Nelson Butte	44.01	330	eP	P	20 56 55.2	-0.7
RPW	Rockport	44.84	329	eP	P	20 57 01.4	-1.2
EDM	Edmonton	44.93	339	eP	P	20 57 01.8	-1.4
SCHQ	Schefferville	45.36	18	P	P	20 57 03.8	-2.8
	comp=E,21nm,0.6s,mb5.1,baz=224,slow=7.0,SNR=24						
SCHQ				pP	pP	20 57 18.8	-3.1
	comp=E,18nm,1.0s,baz=210,slow=4.9,SNR=4.8						
SCHQ				LR	LR	21 16 48.3	
	comp=E,268nm,19.1s,MS4.2,baz=175,slow=37						
FCC	Fort Churchill	46.12	356	eP	P	20 57 10.4	-2.2
BDFB	Brasilia	49.10	124	P	P	20 57 35.2	-1.2
	comp=E,18nm,0.9s,mb5.1,baz=301,slow=8.7,SNR=17						
BDFB				PcP	PcP	20 58 59.8	+0.2
	comp=E,8.4nm,1.0s,baz=261,slow=3.5,SNR=4.3						
BDFB				LR	LR	21 20 08.8	
	comp=E,80nm,19.9s,MS3.7,baz=155,slow=38						
BAO	Brasilia Array	49.12	124	P	P	20 57 35.5	-1.0
CPUP	Villa Florida	49.35	142	P	P	20 57 37.3	-0.9
	comp=E,17nm,1.2s,mb4.9,baz=354,slow=8.7,SNR=11						
CPUP	Villa Florida	49.35	142	eP	P	20 57 37.1	-1.1
YKA	Yellowknife Ar	53.04	345	P	P	20 58 03.5	-2.1
	comp=E,23nm,0.7s,mb5.2,baz=140,slow=7.7,SNR=34						
YKA				pP	pP	20 58 18.9	-2.3
	comp=E,8.6nm,0.8s,baz=130,slow=8.9,SNR=5.5						
YKA				PcP	PcP	20 59 11.2	-2.2
	comp=E,3.3nm,0.6s,baz=144,slow=3.8,SNR=4.3						
YKA				LR	LR	21 23 53.4	
	comp=E,60nm,18.1s,MS3.7,baz=180,slow=40						
YKA	Yellowknife Ar	53.04	345	P	P	20 58 03.5	-2.1
YKA				pP	pP	20 58 18.9	-2.3
YKA				PcP	PcP	20 59 11.2	-2.2
YKW3	Yellowknife Ar	53.10	345	eP	P	20 58 03.5	-2.6
YKW3				epP	pP	20 58 18.8	-2.8
DLBC	Dease Lake	55.15	335	eP	P	20 58 20.4	-0.7
TRQA	Tornquist	56.37	155	eP	P	20 58 27.6	-2.5
INK	Inuvik	62.59	343	P	P	20 59 10.7	-1.9
	comp=E,25nm,0.8s,mb5.4,baz=131,slow=7.5,SNR=39						
INK				pP	pP	20 59 26.1	-2.4
	comp=E,15nm,0.9s,baz=123,slow=4.0,SNR=5.8						
INK	Inuvik	62.59	343	eP	P	20 59 10.2	-2.4
	comp=E,27nm,0.8s,mb5.4						
THY	Trims Highway	64.28	335	eP	P	20 59 22.3	-1.3
PMR	Palmer	65.02	333	eP	P	20 59 25.8	-2.7
	comp=E,5.7nm,0.6s,mb4.8						
ILAR	Eielson Array	65.29	336	P	P	20 59 28.1	-2.1
	comp=E,12nm,0.8s,mb5.0,baz=170,slow=5.0,SNR=86						
MCK	McKinley	65.71	335	eP	P	20 59 30.8	-2.1
	comp=E,7.7nm,0.9s,mb4.7						
SPU	Mount Spurr	66.22	332	eP	P	20 59 34.2	-1.9
RSO	Redoubt South	66.34	331	eP	P	20 59 35.1	-1.8
SUMG	Summit	66.61	15	P	P	20 59 35.5	-2.9
	comp=E,10nm,0.9s,mb4.9						
IMA	Indian Mountai	68.41	337	eP	P	20 59 47.5	-2.3
ESDC	Sonseca Array	77.94	52	P	P	21 00 42.4	-3.7
	comp=E,1.0nm,0.6s,mb3.9,baz=290,slow=6.2,SNR=5.3						
ESDC				pP	pP	21 00 59.5	-3.1
	comp=E,1.1nm,0.7s,baz=283,slow=6.2,SNR=3.1						
DBIC	Dimbokro	82.53	85	P	P	21 01 07.8	-3.3
	comp=E,16nm,1.3s,mb4.9,baz=68,slow=8.1,SNR=2.4						
NOA	NORSAR Array B	83.69	29	P	P	21 01 13.3	-2.6
	comp=E,0.7nm,0.7s,mb3.9,baz=287,slow=4.9,SNR=2.7						
NOA				pP	pP	21 01 30.3	-2.3
	comp=E,1.5nm,1.0s,baz=321,slow=9.1,SNR=2.3						
NOA				LR	LR	21 37 42.2	
	comp=E,43nm,19.1s,MS3.9,baz=270,slow=35						
NOA	NORSAR Array B	83.69	29	P	P	21 01 13.3	-2.7
NOA				pP	pP	21 01 30.3	-2.3
ARCES	ARCESS Array B	86.30	19	P	P	21 01 26.7	-2.0
	comp=E,6.6nm,1.2s,mb4.7,baz=283,slow=5.3,SNR=9.0						
ARCES				LR	LR	21 38 42.6	
	comp=E,79nm,18.4s,MS4.2,baz=120,slow=35						
ARCES	ARCESS Array B	86.30	19	P	P	21 01 26.7	-2.0
CLL	Collm	87.32	38	e*PP	pP	21 01 50.0	-0.9
BRG	Berggiesshubel	88.02	38	P	pP	21 01 51.6	-2.7
KHC	Kasperske Hory	88.32	40	eP	pP	21 01 53.0	-2.8
GERES	GERESS Array B	88.48	40	P	P	21 01 37.1	-2.6
	comp=E,0.6nm,0.9s,mb3.8,baz=315,slow=3.8,SNR=4.1						
GERES				pP	pP	21 01 53.5	-3.0
	comp=E,0.3nm,0.5s,baz=270,slow=4.0,SNR=3.0						
VNA2	Neumayer--Watz	99.09	161		pP	21 02 43.2	-1.7
VNA2	Neumayer--Watz	99.09	161		pP	21 02 49.2	+4.3
VNA2	Neumayer--Watz	99.09	161	P	P	21 02 32.4	+4.5
VNA2				P		21 02 43.2	
VNA2				P	pP	21 02 49.2	+4.3
SNAA	Sanae	100.67	161⇑	iP	P	21 02 35.5	+0.4
QSPA	South Pole Qui	102.69	180	eP	Pdif	21 02 47.6	+3.7
	comp=E,1.4nm,0.8s						
SONM	Songino Array	118.23	349	PKP	PKPdf	21 07 33.9	+0.7
	comp=E,2.0nm,0.7s,baz=308,slow=0.7,SNR=29						
SONM				pPKP		21 07 51.2	
	comp=E,1.3nm,0.9s,baz=239,slow=1.5,SNR=4.6						
SONM				PKKPbc		21 17 53.9	
	comp=E,0.6nm,0.7s,baz=189,slow=2.8,SNR=6.9						
MKAR	Makanchi Array	120.19	7	PKP	PKPdf	21 07 36.2	-0.8
	comp=E,0.3nm,0.3s,baz=323,slow=2.7,SNR=12						
MAW	Mawson	122.07	168	PKP	PKPdf	21 07 42.0	+1.8
	comp=E,1.2nm,0.5s,baz=281,slow=2.6,SNR=6.3						
MAW				pPKP		21 07 58.7	
	comp=E,2.4nm,0.8s,baz=253,slow=5.7,SNR=4.1						
BJI	Beijing	122.65	337	PKP	PKPdf	21 07 43.2	+1.2
BJI				LR	LR		
	comp=N,216nm,20.5s,MS5.0						
BJI				LR	LR		
	comp=E,252nm,17.9s,MS5.0						
BJI				LR	LR		
	comp=Z,183nm,26.9s						
HHC	Hu-ho-hao-te	123.50	342	ePKP	PKPdf	21 07 51.1	+7.5
WMQ	Urumqi	123.62	3	ePKP	PKPdf	21 07 47.5	+3.7
CTA	Charters Tower	127.02	254	PKP	PKPdf	21 07 52.7	+1.8
	comp=Z,1.4nm,0.3s,baz=296,slow=1.5,SNR=3.7						
CTA				pPKP		21 08 10.0	
	comp=Z,4.0nm,0.7s,baz=134,slow=3.1,SNR=3.9						
CTA	Charters Tower	127.02	254	PKP	PKPdf	21 07 52.7	+1.8
CTA				pPKP		21 08 10.0	
GTA	Gaotai	127.53	352	ePKP	PKPdf	21 07 52.8	+1.3
LZH	Lanzhou	130.03	347	ePKP	PKPdf	21 07 59.0	+2.7
STKA	Stephens Creek	130.24	239	PKP	PKPdf	21 07 59.6	+2.8
	comp=Z,2.4nm,0.8s,baz=94,slow=4.2,SNR=8.5						
STKA				pPKP		21 08 15.7	
	comp=Z,3.9nm,0.9s,baz=141,slow=4.8,SNR=4.4						
WB2	Warramunga Arr	138.21	254	e	PKPdf	21 08 14.5	+2.6
WB2				e		21 08 31.0	
WRAB	Tennant Creek	138.21	254	ePKP	PKPdf	21 08 13.7	+1.8
WRA	Warramunga Arr	138.22	254	PKhKP		21 08 04.9	
	comp=Z,1.0nm,0.6s,baz=93,slow=3.2,SNR=14						
WRA				PKP	PKPdf	21 08 15.0	+3.0
	comp=Z,4.1nm,0.6s,baz=89,slow=2.2,SNR=30						
WRA				pPKP		21 08 31.1	
	comp=Z,7.4nm,0.8s,baz=92,slow=1.6,SNR=10						
WRA	Warramunga Arr	138.22	254	PKP	PKPdf	21 08 15.0	+3.0
WRA				pPKP		21 08 31.1	
ASAR	Alice Springs	138.28	249	PKhKP		21 08 04.5	
	comp=Z,1.2nm,0.7s,baz=111,slow=2.9,SNR=10						
ASAR				PKP	PKPdf	21 08 14.4	+2.4
	comp=Z,2.5nm,0.7s,baz=104,slow=1.8,SNR=17						
ASAR				pPKP		21 08 31.2	
	comp=Z,3.6nm,0.8s,baz=84,slow=1.6,SNR=7.2						
ASAR				sPKP		21 08 38.0	
	comp=Z,1.2nm,0.6s,baz=95,slow=2.0,SNR=4.7						
ASAR	Alice Springs	138.28	249	PKP	PKPdf	21 08 14.4	+2.4
ASAR				pPKP		21 08 31.2	
ASAR				sPKP		21 08 38.0	
GYA	Guiyang	138.30	339	i PKP	PKPdf	21 08 13.9	+1.9
GYA				PP	PP	21 11 06.0	+0.2
GYA				PKS	PKS	21 11 47.6	+0.5
GYA				SKKS		21 17 50.2	
GYA				LR	LR		
	comp=N,340nm,19.4s,MS5.2						
GYA				LR	LR		
	comp=E,250nm,21.0s,MS5.2						
GYA				LR	LR		
	comp=Z,410nm,22.6s,MS5.1						
GKN	Gorkha	138.99	9	eP	PKPdf	21 08 14.9	+1.7
	comp=Z,7.7nm,0.4s						
KOLN	Koldanda	139.04	11	eP	PKPdf	21 08 14.8	+1.5
GUN	Gumba	139.25	7	eP	PKPdf	21 08 17.6	+3.9
KKN	Kakani	139.29	8	eP	PKPdf	21 08 16.0	+2.3
	comp=Z,9.7nm,0.5s						
PKI	Pulchoki	139.53	8	eP	PKPdf	21 08 16.4	+2.2
	comp=Z,4.3nm,0.5s						
KMI	Kunming	140.77	344	ePKP	PKPdf	21 08 14.7	-1.9
KMI				PP	PP	21 11 21.2	+0.5
KMI				LR	LR		
	comp=Z,126nm,35.1s,MS4.4						
FITZ	Fitzroy Crossi	146.55	256	ePKP	PKPdf	21 08 29.6	+2.9
	comp=Z,11nm,0.5s						
FITZ				i		21 08 47.3	
NANT	Nan	147.34	343	P	PKPdf	21 08 30.5	+2.5
HYB	Hyderabad	147.49	23	i PKP	PKPdf	21 08 30.0	+1.8
HYB	Hyderabad	147.49	23	eP	PKPdf	21 08 30.0	+1.8
CM31	Chiang Mai Arr	148.12	346	ePKP	PKPdf	21 08 30.8	+1.6
CMAR	Chiang Mai Arr	148.12	346	PKPbc	PKPdf	21 08 31.0	+1.8
	comp=Z,5.7nm,0.6s,baz=321,slow=2.6,SNR=36						
CMAR				pPKPbc		21 08 49.9	
	comp=Z,5.7nm,1.0s,baz=353,slow=3.1,SNR=3.4						
NWAO	Narrogin (SRO)	148.95	225	PKPbc	PKPdf	21 08 37.0	+6.8
	comp=Z,19nm,0.7s,baz=76,slow=2.8,SNR=8.4						
KKTK	Khon Kaen	148.97	338	P	PKPdf	21 08 33.5	+2.9
	comp=Z,494nm,0.9s						
BDT	Bhumibol Dam	149.27	346	P	PKPdf	21 08 32.0	+0.9

BJI ***05*** *21:14:25.2, 8.26S×106.29E, h50km, mB5.0, mb4.9, Ms4.7, Msz4.6*

MOS ***05*** *21:14:30.1±1.0, 7.40S×106.32E, h33km, mb5.5/15, Error ellipse: s-maj=22.6km s-min=9.3km az=108.1*

IDC ***05*** *21:14:31.1±2.9, 7.42S×106.26E, h24km±18km, mb4.7/19, mb1 4.8/19, mb1mx4.7/20, MS4.2/13, Ms1 4.2/13, ms1mx4.1/20, Error ellipse: s-maj=19.6km s-min=9.7km az=49.0*

DJA ***05*** *21:14:32.4±1.8, 7.69S×106.16E, h2km, MD5.7/3, ML5.3/2, Error ellipse: s-maj=58.7km s-min=13.4km az=178.0*

HRVD ***05*** *21:14:34.4±0.6, 7.71S×106.17E, h27km±2km, MW4.9/43, Centroid moment Tensor Solution. LP body waves: s12,c15;Mantle waves: s43,c70; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.02±.20; $M_{\theta\theta}$0.13±.12; $M_{\phi\phi}$-0.15±.18; $M_{r\theta}$-1.47±.29; $M_{\theta\phi}$2.11±.11; $M_{\phi r}$0.36±.28; Best double couple: $M_0$2.59×10^{16} NP1:ϕ_s184°,δ55°, λ-177°. NP2:ϕ_s92°,δ87°,λ-35°. Principal axes: T 2.44, Plg22°, Azm143°; N .3, Plg55°, Azm268°; P -2.74, Plg26°, Azm42°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

SYO ***05*** *21:14:34.5, 7.41S×106.19E, h50km, MB5.2*

NEIC ***05*** *21:14:34.4±0.9, 7.44S×106.20E, h50km±7km, mb5.1/27, Error ellipse: s-maj=11.5km s-min=5.8km az=50.0*

ISC 05 21:14:34.7±0.6**, 7.35S**±0.04×**106.28E**±0.05**, h71**km±4km**, h44**km±4.5km**:pP-P, n176,** σ1**ˢ07**/163**, mb4.9**/70**, 14C-9D, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KALI	Kaliastana	0.44	57⇓	eP	P	21 14 47.5	+0.3
KALI	Kaliastana	0.44	57⇓	ePn	P	21 14 47.3	+0.1
	227nm,0.2s						
KALI			⇓	eSn	S	21 14 58.0	+1.6
KALI	Kaliastana	0.44	57⇓	ePn	P	21 14 47.3	+0.1
KALI				eSn	S	21 14 58.0	+1.6
PASI	Pasiripis	0.95	313⇑	eP	P	21 14 52.0	-0.9
PASI	Pasiripis	0.95	313⇑	ePn	P	21 14 52.0	-0.9
	3μm,0.2s						
DJA	Jakarta	1.28	25	eP	P	21 15 01.4	+4.1
PENI	Pendagan	2.09	328⇓	eP	P	21 15 09.5	+1.2
PENI	Pendagan	2.09	328	ePn	P	21 15 09.4	+1.1
	1μm,0.2s						
PENI	Pendagan	2.09	328	ePn	P	21 15 09.4	+1.1
COCO	West Island	10.48	242	eP	P	21 16 54.3	-10
	286nm,1.0s						
MBWA	Marble Bar	18.91	138	eP	P	21 18 48.6	-3.7
	46nm,0.8s						
FITZ	Fitzroy Crossi	21.67	121	P	P	21 19 21.1	0.0
	24nm,0.8s,mb4.6,baz=344,slow=9.1,SNR=31						
FITZ				S	S	21 23 18.7	+7.1
	14nm,1.0s,baz=197,slow=20,SNR=5.6						
FITZ				LR	LR	21 27 30.2	
	comp=Z,221nm,19.7s,baz=289,slow=36						
NST	Nakhon Sawan	23.67	345	P	P	21 19 38.0	-2.8
NANT	Nan	26.56	348	P	P	21 20 07.5	-0.7
CM31	Chiang Mai Arr	26.65	344	eP	P	21 20 07.7	-1.2
	4.0nm,0.4s,mb4.3						
CM31				e	pP	21 20 20.6	-5.0
CMAR	Chiang Mai Arr	26.65	344	P	P	21 20 08.4	-0.6
	5.7nm,0.7s,mb4.2,baz=179,slow=8.3,SNR=45						
CMAR				ScP		21 27 10.8	
	0.5nm,0.8s,baz=191,slow=4.6,SNR=4.3						
CMAR				LR	LR	21 32 42.0	
	comp=Z,461nm,18.1s,baz=175,slow=41						
CHG	Chiang Mai	26.99	345	⇑P	P	21 20 10.8	-1.3
	10nm,1.0s,mb4.3						
NWAO	Narrogin (SRO)	27.41	160	P	P	21 20 12.4	-3.4
	9.6nm,0.8s,mb4.4,baz=348,slow=9.9,SNR=5.3						
NWAO				LR	LR	21 30 22.0	
	comp=Z,1μm,19.6s,baz=330,slow=35						
WRA	Warramunga Arr	29.94	118	P	P	21 20 38.2	-0.4
	10nm,0.6s,mb4.6,baz=288,slow=10,SNR=156						
WRA				PcP	PcP	21 23 39.9	+0.2
	1.0nm,0.6s,baz=302,slow=2.0,SNR=5.2						
WRA				LR	LR	21 32 56.3	
	comp=Z,360nm,22.0s,baz=285,slow=37						
WRAB	Tennant Creek	29.94	118	P	P	21 20 38.3	-0.3
	143nm,0.7s,mb5.7,SNR=24						
WRAB	Tennant Creek	29.94	118⇑	eP	P	21 20 38.2	-0.4
	17nm,0.6s,mb4.8						
ASAR	Alice Springs	31.07	125	P	P	21 20 47.9	-0.7
	12nm,0.7s,mb4.7,baz=299,slow=7.9,SNR=66						
ASAR				ScP		21 27 24.6	
	1.5nm,0.8s,baz=320,slow=3.7,SNR=5.4						
ASAR				LR	LR	21 33 37.7	
	comp=Z,352nm,20.0s,baz=295,slow=37						
KMI	Kunming	32.46	354⇑	iP	P	21 21 01.7	+1.1
KMI				AP	pP	21 21 10.2	-7.6
KMI				LR	LR		
	comp=N,801nm,16.3s						
KMI				LR	LR		
	comp=E,768nm,16.9s						
KMI				LR	LR		
	comp=Z,1μm,20.4s						
MDRS	Chennai	32.87	308	e	PP	21 22 17.0	+1.0
MDRS				e		21 31 47.0	
HYB	Hyderabad	36.83	312	i P	P	21 21 39.0	+1.0
HYB				epP	pP	21 21 53.5	-2.0
HYB				esP	sP	21 21 57.5	-6.6
HYB	Hyderabad	36.83	312	eP	P	21 21 39.0	+1.0
ENH	Enshi	37.53	5	eP	P	21 21 43.0	-0.7
	comp=Z,12nm,0.7s,mb4.8						
WHN	Wuhan	38.46	11	eP	P	21 21 49.0	-2.5
LSA	Lhasa	39.61	339	P	P	21 22 01.4	+0.4
JOW	Kunigami	40.11	31	LR	LR	21 38 32.6	
	comp=Z,232nm,21.7s,baz=337,slow=36						
PKI	Pulchoki	40.16	331	eP	P	21 22 05.5	-0.1
GUN	Gumba	40.22	331	eP	P	21 22 05.9	-0.2
	comp=Z,39nm,0.6s,mb5.4						
DMN	Daman	40.34	330	eP	P	21 22 06.6	-0.5
	comp=Z,43nm,0.9s,mb5.3						
KKN	Kakani	40.41	331	eP	P	21 22 07.1	-0.5
	comp=Z,45nm,1.0s,mb5.3						
PMG	Port Moresby	40.48	96	eP	P	21 22 10.6	+2.3
	comp=Z,82nm,1.1s,mb5.5						
ADE	Adelaide	40.52	137	P	P	21 22 08.9	+0.4
CTA	Charters Tower	40.72	112	LR	LR	21 40 36.3	
	comp=Z,121nm,18.0s,baz=288,slow=38						
CTAO	Charters Tower	40.72	112	eP	P	21 22 11.8	+1.5
	comp=Z,28nm,0.9s,mb5.1						
SSE	Sheshan	40.80	20	P	P	21 22 12.7	+1.9
SSE				S	S	21 28 15.7	-0.6
SSE				SS	SS	21 31 21.8	+6.7
SSE				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.6						
SSE				AMB	AMB		
	comp=Z,150nm,4.3s						
SSE				LR	LR		
	comp=N,155nm,24.8s						
SSE				LR	LR		
	comp=E,67nm,24.5s						
SSE				LR	LR		
	comp=Z,162nm,24.0s						
GKN	Gorkha	40.90	330	eP	P	21 22 10.8	-0.9
	comp=Z,25nm,0.3s,mb5.5						
STKA	Stephens Creek	40.94	131	P	P	21 22 12.1	+0.1
	comp=Z,13nm,0.5s,mb5.0,baz=312,slow=7.7,SNR=43						
STKA				LR	LR	21 39 21.5	
	comp=Z,441nm,20.6s,baz=115,slow=36						
STKA	Stephens Creek	40.94	131	P	P	21 22 12.1	+0.1
KOLN	Koldanda	41.23	329	eP	P	21 22 14.3	-0.1
	comp=Z,71nm,0.7s,mb5.6						
XAN	Xi'an	41.24	3	P	P	21 22 14.4	0.0
XAN				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.7						
XAN				LR	LR		
	comp=N,308nm,21.8s						
XAN				LR	LR		
	comp=E,287nm,22.9s						
XAN				LR	LR		
	comp=Z,833nm,20.1s						
LZH	Lanzhou	43.26	357	eP	P	21 22 32.0	+0.9
LZH				AMB	AMB		
	comp=Z,25nm,1.0s,mb4.9						
LZH				AMB	AMB		
	comp=Z,131nm,5.0s						
LZH				LR	LR		
	comp=E,390nm,12.7s						
LZH				LR	LR		
	comp=Z,610nm,16.7s						
AGRA	Agra	43.99	323	eP	P	21 22 36.9	-0.2
PTH	Pithoragarh	44.44	327	eP	P	21 22 40.0	-0.6
ASOR	Ausora	45.21	324	eP	P	21 22 46.6	-0.2
SONA	Sohna	45.25	323	eP	P	21 22 46.8	-0.3
SONA				e		21 22 48.9	
	comp=Z,106nm,1.0s						
SONA				eS	S	21 29 22.0	+0.8
SONA				eS	S	21 29 22.9	+1.6
AYAN	Aya Nagar	45.39	323	eP	P	21 22 47.3	-0.9
AYAN				e		21 22 49.8	
	comp=Z,80nm,1.0s						
NDI	New Delhi	45.49	323	eP	P	21 22 48.0	-1.0
NDI				eS	S	21 29 25.0	+0.4
KUDL	Kundal	45.53	322	eP	P	21 22 48.9	-0.5
KUDL				e		21 22 51.2	
	comp=Z,126nm,1.1s						
JOSI	Joshimath	45.58	327	eP	P	21 22 49.4	-0.3
JOSI				e		21 22 51.3	
	comp=Z,186nm,1.0s						
JOSI				eS	S	21 29 28.7	+2.7
KHET	Khetri	45.90	321	eP	P	21 22 51.4	-0.9
KHET				e		21 22 54.4	
	comp=Z,76nm,1.5s						
KHET				eS	S	21 29 32.0	+1.4
KHET				eS	S	21 29 32.0	+1.4
RTK	Rohtak	46.22	323	eP	P	21 22 54.3	-0.5
RTK				e		21 22 56.5	
	comp=Z,64nm,1.0s						
DDI	Dehra Dun	46.23	326	eP	P	21 22 53.1	-1.7
KKR	Kurukshetra	46.66	324	eP	P	21 22 58.0	-0.2
GTA	Gaotai	46.91	353	P	P	21 23 00.2	+0.2
GTA				AP	pP	21 23 08.5	-9.4
GTA				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.5						
GTA				AMB	AMB		
	comp=Z,78nm,7.6s						
GTA				LR	LR		
	comp=N,170nm,25.6s						
GTA				LR	LR		
	comp=E,135nm,21.4s						
GTA				LR	LR		
	comp=Z,211nm,22.5s						
KLP	Kalpa	47.04	327	eP	P	21 23 01.0	-0.2
KLP				e		21 23 07.9	
	comp=Z,44nm,2.0s						
KLP				eS	S	21 29 49.9	+3.1
BTO	Baotou	47.84	4	eP	P	21 23 06.3	-1.0
BJT	Baijiatuau	48.01	10	eP	P	21 23 08.8	+0.2
	comp=Z,21nm,0.7s,mb5.1						
BJT				e		21 23 16.4	
BJI	Beijing	48.03	10	P	P	21 23 08.9	+0.1
BJI				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.9						
HHC	Hu-ho-hao-te	48.20	5	eP	P	21 23 12.2	+2.0
HHC				AP	pP	21 23 25.2	-2.8
HHC				XP	sP	21 23 30.7	-5.4
HHC				PP	PP	21 24 58.1	-4.5
HHC				PCS		21 28 32.1	
HHC				S	S	21 30 09.8	+6.9
HHC				SS	SS	21 33 33.8	+5.8
HHC				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.7						
HHC				AMB	AMB		
	comp=Z,65nm,4.7s						
HHC				LR	LR		
	comp=N,151nm,17.8s						
HHC				LR	LR		
	comp=E,178nm,12.5s						
HHC				LR	LR		
	comp=Z,120nm,15.7s						
JASL	Jaisalmer	48.33	316	eP	P	21 23 11.5	+0.1
KS15	Wonju Array Si	48.92	23	eP	P	21 23 17.2	+1.5
THN	Thein Dam	49.13	325	eP	P	21 23 15.7	-1.7
	comp=Z,24nm,0.5s,mb5.4						
WMQ	Urumqi	53.64	343	eP	P	21 23 50.0	-1.3
WMQ				XP	sP	21 24 06.0	-12
WMQ				PP	PP	21 25 53.0	-1.1
WMQ				S	S	21 31 18.0	+0.2
WMQ				SS	SS	21 35 00.0	+1.5
WMQ				AMB	AMB		
	comp=Z,24nm,1.0s,mb5.2						
WMQ				LR	LR		
	comp=N,122nm,15.0s						
WMQ				LR	LR		
	comp=E,203nm,18.0s						
WMQ				LR	LR		

comp=Z,184nm,17.0s
CN2 Changchun 53.79 17 *e*P P **21 23 52.1 -0.3**
CN2 *e*S S **21 31 23.7 +3.9**
CN2 AMB AMB
comp=Z,20nm,1.2s,mb5.0
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,200nm,13.0s
CN2 LR LR
comp=E,200nm,13.0s
CN2 LR LR
comp=Z,400nm,14.0s
KSH Kashi 54.42 331 *e*P P **21 24 00.4 +3.4**
KSH *e*AP pP 21 24 12.2 -3.1
KSH *e*XP sP 21 24 19.3 -4.0
KSH *e*S S **21 31 35.5 +7.2**
KSH *e*PS PS 21 31 52.0 +1.7
KSH *e*XS 21 31 56.5
KSH *e*SS SS 21 35 18.2 +7.2
KSH AMB AMB
comp=Z,120nm,5.1s
KSH LR LR
comp=N,230nm,4.9s
KSH LR LR
comp=E,200nm,5.0s
SONM Songino Array 54.94 0 P P **21 24 00.9 +0.2**
comp=E,5.1nm,0.4s,mb4.9,baz=185,slow=9.6,SNR=58
SONM PcP PcP 21 25 02.5 +0.9
comp=E,6.0nm,0.8s,baz=180,slow=4.0,SNR=12
MDJ Mudanjiang 55.83 20 P P **21 24 07.1 -0.1**
MDJ AMB AMB
comp=Z,8.0nm,0.9s,mb4.8
MDJ AMB AMB
comp=Z,54nm,4.7s
MDJ LR LR
comp=N,115nm,19.3s
MDJ LR LR
comp=E,67nm,18.2s
MDJ LR LR
comp=Z,100nm,22.2s
MDJ Mudanjiang 55.83 20 *e*P P **21 24 06.8 -0.4**
comp=Z,5.7nm,0.6s,mb4.8
UCH Uchtor 57.23 332 P P **21 24 17.0 -0.2**
SNR=9.4
TKM2 Tokmak 2 57.29 334 P P **21 24 17.1 -0.5**
SNR=33
KBK Karagaybulak 57.37 333 P P **21 24 18.1 -0.1**
SNR=16
AML Almayashu 57.54 332 P P **21 24 18.9 -0.4**
SNR=15
AAK Ala-Archa 57.56 333 P P **21 24 20.0 +0.5**
SNR=7.5
AAK Ala-Archa 57.56 333 *de*P P **21 24 17.8 -1.7**
AAK Ala-Archa 57.56 333 *e*P P **21 24 18.0 -1.5**
comp=Z,5.2nm,0.8s,mb4.6
HIA Hailar 57.59 10 *e*P P **21 24 18.1 -1.5**
comp=Z,12nm,0.7s,mb5.0
FRU Bishkek 57.66 333 *e*P P **21 24 20.0 -0.2**
CHMS Chumysh 57.73 333 P P **21 24 20.4 -0.3**
SNR=5.4
EKS2 Erkin-Say 57.91 332 P P **21 24 21.6 -0.3**
SNR=31
MKAR Makanchi Array 57.98 341 P P **21 24 21.3 -1.0**
comp=Z,15nm,0.6s,mb5.2,baz=146,slow=7.7,SNR=126
MKAR LR LR 21 52 23.7
comp=Z,193nm,21.4s,baz=283,slow=39
MKAR Makanchi Array 57.98 341 *i*P P **21 24 21.3 -1.0**
MKAR pmax pmax
comp=Z,7.0nm,0.6s
USP Ospenovka 58.05 333 P P **21 24 22.0 -0.9**
SNR=7.9
MOY Mondy 58.95 356 *e*P P **21 24 29.5 +0.5**
MIR Mirnyy 59.81 186⇑ *e*P P **21 24 33.5 -1.3**
MIR pmax pmax
comp=Z,35nm,1.1s,mb5.3
ASAJ Asahikawa 60.82 29 P P **21 24 41.4 -0.6**
comp=Z,13nm,0.8s,mb5.0,baz=236,slow=7.7,SNR=12
KURK Kurchatov 62.59 341 P P **21 24 52.6 -1.1**
KURK pmax pmax
comp=Z,16nm,1.0s,mb4.9
KURK Kurchatov 62.59 341⇓ *e*P P **21 24 52.9 -0.8**
comp=Z,44nm,1.0s,mb5.3
YSS Yuzh-Sakhalins 63.01 27⇓ *e*P P **21 24 56.0 -0.6**
YSS *e* 21 25 26.4
YSS pmax pmax
comp=Z,50nm,1.0s,mb5.4
YSS Yuzh-Sakhalins 63.01 27 *e*P P **21 24 56.3 -0.3**
comp=Z,49nm,1.0s,mb5.4
ZAL Zalesovo 63.69 346 P P **21 25 00.1 -0.9**
comp=Z,7.3nm,0.6s,mb4.7,baz=326,slow=3.4,SNR=35
ZAL LR LR 21 56 17.2
comp=Z,444nm,18.9s,baz=229,slow=39
ZAL Zalesovo 63.69 346 *i*P P **21 25 00.6 -0.3**
ZAL pmax pmax
comp=Z,7.0nm,0.6s
NVS Novosibirsk 64.89 346 *i*P P **21 25 05.8 -2.9**
NVS pmax pmax
comp=Z,12nm,1.2s,mb4.6
NVS pmax pmax
comp=E,6.0nm,1.4s
NVS pmax pmax
comp=N,10.0nm,1.3s
BOD Bodaibo 65.25 5 *e*P P **21 25 09.9 -1.1**
CLNS Chul'man 65.76 11 *e*P P **21 25 13.5 -0.8**
CLNS pmax pmax
comp=N,10.0nm,1.1s
CLNS pmax pmax
comp=Z,17nm,1.1s,mb4.8
CLNS pmax pmax
comp=E,7.0nm,0.8s
CLNS MLR MLR
comp=N,100nm,13.0s
CLNS MLR MLR
comp=E,100nm,13.0s
CLNS MLR MLR
comp=Z,100nm,13.0s
DJNS Zahran al Janu 66.76 293 P P **21 25 22.0 +0.9**
RPZ Rata Peaks 66.79 134 LR LR 21 51 23.7
comp=Z,511nm,19.1s,baz=204,slow=33
MAW Mawson 66.83 197 P P **21 25 19.3 -1.5**
comp=Z,30nm,0.7s,mb5.2,baz=43,slow=6.7,SNR=78
VOSK Vostochnaya 66.95 338 P P **21 25 20.9 -0.9**
VOSK pmax pmax
comp=Z,20nm,1.2s,mb4.8
TATS Tathlith 67.34 295 P P **21 25 26.7 +1.9**
BVA0 Borovoye Array 67.41 337 P P **21 25 24.2 -0.5**
BVAR Borovoye Array 67.41 337 P P **21 25 24.5 -0.2**
comp=Z,12nm,0.5s,mb5.0,baz=142,slow=9.4,SNR=83
BRVK Borovoye 67.48 337 *e*P P **21 25 25.3 +0.2**
comp=Z,16nm,0.4s,mb5.2
ZRNK Zerenda 67.89 337 P P **21 25 27.1 -0.6**
ZRNK pmax pmax
comp=Z,23nm,1.0s,mb5.0
ZRNK Zerenda 67.89 337 *e*P P **21 25 27.2 -0.5**
comp=Z,45nm,1.0s,mb5.2
NAMS An Nimas 68.38 294 P P **21 25 32.1 +0.8**
KMBO Kilima Mbogo 69.06 272 P P **21 25 36.5 +0.9**
comp=Z,1.5nm,0.8s,mb3.9,baz=65,slow=7.7,SNR=4.9
BLJS Baljurashi 69.13 294 P P **21 25 36.9 +0.9**
ARSS Ar Rass 69.52 301 P P **21 25 38.1 -0.2**
HILS Ha'il 71.24 302 P P **21 25 49.2 +0.7**
YAK Yakutsk 71.51 11 *e*P P **21 25 49.6 0.0**
YAK pmax pmax
comp=Z,46nm,0.9s,mb5.3
YAK pmax pmax
comp=N,20nm,1.0s
YAK pmax pmax
comp=E,10.0nm,1.1s
YAK Yakutsk 71.51 11 *e*P P **21 25 49.3 -0.3**
comp=E,83nm,0.8s,mb5.6
KBRS Khaybar 72.90 300 P P **21 25 59.5 +1.0**
SVE Sverdlovsk 74.03 336⇑ *i*P P **21 26 06.0 +1.5**
SVE pmax pmax
comp=Z,100nm,1.3s,mb5.4
ARU Arti 74.63 335 *e*P P **21 26 08.9 +0.9**
ARU *i* 21 26 21.2
ARU *e* 21 28 53.0
ARU *e*PPP PPP 21 30 35.5 -7.3
ARU *e*S S 21 35 38.7 +2.1
ARU *e*SS SS 21 40 28.6 +1.3
ARU Arti 74.63 335 *e*P P **21 26 08.1 +0.2**
comp=Z,58nm,1.1s,mb5.2
PET Petropavlovsk 74.66 30 *e*P P **21 26 08.3 +0.1**
PET pmax pmax
comp=Z,39nm,1.4s,mb4.9

SYO Syowa Base 74.93 200⇓ P P **21 26 07.9 -1.6**
SYO Syowa Base 74.93 200⇑ PcP PcP 21 26 21.5 -1.8
SYO Syowa Base 74.93 200⇑ sP sP 21 26 28.6 -7.8
MA2 Magadan 75.48 22 *e*P P **21 26 13.0 +0.3**
MA2 *e*S S 21 35 44.5 -1.4
MA2 pmax pmax
comp=Z,30nm,1.2s,mb4.9
MA2 MLR MLR
comp=Z,390nm,25.0s
MBAR Mbarara 75.59 271 *e*P P **21 26 12.9 -1.4**
comp=Z,10nm,1.0s,mb4.5
MBAR *e* pP 21 26 27.9 -5.7
LSZ Lusaka 76.66 256 *e*P P **21 26 19.9 -0.4**
comp=Z,8.6nm,0.6s,mb4.7
KIV Kislovodsk 76.67 318 *e*P P **21 26 20.8 +1.0**
KIV *e*S S 21 36 01.7 +2.4
KIV pmax pmax
comp=Z,24nm,0.9s,mb4.9
KIV Kislovodsk 76.67 318 *e*P P **21 26 20.7 +0.9**
comp=Z,26nm,0.7s,mb5.1
JMQS Jabal Moqyreh 76.67 302 P P **21 26 20.6 +0.5**
ASF Jabal al Asfar 76.77 305 P P **21 26 21.9 +1.2**
comp=Z,2.9nm,0.5s,mb4.3,baz=18,slow=2.4,SNR=7.3
SBA Scott Base 76.84 169 *e*P P **21 26 20.3 +0.2**
comp=Z,17nm,1.0s,mb4.7
GOF Gofitskoye 76.89 319 *e*P P **21 26 23.0 +1.9**
GOF pmax pmax
comp=Z,20nm,1.0s,mb4.8
TAYS Tayyib Ism 77.42 301 P P **21 26 26.7 +2.3**
HAQS Haql 77.51 302 P P **21 26 26.6 +1.8**
SOC Sochi 78.50 317 *e*P P **21 26 28.2 -1.8**
SOC *e* 21 26 38.3
SOC *e* 21 29 27.3
SOC *e*PPP PPP 21 31 13.8 -6.1
SOC *e* 21 36 28.8
SOC *e*PS 21 36 50.4
SOC pmax pmax
comp=Z,20nm,0.8s,mb5.0
SOC pmax pmax
comp=N,30nm,1.1s
SOC pmax pmax
comp=E,24nm,0.9s
SOC MLR MLR
comp=Z,113nm,17.0s
SOC MLR MLR
comp=N,76nm,16.0s
SOC MLR MLR
comp=E,65nm,16.0s
TIXI Tiksi 80.24 7⇓ *e*P P **21 26 38.4 -0.4**
TIXI *i*S S 21 36 35.7 -1.1
TIXI pmax pmax
comp=Z,38nm,0.8s,mb5.3
CSS Prodhromos 80.42 307 *e*P P **21 26 42.9 +2.3**
comp=Z,136nm,1.4s,mb5.6
CSS *e* 21 26 48.5
CSS *e* 21 26 55.6
ANN Anapa 80.47 318 *e*P P **21 26 42.0 +1.4**
ANN pmax pmax
comp=Z,50nm,1.0s,mb5.3
BRTR Keskin Array B 81.53 212 P P **21 26 46.5 +0.2**
comp=Z,6.5nm,0.7s,mb4.6,baz=143,slow=5.9,SNR=18
BRTR LR LR 22 04 44.2
comp=Z,111nm,21.2s,baz=85,slow=37
QSPA South Pole Qui 82.64 180 *e*P P **21 26 51.1 -0.1**
comp=Z,18nm,1.0s,mb4.9
QSPA *e* 21 27 05.3
SIM Simferopol' 82.75 317 *ce*P P **21 26 56.5 +4.1**
SIM pmax pmax
comp=Z,19μm,0.8s
MOS Moscow 84.30 328 *e*P P **21 27 01.9 +1.9**
MOS pmax pmax
comp=Z,40nm,0.7s,mb5.4
OBN Obninsk 84.63 327 *e*P P **21 27 03.4 +1.8**
OBN *e* 21 27 14.2
OBN *e*S S 21 37 32.1 +11
OBN pmax pmax
comp=Z,36nm,0.8s,mb5.3
OBN MLR MLR
comp=Z,100nm,18.0s
OBN Obninsk 84.63 327 *e*P P **21 27 03.4 +1.7**
comp=Z,34nm,0.6s,mb5.5
AKASG Malin Array Be 87.53 322 P P **21 27 16.0 +0.1**
comp=Z,9.5nm,0.9s,mb4.8,baz=85,slow=5.1,SNR=19
AKASG PP PP 21 30 41.8 -2.0
comp=Z,1.5nm,0.9s,baz=99,slow=6.1,SNR=7.0
SNAA Sanae 88.98 197⇑ *i*P P **21 27 22.8 +0.4**
SNAA Sanae 88.98 197⇑ *i* sP 21 27 49.5 -0.1
VNA2 Neumayer--Watz 90.63 198⇑ *i*P P **21 27 25.8 -4.3**
FINES FINESS Array B 91.74 332 P P **21 27 38.3 +2.8**
comp=Z,3.4nm,0.7s,mb4.7,baz=126,slow=6.0,SNR=10
FINES FINESS Array B 91.74 332 *i*P P **21 27 38.8 +3.3**
FINES pmax pmax
comp=Z,3.0nm,0.7s
KAF Kangasniemi 91.78 332 *ep* P **21 27 37.4 +1.8**
comp=Z,0.4nm,0.4s,mb4.0
KEV Kevo 93.15 340 *ep* P **21 27 40.2 -1.6**
comp=Z,0.3nm,0.4s,mb4.0
ARCES ARCESS Array B 93.61 340 P P **21 27 44.5 +0.6**
comp=Z,9.2nm,1.1s,mb5.0,baz=92,slow=6.8,SNR=10
ARCES LR LR 22 16 36.0
comp=Z,204nm,19.7s,baz=289,slow=40
ARCES ARCESS Array B 93.61 340 P P **21 27 44.5 +0.6**
GERES GERESS Array B 97.18 318 P P **21 28 01.6 +1.1**
comp=Z,0.4nm,0.8s,mb3.9,baz=90,slow=3.9,SNR=2.6
PV10 Paradox Valley 135.61 41 PKPdf PKPdf 21 33 53.6 +6.1
CPUP Villa Florida 142.93 205 PKhKP 21 33 59.2
comp=Z,1.8nm,0.6s,baz=217,slow=12,SNR=3.8
CPUP PKP PKPdf 21 34 03.5 +2.6
comp=Z,1.8nm,0.6s,baz=216,slow=13,SNR=3.9
CPUP Villa Florida 142.93 205 PKP PKPdf 21 33 59.2 -1.8
CPUP PKP PKPdf 21 34 03.5 +2.6
WMOK Wichita Mounta 144.29 37 *e*PKPdf PKPdf 21 34 04.6 +1.5
LTX Lajitas 144.33 48 *e*PKPdf PKPdf 21 34 06.5 +3.2
TXAR Lajitas Array 144.33 48 PKP PKPdf 21 34 06.5 +3.2
comp=Z,3.3nm,0.6s,baz=297,slow=2.8,SNR=16
CCM Cathedral Cave 145.56 25 *e*PKPdf PKPdf 21 34 08.2 +3.0
BAO Brasilia Array 145.78 228 *i*P PKPdf 21 34 09.2 +3.0
BAO *e* 21 34 23.4
BAO *e* 21 34 36.4
BAO *e* 21 34 49.0
BDFB Brasilia 145.80 228 PKPbc PKPbc 21 34 09.3 +2.2
comp=Z,14nm,0.9s,baz=127,slow=2.2,SNR=17
FVM French Village 145.95 24 PKPdf PKPdf 21 34 09.7 +3.8
ACSO Alum Creek Sta 146.22 13 *e*PKPbc PKPbc 21 34 11.7 +4.3
JCT Junction City 146.43 43 *e*PKPbc PKPbc 21 34 11.9 +3.7
PAL Palisades 146.49 0 *e*PKPbc PKPbc 21 34 12.7 +4.6
SSPA Standing Stone 146.65 6 *e*PKPdf PKPdf 21 34 10.5 +3.5
LUPA Lehigh Univers 146.86 2 *e*PKPbc PKPbc 21 34 13.6 +4.7
WVT Waverly 148.58 22 *e*PKPbc PKPdf 21 34 17.5 +7.3
OXF Oxford 149.34 26 *e*PKPbc PKPdf 21 34 18.3 +6.8
HKT Hockley 149.39 40 *e*PKPbc PKPdf 21 34 19.9 +8.2
LVC Limon Verde 149.85 189 *e*PKPbc PKPdf 21 34 21.2 +8.5
SWET Sewanee 150.08 20 *e*PKPdf PKPdf 21 34 15.6 +2.9
LPAZ La Paz 155.87 193 PKPab PKPab 21 34 50.8 -0.2
comp=Z,2.7nm,0.9s,baz=172,slow=5.6,SNR=5.3

IDC ***05*** *21:29:37.1±0.8, 2.23N×96.06E, mb4.3/13, mb1 4.4/14, mb1mx4.3/19, ML4.4/1, MS3.8/1, Ms1 3.8/1, ms1mx3.1/18, Error ellipse: s-maj=44.1km s-min=13.6km az=51.0*
BJI ***05*** *21:29:37.1, 1.65N×96.36E, h55km, mB4.7, mb4.8, Ms4.4, Msz4.3*
NEIC ***05*** *21:29:45.0±3.2, 2.38N×96.29E, h56km±26km, mb4.6/13, Error ellipse: s-maj=31.1km s-min=6.6km az=52.0*
ISC 05 21:29:42.8±3.4, 2.3N±0.1×96.3E±0.1, h53km±28km, n34, σ0°88/34, mb4.5/29, MS4.1/3, 1C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IPM	**Ipoh**	**5.25**	**65**⇑	*e*P	P	**21 30 59.8**	**-0.8**
	54nm,0.5s						
CM31	**Chiang Mai Arr**	**16.23**	**9**	*e*P	P	**21 33 29.1**	**+0.3**
	8.2nm,0.7s						
CMAR	**Chiang Mai Arr**	**16.23**	**9**	Pn	P	**21 33 30.0**	**+1.2**
	0.5nm,0.3s,baz=199,slow=11,SNR=42						
KMI	**Kunming**	**23.50**	**15**⇓	*e*P	P	**21 34 50.3**	**+1.6**
KMI				AP		21 35 05.0	
KMI				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.0						
GYA	**Guiyang**	**25.98**	**22**⇓	*i*P	P	**21 35 11.7**	**-0.8**
GYA				AP	pP	21 35 24.8	-0.9
GYA				XP	sP	21 35 31.2	-1.0
GYA				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.8						
GYA				LR	LR		
	comp=N,1μm,16.4s,MS4.6						
GYA				LR	LR		
	comp=E,570nm,17.0s,MS4.6						
GYA				LR	LR		
	comp=Z,2μm,18.0s,MS4.7						
GUN	**Gumba**	**27.30**	**340**	*e*P	P	**21 35 25.2**	**+0.6**
	comp=Z,51nm,0.8s,mb5.1						
DMN	**Daman**	**27.30**	**338**	*e*P	P	**21 35 25.3**	**+0.6**
	comp=Z,13nm,0.5s,mb4.7						
KKN	**Kakani**	**27.40**	**338**	*e*P	P	**21 35 25.8**	**+0.2**
	comp=Z,28nm,0.7s,mb4.9						
LSA	**Lhasa**	**27.64**	**350**	P	P	**21 35 28.0**	**+0.3**
GKN	**Gorkha**	**27.84**	**338**	*e*P	P	**21 35 29.7**	**+0.2**
	comp=Z,38nm,0.8s,mb5.1						
KOLN	**Koldanda**	**28.04**	**336**	*e*P	P	**21 35 31.8**	**+0.5**
	comp=Z,22nm,0.8s,mb4.9						
XAN	**Xi'an**	**33.68**	**19**	P	P	**21 36 19.3**	**-1.6**
XAN				AP	pP	21 36 34.4	-0.3
XAN				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.9						
FITZ	**Fitzroy Crossi**	**35.35**	**126**	P	P	**21 36 34.7**	**-0.6**
	comp=Z,3.0nm,0.9s,mb4.2,baz=187,slow=20,SNR=3.9						
GTA	**Gaotai**	**37.04**	**5**	*e*P	P	**21 36 49.4**	**0.0**
GTA				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.4						
GTA				AMB	AMB		
	comp=Z,25nm,6.9s						
GTA				LR	LR		
	comp=N,170nm,23.7s,MS4.0						
GTA				LR	LR		
	comp=E,209nm,19.9s,MS4.0						
GTA				LR	LR		
	comp=Z,216nm,20.6s,MS3.9						
HHC	**Hu-ho-hao-te**	**40.75**	**18**	*e*P	P	**21 37 21.8**	**+1.6**
HHC				AMB	AMB		
	comp=Z,14nm,1.2s,mb4.5						
HHC				AMB	AMB		
	comp=Z,66nm,6.1s						
BJT	**Baijiatuau**	**41.63**	**23**	*e*P	P	**21 37 26.8**	**-0.7**
	comp=Z,19nm,0.6s,mb4.9						
WRA	**Warramunga Arr**	**43.43**	**122**	P	P	**21 37 42.7**	**+0.2**
	comp=Z,2.5nm,0.8s,mb4.0,baz=300,slow=9.2,SNR=14						
WRAB	**Tennant Creek**	**43.43**	**122**	*e*P	P	**21 37 42.7**	**+0.1**
	comp=Z,6.2nm,0.7s,mb4.5						
AAK	**Ala-Archa**	**44.59**	**337**	*e*P	P	**21 37 50.8**	**-0.8**
	comp=Z,7.8nm,1.3s,mb4.4						
ASAR	**Alice Springs**	**44.82**	**127**	P	P	**21 37 54.0**	**+0.3**
	comp=Z,0.9nm,0.4s,mb4.0,baz=299,slow=8.0,SNR=11						
ASAR				PcP	PcP	21 39 35.9	+0.6
	comp=Z,0.8nm,0.7s,baz=309,slow=3.0,SNR=4.5						
ASAR				LR	LR	21 59 31.2	
	comp=Z,101nm,18.9s,MS3.8,baz=234,slow=40						
MKAR	**Makanchi Array**	**45.92**	**347**	P	P	**21 38 02.2**	**+0.1**
	comp=Z,11nm,0.5s,mb5.0,baz=159,slow=9.0,SNR=119						
SONM	**Songino Array**	**46.16**	**9**	P	P	**21 38 04.0**	**0.0**
	comp=Z,3.0nm,0.4s,mb4.5,baz=191,slow=9.3,SNR=65						
SONM				PcP	PcP	21 39 40.6	+1.0
	comp=Z,1.5nm,0.7s,baz=193,slow=3.9,SNR=7.0						
KURK	**Kurchatov**	**50.46**	**346**	*e*P	P	**21 38 35.8**	**-1.5**
	comp=Z,5.7nm,0.7s,mb4.7						
ZAL	**Zalesovo**	**52.29**	**351**	P	P	**21 38 50.8**	**-0.2**
	comp=Z,9.5nm,0.5s,mb5.0,baz=304,slow=5.6,SNR=52						
CTA	**Charters Tower**	**53.85**	**117**	P	P	**21 39 03.5**	**+0.5**
	comp=Z,5.0nm,0.8s,mb4.5,baz=281,slow=9.2,SNR=4.9						
CTAO	**Charters Tower**	**53.85**	**117**	*e*P	P	**21 39 03.7**	**+0.6**
	comp=Z,18nm,1.3s,mb4.8						
STKA	**Stephens Creek**	**54.81**	**132**	P	P	**21 39 10.2**	**+0.3**
	comp=Z,3.8nm,1.2s,mb4.3,baz=342,slow=5.4,SNR=3.0						
BRVK	**Borovoye**	**54.94**	**341**	*e*P	P	**21 39 07.4**	**-3.1**
	comp=Z,4.6nm,0.6s,mb4.7						
ZRNK	**Zerenda**	**55.27**	**340**	*e*P	P	**21 39 11.6**	**-1.3**
	comp=Z,2.7nm,0.5s,mb4.5						
BRTR	**Keskin Array B**	**67.66**	**312**	P	P	**21 40 35.7**	**-0.8**
	comp=Z,0.6nm,0.6s,mb3.8,baz=14,slow=5.9,SNR=3.3						
AKASG	**Malin Array Be**	**73.79**	**322**	P	P	**21 41 12.4**	**-0.9**
	comp=Z,1.0nm,0.6s,mb3.9,baz=90,slow=5.0,SNR=6.5						
FINES	**FINESS Array B**	**78.56**	**333**	P	P	**21 41 39.9**	**-0.1**
	comp=Z,2.0nm,0.7s,mb4.2,baz=104,slow=7.9,SNR=7.9						
ARCES	**ARCESS Array B**	**81.16**	**340**	P	P	**21 41 54.8**	**+1.0**
	comp=Z,1.0nm,0.4s,mb4.1,baz=95,slow=4.6,SNR=21						
GERES	**GERESS Array B**	**83.35**	**319**	P	P	**21 42 07.1**	**+1.6**
	comp=Z,0.9nm,0.8s,mb3.9,baz=76,slow=5.5,SNR=6.9						

IDC 05 21:31:42.5±1.4, 32.54S×177.94W, mb4.1/2, mb1 4.3/3, mb1mx4.0/13, ML3.5/1, Error ellipse: s-maj=44.2km s-min=35.9km az=13.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.00**	**214**	Pn	Pn	21 33 26.1	-2.6
	0.9nm,0.3s,baz=141,slow=5.6,SNR=8.4						
URZ				Sn	Sn	21 34 42.7	-7.2
	4.0nm,0.3s,baz=130,slow=22,SNR=9.0						
ASAR	**Alice Springs**	**43.09**	**269**	P	P	21 39 44.6	-1.5
	0.9nm,0.4s,baz=112,slow=7.8,SNR=10						
WRA	**Warramunga Arr**	**44.27**	**274**	P	P	21 39 53.6	-2.2
	1.7nm,0.4s,baz=113,slow=8.1,SNR=34						
KAF	**Kangasniemi**	**146.57**	**339**	*ep*	PKPbc	21 51 18.5	-6.3
	0.2nm,0.3s						
FINES	**FINESS Array B**	**147.16**	**339**	PKPbc	PKPdf	21 51 27.6	+1.2
	1.7nm,0.7s,baz=51,slow=4.2,SNR=12						
DBIC	**Dimbokro**	**153.47**	**164**	PKPbc	PKPdf	21 51 41.3	+3.8
	8.8nm,1.0s,baz=104,slow=4.2,SNR=3.5						
DBIC				PKPab	PKPab	21 51 55.6	-2.3
	3.3nm,0.6s,baz=167,slow=5.6,SNR=6.6						

DJA 05 21:38:27.4±0.9, 9.51S×114.95E, h8km±26km, ML3.9/4, 3C-5D, Error ellipse: s-maj=57.5km s-min=7.6km az=5.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RATI	**Rata**	**0.97**	**36**⇑	*e*Pn	Pn	21 38 43.9	-3.3
	352nm,0.2s						
RATI				⇓ *i*Sn	Sn	21 38 56.2	-5.1
SRDI	**Scrawed**	**1.30**	**322**⇓	*e*Pn	Pn	21 38 49.0	-2.9
	229nm,0.2s						
SRDI				⇑ *e*Sn	Sn	21 39 04.5	-5.1
KELI	**Kelakatan**	**1.36**	**340**⇑	*e*Pn	Pn	21 38 50.1	-2.7
	60nm,0.1s						
KELI				⇓ *e*Sn	Sn	21 39 07.5	-3.8
KEDI	**Kedomdong**	**1.53**	**49**⇓	*e*Pn	Pn	21 38 52.7	-2.6
	59nm,0.2s						
KEDI				⇓ *e*Sn	Sn	21 39 10.4	-5.2

IDC ***05*** *22:09:52.4±1.0, 24.98N×124.72E, mb3.8/5, mb1 4.0/6, mb1mx3.9/24, ML3.7/1, Error ellipse: s-maj=33.1km s-min=20.2km az=117.0*
BJI ***05*** *22:09:55.6, 24.44N×125.76E, h56km, mB4.4, mb4.2, Ms4.0, Msz3.7*
NIED ***05*** *22:10:00, 24.90N×125.40E, h41km, Mw4.4 Best double couple: M0 4.01×10^15 NP1:φs 46°, δ 69°, λ 97°. NP2:φs 206°, δ 22°, λ 72°.*
JMA ***05*** *22:10:00.2, 24.80N×125.38E, h50km±1km, M4.5*
JMA Felt III J1.
NEIC ***05*** *22:10:02.1±1.3, 24.85N×125.28E, h56km±11km, mb4.5/10, MW4.4(NIED), Error ellipse: s-maj=12.2km s-min=11.2km az=145.0*
NEIC Recorded [3 JMA] on Miyako-jima and [1 JMA] on Tarama-shima.
ISC 05 22:09:59.9±0.4, 24.86N±0.06×125.40E±0.04, h52km±3km, n58, σ1°10/67, mb4.3/29, MS3.5/1, 2D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOGS	**Gusukube**	**0.10**	**176**	P	P	**22 10 07.8**	**-0.1**
JOGS				S	S	**22 10 13.4**	**-0.3**
JMJ	**Miyako jima 2**	**0.10**	**245**	P	P	**22 10 07.8**	**-0.1**
JMJ				S	S	**22 10 13.3**	**-0.5**
JTJ	**Tarama**	**0.67**	**251**	P	P	**22 10 13.1**	**-0.3**
JTJ				S	S	**22 10 22.9**	**-0.4**
JIJ	**Ishigaki jima**	**1.24**	**247**	P	P	**22 10 21.0**	**-0.3**
JIJ				S	S	**22 10 37.1**	**-0.2**
JKRS	**Kuro-shima**	**1.41**	**244**	P	P	**22 10 23.7**	**0.0**
JKRS				S	S	**22 10 42.9**	**+1.5**
IRIF	**Iriomote-Funau**	**1.60**	**251**	P	P	**22 10 25.9**	**-0.6**
IRIF				*e*S	S	**22 10 48.2**	**+2.1**
HATJ	**Hateruma jima**	**1.66**	**242**	P	P	**22 10 26.7**	**-0.5**
HATJ				*e*S	S	**22 10 50.5**	**+3.1**

JKE	Kume jima 2	1.93	40	P	P	22 10 32.0	+1.1
YOJ	Yonaguni jima	2.21	260	P	P	22 10 34.2	-0.8
YOJ				eS	S	22 10 59.9	-1.2
JAGN	Aguni-jima	2.40	44	P	P	22 10 39.8	+2.2
JJT2	Tamagusuku 2	2.48	59	P	P	22 10 40.0	+1.2
JIH	Iheya	3.17	46	P	P	22 10 48.8	+0.2
JOW	Kunigami	3.25	52	Pn	P	22 10 50.0	+0.3
	12nm,0.3s,baz=212,slow=15,SNR=19						
JOW	Kunigami	3.25	52	P	P	22 10 50.0	+0.2
TATO	Taipei	3.55	273	ePn	P	22 10 54.6	+0.6
JTK	Tokunoshima	4.32	47	P	P	22 11 03.5	-1.3
JAM	Amami Oshima	5.17	46	P	P	22 11 14.8	-1.9
JMZ	Minamidaito 2	5.35	78	P	P	22 11 15.2	-4.1
JMZ				eS	S	22 12 10.6	-10
CBIJ	Chichi jima	15.26	78	LR	LR	22 18 31.4	
	comp=Z,115nm,20.0s,baz=319,slow=32						
MAJO	Matsushiro	16.01	40	P	P	22 13 47.3	+4.1
	27nm,1.4s						
SNY	Shenyang	16.99	355	⇓P	P	22 13 58.5	+3.1
SNY				AMB	AMB		
	comp=Z,30nm,0.5s						
XAN	Xi'an	17.00	306	P	P	22 13 57.7	+2.1
XAN				AMB	AMB		
	comp=Z,4.0nm,0.8s						
CN2	Changchun	18.90	0	eP	P	22 14 18.4	-0.4
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
HHC	Hu-ho-hao-te	19.69	327	eP	P	22 14 28.2	+0.7
HHC				AMB	AMB		
	comp=Z,18nm,1.1s						
HHC				AMB	AMB		
	comp=Z,97nm,5.3s						
KMI	Kunming	20.54	276	eP	P	22 14 36.6	0.0
KMI				AP		22 14 51.7	
KMI				S	S	22 18 12.4	-6.1
KMI				AMB	AMB		
	comp=Z,7.0nm,1.4s						
KMI				AMB	AMB		
	comp=Z,52nm,4.6s						
KMI				LR	LR		
	comp=N,123nm,18.1s,MS3.6						
KMI				LR	LR		
	comp=E,189nm,19.5s,MS3.6						
KMI				LR	LR		
	comp=Z,170nm,21.7s,MS3.4						
LZH	Lanzhou	21.64	306	eP	P	22 14 50.0	+2.4
LZH				AP		22 15 06.7	
LZH				AMB	AMB		
	comp=Z,23nm,1.0s,mb4.6						
ASAJ	Asahikawa	23.79	32	P	P	22 15 08.7	+0.1
	comp=Z,5.7nm,0.7s,mb4.1,baz=261,slow=16,SNR=4.7						
HIA	Hailar	24.76	351	eP	P	22 15 17.1	-0.9
	comp=Z,8.6nm,0.7s,mb4.4						
CMAR	Chiang Mai Arr	25.37	261	P	P	22 15 24.4	+0.3
	comp=Z,2.2nm,0.8s,mb3.7,baz=62,slow=8.2,SNR=18						
GTA	Gaotai	25.96	310	eP	P	22 15 28.4	-1.0
GTA				PP	PP	22 16 14.9	+3.3
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb3.9						
SONM	Songino Array	27.42	332	P	P	22 15 40.6	-2.2
	comp=Z,1.5nm,0.5s,mb3.8,baz=150,slow=9.8,SNR=13						
SONM				PcP	PcP	22 19 01.4	+0.7
	comp=Z,0.5nm,0.6s,baz=155,slow=4.7,SNR=4.3						
WMQ	Urumqi	36.03	311	eP	P	22 16 58.0	-0.1
MKAR	Makanchi Array	40.59	314	P	P	22 17 35.2	-0.8
	comp=Z,5.8nm,0.6s,mb4.4,baz=102,slow=10,SNR=66						
ZAL	Zalesovo	41.84	325	P	P	22 17 44.3	-1.9
	comp=Z,1.8nm,0.5s,mb4.0,baz=356,slow=7.7,SNR=14						
KURK	Kurchatov	44.09	318	eP	P	22 18 03.2	-1.4
	comp=Z,3.4nm,0.7s,mb4.2						
WRAB	Tennant Creek	45.37	168	P	P	22 18 15.8	+0.6
	comp=Z,118nm,0.9s,mb5.7,SNR=8.5						
WRAB	Tennant Creek	45.37	168	eP	P	22 18 14.6	-0.7
	comp=Z,41nm,1.0s,mb5.2						
WRAB				e	pP	22 18 26.8	-2.2
WRA	Warramunga Arr	45.37	168	P	P	22 18 14.4	-0.9
	comp=Z,1.7nm,0.9s,mb3.9,baz=349,slow=8.8,SNR=13						
ASAR	Alice Springs	48.94	170	P	P	22 18 42.5	-0.6
	comp=Z,0.5nm,0.6s,mb3.7,baz=358,slow=7.5,SNR=8.1						
BVAR	Borovoye Array	49.62	319	P	P	22 18 47.1	-1.0
	comp=Z,0.6nm,0.4s,mb4.0,baz=98,slow=7.6,SNR=7.0						
ZRNK	Zerenda	50.43	319	eP	P	22 18 52.8	-1.4
	comp=Z,2.5nm,0.5s,mb4.5						
MCK	McKinley	66.11	29	eP	P	22 20 44.1	+0.5
	comp=Z,2.8nm,0.7s,mb4.4						
ILAR	Eielson Array	66.84	28	P	P	22 20 47.4	-0.8
	comp=Z,1.2nm,0.5s,mb4.2,baz=271,slow=4.8,SNR=22						
DIV	Divide	68.01	32	P	P	22 20 55.6	+0.1
	comp=Z,15nm,0.6s,mb5.2						
ARCES	ARCESS Array B	70.34	338	P	P	22 21 09.4	-0.3
	comp=Z,4.1nm,1.0s,mb4.3,baz=63,slow=8.1,SNR=5.3						
INK	Inuvik	71.15	23	P	P	22 21 16.1	+1.6
	comp=Z,6.8nm,0.8s,mb4.7,baz=317,slow=6.9,SNR=10						
KAF	Kangasniemi	72.45	331	ep	P	22 21 21.9	-0.5
	comp=Z,0.2nm,0.3s,mb3.5						
FINES	FINESS Array B	72.79	330	P	P	22 21 23.9	-0.5
	comp=Z,1.1nm,0.4s,mb4.1,baz=64,slow=5.4,SNR=20						
AKASG	Malin Array Be	74.90	319	P	P	22 21 35.9	-0.9
	comp=Z,2.6nm,0.5s,mb4.4,baz=57,slow=6.9,SNR=12						
BRTR	Keskin Array B	75.84	307	P	P	22 21 42.9	+0.4
	comp=Z,6.8nm,0.8s,mb4.6,baz=101,slow=6.3,SNR=27						
NB2	NORSAR Subarra	79.39	333	P	P	22 22 00.8	-0.9
	comp=Z,1.8nm,0.6s,mb4.2,baz=56,slow=5.3						
NOA	NORSAR Array B	79.39	333	P	P	22 22 01.3	-0.5
	comp=Z,3.2nm,0.8s,mb4.3,baz=55,slow=5.4,SNR=7.6						
NOA	NORSAR Array B	79.39	333	P	P	22 22 01.3	-0.5
SUMG	Summit	82.20	355	eP	P	22 22 17.8	+1.5
	comp=Z,10nm,0.7s,mb4.9						
CLL	Collm	83.79	324	⇓P	P	22 22 25.6	+0.8
	comp=Z,logA/T=0.9,mb4.8						
CLL				i *PP	pP	22 22 40.3	+0.5
GERES	GERESS Array B	84.72	322	P	P	22 22 30.5	+1.0
	comp=Z,1.4nm,0.7s,mb4.2,baz=37,slow=6.7,SNR=9.2						
KMBO	Kilima Mbogo	88.78	268	P	P	22 22 51.3	+1.2
	comp=Z,1.1nm,0.9s,mb4.2,baz=47,slow=18,SNR=3.3						
HLID	Hailey	92.58	39	eP	P	22 23 09.4	+2.4
	comp=Z,2.6nm,0.8s,mb4.7						

*IDC **05** 22:10:10.7±2.6, 25.65N×124.75E, h86^{km}±25^{km}, mb4.0/18, mb1 4.1/19, mb1mx4.1/27, MS3.3/1, Ms1 3.3/1, ms1mx2.7/26, Error ellipse: s-maj=19.0km s-min=10.8km az=69.0*

ISC 05 22:10:10.5±7.3**, 24.8N**±0.1×**125.4E**±0.2**, h30**^{km}±53^{km}**, n7,** σ**0**^{s}**58**/8**, mb4.3**/6**, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOW	Kunigami	3.32	51	P	Pn	22 11 01.9	+0.1
	38nm,0.3s,baz=254,slow=11,SNR=16						
JOW				S	Sn	22 11 40.6	-0.1
	44nm,0.3s,baz=118,slow=27,SNR=6.2						
FITZ	Fitzroy Crossi	42.60	180	P	P	22 18 05.6	-0.3
	1.8nm,0.6s,mb4.0,baz=7.4,slow=12,SNR=6.7						
WRA	Warramunga Arr	45.28	168	P	P	22 18 27.4	-0.1
	17nm,0.9s,mb4.9,baz=349,slow=7.8,SNR=30						
ASAR	Alice Springs	48.84	170	P	P	22 18 54.8	-0.6
	2.8nm,0.5s,mb4.5,baz=358,slow=8.1,SNR=26						
CTA	Charters Tower	48.99	154	P	P	22 18 57.5	+0.9
	2.0nm,0.6s,mb4.3,baz=350,slow=8.2,SNR=4.0						
STKA	Stephens Creek	58.41	164	P	P	22 20 05.9	+0.1
	3.7nm,0.7s,mb4.6,baz=356,slow=6.6,SNR=12						
KEV	Kevo	69.86	338	ep	P	22 21 20.1	+0.1
	0.2nm,0.3s,mb3.5						

*IDC **05** 22:27:09.3±0.6, 41.78N×81.78E, mb4.3/16, mb1 4.4/20, mb1mx4.3/27, ML3.9/4, MS2.8/1, Ms1 3.0/1, ms1mx2.2/32, Error ellipse: s-maj=16.1km s-min=10.7km az=65.0*

*BJI **05** 22:27:10.2, 41.66N×81.87E, h8^{km}, mB4.4, mb4.3, ML4.5, Ms4.0, Msz3.8*

*NEIC **05** 22:27:10.0±2.6, 41.72N×81.75E, h4^{km}±17^{km}, mb4.4/14, Error ellipse: s-maj=9.3km s-min=5.3km az=64.0*

*MOS **05** 22:27:12.5±1.3, 41.80N×81.70E, h34^{km}, mb4.5/13, Error ellipse: s-maj=16.9km s-min=7.7km az=107.0*

*NNC **05** 22:27:15.8±2.2, 42.24N×81.43E, mpv4.1, Error ellipse: s-maj=23.9km s-min=12.8km az=145.0*

ISC 05 22:27:10.9±1.2**, 41.68N**±0.03×**81.75E**±0.04**, h24**^{km}±10^{km}**, n107,** σ**1**^{s}**29**/116**, mb4.3**/34**, MS3.1**/2**, 8C-6D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAA	Alma-Ata	3.89	296	ePN	Pn	22 28 19.2	+8.4
AAA				pmax	pmax		
	comp=Z,188nm,0.7s						
AAA				MLR	MLR		
	comp=Z,600nm,8.0s						
ULHL	Ulahol	4.14	280	P	Pn	22 28 15.7	+1.3
	SNR=16						
TKM2	Tokmak 2	4.73	287	P	Pn	22 28 24.0	+1.3
	SNR=122						
WMQ	Urumqi	4.88	62	eP	Pn	22 28 27.0	+2.3
WMQ				S	Sn	22 29 22.0	+0.8
WMQ				Smax			
	comp=N,306nm,1.0s						
WMQ				Smax			
	comp=E,394nm,1.0s						
KSH	Kashi	4.90	246	P	Pn	22 28 28.4	+3.4
KSH				eSG	Sn	22 29 39.0	+17
KSH				Smax			
	comp=N,610nm,1.3s						
KSH				Smax			
	comp=E,440nm,1.0s						
MK31	Makanchi Array	5.13	4	⇑Pn	Pn	22 28 29.2	+0.8
	comp=E,9.3nm,0.4s,baz=187,slow=13,SNR=742						
MK31				⇑Lg		22 29 49.9	
	comp=E,219nm,0.8s,baz=190,slow=27,SNR=5.5						
MKAR	Makanchi Array	5.13	4	Pn	Pn	22 28 29.1	+0.8
	comp=E,10nm,0.3s,baz=184,slow=13,SNR=189						
MKAR				Sn	Sn	22 29 26.1	-1.4
	comp=E,16nm,0.3s,baz=190,slow=21,SNR=5.7						
MKAR				Lg		22 29 49.3	
	comp=E,25nm,0.3s,baz=187,slow=26,SNR=5.3						
MKAR	Makanchi Array	5.13	4	PN	Pn	22 28 29.1	+0.8
MKAR						22 29 26.2	
MKAR				pmax	pmax		
	comp=Z,10.0nm,0.3s						
MKAR				smax			
	comp=N,16nm,0.3s						
KBK	Karagaybulak	5.15	283	P	Pn	22 28 29.6	+1.0
	SNR=36						
CHMS	Chumysh	5.35	287	P	Pn	22 28 32.7	+1.2
	SNR=5.9						
FRU	Bishkek	5.42	285	ePN	Pn	22 28 41.0	+8.6
FRU				pmax	pmax		
	comp=Z,330nm,1.6s						
FRU				pmax	pmax		
	comp=E,1μm,1.9s						
UCH	Uchtor	5.42	278	P	Pn	22 28 46.6	+14
	SNR=8.0						
AAK	Ala-Archa	5.48	282	⇓Pn	Pn	22 28 34.0	+0.8
	comp=E,6.1nm,0.4s						
AAK				⇑Lg		22 29 59.6	
	comp=E,164nm,0.8s						
AAK	Ala-Archa	5.48	282	P	Pn	22 28 34.3	+1.1
	SNR=13						
AAK	Ala-Archa	5.48	282	d iPN	Pn	22 28 33.1	-0.1
AAK	Ala-Archa	5.48	282	ePn	Pn	22 28 33.1	-0.1
	comp=E,6.3nm,0.3s						
USP	Ospenovka	5.59	289	P	Pn	22 28 34.9	0.0
	SNR=16						
EKS2	Erkin-Say	6.00	282	P	Pn	22 28 47.3	+6.7
	SNR=7.5						
AML	Almayashu	6.03	277	P	Pn	22 28 43.1	+2.1
	SNR=22						
KURK	Kurchatov	9.30	348	⇑Pn	P	22 29 25.4	-1.3
	comp=E,16nm,0.7s						
KURK				⇓Sn	Sn	22 31 03.2	-8.3
	comp=E,30nm,0.8s						
KURK				⇑Lg		22 31 48.2	
	comp=E,38nm,0.8s						
KURK	Kurchatov	9.30	348	P	P	22 29 25.3	-1.3
KURK						22 31 03.2	
KURK				pmax	pmax		
	comp=Z,11nm,0.7s						
KURK				smax			
	comp=Z,24nm,0.8s						
KURK				smax			
	comp=Z,31nm,0.8s						
KURK	Kurchatov	9.30	348	eP	P	22 29 30.1	+3.5
	comp=Z,6.6nm,0.6s						
THN	Thein Dam	10.40	209	eP	P	22 29 39.5	-2.3
THN				eS	S	22 31 35.8	-2.9
KLP	Kalpa	10.50	197	eP	P	22 29 42.4	-0.8
KLP				eS	S	22 31 34.7	-6.4
KLP				AML	AML	22 31 46.7	
	comp=N,78nm,0.3s						
KLP				AML	AML	22 31 47.2	
	comp=E,93nm,0.3s						
DDI	Dehra Dun	11.72	196	eP	P	22 29 56.9	-2.8
DDI				e		22 32 10.3	
KKR	Kurukshetra	12.35	200	eP	P	22 30 09.4	+1.2
ZAL	Zalesovo	12.44	8	Pn	P	22 30 06.7	-2.6
	comp=E,1.0nm,0.3s,baz=294,slow=8.2,SNR=12						
ZAL				Lg		22 33 43.9	
	comp=E,0.2nm,0.3s,baz=21,slow=14,SNR=2.1						
NVS	Novosibirsk	13.21	4	eP	P	22 30 21.1	+1.5
NVS				eS	S	22 32 39.6	-7.1
VOSK	Vostochnaya	13.24	330	⇑Pn	P	22 30 16.5	-3.4
	comp=E,5.0nm,0.7s						
VOSK				⇓Lg		22 33 50.0	
	comp=E,43nm,1.6s						
VOSK	Vostochnaya	13.24	330	P	P	22 30 16.4	-3.5
VOSK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ASOR	Ausora	13.29	195	eP	P	22 30 18.0	-2.7
NDI	New Delhi	13.48	197	e	P	22 30 34.5	+11
NDI				e		22 32 34.0	
BHGR	Bahadurgarh	13.54	198	i	Sx	22 32 42.7	
AYAN	Aya Nagar	13.69	197	eP	P	22 30 24.9	-1.1
BVAR	Borovoye Array	13.70	330	Pn	P	22 30 22.2	-3.7
	comp=Z,0.4nm,0.3s,baz=139,slow=15,SNR=3.6						
BVAR				Lg		22 34 22.2	
	comp=Z,0.4nm,0.3s,baz=131,slow=31,SNR=3.2						
BRVK	Borovoye	13.76	330	eP	P	22 30 27.0	+0.3
	comp=Z,2.2nm,0.6s						
GKN	Gorkha	13.84	169	eP	P	22 30 27.3	-0.7
	comp=Z,20nm,0.6s						
SONA	Sohna	13.93	197	eP	P	22 30 28.3	-0.8
SONA				e		22 32 53.1	
SONA				AML	AML	22 32 58.3	
	comp=E,11nm,0.5s						
SONA				AML	AML	22 32 58.3	
	comp=N,8.2nm,0.2s						
GTA	Gaotai	13.93	93	eP	P	22 30 27.4	-1.6
GTA				AP		22 30 32.0	
GTA				XP		22 30 35.0	
GTA				S	S	22 33 14.0	+10
GTA				LG2		22 34 43.1	
GTA				AMB	AMB		
	comp=Z,2.0nm,0.9s						
GTA				AMB	AMB		
	comp=Z,49nm,6.1s						
GTA				LR	LR		
	comp=N,65nm,11.5s						
GTA				LR	LR		
	comp=E,96nm,10.7s						
GTA				LR	LR		
	comp=Z,144nm,13.8s						
KOLN	Koldanda	13.96	173	eP	P	22 30 25.3	-4.2
	comp=Z,12nm,0.6s						
GUN	Gumba	14.14	165	eP	P	22 30 33.8	+1.9
	comp=Z,30nm,0.6s						
KKN	Kakani	14.15	167	eP	P	22 30 31.5	-0.6
	comp=Z,11nm,0.5s						
KUDL	Kundal	14.17	199	eP	P	22 30 28.3	-4.0
LSA	Lhasa	14.17	145	P	P	22 30 35.0	+2.7
ZRNK	Zerenda	14.18	327	⇓Pn	P	22 30 29.8	-2.5
	comp=Z,7.5nm,0.7s						
ZRNK				⇑Lg		22 34 34.9	
	comp=Z,29nm,1.0s						
ZRNK	Zerenda	14.18	327	eP	P	22 30 30.6	-1.6
	comp=Z,6.3nm,1.0s						
DMN	Daman	14.30	168	eP	P	22 30 32.2	-1.8
	comp=Z,14nm,0.5s						
PKI	Pulchoki	14.39	167	eP	P	22 30 33.9	-1.2
	comp=Z,11nm,0.6s						
KHET	Khetri	14.41	202	eP	P	22 30 32.4	-3.1
KHET				e		22 33 04.2	
KHET				AML	AML	22 33 09.8	
	comp=N,18nm,0.1s						
KHET				AML	AML	22 33 10.0	
	comp=E,14nm,0.3s						
SONM	Songino Array	18.51	62	P	P	22 31 26.1	-1.3
	comp=E,0.2nm,0.3s,baz=260,slow=8.1,SNR=28						
SVE	Sverdlovsk	20.36	325	⇓eP	P	22 31 48.2	0.0
SVE				e		22 32 09.9	
ARU	Arti	21.04	322	⇑iP	P	22 31 53.5	-1.7
ARU				e		22 32 11.0	
ARU				eS	S	22 35 44.2	+0.9
ARU				eSS	SS	22 36 08.0	-8.3
ARU				pmax	pmax		
	comp=Z,29nm,0.9s,mb4.6						
ARU	Arti	21.04	322	eP	P	22 31 53.6	-1.6
	comp=Z,34nm,0.9s,mb4.7						
HYB	Hyderabad	24.33	187	i P	P	22 32 28.0	0.0
ENH	Enshi	25.06	108	eP	P	22 32 38.0	+3.1
	comp=Z,9.7nm,0.7s,mb4.4						
BOD	Bodaibo	26.02	41	eP	P	22 32 41.9	-1.7
CM31	Chiang Mai Arr	27.41	142	eP	P	22 32 58.1	+1.4
	comp=Z,1.3nm,0.4s,mb3.8						
CMAR	Chiang Mai Arr	27.41	142	P	P	22 32 57.4	+0.8
	comp=Z,3.3nm,1.2s,mb3.7,baz=321,slow=8.3,SNR=7.1						
CMAR				LR	LR	22 45 24.1	
	comp=Z,18nm,19.7s,MS2.7,baz=98,slow=40						
CMAR	Chiang Mai Arr	27.41	142	P	P	22 32 57.4	+0.7
CMAR				pmax	pmax		
	comp=Z,3.0nm,1.2s						
CMAR				MLR	MLR		
	comp=Z,19nm,19.7s						
SOC	Sochi	30.75	288	eP	P	22 33 24.0	-2.4
SOC				e		22 34 23.3	
SOC				eS	S	22 38 19.7	-7.2
SOC				eSS	SS	22 40 03.2	-6.4
SOC				eSSS	SSS	22 40 27.7	-3.7
SOC				pmax	pmax		
	comp=Z,15nm,0.7s,mb4.9						
SOC				pmax	pmax		
	comp=N,6.0nm,0.5s						
SOC				pmax	pmax		
	comp=E,25nm,0.8s						
SOC				MLR	MLR		
	comp=N,84nm,16.0s,MS3.6						
SOC				MLR	MLR		
	comp=Z,83nm,16.0s,MS3.5						
SOC				MLR	MLR		
	comp=E,62nm,15.0s,MS3.6						
NJ2	Nanjing	31.00	96	eP	P	22 33 31.5	+2.8
MDJ	Mudanjiang	34.64	69	P	P	22 33 59.8	-0.5
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.6s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,42nm,5.4s						
RAYN	Ar Rayn	35.17	250	P	P	22 34 05.3	+0.3
	comp=Z,38nm,0.8s,mb5.4,SNR=10.0						
BRTR	Keskin Array B	36.15	283	P	P	22 34 13.8	+0.6
	comp=Z,2.8nm,0.6s,mb4.4,baz=98,slow=8.7,SNR=16						
BRTR	Keskin Array B	36.15	283	P	P	22 34 13.8	+0.6
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
TIXI	Tiksi	37.84	22	eP	P	22 34 26.5	-0.5
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.1						
CSS	Prodhromos	38.16	276	P	P	22 34 32.6	+2.5
	comp=Z,4.2nm,0.5s,mb4.4						
KAF	Kangasniemi	38.33	321	ep	P	22 34 36.5	+5.3
	comp=Z,0.6nm,0.4s,mb3.7						
KAF	Kangasniemi	38.33	321	eP	P	22 34 36.5	+5.3
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
FINES	FINESS Array B	38.38	320	P	P	22 34 31.1	-0.5
	comp=Z,2.4nm,0.8s,mb4.0,baz=106,slow=12,SNR=6.4						
FINES	FINESS Array B	38.38	320	P	P	22 34 31.2	-0.4
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KEV	Kevo	39.51	333	ep	P	22 34 40.1	-0.9
	comp=Z,0.9nm,0.4s,mb3.9						
KEV	Kevo	39.51	333	eP	P	22 34 40.1	-0.9
KEV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
MLR	Muntele Rosu	39.91	295	P	P	22 34 45.4	+0.8
	comp=Z,2.6nm,0.7s,mb4.1,baz=134,slow=5.9,SNR=6.1						
MLR	Muntele Rosu	39.91	295	P	P	22 34 45.4	+0.8
MLR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ARCES	ARCESS Array B	39.96	333	P	P	22 34 44.6	-0.1
	comp=Z,1.7nm,0.5s,mb4.1,baz=90,slow=7.8,SNR=22						
ARCES	ARCESS Array B	39.96	333	P	P	22 34 44.6	-0.1
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MORC	Moravsky Berou	44.30	303	P	P	22 35 20.5	+0.2
	comp=Z,2.5nm,0.6s,mb4.1						
HFS	Hagfors	44.47	318	P	P	22 35 21.2	-0.3
	comp=Z,6.5nm,0.8s,mb4.4,baz=90,slow=10,SNR=13						
HFS	Hagfors	44.47	318	P	P	22 35 21.2	-0.3
HFS				pmax	pmax		
	comp=Z,7.0nm,0.8s						
NB2	NORSAR Subarra	45.56	320	P	P	22 35 29.4	-0.8
	comp=Z,7.2nm,0.5s,mb4.9,baz=82,slow=7.9						
NOA	NORSAR Array B	45.56	320	P	P	22 35 29.8	-0.4
	comp=Z,6.6nm,0.5s,mb4.8,baz=81,slow=7.9,SNR=19						
NOA	NORSAR Array B	45.56	320	P	P	22 35 29.8	-0.4
NOA				pmax	pmax		
	comp=Z,7.0nm,0.5s						
GERES	GERESS Array B	46.98	303	P	P	22 35 42.2	+0.6
	comp=Z,0.4nm,0.5s,mb3.6,baz=56,slow=7.1,SNR=3.7						
DAVOX	Davos	50.10	302	P	P	22 36 05.3	-0.5
	comp=Z,2.7nm,0.7s,mb4.4,baz=113,slow=7.7,SNR=3.8						
JMIC	Jan Mayen	51.34	335	P	P	22 36 13.3	-1.7
	comp=Z,142nm,0.4s,baz=164,slow=8.3,SNR=3.8						
PGF	Pioggiola	52.38	297	eP	P	22 36 23.1	0.0
	comp=Z,12nm,1.0s,mb4.5						
LPG	La Plagne	52.61	301	eP	P	22 36 25.0	+0.2
	comp=Z,10nm,0.7s,mb4.6						
LPL	La Plagne	52.61	301	eP	P	22 36 25.0	+0.1
	comp=Z,15nm,0.9s,mb4.6						
BNI	Bardonecchia	52.84	301	P	P	22 36 25.9	-0.6
	comp=Z,6.7nm,0.8s,mb4.6						
SBF	Sospel	52.85	299	eP	P	22 36 26.5	-0.2
ORIF	Oris-en-Rattie	53.41	301	eP	P	22 36 30.4	-0.4
	comp=Z,5.9nm,0.6s,mb4.4						
LOR	Lormes	53.69	304	eP	P	22 36 32.2	-0.6
KMBO	Kilima Mbogo	58.58	235	P	P	22 37 08.6	+0.3
	comp=Z,0.7nm,0.9s,mb3.7,baz=22,slow=8.0,SNR=3.9						
IMA	Indian Mountai	64.44	22	eP	P	22 37 46.9	-0.1
ILAR	Eielson Array	67.28	20	P	P	22 38 04.2	-1.0
	comp=Z,4.4nm,1.1s,mb4.4,baz=314,slow=5.4,SNR=18						
ILAR	Eielson Array	67.28	20	P	P	22 38 04.2	-0.9
ILAR				pmax	pmax		
	comp=Z,4.0nm,1.1s						
THY	Trims Highway	68.66	21	eP	P	22 38 13.5	-0.3
FITZ	Fitzroy Crossi	72.01	136	P	P	22 38 35.6	+0.7
	comp=Z,3.3nm,0.6s,mb4.4,baz=268,slow=1.8,SNR=9.4						
LSZ	Lusaka	75.17	233	P	P	22 38 55.5	+2.2
	comp=Z,0.7nm,0.7s,mb3.7						
WRAB	Tennant Creek	78.25	130	P	P	22 39 10.5	0.0
	comp=Z,6.8nm,0.7s,mb4.7						
WRA	Warramunga Arr	78.26	130	P	P	22 39 11.6	+1.1
	comp=Z,3.5nm,0.7s,mb4.4,baz=327,slow=5.5,SNR=42						
WRA	Warramunga Arr	78.26	130	P	P	22 39 11.6	+1.1
WRA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ASAR	Alice Springs	80.97	133	P	P	22 39 26.2	+1.1
	comp=Z,2.6nm,0.7s,mb4.3,baz=327,slow=5.4,SNR=24						
DBIC	Dimbokro	83.08	273	P	P	22 39 36.0	-0.2
	comp=Z,4.3nm,1.0s,mb4.5,baz=51,slow=4.2,SNR=3.8						
DBIC	Dimbokro	83.08	273	P	P	22 39 36.0	-0.2
DBIC				pmax	pmax		
	comp=Z,4.0nm,1.0s						
STKA	Stephens Creek	91.60	133	P	P	22 40 18.7	+1.6
	comp=Z,1.4nm,0.7s,mb4.4,baz=223,slow=24,SNR=3.3						

*NEIC **05** 22:30:36.7±0.8, 51.43N×16.17E, h5^{km}, ML3.1(VIE), ML2.9(SZGRF), ML2.6(BRG), Error ellipse: s-maj=9.1km s-min=4.2km az=201.0*

*PRU **05** 22:30:37.8, 51.38N×16.15E*

*WAR **05** 22:30:37.1, 51.45N×16.16E, ML2.9, Mining Induced*

ISC 05 22:30:35.5±0.6**, 51.39N**±0.03×**16.12E**±0.04**, n24,** σ**1**^{s}**10**/52**, 2C-2D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.55	168	ePG	Pg	22 30 48.0	+1.4
KSP				eSG	Sg	22 30 57.0	+3.0
KSP	Ksiaz	0.55	168	⇓iPg	Pg	22 30 48.3	+1.7
KSP				eSg	Sg	22 30 56.5	+2.5
KSP	Ksiaz	0.55	168	ePg	Pg	22 30 48.4	+1.8
KSP				eSg	Sg	22 30 56.9	+2.9
UPC	Upice	0.88	184	ePG	Pg	22 30 54.5	+1.4
DPC	Dobruska-Polom	1.04	173	ePG	Pg	22 30 57.2	+0.8
DPC				eSG	Sg	22 31 11.7	+1.4
	54nm,0.4s						
PVCC	Panska Ves	1.30	229	ePG	Pg	22 31 02.6	+1.1
BRG	Berggiesshubel	1.46	250	ePn	Pn	22 31 03.9	+0.7

BRG				i Pg	Pg	22 31 05.0	+0.3
BRG				i Sg	Sg	22 31 25.2	+1.0
PRU	Pruhonice	1.72	216	ePN	Pn	22 31 08.1	+1.2
PRU				i PG	Pg	22 31 09.1	-0.8
PRU				i x	x	22 31 12.9	
PRU				SG	Sg	22 31 32.6	-0.2
	33nm,0.3s						
MORC	Moravsky Berou	1.85	150	ePn	Pn	22 31 09.4	+0.6
CLL	Collm	1.96	269	ePN	Pn	22 31 11.0	+0.7
CLL				ePG	Pg	22 31 14.0	-0.5
CLL				e		22 31 18.0	
CLL				i SG	Sg	22 31 40.5	-0.1
CLL	Collm	1.96	269	ePn	Pn	22 31 11.0	+0.7
CLL				ePg	Pg	22 31 14.0	-0.5
CLL				i Sg	Sg	22 31 40.5	-0.1
OKC	Ostrava-Krasne	2.02	139	ePN	Pn	22 31 11.0	-0.2
OKC				ePG	Pg	22 31 15.8	0.0
OKC				eSG	Sg	22 31 41.3	-1.4
NKC	Novy Kostel	2.60	245	ePN	Pn	22 31 20.3	+0.8
NKC				ePG	Pg	22 31 26.8	-0.6
NKC				eSG	Sg	22 32 01.6	-0.4
OJC	Ojcow	2.61	115	ePG	Pg	22 31 27.0	-0.6
OJC				eSG	Sg	22 32 02.0	-0.4
OJC	Ojcow	2.61	115	ePg	Pg	22 31 26.7	-0.9
OJC				eSg	Sg	22 32 02.0	-0.4
OJC	Ojcow	2.61	115	ePg	Pg	22 31 26.7	-0.9
OJC				eSg	Sg	22 32 02.0	-0.4
OJC				⇓((			
KHC	Kasperske Hory	2.78	217	ePN	Pn	22 31 23.0	+0.9
KHC				ePG	Pg	22 31 28.7	-2.4
KHC				eSN	Sn	22 31 57.8	+0.9
KHC				eSG	Sg	22 32 06.2	-2.0
MOX	Moxa	2.94	257	ePg	Pg	22 31 33.5	-0.7
MOX				eSg	Sg	22 32 13.2	-0.1
GEC2	GERESS Array S	2.98	212	ePn	Pn	22 31 26.2	+1.3
GEC2				eSg	Sg	22 32 12.2	-2.5
SMOL	Smolenice	3.00	163	ePG	Pg	22 31 35.4	+0.1
SMOL				eSG	Sg	22 32 14.3	-1.0
WET	Wettzell	3.06	224	ePn	Pn	22 31 26.6	+0.6
VKA	Vienna	3.13	178	⇑iPG	Pg	22 31 36.7	-1.2
VKA				i SG	Sg	22 32 19.7	+0.1
MOA	Molln	3.74	200	⇑iPN	Pn	22 31 35.1	-0.6
MOA				i SG	Sg	22 32 38.5	-1.5
	16nm,0.6s						
BSD	Bornholm Skovb	3.81	350	i P	Pn	22 31 33.6	-3.0
BSD				i S	Sn	22 32 16.5	-6.3

IDC ***05*** *22:40:46.1±0.7, 59.76S×28.59W, mb4.2/6, mb1 4.2/7, mb1mx4.1/14, ML3.6/1, MS3.8/2, Ms1 3.8/2, ms1mx3.1/14, Error ellipse: s-maj=34.8km s-min=20.0km az=43.0*
NEIC ***05*** *22:40:52.1±2.5, 59.76S×28.67W, h42km±24km, mb4.4/7, Error ellipse: s-maj=17.4km s-min=9.9km az=220.0*
ISC 05 22:40:46.3±0.5**, 59.70S**±0.10×**28.6W**±0.2**, h10**km**, n23, σ0s84**/16**, mb4.3**/12**, MS3.8**/2**, 1C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	Sanae	15.83	150	⇑i	P	22 44 29.7	-0.7
SNAA	Sanae	15.83	150	Pn	P	22 44 29.0	-1.4
	0.2nm,0.3s,baz=328,slow=16,SNR=11						
PMSA	Palmer Station	17.09	238	P	P	22 44 40.2	-6.3
	13nm,0.9s						
USHA	Ushuaia	21.82	265	P	P	22 45 41.5	+1.3
	4.9nm,1.0s,mb3.9,baz=72,slow=1.5,SNR=4.5						
USHA				LR	LR	22 52 18.3	
	comp=Z,195nm,19.2s,MS3.5,baz=44,slow=32						
TRQA	Tornquist	30.30	301	eP	P	22 46 57.9	-1.7
	3.8nm,0.9s,mb4.1						
QSPA	South Pole Qui	30.54	180	eP	P	22 47 02.1	+0.8
	5.7nm,0.8s,mb4.5						
MAW	Mawson	37.72	141	P	P	22 48 03.4	+0.2
	2.9nm,0.7s,mb4.1,baz=243,slow=8.6,SNR=5.9						
CPUP	Villa Florida	38.80	317	P	P	22 48 13.6	+0.8
	5.2nm,0.7s,mb4.4,baz=175,slow=8.2,SNR=12						
BDFB	Brasilia	46.23	334	P	P	22 49 13.0	-0.3
	2.1nm,0.5s,mb4.3,baz=139,slow=9.3,SNR=3.0						
LVC	Limon Verde	46.61	305	eP	P	22 49 15.5	-0.7
	63nm,0.4s						
TSUM	Tsumeb	52.17	60	P	P	22 50 00.1	+1.1
	1.4nm,0.6s,mb4.1,baz=235,slow=3.8,SNR=3.7						
SAML	Samuel	56.92	318	eP	P	22 50 33.4	-0.5
	6.5nm,0.6s,mb4.8						
LSZ	Lusaka	60.43	68	eP	P	22 50 58.4	+0.2
	2.6nm,0.7s,mb4.4						
DBIC	Dimbokro	68.81	25	eP	P	22 51 52.2	-0.5
	3.2nm,0.7s,mb4.4						
SDV	Santo Domingo	76.11	317	eP	P	22 52 36.6	+0.8
	6.3nm,0.7s,mb4.7						
KMBO	Kilima Mbogo	77.06	69	LR	LR	23 22 58.7	
	comp=Z,70nm,20.5s,MS4.0,baz=266,slow=33						
ASAR	Alice Springs	95.70	164	P	P	22 54 12.8	-0.5
	0.5nm,0.6s,mb4.1,baz=181,slow=4.4,SNR=5.5						
CMAR	Chiang Mai Arr	124.38	114	PKP	PKPdf	22 59 46.1	-2.4
	0.4nm,0.6s,baz=231,slow=5.8,SNR=3.4						
FINES	FINESS Array B	127.96	30	PKP	PKPdf	22 59 52.0	-2.3
	7.8nm,1.3s,baz=90,slow=1.9,SNR=6.2						
ZAL	Zalesovo	144.52	69	PKP	PKPdf	23 00 21.1	-3.5
	2.3nm,0.5s,baz=230,slow=3.1,SNR=12						
INK	Inuvik	148.06	317	PKPbc	PKPdf	23 00 30.6	+0.5
	2.8nm,0.7s,baz=77,slow=6.3,SNR=6.2						
SONM	Songino Array	151.47	94	PKPbc	PKPdf	23 00 40.1	+4.1
	0.9nm,0.5s,baz=222,slow=3.1,SNR=12						
ILAR	Eielson Array	151.84	307	PKPbc	PKPdf	23 00 40.1	+4.0
	1.5nm,0.8s,baz=314,slow=0.8,SNR=16						

BER ***05*** *23:16:54.5±2.9, 67.87N×20.12E, ML1.6, Suspected explosion*
HEL 05 23:16:53.8±0.1**, 67.84N×20.18E, ML1.9, ML2.2**(UPP)**, ML1.6**(BER)**, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.13	27	i P	Pg	23 16 55.8	-0.5
KUA				i S	Sg	23 16 57.7	-0.3
NIKU	Nikkaluokta	0.44	274	i P	Pg	23 17 01.5	-1.0
DUNU	Dundret	0.74	168	i P	Pg	23 17 07.1	-1.4
MASU	Masugnsbyn	0.79	118	i P	Pg	23 17 07.8	-1.8
KIF	Kilpisjarvi	1.19	11	eP	Pb	23 17 16.1	-0.9
KIF				eS	Sb	23 17 32.8	+0.1
ERTU	Ertsjaerv	1.51	148	eP	Pn	23 17 20.2	-2.1
KTK1	Kautokeino	1.63	42	eP	Pn	23 17 23.2	-0.7
KTK1				eSN	Sn	23 17 45.4	-0.5
KTK1				AML	AML	23 17 50.0	
	comp=Z,8.4nm,0.3s						
TRO	Tromso	1.86	346	eP	Pn	23 17 25.9	-1.3
TRO				eS	Sn	23 17 49.7	-2.0
TRO				AML	AML	23 17 53.1	
	comp=Z,8.0nm,0.3s						
SGF	Sodankyl	2.46	96	eS	Sn	23 18 06.3	-0.7
LOF	Lofoten	2.52	280	eSG	Sg	23 18 14.0	-3.7
LOF				AML	AML	23 18 16.3	
	comp=Z,8.0nm,0.6s						
MELS	Mels	2.69	252	eSg	Sg	23 18 17.5	-5.8
MOR8	Moi Rana	2.81	236	eSG	Sg	23 18 16.6	-11
MOR8				AML	AML	23 18 21.9	
	comp=Z,8.9nm,0.3s						
KEV	Kevo	3.14	49	eS	Sn	23 18 22.6	-1.6
KEV				MSG		23 18 33.5	
	comp=Z,2.6nm,0.3s						
OUL	Oulu	3.59	138	MSG		23 18 54.1	
	comp=Z,2.1nm,0.2s						
MSF	Maaselka	4.00	115	eS	Sn	23 18 42.0	-3.9
MSF				MSG		23 19 05.3	
	comp=Z,1.9nm,0.3s						
NSS	Namsos	4.71	229	eSG	Sg	23 19 19.9	-11
KJN	Kajaani	4.87	137	eS	Sn	23 19 03.0	-4.9

TIR ***05*** *23:21:18.8, 41.76N×19.63E, h45km, Ml3.0*
PDG ***05*** *23:21:20.3±0.5, 41.77N×19.53E, h16km±1km*
NEIC ***05*** *23:21:20.3, 41.77N×19.53E, h16km, ML2.8(PDG), After PDG.*
CSEM ***05*** *23:21:20.0±0.1, 41.80N×19.63E, h15km, ML3.0, Error ellipse: s-maj=1.4km s-min=1.0km az=60.0*
THE ***05*** *23:21:23.1, 41.63N×19.48E, h20km, ML3.3*
ISC 05 23:21:19.9±0.3**, 41.71N**±0.02×**19.50E**±0.02**, h19**km±3km**, n68, σ1s11**/104**, 12C-5D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LACI	Lac	0.17	114	i Pg	Pb	23 21 24.4	-0.2
LACI				i Sg	Sb	23 21 28.4	+0.7
PRZA	Preza	0.30	156	i Pg	Pb	23 21 28.0	+1.4
PRZA				i Sg	Sb	23 21 34.8	+3.7
PRZA	Preza	0.30	156	ePg	Pb	23 21 28.0	+1.4
PRZA				i Sg	Sb	23 21 34.8	+3.7
ULC	Ulcinj	0.32	324	⇑iPg	Pb	23 21 26.8	-0.1
ULC				eSg	Sb	23 21 31.6	0.0
SDA	Shkodra	0.34	359	i Pg	Pb	23 21 26.3	-1.0
SDA				i Sg	Sb	23 21 31.8	-0.5
QSH	Qafa e Shtames	0.35	121	i pg?	Pb	23 21 26.0	-1.4
QSH				i Sg	Sb	23 21 31.0	-1.5
PUK	Puka	0.44	41	i Pg	Pb	23 21 27.3	-1.7
PUK				i Sg	Sb	23 21 33.7	-1.4
TIR	Tirane	0.45	143	i Pg	Pb	23 21 29.3	+0.2
TIR				i Sg	Sb	23 21 37.4	+2.1
TTG	Podgorica	0.74	346	⇑iPg	Pb	23 21 33.0	-1.0
TTG				eSg	Sb	23 21 43.8	0.0
TTG	Podgorica	0.74	346	⇑iPg	Pb	23 21 33.0	-1.1
TTG				eSg	Sb	23 21 43.8	0.0
BUM	Brajici-Budva	0.75	323	⇑iPg	Pb	23 21 34.1	0.0
BUM				eSg	Sb	23 21 45.2	+1.4
BUM	Brajici-Budva	0.75	323	⇑iPg	Pb	23 21 34.1	0.0
BUM				eSg	Sb	23 21 45.2	+1.4
BCI	Bajram Curri	0.78	32	i Pg	Pb	23 21 33.0	-1.7
BCI				i Sg	Sb	23 21 44.0	-0.8
BCI	Bajram Curri	0.78	32	ePg	Pb	23 21 33.0	-1.7
BCI				i Sg	Sb	23 21 44.0	-0.8
PVY	Plav	0.95	21	⇑iPg	Pb	23 21 36.0	-1.6
PVY				eSg	Sb	23 21 50.3	+0.5
HCY	Herceg Novi	1.05	315	⇑iPg	Pb	23 21 40.2	+0.8
HCY				eSg	Sb	23 21 55.9	+3.2
OHR	Ohrid	1.14	121	i Pg	Pb	23 21 41.2	+0.4
OHR				i Sg	Sb	23 21 58.8	+3.6
NKY	Niksic	1.17	341	⇓iPg	Pb	23 21 41.0	-0.3
NKY				eSg	Sb	23 21 58.2	+2.2
IVA	Berane	1.20	14	⇓iPg	Pb	23 21 40.9	-1.0
IVA				eSg	Sb	23 21 59.1	+2.2
BRY	Bratogost	1.39	329	⇓iPg	Pn	23 21 45.8	+1.2
BRY				eSg	Sb	23 22 05.8	+3.4
SKO	Skopje	1.47	79	⇑iPn	Pn	23 21 46.1	+0.4
SKO				i Sg	Sn	23 22 05.6	+1.0
SKO				Lg		23 22 07.0	
	comp=Z,0.1nm,0.6s						
BIA	Bitola	1.53	116	i Pn	Pn	23 21 48.1	+1.5
BIA				i Sg	Sn	23 22 09.3	+3.1
UPM	Unac-Piva	1.56	344	⇑iPg	Pn	23 21 47.8	+0.8
UPM				eSg	Sn	23 22 10.0	+3.1
PLE	Pljevlja	1.62	357	⇑iPg	Pn	23 21 49.1	+1.1
PLE				eSg	Sn	23 22 10.7	+2.2
FNA	Florina	1.69	123	ePb	Pb	23 21 50.2	+0.1
FNA				eSb	Sb	23 22 10.4	-0.6
FNA	Florina	1.69	123	ePb	Pb	23 21 50.2	+0.1
LCI	Lecce	1.73	218	ePn	Pn	23 21 53.0	+3.5
LCI	Lecce	1.73	218	ePn	Pn	23 21 53.0	+3.6
PE1	Pezze di Greco	1.81	241	ePn	Pn	23 21 50.7	+0.1
BARS	Barje	2.05	56	⇑iPn	Pn	23 21 53.5	-0.5
BARS				Sn	Sn	23 22 18.6	-0.7
BAI	Bari	2.06	254	ePn	Pn	23 21 54.0	-0.2
IGT	Igoumenitsa	2.26	164	ePn	Pn	23 21 57.8	+0.7
IGT				eSn	Sn	23 22 23.2	-1.4
SG1	Sgolgore (BA)	2.30	249	ePn	Pn	23 21 57.4	-0.2
GRG	Griva	2.31	108	ePn	Pn	23 21 58.2	+0.4
GRG				eSn	Sn	23 22 26.4	+0.5
GRUS	Gruza	2.36	22	⇓iPn	Pn	23 21 57.8	-0.6
GRUS				Sn	Sn	23 22 26.1	-1.0
DIVS	Divcibare	2.42	8	⇓iPn	Pn	23 21 58.5	-0.8
DIVS				Sn	Sn	23 22 23.1	-5.5
MS1	Monte Sant'Ang	2.67	271	ePn	Pn	23 22 02.4	-0.5
LIT	Litokhoron	2.77	124	ePn	Pn	23 22 05.4	+1.0
LIT				eSn	Sn	23 22 37.5	-0.2
BOLS	Boljevac	2.79	40	⇑iPn	Pn	23 22 10.2	+5.6
BOLS				Sn	Sn	23 22 43.7	+5.7
SOH	Sokhos	3.03	106	ePn	Pn	23 22 08.6	+0.5
SOH				eSn	Sn	23 22 44.1	-0.2
LKD	Levkas	3.12	163	ePn	Pn	23 22 08.8	-0.5
LKD				eSn	Sn	23 22 45.0	-1.5
SRS	Serrai	3.13	99	ePn	Pn	23 22 09.6	+0.2
SRS				eSn	Sn	23 22 47.5	+0.8
MRLC	Muro Lucano	3.17	254	ePn	Pn	23 22 10.1	0.0
MRLC	Muro Lucano	3.17	254	ePn	Pn	23 22 10.1	0.0
SLCN	Sala Consilina	3.21	247	ePn	Pn	23 22 11.7	+1.1
SLCN	Sala Consilina	3.21	247	ePn	Pn	23 22 11.7	+1.1
SGO	Sicignano	3.37	252	ePn	Pn	23 22 12.9	+0.1
SGO	Sicignano	3.37	252	ePn	Pn	23 22 12.9	0.0
MGR	Morigerati	3.38	244	ePn	Pn	23 22 13.6	+0.6
MGR	Morigerati	3.38	244	ePn	Pn	23 22 13.6	+0.6
GRI	Girifalco	3.72	220	ePn	Pn	23 22 16.8	-1.1
GRI	Girifalco	3.72	220	ePn	Pn	23 22 16.8	-1.1
SGG	Gregorio Mates	3.86	267	ePn	Pn	23 22 19.8	0.0
CII	Carovilli	3.89	272	ePn	Pn	23 22 20.7	+0.4
CII	Carovilli	3.89	272	ePn	Pn	23 22 20.7	+0.4
SDI	San Donato	4.26	272	ePn	Pn	23 22 26.1	+0.5
SDI	San Donato	4.26	272	ePn	Pn	23 22 26.1	+0.6
NVLJ	Novalja	4.43	312	i Pn	Pn	23 22 26.8	-1.2
NVLJ				i Sn	Sn	23 23 17.2	-2.5
SOI	Samo	4.50	217	ePn	Pn	23 22 26.9	-2.0
SOI	Samo	4.50	217	ePn	Pn	23 22 26.9	-2.0
NRCA	Norcia	4.87	285	ePn	Pn	23 22 33.6	-0.6
NRCA	Norcia	4.87	285	ePn	Pn	23 22 33.6	-0.6
MNS	Montasola	5.13	280	ePn	Pn	23 22 37.8	0.0
MNS	Montasola	5.13	280	ePn	Pn	23 22 37.8	0.0
FSSB	Fossombrone	5.34	294	ePn	Pn	23 22 39.3	-1.4
FSSB	Fossombrone	5.34	294	ePn	Pn	23 22 39.3	-1.5
MURB	Monte Urbino	5.39	289	ePn	Pn	23 22 40.7	-0.8
MURB	Monte Urbino	5.39	289	ePn	Pn	23 22 40.7	-0.8

LDG ***05*** *23:35:35.1±0.2, 37.85N×91.35E, h10km, Mb4.8/10, Ms3.2/1, Error ellipse: s-maj=10.9km s-min=6.8km az=117.0*
IDC ***05*** *23:35:36.2±0.6, 37.93N×91.40E, mb4.2/18, mb1 4.3/21, mb1mx4.3/26, ML3.6/3, MS3.2/2, Ms1 3.3/2, ms1mx2.8/22, Error ellipse: s-maj=25.0km s-min=11.7km az=49.0*
MOS ***05*** *23:35:37.6±0.8, 37.88N×91.36E, h24km, mb4.3/9, Error ellipse: s-maj=25.8km s-min=8.7km az=112.0*
BJI ***05*** *23:35:39.1, 38.07N×91.48E, h23km, mb4.6, ML4.4, Ms4.0, Msz3.9*
NNC ***05*** *23:35:40.6±7.4, 38.74N×91.86E, Error ellipse: s-maj=96.6km s-min=82.8km az=90.0*
NEIC ***05*** *23:35:40.3±2.4, 38.03N×91.38E, h24km±19km, mb4.2/6, Error ellipse: s-maj=12.8km s-min=6.8km az=92.0*
ISC 05 23:35:38.8±1.6**, 38.00N**±0.03×**91.39E**±0.04**, h30**km±13km**, n88, σ1s12**/94**, mb4.4**/28**, MS2.9**/1**, 9C-2D, Qinghai**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	Urumqi	6.45	335	eP	Pn	23 37 17.0	+2.6
WMQ				S	Sn	23 38 26.0	-1.8
WMQ				Smax			
	comp=N,384nm,1.0s						
WMQ				Smax			
	comp=E,375nm,1.0s						
WMQ				LR	LR		
	comp=N,321nm,6.5s						
WMQ				LR	LR		
	comp=E,420nm,9.0s						
WMQ				LR	LR		
	comp=Z,297nm,6.6s						
GTA	Gaotai	6.74	75	P	Pn	23 37 18.5	+0.1
GTA				AP		23 37 23.1	
GTA				XP		23 37 26.2	
GTA				S	Sn	23 38 32.7	-2.3
GTA				LG2		23 39 12.1	
GTA				AMB	AMB		
	comp=Z,5.0nm,0.7s						
GTA				LR	LR		
	comp=N,469nm,9.9s						
GTA				LR	LR		
	comp=E,380nm,11.5s						
GTA				LR	LR		
	comp=Z,392nm,11.5s						
LSA	Lhasa	8.28	181	P	P	23 37 42.0	+2.0
LZH	Lanzhou	10.14	97	⇓P	P	23 38 02.9	-2.7
LZH				eS	S	23 40 02.1	+2.8
LZH				XS		23 40 06.0	
LZH				SS	SS	23 40 14.5	+1.7
LZH				AMB	AMB		
	comp=Z,38nm,1.0s						
LZH				LR	LR		
	comp=E,641nm,12.2s						
LZH				LR	LR		
	comp=Z,722nm,13.5s						
MK31	Makanchi Array	11.06	326	⇑Pn	P	23 38 16.5	-1.6
	comp=Z,2.8nm,0.3s,baz=135,slow=14,SNR=207						
MK31				⇑Sn	S	23 40 24.5	+2.7
	comp=Z,17nm,0.7s,baz=135,slow=26						
MKAR	Makanchi Array	11.06	326	Pn	P	23 38 14.8	-3.4
	comp=Z,1.1nm,0.3s,baz=132,slow=14,SNR=45						
MKAR				Sn	S	23 40 19.8	-2.1
	comp=Z,0.8nm,0.3s,baz=135,slow=21,SNR=3.8						
MKAR				Lg		23 41 32.6	
	baz=135,slow=22,SNR=2.6						
MKAR	Makanchi Array	11.06	326	P	P	23 38 16.1	-2.0
MKAR						23 40 18.7	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MKAR				smax			
	comp=Z,12nm,0.6s						
GUN	Gumba	11.07	206	eP	P	23 38 19.4	+1.0
	comp=Z,31nm,1.0s						
KKN	Kakani	11.40	208	eP	P	23 38 22.2	-0.6
	comp=Z,16nm,0.9s						
GKN	Gorkha	11.46	212	eP	P	23 38 24.7	+1.0
	comp=Z,17nm,0.9s						
PKI	Pulchoki	11.55	208	eP	P	23 38 22.9	-2.0
	comp=Z,15nm,0.7s						
DMN	Daman	11.63	209	eP	P	23 38 24.8	-1.1
	comp=Z,12nm,0.4s						
KOLN	Koldanda	12.11	215	eP	P	23 38 31.9	-0.6
	comp=Z,14nm,1.1s						
AAK	Ala-Archa	13.69	295	P	P	23 39 03.4	+10
SONM	Songino Array	14.72	43	Pn	P	23 39 07.2	+0.4
	comp=Z,0.1nm,0.3s,baz=233,slow=14,SNR=11						
SONM				Lg		23 43 15.9	
	comp=Z,0.2nm,0.3s,baz=234,slow=37,SNR=5.3						
XAN	Xi'an	14.73	100	P	P	23 39 12.2	+5.3
XAN				AP		23 39 19.0	
XAN				AMB	AMB		
	comp=Z,11nm,1.0s						
XAN				LR	LR		
	comp=N,248nm,11.4s						
XAN				LR	LR		
	comp=E,320nm,11.1s						
XAN				LR	LR		
	comp=Z,443nm,11.8s						
KURK	Kurchatov	15.62	329	⇑Pn	P	23 39 20.1	+1.7
	comp=Z,4.4nm,0.9s,baz=141,slow=11,SNR=5.5						
KURK				⇑Sn	S	23 42 08.1	-2.7
	comp=Z,5.5nm,1.0s,baz=325,slow=15,SNR=3.4						
KURK				⇑Lg		23 44 01.4	
	comp=Z,15nm,1.4s						
KURK	Kurchatov	15.62	329	i P	P	23 39 20.1	+1.6
KURK						23 42 08.1	
KURK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KURK				smax			
	comp=Z,6.0nm,1.0s						
KURK				smax			
	comp=Z,21nm,1.4s						
KURK	Kurchatov	15.62	329	eP	P	23 39 15.9	-2.6
	comp=Z,13nm,1.1s						
KMI	Kunming	16.06	140	⇑iP	P	23 39 27.5	+3.3
KMI				AMB	AMB		
	comp=Z,24nm,0.9s						
ZAL	Zalesovo	16.57	346	Pn	P	23 39 32.3	+1.8
	comp=Z,0.3nm,0.3s,baz=308,slow=11,SNR=11						
ZAL				Sn	S	23 42 27.9	-4.9
	comp=Z,0.2nm,0.3s,baz=342,slow=13,SNR=3.2						
ZAL				LR	LR	23 47 13.8	
	comp=Z,96nm,18.7s,baz=310,slow=42						
ENH	Enshi	16.83	112	P	P	23 39 31.1	-3.0
GYA	Guiyang	17.28	127	⇑iP	P	23 39 41.2	+1.6
GYA				AMB	AMB		
	comp=Z,40nm,1.0s						
NVS	Novosibirsk	17.74	344	eP	P	23 39 46.8	+1.7
NVS				eS	S	23 43 05.3	+6.0
BJT	Baijiatuau	19.35	76	P	P	23 40 04.2	-0.5
	comp=Z,6.4nm,0.6s						
WHN	Wuhan	20.35	105	eP	P	23 40 15.0	-0.6
VOSK	Vostochnaya	20.45	323	⇓P	P	23 40 16.0	-0.5
	comp=Z,8.1nm,1.3s						
VOSK	Vostochnaya	20.45	323	P	P	23 40 15.9	-0.5
VOSK				pmax	pmax		
	comp=Z,11nm,1.3s						
CMAR	Chiang Mai Arr	20.56	159	P	P	23 40 16.1	-1.7
	comp=Z,4.4nm,0.9s,baz=335,slow=11,SNR=15						
CMAR				LR	LR	23 48 31.4	
	comp=Z,49nm,18.4s,MS2.9,baz=310,slow=38						
CMAR	Chiang Mai Arr	20.56	159	P	P	23 40 16.1	-1.7
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CMAR				MLR	MLR		
	comp=Z,49nm,18.4s						
TIA	Tai'an	20.59	87	eP	P	23 40 18.2	+0.2
BVA0	Borovoye Array	20.91	323	⇑P	P	23 40 21.4	+0.1
	comp=Z,0.5nm,0.8s						
BVA0	Borovoye Array	20.91	323	P	P	23 40 21.3	+0.1
BVAR	Borovoye Array	20.91	323	P	P	23 40 21.3	+0.1
	comp=Z,1.4nm,0.5s,baz=129,slow=9.5,SNR=14						
BRVK	Borovoye	20.99	323	eP	P	23 40 21.7	-0.3
	comp=Z,4.6nm,0.8s						
ZRNK	Zerenda	21.55	321	⇑P	P	23 40 26.6	-1.0
	comp=Z,9.0nm,1.7s,mb3.9						
ZRNK	Zerenda	21.55	321	P	P	23 40 26.5	-1.1
ZRNK				pmax	pmax		
	comp=Z,15nm,1.7s,mb4.2						
ZRNK	Zerenda	21.55	321	eP	P	23 40 27.1	-0.5
	comp=Z,5.8nm,0.8s,mb4.1						
BOD	Bodaibo	24.75	29	eP	P	23 40 59.1	+0.3
CN2	Changchun	26.27	66	eP	P	23 41 13.9	+0.7
ARU	Arti	28.53	321	eP	P	23 41 23.9	-10
TIXI	Tiksi	38.73	18	eP	P	23 43 02.0	+0.3
BRTR	Keskin Array B	44.33	291	P	P	23 43 48.6	+0.7
	comp=Z,2.2nm,0.8s,mb4.0,baz=103,slow=8.5,SNR=12						
BRTR	Keskin Array B	44.33	291	P	P	23 43 48.6	+0.7
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKASG	Malin Array Be	44.95	307	P	P	23 43 52.5	-0.3
	comp=Z,0.2nm,0.3s,mb3.4,baz=72,slow=7.4,SNR=5.5						
KAF	Kangasniemi	45.77	323	ep	P	23 43 59.2	+0.2
	comp=Z,0.2nm,0.3s,mb3.5,baz=90,slow=7.7						
FINES	FINESS Array B	45.88	323	P	P	23 44 00.2	+0.3
	comp=Z,1.5nm,0.5s,mb4.2,baz=93,slow=8.3,SNR=24						
FINES	FINESS Array B	45.88	323	P	P	23 44 00.2	+0.3
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KEV	Kevo	46.08	334	ep	P	23 44 01.6	+0.2
	comp=Z,0.3nm,0.3s,mb3.7						
ARCES	ARCESS Array B	46.57	334	P	P	23 44 05.8	+0.5
	comp=Z,6.0nm,1.1s,mb4.5,baz=82,slow=8.6,SNR=5.0						
ARCES	ARCESS Array B	46.57	334	P	P	23 44 05.8	+0.5
ARCES				pmax	pmax		
	comp=Z,6.0nm,1.1s						
ARCES	ARCESS Array B	46.57	334	P	P	23 44 05.8	+0.5
IDI	Anoyia	52.39	289	P	P	23 44 49.9	-0.7
	comp=Z,12nm,0.9s,mb4.8,baz=183,slow=19,SNR=3.2						
NB2	NORSAR Subarra	53.05	323	P	P	23 44 54.6	-0.4
	comp=Z,2.4nm,0.5s,mb4.4,baz=77,slow=7.0						
NOA	NORSAR Array B	53.05	323	P	P	23 44 54.7	-0.3
	comp=Z,2.6nm,0.5s,mb4.4,baz=77,slow=7.3,SNR=12						
NOA	NORSAR Array B	53.05	323	P	P	23 44 54.7	-0.3
NOA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
NOA	NORSAR Array B	53.05	323	P	P	23 44 54.7	-0.3
CLL	Collm	54.75	311	P	P	23 45 08.0	+0.3
CLL	Collm	54.75	311	eP	P	23 45 08.0	+0.3
GERES	GERESS Array B	55.14	308	P	P	23 45 11.2	+0.6
	comp=Z,2.0nm,0.9s,mb4.2,baz=68,slow=7.2,SNR=13						
GERES	GERESS Array B	55.14	308	P	P	23 45 11.2	+0.6
GERES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
DAVOX	Davos	58.30	307	P	P	23 45 33.1	0.0
	comp=Z,4.2nm,0.6s,mb4.7,baz=59,slow=5.0,SNR=9.5						
CDF	Champ du Feu	59.26	310	eP	P	23 45 39.7	0.0
GIVF	Givet	60.03	312	eP	P	23 45 45.0	0.0
LPG	La Plagne	60.81	307	eP	P	23 45 51.1	+0.7
	comp=Z,17nm,0.9s,mb4.9						
LPL	La Plagne	60.81	307	eP	P	23 45 51.1	+0.7
	comp=Z,16nm,0.8s,mb4.9						
MBDF	Montbardon	61.13	306	eP	P	23 45 53.4	+0.8
	comp=Z,3.4nm,0.6s,mb4.4						
ORIF	Oris-en-Rattie	61.62	306	eP	P	23 45 55.6	-0.3
	comp=Z,9.7nm,0.6s,mb4.8						
SMF	Signal de Mont	62.12	309	eP	P	23 45 58.7	-0.5
	comp=Z,19nm,1.1s,mb4.9						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KMBO	**Kilima Mbogo**	**63.21**	**245**	P	**P**	**23 46 07.6**	**+0.7**
	comp=Z,2.0nm,0.8s,mb4.3,baz=32,slow=11,SNR=5.7						
KMBO	**Kilima Mbogo**	**63.21**	**245**	P	**P**	**23 46 06.9**	**+0.1**
	comp=Z,4.8nm,1.0s,mb4.6						
TCF	**Toulx Ste Croi**	**63.28**	**309**	*e*P	**P**	**23 46 06.9**	**0.0**
	comp=Z,12nm,0.8s,mb4.8						
LASF	**Ste Croix**	**63.29**	**306**	*e*P	**P**	**23 46 07.2**	**+0.2**
	comp=Z,6.0nm,0.7s,mb4.5						
FITZ	**Fitzroy Crossi**	**64.42**	**144**	P	**P**	**23 46 14.3**	**-0.5**
	comp=Z,1.6nm,0.4s,mb4.4,baz=78,slow=5.1,SNR=11						
ETSF	**Etsaut**	**66.67**	**307**	*e*P	**P**	**23 46 29.1**	**+0.3**
	comp=Z,14nm,1.0s,mb4.7						
ILAR	**Eielson Array**	**67.92**	**23**	P	**P**	**23 46 36.8**	**+0.4**
	comp=Z,1.9nm,0.7s,mb4.2,baz=306,slow=5.5,SNR=16						
ILAR	**Eielson Array**	**67.92**	**23**	P	**P**	**23 46 36.8**	**+0.5**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
THY	**Trims Highway**	**69.23**	**24**	P	**P**	**23 46 45.5**	**+1.1**
WRAB	**Tennant Creek**	**70.36**	**137**	*e*P	**P**	**23 46 51.3**	**-0.7**
	comp=Z,3.5nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**70.36**	**137**	P	**P**	**23 46 51.7**	**-0.4**
	comp=Z,1.8nm,0.6s,mb4.2,baz=330,slow=5.7,SNR=31						
WRA	**Warramunga Arr**	**70.36**	**137**	P	**P**	**23 46 51.7**	**-0.4**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ESDC	**Sonseca Array**	**70.55**	**305**	P	**P**	**23 46 53.2**	**+0.3**
	comp=Z,1.7nm,0.7s,mb4.1,baz=47,slow=6.8,SNR=7.8						
ASAR	**Alice Springs**	**73.19**	**140**	P	**P**	**23 47 08.9**	**0.0**
	comp=Z,2.6nm,0.5s,mb4.4,baz=326,slow=6.1,SNR=31						
STKA	**Stephens Creek**	**83.80**	**139**	P	**P**	**23 48 06.0**	**-0.7**
	comp=Z,1.4nm,0.5s,mb4.3,baz=329,slow=8.5,SNR=4.2						
DBIC	**Dimbokro**	**90.84**	**279**	P	**P**	**23 48 41.4**	**+0.3**
	comp=Z,4.4nm,1.0s,mb4.8,baz=5.3,slow=5.2,SNR=3.8						
DBIC	**Dimbokro**	**90.84**	**279**	P	**P**	**23 48 41.4**	**+0.3**
DBIC				pmax	pmax		
	comp=Z,4.0nm,1.0s						
CPUP	**Villa Florida**	**151.21**	**285**	PKPbc	PKPdf	23 55 30.9	+2.4
	comp=Z,5.2nm,1.1s,baz=162,slow=6.4,SNR=6.5						
CPUP	**Villa Florida**	**151.21**	**285**	PKIKP	PKPdf	23 55 30.9	+2.5
CPUP				pmax	pmax		
	comp=Z,5.0nm,1.1s						

*NEIC **05** 23:44:28.4±1.2, 16.42S×173.80W, h56^{km}±12^{km}, mb4.8/9, Error ellipse: s-maj=12.6km s-min=7.4km az=146.0*
*BJI **05** 23:44:29.4, 16.40S×173.80W, h56^{km}, mB4.6, mb4.9, Ms5.0, Msz4.8*
*SYO **05** 23:44:30, 16.27S×173.76W, h71^{km}, MB4.8*
*IDC **05** 23:44:33.8±0.5, 16.59S×173.73W, h108^{km}±3^{km}, mb4.0/15, mb1 4.3/16, mb1mx4.2/20, MS4.3/14, Ms1 4.3/14, ms1mx4.3/15, Error ellipse: s-maj=18.0km s-min=9.6km az=140.0*
ISC 05 23:44:32.3±0.4**, 16.55S**±0.07×**173.83W**±0.05**, h107**^{km}**, h107**^{km}±2.6^{km}**:pP-P, n87,** σ**1^{s}27**/43**, mb4.4**/25**, 1D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.29**	**37**	*e*Pn	**P**	**23 45 16.2**	**-6.9**
RAR	**Rarotonga**	**14.09**	**111**	P	**P**	**23 47 46.0**	**-2.2**
	24nm,0.3s,baz=243,slow=7.6,SNR=24						
RAR				S	**S**	**23 50 23.0**	**+0.8**
	8.3nm,0.3s,baz=214,slow=14,SNR=3.2						
RAR				LR	LR	23 52 04.3	
	comp=Z,493nm,18.2s,baz=134,slow=32						
RAR				T		00 01 52.6	
	36nm,0.3s,baz=181,slow=9.1,SNR=6.0						
RAR	**Rarotonga**	**14.09**	**111**	*e*P	**P**	**23 47 45.9**	**-2.2**
	740nm,1.4s						
DZM	**Mont Dzumac**	**19.40**	**250**	*e*P	**P**	**23 48 50.6**	**-1.8**
NOUC	**Port Laguerre**	**19.54**	**250**	*e*P	**P**	**23 48 58.6**	**+4.8**
PUZ	**Puketiti**	**22.55**	**196**	P	**P**	**23 49 24.6**	**+0.6**
URZ	**Urewera**	**23.05**	**198**	P	**P**	**23 49 29.8**	**+1.0**
	67nm,0.4s,mb5.3,baz=4.5,slow=3.7,SNR=23						
URZ				S	**S**	**23 53 31.8**	**+3.9**
	7.2nm,0.7s,baz=280,slow=18,SNR=2.9						
URZ				LR	LR	23 57 56.3	
	comp=Z,1μm,19.3s,baz=343,slow=35						
QRZ	**Quartz Range**	**26.92**	**203**	*e*P	**P**	**23 50 05.4**	**+0.1**
THZ	**Tophouse**	**27.60**	**202**	*e*P	**P**	**23 50 10.4**	**-1.1**
WVZ	**Waitaha Valley**	**29.54**	**203**	*e*P	**P**	**23 50 26.5**	**-2.3**
RPZ	**Rata Peaks**	**29.97**	**202**	P	**P**	**23 50 32.6**	**0.0**
	5.1nm,0.5s,mb4.5,baz=352,slow=19,SNR=3.5						
JCZ	**Jackson Bay**	**31.15**	**205**	*e*P	**P**	**23 50 42.0**	**-1.0**
CTA	**Charters Tower**	**37.99**	**258**	P	**P**	**23 51 41.3**	**-0.2**
	1.5nm,0.6s,mb4.0,baz=95,slow=14,SNR=3.3						
CTA				pP	pP	23 52 05.6	-0.6
	4.0nm,0.6s,baz=96,slow=10,SNR=4.6						
CTAO	**Charters Tower**	**37.99**	**258**	P	**P**	**23 51 43.7**	**+2.1**
	16nm,1.0s,mb4.8						
PMG	**Port Moresby**	**38.61**	**276**	P	**P**	**23 51 47.0**	**+0.2**
	13nm,0.9s,mb4.7,baz=135,slow=20,SNR=2.8						
STKA	**Stephens Creek**	**43.11**	**241**	P	**P**	**23 52 22.9**	**-0.8**
	5.2nm,0.6s,mb4.4,baz=91,slow=8.1,SNR=13						
STKA				pP	pP	23 52 50.2	+1.7
	13nm,0.8s,baz=79,slow=10,SNR=4.9						
STKA				LR	LR	00 08 48.2	
	comp=Z,414nm,20.0s,baz=57,slow=34						
WRAB	**Tennant Creek**	**49.18**	**258**	*e*P	**P**	**23 53 11.2**	**-0.5**
	22nm,0.9s,mb5.1						
WRA	**Warramunga Arr**	**49.19**	**258**	P	**P**	**23 53 10.4**	**-1.3**
	1.3nm,0.4s,mb4.2,baz=97,slow=6.7,SNR=34						
WRA				pP	pP	23 53 38.1	+1.0
	1.9nm,0.5s,baz=96,slow=6.8,SNR=4.8						
WRA				LR	LR	00 12 42.1	
	comp=Z,288nm,19.4s,baz=85,slow=34						
ASAR	**Alice Springs**	**49.37**	**253**	P	**P**	**23 53 11.9**	**-1.1**
	6.6nm,0.5s,mb4.8,baz=90,slow=7.6,SNR=58						
ASAR				pP	pP	23 53 40.6	+2.1
	25nm,0.7s,baz=86,slow=8.5,SNR=6.9						
ASAR				LR	LR	00 13 19.8	
	comp=Z,302nm,19.1s,baz=89,slow=35						
FITZ	**Fitzroy Crossi**	**57.57**	**259**	P	**P**	**23 54 13.4**	**-0.1**
	0.6nm,0.4s,mb4.0,baz=98,slow=7.1,SNR=4.7						
SBA	**Scott Base**	**62.08**	**185**	*e*P	**P**	**23 54 47.1**	**+3.6**
	9.9nm,0.9s,mb4.8						
MBWA	**Marble Bar**	**62.65**	**254**	P	**P**	**23 54 47.7**	**-0.4**
QSPA	**South Pole Qui**	**73.50**	**180**	*e*P	**P**	**23 55 57.6**	**+3.2**
	24nm,1.3s,mb4.8						
YBH	**Yreka Blue Hor**	**74.76**	**37**	P	**P**	**23 56 02.3**	**-0.1**
	4.9nm,0.7s,mb4.4,baz=163,slow=0.5,SNR=17						
YBH				pP	pP	23 56 28.2	-1.6
	2.9nm,0.8s,baz=241,slow=6.5,SNR=2.9						
YBH	**Yreka Blue Hor**	**74.76**	**37**	*e*P	**P**	**23 56 01.9**	**-0.5**
	6.2nm,0.8s,mb4.4						
NVAR	**Mina Array Bea**	**75.45**	**42**	P	**P**	**23 56 05.8**	**-0.6**
	1.6nm,0.6s,mb3.9,baz=218,slow=7.8,SNR=9.9						
NVAR				pP	pP	23 56 32.1	-1.7
	4.1nm,1.0s,baz=222,slow=7.0,SNR=4.8						
NVAR				LR	LR	00 24 26.5	
	comp=Z,256nm,18.4s,baz=235,slow=32						
TPH	**Tonopah**	**75.95**	**43**	P	**P**	**23 56 07.6**	**-1.6**
	3.3nm,0.8s,mb4.1						
MDJ	**Mudanjiang**	**79.67**	**323**	P	**P**	**23 56 30.1**	**+0.5**
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.4s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,30nm,4.6s						
HLID	**Hailey**	**80.77**	**39**	*e*P	**P**	**23 56 35.1**	**-0.4**
	comp=Z,4.8nm,1.0s,mb4.3						
HLID				*e*	pP	23 56 60.0	-3.3
TXAR	**Lajitas Array**	**81.59**	**56**	P	**P**	**23 56 39.8**	**-0.3**
	comp=Z,1.3nm,1.0s,mb3.7,baz=214,slow=4.5,SNR=8.4						
TXAR				pP	pP	23 57 07.5	-0.4
	comp=Z,7.2nm,1.1s,baz=217,slow=6.3,SNR=12						
TXAR				LR	LR	00 27 04.1	
	comp=Z,124nm,18.3s,baz=250,slow=31						
PV10	**Paradox Valley**	**81.60**	**46**	*e*P	**P**	**23 56 39.4**	**-0.6**
PDAR	**Pinedale Array**	**83.39**	**42**	P	**P**	**23 56 48.1**	**-0.8**
	comp=Z,3.1nm,0.8s,mb4.2,baz=243,slow=3.3,SNR=21						
PDAR				pP	pP	23 57 16.6	-0.3
	comp=Z,1.8nm,0.9s,baz=270,slow=1.5,SNR=2.6						
PDAR				LR	LR	00 31 19.0	
	comp=Z,222nm,18.4s,baz=244,slow=34						
ILAR	**Eielson Array**	**83.64**	**11**	P	**P**	**23 56 50.5**	**+0.8**
	comp=Z,1.8nm,0.8s,mb3.9,baz=223,slow=4.0,SNR=9.7						
ILAR				pP	pP	23 57 17.5	-0.1
	comp=Z,15nm,1.4s,baz=209,slow=6.2,SNR=2.8						
USHA	**Ushuaia**	**85.21**	**146**	LR	LR	00 27 41.6	
	comp=Z,209nm,20.3s,baz=340,slow=30						
MAW	**Mawson**	**86.58**	**199**	P	**P**	**23 57 05.6**	**+1.5**
	comp=Z,1.9nm,0.8s,mb4.1,baz=146,slow=7.3,SNR=3.9						
MAW				pP	pP	23 57 33.3	+1.0
	comp=Z,2.2nm,0.8s,baz=141,slow=3.6,SNR=3.3						
MAW				LR	LR	00 32 30.6	
	comp=Z,323nm,18.1s,baz=286,slow=33						
MAW	**Mawson**	**86.58**	**199**	*e*P	**P**	**23 57 05.4**	**+1.2**
	comp=Z,4.5nm,0.8s,mb4.5						
GYA	**Guiyang**	**88.21**	**298**	P	**P**	**23 57 16.8**	**+3.8**
GYA				XP	pP	23 57 37.6	-3.6
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
GYA				LR	LR		
	comp=N,670nm,18.2s						
GYA				LR	LR		
	comp=E,940nm,17.4s						
GYA				LR	LR		
	comp=Z,1μm,17.6s						
KMI	**Kunming**	**91.14**	**296**	*e*P	**P**	**23 57 29.2**	**+2.4**
KMI				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.7						
YKA	**Yellowknife Ar**	**91.31**	**24**	LR	LR	00 35 01.0	
	comp=Z,91nm,18.0s,baz=315,slow=33						
SYO	**Syowa Base**	**91.40**	**191**	⇓P	**P**	**23 57 27.1**	**+0.2**
SNAA	**Sanae**	**91.79**	**177**	P	**P**	**23 57 30.8**	**+2.1**
	comp=Z,3.4nm,1.0s,mb4.5						
CMAR	**Chiang Mai Arr**	**92.58**	**288**	P	**P**	**23 57 35.8**	**+2.3**
	comp=Z,0.8nm,0.4s,mb4.4,baz=92,slow=2.8,SNR=4.3						
CMAR				LR	LR	00 36 46.3	
	comp=Z,112nm,18.4s,baz=115,slow=34						
ULM	**Lac du Bonnet**	**95.08**	**39**	LR	LR	00 37 18.8	
	comp=Z,185nm,18.9s,baz=230,slow=33						
SONM	**Songino Array**	**95.42**	**318**	P	**P**	**23 57 47.7**	**+1.9**
	comp=Z,0.3nm,0.6s,mb3.9,baz=107,slow=3.1,SNR=3.9						
LPAZ	**La Paz**	**99.81**	**110**	LR	LR	00 34 23.8	
	comp=Z,66nm,21.2s,baz=149,slow=30						
MKAR	**Makanchi Array**	**111.33**	**314**	PKiKP		00 02 56.3	
	comp=Z,0.7nm,0.9s,baz=151,slow=0.4,SNR=5.7						
ARCES	**ARCESS Array B**	**125.68**	**352**	PKP	PKPdf	00 03 23.1	+2.4
	comp=Z,1.6nm,0.7s,baz=22,slow=1.7,SNR=10.0						
FINES	**FINESS Array B**	**132.96**	**347**	PKP	PKPdf	00 03 37.9	+3.1
	comp=Z,1.6nm,0.8s,baz=63,slow=4.3,SNR=6.1						
FINES	**FINESS Array B**	**132.96**	**347**	PKP	PKPdf	00 03 37.9	+3.1
DJNS	**Zahran al Janu**	**144.30**	**277**	P	PKPbc	00 03 59.4	+3.3
TATS	**Tathlith**	**144.44**	**281**	P	PKPbc	00 04 00.8	+4.4
KMBO	**Kilima Mbogo**	**144.66**	**243**	PKP	PKPdf	00 04 01.1	+3.8
	comp=Z,4.8nm,0.8s,baz=73,slow=3.5,SNR=14						
KMBO				pPKP		00 04 27.6	
	comp=Z,2.5nm,0.8s,baz=58,slow=4.7,SNR=3.0						
CLL	**Collm**	**144.89**	**353**	*e*PKIKP	PKPdf	00 03 59.0	+2.5
CLL				*e*		00 04 02.0	
BOYT	**Boyabat**	**144.99**	**321**	*i* P	PKPdf	00 03 59.3	+2.3
KOLS	**Kolonicke sedl**	**145.13**	**341**	*e*PKP	PKPdf	00 03 58.3	+1.3
KOLS				*e*		00 04 36.0	
KOLS				*e*		00 04 42.1	
UPC	**Upice**	**145.21**	**349**	*e*PKP	PKPdf	00 04 00.7	+3.6
UPC				*e*x	x	00 04 36.8	
DPC	**Dobruska-Polom**	**145.30**	**349**	*e*PKP	PKPdf	00 03 57.5	+0.2
DPC				*e*x	x	00 04 37.7	
OKC	**Ostrava-Krasne**	**145.40**	**346**	*e*PKP	PKPdf	00 04 01.5	+4.1
OKC				*e*x	x	00 04 38.4	
GZT	**Gaziantep**	**145.42**	**313**	*i* P	PKPdf	00 03 59.6	+1.7
PVCC	**Panska Ves**	**145.43**	**351**	*e*PKP	PKPdf	00 04 00.8	+3.3
PVCC				*e*x	x	00 04 37.8	
MOX	**Moxa**	**145.70**	**354**	*i* P	PKPdf	00 04 00.9	+3.0
	comp=Z,logA/T=1.1						
KAHT	**Ahir Dag**	**145.77**	**314**	*i* P	PKPdf	00 04 01.9	+3.5
PRU	**Pruhonice**	**145.96**	**350**	*e*PKP	PKPdf	00 04 02.7	+4.3
PRU				*e*x	x	00 04 41.5	
NKC	**Novy Kostel**	**146.02**	**353**	*e*PKP	PKPdf	00 04 02.4	+3.9
NKC				*e*x	x	00 04 41.7	
BLJS	**Baljurashi**	**146.22**	**281**	P	PKPdf	00 04 04.7	+5.0
ELDT	**Eldivan**	**146.44**	**321**	*i* P	PKPdf	00 04 04.9	+5.4
AVNT	**Avonos**	**146.53**	**317**	*i* P	PKPdf	00 04 04.1	+4.4
BRTR	**Keskin Array B**	**146.77**	**320**	PKPbc	PKPbc	00 04 03.2	+1.6
	comp=Z,4.7nm,0.6s,baz=134,slow=3.3,SNR=21						
KHC	**Kasperske Hory**	**146.94**	**351**	*e*PKP	PKPdf	00 04 04.5	+4.4
KHC				*e*x	x	00 04 48.3	
GERES	**GERESS Array B**	**147.20**	**351**	PKPbc	PKPdf	00 04 02.9	+2.4
	comp=Z,1.1nm,0.6s,baz=27,slow=3.0,SNR=11						
GERES				pPKPbc		00 04 34.4	
	comp=Z,1.9nm,0.9s,baz=45,slow=1.9,SNR=4.2						
LTHS	**Al Lith**	**147.33**	**282**	P	PKPdf	00 04 07.3	+5.7
GRR	**Gorron**	**147.72**	**9**	*e*PKP1	PKPdf	00 04 09.9	+8.5
ASF	**Jabal al Asfar**	**148.12**	**305**	PKPbc	PKPdf	00 04 08.5	+6.0
	comp=Z,2.6nm,0.7s,baz=103,slow=7.7,SNR=5.6						
MEST	**Erdemli**	**148.18**	**314**	*i* P	PKPdf	00 04 09.2	+6.7
CDF	**Champ du Feu**	**148.21**	**359**	*e*PKP1	PKPdf	00 04 06.9	+4.8
	comp=Z,14nm,0.9s						
LOR	**Lormes**	**149.31**	**3**	*e*PKP1	PKPdf	00 04 09.6	+5.7
SSF	**Saint Saulge**	**149.49**	**4**	*e*PKP1	PKPdf	00 04 10.3	+6.1
TBKS	**Tabuk**	**149.68**	**298**	P	PKPdf	00 04 14.0	+8.9
CABF	**La Chapelle**	**150.02**	**0**	*e*PKP1	PKPdf	00 04 11.2	+6.1
JMQS	**Jabal Moqyreh**	**150.06**	**299**	P	PKPdf	00 04 15.3	+10
AYUS	**'Aynunah**	**150.78**	**298**	P	PKPdf	00 04 16.8	+10
HAQS	**Haql**	**150.79**	**300**	P	PKPdf	00 04 16.8	+10
BDAS	**Al Bad'**	**150.84**	**299**	P	PKPdf	00 04 16.8	+10
TAYS	**Tayyib Ism**	**151.00**	**299**	P	PKPdf	00 04 17.2	+10
LPL	**La Plagne**	**151.11**	**359**	*e*PKP1	PKPdf	00 04 17.9	+11
LPG	**La Plagne**	**151.13**	**359**	*e*PKP1	PKPdf	00 04 17.9	+11
LFF	**La Frestale**	**151.33**	**8**	*e*PKP1	PKPdf	00 04 17.7	+11

*NEIC **06** 00:07:53.9±0.6, 23.74S×180.00E, h539^{km}±8^{km}, mb4.4/35, Error ellipse: s-maj=9.2km s-min=5.4km az=166.0*
*SYO **06** 00:07:53.5, 23.67S×179.92E, h535^{km}, MB4.3*
*IDC **06** 00:07:54.1±1.2, 23.73S×179.95E, h540^{km}±12^{km}, mb3.9/13, mb1 4.1/15, mb1mx4.0/16, Error ellipse: s-maj=16.4km s-min=9.8km az=161.0*
*BJI **06** 00:07:56.1, 23.10S×179.43E, h539^{km}, mB4.6, mb4.6*
ISC 06 00:07:53.6±0.8**, 23.78S**±0.06×**179.93E**±0.05**, h545**^{km}±10^{km}**, h538**^{km}±1.2^{km}**:pP-P, n176,** σ**0^{s}86**/91**, mb4.3**/52**, 16C-8D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.79**	**161**	*e*P	**P**	**00 09 29.3**	**-1.5**
	1μm,0.4s						
DZM	**Mont Dzumac**	**12.54**	**275**	*e*P	**P**	**00 10 39.2**	**+1.1**
NOUC	**Port Laguerre**	**12.67**	**275**	*e*P	**P**	**00 10 40.6**	**+1.3**
NOUC	**Port Laguerre**	**12.67**	**275**	*e*P	**P**	**00 10 40.6**	**+1.3**
PUZ	**Puketiti**	**14.32**	**185**	P	**P**	**00 10 56.6**	**+0.6**
URZ	**Urewera**	**14.64**	**189**	P	**P**	**00 10 58.7**	**-0.4**
	6.8nm,0.3s,baz=25,slow=2.6,SNR=18						
URZ				S	**S**	**00 13 31.8**	**+3.1**
	5.5nm,0.3s,baz=253,slow=22,SNR=16						
BFZ	**Birch Farm**	**17.14**	**190**	P	**P**	**00 11 22.3**	**-1.2**
NNZ	**Nelson**	**18.24**	**196**	P	**P**	**00 11 34.0**	**-0.1**
THZ	**Tophouse**	**18.87**	**196**	P	**P**	**00 11 39.8**	**-0.3**
RAR	**Rarotonga**	**18.93**	**86**	P	**P**	**00 11 39.1**	**-1.7**
	1.9nm,0.3s,baz=69,slow=23,SNR=3.0						
RPZ	**Rata Peaks**	**21.19**	**198**	P	**P**	**00 12 01.1**	**-0.5**
	14nm,0.6s,mb4.8,baz=16,slow=16,SNR=8.9						
CNB	**Canberra Magne**	**28.86**	**240**	*e*P	**P**	**00 13 11.0**	**+1.2**
	36nm,1.0s,mb5.0						
CTA	**Charters Tower**	**31.41**	**270**	*e*P	**P**	**00 13 32.4**	**+0.7**
	40nm,0.3s,mb5.4						
CTA				*e*S	**S**	**00 18 02.1**	**0.0**
CTA	**Charters Tower**	**31.41**	**270**	P	**P**	**00 13 32.5**	**+0.7**
	49nm,0.4s,mb5.4,baz=94,slow=11,SNR=143						
CTAO	**Charters Tower**	**31.41**	**270**	*e*P	**P**	**00 13 32.3**	**+0.6**
	56nm,0.5s,mb5.3						
TOO	**Toolangi**	**32.46**	**237**	*e*P	**P**	**00 13 41.4**	**+1.0**
	8.8nm,0.5s,mb4.5						
PMG	**Port Moresby**	**34.39**	**289**	P	**P**	**00 13 57.5**	**+0.6**
	13nm,0.7s,mb4.6						
STKA	**Stephens Creek**	**34.71**	**248**	*e*P	**P**	**00 14 00.1**	**+0.8**
	6.5nm,0.4s,mb4.5						
STKA	**Stephens Creek**	**34.71**	**248**	P	**P**	**00 14 00.2**	**+0.9**
	7.4nm,0.5s,mb4.5,baz=95,slow=10,SNR=32						
ASAR	**Alice Springs**	**41.99**	**260**	P	**P**	**00 14 58.5**	**0.0**
	12nm,0.5s,mb4.7,baz=97,slow=7.3,SNR=132						
ASAR				ScP		00 19 43.4	
	3.3nm,0.7s,baz=110,slow=4.0,SNR=15						
ASAR				S	**S**	**00 20 38.0**	**-0.9**
	2.0nm,0.9s,baz=101,slow=15,SNR=9.5						
ASPA	**Alice Springs**	**41.99**	**260**	⇑*i*P	**P**	**00 14 58.7**	**+0.1**
ASPA				*e*PCP		00 19 43.4	
ASPA				*e*S	**S**	**00 20 37.5**	**-1.5**
WB2	**Warramunga Arr**	**42.34**	**266**	*e*P	**P**	**00 15 00.9**	**-0.5**
WB2				*e*PCP		00 19 45.1	
WB2				*e*S	**S**	**00 20 40.9**	**-3.0**
WRAB	**Tennant Creek**	**42.34**	**266**	P	**P**	**00 15 00.0**	**-1.4**
	167nm,0.4s,SNR=46						
WRAB	**Tennant Creek**	**42.34**	**266**	*e*P	**P**	**00 15 00.7**	**-0.7**
	25nm,0.6s,mb4.9						
WRA	**Warramunga Arr**	**42.35**	**266**	P	**P**	**00 15 00.9**	**-0.6**
	13nm,0.4s,mb4.8,baz=94,slow=8.5,SNR=383						
WRA				ScP		00 19 45.3	
	3.5nm,0.8s,baz=100,slow=4.1,SNR=12						
WRA				S	**S**	**00 20 41.3**	**-2.8**
	5.5nm,0.8s,baz=102,slow=13,SNR=20						
FORT	**Forrest**	**46.29**	**249**	*e*P	**P**	**00 15 31.2**	**-0.8**
	175nm,0.6s						
FITZ	**Fitzroy Crossi**	**50.77**	**266**	*e*P	**P**	**00 16 05.3**	**-0.3**
	3.6nm,0.6s,mb3.9						
SBA	**Scott Base**	**54.50**	**183**	*e*P	**P**	**00 16 32.8**	**+1.3**
	6.6nm,1.1s,mb3.9						
KLBR	**Kellerberrin**	**54.98**	**247**	*e*P	**P**	**00 16 34.7**	**-0.7**
	13nm,0.8s,mb4.2						
MBWA	**Marble Bar**	**55.33**	**260**	*e*P	**P**	**00 16 37.2**	**-0.8**
	12nm,0.9s,mb4.1						
CBIJ	**Chichi jima**	**62.34**	**322**	P	**P**	**00 17 23.4**	**-1.4**
	19nm,0.4s,mb4.9,baz=279,slow=20,SNR=3.6						
QSPA	**South Pole Qui**	**66.31**	**180**	*e*P	**P**	**00 17 50.2**	**+1.2**
	2.2nm,0.6s,mb3.9						
MAJO	**Matsushiro**	**71.76**	**326**	*e*P	**P**	**00 18 21.5**	**-0.8**
	19nm,0.9s,mb4.5						
MAW	**Mawson**	**77.84**	**200**	P	**P**	**00 18 56.8**	**+1.3**
	1.1nm,0.6s,mb3.4,baz=123,slow=8.7,SNR=4.6						
MAW	**Mawson**	**77.84**	**200**	*e*P	**P**	**00 18 56.4**	**+0.9**
	1.6nm,0.6s,mb3.5						
YSS	**Yuzh-Sakhalins**	**77.99**	**335**	*e*P	**P**	**00 18 56.8**	**+0.2**
	13nm,0.6s,mb4.4						
MDJ	**Mudanjiang**	**82.12**	**326**	P	**P**	**00 19 18.7**	**+0.6**
MDJ				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,57nm,8.7s						
MDJ	**Mudanjiang**	**82.12**	**326**	*e*P	**P**	**00 19 18.8**	**+0.7**
	comp=Z,11nm,0.8s,mb4.3						
SYO	**Syowa Base**	**83.12**	**193**	⇓P	**P**	**00 19 21.0**	**-1.7**
SYO	**Syowa Base**	**83.12**	**193**	⇓PcP	PcP	00 19 23.9	-2.4
CMB	**Columbia Colle**	**83.15**	**43**	*e*P	**P**	**00 19 23.5**	**+0.1**
	comp=Z,11nm,0.9s,mb4.4						
WDC	**Whiskeytown Da**	**83.40**	**40**	*e*P	**P**	**00 19 24.0**	**-0.6**
	comp=Z,10nm,1.1s,mb4.3						
CN2	**Changchun**	**83.75**	**324**	*e*P	**P**	**00 19 26.5**	**+0.2**
CN2				*e*AP	pP	00 21 24.5	-0.6
CN2				*e*S	S	00 29 04.8	+1.3
CN2				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.7						
CN2				AMB	AMB		
	comp=Z,300nm,3.0s						
OMM	**Old Mammoth Mi**	**83.79**	**44**	*e*P	**P**	**00 19 26.9**	**+0.3**
MTUM	**Tungsten Hills**	**83.91**	**45**	*e*P	**P**	**00 19 27.6**	**+0.3**
YBH	**Yreka Blue Hor**	**84.03**	**39**	*e*P	**P**	**00 19 28.4**	**+0.8**
	comp=Z,3.4nm,0.7s,mb4.0						
BEKR	**Beckwourth**	**84.28**	**42**	*e*P	**P**	**00 19 28.7**	**-0.2**
	comp=Z,5.2nm,0.8s,mb4.1						
WCN	**Washoe City**	**84.31**	**43**	*e*P	**P**	**00 19 29.5**	**+0.4**
	comp=Z,12nm,1.3s,mb4.3						
HUMO	**Hull Mountain**	**84.44**	**39**	*e*P	**P**	**00 19 30.6**	**+0.9**
	comp=Z,13nm,1.2s,mb4.3						
NVAR	**Mina Array Bea**	**84.71**	**44**	P	**P**	**00 19 31.6**	**+0.5**
	comp=Z,0.9nm,0.5s,mb3.5,baz=214,slow=5.2,SNR=5.6						
SNAA	**Sanae**	**84.79**	**179**	⇑*i*P	**P**	**00 19 30.7**	**0.0**
MNV	**Mina**	**84.80**	**44**	*e*P	**P**	**00 19 31.1**	**-0.5**
	comp=Z,4.2nm,0.9s,mb4.0						
TPNV	**Topopah Spring**	**85.19**	**46**	*e*P	**P**	**00 19 33.3**	**-0.1**
	comp=Z,3.4nm,0.6s,mb4.0						
TPH	**Tonopah**	**85.19**	**45**	*e*P	**P**	**00 19 33.7**	**+0.2**
	comp=Z,8.2nm,1.0s,mb4.2						
NEN	**Nelson**	**85.41**	**48**	*e*P	**P**	**00 19 34.8**	**+0.3**
VNA2	**Neumayer--Watz**	**85.42**	**178**	P	**P**	**00 19 33.3**	**-0.5**
MOD	**Modoc**	**85.55**	**40**	*e*P	**P**	**00 19 35.3**	**+0.2**
	comp=Z,6.3nm,0.8s,mb4.3						
ENH	**Enshi**	**86.32**	**305**	*e*P	**P**	**00 19 39.3**	**+0.3**
	comp=Z,18nm,1.0s,mb4.7						
TUC	**Tucson**	**86.49**	**53**	*e*P	**P**	**00 19 41.0**	**+1.2**
	comp=Z,6.7nm,0.9s,mb4.3						
BJI	**Beijing**	**86.89**	**316**	P	**P**	**00 19 39.9**	**-1.6**
BJI				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.4						
ELK	**Elko**	**87.97**	**43**	*e*P	**P**	**00 19 46.5**	**0.0**
	comp=Z,2.0nm,0.6s,mb4.0						
PMR	**Palmer**	**88.64**	**14**	*e*P	**P**	**00 19 48.3**	**-0.9**
	comp=Z,9.8nm,0.6s,mb4.8						
HAWA	**Hanford**	**88.71**	**37**	*e*P	**P**	**00 19 50.1**	**+0.3**
	comp=Z,18nm,1.1s,mb4.8						
MSU	**Marysvale**	**88.75**	**47**	*e*P	**P**	**00 19 50.0**	**-0.2**
RPW	**Rockport**	**88.91**	**35**	*e*P	**P**	**00 19 49.8**	**-0.9**
KMI	**Kunming**	**89.15**	**298**	*e*P	**P**	**00 19 52.8**	**+0.4**
KMI				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.5						
DUG	**Dugway**	**89.22**	**45**	*e*P	**P**	**00 19 51.8**	**-0.6**
	comp=Z,2.4nm,1.0s,mb4.0						
CMAR	**Chiang Mai Arr**	**89.42**	**290**	P	**P**	**00 19 55.7**	**+1.9**
	comp=Z,4.1nm,0.9s,mb4.2,baz=136,slow=3.1,SNR=19						
TMUT	**Trail Mountain**	**89.80**	**46**	*e*P	**P**	**00 19 56.2**	**+1.1**
HLID	**Hailey**	**90.04**	**41**	*e*P	**P**	**00 19 56.6**	**+0.6**
	comp=Z,5.9nm,1.1s,mb4.3						
HVU	**Hansel Valley**	**90.09**	**44**	*e*P	**P**	**00 19 56.7**	**+0.3**
SRU	**San Rafael**	**90.16**	**47**	*e*P	**P**	**00 19 57.0**	**+0.2**
DAU	**Daniels Canyon**	**90.35**	**45**	*e*P	**P**	**00 19 58.1**	**+0.6**
LTX	**Lajitas**	**90.42**	**58**	*e*P	**P**	**00 19 58.7**	**+0.5**
	comp=Z,4.5nm,0.8s,mb4.3						
TXAR	**Lajitas Array**	**90.42**	**58**	P	**P**	**00 19 59.0**	**+0.8**
	comp=Z,3.1nm,0.7s,mb4.3,baz=214,slow=6.5,SNR=40						
TCUT	**Toone Canyon**	**90.62**	**45**	*e*P	**P**	**00 19 57.8**	**-1.0**
HWUT	**Hardware Ranch**	**90.77**	**44**	*e*P	**P**	**00 19 59.1**	**-0.3**
	comp=Z,3.9nm,0.6s,mb4.5						
PV10	**Paradox Valley**	**90.79**	**48**	*e*P	**P**	**00 19 59.4**	**-0.3**
ANMO	**Albuquerque**	**90.93**	**52**	*e*P	**P**	**00 20 00.2**	**-0.2**
	comp=Z,1.0nm,0.6s,mb3.9						
ILAR	**Eielson Array**	**91.92**	**14**	P	**P**	**00 20 02.6**	**-1.6**
	comp=Z,0.9nm,0.5s,mb4.1,baz=217,slow=5.9,SNR=12						
PDAR	**Pinedale Array**	**92.64**	**44**	P	**P**	**00 20 07.8**	**-0.3**
	comp=Z,2.1nm,0.7s,mb4.2,baz=210,slow=2.9,SNR=11						
SDCO	**Great Sand Dun**	**92.93**	**50**	*e*P	**P**	**00 20 09.1**	**-0.4**
	comp=Z,3.9nm,1.0s,mb4.4						
LZH	**Lanzhou**	**93.25**	**308**	*e*P	**P**	**00 20 11.5**	**+0.5**
LZH				AP	pP	00 22 11.0	-1.0
LZH				XP	sP	00 23 03.1	-2.5
LZH				AMB	AMB		
	comp=Z,30nm,1.7s,mb5.0						
ISCO	**Idaho Springs**	**93.81**	**48**	*e*P	**P**	**00 20 13.2**	**-0.3**
	comp=Z,1.6nm,0.8s,mb4.2						
SONM	**Songino Array**	**96.97**	**319**	P	**P**	**00 20 28.5**	**+0.9**
	comp=Z,0.5nm,0.9s,mb3.8,baz=90,slow=3.7,SNR=4.0						
SONM				PP	PP	00 24 36.2	+2.6
	comp=Z,0.9nm,1.0s,baz=101,slow=6.3,SNR=4.7						
GTA	**Gaotai**	**97.56**	**310**	P	**P**	**00 20 34.1**	**+3.6**
GTA				AP	pP	00 22 33.6	+1.9
GTA				XP	sP	00 23 27.0	+2.1
GTA				AMB	AMB		
	comp=Z,2.0nm,0.6s,mb4.6						
ZAL	**Zalesovo**	**111.82**	**321**	PKiKP		00 25 25.9	
	comp=Z,1.3nm,0.5s,baz=59,slow=18,SNR=6.2						
MKAR	**Makanchi Array**	**112.02**	**313**	PKiKP		00 25 26.7	
	comp=Z,1.7nm,0.6s,baz=212,slow=1.0,SNR=12						
KURK	**Kurchatov**	**115.06**	**317**	*e*PKPdf	PKPdf	00 25 31.9	-0.4
BRVK	**Borovoye**	**120.37**	**319**	*e*PKPdf	PKPdf	00 25 41.8	-0.7
ZRNK	**Zerenda**	**121.14**	**319**	*e*PKPdf	PKPdf	00 25 44.1	0.0
ARU	**Arti**	**126.74**	**324**	*e*PKPdf	PKPdf	00 25 55.1	+0.3
ARCES	**ARCESS Array B**	**131.75**	**348**	PKP	PKPdf	00 26 03.9	-0.1
	comp=Z,3.6nm,0.6s,baz=18,slow=1.2,SNR=21						
KMBO	**Kilima Mbogo**	**136.10**	**241**	PKP	PKPdf	00 26 17.0	+3.5
	comp=Z,0.6nm,0.7s,baz=291,slow=2.8,SNR=3.7						
KMBO				SKP		00 28 59.2	
	comp=Z,1.8nm,1.0s,baz=95,slow=7.3,SNR=4.6						
KAF	**Kangasniemi**	**137.71**	**342**	*e*p	PKPdf	00 26 14.7	-0.4
FINES	**FINESS Array B**	**138.31**	**341**	PKhKP		00 26 10.3	
	comp=Z,1.6nm,0.7s,baz=22,slow=3.2,SNR=9.0						
FINES				PKP	PKPdf	00 26 17.9	+1.6
	comp=Z,1.4nm,0.5s,baz=90,slow=3.8,SNR=13						
FINES				SKPbc		00 29 01.4	
	comp=Z,1.3nm,0.8s,baz=27,slow=4.3,SNR=4.3						
NB2	**NORSAR Subarra**	**141.95**	**351**	PKP		00 26 18.7	
	comp=Z,5.3nm,0.7s,baz=17,slow=2.9						
NOA	**NORSAR Array B**	**141.95**	**351**	PKhKP		00 26 19.2	
	comp=Z,5.0nm,0.8s,baz=16,slow=4.6,SNR=13						
ELZG	**Elazig**	**143.78**	**303**	*i* P	PKPbc	00 26 28.1	+2.2
AKASG	**Malin Array Be**	**144.83**	**327**	PKP	PKPdf	00 26 28.6	+0.8
	comp=Z,7.2nm,0.4s,baz=42,slow=4.1,SNR=62						
AKASG				SKPbc		00 29 18.1	
	comp=Z,0.3nm,0.4s,baz=37,slow=2.7,SNR=5.0						
GZT	**Gaziantep**	**145.12**	**302**	*i* P	PKPdf	00 26 31.6	+2.7
SUW	**Suwalki**	**145.12**	**336**	*e*PKPdf	PKPdf	00 26 29.2	+0.9
KAHT	**Ahir Dag**	**145.59**	**302**	*i* P	PKPdf	00 26 33.0	+3.3
BOYT	**Boyabat**	**145.97**	**310**	*i* P	PKPdf	00 26 34.0	+3.9
UMJS	**Umm Lajj**	**146.02**	**280**	P	PKPdf	00 26 35.3	+4.6
QURS	**Qurayyt al Mil**	**146.12**	**291**	P	PKPdf	00 26 35.4	+4.7
COBT	**Iskenderun**	**146.31**	**301**	*i* P	PKPdf	00 26 34.9	+4.0
BSD	**Bornholm Skovb**	**146.78**	**344**	⇑*i*P	PKPdf	00 26 34.4	+3.4
	comp=Z,4.8nm,0.4s						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AVNT	Avonos	146.84	305	*i* P	PKPdf	00 26 35.8	+4.2
TBKS	Tabuk	146.87	286	P	PKPdf	00 26 37.1	+5.1
HRI	Mount Hermon	147.28	295	P	PKPdf	00 26 37.9	+5.4
HRI	Mount Hermon	147.28	295	⇓P	PKPdf	00 26 37.9	+5.4
ELDT	Eldivan	147.34	309	*i* P	PKPdf	00 26 35.3	+2.9
GLH	Golan-Tel Qazi	147.42	294	P	PKPdf	00 26 38.5	+5.7
GLH	Golan-Tel Qazi	147.42	294	⇓P	PKPdf	00 26 38.5	+5.7
BRTR	Keskin Array B	147.45	307	PKPbc	PKPdf	00 26 37.0	+4.4
	comp=Z,3.3nm,0.6s,baz=142,slow=4.7,SNR=13						
BRTR				PKPab	PKPab	00 26 42.1	-0.3
	comp=Z,6.1nm,0.6s,baz=89,slow=3.8,SNR=20						
JMQS	Jabal Moqyreh	147.46	287	P	PKPdf	00 26 38.5	+5.6
HMDT	Nahal Hemdat	147.57	293	P	PKPdf	00 26 38.8	+5.8
HMDT	Nahal Hemdat	147.57	293	⇓P	PKPdf	00 26 38.8	+5.8
MMLI	Mount Malkishu	147.64	293	P	PKPdf	00 26 39.1	+6.0
MEST	Erdemli	147.96	301	*i* P	PKPdf	00 26 38.7	+5.2
SLTI	Sal'it	147.99	293	P	PKPdf	00 26 39.7	+6.0
SLTI	Sal'it	147.99	293	⇓P	PKPdf	00 26 39.7	+6.0
OFRI	'Ofer	147.99	294	P	PKPdf	00 26 39.2	+5.5
AYUS	'Aynunah	148.00	286	P	PKPdf	00 26 39.6	+5.8
ZFRI	Zfri	148.01	290	P	PKPdf	00 26 39.7	+5.9
JMOS	Jabal al Moall	148.13	287	P	PKPdf	00 26 40.1	+6.1
BDAS	Al Bad'	148.15	286	P	PKPdf	00 26 40.1	+6.1
PRNI	Paran	148.17	290	P	PKPdf	00 26 40.2	+6.2
PRNI	Paran	148.17	290	⇓P	PKPdf	00 26 40.2	+6.2
EIL	Elat	148.25	288	P	PKPdf	00 26 40.3	+6.1
SGKT	Sivrigoynuk	148.29	310	*i* P	PKPdf	00 26 38.9	+5.0
HAQS	Haql	148.29	287	P	PKPdf	00 26 40.4	+6.1
KWP	Kalwaria	148.63	331	*e*PKPbc	PKPdf	00 26 40.2	+6.1
KZIT	Kziot	148.66	291	P	PKPdf	00 26 41.2	+6.4
CSS	Prodhromos	148.96	299	*e*PKPbc	PKPdf	00 26 41.1	+6.0
KOLS	Kolonicke sedl	149.33	331	*i* PKP	PKPdf	00 26 42.4	+7.1
KOLS				*e*		00 26 49.9	
OJC	Ojcow	149.40	335	*e*PKP	PKPdf	00 26 41.6	+6.3
ESKT	Eskisehir	149.54	308	*i* P	PKPdf	00 26 42.1	+6.2
NIE	Niedzica	149.81	333	*e*PKP	PKPdf	00 26 43.9	+7.9
OKC	Ostrava-Krasne	150.34	336	*e*PKPbc	PKPdf	00 26 43.8	+7.0
OKC				*e*PKPab	PKPab	00 26 52.9	-0.9
ULDT	Uludag	150.51	311	*i* P	PKPdf	00 26 44.7	+7.3
UPC	Upice	150.53	339	*e*PKPbc	PKPdf	00 26 44.5	+7.4
UPC				*e*PKPab	PKPab	00 26 53.9	-0.7
DPC	Dobruska-Polom	150.56	338	*e*PKPbc	PKPdf	00 26 44.7	+7.5
DPC				*e*PKPab	PKPab	00 26 54.0	-0.7
MORC	Moravsky Berou	150.61	336	*e*PKPbc	PKPdf	00 26 44.2	+6.9
MORC				*e*PKPab	PKPab	00 26 54.1	-0.8
CLL	Collm	150.72	343	⇓*i*PKP1	PKPdf	00 26 44.7	+7.3
CLL				*i* PKP2	PKPab	00 26 54.0	-1.3
CLL				*e**PPKP		00 28 54.0	
PVCC	Panska Ves	150.97	341	*e*PKPbc	PKPdf	00 26 45.7	+8.0
PVCC				*e*PKPab	PKPab	00 26 55.5	-0.9
PSZ	Piszkesteto	151.15	332	*e*PKPbc	PKPdf	00 26 44.5	+6.5
PRU	Pruhonice	151.45	340	*e*PKPbc	PKPdf	00 26 46.0	+7.5
PRU				*e*PKPab	PKPab	00 26 57.3	-1.2
DNZL	Cakiroluk	151.52	306	*i* P	PKPdf	00 26 47.6	+8.6
NKC	Novy Kostel	151.84	343	*e*PKPbc	PKPdf	00 26 48.0	+9.0
NKC				*e*PKPab	PKPab	00 26 58.5	-1.6
ZST	Bratislava	152.07	335	*e*PKP	PKPab	00 27 00.4	-0.8
ZST				*e*		00 42 09.2	
KHC	Kasperske Hory	152.50	340	*e*PKPbc	PKPdf	00 26 48.7	+8.8
KHC				PKPab	PKPab	00 27 01.5	-1.4
GERES	GERESS Array B	152.72	340	PKPbc	PKPdf	00 26 49.1	+8.8
	comp=Z,5.0nm,1.1s,slow=1.3,SNR=16						
GERES				PKPab	PKPab	00 27 02.5	-1.3
	comp=Z,1.8nm,0.8s,baz=34,slow=4.8,SNR=6.7						
GIVF	Givet	153.44	353	*e*PKP2	PKPab	00 27 04.9	-1.9
BAIF	Baives	153.55	354	⇑*i*PKP2	PKPab	00 27 05.6	-1.7
	comp=Z,19nm,1.0s						
CDF	Champ du Feu	154.73	348	⇑*i*PKP2	PKPab	00 27 10.8	-1.5
	comp=Z,11nm,0.8s						
WTTA	Wattenberg	154.76	341	⇑*i*P	PKPdf	00 26 49.5	+6.4
WTTA				*i*		00 26 53.7	
WTTA				*i*		00 27 09.5	
MEZF	Maizieres J'vi	154.99	352	⇑*i*PKP2	PKPab	00 27 12.1	-1.3
	comp=Z,26nm,0.8s						
FLN	La Foliniere	155.06	1	⇑*i*PKP2	PKPab	00 27 11.5	-2.2
	comp=Z,13nm,0.7s						
LDF	La Druitiere	155.23	0	*e*PKP2	PKPab	00 27 12.0	-2.4
	comp=Z,24nm,1.0s						
HINF	Hinteralfeld	155.38	349	⇑*i*PKP2	PKPab	00 27 13.3	-1.8
	comp=Z,16nm,1.0s						
SSF	Saint Saulge	156.59	354	⇑*i*PKP2	PKPab	00 27 18.8	-1.5
	comp=Z,21nm,0.8s						
CABF	La Chapelle	156.68	349	*e*PKP2	PKPab	00 27 18.8	-1.9
	comp=Z,19nm,1.1s						
SMF	Signal de Mont	156.96	353	⇑*i*PKP2	PKPab	00 27 20.4	-1.5
	comp=Z,31nm,1.0s						
TCF	Toulx Ste Croi	157.46	356	*e*PKP2	PKPab	00 27 22.3	-1.8
	comp=Z,42nm,1.4s						
LPL	La Plagne	157.62	347	⇑*i*PKP2	PKPab	00 27 24.3	-0.5
	comp=Z,14nm,1.0s						
LPG	La Plagne	157.63	347	⇑*i*PKP2	PKPab	00 27 24.5	-0.3
	comp=Z,11nm,0.9s						
ORIF	Oris-en-Rattie	158.36	348	⇑*i*PKP2	PKPab	00 27 27.2	-0.8
	comp=Z,14nm,0.8s						
MBDF	Montbardon	158.36	347	*e*PKP2	PKPab	00 27 27.9	-0.1
	comp=Z,4.9nm,0.6s						
VIVF	Saint-Julien-l	158.62	351	*e*PKP2	PKPab	00 27 27.5	-1.6
LFF	La Frestale	158.88	358	*e*PKP2	PKPab	00 27 26.6	-3.6
SBF	Sospel	159.03	345	⇑*i*PKP2	PKPab	00 27 29.6	-1.3
	comp=Z,22nm,0.8s						
LASF	Ste Croix	159.49	352	*e*PKP2	PKPab	00 27 30.9	-2.0
EPF	Esparros	160.79	359	⇑*i*PKP2	PKPab	00 27 35.2	-3.3
	comp=Z,6.1nm,0.8s						
ESDC	Sonseca Array	163.81	11	PKPab	PKPab	00 27 50.4	-1.4
	comp=Z,4.3nm,1.0s,baz=351,slow=4.3,SNR=10						

*LDG **06** 00:13:35.6±0.1, 44.40N×7.06E, h2km, Md2.0/1, Ml1.8/7, Error ellipse: s-maj=1.4km s-min=0.6km az=65.0*

*STR **06** 00:13:35.7±0.3, 44.36N×7.01E, h5km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 06 00:13:34.8±0.5**, 44.39N**±0.02×**7.04E**±0.05**, h12**km±6km**, n14, σ0.77**/25**, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SURF	Saint Ours	0.18	298	Pg	Pg	00 13 39.7	+0.7
SURF				Sg	Sg	00 13 42.8	+1.0
MBDF	Montbardon	0.39	330	*e*Pg	Pg	00 13 43.1	+0.4
MBDF				*e*Sg	Sg	00 13 48.9	+0.9
	12nm,0.3s						
TOUF	Mont Tournerai	0.41	158	Pg	Pg	00 13 43.7	+0.6
AUTN	L'Aution	0.48	145	Pg	Pg	00 13 46.0	+1.3
AURF	Auriere	0.55	158	Pg	Pg	00 13 46.1	+0.3
AURF				Sg	Sg	00 13 52.5	-0.8
SAOF	Saorge	0.55	137	Pg	Pg	00 13 45.6	-0.3
SAOF				Sg	Sg	00 13 53.1	-0.3
SBF	Sospel	0.60	152	*e*Pg	Pg	00 13 47.3	+0.4
SBF				*e*Sg	Sg	00 13 54.8	-0.3
	5.1nm,0.2s						
FRF	La Foret Royal	0.88	199	*e*Pg	Pg	00 13 52.4	0.0
FRF				*e*Pn	Pn	00 13 53.6	+0.8
FRF				*e*Sg	Sg	00 14 03.7	-0.5
	10nm,0.2s						
ORIF	Oris-en-Rattie	0.98	303	*e*Pg	Pg	00 13 54.3	-0.1
ORIF				*e*Sg	Sg	00 14 06.7	-0.9
	1.8nm,0.2s						
LPG	La Plagne	1.12	350	*e*Sg	Sg	00 14 11.5	-0.8
	0.9nm,0.2s						
LMR	La Mourre	1.13	200	*e*Pg	Pg	00 13 56.8	-0.5
LMR				*e*Sg	Sg	00 14 11.6	-0.8
	4.2nm,0.2s						
SMRF	Simiane la Rot	1.13	249	*e*P	Pb	00 13 58.5	+2.6
SMRF				*e*Sg	Sg	00 14 12.2	-0.5
	2.3nm,0.3s						
LPL	La Plagne	1.15	349	*e*Pg	Pg	00 13 57.2	-0.5
LPL				*e*Sg	Sg	00 14 12.0	-1.0
	1.0nm,0.2s						
VIVF	Saint-Julien-l	1.75	286	*e*Sn	Sn	00 14 27.3	-0.4
	0.6nm,0.3s						

IGQ 06 01:22:56.8, 1.35S×80.69W, h12km±39km**, mb4.3, 6C-7D, Error ellipse: s-maj=39.4km s-min=7.0km az=166.7, Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
QIL1	Quilotoa	1.82	74	P	Pn	01 23 28.4	+0.1
IGUA	Igualata	2.06	94	⇓P	Pn	01 23 33.5	+1.9
CUSU	Cusua	2.21	93	P	Pn	01 23 38.1	+4.3
JUIV	Juive	2.23	92	P	Pn	01 23 37.5	+3.4
ARRY	Arrayan	2.24	94	⇓P	Pn	01 23 36.2	+2.0
ARRY				S	Sn	01 24 02.4	+0.3
RETU	Refugio	2.25	93	⇑P	Pn	01 23 37.1	+2.8
PATA	Patacocha	2.26	94	⇓P	Pn	01 23 36.8	+2.2
PATA				S	Sn	01 24 03.5	+1.0
ULBA	Ulba	2.28	93	⇓P	Pn	01 23 37.9	+3.0
PISA	Pisayambo	2.32	83	⇑P	Pn	01 23 37.8	+2.4
NAS1	Nasa	2.32	72	⇑P	Pn	01 23 37.5	+2.1
JUA2	San Juan 2	2.37	62	⇓P	Pn	01 23 37.4	+1.3
CGGP	Crater GGP	2.39	61	P	Pn	01 23 37.4	+1.1
VC1	Cotopaxi 1	2.39	73	P	Pn	01 23 39.4	+2.9
PINO	Pino	2.39	60	P	Pn	01 23 37.4	+1.0
GGP	Refugio Guagua	2.40	61	⇓P	Pn	01 23 37.8	+1.3
TAMB	Tambo	2.41	74	P	Pn	01 23 38.8	+2.1
YANA	Yana	2.44	60	⇑P	Pn	01 23 38.0	+0.8
JOR1	San Jorge 1	2.45	57	P	Pn	01 23 36.0	-1.3
ANTI	Antisana	2.68	71	⇑P	Pn	01 23 42.9	+2.4
COTA	Cotacachi	2.88	55	P	Pn	01 23 45.9	+2.5
CAYR	Refugio Cayamb	3.00	63	⇑P	Pn	01 23 49.0	+3.8
CAYR				S	Sn	01 24 26.1	+4.7
CAYA	Cayambe	3.04	62	⇓P	Pn	01 23 49.1	+3.4

IDC 06 01:32:45.8±3.3**, 15.56N**×**144.74E, mb3.7**/5**, mb1 4.0**/5**, mb1mx3.7**/18**, MS3.8**/8**, Ms1 3.8**/8**, ms1mx3.5**/28**, Error ellipse: s-maj=101.0km s-min=29.6km az=82.0, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	11.72	349	LR	LR	01 39 41.4	
	comp=Z,186nm,19.8s,baz=18,slow=35						
JHJ	Hachijo jima 2	18.05	346	LR	LR	01 42 55.7	
	comp=Z,200nm,21.9s,baz=147,slow=34						
JOW	Kunigami	18.99	309	LR	LR	01 43 15.5	
	comp=Z,322nm,19.4s,baz=167,slow=33						
ASAJ	Asahikawa	28.52	357	LR	LR	01 48 08.1	
	comp=Z,79nm,20.8s,baz=173,slow=32						
WRA	Warramunga Arr	36.73	196	P	P	01 39 54.7	-2.1
	0.3nm,0.4s,baz=8.1,slow=8.8,SNR=5.2						
FX1	Attu Island--F	43.47	25	LR	LR	01 54 39.9	
	comp=Z,2.6nm,21.0s,baz=35,slow=30						
CMAR	Chiang Mai Arr	43.80	281	P	P	01 40 54.0	-1.4
	1.4nm,0.4s,baz=81,slow=5.9,SNR=4.5						
SONM	Songino Array	45.06	324	P	P	01 41 03.0	-2.3
	0.5nm,1.0s,baz=123,slow=10,SNR=2.7						
ZAL	Zalesovo	59.97	324	P	P	01 42 54.0	-2.3
	0.6nm,0.3s,baz=324,slow=7.5,SNR=4.1						
MKAR	Makanchi Array	60.00	315	P	P	01 42 54.7	-1.9
	0.7nm,0.8s,baz=143,slow=7.2,SNR=3.7						
BBB	Bella Bella	76.14	39	LR	LR	02 11 51.9	
	comp=Z,59nm,21.5s,baz=256,slow=31						
NVAR	Mina Array Bea	85.80	51	LR	LR	02 18 17.0	
	comp=Z,50nm,19.1s,baz=95,slow=32						
PDAR	Pinedale Array	90.67	45	LR	LR	02 20 16.2	
	comp=Z,60nm,20.2s,baz=346,slow=31						
BRTR	Keskin Array B	95.62	314	LR	LR	02 33 13.7	
	comp=Z,109nm,18.7s,baz=110,slow=38						

*LDG **06** 01:39:49.8±0.7, 42.91N×1.40W, h2km, Md2.0/2, Ml2.3/1, Error ellipse: s-maj=11.9km s-min=5.5km az=50.0*

*CSEM **06** 01:39:49.0±0.1, 42.85N×1.37W, h2km, ML2.3/1, Error ellipse: s-maj=3.4km s-min=2.8km az=79.0*

MDD 06 01:39:49.4±0.6**, 42.85N**×**1.38W, h3**km±15km**, mbLg1.3**/4**, Error ellipse: s-maj=5.2km s-min=2.7km az=44.0, PRXIMO AftershockPLICA, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.29	24	*e*Pg	Pg	01 39 54.8	-0.4
SJPF				*e*Sg	Sg	01 39 57.6	-1.4
	34nm,0.3s						
EALK	Alkurruntz	0.38	346	Pg	Pg	01 39 56.2	-0.8
	2.7nm,0.3s,SNR=13						
EALK				Lg		01 40 01.9	
	8.1nm,0.3s,SNR=24						
ETSF	Etsaut	0.61	85	*e*Pg	Pg	01 40 00.1	-1.4
ETSF				*e*Sg	Sg	01 40 10.1	+0.4
	6.2nm,0.3s						
ESAC	San Caprasio	1.31	149	Pg	Pg	01 40 13.1	-2.5
	5.7nm,0.3s,SNR=4.6						
ESAC				Lg		01 40 31.8	
	13nm,0.2s,SNR=7.9						
ESAC	San Caprasio	1.31	149	Pg	Pg	01 40 13.1	-2.5
	5.7nm,0.3s,SNR=4.6						
ELAN	Lanestosa	1.55	285	Pg	Pg	01 40 17.6	-2.8
	SNR=5.0						
ELAN				Lg		01 40 38.9	
	0.3nm,0.1s,SNR=5.0						
ELAN	Lanestosa	1.55	285	Pg	Pg	01 40 17.6	-2.8
	SNR=5.0						
ETOR	Torete	2.09	194	Pn	Pn	01 40 23.8	-1.9
	SNR=4.0						
ETOR				Sn	Sn	01 40 50.0	-2.5
	SNR=4.8						
ETOR				Lg		01 40 55.8	
	SNR=7.9						

*IDC **06** 01:48:55.6±0.5, 0.17N×97.91E, mb4.5/21, mb1 4.6/22, mb1mx4.6/23, ML4.7/1, MS4.6/12, Ms1 4.6/12, ms1mx4.5/18, Error ellipse: s-maj=21.3km s-min=12.5km az=53.0*

*BJI **06** 01:48:58.8, 0.12S×98.04E, h56km, mB5.0, mb5.0, Ms5.2, Msz5.0*

*MOS **06** 01:48:59.9±0.7, 0.45N×97.91E, h36km, mb5.1/11, Error ellipse: s-maj=30.8km s-min=11.3km az=105.6*

*HRVD **06** 01:49:01.3±0.4, 0.13S×97.72E, h36km±1km, MW5.1/53, Centroid moment Tensor Solution. LP body waves: s43,c64;Mantle waves: s53,c88; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.48±.22; $M_{\theta\theta}$-1.88±.14; $M_{\phi\phi}$-1.60±.16; $M_{r\theta}$2.07±.15; $M_{\theta\phi}$2.42±.10; $M_{\phi r}$-1.91±.20; Best double couple: $M_0$4.75×10^{16} NP1:ϕ_s314°, δ27°, λ91°. NP2:ϕ_s133°, δ63°, λ90°. Principal axes: T 4.41, Plg72°, Azm42°; N .68, Plg0°, Azm133°; P -5.09, Plg18°, Azm223°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **06** 01:49:01.3±1.6, 0.19N×97.91E, h38km±13km, mb5.0/33, MS4.7/12 Error ellipse: s-maj=10.2km s-min=5.1km az=53.0*

ISC 06 01:48:59.4±0.3**, 0.22N**±0.04×**97.97E**±0.05**, h36**km**, h36**km±2.8km**: pP-P, n167, σ0.97**/147**, mb4.9**/72**, MS4.8**/39**, 8C-9D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IPM	Ipoh	5.29	35	⇑*e*P	P	01 50 19.0	+0.9
	56nm,0.5s						
SNG	Songkhla	7.39	21	P	P	01 50 46.0	-1.6
	490nm,0.9s						
BDT	Bhumibol Dam	16.94	3	P	P	01 52 56.0	+0.6
CMAR	Chiang Mai Arr	18.14	3	P	P	01 53 09.4	-1.1
	0.9nm,0.3s,baz=194,slow=11,SNR=57						
CMAR				LR	LR	02 01 10.2	
	comp=Z,2µm,18.0s,baz=185,slow=40						
CHG	Chiang Mai	18.50	3	⇓P	P	01 53 13.8	-1.1
	18nm,0.9s						
NANT	Nan	18.65	8	P	P	01 53 17.5	+0.7
MDRS	Chennai	21.71	307	*e*	Sx	01 58 20.0	
QIZ	Qiongzhong	22.02	31	P	P	01 53 53.9	+1.4
QIZ				XP		01 54 06.3	
QIZ				LR	LR		
	comp=N,3µm,14.2s,MS4.8						
QIZ				LR	LR		
	comp=E,1µm,15.3s,MS4.8						
QIZ				LR	LR		
	comp=Z,2µm,14.5s,MS4.8						
QIZ	Qiongzhong	22.02	31	P	P	01 53 54.9	+2.4
QIZ				*e*		01 54 08.5	
TRD	Trivandrum	22.49	292	*i*	Px	01 54 36.4	
TRD				*i* SS	SS	01 58 35.4	-3.9
KMI	Kunming	25.18	10	⇑*i*P	P	01 54 24.9	+1.6
KMI				AP	pP	01 54 34.3	+1.2
KMI				XP	sP	01 54 38.7	+1.5
KMI				AMB	AMB		
	comp=Z,29nm,1.1s,mb4.7						
KMI				AMB	AMB		
	comp=Z,202nm,4.6s						
KMI				LR	LR		
	comp=N,6µm,15.6s,MS5.2						
KMI				LR	LR		
	comp=E,2µm,16.6s,MS5.2						
KMI				LR	LR		
	comp=Z,7µm,15.6s,MS5.3						
HYB	Hyderabad	25.63	313	*i* P	P	01 54 36.0	+8.3
HYB				*e*S	Sx	01 59 22.0	
HYB	Hyderabad	25.63	313	*e*P	P	01 54 36.0	+8.3
HYB				*e*S	Sx	01 59 22.0	
SHL	Shillong	25.87	347	*e*P	P	01 54 31.0	+1.2
SHL				*e*		01 59 24.0	
GYA	Guiyang	27.39	17	⇓*i*P	P	01 54 43.6	-0.2
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.6						
PKI	Pulchoki	29.74	337	*e*P	P	01 55 05.9	+1.1
	comp=Z,34nm,0.8s,mb5.1						
GUN	Gumba	29.87	338	*e*P	P	01 55 04.6	-1.3
	comp=Z,70nm,0.7s,mb5.5						
DMN	Daman	29.90	337	*e*P	P	01 55 06.6	+0.4
	comp=Z,22nm,0.5s,mb5.2						
KKN	Kakani	29.99	337	*e*P	P	01 55 06.4	-0.6
	comp=Z,88nm,1.1s,mb5.4						
LSA	Lhasa	30.02	348	PFAKE		01 55 20.0	+13
LSA				LR	LR		
	comp=Z,1µm,20.0s,MS4.5						
MBWA	Marble Bar	30.06	136	P	P	01 55 08.0	+0.3
	comp=Z,5.7nm,0.8s,mb4.3						
MBWA				LR	LR		
	comp=Z,2µm,21.0s,MS4.6						
GKN	Gorkha	30.43	336	*e*P	P	01 55 08.9	-2.1
	comp=Z,69nm,0.9s,mb5.4						
KOLN	Koldanda	30.66	334	*e*P	P	01 55 12.5	-0.5
	comp=Z,49nm,0.7s,mb5.4						
CD2	Chengdu	31.01	10	⇓*i*P	P	01 55 15.4	-0.6
CD2				AP	pP	01 55 29.4	+3.2
CD2				S	S	02 00 22.2	+5.0
CD2				XS		02 00 39.0	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
CD2				AMB	AMB		
	comp=Z,60nm,4.2s						
CD2				LR	LR		
	comp=N,3µm,14.4s						
CD2				LR	LR		
	comp=Z,4µm,14.4s,MS5.2						
ENH	Enshi	31.83	19	*e*P	P	01 55 21.7	-1.6
	comp=Z,17nm,0.9s,mb4.9						
ENH				LR	LR		
	comp=Z,2µm,19.0s,MS4.9						
FITZ	Fitzroy Crossi	32.74	125	*e*P	P	01 55 29.9	-1.4
	comp=Z,5.9nm,0.7s,mb4.6						
FITZ	Fitzroy Crossi	32.74	125	P	P	01 55 29.9	-1.4
	comp=Z,6.5nm,0.7s,mb4.7,baz=343,slow=4.2,SNR=13						
WHN	Wuhan	33.94	26	⇓P	P	01 55 42.0	+0.5
NDI	New Delhi	34.56	327	*e*pP	pP	01 55 53.0	-4.2
XAN	Xi'an	35.17	16	P	P	01 55 51.0	-1.1
DDI	Dehra Dun	35.42	329	*e*pP	pP	01 56 04.5	0.0
LZH	Lanzhou	36.10	8	⇑P	P	01 56 00.1	+0.2
LZH				XP	sP	01 56 15.1	+0.4
LZH				AMB	AMB		
	comp=Z,60nm,1.2s,mb5.4						
LZH				AMB	AMB		
	comp=Z,240nm,4.2s						
LZH				LR	LR		
	comp=E,3µm,14.4s						
LZH				LR	LR		
	comp=Z,4µm,17.6s,MS5.2						
NWAO	Narrogin (SRO)	37.64	153	PFAKE		01 56 20.0	+7.0
NWAO				LR	LR		
	comp=Z,1µm,20.0s,MS4.7						
SSE	Sheshan	37.78	34	*e*P	P	01 56 15.1	+1.0
SSE				AP	pP	01 56 24.0	-0.4
SSE				S	S	02 02 04.4	+2.4
SSE				XS		02 02 22.3	
SSE				AMB	AMB		
	comp=Z,24nm,0.8s,mb5.0						
SSE				AMB	AMB		
	comp=Z,115nm,4.9s						
SSE				LR	LR		
	comp=N,2µm,17.0s,MS5.0						
SSE				LR	LR		
	comp=E,1µm,17.0s,MS5.0						
SSE				LR	LR		
	comp=Z,3µm,15.1s,MS5.2						
GTA	Gaotai	39.03	2	P	P	01 56 24.9	+0.4
GTA				AP	pP	01 56 35.7	+0.9
GTA				XP	sP	01 56 42.0	+2.7
GTA				AMB	AMB		
	comp=Z,55nm,7.6s						
GTA				LR	LR		
	comp=N,439nm,14.8s,MS4.5						
GTA				LR	LR		
	comp=E,369nm,16.0s,MS4.5						
GTA				LR	LR		
	comp=Z,436nm,20.5s,MS4.3						
TIA	Tai'an	39.98	24	*e*P	P	01 56 32.2	-0.2
WRA	Warramunga Arr	40.87	122	P	P	01 56 39.3	-0.6
	comp=Z,9.7nm,0.6s,mb4.6,baz=300,slow=9.1,SNR=53						
WRA				LR	LR	02 16 40.7	
	comp=Z,664nm,19.6s,MS4.5,baz=280,slow=41						
WRAB	Tennant Creek	40.88	121	*e*P	P	01 56 39.1	-0.9
	comp=Z,18nm,0.7s,mb4.8						
WRAB				LR	LR		
	comp=Z,311nm,20.0s,MS4.2						
WB2	Warramunga Arr	40.88	122	*e*P	P	01 56 39.3	-0.7
WB2				*e*S	tx	02 03 41.7	
BTO	Baotou	41.66	14	*e*P	P	01 56 47.4	+1.2
FORT	Forrest	42.04	140	*e*P	P	01 56 51.7	+2.2
	comp=Z,34nm,0.6s,mb5.2						
ASPA	Alice Springs	42.20	127	*e*P	P	01 56 51.2	+0.4
ASPA				*e*S	tx	02 03 56.6	
ASAR	Alice Springs	42.20	127	P	P	01 56 50.9	0.0
	comp=Z,9.7nm,0.7s,mb4.5,baz=299,slow=7.8,SNR=74						
ASAR				LR	LR	02 16 27.0	
	comp=Z,504nm,18.1s,MS4.4,baz=300,slow=39						
HHC	Hu-ho-hao-te	42.28	15	⇑P	P	01 56 52.4	+1.1
HHC				AP	pP	01 57 01.4	-0.3
HHC				XP	sP	01 57 07.2	+1.1
HHC				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.7						
HHC				AMB	AMB		
	comp=Z,245nm,7.5s						
HHC				LR	LR		
	comp=N,2µm,15.3s,MS5.1						
HHC				LR	LR		
	comp=E,761nm,14.9s,MS5.1						
HHC				LR	LR		
	comp=Z,1µm,15.3s,MS5.0						
BJT	Baijiatuau	42.94	21	*e*P	P	01 56 58.0	+1.3
	comp=Z,36nm,0.8s,mb5.2						
BJI	Beijing	42.97	21	P	P	01 56 58.0	+1.1
BJI				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.5						
BJI				LR	LR		
	comp=N,938nm,19.2s,MS4.8						
BJI				LR	LR		
	comp=E,772nm,15.9s,MS4.8						
BJI				LR	LR		
	comp=Z,782nm,17.8s,MS4.7						
WMQ	Urumqi	44.36	349	P	P	01 57 09.0	+0.8
WMQ				AP	pP	01 57 19.0	+0.4
WMQ				AMB	AMB		
	comp=Z,29nm,1.0s,mb5.0						
WMQ				LR	LR		
	comp=N,329nm,15.0s,MS4.7						
WMQ				LR	LR		
	comp=E,656nm,16.0s,MS4.7						
WMQ				LR	LR		
	comp=Z,477nm,15.0s,MS4.5						
ULHL	Ulahol	46.18	338	P	P	01 57 23.6	+1.0
	SNR=6.2						
KS15	Wonju Array Si	46.19	33	*e*P	P	01 57 22.9	0.0
UCH	Uchtor	46.85	336	P	P	01 57 29.1	+1.3
	SNR=15						
TKM2	Tokmak 2	47.01	338	P	P	01 57 30.4	+1.3
	SNR=12						
KBK	Karagaybulak	47.03	337	P	P	01 57 30.9	+1.5
	SNR=9.8						
AML	Almayashu	47.10	335	P	P	01 57 29.9	-0.1
	SNR=10.0						
AAK	Ala-Archa	47.19	336*c*	*i*P	P	01 57 30.4	-0.2
AAK	Ala-Archa	47.19	336	*e*P	P	01 57 30.4	-0.2
	comp=Z,12nm,1.1s,mb4.7						
AAK				*e*		01 57 46.7	
SNY	Shenyang	47.43	26	⇑P	P	01 57 31.5	-1.0
SNY				AP	pP	01 57 42.9	0.0
SNY				XP	sP	01 57 48.7	+1.4
SNY				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNY				LR	LR		
	comp=E,2µm,17.7s						
SNY				LR	LR		
	comp=Z,2µm,17.2s,MS5.0						
EKS2	Erkin-Say	47.51	336	P	P	01 57 33.8	+0.7
	SNR=11						
USP	Ospenovka	47.72	337	P	P	01 57 35.2	+0.4
	SNR=15						
SONM	Songino Array	47.98	8	P	P	01 57 37.3	+0.6
	comp=Z,10.0nm,0.8s,mb4.9,baz=191,slow=8.2,SNR=59						
MKAR	Makanchi Array	48.37	346	P	P	01 57 39.9	+0.1
	comp=Z,31nm,0.6s,mb5.5,baz=158,slow=7.8,SNR=113						
MKAR				LR	LR	02 24 07.0	
	comp=Z,388nm,18.5s,MS4.4,baz=161,slow=44						
MKAR	Makanchi Array	48.37	346	*i* P	P	01 57 39.9	+0.2
MKAR				pmax	pmax		
	comp=Z,40nm,0.8s						
CN2	Changchun	49.83	26	*e*P	P	01 57 50.1	-1.0
CN2				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.1						
CN2				AMB	AMB		
	comp=Z,180nm,4.0s						
CN2				LR	LR		
	comp=N,1µm,15.0s,MS5.2						
CN2				LR	LR		
	comp=E,1µm,15.0s,MS5.2						
CN2				LR	LR		
	comp=Z,1µm,16.0s,MS5.0						
CTAO	Charters Tower	51.38	116	PFAKE		01 58 20.0	+17
CTAO				LR	LR		
	comp=Z,936nm,20.0s,MS4.8						
STKA	Stephens Creek	52.14	132	*e*P	P	01 58 09.2	+0.5
	comp=Z,16nm,1.6s,mb4.7						
STKA	Stephens Creek	52.14	132	P	P	01 58 09.0	+0.3
	comp=Z,10nm,0.8s,mb4.8,baz=313,slow=7.2,SNR=16						
STKA				LR	LR	02 22 19.0	
	comp=Z,1µm,20.7s,MS4.8,baz=286,slow=38						
HIA	Hailar	52.32	18	*e*P	P	01 58 09.3	-0.5
	comp=Z,13nm,1.0s,mb4.8						
MDJ	Mudanjiang	52.35	28	P	P	01 58 10.7	+0.6
MDJ				AP	pP	01 58 23.1	+2.5
MDJ				XP	sP	01 58 27.3	+2.4
MDJ				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,179nm,10.0s						
MDJ				LR	LR		
	comp=N,2µm,17.0s,MS5.3						
MDJ				LR	LR		
	comp=E,831nm,17.0s,MS5.3						
MDJ				LR	LR		
	comp=Z,3µm,15.0s,MS5.5						
MDJ	Mudanjiang	52.35	28	*e*P	P	01 58 09.8	-0.3
	comp=Z,12nm,0.9s,mb4.8						
KURK	Kurchatov	52.93	345*c*	*i*P	P	01 58 13.9	-0.4
KURK				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.9						
KURK	Kurchatov	52.93	345	*e*P	P	01 58 14.1	-0.2
	comp=Z,22nm,0.8s,mb5.1						
KURK				*e*		01 58 30.7	
KURK				LR	LR		
	comp=Z,119nm,22.0s,MS3.9						
ZAL	Zalesovo	54.63	350	P	P	01 58 26.4	-0.4
	comp=Z,15nm,0.6s,mb5.2,baz=298,slow=4.8,SNR=73						
ZAL				LR	LR	02 25 38.0	
	comp=Z,363nm,19.5s,MS4.5,baz=296,slow=40						
NVS	Novosibirsk	55.76	350	*i* P	P	01 58 33.4	-1.6
NVS				*i*		01 58 49.3	
NVS				*e*		02 06 19.8	
NVS				pmax	pmax		
	comp=Z,25nm,1.2s,mb5.1						
NVS				pmax	pmax		
	comp=N,29nm,1.4s						
NVS				pmax	pmax		
	comp=E,13nm,1.4s						
NVS				pmax	pmax		
	comp=Z,41nm,1.8s,mb5.2						
NVS				pmax	pmax		
	comp=N,51nm,1.6s						
NVS				pmax	pmax		
	comp=E,19nm,1.6s						
DJNS	Zahran al Janu	56.24	291	P	P	01 58 48.4	+9.5
MZLS	Mizel	56.30	299	P	P	01 58 46.9	+7.7
TATS	Tathlith	56.70	293	P	P	01 58 49.8	+7.6
VOSK	Vostochnaya	56.97	341	P	P	01 58 42.3	-1.4
VOSK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
BVA0	Borovoye Array	57.42	341	*i* P	P	01 58 45.4	-1.5
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
BVAR	Borovoye Array	57.42	341	P	P	01 58 45.6	-1.2
	comp=Z,5.0nm,0.6s,mb4.7,baz=143,slow=7.4,SNR=24						
BRVK	Borovoye	57.48	341	*e*P	P	01 58 45.9	-1.4
	comp=Z,6.7nm,0.8s,mb4.7						
BRVK				LR	LR		
	comp=Z,201nm,19.0s,MS4.2						
NAMS	An Nimas	57.78	293	P	P	01 58 59.2	+9.3
ZRNK	Zerenda	57.83	340	P	P	01 58 48.5	-1.2
ZRNK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
ZRNK	Zerenda	57.83	340	*e*P	P	01 58 48.0	-1.7
	comp=Z,8.0nm,1.1s,mb4.7						
AFFS	‘Afif	58.21	298	P	P	01 59 00.7	+7.9
ARSS	Ar Rass	58.54	300	P	P	01 59 02.0	+6.9
BOD	Bodaibo	58.83	10	*e*P	P	01 58 55.3	-1.3
ASAJ	Asahikawa	58.98	36	P	P	01 58 57.8	-0.2
	comp=Z,7.0nm,0.8s,mb4.7,baz=195,slow=30,SNR=3.0						
YSS	Yuzh-Sakhalins	60.72	34	⇑*e*P	P	01 59 09.0	-0.8
YSS				*e*		01 59 25.5	
YSS				pmax	pmax		
	comp=Z,60nm,1.1s,mb5.6						
YSS	Yuzh-Sakhalins	60.72	34	*e*P	P	01 59 09.3	-0.5
	comp=Z,58nm,1.1s,mb5.6						
KMBO	Kilima Mbogo	60.73	269	P	P	01 59 10.7	+0.4
	comp=Z,0.8nm,0.7s,mb4.0,baz=22,slow=14,SNR=3.0						
KMBO				LR	LR	02 22 31.7	
	comp=Z,519nm,18.7s,MS4.7,baz=84,slow=33						
KMBO	Kilima Mbogo	60.73	269	P	P	01 59 10.7	+0.4
KMBO				*e*		01 59 35.0	
KMBO				LR	LR	02 22 31.7	
KBRS	Khaybar	61.97	299	P	P	01 59 27.1	+8.6
SVE	Sverdlovsk	63.87	338	⇓*e*P	P	01 59 21.2	-9.4
SVE				*e*S	S	02 08 21.0	+19
SVE				MLR	MLR		
	comp=N,400nm,17.0s,MS4.9						
SVE				MLR	MLR		
	comp=E,600nm,17.0s,MS4.9						
SVE				MLR	MLR		
	comp=Z,500nm,17.0s,MS4.8						
ARU	Arti	64.38	337	⇓*i*P	P	01 59 32.3	-1.6
ARU				*i*		02 00 03.9	
ARU				*i*		02 01 52.6	
ARU				*e*PPP	PPP	02 03 23.6	-6.6
ARU				*e*S	S	02 08 10.1	+1.9
ARU				*e*SS	SS	02 12 22.6	+2.7
ARU				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.6						
ARU				MLR	MLR		
	comp=Z,600nm,18.0s,MS4.8						
ARU				MLR	MLR		
	comp=N,300nm,19.0s,MS4.7						
ARU				MLR	MLR		
	comp=E,400nm,18.0s,MS4.7						
KIV	Kislovodsk	65.54	319	*i* P	P	01 59 39.7	-2.0
ASF	Jabal al Asfar	65.65	305	P	P	01 59 43.6	+1.0
	comp=E,1.4nm,0.8s,mb4.1,baz=93,slow=7.0,SNR=3.2						
YAK	Yakutsk	66.14	16	*e*P	P	01 59 44.0	-1.2
YAK				*e*		01 59 59.7	
YAK				*e*S	tx	02 09 01.8	
YAK				*e*		02 09 40.0	
YAK				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
YAK				pmax	pmax		
	comp=N,7.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.1s						
YAK				smax			
	comp=N,82nm,13.3s						
YAK				smax			
	comp=Z,43nm,13.4s						
YAK				smax			
	comp=E,56nm,14.7s						
YAK				MLR	MLR		
	comp=Z,1µm,16.0s,MS5.2						
YAK				MLR	MLR		
	comp=N,844nm,15.0s,MS5.2						
YAK				MLR	MLR		
	comp=E,564nm,15.0s,MS5.2						
BDAS	Al Bad‘	66.20	301	P	P	01 59 54.2	+8.1
MBAR	Mbarara	67.23	269	P	P	02 00 00.1	+7.2
MBAR				*e*		02 00 17.6	
SOC	Sochi	67.35	318	*e*P	P	01 59 51.1	-2.0
SOC				*e*		02 00 15.6	
SOC				*e*		02 02 18.3	
SOC				*e*S	S	02 08 41.4	-3.2
SOC				*e*		02 09 46.9	
SOC				*e*SS	SS	02 13 07.9	+1.5
SOC				pmax	pmax		
	comp=N,17nm,0.8s						
SOC				pmax	pmax		
	comp=E,11nm,0.8s						
SOC				pmax	pmax		
	comp=Z,21nm,0.8s,mb5.2						
BRTR	Keskin Array B	70.33	312	P	P	02 00 10.6	-1.0
	comp=Z,1.5nm,0.8s,mb4.0,baz=132,slow=5.3,SNR=7.8						
SIM	Simferopol’	71.60	318	*e*P	P	02 00 26.6	+7.5
MA2	Magadan	71.88	25	*e*P	P	02 00 14.9	-5.6
MA2				*e*PS	PS	02 10 17.0	+4.6
MA2				pmax	pmax		
	comp=Z,40nm,2.3s,mb4.9						
MA2				MLR	MLR		
	comp=Z,1µm,22.0s,MS5.1						
MAW	Mawson	71.94	193	P	P	02 00 19.3	-1.4
	comp=Z,1.6nm,0.6s,mb4.1,baz=36,slow=3.6,SNR=1.4						
MAW				LR	LR	02 25 08.2	
	comp=Z,507nm,21.8s,MS4.8,baz=58,slow=30						
PET	Petropavlovsk	72.61	34	*e*P	P	02 00 24.7	-0.3
PET				pmax	pmax		
	comp=Z,20nm,0.7s,mb5.2						
MOS	Moscow	73.56	329	*e*P	P	02 00 43.9	+13
MOS				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.2						
OBN	Obninsk	73.85	328	⇓*i*P	P	02 00 31.7	-0.5
OBN				*e*		02 00 39.4	
OBN				*i*		02 00 47.6	
OBN				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.9						
TIXI	Tiksi	74.01	10	⇓*e*P	P	02 00 32.3	-0.5
TIXI				*e*		02 00 47.5	
TIXI				pmax	pmax		
	comp=Z,19nm,1.2s,mb4.9						
AKASG	Malin Array Be	76.49	322	P	P	02 00 46.2	-1.3
	comp=Z,5.8nm,0.9s,mb4.5,baz=89,slow=5.2,SNR=14						
RPZ	Rata Peaks	77.98	135	LR	LR	02 34 34.3	
	comp=Z,1µm,19.6s,MS5.2,baz=279,slow=35						
KOLS	Kolonicke sedl	80.45	320	*i* P	P	02 01 10.4	+1.2
KOLS				*e*	pP	02 01 19.2	-1.0
SUW	Suwalki	80.91	325	*e*P	P	02 01 10.9	-0.6
	comp=Z,6.1nm,0.8s,mb4.6						
TSUM	Tsumeb	80.99	251	P	P	02 01 12.9	+0.3
	comp=Z,0.4nm,0.4s,baz=55,slow=9.8,SNR=1.8						
DIVS	Divcibare	81.21	315	⇓*i*P	P	02 01 21.3	+8.0
FINES	FINESS Array B	81.21	332	P	P	02 01 12.8	-0.2
	comp=Z,2.1nm,0.7s,mb4.2,baz=108,slow=6.0,SNR=7.9						
FINES				LR	LR	02 40 39.2	
	comp=Z,272nm,18.0s,MS4.7,baz=112,slow=38						
FINES	FINESS Array B	81.21	332	*i* P	P	02 01 12.8	-0.1
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KAF	Kangasniemi	81.29	333	*e*p	P	02 01 12.6	-0.8
PSZ	Piszkesteto	81.84	318	*e*P	P	02 01 16.2	-0.3
PSZ				*e*		02 01 41.8	
OKC	Ostrava-Krasne	83.26	320	*e*P	P	02 01 31.0	+7.3
OKC				*e*x	x	02 01 49.4	
MORC	Moravsky Berou	83.64	320	*e*P	P	02 01 26.6	+1.0
	comp=Z,7.1nm,1.0s,mb4.8						
MORC				*e*		02 01 34.7	
MORC				*e*		02 01 49.9	
ARCES	ARCESS Array B	83.71	340	P	P	02 01 26.2	+0.7
	comp=Z,12nm,1.1s,mb5.0,baz=100,slow=4.6,SNR=15						
ARCES				LR	LR	02 46 00.5	
	comp=Z,411nm,19.3s,MS4.8,baz=103,slow=41						
DPC	Dobruska-Polom	84.49	320	*e*P	P	02 01 39.6	+10
DPC				*e*x	x	02 01 56.1	
UPC	Upice	84.70	321	*e*P	P	02 01 43.6	+13
UPC				*e*x	x	02 01 57.4	
PRU	Pruhonice	85.59	320	*e*P	P	02 01 44.6	+9.2
PRU				*e*x	x	02 02 00.3	
PVCC	Panska Ves	85.62	321	*e*P	P	02 01 44.7	+9.2
PVCC				*e*x	x	02 02 01.5	
SBA	Scott Base	85.82	169	P	P	02 01 40.8	+4.8
SBA				*e*		02 02 04.2	
GERES	GERESS Array B	86.05	319	P	P	02 01 38.3	+0.7
	comp=Z,1.2nm,0.8s,mb4.2,baz=90,slow=4.0,SNR=13						
KHC	Kasperske Hory	86.15	319	*e*P	P	02 01 45.8	+7.7
KHC				*e*x	x	02 02 04.0	
CLL	Collm	86.67	321	*e**SP	sP	02 02 02.0	+6.5
HFS	Hagfors	86.94	330	P	P	02 01 42.2	+0.5
	comp=Z,6.6nm,0.9s,mb4.9,baz=214,slow=5.3,SNR=6.2						
NB2	NORSAR Subarra	88.23	331	P	P	02 01 48.4	+0.5
	comp=Z,1.0nm,0.7s,mb4.2,baz=95,slow=4.6						
NOA	NORSAR Array B	88.23	331	P	P	02 01 48.7	+0.8
	comp=Z,2.7nm,0.9s,mb4.5,baz=94,slow=4.7,SNR=4.6						
NOA				LR	LR	02 49 45.4	
	comp=Z,182nm,18.4s,MS4.5,baz=65,slow=41						
NOA	NORSAR Array B	88.23	331	P	P	02 01 48.7	+0.8
NOA				LR	LR	02 49 45.4	
DAVOX	Davos	88.52	317	P	P	02 01 50.5	+0.9
	comp=Z,2.6nm,0.8s,mb4.6,baz=335,slow=24,SNR=3.0						
PGF	Pioggiola	89.09	312	*e*P	P	02 01 53.5	+1.0
QSPA	South Pole Qui	90.17	180	P	P	02 02 01.1	+4.3
QSPA				*e*		02 02 24.8	
SBF	Sospel	90.23	314	*e*P	P	02 01 57.9	+0.1
CDF	Champ du Feu	90.30	318	*e*P	P	02 01 57.8	-0.2
	comp=Z,3.8nm,0.7s,mb4.6						
LPG	La Plagne	90.70	315	*e*P	P	02 02 00.4	+0.4
	comp=Z,18nm,1.0s,mb5.0						
MBDF	Montbardon	90.70	315	*e*P	P	02 01 59.7	-0.3
LPL	La Plagne	90.71	315	*e*P	P	02 02 00.4	+0.4
	comp=Z,20nm,1.0s,mb5.1						
LMR	La Mourre	90.91	313	*e*P	P	02 02 01.1	+0.1
	comp=Z,43nm,1.2s,mb5.3						
CABF	La Chapelle	91.14	316	*e*P	P	02 02 02.3	+0.3
	comp=Z,77nm,1.5s,mb5.5						
ORIF	Oris-en-Rattie	91.33	315	*e*P	P	02 02 03.4	+0.5
	comp=Z,12nm,1.1s,mb4.9						
SMRF	Simiane la Rot	91.57	314	*e*P	P	02 02 04.7	+0.6
MEZF	Maizieres J’vi	91.77	318	*e*P	P	02 02 05.0	+0.1
VIVF	Saint-Julien-l	92.19	315	*e*P	P	02 02 07.0	+0.1
	comp=Z,24nm,1.2s,mb5.1						
BAIF	Baives	92.25	320	*e*P	P	02 02 07.6	+0.6
	comp=Z,30nm,1.2s,mb5.2						
LOR	Lormes	92.63	317	*e*P	P	02 02 09.0	+0.1
	comp=Z,27nm,1.1s,mb5.3						
SMF	Signal de Mont	92.68	317	*e*P	P	02 02 09.2	+0.1
	comp=Z,16nm,1.0s,mb5.1						
SSF	Saint Saulge	92.89	317	*e*P	P	02 02 11.5	+1.5
	comp=Z,37nm,1.4s,mb5.3						
TCF	Toulx Ste Croi	93.83	316	*e*P	P	02 02 14.6	+0.3
IMA	Indian Mountai	97.17	23	P	P	02 02 30.9	+1.9
MCK	McKinley	99.85	25	PFAKE		02 02 50.0	+8.7
MCK				LR	LR		
	comp=Z,216nm,19.0s,MS4.7						
ULM	Lac du Bonnet	128.34	11	PKP	PKPdf	02 08 04.5	+1.9
	comp=Z,4.6nm,0.9s,baz=352,slow=4.8,SNR=3.2						
NVAR	Mina Array Bea	129.11	37	PKP	PKPdf	02 08 08.0	+3.6
	comp=Z,0.7nm,0.7s,baz=181,slow=1.1,SNR=6.0						
ELK	Elko	129.29	33	P	PKPdf	02 08 07.3	+2.6
ELK				LR	LR		
	comp=Z,253nm,22.0s,MS4.9						
PDAR	Pinedale Array	130.57	27	PKP	PKPdf	02 08 08.1	+1.0
	comp=Z,0.4nm,0.7s,baz=333,slow=2.0,SNR=3.2						
TUC	Tucson	137.76	37	PKPdf	PKPdf	02 08 22.1	+1.3
TUC				LR	LR		
	comp=Z,192nm,19.0s,MS4.9						
TXAR	Lajitas Array	144.07	33	PKP	PKPdf	02 08 32.7	+0.7
	comp=Z,3.1nm,0.5s,baz=233,slow=0.3,SNR=70						
TXAR	Lajitas Array	144.07	33	PKP	PKPdf	02 08 32.7	+0.7
CPCT	Cooper Cave	144.43	3	*e*P	PKPbc	02 08 35.3	+3.2
CPUP	Villa Florida	144.79	221	PKP	PKPdf	02 08 33.6	+0.2
	comp=Z,1.8nm,0.8s,baz=295,slow=7.1,SNR=4.4						
CPUP	Villa Florida	144.79	221	*e*P	PKPbc	02 08 34.6	+1.2
JCT	Junction City	145.10	27	*e*P	PKPdf	02 08 35.5	+1.7
JCT				*e*		02 08 52.1	
JCT				LR	LR		
	comp=Z,226nm,20.0s,MS4.9						
NATX	Nacogdoches	146.02	19	*e*P	PKPdf	02 08 37.6	+2.3
NATX				*e*		02 09 05.6	
LRAL	Lakeview Retre	146.59	8	*e*P	PKPdf	02 08 38.7	+2.5
HKT	Hockley	147.24	22	*e*PKPbc	PKPdf	02 08 40.7	+3.2

IDC 06 02:08:41.7±2.9**, 0.02N**×**97.70E, mb3.7**/5**, mb1 3.9**/6**, mb1mx3.7**/16**, ML4.3**/1**, Error ellipse: s-maj=115.0km s-min=21.1km az=60.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	18.36	4	P	P	02 12 56.5	-3.2
	0.4nm,0.3s,baz=192,slow=13,SNR=5.1						
WRA	Warramunga Arr	40.99	121	P	P	02 16 25.9	-2.3
	0.6nm,0.5s,baz=302,slow=9.1,SNR=6.9						
ASAR	Alice Springs	42.29	126	P	P	02 16 38.0	-0.9
	0.6nm,0.8s,baz=298,slow=8.1,SNR=4.0						
SONM	Songino Array	48.22	8	P	P	02 17 25.3	-0.8
	0.6nm,0.8s,baz=196,slow=7.7,SNR=4.5						
MKAR	Makanchi Array	48.50	346	P	P	02 17 26.8	-1.5
	1.9nm,0.7s,baz=162,slow=8.2,SNR=11						
ZAL	Zalesovo	54.79	351	P	P	02 18 12.2	-3.3
	0.7nm,0.4s,baz=311,slow=2.3,SNR=4.1						
TXAR	Lajitas Array	144.39	33	PKP	PKPdf	02 28 19.1	-3.3
	0.2nm,0.5s,baz=178,slow=1.2,SNR=5.0						

*HEL **06** 02:36:24.8±0.1, 67.22N×20.74E, ML2.2, ML2.2(BER), ML2.5(NAO), Explosion*
*BER **06** 02:36:26.6±3.5, 67.18N×20.63E, ML2.0, ML2.5(NAO), Suspected explosion*
*NAO **06** 02:36:27.6±1.8, 67.20N×21.59E, ML2.5*
ISC 06 02:36:20.1±0.5**, 67.00N**±0.03×**20.64E**±0.07**, n18,** σ**1**^{s}**52**/30**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KIF	Kilpisjarvi	2.01	2	*e*P	Pn	02 36 57.0	+1.2
KIF				*e*S	Sn	02 37 20.6	-1.3
KTK1	Kautokeino	2.24	25	*e*P	Pn	02 37 00.9	+1.9
KTK1				*e*SG	Sg	02 37 29.2	-5.6
KTK1				AML	AML	02 37 30.3	
	comp=Z,35nm,0.4s						
SGF	Sodankyl	2.33	76	*e*P	Pn	02 37 02.8	+2.5
SGF				*e*S	Sn	02 37 30.6	+0.5
SGF				*e*SG	Sg	02 37 33.6	-4.2
SGF				MSG		02 37 36.8	
	comp=Z,21nm,0.4s						
MOR8	Moi Rana	2.61	254	*e*SG	Sg	02 37 43.1	-4.0
MOR8				AML	AML	02 37 47.6	
	comp=Z,19nm,0.5s						
TRO	Tromso	2.72	347	*e*P	Pn	02 37 06.5	+0.6
TRO				*e*S	Sn	02 37 39.4	-0.5
TRO				AML	AML	02 37 45.0	
	comp=Z,10nm,0.5s						
MELS	Mels	2.73	270	*e*Sg	Sg	02 37 51.1	+0.1
OUL	Oulu	2.88	130	*e*P	Pn	02 37 13.8	+5.7
OUL				*e*SB	Sb	02 37 54.2	+6.0
OUL				MSG		02 37 58.7	
	comp=Z,7.0nm,0.4s						
LOF	Lofoten	2.95	296	*e*	Sg	02 37 58.3	-0.1
LOF				AML	AML	02 38 02.8	
	comp=Z,9.7nm,0.5s						
LOF	Lofoten	2.95	296	*e*Sg	Sg	02 37 58.3	-0.1
LOF				AML	AML	02 38 02.8	
	comp=Z,9.7nm,0.5s						
ARA0	ARCESS Array S	3.12	33	Pn	Pn	02 37 12.3	+0.8
	baz=211,slow=16						
ARA0				Sn	Sn	02 37 47.6	-2.5
	baz=216,slow=28						
ARA0	ARCESS Array S	3.12	33	*e*P	Pn	02 37 12.3	+0.8
ARA0				*e*S	Sn	02 37 47.6	-2.5
MSF	Maaselka	3.54	104	*e*SG	Sg	02 38 14.8	-3.3
MSF				MSG		02 38 16.6	
	comp=Z,7.2nm,0.5s						
KEV	Kevo	3.63	38	*e*P	Pn	02 37 19.5	+0.7
KEV				*e*S	Sn	02 37 59.8	-3.2
KEV				MSG		02 38 18.1	
	comp=Z,7.9nm,0.4s						
VAF	Ylistaro	4.07	167	*e*SG	Sg	02 38 35.5	-0.1
KJN	Kajaani	4.15	132	*e*SG	Sg	02 38 36.5	-1.7
KJN				MSG		02 38 40.1	
	comp=Z,2.5nm,0.3s						
NSS	Namsos	4.35	239	*e*SG	Sg	02 38 43.8	-1.2
NSS				AML	AML	02 38 45.6	
	comp=Z,11nm,0.5s						
FIA0	FINESS Array S	6.06	154	Pn	Pn	02 37 58.1	+4.9
	baz=347,slow=18						
FIA0				Sn	Sn	02 39 06.8	+2.5
	baz=345,slow=28						
FIA0				Lg		02 39 39.2	
	baz=346,slow=37						
FIA0	FINESS Array S	6.06	154	*e*P	Pn	02 37 58.1	+4.9
FIA0				*e*S	Sn	02 39 06.8	+2.5
FIA0				*e*SG	Sg	02 39 39.2	-2.7

*CSEM **06** 03:00:36.9±0.2, 35.15N×3.94W, h5^{km}, MD2.8, Error ellipse: s-maj=7.6km s-min=4.5km az=83.0*
*CNRM **06** 03:00:38.2, 35.20N×3.89W, h7^{km}, MD2.8*
*NEIC **06** 03:00:40.1, 35.22N×4.00W, MG3.1(MDD), After MDD.*
*MDD **06** 03:00:40.2±1.7, 35.24N×4.00W, mb3.1/5, Error ellipse: s-maj=18.9km s-min=6.1km az=24.0, PRXIMO*
ISC 06 03:00:37.6±0.9**, 35.19N**±0.03×**4.05W**±0.04**, h6**^{km}±7^{km}**, n22,** σ**1**^{s}**17**/37**, 1D, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MPAL	Palemas	0.10	68	*i* P	Pg	03 00 39.0	-0.8
TOU	Touzarine	0.33	133	*e*P	Pg	03 00 43.0	-1.3
EMEL	Melilla	0.90	83	⇓P	Pb	03 00 55.9	+0.8
	96nm,0.1s,SNR=18						
EMEL				S	Sb	03 01 07.4	+0.2
	SNR=7.9						
EMLI	Melilla	0.91	83	P	Pb	03 00 55.9	+0.6
	96nm,0.1s,SNR=18						
EMLI				S	Sb	03 01 07.4	0.0
	SNR=7.9						
ZAI	Zaio	1.09	101	*i* P	Pb	03 00 56.5	-1.9
TZK	Tazeka	1.10	186	*i* P	Pb	03 00 59.0	+0.4
TZK				*i* S	Sb	03 01 13.0	0.0
EMIJ	Mijas	1.49	337	P	Pn	03 01 05.6	+0.6
	0.4nm,0.1s,SNR=7.9						
EMIJ				S	Sb	03 01 24.9	+0.5
	SNR=7.9						
EMIJ	Mijas	1.49	337	P	Pn	03 01 05.6	+0.6
EMIJ				S	Sb	03 01 23.6	-0.7
EMIJ	Mijas	1.49	337	P	Pn	03 01 05.6	+0.6
	0.4nm,0.1s,SNR=7.9						
EMIJ				S	Sb	03 01 23.6	-0.7
	SNR=7.9						
EBER	Berja	1.95	29	P	Pn	03 01 11.9	+0.4
	0.4nm,0.1s,SNR=5.7						
EBER				S	Sn	03 01 35.1	-1.4
	4.0nm,0.3s,SNR=9.0						
EBER	Berja	1.95	29	P	Pn	03 01 11.9	+0.4
	0.4nm,0.1s,SNR=5.7						
EBER				S	Sn	03 01 35.1	-1.4
	4.0nm,0.3s,SNR=9.0						
EQES	Quesada	2.73	17	P	Pn	03 01 24.5	+1.9
	1.2nm,0.2s,SNR=6.9						
EQES				S	Sn	03 01 56.9	+0.7
	2.3nm,0.4s,SNR=5.3						
EQES	Quesada	2.73	17	P	Pn	03 01 25.5	+2.9
EQES				S	Sn	03 01 56.9	+0.7
EADA	Adamuz	3.00	352	P	Pn	03 01 28.4	+1.9
	0.4nm,0.1s,SNR=7.9						
EADA				S	Sn	03 02 02.9	-0.4
	SNR=7.9						
EADA	Adamuz	3.00	352	P	Pn	03 01 28.4	+1.9
EADA				S	Sn	03 02 02.9	-0.4
EADA	Adamuz	3.00	352	P	Pn	03 01 28.4	+1.8
	0.4nm,0.1s,SNR=7.9						
EADA				S	Sn	03 02 02.9	-0.4
	SNR=7.9						
EMIN	Mina Concepcio	3.33	321	P	Pn	03 01 31.9	+0.7
	0.4nm,0.1s,SNR=6.6						
EMIN				S	Sn	03 02 09.5	-2.0
	SNR=7.9						
EMIN	Mina Concepcio	3.33	321	S	Sn	03 02 09.5	-2.0
	SNR=7.9						
EMIN	Mina Concepcio	3.33	321	P	Pn	03 01 31.9	+0.7
	0.4nm,0.1s,SNR=6.6						
EBAD	Badajoz	4.28	327	P	Pn	03 01 46.1	+1.4
	0.2nm,0.1s,SNR=7.9						
EBAD				S	Sn	03 02 32.8	-2.7
	SNR=7.9						
EBAD	Badajoz	4.28	327	S	Sn	03 02 32.8	-2.7
EBAD	Badajoz	4.28	327	P	Pn	03 01 46.1	+1.4

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	0.2nm,0.1s,SNR=7.9						

NEIC 06 03:15:38.1±1.0,19.10S×70.08W,h53km±10km,mb4.3/3, Error ellipse: s-maj=16.8km s-min=8.9km az=60.0
IDC 06 03:15:41.8±4.8,19.24S×70.01W,h90km±37km,mb3.6/6, mb1 3.8/8,mb1mx3.7/14,MS3.7/1,Ms1 3.7/1,ms1mx3.0/18, Error ellipse: s-maj=48.6km s-min=21.7km az=38.0
ISC 06 03:15:36.5±1.1,19.09S±0.07×70.0W±0.1,h51km±12km, n24,σ1^{s}17/20,mb4.0/7,MS3.6/1,1D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARE	Arequipa	2.96	332⇓	iP	P	03 16 21.0	-1.2
ARE				i S	S	03 16 57.8	+1.2
LPAZ	La Paz	3.32	33	P	P	03 16 33.7	+6.3
	3.2nm,0.3s,baz=221,slow=6.1,SNR=46						
LPAZ	La Paz	3.32	33	P	P	03 16 33.7	+6.3
LVC	Limon Verde	3.66	164	eP	P	03 16 33.1	+1.0
NNA	Nana	9.63	316	eP	P	03 17 54.0	-1.3
SAML	Samuel	12.07	34	eP	P	03 18 27.4	-0.9
	2.0nm,0.7s						
CPUP	Villa Florida	13.76	124	P	P	03 18 50.8	+0.1
	0.1nm,0.3s,baz=321,slow=12,SNR=5.7						
CPUP	Villa Florida	13.76	124	eP	P	03 18 50.2	-0.4
	4.8nm,1.0s						
TRQA	Tornquist	20.16	161	eP	P	03 20 08.5	-0.8
	11nm,0.7s						
OTAV	Otavalo	20.90	336	eP	P	03 20 18.8	+1.7
	6.5nm,1.1s						
BDFB	Brasilia	21.29	84	P	P	03 20 22.5	+1.6
	4.1nm,0.8s,mb3.8,baz=266,slow=9.9,SNR=7.9						
ROSC	El Rosal	24.16	349	P	P	03 20 52.3	+3.1
	3.5nm,0.5s,mb4.0,baz=116,slow=18,SNR=2.3						
JTS	JuntasAbangare	32.69	332	LR	LR	03 36 58.9	
	comp=Z,134nm,20.2s,MS3.6,baz=162,slow=39						
TXAR	Lajitas Array	58.05	325	P	P	03 25 26.2	-0.8
	0.2nm,0.6s,mb3.3,baz=149,slow=5.3,SNR=2.5						
DBIC	Dimbokro	69.09	75	P	P	03 26 38.2	-1.5
	4.2nm,0.8s,mb4.4,baz=242,slow=15,SNR=2.3						
DBIC	Dimbokro	69.09	75	P	P	03 26 38.2	-1.5
QSPA	South Pole Qui	71.09	180	eP	P	03 26 51.4	+0.6
	4.0nm,0.8s,mb4.4						
NVAR	Mina Array Bea	72.95	322	P	P	03 27 02.8	+0.3
	0.2nm,0.5s,mb3.4,baz=139,slow=8.3,SNR=3.3						
YKA	Yellowknife Ar	88.57	341	P	P	03 28 23.8	-0.8
	2.2nm,0.7s,mb4.6,baz=120,slow=6.4,SNR=5.0						
YKA	Yellowknife Ar	88.57	341	P	P	03 28 23.8	-0.8
ASAR	Alice Springs	131.51	210	PKP	PKPdf	03 34 44.6	+0.2
	0.5nm,0.7s,baz=132,slow=2.1,SNR=6.4						
WRA	Warramunga Arr	134.44	213	PKP	PKPdf	03 34 50.5	+0.5
	0.5nm,0.5s,baz=143,slow=1.6,SNR=10						
MKAR	Makanchi Array	144.25	33	PKP	PKPdf	03 35 06.3	-0.4
	0.5nm,0.4s,baz=340,slow=2.7,SNR=9.1						
SONM	Songino Array	151.18	5	PKPbc	PKPdf	03 35 25.7	+7.7
	2.1nm,0.6s,baz=310,slow=1.3,SNR=20						

ATH 06 03:16:26.7,37.87N×20.87E,h2km,MD3.3/3
CSEM 06 03:16:26.5±0.3,37.78N×20.73E,h1km±2km,ML3.0,Error ellipse: s-maj=12.5km s-min=3.3km az=49.0
THE 06 03:16:29.4,38.01N×20.72E,h10km,ML3.0
ISC 06 03:16:25.4±1.5,37.8N±0.1×20.8E±0.1,h3km±12km,n8, σ1^{s}03/11,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VLS	Valsamata	0.37	339	ePG	Pg	03 16 34.3	+1.5
RLS	Riolos of Patr	0.61	67	ePG	Pg	03 16 35.9	-1.6
LKD	Levkas	0.88	355	ePg	Pg	03 16 42.4	-0.6
ITM	Ithomi	1.13	124	ePG	Pg	03 16 47.4	-0.6
EVR	Evrytania	1.37	37	ePN	Pn	03 16 51.5	+0.2
AGG	Agios Georgios	1.72	46	ePb	Pb	03 16 58.7	+1.5
AGG				eSb	Sb	03 17 20.1	+1.0
IGT	Igoumenitsa	1.73	349	ePb	Pb	03 16 57.8	+0.2
IGT				eSb	Sb	03 17 18.5	-1.2
FNA	Florina	2.99	9	ePn	Pn	03 17 15.3	+0.7
FNA				eSn	Sn	03 17 50.2	-1.2

NIED 06 03:20:00,25.00N×125.90E,h38km,Mw4.2 Best double couple: M₀2.34×10^{15} NP1:ϕ_s354°,δ61°,λ128°. NP2: ϕ_s116°,δ46°,λ42°.
IDC 06 03:20:08.7±0.6,25.03N×125.76E,mb4.4/18,mb1 4.5/18, mb1mx4.4/25,MS2.9/1,Ms1 3.1/1,ms1mx2.8/23,Error ellipse: s-maj=20.1km s-min=12.9km az=76.0
JMA 06 03:20:14.3±0.1,25.00N×125.95E,h67km±2km,M4.5
JMA Felt I J1.
BJI 06 03:20:17.0,25.10N×126.00E,h67km,mb4.3
NEIC 06 03:20:17.0±0.9,25.10N×126.00E,h68km±8km,mb4.7/14, MW4.2(NIED),Error ellipse: s-maj=7.4km s-min=6.2km az=66.0
NEIC Recorded [1 JMA] on Tarama-shima.
ISC 06 03:20:14.4±0.4,25.06N±0.05×125.95E±0.04,h58km±3km, n68,σ0^{s}97/71,mb4.5/33,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOGS	Gusukube	0.57	239	P	P	03 20 27.4	+0.4
JOGS				S	S	03 20 36.9	+0.6
JMJ	Miyako jima 2	0.64	248	P	P	03 20 28.2	+0.4
JMJ				S	S	03 20 38.3	+0.5
JTJ	Tarama	1.20	250	P	P	03 20 35.6	+0.3
JTJ				S	S	03 20 50.6	-0.4
JKE	Kume jima 2	1.47	31	P	P	03 20 39.6	+0.4
JIJ	Ishigaki jima	1.78	248	P	P	03 20 42.8	-0.6
JAGN	Aguni-jima	1.92	37	P	P	03 20 45.9	+0.5
JKRS	Kuro-shima	1.94	246	P	P	03 20 45.2	-0.5
NAH1	Naha	1.94	54	P	P	03 20 47.4	+1.7
JJT2	Tamagusuku 2	1.95	56	P	P	03 20 45.8	0.0
IRIF	Iriomote-Funau	2.14	251	P	P	03 20 47.8	-0.7
HATJ	Hateruma jima	2.19	243	P	P	03 20 48.1	-1.1
JIH	Iheya	2.68	42	P	P	03 20 56.4	+0.2
YOJ	Yonaguni jima	2.73	258	P	P	03 20 56.1	-0.8
JOW	Kunigami	2.74	49	Pn	P	03 20 57.2	+0.2
JOW				Sn	S	03 21 34.5	+5.4
JOW	Kunigami	2.74	49	P	P	03 20 57.1	+0.1
JTK	Tokunoshima	3.83	44	P	P	03 21 11.3	-1.0
TATO	Taipei	4.05	270	eP	P	03 21 17.4	+2.0
JAM	Amami Oshima	4.68	44	P	P	03 21 22.5	-1.7
JMZ	Minamidaito 2	4.83	80	P	P	03 21 22.5	-3.9
JMZ				eS	S	03 22 12.9	-8.7
JZK	Kikaishima	4.85	47	P	P	03 21 25.4	-1.2
MAJO	Matsushiro	15.54	40	P	P	03 23 53.1	+1.9
CD2	Chengdu	20.43	292	eP	P	03 24 48.6	-0.8
CD2				AMB	AMB		
	comp=Z,20nm,0.6s						
ASAJ	Asahikawa	23.36	31	P	P	03 25 20.6	+2.3
	comp=Z,3.9nm,0.4s,mb4.2,baz=206,slow=13,SNR=4.9						
HIA	Hailar	24.65	350	P	P	03 25 29.2	-1.7
	comp=Z,5.4nm,0.9s,mb4.1						
CMAR	Chiang Mai Arr	25.90	261	LR	LR	03 38 01.5	
	comp=Z,26nm,18.3s,baz=178,slow=42						
GTA	Gaotai	26.22	309	eP	P	03 25 44.7	-1.0
GTA				AMB	AMB		
	comp=Z,2.0nm,0.8s,mb3.7						
SONM	Songino Array	27.49	331	P	P	03 25 56.1	-1.2
	comp=Z,2.5nm,0.5s,mb4.0,baz=151,slow=10,SNR=16						
GUN	Gumba	35.87	284	eP	P	03 27 12.0	+1.2
	comp=Z,16nm,0.6s,mb5.2						
PKI	Pulchoki	36.31	283	eP	P	03 27 14.9	+0.4
	comp=Z,18nm,0.5s,mb5.2						
KKN	Kakani	36.41	283	eP	P	03 27 15.8	+0.5
	comp=Z,20nm,0.6s,mb5.3						
DMN	Daman	36.58	283	eP	P	03 27 17.4	+0.7
	comp=Z,14nm,0.5s,mb5.0						
GKN	Gorkha	36.95	284	eP	P	03 27 20.3	+0.4
	comp=Z,18nm,0.6s,mb5.1						
KOLN	Koldanda	37.89	284	eP	P	03 27 28.4	+0.7
	comp=Z,15nm,0.8s,mb4.8						
MKAR	Makanchi Array	40.81	313	P	P	03 27 51.3	-0.4
	comp=Z,3.2nm,0.5s,mb4.2,baz=100,slow=10.0,SNR=36						
ZAL	Zalesovo	41.97	324	P	P	03 28 00.2	-0.9
	comp=Z,6.5nm,0.6s,mb4.4,baz=357,slow=7.6,SNR=21						
FITZ	Fitzroy Crossi	42.90	180	eP	P	03 28 08.6	-0.6
	comp=Z,3.1nm,0.9s,mb4.0						
FITZ	Fitzroy Crossi	42.90	180	P	P	03 28 08.6	-0.6
	comp=Z,3.1nm,0.7s,mb4.1,baz=352,slow=4.3,SNR=6.6						
KURK	Kurchatov	44.28	318	eP	P	03 28 18.9	-1.1
	comp=Z,3.7nm,0.5s,mb4.4						
WRAB	Tennant Creek	45.46	169	eP	P	03 28 29.1	-0.7
	comp=Z,4.4nm,0.8s,mb4.3						
WRA	Warramunga Arr	45.47	169	P	P	03 28 29.5	-0.4
	comp=Z,3.5nm,0.6s,mb4.3,baz=350,slow=8.2,SNR=33						
WB2	Warramunga Arr	45.47	169	eP	P	03 28 29.6	-0.3
ASAR	Alice Springs	49.04	170	P	P	03 28 58.1	+0.3
	comp=Z,2.1nm,0.6s,mb4.4,baz=356,slow=7.5,SNR=36						
ASPA	Alice Springs	49.04	170	eP	P	03 28 57.9	+0.1
BVAR	Borovoye Array	49.80	319	P	P	03 29 02.6	-0.6
	comp=Z,2.2nm,0.3s,mb4.6,baz=106,slow=9.1,SNR=14						
BRVK	Borovoye	49.87	319	eP	P	03 29 02.8	-0.9
	comp=Z,2.9nm,0.3s,mb4.8						
ZRNK	Zerenda	50.60	319	eP	P	03 29 08.5	-0.9
	comp=Z,7.5nm,0.6s,mb4.8						
ARU	Arti	57.05	322	eP	P	03 29 54.9	-1.7
	comp=Z,8.8nm,0.9s,mb4.8						
STKA	Stephens Creek	58.55	164	P	P	03 30 06.9	-0.6
	comp=Z,2.8nm,0.6s,mb4.5,baz=340,slow=11,SNR=9.9						
ILAR	Eielson Array	66.44	28	P	P	03 30 59.5	+0.1
	comp=Z,0.8nm,0.5s,mb4.0,baz=256,slow=5.1,SNR=14						
KEV	Kevo	69.77	339	ep	P	03 31 18.8	-1.2
ARCES	ARCESS Array B	70.34	338	P	P	03 31 23.2	-0.2
	comp=Z,0.8nm,0.4s,mb4.0,baz=73,slow=7.7,SNR=24						
INK	Inuvik	70.77	23	P	P	03 31 27.0	+0.9
	comp=Z,3.0nm,0.7s,mb4.3,baz=281,slow=6.2,SNR=6.9						
INK	Inuvik	70.77	23	eP	P	03 31 24.6	-1.6
KAF	Kangasniemi	72.53	331	ep	P	03 31 35.7	-0.9
	comp=Z,2.8nm,0.5s,mb4.5,baz=69,slow=5.6						
FINES	FINESS Array B	72.86	330	P	P	03 31 39.0	+0.4
	comp=Z,5.6nm,0.5s,mb4.8,baz=61,slow=6.0,SNR=81						
AKASG	Malin Array Be	75.08	319	P	P	03 31 51.4	-0.2
	comp=Z,2.7nm,0.4s,mb4.5,baz=57,slow=5.9,SNR=10						
BRTR	Keskin Array B	76.12	307	P	P	03 31 58.7	+0.9
	comp=Z,3.1nm,0.6s,mb4.4,baz=92,slow=5.9,SNR=16						
NB2	NORSAR Subarra	79.44	333	P	P	03 32 15.9	+0.1
	comp=Z,2.6nm,0.6s,mb4.3,baz=56,slow=5.3						
NOA	NORSAR Array B	79.44	333	P	P	03 32 16.1	+0.4
	comp=Z,3.1nm,0.6s,mb4.4,baz=55,slow=5.5,SNR=12						
KOLS	Kolonicke sedl	79.91	319	eP	P	03 32 18.6	+0.1
OJC	Ojcow	80.75	321	eP	P	03 32 24.1	+1.1
OJC	Ojcow	80.75	321	eP	P	03 32 24.1	+1.1
NIE	Niedzica	80.83	320	eP	P	03 32 25.4	+2.0
SMOL	Smolenice	82.93	321	ePG	P	03 32 35.6	+1.3
SMOL				eSG	PcP	03 32 37.7	-1.6
CLL	Collm	83.92	324	P	P	03 32 40.6	+1.4
	comp=Z,logA/T=1.1,mb5.0						
GERES	GERESS Array B	84.87	322	P	P	03 32 45.7	+1.6
	comp=Z,1.0nm,0.7s,mb4.1,baz=45,slow=3.8,SNR=10.0						
KMBO	Kilima Mbogo	89.29	268	P	P	03 33 07.7	+1.5
	comp=Z,0.8nm,0.6s,mb4.2,baz=218,slow=18,SNR=3.5						
PMSA	Palmer Station	139.76	173	ePKPdf	PKPdf	03 39 35.2	-0.2

IDC 06 03:51:20.8±1.2,3.74N×128.29E,mb3.8/7,mb1 3.9/7, mb1mx3.8/19,Error ellipse: s-maj=90.8km s-min=16.8km az=72.0
NEIC 06 03:51:21.9±0.8,3.84N×128.55E,h10km,mb4.3/4,Error ellipse: s-maj=58.7km s-min=8.9km az=72.0
ISC 06 03:51:30.6±1.0,3.7N±0.2×128.4E±0.5,h100km,n13, σ0^{s}73/13,mb3.8/11,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.86	187	P	P	03 56 16.9	+0.6
	3.6nm,1.2s,mb3.6,baz=340,slow=12,SNR=2.8						
WRAB	Tennant Creek	24.24	166	eP	P	03 56 39.4	-0.1
	6.0nm,1.1s,mb3.8						
WRA	Warramunga Arr	24.25	166	P	P	03 56 39.9	+0.4
	0.7nm,0.5s,mb3.2,baz=345,slow=10,SNR=17						
MBWA	Marble Bar	26.14	199	P	P	03 56 52.3	-5.1
ASAR	Alice Springs	27.76	169	P	P	03 57 10.4	-1.8
	0.4nm,0.8s,mb3.0,baz=346,slow=7.4,SNR=4.4						
STKA	Stephens Creek	37.58	161	P	P	03 58 38.0	+0.9
	1.9nm,0.9s,mb3.9,baz=342,slow=14,SNR=3.1						
SONM	Songino Array	47.83	340	P	P	03 59 59.9	0.0
	0.3nm,0.4s,mb3.5,baz=138,slow=6.5,SNR=3.7						
MKAR	Makanchi Array	58.49	325	P	P	04 01 18.8	+0.2
	1.7nm,0.4s,mb4.5,baz=112,slow=7.9,SNR=26						
MKAR	Makanchi Array	58.49	325	P	P	04 01 18.8	+0.2
KURK	Kurchatov	62.62	327	eP	P	04 01 46.2	-0.3
	1.5nm,0.6s,mb4.1						
BVAR	Borovoye Array	68.21	327	P	P	04 02 22.6	+0.3
	0.5nm,0.3s,mb3.8,baz=121,slow=8.4,SNR=6.5						
BRVK	Borovoye	68.28	327	eP	P	04 02 22.9	+0.1
	1.0nm,0.6s,mb3.8						
ZRNK	Zerenda	68.95	326	eP	P	04 02 26.5	-0.3
	1.9nm,0.4s,mb4.3						

IDC 06 03:53:45.5±1.5,3.50N×127.55E,mb3.4/4,mb1 3.6/4, mb1mx3.5/17,Error ellipse: s-maj=149.0km s-min=21.0km az=70.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.23	164	P	P	03 59 03.8	-1.5
	0.6nm,0.8s,baz=342,slow=10,SNR=6.2						
ASAR	Alice Springs	27.70	167	P	P	03 59 36.5	-1.2
	0.2nm,0.3s,baz=351,slow=6.9,SNR=2.9						
SONM	Songino Array	47.78	341	P	P	04 02 23.4	-3.1
	0.1nm,0.4s,baz=146,slow=5.2,SNR=2.3						
MKAR	Makanchi Array	58.21	325	P	P	04 03 42.4	-1.5
	0.5nm,0.4s,baz=114,slow=7.7,SNR=8.9						

GUC 06 03:54:50.3±0.7,34.11S×72.37W,h32km±3km,MD3.6, ML2.7,4C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LNV	Longovilo	0.81	79⇓	iP	Pn	03 55 05.4	-0.1
LNV				i S	Sn	03 55 15.9	-0.6
LCCH	Las Cruces	0.92	47⇑	iP	Pn	03 55 08.2	+1.0
LCCH				i S	Sn	03 55 20.6	+1.3
SFDO	San Fernando	1.23	114	eP	Pn	03 55 11.5	0.0
SFDO				i S	Sn	03 55 28.7	+1.6
TACH	Talagante	1.28	69	eP	Pn	03 55 12.8	+0.6
TACH				i S	Sn	03 55 29.6	+1.2
CHCH	Chadas Angostu	1.44	83	i P	Pn	03 55 14.9	+0.4
CHCH				i S	Sn	03 55 34.1	+1.7
RCDM	Rinconada Maip	1.44	65	eP	Pn	03 55 15.4	+0.8
RCDM				i S	Sn	03 55 33.8	+1.3
RCDM				AMP		03 55 35.4	
	comp=E,96nm,0.1s						
CACH	El Canelo	1.47	91⇑	iP	Pn	03 55 15.8	+0.9
CACH				i S	Sn	03 55 36.1	+2.9
PCH	Pirque	1.62	73	eP	Pn	03 55 18.4	+1.3
PCH				i S	Sn	03 55 39.5	+2.4
CICH	Cipreses	1.63	98	i P	Pn	03 55 18.2	+1.0
CICH				i S	Sn	03 55 40.0	+2.8
CLCH	Cerro Calan	1.69	65	eP	Pn	03 55 19.3	+1.3
CLCH				i S	Sn	03 55 41.1	+2.4
CLCH				AMP		03 55 43.0	
	comp=E,124nm,0.4s						
LMEL	Las Melosas	1.82	82⇑	iP	Pn	03 55 21.1	+1.2
LMEL				i S	Sn	03 55 44.6	+2.5
LMEL				AMP		03 55 50.1	
	comp=N,251nm,0.2s						
FCH	Farellones	1.90	66⇑	iP	Pn	03 55 22.6	+1.5
FCH				i S	Sn	03 55 46.8	+2.6
FCH				AMP		03 55 53.5	
	comp=E,99nm,0.3s						

IDC 06 04:00:01.2±1.0,1.42S×23.31W,mb3.8/4,mb1 4.0/4, mb1mx3.7/20,MS3.5/6,Ms1 3.5/6,ms1mx3.3/19,Error ellipse: s-maj=57.2km s-min=26.6km az=144.0,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DBIC	Dimbokro	20.10	66	P	P	04 04 37.3	-2.2
	15nm,1.0s,baz=224,slow=11,SNR=6.1						
DBIC				LR	LR	04 10 09.0	
	comp=Z,114nm,19.8s,baz=230,slow=30						
BDFB	Brasilia	28.16	239	LR	LR	04 16 01.1	
	comp=Z,166nm,19.9s,baz=116,slow=34						
CPUP	Villa Florida	41.02	230	LR	LR	04 23 34.9	
	comp=Z,78nm,21.2s,baz=250,slow=34						
LPAZ	La Paz	46.54	249	P	P	04 08 31.8	-1.0
	0.9nm,0.9s,baz=89,slow=9.0,SNR=2.7						
LPAZ				LR	LR	04 27 03.6	
	comp=Z,9.1nm,19.1s,baz=92,slow=35						
GERES	GERESS Array B	59.41	28	P	P	04 10 05.3	-2.6
	0.4nm,0.7s,baz=248,slow=5.3,SNR=4.0						
AKASG	Malin Array Be	68.42	33	P	P	04 11 05.1	-2.0
	0.2nm,0.2s,baz=22,slow=37,SNR=1.6						
PDAR	Pinedale Array	88.19	313	LR	LR	04 44 43.0	
	comp=Z,53nm,19.5s,baz=299,slow=30						
NVAR	Mina Array Bea	94.79	308	LR	LR	04 49 32.7	
	comp=Z,42nm,19.4s,baz=230,slow=31						
STKA	Stephens Creek	143.93	158	PKP	PKPdf	04 19 40.1	-0.9
	1.1nm,0.6s,baz=270,slow=1.0,SNR=2.2						
ASAR	Alice Springs	146.64	140	PKPbc	PKPbc	04 19 45.0	-0.5
	1.2nm,0.6s,baz=216,slow=2.0,SNR=9.7						
WRA	Warramunga Arr	149.49	135	PKPbc	PKPdf	04 19 52.4	+1.7
	0.8nm,1.0s,baz=233,slow=3.2,SNR=4.6						

NEIC 06 04:39:48.0,52.71N×127.23W,h1km,mb3.8/7, ML4.2(PGC),After PGC.
NEIC Felt at Bella Coola and Hagensborg.
PGC 06 04:39:48.2,52.71N×127.23W,h1km,ML4.2/38
PGC Central Coast Mountains, British Columbia Felt (II) in Bella Coola, British Columbia.
IDC 06 04:39:50.0±0.6,52.74N×127.45W,mb3.8/3,mb1 4.1/11, mb1mx3.9/25,ML3.4/7,MS4.0/3,Ms1 4.0/3,ms1mx3.1/24, Error ellipse: s-maj=10.4km s-min=4.8km az=120.0
ISC 06 04:39:47.3±0.2,52.75N±0.02×127.31W±0.03,h1km,n98, σ1^{s}44/132,mb3.8/6,MS4.2/2,British Columbia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BBB	Bella Bella	0.75	222	Pg	Pg	04 40 01.9	-0.2
	1μm,0.3s,baz=41,slow=14						
BBB				Lg		04 40 12.0	
	1μm,0.3s,baz=153,slow=18,SNR=49						
BBB	Bella Bella	0.75	222	P	Pg	04 40 02.3	+0.1
BBB				S	Sg	04 40 12.1	-0.1
BBB				Trac		04 40 16.3	
	comp=Z,5μm,0.2s						
PHC	Port Hardy	2.04	182	Pn	Pn	04 40 22.5	-0.7
PHC				Sn	Sn	04 40 48.6	-1.0
PHC				Trac		04 40 51.6	
	comp=Z,771nm,0.2s						
BNAB	Bonilla	2.14	292	Pn	Pn	04 40 25.3	+0.7
BNAB				Pg	Pg	04 40 27.2	-2.9
BNAB				Sn	Sn	04 40 52.3	+0.1
BNAB				Sg	Sg	04 40 56.5	-2.1
BNAB				Trac		04 40 57.7	
	comp=Z,770nm,0.3s						
HOLB	Holberg	2.17	194	Pn	Pn	04 40 24.3	-0.7
HOLB				Sg	Sg	04 40 55.1	-4.4
HOLB				Trac		04 40 58.4	
	comp=Z,1μm,0.3s						
MAYB	Maynard	2.35	178	Pn	Pn	04 40 27.4	-0.2
MAYB				Pg	Pg	04 40 30.4	-3.8
MAYB				Sn	Sn	04 40 55.7	-1.8
MAYB				Sg	Sg	04 41 00.1	-5.4
MAYB				Trac		04 41 02.2	
	comp=Z,398nm,0.2s						
RUBB	Prince Rupert	2.37	313	Pn	Pn	04 40 28.4	+0.5
RUBB				Pg	Pg	04 40 31.6	-2.9
RUBB				Sn	Sn	04 40 59.1	+1.2
RUBB				Sg	Sg	04 41 03.8	-2.3
RUBB				Trac		04 41 12.3	
	comp=Z,1μm,0.8s						
NCRB	Newcastle Ridg	2.47	161	Pn	Pn	04 40 28.8	-0.5
NCRB				Pg	Pg	04 40 31.4	-5.2
NCRB				Sg	Sg	04 41 04.1	-5.5
NCRB				Trac		04 41 06.2	
	comp=Z,537nm,0.5s						
FSB	Fort Saint Jam	2.48	44	Pn	Pn	04 40 30.5	+1.0
FSB				Pg	Pg	04 40 35.2	-1.6
FSB				Sg	Sg	04 41 08.0	-1.9
FSB				Trac		04 41 13.7	
	comp=Z,357nm,0.4s						
BPBC	Brooks Peninsu	2.61	187	Pn	Pn	04 40 31.3	+0.1
BPBC				Sg	Sg	04 41 05.7	-8.4
BPBC				Trac		04 41 05.9	
	comp=Z,1μm,0.3s						
WOSB	Woss	2.63	170	Pn	Pn	04 40 31.2	-0.4
WOSB				Pg	Pg	04 40 34.1	-5.7
WOSB				Sg	Sg	04 41 07.7	-7.1
WOSB				Trac		04 41 10.2	
	comp=Z,573nm,0.3s						
BNB	Barry Inlet	2.71	268	Pn	Pn	04 40 33.7	+0.9
BNB				Sg	Sg	04 41 13.9	-3.6
BNB				Trac		04 41 16.5	
	comp=Z,275nm,0.4s						
MOBC	Moresby Island	2.81	281	Pn	Pn	04 40 35.7	+1.5
MOBC				Pg	Pg	04 40 38.7	-4.7
MOBC				Sg	Sg	04 41 15.5	-5.4
MOBC				Trac		04 41 20.4	
	comp=Z,667nm,0.7s						
EDB	Eliza Dome	2.88	178	Pn	Pn	04 40 35.6	+0.4
EDB				Sg	Sg	04 41 15.2	-7.9
EDB				Trac		04 41 19.3	
	comp=Z,474nm,0.5s						
CBB	Campbell River	2.98	155	Pn	Pn	04 40 36.7	+0.2
CBB				Pg	Pg	04 40 40.0	-6.7
CBB				Sg	Sg	04 41 19.5	-6.9
CBB				Trac		04 41 27.5	
	comp=Z,345nm,0.5s						
GDR	Gold River	3.08	164	Pn	Pn	04 40 37.8	-0.1
GDR				Pg	Pg	04 40 41.2	-7.4
GDR				Sg	Sg	04 41 21.6	-8.0
GDR				Trac		04 41 24.8	
	comp=Z,485nm,0.4s						
VIB	Van Inlet	3.20	281	Pn	Pn	04 40 42.0	+2.3
VIB				Lg		04 41 26.5	
VIB	Van Inlet	3.20	281	Pn	Pn	04 40 40.9	+1.1
VIB				Sg	Sg	04 41 27.4	-6.5
VIB				Trac		04 41 31.7	
	comp=Z,317nm,0.4s						
ETB	Estevan Point	3.41	171	Pn	Pn	04 40 44.8	+2.1
ETB				Trac		04 41 47.7	
	comp=Z,152nm,0.5s						
BTB	Buttle Lake	3.47	160	Pn	Pn	04 40 44.4	+0.9
BTB				Pg	Pg	04 40 47.8	-8.7
BTB				Sg	Sg	04 41 33.8	-9.0
BTB				Trac		04 41 38.8	
	comp=Z,437nm,0.5s						
TXB	Texada	3.55	148	Pn	Pn	04 40 45.3	+0.6
TXB				Pg	Pg	04 40 49.4	-8.7
TXB				Sg	Sg	04 41 35.6	-10
TXB				Trac		04 41 49.5	
	comp=Z,195nm,0.5s						
NDB	Naden	3.59	292	Pn	Pn	04 40 46.0	+0.8
NDB				Sg	Sg	04 41 41.3	-5.4
NDB				Trac		04 41 46.0	
	comp=Z,274nm,0.6s						
WSLR	Whistler	3.80	132	Pn	Pn	04 40 49.2	+1.0
WSLR				Pg	Px	04 40 57.0	
WSLR				Sg	Sx	04 41 46.6	
WSLR				Trac		04 41 53.8	
	comp=Z,145nm,0.6s						
ALB	Alberni	3.81	155	Pg	Pg	04 40 53.7	-10
ALB				Sg	Sg	04 41 43.2	-11
ALB				Trac		04 41 51.9	
	comp=Z,123nm,0.5s						
SHB	Sechelt	3.82	144	Pn	Pn	04 40 49.3	+0.8
SHB				Pg	Px	04 40 55.6	
SHB				Sg	Sx	04 41 43.7	
SHB				Trac		04 41 54.7	
	comp=Z,405nm,0.6s						
OZB	Mount Ozzard	3.96	162	Pg	Pn	04 40 53.1	+2.6
OZB				Sg	Sn	04 41 44.1	+5.8
OZB				Trac		04 41 58.7	
	comp=Z,318nm,0.6s						
LLLB	Lillooet	4.00	120	Pn	Pn	04 40 50.7	-0.3
LLLB				Sn	Sn	04 41 37.7	-1.6
LLLB				Trac		04 41 57.8	
	comp=Z,366nm,0.6s						
WPB	Watts Point	4.03	139	Pn	Pn	04 40 53.9	+2.5
WPB				Pg	Px	04 40 59.4	
WPB				Sg	Sx	04 41 50.1	
WPB				Trac		04 41 58.5	
	comp=Z,289nm,1.0s						
MGB	Mount Grey	4.10	155	Pn	Pn	04 40 52.5	0.0
MGB				Pg	Px	04 40 58.2	
MGB				Sg	Sx	04 41 53.9	
MGB				Trac		04 42 01.4	
	comp=Z,114nm,0.5s						
NLLB	Nanaimo Lost L	4.10	148	Pn	Pn	04 40 53.5	+1.0
NLLB				Pg	Px	04 40 59.1	
NLLB				Sg	Sx	04 41 50.7	
NLLB				Trac		04 42 00.5	
	comp=Z,138nm,0.4s						
BIB	Bowen Island	4.19	141	Pn	Pn	04 40 54.4	+0.6

BIB				Pg	Px	04 41 02.8	
BIB				Sg	Sx	04 41 54.6	
BIB				Trac		04 42 06.9	
	comp=Z,115nm,0.6s						
BMBC	**Bull Mountain**	**4.48**	**40**	Pn	**Pn**	**04 40 57.9**	**0.0**
BMBC				Pg	**Pg**	**04 41 10.3**	**-6.4**
BMBC				Sg	**Sg**	**04 42 09.3**	**-7.2**
BMBC				Trac		04 42 27.6	
	comp=Z,372nm,0.9s						
GOBB	**Galiano Island**	**4.50**	**146**	Sg	**Sg**	**04 42 03.8**	**-13**
GOBB				Trac		04 42 10.6	
	comp=Z,75nm,0.4s						
PFB	**Port Renfrew**	**4.56**	**155**	Pn	**Pn**	**04 40 58.6**	**-0.4**
PFB				Pg	Px	04 41 06.7	
PFB				Sg	Sx	04 42 06.8	
PFB				Trac		04 42 11.1	
	comp=Z,85nm,0.5s						
HNB	**Haney**	**4.58**	**137**	Pn	**Pn**	**04 41 01.3**	**+1.9**
HNB				Pg	Px	04 41 09.1	
HNB				Sg	Sx	04 42 06.2	
HNB				Trac		04 42 13.4	
	comp=Z,67nm,0.3s						
LZB	**Mount Lazard**	**4.69**	**150**	Pn	**Pn**	**04 41 03.5**	**+2.6**
LZB				Pg	Px	04 41 09.0	
LZB				Sg	Sx	04 42 10.8	
LZB				Trac		04 42 16.8	
	comp=Z,34nm,0.7s						
SNB	**Saturna Island**	**4.76**	**145**	Pg	**Pg**	**04 41 10.2**	**-12**
SNB				Sg	**Sg**	**04 42 17.3**	**-8.6**
SNB				Trac		04 42 19.5	
	comp=Z,62nm,0.5s						
PGC	**Sidney**	**4.78**	**148**	Pn	**Pn**	**04 41 05.3**	**+3.2**
PGC				Pg	Px	04 41 11.3	
PGC				Sg	Sx	04 42 13.2	
PGC				Trac		04 42 21.9	
	comp=Z,73nm,0.6s						
PGC	**Sidney**	**4.78**	**148**	*e*P	**Pn**	**04 41 01.5**	**-0.6**
VDB	**Vedder Mountai**	**4.97**	**136**	Pn	**Pn**	**04 41 01.2**	**-3.7**
VDB				Pg	**Pg**	**04 41 14.0**	**-13**
HOPB	**Hope**	**5.01**	**130**	Pn	**Pn**	**04 41 05.6**	**+0.2**
HOPB				Pg	Px	04 41 18.6	
HOPB				Sg	Sx	04 42 22.8	
HOPB				Trac		04 42 45.0	
	comp=Z,211nm,0.6s						
VGZ	**Gonzales**	**5.02**	**148**	Pg	**Pn**	**04 41 05.2**	**-0.4**
VGZ				Sg	**Sn**	**04 42 09.7**	**+4.5**
VGZ				Trac		04 42 19.7	
	comp=Z,47nm,0.5s						
DOWB	**Downie Slide**	**5.55**	**99**	Pn	**Pn**	**04 41 12.5**	**-0.6**
DOWB				Sg	**Sg**	**04 42 39.4**	**-13**
RPW	**Rockport**	**5.67**	**137**	*e*P	**Pn**	**04 41 13.2**	**-1.4**
DLBC	**Dease Lake**	**5.91**	**346**	Pn	**Pn**	**04 41 18.9**	**+0.8**
	0.8nm,0.3s,baz=188,slow=14,SNR=9.5						
DLBC				Lg		04 42 53.1	
	4.9nm,0.3s,baz=90,slow=26,SNR=4.1						
DLBC	**Dease Lake**	**5.91**	**346**	Pg	**Pg**	**04 41 36.0**	**-9.3**
DLBC				Sg	**Sg**	**04 42 48.9**	**-15**
DLBC				Trac		04 42 59.7	
	comp=Z,82nm,0.7s						
DLBC	**Dease Lake**	**5.91**	**346**	*e*P	**Pn**	**04 41 17.9**	**-0.2**
PNT	**Penticton**	**5.94**	**122**	Trac		04 42 56.8	
	comp=Z,159nm,0.6s						
PNT	**Penticton**	**5.94**	**122**	Sg	**Sg**	**04 42 51.9**	**-13**
NLW	**Nelson Butte**	**6.45**	**134**	*e*P	**Pn**	**04 41 23.4**	**-2.3**
FNBB	**Fort Nelson**	**6.62**	**20**	Pn	**Pn**	**04 41 26.6**	**-1.5**
FNBB				Trac		04 43 21.6	
	comp=Z,71nm,0.9s						
BMW	**Boistfort Moun**	**6.81**	**156**	P	**Pn**	**04 41 29.3**	**-1.5**
DPW	**Davenport**	**7.60**	**126**	*e*P	**Pn**	**04 41 39.9**	**-2.0**
NEW	**Newport**	**7.89**	**121**	*e*P	**Pn**	**04 41 42.2**	**-3.8**
WHY	**Whitehorse**	**8.96**	**335**	Trac		04 44 52.1	
	comp=Z,11nm,0.8s						
WHY	**Whitehorse**	**8.96**	**335**	Sg	Sx	04 44 28.8	
LNOR	**Lincton Mounta**	**9.05**	**136**	*e*P	**P**	**04 41 59.7**	**-2.4**
WALA	**Waterton Lakes**	**9.23**	**108**	Trac		04 44 47.3	
	comp=Z,30nm,0.8s						
WALA	**Waterton Lakes**	**9.23**	**108**	Sg	Sx	04 44 35.8	
HYT	**Haines Junctio**	**9.83**	**329**	Pn	**P**	**04 42 10.5**	**-2.2**
HYT				Trac		04 46 00.5	
	comp=Z,25nm,1.1s						
MSO	**Missoula**	**10.47**	**119**	*e*P	**P**	**04 42 16.3**	**-5.2**
CHMT	**Chamberlain Mo**	**10.79**	**117**	*e*P	**P**	**04 42 24.6**	**-1.2**
YBH	**Yreka Blue Hor**	**11.45**	**162**	Pn	**P**	**04 42 37.6**	**+2.6**
	0.1nm,0.3s,baz=9.5,slow=6.1,SNR=3.5						
MOD	**Modoc**	**11.84**	**154**	P	**P**	**04 42 38.7**	**-1.4**
YKA	**Yellowknife Ar**	**11.88**	**30**	Pn	**P**	**04 42 37.4**	**-3.4**
	0.4nm,0.3s,baz=216,slow=13,SNR=8.3						
YKA				Sn	**S**	**04 44 43.9**	**-11**
	0.2nm,0.3s,baz=214,slow=23,SNR=3.2						
YKA				Lg		04 45 59.9	
	0.5nm,0.3s,baz=157,slow=24,SNR=3.9						
YKW3	**Yellowknife Ar**	**11.93**	**29**	Trac		04 46 16.8	
	comp=Z,135nm,1.5s						
YKW3				Trac		04 46 21.4	
	comp=Z,27nm,1.1s						
YKW3	**Yellowknife Ar**	**11.93**	**29**	Sg	Sx	04 46 03.1	
DAWY	**Dawson**	**12.97**	**336**	Trac		04 47 12.8	
	comp=Z,7.0nm,1.1s						
YMR	**Madison River**	**13.46**	**120**	P	**P**	**04 43 02.6**	**+0.8**
RRI2	**Red Ridge**	**14.21**	**125**	P	**P**	**04 43 13.6**	**+2.0**
MOOW	**Moose Ponds**	**14.21**	**123**	*e*P	**P**	**04 43 14.9**	**+3.3**
TPAW	**Teton Pass**	**14.29**	**124**	P	**P**	**04 43 12.6**	**-0.1**
WUWY	**Wally Ulrich**	**14.36**	**123**	P	**P**	**04 43 15.9**	**+2.3**
SNOW	**Snow King Moun**	**14.41**	**124**	P	**P**	**04 43 16.1**	**+1.8**
ELK	**Elko**	**14.55**	**141**	P	**P**	**04 43 17.1**	**+1.0**
	3.0nm,1.0s						
SPUT	**South Promonto**	**15.24**	**133**	P	**P**	**04 43 23.7**	**-1.5**
HWUT	**Hardware Ranch**	**15.41**	**130**	*e*P	**P**	**04 43 27.6**	**+0.2**
	11nm,0.8s						
BW06	**Boulder Array**	**15.52**	**123**	*e*P	**P**	**04 43 29.8**	**+1.0**
	4.5nm,1.0s						
PDAR	**Pinedale Array**	**15.52**	**123**	Pn	**P**	**04 43 31.1**	**+2.4**
	0.0nm,0.3s,baz=326,slow=11,SNR=12						
PDAR				Lg		04 47 55.0	
	baz=225,slow=15,SNR=2.4						
NVAR	**Mina Array Bea**	**15.62**	**153**	Pn	**P**	**04 43 33.4**	**+3.2**
	0.1nm,0.3s,baz=337,slow=10,SNR=8.8						
ILAR	**Eielson Array**	**15.67**	**328**	Pn	**P**	**04 43 32.4**	**+1.9**
	baz=151,slow=9.9,SNR=4.7						
ILAR				Lg		04 48 04.2	
	0.1nm,0.3s,baz=115,slow=28,SNR=5.3						
INK	**Inuvik**	**15.89**	**352**	Pn	**P**	**04 43 34.6**	**+1.2**
	0.1nm,0.3s,baz=325,slow=11,SNR=3.0						
MVU	**Marysvale**	**17.67**	**138**	*e*P	**P**	**04 43 57.6**	**+1.4**
	5.5nm,1.0s						
MSU	**Marysvale**	**17.68**	**138**	*e*P	**P**	**04 43 57.2**	**+0.9**
ARUT	**Antelope Range**	**17.81**	**142**	*e*P	**P**	**04 43 58.4**	**+0.6**
SRU	**San Rafael**	**17.89**	**133**	*e*P	**P**	**04 43 59.1**	**+0.3**
PV10	**Paradox Valley**	**19.16**	**131**	P	**P**	**04 44 15.1**	**+0.7**
ULM	**Lac du Bonnet**	**19.65**	**85**	P	**P**	**04 44 20.2**	**+0.2**
	0.3nm,0.3s,baz=286,slow=10,SNR=4.1						
ULM				LR	LR	04 52 18.5	
	comp=Z,156nm,18.2s,baz=6.7,slow=38						
ISCO	**Idaho Springs**	**19.71**	**122**	*e*P	**P**	**04 44 18.6**	**-2.2**
	8.9nm,1.3s						
SDCO	**Great Sand Dun**	**21.34**	**126**	*e*P	**P**	**04 44 38.4**	**+0.6**
	2.3nm,0.7s,mb3.6						
LAZ	**Ladron**	**23.31**	**134**	*e*P	**P**	**04 44 57.1**	**-0.2**
TUC	**Tucson**	**23.67**	**143**	*e*P	**P**	**04 45 02.0**	**+1.1**
	0.9nm,0.8s,mb3.4						
WMOK	**Wichita Mounta**	**27.09**	**120**	*e*P	**P**	**04 45 33.8**	**+0.6**
	3.4nm,0.8s,mb4.1						
TXAR	**Lajitas Array**	**29.16**	**134**	P	**P**	**04 45 53.6**	**+1.6**
	2.9nm,1.1s,mb4.0,baz=324,slow=6.4,SNR=14						
SCHQ	**Schefferville**	**34.82**	**62**	LR	LR	05 01 15.8	
	comp=Z,130nm,20.2s,MS3.7,baz=71,slow=37						
SONM	**Songino Array**	**69.86**	**325**	P	**P**	**04 51 03.4**	**+2.3**
	0.2nm,0.4s,mb3.6,baz=45,slow=8.2,SNR=2.3						
MKAR	**Makanchi Array**	**77.66**	**340**	P	**P**	**04 51 47.5**	**+1.1**
	0.6nm,0.8s,mb3.8,slow=4.3,SNR=3.3						
CMAR	**Chiang Mai Arr**	**98.58**	**316**	LR	LR	05 37 27.2	
	comp=Z,263nm,21.5s,MS4.7,baz=51,slow=35						

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*LDG **06** 04:53:06.1±0.9, 43.09N×85.80E, h10km, Mb4.6/5, Ms2.3/1, Error ellipse: s-maj=49.1km s-min=10.1km az=155.0*
*IDC **06** 04:53:06.4±0.7, 42.98N×86.43E, mb4.1/11, mb1 4.2/14, mb1mx4.0/24, ML3.8/3, Error ellipse: s-maj=23.5km s-min=12.4km az=44.0*
*MOS **06** 04:53:09.7±1.1, 43.05N×86.30E, h33km, mb4.4/8, Error ellipse: s-maj=20.5km s-min=8.7km az=116.0*
*BJI **06** 04:53:11.7, 42.97N×86.32E, h77km, mB4.5, mb4.5, Ms3.6*
*NNC **06** 04:53:13.3±2.3, 43.15N×86.10E, h15km±10km, mpv4.0, Error ellipse: s-maj=23.2km s-min=14.1km az=80.0*
*NEIC **06** 04:53:15.1±1.0, 43.08N×86.14E, h70km±10km, mb4.4/11, Error ellipse: s-maj=14.9km s-min=6.1km az=62.0*
ISC 06 04:53:12.8±0.6**, 43.17N**±0.04×**86.30E**±0.06**, h64**km±7km**, n70, σ1^{s}36**/80**, mb4.3**/20**, 10C-6D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**1.21**	**57**	P	**P**	**04 53 32.3**	**-1.7**
WMQ				S	**S**	**04 53 49.3**	**-0.5**
WMQ				Smax			
	comp=N,2μm,0.5s						
WMQ				Smax			
	comp=E,3μm,0.5s						
MK31	**Makanchi Array**	**4.61**	**323**	⇑Pn	**P**	**04 54 22.6**	**+0.9**
	comp=E,5.5nm,0.3s,baz=139,slow=15,SNR=536						
MK31				⇓Pg	**P**	**04 54 36.6**	**+15**
	comp=E,19nm,0.4s,baz=136,slow=16,SNR=13						
MK31				⇓Sn	**S**	**04 55 15.3**	**+0.8**
	comp=E,117nm,0.8s,baz=145,slow=28,SNR=4.0						
MK31				⇓Lg		04 55 36.6	
	comp=E,85nm,0.5s,baz=143,slow=29,SNR=7.8						
MKAR	**Makanchi Array**	**4.61**	**323**	Pn	**P**	**04 54 22.7**	**+1.0**
	comp=E,3.7nm,0.3s,baz=142,slow=14,SNR=89						
MKAR				Sn	**S**	**04 55 16.4**	**+2.0**
	comp=E,22nm,0.3s,baz=138,slow=19,SNR=5.7						
MKAR				Lg		04 55 38.3	
	comp=E,45nm,0.3s,baz=140,slow=30,SNR=4.6						
MKAR	**Makanchi Array**	**4.61**	**323**	P	**P**	**04 54 22.7**	**+1.0**
MKAR						04 55 16.4	
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
MKAR				smax			
	comp=N,22nm,0.3s						
AAK	**Ala-Archa**	**8.69**	**271**	⇓Pn	**P**	**04 55 16.0**	**-2.0**
	comp=N,6.9nm,0.9s						
AAK				⇓Lg		04 57 42.9	
	comp=N,37nm,1.1s						
AAK	**Ala-Archa**	**8.69**	**271**	*e*P	**P**	**04 55 15.2**	**-2.9**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AAK	**Ala-Archa**	**8.69**	**271**	*e*P	**P**	**04 55 14.9**	**-3.2**
	comp=Z,2.3nm,0.4s						
KURK	**Kurchatov**	**9.20**	**328**	⇑Pn	**P**	**04 55 24.2**	**-0.8**
	comp=Z,2.1nm,0.5s						
KURK				⇑Sn	**S**	**04 57 07.5**	**-0.5**
	comp=Z,11nm,0.8s						
KURK				⇑Lg		04 58 03.5	
	comp=Z,51nm,1.3s						
KURK	**Kurchatov**	**9.20**	**328**	*i* P	**P**	**04 55 24.1**	**-0.9**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KURK	**Kurchatov**	**9.20**	**328**	*e*P	**P**	**04 55 23.7**	**-1.3**
	comp=Z,3.2nm,0.3s						
GTA	**Gaotai**	**10.84**	**106**	*e*P	**P**	**04 55 48.9**	**+1.6**
GTA				S	**S**	**04 57 38.1**	**-10**
GTA				AMB	AMB		
	comp=Z,3.0nm,0.8s						
GTA				AMB	AMB		
	comp=Z,38nm,4.9s						
GTA				LR	LR		
	comp=N,68nm,8.0s						
GTA				LR	LR		
	comp=E,116nm,11.8s						
NVS	**Novosibirsk**	**11.86**	**351**	*e*P	**P**	**04 55 58.9**	**-2.0**
NVS				*i*		04 58 09.3	
VOSK	**Vostochnaya**	**14.00**	**318**	⇑Pn	**P**	**04 56 28.4**	**-0.8**
	comp=E,6.8nm,1.3s						
VOSK				⇑Sn	**S**	**04 59 05.4**	**+2.0**
	comp=E,4.0nm,0.6s						
VOSK	**Vostochnaya**	**14.00**	**318**	P	**P**	**04 56 28.3**	**-0.9**
VOSK				S	**S**	**04 59 01.4**	**-2.0**
VOSK				pmax	pmax		
	comp=Z,9.0nm,1.3s						
BVA0	**Borovoye Array**	**14.47**	**318**	⇑Pn	**P**	**04 56 36.2**	**+0.9**
	comp=Z,0.8nm,0.8s,baz=222,slow=39,SNR=13						
BVAR	**Borovoye Array**	**14.47**	**318**	Pn	**P**	**04 56 35.2**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=114,slow=14,SNR=4.2						
BVAR				Sn	**S**	**04 59 12.4**	**-2.1**
	comp=Z,0.6nm,0.3s,baz=113,slow=30,SNR=4.1						
BVAR				Lg		05 00 46.0	
	comp=Z,0.3nm,0.3s,baz=135,slow=24,SNR=2.7						
BRVK	**Borovoye**	**14.54**	**318**	*e*P	**P**	**04 56 36.9**	**+0.7**
	comp=Z,6.5nm,0.8s						
SONM	**Songino Array**	**14.83**	**65**	Pn	**P**	**04 56 38.8**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=263,slow=12,SNR=3.0						
SONM				Lg		05 00 56.1	
	comp=Z,0.1nm,0.3s,baz=257,slow=28,SNR=5.5						
ZRNK	**Zerenda**	**15.12**	**316**	⇑Pn	**P**	**04 56 43.5**	**-0.1**
	comp=Z,5.3nm,0.8s						
ZRNK				⇑Sn	**S**	**04 59 30.5**	**+0.9**
	comp=Z,5.6nm,1.1s						
ZRNK	**Zerenda**	**15.12**	**316**	P	**P**	**04 56 43.5**	**-0.1**
ZRNK				S	**S**	**04 59 26.1**	**-3.5**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZRNK	**Zerenda**	**15.12**	**316**	*e*P	**P**	**04 56 43.5**	**-0.1**
	comp=Z,3.1nm,0.4s						
GKN	**Gorkha**	**15.19**	**186**	*e*P	**P**	**04 56 46.2**	**+1.5**
	comp=Z,7.8nm,0.3s						
GUN	**Gumba**	**15.23**	**181**	*e*P	**P**	**04 56 46.1**	**+0.9**
	comp=Z,48nm,0.6s						
KKN	**Kakani**	**15.37**	**183**	*e*P	**P**	**04 56 47.3**	**+0.3**
	comp=Z,23nm,0.7s						
KOLN	**Koldanda**	**15.52**	**189**	*e*P	**P**	**04 56 48.6**	**-0.3**
	comp=Z,3.2nm,0.2s						
PKI	**Pulchoki**	**15.58**	**183**	*e*P	**P**	**04 56 49.9**	**+0.2**
	comp=Z,36nm,0.7s						
SVE	**Sverdlovsk**	**21.26**	**319**	⇑*e*P	**P**	**04 57 54.0**	**-1.2**
ARU	**Arti**	**22.10**	**317**	⇓*i*P	**P**	**04 58 06.2**	**+2.6**
ARU				*e*		04 58 30.1	
ARU				*e*S	**S**	**05 02 10.7**	**+13**
ARU				*e*SS	SS	05 02 39.3	-1.9
ARU				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.2						
ARU	**Arti**	**22.10**	**317**	*e*P	**P**	**04 58 05.8**	**+2.2**
	comp=Z,7.5nm,0.8s,mb4.2						
ENH	**Enshi**	**22.52**	**117**	P	**P**	**04 58 08.8**	**+1.0**
BOD	**Bodaibo**	**22.70**	**40**	*e*P	**P**	**04 58 11.5**	**+2.1**
WHN	**Wuhan**	**25.61**	**110**	*e*P	**P**	**04 58 34.0**	**-3.6**
CMAR	**Chiang Mai Arr**	**26.85**	**153**	P	**P**	**04 58 47.8**	**-1.5**
	comp=Z,5.2nm,0.9s,mb4.0,baz=331,slow=9.4,SNR=11						
CMAR	**Chiang Mai Arr**	**26.85**	**153**	P	**P**	**04 58 47.8**	**-1.4**
CMAR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SSE	**Sheshan**	**30.09**	**102**	P	**P**	**04 59 19.0**	**+0.8**
SSE				AMB	AMB		
	comp=Z,21nm,0.8s,mb4.9						
OBN	**Obninsk**	**33.94**	**308**	*e*P	**P**	**05 00 01.2**	**+10**
OBN				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb5.0						
OBN				MLR	MLR		
	comp=Z,100nm,15.0s						
ANN	**Anapa**	**34.78**	**290**	*e*P	**P**	**04 59 50.8**	**-8.0**
ANN				pmax	pmax		
	comp=Z,48nm,1.1s,mb5.3						
AKASG	**Malin Array Be**	**38.84**	**302**	P	**P**	**05 00 34.4**	**+1.6**
	comp=Z,0.4nm,0.5s,mb3.4,baz=67,slow=10.0,SNR=2.8						
KAF	**Kangasniemi**	**39.32**	**320**	*e*p	**P**	**05 00 38.2**	**+1.5**
FINES	**FINESS Array B**	**39.43**	**319**	P	**P**	**05 00 39.8**	**+2.2**
	comp=Z,3.0nm,0.9s,mb4.0,baz=100,slow=10.0,SNR=10						
FINES				PcP	PcP	05 02 45.6	+0.4
	comp=Z,2.7nm,1.0s,baz=90,slow=3.8,SNR=4.4						
FINES	**FINESS Array B**	**39.43**	**319**	P	**P**	**05 00 39.8**	**+2.2**
FINES						05 02 45.6	
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FINES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KEV	**Kevo**	**39.73**	**332**	*e*p	**P**	**05 00 44.0**	**+4.0**
ASAJ	**Asahikawa**	**40.06**	**69**	P	**P**	**05 00 43.2**	**+0.2**
	comp=Z,4.0nm,0.4s,mb4.5,baz=97,slow=30,SNR=2.9						
ASAJ	**Asahikawa**	**40.06**	**69**	P	**P**	**05 00 43.3**	**+0.2**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.4s						
ARCES	**ARCESS Array B**	**40.21**	**332**	P	**P**	**05 00 46.4**	**+2.4**
	comp=Z,2.5nm,0.8s,mb4.0,baz=88,slow=6.9,SNR=9.6						
ARCES				PcP	PcP	05 02 48.4	+0.7
	comp=Z,6.0nm,1.1s,baz=95,slow=3.9,SNR=8.0						
ARCES	**ARCESS Array B**	**40.21**	**332**	P	**P**	**05 00 46.4**	**+2.4**
ARCES						05 02 48.4	
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARCES				pmax	pmax		
	comp=Z,6.0nm,1.1s						
NB2	**NORSAR Subarra**	**46.60**	**320**	P	**P**	**05 01 37.2**	**+1.6**
	comp=Z,1.7nm,0.7s,mb4.1,baz=77,slow=7.9						
NOA	**NORSAR Array B**	**46.60**	**320**	P	**P**	**05 01 37.2**	**+1.6**
	comp=Z,0.8nm,0.8s,mb3.7,baz=80,slow=6.8,SNR=4.9						
NOA	**NORSAR Array B**	**46.60**	**320**	P	**P**	**05 01 37.2**	**+1.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
IDI	**Anoyia**	**47.28**	**282**	P	**P**	**05 01 41.8**	**+0.4**
	comp=Z,23nm,1.1s,mb5.0,baz=67,slow=15,SNR=2.4						
LPG	**La Plagne**	**54.70**	**302**	*e*P	**P**	**05 02 36.7**	**-0.6**
	comp=Z,6.4nm,0.7s,mb4.5						
LPL	**La Plagne**	**54.70**	**302**	*e*P	**P**	**05 02 36.8**	**-0.5**
	comp=Z,4.4nm,0.5s,mb4.5						
MBDF	**Montbardon**	**55.05**	**301**	*e*P	**P**	**05 02 39.0**	**-0.9**
ORIF	**Oris-en-Rattie**	**55.52**	**302**	*e*P	**P**	**05 02 41.4**	**-1.9**
FRF	**La Foret Royal**	**55.70**	**300**	*e*P	**P**	**05 02 41.8**	**-2.8**
	comp=Z,30nm,1.1s,mb4.9						
LMR	**La Mourre**	**55.90**	**300**	*e*P	**P**	**05 02 44.7**	**-1.3**
SMF	**Signal de Mont**	**55.93**	**304**	*e*P	**P**	**05 02 43.9**	**-2.3**
BGF	**Bois d'Agland**	**56.57**	**305**	*e*P	**P**	**05 02 48.7**	**-2.1**
TCF	**Toulx Ste Croi**	**57.09**	**305**	*e*P	**P**	**05 02 53.0**	**-1.5**
	comp=Z,13nm,1.1s,mb4.5						
ILAR	**Eielson Array**	**64.66**	**22**	P	**P**	**05 03 46.0**	**+0.7**
	comp=Z,0.7nm,0.6s,mb3.9,baz=315,slow=4.3,SNR=6.3						
ILAR	**Eielson Array**	**64.66**	**22**	P	**P**	**05 03 46.0**	**+0.7**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**73.36**	**10**	P	**P**	**05 04 40.4**	**+1.7**
	comp=Z,0.9nm,0.4s,mb4.0,baz=342,slow=5.8,SNR=4.4						
YKA	**Yellowknife Ar**	**73.36**	**10**	P	**P**	**05 04 40.4**	**+1.7**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRAB	**Tennant Creek**	**76.75**	**134**	*e*P	**P**	**05 04 58.3**	**-0.7**
	comp=Z,3.5nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**76.75**	**134**	P	**P**	**05 04 58.4**	**-0.6**
	comp=Z,1.4nm,0.4s,mb4.2,baz=331,slow=4.6,SNR=37						
WRA	**Warramunga Arr**	**76.75**	**134**	P	**P**	**05 04 58.4**	**-0.6**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WB2	**Warramunga Arr**	**76.76**	**134**	*e*P	**P**	**05 04 58.6**	**-0.4**
ASAR	**Alice Springs**	**79.61**	**136**	P	**P**	**05 05 14.3**	**-0.3**
	comp=Z,0.5nm,0.6s,mb3.7,baz=328,slow=5.6,SNR=6.7						
LPAZ	**La Paz**	**145.47**	**313**	PKPbc	PKPbc	05 12 46.4	+2.1
	comp=Z,0.6nm,0.2s,baz=2.0,slow=3.1,SNR=3.6						
LPAZ	**La Paz**	**145.47**	**313**	PKP2	PKPab	05 12 46.4	+0.3
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.2s						

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*BGS **06** 05:24:13.6±1.7, 34.98N×72.58E, h200km, mb5.0*
*MOS **06** 05:24:22.4±0.9, 36.27N×70.85E, h155km, mb5.7/30, Error ellipse: s-maj=9.3km s-min=5.0km az=120.0*
MOS Felt (II) at Tashkent.
*CSEM **06** 05:24:27.9, 36.49N×70.69E, h200km, mb5.5*
*BJI **06** 05:24:28.5, 36.62N×70.74E, h202km, mB5.1, mb5.1*
*IDC **06** 05:24:30.0±0.4, 36.43N×70.78E, h210km±3km, mb5.0/31, mb1 5.1/33, mb1mx5.1/33, Error ellipse: s-maj=7.7km s-min=5.6km az=27.0*
*NEIC **06** 05:24:29.7±0.1, 36.45N×70.76E, mb5.0/153, MW5.3, Error ellipse: s-maj=3.8km s-min=2.3km az=191.0, Moment Tensor Solution. s11 Moment tensor: Scale 10^{17} Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{\theta\phi}$0.00; $M_{\phi r}$0.00; Best double couple: $M_0$1.1×10^{17} NP1:ϕ_s270°, δ20°, λ80°. NP2:ϕ_s101°, δ70°, λ94°. Principal axes: T .88, Plg65°, Azm17°; N .37, Plg3°, Azm279°; P -1.26, Plg25°, Azm188°;*
NEIC Felt at Kabul. Also felt at Chitral, Kohistan, Mansehra, Peshawar and in other parts of North-West Frontier Province, Pakistan. Felt [II] at Tashkent, Uzbekistan.
*HRVD **06** 05:24:29.7±0.2, 36.49N×70.64E, h202km±1km, MW5.3/80, Centroid moment Tensor Solution. LP body waves: s53,c79;Mantle waves: s80,c146; Half duration: 1^{s}1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.65±.02; $M_{\theta\theta}$-0.57±.02; $M_{\phi\phi}$-0.08±.02; $M_{r\theta}$0.78±.02; $M_{\theta\phi}$0.05±.02; $M_{\phi r}$-0.25±.02; Best double couple: $M_0$1.02×10^{17} NP1: ϕ_s269°, δ19°, λ75°. NP2:ϕ_s105°, δ72°, λ95°. Principal axes: T 1.07, Plg63°, Azm23°; N -.09, Plg5°, Azm283°; P -.98, Plg26°, Azm191°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SYO **06** 05:24:30, 36.48N×70.76E, h209km, MB5.1*
*NNC **06** 05:24:34.0±2.4, 36.77N×71.15E, h238km±20km, mpv6.3, Error ellipse: s-maj=42.4km s-min=18.0km az=100.0*
ISC 06 05:24:27.3±0.3**, 36.44N**±0.02×**70.70E**±0.02**, h194**km±2km**, h205**km±1.1km**:pP-P, n705, σ0^{s}91**/720**, mb5.0**/218**, 107C-34D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.79**	**159**	⇑P	**P**	**05 25 16.4**	**+1.7**
CHCP	**Chirah Chowk**	**3.48**	**142**	⇑P	**P**	**05 25 24.7**	**+1.7**
THW	**Thamme Wali**	**3.74**	**166**	⇓P	**P**	**05 25 27.4**	**+1.2**
SBDP	**Sheikh Budin**	**4.13**	**179**	⇑P	**P**	**05 25 31.6**	**+0.4**
DRP	**Derazinda**	**4.71**	**185**	⇓P	**P**	**05 25 39.3**	**+0.9**
SARP	**Sargodha**	**4.79**	**160**	⇓P	**P**	**05 25 40.0**	**+0.4**
TAS	**Tashkent**	**5.00**	**348**	*i* PN	**P**	**05 25 42.0**	**-0.2**
TAS				pmax	pmax		
	comp=Z,270nm,1.0s						
KSH	**Kashi**	**5.17**	**52**	*i* PR		05 25 46.1	
KSH				XP		05 26 25.6	
KSH				S	**S**	**05 26 45.3**	**+1.0**
KSH				Smax			
	comp=N,34μm,2.0s						
KSH				Smax			
	comp=E,27μm,2.3s						
THN	**Thein Dam**	**5.76**	**133**	*e*P	**P**	**05 25 52.2**	**+0.2**
	comp=E,1μm,0.4s						
THN				*e*S	**S**	**05 26 55.2**	**-2.7**
AML	**Almayashu**	**6.14**	**21**	P	**P**	**05 25 57.2**	**+0.2**
	SNR=2507						
UCH	**Uchtor**	**6.49**	**26**	P	**P**	**05 26 01.8**	**+0.2**
	SNR=2551						
KZA	**Kyzart**	**6.64**	**31**	P	**P**	**05 26 03.3**	**-0.2**
	SNR=132						
EKS2	**Erkin-Say**	**6.65**	**20**	P	**P**	**05 26 03.8**	**+0.1**
	SNR=695						
AAK	**Ala-Archa**	**6.84**	**24**	⇓P	**P**	**05 26 06.4**	**+0.2**
	comp=E,2μm,0.7s						
AAK				⇓S	**S**	**05 27 22.1**	**-1.2**
	comp=E,3μm,0.8s						
AAK	**Ala-Archa**	**6.84**	**24**	P	**P**	**05 26 06.5**	**+0.3**
	SNR=341						
AAK	**Ala-Archa**	**6.84**	**24**	*d i*PN	**P**	**05 26 05.8**	**-0.4**
AAK				pmax	pmax		
	comp=Z,2μm,0.7s						
AAK	**Ala-Archa**	**6.84**	**24**	*e*P	**P**	**05 26 05.2**	**-1.0**
	comp=Z,2μm,0.8s						
BHK	**Bhakra**	**6.90**	**135**	*e*	**P**	**05 26 14.1**	**+7.1**
BHK				*e*		05 27 15.9	
KBK	**Karagaybulak**	**7.02**	**27**	P	**P**	**05 26 09.0**	**+0.5**
	SNR=556						
ULHL	**Ulahol**	**7.21**	**35**	P	**P**	**05 26 10.6**	**-0.4**
	SNR=439						
CHMS	**Chumysh**	**7.25**	**24**	P	**P**	**05 26 11.1**	**-0.4**
	SNR=1438						
USP	**Ospenovka**	**7.41**	**22**	P	**P**	**05 26 13.0**	**-0.7**
	SNR=73						
TKM2	**Tokmak 2**	**7.49**	**29**	P	**P**	**05 26 14.8**	**+0.1**
	SNR=4763						
KKR	**Kurukshetra**	**8.25**	**140**	*e*P	**P**	**05 26 24.9**	**+0.4**
AAA	**Alma-Ata**	**8.34**	**33**	*i* PN	**P**	**05 26 26.0**	**+0.2**
AAA				pmax	pmax		
	comp=Z,6μm,2.0s						
DDI	**Dehra Dun**	**8.66**	**133**	*e*P	**P**	**05 26 28.2**	**-1.8**
DDI				*e*		05 27 55.2	
RTK	**Rohtak**	**8.81**	**145**	*e*P	**P**	**05 26 31.3**	**-0.7**
RTK				*e*S	**S**	**05 28 03.2**	**-6.3**
BHGR	**Bahadurgarh**	**9.35**	**144**	*e*P	**P**	**05 26 38.3**	**-0.7**
KHET	**Khetri**	**9.39**	**151**	*e*P	**P**	**05 26 38.4**	**-1.1**
KHET				*e*S	**S**	**05 28 17.5**	**-5.4**
KHET				*e*		05 28 21.6	
	comp=N,2μm,0.5s						
KHET				*e*		05 28 21.8	
	comp=E,3μm,0.6s						
JOSI	**Joshimath**	**9.44**	**126**	*e*P	**P**	**05 26 40.6**	**+0.6**
NDI	**New Delhi**	**9.49**	**143**	*e*P	**P**	**05 26 38.5**	**-2.2**
NDI				*e*S	**S**	**05 28 16.0**	**-9.1**
JASL	**Jaisalmer**	**9.49**	**179**	*e*P	**P**	**05 26 39.9**	**-0.8**
JASL				*e*S	**S**	**05 28 18.8**	**-6.4**
AYAN	**Aya Nagar**	**9.61**	**144**	*e*P	**P**	**05 26 42.0**	**-0.4**
KUDL	**Kundal**	**9.61**	**148**	*e*P	**P**	**05 26 41.1**	**-1.2**
KUDL				*e*S	**S**	**05 28 21.9**	**-6.2**
ASOR	**Ausora**	**9.71**	**140**	*e*P	**P**	**05 26 43.6**	**0.0**

SONA	Sohna	9.79	145	eP	P	05 26 44.0	-0.6
SONA				eS	S	05 28 25.7	-6.4
VAN	Vannovskaya	10.16	282	i P	P	05 26 48.2	-1.2
AJM	Ajmer	10.48	160	eP	P	05 26 53.3	-0.3
AJM				eS	S	05 28 42.6	-5.8
PTH	Pithoragarh	10.53	128	eP	P	05 26 53.4	-0.9
PTH				e		05 28 48.0	
LGTI	Lohaghat	10.62	128⇑	iP	P	05 26 54.0	-1.4
LGTI				eS	S	05 28 42.5	-9.1
AGRA	Agra	11.05	144	eP	P	05 27 00.2	-0.7
BHJ	Bhuj	13.18	184	eP	P	05 27 29.0	+1.1
BHJ				eS	S	05 29 45.2	-5.3
MK31	Makanchi Array	13.48	36	⇑P	P	05 27 31.2	-0.5
	comp=E,475nm,0.8s,baz=221,slow=13,SNR=2801						
MKAR	Makanchi Array	13.48	36	P	P	05 27 30.8	-0.9
	comp=E,18nm,0.3s,baz=229,slow=11,SNR=228						
MKAR				sP		05 28 23.2	
	baz=254,slow=8.8,SNR=1.0						
MKAR				S	S	05 29 58.6	+1.3
	baz=204,slow=25,SNR=2.2						
MKAR				ScP		05 35 55.6	
	comp=E,0.5nm,0.3s,baz=243,slow=2.7,SNR=3.6						
MKAR				PKiKP		05 40 37.5	
	comp=E,0.2nm,0.3s,baz=135,slow=1.7,SNR=5.1						
MKAR	Makanchi Array	13.48	36	P	P	05 27 30.8	-0.9
MKAR				S	S	05 29 58.6	+1.3
MKAR				pmax	pmax		
	comp=Z,18nm,0.3s						
MKAR	Makanchi Array	13.48	36	P	P	05 27 30.8	-0.9
MKAR				sP		05 28 23.2	
MKAR				S	S	05 29 58.6	+1.3
MKAR				ScP		05 35 55.6	
KOLN	Koldanda	13.93	125	eP	P	05 27 37.0	-0.4
	comp=Z,256nm,0.5s						
BHPL	Bhopal	14.38	154	eP	P	05 27 43.2	+0.1
BHPL				e		05 30 12.9	
VLK	Valmikinagar	14.40	125	i P	P	05 27 41.0	-2.3
VLK				i		05 30 29.0	
GKN	Gorkha	14.47	122	eP	P	05 27 43.7	-0.5
	comp=Z,1μm,0.7s						
GKN				eS	S	05 30 13.3	-6.6
WMQ	Urumqi	14.93	55⇓	iP	P	05 27 50.0	+0.3
WMQ				S	S	05 30 31.0	+1.0
WMQ				PCP	PcP	05 32 47.0	+0.4
WMQ				PCS		05 36 21.0	
DMN	Daman	15.05	122	eP	P	05 27 51.7	+0.4
	comp=Z,680nm,0.6s						
KKN	Kakani	15.05	121	eP	P	05 27 51.7	+0.3
	comp=Z,781nm,0.5s						
KKN	Kakani	15.05	121	eS	S	05 30 25.9	-7.0
PKI	Pulchoki	15.28	121	eP	P	05 27 54.3	+0.1
	comp=Z,1μm,0.7s						
KURK	Kurchatov	15.36	19	⇑P	P	05 27 52.9	-2.2
	comp=Z,137nm,0.8s,baz=206,slow=9.0,SNR=532						
KURK				⇓S	S	05 30 39.7	0.0
	comp=Z,936nm,1.6s,baz=17,slow=15,SNR=4.9						
KURK	Kurchatov	15.36	19d	iP	P	05 27 53.1	-2.0
KURK				pmax	pmax		
	comp=Z,137nm,0.8s						
KURK	Kurchatov	15.36	19	eP	P	05 27 52.8	-2.3
	comp=Z,264nm,0.8s						
GUN	Gumba	15.40	119	eP	P	05 27 55.7	0.0
	comp=Z,896nm,0.7s						
VOSK	Vostochnaya	16.28	1	⇑P	P	05 28 05.1	-1.2
	comp=Z,182nm,0.5s						
VOSK				⇑S	S	05 31 00.5	+0.1
	comp=Z,476nm,1.9s						
VOSK	Vostochnaya	16.28	1	P	P	05 28 05.2	-1.1
VOSK				pmax	pmax		
	comp=Z,82nm,0.5s						
VOSK	Vostochnaya	16.28	1	i P	P	05 28 05.3	-1.0
ZRNK	Zerenda	16.55	356	⇑P	P	05 28 08.6	-1.0
	comp=Z,396nm,0.6s						
ZRNK				⇑S	S	05 31 05.8	-0.5
	comp=Z,220nm,1.3s						
ZRNK	Zerenda	16.55	356	P	P	05 28 08.8	-0.8
ZRNK				pmax	pmax		
	comp=Z,218nm,0.6s						
ZRNK	Zerenda	16.55	356	eP	P	05 28 08.6	-1.0
BVAR	Borovoye Array	16.58	359	P	P	05 28 09.5	-0.5
	comp=Z,107nm,0.3s,baz=158,slow=9.2,SNR=1010						
BVAR				S	S	05 31 07.5	+0.4
	comp=Z,2.5nm,0.3s,baz=187,slow=12,SNR=3.2						
BVAR				PKiKP		05 40 39.1	
	comp=Z,0.3nm,0.3s,baz=306,slow=3.0,SNR=4.9						
BRVK	Borovoye	16.62	359	⇑P	P	05 28 09.7	-0.6
	comp=Z,160nm,0.6s						
BRVK				⇓S	S	05 31 07.4	-0.4
	comp=Z,339nm,1.6s						
BRVK	Borovoye	16.62	359	P	P	05 28 10.0	-0.4
BRVK				pmax	pmax		
	comp=Z,96nm,0.6s						
BRVK	Borovoye	16.62	359	eP	P	05 28 09.4	-1.0
	comp=Z,447nm,0.7s						
BRVK				eS	S	05 31 09.1	+1.3
AKL	Akola	16.62	159⇑	i	P	05 28 17.7	+7.0
	comp=Z,468nm,0.8s						
AKL				i S	S	05 31 13.8	+5.6
NGP	Nagpur	16.89	152	eP	P	05 28 14.1	+0.4
NGP				e		05 31 11.2	
BLSP	Bilaspur	17.38	142	eP	P	05 28 18.6	-0.6
BLSP				e		05 31 22.9	
BOM	Bombay	17.58	173	eP	P	05 28 19.1	-2.3
BOM				e		05 31 48.6	
POO	Poona	18.06	170	eP	P	05 28 27.4	+0.9
POO				e		05 28 29.1	
	comp=Z,343nm,0.9s						
LSA	Lhasa	18.39	106	P	P	05 28 32.2	+2.3
LSA				S	S	05 31 44.9	-0.1
LSA				LR	LR		
	comp=N,200nm,8.6s						
LSA				LR	LR		
	comp=E,310nm,8.8s						
LSA				LR	LR		
	comp=Z,300nm,9.7s						
LATR	Latur	18.68	162⇓	iP	P	05 28 33.9	+0.9
LATR				e		05 31 37.0	
MAK	Makhachkala	18.97	297d	iP	P	05 28 36.0	+0.2
MAK				i S	S	05 32 01.0	+4.9
MAK				pmax	pmax		
	comp=Z,264nm,1.0s						
MAK				smax			
	comp=N,2μm,8.0s						
MAK				smax			
	comp=E,700nm,8.0s						
KAD	Karad	19.31	170⇓	iP	P	05 28 40.4	+1.0
KAD				i		05 32 16.4	
ZAL	Zalesovo	20.05	25	P	P	05 28 46.6	-0.2
	comp=E,529nm,0.3s,baz=162,slow=6.6,SNR=966						
ZAL				S	S	05 32 18.3	+2.1
	comp=E,39nm,0.6s,baz=49,slow=18,SNR=3.1						
ZAL	Zalesovo	20.05	25	P	P	05 28 46.6	-0.2
ZAL				S	S	05 32 18.3	+2.1
ZAL				pmax	pmax		
	comp=Z,529nm,0.4s						
HYB	Hyderabad	20.18	158⇓	iP	P	05 28 49.0	+0.6
	comp=Z,371nm,0.8s						
HYB				epP		05 29 21.0	
HYB				esP		05 29 50.0	
HYB				eS	S	05 32 22.5	+3.6
HYB	Hyderabad	20.18	158⇓	eP	P	05 28 49.0	+0.6
	comp=Z,371nm,0.8s						
HYB				eS	S	05 32 22.5	+3.6
NVS	Novosibirsk	20.32	21	i P	P	05 28 49.0	-0.5
NVS				e*PP		05 29 14.6	
NVS				i S	S	05 32 23.9	+2.7
NVS				eSS	SS	05 32 55.7	-14
NVS				pmax	pmax		
	comp=N,2μm,1.9s						
NVS				pmax	pmax		
	comp=E,517nm,1.9s						
NVS				pmax	pmax		
	comp=Z,2μm,1.9s						
NVS				smax			
	comp=E,913nm,1.4s						
NVS				smax			
	comp=N,238nm,1.2s						
UMR	Umm Al-Rimmam	20.44	257	eP	P	05 28 52.7	+1.8
KBD	Kabd	20.62	256	eP	P	05 28 54.3	+1.6
CAL	Calcutta	20.63	127⇓	i	Px	05 29 52.9	
CAL				eS	S	05 32 33.7	+6.8
MIB	Mutribah	20.63	258	eP	P	05 28 54.1	+1.4
QRN	Al-Qurain	20.64	255	eP	P	05 28 53.5	+0.6
GNI	Garni	20.68	288	P	P	05 28 56.3	+3.1
	comp=N,86nm,0.8s,baz=137,slow=3.0,SNR=48						
GNI	Garni	20.68	288	P	P	05 28 56.3	+3.1
GNI				pmax	pmax		
	comp=Z,87nm,0.8s						
TI2	Plekhanov	20.79	293⇑	iP	P	05 28 50.8	-3.4
TI2				i S	S	05 32 38.8	+9.0
RDF	Al-Radifah	20.85	256	eP	P	05 28 56.3	+1.4
RST	Umm Al-Ruwaisa	21.03	258	eP	P	05 28 58.1	+1.4
GOA	Goa	21.05	172⇓	iP	P	05 29 00.2	+3.2
GOA				eS	S	05 32 41.5	+6.8
SHL	Shillong	21.10	115	eP	P	05 28 58.5	+1.1
SHL				eS	S	05 32 40.0	+4.5
HASS	Wahat al Ahsa'	21.20	244	P	P	05 28 58.6	+0.2
HASS	Wahat al Ahsa'	21.20	244	P		05 36 12.3	
SVE	Sverdlovsk	21.49	345⇑	iP	P	05 29 02.0	+1.1
SVE				i		05 29 31.0	
SVE				pmax	pmax		
	comp=Z,400nm,1.0s,mb5.9						
SVE				MLR	MLR		
	comp=Z,1μm,9.0s						
SVE				MLR	MLR		
	comp=N,600nm,7.0s						
SVE				MLR	MLR		
	comp=E,1μm,7.0s						
ARU	Arti	21.61	342⇑	iP	P	05 29 03.3	+1.1
ARU				i		05 29 36.0	
ARU				i S	S	05 32 52.1	+7.8
ARU				pmax	pmax		
	comp=Z,448nm,0.8s,mb6.0						
ARU	Arti	21.61	342⇑	eP	P	05 29 02.9	+0.7
	comp=Z,411nm,0.8s,mb6.0						
AGT	Agartala	21.68	120⇑	i	P	05 29 13.0	+10
AGT				i		05 29 50.0	
GOF	Gofitskoye	22.57	301⇑	iP	P	05 29 14.0	+2.4
GOF				i S	S	05 33 12.0	+11
GOF				pmax	pmax		
	comp=Z,280nm,1.5s,mb5.6						
GOF				pmax	pmax		
	comp=Z,2μm,3.0s						
GOF				smax			
	comp=N,4μm,9.0s						
KIV	Kislovodsk	22.60	298c	iP	P	05 29 13.4	+1.5
KIV				e*PP		05 29 46.7	
KIV				eS	S	05 33 08.3	+6.8
KIV				pmax	pmax		
	comp=N,21nm,0.7s						
KIV				pmax	pmax		
	comp=Z,59nm,0.7s,mb5.2						
KIV				MLR	MLR		
	comp=N,123nm,19.0s						
KIV				MLR	MLR		
	comp=E,100nm,17.0s						
KIV				MLR	MLR		
	comp=Z,185nm,17.0s						
KIV	Kislovodsk	22.60	298	eP	P	05 29 13.1	+1.2
	comp=Z,68nm,0.7s,mb5.3						
IMP	Imphal	23.06	114⇑	iP	P	05 29 19.0	+2.5
GTA	Gaotai	23.11	74	P	P	05 29 19.0	+2.2
GTA				AP		05 30 00.2	
GTA				XP		05 30 22.4	
GTA				PCP	PcP	05 33 00.2	-0.8
GTA				S	S	05 33 15.9	+5.7
GTA				SS	SS	05 34 24.6	+8.8
GTA				PCS		05 36 38.7	
GTA				SCS	ScS	05 40 02.6	-1.4
GTA				AMB	AMB		
	comp=Z,142nm,1.0s,mb5.5						
GTA				AMB	AMB		
	comp=Z,482nm,4.6s						
GTA				LR	LR		
	comp=N,204nm,7.6s						
GTA				LR	LR		
	comp=E,184nm,6.8s						
GTA				LR	LR		
	comp=Z,109nm,11.4s						
MNGI	Mangalore	23.69	170	i P	P	05 29 24.4	+1.9
MNGI				i		05 30 31.3	
RYDS	Riyadh	24.02	246	P	P	05 29 23.6	-2.1
SOC	Sochi	24.68	296	eP	P	05 29 35.4	+3.8
SOC				e		05 30 21.7	
SOC				e		05 33 08.1	
SOC				eS	S	05 33 44.0	+7.5
SOC				pmax	pmax		
	comp=Z,45nm,0.8s,mb5.2						
SOC				pmax	pmax		
	comp=N,35nm,1.2s						
SOC				pmax	pmax		
	comp=E,18nm,0.5s						
MZLS	Mizel	25.18	248	P	P	05 29 36.9	+0.5
RAYN	Ar Rayn	25.26	246	P	P	05 29 37.1	0.0
	comp=E,881nm,1.1s,SNR=60						
ARSS	Ar Rass	25.67	254	P	P	05 29 41.3	+0.3
HILS	Ha'il	26.07	258	P	P	05 29 45.2	+0.5
MOY	Mondy	26.32	45	eP	P	05 29 47.7	+1.1
MOY				e		05 30 32.1	
LZH	Lanzhou	26.65	81⇑	iP	P	05 29 51.0	+1.1
LZH				AP	pP	05 30 36.4	+7.7
LZH				XP	sP	05 30 55.0	+3.4
LZH				PCP	PcP	05 33 08.5	-0.3
LZH				S	S	05 34 11.1	+2.3
LZH				XS		05 35 24.0	
LZH				SS	SS	05 35 41.0	+1.5
LZH				SCP		05 36 28.0	
LZH				SCS	ScS	05 40 18.6	+0.1
LZH				AMB	AMB		
	comp=Z,120nm,1.0s,mb5.5						
LZH				LR	LR		
	comp=E,640nm,11.6s						
LZH				LR	LR		
	comp=Z,460nm,14.6s						
AFFS	'Afif	26.90	250	P	P	05 29 52.4	+0.3
VOR	Voronezh	27.04	314⇑	iP	P	05 29 52.7	-0.5
VOR				pmax	pmax		
	comp=N,160nm,1.2s						
VOR				pmax	pmax		
	comp=E,200nm,1.2s						
VOR				pmax	pmax		
	comp=Z,280nm,1.2s,mb5.8						
KAMS	Al Khamasin	27.92	242	P	P	05 30 00.5	-0.9
CD2	Chengdu	27.97	92⇑	iP	P	05 30 02.8	+1.0
CD2				AP	pP	05 30 41.2	+0.2
CD2				XP	sP	05 31 03.7	-0.1
CD2				S	S	05 34 31.8	+1.8
CD2				XS		05 35 39.0	
CD2				SS	SS	05 36 07.1	-3.2
CD2				AMB	AMB		
	comp=Z,130nm,2.1s,mb5.2						
CD2				LR	LR		
	comp=E,240nm,10.2s						
CD2				LR	LR		
	comp=Z,150nm,8.4s						
ASF	Jabal al Asfar	28.16	271	P	P	05 30 04.6	+1.1
	comp=Z,2.6nm,0.4s,mb4.2,baz=15,slow=3.2,SNR=4.7						
TRD	Trivandrum	28.38	167	i	Px	05 30 25.4	
TRD				i		05 34 57.4	
SONM	Songino Array	28.57	55	P	P	05 30 07.5	+0.5
	comp=Z,66nm,0.7s,mb5.4,baz=261,slow=9.8,SNR=484						
SONM				pP	pP	05 30 50.1	+3.8
	comp=Z,18nm,0.8s,baz=262,slow=9.3,SNR=3.2						
SONM				ScP		05 36 32.8	
	comp=Z,3.2nm,0.9s,baz=270,slow=4.9,SNR=4.1						
SONM				P3KPbc		06 02 18.0	
	comp=Z,2.1nm,0.7s,baz=111,slow=3.7,SNR=17						
SONM	Songino Array	28.57	55	P	P	05 30 07.5	+0.5
SONM				pP	pP	05 30 50.1	+3.8
SONM				ScP		05 36 32.8	
SONM				e		06 02 18.0	
SIM	Simferopol'	28.81	299	P	P	05 30 23.8	+15
KBRS	Khaybar	28.82	257	P	P	05 30 10.8	+1.4
TATS	Tathlith	29.21	242	P	P	05 30 12.5	-0.4
BRTR	Keskin Array B	29.22	288	P	P	05 30 12.8	-0.1
	comp=Z,7.2nm,0.6s,mb4.5,baz=100,slow=8.5,SNR=28						
BRTR				pP	pP	05 30 55.0	+2.5
	comp=Z,12nm,0.7s,baz=106,slow=9.0,SNR=3.7						
BRTR				ScP		05 36 35.0	
	comp=Z,4.0nm,0.9s,baz=117,slow=2.8,SNR=4.4						
BRTR	Keskin Array B	29.22	288	P	P	05 30 12.8	-0.1
BRTR						05 36 35.0	
MOS	Moscow	29.55	321	i P	P	05 30 15.5	-0.1
MOS				e*PP	pP	05 30 49.3	-6.0
MOS				ePPP	PPP	05 31 25.6	-10
MOS				eS	S	05 34 49.7	-5.1
MOS				eSS	SS	05 36 53.1	+7.1
MOS				pmax	pmax		
	comp=Z,400nm,0.9s,mb6.0						
KMI	Kunming	29.62	103⇑	iP	P	05 30 16.6	+0.1
KMI				AP	pP	05 30 56.7	+0.5
KMI				PP	PP	05 31 24.9	+4.1
KMI				PCP	PcP	05 33 15.3	-0.9
KMI				S	S	05 34 56.0	-0.1
KMI				XS		05 36 10.2	
KMI				SS	SS	05 36 49.6	+1.8
KMI				PCS		05 37 00.1	
KMI				SCS	ScS	05 40 31.5	-0.6
KMI				AMB	AMB		
	comp=Z,27nm,1.0s,mb4.8						
KMI				AMB	AMB		
	comp=Z,182nm,4.4s						
KMI				LR	LR		
	comp=N,205nm,15.6s						
KMI				LR	LR		
	comp=E,211nm,16.3s						
KMI				LR	LR		
	comp=Z,188nm,13.1s						
OBN	Obninsk	29.83	320α	iP	P	05 30 17.8	-0.2
OBN				i		05 31 18.9	
OBN				S	S	05 35 08.0	+8.9
OBN				pmax	pmax		
	comp=Z,349nm,0.7s,mb6.1						
OBN	Obninsk	29.83	320⇑	iP	P	05 30 17.8	-0.3
	comp=Z,398nm,0.7s						
TBKS	Tabuk	29.88	264	P	P	05 30 20.5	+1.7
JMQS	Jabal Moqyreh	30.15	266	P	P	05 30 22.3	+1.2
JMQS	Jabal Moqyreh	30.15	266	P		05 36 40.0	
BLJS	Baljurashi	30.34	245	P	P	05 30 23.7	+0.7
DJNS	Zahran al Janu	30.38	239	P	P	05 30 23.6	+0.3
CHG	Chiang Mai	30.40	118	⇓P	P	05 30 23.4	-0.1
	comp=Z,23nm,0.7s,mb4.9						
PALK	Pallekele	30.44	160	eP	P	05 30 23.9	+0.1
	comp=Z,47nm,0.8s,mb5.2						
YNBS	Yanbu' al Bahr	30.54	256	P	P	05 30 25.9	+1.3
UMJS	Umm Lajj	30.63	258	P	P	05 30 26.9	+1.5
UMJS	Umm Lajj	30.63	258	P		05 36 42.1	
CM31	Chiang Mai Arr	30.64	118	eP	P	05 30 25.1	-0.3
	comp=Z,42nm,0.9s,mb5.1						
CMAR	Chiang Mai Arr	30.64	118	P	P	05 30 25.6	+0.1
	comp=Z,26nm,0.8s,mb4.9,baz=291,slow=8.3,SNR=80						
CMAR				pP	pP	05 31 06.7	+1.3
	comp=Z,10nm,0.8s,baz=301,slow=11,SNR=1.9						
CMAR				S	S	05 35 14.3	+2.1
	comp=Z,0.8nm,0.4s,baz=301,slow=8.3,SNR=2.4						
CMAR				ScP		05 36 39.0	
	comp=Z,8.2nm,1.0s,baz=288,slow=5.0,SNR=5.3						
CMAR				PKiKP		05 40 47.3	
	comp=Z,1.2nm,0.7s,baz=274,slow=2.2,SNR=4.7						
CMAR	Chiang Mai Arr	30.64	118	P	P	05 30 25.6	+0.1
CMAR				S	S	05 35 14.4	+2.2
CMAR				pmax	pmax		
	comp=Z,26nm,0.8s						
HAQS	Haql	30.85	267	P		05 36 41.9	
BTO	Baotou	30.86	70	eP	P	05 30 27.6	+0.3
BTO				AMB	AMB		
	comp=Z,82nm,0.9s,mb5.4						
BTO				LR	LR		
	comp=N,620nm,5.8s						
BTO				LR	LR		
	comp=E,430nm,11.4s						
AYUS	'Aynunah	30.92	265	P	P	05 30 28.5	+0.6
AYUS	'Aynunah	30.92	265	P		05 36 42.6	
BDAS	Al Bad'	30.96	265	P	P	05 30 28.9	+0.6
BDAS	Al Bad'	30.96	265	P		05 36 41.9	
LTHS	Al Lith	30.98	247	P	P	05 30 29.4	+0.9
TAYS	Tayyib Ism	31.09	266	P	P	05 30 30.1	+0.7
TAYS	Tayyib Ism	31.09	266	P		05 36 42.9	
XAN	Xi'an	31.17	83	P	P	05 30 30.0	0.0
XAN				AMB	AMB		
	comp=Z,92nm,1.1s,mb5.3						
BDT	Bhumibol Dam	31.49	120	P	P	05 30 33.0	0.0
	comp=Z,24nm,0.8s,mb4.9						
NANT	Nan	31.68	116	⇓P	P	05 30 34.0	-0.6
	comp=Z,50nm,1.0s,mb5.0						
HHC	Hu-ho-hao-te	32.01	69	⇑P	P	05 30 37.8	+0.6
HHC				AP	pP	05 31 18.9	+1.4
HHC				XP	sP	05 31 45.2	+5.2
HHC				PP	PP	05 31 54.6	+3.9
HHC				PCP	PcP	05 33 18.0	-4.3
HHC				S	S	05 35 35.9	+2.6
HHC				XS		05 36 50.3	
HHC				PCS		05 37 03.6	
HHC				SCS	ScS	05 40 41.2	-2.5
HHC				AMB	AMB		
	comp=Z,41nm,1.3s,mb4.8						
FRSS	Farasan al Kab	32.04	240	P	P	05 30 38.1	+0.4
GYA	Guiyang	32.09	98⇑	iP	P	05 30 38.4	+0.3
GYA				AP	pP	05 31 23.8	+5.4
GYA				XP	sP	05 31 40.6	-0.3
GYA				PP	PP	05 31 53.5	+1.6
GYA				PCP	PcP	05 33 21.3	-1.4
GYA				S	S	05 35 36.0	+1.2
GYA				XS		05 36 45.8	
GYA				SS	SS	05 37 45.3	+1.0
GYA				SCS	ScS	05 40 44.5	+0.2
GYA				LR	LR		
	comp=N,320nm,12.0s						
GYA				LR	LR		
	comp=E,340nm,10.5s						
GYA				LR	LR		
	comp=Z,400nm,11.1s						
KIS	Kishinev	32.64	302	eP	P	05 30 41.0	-1.6
KIS				e		05 32 03.0	
AKASG	Malin Array Be	32.80	309	P	P	05 30 43.2	-0.7
	comp=Z,93nm,0.7s,mb5.5,baz=80,slow=7.7,SNR=258						
AKASG				pP	pP	05 31 26.1	+1.7
	comp=Z,20nm,0.6s,baz=84,slow=7.4,SNR=3.4						
AKASG				PP	PP	05 32 00.4	-0.4
	comp=Z,22nm,0.6s,baz=84,slow=9.5,SNR=7.6						
AKASG				S	S	05 35 45.9	+0.5
	comp=Z,1.2nm,0.6s,baz=189,slow=31,SNR=5.0						
AKASG				ScP		05 36 45.7	
	comp=Z,19nm,0.9s,baz=76,slow=3.9,SNR=14						
AKASG	Malin Array Be	32.80	309	P	P	05 30 43.2	-0.7
AKASG						05 32 00.4	
AKASG				S	S	05 35 45.9	+0.4
AKASG						05 36 45.7	
AKASG				pmax	pmax		
	comp=Z,93nm,0.7s						
AKASG				pmax	pmax		
	comp=N,20nm,0.6s						
AKASG				pmax	pmax		
	comp=Z,22nm,0.6s						
ENH	Enshi	32.81	89⇑	iP	P	05 30 44.6	+0.3
	comp=Z,125nm,0.8s,mb5.5						
ENH				eScP		05 36 46.5	
NST	Nakhon Sawan	33.35	121	P	P	05 30 50.5	+1.5
MNK	Minsk	34.40	315	eP	P	05 30 54.0	-3.5
MNK				pmax	pmax		
	comp=Z,630nm,1.0s,mb6.1						
KKTK	Khon Kaen	34.81	117	P	P	05 31 00.0	-1.4
	comp=Z,988nm,0.6s						
PUL	Pulkovo	34.82	325	eP	P	05 31 01.5	+0.4
PUL				eS	S	05 36 21.8	+5.1
PUL				pmax	pmax		
	comp=Z,390nm,0.5s						
PUL				pmax	pmax		
	comp=E,919nm,1.0s						
PVL	Pavlikeni	35.15	295	P	P	05 31 05.5	+1.5
IDID	Didziasalis	35.21	317	eP	P	05 31 04.4	0.0
IDID				AMPb	AMB	05 31 06.5	
	comp=Z,80nm,1.0s,mb5.2						
NNT	Nongplab	35.27	125	P	P	05 31 06.0	+0.7
IIGN	Ignalina	35.51	316	i P	P	05 31 07.4	+0.5
IIGN				AMPb	AMB	05 31 08.7	
	comp=Z,84nm,0.8s,mb5.3						
BOD	Bodaibo	35.55	39⇑	iP	P	05 31 06.5	-0.7
IZAR	Zarasai	35.59	317	eP	P	05 31 08.0	+0.4
IZAR				AMPb	AMB	05 31 09.8	
	comp=Z,95nm,1.0s,mb5.3						
BJT	Baijiatuau	35.60	70⇑	eP	P	05 31 08.5	+0.7
	comp=Z,22nm,0.6s,mb4.9						
BJT				ePcP	PcP	05 33 31.7	-0.8
BJT				eScP		05 36 57.5	
BJI	Beijing	35.60	70	P	P	05 31 08.7	+0.9
BJI				AP	pP	05 31 48.6	-0.2
BJI				S	S	05 36 34.6	+5.8
BJI				XS		05 37 47.6	
BJI				AMB	AMB		
	comp=Z,34nm,0.9s,mb4.9						
ISAL	Salakas	35.61	317	eP	P	05 31 07.9	+0.2
ISAL				AMPb	AMB	05 31 10.1	

comp=Z,66nm,1.1s,mb5.1
RZN Rozhen 35.76 293 P **P** **05 31 10.0 +0.9**
LVV L'vov 36.00 307 *eP* **P** **05 31 11.0 -0.1**
VSU Vasula 36.08 322⇑ *iP* **P** **05 31 11.8 +0.1**
MMB Musomiste 36.50 293 *i P* **P** **05 31 15.7 +0.3**
MMB Musomiste 36.50 293⇑ *iP* **P** **05 31 15.7 +0.3**
WHN Wuhan 36.63 86⇑⇑P **P** **05 31 17.4 +0.8**
WHN SCP 05 37 00.5
WHN AMB AMB
comp=Z,134nm,1.3s,mb5.3
VTS Vitosha 36.76 295 *i P* **P** **05 31 18.0 +0.4**
VTS Vitosha 36.76 295 P **P** **05 31 18.9 +1.3**
KWP Kalwaria 36.85 306 *eP* **P** **05 31 19.1 +0.9**
KWP *e* 05 32 49.8
KWP Kalwaria 36.85 306 *eP* **P** **05 31 19.1 +0.9**
KWP *epP* pP 05 32 02.4 +3.0
KWP *ePP* PP 05 32 49.8 +1.6
KWP Kalwaria 36.85 306 *eP* **P** **05 31 19.1 +0.9**
KWP *epP* pP 05 32 02.4 +3.0
KWP *ePP* PP 05 32 49.8 +1.6
IDI Anoyia 36.88 282 P **P** **05 31 18.2 -0.4**
comp=Z,20nm,0.5s,mb5.0,baz=123,slow=11,SNR=20
KKB Krupnik 36.95 293 *i P* **P** **05 31 20.0 +0.9**
SUW Suwalki 36.98 314 *eP* **P** **05 31 19.0 -0.3**
SUW *e* 05 32 49.6
SUW Suwalki 36.98 314 *eP* **P** **05 31 19.0 -0.3**
SUW *ePP* PP 05 32 49.6 0.0
UZH Uzhgorod 37.10 305 *eP* **P** **05 31 22.0 +1.7**
KOLS Kolonicke sedl 37.11 305 *i P* **P** **05 31 21.4 +1.0**
KOLS *e* 05 31 26.4
KOLS *epP* pP 05 32 05.1 +3.4
KOLS *ePP* PP 05 32 48.4 -2.7
KOLS *ePCP* PcP 05 33 33.4 -3.6
KOLS *e* 05 37 03.9
KOLS *e* 05 37 06.5
KOLS Kolonicke sedl 37.11 305 *i P* **P** **05 31 21.4 +1.0**
KOLS *e* 05 32 48.4
KOLS *e* 05 33 33.4
KOLS *e* 05 37 03.9
TIA Tai'an 37.12 76⇑⇑P **P** **05 31 21.2 +0.6**
TIA AMB AMB
comp=Z,23nm,1.2s,mb4.6
FINES FINESS Array B 37.40 326 P **P** **05 31 22.9 +0.2**
comp=Z,279nm,0.9s,mb5.8,baz=118,slow=10,SNR=690
FINES FINESS Array B 37.40 326 P **P** **05 31 22.9 +0.2**
FINES pmax pmax
comp=Z,279nm,0.9s
FINES FINESS Array B 37.40 326 P **P** **05 31 22.9 +0.2**
LVZ Lovozero 37.42 339 *eP* **P** **05 31 22.6 -0.2**
LVZ *eS* **S** **05 37 02.0 +5.8**
LVZ pmax pmax
comp=Z,213nm,0.9s,mb5.7
LVZ pmax pmax
comp=N,39nm,0.6s
LVZ pmax pmax
comp=E,112nm,1.4s
HIA Hailar 37.52 54 *eP* **P** **05 31 24.6 +0.8**
comp=E,45nm,0.8s,mb5.0
KAF Kangasniemi 37.55 327 *ep* **P** **05 31 22.7 -1.2**
comp=E,102nm,0.7s,mb5.5,baz=112,slow=8.4
KAF Kangasniemi 37.55 327 *eP* **P** **05 31 22.7 -1.2**
KAF pmax pmax
comp=Z,102nm,0.7s,mb5.5
APA Apatity 37.60 338⇓ *iP* **P** **05 31 23.7 -0.6**
APA *i* 05 31 59.7
APA *i* 05 32 55.7
APA *i* 05 33 33.2
APA pmax pmax
comp=Z,96nm,1.0s,mb5.3
WAR Warsaw 38.07 311 *eP* **P** **05 31 29.1 +0.7**
WAR Warsaw 38.07 311 *eP* **P** **05 31 29.1 +0.7**
SKO Skopje 38.15 294 *eP* **P** **05 31 29.5 +0.4**
KECS Kecovo 38.30 304 *eP* **P** **05 31 31.3 +1.0**
KECS *e* 05 32 25.3
KECS *ePP* PP 05 33 03.2 -0.6
NIE Niedzica 38.41 306⇑ *eP* **P** **05 31 32.5 +1.3**
QIZ Qiongzhong 38.43 106 *eP* **P** **05 31 31.4 -0.3**
comp=Z,8.5nm,0.5s,mb4.5
PSZ Piszkesteto 38.70 304⇑ *eP* **P** **05 31 34.7 +1.0**
PSZ Piszkesteto 38.70 304 *eP* **P** **05 31 34.7 +1.0**
comp=Z,23nm,0.9s,mb4.7
OJC Ojcow 38.75 307 *eP* **P** **05 31 34.2 +0.2**
OJC Ojcow 38.75 307 *eP* **P** **05 31 34.2 +0.2**
DIVS Divcibare 38.92 297⇓ *iP* **P** **05 31 35.8 +0.2**
PKSM Moragy 39.66 301 P **P** **05 31 42.2 +0.6**
NJ2 Nanjing 39.72 82 *eP* **P** **05 31 43.1 +0.9**
NJ2 AP pP 05 32 26.6 +2.8
NJ2 XP sP 05 32 48.1 +1.5
NJ2 SCP 05 37 12.3
NJ2 S **S** **05 37 31.0 0.0**
NJ2 LR LR
comp=N,430nm,12.7s
NJ2 LR LR
comp=E,560nm,13.7s
NJ2 LR LR
comp=Z,330nm,12.0s
SRO2 Moca 39.72 303 *eP* **P** **05 31 43.7 +1.6**
PKSG 39.75 303 *eP* **P** **05 31 42.9 +0.6**
SRO Srobarova 39.77 303 *eP* **P** **05 31 44.4 +1.9**
OKC Ostrava-Krasne 39.81 307 *iP* **P** **05 31 43.4 +0.6**
OKC *ePP* PP 05 33 14.8 -5.6
SRO1 Iza 39.83 303 *eP* **P** **05 31 44.6 +1.6**
PKS9 Tamasi 39.88 302 *eP* **P** **05 31 44.2 +0.8**
SNG Songkhla 39.92 130 P **P** **05 31 44.0 0.0**
comp=Z,150nm,0.8s,mb5.5
DL2 Dalian 39.96 71 *eP* **P** **05 31 44.6 +0.5**
DL2 AMB AMB
comp=Z,20nm,0.7s,mb4.7
RHK1 Bakonya 40.07 301⇓ *iP* **P** **05 31 45.6 +0.7**
JAVC Velka Javorina 40.15 305 P **P** **05 31 47.4 +1.8**
MORC Moravsky Berou 40.21 307 *eP* **P** **05 31 46.7 +0.7**
comp=Z,24nm,0.6s,mb4.8
MORC *e* 05 37 15.4
SMOL Smolenice 40.33 305 *eP* **P** **05 31 48.1 +1.1**
GKP Gorka Klasztor 40.43 312 *eP* **P** **05 31 48.1 +0.3**
GKP *e* 05 33 26.2
GKP Gorka Klasztor 40.43 312 *eP* **P** **05 31 48.1 +0.3**
GKP *epP* pP 05 32 29.5 0.0
GKP *ePP* PP 05 33 26.2 -0.4
GKP Gorka Klasztor 40.43 312 *eP* **P** **05 31 48.1 +0.3**
GKP *epP* pP 05 32 29.5 0.0
GKP *ePP* PP 05 33 26.2 -0.4
ZST Bratislava 40.56 304 *eP* **P** **05 31 50.1 +1.1**
ZST *ePP* PP 05 33 27.1 -0.9
KEV Kevo 40.77 338 *ep* **P** **05 31 49.7 -0.7**
comp=Z,203nm,0.7s,mb5.7
KEV Kevo 40.77 338 *eP* **P** **05 31 49.7 -0.7**
KEV pmax pmax
comp=Z,203nm,0.7s,mb5.7
SNY Shenyang 40.83 66⇑ *iP* **P** **05 31 51.1 -0.1**
SNY XP sP 05 33 00.8 +5.2
SNY PCP PcP 05 33 47.8 -1.0
SNY S **S** **05 37 37.5 -10**
SNY XS 05 38 58.4
SNY AMB AMB
comp=Z,40nm,0.7s,mb5.0
SNY AMB AMB
comp=Z,120nm,7.6s
VRAC Vranov 40.84 306 P **P** **05 31 52.6 +1.4**
DPC Dobruska-Polom 40.98 307 *i P* **P** **05 31 53.3 +1.0**
DPC *ePP* PP 05 33 34.1 +2.1
KSP Ksiaz 40.98 308 *eP* **P** **05 31 52.6 +0.2**
KSP *e* 05 33 28.4
KSP Ksiaz 40.98 308 *eP* **P** **05 31 52.9 +0.5**
KSP *ePP* PP 05 33 33.0 +0.9
ARCES ARCESS Array B 41.11 338 P **P** **05 31 53.8 +0.6**
comp=Z,229nm,0.8s,mb5.7,baz=112,slow=7.5,SNR=579
ARCES pP pP 05 32 37.0 +2.0
comp=Z,36nm,0.8s,baz=121,slow=7.1,SNR=3.1
ARE0 ARCESS Array S 41.11 338⇑ *iP* **P** **05 31 53.7 +0.5**
CLNS Chul'man 41.12 43 *eP* **P** **05 31 54.2 +0.8**
CLNS pmax pmax
comp=N,32nm,1.0s
CLNS pmax pmax
comp=E,71nm,1.0s
CLNS pmax pmax
comp=Z,107nm,1.0s,mb5.2
UPC Upice 41.17 308⇑ *iP* **P** **05 31 54.5 +0.6**
KTK1 Kautokeino 41.57 336⇑ *iP* **P** **05 31 57.1 +0.2**
KTK1 AMb AMB 05 31 57.9
comp=Z,294nm,0.6s,mb5.9
KTK1 *epP* pP 05 32 41.0 +2.3
KTK1 Kautokeino 41.57 336⇑ *iP* **P** **05 31 57.1 +0.2**
comp=Z,294nm,0.6s,mb5.9
ARSA Arzberg 41.70 303⇑ *iP* **P** **05 31 58.6 +0.4**
comp=Z,13nm,0.8s,mb4.4
CN2 Changchun 41.85 62 *eP* **P** **05 31 59.1 -0.3**
CN2 *eAP* pP 05 32 40.0 -1.3
CN2 *eS* **S** **05 38 01.1 -1.0**
CN2 AMB AMB
comp=Z,20nm,1.2s,mb4.4
CN2 AMB AMB
comp=Z,400nm,4.0s
DOBS Dobrina 41.86 301 P **P** **05 32 00.2 +0.7**
BSD Bornholm Skovb 41.88 315⇑ *iP* **P** **05 31 58.5 -1.0**
comp=Z,70nm,0.8s,mb5.1
CRES Cresnjev 41.91 301 P **P** **05 32 00.6 +0.7**
SSE Sheshan 41.92 82 P **P** **05 32 00.8 +0.6**
SSE AP pP 05 32 44.4 +2.3
SSE XP sP 05 33 06.1 +1.4
SSE S **S** **05 38 06.6 +3.3**
SSE XS 05 39 19.8
SSE SCS ScS 05 41 37.2 -2.2
SSE AMB AMB
comp=Z,45nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,150nm,4.4s
SSE LR LR
comp=N,67nm,18.3s
SSE LR LR
comp=E,68nm,18.3s
SSE LR LR
comp=Z,67nm,18.3s
PERS Pernice 42.05 302 *i P* **P** **05 32 01.6 +0.6**
BOJS Bojanci 42.09 300 *i P* **P** **05 32 02.0 +0.6**
PRU Pruhonice 42.14 307⇑ *iP* **P** **05 32 02.4 +0.7**
PRU *e* 05 33 39.2
PRU pmax pmax
comp=Z,22nm,0.6s,mb4.8
PRU Pruhonice 42.14 307⇑ *iP* **P** **05 32 02.4 +0.7**
comp=Z,22nm,0.6s,mb4.8
PRU *i* pP pP 05 32 46.5 +2.9
PRU *ePP* PP 05 33 39.2 -5.3
PDKS Podkum 42.19 301 P **P** **05 32 03.1 +0.9**
IPM Ipoh 42.20 131⇓⇓ *eP* **P** **05 32 04.0 +1.2**
comp=Z,36nm,0.5s,mb5.1
FGMS Monte Sant'Ang 42.23 295 P **P** **05 32 02.6 0.0**
TDS Terranova Siba 42.39 291 *eP* **P** **05 32 05.0 +1.1**
OBKA Obir 42.45 302⇑ *iP* **P** **05 32 05.3 +1.0**
comp=Z,27nm,0.8s,mb4.7
BRG Berggiesshubel 42.47 308 *i P* **P** **05 32 05.1 +0.7**
BRG *e* 05 33 48.2
BRG *eS* **S** **05 38 18.0 +6.9**
BRG pmax pmax
comp=Z,45nm,0.7s,mb5.0
BRG Berggiesshubel 42.47 308 *i P* **P** **05 32 05.1 +0.7**
comp=Z,45nm,0.6s,mb5.1
BRG *i* pP pP 05 32 46.9 +0.5
BRG *ePP* PP 05 33 48.2 +0.4
BRG *i* ScP 05 37 24.1
BRG *eS* **S** **05 38 18.0 +6.9**
MOA Molln 42.49 304⇑ *iP* **P** **05 32 04.9 +0.3**
comp=Z,40nm,0.8s,mb4.9
RGNG Rignano Grg 42.50 295 P **P** **05 32 04.8 0.0**
RUE Ruedersdorf 42.52 311 *eP* **P** **05 32 04.8 0.0**
comp=Z,56nm,0.9s,mb5.0
LJU Ljubljana 42.52 301 *i P* **P** **05 32 05.7 +0.8**
LJU *ePP* PP 05 33 47.1 -1.2
GRI Girifalco 42.53 290 *eP* **P** **05 32 05.4 +0.3**
CEY Cerknica 42.63 301 *i P* **P** **05 32 06.3 +0.5**
CEY *i* pP pP 05 32 40.0 -7.8
CEY *ePP* PP 05 33 48.0 -1.5
FG4 Candela 42.67 294 P **P** **05 32 07.2 +1.0**
SLCN Sala Consilina 42.74 293 *eP* **P** **05 32 07.8 +1.0**
GEC2 GERESS Array S 42.77 305 *eP* **P** **05 32 07.4 +0.5**
GEC2 pmax pmax
comp=Z,16nm,0.9s,mb4.5
GEC2 GERESS Array S 42.77 305 *eP* **P** **05 32 07.4 +0.5**
comp=Z,16nm,0.9s,mb4.5
GERES GERESS Array B 42.77 305 P **P** **05 32 07.5 +0.6**
comp=Z,24nm,1.1s,mb4.5,baz=90,slow=8.0,SNR=48
GERES PP PP 05 33 49.9 -0.8
comp=Z,8.0nm,0.8s,baz=72,slow=8.4,SNR=5.5
GERES ScP 05 37 25.1
comp=Z,3.8nm,0.7s,baz=108,slow=4.2,SNR=8.3
GERES GERESS Array B 42.77 305 P **P** **05 32 07.5 +0.6**
GERES 05 33 49.9
GERES pmax pmax
comp=Z,24nm,1.1s
GERES pmax pmax
comp=Z,8.0nm,0.8s
MRLC Muro Lucano 42.77 293 *eP* **P** **05 32 07.9 +0.9**
FG5 Orsara di Pugl 42.82 294 *eP* **P** **05 32 08.6 +1.2**
KHC Kasperske Hory 42.82 306⇑ *iP* **P** **05 32 07.6 +0.3**
KHC *e* 05 33 48.7
KHC Kasperske Hory 42.82 306⇑ *iP* **P** **05 32 07.6 +0.3**
KHC *e* 05 32 30.0
KHC *e* 05 33 48.7
KHC Kasperske Hory 42.82 306⇑ *iP* **P** **05 32 07.6 +0.3**
KHC x x 05 32 30.0
KHC *ePP* PP 05 33 48.7 -2.6
MGR Morigerati 42.86 292 *eP* **P** **05 32 07.9 +0.2**
SGO Sicignano 42.95 293 *eP* **P** **05 32 08.9 +0.5**
HFS Hagfors 42.97 322 P **P** **05 32 08.3 0.0**
comp=Z,199nm,0.7s,mb5.7,baz=108,slow=9.4,SNR=280
HFS pP pP 05 32 52.5 +2.2
comp=Z,26nm,0.6s,baz=90,slow=10,SNR=2.1
CLL Collm 43.04 309⇑⇑P **P** **05 32 09.0 0.0**
comp=Z,logA/T=1.5,mb4.7
CLL *i* 05 32 12.1
CLL *i* *pP pP 05 32 54.1 +3.1
CLL *i* *SP sP 05 33 20.9 +7.3
CLL *ePP* PP 05 33 50.0 -3.4
CLL *i* 05 34 07.5
CLL *e* 05 35 00.0
CLL *i* 05 35 33.4
CLL *eSCP* 05 37 26.0
CLL Collm 43.04 309⇑ *iP* **P** **05 32 09.0 0.0**
CLL pmax pmax
comp=Z,23nm,0.8s,mb4.7
CLL Collm 43.04 309⇑ *iP* **P** **05 32 09.0 0.0**
comp=Z,23nm,0.8s,mb4.7
CLL *i* pP pP 05 32 54.1 +3.1
CLL *eScP* 05 37 26.0
CSSN Cassano Irpino 43.09 294 P **P** **05 32 10.5 +0.9**
TRI Trieste 43.10 301 *eP* **P** **05 32 09.5 0.0**
ROBS Robic 43.20 302 *i P* **P** **05 32 10.3 -0.1**
KBA Koelnbreinsper 43.20 303⇑ *iP* **P** **05 32 10.8 +0.5**
comp=Z,33nm,1.1s,mb4.7
SCLL Scilla 43.21 290 P **P** **05 32 11.3 +0.8**
TRO Tromso 43.23 336⇑ *iP* **P** **05 32 09.4 -0.8**
TRO AMb AMB 05 32 11.6
comp=Z,170nm,1.2s,mb5.4
TRO Tromso 43.23 336⇑ *iP* **P** **05 32 09.4 -0.8**
comp=Z,170nm,1.2s,mb5.3
PTCC Patocco-Chiusa 43.28 302 *eP* **P** **05 32 11.1 +0.1**
MTTG Motta San Giov 43.29 289 *eP* **P** **05 32 11.5 +0.3**
COP Copenhagen 43.31 315 *i P* **P** **05 32 12.4 +1.2**
comp=Z,80nm,0.8s,mb5.2
GMNA Gemona 43.38 302 *eP* **P** **05 32 12.2 +0.3**
NKC Novy Kostel 43.47 307⇑ *iP* **P** **05 32 13.0 +0.6**
NKC *ePP* PP 05 33 55.7 -1.9
AOI Ancona 43.57 298 P **P** **05 32 13.8 +0.4**
FVI Forni Avoltri 43.65 302 *eP* **P** **05 32 13.9 0.0**
MOR8 Moi Rana 43.75 331⇑ *iP* **P** **05 32 14.1 -0.5**
MOR8 AMb AMB 05 32 14.8
comp=Z,556nm,0.7s,mb6.0
MOR8 Moi Rana 43.75 331⇑ *iP* **P** **05 32 14.1 -0.5**
comp=Z,556nm,0.7s,mb6.0
SDI San Donato 43.80 295 P **P** **05 32 16.0 +0.8**
AQU L'Aquila 43.96 296 *eP* **P** **05 32 16.6 +0.1**
comp=Z,24nm,0.9s,mb4.5
MOX Moxa 43.96 308 *i P* **P** **05 32 17.0 +0.6**
MOX Moxa 43.96 308 *eP* **P** **05 32 17.0 +0.6**
SSY Sortino 44.00 288 P **P** **05 32 16.9 0.0**
CSO Casso 44.01 302⇑ *iPg* **P** **05 32 16.7 -0.1**
PTQR Pietraquaria 44.03 296 *eP* **P** **05 32 18.4 +1.3**
ARV Arcevia 44.06 298 *eP* **P** **05 32 17.7 +0.5**
NRCA Norcia 44.06 297 P **P** **05 32 17.8 +0.5**
PZI Palazzolo 44.12 288 *eP* **P** **05 32 18.3 +0.4**
FSSB Fossombrone 44.13 298 *eP* **P** **05 32 18.4 +0.6**
YAK Yakutsk 44.15 35*c iP* **P** **05 32 17.4 -0.4**
YAK pmax pmax
comp=Z,439nm,0.6s,mb6.0
YAK Yakutsk 44.15 35 *eP* **P** **05 32 17.2 -0.6**
comp=Z,562nm,0.8s,mb6.0
MELS Mels 44.20 332⇑ *iP* **P** **05 32 18.1 +0.1**
FAU Forcella Aurin 44.25 302⇑ *iPg* **P** **05 32 18.9 +0.1**
NB2 NORSAR Subarra 44.28 323 P **P** **05 32 18.5 -0.3**
comp=Z,254nm,0.9s,mb5.5,baz=96,slow=7.4
NB2 NORSAR Subarra 44.28 323 P **P** **05 32 18.5 -0.3**
baz=96,slow=7.9
NOA NORSAR Array B 44.28 323 P **P** **05 32 18.3 -0.5**
comp=Z,215nm,0.9s,mb5.5,baz=97,slow=7.8,SNR=442
NOA PP PP 05 34 03.1 -2.5
comp=Z,30nm,0.9s,baz=95,slow=9.7,SNR=4.0
NOA NORSAR Array B 44.28 323 P **P** **05 32 18.3 -0.5**
NOA 05 34 03.1
NOA pmax pmax
comp=Z,215nm,0.9s
GRA1 Grafenberg Arr 44.30 307 *eP* **P** **05 32 20.4 +1.3**
comp=Z,39nm,0.7s,mb4.8
GRA1 *e* 05 34 06.8
GRF Grafenberg Arr 44.30 307 *eP* **P** **05 32 20.4 +1.3**
GRF *e* 05 34 06.8
GRF pmax pmax
comp=Z,39nm,0.7s,mb4.8
WTTA Wattenberg 44.33 303⇑ *iP* **P** **05 32 19.1 -0.3**
comp=Z,48nm,1.0s,mb4.8
STOK Stokkvaagen 44.35 331 *eP* **P** **05 32 19.2 0.0**
STOK AMb AMB 05 32 20.4
comp=Z,230nm,1.7s,mb5.2
STOK Stokkvaagen 44.35 331 *eP* **P** **05 32 19.2 0.0**
comp=Z,230nm,1.7s,mb5.2
WATA Walderalm 44.36 303⇓ *iP* **P** **05 32 19.3 -0.3**
comp=Z,11nm,0.7s,mb4.3
MURB Monte Urbino 44.40 297 P **P** **05 32 21.9 +1.9**
VAE Valguarnera 44.41 289 P **P** **05 32 21.2 +1.1**
comp=Z,16nm,0.7s,mb4.5,baz=198,slow=11,SNR=4.4
NSS Namsos 44.42 328 *eP* **P** **05 32 18.6 -1.3**
NSS AMb AMB 05 32 19.6
comp=Z,85nm,1.1s,mb5.0
NSS Namsos 44.42 328 *eP* **P** **05 32 18.6 -1.3**
comp=Z,85nm,1.1s,mb5.0
NAO01 NORSAR Array S 44.42 323 *eP* **P** **05 32 19.2 -0.7**
comp=Z,25nm,0.5s,mb4.8
FUR Furstenfeldbru 44.45 305 *eP* **P** **05 32 20.9 +0.6**
FUR pmax pmax
comp=Z,49nm,0.7s,mb5.0
FUR Furstenfeldbru 44.45 305 *eP* **P** **05 32 20.9 +0.6**
comp=Z,49nm,0.7s,mb5.0
MNS Montasola 44.47 296 *eP* **P** **05 32 20.4 -0.1**
CTI Castel Tesino 44.51 302 *eP* **P** **05 32 20.8 0.0**
CSLB Castelbuono 44.55 290 P **P** **05 32 20.6 -0.7**
BSEG Bad Segeberg 44.56 313 *eP* **P** **05 32 21.8 +0.7**
BSEG pmax pmax
comp=Z,54nm,0.7s,mb5.0
GIB Gibilmanna 44.56 290 P **P** **05 32 20.6 -0.7**
LOF Lofoten 44.59 333⇑ *iP* **P** **05 32 22.7 +1.5**
LOF AMb AMB 05 32 24.1
comp=Z,140nm,0.7s,mb5.4
LOF Lofoten 44.59 333⇑ *iP* **P** **05 32 22.7 +1.5**
comp=Z,140nm,0.7s,mb5.4
SQTA Sankt Quirin 44.62 303⇓ *iP* **P** **05 32 21.3 -0.4**
comp=Z,9.0nm,0.7s,mb4.2
MDJ Mudanjiang 44.64 60 P **P** **05 32 21.6 -0.3**
MDJ XP sP 05 33 24.5 -2.0
MDJ PCP PcP 05 34 00.3 -1.3
MDJ S **S** **05 38 43.7 +1.2**
MDJ AMB AMB
comp=Z,123nm,6.1s
MDJ Mudanjiang 44.64 60 *eP* **P** **05 32 21.5 -0.4**
comp=Z,5.8nm,0.6s,mb4.1
CLZ Clausthal 44.65 310 *eP* **P** **05 32 22.3 +0.5**
comp=Z,32nm,0.8s,mb4.7
MOTA Moosalm 44.67 303⇑ *iP* **P** **05 32 21.6 -0.5**
comp=Z,20nm,0.9s,mb4.5
CRE Caprese Michel 44.74 298 *eP* **P** **05 32 24.2 +1.5**
SFI Santa Sofia 44.75 299 *eP* **P** **05 32 23.8 +1.0**
PGD Poggio Sodo 44.85 299 *eP* **P** **05 32 25.3 +1.4**
VMG Vicchio 44.96 299 *eP* **P** **05 32 26.0 +1.6**
USI Ustica 45.00 291 P **P** **05 32 24.4 -0.4**
SEI Scarperia 45.07 299 P **P** **05 32 27.1 +1.8**
HDH Heidenheim 45.10 305 *eP* **P** **05 32 26.5 +1.1**
HDH Heidenheim 45.10 305 P **P** **05 32 26.6 +1.2**
KS15 Wonju Array Si 45.10 71 *eP* **P** **05 32 25.6 0.0**
MUD Monsted U'grnd 45.15 316 *i P* **P** **05 32 26.5 +0.8**
comp=Z,63nm,1.2s,mb4.8
MUD *i* 05 34 16.7
FNVD Fontana Vidola 45.21 299 P **P** **05 32 27.7 +1.3**
CSNT Castellina Chi 45.24 298 *eP* **P** **05 32 26.6 0.0**
CLTB Caltabellotta 45.29 289 P **P** **05 32 27.1 -0.1**
UBR Uberruh 45.29 304 *eP* **P** **05 32 26.9 -0.1**
UBR Uberruh 45.29 304 P **P** **05 32 27.2 +0.2**
BRMO Bormio 45.31 302 *eP* **P** **05 32 27.0 -0.1**
SAL Salo 45.35 301 P **P** **05 32 28.5 +1.0**
CRJA Costa Raja 45.39 290 P **P** **05 32 27.8 -0.1**
SIND Sindeldorf 45.39 306 *eP* **P** **05 32 28.2 +0.4**
SIND Sindeldorf 45.39 306 P **P** **05 32 28.6 +0.8**
DOMB Dombas 45.40 324⇑ *iP* **P** **05 32 27.4 -0.3**
DOMB AMb AMB 05 32 28.9
comp=Z,158nm,1.4s,mb5.2
DOMB Dombas 45.40 324⇑ *iP* **P** **05 32 27.4 -0.3**
comp=Z,158nm,1.4s,mb5.2
DAVA Damuels 45.51 304⇑ *iP* **P** **05 32 28.4 -0.3**
comp=Z,55nm,0.8s,mb4.9
GRFL Gerfalco 45.53 298 *eP* **P** **05 32 28.6 -0.4**
GSCL Gusciola 45.55 299 *eP* **P** **05 32 30.5 +1.3**
DAVOX Davos 45.59 303 P **P** **05 32 29.1 -0.3**
comp=Z,42nm,0.6s,mb5.0,baz=101,slow=10.0,SNR=69
DAVOX PcP PcP 05 34 03.9 -0.9
comp=Z,12nm,0.5s,baz=216,slow=8.1,SNR=4.0
DAVOX ScP 05 37 35.8
comp=Z,15nm,1.1s,baz=110,slow=6.2,SNR=4.7
BDI Bagni Di Lucca 45.61 299 P **P** **05 32 29.8 +0.3**
ERBM Eremo 45.66 300 *eP* **P** **05 32 31.6 +1.7**
BUCH Bad Urach 45.68 305 *eP* **P** **05 32 30.3 +0.2**
BUCH Bad Urach 45.68 305 P **P** **05 32 30.8 +0.7**
PII Pisa 45.73 299 P **P** **05 32 29.8 -0.7**
STU Stuttgart 45.73 306 *eP* **P** **05 32 26.3 -4.2**
comp=Z,24nm,0.6s,mb4.7
TOD Tromm 45.87 307 *eP* **P** **05 32 31.9 +0.3**
GRAM 45.89 300 P **P** **05 32 31.9 +0.1**
GUT Gutenstein 45.89 305 *eP* **P** **05 32 31.4 -0.3**
GUT Gutenstein 45.89 305 P **P** **05 32 32.0 +0.3**
VINC Vinca 45.90 299 P **P** **05 32 31.4 -0.5**
TIXI Tiksi 45.92 22*c iP* **P** **05 32 31.7 +0.1**
TIXI *e* 05 34 23.1
TIXI pmax pmax
comp=Z,351nm,0.7s,mb5.8
TIXI Tiksi 45.92 22⇑ *iP* **P** **05 32 31.7 +0.1**
VDL Val di Lei 45.92 303 ⇑P **P** **05 32 31.5 -0.5**
BACM 45.93 299 P **P** **05 32 32.3 +0.2**
LBG Lerchenberg 46.01 306 *eP* **P** **05 32 33.1 +0.4**
LBG Lerchenberg 46.01 306 P **P** **05 32 33.3 +0.6**
CODM 46.06 300 P **P** **05 32 33.7 +0.6**
SPAK Spaichingen 46.11 305 *eP* **P** **05 32 33.3 -0.1**
SPAK Spaichingen 46.11 305 *eP* **P** **05 32 33.4 0.0**
WILA Wila 46.14 304 ⇓⇓P **P** **05 32 33.5 -0.2**
MOL Molde 46.15 325⇑ *iP* **P** **05 32 36.3 +2.8**
MOL AMb AMB 05 32 39.8
comp=Z,90nm,1.8s,mb4.8
MOL Molde 46.15 325⇑ *iP* **P** **05 32 36.3 +2.8**
comp=Z,90nm,1.8s,mb4.8
LLS Linth-Limmern 46.17 303 ⇑P **P** **05 32 33.3 -0.6**
BOB Bobbio (Coli) 46.27 300 *eP* **P** **05 32 35.6 +1.0**
SLE Schleitheim 46.35 304 ⇑P **P** **05 32 34.8 -0.5**
BFO Black Forest 46.37 305 *eP* **P** **05 32 35.1 -0.3**
comp=Z,14nm,0.8s,mb4.3
MUO Muotathal 46.40 303 ⇑P **P** **05 32 35.4 -0.3**
VAI Varese 46.52 302 *eP* **P** **05 32 35.8 -0.8**
BLS5 Blasjo 46.58 321⇑ *iP* **P** **05 32 37.8 +0.9**
BLS5 AMb AMB 05 32 39.2
comp=Z,66nm,1.3s,mb4.8
BLS5 Blasjo 46.58 321⇑ *iP* **P** **05 32 37.8 +0.9**
comp=Z,66nm,1.3s,mb4.8
LANF Langenberg 46.61 306 *eP* **P** **05 32 37.8 +0.5**
ABH Alteburg 46.64 307 *eP* **P** **05 32 37.9 +0.4**
ABH Alteburg 46.64 307 P **P** **05 32 40.0 +2.5**
SULZ Sulz-Cheisache 46.65 304 ⇓P **P** **05 32 37.3 -0.3**
FELD Feldberg 46.66 305 *eP* **P** **05 32 37.4 -0.3**
KIZ Kirchzarten 46.70 305 *eP* **P** **05 32 37.6 -0.4**
KIZ Kirchzarten 46.70 305 P **P** **05 32 38.0 0.0**
PCP Pian Castagno 46.94 300 P **P** **05 32 39.2 -0.8**
RUP Ruppelstein 46.98 307 *eP* **P** **05 32 40.2 +0.1**
RUP Ruppelstein 46.98 307 P **P** **05 32 40.7 +0.6**
WLS Welschbruch 47.00 305 *eP* **P** **05 32 39.9 -0.4**
MMK Mattmark 47.03 302 ⇑P **P** **05 32 39.8 -0.8**
MCGN Macugnaga 47.03 302 *eP* **P** **05 32 40.1 -0.4**

CDF **Champ du Feu** 47.05 306 *eP* P 05 32 40.1 -0.6
comp=Z,34nm,0.8s,mb4.4
BBS **Basel-Blauen** 47.06 304 *eP* P 05 32 40.1 -0.7
BBS **Basel-Blauen** 47.06 304 P P 05 32 40.3 -0.5
PGF **Pioggiola** 47.08 297 *eP* P 05 32 40.4 -0.7
comp=Z,68nm,0.7s,mb4.8
PGF *epP* pP 05 33 25.2 +1.4
ORO **Oropa** 47.10 302 *eP* P 05 32 39.6 -1.6
ECH **Echery** 47.16 305 *eP* P 05 32 42.9 +1.3
LKBD **Leukerbad** 47.19 303 ⇑P P 05 32 41.5 -0.3
MOF **Molkenrain** 47.24 305 *eP* P 05 32 42.1 -0.1
FIN **Finale Ligure** 47.25 300 *eP* P 05 32 41.4 -1.0
TRAV 47.29 302 P P 05 32 40.8 -1.8
RORO 47.38 300 P P 05 32 41.8 -1.5
DIX **Grande Dixence** 47.40 302 ⇑P P 05 32 43.4 -0.1
HINF **Hinteralfeld** 47.44 305 *eP* P 05 32 43.2 -0.5
comp=Z,54nm,0.7s,mb4.7
ROB **Roburent** 47.47 300 P P 05 32 43.5 -0.6
IMI **Imperia** 47.55 299 *eP* P 05 32 44.5 -0.2
WLF **Walferdange** 47.57 307 *eP* P 05 32 45.4 +0.6
comp=Z,51nm,0.8s,mb4.9
MONE **Monesi** 47.60 300 P P 05 32 44.0 -1.0
NEGI **Negi** 47.69 299 P P 05 32 44.4 -1.3
RSP **Reno Superiore** 47.70 301 P P 05 32 43.7 -2.2
LSD **Ceresole Reale** 47.71 302 P P 05 32 46.1 +0.3
HAU **Haudompre** 47.73 305 *eP* P 05 32 45.0 -1.1
EMV **Vieux Emosson** 47.75 302 ⇑P P 05 32 46.2 0.0
SAOF **Saorge** 47.76 300 *eP* P 05 32 46.3 0.0
BHB **Bricherasio** 47.77 301 P P 05 32 44.8 -1.6
ENR **Entracque** 47.80 300 P P 05 32 45.6 -1.0
AUTN **L'Aution** 47.85 300 *eP* P 05 32 48.2 +1.2
STV2 **Anna di Valdie** 47.86 300 P P 05 32 45.8 -1.3
STV **Sta Anna Valdi** 47.86 300 P P 05 32 46.1 -1.0
FENE **Fenestrelle** 47.87 301 P P 05 32 45.6 -1.5
SBF **Sospel** 47.88 299 *eP* P 05 32 46.8 -0.4
comp=Z,106nm,0.7s,mb5.0
THEF **They Montfort** 47.93 305 *eP* P 05 32 47.6 0.0
AURF **Auriere** 47.95 299 *eP* P 05 32 47.7 -0.1
REVF **Revere** 47.95 299 *eP* P 05 32 47.3 -0.5
PZZ **Prazzo** 47.96 300 P P 05 32 45.8 -2.0
TOUF **Mont Tournerai** 47.97 300 *eP* P 05 32 48.2 +0.2
LPG **La Plagne** 47.97 302 *eP* P 05 32 48.0 0.0
comp=Z,121nm,0.7s,mb5.0
LPL **La Plagne** 47.98 302 *eP* P 05 32 48.1 +0.1
comp=Z,36nm,0.4s,mb4.8
LPL *epP* pP 05 33 33.1 +2.2
OG22 **Abries** 47.99 301 *eP* P 05 32 48.0 -0.1
MVIF **Mont Vial** 48.07 300 *eP* P 05 32 48.7 0.0
RRL **Cesana Torines** 48.08 301 P P 05 32 48.6 -0.2
BNI **Bardonecchia** 48.12 301 *eP* P 05 32 47.7 -1.4
comp=Z,24nm,0.8s,mb4.6
MBDF **Montbardon** 48.13 301 *eP* P 05 32 48.6 -0.6
comp=Z,83nm,0.7s,mb4.9
SURF **Saint Ours** 48.16 300 *eP* P 05 32 49.8 +0.4
CABF **La Chapelle** 48.19 303 *eP* P 05 32 49.4 -0.2
comp=Z,71nm,0.7s,mb4.8
CALN **Calern** 48.29 299 *eP* P 05 32 50.3 -0.1
GIVF **Givet** 48.34 308 *eP* P 05 32 50.0 -0.7
MEZF **Maizieres J'vi** 48.49 306 *eP* P 05 32 51.7 -0.1
FRF **La Foret Royal** 48.50 299 *eP* P 05 32 51.3 -0.7
KMBO **Kilima Mbogo** 48.62 227 P P 05 32 54.6 +1.3
comp=Z,21nm,0.6s,mb4.7,baz=35,slow=12,SNR=77
KMBO **Kilima Mbogo** 48.62 227 ⇓*iP* P 05 32 54.4 +1.1
comp=Z,23nm,0.6s,mb4.7
LMR **La Mourre** 48.66 299 *eP* P 05 32 52.3 -0.9
OG25 **Le Caire** 48.70 300 *eP* P 05 32 52.8 -0.8
ORIF **Oris-en-Rattie** 48.71 301 *eP* P 05 32 52.3 -1.3
comp=Z,24nm,0.7s,mb4.4
GRN **Grenoble** 48.72 302 *eP* P 05 32 53.6 -0.1
BAIF **Baives** 48.74 308 *eP* P 05 32 54.1 +0.4
comp=Z,61nm,0.8s,mb4.7
JNU **Nakatsue** 48.84 75 P P 05 32 55.0 +0.3
comp=Z,34nm,0.5s,mb5.0,baz=309,slow=4.3,SNR=3.7
TAVF **Tavernes** 48.90 299 *eP* P 05 32 54.9 -0.2
STOF **St-Etienne Org** 48.91 300 *eP* P 05 32 55.6 +0.5
SMRF **Simiane la Rot** 49.15 300 *eP* P 05 32 55.3 -1.7
comp=Z,18nm,0.7s,mb4.2
PUYF **Puyloubier** 49.18 299 *eP* P 05 32 57.1 -0.1
BERF **Bertagne** 49.24 299 P P 05 32 58.5 +0.8
JOW **Kunigami** 49.31 84 P P 05 32 57.9 -0.6
comp=Z,53nm,0.4s,mb5.2,baz=265,slow=3.8,SNR=21
TREF **Trevaresse** 49.38 300 P P 05 32 59.5 +0.8
PRAF **Pradon** 49.48 300 *eP* P 05 32 59.5 0.0
LOR **Lormes** 49.53 305 *eP* P 05 32 58.7 -1.1
comp=Z,20nm,0.8s,mb4.2
VIVF **Saint-Julien-l** 49.55 301 *eP* P 05 32 59.7 -0.3
comp=Z,53nm,0.6s,mb4.7
SMF **Signal de Mont** 49.69 304 *eP* P 05 33 00.4 -0.6
comp=Z,88nm,0.7s,mb4.9
SMF *epP* pP 05 33 45.8 +1.6
SSF **Saint Saulge** 49.81 304 *eP* P 05 33 01.0 -1.0
comp=Z,60nm,1.2s,mb4.5
COLF **Collangettes** 50.06 302 *eP* P 05 33 03.7 -0.1
AGO **Saint Agoulin** 50.31 303 *eP* P 05 33 06.0 +0.3
LASF **Ste Croix** 50.32 301 *eP* P 05 33 05.8 -0.1
comp=Z,75nm,0.8s,mb4.8
LASF *epP* pP 05 33 51.1 +2.0
HYF **Humbligny** 50.34 305 *eP* P 05 33 05.6 -0.4
BGF **Bois d'Agland** 50.37 304 *eP* P 05 33 05.3 -0.9
comp=Z,27nm,0.7s,mb4.4
TCF **Toulx Ste Croi** 50.87 304 *eP* P 05 33 09.6 -0.3
comp=Z,63nm,0.8s,mb4.8
TCF *epP* pP 05 33 55.2 +1.9
CAF **Calviac** 51.33 302 *eP* P 05 33 13.2 -0.2
comp=Z,43nm,0.7s,mb4.7
EJON **La Jonquera** 51.46 299 P P 05 33 13.6 -0.8
comp=Z,10.0nm,0.8s,mb4.3
RJF **Les Rejaudoux** 51.59 303 *eP* P 05 33 15.3 -0.1
comp=Z,34nm,0.9s,mb4.5
RJF *epP* pP 05 34 01.0 +2.1
MTLF **Montolieu** 51.67 300 *eP* P 05 33 15.4 -0.6
comp=Z,36nm,0.8s,mb4.6
MME1 **Meikle Cairn** 51.70 318⇑*eP* P 05 33 15.2 -0.8
MLA1 **Latheron** 51.75 320⇑*eP* P 05 33 15.6 -0.7
MCD **Coleburn Disti** 51.81 319⇑*eP* P 05 33 16.1 -0.7
LDF **La Druitiere** 51.82 307 *eP* P 05 33 15.8 -1.2
FLN **La Foliniere** 52.01 307 *eP* P 05 33 17.3 -1.1
comp=Z,48nm,0.7s,mb4.7
FLN *epP* pP 05 34 02.9 +0.9
LFF **La Frestale** 52.23 302 *eP* P 05 33 19.6 -0.5
comp=Z,52nm,0.7s,mb4.8
MVH1 **Achvaich** 52.24 319⇑*eP* P 05 33 19.1 -0.9
MBAR **Mbarara** 52.28 234 P P 05 33 20.8 -0.1
comp=Z,536nm,0.7s,mb6.1,SNR=57
MBAR **Mbarara** 52.28 234⇓*eP* P 05 33 20.1 -0.8
comp=Z,64nm,0.8s,mb5.1
GRR **Gorron** 52.35 307 *eP* P 05 33 19.7 -1.2
comp=Z,48nm,0.8s,mb4.7
MFF **Saint Martin d** 52.36 305 *eP* P 05 33 19.9 -1.1
comp=Z,30nm,0.8s,mb4.5
MDO **Dochfour** 52.42 319⇑*eP* P 05 33 20.2 -1.1
HAE **Alders End** 52.51 312⇑*eP* P 05 33 21.1 -1.0
HAE AMb AMb 05 33 24.0
comp=Z,124nm,1.3s,mb5.2
JMIC **Jan Mayen** 52.54 336 P P 05 33 22.8 +0.8
comp=Z,112nm,0.6s,mb5.5,baz=154,slow=7.7,SNR=3.1
MLS **Moulis** 52.57 300 *eP* P 05 33 21.5 -1.1
EMIR **Miracle** 52.59 299 P P 05 33 22.9 +0.1
comp=Z,8.5nm,0.4s,mb4.5
HLM1 **Long Mynd** 52.60 312⇑*eP* P 05 33 21.8 -0.9
HLM1 AMb AMb 05 33 24.9
comp=Z,69nm,1.9s,mb4.8
SBD **Saint Breward** 52.73 313 *eP* P 05 33 23.1 -0.6
HGH **Gray Hill** 52.76 311⇑*eP* P 05 33 23.1 -0.8
HGH AMb AMb 05 33 30.4
comp=Z,64nm,1.9s,mb4.7
SSP1 **Stoney Pound** 52.76 312⇑*eP* P 05 33 23.1 -0.8
HTR **Trewern Hill** 52.93 312⇑*eP* P 05 33 24.2 -1.0
HTR AMb AMb 05 33 24.9
comp=Z,124nm,0.9s,mb5.3
YSS **Yuzh-Sakhalins** 53.05 55⇑*eP* P 05 33 24.8 -1.4
YSS *e* pP 05 34 13.0 +3.1
YSS pmax pmax
comp=Z,70nm,0.6s,mb5.3
YSS **Yuzh-Sakhalins** 53.05 55 *eP* P 05 33 25.2 -1.0
comp=Z,70nm,0.6s,mb5.3
EPF **Esparros** 53.07 300 *eP* P 05 33 24.7 -1.7
comp=Z,18nm,0.6s,mb4.4
EPOB **Poblet** 53.09 298 P P 05 33 25.7 -0.8
comp=Z,13nm,0.6s,mb4.5
RESF **Ens** 53.14 300 *eP* P 05 33 26.5 -0.4
MAJO **Matsushiro** 53.20 68 *eP* P 05 33 26.0 -1.3
comp=Z,18nm,0.7s,mb4.6
MAT **Matsushiro** 53.20 68 P P 05 33 25.8 -1.6
MAT **Matsushiro** 53.20 68 *eP* P 05 33 26.0 -1.4
comp=Z,15nm,0.8s,mb4.5
VIEF **Viey** 53.34 300 *eP* P 05 33 27.7 -0.6
SGMF **Saint Gilles** 53.48 307 *eP* P 05 33 28.5 -0.7
EBR **Ebro Roquetas** 53.68 298 *eP* P 05 33 30.0 -0.8
EIBI **Ibiza** 53.68 295 P P 05 33 30.7 -0.2
comp=Z,47nm,1.1s,mb4.9
ETSF **Etsaut** 53.74 300 *eP* P 05 33 30.8 -0.4
comp=Z,60nm,0.6s,mb5.0
FDAF **Les Forges d'A** 53.77 300 *eP* P 05 33 31.3 -0.2
ROSF **Rostrenen** 53.91 307 *eP* P 05 33 31.3 -1.1
comp=Z,46nm,0.7s,mb4.8
ROSF *epP* pP 05 34 17.2 +1.0
QUIF **Quistinic** 53.96 307 *eP* P 05 33 31.5 -1.3
ESAC **San Caprasio** 54.06 299 P P 05 33 33.5 -0.1
comp=Z,24nm,0.7s,mb4.8
SJPF **Ste Jean** 54.13 301 *eP* P 05 33 33.1 -1.0
comp=Z,17nm,0.7s,mb4.4
EALK **Alkurruntz** 54.29 301 P P 05 33 34.9 -0.4
comp=Z,8.7nm,0.5s,mb4.5
EMOS **Mosqueruela** 54.53 297 P P 05 33 36.7 -0.3
comp=Z,14nm,0.6s,mb4.7
DLF **Lyons Farm** 54.55 314 *eP* P 05 33 35.0 -2.0
MA2 **Magadan** 54.56 38 *eP* P 05 33 36.2 -0.7
MA2 pmax pmax
comp=Z,169nm,1.7s,mb5.3
MA2 **Magadan** 54.56 38 *eP* P 05 33 36.4 -0.6
comp=Z,73nm,0.9s,mb5.2
CMA1 **Manaccan** 54.59 310 *eP* P 05 33 36.2 -1.0
CRQ2 **Rosemanowes 2** 54.59 310⇓*eP* P 05 33 35.8 -1.5
SEY **Seymchan** 54.60 34 *eP* P 05 33 39.0 +1.8
SEY **PP* pP 05 34 19.5 -1.6
SEY 05 34 37.0
SEY 05 35 46.3
SEY PPP PPP 05 36 59.2 -0.5
SEY *eS* S 05 41 02.4 +2.6
SEY pmax pmax
comp=Z,90nm,0.7s,mb5.4
SEY pmax pmax
comp=N,40nm,0.6s
DMUB **Kingscourt** 54.61 315 *eP* P 05 33 36.0 -1.4
CCA1 **Carnmenellis** 54.62 310⇓*eP* P 05 33 35.9 -1.6
CGH1 **Goonhilly** 54.62 310 *eP* P 05 33 36.4 -1.1
CGW **Gweek** 54.64 310⇓*eP* P 05 33 36.6 -1.1
CPZ **Penzance** 54.84 310⇓*eP* P 05 33 37.8 -1.4
CPZ AMb AMb 05 33 45.0
comp=Z,69nm,1.4s,mb5.0
EBEN **Beniarda** 54.94 295 P P 05 33 39.7 -0.3
comp=Z,17nm,0.7s,mb4.7
DCN **Croghan** 54.97 314 *eP* P 05 33 38.0 -2.0
ETOR **Torete** 55.49 298 P P 05 33 43.6 -0.3
comp=Z,7.8nm,0.6s,mb4.4
EMUR **La Murta** 56.00 295 P P 05 33 46.6 -1.0
comp=Z,21nm,1.0s,mb4.6
EVIA **Vianos** 56.62 296 P P 05 33 51.8 -0.2
comp=Z,17nm,0.6s,mb4.8
EARI **Arriondas** 56.81 302 P P 05 33 53.0 -0.2
comp=Z,77nm,1.3s,mb5.2
ESDC **Sonseca Array** 57.27 298 P P 05 33 55.7 -0.9
comp=Z,12nm,0.6s,mb4.8,baz=58,slow=7.5,SNR=43
ESDC pP pP 05 34 41.1 +0.2
comp=Z,9.6nm,0.8s,baz=59,slow=7.6,SNR=3.1
ESLA **Sonseca Array** 57.27 298 *eP* P 05 33 55.5 -1.0
comp=Z,4.3nm,0.8s,mb4.1
EQES **Quesada** 57.35 295 P P 05 33 56.6 -0.5
comp=Z,52nm,0.6s,mb5.3
EBER **Berja** 57.58 294 P P 05 33 58.7 0.0
comp=Z,57nm,0.7s,mb5.3
EPON **Pontenova** 58.12 303 P P 05 34 01.9 -0.5
comp=Z,83nm,1.1s,mb5.3
ERON **Agron** 58.20 295 P P 05 34 02.3 -0.8
comp=Z,30nm,0.7s,mb5.0
EADA **Adamuz** 58.30 296 P P 05 34 02.7 -1.1
comp=Z,30nm,0.8s,mb5.0
ELUQ **Luque** 58.32 296 P P 05 34 02.7 -1.2
comp=Z,48nm,0.8s,mb5.2
ECAL **Calabor** 58.36 301 P P 05 34 03.9 -0.2
comp=Z,16nm,1.0s,mb4.6
ELOJ **Sierra Loja** 58.40 295 P P 05 34 03.2 -1.3
comp=Z,12nm,0.8s,mb4.6
ERUA **La Rua** 58.46 302 P P 05 34 04.4 -0.4
comp=Z,11nm,0.6s,mb4.7
EMIJ **Mijas** 59.10 295 P P 05 34 07.1 -2.2
comp=Z,21nm,0.7s,mb4.9
STS **Santiago** 59.23 303 P P 05 34 09.6 -0.5
comp=Z,8.1nm,0.6s,mb4.5
ELOB **Lobios** 59.30 302 P P 05 34 10.0 -0.6
comp=Z,27nm,0.6s,mb5.0
EMAZ **Mazaricos** 59.50 303 P P 05 34 10.8 -1.1
comp=Z,20nm,0.8s,mb4.8
MTE **Manteigas** 59.52 300 *eP* P 05 34 11.9 -0.2
MTE *epP* pP 05 34 58.6 +1.8
MTE **Manteigas** 59.52 300 *eP* P 05 34 11.8 -0.3
comp=Z,46nm,1.0s,mb5.1
ESPR **Espera** 59.76 295 P P 05 34 12.3 -1.5
comp=Z,38nm,0.8s,mb5.1
EBAD **Badajoz** 59.81 298 P P 05 34 13.4 -0.7
comp=Z,61nm,0.7s,mb5.3
EMIN **Mina Concepcio** 59.98 297 P P 05 34 14.4 -0.8
comp=Z,29nm,0.9s,mb4.9
EVO **Evora** 60.62 298 *eP* P 05 34 19.4 -0.2
comp=Z,70nm,1.1s,mb4.9
PALC **Alcoutim** 60.68 297 *iP* P 05 34 19.0 -1.0
comp=Z,46nm,0.9s,mb5.1
PBEJ **Beja** 60.73 297 *eP* P 05 34 19.6 -0.7
comp=Z,32nm,0.9s,mb5.0
PET **Petropavlovsk** 60.74 44 *eP* P 05 34 17.9 -2.3
PET *e* 05 36 32.4
PET *eS* S 05 42 24.5 +4.5
PET pmax pmax
comp=Z,43nm,1.2s,mb5.0
PET pmax pmax
comp=Z,100nm,14.0s
PET smax
comp=N,100nm,16.0s
PET **Petropavlovsk** 60.74 44 *eP* P 05 34 17.4 -2.7
comp=N,13nm,0.5s,mb4.8
SUMG **Summit** 61.04 341 *eP* P 05 34 22.2 +0.2
comp=N,87nm,0.8s,mb5.4
PLOU **Loures** 61.27 299 *eP* P 05 34 24.1 +0.1
comp=N,85nm,0.7s,mb5.5
PTEO **Sao Teotonio** 61.54 297 *eP* P 05 34 25.3 -0.5
comp=N,49nm,0.8s,mb5.2
LSZ **Lusaka** 65.24 226 *eP* P 05 34 50.0 -0.2
comp=N,17nm,0.6s,mb4.8
FX1 **Attu Island--F** 68.59 39 *eP* P 05 35 08.2 -2.5
ANM **Nome** 70.18 22 *eP* P 05 35 20.8 +0.7
EBAJ **Bajamar** 71.48 292 P P 05 35 28.2 -0.3
comp=N,138nm,1.1s,mb5.5
CCAN **Las Canadas** 71.84 292 P P 05 35 31.3 +0.6
comp=N,16nm,0.6s,mb4.8
IMA **Indian Mountai** 72.25 17 *eP* P 05 35 32.1 -0.3
EGOM **La Gomera** 72.33 292 P P 05 35 32.9 -0.6
comp=N,26nm,0.6s,mb5.0
MBWA **Marble Bar** 73.66 133 *eP* P 05 35 40.6 -0.9
comp=N,15nm,0.9s,mb4.6
INK **Inuvik** 74.00 9 P P 05 35 42.7 +0.2
comp=N,128nm,0.6s,mb5.8,baz=0.9,slow=6.6,SNR=500
INK S S 05 44 59.3 +2.0
comp=N,5.0nm,1.0s,baz=186,slow=28,SNR=7.4
INK **Inuvik** 74.00 9 P P 05 35 42.7 +0.2
INK S S 05 44 59.3 +2.0
INK pmax pmax
comp=Z,128nm,0.6s
INK **Inuvik** 74.00 9 *eP* P 05 35 42.8 +0.3
comp=Z,139nm,0.6s,mb5.8
TTA **Tatalina** 74.16 20 *eP* P 05 35 43.8 +0.3
DBIC **Dimbokro** 74.46 267 P P 05 35 45.0 -1.2
comp=Z,26nm,0.5s,mb5.2,baz=27,slow=6.8,SNR=74
DBIC pP pP 05 36 34.5 +1.6
comp=Z,23nm,1.0s,baz=24,slow=8.0,SNR=3.3
DBIC **Dimbokro** 74.46 267 *eP* P 05 35 44.3 -1.9
comp=Z,46nm,0.8s,mb5.2
KIC **Kosan Boka** 74.54 266 *eP* P 05 35 45.1 -1.6
comp=Z,186nm,0.5s,mb5.9
COLA **College** 74.60 16 *eP* P 05 35 45.7 -0.3
TIC **Toumodi** 74.60 267 *eP* P 05 35 45.3 -1.8
comp=Z,165nm,0.5s,mb5.9
TSUM **Tsumeb** 74.69 232 P P 05 35 47.5 +0.1
comp=Z,28nm,0.6s,mb5.1,baz=10,slow=7.0,SNR=59
TSUM pP pP 05 36 36.6 +2.5
comp=Z,15nm,0.9s,baz=34,slow=6.3,SNR=4.1
TSUM **Tsumeb** 74.69 232 *eP* P 05 35 47.4 0.0
comp=Z,31nm,0.6s,mb5.1
LIC **Lamto** 74.85 267 *eP* P 05 35 46.7 -1.8
comp=Z,184nm,0.7s,mb5.8
LIC **Lamto** 74.85 267 *eP* P 05 35 46.8 -1.7
comp=Z,44nm,0.6s,mb5.3
ILAR **Eielson Array** 74.90 16 P P 05 35 47.0 -0.8
comp=Z,133nm,1.2s,mb5.4,baz=320,slow=4.3,SNR=185
ILAR pP pP 05 36 36.0 +1.6
comp=Z,8.4nm,0.9s,baz=327,slow=5.2,SNR=2.6
FITZ **Fitzroy Crossi** 75.05 126 *eP* P 05 35 48.8 -0.7
comp=Z,35nm,1.1s,mb4.9
FITZ *eS* S 05 45 09.7 -0.1
FITZ **Fitzroy Crossi** 75.05 126 P P 05 35 48.5 -1.0
comp=Z,22nm,0.6s,mb5.0,baz=347,slow=4.9,SNR=109
FITZ pP pP 05 36 37.5 +1.4
comp=Z,12nm,0.8s,baz=345,slow=3.8,SNR=2.0
FITZ S S 05 45 09.9 +0.1
comp=Z,8.9nm,1.0s,baz=11,slow=23,SNR=8.2
MCK **McKinley** 75.33 17 *eP* P 05 35 49.3 -0.8
comp=Z,22nm,0.6s,mb5.0
KAKA **Kakadu** 75.88 118 *eP* P 05 35 58.2 +4.0
comp=Z,61nm,0.5s,mb5.5
THY **Trims Highway** 76.33 16⇑*iP* P 05 35 55.1 -0.6
SPU **Mount Spurr** 76.67 20 *eP* P 05 35 56.3 -1.4
PWA **Palmer West** 76.86 19 *eP* P 05 35 58.2 -0.5
RSO **Redoubt South** 77.08 20 *eP* P 05 36 00.8 +0.9
PMR **Palmer** 77.10 18 *eP* P 05 35 59.9 -0.1
SML **Sawmill** 77.11 18⇑*iP* P 05 35 59.8 -0.3
UNV **Unalaska Valle** 77.43 31 *eP* P 05 35 59.6 -2.4
comp=Z,261nm,1.1s,mb5.8
BOSA **Boshof** 77.55 220 *eP* P 05 36 03.2 0.0
comp=Z,45nm,0.8s,mb5.2
SLKM **Skilak Lake** 77.73 19 *eP* P 05 36 03.0 -0.5
DIV **Divide** 78.32 17 *eP* P 05 36 06.9 +0.2
comp=Z,272nm,0.9s,mb5.9
EYAK **Cordova Ski Ar** 78.84 17 *eP* P 05 36 10.1 +0.6
KDAK **Kodiak Island** 79.34 22 *eP* P 05 36 12.4 +0.1
comp=Z,181nm,0.8s,mb5.8
KLBR **Kellerberrin** 80.76 141 *eP* P 05 36 18.7 -1.7
comp=Z,14nm,0.8s,mb4.6
YKW3 **Yellowknife Ar** 81.25 2 *eP* P 05 36 22.4 +0.1
YKW3 pP pP 05 37 12.7 +3.0
YKA **Yellowknife Ar** 81.31 2 P P 05 36 22.8 +0.2
comp=Z,29nm,0.4s,mb5.2,baz=348,slow=5.4,SNR=157
YKA pP pP 05 37 12.9 +2.8
comp=Z,12nm,0.6s,baz=350,slow=5.5,SNR=3.6
YKA sP sP 05 37 35.7 +5.2
comp=Z,15nm,1.0s,baz=349,slow=5.4,SNR=2.0
YKA PKKPbc 05 54 52.6
comp=Z,2.3nm,0.7s,baz=177,slow=2.1,SNR=8.1
YKA **Yellowknife Ar** 81.31 2 P P 05 36 22.8 +0.2
YKA pP pP 05 37 12.9 +2.8
YKA sP sP 05 37 35.7 +5.2
YKA PKKPbc 05 54 52.6
NWAO **Narrogin (SRO)** 81.57 142 P P 05 36 23.2 -1.3
comp=Z,18nm,0.7s,mb4.8,baz=321,slow=4.2,SNR=10
NWAO **Narrogin (SRO)** 81.57 142 P P 05 36 23.3 -1.3
NWAO pmax pmax
comp=Z,18nm,0.7s
SCHQ **Schefferville** 82.06 337 P P 05 36 26.5 0.0
comp=Z,28nm,0.7s,mb5.0,baz=45,slow=4.7,SNR=30
SCHQ **Schefferville** 82.06 337 *eP* P 05 36 26.5 -0.1
comp=Z,33nm,0.7s,mb5.1
WRA **Warramunga Arr** 82.16 122 P P 05 36 26.6 -1.2
comp=Z,48nm,0.6s,mb5.3,baz=322,slow=5.0,SNR=944
WRA pP pP 05 37 17.5 +2.1
comp=Z,6.9nm,0.6s,baz=325,slow=5.0,SNR=3.6
WRA S S 05 46 21.3 -3.4
comp=Z,0.7nm,0.8s,baz=318,slow=14,SNR=5.7
WRA PKKPbc 05 54 53.5
comp=Z,0.5nm,0.4s,baz=120,slow=2.5,SNR=18
WRA PKPPKP 06 03 01.1
comp=Z,0.5nm,0.7s,baz=148,slow=2.1,SNR=5.6
WRAB **Tennant Creek** 82.16 122 P P 05 36 26.6 -1.2
comp=Z,613nm,0.6s,SNR=11
WRAB **Tennant Creek** 82.16 122 *eP* P 05 36 26.6 -1.3
comp=Z,116nm,0.7s,mb5.6
WB2 **Warramunga Arr** 82.17 122 *eP* P 05 36 26.7 -1.2
WB2 *eS* S 05 46 20.1 -4.8
SUR **Sutherland** 82.86 221 P P 05 36 32.1 +0.9
comp=Z,205nm,0.8s,mb5.9,SNR=12
SUR **Sutherland** 82.86 221 *eP* P 05 36 32.1 +0.9
comp=Z,39nm,1.0s,mb5.1
SUR *epP* pP 05 37 23.2 +4.4
WAU **Wau** 83.21 104 P P 05 36 31.0 -2.4
SIT **Sitka** 84.29 14 *eP* P 05 36 39.3 +1.5
ASPA **Alice Springs** 84.42 125 *eP* P 05 36 38.2 -1.0
ASPA *eS* S 05 46 37.7 -9.5
ASAR **Alice Springs** 84.42 125 P P 05 36 38.2 -1.0
comp=Z,37nm,0.6s,mb5.3,baz=311,slow=5.0,SNR=405
ASAR pP pP 05 37 29.4 +2.5
comp=Z,9.9nm,0.8s,baz=312,slow=5.3,SNR=2.6
ASAR S S 05 46 37.3 -10
comp=Z,1.2nm,0.7s,baz=315,slow=7.2,SNR=5.5
ASAR PKPPKP 06 02 55.2
comp=Z,0.7nm,0.8s,baz=153,slow=3.5,SNR=4.1
FORT **Forrest** 85.80 133 *eP* P 05 36 45.4 -0.5
comp=Z,80nm,0.5s,mb5.7
FFC **Flin Flon** 88.98 356 *eP* P 05 37 00.7 +0.3
comp=Z,64nm,1.0s,mb5.4
FFC *epP* pP 05 37 51.2 +2.7
EDM **Edmonton** 90.64 2 *eP* P 05 37 08.9 +0.7
EDM *epP* pP 05 38 02.7 +6.2
CTA **Charters Tower** 90.73 114 *eP* P 05 37 08.6 -0.9
comp=Z,28nm,0.5s,mb5.5
CTA *e* pP 05 38 00.3 +2.6
CTAO **Charters Tower** 90.73 114⇑*iP* P 05 37 08.4 -1.1
comp=Z,42nm,0.7s,mb5.5
CTAO *epP* pP 05 38 00.2 +2.4
ULM **Lac du Bonnet** 92.87 351 P P 05 37 18.5 -0.2
comp=Z,18nm,0.8s,mb5.2,baz=360,slow=5.9,SNR=11
ULM pP pP 05 38 09.3 +2.4
comp=Z,7.9nm,1.1s,baz=337,slow=13,SNR=2.2
ULM **Lac du Bonnet** 92.87 351 *eP* P 05 37 17.8 -0.8
comp=Z,30nm,1.0s,mb5.3
ULM *epP* pP 05 38 08.9 +1.9
MDV **Middlebury** 93.48 335 *eP* P 05 37 22.0 +0.5
PNT **Penticton** 94.13 7 P P 05 37 24.9 +0.5
VDB **Vedder Mountai** 94.15 8 P P 05 37 24.5 +0.1
PGC **Sidney** 94.35 9 *eP* P 05 37 26.4 +1.0
comp=Z,30nm,0.7s,mb5.4
WALA **Waterton Lakes** 94.78 3 *eP* P 05 37 27.9 +0.6
comp=Z,34nm,0.8s,mb5.5
RPW **Rockport** 94.79 8 *eP* P 05 37 27.3 -0.1
RPW *epP* pP 05 38 19.1 +3.4
STW **Striped Peak** 94.81 10 P P 05 37 29.3 +1.8
STKA **Stephens Creek** 94.95 126 *eP* P 05 37 27.2 -1.4
comp=Z,4.2nm,0.6s,mb4.8
STKA **Stephens Creek** 94.95 126 P P 05 37 27.0 -1.5
comp=Z,4.8nm,0.5s,mb4.9,baz=320,slow=4.4,SNR=13
STKA S SKS 05 47 38.9 -5.1
comp=Z,1.7nm,0.6s,baz=144,slow=22,SNR=9.4
DGMT **Dagmar** 95.34 357 *eP* P 05 37 31.0 +1.0
comp=Z,21nm,0.8s,mb5.3
NEW **Newport** 95.38 5 *eP* P 05 37 30.5 +0.4
comp=Z,22nm,0.8s,mb5.3
GNW **Green Mountain** 95.50 9 *eP* P 05 37 32.0 +1.4
DPW **Davenport** 95.69 6 *eP* P 05 37 32.3 +0.8
FMW **Mount Fremont** 96.26 8 P P 05 37 35.1 +0.9
LON **Longmire** 96.42 9 *eP* P 05 37 35.2 +0.4
MXC **Moxie City** 96.77 8 P P 05 37 37.5 +1.1
CHMT **Chamberlain Mo** 96.94 3 *eP* P 05 37 37.7 +0.4
MSO **Missoula** 97.00 3 *eP* P 05 37 37.4 -0.2
comp=Z,2.4nm,0.2s,mb5.1
HRY **Holter Researc** 97.19 2 *eP* P 05 37 39.2 +0.8
LAO **LASA Array** 97.20 358 *eP* P 05 37 39.8 +1.3
comp=Z,29nm,0.9s,mb5.5
GCMT **Greycliff** 98.14 0 *eP* P 05 37 43.8 +1.1
BOZ **Bozeman (W)** 98.26 2 *eP* P 05 37 43.8 +0.6
comp=Z,2.6nm,0.7s,mb4.7
MCMT **McKenzie Canyo** 99.04 3 *eP* P 05 37 47.8 +0.9
RSSD **Black Hills** 99.67 356 *eP* P 05 37 50.0 +0.3
comp=Z,7.3nm,0.8s,mb5.2
HUMO **Hull Mountain** 100.34 10 *eP* P 05 37 53.7 +0.9
comp=Z,3.0nm,0.8s
PDAR **Pinedale Array** 101.17 0 P P 05 37 56.9 +0.4
comp=Z,1.5nm,0.6s,baz=22,slow=3.4,SNR=14
PDAR PP PP 05 42 00.3 -10
comp=Z,2.0nm,1.0s,baz=18,slow=4.7,SNR=4.8
PDAR PKKP 05 42 19.4
comp=Z,0.8nm,0.5s,baz=85,slow=3.8,SNR=5.0
PDAR PKKPbc 05 54 04.0
comp=Z,0.7nm,0.5s,baz=137,slow=3.5,SNR=6.5
MOD **Modoc** 101.38 8 *ePdif* P 05 37 58.6 +1.2
comp=Z,2.9nm,0.6s
HVU **Hansel Valley** 102.09 3 *eP* Pdif 05 38 00.4 -0.2
HWUT **Hardware Ranch** 102.30 2 *ePdif* Pdif 05 38 02.9 +1.4
comp=Z,8.2nm,0.9s
DUG **Dugway** 103.67 3 *eP* Pdif 05 38 09.0 +1.4

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
	comp=Z,2.9nm,0.8s						
MAW	Mawson	103.89	183	Pdiff	Pdif	05 38 12.0	+4.1
	comp=Z,1.4nm,0.6s,baz=279,slow=8.2,SNR=5.1						
MAW				PKiKP		05 42 24.2	
	comp=Z,2.5nm,0.9s,baz=349,slow=5.1,SNR=3.5						
MAW				PKKPbc		05 53 57.4	
	comp=Z,1.6nm,0.6s,baz=187,slow=3.3,SNR=6.7						
MAW	Mawson	103.89	183	P	Pdif	05 38 12.0	+4.1
MAW				*i*		05 42 24.2	
MAW				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MAW				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NLU	North Lily Min	103.94	2	*e*P	Pdif	05 38 09.5	+0.7
NVAR	Mina Array Bea	105.04	7	Pdiff	Pdif	05 38 15.1	+1.5
	comp=Z,2.2nm,0.9s,baz=302,slow=3.3,SNR=13						
NVAR				PKiKP		05 42 28.4	
	comp=Z,1.8nm,0.8s,baz=22,slow=4.9,SNR=4.2						
NVAR				PKKPbc		05 53 55.9	
	comp=Z,4.3nm,1.0s,baz=190,slow=5.5,SNR=14						
MVU	Marysvale	105.38	2	Pdif	Pdif	05 38 17.7	+2.6
PV10	Paradox Valley	105.55	360	*e*P		05 42 27.2	
PV01	Paradox Valley	105.79	359	*e*P		05 42 29.3	
SDCO	Great Sand Dun	106.10	357	*e*P		05 42 30.4	
SYO	Syowa Base	107.63	191	⇑P	Pdif	05 38 17.9	-6.4
SYO	Syowa Base	107.63	191	⇓Pdiff	Pdif	05 38 24.3	0.0
TXAR	Lajitas Array	114.36	355	Pdiff	Pdif	05 38 58.7	+3.9
	comp=Z,0.5nm,0.8s,baz=18,slow=2.9,SNR=3.1						
TXAR				PKP	PKPdf	05 42 45.0	+1.1
	comp=Z,0.5nm,0.5s,baz=72,slow=1.7,SNR=6.9						
TXAR				pPKP		05 43 40.3	
	comp=Z,2.4nm,0.9s,slow=2.5,SNR=3.7						
TXAR				PKKPbc		05 53 24.1	
	comp=Z,1.5nm,0.7s,baz=187,slow=5.6,SNR=15						
TXAR	Lajitas Array	114.36	355	Pdif	Pdif	05 38 58.7	+3.9
TXAR				PKP	PKPdf	05 42 45.0	+1.1
TXAR				pPKP		05 43 40.3	
TXAR				PKKPbc		05 53 24.1	
SNAA	Sanae	119.26	200	⇓*i*P	PKPdf	05 42 52.3	0.0
SNAA	Sanae	119.26	200	SKP		05 46 07.2	
	comp=Z,1.3nm,0.9s,baz=331,slow=0.5,SNR=4.5						
SNAA				PKKPbc		05 53 06.6	
	comp=Z,3.2nm,0.8s,baz=238,slow=5.1,SNR=56						
VNA2	Neumayer--Watz	120.25	202	⇓*i*P	PKPdf	05 42 56.9	+2.6
VNA1	Neumayer--Stat	120.41	202	⇓*i*P	PKPdf	05 42 54.2	-0.4
VNA3	Neumayer Olymp	121.06	202	⇓*i*P	PKPdf	05 42 56.8	+0.9
BDFB	Brasilia	122.12	274	PKP	PKPdf	05 42 58.6	-0.6
	comp=Z,1.7nm,0.4s,baz=37,slow=3.6,SNR=5.5						
BDFB				PP	PP	05 44 37.8	-2.9
	comp=Z,3.5nm,0.8s,baz=63,slow=8.8,SNR=4.6						
BDFB				SKP		05 46 15.3	
	comp=Z,2.2nm,0.7s,baz=18,slow=6.0,SNR=2.8						
BDFB				PKKPbc		05 52 56.6	
	comp=Z,3.1nm,0.9s,baz=178,slow=3.5,SNR=4.9						
ROSC	El Rosal	127.50	314	PKP	PKPdf	05 43 11.3	+1.6
	comp=Z,29nm,0.9s,baz=149,slow=2.0,SNR=12						
ROSC				SKPab		05 46 10.6	
	comp=Z,16nm,0.7s,baz=162,slow=12,SNR=8.5						
SAML	Samuel	130.07	291	*e*PKPdf	PKPdf	05 43 14.7	+0.2
CPUP	Villa Florida	134.97	268	PKP	PKPdf	05 43 23.0	-0.4
	comp=Z,20nm,0.8s,baz=82,slow=1.6,SNR=45						
CPUP				SKPbc		05 46 33.8	
	comp=Z,12nm,0.9s,baz=89,slow=3.7,SNR=8.9						
CPUP	Villa Florida	134.97	268	*e*PKPdf	PKPdf	05 43 23.3	-0.1
LPAZ	La Paz	138.40	288	PKP	PKPdf	05 43 30.4	+0.5
	comp=Z,5.7nm,0.8s,baz=23,slow=2.2,SNR=16						
LPAZ				SKPbc		05 46 45.5	
	comp=Z,3.8nm,0.9s,baz=34,slow=4.4,SNR=6.5						
LPAZ	La Paz	138.40	288	*e*PKPdf	PKPdf	05 43 31.1	+1.2
EFI	East Falkland	141.00	230	*e*P	PKPdf	05 43 29.4	-4.2
ARE	Arequipa	141.07	291	*e*P	PKPdf	05 43 34.0	-0.7
LVC	Limon Verde	142.53	280	*e*PKPpre		05 43 34.1	
TRQA	Tornquist	142.62	253	*e*PKPpre		05 43 34.2	
USHA	Ushuaia	146.64	223	PKPbc	PKPbc	05 43 45.7	+0.9
	comp=Z,46nm,0.7s,baz=87,slow=2.4,SNR=43						
USHA				SKPbc		05 47 04.8	
	comp=Z,2.9nm,0.7s,baz=358,slow=1.5,SNR=3.3						
CMCH	Combarbala	147.90	268	*e*P	PKPdf	05 43 47.6	+1.6
FCH	Farellones	148.00	264	*e*P	PKPdf	05 43 49.6	+3.5
CLCH	Cerro Calan	148.22	264	⇓*e*P	PKPdf	05 43 49.6	+3.1

*ATH **06** 06:03:38.4, 38.15N×20.33E, h5km, MD3.6/6*
*NEIC **06** 06:03:39.5, 38.20N×20.47E, h5km, MD3.7(PDG), MD3.6(ATH), After ATH.*
NEIC Felt at Vathi.
*CSEM **06** 06:03:39.1±0.3, 38.13N×20.33E, h2km, MD3.6, Error ellipse: s-maj=6.2km s-min=2.9km az=44.0*
*PDG **06** 06:03:41.5±0.1, 38.39N×19.71E, h11km±1km*
*THE **06** 06:03:42.6, 38.35N×20.43E, h6km, ML3.6*
ISC 06 06:03:38.4±1.1**, 38.32N**±0.06×**20.23E**±0.06**, h5**km**, n25,** σ**1.41**/39**, 10C, Greece**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
VLS	Valsamata	0.32	117	*e*PG	Pg	06 03 42.9	-1.9
VLS	Valsamata	0.32	117	*e*Pg	Pg	06 03 40.3	-4.5
LKD	Levkas	0.51	41	*e*Pg	Pg	06 03 49.9	+1.3
LKD	Levkas	0.51	41	*e*Pg	Pg	06 03 49.8	+1.2
IGT	Igoumenitsa	1.21	4	*e*Pb	Pb	06 04 05.2	+3.7
IGT				*e*Sb	Sb	06 04 22.4	+5.1
EVR	Evrytania	1.37	64	*e*PG	Pg	06 04 04.5	-1.3
JAN	Janina	1.42	20	*e*PB	Pb	06 04 08.5	+3.5
KEK	Kerkira	1.43	347	*e*PG	Pg	06 04 08.5	+1.5
ITM	Ithomi	1.76	130	*e*PG	Pg	06 04 08.0	-5.6
AGG	Agios Georgios	1.79	66	*e*Pb	Pb	06 04 11.1	-0.2
AGG				*e*Sb	Sb	06 04 34.0	+0.1
LIT	Litokhoron	2.50	44	*e*Pn	Pn	06 04 21.2	+0.8
LIT				*e*Sn	Sn	06 04 51.4	-0.2
XOR	Xorichti	2.54	65	*e*Pn	Pn	06 04 21.3	+0.4
FNA	Florina	2.61	19	*e*Pn	Pn	06 04 24.2	+2.1
FNA				*e*Sn	Sn	06 04 55.9	+1.4
VLI	Veliai	2.68	126	*e*PG	Pg	06 04 25.5	-6.5
VLI	Veliai	2.68	126	*e*Pg	Pg	06 04 27.5	-4.5
ULC	Ulcinj	3.71	349	⇑*i*Pn	Pn	06 04 38.4	+0.7
ULC				*e*Sn	Sn	06 05 21.8	-0.6
BUM	Brajici-Budva	4.10	346	⇑*i*Pn	Pn	06 04 43.6	+0.4
BUM				*e*Sn	Sn	06 05 30.8	-1.5
TTG	Podgorica	4.17	350	⇑*i*Pn	Pn	06 04 44.9	+0.7
TTG				*e*Sn	Sn	06 05 33.0	-1.0
PVY	Plav	4.27	357	⇑*i*Pn	Pn	06 04 47.2	+1.6
PVY				*e*Sn	Sn	06 05 36.8	+0.2
HCY	Herceg Novi	4.33	343	⇑*i*Pn	Pn	06 04 46.4	0.0
HCY				*e*Sn	Sn	06 05 35.7	-2.2
IVA	Berane	4.55	357	⇑*i*Pn	Pn	06 04 50.8	+1.2
IVA				*e*Sn	Sn	06 05 43.2	-0.4
NKY	Niksic	4.58	349	⇑*i*Pn	Pn	06 04 50.8	+0.8
NKY				*e*Sn	Sn	06 05 42.9	-1.5
BRY	Bratogost	4.75	345	⇑*i*Pn	Pn	06 04 52.3	-0.1
BRY				*e*Sn	Sn	06 05 46.1	-2.5
UPM	Unac-Piva	4.98	349	⇑*i*Pn	Pn	06 04 56.2	+0.6
UPM				*e*Sn	Sn	06 05 52.1	-2.3
PLE	Pljevlja	5.04	353	⇑*i*Pn	Pn	06 04 57.2	+0.7
PLE				*e*Sn	Sn	06 05 54.2	-1.8

*NEIC **06** 06:05:31.0, 29.16S×70.63W, h81km, MD3.2(GUC), After GUC.*
GUC 06 06:05:31.0±0.8**, 29.16S×70.63W, h81**km±8km**, MD3.2, ML3.6, 1C-2D, Central Chile**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
VACH	Vallenar	0.59	349	⇓*i*P	P	06 05 46.4	+0.5
VACH				*i* S	S	06 05 57.2	+0.4
VACH				AMP		06 05 57.8	
	comp=N,4μm,0.1s						
LSCH	La Serena	0.92	216	*i* P	P	06 05 49.4	0.0
LSCH				*i* S	S	06 06 03.1	-0.2
LSCH				AMP		06 06 03.9	
	comp=E,2μm,0.3s						
TLL	Tololo Astrono	1.02	189	⇑*i*P	P	06 05 51.3	+0.8
TLL				*i* S	S	06 06 06.4	+1.1
CPCH	Copiapo	1.81	8	*i* P	P	06 06 00.9	0.0
CPCH				*i* S	S	06 06 23.0	0.0
CPCH				AMP		06 06 28.4	
	comp=E,2μm,0.1s						
CMCH	Combarbala	2.04	189	⇓*i*P	P	06 06 03.9	-0.1
CMCH				*i* S	S	06 06 29.2	+0.9
CMCH				AMP		06 06 38.6	
	comp=E,383nm,0.8s						
FCH	Farellones	4.17	176	*i* P	P	06 06 35.4	+1.7
FCH				*i* S	S	06 07 23.0	+1.6
FCH				*i* S	S	06 07 23.0	+1.6
FCH				AMP		06 07 35.4	
	comp=N,24nm,0.4s						

KRSC 06 06:11:26.2±2.6**, 49.91N×156.22E, ML3.8, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.78	355	*i* P	Pg	06 11 42.0	+0.3
SKR				*i* S	Sg	06 11 55.5	+3.4
ALID	Alaid	1.05	336	*e*P	Pb	06 11 50.5	+3.5
ALID				*e*S	Sb	06 12 05.6	+4.5
PAU	Pauzhetka	1.60	13	*e*P	Pn	06 11 58.0	+2.1
PAU				*e*S	Sb	06 12 18.7	+1.5
PAU				Smax			
	300nm,0.2s						
MIPR	Malaya Ipel'ka	2.39	8	*e*P	Pn	06 12 09.0	+1.8
MIPR				*e*S	Sn	06 12 39.2	+1.5
GRL	Gorelyy	2.89	23	*e*P	Pn	06 12 16.0	+1.7
GRL				*e*S	Sn	06 12 50.9	+0.6
RUS	Russkaya	2.91	29	*e*P	Pn	06 12 15.8	+1.2
RUS				*e*S	Sn	06 12 50.8	0.0
PET	Petropavlovsk	3.47	25	*e*S	Sn	06 13 08.7	+3.7
UGLR	Uglovaya	3.68	25	*e*P	Pn	06 12 28.2	+2.6
UGLR				*e*S	Sn	06 13 11.6	+1.3
KOK	Koryaka	3.71	23	*e*P	Pn	06 12 28.7	+2.8
KOK				*e*S	Sn	06 13 13.7	+2.7
AVH	Avacha	3.71	24	*e*P	Pn	06 12 30.1	+4.1
SMAR	Somma	3.72	25	P	Pn	06 12 26.8	+0.6
SDLR	Sedlovina	3.76	25	*e*P	Pn	06 12 28.4	+1.7
NLC	Nalytchevo	3.80	30	*e*S	Sn	06 13 12.9	-0.5
GNL	Ganaly	3.94	15	*e*P	Pn	06 12 32.3	+3.1
SPN	Mys Shipunski	3.98	35	*e*P	Pn	06 12 31.6	+1.8
SPN				*e*S	Sn	06 13 17.4	-0.5
MKZ	Mys Kozlova	5.75	34	*e*P	Pn	06 12 54.2	-0.7
MKZ				*e*S	Sn	06 14 00.8	-1.8
KMNR	Kamenistaya	6.34	21	P	Pn	06 13 05.6	+2.4
ZLN	Zelenaya	6.71	23	*e*P	Pn	06 13 09.4	+0.9
KBTR	Krutoberegovo	7.45	30	P	Pn	06 13 19.6	+0.7

IDC 06 06:30:03.0±4.0**, 17.20S×178.99W, h567**km±42km**, mb3.1**/3**, mb1 3.4**/3**, mb1mx3.0**/13**, Error ellipse: s-maj=125.0km s-min=20.8km az=149.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
WB2	Warramunga Arr	44.21	259	*e*P	P	06 37 17.4	-6.7
WRA	Warramunga Arr	44.22	259	P	P	06 37 22.9	-1.3
	0.4nm,0.3s,baz=94,slow=7.9,SNR=16						
WRA				PcP	PcP	06 38 54.1	-2.6
	0.2nm,0.4s,baz=90,slow=3.8,SNR=6.2						
ASAR	Alice Springs	44.45	254	P	P	06 37 24.4	-1.6
	4.6nm,0.5s,baz=88,slow=8.4,SNR=62						
ASAR				S	S	06 43 19.4	-1.1
	1.1nm,1.1s,baz=90,slow=16,SNR=4.2						
ILAR	Eielson Array	85.33	13	P	P	06 41 39.6	-1.5
	0.4nm,0.5s,baz=220,slow=5.9,SNR=4.4						
BRTR	Keskin Array B	143.90	315	PKP	PKPdf	06 48 34.9	+0.9
	1.4nm,1.0s,baz=135,slow=4.1,SNR=3.2						
GERES	GERESS Array B	146.79	345	PKPbc	PKPbc	06 48 41.7	+0.8
	1.1nm,0.5s,baz=27,slow=3.0,SNR=6.0						

*IDC **06** 06:47:07.4±48.0, 36.56N×72.31E, h206km±156km, mb3.4/2, mb1 3.6/4, mb1mx3.2/20, Error ellipse: s-maj=891.0km s-min=82.4km az=160.0*
ISC 06 06:47:11.4±1.0**, 37.18N**±0.06×**71.9E**±0.2**, h206**km**, n20,** σ**0.74**/21**, mb3.5**/2**, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
AML	Almayashu	5.13	15	P	P	06 48 28.6	+0.3
	SNR=21						
UCH	Uchtor	5.42	21	P	P	06 48 32.4	+0.4
	SNR=38						
EKS2	Erkin-Say	5.66	14	P	P	06 48 35.2	+0.1
	SNR=17						
THN	Thein Dam	5.66	146	*e*P	P	06 48 36.0	+0.9
	62nm,0.4s						
THN				*e*S	S	06 49 38.1	-2.1
AAK	Ala-Archa	5.79	19	P	P	06 48 36.8	0.0
	SNR=17						
KBK	Karagaybulak	5.94	22	P	P	06 48 40.0	+1.3
	SNR=7.0						
ULHL	Ulahol	6.05	32	P	P	06 48 40.0	-0.2
	SNR=14						
CHMS	Chumysh	6.20	19	P	P	06 48 41.7	-0.4
	SNR=6.0						
TKM2	Tokmak 2	6.39	25	P	P	06 48 44.7	+0.2
	SNR=31						
USP	Ospenovka	6.39	17	P	P	06 48 43.7	-0.9
	SNR=5.5						
MKAR	Makanchi Array	12.30	35	P	P	06 50 00.2	-0.5
	0.4nm,0.3s,baz=217,slow=13,SNR=16						
KOLN	Koldanda	13.59	130	*e*P	P	06 50 17.5	+0.7
	15nm,0.5s						
GKN	Gorkha	14.07	127	*e*P	P	06 50 23.8	+1.0
	46nm,0.6s						
KKN	Kakani	14.63	126	*e*P	P	06 50 29.4	-0.4
	16nm,0.4s						
DMN	Daman	14.64	127	*e*P	P	06 50 30.0	+0.1
	22nm,0.5s						
PKI	Pulchoki	14.86	126	*e*P	P	06 50 33.5	+0.8
	9.9nm,0.5s						
GUN	Gumba	14.94	124	*e*P	P	06 50 33.4	-0.2
	18nm,0.5s						
ZAL	Zalesovo	18.98	24	P	P	06 51 17.8	-1.1
	5.1nm,0.3s,baz=167,slow=6.0,SNR=20						
FINES	FINESS Array B	37.35	325	P	P	06 54 04.8	-0.5
	1.6nm,0.9s,mb3.5,baz=94,slow=21,SNR=2.8						
ARCES	ARCESS Array B	40.81	337	P	P	06 54 34.0	+0.2
	1.9nm,0.8s,mb3.5,baz=108,slow=7.7,SNR=4.1						

*BJI **06** 06:47:19.9, 0.47S×97.86E, h49km, mB4.9, mb5.1, Ms4.5, Msz4.4*
*MOS **06** 06:47:22.0±0.9, 0.30N×97.94E, h24km, mb5.1/7, Error ellipse: s-maj=21.7km s-min=10.0km az=109.1*
*IDC **06** 06:47:24.5±0.5, 0.21N×97.86E, h27km±3km, mb4.4/17, mb1 4.5/18, mb1mx4.4/20, ML4.7/1, MS3.7/3, Ms1 3.7/3, ms1mx3.1/17, Error ellipse: s-maj=23.4km s-min=10.9km az=54.0*
*NEIC **06** 06:47:27.1±2.3, 0.26N×97.97E, h49km±20km, mb4.7/14, Error ellipse: s-maj=17.7km s-min=6.6km az=57.0*
ISC 06 06:47:22.6±0.4**, 0.17N**±0.05×**97.84E**±0.07**, h30**km**,** **h30**km±1.3km**: pP-P, n73,** σ**1.05**/68**, mb4.7**/43**, MS4.1**/8**, 5C-2D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
IPM	Ipoh	5.41	36	⇑*e*P	Pn	06 48 44.2	+0.7
	52nm,0.5s						
SNG	Songkhla	7.49	22	P	Pn	06 49 11.0	-1.7
	310nm,0.9s						
CM31	Chiang Mai Arr	18.20	3	*e*P	P	06 51 34.5	-0.6
	18nm,0.8s						
CMAR	Chiang Mai Arr	18.20	3	P	P	06 51 34.0	-1.1
	1.0nm,0.3s,baz=194,slow=11,SNR=34						
CMAR				LR	LR	06 59 18.3	
	comp=Z,155nm,19.8s,baz=185,slow=39						
KMI	Kunming	25.25	10	⇓*i*P	P	06 52 49.9	+1.9
KMI				AP	pP	06 52 58.6	+2.0
KMI				XP	sP	06 53 02.2	+1.6
KMI				AMB	AMB		
	comp=Z,21nm,0.9s,mb4.7						
KMI				AMB	AMB		
	comp=Z,88nm,4.8s						
KMI				LR	LR		
	comp=N,714nm,17.9s,MS4.3						
KMI				LR	LR		
	comp=E,291nm,14.5s,MS4.3						
KMI				LR	LR		
	comp=Z,832nm,15.0s,MS4.4						
PKI	Pulchoki	29.74	337	*e*P	P	06 53 34.8	+5.9
	comp=Z,9.6nm,0.6s,mb4.7						
GUN	Gumba	29.87	338	*e*P	P	06 53 33.8	+3.8
	comp=Z,43nm,0.7s,mb5.3						
DMN	Daman	29.89	337	*e*P	P	06 53 36.4	+6.2
KKN	Kakani	29.99	337	*e*P	P	06 53 35.0	+3.9
	comp=Z,30nm,0.9s,mb5.0						
LSA	Lhasa	30.05	348	P	P	06 53 33.0	+1.4
GKN	Gorkha	30.43	337	*e*P	P	06 53 34.8	-0.1
	comp=Z,30nm,0.9s,mb5.0						
KOLN	Koldanda	30.65	335	*e*P	P	06 53 37.0	+0.1
	comp=Z,20nm,0.7s,mb5.0						
ENH	Enshi	31.92	19	*e*P	P	06 53 44.7	-3.4
	comp=Z,6.6nm,0.6s,mb4.6						
FITZ	Fitzroy Crossi	32.82	125	*e*P	P	06 53 54.8	-1.1
	comp=Z,2.9nm,0.6s,mb4.4						
FITZ	Fitzroy Crossi	32.82	125	P	P	06 53 54.7	-1.3
	comp=Z,5.1nm,0.8s,mb4.5,baz=161,slow=3.6,SNR=10						
LZH	Lanzhou	36.16	8	*e*P	P	06 54 24.0	-0.5
LZH				AP	pP	06 54 36.0	+2.6
LZH				AMB	AMB		
	comp=Z,42nm,1.6s,mb5.1						
NJ2	Nanjing	37.41	30	*e*P	P	06 54 35.2	+0.1
NJ2				S	S	07 00 21.0	+0.1
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,80nm,4.6s						
NJ2				LR	LR		
	comp=N,570nm,16.5s,MS4.5						
NJ2				LR	LR		
	comp=E,360nm,17.4s,MS4.5						
NJ2				LR	LR		
	comp=Z,450nm,13.5s,MS4.4						
SSE	Sheshan	37.90	34	P	P	06 54 39.9	+0.8
SSE				AP	pP	06 54 49.8	+1.8
SSE				S	S	07 00 30.6	+2.3
SSE				XS		07 00 46.5	
SSE				AMB	AMB		
	comp=Z,25nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,134nm,4.2s						
SSE				LR	LR		
	comp=N,79nm,20.3s,MS3.6						
SSE				LR	LR		
	comp=E,64nm,20.4s,MS3.6						
GTA	Gaotai	39.09	2	*e*P	P	06 54 49.3	+0.2
JOW	Kunigami	39.49	45	P	P	06 54 52.8	+0.3
	comp=E,32nm,0.9s,mb5.1,baz=300,slow=24,SNR=2.9						
WRA	Warramunga Arr	40.96	121	P	P	06 55 03.3	-1.3
	comp=E,5.7nm,0.5s,mb4.5,baz=302,slow=9.0,SNR=82						
WRA				LR	LR	07 14 47.8	
	comp=E,78nm,19.4s,MS3.6,baz=305,slow=40						
WRAB	Tennant Creek	40.96	121	*e*P	P	06 55 04.2	-0.5
	comp=E,13nm,0.6s,mb4.7						
WB2	Warramunga Arr	40.97	121	⇑*i*P	P	06 55 03.8	-0.9
ASPA	Alice Springs	42.27	127	⇑*i*P	P	06 55 15.7	+0.2
ASAR	Alice Springs	42.27	127	P	P	06 55 15.7	+0.2
	comp=E,5.8nm,0.8s,mb4.3,baz=304,slow=7.9,SNR=52						
ASAR				PcP	PcP	06 57 10.2	+0.6
	comp=E,0.8nm,0.8s,baz=315,slow=2.6,SNR=3.9						
HHC	Hu-ho-hao-te	42.36	15	⇑P	P	06 55 17.8	+1.8
HHC				AP	pP	06 55 29.9	+5.0
HHC				XP	sP	06 55 35.8	+7.2
HHC				PCP	PcP	06 57 09.7	+0.1
HHC				SCP		07 00 52.6	
HHC				S	S	07 01 36.6	+1.6
HHC				XS		07 02 02.6	
HHC				SS	SS	07 04 42.3	+3.8
HHC				SCS	ScS	07 05 11.5	-1.8
HHC				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.4						
HHC				AMB	AMB		
	comp=Z,136nm,7.2s						
HHC				LR	LR		
	comp=N,275nm,15.3s,MS4.3						
HHC				LR	LR		
	comp=E,133nm,15.3s,MS4.3						
HHC				LR	LR		
	comp=Z,169nm,14.5s,MS4.1						
BJT	Baijiatuau	43.04	21	*e*P	P	06 55 22.7	+1.2
	comp=Z,19nm,0.7s,mb4.9						
BJI	Beijing	43.06	21	P	P	06 55 22.9	+1.2
BJI				AMB	AMB		
	comp=Z,24nm,0.7s,mb5.0						
WMQ	Urumqi	44.39	350	*e*P	P	06 55 33.4	+1.0
WMQ				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.7						
KS15	Wonju Array Si	46.31	33	*e*P	P	06 55 47.4	-0.3
AAK	Ala-Archa	47.19	337	*e*P	P	06 55 55.2	+0.6
AAK				pmax	pmax		
	comp=Z,9.0nm,2.3s,mb4.3						
SONM	Songino Array	48.05	8	P	P	06 56 02.1	+0.8
	comp=Z,9.4nm,1.0s,mb4.8,baz=191,slow=8.6,SNR=32						
MKAR	Makanchi Array	48.39	346	P	P	06 56 04.6	+0.7
	comp=Z,20nm,0.6s,mb5.3,baz=159,slow=8.7,SNR=150						
MKAR	Makanchi Array	48.39	346	*i* P	P	06 56 04.6	+0.7
MKAR				pmax	pmax		
	comp=Z,14nm,0.6s						
CN2	Changchun	49.93	26	*e*P	P	06 56 15.2	-0.7
CN2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.3						
PMG	Port Moresby	50.01	102	P	P	06 56 16.9	+0.1
	comp=Z,11nm,0.6s,mb5.1,baz=243,slow=0.5,SNR=4.7						
CTA	Charters Tower	51.48	116	P	P	06 56 27.8	-0.2
	comp=Z,3.0nm,0.8s,mb4.3,baz=268,slow=9.1,SNR=4.5						
CTA				LR	LR	07 19 22.6	
	comp=Z,115nm,20.2s,MS3.9,baz=45,slow=37						
CTAO	Charters Tower	51.48	116	*e*P	P	06 56 27.5	-0.4
	comp=Z,3.1nm,0.8s,mb4.3						
STKA	Stephens Creek	52.20	132	P	P	06 56 33.9	+0.6
	comp=Z,5.5nm,0.8s,mb4.5,baz=305,slow=9.4,SNR=7.0						
STKA				pP	pP	06 56 42.5	+0.2
	comp=Z,18nm,1.2s,baz=309,slow=8.4,SNR=6.3						
HIA	Hailar	52.41	18	*e*P	P	06 56 33.7	-0.9
	comp=Z,7.3nm,1.0s,mb4.6						
KURK	Kurchatov	52.94	345	*e*P	P	06 56 38.7	+0.2
KURK	Kurchatov	52.94	345	*e*P	P	06 56 38.6	0.0
	comp=Z,16nm,0.9s,mb5.0						
ZAL	Zalesovo	54.66	351	P	P	06 56 51.0	-0.1
	comp=Z,38nm,1.2s,mb5.3,baz=221,slow=5.6,SNR=45						
ZAL				pP	pP	06 56 59.8	-0.4
	comp=Z,6.7nm,0.5s,baz=228,slow=5.7,SNR=7.6						
ZAL	Zalesovo	54.66	351	*i* P	P	06 56 51.2	+0.1
ZAL				pmax	pmax		
	comp=Z,38nm,1.2s						
NVS	Novosibirsk	55.79	350	*i* P	P	06 56 57.6	-1.7
NVS				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.8						
NVS				pmax	pmax		
	comp=N,17nm,1.5s						
KLR	Kul'dur	56.89	26	*e*P	P	06 57 03.2	-4.0
KLR				MLR	MLR		
	comp=Z,500nm,15.0s,MS4.7						
VOSK	Vostochnaya	56.98	341	P	P	06 57 06.7	-1.1
VOSK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
BVA0	Borovoye Array	57.42	341	*i* P	P	06 57 09.9	-1.1
BRVK	Borovoye	57.49	341	*e*P	P	06 57 10.4	-1.0
	comp=Z,4.5nm,0.7s,mb4.6						
ZRNK	Zerenda	57.83	340	P	P	06 57 12.9	-0.9
ZRNK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.4						
ZRNK	Zerenda	57.83	340	*e*P	P	06 57 12.8	-1.0
	comp=Z,1.8nm,0.5s,mb4.4						
BOD	Bodaibo	58.90	10	*e*P	P	06 57 20.0	-1.2
YSS	Yuzh-Sakhalins	60.84	34	⇑*e*P	P	06 57 34.0	-0.6
YSS				*e*		06 57 47.8	
YSS				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.4						
SVE	Sverdlovsk	63.87	338	⇓*e*P	P	06 57 54.5	-0.2
SOC	Sochi	67.30	318	*e*P	P	06 58 14.7	-2.3
SOC				*e*		06 58 39.6	
SOC				*e*		07 00 40.8	
SOC				*e*S	S	07 07 05.5	-3.2
SOC				*e*		07 08 03.8	
SOC				*e*SS	SS	07 11 26.3	-3.9
SOC				*e*SSS	SSS	07 14 30.5	+2.4
SOC				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.9						
SOC				pmax	pmax		
	comp=N,2.0nm,0.4s						
SOC				pmax	pmax		
	comp=E,2.0nm,0.5s						
SOC				MLR	MLR		
	comp=Z,74nm,17.0s,MS4.0						
SOC				MLR	MLR		
	comp=N,56nm,20.0s,MS4.0						
SOC				MLR	MLR		
	comp=E,60nm,19.0s,MS4.0						
BRTR	Keskin Array B	70.27	312	P	P	06 58 34.6	-0.7
	comp=E,1.2nm,0.6s,mb4.0,baz=131,slow=6.0,SNR=5.0						
BRTR				pP	pP	06 58 44.0	-0.7
	comp=E,1.5nm,0.7s,baz=117,slow=6.5,SNR=3.9						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MAW	Mawson	71.86	193	P	P	06 58 46.3	+1.8
	comp=E,2.0nm,0.8s,mb4.1,baz=12,slow=7.3,SNR=3.9						
MAW				pP	pP	06 58 55.0	+1.2
	comp=E,1.3nm,0.6s,baz=34,slow=9.4,SNR=3.2						
TIXI	Tiksi	74.08	10	eP	P	06 58 57.0	-0.4
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
AKASG	Malin Array Be	76.45	322	P	P	06 59 10.5	-0.9
	comp=Z,1.7nm,0.5s,mb4.2,baz=89,slow=5.4,SNR=12						
AKASG				pP	pP	06 59 18.8	-2.0
	comp=Z,5.5nm,0.8s,baz=88,slow=5.3,SNR=5.9						
FINES	FINESS Array B	81.20	332	P	P	06 59 37.0	+0.2
	comp=Z,2.1nm,0.8s,mb4.1,baz=127,slow=6.9,SNR=6.3						
FINES				pP	pP	06 59 46.3	-0.1
	comp=Z,2.0nm,0.6s,baz=104,slow=7.9,SNR=2.7						
MORC	Moravsky Berou	83.59	320	P	P	06 59 49.5	0.0
ARCES	ARCESS Array B	83.71	340	P	P	06 59 50.5	+0.8
	comp=Z,6.4nm,0.9s,mb4.8,baz=106,slow=4.9,SNR=13						
ARCES				pP	pP	06 59 59.4	+0.1
	comp=Z,2.3nm,0.7s,baz=104,slow=5.0,SNR=3.3						
SBA	Scott Base	85.80	169	P	P	07 00 02.6	+2.6
SBA				e	pP	07 00 10.9	+1.4
GERES	GERESS Array B	86.00	319	P	P	07 00 03.4	+1.8
	comp=Z,0.6nm,0.6s,mb4.0,baz=72,slow=4.2,SNR=5.4						
GERES				pP	pP	07 00 11.6	+0.4
	comp=Z,1.3nm,0.7s,baz=104,slow=5.5,SNR=4.5						
NOA	NORSAR Array B	88.21	331	P	P	07 00 12.4	+0.5
	comp=Z,1.3nm,0.7s,mb4.2,baz=94,slow=4.8,SNR=3.8						
NVAR	Mina Array Bea	129.23	37	PKP	PKPdf	07 06 32.0	-1.8
	comp=Z,0.8nm,0.8s,baz=86,slow=1.7,SNR=5.0						
NVAR				pPKP		07 06 41.3	
	comp=Z,0.2nm,0.4s,baz=270,slow=4.7,SNR=3.5						
PDAR	Pinedale Array	130.68	27	PKP	PKPdf	07 06 33.2	-3.3
	comp=Z,0.5nm,0.8s,SNR=3.9						
PV10	Paradox Valley	134.37	30	PKPdf	PKPdf	07 06 42.9	-0.6
LTX	Lajitas	144.19	33	ePKPdf	PKPdf	07 06 57.4	-4.0
TXAR	Lajitas Array	144.19	33	PKP	PKPdf	07 06 57.3	-4.1
	comp=Z,2.1nm,0.5s,baz=267,slow=0.9,SNR=34						
TXAR				pPKP		07 07 06.8	
	comp=Z,1.0nm,0.5s,baz=196,slow=0.2,SNR=6.5						
CPUP	Villa Florida	144.66	221	PKP	PKPdf	07 06 59.0	-3.3
	comp=Z,1.1nm,0.7s,baz=99,slow=9.3,SNR=3.9						
CPUP				pPKP		07 07 07.1	
	comp=Z,4.9nm,0.7s,baz=134,slow=2.6,SNR=8.9						
CPUP	Villa Florida	144.66	221	ePKPdf	PKPdf	07 06 59.3	-3.0
JCT	Junction City	145.20	27	ePKPdf	PKPdf	07 07 00.0	-3.2

*IDC **06** 06:55:12.5±0.9, 3.39N×128.60E, mb3.8/9, mb1 4.0/9, mb1mx3.9/18, MS3.3/1, Ms1 3.3/1, ms1mx2.7/16, Error ellipse: s-maj=45.0km s-min=16.0km az=73.0*
*NEIC **06** 06:55:14.0±0.5, 3.42N×128.58E, h10km, mb4.3/4, Error ellipse: s-maj=26.6km s-min=8.6km az=74.0*
ISC 06 06:55:15.7±0.7, **3.41N**±0.10×**128.5E**±0.2, **h33km, n14,** σ**0.73**/14, **mb3.9**/13, **MS3.1**/1, **North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.56	187	P	P	07 00 04.0	-0.5
	1.6nm,0.6s,mb3.6,baz=8.1,slow=6.1,SNR=5.8						
FITZ				LR	LR	07 08 18.4	
	comp=Z,68nm,18.5s,MS3.1,baz=299,slow=36						
WRAB	Tennant Creek	23.91	166	eP	P	07 00 28.7	+1.1
	10nm,0.8s,mb4.3						
WRA	Warramunga Arr	23.91	166	P	P	07 00 28.4	+0.7
	1.5nm,0.4s,mb3.8,baz=349,slow=11,SNR=28						
MBWA	Marble Bar	25.88	199	eP	P	07 00 47.0	+0.5
	5.2nm,0.8s,mb4.1						
ASAR	Alice Springs	27.43	169	P	P	07 01 00.1	-0.7
	0.4nm,0.6s,mb3.1,baz=356,slow=7.4,SNR=6.6						
CMAR	Chiang Mai Arr	32.53	300	P	P	07 01 46.3	+0.1
	1.0nm,0.4s,mb4.1,baz=104,slow=6.4,SNR=5.5						
STKA	Stephens Creek	37.25	161	P	P	07 02 25.4	-0.9
	1.9nm,0.9s,mb3.9,baz=331,slow=13,SNR=3.1						
SONM	Songino Array	48.17	340	P	P	07 03 55.4	+0.5
	0.4nm,0.8s,mb3.5,baz=153,slow=6.4,SNR=2.9						
MKAR	Makanchi Array	58.81	325	P	P	07 05 14.1	+0.8
	2.6nm,0.8s,mb4.3,baz=124,slow=7.5,SNR=11						
KURK	Kurchatov	62.95	327	eP	P	07 05 41.3	-0.1
	2.3nm,0.8s,mb4.4						
BRVK	Borovoye	68.61	327	P	P	07 06 15.6	-1.9
ZRNK	Zerenda	69.27	326	eP	P	07 06 21.7	+0.1
	1.4nm,0.7s,mb4.0						
MAW	Mawson	84.06	201	P	P	07 07 44.0	-0.1
	0.8nm,0.8s,mb3.9,baz=58,slow=10,SNR=1.9						
ILAR	Eielson Array	84.64	25	P	P	07 07 47.2	+0.2
	0.8nm,1.1s,mb3.8,baz=260,slow=5.5,SNR=3.2						

*IDC **06** 07:02:33.5±0.7, 36.89S×78.49E, mb4.2/14, mb1 4.3/14, mb1mx4.3/16, MS4.4/10, Ms1 4.4/10, ms1mx4.4/12, Error ellipse: s-maj=25.0km s-min=16.6km az=178.0*
*NEIC **06** 07:02:35.4±0.4, 36.91S×78.49E, h10km, mb4.7/9, MS4.3/8, Error ellipse: s-maj=12.2km s-min=9.8km az=175.0*
ISC 06 07:02:33.5±0.4, **36.94S**±0.09×**78.49E**±0.09, **h10km, n33,** σ**0.95**/26, **mb4.4**/21, **MS4.4**/18, **Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	Narrogin (SRO)	31.87	94	LR	LR	07 18 59.5	
	comp=Z,2μm,20.3s,MS4.7,baz=77,slow=31						
MAW	Mawson	31.96	191	P	P	07 09 01.2	-0.1
	1.9nm,0.8s,mb4.0,baz=27,slow=12,SNR=3.3						
MAW				LR	LR	07 19 38.1	
	comp=Z,1μm,18.3s,MS4.6,baz=24,slow=32						
BOSA	Boshof	45.03	265	eP	P	07 10 50.8	-0.3
	8.5nm,1.0s,mb4.5						
BOSA				LR	LR		
	comp=Z,273nm,19.0s,MS4.2						
FITZ	Fitzroy Crossi	45.33	79	P	P	07 10 52.2	-1.4
	comp=Z,1.3nm,0.8s,mb3.8,baz=215,slow=11,SNR=2.1						
SUR	Sutherland	47.05	258	P	P	07 11 05.8	-1.2
	comp=Z,8.1nm,0.8s,mb4.7,baz=97,slow=7.3,SNR=4.0						
SUR	Sutherland	47.05	258	eP	P	07 11 07.1	+0.1
	comp=Z,33nm,1.3s,mb5.1						
ASAR	Alice Springs	49.02	91	P	P	07 11 22.4	0.0
	comp=Z,3.1nm,1.0s,mb4.3,baz=240,slow=7.3,SNR=9.6						
ASAR				LR	LR	07 29 30.1	
	comp=Z,574nm,18.8s,MS4.6,baz=248,slow=33						
LSZ	Lusaka	49.41	282	eP	P	07 11 25.0	-0.6
	comp=Z,7.4nm,1.0s,mb4.7						
WRA	Warramunga Arr	51.24	87	P	P	07 11 39.2	-0.3
	comp=Z,4.9nm,0.9s,mb4.4,baz=238,slow=7.5,SNR=23						
WRA				LR	LR	07 31 21.4	
	comp=Z,716nm,18.6s,MS4.7,baz=250,slow=34						
WRA	Warramunga Arr	51.24	87	P	P	07 11 39.2	-0.3
WRA				LR	LR	07 31 21.4	
WB2	Warramunga Arr	51.25	87	eP	P	07 11 39.9	+0.3
STKA	Stephens Creek	51.48	104	P	P	07 11 41.0	-0.2
	comp=Z,2.9nm,0.8s,mb4.2,baz=294,slow=4.4,SNR=4.8						
STKA				LR	LR	07 29 31.6	
	comp=Z,632nm,20.1s,MS4.6,baz=209,slow=31						
STKA	Stephens Creek	51.48	104	P	P	07 11 41.0	-0.2
STKA				LR	LR	07 29 31.6	
KMBO	Kilima Mbogo	52.11	303	P	P	07 11 46.6	+0.4
	comp=Z,0.8nm,0.6s,mb3.9,baz=230,slow=24,SNR=4.1						
KMBO				LR	LR	07 31 04.0	
	comp=Z,100nm,18.4s,MS3.9,baz=101,slow=33						
SNAA	Sanae	52.71	203	P	P	07 11 49.7	-0.2
	comp=Z,0.8nm,1.0s,mb3.6,baz=98,slow=6.5,SNR=5.5						
QSPA	South Pole Qui	53.22	180	eP	P	07 11 53.9	+0.3
	comp=Z,9.4nm,1.0s,mb4.7						
QSPA				LR	LR		
	comp=Z,1μm,22.0s,MS4.9						
SBA	Scott Base	53.85	165	P	P	07 12 00.2	+2.0
	comp=Z,4.2nm,1.1s,mb4.3						
SBA				LR	LR		
	comp=Z,479nm,19.0s,MS4.6						
TSUM	Tsumeb	55.68	271	P	P	07 12 11.6	-0.8
	comp=Z,5.3nm,0.8s,mb4.6,baz=108,slow=7.3,SNR=13						
MBAR	Mbarara	56.98	298	PFAKE		07 12 30.0	+8.2
MBAR				LR	LR		
	comp=Z,93nm,20.0s,MS3.9						
CMAR	Chiang Mai Arr	58.38	23	P	P	07 12 33.0	+1.5
	comp=Z,1.1nm,0.3s,mb4.3,baz=198,slow=6.4,SNR=4.8						
CMAR				LR	LR	07 34 04.3	
	comp=Z,158nm,19.0s,MS4.2,baz=205,slow=32						
CTA	Charters Tower	60.71	94	P	P	07 12 47.4	-0.1
	comp=Z,2.6nm,0.7s,mb4.5,baz=222,slow=8.1,SNR=3.0						
CTAO	Charters Tower	60.71	94	P	P	07 12 46.5	-1.1
	comp=Z,1.9nm,0.7s,mb4.3						
CTAO				LR	LR		
	comp=Z,1μm,19.0s,MS5.0						
ENH	Enshi	72.90	28	P	P	07 14 03.9	-0.8
	comp=Z,4.6nm,0.6s,mb4.6						
AAK	Ala-Archa	79.28	357	eP	P	07 14 39.8	-0.6
	comp=Z,13nm,1.3s,mb4.7						
AAK				LR	LR		
	comp=Z,109nm,21.0s,MS4.2						
MKAR	Makanchi Array	83.42	3	P	P	07 15 00.9	-1.2
	comp=Z,3.4nm,0.8s,mb4.5,baz=180,slow=6.1,SNR=16						
MKAR				LR	LR	07 49 37.0	
	comp=Z,301nm,21.1s,MS4.6,baz=191,slow=34						
BRTR	Keskin Array B	86.72	327	P	P	07 15 21.0	+2.3
	comp=Z,3.6nm,1.1s,mb4.5,baz=90,slow=1.2,SNR=5.0						
BRTR				LR	LR	07 52 21.5	
	comp=Z,71nm,19.4s,MS4.1,baz=315,slow=34						
KURK	Kurchatov	87.28	0	eP	P	07 15 22.7	+1.6
	comp=Z,22nm,1.5s,mb5.2						
KURK				LR	LR		
	comp=Z,85nm,21.0s,MS4.1						
SONM	Songino Array	88.00	18	P	P	07 15 24.9	+0.3
	comp=Z,0.5nm,0.8s,mb3.8,baz=225,slow=2.0,SNR=4.8						
DBIC	Dimbokro	88.67	279	LR	LR	07 51 46.7	
	comp=Z,283nm,19.4s,MS4.7,baz=96,slow=33						
BRVK	Borovoye	89.91	355	PFAKE		07 15 50.0	+16
BRVK				LR	LR		
	comp=Z,64nm,19.0s,MS4.1						
NVAR	Mina Array Bea	166.61	79	PKPab	PKPab	07 23 48.4	+5.3
	comp=Z,0.3nm,0.7s,baz=248,slow=4.9,SNR=2.4						
PDAR	Pinedale Array	171.51	44	PKPab	PKPab	07 24 08.9	+4.4
	comp=Z,0.7nm,1.1s,baz=342,slow=4.7,SNR=4.6						
TXAR	Lajitas Array	172.21	166	PKP	PKPdf	07 22 45.8	+0.4
	comp=Z,0.9nm,1.3s,baz=207,slow=2.0,SNR=2.4						

*SOF **06** 07:18:38.5, 41.30N×24.43E, h8km, MD2.7*
*THE **06** 07:18:39.2, 41.26N×24.48E, h1km, ML2.7*
*CSEM **06** 07:18:39.0±0.1, 41.31N×24.43E, h5km, ML2.7, Error ellipse: s-maj=4.8km s-min=2.8km az=130.0*
ISC 06 07:18:38.7±0.5, **41.27N**±0.04×**24.43E**±0.04, **h5km, n14,** σ**0.88**/18, **1C, Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RZN	Rozhen	0.47	27	⇑iPg	Pg	07 18 48.5	+0.4
MMB	Musomiste	0.62	301	i Pg	Pg	07 18 50.0	-1.1
SRS	Serrai	0.65	257	ePg	Pg	07 18 51.9	+0.1
SRS				eSg	Sg	07 19 01.7	+1.2
SRS	Serrai	0.65	257	ePg	Pg	07 18 51.8	0.0
SRS				eSg	Sg	07 19 01.7	+1.2
KDZ	Kurdzhali	0.83	63	i Pg	Pg	07 18 53.8	-1.5
PLD	Plovdiv	0.86	14	i Pg	Pg	07 18 56.0	+0.2
SOH	Sokhos	0.93	242	ePg	Pg	07 18 56.3	-1.0
OUR	Ouranopolis	1.00	200	ePg	Pg	07 18 58.0	-0.6
OUR				eSg	Sg	07 19 12.2	+0.3
KKB	Krupnik	1.18	301	i P	Pb	07 19 00.3	-0.8
ALN	Alexandroupoli	1.27	107	ePb	Pb	07 19 02.8	-0.1
ALN				eSb	Sb	07 19 19.9	+0.6
PGB	Panagyurishte	1.29	351	i P	Pb	07 19 02.5	-0.6
GRG	Griva	1.57	259	ePb	Pb	07 19 08.0	+0.2
VTS	Vitosha	1.60	326	i P	Pn	07 19 08.7	+0.8
PVL	Pavlikeni	2.06	19	P	Pn	07 19 16.5	+2.2

*NEIC **06** 07:28:52.4, 39.88S×173.81E, h65km, ML3.8(WEL), After WEL.*
NEIC Felt at Hawera.
WEL 06 07:28:53.1±0.2, **39.89S**×**173.87E, h56km**±3km, **ML3.8**/7, **3C-1D, Error ellipse: s-maj=1.6km s-min=0.8km az=90.0, Off west coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRZ	Ngariki Road	0.56	5	P	P	07 29 05.2	-0.2
NRZ	Ngariki Road	0.56	5	⇓PN	P	07 29 05.2	-0.3
DFE	Dawson Falls	0.59	18	P	P	07 29 05.6	-0.2
DFE	Dawson Falls	0.59	18	⇑PN	P	07 29 05.6	-0.2
NWEZ	Newall Road	0.61	360	P	P	07 29 06.1	0.0
NWEZ	Newall Road	0.61	360	⇑PN	P	07 29 06.1	0.0
NEZ	North Egmont	0.64	16	PN	P	07 29 06.1	-0.3
PKE	Pukeiti	0.70	7	P	P	07 29 07.0	-0.2
PKE				S	S	07 29 17.6	-0.1
PKE	Pukeiti	0.70	7	⇑PN	P	07 29 07.0	-0.2
PKE				SN	S	07 29 17.6	-0.1
RAEZ	Rainy Point	0.72	34	ePN	P	07 29 06.5	-1.0
WAZ	Wanganui	0.87	81	P	P	07 29 08.5	-0.9
WAZ	Wanganui	0.87	81	PN	P	07 29 08.5	-0.9
WAZ				SN	S	07 29 21.7	+0.2
VRZ	Vera Road	1.03	42	P	P	07 29 11.1	-0.5
VRZ	Vera Road	1.03	42	PN	P	07 29 11.1	-0.5
VRZ				SN	S	07 29 24.7	-0.6
KIW	Kapiti Island	1.25	141	P	P	07 29 13.6	-1.2
KIW	Kapiti Island	1.25	141	PN	P	07 29 13.6	-1.1
KIW				SN	S	07 29 28.4	-2.4
NNZ	Nelson	1.38	196	P	P	07 29 15.6	-1.0
NNZ	Nelson	1.38	196	PN	P	07 29 15.6	-1.0
QRZ	Quartz Range	1.39	227	P	P	07 29 14.5	-2.2
QRZ	Quartz Range	1.39	227	ePN	P	07 29 14.5	-2.3
QRZ				SN	S	07 29 31.8	-2.4
DRZ	Dome Shelter	1.45	65	P	P	07 29 17.2	-0.3
DRZ	Dome Shelter	1.45	65	PN	P	07 29 17.2	-0.3
WNVZ	Wahianoa	1.45	68	P	P	07 29 16.9	-0.6
WNVZ				S	S	07 29 33.6	-2.0
WNVZ	Wahianoa	1.45	68	PN	P	07 29 16.9	-0.7
WNVZ				SN	S	07 29 34.1	-1.5
TWVZ	Taurewa	1.46	56	P	P	07 29 16.6	-1.1
TWVZ	Taurewa	1.46	56	PN	P	07 29 16.7	-1.1
TWVZ				SN	S	07 29 33.9	-2.1
WPVZ	Whakapapa	1.46	63	P	P	07 29 16.8	-1.0
WPVZ				S	S	07 29 34.9	-1.1
WPVZ	Whakapapa	1.46	63	PN	P	07 29 16.8	-1.0
WPVZ				SN	S	07 29 34.9	-1.1
CNZ	Chateau	1.47	63	P	P	07 29 16.8	-1.0
CNZ	Chateau	1.47	63	ePN	P	07 29 16.8	-1.1
MRW	Makara Radio	1.48	155	P	P	07 29 17.2	-0.8
MRW	Makara Radio	1.48	155	ePN	P	07 29 17.2	-0.8
MRW				SN	S	07 29 34.4	-2.0
TUVZ	Tukino	1.51	66	PN	P	07 29 18.1	-0.3
TUVZ				SN	S	07 29 35.9	-1.2
NGZ	Ngauruhoe	1.52	62	P	P	07 29 18.0	-0.5
NGZ	Ngauruhoe	1.52	62	PN	P	07 29 17.9	-0.6
MRZ	Mangatainoka R	1.52	121	P	P	07 29 17.8	-0.7
MRZ				S	S	07 29 35.9	-1.4
MRZ	Mangatainoka R	1.52	121	PN	P	07 29 17.8	-0.7
MRZ				SN	S	07 29 35.9	-1.4
CAW	Cannon Point	1.52	144	P	P	07 29 17.7	-0.9
CAW	Cannon Point	1.52	144	PN	P	07 29 17.7	-0.9
CAW				SN	S	07 29 35.1	-2.3
MOVZ	Moawhango	1.53	72	P	P	07 29 17.3	-1.4
MOVZ				S	S	07 29 35.2	-2.4
MOVZ	Moawhango	1.53	72	ePN	P	07 29 17.3	-1.3
MOVZ				SN	S	07 29 35.2	-2.4
WTVZ	West Tongariro	1.54	60	P	P	07 29 18.2	-0.6
WTVZ	West Tongariro	1.54	60	PN	P	07 29 18.0	-0.8
TUWZ	Tuamarina	1.54	178	PN	P	07 29 17.8	-1.0
WEL	Wellington	1.55	154	P	P	07 29 18.9	-0.1
WEL	Wellington	1.55	154	PN	P	07 29 18.9	0.0
MGZ	Maungaku	1.57	56	P	P	07 29 18.2	-1.0
MGZ	Maungaku	1.57	56	PN	P	07 29 18.2	-1.0
HIZ	Hauiti	1.57	29	eP	P	07 29 18.3	-1.0
HIZ	Hauiti	1.57	29	PN	P	07 29 18.1	-1.2
HIZ				SN	S	07 29 36.5	-2.1
KAVZ	Karewarewa	1.58	61	P	P	07 29 18.4	-1.0
KAVZ	Karewarewa	1.58	61	ePN	P	07 29 18.4	-1.0
TSZ	Takapari Road	1.61	97	P	P	07 29 19.1	-0.7
TSZ	Takapari Road	1.61	97	PN	P	07 29 19.1	-0.7
TSZ				SN	S	07 29 38.9	-0.7
KATZ	Kakaramea	1.68	58	P	P	07 29 19.8	-1.0
KATZ	Kakaramea	1.68	58	PN	P	07 29 19.8	-0.9
BHW	Baring Head	1.70	154	PN	P	07 29 20.9	-0.1
MTW	Mount Morrison	1.77	136	P	P	07 29 21.9	-0.2
MTW	Mount Morrison	1.77	136	PN	P	07 29 21.9	-0.2
MTW				SN	S	07 29 44.2	+0.8
RITZ	Rihia Road	1.79	60	PN	P	07 29 22.9	+0.6
RATZ	Rangitukua	1.79	56	P	P	07 29 21.9	-0.4
RATZ	Rangitukua	1.79	56	ePN	P	07 29 21.9	-0.4
BSWZ	Blackbirch Sta	1.82	180	P	P	07 29 22.3	-0.4
BSWZ	Blackbirch Sta	1.82	180	ePN	P	07 29 22.3	-0.4
MSWZ	Moikau Station	1.85	146	P	P	07 29 23.0	-0.1
MSWZ	Moikau Station	1.85	146	ePN	P	07 29 22.8	-0.3
WATZ	Wairara	1.86	51	P	P	07 29 22.6	-0.7
WATZ	Wairara	1.86	51	ePN	P	07 29 22.6	-0.7
PAWZ	Paruwai Farm	1.90	142	ePN	P	07 29 23.4	-0.4
BFZ	Birch Farm	1.98	114	ePN	P	07 29 26.0	+1.1
THZ	Tophouse	2.01	201	eP	P	07 29 25.0	-0.3
THZ	Tophouse	2.01	201	PN	P	07 29 24.5	-0.8
BKZ	Black Stump Fm	2.15	71	P	P	07 29 26.3	-1.1
BKZ	Black Stump Fm	2.15	71	ePN	P	07 29 24.3	-3.0
PWZ	Pawanui	2.30	94	ePN	P	07 29 29.8	+0.3
DSZ	Denniston Nort	2.43	220	P	P	07 29 30.2	-1.1
DSZ	Denniston Nort	2.43	220	PN	P	07 29 30.2	-1.1
TOZ	Tahuroa Road	2.50	31	ePN	P	07 29 31.3	-1.1
KHZ	Kahutara	2.54	186	eP	P	07 29 32.7	-0.1
KHZ	Kahutara	2.54	186	ePN	P	07 29 31.4	-1.4
LTZ	Lake Taylor	3.13	202	eP	P	07 29 40.7	-0.5
LTZ	Lake Taylor	3.13	202	PN	P	07 29 40.5	-0.8
MWZ	Matawai	3.24	63	ePN	P	07 29 39.6	-3.2
KUZ	Kuaotunu	3.46	25	eP	P	07 29 43.6	-2.3
KUZ	Kuaotunu	3.46	25	PN	P	07 29 43.6	-2.2
MQZ	McQueen's Vall	3.92	193	eP	P	07 29 49.5	-2.9
MQZ	McQueen's Vall	3.92	193	PN	P	07 29 49.5	-2.9
WVZ	Waitaha Valley	3.96	215	ePN	P	07 29 50.6	-2.3
WCZ	Waipu Caves	3.96	6	ePN	P	07 29 51.9	-1.0
JCZ	Jackson Bay	5.66	221	ePN	P	07 30 14.1	-2.4

*IDC **06** 07:45:09.7±64.0, 23.08S×174.95W, h326km±185km, mb3.5/3, mb1 3.6/3, mb1mx3.3/13, Error ellipse: s-maj=872.0km s-min=125.0km az=85.0*
ISC 06 07:45:23.3±5.6, **23.9S**±0.9×**177.2W**±0.7, **h300km, n8,** σ**0.39**/8, **mb3.6**/5, **2C, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	37.08	248	P	P	07 52 07.1	+0.2
	0.6nm,0.3s,mb3.5,baz=102,slow=10,SNR=8.2						
ASAR	Alice Springs	44.55	260	P	P	07 53 07.6	-0.1
	1.0nm,0.4s,mb3.4,baz=87,slow=7.1,SNR=24						
ASPA	Alice Springs	44.55	260	⇑iP	P	07 53 07.7	0.0
WB2	Warramunga Arr	44.94	265	eP	P	07 53 10.5	-0.4
WRA	Warramunga Arr	44.95	265	P	P	07 53 10.5	-0.4
	2.4nm,0.4s,mb3.8,baz=99,slow=7.0,SNR=101						
WRA				ScP		07 57 57.8	
	1.0nm,0.9s,baz=105,slow=3.8,SNR=4.8						
KAKA	Kakadu	48.90	274	eP	P	07 53 46.4	+4.9
	1.7nm,0.3s,mb3.9						
FITZ	Fitzroy Crossi	53.37	265	eP	P	07 54 15.3	+0.8
	1.3nm,0.6s,mb3.4						
SYO	Syowa Base	83.55	193	⇑P	P	07 57 18.4	-0.1

*IDC **06** 07:59:00.7±1.0, 36.84S×78.33E, mb3.8/7, mb1 4.0/7, mb1mx3.8/13, MS4.1/8, Ms1 4.1/8, ms1mx3.8/13, Error ellipse: s-maj=36.1km s-min=25.0km az=162.0*
*NEIC **06** 07:59:02.3±0.6, 36.81S×78.32E, h10km, mb4.6/2, MS4.5/1, Error ellipse: s-maj=19.3km s-min=15.6km az=129.0*
ISC 06 07:59:00.4±0.7, **36.8S**±0.1×**78.3E**±0.2, **h10km, n14,** σ**0.53**/10, **mb4.0**/9, **MS4.2**/9, **Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	Narrogin (SRO)	32.02	95	LR	LR	08 15 25.3	
	comp=Z,548nm,20.0s,MS4.2,baz=113,slow=31						
MAW	Mawson	32.06	191	LR	LR	08 16 04.9	
	comp=Z,414nm,18.3s,MS4.2,baz=48,slow=32						
ASAR	Alice Springs	49.16	91	P	P	08 07 50.6	+0.1
	0.4nm,0.8s,mb3.5,baz=235,slow=7.7,SNR=4.1						
ASAR				LR	LR	08 25 56.7	
	comp=Z,197nm,19.6s,MS4.1,baz=192,slow=33						
WRA	Warramunga Arr	51.37	87	P	P	08 08 07.1	-0.4
	1.5nm,0.8s,mb4.0,baz=237,slow=7.6,SNR=10						
WRA				LR	LR	08 27 38.1	
	comp=Z,212nm,19.5s,MS4.2,baz=245,slow=33						
WRA	Warramunga Arr	51.37	87	P	P	08 08 07.1	-0.4
WRA				LR	LR	08 27 38.1	
STKA	Stephens Creek	51.64	104	LR	LR	08 26 17.6	
	comp=Z,200nm,18.8s,MS4.2,baz=207,slow=32						
SNAA	Sanae	52.77	203	P	P	08 08 16.7	-0.6
	1.6nm,1.2s,mb3.8,baz=172,slow=7.6,SNR=3.0						
QSPA	South Pole Qui	53.34	180	P	P	08 08 22.1	+0.6
	13nm,1.4s,mb4.7						
QSPA				LR	LR		
	comp=Z,430nm,21.8s,MS4.5						
TSUM	Tsumeb	55.54	271	P	P	08 08 38.3	0.0
	comp=Z,0.7nm,0.3s,mb4.1,baz=124,slow=5.6,SNR=3.5						
CMAR	Chiang Mai Arr	58.32	23	P	P	08 08 58.2	+0.2
	comp=Z,0.5nm,0.3s,mb4.0,baz=207,slow=4.0,SNR=3.5						
CMAR				LR	LR	08 30 11.8	
	comp=Z,59nm,18.9s,MS3.7,baz=309,slow=32						
MKAR	Makanchi Array	83.30	3	P	P	08 11 27.6	-0.8
	comp=Z,1.3nm,0.9s,mb4.0,baz=166,slow=5.9,SNR=3.4						
MKAR				LR	LR	08 46 12.6	
	comp=Z,111nm,18.1s,MS4.3,baz=304,slow=34						
KURK	Kurchatov	87.15	0	eP	P	08 11 48.3	+0.8
	comp=Z,3.6nm,1.1s,mb4.5						
SONM	Songino Array	87.92	19	P	P	08 11 57.1	+5.9
	comp=Z,0.1nm,0.4s,mb3.4,baz=194,slow=5.9,SNR=2.0						
DBIC	Dimbokro	88.52	279	LR	LR	08 48 02.8	
	comp=Z,110nm,21.1s,MS4.2,baz=196,slow=33						

*IDC **06** 08:00:19.3±13.0, 16.73S×168.33E, mb3.8/5, mb1 4.0/5, mb1mx3.8/15, Error ellipse: s-maj=224.0km s-min=108.7km az=63.0*
ISC 06 08:00:32.7±0.9, **17.29S**±0.07×**167.20E**±0.06, **h33km, n8,** σ**0.56**/11, **mb3.7**/4, **1C, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	Butte a Klehm	1.06	111	⇑iP	P	08 00 51.0	-0.3
BKM				S	S	08 01 05.2	+0.2
DZM	Mont Dzumac	4.81	188	eP	P	08 01 44.5	-0.2
DZM				eS	S	08 02 39.3	-0.7
NOUC	Port Laguerre	4.86	190	eP	P	08 01 46.3	+0.9
NOUC				eS	S	08 02 41.6	+0.3
CTA	Charters Tower	20.04	259	P	P	08 05 06.9	+1.1
	2.4nm,0.9s,baz=82,slow=7.1,SNR=2.4						
STKA	Stephens Creek	27.35	233	P	P	08 06 16.9	0.0
	2.3nm,0.8s,mb3.8,baz=83,slow=8.1,SNR=4.5						
WRA	Warramunga Arr	31.23	260	P	P	08 06 51.0	-0.6
	0.3nm,0.6s,mb3.3,baz=83,slow=6.2,SNR=7.7						
ASAR	Alice Springs	31.78	253	P	P	08 06 55.9	-0.6
	0.6nm,0.5s,mb3.7,baz=78,slow=8.7,SNR=13						
FITZ	Fitzroy Crossi	39.55	262	P	P	08 08 02.4	0.0
	1.7nm,0.6s,mb4.0,baz=77,slow=2.6,SNR=3.1						

*NEIC **06** 08:27:09.3±0.6, 0.12N×97.79E, h10km, mb4.4/2, Error ellipse: s-maj=20.5km s-min=9.0km az=66.0*
*IDC **06** 08:27:12.8±1.1, 0.16N×97.87E, h29km±4km, mb4.0/7, mb1 4.1/8, mb1mx3.9/17, ML4.2/1, MS3.3/3, Ms1 3.4/3, ms1mx3.1/19, Error ellipse: s-maj=52.8km s-min=13.3km az=59.0*
ISC 06 08:27:10.0±0.9, **0.16N**±0.10×**97.8E**±0.2, **h29km, h29km**±.6km**:pP-P, n22,** σ**0.89**/15, **mb4.2**/9, **MS3.4**/2, **1D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	Ipoh	5.45	36	⇓eP	Pn	08 28 32.5	+1.0
CM31	Chiang Mai Arr	18.22	4	P	P	08 31 21.1	-1.7
CMAR	Chiang Mai Arr	18.22	4	P	P	08 31 21.9	-0.8
	0.3nm,0.3s,baz=193,slow=11,SNR=16						
CMAR				LR	LR	08 39 23.2	
	comp=Z,71nm,18.2s,baz=185,slow=40						
FITZ	Fitzroy Crossi	32.85	125	P	P	08 33 42.5	-1.3
	3.8nm,0.9s,mb4.3,baz=358,slow=5.0,SNR=4.4						
WRA	Warramunga Arr	40.99	121	P	P	08 34 52.2	-0.2
	2.7nm,0.7s,mb4.0,baz=302,slow=9.0,SNR=36						
WRA				LR	LR	08 52 22.6	
	comp=Z,29nm,18.4s,MS3.2,baz=55,slow=37						
WRAB	Tennant Creek	41.00	121	eP	P	08 34 52.0	-0.5
	3.9nm,0.6s,mb4.2						
WB2	Warramunga Arr	41.00	121	eP	P	08 34 52.3	-0.2
ASAR	Alice Springs	42.30	127	P	P	08 35 03.6	+0.4
	2.3nm,0.9s,mb3.8,baz=297,slow=7.7,SNR=20						
ASAR				pP	pP	08 35 12.8	+1.0
	0.8nm,0.6s,baz=295,slow=8.2,SNR=4.5						
SONM	Songino Array	48.07	8	P	P	08 35 50.2	+1.2
	2.4nm,0.9s,mb4.2,baz=193,slow=7.0,SNR=12						
SONM				pP	pP	08 35 58.8	+1.1
	1.1nm,0.6s,baz=190,slow=8.8,SNR=4.7						
MKAR	Makanchi Array	48.38	346	P	P	08 35 52.7	+1.3
	6.1nm,0.6s,mb4.8,baz=159,slow=9.0,SNR=42						
MKAR				pP	pP	08 36 01.3	+1.2
	3.1nm,0.7s,baz=166,slow=8.3,SNR=5.1						
CTA	Charters Tower	51.52	116	LR	LR	08 59 30.7	
	comp=Z,61nm,20.5s,MS3.6,baz=224,slow=38						

STKA	Stephens Creek	52.23	132	P	P	08 36 22.0	+1.0
	0.8nm,0.6s,mb3.8,baz=303,slow=10,SNR=3.1						
STKA				pP	pP	08 36 30.4	+0.7
	4.6nm,1.1s,baz=290,slow=6.9,SNR=3.4						
STKA	Stephens Creek	52.23	132	P	P	08 36 22.0	+1.0
STKA				pP	pP	08 36 30.4	+0.7
KURK	Kurchatov	52.94	345	eP	P	08 36 26.6	+0.5
	4.5nm,0.8s,mb4.5						
BVAR	Borovoye Array	57.42	341	P	P	08 36 58.2	-0.3
	1.5nm,0.7s,mb4.1,baz=124,slow=11,SNR=7.0						
BVAR				pP	pP	08 37 07.0	-0.3
	1.6nm,0.7s,baz=135,slow=8.4,SNR=5.1						
ZRNK	Zerenda	57.82	340	P	P	08 37 00.7	-0.6
GERES	GERESS Array B	85.98	319	pP	pP	08 40 00.2	+2.0
	0.3nm,0.2s,baz=98,slow=9.4,SNR=1.6						
PDAR	Pinedale Array	130.71	27	PKP	PKPdf	08 46 22.3	-1.6
	0.4nm,0.8s,baz=225,slow=1.3,SNR=3.0						
TXAR	Lajitas Array	144.22	33	PKP	PKPdf	08 46 45.5	-3.4
	0.7nm,0.6s,baz=198,slow=0.4,SNR=15						
TXAR				pPKP		08 46 56.2	
	0.4nm,0.6s,baz=255,slow=1.1,SNR=4.4						
TXAR	Lajitas Array	144.22	33	PKP	PKPdf	08 46 45.5	-3.4
TXAR				pPKP		08 46 56.2	
CPUP	Villa Florida	144.62	221	PKP	PKPdf	08 46 47.2	-2.5
	0.6nm,0.5s,baz=202,slow=12,SNR=2.7						
CPUP				pPKP		08 46 55.6	
	1.9nm,0.7s,baz=165,slow=4.5,SNR=3.7						
JCT	Junction City	145.24	27	ePKPdf	PKPdf	08 46 48.1	-2.5

*NEIC **06** 08:48:01.4±1.0, 7.00S×128.48E, h10km, mb4.1/1, Error ellipse: s-maj=38.1km s-min=12.8km az=69.0*
*IDC **06** 08:48:09.4±10.0, 7.34S×128.20E, h76km±101km, mb3.4/2, mb1 4.0/5, mb1mx3.7/12, ML4.2/3, Error ellipse: s-maj=141.0km s-min=33.2km az=53.0*
ISC 06 08:48:18.2±1.1**, 7.96S**±0.08×**128.2E**±0.1**, h200km, n7, σ0.78**/11**, mb3.5**/3**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.40	194	P	P	08 50 43.8	+0.3
	1.6nm,0.3s,baz=12,slow=11,SNR=25						
FITZ				S	S	08 52 37.1	-0.2
	3.4nm,0.3s,baz=333,slow=2.8,SNR=7.4						
WRAB	Tennant Creek	13.30	154	eP	P	08 51 20.5	+0.1
	9.8nm,0.9s						
WRAB				eS	S	08 53 42.3	-1.8
WRA	Warramunga Arr	13.30	154	P	P	08 51 21.2	+0.8
	1.4nm,0.3s,baz=328,slow=13,SNR=100						
WRA				S	S	08 53 44.9	+0.7
	1.8nm,0.3s,baz=336,slow=23,SNR=9.0						
ASAR	Alice Springs	16.54	161	P	P	08 52 05.7	+5.3
	0.8nm,0.3s,baz=342,slow=10,SNR=62						
ASAR				S	S	08 55 04.2	+7.2
	0.4nm,0.3s,baz=320,slow=15,SNR=7.6						
STKA	Stephens Creek	26.86	154	P	P	08 53 47.8	+5.4
	1.0nm,0.5s,mb3.7,baz=334,slow=11,SNR=3.7						
MKAR	Makanchi Array	68.08	328	P	P	08 58 57.7	-0.5
	0.3nm,0.5s,mb3.2,baz=128,slow=8.6,SNR=3.3						
ZRNK	Zerenda	78.63	328	eP	P	08 59 59.4	+0.1
	1.2nm,0.7s,mb3.6						

MAN 06 09:16:46.9, 18.21N×120.64E, h22km, mb4.3, ML3.2, MS3.0, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	Pasuquin	0.12	351⇓	iP	Pb	09 16 52.8	+1.5
PIP				eS	Sb	09 16 58.6	+4.3
ABRA	Dolores	0.56	173	eP	Pb	09 16 58.1	+0.3
ABRA				eS	Sb	09 17 08.5	+3.1
APYP	Conner	0.67	121	eP	Pb	09 16 59.9	+0.1
APYP				eS	Sb	09 17 11.2	+2.6
CVP	Callao Caves	1.23	114	i P	Pn	09 17 08.0	-1.0
CVP				i S	Sb	09 17 24.0	-0.8
SGCP	Mt. Cagua	1.34	88	eP	Pn	09 17 10.2	-0.3
SGCP				eS	Sn	09 17 28.8	+1.1
CAUP	Cauayan	1.69	138	eP	Pn	09 17 16.5	+1.0
CAUP				eS	Sn	09 17 42.1	+5.5
BALP	Baler	2.61	160	eP	Pn	09 17 29.6	+0.9

*NEIC **06** 09:18:10.9±0.7, 22.64S×66.22W, h247km±7km, mb4.1/2, Error ellipse: s-maj=13.6km s-min=8.9km az=205.0*
*IDC **06** 09:18:12.1±2.8, 22.55S×66.10W, h254km±21km, mb3.5/6, mb1 3.7/8, mb1mx3.6/13, Error ellipse: s-maj=38.7km s-min=16.6km az=36.0*
ISC 06 09:18:09.8±0.8**, 22.75S**±0.09×**66.26W**±0.09**, h256km**±9km**, n22, σ0.97**/20**, mb3.7**/6**, 1C, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.45	273⇑	iP	P	09 18 57.8	+0.4
LVC				eS	S	09 19 33.6	-0.8
LPAZ	La Paz	6.66	344	P	P	09 19 47.2	+0.3
	78nm,0.3s,SNR=10						
LPAZ				S	S	09 21 04.2	+1.1
	30nm,0.3s,baz=289,slow=0.1,SNR=6.4						
ARE	Arequipa	7.96	321	eP	P	09 20 02.0	-1.3
ARE				eS	S	09 21 26.0	-6.4
CPUP	Villa Florida	8.88	115	P	P	09 20 16.3	+1.4
	0.1nm,0.3s,baz=237,slow=14,SNR=2.1						
CPUP	Villa Florida	8.88	115	P	P	09 20 16.3	+1.4
CPUP				eP		09 20 26.1	
SAML	Samuel	14.03	13	eP	P	09 21 18.3	-1.2
	5.2nm,0.7s						
NNA	Nana	14.71	315	eP	P	09 21 28.6	+0.9
	6.9nm,0.7s						
BDFB	Brasilia	18.61	71	P	P	09 22 09.8	-0.6
	1.1nm,0.3s,baz=250,slow=10,SNR=24						
BAO	Brasilia Array	18.64	71	i P	P	09 22 10.4	-0.2
BAO				e		09 22 25.3	
BAO				e		09 22 33.2	
TXAR	Lajitas Array	63.07	323	P	P	09 28 12.1	+0.1
	0.2nm,0.8s,mb2.8,baz=146,slow=6.5,SNR=3.0						
DBIC	Dimbokro	66.76	72	P	P	09 28 33.9	-2.0
	3.8nm,0.8s,mb4.2,baz=293,slow=12,SNR=4.8						
DBIC	Dimbokro	66.76	72	P	P	09 28 33.9	-2.0
SCHQ	Schefferville	77.26	360	P	P	09 29 36.9	-0.2
	2.6nm,0.8s,mb4.0,baz=74,slow=8.8,SNR=3.6						
NVAR	Mina Array Bea	78.00	321	P	P	09 29 47.2	+5.7
	0.4nm,0.7s,mb3.3,baz=153,slow=6.0,SNR=2.7						
ESDC	Sonseca Array	85.02	43	P	P	09 30 18.5	+0.7
	1.1nm,0.5s,mb4.0,baz=240,slow=4.7,SNR=9.0						
YKA	Yellowknife Ar	93.19	340	P	P	09 30 56.8	+1.1
	2.2nm,0.8s,mb4.2,baz=166,slow=35,SNR=2.5						
YKA	Yellowknife Ar	93.19	340	P	P	09 30 56.8	+1.1
ASAR	Alice Springs	129.87	204	PKP	PKPdf	09 36 51.8	+2.3
	0.4nm,0.7s,baz=90,slow=2.7,SNR=4.3						
WRA	Warramunga Arr	133.05	207	PKP	PKPdf	09 36 57.8	+2.3
	0.2nm,0.6s,baz=151,slow=1.8,SNR=4.9						
ZAL	Zalesovo	141.97	28	PKP	PKPdf	09 37 13.9	+3.2
	1.1nm,0.3s,baz=276,slow=2.3,SNR=2.8						
MKAR	Makanchi Array	145.13	39	PKP	PKPdf	09 37 18.7	+2.3
	28nm,1.2s,baz=297,slow=2.7,SNR=37						
SONM	Songino Array	154.28	11	PKP	PKPdf	09 37 32.9	+2.4
	0.3nm,0.8s,baz=315,slow=2.0,SNR=2.8						
SONM				PKPbc	PKPdf	09 37 41.8	+11
	0.4nm,0.6s,slow=4.3,SNR=3.4						
SONM				PKPab	PKPab	09 37 57.0	+0.4
	0.5nm,0.6s,baz=330,slow=4.9,SNR=4.1						

*NEIC **06** 09:23:19.8±4.8, 5.82S×154.15E, h168km±30km, mb4.1/3, Error ellipse: s-maj=55.2km s-min=19.8km az=85.0*
*IDC **06** 09:23:28.3±17.0, 5.95S×154.16E, h257km±178km, mb3.3/5, mb1 3.4/6, mb1mx3.3/14, Error ellipse: s-maj=74.2km s-min=49.9km az=89.0*
ISC 06 09:23:17.4±6.0**, 5.8S**±0.2×**154.3E**±0.5**, h169km**±39km**, n11, σ0.86**/11**, mb3.9**/7**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.93	242	eP	P	09 25 09.9	-0.8
CTA	Charters Tower	16.23	208	P	P	09 26 59.3	+2.0
	0.2nm,0.3s,baz=148,slow=5.4,SNR=2.2						
CTAO	Charters Tower	16.23	208	eP	P	09 26 58.5	+1.2
	0.9nm,0.5s						
WRAB	Tennant Creek	23.95	232	eP	P	09 28 17.2	-0.3
	3.9nm,0.7s,mb4.0						
WB2	Warramunga Arr	23.95	232	eP	P	09 28 18.0	+0.5
WRA	Warramunga Arr	23.96	232	P	P	09 28 18.2	+0.6
	2.0nm,0.7s,mb3.8,baz=54,slow=9.6,SNR=19						
ASAR	Alice Springs	26.48	226	P	P	09 28 40.6	-0.3
	0.7nm,0.5s,mb3.6,baz=56,slow=9.2,SNR=11						
STKA	Stephens Creek	28.56	203	P	P	09 28 57.9	-1.7
	2.1nm,0.9s,mb3.9,baz=31,slow=9.7,SNR=3.8						
MBWA	Marble Bar	36.80	242	eP	P	09 30 16.6	+6.0
	10nm,0.7s,mb4.6						
CMAR	Chiang Mai Arr	59.62	295	P	P	09 33 06.2	+0.1
	0.6nm,0.3s,mb3.9,baz=108,slow=2.9,SNR=4.4						
SONM	Songino Array	67.92	327	P	P	09 34 00.1	+0.2
	0.3nm,0.4s,mb3.3,baz=130,slow=4.2,SNR=2.9						

*NAO **06** 09:23:40.1±2.8, 60.91N×29.02E, ML2.2*
*BER **06** 09:23:41.4±2.8, 61.01N×29.06E, ML2.2(NAO), Suspected explosion*
HEL 06 09:23:38.0±0.3**, 60.95N×29.32E, ML1.8, ML2.2**(NAO)**, Explosion, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	Virojoki	0.96	245	eP	Pg	09 23 55.4	-1.8
VJF				eS	Sg	09 24 07.6	-2.3
FIA0	FINESS Array S	1.65	289	eP	Pn	09 24 07.2	-1.1
FIA0				eS	Sb	09 24 28.4	-1.9
FIA0	FINESS Array S	1.65	289	Pn	Pn	09 24 07.5	-0.9
	baz=113,slow=16						
FIA0				Lg		09 24 28.9	
	baz=100,slow=37						
FIA0				Rg		09 24 36.8	
	baz=121,slow=37						
PVF	Pernaja	1.75	258	eP	Pn	09 24 08.4	-1.4
PVF				eS	Sn	09 24 31.6	-1.4
KAF	Kangasniemi	1.86	310	eP	Pn	09 24 10.5	-0.9
KAF				eS	Sn	09 24 34.6	-1.3
KAF				MSG		09 24 38.5	
	comp=Z,7.5nm,0.2s						
KEF	Keuruu	2.46	302	MSG		09 24 55.2	
	comp=Z,3.0nm,0.2s						
APA0	Apatity Array	6.87	12	Pn	Pn	09 25 22.5	0.0
HFS	Hagfors	7.75	271	Pn	Pn	09 25 31.6	-3.2
	baz=79,slow=16						
HFS				Sn	Sn	09 26 54.0	-10
	baz=76,slow=28						
HFS	Hagfors	7.75	271	eP	Pn	09 25 31.6	-3.2
HFS				eS	Sn	09 26 54.0	-10
ARA0	ARCESS Array S	8.77	351	eP	P	09 25 46.6	-2.4
ARA0				eSG	Sg	09 28 08.1	-22
ARA0	ARCESS Array S	8.77	351	Pn	P	09 25 46.6	-2.4
	baz=164,slow=14						
ARA0				Lg		09 28 08.1	
	baz=160,slow=37						

*NAO **06** 09:28:39.1±3.3, 61.07N×29.22E, ML2.4*
*BER **06** 09:28:41.5±4.0, 61.07N×29.11E, ML2.4(NAO), Suspected explosion*
HEL 06 09:28:38.3±0.2**, 60.96N×29.26E, ML1.9, ML2.4**(NAO)**, Explosion, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	Virojoki	0.94	244	eP	Pg	09 28 55.2	-1.9
VJF				eS	Sg	09 29 07.3	-2.3
FIA0	FINESS Array S	1.62	289	eP	Pn	09 29 07.1	-1.1
FIA0				eS	Sb	09 29 28.1	-1.5
FIA0	FINESS Array S	1.62	289	Pn	Pn	09 29 07.2	-1.0
	baz=113,slow=16						
FIA0				Lg		09 29 28.8	
	baz=102,slow=28						
FIA0				Rg		09 29 36.4	
	baz=120,slow=37						
PVF	Pernaja	1.72	257	eP	Pn	09 29 08.7	-1.1
PVF				eS	Sb	09 29 31.0	-1.7
KAF	Kangasniemi	1.83	310	eP	Pn	09 29 10.3	-0.9
KAF				eS	Sn	09 29 33.8	-1.6
KAF				MSG		09 29 38.2	
	comp=Z,7.8nm,0.2s						
KEF	Keuruu	2.42	302	MSG		09 29 54.5	
	comp=Z,5.3nm,0.3s						
HFS	Hagfors	7.72	271	Lg		09 32 38.6	
	baz=89,slow=28						
HFS	Hagfors	7.72	271	eSG	Sg	09 32 38.6	-17
HFS	Hagfors	7.72	271	Lg		09 32 38.6	
	baz=89,slow=28						
ARA0	ARCESS Array S	8.75	351	Pn	P	09 30 46.4	-2.6
	baz=166,slow=11						
ARA0				Sn	Sn	09 32 20.7	-8.9
	baz=172,slow=22						
ARA0				Lg		09 33 04.5	
	baz=166,slow=37						
ARA0	ARCESS Array S	8.75	351	eP	P	09 30 46.4	-2.6
ARA0				eS	Sn	09 32 20.7	-8.9
ARA0				eSG	Sg	09 33 04.5	-25

*PRU **06** 09:30:16.5, 51.56N×16.02E*
WAR 06 09:30:16.6, 51.56N×16.01E, ML2.7, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.74	166	ePG	Pg	09 30 30.0	-1.5
KSP				eSG	Sg	09 30 40.0	-1.4
UPC	Upice	1.06	180	ePG	Pg	09 30 36.7	-1.0
UPC				eSG	Sg	09 30 50.4	-1.4
DPC	Dobruska-Polom	1.23	171	ePG	Pg	09 30 39.4	-1.8
DPC				eSG	Sg	09 30 55.5	-2.1
PVCC	Panska Ves	1.38	222	ePG	Pg	09 30 42.0	-2.1
PVCC				eSG	Sg	09 31 01.4	-1.1
PRU	Pruhonice	1.83	211	eSG	Sg	09 31 14.9	-2.7
	3.5nm,0.3s						
KHC	Kasperske Hory	2.89	214	eSG	Sg	09 31 48.1	-4.7

*PDG **06** 09:43:19.9±0.2, 41.28N×19.90E, h7km*
*NEIC **06** 09:43:19.9, 41.28N×19.90E, h7km, MD2.5(PDG), After PDG.*
*TIR **06** 09:43:20.7, 41.41N×19.85E, h14km, Ml2.3*
ISC 06 09:43:16.8±1.4**, 41.05N**±0.06×**19.72E**±0.08**, h7km, n13, σ1.33**/26**, 2C, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.32	20	ePg	Pg	09 43 23.1	-0.3
TIR				i Sg	Sg	09 43 29.5	+1.8
QSH	Qafa e Shtames	0.49	16	i Pg	Pg	09 43 24.8	-2.0
QSH				i Sg	Sg	09 43 32.8	-0.7
LACI	Lac	0.59	359	i Pg	Pg	09 43 26.9	-1.8
LACI				i Sg	Sg	09 43 36.7	+0.1
ULC	Ulcinj	0.98	339	ePg	Pg	09 43 35.2	-1.3
ULC				eSg	Sg	09 43 49.3	-0.3
BUM	Brajici-Budva	1.40	334	ePg	Pg	09 43 43.4	-1.3
BUM				eSg	Sg	09 44 03.2	-0.2
TTG	Podgorica	1.43	346⇑	iPg	Pg	09 43 42.0	-3.3
TTG				eSg	Sg	09 44 02.3	-2.1
PVY	Plav	1.56	7	ePg	Pg	09 43 44.0	-4.0
PVY				eSg	Sg	09 44 04.9	-3.8
HCY	Herceg Novi	1.67	327	ePg	Pg	09 43 49.0	-1.3
HCY				eSg	Sg	09 44 12.4	-0.1
IVA	Berane	1.83	4	ePn	Pn	09 43 49.3	+0.4
IVA				eSn	Sn	09 44 12.8	+0.3
NKY	Niksic	1.85	343⇑	iPn	Pn	09 43 49.7	+0.5
NKY				eSn	Sn	09 44 15.0	+2.0
BRY	Bratogost	2.05	335	ePn	Pn	09 43 53.8	+1.6
BRY				eSn	Sn	09 44 20.8	+2.6
UPM	Unac-Piva	2.24	345	ePn	Pn	09 43 55.9	+1.1
UPM				eSn	Sn	09 44 24.4	+1.4
PLE	Pljevlja	2.29	354	ePn	Pn	09 43 56.6	+1.0
PLE				eSn	Sn	09 44 25.4	+1.0

CASC 06 09:53:47.6±2.8**, 10.58N×86.51W, h0km**±14km**, MD4.1, 6C-3D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APON	Apoyo	1.40	18	eP	Pb	09 54 13.7	-0.6
CRUN	El Crucero	1.41	8	eP	Pb	09 54 15.1	+0.6
TICN	Ticuantepe	1.47	11⇓	eP	Pn	09 54 13.2	-2.2
XAVN	Gruta Xavier	1.57	7	eP	Pn	09 54 16.3	-0.5
MGAN	Managua	1.58	9⇑	eP	Pn	09 54 16.3	-0.7
COPN	Copaltepe	1.59	357⇓	eP	Pn	09 54 16.5	-0.7
COPN				eS	Sb	09 54 41.8	+3.6
WILN	Americas 2	1.60	11⇑	eP	Pn	09 54 16.2	-1.1
APYN	Apoyeque	1.65	5⇑	eP	Pn	09 54 17.4	-0.6
MOMJ	Momotombo	1.82	359	eP	Pn	09 54 19.5	-0.9
MIRN	Miramar	1.86	354⇑	eP	Pn	09 54 20.1	-0.8
LEON	Leon	1.86	348⇑	eP	Pn	09 54 20.2	-0.8
CNGN	Cerro Negro	1.92	354⇑	eP	Pn	09 54 20.4	-1.4
PYTN	Playitas	2.00	13⇓	eP	Pn	09 54 21.9	-1.0
CGA2	Cerro Gallo 2	2.09	105	eP	Pn	09 54 23.7	-0.5
PRS1	Puriscal	2.24	105	eP	Pn	09 54 26.2	-0.2
VPS2	Volcan Poas 2	2.27	100	eP	Pn	09 54 25.1	-1.8
LCR2	La Lucha 2	2.60	108	eP	Pn	09 54 31.5	-0.1
ICR	Volcan Irazu	2.70	102	eP	Pn	09 54 35.1	+2.1
TRTC	Tortuguero	2.75	90	eP	Pn	09 54 34.1	+0.4
URSC	Urasca	2.79	105	eP	Pn	09 54 34.6	+0.4
BUS	Buena Vista	2.89	110	eP	Pn	09 54 36.5	+0.7

*IDC **06** 10:12:49.0±0.8, 12.07N×143.48E, mb4.1/12, mb1 4.3/12, mb1mx4.2/22, MS3.9/1, Ms1 3.9/1, ms1mx3.0/20, Error ellipse: s-maj=33.8km s-min=19.7km az=106.0*
*NEIC **06** 10:12:53.8±4.2, 12.02N×143.54E, h31km±29km, mb4.5/3, Error ellipse: s-maj=21.5km s-min=13.0km az=113.0*
ISC 06 10:12:50.9±4.5**, 12.0N**±0.1×**143.4E**±0.2**, h22km**±31km**, n19, σ1.01**/18**, mb4.2**/15**, MS3.7**/1**, 1C, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	2.10	42	eP	Pn	10 13 24.6	-0.9
SAPN	Saipan	3.90	35⇑	eP	Pn	10 13 52.0	+1.0
JOW	Kunigami	20.49	318	LR	LR	10 24 25.6	
	comp=Z,322nm,20.8s,MS3.7,baz=183,slow=34						
WRA	Warramunga Arr	32.99	196	P	P	10 19 25.2	-1.5
	1.2nm,0.6s,mb4.0,baz=19,slow=9.7,SNR=17						
ASAR	Alice Springs	36.67	195	P	P	10 19 59.5	+1.4
	0.3nm,0.7s,mb3.2,baz=20,slow=11,SNR=5.3						
SONM	Songino Array	47.23	326	P	P	10 21 25.1	+1.0
	0.4nm,0.4s,mb3.7,baz=152,slow=6.4,SNR=3.6						
MKAR	Makanchi Array	61.65	317	P	P	10 23 08.9	-0.6
	0.6nm,0.7s,mb3.8,baz=32,slow=11,SNR=5.7						
KURK	Kurchatov	64.88	321	eP	P	10 23 30.9	+0.2
	2.8nm,0.8s,mb4.3						
PMR	Palmer	68.83	28	eP	P	10 23 53.8	-1.7
	9.2nm,1.0s,mb4.7						
ILAR	Eielson Array	70.58	25	P	P	10 24 03.8	-2.3
	1.1nm,0.7s,mb3.9,baz=251,slow=5.8,SNR=18						
ZRNK	Zerenda	71.11	322	eP	P	10 24 09.6	+0.1
	2.5nm,0.8s,mb4.2						
INK	Inuvik	76.35	22	P	P	10 24 39.4	-0.4
	3.1nm,0.7s,mb4.3,baz=288,slow=15,SNR=4.4						
DLBC	Dease Lake	78.06	32	P	P	10 24 50.4	+1.1
	1.0nm,0.7s,mb3.9,baz=193,slow=27,SNR=3.2						
YKA	Yellowknife Ar	84.89	27	P	P	10 25 25.3	+0.3
	0.9nm,0.6s,mb4.1,baz=286,slow=5.1,SNR=3.1						
YBH	Yreka Blue Hor	84.96	49	P	P	10 25 26.5	+0.6
	0.7nm,0.5s,mb4.1,baz=272,slow=2.6,SNR=6.9						
RES	Resolute Bay	86.39	13	P	P	10 25 32.8	+0.5
ARCES	ARCESS Array B	88.14	342	P	P	10 25 41.0	+0.2
	11nm,1.2s,mb5.0,baz=69,slow=7.1,SNR=10						
NVAR	Mina Array Bea	89.00	51	P	P	10 25 46.9	+1.2
	1.2nm,0.7s,mb4.4,baz=267,slow=5.6,SNR=11						
FINES	FINESS Array B	91.98	335	P	P	10 25 58.1	-0.8
	3.7nm,1.0s,mb4.7,baz=90,slow=5.7,SNR=4.8						

*ATH **06** 10:41:07.8, 37.87N×26.81E, h5km, MD3.3/4*
*ISK **06** 10:41:08.8, 37.80N×27.00E, h8km, MD3.1*
*CSEM **06** 10:41:08.1±0.2, 37.80N×26.94E, h8km, MD3.1, Error ellipse: s-maj=4.4km s-min=3.6km az=139.0*
ISC 06 10:41:08.9±0.5**, 37.77N**±0.03×**26.98E**±0.04**, h8km, n20, σ0.96**/31**, 1C-1D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	Samos	0.12	242⇓	iPG	Pg	10 41 11.3	-0.4
IZM	Izmir	0.67	20	i PG	Pg	10 41 21.4	-0.9
IZM				i SG	Sg	10 41 30.9	-0.4
KDAG	Bornova	0.67	20	i P	Pg	10 41 21.5	-1.0
KDAG				i S	Sg	10 41 31.2	-0.3
AYDN	Tasoluk	0.72	98	i P	Pb	10 41 22.8	-0.5
AYDN				i S	Sg	10 41 33.0	-0.2
MLSB	Milas	0.79	126	PG	Pg	10 41 25.0	+0.2
MLSB				SG	Sg	10 41 35.8	+0.4
BDRM	Kayabasi	0.80	152	i P	Pb	10 41 23.8	-0.8
BDRM				i S	Sb	10 41 35.0	-0.2
NISR	Nisiros	1.16	174	ePB	Pb	10 41 32.2	+1.4
AKS	Akhisar	1.29	30	PN	Pn	10 41 33.6	+0.4
APE	Apeiranthos	1.34	239	PN	Pn	10 41 34.8	+0.8
APE	Apeiranthos	1.34	239	ePb	Pb	10 41 32.6	-1.3
APE	Apeiranthos	1.34	239	ePn	Pn	10 41 34.8	+0.8
MANT	Manisa	1.44	59	i P	Pn	10 41 36.5	+1.1
MANT				i S	Sb	10 41 53.6	-0.3
AYVA	Ayvalik	1.55	352	i P	Pn	10 41 37.8	+0.8
AYVA				i S	Sb	10 41 59.8	+2.6
PRK	Paraskevi	1.57	340	ePB	Pb	10 41 35.0	-2.9
DENT	Denizli	1.63	90	PN	Pn	10 41 38.2	+0.1
DNZL	Cakiroluk	1.64	92⇑	iP	Pn	10 41 37.9	-0.4
DNZL				i S	Sn	10 42 04.1	+4.3
DALT	Dalyan (Mudla)	1.66	126	PN	Pn	10 41 38.7	+0.2
BTOK	Tokmak	2.15	22	i P	Pn	10 41 49.3	+3.7
BTOK				i S	Sn	10 42 17.6	+4.8
ULDT	Uludag	2.91	35	i P	Pn	10 42 02.8	+6.4
ULDT				i S	Sn	10 42 38.7	+6.8
ESKT	Eskisehir	3.50	59	i P	Pg	10 42 14.1	-4.7
ESKT				i S	Sg	10 43 11.0	+5.5

WEL 06 10:52:04.2±0.2**, 40.29S×173.45E, h189km**±2km**, ML3.6**/9**, 5C-2D, Error ellipse: s-maj=1.5km s-min=1.0km az=90.0, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRZ	Quartz Range	0.88	233	⇑PN	P	10 52 31.9	-0.4
QRZ				SN	S	10 52 52.5	-1.4
NNZ	Nelson	0.93	183	PN	P	10 52 32.3	-0.2
NNZ				SN	S	10 52 53.4	-0.9
PKE	Pukeiti	1.17	21	PN	P	10 52 33.8	-0.6
PKE				eSN	S	10 52 57.4	-0.3
TUWZ	Tuamarina	1.20	162	PN	P	10 52 34.4	-0.2
TUWZ				SN	S	10 52 56.8	-1.2
KIW	Kapiti Island	1.25	118	PN	P	10 52 35.0	-0.1
KIW				SN	S	10 52 57.2	-1.7
WAZ	Wanganui	1.29	66	PN	P	10 52 36.0	+0.5
WAZ				SN	S	10 52 59.2	-0.4
MRW	Makara Radio	1.33	135	⇑PN	P	10 52 35.6	-0.2
MRW				SN	S	10 52 58.9	-1.3
WEL	Wellington	1.41	135	PN	P	10 52 36.2	-0.3
WEL				SN	S	10 52 59.9	-1.4
BSWZ	Blackbirch Sta	1.46	167	PN	P	10 52 36.7	-0.2
BSWZ				eSN	S	10 53 01.3	-0.9
CAW	Cannon Point	1.47	124	PN	P	10 52 36.8	-0.3
CAW				SN	S	10 53 01.3	-1.2
THZ	Tophouse	1.53	196	⇑PN	P	10 52 36.9	-0.7
THZ				SN	S	10 53 01.3	-2.0
VRZ	Vera Road	1.54	41	PN	P	10 52 37.0	-0.7
VRZ				SN	S	10 53 02.1	-1.5
BHW	Baring Head	1.55	136	PN	P	10 52 37.1	-0.7
BHW				SN	S	10 53 01.6	-2.1
MRZ	Mangatainoka R	1.66	103	PN	P	10 52 38.5	-0.4
MRZ				SN	S	10 53 03.4	-2.1
MSWZ	Moikau Station	1.77	130	ePN	P	10 52 39.2	-0.7
MSWZ				SN	S	10 53 06.0	-1.4
MTW	Mount Morrison	1.78	120	ePN	P	10 52 39.4	-0.6
MTW				SN	S	10 53 05.7	-1.9
WNVZ	Wahianoa	1.91	60	PN	P	10 52 40.6	-0.8
WNVZ				SN	S	10 53 08.4	-1.6
TSZ	Takapari Road	1.94	84	PN	P	10 52 40.9	-0.7
TSZ				SN	S	10 53 08.8	-1.6
WPVZ	Whakapapa	1.94	57	PN	P	10 52 40.8	-0.9
CNZ	Chateau	1.95	57	⇓PN	P	10 52 40.9	-0.9
TWVZ	Taurewa	1.96	52	⇑PN	P	10 52 40.7	-1.2
MOVZ	Moawhango	1.98	64	PN	P	10 52 40.8	-1.2
MOVZ				SN	S	10 53 08.2	-3.0
TUVZ	Tukino	1.98	60	PN	P	10 52 41.3	-0.8
NGZ	Ngauruhoe	2.00	57	PN	P	10 52 41.2	-1.0
WTVZ	West Tongariro	2.02	55	PN	P	10 52 41.6	-1.0
WTVZ				SN	S	10 53 10.7	-1.3

MGZ	Maungaku	2.06	52	PN	P	10 52 41.8	-1.2
KAVZ	Karewarewa	2.07	56	*e*PN	P	10 52 42.0	-1.0
KHZ	Kahutara	2.12	178	PN	P	10 52 42.2	-1.5
KHZ				SN	S	10 53 10.8	-3.3
BFZ	Birch Farm	2.17	101	PN	P	10 52 43.4	-0.7
BFZ				SN	S	10 53 12.3	-2.5
KATZ	Kakaramea	2.17	54	PN	P	10 52 43.2	-1.0
BKZ	Black Stump Fm	2.60	65	⇑PN	P	10 52 47.4	-1.7
BKZ				SN	S	10 53 20.0	-3.7
PWZ	Pawanui	2.63	85	⇓PN	P	10 52 48.3	-1.1
PWZ				SN	S	10 53 21.9	-2.4
LTZ	Lake Taylor	2.64	199	PN	P	10 52 47.7	-1.8
LTZ				SN	S	10 53 19.7	-4.9
CRLZ	Canterbury Las	3.34	190	*e*SN	S	10 53 30.2	-9.3
WVZ	Waitaha Valley	3.44	215	PN	P	10 52 56.3	-3.0
WVZ				SN	S	10 53 35.0	-6.9
MQZ	McQueen's Vall	3.46	190	PN	P	10 52 56.7	-2.9
MQZ				SN	S	10 53 35.5	-6.7
KNZ	Kokohu	3.50	70	PN	P	10 52 57.8	-2.2
KNZ				*e*SN	S	10 53 38.4	-4.6
MWZ	Matawai	3.72	60	PN	P	10 52 59.8	-2.9
MWZ				SN	S	10 53 43.3	-4.6
MXZ	Matakaoa Point	4.66	56	PN	P	10 53 11.3	-3.5
JCZ	Jackson Bay	5.14	221	PN	P	10 53 16.8	-4.1
ODZ	Otahua Downs	5.18	203	PN	P	10 53 18.0	-3.4
ODZ				SN	S	10 54 14.7	-6.6

MEX 06 10:59:40.1±0.6**, 15.47N**×**95.71W, h15**km**, MD3.8, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.48	308	*i* P	Pb	10 59 48.4	-1.4
HUIG				*i* S	Sb	10 59 54.4	-2.0
CMIG	Matias Romero	1.79	26	*i* P	Pn	11 00 07.0	-3.9
CMIG				*i* S	Sn	11 00 28.2	-5.3
VHO	Vista Hermosa	1.87	328	*e*P	Pn	11 00 10.3	-1.7
VHO				*i* S	Sn	11 00 32.3	-3.1
OXX	Oaxaca	1.88	329	*e*P	Pn	11 00 10.5	-1.5
OXX				*i* S	Sn	11 00 31.0	-4.5

*THR **06** 11:14:26.1±0.7, 28.83N×57.93E, h14km±6km, ML5.2*
*SYO **06** 11:14:26.5, 28.74N×58.06E, h10km, MB5.2*
*CSEM **06** 11:14:27.0±0.0, 28.85N×57.98E, h25km, mb5.1/87, ML5.9/3, Ms4.2, Error ellipse: s-maj=2.0km s-min=1.6km az=21.0*
*MOS **06** 11:14:28.3±1.1, 28.75N×57.99E, h33km, mb5.3/15, MS4.3/10, Error ellipse: s-maj=11.7km s-min=5.6km az=114.8*
*DHMR **06** 11:14:28.6±3.1, 28.86N×57.95E, h72km±999km, mb5.0*
*IDC **06** 11:14:30.6±2.2, 28.84N×57.94E, h37km±17km, mb4.6/29, mb1 4.7/30, mb1mx4.7/32, ML4.8/1, MS4.4/12, Ms1 4.4/12, ms1mx4.3/21, Error ellipse: s-maj=13.0km s-min=11.3km az=24.0*
*BJI **06** 11:14:31.9, 28.92N×57.80E, h74km, mB5.3, mb5.0, Ms5.2, Msz4.9*
*HRVD **06** 11:14:34.0±0.3, 28.75N×57.93E, h48km±3km, MW5.2/59, Centroid moment Tensor Solution. LP body waves: s51,c76; Mantle waves: s59,c71; Half duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.70±.21; $M_{\theta\theta}$2.67±.26; $M_{\phi\phi}$-1.97±.25; $M_{r\theta}$-1.18±.39; $M_{\theta\phi}$6.93±.22; $M_{\phi r}$-1.93±.37; Best double couple: $M_0$7.62×10^{16} NP1: ϕ_s280°, δ75°, λ4°. NP2: ϕ_s189°, δ86°, λ165°. Principal axes: T 8.15, Plg13°, Azm143°; N -1.06, Plg74°, Azm356°; P -7.08, Plg8°, Azm235°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **06** 11:14:34.0±1.0, 28.84N×57.93E, h72km±9km, mb5.1/90 Error ellipse: s-maj=5.9km s-min=3.6km az=191.0*
NEIC Felt at Bam, Kerman and Sabzvaran.

ISC 06 11:14:28.2±0.8**, 28.77N**±0.03×**57.90E**±0.02**, h33**km±5km**, n512, σ1s17**/529**, mb5.0**/136**, MS4.6**/27**, 19C-30D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	Kerman	1.56	321	*i* PG	Pn	11 14 54.2	0.0
KRBR				*e*SG	Sn	11 15 15.1	+1.5
KRBR				AMP		11 15 23.2	
	comp=N,38μm,0.8s						
KRBR				AMP		11 15 26.2	
	comp=E,51μm,0.7s						
KRBR	Kerman	1.56	321⇑	*e*Pg	Pn	11 14 54.4	+0.2
KRBR				*i* Sg	Sn	11 15 13.7	+0.1
	comp=E,57μm,0.7s						
BNDS	Bandar-Abbas	2.05	229	*i* PG	Pn	11 15 04.6	+3.4
BNDS				*e*SG	Sn	11 15 32.3	+6.3
BNDS				AMP		11 15 38.8	
	comp=N,16μm,0.5s						
BNDS				AMP		11 15 39.7	
	comp=E,18μm,0.4s						
BNDS	Bandar-Abbas	2.05	229⇓	*i*Pn	Pn	11 15 04.7	+3.5
BNDS				Sn	Sn	11 15 31.9	+5.9
	comp=E,16μm,0.8s						
ZHSF	Zahedan	2.65	71	*i* PN	Pn	11 15 09.9	+0.2
ZHSF	Zahedan	2.65	71⇓	*i*Pn	Pn	11 15 10.0	+0.3
ZHSF				Sn	Sn	11 15 39.9	-1.1
	comp=E,5μm,0.5s						
GHIR	Ghir-Karzin	4.35	265	*i* PN	Pn	11 15 34.7	+0.8
GHIR				AMP		11 16 53.7	
	comp=E,3μm,0.7s						
GHIR				AMP		11 17 14.8	
	comp=N,2μm,0.6s						
GHIR	Ghir-Karzin	4.35	265⇓	*e*Pn	Pn	11 15 34.8	+0.8
NASN	Na'in	5.94	314	*i* PN	Pn	11 15 56.0	-0.4
NASN				AMP		11 17 43.0	
	comp=N,541nm,0.7s						
NASN				AMP		11 17 49.0	
	comp=E,400nm,0.8s						
NASN	Na'in	5.94	314	*e*Pn	Pn	11 15 54.9	-1.5
HASS	Wahat al Ahsa'	8.15	246	P	P	11 16 25.2	-2.0
DAMV	Damavand	8.48	325	*i* PN	P	11 16 30.6	-1.4
DAMV	Damavand	8.48	325	*e*Pn	P	11 16 29.5	-2.5
SHGR	Shooshtar-Gavs	8.53	295	*e*Pn	P	11 16 31.7	-0.9
QRN	Al-Qurain	8.77	272	*e*P	P	11 16 34.1	-1.7
ASAO	Ashtian	8.84	313	*e*PN	P	11 16 36.1	-0.8
ASAO	Ashtian	8.84	313	*e*Pn	P	11 16 35.0	-1.9
UMR	Umm Al-Rimmam	8.94	277	*e*P	P	11 16 37.2	-1.1
UMR				*e*S	Sn	11 18 14.9	-4.0
UMR				AML	AML	11 18 16.3	
	comp=Z,881nm,0.4s						
KBD	Kabd	8.95	275	*e*P	P	11 16 36.7	-1.8
KBD				*e*S	Sn	11 18 12.9	-6.3
RDF	Al-Radifah	9.08	273	*e*P	P	11 16 38.0	-2.2
RDF				AML	AML	11 18 20.6	
	comp=Z,760nm,0.6s						
THKV	Tehran--Karaj	9.27	322	*i* PN	P	11 16 41.0	-1.8
THKV	Tehran--Karaj	9.27	322	*e*Pn	P	11 16 40.2	-2.7
THKV				Sn	Sn	11 18 17.1	-10
MIB	Mutribah	9.28	279	*e*P	P	11 16 41.3	-1.7
MIB				*e*S	Sn	11 18 21.1	-6.3
MIB				AML	AML	11 18 22.9	
	comp=Z,592nm,0.4s						
RST	Umm Al-Ruwaisa	9.57	277	*e*P	P	11 16 45.4	-1.6
RST				*e*S	Sn	11 18 27.8	-6.6
RST				AML	AML	11 18 31.6	
	comp=Z,724nm,0.5s						
RST	Umm Al-Ruwaisa	9.57	277	*e*P	P	11 16 45.3	-1.6
SNGE	Sanandaj	10.96	308	*e*Pn	P	11 17 05.0	-0.9
DRP	Derazinda	11.04	71	P	P	11 17 08.6	+1.5
SBDP	Sheikh Budin	11.66	69	P	P	11 17 17.4	+1.8
RAYN	Ar Rayn	12.30	248	Pn	P	11 17 18.3	-5.9
	comp=Z,2μm,0.8s						
THW	Thamme Wali	12.55	68	P	P	11 17 21.0	-6.5
CEP	Cherat	12.99	64	P	P	11 17 32.5	-0.8
GRMI	Germi	13.01	323	*e*Pn	P	11 17 32.7	-0.8
ARSS	Ar Rass	13.35	261	P	P	11 17 32.9	-5.2
CHCP	Chirah Chowk	14.01	66	P	P	11 17 46.1	-0.7
CHCP				S	S	11 20 20.0	-2.1
HILS	Ha'il	14.29	268	P	P	11 17 45.8	-4.7
HKR	Hakkari	14.74	310	P	P	11 17 57.8	+1.5
HKR	Hakkari	14.74	310	P	P	11 17 57.8	+1.5
AJM	Ajmer	15.01	95	*e*P	P	11 18 02.0	+2.0
AJM				*e*		11 18 07.0	
	comp=Z,134nm,1.2s						
VANT	Van	15.45	312	P	P	11 18 07.1	+1.6
VANB	Van	15.54	313	P	P	11 18 07.2	+0.6
VANB	Van	15.54	313	P	P	11 18 07.2	+0.5
GNI	Garni	15.68	320	P	P	11 18 11.8	+3.3
GNI	Garni	15.68	320	*e*P	P	11 18 11.5	+3.0
GNI				pmax	pmax		
	comp=Z,252nm,1.5s						
GNI				MLR	MLR		
	comp=Z,2μm,12.0s						
GNI	Garni	15.68	320	*e*P	P	11 18 11.1	+2.6
	comp=Z,194nm,0.8s						
THN	Thein Dam	15.77	72	*e*P	P	11 18 09.1	-0.5
	comp=Z,22nm,0.9s						
BHK	Bhakra	16.24	76	*e*	P	11 18 23.9	+8.2
MAK	Makhachkala	16.46	332	*e*P	P	11 18 18.0	-0.3
MAK				*e*S	S	11 21 21.0	+1.8
MAK				pmax	pmax		
	comp=E,900nm,4.0s						
MAK				pmax	pmax		
	comp=Z,1μm,4.0s						
MAK				pmax	pmax		
	comp=N,357nm,1.7s						
MAK				pmax	pmax		
	comp=E,1μm,1.7s						
MAK				pmax	pmax		
	comp=Z,1μm,1.7s						
MAK				smax			
	comp=N,2μm,8.0s						
MAK				smax			
	comp=E,2μm,8.0s						
MAK				smax			
	comp=Z,2μm,8.0s						
BEST	Besiri	16.59	308	*i* P	P	11 18 19.3	-0.8
MUKL	Al Mukalla	16.61	212⇓	*e*P	P	11 18 15.7	-4.7
MUKL				AMb	AMB	11 18 17.9	
	comp=Z,176nm,1.4s						
MUKL	Al Mukalla	16.61	212⇓	*e*P	P	11 18 16.2	-4.2
TI2	Plekhanov	16.79	324	*i* P	P	11 18 24.0	+1.5
TI2				MLR	MLR		
	comp=N,2μm,12.0s						
TI2				MLR	MLR		
	comp=E,2μm,12.0s						
TI2				MLR	MLR		
	comp=Z,2μm,12.0s						
BOM	Bombay	16.80	123	*e*	P	11 18 18.7	-4.1
BOM				*e*S	S	11 21 32.7	+5.6
BOM				*e*		11 21 36.6	
KBRS	Khaybar	16.84	264	P	P	11 18 20.9	-2.4
NDI	New Delhi	16.94	86	*e*	P	11 18 21.0	-3.6
NDI				*e*S	S	11 21 32.2	+1.7
NAMS	An Nimas	17.22	240	P	P	11 18 31.1	+3.0
BLJS	Baljurashi	17.28	243	P	P	11 18 31.5	+2.6
ERZM	Erzurum	17.57	314	*i* P	P	11 18 36.4	+4.1
EZM	Erzurum	17.57	314	P	P	11 18 36.0	+3.6
DDI	Dehra Dun	17.60	80	*e*	P	11 18 29.5	-3.3
BINT	Bingol	17.61	309	P	P	11 18 32.9	+0.1
BINT	Bingol	17.61	309	P	P	11 18 32.9	+0.1
POO	Poona	17.79	121	*e*P	P	11 18 35.5	+0.2
POO				*e*		11 18 36.9	
	comp=Z,244nm,1.3s						
QURS	Qurayyt al Mil	18.00	283	P	P	11 18 36.2	-1.6
LTHS	Al Lith	18.01	246	P	P	11 18 39.3	+1.3
BCA	Borcka	18.33	318	P	P	11 18 44.1	+2.4
BCA	Borcka	18.33	318	P	P	11 18 44.1	+2.3
YNBS	Yanbu' al Bahr	18.35	261	P	P	11 18 41.9	-0.2
PTK	Pertek	18.36	308	P	P	11 18 43.5	+1.3
KSH	Kashi	18.36	50	*e*P	P	11 18 40.6	-1.6
KSH				LR	LR		
	comp=N,3μm,8.3s						
KSH				LR	LR		
	comp=E,3μm,8.0s						
BHPL	Bhopal	18.38	103	*e*P	P	11 18 43.0	+0.4
BHPL				*e*		11 18 45.2	
	comp=Z,83nm,1.2s						
ASF	Jabal al Asfar	18.42	286	P	P	11 18 41.9	-1.1
	comp=Z,2.9nm,0.3s,baz=341,slow=8.5,SNR=45						
ASF				LR	LR	11 27 11.6	
	comp=Z,3μm,18.4s,baz=141,slow=41						
ELZG	Elazig	18.47	307	*i* P	P	11 18 44.7	+1.2
AML	Almayashu	18.48	40	P	P	11 18 50.2	+6.6
	SNR=5.0						
EZC	Erzincan	18.50	311	P	P	11 18 47.8	+4.0
EZC	Erzincan	18.50	311	P	P	11 18 47.8	+4.0
HAJJ	Hajjah	18.54	228⇓	*e*P	P	11 18 40.7	-3.8
HAJJ	Hajjah	18.54	228⇑	*e*P	P	11 18 40.7	-3.8
BDHA	Al Bayda'	18.65	220⇓	*e*P	P	11 18 42.1	-3.8
BDHA				AMb	AMB	11 18 44.9	
	comp=Z,298nm,0.8s						
TBKS	Tabuk	18.78	273	P	P	11 18 46.5	-0.8
MYA	Malataya	18.79	306	P	P	11 18 49.2	+1.8
KAD	Karad	18.81	124⇑	*i*P	P	11 18 47.5	-0.2
EKS2	Erkin-Say	18.88	39	P	P	11 18 48.3	-0.1
	SNR=35						
LBOS		18.92	221⇓	*e*P	P	11 18 44.9	-4.1
LBOS				AMb	AMB	11 18 46.8	
	comp=Z,82nm,1.8s						
UCH	Uchtor	19.01	41	P	P	11 18 49.3	-0.6
	SNR=23						
GZT	Gaziantep	19.05	302	*i* P	P	11 18 51.6	+1.2
KELT	Kelkit	19.07	311	*i* P	P	11 18 57.1	+6.5
GUMT	Gumushane	19.09	312	P	P	11 18 52.1	+1.3
GUMT	Gumushane	19.09	312	P	P	11 18 52.1	+1.2
DUSS	Damascus Unive	19.09	290	*i* P	P	11 18 51.6	+0.7
DUSS				*i* P		11 18 51.8	
DUSS				*i* P		11 18 52.4	
AKL	Akola	19.11	111	*i*	P	11 18 58.2	+6.9
	comp=Z,331nm,1.5s						
AKL				*i*		11 19 04.8	
AKL				*e*S	S	11 22 26.5	+6.7
GAZ	Gaziantep	19.25	301	P	P	11 18 53.5	+0.7
GAZ	Gaziantep	19.25	301	P	P	11 18 53.5	+0.8
AAK	Ala-Archa	19.26	40	P	P	11 18 51.9	-0.9
	SNR=29						
AAK	Ala-Archa	19.26	40*d*	*i*P	P	11 18 51.0	-1.8
AAK				pmax	pmax		
	comp=Z,85nm,1.2s						
AAK				MLR	MLR		
	comp=Z,900nm,15.0s						
AAK	Ala-Archa	19.26	40	*e*P	P	11 18 50.9	-1.9
	comp=Z,200nm,1.6s						
AAK	Ala-Archa	19.26	40	*e*P	P	11 18 50.9	-1.9
	comp=Z,200nm,1.6s						
JMQS	Jabal Moqyreh	19.30	276	P	P	11 18 52.7	-0.6
KZA	Kyzart	19.34	42	P	P	11 18 54.6	+0.8
	SNR=14						
KIV	Kislovodsk	19.44	325*c*	*i*P	P	11 18 56.5	+1.6
KIV				pmax	pmax		
	comp=Z,165nm,0.9s						
KIV				MLR	MLR		
	comp=Z,555nm,19.0s						
KIV				MLR	MLR		
	comp=E,323nm,16.0s						
KIV	Kislovodsk	19.44	325	*e*P	P	11 18 56.5	+1.6
	comp=E,281nm,1.1s						
KIV	Kislovodsk	19.44	325	*e*P	P	11 18 56.5	+1.6
	comp=E,281nm,1.1s						
PTH	Pithoragarh	19.50	82	*e*P	P	11 18 56.6	+0.9
PTH				*e*		11 23 08.0	
HRI	Mount Hermon	19.51	289	P	P	11 18 56.6	+0.8
LGTI	Lohaghat	19.53	83	*e*P	P	11 18 55.0	-1.0
HMDT	Nahal Hemdat	19.59	286	P	P	11 18 56.6	0.0
CHMS	Chumysh	19.64	39	P	P	11 18 57.0	-0.1
	SNR=7.1						
DRGI	Dragot	19.66	284	P	P	11 18 57.4	0.0
KAHT	Ahir Dag	19.66	302	*i* P	P	11 18 58.2	+0.8
MZDA	Masada	19.68	283	P	P	11 18 58.4	+0.8
USP	Ospenovka	19.68	38	P	P	11 18 56.6	-0.9
	SNR=18						
MMLI	Mount Malkishu	19.69	286	P	P	11 18 58.2	+0.5
HTY	Hatay	19.75	297	P	P	11 19 01.2	+2.8
HTY	Hatay	19.75	297	P	P	11 19 01.1	+2.7
GOA	Goa	19.77	129	*e*P	P	11 19 00.3	+1.6
GOA				*e*		11 22 44.7	
COBT	Iskenderun	19.77	299	*i* P	P	11 18 59.5	+0.9
ZFRI	Zfri	19.83	281	P	P	11 18 59.1	-0.2
LATR	Latur	19.94	117	*e*P	P	11 19 00.0	-0.5
JMOS	Jabal al Moall	19.95	277	P	P	11 19 00.5	-0.1
HNTI	Hanita	19.96	288	P	P	11 19 01.1	+0.4
AQBJ	Aqaba	19.96	278	P	P	11 19 00.3	-0.4
ALWS	Ilw as Safayha	19.98	277	P	P	11 19 00.8	0.0
PRNI	Paran	19.98	280	⇓P	P	11 19 01.0	+0.1
SLTI	Sal'it	19.99	286	⇓P	P	11 19 01.3	+0.2
BDAS	Al Bad'	20.02	275	P	P	11 19 01.2	-0.1
EIL	Elat	20.05	278	⇓P	P	11 19 01.5	-0.1
HAF	Haifa	20.05	287	P	P	11 19 02.0	+0.4
TKM2	Tokmak 2	20.07	41	P	P	11 19 01.4	-0.2
	SNR=17						
OFRI	'Ofer	20.07	287	P	P	11 19 02.1	+0.3
MBH	Mount Berech	20.08	279	⇓P	P	11 19 01.9	0.0
GOF	Gofitskoye	20.08	328⇓	*i*P	P	11 19 03.0	+1.2
GOF				pmax	pmax		
	comp=Z,290nm,1.2s						
TRBA	At Turbah	20.10	222⇓	*e*P	P	11 18 57.6	-4.6
TRBA	At Turbah	20.10	222⇑	*e*P	P	11 18 58.5	-3.7
HAQS	Haql	20.11	276	P	P	11 19 02.1	-0.1
TAYS	Tayyib Ism	20.21	275	P	P	11 19 02.9	-0.4
KMTI	Karmit	20.23	279	⇓P	P	11 19 03.4	0.0
CEYT	Ceyhan	20.31	300	P	P	11 19 04.8	+0.6
CEYT	Ceyhan	20.31	300	P	P	11 19 04.8	+0.6
SVSK	Karacayir	20.48	308	P	P	11 19 04.5	-1.5
SVSK	Karacayir	20.48	308	P	P	11 19 04.5	-1.5
KZIT	Kziot	20.50	282	⇓P	P	11 19 06.3	+0.1
NGP	Nagpur	20.60	107	*e*P	P	11 19 07.8	+0.5
NGP				*e*S	S	11 22 54.3	+3.3
JBP	Jabalpur	20.61	101	*e*	Px	11 19 31.4	
JBP				*e*		11 23 20.9	
SOC	Sochi	20.77	320	*i* P	P	11 19 08.8	-0.1
SOC				*e*		11 19 33.2	
SOC				*e*PPP	PPP	11 19 36.6	-3.4
SOC				*e*S	S	11 22 57.2	+3.2
SOC				*e*		11 23 15.1	
SOC				*e*SS	SS	11 23 24.9	-0.8
SOC				*e*SSS	SSS	11 23 44.8	+4.4
SOC				pmax	pmax		
	comp=Z,80nm,0.8s						
SOC				pmax	pmax		
	comp=N,60nm,0.5s						
SOC				pmax	pmax		
	comp=E,38nm,1.0s						
BNN	Bunyan	20.86	305	P	P	11 19 10.2	+0.3
BNN	Bunyan	20.86	305	P	P	11 19 10.2	+0.3
MEST	Erdemli	21.43	297	*i* P	P	11 19 16.2	+0.5
NIG	Nigde	21.51	302	P	P	11 19 21.6	+5.2
NIG	Nigde	21.51	302	P	P	11 19 21.6	+5.2
AVNT	Avonos	21.55	304	*i* P	P	11 19 17.8	+0.9
CSS	Prodhromos	21.74	293	P	P	11 19 20.0	+1.2
	comp=E,2.9nm,1.0s						
CSS	Prodhromos	21.74	293	*e*P	P	11 19 19.8	+1.0
	comp=E,110nm,0.8s,mb5.3						
CSS	Prodhromos	21.74	293	*e*P	P	11 19 19.8	+1.0
	comp=E,110nm,0.8s,mb5.3						
HYB	Hyderabad	22.07	116	*i* P	P	11 19 21.5	-0.6
	comp=E,200nm,1.0s,mb5.5						
HYB				*e*pP		11 19 37.5	
HYB				*e*S	S	11 23 24.0	+5.5
HYB	Hyderabad	22.07	116	*e*P	P	11 19 21.5	-0.6
	comp=E,200nm,1.0s,mb5.5						
SZAC	Souni-Zanaja	22.07	292	P	P	11 19 23.8	+1.7
ALFC	Alevga	22.36	293	P	P	11 19 26.7	+1.7
BOYT	Boyabat	22.58	310	*i* P	P	11 19 28.9	+1.9
KAMT	Kaman	22.59	304	P	P	11 19 28.5	+1.3
KOLN	Koldanda	22.64	86	*e*P	P	11 19 28.6	+0.7
	comp=E,357nm,1.2s,mb5.7						
BRTR	Keskin Array B	22.77	305	P	P	11 19 29.4	+0.5
	comp=E,8.9nm,0.8s,mb4.2,baz=126,slow=11,SNR=30						
BRTR				LR	LR	11 28 40.1	
	comp=E,659nm,19.5s,MS4.1,baz=165,slow=37						
ANN	Anapa	22.81	320	*e*P	P	11 19 32.9	+3.6
ANN				pmax	pmax		
	comp=Z,69nm,0.9s,mb5.1						
HDMB	Hadim	22.81	298	P	P	11 19 31.4	+2.0
HDMB	Hadim	22.81	298	P	P	11 19 31.4	+2.0
TOS	Tosya	23.01	308	P	P	11 19 31.4	+0.1
TOS	Tosya	23.01	308	P	P	11 19 31.4	+0.1
ELDT	Eldivan	23.21	307	*i* P	P	11 19 34.9	+1.7
ANTO	Ankara	23.43	305	P	P	11 19 37.1	+1.7
GKN	Gorkha	23.52	85	*e*P	P	11 19 37.3	+0.9
	comp=Z,229nm,1.1s,mb5.5						
BALT	Daday	23.66	309	*i* P	P	11 19 41.9	+4.3
KIZT	Kizilcal	23.78	302	P	P	11 19 39.9	+1.1
KIZT	Kizilcal	23.78	302	P	P	11 19 39.9	+1.1
DMN	Daman	23.99	86	*e*P	P	11 19 42.2	+1.3
	comp=Z,233nm,1.2s,mb5.5						
KKN	Kakani	24.11	86	*e*P	P	11 19 43.2	+1.0
	comp=Z,87nm,0.7s,mb5.3						
SGKT	Sivrigoynuk	24.21	306	*i* P	P	11 19 44.0	+1.1
PKI	Pulchoki	24.26	86	*e*P	P	11 19 44.4	+0.8
	comp=Z,398nm,1.1s,mb5.8						
BCK	Bucak	24.40	298	P	P	11 19 39.0	-5.9
ISP	Isparta	24.55	299	P	P	11 19 43.8	-2.5
GUN	Gumba	24.62	85	*e*P	P	11 19 48.0	+0.9
	comp=Z,726nm,1.0s						
ESKT	Eskisehir	24.74	303	P	P	11 19 44.8	-3.3
ESKT	Eskisehir	24.74	303	*i* P	P	11 19 48.6	+0.5
ESKT	Eskisehir	24.74	303	P	P	11 19 44.8	-3.3
MDU	Mudurnu	24.77	305	P	P	11 19 46.7	-1.7
MDU	Mudurnu	24.77	305	P	P	11 19 46.7	-1.7
ELL	Elmali	24.79	296	P	P	11 19 49.5	+0.9
ELL	Elmali	24.79	296	P	P	11 19 49.5	+0.9
SIM	Simferopol'	24.82	317	P	P	11 19 50.6	+1.7
SIM				MLR	MLR		
	comp=Z,520nm,16.6s,MS4.1						
HENT	Hendek	25.12	306	*i* P	P	11 19 51.3	-0.4
ALT	Altintas	25.16	301	P	P	11 19 46.7	-5.4
KHL	Karahalli	25.42	299	P	P	11 19 54.9	+0.4
KHL	Karahalli	25.42	299	P	P	11 19 54.9	+0.3
KHL	Karahalli	25.42	299	P	P	11 19 54.8	+0.3
ZRNK	Zerenda	25.51	16	*e*P	P	11 19 55.4	+0.1
	comp=Z,54nm,0.9s,mb5.1						
ZRNK	Zerenda	25.51	16	*e*P	P	11 19 55.4	+0.2
	comp=Z,54nm,0.9s,mb5.1						
DNZL	Cakiroluk	25.64	298	*i* P	P	11 19 59.0	+2.4
BVAR	Borovoye Array	25.92	17	P	P	11 19 59.4	+0.3
	comp=Z,30nm,0.8s,mb4.9,baz=202,slow=8.0,SNR=84						
BVAR				ScP		11 27 04.7	
	comp=Z,2.8nm,0.6s,baz=180,slow=1.5,SNR=7.0						
BVAR				LR	LR	11 31 50.2	
	comp=Z,18nm,21.5s,baz=330,slow=40						
BRVK	Borovoye	25.93	17	*e*P	P	11 19 58.8	-0.3
	comp=Z,38nm,0.9s,mb4.9						
BRVK	Borovoye	25.93	17	*e*P	P	11 19 58.8	-0.3
	comp=Z,38nm,0.9s,mb4.9						
MDRS	Chennai	26.00	122	*e*	Sx	11 24 51.0	
ULDT	Uludag	26.18	303	*i* P	P	11 20 01.7	+0.1
MKAR	Makanchi Array	26.20	40	P	P	11 20 01.6	-0.1
	comp=Z,20nm,0.9s,mb4.6,baz=225,slow=7.0,SNR=32						
MKAR				LR	LR	11 31 00.8	
	comp=Z,525nm,20.9s,MS4.1,baz=244,slow=38						
VOR	Voronezh	26.86	334	*e*P	P	11 20 09.7	+2.0
VOR				*e**SP	sP	11 20 20.0	-1.5
VOR				pmax	pmax		
	comp=N,140nm,1.2s						
VOR				pmax	pmax		
	comp=E,110nm,1.2s						
VOR				pmax	pmax		
	comp=Z,240nm,1.2s,mb5.6						
KURK	Kurchatov	26.92	30*d*	*i*P	P	11 20 08.2	-0.1
KURK	Kurchatov	26.92	30	*e*P	P	11 20 07.9	-0.3
	comp=Z,20nm,1.0s,mb4.6						
KURK	Kurchatov	26.92	30	*e*P	P	11 20 07.9	-0.4
	comp=Z,20nm,1.0s,mb4.6						
TRD	Trivandrum	26.98	135	*e*P	P	11 20 10.8	+1.7
TRD				AMb	AMB	11 20 12.0	
	comp=Z,52nm,0.7s,mb5.2						
KDAG	Bornova	27.16	299	*i* P	P	11 20 10.9	+0.3
ARU	Arti	27.65	1⇑	*i*P	P	11 20 15.8	+1.0
ARU				*e*		11 21 02.6	
ARU				*e*PPP	PPP	11 21 12.3	-3.2
ARU				*e*		11 23 30.9	
ARU				*e*S	S	11 24 58.4	+5.6
ARU				*e*SS	SS	11 26 14.6	+1.9
ARU				*e*SSS	SSS	11 26 28.2	-2.7
ARU				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.5						
ARU				MLR	MLR		
	comp=N,400nm,15.0s,MS4.2						
ARU				MLR	MLR		
	comp=Z,400nm,15.0s,MS4.1						
ARU				MLR	MLR		
	comp=E,200nm,14.0s,MS4.2						
ARU	Arti	27.65	1	*e*P	P	11 20 14.7	-0.1
	comp=E,15nm,1.0s,mb4.6						
ARU	Arti	27.65	1	*e*P	P	11 20 14.7	-0.1
	comp=E,15nm,1.0s,mb4.6						
SVE	Sverdlovsk	28.11	3⇑	*e*P	P	11 20 19.0	0.0
SVE				*e*		11 21 04.0	
SVE				pmax	pmax		
	comp=Z,40nm,1.2s,mb4.9						
SVE				MLR	MLR		
	comp=Z,2μm,13.0s,MS4.8						
SVE				MLR	MLR		

comp=E,1µm,12.0s
WMQ Urumqi 28.13 50 P **P** **11 20 20.0 +0.7**
WMQ PP PP 11 21 10.0 0.0
WMQ S **S** **11 25 03.0 +2.2**
WMQ SS SS 11 26 24.0 -0.3
WMQ AMB AMB
comp=Z,30nm,1.0s,mb4.9
WMQ LR LR
comp=N,1µm,14.0s,MS4.7
WMQ LR LR
comp=E,967nm,13.0s,MS4.7
WMQ LR LR
comp=Z,1µm,13.0s,MS4.6
IDI Anoyia 28.64 292 P **P** **11 20 24.6 +0.6**
comp=Z,42nm,0.7s,mb5.3,baz=116,slow=11,SNR=12
LSA Lhasa 28.97 80 P **P** **11 20 28.0 +1.0**
MLR Muntele Rosu 30.20 312 P **P** **11 20 39.1 +1.2**
comp=Z,8.8nm,0.8s,mb4.5,baz=76,slow=8.3,SNR=6.5
MLR Muntele Rosu 30.20 312 P **P** **11 20 39.1 +1.2**
SHL Shillong 30.34 88 eS **S** **11 25 33.3 -2.8**
OBN Obninsk 30.49 336 ⇓*i* P **P** **11 20 41.1 +0.8**
OBN *i* pP 11 20 51.8 +2.0
OBN *i* 11 21 54.1
OBN *e*S **S** **11 25 46.5 +8.3**
OBN pmax pmax
comp=Z,56nm,1.3s,mb5.1
OBN MLR MLR
comp=Z,400nm,15.0s,MS4.2
OBN Obninsk 30.49 336 *e*P **P** **11 20 40.4 +0.1**
comp=Z,225nm,1.8s,mb5.6
OBN Obninsk 30.49 336 *e*P **P** **11 20 40.3 0.0**
comp=Z,225nm,1.8s,mb5.6
MOS Moscow 30.61 337 *e*P **P** **11 20 41.9 +0.5**
MOS *e* 11 21 40.1
MOS *e*PPP PPP 11 21 50.5 -6.2
MOS *e*S **S** **11 25 43.0 +2.9**
MOS pmax pmax
comp=Z,210nm,1.5s,mb5.8
MOS MLR MLR
comp=Z,700nm,16.0s,MS4.4
AKASG Malin Array Be 30.76 323 P **P** **11 20 41.4 -1.4**
comp=Z,5.2nm,0.5s,mb4.6,baz=131,slow=8.2,SNR=26
AKASG LR LR 11 35 39.1
comp=Z,411nm,19.3s,MS4.1,baz=135,slow=41
KIEV Kiev 30.76 323 P **P** **11 20 41.0 -1.7**
NVS Novosibirsk 31.83 28 *i* P **P** **11 20 52.1 0.0**
NVS *i* S **S** **11 26 03.1 +3.9**
NVS pmax pmax
comp=Z,44nm,1.1s,mb5.2
NVS pmax pmax
comp=E,11nm,1.0s
NVS pmax pmax
comp=N,25nm,0.9s
NVS smax
comp=N,51nm,1.9s
NVS smax
comp=E,15nm,1.9s
ZAL Zalesovo 31.89 30 P **P** **11 20 51.8 -0.8**
comp=E,14nm,1.0s,mb4.8,baz=158,slow=9.3,SNR=39
ZAL LR LR 11 35 50.1
comp=E,949nm,18.3s,MS4.5,baz=153,slow=40
SKO Skopje 32.27 304 *e*P **P** **11 20 55.0 -1.1**
BOLS Boljevac 32.35 307 ⇑*i*P **P** **11 20 56.0 -0.7**
KOLS Kolonicke sedl 33.85 316 *i* P **P** **11 21 09.7 0.0**
KOLS *e* 11 21 16.7
NVSS Nova Varos 2 33.86 306 ⇓*i*P **P** **11 21 08.3 -1.5**
KWP Kalwaria 33.87 318 *e*P **P** **11 21 09.9 0.0**
PSZ Piszkesteto 34.95 314 *e*P **P** **11 21 18.2 -1.0**
comp=E,6.6nm,0.8s,mb4.6
PSZ Piszkesteto 34.95 314 *e*P **P** **11 21 18.2 -1.0**
comp=E,6.6nm,0.8s,mb4.6
PKSM Moragy 35.26 310 P **P** **11 21 21.2 -0.6**
GRI Girifalco 35.64 297 *e*P **P** **11 21 25.7 +0.5**
SUW Suwalki 35.67 325 *e*P **P** **11 21 26.0 +0.8**
KMBO Kilima Mbogo 35.71 217 P **P** **11 21 27.9 +1.9**
comp=E,11nm,0.7s,mb4.9,baz=27,slow=10,SNR=36
KMBO LR LR 11 37 54.2
comp=E,653nm,18.7s,MS4.4,baz=290,slow=39
KMBO Kilima Mbogo 35.71 217 *e*P **P** **11 21 27.5 +1.5**
comp=E,16nm,0.9s,mb5.0
KMBO Kilima Mbogo 35.71 217 *e*P **P** **11 21 27.5 +1.5**
comp=E,16nm,0.9s,mb5.0
TDS Terranova Siba 35.76 299 *e*P **P** **11 21 27.4 +1.2**
TDS Terranova Siba 35.76 299 *e*P **P** **11 21 27.4 +1.2**
OJC Ojcow 35.83 317 *e*P **P** **11 21 26.2 -0.5**
SOI Samo 35.89 296 *e*P **P** **11 21 28.2 +1.0**
SOI Samo 35.89 296 *e*P **P** **11 21 28.2 +0.9**
GTA Gaotai 36.01 62 P **P** **11 21 29.0 +0.7**
GTA PP PP 11 22 50.0 -0.4
GTA S **S** **11 27 02.3 -1.9**
GTA SS SS 11 29 22.3 -5.3
GTA AMB AMB
comp=Z,14nm,1.2s,mb4.8
GTA AMB AMB
comp=Z,122nm,4.9s
GTA LR LR
comp=N,274nm,14.5s,MS4.3
GTA LR LR
comp=E,258nm,15.2s,MS4.3
GTA LR LR
comp=Z,347nm,13.3s,MS4.3
SLCN Sala Consilina 36.37 300 *e*P **P** **11 21 34.8 +3.6**
MGR Morigerati 36.40 300 *e*P **P** **11 21 31.5 -0.1**
MGR Morigerati 36.40 300 *e*P **P** **11 21 31.5 -0.1**
MRLC Muro Lucano 36.51 301 *e*P **P** **11 21 33.1 +0.6**
MRLC Muro Lucano 36.51 301 *e*P **P** **11 21 33.1 +0.6**
SGO Sicignano 36.63 300 *e*P **P** **11 21 34.0 +0.6**
SGO Sicignano 36.63 300 *e*P **P** **11 21 34.0 +0.5**
VSU Vasula 36.66 333 *e*P **P** **11 21 34.9 +1.4**
JAVC Velka Javorina 36.66 314 P **P** **11 21 34.8 +1.2**
OKC Ostrava-Krasne 36.69 316 *e*P **P** **11 21 34.8 +0.9**
OKC AMS AMS 11 38 20.0
CSSN Cassano Irpino 36.87 301 *e*P **P** **11 21 37.4 +1.9**
CSSN Cassano Irpino 36.87 301 *e*P **P** **11 21 37.4 +1.9**
SOP Sopron 37.03 312 P **P** **11 21 36.7 0.0**
MORC Moravsky Berou 37.04 316 *e*P **P** **11 21 35.4 -1.4**
comp=Z,16nm,1.1s,mb4.8
MORC Moravsky Berou 37.04 316 *e*P **P** **11 21 35.4 -1.4**
comp=Z,16nm,1.1s,mb4.8
VAE Valguarnera 37.17 295 P **P** **11 21 41.2 +3.2**
comp=Z,28nm,0.8s,mb5.2,baz=37,slow=5.9,SNR=4.7
CRES Cresnjev 37.32 309 *e*P **P** **11 21 38.7 -0.5**
VRAC Vranov 37.47 315 P **P** **11 21 40.3 -0.2**
comp=Z,6.9nm,0.8s,mb4.5,baz=83,slow=2.7,SNR=6.5
CII Carovilli 37.49 302 *e*P **P** **11 21 42.0 +1.2**
CII Carovilli 37.49 302 *e*P **P** **11 21 42.0 +1.3**
KRUC Moravsky 37.52 314 P **P** **11 21 41.1 +0.2**
ARSA Arzberg 37.60 311 ⇓*i*P **P** **11 21 40.2 -1.3**
comp=Z,15nm,0.8s,mb4.8
SDI San Donato 37.86 302 *e*P **P** **11 21 43.4 -0.4**
SDI San Donato 37.86 302 *e*P **P** **11 21 43.4 -0.4**
DPC Dobruska-Polom 37.97 316 *e*P **P** **11 21 44.0 -0.6**
DPC AMS AMS 11 38 50.0
comp=Z,600nm,20.3s
CEY Cerknica 38.01 308 *e*P **P** **11 21 44.5 -0.5**
OBKA Obir 38.08 310 ⇑*i*P **P** **11 21 45.4 -0.2**
comp=Z,12nm,0.9s,mb4.6
KSP Ksiaz 38.15 317 *e*P **P** **11 21 46.5 +0.4**
PTQR Pietraquaria 38.20 302 *e*P **P** **11 21 47.6 +0.9**
PTQR Pietraquaria 38.20 302 *e*P **P** **11 21 47.6 +1.0**
UPC Upice 38.20 316 *e*P **P** **11 21 46.4 -0.2**
AQU L'Aquila 38.23 303 *e*P **P** **11 21 48.4 +1.5**
comp=Z,35nm,0.9s,mb5.1
AQU L'Aquila 38.23 303 *e*P **P** **11 21 48.4 +1.5**
comp=Z,35nm,0.9s,mb5.1
JAVS Javornik 38.28 309 *e*P **P** **11 21 46.8 -0.5**
NRCA Norcia 38.49 304 *e*P **P** **11 21 49.1 0.0**
NRCA Norcia 38.49 304 *e*P **P** **11 21 49.1 0.0**
MOA Molln 38.57 312 ⇑*i*P **P** **11 21 49.2 -0.5**
comp=Z,34nm,1.2s,mb5.0
CHG Chiang Mai 38.67 96 P **P** **11 21 50.7 -0.2**
ARV Arcevia 38.70 305 *e*P **P** **11 21 50.8 0.0**
ARV Arcevia 38.70 305 *e*P **P** **11 21 50.8 0.0**
ROBS Robic 38.73 309 *e*P **P** **11 21 50.2 -0.9**
MNS Montasola 38.76 303 *e*P **P** **11 21 52.0 +0.6**
MNS Montasola 38.76 303 *e*P **P** **11 21 52.0 +0.6**
CMAR Chiang Mai Arr 38.81 96 P **P** **11 21 51.5 -0.5**
comp=Z,0.8nm,0.3s,mb3.9,baz=305,slow=6.6,SNR=9.0
CMAR ScP 11 27 48.5
comp=Z,0.3nm,0.4s,baz=297,slow=4.5,SNR=4.5
CMAR Chiang Mai Arr 38.81 96 P **P** **11 21 51.5 -0.5**
FSSB Fossombrone 38.84 305 *e*P **P** **11 21 52.5 +0.5**
PTCC Patocco-Chiusa 38.87 309 *e*P **P** **11 21 51.6 -0.6**
PTCC Patocco-Chiusa 38.87 309 *e*P **P** **11 21 51.6 -0.6**

FINES FINESS Array B 38.89 336 P **P** **11 21 52.2 0.0**
comp=Z,11nm,1.0s,mb4.6,baz=132,slow=9.1,SNR=14
FINES FINESS Array B 38.89 336 P **P** **11 21 52.2 0.0**
PRU Pruhonice 38.95 315 *e*P **P** **11 21 55.3 +2.5**
PRU AMS AMS 11 40 10.0
KBA Koelnbreinsper 39.01 310 ⇓*i*P **P** **11 21 53.0 -0.4**
comp=Z,29nm,1.1s,mb4.9
PVCC Panska Ves 39.09 316 *e*P **P** **11 21 57.1 +3.1**
PVCC AMS AMS 11 39 10.0
comp=Z,700nm,19.8s
MBAR Mbarara 39.10 226 P **P** **11 21 55.3 +0.8**
comp=Z,141nm,1.1s,mb5.6,SNR=18
MBAR Mbarara 39.10 226 *e*P **P** **11 21 55.4 +0.9**
comp=Z,28nm,1.0s,mb4.9
MBAR Mbarara 39.10 226 *e*P **P** **11 21 55.4 +0.9**
comp=Z,28nm,1.0s,mb4.9
LZH Lanzhou 39.17 67 *e*P **P** **11 21 55.7 +0.9**
LZH PP PP 11 23 33.0 +4.4
LZH S **S** **11 27 53.0 +0.7**
LZH SS SS 11 30 42.4 +4.4
LZH AMB AMB
comp=Z,65nm,1.0s,mb5.3
LZH AMB AMB
comp=Z,360nm,4.2s
LZH LR LR
comp=E,2µm,16.0s
LZH LR LR
comp=Z,1µm,17.4s,MS4.9
GERES GERESS Array B 39.17 313 P **P** **11 21 53.9 -0.8**
comp=Z,8.6nm,0.8s,mb4.5,baz=108,slow=8.4,SNR=42
KAF Kangasniemi 39.27 337 *e*p **P** **11 21 56.9 +1.5**
comp=Z,13nm,1.1s,mb4.6
KAF Kangasniemi 39.27 337 *e*P **P** **11 21 56.9 +1.5**
KAF pmax pmax
comp=Z,13nm,1.1s,mb4.6
KHC Kasperske Hory 39.32 314 *e*P **P** **11 21 55.4 -0.6**
KHC *e* 11 22 17.5
KHC Kasperske Hory 39.32 314 *e*P **P** **11 21 55.4 -0.6**
KHC x x 11 22 17.5
CRE Caprese Michel 39.43 305 *e*P **P** **11 21 58.7 +1.8**
CRE Caprese Michel 39.43 305 *e*P **P** **11 21 58.7 +1.8**
SFI Santa Sofia 39.53 305 *e*P **P** **11 21 58.7 +0.9**
SFI Santa Sofia 39.53 305 *e*P **P** **11 21 58.7 +0.9**
BRG Berggiesshubel 39.57 316 *e*P **P** **11 21 57.6 -0.4**
BRG pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
BRG Berggiesshubel 39.57 316 *e*P **P** **11 21 57.6 -0.4**
comp=Z,3.7nm,0.8s,mb4.2
BRG *e* 11 22 02.2
CD2 Chengdu 39.62 75 P **P** **11 22 00.6 +2.0**
CD2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.7
CD2 AMB AMB
comp=Z,20nm,3.3s
CD2 LR LR
comp=E,450nm,13.2s
CD2 LR LR
comp=Z,760nm,20.0s
PGD Poggio Sodo 39.62 305 *e*P **P** **11 21 59.5 +1.0**
VMG Vicchio 39.76 305 *e*P **P** **11 22 00.7 +1.1**
VMG Vicchio 39.76 305 *e*P **P** **11 22 00.7 +1.1**
KMI Kunming 39.96 84 ⇓*e*P **P** **11 22 01.8 +0.3**
KMI PP PP 11 23 34.7 -2.3
KMI S **S** **11 28 05.5 +1.2**
KMI SS SS 11 30 51.9 -3.7
KMI AMB AMB
comp=Z,60nm,1.2s,mb5.2
KMI AMB AMB
comp=Z,101nm,3.1s
KMI LR LR
comp=N,646nm,19.2s,MS4.5
KMI LR LR
comp=E,426nm,21.1s,MS4.5
KMI LR LR
comp=Z,603nm,17.9s,MS4.5
WTTA Wattenberg 40.19 310 ⇑*i*P **P** **11 22 02.2 -0.9**
comp=Z,59nm,1.0s,mb5.3
NANT Nan 40.22 95 P **P** **11 22 03.5 -0.1**
WATA Walderalm 40.24 310 ⇑*i*P **P** **11 22 02.4 -1.1**
comp=Z,16nm,0.7s,mb4.9
CLL Collm 40.26 317 P **P** **11 22 01.5 -2.2**
comp=Z,logA/T=1.1,mb4.6
CLL *i* 11 22 07.6
CLL *e* 11 23 28.0
CLL *e*PP PP 11 23 43.0 +3.2
CLL *e*PPP PPP 11 24 13.0 +6.1
NKC Novy Kostel 40.31 315 *e*P **P** **11 22 03.4 -0.7**
BDI Bagni Di Lucca 40.45 305 *e*P **P** **11 22 06.9 +1.6**
BDI Bagni Di Lucca 40.45 305 *e*P **P** **11 22 06.9 +1.6**
BSD Bornholm Skovb 40.46 323 *i* P **P** **11 22 07.6 +2.3**
comp=Z,44nm,0.7s,mb5.3
SQTA Sankt Quirin 40.47 310 ⇓*i*P **P** **11 22 04.4 -1.0**
comp=Z,26nm,0.6s,mb5.1
MOTA Moosalm 40.56 310 ⇑*i*P **P** **11 22 05.2 -0.9**
comp=Z,19nm,1.0s,mb4.7
ZGN Zaghouan 40.66 293 *i* P **P** **11 22 08.5 +1.4**
GRA1 Grafenberg Arr 40.95 314 *e*P **P** **11 22 08.4 -1.0**
comp=Z,34nm,0.9s,mb5.0
GRF Grafenberg Arr 40.95 314 *e*P **P** **11 22 08.4 -1.0**
GRF pmax pmax
comp=Z,34nm,0.9s,mb5.0
TROT Trozza 41.12 292 *i* P **P** **11 22 12.5 +1.6**
DAVOX Davos 41.29 309 P **P** **11 22 11.1 -1.1**
comp=Z,9.5nm,0.6s,mb4.6,baz=103,slow=6.3,SNR=10
BOB Bobbio (Coli) 41.34 306 *e*P **P** **11 22 13.5 +0.9**
BOB Bobbio (Coli) 41.34 306 *e*P **P** **11 22 13.5 +0.9**
DAVA Damuels 41.37 310 ⇑*i*P **P** **11 22 11.8 -1.0**
comp=Z,48nm,0.9s,mb5.1
PGF Pioggiola 41.49 303 *e*P **P** **11 22 13.4 -0.5**
comp=Z,55nm,1.3s,mb4.7
APA Apatity 41.52 346 ⇓*i*P **P** **11 22 14.0 +0.3**
APA *i* 11 22 26.1
APA *i* 11 23 47.4
APA pmax pmax
comp=Z,52nm,1.0s,mb5.1
TUE Stuetta 41.61 309 P **P** **11 22 17.2 +2.4**
SONM Songino Array 41.77 49 P **P** **11 22 16.7 +0.7**
comp=Z,2.3nm,0.8s,baz=267,slow=7.7,SNR=18
NNT Nongplab 42.07 104 P **P** **11 22 21.0 +2.0**
MCGN Macugnaga 42.49 308 *e*P **P** **11 22 24.9 +2.9**
SBF Sospel 42.71 305 *e*P **P** **11 22 22.8 -1.0**
comp=Z,89nm,0.8s,mb5.2
CMAH Djebel Manchou 42.79 294 P **P** **11 22 26.0 +1.4**
GYA Guiyang 43.03 81 ⇓*i*P **P** **11 22 26.1 -0.6**
GYA S **S** **11 28 53.6 +3.9**
GYA AMB AMB
comp=Z,10.0nm,1.3s,mb4.4
GYA LR LR
comp=N,1µm,15.4s,MS5.2
GYA LR LR
comp=E,2µm,16.4s,MS5.2
GYA LR LR
comp=Z,3µm,15.8s,MS5.3
KKTK Khon Kaen 43.05 97 P **P** **11 22 27.0 0.0**
HFS Hagfors 43.16 329 P **P** **11 22 27.1 -0.1**
comp=Z,9.2nm,0.6s,mb4.7,baz=129,slow=9.2,SNR=9.2
MBDF Montbardon 43.24 306 *e*P **P** **11 22 26.8 -1.3**
comp=Z,43nm,0.9s,mb4.9
FRF La Foret Royal 43.26 304 *e*P **P** **11 22 27.0 -1.3**
CDF Champ du Feu 43.27 311 *e*P **P** **11 22 26.5 -1.8**
comp=Z,15nm,0.9s,mb4.4
LPG La Plagne 43.31 307 *e*P **P** **11 22 27.6 -1.1**
comp=Z,45nm,0.9s,mb4.9
LPL La Plagne 43.32 307 *e*P **P** **11 22 27.6 -1.2**
comp=Z,36nm,0.8s,mb4.8
BNI Bardonecchia 43.33 306 *e*P **P** **11 22 27.0 -1.8**
comp=Z,17nm,0.8s,mb4.8
BNI Bardonecchia 43.33 306 *e*P **P** **11 22 27.0 -1.8**
comp=Z,17nm,0.8s,mb4.8
XAN Xi'an 43.50 70 P **P** **11 22 30.3 -0.1**
XAN S **S** **11 28 53.4 -3.0**
XAN AMB AMB
comp=Z,15nm,1.5s,mb4.5
XAN LR LR
comp=N,8µm,12.9s
XAN LR LR
comp=E,5µm,12.1s
XAN LR LR
comp=Z,6µm,14.2s,MS5.6
CASM Ain Smara 43.57 294 P **P** **11 22 32.0 +1.1**
CTEI Djebel Teioual 43.66 293 P **P** **11 22 33.0 +1.4**
CABF La Chapelle 43.86 309 *e*P **P** **11 22 31.5 -1.6**
comp=Z,21nm,0.7s,mb4.7
BTO Baotou 43.87 60 *e*P **P** **11 22 37.9 +4.6**
ORIF Oris-en-Rattie 43.88 306 *e*P **P** **11 22 32.7 -0.6**

comp=Z,22nm,1.0s,mb4.5
ORIF *e*R
comp=Z,450nm,20.2s
DFRA Djebel Bou Aff 44.04 294 P **P** **11 22 37.0 +2.3**
CMER Merouana 44.11 293 P **P** **11 22 38.0 +2.6**
CKHR Kef el Ahmar 44.38 293 P **P** **11 22 38.5 +1.0**
SET Setif 44.45 294 P **P** **11 22 40.0 +1.9**
ENH Enshi 44.59 75 *e*P **P** **11 22 39.5 +0.2**
comp=Z,17nm,0.7s,mb5.0
ENH Enshi 44.59 75 *e*P **P** **11 22 39.5 +0.2**
comp=Z,17nm,0.7s,mb5.0
NB2 NORSAR Subarra 44.65 330 P **P** **11 22 37.7 -1.6**
comp=Z,7.6nm,0.7s,mb4.6,baz=114,slow=7.9
NOA NORSAR Array B 44.65 330 P **P** **11 22 38.2 -1.1**
comp=Z,5.5nm,0.7s,mb4.5,baz=115,slow=8.0,SNR=18
NOA LR LR 11 43 42.8
comp=Z,244nm,18.1s,MS4.2,baz=125,slow=39
KEV Kevo 44.67 345 *e*p **P** **11 22 36.6 -2.8**
VIVF Saint-Julien-l 44.74 306 *e*P **P** **11 22 38.8 -1.4**
comp=Z,48nm,1.1s,mb4.9
MEZF Maizieres J'vi 44.75 311 *e*P **P** **11 22 42.5 +2.2**
ARCES ARCESS Array B 44.85 345 P **P** **11 22 40.9 +0.1**
comp=Z,14nm,1.0s,mb4.7,baz=146,slow=8.7,SNR=8.4
ARCES ScP 11 28 10.5
comp=Z,2.9nm,0.9s,baz=143,slow=4.5,SNR=4.1
ARCES LR LR 11 45 16.9
comp=Z,464nm,18.3s,MS4.5,baz=341,slow=41
ARCES ARCESS Array B 44.85 345 P **P** **11 22 40.9 +0.1**
ARCES ScP 11 28 10.5
ARCES LR LR 11 45 16.9
AREO ARCESS Array S 44.85 345 *e*P **P** **11 22 43.5 +2.7**
HHC Hu-ho-hao-te 45.04 60 *e*P **P** **11 22 46.9 +4.2**
HHC AP pP 11 23 01.0 +8.5
HHC XP sP 11 23 14.1 +18
HHC PCP PcP 11 24 24.2 +0.5
HHC PCS 11 28 17.4
HHC S **S** **11 29 24.3 +5.7**
HHC SCS ScS 11 32 31.9 -2.7
HHC AMB AMB
comp=Z,133nm,4.6s
HHC LR LR
comp=N,1µm,15.1s,MS5.1
HHC LR LR
comp=E,1µm,13.9s,MS5.1
HHC LR LR
comp=Z,558nm,12.3s,MS4.7
GIVF Givet 45.09 313 *e*P **P** **11 22 41.3 -1.7**
LASF Ste Croix 45.30 305 *e*P **P** **11 22 43.6 -1.1**
comp=Z,35nm,1.0s,mb4.8
SMF Signal de Mont 45.41 308 *e*P **P** **11 22 44.3 -1.3**
comp=Z,86nm,1.1s,mb5.2
LOR Lormes 45.44 309 *e*P **P** **11 22 44.2 -1.6**
comp=Z,16nm,0.8s,mb4.6
LOR *e*R
comp=Z,512nm,17.5s
BAIF Baives 45.48 313 *e*P **P** **11 22 46.3 +0.2**
SSF Saint Saulge 45.66 309 *e*P **P** **11 22 46.4 -1.2**
comp=Z,17nm,0.8s,mb5.0
EJON La Jonquera 46.01 303 P **P** **11 22 51.6 +1.3**
comp=Z,10nm,0.5s,mb5.0
EJON La Jonquera 46.01 303 P **P** **11 22 51.6 +1.2**
comp=Z,10nm,0.5s,mb5.0,SNR=11
BGF Bois d'Agland 46.09 308 *e*P **P** **11 22 50.6 -0.3**
comp=Z,31nm,0.9s,mb4.9
MTLF Montolieu 46.48 304 *e*P **P** **11 22 53.5 -0.6**
comp=Z,60nm,1.2s,mb5.1
TCF Toulx Ste Croi 46.52 308 *e*P **P** **11 22 53.4 -0.9**
comp=Z,23nm,0.9s,mb4.8
CAF Calviac 46.59 306 *e*P **P** **11 22 54.1 -0.8**
comp=Z,36nm,0.9s,mb5.0
RJF Les Rejaudoux 46.98 306 *e*P **P** **11 22 57.5 -0.5**
comp=Z,28nm,0.7s,mb5.0
RJF *e*R
comp=Z,541nm,20.5s
EMIR Miracle 47.04 302 P **P** **11 22 58.4 -0.1**
comp=Z,15nm,0.8s,mb5.0
EMIR Miracle 47.04 302 P **P** **11 22 58.4 -0.1**
comp=Z,15nm,0.8s,mb5.0,SNR=7.9
EIBI Ibiza 47.38 298 P **P** **11 23 00.2 -1.1**
comp=Z,56nm,1.9s,mb5.2
EIBI Ibiza 47.38 298 P **P** **11 23 00.2 -1.1**
comp=Z,56nm,1.9s,mb5.2,SNR=7.9
EPOB Poblet 47.40 301 P **P** **11 23 01.6 +0.2**
comp=Z,13nm,0.8s,mb4.9
EPOB Poblet 47.40 301 P **P** **11 23 01.6 +0.2**
comp=Z,13nm,0.8s,mb4.9,SNR=6.3
LFF La Frestale 47.53 306 *e*P **P** **11 23 01.7 -0.7**
comp=Z,34nm,0.7s,mb5.2
EBR Ebro Roquetas 47.88 300 *e*P **P** **11 23 05.2 0.0**
QIZ Qiongzhong 48.15 90 *e*P **P** **11 23 07.4 -0.1**
MFF Saint Martin d 48.15 308 *e*P **P** **11 23 05.7 -1.5**
LDF La Druitiere 48.19 311 *e*P **P** **11 23 05.2 -2.2**
comp=Z,15nm,0.6s,mb4.9
BOD Bodaibo 48.20 37 *e*P **P** **11 23 06.4 -1.0**
FLN La Foliniere 48.43 311 *e*P **P** **11 23 07.8 -1.5**
FLN *e*R
comp=Z,364nm,17.0s
ETSF Etsaut 48.53 303 *e*P **P** **11 23 09.6 -0.5**
comp=Z,43nm,1.1s,mb5.1
BJI Beijing 48.60 61 P **P** **11 23 11.5 +0.8**
BJI AMB AMB
comp=Z,7.0nm,0.8s,mb4.7
EMOS Mosqueruela 48.65 300 P **P** **11 23 11.1 -0.1**
comp=Z,9.8nm,1.1s,mb4.8
EMOS Mosqueruela 48.65 300 P **P** **11 23 11.1 0.0**
comp=Z,9.8nm,1.1s,mb4.8
SJPF Ste Jean 49.01 304 *e*P **P** **11 23 13.1 -0.7**
EVIA Vianos 50.41 298 P **P** **11 23 23.6 -1.0**
comp=Z,22nm,0.6s,mb5.4
EVIA Vianos 50.41 298 P **P** **11 23 23.6 -1.0**
comp=Z,22nm,0.6s,mb5.3,SNR=5.5
ELAN Lanestosa 50.61 304 P **P** **11 23 25.9 -0.2**
comp=Z,8.7nm,2.5s,mb4.2
ELAN Lanestosa 50.61 304 P **P** **11 23 25.9 -0.2**
comp=Z,8.7nm,2.5s,mb4.2,SNR=7.9
HIA Hailar 50.71 48 *e*P **P** **11 23 25.8 -1.0**
comp=Z,14nm,1.0s,mb4.9
HIA Hailar 50.71 48 *e*P **P** **11 23 25.8 -1.0**
comp=Z,14nm,1.0s,mb4.9
EQES Quesada 50.97 297 P **P** **11 23 26.1 -2.8**
comp=Z,20nm,0.6s,mb5.2
EBER Berja 50.98 296 P **P** **11 23 28.1 -0.8**
comp=Z,26nm,0.7s,mb5.3
EBER Berja 50.98 296 P **P** **11 23 28.1 -0.8**
comp=Z,26nm,0.7s,mb5.3,SNR=13
ESDC Sonseca Array 51.39 299 P **P** **11 23 31.4 -0.7**
comp=Z,5.1nm,0.8s,mb4.5,baz=72,slow=6.6,SNR=5.9
ESDC LR LR 11 48 19.9
comp=Z,176nm,21.4s,MS4.1,baz=320,slow=40
ESDC Sonseca Array 51.39 299 P **P** **11 23 30.6 -1.5**
comp=Z,6.0nm,1.0s,mb4.5
ESDC Sonseca Array 51.39 299 P **P** **11 23 30.6 -1.5**
comp=Z,6.0nm,1.0s,mb4.5,SNR=4.6
ERON Agron 51.68 296 P **P** **11 23 32.4 -1.9**
comp=Z,9.0nm,0.6s,mb4.9,SNR=5.5
EARI Arriondas 51.90 304 P **P** **11 23 36.0 +0.2**
comp=Z,31nm,1.6s,mb5.0
EARI Arriondas 51.90 304 P **P** **11 23 36.0 +0.1**
comp=Z,31nm,1.6s,mb5.0,SNR=7.9
NJ2 Nanjing 52.06 70 *e*P **P** **11 23 36.2 -1.0**
NJ2 S **S** **11 30 56.0 -1.2**
NJ2 AMB AMB
comp=Z,30nm,0.9s,mb5.2
NJ2 AMB AMB
comp=Z,300nm,7.6s
EADA Adamuz 52.09 298 P **P** **11 23 36.0 -1.4**
comp=Z,25nm,1.0s,mb5.1
EADA Adamuz 52.09 298 P **P** **11 23 36.0 -1.4**
comp=Z,25nm,1.0s,mb5.1,SNR=13
LSZ Lusaka 52.38 217 *e*P **P** **11 23 40.3 +0.5**
comp=Z,12nm,0.9s,mb4.8
LSZ Lusaka 52.38 217 *e*P **P** **11 23 40.3 +0.5**
comp=Z,12nm,0.9s,mb4.8
EMIJ Mijas 52.52 296 P **P** **11 23 37.2 -3.4**
comp=Z,6.6nm,1.3s,mb4.4
ESPR Espera 53.32 296 P **P** **11 23 44.1 -2.4**
comp=Z,13nm,0.6s,mb5.0
ESPR Espera 53.32 296 P **P** **11 23 44.1 -2.5**
comp=Z,13nm,0.6s,mb5.0,SNR=9.5
EMIN Mina Concepcio 53.79 297 P **P** **11 23 47.8 -2.1**
comp=Z,6.4nm,0.8s,mb4.6
EMIN Mina Concepcio 53.79 297 P **P** **11 23 47.8 -2.2**
comp=Z,6.4nm,0.8s,mb4.6,SNR=6.0
EBAD Badajoz 53.88 299 P **P** **11 23 49.1 -1.5**
comp=Z,7.0nm,0.7s,mb4.7
EBAD Badajoz 53.88 299 P **P** **11 23 49.1 -1.5**
comp=Z,7.0nm,0.7s,mb4.7,SNR=5.2

MTE	**Manteigas**	**54.01**	**301**	*e*P	**P**	**11 23 55.1**	**+3.6**
MTE				*e*-		12 29 45.1	
PCBR	**Castelo Branco**	**54.05**	**300**	*e*P	**P**	**11 23 52.1**	**+0.3**
	comp=Z,19nm,1.3s,mb4.9						
SSE	**Sheshan**	**54.22**	**71**	*e*P	**P**	**11 23 50.9**	**-2.3**
SSE				S	**S**	**11 31 26.2**	**-0.4**
SSE				AMB	AMB		
	comp=Z,21nm,0.8s,mb5.1						
PALC	**Alcoutim**	**54.48**	**297**	*e*P	**P**	**11 23 54.0**	**-1.0**
PBEJ	**Beja**	**54.67**	**298**	*e*P	**P**	**11 23 55.5**	**-0.9**
EVO	**Evora**	**54.69**	**299**	*e*P	**P**	**11 23 56.3**	**-0.3**
	comp=Z,33nm,1.0s,mb5.0						
EVO				*e*R			
	comp=Z,302nm,22.5s						
CN2	**Changchun**	**55.03**	**55**	*e*P	**P**	**11 23 58.1**	**-0.9**
CN2				*e*S	**S**	**11 31 37.0**	**-0.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
CN2				LR	LR		
	comp=N,500nm,14.0s,MS5.0						
CN2				LR	LR		
	comp=E,700nm,14.0s,MS5.0						
CN2				LR	LR		
	comp=Z,800nm,16.0s,MS4.9						
PTEO	**Sao Teotonio**	**55.43**	**298**	*e*P	**P**	**11 24 00.1**	**-1.9**
	comp=Z,36nm,1.5s,mb5.2						
YAK	**Yakutsk**	**56.52**	**32**	*e*P	**P**	**11 24 09.7**	**+0.3**
YAK				pmax	pmax		
	comp=E,15nm,1.2s						
YAK				pmax	pmax		
	comp=Z,24nm,1.2s,mb5.1						
YAK	**Yakutsk**	**56.52**	**32**	*e*P	**P**	**11 24 07.6**	**-1.8**
	comp=Z,19nm,0.7s,mb5.2						
YAK	**Yakutsk**	**56.52**	**32**	*e*P	**P**	**11 24 07.6**	**-1.8**
	comp=Z,19nm,0.7s,mb5.2						
TIXI	**Tiksi**	**56.98**	**21**	⇓*i*P	**P**	**11 24 12.1**	**-0.6**
TIXI				*e*		11 25 04.4	
TIXI				*e*S	**S**	**11 32 08.0**	**+5.2**
TIXI				*e*SS	SS	11 35 48.1	-4.6
TIXI				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
TIXI				MLR	MLR		
	comp=Z,2μm,17.0s,MS5.2						
TIXI	**Tiksi**	**56.98**	**21**	⇓*i*P	**P**	**11 24 12.2**	**-0.5**
MDJ	**Mudanjiang**	**57.85**	**53**	P	**P**	**11 24 16.2**	**-2.9**
MDJ				AMB	AMB		
	comp=Z,52nm,4.7s						
KS15	**Wonju Array Si**	**58.06**	**62**	P	**P**	**11 24 19.5**	**-1.1**
KS15	**Wonju Array Si**	**58.06**	**62**	P	**P**	**11 24 19.5**	**-1.1**
KLR	**Kul'dur**	**58.55**	**48**	*e*P	**P**	**11 24 19.0**	**-4.9**
TSUM	**Tsumeb**	**61.58**	**224**	P	**P**	**11 24 45.6**	**+0.6**
	comp=Z,14nm,0.9s,mb5.1,baz=19,slow=6.9,SNR=28						
TSUM	**Tsumeb**	**61.58**	**224**	*e*P	**P**	**11 24 45.6**	**+0.6**
	comp=Z,21nm,1.0s,mb5.2						
DBIC	**Dimbokro**	**62.97**	**262**	P	**P**	**11 24 53.7**	**-0.7**
	comp=Z,19nm,0.8s,mb5.3,baz=52,slow=6.2,SNR=16						
DBIC				LR	LR	11 55 15.0	
	comp=Z,625nm,19.8s,MS4.8,baz=38,slow=39						
DBIC	**Dimbokro**	**62.97**	**262**	*e*P	**P**	**11 24 53.2**	**-1.2**
	comp=Z,23nm,0.8s,mb5.4						
DBIC	**Dimbokro**	**62.97**	**262**	*e*P	**P**	**11 24 53.2**	**-1.2**
	comp=Z,23nm,0.8s,mb5.4						
KIC	**Kosan Boka**	**63.02**	**262**	*e*P	**P**	**11 24 54.1**	**-0.6**
	comp=Z,121nm,1.0s,mb6.0						
TIC	**Toumodi**	**63.13**	**263**	*e*P	**P**	**11 24 54.6**	**-0.8**
	comp=Z,139nm,1.1s,mb6.0						
LIC	**Lamto**	**63.34**	**262**	*e*P	**P**	**11 24 56.0**	**-0.8**
	comp=Z,78nm,0.9s,mb5.8						
LIC	**Lamto**	**63.34**	**262**	*e*P	**P**	**11 24 55.2**	**-1.6**
	comp=Z,28nm,0.9s,mb5.4						
SUMG	**Summit**	**64.70**	**341**	*e*P	**P**	**11 25 04.8**	**-0.1**
	comp=Z,36nm,1.0s,mb5.4						
SUMG	**Summit**	**64.70**	**341**	*e*P	**P**	**11 25 04.8**	**-0.1**
	comp=Z,36nm,1.0s,mb5.4						
YSS	**Yuzh-Sakhalins**	**66.25**	**48**	⇓*e*P	**P**	**11 25 13.0**	**-2.2**
YSS				*e*		11 25 19.5	
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.3						
YSS	**Yuzh-Sakhalins**	**66.25**	**48**	*e*P	**P**	**11 25 13.2**	**-2.0**
	comp=Z,32nm,1.0s,mb5.3						
YSS	**Yuzh-Sakhalins**	**66.25**	**48**	*e*P	**P**	**11 25 13.2**	**-2.0**
	comp=Z,32nm,1.0s,mb5.3						
SEY	**Seymchan**	**66.77**	**30**	*e*P	**P**	**11 25 18.1**	**-0.1**
SEY				*e*		11 27 40.3	
SEY				*e*S	S	11 34 06.6	0.0
SEY						11 35 02.9	
SEY				*e*SSS	SSS	11 41 22.3	-0.5
SEY				pmax	pmax		
	comp=Z,50nm,1.1s,mb5.5						
SEY				MLR	MLR		
	comp=Z,3μm,17.0s,MS5.6						
SUR	**Sutherland**	**70.29**	**213**	*e*P	**P**	**11 25 41.0**	**+0.4**
	comp=Z,39nm,1.1s,mb5.2						
SUR	**Sutherland**	**70.29**	**213**	*e*P	**P**	**11 25 41.0**	**+0.4**
	comp=Z,39nm,1.1s,mb5.2						
MBWA	**Marble Bar**	**77.58**	**123**	*e*P	**P**	**11 26 21.5**	**-1.6**
	comp=Z,15nm,1.1s,mb4.8						
MBWA	**Marble Bar**	**77.58**	**123**	*e*P	**P**	**11 26 21.5**	**-1.6**
	comp=Z,15nm,1.1s,mb4.8						
FITZ	**Fitzroy Crossi**	**80.30**	**117**	P	**P**	**11 26 37.5**	**-0.4**
	comp=Z,15nm,0.8s,mb5.0,baz=304,slow=3.3,SNR=24						
FITZ	**Fitzroy Crossi**	**80.30**	**117**	*e*P	**P**	**11 26 37.6**	**-0.3**
	comp=Z,14nm,0.7s,mb5.0						
IMA	**Indian Mountai**	**82.41**	**12**	*e*P	**P**	**11 26 48.6**	**+0.6**
	comp=Z,37nm,1.0s,mb5.3						
KLBR	**Kellerberrin**	**82.72**	**132**	*e*P	**P**	**11 26 49.9**	**-0.5**
	comp=Z,94nm,1.5s,mb5.6						
KAKA	**Kakadu**	**82.85**	**109**	*e*P	**P**	**11 26 56.1**	**+4.8**
	comp=Z,33nm,0.9s,mb5.4						
NWAO	**Narrogin (SRO)**	**83.25**	**133**	P	**P**	**11 26 52.9**	**-0.1**
	comp=Z,27nm,0.9s,mb5.3,baz=288,slow=7.6,SNR=5.5						
NWAO	**Narrogin (SRO)**	**83.25**	**133**	*e*P	**P**	**11 26 52.0**	**-1.0**
	comp=Z,36nm,1.0s,mb5.4						
NWAO	**Narrogin (SRO)**	**83.25**	**133**	*e*P	**P**	**11 26 52.0**	**-1.0**
	comp=Z,36nm,1.0s,mb5.4						
SCHQ	**Schefferville**	**84.20**	**331**	P	**P**	**11 26 58.2**	**+0.9**
	comp=Z,4.0nm,0.8s,mb4.6,baz=72,slow=11,SNR=2.8						
SCHQ	**Schefferville**	**84.20**	**331**	P	**P**	**11 26 58.2**	**+0.9**
ILAR	**Eielson Array**	**84.78**	**10**	P	**P**	**11 26 59.4**	**-0.6**
	comp=Z,1.2nm,0.7s,mb4.2,baz=318,slow=4.7,SNR=25						
ILAR	**Eielson Array**	**84.78**	**10**	P	**P**	**11 26 59.3**	**-0.7**
MCK	**McKinley**	**85.40**	**12**	*e*P	**P**	**11 27 03.1**	**0.0**
	comp=Z,14nm,1.3s,mb4.9						
MCK	**McKinley**	**85.40**	**12**	*e*P	**P**	**11 27 03.1**	**0.0**
	comp=Z,14nm,1.3s,mb4.9						
DAWY	**Dawson**	**86.47**	**8**	*e*P	**P**	**11 27 08.7**	**+0.2**
DAWY	**Dawson**	**86.47**	**8**	*e*P	**P**	**11 27 08.6**	**+0.2**
SML	**Sawmill**	**87.28**	**12**	*e*P	**P**	**11 27 12.3**	**-0.1**
SML	**Sawmill**	**87.28**	**12**	*e*P	**P**	**11 27 12.3**	**-0.1**
PMR	**Palmer**	**87.33**	**13**	*e*P	**P**	**11 27 12.6**	**0.0**
	comp=Z,23nm,1.3s,mb5.2						
PMR				*e*		11 27 39.9	
PMR	**Palmer**	**87.33**	**13**	*e*P	**P**	**11 27 12.6**	**0.0**
WRA	**Warramunga Arr**	**88.20**	**114**	P	**P**	**11 27 17.2**	**-0.6**
	comp=Z,11nm,1.1s,mb5.0,baz=317,slow=4.0,SNR=57						
WRAB	**Tennant Creek**	**88.21**	**114**	*e*P	**P**	**11 27 17.1**	**-0.7**
	comp=Z,14nm,0.8s,mb5.3						
WRAB	**Tennant Creek**	**88.21**	**114**	*e*P	**P**	**11 27 17.1**	**-0.7**
	comp=Z,14nm,0.8s,mb5.3						
WB2	**Warramunga Arr**	**88.21**	**114**	*e*P	**P**	**11 27 17.5**	**-0.4**
YKA	**Yellowknife Ar**	**88.86**	**357**	P	**P**	**11 27 19.7**	**-0.2**
	comp=Z,5.0nm,0.8s,mb4.9,baz=359,slow=5.4,SNR=6.7						
YKA				LR	LR	12 07 36.4	
	comp=Z,243nm,20.4s,MS4.6,baz=15,slow=36						
FORT	**Forrest**	**89.27**	**126**	*e*P	**P**	**11 27 23.6**	**+0.9**
	comp=Z,102nm,0.7s						
ASPA	**Alice Springs**	**89.79**	**117**	*e*P	**P**	**11 27 25.2**	**-0.1**
ASAR	**Alice Springs**	**89.79**	**117**	P	**P**	**11 27 25.0**	**-0.3**
	comp=Z,2.9nm,0.5s,mb4.9,baz=304,slow=4.8,SNR=46						
MAW	**Mawson**	**96.15**	**178**	P	**P**	**11 27 55.6**	**+2.1**
	comp=Z,3.5nm,0.9s,mb4.8,baz=308,slow=7.0,SNR=7.0						
MAW				LR	LR	12 04 25.5	
	comp=Z,133nm,18.8s,MS4.4,baz=162,slow=31						
MAW	**Mawson**	**96.15**	**178**	*e*P	**P**	**11 27 54.4**	**+0.9**
	comp=Z,5.1nm,1.0s,mb4.9						
SYO	**Syowa Base**	**98.42**	**187**	⇑P	**P**	**11 28 05.1**	**+1.5**
SYO	**Syowa Base**	**98.42**	**187**	⇑pPdiff		11 28 09.4	
SYO	**Syowa Base**	**98.42**	**187**	⇑PP	PP	11 32 06.1	-0.5
SYO	**Syowa Base**	**98.42**	**187**	⇓pPKiKP		11 32 40.8	
SNAA	**Sanae**	**108.57**	**197**	⇑*i*Pdif	Pdif	11 28 49.9	+1.3
SNAA				*e*		11 32 46.8	
VNA1	**Neumayer--Stat**	**109.46**	**199**	⇓*i*P	Pdif	11 28 49.9	-2.7
VNA3	**Neumayer Olymp**	**110.17**	**199**	*e*Pdif	Pdif	11 28 55.4	-0.3
VNA3				*e*		11 32 52.5	
NVAR	**Mina Array Bea**	**113.06**	**357**	PKiKP		11 33 02.8	
	comp=Z,0.8nm,1.1s,baz=325,slow=1.3,SNR=3.6						
NVAR				PKKPbc		11 43 53.9	
	comp=Z,0.5nm,0.6s,baz=190,slow=4.9,SNR=5.4						
NVAR	**Mina Array Bea**	**113.06**	**357**	PKPdf	PKPdf	11 33 02.8	-4.7
NVAR				PKKPbc		11 43 53.9	
QSPA	**South Pole Qui**	**118.61**	**180**	*e*PKP	PKPdf	11 33 14.7	-2.8
QSPA				LR	LR		
	comp=Z,210nm,22.0s,MS4.7						
TXAR	**Lajitas Array**	**119.60**	**341**	PKP	PKPdf	11 33 16.4	-4.1
	comp=Z,0.4nm,0.6s,baz=187,slow=1.8,SNR=7.2						
SBA	**Scott Base**	**121.88**	**166**	PKPdf	PKPdf	11 33 20.3	-3.6
CPUP	**Villa Florida**	**123.17**	**256**	PKP	PKPdf	11 33 23.0	-4.5
	comp=Z,1.9nm,0.6s,baz=253,slow=18,SNR=3.4						
CPUP	**Villa Florida**	**123.17**	**256**	PKP	PKPdf	11 33 23.0	-4.5
LPAZ	**La Paz**	**129.01**	**272**	PKP	PKPdf	11 33 35.2	-3.8
	comp=Z,1.0nm,1.0s,baz=44,slow=5.1,SNR=3.9						

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*LDG **06** 11:17:44.3±0.2, 42.84N×1.45W, h3^{km}, Md2.6/2, Ml2.5/6, Error ellipse: s-maj=3.1km s-min=2.0km az=42.0*
*STR **06** 11:17:44.8±0.6, 42.89N×1.42W, h5^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **06** 11:17:44.3, 42.84N×1.45W, h3^{km}, ML2.5(LDG), ML2.2(STR), MN2.0(MDD), After LDG.*
*CSEM **06** 11:17:45.2±0.1, 42.88N×1.41W, h5^{km}, ML2.5/5, Error ellipse: s-maj=1.9km s-min=1.2km az=117.0*
*MDD **06** 11:17:45.4±0.4, 42.87N×1.41W, h6^{km}±4^{km}, mbLg2.0/6, Error ellipse: s-maj=3.3km s-min=2.3km az=33.0, PRXIMO AftershockPLICA*
ISC 06 11:17:43.8±0.6**, 42.86N**±0.03×**1.43W**±0.04**, h12**^{km}±3^{km}**, n30,** σ1s**24**/49**, 1C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.29**	**31**	*e*Pg	**Pg**	**11 17 50.8**	**+0.8**
SJPF				*e*Sg	**Sg**	**11 17 53.6**	**-0.6**
	201nm,0.4s						
EALK	**Alkurruntz**	**0.36**	**351**	⇑Pg	**Pg**	**11 17 52.0**	**+0.7**
	4.0nm,0.1s,SNR=18						
EALK				Lg		11 17 57.7	
	48nm,0.2s,SNR=7.9						
LARF	**Larrau**	**0.37**	**61**	Pg	**Pg**	**11 17 51.9**	**+0.4**
LARF				Sg	**Sg**	**11 17 57.4**	**+0.8**
LARF	**Larrau**	**0.37**	**61**	P	**Pg**	**11 17 51.8**	**+0.3**
LARF				S	**Sg**	**11 17 57.5**	**+0.8**
OSSF	**Osses**	**0.41**	**17**	Pg	**Pg**	**11 17 52.8**	**+0.5**
OSSF				Sg	**Sg**	**11 17 57.3**	**-0.7**
OSSF	**Osses**	**0.41**	**17**	P	**Pg**	**11 17 52.8**	**+0.5**
OSSF				S	**Sg**	**11 17 59.0**	**+1.0**
ORDF	**Ordiarp**	**0.51**	**46**	P	**Pb**	**11 17 54.6**	**+0.5**
ORDF				S	**Sb**	**11 18 01.8**	**+0.7**
FDAF	**Les Forges d'A**	**0.64**	**94**	Pg	**Pg**	**11 17 56.6**	**-0.1**
FDAF				Sg	**Sg**	**11 18 05.7**	**+0.4**
FDAF	**Les Forges d'A**	**0.64**	**94**	P	**Pb**	**11 17 56.8**	**+0.5**
FDAF				S	**Sb**	**11 18 06.2**	**+1.3**
ETSF	**Etsaut**	**0.64**	**86**	*e*Pg	**Pg**	**11 17 56.2**	**-0.6**
ETSF				*e*Sg	**Sg**	**11 18 05.5**	**0.0**
	27nm,0.3s						
REYF	**Montagne du Re**	**0.79**	**74**	S	**Sb**	**11 18 10.4**	**+1.0**
VIEF	**Viey**	**1.07**	**88**	S	**Sb**	**11 18 19.3**	**+1.8**
LABF	**Labassere**	**1.12**	**80**	Pg	**Pg**	**11 18 05.4**	**-0.9**
LABF				Sg	**Sg**	**11 18 21.1**	**-0.2**
LABF	**Labassere**	**1.12**	**80**	P	**Pb**	**11 18 05.5**	**+0.8**
LABF				S	**Sb**	**11 18 20.7**	**+1.8**
RESF	**Ens**	**1.30**	**92**	S	**Sb**	**11 18 27.1**	**+2.9**
ESAC	**San Caprasio**	**1.34**	**148**	Pg	**Pg**	**11 18 09.1**	**-1.6**
	29nm,0.2s,SNR=118						
ESAC				Lg		11 18 27.3	
	39nm,0.3s,SNR=7.9						
ESAC	**San Caprasio**	**1.34**	**148**	Pg	**Pg**	**11 18 09.1**	**-1.6**
	29nm,0.2s,SNR=118						
EGRA	**Graus**	**1.45**	**117**	Pg	**Pg**	**11 18 11.9**	**-1.0**
	2.3nm,0.2s,SNR=7.9						
EGRA				Lg		11 18 31.5	
	4.7nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**1.51**	**285**	Pn	**Pn**	**11 18 12.8**	**+2.0**
	1.2nm,0.1s,SNR=12						
ELAN				Lg		11 18 34.1	
	2.2nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**1.51**	**285**	Pn	**Pn**	**11 18 12.8**	**+1.9**
	1.2nm,0.1s,SNR=12						
ETOR	**Torete**	**2.09**	**193**	Pn	**Pn**	**11 18 19.7**	**+0.5**
	3.9nm,0.3s,SNR=7.4						
ETOR				Pg	**Pg**	**11 18 24.1**	**-1.6**
	SNR=7.9						
ETOR				Sn	**Sn**	**11 18 47.0**	**+1.7**
	12nm,0.3s,SNR=7.9						
ETOR				Lg		11 18 53.0	
	SNR=7.9						
EPOB	**Poblet**	**2.40**	**128**	Pn	**Pn**	**11 18 24.5**	**+0.9**
	SNR=5.0						
EPOB				Sn	**Sn**	**11 18 51.2**	**-2.0**
	SNR=7.9						
EPOB				Lg		11 19 02.1	
	1.9nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**2.40**	**128**	Pn	**Pn**	**11 18 24.5**	**+0.9**
EPOB				Sn	**Sn**	**11 18 51.1**	**-2.0**
EPOB				Lg		11 18 59.0	
EPOB	**Poblet**	**2.40**	**128**	Pn	**Pn**	**11 18 24.5**	**+0.9**
	SNR=5.0						
EPOB				Sn	**Sn**	**11 18 51.2**	**-1.9**
	SNR=7.9						
EBR	**Ebro Roquetas**	**2.50**	**144**	*e*S*S*		11 19 08.0	
LFF	**La Frestale**	**2.60**	**36**	*e*Sg	**Sg**	**11 19 06.1**	**-4.4**
	4.9nm,0.3s						
MTLF	**Montolieu**	**2.71**	**79**	*e*Pn	**Pn**	**11 18 27.3**	**-0.8**
MTLF				*e*Sn	**Sn**	**11 18 59.1**	**-2.0**
	3.0nm,0.3s						
RJF	**Les Rejaudoux**	**3.24**	**40**	*e*Pn	**Pn**	**11 18 34.5**	**-1.0**
RJF				*e*Sn	**Sn**	**11 19 11.2**	**-3.1**
	2.5nm,0.2s						
CAF	**Calviac**	**3.26**	**50**	*e*Pn	**Pn**	**11 18 34.8**	**-1.0**
CAF				*e*Sn	**Sn**	**11 19 12.0**	**-3.0**
	4.2nm,0.3s						
LASF	**Ste Croix**	**4.04**	**71**	*e*Pn	**Pn**	**11 18 45.4**	**-1.4**
LASF				*e*Sn	**Sn**	**11 19 30.5**	**-4.1**
	1.0nm,0.3s						

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*NIED **06** 11:33:00, 28.10N×128.00E, h5^{km}, Mw5.1 Best double couple: M$_0$5.69×10^{16} NP1:φ$_s$110°, δ78°, λ-20°. NP2: φ$_s$204°, δ70°, λ-167°.*
*JMA **06** 11:33:53.1±0.2, 28.10N×128.00E, M5.3*
*IDC **06** 11:33:54.8±0.6, 28.05N×127.97E, mb4.3/15, mb1 4.4/18, mb1mx4.3/30, ML3.8/3, MS4.7/17, Ms1 4.8/17, ms1mx4.7/21, Error ellipse: s-maj=20.6km s-min=12.2km az=75.0*
*MOS **06** 11:33:57.3±1.8, 28.18N×127.97E, h33^{km}, mb4.5/5, MS4.9/8, Error ellipse: s-maj=19.2km s-min=12.6km az=102.4*
*BJI **06** 11:33:58.7, 28.02N×128.02E, h37^{km}, mB5.1, mb4.6, Ms5.3, Msz5.1*
*NEIC **06** 11:34:00.3±1.1, 27.97N×128.01E, h37^{km}±10^{km}, mb4.7/15, MW5.1(NIED), Error ellipse: s-maj=11.1km s-min=8.1km az=87.0*
ISC 06 11:33:55.6±0.8**, 28.07N**±0.03×**128.00E**±0.03**, h15**^{km}±6^{km}**, n99,** σ1s**23**/97**, mb4.4**/34**, MS4.9**/25**, 4C-2D, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.89**	**109**	P	**Pb**	**11 34 10.8**	**-1.3**
JTK				S	**Sb**	**11 34 23.1**	**-0.4**
JIH	**Iheya**	**1.03**	**182**	P	**Pb**	**11 34 13.7**	**-1.0**
JIH				*e*S	**Sb**	**11 34 29.3**	**+1.5**
JOW	**Kunigami**	**1.26**	**169**	Pn	**Pn**	**11 34 17.6**	**-1.1**
	815nm,0.3s,baz=2.9,slow=13,SNR=247						
JOW				Sn	**Sn**	**11 34 35.6**	**+0.3**
	671nm,0.3s,baz=140,slow=27,SNR=18						
JOW	**Kunigami**	**1.26**	**169**	P	**Pb**	**11 34 17.3**	**-1.2**
JOW				*e*S	**Sb**	**11 34 35.7**	**+1.4**
JAM	**Amami Oshima**	**1.45**	**76**	P	**Pn**	**11 34 20.2**	**-1.3**
JAM				S	**Sb**	**11 34 39.8**	**-0.2**
JAGN	**Aguni-jima**	**1.62**	**205**	P	**Pn**	**11 34 23.9**	**0.0**
JZK	**Kikaishima**	**1.75**	**82**	P	**Pn**	**11 34 27.1**	**+1.3**
NAH1	**Naha**	**1.88**	**189**	P	**Pn**	**11 34 27.9**	**+0.3**
JJT2	**Tamagusuku 2**	**1.94**	**187**	P	**Pn**	**11 34 28.7**	**+0.3**
JKE	**Kume jima 2**	**2.05**	**212**	P	**Pn**	**11 34 30.1**	**+0.1**
JNN	**Nakanoshima**	**2.41**	**42**	P	**Pn**	**11 34 35.1**	**-0.1**
JKC	**Kuchinoerabu**	**3.06**	**38**	P	**Pn**	**11 34 45.4**	**+1.0**
JTN	**Tanegashima 3**	**3.66**	**45**	P	**Pn**	**11 34 53.4**	**+0.5**
JNU	**Nakatsue**	**5.61**	**26**	Pn	**Pn**	**11 35 25.2**	**+4.6**
	6.8nm,0.3s,baz=150,slow=0.6,SNR=25						
JNU				Sn	**Sn**	**11 36 32.1**	**+6.7**
	baz=233,slow=0.5,SNR=1.2						
SSE	**Sheshan**	**6.66**	**299**	P	**Pn**	**11 35 33.1**	**-2.2**
SSE				S	**Sn**	**11 36 48.4**	**-3.2**
SSE				LR	LR		
	comp=N,15μm,14.7s						
SSE				LR	LR		
	comp=E,7μm,14.7s						
SSE				LR	LR		
	comp=Z,9μm,11.0s						
NJ2	**Nanjing**	**8.86**	**299**	*e*P	**P**	**11 36 06.6**	**+0.5**
NJ2				AP		11 36 14.1	
NJ2				XP		11 36 17.6	
NJ2				S	**Sn**	**11 37 46.0**	**-0.7**
NJ2				XS		11 37 57.0	
NJ2				AMB	AMB		
	comp=Z,50nm,0.8s						
NJ2				AMB	AMB		
	comp=Z,380nm,5.9s						
NJ2				LR	LR		
	comp=N,35μm,17.6s						
NJ2				LR	LR		
	comp=E,13μm,18.1s						
NJ2				LR	LR		
	comp=Z,14μm,11.1s						
JHJ	**Hachijo jima 2**	**11.33**	**61**	LR	LR	11 40 49.5	
	comp=Z,3μm,19.9s,baz=168,slow=36						
MAJO	**Matsushiro**	**12.07**	**43**	P	**P**	**11 36 49.5**	**-0.5**
	comp=Z,151nm,1.8s						
MAT	**Matsushiro**	**12.07**	**43**	P	**P**	**11 36 48.8**	**-1.2**
MAT				*e*S	**S**	**11 39 09.8**	**+4.5**
MAT	**Matsushiro**	**12.07**	**43**	*e*P	**P**	**11 36 49.0**	**-1.0**
MAT				*e*S	**S**	**11 39 10.0**	**+4.7**
TIA	**Tai'an**	**12.27**	**314**	*e*P	**P**	**11 36 58.5**	**+5.7**
TIA				LR	LR		
	comp=N,3μm,14.7s						
TIA				LR	LR		
	comp=E,5μm,13.5s						
CBIJ	**Chichi jima**	**12.62**	**91**	Pn	**P**	**11 36 57.0**	**-0.5**
	comp=E,2.0nm,0.3s,baz=269,slow=21,SNR=2.6						
CBIJ				LR	LR	11 41 31.1	
	comp=E,3μm,18.1s,baz=269,slow=36						
SNY	**Shenyang**	**14.19**	**346**	⇑P	**P**	**11 37 19.4**	**+1.2**
SNY				AMB	AMB		
	comp=Z,10.0nm,1.3s						
SNY				AMB	AMB		
	comp=Z,600nm,9.8s						
SNY				LR	LR		
	comp=N,9μm,11.2s						
SNY				LR	LR		
	comp=E,6μm,9.0s						
SNY				LR	LR		
	comp=Z,9μm,12.7s						
VLA	**Vladivostok**	**15.34**	**11**	⇑*i*P	**P**	**11 37 39.0**	**+5.8**
VLA				pmax	pmax		
	comp=Z,500nm,3.6s						
VLA				pmax	pmax		
	comp=N,800nm,6.0s						
VLA				pmax	pmax		
	comp=E,500nm,4.0s						
VLA				pmax	pmax		
	comp=N,600nm,3.0s						
VLA				pmax	pmax		
	comp=Z,500nm,3.0s						
VLA				MLR	MLR		
	comp=Z,3μm,12.0s						
VLA				MLR	MLR		
	comp=N,6μm,11.0s						
VLA				MLR	MLR		
	comp=E,3μm,10.0s						
TGY	**Tagaytay City**	**15.38**	**207**	LR	LR	11 43 35.7	
	comp=E,4μm,18.1s,baz=143,slow=38						
BJT	**Baijiatuau**	**15.42**	**324**	*e*P	**P**	**11 37 37.3**	**+3.1**
	comp=E,59nm,1.2s						
BJI	**Beijing**	**15.43**	**324**	P	**P**	**11 37 39.5**	**+5.2**
BJI				AMB	AMB		
	comp=Z,46nm,0.9s						
BJI				LR	LR		
	comp=N,2μm,14.4s						
BJI				LR	LR		
	comp=E,1μm,15.4s						
BJI				LR	LR		
	comp=Z,3μm,18.6s						
CN2	**Changchun**	**15.83**	**353**	*e*P	**P**	**11 37 45.1**	**+5.6**
CN2				AMB	AMB		
	comp=Z,30nm,1.2s						
CN2				AMB	AMB		
	comp=Z,1μm,6.0s						
CN2				LR	LR		
	comp=N,10μm,12.0s						
CN2				LR	LR		
	comp=E,6μm,12.0s						
CN2				LR	LR		
	comp=Z,10μm,13.0s						
TIY	**Taiyuan**	**16.21**	**310**	PR		11 37 43.0	
TIY				S	**S**	**11 40 51.0**	**+7.3**
TIY				LR	LR		
	comp=N,14μm,15.0s						
TIY				LR	LR		
	comp=Z,4μm,10.0s						
ENH	**Enshi**	**16.32**	**282**	*e*P	**P**	**11 37 49.9**	**+4.0**
	comp=Z,56nm,1.2s						
MDJ	**Mudanjiang**	**16.56**	**4**	P	**P**	**11 37 52.8**	**+4.0**
MDJ				AP		11 37 59.6	
MDJ				XP		11 38 02.5	
MDJ				PCP	PcP	11 42 35.7	-4.7
MDJ				AMB	AMB		
	comp=Z,39nm,2.3s						
MDJ				AMB	AMB		
	comp=Z,398nm,8.2s						
MDJ				LR	LR		
	comp=N,3μm,15.3s						
MDJ				LR	LR		
	comp=E,4μm,12.1s						
MDJ				LR	LR		
	comp=Z,5μm,17.8s						
MDJ	**Mudanjiang**	**16.56**	**4**	*e*P	**P**	**11 37 52.5**	**+3.6**
	comp=Z,523nm,2.5s						
HHC	**Hu-ho-hao-te**	**18.57**	**318**	*e*P	**P**	**11 38 17.1**	**+3.2**
HHC				AP		11 38 22.5	
HHC				XP		11 38 26.5	
HHC				PP	PP	11 38 32.4	+2.7
HHC				AMB	AMB		
	comp=Z,14nm,1.4s						
HHC				AMB	AMB		
	comp=Z,418nm,6.3s						
HHC				LR	LR		
	comp=N,4μm,12.0s						
HHC				LR	LR		
	comp=E,3μm,12.9s						
HHC				LR	LR		
	comp=Z,4μm,12.9s						
GYA	**Guiyang**	**19.04**	**270**	⇑*i*P	**P**	**11 38 21.7**	**+2.0**
GYA				S	**S**	**11 41 55.0**	**+6.8**
GYA				AMB	AMB		
	comp=Z,510nm,4.8s						
GYA				LR	LR		
	comp=N,7μm,12.6s						
GYA				LR	LR		
	comp=E,6μm,12.0s						
GYA				LR	LR		
	comp=Z,7μm,12.2s						
BTO	**Baotou**	**19.37**	**315**	*e*P	**P**	**11 38 25.5**	**+2.1**
BTO				AMB	AMB		
	comp=Z,39nm,1.1s						
BTO				LR	LR		
	comp=N,6μm,12.3s						
BTO				LR	LR		
	comp=E,6μm,15.2s						
ASAJ	**Asahikawa**	**19.84**	**32**	P	**P**	**11 38 30.4**	**+1.7**
	comp=E,0.3nm,0.3s,baz=86,slow=1.8,SNR=4.3						
ASAJ				LR	LR	11 45 23.0	
	comp=E,1μm,21.1s,baz=76,slow=35						
CD2	**Chengdu**	**21.28**	**284**	P	**P**	**11 38 44.2**	**+0.4**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.4s,mb4.5						
KLR	**Kul'dur**	**21.32**	**7**	*e*P	**P**	**11 38 34.0**	**-10**
KLR				*e*		11 42 42.0	
KLR				MLR	MLR		
	comp=E,3μm,12.0s						
KLR				MLR	MLR		
	comp=Z,4μm,12.0s,MS5.1						
LZH	**Lanzhou**	**21.94**	**297**	*e*P	**P**	**11 38 50.1**	**-0.2**
LZH				AP		11 38 59.1	
LZH				XP		11 39 06.9	

LZH PP PP 11 39 22.0 +6.0
LZH AMB AMB
comp=Z,60nm,1.5s,mb4.8
LZH AMB AMB
comp=Z,110nm,4.9s
LZH LR LR
comp=N,21μm,12.9s
LZH LR LR
comp=Z,6μm,16.0s,MS5.1
YSS Yuzh-Sakhalins 22.12 28 *eP* **P 11 38 48.3 -3.7**
YSS pmax pmax
comp=Z,25nm,1.7s,mb4.4
YSS MLR MLR
comp=Z,2μm,15.0s,MS4.6
KMI Kunming 22.77 268⇓ *iP* **P 11 39 00.8 +2.1**
KMI AP 11 39 05.8
KMI XS 11 43 19.8
KMI AMB AMB
comp=Z,8.0nm,1.2s,mb4.0
KMI LR LR
comp=N,4μm,13.6s,MS5.1
KMI LR LR
comp=E,3μm,14.4s,MS5.1
KMI LR LR
comp=Z,3μm,14.6s,MS4.9
SONM Songino Array 25.91 325 P **P 11 39 29.2 +0.5**
comp=Z,5.5nm,0.7s,mb4.2,baz=138,slow=6.5,SNR=40
GTA Gaotai 25.92 303 P **P 11 39 29.5 +0.6**
GTA XP *sP* 11 39 43.8 +8.6
GTA PP PP 11 40 13.3 +3.5
GTA PPP PPP 11 40 27.4 +5.7
GTA AMB AMB
comp=Z,159nm,6.8s
GTA LR LR
comp=N,3μm,18.2s,MS5.0
GTA LR LR
comp=E,2μm,16.0s,MS5.0
GTA LR LR
comp=Z,2μm,12.5s,MS4.9
CMAR Chiang Mai Arr 28.30 257 P **P 11 39 49.4 -1.3**
comp=Z,0.4nm,0.3s,mb3.5,baz=59,slow=10,SNR=3.3
CMAR LR LR 11 52 32.6
comp=Z,1μm,18.4s,MS4.6,baz=65,slow=40
BOD Bodaibo 31.32 346 *eP* **P 11 40 15.4 -1.9**
PET Petropavlovsk 33.67 34 *eP* **P 11 40 33.1 -4.7**
PET *eS* **S 11 45 49.8 -9.2**
PET pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
PET smax
comp=N,200nm,20.3s
PET smax
comp=N,14nm,0.7s
PET smax
comp=E,11nm,0.6s
PET MLR MLR
comp=Z,2μm,21.0s,MS4.7
PET MLR MLR
comp=Z,2μm,19.0s
WMQ Urumqi 35.83 307 *eP* **P 11 40 57.0 +0.6**
WMQ AP *pP* 11 41 11.0 +10
WMQ PP PP 11 42 17.0 -0.7
WMQ S **S 11 46 27.0 -5.7**
WMQ LR LR
comp=N,4μm,15.0s,MS5.4
WMQ LR LR
comp=E,2μm,14.0s,MS5.4
WMQ LR LR
comp=Z,2μm,14.0s,MS5.0
MKAR Makanchi Array 40.18 310 P **P 11 41 32.8 0.0**
comp=Z,4.1nm,0.9s,mb4.2,baz=97,slow=9.8,SNR=15
MKAR LR LR 11 58 32.3
comp=Z,789nm,19.9s,MS4.6,baz=112,slow=37
ZAL Zalesovo 40.68 322 P **P 11 41 35.8 -1.0**
comp=Z,1.8nm,0.8s,mb3.8,baz=270,slow=8.7,SNR=3.1
ZAL LR LR 12 01 24.5
comp=Z,1μm,18.5s,MS4.7,baz=261,slow=41
KURK Kurchatov 43.36 315 *eP* **P 11 41 57.2 -1.6**
KURK Kurchatov 43.36 315 *eP* **P 11 41 58.3 -0.5**
comp=Z,42nm,1.7s,mb4.9
TIXI Tiksi 43.62 0 *eP* **P 11 41 57.9 -2.7**
TIXI *e* 11 43 45.5
TIXI pmax pmax
comp=Z,6.0nm,1.9s,mb4.0
AAK Ala-Archa 45.27 303 *eP* **P 11 42 13.6 -0.7**
AAK pmax pmax
comp=Z,7.0nm,1.4s,mb4.3
AAK MLR MLR
comp=Z,1μm,16.0s,MS5.0
FITZ Fitzroy Crossi 45.96 183 *eP* **P 11 42 19.3 -0.7**
comp=Z,11nm,0.8s,mb4.8
FITZ Fitzroy Crossi 45.96 183 P **P 11 42 19.2 -0.9**
comp=Z,13nm,0.7s,mb5.0,baz=7.1,slow=5.7,SNR=15
WRAB Tennant Creek 48.11 172 *eP* **P 11 42 36.7 -0.3**
comp=Z,15nm,0.8s,mb5.1
WRA Warramunga Arr 48.12 172 P **P 11 42 36.4 -0.7**
comp=Z,9.2nm,0.7s,mb4.9,baz=353,slow=8.3,SNR=25
WRA LR LR 12 01 19.4
comp=Z,476nm,20.4s,MS4.5,baz=20,slow=34
WB2 Warramunga Arr 48.12 172 *eP* **P 11 42 36.6 -0.5**
BVAR Borovoye Array 48.78 317 P **P 11 42 41.6 -0.1**
comp=Z,7.5nm,1.1s,mb4.6,baz=90,slow=8.9,SNR=17
BRVK Borovoye 48.85 317 *eP* **P 11 42 41.9 -0.4**
comp=Z,11nm,1.0s,mb4.8
MBWA Marble Bar 49.59 190 *eP* **P 11 42 44.8 -3.6**
comp=Z,13nm,0.9s,mb5.0
ZRNK Zerenda 49.60 317 *eP* **P 11 42 46.6 -1.4**
comp=Z,12nm,1.1s,mb4.8
CTA Charters Tower 51.03 158 P **P 11 42 59.8 +0.5**
comp=Z,2.6nm,0.7s,mb4.3,baz=353,slow=8.3,SNR=2.9
ASAR Alice Springs 51.75 173 P **P 11 43 04.4 -0.4**
comp=Z,1.9nm,0.6s,mb4.2,baz=359,slow=9.7,SNR=35
ASAR LR LR 12 03 37.7
comp=Z,277nm,19.7s,MS4.3,baz=346,slow=34
ASPA Alice Springs 51.75 173 *eP* **P 11 43 04.9 +0.1**
SVE Sverdlovsk 54.69 322⇓ *eP* **P 11 43 20.0 -6.1**
SVE MLR MLR
comp=N,500nm,13.0s,MS5.7
SVE MLR MLR
comp=E,4μm,13.0s,MS5.7
SVE MLR MLR
comp=Z,9μm,13.0s,MS6.0
ARU Arti 55.83 321⇑ *iP* **P 11 43 32.6 -1.8**
ARU *e* 11 44 29.2
ARU *e* 11 45 34.4
ARU *eS* **S 11 51 18.5 -0.7**
ARU *eSS* SS 11 55 03.2 -1.9
ARU pmax pmax
comp=Z,6.0nm,1.3s,mb4.5
ARU MLR MLR
comp=Z,2μm,15.0s,MS5.2
ARU MLR MLR
comp=N,100nm,12.0s,MS5.1
ARU MLR MLR
comp=E,1μm,15.0s,MS5.1
STKA Stephens Creek 61.00 167 *eP* **P 11 44 10.3 -0.6**
comp=E,3.6nm,0.6s,mb4.7
STKA Stephens Creek 61.00 167 P **P 11 44 10.2 -0.6**
comp=E,4.5nm,0.6s,mb4.8,baz=335,slow=5.2,SNR=11
COLA College 62.50 29 P **P 11 44 18.9 -1.6**
comp=E,1.9nm,0.7s,mb4.3
ILAR Eielson Array 62.92 29 P **P 11 44 21.4 -1.9**
comp=E,0.7nm,0.6s,mb4.0,baz=268,slow=4.5,SNR=13
INK Inuvik 67.29 23 P **P 11 44 51.1 -0.2**
comp=E,3.8nm,0.9s,mb4.4,baz=79,slow=10,SNR=3.0
KIV Kislovodsk 67.92 309 *eP* **P 11 44 52.9 -2.8**
KIV MLR MLR
comp=Z,782nm,19.0s,MS5.0
KIV MLR MLR
comp=N,336nm,17.0s
ARCES ARCESS Array B 68.23 338 LR LR 12 20 54.6
comp=N,1μm,18.2s,MS5.1,baz=276,slow=41
SOC Sochi 70.08 309 *eP* **P 11 45 07.3 -1.7**
SOC *e* 11 45 31.1
SOC *e*PPP PPP 11 49 24.9 -1.2
SOC *eS* S 11 54 12.3 -5.5
SOC *e* 11 55 06.9
SOC *e*SSS SSS 12 01 51.5 -2.7
SOC pmax pmax
comp=Z,21nm,1.0s,mb5.0
SOC pmax pmax
comp=N,23nm,1.1s
SOC pmax pmax
comp=E,11nm,1.0s
SOC MLR MLR
comp=Z,1μm,18.0s,MS5.2
SOC MLR MLR
comp=N,532nm,15.0s
SOC MLR MLR
comp=E,1μm,22.0s
FINES FINESS Array B 71.17 330 LR LR 12 20 15.0
comp=E,2μm,18.4s,MS5.3,baz=239,slow=39
AKASG Malin Array Be 74.01 319 LR LR 12 20 39.3
comp=E,2μm,18.0s,MS5.4,baz=55,slow=38
BRTR Kedin Array B 75.75 307 LR LR 12 24 38.6
comp=E,236nm,18.8s,MS4.5,baz=50,slow=40
KIS Kishinev 75.83 316 *eP* **P 11 45 44.0 +1.2**
NOA NORSAR Array B 77.58 334 LR LR 12 24 41.1
comp=E,829nm,18.6s,MS5.1,baz=30,slow=39
OKC Ostrava-Krasne 80.66 322 AMS AMS 12 25 00.0
comp=E,2μm,16.6s
DPC Dobruska-Polom 81.36 323 AMS AMS 12 25 40.0
comp=E,2μm,15.5s
PVCC Panska Ves 82.18 324 AMS AMS 12 26 10.0
comp=E,2μm,13.9s
PRU Pruhonice 82.50 323 AMS AMS 12 26 20.0
NKC Novy Kostel 83.45 324 AMS AMS 12 27 00.0
comp=E,2μm,18.6s
KHC Kasperske Hory 83.52 323 AMS AMS 12 26 50.0
comp=E,2μm,15.4s
YBH Yreka Blue Hor 84.72 45 P **P 11 46 32.0 +1.7**
comp=E,0.4nm,0.3s,mb4.0,baz=212,slow=2.8,SNR=4.1
YBH Yreka Blue Hor 84.72 45 P **P 11 46 31.9 +1.6**
HLID Hailey 88.62 40 *eP* **P 11 46 50.7 +1.4**
comp=E,3.6nm,1.0s,mb4.7
NVAR Mina Array Bea 89.38 46 P **P 11 46 54.6 +1.6**
comp=E,0.5nm,0.6s,mb4.0,baz=286,slow=5.1,SNR=4.3
ELK Elko 89.88 43 *eP* **P 11 46 56.3 +1.0**
comp=E,1.8nm,0.9s,mb4.4
KMBO Kilima Mbogo 91.19 269 LR LR 12 30 21.5
comp=E,226nm,18.9s,MS4.6,baz=95,slow=37
TPNV Topopah Spring 91.57 46 P **P 11 47 04.0 +0.8**
comp=E,3.0nm,1.0s,mb4.6
DUG Dugway 91.67 42 *eP* **P 11 47 04.9 +1.3**
comp=E,2.3nm,0.9s,mb4.5
PDAR Pinedale Array 91.86 38 P **P 11 47 05.2 +0.9**
comp=E,0.6nm,0.6s,mb4.1,baz=135,slow=4.2,SNR=4.6
NLU North Lily Min 92.26 42 *eP* **P 11 47 07.8 +1.6**
PV10 Paradox Valley 95.07 41 *eP* **P 11 47 20.7 +1.4**
SCHQ Schefferville 96.45 9 LR LR 12 31 50.9
comp=E,499nm,21.6s,MS5.0,baz=296,slow=36
ESDC Sonseca Array 99.11 324 LR LR 12 37 33.0
comp=E,552nm,18.1s,MS5.1,baz=25,slow=38

*NIED **06** 11:38:00,28.10N×128.00E,h5km,Mw4.5 Best double couple: M0 6.68×10^15 NP1:φs57°,δ78°,λ-139°. NP2: φs316°,δ50°,λ-16°.*
*IDC **06** 11:38:08.0±0.9,28.03N×128.04E,mb4.0/10,mb1 4.2/11, mb1mx4.0/26,ML3.9/1, Error ellipse: s-maj=43.9km s-min=12.9km az=71.0*
*BJI **06** 11:38:08.9,27.67N×128.78E,h51km,mb4.5*
*JMA **06** 11:38:08.7±0.2,28.12N×128.03E,h15km±3km,M4.0*
*NEIC **06** 11:38:15.0±1.1,27.92N×127.98E,h52km±12km,mb4.3/4, Error ellipse: s-maj=17.1km s-min=8.5km az=73.0*
ISC 06 11:38:09.0±0.4,28.09N±0.03×128.04E±0.05,h15km,n29, σ0s92/33,mb4.1/16,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTK	**Tokunoshima**	**0.86**	**111**	P	**Pb**	**11 38 25.2**	**+0.1**
JTK				S	**Sb**	**11 38 37.0**	**+0.8**
JIH	**Iheya**	**1.05**	**184**	P	**Pb**	**11 38 28.7**	**+0.3**
JIH				S	**Sb**	**11 38 42.9**	**+1.1**
JOW	**Kunigami**	**1.27**	**171**	Pn	**Pn**	**11 38 32.0**	**-0.2**
JOW	253nm,0.3s,baz=352,slow=16,SNR=25			Sn	**Sn**	**11 38 48.9**	**-0.2**
	422nm,0.3s,baz=136,slow=27,SNR=19						
JOW	**Kunigami**	**1.27**	**171**	P	**Pb**	**11 38 32.2**	**+0.1**
JOW				*e*S	**Sb**	**11 38 48.7**	**+0.6**
JAM	**Amami Oshima**	**1.42**	**77**	*e*S	**Sb**	**11 38 52.8**	**+0.5**
JNU	**Nakatsue**	**5.58**	**25**	Pn	**Pn**	**11 39 39.0**	**+5.5**
	3.4nm,0.3s,baz=204,slow=13,SNR=6.0						
BJT	**Baijiatuan**	**15.42**	**324**	*e*P	**P**	**11 41 51.6**	**+4.0**
BJI	**Beijing**	**15.43**	**324**	P	**P**	**11 41 55.2**	**+7.4**
BJI				AMB	AMB		
	comp=Z,46nm,0.9s						
ENH	**Enshi**	**16.35**	**282**	*e*P	**P**	**11 42 02.7**	**+3.1**
	comp=Z,20nm,1.0s						
MDJ	**Mudanjiang**	**16.54**	**4**	*e*P	**P**	**11 42 06.4**	**+4.5**
CD2	**Chengdu**	**21.31**	**283**	*e*P	**P**	**11 42 57.8**	**+0.3**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.2						
LZH	**Lanzhou**	**21.96**	**297**	*e*P	**P**	**11 43 09.0**	**+5.1**
LZH				AP		11 43 19.0	
LZH				XP		11 43 25.0	
LZH				AMB	AMB		
	comp=Z,29nm,1.5s,mb4.5						
HIA	**Hailar**	**22.09**	**345**	P	**P**	**11 43 05.7**	**+0.6**
SONM	**Songino Array**	**25.92**	**325**	P	**P**	**11 43 42.6**	**+0.5**
	comp=Z,4.5nm,1.0s,mb4.0,baz=135,slow=10,SNR=6.1						
GTA	**Gaotai**	**25.94**	**303**	*e*P	**P**	**11 43 44.2**	**+1.8**
GTA				AMB	AMB		
	comp=Z,2.0nm,1.2s,mb3.5						
MKAR	**Makanchi Array**	**40.19**	**310**	P	**P**	**11 45 46.4**	**+0.1**
	comp=Z,2.9nm,0.7s,mb4.1,baz=113,slow=9.2,SNR=6.6						
MKAR	**Makanchi Array**	**40.19**	**310**	P	**P**	**11 45 46.4**	**+0.1**
ZAL	**Zalesovo**	**40.69**	**322**	P	**P**	**11 45 49.6**	**-0.7**
	comp=Z,0.9nm,0.5s,mb3.7,baz=286,slow=15,SNR=3.7						
KURK	**Kurchatov**	**43.37**	**315**	*e*P	**P**	**11 46 11.6**	**-0.7**
	comp=Z,2.3nm,0.8s,mb4.0						
FITZ	**Fitzroy Crossi**	**45.98**	**183**	P	**P**	**11 46 32.0**	**-1.6**
	comp=Z,3.3nm,1.1s,mb4.2,baz=135,slow=5.7,SNR=3.0						
WRA	**Warramunga Arr**	**48.14**	**172**	P	**P**	**11 46 49.3**	**-1.3**
	comp=Z,1.2nm,0.6s,mb4.1,baz=353,slow=8.2,SNR=8.6						
BVAR	**Borovoye Array**	**48.79**	**317**	P	**P**	**11 46 55.3**	**+0.1**
	comp=Z,1.3nm,0.6s,mb4.1,baz=90,slow=7.4,SNR=6.3						
BRVK	**Borovoye**	**48.85**	**317**	*e*P	**P**	**11 46 55.5**	**-0.2**
	comp=Z,4.8nm,0.9s,mb4.5						
ZRNK	**Zerenda**	**49.61**	**317**	*e*P	**P**	**11 47 01.3**	**-0.2**
	comp=Z,2.4nm,0.7s,mb4.3						
CTA	**Charters Tower**	**51.03**	**158**	P	**P**	**11 47 12.8**	**+0.1**
	comp=Z,1.4nm,0.2s,mb4.5,baz=21,slow=8.6,SNR=3.2						
ASAR	**Alice Springs**	**51.77**	**173**	P	**P**	**11 47 17.6**	**-0.7**
	comp=Z,2.0nm,1.0s,mb4.0,baz=0.7,slow=8.9,SNR=8.0						
STKA	**Stephens Creek**	**61.02**	**167**	P	**P**	**11 48 22.2**	**-2.2**
	comp=Z,1.2nm,0.5s,mb4.2,baz=124,slow=17,SNR=3.1						
STKA	**Stephens Creek**	**61.02**	**167**	P	**P**	**11 48 22.2**	**-2.2**
ILAR	**Eielson Array**	**62.89**	**29**	P	**P**	**11 48 35.6**	**-0.8**
	comp=Z,0.3nm,0.8s,mb3.5,baz=287,slow=9.9,SNR=4.6						

JMA 06 12:01:20.3±0.2,28.11N×128.04E,h12km±2km,M3.5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTK	**Tokunoshima**	**0.87**	**112**	P	Pb	12 01 36.6	-0.2
JTK				S	Sb	12 01 48.0	-0.1
JIH	**Iheya**	**1.07**	**183**	P	Pb	12 01 40.2	-0.1
JIH				S	Sb	12 01 54.7	+0.6
JOW	**Kunigami**	**1.29**	**171**	P	Pb	12 01 43.7	-0.3
JOW				S	Sb	12 02 01.0	+0.6
JAM	**Amami Oshima**	**1.41**	**77**	P	Pn	12 01 45.9	-0.1
JAM				S	Sb	12 02 03.9	-0.1

ISC 06 12:05:52.1±3.4,37.3N±0.1×72.4E±0.6,h207km±27km,n14, σ0s66/15,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**4.89**	**11**	P	**P**	**12 07 05.7**	**-0.2**
	SNR=29						
UCH	**Uchtor**	**5.14**	**17**	P	**P**	**12 07 09.2**	**+0.1**
	SNR=10						
EKS2	**Erkin-Say**	**5.42**	**11**	P	**P**	**12 07 12.6**	**-0.1**
	SNR=10						
AAK	**Ala-Archa**	**5.53**	**16**	P	**P**	**12 07 14.2**	**+0.1**
	SNR=20						
THN	**Thein Dam**	**5.58**	**150**	*e*P	**P**	**12 07 15.0**	**+0.2**
	178nm,0.3s						
THN				*e*S	**S**	**12 08 18.9**	**-0.2**
ULHL	**Ulahol**	**5.71**	**30**	P	**P**	**12 07 16.4**	**-0.1**
	SNR=15						
CHMS	**Chumysh**	**5.93**	**17**	P	**P**	**12 07 19.4**	**+0.1**
	SNR=8.9						
TKM2	**Tokmak 2**	**6.08**	**22**	P	**P**	**12 07 21.4**	**+0.1**
	SNR=7.2						
KOLN	**Koldanda**	**13.39**	**132**	*e*P	**P**	**12 08 55.0**	**0.0**
	5.2nm,0.3s						
GKN	**Gorkha**	**13.85**	**129**	*e*P	**P**	**12 09 02.4**	**+1.6**
	22nm,0.4s						
KKN	**Kakani**	**14.40**	**128**	*e*P	**P**	**12 09 07.6**	**-0.1**
	9.7nm,0.6s						
DMN	**Daman**	**14.42**	**129**	*e*P	**P**	**12 09 06.8**	**-1.1**
	11nm,0.5s						
PKI	**Pulchoki**	**14.64**	**128**	*e*P	**P**	**12 09 09.2**	**-1.4**
	9.2nm,0.4s						
GUN	**Gumba**	**14.70**	**126**	*e*P	**P**	**12 09 12.3**	**+0.9**
	12nm,0.5s						

*NEIC **06** 12:10:33.5±0.6,14.54N×147.21E,h10km,mb4.7/1, Error ellipse: s-maj=16.8km s-min=13.7km az=99.0*
*IDC **06** 12:10:39.7±0.9,14.55N×147.30E,h58km±6km,mb3.7/13, mb1 3.8/13,mb1mx3.8/20, Error ellipse: s-maj=29.7km s-min=14.7km az=90.0*
ISC 06 12:10:37.6±0.7,14.56N±0.09×147.2E±0.1,h56km, h56km±2.4km:pP-P,n19,σ0s72/17,mb4.0/14,1C,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAPN	**Saipan**	**1.54**	**295**⇑ *i*P		**P**	**12 11 02.9**	**-0.4**
GUMO	**Guam**	**2.46**	**247**	*e*P	**P**	**12 11 11.3**	**-5.0**
WRA	**Warramunga Arr**	**36.55**	**201**	P	**P**	**12 17 39.0**	**-1.0**
	0.2nm,0.4s,mb3.3,baz=20,slow=9.0,SNR=5.1						
FITZ	**Fitzroy Crossi**	**38.80**	**214**	P	**P**	**12 17 58.9**	**+0.1**
	1.4nm,0.8s,mb3.7,baz=12,slow=16,SNR=3.6						
ASAR	**Alice Springs**	**40.16**	**199**	P	**P**	**12 18 10.7**	**+0.7**
	0.3nm,0.6s,mb3.2,baz=23,slow=9.5,SNR=4.9						
CMAR	**Chiang Mai Arr**	**46.33**	**282**	P	**P**	**12 19 00.8**	**+0.7**
	1.0nm,0.8s,mb3.8,baz=70,slow=5.7,SNR=4.7						
STKA	**Stephens Creek**	**46.48**	**187**	P	**P**	**12 19 01.1**	**-0.1**
	1.6nm,0.8s,mb4.0,baz=343,slow=11,SNR=2.7						
STKA				pP	pP	12 19 17.5	+1.6
	3.1nm,1.1s,baz=8.6,slow=20,SNR=1.9						
SONM	**Songino Array**	**47.28**	**323**	P	**P**	**12 19 07.8**	**+0.6**
	0.7nm,0.5s,mb3.8,baz=141,slow=7.0,SNR=6.6						
SONM				pP	pP	12 19 22.6	+0.7
	0.7nm,0.5s,baz=136,slow=6.9,SNR=4.6						
ZAL	**Zalesovo**	**62.18**	**324**	P	**P**	**12 20 55.1**	**-0.3**
	0.8nm,0.5s,mb4.1,baz=321,slow=6.4,SNR=3.0						
MKAR	**Makanchi Array**	**62.38**	**315**	P	**P**	**12 20 57.5**	**+0.7**
	2.9nm,0.4s,mb4.8,baz=92,slow=8.3,SNR=54						
MKAR				pP	pP	12 21 12.4	+0.3
	1.4nm,0.4s,baz=95,slow=8.1,SNR=5.6						
KURK	**Kurchatov**	**65.31**	**319**	*e*P	**P**	**12 21 15.3**	**-0.6**
	2.4nm,0.4s,mb4.6						
ILAR	**Eielson Array**	**66.73**	**25**	P	**P**	**12 21 23.9**	**-0.8**
	0.2nm,0.6s,mb3.4,baz=239,slow=6.1,SNR=5.2						
NVAR	**Mina Array Bea**	**84.55**	**52**	P	**P**	**12 23 06.9**	**+0.7**
	0.5nm,1.0s,mb3.6,baz=260,slow=5.5,SNR=2.6						
ARCES	**ARCESS Array B**	**86.85**	**343**	P	**P**	**12 23 18.1**	**+1.3**
	12nm,1.2s,mb5.0,baz=59,slow=5.3,SNR=3.2						
FINES	**FINESS Array B**	**91.22**	**336**	P	**P**	**12 23 37.5**	**-0.3**
	2.5nm,1.1s,mb4.5,baz=180,slow=3.8,SNR=3.8						
FINES				pP	pP	12 23 52.6	-1.4
	0.5nm,0.5s,baz=190,slow=35,SNR=1.8						
NOA	**NORSAR Array B**	**96.93**	**340**	P	**P**	**12 24 02.5**	**-1.3**
	0.4nm,0.6s,mb4.1,baz=44,slow=12,SNR=2.4						
NOA	**NORSAR Array B**	**96.93**	**340**	P	**P**	**12 24 02.5**	**-1.3**
DBIC	**Dimbokro**	**145.17**	**305**	PKPbc	PKPbc	12 30 12.8	+2.4
	4.3nm,0.6s,baz=64,slow=4.3,SNR=9.6						
DBIC				pPKPbc		12 30 27.4	
	2.0nm,0.5s,baz=146,slow=10,SNR=1.7						
LPAZ	**La Paz**	**145.92**	**98**	PKPbc	PKPbc	12 30 17.0	+5.0
	0.6nm,0.5s,baz=160,slow=0.9,SNR=4.3						

PRE 06 12:15:32.5±1.0,26.12S×29.33E,ML3.7,Explosion, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLR	**Silverton**	**1.01**	**292**	*e*P	Pb	12 15 50.5	-2.1
SLR				*e*S	Sg	12 16 04.1	-2.2
SLR				*e*		12 16 14.9	
	comp=Z,4μm,0.8s						
NWL	**Newcastle**	**1.69**	**161**	*e*P	Pn	12 16 03.2	-0.2
NWL				*e*S	Sb	12 16 24.5	-1.5
KSR	**Koster**	**2.20**	**276**	*e*P	Pn	12 16 09.0	-1.2
KSR				*e*S	Sn	12 16 37.2	-1.9
KSR				*e*		12 16 41.6	
	comp=Z,253nm,0.6s						
BOSA	**Boshof**	**4.39**	**235**	*e*P	Pn	12 16 39.6	-2.3
BOSA				*e*S	Sn	12 17 38.2	+3.6

IDC 06 12:17:07.8±1.8,3.68N×128.18E,mb3.6/5,mb1 3.7/5, mb1mx3.6/18,MS2.4/1,Ms1 2.4/1,ms1mx2.4/19,Error ellipse: s-maj=96.4km s-min=23.7km az=70.0,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**12.58**	**326**	LR	LR	12 25 26.8	
	comp=Z,18nm,20.4s,baz=195,slow=40						
FITZ	**Fitzroy Crossi**	**21.79**	**187**	P	P	12 22 01.9	-1.5
	4.7nm,1.2s,baz=195,slow=9.4,SNR=2.7						
WRA	**Warramunga Arr**	**24.24**	**166**	P	P	12 22 26.5	-1.2
	0.5nm,0.5s,baz=345,slow=10,SNR=11						
ASAR	**Alice Springs**	**27.75**	**169**	P	P	12 22 58.4	-2.0
	0.3nm,0.6s,baz=352,slow=7.8,SNR=5.7						
STKA	**Stephens Creek**	**37.59**	**161**	P	P	12 24 24.1	-1.9
	1.4nm,0.9s,baz=321,slow=12,SNR=3.0						
MKAR	**Makanchi Array**	**58.43**	**325**	P	P	12 27 05.4	-2.3
	0.3nm,0.4s,baz=121,slow=8.5,SNR=6.5						

*ISK **06** 12:22:08.0,37.78N×26.56E,h5km,MD3.2*
*CSEM **06** 12:22:13.6±0.4,37.77N×27.15E,h12km,MD3.2, Error ellipse: s-maj=15.4km s-min=9.7km az=133.0*
*ATH **06** 12:22:15.1,37.82N×26.90E,h10km,MD3.2/3*
ISC 06 12:22:14.8±0.7,37.75N±0.03×26.99E±0.05,h7km±6km, n15,σ1s23/22,2C,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMG	**Samos**	**0.13**	**251**⇑ *i*P	G	**Pg**	**12 22 18.0**	**+0.4**
IZM	**Izmir**	**0.68**	**19** *i* P	G	**Pg**	**12 22 25.3**	**-3.2**
IZM				*i* SG	**Sg**	**12 22 37.8**	**+0.2**
KDAG	**Bornova**	**0.69**	**19**⇑ *i*P		**Pg**	**12 22 27.5**	**-1.1**
KDAG				*i* S	**Sg**	**12 22 38.5**	**+0.7**
AYDN	**Tasoluk**	**0.71**	**97** *i* P		**Pg**	**12 22 29.3**	**+0.2**
AYDN				*i* S	**Sg**	**12 22 38.9**	**+0.2**
BDRM	**Kayabasi**	**0.78**	**152** *i* P		**Pb**	**12 22 30.3**	**+0.1**
BDRM				*i* S	**Sg**	**12 22 41.5**	**+0.8**
MLSB	**Milas**	**0.78**	**126**	PN	**Pn**	**12 22 29.7**	**-2.2**
AKS	**Akhisar**	**1.30**	**30**	PN	**Pn**	**12 22 36.7**	**-2.7**
APE	**Apeiranthos**	**1.34**	**240**	*e*PB	**Pb**	**12 22 40.1**	**+0.2**
MANT	**Manisa**	**1.44**	**59** *i* P		**Pn**	**12 22 43.0**	**+1.6**
MANT				*i* S	**Sb**	**12 22 59.9**	**-0.2**
AYVA	**Ayvalik**	**1.57**	**352** *i* P		**Pn**	**12 22 44.5**	**+1.1**
AYVA				*i* S	**Sb**	**12 23 06.2**	**+2.4**
PRK	**Paraskevi**	**1.59**	**340**	*e*PB	**Pb**	**12 22 43.5**	**-0.7**
DENT	**Denizli**	**1.62**	**89**	PN	**Pn**	**12 22 43.8**	**-0.2**
DNZL	**Cakiroluk**	**1.64**	**91** *i* P		**Pn**	**12 22 44.5**	**+0.3**
DNZL				*i* S	**Sb**	**12 23 09.1**	**+3.4**
KHL	**Karahalli**	**2.08**	**73**	PN	**Pn**	**12 22 50.5**	**-0.1**
DST	**Dursunbey**	**2.25**	**34**	PN	**Pn**	**12 22 50.3**	**-2.8**

NDI 06 12:41:32.3±2.7,20.73N×74.02E,h20km±84km,ML2.2, Southern India

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOM	**Bombay**	**2.15**	**212**	*e*P	Pn	12 42 06.9	-0.8
BOM				*e*		12 42 42.2	
POO	**Poona**	**2.19**	**184**	*e*P	Pn	12 42 09.2	+0.8
POO				*e*S	Sn	12 42 34.7	-0.4
POO				*e*		12 42 37.4	
	comp=E,16nm,0.2s						
POO				*e*		12 42 37.9	
	comp=N,12nm,0.2s						
KAD	**Karad**	**3.41**	**177**	*e*P	Pn	12 42 23.9	-1.8
KAD				*e*S	Sn	12 43 02.0	-3.9
KAD				*e*		12 43 09.7	
KAD				*e*		12 43 18.1	
	comp=E,12nm,0.3s						
KAD				*e*		12 43 18.2	
	comp=N,6.4nm,0.2s						
BHPL	**Bhopal**	**4.03**	**51**	*i* Sg	Sn	12 43 46.6	+25
BHPL				*e*		12 43 49.1	
	comp=E,5.5nm,0.2s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHPL				e		12 43 49.5	
	comp=N,7.0nm,0.2s						

WEL 06 12:45:49.8±0.9**, 46.24S**×**166.49E, h5^{km}, ML3.5**/4**, Error ellipse: s-maj=8.1km s-min=4.5km az=90.0, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.89	32	P*	Pb	12 46 06.7	-0.7
DCZ				S*	Sb	12 46 18.9	-0.4
WHZ	Wether Hill Ro	1.07	72	P*	Pb	12 46 09.8	-0.7
WHZ				S*	Sb	12 46 23.6	-1.0
MLZ	Mavora Lakes	1.48	53	PN	Pn	12 46 16.5	-0.7
MLZ				SN	Sn	12 46 36.9	-0.2
TUZ	Tuapeka	2.20	84	PN	Pn	12 46 26.2	-1.4
TUZ				SN	Sn	12 46 53.7	-1.9
WKZ	Wanaka	2.27	52	PN	Pn	12 46 29.5	+1.0
WKZ				SN	Sn	12 47 00.7	+3.5
JCZ	Jackson Bay	2.69	37	ePN	Pn	12 46 37.7	+3.1
ODZ	Otahua Downs	3.15	69	ePN	Pn	12 46 37.9	-3.2
LBZ	Lake Benmore	3.20	56	ePN	Pn	12 46 40.2	-1.5

MAN 06 12:46:55.0, 13.45N×**120.71E, h15^{km}, mb3.5, ML2.2, MS1.6, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.53	302	eP	Pb	12 47 06.0	+0.6
LUBP				eS	Sb	12 47 17.2	+4.7
SJMP	San Jose	1.06	158	eP	Pb	12 47 16.3	+1.7
SJMP				eS	Sb	12 47 34.9	+6.8
BOAC	Boac	1.10	89	eP	Pb	12 47 14.7	-0.6
BUSP	Coron	1.52	199	eP	Pn	12 47 20.3	-1.5
BUSP				eS	Sb	12 47 42.5	+1.2

*NEIC **06** 13:37:13.4±0.7, 19.47S×67.40W, h203^{km}±6^{km}, mb4.4/12, Error ellipse: s-maj=12.2km s-min=6.9km az=53.0*
*IDC **06** 13:37:14.3±1.4, 19.34S×67.29W, h211^{km}±10^{km}, mb3.8/11, mb1 4.0/14, mb1mx4.0/17, Error ellipse: s-maj=23.4km s-min=11.5km az=50.0*
ISC 06 13:37:12.7±0.6**, 19.48S**±0.05×**67.44W**±0.07**, h212^{km}**±5^{km}**, n56,** σ1^{s}**01**/51**, mb4.1**/19**, 2C-1D, Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	3.24	348	P	P	13 38 07.8	+1.5
	24nm,0.3s,baz=160,slow=8.7,SNR=401						
LPAZ				S	S	13 38 48.4	+0.6
	12nm,0.3s,baz=228,slow=22,SNR=19						
LPAZ	La Paz	3.24	348	⇓iP	P	13 38 07.6	+1.3
LPAZ				eS	S	13 38 48.3	+0.5
LVC	Limon Verde	3.41	204	⇑iP	P	13 38 08.8	+0.5
LVC				eS	S	13 38 51.0	-0.2
ARE	Arequipa	4.89	307	⇑iP	P	13 38 26.4	-0.2
ARE				eS	S	13 39 23.0	-1.0
CPUP	Villa Florida	11.54	128	P	P	13 39 52.0	-0.3
	0.6nm,0.3s,baz=333,slow=12,SNR=12						
CPUP	Villa Florida	11.54	128	eP	P	13 39 51.5	-0.8
	5.9nm,0.6s						
NNA	Nana	11.72	308	eP	P	13 39 53.9	-0.7
NNA				e		13 41 54.2	
BDFB	Brasilia	18.91	81	P	P	13 41 18.8	-0.7
	3.2nm,0.3s,baz=252,slow=11,SNR=20						
BAO	Brasilia Array	18.93	81	P	P	13 41 19.9	+0.2
BAO				i		13 41 22.1	
TRQA	Tornquist	19.11	167	eP	P	13 41 20.8	-0.7
	12nm,0.9s						
OTAV	Otavalo	22.38	330	P	P	13 41 58.0	+4.0
EFI	East Falkland	32.96	169	P	P	13 43 28.7	-0.6
BLA	Blacksburg	57.70	348	eP	P	13 46 44.8	+1.4
WVT	Waverly	58.58	341	eP	P	13 46 46.7	-2.8
	5.9nm,0.7s,mb4.3						
TXAR	Lajitas Array	59.80	323	P	P	13 46 57.0	-0.9
	0.8nm,0.5s,mb3.6,baz=152,slow=8.6,SNR=4.9						
FVM	French Village	61.11	339	eP	P	13 47 04.6	-1.9
	16nm,0.5s,mb4.9						
CCM	Cathedral Cave	61.45	339	eP	P	13 47 06.5	-2.3
	15nm,0.8s,mb4.7						
SNAA	Sanae	63.74	161	P	P	13 47 23.7	+0.2
	1.2nm,0.7s,mb3.6,baz=294,slow=4.7,SNR=14						
SNAA	Sanae	63.74	161	eP	P	13 47 23.6	+0.2
	4.1nm,0.8s,mb4.1						
LPM	Los Pinos Moun	65.21	325	eP	P	13 47 33.4	-0.1
TUC	Tucson	66.13	321	P	P	13 47 39.1	-0.3
DBIC	Dimbokro	66.84	74	P	P	13 47 42.0	-2.2
	5.1nm,0.7s,mb4.3,baz=195,slow=7.9,SNR=10						
DBIC	Dimbokro	66.84	74	P	P	13 47 42.0	-2.2
SDCO	Great Sand Dun	67.25	328	eP	P	13 47 46.4	0.0
	7.8nm,0.6s,mb4.5						
SDCO				epP	pP	13 48 38.9	+2.9
PV01	Paradox Valley	69.11	326	eP	P	13 47 58.4	+0.6
PV10	Paradox Valley	69.54	326	eP	P	13 47 59.9	-0.5
SRU	San Rafael	70.86	326	eP	P	13 48 08.7	+0.3
MSU	Marysvale	71.33	324	eP	P	13 48 11.9	+0.8
MVU	Marysvale	71.34	324	eP	P	13 48 12.2	+0.9
	5.3nm,0.7s,mb4.3						
ARUT	Antelope Range	71.52	323	eP	P	13 48 13.7	+1.4
TPNV	Topopah Spring	72.58	321	eP	P	13 48 19.9	+1.2
	4.1nm,0.6s,mb4.2						
DUG	Dugway	72.87	325	eP	P	13 48 21.2	+0.9
PDAR	Pinedale Array	73.08	329	P	P	13 48 21.2	-0.2
	0.9nm,0.5s,mb3.7,baz=121,slow=8.3,SNR=9.4						
BGU	Big Grassy Mou	73.50	326	eP	P	13 48 23.6	-0.5
ULM	Lac du Bonnet	73.83	341	P	P	13 48 24.2	-1.5
	5.3nm,0.4s,mb4.5,baz=165,slow=5.9,SNR=5.9						
SCHQ	Schefferville	74.01	0	P	P	13 48 25.2	-1.4
	7.0nm,0.8s,mb4.4,baz=169,slow=7.3,SNR=4.6						
ELK	Elko	74.57	324	eP	P	13 48 30.4	+0.2
	1.9nm,0.6s,mb3.9						
NVAR	Mina Array Bea	74.78	321	P	P	13 48 32.0	+0.7
	1.2nm,0.7s,mb3.7,baz=157,slow=7.1,SNR=10						
HLID	Hailey	76.09	327	eP	P	13 48 39.2	+0.5
	5.0nm,0.8s,mb4.2						
YBH	Yreka Blue Hor	79.49	321	P	P	13 48 56.9	-0.3
	0.5nm,0.3s,mb3.6,baz=204,slow=10,SNR=3.2						
DPW	Davenport	80.98	328	eP	P	13 49 05.6	+0.6
NLW	Nelson Butte	82.20	327	eP	P	13 49 11.7	+0.6
ESDC	Sonseca Array	83.43	44	P	P	13 49 18.3	+0.6
	0.4nm,0.4s,mb3.5,baz=246,slow=5.2,SNR=6.0						
MAW	Mawson	85.85	163	P	P	13 49 30.4	+1.3
	1.1nm,0.7s,mb3.7,baz=243,slow=6.3,SNR=9.0						
MAW	Mawson	85.85	163	eP	P	13 49 30.4	+1.3
	2.6nm,0.6s,mb4.1						
NWL	Newcastle	87.38	118	eP	P	13 49 39.7	+2.4
NWL				e		13 50 01.0	
	comp=Z,125nm,0.4s						
NWL				eS	S	13 59 55.8	-1.8
YKA	Yellowknife Ar	89.76	340	P	P	13 49 47.9	+0.3
	comp=Z,5.4nm,0.6s,mb4.5,baz=128,slow=4.8,SNR=15						
ASAR	Alice Springs	132.33	207	PKP	PKPdf	13 56 03.6	+1.3
	comp=Z,1.0nm,0.6s,baz=136,slow=1.7,SNR=24						
ASAR				SKPbc		13 59 10.4	
	comp=Z,0.3nm,0.5s,baz=146,slow=3.8,SNR=5.0						
BVAR	Borovoye Array	133.36	34	PKP	PKPdf	13 56 04.8	+1.4
	comp=Z,0.5nm,0.5s,baz=270,slow=1.5,SNR=4.4						
WRA	Warramunga Arr	135.38	210	PKP	PKPdf	13 56 09.7	+1.6
	comp=Z,1.1nm,0.4s,baz=153,slow=1.7,SNR=27						
WRA				SKPbc		13 59 21.2	
	comp=Z,0.3nm,0.8s,baz=143,slow=2.7,SNR=5.5						
WRAB	Tennant Creek	135.39	210	ePKPdf	PKPdf	13 56 10.6	+2.6
ZAL	Zalesovo	139.55	25	PKP	PKPdf	13 56 17.0	+2.2
	comp=Z,1.3nm,0.3s,baz=126,slow=1.8,SNR=6.6						
FITZ	Fitzroy Crossi	140.51	200	PKhKP		13 56 12.6	
	comp=Z,2.6nm,1.0s,baz=179,slow=12,SNR=3.9						
FITZ				PKP	PKPdf	13 56 19.6	+2.1
	comp=Z,1.3nm,0.7s,baz=348,slow=19,SNR=3.7						
MKAR	Makanchi Array	143.20	35	PKP	PKPdf	13 56 20.5	-0.8
	comp=Z,1.3nm,0.9s,baz=290,slow=2.8,SNR=6.3						
HIA	Hailar	149.73	351	ePKPbc	PKPdf	13 56 38.3	+6.3
SONM	Songino Array	151.28	9	PKP	PKPdf	13 56 37.4	+2.9
	comp=Z,2.5nm,0.5s,baz=292,slow=1.2,SNR=8.5						
SONM				PKPbc	PKPdf	13 56 42.9	+8.4
	comp=Z,4.8nm,0.5s,baz=311,slow=1.4,SNR=40						

OTT 06 13:44:43.6±0.4**, 78.35N**×**109.04W, h18^{km}, ML3.3**/3**, Queen Elizabeth Islands, Nt 132km west from Isachsen, Nu Gustaf-Lougheed Arch Seismic Zone., Queen Elizabeth Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EUNU	Eureka	4.56	57	PN	Pn	13 45 50.6	-2.9
EUNU				SN	Sn	13 46 42.1	-4.6
RES	Resolute Bay	4.93	131	PN	Pn	13 45 56.5	-2.3
RES				SN	Sn	13 46 50.4	-5.8
RES				Trac		13 46 57.1	
	comp=Z,7.4nm,0.2s						
IGLN	Igloolik	11.59	126	SN	S	13 49 27.5	-13
INK	Inuvik	12.12	227	PN	P	13 47 34.0	-4.2
INK				SN	S	13 49 38.6	-15
INK				Trac		13 49 48.6	
	comp=Z,1.2nm,0.3s						
LUPN	Lupin Mine	12.70	184	PN	P	13 47 44.3	-1.6
LUPN				SN	S	13 49 53.6	-14
LUPN				Trac		13 50 05.7	
	comp=Z,0.5nm,0.1s						
QILN	Qililugaq Expl	13.41	139	PN	P	13 47 47.7	-7.6
QILN				SN	S	13 50 15.3	-10
ACKN	Achilles Lake	13.44	183	PN	P	13 47 48.0	-7.9
ACKN				SN	S	13 50 05.2	-21
DSMN	Discovery Mine	15.32	188	PN	P	13 48 16.0	-4.2
DSMN				SN	S	13 50 55.4	-15
YKW3	Yellowknife Ar	15.96	189	PN	P	13 48 25.1	-3.4
YKW3				SN	S	13 51 11.9	-13

*NEIC **06** 13:56:30.5±3.2, 6.14S×130.45E, h95^{km}±31^{km}, mb4.1/4, Error ellipse: s-maj=21.1km s-min=12.8km az=224.0*
*IDC **06** 13:56:32.4±4.9, 6.22S×130.39E, h112^{km}±45^{km}, mb3.7/6, mb1 3.8/9, mb1mx3.7/14, Error ellipse: s-maj=39.6km s-min=17.3km az=63.0*
ISC 06 13:56:28.9±3.1**, 6.2S**±0.1×**130.6E**±0.2**, h106^{km}**±30^{km}**, n16,** σ**0^{s}91**/18**, mb4.0**/8**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.76	202	P	P	13 59 27.3	-0.2
	0.7nm,0.3s,baz=4.7,slow=9.6,SNR=21						
FITZ				S	S	14 01 40.2	-7.4
	2.6nm,0.3s,baz=180,slow=22,SNR=9.1						
WRAB	Tennant Creek	14.08	166	eP	P	13 59 43.9	-0.9
	3.7nm,0.5s						
WRA	Warramunga Arr	14.09	166	P	P	13 59 44.2	-0.6
	0.7nm,0.3s,baz=344,slow=14,SNR=30						
WRA				S	S	14 02 13.4	-5.4
	1.2nm,0.3s,baz=350,slow=22,SNR=5.4						
ASAR	Alice Springs	17.61	170	P	P	14 00 32.1	+3.1
	0.5nm,0.3s,baz=352,slow=8.9,SNR=18						
ASAR				S	S	14 03 38.1	-1.0
	0.4nm,0.3s,baz=354,slow=27,SNR=5.1						
MBWA	Marble Bar	18.21	214	P	P	14 00 37.0	+0.8
CTA	Charters Tower	20.48	134	P	P	14 01 03.9	+3.5
	2.3nm,0.8s,baz=305,slow=13,SNR=6.3						
CTAO	Charters Tower	20.48	134	eP	P	14 01 02.4	+2.1
	2.4nm,0.7s						
CMAR	Chiang Mai Arr	39.74	309	P	P	14 03 53.2	+0.4
	1.9nm,0.8s,mb4.0,baz=138,slow=7.6,SNR=18						
SONM	Songino Array	57.93	341	P	P	14 06 12.3	0.0
	1.1nm,0.7s,mb4.0,baz=162,slow=6.4,SNR=8.7						
MKAR	Makanchi Array	67.94	326	P	P	14 07 18.3	-0.1
	8.3nm,0.5s,mb4.8,baz=113,slow=8.9,SNR=104						
ZAL	Zalesovo	71.19	333	P	P	14 07 37.5	-0.5
	1.0nm,0.6s,mb3.9,baz=184,slow=2.9,SNR=5.1						
KURK	Kurchatov	72.20	328	eP	P	14 07 43.6	-0.5
	1.7nm,0.5s,mb4.1						
MAW	Mawson	75.89	201	P	P	14 08 05.9	+0.9
	0.8nm,0.7s,mb3.6,baz=55,slow=12,SNR=2.8						
BRVK	Borovoye	77.83	328	eP	P	14 08 16.1	-0.1
	2.6nm,0.8s,mb4.0						
ZRNK	Zerenda	78.47	327	eP	P	14 08 18.9	-0.7
	2.1nm,0.6s,mb4.0						
LPAZ	La Paz	150.91	141	PKPbc	PKPdf	14 16 13.9	+10
	0.8nm,0.5s,baz=66,slow=3.5,SNR=4.6						

*DJA **06** 14:16:42.5±3.6, 8.85S×118.33E, h114^{km}±20^{km}, mb4.0/1, Error ellipse: s-maj=157.7km s-min=10.3km az=147.0*
*IDC **06** 14:16:46.6±1.9, 8.16S×118.40E, mb3.8/3, mb1 4.0/5, mb1mx3.8/16, ML3.8/2, Error ellipse: s-maj=75.1km s-min=15.9km az=50.0*
ISC 06 14:16:47.8±0.6**, 8.30S**±0.06×**118.03E**±0.06**, h33^{km}, n14,** σ**1^{s}20**/17**, mb3.8**/3**, 5D, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	Kedomdong	1.90	264	eP	P	14 17 20.1	+1.6
RATI	Rata	2.50	260	⇓iP	P	14 17 26.4	-0.7
KELI	Kelakatan	3.50	271	⇓iP	P	14 17 41.2	-0.1
SRDI	Scrawed	3.85	267	⇓iP	P	14 17 45.2	-1.0
NINI	Niniconang	4.22	24	⇓eP	P	14 17 51.0	-0.4
BUNI	Buntu Taipa	5.15	26	⇓iP	P	14 18 04.5	-0.1
	26nm,0.4s						
FITZ	Fitzroy Crossi	12.24	144	eP	P	14 19 41.1	-1.6
	4.0nm,0.6s						
FITZ				eS	S	14 21 57.1	-1.9
FITZ	Fitzroy Crossi	12.24	144	Pn	P	14 19 41.4	-1.3
	0.5nm,0.3s,baz=335,slow=13,SNR=13						
FITZ				Sn	S	14 21 57.7	-1.2
	0.2nm,0.3s,baz=179,slow=15,SNR=4.2						
WRA	Warramunga Arr	19.58	128	P	P	14 21 15.1	-0.9
	0.3nm,0.3s,baz=302,slow=13,SNR=28						
WRA				S	S	14 24 52.9	+3.2
	0.0nm,0.3s,baz=288,slow=26,SNR=3.1						
WB2	Warramunga Arr	19.59	128	eP	P	14 21 15.5	-0.6
ASPA	Alice Springs	21.56	137	eP	P	14 21 38.3	+1.8
ASAR	Alice Springs	21.56	137	P	P	14 21 38.3	+1.8
	1.7nm,0.6s,mb3.6,baz=314,slow=9.6,SNR=20						
STKA	Stephens Creek	32.10	140	P	P	14 23 15.6	+1.3
	1.3nm,0.5s,mb4.1,baz=319,slow=9.1,SNR=7.2						
SONM	Songino Array	56.83	351	P	P	14 26 31.2	-0.3
	0.8nm,0.8s,mb3.8,baz=170,slow=7.5,SNR=6.3						

*NEIC **06** 14:17:31.0±0.5, 31.31S×178.59W, h10^{km}, mb4.7/4, Error ellipse: s-maj=15.8km s-min=11.9km az=188.0*
*IDC **06** 14:17:31.8±1.4, 32.67S×178.08W, h35^{km}±6^{km}, mb4.1/6, mb1 4.3/8, mb1mx4.1/15, ML4.0/2, MS3.5/1, Ms1 3.5/1, ms1mx3.2/21, Error ellipse: s-maj=40.2km s-min=20.1km az=148.0*
ISC 06 14:17:29.1±1.2**, 32.70S**±0.06×**178.1W**±0.2**, h33^{km}, n31,** σ**0^{s}91**/26**, mb4.3**/8**, MS3.5**/1**, 2C-1D, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	Puketiti	6.14	208	P	P	14 18 58.0	-1.9
PUZ				S	S	14 20 09.9	0.0
MWZ	Matawai	6.67	211	P	P	14 19 06.0	-1.3
MWZ				S	S	14 20 24.2	+1.1
URZ	Urewera	6.80	214	Pn	Pn	14 19 09.3	-0.1
	2.5nm,0.3s,baz=40,slow=4.4,SNR=13						
URZ				Sn	Sn	14 20 26.5	+0.1
	3.6nm,0.3s,baz=344,slow=24,SNR=10						
URZ	Urewera	6.80	214	P	P	14 19 08.7	-0.4
MRZ	Mangatainoka R	9.44	211	P	P	14 19 46.3	+0.5
MRZ				S	S	14 21 24.1	-7.9
KHZ	Kahutara	11.76	212	eP	P	14 20 17.8	+0.3
KHZ				S	S	14 22 17.2	-11
MQZ	McQueen's Vall	13.18	211	S	S	14 22 49.3	-14
RPZ	Rata Peaks	13.92	215	Pn	P	14 20 46.8	+0.7
	0.8nm,0.3s,baz=18,slow=9.6,SNR=3.5						
RPZ				Sn	S	14 23 07.6	-13
	0.6nm,0.3s,baz=312,slow=13,SNR=5.9						
STKA	Stephens Creek	33.98	260	P	P	14 24 13.4	+1.8
	1.6nm,0.7s,mb4.1,baz=65,slow=10.0,SNR=3.9						
CTA	Charters Tower	34.19	283	P	P	14 24 14.5	+0.9
	3.8nm,0.5s,mb4.6,baz=110,slow=10,SNR=14						
CTA				LR	LR	14 37 25.0	
	comp=Z,74nm,18.2s,MS3.5,baz=212,slow=35						
CTAO	Charters Tower	34.19	283	eP	P	14 24 14.5	+0.9
	4.2nm,0.6s,mb4.5						
ASAR	Alice Springs	42.99	269	P	P	14 25 26.9	-0.2
	3.7nm,0.6s,mb4.3,baz=108,slow=7.5,SNR=40						
ASAR				pP	pP	14 25 37.4	+0.4
	3.2nm,0.6s,baz=110,slow=8.0,SNR=8.4						
ASPA	Alice Springs	42.99	269	eP	P	14 25 26.8	-0.3
WB2	Warramunga Arr	44.17	275	eP	P	14 25 36.0	-0.7
WRAB	Tennant Creek	44.18	275	eP	P	14 25 36.0	-0.8
	11nm,0.7s,mb4.7						
WRA	Warramunga Arr	44.18	275	P	P	14 25 36.2	-0.6
	6.7nm,0.5s,mb4.6,baz=113,slow=8.0,SNR=72						
WRA				pP	pP	14 25 48.9	+2.2
	5.8nm,0.7s,baz=116,slow=7.7,SNR=8.2						
KAKA	Kakadu	49.36	282	eP	P	14 26 21.0	+3.4
	4.8nm,0.6s,mb4.7						
FITZ	Fitzroy Crossi	52.34	272	eP	P	14 26 39.4	-0.7
	3.1nm,1.2s,mb4.1						
FITZ	Fitzroy Crossi	52.34	272	P	P	14 26 39.3	-0.8
	2.2nm,0.7s,mb4.2,baz=159,slow=11,SNR=9.4						
QSPA	South Pole Qui	57.41	180	eP	sP	14 27 29.2	-1.1
	7.2nm,0.6s						
SNAA	Sanae	75.86	178	⇓i	pP	14 29 24.5	+1.1
SNAA	Sanae	75.86	178	pP	pP	14 29 25.7	+2.2
	1.5nm,0.9s,baz=190,slow=1.5,SNR=5.8						
VNA3	Neumayer Olymp	76.02	176	⇑i	sP	14 29 29.0	+1.0
VNA2	Neumayer--Watz	76.45	177		sP	14 29 31.2	+0.7
VNA1	Neumayer--Stat	76.68	177	⇑i	pP	14 29 30.3	+2.2
NVAR	Mina Array Bea	89.96	43	P	P	14 30 27.1	+0.9
	0.2nm,0.6s,mb3.7,baz=252,slow=5.7,SNR=2.6						
ZRNK	Zerenda	128.83	314	ePKPdf	PKPdf	14 36 34.9	+1.9
KAF	Kangasniemi	146.69	339	epkp	PKPdf	14 37 07.5	+2.5
	baz=40,slow=2.8						
FINES	FINESS Array B	147.28	339	PKPbc	PKPdf	14 37 10.3	+4.3
	5.3nm,0.5s,baz=56,slow=3.2,SNR=28						
FINES				pPKPbc		14 37 20.7	
	3.9nm,0.6s,baz=90,slow=3.8,SNR=4.4						
FINES				SKP		14 40 29.3	
	2.1nm,1.0s,baz=90,slow=3.8,SNR=3.9						
NB2	NORSAR Subarra	151.01	351	PKP		14 37 19.6	
	9.8nm,1.4s,baz=15,slow=4.1						
NOA	NORSAR Array B	151.01	351	PKPbc	PKPdf	14 37 20.7	+8.9
	0.6nm,0.7s,baz=35,slow=2.7,SNR=3.8						
NOA				PKPab	PKPab	14 37 27.5	0.0
	1.1nm,0.7s,baz=17,slow=3.2,SNR=4.3						

*NEIC **06** 14:31:28.7±1.1, 31.39S×178.81W, h10^{km}, mb4.4/3, Error ellipse: s-maj=37.0km s-min=17.5km az=216.0*
IDC 06 14:31:23.7±1.7**, 32.47S**×**178.43W, mb4.1**/4**, mb1 4.3**/5**, mb1mx4.0**/14**, ML3.9**/1**, 1C-1D, Error ellipse: s-maj=47.2km s-min=29.2km az=136.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	Puketiti	6.21	205	P	Pn	14 32 53.8	-5.2
PUZ				S	Sn	14 34 05.9	-5.8
MWZ	Matawai	6.72	208	P	Pn	14 33 00.9	-5.2
MWZ				S	Sn	14 34 19.5	-4.8
URZ	Urewera	6.83	211	Pn	Pn	14 33 04.2	-3.5
	2.5nm,0.3s,baz=295,slow=14,SNR=12						
URZ				Sn	Sn	14 34 22.3	-4.8
	2.2nm,0.3s,baz=139,slow=11,SNR=7.0						
MRZ	Mangatainoka R	9.49	209	S	Sn	14 35 20.4	-13
MQZ	McQueen's Vall	13.23	209	eS	S	14 36 45.4	-19
RPZ	Rata Peaks	13.94	213	Sn	S	14 37 04.1	-17
	0.3nm,0.3s,baz=327,slow=23,SNR=3.9						
CTA	Charters Tower	33.83	283	P	P	14 38 08.8	-1.1
	1.1nm,0.5s,baz=102,slow=9.3,SNR=4.1						
CTAO	Charters Tower	33.83	283	P	P	14 38 07.9	-2.0
	1.1nm,0.5s						
ASAR	Alice Springs	42.67	269	P	P	14 39 22.6	-1.4
	2.2nm,0.9s,baz=105,slow=7.5,SNR=21						
ASPA	Alice Springs	42.68	269	eP	P	14 39 22.6	-1.4
WB2	Warramunga Arr	43.84	275	eP	P	14 39 31.9	-1.6
WRAB	Tennant Creek	43.84	275	eP	P	14 39 32.0	-1.5
	11nm,1.0s						
WRA	Warramunga Arr	43.85	275	P	P	14 39 31.9	-1.7
	1.8nm,0.4s,baz=113,slow=8.1,SNR=52						
KAKA	Kakadu	49.00	282	eP	P	14 40 18.4	+4.1
	4.0nm,0.8s						
FITZ	Fitzroy Crossi	52.02	272	P	P	14 40 34.8	-2.5
	2.4nm,0.8s,baz=259,slow=9.8,SNR=3.2						
QSPA	South Pole Qui	57.65	180	eP	P	14 41 25.4	+7.8
	2.7nm,0.8s						
SNAA	Sanae	76.11	179	⇓i	P	14 43 21.1	+6.7
VNA3	Neumayer Olymp	76.27	176	⇑i	P	14 43 24.6	+9.3
VNA2	Neumayer--Watz	76.70	177		P	14 43 27.6	+10
FINES	FINESS Array B	146.94	339	PKPbc	PKPbc	14 51 06.0	-0.9
	2.3nm,0.5s,baz=54,slow=3.2,SNR=16						
NOA	NORSAR Array B	150.73	350	PKPbc	PKPdf	14 51 18.4	+5.1
	1.1nm,0.9s,baz=32,slow=5.2,SNR=2.6						
AKASG	Malin Array Be	152.68	320	PKPbc	PKPdf	14 51 20.4	+3.9
	0.3nm,0.3s,baz=45,slow=4.0,SNR=4.5						

WEL 06 14:37:41.3±0.1**, 40.49S**×**176.12E, h25^{km}**±1^{km}**, ML3.5**/10**, 3C-2D, Error ellipse: s-maj=1.7km s-min=0.8km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BFZ	Birch Farm	0.22	153	⇑P*	Pb	14 37 47.8	+0.6
BFZ				S*	Sb	14 37 52.5	+1.3
TSZ	Takapari Road	0.44	344	⇑P*	Pb	14 37 49.8	-0.8
TSZ				S*	Sb	14 37 56.4	-0.4
MRZ	Mangatainoka R	0.44	247	⇓P*	Pb	14 37 50.9	+0.4
MRZ				S*	Sb	14 37 58.2	+1.4
PWZ	Pawanui	0.73	52	P*	Pb	14 37 54.7	-0.6
PWZ				S*	Sb	14 38 06.2	+1.3
MTW	Mount Morrison	0.82	215	P*	Pb	14 37 56.8	0.0
MTW				S*	Sb	14 38 09.2	+1.9
KIW	Kapiti Island	0.99	247	⇑P*	Pb	14 37 59.8	+0.1
KIW				eS*	Sb	14 38 13.2	+0.8
CAW	Cannon Point	1.01	232	P*	Pb	14 37 59.6	-0.3
CAW				eS*	Sb	14 38 13.4	+0.5
PAWZ	Paruwai Farm	1.04	210	P*	Pb	14 37 59.6	-0.8
PAWZ				S*	Sb	14 38 14.4	+0.7
MOVZ	Moawhango	1.11	345	PN	Pn	14 38 01.1	-0.3
MOVZ				SN	Sn	14 38 16.2	+0.2
WAZ	Wanganui	1.13	310	PN	Pn	14 38 02.3	+0.6
WAZ				SN	Sn	14 38 19.0	+2.5
MSWZ	Moikau Station	1.14	215	P*	Pb	14 38 00.7	-1.4
WNVZ	Wahianoa	1.22	341	PN	Pn	14 38 03.1	+0.1
WNVZ				SN	Sn	14 38 19.9	+1.1
TUVZ	Tukino	1.27	344	PN	Pn	14 38 04.0	+0.4
TUVZ				SN	Sn	14 38 21.1	+1.1
DRZ	Dome Shelter	1.28	341	ePN	Pn	14 38 02.4	-1.4
WEL	Wellington	1.30	232	P*	Pb	14 38 03.3	-1.6
WEL				eS*	Sb	14 38 21.4	+0.3
MRW	Makara Radio	1.30	235	P*	Pb	14 38 03.5	-1.6
MRW				S*	Sb	14 38 20.9	-0.5
BHW	Baring Head	1.32	225	P*	Pb	14 38 03.2	-2.0
BKZ	Black Stump Fm	1.35	13	⇓PN	Pn	14 38 03.6	-1.3
BKZ				SN	Sn	14 38 20.8	-1.2
WPVZ	Whakapapa	1.35	341	PN	Pn	14 38 04.9	0.0
WPVZ				SN	Sn	14 38 24.6	+2.5
CNZ	Chateau	1.36	341	PN	Pn	14 38 05.0	+0.1
NGZ	Ngauruhoe	1.37	343	ePN	Pn	14 38 05.4	+0.3
NGZ				SN	Sn	14 38 24.0	+1.5
WTVZ	West Tongariro	1.43	343	PN	Pn	14 38 06.1	+0.2
WTVZ				SN	Sn	14 38 24.7	+0.7
KAVZ	Karewarewa	1.43	345	ePN	Pn	14 38 05.9	-0.2
TWVZ	Taurewa	1.51	340	ePN	Pn	14 38 06.6	-0.4
TWVZ				SN	Sn	14 38 27.1	+1.1
RITZ	Rihia Road	1.52	352	ePN	Pn	14 38 07.0	-0.3
KATZ	Kakaramea	1.54	348	ePN	Pn	14 38 08.1	+0.5
MGZ	Maungaku	1.55	343	ePN	Pn	14 38 07.4	-0.2
RATZ	Rangitukua	1.64	351	ePN	Pn	14 38 09.8	+0.8
VRZ	Vera Road	1.71	322	ePN	Pn	14 38 09.7	-0.3
KNZ	Kokohu	1.89	40	PN	Pn	14 38 09.6	-3.0
TUWZ	Tuamarina	1.90	239	PN	Pn	14 38 10.8	-1.9
TUWZ				S*	Sb	14 38 34.6	-3.8
NEZ	North Egmont	1.97	307	ePN	Pn	14 38 14.8	+1.0
NRZ	Ngariki Road	2.03	304	PN	Pn	14 38 16.5	+1.8
PKE	Pukeiti	2.08	308	ePN	Pn	14 38 16.3	+1.0
BSWZ	Blackbirch Sta	2.09	233	ePN	Pn	14 38 13.8	-1.7
NWEZ	Newall Road	2.11	304	ePN	Pn	14 38 16.8	+1.1
HIZ	Hauiti	2.20	333	ePN	Pn	14 38 17.8	+0.8
NNZ	Nelson	2.20	250	PN	Pn	14 38 15.7	-1.3
NNZ				SN	Sn	14 38 43.6	-0.1
URZ	Urewera	2.35	19	PN	Pn	14 38 15.7	-3.5
URZ				SN	Sn	14 38 44.3	-3.3
MWZ	Matawai	2.41	27	PN	Pn	14 38 16.5	-3.5
KHZ	Kahutara	2.73	224	ePN	Pn	14 38 21.1	-3.5
KHZ				S*	Sb	14 38 53.9	-8.8
THZ	Tophouse	2.74	241	PN	Pn	14 38 22.3	-2.4
QRZ	Quartz Range	2.75	262	ePN	Pn	14 38 23.5	-1.4
PUZ	Puketiti	2.93	35	PN	Pn	14 38 22.9	-4.5
LTZ	Lake Taylor	3.68	230	PN	Pn	14 38 34.3	-3.8
MQZ	McQueen's Vall	4.12	218	ePN	Pn	14 38 40.4	-3.9
ODZ	Otahua Downs	6.08	220	ePN	Pn	14 39 06.8	-5.2

*NIED **06** 14:40:00, 36.00N×140.10E, h65^{km}, Mw5.7 Best double*

couple: $M_0$4.52×10^{17} NP1:ϕ_s360°,δ64°,λ83°. NP2:ϕ_s195°, δ27°,λ104°.

*BJI **06** 14:40:38.6,35.93N×140.07E,h89km,mB5.6,mb5.5, Ms5.3,Msz5.1*

*IDC **06** 14:40:39.9±0.5,35.88N×139.95E,h65km±4km,mb5.1/30, mb1 5.2/34,mb1mx5.2/35,MS4.8/24,Ms1 4.8/24, ms1mx4.7/28,Error ellipse: s-maj=12.2km s-min=6.3km az=96.0*

*HRVD **06** 14:40:39.9±0.1,35.94N×140.24E,h70km,MW5.7/86, Centroid moment Tensor Solution. LP body waves: s82,c165;Mantle waves: s86,c194; Half duration: 1s8 Moment tensor: Scale 10^{17}Nm; M_{rr}3.86±.06; $M_{\theta\theta}$0.43±.06; $M_{\phi\phi}$-4.29±.05; $M_{r\theta}$-0.28±.05; $M_{\theta\phi}$-0.82±.05; $M_{\phi r}$2.34±.05; Best double couple: $M_0$4.78×10^{17} NP1:ϕ_s200°,δ31°,λ107°. NP2:ϕ_s1°,δ60°,λ80°. Principal axes: T 4.54, Plg73°, Azm246°; N .47, Plg9°, Azm6°; P -5.01, Plg14°, Azm98°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **06** 14:40:39.9±0.1,35.95N×139.92E,mb5.5/130,MW5.7, MW5.7(NIED) Error ellipse: s-maj=2.8km s-min=2.4km az=155.0,Moment Tensor Solution. s43 Moment tensor: Scale 10^{17}Nm; M_{rr}3.86; $M_{\theta\theta}$-0.36; $M_{\phi\phi}$-3.50; $M_{r\theta}$-0.05; $M_{\theta\phi}$-0.49; $M_{\phi r}$2.56; Best double couple: $M_0$4.5×10^{17} NP1: ϕ_s193°,δ28°,λ99°. NP2:ϕ_s3°,δ62°,λ85°. Principal axes: T 4.67, Plg72°, Azm263°; N -.32, Plg4°, Azm6°; P -4.35, Plg17°, Azm97°;*

NEIC One person injured and two houses damaged at Temma. Felt in Chiba, Gumma, Ibaraki, Kanagawa, Nagano, Shizuoka and Tokyo Prefectures. Recorded [5L JMA] in Ibaraki, Saitama and Tochigi; [4 JMA] in Chiba, Gumma, Kanagawa and Tokyo; [3 JMA] in Fukui, Nagano, Shizuoka and Yamanashi; [2 JMA] in Miyagi; [1 JMA] in Aichi, Gifu, Iwate and Yamagata Prefectures. Also recorded [2 JMA] on O-shima and [1 JMA] on Hachijo-jima, Kozu-shima, Miyake-jima and Nii-jima.

*SYO **06** 14:40:39.9,35.92N×139.92E,h65km,MB5.5*

*JMA **06** 14:40:40.1±0.1,35.99N×140.09E,h66km±1km,M5.7 Broadband fault plane solution: P waves. NP1:ϕ_s193°, δ27°,λ98°. NP2:ϕ_s4°,δ63°,λ86°. Principal axes: T Plg72°, Azm265°; N Plg4°, Azm6°; P Plg18°, Azm97°;*

*MOS **06** 14:40:41.2±0.7,36.42N×139.90E,h68km,mb5.8/73 Error ellipse: s-maj=8.2km s-min=4.9km az=98.3*

ISC 06 14:40:38.9±0.1**,35.94N**±0.02×**140.03E**±0.02**,h67km, h67km**±1.8km**:pP-P,n821,**σ1s**02**/828**,mb5.5**/193**,134C-49D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JYT	Yasato	0.32	25	⇑P	P	14 40 50.6	+0.6
JYT				S	S	14 40 58.4	+0.3
TOK	Tokyo	0.33	221	P	P	14 40 52.6	+2.6
JAG	Ashikaga	0.67	317	⇓P	P	14 40 54.8	+1.4
JAG				S	S	14 41 05.4	+1.2
JHO	Hitachi	0.80	33	⇑P	P	14 40 55.1	+0.2
JHO				S	S	14 41 06.2	-0.7
JRY	Ryogami san	0.92	275	⇓P	P	14 40 58.2	+1.8
JRY				S	S	14 41 12.3	+2.9
BSO4	Boso 4	0.98	165	P	P	14 40 58.3	+1.1
JOD2	Odawara 2	1.02	229	⇓P	P	14 40 59.1	+1.4
JOD2				S	S	14 41 13.5	+1.8
JSB	Shiboa	1.03	355	P	P	14 40 59.0	+1.1
JKT	Katashina	1.04	323	⇓P	P	14 40 59.2	+1.2
JKT				S	S	14 41 14.2	+2.0
BSO3	Boso 3	1.20	161	⇑P	P	14 41 00.5	+0.4
JYN	Shimob	1.28	251	⇓P	P	14 41 03.2	+1.9
JIM2	Oshima 3	1.31	202	P	P	14 41 01.9	+0.1
JIM2				S	S	14 41 19.4	+0.7
ONAJ	Iwakimizuishiy	1.32	28	⇑P	P	14 41 01.8	-0.1
JFY	Yanaizu	1.49	350	P	P	14 41 05.0	+0.8
BSO1	Boso 1	1.50	148	P	P	14 41 04.3	0.0
JNT	Takato	1.54	268	⇓P	P	14 41 07.4	+2.6
JIZS	Izushimoda	1.54	218	⇓P	P	14 41 05.6	+0.8
JHK	Hiroka	1.54	328	⇓P	P	14 41 06.0	+1.1
JFK	Kawauchi	1.58	25	⇑P	P	14 41 05.3	-0.1
MAJO	Matsushiro	1.59	293	Pn	P	14 41 06.9	+1.3
MAJO	Matsushiro	1.59	293	⇓eP	P	14 41 06.6	+1.0
MAT	Matsushiro	1.59	293	P	P	14 41 06.7	+1.2
MAT				S	S	14 41 29.3	+4.1
MAT	Matsushiro	1.59	293	P	P	14 41 06.8	+1.3
MAT	Matsushiro	1.59	293	eP	P	14 41 07.0	+1.5
MAT				eS	S	14 41 29.0	+3.8
JFT	Otama	1.60	9	⇑P	P	14 41 06.2	+0.6
JNG	Nsakai	1.63	287	⇓P	P	14 41 08.0	+2.0
SHZ3	Shizuoka 3	1.72	240	⇓P	P	14 41 09.3	+2.1
JNY	Yasuok	1.86	253	⇓P	P	14 41 11.5	+2.4
JKO	Kozu shima	1.89	203	P	P	14 41 11.1	+1.5
JJN	Nakama	1.90	308	⇓P	P	14 41 11.8	+2.1
JIZZ	Izumozaki	1.91	327	⇓P	P	14 41 12.0	+2.1
JSG	Sagara	1.96	231	P	P	14 41 12.8	+2.2
JNS	Sasagawa	1.96	343	P	P	14 41 11.4	+0.8
JMM	Marumori	2.02	17	⇑P	P	14 41 11.8	+0.4
HMMJ	Hamamatsu 2	2.17	241	⇓P	P	14 41 15.3	+1.8
JGF	Kuroka	2.20	262	⇓P	P	14 41 16.3	+2.4
JTT	Ttatey	2.28	288	⇓P	P	14 41 17.4	+2.4
JAO	Obara	2.35	254	⇓P	P	14 41 18.0	+1.9
JSD	Sado	2.53	327	⇓P	P	14 41 19.3	+0.7
JAW	Awa shima	2.59	346	⇓P	P	14 41 20.0	+0.5
JSZ	Suzu	2.62	306	⇓P	P	14 41 20.6	+0.7
JGM	Miyama	2.70	266	⇓P	P	14 41 22.8	+1.8
JJH	Hakui	2.80	292	⇓P	P	14 41 24.0	+1.6
JHJ	Hachijo jima 2	2.82	184	P	P	14 41 22.8	+0.1
	739nm,0.3s,baz=239,slow=2.1,SNR=79						
JHJ				S	S	14 41 55.1	-0.4
	3µm,0.3s,baz=66,slow=22,SNR=11						
JKG	Kaga	3.01	278	P	P	14 41 27.4	+2.0
JIE	Ise	3.13	241	P	P	14 41 28.4	+1.4
JHG	Hegura jima	3.14	308	⇓P	P	14 41 27.9	+0.7
JFM	Mihama	3.31	264	P	P	14 41 30.9	+1.3
JWT	Wachi	3.83	262	P	P	14 41 37.8	+1.0
JNM	Ikuma	5.71	268	P	P	14 42 04.8	+1.9
JHS	Saijyo	5.72	263	P	P	14 42 04.2	+1.2
JGT	Gotsu	6.34	264	P	P	14 42 13.1	+1.3
JHM	Kurahashi	6.41	256	⇓P	P	14 42 13.8	+1.1
ERM	Erimo	6.54	21	Pn	P	14 42 11.4	-3.2
	4µm,0.5s						
JFA	Akaike	7.91	256	P	P	14 42 34.4	+0.9
JNU	Nakatsue	8.05	252	P	P	14 42 36.0	+0.5
	11nm,0.3s,baz=60,slow=20,SNR=44						
JNU	Nakatsue	8.05	252	P	P	14 42 36.4	+0.9
JFI	Itaya	8.32	255	P	P	14 42 40.6	+1.4
JTA	Tamana	8.38	252	P	P	14 42 41.1	+1.1
ASAJ	Asahikawa	8.40	13	P	P	14 42 36.9	-3.4
	53nm,0.3s,baz=230,slow=13,SNR=218						
ASAJ				S	S	14 44 07.5	-7.1
	7.4nm,0.3s,baz=49,slow=22,SNR=2.5						
ASAJ	Asahikawa	8.40	13	P	P	14 42 36.9	-3.4
ASAJ				S	S	14 44 07.5	-7.0
ASAJ				pmax	pmax		
	comp=Z,53nm,0.3s						
JUR	Ureshino	8.79	254	P	P	14 42 47.2	+1.7
CBIJ	Chichi jima	9.00	168	P	P	14 42 44.1	-4.3
	comp=Z,135nm,0.3s,baz=347,slow=6.5,SNR=64						
CBIJ				S	S	14 44 19.9	-9.3
	comp=Z,152nm,0.3s,baz=257,slow=22,SNR=6.2						
YUK	Yuzh-Kuril'sk	9.24	27	eP	P	14 42 46.0	-5.7
YUK				iS	S	14 44 22.0	-13
YUK				pmax	pmax		
	comp=N,160nm,0.4s						
YUK				pmax	pmax		
	comp=E,350nm,0.4s						
YUK				pmax	pmax		
	comp=Z,550nm,0.4s						
YUK				pmax	pmax		
	comp=Z,5µm,1.3s						
YUK				pmax	pmax		
	comp=N,2µm,0.8s						
YUK				smax			
	comp=N,6µm,0.6s						
YUK				smax			
	comp=E,12µm,0.9s						
YUK				smax			
	comp=N,8µm,1.0s						
YUK				smax			
	comp=E,22µm,1.2s						
YUK				MLR	MLR		
	comp=N,3µm,13.0s						
YUK				MLR	MLR		
	comp=E,6µm,15.0s						
VLA	Vladivostok	9.53	321	⇑iP	P	14 42 55.0	-0.6
VLA				pmax	pmax		
	comp=Z,3µm,2.6s						
VLA				pmax	pmax		
	comp=N,3µm,2.4s						
VLA				pmax	pmax		
	comp=E,2µm,2.4s						
VLA				MLR	MLR		
	comp=N,5µm,13.0s						
VLA				MLR	MLR		
	comp=E,3µm,13.0s						
VLA				MLR	MLR		
	comp=Z,6µm,13.0s						
KS15	Wonju Array Si	9.87	282	eP	P	14 43 02.4	+2.1
JKC	Kuchinoerabu	9.88	239	P	P	14 43 02.4	+2.0
INCN	Inchon	10.87	282	eP	P	14 43 16.4	+2.7
	comp=Z,327nm,1.5s						
KUR	Kuril'sk	11.03	30	eP	P	14 43 09.0	-6.9
KUR				iS	S	14 45 03.5	-15
KUR				pmax	pmax		
	comp=N,690nm,1.1s						
KUR				pmax	pmax		
	comp=Z,3µm,1.1s						
KUR				smax			
	comp=N,8µm,1.2s						
KUR				smax			
	comp=E,950nm,1.2s						
KUR				smax			
	comp=N,12µm,1.5s						
KUR				smax			
	comp=E,3µm,1.5s						
YSS	Yuzh-Sakhalins	11.20	10	⇑iP	P	14 43 14.3	-3.9
YSS				eS	S	14 45 18.2	-4.3
YSS				pmax	pmax		
	comp=Z,120nm,1.0s						
YSS				smax			
	comp=E,440nm,1.4s						
YSS				smax			
	comp=N,170nm,1.1s						
YSS				MLR	MLR		
	comp=Z,7µm,17.0s						
YSS				MLR	MLR		
	comp=N,5µm,14.0s						
YSS	Yuzh-Sakhalins	11.20	10	eP	P	14 43 13.8	-4.4
	comp=N,98nm,0.6s						
MDJ	Mudanjiang	11.77	321	P	P	14 43 26.9	+1.1
MDJ				PP	PP	14 43 38.3	+2.7
MDJ				S	S	14 45 44.8	+8.6
MDJ				AMB	AMB		
	comp=Z,204nm,1.4s						
MDJ				AMB	AMB		
	comp=Z,966nm,5.7s						
MDJ				LR	LR		
	comp=N,9µm,27.2s						
MDJ				LR	LR		
	comp=E,2µm,23.7s						
MDJ				LR	LR		
	comp=Z,9µm,30.4s						
MDJ	Mudanjiang	11.77	321	eP	P	14 43 27.1	+1.2
	comp=Z,311nm,1.1s						
UGL	Uglegorsk	13.22	6	eP	P	14 43 35.5	-10
UGL				pmax	pmax		
	comp=Z,500nm,2.5s						
UGL				MLR	MLR		
	comp=N,4µm,16.0s						
UGL				MLR	MLR		
	comp=Z,5µm,16.0s						
UGL				MLR	MLR		
	comp=E,5µm,18.0s						
JOW	Kunigami	13.52	231	P	P	14 43 50.9	+1.7
JOW				LR	LR	14 48 43.9	
	comp=E,6µm,21.1s,baz=56,slow=36						
CN2	Changchun	13.67	310	eP	P	14 43 50.8	-0.1
CN2				eS	S	14 46 20.9	-0.5
CN2				LR	LR		
	comp=N,8µm,18.0s						
CN2				LR	LR		
	comp=E,6µm,18.0s						
CN2				LR	LR		
	comp=Z,7µm,32.0s						
SNY	Shenyang	14.09	300	⇑P	P	14 43 57.2	+0.8
SNY				AP		14 44 12.8	
SNY				S	S	14 46 37.5	+5.9
SNY				LR	LR		
	comp=N,6µm,12.5s						
SNY				LR	LR		
	comp=E,6µm,16.1s						
SNY				LR	LR		
	comp=Z,8µm,15.6s						
KLR	Kul'dur	14.60	338	eP	P	14 43 57.5	-5.6
KLR				MLR	MLR		
	comp=N,2µm,13.5s						
KLR				MLR	MLR		
	comp=Z,5µm,13.5s						
DL2	Dalian	14.92	287	⇑iP	P	14 44 10.5	+3.3
DL2				S	S	14 46 51.5	+0.4
DL2				AMB	AMB		
	comp=Z,1µm,4.9s						
DL2				LR	LR		
	comp=E,4µm,14.5s						
DL2				LR	LR		
	comp=Z,5µm,17.1s						
TYV	Tymovskoe	15.04	6	eP	P	14 44 04.0	-4.7
TYV				eS	S	14 46 44.0	-10
TYV				pmax	pmax		
	comp=Z,89nm,0.9s						
TYV				smax			
	comp=N,2µm,8.0s						
TYV				smax			
	comp=E,4µm,8.0s						
TYV				MLR	MLR		
	comp=Z,6µm,14.0s						
TYV				MLR	MLR		
	comp=N,2µm,15.0s						
TYV				MLR	MLR		
	comp=E,3µm,15.0s						
SSE	Sheshan	16.43	258	P	P	14 44 27.3	+0.8
SSE				AP		14 44 43.9	
SSE				S	S	14 47 31.7	+5.6
SSE				AMB	AMB		
	comp=Z,67nm,0.8s						
SSE				AMB	AMB		
	comp=Z,2µm,6.1s						
SSE				LR	LR		
	comp=N,4µm,11.0s						
SSE				LR	LR		
	comp=E,3µm,10.7s						
SSE				LR	LR		
	comp=Z,6µm,16.8s						
JOGS	Gusukube	16.81	233	P	P	14 44 33.7	+2.5
JMJ	Miyako jima 2	16.84	233	P	P	14 44 33.7	+2.1
JTJ	Tarama	17.35	234	P	P	14 44 38.3	+0.3
JIJ	Ishigaki jima	17.91	234	P	P	14 44 43.0	-1.9
NJ2	Nanjing	17.98	264	eP	P	14 44 45.5	-0.2
NJ2				AP		14 44 55.9	
NJ2				PP	PP	14 45 01.8	+0.6
NJ2				AMB	AMB		
	comp=Z,190nm,0.8s						
NJ2				AMB	AMB		
	comp=Z,3µm,8.0s						
NJ2				LR	LR		
	comp=N,8µm,21.0s						
NJ2				LR	LR		
	comp=E,11µm,22.1s						
NJ2				LR	LR		
	comp=Z,18µm,23.6s						
TIA	Tai'an	18.52	278	P	P	14 44 49.6	-2.5
TIA				S	S	14 48 17.8	+4.9
TIA				LR	LR		
	comp=N,1µm,16.7s						
TIA				LR	LR		
	comp=E,3µm,14.7s						
SKR	Severo-Kuril's	18.76	33	eP	P	14 44 49.9	-5.0
SKR				eS	S	14 48 14.0	-4.3
SKR				pmax	pmax		
	comp=N,1µm,4.0s						
SKR				pmax	pmax		
	comp=E,1µm,4.0s						
SKR				pmax	pmax		
	comp=Z,2µm,4.0s						
SKR				pmax	pmax		
	comp=N,220nm,1.0s						
SKR				pmax	pmax		
	comp=E,220nm,1.0s						
SKR				pmax	pmax		
	comp=Z,290nm,1.0s						
SKR				smax			
	comp=N,3µm,12.0s						
SKR				smax			
	comp=E,4µm,12.0s						
SKR				smax			
	comp=N,110nm,1.0s						
SKR				smax			
	comp=E,90nm,1.0s						
SKR				MLR	MLR		
	comp=N,1µm,12.0s						
SKR				MLR	MLR		
	comp=E,1µm,12.0s						
SKR				MLR	MLR		
	comp=Z,2µm,12.0s						
BJI	Beijing	19.23	289	P	P	14 44 56.9	-3.2
BJI				S	S	14 48 24.9	-3.6
BJI				AMB	AMB		
	comp=Z,209nm,1.5s						
BJI				LR	LR		
	comp=N,1µm,10.6s						
BJI				LR	LR		
	comp=E,3µm,12.2s						
BJI				LR	LR		
	comp=Z,9µm,35.2s						
BJT	Baijiatuau	19.23	289	eP	P	14 44 57.4	-2.8
	comp=Z,323nm,1.1s						
TATO	Taipei	19.32	241	eP	P	14 44 59.8	-1.6
	comp=Z,140nm,0.9s						
SARN	Sarigan	19.83	164	eP	P	14 45 06.6	-0.1
HIA	Hailar	19.93	318	eP	P	14 45 03.1	-4.5
	comp=Z,269nm,1.3s						
SAPN	Saipan	21.26	165	eP	P	14 45 22.9	+1.4
QZH	Quanzhou	21.44	245	P	P	14 45 19.7	-3.5
QZH				S	S	14 49 10.0	-2.0
QZH				AMB	AMB		
	comp=Z,370nm,0.8s,mb5.8						
QZH				LR	LR		
	comp=N,2µm,10.4s						
QZH				LR	LR		
	comp=E,3µm,11.6s						
QZH				LR	LR		
	comp=Z,9µm,22.2s						
PET	Petropavlovsk	21.54	32	eP	P	14 45 21.1	-2.9
PET				e		14 45 44.2	
PET				eS	S	14 49 14.2	+0.6
PET				e		14 49 23.2	
PET				eSS	SS	14 49 42.3	-11
PET				pmax	pmax		
	comp=Z,312nm,0.9s,mb5.6						
PET				pmax	pmax		
	comp=Z,700nm,11.4s						
PET				smax			
	comp=N,2µm,6.4s						
PET				smax			
	comp=N,800nm,12.6s						
PET				MLR	MLR		
	comp=Z,3µm,22.0s						
PET				MLR	MLR		
	comp=Z,4µm,21.0s						
PET	Petropavlovsk	21.54	32	eP	P	14 45 23.9	0.0
	comp=Z,188nm,1.1s,mb5.3						
WHN	Wuhan	22.11	263	⇓P	P	14 45 29.0	-0.8
WHN				S	S	14 49 25.0	+0.8
WHN				AMB	AMB		
	comp=Z,495nm,1.0s,mb5.8						
WHN				LR	LR		
	comp=E,9µm,14.0s						
WHN				LR	LR		
	comp=Z,17µm,14.2s						
GUMO	Guam	22.67	168	eP	P	14 45 34.3	-1.2
GUMO				pmax	pmax		
	comp=Z,320nm,0.9s,mb5.7						
GUMO	Guam	22.67	168	eP	P	14 45 34.3	-1.2
	comp=Z,322nm,0.9s,mb5.7						
HHC	Hu-ho-hao-te	22.79	291	eP	P	14 45 33.2	-3.2
HHC				AP		14 45 55.4	
HHC				PP	PP	14 46 07.2	-0.1
HHC				PCP	PcP	14 49 19.8	-7.8
HHC				S	S	14 49 38.1	+1.8
HHC				PCS		14 53 03.0	
HHC				AMB	AMB		
	comp=Z,184nm,1.1s,mb5.3						
HHC				AMB	AMB		
	comp=Z,323nm,2.6s,mb5.2						
HHC				LR	LR		
	comp=N,861nm,12.0s						
HHC				LR	LR		
	comp=E,2µm,13.3s						
HHC				LR	LR		
	comp=Z,2µm,12.6s						
CLNS	Chul'man	23.27	339	eP	P	14 45 38.6	-2.2
CLNS				e		14 45 57.7	
CLNS				e		14 49 24.4	
CLNS				eS	S	14 49 38.4	-6.0
CLNS				pmax	pmax		
	comp=Z,454nm,1.0s,mb5.8						
CLNS				pmax	pmax		
	comp=N,235nm,0.9s						
CLNS				pmax	pmax		
	comp=E,105nm,0.9s						
CLNS				smax			
	comp=N,2µm,11.9s						
CLNS				smax			
	comp=Z,1µm,12.0s						
CLNS				smax			
	comp=E,300nm,10.8s						
CLNS				MLR	MLR		
	comp=N,1µm,14.0s						
CLNS				MLR	MLR		
	comp=Z,2µm,14.0s						
CLNS				MLR	MLR		
	comp=E,200nm,11.0s						
BTO	Baotou	23.95	290	eP	P	14 45 45.3	-2.3
BTO				S	S	14 49 54.0	-2.5
BTO				LR	LR		
	comp=N,1µm,13.7s						
BTO				LR	LR		
	comp=E,2µm,11.0s						
CVP	Callao Caves	24.29	226	eP	P	14 45 49.0	-2.2
MA2	Magadan	24.67	13	eP	P	14 45 55.3	+0.9
MA2				pmax	pmax		
	comp=Z,397nm,1.1s,mb5.8						
MA2				MLR	MLR		
	comp=Z,1µm,16.0s						
MA2	Magadan	24.67	13	eP	P	14 45 54.2	-0.2
	comp=Z,103nm,0.8s,mb5.3						
XAN	Xi'an	25.50	275	P	P	14 46 00.0	-2.6
XAN				S	S	14 50 15.1	-7.5
XAN				LR	LR		
	comp=N,2µm,21.6s						
XAN				LR	LR		
	comp=E,2µm,29.6s						
XAN				LR	LR		
	comp=Z,4µm,27.0s						
ENH	Enshi	26.14	266	eP	P	14 46 06.8	-1.7
	comp=Z,880nm,0.8s,mb6.2						
YAK	Yakutsk	26.92	349	c iP	P	14 46 13.3	-2.1
YAK				e	pP	14 46 32.2	+1.0
YAK				ePPP	PPP	14 46 58.1	-17
YAK				i		14 49 35.5	
YAK				eS	S	14 50 42.6	-2.9
YAK				eSSS	SSS	14 51 48.2	-35
YAK				i		14 56 55.2	
YAK				pmax	pmax		
	comp=Z,133nm,1.0s,mb5.4						
YAK				pmax	pmax		
	comp=N,113nm,1.2s						
YAK				pmax	pmax		
	comp=E,47nm,1.3s						
YAK				smax			
	comp=N,518nm,11.1s						
YAK				smax			
	comp=Z,396nm,9.4s						
YAK				smax			
	comp=E,416nm,10.0s						
YAK				MLR	MLR		
	comp=N,1µm,17.0s						
YAK				MLR	MLR		
	comp=Z,1µm,17.0s						
YAK				MLR	MLR		
	comp=E,1µm,15.0s						
YAK	Yakutsk	26.92	349	eP	P	14 46 13.6	-1.7
	comp=E,324nm,1.0s,mb5.8						
SONM	Songino Array	27.50	306	P	P	14 46 19.5	-1.3
	comp=E,53nm,0.8s,mb5.1,baz=104,slow=8.9,SNR=214						

SONM ScP 14 53 12.6
comp=E,3.1nm,1.0s,baz=76,slow=5.1,SNR=3.6
SONM PKiKP 14 57 12.7
comp=E,0.8nm,0.5s,baz=197,slow=1.5,SNR=6.9
BOD Bodaibo 27.89 330 *eP* **P 14 46 22.4 -1.9**
SEY Seymchan 28.09 12 *eP* **P 14 46 24.2 -1.8**
SEY *ePPP* PPP 14 47 21.5 -8.9
SEY *eS* **S 14 51 04.4 0.0**
SEY *eSSS* SSS 14 52 35.4 -16
SEY pmax pmax
comp=Z,250nm,1.1s,mb5.7
SEY pmax pmax
comp=N,70nm,0.9s
SEY pmax pmax
comp=E,30nm,0.9s
SEY smax
comp=N,4μm,7.6s
SEY smax
comp=E,800nm,4.8s
SEY MLR MLR
comp=Z,5μm,17.0s
FX1 Attu Island--F 28.77 44 P **P 14 46 31.8 -0.3**
comp=Z,29nm,0.5s,mb5.2,baz=357,slow=8.4,SNR=14
FX1 LR LR 14 56 33.8
comp=Z,46nm,19.5s,baz=270,slow=33
FX1 Attu Island--F 28.77 44 P **P 14 46 31.8 -0.3**
FX1 pmax pmax
comp=Z,29nm,0.5s
FX1 MLR MLR
comp=Z,46nm,19.5s
FX1 Attu Island--F 28.77 44 *eP* **P 14 46 31.3 -0.8**
LZH Lanzhou 29.17 281 P **P 14 46 34.7 -1.2**
LZH AP pP 14 46 51.8 -0.2
LZH PP PP 14 47 33.0 +0.6
LZH S **S 14 51 17.0 -4.9**
LZH AMB AMB
comp=Z,170nm,1.1s,mb5.6
LZH AMB AMB
comp=Z,1μm,4.9s
LZH LR LR
comp=E,7μm,14.5s
LZH LR LR
comp=Z,9μm,17.2s
GYA Guiyang 29.94 261⇑ *iP* **P 14 46 40.2 -2.7**
GYA AP pP 14 47 03.2 +4.2
GYA PP PP 14 47 42.8 +0.2
GYA S **S 14 51 30.8 -3.5**
GYA SS SS 14 53 09.4 -5.5
GYA AMB AMB
comp=Z,290nm,0.9s,mb5.9
GYA AMB AMB
comp=Z,520nm,5.4s
GYA LR LR
comp=N,2μm,17.4s
GYA LR LR
comp=E,2μm,17.0s
GYA LR LR
comp=Z,3μm,21.8s
IRK Irkutsk 30.03 314 *eP* **P 14 46 41.0 -2.4**
IRK *e* pP 14 46 58.4 -1.2
CD2 Chengdu 30.57 271 P **P 14 46 46.0 -2.4**
CD2 AP pP 14 47 07.3 +2.7
CD2 S **S 14 51 37.7 -6.4**
CD2 XS 14 52 17.2
CD2 AMB AMB
comp=Z,20nm,0.6s,mb5.0
CD2 AMB AMB
comp=Z,320nm,6.7s
CD2 LR LR
comp=E,3μm,16.8s
CD2 LR LR
comp=Z,3μm,15.6s
QIZ Qiongzhong 31.46 246⇑ *iP* **P 14 46 55.2 -1.1**
QIZ PP PP 14 47 55.4 -6.6
QIZ PPP PPP 14 48 18.7 +1.4
QIZ S **S 14 51 58.9 +0.7**
QIZ XS 14 52 26.6
QIZ AMB AMB
comp=Z,55nm,1.3s,mb5.1
QIZ AMB AMB
comp=Z,390nm,7.7s
QIZ LR LR
comp=N,2μm,19.4s
QIZ LR LR
comp=E,2μm,20.4s
QIZ LR LR
comp=Z,2μm,23.0s
QIZ Qiongzhong 31.46 246 *eP* **P 14 46 55.8 -0.5**
comp=Z,60nm,1.0s,mb5.3
MOY Mondy 31.82 312 *eP* **P 14 46 57.5 -1.6**
GTA Gaotai 31.84 289 P **P 14 46 57.6 -1.8**
GTA PP PP 14 48 04.1 -2.5
GTA PCP PcP 14 49 49.1 +0.1
GTA S **S 14 52 02.0 -1.9**
GTA SCP 14 53 25.4
GTA PCS 14 53 31.9
GTA SS SS 14 53 58.4 -0.3
GTA SCS ScS 14 57 19.6 -2.6
GTA AMB AMB
comp=Z,51nm,0.7s,mb5.4
GTA AMB AMB
comp=Z,280nm,4.6s
GTA LR LR
comp=N,766nm,20.5s
GTA LR LR
comp=E,1μm,28.1s
GTA LR LR
comp=Z,2μm,39.5s
KMI Kunming 33.70 262⇑ *eP* **P 14 47 13.9 -1.8**
KMI AP pP 14 47 30.1 -2.1
KMI PP PP 14 48 29.4 -0.8
KMI S **S 14 52 26.2 -6.7**
KMI AMB AMB
comp=Z,126nm,1.3s,mb5.6
KMI AMB AMB
comp=Z,628nm,4.8s
KMI LR LR
comp=N,2μm,24.7s
KMI LR LR
comp=E,4μm,16.8s
KMI LR LR
comp=Z,4μm,27.6s
TIXI Tiksi 36.26 354*c* *iP* **P 14 47 35.6 -1.4**
TIXI *eS* **S 14 53 10.0 -1.9**
TIXI pmax pmax
comp=Z,27nm,0.9s,mb5.2
TIXI MLR MLR
comp=Z,1μm,19.0s
TIXI Tiksi 36.26 354⇑ *iP* **P 14 47 35.6 -1.4**
UBT Ubonrachathani 37.41 246 P **P 14 47 47.5 +0.3**
KKTK Khon Kaen 38.38 249⇑ P **P 14 47 54.0 -1.3**
comp=Z,1μm,1.0s
CHG Chiang Mai 39.94 256 P **P 14 48 07.3 -0.9**
CM31 Chiang Mai Arr 40.14 255 *eP* **P 14 48 08.8 -1.1**
comp=Z,32nm,0.7s,mb5.3
CMAR Chiang Mai Arr 40.14 255 P **P 14 48 09.2 -0.6**
comp=Z,40nm,0.9s,mb5.3,baz=49,slow=7.4,SNR=83
CMAR PcP PcP 14 50 13.8 -0.1
comp=Z,18nm,1.0s,baz=24,slow=2.1,SNR=8.2
CMAR LR LR 15 06 44.5
comp=Z,2μm,19.1s,baz=65,slow=39
CMAR Chiang Mai Arr 40.14 255 P **P 14 48 09.3 -0.6**
CMAR 14 50 13.8
CMAR pmax pmax
comp=Z,40nm,0.9s
CMAR MLR MLR
comp=Z,2μm,19.2s
WMQ Urumqi 40.35 298⇓ *iP* **P 14 48 11.0 -0.4**
WMQ AP pP 14 48 26.0 -2.1
WMQ PP PP 14 49 48.0 -0.6
WMQ S **S 14 54 13.0 -1.1**
WMQ SS SS 14 57 08.0 -1.9
WMQ SCS ScS 14 58 09.0 +0.1
WMQ AMB AMB
comp=Z,195nm,8.0s
WMQ LR LR
comp=N,2μm,15.0s
WMQ LR LR
comp=E,2μm,16.0s
WMQ LR LR
comp=Z,2μm,15.0s
NST Nakhon Sawan 40.83 251 P **P 14 48 15.8 +0.2**
LSA Lhasa 41.20 276 P **P 14 48 20.0 +1.5**
ZAL Zalesovo 41.85 313 P **P 14 48 23.4 -0.1**
comp=Z,91nm,0.8s,mb5.6,baz=287,slow=8.4,SNR=294
ZAL LR LR 15 07 21.8
comp=Z,2μm,18.3s,baz=295,slow=38
ZAL Zalesovo 41.85 313 P **P 14 48 23.4 -0.1**
ZAL pmax pmax
comp=Z,91nm,0.8s
ZAL MLR MLR
comp=Z,2μm,18.3s
SHL Shillong 42.28 270 *eP* **P 14 48 26.1 -1.3**
SHL AMb AMB 14 48 27.4
comp=Z,93nm,0.8s,mb5.6
SHL *eS* **S 14 54 42.1 -0.8**
NVS Novosibirsk 42.80 315 *i* P **P 14 48 30.0 -1.3**
NVS *i* pP 14 48 50.6 +2.5
NVS *eS* **S 14 54 50.2 +0.1**
NVS pmax pmax
comp=E,222nm,1.1s
NVS pmax pmax
comp=Z,260nm,1.1s,mb5.9
NVS pmax pmax
comp=N,70nm,1.3s
NVS smax
comp=E,85nm,1.9s
NNT Nongplab 43.04 248 P **P 14 48 33.5 -0.3**
ANM Nome 43.11 31 *eP* **P 14 48 34.8 +1.1**
BUNI Buntu Taipa 43.49 209⇑ *eP* **P 14 48 36.7 -0.8**
WAU Wau 43.51 170 *eP* **P 14 48 37.0 -0.6**
AGT Agartala 43.55 268 *i* **P 14 48 46.0 +8.2**
AGT *i* 14 49 34.0
MKAR Makanchi Array 43.77 303 P **P 14 48 38.7 -0.6**
comp=E,174nm,0.8s,mb5.8,baz=90,slow=8.7,SNR=684
MKAR LR LR 15 07 07.1
comp=E,1μm,19.8s,baz=86,slow=36
MKAR Makanchi Array 43.77 303 P **P 14 48 38.7 -0.6**
MKAR pmax pmax
comp=Z,174nm,0.8s
MKAR MLR MLR
comp=Z,1μm,19.8s
NINI Niniconang 44.41 210⇓ *eP* **P 14 48 44.0 -0.9**
PMG Port Moresby 45.59 170 P **P 14 48 52.9 -1.4**
comp=Z,18nm,0.7s,mb4.9,baz=8.4,slow=11,SNR=6.7
PMG pP pP 14 49 10.3 -1.0
comp=Z,51nm,0.9s,baz=305,slow=3.7,SNR=6.6
PMG Port Moresby 45.59 170 P **P 14 48 52.9 -1.4**
PMG *PP pP 14 49 10.3 -0.9
PMG pmax pmax
comp=Z,18nm,0.7s
KURK Kurchatov 45.74 309*c* *iP* **P 14 48 53.8 -1.2**
KURK Kurchatov 45.74 309 *eP* **P 14 48 53.9 -1.1**
comp=Z,496nm,1.0s,mb6.2
SNG Songkhla 46.00 241 P **P 14 48 56.0 -1.5**
comp=Z,610nm,1.0s,mb6.3
GUN Gumba 46.16 276 *eP* **P 14 48 58.9 +0.3**
comp=Z,529nm,1.0s,mb6.2
PKI Pulchoki 46.67 276 *eP* **P 14 49 02.5 -0.2**
comp=Z,247nm,0.7s,mb6.0
KKN Kakani 46.69 276 *eP* **P 14 49 02.9 +0.1**
comp=Z,295nm,0.8s,mb6.1
DMN Daman 46.90 276 *eP* **P 14 49 04.3 -0.2**
comp=Z,263nm,1.1s,mb5.9
TTA Tatalina 46.96 34 *eP* **P 14 49 04.6 +0.2**
GKN Gorkha 47.12 277 *eP* **P 14 49 05.8 -0.4**
comp=Z,1μm,1.0s
IPM Ipoh 47.54 238⇓ *eP* **P 14 49 09.2 -0.5**
comp=Z,72nm,0.5s,mb5.8
KOLN Koldanda 48.05 277 *eP* **P 14 49 13.2 -0.3**
comp=Z,489nm,0.9s,mb6.3
IMA Indian Mountai 48.20 30 *eP* **P 14 49 14.0 -0.1**
RSO Redoubt South 48.45 38 *eP* **P 14 49 16.5 +0.4**
KDAK Kodiak Island 48.66 41 P **P 14 49 17.0 -0.7**
comp=Z,566nm,0.7s,SNR=22
KDAK Kodiak Island 48.66 41 *eP* **P 14 49 17.0 -0.7**
comp=Z,76nm,0.6s,mb5.8
SPU Mount Spurr 48.78 37 *eP* **P 14 49 19.1 +0.5**
ULHL Ulahol 48.89 298 P **P 14 49 20.2 +0.5**
SNR=8.0
KAKA Kakadu 48.90 190⇑ *iP* **P 14 49 23.3 +3.1**
comp=Z,112nm,0.7s,mb5.9
TKM2 Tokmak 2 49.18 299 P **P 14 49 22.1 +0.2**
SNR=171
KEDI Kedomdong 49.59 212⇑ *eP* **P 14 49 23.4 -2.1**
KZA Kyzart 49.64 298 P **P 14 49 27.5 +2.0**
SNR=16
KBK Karagaybulak 49.70 299 P **P 14 49 25.9 -0.1**
SNR=175
SLKM Skilak Lake 49.70 37 P **P 14 49 25.8 0.0**
SLKM Skilak Lake 49.70 37 *eP* **P 14 49 25.7 -0.1**
CHMS Chumysh 49.76 299 P **P 14 49 26.0 -0.4**
SNR=50
PWA Palmer West 49.81 36 *eP* **P 14 49 26.4 -0.2**
KSH Kashi 49.84 294⇑ *iP* **P 14 49 28.0 +0.9**
KSH AP pP 14 49 42.6 -1.6
KSH PCP PcP 14 50 46.5 -0.6
KSH PP PP 14 51 25.0 +2.0
KSH PPP PPP 14 52 23.7 +4.0
KSH SCP 14 54 35.0
KSH PCS 14 54 42.2
KSH S **S 14 56 35.3 +4.9**
KSH PS PS 14 56 53.0 +3.4
KSH XS 14 57 02.1
KSH AMB AMB
comp=Z,760nm,3.5s
KSH LR LR
comp=N,890nm,7.4s
KSH LR LR
comp=E,2μm,12.8s
USP Ospenovka 49.86 300 P **P 14 49 26.5 -0.8**
SNR=86
FRU Bishkek 49.89 299⇑ *iP* **P 14 49 27.0 -0.5**
FRU pmax pmax
comp=Z,240nm,1.8s,mb5.8
FRU MLR MLR
comp=Z,3μm,20.0s
AAK Ala-Archa 50.03 299 P **P 14 49 27.7 -0.8**
SNR=72
AAK Ala-Archa 50.03 299 P **P 14 49 26.9 -1.6**
AAK pmax pmax
comp=Z,73nm,1.0s,mb5.6
AAK Ala-Archa 50.03 299 *eP* **P 14 49 26.8 -1.7**
comp=Z,88nm,1.0s,mb5.7
PTH Pithoragarh 50.04 281 *eP* **P 14 49 27.2 -1.6**
PTH *e* 14 51 29.4
LGTI Lohaghat 50.05 281⇓ *iP* **P 14 49 30.0 +1.1**
LGTI *e* 14 50 47.3
RATI Rata 50.06 212⇑ *iP* **P 14 49 29.0 -0.1**
KELI Kelakatan 50.07 214⇓ *iP* **P 14 49 22.4 -6.8**
UCH Uchtor 50.13 298 P **P 14 49 30.3 +1.0**
SNR=39
JOSI Joshimath 50.16 282 *eP* **P 14 49 30.3 +0.6**
MCK McKinley 50.16 33 P **P 14 49 29.5 +0.3**
MCK pmax pmax
comp=Z,30nm,0.9s,mb5.2
MCK McKinley 50.16 33 *eP* **P 14 49 29.2 -0.1**
comp=Z,36nm,0.9s,mb5.3
PMR Palmer 50.17 36 P **P 14 49 28.7 -0.6**
PMR pmax pmax
comp=Z,39nm,0.9s,mb5.3
PMR Palmer 50.17 36 *eP* **P 14 49 28.0 -1.3**
SRDI Scrawed 50.46 214⇑ *iP* **P 14 49 29.8 -2.3**
BVAR Borovoye Array 50.49 313 LR LR 15 12 27.9
comp=Z,17nm,18.8s,baz=70,slow=38
EKS2 Erkin-Say 50.54 299 P **P 14 49 31.9 -0.5**
SNR=54
SML Sawmill 50.54 36 P **P 14 49 32.4 +0.3**
SML Sawmill 50.54 36 *eP* **P 14 49 32.0 -0.1**
BRVK Borovoye 50.55 313 P **P 14 49 31.1 -1.2**
BRVK pmax pmax
comp=Z,120nm,0.9s,mb5.9
BRVK Borovoye 50.55 313 *eP* **P 14 49 31.0 -1.3**
comp=Z,115nm,0.9s,mb5.9
COLA College 50.60 32⇑ *iP* **P 14 49 32.7 +0.1**
COLA College 50.60 32 *eP* **P 14 49 32.5 -0.1**
AML Almayashu 50.74 298 P **P 14 49 34.2 +0.3**
SNR=119
KLP Kalpa 50.82 284 *eP* **P 14 49 35.1 +0.4**
KLP *e* 14 49 36.7
comp=Z,353nm,1.5s
MRPI Mariponipon 50.86 237 *eP* **P 14 49 33.1 -2.1**
ILAR Eielson Array 51.02 32 P **P 14 49 35.4 -0.3**
comp=Z,49nm,0.7s,mb5.7,baz=270,slow=5.8,SNR=553
ILAR Eielson Array 51.02 32 P **P 14 49 35.4 -0.3**
ILAR pmax pmax
comp=Z,49nm,0.7s
ZRNK Zerenda 51.33 313⇑ *iP* **P 14 49 37.0 -1.2**
comp=Z,304nm,1.1s,mb6.2
DDI Dehra Dun 51.45 283 *eP* **P 14 49 37.0 -2.4**
THY Trims Highway 51.60 34 *eP* **P 14 49 39.7 -0.4**
DIV Divide 51.82 36 *eP* **P 14 49 42.0 +0.2**
comp=Z,205nm,0.9s,mb6.2
EYAK Cordova Ski Ar 51.90 37 *eP* **P 14 49 42.1 -0.3**
BHK Bhakra 52.30 285 *e* **P 14 49 55.3 +9.5**
THN Thein Dam 52.46 286 *eP* **P 14 49 44.9 -2.1**
comp=Z,42nm,0.8s,mb5.5
KKR Kurukshetra 52.57 283 *eP* **P 14 49 47.9 +0.1**
PENI Pendagan 52.66 226⇑ *iP* **P 14 49 46.4 -2.3**
NDI New Delhi 52.79 281 *eP* **P 14 49 48.2 -1.2**
NDI AMb AMB 14 49 51.0
comp=Z,150nm,1.8s,mb5.7
NDI *e* 14 56 58.3
AGRA Agra 52.83 279 *eP* **P 14 49 48.7 -1.1**
AYAN Aya Nagar 52.94 281 *eP* **P 14 49 49.6 -1.1**
AYAN *e* 14 49 51.5
comp=Z,105nm,1.2s
VIS Vishakhapatnam 53.03 266 *eP* **P 14 49 51.5 +0.1**
SONA Sohna 53.08 281 *eP* **P 14 49 50.5 -1.2**
SONA *e* 14 49 51.9
comp=Z,109nm,0.9s
PASI Pasiripis 53.33 224⇑ *eP* **P 14 49 49.2 -4.5**
KUDL Kundal 53.59 281 *eP* **P 14 49 54.8 -0.7**
KUDL *e* 14 49 56.3
comp=Z,66nm,1.8s
KHET Khetri 54.17 281 *eP* **P 14 49 58.9 -0.7**
BHPL Bhopal 55.06 275 *i* P **P 14 50 04.5 -1.8**
SVE Sverdlovsk 55.24 319⇑ *iP* **P 14 50 05.5 -1.5**
SVE *e* 14 51 05.3
SVE *eS* **S 14 57 45.0 +1.4**
SVE pmax pmax
comp=Z,340nm,2.4s,mb6.0
SVE MLR MLR
comp=Z,2μm,15.0s
SVE MLR MLR
comp=N,600nm,17.0s
SVE MLR MLR
comp=E,2μm,17.0s
FITZ Fitzroy Crossi 55.44 197⇑ *iP* **P 14 50 08.1 -0.9**
comp=E,136nm,1.0s,mb5.9
FITZ Fitzroy Crossi 55.44 197 LR LR 15 11 13.6
comp=E,202nm,21.3s,baz=75,slow=33
AJM Ajmer 55.80 280⇑ *iP* **P 14 50 09.0 -2.5**
WRAB Tennant Creek 55.82 186 P **P 14 50 09.0 -2.7**
comp=E,628nm,0.6s,SNR=16
WRAB Tennant Creek 55.82 186 *eP* **P 14 50 09.3 -2.5**
comp=E,102nm,0.7s,mb6.0
WB2 Warramunga Arr 55.83 186 *eP* **P 14 50 09.8 -2.0**
WB2 *eS* **S 14 57 49.7 -2.4**
WRA Warramunga Arr 55.83 186 P **P 14 50 09.2 -2.6**
comp=E,55nm,0.5s,mb5.8,baz=2.3,slow=7.4,SNR=904
WRA S **S 14 57 48.3 -3.8**
comp=E,1.5nm,0.9s,baz=16,slow=16,SNR=3.1
WRA LR LR 15 12 32.6
comp=E,601nm,19.5s,baz=10.0,slow=34
WRA PKPPKP 15 20 07.7
comp=E,0.8nm,0.7s,baz=176,slow=2.1,SNR=8.3
INK Inuvik 55.87 27 P **P 14 50 11.1 -0.4**
comp=E,50nm,0.6s,mb5.7,baz=296,slow=6.5,SNR=91
INK LR LR 15 19 33.0
comp=E,716nm,18.8s,baz=274,slow=42
INK Inuvik 55.87 27 *eP* **P 14 50 10.5 -0.9**
comp=E,60nm,0.7s,mb5.7
INK *epP* pP 14 50 26.7 -2.2
CTA Charters Tower 56.03 173 *eP* **P 14 50 11.9 -1.3**
comp=E,18nm,0.6s,mb5.3
CTA Charters Tower 56.03 173 P **P 14 50 11.6 -1.7**
comp=E,20nm,0.6s,mb5.3,baz=5.1,slow=7.8,SNR=30
CTA pP pP 14 50 29.3 -1.4
comp=E,12nm,0.7s,baz=8.7,slow=8.6,SNR=3.0
CTA Charters Tower 56.03 173 P **P 14 50 11.6 -1.6**
CTA *PP pP 14 50 29.3 -1.4
CTA pmax pmax
comp=Z,20nm,0.6s
CTAO Charters Tower 56.03 173 *eP* **P 14 50 12.0 -1.2**
CTAO pmax pmax
comp=Z,31nm,0.9s,mb5.3
CTAO Charters Tower 56.03 173 *eP* **P 14 50 11.2 -2.0**
comp=Z,24nm,0.8s,mb5.3
ARU Arti 56.45 319⇑ *iP* **P 14 50 14.5 -1.2**
ARU *i* 14 51 09.4
ARU *e* 14 52 18.4
ARU *i* PPP PPP 14 53 36.1 -5.5
ARU *eS* **S 14 58 05.2 +5.5**
ARU *e* 15 00 00.0
ARU pmax pmax
comp=Z,108nm,0.7s,mb6.0
ARU MLR MLR
comp=N,600nm,18.0s
ARU MLR MLR
comp=E,900nm,17.0s
ARU MLR MLR
comp=Z,1μm,17.0s
ARU Arti 56.45 319 *eP* **P 14 50 14.1 -1.7**
comp=Z,128nm,0.7s,mb6.1
ARU *e* pP 14 50 32.1 -1.1
AKL Akola 56.62 273⇑ *i* **P 14 50 22.6 +5.1**
comp=Z,201nm,0.8s,mb6.2
AKL *i* pP 14 50 41.5 +6.5
HYB Hyderabad 57.06 268 *iP* **P 14 50 19.0 -1.6**
HYB *eS* **S 14 58 10.0 +1.7**
HYB Hyderabad 57.06 268 *eP* **P 14 50 19.0 -1.6**
HYB *eS* **S 14 58 10.0 +1.7**
MDRS Chennai 58.04 263⇓ *eP* **P 14 50 26.0 -1.5**
MDRS *i* 14 54 09.0
LATR Latur 58.15 270 *eP* **P 14 50 28.2 -0.1**
ASAR Alice Springs 59.56 187 P **P 14 50 36.2 -1.7**
comp=Z,34nm,0.8s,mb5.4,baz=10,slow=6.6,SNR=213
ASAR S **S 14 58 41.3 +0.4**
comp=Z,1.4nm,0.9s,baz=15,slow=10,SNR=3.0
ASAR LR LR 15 14 37.6
comp=Z,599nm,19.4s,baz=0.1,slow=34
ASAR PKPPKP 15 19 54.4
comp=Z,0.5nm,0.8s,baz=144,slow=3.5,SNR=5.2
ASAR PKP2bc 15 20 14.2
comp=Z,0.9nm,0.8s,baz=175,slow=1.9,SNR=5.3
ASAR Alice Springs 59.56 187 P **P 14 50 36.2 -1.7**
ASAR S **S 14 58 41.3 +0.4**
ASAR LR LR 15 14 37.6
ASAR PP' 15 19 54.4
ASAR ⇑ *e* 15 20 14.2
ASPA Alice Springs 59.56 187⇑ *iP* **P 14 50 36.1 -1.8**
ASPA *eS* **S 14 58 41.3 +0.4**
MBWA Marble Bar 59.95 202⇑ *eP* **P 14 50 38.5 -2.1**
comp=Z,293nm,0.8s,mb6.4
DLBC Dease Lake 60.18 37 P **P 14 50 42.6 +1.0**
comp=Z,17nm,1.0s,mb5.1,baz=298,slow=6.3,SNR=13
DLBC LR LR 15 16 12.8
comp=Z,420nm,20.0s,baz=296,slow=35
KAD Karad 60.66 271⇑ *iP* **P 14 50 43.4 -2.1**
BOM Bombay 60.95 273 *eP* **P 14 50 42.6 -4.8**
PALK Pallekele 61.04 257 *eP* **P 14 50 47.6 -0.5**
comp=Z,90nm,0.9s,mb5.8
GOA Goa 61.91 269 *eP* **P 14 50 53.5 -0.5**
GOA AMb AMB 14 51 01.1
comp=Z,183nm,1.1s,mb6.0
GOA *e* 14 58 59.4
MNGI Mangalore 62.49 266 *iP* **P 14 50 56.0 -1.9**
LVZ Lovozero 62.65 336 *eP* **P 14 50 56.0 -2.2**
LVZ *eS* **S 14 59 16.6 -3.0**
LVZ pmax pmax
comp=Z,46nm,0.8s,mb5.5
LVZ MLR MLR
comp=Z,3μm,22.0s
LVZ MLR MLR
comp=N,1μm,16.0s
LVZ MLR MLR
comp=E,1μm,16.0s
LVZ Lovozero 62.65 336 *eP* **P 14 50 56.9 -1.3**
NOUC Port Laguerre 62.85 153 *eP* **P 14 51 00.1 -0.1**
NOUC Port Laguerre 62.85 153 *eP* **P 14 51 00.1 -0.1**
DZM Mont Dzumac 62.88 152⇓ *eP* **P 14 50 59.5 -0.9**
DZM Mont Dzumac 62.88 152⇓ *eP* **P 14 50 59.5 -0.9**
APA Apatity 63.23 336⇓ *iP* **P 14 51 00.8 -1.3**
APA *i* 14 51 41.8
APA *eS* **S 14 59 27.0 +0.2**
APA pmax pmax
comp=Z,91nm,1.0s,mb5.7
TRD Trivandrum 63.29 261 *eP* **P 14 51 04.4 +1.2**
BBB Bella Bella 63.63 43 P **P 14 51 04.7 -0.2**
comp=Z,41nm,1.1s,mb5.2,baz=166,slow=22,SNR=3.1
BBB LR LR 15 16 01.6
comp=Z,503nm,19.4s,baz=120,slow=33
RES Resolute Bay 63.94 14 P **P 14 51 05.7 -0.8**
RES pmax pmax

comp=Z,20nm,0.7s,mb5.1
RES Resolute Bay 63.94 14 *e*P P **14 51 05.4 -1.1**
comp=Z,28nm,0.7s,mb5.2
KEV Kevo 64.07 339 *e*p P **14 51 05.4 -2.0**
comp=Z,31nm,0.7s,mb5.2
KEV Kevo 64.07 339 *e*P P **14 51 05.4 -2.0**
KEV pmax pmax
comp=Z,31nm,0.7s,mb5.2
ARCES ARCESS Array B 64.63 339 P P **14 51 10.2 -0.9**
comp=Z,35nm,0.8s,mb5.3,baz=52,slow=8.1,SNR=74
ARCES LR LR 15 24 48.1
comp=Z,892nm,18.6s,baz=138,slow=41
ARE0 ARCESS Array S 64.63 339 *e*P P **14 51 10.2 -0.9**
YKW3 Yellowknife Ar 65.28 29 *e*P P **14 51 12.0 -3.3**
YKA Yellowknife Ar 65.31 30 P P **14 51 14.6 -0.9**
comp=Z,9.5nm,0.7s,mb4.7,baz=308,slow=7.3,SNR=13
YKA pP pP 14 51 30.9 -2.5
comp=Z,6.8nm,0.7s,baz=292,slow=6.2,SNR=4.8
YKA LR LR 15 19 11.2
comp=Z,499nm,20.1s,baz=295,slow=35
YKA Yellowknife Ar 65.31 30 P P **14 51 14.6 -1.0**
YKA *PP pP 14 51 30.9 -2.6
YKA pmax pmax
comp=Z,10.0nm,0.7s
YKA MLR MLR
comp=Z,499nm,20.1s
YKA Yellowknife Ar 65.31 30 P P **14 51 14.7 -0.9**
YKA pP pP 14 51 30.9 -2.5
YKA LR LR 15 19 11.2
TRO Tromso 66.39 341 *e*P P **14 51 20.2 -2.1**
TRO *e*S S 15 00 00.3 -5.2
TRO *e*SS SS 15 04 11.6 -13
TRO AMS AMS 15 26 58.5
comp=Z,932nm,19.0s
FORT Forrest 67.31 191⇑ *i*P P **14 51 27.6 -1.1**
comp=Z,592nm,0.6s
MOS Moscow 67.46 323⇑ *i*P P **14 51 28.3 -1.0**
MOS *e**PP pP 14 51 46.2 -1.1
MOS *e* 14 53 54.2
MOS *e*S S 15 00 14.9 -3.8
MOS *e**SS 15 00 46.8
MOS *e* 15 01 18.7
MOS pmax pmax
comp=Z,220nm,1.1s,mb5.9
MOS pmax pmax
comp=E,120nm,0.9s
MOS MLR MLR
comp=Z,2µm,16.0s
STKA Stephens Creek 67.47 179⇑ *i*P P **14 51 28.7 -1.0**
comp=Z,63nm,0.8s,mb5.5
STKA Stephens Creek 67.47 179 P P **14 51 28.7 -1.1**
comp=Z,66nm,0.7s,mb5.6,baz=346,slow=7.2,SNR=98
STKA pP pP 14 51 47.2 -0.6
comp=Z,16nm,0.6s,baz=316,slow=12,SNR=1.9
OCWA Octopus Mounta 67.92 46 *e*P P **14 51 33.8 +1.6**
comp=Z,42nm,1.2s,mb5.2
OBN Obninsk 68.30 323α *i*P P **14 51 33.4 -1.1**
OBN *i* pP 14 51 54.3 +1.8
OBN *i* 14 54 04.5
OBN *e*PPP PPP 14 55 45.0 -0.4
OBN *e*S S 15 00 31.4 +2.6
OBN *e* 15 01 05.4
OBN pmax pmax
comp=Z,273nm,1.8s,mb5.8
OBN pmax pmax
comp=Z,400nm,1.9s,mb5.9
OBN MLR MLR
comp=Z,1µm,16.0s
OBN Obninsk 68.30 323 *e*P P **14 51 33.5 -1.0**
comp=Z,115nm,0.8s,mb5.8
VOR Voronezh 68.73 319 *e*P P **14 51 36.0 -1.2**
VOR pmax pmax
comp=N,50nm,1.1s
VOR pmax pmax
comp=Z,200nm,1.1s,mb5.9
VOR pmax pmax
comp=E,90nm,1.2s
KAF Kangasniemi 68.77 332 *e*p P **14 51 35.0 -2.3**
comp=E,47nm,0.7s,mb5.4,baz=51,slow=5.9
KAF Kangasniemi 68.77 332 *e*P P **14 51 35.0 -2.3**
KAF pmax pmax
comp=Z,47nm,0.7s,mb5.4
RPW Rockport 69.12 45 *e*P P **14 51 37.9 -1.8**
FINES FINESS Array B 69.26 332 P P **14 51 39.2 -1.1**
comp=Z,96nm,0.9s,mb5.6,baz=76,slow=7.9,SNR=94
FINES LR LR 15 20 28.7
comp=Z,995nm,21.6s,baz=256,slow=34
MELS Mels 69.70 340 *e*P P **14 51 42.0 -0.9**
NLW Nelson Butte 69.98 45 *e*P P **14 51 45.1 +0.2**
GOF Gofitskoye 69.99 312⇓ *i*P P **14 51 44.5 -0.6**
GOF pmax pmax
comp=Z,140nm,1.1s,mb5.7
MOR8 Moi Rana 70.00 339 *e*P P **14 51 42.6 -2.1**
MOR8 AMb AMB 14 51 44.0
comp=Z,153nm,1.1s,mb5.7
MOR8 Moi Rana 70.00 339 *e*P P **14 51 42.6 -2.1**
comp=Z,153nm,1.1s,mb5.7
COR Corvallis 70.04 49 *e*P P **14 51 45.0 -0.4**
KLBR Kellerberrin 70.35 200 *e*P P **14 51 46.0 -1.4**
comp=Z,80nm,0.8s,mb5.6
SSOR Sweet Springs 70.41 48 *e*P P **14 51 48.5 +0.9**
ADE Adelaide 70.55 181⇓ *i*P P **14 51 48.9 +0.3**
TI2 Plekhanov 70.63 308 *i*P P **14 51 49.0 0.0**
HSO Harness Mounta 70.72 50 P P **14 51 50.4 +0.9**
KIV Kislovodsk 70.78 311 *c i*P P **14 51 49.5 -0.3**
KIV *e* pP 14 52 10.8 +2.8
KIV *e* 14 54 25.4
KIV *e*S S 15 01 01.6 +3.6
KIV pmax pmax
comp=N,104nm,0.9s
KIV pmax pmax
comp=Z,197nm,0.9s,mb5.9
KIV MLR MLR
comp=Z,995nm,17.0s
KIV MLR MLR
comp=N,500nm,18.0s
KIV MLR MLR
comp=E,896nm,18.0s
KIV Kislovodsk 70.78 311 *e*P P **14 51 49.7 -0.1**
comp=E,234nm,1.0s,mb6.0
VSU Vasula 70.83 329 *e*P P **14 51 49.5 -0.4**
EDM Edmonton 70.90 38 *e*P P **14 51 50.4 0.0**
JMIC Jan Mayen 71.03 350 LR LR 15 21 17.6
comp=E,379nm,20.0s,baz=77,slow=34
JMIC Jan Mayen 71.03 350 AMS AMS 15 19 58.9
comp=Z,212nm,14.4s
MUN Mundaring 71.16 201 *e*P P **14 51 51.5 -0.8**
comp=Z,48nm,1.6s,mb5.1
KRMB Red Mountain 71.25 52 *e*P P **14 51 53.5 +0.8**
HUMO Hull Mountain 71.28 51 *e*P P **14 51 53.3 +0.5**
comp=Z,4.7nm,0.9s
DPW Davenport 71.30 44 P P **14 51 52.6 -0.3**
DPW Davenport 71.30 44 *e*P P **14 51 52.5 -0.4**
HAWA Hanford 71.34 46 *e*P P **14 51 52.5 -0.7**
comp=Z,25nm,1.0s,mb5.0
HAWA *e*pP pP 14 52 10.2 -1.2
CNB Canberra Magne 71.42 172 *e*P P **14 51 53.8 0.0**
comp=Z,16nm,0.9s,mb4.8
GNI Garni 71.46 306 P P **14 51 53.5 -0.5**
GNI Garni 71.46 306 P P **14 51 55.1 +1.1**
GNI pmax pmax
comp=Z,110nm,1.1s
GNI Garni 71.46 306 *e*P P **14 51 54.7 +0.7**
comp=Z,121nm,1.2s,mb5.6
NEW Newport 71.70 43 P P **14 51 55.7 +0.5**
NEW pmax pmax
comp=Z,28nm,1.0s
NEW Newport 71.70 43 *e*P P **14 51 54.7 -0.6**
comp=Z,27nm,1.0s,mb5.0
NEW *e*pP pP 14 52 12.0 -1.4
KHMM Horse Mountain 71.70 53 *e*P P **14 51 56.6 +1.2**
NWAO Narrogin (SRO) 71.75 200 P P **14 51 54.6 -1.2**
NWAO pmax pmax
comp=Z,77nm,0.8s
NWAO Narrogin (SRO) 71.75 200 *e*P P **14 51 54.5 -1.3**
comp=Z,98nm,0.8s,mb5.7
SUMG Summit 71.78 360 *e*P P **14 51 55.8 +0.4**
comp=Z,73nm,0.9s,mb5.5
YBH Yreka Blue Hor 71.90 51 P P **14 51 57.6 +1.0**
comp=Z,6.5nm,0.8s,mb4.5,baz=309,slow=2.3,SNR=20
YBH pP pP 14 52 13.0 -1.8
comp=Z,18nm,1.1s,baz=327,slow=1.0,SNR=8.0
NSS Namsos 71.91 339 *e*P P **14 51 54.0 -2.3**
NSS AMS AMS 15 27 02.6
comp=Z,1µm,19.8s

LNOR Lincton Mounta 72.35 46 P P **14 52 00.0 +0.8**
LNOR Lincton Mounta 72.35 46 *e*P P **14 51 59.8 +0.7**
WDC Whiskeytown Da 72.62 52 P P **14 52 01.5 +0.7**
WDC pmax pmax
comp=Z,15nm,1.0s,mb4.8
WDC Whiskeytown Da 72.62 52 *e*P P **14 52 01.3 +0.5**
comp=Z,27nm,1.0s,mb5.0
BCA Borcka 72.78 309 P P **14 51 56.2 -5.5**
SOC Sochi 72.79 312 *i*P P **14 52 00.7 -1.1**
SOC *e* pP 14 52 20.0 0.0
SOC *e* 14 54 52.2
SOC *e*S S 15 01 21.2 +0.2
SOC *e* 15 02 01.6
SOC *e*SS SS 15 06 04.7 +0.3
SOC *e*SSS SSS 15 09 11.9 -2.8
SOC pmax pmax
comp=Z,87nm,1.0s,mb5.5
SOC pmax pmax
comp=N,24nm,0.9s
SOC pmax pmax
comp=E,18nm,0.9s
SOC MLR MLR
comp=N,868nm,21.0s
SOC MLR MLR
comp=Z,1µm,21.0s
SOC MLR MLR
comp=E,541nm,16.0s
MNK Minsk 72.80 326 *e*P P **14 52 00.0 -1.5**
MNK pmax pmax
comp=Z,510nm,1.0s,mb6.3
WALA Waterton Lakes 73.00 41 *e*P P **14 52 03.1 +0.2**
comp=Z,19nm,0.9s,mb4.9
HOPS Hopland 73.13 54 *e*P P **14 52 04.0 +0.2**
VANB Van 73.17 306 P P **14 51 58.9 -5.2**
MOD Modoc 73.32 50 *e*P P **14 52 05.5 +0.6**
comp=Z,19nm,0.9s,mb4.9
MOD *e* pP 14 52 20.3 -2.8
ANN Anapa 73.48 314 *c i*P P **14 52 04.2 -1.6**
ANN pmax pmax
comp=Z,221nm,1.5s,mb5.8
NSHM Saint Helena R 73.69 54 *e*P P **14 52 07.0 -0.2**
ERZM Erzurum 73.78 308 *i*P P **14 52 08.6 +1.0**
EZM Erzurum 73.78 308 P P **14 52 04.9 -2.7**
OHCM Honcut 73.98 53 *e*P P **14 52 09.1 +0.2**
MSO Missoula 74.28 43 *e*P P **14 52 10.1 -0.3**
comp=Z,12nm,1.1s,mb4.5
BEKR Beckwourth 74.41 52 *e*P P **14 52 11.9 +0.6**
comp=Z,28nm,0.8s,mb5.0
AKASG Malin Array Be 74.48 322 P P **14 52 10.6 -0.9**
comp=Z,159nm,0.9s,mb5.8,baz=48,slow=5.9,SNR=259
AKASG LR LR 15 27 33.7
comp=Z,2µm,18.5s,baz=45,slow=38
AKASG Malin Array Be 74.48 322 P P **14 52 10.6 -0.8**
AKASG pmax pmax
comp=Z,159nm,0.9s
AKASG MLR MLR
comp=Z,2µm,18.5s
LKC Lake Chabot 74.48 55 *e*P P **14 52 11.2 -0.6**
CHMT Chamberlain Mo 74.61 43 *e*P P **14 52 12.2 -0.1**
BTMT Batman 74.64 306 P P **14 52 09.3 -3.4**
DOMB Dombas 74.66 338 *e*P P **14 52 12.1 -0.2**
DOMB AMb AMB 14 52 14.4
comp=Z,102nm,1.2s,mb5.4
DOMB Dombas 74.66 338 *e*P P **14 52 12.1 -0.2**
comp=Z,102nm,1.2s,mb5.4
GUMT Gumushane 74.67 309 P P **14 52 10.9 -1.9**
MOL Molde 74.69 339⇑ *i*P P **14 52 14.3 +1.9**
MOL AMb AMB 14 52 19.0
comp=Z,100nm,1.8s,mb5.2
MOL Molde 74.69 339⇑ *i*P P **14 52 14.3 +1.9**
comp=Z,100nm,1.8s,mb5.2
NB2 NORSAR Subarra 74.76 337 P P **14 52 12.3 -0.5**
comp=Z,69nm,0.8s,mb5.4,baz=42,slow=5.8
NOA NORSAR Array B 74.76 337 P P **14 52 12.4 -0.4**
comp=Z,41nm,0.7s,mb5.3,baz=39,slow=5.8,SNR=104
NOA PP PP 14 54 59.4 -3.3
comp=Z,13nm,0.8s,baz=43,slow=8.5,SNR=4.8
NOA LR LR 15 28 01.5
comp=Z,857nm,18.6s,baz=45,slow=38
NOA NORSAR Array B 74.76 337 P P **14 52 12.5 -0.3**
NOA 14 54 59.4
NOA pmax pmax
comp=Z,41nm,0.7s
NOA pmax pmax
comp=Z,13nm,0.9s
NOA MLR MLR
comp=Z,857nm,18.6s
EZC Erzincan 74.86 308 P P **14 52 15.3 +1.4**
BINT Bingol 74.92 307 P P **14 52 09.3 -4.9**
BEST Besiri 74.95 306 *i*P P **14 52 12.5 -2.0**
KELT Kelkit 74.99 309 *i*P P **14 52 15.6 +1.0**
NAO01 NORSAR Array S 75.02 337 *e*P P **14 52 13.7 -0.6**
comp=Z,29nm,0.8s,mb5.1
WCN Washoe City 75.11 52 P P **14 52 16.7 +1.4**
WCN pmax pmax
comp=Z,58nm,1.5s,mb5.1
WCN Washoe City 75.11 52 *e*P P **14 52 15.4 +0.1**
comp=Z,51nm,1.3s,mb5.1
PAHR Pah Rah Range 75.12 52 *e*P P **14 52 16.1 +0.8**
SUW Suwalki 75.21 327 *e*P P **14 52 14.7 -0.8**
SUW Suwalki 75.21 327 *e*P P **14 52 14.7 -0.8**
FFC Flin Flon 75.23 32 P P **14 52 15.5 -0.1**
FFC pmax pmax
comp=Z,46nm,1.0s,mb5.2
FFC Flin Flon 75.23 32 *e*P P **14 52 15.3 -0.4**
comp=Z,42nm,0.9s,mb5.2
KBD Kabd 75.26 295 *e*P P **14 52 16.4 +0.1**
SIM Simferopol' 75.32 315 *ce*P P **14 52 16.0 -0.4**
SIM *e*S S 15 01 49.9 +0.7
SIM pmax pmax
comp=Z,190nm,10.6s
SIM MLR MLR
comp=Z,640nm,20.0s
QRN Al-Qurain 75.33 295 *e*P P **14 52 16.1 -0.7**
CMB Columbia Colle 75.42 54 P P **14 52 18.0 +0.9**
CMB pmax pmax
comp=Z,12nm,0.7s,mb4.7
CMB Columbia Colle 75.42 54 *e*P P **14 52 17.2 +0.1**
comp=Z,12nm,0.6s,mb4.8
SAO San Andreas Ge 75.43 55 P P **14 52 19.8 +2.6**
comp=Z,12nm,0.8s,mb4.7
RDF Al-Radifah 75.50 295 *e*P P **14 52 17.4 -0.4**
RDF AMb AMB 14 52 18.6
comp=Z,294nm,0.7s,mb6.1
HRY Holter Researc 75.52 42 *e*P P **14 52 17.9 +0.5**
RST Umm Al-Ruwaisa 75.59 296 *e*P P **14 52 17.8 -0.5**
RST AMb AMB 14 52 18.9
comp=Z,152nm,0.8s,mb5.8
PTK Pertek 75.61 308 P P **14 52 17.6 -0.6**
HASS Wahat al Ahsa' 75.94 291 P P **14 52 19.2 -1.1**
HLID Hailey 75.94 46 *e*P P **14 52 20.5 +0.6**
comp=Z,17nm,1.0s,mb4.7
BMN Battle Mountai 76.07 50 P P **14 52 22.2 +1.4**
BMN pmax pmax
comp=Z,27nm,1.0s,mb4.9
BMN Battle Mountai 76.07 50 *e*P P **14 52 21.9 +1.2**
comp=Z,24nm,0.8s,mb5.0
MCMT McKenzie Canyo 76.09 44 *e*P P **14 52 20.9 +0.1**
ELZG Elazig 76.10 307 *i*P P **14 52 22.3 +1.4**
BOZ Bozeman (W) 76.28 43 P P **14 52 22.1 +0.3**
BOZ pmax pmax
comp=Z,32nm,1.0s,mb5.0
BOZ Bozeman (W) 76.28 43 *e*P P **14 52 22.1 +0.2**
comp=Z,27nm,0.9s,mb5.0
KONO Kongsberg 76.35 337 AMS AMS 15 30 16.1
comp=Z,1µm,18.0s
KONO Kongsberg 76.35 337 P P **14 52 24.6 +2.7**
NVAR Mina Array Bea 76.54 52 P P **14 52 24.6 +1.1**
comp=Z,19nm,0.9s,mb4.8,baz=283,slow=5.5,SNR=100
NVAR LR LR 15 20 46.2
comp=Z,412nm,21.6s,baz=180,slow=31
SVSK Karacayir 76.54 310 P P **14 52 21.9 -1.5**
MYA Malataya 76.56 308 P P **14 52 22.4 -1.2**
OMM Old Mammoth Mi 76.56 53 *e*P P **14 52 24.8 +1.2**
TOKT Tokat 76.59 310 P P **14 52 23.5 -0.2**
MNV Mina 76.64 52 P P **14 52 25.0 +1.0**
MNV pmax pmax
comp=Z,14nm,1.0s,mb4.7
MNV Mina 76.64 52 *e*P P **14 52 24.8 +0.8**
comp=Z,14nm,1.1s,mb4.6
QLMT Earthquake Lak 76.89 44 *e*P P **14 52 26.1 +0.9**
BOYT Boyabat 76.95 312 *i*P P **14 52 25.9 +0.2**
MTUM Tungsten Hills 76.99 53 *e*P P **14 52 26.9 +0.9**
KIS Kishinev 77.00 319 *e*P P **14 52 25.0 -0.8**
KIS *e* pP 14 52 46.0 +1.8

KIS *e*S S 15 02 12.0 +4.5
KIS MLR MLR
comp=N,2µm,17.0s
KIS MLR MLR
comp=E,2µm,17.0s
KIS MLR MLR
comp=Z,2µm,17.0s
KIS MLR MLR
comp=Z,2µm,16.0s
ELK Elko 77.11 49 P P **14 52 28.0 +1.4**
ELK pmax pmax
comp=Z,23nm,1.0s
ELK Elko 77.11 49 *e*P P **14 52 27.9 +1.2**
comp=Z,42nm,1.0s,mb5.1
GCMT Greycliff 77.27 42 *e*P P **14 52 28.3 +0.9**
YNR Norris Junctio 77.38 44 *e*P P **14 52 29.6 +1.6**
TPH Tonopah 77.44 52 P P **14 52 29.5 +1.0**
TPH pmax pmax
comp=Z,20nm,0.9s,mb4.8
TPH Tonopah 77.44 52 *e*P P **14 52 29.2 +0.8**
comp=Z,35nm,1.0s,mb5.0
YFT Old Faithful 77.45 44 *e*P P **14 52 31.0 +2.6**
CTKT Corum 77.49 311 *i*P P **14 52 25.9 -2.8**
BLS5 Blasjo 77.52 338 *e*P P **14 52 29.1 +0.7**
BLS5 AMb AMB 14 52 30.2
comp=Z,46nm,1.5s,mb5.0
BLS5 Blasjo 77.52 338 *e*P P **14 52 29.1 +0.7**
comp=Z,46nm,1.5s,mb5.0
LVV L'vov 77.60 323 *e*P P **14 52 24.2 -4.9**
LVV *e*S S 15 02 13.2 -0.7
BALT Daday 77.79 313 *i*P P **14 52 28.3 -2.0**
RRI2 Red Ridge 77.86 45 *e*P P **14 52 32.1 +1.4**
BSD Bornholm Skovb 77.88 331⇑ *i*P P **14 52 29.8 -0.7**
comp=Z,76nm,0.7s,mb5.5
MOOW Moose Ponds 77.94 44 *e*P P **14 52 32.5 +1.4**
KAHT Ahir Dag 77.96 308 *i*P P **14 52 32.2 +0.8**
HVU Hansel Valley 77.97 47 P P **14 52 32.8 +1.5**
HVU Hansel Valley 77.97 47 *e*P P **14 52 32.6 +1.3**
TPAW Teton Pass 77.98 45 *e*P P **14 52 32.8 +1.5**
GAZ Gaziantep 78.01 307 P P **14 52 31.7 +0.1**
SNOW Snow King Moun 78.11 45 *e*P P **14 52 33.7 +1.6**
REDW Red Top Meadow 78.12 45 *e*P P **14 52 33.2 +1.1**
GKP Gorka Klasztor 78.28 329 *e*P P **14 52 32.0 -0.7**
GKP MLR MLR
comp=Z,800nm,28.0s
GKP Gorka Klasztor 78.28 329 *e*P P **14 52 32.0 -0.7**
GKP MLR MLR 15 27 01.1
comp=Z,800nm,28.0s
TRCR Troy Canyon 78.32 51 *e*P P **14 52 34.3 +1.0**
BGU Big Grassy Mou 78.34 48 *e*P P **14 52 34.4 +1.0**
KWP Kalwaria 78.36 324 *e*P P **14 52 33.7 +0.4**
KWP Kalwaria 78.36 324 *e*P P **14 52 33.7 +0.4**
KWP MLR MLR 15 24 37.5
comp=Z,1µm,28.6s
DGMT Dagmar 78.39 38 *e*P P **14 52 33.3 -0.1**
comp=Z,116nm,1.6s,mb5.4
COP Copenhagen 78.40 333⇑ *i*P P **14 52 33.4 +0.1**
comp=Z,50nm,0.9s,mb5.2
ELDT Eldivan 78.40 312 *i*P P **14 52 33.9 +0.2**
SPUT South Promonto 78.45 47 *e*P P **14 52 33.0 -1.0**
CFR Carcaliu 78.52 318⇑ *i*P P **14 52 33.9 -0.4**
LAO LASA Array 78.53 40 *e*P P **14 52 34.9 +0.6**
comp=Z,94nm,1.3s,mb5.5
AVNT Avonos 78.56 310 *i*P P **14 52 34.4 -0.2**
TPNV Topopah Spring 78.73 53 P P **14 52 36.3 +0.7**
TPNV pmax pmax
comp=Z,35nm,1.0s,mb5.1
TPNV Topopah Spring 78.73 53 *e*P P **14 52 35.9 +0.4**
comp=Z,35nm,1.0s,mb5.1
BRTR Keskin Array B 78.74 311 P P **14 52 35.6 0.0**
comp=Z,30nm,0.7s,mb5.2,baz=94,slow=4.2,SNR=88
BRTR PP PP 14 55 33.4 -2.6
comp=Z,17nm,1.1s,baz=68,slow=6.7,SNR=4.7
BRTR LR LR 15 32 10.0
comp=Z,383nm,18.9s,baz=70,slow=39
BRTR Keskin Array B 78.74 311 P P **14 52 35.6 0.0**
BRTR 14 55 33.4
BRTR pmax pmax
comp=Z,31nm,0.7s
BRTR pmax pmax
comp=Z,17nm,1.1s
BRTR MLR MLR
comp=Z,383nm,18.9s
HWUT Hardware Ranch 78.80 47 *e*P P **14 52 36.7 +0.9**
comp=Z,69nm,1.3s,mb5.3
VRI Vrincioaia 78.83 319⇑ *i*P P **14 52 36.4 +0.4**
DUG Dugway 78.92 48 *e*P P **14 52 37.9 +1.3**
comp=Z,28nm,0.8s,mb5.1
MUD Monsted U'grnd 78.97 335 *i*P P **14 52 37.6 +1.1**
COBT Iskenderun 79.02 307 *i*P P **14 52 37.1 -0.1**
KOLS Kolonicke sedl 79.05 324 *i*P P **14 52 37.2 +0.1**
KOLS *e*PP PP 14 55 34.0 -4.3
NOQ North Oquirrh 79.06 48 *e*P P **14 52 38.5 +1.2**
MWC Mount Wilson 79.15 56 P P **14 52 38.2 +0.3**
MWC Mount Wilson 79.15 56 *e*P P **14 52 38.4 +0.4**
TCUT Toone Canyon 79.19 47 *e*P P **14 52 37.7 -0.3**
PDAR Pinedale Array 79.23 45 P P **14 52 38.6 +0.4**
comp=Z,11nm,0.6s,mb4.9,baz=266,slow=1.7,SNR=95
PDAR pP pP 14 52 56.4 -0.3
comp=Z,17nm,1.0s,baz=285,slow=1.9,SNR=5.3
PDAR PKKPbc 15 11 27.2
comp=Z,1.1nm,0.8s,baz=104,slow=4.1,SNR=7.5
PDAR LR LR 15 22 01.4
comp=Z,296nm,21.4s,baz=318,slow=31
CTU Camp Tracy 79.25 47 *e*P P **14 52 39.4 +1.0**
OJC Ojcow 79.32 326⇑ *i*P P **14 52 38.3 -0.2**
OJC Ojcow 79.32 326⇑ *i*P P **14 52 38.3 -0.2**
ISR Istrita 79.42 319⇑ *i*P P **14 52 40.3 +1.1**
JLU Jordanelle 79.49 47 *e*P P **14 52 40.8 +1.1**
MLR Muntele Rosu 79.49 319⇑ *i*P P **14 52 39.4 -0.2**
NLU North Lily Min 79.51 48 *e*P P **14 52 40.8 +1.0**
NIE Niedzica 79.64 325⇑ *i*P P **14 52 41.0 +0.7**
DAU Daniels Canyon 79.72 47 P P **14 52 42.6 +1.7**
DAU Daniels Canyon 79.72 47 *e*P P **14 52 42.0 +1.1**
MPU Maple Canyon 79.74 48 *e*P P **14 52 42.2 +1.2**
MZLS Mizel 79.97 292 P P **14 52 42.5 0.0**
ARUT Antelope Range 80.01 50 P P **14 52 43.6 +1.1**
ARUT Antelope Range 80.01 50 *e*P P **14 52 43.1 +0.6**
RAYN Ar Rayn 80.03 292 P P **14 52 42.4 -0.5**
comp=Z,548nm,0.8s,mb6.4,SNR=50
KECS Kecovo 80.22 324 *e*P P **14 52 43.7 +0.3**
KECS *e* pP 14 52 57.3 -4.5
MVU Marysvale 80.33 49 *e*P P **14 52 45.8 +1.6**
comp=Z,34nm,1.1s,mb5.1
MSU Marysvale 80.34 49 *e*P P **14 52 45.4 +1.1**
OKC Ostrava-Krasne 80.34 326⇑ *i*P P **14 52 43.9 -0.1**
OKC AMS AMS 15 32 10.0
comp=Z,1µm,15.3s
ARSS Ar Rass 80.38 295 P P **14 52 44.2 -0.5**
NEN Nelson 80.42 53 *e*P P **14 52 45.5 +0.7**
RAR Rarotonga 80.44 125 LR LR 15 20 37.4
comp=Z,632nm,20.1s,baz=293,slow=30
KSP Ksiaz 80.44 328⇑ *e*P P **14 52 44.3 -0.2**
KSP *e* 14 52 50.6
KSP *e**SP sP 14 53 08.9 -1.5
KSP *e* 14 55 43.5
KSP *e*S S 15 02 46.0 +2.1
KSP MLR MLR
comp=Z,2µm,26.8s
KSP Ksiaz 80.44 328 *e*P P **14 52 44.4 -0.1**
KSP MLR MLR 15 27 58.2
comp=Z,2µm,26.8s
TMUT Trail Mountain 80.45 48 *e*P P **14 52 45.6 +0.8**
TMUT *e*PcP PcP 14 52 52.4 +0.5
TMUT *e* pP 14 53 02.7 -0.6
LIKS Likavka 80.47 325 *e*P P **14 52 45.3 +0.6**
BSEG Bad Segeberg 80.53 333 *e*P P **14 52 44.6 -0.3**
BSEG pmax pmax
comp=Z,99nm,1.3s,mb5.5
HILS Ha'il 80.56 297 P P **14 52 45.9 +0.2**
PFO Pinyon Flat Ob 80.58 55 P P **14 52 46.2 +0.5**
comp=Z,185nm,0.8s,mb6.0,SNR=10.0
PFO Pinyon Flat Ob 80.58 55 *e*P P **14 52 46.0 +0.3**
PFO pmax pmax
comp=Z,53nm,1.2s,mb5.2
PFO Pinyon Flat Ob 80.58 55 *e*P P **14 52 46.0 +0.3**
comp=Z,53nm,1.2s,mb5.2
MORC Moravsky Berou 80.66 326 *e*P P **14 52 46.0 +0.3**
MORC *e* pP 14 53 04.4 +0.2
MORC *e* 14 53 10.6
MORC pmax pmax
comp=Z,63nm,1.0s,mb5.4
MORC Moravsky Berou 80.66 326 *e*P P **14 52 46.0 +0.3**
comp=Z,63nm,1.0s,mb5.4

MORC *e* pP 14 53 04.4 +0.3
MORC *e* 14 53 10.6
DPC Dobruska-Polom 80.79 327⇑ *iP* **P 14 52 46.5 +0.1**
DPC MLR MLR
comp=Z,1µm,24.9s
DPC Dobruska-Polom 80.79 327⇑ *iP* **P 14 52 46.5 +0.1**
DPC *e*PP PP 14 55 40.7 -12
DPC AMS AMS 15 27 40.0
comp=Z,1µm,24.9s
UPC Upice 80.81 328⇑ *iP* **P 14 52 46.7 +0.2**
UPC *e*PP PP 14 55 50.6 -2.5
PSZ Piszkesteto 80.89 324⇑ *eP* **P 14 52 47.5 +0.5**
PSZ Piszkesteto 80.89 324 P P **14 52 47.7 +0.7**
PSZ pmax pmax
comp=Z,240nm,1.5s,mb5.8
PSZ Piszkesteto 80.89 324 *eP* **P 14 52 47.6 +0.6**
comp=Z,73nm,0.9s,mb5.5
SRU San Rafael 80.98 48 *eP* **P 14 52 48.6 +1.0**
BAR Barrett 81.00 56 *eP* **P 14 52 48.4 +0.5**
ULM Lac du Bonnet 81.03 33 P **P 14 52 47.1 -0.5**
comp=Z,14nm,0.8s,mb4.8,baz=304,slow=6.8,SNR=13
ULM LR LR 15 26 48.6
comp=Z,359nm,21.5s,baz=235,slow=34
ULM Lac du Bonnet 81.03 33 *eP* **P 14 52 47.0 -0.6**
comp=Z,14nm,0.7s,mb4.9
ULM *e* pP 14 53 02.8 -3.3
HRI Mount Hermon 81.31 305 P **P 14 52 49.3 -0.2**
RSSD Black Hills 81.39 41 P **P 14 52 50.2 +0.5**
RSSD pmax pmax
comp=Z,8.0nm,0.6s,mb4.7
RSSD Black Hills 81.39 41 *eP* **P 14 52 50.0 +0.3**
comp=Z,13nm,0.7s,mb4.9
URZ Urewera 81.41 151 P **P 14 52 48.2 -1.7**
comp=Z,14nm,0.9s,mb4.8,baz=339,slow=8.5,SNR=7.5
URZ LR LR 15 23 23.8
comp=Z,775nm,21.5s,baz=360,slow=32
PVCC Panska Ves 81.41 328⇑ *iP* **P 14 52 50.1 +0.5**
PVCC AMS AMS 15 28 40.0
comp=Z,800nm,18.1s
BRG Berggiesshubel 81.42 329 *i* P **P 14 52 49.8 +0.1**
BRG pmax pmax
comp=Z,52nm,1.0s,mb5.3
BRG Berggiesshubel 81.42 329 *i* P **P 14 52 49.8 +0.1**
comp=Z,52nm,0.9s,mb5.4
CLL Collm 81.48 330⇑P **P 14 52 49.9 -0.1**
comp=Z,logA/T=2.0,mb5.6
CLL *e**PP pP 14 53 10.0 +1.5
CLL *e**SP sP 14 53 20.0 +4.1
CLL *e*PP PP 14 55 45.0 -14
CLL Collm 81.48 330⇑ *iP* **P 14 52 49.9 -0.1**
CLL *e**PP pP 14 53 10.0 +1.5
CLL pmax pmax
comp=Z,94nm,0.9s,mb5.6
CLL Collm 81.48 330⇑ *iP* **P 14 52 49.9 -0.1**
comp=Z,94nm,0.9s,mb5.6
CLL *e*pP pP 14 53 10.0 +1.5
SMOL Smolenice 81.62 326 *eP* **P 14 52 51.8 +1.0**
AFFS 'Afif 81.68 293 P **P 14 52 51.6 0.0**
SRO Srobarova 81.72 325 *eP* **P 14 52 52.2 +0.9**
HNTI Hanita 81.79 305 P **P 14 52 51.7 -0.3**
PRU Pruhonice 81.83 328⇑ *iP* **P 14 52 52.0 +0.2**
PRU *e* 14 55 57.0
PRU pmax pmax
comp=Z,66nm,0.9s,mb5.5
PRU Pruhonice 81.83 328⇑ *iP* **P 14 52 52.0 +0.2**
comp=Z,66nm,0.9s,mb5.5
PRU *e*PP PP 14 55 57.0 -4.4
PRU AMS AMS 15 32 50.0
CSS Prodhromos 81.85 307 *eP* **P 14 52 52.2 0.0**
comp=Z,72nm,0.7s,mb5.6
PKSG 81.98 324⇑ *eP* **P 14 52 53.0 +0.3**
ZST Bratislava 82.00 325 *eP* **P 14 52 53.8 +1.0**
MMLI Mount Malkishu 82.02 304 P **P 14 52 53.3 +0.1**
HMDT Nahal Hemdat 82.06 304 P **P 14 52 53.4 0.0**
CLZ Clausthal 82.13 331 *eP* **P 14 52 53.2 -0.1**
comp=Z,76nm,1.0s,mb5.5
OFRI 'Ofer 82.20 305 P **P 14 52 53.7 -0.4**
PKS8 Sarbogard 82.21 324⇓ *eP* **P 14 52 53.8 -0.1**
PV10 Paradox Valley 82.34 48 *eP* **P 14 52 56.3 +1.6**
SLTI Sal'it 82.39 304 P **P 14 52 55.0 -0.1**
NKC Novy Kostel 82.53 329⇑ *iP* **P 14 52 55.5 +0.1**
NKC AMS AMS 15 33 30.0
comp=Z,1µm,17.5s
DRGI Dragot 82.55 304 P **P 14 52 55.8 -0.1**
MOX Moxa 82.56 330 *i* P **P 14 52 55.5 0.0**
comp=Z,logA/T=1.8,mb5.4
MOX pP pP 14 53 15.0 +0.9
MOX L 15 31 56.0
MOX Moxa 82.56 330 *eP* **P 14 52 55.5 0.0**
MOX *e* pP 14 53 15.2 +1.1
MOX pmax pmax
comp=Z,109nm,1.7s,mb5.4
MOX MLR MLR
comp=Z,600nm,20.0s
MOX Moxa 82.56 330 *eP* **P 14 52 55.5 0.0**
comp=Z,109nm,1.7s,mb5.4
MOX *e* pP 14 53 15.2 +1.1
MOX LR LR
comp=Z,600nm,20.0s
KAMS Al Khamasin 82.57 290 P **P 14 52 56.2 -0.1**
PKS9 Tamasi 82.61 324⇓ *eP* **P 14 52 56.0 +0.1**
SOP Sopron 82.63 325⇑ *i*PcP PcP 14 52 56.8 -4.4
PKSM Moragy 82.71 323⇑ *iP* **P 14 52 56.1 -0.3**
BOLS Boljevac 82.71 320⇑ *iP* **P 14 52 56.1 -0.4**
MZDA Masada 82.75 303 P **P 14 52 56.8 -0.1**
PV01 Paradox Valley 82.78 48 *eP* **P 14 52 58.0 +1.1**
BEO Belgrade 82.80 321⇓ *iP* **P 14 52 56.8 -0.1**
HOPOS Hopovo Monaste 82.89 322 *eP* **P 14 52 57.5 +0.2**
KHC Kasperske Hory 82.89 328⇑ *iP* **P 14 52 57.5 +0.3**
KHC *e*PP PP 14 56 05.3 -4.6
KHC AMS AMS 15 33 20.0
comp=Z,1µm,14.2s
GEC2 GERESS Array S 83.05 328 *eP* **P 14 52 57.7 -0.4**
GEC2 pmax pmax
comp=Z,37nm,1.0s,mb5.2
GEC2 GERESS Array S 83.05 328 *eP* **P 14 52 57.7 -0.4**
comp=Z,37nm,1.0s,mb5.2
GERES GERESS Array B 83.05 328 P **P 14 52 58.1 0.0**
comp=Z,13nm,0.7s,mb4.8,baz=34,slow=4.8,SNR=92
GERES GERESS Array B 83.05 328 P **P 14 52 58.1 0.0**
GERES pmax pmax
comp=Z,13nm,0.7s
RHK1 Bakonya 83.07 324⇑ *iP* **P 14 52 58.2 0.0**
WET Wettzell 83.18 328 *eP* **P 14 52 58.8 +0.1**
WET pmax pmax
comp=Z,50nm,1.2s,mb5.2
WET Wettzell 83.18 328 *eP* **P 14 52 58.8 +0.1**
comp=Z,50nm,1.2s,mb5.2
GRUS Gruza 83.32 321⇑ *iP* **P 14 52 59.7 +0.2**
MASH Mash'abbe Sade 83.33 303 P **P 14 52 59.5 -0.4**
KBRS Khaybar 83.33 297 P **P 14 53 00.5 +0.5**
ZFRI Zfri 83.33 303 P **P 14 52 59.9 0.0**
ZFRI Zfri 83.33 303⇑P **P 14 52 59.9 0.0**
WTSB Winterswijk 83.39 333 *eP* **P 14 52 58.4 -1.3**
comp=Z,30nm,1.3s,mb5.0
ARSA Arzberg 83.42 326⇑ *iP* **P 14 53 00.1 +0.1**
comp=Z,398nm,2.7s,mb5.8
GRA1 Grafenberg Arr 83.45 329 *eP* **P 14 53 00.4 +0.3**
comp=Z,135nm,1.0s,mb5.7
GRA1 *e*S S 15 03 27.4 +13
GRA1 LR LR
comp=Z,1µm,18.0s
GRF Grafenberg Arr 83.45 329 *eP* **P 14 53 00.4 +0.3**
GRF pmax pmax
comp=Z,135nm,1.0s,mb5.7
BARS Barje 83.48 319⇑ *iP* **P 14 53 00.5 +0.1**
DIVS Divcibare 83.54 321⇑ *iP* **P 14 52 58.1 -2.6**
MOA Molln 83.55 327⇑ *iP* **P 14 53 00.9 +0.3**
comp=Z,571nm,4.1s
PRNI Paran 83.57 303 P **P 14 53 01.1 0.0**
KZIT Kziot 83.65 304 P **P 14 53 01.3 -0.2**
SRS Serrai 83.70 317 *eP* **P 14 53 01.1 -0.4**
TBKS Tabuk 83.80 300 P **P 14 53 02.8 +0.5**
ESK Eskdalemuir 83.81 340 *eP* **P 14 53 02.2 +0.5**
ESK AMb AMB 14 53 03.3
comp=Z,106nm,1.8s,mb5.4
TATS Tathlith 83.86 290 P **P 14 53 03.4 +0.6**
JMQS Jabal Moqyreh 83.87 301 P **P 14 53 03.2 +0.5**
KMTI Karmit 83.92 303 P **P 14 53 02.4 -0.5**
KMTI Karmit 83.92 303⇑P **P 14 53 02.4 -0.5**
AQBJ Aqaba 83.92 302 P **P 14 53 02.7 -0.2**
MBH Mount Berech 83.98 302 P **P 14 53 03.1 -0.1**
OUR Ouranopolis 84.01 316 *eP* **P 14 53 03.2 +0.1**
EIL Elat 84.03 302 P **P 14 53 03.1 -0.3**
EIL Elat 84.03 302⇑P **P 14 53 03.1 -0.3**
SOH Sokhos 84.03 317 *eP* **P 14 53 03.2 0.0**
KNT Kendrikon 84.05 317 *eP* **P 14 53 03.0 -0.2**
PERS Pernice 84.07 325 *eP* **P 14 53 03.0 -0.2**
NVSS Nova Varos 2 84.11 321⇓ *iP* **P 14 53 03.8 +0.3**
VAY Valandovo 84.12 318⇑ *iP* **P 14 53 04.1 +0.5**
RPZ Rata Peaks 84.15 158 P **P 14 53 03.4 -0.3**
comp=Z,13nm,0.7s,mb4.9,baz=130,slow=5.6,SNR=8.6
ALWS Ilw as Safayha 84.17 302 P **P 14 53 04.6 +0.5**
JMOS Jabal al Moail 84.23 302 P **P 14 53 04.9 +0.4**
SKO Skopje 84.28 319⇑ *iP* **P 14 53 05.4 +1.0**
comp=Z,0.2nm,0.8s
SISC Sisak 84.34 324 *i* P **P 14 53 04.9 +0.3**
THE Thessaloniki 84.38 317 *eP* **P 14 53 04.5 -0.4**
SIND Sindeldorf 84.38 330⇑ *eP* **P 14 53 04.7 0.0**
PLE Pljevlja 84.39 321⇑ *iP* **P 14 53 05.4 +0.5**
HAQS Haql 84.42 302 P **P 14 53 05.8 +0.4**
OBKA Obir 84.42 326⇑ *iP* **P 14 53 04.8 -0.2**
comp=Z,570nm,3.9s
IVA Berane 84.46 320⇑ *iP* **P 14 53 05.6 +0.3**
PAIG Paliouri 84.46 316 *eP* **P 14 53 05.4 +0.1**
GRG Griva 84.46 318 *eP* **P 14 53 04.8 -0.5**
TOD Tromm 84.50 331⇑ *eP* **P 14 53 05.5 +0.2**
CRES Cresnjev 84.51 325 *eP* **P 14 53 05.1 -0.3**
KBA Koelnbreinsper 84.54 327⇑ *iP* **P 14 53 05.6 +0.1**
comp=Z,294nm,2.8s,mb5.7
FUR Furstenfeldbru 84.61 328 *eP* **P 14 53 05.9 0.0**
FUR pmax pmax
comp=Z,104nm,0.9s,mb5.8
FUR Furstenfeldbru 84.61 328 *eP* **P 14 53 05.9 0.0**
comp=Z,104nm,0.9s,mb5.8
PVY Plav 84.61 320⇑ *iP* **P 14 53 06.1 +0.1**
HGN Heimansgroeve 84.68 333 *eP* **P 14 53 05.1 -1.1**
comp=Z,0.1nm,1.1s
HGN *e*PP Px 14 56 02.0
HGN *e*S Sx 15 02 32.3
BDAS Al Bad' **84.69 301** P **P 14 53 07.0 +0.2**
AYUS 'Aynunah 84.72 301 P **P 14 53 07.2 +0.3**
UPM Unac-Piva 84.73 321⇑ *iP* **P 14 53 06.3 -0.3**
HDH Heidenheim 84.73 329 *eP* **P 14 53 06.3 -0.2**
TAYS Tayyib Ism 84.77 301 P **P 14 53 07.5 +0.3**
PMOR Pomariorio Ree 84.78 113 *eP* **P 14 53 08.7 +1.3**
comp=Z,100nm,1.2s,mb5.6
ABH Alteburg 84.78 331⇑ *eP* **P 14 53 06.8 +0.1**
ABH Alteburg 84.78 331⇑ *eP* **P 14 53 06.6 -0.1**
LJU Ljubljana 84.78 325 *eP* **P 14 53 06.3 -0.4**
LJU *e*PP Px 14 56 50.2
SDCO Great Sand Dun 84.86 46 *eP* **P 14 53 08.9 +1.5**
comp=Z,22nm,0.8s,mb5.1
DJNS Zahran al Janu 84.88 288 P **P 14 53 08.5 +0.6**
LSR Lussari 84.91 326⇓ *i*Pg **P 14 53 07.3 -0.2**
NKY Niksic 84.96 321⇑ *iP* **P 14 53 06.8 -1.0**
LHO Holmfirth 84.96 338⇑ *eP* **P 14 53 07.5 0.0**
STU Stuttgart 85.00 330 P **P 14 53 08.5 +0.7**
STU pmax pmax
comp=Z,60nm,1.0s,mb5.5
STU Stuttgart 85.00 330 *eP* **P 14 53 07.9 +0.1**
comp=Z,60nm,1.0s,mb5.5
LIT Litokhoron 85.00 317 *eP* **P 14 53 07.3 -0.8**
KTD Kalmit 85.02 331 *eP* **P 14 53 07.8 -0.1**
PTCC Patocco-Chiusa 85.05 326 *eP* **P 14 53 07.3 -0.8**
NAMS An Nimas 85.05 290 P **P 14 53 09.9 +1.2**
CEY Cerknica 85.06 325 *eP* **P 14 53 07.7 -0.5**
UMJS Umm Lajj 85.07 298 P **P 14 53 09.3 +0.6**
VOY Vojsko 85.08 326 *eP* **P 14 53 07.3 -1.0**
BLJS Baljuashi 85.09 291 P **P 14 53 10.0 +1.1**
TTG Podgorica 85.10 320 *eP* **P 14 53 07.8 -0.6**
JAVS Javornik 85.11 325 *eP* **P 14 53 07.5 -0.9**
RUP Ruppelstein 85.11 332⇑ *eP* **P 14 53 08.4 +0.1**
RUP Ruppelstein 85.11 332⇑ *eP* **P 14 53 08.5 +0.2**
YNBS Yanbu' al Bahr 85.12 296 P **P 14 53 09.4 +0.4**
TUC Tucson 85.13 53 P **P 14 53 10.1 +1.2**
TUC pmax pmax
comp=Z,17nm,0.8s,mb5.0
TUC Tucson 85.13 53⇑ *eP* **P 14 53 09.3 +0.4**
comp=Z,17nm,0.8s,mb5.0
BRY Bratogost 85.13 321⇑ *iP* **P 14 53 08.1 -0.5**
FNA Florina 85.14 318 *eP* **P 14 53 08.2 -0.5**
WTTA Wattenberg 85.15 328⇑ *iP* **P 14 53 08.8 +0.2**
comp=Z,225nm,2.5s,mb5.7
PPT Papeete 85.16 116 *eP* **P 14 53 10.9 +1.6**
comp=Z,51nm,1.1s,mb5.4
PPT Papeete 85.16 116 *eS* S 15 03 31.4 -0.7
PPT *e*SS SS 15 09 14.3 +4.1
PPT *e*R 15 18 56.9
comp=Z,7µm,32.5s,baz=313
FVI Forni Avoltri 85.16 327 *eP* **P 14 53 08.2 -0.4**
BUCH Bad Urach 85.19 330⇑ *eP* **P 14 53 09.0 +0.2**
GMNA Gemona 85.20 326 *eP* **P 14 53 07.7 -1.1**
OHR Ohrid 85.22 319⇑ *iP* **P 14 53 08.7 -0.4**
LBG Lerchenberg 85.25 330⇑ *eP* **P 14 53 09.3 +0.3**
TIAR Tiarei 85.32 115 *eP* **P 14 53 12.4 +2.3**
comp=Z,172nm,1.1s,mb5.9
MOTA Moosalm 85.32 328⇓ *iP* **P 14 53 09.6 +0.2**
comp=Z,157nm,2.3s,mb5.5
MOTA *i* 15 14 07.6
SQTA Sankt Quirin 85.37 328⇑ *iP* **P 14 53 10.0 +0.3**
comp=Z,203nm,2.5s,mb5.6
BUM Brajici-Budva 85.38 320⇑ *iP* **P 14 53 09.2 -0.7**
TRI Trieste 85.38 325 *eP* **P 14 53 09.2 -0.5**
LANF Langenberg 85.40 331⇑ *eP* **P 14 53 10.0 +0.2**
ULC Ulcinj 85.44 320⇑ *iP* **P 14 53 09.8 -0.4**
HCY Herceg Novi 85.48 321⇑ *iP* **P 14 53 10.1 -0.3**
UBR Uberruh 85.48 329 *eP* **P 14 53 10.1 -0.1**
WLF Walferdange 85.49 332 P **P 14 53 10.7 +0.5**
WLF pmax pmax
comp=Z,110nm,1.6s,mb5.5
WLF Walferdange 85.49 332 *eP* **P 14 53 10.0 -0.2**
comp=Z,112nm,1.6s,mb5.5
TVO Taravao 85.53 116 *eP* **P 14 53 13.0 +1.9**
comp=Z,125nm,0.9s,mb5.8
GUT Gutenstein 85.59 329 *eP* **P 14 53 10.2 -0.5**
GIVF Givet 85.63 333 *eP* **P 14 53 10.4 -0.5**
SPAK Spaichingen 85.70 330 *eP* **P 14 53 11.0 -0.3**
SPAK Spaichingen 85.70 330⇑ *eP* **P 14 53 10.9 -0.4**
LTHS Al Lith 85.76 292 P **P 14 53 12.8 +0.7**
FAU Forcella Aurin 85.79 327⇑ *i*Pg **P 14 53 11.2 -0.6**
DAVA Damuels 85.89 329⇑ *iP* **P 14 53 12.3 +0.1**
comp=Z,778nm,4.3s
BAIF Baives 85.89 333 *eP* **P 14 53 11.7 -0.5**
comp=Z,91nm,1.3s,mb5.3
WLS Welschbruch 86.03 331⇑ *eP* **P 14 53 12.8 -0.1**
CDF Champ du Feu 86.06 331 *eP* **P 14 53 12.8 -0.2**
comp=Z,94nm,0.9s,mb5.4
DMUB Kingscourt 86.07 341 *eP* **P 14 53 12.0 -0.9**
DMUB Kingscourt 86.07 341⇓ *iP* **P 14 53 13.7 +0.8**
DMUB Kingscourt 86.07 341⇓ *iP* **P 14 53 13.7 +0.8**
CTI Castelo Fesino 86.08 327 *eP* **P 14 53 12.6 -0.5**
LIBD Limburg 86.14 330 *eP* **P 14 53 13.3 -0.1**
LIBD Limburg 86.14 330⇑ *eP* **P 14 53 13.3 -0.1**
ANMO Albuquerque 86.14 49 P **P 14 53 15.5 +1.7**
ANMO pmax pmax
comp=Z,21nm,1.0s
ANMO Albuquerque 86.14 49 *eP* **P 14 53 14.8 +1.1**
comp=Z,43nm,1.3s,mb5.2
KIZ Kirchzarten 86.17 330 *eP* **P 14 53 13.2 -0.4**
FELD Feldberg 86.20 330⇑ *eP* **P 14 53 13.5 -0.2**
ECH Echery 86.27 331⇑ *eP* **P 14 53 13.9 -0.1**
BRMO Bormio 86.31 328 *eP* **P 14 53 15.0 +0.8**
LENM Lemitar 86.35 50 *eP* **P 14 53 15.6 +0.8**
DLF Lyons Farm 86.52 341 *eP* **P 14 53 14.0 -1.1**
DLF Lyons Farm 86.52 341⇓ *iP* **P 14 53 15.9 +0.8**
DLF Lyons Farm 86.52 341⇓ *iP* **P 14 53 15.9 +0.8**
MOF Molkenrain 86.57 330⇑ *eP* **P 14 53 15.2 -0.3**
DCN Croghan 86.67 341 *eP* **P 14 53 15.0 -0.9**
DCN Croghan 86.67 341⇓ *iP* **P 14 53 16.8 +0.9**
DCN Croghan 86.67 341⇓ *iP* **P 14 53 16.8 +0.9**
SCHQ Schefferville 86.69 15 P **P 14 53 16.7 +0.7**
comp=Z,37nm,0.7s,mb5.4,baz=346,slow=5.6,SNR=26
SCHQ pP pP 14 53 34.3 -0.4
comp=Z,19nm,0.8s,baz=340,slow=6.0,SNR=3.8
SCHQ LR LR 15 31 29.3
comp=Z,563nm,21.8s,baz=112,slow=35
SCHQ Schefferville 86.69 15 *eP* **P 14 53 16.7 +0.7**
comp=Z,52nm,0.8s,mb5.5
SCHQ *e* pP 14 53 33.9 -0.7
HINF Hinteralfeld 86.71 331 *eP* **P 14 53 15.5 -0.7**
comp=Z,40nm,0.9s,mb5.0
THEF They Montfort 86.72 331⇑ *eP* **P 14 53 16.1 -0.2**
BBS Basel-Blauen 86.73 330⇑ *eP* **P 14 53 15.9 -0.4**
MEZF Maizieres J'vi 86.86 332 *eP* **P 14 53 16.8 -0.1**
LOMF Lomont 87.10 330⇑ *eP* **P 14 53 17.8 -0.3**
HPE Pembroke 87.23 339⇑ *eP* **P 14 53 18.4 -0.3**
HPE AMb AMB 14 53 56.0
comp=Z,112nm,1.7s,mb5.5
RSM Republlica di 87.34 325 *eP* **P 14 53 20.3 +0.9**
FSSB Fossombrone 87.37 325 *eP* **P 14 53 20.1 +0.6**
ARV Arcevia 87.44 324 *eP* **P 14 53 20.1 +0.3**
VAI Varese 87.48 328 *eP* **P 14 53 19.2 -0.8**
RGNG Rignano Grg 87.53 322 *eP* **P 14 53 20.2 -0.1**
SFI Santa Sofia 87.64 325 *eP* **P 14 53 21.8 +1.0**
ZCCA Zocca 87.69 326 *eP* **P 14 53 22.6 +1.6**
HEX Exmoor 87.71 338⇑ *eP* **P 14 53 20.6 -0.4**
HEX AMb AMB 14 53 22.6
comp=Z,119nm,1.6s,mb5.7
PGD Poggio Sodo 87.72 325 *eP* **P 14 53 22.6 +1.4**
MCGN Macugnaga 87.74 329 *eP* **P 14 53 21.6 +0.3**
VMG Vicchio 87.74 326 *eP* **P 14 53 22.8 +1.5**
SEI Scarperia 87.75 326 *eP* **P 14 53 22.5 +1.2**
FNVD Fontana Vidola 87.77 326 *eP* **P 14 53 22.3 +0.8**
TERO Teramo 87.79 324 *eP* **P 14 53 21.5 0.0**
CRE Caprese Michel 87.81 325 *eP* **P 14 53 22.0 +0.4**
NRCA Norcia 87.87 324 *eP* **P 14 53 22.0 +0.1**
GSCL Gusciola 87.87 326 *eP* **P 14 53 23.0 +1.1**
ERBM Eremo 87.90 326 *eP* **P 14 53 22.1 +0.1**
FG4 Candela 87.96 321 *eP* **P 14 53 22.5 0.0**
FG5 Orsara di Pugl 87.98 322 *eP* **P 14 53 23.1 +0.6**
CABF La Chapelle 87.99 330 *eP* **P 14 53 22.0 -0.4**
comp=Z,21nm,0.8s,mb4.9
BDI Bagni Di Lucca 88.09 326 *eP* **P 14 53 22.3 -0.7**
AQU L'Aquila 88.09 323 P **P 14 53 23.7 +0.7**
AQU pmax pmax
comp=Z,66nm,0.7s,mb5.8
AQU L'Aquila 88.09 323 *eP* **P 14 53 24.1 +1.1**
INTR Introdacqua 88.11 323 *eP* **P 14 53 22.6 -0.5**
CII Carovilli 88.13 323 *eP* **P 14 53 24.0 +0.8**
CPI2 Carpinone 88.22 322 *eP* **P 14 53 24.5 +0.9**
CSNT Castellina Chi 88.23 325 *eP* **P 14 53 22.8 -0.9**
MRLC Muro Lucano 88.26 321 *eP* **P 14 53 25.2 +1.3**
LOR Lormes 88.33 332 *eP* **P 14 53 23.5 -0.5**
comp=Z,89nm,1.4s,mb5.3
LOR *e*R
comp=Z,770nm,19.8s
SGG Gregorio Mates 88.34 322 *eP* **P 14 53 25.4 +1.2**
PTQR Pietraquaria 88.34 323 *eP* **P 14 53 24.8 +0.5**
SDI San Donato 88.38 323 *eP* **P 14 53 24.2 -0.2**
PII Pisa 88.39 326 *eP* **P 14 53 23.2 -1.2**
CSSN Cassano Irpino 88.41 322 *eP* **P 14 53 24.3 -0.3**
MNS Montasola 88.42 324 *eP* **P 14 53 24.0 -0.6**
SGO Sicignano 88.49 321 *eP* **P 14 53 24.9 0.0**
LPL La Plagne 88.61 329 *eP* **P 14 53 25.2 -0.2**
comp=Z,27nm,0.8s,mb5.0
LPG La Plagne 88.62 329 *eP* **P 14 53 25.4 -0.1**
comp=Z,27nm,0.7s,mb5.1
GRFL Gerfalco 88.63 325 *eP* **P 14 53 24.9 -0.7**
TDS Terranova Siba 88.63 320 *eP* **P 14 53 25.8 +0.1**
SSF Saint Saulge 88.64 332 *eP* **P 14 53 24.9 -0.6**
FLN La Foliniere 88.64 335 *eP* **P 14 53 24.8 -0.7**
FLN *e*R
comp=Z,949nm,20.0s
LDF La Druitiere 88.67 335 *eP* **P 14 53 25.0 -0.6**
SMF Signal de Mont 88.85 332 *eP* **P 14 53 25.9 -0.6**
KSU1 Kansas State U 88.87 41 *eP* **P 14 53 26.4 -0.3**
TBI Tubuai 88.94 120 *eS* S 15 04 12.2 +4.3
TBI *e*R 15 20 48.0
comp=Z,3µm,26.8s,baz=307
GRR Gorron 89.09 335 *eP* **P 14 53 27.3 -0.3**
comp=Z,83nm,1.0s,mb5.4
JFWS Jewell Farm 89.12 34 P **P 14 53 28.0 +0.1**
JFWS pmax pmax
comp=Z,14nm,0.5s,mb5.2
JFWS Jewell Farm 89.12 34 *eP* **P 14 53 27.0 -0.8**
comp=Z,14nm,0.5s,mb5.3
GRI Girifalco 89.20 319 *eP* **P 14 53 28.8 +0.4**
MBDF Montbardon 89.24 329 *eP* **P 14 53 27.5 -0.9**
comp=Z,17nm,0.6s,mb5.0
BGF Bois d'Agland 89.31 332 *eP* **P 14 53 28.5 -0.2**
ORIF Oris-en-Rattie 89.45 329 *eP* **P 14 53 28.8 -0.6**
ORIF *e*R
comp=Z,745nm,22.0s
SAOF Saorge 89.50 328⇑ *eP* **P 14 53 28.9 -0.7**
AUTN L'Aution 89.54 328⇑ *eP* **P 14 53 29.1 -0.7**
TOUF Mont Tournerai 89.61 328⇑ *eP* **P 14 53 29.3 -0.8**
SBF Sospel 89.65 328 *eP* **P 14 53 29.2 -1.1**
comp=Z,37nm,0.7s,mb5.3
MVIF Mont Vial 89.74 328⇑ *eP* **P 14 53 29.5 -1.3**
TCF Toulx Ste Croi 89.77 332 *eP* **P 14 53 30.7 -0.2**
comp=Z,105nm,1.5s,mb5.5
SGMF Saint Gilles 89.78 336 *eP* **P 14 53 31.0 +0.2**
comp=Z,62nm,1.0s,mb5.4
PYM Petit Puy Mans 89.92 331 *eP* **P 14 53 32.4 +0.9**
ROSF Rostrenen 89.94 336 *eP* **P 14 53 31.6 0.0**
comp=Z,73nm,1.0s,mb5.5
SOI Samo 89.95 319 *eP* **P 14 53 31.9 0.0**
VIVF Saint-Julien-l 90.00 330 *eP* **P 14 53 31.6 -0.3**
comp=Z,70nm,1.1s,mb5.4
PGF Pioggiola 90.00 326 *eP* **P 14 53 31.1 -0.9**
FRF La Foret Royal 90.23 328 *eP* **P 14 53 32.0 -1.1**
comp=Z,71nm,1.1s,mb5.4
LBL Lubilhac 90.26 331 *eP* **P 14 53 34.3 +1.2**
QUIF Quistinic 90.27 336 *eP* **P 14 53 32.8 -0.4**
SMRF Simiane la Rot 90.35 329 *eP* **P 14 53 33.4 -0.2**
MFF Saint Martin d 90.38 334 *eP* **P 14 53 33.9 +0.2**
comp=Z,88nm,0.9s,mb5.6
TAVF Tavernes 90.44 328 *eP* **P 14 53 34.0 0.0**
LMR La Mourre 90.47 328 *eP* **P 14 53 33.3 -0.9**
comp=Z,120nm,1.0s,mb5.7
PRAF Pradon 90.66 329 *eP* **P 14 53 35.6 +0.5**
WMOK Wichita Mounta 90.84 45 P **P 14 53 36.4 +0.2**
WMOK pmax pmax
comp=Z,23nm,1.2s,mb5.2
WMOK Wichita Mounta 90.84 45 *eP* **P 14 53 36.0 -0.2**
comp=Z,23nm,1.1s,mb5.2
RJF Les Rejaudoux 90.86 332 *eP* **P 14 53 36.0 0.0**
comp=Z,63nm,0.9s,mb5.4
RJF *e*R
comp=Z,912nm,22.2s
LASF Ste Croix 90.97 330 *eP* **P 14 53 36.5 0.0**
comp=Z,84nm,1.2s,mb5.4
CAF Calviac 90.97 332 *eP* **P 14 53 36.9 +0.4**
comp=Z,63nm,1.0s,mb5.4
LFF La Frestale 90.97 332 *eP* **P 14 53 39.0 +0.2**
comp=Z,95nm,0.9s,mb5.6
LTX Lajitas 91.68 52 P **P 14 53 36.6 -3.6**
LTX pmax pmax
comp=Z,19nm,0.8s,mb5.4
LTX Lajitas 91.68 52 *eP* **P 14 53 40.6 +0.5**
comp=Z,17nm,0.7s,mb5.4
TXAR Lajitas Array 91.68 52 P **P 14 53 41.1 +0.9**
comp=Z,11nm,0.6s,mb5.3,baz=305,slow=3.0,SNR=70
TXAR pP pP 14 53 58.7 -0.4
comp=Z,8.7nm,0.7s,baz=297,slow=2.8,SNR=5.3
TXAR Lajitas Array 91.68 52 P **P 14 53 41.1 +0.9**
TXAR pP pP 14 53 58.7 -0.4
MTLF Montolieu 92.24 331 *eP* **P 14 53 42.5 +0.1**
comp=Z,61nm,1.0s,mb5.5
CCM Cathedral Cave 92.42 38 P **P 14 53 43.1 -0.2**
CCM pmax pmax
comp=Z,14nm,0.9s,mb5.2
CCM Cathedral Cave 92.42 38 *eP* **P 14 53 42.8 -0.6**
comp=Z,14nm,0.8s,mb5.2
FVM French Village 92.88 38 P **P 14 53 46.1 +0.6**
FVM French Village 92.88 38 *eP* **P 14 53 45.3 -0.2**
MLS Moulis 93.01 331⇑ *eP* **P 14 53 46.2 +0.3**
VALF Valcebollere 93.11 330⇑ *eP* **P 14 53 47.0 +0.6**
EPF Esparros 93.24 332 *eP* **P 14 53 46.3 -0.7**
JCT Junction City 93.28 48 *eP* **P 14 53 46.8 -0.7**
JCT pmax pmax
comp=Z,36nm,1.1s,mb5.6
JCT Junction City 93.28 48 *eP* **P 14 53 46.6 -0.9**
comp=Z,36nm,1.1s,mb5.6
ETSF Etsaut 93.70 332 *eP* **P 14 53 49.6 +0.6**
comp=Z,39nm,0.9s,mb5.4
SJPF Ste Jean 93.76 333 *eP* **P 14 53 48.8 -0.5**
WCI Wyandotte Cave 94.67 35 P **P 14 53 54.3 +0.7**
WCI pmax pmax
comp=Z,19nm,0.7s,mb5.6
WCI Wyandotte Cave 94.67 35 *eP* **P 14 53 53.9 +0.4**
comp=Z,18nm,0.7s,mb5.6
WVT Waverly 95.61 37 P **P 14 53 57.9 -0.1**
WVT pmax pmax
comp=Z,8.0nm,0.6s,mb5.3
WVT Waverly 95.61 37 *eP* **P 14 53 57.2 -0.8**
comp=Z,9.5nm,0.6s,mb5.4
ESDC Sonseca Array 97.77 333 P **P 14 54 07.8 +0.1**
comp=Z,0.4nm,0.3s,mb4.4,baz=16,slow=3.6,SNR=5.7
ESDC PP PP 14 58 01.2 -8.0

comp=Z,0.4nm,0.3s,baz=29,slow=8.1,SNR=4.8
ESDC LR LR 15 42 15.7
comp=Z,412nm,19.4s,baz=350,slow=38
KMBO Kilima Mbogo 101.00 277 P P 14 54 22.9 0.0
comp=Z,0.7nm,0.5s,baz=343,slow=9.5,SNR=4.0
KMBO PP PP 14 58 32.2 -2.5
comp=Z,2.9nm,1.0s,baz=50,slow=12,SNR=4.7
DRV Dumont d'Urvil 102.28 180 SP SP 15 07 24.0 -15
SBA Scott Base 114.68 174 PKIKP PKPdf 14 59 12.6 +1.9
SBA Scott Base 114.68 174 *e*P PKPdf 14 59 12.3 +1.6
SBA *e*pP 14 59 26.1
LSZ Lusaka 116.38 270 PKIKP PKPdf 14 59 15.7 +0.4
LSZ Lusaka 116.38 270 *e*P PKPdf 14 59 16.9 +1.5
MAW Mawson 118.07 205 *e*P PKPdf 14 59 18.6 +1.3
comp=Z,9.1nm,0.6s
MAW Mawson 118.07 205 PKP PKPdf 14 59 18.7 +1.4
comp=Z,9.7nm,0.7s,baz=73,slow=2.4,SNR=49
MAW PKKPbc 15 09 38.5
comp=Z,2.1nm,0.7s,baz=260,slow=6.1,SNR=6.2
BOSA Boshof 125.26 258 *e*P PKPdf 14 59 33.4 +1.1
DBIC Dimbokro 126.30 315 PKP PKPdf 14 59 35.6 +1.0
comp=Z,11nm,0.7s,baz=16,slow=2.3,SNR=19
DBIC Dimbokro 126.30 315 PKIKP PKPdf 14 59 35.6 +1.0
DBIC pmax pmax
comp=Z,11nm,0.7s
TIC Toumodi 126.41 315 *e*PKIKP PKPdf 14 59 35.2 +0.4
comp=Z,55nm,0.9s
KIC Kosan Boka 126.48 315 *e*PKIKP PKPdf 14 59 35.5 +0.5
comp=Z,88nm,1.0s
SYO Syowa Base 126.73 206 ⇓PKPdf PKPdf 14 59 34.5 +0.5
SYO Syowa Base 126.73 206 ⇓PKiKP 14 59 36.5
LIC Lamto 126.76 315 *e*PKIKP PKPdf 14 59 35.5 0.0
comp=Z,21nm,0.8s
LIC Lamto 126.76 315 *e*PKIKP PKPdf 14 59 35.9 +0.4
comp=Z,85nm,1.3s
SDV Santo Domingo 126.88 39 *e*P PKPdf 14 59 36.9 +1.2
TSUM Tsumeb 127.05 272 *e*P PKPdf 14 59 36.7 +0.8
ROSC El Rosal 128.20 46 PKP PKPdf 14 59 40.6 +2.3
comp=Z,15nm,0.5s,baz=117,slow=21,SNR=10.0
OTAV Otavalo 129.26 53 *e*PKPdf PKPdf 14 59 43.6 +3.3
SNAA Sanae 139.37 197 *e* PP 15 02 53.4 -2.5
SNAA Sanae 139.37 197⇑*i*PKPdf PKPdf 14 59 48.6 -9.0
SNAA *e* 15 02 53.4
VNA2 Neumayer--Watz 140.95 196 *e* PP 15 03 02.8 -2.4
VNA2 Neumayer--Watz 140.95 196⇑*i*PKPdf PKPdf 14 59 57.2 -3.1
VNA2 *e* 15 03 02.8
VNA3 Neumayer Olymp 141.22 195 *e* PP 15 03 02.7 -4.1
VNA3 Neumayer Olymp 141.22 195⇑*i*PKPdf PKPdf 14 59 56.9 -3.9
VNA3 *e* 15 03 02.7
VNA1 Neumayer--Stat 141.35 196 *e* PP 15 03 03.9 -3.7
VNA1 Neumayer--Stat 141.35 196⇑*i*PKPdf PKPdf 14 59 58.3 -2.7
VNA1 *e* 15 03 03.9
SAML Samuel 145.81 44 *e*PKPdf PKPdf 15 00 11.3 +0.9
ARE Arequipa 145.93 64 *e*P PKPdf 15 00 14.0 +3.6
PMSA Palmer Station 147.72 161 *e*PKPbc PKPdf 15 00 16.1 +4.1
LPAZ La Paz 148.21 59 PKPbc PKPdf 15 00 17.6 +3.4
comp=Z,26nm,0.8s,baz=354,slow=4.0,SNR=35
LPAZ La Paz 148.21 59 PKIKP PKPdf 15 00 17.6 +3.4
LPAZ pmax pmax
comp=Z,27nm,0.8s
LPAZ La Paz 148.21 59 *e*PKPdf PKPdf 15 00 17.2 +3.0
LVC Limon Verde 151.60 70 *e*PKPbc PKPdf 15 00 28.5 +9.1
TLL Tololo Astrono 153.59 86 *e*P PKPdf 15 00 24.1 +2.2
FCH Farellones 154.96 93 *e*P PKPdf 15 00 25.6 +1.8
BDFB Brasilia 158.55 22 PKP PKPdf 15 00 31.2 +2.4
comp=Z,3.2nm,0.7s,baz=59,slow=10,SNR=2.9
BDFB PKPab PKPab 15 01 06.1 -0.4
comp=Z,11nm,0.7s,baz=357,slow=4.7,SNR=5.0
BDFB Brasilia 158.55 22 PKIKP PKPdf 15 00 31.2 +2.4
BDFB 15 01 06.1
BDFB pmax pmax
comp=Z,3.0nm,0.7s
BDFB pmax pmax
comp=Z,11nm,0.7s

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*ISK **06** 14:44:52.1, 37.74N×26.85E, h9km, MD3.0*
*ATH **06** 14:44:53.9, 37.81N×26.95E, h10km, MD3.2/3*
*CSEM **06** 14:44:53.7±0.1, 37.78N×27.01E, h10km, MD3.0, Error ellipse: s-maj=2.7km s-min=2.4km az=125.0*
ISC 06 14:44:54.1±0.7**, 37.77N**±0.03×**26.97E**±0.05**, h10**km±6km**, n16, σ0.73**/23**, 4C-1D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.12**	**241**	⇓*i*PG	**Pg**	**14 44 57.1**	**+0.1**
IZM	**Izmir**	**0.67**	**20**	*i* PG	**Pg**	**14 45 06.9**	**-0.8**
IZM				*i* SG	**Sg**	**14 45 17.4**	**+0.7**
KDAG	**Bornova**	**0.68**	**20**	⇑*i*P	**Pb**	**14 45 07.2**	**-0.4**
KDAG				*i* S	**Sb**	**14 45 16.9**	**+0.1**
AYDN	**Tasoluk**	**0.73**	**98**	⇑*i*P	**Pb**	**14 45 08.8**	**+0.3**
AYDN				*i* S	**Sb**	**14 45 18.8**	**+0.4**
BDRM	**Kayabasi**	**0.80**	**151**	*i* P	**Pb**	**14 45 09.2**	**-0.3**
BDRM				*i* S	**Sb**	**14 45 21.0**	**+0.9**
MLSB	**Milas**	**0.80**	**126**	*i* PG	**Pg**	**14 45 08.9**	**-1.2**
MLSB				*i* SG	**Sg**	**14 45 21.5**	**+0.7**
YER	**Yerkesik**	**1.22**	**121**	PN	**Pn**	**14 45 17.0**	**-0.3**
AKS	**Akhisar**	**1.30**	**31**	PN	**Pn**	**14 45 18.4**	**+0.1**
APE	**Apeiranthos**	**1.34**	**239**	*e*PB	**Pb**	**14 45 19.5**	**+0.7**
MANT	**Manisa**	**1.45**	**60**	⇑*i*P	**Pn**	**14 45 22.7**	**+2.2**
MANT				*i* S	**Sb**	**14 45 39.7**	**+0.6**
PRK	**Paraskevi**	**1.58**	**340**	*e*PB	**Pb**	**14 45 22.6**	**-0.3**
DENT	**Denizli**	**1.64**	**90**	PN	**Pn**	**14 45 23.3**	**+0.1**
DNZL	**Cakiroluk**	**1.65**	**92**	⇑*i*P	**Pn**	**14 45 23.0**	**-0.4**
DNZL				*i* S	**Sn**	**14 45 43.3**	**-1.5**
DALT	**Dalyan (Mudla)**	**1.66**	**126**	PN	**Pn**	**14 45 22.8**	**-0.8**
KHL	**Karahalli**	**2.10**	**74**	PN	**Pn**	**14 45 29.7**	**-0.1**
DST	**Dursunbey**	**2.25**	**35**	PN	**Pn**	**14 45 31.6**	**-0.4**

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*BJI **06** 14:54:58.2, 3.26N×129.01E, h10km, mb4.7*
*IDC **06** 14:55:04.6±0.7, 3.84N×128.54E, mb4.3/13, mb1 4.4/13, mb1mx4.3/20, MS4.2/2, Ms1 4.2/2, ms1mx3.6/22, Error ellipse: s-maj=38.2km s-min=11.4km az=74.0*
*NEIC **06** 14:55:06.3±0.4, 3.81N×128.40E, h10km, mb4.8/12, Error ellipse: s-maj=16.9km s-min=5.8km az=71.0*
ISC 06 14:55:12.2±2.2**, 3.75N**±0.08×**128.3E**±0.2**, h71**km±19km**, n35, σ0.72**/36**, mb4.4**/25**, 1D, North of Halmahera**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KCP Kidapawan 4.55 316⇓*e*P **P** **14 56 20.6 +0.5**
KCP *i* S Sx 14 57 30.2
KAKA Kakadu 16.84 166 *e*P **P** **14 59 11.9 +7.1**
8.2nm,0.6s
WAU Wau 21.43 121 P **P** **15 00 04.0 +7.7**
FITZ Fitzroy Crossi 21.87 187 *e*P **P** **14 59 59.9 -0.6**
3.4nm,0.9s,mb3.7
FITZ Fitzroy Crossi 21.87 187 P **P** **15 00 00.2 -0.3**
1.7nm,0.5s,mb3.6,baz=7.9,slow=7.9,SNR=11
WRAB Tennant Creek 24.27 166 *e*P **P** **15 00 24.3 +0.3**
32nm,1.0s,mb4.6
WRA Warramunga Arr 24.28 166 P **P** **15 00 24.3 +0.2**
4.4nm,0.6s,mb4.0,baz=344,slow=11,SNR=44
WRA S **S** **15 04 45.1 +10**
2.4nm,0.9s,baz=349,slow=18,SNR=4.9
WB2 Warramunga Arr 24.28 166 *e*P **P** **15 00 24.5 +0.4**
WB2 *e*S **S** **15 04 38.3 +3.3**
MBWA Marble Bar 26.13 198 *e*P **P** **15 00 41.4 -0.2**
8.9nm,1.0s,mb4.2
ASAR Alice Springs 27.79 169 P **P** **15 00 55.2 -1.5**
1.8nm,0.7s,mb3.7,baz=351,slow=8.1,SNR=16
ASAR PcP PcP 15 04 12.2 +0.4
0.5nm,0.5s,baz=356,slow=2.4,SNR=4.2
ASPA Alice Springs 27.79 169 *e*P **P** **15 00 56.4 -0.4**
CTA Charters Tower 29.53 144 LR LR 15 14 29.1
comp=Z,481nm,19.7s,baz=351,slow=40
ENH Enshi 31.82 328 *e*P **P** **15 01 32.2 -0.1**
5.9nm,0.7s,mb4.4
CMAR Chiang Mai Arr 32.22 299 P **P** **15 01 36.9 +0.9**
2.3nm,0.7s,mb4.0,baz=111,slow=7.0,SNR=14
STKA Stephens Creek 37.62 161 *e*P **P** **15 02 22.2 +0.3**
4.0nm,0.6s,mb4.4
STKA Stephens Creek 37.62 161 P **P** **15 02 22.1 +0.2**
1.8nm,0.3s,mb4.3,baz=349,slow=11,SNR=7.0
STKA LR LR 15 18 59.6
comp=Z,377nm,19.9s,baz=5.7,slow=38
NWAO Narrogin (SRO) 37.95 195 P **P** **15 02 24.5 -0.1**
18nm,1.1s,mb4.8,baz=96,slow=19,SNR=3.8
LZH Lanzhou 39.30 328 *e*P **P** **15 02 36.5 +0.7**
LZH AP pP 15 02 47.0 -6.4
LZH AMB AMB
comp=Z,56nm,1.5s,mb5.2
GUN Gumba 46.98 305 *e*P **P** **15 03 38.2 0.0**
comp=Z,21nm,0.7s,mb5.0
PKI Pulchoki 47.24 305 *e*P **P** **15 03 40.6 +0.4**
KKN Kakani 47.43 305 *e*P **P** **15 03 41.7 0.0**
DMN Daman 47.50 305 *e*P **P** **15 03 42.2 -0.1**
comp=Z,17nm,0.9s,mb4.9
SONM Songino Array 47.80 340 P **P** **15 03 44.3 0.0**
comp=Z,3.3nm,0.9s,mb4.2,baz=150,slow=8.0,SNR=14
GKN Gorkha 48.03 305 *e*P **P** **15 03 46.5 +0.1**
comp=Z,4.2nm,0.3s,mb4.7
KOLN Koldanda 48.80 304 *e*P **P** **15 03 52.9 +0.6**
comp=Z,12nm,0.5s,mb5.0
MKAR Makanchi Array 58.44 325 P **P** **15 05 02.8 -0.1**
comp=Z,4.5nm,0.4s,mb4.9,baz=111,slow=7.9,SNR=95
ZAL Zalesovo 61.29 332 P **P** **15 05 20.9 -1.4**
comp=Z,0.8nm,0.6s,mb4.0,baz=270,slow=8.7,SNR=4.1
KURK Kurchatov 62.57 327 *e*P **P** **15 05 29.8 -1.2**
comp=Z,8.4nm,0.7s,mb4.8
BVAR Borovoye Array 68.16 327 P **P** **15 06 06.7 -0.1**
comp=Z,4.8nm,0.9s,mb4.3,baz=117,slow=6.6,SNR=18
BRVK Borovoye 68.23 327 *e*P **P** **15 06 06.9 -0.3**
comp=Z,6.7nm,0.8s,mb4.5
ZRNK Zerenda 68.90 326 *e*P **P** **15 06 10.9 -0.5**
comp=Z,4.9nm,0.5s,mb4.6
IMA Indian Mountai 81.74 24 *e*P **P** **15 07 25.3 +1.1**
comp=Z,12nm,0.8s,mb4.8
MAW Mawson 84.31 201 P **P** **15 07 40.7 +3.6**
comp=Z,1.2nm,0.8s,mb3.8,baz=350,slow=12,SNR=2.6
ILAR Eielson Array 84.42 25 P **P** **15 07 38.4 +0.6**
comp=Z,1.3nm,0.8s,mb3.8,baz=251,slow=5.5,SNR=13
ARCES ARCESS Array B 90.97 340 P **P** **15 08 08.4 -0.8**
comp=Z,4.8nm,0.8s,mb4.7,baz=80,slow=5.5,SNR=5.8

IDC 06 15:26:40.4±3.2**, 32.47S**×**178.42W, mb3.7**/3**, mb1 3.9**/4**, mb1mx3.8**/12**, ML3.3**/1**, Error ellipse: s-maj=69.8km s-min=37.2km az=113.0, South of Kermadec Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
URZ Urewera 6.84 211 Pn Pn 15 28 21.6 -2.9
0.6nm,0.3s,baz=288,slow=22,SNR=3.2
URZ Sn Sn 15 29 38.8 -5.2
1.2nm,0.3s,baz=191,slow=22,SNR=8.3
ASAR Alice Springs 42.69 269 P P 15 34 39.2 -1.5
0.5nm,0.7s,baz=111,slow=8.1,SNR=6.1
WB2 Warramunga Arr 43.85 275 *e*P P 15 34 48.4 -1.9
WRA Warramunga Arr 43.86 275 P P 15 34 48.5 -1.8
0.7nm,0.5s,baz=113,slow=7.9,SNR=24
FITZ Fitzroy Crossi 52.03 272 P P 15 35 52.4 -1.8
1.5nm,0.8s,baz=81,slow=13,SNR=2.1
FINES FINESS Array B 146.94 339 PKPbc PKPbc 15 46 23.1 -0.5
4.1nm,1.1s,baz=63,slow=4.3,SNR=4.6

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*NAO **06** 15:39:43.1±1.5, 67.18N×20.73E, ML2.7*
*CSEM **06** 15:39:44.3±0.2, 67.27N×20.64E, h2km, ML3.2/2, Error ellipse: s-maj=4.0km s-min=2.7km az=105.0, Mining explosion.*
*BER **06** 15:39:44.5±3.0, 67.23N×20.55E, ML2.0, ML2.7(NAO), Suspected explosion*
HEL 06 15:39:43.4±0.1**, 67.21N**×**20.74E, ML2.2, ML2.2**(BER)**, ML2.7**(NAO)**, Explosion, Sweden**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KIF Kilpisjarvi 1.80 1 *e*P Pn 15 40 14.9 -1.1
KIF *e*S Sn 15 40 38.6 -1.2
KIF Kilpisjarvi 1.80 1 P Pn 15 40 14.8 -1.2
KIF S Sn 15 40 38.6 -1.3
KTK1 Kautokeino 2.04 26 *e*P Pn 15 40 19.5 +0.2
KTK1 *e*SG Sg 15 40 46.4 -4.8
KTK1 AML AML 15 40 49.3
comp=Z,37nm,0.4s
KTK1 Kautokeino 2.04 26 P Pn 15 40 19.5 +0.2
KTK1 Sg Sg 15 40 46.3 -4.9
comp=Z,37nm,0.4s
SGF Sodankyl 2.25 81 *e*P Pn 15 40 21.6 -0.9
SGF *e*S Sn 15 40 49.8 -1.6
SGF *e*SG Sg 15 40 52.4 -6.0
SGF MSG 15 40 55.2
comp=Z,12nm,0.4s
TRO Tromso 2.52 345 *e*SG Sg 15 41 01.1 -6.3
MOR8 Moi Rana 2.71 250 *e*SG Sg 15 41 02.0 -12
MOR8 AML AML 15 41 03.7
comp=Z,20nm,0.4s
MELS Mels 2.77 266 *e*Sg Sg 15 41 08.2 -7.6
LOF Lofoten 2.90 292 *e*SG Sg 15 41 13.1 -6.8
LOF AML AML 15 41 27.4
comp=Z,8.1nm,0.5s
LOF Lofoten 2.90 292 *e*Sg Sg 15 41 13.1 -6.8
comp=Z,8.1nm,0.5s,SNR=90
ARA0 ARCESS Array S 2.93 35 Pn Pn 15 40 31.0 -1.0
baz=212,slow=16
ARA0 Sn Sn 15 41 07.1 -1.4
baz=217,slow=28
ARA0 ARCESS Array S 2.93 35 *e*P Pn 15 40 31.0 -1.0
ARA0 *e*S Sn 15 41 07.1 -1.4
OUL Oulu 2.99 133 *e*SB Sb 15 41 12.8 -1.9
OUL MSG 15 41 16.4
comp=Z,7.9nm,0.4s
MSF Maaselka 3.56 108 *e*SG Sg 15 41 32.8 -9.2
MSF MSG 15 41 36.3
comp=Z,5.5nm,0.4s
KJN Kajaani 4.26 134 *e*SG Sg 15 41 54.4 -11
KJN MSG 15 41 57.8
comp=Z,3.3nm,0.4s
NSS Namsos 4.50 237 *e*SG Sg 15 42 03.0 -10
FIA0 FINESS Array S 6.24 156 Pn Pn 15 41 16.3 -2.6
baz=343,slow=11
FIA0 Sn Sn 15 42 26.1 -5.8
baz=350,slow=28
FIA0 Lg 15 42 57.0
baz=344,slow=28
FIA0 FINESS Array S 6.24 156 *e*P Pn 15 41 16.3 -2.6
FIA0 *e*S Sn 15 42 26.1 -5.8
FIA0 *e*SG 15 42 57.0
HFS Hagfors 7.76 207 Pn Pn 15 41 35.6 -4.7
baz=26,slow=14
HFS Sn Sn 15 43 01.0 -9.0
baz=23,slow=28
HFS Hagfors 7.76 207 *e*P Pn 15 41 35.6 -4.7
HFS *e*S Sn 15 43 01.0 -9.0

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*NEIC **06** 15:45:19.7, 32.74S×71.68W, h16km, ML3.0(GUC), After GUC.*
GUC 06 15:45:19.7±0.8**, 32.74S**×**71.68W, h16**km±15km**, MD3.5, ML3.0, 6C-2D, Near coast of central Chile**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PACH Papudo 0.29 46⇓*i*P Pb 15 45 26.1 +0.1
PACH *i* S Sb 15 45 31.3 +1.0
LCCH Las Cruces 0.74 173⇑*i*P Pb 15 45 33.3 -0.5
LCCH *i* S Sb 15 45 43.6 +0.1
JACH Jahuel 0.92 87⇑*i*P Pb 15 45 35.8 -0.9
PEL Peldehue 0.93 116 *i* P Pb 15 45 37.4 +0.3
PEL *i* S Sb 15 45 50.2 +1.3
RCDM Rinconada Maip 1.05 136 *e*P Pb 15 45 38.4 -0.7
RCDM *e*S Sb 15 45 52.4 0.0
RCDM AMP 15 45 58.1
comp=E,530nm,0.2s
TACH Talagante 1.11 146⇑*i*P Pb 15 45 39.4 -0.6
TACH *i* S Sb 15 45 53.4 -0.6
CLCH Cerro Calan 1.17 125⇑*i*P Pb 15 45 40.1 -0.9
CLCH *i* S Sb 15 45 56.0 +0.3
CLCH AMP 15 45 58.1
comp=N,496nm,0.4s
CLCH AMP 15 46 02.3
comp=E,574nm,0.4s
ANTU Antumapu 1.21 134 *e*P Pb 15 45 40.8 -1.0
ANTU AMP 15 46 00.2
comp=E,350nm,0.5s
LNV Longovilo 1.24 170⇑*i*P Pb 15 45 40.6 -1.6
LNV *i* S Sb 15 45 57.0 -0.8
FCH Farellones 1.31 117⇓*i*P Pb 15 45 42.6 -0.8
FCH *i* S Sb 15 46 00.5 +0.7
FCH AMP 15 46 01.5
comp=E,433nm,0.2s
PCH Pirque 1.32 132 *e*P Pb 15 45 43.0 -0.6
CHCH Chadas Angostu 1.47 144 *e*P Pn 15 45 45.5 -0.3
CACH El Canelo 1.65 147 *e*P Pn 15 45 48.7 +0.3
CMCH Combarbala 1.66 21 *e*P Pn 15 45 46.9 -1.6
CMCH *i* S Sn 15 46 08.0 -1.6
CMCH AMP 15 46 10.7
comp=E,1µm,0.4s
LMEL Las Melosas 1.66 132 *e*P Pn 15 45 48.4 -0.1
LMEL *i* S Sn 15 46 11.2 +1.6
LMEL AMP 15 46 16.2
comp=N,439nm,0.2s
CICH Cipreses 1.90 147⇑*i*P Pn 15 45 51.8 -0.1
SFDO San Fernando 1.96 164 *i* P Pn 15 45 52.1 -0.6
TLL Tololo Astrono 2.67 17 *e*P Pn 15 46 03.6 +0.7
TLL AMP 15 46 48.2
comp=N,120nm,0.5s

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*BJI **06** 15:59:07.0, 40.05N×105.82E, h13km, ML4.0, Ms3.5, Msz3.5*
*IDC **06** 15:59:08.4±1.1, 39.95N×105.89E, mb3.5/4, mb1 3.7/7, mb1mx3.5/22, ML3.5/3, Error ellipse: s-maj=37.3km s-min=16.9km az=72.0*
*NEIC **06** 15:59:09.7±0.9, 39.95N×105.87E, h10km, mb3.9/5, Error ellipse: s-maj=18.6km s-min=12.4km az=91.0*
ISC 06 15:59:06.4±0.5**, 40.07N**±0.05×**105.91E**±0.06**, h10**km**, n17, σ1.39**/28**, mb3.7**/7**, Western Nei Mongol**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
BTO Baotou 3.19 79 *e*P **Pn** **16 00 03.0 +5.4**
BTO *e*PG **Pg** **16 00 08.2 -1.8**
BTO S **Sn** **16 00 36.2 +0.2**
BTO SG **Sg** **16 00 43.0 -9.5**
BTO Smax
comp=N,274nm,0.4s
BTO Smax
comp=E,140nm,0.5s
LZH Lanzhou 4.30 203 P **Pn** **16 00 15.3 +1.8**
LZH PG **Pg** **16 00 22.5 -10**
LZH S **Sn** **16 01 03.4 -0.9**
LZH SG **Sg** **16 01 16.6 -13**
LZH Smax
comp=N,710nm,0.6s
LZH Smax
comp=E,680nm,0.7s
LZH LR LR
comp=E,1µm,6.0s
LZH LR LR
comp=Z,530nm,6.6s
GTA Gaotai 4.75 264 P **Pn** **16 00 19.7 -0.1**
GTA PG **Pg** **16 00 33.3 -7.9**
GTA S **Sn** **16 01 14.3 -1.3**
GTA SG **Sg** **16 01 35.7 -8.8**
GTA Smax
comp=N,207nm,0.9s
GTA Smax
comp=E,73nm,0.8s
GTA LR LR
comp=N,312nm,11.4s
GTA LR LR
comp=E,140nm,4.6s
GTA LR LR
comp=Z,55nm,5.7s
SONM Songino Array 7.77 2 Pn **Pn** **16 01 02.9 +0.6**
comp=Z,0.7nm,0.3s,baz=184,slow=14,SNR=20
SONM Pg **Pg** **16 01 32.2 -9.3**
comp=Z,1.4nm,0.3s,baz=185,slow=18,SNR=6.8
SONM Sn **Sn** **16 02 28.7 -2.5**
comp=Z,2.0nm,0.3s,baz=190,slow=21,SNR=4.2
SONM Lg 16 03 18.5
comp=Z,3.6nm,0.3s,baz=185,slow=27,SNR=7.2
MKAR Makanchi Array 18.39 299 P **P** **16 03 23.5 +0.4**
comp=Z,0.1nm,0.3s,baz=101,slow=12,SNR=7.2
ZAL Zalesovo 19.89 321 P **P** **16 03 41.8 +1.2**
comp=Z,0.2nm,0.3s,baz=99,slow=4.3,SNR=2.2
GUN Gumba 20.52 240 *e*P **P** **16 03 46.4 -1.0**
comp=Z,12nm,0.6s
KKN Kakani 20.99 241 *e*P **P** **16 03 51.1 -1.2**
comp=Z,8.5nm,0.7s
PKI Pulchoki 21.05 240 *e*P **P** **16 03 49.1 -3.8**
comp=Z,18nm,1.1s,mb4.3
DMN Daman 21.23 241 *e*P **P** **16 03 53.7 -1.0**
GKN Gorkha 21.29 242 *e*P **P** **16 03 57.5 +2.2**
KURK Kurchatov 21.80 308 *e*P **P** **16 04 02.5 +2.1**
comp=Z,4.5nm,1.1s,mb3.8
KOLN Koldanda 22.14 243 *e*P **P** **16 04 06.6 +2.7**
comp=Z,7.9nm,0.8s,mb4.2
CMAR Chiang Mai Arr 22.36 198 P **P** **16 04 05.6 -0.5**
comp=Z,0.7nm,1.0s,mb3.0,slow=6.3,SNR=3.3
BVAR Borovoye Array 27.34 310 P **P** **16 04 57.3 +4.1**
comp=Z,0.4nm,0.5s,mb3.2,baz=90,slow=13,SNR=3.6
WRA Warramunga Arr 65.33 150 P **P** **16 09 51.9 +0.9**
comp=Z,0.2nm,0.4s,mb3.5,baz=338,slow=7.4,SNR=5.7
ASAR Alice Springs 68.57 152 P **P** **16 10 12.5 +0.9**
comp=Z,0.5nm,0.5s,mb3.7,baz=339,slow=5.9,SNR=7.1

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*NAO **06** 15:59:40.4±3.0, 67.16N×20.68E, ML2.1*
*BER **06** 15:59:42.5±3.9, 67.22N×20.58E, ML1.8, ML2.1(NAO), Suspected explosion*
HEL 06 15:59:40.9±0.1**, 67.18N**×**20.68E, ML2.1**(BER)**, ML2.1**(NAO)**, Explosion, Sweden**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KIF Kilpisjarvi 1.83 1 *e*P Pn 16 00 13.7 -0.1
KIF *e*S Sn 16 00 37.8 -0.3
KTK1 Kautokeino 2.07 26 *e*P Pn 16 00 17.8 +0.4
KTK1 *e*SG Sg 16 00 44.6 -5.3
KTK1 AML AML 16 00 46.4
comp=Z,17nm,0.4s
SGF Sodankyl 2.28 81 *e*P Pn 16 00 19.7 -0.6
SGF *e*S Sn 16 00 48.2 -1.4
SGF *e*SG Sg 16 00 51.1 -5.8
TRO Tromso 2.54 346 *e*SG Sg 16 00 59.2 -6.4
MOR8 Moi Rana 2.68 251 *e*SG Sg 16 00 58.8 -11
MOR8 AML AML 16 01 01.4
comp=Z,8.9nm,0.4s
MELS Mels 2.75 267 *e*Sg Sg 16 01 07.2 -5.2
LOF Lofoten 2.89 293 *e*SG Sg 16 01 12.2 -4.9
ARA0 ARCESS Array S 2.96 35 Pn Pn 16 00 29.1 -1.0
baz=213,slow=14
ARA0 Sn Sn 16 01 04.7 -2.2
baz=214,slow=22
ARA0 ARCESS Array S 2.96 35 *e*P Pn 16 00 29.1 -1.0
ARA0 *e*S Sn 16 01 04.7 -2.2
FIA0 FINESS Array S 6.22 155 *e*S Sn 16 02 23.6 -5.4
FIA0 *e*SG 16 02 54.3
FIA0 FINESS Array S 6.22 155 Sn Sn 16 02 23.6 -5.4
baz=347,slow=28
FIA0 Lg 16 02 54.3
baz=346,slow=28
HFS Hagfors 7.72 207 *e*S Sn 16 02 58.1 -8.4
HFS Hagfors 7.72 207 Sn Sn 16 02 58.1 -8.4
baz=38,slow=22

DJA 06 16:03:20.8±1.0**, 9.53S**×**114.10E, h2**km**, MD5.3**/4**, ML3.7**/3**, 5C-1D, Error ellipse: s-maj=24.1km s-min=13.1km az=35.0, South of Bali**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SRDI Scrawed 1.05 2⇓*i*Pn Pn 16 03 38.6 -3.8
69nm,0.2s
SRDI ⇑*i*Sn Sn 16 03 52.4 -5.4
KELI Kelakatan 1.36 16⇑*i*Pn Pn 16 03 44.0 -2.9
62nm,0.3s
KELI ⇑*i*Sn Sn 16 04 00.9 -4.9
RATI Rata 1.62 60⇑*i*Pn Pn 16 03 47.7 -2.9
101nm,0.2s
RATI ⇑*i*Sn Sn 16 04 06.2 -6.2

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*NEIC **06** 16:06:21.7±1.0, 14.49N×147.19E, h10km, mb4.6/1, Error ellipse: s-maj=22.3km s-min=12.1km az=86.0*
*IDC **06** 16:06:27.5±1.6, 14.60N×147.34E, h57km±5km, mb3.6/9, mb1 3.7/9, mb1mx3.6/20, Error ellipse: s-maj=55.4km s-min=15.3km az=86.0*
ISC 06 16:06:24.4±3.9**, 14.6N**±0.1×**147.3E**±0.4**, h46**km±23km**, h58**km±2.8km**:pP-P, n17, σ0.57**/15**, mb3.9**/10**, 1C, Mariana Islands region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SAPN Saipan 1.59 294⇑*i*P **P** **16 06 50.8 0.0**
GUMO Guam 2.52 248 *e*P **P** **16 06 59.5 -4.4**

SARN	Sarigan	2.56	326	eP	P	16 07 04.7	+0.2
WRA	Warramunga Arr	36.58	201	P	P	16 13 28.7	+0.6
	0.5nm,0.8s,mb3.4,baz=24,slow=9.0,SNR=4.6						
WRA				pP	pP	16 13 43.4	+2.9
	1.0nm,1.0s,baz=28,slow=9.7,SNR=4.2						
FITZ	Fitzroy Crossi	38.84	214	P	P	16 13 47.5	+0.6
	2.0nm,0.8s,mb3.9,baz=130,slow=9.0,SNR=2.4						
ASAR	Alice Springs	40.18	199	P	P	16 13 57.1	-0.9
	0.2nm,0.8s,mb2.9,baz=18,slow=8.6,SNR=2.9						
ASAR				pP	pP	16 14 14.2	+3.5
	0.3nm,0.6s,baz=18,slow=8.6,SNR=3.0						
ASAR	Alice Springs	40.18	199	P	P	16 13 57.1	-0.9
ASAR				pP	pP	16 14 14.2	+3.5
CMAR	Chiang Mai Arr	46.38	282	P	P	16 14 48.5	+0.1
	0.5nm,0.7s,mb3.6,baz=75,slow=6.3,SNR=4.1						
CMAR				pP	pP	16 15 03.9	+2.8
	0.4nm,0.5s,baz=90,slow=5.4,SNR=2.5						
SONM	Songino Array	47.31	323	P	P	16 14 55.3	0.0
	0.5nm,0.5s,mb3.7,baz=137,slow=8.7,SNR=6.2						
SONM				pP	pP	16 15 10.9	+2.9
	0.6nm,0.5s,baz=128,slow=7.1,SNR=5.1						
ZAL	Zalesovo	62.21	324	P	P	16 16 42.8	-0.7
	0.7nm,0.3s,mb4.2,baz=246,slow=7.6,SNR=2.4						
MKAR	Makanchi Array	62.41	315	P	P	16 16 45.2	+0.2
	1.9nm,0.4s,mb4.6,baz=92,slow=8.3,SNR=39						
MKAR				pP	pP	16 17 00.3	+2.1
	1.3nm,0.5s,baz=91,slow=8.6,SNR=5.8						
MKAR	Makanchi Array	62.41	315	P	P	16 16 45.2	+0.2
MKAR				pP	pP	16 17 00.3	+2.1
KURK	Kurchatov	65.35	319	eP	P	16 17 03.9	-0.1
	1.9nm,0.5s,mb4.4						
BVAR	Borovoye Array	70.61	321	P	P	16 17 37.2	+0.4
	0.6nm,0.4s,mb3.9,baz=107,slow=7.2,SNR=7.9						
FINES	FINESS Array B	91.24	336	P	P	16 19 25.6	-0.2
	2.6nm,1.1s,mb4.5,baz=197,slow=26,SNR=3.7						
FINES				pP	pP	16 19 41.0	+1.3
	0.6nm,0.6s,baz=189,slow=37,SNR=1.5						
DBIC	Dimbokro	145.22	305	PKPbc	PKPbc	16 26 00.6	+2.1
	3.3nm,0.7s,baz=93,slow=7.2,SNR=6.1						
DBIC				pPKPbc		16 26 15.6	
	1.2nm,0.5s,baz=89,slow=18,SNR=1.2						
DBIC	Dimbokro	145.22	305	PKPbc	PKPbc	16 26 00.6	+2.1
DBIC				pPKPbc		16 26 15.6	

MAN 06 16:20:46.4, 18.06N×120.83E, h4^{km}, mb3.9, ML2.7, MS2.4, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PIP	Pasuquin	0.33	323	⇓iP	Pg	16 20 53.6	+0.6
PIP				i S	Sg	16 21 00.5	+3.0
ABRA	Dolores	0.42	196	eP	Pg	16 20 54.3	-0.6
ABRA				eS	Sg	16 21 00.7	+0.2
APYP	Conner	0.44	116	eP	Pg	16 20 55.7	+0.6
APYP				eS	Sg	16 21 03.4	+2.4
CVP	Callao Caves	1.01	110	eP	Pb	16 21 04.5	-1.5
CVP				eS	Sb	16 21 20.0	+0.6
SGCP	Mt. Cagua	1.17	81	eP	Pb	16 21 08.0	-0.8
SGCP				eS	Sb	16 21 23.7	-0.4
CAUP	Cauayan	1.46	139	eP	Pn	16 21 13.4	-0.1
CAUP				eS	Sb	16 21 35.0	+2.5

IDC 06 16:24:05.7±2.9, 32.52S×178.23W, mb4.0/4, mb1 4.1/5, mb1mx4.0/14, ML3.7/1, MS3.4/1, Ms1 3.4/1, ms1mx2.9/14, Error ellipse: s-maj=62.3km s-min=35.9km az=114.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	6.88	212	Pn	Pn	16 25 48.0	-2.3
	1.3nm,0.3s,baz=148,slow=11,SNR=6.3						
URZ				Sn	Sn	16 27 05.1	-5.1
	4.4nm,0.3s,baz=194,slow=22,SNR=12						
RPZ	Rata Peaks	13.99	214	LR	LR	16 32 46.2	
	comp=Z,159nm,21.4s,baz=327,slow=37						
CTA	Charters Tower	34.00	282	P	P	16 30 53.3	0.0
	1.3nm,0.5s,baz=159,slow=8.6,SNR=3.7						
ASAR	Alice Springs	42.84	269	P	P	16 32 05.5	-1.8
	0.7nm,0.6s,baz=110,slow=7.6,SNR=14						
WB2	Warramunga Arr	44.01	274	eP	P	16 32 14.7	-2.1
WRA	Warramunga Arr	44.02	274	P	P	16 32 14.8	-2.1
	1.9nm,0.8s,baz=112,slow=8.0,SNR=38						
FITZ	Fitzroy Crossi	52.19	272	P	P	16 33 17.6	-2.9
	3.3nm,1.2s,baz=177,slow=11,SNR=2.5						
FINES	FINESS Array B	147.05	339	PKPbc	PKPdf	16 43 48.9	-0.5
	1.2nm,0.5s,baz=63,slow=4.3,SNR=7.1						

IDC 06 16:28:31.1±0.7, 2.30N×96.18E, mb4.2/15, mb1 4.3/16, mb1mx4.1/23, ML4.1/1, Error ellipse: s-maj=29.5km s-min=13.3km az=52.0
NEIC 06 16:28:32.8±0.4, 2.24N×96.20E, h10^{km}, mb4.5/5, Error ellipse: s-maj=12.6km s-min=6.7km az=51.0
ISC 06 16:28:34.5±0.6, 2.30N±0.09×96.28E±0.10, h33^{km}, n25, σ0^{s}75/25, mb4.3/20, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IPM	Ipoh	5.25	64	⇑eP	P	16 29 52.5	-0.1
	24nm,0.5s						
CMAR	Chiang Mai Arr	16.27	9	Pn	P	16 32 23.4	+1.2
	0.3nm,0.3s,baz=200,slow=11,SNR=24						
PKI	Pulchoki	27.20	339	eP	P	16 34 19.3	+1.9
	10nm,0.6s,mb4.5						
GUN	Gumba	27.34	340	eP	P	16 34 18.1	-0.6
	14nm,0.5s,mb4.8						
DMN	Daman	27.34	338	eP	P	16 34 19.7	+0.9
	12nm,0.7s,mb4.5						
KKN	Kakani	27.44	338	eP	P	16 34 19.3	-0.4
	18nm,0.8s,mb4.7						
GKN	Gorkha	27.88	338	eP	P	16 34 23.2	-0.4
KOLN	Koldanda	28.08	336	eP	P	16 34 25.3	-0.1
	13nm,0.8s,mb4.6						
FITZ	Fitzroy Crossi	35.31	126	P	P	16 35 28.1	-0.7
	2.6nm,1.1s,mb4.1,baz=11,slow=10,SNR=3.3						
WRA	Warramunga Arr	43.39	122	P	P	16 36 36.5	+0.4
	1.0nm,0.8s,mb3.6,baz=301,slow=9.2,SNR=9.0						
ASAR	Alice Springs	44.79	127	P	P	16 36 47.4	+0.2
	0.3nm,0.4s,mb3.5,baz=290,slow=7.3,SNR=14						
MKAR	Makanchi Array	45.96	347	P	P	16 36 55.7	-0.7
	5.2nm,0.5s,mb4.7,baz=161,slow=8.8,SNR=59						
MKAR	Makanchi Array	45.96	347	P	P	16 36 55.7	-0.7
SONM	Songino Array	46.19	9	P	P	16 36 57.5	-0.6
	1.7nm,0.4s,mb4.3,baz=191,slow=9.4,SNR=39						
SONM				PcP	PcP	16 38 34.1	+0.1
	0.4nm,0.4s,baz=195,slow=3.0,SNR=3.9						
PMG	Port Moresby	52.00	104	P	P	16 37 42.6	-0.7
	10nm,0.8s,mb4.8,baz=340,slow=5.7,SNR=3.1						
ZAL	Zalesovo	52.33	351	P	P	16 37 44.2	-0.9
	4.9nm,0.5s,mb4.7,baz=220,slow=5.5,SNR=16						
CTA	Charters Tower	53.81	117	P	P	16 37 57.3	+0.6
	1.9nm,0.8s,mb4.1,baz=230,slow=7.2,SNR=2.6						
STKA	Stephens Creek	54.77	132	P	P	16 38 04.3	+0.7
	0.6nm,0.3s,mb4.1,baz=286,slow=20,SNR=2.9						
BVAR	Borovoye Array	54.92	341	P	P	16 38 03.0	-1.3
	2.0nm,0.5s,mb4.4,baz=144,slow=10,SNR=8.4						
FINES	FINESS Array B	78.61	333	P	P	16 40 34.1	-0.3
	1.4nm,1.0s,mb3.9,baz=101,slow=9.7,SNR=3.9						
SUR	Sutherland	79.00	237	P	P	16 40 36.9	-0.3
	7.6nm,0.8s,mb4.7,baz=320,slow=13,SNR=2.3						
ARCES	ARCESS Array B	81.20	340	P	P	16 40 48.5	+0.3
	9.6nm,1.2s,mb4.6,baz=90,slow=4.9,SNR=9.5						
ARCES	ARCESS Array B	81.20	340	P	P	16 40 48.5	+0.3
GERES	GERESS Array B	83.39	319	P	P	16 40 59.9	+0.1
	0.2nm,0.3s,mb3.6,baz=90,slow=5.9,SNR=3.4						
DAVOX	Davos	85.87	317	P	P	16 41 13.4	+1.1
	1.8nm,0.8s,mb4.3,baz=333,slow=23,SNR=2.8						

DJA 06 16:33:40.2±0.9, 8.26S×116.86E, h310^{km}±8^{km}, MD4.6/4, ML4.5/3, Error ellipse: s-maj=94.6km s-min=21.3km az=5.0
IDC 06 16:33:44.2±2.9, 7.61S×117.17E, h335^{km}±33^{km}, mb3.4/7, mb1 3.6/8, mb1mx3.4/17, Error ellipse: s-maj=69.8km s-min=9.7km az=52.0
NEIC 06 16:33:46.5±3.5, 8.02S×116.74E, h374^{km}±44^{km}, mb4.1/5, Error ellipse: s-maj=36.2km s-min=15.8km az=49.0
ISC 06 16:33:39.7±0.7, 7.8S±0.1×116.8E±0.1, h305^{km}±9^{km}, n21, σ1^{s}01/28, mb3.7/7, 2C-5D, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	Kedomdong	0.93	224	ePn	P	16 34 20.8	+0.3
	360nm,0.2s						
KEDI				⇓eSn	S	16 34 51.7	-0.8
RATI	Rata	1.52	233	⇑ePn	P	16 34 24.3	+0.5
	475nm,0.2s						
RATI				⇓iSn	S	16 34 56.7	-1.6
KELI	Kelakatan	2.29	260	⇑iPn	P	16 34 32.2	+2.6
	395nm,0.2s						
KELI				⇓iSn	S	16 35 08.3	-0.3
SRDI	Scrawed	2.68	256	⇓ePn	P	16 34 34.7	+1.5
	170nm,0.1s						
SRDI				⇓iSn	S	16 35 14.8	-0.1
FITZ	Fitzroy Crossi	13.38	141	eP	P	16 36 39.2	-0.9
	3.9nm,0.4s						
FITZ				eS	S	16 39 09.6	+6.4
FITZ	Fitzroy Crossi	13.38	141	P	P	16 36 39.4	-0.7
	1.4nm,0.3s,baz=345,slow=10.0,SNR=30						
FITZ				S	S	16 39 09.6	+6.4
	0.2nm,0.3s,baz=186,slow=17,SNR=4.2						
MBWA	Marble Bar	13.57	168	eP	P	16 36 42.7	+0.2
	6.5nm,0.9s						
KAKA	Kakadu	16.13	109	eP	P	16 37 13.4	+1.9
	5.5nm,0.6s						
WRA	Warramunga Arr	20.86	127	P	P	16 37 58.6	-0.6
	5.1nm,0.4s,baz=299,slow=12,SNR=34						
WRA				S	S	16 41 29.3	+0.5
	0.6nm,0.9s,baz=311,slow=16,SNR=2.6						
WRAB	Tennant Creek	20.87	127	P	P	16 37 58.0	-1.3
	98nm,0.5s,SNR=19						
WRAB	Tennant Creek	20.87	127	eP	P	16 37 58.8	-0.5
	14nm,0.6s						
WB2	Warramunga Arr	20.87	127	eP	P	16 37 58.7	-0.6
ASPA	Alice Springs	22.77	136	eP	P	16 38 18.6	+1.0
ASAR	Alice Springs	22.77	136	P	P	16 38 18.2	+0.6
	4.7nm,0.7s,mb4.0,baz=315,slow=8.8,SNR=48						
ASAR				PcP	PcP	16 41 59.2	-0.8
	0.4nm,0.6s,baz=316,slow=1.9,SNR=4.3						
CMAR	Chiang Mai Arr	31.48	326	P	P	16 39 37.2	+1.6
	0.8nm,0.4s,mb3.6,baz=156,slow=7.1,SNR=6.0						
STKA	Stephens Creek	33.28	139	P	P	16 39 50.6	-0.3
	3.4nm,1.1s,mb3.8,baz=304,slow=10,SNR=3.6						
SONM	Songino Array	56.16	352	P	P	16 42 49.6	-0.4
	1.7nm,0.6s,mb3.7,baz=170,slow=8.2,SNR=22						
MKAR	Makanchi Array	62.41	334	P	P	16 43 31.3	-1.2
	0.7nm,0.5s,mb3.6,baz=142,slow=5.8,SNR=10						
MKAR	Makanchi Array	62.41	334	P	P	16 43 31.3	-1.2
BVAR	Borovoye Array	72.22	333	P	P	16 44 32.6	-0.7
	0.6nm,0.5s,mb3.5,baz=140,slow=11,SNR=3.2						
ZRNK	Zerenda	72.81	332	eP	P	16 44 36.0	-0.8
	1.7nm,0.6s,mb3.9						

NEIC 06 16:52:59.9, 41.17S×175.07E, h8^{km}, ML3.7(WEL), After WEL.
NEIC Felt at Wellington and in the Hutt Valley.
WEL 06 16:52:59.9±0.0, 41.17S×175.07E, h9^{km}, ML3.7/12, 6C-5D, Error ellipse: s-maj=0.4km s-min=0.3km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAW	Cannon Point	0.06	2	P	Pg	16 53 01.8	0.0
CAW				S	Sg	16 53 03.5	+0.3
CAW	Cannon Point	0.06	2	PG	Pg	16 53 01.8	-0.1
CAW				SG	Sg	16 53 03.5	+0.3
WEL	Wellington	0.25	242	P	Pg	16 53 05.2	0.0
WEL	Wellington	0.25	242	⇓PG	Pg	16 53 05.2	0.0
WEL				SG	Sg	16 53 09.2	+0.4
BHW	Baring Head	0.28	211	P	Pg	16 53 05.4	-0.3
BHW	Baring Head	0.28	211	⇑PG	Pg	16 53 05.4	-0.3
BHW				SG	Sg	16 53 09.8	+0.1
MRW	Makara Radio	0.28	257	P	Pg	16 53 05.8	+0.1
MRW	Makara Radio	0.28	257	⇓PG	Pg	16 53 05.8	0.0
MRW				SG	Sg	16 53 09.8	+0.1
MSWZ	Moikau Station	0.28	151	P	Pg	16 53 05.9	+0.1
MSWZ	Moikau Station	0.28	151	⇓PG	Pg	16 53 05.9	+0.1
MSWZ				SG	Sg	16 53 10.5	+0.8
KIW	Kapiti Island	0.33	339	P	Pg	16 53 06.7	+0.1
KIW	Kapiti Island	0.33	339	PG	Pg	16 53 06.7	+0.1
KIW				SG	Sg	16 53 11.5	+0.5
MTW	Mount Morrison	0.33	89	P	Pg	16 53 06.7	+0.1
MTW	Mount Morrison	0.33	89	⇓PG	Pg	16 53 06.7	0.0
MTW				SG	Sg	16 53 11.9	+0.7
PAWZ	Paruwai Farm	0.35	129	⇓PG	Pg	16 53 07.0	0.0
PAWZ				SG	Sg	16 53 12.6	+0.9
MRZ	Mangatainoka R	0.64	38	P	Pg	16 53 11.8	-0.9
MRZ	Mangatainoka R	0.64	38	⇑PG	Pg	16 53 11.8	-0.9
MRZ				SG	Sg	16 53 20.6	-0.6
CMWZ	Cape Campbell	0.86	227	P	Pb	16 53 17.4	+0.8
CMWZ	Cape Campbell	0.86	227	eP*	Pb	16 53 17.4	+0.8
CMWZ				SG	Sg	16 53 29.2	+0.4
TUWZ	Tuamarina	0.89	252	P*	Pb	16 53 16.1	-0.8
TUWZ				SG	Sg	16 53 27.9	-1.5
BFZ	Birch Farm	1.02	62	P	Pb	16 53 19.3	+0.1
BFZ	Birch Farm	1.02	62	⇑P*	Pb	16 53 19.3	+0.1
BFZ				SG	Sg	16 53 33.9	+0.1
BSWZ	Blackbirch Sta	1.05	238	P	Pb	16 53 19.8	+0.1
BSWZ	Blackbirch Sta	1.05	238	P*	Pb	16 53 19.8	0.0
NNZ	Nelson	1.27	267	P	Pb	16 53 23.3	-0.3
NNZ	Nelson	1.27	267	P*	Pb	16 53 23.3	-0.2
NNZ				S*	Sb	16 53 40.3	+0.4
TSZ	Takapari Road	1.30	32	P	Pb	16 53 23.5	-0.5
TSZ	Takapari Road	1.30	32	P*	Pb	16 53 23.5	-0.5
TSZ				eS*	Sb	16 53 41.9	+1.3
WAZ	Wanganui	1.41	357	P	Pn	16 53 26.8	+1.0
WAZ	Wanganui	1.41	357	PN	Pn	16 53 26.8	+1.0
KHZ	Kahutara	1.69	222	P	Pn	16 53 28.5	-1.3
KHZ	Kahutara	1.69	222	⇑PN	Pn	16 53 28.5	-1.4
KHZ				eS*	Sb	16 53 49.7	-2.3
THZ	Tophouse	1.73	249	eP	Pn	16 53 29.8	-0.6
THZ	Tophouse	1.73	249	PN	Pn	16 53 29.8	-0.5
PWZ	Pawanui	1.78	51	PN	Pn	16 53 29.4	-1.6
MOVZ	Moawhango	1.83	17	P	Pn	16 53 32.1	+0.3
MOVZ	Moawhango	1.83	17	PN	Pn	16 53 32.1	+0.2
WNVZ	Wahianoa	1.88	13	P	Pn	16 53 33.3	+0.8
WNVZ	Wahianoa	1.88	13	PN	Pn	16 53 33.3	+0.8
DRZ	Dome Shelter	1.93	12	P	Pn	16 53 34.3	+1.1
DRZ	Dome Shelter	1.93	12	PN	Pn	16 53 34.3	+1.2
TUVZ	Tukino	1.95	14	P	Pn	16 53 34.4	+0.9
TUVZ	Tukino	1.95	14	PN	Pn	16 53 34.4	+0.9
QRZ	Quartz Range	1.95	279	PN	Pn	16 53 35.1	+1.6
WPVZ	Whakapapa	1.99	11	P	Pn	16 53 35.1	+1.0
WPVZ	Whakapapa	1.99	11	⇑PN	Pn	16 53 35.0	+0.9
CNZ	Chateau	2.00	11	P	Pn	16 53 35.3	+1.1
CNZ	Chateau	2.00	11	PN	Pn	16 53 35.3	+1.1
NGZ	Ngauruhoe	2.03	12	P	Pn	16 53 35.6	+1.0
NGZ	Ngauruhoe	2.03	12	PN	Pn	16 53 35.6	+1.0
VRZ	Vera Road	2.05	353	PN	Pn	16 53 36.0	+1.0
WTVZ	West Tongariro	2.09	11	PN	Pn	16 53 36.3	+0.9
TWVZ	Taurewa	2.11	8	PN	Pn	16 53 36.3	+0.5
PKE	Pukeiti	2.13	337	PN	Pn	16 53 38.2	+2.0
MGZ	Maungaku	2.19	10	P	Pn	16 53 37.6	+0.6
MGZ	Maungaku	2.19	10	PN	Pn	16 53 37.4	+0.4
KATZ	Kakaramea	2.24	13	PN	Pn	16 53 37.9	+0.2
RITZ	Rihia Road	2.27	16	PN	Pn	16 53 38.4	+0.3
BKZ	Black Stump Fm	2.28	29	P	Pn	16 53 36.8	-1.4
BKZ	Black Stump Fm	2.28	29	⇑PN	Pn	16 53 36.8	-1.4
RATZ	Rangitukua	2.36	14	PN	Pn	16 53 39.7	+0.3
WATZ	Wairara	2.51	12	PN	Pn	16 53 41.7	+0.2
DSZ	Denniston Nort	2.52	256	PN	Pn	16 53 40.9	-0.8
LTZ	Lake Taylor	2.64	231	eP	Pn	16 53 41.4	-2.0
LTZ	Lake Taylor	2.64	231	PN	Pn	16 53 41.3	-2.1
HIZ	Hauiti	2.65	356	P	Pn	16 53 44.5	+0.9
HIZ	Hauiti	2.65	356	PN	Pn	16 53 44.3	+0.7
MQZ	McQueen's Vall	3.10	214	PN	Pn	16 53 45.9	-4.1
MQZ				SN	Sn	16 54 20.4	-7.2
MWZ	Matawai	3.41	35	eP	Pn	16 53 50.5	-3.8
MWZ	Matawai	3.41	35	PN	Pn	16 53 50.5	-3.8
WVZ	Waitaha Valley	3.74	238	PN	Pn	16 53 56.4	-2.7
ODZ	Otahua Downs	5.05	218	ePN	Pn	16 54 13.0	-4.7

ISK 06 16:57:57.7, 37.75N×26.97E, h11^{km}, MD3.0
CSEM 06 16:57:57.8±0.1, 37.76N×26.99E, h11^{km}±1^{km}, MD3.0, Error ellipse: s-maj=3.1km s-min=2.2km az=79.0
ATH 06 16:57:58.2, 37.81N×26.90E, h10^{km}, MD3.2/3
ISC 06 16:57:58.0±0.7, 37.75N±0.03×26.95E±0.05, h6^{km}±5^{km}, n16, σ0^{s}68/24, 1C-1D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SMG	Samos	0.10	243	⇓iPG	Pg	16 58 01.0	+0.8
IZM	Izmir	0.69	21	i PG	Pg	16 58 11.4	-0.4
IZM				i SG	Sg	16 58 21.9	+0.9
KDAG	Bornova	0.70	21	i P	Pg	16 58 11.5	-0.5
KDAG				i S	Sg	16 58 21.6	+0.4
AYDN	Tasoluk	0.74	97	i P	Pg	16 58 12.8	-0.1
AYDN				i S	Sg	16 58 22.3	-0.6
BDRM	Kayabasi	0.79	150	i P	Pb	16 58 13.4	-0.3
BDRM				i S	Sg	16 58 25.1	+0.7
MLSB	Milas	0.80	124	i PG	Pg	16 58 13.5	-0.5
MLSB				i SG	Sg	16 58 24.5	-0.2
YER	Yerkesik	1.23	120	PN	Pn	16 58 20.8	-0.9
AKS	Akhisar	1.31	31	PN	Pn	16 58 22.4	-0.5
AKS				SN	Sn	16 58 40.7	-0.2
APE	Apeiranthos	1.32	239	ePB	Pb	16 58 23.1	+0.4
MANT	Manisa	1.47	59	⇑iP	Pn	16 58 26.5	+1.4
MANT				i S	Sb	16 58 44.3	+0.2
PRK	Paraskevi	1.58	341	ePB	Pb	16 58 26.7	-0.6
DENT	Denizli	1.65	89	PN	Pn	16 58 27.6	-0.1
DNZL	Cakiroluk	1.67	92	i P	Pn	16 58 28.0	+0.1
DNZL				i S	Sn	16 58 51.9	+2.1
DALT	Dalyan (Mudla)	1.67	126	PN	Pn	16 58 27.6	-0.3
KHL	Karahalli	2.11	74	PN	Pn	16 58 33.7	-0.6
DST	Dursunbey	2.27	35	PN	Pn	16 58 36.0	-0.6

NAO 06 17:03:55.9±1.4, 67.16N×20.83E, ML2.3
CSEM 06 17:03:56.9±0.3, 67.24N×20.82E, h2^{km}, ML2.5, Error ellipse: s-maj=10.2km s-min=6.5km az=91.0, Mining explosion.
BER 06 17:03:57.8±4.1, 67.19N×20.60E, ML2.2, ML2.3(NAO), Suspected explosion
HEL 06 17:03:56.0±0.1, 67.19N×20.70E, ML2.5(BER), ML2.3(NAO), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KIF	Kilpisjarvi	1.83	1	eP	Pn	17 04 28.4	-0.6
KIF				eS	Sn	17 04 52.5	-0.6
KIF	Kilpisjarvi	1.83	1	P	Pn	17 04 28.3	-0.6
KIF				S	Sn	17 04 52.5	-0.6
KTK1	Kautokeino	2.07	26	eP	Pn	17 04 32.3	0.0
KTK1				eS	Sn	17 04 58.7	-0.5
KTK1				AML	AML	17 05 01.4	
	comp=Z,40nm,0.4s						
KTK1	Kautokeino	2.07	26	P	Pn	17 04 32.3	-0.1
KTK1				S	Sn	17 04 58.6	-0.6
	comp=Z,40nm,0.4s						
SGF	Sodankyl	2.27	81	eP	Pn	17 04 35.0	-0.3
SGF				eS	Sn	17 05 03.2	-1.3
SGF				eSG	Sg	17 05 05.8	-5.9
TRO	Tromso	2.54	346	eSG	Sg	17 05 15.0	-5.7
MOR8	Moi Rana	2.69	251	eSG	Sg	17 05 14.3	-11
MOR8				AML	AML	17 05 17.9	
	comp=Z,26nm,0.4s						
MELS	Mels	2.75	266	eSg	Sg	17 05 22.2	-5.5
LOF	Lofoten	2.89	292	eSG	Sg	17 05 28.7	-3.7
ARA0	ARCESS Array S	2.96	35	Pn	Pn	17 04 43.6	-1.5
	baz=210,slow=16						
ARA0				Sn	Sn	17 05 19.3	-2.5
	baz=218,slow=28						
ARA0	ARCESS Array S	2.96	35	eP	Pn	17 04 43.6	-1.5
ARA0				eS	Sn	17 05 19.3	-2.5
ARA0	ARCESS Array S	2.96	35	Sn	Sn	17 05 19.3	-2.5
	SNR=0.1						
NSS	Namsos	4.47	237	eSG	Sg	17 06 16.6	-8.1
FIA0	FINESS Array S	6.22	155	Pn	Pn	17 05 28.4	-2.9
	baz=336,slow=12						
FIA0				Sn	Sn	17 06 38.4	-5.7
	baz=350,slow=28						
FIA0				Lg		17 07 09.3	
	baz=348,slow=28						
FIA0	FINESS Array S	6.22	155	eP	Pn	17 05 28.4	-2.9
FIA0				eS	Sn	17 06 38.4	-5.7
FIA0				eSG		17 07 09.3	
HFS	Hagfors	7.73	207	Pn	Pn	17 05 48.1	-4.4
	baz=356,slow=16						
HFS				Sn	Sn	17 07 12.7	-9.1
	baz=34,slow=22						
HFS				Lg		17 07 55.7	
	baz=27,slow=37						
HFS	Hagfors	7.73	207	eP	Pn	17 05 48.1	-4.4
HFS				eS	Sn	17 07 12.7	-9.1
HFS				eSG		17 07 55.7	

NEIC 06 17:03:58.8±2.5, 25.11S×179.83E, h486^{km}±29^{km}, mb4.3/12, Error ellipse: s-maj=19.3km s-min=12.5km az=185.0
IDC 06 17:03:59.6±1.7, 25.19S×179.88E, h498^{km}±17^{km}, mb3.6/11, mb1 3.8/13, mb1mx3.8/16, Error ellipse: s-maj=19.0km s-min=15.1km az=173.0
ISC 06 17:03:59.2±2.0, 25.2S±0.1×179.72E±0.08, h500^{km}±24^{km}, n47, σ0^{s}88/43, mb4.1/23, 7D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PUZ	Puketiti	12.87	185	P	P	17 06 46.5	-1.3
URZ	Urewera	13.19	189	P	P	17 06 50.0	-1.0
	1.4nm,0.3s,baz=56,slow=7.5,SNR=6.2						
URZ				S	S	17 09 15.7	+6.4
	1.9nm,0.3s,baz=29,slow=22,SNR=10						
BKZ	Black Stump Fm	14.17	190	P	P	17 07 01.5	+0.4
THZ	Tophouse	17.44	197	P	P	17 07 33.8	+0.1
KHZ	Kahutara	17.90	195	P	P	17 07 38.2	0.0
LTZ	Lake Taylor	18.56	197	P	P	17 07 44.4	-0.2
RPZ	Rata Peaks	19.77	199	P	P	17 07 56.2	+0.1
	2.0nm,0.3s,baz=130,slow=19,SNR=10						
CNB	Canberra Magne	27.99	242	eP	P	17 09 13.0	+2.6
	13nm,1.2s,mb4.2						
CTA	Charters Tower	31.26	273	⇓iP	P	17 09 39.8	+1.1
	10nm,0.3s,mb4.7						
CTA	Charters Tower	31.26	273	P	P	17 09 39.8	+1.2
	16nm,0.3s,mb4.9,baz=98,slow=10,SNR=55						
CTAO	Charters Tower	31.26	273	⇓eP	P	17 09 39.5	+0.8
	24nm,0.7s,mb4.7						
STKA	Stephens Creek	34.02	250	⇓iP	P	17 10 02.9	+1.1
	2.9nm,0.4s,mb4.1						
STKA	Stephens Creek	34.02	250	P	P	17 10 03.0	+1.2
	2.8nm,0.4s,mb4.1,baz=100,slow=12,SNR=16						
ASAR	Alice Springs	41.59	262	P	P	17 11 04.4	+0.5
	4.7nm,0.3s,mb4.3,baz=94,slow=7.1,SNR=408						
ASPA	Alice Springs	41.59	262	⇓iP	P	17 11 04.4	+0.4
ASPA				eS	S	17 16 43.3	-1.0
WB2	Warramunga Arr	42.07	268	⇓iP	P	17 11 07.7	-0.1
WB2				eS	S	17 16 50.2	-1.0
WRAB	Tennant Creek	42.08	268	P	P	17 11 07.3	-0.6
	119nm,0.4s,SNR=60						
WRAB	Tennant Creek	42.08	268	⇓eP	P	17 11 07.6	-0.3
	16nm,0.5s,mb4.7						
WRA	Warramunga Arr	42.09	268	P	P	17 11 07.7	-0.3
	9.4nm,0.3s,mb4.7,baz=100,slow=7.0,SNR=532						
WRA				ScP		17 15 54.2	
	2.4nm,0.9s,baz=104,slow=4.1,SNR=9.7						
FORT	Forrest	45.63	251	eP	P	17 11 34.9	-0.7
	65nm,0.9s,mb5.1						
KAKA	Kakadu	46.23	277	⇓iP	P	17 11 44.2	+3.8
	7.1nm,0.6s,mb4.3						
FITZ	Fitzroy Crossi	50.49	267	eP	P	17 12 12.1	-0.3
	6.3nm,0.5s,mb4.2						
SBA	Scott Base	53.05	183	eP	P	17 12 32.0	+1.8
	3.4nm,1.2s,mb3.5						
KLBR	Kellerberrin	54.26	248	eP	P	17 12 38.5	-0.9
	29nm,1.1s,mb4.5						
MBWA	Marble Bar	54.91	261	eP	P	17 12 42.5	-1.6
	2.8nm,0.4s,mb4.0						
MUN	Mundaring	55.49	247	eP	P	17 12 47.4	-0.6
	17nm,1.1s,mb4.3						
MAW	Mawson	76.43	201	P	P	17 14 57.9	+0.6
	0.3nm,0.4s,mb3.2,baz=85,slow=9.1,SNR=4.0						
MAW	Mawson	76.43	201	eP	P	17 14 58.4	+1.1
	1.5nm,0.6s,mb3.7						
USHA	Ushuaia	81.33	147	P	P	17 15 23.4	0.0
	3.8nm,0.8s,mb4.0,baz=55,slow=6.1,SNR=2.2						
YBH	Yreka Blue Hor	85.26	39	P	P	17 15 43.9	+0.7
	1.1nm,0.7s,mb3.6,baz=143,slow=9.6,SNR=4.0						
NVAR	Mina Array Bea	85.87	44	P	P	17 15 46.2	0.0
	1.8nm,0.8s,mb3.8,baz=230,slow=11,SNR=11						
NVAR	Mina Array Bea	85.87	44	P	P	17 15 46.2	-0.1
MNV	Mina	85.97	44	eP	P	17 15 46.0	-0.8
	3.3nm,1.0s,mb3.9						
TPNV	Topopah Spring	86.32	46	eP	P	17 15 47.4	-1.1
	5.2nm,1.0s,mb4.1						
TUC	Tucson	87.52	53	eP	P	17 15 55.0	+0.8
	4.4nm,0.9s,mb4.2						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ELK	Elko	89.14	44	P	P	17 16 01.4	-0.2
CMAR	Chiang Mai Arr	89.75	290	P	P	17 16 06.0	+1.1
	1.6nm,0.8s,mb3.9,baz=136,slow=3.7,SNR=12						
TMUT	Trail Mountain	90.93	46	eP	P	17 16 10.6	+0.8
TXAR	Lajitas Array	91.34	58	P	P	17 16 12.2	+0.2
	1.3nm,0.7s,mb4.0,baz=217,slow=6.3,SNR=7.3						
PDAR	Pinedale Array	93.81	44	P	P	17 16 21.9	-1.2
	0.4nm,0.5s,mb3.7,baz=225,slow=4.2,SNR=4.0						
BVAR	Borovoye Array	121.26	318	PKP	PKPdf	17 21 54.4	0.0
	0.3nm,0.3s,baz=90,slow=1.5,SNR=4.1						
ARCES	ARCESS Array B	133.12	348	PKP	PKPdf	17 22 15.8	-0.8
	5.0nm,1.0s,baz=45,slow=1.7,SNR=5.9						
ARCES				SKPbc		17 24 57.1	
	3.7nm,0.7s,baz=14,slow=5.0,SNR=6.3						
FINES	FINESS Array B	139.61	341	PKhKP		17 22 21.6	
	0.7nm,0.6s,baz=56,slow=6.9,SNR=5.1						
FINES				PKP	PKPdf	17 22 27.5	-1.1
	1.4nm,0.9s,SNR=4.5						
FINES				SKPbc		17 25 17.3	
	2.0nm,0.8s,baz=27,slow=3.1,SNR=5.9						
NOA	NORSAR Array B	143.34	351	PKP	PKPdf	17 22 33.5	-1.5
	0.6nm,0.6s,baz=7.2,slow=2.3,SNR=2.6						
AKASG	Malin Array Be	145.93	326	PKPbc	PKPbc	17 22 41.7	+0.4
	0.7nm,0.4s,baz=41,slow=4.5,SNR=10						
BRTR	Keskin Array B	148.15	305	PKPbc	PKPdf	17 22 49.6	+5.8
	0.8nm,0.8s,baz=119,slow=3.1,SNR=2.9						
EKA	Eskdalemuir Ar	149.84	3	PKPbc	PKPdf	17 22 51.1	+5.1
	5.3nm,1.1s,baz=360,slow=3.1,SNR=4.5						

*PRU **06** 17:30:18.8, 51.39N×16.15E*
*WAR **06** 17:30:18.3, 51.45N×16.16E, ML2.8, Mining Induced*
*NEIC **06** 17:30:19.2±2.0, 51.38N×16.00E, h5km, MG2.7(WAR), Error ellipse: s-maj=22.7km s-min=7.9km az=23.0*
ISC 06 17:30:15.5±0.8**, 51.47N**±0.04×**16.14E**±0.04**, n15,** σ1^s**05**/32**, 1D, Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.64	171	ePG	Pg	17 30 29.0	+0.9
KSP				eSG	Sg	17 30 38.0	+1.4
UPC	Upice	0.97	185	ePG	Pg	17 30 35.6	+0.8
UPC				eSG	Sg	17 30 48.0	+0.4
DPC	Dobruska-Polom	1.13	174	ePG	Pg	17 30 38.2	+0.2
DPC				eSG	Sg	17 30 52.9	-0.1
PVCC	Panska Ves	1.37	227	ePG	Pg	17 30 43.7	+0.9
PVCC				eSG	Sg	17 31 02.1	+1.1
BRG	Berggiesshubel	1.50	247	i Pg	Pg	17 30 45.9	+0.4
BRG				i Sg	Sg	17 31 06.3	+0.8
PRU	Pruhonice	1.80	215	PG	Pg	17 30 50.5	-0.8
PRU				i x	x	17 30 54.2	
PRU				eSG	Sg	17 31 14.8	-0.5
	25nm,0.4s						
MORC	Moravsky Berou	1.92	152	eP	Pn	17 30 50.4	+0.7
MORC				eP		17 31 16.7	
CLL	Collm	1.97	266	ePG	Pg	17 30 54.0	-0.8
CLL				eSG	Sg	17 31 22.0	+1.0
OKC	Ostrava-Krasne	2.08	141	ePG	Pg	17 30 56.3	-0.6
OKC				eSG	Sg	17 31 21.9	-2.7
OJC	Ojcow	2.64	117	ePG	Pg	17 31 08.0	-0.1
OJC				eSG	Sg	17 31 43.0	-0.3
OJC	Ojcow	2.64	117	ePg	Pg	17 31 08.1	0.0
OJC				eSg	Sg	17 31 43.3	0.0
OJC	Ojcow	2.64	117	ePg	Pg	17 31 08.1	0.0
OJC				eSg	Sg	17 31 43.3	0.0
OJC				⇓((			
NKC	Novy Kostel	2.65	244	ePN	Pn	17 31 01.2	+1.1
NKC				ePG	Pg	17 31 08.0	-0.3
NKC				eSG	Sg	17 31 43.5	0.0
KHC	Kasperske Hory	2.86	216	ePN	Pn	17 31 04.1	+1.0
KHC				ePG	Pg	17 31 10.0	-2.5
KHC				eSN	Sn	17 31 38.4	-0.4
KHC				eSG	Sg	17 31 47.7	-2.9
MOX	Moxa	2.97	256	ePg	Pg	17 31 14.1	-0.6
MOX				eSg	Sg	17 31 51.9	-2.4

*ATH **06** 17:39:35.9, 38.96N×22.02E, h28km±5km, MD3.1/7*
*NEIC **06** 17:39:35.9, 38.96N×22.02E, h28km, MD3.1(ATH), After ATH.*
*THE **06** 17:39:36.8, 39.05N×21.97E, h6km, ML3.1*
*CSEM **06** 17:39:36.6±0.1, 39.04N×21.98E, h15km, MD3.1, Error ellipse: s-maj=2.8km s-min=1.9km az=160.0*
ISC 06 17:39:36.1±0.6**, 39.04N**±0.04×**21.98E**±0.04**, h9**km±7km**, n12,** σ0^s**83**/17**, Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EVR	Evrytania	0.18	227	ePB	Pb	17 39 41.0	-0.1
AGG	Agios Georgios	0.28	94	ePg	Pg	17 39 42.4	+0.5
AGG				eSg	Sg	17 39 46.7	+1.0
MEV	Metsovon	0.94	322	ePg	Pg	17 39 54.3	-0.7
MEV				eSg	Sg	17 40 07.6	0.0
XOR	Xorichti	1.00	71	ePg	Pg	17 39 55.3	-0.8
XOR				eSg	Sg	17 40 09.8	+0.3
NEO	Neokhori	1.00	74	ePN	Pn	17 39 55.6	-0.6
JAN	Janina	1.07	306	ePN	Pn	17 39 59.0	+1.9
LKD	Levkas	1.09	253	ePg	Pg	17 39 57.1	-0.8
LKD				eSg	Sg	17 40 12.6	+0.2
LIT	Litokhoron	1.13	20	ePg	Pg	17 39 57.6	-1.1
LIT				eSg	Sg	17 40 14.4	+0.5
KZN	Kozani	1.27	353	ePN	Pn	17 40 00.5	+0.4
VLS	Valsamata	1.39	232	ePN	Pn	17 40 01.3	-0.4
PLG	Polygyros	1.75	40	ePN	Pn	17 40 05.5	-1.4
KEK	Kerkira	1.82	292	ePN	Pn	17 40 09.0	+1.2

*IDC **06** 17:52:00.2±0.7, 8.91S×76.00W, mb4.1/12, mb1 4.2/13, mb1mx4.1/20, ML3.5/1, MS3.4/4, Ms1 3.4/4, ms1mx3.2/21, Error ellipse: s-maj=37.3km s-min=15.6km az=62.0*
*NEIC **06** 17:52:06.4±1.2, 8.87S×75.92W, h44km±15km, mb4.0/3, Error ellipse: s-maj=21.3km s-min=10.4km az=72.0*
ISC 06 17:52:04.5±1.4**, 8.85S**±0.07×**75.9W**±0.1**, h42**km±14km**, n34,** σ0^s**94**/23**, mb4.1**/13**, MS3.4**/3**, Central Peru**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NNA	Nana	3.25	196	eP	P	17 52 54.6	+0.3
OTAV	Otavalo	9.37	344	eP	P	17 54 19.7	-0.2
	6.5nm,0.8s						
LPAZ	La Paz	10.60	135	Pn	P	17 54 35.6	-1.3
	0.1nm,0.3s,baz=321,slow=11,SNR=3.9						
LPAZ				Lg		17 57 38.4	
	0.4nm,0.3s,baz=205,slow=23,SNR=4.1						
LPAZ				LR	LR	17 59 15.1	
	comp=Z,139nm,20.6s,baz=320,slow=41						
LPAZ	La Paz	10.60	135	P	P	17 54 35.0	-2.0
	1.5nm,0.6s						
SAML	Samuel	12.58	91	eP	P	17 54 57.4	-6.3
	5.2nm,0.4s						
LVC	Limon Verde	15.25	155	eP	P	17 55 40.5	+1.7
	8.1nm,1.0s						
SDV	Santo Domingo	18.38	17	eP	P	17 56 18.6	+0.4
	4.7nm,0.5s						
CPUP	Villa Florida	24.77	137	LR	LR	18 08 35.5	
	comp=Z,64nm,19.7s,MS3.1,baz=76,slow=40						
BDFB	Brasilia	28.07	107	LR	LR	18 09 33.4	
	comp=Z,99nm,21.7s,MS3.4,baz=298,slow=37						
USHA	Ushuaia	46.25	174	P	P	18 00 26.7	-0.7
	1.6nm,0.7s,mb4.1,baz=280,slow=8.9,SNR=2.0						
TXAR	Lajitas Array	46.43	326	P	P	18 00 29.7	+0.5
	1.3nm,0.6s,mb4.0,baz=150,slow=9.1,SNR=6.7						
TUC	Tucson	52.74	323	P	P	18 01 17.6	-0.1
SADO	Sadowa	53.44	357	LR	LR	18 26 52.4	
	comp=Z,52nm,19.5s,MS3.6,baz=93,slow=39						
TCUT	Toone Canyon	59.48	329	eP	P	18 02 03.0	-2.7
DUG	Dugway	59.52	328	eP	P	18 02 06.8	+0.7
	3.4nm,0.8s,mb4.4						
PDAR	Pinedale Array	59.83	332	P	P	18 02 07.5	-0.6
	0.5nm,0.5s,mb3.8,baz=135,slow=6.3,SNR=3.9						
ULM	Lac du Bonnet	61.36	346	P	P	18 02 17.5	-1.0
	1.8nm,0.4s,mb4.6,baz=207,slow=5.2,SNR=3.0						
NVAR	Mina Array Bea	61.40	323	P	P	18 02 18.7	-0.2
	0.9nm,0.8s,mb4.0,baz=168,slow=6.9,SNR=5.3						
SCHQ	Schefferville	63.89	6	P	P	18 02 36.3	+1.1
	9.3nm,1.2s,mb4.7,baz=243,slow=9.9,SNR=2.8						
YBH	Yreka Blue Hor	66.10	323	P	P	18 02 48.8	-0.8
	0.5nm,0.3s,mb4.0,baz=68,slow=2.5,SNR=3.9						
DBIC	Dimbokro	72.48	80	P	P	18 03 29.1	-0.2
	4.2nm,0.9s,mb4.3,baz=257,slow=8.3,SNR=5.5						
DBIC	Dimbokro	72.48	80	eP	P	18 03 29.4	+0.1
	4.5nm,0.9s,mb4.4						
SNAA	Sanae	76.36	162	P	P	18 03 50.8	+0.1
	0.6nm,0.7s,mb3.6,baz=262,slow=4.3,SNR=12						
YKA	Yellowknife Ar	77.12	343	P	P	18 03 56.7	+1.6
	0.4nm,0.6s,mb3.5,baz=142,slow=5.8,SNR=3.0						
INK	Inuvik	86.84	342	P	P	18 04 45.2	-0.2
	1.4nm,0.4s,mb4.5,baz=220,slow=6.7,SNR=4.6						
ILAR	Eielson Array	89.99	336	P	P	18 05 01.1	+0.5
	0.3nm,0.5s,mb3.8,baz=118,slow=1.1,SNR=5.6						
STKA	Stephens Creek	125.92	220	PKP	PKPdf	18 11 04.4	+1.7
	5.7nm,1.2s,baz=6.0,slow=2.0,SNR=4.0						
ZAL	Zalesovo	132.43	15	PKP	PKPdf	18 11 17.2	+2.7
	1.0nm,0.4s,baz=207,slow=4.5,SNR=3.9						
ASAR	Alice Springs	136.48	221	PKP	PKPdf	18 11 24.8	+1.9
	0.5nm,0.6s,baz=121,slow=2.0,SNR=8.6						
MKAR	Makanchi Array	137.86	22	PKP	PKPdf	18 11 27.1	+2.3
	0.7nm,0.8s,baz=27,slow=2.7,SNR=4.0						
WB2	Warramunga Arr	138.69	226	eP	PKPdf	18 11 30.9	+3.9
WRA	Warramunga Arr	138.70	226	PKP	PKPdf	18 11 29.0	+2.0
	0.4nm,0.4s,baz=120,slow=2.1,SNR=18						
SONM	Songino Array	141.09	358	PKP	PKPdf	18 11 33.4	+2.9
	0.2nm,0.5s,baz=311,slow=1.2,SNR=3.2						
KAKA	Kakadu	144.65	233	eP	PKPbc	18 11 42.9	+5.4
	4.8nm,0.6s						

*NEIC **06** 18:12:31.2±0.6, 14.66N×147.31E, h10km, mb4.2/4, Error ellipse: s-maj=14.1km s-min=6.7km az=76.0*
*IDC **06** 18:12:38.5±0.8, 14.64N×147.12E, h59km±6km, mb3.9/14, mb1 4.0/14, mb1mx3.9/22, Error ellipse: s-maj=21.9km s-min=12.0km az=84.0*
ISC 06 18:12:33.7±1.6**, 14.62N**±0.06×**147.2E**±0.1**, h36**km±12km**, h60**km±1.3km**:pP-P, n36,** σ0^s**97**/31**, mb4.3**/22**, 2C-2D, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SAPN	Saipan	1.55	293⇑	iP	P	18 12 59.6	+0.3
ANA2	Anatahan	2.25	320⇓	eP	P	18 13 10.1	+0.7
ANAT	Anatahan	2.30	319	eP	P	18 13 10.2	+0.2
SARN	Sarigan	2.50	326⇑	eP	P	18 13 13.0	0.0
GUMO	Guam	2.51	246	eP	P	18 13 11.9	-1.1
JOW	Kunigami	21.46	307	P	P	18 17 21.3	+0.1
	42nm,1.0s,mb4.7,baz=122,slow=14,SNR=6.7						
MAJO	Matsushiro	23.27	341	P	P	18 17 37.0	-2.1
	2.6nm,0.5s,mb3.9						
ASAJ	Asahikawa	29.66	353	P	P	18 18 38.7	+0.4
	4.2nm,0.6s,mb4.3,baz=276,slow=7.6,SNR=4.3						
CTA	Charters Tower	34.50	182	P	P	18 19 20.9	+0.1
	1.1nm,0.4s,mb4.1,baz=15,slow=8.9,SNR=3.7						
WB2	Warramunga Arr	36.61	201	eP	P	18 19 38.1	-0.6
WRA	Warramunga Arr	36.61	201	P	P	18 19 38.5	-0.2
	1.5nm,0.5s,mb4.1,baz=20,slow=9.0,SNR=22						
WRA				pP	pP	18 19 54.1	+5.1
	2.0nm,0.7s,baz=24,slow=9.4,SNR=6.9						
WRA				PcP	PcP	18 22 02.1	+0.4
	1.0nm,0.6s,baz=17,slow=3.3,SNR=9.9						
FITZ	Fitzroy Crossi	38.86	214⇓	iP	P	18 19 57.7	+0.2
	4.0nm,0.7s,mb4.3						
ASAR	Alice Springs	40.22	199	P	P	18 20 09.1	+0.3
	1.0nm,0.6s,mb3.8,baz=24,slow=8.5,SNR=17						
ASAR				pP	pP	18 20 24.9	+5.7
	0.7nm,1.0s,baz=334,slow=30,SNR=2.1						
ASPA	Alice Springs	40.22	199	eP	P	18 20 09.1	+0.3
CMAR	Chiang Mai Arr	46.34	282	P	P	18 20 58.6	+0.1
	0.9nm,0.7s,mb3.8,baz=78,slow=6.3,SNR=9.5						
CMAR				pP	pP	18 21 14.6	+5.5
	1.4nm,0.7s,baz=76,slow=6.5,SNR=5.5						
STKA	Stephens Creek	46.54	187	P	P	18 20 59.6	-0.4
	3.1nm,1.1s,mb4.2,baz=18,slow=10,SNR=4.6						
STKA				pP	pP	18 21 14.1	+3.6
	2.9nm,0.9s,baz=336,slow=11,SNR=2.7						
SONM	Songino Array	47.25	323	P	P	18 21 04.6	-0.7
	1.8nm,0.7s,mb4.1,baz=136,slow=7.4,SNR=15						
SONM				pP	pP	18 21 19.9	+4.2
	2.4nm,0.6s,baz=136,slow=6.2,SNR=9.9						
GUN	Gumba	58.16	294	eP	P	18 22 28.6	+1.9
	16nm,0.6s,mb5.2						
PKI	Pulchoki	58.58	294	eP	P	18 22 30.8	+1.1
	8.0nm,0.6s,mb5.0						
KKN	Kakani	58.70	294	eP	P	18 22 31.9	+1.5
DMN	Daman	58.85	294	eP	P	18 22 31.7	+0.2
	7.7nm,0.6s,mb4.9						
GKN	Gorkha	59.26	294	eP	P	18 22 35.4	+1.0
	8.5nm,0.6s,mb5.0						
KOLN	Koldanda	60.18	294	eP	P	18 22 40.9	+0.2
ZAL	Zalesovo	62.15	324	P	P	18 22 51.4	-2.2
	0.6nm,0.5s,mb4.0,baz=297,slow=6.8,SNR=2.5						
MKAR	Makanchi Array	62.36	315	P	P	18 22 54.7	-0.4
	2.8nm,0.4s,mb4.8,baz=91,slow=8.5,SNR=59						
KURK	Kurchatov	65.29	319	eP	P	18 23 13.1	-1.1
	3.0nm,0.5s,mb4.6						
ILAR	Eielson Array	66.66	25	P	P	18 23 21.9	-0.8
	1.1nm,0.8s,mb3.9,baz=255,slow=5.5,SNR=9.3						
ZRNK	Zerenda	71.39	321	eP	P	18 23 51.0	-1.0
	1.1nm,0.6s,mb4.0						
YKA	Yellowknife Ar	80.89	28	P	P	18 24 46.5	+1.0
	1.1nm,0.5s,mb4.0,baz=285,slow=5.6,SNR=4.2						
NVAR	Mina Array Bea	84.49	52	P	P	18 25 06.8	+2.3
	0.3nm,0.5s,mb3.7,baz=262,slow=6.4,SNR=3.0						
FINES	FINESS Array B	91.19	336	P	P	18 25 34.8	-1.4
	1.1nm,0.6s,mb4.3,baz=45,slow=5.4,SNR=6.0						
DBIC	Dimbokro	145.16	306	PKPbc	PKPbc	18 32 10.1	+1.2
	6.4nm,0.6s,baz=15,slow=4.1,SNR=18						
KIC	Kosan Boka	145.26	305	ePKP1	PKPbc	18 32 10.3	+1.1
	34nm,0.9s						
TIC	Toumodi	145.31	306	ePKP1	PKPbc	18 32 10.2	+0.9
	16nm,0.5s						
LIC	Lamto	145.57	305	ePKP1	PKPbc	18 32 11.2	+1.2
	36nm,0.5s						
LPAZ	La Paz	145.90	98	PKPbc	PKPbc	18 32 14.4	+3.7
	1.7nm,0.7s,baz=285,slow=3.2,SNR=5.5						

*ATH **06** 18:14:49.1, 37.89N×26.87E, h10km, MD3.1/3*
*ISK **06** 18:14:50.8, 38.08N×27.98E, h2km, MD3.0*
*CSEM **06** 18:14:50.2±0.3, 37.81N×26.94E, h10km, MD3.0, Error ellipse: s-maj=7.9km s-min=6.4km az=100.0*
ISC 06 18:14:50.2±0.8**, 37.77N**±0.03×**26.90E**±0.06**, h11**km±5km**, n11,** σ1^s**01**/18**, 1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SMG	Samos	0.08	221⇑	iPG	Pg	18 14 53.0	+0.3
IZM	Izmir	0.69	24	i PG	Pg	18 15 03.4	-0.8
IZM				i SG	Sg	18 15 14.3	+0.8
KDAG	Bornova	0.70	24	i P	Pb	18 15 03.4	-0.5
KDAG				i S	Sb	18 15 14.7	+1.5
AYDN	Tasoluk	0.78	97	i P	Pb	18 15 04.8	-0.6
AYDN				i S	Sb	18 15 14.3	-1.4
BDRM	Kayabasi	0.82	148	i P	Pb	18 15 05.6	-0.4
BDRM				i S	Sb	18 15 18.5	+1.7
MLSB	Milas	0.84	124	PG	Pg	18 15 07.1	0.0
MLSB				SG	Sg	18 15 18.4	0.0
YER	Yerkesik	1.27	119	PG	Pg	18 15 11.2	-4.4
APE	Apeiranthos	1.29	238	ePB	Pb	18 15 14.5	+0.4
MANT	Manisa	1.49	61	i P	Pn	18 15 18.8	+1.7
MANT				i S	Sb	18 15 36.9	+0.5
PRK	Paraskevi	1.56	342	ePB	Pb	18 15 16.1	-2.5
DNZL	Cakiroluk	1.70	92	i P	Pn	18 15 19.7	-0.4
DNZL				i S	Sn	18 15 41.4	-0.6

GUC 06 18:19:53.4±0.7**, 28.94S**×**69.92W, h118**km±12km**, ML3.5, 2C-1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VACH	Vallenar	0.82	296⇓	iP	P	18 20 14.2	+0.4
VACH				i S	S	18 20 29.4	+0.3
VACH				AMP		18 20 31.2	
	comp=N,5μm,0.1s						
TLL	Tololo Astrono	1.45	212⇑	iP	P	18 20 21.3	+0.7
TLL				i S	S	18 20 42.0	+0.9
TLL				AMP		18 20 44.2	
	comp=N,476nm,0.3s						
LSCH	La Serena	1.51	230⇑	iP	P	18 20 21.1	-0.2
LSCH				i S	S	18 20 41.9	-0.5
LSCH				AMP		18 20 43.9	
	comp=E,352nm,0.4s						
CPCH	Copiapo	1.62	346	i P	P	18 20 22.6	+0.1
CPCH				i S	S	18 20 43.9	-0.6
FCH	Farellones	4.39	184	eP	P	18 20 59.5	+0.2
FCH				i S	S	18 21 50.0	+0.2

*IDC **06** 18:23:59.2±1.3, 29.68N×120.21E, mb3.6/4, mb1 3.8/5, mb1mx3.5/23, ML3.7/1, Error ellipse: s-maj=66.5km s-min=21.7km az=52.0*
*JMA **06** 18:24:38.9±0.3, 25.09N×122.41E, h30km, M2.7*
*TAP **06** 18:24:40.0, 24.92N×122.35E, h2km, ML3.6*
ISC 06 18:24:38.6±3.3**, 25.0N**±0.3×**122.4E**±0.1**, h26**km±15km**, n8,** σ0^s**20**/10**, mb3.5**/2**, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.83	134	P	Pb	18 24 54.3	0.0
YOJ				S	Sb	18 25 05.1	0.0
IRIF	Iriomote-Funau	1.44	119	P	Pn	18 25 02.9	-0.4
IRIF				S	Sn	18 25 21.4	0.0
HATJ	Hateruma jima	1.64	126	P	Pn	18 25 06.6	+0.3
JKRS	Kuro-shima	1.70	118	P	Pn	18 25 07.3	+0.1
JIJ	Ishigaki jima	1.76	112	P	Pn	18 25 08.0	+0.1
JOW	Kunigami	5.62	70	Pn	Pn	18 25 52.4	-10
	2.8nm,0.3s,slow=13,SNR=6.1						
WRA	Warramunga Arr	46.21	164	P	P	18 33 03.3	-0.2
	0.5nm,0.7s,mb3.6,baz=346,slow=8.5,SNR=6.5						
ASAR	Alice Springs	49.70	166	P	P	18 33 30.9	+0.2
	0.3nm,0.8s,mb3.4,baz=353,slow=7.3,SNR=3.3						

*BJI **06** 18:31:30.4, 61.36N×147.37W, h18km, mB4.6, mb4.6, Ms4.0, Msz3.9*
*IDC **06** 18:31:34.9±0.6, 61.60N×146.82W, h51km±3km, mb3.7/16, mb1 3.9/21, mb1mx3.9/27, MS3.4/6, Ms1 3.4/6, ms1mx3.0/27, Error ellipse: s-maj=19.0km s-min=10.4km az=40.0*
*NEIC **06** 18:31:34.0, 61.48N×146.63W, h30km, ML4.1(AEIC), ML4.1(PMR), After AEIC.*
NEIC Felt [III] at Valdez.
ISC 06 18:31:33.4±0.2**, 61.48N**±0.02×**146.63W**±0.03**, h33**km**, (h50**km±1.3km**:pP-P), n120,** σ1^s**18**/136**, mb4.0**/19**, MS3.3**/3**, Southern Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KLU	Klutina	0.34	88	P	P	18 31 42.4	+0.6
KLU				S	S	18 31 49.0	+1.4
VLZ	Valdez	0.38	157	P	P	18 31 42.5	+0.3
VLZ				S	S	18 31 49.5	+1.0
JPK	Jack Peak	0.43	178	P	P	18 31 43.4	+0.4
SCM	Sheep Creek Mo	0.48	317	P	P	18 31 44.4	+0.7
DIV	Divide	0.55	130	P	P	18 31 44.6	+0.1
DIV				S	S	18 31 52.8	+0.2
CFI	College Fiord	0.62	242	P	P	18 31 46.3	+0.6
GLI	Glacier Island	0.65	200	P	P	18 31 46.2	+0.2
GLI				S	S	18 31 56.5	+1.4
FID	Port Fidalgo	0.74	174	P	P	18 31 48.0	+0.7
TZL	Tazlina	0.81	45	P	P	18 31 49.0	+0.6
SML	Sawmill	0.88	293	P	P	18 31 49.7	+0.4
SML				S	S	18 32 02.0	+1.0
KNK	Knik Glacier	0.88	266	P	P	18 31 50.1	+0.8
EYAK	Cordova Ski Ar	1.03	155	P	P	18 31 52.5	+0.9
CVA	Cordova	1.03	155	P	P	18 31 52.3	+0.7
PWL	Port Wells	1.03	234	P	P	18 31 52.2	+0.6
PWL				S	S	18 32 07.5	+2.4
HIN	Hinchinbrook I	1.09	177	P	P	18 31 53.1	+0.7
BMRM	Bremner River	1.11	117	P	P	18 31 52.4	-0.3
BMRM				S	S	18 32 08.2	+1.2
GHO	Glory Hole Cre	1.13	286	P	P	18 31 53.6	+0.6
SDG	Sourdough	1.17	26	P	P	18 31 54.0	+0.5
PMR	Palmer	1.20	276	P	P	18 31 54.7	+0.8
PMR				S	S	18 32 11.0	+1.7
SGAM	Sherman Glacie	1.21	144	P	P	18 31 54.4	+0.4
WACK	Wrangell Chich	1.21	64	P	P	18 31 54.5	+0.5
WANC	Wrangell North	1.33	66	P	P	18 31 56.7	+0.9
WANC				S	S	18 32 14.3	+1.8
GLB	Gilahina Butte	1.36	90	P	P	18 31 56.1	-0.1
RAGM	Ragged Mountai	1.46	138	P	P	18 31 58.1	+0.4
RC01	Rabbit Creek A	1.55	257	P	P	18 32 00.4	+1.4
PWA	Palmer West	1.56	278	P	P	18 32 00.0	+0.9
LTI	Latouche	1.57	203	P	P	18 31 59.5	+0.2
PAX	Paxson	1.59	20	P	P	18 32 00.5	+0.9
PAX				S	S	18 32 20.6	+1.4
DHY	Denali Highway	1.64	348	P	P	18 32 01.0	+0.7
MPA	Moose Pass	1.66	234	P	P	18 32 01.0	+0.4
FIB	Fire Island	1.74	261	P	P	18 32 03.9	+2.2
KAIM	Kayak Island	1.90	144	P	P	18 32 04.0	0.0
CUT	Chulitna	1.95	300	P	P	18 32 05.8	+1.0
SEW	Seward	1.96	226	P	P	18 32 05.2	+0.4
SEW				S	S	18 32 28.8	+0.4
THY	Trims Highway	1.98	12	P	P	18 32 06.8	+1.6
TGL	Tana Glacier	1.98	110	P	P	18 32 04.9	-0.3
TGL				S	S	18 32 30.8	+1.6
SLKM	Skilak Lake	2.00	242	P	P	18 32 06.5	+1.0
SLKM				S	S	18 32 32.6	+3.0
MID	Middleton Isla	2.07	176	P	P	18 32 06.8	+0.4
WAX	Waxell Ridge	2.12	118	P	P	18 32 06.8	-0.3
BALM	Baldy	2.12	100	P	P	18 32 06.7	-0.5
SNH	Sunshine Point	2.27	123	P	P	18 32 10.5	+1.1
SNH				S	S	18 32 37.2	+0.8
DDM	Donnelly Dome	2.34	8	P	P	18 32 11.7	+1.4
NKA	Nikishka	2.35	254	P	P	18 32 12.9	+2.4
DOT	Dot Lake	2.48	28	P	P	18 32 13.8	+1.5
STLK	Strandline Lak	2.49	273	P	P	18 32 12.8	+0.3
MCK	McKinley	2.50	336	P	P	18 32 13.9	+1.4
MCK				S	S	18 32 42.2	0.0
TMW	Tok Microwave	2.51	41	P	P	18 32 13.5	+0.8
TRF	Thorofare Moun	2.60	321	P	P	18 32 15.0	+0.9
TRF				S	S	18 32 47.2	+2.3
SPU	Mount Spurr	2.63	266	P	P	18 32 14.2	-0.3
YAH	Yahtse	2.64	113	P	P	18 32 14.0	-0.6
BRLK	Bradley Lake	2.71	232	P	P	18 32 15.5	-0.2
BCA3	Beaver Creek A	2.77	53	P	P	18 32 16.6	+0.1
KTH	Kantishna Hill	2.88	318	P	P	18 32 18.5	+0.5
KTH				S	S	18 32 53.7	+1.9
HDA	Harding Lake	2.94	357	P	P	18 32 19.2	+0.3
BWN	Browne	3.00	336	P	P	18 32 19.6	-0.1
CNPM	China Poot	3.01	231	P	P	18 32 19.4	-0.4
RDN	Redoubt North	3.14	255	P	P	18 32 21.0	-0.8
RSO	Redoubt South	3.15	254	eP	P	18 32 21.1	-0.8
NCT	North Crescent	3.20	256	P	P	18 32 21.9	-0.7
IL1	Eielson Array	3.30	358	P	P	18 32 23.1	-1.0
ILAR	Eielson Array	3.30	358	P	P	18 32 23.4	-0.7
	6.3nm,0.3s,baz=179,slow=14,SNR=61						
ILAR				S	S	18 33 07.2	+4.6
	21nm,0.3s,baz=174,slow=24,SNR=8.1						
ILIM	Iliamna	3.41	248	P	P	18 32 24.7	-0.8
PCA	Pinnacle	3.42	111	P	P	18 32 25.5	-0.2
COLA	College	3.45	351	P	P	18 32 25.7	-0.4
ILW	Iliamna West	3.49	249	P	P	18 32 26.0	-0.7
OPT	Oil Point	3.74	243	P	P	18 32 29.9	-0.3
AUE	Augustine Isla	3.96	240	P	P	18 32 32.9	-0.5
AUP	Augustine Pinn	3.98	241	P	P	18 32 34.2	+0.6
AUW	Augustine West	4.00	241	P	P	18 32 34.0	+0.1
PNL	Peninsula	4.01	114	P	P	18 32 34.3	+0.2
MLY	Manley	4.02	334	P	P	18 32 33.9	-0.2
TT01	Tatalina	4.62	292	P	P	18 32 40.7	-2.1
TTA	Tatalina	4.62	292	eP	P	18 32 40.5	-2.3
KDAK	Kodiak Island	4.78	222	Pn	Pn	18 32 43.0	-2.2
	175nm,0.3s						
KDAK	Kodiak Island	4.78	222	P	P	18 32 43.5	-1.5
KAHC	Katmai Hardscr	5.07	240	P	P	18 32 47.3	-1.7
KABR	Katmai Barrier	5.38	235	P	P	18 32 52.2	-1.3
IM3	Indian Mountai	5.51	328	P	P	18 32 54.1	-1.1
ANCK	Angle Creek	5.55	238	P	P	18 32 55.9	+0.1
IMA	Indian Mountai	5.56	329	eP	P	18 32 55.7	-0.3
CAHL	Cahill	5.57	236	P	P	18 32 54.9	-1.1
GCSA	Galena City Sc	5.69	310	P	P	18 32 58.0	+0.3
WHY	Whitehorse	5.77	93	P	P	18 32 57.0	-1.9
COLD	Coldfoot	5.97	347	P	P	18 33 01.2	-0.5
BM3	Burnt Mountain	6.03	7	P	P	18 33 01.5	-0.9
BESE	Bessie Mountai	6.58	111	P	P	18 33 08.6	-1.7
SIT	Sitka	7.29	122	P	P	18 33 16.9	-3.4
INK	Inuvik	8.81	33	P	P	18 33 40.1	-1.2
	0.2nm,0.3s,baz=226,slow=15,SNR=3.0						
INK				LR	LR	18 37 25.9	
	comp=Z,118nm,21.6s,baz=172,slow=40						
DLBC	Dease Lake	8.87	103	P	P	18 33 40.2	-2.0
	0.3nm,0.3s,baz=285,slow=14,SNR=5.0						
ANM	Nome	9.05	298	P	P	18 33 42.2	-2.5
BBB	Bella Bella	13.71	124	P	P	18 34 46.5	-1.0
	0.7nm,0.3s,baz=182,slow=13,SNR=2.1						
BBB				LR	LR	18 39 08.0	
	comp=Z,326nm,19.2s,baz=229,slow=33						
YKA	Yellowknife Ar	15.00	72	P	P	18 35 05.0	+0.7
	0.2nm,0.3s,baz=278,slow=9.9,SNR=4.7						

YKA LR LR 18 41 10.3
comp=Z,151nm,18.5s,baz=245,slow=38
FX1 Attu Island--F 23.08 266 P **P 18 36 33.6 -2.9**
12nm,0.5s,mb4.6,baz=262,slow=5.2,SNR=6.3
YBH Yreka Blue Hor 24.48 133 P **P 18 36 51.1 +0.8**
0.6nm,0.3s,mb3.5,baz=11,slow=5.2,SNR=3.5
YBH sP 18 37 09.8
2.4nm,0.9s,baz=329,slow=4.1,SNR=3.1
HLID Hailey 26.16 118 P **P 18 37 05.8 -0.3**
BW06 Boulder Array 28.89 113 P **P 18 37 30.1 -0.8**
PDAR Pinedale Array 28.89 113 P **P 18 37 30.1 -0.8**
0.4nm,0.7s,mb3.3,baz=315,slow=7.7,SNR=3.3
PDAR pP pP 18 37 43.8 +3.3
0.6nm,0.7s,baz=333,slow=9.9,SNR=3.3
PDAR sP sP 18 37 50.5 +5.7
1.3nm,0.9s,baz=329,slow=8.6,SNR=4.1
NVAR Mina Array Bea 28.98 130 P **P 18 37 31.4 -0.3**
0.7nm,0.8s,mb3.5,baz=322,slow=6.3,SNR=5.6
NVAR LR LR 18 47 25.3
comp=Z,98nm,21.6s,MS3.4,baz=235,slow=33
ULM Lac du Bonnet 29.82 89 LR LR 18 49 19.7
comp=Z,75nm,20.9s,MS3.3,baz=131,slow=36
MSU Marysvale 31.30 121 *e*P **P 18 37 50.9 -1.4**
TXAR Lajitas Array 42.76 119 P **P 18 39 28.1 -0.9**
1.7nm,1.1s,mb3.7,baz=333,slow=5.6,SNR=4.7
TXAR sP sP 18 39 46.6 +3.6
0.2nm,0.3s,baz=207,slow=11,SNR=1.8
TXAR LR LR 18 57 21.4
comp=Z,41nm,19.4s,MS3.3,baz=180,slow=36
ARCES ARCESS Array B 49.15 4 P **P 18 40 15.4 -3.7**
3.7nm,0.8s,mb4.5,slow=9.0,SNR=7.5
ARCES pP pP 18 40 29.8 +0.7
6.8nm,0.9s,baz=311,slow=13,SNR=2.7
ARCES ARCESS Array B 49.15 4 P **P 18 40 15.4 -3.7**
ARCES pP pP 18 40 29.8 +0.7
MDJ Mudanjiang 49.36 291 P **P 18 40 18.9 -2.2**
MDJ AMB AMB
comp=Z,4.0nm,0.6s,mb4.6
MDJ AMB AMB
comp=Z,53nm,5.5s
CN2 Changchun 51.85 293 *e*P **P 18 40 39.2 -0.8**
SONM Songino Array 56.36 309 P **P 18 41 10.8 -2.3**
comp=Z,1.1nm,0.9s,mb3.9,baz=39,slow=7.9,SNR=12
SONM pP pP 18 41 25.0 +1.8
comp=Z,1.8nm,0.9s,baz=27,slow=8.3,SNR=8.4
SONM sP sP 18 41 30.2 +3.1
comp=Z,1.4nm,0.7s,baz=29,slow=5.7,SNR=6.2
FINES FINESS Array B 57.27 4 P **P 18 41 15.2 -4.2**
comp=Z,1.4nm,0.8s,mb4.1,baz=5.0,slow=8.6,SNR=8.0
FINES sP sP 18 41 35.5 +2.1
comp=Z,2.2nm,0.9s,baz=23,slow=14,SNR=2.9
ZAL Zalesovo 57.95 327 P **P 18 41 19.9 -4.4**
comp=Z,0.7nm,0.6s,mb3.9,baz=345,slow=7.0,SNR=4.0
ZAL pP pP 18 41 34.5 +0.1
comp=Z,1.0nm,0.6s,baz=301,slow=14,SNR=2.0
BVAR Borovoye Array 62.11 336 P **P 18 41 48.8 -3.9**
comp=Z,1.5nm,0.9s,mb4.1,baz=53,slow=7.4,SNR=6.1
BVAR pP pP 18 42 02.8 -0.2
comp=Z,0.7nm,0.7s,baz=80,slow=9.0,SNR=3.4
SSE Sheshan 64.20 288 *e*P **P 18 42 04.6 -2.1**
SSE AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,72nm,5.6s
MKAR Makanchi Array 65.12 325 P **P 18 42 08.2 -4.2**
comp=Z,0.3nm,0.5s,mb3.6,baz=37,slow=7.4,SNR=2.3
MKAR pP pP 18 42 22.8 +0.1
comp=Z,0.4nm,0.5s,baz=51,slow=7.8,SNR=2.8
GTA Gaotai 66.03 309 P **P 18 42 16.2 -2.2**
GTA XP sP 18 42 30.1 -2.3
GTA AMB AMB
comp=Z,3.0nm,0.9s,mb4.3
WMQ Urumqi 66.25 320 *e*P **P 18 42 21.3 +1.6**
AKASG Malin Array Be 68.12 3 P **P 18 42 28.1 -3.2**
comp=Z,3.5nm,0.7s,mb4.5,baz=357,slow=6.1,SNR=22
AKASG pP pP 18 42 41.1 -0.6
comp=Z,2.6nm,0.8s,baz=357,slow=6.0,SNR=4.6
AKASG sP sP 18 42 48.4 +3.0
comp=Z,1.3nm,0.5s,baz=356,slow=6.4,SNR=3.9
KHC Kasperske Hory 68.60 14 *e*P **P 18 42 31.5 -2.8**
GERES GERESS Array B 68.89 14 P **P 18 42 33.7 -2.4**
comp=Z,0.7nm,0.7s,mb3.7,slow=6.7,SNR=7.4
ESDC Sonseca Array 74.73 29 P **P 18 43 07.7 -3.3**
comp=Z,0.5nm,0.5s,mb3.8,baz=333,slow=6.6,SNR=5.4
BRTR Keskin Array B 79.14 360 P **P 18 43 33.8 -2.0**
comp=Z,0.8nm,0.6s,mb3.9,baz=6.1,slow=6.9,SNR=4.0
CMAR Chiang Mai Arr 84.97 300 P **P 18 44 03.9 -2.4**
comp=Z,1.7nm,0.9s,mb4.2,baz=7.6,slow=5.7,SNR=14
CMAR pP pP 18 44 17.6 +0.8
comp=Z,0.7nm,0.8s,baz=9.8,slow=6.7,SNR=3.9
CMAR sP sP 18 44 23.3 +3.0
comp=Z,0.9nm,1.0s,baz=0.7,slow=5.3,SNR=3.2
QSPA South Pole Qui 151.29 180 *e*P PKPdf 18 51 20.3 +5.1

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*NEIC **06** 18:56:05.4±6.3, 14.99S×167.51E, h131km±56km, mb4.6/1, Error ellipse: s-maj=69.5km s-min=28.8km az=178.0*
*IDC **06** 18:56:19.2±19.0, 14.90S×166.95E, h238km±160km, mb3.6/5, mb1 3.8/5, mb1mx3.5/16, Error ellipse: s-maj=100.0km s-min=63.3km az=76.0*
ISC 06 18:56:06.8±1.9**, 15.2S**±0.2×**167.8E**±0.8**, h180**km±59km**, n13,** σ0.97/15**, mb4.1**/5**, 1C, Vanuatu Islands**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
BKM Butte a Klehm 2.48 169⇑*i*P **P 18 56 48.8 -1.0**
BKM S **S 18 57 23.8 +0.9**
DZM Mont Dzumac 6.92 190 *e*P **P 18 57 46.4 -0.4**
DZM *e*S **S 18 59 03.3 -1.3**
DZM Mont Dzumac 6.92 190 *e*P **P 18 57 46.4 -0.4**
DZM *e*S **S 18 59 03.3 -1.3**
NOUC Port Laguerre 6.98 191 *e*P **P 18 57 48.2 +0.7**
NOUC *e*S **S 18 59 06.5 +0.6**
CTA Charters Tower 21.04 254 P **P 19 00 38.6 +0.9**
1.3nm,0.5s,mb3.6,baz=82,slow=9.9,SNR=6.1
STKA Stephens Creek 29.03 231 *e*P **P 19 01 53.8 +1.5**
6.3nm,0.5s,mb4.6
STKA Stephens Creek 29.03 231 P **P 19 01 54.2 +1.9**
9.0nm,0.7s,mb4.6,baz=41,slow=6.9,SNR=38
WRA Warramunga Arr 32.16 257 P **P 19 02 18.5 -1.3**
1.1nm,0.7s,mb3.7,baz=88,slow=8.8,SNR=7.2
ASAR Alice Springs 32.93 250 P **P 19 02 25.7 -0.7**
5.4nm,0.8s,mb4.3,baz=75,slow=9.1,SNR=72
ASPA Alice Springs 32.94 250 *e*P **P 19 02 25.9 -0.6**
FITZ Fitzroy Crossi 40.38 260 P **P 19 03 29.5 +0.6**
2.4nm,0.5s,mb4.1,baz=30,slow=8.1,SNR=2.6
ARCES ARCESS Array B 120.84 345 PKP PKPdf 19 14 41.2 +4.1
6.2nm,1.0s,slow=1.2,SNR=5.0
KHC Kasperske Hory 140.13 333 *e*P Pdif 19 12 26.0 -3.4

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*MOS **06** 18:56:16.9±1.1, 9.97N×125.94E, h37km, mb5.1/7, Error ellipse: s-maj=20.6km s-min=9.4km az=110.4*
*MAN **06** 18:56:17.4, 10.07N×126.29E, h11km, mb5.3, ML4.3, MS4.5*
*BJI **06** 18:56:18.9, 10.07N×126.42E, h50km, mB4.9, mb4.6, Ms4.2, Msz4.0*
*NEIC **06** 18:56:19.2±3.8, 10.05N×126.02E, h41km±35km, mb4.7/24, Error ellipse: s-maj=14.4km s-min=6.3km az=63.0*
*IDC **06** 18:56:21.2±2.3, 9.98N×125.99E, h58km±20km, mb4.3/26, mb1 4.3/27, mb1mx4.3/28, ML4.1/1, MS3.8/5, Ms1 3.8/5, ms1mx3.5/19, Error ellipse: s-maj=22.3km s-min=9.9km az=75.0*
ISC 06 18:56:16.7±0.2**, 10.09N**±0.02×**126.44E**±0.03**, h33**km**, n125,** σ**1.50**/145**, mb4.7**/57**, MS3.9**/14**, 4C-8D, Philippine Islands region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
SCPH Surigao 0.98 252 *i* P **P 18 56 33.0 -1.1**
SCPH *i* S **S 18 56 43.4 -3.6**
BUTP Butuan 1.37 216 *e*P **P 18 56 40.0 +0.3**
BUTP *e*S **S 18 56 56.7 -0.2**
MSLP Maasin 1.55 272 *e*P **P 18 56 42.6 +0.3**
MSLP *e*S **S 18 57 01.0 -0.5**
PLP Palo 1.79 307 *e*P **P 18 56 46.6 +0.9**
PLP *e*S **S 18 57 07.9 +0.5**
BESP Borongan 1.79 327 *e*P **P 18 56 47.9 +2.2**
BESP *e*S **S 18 57 14.3 +6.6**
BIPH Bislig 1.89 182 *e*P **P 18 56 48.8 +1.6**
BIPH *e*S **S 18 57 10.2 +0.1**
CGP Cagayan de Oro 2.36 227⇓*e*P **P 18 56 55.4 +1.5**
CGP *i* S **S 18 57 22.0 0.0**
LLP Lapu-Lapu 2.44 276⇓*i*P **P 18 56 56.0 +1.0**
LLP *e*S **S 18 57 23.2 -0.8**
TBP Tagbilaran 2.56 261 *e*P **P 18 56 57.3 +0.5**
TBP *e*S **S 18 57 23.5 -3.7**
BUKP Musuan 2.58 212 *e*P **P 18 56 58.9 +1.9**
BUKP *e*S **S 18 57 30.6 +3.1**
CNP Catarman 2.97 324 *e*P **P 18 57 04.7 +2.1**
CNP *e*S **S 18 57 39.6 +2.1**
MATI Mati 3.13 183 *e*P **P 18 57 07.3 +2.5**
KCP Kidapawan 3.33 204⇓*e*P **P 18 57 09.8 +2.0**
KCP *i* S **S 18 57 48.5 +1.7**
DCPH Dipolog City 3.39 244⇑*e*P **P 18 57 08.2 -0.3**
MMPH Masbate 3.56 310⇓*i*P **P 18 57 13.1 +2.1**
MMPH *i* S **S 18 58 02.6 +10**
CTBH Cotabato--PC H 3.58 217⇑*e*P **P 18 57 11.8 +0.6**
CTBH *i* S **S 18 57 55.0 +2.1**
PAGZ Pagadian 3.75 234 *e*P **P 18 57 14.1 +0.5**
PAGZ *e*S **S 18 57 56.2 -1.0**
GUIM Jordan 3.82 278 *e*P **P 18 57 15.6 +0.9**
RCP Roxas 3.91 292⇓*e*P **P 18 57 17.0 +1.1**
PVCP Virac 4.14 328 *e*P **P 18 57 20.1 +0.9**
PVCP *e*S **S 18 58 20.2 +13**
GSPH General Santos 4.24 200 *e*P **P 18 57 27.0 +6.4**
IPIL Ipil 4.45 239 *e*P **P 18 57 25.9 +2.3**
OTRP Odiongan 4.88 298 *e*P **P 18 57 31.0 +1.2**
GQP Guinayangan 5.44 315 *e*P **P 18 57 30.9 -6.7**
GQP *e*S **S 18 58 43.3 +3.3**
SJMP San Jose 5.72 295 *e*P **P 18 57 43.2 +1.7**
LQP Lukban 6.24 310⇓*e*P **P 18 57 51.2 +2.4**
CVP Callao Caves 8.79 330 *e*P **P 18 58 28.0 +3.5**
JOW Kunigami 16.75 6 P **P 19 00 15.7 +5.3**
1.3nm,0.3s,baz=171,slow=13,SNR=3.4
JOW S **S 19 03 24.8 +10**
1.7nm,0.3s,baz=120,slow=16,SNR=3.9
QIZ Qiongzhong 18.34 301 *e*P **P 19 00 33.4 +2.9**
SSE Sheshan 21.47 348 P **P 19 01 06.1 +1.7**
SSE AP 19 01 22.2
SSE S **S 19 05 00.6 +4.9**
SSE AMB AMB
comp=Z,29nm,0.8s,mb4.7
SSE AMB AMB
comp=Z,54nm,4.0s
CBIJ Chichi jima 22.52 39 P **P 19 01 18.1 +3.1**
comp=Z,41nm,0.6s,mb5.0,baz=258,slow=7.9,SNR=5.3
CBIJ LR LR 19 08 19.3
comp=Z,221nm,20.6s,MS3.6,baz=343,slow=31
NJ2 Nanjing 22.96 343 *e*P **P 19 01 21.6 +2.3**
NJ2 AP 19 01 36.6
NJ2 PP PP 19 01 54.8 +5.5
NJ2 PPP PPP 19 02 04.0 +4.7
NJ2 S **S 19 05 21.0 -2.0**
NJ2 XS 19 05 46.0
NJ2 AMB AMB
comp=Z,30nm,0.6s,mb4.9
NJ2 AMB AMB
comp=Z,450nm,4.3s
NJ2 LR LR
comp=N,260nm,13.5s
NJ2 LR LR
comp=E,550nm,20.8s
NJ2 LR LR
comp=Z,360nm,13.1s,MS4.0
KAKA Kakadu 23.40 165⇓*i*P **P 19 01 30.1 +6.3**
comp=Z,25nm,0.6s,mb4.8
KKTK Khon Kaen 23.80 288 P **P 19 01 27.0 -0.6**
ENH Enshi 25.55 324 *e*P **P 19 01 40.5 -3.8**
NST Nakhon Sawan 26.22 285 P **P 19 01 51.2 +0.5**
NANT Nan 26.35 292 P **P 19 01 49.6 -2.3**
CM31 Chiang Mai Arr 27.88 290 *e*P **P 19 02 03.0 -2.9**
comp=Z,11nm,0.8s,mb4.5
CMAR Chiang Mai Arr 27.88 290 P **P 19 02 03.4 -2.5**
comp=Z,12nm,1.1s,mb4.4,baz=105,slow=6.9,SNR=30
CHG Chiang Mai 27.96 291 P **P 19 02 04.0 -2.6**
FITZ Fitzroy Crossi 28.02 182 *e*P **P 19 02 06.6 -0.5**
comp=Z,6.6nm,0.7s,mb4.4
FITZ Fitzroy Crossi 28.02 182 P **P 19 02 06.3 -0.8**
comp=Z,9.7nm,0.9s,mb4.5,baz=8.1,slow=4.2,SNR=28
WRAB Tennant Creek 30.83 165 *e*P **P 19 02 30.3 -1.9**
comp=Z,6.0nm,0.9s,mb4.4
WRA Warramunga Arr 30.84 165 P **P 19 02 31.0 -1.2**
comp=Z,1.7nm,0.8s,mb4.0,baz=343,slow=8.9,SNR=8.4
WB2 Warramunga Arr 30.84 165 *e*P **P 19 02 33.6 +1.4**
MBWA Marble Bar 31.74 192 *e*P **P 19 02 38.6 -1.6**
comp=Z,8.8nm,0.8s,mb4.6
LZH Lanzhou 33.02 325 *e*P **P 19 02 54.5 +3.3**
LZH AP pP 19 03 00.1 -0.7
LZH XP sP 19 03 06.7 +1.5
LZH AMB AMB
comp=Z,40nm,1.3s,mb5.2
LZH AMB AMB
comp=Z,120nm,4.2s
LZH LR LR
comp=E,470nm,14.3s
LZH LR LR
comp=Z,540nm,15.1s,MS4.4
HHC Hu-ho-hao-te 33.34 339 *e*P **P 19 02 55.8 +1.9**
HHC AMB AMB
comp=Z,17nm,1.1s,mb4.9
HHC AMB AMB
comp=Z,62nm,5.0s
ASAR Alice Springs 34.33 168 P **P 19 03 01.9 -0.6**
comp=Z,1.8nm,0.4s,mb4.3,baz=347,slow=7.1,SNR=28
CTA Charters Tower 35.77 147 P **P 19 03 16.5 +1.5**
comp=Z,3.9nm,1.0s,mb4.3,baz=340,slow=8.8,SNR=4.2
CTA LR LR 19 17 11.1
comp=Z,120nm,20.2s,MS3.6,baz=124,slow=35
CTAO Charters Tower 35.77 147 P **P 19 03 15.4 +0.5**
comp=Z,23nm,1.5s,mb4.9
ASAJ Asahikawa 36.68 20 P **P 19 03 26.4 +4.0**
comp=Z,4.6nm,0.7s,mb4.4,baz=195,slow=12,SNR=2.9
ASAJ LR LR 19 17 05.5
comp=Z,130nm,20.9s,MS3.7,baz=48,slow=34
GTA Gaotai 37.62 325 *e*P **P 19 03 28.5 -1.8**
GTA AMB AMB
comp=Z,2.0nm,0.6s,mb4.0
GTA AMB AMB
comp=Z,45nm,4.2s
GTA LR LR
comp=N,72nm,18.3s,MS3.7
GTA LR LR
comp=E,85nm,17.1s,MS3.7
GTA LR LR
comp=Z,70nm,15.6s,MS3.6
LSA Lhasa 38.26 306 P **P 19 03 37.2 +1.4**
YSS Yuzh-Sakhalins 39.27 18 *e*P **P 19 03 45.4 +1.5**
YSS pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
YSS MLR MLR
comp=Z,100nm,19.0s,MS3.7
HIA Hailar 39.45 353 *e*P **P 19 03 45.9 +0.5**
comp=Z,5.5nm,0.9s,mb4.3
FORT Forrest 40.66 178 *e*P **P 19 03 55.7 +0.1**
comp=Z,53nm,0.4s,mb5.5
SONM Songino Array 41.25 340 P **P 19 04 00.6 +0.3**
comp=Z,3.8nm,0.8s,mb4.1,baz=158,slow=9.3,SNR=24
SONM ScP 19 09 45.9
comp=Z,3.1nm,0.9s,baz=153,slow=2.8,SNR=8.5
GUN Gumba 42.00 301 *e*P **P 19 04 04.9 -1.9**
comp=Z,56nm,1.0s,mb5.1
KLBR Kellerberrin 42.27 191 *e*P **P 19 04 08.5 -0.4**
comp=Z,20nm,1.0s,mb4.7
PKI Pulchoki 42.30 300 *e*P **P 19 04 07.8 -1.5**
comp=Z,14nm,0.7s,mb4.7
KKN Kakani 42.47 300 *e*P **P 19 04 08.9 -1.8**
comp=Z,17nm,0.9s,mb4.7
DMN Daman 42.57 300 *e*P **P 19 04 10.0 -1.5**
comp=Z,16nm,0.9s,mb4.8
MUN Mundaring 42.95 193 *e*P **P 19 04 13.0 -1.6**
comp=Z,16nm,0.9s,mb4.8
GKN Gorkha 43.08 300 *e*P **P 19 04 10.5 -5.1**
comp=Z,16nm,0.8s,mb4.8
NWAO Narrogin (SRO) 43.66 191 P **P 19 04 19.9 -0.4**
comp=Z,26nm,1.1s,mb4.9,baz=17,slow=9.7,SNR=11
NWAO Narrogin (SRO) 43.66 191 *e*P **P 19 04 19.5 -0.8**
comp=Z,24nm,1.0s,mb4.9
KOLN Koldanda 43.90 300 *e*P **P 19 04 13.4 -8.9**
comp=Z,23nm,0.7s,mb5.0
STKA Stephens Creek 44.18 161 *e*P **P 19 04 24.6 +0.2**
comp=Z,12nm,1.9s,mb4.3
STKA Stephens Creek 44.18 161 P **P 19 04 24.4 0.0**
comp=Z,3.2nm,0.3s,mb4.5,baz=320,slow=7.4,SNR=20
MOY Mondy 46.37 338 *e*P **P 19 04 41.5 -0.1**
HYB Hyderabad 46.98 284 *i* P **P 19 04 44.5 -2.3**
HYB Hyderabad 46.98 284 *e*P **P 19 04 44.5 -2.3**
BOD Bodaibo 48.58 351 *e*P **P 19 04 59.3 +0.5**
YAK Yakutsk 51.90 2*c i*P **P 19 05 24.9 +0.8**
YAK *i* *PP pP 19 05 44.8 +11
YAK pmax pmax
comp=Z,37nm,1.3s,mb5.2
YAK MLR MLR
comp=Z,100nm,18.0s,MS3.9
YAK Yakutsk 51.90 2 *e*P **P 19 05 24.9 +0.8**
comp=Z,45nm,1.2s,mb5.3
MKAR Makanchi Array 52.27 323 P **P 19 05 25.2 -1.8**
comp=Z,7.8nm,0.7s,mb4.7,baz=121,slow=8.3,SNR=56
MKAR ScP 19 10 28.4
comp=Z,1.3nm,0.7s,baz=118,slow=5.2,SNR=3.7
MKAR Makanchi Array 52.27 323 P **P 19 05 25.2 -1.8**
MKAR ScP 19 10 28.4
ZAL Zalesovo 54.87 331 P **P 19 05 43.9 -2.2**
comp=Z,1.9nm,0.3s,mb4.5,baz=266,slow=4.6,SNR=7.6
ZAL Zalesovo 54.87 331 P **P 19 05 43.9 -2.2**
AAK Ala-Archa 55.57 315 *e*P **P 19 05 49.3 -2.1**
AAK MLR MLR
comp=Z,200nm,22.0s,MS4.2
NVS Novosibirsk 56.14 332 *e*P **P 19 05 54.0 -1.3**
KURK Kurchatov 56.31 326*c i*P **P 19 05 54.3 -2.3**
KURK Kurchatov 56.31 326 *e*P **P 19 05 53.6 -3.0**
comp=Z,11nm,0.9s,mb4.9
TIXI Tiksi 61.53 1 *e*P **P 19 06 33.3 +0.7**
TIXI pmax pmax
comp=Z,27nm,1.5s,mb5.2
BVAR Borovoye Array 61.91 325 P **P 19 06 33.3 -2.0**
comp=Z,1.9nm,0.7s,mb4.4,baz=127,slow=7.4,SNR=13
BVAR PcP PcP 19 07 12.9 -2.7
comp=Z,2.8nm,0.6s,baz=108,slow=4.7,SNR=6.5
BRVK Borovoye 61.98 325 *e*P **P 19 06 33.4 -2.4**
comp=Z,5.7nm,0.9s,mb4.7
ZRNK Zerenda 62.66 325 *e*P **P 19 06 37.8 -2.5**
comp=Z,4.1nm,0.6s,mb4.7
RPZ Rata Peaks 67.14 146 P **P 19 07 10.0 +0.6**
comp=Z,19nm,1.1s,mb5.0,baz=319,slow=9.3,SNR=2.5
ARU Arti 69.47 327⇓*i*P **P 19 07 21.4 -2.2**
ARU *e* 19 09 50.8
ARU *e*S S 19 16 23.1 -4.3
ARU *e* 19 17 16.4
ARU *e*SS SS 19 20 53.8 -2.9
ARU pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
ARU Arti 69.47 327 *e*P **P 19 07 21.2 -2.4**
comp=Z,7.8nm,0.6s,mb4.8
KIV Kislovodsk 78.59 313 *e*P **P 19 08 17.5 +0.6**
KIV pmax pmax
comp=Z,14nm,1.1s,mb4.8
KIV MLR MLR
comp=Z,66nm,18.0s,MS4.0
KIV MLR MLR
comp=E,59nm,17.0s
KIV Kislovodsk 78.59 313 *e*P **P 19 08 13.4 -3.5**
comp=E,18nm,1.2s,mb4.9
MCK McKinley 78.65 27 *e*P **P 19 08 18.5 +1.7**
comp=E,5.3nm,1.0s,mb4.4
COLA College 79.12 26 *e*P **P 19 08 20.1 +0.8**
ILAR Eielson Array 79.53 26 P **P 19 08 22.4 +0.8**
comp=E,1.3nm,0.7s,mb4.0,baz=236,slow=5.3,SNR=10
TATS Tathlith 80.11 288 P **P 19 08 24.2 -1.4**
DJNS Zahran al Janu 80.28 286 P **P 19 08 25.5 -1.0**
HILS Ha’il 80.71 296 P **P 19 08 27.9 -0.8**
SOC Sochi 80.76 313 *e*P **P 19 08 26.1 -2.5**
SOC *e* 19 08 32.9
SOC *e* 19 11 28.5
SOC *e*S S 19 18 21.4 -11
SOC *e* 19 18 29.5
SOC pmax pmax
comp=Z,18nm,0.9s,mb5.0
SOC pmax pmax
comp=N,23nm,1.4s
SOC pmax pmax
comp=E,18nm,0.9s
SOC MLR MLR
comp=Z,106nm,23.0s,MS4.1
SOC MLR MLR
comp=N,31nm,17.0s
SOC MLR MLR
comp=E,49nm,17.0s
NAMS An Nimas 81.35 288 P **P 19 08 31.7 -0.4**
OBN Obninsk 81.74 325 *e*P **P 19 08 32.7 -0.7**
OBN *e* pP 19 08 41.4 -2.4
OBN 19 18 39.0
OBN pmax pmax
comp=Z,22nm,1.6s,mb4.8
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.2
DAWY Dawson 82.83 26 *e*P **P 19 08 42.0 +3.2**
KEV Kevo 83.86 340 *e*p **P 19 08 42.4 -1.5**
INK Inuvik 84.39 22 P **P 19 08 49.1 +2.5**
comp=Z,24nm,1.4s,mb5.1,baz=270,slow=2.0,SNR=3.2
ARCES ARCESS Array B 84.42 340 P **P 19 08 46.7 0.0**
comp=Z,2.4nm,0.6s,mb4.5,baz=84,slow=6.6,SNR=14
ARCES ARCESS Array B 84.42 340 P **P 19 08 46.7 -0.1**
JMQS Jabal Moqyreh 85.69 298 P **P 19 08 53.4 -0.6**
BRTR Keskin Array B 85.77 309 P **P 19 08 52.8 -1.4**
comp=Z,3.2nm,0.9s,mb4.5,baz=140,slow=4.9,SNR=7.4
KAF Kangasniemi 85.86 332 *e*p **P 19 08 53.2 -0.8**
comp=Z,7.9nm,0.9s,mb4.9,baz=74,slow=4.5
KAF Kangasniemi 85.86 332 *e*P **P 19 08 53.2 -0.8**
KAF pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
FINES FINESS Array B 86.13 332 P **P 19 08 54.8 -0.6**
comp=Z,2.0nm,0.4s,mb4.7,baz=73,slow=5.0,SNR=56
JMOS Jabal al Moall 86.31 299 P **P 19 08 56.5 -0.5**
AYUS ‘Aynunah 86.33 298 P **P 19 08 55.6 -1.6**
HAQS Haql 86.48 299 P **P 19 08 57.5 -0.4**
AKASG Malin Array Be 86.81 321 P **P 19 08 57.5 -1.4**
comp=Z,1.6nm,0.4s,mb4.6,baz=62,slow=5.2,SNR=11
AKASG LR LR 19 47 39.1
comp=Z,48nm,19.9s,MS3.9,baz=290,slow=36
KMBO Kilima Mbogo 89.39 269 P **P 19 09 12.0 -0.3**
comp=Z,2.1nm,0.7s,mb4.6,baz=59,slow=19,SNR=5.3
MAW Mawson 89.58 200 P **P 19 09 11.5 -0.3**
comp=Z,2.7nm,0.6s,mb4.8,baz=35,slow=6.7,SNR=12
SBA Scott Base 90.63 172 P **P 19 09 18.7 +2.1**
HFS Hagfors 92.29 332 P **P 19 09 23.4 -1.1**
comp=Z,1.6nm,0.5s,mb4.6,baz=76,slow=5.9,SNR=7.6
NOA NORSAR Array B 92.99 334 P **P 19 09 25.9 -1.9**
comp=Z,0.7nm,0.7s,mb4.2,baz=92,slow=5.2,SNR=2.8
NOA LR LR 20 00 01.1
comp=Z,53nm,18.1s,MS4.0,baz=40,slow=41
NOA NORSAR Array B 92.99 334 P **P 19 09 25.8 -2.0**
YKA Yellowknife Ar 93.86 24 P **P 19 09 33.8 +2.1**
comp=Z,3.5nm,0.7s,mb4.9,baz=303,slow=4.6,SNR=6.3
YKA Yellowknife Ar 93.86 24 P **P 19 09 33.8 +2.1**
GERES GERESS Array B 96.94 322 P **P 19 09 45.7 -0.3**
comp=Z,1.4nm,0.9s,mb4.4,baz=56,slow=4.8,SNR=8.0

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*BJI **06** 18:59:58.2, 14.08N×120.81E, h164km, mB4.6, mb4.7*
*MAN **06** 18:59:58.6, 14.10N×120.36E, h125km, mb5.0, ML4.0, MS4.1*
*IDC **06** 18:59:59.5±0.8, 13.98N×120.67E, h157km±6km, mb4.1/27, mb1 4.2/28, mb1mx4.2/30, MS3.9/3, Ms1 3.9/3, ms1mx3.3/22, Error ellipse: s-maj=13.7km s-min=7.0km az=66.0*
*NEIC **06** 18:59:59.1±1.4, 14.08N×120.62E, h150km±13km, mb4.7/29, Error ellipse: s-maj=8.6km s-min=4.6km az=67.0*
ISC 06 18:59:58.0±0.2**, 14.07N**±0.02×**120.47E**±0.04**, h148**km±2km**, h142**km±3.1km**: pP-P, n118,** σ**1.18**/134**, mb4.5**/56**, 3C-6D, Luzon**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
LUBP Lubang 0.40 213 *e*P **P 19 00 18.7 -0.5**
LUBP *e*S **S 19 00 33.2 -2.2**
TGY Tagaytay City 0.46 86⇓*i*P **P 19 00 19.6 +0.1**
TGY *i* S **S 19 00 34.3 -1.5**
LQP Lukban 1.04 88⇓*e*P **P 19 00 23.8 +0.7**
LQP *e*S **S 19 00 47.0 +4.5**
BOAC Boac 1.47 114 *e*P **P 19 00 28.8 +1.3**
BOAC *e*S **S 19 01 06.7 +17**
POLP Polilio Island 1.57 65 *e*P **P 19 00 29.3 +0.8**
SJMP San Jose 1.72 158 *e*P **P 19 00 30.7 +0.6**
SJMP *e*S **S 19 00 53.9 -0.9**
SCZP Santa Cruz 1.78 342 *e*P **P 19 00 30.0 -0.8**
SCZP *e*S **S 19 00 53.1 -3.0**
GQP Guinayangan 1.93 95⇓*e*P **P 19 00 33.2 +0.7**
GQP *e*S **S 19 01 00.7 +1.7**
BALP Baler 1.98 33 *e*P **P 19 00 33.1 0.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BUSP	Coron	2.07	187	eP	P	19 00 34.6	+0.4
BUSP				eS	S	19 01 00.6	-1.4
AUQP	San Andres	2.27	109	eP	P	19 00 39.1	+2.4
OTRP	Odiongan	2.27	138	eP	P	19 00 37.3	+0.6
OTRP				eS	S	19 01 05.6	-0.8
BCPH	Baguio City Da	2.30	3⇑	iP	P	19 00 36.2	-0.9
BCPH				i S	S	19 01 05.3	-1.7
BOLP	Bolinao	2.36	347	eP	P	19 00 37.3	-0.5
KALP	Kalibo	3.00	142⇑	eP	P	19 00 47.6	+1.7
CAUP	Cauayan	3.14	24	eP	P	19 00 47.4	-0.4
CUYO	Cuyo Island	3.24	170	eP	P	19 00 49.5	+0.3
RCP	Roxas	3.34	138⇑	eP	P	19 00 51.6	+1.2
PALP	Palanan	3.52	32	eP	P	19 00 53.1	+0.3
ABRA	Dolores	3.57	4	eP	P	19 00 51.6	-1.8
PVCP	Virac	3.61	97	eP	P	19 00 56.0	+2.1
CVP	Callao Caves	3.84	20	eP	P	19 00 57.0	0.0
	50µm,1.0s						
APYP	Conner	3.84	11	eP	P	19 00 57.1	0.0
APYP				eS	S	19 01 42.2	-0.2
GUIM	Jordan	4.00	149	eP	P	19 01 01.5	+2.5
PIP	Pasuquin	4.23	2⇓	iP	P	19 01 03.8	+1.7
BESP	Borongan	5.43	116	eP	P	19 01 19.8	+1.8
BATP	Bataraza	5.86	207	eP	P	19 01 25.5	+1.9
BATP				eS	S	19 02 30.3	+0.2
BBP	Basco	6.50	12	eP	P	19 01 31.6	-0.7
JOW	Kunigami	14.65	29	P	P	19 03 18.9	-0.2
	1.1nm,0.3s,baz=80,slow=24,SNR=2.6						
JOW				S	S	19 06 00.7	+2.9
ENH	Enshi	19.04	330	eP	P	19 04 10.6	-0.4
	34nm,1.3s						
CM31	Chiang Mai Arr	21.11	285	eP	P	19 04 34.5	+2.2
	1.7nm,0.4s,mb3.7						
CMAR	Chiang Mai Arr	21.11	285	P	P	19 04 34.2	+2.0
	4.1nm,1.0s,mb3.7,baz=95,slow=7.1,SNR=8.6						
CMAR				S	S	19 08 22.8	+10
	0.2nm,0.5s,baz=97,slow=15,SNR=3.4						
CMAR				PcP	PcP	19 08 33.1	-0.5
	0.7nm,0.6s,baz=104,slow=0.6,SNR=6.3						
CBIJ	Chichi jima	24.06	54	P	P	19 04 59.7	-1.1
	26nm,0.6s,mb4.9,baz=139,slow=20,SNR=3.4						
KS15	Wonju Array Si	24.20	15	eP	P	19 05 01.3	-0.7
BJT	Baijiatuau	26.12	352	eP	P	19 05 19.4	-0.6
	16nm,0.8s,mb4.7						
LZH	Lanzhou	26.52	329	P	P	19 05 24.5	+0.9
LZH				AP	pP	19 06 02.5	+8.2
LZH				AMB	AMB		
	comp=Z,69nm,1.5s,mb5.1						
GTA	Gaotai	31.11	328	P	P	19 06 04.6	-0.1
GTA				AMB	AMB		
	comp=Z,8.0nm,1.4s,mb4.3						
MDJ	Mudanjiang	31.42	13	P	P	19 06 05.5	-1.9
	comp=Z,3.9nm,0.6s,mb4.3						
FITZ	Fitzroy Crossi	32.37	171	P	P	19 06 14.2	-1.6
	comp=Z,1.5nm,0.6s,mb3.9,baz=172,slow=14,SNR=3.7						
FITZ				pP	pP	19 06 43.8	-3.9
	comp=Z,6.6nm,1.1s,baz=17,slow=4.6,SNR=4.0						
GUN	Gumba	34.97	299	eP	P	19 06 38.8	+0.9
	comp=Z,22nm,0.4s,mb5.1						
MBWA	Marble Bar	35.02	181	eP	P	19 06 36.7	-1.7
	comp=Z,8.0nm,0.7s,mb4.5						
PKI	Pulchoki	35.28	298	eP	P	19 06 40.0	-0.5
	comp=Z,15nm,0.6s,mb4.8						
ASAJ	Asahikawa	35.41	28	P	P	19 06 41.6	+0.2
	comp=Z,5.9nm,0.7s,mb4.3,baz=214,slow=19,SNR=3.0						
KKN	Kakani	35.45	298	eP	P	19 06 42.4	+0.5
DMN	Daman	35.55	298	eP	P	19 06 43.2	+0.4
	comp=Z,12nm,0.5s,mb4.8						
SONM	Songino Array	35.64	344	P	P	19 06 43.3	0.0
	comp=Z,9.9nm,0.5s,mb4.7,baz=164,slow=9.3,SNR=58						
SONM				ScP		19 12 40.1	
	comp=Z,0.8nm,1.1s,baz=153,slow=5.5,SNR=3.6						
GKN	Gorkha	36.05	298	eP	P	19 06 47.1	+0.1
	comp=Z,44nm,1.3s,mb4.9						
WRAB	Tennant Creek	36.44	158	P	P	19 06 48.2	-2.2
	comp=Z,57nm,1.1s,mb5.1,SNR=9.6						
WRAB	Tennant Creek	36.44	158	eP	P	19 06 48.4	-2.0
	comp=Z,7.7nm,0.5s,mb4.6						
WRA	Warramunga Arr	36.45	158	P	P	19 06 48.4	-2.0
	comp=Z,3.9nm,0.4s,mb4.4,baz=336,slow=9.5,SNR=34						
WRA				pP	pP	19 07 20.1	-2.8
	comp=Z,7.4nm,0.8s,baz=337,slow=9.4,SNR=6.7						
WRA				S	S	19 12 13.7	-6.8
	comp=Z,4.7nm,1.1s,baz=330,slow=14,SNR=12						
WB2	Warramunga Arr	36.45	158	eP	P	19 06 47.9	-2.5
WB2				e	pP	19 07 20.0	-2.9
WB2				eS	S	19 12 14.1	-6.5
KOLN	Koldanda	36.88	298	eP	P	19 06 51.3	-2.7
ASAR	Alice Springs	39.74	161	P	P	19 07 16.9	-0.8
	comp=Z,7.2nm,0.5s,mb4.6,baz=336,slow=6.7,SNR=74						
ASAR				pP	pP	19 07 49.0	-1.6
	comp=Z,6.0nm,0.7s,baz=332,slow=7.2,SNR=6.8						
ASAR				PcP	PcP	19 09 20.2	-1.6
	comp=Z,1.9nm,0.6s,baz=339,slow=3.2,SNR=5.8						
ASAR				S	S	19 13 06.2	-3.9
	comp=Z,4.0nm,0.9s,baz=357,slow=21,SNR=9.1						
ASPA	Alice Springs	39.74	161	eP	P	19 07 16.9	-0.9
ASPA				e	pP	19 07 49.0	-1.6
ASPA				eS	S	19 13 06.1	-4.0
CTA	Charters Tower	42.37	143	eP	P	19 07 40.0	+0.5
	comp=Z,3.4nm,0.5s,mb4.2						
CTA	Charters Tower	42.37	143	P	P	19 07 39.4	-0.1
	comp=Z,5.3nm,0.7s,mb4.3,baz=316,slow=8.2,SNR=14						
CTAO	Charters Tower	42.37	143	eP	P	19 07 39.1	-0.3
	comp=Z,4.9nm,0.6s,mb4.3						
FORT	Forrest	45.18	171	eP	P	19 08 01.1	-0.8
	comp=Z,68nm,0.9s,mb5.3						
KLBR	Kellerberrin	45.47	183	eP	P	19 08 02.9	-1.3
	comp=Z,93nm,1.9s,mb5.1						
MKAR	Makanchi Array	45.60	324	P	P	19 08 05.5	+0.5
	comp=Z,2.7nm,0.5s,mb4.1,baz=116,slow=7.6,SNR=23						
MKAR				pP	pP	19 08 40.3	+1.9
	comp=Z,2.2nm,0.7s,baz=139,slow=8.8,SNR=3.7						
MKAR				PcP	PcP	19 09 40.5	-0.8
	comp=Z,2.1nm,0.7s,baz=122,slow=3.2,SNR=5.8						
MKAR				ScP		19 13 18.8	
	comp=Z,0.9nm,0.9s,baz=90,slow=9.7,SNR=3.7						
NWAO	Narrogin (SRO)	46.83	184	P	P	19 08 13.8	-1.1
	comp=Z,8.5nm,0.7s,mb4.5,baz=352,slow=7.1,SNR=4.4						
NWAO				pP	pP	19 08 43.9	-4.5
	comp=Z,14nm,0.8s,slow=2.0,SNR=2.6						
NWAO	Narrogin (SRO)	46.83	184	P	P	19 08 13.8	-1.1
NWAO				pP	pP	19 08 43.9	-4.5
ULHL	Ulahol	47.30	315	P	P	19 08 20.0	+1.6
	SNR=5.4						
TKM2	Tokmak 2	48.01	316	P	P	19 08 25.1	+1.3
	SNR=12						
KBK	Karagaybulak	48.34	315	P	P	19 08 27.7	+1.2
	SNR=21						
YAK	Yakutsk	48.35	6	eP	P	19 08 24.3	-1.9
	comp=Z,5.2nm,0.5s,mb4.4						
UCH	Uchtor	48.48	315	P	P	19 08 29.6	+2.0
	SNR=14						
CHMS	Chumysh	48.61	316	P	P	19 08 29.2	+0.7
	SNR=10						
ZAL	Zalesovo	48.63	333	P	P	19 08 27.6	-0.9
	comp=Z,4.9nm,0.3s,mb4.6,baz=257,slow=5.6,SNR=19						
AAK	Ala-Archa	48.65	315	P	P	19 08 30.1	+1.3
	SNR=5.6						
AAK	Ala-Archa	48.65	315	eP	P	19 08 28.0	-0.8
	comp=Z,3.1nm,0.6s,mb4.1						
USP	Ospenovka	48.88	316	P	P	19 08 31.3	+0.7
	SNR=12						
AML	Almayashu	49.02	314	P	P	19 08 33.3	+1.7
	SNR=11						
EKS2	Erkin-Say	49.15	315	P	P	19 08 34.0	+1.3
	SNR=11						
KURK	Kurchatov	49.76	326	eP	P	19 08 37.3	+0.1
	comp=Z,32nm,0.6s,mb5.1						
STKA	Stephens Creek	49.97	156	P	P	19 08 37.8	-1.3
	comp=Z,2.1nm,0.7s,mb3.9,baz=355,slow=4.6,SNR=4.1						
STKA				pP	pP	19 09 08.9	-4.1
	comp=Z,2.6nm,0.8s,baz=294,slow=12,SNR=2.1						
BVAR	Borovoye Array	55.34	326	P	P	19 09 18.2	-0.3
	comp=Z,18nm,0.6s,mb5.0,baz=95,slow=6.9,SNR=54						
BRVK	Borovoye	55.42	326	eP	P	19 09 18.6	-0.5
	comp=Z,38nm,0.9s,mb5.1						
ZRNK	Zerenda	56.07	325	eP	P	19 09 23.2	-0.6
	comp=Z,27nm,0.7s,mb5.2						
ARU	Arti	62.95	327	eP	P	19 10 09.2	-1.7
	comp=Z,10nm,0.7s,mb4.8						
GNI	Garni	70.21	308	eP	P	19 10 58.2	+1.3
	comp=Z,27nm,1.4s,mb4.8						
RPZ	Rata Peaks	73.72	144	P	P	19 11 16.9	-0.6
	comp=Z,3.9nm,0.8s,mb4.2,baz=294,slow=16,SNR=2.5						
MCK	McKinley	77.77	27	eP	P	19 11 38.8	-1.1
	comp=Z,10nm,0.8s,mb4.5						
SML	Sawmill	78.29	29	eP	P	19 11 42.1	-0.7
ILAR	Eielson Array	78.52	26	P	P	19 11 42.0	-2.0
	comp=Z,1.4nm,0.7s,mb3.7,baz=310,slow=4.2,SNR=14						
ARCES	ARCESS Array B	78.66	339	P	P	19 11 44.2	-0.4
	comp=Z,3.5nm,0.6s,mb4.2,baz=74,slow=7.0,SNR=15						
BRTR	Keskin Array B	78.75	308	P	P	19 11 46.0	+0.3
	comp=Z,1.3nm,0.7s,mb3.7,baz=135,slow=3.5,SNR=4.1						
BRTR				LR	LR	19 53 22.8	
	comp=Z,34nm,19.1s,baz=90,slow=41						
KAF	Kangasniemi	79.63	332	ep	P	19 11 48.1	-1.9
	comp=Z,2.8nm,0.5s,mb4.2,baz=75,slow=4.9						
FINES	FINESS Array B	79.86	331	P	P	19 11 50.7	-0.6
	comp=Z,3.2nm,0.5s,mb4.2,baz=57,slow=6.0,SNR=21						
FINES				LR	LR	19 50 03.9	
	comp=Z,110nm,18.4s,baz=145,slow=38						
FINES	FINESS Array B	79.86	331	P	P	19 11 50.7	-0.6
FINES				LR	LR	19 50 03.9	
AKASG	Malin Array Be	80.04	320	P	P	19 11 51.5	-0.9
	comp=Z,2.8nm,0.7s,mb4.0,baz=65,slow=5.1,SNR=8.1						
INK	Inuvik	82.83	21	P	P	19 12 06.5	-0.2
	comp=Z,2.8nm,0.6s,mb4.2,baz=142,slow=19,SNR=4.0						
MLR	Muntele Rosu	83.23	315	P	P	19 12 10.1	+1.0
	comp=Z,6.7nm,0.5s,mb4.6,baz=329,slow=4.0,SNR=29						
KMBO	Kilima Mbogo	83.69	267	P	P	19 12 14.3	+2.1
	comp=Z,0.5nm,0.3s,mb3.8,baz=60,slow=22,SNR=3.0						
NIE	Niedzica	85.92	320	eP	P	19 12 23.5	+1.1
OJC	Ojcow	86.00	321	eP	P	19 12 23.0	+0.2
OJC	Ojcow	86.00	321	eP	P	19 12 23.0	+0.2
HFS	Hagfors	86.05	331	P	P	19 12 21.8	-1.0
	comp=Z,4.3nm,0.6s,mb4.3,baz=72,slow=4.6,SNR=12						
NB2	NORSAR Subarra	86.83	333	P	P	19 12 25.3	-1.2
	comp=Z,5.9nm,0.7s,mb4.5,baz=68,slow=4.5						
NB2	NORSAR Subarra	86.83	333	P	P	19 12 25.3	-1.2
	baz=68,slow=4.6						
NOA	NORSAR Array B	86.83	333	P	P	19 12 25.4	-1.1
	comp=Z,4.0nm,0.6s,mb4.4,baz=68,slow=4.7,SNR=15						
VRAC	Vranov	88.26	321	P	P	19 12 34.6	+1.0
	comp=Z,1.3nm,0.5s,mb4.0,baz=94,slow=6.7,SNR=4.0						
BRG	Berggiesshubel	89.31	323	P	P	19 12 38.6	+0.1
	comp=Z,6.0nm,0.9s,mb4.5						
CLL	Collm	89.70	323	P	P	19 12 40.0	-0.3
KHC	Kasperske Hory	90.17	321	x	P	19 12 41.5	-1.1
GERES	GERESS Array B	90.21	321	P	P	19 12 43.0	+0.2
	comp=Z,1.2nm,0.7s,mb4.0,baz=72,slow=4.2,SNR=12						
YKA	Yellowknife Ar	92.52	22	P	P	19 12 52.9	-0.3
	comp=Z,4.1nm,0.8s,mb4.6,baz=307,slow=4.4,SNR=7.3						
YKA				LR	LR	20 01 24.1	
	comp=Z,67nm,18.0s,baz=295,slow=40						
PGF	Pioggiola	95.72	316	eP	P	19 13 08.5	+0.3
	comp=Z,8.4nm,0.7s,mb4.9						
LPG	La Plagne	95.90	320	eP	P	19 13 09.1	+0.1
LPL	La Plagne	95.91	320	eP	P	19 13 09.2	+0.2
	comp=Z,5.0nm,0.7s,mb4.6						
MBDF	Montbardon	96.23	319	eP	P	19 13 12.4	+1.9
	comp=Z,13nm,1.0s,mb4.9						
ORIF	Oris-en-Rattie	96.71	319	eP	P	19 13 12.8	+0.1
	comp=Z,4.0nm,0.7s,mb4.6						
FRF	La Foret Royal	96.84	318	eP	P	19 13 13.8	+0.5
LOR	Lormes	96.84	322	eP	P	19 13 14.6	+1.4
SSF	Saint Saulge	97.15	322	eP	P	19 13 16.1	+1.5
	comp=Z,17nm,1.2s,mb5.0						
FLN	La Foliniere	98.58	325	eP	P	19 13 22.6	+1.6
	comp=Z,9.3nm,0.8s,mb5.0						
VNA2	Neumayer--Watz	115.08	197⇓	i	PKPdf	19 18 23.7	+2.7
VNA3	Neumayer Olymp	115.53	196⇓	i	PKPdf	19 18 24.3	+2.4

*CSEM **06** 19:01:21.5, 12.08N×43.45E, h24km, ML3.5, After DHMR*

DHMR 06 19:01:20.5±1.3, 12.14N×43.41E, h8km±8km, ML3.5, 1C-2D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TRBA	At Turbah	1.27	33	i P	Pb	19 01 44.5	+0.2
TRBA				i S	Sb	19 02 03.1	+2.4
TRBA				AML	AML	19 02 03.4	
	comp=E,780nm,0.4s						
TRBA	At Turbah	1.27	33⇑	iP	Pb	19 01 44.4	0.0
TRBA				i S	Sb	19 02 03.0	+2.2
UDYN	Al 'Udayn	1.91	17⇓	iP	Pn	19 01 54.7	+1.0
UDYN				AML	AML	19 01 59.7	
	comp=Z,667nm,0.5s						
UDYN				i S	Sn	19 02 20.3	+2.2
UDYN	Al 'Udayn	1.91	17⇓	iP	Pn	19 01 54.7	+1.0
UDYN				i S	Sn	19 02 20.3	+2.2
LBOS		2.49	46	i P	Pn	19 02 04.4	+2.4
LBOS				i S	Sn	19 02 37.2	+4.3
BDHA	Al Bayda'	2.79	49	i P	Pn	19 02 08.0	+1.7
BDHA				i S	Sn	19 02 46.1	+5.6
BDHA	Al Bayda'	2.79	49	i P	Pn	19 02 07.9	+1.6
BDHA				i S	Sn	19 02 43.2	+2.7
HAJJ	Hajjah	3.55	3	i P	Pn	19 02 17.9	+0.8
HAJJ				i S	Sn	19 03 04.5	+4.8
HAJJ	Hajjah	3.55	3	i P	Pn	19 02 17.9	+0.8
HAJJ				i S	Sn	19 03 03.6	+3.9

ISC 06 19:04:45.9±0.9, 44.89N±0.03×15.22E±0.08, h10km, n17, σ1.18/31, 4C-5D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NVLJ	Novalja	0.40	218	i Pg	Pg	19 04 54.4	+0.3
NVLJ				i Sg	Sg	19 04 59.9	+0.2
VBY	Vinica-Bojanci	0.62	3	ePg	Pg	19 04 59.1	+0.7
VBY				eSg	Sg	19 05 09.0	+2.2
KNDS	Knezji Dol	0.88	318⇓	iPg	Pg	19 05 01.1	-2.4
	comp=Z,36nm,0.2s						
VISS	Visnje	0.96	344	i Pg	Pg	19 05 04.5	-0.5
	comp=Z,45nm,0.2s						
CRES	Cresnjev	0.96	10	i Pg	Pg	19 05 06.5	+1.4
	comp=Z,56nm,0.3s						
LJU	Ljubljana	1.26	338	i Pg	Pg	19 05 10.5	-0.5
LJU				eSg	Sg	19 05 29.0	+1.2
	comp=Z,6.0nm,0.1s						
JAVS	Javornik	1.29	322	i Pg	Pg	19 05 08.8	-2.9
VOY	Vojsko	1.48	321	ePn	Pn	19 05 12.2	-0.5
VOY				e		19 05 13.4	
VOY				eSn	Sn	19 05 33.3	+1.1
OBKA	Obir	1.69	344⇑	iPG	Pg	19 05 17.5	-2.2
OBKA				i SG	Sg	19 05 41.2	-1.0
	comp=Z,48nm,0.4s						
DRE	Drenchia	1.70	320⇓	ePn	Pn	19 05 16.4	+0.6
DRE				eSn	Sn	19 05 38.3	+0.5
COLI	Coloredo	1.80	315⇓	iPn	Pn	19 05 17.9	+0.6
COLI				i Sn	Sn	19 05 41.3	+1.0
ROBS	Robic	1.81	319	i Pn	Pn	19 05 17.9	+0.4
	comp=Z,3.0nm,0.1s						
BAD	Bernadia	1.94	315⇓	ePn	Pn	19 05 19.5	+0.3
BAD				eSn	Sn	19 05 43.7	-0.1
LSR	Lussari	1.98	324⇓	iPn	Pn	19 05 21.2	+1.3
LSR				i Sn	Sn	19 05 47.8	+2.8
ARSA	Arzberg	2.38	5⇑	iPN	Pn	19 05 25.3	-0.2
ARSA				i SN	Sn	19 05 54.9	-0.1
ARSA				i SG	Sg	19 06 04.8	-0.2
	comp=Z,6.5nm,0.4s						
KBA	Koelnbreinsper	2.55	330⇑	iPN	Pn	19 05 27.0	-1.1
KBA				i PG	Pg	19 05 33.1	-3.8
KBA				i SG	Sg	19 06 08.1	-2.8
	comp=Z,5.8nm,0.3s						
MOA	Molln	3.04	348⇑	iPN	Pn	19 05 34.0	-1.0
MOA				i SN	Sn	19 06 11.3	-0.5

*CSEM **06** 19:13:14.8±0.3, 42.80N×1.44W, h10km, ML2.2/1, Error ellipse: s-maj=4.9km s-min=2.4km az=44.0*

*STR **06** 19:13:15.2±0.3, 43.36N×0.68W, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 06 19:13:14.2±0.3, 42.78N×1.46W, h2km, Md2.2/2, Ml2.2/1, Error ellipse: s-maj=5.8km s-min=2.7km az=49.0, Pyrenees

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.38	28	ePg	Pg	19 13 21.6	-0.1
SJPF				eSg	Sg	19 13 24.5	-2.2
	24nm,0.3s						
LARF	Larrau	0.43	53	Pg	Pg	19 13 22.6	-0.3
LARF				Sg	Sg	19 13 28.4	-0.3
OSSF	Osses	0.50	17	Pg	Pg	19 13 23.7	-0.5
OSSF				Sg	Sg	19 13 29.7	-1.1
ETSF	Etsaut	0.68	80	ePg	Pg	19 13 27.0	-0.7
ETSF				eSg	Sg	19 13 36.1	-0.6
	5.5nm,0.3s						

IDC 06 19:34:29.7±1.7, 3.86N×128.64E, mb3.5/5, mb1 3.7/5, mb1mx3.5/18, Error ellipse: s-maj=92.3km s-min=22.2km az=70.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	22.02	188	P	P	19 39 27.4	-0.2
	1.3nm,0.8s,baz=322,slow=16,SNR=2.3						
WRA	Warramunga Arr	24.30	167	P	P	19 39 48.6	-1.6
	0.5nm,0.5s,baz=345,slow=10,SNR=9.3						
ASAR	Alice Springs	27.83	170	P	P	19 40 20.4	-2.7
	0.1nm,0.4s,baz=349,slow=7.1,SNR=3.7						
STKA	Stephens Creek	37.61	162	P	P	19 41 46.2	-1.9
	2.5nm,1.0s,baz=331,slow=13,SNR=2.0						
MKAR	Makanchi Array	58.55	324	P	P	19 44 28.2	-2.2
	0.6nm,0.6s,baz=114,slow=8.1,SNR=12						

*IDC **06** 19:36:34.6±1.4, 3.74N×128.55E, mb3.6/7, mb1 3.8/7, mb1mx3.7/18, Error ellipse: s-maj=70.4km s-min=17.0km az=67.0*

*NEIC **06** 19:36:36.4±0.8, 3.69N×128.49E, h10km, mb4.1/1, Error ellipse: s-maj=38.0km s-min=9.6km az=68.0*

ISC 06 19:36:37.8±1.1, 3.7N±0.2×128.4E±0.4, h33km, n8, σ0.45/8, mb3.6/8, North of Halmahera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.86	187	P	P	19 41 28.8	-0.7
	0.5nm,0.5s,mb3.2,baz=6.7,slow=9.4,SNR=5.1						
WRAB	Tennant Creek	24.21	166	eP	P	19 41 53.3	+0.6
	3.2nm,0.6s,mb3.9						
WRA	Warramunga Arr	24.22	166	P	P	19 41 53.2	+0.4
	1.1nm,0.5s,mb3.5,baz=345,slow=10,SNR=13						
ASAR	Alice Springs	27.73	169	P	P	19 42 25.3	-0.3
	0.4nm,0.6s,mb3.3,baz=352,slow=7.7,SNR=6.1						
CMAR	Chiang Mai Arr	32.36	299	P	P	19 43 07.2	+0.6
	0.9nm,0.7s,mb3.7,baz=112,slow=7.2,SNR=8.6						
STKA	Stephens Creek	37.55	161	P	P	19 43 50.8	0.0
	0.5nm,0.3s,mb3.6,baz=331,slow=10,SNR=5.1						
SONM	Songino Array	47.87	340	P	P	19 45 14.4	-0.1
	0.4nm,0.7s,mb3.5,baz=145,slow=9.3,SNR=3.5						
MKAR	Makanchi Array	58.55	324	P	P	19 46 33.1	-0.4
	0.7nm,0.4s,mb4.0,baz=112,slow=8.0,SNR=23						

*JMA **06** 19:38:16.5±0.2, 23.05N×122.94E, h50km, M2.1*

TAP 06 19:38:13.2, 22.97N×122.78E, h9km±1km, ML3.0, Taiwan region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HATJ	Hateruma jima	1.43	41	P	Pn	19 38 38.4	-1.1
HATJ				S	Sb	19 38 54.5	-3.4
YOJ	Yonaguni jima	1.50	8	P	Pn	19 38 40.2	-0.2
IRIF	Iriomote-Funau	1.61	32	P	Pn	19 38 41.3	-0.8
IRIF				eS	Sb	19 38 59.5	-3.6
JKRS	Kuro-shima	1.69	42	P	Pn	19 38 42.2	-1.0
JKRS				eS	Sn	19 39 00.9	-4.2
JIJ	Ishigaki jima	1.87	42	P	Pn	19 38 44.6	-1.1
JIJ				S	Sn	19 39 04.5	-5.1
JTJ	Tarama	2.42	46	P	Pn	19 38 52.3	-1.3
JTJ				eS	Sn	19 39 18.4	-5.3

TIF 06 20:01:20.0, 42.98N×44.28E, h10km, Mpv4.4, 1C-2D, Western Caucasus

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ONI	Oni	0.73	237⇑	iP	Pb	20 01 36.2	+1.8
ONI				i S	Sb	20 01 47.8	+3.6
DUS	Dusheti	0.94	161⇓	iP	Pb	20 01 40.0	+2.0
DUS				i S	Sb	20 01 54.7	+4.4
TBLG	Delisi	1.29	165	i P	Pb	20 01 46.0	+2.0
	comp=Z,800nm,0.3s						
TBLG				eS	Sb	20 02 05.0	+4.5
	comp=E,2µm,0.5s						
AKH	Akhalkalaki	1.67	201⇓	iP	Pn	20 01 53.0	+3.3
AKH				i S	Sn	20 02 16.4	+5.1
STE	Stepanavan	1.98	177	i P	Pn	20 01 56.0	+2.0

*IDC **06** 20:12:09.7±0.9, 3.83N×128.69E, mb3.8/9, mb1 3.9/9, mb1mx3.8/20, Error ellipse: s-maj=44.7km s-min=15.0km az=63.0*

*NEIC **06** 20:12:11.3±0.5, 3.80N×128.69E, h10km, mb4.0/1, Error ellipse: s-maj=21.7km s-min=7.8km az=64.0*

ISC 06 20:12:12.7±0.8, 3.8N±0.1×128.7E±0.2, h33km, n11, σ0.48/11, mb3.8/10, North of Halmahera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.99	188	P	P	20 17 05.2	-0.5
	1.4nm,0.8s,mb3.5,baz=86,slow=6.8,SNR=4.9						
PMG	Port Moresby	22.65	126	P	P	20 17 12.0	-0.5
	6.9nm,0.7s,mb4.2,baz=166,slow=18,SNR=1.9						
WRAB	Tennant Creek	24.27	167	eP	P	20 17 28.7	+0.5
	3.2nm,0.7s,mb3.9						
WRA	Warramunga Arr	24.27	167	P	P	20 17 28.8	+0.5
	1.4nm,0.6s,mb3.6,baz=344,slow=10,SNR=21						
WB2	Warramunga Arr	24.28	167	eP	P	20 17 28.8	+0.5
ASAR	Alice Springs	27.80	170	P	P	20 18 00.3	-0.8
	1.7nm,1.1s,mb3.6,baz=350,slow=7.5,SNR=8.6						
ASAR				PcP	PcP	20 21 17.8	+0.7
	0.3nm,0.7s,baz=354,slow=3.0,SNR=3.8						
CMAR	Chiang Mai Arr	32.49	299	P	P	20 18 42.8	0.0
	0.9nm,0.7s,mb3.7,baz=110,slow=6.7,SNR=9.6						
STKA	Stephens Creek	37.58	162	P	P	20 19 26.2	+0.2
	2.3nm,1.0s,mb3.9,baz=340,slow=8.5,SNR=3.6						
SONM	Songino Array	47.84	340	P	P	20 20 49.9	+0.6
	0.2nm,0.4s,mb3.5,baz=154,slow=7.1,SNR=3.5						
MKAR	Makanchi Array	58.58	324	P	P	20 22 08.4	-0.2
	1.0nm,0.5s,mb4.1,baz=114,slow=8.3,SNR=25						
BVAR	Borovoye Array	68.29	326	P	P	20 23 12.0	-0.4
	0.3nm,0.5s,mb3.6,baz=112,slow=7.8,SNR=3.1						

WEL 06 20:43:26.1±0.3, 35.34S×179.23E, h227km±6km, ML3.9/8, Error ellipse: s-maj=9.2km s-min=4.2km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.34	198	PN	P	20 44 10.0	-0.5
MXZ				SN	S	20 44 44.8	0.0
PUZ	Puketiti	2.83	196	PN	P	20 44 15.7	-0.1
PUZ				SN	S	20 44 54.3	0.0
MWZ	Matawai	3.28	204	PN	P	20 44 21.0	+0.1
MWZ				SN	S	20 45 03.7	+0.2
URZ	Urewera	3.37	210	PN	P	20 44 21.3	-0.7
URZ				SN	S	20 45 05.0	-0.3
KNZ	Kokohu	3.88	198	ePN	P	20 44 27.4	-0.6
KNZ				SN	S	20 45 16.0	0.0
BKZ	Black Stump Fm	4.40	209	PN	P	20 44 33.9	-0.5
WNVZ	Wahianoa	4.92	215	ePN	P	20 44 40.4	-0.5
PWZ	Pawanui	5.04	201	PN	P	20 44 40.6	-1.8
PWZ				SN	S	20 45 40.3	-1.4
BFZ	Birch Farm	5.83	203	ePN	P	20 44 51.8	-0.5
MRZ	Mangatainoka R	6.04	207	ePN	P	20 44 52.3	-2.8
KIW	Kapiti Island	6.48	210	ePN	P	20 44 57.4	-3.2
MTW	Mount Morrison	6.50	206	ePN	P	20 44 58.2	-2.7
CAW	Cannon Point	6.62	208	ePN	P	20 44 59.2	-3.3
MSWZ	Moikau Station	6.82	206	ePN	P	20 45 02.3	-2.7
TUWZ	Tuamarina	7.36	213	ePN	P	20 45 08.5	-3.4
NNZ	Nelson	7.45	216	ePN	P	20 45 09.3	-3.8
KHZ	Kahutara	8.34	210	ePN	P	20 45 21.4	-3.2

MAN 06 20:55:07.1, 9.49N×125.47E, h16km, mb2.9, ML2.6, MS4.1, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.29	3	eP	Pb	20 55 12.7	-0.8
SCPH				eS	Sb	20 55 21.5	+3.8
BUTP	Butuan	0.54	164	eP	Pb	20 55 19.9	+2.1
BUTP				eS	Sb	20 55 38.5	+14
MSLP	Maasin	0.88	317	eP	Pb	20 55 22.5	-1.1
MSLP				eS	Sb	20 55 39.9	+5.1

*KRSC **06** 20:58:31.5±2.0, 53.24N×170.22E, h168km±18km, ML5.0*

*SYO **06** 20:58:32.1, 53.59N×169.77E, h3^{km}, MB5.1*
*MOS **06** 20:58:33.6±1.1, 53.51N×169.64E, h25^{km}, mb5.0/43, MS4.1/22, Error ellipse: s-maj=8.9km s-min=8.0km az=54.9*
*IDC **06** 20:58:35.8±0.4, 53.55N×169.75E, h28^{km}±2^{km}, mb4.3/25, mb1 4.5/26, mb1mx4.5/27, ML4.5/1, MS4.0/13, Ms1 4.1/13, ms1mx4.0/21, Error ellipse: s-maj=12.6km s-min=9.1km az=2.0*
*HRVD **06** 20:58:36.3±0.4, 53.46N×169.78E, h33^{km}±1^{km}, MW4.9/59, Centroid moment Tensor Solution. LP body waves: s26,c36;Mantle waves: s59,c96; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.42±.17; $M_{\theta\theta}$0.96±.16; $M_{\phi\phi}$0.46±.11; $M_{r\theta}$-0.03±.17; $M_{\theta\phi}$-2.09±.08; $M_{\phi r}$2.01±.16; Best double couple: $M_0$3.15×10^{16} NP1:ϕ_s276°,δ43°, λ-153°. NP2:ϕ_s166°,δ72°,λ-51°. Principal axes: T 3.25, Plg18°, Azm227°; N -.19, Plg37°, Azm332°; P -3.06, Plg47°, Azm117°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **06** 20:58:36.3±0.2, 53.50N×169.83E, h30^{km}, mb5.0/64, MS4.3/54 Error ellipse: s-maj=6.5km s-min=3.4km az=180.0*
*BJI **06** 20:58:36.1, 53.69N×169.25E, h30^{km}, mB4.9, mb5.0, Ms4.4, Msz4.2*
ISC 06 20:58:33.6±0.2**, 53.39N**±0.04×**169.75E**±0.03**, h26^{km}, h26^{km}**±1.2^{km}**:pP-P, n320,** σ1^s**14**/297**, mb4.8**/101**, MS4.3**/85**, 15C-3D, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	**2.12**	**103**	Pn	**Pn**	**20 59 07.4**	**-0.7**
	482nm,0.3s,baz=216,slow=2.5,SNR=5443						
FX1				Sn	**Sn**	**20 59 34.3**	**+0.4**
	baz=122,slow=19						
FX1	**Attu Island--F**	**2.12**	**103**	PN	**Pn**	**20 59 07.4**	**-0.7**
FX1						20 59 34.3	
FX1				pmax	pmax		
	comp=Z,482nm,0.3s						
FX1	**Attu Island--F**	**2.12**	**103**	*e*P	**Pn**	**20 59 07.3**	**-0.8**
SMY	**Shemya**	**2.71**	**102**	*e*PN	**Pn**	**20 59 17.3**	**+0.8**
SMY	**Shemya**	**2.71**	**102**	*e*P	**Pn**	**20 59 17.2**	**+0.7**
BKI	**Bering**	**2.86**	**311**	*e*P	**Pn**	**20 59 22.5**	**+3.8**
BKI				*e*S	**Sn**	**20 59 59.0**	**+6.3**
BKI				Smax			
	comp=Z,5μm,1.5s						
MKZ	**Mys Kozlova**	**4.88**	**287**	*e*P	**Pn**	**20 59 48.3**	**+1.0**
MKZ				*e*S	**Sn**	**21 00 44.9**	**+1.3**
KBTR	**Krutoberegovo**	**4.90**	**308**	*e*P	**Pn**	**20 59 48.8**	**+1.1**
KBTR				*e*S	**Sn**	**21 00 48.0**	**+3.7**
KBG	**Krutoberegovo**	**4.98**	**308**	*e*P	**Pn**	**20 59 48.6**	**-0.2**
KBG				*e*S	**Sn**	**21 00 48.1**	**+1.9**
KBG				Smax			
	comp=Z,2μm,1.0s						
ZLN	**Zelenaya**	**5.81**	**300**	*e*P	**Pn**	**21 00 00.3**	**-0.2**
SPN	**Mys Shipunski**	**5.85**	**271**	*i* P	**Pn**	**20 59 59.6**	**-1.4**
LGNR	**Loginova**	**5.90**	**301**	*e*P	**Pn**	**21 00 02.1**	**+0.4**
LGNR				*e*S	**Sn**	**21 01 08.5**	**-0.7**
TUMR	**Tumrok**	**5.93**	**292**	*e*P	**Pn**	**21 00 02.8**	**+0.7**
KMNR	**Kamenistaya**	**6.02**	**297**	*e*P	**Pn**	**21 00 03.5**	**+0.1**
KMNR				*e*S	**Sn**	**21 01 11.0**	**-1.2**
KRSR	**Krestovskiy**	**6.02**	**302**	*e*P	**Pn**	**21 00 02.9**	**-0.5**
KRSR				*e*S	**Sn**	**21 01 10.1**	**-2.1**
KPT	**Kopyto**	**6.10**	**299**	*e*P	**Pn**	**21 00 05.2**	**+0.7**
NLC	**Nalytchevo**	**6.25**	**272**	*e*P	**Pn**	**21 00 05.7**	**-0.9**
NLC				*e*S	**Sn**	**21 01 14.4**	**-3.5**
KOZ	**Kozyrevsk**	**6.31**	**299**	*e*P	**Pn**	**21 00 07.7**	**+0.1**
KOZ				*e*S	**Sn**	**21 01 18.3**	**-1.3**
SRDR	**Sredinnyy**	**6.49**	**301**	*i* P	**Pn**	**21 00 10.3**	**+0.2**
SDLR	**Sedlovina**	**6.51**	**273**	*e*P	**Pn**	**21 00 09.1**	**-1.2**
UGLR	**Uglovaya**	**6.55**	**273**	*e*P	**Pn**	**21 00 10.2**	**-0.7**
SMAR	**Somma**	**6.56**	**273**	*e*P	**Pn**	**21 00 10.2**	**-0.9**
AVH	**Avacha**	**6.60**	**273**	*e*P	**Pn**	**21 00 10.9**	**-0.7**
KOK	**Koryaka**	**6.66**	**274**	*i* P	**Pn**	**21 00 11.4**	**-1.0**
PET	**Petropavlovsk**	**6.68**	**271**	*e*PN	**Pn**	**21 00 11.4**	**-1.3**
PET				pmax	pmax		
	comp=Z,108nm,0.7s						
PET				MLR	MLR		
	comp=Z,3μm,24.0s						
PET	**Petropavlovsk**	**6.68**	**271**	*e*P	**Pn**	**21 00 11.6**	**-1.1**
	comp=Z,143nm,1.1s						
RUS	**Russkaya**	**6.87**	**266**	*e*P	**Pn**	**21 00 14.9**	**-0.4**
ESO	**Esso**	**6.89**	**296**	*e*P	**Pn**	**21 00 14.3**	**-1.4**
ESO				Smax			
	comp=Z,160nm,1.0s						
OSSR	**Ossora**	**6.95**	**330**	*e*P	**Pn**	**21 00 15.6**	**-0.9**
OSSR				Smax			
	comp=Z,70nm,0.8s						
KIWB	**Kanaga Island**	**8.12**	**96**	*e*P	**P**	**21 00 30.9**	**-2.0**
PAU	**Pauzhetka**	**8.14**	**261**	*e*P	**P**	**21 00 31.9**	**-1.2**
PAU				*e*S	**Sn**	**21 01 58.4**	**-6.9**
PAU				Smax			
	comp=Z,380nm,1.0s						
SKR	**Severo-Kuril's**	**8.83**	**258**	*e*P	**P**	**21 00 41.0**	**-1.7**
SKR				*e*S	**Sn**	**21 02 15.0**	**-7.4**
SKR	**Severo-Kuril's**	**8.83**	**258**	*e*PN	**P**	**21 00 36.6**	**-6.1**
SKR				pmax	pmax		
	comp=N,110nm,1.0s						
SKR				pmax	pmax		
	comp=E,220nm,1.0s						
SKR				pmax	pmax		
	comp=Z,270nm,1.0s						
SKR				MLR	MLR		
	comp=N,1μm,14.0s						
SKR				MLR	MLR		
	comp=E,1μm,14.0s						
SKR				MLR	MLR		
	comp=Z,1μm,14.0s						
SEY	**Seymchan**	**13.20**	**323**	*e*PN	**P**	**21 01 43.4**	**+1.6**
SEY				*e*S	**S**	**21 04 10.8**	**+2.1**
SEY				MLR	MLR		
	comp=Z,20μm,18.0s						
UNV	**Unalaska Valle**	**14.09**	**79**	*e*P	**P**	**21 01 53.9**	**+0.4**
	comp=Z,357nm,1.0s						
ANM	**Nome**	**16.88**	**39**	*e*P	**P**	**21 02 26.4**	**-3.0**
UGL	**Uglegorsk**	**17.81**	**267**	*e*P	**P**	**21 02 39.0**	**-2.1**
UGL				pmax	pmax		
	comp=Z,600nm,4.0s						
UGL				MLR	MLR		
	comp=N,500nm,19.0s						
UGL				MLR	MLR		
	comp=E,1μm,21.0s						
UGL				MLR	MLR		
	comp=Z,1μm,21.0s						
YSS	**Yuzh-Sakhalins**	**18.38**	**260**	⇑*e*P	**P**	**21 02 49.0**	**+0.8**
YSS				pmax	pmax		
	comp=Z,80nm,1.5s						
YSS				MLR	MLR		
	comp=Z,800nm,17.0s						
ASAJ	**Asahikawa**	**20.05**	**253**	P	**P**	**21 03 06.8**	**-0.7**
	comp=Z,9.0nm,0.8s,baz=254,slow=4.6,SNR=3.8						
ASAJ				LR	LR	21 10 10.7	
	comp=Z,540nm,20.9s,MS3.9,baz=240,slow=35						
ASAJ	**Asahikawa**	**20.05**	**253**	P	**P**	**21 03 06.8**	**-0.7**
ASAJ				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ASAJ				MLR	MLR		
	comp=Z,540nm,21.0s						
TTA	**Tatalina**	**20.18**	**48**	*e*P	**P**	**21 03 06.9**	**-1.8**
RSO	**Redoubt South**	**21.40**	**56**	*e*P	**P**	**21 03 20.5**	**-0.8**
KDAK	**Kodiak Island**	**21.54**	**63**	*e*P	**P**	**21 03 20.5**	**-2.1**
	comp=Z,27nm,0.7s,mb4.8						
KDAK				LR	LR		
	comp=Z,424nm,21.0s,MS3.8						
SPU	**Mount Spurr**	**21.79**	**54**	*e*P	**P**	**21 03 24.5**	**-0.6**
IMA	**Indian Mountai**	**21.97**	**41**	*e*P	**P**	**21 03 25.7**	**-1.2**
YAK	**Yakutsk**	**22.73**	**308**	*e*P	**P**	**21 03 33.3**	**-1.0**
YAK				*e*S	**S**	**21 07 38.8**	**+2.1**
YAK				*e**SS		21 07 54.5	
YAK				pmax	pmax		
	comp=Z,30nm,0.7s,mb4.8						
YAK				pmax	pmax		
	comp=N,6.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,28nm,1.4s						
YAK				smax			
	comp=N,4.0nm,1.1s						
YAK				smax			
	comp=E,5.0nm,1.1s						
YAK	**Yakutsk**	**22.73**	**308**	*e*P	**P**	**21 03 32.7**	**-1.6**
	comp=E,63nm,0.8s,mb5.1						
YAK				LR	LR		
	comp=Z,494nm,19.0s,MS4.0						
PMR	**Palmer**	**23.21**	**53**	P	**P**	**21 03 42.3**	**+3.4**
PMR				pmax	pmax		
	comp=Z,22nm,1.2s,mb4.5						
PMR	**Palmer**	**23.21**	**53**	PFAKE		21 03 50.0	+11
PMR				LR	LR		
	comp=Z,826nm,20.0s,MS4.2						
MCK	**McKinley**	**23.46**	**48**	P	**P**	**21 03 41.4**	**0.0**
MCK				pmax	pmax		
	comp=Z,43nm,1.3s,mb4.7						
MCK	**McKinley**	**23.46**	**48**	*e*P	**P**	**21 03 40.4**	**-1.0**
	comp=Z,43nm,1.3s,mb4.7						
MCK				LR	LR		
	comp=Z,356nm,19.0s,MS3.9						
SML	**Sawmill**	**23.60**	**52**	*e*P	**P**	**21 03 43.0**	**+0.3**
SML	**Sawmill**	**23.60**	**52**	*e*P	**P**	**21 03 42.4**	**-0.3**
KLR	**Kul'dur**	**23.92**	**275**	*e*P	**P**	**21 03 43.5**	**-2.4**
KLR				pmax	pmax		
	comp=N,28nm,1.4s						
KLR				pmax	pmax		
	comp=Z,48nm,1.4s,mb4.7						
COLA	**College**	**24.08**	**45**	*e*P	**P**	**21 03 47.1**	**-0.3**
COLA	**College**	**24.08**	**45**	*e*P	**P**	**21 03 46.5**	**-0.9**
ILAR	**Eielson Array**	**24.48**	**45**	P	**P**	**21 03 49.4**	**-1.9**
	comp=Z,29nm,1.0s,mb4.7,baz=255,slow=8.3,SNR=32						
ILAR	**Eielson Array**	**24.48**	**45**	P	**P**	**21 03 49.4**	**-1.8**
ILAR				pmax	pmax		
	comp=Z,29nm,1.0s						
DIV	**Divide**	**24.83**	**54**	*e*P	**P**	**21 03 54.0**	**-0.7**
	comp=Z,33nm,0.8s,mb4.9						
DIV				LR	LR		
	comp=Z,3μm,20.0s,MS4.7						
THY	**Trims Highway**	**24.86**	**49**	*e*P	**P**	**21 03 54.4**	**-0.5**
TIXI	**Tiksi**	**25.44**	**331**	*e*P	**P**	**21 03 59.3**	**-1.1**
TIXI				*e*		21 04 31.3	
TIXI				pmax	pmax		
	comp=Z,28nm,0.9s,mb4.8						
TIXI				MLR	MLR		
	comp=Z,1μm,18.0s,MS4.4						
CLNS	**Chul'man**	**25.53**	**296**	*e*P	**P**	**21 03 58.5**	**-2.8**
CLNS				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.5						
CLNS				pmax	pmax		
	comp=N,18nm,1.1s						
CLNS				pmax	pmax		
	comp=E,14nm,0.8s						
CLNS				MLR	MLR		
	comp=Z,700nm,16.0s,MS4.3						
CLNS				MLR	MLR		
	comp=N,200nm,13.0s,MS3.8						
CLNS				MLR	MLR		
	comp=E,100nm,15.0s,MS3.8						
MIDW	**Midway**	**26.89**	**154**	PFAKE		21 04 30.0	+16
MIDW				LR	LR		
	comp=Z,607nm,20.0s,MS4.2						
MDJ	**Mudanjiang**	**27.45**	**268**	P	**P**	**21 04 18.6**	**-0.5**
MDJ				SCP		21 11 16.6	
MDJ				AMB	AMB		
	comp=Z,15nm,1.2s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,68nm,5.0s						
MDJ				LR	LR		
	comp=N,240nm,23.4s,MS4.0						
MDJ				LR	LR		
	comp=E,433nm,23.4s,MS4.0						
MDJ				LR	LR		
	comp=Z,527nm,22.6s,MS4.1						
MAJO	**Matsushiro**	**27.65**	**245**	P	**P**	**21 04 22.5**	**+1.5**
MAJO				pmax	pmax		
	comp=Z,33nm,1.0s,mb4.9						
MAJO	**Matsushiro**	**27.65**	**245**	*e*P	**P**	**21 04 22.6**	**+1.6**
	comp=Z,31nm,0.9s,mb4.9						
MAJO				LR	LR		
	comp=Z,424nm,21.0s,MS4.0						
MAT	**Matsushiro**	**27.65**	**245**	P	**P**	**21 04 22.4**	**+1.4**
MAT				S	**S**	**21 09 08.0**	**+8.4**
MAT	**Matsushiro**	**27.65**	**245**	*e*P	**P**	**21 04 22.0**	**+1.0**
	comp=Z,39nm,1.0s,mb5.0						
MAT				*e*S	**S**	**21 09 08.0**	**+8.4**
DAWY	**Dawson**	**27.69**	**47**	*e*P	**P**	**21 04 19.8**	**-1.3**
JHJ	**Hachijo jima 2**	**29.43**	**239**	LR	LR	21 17 23.2	
	comp=Z,149nm,19.0s,MS3.6,baz=295,slow=38						
INK	**Inuvik**	**30.05**	**38**	P	**P**	**21 04 40.8**	**-1.5**
	comp=Z,6.0nm,0.5s,mb4.6,baz=271,slow=12,SNR=7.9						
INK	**Inuvik**	**30.05**	**38**	P	**P**	**21 04 41.5**	**-0.8**
INK				pmax	pmax		
	comp=Z,16nm,0.9s						
INK	**Inuvik**	**30.05**	**38**	*e*P	**P**	**21 04 40.7**	**-1.6**
	comp=Z,16nm,0.9s,mb4.8						
CN2	**Changchun**	**30.38**	**270**	*e*P	**P**	**21 04 44.9**	**-0.5**
CN2				*e*PP	PP	21 05 45.8	+0.7
CN2				*e*S	**S**	**21 09 44.8**	**+1.7**
CN2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,600nm,21.0s,MS4.3						
CN2				LR	LR		
	comp=E,500nm,21.0s,MS4.3						
CN2				LR	LR		
	comp=Z,600nm,23.0s,MS4.2						
BOD	**Bodaibo**	**31.03**	**301**	*e*P	**P**	**21 04 49.3**	**-1.7**
SNY	**Shenyang**	**32.64**	**268**	⇑P	**P**	**21 05 05.4**	**+0.1**
SNY				XP	sP	21 05 22.2	+5.8
SNY				S	**S**	**21 10 17.5**	**-1.1**
SNY				LR	LR		
	comp=N,650nm,20.0s						
SNY				LR	LR		
	comp=Z,540nm,20.8s,MS4.2						
INCN	**Inchon**	**33.59**	**259**	PFAKE		21 05 30.0	+16
INCN				LR	LR		
	comp=Z,214nm,20.0s,MS3.9						
WAKE	**Wake Island**	**34.13**	**185**	PFAKE		21 05 30.0	+12
WAKE				LR	LR		
	comp=Z,63μm,19.0s						
YKA	**Yellowknife Ar**	**38.91**	**46**	P	**P**	**21 05 57.3**	**-1.0**
	comp=Z,2.6nm,0.5s,mb4.2,baz=294,slow=8.4,SNR=9.6						
YKA				LR	LR	21 23 03.7	
	comp=Z,309nm,18.7s,MS4.2,baz=290,slow=38						
YKA	**Yellowknife Ar**	**38.91**	**46**	P	**P**	**21 05 57.3**	**-1.0**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
YKA				MLR	MLR		
	comp=Z,309nm,18.7s						
ULN	**Ulaanbaatar**	**39.01**	**288**	PFAKE		21 06 10.0	+11
ULN				LR	LR		
	comp=Z,242nm,21.0s,MS4.0						
SONM	**Songino Array**	**39.40**	**288**	P	**P**	**21 06 02.9**	**+0.3**
	comp=Z,3.4nm,0.8s,mb4.1,baz=58,slow=8.1,SNR=38						
MOY	**Mondy**	**40.39**	**296**	*e*P	**P**	**21 06 11.1**	**+0.4**
SSE	**Sheshan**	**41.27**	**257**	P	**P**	**21 06 18.7**	**+0.5**
SSE				S	**S**	**21 12 35.8**	**+5.4**
SSE				XS		21 12 41.7	
SSE				AMB	AMB		
	comp=Z,23nm,0.7s,mb4.9						
SSE				AMB	AMB		
	comp=Z,61nm,3.6s						
SSE				LR	LR		
	comp=N,109nm,22.4s,MS3.7						
SSE				LR	LR		
	comp=E,66nm,22.4s,MS3.7						
SSE				LR	LR		
	comp=Z,124nm,28.7s						
BTO	**Baotou**	**41.49**	**277**	*e*P	**P**	**21 06 21.2**	**+1.3**
BTO				AMB	AMB		
	comp=Z,14nm,1.4s,mb4.4						
NJ2	**Nanjing**	**41.95**	**260**	*e*P	**P**	**21 06 21.5**	**-2.2**
NJ2				AP	pP	21 06 30.6	-0.9
NJ2				XP	sP	21 06 35.1	+0.3
NJ2				S	**S**	**21 12 36.0**	**-4.3**
NJ2				AMB	AMB		
	comp=Z,80nm,1.0s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,270nm,4.1s						
NJ2				LR	LR		
	comp=N,460nm,17.4s,MS4.5						
NJ2				LR	LR		
	comp=E,370nm,21.0s,MS4.5						
NJ2				LR	LR		
	comp=Z,480nm,12.9s						
SSOR	**Sweet Springs**	**43.62**	**73**	P	**P**	**21 06 38.6**	**+1.5**
SSOR	**Sweet Springs**	**43.62**	**73**	*e*P	**P**	**21 06 37.9**	**+0.8**
EDM	**Edmonton**	**43.82**	**58**	P	**P**	**21 06 38.2**	**-0.4**
EDM	**Edmonton**	**43.82**	**58**	*e*P	**P**	**21 06 37.5**	**-1.1**
HSO	**Harness Mounta**	**44.06**	**75**	*e*P	**P**	**21 06 41.9**	**+1.2**
VGB	**Gordon Butte**	**44.19**	**71**	*e*P	**P**	**21 06 39.2**	**-2.5**
HUMO	**Hull Mountain**	**44.70**	**76**	PFAKE		21 07 00.0	+14
HUMO				LR	LR		
	comp=Z,298nm,20.0s,MS4.2						
YBH	**Yreka Blue Hor**	**45.39**	**76**	P	**P**	**21 06 52.7**	**+1.3**
YBH				pmax	pmax		
	comp=Z,17nm,1.0s						
YBH	**Yreka Blue Hor**	**45.39**	**76**	*e*P	**P**	**21 06 52.4**	**+1.1**
	comp=Z,18nm,1.0s,mb4.9						
YBH				LR	LR		
	comp=Z,381nm,19.0s,MS4.3						
WHN	**Wuhan**	**45.70**	**263**	*e*P	**P**	**21 06 54.8**	**+0.8**
WALA	**Waterton Lakes**	**45.88**	**63**	*e*P	**P**	**21 06 55.0**	**-0.1**
	comp=Z,17nm,0.8s,mb5.0						
WDC	**Whiskeytown Da**	**46.22**	**77**	P	**P**	**21 06 58.6**	**+0.7**
WDC				pmax	pmax		
	comp=Z,22nm,1.2s,mb5.0						
WDC	**Whiskeytown Da**	**46.22**	**77**	*e*P	**P**	**21 06 58.4**	**+0.5**
	comp=Z,21nm,1.1s,mb5.0						
WDC				LR	LR		
	comp=Z,198nm,21.0s,MS4.0						
MOD	**Modoc**	**46.68**	**75**	*e*P	**P**	**21 07 01.9**	**+0.3**
	comp=Z,26nm,1.1s,mb5.1						
MOD				LR	LR		
	comp=Z,210nm,20.0s,MS4.1						
HOPS	**Hopland**	**46.93**	**79**	PFAKE		21 07 20.0	+16
HOPS				LR	LR		
	comp=Z,290nm,22.0s,MS4.2						
MSO	**Missoula**	**47.19**	**65**	PFAKE		21 07 20.0	+14
MSO				LR	LR		
	comp=Z,330nm,22.0s,MS4.2						
ZAL	**Zalesovo**	**47.39**	**307**	P	**P**	**21 07 05.4**	**-1.6**
	comp=Z,0.6nm,0.6s,baz=265,slow=11,SNR=2.3						
ZAL				LR	LR	21 26 43.3	
	comp=Z,80nm,20.9s,baz=324,slow=36						
CHMT	**Chamberlain Mo**	**47.52**	**65**	*e*P	**P**	**21 07 07.5**	**-0.6**
NSHM	**Saint Helena R**	**47.52**	**80**	*e*P	**P**	**21 07 08.5**	**+0.3**
NVS	**Novosibirsk**	**47.60**	**309**	*e*P	**P**	**21 06 50.5**	**-18**
NVS				pmax	pmax		
	comp=E,14nm,1.7s						
NVS				pmax	pmax		
	comp=Z,20nm,1.7s,mb4.9						
OHCM	**Honcut**	**47.64**	**78**	*e*P	**P**	**21 07 08.6**	**-0.6**
BEKR	**Beckwourth**	**47.95**	**77**	*e*P	**P**	**21 07 11.7**	**0.0**
	comp=Z,16nm,1.3s,mb4.9						
LZH	**Lanzhou**	**48.11**	**277**	*e*P	**P**	**21 07 14.5**	**+1.6**
LZH				AP	pP	21 07 22.5	+1.6
LZH				XP	sP	21 07 27.0	+3.0
LZH				AMB	AMB		
	comp=Z,40nm,1.5s,mb5.2						
GTA	**Gaotai**	**48.27**	**283**	P	**P**	**21 07 15.0**	**+0.9**
GTA				PCP	PcP	21 08 42.4	+1.2
GTA				PP	PP	21 09 07.5	+1.4
GTA				PPP	PPP	21 09 58.9	+1.2
GTA				S	**S**	**21 14 16.7**	**+5.5**
GTA				XS		21 14 23.2	
GTA				LR	LR		
	comp=N,146nm,19.8s,MS4.2						
GTA				LR	LR		
	comp=E,184nm,17.5s,MS4.2						
GTA				LR	LR		
	comp=Z,219nm,19.0s,MS4.2						
HRY	**Holter Researc**	**48.41**	**64**	*e*P	**P**	**21 07 14.7**	**-0.4**
WCN	**Washoe City**	**48.67**	**77**	P	**P**	**21 07 18.0**	**+0.8**
WCN				pmax	pmax		
	comp=Z,18nm,1.1s,mb5.0						
WCN	**Washoe City**	**48.67**	**77**	*e*P	**P**	**21 07 17.9**	**+0.7**
	comp=Z,27nm,1.3s,mb5.1						
HLID	**Hailey**	**48.97**	**69**	*e*P	**P**	**21 07 19.3**	**-0.1**
	comp=Z,14nm,1.4s,mb4.8						
HLID				LR	LR		
	comp=Z,244nm,19.0s,MS4.2						
CMB	**Columbia Colle**	**49.15**	**79**	P	**P**	**21 07 21.3**	**+0.4**
CMB				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.9						
CMB	**Columbia Colle**	**49.15**	**79**	*e*P	**P**	**21 07 19.4**	**-1.5**
	comp=Z,5.0nm,0.7s,mb4.7						
CMB				LR	LR		
	comp=Z,203nm,19.0s,MS4.1						
BOZ	**Bozeman (W)**	**49.19**	**65**	*e*P	**P**	**21 07 20.3**	**-0.8**
BOZ				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.9						
BOZ				MLR	MLR		
	comp=Z,360nm,19.0s,MS4.4						
BOZ	**Bozeman (W)**	**49.19**	**65**	*e*P	**P**	**21 07 20.3**	**-0.8**
	comp=Z,16nm,1.3s,mb4.9						
BOZ				LR	LR		
	comp=Z,356nm,19.0s,MS4.4						
BMN	**Battle Mountai**	**49.40**	**74**	P	**P**	**21 07 23.3**	**+0.5**
BMN				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.1						
BMN	**Battle Mountai**	**49.40**	**74**	*e*P	**P**	**21 07 23.0**	**+0.2**
	comp=Z,20nm,1.1s,mb5.0						
BMN				LR	LR		
	comp=Z,193nm,20.0s,MS4.1						
QLMT	**Earthquake Lak**	**49.81**	**66**	*e*P	**P**	**21 07 23.9**	**-2.0**
NVAR	**Mina Array Bea**	**50.10**	**77**	P	**P**	**21 07 28.1**	**-0.1**
	comp=Z,6.2nm,0.7s,mb4.7,baz=304,slow=6.2,SNR=39						
NVAR				LR	LR	21 28 12.2	
	comp=Z,176nm,18.9s,MS4.1,baz=355,slow=36						
GCMT	**Greycliff**	**50.16**	**64**	*e*P	**P**	**21 07 28.4**	**-0.1**
MNV	**Mina**	**50.19**	**77**	*e*P	**P**	**21 07 29.3**	**+0.5**
MNV				MLR	MLR		
	comp=Z,340nm,21.0s,MS4.3						
OMM	**Old Mammoth Mi**	**50.24**	**78**	*e*P	**P**	**21 07 30.2**	**+0.9**
ELK	**Elko**	**50.33**	**72**	P	**P**	**21 07 30.4**	**+0.5**
ELK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ELK	**Elko**	**50.33**	**72**	*e*P	**P**	**21 07 29.6**	**-0.3**
	comp=Z,10.0nm,1.0s,mb4.8						
ELK				LR	LR		
	comp=Z,267nm,20.0s,MS4.2						
MTUM	**Tungsten Hills**	**50.67**	**78**	*e*P	**P**	**21 07 33.0**	**+0.5**
TPH	**Tonopah**	**50.97**	**76**	*e*P	**P**	**21 07 34.8**	**0.0**
TPH				pmax	pmax		
	comp=Z,28nm,1.1s,mb5.1						
TPH				MLR	MLR		
	comp=Z,210nm,20.0s,MS4.2						
TPH	**Tonopah**	**50.97**	**76**	*e*P	**P**	**21 07 34.8**	**+0.1**
	comp=Z,28nm,1.1s,mb5.1						
TPH				LR	LR		
	comp=Z,211nm,20.0s,MS4.2						
HVU	**Hansel Valley**	**51.05**	**70**	P	**P**	**21 07 35.6**	**+0.3**
HVU	**Hansel Valley**	**51.05**	**70**	*e*P	**P**	**21 07 34.8**	**-0.5**
DGMT	**Dagmar**	**51.31**	**58**	PFAKE		21 07 50.0	+13
DGMT				LR	LR		
	comp=Z,796nm,19.0s,MS4.8						
AHID	**Auburn Hatcher**	**51.33**	**68**	*e*P	**P**	**21 07 35.1**	**-2.4**
	comp=Z,8.5nm,0.9s,mb4.7						
LAO	**LASA Array**	**51.41**	**61**	PFAKE		21 07 50.0	+12
LAO				LR	LR		
	comp=Z,976nm,19.0s,MS4.8						
BGU	**Big Grassy Mou**	**51.47**	**71**	*e*P	**P**	**21 07 38.4**	**-0.2**
TRCR	**Troy Canyon**	**51.73**	**75**	*e*P	**P**	**21 07 39.9**	**-0.7**
TRCR				*e*		21 07 53.4	
CD2	**Chengdu**	**51.77**	**272**	P	**P**	**21 07 41.6**	**+0.6**
CD2				AP	pP	21 07 51.9	+2.9
CD2				S	**S**	**21 14 58.7**	**-1.1**
CD2				SS	SS	21 18 35.9	+1.5
CD2				AMB	AMB		
	comp=Z,10.0nm,0.4s,mb5.1						
CD2				AMB	AMB		
	comp=Z,40nm,4.3s						
CD2				LR	LR		
	comp=N,180nm,16.2s						
CD2				LR	LR		
	comp=Z,160nm,16.2s,MS4.1						
HWUT	**Hardware Ranch**	**51.84**	**69**	*e*P	**P**	**21 07 40.7**	**-0.7**
	comp=Z,17nm,1.3s,mb4.8						
HWUT				LR	LR		
	comp=Z,428nm,22.0s,MS4.4						
DAC	**Darwin (Calif)**	**51.98**	**78**	PFAKE		21 07 50.0	+7.5
DAC				LR	LR		
	comp=Z,273nm,19.0s,MS4.3						
DUG	**Dugway**	**52.08**	**71**	P	**P**	**21 07 43.6**	**+0.4**
DUG				pmax	pmax		
	comp=Z,210nm,1.1s						
DUG	**Dugway**	**52.08**	**71**	*e*P	**P**	**21 07 43.4**	**+0.2**
	comp=Z,21nm,1.1s,mb5.0						
DUG				LR	LR		
	comp=Z,216nm,21.0s,MS4.2						
BW06	**Boulder Array**	**52.19**	**67**	PFAKE		21 08 00.0	+16
BW06				LR	LR		
	comp=Z,266nm,21.0s,MS4.2						
PDAR	**Pinedale Array**	**52.19**	**67**	P	**P**	**21 07 43.6**	**-0.3**
	comp=Z,14nm,1.1s,mb4.8,baz=315,slow=4.2,SNR=35						
WMQ	**Urumqi**	**52.23**	**295**	*e*P	**P**	**21 07 43.2**	**-1.1**

WMQ PP PP 21 09 42.0 -1.6
WMQ S **S** **21 15 06.0 +0.1**
WMQ SS SS 21 18 40.0 -1.8
WMQ AMB AMB
comp=Z,10.0nm,1.2s,mb4.6
WMQ LR LR
comp=N,612nm,16.0s,MS4.8
WMQ LR LR
comp=E,473nm,15.0s,MS4.8
WMQ LR LR
comp=Z,318nm,15.0s,MS4.5
TPNV Topopah Spring 52.30 77 P **P 21 07 44.8 -0.1**
TPNV pmax pmax
comp=Z,28nm,1.1s,mb5.1
TPNV Topopah Spring 52.30 77 *e*P **P 21 07 44.7 -0.2**
TPNV LR LR
comp=Z,304nm,20.0s,MS4.2
KURK Kurchatov 52.36 307 P **P 21 07 43.5 -1.7**
KURK pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
KURK Kurchatov 52.36 307 *e*P **P 21 07 43.3 -1.9**
KURK LR LR
comp=Z,94nm,20.0s,MS3.8
NLU North Lily Min 52.66 71 *e*P **P 21 07 47.6 +0.1**
SUMG Summit 52.80 10 *e*P **P 21 07 47.8 -0.3**
comp=Z,30nm,1.0s,mb5.2
DAU Daniels Canyon 52.81 70 P **P 21 07 49.6 +0.9**
DAU Daniels Canyon 52.81 70 *e*P **P 21 07 49.5 +0.8**
MKAR Makanchi Array 53.12 301 P **P 21 07 48.9 -1.9**
comp=Z,1.0nm,0.6s,mb3.9,baz=58,slow=6.8,SNR=20
MKAR LR LR 21 31 46.1
comp=Z,370nm,19.9s,MS4.4,baz=32,slow=38
GYA Guiyang 53.28 266⇑*i*P **P 21 07 52.9 +0.6**
GYA PP PP 21 09 57.0 +3.0
GYA PPP PPP 21 10 59.8 -1.1
GYA S **S** **21 15 21.6 +1.2**
GYA SS SS 21 18 59.4 -0.2
GYA AMB AMB
comp=Z,270nm,4.8s
GYA LR LR
comp=N,220nm,13.8s,MS4.5
GYA LR LR
comp=E,240nm,16.4s,MS4.5
GYA LR LR
comp=Z,290nm,17.0s,MS4.4
ARUT Antelope Range 53.35 74 P **P 21 07 53.0 +0.3**
ARUT Antelope Range 53.35 74 *e*P **P 21 07 52.9 +0.2**
MVU Marysvale 53.57 73 PFAKE 21 08 10.0 +16
MVU LR LR
comp=Z,223nm,21.0s,MS4.2
MSU Marysvale 53.58 73 *e*P **P 21 07 55.0 +0.7**
TMUT Trail Mountain 53.60 71 *e*P **P 21 07 53.5 -0.9**
NEN Nelson 54.02 77 *e*P **P 21 07 57.7 +0.2**
SRU San Rafael 54.11 71 *e*P **P 21 07 58.8 +0.6**
KEV Kevo 54.21 345 *e*p **P 21 07 59.1 +0.6**
ULM Lac du Bonnet 54.22 52 P **P 21 07 56.9 -2.0**
comp=Z,9.7nm,1.0s,mb4.7,baz=305,slow=12,SNR=4.9
ULM LR LR 21 30 43.7
comp=Z,177nm,19.6s,MS4.1,baz=332,slow=36
RSSD Black Hills 54.27 62 *e*P **P 21 07 58.8 -0.5**
RSSD pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
RSSD Black Hills 54.27 62 *e*P **P 21 07 58.8 -0.4**
comp=Z,6.3nm,0.6s,mb4.7
PFO Pinyon Flat Ob 54.50 80 PFAKE 21 08 10.0 +8.8
PFO LR LR
comp=Z,54nm,19.0s,MS3.6
BRVK Borovoye 54.62 313 *e*P **P 21 08 00.1 -1.6**
BRVK pmax pmax
comp=Z,11nm,0.6s,mb5.1
BRVK MLR MLR
comp=Z,140nm,21.0s,MS4.0
BRVK Borovoye 54.62 313 *e*P **P 21 08 00.1 -1.6**
comp=Z,11nm,0.6s,mb5.1
BRVK LR LR
comp=Z,138nm,21.0s,MS4.0
ARCES ARCESS Array B 54.64 345 P **P 21 08 04.1 +2.4**
comp=Z,2.5nm,0.5s,mb4.5,baz=30,slow=8.2,SNR=17
ARCES ARCESS Array B 54.64 345 P **P 21 08 04.1 +2.4**
ARCES pmax pmax
comp=Z,3.0nm,0.5s
ARCES ARCESS Array B 54.64 345 P **P 21 08 04.1 +2.4**
ZRNK Zerenda 55.25 314 *e*P **P 21 08 04.6 -1.8**
ZRNK pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
ZRNK Zerenda 55.25 314 *e*P **P 21 08 04.6 -1.8**
comp=Z,3.4nm,0.4s,mb4.7
ISCO Idaho Springs 56.38 67 P **P 21 08 15.6 +0.9**
ISCO pmax pmax
comp=Z,31nm,1.2s,mb5.2
ISCO Idaho Springs 56.38 67 *e*P **P 21 08 15.5 +0.8**
comp=Z,32nm,1.2s,mb5.2
ISCO LR LR
comp=Z,517nm,20.0s,MS4.6
KMI Kunming 56.62 268⇑*e*P **P 21 08 16.9 +0.3**
KMI PP PP 21 10 23.7 -0.4
KMI S **S** **21 16 09.3 +4.1**
KMI LR LR
comp=N,207nm,22.2s,MS4.4
KMI LR LR
comp=E,262nm,18.5s,MS4.4
KMI LR LR
comp=Z,265nm,24.3s
ARU Arti 56.93 322⇓*i*P **P 21 08 16.0 -2.4**
ARU *i* 21 09 07.0
ARU *e*S **S** **21 16 07.6 -1.2**
ARU *e* 21 18 03.1
ARU *e*SS SS 21 20 03.7 +5.1
ARU pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
ARU MLR MLR
comp=N,200nm,18.0s,MS4.4
ARU MLR MLR
comp=E,200nm,18.0s,MS4.4
ARU MLR MLR
comp=Z,300nm,18.0s,MS4.4
ARU Arti 56.93 322 *e*P **P 21 08 17.3 -1.1**
comp=Z,10nm,0.8s,mb4.9
SDCO Great Sand Dun 57.89 69 PFAKE 21 08 40.0 +15
SDCO LR LR
comp=Z,382nm,20.0s,MS4.5
TUC Tucson 58.76 77 P **P 21 08 31.7 +0.2**
TUC pmax pmax
comp=Z,14nm,1.0s,mb5.0
TUC Tucson 58.76 77 *e*P **P 21 08 30.4 -1.2**
comp=Z,18nm,1.0s,mb5.0
TUC LR LR
comp=Z,154nm,19.0s,MS4.2
ANMO Albuquerque 59.34 72 *e*P **P 21 08 35.3 -0.3**
ANMO Albuquerque 59.34 72 PFAKE 21 08 50.0 +14
ANMO LR LR
comp=Z,193nm,21.0s,MS4.2
LENM Lemitar 59.62 73 *e*P **P 21 08 38.2 +0.8**
AAK Ala-Archa 60.01 302 P **P 21 08 37.8 -2.2**
LSA Lhasa 60.15 280 P **P 21 08 42.5 +1.3**
CBKS Cedar Bluff 60.28 64 PFAKE 21 08 50.0 +8.0
CBKS LR LR
comp=Z,228nm,19.0s,MS4.3
KAF Kangasniemi 61.28 341 *e*p **P 21 08 47.0 -1.4**
KSH Kashi 61.51 299 *e*P **P 21 08 50.5 +0.2**
KSH *e*SCS ScS 21 18 37.3 +1.1
FINES FINESS Array B 61.94 341 P **P 21 08 51.9 -1.0**
comp=Z,4.1nm,0.7s,mb4.7,baz=56,slow=6.9,SNR=8.8
FINES LR LR 21 39 27.9
comp=Z,121nm,18.5s,MS4.1,baz=23,slow=40
FINES FINESS Array B 61.94 341 P **P 21 08 51.9 -1.0**
FINES pmax pmax
comp=Z,4.0nm,0.7s
FINES MLR MLR
comp=Z,121nm,18.5s
JFWS Jewell Farm 62.17 55 PFAKE 21 09 10.0 +15
JFWS LR LR
comp=Z,637nm,21.0s,MS4.8
CPRX Cap Rock 62.21 71 *e*P **P 21 08 55.1 0.0**
SCHQ Schefferville 62.46 33 P **P 21 08 54.3 -2.1**
comp=Z,16nm,0.9s,mb5.2,baz=0.5,slow=5.9,SNR=8.9
SCHQ LR LR 21 38 38.7
comp=Z,214nm,18.1s,MS4.3,baz=355,slow=39
GDL2 Guadalupe Moun 62.54 72 *e*P **P 21 08 50.0 -7.3**
CLNB Carlsbad 62.77 72 *e*P **P 21 08 58.2 -0.6**
WMOK Wichita Mounta 63.80 67 *e*P **P 21 09 04.8 -0.6**
WMOK pmax pmax
comp=Z,18nm,1.0s,mb5.1
WMOK Wichita Mounta 63.80 67 *e*P **P 21 09 04.8 -0.7**
comp=Z,18nm,0.9s,mb5.1
CMAR Chiang Mai Arr 63.97 266 P **P 21 09 07.2 +0.3**
comp=Z,2.6nm,0.6s,mb4.5,baz=24,slow=7.0,SNR=21
CMAR LR LR 21 39 49.5
comp=Z,126nm,19.8s,MS4.1,baz=45,slow=39
CMAR Chiang Mai Arr 63.97 266 P **P 21 09 07.2 +0.4**
CMAR pmax pmax
comp=Z,3.0nm,0.6s
CMAR MLR MLR
comp=Z,126nm,19.8s
GUN Gumba 64.56 283 *e*P **P 21 09 10.0 -0.6**
comp=Z,56nm,1.0s,mb5.6
NB2 NORSAR Subarra 64.64 349 P **P 21 09 09.4 -1.1**
comp=Z,6.4nm,0.5s,mb4.9,baz=15,slow=6.5
NOA NORSAR Array B 64.64 349 P **P 21 09 09.6 -0.9**
comp=Z,5.8nm,0.5s,mb4.8,baz=16,slow=6.6,SNR=20
NOA LR LR 21 39 01.7
comp=Z,94nm,19.8s,MS4.0,baz=25,slow=38
NOA NORSAR Array B 64.64 349 P **P 21 09 09.6 -0.9**
NOA pmax pmax
comp=Z,6.0nm,0.5s
NOA MLR MLR
comp=Z,94nm,19.8s
KKN Kakani 65.00 283 *e*P **P 21 09 12.9 -0.5**
comp=Z,29nm,0.8s,mb5.4
LTX Lajitas 65.07 74 P **P 21 09 14.1 +0.3**
LTX pmax pmax
comp=Z,21nm,0.8s,mb5.2
LTX Lajitas 65.07 74 *e*P **P 21 09 13.8 -0.1**
comp=Z,24nm,0.9s,mb5.2
LTX LR LR
comp=Z,267nm,19.0s,MS4.5
TXAR Lajitas Array 65.07 74 P **P 21 09 13.5 -0.4**
comp=Z,15nm,0.7s,mb5.1,baz=304,slow=4.5,SNR=56
PKI Pulchoki 65.09 283 *e*P **P 21 09 12.8 -1.2**
comp=Z,31nm,0.8s,mb5.4
OBN Obninsk 65.17 333 *e*P **P 21 09 17.5 +3.5**
OBN *e* 21 09 45.7
OBN PPP PPP 21 13 06.0 -7.6
OBN pmax pmax
comp=Z,14nm,0.9s,mb5.0
OBN MLR MLR
comp=Z,200nm,18.0s,MS4.4
GKN Gorkha 65.22 284 *e*P **P 21 09 14.4 -0.4**
comp=Z,34nm,1.0s,mb5.3
DMN Daman 65.24 283 *e*P **P 21 09 14.5 -0.5**
comp=Z,26nm,1.0s,mb5.2
CCM Cathedral Cave 65.32 59 PFAKE 21 09 30.0 +15
CCM LR LR
comp=Z,417nm,21.0s,MS4.6
PMG Port Moresby 65.44 205 PFAKE 21 09 30.0 +14
PMG LR LR
comp=Z,160nm,19.0s,MS4.2
KOLN Koldanda 66.00 285 *e*P **P 21 09 19.2 -0.6**
comp=Z,23nm,0.9s,mb5.2
JCT Junction City 66.42 70 P **P 21 09 21.9 -0.5**
JCT pmax pmax
comp=Z,39nm,1.2s,mb5.3
JCT Junction City 66.42 70 *e*P **P 21 09 21.3 -1.1**
comp=Z,35nm,1.2s,mb5.3
JCT LR LR
comp=Z,208nm,21.0s,MS4.3
MIAR Mount Ida 66.76 63 PFAKE 21 09 40.0 +15
MIAR LR LR
comp=Z,426nm,20.0s,MS4.7
WCI Wyandotte Cave 67.69 56 PFAKE 21 09 40.0 +10
WCI LR LR
comp=Z,547nm,21.0s,MS4.8
WVT Waverly 68.54 58 PFAKE 21 09 50.0 +14
WVT LR LR
comp=Z,587nm,19.0s,MS4.8
PQI Presque Isle 68.86 39 PFAKE 21 09 50.0 +13
PQI LR LR
comp=Z,3μm,20.0s,MS5.6
OXF Oxford 68.99 60 P **P 21 09 37.7 -0.8**
OXF pmax pmax
comp=Z,79nm,1.0s,mb5.6
OXF Oxford 68.99 60 *e*P **P 21 09 37.3 -1.1**
comp=Z,79nm,1.0s,mb5.6
HKT Hockley 69.04 68 PFAKE 21 09 50.0 +11
HKT LR LR
comp=Z,260nm,21.0s,MS4.5
BINY Binghamton 69.33 46 PFAKE 21 09 50.0 +10
BINY LR LR
comp=Z,476nm,19.0s,MS4.8
SSPA Standing Stone 69.75 49 PFAKE 21 09 50.0 +7.0
SSPA LR LR
comp=Z,349nm,22.0s,MS4.6
WVL Waterville 69.99 41 PFAKE 21 10 00.0 +16
WVL LR LR
comp=Z,4μm,22.0s,MS5.7
EMMW East Machias 70.72 39 PFAKE 21 10 00.0 +11
EMMW LR LR
comp=Z,2μm,21.0s,MS5.4
PWV Princeton 70.94 53 *e*P **P 21 09 48.8 -1.6**
AKASG Malin Array Be 71.09 335 P **P 21 09 50.6 -0.4**
comp=Z,3.3nm,0.7s,mb4.3,baz=24,slow=6.0,SNR=6.1
AKASG LR LR 21 46 42.0
comp=Z,141nm,19.0s,MS4.2,baz=345,slow=41
AKASG Malin Array Be 71.09 335 P **P 21 09 50.6 -0.4**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKASG MLR MLR
comp=Z,141nm,19.0s
BLA Blacksburg 71.34 52 *e*P **P 21 09 54.9 +2.2**
BLA Blacksburg 71.34 52 *e*P **P 21 09 51.1 -1.7**
comp=Z,28nm,1.0s,mb5.1
LRAL Lakeview Retre 71.39 60 PFAKE 21 10 00.0 +6.9
LRAL LR LR
comp=Z,470nm,21.0s,MS4.7
GOF Gofitskoye 71.87 323 *e*P **P 21 10 05.0 +9.2**
CBN Corbin 71.95 50 PFAKE 21 10 10.0 +14
CBN LR LR
comp=Z,610nm,21.0s,MS4.8
KIV Kislovodsk 72.95 323 *e*P **P 21 10 10.3 +8.2**
KIV pmax pmax
comp=Z,17nm,1.3s,mb4.8
KIV MLR MLR
comp=Z,137nm,20.0s,MS4.2
KIV MLR MLR
comp=N,90nm,22.0s
KIV MLR MLR
comp=E,40nm,16.0s
KWP Kalwaria 73.64 338 *e*P **P 21 10 06.5 +0.5**
KWP pmax pmax
comp=Z,27nm,1.0s,mb5.1
KWP Kalwaria 73.64 338 *e*P **P 21 10 08.4 +2.4**
KWP Kalwaria 73.64 338 *e*P **P 21 10 08.4 +2.4**
CLL Collm 73.86 345 P **P 21 10 07.0 -0.2**
CLL Collm 73.86 345 *e*P **P 21 10 07.0 -0.2**
BRG Berggiesshubel 74.13 344 *e*P pP 21 10 25.6 +8.6
BRG pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
UPC Upice 74.14 343 *e*P **P 21 10 18.7 +10**
UPC Upice 74.14 343 *e*pP pP 21 10 18.7 +1.7
DPC Dobruska-Polom 74.23 343 *e*P **P 21 10 13.8 +4.4**
SOC Sochi 74.33 325 *e*P **P 21 10 08.0 -2.1**
SOC *e* 21 10 19.1
SOC *e* 21 12 57.1
SOC *e*S S 21 19 36.5 -4.6
SOC *e* 21 20 13.6
SOC *e*SSS SSS 21 27 37.6 -4.6
SOC pmax pmax
comp=Z,14nm,0.7s,mb5.0
SOC pmax pmax
comp=N,30nm,1.1s
SOC pmax pmax
comp=E,16nm,0.8s
SOC MLR MLR
comp=N,123nm,16.0s,MS4.4
SOC MLR MLR
comp=E,73nm,16.0s,MS4.4
SOC MLR MLR
comp=Z,116nm,16.0s,MS4.3
OKC Ostrava-Krasne 74.39 341 *e*P **P 21 10 16.7 +6.4**
NHSC New Hope 74.76 55 PFAKE 21 10 20.0 +7.2
NHSC LR LR
comp=Z,513nm,19.0s,MS4.8
PRU Pruhonice 74.89 344 *e*P **P 21 10 15.5 +2.3**
NKC Novy Kostel 74.99 345 *e*P **P 21 10 15.6 +1.8**
GNI Garni 75.47 320 *e*P **P 21 10 17.9 +1.2**
GNI pmax pmax
comp=Z,15nm,1.0s
GNI MLR MLR
comp=Z,250nm,20.0s
GNI Garni 75.47 320 *e*P **P 21 10 17.9 +1.2**
comp=Z,15nm,0.9s,mb4.9
GNI LR LR
comp=Z,246nm,20.0s,MS4.5
KHC Kasperske Hory 75.88 344 *e*P **P 21 10 20.3 +1.4**
CTA Charters Tower 75.94 203 P **P 21 10 20.8 +1.0**
comp=Z,1.4nm,0.4s,mb4.3,baz=0.7,slow=5.4,SNR=3.8
CTA pP pP 21 10 28.0 0.0
comp=Z,8.7nm,0.9s,baz=17,slow=7.5,SNR=4.0
CTA Charters Tower 75.94 203 P **P 21 10 20.8 +1.0**
CTA *PP pP 21 10 28.0 -0.1
CTA pmax pmax
comp=Z,1.0nm,0.4s
CTA Charters Tower 75.94 203 P **P 21 10 20.8 +1.0**
CTA pP pP 21 10 28.0 -0.1
CTAO Charters Tower 75.94 203 P **P 21 10 21.2 +1.4**
CTAO pmax pmax
comp=Z,13nm,0.9s,mb4.9
CTAO Charters Tower 75.94 203 P **P 21 10 21.1 +1.3**
comp=Z,13nm,0.9s,mb4.9
GERES GERESS Array B 76.14 344 P **P 21 10 20.5 +0.2**
comp=Z,5.2nm,1.1s,mb4.4,baz=18,slow=4.2,SNR=12
GERES GERESS Array B 76.14 344 P **P 21 10 20.5 +0.2**
GERES pmax pmax
comp=Z,5.0nm,1.1s
HYB Hyderabad 76.92 281 *i*P **P 21 10 32.0 +6.7**
HYB *e* pP 21 10 40.0 +6.4
CDF Champ du Feu 77.49 348 *e*P **P 21 10 29.1 +1.3**
FLN La Foliniere 77.89 353 *e*P **P 21 10 30.6 +0.6**
KBA Koelnbreinsper 77.91 344⇑*i*P **P 21 10 32.1 +1.9**
comp=Z,23nm,1.1s,mb5.0
LDF La Druitiere 78.03 353 *e*P **P 21 10 31.9 +1.1**
comp=Z,69nm,1.5s,mb5.1
HINF Hinteralfeld 78.12 348 *e*P **P 21 10 32.6 +1.3**
comp=Z,3.1nm,0.7s,mb4.1
DWPF Disney 78.19 59 PFAKE 21 10 40.0 +7.9
DWPF LR LR
comp=Z,473nm,19.0s,MS4.8
OBKA Obir 78.25 343⇑*i*P **P 21 10 35.9 +3.8**
comp=Z,11nm,0.8s,mb4.8
GRR Gorron 78.28 354 *e*P **P 21 10 32.8 +0.6**
comp=Z,28nm,1.0s,mb4.8
ROSF Rostrenen 78.48 355 *e*P **P 21 10 33.5 +0.2**
SGMF Saint Gilles 78.52 355 *e*P **P 21 10 34.1 +0.6**
LOR Lormes 79.00 350 *e*P **P 21 10 37.1 +0.9**
comp=Z,11nm,1.0s,mb4.5
WRAB Tennant Creek 79.17 214 *e*P **P 21 10 45.2 +7.5**
comp=Z,21nm,1.0s,mb5.0
WB2 Warramunga Arr 79.18 214 *e*P **P 21 10 38.3 +0.6**
WRA Warramunga Arr 79.18 214 P **P 21 10 38.1 +0.4**
comp=Z,0.6nm,0.6s,baz=25,slow=6.1,SNR=15
WRA pP pP 21 10 46.0 0.0
comp=Z,6.0nm,0.8s,baz=28,slow=6.1,SNR=30
WRA sP sP 21 10 51.6 +2.8
comp=Z,9.8nm,0.8s,baz=27,slow=6.3,SNR=24
SSF Saint Saulge 79.24 350 *e*P **P 21 10 38.8 +1.3**
comp=Z,17nm,1.1s,mb4.6
BOLS Boljevac 79.29 337⇑*i*P **P 21 10 40.0 +2.2**
SMF Signal de Mont 79.62 350 *e*P **P 21 10 40.7 +1.2**
comp=Z,8.9nm,0.8s,mb4.4
BGF Bois d'Agland 79.80 351 *e*P **P 21 10 41.4 +0.9**
comp=Z,10.0nm,0.8s,mb4.5
BRTR Keskin Array B 79.81 327 P **P 21 10 42.5 +1.7**
comp=Z,1.5nm,0.7s,mb4.0,baz=79,slow=3.3,SNR=5.9
BRTR pP pP 21 10 50.2 +1.2
comp=Z,9.7nm,1.2s,baz=39,slow=3.3,SNR=8.1
BRTR LR LR 21 46 45.6
comp=Z,58nm,18.6s,MS4.0,baz=310,slow=36
MFF Saint Martin d 80.01 353 *e*P **P 21 10 43.0 +1.4**
TCF Toulx Ste Croi 80.13 351 *e*P **P 21 10 43.5 +1.2**
comp=Z,4.5nm,0.6s,mb4.3
LPL La Plagne 80.40 348 *e*P **P 21 10 45.0 +1.3**
LPG La Plagne 80.42 348 *e*P **P 21 10 45.1 +1.3**
FITZ Fitzroy Crossi 80.69 222 *e*P **P 21 10 47.2 +1.4**
comp=Z,12nm,2.0s,mb4.5
FITZ *e* 21 11 00.4
FITZ Fitzroy Crossi 80.69 222 P **P 21 10 47.3 +1.5**
comp=Z,2.1nm,0.6s,mb4.3,baz=19,slow=4.6,SNR=16
FITZ pP pP 21 10 55.0 +0.8
comp=Z,4.0nm,0.8s,baz=356,slow=6.6,SNR=4.6
FITZ sP sP 21 11 00.2 +3.3
comp=Z,12nm,0.7s,baz=24,slow=4.8,SNR=12
BNI Bardonecchia 80.87 348 *e*P **P 21 10 48.0 +1.8**
BNI pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
BNI Bardonecchia 80.87 348 *e*P **P 21 10 48.0 +1.8**
comp=Z,5.3nm,0.8s,mb4.5
ORIF Oris-en-Rattie 81.10 348 *e*P **P 21 10 49.0 +1.6**
MBDF Montbardon 81.18 348 *e*P **P 21 10 48.7 +0.9**
VIVF Saint-Julien-l 81.30 349 *e*P **P 21 10 49.5 +1.0**
CAF Calviac 81.49 351 *e*P **P 21 10 50.6 +1.1**
comp=Z,13nm,1.1s,mb4.5
LFF La Frestale 81.59 352 *e*P **P 21 10 51.6 +1.6**
LASF Ste Croix 82.16 350 *e*P **P 21 10 53.6 +0.7**
FRF La Foret Royal 82.34 348 *e*P **P 21 10 54.5 +0.6**
comp=Z,52nm,1.4s,mb5.0
ASAR Alice Springs 82.79 213 P **P 21 10 58.0 +1.4**
comp=Z,1.4nm,0.7s,mb4.1,baz=22,slow=5.0,SNR=12
ASAR pP pP 21 11 06.0 +0.9
comp=Z,3.0nm,0.7s,baz=24,slow=5.0,SNR=14
ASAR sP sP 21 11 11.6 +3.8
comp=Z,7.2nm,0.8s,baz=21,slow=5.1,SNR=19
PGF Pioggiola 83.01 346 *e*P **P 21 10 58.3 +0.9**
comp=Z,8.6nm,0.9s,mb4.5
MTLF Montolieu 83.05 351 *e*P **P 21 10 58.2 +0.6**
comp=Z,8.3nm,0.9s,mb4.5
EPF Esparros 83.52 352 *e*P **P 21 11 01.5 +1.6**
comp=Z,2.7nm,0.6s,mb4.3
SJPF Ste Jean 83.56 353 *e*P **P 21 11 01.0 +0.9**
ETSF Etsaut 83.72 353 *e*P **P 21 11 02.4 +1.4**
comp=Z,8.6nm,0.8s,mb4.7
ESDC Sonseca Array 87.15 355 P **P 21 11 18.5 +0.5**
comp=Z,1.1nm,0.7s,mb4.2,baz=12,slow=5.2,SNR=4.1
STKA Stephens Creek 88.37 204 *e*P **P 21 11 26.1 +2.0**
comp=Z,7.2nm,1.2s,mb4.8
STKA Stephens Creek 88.37 204 P **P 21 11 25.4 +1.3**
comp=Z,2.2nm,0.7s,mb4.5,baz=321,slow=22,SNR=5.5
EVO Evora 88.43 358 *e*P **P 21 11 24.9 +0.7**
comp=Z,24nm,1.3s,mb5.0
QSPA South Pole Qui 143.14 180 *e*PKP PKPdf 21 18 01.2 -6.9
MAW Mawson 143.74 218 PKP PKPdf 21 18 04.9 -4.5
comp=Z,1.4nm,0.7s,baz=59,slow=6.3,SNR=4.5
MAW Mawson 143.74 218 PKIKP PKPdf 21 18 04.9 -4.5
MAW pmax pmax
comp=Z,1.0nm,0.7s
SYO Syowa Base 152.40 216⇑PKPbc PKPdf 21 18 27.4 +4.0
SYO Syowa Base 152.40 216⇑PKiKP 21 18 29.1
SYO Syowa Base 152.40 216⇓PKPab PKPab 21 18 37.6 -0.5
SNAA Sanae 161.37 187⇑*i*P PKPab 21 19 14.6 -1.7
SNAA Sanae 161.37 187⇑*i* PKPab 21 19 22.5 +6.2
VNA3 Neumayer Olymp 162.08 181⇑*i*P PKPab 21 19 21.1 +1.6
VNA2 Neumayer--Watz 162.35 183⇑*i*P PKPab 21 19 21.2 +0.5
VNA2 Neumayer--Watz 162.35 183⇑*i* PKPab 21 19 23.0 +2.3
VNA2 Neumayer--Watz 162.35 183⇑*i* PKPab 21 19 23.8 +3.1
VNA1 Neumayer--Stat 162.66 182⇓*i*P PKPab 21 19 23.7 +1.7

NEIC ***06*** *21:03:11.0,32.68S×71.73W,h27km,ML3.1(GUC),After GUC.*

GUC 06 21:03:11.0±0.8,32.68S×71.73W,h27km±5km,MD3.5, ML3.1,4C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PACH	**Papudo**	**0.28**	**61**	⇓*i*P	Pb	21 03 18.1	+0.2
PACH				*i* S	Sb	21 03 23.3	+0.7
LCCH	**Las Cruces**	**0.81**	**170**	⇓*i*P	Pb	21 03 25.8	-0.6
LCCH				*i* S	Sb	21 03 36.8	-0.2
JACH	**Jahuel**	**0.96**	**91**	⇑*i*P	Pn	21 03 28.2	-0.7
JACH				*i* S	Sb	21 03 41.6	+0.3
PEL	**Peldehue**	**1.00**	**118**	*i* P	Pn	21 03 29.6	+0.2
PEL				*i* S	Sb	21 03 43.2	+0.9
RCDM	**Rinconada Maip**	**1.12**	**136**	*e*P	Pn	21 03 30.9	-0.3
RCDM				*i* S	Sn	21 03 45.7	-0.2
RCDM				AMP		21 03 48.6	
	comp=E,394nm,0.1s						
TACH	**Talagante**	**1.18**	**146**	⇓*i*P	Pn	21 03 32.1	0.0
TACH				*i* S	Sn	21 03 47.1	-0.3
CLCH	**Cerro Calan**	**1.24**	**126**	⇑*i*P	Pn	21 03 32.9	+0.1
CLCH				*i* S	Sn	21 03 49.2	+0.5
CLCH				AMP		21 03 50.7	
	comp=E,464nm,0.2s						
CLCH				AMP		21 03 53.5	
	comp=N,663nm,0.7s						
LNV	**Longovilo**	**1.31**	**168**	⇑*i*P	Pn	21 03 33.1	-0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
LNV				*i* S	Sn	21 03 50.3	-0.2
FCH	**Farellones**	**1.38**	**119**	⇓*i*P	Pn	21 03 35.1	+0.3
FCH				*i* S	Sn	21 03 53.5	+1.2
FCH				AMP		21 03 54.5	
	comp=E,436nm,0.2s						
PCH	**Pirque**	**1.39**	**133**	*e*P	Pn	21 03 35.7	+0.7
CHCH	**Chadas Angostu**	**1.55**	**144**	*i* P	Pn	21 03 37.9	+0.7
CHCH				*i* S	Sn	21 03 57.4	+0.8
CMCH	**Combarbala**	**1.62**	**23**	*e*P	Pn	21 03 38.6	+0.3
CMCH				*i* S	Sn	21 03 59.7	+1.2
CMCH				AMP		21 04 04.3	
	comp=E,1μm,0.7s						
CACH	**El Canelo**	**1.72**	**147**	*e*P	Pn	21 03 41.1	+1.3
LMEL	**Las Melosas**	**1.73**	**133**	*e*P	Pn	21 03 41.1	+1.2
LMEL				*i* S	Sn	21 04 03.6	+2.3
LMEL				AMP		21 04 07.2	
	comp=N,352nm,0.3s						
CICH	**Cipreses**	**1.97**	**147**	⇑*i*P	Pn	21 03 44.2	+0.9
SFDO	**San Fernando**	**2.02**	**163**	*i* P	Pn	21 03 45.5	+1.4
SFDO				*i* S	Sn	21 04 11.5	+2.7

*CASC **06** 21:20:36.6±2.5, 12.76N×88.89W, h38^{km}±332^{km}, MD4.3, ML4.2, mb4.0(NEIC)*
*NEIC **06** 21:20:40.9±1.4, 13.10N×88.48W, h86^{km}±14^{km}, mb4.0/7, MD4.2(SNET), Error ellipse: s-maj=23.8km s-min=7.6km az=52.0*
NEIC Felt [III] at San Salvador.
*IDC **06** 21:20:42.0±3.5, 13.20N×88.45W, h93^{km}±31^{km}, mb3.8/10, mb1 4.1/11, mb1mx3.9/20, MS3.6/1, Ms1 3.5/1, ms1mx2.8/21, Error ellipse: s-maj=37.2km s-min=14.3km az=59.0*
ISC 06 21:20:36.2±0.5**, 12.80N**±0.05×**88.87W**±0.03**, h68**^{km}±4^{km}**, n66,** σ**1^{s}00**/80**, mb4.1**/15**, 5C-9D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNVI	**San Vicente**	**0.81**	**2**	*e*P	**P**	**21 20 52.7**	**+0.2**
LFRS	**El Faro**	**0.84**	**347**	*e*P	**P**	**21 20 52.2**	**-0.6**
VSM	**San Miguel**	**0.86**	**43**	⇑*e*P	**P**	**21 20 53.1**	**+0.1**
VSM				*e*S	**S**	**21 21 05.3**	**-0.2**
LCBS	**La Ceiba**	**0.86**	**353**	*e*P	**P**	**21 20 52.7**	**-0.4**
BLLM	**Bellamira**	**0.89**	**44**	⇑*e*P	**P**	**21 20 53.4**	**-0.1**
BLLM				*e*S	**S**	**21 21 07.1**	**+0.8**
LBRS	**Las Brisas**	**0.95**	**350**	⇑*e*P	**P**	**21 20 54.3**	**+0.1**
LBRS				*e*S	**S**	**21 21 06.9**	**-0.7**
SNET	**Serv Nac Est T**	**0.95**	**339**	*e*P	**P**	**21 20 53.9**	**-0.4**
SNET				*e*S	**S**	**21 21 06.8**	**-0.9**
SNET				*i*		21 21 10.3	
	comp=Z,13μm,0.2s						
LFU	**La Fuente**	**0.97**	**346**	⇓*e*P	**P**	**21 20 54.5**	**-0.1**
LFU				*e*S	**S**	**21 21 07.9**	**-0.3**
BOQS	**Boqueron**	**1.01**	**337**	*e*P	**P**	**21 20 52.3**	**-2.8**
CNCH	**Conchagua**	**1.12**	**65**	⇓*e*P	**P**	**21 20 56.3**	**-0.2**
CNCH				*e*S	**S**	**21 21 13.5**	**+2.0**
CAHU	**Cacacuatique**	**1.16**	**34**	⇑*e*P	**P**	**21 20 57.7**	**+0.7**
CAHU				*e*S	**S**	**21 21 14.6**	**+2.0**
SBLS	**San Blas**	**1.27**	**325**	⇓*e*P	**P**	**21 20 58.5**	**0.0**
SNJE	**San Jose**	**1.28**	**326**	⇓*e*P	**P**	**21 20 58.8**	**+0.1**
RTR	**El Retiro**	**1.33**	**326**	⇓*e*P	**P**	**21 20 59.5**	**+0.1**
RTR				*e*S	**S**	**21 21 25.2**	**+8.7**
CUSS	**Cusmapa**	**1.52**	**317**	*e*P	**P**	**21 21 01.7**	**-0.2**
CUSS				*e*S	**S**	**21 21 21.6**	**+0.7**
RBDL	**Robledal**	**1.53**	**329**	*e*P	**P**	**21 21 01.5**	**-0.6**
MTO2	**Montecristo 2**	**1.66**	**343**	*e*P	**P**	**21 21 04.4**	**+0.5**
MTO2				*e*S	**S**	**21 21 25.4**	**+1.1**
CRIN	**San Cristobal**	**1.78**	**93**	*e*P	**P**	**21 21 06.3**	**+0.8**
CRIN				*e*S	**S**	**21 21 27.0**	**0.0**
LEON	**Leon**	**1.97**	**101**	*e*P	**P**	**21 21 08.2**	**+0.1**
LEON				*e*S	**S**	**21 21 29.4**	**-2.1**
TEL3	**Telica 3**	**1.99**	**96**	⇓*e*P	**P**	**21 21 08.7**	**+0.3**
TEL3				*e*S	**S**	**21 21 32.7**	**+0.6**
TELN	**Telica**	**2.00**	**95**	*e*P	**P**	**21 21 08.8**	**+0.3**
TELN				*e*S	**S**	**21 21 32.5**	**+0.1**
IXG	**Ixpaco**	**2.06**	**312**	⇑*e*P	**P**	**21 21 08.9**	**-0.4**
IXG				*e*S	**S**	**21 21 33.8**	**0.0**
IXG				AML	AML	21 21 38.5	
	comp=N,11μm,0.4s						
MIRN	**Miramar**	**2.14**	**99**	*e*P	**P**	**21 21 10.4**	**-0.1**
CNGN	**Cerro Negro**	**2.14**	**98**	*e*P	**P**	**21 21 11.1**	**+0.6**
COPN	**Copaltepe**	**2.31**	**105**	*e*P	**P**	**21 21 12.5**	**-0.4**
COPN				*e*S	**S**	**21 21 39.9**	**-0.3**
MOMJ	**Momotombo**	**2.31**	**99**	⇓*e*P	**P**	**21 21 12.8**	**-0.1**
APYN	**Apoyeque**	**2.53**	**103**	*e*P	**P**	**21 21 16.1**	**+0.2**
XAVN	**Gruta Xavier**	**2.57**	**104**	*e*P	**P**	**21 21 16.8**	**+0.3**
MGAN	**Managua**	**2.65**	**104**	*e*P	**P**	**21 21 13.8**	**-3.8**
MGAN				⇓*e*P		21 21 17.9	
MGAN				*e*S	**S**	**21 21 46.8**	**-1.7**
	comp=E,842nm,0.5s						
MGAN				*i*		21 21 47.6	
	comp=E,752nm,0.6s						
TICN	**Ticuantepe**	**2.69**	**106**	*e*P	**P**	**21 21 18.1**	**-0.1**
WILN	**Americas 2**	**2.70**	**103**	*e*S	**S**	**21 21 49.0**	**-0.9**
PYTN	**Playitas**	**2.76**	**95**	*e*P	**P**	**21 21 19.0**	**-0.3**
TP2	**Tecpan 2**	**2.87**	**314**	⇓*e*P	**P**	**21 21 22.4**	**+1.6**
TP2				*e*S	**S**	**21 21 58.0**	**+3.8**
TP2				AML	AML	21 22 02.7	
	comp=E,573nm,0.5s						
APON	**Apoyo**	**2.88**	**107**	*e*P	**P**	**21 21 25.7**	**+4.8**
JAT	**Jato**	**3.08**	**300**	*e*P	**P**	**21 21 23.8**	**0.0**
JAT				*e*S	**S**	**21 21 58.1**	**-1.5**
JAT				AML	AML	21 22 07.8	
	comp=E,1μm,0.3s						
JTS	**JuntasAbangare**	**4.58**	**123**	*e*P	**P**	**21 21 45.1**	**+0.5**
TEIG	**Tepich**	**7.41**	**4**	P	**P**	**21 22 22.8**	**-1.1**
	comp=E,0.0nm,0.3s,baz=346,slow=24,SNR=2.8						
ROSC	**El Rosal**	**16.39**	**117**	P	**P**	**21 24 24.1**	**+0.8**
	comp=E,1.6nm,0.3s,baz=119,slow=23,SNR=2.3						
SDV	**Santo Domingo**	**18.33**	**100**	*e*P	**P**	**21 24 46.1**	**-1.3**
	comp=E,12nm,1.0s						
JCT	**Junction City**	**20.29**	**332**	*e*P	**P**	**21 25 08.5**	**-0.4**
	comp=E,19nm,0.9s						
LTX	**Lajitas**	**21.44**	**322**	*e*P	**P**	**21 25 22.1**	**+1.6**
	comp=E,5.0nm,0.8s,mb3.9						
TXAR	**Lajitas Array**	**21.44**	**322**	P	**P**	**21 25 22.2**	**+1.7**
	comp=E,3.2nm,0.7s,mb3.8,baz=145,slow=11,SNR=12						
WMOK	**Wichita Mounta**	**23.62**	**339**	*e*P	**P**	**21 25 41.3**	**-0.5**
	comp=E,3.1nm,0.7s,mb3.8						
AMTX	**Amarillo**	**24.86**	**334**	*e*P	**P**	**21 25 53.5**	**-0.4**
SDCO	**Great Sand Dun**	**28.94**	**332**	*e*P	**P**	**21 26 32.8**	**+1.5**
	comp=E,3.6nm,1.2s,mb3.9						
ISCO	**Idaho Springs**	**30.68**	**334**	*e*P	**P**	**21 26 47.7**	**+1.0**
	comp=E,5.1nm,0.9s,mb4.2						
PV10	**Paradox Valley**	**31.15**	**328**	*e*P	**P**	**21 26 51.8**	**+0.9**
SADO	**Sadowa**	**32.93**	**13**	P	**P**	**21 27 03.6**	**-2.6**
	comp=E,5.7nm,0.6s,mb4.6,baz=202,slow=11,SNR=7.3						
PDAR	**Pinedale Array**	**34.82**	**333**	P	**P**	**21 27 21.4**	**-1.0**
	comp=E,1.2nm,0.7s,mb3.8,baz=122,slow=8.5,SNR=4.1						
PDAR				PcP	PcP	21 29 54.7	0.0
	comp=E,0.6nm,0.6s,baz=153,slow=3.3,SNR=4.3						
LPAZ	**La Paz**	**35.44**	**144**	P	**P**	**21 27 29.5**	**+1.5**
	comp=E,0.7nm,0.6s,mb3.7,baz=303,slow=8.2,SNR=4.5						
LPAZ	**La Paz**	**35.44**	**144**	*e*P	**P**	**21 27 29.2**	**+1.2**
	comp=E,1.3nm,0.9s,mb3.8						
NVAR	**Mina Array Bea**	**36.53**	**320**	P	**P**	**21 27 39.5**	**+2.5**
	comp=E,0.9nm,0.7s,mb3.8,baz=125,slow=9.0,SNR=7.1						
DGMT	**Dagmar**	**37.78**	**343**	*e*P	**P**	**21 27 47.6**	**+0.3**
	comp=E,32nm,0.8s,mb5.2						
ULM	**Lac du Bonnet**	**37.78**	**353**	P	**P**	**21 27 46.0**	**-1.3**
	comp=E,8.0nm,0.9s,mb4.5,baz=146,slow=13,SNR=4.3						
ULM				LR	LR	21 47 07.4	
	comp=E,78nm,18.6s,baz=12,slow=42						
EDM	**Edmonton**	**44.79**	**339**	*e*P	**P**	**21 28 44.4**	**-0.4**
SCHQ	**Schefferville**	**45.36**	**18**	P	**P**	**21 28 47.0**	**-2.4**
	comp=E,2.2nm,0.5s,mb4.1,baz=247,slow=8.9,SNR=5.4						
CPUP	**Villa Florida**	**49.53**	**142**	P	**P**	**21 29 24.7**	**+2.3**
	comp=E,1.2nm,0.6s,mb4.0,baz=68,slow=17,SNR=2.7						
CPUP	**Villa Florida**	**49.53**	**142**	P	**P**	**21 29 24.7**	**+2.3**
YKA	**Yellowknife Ar**	**52.92**	**345**	P	**P**	**21 29 45.7**	**-1.7**
	comp=E,8.3nm,1.0s,mb4.7,baz=153,slow=6.3,SNR=10						
YKA	**Yellowknife Ar**	**52.92**	**345**	P	**P**	**21 29 45.7**	**-1.7**
ILAR	**Eielson Array**	**65.15**	**336**	P	**P**	**21 31 11.3**	**-0.6**
	comp=E,1.4nm,0.9s,mb3.8,baz=100,slow=4.7,SNR=8.4						
MAW	**Mawson**	**122.18**	**168**	PKP	PKPdf	21 39 27.3	+4.4
	comp=E,0.5nm,0.6s,baz=263,slow=8.1,SNR=3.6						
KMBO	**Kilima Mbogo**	**125.40**	**82**	PKP	PKPdf	21 39 33.2	+2.6
	comp=E,1.5nm,0.7s,baz=59,slow=13,SNR=3.3						
WRA	**Warramunga Arr**	**138.03**	**254**	PKP	PKPdf	21 39 56.5	+2.3
	comp=E,0.8nm,0.7s,baz=88,slow=2.0,SNR=9.8						
ASAR	**Alice Springs**	**138.10**	**249**	PKP	PKPdf	21 39 57.1	+2.9
	comp=E,0.4nm,0.7s,baz=90,slow=2.7,SNR=3.0						
CMAR	**Chiang Mai Arr**	**148.00**	**346**	PKPbc	PKPdf	21 40 15.8	+4.2
	comp=E,1.5nm,0.7s,baz=340,slow=3.7,SNR=12						

*CSEM **06** 21:21:47.3±0.4, 67.19N×20.85E, h2^{km}, ML2.9, Error ellipse: s-maj=14.5km s-min=9.4km az=128.0, Mining explosion.*
*HEL **06** 21:21:48.4±0.0, 67.19N×20.71E, ML2.9(UPP), Explosion*
*UPP **06** 21:21:48.1, 67.18N×20.72E, h0^{km}, ML2.9, Suspected Mining explosion.*
ISC 06 21:21:47.3±0.6**, 67.18N**±0.04×**20.8E**±0.1**, n12,** σ**0^{s}65**/15**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.10**	**233**	*i* P	**Pg**	**21 21 49.7**	**+0.3**
DUNU				*i* S	**Sg**	**21 21 51.0**	**+0.2**
DUNU	**Dundret**	**0.10**	**233**	P	**Pg**	**21 21 49.6**	**+0.2**
MASU	**Masugnsbyn**	**0.55**	**59**	*i* P	**Pg**	**21 21 58.6**	**+0.4**
MASU	**Masugnsbyn**	**0.55**	**59**	P	**Pg**	**21 21 58.5**	**+0.3**
KUA	**Kurravaara**	**0.79**	**348**	*i* P	**Pg**	**21 22 02.5**	**-0.7**
ERTU	**Ertsjaerv**	**0.84**	**138**	*i* P	**Pg**	**21 22 03.4**	**-0.7**
PAJU	**Pajala**	**0.93**	**99**	*e*P	**Pg**	**21 22 05.5**	**-0.3**
NIKU	**Nikkaluokta**	**0.96**	**316**	*e*P	**Pg**	**21 22 05.1**	**-1.4**
SJUU	**Sjulsmark**	**1.72**	**168**	*e*P	**Pn**	**21 22 18.8**	**+0.2**
KIF	**Kilpisjarvi**	**1.83**	**0**	*e*P	**Pn**	**21 22 21.2**	**+0.9**
KIF				*e*S	**Sn**	**21 22 45.2**	**+0.8**
KIF	**Kilpisjarvi**	**1.83**	**0**	P	**Pn**	**21 22 21.1**	**+0.8**
KIF				S	**Sn**	**21 22 45.2**	**+0.7**
LILU	**Lilltraesk**	**1.94**	**192**	*e*P	**Pn**	**21 22 22.3**	**+0.4**

*GUC **06** 21:47:39.4±0.7, 30.02S×71.61W, h55^{km}±5^{km}, MD4.4, ML4.9*
*NEIC **06** 21:47:39.4, 30.02S×71.61W, h55^{km}, mb4.1/1, MD4.4(GUC), After GUC.*
NEIC Felt [III] at Coquimbo and La Serena.
ISC 06 21:47:38.2±1.0**, 30.02S**±0.03×**71.8W**±0.1**, h53**^{km}±8^{km}**, n24,** σ**0^{s}73**/34**, mb4.1**/1**, 9C-5D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.47**	**77**	⇓*i*P	**P**	**21 47 49.5**	**+0.2**
LSCH				*i* S	**S**	**21 47 56.8**	**-0.6**
LSCH				AMP		21 47 57.6	
	comp=E,62μm,0.3s						
OVCH	**Ovalle**	**0.77**	**140**	⇑*i*P	**P**	**21 47 53.6**	**+0.6**
OVCH				*i* S	**S**	**21 48 04.0**	**-0.1**
OVCH				AMP		21 48 05.5	
	comp=N,40μm,0.6s						
TLL	**Tololo Astrono**	**0.85**	**100**	⇓*i*P	**P**	**21 47 54.8**	**+0.7**
TLL				*i* S	**S**	**21 48 05.8**	**-0.3**
TLL				AMP		21 48 15.1	
	comp=N,13μm,0.5s						
CMCH	**Combarbala**	**1.33**	**150**	⇓*i*P	**P**	**21 48 01.6**	**+0.7**
CMCH				*i* S	**S**	**21 48 18.1**	**+0.2**
CMCH				AMP		21 48 19.8	
	comp=E,128μm,0.7s						
VACH	**Vallenar**	**1.69**	**32**	⇑*i*P	**P**	**21 48 05.8**	**0.0**
VACH				*i* S	**S**	**21 48 26.2**	**-0.2**
VACH				AMP		21 48 28.3	
	comp=N,30μm,0.2s						
JACH	**Jahuel**	**2.84**	**159**	⇓*i*P	**P**	**21 48 22.8**	**+0.6**
JACH				*i* S	**S**	**21 48 55.2**	**-0.3**
PEL	**Peldehue**	**3.25**	**164**	⇓*i*P	**P**	**21 48 28.2**	**+0.2**
PEL				*i* S	**S**	**21 49 05.3**	**-0.5**
PEL				AMP		21 49 20.8	
	comp=N,4μm,0.6s						
DSCH	**Colegio Aleman**	**3.53**	**163**	AMP		21 49 38.5	
	comp=N,4μm,0.8s						
CLCH	**Cerro Calan**	**3.53**	**163**	⇑*i*P	**P**	**21 48 32.2**	**+0.3**
CLCH				*i* S	**S**	**21 49 11.5**	**-1.3**
CLCH				AMP		21 49 31.3	
	comp=E,3μm,0.5s						
CLCH				AMP		21 49 31.6	
	comp=E,3μm,0.7s						
FCH	**Farellones**	**3.54**	**159**	⇑*i*P	**P**	**21 48 32.7**	**+0.7**
FCH				*i* S	**S**	**21 49 12.9**	**0.0**
FCH				AMP		21 49 19.7	
	comp=E,1μm,0.3s						
RCDM	**Rinconada Maip**	**3.56**	**167**	⇑*i*P	**P**	**21 48 32.3**	**-0.1**
RCDM				*i* S	**S**	**21 49 12.6**	**-0.9**
RCDM				AMP		21 49 29.6	
	comp=E,1μm,0.5s						
ANTU	**Antumapu**	**3.67**	**165**	AMP		21 49 33.3	
	comp=N,2μm,0.7s						
TACH	**Talagante**	**3.70**	**169**	⇑*i*P	**P**	**21 48 33.9**	**-0.3**
PCH	**Pirque**	**3.75**	**164**	*i* P	**P**	**21 48 35.2**	**+0.1**
MDZ	**Mendoza**	**3.80**	**140**	*e*P	**P**	**21 48 35.4**	**-0.3**
MDZ				*i* S	**S**	**21 49 21.3**	**+1.8**
LMEL	**Las Melosas**	**4.05**	**161**	*i* P	**P**	**21 48 39.7**	**+0.5**
LMEL				*i* S	**S**	**21 49 25.2**	**-0.6**
LVC	**Limon Verde**	**7.81**	**20**	*e*P	**P**	**21 49 26.6**	**-5.1**
	comp=N,8.1nm,0.4s						
TRQA	**Tornquist**	**11.41**	**137**	*e*P	**P**	**21 50 20.1**	**-0.9**
	comp=N,12nm,1.0s						
LPAZ	**La Paz**	**14.07**	**15**	*e*P	**P**	**21 50 51.9**	**-4.4**
	comp=N,5.3nm,0.5s						
SAML	**Samuel**	**22.45**	**23**	*e*P	**P**	**21 52 32.9**	**-0.9**
	comp=N,7.5nm,0.9s,mb4.1						
JTS	**JuntasAbangare**	**42.03**	**340**	*e*P	**P**	**21 55 15.5**	**-11**
VNA3	**Neumayer Olymp**	**52.97**	**159**	⇑*i*	**P**	**21 56 52.8**	**+1.7**
VNA2	**Neumayer--Watz**	**53.61**	**158**	⇑*i*	**P**	**21 56 56.6**	**+0.8**
SNAA	**Sanae**	**55.20**	**159**	⇑*i*	**P**	**21 57 06.0**	**-1.4**

IDC 06 21:50:45.6±7.6**, 16.76S**×**177.17W, h364**^{km}±87^{km}**, mb3.1**/4**, mb1 3.4**/5**, mb1mx3.2**/15**, Error ellipse: s-maj=47.7km s-min=20.3km az=159.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**17.03**	**108**	P	P	21 54 21.4	-1.7
	1.1nm,0.3s,baz=83,slow=14,SNR=2.3						
URZ	**Urewera**	**22.00**	**192**	P	P	21 55 10.6	-1.2
	9.8nm,1.0s,baz=207,slow=8.0,SNR=3.0						
WRA	**Warramunga Arr**	**46.02**	**258**	P	P	21 58 34.5	-1.5
	0.3nm,0.6s,baz=93,slow=7.4,SNR=9.4						
ASAR	**Alice Springs**	**46.25**	**253**	P	P	21 58 35.9	-1.8
	1.8nm,0.5s,baz=88,slow=8.4,SNR=28						
ILAR	**Eielson Array**	**84.51**	**13**	P	P	22 02 37.9	-1.2
	0.2nm,0.6s,baz=207,slow=4.0,SNR=3.2						
GERES	**GERESS Array B**	**146.79**	**347**	PKPbc	PKPbc	22 09 44.7	+0.1
	0.2nm,0.4s,baz=180,slow=2.7,SNR=3.9						

*LDG **06** 21:54:00.9±0.6, 21.03S×171.48E, h10^{km}, Mb5.1/3, Error ellipse: s-maj=56.1km s-min=9.9km az=157.0*
*IDC **06** 21:54:03.6±1.7, 22.38S×171.38E, h42^{km}±13^{km}, mb4.8/14, mb1 5.0/15, mb1mx4.9/17, ML4.5/1, MS4.5/7, Ms1 4.5/7, ms1mx4.2/18, Error ellipse: s-maj=19.2km s-min=12.7km az=160.0*
*HRVD **06** 21:54:06.3±0.2, 22.56S×171.28E, h48^{km}±1^{km}, MW5.3/68, Centroid moment Tensor Solution. LP body waves: s68,c109;Mantle waves: s61,c112; Half duration: 1^{s}1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.15±.03; $M_{\theta\theta}$-0.45±.03; $M_{\phi\phi}$0.30±.03; $M_{r\theta}$0.45±.03; $M_{\theta\phi}$0.93±.03; $M_{\phi r}$0.44±.03; Best double couple: $M_0$1.18×10^{17} NP1: ϕ_s345°, δ65°, λ163°. NP2:ϕ_s82°, δ75°, λ26°. Principal axes: T 1.27, Plg29°, Azm306°; N -.18, Plg60°, Azm110°; P -1.09, Plg7°, Azm212°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **06** 21:54:06.3±1.1, 22.38S×171.27E, h64^{km}±9^{km}, mb5.2/31 Error ellipse: s-maj=7.3km s-min=6.8km az=189.0*
*BJI **06** 21:54:06.2, 22.40S×171.30E, h64^{km}, mB5.3, mb5.1, Ms5.5, Msz5.1*
ISC 06 21:54:04.7±1.1**, 22.41S**±0.05×**171.23E**±0.05**, h61**^{km}±9^{km}**, n153,** σ**1^{s}02**/94**, mb5.2**/46**, 21C-4D, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.45**	**273**	*e*P	**P**	**21 55 11.5**	**+0.2**
DZM				*e*S	**S**	**21 55 59.2**	**-3.1**
DZM	**Mont Dzumac**	**4.45**	**273**	*e*P	**P**	**21 55 11.5**	**+0.1**
DZM				*e*S	**S**	**21 55 59.2**	**-3.1**
NOUC	**Port Laguerre**	**4.57**	**273**	⇑*i*P	**P**	**21 55 13.2**	**+0.1**
NOUC				*e*S	**S**	**21 56 05.7**	**+0.2**
NOUC	**Port Laguerre**	**4.57**	**273**	⇑*i*P	**P**	**21 55 13.2**	**+0.1**
NOUC				*e*S	**S**	**21 56 05.7**	**+0.2**
BKM	**Butte a Klehm**	**5.49**	**329**	⇑*i*P	**P**	**21 55 29.2**	**+3.4**
HIZ	**Hauiti**	**16.35**	**170**	*e*P	**P**	**21 57 53.9**	**+2.2**
URZ	**Urewera**	**16.59**	**164**	P	**P**	**21 57 54.3**	**-0.4**
	1.8nm,0.3s,baz=334,slow=5.8,SNR=24						
URZ				LR	LR	22 02 49.4	
	comp=Z,3μm,19.6s,baz=206,slow=32						
PUZ	**Puketiti**	**16.74**	**160**	P	**P**	**21 57 57.6**	**+1.0**
RPZ	**Rata Peaks**	**21.25**	**180**	P	**P**	**21 58 47.5**	**-0.2**
	81nm,0.7s,mb5.2,baz=308,slow=1.0,SNR=37						
RPZ				LR	LR	22 05 49.5	
	comp=Z,2μm,21.6s,baz=354,slow=33						
ODZ	**Otahua Downs**	**22.59**	**181**	*e*P	**P**	**21 59 00.3**	**-0.6**
CNB	**Canberra Magne**	**23.01**	**231**	*e*P	**P**	**21 59 07.7**	**+2.6**
	198nm,1.1s,mb5.5						
CTA	**Charters Tower**	**23.39**	**271**	*e*P	**P**	**21 59 10.7**	**+1.8**
	62nm,1.4s,mb4.8						
CTA				*e*S	**S**	**22 03 22.0**	**+8.1**
CTA				*e*SCP		22 06 31.5	
CTA	**Charters Tower**	**23.39**	**271**	P	**P**	**21 59 10.9**	**+2.1**
	116nm,1.2s,mb5.2,baz=90,slow=12,SNR=49						
CTA				LR	LR	22 07 31.3	
	comp=Z,2μm,20.9s,baz=95,slow=34						
CTAO	**Charters Tower**	**23.39**	**271**	*e*P	**P**	**21 59 10.7**	**+1.9**
	187nm,1.2s,mb5.4						
PMG	**Port Moresby**	**26.46**	**295**	*e*P	**P**	**21 59 37.3**	**-0.9**
	49nm,0.8s,mb5.1						
RAR	**Rarotonga**	**26.93**	**93**	LR	LR	22 08 10.7	
	comp=Z,756nm,21.4s,baz=265,slow=32						
STKA	**Stephens Creek**	**27.93**	**244**	*e*P	**P**	**21 59 51.7**	**+0.2**
	39nm,0.8s,mb5.1						
STKA				*e*PP	PP	22 00 34.1	-8.6
STKA	**Stephens Creek**	**27.93**	**244**	P	**P**	**21 59 51.7**	**+0.2**
	49nm,0.8s,mb5.2,baz=90,slow=10.0,SNR=43						
STKA				LR	LR	22 10 10.4	
	comp=Z,574nm,20.3s,baz=70,slow=34						
WAU	**Wau**	**27.96**	**299**	*e*P	**P**	**21 59 52.0**	**+0.1**
ASAR	**Alice Springs**	**34.31**	**260**	P	**P**	**22 00 47.0**	**-0.5**
	94nm,0.7s,mb5.8,baz=87,slow=9.0,SNR=363						
ASAR				S	**S**	**22 06 12.1**	**+2.6**
	2.7nm,1.1s,baz=85,slow=16,SNR=4.5						
ASAR				ScP		22 07 05.0	
	3.1nm,0.9s,baz=107,slow=3.0,SNR=9.0						
ASAR				LR	LR	22 14 43.3	
	comp=Z,587nm,20.1s,baz=98,slow=36						
ASPA	**Alice Springs**	**34.31**	**260**	⇑*i*P	**P**	**22 00 47.0**	**-0.6**
ASPA				*e*S	**S**	**22 06 09.9**	**+0.4**
ASPA				*e*SCP		22 07 05.9	
WB2	**Warramunga Arr**	**34.42**	**267**	⇑*i*P	**P**	**22 00 47.3**	**-1.2**
WB2				*e*S	**S**	**22 06 14.6**	**+3.3**
WB2				*e*SCS	ScS	22 11 06.0	+3.0
WRAB	**Tennant Creek**	**34.43**	**267**	P	**P**	**22 00 47.0**	**-1.5**
	263nm,0.5s,SNR=64						
WRAB	**Tennant Creek**	**34.43**	**267**	*e*P	**P**	**22 00 47.2**	**-1.3**
	31nm,0.5s,mb5.5						
WRA	**Warramunga Arr**	**34.43**	**267**	P	**P**	**22 00 47.4**	**-1.2**
	21nm,0.5s,mb5.3,baz=97,slow=8.2,SNR=583						
WRA				S	**S**	**22 06 17.2**	**+5.7**
	6.2nm,1.2s,baz=99,slow=15,SNR=8.4						
WRA				ScP		22 07 05.6	
	4.4nm,1.0s,baz=96,slow=3.9,SNR=6.2						
WRA				LR	LR	22 14 22.3	
	comp=Z,924nm,21.7s,baz=85,slow=35						
TBI	**Tubuai**	**36.16**	**99**	*e*S	**S**	**22 06 20.4**	**-18**
TBI				*e*L		22 08 47.8	
TBI				*e*R		22 10 27.6	
	2μm,27.8s,baz=266						
PPT	**Papeete**	**37.07**	**90**	*e*S	Sx	22 06 31.5	
PPT				*e*L		22 09 25.9	
PPT				*e*R		22 10 53.8	
	2μm,24.5s,baz=254						
KAKA	**Kakadu**	**38.16**	**278**	⇑*i*P	**P**	**22 01 24.5**	**+4.4**
	30nm,0.5s,mb5.3						
FORT	**Forrest**	**39.30**	**248**	*e*P	**P**	**22 01 29.6**	**+0.2**
	419nm,0.7s						
FITZ	**Fitzroy Crossi**	**42.87**	**267**	⇑*i*P	**P**	**22 01 59.4**	**+0.4**
	78nm,0.8s,mb5.5						
KLBR	**Kellerberrin**	**48.12**	**247**	⇑*i*P	**P**	**22 02 39.6**	**-1.0**
	142nm,1.0s,mb6.0						
NWAO	**Narrogin (SRO)**	**48.51**	**245**	*e*P	**P**	**22 02 43.8**	**+0.2**
	64nm,0.6s,mb5.8						
MUN	**Mundaring**	**49.41**	**246**	*e*P	**P**	**22 02 49.8**	**-0.8**
	38nm,1.0s,mb5.4						
SBA	**Scott Base**	**55.54**	**181**	*e*P	**P**	**22 03 35.6**	**0.0**
	70nm,1.1s,mb5.6						
CASY	**Casey**	**58.01**	**205**	*e*P	**P**	**22 03 51.8**	**-1.4**
	55nm,0.8s,mb5.6						
QSPA	**South Pole Qui**	**67.66**	**180**	*e*P	**P**	**22 04 55.7**	**-1.2**
	39nm,0.8s,mb5.5						
QSPA				LR	LR		
	comp=Z,270nm,21.7s						
YSS	**Yuzh-Sakhalins**	**73.67**	**340**	*e*P	**P**	**22 05 34.3**	**+0.7**
	comp=Z,25nm,0.8s,mb5.2						
FX1	**Attu Island--F**	**74.99**	**1**	P	**P**	**22 05 39.8**	**-1.3**
	comp=Z,14nm,0.8s,mb4.9,baz=310,slow=9.8,SNR=4.6						
SNG	**Songkhla**	**75.06**	**284**	P	**P**	**22 05 42.5**	**+0.2**
MAW	**Mawson**	**76.21**	**202**	P	**P**	**22 05 47.8**	**0.0**
	comp=Z,26nm,1.0s,mb5.1,baz=100,slow=7.3,SNR=51						
MDJ	**Mudanjiang**	**76.78**	**331**	P	**P**	**22 05 52.2**	**+0.7**
KKTK	**Khon Kaen**	**77.23**	**294**	P	**P**	**22 05 55.0**	**+0.5**
TIA	**Tai'an**	**77.53**	**318**	*e*P	**P**	**22 05 52.8**	**-3.0**
CN2	**Changchun**	**78.12**	**328**	*e*P	**P**	**22 05 58.6**	**-0.3**
CN2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
ENH	**Enshi**	**79.11**	**309**	*e*P	**P**	**22 06 03.6**	**-1.0**
	comp=Z,11nm,0.8s,mb4.8						
ENH				*e*pP	pP	22 06 31.2	+10
GYA	**Guiyang**	**79.14**	**304**	P	**P**	**22 06 04.0**	**-0.9**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
NST	**Nakhon Sawan**	**79.22**	**292**	P	**P**	**22 06 07.0**	**+1.6**
NANT	**Nan**	**80.17**	**295**	P	**P**	**22 06 17.0**	**+6.5**
BDT	**Bhumibol Dam**	**80.89**	**293**	P	**P**	**22 06 15.5**	**+1.1**
CMAR	**Chiang Mai Arr**	**81.49**	**294**	P	**P**	**22 06 18.6**	**+1.2**
	comp=Z,9.1nm,0.7s,mb4.8,baz=135,slow=4.1,SNR=51						
KMI	**Kunming**	**81.51**	**301**	⇑*i*P	**P**	**22 06 18.3**	**+0.8**
KMI				AMB	AMB		
	comp=Z,125nm,6.3s						
XAN	**Xi'an**	**81.61**	**312**	P	**P**	**22 06 17.6**	**-0.2**
CHG	**Chiang Mai**	**81.65**	**294**	⇑P	**P**	**22 06 19.5**	**+1.2**
	comp=Z,24nm,0.8s,mb5.2						
SYO	**Syowa Base**	**82.42**	**196**	⇑P	**P**	**22 06 19.1**	**-2.2**
SYO	**Syowa Base**	**82.42**	**196**	⇑P	pP	22 06 37.3	-1.1
PMSA	**Palmer Station**	**83.31**	**159**	*e*P	**P**	**22 06 24.9**	**-1.0**
	comp=Z,28nm,1.0s,mb5.2						
HHC	**Hu-ho-hao-te**	**83.82**	**319**	*e*P	**P**	**22 06 26.9**	**-2.1**
HHC				AMB	AMB		
	comp=Z,14nm,1.1s,mb5.0						
HHC				AMB	AMB		
	comp=Z,99nm,6.5s						
SNAA	**Sanae**	**86.08**	**182**	⇑*i*	**P**	**22 06 36.5**	**-3.0**
SNAA	**Sanae**	**86.08**	**182**	P	**P**	**22 06 38.3**	**-1.2**
	comp=Z,6.4nm,0.9s,mb4.8,baz=192,slow=4.5,SNR=46						
LZH	**Lanzhou**	**86.22**	**311**	*e*P	**P**	**22 06 42.5**	**+1.6**
LZH				AMB	AMB		
	comp=Z,32nm,1.2s,mb5.4						
VNA3	**Neumayer Olymp**	**86.60**	**180**	⇑*i*	**P**	**22 06 42.7**	**+0.7**
VNA2	**Neumayer--Watz**	**86.92**	**180**		**P**	**22 06 44.5**	**+0.9**
KHMM	**Horse Mountain**	**87.19**	**43**	*e*P	**P**	**22 06 46.3**	**+0.8**
VNA1	**Neumayer--Stat**	**87.20**	**180**	⇑*i*	**P**	**22 06 45.8**	**+0.9**
KRMB	**Red Mountain**	**87.43**	**43**	*e*P	**P**	**22 06 47.4**	**+0.7**
WDC	**Whiskeytown Da**	**87.79**	**44**	*e*P	**P**	**22 06 48.6**	**+0.2**
	comp=Z,6.7nm,1.0s,mb4.8						
YBH	**Yreka Blue Hor**	**88.30**	**43**	P	**P**	**22 06 51.0**	**+0.1**
	comp=Z,4.6nm,0.5s,mb5.0,baz=321,slow=1.8,SNR=24						
YBH	**Yreka Blue Hor**	**88.30**	**43**	*e*P	**P**	**22 06 51.1**	**+0.3**
	comp=Z,8.1nm,0.8s,mb5.0						
MTUM	**Tungsten Hills**	**88.81**	**49**	*e*P	**P**	**22 06 53.6**	**+0.2**
BEKR	**Beckwourth**	**88.85**	**46**	*e*P	**P**	**22 06 53.6**	**+0.1**
	comp=Z,11nm,1.4s,mb5.0						
NVAR	**Mina Array Bea**	**89.52**	**48**	P	**P**	**22 06 56.9**	**+0.2**
	comp=Z,8.2nm,0.7s,mb5.2,baz=225,slow=8.9,SNR=56						
MNV	**Mina**	**89.62**	**48**	*e*P	**P**	**22 06 56.9**	**-0.3**
	comp=Z,10nm,0.8s,mb5.2						
MOD	**Modoc**	**89.92**	**44**	*e*P	**P**	**22 06 58.4**	**-0.1**
	comp=Z,13nm,1.1s,mb5.2						
TPH	**Tonopah**	**90.09**	**48**	*e*P	**P**	**22 06 59.5**	**+0.1**
	comp=Z,16nm,1.1s,mb5.2						
TPNV	**Topopah Spring**	**90.24**	**50**	*e*P	**P**	**22 07 00.2**	**+0.1**
	comp=Z,12nm,0.8s,mb5.3						
GTA	**Gaotai**	**90.64**	**313**	*e*P	**P**	**22 07 02.4**	**+0.4**
SONM	**Songino Array**	**90.86**	**322**	P	**P**	**22 07 02.7**	**-0.1**
	comp=Z,5.7nm,1.0s,mb4.9,baz=158,slow=3.0,SNR=22						
BMN	**Battle Mountai**	**91.22**	**46**	*e*P	**P**	**22 07 04.8**	**+0.1**
	comp=Z,15nm,1.2s,mb5.2						
TUC	**Tucson**	**92.20**	**56**	*e*P	**P**	**22 07 09.5**	**+0.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,3.0nm,0.9s,mb4.6						
ELK	Elko	92.70	47	eP	P	22 07 11.1	-0.3
	comp=Z,1.5nm,0.7s,mb4.5						
ILAR	Eielson Array	92.70	17	P	P	22 07 08.4	-2.4
	comp=Z,0.7nm,0.6s,mb4.3,baz=234,slow=4.6,SNR=5.3						
HLID	Hailey	94.52	45	P	P	22 07 19.8	+0.2
	comp=Z,2.6nm,0.9s,mb4.7						
GUN	Gumba	96.32	297	eP	P	22 07 30.3	+2.1
PKI	Pulchoki	96.58	297	eP	P	22 07 29.3	-0.1
TXAR	Lajitas Array	96.65	61	P	P	22 07 29.2	-0.5
	comp=Z,0.4nm,0.6s,mb4.1,baz=211,slow=5.3,SNR=2.6						
KKN	Kakani	96.77	297	eP	P	22 07 30.4	+0.1
	comp=Z,16nm,0.9s,mb5.4						
DMN	Daman	96.85	297	eP	P	22 07 30.1	-0.5
	comp=Z,14nm,0.8s,mb5.4						
GKN	Gorkha	97.38	297	eP	P	22 07 32.2	-0.8
	comp=Z,14nm,1.0s,mb5.4						
MKAR	Makanchi Array	105.28	315	PP	PP	22 12 32.1	-0.6
	comp=Z,0.8nm,0.8s,baz=135,slow=4.1,SNR=3.1						
BVAR	Borovoye Array	114.03	319	PKP	PKPdf	22 12 36.6	-0.2
	comp=Z,0.7nm,0.5s,baz=117,slow=3.2,SNR=5.8						
ZRNK	Zerenda	114.86	319	eP	PKPdf	22 12 37.7	-0.8
ARU	Arti	120.88	323	eP	PKPdf	22 12 49.9	-0.2
BDFB	Brasilia	126.08	131	PKP	PKPdf	22 13 00.4	-0.6
	comp=Z,2.0nm,0.7s,baz=73,slow=12,SNR=2.6						
ARCES	ARCESS Array B	128.59	345	PKP	PKPdf	22 13 05.7	+1.2
	comp=Z,5.5nm,1.0s,slow=2.4,SNR=5.5						
KMBO	Kilima Mbogo	129.42	249	PKP	PKPdf	22 13 10.6	+3.0
	comp=Z,1.5nm,0.8s,baz=55,slow=3.8,SNR=6.1						
FINES	FINESS Array B	134.21	337	PKhKP		22 13 08.2	
	comp=Z,2.1nm,1.0s,baz=90,slow=1.9,SNR=4.7						
FINES				PKP	PKPdf	22 13 15.6	+0.2
	comp=Z,2.7nm,0.9s,baz=54,slow=3.4,SNR=6.2						
FINES				SKPbc		22 16 41.2	
	comp=Z,2.5nm,0.8s,SNR=4.3						
FINES	FINESS Array B	134.21	337	PKP	PKPdf	22 13 15.6	+0.2
FINES				SKPbc		22 16 41.2	
NOA	NORSAR Array B	138.97	345	PKP	PKPdf	22 13 25.7	+1.7
	comp=Z,0.6nm,0.7s,baz=174,slow=18,SNR=2.9						
AKASG	Malin Array Be	139.13	323	PKP	PKPdf	22 13 25.9	+1.3
	comp=Z,0.3nm,0.3s,baz=72,slow=3.0,SNR=6.8						
AKASG				SKPbc		22 16 56.3	
	comp=Z,3.9nm,1.0s,baz=50,slow=3.5,SNR=7.7						
BRTR	Keskin Array B	140.19	306	PKP	PKPdf	22 13 29.5	+2.7
	comp=Z,0.8nm,0.5s,baz=106,slow=1.9,SNR=3.8						
KOLS	Kolonicke sedl	143.88	325	ePKP	PKPdf	22 13 32.1	-0.8
KECS	Kecovo	145.09	325	ePKP	PKPdf	22 13 35.4	+0.3
KECS				e		22 13 48.3	
KECS				e		22 13 59.9	
OKC	Ostrava-Krasne	145.40	329	ePKP	PKPdf	22 13 36.0	+0.5
KSP	Ksiaz	145.54	332	eP	PKPdf	22 13 37.8	+2.0
KSP				e		22 13 58.6	
MORC	Moravsky Berou	145.72	329	eP	PKPdf	22 13 37.8	+1.7
PSZ	Piszkesteto	145.75	325⇑	iP	PKPdf	22 13 37.5	+1.3
PSZ	Piszkesteto	145.75	325	eP	PKPdf	22 13 37.3	+1.1
DPC	Dobruska-Polom	145.88	331	ePKP	PKPdf	22 13 38.0	+1.6
UPC	Upice	145.91	331	ePKP	PKPdf	22 13 38.3	+1.9
RZN	Rozhen	146.02	312	P	PKPdf	22 13 38.5	+1.6
PVCC	Panska Ves	146.52	333	eP	PKPdf	22 13 40.0	+2.5
BRG	Berggiesshubel	146.52	334	eP	PKPdf	22 13 40.2	+2.8
BRG				e		22 14 08.2	
BRG				i		22 14 51.4	
CLL	Collm	146.56	335⇓	iPKP1	PKPbc	22 13 40.2	+1.3
CLL				i		22 14 03.9	
CLL				i		22 14 09.6	
SMOL	Smolenice	146.64	328	ePKP	PKPdf	22 13 41.0	+3.3
SMOL				e		22 13 59.0	
VTS	Vitosha	146.64	315	P	PKPab	22 13 41.3	-1.6
MMB	Musomiste	146.73	313	i P	PKPdf	22 13 40.0	+1.9
PRU	Pruhonice	146.93	332	eP	PKPdf	22 13 40.5	+2.3
PRU	Pruhonice	146.93	332	ePKP	PKPdf	22 13 40.5	+2.3
	comp=Z,15nm,1.0s						
PRU				AMS	AMS	23 00 20.0	
ZST	Bratislava	147.01	328	ePKP	PKPdf	22 13 42.4	+4.0
KKB	Krupnik	147.05	314	i P	PKPdf	22 13 41.3	+2.7
PKSM	Moragy	147.48	324⇑	iP	PKPdf	22 13 42.1	+2.9
NKC	Novy Kostel	147.62	334	ePKP	PKPdf	22 13 43.7	+4.4
MOX	Moxa	147.62	336	i P	PKPdf	22 13 43.2	+4.0
	comp=Z,logA/T=1.0						
MOX	Moxa	147.62	336	eP	PKPdf	22 13 43.2	+4.0
RHK1	Bakonya	147.86	324⇑	eP	PKPdf	22 13 43.5	+3.7
DIVS	Divcibare	147.92	319⇓	iP	PKPdf	22 13 43.6	+3.6
KHC	Kasperske Hory	147.99	332	ePKP	PKPdf	22 13 43.5	+3.6
KHC				epPKP		22 14 00.0	
SKO	Skopje	148.09	315	i P	PKPdf	22 13 44.5	+4.2
GERES	GERESS Array B	148.15	331	PKPbc	PKPdf	22 13 44.5	+4.3
	comp=Z,7.1nm,0.8s,baz=43,slow=2.5,SNR=54						
ARSA	Arzberg	148.44	328⇑	iP	PKPdf	22 13 46.2	+5.5
ARSA				i		22 14 01.8	
ARSA				i		22 14 13.2	
GRA1	Grafenberg Arr	148.54	335	ePKP	PKPdf	22 13 44.0	+3.3
MOA	Molln	148.62	330⇑	iP	PKPdf	22 13 45.0	+4.1
KBA	Koelnbreinsper	149.61	329⇑	iP	PKPdf	22 13 46.5	+3.9
KBA				i		22 14 05.4	
LJU	Ljubljana	149.76	327	eP	PKPdf	22 13 48.5	+5.7
VOY	Vojsko	150.09	327	eP	PKPdf	22 13 48.5	+5.1
GMNA	Gemona	150.24	328	ePKP	PKPdf	22 13 49.5	+5.9
WTTA	Wattenberg	150.25	331⇑	iP	PKPdf	22 13 49.4	+5.8
WTTA				i		22 14 07.7	
WTTA				i		22 14 25.7	
GIVF	Givet	150.36	342	ePKP1	PKPdf	22 13 49.6	+6.0
SQTA	Sankt Quirin	150.47	332⇓	iP	PKPdf	22 13 50.6	+6.7
DAVA	Damuels	150.99	333⇓	iP	PKPdf	22 13 51.3	+6.6
CDF	Champ du Feu	151.06	338	ePKP1	PKPdf	22 13 50.6	+5.9
	comp=Z,19nm,1.1s						
HINF	Hinteralfeld	151.72	337	ePKP1	PKPdf	22 13 52.4	+6.7
	comp=Z,7.1nm,0.7s						
MEZF	Maizieres J'vi	151.72	340	ePKP1	PKPdf	22 13 52.7	+7.0
AQU	L'Aquila	152.83	322	ePKP	PKPdf	22 13 56.9	+9.4
FLN	La Foliniere	152.88	348	ePKP1	PKPdf	22 13 54.5	+7.1
	comp=Z,7.0nm,0.6s						
LOR	Lormes	153.19	341	ePKP1	PKPdf	22 13 56.5	+8.7
SSF	Saint Saulge	153.48	341	ePKP1	PKPdf	22 13 58.3	+10
	comp=Z,15nm,1.2s						
LPL	La Plagne	153.70	335	ePKP1	PKPdf	22 13 58.8	+10
LPG	La Plagne	153.71	335	ePKP1	PKPdf	22 13 59.2	+11
SMF	Signal de Mont	153.75	340	ePKP1	PKPdf	22 13 57.5	+8.9
BGF	Bois d'Agland	154.13	341	ePKP1	PKPdf	22 13 59.0	+10
MBDF	Montbardon	154.34	334	ePKP1	PKPdf	22 13 59.6	+10
DBIC	Dimbokro	163.91	194	PKPab	PKPab	22 14 55.2	-1.6
	comp=Z,6.9nm,1.0s,baz=115,slow=1.7,SNR=3.6						

*IDC **06** 21:56:35.3±1.2, 15.31S×70.17W, h206km±10km, mb3.9/14, mb1 4.0/15, mb1mx3.9/22, Error ellipse: s-maj=20.0km s-min=12.1km az=65.0*

*NEIC **06** 21:56:36.2±1.3, 15.39S×70.13W, h218km±12km, mb4.3/5, Error ellipse: s-maj=18.8km s-min=10.5km az=66.0*

ISC 06 21:56:33.3±0.8**, 15.37S**±0.08×**70.40W**±0.09**, h207**km±8km**, n45, σ0.90**/31**, mb4.1**/15**, 2D, Southern Peru**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
LPAZ	La Paz	2.37	113	P	P	21 57 17.4	+0.8
	236nm,0.3s,baz=292,slow=8.9,SNR=4283						
LPAZ				S	S	21 57 49.6	-0.4
	24nm,0.3s,baz=30,slow=25,SNR=6.1						
LPAZ	La Paz	2.37	113⇓	iP	P	21 57 17.2	+0.6
LPAZ				eS	S	21 57 50.2	+0.2
NNA	Nana	7.11	297⇓	eP	P	21 58 14.5	-1.3
	30nm,0.3s						
NNA				eS	S	21 59 26.6	-9.1
LVC	Limon Verde	7.34	169	eP	P	21 58 14.2	-4.6
	133nm,0.3s						
SAML	Samuel	9.51	49	eP	P	21 58 47.7	+0.7
	8.2nm,0.6s						
CPUP	Villa Florida	16.36	134	P	P	22 00 10.6	-2.5
	0.4nm,0.3s,baz=337,slow=13,SNR=5.9						
CPUP	Villa Florida	16.36	134	eP	P	22 00 08.7	-4.3
	9.8nm,1.1s						
OTAV	Otavalo	17.43	332	eP	P	22 00 28.5	+3.3
	16nm,0.9s						
BDFB	Brasilia	21.57	94	P	P	22 01 07.1	-0.1
	14nm,0.4s,mb4.8,baz=277,slow=7.8,SNR=28						
BAO	Brasilia Array	21.59	94	P	P	22 01 07.3	-0.1
TRQA	Tornquist	23.79	163	P	P	22 01 28.7	+0.2
JTS	JuntasAbangare	29.29	330	P	P	22 02 19.1	+0.3
	0.3nm,0.3s,mb3.4,baz=279,slow=23,SNR=2.2						
SJG	San Juan	33.53	7	P	P	22 02 54.8	-0.7
	5.6nm,0.3s,mb4.6,baz=45,slow=20,SNR=3.8						
HUMP	Col San Antoni	33.60	8	eP	P	22 02 56.0	-0.2
USHA	Ushuaia	39.41	178	P	P	22 03 46.8	+2.4
	3.9nm,0.8s,mb4.0,baz=35,slow=12,SNR=3.1						
SADO	Sadowa	60.38	353	P	P	22 06 22.2	-0.6
	6.6nm,1.0s,mb4.2,baz=221,slow=9.3,SNR=3.2						
SADO	Sadowa	60.38	353	P	P	22 06 22.2	-0.6
SDCO	Great Sand Dun	62.28	329	eP	P	22 06 35.6	-0.1
	3.1nm,0.6s,mb4.1						
PV01	Paradox Valley	64.15	327	eP	P	22 06 48.5	+0.6
PDAR	Pinedale Array	68.12	330	P	P	22 07 13.2	+0.3
	0.6nm,0.4s,mb3.5,baz=116,slow=8.0,SNR=8.9						
SNAA	Sanae	68.51	162	P	P	22 07 13.7	-1.1
	1.1nm,0.6s,mb3.6,baz=272,slow=9.9,SNR=8.7						
DBIC	Dimbokro	68.51	76	P	P	22 07 14.2	-1.6
	8.7nm,0.6s,mb4.6,baz=225,slow=6.2,SNR=19						
ULM	Lac du Bonnet	69.08	343	P	P	22 07 18.0	-0.6
	10.0nm,0.6s,mb4.6,baz=138,slow=5.2,SNR=7.7						
SCHQ	Schefferville	69.99	2	P	P	22 07 23.9	-0.2
	5.6nm,1.0s,mb4.2,baz=198,slow=13,SNR=2.7						
FRB	Frobisher Bay	78.88	1	P	P	22 08 15.5	+0.8
	4.0nm,0.8s,mb4.1,baz=227,slow=15,SNR=1.8						
ESDC	Sonseca Array	82.52	46	P	P	22 08 34.8	+0.5
	0.6nm,0.4s,mb3.7,baz=257,slow=5.9,SNR=6.4						
YKA	Yellowknife Ar	84.97	341	P	P	22 08 47.0	+0.9
	4.9nm,0.5s,mb4.5,baz=132,slow=4.9,SNR=22						
MAW	Mawson	90.58	164	P	P	22 09 13.0	+0.3
	1.8nm,0.8s,mb4.0,baz=217,slow=5.1,SNR=2.8						
BVAR	Borovoye Array	131.41	31	PKP	PKPdf	22 15 23.7	+2.6
	0.6nm,0.4s,baz=268,slow=0.8,SNR=4.1						
ASAR	Alice Springs	134.51	212	PKP	PKPdf	22 15 28.2	+0.5
	0.7nm,0.5s,baz=122,slow=1.5,SNR=7.8						
WB2	Warramunga Arr	137.30	216	eP	PKPdf	22 15 33.8	+1.0
WRA	Warramunga Arr	137.30	215	PKhKP		22 15 21.2	
	0.2nm,0.6s,baz=139,slow=3.3,SNR=6.0						
WRA				PKP	PKPdf	22 15 34.2	+1.3
	1.2nm,0.4s,baz=134,slow=1.6,SNR=4.8						
WRAB	Tennant Creek	137.31	216	ePKPdf	PKPdf	22 15 34.1	+1.2
MKAR	Makanchi Array	141.29	30	PKhKP		22 15 35.5	
	0.5nm,0.4s,baz=328,slow=3.4,SNR=10						
MKAR				PKP	PKPdf	22 15 41.3	+1.9
	1.3nm,0.6s,baz=299,slow=2.4,SNR=10						
FITZ	Fitzroy Crossi	143.18	206	eP	PKPbc	22 15 40.8	-1.0
	2.4nm,1.2s						
HIA	Hailar	145.19	348	ePKPdf	PKPdf	22 15 48.1	+2.2
MAJO	Matsushiro	146.95	315	ePKPbc	PKPbc	22 15 54.0	+2.8
MAT	Matsushiro	146.95	315	PKP	PKPdf	22 15 53.6	+4.2
MAT	Matsushiro	146.95	315	ePKP	PKPdf	22 15 54.0	+4.6
SONM	Songino Array	147.52	4	PKP	PKPdf	22 15 52.9	+3.0
	7.3nm,0.5s,baz=325,slow=1.6,SNR=99						
SONM				PKPbc	PKPdf	22 15 55.4	+5.5
	8.4nm,0.6s,baz=320,slow=2.1,SNR=99						
KOLN	Koldanda	152.92	59	eP	PKPdf	22 16 08.0	+9.2
	6.6nm,0.7s						
GKN	Gorkha	153.68	57	eP	PKPdf	22 16 09.9	+10
	16nm,0.8s						
DMN	Daman	154.22	58	eP	PKPdf	22 16 11.5	+11
KKN	Kakani	154.29	57	eP	PKPdf	22 16 11.2	+11
	6.0nm,0.5s						
GUN	Gumba	154.72	56	eP	PKPdf	22 16 12.9	+12

*CSEM **06** 22:23:14.9, 36.86N×49.46E, ML3.5, After THR*

THR 06 22:23:12.4±0.7**, 37.03N**×**49.52E, h14**km±7km**, ML3.4, Caspian Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
THKV	Tehran--Karaj	1.56	135	i PG	Pg	22 23 41.2	-2.4
THKV				eSG	Sg	22 24 02.1	-2.2
THKV				AMP		22 24 03.2	
	comp=N,627nm,0.2s						
THKV				AMP		22 24 05.1	
	comp=E,649nm,0.4s						
THKV	Tehran--Karaj	1.56	135	ePg	Pg	22 23 41.2	-2.4
THKV				i Sg	Sg	22 24 02.5	-1.9
	comp=E,1μm,0.5s						
GRMI	Germi	2.20	325	ePG	Pg	22 23 52.3	-4.0
GRMI				AMP		22 24 26.9	
	comp=N,157nm,0.4s						
GRMI	Germi	2.20	325	ePn	Pn	22 23 52.5	+3.4
DAMV	Damavand	2.42	124	ePN	Pn	22 23 54.0	+1.8
DAMV				eSG	Sg	22 24 28.3	-4.8
DAMV				AMP		22 24 31.4	
	comp=E,246nm,0.5s						
DAMV				AMP		22 24 32.5	
	comp=N,228nm,0.6s						
DAMV	Damavand	2.42	124	ePn	Pn	22 23 53.7	+1.5
DAMV				Sn	Sn	22 24 22.0	+0.2
	comp=N,237nm,0.5s						
ASAO	Ashtian	2.51	170	i PN	Pn	22 23 54.6	+1.1
ASAO				AMP		22 24 29.6	
	comp=E,103nm,0.5s						
ASAO	Ashtian	2.51	170	ePn	Pn	22 23 53.3	-0.2
ASAO				Sn	Sn	22 24 21.3	-2.7
SNGE	Sanandaj	2.61	223	i PN	Pn	22 23 56.5	+1.6

*BJI **06** 22:30:54.4, 0.55S×134.68E, h10km, mB5.8, mb5.5, Ms6.2, Msz5.9*

*NEIC **06** 22:30:57.0±0.2, 0.67S×134.43E, h10km, mb5.7/52, MS6.0/91, MW6.1, Error ellipse: s-maj=6.1km s-min=5.1km az=78.0, Moment Tensor Solution. s16 Moment tensor: Scale 10^{18}Nm; M_{rr}0.05; $M_{\theta\theta}$-1.03; $M_{\phi\phi}$0.98; $M_{r\theta}$0.40; $M_{\theta\phi}$1.09; $M_{\phi r}$-0.23; Best double couple: $M_0$1.5×10^{18} NP1: ϕ_s248°, δ78°, λ-9°. NP2:ϕ_s340°, δ81°, λ-168°. Principal axes: T 1.46, Plg2°, Azm113°; N .17, Plg75°, Azm16°; P -1.63, Plg15°, Azm204°;*

NEIC Felt [IV] at Manokwari and [III] at Biak and Ransiki.

*IDC **06** 22:30:57.5±2.0, 0.79S×134.46E, h20km±11km, mb5.1/24, mb1 5.2/26, mb1mx5.2/27, ML5.4/2, MS5.9/17, Ms1 5.9/17, ms1mx5.8/23 Error ellipse: s-maj=16.8km s-min=7.5km az=74.0*

*HRVD **06** 22:30:57.0±0.1, 0.57S×134.53E, h15km, MW6.2/88, Centroid moment Tensor Solution. LP body waves: s88,c200;Mantle waves: s79,c145; Half duration: 2.9s Moment tensor: Scale 10^{18}Nm; M_{rr}0.08±.01; $M_{\theta\theta}$-0.72±.02; $M_{\phi\phi}$0.63±.02; $M_{r\theta}$0.31±.05; $M_{\theta\phi}$1.81±.01; $M_{\phi r}$0.66±.06; Best double couple: $M_0$2.06×10^{18} NP1:ϕ_s81°, δ74°, λ11°. NP2:ϕ_s348°, δ79°, λ164°. Principal axes: T 2.14, Plg19°, Azm304°; N -.16, Plg70°, Azm135°; P -1.98, Plg3°, Azm35°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.*

*MOS **06** 22:30:59.6±1.6, 0.45S×134.21E, h33km, mb5.9/30, MS5.9/39 Error ellipse: s-maj=12.1km s-min=7.3km az=92.4*

*DJA **06** 22:31:01.4±0.4, 0.65S×134.90E, h100km, mb5.2/10, Error ellipse: s-maj=37.9km s-min=5.3km az=4.0*

*CSEM **06** 22:31:02.8, 0.29N×133.97E, h33km, mb5.9*

ISC 06 22:30:55.9±0.7**, 0.70S**±0.02×**134.55E**±0.03**, h18**km±5km**, h19**km±1.5km**: pP-P, n499, σ1.29**/351**, mb5.6**/105**, MS6.0**/136**, 45C-9D, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
SWI	Sorong	3.29	267	ePn	Pn	22 31 48.0	+0.3
MENI	Mendum Tagoi	6.14	107	eP	Pn	22 32 26.5	-1.6
	422nm,0.4s						
YOMI	Yo Moklole	6.31	108⇑	eP	Pn	22 32 29.2	-1.3
	731nm,0.8s						
MATI	Mati	11.23	313	eP	P	22 33 39.1	+0.2
DAV	Davao City (W)	11.82	311	P	P	22 33 46.0	-0.8
KAKA	Kakadu	12.11	190	eP	P	22 33 52.0	+1.3
	543nm,0.6s						
KAKA				eS	S	22 36 02.5	-3.8
BUKP	Musuan	12.73	312	eP	P	22 34 00.5	+1.4
BUTP	Butuan	13.09	317	eP	P	22 34 06.4	+2.6
SCPH	Surigao	13.78	319	eP	P	22 34 16.1	+3.1
WAU	Wau	13.81	119	eP	P	22 34 15.1	+1.6
PAGZ	Pagadian	14.00	308	eP	P	22 34 17.6	+1.6
MSLP	Maasin	14.45	318	eP	P	22 34 21.4	-0.4
BUNI	Buntu Taipa	14.51	258⇑	eP	P	22 34 27.8	+5.2
	45nm,0.4s						
IPIL	Ipil	14.62	305	eP	P	22 34 22.6	-1.5
TBP	Tagbilaran	14.82	314	eP	P	22 34 27.0	+0.3
PLP	Palo	15.15	321	eP	P	22 34 29.9	-1.1
LLP	Lapu-Lapu	15.19	316	eP	P	22 34 33.4	+2.0
BESP	Borongan	15.21	324	eP	P	22 34 31.9	+0.1
NINI	Niniconang	15.23	256⇑	eP	P	22 34 36.0	+4.0
	1μm,1.4s						
PMG	Port Moresby	15.24	125	eP	P	22 34 32.3	+0.1
	904nm,1.1s						
OCLP	Ormoc	15.29	320	eP	P	22 34 27.0	-5.9
TANI	Tanete Lipujan	15.39	260⇑	eP	P	22 34 42.0	+7.8
GUIM	Jordan	16.37	314	eP	P	22 34 52.3	+5.6
CNP	Catarman	16.39	324	eP	P	22 34 47.9	+1.0
RCP	Roxas	16.91	316⇑	eP	P	22 34 55.4	+1.9
KALP	Kalibo	17.27	316⇑	eP	P	22 35 10.1	+12
GUMO	Guam	17.50	35	eP	P	22 35 01.6	+0.7
GUMO				pmax	pmax		
	comp=Z,750nm,1.1s						
GUMO	Guam	17.50	35	eP	P	22 35 01.6	+0.7
	comp=Z,754nm,1.1s						
PVCP	Virac	17.55	324	eP	P	22 35 02.9	+1.5
CUYO	Cuyo Island	17.68	311	eP	P	22 35 07.2	+4.1
RAB	Rabaul	17.94	101	eP	P	22 35 07.9	+1.6
OTRP	Odiongan	17.97	317	eP	P	22 35 09.0	+2.2
AUQP	San Andres	18.24	320	eP	P	22 35 14.3	+4.1
SJMP	San Jose	18.67	315	eP	P	22 35 18.3	+2.9
PPR	Puerto Princes	18.87	304⇓	eP	P	22 35 20.3	+2.5
BOAC	Boac	18.88	319	eP	P	22 35 19.8	+1.9
BUSP	Coron	19.04	312	eP	P	22 35 21.6	+1.8
WRAB	Tennant Creek	19.11	181	P	P	22 35 17.2	-3.5
	comp=Z,3μm,0.6s						
WRAB	Tennant Creek	19.11	181	eP	P	22 35 17.8	-2.9
	comp=Z,272nm,0.6s						
WB2	Warramunga Arr	19.12	181	eP	P	22 35 17.8	-3.0
WB2				eS	S	22 38 42.3	-7.8
WRA	Warramunga Arr	19.12	181	P	P	22 35 15.6	-5.1
	comp=Z,13nm,0.3s,baz=360,slow=11,SNR=178						
WRA				S	S	22 38 50.6	+0.5
	comp=Z,2.3nm,0.3s,baz=1.2,slow=21,SNR=4.6						
BATP	Bataraza	19.17	300	eP	P	22 35 23.6	+2.3
SAPN	Saipan	19.31	35⇑	eP	P	22 35 22.4	-0.6
FITZ	Fitzroy Crossi	19.38	206	eP	P	22 35 21.0	-2.8
	comp=Z,339nm,0.9s						
FITZ				eS	S	22 38 45.5	-10
FITZ	Fitzroy Crossi	19.38	206	P	P	22 35 19.1	-4.7
	comp=Z,8.3nm,0.3s,baz=24,slow=8.7,SNR=107						
FITZ				S	S	22 38 43.4	-12
	comp=Z,5.1nm,0.3s,baz=176,slow=19,SNR=3.7						
FITZ				LR	LR	22 44 13.2	
	comp=Z,20μm,18.7s,baz=59,slow=41						
KKM	Kota Kinabalu	19.49	290⇓	eP	P	22 35 27.6	+2.5
	comp=Z,273nm,1.4s						
LQP	Lukban	19.56	319⇓	eP	P	22 35 25.6	-0.2
POLP	Polilio Island	19.77	321	eP	P	22 35 25.6	-2.5
KEDI	Kedomdong	19.92	247⇑	eP	P	22 35 28.6	-1.3
	comp=Z,753nm,1.0s						
KEDI	Kedomdong	19.92	247⇑	eP	P	22 35 28.9	-1.0
	comp=Z,376nm,5.6s						
LUBP	Lubang	20.16	316	eP	P	22 35 32.4	0.0
RATI	Rata	20.54	247⇑	eP	P	22 35 37.7	+1.4
BALP	Baler	20.76	322	eP	P	22 35 37.7	-0.9
PALP	Palanan	21.32	326	eP	P	22 35 44.4	+0.2
KELI	Kelakatan	21.33	249⇑	eP	P	22 35 45.7	+1.3
	comp=Z,332nm,0.8s,mb5.4						
KELI	Kelakatan	21.33	249⇑	eP	P	22 35 46.0	+1.6
	comp=Z,332nm,5.2s						
CAUP	Cauayan	21.56	325	eP	P	22 35 48.5	+1.9
SRDI	Scrawed	21.74	249⇑	eP	P	22 35 49.0	+0.5
	comp=Z,336nm,0.8s,mb5.5						
SCZP	Santa Cruz	21.84	319	eP	P	22 35 49.8	+0.3
BCPH	Baguio City Da	21.86	322⇑	iP	P	22 35 50.4	+0.6
CVP	Callao Caves	22.17	326	eP	P	22 35 53.0	+0.2
BOLP	Bolinao	22.29	320	eP	P	22 35 53.8	-0.1
CTA	Charters Tower	22.42	150	eP	P	22 35 55.4	+0.2
	comp=Z,529nm,0.9s,mb6.0						
CTA	Charters Tower	22.42	150	P	P	22 35 54.6	-0.6
	comp=Z,139nm,0.9s,mb5.4,baz=324,slow=12,SNR=62						
CTA				S	S	22 40 01.9	+6.3
	comp=Z,28nm,1.0s,baz=250,slow=16,SNR=1.9						
CTA				LR	LR	22 45 31.4	
	comp=Z,49μm,18.1s,MS6.0,baz=330,slow=39						
CTAO	Charters Tower	22.42	150	eP	P	22 35 55.2	0.0
CTAO				pmax	pmax		
	comp=Z,310nm,0.8s,mb5.8						
CTAO				MLR	MLR		
	comp=Z,78μm,20.0s,MS6.1						
CTAO	Charters Tower	22.42	150	eP	P	22 35 55.2	0.0
	comp=Z,310nm,0.8s,mb5.8						
CTAO				LR	LR		
	comp=Z,78μm,20.0s,MS6.1						
SGCP	Mt. Cagua	22.48	327	eP	P	22 35 55.3	-0.6
APYP	Conner	22.62	325	eP	P	22 35 57.0	-0.3
ABRA	Dolores	22.76	324	eP	P	22 35 57.7	-1.1
ASAR	Alice Springs	22.84	182	P	P	22 35 57.9	-1.5
	comp=Z,328nm,0.7s,mb5.9,baz=7.9,slow=11,SNR=258						
ASAR				S	S	22 40 06.0	+2.7
	comp=Z,146nm,1.2s,baz=11,slow=18,SNR=3.8						
ASAR				LR	LR	22 45 28.6	
	comp=Z,58μm,19.7s,MS6.0,baz=356,slow=38						
ASPA	Alice Springs	22.84	182	eP	P	22 35 57.9	-1.5
ASPA				eS	S	22 40 05.6	+2.3
BBP	Basco	24.36	330	eP	P	22 36 22.2	+7.9
MBWA	Marble Bar	24.95	214	eP	P	22 36 19.4	-0.6
	comp=Z,566nm,1.1s,mb6.0						
MBWA				LR	LR		
	comp=Z,35μm,20.0s,MS5.9						
JOW	Kunigami	28.03	348	P	P	22 36 46.8	-1.6
	comp=Z,23nm,1.0s,mb4.8,baz=199,slow=23,SNR=2.3						
JOW				LR	LR	22 46 22.9	
	comp=Z,15μm,20.1s,MS5.6,baz=340,slow=33						
TATO	Taipei	28.49	335	eP	P	22 36 50.0	-2.4
	comp=Z,106nm,0.9s,mb5.5						
TATO				LR	LR		
	comp=Z,28μm,21.0s,MS5.8						
CBIJ	Chichi jima	28.60	14	P	P	22 36 52.0	-1.4
	comp=Z,45nm,0.8s,mb5.2,baz=45,slow=19,SNR=3.4						
PASI	Pasiripis	29.49	258⇑	eP	P	22 37 00.3	-1.3
	comp=Z,112nm,0.7s,mb5.4						
PENI	Pendagan	29.72	260⇑	eP	P	22 37 03.8	+0.2
	comp=Z,56nm,0.8s,mb5.0						
QZH	Quanzhou	29.81	330⇑	iP	P	22 37 03.2	-1.2
QZH				S	S	22 41 54.0	-4.8
QZH				AMB	AMB		
	comp=Z,620nm,1.8s,mb6.0						
QZH				LR	LR		
	comp=N,10μm,11.0s						
QZH				LR	LR		
	comp=E,27μm,17.1s						
QZH				LR	LR		
	comp=Z,54μm,27.5s						
HKC	Hong Kong	30.29	320	P	P	22 37 11.0	+2.4
HKC				i S	S	22 42 04.0	-2.5
QIZ	Qiongzhong	31.19	310	P	P	22 37 15.3	-1.3
QIZ				XP	sP	22 37 23.0	-1.1
QIZ				PP	PP	22 38 14.4	-5.2
QIZ				AMB	AMB		
	comp=Z,82nm,1.7s,mb5.3						
QIZ				AMB	AMB		
	comp=Z,2μm,7.9s						
QIZ				LR	LR		
	comp=N,14μm,22.3s,MS5.7						
QIZ				LR	LR		
	comp=E,12μm,21.0s,MS5.7						
QIZ				LR	LR		
	comp=Z,18μm,18.2s,MS5.8						
QIZ	Qiongzhong	31.19	310	eP	P	22 37 15.6	-0.9
	comp=Z,357nm,1.3s,mb6.0						
GZH	Guangzhou	31.38	320	P	P	22 37 18.3	+0.1
GZH				S	S	22 42 22.7	-0.9
GZH				AMB	AMB		
	comp=Z,109nm,2.3s,mb5.3						
GZH				LR	LR		
	comp=N,15μm,19.7s,MS5.7						
GZH				LR	LR		
	comp=E,7μm,21.9s,MS5.7						
GZH				LR	LR		
	comp=Z,24μm,19.1s,MS5.9						
STKA	Stephens Creek	31.71	169	eP	P	22 37 19.2	-1.9
	comp=Z,131nm,0.9s,mb5.8						
STKA	Stephens Creek	31.71	169	P	P	22 37 19.6	-1.5
	comp=Z,104nm,0.9s,mb5.7,baz=343,slow=7.9,SNR=50						
STKA				S	S	22 42 25.3	-3.4
	comp=Z,11nm,0.8s,baz=328,slow=19,SNR=1.9						
UBT	Ubonrachathani	33.21	300	P	P	22 37 46.5	+12
IPM	Ipoh	33.90	279⇑	eP	P	22 37 41.0	+0.7
	comp=Z,19nm,0.5s,mb5.3						
JHJ	Hachijo jima 2	34.00	8	LR	LR	22 48 03.8	
	comp=Z,28μm,20.7s,MS6.0,baz=4.6,slow=30						
SSE	Sheshan	34.08	339	P	P	22 37 41.2	-0.4
SSE				XP	sP	22 37 45.6	-3.5
SSE				PP	PP	22 38 58.2	+2.2
SSE				S	S	22 43 05.3	-0.1
SSE				XS		22 43 11.4	
SSE				AMB	AMB		
	comp=Z,83nm,1.0s,mb5.6						
SSE				AMB	AMB		
	comp=Z,281nm,4.2s						
SSE				LR	LR		
	comp=N,17μm,19.2s,MS5.8						

SSE LR LR
comp=E,7µm,19.8s,MS5.8
SSE LR LR
comp=Z,26µm,15.7s,MS6.1
ADE Adelaide 34.31 174 *eP* **P 22 37 43.1 -0.5**
KLBR Kellerberrin 34.59 206 *eP* **P 22 37 44.8 -1.2**
comp=Z,129nm,0.8s,mb5.9
SNG Songkhla 34.74 284 P **P 22 37 48.0 +0.5**
comp=Z,300nm,1.0s,mb6.2
MRPI Mariponipon 35.30 274⇑ *eP* **P 22 37 51.8 -0.5**
comp=Z,102nm,0.6s,mb5.6
KKTK Khon Kaen 35.59 300 P **P 22 37 54.5 -0.2**
MUN Mundaring 35.60 207 *eP* **P 22 37 55.2 +0.5**
comp=Z,39nm,1.2s,mb5.2
NJ2 Nanjing 35.80 337 *eP* **P 22 37 55.2 -1.2**
NJ2 AP pP 22 38 04.4 +2.8
NJ2 S **S 22 43 33.0 +0.8**
NJ2 AMB AMB
comp=Z,270nm,1.0s,mb6.1
NJ2 AMB AMB
comp=Z,3µm,7.3s
NJ2 LR LR
comp=Z,67µm,17.5s,MS6.5
NWAO Narrogin (SRO) 35.96 205 P **P 22 37 56.9 -0.8**
comp=Z,106nm,1.0s,mb5.7,baz=36,slow=10,SNR=18
NWAO Narrogin (SRO) 35.96 205 *eP* **P 22 37 56.6 -1.1**
NWAO pmax pmax
comp=Z,100nm,0.9s
NWAO MLR MLR
comp=Z,19µm,20.0s
NWAO Narrogin (SRO) 35.96 205 *eP* **P 22 37 56.6 -1.1**
comp=Z,104nm,0.9s,mb5.8
NWAO LR LR
comp=Z,19µm,20.0s,MS5.9
WHN Wuhan 36.54 330 P **P 22 38 03.5 +0.9**
WHN LR LR
comp=N,12µm,12.5s,MS6.1
WHN LR LR
comp=E,17µm,12.0s,MS6.1
WHN LR LR
comp=Z,34µm,20.6s
CNB Canberra Magne 37.10 160 *eP* **P 22 38 07.9 +0.6**
comp=Z,116nm,1.0s,mb5.7
BKM Butte a Klehm 37.17 119⇑ *iP* **P 22 38 08.5 +0.5**
MAJO Matsushiro 37.21 5 *eP* **P 22 38 08.0 -0.2**
MAJO pmax pmax
comp=Z,60nm,1.2s,mb5.3
MAJO Matsushiro 37.21 5 *eP* **P 22 38 08.0 -0.2**
comp=Z,60nm,1.2s,mb5.3
MAT Matsushiro 37.21 5 P **P 22 38 09.4 +1.2**
MAT S **S 22 43 47.0 -6.7**
MAT Matsushiro 37.21 5 P **P 22 38 09.0 +0.8**
comp=Z,9.2nm,0.9s,mb4.6
MAT *eS* **S 22 43 47.0 -6.7**
MAT LR LR
comp=Z,13µm,20.0s,MS5.7
WAKE Wake Island 37.24 56 PFAKE 22 38 20.0 +11
WAKE LR LR
comp=Z,75µm,21.0s,MS6.5
NOUC Port Laguerre 37.53 127 *eP* **P 22 38 10.6 -0.4**
NOUC Port Laguerre 37.53 127 *eP* **P 22 38 10.6 -0.4**
DZM Mont Dzumac 37.63 127 *eP* **P 22 38 11.6 -0.2**
DZM Mont Dzumac 37.63 127 *eP* **P 22 38 11.6 -0.2**
NST Nakhon Sawan 37.69 297 P **P 22 38 12.0 -0.3**
GYA Guiyang 38.10 317⇑ *iP* **P 22 38 15.5 -0.3**
GYA AP pP 22 38 20.2 -0.8
GYA XP sP 22 38 22.5 -0.7
GYA PP PP 22 39 47.8 +1.6
GYA S **S 22 44 03.6 -3.8**
GYA AMB AMB
comp=Z,2µm,7.2s
GYA LR LR
comp=N,11µm,20.6s,MS5.9
GYA LR LR
comp=E,17µm,20.9s,MS5.9
GYA LR LR
comp=Z,16µm,21.2s,MS5.8
KS15 Wonju Array Si 38.45 351 *eP* **P 22 38 16.8 -1.8**
NANT Nan 38.48 302⇑ P **P 22 38 18.0 -1.0**
comp=Z,50nm,0.8s,mb5.3
INCN Inchon 38.69 350 *eP* **P 22 38 21.4 +0.8**
comp=Z,134nm,1.4s,mb5.5
INCN LR LR
comp=Z,13µm,20.0s,MS5.8
ENH Enshi 38.97 324 *eP* **P 22 38 21.9 -1.1**
comp=Z,304nm,1.9s,mb5.7
COCO West Island 39.10 251 PFAKE 22 38 40.0 +16
COCO LR LR
comp=Z,3µm,20.0s,MS5.2
BDT Bhumibol Dam 39.29 299 P **P 22 38 26.0 +0.2**
comp=Z,24nm,0.9s,mb4.9
CM31 Chiang Mai Arr 39.84 300 *eP* **P 22 38 30.3 0.0**
comp=Z,54nm,0.8s,mb5.3
CMAR Chiang Mai Arr 39.84 300 P **P 22 38 29.8 -0.6**
comp=Z,42nm,0.8s,mb5.2,baz=114,slow=6.5,SNR=125
CMAR S **S 22 44 34.7 +1.0**
comp=Z,1.2nm,1.0s,baz=156,slow=4.1,SNR=3.1
CMAR LR LR 22 54 06.1
comp=Z,9µm,21.5s,MS5.6,baz=126,slow=35
CMAR Chiang Mai Arr 39.84 300 P **P 22 38 29.7 -0.6**
CMAR S **S 22 44 34.7 +1.0**
CHG Chiang Mai 39.98 301 P **P 22 38 31.4 -0.1**
comp=Z,118nm,0.8s,mb5.7
KMI Kunming 40.08 312 *eP* **P 22 38 32.7 +0.5**
KMI AP pP 22 38 36.6 -0.9
KMI XP sP 22 38 38.7 -1.0
KMI PP PP 22 40 12.3 +4.0
KMI PCS 22 44 29.7
KMI S **S 22 44 39.0 +1.8**
KMI XS 22 44 46.9
KMI SS SS 22 47 27.8 -0.9
KMI AMB AMB
comp=Z,54nm,1.4s,mb5.1
KMI AMB AMB
comp=Z,722nm,4.8s
KMI LR LR
comp=N,9µm,17.8s,MS5.8
KMI LR LR
comp=E,10µm,18.3s,MS5.8
KMI LR LR
comp=Z,18µm,27.6s
TIA Tai'an 40.15 338 P **P 22 38 30.8 -1.9**
TIA S **S 22 44 29.1 -9.0**
TIA LR LR
comp=N,8µm,16.5s,MS5.8
TIA LR LR
comp=E,5µm,13.5s,MS5.8
DL2 Dalian 41.16 345 P **P 22 38 40.7 -0.3**
DL2 AMB AMB
comp=Z,60nm,1.4s,mb5.0
DL2 LR LR
comp=N,5µm,17.1s,MS6.0
DL2 LR LR
comp=E,18µm,17.1s,MS6.0
DL2 LR LR
comp=Z,12µm,15.3s,MS5.9
XAN Xi'an 42.11 328 P **P 22 38 47.8 -1.1**
XAN S **S 22 45 01.4 -5.9**
XAN LR LR
comp=N,9µm,26.1s,MS5.8
XAN LR LR
comp=E,12µm,22.0s,MS5.8
XAN LR LR
comp=Z,20µm,20.6s,MS6.0
CD2 Chengdu 42.94 320⇑ *iP* **P 22 38 55.8 +0.1**
CD2 AP pP 22 39 00.5 -0.5
CD2 XP sP 22 39 02.2 -1.0
CD2 S **S 22 45 16.4 -3.2**
CD2 XS 22 45 25.9
CD2 AMB AMB
comp=Z,1µm,8.1s
CD2 LR LR
comp=N,10µm,16.8s
CD2 LR LR
comp=Z,7µm,16.8s,MS5.7
SNY Shenyang 43.48 348 ⇑P **P 22 38 58.8 -1.2**
SNY XP sP 22 39 07.1 -0.4
SNY S **S 22 45 27.7 +0.4**
SNY XS 22 45 38.1
SNY LR LR
comp=N,16µm,13.7s,MS6.1
SNY LR LR
comp=E,6µm,13.5s,MS6.1
SNY LR LR
comp=Z,11µm,16.2s,MS5.8
TAU Tasmania Unive 43.55 166 *eP* **P 22 39 01.9 +1.4**

TAU pmax pmax
comp=Z,120nm,1.0s,mb5.6
TAU MLR MLR
comp=Z,13µm,20.0s,MS5.8
TAU Tasmania Unive 43.55 166 *eP* **P 22 39 01.9 +1.3**
comp=Z,120nm,1.0s,mb5.6
TAU LR LR
comp=Z,13µm,20.0s,MS5.8
VLA Vladivostok 43.69 357⇓ *iP* **P 22 38 58.0 -3.6**
VLA *i* PPP PPP 22 41 25.0 +3.1
VLA *i* S **S 22 45 30.0 -0.3**
VLA *i* SS SS 22 48 50.0 +12
VLA pmax pmax
comp=N,1µm,7.0s
VLA pmax pmax
comp=Z,2µm,7.0s
VLA pmax pmax
comp=Z,2µm,8.0s
VLA pmax pmax
comp=N,1µm,9.0s
VLA pmax pmax
comp=E,300nm,6.0s
VLA smax
comp=E,600nm,12.0s
VLA smax
comp=N,4µm,11.0s
VLA smax
comp=E,500nm,10.0s
VLA MLR MLR
comp=N,4µm,17.0s,MS5.5
VLA MLR MLR
comp=Z,16µm,17.0s,MS6.0
VLA MLR MLR
comp=E,4µm,16.0s,MS5.5
BJT Baijiatuau 43.87 340 *eP* **P 22 39 03.0 -0.1**
BJT pmax pmax
comp=Z,160nm,1.0s
BJT MLR MLR
comp=Z,34µm,19.0s
BJT Baijiatuau 43.87 340 *eP* **P 22 39 03.0 -0.1**
comp=Z,156nm,1.0s,mb5.7
BJT LR LR
comp=Z,34µm,19.0s,MS6.3
BJI Beijing 43.88 340 P **P 22 39 02.4 -0.9**
BJI S **S 22 45 34.7 +1.5**
BJI AMB AMB
comp=Z,107nm,1.2s,mb5.5
BJI LR LR
comp=N,24µm,18.2s,MS6.2
BJI LR LR
comp=E,18µm,19.2s,MS6.2
BJI LR LR
comp=Z,24µm,21.1s,MS6.1
CN2 Changchun 45.05 351 *eP* **P 22 39 11.4 -1.2**
CN2 *eA*P pP 22 39 16.0 -1.9
CN2 PCP PcP 22 40 56.6 +2.7
CN2 *eS* **S 22 45 47.1 -2.8**
CN2 SS SS 22 49 04.5 +0.9
CN2 AMB AMB
comp=Z,390nm,5.0s
CN2 LR LR
comp=N,9µm,17.0s,MS6.3
CN2 LR LR
comp=E,28µm,17.0s,MS6.3
CN2 LR LR
comp=Z,13µm,18.0s,MS5.9
ASAJ Asahikawa 45.20 8 P **P 22 39 13.8 0.0**
comp=Z,27nm,0.9s,mb5.1,baz=218,slow=11,SNR=7.1
ASAJ S **S 22 45 52.4 +0.3**
comp=Z,13nm,1.1s,baz=100,slow=26,SNR=1.8
ASAJ LR LR 22 56 19.5
comp=Z,14µm,21.9s,MS5.9,baz=198,slow=34
MDJ Mudanjiang 45.34 355 P **P 22 39 14.6 -0.3**
MDJ XP sP 22 39 19.4 -2.9
MDJ SCP 22 44 48.0
MDJ S **S 22 45 54.3 +0.2**
MDJ XS 22 46 01.2
MDJ SCS ScS 22 49 12.2 +3.8
MDJ AMB AMB
comp=Z,45nm,1.0s,mb5.2
MDJ AMB AMB
comp=Z,610nm,9.5s
MDJ LR LR
comp=N,6µm,22.8s,MS5.9
MDJ LR LR
comp=E,14µm,22.2s,MS5.9
MDJ LR LR
comp=Z,11µm,21.8s,MS5.7
MDJ Mudanjiang 45.34 355 *eP* **P 22 39 14.5 -0.4**
comp=Z,149nm,1.0s,mb5.8
MDJ LR LR
comp=Z,12µm,21.5s,MS5.8
HHC Hu-ho-hao-te 46.34 336 ⇑P **P 22 39 22.1 -0.7**
HHC AP pP 22 39 27.2 -1.0
HHC XP sP 22 39 29.6 -0.7
HHC PCP PcP 22 40 53.3 -5.1
HHC PP PP 22 41 11.3 -0.5
HHC SCP 22 44 54.7
HHC PCS 22 44 55.9
HHC S **S 22 46 09.5 +1.1**
HHC XS 22 46 17.6
HHC SCS ScS 22 49 14.2 -0.7
HHC AMB AMB
comp=Z,979nm,5.5s
HHC LR LR
comp=N,9µm,16.9s,MS5.9
HHC LR LR
comp=E,7µm,19.8s,MS5.9
HHC LR LR
comp=Z,10µm,15.9s,MS5.9
LZH Lanzhou 46.43 325 P **P 22 39 24.3 +0.7**
LZH AP pP 22 39 30.4 +1.5
LZH XP sP 22 39 35.0 +3.9
LZH PP PP 22 41 14.3 +1.6
LZH S **S 22 46 12.0 +2.2**
LZH XS 22 46 23.0
LZH SS SS 22 49 28.2 +0.1
LZH AMB AMB
comp=Z,220nm,1.0s,mb6.0
LZH LR LR
comp=E,24µm,17.2s
LZH LR LR
comp=Z,31µm,21.3s,MS6.2
IMP Imphal 46.77 306 *eP* **P 22 39 26.0 -0.5**
BTO Baotou 46.78 334 *eP* **P 22 39 26.8 +0.4**
BTO S **S 22 46 09.5 -5.3**
BTO AMB AMB
comp=Z,91nm,1.0s,mb5.7
YSS Yuzh-Sakhalins 48.00 8 *eP* **P 22 39 34.9 -1.0**
YSS *e**SP sP 22 39 41.0 -2.4
YSS *e* 22 39 53.3
YSS *e* 22 41 30.0
YSS *eS* **S 22 46 27.0 -4.9**
YSS *e*PS PS 22 46 41.0 -1.4
YSS pmax pmax
comp=E,110nm,1.1s
YSS pmax pmax
comp=Z,110nm,1.1s,mb5.8
YSS pmax pmax
comp=N,70nm,1.0s
YSS MLR MLR
comp=N,6µm,17.0s,MS5.7
YSS MLR MLR
comp=Z,8µm,17.0s,MS5.7
YSS MLR MLR
comp=E,4µm,19.0s,MS5.7
YSS Yuzh-Sakhalins 48.00 8 *eP* **P 22 39 35.5 -0.4**
comp=E,76nm,0.8s,mb5.8
YSS LR LR
comp=Z,9µm,20.0s,MS5.8
AGT Agartala 48.60 303⇑ *i* **P 22 39 51.0 +10**
AGT *i* 22 40 50.0
SHL Shillong 48.78 306⇓ *iP* **P 22 39 42.0 -0.2**
SHL *e* 22 46 39.0
KLR Kul'dur 49.80 358 *eP* **P 22 39 45.2 -4.5**
KLR *e*PPP PPP 22 42 39.0 -1.3
KLR *eS* **S 22 46 52.0 -5.0**
KLR *e* 22 49 35.0
KLR pmax pmax
comp=N,150nm,2.8s
KLR pmax pmax
comp=Z,350nm,2.8s,mb5.9
KLR pmax pmax
comp=N,1µm,6.0s
KLR pmax pmax
comp=Z,2µm,6.0s
KLR smax
comp=N,4µm,9.0s
KLR smax
comp=E,6µm,9.0s
KLR MLR MLR
comp=Z,6µm,15.5s,MS5.7
KLR MLR MLR
comp=E,4µm,15.5s
CAL Calcutta 50.58 300 *e* **P 22 40 06.3 +10**
CAL *e* 22 47 16.4
GTA Gaotai 51.03 325⇑ *iP* **P 22 39 59.3 +0.1**
GTA AP pP 22 40 05.4 +0.8
GTA XP sP 22 40 08.6 +1.9
GTA PCP PcP 22 41 15.2 -0.2
GTA PP PP 22 41 54.7 -2.0
GTA PCS 22 45 10.8
GTA S **S 22 47 14.6 +0.4**
GTA XS 22 47 23.3
GTA SS SS 22 50 45.6 -1.7
GTA AMB AMB
comp=Z,743nm,6.5s
GTA LR LR
comp=N,4µm,25.1s
GTA LR LR
comp=E,4µm,15.6s
GTA LR LR
comp=Z,5µm,20.2s,MS5.5
LSA Lhasa 51.23 310 P **P 22 40 02.5 +1.6**
LSA PCP PcP 22 41 13.6 -2.7
LSA SCP 22 45 10.0
LSA PCS 22 45 15.0
LSA S **S 22 47 23.0 +5.9**
LSA SCS ScS 22 49 47.9 +0.3
LSA LR LR
comp=N,4µm,20.1s,MS5.7
LSA LR LR
comp=E,6µm,18.9s,MS5.7
LSA LR LR
comp=Z,6µm,20.1s,MS5.6
HIA Hailar 51.39 348 *eP* **P 22 40 00.6 -1.2**
HIA pmax pmax
comp=Z,89nm,1.5s
HIA Hailar 51.39 348 *eP* **P 22 40 00.6 -1.2**
comp=Z,89nm,1.5s,mb5.5
JCZ Jackson Bay 52.81 149 P **P 22 40 13.6 +1.0**
RAO Raoul Island 53.43 127 PFAKE 22 40 30.0 +13
RAO LR LR
comp=Z,7µm,19.0s,MS5.7
VIS Vishakhapatnam 53.61 293 *eP* **P 22 40 20.0 +1.2**
RPZ Rata Peaks 53.76 148 P **P 22 40 19.3 -0.3**
comp=Z,76nm,1.1s,mb5.6,baz=0.6,slow=4.6,SNR=12
ULN Ulaanbaatar 53.97 337 PFAKE 22 40 30.0 +9.0
ULN LR LR
comp=Z,18µm,20.0s,MS6.1
URZ Urewera 54.04 139 P **P 22 40 21.4 -0.3**
comp=Z,14nm,0.6s,mb5.1,baz=302,slow=0.8,SNR=6.1
URZ LR LR 23 03 54.1
comp=Z,47µm,18.7s,MS6.6,baz=308,slow=37
SONM Songino Array 54.20 337 P **P 22 40 21.6 -1.0**
comp=Z,3.8nm,0.5s,mb4.6,baz=154,slow=7.8,SNR=42
SONM S **S 22 48 00.9 +3.7**
comp=Z,0.4nm,0.8s,baz=172,slow=8.7,SNR=2.1
MIDW Midway 54.28 54 PFAKE 22 40 40.0 +16
MIDW LR LR
comp=Z,11µm,21.0s,MS5.9
PALK Pallekele 54.29 279 *eP* **P 22 40 23.0 -0.8**
comp=Z,33nm,0.8s,mb5.3
SKR Severo-Kuril's 54.40 17 *eP* **P 22 40 25.0 +0.9**
SKR *e*PPP PPP 22 43 44.0 +5.5
SKR *eS* **S 22 48 09.0 +9.1**
SKR *e*SSS SSS 22 53 36.0 -2.8
SKR pmax pmax
comp=N,110nm,1.0s
SKR pmax pmax
comp=E,110nm,1.0s
SKR pmax pmax
comp=Z,120nm,1.0s,mb5.8
SKR pmax pmax
comp=Z,1µm,12.0s
SKR smax
comp=N,8µm,22.0s
SKR smax
comp=E,4µm,14.0s
SKR MLR MLR
comp=N,2µm,18.0s,MS5.7
SKR MLR MLR
comp=E,5µm,18.0s,MS5.7
SKR MLR MLR
comp=Z,6µm,18.0s,MS5.7
ODZ Otahua Downs 54.45 149 P **P 22 40 30.9 +6.3**
GUN Gumba 54.64 305 *eP* **P 22 40 25.7 -0.5**
comp=Z,225nm,0.7s,mb6.3
AFI Afiamalu 54.69 107 *eP* **P 22 40 28.2 +1.5**
AFI pmax pmax
comp=Z,140nm,1.2s,mb5.9
AFI MLR MLR
comp=Z,13µm,19.0s,MS6.0
AFI Afiamalu 54.69 107 *eP* **P 22 40 28.2 +1.5**
comp=Z,141nm,1.2s,mb5.9
AFI LR LR
comp=Z,13µm,19.0s,MS6.0
PUZ Puketiti 54.70 138 P **P 22 40 25.3 -1.2**
PKI Pulchoki 54.89 305 *eP* **P 22 40 27.6 -0.5**
comp=Z,509nm,1.7s,mb6.3
KKN Kakani 55.08 305 *eP* **P 22 40 28.2 -1.3**
comp=Z,279nm,1.2s,mb6.2
DMN Daman 55.15 305 *eP* **P 22 40 28.9 -1.1**
comp=Z,627nm,1.4s,mb6.4
MDRS Chennai 55.54 286 *e* **P 22 40 41.0 +8.1**
MDRS *i* 22 48 13.0
GKN Gorkha 55.69 305 *eP* **P 22 40 32.7 -1.2**
comp=Z,1µm,1.8s,mb6.6
KOLN Koldanda 56.45 304 *eP* **P 22 40 38.7 -0.7**
comp=Z,890nm,1.2s
PET Petropavlovsk 57.20 17 *eP* **P 22 40 43.9 -0.5**
PET *e*PPP PPP 22 44 07.2 -6.0
PET *eS* **S 22 48 37.3 +0.1**
PET pmax pmax
comp=Z,900nm,13.0s
PET pmax pmax
comp=Z,52nm,1.0s,mb5.5
PET pmax pmax
comp=Z,1µm,14.6s
PET smax
comp=N,8µm,31.0s
PET smax
comp=E,4µm,16.8s
PET pmax pmax
comp=E,13µm,42.4s
PET MLR MLR
comp=Z,6µm,19.0s,MS5.7
PET Petropavlovsk 57.20 17 P **P 22 40 44.7 +0.3**
comp=Z,170nm,1.1s,mb6.0
PET LR LR
comp=Z,5µm,21.0s,MS5.6
CLNS Chul'man 57.88 354 *eP* **P 22 40 49.1 0.0**
CLNS *e**PP pP 22 40 56.9 +2.4
CLNS *e* 22 41 04.3
CLNS *eS* 22 44 23.7
CLNS pmax pmax
comp=N,16nm,1.1s
CLNS pmax pmax
comp=Z,21nm,1.1s,mb5.1
CLNS pmax pmax
comp=E,11nm,0.9s
CLNS pmax pmax
comp=Z,25nm,1.1s,mb5.2
CLNS pmax pmax
comp=N,28nm,1.0s
CLNS pmax pmax
comp=E,22nm,0.9s
HYB Hyderabad 57.97 291 *i* P **P 22 40 49.0 -1.2**
HYB *e*PcP PcP 22 41 47.5 +5.4
HYB *e*PP PP 22 42 55.0 -5.4
HYB *e* 22 44 38.0
HYB *eS* **S 22 48 48.0 +0.1**
HYB *e* 22 52 54.0
HYB LR LR 23 01 52.0
comp=E,7.7nm,24.0s
HYB Hyderabad 57.97 291 *eP* **P 22 40 49.0 -1.2**
HYB *eS* **S 22 48 44.0 -3.9**
TRD Trivandrum 58.10 280 *eP* **P 22 40 51.6 +0.4**
TRD *e* pP 22 40 55.2 -1.4
comp=Z,103nm,1.2s
NGP Nagpur 58.37 295 *e* **P 22 40 58.9 +5.9**

NGP e 22 49 21.8
IRK Irkutsk 58.57 339 eP P 22 40 47.8 -6.2
IRK e 22 43 07.7
MOY Mondy 59.37 336 eP P 22 40 59.2 -0.3
LGTI Lohaghat 59.80 305⇑ iP P 22 41 04.0 +1.2
PTH Pithoragarh 59.86 305 eP P 22 41 01.6 -1.6
PTH e 22 43 30.0
BHPL Bhopal 60.36 297 eP P 22 41 07.1 +0.4
BHPL e 22 41 09.5
comp=Z,61nm,1.4s
BOD Bodaibo 60.61 348 eP P 22 41 05.6 -2.3
BOD e pP 22 41 10.7 -2.7
BOD e 22 49 21.1
MNGI Mangalore 60.74 285 eP P 22 41 07.1 -2.2
MNGI e 22 49 20.3
JOSI Joshimath 60.74 306 eP P 22 41 08.9 -0.3
WMQ Urumqi 60.88 323⇑ iP P 22 41 09.6 -0.4
WMQ PP PP 22 43 25.0 -1.3
WMQ S **S 22 49 25.0 -0.2**
WMQ SCS ScS 22 50 56.0 -0.5
WMQ SS SS 22 53 25.0 -0.9
WMQ AMB AMB
comp=Z,159nm,1.2s,mb6.0
WMQ AMB AMB
comp=Z,587nm,8.0s
WMQ LR LR
comp=N,12µm,20.0s,MS6.1
WMQ LR LR
comp=E,4µm,18.0s,MS6.1
WMQ LR LR
comp=Z,7µm,18.0s,MS5.8
AGRA Agra 61.02 302 eP P 22 41 08.2 -2.9
MA2 Magadan 61.44 9 eP P 22 41 12.4 -1.1
MA2 eS **S 22 49 33.7 +1.8**
MA2 pmax pmax
comp=N,50nm,1.5s
MA2 pmax pmax
comp=Z,60nm,1.5s,mb5.5
MA2 MLR MLR
comp=Z,11µm,24.0s,MS5.9
MA2 Magadan 61.44 9 eP P 22 41 12.5 -1.0
MA2 LR LR
comp=Z,5µm,21.0s,MS5.7
DDI Dehra Dun 61.89 305 eP P 22 41 13.8 -3.2
DDI eS **S 22 49 43.0 +4.9**
KAD Karad 62.05 290 eP P 22 41 18.1 0.0
KAD e pP 22 41 24.7 +1.0
comp=Z,26nm,1.6s
SONA Sohna 62.05 303 eP P 22 41 15.2 -2.9
NDI New Delhi 62.07 303 eP P 22 41 15.0 -3.2
NDI e 22 49 38.0
AYAN Aya Nagar 62.08 303 eP P 22 41 15.9 -2.4
KLP Kalpa 62.13 307 eP P 22 41 16.6 -2.0
FX1 Attu Island--F 62.37 25 P P 22 41 18.3 -1.5
comp=Z,36nm,0.7s,mb5.6,baz=220,slow=7.3,SNR=8.2
FX1 LR LR 23 06 38.7
comp=Z,335nm,20.1s,baz=244,slow=34
KUDL Kundal 62.52 302 eP P 22 41 18.7 -2.5
POO Poona 62.58 291 eP P 22 41 20.9 -0.8
SMY Shemya 62.66 26 eP P 22 41 24.2 +2.4
YAK Yakutsk 62.68 357 eP P 22 41 20.9 -0.9
YAK e*PP pP 22 41 30.0 +2.7
YAK e 22 41 56.3
YAK eS **S 22 49 46.8 -0.8**
YAK e 22 51 13.4
YAK pmax pmax
comp=Z,79nm,0.9s,mb5.8
YAK pmax pmax
comp=N,6.0nm,0.8s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK pmax pmax
comp=N,3.0nm,0.8s
YAK pmax pmax
comp=Z,12nm,0.8s,mb5.1
YAK pmax pmax
comp=E,7.0nm,1.0s
YAK smax
comp=E,671nm,9.6s
YAK smax
comp=N,206nm,13.9s
YAK MLR MLR
comp=Z,5µm,19.0s,MS5.7
YAK MLR MLR
comp=N,4µm,20.0s,MS5.6
YAK MLR MLR
comp=E,2µm,24.0s,MS5.6
YAK Yakutsk 62.68 357 eP P 22 41 20.9 -0.9
comp=E,221nm,0.8s,mb6.3
YAK LR LR
comp=Z,8µm,20.0s,MS5.9
KHET Khetri 63.08 302 eP P 22 41 22.2 -2.7
KHET e 22 49 49.3
BHK Bhakra 63.57 306 e P 22 41 39.5 +11
BOM Bombay 63.61 291 e P 22 41 31.1 +2.5
BOM eS **S 22 50 01.5 +1.5**
AJM Ajmer 63.64 300⇑ iP P 22 41 27.0 -1.7
THN Thein Dam 64.46 307 eP P 22 41 31.4 -2.6
comp=Z,26nm,0.8s,mb5.3
SEY Seymchan 64.87 9 eP P 22 41 37.7 +1.6
SEY 22 42 14.0
SEY ePPP PPP 22 45 34.7 0.0
SEY eS **S 22 50 17.5 +2.6**
SEY pmax pmax
comp=N,130nm,0.9s
SEY pmax pmax
comp=Z,400nm,0.9s,mb6.5
SEY pmax pmax
comp=E,100nm,1.1s
SEY smax
comp=N,10µm,10.8s
SEY smax
comp=E,7µm,9.4s
MKAR Makanchi Array 65.69 323 P P 22 41 40.8 -0.8
comp=E,26nm,0.6s,mb5.5,baz=114,slow=7.8,SNR=81
MKAR S S 22 50 28.4 +3.3
comp=E,1.2nm,1.0s,baz=185,slow=39,SNR=2.9
MKAR LR LR 23 09 42.5
comp=E,9µm,20.6s,MS6.0,baz=115,slow=35
DRV Dumont d'Urvil 65.94 178 P P 22 41 46.0 +3.1
DRV S S 22 50 19.0 -8.9
DRV L 22 58 00.0
DRV R 23 02 00.0
KIWB Kanaga Island 66.23 30 eP P 22 41 45.4 +0.4
KSH Kashi 66.70 314 P P 22 41 50.2 +2.0
KSH AP pP 22 41 54.8 +1.1
KSH XP sP 22 41 57.7 +2.0
KSH PCP PcP 22 42 18.6 +1.4
KSH PP PP 22 44 19.1 +2.1
KSH S S 22 50 44.6 +7.0
KSH XS 22 50 50.3
KSH SCS ScS 22 51 42.7 +1.9
KSH LR LR
comp=N,3µm,12.6s,MS6.0
KSH LR LR
comp=E,5µm,15.8s,MS6.0
JASL Jaisalmer 66.99 300 eP P 22 41 48.7 -1.6
RAR Rarotonga 67.13 113 PFAKE 22 42 00.0 +8.7
RAR LR LR
comp=Z,4µm,21.0s,MS5.6
BHJ Bhuj 67.33 296 eP P 22 41 51.7 -0.8
BHJ e 22 42 03.4
comp=Z,44nm,0.8s
AAA Alma-Ata 67.48 318 eP P 22 42 00.0 +6.9
AAA eS S 22 51 04.0 +17
AAA pmax pmax
comp=Z,2µm,6.0s
AAA smax
comp=N,3µm,10.0s
AAA MLR MLR
comp=Z,4µm,20.0s,MS5.6
ZAL Zalesovo 68.15 331 P P 22 41 55.2 -1.9
comp=Z,6.6nm,1.0s,mb4.6,baz=265,slow=8.2,SNR=28
ZAL LR LR 23 10 39.4
comp=Z,9µm,21.9s,MS5.9,baz=254,slow=35
KZA Kyzart 68.16 316 P P 22 42 04.7 +7.3
SNR=6.3
TKM2 Tokmak 2 68.25 317 P P 22 41 58.7 +0.8
SNR=14
KBK Karagaybulak 68.59 317 P P 22 42 00.3 +0.3
SNR=8.7
UCH Uchtor 68.73 316 P P 22 42 03.8 +2.9
SNR=18
CHMS Chumysh 68.85 317 P P 22 42 02.7 +1.1
SNR=10
FRU Bishkek 68.88 317 eP P 22 42 03.0 +1.2
FRU eS S 22 51 18.0 +14
FRU pmax pmax
comp=Z,110nm,2.0s,mb5.4
FRU smax
comp=E,6µm,6.0s
AAK Ala-Archa 68.89 317 P P 22 42 03.3 +1.4
SNR=7.3
AAK Ala-Archa 68.89 317 eP P 22 42 01.7 -0.2
AAK pmax pmax
comp=Z,73nm,1.0s,mb5.6
AAK MLR MLR
comp=Z,3µm,20.0s,MS5.5
AAK Ala-Archa 68.89 317 eP P 22 42 01.7 -0.2
comp=Z,73nm,1.0s,mb5.6
AAK LR LR
comp=Z,3µm,20.0s,MS5.5
USP Ospenovka 69.12 317 P P 22 42 03.9 +0.6
SNR=19
AML Almayashu 69.26 316 P P 22 42 04.5 +0.3
SNR=16
HON Honolulu 69.33 67 eP P 22 42 07.7 +2.8
KIP Kipapa 69.33 67 eP P 22 42 07.7 +2.8
KIP pmax pmax
comp=Z,130nm,0.9s,mb5.9
KIP MLR MLR
comp=Z,5µm,19.0s,MS5.8
KIP Kipapa 69.33 67 eP P 22 42 07.7 +2.8
comp=Z,133nm,0.9s,mb5.9
KIP LR LR
comp=Z,5µm,19.0s,MS5.8
EKS2 Erkin-Say 69.39 317 P P 22 42 05.3 +0.4
SNR=14
NVS Novosibirsk 69.41 331 eP P 22 42 02.6 -2.3
NVS eS S 22 51 00.7 -9.0
NVS pmax pmax
comp=Z,150nm,1.7s,mb5.7
NVS pmax pmax
comp=N,110nm,1.6s
NVS pmax pmax
comp=E,94nm,1.6s
NVS pmax pmax
comp=N,57nm,1.9s
NVS pmax pmax
comp=Z,50nm,1.9s,mb5.1
NVS smax
comp=E,229nm,2.8s
NVS smax
comp=N,129nm,2.5s
KURK Kurchatov 69.71 326⇑ iP P 22 42 05.8 -1.0
KURK Kurchatov 69.71 326 eP P 22 42 05.7 -1.1
comp=N,73nm,0.9s,mb5.6
KURK LR LR
comp=Z,2µm,19.0s,MS5.3
HKL Haleakala 70.84 68 eP P 22 42 17.4 +3.2
MIR Mirnyy 71.90 196⇓ eP P 22 42 21.6 +1.9
MIR eS S 22 51 41.0 +2.6
MIR pmax pmax
comp=Z,280nm,1.8s,mb5.9
MIR smax
comp=E,1µm,11.0s
MIR smax
comp=N,2µm,14.0s
MIR MLR MLR
comp=Z,16µm,19.0s,MS6.3
TIXI Tiksi 72.33 358 eP P 22 42 21.0 -1.2
TIXI e 22 42 41.1
TIXI i S S 22 51 40.4 -2.9
TIXI pmax pmax
comp=Z,42nm,0.9s,mb5.4
TIXI MLR MLR
comp=Z,10µm,19.0s,MS6.1
TIXI Tiksi 72.33 358 eP P 22 42 21.0 -1.2
TIXI LR LR
comp=Z,11µm,20.0s,MS6.1
UNV Unalaska Valle 72.80 32 PFAKE 22 42 40.0 +15
UNV LR LR
comp=Z,16µm,21.0s,MS6.3
BVAR Borovoye Array 75.31 326 P P 22 42 39.3 -0.6
comp=Z,8.3nm,0.5s,mb4.9,baz=120,slow=8.7,SNR=35
BVAR LR LR 23 15 32.1
comp=Z,72nm,18.1s,baz=250,slow=36
BRVK Borovoye 75.38 326 eP P 22 42 39.5 -0.8
BRVK pmax pmax
comp=Z,72nm,1.1s,mb5.5
BRVK MLR MLR
comp=Z,2µm,21.0s,MS5.3
BRVK Borovoye 75.38 326 eP P 22 42 39.5 -0.8
comp=Z,72nm,1.1s,mb5.5
BRVK LR LR
comp=Z,2µm,21.0s,MS5.3
ZRNK Zerenda 76.07 325 eP P 22 42 43.0 -1.1
ZRNK pmax pmax
comp=Z,71nm,0.9s,mb5.6
ZRNK Zerenda 76.07 325 eP P 22 42 43.0 -1.1
comp=Z,71nm,0.9s,mb5.6
PPT Papeete 76.33 108 eP P 22 42 46.7 +0.4
comp=Z,52nm,1.2s,mb5.3
PPT Papeete 76.33 108 eSS SS 22 57 24.1 -2.1
PPT eL 23 03 10.8
PPT eR 23 06 28.7
comp=Z,28µm,31.8s
PAE Paea 76.33 108 eP P 22 42 46.5 +0.2
comp=Z,147nm,1.0s,mb5.9
TIAR Tiarei 76.55 108 eP P 22 42 47.6 +0.1
comp=Z,175nm,0.9s,mb6.0
SDPT Sand Point 76.61 32 eP P 22 42 47.6 +0.5
TVO Taravao 76.65 108 eP P 22 42 48.3 +0.2
comp=Z,115nm,0.9s,mb5.8
TBI Tubuai 76.87 114 eSS SS 22 57 37.3 +3.1
TBI eL 23 03 37.6
TBI eR 23 06 47.2
comp=Z,13µm,40.8s
TNA Tin City 77.75 21 PFAKE 22 43 10.0 +17
TNA LR LR
comp=Z,3µm,20.0s,MS5.6
PMOR Pomariorio Ree 77.80 105 eP P 22 42 54.6 +0.1
comp=Z,164nm,1.3s,mb5.8
SBA Scott Base 78.98 173 eP P 22 43 00.8 +1.0
SBA pmax pmax
comp=Z,93nm,1.1s,mb5.6
SBA MLR MLR
comp=Z,9µm,20.0s,MS6.1
SBA Scott Base 78.98 173 eP P 22 43 00.8 +0.9
comp=Z,93nm,1.1s,mb5.6
SBA LR LR
comp=Z,9µm,20.0s,MS6.1
TTA Tatalina 81.38 26 eP P 22 43 13.9 +1.1
SVE Sverdlovsk 81.83 328⇑ eP P 22 43 14.5 -0.8
SVE ePS PS 22 54 25.0 +7.4
SVE pmax pmax
comp=Z,140nm,2.4s,mb5.5
SVE pmax pmax
comp=Z,2µm,5.0s
SVE MLR MLR
comp=N,2µm,15.0s,MS5.9
SVE MLR MLR
comp=E,4µm,15.0s,MS5.9
SVE MLR MLR
comp=Z,8µm,15.0s,MS6.2
MAW Mawson 82.43 202 P P 22 43 20.6 +2.4
comp=Z,23nm,1.0s,mb5.1,baz=76,slow=6.2,SNR=40
MAW LR LR 23 19 09.3
comp=Z,8µm,19.0s,MS6.1,baz=73,slow=35
ARU Arti 82.85 327⇑ iP P 22 43 19.6 -1.0
ARU e 22 46 29.9
ARU ePPP PPP 22 48 20.6 -5.2
ARU i S S 22 53 37.4 +0.6
ARU i SS SS 22 58 58.3 -5.0
ARU pmax pmax
comp=Z,39nm,1.0s,mb5.4
ARU MLR MLR
comp=Z,6µm,20.0s,MS6.0
ARU MLR MLR
comp=N,2µm,17.0s,MS5.8
ARU MLR MLR
comp=E,4µm,20.0s,MS5.8
ARU Arti 82.85 327 eP P 22 43 19.5 -1.1
comp=E,54nm,1.1s,mb5.5
ARU LR LR
comp=Z,2µm,20.0s,MS5.4
FIB Fire Island 83.54 28 PFAKE 22 43 40.0 +16
FIB LR LR
comp=Z,5µm,21.0s,MS5.8
PWA Palmer West 83.79 28 eP P 22 43 25.8 +0.5
PMR Palmer 84.12 28 eP P 22 43 30.7 +3.7
SML Sawmill 84.54 28 eP P 22 43 29.0 0.0
MCK McKinley 84.67 26 PFAKE 22 43 40.0 +10
MCK LR LR
comp=Z,3µm,22.0s,MS5.7
COLA College 85.38 25 eP P 22 43 31.7 -1.4
COLA College 85.38 25 PFAKE 22 43 50.0 +17
COLA LR LR
comp=Z,5µm,22.0s,MS5.8
EYAK Cordova Ski Ar 85.54 29 eP P 22 43 34.9 +0.8
DIV Divide 85.63 29 eP P 22 43 35.6 +1.1
comp=Z,559nm,0.8s
DIV LR LR
comp=Z,33µm,22.0s
ILAR Eielson Array 85.76 25 P P 22 43 34.5 -0.5
comp=Z,28nm,1.1s,mb5.4,baz=261,slow=4.3,SNR=63
MUKL Al Mukalla 85.83 284 eP P 22 43 39.7 +3.1
THY Trims Highway 86.01 26 P P 22 43 36.5 +0.1
QRN Al-Qurain 87.37 299 eP P 22 43 43.8 0.0
QRN AMb AMB 22 43 54.0
comp=Z,220nm,1.1s,mb6.3
KBD Kabd 87.59 299 eP P 22 43 44.7 -0.1
KBD AMb AMB 22 43 55.9
comp=Z,386nm,1.0s,mb6.6
RDF Al-Radifah 87.70 299 eP P 22 43 44.5 -0.9
RDF AMb AMB 22 43 56.1
comp=Z,116nm,0.9s,mb6.1
RST Umm Al-Ruwaisa 88.20 299 eP P 22 43 47.2 -0.6
RST AMb AMB 22 43 59.4
comp=Z,193nm,0.8s,mb6.4
MAK Makhachkala 88.30 313 eP P 22 43 56.0 +8.1
MAK e 22 47 17.0
MAK e 22 54 22.0
MAK i PS PS 22 55 50.0 +12
MAK pmax pmax
comp=E,500nm,6.0s
MAK pmax pmax
comp=Z,1µm,6.0s
MAK pmax pmax
comp=E,1µm,10.0s
MAK pmax pmax
comp=Z,2µm,10.0s
MAK smax
comp=N,2µm,10.0s
MAK smax
comp=E,5µm,10.0s
MAK smax
comp=Z,1µm,10.0s
MAK MLR MLR
comp=Z,3µm,13.0s,MS5.9
DAWY Dawson 88.90 26 eP P 22 43 51.1 +0.8
QSPA South Pole Qui 89.23 180 eP P 22 43 52.2 +0.6
comp=Z,140nm,0.9s,mb6.3
QSPA e 22 44 41.6
QSPA LR LR
comp=Z,38µm,20.4s,MS6.8
RAYN Ar Rayn 89.40 293 P P 22 43 53.9 +0.3
comp=Z,212nm,0.9s,mb6.5,SNR=38
MZLS Mizel 89.68 294 P P 22 43 55.4 +0.5
KAMS Al Khamasin 90.21 290 P P 22 43 59.8 +2.3
GNI Garni 90.30 310 eP P 22 43 56.7 -0.7
GNI pmax pmax
comp=Z,36nm,1.5s
GNI MLR MLR
comp=Z,3µm,20.0s
GNI Garni 90.30 310 eP P 22 43 56.8 -0.6
TI2 Plekhanov 90.31 312 eP P 22 44 06.0 +8.5
TI2 i 22 47 33.0
TI2 MLR MLR
comp=N,2µm,17.0s,MS5.8
TI2 MLR MLR
comp=E,2µm,17.0s,MS5.8
TI2 MLR MLR
comp=Z,2µm,17.0s,MS5.5
DJNS Zahran al Janu 91.17 288 P P 22 44 08.3 +6.4
INK Inuvik 91.37 22 P P 22 44 04.5 +2.9
comp=Z,21nm,1.1s,mb5.4,baz=257,slow=6.4,SNR=6.8
INK Inuvik 91.37 22 eP P 22 44 04.4 +2.7
INK pmax pmax
comp=Z,46nm,1.3s
INK Inuvik 91.37 22 eP P 22 44 04.4 +2.7
comp=Z,46nm,1.3s,mb5.7
ARSS Ar Rass 91.48 296 P P 22 44 02.5 -0.7
GOF Gofitskoye 91.56 315 eP P 22 44 07.0 +3.9
GOF pmax pmax
comp=Z,30nm,1.2s,mb5.5
KIV Kislovodsk 91.83 314 i P P 22 44 02.4 -2.0
KIV Kislovodsk 91.83 314 PFAKE 22 44 20.0 +16
KIV LR LR
comp=Z,1µm,22.0s,MS5.2
NAMS An Nimas 92.44 289 P P 22 44 14.1 +6.4
HILS Ha'il 92.77 297 P P 22 44 09.7 +0.6
DLBC Dease Lake 93.45 32 P P 22 44 13.1 +1.7
comp=Z,4.8nm,0.8s,mb5.0,baz=31,slow=19,SNR=2.4
DLBC LR LR 23 19 48.2
comp=Z,6µm,21.8s,MS6.0,baz=294,slow=31
VOR Voronezh 93.87 322 P P 22 44 18.0 +4.4
VOR pmax pmax
comp=Z,90nm,1.6s,mb6.0
SOC Sochi 93.99 313 eP P 22 44 11.7 -2.6
SOC e 22 48 02.0
SOC ePPP PPP 22 50 05.4 -1.0
SOC e 22 54 42.0
SOC eS S 22 55 13.5 -7.2
SOC eSS SS 23 01 40.3 -4.4
SOC eSSS SSS 23 05 20.3 -5.4
SOC pmax pmax
comp=Z,15nm,0.9s,mb5.4
SOC pmax pmax
comp=N,19nm,1.1s
SOC pmax pmax
comp=E,23nm,0.8s
SOC MLR MLR
comp=Z,4µm,18.0s,MS5.9
SOC MLR MLR
comp=N,5µm,20.0s,MS6.1
SOC MLR MLR
comp=E,4µm,18.0s,MS6.1
MOS Moscow 94.48 326 eP P 22 44 19.4 +3.1
MOS e 22 48 08.6
MOS e 22 54 47.5
MOS eS S 22 55 28.4 +3.7
MOS ePS PS 22 56 48.9 +0.9
MOS eSS SS 23 01 44.5 -6.8
MOS pmax pmax
comp=Z,70nm,1.1s,mb6.0
MOS MLR MLR
comp=N,5µm,19.0s,MS6.1
MOS MLR MLR
comp=Z,6µm,19.0s,MS6.1
MOS MLR MLR
comp=E,4µm,18.0s,MS6.1
PTCN Pitcairn Islan 94.56 115 PFAKE 22 44 30.0 +13
PTCN LR LR
comp=Z,4µm,19.0s,MS6.0
APA Apatity 94.90 338⇑ eP P 22 44 17.9 0.0
APA i 22 44 26.2
APA e 22 54 55.0
APA pmax pmax
comp=Z,51nm,1.5s,mb5.7
APA MLR MLR
comp=Z,6µm,17.0s,MS6.2
BBB Bella Bella 95.06 38 LR LR 23 23 51.7
comp=Z,4µm,18.4s,MS5.9,baz=275,slow=33
KBRS Khaybar 95.06 296 P P 22 44 22.0 +2.3
OBN Obninsk 95.15 325 eP P 22 44 16.8 -2.5
OBN 22 48 11.0
OBN PPP PPP 22 50 08.0 -8.3
OBN i SS SS 23 02 00.0 -0.6
OBN pmax pmax
comp=Z,75nm,1.5s,mb5.9
OBN pmax pmax
comp=Z,100nm,1.9s,mb5.9
OBN MLR MLR
comp=Z,4µm,14.0s,MS6.1
OBN Obninsk 95.15 325 eP P 22 44 17.4 -2.0
comp=Z,58nm,1.1s,mb5.9
OBN LR LR
comp=Z,2µm,20.0s,MS5.6
ANN Anapa 95.55 315 eP P 22 44 27.5 +6.0
ANN pmax pmax
comp=Z,57nm,1.0s,mb6.0
ASF Jabal al Asfar 96.85 302 P P 22 44 31.3 +3.6
comp=Z,1.4nm,0.7s,mb4.5,baz=198,slow=22,SNR=2.1
ARCES ARCESS Array B 97.25 340 P P 22 44 28.1 -0.4
comp=Z,17nm,0.9s,mb5.5,baz=63,slow=5.4,SNR=14

ARCES LR LR 23 33 03.9
comp=Z,5μm,18.1s,MS6.1,baz=291,slow=38
KMBO Kilima Mbogo 97.28 269 P **P** **22 44 32.1 +2.0**
comp=Z,1.3nm,1.0s,baz=209,slow=24,SNR=3.3
KMBO LR LR 23 27 28.6
comp=Z,3μm,19.9s,baz=95,slow=35
KMBO Kilima Mbogo 97.28 269 *e*P **P** **22 44 32.6 +2.6**
comp=Z,4.5nm,1.1s,mb4.8
KMBO LR LR
comp=Z,3μm,21.0s,MS5.7
SIM Simferopol' 97.88 315 P **P** **22 44 33.8 +1.8**
SIM 22 48 34.1
SIM pmax pmax
comp=Z,490nm,17.9s
JMQS Jabal Moqyreh 97.93 299 P **P** **22 44 34.5 +1.9**
BRTR Keskin Array B 98.84 310 P **P** **22 44 37.5 +1.0**
comp=Z,0.8nm,0.7s,baz=82,slow=7.8,SNR=2.9
BRTR LR LR 23 39 11.9
comp=Z,1μm,20.4s,baz=60,slow=41
COR Corvallis 99.14 45 PFAKE 22 44 50.0 +12
COR LR LR
comp=Z,8μm,22.0s,MS6.2
KHMM Horse Mountain 99.32 49 *e*P **P** **22 44 41.8 +3.2**
FINES FINESS Array B 99.38 332 P **P** **22 44 37.6 -0.7**
comp=Z,4.7nm,0.9s,mb5.0,baz=45,slow=14,SNR=7.8
FINES LR LR 23 31 38.0
comp=Z,7μm,19.2s,MS6.2,baz=73,slow=37
HUMO Hull Mountain 99.67 47 PFAKE 22 44 50.0 +10
HUMO LR LR
comp=Z,8μm,22.0s,MS6.2
YBH Yreka Blue Hor 99.97 48 P **P** **22 44 44.6 +3.0**
comp=Z,1.3nm,0.4s,mb4.8,baz=22,slow=18,SNR=2.9
YBH Yreka Blue Hor 99.97 48 *e*Pdif **P** **22 44 46.2 +4.6**
comp=Z,9.4nm,1.4s,mb5.0
YBH LR LR
comp=Z,7μm,20.0s,MS6.2
HOPS Hopland 100.06 51 PFAKE 22 44 50.0 +7.9
HOPS LR LR
comp=Z,5μm,20.0s,MS6.0
YKA Yellowknife Ar 100.14 26 P P 22 44 40.3 -1.5
comp=Z,1.7nm,0.8s,baz=287,slow=4.5,SNR=2.8
AKASG Malin Array Be 100.22 321 P P 22 44 40.5 -2.0
AKASG PP PP 22 48 41.9 -9.1
comp=Z,0.3nm,0.3s,baz=63,slow=7.7,SNR=4.5
WDC Whiskeytown Da 100.26 49 *e*P P 22 44 44.9 +2.0
WDC pmax pmax
comp=Z,10.0nm,1.2s
WDC MLR MLR
comp=Z,9μm,22.0s,MS6.2
WDC Whiskeytown Da 100.26 49 *e*Pdif P 22 44 44.9 +2.0
comp=Z,10nm,1.2s
WDC LR LR
comp=Z,9μm,22.0s,MS6.2
SAO San Andreas Ge 101.63 53 PFAKE 22 45 00.0 +11
SAO LR LR
comp=Z,7μm,20.0s,MS6.2
MOD Modoc 101.72 47 PFAKE 22 45 00.0 +11
MOD LR LR
comp=Z,6μm,22.0s,MS6.1
BEKR Beckwourth 102.02 49 *e*Pdif Pdif 22 44 54.6 +3.7
comp=Z,10nm,1.1s
CMB Columbia Colle 102.28 51 *e*P Pdif 22 44 55.5 +3.4
CMB pmax pmax
comp=Z,7.0nm,1.0s
CMB MLR MLR
comp=Z,6μm,21.0s,MS6.1
CMB Columbia Colle 102.28 51 *e*Pdif Pdif 22 44 55.5 +3.4
comp=Z,7.2nm,1.0s
CMB LR LR
comp=Z,6μm,21.0s,MS6.1
SNAA Sanae 102.78 193 P Pdif 22 44 58.4 +4.9
SNAA Sanae 102.78 193 ||*i* Pdif 22 45 01.1 +7.6
SNAA Sanae 102.78 193 Pdif 22 45 02.6 +9.1
SNAA Sanae 102.78 193 ⇑*i*P tx 22 48 30.2
SNAA Sanae 102.78 193 P PP 22 49 06.4 -3.7
SNAA Sanae 102.78 193 *e*P Pdif 22 44 59.7 +6.2
SNAA pmax pmax
comp=Z,12nm,1.0s
MLR Muntele Rosu 103.47 317 Pdiff Pdif 22 44 56.7 -0.5
comp=Z,2.9nm,0.9s,baz=294,slow=19,SNR=3.0
MLR PP PP 22 49 13.0 -2.7
comp=Z,2.2nm,0.8s,baz=35,slow=19,SNR=2.5
MTUM Tungsten Hills 103.82 52 *e*Pdif Pdif 22 45 02.6 +3.8
NVAR Mina Array Bea 103.83 51 Pdiff Pdif 22 45 01.2 +2.2
comp=Z,4.5nm,1.0s,baz=257,slow=4.3,SNR=15
NVAR PP PP 22 49 19.4 +0.9
comp=Z,5.6nm,1.1s,baz=261,slow=6.3,SNR=5.2
MNV Mina 103.95 51 PFAKE 22 45 10.0 +11
MNV LR LR
comp=Z,5μm,20.0s,MS6.0
BMN Battle Mountai 104.28 48 PFAKE 22 45 10.0 +9.2
BMN LR LR
comp=Z,4μm,19.0s,MS6.0
VNA2 Neumayer--Watz 104.32 192 ||*i*P Pdif 22 45 07.0 +6.7
VNA2 Neumayer--Watz 104.32 192 ||*i* Pdif 22 45 10.6 +10
VNA2 Neumayer--Watz 104.32 192 ⇑*i* Pdif 22 45 12.2 +12
VNA2 Neumayer--Watz 104.32 192 ⇑*i* PP 22 49 23.6 +2.2
VNA2 Neumayer--Watz 104.32 192 ⇑*i* PP 22 49 26.2 +4.8
VNA3 Neumayer Olymp 104.53 191 ⇑*i*P Pdif 22 45 09.2 +8.0
VNA3 Neumayer Olymp 104.53 191 ⇑*i* Pdif 22 45 12.7 +11
VNA3 Neumayer Olymp 104.53 191 ⇑*i* Pdif 22 45 13.6 +12
VNA3 Neumayer Olymp 104.53 191 ⇑*i* PP 22 49 25.7 +2.6
VNA1 Neumayer--Stat 104.72 192 ⇑*i*P Pdif 22 45 09.3 +7.3
TPH Tonopah 104.74 51 *e*P Pdif 22 45 07.0 +4.1
TPH pmax pmax
comp=Z,2.0nm,0.6s
TPH Tonopah 104.74 51 *e*Pdif Pdif 22 45 07.0 +4.1
comp=Z,1.8nm,0.6s
DAC Darwin (Calif) 104.77 53 PFAKE 22 45 20.0 +17
DAC LR LR
comp=Z,9μm,22.0s,MS6.3
HFS Hagfors 105.50 334 Pdiff Pdif 22 45 08.3 +2.6
comp=Z,4.0nm,0.8s,baz=90,slow=7.2,SNR=4.3
LSZ Lusaka 105.58 254 PFAKE 22 49 30.0
LSZ LR LR
comp=Z,5μm,20.0s,MS6.0
ELK Elko 105.69 48 *e*PKiKP 22 49 23.5
ELK LR LR
comp=Z,6μm,21.0s,MS6.1
TPNV Topopah Spring 105.71 52 *e*P Pdif 22 45 15.5 +8.3
TPNV pmax pmax
comp=Z,6.0nm,0.9s
TPNV Topopah Spring 105.71 52 *e*Pdif Pdif 22 45 15.5 +8.2
comp=Z,5.6nm,0.9s
NOA NORSAR Array B 106.14 335 PP PP 22 49 34.8 -0.4
comp=Z,2.6nm,1.0s,baz=68,slow=7.2,SNR=3.6
PFO Pinyon Flat Ob 106.16 55 PFAKE 22 49 30.0
PFO LR LR
comp=Z,2μm,21.0s,MS5.7
BOSA Boshof 106.54 240 PFAKE 22 49 30.0
BOSA LR LR
comp=Z,3μm,20.0s,MS5.8
BOZ Bozeman (W) 106.98 42 PFAKE 22 49 40.0
BOZ LR LR
comp=Z,4μm,19.0s,MS6.0
BSD Bornholm Skovb 107.10 328 *i*P 22 49 28.5
BSD *i* 22 55 55.1
BSD *i* 23 04 45.5
comp=Z,6μm,19.0s
OKC Ostrava-Krasne 107.29 323 *e*P Pdif 22 45 25.9 +12
OKC *e* 22 49 44.8
OKC *e*SS SS 23 04 52.0 +3.3
OKC MLR MLR
comp=Z,4μm,16.4s,MS6.0
OKC Ostrava-Krasne 107.29 323 *e*PDIF Pdif 22 45 25.9 +12
OKC *e*PP PP 22 49 44.8 +0.5
OKC *e*SS SS 23 04 52.0 +3.3
OKC *ex* x 23 15 11.0
OKC AMS AMS 23 39 30.0
comp=Z,4μm,16.4s
KONO Kongsberg 107.54 334 PFAKE 22 49 40.0
KONO LR LR
comp=Z,8μm,19.0s,MS6.3
KSP Ksiaz 108.03 324 *e*P Pdif 22 45 22.5 +5.4
KSP *e* 22 49 48.0
KSP *e*SP SP 22 59 03.0 -3.4
KSP *e*PPS PPS 23 00 07.0 -4.2
KSP *e*SS SS 23 05 01.0 +1.9
KSP MLR MLR
comp=Z,15μm,22.7s,MS6.5
AHID Auburn Hatcher 108.17 45 PFAKE 22 49 40.0
AHID LR LR
comp=Z,5μm,22.0s,MS6.0
DPC Dobruska-Polom 108.20 324 *e*P Pdif 22 45 24.5 +6.7
DPC *e* 22 49 50.2
DPC *e*SP SP 22 59 05.4 -2.5
DPC *e*SS SS 23 05 11.6 +10
DPC MLR MLR
comp=Z,7μm,20.1s,MS6.2
DPC Dobruska-Polom 108.20 324 *e*PDIF Pdif 22 45 24.5 +6.7
DPC *ex* x 22 45 31.2
DPC *e*PP PP 22 49 50.2 -0.7
DPC *e*SP SP 22 59 05.4 -2.5
DPC *ex* x 23 00 28.5
DPC *e*SS SS 23 05 11.6 +10
DPC AMS AMS 23 36 50.0
comp=Z,7μm,20.1s
UPC Upice 108.32 324 *e*P Pdif 22 45 25.2 +6.8
UPC *e* 22 49 44.7
UPC Upice 108.32 324 *e*PDIF Pdif 22 45 25.2 +6.8
UPC *ex* x 22 45 29.5
UPC *e*PP PP 22 49 44.7 -7.2
VRAC Vranov 108.42 322 PP PP 22 49 51.1 -1.6
comp=Z,5.6nm,1.1s,baz=38,slow=10,SNR=4.1
PVCC Panska Ves 109.16 324 *ex* x 22 45 32.3
PVCC *e*PP PP 22 50 01.4 +3.0
PVCC *e*SP SP 22 59 22.2 +5.4
PVCC *e*PKKP PKKP 23 00 25.4 -17
PVCC *e*SS SS 23 05 14.7 +0.7
PVCC *ex* x 23 16 06.9
PVCC AMS AMS 23 38 20.0
comp=Z,6μm,18.9s
BW06 Boulder Array 109.26 45 PFAKE 22 49 40.0
BW06 LR LR
comp=Z,5μm,20.0s,MS6.1
PDAR Pinedale Array 109.26 45 PKiKP 22 49 28.0
comp=Z,0.7nm,0.9s,slow=2.7,SNR=3.2
PDAR PKKPbc 23 00 33.4
comp=Z,0.6nm,0.7s,baz=124,slow=5.3,SNR=3.6
PDAR PKKPab 23 00 41.9
comp=Z,2.5nm,1.0s,baz=87,slow=4.8,SNR=7.4
MUD Monsted U'grnd 109.36 331 *i*P PP 22 49 49.2 -10
MUD *i*S tx 22 57 06.7
MUD *i* 22 59 18.3
comp=Z,6μm,20.0s
BRG Berggiesshubel 109.39 325 *e*P Pdif 22 45 29.2 +6.2
BRG pmax pmax
comp=Z,25nm,1.6s
PRU Pruhonice 109.39 324 *e*PDIF Pdif 22 45 31.5 +8.4
PRU *e*PP PP 22 49 56.9 -3.2
PRU *e*SP SP 22 59 26.0 +6.9
PRU *e*PKKP PKKP 23 00 42.3 0.0
PRU *e*SS SS 23 05 23.8 +6.6
PRU *ex* x 23 15 46.7
PRU AMS AMS 23 37 40.0
comp=Z,8μm,19.0s
SUR Sutherland 109.52 235 PFAKE 22 49 40.0
SUR LR LR
comp=Z,1μm,22.0s,MS5.4
CLL Collm 109.75 325 *e*PDIF Pdif 22 45 31.0 +6.4
CLL *e*PKIKP 22 49 35.0
CLL *e*PP PP 22 50 10.0 +7.5
CLL *e*PPP PPP 22 52 12.0 -10
CLL *e*PS PS 22 59 24.0 -0.7
CLL *e*PPS PPS 23 00 32.0 +0.2
CLL *e*SS SS 23 05 18.0 -4.1
CLL *e*SSS Sx 23 10 09.0
KHC Kasperske Hory 110.31 323 *e*P Pdif 22 45 26.4 -0.8
KHC *e* 22 50 08.3
KHC *e*SS SS 23 05 42.7 +13
KHC MLR MLR
comp=Z,6μm,21.6s,MS6.1
KHC Kasperske Hory 110.31 323 *e*PDIF Pdif 22 45 26.4 -0.8
KHC *e*pP 22 45 34.3
KHC *ex* x 22 49 29.0
KHC *e*PP PP 22 50 08.3 +1.8
KHC *e*SP SP 22 59 37.5 +9.2
KHC *e*PKKP PKKP 23 00 50.6 +10
KHC *ex* x 23 05 42.7
KHC *ex* x 23 16 11.7
KHC AMS AMS 23 37 30.0
comp=Z,6μm,21.6s
GERES GERESS Array B 110.35 323 Pdiff Pdif 22 45 30.8 +3.5
comp=Z,1.0nm,0.9s,baz=76,slow=4.0,SNR=6.4
GERES PKiKP 22 49 29.2
comp=Z,0.6nm,0.6s,baz=90,slow=1.3,SNR=4.8
MOA Molln 110.40 322 ⇑*i*P PKPdf 22 49 38.6 +7.6
NKC Novy Kostel 110.52 324 *e*P Pdif 22 45 27.4 -0.6
NKC *e* 22 50 07.4
NKC MLR MLR
comp=Z,7μm,17.6s,MS6.3
NKC Novy Kostel 110.52 324 *e*PDIF Pdif 22 45 27.4 -0.6
NKC *e*PP PP 22 50 07.4 -0.6
NKC *e*SP SP 22 59 42.4 +12
NKC *e*PKKP PKKP 23 00 53.1 +13
NKC *ex* x 23 05 02.2
NKC *ex* x 23 16 15.0
NKC AMS AMS 23 39 00.0
comp=Z,7μm,17.6s
MOX Moxa 110.82 325 *i*P Pdif 22 45 36.2 +6.8
MOX PKP PKPdf 22 49 36.0 +4.3
MOX PP PP 22 50 20.0 +10
MOX *e* 22 59 37.0
MOX SS SS 23 05 47.0 +11
MOX L 23 38 36.0
MOX Moxa 110.82 325 *e*P Pdif 22 45 36.2 +6.8
MOX MLR MLR
comp=Z,7μm,19.0s,MS6.3
TUC Tucson 111.09 56 PFAKE 22 49 40.0 +7.3
TUC LR LR
comp=Z,4μm,19.0s,MS6.0
PV01 Paradox Valley 111.35 49 *e*PKiKP 22 49 34.5
RSSD Black Hills 112.57 42 *e*PKIKP PKPdf 22 49 36.3 +1.0
RSSD MLR MLR
comp=Z,3μm,21.0s,MS5.9
RPN Rapa Nui 112.76 120 PFAKE 22 49 50.0 +14
RPN LR LR
comp=Z,878nm,20.0s,MS5.3
ARV Arcevia 112.94 318 *e*PKP PKPdf 22 49 39.6 +3.6
STU Stuttgart 113.07 324 *e*PKIKP PKPdf 22 49 29.3 -6.9
PMSA Palmer Station 113.28 171 PFAKE 22 49 50.0 +14
PMSA LR LR
comp=Z,9μm,19.0s,MS6.4
DAVA Damuels 113.34 322 ⇑*i*P PKPdf 22 49 37.4 +0.6
BRMO Bormio 113.39 321 *e*PKP PKPdf 22 49 40.1 +3.2
DAVOX Davos 113.56 322 PKiKP 22 49 35.9
comp=Z,2.1nm,0.7s,baz=294,slow=17,SNR=2.8
BORG Borgarnes 113.73 349 PFAKE 22 49 50.0 +13
BORG LR LR
comp=Z,989nm,19.0s,MS5.4
SDCO Great Sand Dun 113.78 49 *e*PKPdf PKPdf 22 49 39.4 +1.5
ANMO Albuquerque 113.90 52 *e*PKIKP PKPdf 22 49 38.7 +0.5
ANMO MLR MLR
comp=Z,6μm,22.0s
BNM Barren Site 113.99 53 PKiKP 22 49 39.3
VAI Varese 114.66 321 *e*PKP PKPdf 22 49 42.9 +3.6
GIVF Givet 114.89 327 *e*PKP1 PKPdf 22 49 38.1 -1.5
HINF Hinteralfeld 114.90 324 *e*PKP1 PKPdf 22 49 37.5 -2.2
comp=Z,17nm,0.9s
ESK Eskdalemuir 115.67 335 PFAKE 22 49 50.0 +8.9
ESK LR LR
comp=Z,2μm,21.0s,MS5.7
CABF La Chapelle 115.95 323 *e*PKP1 PKPdf 22 49 40.3 -1.6
PGF Pioggiola 115.96 318 *e*PKP1 PKPdf 22 49 40.1 -1.9
comp=Z,35nm,1.2s
LPG La Plagne 116.08 322 *e*PKP1 PKPdf 22 49 40.7 -1.5
comp=Z,14nm,0.7s
LPL La Plagne 116.08 322 *e*PKP1 PKPdf 22 49 39.8 -2.4
comp=Z,19nm,0.9s
SBF Sospel 116.41 320 *e*PKP1 PKPdf 22 49 40.5 -2.3
comp=Z,32nm,0.9s
MBDF Montbardon 116.43 321 *e*PKP1 PKPdf 22 49 41.3 -1.6
comp=Z,18nm,0.8s
ORIF Oris-en-Rattie 116.90 322 *e*PKP1 PKPdf 22 49 41.8 -1.9
comp=Z,24nm,0.9s
ORIF *e*R
comp=Z,9μm,21.8s
LOR Lormes 116.93 325 *e*PKP1 PKPdf 22 49 42.0 -1.7
LOR *e*R
comp=Z,8μm,22.0s
FRF La Foret Royal 117.06 320 *e*PKP1 PKPdf 22 49 42.0 -2.1
comp=Z,98nm,1.6s
SSF Saint Saulge 117.24 325 *e*PKP1 PKPdf 22 49 42.7 -1.6
comp=Z,16nm,0.9s
LMR La Mourre 117.25 320 *e*PKP1 PKPdf 22 49 42.5 -1.9
comp=Z,28nm,1.0s
SMF Signal de Mont 117.27 324 *e*PKP1 PKPdf 22 49 42.5 -1.9
SMRF Simiane la Rot 117.55 321 *e*PKP1 PKPdf 22 49 43.6 -1.4
comp=Z,91nm,1.5s
CBKS Cedar Bluff 117.62 46 PFAKE 22 50 00.0 +15
CBKS LR LR
comp=Z,6μm,20.0s,MS6.2
VIVF Saint-Julien-l 117.68 322 *e*PKP1 PKPdf 22 49 43.4 -1.8
comp=Z,15nm,0.9s
TXAR Lajitas Array 117.77 57 PKP PKPdf 22 49 45.9 +0.1
comp=Z,0.5nm,0.5s,baz=252,slow=2.9,SNR=3.1
TXAR PKKPbc 23 00 09.2
comp=Z,0.4nm,0.4s,baz=141,slow=5.8,SNR=2.8
BGF Bois d'Agland 117.89 324 *e*PKP1 PKPdf 22 49 44.1 -1.5
comp=Z,20nm,0.8s
TCF Toulx Ste Croi 118.41 324 *e*PKP1 PKPdf 22 49 44.9 -1.7
comp=Z,32nm,1.1s
LASF Ste Croix 118.58 322 *e*PKP1 PKPdf 22 49 45.3 -1.7
CAF Calviac 119.23 323 *e*PKP1 PKPdf 22 49 46.9 -1.3
comp=Z,23nm,1.1s
RJF Les Rejaudoux 119.35 324 *e*PKP1 PKPdf 22 49 46.8 -1.6
RJF *e*R
comp=Z,6μm,22.8s
MFF Saint Martin d 119.58 326 *e*PKP1 PKPdf 22 49 46.9 -1.9
comp=Z,52nm,1.4s
KSU1 Kansas State U 119.71 44 *e*PKPdf PKPdf 22 49 49.6 +0.4
SGMF Saint Gilles 119.91 328 *e*PKP1 PKPdf 22 49 47.4 -2.0
comp=Z,32nm,0.9s
WMOK Wichita Mounta 119.92 50 *e*PKIKP PKPdf 22 49 47.9 -1.9
MTLF Montolieu 119.97 321 *e*PKP1 PKPdf 22 49 47.8 -1.9
comp=Z,15nm,0.8s
LFF La Frestale 120.01 324 *e*PKP1 PKPdf 22 49 48.2 -1.5
JCT Junction City 120.62 55 *e*PKIKP PKPdf 22 49 51.3 0.0
ETSF Etsaut 121.92 322 *e*PKP1 PKPdf 22 49 52.6 -0.9
comp=Z,43nm,1.2s
SCHQ Schefferville 123.28 15 PKP PKPdf 22 49 53.9 -1.9
comp=Z,9.0nm,1.1s,baz=326,slow=10,SNR=3.8
SCHQ Schefferville 123.28 15 PKP PKPdf 22 49 53.9 -1.9
CCM Cathedral Cave 123.91 43 *e*PKIKP PKPdf 22 49 57.3 -0.2
CCM MLR MLR
comp=Z,4μm,20.0s,MS6.1
HKT Hockley 124.02 54 PFAKE 22 50 10.0 +12
HKT LR LR
comp=Z,4μm,19.0s,MS6.1
FVM French Village 124.50 43 *e*PKIKP PKPdf 22 49 58.3 -0.4
ESDC Sonseca Array 125.86 321 PKP PKPdf 22 50 01.0 -0.2
comp=Z,0.2nm,0.3s,baz=63,slow=2.9,SNR=3.3
AAM Ann Arbor 126.24 35 PFAKE 22 50 10.0 +8.1
AAM LR LR
comp=Z,4μm,20.0s,MS6.1
USIN University of 126.36 41 *e*PKPdf PKPdf 22 50 04.3 +2.1
BLO Bloomington 126.42 39 *e*PKIKP PKPdf 22 49 59.5 -2.8
SADO Sadowa 126.96 30 PKP PKPdf 22 50 01.7 -1.4
comp=Z,12nm,1.0s,baz=311,slow=8.7,SNR=3.4
OXF Oxford 126.96 46 *e*PKIKP PKPdf 22 50 05.4 +2.0
WCI Wyandotte Cave 127.11 40 *e*PKIKP PKPdf 22 50 03.7 +0.1
WCI MLR MLR
comp=Z,5μm,22.0s,MS6.2
PVRL Vila Real 127.16 325 *e*PKP PKPdf 22 50 08.1 +4.4
WVT Waverly 127.24 43 *e*PKIKP PKPdf 22 50 03.1 -0.9
WVT MLR MLR
comp=Z,6μm,22.0s,MS6.2
MTE Manteigas 127.61 324 *e*SS SS 23 09 42.1 +29
MTE *e*LQ 23 24 10.1
MTE *e*LR LR 23 32 35.6
comp=Z,5μm,20.0s
PCBR Castelo Branco 127.93 323 *e*PKP PKPdf 22 50 04.1 -1.2
ACSO Alum Creek Sta 127.95 36 *e*PKPdf PKPdf 22 50 06.2 +0.9
ACSO LR LR
comp=Z,5μm,22.0s,MS6.2
EVO Evora 129.07 322 *e*PKIKP PKPdf 22 50 07.3 -0.2
comp=Z,84nm,1.4s
EVO *e*R
comp=Z,9μm,21.2s
PALC Alcoutim 129.39 321 *e*PKP PKPdf 22 50 13.2 +5.1
LRAL Lakeview Retre 129.44 46 *e*PKPdf PKPdf 22 50 08.1 -0.2
NCB Newcomb 129.89 27 *e*PKPdf PKPdf 22 50 04.7 -4.2
MIV Mineville/With 130.12 26 *e*PKPdf PKPdf 22 50 09.1 -0.2
BINY Binghamton 130.40 30 *e*PKPdf PKPdf 22 50 07.5 -2.5
BINY LR LR
comp=Z,6μm,22.0s,MS6.2
SSPA Standing Stone 130.56 32 *e*PKPdf PKPdf 22 50 08.9 -1.4
SSPA LR LR
comp=Z,4μm,19.0s,MS6.1
FWV Forest Hill 130.94 37 *e*PKPdf PKPdf 22 50 08.4 -2.6
HNH Hanover 130.96 26 *e*PKPdf PKPdf 22 50 12.1 +1.1
BLA Blacksburg 131.42 38 *e*PKIKP PKPdf 22 50 12.1 +0.1
BLA MLR MLR
comp=Z,4μm,20.0s,MS6.1
HRV Harvard--Oak R 132.24 26 PFAKE 22 50 20.0 +6.6
HRV LR LR
comp=Z,4μm,20.0s,MS6.1
WES Weston 132.44 26 PFAKE 22 50 20.0 +6.2
WES LR LR
comp=Z,5μm,20.0s,MS6.2
CBN Corbin 132.54 34 PFAKE 22 50 20.0 +5.9
CBN LR LR
comp=Z,6μm,22.0s,MS6.2
PAYG Puerto Ayora 135.15 92 PFAKE 22 50 30.0 +10
PAYG LR LR
comp=Z,3μm,20.0s,MS6.0
DWPF Disney 136.10 48 PFAKE 22 50 30.0 +9.1
DWPF LR LR
comp=Z,6μm,21.0s,MS6.3
TRQA Tornquist 138.53 160 *e*PKPpre 22 50 20.4
TRQA *e*PKPdf PKPdf 22 50 25.6 +0.5
TRQA LR LR
comp=Z,7μm,19.0s,MS6.4
KIC Kosan Boka 139.00 279 *e*P PKPdf 22 50 16.3 -10
comp=Z,198nm,1.2s
DBIC Dimbokro 139.07 279 PKP PKPdf 22 50 23.9 -2.8
comp=Z,7.0nm,0.8s,baz=38,slow=3.9,SNR=6.1
DBIC Dimbokro 139.07 279 *e*PKPdf PKPdf 22 50 24.3 -2.4
TIC Toumodi 139.24 279 *e*P PKPdf 22 50 16.4 -11
comp=Z,106nm,1.1s
LIC Lamto 139.29 279 *e*PKIKP PKPdf 22 50 23.1 -4.0
comp=Z,72nm,1.0s
LIC Lamto 139.29 279 *e*P PKPdf 22 50 20.4 -6.7
comp=Z,95nm,1.0s
BBSR BB Station 143.65 28 *e*PKPdf PKPdf 22 50 32.9 -1.4
BBSR LR LR
comp=Z,3μm,21.0s,MS6.1
NNA Nana 146.38 113 PKPbc PKPbc 22 50 39.1 +2.2
NNA LR LR
comp=Z,1μm,20.0s,MS5.6
OTAV Otavalo 147.00 91 PKPbc PKPdf 22 50 42.6 +1.9
OTAV LR LR
comp=Z,2μm,22.0s,MS5.8
LVC Limon Verde 147.45 137 *e*PKPbc PKPdf 22 50 42.1 +1.0
LVC LR LR
comp=Z,5μm,20.0s,MS6.3
ARE Arequipa 149.16 125 *e*P PKPdf 22 50 48.0 +4.0
CPUP Villa Florida 150.78 158 PKPbc PKPdf 22 50 49.7 +3.4
comp=Z,42nm,0.8s,baz=248,slow=1.9,SNR=42
CPUP Villa Florida 150.78 158 pPKPdf 22 50 49.6
CPUP Villa Florida 150.78 158 *e*PKPdf PKPdf 22 50 44.9 -1.3
CPUP *e*PKPbc PKPdf 22 50 49.9 +3.6
CPUP LR LR
comp=Z,5μm,19.0s,MS6.4
ROSC El Rosal 150.87 81 PKPbc PKPdf 22 50 51.0 +4.3
comp=Z,48nm,0.7s,baz=162,slow=20,SNR=13
LPAZ La Paz 151.97 128 PKP PKPdf 22 50 48.2 -0.1
comp=Z,4.1nm,0.9s,baz=78,slow=2.6,SNR=4.6
LPAZ PKPbc PKPdf 22 50 54.5 +6.2
comp=Z,21nm,1.2s,baz=2.2,slow=4.0,SNR=11
LPAZ La Paz 151.97 128 *e*PKPdf PKPdf 22 50 47.9 -0.4
MGP Maguayo 152.66 50 *e*PKIKP PKPdf 22 50 53.1 +3.9
AOPR Arecibo Observ 152.71 49 *e*PKP PKPdf 22 50 53.6 +4.4
SJG San Juan 153.30 48 PKPbc PKPdf 22 50 56.4 +6.3
comp=Z,7.0nm,0.4s,baz=229,slow=11,SNR=1.3
SJG San Juan 153.30 48 *e*PKPdf PKPdf 22 50 50.8 +0.7
SJG LR LR
comp=Z,2μm,21.0s,MS6.0
CBYP Canovanas 153.42 48 *e*PKPbc PKPdf 22 50 57.8 +7.5
SDV Santo Domingo 153.65 71 PKPdf PKPdf 22 50 52.0 +1.3
SDV *e*PKPbc PKPdf 22 50 56.1 +5.4
SDV LR LR
comp=Z,3μm,20.0s,MS6.0
SAML Samuel 159.90 119 *e*PKPdf PKPdf 22 50 57.1 -1.6
BDFB Brasilia 163.56 171 PKP PKPdf 22 51 04.8 +2.6
comp=Z,14nm,1.0s,baz=117,slow=1.6,SNR=8.8
BAO Brasilia Array 163.57 171 P PKPdf 22 51 04.9 +2.6

*LDG **06** 22:39:50.0₀ 0.9, 42.86N$_K$ 1.48W, h2^{km}, Md2.3/2, Ml2.2/1,*
Error ellipse: s-maj=14.1km s-min=6.5km az=48.0

STR 06 22:39:50.8±1.2, 43.40N×0.80W, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0
MDD 06 22:39:51.1±0.4, 42.87N×1.39W, mbLg1.7/6, Error ellipse: s-maj=3.4km s-min=2.3km az=50.0, PRXIMO AftershockPLICA
ISC 06 22:39:49.4±0.7, 42.83N±0.03×1.42W±0.06, h2km, n15, σ0.96/25, Pyrenees

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.32	27	ePg	Pg	22 39 56.2	+0.4
SJPF				eSg	Sg	22 39 59.0	-1.1
	62nm,0.3s						
LARF	Larrau	0.39	56	Pg	Pg	22 39 57.4	+0.3
LARF				Sg	Sg	22 40 03.4	+1.2
LARF	Larrau	0.39	56	P	Pg	22 39 57.4	+0.4
LARF				S	Sg	22 40 03.1	+0.9
EALK	Alkurruntz	0.40	351	Pg	Pg	22 39 57.7	+0.3
	1.1nm,0.1s,SNR=18						
EALK				Lg		22 40 02.5	
	35nm,0.3s,SNR=5.0						
OSSF	Osses	0.45	15	Pg	Pg	22 39 58.2	-0.1
OSSF				Sg	Sg	22 40 03.9	-0.4
OSSF	Osses	0.45	15	P	Pg	22 39 58.3	0.0
OSSF				S	Sg	22 40 04.2	-0.1
FDAF	Les Forges d'A	0.63	90	Pg	Pg	22 40 02.3	+0.3
FDAF				Sg	Sg	22 40 11.6	+1.2
FDAF	Les Forges d'A	0.63	90	P	Pg	22 40 02.3	+0.4
FDAF				S	Sg	22 40 10.2	-0.1
ETSF	Etsaut	0.64	83	ePg	Pg	22 40 01.6	-0.5
ETSF				eSg	Sg	22 40 10.9	+0.2
	5.8nm,0.2s						
EBIE	Bielsa	1.16	96	Pg	Pg	22 40 13.2	+0.6
	1.9nm,0.1s,SNR=7.9						
EBIE				Lg		22 40 28.2	
	2.1nm,0.1s,SNR=7.9						
ESAC	San Caprasio	1.31	147	Pg	Pg	22 40 15.6	+0.1
	7.2nm,0.2s,SNR=8.5						
ESAC				Lg		22 40 33.0	
	28nm,0.3s,SNR=5.0						
ETOR	Torete	2.06	193	Pn	Pn	22 40 27.0	+1.6
	SNR=7.9						
ETOR				Pg	Pg	22 40 29.6	-0.9
	1.0nm,0.3s,SNR=7.7						
ETOR				Sn	Sn	22 40 52.9	+0.9
	2.3nm,0.3s,SNR=5.0						
ETOR				Lg		22 40 57.1	
	SNR=7.9						
EMIR	Miracle	2.37	112	Pg	Pg	22 40 34.1	-2.6
	0.5nm,0.2s,SNR=5.0						
EMIR				Lg		22 41 05.1	
	0.8nm,0.2s,SNR=5.0						
EPOB	Poblet	2.37	127	Pg	Pg	22 40 33.3	-3.4
	0.3nm,0.1s,SNR=5.0						
EPOB				Lg		22 41 06.3	
	0.6nm,0.2s,SNR=7.9						
EMOS	Mosqueruela	2.56	163	Pg	Pg	22 40 39.4	-1.1
	SNR=4.0						
EMOS				Lg		22 41 14.0	
	0.3nm,0.2s,SNR=7.9						

NAO 06 22:42:44.7±1.3, 64.89N×17.45E, ML2.6
IDC 06 22:42:44.9±0.9, 64.97N×17.32E, mb1 2.9/4, mb1mx2.9/20, ML2.5/4, Error ellipse: s-maj=12.7km s-min=6.7km az=122.0
CSEM 06 22:42:45.7±0.2, 64.97N×17.29E, h10km, ML2.5, Error ellipse: s-maj=4.1km s-min=3.8km az=67.0
UPP 06 22:42:46.1, 64.95N×17.25E, h8km, ML2.4
BER 06 22:42:46.8±4.3, 64.90N×17.49E, h0km±14km, MD3.1, ML2.3, ML2.6(NAO)
HEL 06 22:42:46.6±0.2, 64.97N×17.33E, h11km±2km, ML2.4, ML2.3(UPP), ML2.5(BER), 2C-3D, Sweden

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SVAU	Svanoeiden	1.08	116	⇓eP	Pb	22 43 06.2	-0.6
SVAU				eS	Sb	22 43 21.0	+0.4
SVAU	Svanoeiden	1.08	116	P	Pb	22 43 06.1	-0.7
SVAU				S	Sb	22 43 21.0	+0.4
LILU	Lilltraesk	1.11	72	⇑eP	Pb	22 43 07.3	0.0
LILU				eS	Sb	22 43 22.2	+0.6
LILU	Lilltraesk	1.11	72	⇑P	Pb	22 43 07.3	0.0
LILU				S	Sb	22 43 22.1	+0.5
BREU	Bredtraesk	1.22	153	⇓eP	Pb	22 43 08.0	-1.1
BREU				eS	Sb	22 43 24.0	-0.6
BREU	Bredtraesk	1.22	153	⇓P	Pb	22 43 08.0	-1.1
BREU				S	Sb	22 43 23.9	-0.7
MOR8	Moi Rana	1.70	316	eP	Pn	22 43 15.9	-0.5
MOR8				eS	Sn	22 43 39.2	+0.9
MOR8				AML	AML	22 43 40.5	
	comp=Z,76nm,0.2s						
MOR8	Moi Rana	1.70	316	P	Pn	22 43 15.9	-0.5
MOR8				S	Sn	22 43 39.2	+0.9
	comp=Z,76nm,0.2s						
SOLU	Sollefteaa	1.73	181	eP	Pn	22 43 16.6	-0.3
SOLU				eS	Sn	22 43 38.5	-0.7
BURU	Burvik	1.78	101	eP	Pn	22 43 17.5	0.0
BURU				eS	Sn	22 43 42.4	+2.2
UMAU	Umeaa	1.82	126	eP	Pn	22 43 18.1	-0.1
UMAU				eS	Sn	22 43 42.1	+0.7
HUSU	Husum	1.84	152	eP	Pn	22 43 18.7	+0.3
HUSU				eS	Sn	22 43 42.1	+0.4
SJUU	Sjulsmark	1.88	71	eP	Pn	22 43 19.1	+0.1
NOD	Norderasen	1.88	216	eP	Pn	22 43 18.1	-0.9
STOK	Stokkvaagen	2.25	309	eP	Pn	22 43 24.6	+0.3
STOK				eS	Sn	22 43 52.7	+0.4
STOK				AML	AML	22 44 02.1	
	comp=Z,37nm,0.6s						
HEMU	Hemsoen	2.33	172	eP	Pn	22 43 24.8	-0.6
NSS	Namsos	2.34	261	eP	Pn	22 43 23.7	-2.0
NSS				eS	Sn	22 43 54.0	-0.6
MELS	Mels	2.41	324	eP	Pn	22 43 26.3	-0.3
MELS				eS	Sn	22 43 56.4	+0.2
ERTU	Ertsjaerv	2.56	49	eP	Pn	22 43 27.8	-0.9
NIKU	Nikkaluokta	2.99	12	eP	Pn	22 43 34.8	-0.1
VAF	Ylistaro	3.05	127	eP	Pn	22 43 35.1	-0.6
VAF				eS	Sn	22 44 11.2	-1.3
VAF				eSG	Sg	22 44 21.5	-6.7
KUA	Kurravaara	3.23	21	eP	Pn	22 43 38.2	-0.1
TRON	Trondheim	3.38	246	eP	Pn	22 43 39.2	-1.1
TRON				eS	Sn	22 44 19.1	-1.8
LOF	Lofoten	3.51	336	eP	Pn	22 43 42.5	+0.2
LOF				eS	Sn	22 44 22.8	-1.6
LOF				AML	AML	22 44 45.7	
	comp=Z,14nm,0.4s						
LOF	Lofoten	3.51	336	eP	Pn	22 43 42.5	+0.2
	SNR=50						
LOF				eS	Sn	22 44 22.8	-1.5
	comp=Z,10nm,0.4s,SNR=50						
ROTU	Roteberg	3.63	192	eP	Pn	22 43 42.6	-1.4
OUL	Oulu	3.63	84	eP	Pn	22 43 42.2	-1.9
OUL				eS	Sn	22 44 24.7	-2.7
OUL				eSG	Sg	22 44 39.3	-8.3
OUL				MSG		22 44 42.6	
	comp=Z,18nm,0.4s						
KIF	Kilpisjarvi	4.27	17	eP	Pn	22 43 52.4	-0.7
KIF				eS	Sn	22 44 38.4	-5.2
KIF				eSG	Sg	22 44 57.0	-12
KEF	Keuruu	4.39	126	eP	Pn	22 43 53.4	-1.4
KEF				eS	Sn	22 44 42.2	-4.3
KEF				eSG	Sg	22 45 01.0	-12
KEF				MSG		22 45 02.1	
	comp=Z,9.0nm,0.3s						
SGF	Sodankyl	4.47	52	eP	Pn	22 43 53.1	-2.8
SGF				eS	Sn	22 44 45.0	-3.6
SGF				eSG	Sg	22 45 03.7	-12
SGF				MSG		22 45 11.7	
	comp=Z,5.9nm,0.4s						
SUF	Sumiainen	4.51	116	eP	Pn	22 43 54.0	-2.5
SUF				eS	Sn	22 44 44.8	-4.7
SUF				eSG	Sg	22 45 04.7	-12
SUF				MSG		22 45 08.5	
	comp=Z,4.1nm,0.3s						
KJN	Kajaani	4.57	97	eP	Pn	22 43 55.1	-2.3
KJN				eS	Sn	22 44 46.1	-5.0
KJN				eSG	Sg	22 45 07.2	-12
KJN				MSG		22 45 08.1	
	comp=Z,9.8nm,0.3s						
KTK1	Kautokeino	4.67	27	eP	Pn	22 43 57.6	-1.2
KTK1				eS	Sn	22 44 49.7	-3.8
TRO	Tromso	4.72	7	eP	Pn	22 43 56.8	-2.6
TRO				eS	Sn	22 44 49.9	-4.9
DOMB	Dombas	4.73	235	eSG	Sg	22 45 12.4	-12
DOMB				AML	AML	22 45 15.7	
	comp=Z,10nm,0.4s						
NB2	NORSAR Subarra	4.83	218	eP	Pn	22 43 58.3	-2.7
NB2				eS	Sn	22 44 51.8	-5.9
NB2				eSG	Sg	22 45 14.1	-13
NOA	NORSAR Array B	4.83	218	Pn	Pn	22 43 58.6	-2.4
	comp=Z,0.2nm,0.3s,baz=23,slow=13,SNR=2.6						
NOA				Sn	Sn	22 44 52.6	-5.0
	comp=Z,0.4nm,0.3s,baz=82,slow=17,SNR=2.3						
NOA				Lg		22 45 13.7	
	comp=Z,1.8nm,0.3s,baz=12,slow=10,SNR=8.4						
KAF	Kangasniemi	4.93	121	eP	Pn	22 44 00.1	-2.4
KAF				eS	Sn	22 44 56.2	-4.1
KAF				eSG	Sg	22 45 17.2	-14
KAF				MSG		22 45 22.8	
	comp=Z,5.6nm,0.3s						
MOL	Molde	4.96	245	eP	Pn	22 44 02.8	-0.1
MOL				eS	Sn	22 44 58.0	-3.0
MOL				AML	AML	22 45 24.1	
	comp=Z,12nm,0.6s						
MOL	Molde	4.96	245	eS	Sn	22 44 58.0	-3.0
	comp=Z,12nm,0.6s,SNR=49						
AAL	Aland	4.97	164	eP	Pn	22 44 00.5	-2.4
MSF	Maaselka	4.98	74	eP	Pn	22 44 00.2	-2.9
MSF				eS	Sn	22 44 56.4	-4.9
MSF				eSG	Sg	22 45 19.4	-13
MSF				MSG		22 45 30.0	
	comp=Z,3.8nm,0.3s						
HFS	Hagfors	5.14	201	Pn	Pn	22 44 03.0	-2.4
	baz=30,slow=14						
HFS				Sn	Sn	22 45 00.1	-5.3
	baz=17,slow=22						
HFS				Lg		22 45 19.9	
	baz=22,slow=28						
HFS	Hagfors	5.14	201	eP	Pn	22 44 03.0	-2.4
HFS				eS	Sn	22 45 00.1	-5.3
HFS				eSB	Sb	22 45 19.9	+1.3
HFS	Hagfors	5.14	201	Pn	Pn	22 44 03.3	-2.1
	comp=Z,0.1nm,0.3s,baz=18,slow=14,SNR=11						
HFS				Sn	Sn	22 45 00.4	-5.0
	comp=Z,0.1nm,0.3s,baz=19,slow=26,SNR=6.7						
HFS				Lg		22 45 23.6	
	comp=Z,0.4nm,0.3s,baz=24,slow=29,SNR=13						
HFS	Hagfors	5.14	201	Sn	Sn	22 45 00.1	-5.3
	SNR=5.6						
FIA0	FINESS Array S	5.31	128	Pn	Pn	22 44 05.8	-2.0
	baz=313,slow=12						
FIA0				Sn	Sn	22 45 05.0	-4.6
	baz=330,slow=22						
FIA0				Lg		22 45 25.2	
	baz=324,slow=28						
FIA0	FINESS Array S	5.31	128	eP	Pn	22 44 06.1	-1.7
FIA0				eS	Sn	22 45 04.0	-5.6
FIA0				eSG	Sg	22 45 30.6	-13
FIA0				MSG		22 45 34.0	
	comp=Z,4.8nm,0.3s						
FINES	FINESS Array B	5.31	128	Pn	Pn	22 44 06.1	-1.6
	comp=Z,0.1nm,0.3s,baz=317,slow=12,SNR=6.0						
FINES				Sn	Sn	22 45 04.7	-4.9
	comp=Z,0.5nm,0.3s,baz=322,slow=16,SNR=5.2						
FINES				Lg		22 45 31.6	
	comp=Z,2.5nm,0.3s,baz=316,slow=26,SNR=10						
ARA0	ARCESS Array S	5.57	31	Pn	Pn	22 44 08.7	-2.7
	baz=217,slow=14						
ARA0				Sn	Sn	22 45 09.6	-6.5
	baz=214,slow=22						
ARA0	ARCESS Array S	5.57	31	eP	Pn	22 44 08.7	-2.7
ARA0				eS	Sn	22 45 09.6	-6.5
ARCES	ARCESS Array B	5.57	31	Pn	Pn	22 44 08.6	-2.8
	comp=Z,0.8nm,0.3s,baz=214,slow=14,SNR=40						
ARCES				Sn	Sn	22 45 11.3	-4.9
	comp=Z,0.5nm,0.3s,baz=216,slow=23,SNR=3.7						
ARCES				Lg		22 45 35.6	
	comp=Z,0.8nm,0.3s,baz=220,slow=27,SNR=5.7						
PVF	Pernaja	5.92	135	eS	Sn	22 45 19.2	-5.9
PVF				eSG	Sg	22 45 48.8	-15
KEV	Kevo	6.08	34	eP	Pn	22 44 14.6	-4.0
KEV				eS	Sn	22 45 20.7	-8.2
KEV				eSG	Sg	22 45 52.9	-16
KEV				MSG		22 46 04.3	
	comp=Z,2.7nm,0.3s						
VJF	Virojoki	6.46	129	eS	Sn	22 45 31.1	-7.5
VJF				eSG	Sg	22 46 06.2	-16

IDC 06 22:49:46.7±2.8, 0.94S×134.37E, mb3.4/2, mb1 3.6/3, mb1mx3.5/14, ML3.3/1, Error ellipse: s-maj=131.0km s-min=26.9km az=77.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.89	180	P	P	22 54 08.5	-2.5
	0.1nm,0.3s,baz=359,slow=12,SNR=6.8						
ASAR	Alice Springs	22.60	181	P	P	22 54 49.5	-0.9
	1.2nm,0.8s,baz=7.8,slow=12,SNR=6.2						
MKAR	Makanchi Array	65.77	324	P	P	23 00 33.6	-2.2
	0.3nm,0.8s,baz=124,slow=5.2,SNR=3.3						

IDC 06 22:53:58.0±1.1, 0.76S×134.61E, mb3.9/7, mb1 4.1/9, mb1mx4.0/16, ML4.0/2, Error ellipse: s-maj=46.3km s-min=17.6km az=79.0
NEIC 06 22:54:01.9±0.8, 0.64S×134.42E, h10km, mb3.9/3, Error ellipse: s-maj=34.4km s-min=12.5km az=80.0
ISC 06 22:53:58.1±0.9, 0.83S±0.09×134.4E±0.2, h10km, n15, σ0.90/15, mb4.0/8, Irian Jaya region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WB2	Warramunga Arr	19.00	180	eP	P	22 58 21.6	-0.8
WRA	Warramunga Arr	19.00	180	P	P	22 58 21.6	-0.9
	0.6nm,0.3s,baz=359,slow=12,SNR=34						
FITZ	Fitzroy Crossi	19.21	206	eP	P	22 58 24.7	-0.3
	2.9nm,0.6s						
FITZ	Fitzroy Crossi	19.21	206	P	P	22 58 24.8	-0.2
	0.3nm,0.3s,baz=358,slow=16,SNR=7.5						
CTA	Charters Tower	22.37	150	P	P	22 59 00.7	+2.7
	2.8nm,0.8s,mb3.8,baz=333,slow=6.8,SNR=3.1						
CTAO	Charters Tower	22.37	150	P	P	22 59 04.0	+6.0
	3.5nm,0.8s,mb3.8						
ASAR	Alice Springs	22.71	181	P	P	22 59 02.4	+0.9
	5.3nm,0.8s,mb4.0,baz=7.2,slow=12,SNR=22						
STKA	Stephens Creek	31.61	168	P	P	23 00 24.0	+0.5
	1.5nm,0.6s,mb4.0,slow=9.1,SNR=2.0						
STKA	Stephens Creek	31.61	168	P	P	23 00 24.0	+0.5
CMAR	Chiang Mai Arr	39.80	301	P	P	23 01 33.8	+0.5
	0.6nm,0.7s,mb3.4,baz=116,slow=6.4,SNR=5.4						
MKAR	Makanchi Array	65.72	323	P	P	23 04 44.8	-0.4
	1.6nm,0.7s,mb4.2,baz=120,slow=8.1,SNR=9.7						
ZAL	Zalesovo	68.20	331	P	P	23 05 01.5	+0.7
	0.4nm,0.3s,mb3.9,baz=297,slow=5.5,SNR=2.6						
ZAL	Zalesovo	68.20	331	P	P	23 05 01.5	+0.7
ILAR	Eielson Array	85.92	25	P	P	23 06 38.0	-1.3
	0.9nm,0.8s,mb4.1,baz=278,slow=4.8,SNR=5.3						
QSPA	South Pole Qui	89.11	180	eP	P	23 06 59.0	+4.6
	1.2nm,0.7s,mb4.3						

IDC 06 22:56:02.9±2.7, 35.85N×135.57E, h346km±36km, mb3.4/7, mb1 3.5/9, mb1mx3.2/26, Error ellipse: s-maj=33.1km s-min=17.4km az=74.0
NEIC 06 22:56:05.0±0.9, 35.80N×135.43E, h367km±16km, Error ellipse: s-maj=40.3km s-min=16.7km az=63.0
JMA 06 22:56:05.5±0.1, 35.81N×135.31E, h356km±1km, M3.0
ISC 06 22:56:04.8±0.5, 35.97N±0.09×135.16E±0.09, h356km, n22, σ0.78/28, mb3.5/7, Western Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JWT	Wachi	0.71	164	P	P	22 56 50.7	+0.3
JWT				S	S	22 57 26.1	-0.1
JGM	Miyama	1.29	102	P	P	22 56 52.7	0.0
JGM				S	S	22 57 30.7	+0.4
JWY	Kouya	1.78	168	P	P	22 56 55.2	-0.3
JHS	Saijyo	1.93	240	P	P	22 56 57.2	+0.7
JIE	Ise	2.02	141	P	P	22 56 56.5	-0.6
JAI	Aioi	2.25	195	P	P	22 56 58.5	-0.3
JSZ	Suzu	2.31	50	P	P	22 57 00.0	+0.8
JHG	Hegura jima	2.35	36	P	P	22 57 00.9	+1.4
MAJO	Matsushiro	2.53	76	eP	P	22 57 00.9	0.0
MAT	Matsushiro	2.53	76	P	P	22 57 00.3	-0.6
MAT				S	S	22 57 45.9	+0.9
MAT	Matsushiro	2.53	76	eP	P	22 57 00.0	-0.9
MAT				eS	S	22 57 46.0	+1.0
ASAJ	Asahikawa	9.93	33	P	P	22 58 20.7	-2.0
	8.5nm,0.3s,baz=252,slow=8.5,SNR=25						
ASAJ				S	S	23 00 07.4	-4.5
	0.6nm,0.3s,baz=108,slow=19,SNR=4.8						
CBIJ	Chichi jima	10.68	144	P	P	22 58 24.9	-6.9
	4.9nm,0.3s,baz=285,slow=21,SNR=6.0						
CBIJ				S	S	23 00 16.1	-12
	4.3nm,0.3s,baz=307,slow=20,SNR=3.6						
SONM	Songino Array	24.33	308	P	P	23 00 53.0	+0.3
	0.7nm,0.5s,mb3.1,baz=118,slow=9.2,SNR=7.4						
ZAL	Zalesovo	38.96	314	P	P	23 02 59.2	+0.5
	0.7nm,0.3s,mb3.3,baz=291,slow=10,SNR=3.8						
ZAL	Zalesovo	38.96	314	P	P	23 02 59.2	+0.5
MKAR	Makanchi Array	40.42	302	P	P	23 03 11.3	+0.6
	3.1nm,1.0s,mb3.5,baz=86,slow=10,SNR=9.9						
BVAR	Borovoye Array	47.56	312	P	P	23 04 06.8	-0.3
	0.7nm,0.5s,mb3.2,baz=106,slow=10,SNR=4.1						
BVAR	Borovoye Array	47.56	312	P	P	23 04 06.8	-0.3
WRA	Warramunga Arr	55.61	181	P	P	23 05 02.9	-3.8
	0.9nm,0.3s,mb3.5,baz=357,slow=7.9,SNR=3.9						
ARCES	ARCESS Array B	63.16	338	P	P	23 05 56.3	-0.6
	8.8nm,1.1s,mb4.2,baz=51,slow=7.8,SNR=5.5						
FINES	FINESS Array B	67.33	331	P	P	23 06 22.6	-0.7
	3.7nm,1.1s,mb4.0,baz=72,slow=6.0,SNR=13						

BJI 06 22:58:07.5, 0.64S×134.84E, h21km, mB5.4, mb4.9
NEIC 06 22:58:09.7±0.3, 0.62S×134.45E, h10km, mb5.0/21, Error ellipse: s-maj=11.0km s-min=4.8km az=78.0
MOS 06 22:58:10.6±1.9, 0.87S×134.14E, h33km, mb5.1/6, Error ellipse: s-maj=28.8km s-min=12.5km az=103.5
IDC 06 22:58:12.4±3.9, 0.80S×134.44E, h35km±30km, mb4.5/13, mb1 4.6/15, mb1mx4.5/19, ML4.5/2, Error ellipse: s-maj=23.8km s-min=10.5km az=80.0
ISC 06 22:58:10.4±0.3, 0.78S±0.03×134.49E±0.08, h35km, n81, σ1.07/78, mb5.0/44, 8C-1D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	12.02	190	eP	P	23 01 05.1	+2.8
	45nm,0.6s						
KAKA				eS	S	23 03 16.2	0.0
WRAB	Tennant Creek	19.04	180	P	P	23 02 30.0	-2.4
	227nm,0.7s,SNR=18						
WRAB	Tennant Creek	19.04	180	eP	P	23 02 30.5	-1.9
	46nm,0.7s						
WB2	Warramunga Arr	19.05	180	eP	P	23 02 30.5	-2.0
WB2				eS	S	23 06 00.5	+0.5
WRA	Warramunga Arr	19.05	180	P	P	23 02 30.5	-2.0
	1.6nm,0.3s,baz=360,slow=11,SNR=41						
WRA				S	S	23 05 54.1	-5.9
	0.3nm,0.3s,baz=356,slow=23,SNR=3.5						
WRA	Warramunga Arr	19.05	180	P	P	23 02 30.5	-2.0
WRA				S	S	23 05 54.1	-5.9
FITZ	Fitzroy Crossi	19.29	206	eP	P	23 02 32.8	-2.3
	13nm,0.6s						
FITZ				eS	S	23 05 55.1	-10
FITZ	Fitzroy Crossi	19.29	206	P	P	23 02 33.7	-1.5
	1.0nm,0.3s,baz=21,slow=13,SNR=8.8						
FITZ				S	S	23 05 55.2	-10
	0.7nm,0.3s,baz=182,slow=6.4,SNR=4.7						
CTA	Charters Tower	22.38	150	eP	P	23 03 08.2	+1.1
	15nm,0.9s,mb4.4						
CTA	Charters Tower	22.38	150	P	P	23 03 08.5	+1.4
	9.6nm,0.9s,mb4.2,baz=330,slow=12,SNR=8.9						
CTAO	Charters Tower	22.38	150	eP	P	23 03 08.1	+1.0
	19nm,0.8s,mb4.6						
ASAR	Alice Springs	22.76	181	P	P	23 03 10.9	0.0
	8.0nm,0.6s,mb4.3,baz=8.7,slow=11,SNR=38						
ASAR				S	S	23 07 17.7	+4.8
	3.2nm,0.8s,baz=5.7,slow=18,SNR=2.9						
ASPA	Alice Springs	22.76	181	eP	P	23 03 11.7	+0.8
ASPA				eS	S	23 07 18.6	+5.7
MBWA	Marble Bar	24.86	214	eP	P	23 03 32.8	+1.5
	44nm,1.2s,mb4.9						
STKA	Stephens Creek	31.65	168	eP	P	23 04 32.0	-0.8
	12nm,0.6s,mb4.9						
STKA	Stephens Creek	31.65	168	P	P	23 04 31.8	-1.0
	5.1nm,0.6s,mb4.6,baz=353,slow=9.2,SNR=11						
SSE	Sheshan	34.12	339	P	P	23 04 54.1	-0.1
SSE				AMB	AMB		
	comp=Z,25nm,1.5s,mb4.9						
KLBR	Kellerberrin	34.49	206	eP	P	23 04 56.5	-0.9
	comp=Z,102nm,1.7s,mb5.5						
KKTK	Khon Kaen	35.57	300	⇑P	P	23 05 07.0	+0.3
	comp=Z,556nm,0.8s						
NWAO	Narrogin (SRO)	35.86	205	P	P	23 05 08.6	-0.4
	comp=Z,23nm,1.2s,mb5.0,baz=207,slow=14,SNR=2.1						
NNT	Nongplab	36.95	292	P	P	23 05 19.0	+0.6
NST	Nakhon Sawan	37.67	297	P	P	23 05 24.8	+0.5
NANT	Nan	38.47	302	P	P	23 05 31.0	0.0
ENH	Enshi	38.99	324	eP	P	23 05 34.4	-0.8
BDT	Bhumibol Dam	39.27	299	P	P	23 05 38.0	+0.3
CM31	Chiang Mai Arr	39.82	301	eP	P	23 05 42.5	+0.2
	comp=Z,43nm,1.1s,mb5.1						
CMAR	Chiang Mai Arr	39.82	301	P	P	23 05 43.0	+0.7
	comp=Z,18nm,0.9s,mb4.8,baz=121,slow=7.0,SNR=108						
CMAR				PcP	PcP	23 07 49.2	+0.7
	comp=Z,2.1nm,0.8s,baz=129,slow=1.7,SNR=5.2						
CMAR	Chiang Mai Arr	39.82	301	P	P	23 05 42.9	+0.7
CMAR				PP	PcP	23 07 49.3	+0.8
CHG	Chiang Mai	39.97	301	⇑P	P	23 05 44.0	+0.5
	comp=Z,26nm,1.0s,mb4.9						
KMI	Kunming	40.08	312	⇑iP	P	23 05 45.3	+0.9
KMI				AMB	AMB		
	comp=Z,25nm,1.3s,mb4.8						
XAN	Xi'an	42.14	328	P	P	23 06 00.1	-1.2
XAN				AMB	AMB		
	comp=Z,26nm,1.2s,mb4.7						
CD2	Chengdu	42.96	320	⇓iP	P	23 06 08.3	+0.3
CD2				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.8						
BJT	Baijiatuau	43.92	340	eP	P	23 06 14.7	-1.0
	comp=Z,12nm,0.8s,mb4.7						
MDJ	Mudanjiang	45.41	355	P	P	23 06 26.8	-0.7
HHC	Hu-ho-hao-te	46.38	336	eP	P	23 06 36.3	+1.0
HHC				AMB	AMB		
	comp=Z,21nm,1.5s,mb4.8						
HHC				AMB	AMB		
	comp=Z,667nm,11.1s						
LZH	Lanzhou	46.45	325	⇑iP	P	23 06 37.0	+1.0
LZH				AP	pP	23 06 47.0	+0.8
LZH				XP	sP	23 06 52.0	+1.5
YSS	Yuzh-Sakhalins	48.08	8	eP	P	23 06 52.7	+4.1
YSS				pmax	pmax		
	comp=Z,16nm,1.4s,mb4.9						
GTA	Gaotai	51.05	325	⇑iP	P	23 07 12.2	+0.7
GTA				AP	pP	23 07 18.2	-3.6
GTA				XP	sP	23 07 21.9	-4.2
GTA				AMB	AMB		
	comp=Z,17nm,1.0s,mb4.9						
LSA	Lhasa	51.23	310	P	P	23 07 15.0	+2.0
HIA	Hailar	51.45	348	P	P	23 07 12.8	-1.5
	comp=Z,2.0nm,0.6s,mb4.2						
SONM	Songino Array	54.24	337	P	P	23 07 34.8	-0.3
	comp=Z,1.9nm,0.7s,mb4.2,baz=156,slow=8.3,SNR=16						
GUN	Gumba	54.63	305	eP	P	23 07 38.2	0.0
	comp=Z,46nm,0.8s,mb5.6						
PKI	Pulchoki	54.88	305	eP	P	23 07 39.6	-0.5
KKN	Kakani	55.07	305	eP	P	23 07 41.1	-0.4
	comp=Z,37nm,0.9s,mb5.4						
DMN	Daman	55.15	305	eP	P	23 07 41.8	-0.2
	comp=Z,70nm,1.1s,mb5.6						
GKN	Gorkha	55.68	305	eP	P	23 07 45.5	-0.3
	comp=Z,80nm,1.2s,mb5.6						
KOLN	Koldanda	56.45	304	eP	P	23 07 51.3	0.0
	comp=Z,111nm,1.0s,mb5.8						
BOD	Bodaibo	60.66	348	eP	P	23 08 18.0	-2.3
WMQ	Urumqi	60.91	323	⇑iP	P	23 08 22.0	-0.2
WMQ				AMB	AMB		
	comp=Z,32nm,1.0s,mb5.4						
FX1	Attu Island--F	62.46	25	P	P	23 08 32.4	-0.1
	comp=Z,7.7nm,0.8s,mb4.9,baz=286,slow=22,SNR=2.2						
YAK	Yakutsk	62.75	357	eP	P	23 08 36.7	+2.4
YAK				pmax	pmax		
	comp=Z,25nm,0.6s,mb5.5						
MKAR	Makanchi Array	65.71	323	P	P	23 08 53.9	+0.1
	comp=Z,10.0nm,0.5s,mb5.1,baz=110,slow=8.5,SNR=168						
ZAL	Zalesovo	68.18	331	P	P	23 09 07.8	-1.4
	comp=Z,3.8nm,1.1s,mb4.4,baz=276,slow=6.5,SNR=18						
AAK	Ala-Archa	68.90	317	eP	P	23 09 12.4	-1.5
AAK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NVS	**Novosibirsk**	**69.45**	**331**	*i* P	**P**	**23 09 15.3**	**-1.7**
NVS				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.8						
NVS				pmax	pmax		
	comp=E,12nm,1.2s						
KURK	**Kurchatov**	**69.74**	**326**	*e*P	**P**	**23 09 18.4**	**-0.4**
	comp=E,12nm,1.0s,mb4.8						
TIXI	**Tiksi**	**72.40**	**358**	*e*P	**P**	**23 09 36.7**	**+2.2**
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
BVAR	**Borovoye Array**	**75.34**	**326**	P	**P**	**23 09 51.9**	**0.0**
	comp=Z,6.3nm,0.8s,mb4.6,baz=121,slow=8.6,SNR=17						
BRVK	**Borovoye**	**75.41**	**326**	*e*P	**P**	**23 09 51.5**	**-0.8**
	comp=Z,7.7nm,0.8s,mb4.7						
SBA	**Scott Base**	**78.92**	**173**	*e*P	**P**	**23 10 13.0**	**+1.5**
	comp=Z,5.0nm,1.0s,mb4.4						
MAW	**Mawson**	**82.34**	**202**	P	**P**	**23 10 31.4**	**+1.7**
	comp=Z,6.4nm,0.9s,mb4.5,baz=67,slow=5.6,SNR=12						
PMR	**Palmer**	**84.22**	**28**	P	**P**	**23 10 44.2**	**+4.8**
	comp=Z,20nm,1.0s,mb5.2						
SML	**Sawmill**	**84.64**	**28**	*e*P	**P**	**23 10 41.6**	**+0.2**
COLA	**College**	**85.47**	**25**	*e*P	**P**	**23 10 50.2**	**+4.7**
DIV	**Divide**	**85.72**	**29**	*e*P	**P**	**23 10 48.1**	**+1.3**
	comp=Z,82nm,0.8s,mb6.0						
ILAR	**Eielson Array**	**85.85**	**25**	P	**P**	**23 10 47.4**	**0.0**
	comp=Z,2.6nm,0.8s,mb4.5,baz=257,slow=4.4,SNR=18						
QSPA	**South Pole Qui**	**89.16**	**180**	*e*P	**P**	**23 11 04.3**	**+1.2**
	comp=Z,6.9nm,0.8s,mb5.0						
RAYN	**Ar Rayn**	**89.37**	**293**	P	**P**	**23 11 05.9**	**+0.6**
	comp=Z,52nm,0.8s,mb5.9,SNR=12						
OBN	**Obninsk**	**95.17**	**325**	*e*P	**P**	**23 11 41.7**	**+10**
OBN						23 15 20.0	
OBN				pmax	pmax		
	comp=Z,22nm,1.6s,mb5.3						
ARCES	**ARCESS Array B**	**97.30**	**340**	P	**P**	**23 11 40.0**	**-0.6**
	comp=Z,5.9nm,0.9s,mb5.0,baz=37,slow=6.1,SNR=4.6						
SNAA	**Sanae**	**102.70**	**193**	P		23 16 24.6	
VNA2	**Neumayer--Watz**	**104.23**	**192**	⇑*i*P		23 16 27.0	
VNA2	**Neumayer--Watz**	**104.23**	**192**	⇑*i*		23 16 38.1	
VNA3	**Neumayer Olymp**	**104.44**	**191**	P		23 16 26.8	
LVC	**Limon Verde**	**147.44**	**137**	*e*P	PKPdf	23 17 54.9	+5.9
CPUP	**Villa Florida**	**150.74**	**158**	PKPbc	PKPdf	23 18 02.4	+8.2
	comp=Z,4.1nm,0.7s,baz=193,slow=1.9,SNR=11						
CPUP				PKPab	PKPab	23 18 09.7	+0.7
	comp=Z,12nm,0.8s,baz=189,slow=0.5,SNR=16						
CPUP	**Villa Florida**	**150.74**	**158**	*e*PKPbc	PKPdf	23 18 02.0	+7.8
ROSC	**El Rosal**	**150.94**	**81**	PKPbc	PKPdf	23 18 05.1	+10
	comp=Z,5.3nm,0.4s,baz=221,slow=19,SNR=2.6						
LPAZ	**La Paz**	**151.97**	**128**	PKPbc	PKPdf	23 18 06.2	+10
	comp=Z,1.8nm,0.6s,baz=317,slow=2.3,SNR=8.9						
LPAZ				PKPab	PKPab	23 18 13.3	-1.1
	comp=Z,5.9nm,0.8s,baz=303,slow=2.4,SNR=17						
LPAZ	**La Paz**	**151.97**	**128**	*e*PKPbc	PKPdf	23 18 06.2	+10
SAML	**Samuel**	**159.92**	**119**	*e*PKPdf	PKPdf	23 18 09.9	+3.3

*IDC **06** 23:02:30.0±2.1, 0.79S×134.13E, mb3.9/3, mb1 4.2/5, mb1mx3.9/15, ML4.0/2, Error ellipse: s-maj=89.0km s-min=23.6km az=76.0*

ISC 06 23:02:32.8±1.9, **0.9S**±0.2×**134.2E**±0.4, **h33**^{km}, **n5**, σ1^s**13**/5, **mb3.9**/3, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.97**	**179**	P	**P**	**23 06 53.6**	**-0.6**
	0.3nm,0.3s,baz=352,slow=12,SNR=4.6						
FITZ	**Fitzroy Crossi**	**19.07**	**206**	P	**P**	**23 06 55.1**	**-0.2**
	0.6nm,0.3s,baz=346,slow=8.3,SNR=2.2						
ASAR	**Alice Springs**	**22.68**	**181**	P	**P**	**23 07 34.4**	**+1.6**
	1.6nm,0.6s,mb3.6,baz=358,slow=7.6,SNR=5.0						
STKA	**Stephens Creek**	**31.65**	**168**	P	**P**	**23 08 54.8**	**-0.6**
	4.6nm,0.9s,mb4.3,baz=315,slow=10.0,SNR=3.0						
MKAR	**Makanchi Array**	**65.57**	**324**	P	**P**	**23 13 15.5**	**0.0**
	0.6nm,0.7s,mb3.8,baz=135,slow=6.1,SNR=4.7						

IDC 06 23:07:06.3±2.6, **0.95S**×**134.36E**, **mb3.6**/2, **mb1 4.0**/4, **mb1mx3.7**/15, **ML3.6**/2, **Error ellipse: s-maj=96.9km s-min=27.3km az=80.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.88**	**180**	P	P	23 11 27.5	-3.1
	0.2nm,0.3s,baz=360,slow=12,SNR=7.8						
FITZ	**Fitzroy Crossi**	**19.08**	**206**	P	P	23 11 30.2	-2.9
	0.1nm,0.3s,baz=162,slow=13,SNR=2.3						
ASAR	**Alice Springs**	**22.59**	**181**	P	P	23 12 09.7	-0.3
	1.3nm,0.6s,baz=6.6,slow=11,SNR=6.8						
MKAR	**Makanchi Array**	**65.77**	**324**	P	P	23 17 53.2	-2.2
	0.7nm,0.8s,baz=122,slow=8.2,SNR=4.3						

IDC 06 23:09:24.9±2.6, **0.85S**×**134.13E**, **mb3.3**/2, **mb1 3.6**/4, **mb1mx3.4**/14, **ML3.4**/2, **MS4.4**/1, **Ms1 4.4**/1, **ms1mx3.7**/11, **Error ellipse: s-maj=95.3km s-min=27.1km az=80.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.98**	**179**	P	P	23 13 47.3	-3.1
	0.1nm,0.3s,baz=358,slow=12,SNR=6.2						
FITZ	**Fitzroy Crossi**	**19.07**	**205**	P	P	23 13 49.1	-2.3
	0.1nm,0.3s,baz=48,slow=14,SNR=2.1						
TGY	**Tagaytay City**	**19.79**	**319**	LR	LR	23 22 42.9	
	comp=Z,1μm,19.1s,baz=132,slow=40						
ASAR	**Alice Springs**	**22.68**	**181**	P	P	23 14 29.0	-0.5
	0.9nm,0.8s,baz=10,slow=11,SNR=4.5						
MKAR	**Makanchi Array**	**65.56**	**324**	P	P	23 20 10.4	-2.3
	0.2nm,0.4s,baz=108,slow=8.1,SNR=4.6						

IDC 06 23:14:18.6±2.6, **0.73S**×**134.45E**, **mb3.8**/2, **mb1 4.0**/4, **mb1mx3.7**/14, **ML3.7**/2, **Error ellipse: s-maj=92.5km s-min=27.8km az=80.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.10**	**180**	P	P	23 18 41.7	-3.8
	0.3nm,0.3s,baz=359,slow=11,SNR=18						
WB2	**Warramunga Arr**	**19.10**	**180**	*e*P	P	23 18 42.0	-3.5
FITZ	**Fitzroy Crossi**	**19.32**	**206**	P	P	23 18 45.6	-2.5
	0.1nm,0.3s,baz=140,slow=7.9,SNR=2.1						
ASAR	**Alice Springs**	**22.81**	**181**	P	P	23 19 24.2	-0.2
	2.8nm,0.7s,baz=12,slow=10,SNR=11						
MKAR	**Makanchi Array**	**65.65**	**323**	P	P	23 25 04.7	-2.2
	0.9nm,0.9s,baz=108,slow=4.6,SNR=3.4						

*BER **06** 23:20:47.9±2.9, 67.84N×20.21E, ML2.0, Suspected explosion*

HEL 06 23:20:47.3±0.1, **67.86N**×**20.22E**, **ML1.8**, **ML2.0**(UPP), **ML2.0**(BER), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.11**	**25**	*i* P	Pg	23 20 49.0	-0.4
KUA				*i* S	Sg	23 20 50.6	-0.3
NIKU	**Nikkaluokta**	**0.45**	**272**	*i* P	Pg	23 20 55.1	-1.2
KIF	**Kilpisjarvi**	**1.17**	**10**	*e*P	Pb	23 21 09.1	-1.0
KIF				*e*S	Sb	23 21 24.9	-0.9
PAJU	**Pajala**	**1.40**	**125**	*e*P	Pb	23 21 11.9	-2.1
KTK1	**Kautokeino**	**1.61**	**42**	*e*P	Pn	23 21 15.9	-1.2
KTK1				*e*SN	Sn	23 21 38.8	-0.1
TRO	**Tromso**	**1.85**	**346**	*e*P	Pn	23 21 18.7	-1.8
TRO				*e*SN	Sn	23 21 44.8	-0.1
SGF	**Sodankyl**	**2.45**	**97**	*e*P	Pn	23 21 28.4	-0.7
SGF				*e*SG	Sg	23 22 02.2	-6.6
SGF				MSG		23 22 05.0	
	comp=Z,3.3nm,0.3s						
MELS	**Mels**	**2.70**	**251**	*e*S	Sn	23 22 04.2	-2.5
MELS				*e*Sg	Sg	23 22 13.1	-4.2
MOR8	**Moi Rana**	**2.83**	**236**	*e*SG	Sg	23 22 09.7	-12
MOR8				AML	AML	23 22 12.6	
	comp=Z,14nm,0.4s						
OUL	**Oulu**	**3.60**	**138**	*e*SG	Sg	23 22 37.8	-9.2
OUL				MSG		23 22 44.2	
	comp=Z,2.7nm,0.3s						
MSF	**Maaselka**	**3.99**	**115**	*e*P	Pn	23 21 49.9	-1.2
MSF				*e*S	Sn	23 22 35.7	-3.5
MSF				*e*SG	Sg	23 22 50.5	-10
MSF				MSG		23 22 55.2	
	comp=Z,1.5nm,0.3s						
NSS	**Namsos**	**4.72**	**229**	*e*SG	Sg	23 23 13.0	-12
NSS				AML	AML	23 23 14.8	
	comp=Z,4.7nm,0.4s						
VAF	**Ylistaro**	**4.94**	**167**	*e*SG	Sg	23 23 19.1	-13

*IDC **06** 23:33:06.8±1.1, 0.87S×134.86E, mb3.9/8, mb1 4.1/10, mb1mx4.0/16, ML3.9/2, Error ellipse: s-maj=47.8km s-min=17.6km az=80.0*

*NEIC **06** 23:33:09.7±0.7, 0.65S×134.81E, h10^{km}, mb3.9/3, Error ellipse: s-maj=26.8km s-min=9.9km az=79.0*

ISC 06 23:33:06.7±0.6, **0.89S**±0.07×**134.7E**±0.2, **h10**^{km}, **n21**, σ1^s**11**/20, **mb3.8**/8, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**11.94**	**191**	*e*P	**P**	**23 36 04.0**	**+3.9**
	7.9nm,0.5s						
WRAB	**Tennant Creek**	**18.93**	**181**	*e*P	**P**	**23 37 29.0**	**-1.2**
	10nm,0.6s						
WB2	**Warramunga Arr**	**18.93**	**181**	*e*P	**P**	**23 37 30.2**	**-0.1**
WRA	**Warramunga Arr**	**18.93**	**181**	P	**P**	**23 37 30.0**	**-0.3**
	0.7nm,0.3s,baz=360,slow=12,SNR=50						
FITZ	**Fitzroy Crossi**	**19.26**	**207**	*e*P	**P**	**23 37 34.3**	**+0.1**
	1.1nm,0.4s						
FITZ	**Fitzroy Crossi**	**19.26**	**207**	P	**P**	**23 37 33.4**	**-0.7**
	0.1nm,0.3s,baz=152,slow=9.3,SNR=2.9						
CTA	**Charters Tower**	**22.20**	**150**	P	**P**	**23 38 09.6**	**+4.6**
	2.5nm,0.8s,mb3.7,baz=313,slow=12,SNR=3.2						
CTA	**Charters Tower**	**22.20**	**150**	P	**P**	**23 38 09.6**	**+4.6**
CTAO	**Charters Tower**	**22.20**	**150**	*e*P	**P**	**23 38 05.1**	**+0.1**
	2.7nm,0.7s,mb3.8						
ASAR	**Alice Springs**	**22.65**	**182**	P	**P**	**23 38 10.2**	**+0.7**
	3.5nm,0.6s,mb3.9,baz=9.5,slow=11,SNR=31						
ASAR	**Alice Springs**	**22.65**	**182**	P	**P**	**23 38 10.2**	**+0.7**
ASPA	**Alice Springs**	**22.65**	**182**	*e*P	**P**	**23 38 10.7**	**+1.2**
STKA	**Stephens Creek**	**31.51**	**169**	P	**P**	**23 39 30.9**	**-0.3**
	2.9nm,0.9s,mb4.1,baz=10,slow=11,SNR=2.1						
BKM	**Butte a Klehm**	**36.99**	**119**	*i* P	**P**	**23 40 18.6**	**+0.2**
CMAR	**Chiang Mai Arr**	**40.02**	**301**	P	**P**	**23 40 46.5**	**+2.8**
	1.4nm,1.1s,mb3.6,baz=117,slow=7.0,SNR=4.5						
SONM	**Songino Array**	**54.41**	**337**	P	**P**	**23 42 38.2**	**+2.0**
	0.1nm,0.4s,mb3.1,baz=146,slow=5.2,SNR=2.4						
MKAR	**Makanchi Array**	**65.90**	**323**	P	**P**	**23 43 53.6**	**-1.4**
	2.3nm,0.6s,mb4.4,baz=107,slow=8.2,SNR=13						
BVAR	**Borovoye Array**	**75.53**	**326**	P	**P**	**23 44 53.1**	**0.0**
	0.9nm,0.9s,mb3.7,baz=113,slow=11,SNR=2.6						
BRVK	**Borovoye**	**75.60**	**326**	P	**P**	**23 44 51.8**	**-1.7**
ILAR	**Eielson Array**	**85.89**	**25**	P	**P**	**23 45 47.7**	**0.0**
	0.9nm,0.9s,mb4.0,baz=236,slow=5.1,SNR=5.2						
LPAZ	**La Paz**	**151.77**	**128**	PKPbc	PKPdf	23 53 09.6	+10
	0.6nm,0.6s,baz=225,slow=2.9,SNR=3.8						

*NEIC **06** 23:39:00.1±8.5, 22.38S×170.61E, h14^{km}±49^{km}, mb3.9/1, Error ellipse: s-maj=25.4km s-min=13.5km az=58.0*

*IDC **06** 23:39:03.8±7.7, 22.48S×170.62E, h43^{km}±70^{km}, mb3.9/9, mb1 4.1/10, mb1mx4.0/16, ML3.9/1, Error ellipse: s-maj=43.1km s-min=24.5km az=25.0*

ISC 06 23:39:00.2±3.9, **22.5S**±0.1×**170.47E**±0.08, **h21**^{km}±27^{km}, **n43**, σ1^s**09**/23, **mb4.2**/10, **5C-3D**, **Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.75**	**276**	*e*P	**Pn**	**23 39 59.0**	**+0.5**
DZM				*e*S	**Sn**	**23 40 41.7**	**-0.8**
DZM	**Mont Dzumac**	**3.75**	**276**	*e*P	**Pn**	**23 39 59.0**	**+0.5**
DZM				*e*S	**Sn**	**23 40 41.7**	**-0.8**
NOUC	**Port Laguerre**	**3.88**	**275**	⇓*i*P	**Pn**	**23 40 00.8**	**+0.5**
NOUC				*e*S	**Sn**	**23 40 45.4**	**-0.4**
URZ	**Urewera**	**16.70**	**162**	P	**P**	**23 42 53.2**	**-1.5**
	0.4nm,0.3s,baz=82,slow=7.1,SNR=2.2						
RPZ	**Rata Peaks**	**21.15**	**179**	P	**P**	**23 43 46.3**	**0.0**
	15nm,1.0s,mb4.3,baz=322,slow=4.4,SNR=3.9						
CTA	**Charters Tower**	**22.68**	**272**	P	**P**	**23 44 03.7**	**+1.8**
	1.8nm,0.6s,mb3.7,baz=103,slow=14,SNR=3.3						
CTAO	**Charters Tower**	**22.68**	**272**	*e*P	**P**	**23 44 03.7**	**+1.8**
	3.1nm,0.7s,mb3.9						
PMG	**Port Moresby**	**25.87**	**297**	P	**P**	**23 44 32.8**	**+0.2**
	4.1nm,0.4s,mb4.3						
ASAR	**Alice Springs**	**33.60**	**261**	P	**P**	**23 45 40.3**	**-1.2**
	3.8nm,1.1s,mb4.2,baz=76,slow=9.3,SNR=15						
ASAR	**Alice Springs**	**33.60**	**261**	P	**P**	**23 45 40.3**	**-1.2**
WRA	**Warramunga Arr**	**33.73**	**268**	P	**P**	**23 45 42.7**	**+0.1**
	0.4nm,0.7s,mb3.4,baz=99,slow=7.8,SNR=5.1						
FITZ	**Fitzroy Crossi**	**42.16**	**268**	P	**P**	**23 46 52.7**	**-0.6**
	4.6nm,1.0s,mb4.0,baz=168,slow=6.3,SNR=4.3						
NWAO	**Narrogin (SRO)**	**47.82**	**245**	P	**P**	**23 47 38.5**	**0.0**
	9.6nm,1.0s,mb4.8,baz=148,slow=23,SNR=2.2						
CMAR	**Chiang Mai Arr**	**80.89**	**294**	P	**P**	**23 51 15.8**	**+0.8**
	2.9nm,0.8s,mb4.3,baz=132,slow=3.9,SNR=15						
SNAA	**Sanae**	**85.95**	**182**		**P**	**23 51 37.6**	**-2.0**
SNAA	**Sanae**	**85.95**	**182**		sP	23 51 49.1	+0.7
VNA3	**Neumayer Olymp**	**86.50**	**180**	⇑*i*	**P**	**23 51 43.6**	**+1.3**
VNA3	**Neumayer Olymp**	**86.50**	**180**	⇑*i*	sP	23 51 54.0	+3.0
VNA2	**Neumayer--Watz**	**86.80**	**181**	⇑*i*	**P**	**23 51 45.5**	**+1.7**
VNA2	**Neumayer--Watz**	**86.80**	**181**	⇑*i*	sP	23 51 55.4	+2.9
VNA1	**Neumayer--Stat**	**87.09**	**180**	⇑*i*	**P**	**23 51 46.9**	**+1.7**
VNA1	**Neumayer--Stat**	**87.09**	**180**	⇓*i*	sP	23 51 56.8	+2.9
NVAR	**Mina Array Bea**	**90.11**	**48**	P	**P**	**23 51 59.2**	**-1.1**
	0.5nm,0.8s,mb3.9,baz=228,slow=10,SNR=3.5						
SONM	**Songino Array**	**90.51**	**323**	P	**P**	**23 52 00.7**	**-1.2**
	2.4nm,0.8s,mb4.6,baz=140,slow=5.3,SNR=18						
ARCES	**ARCESS Array B**	**128.51**	**345**	PKP	PKPdf	23 58 04.5	-5.1
	6.4nm,1.0s,SNR=5.5						
OKC	**Ostrava-Krasne**	**145.12**	**328**	*e*PKP	PKPdf	23 58 35.5	-4.8
KSP	**Ksiaz**	**145.30**	**331**	*e*P	PKPbc	23 58 36.2	-0.6
PSZ	**Piszkesteto**	**145.44**	**324**	⇓*e*P	PKPbc	23 58 37.3	0.0
DPC	**Dobruska-Polom**	**145.63**	**330**	*e*PKP	PKPdf	23 58 37.9	-3.2
UPC	**Upice**	**145.66**	**331**	*e*PKP	PKPdf	23 58 37.8	-3.4
PVCC	**Panska Ves**	**146.29**	**332**	*e*PKP	PKPdf	23 58 40.1	-2.1
BRG	**Berggiesshubel**	**146.30**	**333**	*e*P	PKPbc	23 58 39.6	+0.3
CLL	**Collm**	**146.36**	**334**	*i* PKIKP	PKPdf	23 58 38.9	-3.4
	logA/T=1.2						
PRU	**Pruhonice**	**146.69**	**331**	*e*PKP	PKPdf	23 58 40.5	-2.5
NKC	**Novy Kostel**	**147.41**	**333**	*e*PKP	PKPdf	23 58 42.4	-1.7
KHC	**Kasperske Hory**	**147.75**	**331**	*e*PKP	PKPdf	23 58 43.5	-1.2
GERES	**GERESS Array B**	**147.90**	**331**	PKPbc	PKPdf	23 58 43.2	-1.8
	1.6nm,0.6s,baz=39,slow=2.5,SNR=16						
GRA1	**Grafenberg Arr**	**148.33**	**334**	*e*PKP	PKPdf	23 58 48.7	+3.1
GIVF	**Givet**	**150.25**	**341**	*e*PKP1	PKPdf	23 58 48.7	+0.1
CDF	**Champ du Feu**	**150.89**	**337**	*e*PKP1	PKPdf	23 58 50.8	+1.1
	14nm,1.1s						
HINF	**Hinteralfeld**	**151.54**	**336**	*e*PKP1	PKPdf	23 58 52.1	+1.5
MEZF	**Maizieres J'vi**	**151.58**	**339**	*e*PKP1	PKPdf	23 58 52.8	+2.1
	16nm,0.8s						
SSF	**Saint Saulge**	**153.35**	**340**	*e*PKP1	PKPdf	23 58 56.8	+3.6

*IDC **07** 00:00:33.3±0.7, 3.49N×128.40E, mb4.0/10, mb1 4.2/10, mb1mx4.0/18, MS4.1/1, Ms1 4.3/1, ms1mx3.5/22, Error ellipse: s-maj=31.6km s-min=13.7km az=79.0*

*NEIC **07** 00:00:35.4±0.4, 3.54N×128.51E, h15^{km}, mb4.5/5, Error ellipse: s-maj=22.4km s-min=8.0km az=76.0*

ISC 07 00:00:37.3±3.6, **3.52N**±0.07×**128.4E**±0.1, **h40**^{km}±33^{km}, **n25**, σ0^s**90**/26, **mb4.4**/22, **MS4.0**/1, **North of Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.66**	**187**	P	**P**	**00 05 25.1**	**-1.3**
	2.0nm,0.4s,mb3.9,baz=19,slow=7.7,SNR=12						
WRAB	**Tennant Creek**	**24.03**	**166**	*e*P	**P**	**00 05 50.6**	**+0.9**
	12nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**24.03**	**166**	P	**P**	**00 05 50.5**	**+0.8**
	6.8nm,0.9s,mb4.1,baz=345,slow=10,SNR=30						
WRA				S	**S**	**00 10 02.0**	**+0.7**
	0.6nm,0.9s,baz=350,slow=31,SNR=3.2						
CBIJ	**Chichi jima**	**26.89**	**28**	P	**P**	**00 06 18.2**	**+1.5**
	32nm,0.6s,mb5.0,baz=253,slow=14,SNR=3.1						
ASAR	**Alice Springs**	**27.55**	**169**	P	**P**	**00 06 21.9**	**-0.8**
	0.8nm,0.8s,mb3.4,baz=354,slow=8.3,SNR=12						
JNU	**Nakatsue**	**29.54**	**4**	P	**P**	**00 06 40.6**	**+0.2**
	14nm,0.3s,mb5.2,baz=176,slow=4.6,SNR=2.0						
CMAR	**Chiang Mai Arr**	**32.43**	**299**	P	**P**	**00 07 07.4**	**+1.4**
	1.5nm,0.5s,mb4.1,baz=110,slow=7.5,SNR=9.7						
CMAR				LR	LR	00 20 52.6	
	comp=Z,300nm,18.6s,MS4.0,baz=100,slow=38						
STKA	**Stephens Creek**	**37.37**	**161**	P	**P**	**00 07 47.2**	**-0.9**
	1.2nm,0.4s,mb4.1,baz=101,slow=14,SNR=4.9						
STKA	**Stephens Creek**	**37.37**	**161**	P	**P**	**00 07 47.2**	**-0.9**
GUN	**Gumba**	**47.21**	**305**	*e*P	**P**	**00 09 09.6**	**+1.2**
	9.4nm,0.6s,mb4.9						
PKI	**Pulchoki**	**47.46**	**305**	*e*P	**P**	**00 09 09.5**	**-0.9**
KKN	**Kakani**	**47.65**	**305**	*e*P	**P**	**00 09 11.8**	**-0.1**
	20nm,1.2s,mb5.0						
DMN	**Daman**	**47.72**	**305**	*e*P	**P**	**00 09 12.7**	**+0.3**
	11nm,0.4s,mb5.2						
SONM	**Songino Array**	**48.05**	**340**	P	**P**	**00 09 13.8**	**-0.8**
	0.4nm,0.6s,mb3.6,baz=143,slow=7.2,SNR=4.0						
SONM				PcP	PcP	00 10 42.1	-0.3
	0.5nm,0.6s,baz=160,slow=3.0,SNR=4.1						
GKN	**Gorkha**	**48.26**	**305**	*e*P	**P**	**00 09 17.4**	**+0.8**
	3.3nm,0.3s,mb4.8						
KOLN	**Koldanda**	**49.02**	**304**	*e*P	**P**	**00 09 23.5**	**+1.0**
	18nm,0.8s,mb5.2						
MKAR	**Makanchi Array**	**58.69**	**325**	P	**P**	**00 10 33.0**	**-0.3**
	2.4nm,0.5s,mb4.5,baz=113,slow=8.1,SNR=40						
MKAR	**Makanchi Array**	**58.69**	**325**	P	**P**	**00 10 33.0**	**-0.3**
KURK	**Kurchatov**	**62.82**	**327**	*e*P	**P**	**00 11 00.4**	**-0.9**
	4.6nm,0.7s,mb4.7						
BVAR	**Borovoye Array**	**68.41**	**327**	P	**P**	**00 11 35.8**	**-1.2**
	1.6nm,0.8s,mb4.1,baz=121,slow=8.6,SNR=13						
BRVK	**Borovoye**	**68.48**	**327**	*e*P	**P**	**00 11 36.7**	**-0.7**
	2.7nm,0.7s,mb4.4						
ZRNK	**Zerenda**	**69.15**	**326**	*e*P	**P**	**00 11 40.0**	**-1.5**
	2.9nm,0.6s,mb4.4						
MCK	**McKinley**	**83.61**	**26**	*e*P	**P**	**00 13 02.7**	**+0.2**
	1.7nm,0.7s,mb4.3						
MAW	**Mawson**	**84.14**	**201**	P	**P**	**00 13 06.0**	**+0.9**
	0.9nm,0.7s,mb4.0,baz=131,slow=9.3,SNR=3.2						
ILAR	**Eielson Array**	**84.57**	**25**	P	**P**	**00 13 07.2**	**-0.2**
	0.5nm,0.7s,mb3.8,baz=287,slow=9.1,SNR=4.7						

*IDC **07** 00:10:59.4±1.0, 0.81S×134.25E, mb4.0/4, mb1 4.1/6, mb1mx3.9/13, ML3.7/2, Error ellipse: s-maj=48.3km s-min=18.4km az=80.0*

*NEIC **07** 00:11:04.9±0.7, 0.89S×134.20E, h35^{km}, mb4.1/3, Error ellipse: s-maj=28.4km s-min=11.8km az=79.0*

ISC 07 00:11:03.1±0.8, **0.93S**±0.08×**134.2E**±0.2, **h35**^{km}, **n12**, σ1^s**23**/13, **mb4.2**/7, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**18.89**	**180**	*e*P	**P**	**00 15 21.8**	**-1.5**
	6.3nm,0.7s						
WRA	**Warramunga Arr**	**18.89**	**180**	P	**P**	**00 15 21.5**	**-2.0**
	0.3nm,0.3s,baz=359,slow=11,SNR=21						
FITZ	**Fitzroy Crossi**	**19.02**	**206**	P	**P**	**00 15 25.9**	**+1.0**
	0.1nm,0.3s,baz=4.8,slow=12,SNR=3.5						
FITZ				S	**S**	**00 18 52.4**	**+0.3**
	0.0nm,0.3s,baz=186,slow=13,SNR=2.6						
CTA	**Charters Tower**	**22.40**	**149**	P	**P**	**00 16 01.4**	**+1.4**
	2.9nm,0.7s,mb3.9						
CTAO	**Charters Tower**	**22.40**	**149**	P	**P**	**00 16 01.9**	**+1.9**
	4.1nm,0.7s,mb4.0						
ASAR	**Alice Springs**	**22.60**	**181**	P	**P**	**00 16 03.0**	**+0.9**
	4.6nm,0.8s,mb4.0,baz=7.9,slow=10.0,SNR=17						
STKA	**Stephens Creek**	**31.56**	**168**	P	**P**	**00 17 24.2**	**-0.5**
	1.8nm,0.5s,mb4.1,baz=56,slow=18,SNR=2.9						
MKAR	**Makanchi Array**	**65.66**	**324**	P	**P**	**00 21 44.6**	**-1.5**
	0.5nm,0.5s,mb3.8,baz=117,slow=9.6,SNR=9.6						
ARU	**Arti**	**82.85**	**327**	*e*P	**P**	**00 23 25.4**	**+0.1**
	6.3nm,0.6s,mb4.8						
ILAR	**Eielson Array**	**86.11**	**25**	P	**P**	**00 23 41.0**	**-0.4**
	1.0nm,0.9s,mb4.1,baz=259,slow=5.5,SNR=6.0						
ARCES	**ARCESS Array B**	**97.34**	**340**	P	**P**	**00 24 35.5**	**+1.9**
	8.0nm,1.1s,mb5.1,baz=108,slow=7.7,SNR=4.7						
ARCES	**ARCESS Array B**	**97.34**	**340**	P	**P**	**00 24 35.5**	**+1.9**

IDC 07 00:23:56.3±2.6, **0.90S**×**134.97E**, **mb3.4**/2, **mb1 3.7**/4, **mb1mx3.5**/15, **ML3.5**/2, **MS3.5**/1, **Ms1 3.5**/1, **ms1mx3.0**/14, **Error ellipse: s-maj=92.5km s-min=27.2km az=81.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.93**	**182**	P	P	00 28 17.1	-4.1
	0.1nm,0.3s,baz=360,slow=12,SNR=12						
WRA				LR	LR	00 35 33.0	
	comp=Z,160nm,20.9s,baz=145,slow=37						
FITZ	**Fitzroy Crossi**	**19.40**	**208**	P	P	00 28 25.9	-0.9
	0.1nm,0.3s,baz=29,slow=10,SNR=3.5						
ASAR	**Alice Springs**	**22.65**	**183**	P	P	00 28 59.6	-1.0
	0.9nm,0.7s,baz=9.7,slow=11,SNR=6.9						
MKAR	**Makanchi Array**	**66.10**	**323**	P	P	00 34 45.2	-2.2
	0.3nm,0.7s,baz=110,slow=8.1,SNR=4.4						

*LDG **07** 00:35:20.6±0.1, 42.33N×2.18E, h6^{km}, Md2.5/3, Ml2.1/8, Error ellipse: s-maj=2.0km s-min=1.6km az=150.0*

*STR **07** 00:35:20.9±0.5, 42.35N×2.14E, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*MDD **07** 00:35:21.1±0.3, 42.34N×2.16E, h6^{km}±5^{km}, mbLg1.8/7, Error ellipse: s-maj=2.8km s-min=2.1km az=149.0, PRXIMO AftershockPLICA*

ISC 07 00:35:19.1±0.5, **42.39N**±0.03×**2.16E**±0.03, **h14**^{km}±4^{km}, **n26**, σ1^s**40**/44, **1C**, **Pyrenees**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBRU	**Bruguera**	**0.10**	**173**	Pg	**Pg**	**00 35 22.0**	**-0.4**
VALF	**Valcebollere**	**0.11**	**276**	Pg	**Pg**	**00 35 23.5**	**+1.1**
VALF				Sg	**Sg**	**00 35 25.3**	**+0.6**
VALF	**Valcebollere**	**0.11**	**276**	P	**Pg**	**00 35 23.6**	**+1.1**
VALF				S	**Sg**	**00 35 25.5**	**+0.8**
CLLI	**Llivia**	**0.17**	**303**	Pg	**Pg**	**00 35 24.9**	**+1.6**
CARF	**Carcanieres**	**0.33**	**353**	Pg	**Pg**	**00 35 28.8**	**+2.7**
CARF				Sg	**Sg**	**00 35 33.6**	**+2.8**
CARF	**Carcanieres**	**0.33**	**353**	P	**Pg**	**00 35 28.8**	**+2.6**
CARF				S	**Sg**	**00 35 33.8**	**+2.9**
FILF	**Fillols**	**0.34**	**60**	Pg	**Pg**	**00 35 26.7**	**+0.3**
FILF				Sg	**Sg**	**00 35 30.9**	**-0.3**
FILF	**Fillols**	**0.34**	**60**	P	**Pg**	**00 35 26.7**	**+0.4**
FILF				S	**Sg**	**00 35 30.9**	**-0.3**
EJON	**La Jonquera**	**0.54**	**84**	Pg	**Pg**	**00 35 31.3**	**+1.1**
	0.3nm,0.1s,SNR=6.9						
EJON				Lg		00 35 38.9	
	13nm,0.2s,SNR=5.0						
CORG	**Organya**	**0.65**	**256**	Pg	**Pg**	**00 35 33.0**	**+0.7**
EMIR	**Miracle**	**0.67**	**225**	⇑Pg	**Pg**	**00 35 32.8**	**+0.1**
	3.8nm,0.2s,SNR=18						
EMIR				Lg		00 35 42.3	
	8.8nm,0.1s,SNR=7.9						
SALF	**Salau**	**0.81**	**298**	Pg	**Pg**	**00 35 36.6**	**+1.2**
SALF				Sg	**Sg**	**00 35 47.2**	**+0.9**
SALF	**Salau**	**0.81**	**298**	P	**Pb**	**00 35 36.6**	**+2.2**
SALF				S	**Sb**	**00 35 47.4**	**+2.5**
MTLF	**Montolieu**	**0.95**	**2**	*e*Pg	**Pg**	**00 35 39.9**	**+1.6**
MTLF				*e*Sg	**Sg**	**00 35 52.7**	**+1.6**
	5.6nm,0.2s						
CAVN	**Les Avellanes**	**1.17**	**245**	Pg	**Pg**	**00 35 42.2**	**-0.3**
EPOB	**Poblet**	**1.31**	**218**	Pg	**Pg**	**00 35 44.5**	**-1.0**
	1.2nm,0.1s,SNR=16						
EPOB				Lg		00 36 01.5	
	5.8nm,0.2s,SNR=5.0						
EBIE	**Bielsa**	**1.52**	**282**	Pg	**Pg**	**00 35 50.6**	**+1.0**
	0.8nm,0.2s,SNR=7.9						
EBIE				Lg		00 36 11.4	
	3.4nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**2.07**	**252**	Pg	**Pg**	**00 35 57.4**	**-3.1**
	2.1nm,0.2s,SNR=7.9						
ESAC				Lg		00 36 26.1	
	13nm,0.3s,SNR=7.9						
ETSF	**Etsaut**	**2.07**	**285**	*e*Pg	**Pg**	**00 35 59.5**	**-1.0**
ETSF				*e*Sg	**Sg**	**00 36 26.6**	**-1.6**
	2.7nm,0.3s						
LASF	**Ste Croix**	**2.09**	**36**	*e*Pn	**Pn**	**00 35 55.8**	**+1.6**
LASF				*e*Pg	**Pg**	**00 36 00.2**	**-0.7**
LASF				*e*Sg	**Sg**	**00 36 26.7**	**-2.2**
	0.7nm,0.2s						
CAF	**Calviac**	**2.54**	**358**	*e*Pn	**Pn**	**00 36 00.8**	**+0.2**
CAF				*e*Pg	**Pg**	**00 36 08.5**	**-1.3**
CAF				*e*Sg	**Sg**	**00 36 41.6**	**-2.0**
	2.6nm,0.2s						
SJPF	**Ste Jean**	**2.60**	**287**	*e*Pn	**Pn**	**00 36 01.3**	**-0.2**
SJPF				*e*Pg	**Pg**	**00 36 08.9**	**-2.1**
SJPF				*e*Sg	**Sg**	**00 36 44.4**	**-1.3**
	1.5nm,0.3s						
LFF	**La Frestale**	**2.75**	**338**	*e*Pg	**Pg**	**00 36 12.2**	**-1.9**
LFF				*e*Sg	**Sg**	**00 36 50.0**	**-0.7**
	2.4nm,0.3s						
EMOS	**Mosqueruela**	**2.83**	**225**	Pg	**Pg**	**00 36 14.2**	**-1.6**
	0.3nm,0.3s,SNR=5.0						
EMOS				Lg		00 36 51.0	
	0.4nm,0.4s,SNR=5.0						
RJF	**Les Rejaudoux**	**2.95**	**351**	*e*Pn	**Pn**	**00 36 07.0**	**+0.5**
RJF				*e*Pg	**Pg**	**00 36 16.3**	**-1.8**
RJF				*e*Sg	**Sg**	**00 36 55.8**	**-1.6**
	1.8nm,0.2s						
EALB	**Alboran**	**7.60**	**214**	Pg	Px	00 35 28.8	

IDC ***07*** *00:41:09.9±1.0, 0.84S×134.22E, mb3.8/8, mb1 4.0/10, mb1mx3.9/16, ML3.8/2, Error ellipse: s-maj=40.8km s-min=16.3km az=74.0*
NEIC ***07*** *00:41:14.4±0.8, 0.77S×134.56E, h45km, mb4.2/3, Error ellipse: s-maj=23.4km s-min=12.9km az=85.0*
ISC 07 00:41:14.3±0.8**, 0.97S**±0.09×**134.1E**±0.2**, h45km, n15, σ1s20**/15**, mb3.8**/8**, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**17.98**	**36**	P	**P**	**00 45 14.6**	**-8.2**
	101nm,1.1s						
WRAB	**Tennant Creek**	**18.85**	**179**	eP	**P**	**00 45 32.2**	**-1.1**
	5.0nm,0.6s						
WRA	**Warramunga Arr**	**18.86**	**179**	P	**P**	**00 45 32.1**	**-1.3**
	0.4nm,0.3s,baz=359,slow=12,SNR=24						
FITZ	**Fitzroy Crossi**	**18.95**	**206**	P	**P**	**00 45 35.2**	**+0.7**
	0.1nm,0.3s,baz=6.3,slow=9.2,SNR=5.0						
CTA	**Charters Tower**	**22.42**	**149**	P	**P**	**00 46 09.1**	**-1.4**
	1.4nm,0.6s,mb3.6,baz=352,slow=7.1,SNR=2.4						
CTAO	**Charters Tower**	**22.42**	**149**	eP	**P**	**00 46 09.2**	**-1.2**
	6.4nm,0.9s,mb4.0						
ASAR	**Alice Springs**	**22.56**	**180**	P	**P**	**00 46 12.9**	**+0.9**
	1.8nm,0.5s,mb3.7,baz=7.3,slow=11,SNR=24						
STKA	**Stephens Creek**	**31.55**	**168**	P	**P**	**00 47 36.2**	**+1.5**
	3.0nm,0.6s,mb4.3,baz=356,slow=5.3,SNR=4.0						
STKA	**Stephens Creek**	**31.55**	**168**	P	**P**	**00 47 36.2**	**+1.5**
CMAR	**Chiang Mai Arr**	**39.58**	**301**	P	**P**	**00 48 42.1**	**-1.0**
	0.6nm,0.4s,mb3.6,baz=108,slow=7.9,SNR=4.2						
MKAR	**Makanchi Array**	**65.63**	**324**	P	**P**	**00 51 55.6**	**-0.5**
	0.2nm,0.5s,mb3.4,baz=118,slow=9.3,SNR=4.4						
ZAL	**Zalesovo**	**68.16**	**331**	P	**P**	**00 52 11.8**	**0.0**
	0.5nm,0.3s,mb4.0,baz=333,slow=6.8,SNR=2.8						
ZAL	**Zalesovo**	**68.16**	**331**	P	**P**	**00 52 11.8**	**0.0**
MAW	**Mawson**	**82.02**	**201**	P	**P**	**00 53 33.8**	**+3.0**
	0.5nm,0.7s,mb3.6,baz=343,slow=15,SNR=2.5						
ILAR	**Eielson Array**	**86.19**	**25**	P	**P**	**00 53 52.5**	**+0.8**
	0.6nm,0.7s,mb4.0,baz=244,slow=5.8,SNR=5.4						

IDC ***07*** *00:47:55.7±5.3, 5.69S×154.61E, h130km±43km, mb3.8/9, mb1 4.1/11, mb1mx4.0/16, Error ellipse: s-maj=38.4km s-min=20.0km az=96.0*
NEIC ***07*** *00:47:57.8±2.2, 5.61S×154.44E, h143km±20km, mb4.6/6, Error ellipse: s-maj=18.3km s-min=12.2km az=85.0*
ISC 07 00:47:57.2±2.8**, 5.63S**±0.10×**154.4E**±0.1**, h153km**±25km**, n22, σ0s89**/21**, mb4.2**/14**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.11**	**242**	P	**P**	**00 49 52.6**	**-0.4**
	38nm,0.3s,baz=44,slow=10.0,SNR=56						
PMG	**Port Moresby**	**8.11**	**242**	eP	**P**	**00 49 52.8**	**-0.2**
CTA	**Charters Tower**	**16.41**	**208**	P	**P**	**00 51 40.8**	**+0.6**
	0.2nm,0.3s,baz=27,slow=11,SNR=4.8						
CTAO	**Charters Tower**	**16.41**	**208**	eP	**P**	**00 51 42.2**	**+2.0**
	4.9nm,0.8s						
DZM	**Mont Dzumac**	**20.06**	**146**	eP	**P**	**00 52 19.8**	**-0.7**
GUMO	**Guam**	**21.32**	**334**	eP	**P**	**00 52 33.4**	**+0.3**
	123nm,1.2s,mb5.1						
WRAB	**Tennant Creek**	**24.14**	**232**	eP	**P**	**00 53 00.7**	**+0.3**
	18nm,0.7s,mb4.7						
WRA	**Warramunga Arr**	**24.15**	**232**	P	**P**	**00 53 01.0**	**+0.4**
	8.0nm,0.6s,mb4.4,baz=55,slow=9.6,SNR=40						
ASAR	**Alice Springs**	**26.67**	**226**	P	**P**	**00 53 23.6**	**-0.3**
	2.0nm,0.4s,mb4.1,baz=57,slow=8.8,SNR=14						
STKA	**Stephens Creek**	**28.73**	**203**	P	**P**	**00 53 41.4**	**-1.1**
	3.4nm,0.6s,mb4.2,baz=52,slow=13,SNR=6.8						
FITZ	**Fitzroy Crossi**	**30.70**	**244**	P	**P**	**00 53 58.8**	**-1.4**
	3.2nm,0.6s,mb4.2,baz=113,slow=4.1,SNR=7.2						
CMAR	**Chiang Mai Arr**	**59.68**	**295**	P	**P**	**00 57 49.2**	**+1.1**
	2.3nm,0.9s,mb4.0,baz=114,slow=5.1,SNR=11						
SONM	**Songino Array**	**67.89**	**327**	P	**P**	**00 58 41.2**	**-0.1**
	0.5nm,0.6s,mb3.4,baz=149,slow=7.2,SNR=6.7						
MCK	**McKinley**	**81.02**	**22**	eP	**P**	**00 59 56.9**	**+0.8**
	4.3nm,0.9s,mb4.1						
MKAR	**Makanchi Array**	**82.01**	**319**	P	**P**	**01 00 01.9**	**+0.3**
	0.9nm,0.8s,mb3.5,baz=104,slow=5.0,SNR=5.5						
MKAR	**Makanchi Array**	**82.01**	**319**	P	**P**	**01 00 01.9**	**+0.3**
ILAR	**Eielson Array**	**82.33**	**22**	P	**P**	**01 00 02.4**	**-0.5**
	0.7nm,0.7s,mb3.4,baz=254,slow=6.0,SNR=8.3						
QSPA	**South Pole Qui**	**84.33**	**180**	eP	**P**	**01 00 14.1**	**+1.5**
	4.5nm,0.9s,mb4.2						
MAW	**Mawson**	**85.42**	**203**	P	**P**	**01 00 18.6**	**+0.3**
	3.5nm,0.7s,mb4.2,baz=82,slow=6.9,SNR=18						
ZRNK	**Zerenda**	**91.69**	**323**	eP	**P**	**01 00 46.5**	**-1.8**
ARU	**Arti**	**97.90**	**326**	eP	**P**	**01 01 12.3**	**-4.2**
	8.6nm,0.9s,mb5.2						
MBAR	**Mbarara**	**123.42**	**266**	ePKPdf	PKPdf	01 06 41.7	+4.5

MOS ***07*** *01:04:56.7±1.4, 35.53N×26.86E, h33km, mb5.8/48, Error ellipse: s-maj=8.5km s-min=3.0km az=102.2*
BGS ***07*** *01:04:57.8, 35.42N×28.31E, h128km, mb5.7*
DHMR ***07*** *01:05:05.7±3.0, 36.18N×26.64E, h10km, mb5.7*
PDG ***07*** *01:05:09.5±0.2, 35.45N×24.81E, h10km±1km*
MED_RC ***07*** *01:05:09.8±0.3, 36.15N×26.79E, h144km±2km, MW5.5/13, Moment Tensor Solution. Body waves: s13,c32; Duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.07±.05; $M_{\theta\theta}$-0.56±.04; $M_{\phi\phi}$0.63±.03; $M_{r\theta}$1.46±.05; $M_{\theta\phi}$0.91±.05; $M_{\phi r}$0.89±.03; Best double couple: $M_0$2×10^{17} NP1:ϕ_s339°,δ32°,λ-177°. NP2:ϕ_s246°,δ88°,λ-58°. Principal axes: T 2.2, Plg35°, Azm309°; N -.39, Plg32°, Azm65°; P -1.8, Plg39°, Azm185°; nsta1 refers to waves, cutoff=35s.*
CSEM ***07*** *01:05:09.8, 36.36N×26.95E, h132km, mb5.8*
BJI ***07*** *01:05:10.8, 36.61N×26.26E, h145km, mB5.3, mb5.5*
HRVD ***07*** *01:05:12.9±0.2, 36.27N×26.72E, h130km±1km, MW5.5/84, Centroid moment Tensor Solution. LP body waves: s59,c80;Mantle waves: s84,c179; Half duration: 1s3 Moment tensor: Scale 10^{17}Nm; M_{rr}0.40±.05; $M_{\theta\theta}$-0.73±.05; $M_{\phi\phi}$0.32±.05; $M_{r\theta}$1.27±.03; $M_{\theta\phi}$1.03±.05; $M_{\phi r}$1.05±.03; Best double couple: $M_0$1.96×10^{17} NP1: ϕ_s334°,δ40°,λ166°. NP2:ϕ_s75°,δ81°,λ50°. Principal axes: T 2.29, Plg40°, Azm309°; N -.67, Plg39°, Azm82°; P -1.62, Plg25°, Azm195°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***07*** *01:05:12.9±0.1, 36.43N×26.80E, mb5.7/201 Error ellipse: s-maj=2.3km s-min=1.4km az=195.0*
NEIC Felt at Zoniana, Crete.
ZUR_RM ***07*** *01:05:12, 36.43N×26.80E, h165km, Mw5.6/27, Moment Tensor Solution. s27 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.10; $M_{\theta\theta}$-0.36; $M_{\phi\phi}$0.47; $M_{r\theta}$2.21; $M_{\theta\phi}$1.65; $M_{\phi r}$1.26; Best double couple: $M_0$2.95×10^{17} NP1:ϕ_s253°,δ88°,λ-58°. NP2:ϕ_s346°,δ32°,λ-176°. Principal axes: T 3.411, Plg35°, Azm316°; N -.913, Plg32°, Azm72°; P -2.499, Plg38°, Azm192°;*
IDC ***07*** *01:05:13.5±0.5, 36.57N×26.70E, h131km±3km, mb5.0/25, mb1 5.2/33, mb1mx5.1/34, MS4.3/14, Ms1 4.3/14, ms1mx4.0/32 Error ellipse: s-maj=9.0km s-min=5.8km az=133.0*
SYO ***07*** *01:05:13.2, 36.46N×26.77E, h128km, MB5.7*
ATH ***07*** *01:05:13.4, 36.50N×26.80E, h124km±2km, ML5.2*
ISK ***07*** *01:05:14.0, 36.51N×26.85E, h107km*
THE ***07*** *01:05:17.5, 36.55N×26.80E, h98km, ML5.1*
NIC ***07*** *01:05:20.0±0.4, 36.29N×27.47E, h25km, mb5.4, ML5.3, MW4.6, Dodecanese Islands , Greece*
NSSC ***07*** *01:05:44.4, 35.97N×29.80E, h40km*
ISC 07 01:05:12.2±0.1**, 36.47N**±0.01×**26.790E**±0.010**, h134km**±1km**, h129km**±1.3km**:pP-P, n1551, σ1s13**/1533**, mb5.5**/217**, 329C-70D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NISR	**Nisiros**	**0.31**	**62**	eP	**P**	**01 05 31.0**	**+0.1**
BDRM	**Kayabasi**	**0.80**	**41**	i P	**P**	**01 05 34.4**	**+0.5**
BDRM				i S	**S**	**01 05 49.9**	**-0.5**
BDRM	**Kayabasi**	**0.80**	**41**	i P		01 16 15.0	
KARP	**Karpathos**	**0.96**	**162**	eP	**P**	**01 05 36.3**	**+1.0**
SANT	**Santorini**	**1.08**	**265**	⇓ePn	**P**	**01 05 37.5**	**+1.1**
SANT				eSn	**S**	**01 05 56.5**	**+1.6**
SANT	**Santorini**	**1.08**	**265**	⇓ePn	**P**	**01 05 37.5**	**+1.0**
SANT	**Santorini**	**1.08**	**265**	eSn	**S**	**01 05 56.5**	**+1.6**
THR1	**Thera Island**	**1.08**	**265**	ePg	**P**	**01 05 37.7**	**+1.2**
THR1				eSg	**S**	**01 05 52.9**	**-2.0**
ARG	**Arkhangelos**	**1.11**	**103**	⇑iP	**P**	**01 05 37.7**	**+0.9**
ARG				eS	**S**	**01 05 55.5**	**+0.1**
THR3	**Thira Island,**	**1.12**	**268**	ePg	**P**	**01 05 38.2**	**+1.3**
THR4	**Thira Island,**	**1.12**	**270**	ePg	**P**	**01 05 38.2**	**+1.3**
THR6	**Thira Island,**	**1.13**	**265**	ePg	**P**	**01 05 38.4**	**+1.4**
MLSB	**Milas**	**1.15**	**43**	i PG	**P**	**01 05 36.5**	**-0.6**
MLSB	**Milas**	**1.15**	**43**	Pg	**P**	**01 05 37.8**	**+0.7**
THR5	**Thira Island,**	**1.16**	**268**	ePb	**P**	**01 05 38.5**	**+1.2**
APE	**Apeiranthos**	**1.18**	**301**	i PN	**P**	**01 05 37.8**	**+0.3**
APE	**Apeiranthos**	**1.18**	**301**	⇑iP	**P**	**01 05 38.7**	**+1.2**
APE	**Apeiranthos**	**1.18**	**301**	⇑iP	**P**	**01 05 38.7**	**+1.2**
SMG	**Samos**	**1.24**	**2**	⇓iP	**P**	**01 05 38.7**	**+0.5**
SMG	**Samos**	**1.24**	**2**	⇓iP	**P**	**01 05 36.4**	**-1.8**
AYDN	**Tasoluk**	**1.48**	**36**	i P	**P**	**01 05 41.6**	**+0.8**
AYDN				i S	**S**	**01 06 02.0**	**-0.6**
AYDN	**Tasoluk**	**1.48**	**36**	i P		01 16 34.5	
DALT	**Dalyan (Mudla)**	**1.52**	**78**	i PN	**P**	**01 05 41.4**	**+0.2**
NPS	**Neapolis**	**1.54**	**219**	⇓iP	**P**	**01 05 42.5**	**+1.1**
XRY	**Khrisi**	**1.82**	**210**	eP	**P**	**01 05 46.3**	**+1.6**
IDI	**Anoyia**	**1.94**	**233**	P	**P**	**01 05 47.1**	**+1.1**
	1μm,0.3s,baz=48,slow=11,SNR=8065						
IDI				S	**S**	**01 06 11.3**	**-0.6**
	4μm,0.3s,baz=57,slow=18,SNR=40						
IDI				ScS	ScS	01 20 18.6	+2.2
	0.5nm,0.3s,baz=112,slow=23,SNR=5.7						
IZM	**Izmir**	**1.96**	**11**	i PN	**P**	**01 05 46.2**	**-0.2**
KDAG	**Bornova**	**1.97**	**11**	i P	**P**	**01 05 47.1**	**+0.7**
KDAG				S	**S**	**01 06 21.1**	**+8.5**
DNZL	**Cakiroluk**	**2.18**	**55**	i P	**P**	**01 05 50.1**	**+1.0**
DNZL				i S	**S**	**01 06 16.8**	**-0.4**
DENT	**Denizli**	**2.21**	**54**	i PN	**P**	**01 05 49.4**	**-0.1**
VAM	**Vamos**	**2.35**	**244**	eP	**P**	**01 05 52.0**	**+0.7**
MANT	**Manisa**	**2.46**	**34**	i P	**P**	**01 05 53.4**	**+0.6**
MANT				i S	**S**	**01 06 22.6**	**-1.0**
ELL	**Elmali**	**2.52**	**83**	i PN	**P**	**01 05 53.6**	**0.0**
AKS	**Akhisar**	**2.54**	**18**	i PN	**P**	**01 05 54.0**	**+0.2**
GVD	**Gavdhos**	**2.73**	**234**	eP	**P**	**01 05 57.5**	**+1.2**
PRK	**Paraskevi**	**2.81**	**352**	⇑iP	**P**	**01 05 57.7**	**+0.4**
PTL	**Penteli**	**2.82**	**305**	eP	**P**	**01 05 57.5**	**+0.1**
AYVA	**Ayvalik**	**2.84**	**358**	i P	**P**	**01 05 58.5**	**+0.8**
KHL	**Karahalli**	**2.86**	**49**	i PN	**P**	**01 05 58.6**	**+0.7**
ATH	**Athens Observa**	**2.88**	**302**	⇑iP	**P**	**01 06 00.0**	**+1.8**
ATH				eS	**S**	**01 06 33.4**	**+0.2**
NAIG	**Nisos Aigina**	**2.94**	**297**	⇓iP	**P**	**01 06 00.1**	**+1.1**
MPAR	**Parnis Oros**	**2.96**	**306**	⇓iP	**P**	**01 06 01.0**	**+1.7**
NSAL	**Nisos Salamina**	**3.02**	**299**	⇓iP	**P**	**01 06 01.5**	**+1.4**
KYTH	**Kithira**	**3.04**	**268**	eP	**P**	**01 06 02.0**	**+1.7**
VLI	**Veliai**	**3.11**	**276**	⇑iP	**P**	**01 06 02.8**	**+1.5**
BCK	**Bucak**	**3.20**	**71**	i PN	**P**	**01 06 03.1**	**+0.7**
TKTP	**Tekketepe**	**3.23**	**60**	P	**P**	**01 06 03.6**	**+0.9**
ISP	**Isparta**	**3.27**	**64**	i PN	**P**	**01 06 03.3**	**-0.1**
ISP	**Isparta**	**3.27**	**64**	eP	**P**	**01 06 03.2**	**-0.2**
MKIT	**Kithairon Oros**	**3.30**	**302**	⇓iP	**P**	**01 06 05.5**	**+1.8**
EZN	**Ezine**	**3.38**	**354**	i PN	**P**	**01 06 05.5**	**+0.8**
BOZC	**Bozcaada**	**3.42**	**350**	i P	**P**	**01 06 05.5**	**+0.2**
BTOK	**Tokmak**	**3.43**	**16**	i P	**P**	**01 06 06.2**	**+0.7**
DST	**Dursunbey**	**3.45**	**24**	PN	**P**	**01 06 05.8**	**0.0**
LIA	**Limnos Island**	**3.65**	**340**	⇑iP	**P**	**01 06 08.9**	**+0.5**
ALT	**Altintas**	**3.69**	**45**	PN	**P**	**01 06 08.2**	**-0.7**
LOS	**Limnos**	**3.72**	**339**	ePn	**P**	**01 06 10.3**	**+1.0**
LKR	**Lokris**	**3.72**	**307**	⇑iP	**P**	**01 06 10.8**	**+1.5**
LKR				eS	**S**	**01 06 53.3**	**+0.3**
LPK	**Lapseki**	**3.90**	**360**	PN	**P**	**01 06 12.8**	**+1.1**
ORLT	**Orhaneli**	**3.94**	**24**	PN	**P**	**01 06 12.6**	**+0.3**
EDC	**Edincik**	**3.97**	**12**	PN	**P**	**01 06 13.2**	**+0.6**
ITM	**Ithomi**	**3.97**	**282**	eP	**P**	**01 06 14.7**	**+2.1**
ITM				eS	**S**	**01 06 59.0**	**+0.1**
KCT	**Karacabey**	**3.99**	**17**	PN	**P**	**01 06 12.5**	**-0.4**
KGT	**Karabiga**	**4.00**	**6**	PN	**P**	**01 06 13.8**	**+0.7**
NEO	**Neokhori**	**4.00**	**316**	⇑iP	**P**	**01 06 14.4**	**+1.3**
XOR	**Xorichti**	**4.06**	**317**	ePn	**P**	**01 06 15.1**	**+1.3**
ULDT	**Uludag**	**4.11**	**26**	i P	**P**	**01 06 14.9**	**+0.4**
PAIG	**Paliouri**	**4.24**	**326**	ePn	**P**	**01 06 17.3**	**+1.1**
PAIG				eSn	**S**	**01 07 05.1**	**-0.2**
MFT	**Murefte**	**4.33**	**5**	PN	**P**	**01 06 18.3**	**+0.8**
AGG	**Agios Georgios**	**4.36**	**307**	ePn	**P**	**01 06 19.9**	**+2.1**
AGG				eSn	**S**	**01 07 07.6**	**-0.7**
ESKT	**Eskisehir**	**4.42**	**45**	PN	**P**	**01 06 19.5**	**+0.8**
ESKT	**Eskisehir**	**4.42**	**45**	i P	**P**	**01 06 19.6**	**+0.8**
OUR	**Ouranopolis**	**4.45**	**331**	ePn	**P**	**01 06 20.1**	**+1.1**
ALN	**Alexandroupoli**	**4.46**	**353**	ePn	**P**	**01 06 19.3**	**0.0**
ALN				eSn	**S**	**01 07 09.2**	**-1.5**
RLS	**Riolos of Patr**	**4.53**	**292**	eP	**P**	**01 06 21.4**	**+1.2**
YLV	**Yalova**	**4.57**	**26**	PN	**P**	**01 06 20.9**	**+0.3**
HDMB	**Hadim**	**4.60**	**82**	PN	**P**	**01 06 21.7**	**+0.6**
EVR	**Evrytania**	**4.65**	**303**	⇑iP	**P**	**01 06 23.8**	**+2.1**
KONT	**Konya--Tatoy**	**4.69**	**70**	PN	**P**	**01 06 22.8**	**+0.6**
KIZT	**Kizilcal**	**4.70**	**58**	PN	**P**	**01 06 23.0**	**+0.6**
PLG	**Polygyros**	**4.70**	**327**	⇑iP	**P**	**01 06 23.2**	**+0.8**
GPA	**Golpazari**	**4.71**	**35**	PN	**P**	**01 06 23.1**	**+0.5**
AKMC	**Akamas**	**4.73**	**106**	P	**P**	**01 06 21.3**	**-1.5**
BADT	**Buyukada**	**4.74**	**22**	PN	**P**	**01 06 23.2**	**+0.2**
RDO	**Rodhopi**	**4.78**	**349**	⇑iP	**P**	**01 06 23.9**	**+0.5**
PPCY	**Paphos**	**4.79**	**108**	⇑eP	**P**	**01 06 21.9**	**-1.7**
CTT	**Catalca**	**4.85**	**15**	PN	**P**	**01 06 24.9**	**+0.5**
EYL	**Eskiyayla**	**4.87**	**32**	PN	**P**	**01 06 25.2**	**+0.5**
ALFC	**Alevga**	**4.90**	**104**	⇑P	**P**	**01 06 23.3**	**-1.7**
	55nm,0.5s						
ALFC				S	**S**	**01 07 13.2**	**-7.9**
ALFC	**Alevga**	**4.90**	**104**	⇑eP	**P**	**01 06 23.3**	**-1.7**
	55nm,0.5s						
HRT	**Hereke**	**4.90**	**27**	PN	**P**	**01 06 24.8**	**-0.2**
ISK	**Istanbul-Kandi**	**4.92**	**20**	PN	**P**	**01 06 26.0**	**+0.6**
LIT	**Litokhoron**	**4.96**	**318**	ePn	**P**	**01 06 27.4**	**+1.5**
LIT				eSn	**S**	**01 07 21.7**	**-1.0**
SOH	**Sokhos**	**5.11**	**329**	ePn	**P**	**01 06 29.6**	**+1.7**
THE	**Thessaloniki**	**5.13**	**325**	ePn	**P**	**01 06 29.7**	**+1.6**
LEF	**Lefka**	**5.14**	**103**	PN	**P**	**01 06 28.8**	**+0.6**
LEF	**Lefka**	**5.14**	**103**	Pn	**P**	**01 06 26.0**	**-2.2**
VLS	**Valsamata**	**5.23**	**291**	eP	**P**	**01 06 30.2**	**+0.8**
SZAC	**Souni-Zanaja**	**5.25**	**107**	⇑P	**P**	**01 06 27.9**	**-1.8**
SZAC				S	**S**	**01 07 20.7**	**-8.9**
SZAC	**Souni-Zanaja**	**5.25**	**107**	⇑eP	**P**	**01 06 27.9**	**-1.8**
SRS	**Serrai**	**5.27**	**333**	ePn	**P**	**01 06 31.3**	**+1.2**
KDZ	**Kurdzhali**	**5.29**	**349**	⇑iP	**P**	**01 06 30.7**	**+0.5**
MDU	**Mudurnu**	**5.29**	**40**	PN	**P**	**01 06 30.8**	**+0.5**
LKD	**Levkas**	**5.37**	**296**	ePn	**P**	**01 06 32.7**	**+1.4**
EDRB	**Edirne**	**5.37**	**360**	PN	**P**	**01 06 32.2**	**+0.8**
MAMC	**Mammari**	**5.38**	**102**	⇑eP	**P**	**01 06 29.7**	**-1.8**
	50nm,0.9s						
NVR	**Nevrokopi**	**5.38**	**336**	⇑iP	**P**	**01 06 32.9**	**+1.4**
HENT	**Hendek**	**5.41**	**35**	i P	**P**	**01 06 32.9**	**+1.0**
HENT	**Hendek**	**5.41**	**35**	i P		01 16 47.9	
RZN	**Rozhen**	**5.46**	**343**	⇑iP	**P**	**01 06 33.3**	**+0.8**
MEV	**Metsovon**	**5.50**	**309**	ePn	**P**	**01 06 33.8**	**+0.8**
KZN	**Kozani**	**5.50**	**316**	⇑iP	**P**	**01 06 35.3**	**+2.2**
CSS	**Prodhromos**	**5.53**	**104**	⇑P	**P**	**01 06 31.3**	**-2.1**
	40nm,0.8s						
CSS				S	**S**	**01 07 28.3**	**-8.1**
CSS	**Prodhromos**	**5.53**	**104**	⇑iPn	**P**	**01 06 31.3**	**-2.1**
	770nm,0.7s						
CSS				eSn	**S**	**01 07 21.8**	**-15**
CSS				eScP		01 16 47.2	
CSS	**Prodhromos**	**5.53**	**104**	⇑iP	**P**	**01 06 31.3**	**-2.1**
	40nm,0.8s						
IKL	**Isikli**	**5.57**	**90**	PN	**P**	**01 06 33.8**	**-0.2**
KNT	**Kendrikon**	**5.59**	**328**	ePn	**P**	**01 06 36.8**	**+2.5**
MMB	**Musomiste**	**5.64**	**336**	⇑iP	**P**	**01 06 35.5**	**+0.5**
GRG	**Griva**	**5.65**	**324**	ePn	**P**	**01 06 36.6**	**+1.6**
GRG				eSn	**S**	**01 07 37.9**	**-1.3**
DIM	**Dimitrovgrad**	**5.66**	**350**	⇑iP	**P**	**01 06 35.7**	**+0.5**
JAN	**Janina**	**5.67**	**306**	⇑iP	**P**	**01 06 37.1**	**+1.8**
LOD	**Lodumlu**	**5.82**	**52**	PN	**P**	**01 06 37.8**	**+0.5**
SGKT	**Sivrigoynuk**	**5.82**	**44**	i P	**P**	**01 06 39.1**	**+1.8**
ANTO	**Ankara**	**5.82**	**52**	PN	**P**	**01 06 38.1**	**+0.7**
VAY	**Valandovo**	**5.86**	**327**	⇑iPn	**P**	**01 06 38.9**	**+1.0**
VAY				i Pb	**P**	**01 06 49.2**	**+11**
VAY				i Sn	**S**	**01 07 45.7**	**+1.3**
VAY	**Valandovo**	**5.86**	**327**	⇑iPn	**P**	**01 06 38.9**	**+1.0**
VAY				i Sn	**S**	**01 07 45.7**	**+1.3**
MEST	**Erdemli**	**5.92**	**87**	i P	**P**	**01 06 39.6**	**+0.9**
MEST				S	**S**	**01 07 42.6**	**-3.4**
MEST	**Erdemli**	**5.92**	**87**	i P		01 16 48.9	
IGT	**Igoumenitsa**	**5.95**	**303**	ePn	**P**	**01 06 41.1**	**+2.0**
IGT				eSn	**S**	**01 07 44.6**	**-1.9**
JMB	**Yambol**	**6.00**	**359**	i P	**P**	**01 06 39.0**	**-0.7**
FNA	**Florina**	**6.04**	**317**	ePn	**P**	**01 06 42.4**	**+2.0**
FNA				eSn	**S**	**01 07 46.6**	**-2.3**
PHNC	**Paralimni**	**6.07**	**102**	P	**P**	**01 06 40.3**	**-0.4**
KKB	**Krupnik**	**6.11**	**333**	i P	**P**	**01 06 32.0**	**-9.3**
KKB	**Krupnik**	**6.11**	**333**	⇑iP	**P**	**01 06 32.0**	**-9.3**
KAMT	**Kaman**	**6.19**	**60**	PN	**P**	**01 06 43.1**	**+0.7**
BIA	**Bitola**	**6.24**	**318**	⇑iPn	**P**	**01 06 44.2**	**+1.2**
BIA				i		01 06 48.7	
BIA				i Pg	Px	01 07 12.1	
BIA				i Sn	**S**	**01 07 56.2**	**+2.7**
KBN	**Korca**	**6.27**	**313**	i Pn	**P**	**01 06 46.6**	**+3.1**
KBN				i Sn	**S**	**01 07 52.8**	**-1.6**
BRTR	**Keskin Array B**	**6.30**	**57**	P	**P**	**01 06 44.7**	**+0.8**
	20nm,0.3s,baz=231,slow=14,SNR=1522						
BRTR				S	**S**	**01 07 56.1**	**+1.0**
	10nm,0.3s,baz=226,slow=25,SNR=5.7						
BRTR				ScP		01 16 48.5	
	1.2nm,0.3s,baz=188,slow=2.3,SNR=29						
BRTR				ScS	ScS	01 20 20.9	+1.3
	0.1nm,0.3s,baz=261,slow=31,SNR=8.1						
BRTR	**Keskin Array B**	**6.30**	**57**	P	**P**	**01 06 44.7**	**+0.8**
BRTR				S	**S**	**01 07 56.1**	**+1.0**
BRTR				ScP		01 16 48.5	
BRTR				ScS	ScS	01 20 20.9	+1.3
SRN	**Sarande**	**6.34**	**305**	i Pn	**P**	**01 06 45.5**	**+1.0**
KEK	**Kerkira**	**6.40**	**303**	eP	**P**	**01 06 45.5**	**+0.3**
PGB	**Panagyurishte**	**6.41**	**342**	i P	**P**	**01 06 45.5**	**+0.2**
NIG	**Nigde**	**6.45**	**73**	PN	**P**	**01 06 46.5**	**+0.6**
ELDT	**Eldivan**	**6.58**	**50**	i P	**P**	**01 06 48.6**	**+1.0**
OHR	**Ohrid**	**6.59**	**317**	⇑iPn	**P**	**01 06 49.4**	**+1.6**
OHR				i Sn	**S**	**01 08 01.5**	**-0.5**
SAFT	**Safranbolu**	**6.62**	**42**	PN	**P**	**01 06 48.7**	**+0.4**
VTS	**Vitosha**	**6.71**	**337**	i P	**P**	**01 06 50.3**	**+0.8**
VTS	**Vitosha**	**6.71**	**337**	⇑iP	**P**	**01 06 50.3**	**+0.8**
VTS	**Vitosha**	**6.71**	**337**	P	**P**	**01 06 50.0**	**+0.5**
PRD	**Provadia**	**6.74**	**4**	i P	**P**	**01 06 50.0**	**+0.1**
CANT	**Cankiri**	**6.76**	**50**	i PN	**P**	**01 06 50.3**	**+0.1**
AVNT	**Avonos**	**6.80**	**68**	i P	**P**	**01 06 50.9**	**+0.1**
AVNT	**Avonos**	**6.80**	**68**	i P		01 16 49.1	
SZH	**Strazhica**	**6.83**	**355**	i P	**P**	**01 06 50.7**	**-0.3**
PVL	**Pavlikeni**	**6.83**	**351**	i P	**P**	**01 06 50.0**	**-1.2**
SKO	**Skopje**	**6.89**	**325**	⇑iPn	**P**	**01 06 53.1**	**+1.2**
	comp=Z,0.1nm,0.7s						
SKO				i		01 06 56.0	
	comp=Z,0.2nm,0.7s						
SKO				i		01 06 58.5	
	comp=Z,0.3nm,0.8s						
SKO				i		01 07 02.8	
	comp=Z,0.2nm,0.7s						
SKO				i Sn	**S**	**01 08 10.7**	**+1.4**
BALT	**Daday**	**7.21**	**43**	i P	**P**	**01 06 57.0**	**+0.8**
BALT	**Daday**	**7.21**	**43**	i P		01 16 49.6	
CEYT	**Ceyhan**	**7.21**	**83**	PN	**P**	**01 06 56.2**	**-0.1**
CEYT	**Ceyhan**	**7.21**	**83**	Pn	**P**	**01 06 55.2**	**-1.1**
TOS	**Tosya**	**7.26**	**49**	i PN	**P**	**01 06 57.3**	**+0.4**
TIR	**Tirane**	**7.27**	**314**	ePn	**P**	**01 06 58.1**	**+1.0**
PSN	**Preselentsi**	**7.29**	**8**	i P	**P**	**01 06 56.8**	**-0.5**
QSH	**Qafa e Shtames**	**7.36**	**315**	i Pn	**P**	**01 07 00.0**	**+1.7**
BARS	**Barje**	**7.41**	**330**	⇓iPn	**P**	**01 06 51.4**	**-7.6**
BARS				Sn	**S**	**01 08 25.1**	**+3.2**
YOZ	**Yozgat**	**7.44**	**62**	PN	**P**	**01 06 59.3**	**0.0**
PRZA	**Preza**	**7.44**	**314**	i Pn	**P**	**01 07 01.0**	**+1.7**
PRZA	**Preza**	**7.44**	**314**	ePn	**P**	**01 07 01.0**	**+1.7**
ARNB	**Al Arnab**	**7.45**	**92**	⇑P	**P**	**01 06 58.1**	**-1.4**
ARNB				⇑S	rx	01 07 51.4	
ARNB	**Al Arnab**	**7.45**	**92**	⇑iP	**P**	**01 06 58.1**	**-1.4**
CTKT	**Corum**	**7.52**	**54**	i P	**P**	**01 07 01.0**	**+0.6**
HTY	**Hatay**	**7.56**	**90**	i PN	**P**	**01 07 01.4**	**+0.5**
BNN	**Bunyan**	**7.57**	**69**	i PN	**P**	**01 07 01.5**	**+0.5**
MATL	**Matirih**	**7.61**	**110**	ePN	**P**	**01 06 59.1**	**-2.5**
COBT	**Iskenderun**	**7.62**	**87**	i P	**P**	**01 07 01.3**	**-0.5**
COBT				S	**S**	**01 08 23.0**	**-4.1**
COBT	**Iskenderun**	**7.62**	**87**	i P		01 16 50.8	
HNTI	**Hanita**	**7.68**	**114**	P	**P**	**01 06 59.7**	**-2.8**
SLNF	**Slenfeh**	**7.69**	**94**	⇓P	**P**	**01 07 00.8**	**-1.9**
SLNF				⇓S	rx	01 07 56.1	
SLNF	**Slenfeh**	**7.69**	**94**	⇓iP	**P**	**01 07 00.8**	**-1.9**
BHL	**Bhannes**	**7.69**	**107**	ePN	**P**	**01 06 59.7**	**-3.0**
HAF	**Haifa**	**7.72**	**116**	P	**P**	**01 07 00.2**	**-2.9**
PUK	**Puka**	**7.72**	**318**	i Pn	**P**	**01 07 05.3**	**+2.2**
PUK	**Puka**	**7.72**	**318**	ePn	**P**	**01 07 05.3**	**+2.2**
OFRI	**'Ofer**	**7.77**	**117**	⇑P	**P**	**01 07 00.5**	**-3.3**
HWQ	**Hawqa**	**7.79**	**104**	ePN	**P**	**01 07 02.2**	**-1.8**
BTCH	**Batrach**	**7.82**	**90**	⇑P	**P**	**01 07 02.7**	**-1.8**
BTCH				⇑S	rx	01 08 01.0	
BTCH	**Batrach**	**7.82**	**90**	⇑iP	**P**	**01 07 02.7**	**-1.8**
LCI	**Lecce**	**7.83**	**302**	ePn	**P**	**01 07 04.1**	**-0.5**
LCI				eSn	**S**	**01 08 23.1**	**-9.0**
LCI	**Lecce**	**7.83**	**302**	ePn	**P**	**01 07 04.1**	**-0.5**
BZK	**Bozkurt**	**7.84**	**43**	PN	**P**	**01 07 05.0**	**+0.4**
WRDH	**Warideh**	**7.86**	**94**	⇑P	**P**	**01 07 02.5**	**-2.5**
WRDH				⇑S	rx	01 08 00.5	
WRDH	**Warideh**	**7.86**	**94**	⇑iP	**P**	**01 07 02.5**	**-2.4**
BCI	**Bajram Curri**	**7.86**	**321**	ep	**P**	**01 07 06.4**	**+1.5**
BIDA	**Albida**	**7.88**	**98**	⇑P	**P**	**01 07 03.0**	**-2.3**
BIDA				⇑S	rx	01 07 59.8	
BIDA	**Albida**	**7.88**	**98**	⇑iP	**P**	**01 07 03.0**	**-2.3**
BUC1	**Bucharest**	**7.89**	**356**	⇑iP	rx	01 08 07.7	
DRWC	**Darouich**	**7.95**	**86**	⇑P	**P**	**01 07 05.0**	**-1.2**
DRWC				⇑S	rx	01 08 04.9	
DRWC	**Darouich**	**7.95**	**86**	⇑iP	**P**	**01 07 04.9**	**-1.3**
BYBT	**Boyabat**	**7.97**	**49**	PN	**P**	**01 07 06.7**	**+0.3**
KSDI	**Kefar Szold**	**7.99**	**112**	P	**P**	**01 07 05.5**	**-1.2**
HRI	**Mount Hermon**	**8.01**	**111**	⇑P	**P**	**01 07 04.8**	**-2.2**
SLTI	**Sal'it**	**8.02**	**119**	P	**P**	**01 07 04.3**	**-2.8**
ULC	**Ulcinj**	**8.02**	**315**	⇑iPn	**P**	**01 07 06.0**	**-1.1**
ULC				eSn	**S**	**01 08 31.8**	**-4.9**
BOYT	**Boyabat**	**8.03**	**49**	i P	**P**	**01 07 07.8**	**+0.6**
BOYT	**Boyabat**	**8.03**	**49**	i P		01 16 50.6	
PVY	**Plav**	**8.07**	**321**	⇑iPn	**P**	**01 07 08.9**	**+1.1**
PVY				eSn	**S**	**01 08 37.6**	**-0.3**
HAWK	**Haweek**	**8.08**	**101**	⇑P	**P**	**01 07 05.7**	**-2.2**
HAWK				⇑S	rx	01 08 05.4	
HAWK	**Haweek**	**8.08**	**101**	⇑iP	**P**	**01 07 05.7**	**-2.2**
BRBR	**Barbar**	**8.12**	**109**	⇑P	**P**	**01 07 06.8**	**-1.5**
BRBR				⇑S	rx	01 08 07.7	
BRBR	**Barbar**	**8.12**	**109**	⇑iP	**P**	**01 07 06.8**	**-1.6**
KAHT	**Ahir Dag**	**8.15**	**79**	i P	**P**	**01 07 08.6**	**-0.2**
KAHT	**Ahir Dag**	**8.15**	**79**	i P		01 16 51.6	
MMLI	**Mount Malkishu**	**8.18**	**117**	P	**P**	**01 07 06.5**	**-2.7**
GLH	**Golan-Tel Qazi**	**8.21**	**115**	⇑P	**P**	**01 07 08.0**	**-1.6**
BOLS	**Boljevac**	**8.23**	**335**	⇑iPn	**P**	**01 07 09.2**	**-0.8**
BOLS				Sn	**S**	**01 08 43.8**	**+2.1**
BOLS	**Boljevac**	**8.23**	**335**	Pn	**P**	**01 07 09.1**	**-0.8**
BOLS				Sn	**S**	**01 08 43.8**	**+2.1**
MARH	**Ras Al Marh**	**8.29**	**104**	⇑P	**P**	**01 07 09.3**	**-1.5**
MARH	**Ras Al Marh**	**8.29**	**104**	⇑iP	**P**	**01 07 09.3**	**-1.4**
QASN	**Qassioun**	**8.31**	**108**	⇑P	**P**	**01 07 09.9**	**-1.1**
QASN				⇑S	rx	01 08 11.2	
QASN	**Qassioun**	**8.31**	**108**	⇑iP	**P**	**01 07 09.9**	**-1.1**
IVA	**Berane**	**8.31**	**322**	⇑iPn	**P**	**01 07 12.3**	**+1.3**
IVA				eSn	**S**	**01 08 44.4**	**+0.7**
TTG	**Podgorica**	**8.33**	**318**	⇑iPn	**P**	**01 07 10.7**	**-0.5**
TTG				eSn	**S**	**01 08 40.9**	**-3.1**
HMDT	**Nahal Hemdat**	**8.35**	**118**	⇑P	**P**	**01 07 09.3**	**-2.3**
GAZ	**Gaziantep**	**8.39**	**82**	PN	**P**	**01 07 12.4**	**+0.4**
GAZ	**Gaziantep**	**8.39**	**82**	Pn	**P**	**01 07 11.4**	**-0.6**
KZIT	**Kziot**	**8.42**	**129**	⇑P	**P**	**01 07 10.8**	**-1.6**
BUM	**Brajici-Budva**	**8.44**	**316**	⇑iPn	**P**	**01 07 11.6**	**-1.1**
BUM				eSn	**S**	**01 08 42.5**	**-4.2**
TCHB	**Talchebab**	**8.46**	**114**	⇑P	**P**	**01 07 11.6**	**-1.4**
TCHB				⇑S	rx	01 08 16.5	
TCHB	**Talchebab**	**8.46**	**114**	⇑iP	**P**	**01 07 11.6**	**-1.4**
TOTH	**TOTAH**	**8.50**	**109**	⇑P	**P**	**01 07 12.5**	**-1.0**
TOTH				⇑S	rx	01 08 15.6	
TOTH	**TOTAH**	**8.50**	**109**	⇑iP	**P**	**01 07 12.5**	**-1.0**
RTMM	**Retamin**	**8.51**	**127**	P	**P**	**01 07 11.7**	**-1.9**
GRI	**Girifalco**	**8.56**	**289**	ePn	**P**	**01 07 12.6**	**-1.6**
GRI	**Girifalco**	**8.56**	**289**	ePn	**P**	**01 07 12.6**	**-1.6**
TOKT	**Tokat**	**8.57**	**60**	i PN	**P**	**01 07 14.8**	**+0.4**
MASH	**Mash'abbe Sade**	**8.61**	**127**	P	**P**	**01 07 12.9**	**-2.0**
DRGI	**Dragot**	**8.63**	**122**	⇑P	**P**	**01 07 13.4**	**-1.9**
ISR	**Istrita**	**8.65**	**359**	⇑iP	**P**	**01 07 16.5**	**+1.0**
SVST	**Sivas**	**8.66**	**65**	i P	**P**	**01 07 16.8**	**+1.2**
SVST	**Sivas**	**8.66**	**65**	i P		01 16 52.0	
GZT	**Gaziantep**	**8.68**	**81**	i P	**P**	**01 07 15.2**	**-0.7**
GZT	**Gaziantep**	**8.68**	**81**	i P		01 16 51.9	
SOI	**Samo**	**8.71**	**284**	ePn	**P**	**01 07 14.4**	**-1.9**
NKY	**Niksic**	**8.73**	**319**	⇑iPn	**P**	**01 07 16.1**	**-0.4**
NKY				eSn	**S**	**01 08 51.4**	**-2.3**
NKY	**Niksic**	**8.73**	**319**	⇑iPn	**P**	**01 07 16.1**	**-0.5**
RABH	**Abou Rabah**	**8.74**	**100**	⇑P	**P**	**01 07 15.7**	**-1.0**
RABH	**Abou Rabah**	**8.74**	**100**	⇑iP	**P**	**01 07 15.7**	**-0.9**
SVSK	**Karacayir**	**8.74**	**64**	PN	**P**	**01 07 17.3**	**+0.6**
GRUS	**Gruza**	**8.75**	**330**	⇓iPn	**P**	**01 07 18.1**	**+1.3**

GRUS Sn S 01 09 09.7 +16
GRUS Gruza 8.75 330⇓ *i*P 01 16 50.9
HCY Herceg Novi 8.76 316⇑ *i*Pn P 01 07 15.1 -1.9
HCY *e*Sn S 01 08 49.5 -4.9
CFR Carcaliu 8.76 6⇑ *i*P P 01 07 16.9 -0.1
MZDA Masada 8.79 123⇑ P P 01 07 15.8 -1.5
TDS Terranova Siba 8.84 294 *e*Pn P 01 07 16.4 -1.6
TDS Terranova Siba 8.84 294 *e*Pn P 01 07 16.4 -1.6
MTUR Matau 8.85 352⇑ *i*P P 01 07 18.2 +0.1
CEL Celeste 8.86 285 P P 01 07 16.2 -2.1
NVSS Nova Varos 2 8.89 324⇓ *i*Pn P 01 07 18.5 -0.1
NVSS Sn S 01 08 58.4 +0.9
ORI Oriolo Calabro 8.89 297 *e*Pn P 01 07 17.3 -1.4
ORI Oriolo Calabro 8.89 297 *e*Pn P 01 07 17.3 -1.4
GMB Gambarie 8.90 284 *e*Pn P 01 07 17.1 -1.7
GMB Gambarie 8.90 284 *e*Pn P 01 07 17.1 -1.7
SVIS Svilajnac 8.90 333⇑ *i*Pn P 01 07 19.9 +1.1
PLE Pljevlja 8.90 323⇑ *i*Pn P 01 07 19.8 +1.0
PLE *e*Sn S 01 08 57.9 +0.1
MTTG Motta San Giov 8.98 283 *e*Pn P 01 07 18.0 -2.0
SCLL Scilla 9.00 285 *e*Pn P 01 07 18.3 -1.8
SCLL Scilla 9.00 285 *e*Pn P 01 07 18.3 -1.8
SALA Sala 9.01 112⇑ *i*P P 01 07 19.6 -0.7
BRY Bratogost 9.04 318⇑ *i*Pn P 01 07 19.7 -0.9
BRY *e*Sn S 01 08 57.3 -3.6
MLR Muntele Rosu 9.04 356 P P 01 07 20.7 0.0
comp=Z,1.8nm,0.3s,baz=183,slow=5.4,SNR=60
MLR S S 01 09 03.7 +2.6
comp=Z,1.8nm,0.3s,baz=228,slow=18,SNR=1.5
MLR LR LR 01 11 21.6
comp=Z,820nm,20.6s,baz=186,slow=41
MLR ScP 01 16 50.1
comp=Z,1.2nm,0.3s,baz=50,slow=0.5,SNR=7.5
MLR ScS ScS 01 20 21.3 -2.0
comp=Z,0.1nm,0.3s,baz=160,slow=9.6,SNR=3.1
MLR Muntele Rosu 9.04 356⇑ *i*P P 01 07 20.6 -0.1
MLR Muntele Rosu 9.04 356 ScS ScS 01 20 21.3 -2.0
UPM Unac-Piva 9.05 320⇑ *i*Pn P 01 07 21.3 +0.4
UPM *e*Sn S 01 09 00.1 -1.3
BRD Bordesti 9.08 1⇑ P P 01 07 25.7 +4.5
MSI Messina ING 9.12 284 *e*Pn P 01 07 19.9 -1.8
MSI Messina ING 9.12 284 *e*Pn P 01 07 19.9 -1.8
ZFRI Zfri 9.15 128⇑ P P 01 07 19.8 -2.4
PRNI Paran 9.18 129⇑ P P 01 07 20.5 -2.0
ATN Antennamare 9.18 284 *e*Pn P 01 07 21.7 -0.9
ATN Antennamare 9.18 284 *e*Pn P 01 07 21.7 -0.8
KMTI Karmit 9.18 131⇑ P P 01 07 20.2 -2.4
DIVS Divcibare 9.22 328⇓ *i*Pn P 01 07 23.9 +0.8
DIVS Divcibare 9.22 328⇓ *i*P 01 16 51.3
AGST Augusta-Monte 9.30 278 *e*Pn P 01 07 20.9 -3.3
CUC Castrocucco 9.32 295 P P 01 07 23.1 -1.4
PTRP Pietrapertosa 9.33 299 P P 01 07 24.5 -0.1
ASF Jabal al Asfar 9.39 114 P P 01 07 24.3 -1.1
comp=Z,34nm,0.3s,baz=173,slow=5.7,SNR=192
ASF S S 01 08 57.2 -12
comp=Z,28nm,0.3s,baz=86,slow=7.8,SNR=6.8
ASF ScP 01 16 53.3
comp=Z,1.0nm,0.3s,baz=102,slow=1.5,SNR=3.3
ASF ScS ScS 01 20 24.5 +0.6
comp=Z,0.2nm,0.3s,baz=224,slow=23,SNR=2.2
VRI Vrincioaia 9.39 360 P P 01 07 26.8 +1.4
VRI Vrincioaia 9.39 360⇑ *i*P P 01 07 25.9 +0.5
SSY Sortino 9.42 278 P P 01 07 22.8 -3.0
MYA Malataya 9.44 75 PN P 01 07 26.8 +0.8
MBH Mount Berech 9.52 132 P P 01 07 25.0 -2.1
PZI Palazzolo 9.52 277 *e*Pn P 01 07 24.5 -2.6
MEU Monte Lauro 9.54 277 *e*Pn P 01 07 25.8 -1.5
MGR Morigerati 9.56 296 *e*Pn P 01 07 25.6 -2.0
SLCN Sala Consilina 9.59 297 *e*Pn P 01 07 27.1 -0.8
SLCN Sala Consilina 9.59 297 *e*Pn P 01 07 27.1 -0.9
EIL Elat 9.63 132 P P 01 07 26.2 -2.3
BEO Belgrade 9.63 332⇑ *i*Pn P 01 07 29.2 +0.7
SLNA Salina 9.73 286 *e*Pn P 01 07 27.6 -2.2
MNO Monte Soro 9.76 282 *e*Pn P 01 07 29.6 -0.7
MNO Monte Soro 9.76 282 *e*Pn P 01 07 29.6 -0.6
MRLC Muro Lucano 9.83 299 *e*Pn P 01 07 29.2 -1.8
SGO Sicignano 9.88 298 *e*Pn P 01 07 30.5 -1.4
SGO Sicignano 9.88 298 *e*Pn P 01 07 30.5 -1.3
ELZG Elazig 9.90 75 *i*P P 01 07 33.4 +1.3
ELZG Elazig 9.90 75 *i*P 01 16 53.2
FGMS Monte Sant'Ang 9.91 305 *e*Pn P 01 07 30.5 -1.7
FGMS Monte Sant'Ang 9.91 305 *e*Pn P 01 07 30.5 -1.7
WDD Wield Dalam 9.94 270 P P 01 07 30.5 -2.1
FG4 Candela 9.95 301 *e*Pn P 01 07 31.4 -1.4
FG4 Candela 9.95 301 *e*Pn P 01 07 31.4 -1.4
VAE Valguarnera 9.96 280 P P 01 07 33.3 +0.5
comp=Z,22nm,0.3s,baz=293,slow=3.9,SNR=132
VAE S S 01 09 11.8 -11
comp=Z,94nm,0.3s,baz=347,slow=4.5,SNR=13
VAE ScP 01 16 54.0
baz=62,slow=7.0,SNR=3.4
VAE ScS ScS 01 20 28.8 +3.9
comp=Z,0.3nm,0.3s,baz=216,slow=14,SNR=2.6
HAQS Haql 10.07 135 P P 01 07 32.9 -1.4
JMOS Jabal al Moall 10.09 134 P P 01 07 33.1 -1.5
QURS Qurayyt al Mil 10.11 117 P P 01 07 35.2 +0.4
SIM Simferopol' 10.13 31⇓ *i*P P 01 07 34.7 -0.4
SIM S S 01 09 27.0 0.0
SIM pmax pmax
comp=Z,360nm,2.1s
SIM pmax pmax
comp=Z,56nm,0.8s
HOPOS Hopovo Monaste 10.13 331⇑ *i*Pn P 01 07 35.8 +0.6
RGNG Rignano Grg 10.14 304 *e*Pn P 01 07 31.9 -3.4
FG5 Orsara di Pugl 10.19 302 *e*Pn P 01 07 34.6 -1.2
FG5 Orsara di Pugl 10.19 302 *e*Pn P 01 07 34.7 -1.2
CSLB Castelbuono 10.26 282 *e*Pn P 01 07 35.9 -1.0
CSLB Castelbuono 10.26 282 *e*Pn P 01 07 35.9 -1.0
GIB Gibilmanna 10.29 282 *e*Pn P 01 07 36.4 -0.9
GIB Gibilmanna 10.29 282 *e*Pn P 01 07 36.4 -0.9
MRB1 Monte Rocchett 10.33 300 *e*Pn P 01 07 36.5 -1.2
MRB1 Monte Rocchett 10.33 300 *e*Pn P 01 07 36.5 -1.2
TAYS Tayyib Ism 10.43 137 P P 01 07 37.5 -1.6
PSB1 Pescosannita 10.48 301 P P 01 07 38.6 -1.1
FG2 Serracapriola 10.49 304 *e*Pn P 01 07 39.1 -0.7
FG2 Serracapriola 10.49 304 *e*Pn P 01 07 39.1 -0.7
FAVR Favara 10.55 278 *e*Pn P 01 07 40.8 +0.2
FAVR Favara 10.55 278 *e*Pn P 01 07 40.8 +0.2
VTB1 Vitulano 10.59 300 P P 01 07 40.0 -1.2
CIGN Sant'Elia a Pi 10.59 303 P P 01 07 40.6 -0.6
OVO Vesuviano 10.62 298 *e*Pn P 01 07 40.7 -1.0
OVO Vesuviano 10.62 298 *e*Pn P 01 07 40.7 -0.9
KIS Kishinev 10.63 8 *e*P P 01 07 40.0 -1.7
BDAS Al Bad' 10.65 136 P P 01 07 40.8 -1.2
GUMT Gumushane 10.72 64 PN P 01 07 43.7 +0.8
JMQS Jabal Moqyreh 10.75 132 P P 01 07 42.5 -0.9
EZC Erzincan 10.77 68 *i*PN P 01 07 39.9 -3.7
SGG Gregorio Mates 10.84 301 *e*Pn P 01 07 43.5 -1.0
SGG Gregorio Mates 10.84 301 *e*Pn P 01 07 43.5 -1.0
CLTB Caltabellotta 10.91 280 *e*Pn P 01 07 45.8 +0.4
AYUS 'Aynunah 10.93 137 P P 01 07 44.1 -1.5
CII Carovilli 11.03 302 *e*Pn P 01 07 47.4 +0.4
CII Carovilli 11.03 302 *e*Pn P 01 07 47.4 +0.4
USI Ustica 11.03 286 *e*Pn P 01 07 44.4 -2.6
CRJA Costa Raja 11.09 281 *e*Pn P 01 07 48.8 +1.1
CRJA Costa Raja 11.09 281 *e*Pn P 01 07 48.8 +1.0
MMGO Monte Magaggia 11.10 280 P P 01 07 48.3 +0.3
BINT Bingol 11.12 73 PN P 01 07 49.2 +1.0
RNI2 Rionero Sannit 11.12 302 P P 01 07 47.6 -0.6
MFNL Monte Finestre 11.15 281 *e*Pn P 01 07 49.3 +0.7
MFNL Monte Finestre 11.15 281 *e*Pn P 01 07 49.3 +0.7
MTGR Montagna Grand 11.29 281 P P 01 07 50.1 -0.3
VENT Ventotene 11.31 297 P P 01 07 49.0 -1.7
SDI San Donato 11.36 301 *e*Pn P 01 07 50.4 -0.9
SDI San Donato 11.36 301 *e*Pn P 01 07 50.4 -1.0
RHK3 Tenkes 11.39 328 *e*P P 01 07 51.0 -0.8
INTR Introdacqua 11.42 303 *e*Pn P 01 07 49.5 -2.6
ERC Erice 11.43 282 *e*Pn P 01 07 52.0 -0.3
ERC Erice 11.43 282 *e*Pn P 01 07 52.0 -0.3
PKS6 Bocsa 11.48 334 *e*P P 01 07 52.8 0.0
PKSM Moragy 11.50 330⇑ *i*P P 01 07 52.8 -0.3
LPD Lampedusa 11.54 269 P P 01 07 54.8 +1.1
VVLD Villa Vallelon 11.55 302 P P 01 07 53.1 -0.8
ANN Anapa 11.60 41 *d i*P P 01 07 52.9 -1.5
ANN pmax pmax
comp=Z,80nm,0.8s
LVI Isola Levanzo 11.62 282 *e*Pn P 01 07 53.9 -1.0
PKSN Nyarlorinc 11.63 336⇑ *e*P P 01 07 55.7 +0.8
RHK1 Bakonya 11.63 328⇑ *e*P P 01 07 54.1 -0.8
TBKS Tabuk 11.64 132 P P 01 07 54.9 -0.2
BEST Besiri 11.64 79 *i*P P 01 07 56.9 +1.9

BEST Besiri 11.64 79 *i*P 01 16 56.0
PTQR Pietraquaria 11.77 302 *e*Pn P 01 07 56.3 -0.4
TERO Teramo 11.89 305 *e*Pn P 01 07 56.8 -1.5
PTS Pantelleria 11.89 276 P P 01 07 58.5 +0.2
AQU L'Aquila 11.90 304 *e*P P 01 07 59.0 +0.5
AQU pmax pmax
comp=Z,350nm,1.0s
AQU L'Aquila 11.90 304 *e*Pn P 01 07 58.6 +0.2
AQU L'Aquila 11.90 304 *e*Pn P 01 07 58.7 +0.2
SISC Sisak 11.95 322 *i*Pn P 01 07 58.1 -0.9
PKS9 Tamasi 11.95 330⇓ *e*P P 01 07 59.2 +0.2
EZM Erzurum 11.97 69 PN P 01 08 00.6 +1.3
ERZM Erzurum 11.97 69 *i*P P 01 08 01.4 +2.0
ERZM Erzurum 11.97 69 *i*P 01 16 56.8
CERT Cerreto 12.03 301 *e*Pn P 01 07 58.8 -1.3
PKS8 Sarbogard 12.04 332⇑ *e*P P 01 07 59.9 -0.3
KMPD K-Podol'skiy 12.09 359 P P 01 08 00.0 -0.9
NVLJ Novalja 12.14 315 *i*Pn P 01 07 59.2 -2.4
NVLJ *i*Sn S 01 10 08.6 -6.0
MA9 Marino 12.18 300 P P 01 08 02.5 +0.4
SOC Sochi 12.19 50 *e*P P 01 08 00.3 -1.9
SOC *e*S S 01 10 12.0 -3.6
SOC pmax pmax
comp=Z,555nm,3.2s
SOC pmax pmax
comp=N,239nm,2.5s
SOC pmax pmax
comp=E,518nm,3.4s
SOC pmax pmax
comp=E,60nm,0.6s
SOC pmax pmax
comp=Z,62nm,0.6s
SOC pmax pmax
comp=N,44nm,0.5s
SOC smax
comp=N,190nm,2.1s
NRCA Norcia 12.30 305 *e*Pn P 01 08 03.6 -0.1
AOI Ancona 12.33 309 P P 01 08 02.0 -2.1
MNS Montasola 12.40 303 *e*Pn P 01 08 01.0 -4.0
BUD Budapest 12.43 335⇓ *e*P P 01 08 06.4 +1.1
CING Cingoli 12.50 308 *e*Pn P 01 08 04.4 -1.9
PSZ Piszkesteto 12.53 338⇑ *e*P P 01 08 06.9 +0.3
PSZ *i* 01 08 14.8
PSZ Piszkesteto 12.53 338 *e*P P 01 08 06.4 -0.2
PSZ pmax pmax
comp=Z,550nm,0.9s
PKSG 12.57 333⇑ *e*P P 01 08 07.0 -0.2
UZH Uzhgorod 12.60 346⇓ *i*P P 01 08 10.0 +2.5
UZH *e*S S 01 10 37.0 +12
GCIS Gornji Cirnik 12.60 322 *e*Pn P 01 08 06.3 -1.3
GCIS *e*P 01 08 09.3
GCIS Gornji Cirnik 12.60 322 *e*P P 01 08 09.3 +1.7
PENC Penc 12.61 336⇓ *e*P P 01 08 08.3 +0.7
CRES Cresnjev 12.65 321 *e*Pn P 01 08 06.8 -1.5
CRES *e* 01 08 11.6
GOLS Golise 12.70 322 *e*PKPdf 01 16 56.0
GOLS Golise 12.70 322 P P 01 08 08.5 -0.3
ARV Arcevia 12.72 308 *e*Pn P 01 08 07.9 -1.3
TOLF Tolfa 12.75 301 *e*Pn P 01 08 08.8 -0.7
DOBS Dobrina 12.87 322 P P 01 08 10.8 -0.3
KECS Kecovo 12.87 341 *e*PN P 01 08 11.8 +0.7
KECS *e* 01 08 19.4
KECS *e*SCP 01 16 55.2
MURB Monte Urbino 12.88 306 *e*Pn P 01 08 11.9 +0.7
MURB Monte Urbino 12.88 306 *e*Pn P 01 08 11.9 +0.7
SRO2 Moca 12.88 334 *e*PN P 01 08 13.6 +2.4
SRO2 *e* 01 08 18.5
SRO2 Kolonicke sedl 12.89 347 *e*PN P 01 08 12.2 +0.9
KOLS *e* 01 08 19.5
KOLS *e*SCP 01 16 55.3
KOLS *e* 01 20 42.7
FSSB Fossombrone 12.92 308 *e*Pn P 01 08 10.8 -1.0
SRO1 Iza 12.94 333 *e*PN P 01 08 12.7 +0.7
SRO1 *e* 01 08 19.4
VISS Visnje 12.95 320 *e*Pn P 01 08 10.7 -1.5
VISS *e* 01 08 13.9
VISS *i* 01 08 19.5
VISS Visnje 12.95 320 *e*PKPdf 01 16 55.9
SRO Srobarova 12.96 334 *e*PN P 01 08 13.8 +1.6
SRO *e* 01 08 19.1
MBZ Menzel Bouzelf 12.96 276 *i*P P 01 08 13.5 +1.2
PESA Pesaro 13.01 309 P P 01 08 14.6 +1.8
KNDS Knezji Dol 13.02 318 *i*PKPdf 01 16 56.0
PDKS Podkum 13.06 321 *i*PKPdf 01 16 56.5
PDKS Podkum 13.06 321 P P 01 08 14.1 +0.6
CEY Cerknica 13.13 319 *e*Pn P 01 08 13.1 -1.4
CEY *e*P 01 08 17.5
CEY *i* 01 08 21.5
CEY *e* 01 10 35.8
CEY *e* 01 10 53.7
CEY *e* 01 10 58.8
CEY Cerknica 13.13 319 *e*PKPdf 01 16 56.3
CEY *e* 01 20 36.2
RSM Repubblica di 13.25 309 *e*Pn P 01 08 16.6 +0.7
RSM Repubblica di 13.25 309 *e*Pn P 01 08 16.6 +0.7
LJU Ljubljana 13.28 320 *e*Pn P 01 08 15.2 -1.1
LJU *e* 01 08 18.4
LJU *e*P 01 08 22.8
LJU *e* 01 10 42.8
LJU *e* 01 10 57.2
LJU Ljubljana 13.28 320 *e*PKPdf 01 16 56.8
LJU Ljubljana 13.28 320 *e*Pn P 01 08 15.2 -1.1
LJU *e*P 01 08 22.8
LJU *e* 01 10 42.8
TVAN Van 13.36 76 *i*P P 01 08 19.1 +1.8
PERS Pernice 13.39 323 *e*PKPdf 01 16 56.9
PERS Pernice 13.39 323 P P 01 08 18.7 +1.0
KARS Kars 13.41 67 PN P 01 08 20.0 +1.9
CRE Caprese Michel 13.42 307 *e*Pn P 01 08 18.9 +0.8
CRE Caprese Michel 13.42 307 *e*Pn P 01 08 18.9 +0.8
ZGN Zaghouan 13.45 275 *i*P P 01 08 19.5 +1.0
TRI Trieste 13.47 317 *e*Pn P 01 08 17.2 -1.5
MAON Monte Argentar 13.48 301 *e*Pn P 01 08 18.6 -0.3
KWP Kalwaria 13.49 349⇑ *e*P P 01 08 19.9 +0.9
KWP *e* 01 08 26.9
KWP Kalwaria 13.49 349⇑ *e*P P 01 08 19.9 +0.9
KWP *e* 01 08 26.9
LVV L'vov 13.50 352⇓ *i*P P 01 08 23.9 +4.8
LVV *i*S S 01 11 06.8 +21
SOP Sopron 13.53 329⇑ *e*P P 01 08 19.8 +0.4
OBKA Obir 13.58 321⇑ *i*P P 01 08 19.2 -0.9
comp=Z,617nm,1.1s
OBKA Obir 13.58 321⇓ *i*P 01 16 57.0
KOLL Kolacno 13.58 336 *e*PN P 01 08 20.2 +0.1
KOLL *e* 01 08 26.0
KOLL *e*SCP 01 16 56.6
VOY Vojsko 13.60 319 *e*P P 01 08 19.0 -1.4
VOY *e* 01 08 22.2
SFI Santa Sofia 13.62 308 *e*Pn P 01 08 22.2 +1.6
SFI Santa Sofia 13.62 308 *e*Pn P 01 08 22.2 +1.6
ARSA Arzberg 13.64 326⇑ *i*P P 01 08 20.8 -0.1
comp=Z,514nm,1.4s
PGD Poggio Sodo 13.68 307 *e*Pn P 01 08 22.7 +1.2
PGD Poggio Sodo 13.68 307 *e*Pn P 01 08 22.7 +1.2
ZST Bratislava 13.72 332 *e*PN P 01 08 22.8 +0.8
ZST *e* 01 08 27.0
ZST *e*SCP 01 16 57.1
LIKS Likavka 13.78 338 *e*PN P 01 08 28.9 +6.3
NIE Niedzica 13.78 342 *e*P P 01 08 23.2 +0.5
NIE *e* 01 08 30.0
NIE *e*S S 01 11 10.1 +17
CSNT Castellina Chi 13.78 305 *e*P P 01 08 23.1 +0.3
CSNT Castellina Chi 13.78 305 *e*P P 01 08 23.1 +0.4
VMG Vicchio 13.84 307 *e*P P 01 08 25.2 +1.8
VMG Vicchio 13.84 307 *e*P P 01 08 25.2 +1.8
GRFL Gerfalco 13.86 304 *e*P P 01 08 24.1 +0.4
GRFL Gerfalco 13.86 304 *e*P P 01 08 24.1 +0.4
MART Mareth 13.86 263 *i*P P 01 08 22.5 -1.3
SMOL Smolenice 13.87 333 *e*PN P 01 08 27.1 +3.3
SMOL *e* 01 08 28.9
SMOL *e*SCP 01 16 57.0
COLL Coloredo 13.94 318⇑ *i*P P 01 08 25.0 +0.2
ROBS Robic 13.94 319 P P 01 08 24.9 +0.1
TROT Trozza 13.95 271 *i*P P 01 08 25.5 +0.6
TLI Talmassons 13.96 317⇑ *i*P P 01 08 25.0 0.0
SEI Scarperia 14.00 308 *e*P P 01 08 27.3 +1.8
SEI Scarperia 14.00 308 *e*P P 01 08 27.3 +1.8
DGI Dorgali Grotta 14.02 291 P P 01 08 25.9 +0.2
JAVC Velka Javorina 14.07 334 P P 01 08 28.0 +1.6
JAVC Velka Javorina 14.07 334 *e*P P 01 08 26.7 +0.3

BAD Bernadia 14.08 318⇓ *i*P P 01 08 27.0 +0.5
VKA Vienna 14.09 330⇑ *i*P P 01 08 26.3 -0.3
comp=Z,896nm,3.0s
VKA *i* 01 08 30.7
comp=Z,746nm,1.0s
GMNA Gemona 14.11 318 *e*P P 01 08 27.0 +0.1
PTCC Patocco-Chiusa 14.13 319 *e*P P 01 08 26.8 -0.4
PTCC Patocco-Chiusa 14.13 319 *e*P P 01 08 26.8 -0.4
BUA Buia 14.13 318⇑ *i*P P 01 08 28.0 +0.8
FNVD Fontana Vidola 14.20 308 *e*P P 01 08 27.6 -0.5
FNVD Fontana Vidola 14.20 308 *e*P P 01 08 27.6 -0.5
MPRI Monte Prat 14.22 318⇓ *e*P P 01 08 27.0 -1.3
KIV Kislovodsk 14.25 53 *e*P P 01 08 29.1 +0.4
KIV pmax pmax
comp=Z,300nm,1.0s
KIV MLR MLR
comp=Z,500nm,22.0s
KIV Kislovodsk 14.25 53 *e*P P 01 08 28.6 -0.2
comp=Z,253nm,0.7s
KIV *e*S S 01 11 16.9 +13
KIV *e*ScP 01 16 58.5
KIV Kislovodsk 14.25 53 *e*P P 01 08 28.6 -0.1
comp=Z,253nm,0.7s
KRIT Krib 14.27 275 *i*P P 01 08 30.5 +1.4
AKASG Malin Array Be 14.34 6 P P 01 08 28.9 -0.8
comp=Z,11nm,0.3s,baz=191,slow=11,SNR=145
AKASG S S 01 11 05.4 -0.2
baz=180,slow=10,SNR=2.1
AKASG ScP 01 16 57.2
comp=Z,8.3nm,0.3s,baz=207,slow=1.1,SNR=52
AKASG ScS ScS 01 20 32.3 -1.9
comp=Z,0.4nm,0.3s,baz=216,slow=8.2,SNR=7.3
AKASG Malin Array Be 14.34 6 P P 01 08 29.0 -0.8
AKASG pmax pmax
comp=N,8.0nm,0.3s
AKASG pmax pmax
comp=Z,11nm,0.3s
UMJS Umm Lajj 14.37 138 P P 01 08 31.9 +1.4
ZCCA Zocca 14.38 308 *e*P P 01 08 32.5 +2.2
ZCCA Zocca 14.38 308 *e*P P 01 08 32.5 +2.1
CAE Caneva 14.38 316⇓ *e*P P 01 08 30.0 -0.4
PII Pisa 14.39 305 *e*P P 01 08 30.0 -0.5
RAVA Ravarino 14.48 310 P P 01 08 33.5 +1.8
BDI Bagni Di Lucca 14.49 307 *e*P P 01 08 31.2 -0.6
FVI Forni Avoltri 14.56 318 *e*P P 01 08 32.4 -0.2
FVI Forni Avoltri 14.56 318 *e*P P 01 08 32.4 -0.2
KBA Koelnbreinsper 14.57 321⇑ *i*P P 01 08 34.1 +1.3
comp=Z,3μm,1.2s
KBA Koelnbreinsper 14.57 321⇑ *i*P 01 16 58.3
GSCL Gusciola 14.63 308 *e*P P 01 08 34.3 +0.8
OJC Ojcow 14.65 342 *e*P P 01 08 34.1 +0.4
OJC *e* 01 08 39.0
OJC Ojcow 14.65 342 *e*P P 01 08 34.1 +0.4
OJC *e* 01 08 39.0
MOA Molln 14.66 325⇑ *i*P P 01 08 34.9 +1.0
comp=Z,2μm,3.2s
MOA Molln 14.66 325⇑ *i*P 01 16 58.2
SMPL Sampolo 14.67 298 P P 01 08 34.5 +0.4
VLC Villacollemand 14.67 307 *e*P P 01 08 33.0 -1.1
comp=Z,530nm,1.1s
VLC Villacollemand 14.67 307 *e*P P 01 08 33.0 -1.1
comp=Z,530nm,1.1s
CGRP Cima Grappa 14.67 314⇓ *i*P P 01 08 35.0 +0.9
KRUC Moravsky 14.70 332 P P 01 08 35.0 +0.6
KRUC Moravsky 14.70 332 *e*P P 01 08 33.7 -0.7
OKC Ostrava-Krasne 14.76 338⇑ *i*P P 01 08 35.8 +0.6
OKC *i*SCP 01 16 59.0
ERBM Eremo 14.77 308 *e*P P 01 08 36.4 +1.1
ERBM Eremo 14.77 308 *e*P P 01 08 36.4 +1.1
FAU Forcella Aurin 14.77 316⇓ *e*P P 01 08 35.0 -0.3
BHD Baghdad 14.79 97 *e*P P 01 08 34.0 -1.6
VINC Vinca 14.81 306 P P 01 08 35.4 -0.5
VINC Vinca 14.81 306 P P 01 08 35.4 -0.5
VRAC Vranov 14.83 333 P P 01 08 36.3 +0.2
comp=Z,30nm,0.3s,baz=140,slow=11,SNR=95
VRAC ScP 01 16 59.0
comp=Z,0.9nm,0.3s,baz=119,slow=3.5,SNR=14
VRAC Vranov 14.83 333 *e*P P 01 08 36.0 -0.1
AFL Alpe Faloria 14.84 317⇑ *i*P P 01 08 37.0 +0.8
VALM 14.84 307 P P 01 08 36.2 -0.1
VALM 14.84 307 P P 01 08 36.2 -0.1
CTI Castel Tesino 14.85 315 *e*P P 01 08 35.6 -0.8
CTI Castel Tesino 14.85 315 *e*P P 01 08 35.6 -0.8
TI2 Plekhanov 14.90 64 *e*P P 01 08 39.0 +2.0
TI2 pmax pmax
comp=N,4μm,6.0s
MORC Moravsky Berou 14.90 336 *e*P P 01 08 37.5 +0.5
MORC pmax pmax
comp=Z,610nm,1.0s
MORC Moravsky Berou 14.90 336 *e*P P 01 08 37.5 +0.5
comp=Z,354nm,1.0s
MORC *e* 01 08 41.2
MORC *e*ScP 01 16 59.0
MORC Moravsky Berou 14.90 336 *e*P P 01 08 37.4 +0.4
BACM 14.93 307 P P 01 08 36.7 -0.6
BACM 14.93 307 P P 01 08 36.7 -0.6
SEST Monte Rota 14.96 318 P P 01 08 37.4 -0.3
DUS Dusheti 14.96 62⇓ *i*P P 01 08 39.2 +1.5
RAC Raciborz 14.97 338 *e*P P 01 08 37.4 -0.4
RAC Raciborz 14.97 338 *e*P P 01 08 37.4 -0.4
GOF Gofitskoye 14.99 50⇓ *i*P P 01 08 39.5 +1.4
GOF pmax pmax
comp=Z,200nm,1.2s
PGF Pioggiola 15.01 299⇑ *i*P P 01 08 37.8 -0.5
comp=Z,3μm,1.3s
PGF Pioggiola 15.01 299 *e*PKP1 01 16 58.9
comp=Z,77nm,1.1s
GRAM 15.02 307 P P 01 08 38.4 -0.1
GRAM 15.02 307 P P 01 08 38.4 -0.1
KBRS Khaybar 15.06 131 P P 01 08 40.5 +1.4
CODM 15.12 307 P P 01 08 39.2 -0.5
CODM 15.12 307 P P 01 08 39.2 -0.5
SAL Salo 15.27 312 *e*P P 01 08 41.9 +0.2
SAL Salo 15.27 312 *e*P P 01 08 41.9 +0.2
DGRG David-gareji 15.28 65⇑ *i*P P 01 08 43.8 +2.0
APPI Appiano 15.34 316 P P 01 08 44.0 +1.5
YNBS Yanbu' al Bahr 15.46 138 P P 01 08 45.8 +1.7
MABI Malga Bissina 15.52 313 *e*P P 01 08 44.9 +0.2
MABI Malga Bissina 15.52 313 *e*P P 01 08 44.9 +0.2
BOB Bobbio (Coli) 15.54 308 *e*P P 01 08 45.5 +0.5
BOB Bobbio (Coli) 15.54 308 *e*P P 01 08 45.5 +0.5
ABSA Djebel Ababsia 15.56 275 P P 01 08 48.0 +2.7
CMAH Djebel Manchou 15.57 276 P P 01 08 47.0 +1.5
WTTA Wattenberg 15.59 318⇑ *i*P P 01 08 46.4 +0.8
comp=Z,3μm,2.5s
HILS Ha'il 15.61 121 P P 01 08 48.2 +2.2
GEC2 GERESS Array S 15.65 326 *e*P P 01 08 47.4 +1.1
GEC2 pmax pmax
comp=Z,802nm,1.1s
GEC2 GERESS Array S 15.65 326 *e*P P 01 08 47.4 +1.1
comp=Z,802nm,1.1s
GEC2 *e*ScP 01 17 00.2
GEC2 *e*ScS ScS 01 20 36.4 -1.2
GERES GERESS Array B 15.65 326 P P 01 08 46.5 +0.2
comp=Z,7.1nm,0.3s,baz=139,slow=10,SNR=678
GERES ScP 01 16 60.0
comp=Z,4.1nm,0.3s,baz=157,slow=2.5,SNR=51
GERES GERESS Array B 15.65 326 P P 01 08 46.5 +0.2
GERES pmax pmax
comp=N,4.0nm,0.3s
GERES pmax pmax
comp=Z,7.0nm,0.3s
WATA Walderalm 15.66 319⇑ *i*P P 01 08 47.9 +1.4
comp=Z,1μm,1.2s
WATA Walderalm 15.66 319⇑ *i*P 01 17 00.4
GENL Genova Univers 15.70 306 P P 01 08 45.3 -1.6
GENL Genova Univers 15.70 306 P P 01 08 45.3 -1.6
SQTA Sankt Quirin 15.79 318⇑ *i*P P 01 08 49.2 +1.1
comp=Z,395nm,1.0s
DPC Dobruska-Polom 15.80 335⇑ *i*P P 01 08 48.9 +0.7
DPC *i*SCP 01 17 00.8
BRMO Bormio 15.83 314 *e*P P 01 08 49.7 +1.1
BRMO Bormio 15.83 314 *e*P P 01 08 49.7 +1.1
KHC Kasperske Hory 15.91 327⇑ *i*P P 01 08 50.5 +0.9
KHC *i*SCP 01 17 00.5
MOTA Moosalm 15.92 318⇓ *i*P P 01 08 50.7 +1.0
comp=Z,355nm,1.2s
FUORN Ofenpass 15.97 315⇑ *e*Pn P 01 08 51.1 +0.8
comp=Z,2μm,1.3s
BERNI Berninapass 16.00 314⇑ *e*Pn P 01 08 51.6 +0.9
comp=Z,2μm,1.3s
PCP Pian Castagno 16.03 306 P P 01 08 49.2 -1.9
PCP Pian Castagno 16.03 306 P P 01 08 49.2 -1.9

UPC Upice 16.04 334⇑*i*P P 01 08 51.6 +0.4
UPC *i* SCP 01 17 01.4
FIN Finale Ligure 16.12 304 *e*P P 01 08 50.1 -2.2
FIN Finale Ligure 16.12 304 *e*P P 01 08 50.1 -2.1
PRU Pruhonice 16.17 331⇑*i*P P 01 08 52.8 0.0
PRU pmax pmax
comp=Z,423nm,0.9s
PRU Pruhonice 16.17 331⇑*i*P P 01 08 52.8 0.0
comp=Z,423nm,0.9s
PRU *i* x x 01 09 05.6
PRU *i* SCP 01 17 01.2
comp=Z,83nm,1.7s
RORO 16.18 304 P P 01 08 51.5 -1.4
RORO 16.18 304 P P 01 08 51.5 -1.5
IMI Imperia 16.23 303 *e*P P 01 08 53.0 -0.6
IMI Imperia 16.23 303 *e*P P 01 08 53.0 -0.5
KSP Ksiaz 16.23 336⇑*e*P P 01 08 54.1 +0.6
KSP *e*S S 01 11 51.0 +2.2
KSP Ksiaz 16.23 336⇑*e*P P 01 08 54.7 +1.2
WET Wettzell 16.24 326 *e*P P 01 08 54.3 +0.7
WET pmax pmax
comp=Z,1μm,1.5s
WET Wettzell 16.24 326 *e*P P 01 08 54.3 +0.7
comp=Z,1μm,1.5s
WET *e*ScP 01 17 01.3
DAVOX Davos 16.28 315 P P 01 08 55.0 +0.9
comp=Z,18nm,0.3s,baz=132,slow=12,SNR=255
DAVOX S S 01 11 50.3 +0.4
comp=Z,0.8nm,0.3s,baz=326,slow=23,SNR=1.9
DAVOX ScP 01 17 01.6
comp=Z,1.8nm,0.3s,baz=136,slow=2.9,SNR=11
DAVOX ScS ScS 01 20 38.7 -0.7
comp=Z,0.5nm,0.3s,baz=334,slow=12,SNR=15
DAVOX Davos 16.28 315 P P 01 08 55.0 +0.9
DAVOX S S 01 11 50.3 +0.4
DAVOX ScP 01 17 01.6
DAVOX ScS ScS 01 20 38.7 -0.7
WAR Warsaw 16.29 347 *e*P P 01 08 55.0 +0.7
WAR *e* 01 08 56.4
WAR Warsaw 16.29 347 *e*P P 01 08 55.0 +0.7
WAR *e* 01 08 56.4
NEGI Negi 16.33 303 P P 01 08 54.8 0.0
NEGI Negi 16.33 303 P P 01 08 54.8 0.0
MUGIO Muggio 16.33 311⇑*i*Pn P 01 08 53.6 -1.2
comp=Z,1μm,1.0s
FUR Furstenfeldbru 16.34 320 *e*P P 01 08 55.0 0.0
FUR pmax pmax
comp=Z,2μm,0.9s
FUR Furstenfeldbru 16.34 320 *e*P P 01 08 55.0 0.0
comp=Z,2μm,0.9s
FUR *e*ScP 01 17 01.8
CASM Ain Smara 16.36 275 P P 01 08 57.5 +2.3
VDL Val di Lei 16.36 313⇑*e*Pn P 01 08 56.2 +1.0
comp=Z,881nm,1.0s
VDL Val di Lei 16.36 313 ⇑P P 01 08 56.4 +1.2
MONE Monesi 16.38 304 P P 01 08 54.7 -0.7
MONE Monesi 16.38 304 P P 01 08 54.7 -0.7
ROB Roburent 16.38 304 P P 01 08 54.6 -0.8
ROB Roburent 16.38 304 P P 01 08 54.6 -0.8
CTEI Djebel Teioual 16.45 275 P P 01 08 58.5 +2.1
VAI Varese 16.47 310 *e*P P 01 08 55.9 -0.7
VAI Varese 16.47 310 *e*P P 01 08 55.9 -0.7
SAOF Saorge 16.48 303⇑*e*P P 01 08 56.5 -0.2
SBF Sospel 16.52 303⇑*i*P P 01 08 57.1 0.0
comp=Z,2μm,0.8s
SBF Sospel 16.52 303 *e*PKP1 01 17 02.5
comp=Z,216nm,0.9s
REVF Revere 16.52 302⇑*e*P P 01 08 57.0 -0.2
DAVA Damuels 16.56 316⇑*i*P P 01 08 58.6 +0.9
comp=Z,2μm,1.7s
AUTN L'Aution 16.57 303 *e*P P 01 08 58.0 +0.2
PVCC Panska Ves 16.59 332⇑*i*P P 01 08 58.0 0.0
PVCC *i* SCP 01 17 02.5
AURF Auriere 16.60 302⇑*e*P P 01 08 58.2 +0.1
ENR Entracque 16.65 304 P P 01 08 59.0 +0.2
ENR Entracque 16.65 304 P P 01 08 59.0 +0.2
UBR Uberruh 16.66 317⇑*e*P P 01 08 59.7 +0.8
UBR Uberruh 16.66 317⇑*e*P 01 17 02.4
KMKR Kumukh 16.69 64 *e*P P 01 09 01.0 +1.7
TOUF Mont Tournerai 16.69 303⇑*e*P P 01 08 59.9 +0.6
PLONS Plons 16.71 315⇑*i*Pn P 01 09 00.3 +0.8
comp=Z,1μm,1.1s
MVIF Mont Vial 16.72 302⇑*e*P P 01 09 00.1 +0.5
STV Sta Anna Valdi 16.72 304 P P 01 08 59.9 +0.2
STV Sta Anna Valdi 16.72 304 P P 01 08 59.9 +0.2
STV2 Anna di Valdie 16.72 304 P P 01 08 59.0 -0.7
STV2 Anna di Valdie 16.72 304 P P 01 08 59.0 -0.7
KAMOR Kamor 16.78 315⇑*i*Pn P 01 09 01.0 +0.6
comp=Z,1μm,0.9s
DFRA Djebel Bou Aff 16.82 277 P P 01 09 03.5 +2.6
LLS Linth-Limmern 16.82 314⇑*i*Pn P 01 09 02.0 +1.2
comp=Z,886nm,0.8s
CALF Calern 16.83 302 P P 01 09 01.0 0.0
CALN Calern 16.85 302⇑*e*P P 01 09 01.5 +0.2
ORO Oropa 16.85 309 P P 01 08 58.5 -2.7
ORX Oropa 16.85 309 P P 01 09 00.6 -0.6
ORX Oropa 16.85 309 P P 01 09 00.6 -0.7
CMER Merouana 16.92 273 P P 01 09 05.0 +2.9
TRAV 16.95 308 P P 01 08 59.7 -2.7
FRF La Foret Royal 16.96 301⇑*i*P P 01 09 02.0 -0.6
comp=Z,1μm,1.0s
FRF La Foret Royal 16.96 301 *e*PKP1 01 17 03.7
comp=Z,121nm,0.8s
PZZ Prazzo 16.97 304 P P 01 09 01.6 -1.0
PZZ Prazzo 16.97 304 P P 01 09 01.6 -1.1
BHB Bricherasio 16.99 306 P P 01 09 01.0 -1.9
BHB Bricherasio 16.99 306 P P 01 09 01.0 -1.9
LMR La Mourre 16.99 300⇑*i*P P 01 09 01.0 -1.9
comp=Z,694nm,1.1s
LMR La Mourre 16.99 300 *e*PKP1 01 17 03.5
MCGN Macugnaga 17.00 310 *e*P P 01 09 01.4 -1.6
MCGN Macugnaga 17.00 310 *e*P P 01 09 01.4 -1.6
MMK Mattmark 17.05 310⇑*i*Pn P 01 09 02.5 -1.2
comp=Z,1μm,0.8s
MMK Mattmark 17.05 310 ⇑P P 01 09 02.6 -1.1
MUO Muotathal 17.10 313⇑*i*Pn P 01 09 04.8 +0.5
comp=Z,2μm,1.1s
BRG Berggiesshubel 17.10 331⇑*i*P P 01 09 04.1 -0.2
BRG pmax pmax
comp=Z,89nm,0.8s
BRG Berggiesshubel 17.10 331 *i* P P 01 09 04.1 -0.2
comp=Z,89nm,0.8s
BRG *i* 01 09 06.9
BRG *i* 01 09 08.7
BRG *e*sP 01 09 43.0
RSP Reno Superiore 17.11 306 P P 01 09 02.1 -2.3
RSP Reno Superiore 17.11 306 P P 01 09 02.1 -2.4
SURF Saint Ours 17.15 304 *e*P P 01 09 05.0 +0.1
HDH Heidenheim 17.16 320 *e*P P 01 09 04.4 -0.6
HDH Heidenheim 17.16 320 *e*P 01 17 02.9
HDH Heidenheim 17.16 320 P P 01 09 04.6 -0.4
CKHR Kef el Ahmar 17.17 275 P P 01 09 08.0 +2.7
BNALP Bannalp 17.17 313⇑*i*Pn P 01 09 05.6 +0.4
comp=Z,1μm,0.8s
WILA Wila 17.18 315⇑*i*Pn P 01 09 05.1 -0.2
comp=Z,3μm,1.3s
WILA Wila 17.18 315 ⇑P P 01 09 05.2 -0.1
MAK Makhachkala 17.19 61 *e*P P 01 09 06.0 +0.6
MAK *i* S S 01 12 20.0 +10
MAK pmax pmax
comp=Z,330nm,1.0s
MAK pmax pmax
comp=Z,2μm,6.0s
MAK pmax pmax
comp=N,1μm,4.0s
MAK pmax pmax
comp=E,600nm,4.0s
MAK smax
comp=N,2μm,6.0s
MAK smax
comp=E,1μm,6.0s
MAK MLR MLR
comp=N,700nm,10.0s
MAK MLR MLR
comp=E,900nm,10.0s
MAK MLR MLR
comp=Z,2μm,10.0s
WEIN Weingarten 17.20 316⇑*i*Pn P 01 09 05.3 -0.2
comp=Z,3μm,1.1s
NKC Novy Kostel 17.22 328⇑*i*P P 01 09 05.2 -0.6
NKC *i* SCP 01 17 03.6
SET Setif 17.24 275 P P 01 09 05.0 -1.1
MBDF Montbardon 17.27 305⇑*i*P P 01 09 06.3 -0.1
comp=Z,2μm,1.0s
MBDF Montbardon 17.27 305 *e*PKP1 01 17 04.6
comp=Z,134nm,0.8s
HASLI Hasliberg 17.28 312⇑*i*Pn P 01 09 06.6 +0.1
comp=Z,1μm,0.8s
LSD Ceresole Reale 17.30 307 P P 01 09 05.0 -1.7
LSD Ceresole Reale 17.30 307 P P 01 09 05.1 -1.7
RRL Cesana Torines 17.33 305 P P 01 09 06.5 -0.6
RRL Cesana Torines 17.33 305 P P 01 09 06.6 -0.5
STEIN Stein am Rhein 17.34 316⇑*i*Pn P 01 09 06.7 -0.6
comp=Z,4μm,1.5s
ZUR Zurich 17.34 315⇑*e*Pn P 01 09 05.6 -1.7
comp=Z,4μm,1.4s
ZUR Zurich 17.34 315 ⇑P P 01 09 06.9 -0.4
TAVF Tavernes 17.38 301 *e*P P 01 09 07.6 -0.2
GRA1 Grafenberg Arr 17.39 324 *e*P P 01 09 07.5 -0.3
comp=Z,4μm,2.0s
GRA1 *e*ScP 01 17 04.2
GRA1 *e*ScS ScS 01 20 42.5 0.0
GRF Grafenberg Arr 17.39 324 *e*P P 01 09 07.5 -0.3
GRF pmax pmax
comp=Z,4μm,2.0s
GRFO Grafenberg 17.39 324 P P 01 09 07.2 -0.7
GRFO ScP 01 17 03.9
DIX Grande Dixence 17.41 309⇑*e*Pn P 01 09 08.4 +0.3
DIX Grande Dixence 17.41 309 ⇑P P 01 09 08.5 +0.4
LKBD Leukerbad 17.42 311⇑*e*Pn P 01 09 08.3 +0.1
comp=Z,5μm,1.6s
LKBD Leukerbad 17.42 311 ⇑P P 01 09 07.6 -0.6
LKBD Leukerbad 17.42 311⇑*e*Pn P 01 09 08.3 +0.1
comp=Z,5μm,1.6s
GUT Gutenstein 17.43 317⇑*e*P P 01 09 07.6 -0.8
GUT Gutenstein 17.43 317⇑*e*P 01 17 03.6
GUT Gutenstein 17.43 317 P P 01 09 07.7 -0.7
TRULL Truellikon 17.44 315⇑*i*Pn P 01 09 07.8 -0.6
comp=Z,4μm,1.6s
BNI Bardonecchia 17.45 306 *e*P P 01 09 08.4 -0.2
BNI pmax pmax
comp=Z,430nm,1.0s
BNI Bardonecchia 17.45 306⇑*e*P P 01 09 08.0 -0.5
comp=Z,614nm,1.1s
BNI *e*S S 01 12 20.0 +3.7
BNI *e*ScP 01 17 04.5
BNI Bardonecchia 17.45 306⇑*e*P P 01 09 08.0 -0.6
comp=Z,614nm,1.1s
FLACH Flaach 17.46 315⇑*e*Pn P 01 09 07.7 -1.0
comp=Z,2μm,0.7s
BUCH Bad Urach 17.53 319⇑*e*P P 01 09 08.8 -0.7
BUCH Bad Urach 17.53 319⇑*e*P 01 17 04.0
BUCH Bad Urach 17.53 319 P P 01 09 08.9 -0.6
WIMIS Wimmis 17.55 311⇑*i*Pn P 01 09 09.4 -0.4
BERF Bertagne 17.55 299 *e*P P 01 09 09.4 -0.4
ARSS Ar Rass 17.56 122 P P 01 09 12.5 +2.5
LPG La Plagne 17.58 307⇑*i*P P 01 09 10.5 +0.4
comp=Z,1μm,0.8s
LPG La Plagne 17.58 307 *e*PKP1 01 17 04.9
comp=Z,91nm,0.9s
LPL La Plagne 17.60 307⇑*i*P P 01 09 10.6 +0.3
comp=Z,1μm,0.8s
LPL La Plagne 17.60 307 *e*PKP1 01 17 04.8
comp=Z,76nm,0.9s
STOF St-Etienne Org 17.60 302 *e*P P 01 09 11.7 +1.3
PUYF Puyloubier 17.61 300 *e*P P 01 09 10.0 -0.5
SENIN Lac Senin 17.61 310⇑*e*Pn P 01 09 09.9 -0.5
SLE Schleitheim 17.61 316⇑*e*Pn P 01 09 09.7 -0.7
SLE Schleitheim 17.61 316 ⇑P P 01 09 09.2 -1.2
SLE Schleitheim 17.61 316⇑*e*Pn P 01 09 09.7 -0.7
SPAK Spaichingen 17.63 317 *e*P P 01 09 10.6 -0.1
SPAK Spaichingen 17.63 317⇑*e*P 01 17 04.0
SPAK Spaichingen 17.63 317 *e*P P 01 09 10.1 -0.6
VOR Voronezh 17.63 26 *e*P P 01 09 10.0 -0.7
VOR *e* 01 12 36.0
VOR pmax pmax
comp=N,180nm,0.6s
VOR pmax pmax
comp=E,260nm,0.6s
VOR pmax pmax
comp=Z,500nm,0.6s
GRYON Gryon 17.67 310⇑*i*Pn P 01 09 10.6 -0.6
comp=Z,2μm,0.9s
VILF Villemus 17.69 301 *e*P P 01 09 11.6 +0.2
SULZ Sulz-Cheisache 17.70 314⇑*i*Pn P 01 09 10.0 -1.5
SULZ Sulz-Cheisache 17.70 314 ⇑P P 01 09 10.3 -1.2
SALAN Lac Salanfe 17.71 309⇑*i*Pn P 01 09 11.0 -0.7
EMV Vieux Emosson 17.72 309⇑*i*Pn P 01 09 11.3 -0.5
SUW Suwalki 17.73 353⇑*e*P P 01 09 10.8 -1.0
SUW *e* 01 09 11.7
SUW Suwalki 17.73 353⇑*e*P P 01 09 10.8 -1.0
SUW *e* 01 09 11.7
GELF Grande-Etoile 17.76 299 *e*P P 01 09 11.5 -0.7
STU Stuttgart 17.81 319 *e*P P 01 09 11.8 -0.9
STU pmax pmax
comp=Z,530nm,0.8s
STU Stuttgart 17.81 319⇑*e*P P 01 09 11.7 -1.1
comp=Z,529nm,0.8s
STU *e* 01 09 32.9
STU *e*ScP 01 17 03.6
STU Stuttgart 17.81 319⇑*e*P P 01 09 11.6 -1.1
AIGLE Aigle 17.81 310⇑*i*Pn P 01 09 11.9 -0.9
CLL Collm 17.81 331 ⇑P P 01 09 11.7 -1.1
comp=Z,logA/T=2.8
CLL *i* 01 09 14.7
CLL *i* 01 09 24.0
CLL *e**SP 01 09 48.0
CLL *e*S S 01 12 27.0 +2.9
CLL *e**SS 01 12 57.0
CLL *i* SCP 01 17 04.4
CLL *i* SCS ScS 01 20 42.9 -0.8
CLL Collm 17.81 331⇑*i*P P 01 09 11.7 -1.1
CLL pmax pmax
comp=Z,532nm,1.0s
CLL Collm 17.81 331⇑*i*P P 01 09 11.7 -1.1
comp=Z,532nm,1.0s
CLL *e*sP 01 09 48.0
CLL *e*S S 01 12 27.0 +2.9
CLL *i* ScP 01 17 04.4
CLL *i* ScS ScS 01 20 42.9 -0.8
SMRF Simiane la Rot 17.82 301⇑*i*P P 01 09 12.3 -0.7
comp=Z,572nm,1.0s
SMRF Simiane la Rot 17.82 301 *e*PKP1 01 17 05.6
comp=Z,121nm,1.0s
BALST Balsthal 17.84 313⇑*i*Pn P 01 09 11.8 -1.3
ARBF Arbois 17.85 300 P P 01 09 13.2 -0.1
TREF Trevaresse 17.85 300 *e*P P 01 09 13.2 -0.1
GDM Grand'Maison 17.88 306 *e*P P 01 09 13.1 -0.5
MOX Moxa 17.89 327⇑*i*P P 01 09 12.7 -1.0
comp=Z,logA/T=3.0
MOX S S 01 12 43.0 +17
MOX PcS 01 17 06.0
MOX L 01 17 29.0
MOX Moxa 17.89 327 *e*P P 01 09 12.7 -1.0
MOX pmax pmax
comp=Z,2μm,1.5s
MOX MLR MLR
comp=Z,1μm,14.0s
MOX Moxa 17.89 327 *e*P P 01 09 12.7 -1.0
comp=Z,2μm,1.5s
ORIF Oris-en-Rattie 17.93 305⇑*i*P P 01 09 13.1 -1.1
comp=Z,1000nm,1.2s
ORIF *e*R
comp=Z,622nm,21.2s
ORIF Oris-en-Rattie 17.93 305 *e*PKP1 01 17 05.4
comp=Z,34nm,0.7s
FELD Feldberg 17.95 315 *e*P P 01 09 13.2 -1.1
FELD Feldberg 17.95 315⇑*e*P 01 17 04.5
SIND Sindeldorf 17.95 321 *e*P P 01 09 13.0 -1.4
SIND Sindeldorf 17.95 321⇑*e*P 01 17 04.4
SIND Sindeldorf 17.95 321 P P 01 09 13.2 -1.2
LBG Lerchenberg 17.96 318⇑*e*P P 01 09 14.5 0.0
LBG Lerchenberg 17.96 318⇑*e*P 01 17 04.7
LBG Lerchenberg 17.96 318 P P 01 09 14.1 -0.4
TORNY Torny 18.01 311⇑*i*Pn P 01 09 14.2 -0.8
BFO Black Forest 18.01 317 *e*P P 01 09 14.2 -0.9
BFO pmax pmax
comp=Z,2μm,1.6s
BFO Black Forest 18.01 317 *e*P P 01 09 14.2 -0.9
comp=Z,2μm,1.6s
BFO *e*ScP 01 17 05.0
BFO *e*ScS ScS 01 20 43.6 -0.8
BBS Basel-Blauen 18.02 314 *e*P P 01 09 14.0 -1.1
BBS Basel-Blauen 18.02 314⇑*e*P 01 17 04.9
BBS Basel-Blauen 18.02 314 *e*P P 01 09 13.8 -1.3
KIZ Kirchzarten 18.04 315 *e*P P 01 09 14.4 -1.0
KIZ Kirchzarten 18.04 315 P P 01 09 14.2 -1.2
MNK Minsk 18.05 2⇑*i*P P 01 09 11.0 -4.5
MNK pmax pmax
comp=N,2μm,1.0s
MNK pmax pmax
comp=Z,2μm,1.0s
PRAF Pradon 18.05 301 *e*P P 01 09 15.3 -0.3
GKP Gorka Klasztor 18.09 341⇑*e*P P 01 09 15.4 -0.5
GKP *e* 01 09 16.2
GKP Gorka Klasztor 18.09 341⇑*e*P P 01 09 15.4 -0.5
GKP *e* 01 09 16.2
GRN Grenoble 18.14 305 *e*P P 01 09 15.2 -1.3
BOURR Bourrignon 18.14 313⇑*e*Pn P 01 09 14.9 -1.6
RST Umm Al-Ruwaisa 18.30 106 *e*P P 01 09 19.1 +0.7
RST AMb AMB 01 09 21.7
comp=Z,691nm,0.7s
LIBD Limburg 18.32 316 *e*P P 01 09 17.5 -1.0
LIBD Limburg 18.32 316⇑*e*P 01 17 05.7
LIBD Limburg 18.32 316 P P 01 09 18.9 +0.4
GIMEL Gimel 18.32 310⇑*i*Pn P 01 09 17.2 -1.3
LOMF Lomont 18.36 313 *e*P P 01 09 17.7 -1.2
BRANT Les Verrieres 18.38 311⇑*i*Pn P 01 09 18.0 -1.1
MOF Molkenrain 18.43 314 *e*P P 01 09 18.4 -1.3
RUE Ruedersdorf 18.46 334 *e*P P 01 09 18.3 -1.6
comp=Z,1μm,1.0s
RUE *e* 01 09 22.3
RUE Ruedersdorf 18.46 334 *e*P P 01 09 18.3 -1.6
CABF La Chapelle 18.47 310⇑*i*P P 01 09 18.9 -1.2
comp=Z,3μm,0.8s
CABF La Chapelle 18.47 310 *e*PKP1 01 17 06.5
STR Strasbourg 18.47 317⇑*e*P P 01 09 20.4 +0.4
TOD Tromm 18.52 321⇑*e*P P 01 09 19.8 -0.8
TOD Tromm 18.52 321 *e*P 01 17 05.7
HINF Hinteralfeld 18.58 314⇑*i*P P 01 09 20.0 -1.2
comp=Z,401nm,0.6s
HINF Hinteralfeld 18.58 314 *e*PKP1 01 17 05.9
WLS Welschbruch 18.60 316⇑*e*P P 01 09 21.1 -0.4
ECH Echery 18.61 315 *e*P P 01 09 20.6 -0.9
CDF Champ du Feu 18.64 316⇑*i*P P 01 09 21.6 -0.4
comp=Z,2μm,1.1s
CDF Champ du Feu 18.64 316 *e*PKP1 01 17 06.0
comp=Z,138nm,1.5s
LANF Langenberg 18.67 318⇑*e*P P 01 09 21.8 -0.4
ABMS Boumerdes 18.71 278 P P 01 09 22.4 -0.4
VIVF Saint-Julien-l 18.71 303⇑*i*P P 01 09 21.4 -1.3
comp=Z,868nm,0.8s
VIVF Saint-Julien-l 18.71 303 *e*PKP1 01 17 06.8
KTD Kalmit 18.72 319 *e*P P 01 09 22.2 -0.5
KTD Kalmit 18.72 319 *e*P P 01 09 22.1 -0.6
UMR Umm Al-Rimmam 18.84 105 *e*P P 01 09 24.8 +0.7
UMR AMb AMB 01 09 27.2
comp=Z,971nm,0.6s
IDID Didziasalis 18.85 360 *e*P P 01 09 22.4 -1.8
IDID AMPb AMB 01 09 24.4
comp=Z,77nm,0.9s
IIGN Ignalina 18.89 359 *e*P P 01 09 22.9 -1.6
IIGN AMPb AMB 01 09 25.0
comp=Z,112nm,0.9s
HAU Haudompre 18.96 314 *e*P P 01 09 24.7 -0.7
KBD Kabd 18.99 107 *e*P P 01 09 26.8 +1.0
RDF Al-Radifah 19.00 107 *e*P P 01 09 26.6 +0.7
RDF AMb AMB 01 09 30.1
comp=Z,421nm,0.8s
LASF Ste Croix 19.04 301⇑*i*P P 01 09 24.6 -1.6
comp=Z,562nm,0.9s
LASF Ste Croix 19.04 301 *e*PKP1 01 17 07.4
comp=Z,95nm,0.9s
ABA Alger-Bouzarea 19.06 278 P P 01 09 26.0 -0.5
ISAL Salakas 19.11 359 *e*P P 01 09 25.1 -1.8
ISAL AMPb AMB 01 09 29.5
comp=Z,100nm,0.9s
EMHD Djebel Mahouad 19.20 276 P P 01 09 27.0 -0.9
THEF They Montfort 19.29 314⇑*e*P P 01 09 28.3 -0.4
IZAR Zarasai 19.29 359 *e*P P 01 09 26.7 -2.0
IZAR AMPb AMB 01 09 32.1
comp=Z,156nm,1.1s
CLZ Clausthal 19.30 328 *e*P P 01 09 27.5 -1.3
comp=Z,332nm,0.9s
CLZ *e*ScP 01 17 08.0
CLZ *e*ScS ScS 01 20 48.4 0.0
ABH Alteburg 19.34 320⇑*e*P P 01 09 28.2 -1.0
ABH Alteburg 19.34 320 *e*P 01 17 07.7
ABH Alteburg 19.34 320⇑*e*P P 01 09 28.4 -0.8
QRN Al-Qurain 19.37 107 *e*P P 01 09 30.2 +0.5
EJON La Jonquera 19.37 295 ⇑P P 01 09 28.2 -1.5
comp=Z,333nm,0.9s
EJON La Jonquera 19.37 295 P P 01 09 28.2 -1.5
comp=Z,333nm,0.9s,SNR=18
RUP Ruppelstein 19.48 319⇑*e*P P 01 09 30.3 -0.5
RUP Ruppelstein 19.48 319 *e*P 01 17 08.7
RUP Ruppelstein 19.48 319⇑*e*P P 01 09 30.4 -0.4
FILF Fillols 19.63 295 *e*P P 01 09 32.1 -0.2
LRDF Laroque-de-Fa 19.71 297 *e*P P 01 09 32.1 -1.1
PLDF La Plantade 19.79 306 *e*P P 01 09 34.6 +0.6
LBL Lubilhac 19.79 304 *e*P P 01 09 35.0 +1.0
OBN Obninsk 19.82 17*c* *i*P P 01 09 32.7 -1.5
OBN *i* 01 09 55.4
OBN pmax pmax
comp=Z,529nm,1.0s
OBN MLR MLR
comp=Z,700nm,16.0s
OBN MLR MLR
comp=Z,600nm,7.0s
OBN Obninsk 19.82 17 *e*P P 01 09 32.7 -1.6
comp=Z,805nm,1.1s
OBN *e*ScP 01 17 08.5
OBN Obninsk 19.82 17 *e*P P 01 09 32.7 -1.5
SMF Signal de Mont 19.89 308⇑*i*P P 01 09 34.1 -0.9
comp=Z,2μm,0.9s
SMF Signal de Mont 19.89 308 *e*PKP1 01 17 09.1
comp=Z,109nm,1.2s
WLF Walferdange 19.95 318 *e*P P 01 09 35.2 -0.4
WLF pmax pmax
comp=Z,400nm,0.9s
WLF Walferdange 19.95 318⇑*e*P P 01 09 34.9 -0.7
comp=Z,486nm,0.9s
WLF *e*ScP 01 17 09.2
WLF Walferdange 19.95 318⇑*e*P P 01 09 34.9 -0.7
MEZF Maizieres J'vi 19.96 314⇑*i*P P 01 09 35.2 -0.5
comp=Z,2μm,0.8s
MEZF Maizieres J'vi 19.96 314 *e*PKP1 01 17 09.4
CARF Carcanieres 19.98 296 *e*P P 01 09 34.5 -1.5
VALF Valcebollere 20.00 295 *e*P P 01 09 36.2 +0.1
MTLF Montolieu 20.02 298⇑*i*P P 01 09 35.6 -0.8
comp=Z,793nm,0.7s
MTLF Montolieu 20.02 298 *e*PKP1 01 17 09.7
comp=Z,63nm,0.9s
CFF Clermont-Ferra 20.05 305 P P 01 09 37.4 +0.7
PYM Petit Puy Mans 20.12 305 *e*P P 01 09 38.0 +0.7
LOR Lormes 20.13 310⇑*i*P P 01 09 36.6 -0.8
comp=Z,1μm,1.1s
LOR *e*R
comp=Z,808nm,19.0s
LOR Lormes 20.13 310 *e*PKP1 01 17 09.8
LPEF Le Peyrat 20.17 296 *e*P P 01 09 36.8 -1.1
EIBI Ibiza 20.27 285 ⇑P P 01 09 38.7 -0.2
comp=Z,326nm,1.2s
EIBI Ibiza 20.27 285 P P 01 09 38.7 -0.2
comp=Z,326nm,1.2s,SNR=18
SSF Saint Saulge 20.27 309 *e*PKP1 01 17 10.5
comp=Z,148nm,1.1s
SSF Saint Saulge 20.27 309⇑*i*P P 01 09 38.3 -0.5
comp=Z,1μm,0.8s
EMIR Miracle 20.29 293 ⇑P P 01 09 39.0 -0.1
comp=Z,698nm,0.7s
EMIR Miracle 20.29 293 P P 01 09 39.0 -0.1
comp=Z,698nm,0.7s,SNR=18
EBNR Beni Rached 20.33 277 P P 01 09 41.5 +2.0
RGN Rugen 20.33 337 *e*P P 01 09 38.5 -0.9
comp=Z,336nm,0.7s
RGN *e* 01 09 53.9
RGN Rugen 20.33 337 *e*P P 01 09 38.5 -1.0
BSD Bornholm Skovb 20.35 340⇑*i*P P 01 09 36.9 -2.8
comp=Z,268nm,0.6s
BSD *i* 01 09 51.5
BSD *e* 01 14 05.3
ECHA Ech Chlef 20.48 277 P P 01 09 42.5 +1.4
BGF Bois d'Agland 20.50 307⇑*i*P P 01 09 40.8 -0.4
comp=Z,1μm,0.9s
BGF Bois d'Agland 20.50 307 *e*PKP1 01 17 11.3
comp=Z,248nm,1.1s
CAF Calviac 20.51 302⇑*i*P P 01 09 41.3 0.0
comp=Z,988nm,0.9s

CAF Calviac 20.51 302 *e*PKP1 01 17 11.2
comp=Z,60nm,1.0s
EPOB Poblet 20.56 292 ⇑P **P 01 09 41.5 -0.4**
comp=Z,1µm,1.8s
EPOB S **S 01 13 20.9 +1.8**
EPOB Poblet 20.56 292 P **P 01 09 41.5 -0.4**
comp=Z,1µm,1.8s,SNR=18
EPOB S **S 01 13 20.9 +1.8**
SNR=7.9
MEM Membach 20.56 320 P **P 01 09 41.8 0.0**
comp=Z,810nm,1.6s
MOS Moscow 20.64 18 *i* P **P 01 09 42.0 -0.6**
MOS *e* 01 09 56.2
MOS *e* 01 10 07.5
MOS *e*SS Sx 01 13 37.8
MOS pmax pmax
comp=Z,1µm,2.0s
MOS pmax pmax
comp=Z,660nm,1.1s
ETRT Tiaret 20.66 275 P **P 01 09 44.0 +1.1**
SALF Salau 20.66 296 *e*P **P 01 09 42.6 -0.2**
RAYN Ar Rayn 20.67 123 P **P 01 09 46.6 +3.6**
comp=Z,1µm,0.8s
HGN Heimansgroeve 20.69 320⇓*i*P **P 01 09 43.9 +0.8**
comp=Z,275nm,1.5s
HGN *e*S **S 01 13 28.7 +7.3**
HGN ⇑*i*P 01 17 10.9
comp=Z,8.2nm,1.4s
HGN Heimansgroeve 20.69 320 P **P 01 09 43.6 +0.5**
EANR 'Ain N'Sour 20.72 276 P **P 01 09 43.0 -0.5**
MLS Moulis 20.76 296 *e*P **P 01 09 43.0 -0.8**
TCF Toulx Ste Croi 20.82 306⇑*i*P **P 01 09 44.2 -0.2**
comp=Z,392nm,0.8s
TCF Toulx Ste Croi 20.82 306 *e*PKP1 01 17 11.9
comp=Z,119nm,1.3s
BSEG Bad Segeberg 20.88 332 *e*P **P 01 09 43.0 -2.0**
BSEG pmax pmax
comp=Z,219nm,0.8s
BSEG Bad Segeberg 20.88 332 *e*P **P 01 09 43.0 -2.0**
BSEG *e*ScP 01 17 11.5
BSEG *e*ScS ScS 01 20 54.3 +0.6
HYF Humbligny 20.89 309⇑*i*P **P 01 09 45.2 +0.1**
HYF Humbligny 20.89 309 *e*PKP1 01 17 12.4
GIVF Givet 20.91 318⇑*i*P **P 01 09 44.9 -0.4**
comp=Z,591nm,0.8s
GIVF Givet 20.91 318 *e*PKP1 01 17 11.4
EBR Ebro Roquetas 20.96 290 *e*P **P 01 09 45.8 -0.1**
EBR Ebro Roquetas 20.96 290 *i* PN **P 01 09 46.5 +0.6**
EBR *e* 01 17 13.1
EBR Ebro Roquetas 20.96 290 P **P 01 09 46.5 +0.6**
RJF Les Rejaudoux 20.98 303⇑*i*P **P 01 09 46.3 +0.3**
comp=Z,815nm,0.8s
RJF *e*R
comp=Z,932nm,21.8s
RJF Les Rejaudoux 20.98 303 *e*PKP1 01 17 12.2
comp=Z,45nm,0.7s
MELF Melles 20.99 296 *e*P **P 01 09 47.3 +1.2**
WTSB Winterswijk 21.00 324⇓*i*P **P 01 09 46.1 -0.1**
comp=Z,24nm,1.1s
WTSB ⇑*i*P 01 17 11.5
comp=Z,30nm,1.2s
DOU Dourbes 21.03 317 P **P 01 09 46.2 -0.3**
comp=Z,201nm,1.9s,mb5.1
BAIF Baives 21.22 317⇑*i*P **P 01 09 48.2 -0.2**
comp=Z,2µm,1.1s,mb6.1
BAIF Baives 21.22 317 *e*PKP1 01 17 12.7
comp=Z,173nm,1.3s
RESF Ens 21.29 295 *e*P **P 01 09 49.5 +0.4**
EPF Esparros 21.32 296⇑*i*P **P 01 09 47.8 -1.6**
comp=Z,146nm,0.7s,mb5.1
EPF Esparros 21.32 296 *e*PKP1 01 17 12.7
comp=Z,82nm,1.2s
EBIE Bielsa 21.41 295 P **P 01 09 49.6 -0.7**
comp=Z,264nm,0.7s,mb5.7
EBIE S **S 01 13 41.9 +7.2**
EBIE Bielsa 21.41 295 P **P 01 09 49.6 -0.7**
comp=Z,264nm,0.7s,mb5.7,SNR=7.9
LFF La Frestale 21.42 301⇑*i*P **P 01 09 51.3 +0.9**
comp=Z,691nm,0.8s,mb5.8
LFF La Frestale 21.42 301 *e*PKP1 01 17 13.5
comp=Z,271nm,1.6s
SNF Seneffe 21.42 318 P **P 01 09 50.5 +0.2**
comp=Z,215nm,1.6s,mb5.2
EBEN Beniarda 21.50 284 P **P 01 09 51.5 +0.3**
comp=Z,372nm,1.0s,mb5.8
EBEN S **S 01 13 43.0 +6.7**
EBEN Beniarda 21.50 284 P **P 01 09 51.5 +0.3**
comp=Z,372nm,1.0s,mb5.8,SNR=7.9
LABF Labassere 21.51 296 *e*P **P 01 09 52.5 +1.2**
VIEF Viey 21.52 296 *e*P **P 01 09 51.7 +0.3**
UCC Uccle 21.54 319 P **P 01 09 51.6 +0.1**
COP Copenhagen 21.57 338⇑*i*P **P 01 09 51.3 -0.5**
comp=Z,195nm,0.7s,mb5.6
WIT Witteveen 21.61 325 *e*P **P 01 09 52.1 -0.1**
comp=Z,340nm,1.1s,mb5.7
WIT Witteveen 21.61 325 P **P 01 09 53.1 +0.9**
EMOS Mosqueruela 21.68 289 P **P 01 09 54.3 +1.3**
comp=Z,454nm,1.8s,mb5.6
EMOS S **S 01 13 49.4 +10**
EMOS Mosqueruela 21.68 289 P **P 01 09 54.3 +1.4**
comp=Z,454nm,1.8s,mb5.6,SNR=53
ESAC San Caprasio 21.75 292 P **P 01 09 53.4 -0.3**
comp=Z,569nm,0.8s,mb6.0
ESAC San Caprasio 21.75 292 P **P 01 09 53.4 -0.3**
comp=Z,569nm,0.8s,mb6.1,SNR=7.9
REYF Montagne du Re 21.85 296 *e*P **P 01 09 56.1 +1.5**
FDAF Les Forges d'A 21.95 295 *e*P **P 01 09 57.0 +1.4**
ETSF Etsaut 21.95 295⇑*i*P **P 01 09 56.0 +0.4**
comp=Z,231nm,0.7s,mb5.4
ETSF Etsaut 21.95 295 *e*PKP1 01 17 15.4
VSU Vasula 22.01 360 *e*P **P 01 09 56.4 +0.4**
LARF Larrau 22.28 296 *e*P **P 01 10 01.0 +2.2**
EMUR La Murta 22.36 282 P **P 01 09 60.0 +0.4**
comp=Z,189nm,1.1s,mb5.4
EMUR S **S 01 14 07.5 +16**
EMUR La Murta 22.36 282 P **P 01 10 00.0 +0.4**
comp=Z,189nm,1.1s,mb5.4,SNR=40
SJPF Ste Jean 22.46 296⇑*i*P **P 01 10 01.3 +0.7**
comp=Z,1µm,1.1s,mb5.9
SJPF Ste Jean 22.46 296 *e*PKP1 01 17 16.9
comp=Z,228nm,1.0s
MFF Saint Martin d 22.46 305⇑*i*P **P 01 10 01.1 +0.5**
comp=Z,362nm,0.7s,mb5.6
MFF Saint Martin d 22.46 305 *e*PKP1 01 17 16.0
comp=Z,201nm,1.4s
OSSF Osses 22.51 296 *e*P **P 01 10 01.8 +0.8**
EALK Alkurruntz 22.68 296 P **P 01 10 05.4 +2.8**
comp=Z,498nm,1.7s,mb5.7
EALK Alkurruntz 22.68 296 P **P 01 10 05.4 +2.7**
comp=Z,498nm,1.7s,mb5.7,SNR=7.9
ETOR Torete 22.90 290 P **P 01 10 05.5 +0.7**
comp=Z,80nm,0.9s,mb5.2
ETOR Torete 22.90 290 P **P 01 10 05.5 +0.7**
comp=Z,80nm,0.9s,mb5.2
ETOR Torete 22.90 290 P **P 01 10 05.5 +0.7**
comp=Z,80nm,0.9s,mb5.1,SNR=7.9
OLEF Ile d'Oleron 23.09 303 *e*P **P 01 10 07.4 +0.8**
LDF La Druitiere 23.11 310⇑*i*P **P 01 10 06.6 -0.2**
LDF La Druitiere 23.11 310 *e*PKP1 01 17 17.4
comp=Z,157nm,1.0s
MUD Monsted U'grnd 23.26 335⇓*i*P **P 01 10 09.3 +1.2**
comp=Z,201nm,0.8s,mb5.6
MUD *i* 01 14 19.3
comp=Z,210nm,20.0s
EVIA Vianos 23.28 284 P **P 01 10 10.4 +1.9**
comp=Z,242nm,0.7s,mb5.7
EVIA Vianos 23.28 284 P **P 01 10 10.4 +1.9**
comp=Z,242nm,0.7s,mb5.7,SNR=7.9
LRYF La Roche-sur-Y 23.39 304 *e*P **P 01 10 09.8 +0.4**
FLN La Foliniere 23.39 310⇑*i*P **P 01 10 09.3 -0.2**
comp=Z,1µm,0.8s,mb6.1
FLN *e*R
comp=Z,491nm,17.0s
FLN La Foliniere 23.39 310 *e*PKP1 01 17 18.1
comp=Z,156nm,1.1s
PUL Pulkovo 23.43 4 *d i*P **P 01 10 10.5 +0.8**
PUL pmax pmax
comp=Z,727nm,0.8s,mb6.2
PUL pmax pmax
comp=N,84nm,0.5s
PUL Pulkovo 23.43 4 *e*P **P 01 10 10.4 +0.7**
TFO1 Folkestone 23.45 317 *e*P **P 01 10 10.7 +0.8**
GRR Gorron 23.50 309⇑*i*P **P 01 10 10.2 -0.3**
comp=N,2µm,1.0s,mb6.2
GRR Gorron 23.50 309 *e*PKP1 01 17 18.3
comp=N,132nm,1.3s

EBER Berja 23.77 280 P **P 01 10 15.0 +1.8**
comp=N,1µm,1.6s,mb6.1
EBER S **S 01 14 29.1 +14**
EBER Berja 23.77 280 P **P 01 10 15.0 +1.8**
comp=N,1µm,1.6s,mb6.1,SNR=202
EQES Quesada 23.80 282⇑P **P 01 10 14.7 +1.1**
comp=N,177nm,0.6s,mb5.8
EQES Quesada 23.80 282 P **P 01 10 14.6 +1.1**
comp=N,177nm,0.6s,mb5.8,SNR=18
TEB Eastbourne 23.86 315⇑*i*P **P 01 10 14.2 +0.2**
RENF Rennes 23.89 308 P **P 01 10 14.6 +0.3**
TCR Colchester 23.92 318‖*e*P **P 01 10 14.6 +0.1**
TSA1 Sevenoaks 24.05 316‖*e*P **P 01 10 16.2 +0.4**
EMLI Melilla 24.09 276 P **P 01 10 18.6 +2.3**
comp=N,743nm,1.2s,mb6.1,SNR=7.9
ESDC Sonseca Array 24.36 287 P **P 01 10 19.2 +0.3**
comp=N,76nm,0.5s,mb5.5,baz=81,slow=9.4,SNR=362
ESDC ScP 01 17 21.1
comp=N,25nm,0.8s,baz=57,slow=2.6,SNR=41
ESDC Sonseca Array 24.36 287 P **P 01 10 19.6 +0.7**
comp=N,151nm,0.5s,mb5.8
ESDC Sonseca Array 24.36 287 P **P 01 10 19.5 +0.6**
comp=N,151nm,0.5s,mb5.8,slow=9.5,SNR=426
ESLA Sonseca Array 24.36 287⇑*i*P **P 01 10 19.6 +0.7**
comp=N,22nm,0.6s,mb4.9
ESLA *e*ScP 01 17 21.3
ESLA Sonseca Array 24.36 287⇑*i*P **P 01 10 19.6 +0.7**
ERON Agron 24.48 281 P **P 01 10 20.4 +0.4**
comp=N,32nm,0.5s,mb5.1
ERON Agron 24.48 281 P **P 01 10 20.4 +0.4**
comp=N,32nm,0.5s,mb5.1,SNR=7.9
JQE Queens East 24.51 310⇑*i*P **P 01 10 19.5 -0.7**
SGMF Saint Gilles 24.52 308⇑*i*P **P 01 10 19.4 -0.9**
comp=N,326nm,0.7s,mb5.7
SGMF Saint Gilles 24.52 308 *e*PKP1 01 17 20.5
JRS Jersey 24.54 310‖*e*P **P 01 10 20.1 -0.4**
JLP Les Platons 24.57 310‖*e*P **P 01 10 19.9 -0.7**
JVM Valle D.L. Mar 24.62 310⇑*i*P **P 01 10 20.7 -0.5**
ELOJ Sierra Loja 24.73 281 P **P 01 10 22.4 0.0**
comp=N,47nm,0.8s,mb5.1
ELOJ Sierra Loja 24.73 281 P **P 01 10 22.4 0.0**
comp=N,47nm,0.8s,mb5.1,SNR=89
ELUQ Luque 24.77 282 P **P 01 10 22.9 +0.2**
comp=N,122nm,0.8s,mb5.5
ELUQ Luque 24.77 282 P **P 01 10 23.0 +0.2**
comp=N,122nm,0.8s,mb5.5,SNR=7.9
SKP1 Kophill 24.81 317‖*e*P **P 01 10 21.9 -1.1**
QUIF Quistinic 24.81 307⇑*i*P **P 01 10 22.2 -0.9**
comp=N,400nm,0.7s,mb5.8
QUIF Quistinic 24.81 307 *e*PKP1 01 17 21.8
comp=N,173nm,1.5s
EADA Adamuz 24.95 283⇑P **P 01 10 25.1 +0.7**
comp=N,153nm,0.9s,mb5.5
EADA S **S 01 14 39.1 +3.6**
EADA Adamuz 24.95 283 S **S 01 14 39.1 +3.6**
SNR=7.9
EADA Adamuz 24.95 283 P **P 01 10 25.1 +0.7**
comp=N,153nm,0.9s,mb5.5,SNR=18
FINES FINESS Array B 25.00 359 P **P 01 10 23.6 -1.1**
comp=N,92nm,0.5s,mb5.5,baz=159,slow=11,SNR=278
FINES pP pP 01 10 51.9 -0.7
comp=N,13nm,0.5s,baz=180,slow=11,SNR=1.6
FINES PcP PcP 01 13 56.3 -0.7
comp=N,11nm,0.5s,baz=154,slow=2.7,SNR=6.5
FINES ScP 01 17 21.5
comp=N,41nm,0.8s,baz=153,slow=4.3,SNR=23
FINES ScS ScS 01 21 07.6 -1.7
comp=N,6.1nm,0.8s,baz=124,slow=6.9,SNR=7.3
FINES FINESS Array B 25.00 359 P **P 01 10 23.6 -1.1**
FINES 01 13 56.3
FINES pmax pmax
comp=Z,92nm,0.5s
FINES FINESS Array B 25.00 359 P **P 01 10 23.6 -1.1**
FINES pP pP 01 10 51.9 -0.7
FINES PcP PcP 01 13 56.3 -0.7
FINES ScP 01 17 21.5
FINES ScS ScS 01 21 07.6 -1.7
FINES FINESS Array B 25.00 359 ScS ScS 01 21 07.6 -1.7
ROSF Rostrenen 25.00 308⇑*i*P **P 01 10 23.5 -1.3**
comp=Z,296nm,0.7s,mb5.6
ROSF Rostrenen 25.00 308 *e*PKP1 01 17 22.3
comp=Z,68nm,0.9s
HFS Hagfors 25.14 345 P **P 01 10 24.8 -1.2**
comp=Z,113nm,0.6s,mb5.6,baz=146,slow=11,SNR=239
HFS ScP 01 17 21.6
comp=Z,14nm,0.8s,baz=168,slow=2.2,SNR=5.1
HFS ScS ScS 01 21 08.4 -1.5
comp=Z,6.2nm,0.7s,baz=128,slow=17,SNR=4.8
HFS Hagfors 25.14 345 P **P 01 10 24.8 -1.2**
HFS ScP 01 17 21.6
HFS ScS ScS 01 21 08.4 -1.5
SWN1 Swindon 25.27 316‖*e*P **P 01 10 26.4 -0.9**
KSY Syston 25.28 319‖*e*P **P 01 10 25.8 -1.6**
EMIJ Mijas 25.31 280⇑P **P 01 10 27.9 0.0**
comp=Z,264nm,0.9s,mb5.8
EMIJ Mijas 25.31 280 P **P 01 10 27.9 0.0**
comp=Z,264nm,0.9s,mb5.8,SNR=18
SWK Warminster 25.37 314‖*e*P **P 01 10 27.6 -0.6**
EARI Arriondas 25.38 296 P **P 01 10 29.4 +0.9**
comp=Z,222nm,0.7s,mb5.8
EARI Arriondas 25.38 296 P **P 01 10 29.3 +0.9**
comp=Z,222nm,0.7s,mb5.8,SNR=101
LMK Market Rasen 25.40 321‖*e*P **P 01 10 27.3 -1.2**
REAL Reales 25.67 280 *i* P **P 01 10 31.3 +0.1**
OSL Oslo 25.67 341 *e*P **P 01 10 28.6 -2.4**
OSL AMb AMB 01 10 32.1
comp=Z,135nm,0.8s,mb5.7
OSL Oslo 25.67 341 *e*P **P 01 10 28.6 -2.4**
comp=Z,27nm,1.0s,mb4.8
OSL Oslo 25.67 341 *e*P **P 01 10 28.6 -2.4**
comp=Z,135nm,0.8s,mb5.7,SNR=40
KAF Kangasniemi 25.67 359 *e*p **P 01 10 29.6 -1.4**
comp=Z,240nm,0.8s,mb5.9,baz=179,slow=9.8
KAF Kangasniemi 25.67 359 *e*P **P 01 10 29.6 -1.4**
KAF pmax pmax
comp=Z,241nm,0.8s,mb5.9
SMD Mendips 25.71 315‖*e*P **P 01 10 30.4 -1.0**
LIJA Lijar 25.76 281 *i* P **P 01 10 31.2 -0.8**
HGH Gray Hill 25.89 315‖*e*P **P 01 10 32.0 -1.1**
HGH AMb AMB 01 10 36.8
comp=Z,465nm,1.8s,mb5.8
HAE Alders End 25.91 316⇑*e*P **P 01 10 31.6 -1.7**
HAE AMb AMB 01 10 36.9
comp=Z,705nm,1.5s,mb6.1
KBI1 Birley Grange 25.92 319‖*e*P **P 01 10 32.2 -1.1**
KWE Weaver Farm 25.97 319‖*e*P **P 01 10 32.4 -1.4**
MOMI Momias 26.11 279 *e*P **P 01 10 35.2 0.0**
ESPR Espera 26.12 281 P **P 01 10 34.9 -0.5**
comp=Z,186nm,1.0s,mb5.7
ESPR Espera 26.12 281 P **P 01 10 34.9 -0.5**
comp=Z,186nm,1.0s,mb5.7,SNR=7.9
MCH1 Michaelchurch 26.15 316‖*e*P **P 01 10 34.2 -1.3**
LDU Leeds Universi 26.20 320 *e*P **P 01 10 35.1 -0.9**
GIBL Gibalbin 26.22 281 *i* P **P 01 10 38.2 +2.0**
LHO Holmfirth 26.23 320‖*e*P **P 01 10 34.8 -1.4**
HEX Exmoor 26.24 313‖*e*P **P 01 10 35.4 -0.9**
HLM1 Long Mynd 26.31 317‖*e*P **P 01 10 35.7 -1.2**
HLM1 AMb AMB 01 10 36.9
comp=Z,375nm,1.0s,mb6.0
HPK Haverah Park 26.32 321‖*e*P **P 01 10 35.2 -1.8**
HTR Trewern Hill 26.34 316‖*e*P **P 01 10 35.8 -1.4**
HTR AMb AMB 01 10 42.4
comp=Z,286nm,1.2s,mb5.8
CNIL Conil 26.36 280 *i* P **P 01 10 37.8 +0.2**
SSP1 Stoney Pound 26.39 317⇑*i*P **P 01 10 36.1 -1.6**
SCRT Cerro San Cris 26.41 280 *i* P **P 01 10 37.9 -0.1**
NAO01 NORSAR Array S 26.42 342 *e*P **P 01 10 36.0 -1.8**
comp=Z,329nm,0.9s,mb6.0
NAO01 *e*ScP 01 17 25.4
NAO01 NORSAR Array S 26.42 342 *e*P **P 01 10 36.0 -1.8**
ECAL Calabor 26.44 292 P **P 01 10 38.3 +0.1**
comp=Z,211nm,1.1s,mb5.7
ECAL Calabor 26.44 292 P **P 01 10 38.3 +0.1**
comp=Z,211nm,1.1s,mb5.7,SNR=59
PBRG Braganca 26.44 292 *e*P **P 01 10 38.1 -0.1**
comp=Z,213nm,1.3s,mb5.6
SFS San Fernando 26.47 280 *e*P **P 01 10 37.9 -0.6**
comp=Z,294nm,0.8s,mb6.0
SFS *e* 01 10 41.4
SFS San Fernando 26.47 280 *e*P **P 01 10 37.9 -0.6**
BLS5 Blasjo 26.49 337 *e*P **P 01 10 37.0 -1.4**
BLS5 AMb AMB 01 10 38.8
comp=Z,96nm,0.8s,mb5.5
BLS5 Blasjo 26.49 337 *e*P **P 01 10 37.0 -1.4**
comp=Z,96nm,0.8s,mb5.5

BLS5 Blasjo 26.49 337 *e*P **P 01 10 37.0 -1.5**
comp=Z,96nm,0.8s,mb5.5,SNR=40
NB2 NORSAR Subarra 26.51 343 P **P 01 10 37.0 -1.6**
comp=Z,10.0nm,0.7s,mb4.5,baz=146,slow=9.3
NB2 NORSAR Subarra 26.51 343 P **P 01 10 37.0 -1.6**
baz=146,slow=10
NOA NORSAR Array B 26.51 343 P **P 01 10 36.7 -2.0**
comp=Z,78nm,0.8s,mb5.4,baz=151,slow=8.6,SNR=161
NOA pP pP 01 11 05.8 -1.0
comp=Z,6.0nm,0.5s,baz=145,slow=11,SNR=1.1
NOA ScP 01 17 25.9
comp=Z,24nm,0.7s,baz=135,slow=3.3,SNR=13
NOA NORSAR Array B 26.51 343 P **P 01 10 36.7 -2.0**
NOA pP pP 01 11 05.8 -1.0
NOA ScP 01 17 25.9
NOA NORSAR Array B 26.51 343 pP pP 01 11 05.8 -1.0
HTL Hartland 26.62 313‖*e*P **P 01 10 37.8 -1.9**
HTL Hartland 26.62 313 P **P 01 10 39.5 -0.2**
EMIN Mina Concepcio 26.64 283 P **P 01 10 40.2 +0.1**
comp=Z,394nm,0.7s,mb6.2
EMIN Mina Concepcio 26.64 283 P **P 01 10 40.2 +0.1**
comp=Z,394nm,0.7s,mb6.2,SNR=455
CSA1 St Austell 26.64 311‖*e*P **P 01 10 38.9 -1.1**
LCP Cassop 26.64 322‖*e*P **P 01 10 38.1 -1.8**
SBD Saint Breward 26.68 318‖*e*P **P 01 10 39.1 -1.2**
HSA Swansea 26.71 315‖*e*P **P 01 10 38.4 -2.2**
CRQ2 Rosemanowes 2 26.75 311‖*e*P **P 01 10 39.8 -1.1**
ERUA La Rua 26.75 293 P **P 01 10 41.6 +0.5**
comp=Z,44nm,0.8s,mb5.1
ERUA La Rua 26.75 293 P **P 01 10 41.6 +0.6**
comp=Z,44nm,0.8s,mb5.2,SNR=22
CGW Gwek 26.76 311‖*e*P **P 01 10 39.9 -1.1**
CCA1 Carnmenellis 26.79 311‖*e*P **P 01 10 40.1 -1.2**
EBAD Badajoz 26.79 285⇑P **P 01 10 40.9 -0.6**
comp=Z,175nm,0.8s,mb5.7
EBAD Badajoz 26.79 285 P **P 01 10 40.9 -0.6**
comp=Z,175nm,0.8s,mb5.7,SNR=18
EPON Pontenova 26.80 295 P **P 01 10 42.1 +0.7**
comp=Z,473nm,1.0s,mb6.1
EPON Pontenova 26.80 295 P **P 01 10 42.1 +0.7**
comp=Z,473nm,1.0s,mb6.1,SNR=79
CPZ Penzance 27.00 311‖*e*P **P 01 10 42.2 -1.0**
PCBR Castelo Branco 27.06 288 *e*P **P 01 10 43.9 0.0**
comp=Z,230nm,1.3s,mb5.7
MTE Manteigas 27.08 289 *e*P **P 01 10 43.6 -0.5**
comp=Z,274nm,1.7s,mb5.6
MTE Manteigas 27.08 289⇑*e*P **P 01 10 43.8 -0.3**
comp=Z,200nm,1.0s,mb5.7
MTE Manteigas 27.08 289⇑*e*P **P 01 10 43.8 -0.3**
comp=Z,200nm,1.0s,mb5.7
HPE Pembroke 27.14 315⇑*e*P **P 01 10 43.1 -1.3**
PVRL Vila Real 27.18 291 *e*P **P 01 10 45.0 0.0**
comp=Z,89nm,0.9s,mb5.4
PALC Alcoutim 27.31 282 *e*P **P 01 10 46.1 -0.1**
comp=Z,426nm,0.9s,mb6.1
PVIS Viseu 27.33 290 *e*P **P 01 10 46.5 +0.1**
comp=Z,257nm,1.7s,mb5.6
CKE Keswick 27.38 321⇑*i*P **P 01 10 45.3 -1.4**
CSF Scaffel 27.39 321‖*e*P **P 01 10 44.8 -1.9**
ELOB Lobios 27.43 292 P **P 01 10 47.1 -0.2**
comp=Z,272nm,1.3s,mb5.7,SNR=23
RTC Rabat Centre 27.52 275 P **P 01 10 50.0 +1.8**
PBEJ Beja 27.54 284 *e*P **P 01 10 48.0 -0.3**
comp=Z,236nm,1.6s,mb5.7
EVO Evora 27.59 285 *e*P **P 01 10 48.6 -0.2**
comp=Z,49nm,0.7s,mb5.1
EVO *e*R
comp=Z,676nm,21.5s
RUND Rundenannen 27.61 337 *e*P **P 01 10 45.0 -3.6**
EKA Eskdalemuir Ar 27.78 322 P **P 01 10 48.4 -2.0**
comp=Z,46nm,0.6s,mb5.4,baz=116,slow=9.8,SNR=41
EKA pP pP 01 11 18.1 -0.6
comp=Z,20nm,0.7s,baz=122,slow=10,SNR=2.8
EKA PcP PcP 01 14 03.5 +0.1
comp=Z,9.0nm,0.9s,baz=133,slow=1.8,SNR=3.9
EKA ScP 01 17 30.4
comp=Z,17nm,0.7s,baz=128,slow=4.3,SNR=19
EKA Eskdalemuir Ar 27.78 322 P **P 01 10 48.4 -1.9**
EKA 01 14 03.6
EKA pmax pmax
comp=Z,46nm,0.6s
EKA Eskdalemuir Ar 27.78 322 P **P 01 10 48.3 -2.0**
EKA pP pP 01 11 18.1 -0.6
ESK Eskdalemuir 27.80 322 P **P 01 10 48.1 -2.3**
comp=Z,662nm,0.7s,mb6.5,SNR=12
ESK Eskdalemuir 27.80 322‖*e*P **P 01 10 48.5 -2.0**
ESK AMb AMB 01 10 53.5
comp=Z,134nm,1.1s,mb5.6
ESK Eskdalemuir 27.80 322⇓*e*P **P 01 10 46.8 -3.6**
comp=Z,88nm,0.7s,mb5.6
ESK *e* 01 10 52.5
STS Santiago 27.80 294 P **P 01 10 51.1 +0.5**
comp=Z,148nm,1.2s,mb5.6,SNR=12
MOE Montemor 27.86 285 *e*P **P 01 10 52.0 +0.8**
DOMB Dombas 27.90 342 *e*P **P 01 10 50.2 -1.1**
DOMB AMb AMB 01 10 53.1
comp=Z,220nm,1.2s,mb5.8
DOMB Dombas 27.90 342 *e*P **P 01 10 50.2 -1.1**
comp=Z,220nm,1.2s,mb5.8
DOMB Dombas 27.90 342 *e*P **P 01 10 50.2 -1.1**
comp=Z,220nm,1.2s,mb5.8,SNR=40
EZAM Zamans 27.90 293 P **P 01 10 52.6 +1.1**
comp=Z,90nm,0.9s,mb5.5
EZAM Zamans 27.90 293 P **P 01 10 52.6 +1.1**
comp=Z,90nm,0.9s,mb5.5,SNR=24
LBOS 27.92 139⇓*e*P **P 01 10 55.3 +3.3**
LBOS AMb AMB 01 10 56.4
comp=Z,206nm,0.9s,mb5.8
ALMR Almeirim 27.96 286 *e*P **P 01 10 52.0 -0.2**
BDHA Al Bayda' 28.00 138‖*e*P **P 01 10 56.0 +3.3**
BDHA AMb AMB 01 10 56.4
comp=Z,48nm,1.2s,mb5.1
BDHA Al Bayda' 28.00 138⇓*e*P **P 01 10 55.7 +3.0**
EMAZ Mazaricos 28.12 294 P **P 01 10 53.9 +0.4**
comp=Z,376nm,1.9s,mb5.8
EMAZ Mazaricos 28.12 294 P **P 01 10 53.9 +0.4**
comp=Z,376nm,1.9s,mb5.8,SNR=7.9
PTEO Sao Teotonio 28.28 283 *e*P **P 01 10 55.5 +0.5**
comp=Z,252nm,1.2s,mb5.8
GAL1 Galloway 28.34 320⇑*e*P **P 01 10 53.7 -1.6**
PLOU Loures 28.44 286 *e*P **P 01 10 56.9 +0.5**
comp=Z,271nm,0.8s,mb6.0
LIS Lisbon 28.46 286 *e*P **P 01 10 55.1 -1.4**
DSB Dublin 28.54 317 P **P 01 10 56.8 -0.3**
FOO Floro 28.63 338 *e*P **P 01 10 55.4 -2.4**
FOO AMb AMB 01 10 57.5
comp=Z,78nm,1.0s,mb5.4
FOO Floro 28.63 338 *e*P **P 01 10 55.4 -2.4**
comp=Z,78nm,1.0s,mb5.4
FOO Floro 28.63 338 *e*P **P 01 10 55.4 -2.4**
comp=Z,78nm,1.0s,mb5.4,SNR=40
DLF Lyons Farm 28.64 317 *e*P **P 01 10 56.3 -1.7**
DLF Lyons Farm 28.64 317 *e*P **P 01 10 57.2 -0.8**
GMM Mts of Mourne 28.71 319‖*e*P **P 01 10 56.7 -1.9**
MOL Molde 28.73 341 *e*P **P 01 11 00.5 +1.9**
MOL AMb AMB 01 11 17.9
comp=Z,160nm,1.6s,mb5.5
MOL Molde 28.73 341 *e*P **P 01 11 00.5 +1.9**
comp=Z,160nm,1.6s,mb5.5
MOL Molde 28.73 341 *e*P **P 01 11 00.5 +1.8**
comp=Z,160nm,1.6s,mb5.5,SNR=40
MME1 Meikle Cairn 28.74 326 *e*P **P 01 10 55.8 -3.0**
TRON Trondheim 28.81 345 *e*P **P 01 10 59.4 -0.1**
GMK Mull of Kintyr 29.01 321‖*e*P **P 01 10 59.9 -1.3**
MCD Coleburn Disti 29.02 326‖*e*P **P 01 10 58.6 -2.7**
DCN Croghan 29.08 316⇑*i*P **P 01 11 00.5 -1.4**
DCN Croghan 29.08 316 *e*P **P 01 11 01.4 -0.5**
DMUB Kingscourt 29.09 318⇑*i*P **P 01 10 59.9 -2.1**
DMUB Kingscourt 29.09 318 *e*P **P 01 11 00.8 -1.2**
GCL Cushendall 29.16 320‖*e*P **P 01 11 01.1 -1.5**
ARU Arti 29.22 37⇑*i*P **P 01 11 02.3 -0.8**
ARU Arti 29.22 37 *e*P **P 01 11 01.7 -1.5**
comp=Z,56nm,0.6s,mb5.5
ARU *e*ScP 01 17 35.0
ARU Arti 29.22 37 *e*P **P 01 11 01.7 -1.4**
MDO Dochfour 29.45 325‖*e*P **P 01 11 02.0 -3.1**
NSS Namsos 29.48 347⇑*i*P **P 01 11 02.5 -2.9**
NSS Namsos 29.48 347 *e*P **P 01 11 02.5 -2.9**
SAN1 Sandwick 29.65 332‖*e*P **P 01 11 04.7 -2.2**
LRW Lerwick 29.70 332‖*e*P **P 01 11 04.5 -2.9**
MUKL Al Mukalla 29.72 132‖*e*P **P 01 11 10.0 +2.0**
MUKL AMb AMB 01 11 11.8
comp=Z,154nm,1.0s,mb5.7
MUKL Al Mukalla 29.72 132⇑*i*P **P 01 11 10.3 +2.3**
YEL1 Yell 29.94 332‖*e*P **P 01 11 06.9 -2.6**

WAL1 Walls 29.95 332⇑ *eP* **P 01 11 07.0 -2.6**
SVE Sverdlovsk 30.42 37⇑ *iP* **P 01 11 13.1 -0.7**
SVE *e* 01 12 29.0
SVE pmax pmax
comp=Z,160nm,2.0s,mb5.4
MOR8 Moi Rana 30.61 350 *eP* **P 01 11 14.0 -1.4**
MOR8 AMb AMB 01 11 15.5
comp=Z,147nm,1.4s,mb5.5
MOR8 Moi Rana 30.61 350 *eP* **P 01 11 14.0 -1.4**
comp=Z,147nm,1.4s,mb5.5
MOR8 Moi Rana 30.61 350 *eP* **P 01 11 14.0 -1.4**
comp=Z,147nm,1.4s,mb5.5,SNR=39
MELS Mels 31.36 350 *eP* **P 01 11 20.6 -1.4**
APA Apatity 31.38 5⇓ *iP* **P 01 11 19.9 -2.2**
APA *i* 01 11 33.8
APA pmax pmax
comp=Z,208nm,1.6s,mb5.6
LVZ Lovozero 31.80 6⇑ *eP* **P 01 11 24.5 -1.2**
LVZ pmax pmax
comp=E,29nm,1.0s
LVZ pmax pmax
comp=Z,72nm,1.0s,mb5.4
LVZ pmax pmax
comp=N,37nm,1.2s
LOF Lofoten 32.58 351⇑ *iP* **P 01 11 32.1 -0.5**
LOF AMb AMB 01 11 34.7
comp=Z,224nm,1.5s,mb5.7
LOF Lofoten 32.58 351 *eP* **P 01 11 32.0 -0.5**
comp=Z,224nm,1.5s,mb5.7
LOF Lofoten 32.58 351 *eP* **P 01 11 32.0 -0.5**
comp=Z,224nm,1.5s,mb5.7
KTK1 Kautokeino 32.66 358⇑ *iP* **P 01 11 30.9 -2.3**
KTK1 AMb AMB 01 11 33.7
comp=Z,183nm,1.4s,mb5.6
KTK1 Kautokeino 32.66 358 *eP* **P 01 11 30.9 -2.3**
comp=Z,183nm,1.4s,mb5.6
KTK1 Kautokeino 32.66 358⇑ *iP* **P 01 11 30.9 -2.3**
comp=Z,183nm,1.4s,mb5.6,SNR=38
ARCES ARCESS Array B 33.13 359 P **P 01 11 35.2 -2.1**
comp=Z,38nm,0.9s,mb5.1,baz=174,slow=7.8,SNR=68
ARCES PcP PcP 01 14 16.5 -0.8
comp=Z,4.8nm,0.4s,baz=153,slow=4.0,SNR=4.1
ARCES ScP 01 17 46.6
comp=Z,50nm,0.9s,baz=207,slow=2.7,SNR=14
ARCES LR LR 01 25 03.6
comp=Z,542nm,19.4s,baz=186,slow=36
ARCES ARCESS Array B 33.13 359 PcP PcP 01 14 16.5 -0.8
ARE0 ARCESS Array S 33.13 359 *eP* **P 01 11 35.5 -1.8**
ARE0 *e* 01 11 47.9
ARE0 *e*ScP 01 17 45.1
ARE0 ARCESS Array S 33.13 359 *eP* **P 01 11 35.5 -1.8**
TRO Tromso 33.50 355 *eP* **P 01 11 37.3 -3.0**
ZRNK Zerenda 33.66 47 *eP* **P 01 11 41.6 -0.3**
comp=Z,55nm,0.8s,mb5.3
ZRNK *e* 01 11 56.2
ZRNK Zerenda 33.66 47 *eP* **P 01 11 41.6 -0.2**
BRVK Borovoye 34.43 47 *eP* **P 01 11 48.6 +0.1**
BRVK pmax pmax
comp=Z,25nm,1.0s,mb4.9
BRVK Borovoye 34.43 47 *eP* **P 01 11 48.5 0.0**
comp=Z,35nm,1.0s,mb5.0
BRVK *e*ScP 01 17 53.0
BRVK Borovoye 34.43 47 *eP* **P 01 11 48.5 0.0**
EFAM Famara 34.48 270 P **P 01 11 50.9 +1.8**
comp=Z,452nm,1.2s,mb6.1,SNR=7.9
BVAR Borovoye Array 34.49 47 P **P 01 11 48.6 -0.4**
comp=Z,12nm,0.9s,mb4.6,baz=256,slow=6.1,SNR=40
BVAR ScP 01 17 53.3
comp=Z,14nm,0.7s,baz=270,slow=4.4,SNR=15
AML Almayashu 36.37 66 P **P 01 12 06.1 +1.1**
SNR=15
EKS2 Erkin-Say 36.37 65 P **P 01 12 05.8 +0.9**
SNR=32
EOSO Osorio 36.53 269 P **P 01 12 09.1 +2.7**
comp=Z,205nm,2.0s,mb5.4
EOSO Osorio 36.53 269 P **P 01 12 09.1 +2.6**
comp=Z,205nm,2.0s,mb5.4,SNR=4.0
USP Ospenovka 36.84 64 P **P 01 12 09.2 +0.4**
SNR=15
AAK Ala-Archa 36.90 65 P **P 01 12 10.8 +1.4**
SNR=45
AAK Ala-Archa 36.90 65 *d iP* **P 01 12 09.7 +0.3**
AAK pmax pmax
comp=Z,35nm,0.6s,mb5.2
AAK Ala-Archa 36.90 65⇓ *iP* **P 01 12 09.7 +0.2**
comp=Z,55nm,0.7s,mb5.3
AAK *e*ScP 01 18 02.1
AAK Ala-Archa 36.90 65⇓ *iP* **P 01 12 09.6 +0.2**
UCH Uchtor 36.97 66 P **P 01 12 11.5 +1.5**
SNR=20
EBAJ Bajamar 36.98 270 P **P 01 12 12.8 +2.5**
comp=Z,230nm,0.7s,mb5.9
EBAJ Bajamar 36.98 270 P **P 01 12 12.8 +2.6**
comp=Z,230nm,0.7s,mb5.9,SNR=7.9
CHMS Chumysh 37.05 65 P **P 01 12 11.6 +1.0**
SNR=31
MBAR Mbarara 37.06 173 P **P 01 12 12.6 +1.6**
comp=Z,734nm,1.1s,mb6.2
MBAR Mbarara 37.06 173⇓ *iP* **P 01 12 12.8 +1.8**
comp=Z,215nm,1.2s,mb5.7
MBAR *e*ScP 01 18 02.8
MBAR Mbarara 37.06 173⇓ *iP* **P 01 12 12.8 +1.8**
KBK Karagaybulak 37.23 65 P **P 01 12 13.5 +1.3**
SNR=21
CRAJ Montana Rajada 37.30 270 P **P 01 12 15.1 +2.2**
comp=Z,419nm,1.6s,mb5.8,SNR=7.9
CCAN Las Canadas 37.32 270 P **P 01 12 15.7 +2.6**
comp=Z,182nm,1.1s,mb5.6
CCAN Las Canadas 37.32 270 P **P 01 12 15.7 +2.6**
comp=Z,182nm,1.1s,mb5.6,SNR=7.9
KZA Kyzart 37.53 66 P **P 01 12 17.0 +2.3**
SNR=14
TKM2 Tokmak 2 37.67 65 P **P 01 12 16.7 +0.8**
SNR=19
EGOM La Gomera 37.83 270 P **P 01 12 19.2 +1.9**
comp=Z,299nm,1.5s,mb5.7
EGOM La Gomera 37.83 270 P **P 01 12 19.2 +1.8**
comp=Z,299nm,1.5s,mb5.7
ULHL Ulahol 38.23 66 P **P 01 12 22.5 +1.9**
SNR=18
KSH Kashi 38.50 70 P **P 01 12 24.1 +1.3**
KSH AP pP 01 12 52.5 -0.3
KSH XP sP 01 13 07.4 -1.2
KSH *e*PP PP 01 13 59.4 +3.3
KSH PPP PPP 01 14 24.1 +2.0
KSH *e*PCP PcP 01 14 35.5 +1.9
KSH S **S 01 18 10.7 +2.8**
KSH PCS 01 18 23.2
KSH XS 01 19 01.8
KSH SS SS 01 21 01.1 +5.2
KSH SCS ScS 01 22 19.1 +2.3
KSH AMB AMB
comp=Z,200nm,4.6s
KSH LR LR
comp=N,430nm,5.3s
KSH LR LR
comp=E,450nm,5.7s
CHIE El Hierro 38.62 270 P **P 01 12 26.8 +2.9**
comp=E,48nm,1.1s,mb5.0
KMBO Kilima Mbogo 38.65 163 P **P 01 12 27.2 +3.0**
comp=E,34nm,0.9s,mb5.0,baz=353,slow=9.1,SNR=110
KMBO ScP 01 18 11.4
comp=E,7.5nm,1.0s,baz=358,slow=4.3,SNR=10
KMBO LR LR 01 28 53.5
comp=E,845nm,18.1s,baz=339,slow=37
KMBO Kilima Mbogo 38.65 163⇓ *iP* **P 01 12 27.9 +3.6**
comp=E,51nm,1.0s,mb5.1
KMBO *e* 01 12 39.5
KMBO *e*ScP 01 18 11.5
BHJ Bhuj 39.13 98 *eP* **P 01 12 29.6 +1.5**
BHJ AMb AMB 01 12 32.3
comp=Z,243nm,0.9s,mb5.8
JMIC Jan Mayen 39.23 343 LR LR 01 27 31.7
comp=Z,256nm,18.2s,baz=124,slow=34
KURK Kurchatov 39.33 52 P **P 01 12 29.7 +0.1**
KURK pmax pmax
comp=Z,39nm,0.6s,mb5.2
KURK Kurchatov 39.33 52⇓ *iP* **P 01 12 29.8 +0.2**
comp=Z,43nm,0.6s,mb5.2
KURK *e*PcP PcP 01 14 35.9 -0.2
KURK *e*ScP 01 18 10.8
KURK Kurchatov 39.33 52⇓ *iP* **P 01 12 29.8 +0.2**
comp=Z,43nm,0.6s,mb5.2
BORG Borgarnes 40.06 330 *eP* **P 01 12 36.7 +1.3**
comp=Z,242nm,1.4s,mb5.6
BORG *e* 01 12 53.9
BORG Borgarnes 40.06 330 *eP* **P 01 12 36.7 +1.3**
THN Thein Dam 40.21 81 *eP* **P 01 12 37.4 +0.5**
comp=Z,46nm,0.5s,mb5.4
BHK Bhakra 41.12 82 *e* **P 01 12 52.8 +8.4**
DBIC Dimbokro 41.41 232 P **P 01 12 48.0 +1.0**
comp=Z,84nm,0.5s,mb5.6,baz=21,slow=9.1,SNR=309
DBIC ScP 01 18 20.5
comp=Z,12nm,0.8s,baz=40,slow=5.9,SNR=4.3
DBIC LR LR 01 32 54.4
comp=Z,474nm,18.5s,baz=234,slow=40
DBIC Dimbokro 41.41 232 P **P 01 12 48.0 +1.0**
DBIC ScP 01 18 21.1
DBIC S **S 01 18 50.7 -0.8**
DBIC S **S 01 18 56.8 +5.3**
DBIC ScS ScS 01 22 36.8 +2.6
DBIC Dimbokro 41.41 232⇓ *iP* **P 01 12 48.0 +1.0**
comp=Z,109nm,0.6s,mb5.7
DBIC *e*ScP 01 18 19.1
DBIC *e*S **S 01 18 50.7 -0.8**
DBIC Dimbokro 41.41 232⇓ *iP* **P 01 12 48.0 +1.0**
TIC Toumodi 41.54 232 *eP* **P 01 12 49.3 +1.2**
comp=Z,352nm,0.6s,mb6.2
KIC Kosan Boka 41.58 232 *eP* **P 01 12 49.6 +1.1**
comp=Z,529nm,0.7s,mb6.3
LIC Lamto 41.86 232 *eP* **P 01 12 51.8 +1.0**
comp=Z,409nm,0.7s,mb6.1
LIC Lamto 41.86 232⇓ *iP* **P 01 12 51.7 +0.9**
comp=Z,128nm,0.7s,mb5.6
KHET Khetri 41.91 87 *eP* **P 01 12 49.2 -1.8**
MKAR Makanchi Array 41.95 58 P **P 01 12 51.7 +0.6**
comp=Z,159nm,0.5s,mb5.9,baz=275,slow=7.8,SNR=1787
MKAR ScP 01 18 21.7
comp=Z,39nm,0.5s,baz=263,slow=3.7,SNR=33
MKAR Makanchi Array 41.95 58 P **P 01 12 51.7 +0.6**
MKAR pmax pmax
comp=N,39nm,0.5s
MKAR pmax pmax
comp=Z,159nm,0.5s
MKAR Makanchi Array 41.95 58 P **P 01 12 51.7 +0.6**
MKAR ScP 01 18 21.7
NVS Novosibirsk 42.23 46 *i* P **P 01 12 53.4 +0.2**
NVS *i* 01 14 34.4
NVS pmax pmax
comp=E,42nm,0.7s
NVS pmax pmax
comp=Z,83nm,0.7s,mb5.5
NVS pmax pmax
comp=Z,44nm,1.7s,mb4.8
NVS pmax pmax
comp=E,32nm,1.4s
NVS pmax pmax
comp=N,20nm,1.5s
KUDL Kundal 42.43 87 *i* P **P 01 12 56.1 +0.9**
KUDL AMb AMB 01 12 58.6
comp=Z,71nm,0.9s,mb5.3
KLP Kalpa 42.54 81 *i* P **P 01 12 56.5 +0.5**
KLP AMb AMB 01 12 57.9
comp=Z,87nm,0.7s,mb5.5
NDI New Delhi 42.80 85 *eP* **P 01 12 59.0 +0.8**
NDI *eS* **S 01 19 11.0 -0.6**
AYAN Aya Nagar 42.80 86 *eP* **P 01 12 59.4 +1.1**
AYAN AMb AMB 01 13 00.5
comp=Z,124nm,0.5s,mb5.8
DDI Dehra Dun 42.83 83 *eP* **P 01 12 56.6 -1.8**
DDI *e* 01 22 49.0
SONA Sohna 42.87 86 *i* P **P 01 12 59.6 +0.9**
ZAL Zalesovo 43.13 47 P **P 01 13 00.6 0.0**
comp=Z,28nm,0.5s,mb5.1,baz=115,slow=8.0,SNR=151
ZAL PcP PcP 01 14 47.0 -1.4
comp=Z,9.3nm,0.5s,baz=107,slow=8.7,SNR=3.0
ZAL ScP 01 18 25.8
comp=Z,8.0nm,0.9s,baz=135,slow=4.7,SNR=7.3
ZAL S **S 01 19 14.7 -1.5**
comp=Z,16nm,1.1s,baz=211,slow=24,SNR=30
ZAL ScS ScS 01 22 45.5 +1.2
comp=Z,1.0nm,0.5s,baz=218,slow=20,SNR=6.5
ZAL Zalesovo 43.13 47 P **P 01 13 00.6 0.0**
ZAL PcP PcP 01 14 47.0 -1.4
ZAL ScP 01 18 25.8
ZAL S **S 01 19 14.7 -1.5**
ZAL ScS ScS 01 22 45.5 +1.2
ZAL Zalesovo 43.13 47 PcP PcP 01 14 47.0 -1.4
ZAL ScS ScS 01 22 45.5 +1.3
JOSI Joshimath 43.94 82 *eP* **P 01 13 06.7 -0.7**
AGRA Agra 43.98 87 *eP* **P 01 13 06.0 -1.8**
AGRA AMb AMB 01 13 09.5
comp=Z,131nm,0.6s,mb5.8
PTH Pithoragarh 44.86 83 *eP* **P 01 13 13.8 -0.9**
PTH *e* 01 18 33.7
LGTI Lohaghat 44.92 83⇑ *iP* **P 01 13 15.0 -0.2**
POO Poona 44.93 100 *eP* **P 01 13 17.0 +1.6**
DAG Danmarks Havn 45.08 347⇓ *iP* **P 01 13 14.7 -1.2**
comp=Z,34nm,0.8s,mb5.0
DAG *i* 01 15 00.0
BHPL Bhopal 45.37 92 *eP* **P 01 13 20.4 +1.5**
BHPL *e* 01 13 21.4
comp=Z,247nm,0.6s
KAD Karad 45.87 102 *eP* **P 01 13 24.2 +1.3**
WMQ Urumqi 46.21 61⇑ *iP* **P 01 13 26.0 +0.8**
WMQ AP pP 01 13 55.0 -0.8
WMQ PP PP 01 15 16.0 +0.6
WMQ S **S 01 20 01.0 +0.6**
WMQ SS SS 01 23 21.0 -0.4
WMQ AMB AMB
comp=Z,45nm,0.8s,mb5.2
WMQ LR LR
comp=N,387nm,20.0s
WMQ LR LR
comp=E,382nm,20.0s
WMQ LR LR
comp=Z,321nm,20.0s
LATR Latur 47.15 99⇑ *iP* **P 01 13 35.0 +2.1**
SUMG Summit 48.24 338⇑ *iP* **P 01 13 40.1 -0.6**
comp=Z,144nm,1.1s,mb5.5
SUMG *ep*P pP 01 14 11.6 0.0
SUMG *e*PcP PcP 01 15 06.2 +0.1
SUMG *e*ScP 01 18 46.7
SUMG Summit 48.24 338⇑ *iP* **P 01 13 40.1 -0.6**
comp=Z,144nm,1.1s,mb5.5
KOLN Koldanda 48.30 83 *eP* **P 01 13 42.4 +0.7**
comp=Z,164nm,0.6s,mb5.8
GKN Gorkha 49.03 83 *eP* **P 01 13 47.8 +0.4**
comp=Z,426nm,0.6s,mb6.3
HYB Hyderabad 49.28 98 *i* P **P 01 13 49.5 +0.1**
HYB *e* pP 01 14 19.0 -1.4
HYB *e*PcP PcP 01 15 14.0 +3.5
HYB *e*PP PP 01 15 44.5 -0.3
HYB *e*ScP 01 18 53.0
HYB *e*S **S 01 20 45.0 +1.2**
HYB *e*ScS ScS 01 23 24.5 +0.1
HYB Hyderabad 49.28 98 *eP* **P 01 13 49.5 +0.1**
DMN Daman 49.57 83 *eP* **P 01 13 52.2 +0.7**
comp=Z,392nm,0.6s,mb6.2
KKN Kakani 49.63 82 *eP* **P 01 13 52.3 +0.3**
comp=Z,252nm,0.5s,mb6.1
PKI Pulchoki 49.83 83 *eP* **P 01 13 54.0 +0.5**
comp=Z,230nm,0.8s,mb5.8
GUN Gumba 50.06 82 *eP* **P 01 13 55.8 +0.6**
comp=Z,191nm,0.6s,mb5.9
LSZ Lusaka 51.48 178⇓ *iP* **P 01 14 07.9 +1.7**
comp=Z,132nm,1.2s,mb5.4
LSZ *e* 01 14 21.7
LSZ *e*PcP PcP 01 15 20.4 +1.7
LSZ *e*ScP 01 19 03.8
LSZ Lusaka 51.48 178⇓ *iP* **P 01 14 07.9 +1.8**
MOY Mondy 53.16 48 *eP* **P 01 14 18.9 +0.8**
SHL Shillong 55.90 82⇓ *iP* **P 01 14 38.5 0.0**
TSUM Tsumeb 56.04 191⇓ *eP* **P 01 14 40.3 +0.7**
comp=Z,173nm,1.3s,mb5.7
TSUM *e*PP PP 01 16 41.7 -5.6
TSUM *e*ScP 01 19 21.2
TSUM Tsumeb 56.04 191⇓ *eP* **P 01 14 40.3 +0.7**
comp=Z,173nm,1.3s,mb5.7
TSUM Tsumeb 56.04 191 *e*PP PP 01 16 41.7 -5.6
GTA Gaotai 56.19 63 P **P 01 14 40.4 +0.1**
GTA AP pP 01 15 10.6 -1.4
GTA PP PP 01 16 45.0 -3.3
GTA SCP 01 19 23.5
GTA S **S 01 22 19.2 +2.0**
GTA SCS ScS 01 24 15.2 +3.0
GTA AMB AMB
comp=Z,22nm,0.6s,mb5.2
GTA LR LR
comp=N,217nm,19.4s
GTA LR LR
comp=E,151nm,18.6s
GTA LR LR
comp=Z,208nm,22.0s
PALK Pallekele 56.94 107⇓ *iP* **P 01 14 46.8 +0.9**
comp=Z,152nm,1.2s,mb5.7
PALK Pallekele 56.94 107⇓ *iP* **P 01 14 46.8 +0.8**
comp=Z,152nm,1.2s,mb5.7
SONM Songino Array 57.64 52 P **P 01 14 50.4 +0.1**
comp=Z,17nm,0.5s,mb5.1,baz=290,slow=7.7,SNR=259
SONM pP pP 01 15 20.8 -1.4
comp=Z,12nm,0.7s,baz=292,slow=6.7,SNR=3.3
SONM ScP 01 19 29.1
comp=Z,13nm,0.8s,baz=278,slow=4.4,SNR=16
SONM S **S 01 22 36.9 +0.9**
comp=Z,1.0nm,1.0s,baz=286,slow=10,SNR=3.5
IMP Imphal 57.91 81⇓ *iP* **P 01 14 54.0 +1.4**
BOD Bodaibo 58.61 39⇓ *iP* **P 01 14 55.4 -1.6**
BOD *e* 01 15 08.2
TIXI Tiksi 59.48 21 *c iP* **P 01 15 01.8 -1.1**
TIXI pmax pmax
comp=Z,79nm,1.1s,mb5.5
TIXI Tiksi 59.48 21⇑ *iP* **P 01 15 01.9 -1.0**
LZH Lanzhou 60.44 65⇓ P **P 01 15 10.5 +0.6**
LZH AP pP 01 15 40.5 -1.6
LZH PCP PcP 01 15 51.0 -2.0
LZH XP sP 01 15 56.4 -0.4
LZH SCP 01 19 42.9
LZH S **S 01 23 14.0 +1.5**
LZH SS SS 01 27 17.0 +3.2
LZH AMB AMB
comp=Z,140nm,1.0s,mb5.8
LZH AMB AMB
comp=Z,220nm,4.0s
LZH LR LR
comp=E,760nm,15.8s
LZH LR LR
comp=Z,830nm,18.6s
CD2 Chengdu 62.70 70⇑ *iP* **P 01 15 25.5 +0.4**
CD2 AP pP 01 15 58.6 +1.2
CD2 PP PP 01 17 47.5 +1.4
CD2 PPP PPP 01 19 18.4 +1.0
CD2 S **S 01 23 41.3 +0.3**
CD2 XS 01 24 39.5
CD2 SS SS 01 27 48.8 -1.1
CD2 AMB AMB
comp=Z,60nm,0.8s,mb5.5
CD2 LR LR
comp=N,180nm,19.0s
CD2 LR LR
comp=Z,230nm,18.0s
RES Resolute Bay 62.75 345 *eP* **P 01 15 22.8 -2.0**
RES pmax pmax
comp=Z,26nm,0.9s,mb5.1
RES Resolute Bay 62.75 345 *eP* **P 01 15 22.8 -2.1**
comp=Z,54nm,1.2s,mb5.2
RES Resolute Bay 62.75 345 *eP* **P 01 15 22.8 -2.0**
comp=Z,54nm,1.2s,mb5.2
SCHQ Schefferville 63.05 320 P **P 01 15 25.8 -1.3**
comp=Z,109nm,0.7s,mb5.8,baz=57,slow=6.0,SNR=134
SCHQ LR LR 01 41 36.0
comp=Z,165nm,19.6s,baz=54,slow=35
SCHQ Schefferville 63.05 320⇑ *iP* **P 01 15 25.5 -1.6**
comp=Z,135nm,0.6s,mb6.0
SCHQ Schefferville 63.05 320⇑ *iP* **P 01 15 25.5 -1.6**
comp=Z,135nm,0.6s,mb6.0
HHC Hu-ho-hao-te 63.82 57⇑ P **P 01 15 32.9 +0.7**
HHC AP pP 01 16 04.3 -0.4
HHC PCP PcP 01 16 07.5 +0.8
HHC PP PP 01 18 00.1 +4.4
HHC SCP 01 19 53.9
HHC S **S 01 23 56.8 +2.0**
HHC XS 01 24 52.8
HHC SCS ScS 01 25 10.8 +2.0
HHC SS SS 01 28 12.6 +5.8
HHC AMB AMB
comp=Z,36nm,1.0s,mb5.2
HHC AMB AMB
comp=Z,176nm,4.3s
HHC LR LR
comp=N,416nm,19.4s
HHC LR LR
comp=E,252nm,18.8s
HHC LR LR
comp=Z,312nm,18.4s
YAK Yakutsk 64.08 31 *eP* **P 01 15 33.3 -0.3**
YAK pmax pmax
comp=Z,38nm,0.6s,mb5.4
YAK Yakutsk 64.08 31 *eP* **P 01 15 32.1 -1.5**
comp=Z,42nm,0.6s,mb5.4
YAK Yakutsk 64.08 31 *eP* **P 01 15 32.1 -1.5**
comp=Z,42nm,0.6s,mb5.4
KMI Kunming 64.71 77 *eP* **P 01 15 38.4 +0.1**
KMI AP pP 01 16 08.7 -2.1
KMI PP PP 01 18 04.4 +0.5
KMI S **S 01 24 05.8 -0.2**
KMI AMB AMB
comp=Z,38nm,0.8s,mb5.3
KMI LR LR
comp=N,262nm,21.0s
KMI LR LR
comp=E,198nm,17.4s
KMI LR LR
comp=Z,334nm,19.2s
BOSA Boshof 64.75 181 P **P 01 15 40.3 +1.7**
BOSA Boshof 64.75 181⇓ *eP* **P 01 15 39.8 +1.3**
comp=Z,117nm,0.9s,mb5.7
BOSA *e* pP 01 16 12.8 +1.8
BOSA Boshof 64.75 181⇓ *eP* **P 01 15 39.8 +1.3**
XAN Xi'an 65.08 65 P **P 01 15 40.6 0.0**
XAN AMB AMB
comp=Z,38nm,0.8s,mb5.3
CM31 Chiang Mai Arr 65.12 85 *eP* **P 01 15 41.0 0.0**
comp=Z,40nm,0.6s,mb5.4
CM31 Chiang Mai Arr 65.12 85 *eP* **P 01 15 41.0 -0.1**
comp=Z,40nm,0.6s,mb5.4
CMAR Chiang Mai Arr 65.12 85 P **P 01 15 40.9 -0.2**
comp=Z,57nm,0.8s,mb5.5,baz=301,slow=7.9,SNR=188
CMAR ScP 01 20 03.5
comp=Z,1.5nm,0.7s,baz=299,slow=5.7,SNR=6.1
CMAR S S 01 24 13.4 +2.3
comp=Z,0.6nm,0.6s,baz=304,slow=18,SNR=4.1
CMAR Chiang Mai Arr 65.12 85 P **P 01 15 40.9 -0.2**
CMAR S S 01 24 13.5 +2.3
CMAR pmax pmax
comp=Z,57nm,0.8s
CMAR pmax pmax
comp=N,2.0nm,0.7s
CMAR Chiang Mai Arr 65.12 85 P **P 01 15 40.8 -0.3**
HIA Hailar 65.17 46⇑ *iP* **P 01 15 40.9 0.0**
comp=N,22nm,0.6s,mb5.2
HIA *e* pP 01 16 12.3 -1.1
HIA Hailar 65.17 46⇑ *iP* **P 01 15 40.9 0.0**
BDT Bhumibol Dam 65.82 86 P **P 01 15 45.0 -0.5**
comp=N,29nm,0.7s,mb5.2
NANT Nan 66.35 84⇑ P **P 01 15 47.0 -1.9**
GYA Guiyang 67.09 73⇓ *iP* **P 01 15 53.4 0.0**
GYA AP pP 01 16 24.6 -1.5
GYA PP PP 01 18 21.4 -2.8
GYA S S 01 24 32.9 -2.0
GYA PS PS 01 25 07.2 -11
GYA AMB AMB
comp=Z,60nm,0.6s,mb5.6
GYA LR LR
comp=N,340nm,17.6s
GYA LR LR
comp=E,320nm,18.5s
GYA LR LR
comp=Z,400nm,19.7s
BJI Beijing 67.31 56 P **P 01 15 54.7 +0.1**
BJI AP pP 01 16 26.0 -1.3
BJT Baijiatuau 67.31 56 *eP* **P 01 15 53.4 -1.2**
comp=Z,16nm,0.6s,mb5.0
BJT Baijiatuau 67.31 56 *eP* **P 01 15 53.4 -1.2**
comp=Z,16nm,0.6s,mb5.0
ENH Enshi 67.33 68⇑ *eP* **P 01 15 54.6 -0.2**
comp=Z,50nm,0.7s,mb5.5
ENH *ep*P pP 01 16 25.4 -2.2
ENH Enshi 67.33 68⇑ *eP* **P 01 15 54.6 -0.3**
comp=Z,50nm,0.7s,mb5.5
ENH *ep*P pP 01 16 25.4 -2.2
NST Nakhon Sawan 67.58 87⇑ P **P 01 15 56.5 -0.1**
comp=Z,142nm,0.6s,mb5.9
EMMW East Machias 68.14 310⇑ *eP* **P 01 15 59.9 +0.2**
comp=Z,382nm,1.1s,mb6.0

EMMW ePP pP 01 16 31.2 -1.2
EMMW East Machias 68.14 310⇑ *eP* **P 01 15 59.8 +0.2**
comp=Z,382nm,1.1s,mb6.0
EMMW ePP pP 01 16 31.2 -1.2
SUR Sutherland 68.72 185 LR LR 01 47 46.2
comp=Z,649nm,18.9s,baz=96,slow=37
SUR Sutherland 68.72 185 P **P 01 16 05.6 +2.2**
comp=Z,760nm,0.8s,mb6.5,SNR=37
SUR Sutherland 68.72 185 *eP* **P 01 16 05.7 +2.3**
comp=Z,78nm,0.6s,mb5.6
SUR ePP PP 01 18 36.9 -1.7
SUR Sutherland 68.72 185 *eP* **P 01 16 05.7 +2.3**
comp=Z,78nm,0.6s,mb5.6
SUR Sutherland 68.72 185 ePP PP 01 18 36.9 -1.7
NNT Nongplab 68.96 90 P **P 01 16 05.8 +0.7**
KKTK Khon Kaen 69.38 85 P **P 01 16 08.0 +0.4**
WVL Waterville 69.57 311 *eP* **P 01 16 08.9 +0.6**
comp=Z,290nm,1.2s,mb5.9
WVL Waterville 69.57 311 *eP* **P 01 16 08.9 +0.5**
comp=Z,290nm,1.2s,mb5.9
TIA Tai'an 69.86 59 *eP* **P 01 16 10.0 -0.3**
CN2 Changchun 71.32 49 *eP* **P 01 16 18.4 -0.5**
CN2 eAP pP 01 16 51.2 -0.8
CN2 eS S 01 25 21.8 -2.4
CN2 LR LR
comp=N,360nm,18.0s
CN2 LR LR
comp=E,300nm,18.0s
CN2 LR LR
comp=Z,580nm,19.0s
FFD Franklin Falls 71.37 311 *eP* **P 01 16 20.6 +1.4**
comp=Z,134nm,1.2s,mb5.5
FFD Franklin Falls 71.37 311 *eP* **P 01 16 20.6 +1.4**
comp=Z,134nm,1.2s,mb5.5
HNH Hanover 71.63 311⇑ *eP* **P 01 16 22.0 +1.3**
comp=Z,14nm,1.4s,mb4.5
HNH epP pP 01 16 51.0 -2.8
HNH Hanover 71.63 311⇑ *eP* **P 01 16 22.0 +1.3**
comp=Z,14nm,1.4s,mb4.5
HNH epP pP 01 16 51.0 -2.9
SEY Seymchan 71.85 23 *eP* **P 01 16 21.5 -0.2**
SEY *e* 01 26 14.8
SEY pmax pmax
comp=Z,130nm,1.4s,mb5.5
SEY pmax pmax
comp=E,40nm,1.2s
KLR Kul'dur 71.91 42 *eP* **P 01 16 19.0 -3.3**
KLR pmax pmax
comp=N,17nm,1.2s
KLR pmax pmax
comp=Z,28nm,1.2s,mb4.9
MDV Middlebury 72.01 312 *eP* **P 01 16 23.7 +0.7**
MDV epP pP 01 16 53.9 -2.2
MDV Middlebury 72.01 312 *eP* **P 01 16 23.7 +0.7**
MDV epP pP 01 16 53.9 -2.2
BRYW Bryant College 72.14 309⇑ *eP* **P 01 16 24.3 +0.5**
comp=Z,283nm,1.3s,mb5.8
BRYW epP pP 01 16 56.1 -0.9
BRYW Bryant College 72.14 309⇑ *eP* **P 01 16 24.3 +0.5**
comp=Z,283nm,1.3s,mb5.8
BRYW epP pP 01 16 56.1 -0.9
MIV Mineville/With 72.18 312 *eP* **P 01 16 24.8 +0.9**
MIV Mineville/With 72.18 312 *eP* **P 01 16 24.8 +0.8**
QUA2 Belchertown 72.45 310 *eP* **P 01 16 29.7 +4.1**
comp=Z,139nm,1.2s,mb5.6
QUA2 *e* 01 16 40.4
QUA2 epP pP 01 17 02.3 +3.5
MSNY Massena 72.45 313 *eP* **P 01 16 25.8 +0.2**
MSNY Massena 72.45 313 *eP* **P 01 16 25.8 +0.2**
ACCN Adirondack Com 72.64 311 *eP* **P 01 16 27.6 +1.0**
ACCN epP pP 01 16 57.6 -2.3
ACCN Adirondack Com 72.64 311 *eP* **P 01 16 27.6 +0.9**
ACCN epP pP 01 16 57.6 -2.3
NCB Newcomb 72.65 312 *eP* **P 01 16 27.3 +0.6**
comp=Z,78nm,1.3s,mb5.3
NCB ePP PP 01 19 00.0 -12
BBSR BB Station 72.69 298 *eP* **P 01 16 27.5 +0.3**
comp=Z,51nm,1.0s,mb5.2
BBSR BB Station 72.69 298 *eP* **P 01 16 27.5 +0.3**
comp=Z,51nm,1.0s,mb5.2
PTN Potsdam (NY) 72.77 313 P **P 01 16 29.1 +1.7**
PTN Potsdam (NY) 72.77 313 *eP* **P 01 16 28.8 +1.4**
SNG Songkhla 72.77 94 P **P 01 16 27.0 -1.0**
comp=Z,136nm,0.9s,mb5.7
FCC Fort Churchill 73.18 332 *eP* **P 01 16 27.1 -2.4**
comp=Z,31nm,0.8s,mb5.1
FCC Fort Churchill 73.18 332 *eP* **P 01 16 27.1 -2.4**
comp=Z,31nm,0.8s,mb5.1
NJ2 Nanjing 73.27 62 *eP* **P 01 16 30.6 0.0**
NJ2 AP pP 01 17 02.1 -1.8
NJ2 PP PP 01 19 17.1 -0.1
NJ2 S S 01 25 46.0 -0.5
NJ2 AMB AMB
comp=Z,50nm,0.7s,mb5.3
NJ2 AMB AMB
comp=Z,260nm,3.9s
NJ2 LR LR
comp=N,960nm,27.3s
NJ2 LR LR
comp=E,1μm,26.1s
NJ2 LR LR
comp=Z,1μm,29.6s
QIZ Qiongzhong 73.50 78 P **P 01 16 33.1 +0.9**
MA2 Magadan 73.73 26 *eP* **P 01 16 33.2 +0.5**
comp=Z,54nm,0.8s,mb5.3
MA2 Magadan 73.73 26 *eP* **P 01 16 33.2 +0.5**
comp=Z,54nm,0.8s,mb5.3
CPNY Central Park 74.28 309 *eP* **P 01 16 36.7 +0.5**
CPNY epP pP 01 17 09.4 -0.2
CPNY Central Park 74.28 309 *eP* **P 01 16 36.7 +0.4**
INK Inuvik 74.51 353 P **P 01 16 35.6 -1.4**
comp=Z,4.3nm,0.7s,baz=326,slow=6.0,SNR=12
INK pP pP 01 17 09.8 -0.7
comp=Z,9.5nm,0.9s,baz=33,slow=8.4,SNR=3.2
INK Inuvik 74.51 353 P **P 01 16 36.3 -0.7**
INK Inuvik 74.51 353 *eP* **P 01 16 35.5 -1.5**
comp=Z,17nm,1.0s,mb4.6
INK epP pP 01 17 11.2 +0.7
INK Inuvik 74.51 353 *eP* **P 01 16 35.5 -1.5**
comp=Z,17nm,1.0s,mb4.6
BINY Binghamton 74.72 311⇑ *eP* **P 01 16 39.2 +0.5**
comp=Z,180nm,1.1s,mb5.6
BINY epP pP 01 17 11.2 -1.0
BINY *es*P sP 01 17 23.4 -3.4
BRNJ Basking Ridge 74.72 309 *eP* **P 01 16 40.0 +1.2**
BRNJ Basking Ridge 74.72 309 *eP* **P 01 16 40.0 +1.2**
SSE Sheshan 75.46 62 P **P 01 16 42.8 -0.4**
SSE S S 01 26 09.4 -1.3
SSE LR LR
comp=N,232nm,18.6s
SSE LR LR
comp=E,159nm,18.6s
SSE LR LR
comp=Z,324nm,17.3s
GENY Geneseo 75.48 313 *eP* **P 01 16 43.6 +0.5**
KS15 Wonju Array Si 76.42 53 *eP* **P 01 16 48.8 +0.3**
KS15 Wonju Array Si 76.42 53 *eP* **P 01 16 48.8 +0.4**
YKA Yellowknife Ar 76.61 343 P **P 01 16 47.9 -1.0**
comp=Z,2.6nm,0.5s,baz=27,slow=5.1,SNR=15
YKA LR LR 01 50 05.1
comp=Z,167nm,20.4s,baz=45,slow=35
YKA Yellowknife Ar 76.61 343 P **P 01 16 47.9 -1.0**
YKA LR LR 01 50 05.1
SSPA Standing Stone 76.80 311⇑ *eP* **P 01 16 51.1 +0.6**
comp=Z,134nm,1.3s,mb5.4
SSPA epP pP 01 17 23.3 -0.8
SSPA Standing Stone 76.80 311⇑ *eP* **P 01 16 51.1 +0.6**
comp=Z,134nm,1.3s,mb5.4
SSPA epP pP 01 17 23.3 -0.8
ALLY Alegheny Colle 77.54 313 *eP* **P 01 16 55.4 +0.8**
ALLY Alegheny Colle 77.54 313 *eP* **P 01 16 55.4 +0.8**
IMA Indian Mountai 77.79 0 *eP* **P 01 16 55.6 +0.1**
CBN Corbin 77.93 309 *eP* **P 01 16 57.3 +0.5**
comp=Z,117nm,0.8s,mb5.6
CBN epP pP 01 17 30.1 -0.3
CBN Corbin 77.93 309 *eP* **P 01 16 57.3 +0.5**
comp=Z,117nm,0.8s,mb5.6
MCWV Mont Chateau 78.58 311⇑ *iP* **P 01 17 01.1 +0.9**
comp=Z,136nm,0.8s,mb5.6
MCWV epP pP 01 17 33.6 -0.4
MCWV Mont Chateau 78.58 311⇑ *iP* **P 01 17 01.1 +0.8**
comp=Z,136nm,0.8s,mb5.6
MCWV epP pP 01 17 33.6 -0.4
COLA College 78.91 358 P **P 01 17 01.9 +0.4**
COLA College 78.91 358 *eP* **P 01 17 01.8 +0.3**

ILAR Eielson Array 78.97 357 P **P 01 17 00.8 -1.0**
comp=Z,8.7nm,1.2s,baz=358,slow=4.7,SNR=22
ILAR PKKPbc
comp=Z,0.3nm,0.5s,baz=210,slow=2.0,SNR=4.8 01 35 51.5
YSS Yuzh-Sakhalins 79.09 39 P **P 01 17 04.1 +1.2**
YSS pmax pmax
comp=Z,17nm,0.5s,mb4.9
YSS Yuzh-Sakhalins 79.09 39 *eP* **P 01 17 03.7 +0.8**
comp=Z,85nm,1.0s,mb5.3
YSS epP pP 01 17 36.5 -0.2
YSS Yuzh-Sakhalins 79.09 39 *eP* **P 01 17 03.7 +0.8**
comp=Z,85nm,1.0s,mb5.3
FFC Flin Flon 79.09 333 P **P 01 17 03.0 +0.3**
FFC pmax pmax
comp=Z,97nm,1.4s,mb5.2
FFC Flin Flon 79.09 333⇑ *eP* **P 01 17 02.5 -0.2**
comp=Z,42nm,0.9s,mb5.1
FFC Flin Flon 79.09 333⇑ *eP* **P 01 17 02.5 -0.2**
comp=Z,42nm,0.9s,mb5.1
AAM Ann Arbor 79.17 315 P **P 01 17 04.5 +1.1**
AAM pmax pmax
comp=Z,130nm,1.1s,mb5.5
AAM Ann Arbor 79.17 315⇑ *eP* **P 01 17 03.5 +0.1**
comp=Z,142nm,1.1s,mb5.5
AAM Ann Arbor 79.17 315⇑ *eP* **P 01 17 03.5 +0.1**
comp=Z,142nm,1.1s,mb5.5
DAWY Dawson 79.21 354 *eP* **P 01 17 03.1 -0.1**
DAWY Dawson 79.21 354 *eP* **P 01 17 03.1 -0.1**
ULM Lac du Bonnet 79.96 327 P **P 01 17 07.2 -0.3**
comp=Z,63nm,0.8s,mb5.3,baz=45,slow=5.0,SNR=38
ULM LR LR 01 53 33.9
comp=Z,160nm,20.7s,baz=65,slow=36
ULM Lac du Bonnet 79.96 327⇑ *iP* **P 01 17 06.7 -0.8**
comp=Z,214nm,1.2s,mb5.7
ULM Lac du Bonnet 79.96 327⇑ *iP* **P 01 17 06.7 -0.8**
comp=Z,214nm,1.2s,mb5.7
MCK McKinley 80.08 358 P **P 01 17 07.7 -0.2**
MCK pmax pmax
comp=Z,40nm,1.6s,mb4.8
MCK McKinley 80.08 358⇑ *eP* **P 01 17 07.1 -0.8**
comp=Z,55nm,1.6s,mb4.9
MCK McKinley 80.08 358⇑ *eP* **P 01 17 07.1 -0.8**
comp=Z,55nm,1.6s,mb4.9
ACSO Alum Creek Sta 80.10 313 *eP* **P 01 17 08.9 +0.4**
comp=Z,147nm,1.0s,mb5.6
ACSO epP pP 01 17 41.7 -0.6
ACSO Alum Creek Sta 80.10 313 *eP* **P 01 17 08.9 +0.4**
comp=Z,147nm,1.0s,mb5.6
ACSO epP pP 01 17 41.7 -0.6
BLA Blacksburg 80.45 309 *eP* **P 01 17 11.3 +0.9**
BLA pmax pmax
comp=Z,21nm,0.8s,mb4.8
BLA Blacksburg 80.45 309 *eP* **P 01 17 11.3 +0.9**
comp=Z,28nm,0.9s,mb4.9
BLA Blacksburg 80.45 309 *eP* **P 01 17 11.3 +0.9**
comp=Z,28nm,0.9s,mb4.9
FWV Forest Hill 80.46 310 *eP* **P 01 17 11.0 +0.5**
FWV epP pP 01 17 44.0 -0.3
FWV *es*P sP 01 17 56.9 -2.2
FWV Forest Hill 80.46 310 *eP* **P 01 17 11.0 +0.5**
FWV epP pP 01 17 44.0 -0.3
PWV Princeton 80.76 310 *eP* **P 01 17 13.1 +1.0**
PWV Princeton 80.76 310 *eP* **P 01 17 13.1 +1.0**
TTA Tatalina 80.92 1 *eP* **P 01 17 12.2 -0.2**
ASAJ Asahikawa 80.92 41 P **P 01 17 13.1 +0.3**
comp=Z,8.2nm,0.4s,mb4.7,baz=291,slow=30,SNR=4.7
ASAJ Asahikawa 80.92 41 P **P 01 17 13.1 +0.3**
ASAJ pmax pmax
comp=Z,8.0nm,0.4s
CBYP Canovanas 81.43 286 *eP* **P 01 17 16.6 +0.7**
CBYP Canovanas 81.43 286 *eP* **P 01 17 16.6 +0.7**
HUMP Col San Antoni 81.50 286 *eP* **P 01 17 17.8 +1.6**
HUMP Col San Antoni 81.50 286 *eP* **P 01 17 17.8 +1.5**
CPD Cerro la Pandu 81.61 286 *eP* **P 01 17 18.9 +2.0**
CPD Cerro la Pandu 81.61 286 *eP* **P 01 17 18.8 +1.9**
CPD Cerro la Pandu 81.61 286 *eP* **P 01 17 18.8 +1.9**
SJG San Juan 81.75 286 P **P 01 17 18.7 +1.2**
comp=Z,9.1nm,0.6s,mb4.6,baz=1.0,slow=12,SNR=9.2
SJG LR LR 01 46 36.4
comp=Z,101nm,21.8s,baz=92,slow=30
SJG San Juan 81.75 286 P **P 01 17 19.0 +1.4**
SJG pmax pmax
comp=Z,62nm,1.3s
SJG San Juan 81.75 286 *eP* **P 01 17 18.6 +1.0**
comp=Z,45nm,1.1s,mb5.0
SJG epP pP 01 17 56.0 +4.6
SJG San Juan 81.75 286 *eP* **P 01 17 18.6 +1.0**
comp=Z,45nm,1.1s,mb5.0
SML Sawmill 81.99 358 *eP* **P 01 17 17.8 -0.2**
AOPR Arecibo Observ 82.08 287 *eP* **P 01 17 19.7 +0.4**
AOPR Arecibo Observ 82.08 287 *eP* **P 01 17 19.7 +0.4**
PWA Palmer West 82.19 358 *eP* **P 01 17 18.8 -0.2**
PMR Palmer 82.23 358 *eP* **P 01 17 19.4 +0.2**
PMR pmax pmax
comp=Z,54nm,1.4s,mb5.0
PMR Palmer 82.23 358 *eP* **P 01 17 18.8 -0.4**
JFWS Jewell Farm 82.40 319 P **P 01 17 20.8 +0.3**
JFWS pmax pmax
comp=Z,110nm,0.9s,mb5.5
JFWS Jewell Farm 82.40 319 *eP* **P 01 17 20.1 -0.4**
comp=Z,99nm,0.8s,mb5.5
JFWS Jewell Farm 82.40 319 *eP* **P 01 17 20.1 -0.4**
comp=Z,99nm,0.8s,mb5.5
MGP Maguayo 82.53 287 *eP* **P 01 17 21.0 -0.6**
SPU Mount Spurr 82.70 359 *eP* **P 01 17 20.6 -1.0**
SPU Mount Spurr 82.70 359 *eP* **P 01 17 20.6 -1.0**
BLO Bloomington 82.86 314 P **P 01 17 19.9 -3.0**
BLO pmax pmax
comp=Z,140nm,0.8s,mb5.7
BLO Bloomington 82.86 314 *eP* **P 01 17 23.2 +0.3**
comp=Z,158nm,0.8s,mb5.8
BLO Bloomington 82.86 314 *eP* **P 01 17 23.2 +0.3**
comp=Z,158nm,0.8s,mb5.8
JOW Kunigami 82.98 62 P **P 01 17 23.5 -0.2**
comp=Z,16nm,0.5s,mb5.0,baz=297,slow=11,SNR=6.3
SLKM Skilak Lake 83.35 359 P **P 01 17 25.4 +0.5**
SLKM Skilak Lake 83.35 359 *eP* **P 01 17 24.3 -0.6**
SLKM Skilak Lake 83.35 359 *eP* **P 01 17 24.3 -0.6**
WCI Wyandotte Cave 83.36 313 P **P 01 17 26.1 +0.7**
WCI pmax pmax
comp=Z,240nm,1.3s,mb5.8
WCI Wyandotte Cave 83.36 313 *eP* **P 01 17 25.9 +0.5**
comp=Z,98nm,0.9s,mb5.5
WCI Wyandotte Cave 83.36 313 *eP* **P 01 17 25.9 +0.5**
comp=Z,98nm,0.9s,mb5.5
RSO Redoubt South 83.42 360 *eP* **P 01 17 24.9 -0.3**
RSO Redoubt South 83.42 360 *eP* **P 01 17 24.9 -0.3**
MAJO Matsushiro 83.47 49 P **P 01 17 26.0 0.0**
MAJO pmax pmax
comp=Z,37nm,1.2s,mb5.0
MAJO Matsushiro 83.47 49 *eP* **P 01 17 26.7 +0.7**
comp=Z,86nm,1.4s,mb5.3
MAJO Matsushiro 83.47 49 *eP* **P 01 17 26.7 +0.7**
comp=Z,86nm,1.4s,mb5.3
MAT Matsushiro 83.47 49 P **P 01 17 25.9 -0.1**
MAT *es* S 01 27 38.8 +4.2
MAT Matsushiro 83.47 49 *eP* **P 01 17 26.0 0.0**
comp=Z,22nm,1.0s,mb4.8
MAT S S 01 27 39.0 +4.4
CPCT Cooper Cave 84.12 310 *eP* **P 01 17 33.0 +3.7**
CPCT epP pP 01 18 05.7 +2.3
EDM Edmonton 84.22 337 P **P 01 17 30.0 +0.7**
EDM Edmonton 84.22 337 *eP* **P 01 17 29.1 -0.1**
EDM Edmonton 84.22 337 *eP* **P 01 17 29.1 -0.2**
USIN University of 84.33 314 *eP* **P 01 17 30.8 +0.5**
comp=Z,137nm,1.1s,mb5.6
USIN University of 84.33 314 *eP* **P 01 17 30.8 +0.5**
comp=Z,137nm,1.1s,mb5.6
DGMT Dagmar 84.85 330 *eP* **P 01 17 32.5 0.0**
comp=Z,126nm,1.1s,mb5.6
DGMT Dagmar 84.85 330 *eP* **P 01 17 32.5 -0.1**
comp=Z,126nm,1.1s,mb5.6
SWET Sewanee 85.14 311 *eP* **P 01 17 34.7 +0.3**
SWET Sewanee 85.14 311 *eP* **P 01 17 34.7 +0.4**
SLM Saint Louis 85.35 316 P **P 01 17 36.7 +1.4**
SLM pmax pmax
comp=Z,130nm,1.0s,mb5.6
SLM Saint Louis 85.35 316 *eP* **P 01 17 36.0 +0.7**
comp=Z,303nm,1.4s,mb5.8
SLM Saint Louis 85.35 316 *eP* **P 01 17 36.0 +0.7**
comp=Z,303nm,1.4s,mb5.8
WVT Waverly 85.67 312 P **P 01 17 36.7 -0.2**
WVT Waverly 85.67 312 P **P 01 17 36.8 -0.1**
WVT pmax pmax
comp=Z,57nm,0.9s,mb5.3
WVT Waverly 85.67 312 *eP* **P 01 17 36.7 -0.2**
comp=Z,68nm,0.9s,mb5.4
WVT Waverly 85.67 312 *eP* **P 01 17 36.7 -0.2**
comp=Z,68nm,0.9s,mb5.4
FVM French Village 85.91 315 P **P 01 17 38.1 0.0**
FVM pmax pmax
comp=Z,330nm,1.4s,mb5.9
FVM French Village 85.91 315 *eP* **P 01 17 38.5 +0.5**
comp=Z,180nm,1.0s,mb5.8
FVM French Village 85.91 315 *eP* **P 01 17 38.5 +0.4**
comp=Z,180nm,1.0s,mb5.8
UTMT University of 86.14 313 *eP* **P 01 17 40.0 +0.8**
comp=Z,248nm,1.5s,mb5.7
UTMT University of 86.14 313 *eP* **P 01 17 40.0 +0.8**
comp=Z,248nm,1.5s,mb5.7
CCM Cathedral Cave 86.32 316 P **P 01 17 40.8 +0.8**
CCM Cathedral Cave 86.32 316 P **P 01 17 40.7 +0.6**
CCM pmax pmax
comp=Z,120nm,0.8s,mb5.7
CCM Cathedral Cave 86.32 316 *eP* **P 01 17 40.5 +0.4**
comp=Z,149nm,0.8s,mb5.8
CCM Cathedral Cave 86.32 316 *eP* **P 01 17 40.5 +0.4**
comp=Z,149nm,0.8s,mb5.8
FX1 Attu Island--F 86.34 20 *eP* **P 01 17 38.6 -1.2**
FX1 Attu Island--F 86.34 20 *eP* **P 01 17 38.6 -1.1**
GLAT Glass 86.44 313 *eP* **P 01 17 41.4 +0.8**
GLAT Glass 86.44 313 *eP* **P 01 17 41.4 +0.7**
GNAR Gosnell 87.07 314 *eP* **P 01 17 44.5 +0.8**
GNAR Gosnell 87.07 314 *eP* **P 01 17 44.5 +0.8**
LAO LASA Array 87.10 330⇑ *eP* **P 01 17 44.9 +1.4**
comp=Z,185nm,1.0s,mb5.9
LAO epP pP 01 18 16.8 -1.2
LAO *es*P sP 01 18 28.5 -4.2
LAO LASA Array 87.10 330⇑ *eP* **P 01 17 44.9 +1.3**
comp=Z,185nm,1.0s,mb5.9
LAO epP pP 01 18 16.8 -1.1
LRAL Lakeview Retre 87.25 310 *eP* **P 01 17 45.3 +0.6**
comp=Z,156nm,1.1s,mb5.8
LRAL Lakeview Retre 87.25 310 *eP* **P 01 17 45.3 +0.6**
comp=Z,156nm,1.1s,mb5.8
BAO Brasilia Array 87.40 249 *eP* **P 01 17 49.0 +3.3**
BAO *i* 01 17 58.0
BAO *e* pP 01 18 24.9 +4.8
BAO *e* 01 18 46.5
BDFB Brasilia 87.42 249 P **P 01 17 47.6 +1.8**
comp=Z,17nm,0.8s,mb4.9,baz=63,slow=5.1,SNR=22
BDFB LR LR 01 57 30.0
comp=Z,226nm,19.7s,baz=301,slow=36
BDFB Brasilia 87.42 249 P **P 01 17 47.6 +1.8**
BDFB pmax pmax
comp=Z,17nm,0.8s
BDFB MLR MLR
comp=Z,226nm,19.7s
OXF Oxford 87.72 312 P **P 01 17 47.0 +0.1**
OXF pmax pmax
comp=Z,50nm,1.1s,mb5.3
OXF Oxford 87.72 312 *eP* **P 01 17 46.8 -0.1**
comp=Z,134nm,1.3s,mb5.6
OXF Oxford 87.72 312 *eP* **P 01 17 46.8 -0.1**
comp=Z,134nm,1.3s,mb5.6
HBAR Harrisburg 87.73 314 *eP* **P 01 17 48.8 +1.9**
HBAR Harrisburg 87.73 314 *eP* **P 01 17 48.8 +1.9**
WALA Waterton Lakes 87.97 335 *eP* **P 01 17 47.9 +0.2**
comp=Z,29nm,0.9s,mb5.1
WALA Waterton Lakes 87.97 335 *eP* **P 01 17 47.9 +0.2**
comp=Z,29nm,0.9s,mb5.1
RSSD Black Hills 88.23 327 P **P 01 17 48.8 -0.2**
RSSD pmax pmax
comp=Z,83nm,1.1s,mb5.5
RSSD Black Hills 88.23 327 *eP* **P 01 17 49.0 0.0**
comp=Z,78nm,1.0s,mb5.5
RSSD Black Hills 88.23 327 *eP* **P 01 17 49.0 0.0**
comp=Z,78nm,1.0s,mb5.5
KSU1 Kansas State U 88.49 319 *eP* **P 01 17 51.0 +0.6**
KSU1 Kansas State U 88.49 319 *eP* **P 01 17 51.0 +0.6**
GCMT Greycliff 89.20 331 *eP* **P 01 17 54.4 +0.8**
GCMT Greycliff 89.20 331 *eP* **P 01 17 54.4 +0.8**
HRY Holter Researc 89.25 333 *eP* **P 01 17 54.6 +0.9**
HRY epP pP 01 18 27.0 -1.3
HRY *es*P sP 01 18 40.8 -2.1
HRY Holter Researc 89.25 333 *eP* **P 01 17 54.6 +0.8**
UALR University of 89.26 314 *eP* **P 01 17 54.7 +0.5**
comp=Z,29nm,0.9s,mb5.2
CHMT Chamberlain Mo 89.59 334 *eP* **P 01 17 55.6 +0.3**
NEW Newport 89.72 337 P **P 01 17 56.6 +0.7**
NEW pmax pmax
comp=Z,99nm,1.6s
NEW Newport 89.72 337 *eP* **P 01 17 56.3 +0.4**
comp=Z,93nm,1.5s,mb5.5
MSO Missoula 89.90 334 *eP* **P 01 17 56.8 0.0**
comp=Z,44nm,1.2s,mb5.3
MSO ePP PP 01 21 27.4 -6.2
BOZ Bozeman (W) 90.07 332 P **P 01 17 58.4 +0.7**
BOZ pmax pmax
comp=Z,33nm,1.0s,mb5.2
BOZ Bozeman (W) 90.07 332 *eP* **P 01 17 58.3 +0.6**
comp=Z,44nm,1.0s,mb5.3
CBKS Cedar Bluff 90.31 321 P **P 01 17 59.9 +0.9**
CBKS pmax pmax
comp=Z,150nm,1.2s,mb5.8
CBKS Cedar Bluff 90.31 321 *eP* **P 01 17 59.1 +0.1**
comp=Z,132nm,1.2s,mb5.7
DPW Davenport 90.40 337 P **P 01 18 00.2 +1.0**
DPW Davenport 90.40 337 *eP* **P 01 17 59.5 +0.3**
YMR Madison River 90.64 331 *eP* **P 01 18 02.3 +1.9**
QLMT Earthquake Lak 90.69 332 *eP* **P 01 18 02.1 +1.5**
SDV Santo Domingo 90.69 281 *eP* **P 01 18 02.3 +1.0**
comp=Z,42nm,0.9s,mb5.5
OD2 Odessa Site #2 90.99 337 P **P 01 18 02.8 +0.9**
MCMT McKenzie Canyo 91.22 333 *eP* **P 01 18 03.9 +0.8**
MOOW Moose Ponds 91.33 331 *eP* **P 01 18 04.8 +1.2**
LOHW Long Hollow 91.39 331 *eP* **P 01 18 04.3 +0.4**
WUWY Wally Ulrich 91.50 331 *eP* **P 01 18 05.1 +0.6**
SNOW Snow King Moun 91.57 331 *eP* **P 01 18 05.8 +1.1**
TPAW Teton Pass 91.63 331 *eP* **P 01 18 06.1 +1.1**
PDAR Pinedale Array 91.67 329 P **P 01 18 04.8 -0.4**
comp=Z,6.6nm,0.9s,mb4.7,baz=63,slow=3.3,SNR=41
PDAR PP PP 01 21 41.0 -6.7
comp=Z,1.0nm,0.9s,baz=53,slow=7.4,SNR=2.9
REDW Red Top Meadow 91.70 331 *eP* **P 01 18 06.0 +0.7**
RRI2 Red Ridge 91.89 331 *eP* **P 01 18 07.7 +1.5**
GBB Gable Butte 91.97 338 P **P 01 18 07.5 +1.0**
GNW Green Mountain 92.04 340 *eP* **P 01 18 07.1 +0.3**
H2OWA Water 92.10 337 P **P 01 18 08.2 +1.2**
HAWA Hanford 92.13 337 *eP* **P 01 18 07.6 +0.4**
comp=Z,31nm,1.2s,mb5.2
ISCO Idaho Springs 92.38 325 P **P 01 18 09.2 +0.7**
ISCO pmax pmax
comp=Z,48nm,1.2s,mb5.4
ISCO Idaho Springs 92.38 325 *eP* **P 01 18 08.9 +0.4**
comp=Z,29nm,0.9s,mb5.3
NATX Nacogdoches 92.77 313 *eP* **P 01 18 11.8 +1.3**
comp=Z,47nm,1.0s,mb5.6
HLID Hailey 92.89 333 *eP* **P 01 18 11.1 +0.4**
comp=Z,12nm,1.2s,mb4.9
WMOK Wichita Mounta 92.90 318 P **P 01 18 11.3 +0.3**
WMOK pmax pmax
comp=Z,41nm,1.1s,mb5.5
WMOK Wichita Mounta 92.90 318 *eP* **P 01 18 11.1 +0.1**
comp=Z,40nm,1.0s,mb5.5
HWUT Hardware Ranch 93.46 330 *eP* **P 01 18 13.2 -0.2**
comp=Z,42nm,1.0s,mb5.5
HVU Hansel Valley 93.79 331 P **P 01 18 16.1 +1.2**
HVU Hansel Valley 93.79 331 *eP* **P 01 18 15.4 +0.5**
TCUT Toone Canyon 93.81 330 *eP* **P 01 18 13.2 -1.7**
SDCO Great Sand Dun 93.97 324 *eP* **P 01 18 15.8 0.0**
comp=Z,67nm,1.2s,mb5.7
JLU Jordanelle 94.26 329 *eP* **P 01 18 17.4 +0.3**
CTU Camp Tracy 94.30 330 *eP* **P 01 18 17.2 0.0**
DAU Daniels Canyon 94.34 329 P **P 01 18 18.6 +1.2**
DAU Daniels Canyon 94.34 329 *eP* **P 01 18 18.1 +0.6**
BGU Big Grassy Mou 94.62 331 *eP* **P 01 18 19.0 +0.3**
NLU North Lily Min 95.06 329 *eP* **P 01 18 21.3 +0.6**
PV01 Paradox Valley 95.07 326 *eP* **P 01 18 21.1 +0.2**
PV01 *e* 01 18 35.0
PV10 Paradox Valley 95.08 327 *eP* **P 01 18 21.4 +0.5**
SRU San Rafael 95.12 328 P **P 01 18 21.3 +0.2**
SRU San Rafael 95.12 328 *eP* **P 01 18 20.6 -0.5**
DUG Dugway 95.16 330 P **P 01 18 22.1 +0.9**
DUG pmax pmax
comp=Z,200nm,1.0s,mb6.3
DUG Dugway 95.16 330 *eP* **P 01 18 21.4 +0.3**
comp=Z,16nm,0.9s,mb5.3
SAML Samuel 95.22 263 *eP* **P 01 18 22.6 +0.5**
comp=Z,11nm,1.1s,mb5.0

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
SAML				*e*		01 18 33.0	
SAML				*e*PP	PP	01 22 14.6	-1.1
TMUT	**Trail Mountain**	**95.25**	**329**	*e*P	**P**	**01 18 21.8**	**+0.1**
ELK	**Elko**	**95.63**	**332**	P	**P**	**01 18 25.1**	**+1.8**
ELK				pmax	pmax		
	comp=Z,64nm,1.7s						
ELK	**Elko**	**95.63**	**332**	*e*P	**P**	**01 18 24.4**	**+1.1**
	comp=Z,21nm,1.1s,mb5.4						
ROSC	**El Rosal**	**96.04**	**281**	LR	LR	02 00 11.7	
	comp=Z,122nm,19.9s,baz=48,slow=34						
MSU	**Marysvale**	**96.32**	**329**	P	**P**	**01 18 27.7**	**+1.2**
MSU	**Marysvale**	**96.32**	**329**	*e*P	**P**	**01 18 27.2**	**+0.8**
MVU	**Marysvale**	**96.34**	**329**	*e*P	**P**	**01 18 27.5**	**+0.9**
	comp=Z,16nm,1.0s,mb5.3						
MOD	**Modoc**	**96.40**	**336**	*e*P	**P**	**01 18 27.6**	**+0.8**
	comp=Z,17nm,1.0s,mb5.3						
BMN	**Battle Mountai**	**96.64**	**333**	P	**P**	**01 18 29.5**	**+1.6**
BMN				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.9						
BMN	**Battle Mountai**	**96.64**	**333**	*e*P	**P**	**01 18 28.6**	**+0.7**
	comp=Z,12nm,1.0s,mb5.2						
ANMO	**Albuquerque**	**96.68**	**323**	P	**P**	**01 18 29.4**	**+1.2**
ANMO				pmax	pmax		
	comp=Z,12nm,1.2s						
ANMO	**Albuquerque**	**96.68**	**323**	*e*P	**P**	**01 18 28.8**	**+0.6**
	comp=Z,11nm,1.2s,mb5.1						
CPRX	**Cap Rock**	**96.90**	**320**	*e*P	**P**	**01 18 29.3**	**0.0**
LHEM	**Herd Peak**	**97.27**	**337**	P	**P**	**01 18 31.6**	**+0.9**
BNM	**Barren Site**	**97.40**	**323**	*e*P	**P**	**01 18 29.8**	**-1.7**
LAZ	**Ladron**	**97.45**	**323**	*e*P	**P**	**01 18 32.1**	**+0.4**
ARUT	**Antelope Range**	**97.46**	**329**	*e*P	**P**	**01 18 33.2**	**+1.5**
ARUT	**Antelope Range**	**97.46**	**329**	*e*P	**P**	**01 18 32.7**	**+0.9**
LBCM	**Butte Creek Ri**	**97.70**	**336**	P	**P**	**01 18 33.9**	**+1.1**
MNV	**Mina**	**98.74**	**333**	P	**P**	**01 18 38.5**	**+1.0**
MNV				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb5.0						
MNV	**Mina**	**98.74**	**333**	*e*P	**P**	**01 18 38.0**	**+0.4**
	comp=Z,9.3nm,0.9s,mb5.2						
NVAR	**Mina Array Bea**	**98.80**	**333**	P	**P**	**01 18 38.6**	**+0.8**
	comp=Z,5.1nm,0.8s,mb5.0,baz=50,slow=4.6,SNR=31						
NVAR				S		01 29 03.1	
	comp=Z,0.8nm,0.8s,baz=83,slow=12,SNR=6.1						
NVAR				PKKPbc		01 35 06.1	
	comp=Z,0.5nm,0.6s,baz=180,slow=4.3,SNR=4.8						
NVAR				SKKPbc		01 38 33.0	
	comp=Z,1.0nm,0.6s,baz=190,slow=4.0,SNR=10.0						
NVAR				LR	LR	02 07 35.1	
	comp=Z,108nm,18.5s,baz=85,slow=38						
NVAR	**Mina Array Bea**	**98.80**	**333**	P	**P**	**01 18 38.6**	**+0.8**
NVAR				S		01 29 03.1	
NVAR				PKKPbc		01 35 06.1	
NVAR				SKKPbc		01 38 33.0	
NVAR				LR	LR	02 07 35.0	
OHCM	**Honcut**	**99.10**	**336**	*e*P	**P**	**01 18 39.3**	**+0.1**
TXAR	**Lajitas Array**	**99.69**	**318**	P	**P**	**01 18 42.5**	**+0.4**
	comp=Z,3.3nm,0.8s,mb4.8,baz=63,slow=2.8,SNR=25						
TXAR				PP	PP	01 22 49.3	-0.4
	comp=Z,6.3nm,1.2s,baz=69,slow=7.7,SNR=5.7						
TXAR				LR	LR	02 00 41.1	
	comp=Z,153nm,20.9s,baz=210,slow=33						
LDFC	**Landfair**	**100.47**	**329**	*e*Pdif	P	01 18 46.6	+1.1
TUC	**Tucson**	**100.90**	**324**	P	P	01 18 48.6	+1.2
TUC	**Tucson**	**100.90**	**324**	*e*Pdif	P	01 18 48.0	+0.6
	comp=Z,11nm,1.1s						
LPAZ	**La Paz**	**103.38**	**260**	PKiKP		01 23 17.9	
	comp=Z,1.3nm,0.8s,baz=63,slow=6.8,SNR=4.2						
SYO	**Syowa Base**	**105.59**	**175**	⇓pPdiff		01 19 43.6	
SYO	**Syowa Base**	**105.59**	**175**	⇑PP	PP	01 23 32.2	-1.2
FITZ	**Fitzroy Crossi**	**107.50**	**100**	Pdiff	Pdif	01 19 18.2	+1.4
	comp=Z,2.2nm,0.7s,baz=177,slow=20,SNR=5.7						
FITZ				PKiKP		01 23 23.7	
	comp=Z,1.9nm,0.3s,baz=139,slow=3.0,SNR=10						
FITZ				SKP		01 26 47.0	
	comp=Z,2.8nm,0.7s,baz=337,slow=3.2,SNR=5.1						
VNA1	**Neumayer--Stat**	**109.75**	**192**	*e*P		01 23 27.3	
VNA1				*e*		01 24 02.4	
VNA2	**Neumayer--Watz**	**109.85**	**191**	*e*P		01 23 28.4	
VNA2				*e*		01 24 04.3	
SNAA	**Sanae**	**109.86**	**190**	*e*P		01 23 18.2	
SNAA				*e*		01 23 54.5	
VNA3	**Neumayer Olymp**	**110.50**	**192**	*e*P	PKPdf	01 23 25.0	-2.5
VNA3				*e*		01 24 00.9	
WRA	**Warramunga Arr**	**115.42**	**97**	PKP	PKPdf	01 23 40.0	+1.6
	comp=Z,1.2nm,0.6s,baz=318,slow=1.8,SNR=12						
WRA				SKP		01 27 02.4	
	comp=Z,6.1nm,0.6s,baz=300,slow=2.1,SNR=21						
WRA				PKKPbc		01 34 12.1	
	comp=Z,0.5nm,0.7s,baz=116,slow=3.7,SNR=6.3						
WRA				SKKPbc		01 37 46.4	
	comp=Z,0.6nm,1.0s,baz=114,slow=2.4,SNR=5.1						
WRAB	**Tennant Creek**	**115.43**	**97**	*e*PKPdf	PKPdf	01 23 40.2	+1.8
ASAR	**Alice Springs**	**116.98**	**100**	PKP	PKPdf	01 23 43.0	+1.8
	comp=Z,1.9nm,0.6s,baz=333,slow=2.1,SNR=16						
ASAR				SKP		01 27 05.7	
	comp=Z,11nm,0.7s,baz=324,slow=1.5,SNR=25						
ASAR				PKKPbc		01 34 06.3	
	comp=Z,1.0nm,0.8s,baz=127,slow=3.3,SNR=7.1						
ASAR				SKKPbc		01 37 40.5	
	comp=Z,0.3nm,0.5s,baz=119,slow=3.7,SNR=5.5						
CTA	**Charters Tower**	**125.08**	**90**	PKP	PKPdf	01 23 59.6	+2.5
	comp=Z,4.6nm,0.8s,baz=291,slow=1.8,SNR=7.9						
CTA				pPKP		01 24 32.4	
	comp=Z,5.2nm,0.9s,baz=299,slow=5.7,SNR=2.8						
CTA				SKP		01 27 21.8	
	comp=Z,9.4nm,0.9s,baz=287,slow=3.8,SNR=6.6						
CTA	**Charters Tower**	**125.08**	**90**	PKP	PKPdf	01 23 59.6	+2.5
CTA				pPKP		01 24 32.4	
CTA				SKP		01 27 21.8	
CTAO	**Charters Tower**	**125.08**	**90**	*e*PKPdf	PKPdf	01 23 59.3	+2.2
QSPA	**South Pole Qui**	**126.31**	**180**	*e*PKP	PKPdf	01 24 00.3	+2.4
QSPA				*e*		01 24 32.3	
QSPA				*e*		01 25 57.4	
QSPA				LR	LR		
	comp=Z,130nm,21.8s						
STKA	**Stephens Creek**	**126.78**	**105**	PKP	PKPdf	01 24 02.6	+2.6
	comp=Z,4.3nm,0.8s,baz=128,slow=12,SNR=3.7						
STKA				SKP		01 27 23.8	
	comp=Z,8.3nm,0.7s,baz=328,slow=3.3,SNR=5.1						
RPZ	**Rata Peaks**	**151.88**	**116**	PKPbc	PKPdf	01 24 53.1	+9.1
	comp=Z,9.4nm,0.7s,baz=1.0,slow=3.8,SNR=7.0						
URZ	**Urewera**	**156.38**	**103**	PKPab	PKPab	01 25 21.6	-0.3
	comp=Z,37nm,1.1s,baz=326,slow=3.9,SNR=11						

IDC 07 01:06:02.2±4.8**, 20.28S×68.71W, h127**^{km}±37^{km}**, mb3.5**/2**, mb1 3.6**/4**, mb1mx3.4**/14**, Error ellipse: s-maj=55.3km s-min=22.2km az=52.0, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.01**	**8**	P	P	01 07 04.2	+1.2
	1.2nm,0.3s,baz=180,slow=8.4,SNR=26						
LPAZ				S	S	01 07 49.1	-0.5
	1.7nm,0.3s,baz=237,slow=20,SNR=4.6						
CPUP	**Villa Florida**	**12.07**	**122**	P	P	01 08 48.8	-2.1
	0.4nm,0.3s,baz=324,slow=12,SNR=7.6						
BDFB	**Brasilia**	**20.22**	**80**	P	P	01 10 28.2	-0.9
	2.9nm,0.4s,baz=258,slow=8.7,SNR=5.5						
NVAR	**Mina Array Bea**	**74.65**	**322**	P	P	01 17 28.0	-1.4
	0.5nm,0.7s,baz=138,slow=8.8,SNR=5.0						
MKAR	**Makanchi Array**	**144.54**	**35**	PKP	PKPdf	01 25 22.6	-0.8
	0.9nm,0.9s,baz=313,slow=2.8,SNR=4.0						
SONM	**Songino Array**	**152.23**	**7**	PKPbc	PKPdf	01 25 42.8	+7.2
	0.6nm,0.4s,baz=308,slow=1.3,SNR=6.2						

MEX 07 01:11:17.0±0.9**, 15.71N×93.64W, h97**^{km}±32^{km}**, MD4.2, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
SCX	**San Cristobal**	**1.41**	**43**	*i* P	P	01 11 41.5	-0.8
SCX				*i* S	S	01 11 59.0	-2.2
CMIG	**Matias Romero**	**1.82**	**319**	*i* P	P	01 11 46.6	-0.9
CMIG				*i* S	S	01 12 08.6	-1.5
HUIG	**Huatulco**	**2.37**	**272**	*i* P	P	01 11 52.9	-2.2
HUIG				*i* S	S	01 12 20.8	-2.6
TUIG	**Tuzandepetl**	**2.43**	**342**	*i* P	P	01 11 54.7	-1.1
TUIG				*i* S	S	01 12 21.3	-3.4
EVV	**El Vigia**	**3.18**	**329**	*e*P	P	01 12 02.5	-3.7
EVV				*i* S	S	01 12 40.0	-3.3
OXX	**Oaxaca**	**3.25**	**295**	*e*P	P	01 12 06.5	-0.7
VHO	**Vista Hermosa**	**3.26**	**295**	*i* P	P	01 12 06.6	-0.7
VHO				*i* S	S	01 12 44.7	-0.5
SCIG		**4.00**	**36**	*i* P	P	01 12 14.5	-2.9
SCIG				*i* S	S	01 12 58.2	-5.2

TIR ***07*** *01:23:43.6, 41.36N×19.80E, h21^{km}*
CSEM ***07*** *01:23:45.5±0.1, 41.41N×19.97E, h2^{km}, ML2.5, Error ellipse: s-maj=2.6km s-min=2.3km az=33.0*
NEIC ***07*** *01:23:46.3, 41.42N×19.73E, h6^{km}, MD2.6(PDG), After PDG.*
PDG ***07*** *01:23:46.3±0.3, 41.42N×19.73E, h6^{km}±1^{km}*
ISC 07 01:23:43.2±0.9**, 41.29N**±0.05×**19.77E**±0.05**, h2**^{km}**, n18, σ1^{s}28**/33**, Albania**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.09**	**49**	*e*Pg	**Pg**	**01 23 47.5**	**+2.4**
TIR				*i* Sg	**Sg**	**01 23 50.9**	**+4.6**
QSH	**Qafa e Shtames**	**0.25**	**23**	*e*Pg	**Pg**	**01 23 49.0**	**+0.7**
LACI	**Lac**	**0.35**	**352**	*i* Pg	**Pg**	**01 23 50.6**	**+0.3**
LACI				*i* Sg	**Sg**	**01 23 55.8**	**+0.8**
PUK	**Puka**	**0.76**	**7**	*e*Pg	**Pg**	**01 23 58.2**	**-0.2**
ULC	**Ulcinj**	**0.78**	**330**	*e*Pg	**Pg**	**01 23 58.6**	**-0.3**
ULC				*e*Sg	**Sg**	**01 24 09.2**	**-0.1**
BCI	**Bajram Curri**	**1.10**	**11**	*e*Pg	**Pg**	**01 24 04.0**	**-1.2**
BIA	**Bitola**	**1.20**	**102**	*i* Pg	**Pg**	**01 24 06.3**	**-0.9**
BIA				*i* Sg	**Sg**	**01 24 23.9**	**+0.7**
TTG	**Podgorica**	**1.20**	**342**	*e*Pg	**Pg**	**01 24 05.8**	**-1.4**
TTG				*e*Sg	**Sg**	**01 24 22.8**	**-0.5**
TTG	**Podgorica**	**1.20**	**342**	*e*Pg	**Pg**	**01 24 05.8**	**-1.5**
TTG				*e*Sg	**Sg**	**01 24 22.8**	**-0.5**
BUM	**Brajici-Budva**	**1.21**	**327**	*e*Pg	**Pg**	**01 24 06.4**	**-0.9**
BUM				*e*Sg	**Sg**	**01 24 23.6**	**+0.2**
PVY	**Plav**	**1.31**	**6**	*e*Pg	**Pg**	**01 24 07.8**	**-1.7**
PVY				*e*Sg	**Sg**	**01 24 26.8**	**-0.3**
SKO	**Skopje**	**1.42**	**61**	*i* Pn	**Pn**	**01 24 11.0**	**+0.8**
SKO				*i* Sg	**Sg**	**01 24 29.4**	**-1.3**
SKO				Lg		01 24 31.5	
	comp=Z,0.1nm,0.5s						
HCY	**Herceg Novi**	**1.50**	**321**	*e*Pg	**Pg**	**01 24 10.8**	**-2.4**
HCY				*e*Sg	**Sg**	**01 24 32.9**	**-0.3**
IVA	**Berane**	**1.59**	**3**	*e*Pg	**Pg**	**01 24 12.9**	**-2.0**
IVA				*e*Sg	**Sg**	**01 24 35.9**	**-0.2**
NKY	**Niksic**	**1.63**	**340**	*e*Pg	**Pg**	**01 24 13.3**	**-2.5**
NKY				*e*Sg	**Sg**	**01 24 37.2**	**-0.4**
BRY	**Bratogost**	**1.85**	**331**	*e*Pn	**Pn**	**01 24 17.5**	**+1.1**
BRY				*e*Sn	**Sn**	**01 24 43.3**	**+2.7**
UPM	**Unac-Piva**	**2.02**	**342**	*e*Pn	**Pn**	**01 24 20.2**	**+1.5**
UPM				*e*Sn	**Sn**	**01 24 46.4**	**+1.6**
PLE	**Pljevlja**	**2.06**	**352**	*e*Pn	**Pn**	**01 24 20.9**	**+1.7**
PLE				*e*Sn	**Sn**	**01 24 48.3**	**+2.4**

CSEM ***07*** *01:26:18.6±0.1, 71.05N×6.27W, h30^{km}, ML3.4, Error ellipse: s-maj=4.1km s-min=1.3km az=4.0*
NAO ***07*** *01:26:19.9±2.4, 70.69N×6.70W, ML2.5*
NEIC ***07*** *01:26:20.0±0.5, 70.88N×6.45W, h10^{km}, mb3.6/1, ML3.5(BER), Error ellipse: s-maj=13.3km s-min=4.9km az=193.0*
BER ***07*** *01:26:21.7±1.9, 71.15N×6.55W, MD3.6, ML3.4, ML2.5(NAO)*
ISC 07 01:26:17.4±0.4**, 70.85N**±0.09×**6.19W**±0.10**, h10**^{km}**, n20, σ1^{s}33**/32**, 3C, Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
JNE	**Jan Mayen East**	**0.71**	**283**	*e*P	**Pb**	**01 26 32.2**	**+0.8**
JNE				*e*S	**Sb**	**01 26 39.2**	**-1.7**
JNE				AML	AML	01 26 42.5	
	comp=Z,2μm,0.4s						
JNW	**Jan Mayen West**	**0.76**	**285**	⇑*i*P	**Pb**	**01 26 32.8**	**+0.6**
JNW				*e*S	**Sb**	**01 26 39.9**	**-2.4**
JNW				AML	AML	01 26 45.3	
	comp=Z,2μm,0.4s						
JMIC	**Jan Mayen**	**0.78**	**281**	Pg	**Pg**	**01 26 32.9**	**-0.1**
JMIC				Lg		01 26 41.9	
JMIC	**Jan Mayen**	**0.78**	**281**	*e*P	**Pb**	**01 26 32.9**	**+0.4**
JMIC				*e*S	**Sb**	**01 26 41.9**	**-1.0**
JMIC				AML	AML	01 26 50.8	
	comp=Z,1μm,0.5s						
JMI	**Jan Mayen**	**0.84**	**277**	⇑*i*P	**Pb**	**01 26 34.5**	**+0.9**
JMI				*e*S	**Sb**	**01 26 46.0**	**+1.3**
JMI				AML	AML	01 26 53.0	
	comp=Z,2μm,0.5s						
JMI	**Jan Mayen**	**0.84**	**277**	⇑*i*P	**Pb**	**01 26 34.5**	**+0.9**
	SNR=90						
JMI				*e*S	**Sb**	**01 26 46.0**	**+1.3**
	comp=Z,2μm,0.5s,SNR=90						
LOF	**Lofoten**	**7.43**	**102**	*e*P	**Pn**	**01 28 09.9**	**+1.4**
LOF				*e*S	**Sn**	**01 29 29.4**	**-4.3**
MELS	**Mels**	**8.21**	**109**	*e*P	**P**	**01 28 19.0**	**-0.3**
MELS				*e*S	**Sn**	**01 29 45.3**	**-7.8**
STOK	**Stokkvaagen**	**8.33**	**114**	*e*P	**P**	**01 28 21.7**	**+0.6**
STOK				*e*S	**Sn**	**01 29 49.9**	**-6.3**
TRO	**Tromso**	**8.56**	**86**	*e*P	**P**	**01 28 21.8**	**-2.6**
TRO				*e*S	**Sn**	**01 29 51.6**	**-10**
MOR8	**Moi Rana**	**8.87**	**112**	*e*P	**P**	**01 28 29.1**	**+0.5**
MOR8				*e*S	**Sn**	**01 30 04.6**	**-5.1**
NSS	**Namsos**	**9.33**	**124**	*e*P	**P**	**01 28 34.4**	**-0.6**
NSS				*e*S	**Sn**	**01 30 12.1**	**-9.0**
SPA0	**Spitsbergen Ar**	**9.41**	**29**	Pn	**P**	**01 28 37.5**	**+1.3**
	baz=224,slow=16						
MOL	**Molde**	**9.90**	**140**	*e*P	**P**	**01 28 44.5**	**+2.0**
MOL				*e*S	**Sn**	**01 30 30.6**	**-4.2**
KTK1	**Kautokeino**	**10.22**	**86**	*e*P	**P**	**01 28 46.5**	**-0.4**
ARA0	**ARCESS Array S**	**10.76**	**82**	Pn	**P**	**01 28 54.1**	**-0.2**
	baz=295,slow=12						
KEV	**Kevo**	**11.17**	**80**	*e*p	**P**	**01 28 59.2**	**-0.7**
HFS	**Hagfors**	**13.45**	**133**	P	**P**	**01 29 32.0**	**+1.4**
	baz=339,slow=11						
KAF	**Kangasniemi**	**15.42**	**108**	*e*p	**P**	**01 30 02.0**	**+5.8**
	comp=Z,2.6nm,0.7s						
FIA0	**FINESS Array S**	**15.86**	**110**	P	**P**	**01 30 06.0**	**+4.1**
	baz=326,slow=14						

IDC 07 01:43:44.5±2.9**, 1.12S×134.47E, mb3.4**/2**, mb1 3.7**/3**, mb1mx3.5**/14**, ML3.5**/1**, Error ellipse: s-maj=127.0km s-min=29.1km az=77.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.71**	**180**	P	P	01 48 04.4	-2.4
	0.1nm,0.3s,baz=360,slow=11,SNR=9.0						
ASAR	**Alice Springs**	**22.42**	**181**	P	P	01 48 45.4	-1.0
	0.8nm,0.8s,baz=8.4,slow=11,SNR=4.2						
MKAR	**Makanchi Array**	**65.97**	**324**	P	P	01 54 32.6	-2.2
	0.3nm,0.5s,baz=112,slow=9.0,SNR=4.3						

IDC ***07*** *01:51:24.5±0.8, 24.16N×121.74E, mb4.0/10, mb1 4.1/11, mb1mx3.9/25, ML4.3/1, MS3.3/1, Ms1 3.3/1, ms1mx2.6/29, Error ellipse: s-maj=28.3km s-min=17.8km az=65.0*
TAP ***07*** *01:51:31.6, 24.08N×121.87E, h45^{km}, ML4.4*
TAP Felt II J at Chiawan, II J at Hualien, III J at Nanau, II J at Shilin, II J at Suao, II J at Nanshan, I J at Tachien.
NEIC ***07*** *01:51:32.5±1.3, 24.23N×121.99E, h65^{km}±12^{km}, mb4.4/1, Error ellipse: s-maj=21.4km s-min=12.3km az=49.0*
NEIC Recorded [3 TAP] in Hua-lien and I-lan; [1 TAP] in T'ai-chung Counties.
JMA ***07*** *01:51:32.2±0.2, 24.29N×121.95E, h75^{km}±3^{km}, M3.9*
ISC 07 01:51:31.8±0.2**, 24.09N**±0.02×**121.94E**±0.02**, h45**^{km}**, n80, σ1^{s}00**/131**, mb3.9**/11**, 13C-4D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.32**	**269**	⇓*i*P	**P**	**01 51 40.2**	**-0.5**
TWD				S	**S**	**01 51 46.3**	**-0.6**
HWA	**Hwalien**	**0.33**	**251**	⇓*i*P	**P**	**01 51 40.7**	**-0.1**
HWA				S	**S**	**01 51 47.5**	**+0.5**
ENA	**Nanau**	**0.39**	**332**	⇓*i*P	**P**	**01 51 41.3**	**-0.2**
ENA				S	**S**	**01 51 48.4**	**+0.3**
TWC	**Suao**	**0.53**	**351**	⇓*i*P	**P**	**01 51 43.4**	**+0.3**
TWC				S	**S**	**01 51 51.8**	**+0.5**
ESL	**Shilin**	**0.54**	**240**	⇑*i*P	**P**	**01 51 42.5**	**-0.8**
ESL				S	**S**	**01 51 50.4**	**-1.1**
NNS	**Nan Shan**	**0.63**	**304**	⇑*i*P	**P**	**01 51 43.9**	**-0.5**
NNS				S	**S**	**01 51 52.9**	**-0.7**
ENTT	**Nioudou**	**0.65**	**328**	⇑*i*P	**P**	**01 51 44.5**	**-0.2**
ENTT				S	**S**	**01 51 54.1**	**0.0**
TWE	**Neicheng**	**0.68**	**339**	⇑*i*P	**P**	**01 51 45.2**	**+0.1**
TWE				S	**S**	**01 51 55.2**	**+0.3**
ILA	**Ilan**	**0.70**	**345**	*e*P	**P**	**01 51 43.9**	**-1.5**
ILA				S	**S**	**01 51 56.5**	**+1.1**
TWT	**Tachien**	**0.72**	**284**	⇑*i*P	**P**	**01 51 45.7**	**0.0**
TWT				S	**S**	**01 51 55.3**	**-0.6**
NSK	**Sanguang**	**0.79**	**318**	⇑*i*P	**P**	**01 51 46.5**	**-0.2**
NSK				S	**S**	**01 51 56.6**	**-1.1**
EHY	**Hungye**	**0.81**	**225**	⇑*i*P	**P**	**01 51 45.8**	**-1.1**
TWB1	**Santiao Chiao**	**0.92**	**3**	⇑P	**P**	**01 51 48.8**	**+0.3**
TWB1				S	**S**	**01 52 01.1**	**+0.3**
TWF1	**Yuli**	**0.94**	**219**	⇑*i*P	**P**	**01 51 47.6**	**-1.1**
TWA	**Mucha**	**0.95**	**340**	*e*P	**P**	**01 51 49.3**	**+0.4**
TWA				S	**S**	**01 52 02.0**	**+0.5**
SMLT	**Sun Moon Lake**	**0.97**	**258**	⇑*i*P	**P**	**01 51 49.0**	**-0.3**
SMLT				S	**S**	**01 52 01.5**	**-0.6**
TATO	**Taipei**	**0.98**	**335**	*e*Pn	**P**	**01 51 48.8**	**-0.5**
TATO				*e*Sn	**S**	**01 52 02.2**	**0.0**
NWF	**Wu-fen Shan**	**0.99**	**352**	⇑P	**P**	**01 51 50.3**	**+0.8**
NWF				S	**S**	**01 52 03.6**	**+1.1**
TYC	**Yuchr**	**1.01**	**260**	⇑P	**P**	**01 51 49.3**	**-0.4**
TYC				S	**S**	**01 52 02.8**	**-0.2**
NSTT	**Nanjuang**	**1.01**	**303**	*e*P	**P**	**01 51 50.0**	**+0.1**
NSTT				S	**S**	**01 52 02.8**	**-0.4**
TAP1	**Taipei**	**1.02**	**338**	*e*P	**P**	**01 51 50.3**	**+0.3**
YOJ	**Yonaguni jima**	**1.05**	**69**	P	**P**	**01 51 50.8**	**+0.5**
YOJ				S	**S**	**01 52 04.6**	**+0.7**
CHKT	**Chengkung**	**1.11**	**208**	*e*P	**P**	**01 51 50.0**	**-1.2**
CHKT				S	**S**	**01 52 03.3**	**-2.4**
TWS1	**Kuangyinshan**	**1.12**	**335**	*e*P	**P**	**01 51 51.2**	**-0.1**
TWS1				S	**S**	**01 52 05.8**	**0.0**
NSY	**Sanyi**	**1.13**	**287**	*e*P	**P**	**01 51 51.8**	**+0.4**
NSY				S	**S**	**01 52 06.4**	**+0.4**
HSN	**Hsinchu**	**1.14**	**309**	*e*P	**P**	**01 51 51.5**	**-0.1**
HSN				S	**S**	**01 52 06.2**	**0.0**
TCU	**Taichung**	**1.16**	**273**	*e*P	**P**	**01 51 52.1**	**+0.3**
TCU				S	**S**	**01 52 07.2**	**+0.5**
WNT	**Mingjian**	**1.17**	**260**	*e*P	**P**	**01 51 52.7**	**+0.7**
WNT				S	**S**	**01 52 08.3**	**+1.3**
ALS	**Alishan**	**1.19**	**241**	⇑P	**P**	**01 51 52.6**	**+0.3**
ALS				S	**S**	**01 52 08.0**	**+0.5**
TWY	**Chenhua**	**1.23**	**345**	*e*P	**P**	**01 51 53.1**	**+0.4**
ELDTW	**Lidau**	**1.23**	**224**	*e*P	**P**	**01 51 51.7**	**-1.2**
ELDTW				S	**S**	**01 52 06.5**	**-2.1**
CHN5	**Tsauling**	**1.25**	**247**	*e*P	**P**	**01 51 53.5**	**+0.3**
CHN5				S	**S**	**01 52 10.1**	**+0.9**
WGK	**Gukeng**	**1.32**	**253**	*e*P	**P**	**01 51 54.8**	**+0.4**
WGK				S	**S**	**01 52 12.2**	**+1.2**
STYT	**Tauyuan**	**1.42**	**230**	*e*P	**P**	**01 51 55.7**	**0.0**
STYT				S	**S**	**01 52 13.3**	**-0.1**
CHN4	**Tsaushan**	**1.44**	**240**	*e*P	**P**	**01 51 56.5**	**+0.7**
CHN4				S	**S**	**01 52 15.3**	**+1.5**
WTP	**Ta-pu**	**1.48**	**236**	*e*P	**P**	**01 51 56.4**	**-0.1**
WTP				S	**S**	**01 52 16.1**	**+1.4**
CHY	**Chiayi**	**1.51**	**247**	*e*P	**P**	**01 51 57.4**	**+0.5**
CHY				S	**S**	**01 52 17.1**	**+1.6**
WTCT	**Ta-ch'eng**	**1.53**	**262**	*e*P	**P**	**01 51 57.0**	**-0.3**
WTCT				S	**S**	**01 52 16.1**	**-0.1**
PCYT	**Pengchaiyu**	**1.54**	**4**	*e*P	**P**	**01 51 56.8**	**-0.6**
TWK	**Hsinying**	**1.56**	**239**	*e*P	**P**	**01 51 57.8**	**+0.1**
TWK				S	**S**	**01 52 18.2**	**+1.4**
CHN1	**Nanshi**	**1.58**	**236**	*e*P	**P**	**01 51 58.1**	**+0.3**
CHN1				S	**S**	**01 52 19.0**	**+1.8**
SGST	**Jiashian**	**1.60**	**232**	*e*P	**P**	**01 51 58.8**	**+0.7**
SGST				S	**S**	**01 52 19.5**	**+1.7**
WSF	**Szhu**	**1.64**	**255**	*e*P	**P**	**01 51 58.8**	**+0.1**
WSF				S	**S**	**01 52 19.7**	**+1.0**
IRIF	**Iriomote-Funau**	**1.65**	**81**	P	**P**	**01 51 59.1**	**+0.2**
IRIF				S	**S**	**01 52 19.7**	**+0.6**
HATJ	**Hateruma jima**	**1.70**	**91**	P	**P**	**01 52 00.4**	**+0.7**
HATJ				*e*S	**S**	**01 52 22.0**	**+1.6**
ECL	**Taimali**	**1.74**	**212**	*e*P	**P**	**01 51 57.8**	**-2.4**
CHN8	**Yiju**	**1.75**	**245**	*e*P	**P**	**01 52 00.2**	**0.0**
CHN8				S	**S**	**01 52 22.5**	**+1.0**
CHN3	**Shinhua**	**1.76**	**236**	*e*P	**P**	**01 52 01.8**	**+1.3**
SSD	**Sandimen**	**1.80**	**222**	*e*P	**P**	**01 52 01.0**	**0.0**
SSD				S	**S**	**01 52 23.1**	**+0.4**
SCLT	**Jiali**	**1.84**	**241**	S	**S**	**01 52 25.5**	**+1.8**
TWM1	**Shoushan**	**1.88**	**228**	*e*P	**P**	**01 52 04.2**	**+2.1**
TAI1	**Yung-k'ang**	**1.89**	**237**	*e*P	**P**	**01 52 03.0**	**+0.8**
JKRS	**Kuro-shima**	**1.90**	**85**	P	**P**	**01 52 03.0**	**+0.7**
JKRS				*e*S	**S**	**01 52 26.3**	**+1.2**
EAST	**Anshuo**	**1.97**	**211**	*e*P	**P**	**01 52 01.6**	**-1.8**
JIJ	**Ishigaki jima**	**2.03**	**82**	P	**P**	**01 52 04.2**	**0.0**
JIJ				*e*S	**S**	**01 52 28.5**	**0.0**
SCZT	**Fangliau**	**2.09**	**216**	*e*P	**P**	**01 52 05.6**	**+0.4**
SCZT				S	**S**	**01 52 30.7**	**+0.6**
PNG	**Penghu**	**2.25**	**257**	*e*P	**P**	**01 52 05.5**	**-1.8**
PNG				S	**S**	**01 52 31.6**	**-2.3**
WDGT	**Dungji**	**2.25**	**249**	*e*P	**P**	**01 52 06.3**	**-1.1**
WDGT				S	**S**	**01 52 32.1**	**-1.9**
HEN	**Hengchun**	**2.35**	**208**	*e*P	**P**	**01 52 10.5**	**+1.7**
TWK1	**Hengchun**	**2.38**	**206**	*e*P	**P**	**01 52 08.8**	**-0.4**
TWK1				S	**S**	**01 52 36.0**	**-1.2**
JTJ	**Tarama**	**2.58**	**77**	P	**P**	**01 52 12.1**	**0.0**
JTJ				*e*S	**S**	**01 52 41.9**	**-0.5**
KNM	**Kinmen**	**3.22**	**277**	*e*P	**P**	**01 52 20.1**	**-1.1**
KNM				S	**S**	**01 52 55.3**	**-3.4**
JKE	**Kume jima 2**	**4.92**	**62**	P	**P**	**01 52 43.9**	**-1.4**
JOW	**Kunigami**	**6.34**	**63**	Pn	**P**	**01 53 02.2**	**-2.9**
	14nm,0.3s,baz=225,slow=11,SNR=22						
JOW				Sn	**S**	**01 54 17.6**	**+0.4**
	4.1nm,0.3s,baz=117,slow=23,SNR=3.3						
JOW				LR	LR	01 55 38.0	
	comp=Z,268nm,21.1s,baz=56,slow=39						
JOW	**Kunigami**	**6.34**	**63**	P	**P**	**01 53 02.1**	**-3.0**
JTK	**Tokunoshima**	**7.31**	**58**	P	**P**	**01 53 14.6**	**-4.0**
JAM	**Amami Oshima**	**8.12**	**56**	P	**P**	**01 53 25.4**	**-4.4**
SONM	**Songino Array**	**26.73**	**336**	P	**P**	**01 57 06.0**	**-3.0**
	1.9nm,0.6s,mb3.8,baz=151,slow=9.6,SNR=20						
MKAR	**Makanchi Array**	**38.89**	**316**	P	**P**	**01 58 51.5**	**-3.0**
	1.2nm,0.4s,mb4.0,baz=100,slow=9.4,SNR=11						
MKAR	**Makanchi Array**	**38.89**	**316**	P	**P**	**01 58 51.5**	**-3.1**
ZAL	**Zalesovo**	**40.71**	**327**	P	**P**	**01 59 05.6**	**-4.0**
	1.9nm,0.7s,mb3.9,baz=300,slow=6.3,SNR=7.9						
ZAL	**Zalesovo**	**40.71**	**327**	P	**P**	**01 59 05.6**	**-4.0**
FITZ	**Fitzroy Crossi**	**42.09**	**175**	P	**P**	**01 59 20.8**	**-0.5**
	3.3nm,1.2s,mb3.9,baz=355,slow=11,SNR=4.3						
WRA	**Warramunga Arr**	**45.40**	**164**	P	**P**	**01 59 44.5**	**-3.6**
	0.4nm,0.5s,mb3.5,baz=345,slow=8.6,SNR=7.1						
BVAR	**Borovoye Array**	**48.19**	**321**	P	**P**	**02 00 05.5**	**-4.0**
	1.4nm,0.7s,mb4.1,baz=100,slow=9.0,SNR=4.9						
ZRNK	**Zerenda**	**48.97**	**320**	*e*P	**P**	**02 00 11.8**	**-3.9**
	3.7nm,0.9s,mb4.4						
ILAR	**Eielson Array**	**68.98**	**27**	P	**P**	**02 02 32.0**	**-2.1**
	0.4nm,0.9s,mb3.4,baz=286,slow=7.7,SNR=4.3						
FINES	**FINESS Array B**	**71.88**	**330**	P	**P**	**02 02 47.5**	**-4.2**
	2.7nm,0.9s,mb4.2,baz=45,slow=5.4,SNR=5.4						
HFS	**Hagfors**	**77.99**	**331**	P	**P**	**02 03 22.0**	**-4.7**
	2.2nm,0.7s,mb4.2,baz=90,slow=4.3,SNR=3.3						
NOA	**NORSAR Array B**	**78.63**	**332**	P	**P**	**02 03 26.0**	**-4.2**
	0.6nm,0.8s,mb3.6,baz=77,slow=6.9,SNR=3.2						

IDC 07 01:51:56.8±13.0**, 15.63N×146.84E, mb3.6**/3**, mb1 3.8**/3**, mb1mx3.6**/19**, Error ellipse: s-maj=480.0km s-min=30.7km az=82.0, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**37.42**	**200**	P	P	01 59 11.8	-1.8
	0.3nm,0.6s,baz=24,slow=9.0,SNR=5.5						
SONM	**Songino Array**	**46.22**	**323**	P	P	02 00 24.4	-1.0
	0.3nm,0.5s,baz=131,slow=7.9,SNR=3.4						
MKAR	**Makanchi Array**	**61.38**	**315**	P	P	02 02 14.1	-2.8
	1.0nm,0.4s,baz=93,slow=8.4,SNR=14						

TIR ***07*** *01:52:12.7, 42.52N×19.35E, h5^{km}*
PDG ***07*** *01:52:13.5±0.1, 42.50N×19.34E, h21^{km}*
NEIC ***07*** *01:52:13.5, 42.50N×19.34E, h21^{km}, ML2.6(PDG), After PDG.*
ISC 07 01:52:14.2±0.4**, 42.49N**±0.02×**19.36E**±0.03**, h19**^{km}±5^{km}**, n20, σ0^{s}86**/36**, 5C-6D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
TTG	**Podgorica**	**0.09**	**231**	⇓*i*Pg	**Pb**	**01 52 17.4**	**-0.5**
TTG				*e*Sg	**Sb**	**01 52 20.8**	**+0.3**
BUM	**Brajici-Budva**	**0.39**	**241**	⇓*i*Pg	**Pb**	**01 52 21.5**	**-0.8**
BUM				*e*Sg	**Sb**	**01 52 27.8**	**0.0**
NKY	**Niksic**	**0.42**	**321**	⇑*i*Pg	**Pb**	**01 52 21.8**	**-0.9**
NKY				*e*Sg	**Sb**	**01 52 28.6**	**0.0**
SDA	**Shkodra**	**0.45**	**167**	*i* Pg	**Pb**	**01 52 22.4**	**-0.9**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SDA				iSg	Sb	01 52 30.4	+1.0
PVY	Plav	0.47	77	⇑iPg	Pb	01 52 22.9	-0.7
PVY				eSg	Sb	01 52 30.7	+0.8
ULC	Ulcinj	0.53	189	⇓iPg	Pb	01 52 23.7	-1.0
ULC				eSg	Sb	01 52 32.9	+1.0
BCI	Bajram Curri	0.54	103	iPg	Pb	01 52 23.9	-0.9
IVA	Berane	0.55	46	⇓iPg	Pb	01 52 24.5	-0.5
IVA				eSg	Sb	01 52 33.6	+1.2
PUK	Puka	0.60	138	iPg	Pb	01 52 25.5	-0.3
PUK				iSg	Sb	01 52 34.7	+1.0
HCY	Herceg Novi	0.64	267	⇓iPg	Pb	01 52 25.5	-0.9
HCY				eSg	Sb	01 52 35.8	+0.9
BRY	Bratogost	0.73	305	⇑iPg	Pb	01 52 26.7	-1.3
BRY				eSg	Sb	01 52 38.6	+1.1
UPM	Unac-Piva	0.79	335	⇑iPg	Pb	01 52 28.1	-0.9
UPM				eSg	Sb	01 52 40.6	+1.5
PLE	Pljevlja	0.84	2	⇓iPg	Pb	01 52 29.3	-0.6
PLE				eSg	Sb	01 52 42.2	+1.5
LACI	Lac	0.89	163	iPg	Pb	01 52 30.1	-0.7
LACI				iSg	Sb	01 52 43.2	+1.0
NVSS	Nova Varos 2	1.05	14	⇑iPg	Pb	01 52 32.5	-1.0
NVSS				Sg	Sb	01 52 46.6	-0.2
TIR	Tirane	1.20	161	iPg	Pb	01 52 40.0	+3.9
SKO	Skopje	1.63	108	ePn	Pn	01 52 53.0	+11
DIVS	Divcibare	1.67	16	ePn	Pn	01 52 42.2	-0.7
DIVS				Sg	Sn	01 53 04.1	+0.2
CEY	Cerknica	4.81	314	iPn	Pn	01 53 27.7	+0.2
CEY				eSn	Sn	01 54 24.7	+1.2
PERS	Pernice	5.13	325	iPn	Pn	01 53 31.7	-0.4

WEL 07 02:09:52.6±0.4, 38.26S×176.15E, h153km±3km, ML3.5/7, 2C, Error ellipse: s-maj=3.0km s-min=2.8km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.76	90	PN	P	02 10 15.5	-0.6
URZ				SN	S	02 10 33.3	-0.9
MGZ	Maungaku	0.88	213	⇑PN	P	02 10 17.1	+0.1
BKZ	Black Stump Fm	0.95	164	PN	P	02 10 17.4	0.0
BKZ				SN	S	02 10 36.1	-0.4
NGZ	Ngauruhoe	1.01	205	PN	P	02 10 18.0	+0.1
TUVZ	Tukino	1.08	201	PN	P	02 10 18.5	0.0
MWZ	Matawai	1.09	94	PN	P	02 10 18.5	-0.1
MWZ				SN	S	02 10 38.0	-0.6
WNVZ	Wahianoa	1.15	202	PN	P	02 10 19.1	-0.1
MOVZ	Moawhango	1.19	195	PN	P	02 10 19.0	-0.6
KNZ	Kokohu	1.42	123	PN	P	02 10 21.8	0.0
KNZ				SN	S	02 10 43.4	-1.0
TSZ	Takapari Road	1.81	185	PN	P	02 10 25.0	-1.0
TSZ				SN	S	02 10 48.9	-2.8
MXZ	Matakaoa Point	1.84	69	PN	P	02 10 26.0	-0.5
MXZ				SN	S	02 10 50.4	-2.1
PWZ	Pawanui	1.85	163	PN	P	02 10 25.9	-0.6
PWZ				SN	S	02 10 52.5	-0.2
BFZ	Birch Farm	2.42	178	PN	P	02 10 31.4	-2.1
BFZ				SN	S	02 11 01.6	-3.2
MRZ	Mangatainoka R	2.44	190	⇑PN	P	02 10 31.3	-2.4
MRZ				SN	S	02 11 01.5	-3.7
KIW	Kapiti Island	2.77	200	PN	P	02 10 34.8	-3.1
MTW	Mount Morrison	2.94	190	PN	P	02 10 36.7	-3.3
PAWZ	Paruwai Farm	3.17	190	eSN	S	02 11 16.2	-5.3
MSWZ	Moikau Station	3.23	192	PN	P	02 10 40.0	-3.7
MSWZ				eSN	S	02 11 17.1	-5.8
TUWZ	Tuamarina	3.59	208	ePN	P	02 10 43.9	-4.6
KHZ	Kahutara	4.61	205	SN	S	02 11 47.6	-7.5
MQZ	McQueen's Vall	6.05	205	eSN	S	02 12 17.8	-12

MEX 07 02:11:48.5±0.7, 15.79N×94.96W, h9km±11km, MD4.1, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	1.10	269	iP	Pb	02 12 06.2	-3.1
HUIG				iS	Sb	02 12 19.7	-3.8
CMIG	Matias Romero	1.29	3	iP	Pb	02 12 09.0	-3.6
CMIG				iS	Sb	02 12 24.9	-4.2
OXX	Oaxaca	2.12	307	eP	Pn	02 12 21.5	-3.1
OXX				iS	Sn	02 12 47.5	-3.8
VHO	Vista Hermosa	2.12	307	iP	Pn	02 12 23.6	-1.1
VHO				iS	Sn	02 12 48.4	-3.0
TUIG	Tuzandepetl	2.29	13	eP	Pn	02 12 21.8	-5.2
SCX	San Cristobal	2.42	67	eP	Pn	02 12 27.0	-2.0
SCX				iS	Sn	02 12 56.0	-3.0
CCIG	Comitan	2.76	79	eP	Pn	02 12 29.1	-4.6
CCIG				iS	Sn	02 13 01.9	-5.7

IDC 07 02:15:58.9±0.7, 14.59N×147.03E, h54km±5km, mb4.0/11, mb1 4.2/11, mb1mx4.0/21, Error ellipse: s-maj=24.4km s-min=13.8km az=92.0
BJI 07 02:15:58.4, 14.60N×147.00E, h51km, mB4.9, mb4.9, Ms4.4, Msz4.2
NEIC 07 02:15:58.4±1.3, 14.56N×146.95E, h51km±10km, mb4.7/6, Error ellipse: s-maj=18.1km s-min=7.1km az=94.0
ISC 07 02:15:56.1±1.4, 14.55N±0.06×147.1E±0.1, h51km±9km, h54km±1.0km:pP-P, n38, σ0s74/34, mb4.6/23, MS4.3/1, 1C-1D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SAPN	Saipan	1.47	297	⇓iP	P	02 16 21.1	+0.3
ANA2	Anatahan	2.23	323	eP	P	02 16 32.3	+0.8
ANAT	Anatahan	2.28	322	eP	P	02 16 32.4	+0.2
GUMO	Guam	2.38	247	ePn	P	02 16 32.2	-1.4
GUMO				eSn	S	02 17 01.6	0.0
SARN	Sarigan	2.50	329	⇑eP	P	02 16 35.1	-0.2
KS15	Wonju Array Si	28.49	327	P	P	02 21 44.4	-4.5
YSS	Yuzh-Sakhalins	32.51	354	eP	P	02 22 23.8	-0.4
	24nm,1.2s,mb5.0						
CTA	Charters Tower	34.43	181	P	P	02 22 41.6	+0.6
	0.9nm,0.3s,mb4.1,baz=11,slow=10,SNR=3.5						
WRAB	Tennant Creek	36.49	200	eP	P	02 22 58.2	-0.4
	9.5nm,1.0s,mb4.7						
WRA	Warramunga Arr	36.51	200	P	P	02 22 58.5	-0.2
	2.0nm,0.8s,mb4.0,baz=19,slow=9.1,SNR=18						
WRA				PcP	PcP	02 25 22.7	+0.8
	0.4nm,0.4s,baz=19,slow=3.3,SNR=5.8						
FITZ	Fitzroy Crossi	38.74	214	P	P	02 23 18.0	+0.7
	1.4nm,0.3s,mb4.1,baz=26,slow=8.6,SNR=17						
GYA	Guiyang	39.54	294	P	P	02 23 25.9	+2.0
GYA				AP	pP	02 23 40.2	+2.8
GYA				XP	sP	02 23 48.6	+5.1
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
GYA				LR	LR		
	comp=N,240nm,17.8s,MS4.3						
GYA				LR	LR		
	comp=E,310nm,18.6s,MS4.3						
GYA				LR	LR		
	comp=Z,380nm,19.0s,MS4.2						
ASAR	Alice Springs	40.12	199	P	P	02 23 29.1	+0.3
	comp=Z,0.8nm,0.6s,mb3.6,baz=27,slow=7.9,SNR=7.9						
SONM	Songino Array	47.24	323	P	P	02 24 26.1	+0.1
	comp=Z,2.9nm,0.5s,mb4.5,baz=137,slow=6.5,SNR=22						
SONM				pP	pP	02 24 41.0	+1.4
	comp=Z,2.4nm,0.5s,baz=135,slow=6.2,SNR=6.4						
WMQ	Urumqi	58.07	313	eP	P	02 25 47.5	+0.9
WMQ				AP	pP	02 26 03.0	+2.4
WMQ				PP	PP	02 27 58.0	+0.8
WMQ				S	S	02 33 42.0	+0.1
GUN	Gumba	58.09	294	eP	P	02 25 47.2	+0.3
	comp=Z,14nm,0.5s,mb5.3						
PKI	Pulchoki	58.51	294	eP	P	02 25 49.6	-0.2
	comp=Z,19nm,0.8s,mb5.2						
KKN	Kakani	58.62	294	eP	P	02 25 50.5	-0.1
	comp=Z,12nm,0.7s,mb5.0						
DMN	Daman	58.77	294	eP	P	02 25 51.7	0.0
	comp=Z,12nm,0.4s,mb5.2						
GKN	Gorkha	59.18	294	eP	P	02 25 54.5	0.0
	comp=Z,19nm,0.5s,mb5.4						
KOLN	Koldanda	60.11	294	eP	P	02 26 00.8	-0.1
ZAL	Zalesovo	62.14	324	P	P	02 26 13.4	-0.8
	comp=Z,2.1nm,0.4s,mb4.6,baz=264,slow=5.9,SNR=6.3						
MKAR	Makanchi Array	62.33	315	P	P	02 26 15.8	+0.2
	comp=Z,9.0nm,0.4s,mb5.2,baz=91,slow=8.3,SNR=82						
MKAR				pP	pP	02 26 30.7	+0.9
	comp=Z,3.9nm,0.4s,baz=94,slow=8.5,SNR=8.2						
MKAR	Makanchi Array	62.33	315	P	P	02 26 15.8	+0.2
MKAR				pP	pP	02 26 30.7	+0.9
KURK	Kurchatov	65.27	319	eP	P	02 26 33.9	-0.9
	comp=Z,18nm,0.8s,mb5.2						
ILAR	Eielson Array	66.78	25	P	P	02 26 43.0	-1.1
	comp=Z,0.7nm,0.8s,mb3.8,baz=254,slow=5.9,SNR=9.3						
BRVK	Borovoye	70.60	321	eP	P	02 27 06.8	-1.1
	comp=Z,3.9nm,0.7s,mb4.5						
ZRNK	Zerenda	71.37	321	eP	P	02 27 12.2	-0.3
	comp=Z,2.8nm,0.7s,mb4.3						
ZRNK				e	pP	02 27 27.3	+0.2
ARU	Arti	77.22	325	P	P	02 27 46.4	0.0
	comp=Z,15nm,1.7s,mb4.7						
NVAR	Mina Array Bea	84.62	52	P	P	02 28 28.6	+2.9
	comp=Z,0.5nm,0.6s,mb3.8,baz=256,slow=3.7,SNR=4.7						
NVAR				pP	pP	02 28 43.1	+2.6
	comp=Z,1.0nm,0.8s,baz=268,slow=4.0,SNR=5.2						
ARCES	ARCESS Array B	86.84	343	P	P	02 28 36.0	+0.1
	comp=Z,18nm,1.2s,mb5.2,baz=14,slow=5.0,SNR=6.4						
FINES	FINESS Array B	91.20	336	P	P	02 28 56.1	-0.7
	comp=Z,1.4nm,0.6s,mb4.5,baz=61,slow=4.3,SNR=15						
FINES				pP	pP	02 29 11.4	-0.3
	comp=Z,1.2nm,0.6s,baz=63,slow=4.3,SNR=1.9						
DBIC	Dimbokro	145.11	305	PKPbc	PKPbc	02 35 31.3	+2.0
	comp=Z,16nm,0.7s,baz=40,slow=3.8,SNR=40						
DBIC				pPKPbc		02 35 45.6	
	comp=Z,6.5nm,0.5s,baz=34,slow=5.6,SNR=4.9						
DBIC	Dimbokro	145.11	305	PKPbc	PKPbc	02 35 31.3	+1.9
DBIC				pPKPbc		02 35 45.6	
KIC	Kosan Boka	145.20	305	ePKP1	PKPbc	02 35 31.4	+1.8
	comp=Z,36nm,0.5s						
TIC	Toumodi	145.25	305	ePKP1	PKPbc	02 35 31.4	+1.7
	comp=Z,105nm,1.1s						
LIC	Lamto	145.51	305	ePKP1	PKPbc	02 35 32.3	+2.0
	comp=Z,73nm,0.9s						
LPAZ	La Paz	146.01	98	PKPbc	PKPbc	02 35 35.5	+4.1
	comp=Z,1.7nm,0.7s,baz=245,slow=1.5,SNR=8.2						

MEX 07 02:26:30.4±0.8, 15.91N×98.10W, h15km, MD4.1, 1C, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.48	356	⇑iP	Pb	02 26 38.7	-1.3
PNIG				iS	Sb	02 26 44.5	-2.0
VHO	Vista Hermosa	1.74	48	iP	Pn	02 26 57.8	-2.6
VHO				iS	Sn	02 27 18.4	-4.1
OXX	Oaxaca	1.76	48	iP	Pn	02 26 57.5	-3.1
OXX				iS	Sn	02 27 16.0	-6.8
HUIG	Huatulco	1.92	94	iP	Pn	02 26 57.7	-5.3
HUIG				iS	Sn	02 27 20.9	-6.0
ACX	Acapulco	1.99	299	eP	Pn	02 27 05.0	+1.1
YAIG	Yautepec	3.08	343	eP	Pn	02 27 20.7	+1.2
YAIG				iS	Sn	02 27 53.5	-2.8
PPM	Popocatepetl	3.18	351	eP	Pn	02 27 24.5	+3.6
CMIG	Matias Romero	3.30	69	iP	Pn	02 27 18.4	-4.2
CMIG				iS	Sn	02 27 57.1	-4.8

IDC 07 03:44:01.2±1.7, 16.74S×174.62W, mb4.0/8, mb1 4.3/8, mb1mx4.2/15, MS3.7/9, Ms1 3.7/9, ms1mx3.5/25, Error ellipse: s-maj=106.0km s-min=18.8km az=151.0
ISC 07 03:44:03.9±1.7, 17.0S±0.7×174.6W±0.4, h33km, n19, σ0s39/8, mb4.0/8, MS3.7/9, 1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	37.21	259	P	P	03 51 14.8	+0.7
	3.4nm,0.7s,mb4.3,baz=91,slow=9.8,SNR=6.8						
CTA				LR	LR	04 03 26.2	
	comp=Z,137nm,20.1s,MS3.7,baz=43,slow=31						
PMG	Port Moresby	37.96	277	LR	LR	04 03 36.9	
	comp=Z,87nm,18.7s,MS3.6,baz=38,slow=31						
STKA	Stephens Creek	42.27	241	LR	LR	04 06 45.0	
	comp=Z,94nm,18.5s,MS3.7,baz=206,slow=32						
WRA	Warramunga Arr	48.40	258	P	P	03 52 45.0	0.0
	1.2nm,0.9s,mb3.9,baz=95,slow=8.1,SNR=6.2						
WRA				PcP	PcP	03 54 13.4	+1.9
	0.4nm,0.6s,baz=87,slow=3.9,SNR=4.9						
WRA				LR	LR	04 10 13.4	
	comp=Z,100nm,20.1s,MS3.8,baz=90,slow=32						
ASAR	Alice Springs	48.56	253	P	P	03 52 45.8	-0.5
	5.1nm,0.7s,mb4.7,baz=90,slow=8.3,SNR=9.7						
ASAR				PcP	PcP	03 54 13.3	+1.3
	1.1nm,0.8s,baz=98,slow=4.2,SNR=4.6						
ASAR				LR	LR	04 12 06.0	
	comp=Z,61nm,18.2s,MS3.6,baz=12,slow=35						
FITZ	Fitzroy Crossi	56.79	259	P	P	03 53 47.4	-0.2
	2.3nm,1.0s,mb4.2,baz=178,slow=9.3,SNR=4.2						
FITZ				LR	LR	04 15 13.7	
	comp=Z,55nm,18.6s,MS3.7,baz=88,slow=33						
NVAR	Mina Array Bea	76.27	42	P	P	03 55 51.7	+0.5
	0.6nm,0.8s,mb3.6,baz=218,slow=6.8,SNR=5.4						
NVAR				LR	LR	04 21 40.3	
	comp=Z,45nm,21.0s,MS3.8,baz=290,slow=30						
TXAR	Lajitas Array	82.44	56	P	P	03 56 24.6	0.0
	0.6nm,1.0s,mb3.5,baz=297,slow=2.8,SNR=4.2						
TXAR				LR	LR	04 24 07.0	
	comp=Z,35nm,21.9s,MS3.7,baz=285,slow=29						
PDAR	Pinedale Array	84.21	42	P	P	03 56 33.2	-0.2
	0.7nm,0.8s,mb3.8,baz=207,slow=3.3,SNR=6.1						
PDAR				LR	LR	04 27 10.4	
	comp=Z,78nm,20.1s,MS4.1,baz=87,slow=31						
ILAR	Eielson Array	84.24	12	P	P	03 56 32.7	-0.3
	0.6nm,0.7s,mb3.8,baz=232,slow=6.2,SNR=7.3						
CLL	Collm	145.26	352	⇓P	PKPdf	04 03 38.5	+0.4
CLL				i		04 03 45.7	
UPC	Upice	145.53	348	eP	PKPdf	04 03 41.9	+3.4
DPC	Dobruska-Polom	145.61	348	eP	PKPdf	04 03 39.4	+0.7
DPC				ex	x	04 03 46.3	
PVCC	Panska Ves	145.77	350	eP	PKPdf	04 03 39.8	+0.8
PVCC				ex	x	04 03 47.3	
PRU	Pruhonice	146.30	349	eP	PKPdf	04 03 40.2	+0.3
PRU				ex	x	04 03 48.7	
BRTR	Keskin Array B	146.66	318	PKPbc	PKPbc	04 03 44.8	+2.6
	2.2nm,0.9s,baz=117,slow=2.8,SNR=7.9						
KHC	Kasperske Hory	147.29	350	eP	PKPdf	04 03 44.5	+2.9
KHC				ex	x	04 03 51.9	
GERES	GERESS Array B	147.55	350	PKPbc	PKPdf	04 03 44.8	+2.9
	0.9nm,0.9s,baz=90,slow=4.0,SNR=5.1						
DAVOX	Davos	150.09	354	PKPbc	PKPdf	04 03 55.2	+9.1
	5.0nm,1.0s,baz=44,slow=8.6,SNR=3.9						

IDC 07 03:47:12.3±2.1, 1.76S×127.90E, mb3.7/2, mb1 4.1/3, mb1mx3.8/15, ML4.2/1, Error ellipse: s-maj=146.0km s-min=26.6km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.14	161	P	P	03 51 37.8	-1.9
	0.8nm,0.3s,baz=340,slow=11,SNR=33						
ASAR	Alice Springs	22.54	166	P	P	03 52 13.7	-1.8
	2.3nm,0.6s,baz=342,slow=11,SNR=16						
MKAR	Makanchi Array	62.72	326	P	P	03 57 39.3	-2.2
	0.7nm,0.8s,baz=108,slow=6.3,SNR=4.2						

IDC 07 03:49:49.9±2.5, 32.44N×92.54E, mb3.7/2, mb1 3.7/5, mb1mx3.6/20, ML3.8/3, Error ellipse: s-maj=85.0km s-min=30.4km az=79.0, Xizang

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	15.07	156	Pn	P	03 53 25.7	-0.3
	0.4nm,0.3s,baz=328,slow=14,SNR=4.2						
MKAR	Makanchi Array	16.34	334	Pn	P	03 53 38.5	-3.7
	0.1nm,0.3s,baz=143,slow=14,SNR=2.4						
SONM	Songino Array	18.62	30	P	P	03 54 09.5	-1.3
	0.1nm,0.3s,baz=216,slow=9.0,SNR=3.1						
WRA	Warramunga Arr	65.67	137	P	P	04 00 35.9	-2.5
	0.5nm,0.7s,baz=335,slow=6.4,SNR=7.8						
ASAR	Alice Springs	68.36	139	P	P	04 00 53.4	-2.1
	0.3nm,0.4s,baz=323,slow=6.3,SNR=5.4						

IDC 07 03:53:16.2±2.7, 19.99S×163.17E, mb4.0/3, mb1 4.3/3, mb1mx3.9/11, Error ellipse: s-maj=179.0km s-min=34.4km az=160.0, New Caledonia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	27.09	265	P	P	03 59 01.6	-1.2
	0.5nm,0.9s,baz=92,slow=7.6,SNR=8.0						
ASAR	Alice Springs	27.39	257	P	P	03 59 02.9	-2.6
	2.3nm,0.6s,baz=89,slow=8.5,SNR=28						
NVAR	Mina Array Bea	93.63	50	P	P	04 06 35.0	-0.8
	0.9nm,1.0s,baz=249,slow=7.7,SNR=5.4						

IDC 07 03:54:38.3±2.4, 15.21N×144.23E, mb4.0/4, mb1 4.3/4, mb1mx3.9/19, Error ellipse: s-maj=148.0km s-min=31.4km az=122.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	36.26	196	P	P	04 01 43.9	-1.5
	2.4nm,0.5s,baz=18,slow=8.7,SNR=48						
FITZ	Fitzroy Crossi	37.83	210	P	P	04 01 56.9	-1.8
	0.9nm,0.3s,baz=16,slow=14,SNR=28						
ASAR	Alice Springs	39.93	195	P	P	04 02 13.6	-2.5
	1.1nm,0.9s,baz=16,slow=6.8,SNR=6.3						
NVAR	Mina Array Bea	86.40	51	P	P	04 07 23.4	-0.8
	0.4nm,0.6s,baz=266,slow=3.2,SNR=4.6						

IDC 07 04:01:09.8±1.6, 51.20N×176.22W, mb3.9/8, mb1 4.1/9, mb1mx3.9/25, ML3.4/1, MS3.5/1, Ms1 3.4/1, ms1mx2.5/25, Error ellipse: s-maj=56.9km s-min=15.4km az=3.0
NEIC 07 04:01:13.1±1.7, 51.05N×176.41W, h25km±9km, mb3.9/1, ML3.2(AEIC), Error ellipse: s-maj=13.2km s-min=7.2km az=176.0
ISC 07 04:01:14.6±1.6, 51.2N±0.1×176.48W±0.08, h48km±12km, n28, σ0s92/34, mb4.2/10, MS3.4/1, Andreanof Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KIMD	Kanaga Island	0.77	323	P	P	04 01 29.4	+0.2
KIMD				S	S	04 01 39.8	-0.2
KIWB	Kanaga Island	0.81	330	P	P	04 01 30.4	+0.4
KIWB				S	S	04 01 40.8	-0.4
ADAG	Mount Adagdak	0.83	355	P	P	04 01 30.9	+0.8
KIRH	Kanaga Island	0.84	333	P	P	04 01 31.1	+0.9
KIRH				S	S	04 01 41.6	-0.1
KIKV	Kanaga Island	0.84	330	P	P	04 01 30.9	+0.6
KIKV				S	S	04 01 41.1	-0.8
KINC	Kanaga Island	0.88	333	P	P	04 01 31.4	+0.7
KINC				S	S	04 01 41.9	-0.9
GSIG	Igitkin Island	0.90	22	P	P	04 01 30.9	-0.3
GSTD	Great Sitkin T	0.93	13	P	P	04 01 31.9	+0.4
GSMY	Great Sitkin M	0.93	17	P	P	04 01 31.7	+0.2
GSSP	Great Sitkin S	0.96	11	P	P	04 01 32.5	+0.6
GSTR	Great Sitkin T	0.98	16	P	P	04 01 32.7	+0.5
GSTR				S	S	04 01 45.8	+0.6
ATKA	Atka Island	1.77	53	P	P	04 01 41.8	-1.6
FX1	Attu Island--F	6.62	289	Pn	P	04 02 50.5	-1.3
	2.3nm,0.3s,baz=37,slow=12,SNR=17						
FX1				Sn	S	04 04 11.9	+5.2
	0.5nm,0.3s,baz=70,slow=8.6,SNR=2.3						
ILAR	Eielson Array	20.53	37	P	P	04 05 47.8	-3.2
	1.2nm,0.3s,baz=215,slow=10,SNR=50						
YKA	Yellowknife Ar	34.33	47	LR	LR	04 22 50.0	
	comp=Z,68nm,19.4s,MS3.4,baz=270,slow=38						
BW06	Boulder Array	44.99	73	eP	P	04 09 26.7	+0.2
	0.8nm,0.5s,mb3.8						
PDAR	Pinedale Array	44.99	73	P	P	04 09 27.1	+0.6
	0.9nm,0.7s,mb3.7,baz=310,slow=4.6,SNR=9.2						
SONM	Songino Array	48.04	298	P	P	04 09 50.9	+0.3
	1.4nm,0.7s,mb4.1,baz=55,slow=8.6,SNR=9.4						
TXAR	Lajitas Array	57.24	83	P	P	04 10 57.4	-2.0
	0.2nm,0.6s,mb3.3,baz=297,slow=5.6,SNR=4.0						
MKAR	Makanchi Array	61.30	310	P	P	04 11 25.4	-1.6
	0.7nm,0.7s,mb3.9,baz=48,slow=5.4,SNR=6.4						
MKAR	Makanchi Array	61.30	310	P	P	04 11 25.4	-1.6
BVAR	Borovoye Array	61.99	321	P	P	04 11 31.3	-0.2
	2.2nm,0.4s,mb4.7,baz=58,slow=5.8,SNR=14						
CMAR	Chiang Mai Arr	72.48	278	P	P	04 12 38.5	+0.6
	0.8nm,0.4s,mb4.0,baz=32,slow=6.7,SNR=4.5						
GUN	Gumba	73.28	294	eP	P	04 12 43.8	+1.3
	16nm,0.4s,mb5.3						
KKN	Kakani	73.72	294	eP	P	04 12 46.1	+1.1
PKI	Pulchoki	73.81	294	eP	P	04 12 44.1	-1.5
DMN	Daman	73.96	294	eP	P	04 12 46.7	+0.3
	6.9nm,0.3s,mb5.0						
BRTR	Keskin Array B	85.74	337	P	P	04 13 50.7	+1.5
	1.2nm,0.7s,mb4.2,baz=36,slow=4.2,SNR=4.2						

IDC 07 04:19:37.6±1.8, 0.98S×134.68E, mb3.8/4, mb1 4.0/6, mb1mx3.8/15, ML3.8/2, Error ellipse: s-maj=58.5km s-min=25.1km az=72.0
NEIC 07 04:19:43.1±1.2, 1.06S×134.64E, h35km, mb3.9/2, Error ellipse: s-maj=29.8km s-min=17.3km az=67.0
ISC 07 04:19:45.0±5.0, 1.19S±0.10×134.5E±0.2, h71km±52km, n10, σ1s00/13, mb3.7/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRAB	Tennant Creek	18.63	180	eP	P	04 23 58.1	-1.4
	5.1nm,0.7s						
WRA	Warramunga Arr	18.64	180	P	P	04 23 58.6	-1.0
	0.4nm,0.3s,baz=360,slow=12,SNR=18						
WRA				S	S	04 27 21.4	-0.1
	0.0nm,0.3s,baz=354,slow=24,SNR=3.4						
WRA	Warramunga Arr	18.64	180	P	P	04 23 58.6	-1.0
WRA				S	S	04 27 21.4	-0.1
FITZ	Fitzroy Crossi	18.92	207	P	P	04 24 04.3	+1.5
	0.1nm,0.3s,baz=18,slow=11,SNR=4.2						
FITZ				S	S	04 27 27.5	-0.2
	0.1nm,0.3s,baz=175,slow=6.8,SNR=3.6						
CTA	Charters Tower	22.03	149	P	P	04 24 35.6	+0.7
	2.6nm,0.9s,mb3.6,baz=331,slow=12,SNR=3.9						
CTAO	Charters Tower	22.03	149	P	P	04 24 35.8	+0.8
	4.8nm,1.0s,mb3.8						
ASAR	Alice Springs	22.35	181	P	P	04 24 39.8	+1.7
	2.1nm,0.5s,mb3.7,baz=7.8,slow=13,SNR=14						
STKA	Stephens Creek	31.25	168	P	P	04 25 59.8	-0.4
	4.2nm,1.2s,mb4.0,baz=325,slow=12,SNR=3.5						
MKAR	Makanchi Array	66.04	324	P	P	04 30 25.9	-0.5
	0.4nm,0.4s,mb3.6,baz=110,slow=8.1,SNR=3.9						
MKAR	Makanchi Array	66.04	324	P	P	04 30 25.9	-0.5

IDC 07 04:20:18.7±2.8, 32.45S×178.19W, mb4.1/3, mb1 4.2/4, mb1mx4.0/14, ML3.8/1, 3D, Error ellipse: s-maj=61.9km s-min=44.4km az=124.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.95	212	Pn	Pn	04 22 00.6	-3.7
	1.7nm,0.3s,baz=273,slow=3.1,SNR=8.5						
URZ				Sn	Sn	04 23 17.8	-7.2
	3.5nm,0.3s,baz=305,slow=12,SNR=8.6						
CTA	Charters Tower	34.02	282	P	P	04 27 06.0	-0.5
	1.1nm,0.3s,baz=108,slow=11,SNR=4.9						
ASAR	Alice Springs	42.87	269	P	P	04 28 18.5	-2.0
	0.9nm,0.5s,baz=111,slow=8.0,SNR=10						
WRA	Warramunga Arr	44.05	274	P	P	04 28 27.7	-2.4
	1.5nm,0.4s,baz=112,slow=8.0,SNR=18						
VNA3	Neumayer Olymp	76.27	176	⇓i	P	04 32 20.8	+11
VNA2	Neumayer--Watz	76.70	177	⇓i	P	04 32 22.1	+9.4
VNA1	Neumayer--Stat	76.94	177	⇓i	P	04 32 24.6	+11
FINES	FINESS Array B	147.00	339	PKPbc	PKPdf	04 40 01.9	-0.5
	1.0nm,0.5s,baz=45,slow=5.4,SNR=9.2						

TIR 07 04:27:39.9, 41.79N×19.59E, h23km
PDG 07 04:27:41.9±0.2, 41.83N×19.61E, h13km±1km
ISC 07 04:27:40.9±0.4, 41.79N±0.02×19.59E±0.04, h13km, n17, σ1s07/31, 4C-1D, Albania

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LACI	Lac	0.18	148	iPg	Pg	04 27 45.2	+0.1
LACI				iSg	Sg	04 27 49.0	+1.1
SDA	Shkodra	0.27	346	iPg	Pg	04 27 47.2	+0.4
SDA				iSg	Sg	04 27 52.5	+1.7
ULC	Ulcinj	0.31	305	⇑iPg	Pg	04 27 47.4	-0.1
ULC				eSg	Sg	04 27 53.0	+1.2
PUK	Puka	0.34	42	iPg	Pg	04 27 48.2	0.0
PUK				iSg	Sg	04 27 54.6	+1.6
QSH	Qafa e Shtames	0.36	138	iPg	Pg	04 27 49.0	+0.6
PRZA	Preza	0.36	170	iPg	Pg	04 27 48.0	-0.5
TIR	Tirane	0.49	154	iPg	Pg	04 27 50.0	-0.9
TIR				iSg	Sg	04 27 58.4	+0.9
TTG	Podgorica	0.69	340	⇑iPg	Pg	04 27 53.7	-1.1
TTG				eSg	Sg	04 28 04.2	+0.1
BUM	Brajici-Budva	0.72	315	ePg	Pg	04 27 55.3	-0.3
BUM				eSg	Sg	04 28 06.8	+1.5
PVY	Plav	0.86	20	⇑iPg	Pg	04 27 56.6	-1.6
PVY				eSg	Sg	04 28 10.2	+0.5
HCY	Herceg Novi	1.04	310	⇑iPg	Pg	04 28 01.1	-0.8
HCY				eSg	Sg	04 28 17.6	+1.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IVA	**Berane**	**1.11**	**12**	*e*Pg	**Pg**	**04 28 02.1**	**-1.1**
IVA				*e*Sg	**Sg**	**04 28 19.2**	**+1.1**
NKY	**Niksic**	**1.11**	**337**	*e*Pg	**Pg**	**04 28 02.0**	**-1.3**
NKY				*e*Sg	**Sg**	**04 28 18.9**	**+0.7**
BRY	**Bratogost**	**1.35**	**326**	*e*Pg	**Pg**	**04 28 06.6**	**-1.4**
BRY				*e*Sg	**Sg**	**04 28 26.7**	**+0.5**
SKO	**Skopje**	**1.40**	**82**	*e*Pn	**Pn**	**04 28 06.9**	**+0.6**
UPM	**Unac-Piva**	**1.50**	**341**	*e*Pg	**Pg**	**04 28 08.9**	**-2.1**
UPM				*e*Sg	**Sg**	**04 28 30.5**	**-0.5**
PLE	**Pljevlja**	**1.55**	**355**	⇓*i*Pg	**Pg**	**04 28 09.9**	**-2.0**
PLE				*e*Sg	**Sg**	**04 28 31.6**	**-1.0**

*LDG **07** 04:30:06.8±1.3, 42.91N×1.45W, h2km, Md1.8/2, Ml1.7/1, Error ellipse: s-maj=24.4km s-min=16.8km az=58.0*
*CSEM **07** 04:30:06.7±0.2, 42.86N×1.38W, h2km, ML1.7/1, Error ellipse: s-maj=5.5km s-min=2.9km az=97.0*
MDD 07 04:30:07.1±0.6**, 42.88N×1.39W, h2**km±15km**, mbLg1.3**/3**, Error ellipse: s-maj=5.6km s-min=3.3km az=46.0, PRXIMO AftershockPLICA, Pyrenees**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.26**	**28**	*e*Pg	Pg	04 30 12.3	-0.1
SJPF				*e*Sg	Sg	04 30 15.0	-0.9
	26nm,0.3s						
EALK	**Alkurruntz**	**0.35**	**346**	Pg	Pg	04 30 13.7	-0.4
	2.1nm,0.1s,SNR=12						
EALK				Lg		04 30 18.3	
	3.5nm,0.1s,SNR=6.2						
ETSF	**Etsaut**	**0.61**	**88**	*e*Pg	Pg	04 30 17.7	-1.6
ETSF				*e*Sg	Sg	04 30 26.9	-0.6
	2.5nm,0.3s						
EBIE	**Bielsa**	**1.15**	**99**	Pg	Pg	04 30 29.0	-1.0
	0.3nm,0.1s,SNR=7.9						
EBIE				Lg		04 30 45.8	
	1.8nm,0.3s,SNR=7.9						
EBIE	**Bielsa**	**1.15**	**99**	Pg	Pg	04 30 29.0	-1.0
	0.3nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**1.34**	**149**	Pg	Pg	04 30 30.7	-3.3
	3.3nm,0.3s,SNR=5.0						
ESAC				Lg		04 30 49.4	
	7.2nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**1.34**	**149**	Pg	Pg	04 30 30.7	-3.2
	3.3nm,0.3s,SNR=5.0						
ETOR	**Torete**	**2.12**	**194**	Pn	Pn	04 30 41.4	-2.6
	0.5nm,0.5s,SNR=5.0						
ETOR				Pg	Pg	04 30 45.6	-3.8
	SNR=5.0						
ETOR				Sn	Sn	04 31 09.4	-1.8
	0.7nm,0.5s,SNR=7.9						

*LDG **07** 04:35:20.0±0.7, 42.91N×1.54W, h5km, Md2.1/2, Ml2.0/3, Error ellipse: s-maj=12.0km s-min=8.9km az=50.0*
*STR **07** 04:35:20.3±0.1, 42.98N×1.60W, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 07 04:35:21.5±0.8**, 43.00N×1.54W, h9**km±7km**, mbLg1.4**/5**, Error ellipse: s-maj=5.2km s-min=3.7km az=72.0, PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EALK	**Alkurruntz**	**0.22**	**6**	Pg	Pg	04 35 25.6	-0.7
	2.2nm,0.1s,SNR=7.9						
EALK				Lg		04 35 29.7	
	36nm,0.3s,SNR=7.9						
SJPF	**Ste Jean**	**0.26**	**63**	*e*Pg	Pg	04 35 26.4	-0.5
SJPF				*e*Sg	Sg	04 35 29.0	-1.5
	12nm,0.2s						
OSSF	**Osses**	**0.33**	**38**	Pg	Pg	04 35 27.6	-0.7
OSSF				Sg	Sg	04 35 33.0	+0.3
OSSF	**Osses**	**0.33**	**38**	P	Pg	04 35 27.6	-0.7
OSSF				S	Sg	04 35 33.1	+0.4
LARF	**Larrau**	**0.41**	**84**	Pg	Pg	04 35 29.1	-0.7
LARF				Sg	Sg	04 35 35.5	+0.2
LARF	**Larrau**	**0.41**	**84**	P	Pg	04 35 29.0	-0.8
LARF				S	Sg	04 35 35.7	+0.4
ETSF	**Etsaut**	**0.72**	**98**	*e*Pg	Pg	04 35 31.8	-4.3
ETSF				*e*Sg	Sg	04 35 41.0	-4.8
	3.4nm,0.3s						
EBIE	**Bielsa**	**1.27**	**104**	Pg	Pg	04 35 46.4	-0.6
	1.2nm,0.2s,SNR=7.9						
EBIE				Lg		04 36 04.1	
	1.8nm,0.3s,SNR=7.9						
ESAC	**San Caprasio**	**1.50**	**148**	Pg	Pg	04 35 49.4	-2.1
	SNR=7.9						
ESAC				Lg		04 36 09.2	
	7.3nm,0.2s,SNR=7.9						
ETOR	**Torete**	**2.21**	**190**	Pg	Pg	04 36 01.4	-4.3
	SNR=5.0						
ETOR				Lg		04 36 32.1	
	1.4nm,0.3s,SNR=7.9						
RJF	**Les Rejaudoux**	**3.19**	**43**	*e*Pn	Pn	04 36 09.5	-3.3
RJF				*e*Sn	Sn	04 36 47.7	-3.7
	1.0nm,0.2s						
CAF	**Calviac**	**3.24**	**52**	*e*Pn	Pn	04 36 10.2	-3.4
CAF				*e*Sn	Sn	04 36 48.2	-4.5
	1.3nm,0.4s						

IDC 07 04:37:46.0±2.5**, 1.19S×134.22E, mb3.5**/2**, mb1 3.7**/4**, mb1mx3.6**/14**, ML3.4**/2**, Error ellipse: s-maj=91.3km s-min=27.1km az=80.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.64**	**180**	P	P	04 42 05.0	-2.4
	0.2nm,0.3s,baz=359,slow=11,SNR=10						
FITZ	**Fitzroy Crossi**	**18.81**	**206**	P	P	04 42 07.0	-2.4
	0.1nm,0.3s,baz=139,slow=18,SNR=2.3						
ASAR	**Alice Springs**	**22.35**	**181**	P	P	04 42 46.2	-1.0
	0.8nm,0.6s,baz=7.9,slow=10,SNR=9.3						
MKAR	**Makanchi Array**	**65.88**	**324**	P	P	04 48 33.6	-2.2
	0.6nm,0.7s,baz=108,slow=7.7,SNR=4.1						

*LDG **07** 04:49:55.4±0.6, 42.90N×1.59W, h2km, Md2.1/2, Ml2.1/3, Error ellipse: s-maj=8.5km s-min=5.8km az=57.0*
*STR **07** 04:49:55.6±0.2, 43.50N×0.83W, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 07 04:49:56.2±0.5**, 42.94N×1.58W, h9**km±6km**, mbLg1.3**/6**, Error ellipse: s-maj=4.4km s-min=2.5km az=61.0, PRXIMO AftershockPLICA, Pyrenees**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EALK	**Alkurruntz**	**0.28**	**11**	Pg	Pg	04 50 01.5	-0.5
	2.2nm,0.1s,SNR=18						
EALK				Lg		04 50 05.7	
	20nm,0.2s,SNR=30						
SJPF	**Ste Jean**	**0.31**	**57**	*e*Pg	Pg	04 50 02.4	-0.2
SJPF				*e*Sg	Sg	04 50 05.7	-1.2
	13nm,0.2s						
OSSF	**Osses**	**0.39**	**36**	Pg	Pg	04 50 03.4	-0.7
OSSF				Sg	Sg	04 50 09.0	-0.4
OSSF	**Osses**	**0.39**	**36**	P	Pg	04 50 03.6	-0.5
OSSF				S	Sg	04 50 09.1	-0.3
LARF	**Larrau**	**0.44**	**77**	Pg	Pg	04 50 04.6	-0.6
LARF				Sg	Sg	04 50 11.4	+0.2
LARF	**Larrau**	**0.44**	**77**	P	Pg	04 50 04.9	-0.3
LARF				S	Sg	04 50 11.7	+0.5
ETSF	**Etsaut**	**0.75**	**93**	*e*Pg	Pg	04 50 09.6	-1.7
ETSF				*e*Sg	Sg	04 50 18.7	-2.6
	5.2nm,0.4s						
EBIE	**Bielsa**	**1.29**	**101**	Pg	Pg	04 50 21.3	-0.8
	1.8nm,0.1s,SNR=7.9						
EBIE				Lg		04 50 38.7	
	1.3nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**1.47**	**146**	Pg	Pg	04 50 22.8	-2.8
	9.8nm,0.3s,SNR=7.9						
ESAC				Lg		04 50 44.8	
	8.7nm,0.3s,SNR=7.9						
ETOR	**Torete**	**2.15**	**190**	Lg		04 51 05.8	
	1.1nm,0.4s,SNR=7.9						
RJF	**Les Rejaudoux**	**3.25**	**42**	*e*Pn	Pn	04 50 47.0	-1.4
RJF				*e*Sn	Sn	04 51 24.2	-3.4
	2.3nm,0.3s						
CAF	**Calviac**	**3.29**	**52**	*e*Pn	Pn	04 50 46.3	-2.8
CAF				*e*Sn	Sn	04 51 24.4	-4.4
	1.2nm,0.3s						

*IDC **07** 04:51:01.2±2.4, 0.13N×97.79E, mb3.9/5, mb1 4.1/6, mb1mx3.9/17, ML4.0/1, Error ellipse: s-maj=97.1km s-min=20.4km az=58.0*
*NEIC **07** 04:51:05.4±0.9, 0.13N×97.79E, h30km, mb4.3/2, Error ellipse: s-maj=26.2km s-min=12.6km az=64.0*
ISC 07 04:51:04.1±1.2**, 0.2N**±0.1×**97.8E**±0.2**, h33**km**, n10, σ0s73**/9**, mb4.0**/7**, 1D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.45**	**36**	⇓*e*P	**P**	**04 52 25.5**	**+0.4**
CMAR	**Chiang Mai Arr**	**18.21**	**4**	P	**P**	**04 55 14.9**	**-1.3**
	0.2nm,0.3s,baz=193,slow=11,SNR=11						
WRA	**Warramunga Arr**	**41.00**	**121**	P	**P**	**04 58 45.6**	**-0.4**
	0.9nm,0.5s,mb3.6,baz=302,slow=9.1,SNR=16						
WRAB	**Tennant Creek**	**41.01**	**121**	*e*P	**P**	**04 58 45.5**	**-0.5**
	3.6nm,0.6s,mb4.2						
ASAR	**Alice Springs**	**42.32**	**127**	P	**P**	**04 58 57.4**	**+0.5**
	0.8nm,0.7s,mb3.5,baz=300,slow=8.3,SNR=6.0						
SONM	**Songino Array**	**48.06**	**8**	P	**P**	**04 59 43.1**	**+0.8**
	1.3nm,0.9s,mb3.9,baz=185,slow=7.7,SNR=7.7						
MKAR	**Makanchi Array**	**48.37**	**346**	P	**P**	**04 59 45.8**	**+1.0**
	3.1nm,0.5s,mb4.6,baz=158,slow=8.7,SNR=37						
KURK	**Kurchatov**	**52.93**	**345**	*e*P	**P**	**05 00 19.7**	**+0.3**
	3.7nm,0.9s,mb4.3						
BVAR	**Borovoye Array**	**57.41**	**341**	P	**P**	**05 00 51.0**	**-0.8**
	0.8nm,0.7s,mb3.9,baz=127,slow=7.4,SNR=4.3						
TXAR	**Lajitas Array**	**144.22**	**33**	PKP	PKPdf	05 10 38.7	+1.4
	0.4nm,0.5s,baz=328,slow=0.3,SNR=12						

*IDC **07** 05:06:50.7±1.3, 19.42S×168.35E, mb4.0/7, mb1 4.2/7, mb1mx4.1/13, MS3.5/6, Ms1 3.5/6, ms1mx3.3/18, Error ellipse: s-maj=38.4km s-min=32.5km az=147.0*
*NEIC **07** 05:06:53.1±0.7, 19.30S×168.17E, h10km, mb4.5/3, Error ellipse: s-maj=17.4km s-min=14.8km az=102.0*
ISC 07 05:06:54.2±3.1**, 19.31S**±0.06×**168.1E**±0.1**, h27**km±22km**, n22, σ0s96**/23**, mb4.1**/9**, MS3.5**/6**, 4C-1D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**1.64**	**6**	⇑*i*P	**Pn**	**05 07 21.8**	**+0.1**
BKM				S	**Sn**	**05 07 41.5**	**-0.7**
DZM	**Mont Dzumac**	**3.14**	**208**	*e*P	**Pn**	**05 07 43.2**	**+0.1**
DZM				*e*S	**Sn**	**05 08 19.5**	**-0.6**
DZM	**Mont Dzumac**	**3.14**	**208**	*e*P	**Pn**	**05 07 43.2**	**+0.1**
DZM				*e*S	**Sn**	**05 08 19.5**	**-0.6**
NOUC	**Port Laguerre**	**3.23**	**210**	*e*P	**Pn**	**05 07 44.9**	**+0.5**
NOUC				*e*S	**Sn**	**05 08 21.9**	**-0.5**
CTA	**Charters Tower**	**20.54**	**264**	LR	LR	05 18 08.6	
	comp=Z,88nm,19.5s,MS3.1,baz=222,slow=33						
STKA	**Stephens Creek**	**26.87**	**237**	LR	LR	05 23 17.5	
	comp=Z,83nm,18.9s,MS3.3,baz=344,slow=36						
WRAB	**Tennant Creek**	**31.73**	**263**	P	**P**	**05 13 17.6**	**-0.8**
WRA	**Warramunga Arr**	**31.74**	**263**	P	**P**	**05 13 17.9**	**-0.6**
	0.3nm,0.5s,mb3.4,baz=98,slow=7.8,SNR=4.9						
WRA				LR	LR	05 24 51.5	
	comp=Z,55nm,19.8s,MS3.2,baz=195,slow=34						
ASAR	**Alice Springs**	**32.03**	**256**	P	**P**	**05 13 21.4**	**+0.5**
	5.8nm,0.5s,mb4.7,baz=83,slow=8.5,SNR=72						
ASAR				LR	LR	05 27 08.0	
	comp=Z,63nm,18.5s,MS3.3,baz=153,slow=38						
FITZ	**Fitzroy Crossi**	**40.12**	**265**	P	**P**	**05 14 30.9**	**+1.2**
	1.6nm,0.8s,mb3.8,baz=170,slow=14,SNR=6.9						
NWAO	**Narrogin (SRO)**	**47.19**	**243**	LR	LR	05 36 48.6	
	comp=Z,170nm,20.0s,MS4.0,baz=72,slow=38						
SBA	**Scott Base**	**58.59**	**180**	*e*P	**P**	**05 16 50.3**	**-0.4**
	3.2nm,0.8s,mb4.4						
QSPA	**South Pole Qui**	**70.75**	**180**	*e*P	**P**	**05 18 08.8**	**-0.8**
	6.0nm,1.0s,mb4.5						
QSPA				*e*P		05 18 09.2	
MAW	**Mawson**	**77.95**	**202**	P	**P**	**05 18 50.9**	**-0.3**
	3.0nm,1.0s,mb4.2,baz=74,slow=3.0,SNR=5.7						
MAW				LR	LR	05 47 12.7	
	comp=Z,48nm,19.3s,MS3.8,baz=242,slow=31						
SONM	**Songino Array**	**86.61**	**324**	P	**P**	**05 19 38.1**	**+1.6**
	0.9nm,1.1s,mb3.9,baz=135,slow=6.1,SNR=3.0						
SNAA	**Sanae**	**89.04**	**183**	⇓*i*	**P**	**05 19 45.0**	**-2.7**
SNAA	**Sanae**	**89.04**	**183**	P	**P**	**05 19 46.7**	**-1.0**
	0.5nm,0.9s,mb3.9,baz=100,slow=1.4,SNR=5.1						
SNAA	**Sanae**	**89.04**	**183**	*e*P	**P**	**05 19 46.5**	**-1.2**
	1.5nm,0.8s,mb4.4						
VNA3	**Neumayer Olymp**	**89.67**	**181**	⇑*i*	**P**	**05 19 52.4**	**+1.8**
VNA2	**Neumayer--Watz**	**89.95**	**181**	⇑*i*	**P**	**05 19 53.8**	**+1.9**
VNA1	**Neumayer--Stat**	**90.25**	**181**	⇑*i*	**P**	**05 19 53.3**	**0.0**
ILAR	**Eielson Array**	**90.63**	**18**	P	**P**	**05 19 54.0**	**-1.2**
	0.4nm,0.7s,mb3.9,baz=239,slow=5.3,SNR=5.2						

*IDC **07** 05:21:30.8±0.9, 28.38N×139.70E, h464km±24km, mb3.0/6, mb1 3.2/7, mb1mx3.0/23, Error ellipse: s-maj=64.8km s-min=14.8km az=76.0*
ISC 07 05:21:30.2±0.9**, 28.3N**±0.2×**139.7E**±0.7**, h474**km±30km**, n7, σ0s58**/8**, mb3.4**/6**, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.54**	**118**	P	**P**	**05 22 37.0**	**+0.5**
	21nm,0.3s,baz=254,slow=18,SNR=8.5						
CBIJ				S	**S**	**05 23 28.6**	**-0.3**
	26nm,0.3s,baz=292,slow=23,SNR=11						
SONM	**Songino Array**	**32.29**	**316**	P	**P**	**05 27 20.3**	**+0.4**
	0.4nm,0.4s,mb3.2,baz=121,slow=7.8,SNR=4.0						
MKAR	**Makanchi Array**	**47.98**	**309**	P	**P**	**05 29 25.9**	**-0.4**
	0.3nm,0.4s,mb3.0,baz=90,slow=10,SNR=4.8						
FITZ	**Fitzroy Crossi**	**48.11**	**198**	P	**P**	**05 29 27.3**	**-0.3**
	6.2nm,1.4s,mb3.8,baz=78,slow=20,SNR=2.4						
WRA	**Warramunga Arr**	**48.26**	**187**	P	**P**	**05 29 28.4**	**-0.4**
	1.7nm,0.6s,mb3.5,baz=2.4,slow=7.8,SNR=38						
ASAR	**Alice Springs**	**51.98**	**187**	P	**P**	**05 29 57.0**	**+0.7**
	1.0nm,0.7s,mb3.3,baz=16,slow=13,SNR=9.9						
FINES	**FINESS Array B**	**75.86**	**333**	P	**P**	**05 32 27.5**	**-0.2**
	0.4nm,0.3s,mb3.4,baz=90,slow=5.6,SNR=5.2						

*LDG **07** 05:26:32.2±0.4, 42.96N×1.47W, h2km, Md2.1/2, Ml1.9/2, Error ellipse: s-maj=6.5km s-min=4.1km az=64.0*
MDD 07 05:26:32.3±0.7**, 42.90N×1.42W, h12**km±2km**, mbLg1.2**/6**, Error ellipse: s-maj=5.6km s-min=3.8km az=37.0, PRXIMO AftershockPLICA, Pyrenees**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.26**	**33**	*e*Pg	Pg	05 26 37.1	-0.8
SJPF				*e*Sg	Sg	05 26 40.0	-1.6
	22nm,0.3s						
EALK	**Alkurruntz**	**0.33**	**348**	Pg	Pg	05 26 38.4	-0.9
	7.4nm,0.2s,SNR=7.9						
EALK				Lg		05 26 44.7	
	5.6nm,0.2s,SNR=7.9						
LARF	**Larrau**	**0.34**	**65**	P	Pg	05 26 38.4	-1.1
LARF				S	Sg	05 26 44.1	-0.2
ETSF	**Etsaut**	**0.63**	**89**	*e*Pg	Pg	05 26 44.9	-0.1
ETSF				*e*Sg	Sg	05 26 53.4	-0.1
	2.9nm,0.3s						
EBIE	**Bielsa**	**1.17**	**100**	Pg	Pg	05 26 54.2	-1.4
	0.5nm,0.1s,SNR=7.9						
EBIE				Lg		05 27 10.3	
	2.0nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**1.37**	**149**	Pg	Pg	05 26 55.3	-4.3
	SNR=7.9						
ESAC				Lg		05 27 13.9	
	5.0nm,0.2s,SNR=7.9						
ETOR	**Torete**	**2.13**	**193**	Pg	Pg	05 27 09.3	-5.5
	SNR=7.9						
ETOR				Sn	Sn	05 27 33.1	-1.6
	1.9nm,0.3s,SNR=7.9						
LFF	**La Frestale**	**2.57**	**37**	*e*Pn	Pn	05 27 12.2	-2.3
LFF				*e*Sn	Sn	05 27 42.6	-3.4
LFF				*e*Sg	Sg	05 27 51.1	-6.8
	1.0nm,0.2s						
CAF	**Calviac**	**3.23**	**50**	*e*Pn	Pn	05 27 20.8	-3.1
CAF				*e*Sn	Sn	05 27 59.0	-3.7

*IDC **07** 05:32:19.4±3.5, 0.80S×134.68E, h39km±30km, mb3.9/7, mb1 4.1/9, mb1mx3.9/16, ML4.1/2, MS3.3/1, Ms1 3.3/1, ms1mx2.8/16, Error ellipse: s-maj=34.8km s-min=12.6km az=78.0*
*NEIC **07** 05:32:20.6±6.2, 0.84S×134.57E, h48km±58km, mb4.4/4, Error ellipse: s-maj=27.6km s-min=17.4km az=222.0*
ISC 07 05:32:20.4±5.5**, 0.96S**±0.09×**134.5E**±0.2**, h61**km±51km**, n16, σ1s23**/17**, mb4.2**/9**, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**18.85**	**180**	P	**P**	**05 36 37.0**	**-1.2**
	60nm,0.6s,SNR=9.0						
WRAB	**Tennant Creek**	**18.85**	**180**	*e*P	**P**	**05 36 37.3**	**-0.9**
	11nm,0.7s						
WRA	**Warramunga Arr**	**18.86**	**180**	P	**P**	**05 36 37.3**	**-1.0**
	0.7nm,0.3s,baz=359,slow=11,SNR=79						
WRA				S	**S**	**05 40 02.3**	**-0.8**
	0.1nm,0.3s,baz=7.1,slow=22,SNR=3.7						
FITZ	**Fitzroy Crossi**	**19.13**	**207**	P	**P**	**05 36 40.8**	**-0.5**
	0.4nm,0.3s,baz=25,slow=9.8,SNR=8.8						
FITZ				S	**S**	**05 40 04.0**	**-4.8**
	0.1nm,0.3s,baz=124,slow=3.6,SNR=3.0						
CTA	**Charters Tower**	**22.22**	**150**	P	**P**	**05 37 14.8**	**+1.7**
	3.2nm,0.6s,mb3.9,baz=328,slow=8.7,SNR=6.8						
CTAO	**Charters Tower**	**22.22**	**150**	P	**P**	**05 37 15.3**	**+2.2**
	13nm,1.1s,mb4.3						
ASAR	**Alice Springs**	**22.57**	**181**	P	**P**	**05 37 17.7**	**+1.0**
	6.4nm,0.6s,mb4.2,baz=8.8,slow=12,SNR=39						
ASAR				S	**S**	**05 41 25.4**	**+10**
	2.0nm,1.1s,baz=7.4,slow=21,SNR=3.7						
ASAR				LR	LR	05 47 25.1	
	comp=Z,79nm,19.0s,baz=11,slow=40						
MBWA	**Marble Bar**	**24.71**	**215**	P	**P**	**05 37 39.8**	**+2.4**
	22nm,1.3s,mb4.5						
STKA	**Stephens Creek**	**31.47**	**168**	P	**P**	**05 38 38.8**	**+0.2**
	2.1nm,0.5s,mb4.2,baz=342,slow=20,SNR=4.8						
CMAR	**Chiang Mai Arr**	**39.93**	**301**	P	**P**	**05 39 50.8**	**+0.3**
	0.7nm,0.4s,mb3.7,baz=125,slow=7.6,SNR=7.3						
MKAR	**Makanchi Array**	**65.87**	**323**	P	**P**	**05 43 00.9**	**-1.0**
	1.4nm,0.5s,mb4.2,baz=111,slow=8.1,SNR=13						
BVAR	**Borovoye Array**	**75.50**	**326**	P	**P**	**05 44 00.4**	**+0.6**
	0.5nm,0.7s,mb3.6,baz=140,slow=11,SNR=2.6						
ILAR	**Eielson Array**	**86.02**	**25**	P	**P**	**05 44 53.0**	**-2.1**
	1.6nm,1.0s,mb4.2,baz=249,slow=5.8,SNR=9.7						
QSPA	**South Pole Qui**	**88.97**	**180**	*e*P	**P**	**05 45 13.6**	**+4.5**
	3.5nm,0.9s,mb4.7						
CPUP	**Villa Florida**	**150.56**	**158**	PKPbc	PKPdf	05 52 08.2	+7.5
	2.0nm,0.9s,baz=207,slow=4.5,SNR=3.4						
LPAZ	**La Paz**	**151.84**	**128**	PKPbc	PKPdf	05 52 17.1	+14
	0.4nm,0.5s,baz=262,slow=6.2,SNR=4.5						

*NIED **07** 05:52:00, 38.80N×142.90E, h8km, Mw4.0 Best double couple: $M_0$9.87×10^{14} NP1: ϕ_s259°, δ79°, λ-126°. NP2: ϕ_s154°, δ37°, λ-18°.*
*JMA **07** 05:52:11.1±0.2, 38.81N×142.86E, h17km±2km, M4.0*
*IDC **07** 05:52:14.0±1.2, 38.18N×142.75E, mb3.8/5, mb1 4.0/5, mb1mx3.7/23, Error ellipse: s-maj=40.5km s-min=24.0km az=83.0*
ISC 07 05:52:10.1±2.4**, 38.80N**±0.05×**142.93E**±0.08**, h14**km±17km**, n13, σ0s50**/20**, mb3.8**/5**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.02**	**286**	P	**Pb**	**05 52 29.3**	**+0.2**
OFUJ				S	**Sb**	**05 52 42.4**	**+0.3**
MIYJ	**Miyakonagasawa**	**1.16**	**312**	P	**Pb**	**05 52 31.2**	**-0.2**
MIYJ				*e*S	**Sb**	**05 52 45.6**	**-0.4**
JIO	**Ouri**	**1.28**	**255**	P	**Pb**	**05 52 33.3**	**-0.2**
JIO				*e*S	**Sb**	**05 52 48.8**	**-0.9**
JMK	**Ichinoseki**	**1.34**	**277**	P	**Pn**	**05 52 34.6**	**+0.1**
JMK				S	**Sb**	**05 52 51.0**	**-0.4**
JTH	**Tanohata**	**1.41**	**324**	P	**Pn**	**05 52 35.9**	**+0.5**
JTH				*e*S	**Sb**	**05 52 53.8**	**+0.5**
JOM	**Ohasama**	**1.44**	**298**	P	**Pn**	**05 52 36.0**	**+0.1**
JOM				*e*S	**Sb**	**05 52 53.7**	**-0.5**
JOU	**Okura**	**1.83**	**257**	S	**Sn**	**05 53 04.9**	**+0.5**
MAT	**Matsushiro**	**4.37**	**240**	P	**Pn**	**05 53 18.5**	**+0.9**
MAT				*e*S	**Sn**	**05 54 09.6**	**+0.7**
MKAR	**Makanchi Array**	**44.22**	**301**	P	**P**	**06 00 26.5**	**+6.2**
	2.4nm,1.0s,mb3.9,baz=74,slow=8.8,SNR=8.5						
ILAR	**Eielson Array**	**47.37**	**33**	P	**P**	**06 00 54.0**	**+9.0**
	0.5nm,0.8s,mb3.5,baz=269,slow=6.1,SNR=5.2						
BVAR	**Borovoye Array**	**50.29**	**311**	P	**P**	**06 01 13.9**	**+6.1**
	0.5nm,0.5s,mb3.8,baz=69,slow=13,SNR=3.8						
WRA	**Warramunga Arr**	**58.98**	**189**	P	**P**	**06 02 10.9**	**-0.7**
	1.3nm,0.6s,mb4.1,baz=7.4,slow=6.9,SNR=20						
ASAR	**Alice Springs**	**62.71**	**189**	P	**P**	**06 02 36.5**	**-0.4**
	0.7nm,0.7s,mb3.9,baz=14,slow=5.8,SNR=7.9						

*INMG **07** 06:16:29.3±1.1, 42.80N×1.57W, h1km±3km, ML3.3, Error ellipse: s-maj=2.3km s-min=1.8km az=94.0*
*STR **07** 06:16:29.2±0.7, 42.83N×1.45W, h5km±1km, Ml3.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **07** 06:16:29.2, 42.83N×1.45W, h5km, ML4.1(STR), ML3.9(LDG), MN3.5(MDD), After STR.*
NEIC Felt [IV] at Aoiz, Lizoain and Urroz; [III] at Unciti; [II] at Pamplona, Spain.
*CSEM **07** 06:16:30.5±0.1, 42.85N×1.39W, h10km, ML3.8/45, Error ellipse: s-maj=1.4km s-min=0.9km az=144.0*
*MDD **07** 06:16:30.0±0.2, 42.84N×1.42W, h3km±2km, mbLg3.4/29, Error ellipse: s-maj=1.8km s-min=1.6km az=69.0, PRXIMO III-IV URROZ AOIZ II-III UNCITI II PAMPLONA AftershockPLICA*
MDD EMS: IV IN.
*LDG **07** 06:16:31.6±0.2, 42.93N×1.43W, h7km, Md3.7/3, Ml3.9/37, Error ellipse: s-maj=3.2km s-min=2.5km az=36.0*
ISC 07 06:16:27.2±0.3**, 42.86N**±0.02×**1.54W**±0.02**, h14**km±2km**, n186, σ1s42**/355**, 6C-2D, Pyrenees**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.34**	**43**	*e*Pg	**Pg**	**06 16 35.9**	**+1.5**
SJPF				*e*Sg	**Sg**	**06 16 38.8**	**-0.4**
	7μm,0.5s						
EALK	**Alkurruntz**	**0.36**	**4**	⇑Pg	**Pg**	**06 16 37.2**	**+2.5**
	341nm,0.3s,SNR=18						
EALK				Lg		06 16 42.8	
	1μm,0.2s,SNR=11						
LARF	**Larrau**	**0.44**	**67**	Pg	**Pg**	**06 16 36.9**	**+0.6**
LARF	**Larrau**	**0.44**	**67**	P	**Pb**	**06 16 36.9**	**+0.7**
LARF				S	**Sb**	**06 16 42.5**	**+0.1**
OSSF	**Osses**	**0.44**	**27**	Pg	**Pg**	**06 16 38.0**	**+1.7**
OSSF	**Osses**	**0.44**	**27**	P	**Pb**	**06 16 38.0**	**+1.7**
OSSF				S	**Sb**	**06 16 43.2**	**+0.9**
ORDF	**Ordiarp**	**0.56**	**51**	Pg	**Pg**	**06 16 39.7**	**+1.0**
ORDF	**Ordiarp**	**0.56**	**51**	P	**Pb**	**06 16 39.7**	**+1.4**
ORDF				S	**Sb**	**06 16 47.3**	**+1.4**
ATE	**Arette**	**0.65**	**70**	P	**Pb**	**06 16 40.6**	**+0.8**
ATE				S	**Sb**	**06 16 49.1**	**+0.6**
FDAF	**Les Forges d'A**	**0.71**	**93**	Pg	**Pg**	**06 16 41.4**	**-0.3**
FDAF				Sg	**Sg**	**06 16 50.9**	**-0.5**
FDAF	**Les Forges d'A**	**0.71**	**93**	P	**Pb**	**06 16 41.2**	**+0.3**
FDAF				S	**Sb**	**06 16 51.2**	**+0.9**
ETSF	**Etsaut**	**0.72**	**87**	*e*Pg	**Pg**	**06 16 41.3**	**-0.5**
ETSF				*e*Sg	**Sg**	**06 16 50.6**	**-0.9**
	2μm,0.3s						
REYF	**Montagne du Re**	**0.87**	**76**	Pg	**Pg**	**06 16 44.6**	**-0.1**
REYF				Sg	**Sg**	**06 16 55.7**	**-0.6**
REYF	**Montagne du Re**	**0.87**	**76**	P	**Pb**	**06 16 44.0**	**+0.5**
REYF				S	**Sb**	**06 16 55.2**	**+0.5**
VIEF	**Viey**	**1.15**	**88**	Pg	**Pg**	**06 16 51.7**	**+1.4**
VIEF				Sg	**Sg**	**06 17 04.8**	**-0.8**
VIEF	**Viey**	**1.15**	**88**	P	**Pb**	**06 16 48.8**	**+0.4**
VIEF				S	**Sb**	**06 17 04.4**	**+1.5**
LABF	**Labassere**	**1.20**	**81**	Pg	**Pg**	**06 16 51.5**	**+0.3**
LABF				Sg	**Sg**	**06 17 05.7**	**-1.6**
LABF	**Labassere**	**1.20**	**81**	P	**Pb**	**06 16 50.0**	**+0.8**
LABF				S	**Sb**	**06 17 04.7**	**+0.3**
EBIE	**Bielsa**	**1.25**	**98**	Pg	**Pg**	**06 16 50.7**	**-1.5**
	3.2nm,0.1s,SNR=7.9						
EBIE				Pn	**Pn**	**06 16 53.0**	**+2.7**
	175nm,0.2s,SNR=7.9						
EBIE				Lg		06 17 08.5	
	698nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**1.25**	**98**	Pg	**Pg**	**06 16 50.7**	**-1.5**
EBIE				Pn	**Pn**	**06 16 52.2**	**+1.9**
EBIE				Lg		06 17 08.5	
EBIE	**Bielsa**	**1.25**	**98**	Pg	**Pg**	**06 16 50.7**	**-1.6**
	3.2nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**1.25**	**98**	Pn	**Pn**	**06 16 52.2**	**+1.9**
	175nm,0.2s,SNR=7.9						
RESF	**Ens**	**1.38**	**92**	Pg	**Pg**	**06 16 54.1**	**-0.8**
RESF	**Ens**	**1.38**	**92**	P	**Pn**	**06 16 53.0**	**+0.8**
RESF				S	**Sb**	**06 17 11.8**	**+2.2**
ESAC	**San Caprasio**	**1.39**	**145**	⇑Pg	**Pg**	**06 16 53.5**	**-1.5**
	808nm,0.2s,SNR=18						
ESAC				Lg		06 17 12.2	
	4μm,0.3s,SNR=13						

ESAC San Caprasio 1.39 145 Pg Pg 06 16 53.5 -1.6
808nm,0.2s,SNR=18
MELF Melles 1.69 89 Pg Pg 06 17 00.4 -0.6
MELF Sg Sg 06 17 21.5 -2.1
MELF Melles 1.69 89 P Pn 06 16 58.8 +2.2
SALF Salau 2.01 92 Pn Pn 06 17 04.2 +3.0
SALF Salau 2.01 92 P Pn 06 17 04.2 +3.0
ETOR Torete 2.08 191 ⇑Pn Pn 06 17 04.6 +2.4
38nm,0.3s,SNR=18
ETOR Pg Pg 06 17 09.3 +0.5
201nm,0.4s,SNR=20
ETOR Torete 2.08 191 ⇑Pn Pn 06 17 04.6 +2.4
ETOR Pg Pg 06 17 09.3 +0.5
ETOR Lg 06 17 33.0
GRBF Gourbit 2.26 90 P Pn 06 17 07.4 +2.6
EMIR Miracle 2.46 112 Pn Pn 06 17 09.0 +1.3
4.6nm,0.1s,SNR=19
EMIR Pg Pg 06 17 13.4 -3.0
40nm,0.3s,SNR=11
EMIR Lg 06 17 45.9
244nm,0.3s,SNR=14
EMIR Miracle 2.46 112 Pn Pn 06 17 08.9 +1.3
EMIR Miracle 2.46 112 Pg Pg 06 17 13.4 -3.0
40nm,0.3s,SNR=11
EPOB Poblet 2.46 127 Pn Pn 06 17 08.2 +0.5
8.9nm,0.2s,SNR=24
EPOB Pg Pg 06 17 13.0 -3.4
17nm,0.4s,SNR=10.0
EPOB Sn Sn 06 17 36.4 -1.4
19nm,0.3s,SNR=8.9
EPOB Lg 06 17 45.8
111nm,0.3s,SNR=9.0
EPOB Poblet 2.46 127 Pn Pn 06 17 08.2 +0.5
EPOB Pg Pg 06 17 13.0 -3.4
EPOB Sn Sn 06 17 36.4 -1.4
EPOB Lg 06 17 42.9
EPOB Poblet 2.46 127 Pn Pn 06 17 08.2 +0.5
8.9nm,0.2s,SNR=24
EPOB Poblet 2.46 127 Pg Pg 06 17 13.0 -3.5
17nm,0.4s,SNR=10.0
EPOB Sn Sn 06 17 36.4 -1.4
19nm,0.3s,SNR=8.9
LPEF Le Peyrat 2.53 87 Pn Pn 06 17 11.8 +3.1
EBR Ebro Roquetas 2.54 143 eP* Pb 06 17 13.3 +1.1
EBR Ebro Roquetas 2.54 143 ePG Pg 06 17 16.5 -1.5
EBR iS* Sb 06 17 48.0 +4.6
EMOS Mosqueruela 2.62 162 Pn Pn 06 17 11.6 +1.6
2.6nm,0.2s,SNR=9.4
EMOS Pg Pg 06 17 16.3 -3.3
52nm,0.3s,SNR=32
EMOS Sn Sn 06 17 42.0 +0.2
16nm,0.3s,SNR=5.0
EMOS Lg 06 17 54.4
174nm,0.5s,SNR=5.3
EMOS Mosqueruela 2.62 162 Pn Pn 06 17 11.6 +1.6
2.6nm,0.2s,SNR=9.4
EMOS Mosqueruela 2.62 162 Pg Pg 06 17 16.3 -3.3
52nm,0.3s,SNR=32
EMOS Sn Sn 06 17 42.0 +0.1
16nm,0.3s,SNR=5.0
LFF La Frestale 2.65 38 ePn Pn 06 17 11.1 +0.8
LFF eSn Sn 06 17 41.5 -1.0
LFF eSg Sg 06 17 50.0 -5.5
273nm,0.4s
VALF Valcebollere 2.66 99 Pn Pn 06 17 12.9 +2.3
VALF Valcebollere 2.66 99 P Pn 06 17 13.1 +2.5
CARF Carcanieres 2.69 92 Pn Pn 06 17 14.6 +3.7
EARI Arriondas 2.73 280 Pn Pn 06 17 15.8 +4.3
1.6nm,0.2s,SNR=18
EARI Pg Pg 06 17 21.9 +0.3
21nm,0.5s,SNR=11
EARI Sn Sn 06 17 48.2 +3.8
24nm,0.4s,SNR=5.7
EARI Lg 06 17 59.7
65nm,0.4s,SNR=5.5
EARI Arriondas 2.73 280 Pn Pn 06 17 15.8 +4.3
EARI Pg Pg 06 17 21.9 +0.3
EARI Sn Sn 06 17 48.2 +3.8
EARI Lg 06 17 57.8
EARI Arriondas 2.73 280 Pn Pn 06 17 15.8 +4.4
1.6nm,0.2s,SNR=18
EARI Arriondas 2.73 280 Pg Pg 06 17 22.0 +0.3
EARI Sn Sn 06 17 48.2 +3.7
24nm,0.4s,SNR=5.7
MTLF Montolieu 2.79 79 ePn Pn 06 17 14.0 +1.6
MTLF ePg Pg 06 17 21.1 -1.9
MTLF eSn Sn 06 17 45.9 -0.2
219nm,0.5s
LRDF Laroque-de-Fa 3.00 87 Pn Pn 06 17 17.7 +2.4
LRDF Laroque-de-Fa 3.00 87 P Pn 06 17 17.8 +2.5
FILF Fillols 3.04 94 Pn Pn 06 17 16.8 +1.0
FILF Fillols 3.04 94 P Pn 06 17 16.8 +1.0
SJAF Saint Jean de 3.28 95 Pn Pn 06 17 21.2 +1.9
SJAF Saint Jean de 3.28 95 P Pn 06 17 21.3 +1.9
RJF Les Rejaudoux 3.29 41 ePn Pn 06 17 19.0 -0.4
RJF eSn Sn 06 17 57.3 -1.3
177nm,0.3s
EJON La Jonquera 3.29 96 Pn Pn 06 17 20.2 +0.7
2.1nm,0.1s,SNR=13
EJON Pg Pg 06 17 27.7 -5.2
25nm,0.3s,SNR=19
EJON Sn Sn 06 17 57.2 -1.6
14nm,0.4s,SNR=7.2
EJON Lg 06 18 11.7
401nm,0.8s,SNR=12
EJON La Jonquera 3.29 96 Pn Pn 06 17 20.2 +0.7
EJON Pg Pg 06 17 27.8 -5.2
EJON Sn Sn 06 17 57.2 -1.6
EJON Lg 06 18 10.2
EJON La Jonquera 3.29 96 Pn Pn 06 17 20.2 +0.7
2.1nm,0.1s,SNR=13
EJON La Jonquera 3.29 96 Pg Pg 06 17 27.8 -5.2
EJON Sn Sn 06 17 57.2 -1.6
14nm,0.4s,SNR=7.2
CAF Calviac 3.32 50 ePn Pn 06 17 19.8 -0.1
CAF eSn Sn 06 17 57.7 -1.8
88nm,0.4s
ESDC Sonseca Array 3.67 211 Pn Pn 06 17 25.9 +1.0
8.3nm,0.4s,baz=37,slow=13,SNR=22
ESDC Pg Pg 06 17 38.1 -2.5
52nm,0.5s,baz=34,slow=18,SNR=9.6
ESDC Lg 06 18 27.6
18nm,0.4s,baz=31,slow=29,SNR=8.4
ESDC Sonseca Array 3.67 211 Pn Pn 06 17 25.9 +1.0
ESDC Pg Pg 06 17 38.1 -2.5
ESDC Lg 06 18 25.3
ESDC Sonseca Array 3.67 211 Pn Pn 06 17 25.9 +1.0
8.3nm,0.4s,slow=13,SNR=22
ESDC Sonseca Array 3.67 211 Pg Pg 06 17 38.1 -2.5
52nm,0.5s,slow=18,SNR=9.6
ESLA Sonseca Array 3.67 211 ePn Pn 06 17 25.2 +0.3
ESLA ePg Pg 06 17 36.9 -3.7
ESLA Sonseca Array 3.67 211 ePn Pn 06 17 25.2 +0.3
ESLA Sonseca Array 3.67 211 ePg Pg 06 17 36.8 -3.8
MFF Saint Martin d 3.87 14 ePn Pn 06 17 28.0 +0.3
MFF eSn Sn 06 18 11.5 -1.9
74nm,0.5s
ECAL Calabor 3.96 258 Pn Pn 06 17 31.3 +2.4
22nm,0.3s,SNR=43
ECAL Pg Pg 06 17 44.5 -1.8
11nm,1.2s,SNR=7.9
ECAL Sn Sn 06 18 17.5 +1.8
43nm,0.3s,SNR=5.0
ECAL Lg 06 18 39.0
110nm,0.3s,SNR=4.9
ECAL Calabor 3.96 258 Pn Pn 06 17 31.3 +2.4
ECAL Pg Pg 06 17 44.5 -1.8
ECAL Sn Sn 06 18 17.5 +1.8
ECAL Lg 06 18 36.1
ECAL Calabor 3.96 258 Pn Pn 06 17 31.3 +2.3
22nm,0.3s,SNR=43
ECAL Calabor 3.96 258 Pg Pg 06 17 44.5 -1.8
11nm,1.2s,SNR=7.9
ECAL Sn Sn 06 18 17.5 +1.8
43nm,0.3s,SNR=5.0
PBRG Braganca 4.00 256 ePn Pn 06 17 31.9 +2.4
PBRG eSn Sn 06 18 17.7 +1.0
PBRG eSg Sg 06 18 35.5 -4.9
39nm,0.4s
PBRG Braganca 4.00 256 ePn Pn 06 17 31.9 +2.4
PBRG eSn Sn 06 18 17.7 +1.0
PBRG eSg Sg 06 18 35.5 -4.9
39nm,0.4s
VERF Verneugheol 4.08 44 Pn Pn 06 17 30.6 -0.1
LASF Ste Croix 4.11 71 ePn Pn 06 17 31.2 +0.1
LASF eSn Sn 06 18 17.5 -2.0
258nm,0.6s
LASF eSg Sg 06 18 38.7 -5.4
LASF Ste Croix 4.11 71 ePn Pn 06 17 31.2 +0.1
LASF eSg Sg 06 18 38.7 -5.4
EPON Pontenova 4.14 278 Pn Pn 06 17 34.7 +3.2
9.1nm,0.5s,SNR=18
EPON Pg Pg 06 17 48.4 -1.4
13nm,0.4s,SNR=9.9
EPON Sn Sn 06 18 21.6 +1.4
26nm,0.5s,SNR=7.9
EPON Lg 06 18 45.9
26nm,0.4s,SNR=4.7
EPON Pontenova 4.14 278 Pn Pn 06 17 34.7 +3.2
EPON Pg Pg 06 17 48.5 -1.4
EPON Sn Sn 06 18 23.5 +3.4
EPON Lg 06 18 41.4
EPON Pontenova 4.14 278 Pn Pn 06 17 34.7 +3.2
9.1nm,0.5s,SNR=18
EPON Pontenova 4.14 278 Pg Pg 06 17 48.4 -1.4
13nm,0.4s,SNR=9.9
EPON Sn Sn 06 18 23.5 +3.3
26nm,0.5s,SNR=7.9
ERUA La Rua 4.16 265 Pn Pn 06 17 34.9 +3.0
16nm,0.3s,SNR=19
ERUA Pg Pg 06 17 48.4 -2.0
11nm,0.3s,SNR=5.9
ERUA Sn Sn 06 18 22.9 +2.1
26nm,0.4s,SNR=6.5
ERUA Lg 06 18 46.4
65nm,0.8s,SNR=5.0
LBL Lubilhac 4.18 54 Pn Pn 06 17 33.4 +1.2
EBEN Beniarda 4.27 166 Pn Pn 06 17 33.7 +0.2
3.9nm,0.3s,SNR=8.7
EBEN Pg Pg 06 17 46.8 -5.7
40nm,0.6s,SNR=9.2
EBEN Lg 06 18 43.7
20nm,0.5s,SNR=5.0
EBEN Beniarda 4.27 166 Pn Pn 06 17 33.7 +0.3
3.9nm,0.3s,SNR=8.7
EBEN Beniarda 4.27 166 Pg Pg 06 17 46.8 -5.8
40nm,0.6s,SNR=9.2
EVIA Vianos 4.28 190 ⇓Pn Pn 06 17 35.6 +2.0
46nm,0.3s,SNR=18
EVIA Pg Pg 06 17 48.8 -4.0
35nm,0.4s,SNR=14
EVIA Sn Sn 06 18 23.0 -1.0
48nm,0.7s,SNR=6.9
EVIA Lg 06 18 46.2
82nm,0.6s,SNR=5.8
EVIA Vianos 4.28 190 ⇓Pn Pn 06 17 35.6 +2.0
EVIA Pg Pg 06 17 48.8 -4.0
EVIA Sn Sn 06 18 23.0 -1.0
EVIA Lg 06 18 43.8
EVIA Vianos 4.28 190 Pg Pg 06 17 48.8 -4.0
35nm,0.4s,SNR=14
EVIA Sn Sn 06 18 23.0 -0.9
48nm,0.7s,SNR=6.9
TCF Toulx Ste Croi 4.35 37 ePn Pn 06 17 33.4 -1.1
TCF eSn Sn 06 18 21.9 -3.6
PYM Petit Puy Mans 4.36 47 Pn Pn 06 17 36.1 +1.5
EIBI Ibiza 4.41 149 Pn Pn 06 17 35.1 -0.3
7.5nm,0.2s,SNR=5.0
EIBI Sn Sn 06 18 22.1 -5.0
16nm,0.6s,SNR=7.9
EIBI Ibiza 4.41 149 Pn Pn 06 17 35.1 -0.3
7.5nm,0.2s,SNR=5.0
EIBI Sn Sn 06 18 22.1 -5.0
16nm,0.6s,SNR=7.9
COLF Collangettes 4.60 53 Pn Pn 06 17 37.4 -0.7
BGF Bois d'Agland 4.84 39 ePn Pn 06 17 40.9 -0.5
BGF eSn Sn 06 18 34.2 -3.7
142nm,0.4s
BGF eSg Sg 06 18 59.9 -8.4
252nm,0.6s
PVRL Vila Real 4.87 253 ePn Pn 06 17 43.5 +1.7
PVRL eSn Sn 06 18 38.0 -0.6
PVRL eSg Sg 06 19 04.2 -5.0
34nm,0.4s
PVRL Vila Real 4.87 253 ePn Pn 06 17 43.5 +1.7
PVRL eSn Sn 06 18 38.0 -0.6
PVRL eSg Sg 06 19 04.2 -5.0
34nm,0.4s
VIVF Saint-Julien-l 4.91 64 ePn Pn 06 17 42.3 -0.2
VIVF eSn Sn 06 18 36.2 -3.6
31nm,0.4s
ELOB Lobios 4.94 261 Pn Pn 06 17 44.7 +1.9
3.5nm,0.2s,SNR=12
ELOB Pg Pg 06 18 02.1 -3.7
15nm,0.4s,SNR=9.1
ELOB Sn Sn 06 18 40.1 -0.2
9.4nm,0.5s,SNR=4.7
ELOB Lg 06 19 09.1
56nm,0.8s,SNR=7.9
ELOB Lobios 4.94 261 Pn Pn 06 17 44.7 +1.9
ELOB Pg Pg 06 18 02.1 -3.7
ELOB Sn Sn 06 18 40.1 -0.2
ELOB Lg 06 19 05.7
ELOB Lobios 4.94 261 Pn Pn 06 17 44.7 +1.9
3.5nm,0.2s,SNR=12
ELOB Lobios 4.94 261 Pg Pg 06 18 02.1 -3.6
15nm,0.4s,SNR=9.1
ELOB Sn Sn 06 18 40.1 -0.3
9.4nm,0.5s,SNR=4.7
EMUR La Murta 5.02 177 Pn Pn 06 17 44.9 +0.8
7.2nm,0.5s,SNR=7.9
EMUR Pg Pg 06 18 02.2 -5.3
17nm,0.5s,SNR=6.1
EMUR Lg 06 19 08.2
26nm,0.5s,SNR=4.0
EMUR La Murta 5.02 177 Pn Pn 06 17 44.9 +0.8
EMUR Pg Pg 06 18 02.2 -5.3
EMUR Lg 06 19 12.6
EMUR La Murta 5.02 177 Pn Pn 06 17 44.9 +0.9
7.2nm,0.5s,SNR=7.9
EMUR La Murta 5.02 177 Pg Pg 06 18 02.2 -5.3
17nm,0.5s,SNR=6.1
MTE Manteigas 5.13 243 ePn Pn 06 17 46.2 +0.6
MTE eSg Sg 06 19 12.2 -5.8
61nm,0.4s
MTE Manteigas 5.13 243 ePn Pn 06 17 45.8 +0.3
MTE ePg Pg 06 18 04.5 -5.1
MTE eSg Sg 06 19 12.6 -5.5
MTE Manteigas 5.13 243 ePg Pg 06 18 04.5 -5.1
MTE eSg Sg 06 19 12.2 -5.8
61nm,0.4s
STS Santiago 5.15 273 Pn Pn 06 17 48.4 +2.5
8.3nm,1.2s,SNR=5.0
STS Sn Sn 06 18 46.3 +0.5
7.7nm,0.4s,SNR=5.0
STS Lg 06 19 15.7
5.6nm,0.8s,SNR=4.0
QUIF Quistinic 5.18 348 ePn Pn 06 17 47.3 +1.0
QUIF eSn Sn 06 18 43.5 -3.1
26nm,0.4s
EQES Quesada 5.19 194 Pn Pn 06 17 47.4 +1.0
23nm,0.4s,SNR=30
EQES Pg Pg 06 18 06.2 -4.7
23nm,0.4s,SNR=13
EQES Lg 06 19 14.9
93nm,0.9s,SNR=5.3
EQES Quesada 5.19 194 Pn Pn 06 17 47.4 +1.0
23nm,0.4s,SNR=30
EQES Quesada 5.19 194 Pg Pg 06 18 06.2 -4.6
23nm,0.4s,SNR=13
PVIS Viseu 5.21 248 ePn Pn 06 17 47.2 +0.5
PVIS eSn Sn 06 18 46.1 -1.3
PVIS eSg Sg 06 19 14.8 -6.0
29nm,0.4s
EADA Adamuz 5.23 207 Pn Pn 06 17 47.3 +0.4
5.9nm,0.2s,SNR=35
EADA Pg Pg 06 18 07.6 -4.1
7.0nm,0.3s,SNR=11
EADA Sn Sn 06 18 46.0 -1.8
3.9nm,0.2s,SNR=5.2
EADA Lg 06 19 16.5
55nm,0.7s,SNR=4.5
EADA Adamuz 5.23 207 Pn Pn 06 17 47.3 +0.4
EADA Pg Pg 06 18 07.6 -4.1
EADA Sn Sn 06 18 46.0 -1.8
EADA Lg 06 19 14.9
EADA Adamuz 5.23 207 Pn Pn 06 17 47.3 +0.3
5.9nm,0.2s,SNR=35
EADA Adamuz 5.23 207 Pg Pg 06 18 07.6 -4.1
7.0nm,0.3s,SNR=11
EADA Sn Sn 06 18 46.0 -1.8
3.9nm,0.2s,SNR=5.2
SMRF Simiane la Rot 5.30 75 ePn Pn 06 17 48.6 +0.7
SMRF eSn Sn 06 18 45.1 -4.4
20nm,0.4s
HYF Humbligny 5.30 32 ePn Pn 06 17 48.1 +0.1
HYF eSn Sn 06 18 44.9 -4.8
292nm,0.4s
PUYF Puyloubier 5.33 80 Pn Pn 06 17 51.3 +2.9
EZAM Zamans 5.34 265 Pn Pn 06 17 50.9 +2.4
2.7nm,1.7s,SNR=5.0
EZAM Sn Sn 06 18 49.9 -0.6
5.7nm,0.6s,SNR=5.0
EZAM Lg 06 19 22.0
6.1nm,0.4s,SNR=4.0
SMF Signal de Mont 5.38 44 ePn Pn 06 17 47.7 -1.4
SMF eSn Sn 06 18 47.2 -4.4
26nm,0.3s
PCBR Castelo Branco 5.39 238 ePn Pn 06 17 49.8 +0.5
PCBR eSn Sn 06 18 49.6 -2.3
PCBR eSg Sg 06 19 20.5 -6.3
32nm,0.6s
SGMF Saint Gilles 5.44 353 ePn Pn 06 17 50.6 +0.7
SGMF eSn Sn 06 18 48.0 -5.0
EMAZ Mazaricos 5.46 273 Pn Pn 06 17 51.8 +1.5
5.0nm,0.2s,SNR=8.0
EMAZ Sn Sn 06 18 51.6 -2.1
9.0nm,0.3s,SNR=6.3
EMAZ Lg 06 19 26.0
42nm,1.0s,SNR=5.0
EMAZ Mazaricos 5.46 273 Pn Pn 06 17 51.8 +1.5
5.0nm,0.2s,SNR=8.0
SSF Saint Saulge 5.51 39 Sn Sn 06 18 49.8 -5.1
0.0nm,0.7s
SSF Saint Saulge 5.51 39 ePn Pn 06 17 49.1 -1.9
SSF eSn Sn 06 18 49.8 -5.1
28nm,0.7s
GRR Gorron 5.55 5 ePn Pn 06 17 51.5 +0.1
GRR eSn Sn 06 18 51.4 -4.3
23nm,0.5s
TAVF Tavernes 5.60 80 Pn Pn 06 17 55.2 +3.0
ROSF Rostrenen 5.61 348 ePn Pn 06 17 52.8 +0.5
ROSF eSn Sn 06 18 53.2 -4.0
18nm,0.4s
ORIF Oris-en-Rattie 5.74 67 ePn Pn 06 17 54.5 +0.3
ORIF eSn Sn 06 18 55.6 -5.0
12nm,0.5s
LDF La Druitiere 5.81 9 ePn Pn 06 17 55.3 +0.1
LDF eSn Sn 06 18 57.6 -4.9
40nm,0.6s
LOR Lormes 5.83 39 ePn Pn 06 17 53.9 -1.5
baz=220
LOR eSn Sn 06 18 57.6 -5.2
25nm,0.3s
EBAD Badajoz 5.84 227 Pn Pn 06 17 55.6 0.0
2.4nm,0.3s,SNR=10
EBAD Pg Pg 06 18 17.3 -6.5
6.7nm,0.5s,SNR=4.9
EBAD Sn Sn 06 19 01.3 -1.7
3.8nm,0.2s,SNR=5.0
EBAD Lg 06 19 38.4
18nm,0.4s,SNR=4.0
EBAD Badajoz 5.84 227 Pn Pn 06 17 55.6 0.0
EBAD Pg Pg 06 18 17.3 -6.5
EBAD Sn Sn 06 19 01.3 -1.7
EBAD Lg 06 19 38.4
EBAD Badajoz 5.84 227 Pn Pn 06 17 55.6 +0.1
2.4nm,0.3s,SNR=10
EBAD Badajoz 5.84 227 Pg Pg 06 18 17.3 -6.5
6.7nm,0.5s,SNR=4.9
EBAD Sn Sn 06 19 01.3 -1.7
3.8nm,0.2s,SNR=5.0
LMR La Mourre 5.91 83 ePn Pn 06 17 56.9 +0.3
LMR eSn Sn 06 19 00.4 -4.4
8.5nm,0.3s
FLN La Foliniere 5.95 7 ePn Pn 06 17 57.5 +0.4
FLN eSn Sn 06 18 59.9 -5.8
FLN eSg Sg 06 19 35.4 -10
24nm,0.4s
FRF La Foret Royal 6.02 81 ePn Pn 06 17 58.2 +0.1
FRF eSn Sn 06 19 02.6 -5.0
33nm,0.6s
EBER Berja 6.05 190 ⇑Pn Pn 06 18 00.8 +2.3
39nm,0.5s,SNR=18
EBER Pg Pg 06 18 19.9 -8.0
9.3nm,1.0s,SNR=7.9
EBER Sn Sn 06 19 05.8 -2.4
6.6nm,0.3s,SNR=5.0
EBER Lg 06 19 43.6
63nm,0.7s,SNR=7.9
EBER Berja 6.05 190 ⇑Pn Pn 06 18 00.8 +2.3
EBER Pg Pg 06 18 23.7 -4.3
EBER Sn Sn 06 19 05.8 -2.4
EBER Lg 06 19 43.6
EBER Berja 6.05 190 Pn Pn 06 18 00.8 +2.3
39nm,0.5s,SNR=18
EBER Sn Sn 06 19 05.8 -2.5
6.6nm,0.3s,SNR=5.0
EBER Berja 6.05 190 Pg Pg 06 18 23.7 -4.3
9.3nm,1.0s,SNR=7.9
ELOJ Sierra Loja 6.05 200 Pn Pn 06 17 60.0 +1.4
SNR=4.0
ERON Agron 6.09 197 Pn Pn 06 18 00.8 +1.7
7.2nm,0.4s,SNR=5.0
ERON Pg Pg 06 18 21.0 -7.9
6.7nm,0.3s,SNR=6.8
MBDF Montbardon 6.29 70 ePn Pn 06 18 03.1 +1.1
MBDF eSn Sn 06 19 07.5 -7.0
19nm,0.6s
EMIN Mina Concepcio 6.43 219 Pn Pn 06 18 03.4 -0.5
3.2nm,0.3s,SNR=13
EMIN Pg Pg 06 18 28.7 -6.8
2.0nm,0.4s,SNR=7.9
EMIN Sn Sn 06 19 13.3 -4.4
6.5nm,0.5s,SNR=6.6
EMIN Lg 06 19 56.2
32nm,0.9s,SNR=7.9
EMIN Mina Concepcio 6.43 219 Pn Pn 06 18 03.4 -0.4
EMIN Mina Concepcio 6.43 219 Pg Pg 06 18 28.7 -6.8
LPL La Plagne 6.51 63 ePn Pn 06 18 05.5 +0.5
LPL eSn Sn 06 19 13.2 -6.6
16nm,0.7s
LPG La Plagne 6.51 63 ePn Pn 06 18 06.0 +0.9
LPG eSn Sn 06 19 13.4 -6.6
15nm,0.7s
EVO Evora 6.55 231 ePn Pn 06 18 06.2 +0.6
EVO eSn Sn 06 19 19.6 -1.2
EVO eSg Sg 06 19 59.3 -6.0
128nm,1.2s
CABF La Chapelle 6.60 53 ePn Pn 06 18 06.3 +0.1
CABF eSn Sn 06 19 15.0 -7.0
CABF eSg Sg 06 19 55.3 -12
62nm,0.9s
SBF Sospel 6.62 78 ePn Pn 06 18 07.2 +0.7
SBF ePg Pg 06 18 32.0 -7.3
SBF eSn Sn 06 19 16.9 -5.6
24nm,0.5s
SBF Sospel 6.62 78 Pn Pn 06 18 07.2 +0.7
SBF Sn Sn 06 19 16.9 -5.6
12nm,0.5s
MOE Montemor 6.75 232 ePn Pn 06 18 08.4 0.0
MOE eSn Sn 06 19 22.9 -3.0
MOE eSg Sg 06 20 03.6 -8.4
EMIJ Mijas 6.77 203 Pn Pn 06 18 09.5 +0.9
4.1nm,0.5s,SNR=7.9
EMIJ Pg Pg 06 18 34.2 -8.1
1.5nm,0.3s,SNR=5.0
EMIJ Sn Sn 06 19 21.9 -4.4
3.3nm,0.3s,SNR=4.0
EMIJ Lg 06 20 08.3
14nm,0.4s,SNR=4.0
EMIJ Mijas 6.77 203 Pn Pn 06 18 09.5 +0.9
EMIJ Pg Pg 06 18 34.2 -8.1
EMIJ Sn Sn 06 19 21.9 -4.4
EMIJ Lg 06 20 03.8
PBEJ Beja 6.83 227 ePn Pn 06 18 09.2 -0.3
PBEJ eSn Sn 06 19 23.6 -4.2
PBEJ eSg Sg 06 20 04.6 -10
ESPR Espera 6.85 210 Pn Pn 06 18 10.1 +0.3
9.0nm,0.2s,SNR=5.0
ESPR Sn Sn 06 19 25.3 -3.0
12nm,0.5s,SNR=4.0
ESPR Lg 06 20 10.8
13nm,0.6s,SNR=4.0
ESPR Espera 6.85 210 Pn Pn 06 18 10.1 +0.3
ESPR Sn Sn 06 19 25.3 -2.9
PALC Alcoutim 7.05 222 ePn Pn 06 18 11.9 -0.8

PALC				*e*Sn	**Sn**	**06 19 27.9**	**-5.5**
PALC				*e*Sg	**Sg**	**06 20 15.8**	**-6.2**
	19nm,0.7s						
PALC	**Alcoutim**	**7.05**	**222**	Pn	**Pn**	**06 18 11.9**	**-0.8**
PALC				Sn	**Sn**	**06 19 27.9**	**-5.5**
PALC				Lg		06 20 15.8	
	9.5nm,0.7s						
SFTF	**Sexfontaines**	**7.06**	**39**	*e*Pn	**Pn**	**06 18 12.1**	**-0.6**
SFTF				*e*Sn	**Sn**	**06 19 26.0**	**-7.5**
	7.1nm,0.2s						
MEZF	**Maizieres J'vi**	**7.28**	**37**	*e*Pn	**Pn**	**06 18 13.1**	**-2.8**
	baz=220						
MEZF				*e*Sg	**Sg**	**06 20 15.4**	**-14**
	34nm,0.5s						
SFS	**San Fernando**	**7.33**	**211**	*e*Pn	**Pn**	**06 18 13.5**	**-3.0**
RFYF	**Reffroy**	**7.57**	**38**	*e*Pn	**Pn**	**06 18 19.1**	**-0.8**
	baz=220						
RFYF				*e*Sn	**Sn**	**06 19 39.5**	**-6.8**
	6.7nm,0.2s						
PTEO	**Sao Teotonio**	**7.64**	**228**	*e*Pn	**Pn**	**06 18 20.3**	**-0.6**
	14nm,0.7s						
HINF	**Hinteralfeld**	**7.71**	**47**	*e*Pn	**Pn**	**06 18 19.8**	**-2.0**
HINF				*e*Sn	**Sn**	**06 19 42.9**	**-6.9**
HINF				*e*Sg	**Sg**	**06 20 29.4**	**-14**
	5.9nm,0.4s						
PGF	**Pioggiola**	**7.77**	**89**	*e*Pn	**Pn**	**06 18 22.1**	**-0.6**
PGF				*e*Sn	**Sn**	**06 19 44.8**	**-6.5**
	11nm,0.4s						
BAIF	**Baives**	**8.21**	**27**	*e*Pn	**P**	**06 18 26.7**	**-2.2**
CDF	**Champ du Feu**	**8.30**	**45**	*e*Pn	**P**	**06 18 26.6**	**-3.5**
CDF				*e*Sn	**Sn**	**06 19 56.3**	**-8.2**
CDF				*e*Sg	**Sg**	**06 20 47.1**	**-16**
	2.6nm,0.3s						
GIVF	**Givet**	**8.46**	**29**	*e*Pn	**P**	**06 18 31.1**	**-1.2**
GIVF				*e*Sn	**Sn**	**06 20 00.7**	**-7.9**
	19nm,0.3s						
WLF	**Walferdange**	**8.64**	**35**	*e*Pn	**P**	**06 18 33.7**	**-1.0**
WLF	**Walferdange**	**8.64**	**35**	*e*Pn	**P**	**06 18 33.7**	**-1.0**

IDC ***07*** *06:54:44.2±6.8, 6.29N×127.04E, h186^{km}±65^{km}, mb3.9/11, mb1 4.1/11, mb1mx3.9/20, Error ellipse: s-maj=38.8km s-min=12.8km az=70.0*

NEIC ***07*** *06:54:50.4±0.3, 6.19N×126.91E, h250^{km}, mb4.4/9, Error ellipse: s-maj=19.4km s-min=7.0km az=77.0*

ISC 07 06:54:42.1±1.2**, 6.26N**±0.08×**126.9E**±0.2**, h183**^{km}±11^{km}**, n26,** σ0^s**70**/28**, mb4.3**/19**, 1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**1.91**	**293**	⇓*e*P	**P**	**06 55 19.4**	**+0.6**
KCP				*i* S	**S**	**06 55 46.7**	**-0.4**
BUKP	**Musuan**	**2.40**	**312**	*e*P	**P**	**06 55 24.9**	**+0.5**
BUKP				*e*S	**S**	**06 55 56.4**	**-0.5**
PAGZ	**Pagadian**	**3.79**	**295**	*e*P	**P**	**06 55 41.3**	**-0.1**
FITZ	**Fitzroy Crossi**	**24.23**	**183**	P	**P**	**06 59 44.1**	**+0.5**
	6.8nm,0.6s,mb4.4,baz=11,slow=8.7,SNR=19						
WRAB	**Tennant Creek**	**27.05**	**164**	*e*P	**P**	**07 00 08.7**	**-0.9**
	10nm,0.5s,mb4.7						
WRA	**Warramunga Arr**	**27.06**	**164**	P	**P**	**07 00 09.0**	**-0.7**
	4.9nm,0.5s,mb4.4,baz=346,slow=11,SNR=22						
ASAR	**Alice Springs**	**30.53**	**167**	P	**P**	**07 00 39.9**	**-0.7**
	2.9nm,0.4s,mb4.4,baz=342,slow=6.9,SNR=33						
ASAR				PcP	PcP	07 03 34.5	-0.3
	1.0nm,0.4s,baz=352,slow=2.4,SNR=11						
NWAO	**Narrogin (SRO)**	**40.03**	**193**	P	**P**	**07 02 01.9**	**+1.1**
	10.0nm,0.6s,mb4.6,baz=357,slow=9.3,SNR=9.3						
NWAO	**Narrogin (SRO)**	**40.03**	**193**	*e*P	**P**	**07 02 02.0**	**+1.1**
	13nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**40.44**	**161**	P	**P**	**07 02 04.8**	**+0.5**
	9.2nm,0.9s,mb4.4,baz=314,slow=13,SNR=8.7						
SONM	**Songino Array**	**44.96**	**341**	P	**P**	**07 02 41.7**	**+1.2**
	0.8nm,0.6s,mb3.5,baz=156,slow=8.5,SNR=4.8						
SONM				PcP	PcP	07 04 19.3	+0.3
	0.4nm,0.6s,baz=153,slow=3.2,SNR=3.5						
MKAR	**Makanchi Array**	**55.58**	**324**	P	**P**	**07 04 01.2**	**+0.4**
	1.5nm,0.3s,mb4.2,baz=116,slow=7.4,SNR=36						
MKAR				PcP	PcP	07 04 57.7	-0.4
	1.1nm,0.7s,baz=124,slow=4.4,SNR=6.2						
MKAR	**Makanchi Array**	**55.58**	**324**	P	**P**	**07 04 01.2**	**+0.4**
MKAR				PcP	PcP	07 04 57.7	-0.4
ZAL	**Zalesovo**	**58.42**	**332**	P	**P**	**07 04 19.3**	**-1.3**
	1.6nm,0.3s,mb4.3,baz=344,slow=4.4,SNR=3.6						
ZAL	**Zalesovo**	**58.42**	**332**	P	**P**	**07 04 19.3**	**-1.3**
KURK	**Kurchatov**	**59.70**	**327**	*e*P	**P**	**07 04 29.6**	**+0.2**
	7.7nm,0.9s,mb4.5						
BVAR	**Borovoye Array**	**65.29**	**326**	P	**P**	**07 05 06.9**	**+0.6**
	3.8nm,0.7s,mb4.3,baz=127,slow=7.4,SNR=16						
BRVK	**Borovoye**	**65.36**	**326**	*e*P	**P**	**07 05 06.0**	**-0.8**
	6.0nm,0.9s,mb4.4						
ZRNK	**Zerenda**	**66.03**	**326**	*e*P	**P**	**07 05 10.6**	**-0.5**
	11nm,0.8s,mb4.8						
ARU	**Arti**	**72.89**	**327**	*e*P	**P**	**07 05 56.3**	**+3.6**
	23nm,0.6s,mb5.1						
PMR	**Palmer**	**81.68**	**29**	*e*P	**P**	**07 06 41.3**	**+0.3**
	6.4nm,0.7s,mb4.4						
MCK	**McKinley**	**81.86**	**27**	*e*P	**P**	**07 06 42.3**	**+0.4**
	3.6nm,0.7s,mb4.1						
COLA	**College**	**82.37**	**25**	*e*P	**P**	**07 06 44.8**	**+0.3**
	4.1nm,0.9s,mb4.1						
ILAR	**Eielson Array**	**82.78**	**26**	P	**P**	**07 06 46.8**	**+0.1**
	1.6nm,0.6s,mb4.0,baz=248,slow=5.4,SNR=30						
ARCES	**ARCESS Array B**	**88.14**	**340**	P	**P**	**07 07 12.1**	**-0.6**
	1.1nm,0.6s,mb3.8,baz=74,slow=6.6,SNR=5.7						
DLBC	**Dease Lake**	**91.52**	**31**	*e*P	**P**	**07 07 28.0**	**-0.7**

MOS ***07*** *07:16:48.6±1.6, 36.31N×22.58E, h33^{km}, mb4.8/14, Error ellipse: s-maj=11.3km s-min=5.6km az=82.8*

BJI ***07*** *07:16:50.5, 36.07N×22.28E, h85^{km}, mB5.0, mb5.0, Ms5.1, Msz4.6*

CSEM ***07*** *07:16:51.8, 36.35N×22.59E, h60^{km}, mb4.5*

IDC ***07*** *07:16:53.6±1.3, 36.48N×22.71E, h58^{km}±12^{km}, mb4.3/18, mb1 4.4/26, mb1mx4.3/32, MS3.8/7, Ms1 3.8/7, ms1mx3.4/19, Error ellipse: s-maj=16.4km s-min=8.9km az=44.0*

NEIC ***07*** *07:16:53.6±0.3, 36.38N×22.60E, h65^{km}±2^{km}, mb4.6/45, Error ellipse: s-maj=4.0km s-min=2.0km az=196.0*

HRVD ***07*** *07:16:53.6±1.4, 36.15N×22.56E, h47^{km}±5^{km}, MW4.8/30, Centroid moment Tensor Solution. LP body waves: s6,c6; Mantle waves: s30,c41; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.13±.39; $M_{\theta\theta}$-0.57±.26; $M_{\phi\phi}$0.45±.23; $M_{r\theta}$0.69±.15; $M_{\theta\phi}$-1.82±.14; $M_{\phi r}$-0.38±.16; Best double couple: $M_0$2.05×10^{16} NP1:ϕ_s189°,δ69°,λ8°. NP2:ϕ_s96°, δ82°,λ159°. Principal axes: T 2.09, Plg20°, Azm51°; N -.09, Plg68°, Azm257°; P -2, Plg9°, Azm145°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MED_RC ***07*** *07:16:53.6±0.7, 36.63N×22.99E, h25^{km}±4^{km}, MW4.5/6, Moment Tensor Solution. Body waves: s6,c9; Duration: 1^{s}0 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.16±1.27; $M_{\theta\theta}$1.74±.74; $M_{\phi\phi}$-0.58±.91; $M_{r\theta}$3.56±.48; $M_{\theta\phi}$-5.64±.50; $M_{\phi r}$-0.36±1.23; Best double couple: $M_0$6.75×10^{15} NP1: ϕ_s175°,δ58°,λ-4°. NP2:ϕ_s267°,δ87°,λ-147°. Principal axes: T 7.42, Plg20°, Azm36°; N -1.33, Plg57°, Azm272°; P -6.09, Plg25°, Azm136°; nsta1 refers to waves, cutoff=35s.*

ZUR_RM ***07*** *07:16:53, 36.38N×22.60E, h51^{km}, Mw4.7/25, Moment Tensor Solution. s25 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.33; $M_{\theta\theta}$0.49; $M_{\phi\phi}$-0.16; $M_{r\theta}$0.46; $M_{\theta\phi}$-1.06; $M_{\phi r}$-0.28; Best double couple: $M_0$1.19×10^{16} NP1:ϕ_s81°,δ82°,λ164°. NP2:ϕ_s173°,δ74°,λ8°. Principal axes: T 1.436, Plg17°, Azm36°; N -.491, Plg72°, Azm235°; P -.945, Plg5°, Azm128°;*

THE ***07*** *07:16:54.5, 36.48N×22.74E, h60^{km}, ML4.5*

ATH ***07*** *07:16:55.3, 36.59N×22.70E, h44^{km}±3^{km}, MD4.3/21, ML4.3*

NIC ***07*** *07:16:55.6±0.3, 36.92N×23.32E, h25^{km}, mb5.0, ML4.4, MW3.7, Earthquake Southern Greece 15 km SE Kainouryia.*

PDG ***07*** *07:17:00.9±0.1, 36.94N×21.09E, h11^{km}±1^{km}*

ISC 07 07:16:52.5±0.2**, 36.42N**±0.02×**22.58E**±0.02**, h69**^{km}±2^{km}**, h75**^{km}±6.9^{km}**:pP-P, n573,** σ1^s**25**/634**, mb4.8**/60**, 47C-23D, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.39**	**110**	*e*P	**P**	**07 17 04.2**	**-0.2**
KYTH	**Kithira**	**0.39**	**110**	⇓*i*P	**P**	**07 17 04.0**	**-0.4**
VLI	**Veliai**	**0.42**	**44**	*e*P	**P**	**07 17 04.9**	**+0.3**
VLI	**Veliai**	**0.42**	**44**	⇑*i*P	**P**	**07 17 04.9**	**+0.3**
VLI				*e*S	**S**	**07 17 13.0**	**-0.5**
VLI	**Veliai**	**0.42**	**44**	*i* P	**P**	**07 17 04.9**	**+0.3**
VLI				*e*S	**S**	**07 17 13.0**	**-0.5**
ITM	**Ithomi**	**0.92**	**326**	⇓*i*P	**P**	**07 17 12.6**	**+2.4**
NAIG	**Nisos Aigina**	**1.52**	**28**	⇓*i*P	**P**	**07 17 19.0**	**+0.7**
NSAL	**Nisos Salamina**	**1.65**	**25**	⇓*i*P	**P**	**07 17 20.6**	**+0.7**
VAM	**Vamos**	**1.66**	**127**	Pn	**P**	**07 17 20.6**	**+0.5**
ATH	**Athens Observa**	**1.80**	**30**	⇑*i*P	**P**	**07 17 22.7**	**+0.7**
MKIT	**Kithairon Oros**	**1.84**	**17**	⇓*i*P	**P**	**07 17 23.5**	**+0.9**
RLS	**Riolos of Patr**	**1.86**	**332**	⇓*i*P	**P**	**07 17 25.9**	**+3.1**
PTL	**Penteli**	**1.93**	**32**	⇑*i*P	**P**	**07 17 24.4**	**+0.7**
MPAR	**Parnis Oros**	**1.96**	**28**	⇓*i*P	**P**	**07 17 25.0**	**+0.8**
GVD	**Gavdhos**	**2.00**	**142**	*e*P	**P**	**07 17 29.5**	**+4.8**
GVD	**Gavdhos**	**2.00**	**142**	*e*Pn	**P**	**07 17 23.7**	**-1.0**
GVD				*e*P		07 17 29.5	
GVD	**Gavdhos**	**2.00**	**142**	*e*Pn	**P**	**07 17 23.7**	**-1.0**
IDI	**Anoyia**	**2.19**	**120**	P	**P**	**07 17 25.9**	**-1.5**
	51nm,0.3s,baz=316,slow=16,SNR=143						
IDI				S	**S**	**07 17 53.5**	**+0.2**
	462nm,0.3s,baz=265,slow=22,SNR=8.2						
THR5	**Thira Island,**	**2.23**	**89**	*e*Pn	**P**	**07 17 27.7**	**-0.3**
LKR	**Lokris**	**2.25**	**8**	⇑*i*P	**P**	**07 17 29.4**	**+1.1**
THR4	**Thira Island,**	**2.27**	**88**	*e*Pn	**P**	**07 17 29.2**	**+0.6**
THR6	**Thira Island,**	**2.27**	**91**	*e*Pn	**P**	**07 17 28.6**	**0.0**
THR6				*e*Sn	**S**	**07 17 55.1**	**-0.4**
THR3	**Thira Island,**	**2.28**	**89**	*e*Pn	**P**	**07 17 28.5**	**-0.1**
SANT	**Santorini**	**2.32**	**90**	*e*Pn	**P**	**07 17 28.9**	**-0.5**
SANT	**Santorini**	**2.32**	**90**	*e*Pn	**P**	**07 17 28.9**	**-0.4**
THR1	**Thera Island**	**2.33**	**90**	*e*Pn	**P**	**07 17 29.2**	**-0.1**
THR1				*e*Sn	**S**	**07 17 56.7**	**0.0**
VLS	**Valsamata**	**2.37**	**319**	⇓*i*P	**P**	**07 17 31.3**	**+1.4**
APE	**Apeiranthos**	**2.46**	**74**	*i* P	**P**	**07 17 30.4**	**-0.8**
APE	**Apeiranthos**	**2.46**	**74**	*e*P	**P**	**07 17 30.9**	**-0.3**
AGG	**Agios Georgios**	**2.61**	**356**	*e*Pn	**P**	**07 17 34.9**	**+1.6**
AGG				*e*Sn	**S**	**07 18 06.2**	**+2.3**
NPS	**Neapolis**	**2.72**	**114**	Pn	**P**	**07 17 35.6**	**+0.7**
LKD	**Levkas**	**2.75**	**327**	*e*Pn	**P**	**07 17 37.5**	**+2.2**
NEO	**Neokhori**	**2.93**	**10**	*e*P	**P**	**07 17 38.4**	**+0.6**
XOR	**Xorichti**	**2.98**	**9**	*e*Pn	**P**	**07 17 39.2**	**+0.6**
JAN	**Janina**	**3.51**	**338**	⇓*i*P	**P**	**07 17 48.2**	**+2.2**
IGT	**Igoumenitsa**	**3.58**	**331**	*e*Pn	**P**	**07 17 48.1**	**+1.1**
SMG	**Samos**	**3.64**	**68**	*e*P	**P**	**07 17 47.7**	**-0.1**
NISR	**Nisiros**	**3.67**	**86**	*e*P	**P**	**07 17 51.0**	**+2.8**
LIT	**Litokhoron**	**3.68**	**359**	*e*Pn	**P**	**07 17 49.6**	**+1.3**
LIT				*e*Sn	**S**	**07 18 32.0**	**+1.3**
KARP	**Karpathos**	**3.82**	**102**	Pn	**P**	**07 17 49.7**	**-0.5**
KZN	**Kozani**	**3.94**	**351**	*e*P	**P**	**07 17 53.8**	**+1.9**
KEK	**Kerkira**	**3.95**	**327**	⇓*i*P	**P**	**07 17 52.5**	**+0.3**
BDRM	**Kayabasi**	**3.96**	**79**	*i* P	**P**	**07 17 52.4**	**+0.2**
PLG	**Polygyros**	**4.01**	**10**	*e*P	**P**	**07 17 53.2**	**+0.3**
LIA	**Limnos Island**	**4.04**	**30**	Pn	**P**	**07 17 53.5**	**+0.2**
OUR	**Ouranopolis**	**4.06**	**15**	*e*Pn	**P**	**07 17 53.7**	**0.0**
PRK	**Paraskevi**	**4.07**	**45**	*e*P	**P**	**07 17 54.2**	**+0.5**
THE	**Thessaloniki**	**4.22**	**4**	*e*Pn	**P**	**07 17 57.6**	**+1.7**
IZM	**Izmir**	**4.22**	**61**	P	**P**	**07 17 55.3**	**-0.6**
IZM	**Izmir**	**4.22**	**61**	Pn	**P**	**07 17 55.2**	**-0.7**
KDAG	**Bornova**	**4.23**	**61**	*i* P	**P**	**07 17 55.2**	**-0.7**
MLSB	**Milas**	**4.26**	**77**	P	**P**	**07 17 56.8**	**+0.4**
AYVA	**Ayvalik**	**4.35**	**47**	*i* P	**P**	**07 17 56.9**	**-0.8**
BOZC	**Bozcaada**	**4.38**	**38**	*i* P	**P**	**07 17 57.0**	**-1.2**
AYDN	**Tasoluk**	**4.42**	**72**	*i* P	**P**	**07 17 59.3**	**+0.7**
SOH	**Sokhos**	**4.44**	**8**	*e*Pn	**P**	**07 18 00.1**	**+1.2**
FNA	**Florina**	**4.46**	**348**	*e*Pn	**P**	**07 18 00.4**	**+1.2**
FNA				*e*Sn	**S**	**07 18 51.5**	**+1.2**
ARG	**Arkhangelos**	**4.48**	**91**	*e*P	**P**	**07 18 00.3**	**+0.7**
GRG	**Griva**	**4.54**	**358**	*e*Pn	**P**	**07 18 01.6**	**+1.4**
YER	**Yerkesik**	**4.63**	**79**	P	**P**	**07 18 02.4**	**+0.8**
YER	**Yerkesik**	**4.63**	**79**	Pn	**P**	**07 18 02.3**	**+0.7**
BIA	**Bitola**	**4.70**	**348**	*i* Pn	**P**	**07 18 03.6**	**+1.1**
BIA				*i*		07 18 18.7	
BIA				*i* Sn	**S**	**07 18 55.3**	**-1.0**
BIA	**Bitola**	**4.70**	**348**	*i* Pn	**P**	**07 18 03.6**	**+1.1**
BIA				*i* Sn	**S**	**07 18 55.3**	**-1.0**
KNT	**Kendrikon**	**4.74**	**3**	*e*Pn	**P**	**07 18 04.5**	**+1.3**
SRS	**Serrai**	**4.76**	**9**	*e*Pn	**P**	**07 18 04.0**	**+0.6**
AKS	**Akhisar**	**4.83**	**58**	P	**P**	**07 18 03.1**	**-1.2**
DALT	**Dalyan (Mudla)**	**4.89**	**84**	P	**P**	**07 18 06.9**	**+1.7**
DALT	**Dalyan (Mudla)**	**4.89**	**84**	Pn	**P**	**07 18 06.8**	**+1.6**
OHR	**Ohrid**	**4.89**	**344**	*i* Pn	**P**	**07 18 07.0**	**+1.8**
OHR				*i* Sn	**S**	**07 19 01.0**	**0.0**
NVR	**Nevrokopi**	**5.03**	**11**	*e*P	**P**	**07 18 07.7**	**+0.6**
MANT	**Manisa**	**5.19**	**65**	*i* P	**P**	**07 18 09.4**	**+0.2**
ALN	**Alexandroupoli**	**5.23**	**30**	*e*Pn	**P**	**07 18 08.6**	**-1.2**
MMB	**Musomiste**	**5.24**	**9**	P	**P**	**07 18 10.0**	**0.0**
LCI	**Lecce**	**5.25**	**319**	P	**P**	**07 18 09.9**	**-0.3**
RDO	**Rodhopi**	**5.26**	**25**	*e*P	**P**	**07 18 09.4**	**-0.8**
DNZL	**Cakiroluk**	**5.33**	**74**	*i* P	**P**	**07 18 12.7**	**+1.5**
DENT	**Denizli**	**5.33**	**74**	P	**P**	**07 18 12.3**	**+1.1**
TIR	**Tirane**	**5.36**	**338**	*e*Pn	**P**	**07 18 12.2**	**+0.6**
TIR				*i* Sn	**S**	**07 19 10.1**	**-2.6**
BTOK	**Tokmak**	**5.44**	**51**	*i* P	**P**	**07 18 13.7**	**+0.9**
GRI	**Girifalco**	**5.45**	**298**	P	**P**	**07 18 12.4**	**-0.4**
KKB	**Krupnik**	**5.46**	**4**	P	**P**	**07 18 14.0**	**+1.0**
SOI	**Samo**	**5.46**	**290**	*e*Pn	**P**	**07 18 12.0**	**-1.0**
SOI	**Samo**	**5.46**	**290**	*e*Pn	**P**	**07 18 12.0**	**-1.0**
KGT	**Karabiga**	**5.47**	**41**	P	**P**	**07 18 12.6**	**-0.6**
KGT	**Karabiga**	**5.47**	**41**	Pn	**P**	**07 18 12.5**	**-0.7**
PRZA	**Preza**	**5.50**	**337**	*e*Pn	**P**	**07 18 17.0**	**+3.5**
QSH	**Qafa e Shtames**	**5.51**	**339**	*i* Pn	**P**	**07 18 14.0**	**+0.4**
QSH				*i* Sn	**S**	**07 19 16.5**	**+0.1**
RZN	**Rozhen**	**5.52**	**17**	P	**P**	**07 18 14.0**	**+0.2**
SKO	**Skopje**	**5.62**	**351**	*i* Pn	**P**	**07 18 17.5**	**+2.3**
SKO				*i* Sn	**S**	**07 19 16.1**	**-3.0**
SKO				Lg		07 19 20.0	
	comp=Z,0.1nm,0.5s						
SKO	**Skopje**	**5.62**	**351**	*i* Pn	**P**	**07 18 17.5**	**+2.3**
	comp=Z,123nm,0.5s						
SKO				*i* Sg	**S**	**07 19 16.1**	**-3.0**
SKO				Lg		07 19 20.0	
CEL	**Celeste**	**5.63**	**291**	P	**P**	**07 18 14.5**	**-0.9**
LACI	**Lac**	**5.67**	**338**	*i* Pn	**P**	**07 18 15.7**	**-0.2**
LACI				*i* Sn	**S**	**07 19 15.3**	**-5.1**
KDZ	**Kurdzhali**	**5.67**	**22**	*e*P	**P**	**07 18 15.0**	**-0.9**
MFT	**Murefte**	**5.71**	**39**	P	**P**	**07 18 17.2**	**+0.8**
MTTG	**Motta San Giov**	**5.72**	**288**	*e*Pn	**P**	**07 18 15.7**	**-0.9**
MTTG	**Motta San Giov**	**5.72**	**288**	*e*Pn	**P**	**07 18 15.7**	**-0.9**
TDS	**Terranova Siba**	**5.89**	**305**	*e*Pn	**P**	**07 18 18.4**	**-0.6**
ELL	**Elmali**	**5.91**	**85**	P	**P**	**07 18 19.4**	**+0.2**
PLD	**Plovdiv**	**5.91**	**16**	*e*P	**P**	**07 18 21.0**	**+1.7**
ATN	**Antennamare**	**5.93**	**289**	P	**P**	**07 18 18.1**	**-1.4**
ATN				S	**S**	**07 19 25.6**	**-1.3**
KCT	**Karacabey**	**5.95**	**48**	P	**P**	**07 18 20.0**	**+0.2**
AGST	**Augusta-Monte**	**5.96**	**280**	*e*Pn	**P**	**07 18 17.8**	**-2.0**
AGST	**Augusta-Monte**	**5.96**	**280**	*e*Pn	**P**	**07 18 17.8**	**-2.1**
PE1	**Pezze di Greco**	**5.96**	**319**	*e*Pn	**P**	**07 18 19.0**	**-0.9**
PUK	**Puka**	**5.99**	**340**	*e*Pn	**P**	**07 18 20.3**	**-0.1**
ORI	**Oriolo Calabro**	**6.04**	**309**	*e*Pn	**P**	**07 18 21.2**	**+0.2**
ORI	**Oriolo Calabro**	**6.04**	**309**	*e*Pn	**P**	**07 18 21.2**	**+0.1**
DIM	**Dimitrovgrad**	**6.07**	**21**	*e*P	**P**	**07 18 21.5**	**0.0**
ULC	**Ulcinj**	**6.11**	**336**	⇑*i*Pn	**P**	**07 18 20.7**	**-1.4**
ULC				*e*Sn	**S**	**07 19 20.7**	**-11**
MEU	**Monte Lauro**	**6.18**	**279**	*e*Pn	**P**	**07 18 22.0**	**-1.0**
MEU				*e*Sn	**S**	**07 19 28.0**	**-5.0**
MEU	**Monte Lauro**	**6.18**	**279**	*e*Pn	**P**	**07 18 22.0**	**-1.0**
MEU				*e*Sn	**S**	**07 19 28.0**	**-5.0**
VTS	**Vitosha**	**6.18**	**4**	P	**P**	**07 18 24.0**	**+0.9**
VTS	**Vitosha**	**6.18**	**4**	P	**P**	**07 18 26.6**	**+3.5**
PGB	**Panagyurishte**	**6.25**	**11**	*e*Pg	**P**	**07 18 32.0**	**+8.0**
BCI	**Bajram Curri**	**6.25**	**343**	*e*Pn	**P**	**07 18 24.9**	**+0.9**
ULDT	**Uludag**	**6.36**	**52**	*i* P	**P**	**07 18 26.1**	**+0.5**
SG1	**Sgolgore (BA)**	**6.39**	**316**	*e*Pn	**P**	**07 18 24.7**	**-1.3**
CUC	**Castrocucco**	**6.41**	**306**	P	**P**	**07 18 26.6**	**+0.3**
BARS	**Barje**	**6.42**	**355**	*e*Pn	**P**	**07 18 26.4**	**0.0**
BARS				Sn	**S**	**07 19 26.1**	**-13**
BAI	**Bari**	**6.46**	**318**	*e*Pn	**P**	**07 18 25.6**	**-1.4**
MNO	**Monte Soro**	**6.47**	**286**	P	**P**	**07 18 26.9**	**-0.3**
PVY	**Plav**	**6.49**	**343**	⇑*i*Pn	**P**	**07 18 27.5**	**+0.1**
PVY				*e*Sn	**S**	**07 19 32.2**	**-8.5**
ISP	**Isparta**	**6.49**	**75**	*e*Pn	**P**	**07 18 23.2**	**-4.2**
SLNA	**Salina**	**6.52**	**291**	*e*Pn	**P**	**07 18 27.4**	**-0.5**
SLNA	**Salina**	**6.52**	**291**	*e*Pn	**P**	**07 18 27.4**	**-0.4**
ALT	**Altintas**	**6.52**	**64**	P	**P**	**07 18 28.4**	**+0.5**
BUM	**Brajici-Budva**	**6.53**	**335**	⇑*i*Pn	**P**	**07 18 26.1**	**-1.8**
BUM				*e*Sn	**S**	**07 19 29.9**	**-12**
TTG	**Podgorica**	**6.53**	**338**	⇑*i*Pn	**P**	**07 18 26.6**	**-1.4**
TTG				*e*Sn	**S**	**07 19 31.3**	**-10**
TTG	**Podgorica**	**6.53**	**338**	⇑*i*Pn	**P**	**07 18 26.5**	**-1.4**
WDD	**Wield Dalam**	**6.54**	**268**	P	**P**	**07 18 26.0**	**-2.1**
PTRP	**Pietrapertosa**	**6.55**	**311**	P	**P**	**07 18 28.6**	**+0.3**
MGR	**Morigerati**	**6.66**	**306**	*e*Pn	**P**	**07 18 29.3**	**-0.4**
MGR	**Morigerati**	**6.66**	**306**	*e*Pn	**P**	**07 18 29.3**	**-0.4**
SLCN	**Sala Consilina**	**6.74**	**308**	*e*Pn	**P**	**07 18 31.9**	**+1.0**
SLCN				*e*Sn	**S**	**07 19 40.8**	**-6.1**
SLCN	**Sala Consilina**	**6.74**	**308**	*e*Pn	**P**	**07 18 31.9**	**+1.0**
IVA	**Berane**	**6.77**	**343**	⇑*i*Pn	**P**	**07 18 31.2**	**-0.1**
IVA				*e*Sn	**S**	**07 19 39.2**	**-8.4**
CDT	**Castel del Mon**	**6.78**	**315**	*e*Pn	**P**	**07 18 30.0**	**-1.4**
HCY	**Herceg Novi**	**6.80**	**334**	⇑*i*Pn	**P**	**07 18 29.2**	**-2.5**
HCY				*e*Sn	**S**	**07 19 35.9**	**-12**
NKY	**Niksic**	**6.96**	**338**	⇑*i*Pn	**P**	**07 18 32.5**	**-1.5**
NKY				*e*Sn	**S**	**07 19 41.4**	**-11**
CSLB	**Castelbuono**	**6.97**	**285**	*e*Pn	**P**	**07 18 35.0**	**+0.9**
GIB	**Gibilmanna**	**7.00**	**285**	*e*Pn	**P**	**07 18 34.3**	**-0.3**
GIB	**Gibilmanna**	**7.00**	**285**	*e*Pn	**P**	**07 18 34.3**	**-0.3**
MRLC	**Muro Lucano**	**7.04**	**310**	*e*Pn	**P**	**07 18 34.7**	**-0.4**
MRLC	**Muro Lucano**	**7.04**	**310**	*e*Pn	**P**	**07 18 34.7**	**-0.4**
SGO	**Sicignano**	**7.04**	**308**	*e*Pn	**P**	**07 18 34.8**	**-0.3**
SGO	**Sicignano**	**7.04**	**308**	*e*Pn	**P**	**07 18 34.8**	**-0.3**
HRT	**Hereke**	**7.08**	**49**	P	**P**	**07 18 35.0**	**-0.6**
HRT	**Hereke**	**7.08**	**49**	Pn	**P**	**07 18 34.9**	**-0.7**
PVL	**Pavlikeni**	**7.11**	**16**	P	**P**	**07 18 34.2**	**-1.9**
BRY	**Bratogost**	**7.18**	**336**	⇑*i*Pn	**P**	**07 18 35.0**	**-2.0**
BRY				*e*Sn	**S**	**07 19 45.8**	**-12**
ESKT	**Eskisehir**	**7.23**	**62**	P	**P**	**07 18 36.8**	**-0.9**
ESKT	**Eskisehir**	**7.23**	**62**	*i* P	**P**	**07 18 39.0**	**+1.4**
ESKT	**Eskisehir**	**7.23**	**62**	Pn	**P**	**07 18 36.7**	**-1.0**
FG4	**Candela**	**7.25**	**313**	*e*Pn	**P**	**07 18 37.6**	**-0.3**
FG4	**Candela**	**7.25**	**313**	*e*Pn	**P**	**07 18 37.6**	**-0.3**
PLE	**Pljevlja**	**7.33**	**341**	⇑*i*Pn	**P**	**07 18 38.0**	**-1.0**
PLE				*e*Sn	**S**	**07 19 51.7**	**-10**
UPM	**Unac-Piva**	**7.34**	**339**	⇑*i*Pn	**P**	**07 18 37.9**	**-1.3**
UPM				*e*Sn	**S**	**07 19 50.7**	**-11**
FGMS	**Monte Sant'Ang**	**7.38**	**318**	*e*Pn	**P**	**07 18 38.0**	**-1.7**
FGMS	**Monte Sant'Ang**	**7.38**	**318**	*e*Pn	**P**	**07 18 38.0**	**-1.7**
MS1	**Monte Sant'Ang**	**7.38**	**318**	*e*Pn	**P**	**07 18 38.1**	**-1.7**
CSSN	**Cassano Irpino**	**7.39**	**309**	P	**P**	**07 18 39.5**	**-0.4**
NVSS	**Nova Varos 2**	**7.42**	**344**	⇑*i*Pn	**P**	**07 18 37.6**	**-2.6**
NVSS				Sn	**S**	**07 19 46.8**	**-17**
BOLS	**Boljevac**	**7.42**	**357**	⇓*i*Pn	**P**	**07 18 37.6**	**-2.6**
BOLS				Sn	**S**	**07 19 49.6**	**-14**
FG5	**Orsara di Pugl**	**7.49**	**313**	*e*Pn	**P**	**07 18 40.9**	**-0.4**
FG5	**Orsara di Pugl**	**7.49**	**313**	*e*Pn	**P**	**07 18 40.9**	**-0.4**
MPG	**Monte Pellegri**	**7.55**	**286**	P	**P**	**07 18 40.2**	**-1.9**
RGNG	**Rignano Grg**	**7.56**	**316**	*e*Pn	**P**	**07 18 40.6**	**-1.5**
RGNG				*e*Sn	**S**	**07 19 58.8**	**-8.3**
RGNG	**Rignano Grg**	**7.56**	**316**	*e*Pn	**P**	**07 18 40.7**	**-1.5**
MRB1	**Monte Rocchett**	**7.58**	**311**	*e*Pn	**P**	**07 18 42.4**	**0.0**
MRB1	**Monte Rocchett**	**7.58**	**311**	*e*Pn	**P**	**07 18 42.4**	**0.0**
GRUS	**Gruza**	**7.60**	**350**	⇓*i*Pn	**P**	**07 18 41.0**	**-1.7**
GRUS				Sn	**S**	**07 19 52.4**	**-16**
PRD	**Provadia**	**7.72**	**27**	P	**P**	**07 18 43.0**	**-1.4**
OVO	**Vesuviano**	**7.77**	**307**	*e*Pn	**P**	**07 18 44.8**	**-0.2**
OVO	**Vesuviano**	**7.77**	**307**	*e*Pn	**P**	**07 18 44.8**	**-0.3**
CRJA	**Costa Raja**	**7.77**	**283**	P	**P**	**07 18 47.1**	**+2.0**
KIZT	**Kizilcal**	**7.78**	**69**	P	**P**	**07 18 46.3**	**+1.1**
KIZT	**Kizilcal**	**7.78**	**69**	Pn	**P**	**07 18 46.2**	**+1.0**
USI	**Ustica**	**7.81**	**290**	*e*Pn	**P**	**07 18 43.5**	**-2.1**
USI	**Ustica**	**7.81**	**290**	*e*Pn	**P**	**07 18 43.5**	**-2.1**
FG2	**Serracapriola**	**7.88**	**315**	*e*Pn	**P**	**07 18 45.8**	**-0.8**
MDU	**Mudurnu**	**7.89**	**57**	P	**P**	**07 18 47.0**	**+0.3**
MDU	**Mudurnu**	**7.89**	**57**	Pn	**P**	**07 18 46.9**	**+0.2**
DIVS	**Divcibare**	**7.92**	**346**	⇑*i*Pn	**P**	**07 18 44.9**	**-2.2**
DIVS				Sn	**S**	**07 20 07.8**	**-8.3**
HDMB	**Hadim**	**7.98**	**83**	*i* P	**P**	**07 18 49.4**	**+1.5**
HDMB	**Hadim**	**7.98**	**83**	Pn	**P**	**07 18 49.3**	**+1.4**
AKMC	**Akamas**	**8.05**	**97**	P	**P**	**07 18 44.1**	**-4.8**
SGG	**Gregorio Mates**	**8.09**	**310**	*e*Pn	**P**	**07 18 49.3**	**-0.2**
PPCY	**Paphos**	**8.10**	**98**	P	**P**	**07 18 44.8**	**-4.7**
ALFC	**Alevga**	**8.24**	**96**	P	**P**	**07 18 46.2**	**-5.3**
	comp=Z,8.9nm,0.3s						
ALFC				S	**S**	**07 20 13.1**	**-11**
CPI2	**Carpinone**	**8.24**	**311**	*e*Pn	**P**	**07 18 52.0**	**+0.4**
CPI2	**Carpinone**	**8.24**	**311**	*e*Pn	**P**	**07 18 52.0**	**+0.5**
CII	**Carovilli**	**8.33**	**312**	*e*Pn	**P**	**07 18 53.1**	**+0.3**
CII	**Carovilli**	**8.33**	**312**	*e*Pn	**P**	**07 18 53.1**	**+0.3**
VENT	**Ventotene**	**8.39**	**304**	P	**P**	**07 18 51.5**	**-2.1**
LEF	**Lefka**	**8.48**	**96**	P	**P**	**07 18 49.0**	**-5.8**
SGKT	**Sivrigoynuk**	**8.51**	**58**	*i* P	**P**	**07 18 56.2**	**+1.0**
SZAC	**Souni-Zanaja**	**8.56**	**98**	P	**P**	**07 18 50.3**	**-5.5**
	comp=Z,8.4nm,0.2s						
SZAC				S	**S**	**07 20 21.7**	**-10**
SDI	**San Donato**	**8.62**	**310**	*e*Pn	**P**	**07 18 55.6**	**-1.2**
SDI	**San Donato**	**8.62**	**310**	*e*Pn	**P**	**07 18 55.6**	**-1.2**
INTR	**Introdacqua**	**8.74**	**312**	*e*Pn	**P**	**07 18 58.6**	**+0.2**
INTR	**Introdacqua**	**8.74**	**312**	*e*Pn	**P**	**07 18 58.6**	**+0.2**
VVLD	**Villa Vallelon**	**8.83**	**311**	P	**P**	**07 18 58.9**	**-0.7**
CSS	**Prodhromos**	**8.87**	**96**	P	**P**	**07 18 55.2**	**-4.9**
CSS				S	**S**	**07 20 29.0**	**-10**
CSS	**Prodhromos**	**8.87**	**96**	*e*Pn	**P**	**07 18 54.9**	**-5.2**
IKL	**Isikli**	**8.97**	**88**	*i* P	**P**	**07 18 58.9**	**-2.5**
IKL	**Isikli**	**8.97**	**88**	Pn	**P**	**07 18 58.8**	**-2.6**
MTUR	**Matau**	**9.00**	**11**	⇑*i*P	**P**	**07 19 13.8**	**+12**
PTQR	**Pietraquaria**	**9.05**	**311**	*e*Pn	**P**	**07 19 02.8**	**+0.1**
PTQR	**Pietraquaria**	**9.05**	**311**	*e*Pn	**P**	**07 19 02.8**	**+0.2**
AQU	**L'Aquila**	**9.25**	**313**	*e*Pn	**P**	**07 19 06.8**	**+1.5**
AQU				*e*Sn	**S**	**07 20 44.0**	**-4.8**
AQU	**L'Aquila**	**9.25**	**313**	*e*Pn	**P**	**07 19 06.8**	**+1.5**
AQU				*e*Sn	**S**	**07 20 44.0**	**-4.7**
CERT	**Cerreto**	**9.27**	**309**	*e*Pn	**P**	**07 19 04.5**	**-1.1**
CERT	**Cerreto**	**9.27**	**309**	*e*Pn	**P**	**07 19 04.5**	**-1.1**
BLY	**Banja Luka**	**9.28**	**335**	*e*P	**P**	**07 19 04.5**	**-1.2**
TERO	**Teramo**	**9.30**	**315**	*e*Pn	**P**	**07 19 06.2**	**+0.3**
TERO	**Teramo**	**9.30**	**315**	*e*Pn	**P**	**07 19 06.2**	**+0.3**
MEST	**Erdemli**	**9.32**	**86**	*i* P	**P**	**07 19 04.3**	**-1.9**
BRTR	**Keskin Array B**	**9.32**	**66**	P	**P**	**07 19 07.5**	**+1.1**
	comp=Z,1.4nm,0.3s,baz=250,slow=13,SNR=40						
BRTR	**Keskin Array B**	**9.32**	**66**	P	**P**	**07 19 07.5**	**+1.2**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BRTR	**Keskin Array B**	**9.32**	**66**	P	**P**	**07 19 07.4**	**+1.1**
MLR	**Muntele Rosu**	**9.41**	**15**	P	**P**	**07 19 08.8**	**+1.3**
	comp=Z,0.9nm,0.3s,baz=228,slow=3.7,SNR=13						
MLR	**Muntele Rosu**	**9.41**	**15**	P	**P**	**07 19 08.8**	**+1.2**
MLR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MLR	**Muntele Rosu**	**9.41**	**15**	⇑*i*P	**P**	**07 19 12.6**	**+5.0**
MLR	**Muntele Rosu**	**9.41**	**15**	P	**P**	**07 19 08.9**	**+1.3**
MNS	**Montasola**	**9.70**	**311**	*e*Pn	**P**	**07 19 11.6**	**+0.2**
MNS	**Montasola**	**9.70**	**311**	*e*Pn	**P**	**07 19 11.6**	**+0.2**
NRCA	**Norcia**	**9.71**	**314**	*e*Pn	**P**	**07 19 12.2**	**+0.6**
NRCA				*e*Sn	**S**	**07 20 52.2**	**-7.7**
NRCA	**Norcia**	**9.71**	**314**	*e*Pn	**P**	**07 19 12.2**	**+0.7**
CFR	**Carcaliu**	**9.71**	**24**	⇑*i*P	**P**	**07 19 11.0**	**-0.5**
AOI	**Ancona**	**9.90**	**319**	P	**P**	**07 19 13.0**	**-1.2**
VRI	**Vrincioaia**	**9.94**	**17**	⇑*i*P	**P**	**07 19 18.1**	**+3.4**
RHK3	**Tenkes**	**10.01**	**342**	⇑*e*P	**P**	**07 19 12.5**	**-3.1**
CING	**Cingoli**	**10.01**	**317**	*e*Pn	**P**	**07 19 15.3**	**-0.3**
CING				*e*Sn	**S**	**07 20 56.1**	**-11**
CING	**Cingoli**	**10.01**	**317**	*e*Pn	**P**	**07 19 15.3**	**-0.3**
AVNT	**Avonos**	**10.02**	**73**	*i* P	**P**	**07 19 14.8**	**-1.0**
NVLJ	**Novalja**	**10.03**	**327**	*i* Pn	**P**	**07 19 13.4**	**-2.4**
NVLJ				*i* Sn	**S**	**07 20 57.8**	**-10**
PKSM	**Moragy**	**10.22**	**344**	⇓*e*P	**P**	**07 19 15.3**	**-3.2**
PKSM				*e*S	**S**	**07 21 02.0**	**-10**
ARV	**Arcevia**	**10.23**	**317**	*e*Pn	**P**	**07 19 17.4**	**-1.2**
ARV	**Arcevia**	**10.23**	**317**	*e*Pn	**P**	**07 19 17.4**	**-1.2**
RHK1	**Bakonya**	**10.24**	**342**	⇑*e*P	**P**	**07 19 15.7**	**-3.1**
	comp=Z,4.1nm,0.3s						
RHK1				*e*S	**S**	**07 21 02.8**	**-10**
MURB	**Monte Urbino**	**10.31**	**315**	*e*Pn	**P**	**07 19 21.3**	**+1.5**
FSSB	**Fossombrone**	**10.45**	**317**	*e*Pn	**P**	**07 19 21.0**	**-0.5**
FSSB	**Fossombrone**	**10.45**	**317**	*e*Pn	**P**	**07 19 21.0**	**-0.5**
RSM	**Repubblica di**	**10.78**	**317**	*e*Pn	**P**	**07 19 27.1**	**+1.0**
RSM	**Repubblica di**	**10.78**	**317**	*e*Pn	**P**	**07 19 27.1**	**+1.0**
CRES	**Cresnjev**	**10.82**	**332**	*i* Pn	**P**	**07 19 23.9**	**-2.7**
BOYT	**Boyabat**	**10.82**	**59**	*i* P	**P**	**07 19 26.4**	**-0.2**
PKS8	**Sarbogard**	**10.85**	**346**	*e*P	**P**	**07 19 25.5**	**-1.5**
CRE	**Caprese Michel**	**10.86**	**315**	*e*Pn	**P**	**07 19 28.9**	**+1.8**
CRE	**Caprese Michel**	**10.86**	**315**	*e*Pn	**P**	**07 19 28.9**	**+1.7**
HAF	**Haifa**	**10.88**	**106**	Pn	**P**	**07 19 23.2**	**-4.2**
HNTI	**Hanita**	**10.88**	**104**	Pn	**P**	**07 19 23.8**	**-3.7**
HNTI				Sn	**S**	**07 21 12.4**	**-16**
OFRI	**'Ofer**	**10.91**	**107**	Pn	**P**	**07 19 22.7**	**-5.2**
LEGS	**Legarje**	**10.98**	**332**	P	**P**	**07 19 26.7**	**-2.0**
COBT	**Iskenderun**	**11.02**	**85**	*i* P	**P**	**07 19 27.2**	**-2.1**
SFI	**Santa Sofia**	**11.10**	**316**	*e*Pn	**P**	**07 19 32.1**	**+1.7**
SLTI	**Sal'it**	**11.11**	**108**	Pn	**P**	**07 19 25.6**	**-5.0**
SLTI				Sn	**S**	**07 21 18.3**	**-16**

PGD Poggio Sodo 11.15 315 *e*Pn **P** 07 19 32.2 +1.1
PGD Poggio Sodo 11.15 315 *e*Pn **P** 07 19 32.2 +1.1
CEY Cerknica 11.15 329 P **P** 07 19 29.3 -1.8
CSNT Castellina Chi 11.16 313 *e*Pn **P** 07 19 32.4 +1.2
CSNT Castellina Chi 11.16 313 *e*Pn **P** 07 19 32.4 +1.2
GRFL Gerfalco 11.17 311 *e*Pn **P** 07 19 32.0 +0.7
HRI Mount Hermon 11.26 102 Pn **P** 07 19 29.1 -3.4
KZIT Kziot 11.27 116 Pn **P** 07 19 25.7 -7.0
KZIT Sn **S** 07 21 20.6 -17
LJU Ljubljana 11.36 330 *e*Pn **P** 07 19 31.4 -2.5
LJU *e*Sn **S** 07 21 31.5 -8.3
GLH Golan-Tel Qazi 11.39 105 Pn **P** 07 19 29.6 -4.7
PKSG 11.40 345 *e*P **P** 07 19 32.3 -2.1
RTMM Retamin 11.41 114 Pn **P** 07 19 28.3 -6.3
TRI Trieste 11.41 327 *e*Pn **P** 07 19 33.0 -1.6
HMDT Nahal Hemdat 11.48 107 Pn **P** 07 19 30.6 -4.9
MASH Mash'abbe Sade 11.51 115 Pn **P** 07 19 29.7 -6.2
KIS Kishinev 11.55 22 *e*P **P** 07 19 50.0 +14
VOY Vojsko 11.61 328 *e*Pn **P** 07 19 34.7 -2.5
VOY *e*Sn **S** 07 21 35.0 -11
PERS Pernice 11.63 334 P **P** 07 19 35.3 -2.2
PSZ Piszkesteto 11.66 351 *e*P **P** 07 19 35.6 -2.3
PSZ *e*S **S** 07 21 40.8 -6.4
DRGI Dragot 11.67 111 Pn **P** 07 19 31.6 -6.4
FNVD Fontana Vidola 11.67 315 *e*Pn **P** 07 19 40.0 +1.9
FNVD Fontana Vidola 11.67 315 *e*Pn **P** 07 19 40.0 +2.0
OBKA Obir 11.74 332 ⇓ *i*PN **P** 07 19 36.2 -2.7
OBKA *i* SN **S** 07 21 35.4 -13
PII Pisa 11.76 312 *e*Pn **P** 07 19 41.3 +2.1
MZDA Masada 11.78 112 Pn **P** 07 19 33.9 -5.6
MZDA Sn **S** 07 21 34.3 -16
SRO Srobarova 11.82 346 *e*SN **S** 07 21 49.6 -1.2
DRE Drenchia 11.83 328 ⇑ *i*P **P** 07 19 39.0 -1.1
ZCCA Zocca 11.87 315 P **P** 07 19 43.2 +2.6
TLI Talmassons 11.87 326 ⇓ *e*P **P** 07 19 39.0 -1.7
BDI Bagni Di Lucca 11.91 314 *e*Pn **P** 07 19 42.5 +1.2
BDI Bagni Di Lucca 11.91 314 *e*Pn **P** 07 19 42.5 +1.2
ROBS Robic 11.94 328 P **P** 07 19 41.0 -0.6
KMTI Karmit 11.95 118 Pn **P** 07 19 35.3 -6.5
KMTI Sn **S** 07 21 35.3 -19
PRNI Paran 12.01 117 Pn **P** 07 19 35.9 -6.7
PRNI Sn **S** 07 21 38.9 -17
ARSA Arzberg 12.03 336 ⇑ *i*Pn **P** 07 19 40.2 -2.6
ARSA *i* Sn **S** 07 21 41.5 -14
GMNA Gemona 12.08 327 *e*Pn **P** 07 19 43.0 -0.5
GMNA Gemona 12.08 327 *e*Pn **P** 07 19 43.0 -0.5
BUA Buia 12.09 327 ⇓ *e*P **P** 07 19 43.0 -0.6
GSCL Gusciola 12.09 315 P **P** 07 19 46.4 +2.8
VLC Villacollemand 12.09 313 *e*P **P** 07 19 44.8 +1.1
comp=Z,19nm,0.3s
VLC *e*S **S** 07 21 50.9 -6.6
LSR Lussari 12.12 329 ⇓ *e*P **P** 07 19 43.0 -1.0
PGF Pioggiola 12.14 304 *e*P **P** 07 19 43.9 -0.4
comp=Z,44nm,0.6s
KECS Kecovo 12.16 353 *e* **P** 07 19 55.7 +11
VINC Vinca 12.22 313 P **P** 07 19 47.1 +1.8
VINC Vinca 12.22 313 P **P** 07 19 47.1 +1.7
ERBM Eremo 12.23 315 P **P** 07 19 48.9 +3.4
MBH Mount Berech 12.27 119 Pn **P** 07 19 40.3 -5.7
MLNI Malnisio 12.27 326 ⇓ *e*P **P** 07 19 45.0 -1.0
VALM 12.29 314 P **P** 07 19 48.3 +2.1
VALM 12.29 314 P **P** 07 19 48.3 +2.1
PLRO Paularo 12.34 328 ⇓ *e*P **P** 07 19 46.3 -0.9
BACM 12.35 313 P **P** 07 19 48.9 +1.9
BACM 12.35 313 P **P** 07 19 48.9 +1.9
KMPD K-Podol'skiy 12.47 12 P **P** 07 19 52.0 +3.3
GRAM 12.47 314 P **P** 07 19 51.4 +2.7
GRAM 12.47 314 P **P** 07 19 51.4 +2.7
KOLS Kolonicke sedl 12.51 359 *e*PN **P** 07 19 49.4 +0.2
FVI Forni Avoltri 12.53 327 *e*Pn **P** 07 19 48.8 -0.7
FVI Forni Avoltri 12.53 327 *e*Pn **P** 07 19 48.8 -0.7
KOLL Kolacno 12.54 347 *e*SN **S** 07 22 03.9 -4.1
CODM 12.54 313 P **P** 07 19 52.6 +2.9
CODM 12.54 313 P **P** 07 19 52.6 +3.0
ASF Jabal al Asfar 12.57 106 P **P** 07 19 47.4 -2.7
comp=Z,3.5nm,0.3s,baz=163,slow=7.7,SNR=12
CTI Castel Tesino 12.65 323 *e*Pn **P** 07 19 49.9 -1.1
CTI Castel Tesino 12.65 323 *e*Pn **P** 07 19 49.9 -1.1
ALWS Ilw as Safayha 12.66 120 P **P** 07 19 49.9 -5.4
KBA Koelnbreinsper 12.68 330 ⇑ *i*Pn **P** 07 19 50.0 -1.4
KBA *i* Sn **S** 07 21 58.2 -13
HAQS Haql 12.72 122 P **P** 07 19 46.5 -5.6
HAQS S **S** 07 21 58.4 -14
JMOS Jabal al Moall 12.78 121 P **P** 07 19 47.4 -5.4
SEST Monte Rota 12.90 326 P **P** 07 19 54.3 -0.1
SAL Salo 12.91 319 *e*Pn **P** 07 19 53.6 -1.0
SAL Salo 12.91 319 *e*Pn **P** 07 19 53.6 -1.0
MOA Molln 12.97 334 ⇑ *i*Pn **P** 07 19 53.9 -1.4
MOA *i* Sn **S** 07 22 05.2 -13
BOB Bobbio (Coli) 12.99 314 P **P** 07 19 58.2 +2.6
TAYS Tayyib Ism 13.00 124 P **P** 07 19 49.7 -6.1
APPI Appiano 13.16 323 P **P** 07 19 57.2 -0.6
ELZG Elazig 13.20 76 *i*P **P** 07 19 59.6 +1.3
MABI Malga Bissina 13.22 320 *e*Pn **P** 07 19 59.4 +0.9
MABI Malga Bissina 13.22 320 *e*Pn **P** 07 19 59.4 +0.9
BDAS Al Bad' 13.23 123 P **P** 07 19 52.9 -5.9
JMOS Jabal Moqyreh 13.48 120 P **P** 07 19 57.1 -4.9
AYUS 'Aynunah 13.50 124 P **P** 07 19 58.3 -5.9
WTTA Wattenberg 13.55 327 ⇑ *i*Pn **P** 07 20 02.2 -0.6
WTTA *i* Sn **S** 07 22 19.7 -12
BRMO Bormio 13.58 322 *e*Pn **P** 07 20 05.1 +2.0
BRMO Bormio 13.58 322 *e*Pn **P** 07 20 05.1 +1.9
VRAC Vranov 13.60 343 P **P** 07 20 02.0 -1.5
comp=Z,0.4nm,0.3s,baz=132,slow=16,SNR=2.8
WATA Walderalm 13.63 327 ⇑ *i*Pn **P** 07 20 03.3 -0.5
WATA *i* Sn **S** 07 22 22.0 -12
SQTA Sankt Quirin 13.71 325 ⇑ *i*Pn **P** 07 20 04.8 -0.1
SQTA *i* Sn **S** 07 22 24.4 -11
SBF Sospel 13.75 307 *e*P **P** 07 20 05.2 -0.3
OKC Ostrava-Krasne 13.79 348 *e*P **P** 07 20 14.4 +8.5
MORC Moravsky Berou 13.85 346 *e*P **P** 07 20 06.8 +0.1
comp=Z,15nm,1.0s
MORC *e*S **S** 07 22 32.6 -6.4
MORC Moravsky Berou 13.85 346 *e*P **P** 07 20 06.8 +0.2
comp=Z,15nm,1.0s
MOTA Moosalm 13.85 326 ⇑ *i*Pn **P** 07 20 06.8 +0.1
MOTA *i* Sn **S** 07 22 28.4 -11
OJC Ojcow 13.94 353 *e*P **P** 07 20 15.8 +7.9
OJC Ojcow 13.94 353 *e*P **P** 07 20 15.8 +7.9
GERES GERESS Array B 14.02 335 P **P** 07 20 08.1 -0.8
comp=Z,1.6nm,0.3s,baz=158,slow=14,SNR=20
GERES S **S** 07 22 34.6 -8.5
comp=Z,2.9nm,0.3s,baz=152,slow=23,SNR=8.4
VAI Varese 14.03 317 *e*Pn **P** 07 20 09.0 0.0
VAI Varese 14.03 317 *e*Pn **P** 07 20 09.0 -0.1
DAVOX Davos 14.03 321 P **P** 07 20 11.2 +2.1
comp=Z,4.7nm,0.3s,baz=128,slow=22,SNR=18
DAVOX S **S** 07 22 29.4 -14
comp=Z,3.1nm,0.3s,baz=155,slow=19,SNR=4.7
ANN Anapa 14.04 49 *c i*P **P** 07 20 14.5 +5.4
ANN pmax pmax
comp=Z,97nm,0.8s
VDL Val di Lei 14.05 320 ⇑ P **P** 07 20 10.4 +1.1
TUE Stuetta 14.10 320 P **P** 07 20 12.5 +2.5
LMR La Mourre 14.13 304 *e*P **P** 07 20 10.0 -0.4
comp=Z,7.6nm,0.6s
FRF La Foret Royal 14.13 305 *e*P **P** 07 20 10.2 -0.2
KHC Kasperske Hory 14.31 335 *e*P **P** 07 20 10.7 -1.9
KHC *e* 07 22 41.5
KHC Kasperske Hory 14.31 335 *e*P **P** 07 20 10.7 -1.9
KHC *e* 07 20 20.4
KHC *e* 07 20 34.5
KHC *e* 07 22 41.5
KHC Kasperske Hory 14.31 335 *e*P **P** 07 20 10.7 -1.9
KHC *ex* x 07 20 20.4
KHC x x 07 20 34.5
KHC x x 07 22 41.5
ORO Oropa 14.34 314 *e*Pn **P** 07 20 13.9 +0.9
ORO Oropa 14.34 314 *e*Pn **P** 07 20 13.9 +0.9
DAVA Damuels 14.38 323 ⇑ *i*Pn **P** 07 20 13.9 +0.2
DAVA *i* Sn **S** 07 22 41.5 -10
LLS Linth-Limmern 14.52 320 ⇑ P **P** 07 20 17.6 +2.1
MCGN Macugnaga 14.52 316 P **P** 07 20 18.0 +2.5
WET Wettzell 14.56 334 *e*P **P** 07 20 22.9 +7.0
MBDF Montbardon 14.58 310 *e*P **P** 07 20 17.0 +0.7
comp=Z,18nm,0.6s
MMK Mattmark 14.59 316 ⇑ P **P** 07 20 17.0 +0.6
DPC Dobruska-Polom 14.64 344 *e*P **P** 07 20 17.6 +0.6
DPC *ex* x 07 20 23.9
PRU Pruhonice 14.76 339 *e*P **P** 07 20 20.3 +1.7
PRU *ex* x 07 20 31.1

MUO Muotathal 14.79 320 ⇓ P **P** 07 20 21.8 +2.8
UPC Upice 14.86 343 *e*P **P** 07 20 26.1 +6.3
UPC *e*pP 07 20 38.3
DIX Grande Dixence 14.92 315 ⇓ P **P** 07 20 23.1 +2.5
SOC Sochi 14.94 56 *e*P **P** 07 20 22.6 +1.7
SOC *e*S **S** 07 23 07.2 +2.2
SOC pmax pmax
comp=N,21nm,0.9s
SOC pmax pmax
comp=E,19nm,0.9s
SOC pmax pmax
comp=Z,24nm,0.9s
SOC MLR MLR
comp=Z,51nm,15.0s
SOC MLR MLR
comp=N,34nm,14.0s
SOC MLR MLR
comp=E,58nm,14.0s
LKBD Leukerbad 14.98 316 ⇑ P **P** 07 20 22.1 +0.7
LPG La Plagne 14.99 312 *e*P **P** 07 20 22.3 +0.8
comp=E,4.9nm,0.2s
LPL La Plagne 15.01 312 *e*P **P** 07 20 22.5 +0.7
comp=E,9.5nm,0.3s
SMRF Simiane la Rot 15.01 305 *e*P **P** 07 20 21.6 -0.2
KIEV Kiev 15.05 16 P **P** 07 20 20.0 -2.2
AKASG Malin Array Be 15.06 16 P **P** 07 20 20.7 -1.7
comp=E,4.2nm,0.3s,baz=206,slow=11,SNR=14
AKASG ScP 07 28 55.6
comp=E,0.4nm,0.3s,baz=235,slow=1.4,SNR=6.7
KSP Ksiaz 15.11 345 *e*P **P** 07 20 28.8 +5.8
EMV Vieux Emosson 15.21 314 ⇑ P **P** 07 20 28.1 +3.8
ORIF Oris-en-Rattie 15.23 309 *e*P **P** 07 20 24.3 -0.3
comp=E,26nm,0.7s
ORIF *e*R
comp=E,180nm,18.5s
PVCC Panska Ves 15.24 340 *e*P **P** 07 20 30.2 +5.5
SLE Schleitheim 15.40 322 ⇑ P **P** 07 20 30.1 +3.4
GRA1 Grafenberg Arr 15.62 332 *e*P **P** 07 20 34.9 +5.3
GRF Grafenberg Arr 15.62 332 *e*P **P** 07 20 34.9 +5.3
FELD Feldberg 15.71 321 P **P** 07 20 32.7 +2.0
BRG Berggiesshubel 15.73 339 *i*P **P** 07 20 36.6 +5.7
BRG pmax pmax
comp=Z,10.0nm,0.7s
BRG Berggiesshubel 15.73 339 *i*P **P** 07 20 36.6 +5.7
comp=Z,9.9nm,0.7s
BFO Black Forest 15.86 323 *e*P **P** 07 20 33.1 +0.5
VIVF Saint-Julien-I 15.97 307 *e*P **P** 07 20 34.1 +0.1
comp=Z,9.6nm,0.7s
CABF La Chapelle 15.98 315 *e*P **P** 07 20 33.9 -0.2
comp=Z,29nm,0.5s
LOMF Lomont 16.00 318 P **P** 07 20 37.7 +3.4
SIND Sindeldorf 16.01 328 P **P** 07 20 34.8 +0.3
MOF Molkenrain 16.14 320 P **P** 07 20 39.3 +3.1
LASF Ste Croix 16.19 304 *e*P **P** 07 20 36.8 0.0
comp=Z,31nm,1.2s
MOX Moxa 16.27 334 *e*P **P** 07 20 40.0 +2.4
HINF Hinteralfeld 16.27 319 *e*P **P** 07 20 37.7 0.0
CLL Collm 16.39 338 P **P** 07 20 40.0 +0.9
comp=Z,logA/T=1.2
CLL *i* 07 20 43.3
CLL *i* *PP 07 20 51.2
CLL *i* *SP 07 20 57.1
CLL Collm 16.39 338 *e*P **P** 07 20 40.0 +0.9
CLL pmax pmax
comp=Z,8.0nm,0.5s
CLL Collm 16.39 338 *e*P **P** 07 20 40.0 +0.9
comp=Z,8.0nm,0.5s
CLL *i* pP 07 20 51.2
CLL *i* sP 07 20 57.1
CLL Collm 16.39 338 *e*P **P** 07 20 40.0 +0.9
comp=Z,8.0nm,0.5s
CLL *i* pP 07 20 51.2
CDF Champ du Feu 16.43 322 *e*P **P** 07 20 40.8 +1.0
comp=Z,35nm,0.4s
HAU Haudompre 16.65 319 *e*P **P** 07 20 42.9 +0.4
MTLF Montolieu 17.07 300 *e*P **P** 07 20 48.3 +0.6
KIV Kislovodsk 17.09 58 *c i*P **P** 07 20 50.0 +2.1
KIV pmax pmax
comp=Z,69nm,0.8s
KIV MLR MLR
comp=Z,100nm,6.0s
KIV Kislovodsk 17.09 58 *e*P **P** 07 20 49.8 +1.9
comp=Z,74nm,0.8s
KIV Kislovodsk 17.09 58 *e*P **P** 07 20 49.8 +1.9
comp=Z,74nm,0.8s
RUE Ruedersdorf 17.22 342 *e*P **P** 07 20 52.5 +2.9
comp=Z,55nm,1.1s
RUE *e* 07 21 06.0
RUE Ruedersdorf 17.22 342 *e*P **P** 07 20 52.5 +2.9
SMF Signal de Mont 17.32 312 *e*P **P** 07 20 51.5 +0.7
comp=Z,13nm,0.6s
SUW Suwalki 17.60 1 *e*P **P** 07 20 54.2 -0.2
LOR Lormes 17.62 314 *e*P **P** 07 20 54.4 -0.2
comp=Z,12nm,0.4s
MEZF Maizieres J'vi 17.64 319 *e*P **P** 07 20 55.1 +0.2
CAF Calviac 17.70 305 *e*P **P** 07 20 55.8 +0.2
comp=Z,9.2nm,0.8s
GOF Gofitskoye 17.71 55 *e*P **P** 07 20 56.0 +0.3
GOF pmax pmax
comp=Z,40nm,1.0s
SSF Saint Saulge 17.72 313 *e*P **P** 07 20 56.1 +0.2
comp=Z,4.1nm,0.6s
GNI Garni 17.79 71 *e*P **P** 07 20 48.3 -8.4
BGF Bois d'Agland 17.88 311 *e*P **P** 07 20 57.8 0.0
TCF Toulx Ste Croi 18.15 309 *e*P **P** 07 20 59.8 -1.3
RJF Les Rejaudoux 18.20 306 *e*P **P** 07 21 01.2 -0.5
RJF *e*R
comp=Z,151nm,19.0s
EPF Esparros 18.31 298 *e*P **P** 07 21 04.1 +1.0
EBIE Bielsa 18.37 297 P **P** 07 21 06.5 +2.7
EBIE Bielsa 18.37 297 P **P** 07 21 06.5 +2.7
SNR=7.9
GIVF Givet 18.76 322 *e*P **P** 07 21 07.3 -0.9
DOU Dourbes 18.86 322 P **P** 07 21 12.2 +2.8
ETSF Etsaut 18.93 297 *e*P **P** 07 21 08.9 -1.3
comp=Z,14nm,0.5s
BAIF Baives 19.04 321 *e*P **P** 07 21 10.2 -1.1
BSD Bornholm Skovb 19.43 347 ⇑ *i*P **P** 07 21 14.6 -1.0
comp=Z,42nm,0.7s
SJPF Ste Jean 19.45 297 *e*P **P** 07 21 13.6 -2.3
comp=Z,15nm,0.8s
SJPF *e*P 07 21 17.5
SJPF Ste Jean 19.45 297 *e*P **P** 07 21 17.5 +1.6
EALK Alkurruntz 19.67 298 P **P** 07 21 18.2 -0.1
EALK Alkurruntz 19.67 298 P **P** 07 21 18.2 -0.1
SNR=7.9
ETOR Torete 19.72 290 P **P** 07 21 19.8 +1.0
comp=Z,5.8nm,0.5s,SNR=5.7
ETOR Torete 19.72 290 P **P** 07 21 19.8 +1.0
comp=Z,5.8nm,0.5s
MFF Saint Martin d 19.76 308 *e*P **P** 07 21 18.4 -0.8
comp=Z,12nm,0.8s
EBER Berja 20.43 279 P **P** 07 21 28.5 +2.2
EBER Berja 20.43 279 P **P** 07 21 28.5 +2.3
SNR=7.9
EQES Quesada 20.49 282 P **P** 07 21 26.9 0.0
comp=Z,6.6nm,0.5s
EQES Quesada 20.49 282 P **P** 07 21 26.9 0.0
comp=Z,6.6nm,0.5s,SNR=6.8
LDF La Druitiere 20.60 313 *e*P **P** 07 21 26.9 -1.1
comp=Z,21nm,0.6s
FLN La Foliniere 20.89 313 *e*P **P** 07 21 29.5 -1.4
comp=Z,29nm,0.5s
FLN *e*R
comp=Z,125nm,20.1s
GRR Gorron 20.95 312 *e*P **P** 07 21 31.4 -0.1
OBN Obninsk 21.02 23 *c i*P **P** 07 21 30.3 -1.8
OBN *e*PP 07 21 46.3
OBN *e* 07 21 54.0
OBN *e*S **S** 07 25 21.7 +4.6
OBN pmax pmax
comp=Z,39nm,0.8s,mb4.8
OBN MLR MLR
comp=Z,300nm,5.0s
OBN Obninsk 21.02 23 *e*P **P** 07 21 30.2 -1.9
comp=Z,86nm,0.8s,mb5.1
ESDC Sonseca Array 21.13 287 P **P** 07 21 34.2 +0.9
comp=Z,1.1nm,0.4s,baz=90,slow=9.8,SNR=7.9
ESDC Sonseca Array 21.13 287 P **P** 07 21 34.3 +0.9
comp=Z,0.8nm,0.4s,SNR=4.8
ESLA Sonseca Array 21.13 287 *e*P **P** 07 21 34.8 +1.5
comp=Z,1.9nm,0.8s
ESLA Sonseca Array 21.13 287 *e*P **P** 07 21 34.8 +1.4
comp=Z,1.9nm,0.8s
MOS Moscow 21.87 23 *e*P **P** 07 21 42.0 +1.4

MOS *e* 07 21 55.8
MOS *e* 07 22 13.7
MOS *e*S **S** 07 25 34.6 +1.7
MOS pmax pmax
comp=Z,90nm,0.7s,mb5.2
SGMF Saint Gilles 21.92 310 *e*P **P** 07 21 39.5 -1.7
comp=Z,8.6nm,0.6s,mb4.3
SGMF *e*P 07 21 42.8
SGMF Saint Gilles 21.92 310 *e*P **P** 07 21 42.8 +1.6
EMIJ Mijas 21.97 279 P **P** 07 21 43.0 +1.3
SNR=7.9
MUD Monsted U'grnd 21.99 340 *i*P **P** 07 21 44.3 +2.5
comp=Z,29nm,0.9s,mb4.6
MUD Monsted U'grnd 21.99 340 *e*P **P** 07 21 44.3 +2.5
comp=Z,29nm,0.9s,mb4.6
QUIF Quistinic 22.17 309 *e*P **P** 07 21 44.3 +0.7
comp=Z,11nm,0.5s,mb4.2
ROSF Rostrenen 22.39 310 *e*P **P** 07 21 44.2 -1.6
EMIN Mina Concepcio 23.33 282 P **P** 07 21 56.8 +1.8
EMIN Mina Concepcio 23.33 282 P **P** 07 21 56.8 +1.8
SNR=7.9
EVO Evora 24.32 284 *e*P **P** 07 22 02.5 -2.1
comp=Z,2.2nm,0.4s
HFS Hagfors 24.41 349 P **P** 07 22 05.9 +0.7
comp=Z,19nm,0.4s,mb4.8,baz=150,slow=12,SNR=178
HFS Hagfors 24.41 349 P **P** 07 22 05.9 +0.7
HFS pmax pmax
comp=Z,19nm,0.4s
FINES FINESS Array B 25.15 4 P **P** 07 22 12.3 0.0
comp=Z,26nm,0.7s,mb4.8,baz=156,slow=12,SNR=100
FINES PcP PcP 07 25 45.5 0.0
comp=Z,2.8nm,0.3s,baz=182,slow=1.7,SNR=12
FINES LR LR 07 33 14.2
comp=Z,227nm,18.3s,baz=343,slow=39
FINES FINESS Array B 25.15 4 P **P** 07 22 12.3 0.0
FINES 07 25 45.5
FINES pmax pmax
comp=Z,26nm,0.7s
FINES pmax pmax
comp=Z,3.0nm,0.3s
FINES MLR MLR
comp=Z,227nm,18.3s
FINES FINESS Array B 25.15 4 P **P** 07 22 12.3 0.0
FINES PcP PcP 07 25 45.5 0.0
FINES FINESS Array B 25.15 4 PcP PcP 07 25 45.5 0.0
NAO NORSAR Subarra 25.55 347 P **P** 07 22 17.0 +1.0
NAO01 NORSAR Array S 25.56 347 *e*P **P** 07 22 16.2 +0.1
comp=Z,11nm,0.6s,mb4.5
NAO01 NORSAR Array S 25.56 347 *e*P **P** 07 22 16.2 +0.1
comp=Z,11nm,0.6s,mb4.5
NB2 NORSAR Subarra 25.68 347 P **P** 07 22 17.0 -0.3
comp=Z,0.8nm,0.5s,baz=146,slow=10
NB2 NORSAR Subarra 25.68 347 P **P** 07 22 17.0 -0.3
baz=146,slow=11
NOA NORSAR Array B 25.68 347 P **P** 07 22 17.2 0.0
comp=Z,4.3nm,0.6s,mb4.1,baz=149,slow=9.7,SNR=15
NOA LR LR 07 32 45.9
comp=Z,34nm,20.4s,baz=165,slow=37
NOA NORSAR Array B 25.68 347 P **P** 07 22 17.2 -0.1
NOA pmax pmax
comp=Z,4.0nm,0.6s
NOA MLR MLR
comp=Z,34nm,20.4s
EKA Eskdalemuir Ar 25.81 325 P **P** 07 22 19.6 +1.1
comp=Z,7.0nm,0.6s,mb4.2,baz=134,slow=8.4,SNR=12
EKA Eskdalemuir Ar 25.81 325 P **P** 07 22 19.7 +1.2
EKA pmax pmax
comp=Z,7.0nm,0.6s
ESK Eskdalemuir 25.82 325 *e*P **P** 07 22 18.4 -0.3
comp=Z,36nm,0.9s,mb4.8
KAF Kangasniemi 25.83 4 *e*p **P** 07 22 18.0 -0.6
comp=Z,15nm,0.5s,mb4.7
KAF Kangasniemi 25.83 4 *e*P **P** 07 22 18.0 -0.6
KAF pmax pmax
comp=Z,15nm,0.5s,mb4.7
MOR8 Moi Rana 30.17 353 *e*P **P** 07 22 58.3 +0.4
MELS Mels 30.92 353 *e*P **P** 07 23 05.4 +1.0
MELS *e*pP pP 07 23 20.3 -0.9
ARU Arti 31.34 39 *c i*P **P** 07 23 03.1 -5.1
SVE Sverdlovsk 32.55 39 ⇑ *e*P **P** 07 23 06.1 -13
KTK1 Kautokeino 32.65 0 *e*P **P** 07 23 19.1 -0.4
KTK1 AMb AMB 07 23 27.2
comp=Z,56nm,2.1s,mb5.0
KTK1 Kautokeino 32.65 0 *e*P **P** 07 23 19.1 -0.4
comp=Z,56nm,2.1s,mb5.0,SNR=40
ARCES ARCESS Array B 33.21 2 P **P** 07 23 23.9 -0.5
comp=Z,9.4nm,0.6s,mb4.8,baz=184,slow=11,SNR=68
ARCES LR LR 07 38 06.1
comp=Z,140nm,20.6s,baz=208,slow=38
ARCES ARCESS Array B 33.21 2 P **P** 07 23 23.9 -0.5
ARCES pmax pmax
comp=Z,9.0nm,0.6s
ARCES MLR MLR
comp=Z,140nm,20.7s
ARE0 ARCESS Array S 33.21 2 *e*P **P** 07 23 23.7 -0.7
KEV Kevo 33.48 3 *e*p **P** 07 23 25.7 -1.0
ZRNK Zerenda 36.20 48 *e*P **P** 07 23 49.5 -0.5
comp=Z,14nm,0.5s,mb5.2
BRVK Borovoye 36.98 48 *e*P **P** 07 23 55.4 -1.1
comp=Z,28nm,1.1s,mb5.1
BVAR Borovoye Array 37.03 48 P **P** 07 23 56.7 -0.3
comp=Z,4.0nm,0.5s,mb4.6,baz=257,slow=7.1,SNR=12
DBIC Dimbokro 38.80 227 P **P** 07 24 13.2 +1.0
comp=Z,3.2nm,0.9s,mb4.2,baz=14,slow=8.3,SNR=4.9
DBIC Dimbokro 38.80 227 P **P** 07 24 13.2 +1.1
DBIC pmax pmax
comp=Z,3.0nm,0.9s
DBIC Dimbokro 38.80 227 *e*P **P** 07 24 13.0 +0.9
comp=Z,13nm,1.0s,mb4.7
TIC Toumodi 38.92 227 *e*P **P** 07 24 16.5 +3.4
comp=Z,80nm,1.2s,mb5.4
KIC Kosan Boka 38.98 226 *e*P **P** 07 24 15.5 +1.9
comp=Z,91nm,1.4s,mb5.4
LIC Lamto 39.26 227 *e*P **P** 07 24 18.0 +2.1
comp=Z,118nm,1.7s,mb5.5
LIC Lamto 39.26 227 *e*P **P** 07 24 14.7 -1.2
comp=Z,18nm,0.9s,mb4.9
LIC *e*P 07 24 18.0
KMBO Kilima Mbogo 39.77 157 P **P** 07 24 20.3 +0.1
comp=Z,0.8nm,0.4s,mb3.9,baz=41,slow=14,SNR=3.7
AAK Ala-Archa 40.00 65 *d i*P **P** 07 24 21.8 0.0
AAK Ala-Archa 40.00 65 *e*P **P** 07 24 20.9 -0.9
comp=Z,30nm,1.1s,mb5.0
KURK Kurchatov 42.04 52 *c i*P **P** 07 24 37.6 -0.8
KURK Kurchatov 42.04 52 *e*P **P** 07 24 37.5 -0.9
comp=Z,31nm,1.0s,mb5.0
NVS Novosibirsk 44.70 46 *i*P **P** 07 24 59.4 -0.6
NVS *e* pP 07 25 15.2 -2.2
NVS pmax pmax
comp=Z,25nm,0.6s,mb5.1
NVS pmax pmax
comp=E,19nm,0.8s
NVS pmax pmax
comp=N,8.0nm,0.5s
MKAR Makanchi Array 44.85 57 P **P** 07 25 00.8 -0.4
comp=N,19nm,0.5s,mb5.1,baz=271,slow=7.6,SNR=205
MKAR ScP 07 30 29.3
comp=N,0.3nm,0.5s,baz=304,slow=4.4,SNR=4.1
ZAL Zalesovo 45.66 47 P **P** 07 25 06.8 -0.7
comp=N,20nm,0.3s,mb5.3,baz=196,slow=6.4,SNR=29
ZAL Zalesovo 45.66 47 P **P** 07 25 06.9 -0.7
ZAL pmax pmax
comp=Z,20nm,0.3s
SUMG Summit 47.05 339 *e*P **P** 07 25 20.2 +1.8
comp=Z,12nm,1.0s,mb4.6
WMQ Urumqi 49.19 60 P **P** 07 25 35.4 0.0
WMQ AP pP 07 25 59.0 +6.0
WMQ PP PP 07 27 30.0 +0.1
WMQ S **S** 07 32 35.0 +0.5
WMQ SCS ScS 07 35 19.0 +1.4
WMQ SS SS 07 36 02.0 -0.4
WMQ AMB AMB
comp=Z,34nm,0.8s,mb5.3
KOLN Koldanda 51.67 81 *e*P **P** 07 25 53.8 -0.6
LSZ Lusaka 51.68 173 *e*P **P** 07 25 55.3 +0.7
comp=Z,12nm,1.3s,mb4.8
GKN Gorkha 52.39 80 *e*P **P** 07 25 59.1 -0.7
comp=Z,49nm,0.5s,mb5.8
DMN Daman 52.94 81 *e*P **P** 07 26 03.4 -0.5
comp=Z,68nm,0.6s
KKN Kakani 53.00 80 *e*P **P** 07 26 03.6 -0.8
comp=Z,33nm,0.5s,mb5.6
PKI Pulchoki 53.20 81 *e*P **P** 07 26 05.2 -0.6
comp=Z,32nm,0.6s,mb5.6
GUN Gumba 53.42 80 *e*P **P** 07 26 06.9 -0.6
comp=Z,29nm,0.5s,mb5.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MOY	**Mondy**	**55.71**	**48**	*e*P	**P**	**07 26 23.9**	**+0.1**
GTA	**Gaotai**	**59.22**	**62**	⇑*i*P	**P**	**07 26 48.3**	**-0.3**
GTA				AMB	AMB		
	comp=Z,17nm,0.6s,mb5.2						
SONM	**Songino Array**	**60.31**	**50**	P	**P**	**07 26 55.4**	**-0.7**
	comp=Z,7.1nm,0.6s,mb4.9,baz=281,slow=7.9,SNR=41						
TIXI	**Tiksi**	**60.73**	**20**	⇓*e*P	**P**	**07 26 56.6**	**-2.0**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
BOD	**Bodaibo**	**60.75**	**38**	*e*P	**P**	**07 26 56.4**	**-2.5**
SCHQ	**Schefferville**	**60.86**	**319**	P	**P**	**07 27 00.7**	**+1.0**
	comp=Z,4.3nm,0.9s,mb4.5,baz=199,slow=13,SNR=6.4						
SCHQ	**Schefferville**	**60.86**	**319**	*e*P	**P**	**07 26 59.1**	**-0.6**
	comp=Z,10nm,0.7s,mb5.0						
LZH	**Lanzhou**	**63.52**	**63**	⇑P	**P**	**07 27 17.5**	**-0.2**
LZH				AP	pP	07 27 40.0	+3.9
LZH				AMB	AMB		
	comp=Z,38nm,1.0s,mb5.2						
YAK	**Yakutsk**	**65.83**	**30c**	*i*P	**P**	**07 27 31.0**	**-1.2**
YAK				pmax	pmax		
	comp=Z,27nm,0.7s,mb5.2						
CD2	**Chengdu**	**65.89**	**69**	*e*P	**P**	**07 27 32.8**	**-0.3**
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
HHC	**Hu-ho-hao-te**	**66.67**	**56**	*e*P	**P**	**07 27 38.0**	**+0.1**
HHC				AMB	AMB		
	comp=Z,29nm,1.1s,mb5.0						
HHC				AMB	AMB		
	comp=Z,89nm,4.4s						
HIA	**Hailar**	**67.62**	**45**	*e*P	**P**	**07 27 43.4**	**-0.3**
	comp=Z,12nm,0.6s,mb4.9						
KMI	**Kunming**	**68.01**	**74**	⇑*e*P	**P**	**07 27 46.1**	**-0.3**
KMI				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.5						
KMI				AMB	AMB		
	comp=Z,55nm,4.9s						
CMAR	**Chiang Mai Arr**	**68.50**	**82**	P	**P**	**07 27 48.8**	**-0.8**
	comp=Z,7.1nm,0.9s,mb4.5,baz=303,slow=7.7,SNR=22						
CMAR	**Chiang Mai Arr**	**68.50**	**82**	P	**P**	**07 27 48.8**	**-0.8**
CMAR				pmax	pmax		
	comp=Z,7.0nm,1.0s						
GYA	**Guiyang**	**70.34**	**71**	P	**P**	**07 28 00.3**	**-0.5**
GYA				AP	pP	07 28 20.0	+0.5
GYA				S	S	07 37 13.7	+7.4
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
GYA				LR	LR		
	comp=N,150nm,16.4s						
GYA				LR	LR		
	comp=E,120nm,17.1s						
GYA				LR	LR		
	comp=Z,170nm,18.8s						
ENH	**Enshi**	**70.48**	**66**	*e*P	**P**	**07 28 00.2**	**-1.3**
	comp=Z,32nm,1.1s,mb5.1						
CN2	**Changchun**	**73.88**	**47**	*e*P	**P**	**07 28 21.7**	**+0.3**
CN2				*e*S	S	07 37 50.8	+4.6
CN2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.0						
CN2				AMB	AMB		
	comp=Z,150nm,6.0s						
CN2				LR	LR		
	comp=N,120nm,22.0s						
CN2				LR	LR		
	comp=E,90nm,22.0s						
CN2				LR	LR		
	comp=Z,140nm,23.0s						
INK	**Inuvik**	**74.07**	**351**	P	**P**	**07 28 23.1**	**+1.1**
	comp=Z,3.5nm,0.7s,mb4.2,baz=350,slow=4.9,SNR=9.6						
INK	**Inuvik**	**74.07**	**351**	P	**P**	**07 28 23.1**	**+1.1**
INK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
INK	**Inuvik**	**74.07**	**351**	*e*P	**P**	**07 28 22.6**	**+0.6**
	comp=Z,7.6nm,1.0s,mb4.4						
KLR	**Kul'dur**	**74.17**	**40**	*e*P	**P**	**07 28 20.2**	**-2.8**
YKW3	**Yellowknife Ar**	**75.54**	**341**	*e*P	**P**	**07 28 31.6**	**+1.0**
YKA	**Yellowknife Ar**	**75.59**	**341**	P	**P**	**07 28 32.2**	**+1.4**
	comp=Z,1.8nm,0.5s,mb4.1,baz=33,slow=5.4,SNR=11						
YKA	**Yellowknife Ar**	**75.59**	**341**	P	**P**	**07 28 32.2**	**+1.4**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
YKA	**Yellowknife Ar**	**75.59**	**341**	P	**P**	**07 28 32.2**	**+1.4**
NJ2	**Nanjing**	**76.27**	**60**	*e*P	**P**	**07 28 33.2**	**-2.1**
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
IMA	**Indian Mountai**	**77.80**	**358**	*e*P	**P**	**07 28 45.3**	**+2.1**
	comp=Z,34nm,1.0s,mb5.0						
SSE	**Sheshan**	**78.45**	**60**	P	**P**	**07 28 43.2**	**-4.2**
SSE				S	S	07 38 35.6	-0.8
SSE				XS		07 39 19.9	
SSE				AMB	AMB		
	comp=Z,17nm,0.7s,mb4.9						
SSE				AMB	AMB		
	comp=Z,107nm,5.9s						
SSE				LR	LR		
	comp=N,57nm,21.4s						
SSE				LR	LR		
	comp=E,22nm,20.7s						
COLA	**College**	**78.76**	**356**	*e*P	**P**	**07 28 49.1**	**+0.6**
	comp=E,2.4nm,0.8s,mb4.1						
ILAR	**Eielson Array**	**78.81**	**355**	P	**P**	**07 28 50.1**	**+1.5**
	comp=E,1.0nm,0.4s,mb4.0,baz=338,slow=3.7,SNR=30						
ILAR	**Eielson Array**	**78.81**	**355**	P	**P**	**07 28 50.2**	**+1.5**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
DAWY	**Dawson**	**78.84**	**352**	*e*P	**P**	**07 28 50.9**	**+2.0**
KS15	**Wonju Array Si**	**79.14**	**51**	*e*P	**P**	**07 28 50.5**	**-0.7**
MCK	**McKinley**	**79.96**	**356**	*e*P	**P**	**07 28 56.0**	**+1.1**
	comp=Z,6.6nm,1.1s,mb4.4						
YSS	**Yuzh-Sakhalins**	**81.21**	**37**	*e*P	**P**	**07 29 00.4**	**-1.5**
	comp=Z,40nm,1.0s,mb5.2						
SML	**Sawmill**	**81.84**	**356**	*e*P	**P**	**07 29 06.0**	**+1.1**
BDFB	**Brasilia**	**84.27**	**246**	LR	LR	08 07 09.2	
	comp=Z,68nm,18.8s,baz=103,slow=36						
LAO	**LASA Array**	**85.37**	**327**	*e*P	**P**	**07 29 26.0**	**+3.0**
	comp=Z,12nm,1.0s,mb4.8						
MAJO	**Matsushiro**	**86.02**	**47**	P	**P**	**07 29 27.2**	**+0.8**
	comp=Z,11nm,1.0s,mb4.7						
PDAR	**Pinedale Array**	**89.92**	**327**	P	**P**	**07 29 46.7**	**+1.8**
	comp=Z,0.3nm,0.5s,mb3.7,baz=34,slow=5.3,SNR=4.6						
PDAR				LR	LR	08 11 21.4	
	comp=Z,60nm,19.4s,baz=249,slow=36						
PV10	**Paradox Valley**	**93.19**	**324**	*e*P	**P**	**07 30 02.6**	**+2.5**
NVAR	**Mina Array Bea**	**97.22**	**330**	LR	LR	08 16 57.1	
	comp=Z,66nm,19.1s,baz=25,slow=37						
CPUP	**Villa Florida**	**97.69**	**243**	LR	LR	08 15 48.7	
	comp=Z,40nm,18.5s,baz=345,slow=36						
WRA	**Warramunga Arr**	**118.80**	**94**	PKP	PKPdf	07 35 35.1	+2.0
	comp=Z,0.5nm,0.6s,baz=320,slow=1.4,SNR=13						
WRA	**Warramunga Arr**	**118.80**	**94**	PKIKP	PKPdf	07 35 35.1	+2.0
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRAB	**Tennant Creek**	**118.80**	**94**	*e*PKPdf	PKPdf	07 35 35.0	+1.9
ASAR	**Alice Springs**	**120.32**	**98**	PKP	PKPdf	07 35 37.8	+1.8
	comp=Z,0.6nm,0.4s,baz=307,slow=1.5,SNR=11						
QSPA	**South Pole Qui**	**126.27**	**180**	*e*PKPdf	PKPdf	07 35 47.7	+1.6
CTA	**Charters Tower**	**128.48**	**88**	PKP	PKPdf	07 35 54.4	+2.5
	comp=Z,1.0nm,0.5s,baz=307,slow=10						
CTA	**Charters Tower**	**128.48**	**88**	PKIKP	PKPdf	07 35 54.4	+2.5
CTA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CTA	**Charters Tower**	**128.48**	**88**	PKP	PKPdf	07 35 54.4	+2.5

*IDC **07** 07:16:58.9±0.8, 28.82N×57.96E, mb4.1/13, mb1 4.3/14, mb1mx4.1/25, ML4.3/1, MS3.6/3, Ms1 3.7/3, ms1mx3.0/22, Error ellipse: s-maj=19.8km s-min=17.7km az=170.0*

*THR **07** 07:16:59.9±1.4, 28.84N×57.96E, h14km±20km, ML4.3*

*CSEM **07** 07:17:01.5±0.1, 28.80N×57.80E, h30km, mb4.6/8, ML5.4/1, Error ellipse: s-maj=2.8km s-min=1.9km az=83.0*

*BJI **07** 07:17:09.6, 28.60N×57.73E, h118km, mB5.0, mb4.9*

*NEIC **07** 07:17:11.1±3.4, 28.80N×57.84E, h104km±32km, mb4.5/11, Error ellipse: s-maj=15.1km s-min=8.3km az=145.0*

ISC 07 07:16:58.2±1.3**, 28.74N**±0.05×**57.83E**±0.04**, h7**km±8km**, n70, σ1**ˢ**08**/76**, mb4.4**/28**, MS3.7**/5**, Southern Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**1.55**	**323**	*i* PG	**Pg**	**07 17 28.0**	**-1.2**
KRBR				*e*SG	**Sg**	**07 17 49.7**	**-0.3**
KRBR				AMP		07 17 55.8	
	comp=E,4µm,0.2s						
KRBR				AMP		07 17 56.3	
	comp=N,5µm,0.8s						
KRBR	**Kerman**	**1.55**	**323**	*i* Pg	**Pg**	**07 17 28.2**	**-1.0**
KRBR				*i* Sg	**Sg**	**07 17 48.4**	**-1.5**
	comp=N,5µm,0.4s						
BNDS	**Bandar-Abbas**	**1.98**	**228**	*i* PG	**Pg**	**07 17 38.3**	**+0.5**
BNDS				*e*SG	**Sg**	**07 18 07.4**	**+3.2**
BNDS				AMP		07 18 16.3	
	comp=N,3µm,0.5s						
BNDS				AMP		07 18 16.7	
	comp=E,3µm,0.5s						
ZHSF	**Zahedan**	**2.72**	**71**	*i* PN	**Pn**	**07 17 43.6**	**+0.5**
ZHSF				AMP		07 18 32.1	
	comp=E,1µm,0.5s						
ZHSF				AMP		07 18 32.7	
	comp=N,1µm,0.6s						
ZHSF	**Zahedan**	**2.72**	**71**	*e*Pn	**Pn**	**07 17 43.6**	**+0.5**
GHIR	**Ghir-Karzin**	**4.29**	**265**	*e*PN	**Pn**	**07 18 09.1**	**+3.7**
GHIR				AMP		07 19 30.8	
	comp=E,246nm,0.7s						
GHIR				AMP		07 19 45.8	
	comp=N,276nm,0.7s						
NASN	**Na'in**	**5.92**	**314**	*e*Pn	**Pn**	**07 18 28.7**	**+0.2**
DAMV	**Damavand**	**8.48**	**326**	*e*Pn	**P**	**07 19 04.0**	**-0.4**
SHGR	**Shooshtar-Gavs**	**8.49**	**296**	*e*Pn	**P**	**07 19 05.8**	**+1.3**
QRN	**Al-Qurain**	**8.70**	**272**	*e*P	**P**	**07 19 07.6**	**+0.1**
QRN				AML	AML	07 20 44.3	
	comp=Z,108nm,0.4s						
UMR	**Umm Al-Rimmam**	**8.88**	**278**	*e*P	**P**	**07 19 10.8**	**+0.8**
UMR				AML	AML	07 20 52.9	
	comp=Z,84nm,0.3s						
KBD	**Kabd**	**8.89**	**275**	*e*P	**P**	**07 19 11.4**	**+1.2**
KBD				*e*S	**Sn**	**07 20 43.8**	**-8.0**
RDF	**Al-Radifah**	**9.02**	**274**	*e*P	**P**	**07 19 12.6**	**+0.7**
RDF				AML	AML	07 20 55.8	
	comp=Z,90nm,0.4s						
MIB	**Mutribah**	**9.23**	**279**	*e*P	**P**	**07 19 15.3**	**+0.6**
MIB				*e*S	**Sn**	**07 20 50.2**	**-10**
MIB				AML	AML	07 21 02.0	
	comp=Z,105nm,0.6s						
THKV	**Tehran--Karaj**	**9.26**	**322**	*e*Pn	**P**	**07 19 14.1**	**-1.1**
RST	**Umm Al-Ruwaisa**	**9.51**	**277**	*e*P	**P**	**07 19 19.1**	**+0.5**
RST				*e*S	**Sn**	**07 20 59.4**	**-7.5**
RST				AML	AML	07 21 01.7	
	comp=Z,47nm,0.5s						
RAYN	**Ar Rayn**	**12.23**	**248**	Pn	**P**	**07 19 52.6**	**-3.3**
	comp=Z,152nm,0.5s,SNR=21						
ARSS	**Ar Rass**	**13.29**	**261**	P	**P**	**07 20 08.1**	**-1.8**
ARSS				S	**S**	**07 22 29.9**	**-9.1**
AFFS	**'Afif**	**14.13**	**254**	P	**P**	**07 20 19.1**	**-2.1**
GNI	**Garni**	**15.67**	**320**	P	**P**	**07 20 47.1**	**+6.0**
	comp=Z,30nm,1.0s						
GNI				*e*		07 20 57.2	
TATS	**Tathlith**	**15.97**	**238**	P	**P**	**07 20 41.6**	**-3.5**
KBRS	**Khaybar**	**16.77**	**264**	P	**P**	**07 20 56.0**	**+0.8**
ASF	**Jabal al Asfar**	**18.37**	**286**	P	**P**	**07 21 18.0**	**+2.8**
	comp=Z,0.9nm,0.3s,baz=98,slow=1.4,SNR=4.3						
AAK	**Ala-Archa**	**19.33**	**40**	*e*P	**P**	**07 21 26.9**	**+0.3**
	comp=Z,32nm,1.6s						
AAK	**Ala-Archa**	**19.33**	**40**	*e*P	**P**	**07 21 26.9**	**+0.2**
	comp=Z,32nm,1.6s						
CSS	**Prodhromos**	**21.69**	**293**	P	**P**	**07 21 59.4**	**+7.7**
	comp=Z,43nm,0.9s,mb4.9						
KOLN	**Koldanda**	**22.71**	**86**	*e*P	**P**	**07 22 01.0**	**-0.9**
	comp=Z,40nm,1.1s,mb4.8						
BRTR	**Keskin Array B**	**22.74**	**305**	P	**P**	**07 22 03.9**	**+1.8**
	comp=Z,4.3nm,1.0s,mb3.8,baz=117,slow=9.7,SNR=3.1						
BRTR				LR	LR	07 31 40.9	
	comp=Z,141nm,19.0s,MS3.4,baz=215,slow=39						
BRTR	**Keskin Array B**	**22.74**	**305**	P	**P**	**07 22 03.9**	**+1.8**
BRTR				LR	LR	07 31 40.9	
GKN	**Gorkha**	**23.58**	**85**	*e*P	**P**	**07 22 10.4**	**0.0**
DMN	**Daman**	**24.05**	**86**	*e*P	**P**	**07 22 15.6**	**+0.6**
	comp=Z,22nm,0.7s,mb4.7						
KKN	**Kakani**	**24.18**	**86**	*e*P	**P**	**07 22 16.7**	**+0.5**
	comp=Z,45nm,1.1s,mb4.8						
PKI	**Pulchoki**	**24.32**	**86**	*e*P	**P**	**07 22 18.1**	**+0.4**
	comp=Z,30nm,0.7s,mb4.8						
GUN	**Gumba**	**24.68**	**85**	*e*P	**P**	**07 22 21.5**	**+0.4**
	comp=Z,76nm,0.8s,mb5.3						
ZRNK	**Zerenda**	**25.56**	**16**	*e*P	**P**	**07 22 29.8**	**+0.6**
	comp=Z,10nm,1.0s,mb4.3						
ZRNK				*e*		07 22 34.1	
ZRNK	**Zerenda**	**25.56**	**16**	*e*P	**P**	**07 22 29.8**	**+0.6**
BVAR	**Borovoye Array**	**25.98**	**17**	P	**P**	**07 22 33.0**	**0.0**
	comp=Z,4.8nm,0.6s,mb4.2,baz=198,slow=7.8,SNR=21						
BRVK	**Borovoye**	**25.98**	**17**	*e*P	**P**	**07 22 32.8**	**-0.3**
	comp=Z,5.8nm,0.7s,mb4.2						
BRVK	**Borovoye**	**25.98**	**17**	*e*P	**P**	**07 22 32.8**	**-0.3**
	comp=Z,5.8nm,0.7s,mb4.2						
MKAR	**Makanchi Array**	**26.26**	**40**	P	**P**	**07 22 35.1**	**-0.6**
	comp=Z,1.5nm,0.8s,mb3.6,baz=225,slow=8.6,SNR=9.2						
KURK	**Kurchatov**	**26.98**	**30**	P	**P**	**07 22 42.5**	**+0.1**
	comp=Z,3.7nm,0.9s,mb3.9						
KURK	**Kurchatov**	**26.98**	**30**	P	**P**	**07 22 42.5**	**+0.2**
	comp=Z,3.7nm,0.9s,mb3.9						
WMQ	**Urumqi**	**28.20**	**50**	*e*P	**P**	**07 22 56.0**	**+2.5**
ZAL	**Zalesovo**	**31.95**	**30**	P	**P**	**07 23 25.1**	**-1.6**
	comp=Z,2.4nm,0.5s,mb4.3,baz=247,slow=6.2,SNR=12						
ZAL	**Zalesovo**	**31.95**	**30**	P	**P**	**07 23 25.0**	**-1.7**
KMBO	**Kilima Mbogo**	**35.65**	**217**	P	**P**	**07 24 01.9**	**+2.9**
	comp=Z,2.2nm,0.7s,mb4.2,baz=42,slow=12,SNR=7.3						
KMBO	**Kilima Mbogo**	**35.65**	**217**	*e*P	**P**	**07 23 58.9**	**-0.1**
	comp=Z,4.9nm,0.9s,mb4.4						
KMBO	**Kilima Mbogo**	**35.65**	**217**	*e*P	**P**	**07 23 58.9**	**-0.2**
	comp=Z,4.9nm,0.9s,mb4.4						
SUW	**Suwalki**	**35.66**	**325**	P	**P**	**07 23 59.9**	**+1.1**
	comp=Z,54nm,1.7s,mb5.2						
SUW	**Suwalki**	**35.66**	**325**	P	**P**	**07 23 59.9**	**+1.1**
	comp=Z,54nm,1.7s,mb5.2						
CMAR	**Chiang Mai Arr**	**38.87**	**96**	LR	LR	07 40 41.2	
	comp=Z,54nm,18.4s,MS3.4,baz=300,slow=37						
GERES	**GERESS Array B**	**39.15**	**313**	P	**P**	**07 24 26.9**	**-1.2**
	comp=Z,2.0nm,0.8s,mb3.9,baz=129,slow=6.3,SNR=2.8						
KMI	**Kunming**	**40.02**	**84**	*e*P	**P**	**07 24 34.5**	**-1.1**
KMI				AMB	AMB		
	comp=Z,16nm,0.8s,mb4.8						
KMI				LR	LR		
	comp=Z,79nm,25.2s,MS3.5						
SONM	**Songino Array**	**41.84**	**49**	P	**P**	**07 24 50.7**	**+0.4**
	comp=Z,0.7nm,0.7s,mb3.4,baz=256,slow=10,SNR=5.6						
GYA	**Guiyang**	**43.10**	**81**	P	**P**	**07 25 04.5**	**+3.6**
GYA				AP	pP	07 25 23.0	+20
GYA				PP	PP	07 26 47.6	+4.2
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
GYA				LR	LR		
	comp=N,120nm,15.6s,MS4.2						
GYA				LR	LR		
	comp=E,190nm,16.8s,MS4.2						
GYA				LR	LR		
	comp=Z,280nm,17.8s,MS4.2						
HFS	**Hagfors**	**43.15**	**329**	P	**P**	**07 25 04.7**	**+3.9**
	comp=Z,4.5nm,0.8s,mb4.3,baz=153,slow=13,SNR=2.9						
NOA	**NORSAR Array B**	**44.65**	**330**	P	**P**	**07 25 12.1**	**-0.9**
	comp=Z,0.8nm,0.7s,mb3.7,baz=156,slow=8.5,SNR=2.0						
NJ2	**Nanjing**	**52.13**	**70**	*e*P	**P**	**07 26 11.9**	**+0.4**
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
LSZ	**Lusaka**	**52.31**	**217**	*e*P	**P**	**07 26 12.3**	**-0.7**
	comp=Z,11nm,1.3s,mb4.6						
LSZ	**Lusaka**	**52.31**	**217**	*e*P	**P**	**07 26 12.3**	**-0.7**
	comp=Z,11nm,1.3s,mb4.6						
DBIC	**Dimbokro**	**62.91**	**262**	P	**P**	**07 27 27.4**	**-0.4**
	comp=Z,4.5nm,0.9s,mb4.6,baz=22,slow=5.4,SNR=3.1						
DBIC				LR	LR	07 57 38.5	
	comp=Z,81nm,18.3s,MS3.9,baz=138,slow=39						
DBIC	**Dimbokro**	**62.91**	**262**	P	**P**	**07 27 27.0**	**-0.8**
	comp=Z,8.7nm,1.0s,mb4.8						
DBIC	**Dimbokro**	**62.91**	**262**	P	**P**	**07 27 27.0**	**-0.8**
	comp=Z,8.7nm,1.0s,mb4.8						
BOSA	**Boshof**	**64.99**	**211**	*e*P	**P**	**07 27 40.6**	**-0.7**
	comp=Z,11nm,0.9s,mb4.9						
BOSA	**Boshof**	**64.99**	**211**	*e*P	**P**	**07 27 40.6**	**-0.7**
	comp=Z,11nm,0.9s,mb4.9						
YSS	**Yuzh-Sakhalins**	**66.32**	**48**	P	**P**	**07 27 49.7**	**+0.2**
FITZ	**Fitzroy Crossi**	**80.34**	**117**	P	**P**	**07 29 11.7**	**-0.4**
	comp=Z,2.6nm,0.7s,mb4.3,baz=352,slow=7.1,SNR=3.4						
WRA	**Warramunga Arr**	**88.25**	**114**	P	**P**	**07 29 51.4**	**-0.6**
	comp=Z,0.6nm,0.5s,mb4.1,baz=315,slow=4.0,SNR=16						
WRAB	**Tennant Creek**	**88.25**	**114**	*e*P	**P**	**07 29 52.1**	**+0.1**
ASAR	**Alice Springs**	**89.83**	**117**	P	**P**	**07 29 58.9**	**-0.6**
	comp=Z,0.6nm,0.6s,mb4.1,baz=306,slow=4.2,SNR=4.9						

MEX 07 07:21:00.5±0.4**, 15.45N**×**94.26W, h23**km±40km**, MD4.0, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.73**	**340**	*i* P	Pn	07 21 26.7	-3.0
CMIG				*i* S	Sn	07 21 47.0	-4.3
SCX	**San Cristobal**	**2.02**	**51**	*e*P	Pn	07 21 30.0	-3.8
CCIG	**Comitan**	**2.21**	**68**	*i* P	Pn	07 21 34.0	-2.4
CCIG				*i* S	Sn	07 21 59.5	-3.8
OXX	**Oaxaca**	**2.86**	**305**	*e*P	Pn	07 21 45.0	-0.9
OXX				*e*S	Sn	07 22 15.5	-4.5
VHO	**Vista Hermosa**	**2.87**	**305**	*i* P	Pn	07 21 42.3	-3.6
VHO				*i* S	Sn	07 22 15.1	-5.0

*IDC **07** 07:36:57.0±7.0, 6.61S×127.85E, h348km±82km, mb3.2/3, mb1 3.4/6, mb1mx3.3/13, Error ellipse: s-maj=73.9km s-min=23.9km az=57.0*

*NEIC **07** 07:36:59.5±4.9, 6.85S×127.47E, h374km±62km, mb4.3/2, Error ellipse: s-maj=34.6km s-min=20.0km az=208.0*

ISC 07 07:36:56.2±2.9**, 6.8S**±0.2×**127.5E**±0.2**, h359**km±35km**, n10, σ0**ˢ**61**/11**, mb3.4**/3**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.42**	**189**	P	**P**	**07 39 32.9**	**+0.7**
	0.5nm,0.3s,baz=3.8,slow=9.9,SNR=13						
WRAB	**Tennant Creek**	**14.69**	**154**	P	**P**	**07 40 09.0**	**-0.7**
	37nm,0.5s,SNR=34						
WRAB	**Tennant Creek**	**14.69**	**154**	*e*P	**P**	**07 40 08.7**	**-1.0**
	7.3nm,0.3s						
WRA	**Warramunga Arr**	**14.70**	**154**	P	**P**	**07 40 09.3**	**-0.5**
	1.2nm,0.3s,baz=336,slow=12,SNR=90						
WRA				S	**S**	**07 42 45.5**	**+0.7**
	baz=331,slow=21,SNR=7.5						
MBWA	**Marble Bar**	**16.17**	**207**	*e*P	**P**	**07 40 24.6**	**-0.7**
	5.8nm,0.7s						
ASAR	**Alice Springs**	**17.91**	**161**	P	**P**	**07 40 43.5**	**+0.6**
	1.3nm,0.3s,baz=352,slow=14,SNR=64						
STKA	**Stephens Creek**	**28.25**	**154**	P	**P**	**07 42 19.1**	**-0.5**
	2.6nm,0.6s,mb3.7,baz=332,slow=11,SNR=7.8						
SONM	**Songino Array**	**57.46**	**343**	P	**P**	**07 46 10.7**	**0.0**
	0.5nm,0.7s,mb2.9,baz=169,slow=7.3,SNR=4.1						
MKAR	**Makanchi Array**	**66.68**	**328**	P	**P**	**07 47 11.6**	**+0.5**
	0.6nm,0.5s,mb3.6,baz=123,slow=7.3,SNR=11						
MKAR	**Makanchi Array**	**66.68**	**328**	P	**P**	**07 47 11.6**	**+0.5**

PRE 07 07:42:17.6±2.1**, 26.25S**×**29.01E, ML3.5, Explosion, South Africa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SLR	**Silverton**	**0.83**	**308**	*e*P	Pg	07 42 31.9	-2.4
SLR				*e*S	Sg	07 42 44.3	-1.0
SLR				*e*		07 42 49.8	
	comp=Z,225nm,0.4s						
NWL	**Newcastle**	**1.69**	**150**	*e*P	Pn	07 42 47.1	-1.4
NWL				*e*S	Sb	07 43 10.7	-0.3
NWL				*e*		07 43 16.4	
	comp=Z,740nm,0.6s						
KSR	**Koster**	**1.94**	**281**	*e*P	Pn	07 42 52.4	+0.2
KSR				*e*S	Sn	07 43 15.5	-2.2
KSR				*e*		07 43 20.7	
	comp=Z,3µm,0.3s						

KRSC 07 07:43:20.2±0.9**, 53.09N**×**160.47E, h30**km±3km**, ML3.8, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.27**	**272**	*i* P	Pb	07 43 28.1	+0.9
SPN				*i* S	Sb	07 43 33.5	+1.4
NLC	**Nalytchevo**	**0.68**	**277**	*i* P	Pb	07 43 33.6	+0.1
NLC				*i* S	Sb	07 43 43.1	+0.4
SDLR	**Sedlovina**	**0.97**	**282**	*i* P	Pn	07 43 38.2	+0.3
UGLR	**Uglovaya**	**1.00**	**278**	*i* P	Pn	07 43 38.8	+0.5
SMAR	**Somma**	**1.02**	**280**	*i* P	Pn	07 43 38.8	+0.2
AVH	**Avacha**	**1.06**	**280**	*i* P	Pn	07 43 39.7	+0.5
AVH				*i* S	Sn	07 43 53.5	+0.6
PET	**Petropavlovsk**	**1.10**	**267**	*e*P	Pn	07 43 39.7	0.0
PET				*e*S	Sn	07 43 53.6	-0.4
KOK	**Koryaka**	**1.12**	**281**	*i* P	Pn	07 43 40.3	+0.2
KII	**Karymskiy**	**1.13**	**328**	*e*P	Pn	07 43 40.7	+0.6
KII				*e*S	Sn	07 43 55.1	+0.4
RUS	**Russkaya**	**1.36**	**242**	*e*P	Pn	07 43 43.5	0.0
RUS				*e*S	Sn	07 44 00.3	-0.3
GRL	**Gorelyy**	**1.55**	**251**	*e*P	Pn	07 43 46.9	+0.7
GRL				*e*S	Sn	07 44 06.4	+0.9
GNL	**Ganaly**	**1.63**	**293**	*e*P	Pn	07 43 48.2	+0.8
GNL				*e*S	Sn	07 44 08.5	+1.0
MKZ	**Mys Kozlova**	**1.65**	**26**	*i* P	Pn	07 43 46.3	-1.3
MKZ				*i* S	Sn	07 44 07.0	-0.9
APC	**Apacha**	**2.01**	**267**	*i* P	Pn	07 43 53.8	+1.0
APC				*i* S	Sn	07 44 18.2	+1.1
APC				Smax			
	220nm,1.1s						
TUMR	**Tumrok**	**2.21**	**355**	*e*P	Pn	07 43 56.4	+0.8
TUMR				*e*S	Sn	07 44 22.7	+0.6
KMNR	**Kamenistaya**	**2.67**	**357**	*e*P	Pn	07 44 02.8	+0.5
KMNR				*e*S	Sn	07 44 33.9	-0.1
PAU	**Pauzhetka**	**2.77**	**236**	*e*P	Pn	07 44 05.0	+1.3
PAU				*e*S	Sn	07 44 37.5	+1.0
KPT	**Kopyto**	**2.89**	**357**	*e*P	Pn	07 44 06.5	+1.2
KPT				*e*S	Sn	07 44 40.1	+0.7
ZLN	**Zelenaya**	**2.94**	**4**	*e*P	Pn	07 44 05.5	-0.6
ZLN				*e*S	Sn	07 44 38.5	-2.2
KOZ	**Kozyrevsk**	**3.00**	**354**	*e*P	Pn	07 44 08.0	+1.2
LGNR	**Loginova**	**3.00**	**2**	*e*P	Pn	07 44 07.2	+0.3
LGNR				*e*S	Sn	07 44 41.7	-0.6
ESO	**Esso**	**3.02**	**341**	*e*P	Pn	07 44 07.5	+0.3
ESO				*e*S	Sn	07 44 42.0	-0.8
ESO				Smax			
	180nm,0.7s						
CIRR	**Tsirk**	**3.04**	**3**	*e*S	Sn	07 44 43.5	+0.3
KRSR	**Krestovskiy**	**3.13**	**1**	*e*P	Pn	07 44 09.8	+1.0
KRSR				*e*S	Sn	07 44 46.2	+0.6
KBTR	**Krutoberegovo**	**3.41**	**23**	*e*P	Pn	07 44 13.7	+1.0
KBTR				*e*S	Sn	07 44 53.1	+0.5
SVLR	**Shiveluch**	**3.52**	**7**	*e*P	Pn	07 44 14.8	+0.5
SVLR				*e*S	Sn	07 44 54.9	-0.5

CASC 07 07:45:30.5±2.3**, 8.23N**×**82.89W, h28**km±7km**, MD4.4, MW3.8, 1C-3D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.48**	**64**	⇓*i*P	Pb	07 45 39.4	-1.0
DVD				*e*S	Sb	07 45 49.1	+1.8
BRU2	**Volcan**	**0.60**	**19**	⇓*i*P	Pb	07 45 42.1	-0.3
BRU2				*e*S	Sb	07 45 52.8	+2.4
CNI	**Changuinola**	**1.24**	**17**	⇑*e*P	Pn	07 45 52.4	+0.2
CNI				*i* S	Sn	07 46 07.4	-0.7
SJS	**Escuela Geolog**	**2.05**	**326**	⇓*i*P	Pn	07 46 03.8	-0.1
SJS				*e*S	Sn	07 46 32.4	+3.5
AZU	**Azuero**	**2.62**	**99**	*e*P	Pn	07 46 11.0	-1.0
AZU				*i* S	Sn	07 46 42.7	-0.6
UPA	**Univ. de Panam**	**3.40**	**77**	*e*P	Pn	07 46 23.4	+0.3
UPA				*i* S	Sn	07 47 01.1	-1.9
JEF	**Cerro Jefe**	**3.61**	**74**	*e*P	Pn	07 46 25.6	-0.5
JEF				*i* S	Sn	07 47 07.9	-0.4

DJA 07 08:01:03.8±1.0**, 9.93S**×**116.03E, h33**km**, MD4.5**/2**, ML3.8**/3**, 1C-3D, Error ellipse: s-maj=21.4km s-min=13.0km az=152.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RATI	**Rata**	**1.29**	**337**	⇓*e*Pn	Pn	08 01 24.3	-1.6
	76nm,0.2s						
RATI	**Rata**	**1.29**	**337**	*e*P	P	08 01 25.3	-0.3
RATI				*e*Sn	Sn	08 01 39.5	-2.6
KEDI	**Kedomdong**	**1.43**	**3**	⇓*i*Pn	Pn	08 01 26.9	-0.9
	111nm,0.2s						
KEDI				*e*Sn	Sn	08 01 43.2	-2.4
KELI	**Kelakatan**	**2.28**	**318**	⇓*e*Pn	Pn	08 01 39.1	-0.9
SRDI	**Scrawed**	**2.36**	**307**	⇑*i*Pn	Pn	08 01 39.3	-1.8
	59nm,0.2s						
SRDI				*e*Sn	Sn	08 02 06.0	-3.2

IDC 07 08:15:09.9±2.0**, 2.92N**×**128.22E, mb3.6**/4**, mb1 3.8**/4**, mb1mx3.6**/17**, Error ellipse: s-maj=101.0km s-min=23.9km az=71.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.04	187	P	P	08 19 55.2	-2.8
	3.0nm,1.1s,slow=14,SNR=1.9						
WRA	Warramunga Arr	23.50	165	P	P	08 20 20.3	-2.2
	0.9nm,0.6s,baz=345,slow=10,SNR=14						
ASAR	Alice Springs	27.00	168	P	P	08 20 54.8	-0.8
	0.5nm,0.5s,baz=346,slow=7.6,SNR=9.1						
MKAR	Makanchi Array	59.07	325	P	P	08 25 12.1	-2.1
	0.3nm,0.4s,baz=122,slow=7.7,SNR=6.3						

IDC 07 08:21:37.3±13.0, 3.55S×134.28E, mb3.8/2, mb1 3.9/4, mb1mx3.6/13, ML3.2/2, Error ellipse: s-maj=199.0km s-min=73.2km az=168.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	16.29	180	Pn	P	08 25 29.5	+0.2
	0.1nm,0.3s,baz=359,slow=12,SNR=8.0						
FITZ	Fitzroy Crossi	16.75	210	Pn	P	08 25 33.0	-2.2
	0.1nm,0.3s,baz=25,slow=14,SNR=2.0						
ASAR	Alice Springs	20.00	181	P	P	08 26 10.6	-3.9
	1.2nm,0.9s,baz=8.3,slow=11,SNR=9.3						
STKA	Stephens Creek	29.01	167	P	P	08 27 39.3	-1.8
	4.6nm,1.2s,baz=323,slow=11,SNR=2.1						

NEIC 07 08:23:32.3, 42.06N×120.27W, h3km, MD3.5(SEA), 6C-7D, After SEA., Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOD	Modoc	0.15	188	⇓iPg	Pg	08 23 35.8	+0.3
MOD				eSg	Sg	08 23 38.5	+0.9
LASM	Arnica Sink	1.07	245	⇑P	Pb	08 23 52.0	-1.2
HOG	Hogback Mounta	1.08	280	⇑P	Pb	08 23 52.3	-1.0
KFAL	Klamath Falls	1.14	281	P	Pb	08 23 53.3	-1.0
HAMO	Hamaker Mounta	1.26	271	⇓P	Pb	08 23 55.7	-0.6
LTIM	Timbered Crate	1.27	226	⇑P	Pb	08 23 55.7	-0.7
VSP	Spence Mountai	1.28	283	⇓P	Pb	08 23 55.8	-0.8
LAB	Little Aspen B	1.35	280	⇓P	Pb	08 23 56.8	-1.0
LBCM	Butte Creek Ri	1.46	214	⇑P	Pn	08 23 58.7	-0.9
BUOR	Burton Butte	1.48	279	⇓P	Pn	08 23 58.5	-1.4
LHEM	Herd Peak	1.52	254	⇑P	Pn	08 23 59.2	-1.2
NCOR	Newberry Crate	1.77	339	P	Pn	08 24 03.9	-0.1
PINOR	Pine Mountain	1.81	346	P	Pn	08 24 04.6	0.0
LAMM	Antelope Mount	1.81	257	⇓P	Pn	08 24 04.6	0.0
YBH	Yreka Blue Hor	1.85	261	⇑iPn	Pn	08 24 02.8	-2.3
YBH				ePg	Pg	08 24 04.8	-4.4
YBH				eSg	Sg	08 24 29.8	-4.0
BBOR	Butler Butte	1.96	296	⇓P	Pn	08 24 04.7	-2.1
HUMO	Hull Mountain	2.06	286	ePn	Pn	08 24 05.3	-2.9
HUMO				ePg	Pg	08 24 07.6	-5.9
HUMO				eSg	Sg	08 24 36.1	-4.9
BEND	Bend	2.15	339	P	Pn	08 24 10.5	+1.0
BEKR	Beckwourth	2.19	182	ePn	Pn	08 24 09.1	-0.9
BEKR				e		08 24 11.3	
BEKR				eSg	Sg	08 24 41.4	-3.7
WDC	Whiskeytown Da	2.26	230	ePn	Pn	08 24 08.8	-2.2
WDC				ePg	Pg	08 24 11.1	-6.2
WDC				eSg	Sg	08 24 41.8	-5.6
HBO	Huckleberry Mo	2.33	321	P	Pn	08 24 13.1	+1.0
HUOR	Husband	2.36	331	P	Pn	08 24 14.6	+2.0
IRO	Indian Ridge	2.43	324	P	Pn	08 24 15.3	+1.8
VIPM	Ingram Point	2.46	354	P	Pn	08 24 15.4	+1.4
FRIS	Frissel Point	2.54	329	P	Pn	08 24 17.3	+2.3
HSO	Harness Mounta	2.54	306	P	Pn	08 24 16.4	+1.3
KRMB	Red Mountain	2.77	260	ePn	Pn	08 24 16.9	-1.4
KRMB				ePg	Pg	08 24 22.4	-5.2
WCN	Washoe City	2.78	172	ePn	Pn	08 24 19.1	+0.6
BMN	Battle Mountai	2.82	124	ePn	Pn	08 24 18.7	-0.3
BMN				e		08 24 22.0	
BMN				ePg	Pg	08 24 26.9	-1.6
BMN				eSg	Sg	08 25 00.2	-5.9
KHMM	Horse Mountain	2.85	247	ePn	Pn	08 24 17.1	-2.5
OHCM	Honcut	2.87	199	Pn	Pn	08 24 18.3	-1.4
KBO	Bosley Butte	2.94	274	ePn	Pn	08 24 19.4	-1.5
KEBM	Edson Butte	3.11	287	ePn	Pn	08 24 21.2	-2.0
SSOR	Sweet Springs	3.22	331	ePn	Pn	08 24 22.4	-2.3
SSOR				ePg	Pg	08 24 32.2	-4.4
COR	Corvallis	3.36	320	ePn	Pn	08 24 25.4	-1.3
HOPS	Hopland	3.73	216	Pn	Pn	08 24 28.7	-3.2
MNV	Mina	3.97	155	Pn	Pn	08 24 33.9	-1.5
MNV				ePg	Pg	08 24 48.2	-3.2
MNV				eSg	Sg	08 25 37.9	-6.4
ELK	Elko	4.01	107	ePn	Pn	08 24 34.7	-1.2
ELK				eSg	Sg	08 25 32.5	-13
CMB	Columbia Colle	4.02	181	Pn	Pn	08 24 32.3	-3.8
HAWA	Hanford	4.37	7	Pn	Pn	08 24 41.0	-0.1
OMM	Old Mammoth Mi	4.54	167	ePg	Pg	08 24 56.8	-6.1
HLID	Hailey	4.57	69	ePn	Pn	08 24 40.6	-3.3
TPH	Tonopah	4.61	149	ePn	Pn	08 24 44.0	-0.6
BGU	Big Grassy Mou	5.56	99	Pn	Pn	08 24 56.3	-1.5
HVU	Hansel Valley	5.60	90	Pn	Pn	08 25 03.4	+4.9
SPUT	South Promonto	5.91	95	Pn	Pn	08 25 06.0	+3.3
DUG	Dugway	5.93	106	ePn	Pn	08 25 01.5	-1.7
	0.9nm,0.7s						
DUG				ePg	Pg	08 25 23.2	-7.5
MCMT	McKenzie Canyo	6.07	60	ePn	Pn	08 25 02.9	-2.3
HWUT	Hardware Ranch	6.52	91	Pn	Pn	08 25 12.0	+0.5
	3.9nm,0.8s						
RRI2	Red Ridge	6.72	76	ePg	Pg	08 25 28.6	-18
ARUT	Antelope Range	6.76	127	ePn	Pn	08 25 14.8	0.0
CHMT	Chamberlain Mo	6.99	44	ePn	Pn	08 25 15.9	-2.1
DAU	Daniels Canyon	6.99	101	Pg	Pg	08 25 47.0	-4.9
TPAW	Teton Pass	7.01	75	P	Pn	08 25 30.4	+12
REDW	Red Top Meadow	7.06	76	P	Pn	08 25 28.9	+10
SNOW	Snow King Moun	7.15	75	eP	Pn	08 25 32.2	+12
MOOW	Moose Ponds	7.20	73	Pn	Pn	08 25 22.0	+1.0
LOHW	Long Hollow	7.28	74	P	Pn	08 25 28.4	+6.3

MAN 07 08:34:39.5, 8.48N×125.74E, h39km, mb4.3, ML3.1, MS2.9, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	Butuan	0.51	346	eP	P	08 34 50.6	+0.3
BUTP				eS	S	08 35 01.1	+3.3
BIPH	Bislig	0.68	115	⇓eP	P	08 34 53.0	+0.4
BIPH				eS	S	08 35 01.2	-1.0
BUKP	Musuan	0.90	229	eP	P	08 34 56.8	+1.0
BUKP				eS	S	08 35 11.3	+3.6
CGP	Cagayan de Oro	1.04	269	⇑iP	P	08 34 57.6	-0.1
CGP				i S	S	08 35 11.8	+0.5
SCPH	Surigao	1.32	349	eP	P	08 34 59.2	-2.6
SCPH				eS	S	08 35 16.5	-2.0
KCP	Kidapawan	1.59	204	⇓eP	P	08 35 05.7	0.0
KCP				i S	S	08 35 27.2	+2.0
TBP	Tagbilaran	2.22	303	eP	P	08 35 13.5	-1.1
TBP				eS	S	08 35 39.2	-1.7
PAGZ	Pagadian	2.42	255	eP	P	08 35 17.8	+0.3
BESP	Borongan	3.12	355	eP	P	08 35 28.1	+0.6

NAO 07 08:36:47.4±3.6, 59.35N×26.93E, ML2.4
BER 07 08:36:47.6±2.6, 59.35N×27.20E, ML2.4(NAO), Suspected explosion
HEL 07 08:36:46.1±0.3, 59.29N×26.97E, ML1.9, ML2.4(NAO), Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	Virojoki	1.29	13	eP	Pb	08 37 09.2	-1.7
VJF				eS	Sb	08 37 25.8	-2.1
PVF	Pernaja	1.38	337	eP	Pb	08 37 11.1	-1.3
PVF				eS	Sb	08 37 28.1	-2.4
FIA0	FINESS Array S	2.21	349	eP	Pn	08 37 23.9	-0.6
FIA0				eS	Sn	08 37 51.5	-1.3
FIA0	FINESS Array S	2.21	349	Pn	Pn	08 37 24.2	-0.2
	baz=165,slow=18						
FIA0				Lg		08 37 54.5	
	baz=171,slow=37						
FIA0				Rg		08 38 08.2	
	baz=160,slow=56						
KAF	Kangasniemi	2.85	354	eP	Pn	08 37 32.7	-1.0
KAF				eS	Sn	08 38 06.8	-2.4
SUF	Sumiainen	3.46	354	eP	Pn	08 37 41.0	-1.4
SUF				eS	Sn	08 38 22.4	-2.3
SUF				eSG	Sg	08 38 32.8	-8.7
SUF				MSG		08 38 34.8	
	comp=Z,2.3nm,0.3s						
HFS	Hagfors	6.77	283	eS	Sn	08 39 43.5	-4.5
HFS				e		08 40 18.4	
HFS	Hagfors	6.77	283	Sn	Sn	08 39 43.5	-4.5
	baz=98,slow=28						
HFS				Lg		08 40 18.4	
	baz=101,slow=37						
ARA0	ARCESS Array S	10.31	357	Pn	P	08 39 12.9	-5.2
	baz=179,slow=12						
ARA0	ARCESS Array S	10.31	357	eP	P	08 39 12.9	-5.2

IDC 07 08:39:27.3±1.4, 21.63N×143.10E, h320km±13km, mb3.7/21, mb1 3.9/22, mb1mx3.9/26, Error ellipse: s-maj=14.3km s-min=8.0km az=91.0
BJI 07 08:39:27.8, 21.68N×143.24E, h350km, mB4.3, mb4.2
NEIC 07 08:39:29.4±0.9, 21.62N×143.00E, h341km±9km, mb4.3/24, Error ellipse: s-maj=7.7km s-min=5.3km az=72.0
ISC 07 08:39:27.2±0.8, 21.64N±0.04×142.99E±0.07, h330km±7km, n80, σ0s96/84, mb4.1/45, 3D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	5.48	352	P	P	08 40 50.1	-1.8
	44nm,0.3s,baz=214,slow=4.8,SNR=26						
CBIJ				S	S	08 41 56.9	-1.5
	26nm,0.3s,baz=106,slow=23,SNR=8.1						
CBIJ	Chichi jima	5.48	352	P	P	08 40 50.5	-1.4
CBIJ				eS	S	08 41 58.1	-0.3
GUMO	Guam	8.21	167	ePn	P	08 41 25.5	+1.2
GUMO				e		08 41 34.1	
JWZ	Kozaga	13.48	333	P	P	08 42 29.1	+0.9
JOD2	Odawara 2	14.00	347	P	P	08 42 34.3	+0.1
JMN	Monobe	14.49	328	P	P	08 42 41.2	+1.6
JRY	Ryogami san	14.76	347	P	P	08 42 41.5	-1.1
JRY				eS	S	08 45 17.6	-1.4
JAD	Aida	15.35	332	P	P	08 42 49.9	+0.9
MAJO	Matsushiro	15.42	345	eP	P	08 42 48.9	-0.9
	12nm,0.5s						
MAT	Matsushiro	15.42	345	P	P	08 42 48.5	-1.3
MAT				S	S	08 45 33.8	+1.5
MAT	Matsushiro	15.42	345	eP	P	08 42 49.0	-0.8
MAT				eS	S	08 45 34.0	+1.7
JHS	Saijyo	15.88	329	P	P	08 42 54.7	-0.1
JMM	Marumori	16.28	354	P	P	08 43 01.7	+2.7
JSD	Sado	16.84	347	P	P	08 43 04.2	-0.6
JSD				eS	S	08 45 58.9	-0.9
JYA	Atsumi	17.13	351	P	P	08 43 11.9	+4.1
KS15	Wonju Array Si	20.47	324	eP	P	08 43 42.2	+1.2
NJ2	Nanjing	23.85	301	eP	P	08 44 13.5	+0.3
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.5						
MDJ	Mudanjiang	25.45	337	eP	P	08 44 28.3	+0.8
	comp=Z,6.6nm,0.8s,mb3.9						
CN2	Changchun	26.47	331	eP	P	08 44 39.1	+2.3
ENH	Enshi	31.24	293	eP	P	08 45 18.2	-0.6
	comp=Z,5.5nm,0.5s,mb4.0						
HIA	Hailar	33.18	332	eP	P	08 45 34.7	-0.6
	comp=Z,8.5nm,0.8s,mb4.0						
KMI	Kunming	37.02	283	eP	P	08 46 08.7	+1.0
KMI				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb3.6						
SONM	Songino Array	39.27	321	P	P	08 46 26.8	+0.8
	comp=Z,2.0nm,0.5s,mb3.6,baz=130,slow=7.9,SNR=12						
CMAR	Chiang Mai Arr	41.40	274	P	P	08 46 45.4	+1.6
	comp=Z,1.8nm,0.4s,mb3.6,baz=62,slow=7.4,SNR=9.6						
CTA	Charters Tower	41.59	175	P	P	08 46 45.1	-0.3
	comp=Z,4.3nm,0.6s,mb3.7,baz=355,slow=9.7,SNR=9.8						
CTAO	Charters Tower	41.59	175	eP	P	08 46 44.6	-0.8
	comp=Z,3.6nm,0.5s,mb3.8						
WRAB	Tennant Creek	42.17	192	P	P	08 46 50.9	+0.9
	comp=Z,69nm,0.4s,mb5.1,SNR=32						
WRAB	Tennant Creek	42.17	192	eP	P	08 46 49.5	-0.6
	comp=Z,9.5nm,0.6s,mb4.1						
WRA	Warramunga Arr	42.19	192	P	P	08 46 49.7	-0.5
	comp=Z,3.5nm,0.3s,mb3.9,baz=16,slow=9.3,SNR=146						
WRA				PcP	PcP	08 48 38.8	+0.6
	comp=Z,0.2nm,0.5s,baz=185,slow=7.7,SNR=3.5						
WRA				S	S	08 52 43.5	-1.7
	comp=Z,0.3nm,0.7s,baz=13,slow=15,SNR=5.3						
ASAR	Alice Springs	45.89	192	P	P	08 47 18.8	-0.7
	comp=Z,1.3nm,0.3s,mb3.5,baz=12,slow=6.8,SNR=23						
ASAR				S	S	08 53 37.1	-1.0
	comp=Z,0.6nm,0.7s,baz=22,slow=19,SNR=5.1						
WMQ	Urumqi	50.48	310	eP	P	08 47 54.4	+0.3
STKA	Stephens Creek	53.23	181	P	P	08 48 13.5	-1.0
	comp=Z,2.3nm,0.4s,mb3.8,baz=346,slow=7.9,SNR=12						
ZAL	Zalesovo	54.15	322	P	P	08 48 20.7	-0.1
	comp=Z,3.7nm,0.7s,mb3.9,baz=4.9,slow=6.9,SNR=15						
ZAL				PcP	PcP	08 49 19.9	-1.1
	comp=Z,3.2nm,0.4s,baz=0.7,slow=4.3,SNR=5.6						
MKAR	Makanchi Array	54.61	313	P	P	08 48 24.5	+0.3
	comp=Z,7.7nm,0.7s,mb4.1,baz=89,slow=8.6,SNR=62						
MKAR				PcP	PcP	08 49 22.5	-0.3
	comp=Z,1.9nm,0.3s,baz=75,slow=4.4,SNR=10						
MKAR	Makanchi Array	54.61	313	P	P	08 48 24.5	+0.3
MKAR				PcP	PcP	08 49 22.5	-0.3
KURK	Kurchatov	57.40	317	eP	P	08 48 43.3	-0.4
	comp=Z,14nm,0.8s,mb4.3						
AAK	Ala-Archa	60.06	308	eP	P	08 49 01.1	-0.9
	comp=Z,2.4nm,0.6s,mb3.8						
PMR	Palmer	60.69	31	eP	P	08 49 04.7	-1.2
	comp=Z,3.1nm,0.5s,mb4.0						
COLA	College	61.78	27	eP	P	08 49 12.3	-0.8
	comp=Z,1.7nm,0.7s,mb3.7						
ILAR	Eielson Array	62.17	27	P	P	08 49 14.2	-1.5
	comp=Z,3.1nm,0.8s,mb3.9,baz=257,slow=5.5,SNR=10						
BVAR	Borovoye Array	62.60	320	P	P	08 49 19.0	+0.4
	comp=Z,26nm,0.3s,mb5.2,baz=100,slow=7.7,SNR=190						
BVAR				PcP	PcP	08 49 53.9	-0.6
	comp=Z,2.2nm,0.5s,baz=90,slow=5.9,SNR=4.0						
BRVK	Borovoye	62.66	320	eP	P	08 49 19.0	0.0
	comp=Z,25nm,0.8s,mb4.8						
ZRNK	Zerenda	63.44	319	eP	P	08 49 24.0	0.0
	comp=Z,12nm,0.5s,mb4.7						
INK	Inuvik	67.69	24	P	P	08 49 49.1	-1.5
	comp=Z,1.5nm,0.5s,mb4.0,baz=300,slow=6.1,SNR=9.8						
INK	Inuvik	67.69	24	eP	P	08 49 49.0	-1.6
	comp=Z,3.7nm,0.8s,mb4.2						
DLBC	Dease Lake	70.27	34	P	P	08 50 07.7	+1.3
	comp=Z,1.5nm,0.7s,mb3.8,baz=328,slow=16,SNR=3.0						
DLBC	Dease Lake	70.27	34	P	P	08 50 07.7	+1.3
YKW3	Yellowknife Ar	76.56	28	eP	P	08 50 42.3	-0.5
YKA	Yellowknife Ar	76.59	28	P	P	08 50 42.8	-0.1
	comp=Z,3.7nm,0.5s,mb4.4,baz=292,slow=5.9,SNR=13						
YKA	Yellowknife Ar	76.59	28	P	P	08 50 42.8	-0.1
RES	Resolute Bay	77.17	13	P	P	08 50 45.9	0.0
	comp=Z,5.7nm,0.8s,mb4.3						
KEV	Kevo	78.36	341	ep	P	08 50 51.7	-0.7
ARCES	ARCESS Array B	78.92	341	P	P	08 50 56.0	+0.6
	comp=Z,24nm,1.0s,mb4.9,baz=75,slow=8.6,SNR=49						
ARCES	ARCESS Array B	78.92	341	P	P	08 50 56.0	+0.6
NEW	Newport	80.44	42	eP	P	08 51 04.0	+0.2
	comp=Z,5.7nm,0.8s,mb4.3						
NEW				e		08 51 17.9	
CMB	Columbia Colle	81.94	52	eP	P	08 51 11.8	0.0
	comp=Z,3.6nm,0.7s,mb4.3						
WALA	Waterton Lakes	82.10	40	P	P	08 51 13.1	+0.7
	comp=Z,3.5nm,0.7s,mb4.3						
KIV	Kislovodsk	82.33	314	eP	P	08 51 13.7	-0.1
	comp=Z,29nm,1.2s,mb5.0						
KAF	Kangasniemi	82.70	335	ep	P	08 51 13.8	-1.3
	comp=Z,3.5nm,0.5s,mb4.5						
FINES	FINESS Array B	83.16	334	P	P	08 51 17.1	-0.4
	comp=Z,5.2nm,0.4s,mb4.7,baz=69,slow=5.1,SNR=66						
NVAR	Mina Array Bea	83.32	51	P	P	08 51 19.7	+0.9
	comp=Z,2.1nm,0.6s,mb4.1,baz=272,slow=6.2,SNR=23						
HLID	Hailey	84.01	46	eP	P	08 51 23.0	+0.8
	comp=Z,3.1nm,1.1s,mb4.0						
TPH	Tonopah	84.24	51	eP	P	08 51 23.6	+0.1
	comp=Z,1.4nm,0.7s,mb3.9						
HRY	Holter Researc	84.35	42	eP	P	08 51 24.8	+1.0
QLMT	Earthquake Lak	85.42	43	eP	P	08 51 30.1	+1.1
SUMG	Summit	86.02	0	eP	P	08 51 32.6	+1.3
	comp=Z,5.6nm,0.8s,mb4.5						
AKASG	Malin Array Be	87.45	324	P	P	08 51 37.5	-1.1
	comp=Z,0.4nm,0.3s,mb3.7,baz=51,slow=5.2,SNR=5.6						
PDAR	Pinedale Array	87.56	45	P	P	08 51 39.7	+0.3
	comp=Z,0.4nm,0.5s,mb3.5,baz=180,slow=1.8,SNR=7.0						
HFS	Hagfors	88.71	337	P	P	08 51 43.4	-1.0
	comp=Z,2.5nm,0.4s,mb4.4,baz=90,slow=5.9,SNR=17						
NOA	NORSAR Array B	88.93	339	P	P	08 51 44.2	-1.2
	comp=Z,1.2nm,0.7s,mb3.8,baz=46,slow=4.6,SNR=3.6						
NOA	NORSAR Array B	88.93	339	P	P	08 51 44.2	-1.2
BRTR	Keskin Array B	90.25	313	P	P	08 51 51.1	-1.0
	comp=Z,0.9nm,0.6s,mb3.9,baz=94,slow=5.3,SNR=4.3						
PV01	Paradox Valley	90.38	48	eP	P	08 51 53.3	+0.6
RSSD	Black Hills	90.41	42	eP	P	08 51 52.9	+0.2
	comp=Z,2.2nm,0.5s,mb4.3						
ANMO	Albuquerque	93.39	50	P	P	08 52 07.6	+0.9
	comp=Z,0.6nm,0.7s,mb3.7						
TXAR	Lajitas Array	98.23	54	P	P	08 52 29.6	+0.8
	comp=Z,0.2nm,0.9s,mb3.3,baz=315,slow=3.8,SNR=3.1						
VNA2	Neumayer--Watz	127.75	192	⇓i	PKPdf	08 57 57.0	+4.0
VNA3	Neumayer Olymp	127.90	191	⇓i	PKPdf	08 57 56.7	+3.4
VNA1	Neumayer--Stat	128.14	192	⇓i	PKPdf	08 57 57.6	+3.8
LPAZ	La Paz	150.12	85	PKPbc	PKPdf	08 58 42.4	+8.1
	comp=Z,2.9nm,0.5s,baz=14,slow=3.6,SNR=3.6						

IDC 07 09:12:08.8±2.6, 18.35S×177.52W, mb3.5/3, mb1 3.9/3, mb1mx3.7/13, Error ellipse: s-maj=280.0km s-min=31.8km az=159.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	45.39	260	P	P	09 20 28.9	-2.3
	0.1nm,0.3s,baz=96,slow=6.9,SNR=7.9						
ASAR	Alice Springs	45.49	255	P	P	09 20 30.6	-1.4
	0.5nm,0.5s,baz=89,slow=8.5,SNR=12						
TXAR	Lajitas Array	85.51	57	P	P	09 24 49.3	-1.1
	0.5nm,0.8s,baz=222,slow=5.8,SNR=6.6						

IDC 07 09:15:44.0±1.4, 1.22N×127.53E, mb3.5/4, mb1 3.6/4, mb1mx3.6/15, MS3.5/2, Ms1 3.5/2, ms1mx2.9/12, Error ellipse: s-maj=128.0km s-min=20.9km az=70.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.07	163	P	P	09 20 40.8	-1.6
	0.4nm,0.4s,baz=342,slow=10,SNR=16						
JOW	Kunigami	25.48	2	LR	LR	09 28 56.4	
	comp=Z,442nm,21.8s,baz=137,slow=31						
ASAR	Alice Springs	25.50	166	P	P	09 21 14.2	-1.6
	0.2nm,0.5s,baz=357,slow=7.5,SNR=5.5						
CMAR	Chiang Mai Arr	32.86	303	LR	LR	09 35 26.9	
	comp=Z,20nm,19.9s,baz=205,slow=36						
SONM	Songino Array	49.91	341	P	P	09 24 39.6	-1.9
	0.3nm,0.7s,baz=154,slow=8.8,SNR=2.7						
MKAR	Makanchi Array	60.06	326	P	P	09 25 52.9	-2.4
	1.2nm,0.3s,baz=115,slow=8.0,SNR=23						

BER 07 09:41:15.3±1.1, 67.88N×20.12E, ML1.6, Suspected explosion
HEL 07 09:41:13.3±0.1, 67.81N×20.18E, ML2.0, ML2.2(UPP), ML1.9(BER), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.15	23	i P	Pg	09 41 15.8	-0.6
KUA				i S	Sg	09 41 17.9	-0.6
NIKU	Nikkaluokta	0.44	278	i P	Pg	09 41 21.1	-0.9
MASU	Masugnsbyn	0.79	116	i P	Pg	09 41 27.8	-1.2
KIF	Kilpisjarvi	1.22	11	eP	Pb	09 41 36.2	-0.7
KIF				eS	Sb	09 41 52.4	-0.7
KTK1	Kautokeino	1.65	42	eP	Pn	09 41 43.1	-0.6
KTK1				eSN	Sn	09 42 06.2	+0.2
KTK1				AML	AML	09 42 08.3	
	comp=Z,8.3nm,0.3s						
TRO	Tromso	1.88	347	eP	Pn	09 41 45.5	-1.6
TRO				eSG	Sg	09 42 11.6	-4.4
TRO				AML	AML	09 42 14.0	
	comp=Z,7.2nm,0.4s						
SGF	Sodankyl	2.46	96	eP	Pn	09 41 54.5	-0.8
SGF				eS	Sn	09 42 24.5	-1.9
LOF	Lofoten	2.52	280	eSG	Sg	09 42 33.4	-3.8
MELS	Mels	2.67	252	eSg	Sg	09 42 39.0	-3.4
MOR8	Moi Rana	2.79	236	eSG	Sg	09 42 37.2	-9.0
MOR8				AML	AML	09 42 38.0	
	comp=Z,13nm,0.3s						
KEV	Kevo	3.16	49	eP	Pn	09 42 04.3	-0.9
KEV				eS	Sn	09 42 41.5	-2.6
KEV				eSB	Sb	09 42 47.3	-2.1
KEV				MSG		09 42 48.7	
	comp=Z,4.4nm,0.3s						
OUL	Oulu	3.58	137	eP	Pn	09 42 09.8	-1.3
OUL				eS	Sn	09 42 51.0	-3.7
MSF	Maaselka	3.99	114	eP	Pn	09 42 15.6	-1.4
MSF				eS	Sn	09 43 01.0	-4.2

IDC 07 09:48:28.7±1.9, 6.79N×73.66W, Error ellipse: s-maj=59.8km s-min=19.0km az=105.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	El Rosal	2.04	199	Pg	Pg	09 49 06.6	-2.7
	44nm,0.3s,baz=18,slow=22,SNR=59						
ROSC				Lg		09 49 33.4	
	54nm,0.3s,baz=21,slow=22,SNR=12						
ASAR	Alice Springs	148.66	235	PKPbc	PKPdf	10 08 17.9	+1.2
	0.8nm,1.0s,baz=118,slow=3.6,SNR=5.7						
WRA	Warramunga Arr	149.85	242	PKPbc	PKPdf	10 08 21.5	+2.9
	0.2nm,0.5s,baz=106,slow=2.8,SNR=11						

TIF 07 10:48:40.5, 43.06N×44.28E, h10km, Mpv4.0, 3C-1D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	Oni	0.78	232	eP	Pb	10 48 58.4	+2.8
ONI				i S	Sb	10 49 09.8	+3.9
DUS	Dusheti	1.02	162	⇑iP	Pb	10 49 02.2	+2.5
DUS				i S	Sb	10 49 18.4	+5.5
MTA	Mtatsminda	1.42	164	⇑iP	Pn	10 49 09.2	+2.8
MTA				i S	Sb	10 49 31.8	+7.3
AKH	Akhalkalaki	1.75	200	⇑iP	Pn	10 49 15.0	+3.9
AKH				i S	Sn	10 49 39.8	+6.2
DGRG	David-gareji	1.80	153	⇓iP	Pn	10 49 16.7	+4.8
DGRG				i S	Sn	10 49 44.4	+9.5

IDC 07 10:54:01.3±0.8, 4.07S×142.35E, h78km±4km, mb3.9/5, mb1 4.1/7, mb1mx3.9/12, MS2.6/1, Ms1 2.6/1, ms1mx2.3/11, Error ellipse: s-maj=39.5km s-min=15.6km az=97.0
NEIC 07 10:54:05.3±1.9, 4.12S×142.16E, h113km±18km, mb4.4/7, Error ellipse: s-maj=16.9km s-min=11.3km az=119.0
ISC 07 10:54:03.2±3.0, 4.1S±0.1×142.0E±0.1, h104km±29km, n22, σ0s70/19, mb4.2/10, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.33	136	P	P	10 55 51.2	+2.1
PMG				S	S	10 57 11.2	0.0
	0.2nm,0.3s,baz=198,slow=14,SNR=2.8						
PMG				LR	LR	10 57 59.8	
	comp=Z,49nm,19.7s,baz=58,slow=33						
PMG	Port Moresby	7.33	136	ePn	P	10 55 48.9	-0.2
PMG				S	S	10 57 11.2	0.0
CTA	Charters Tower	16.42	166	P	P	10 57 48.1	-0.6
	0.1nm,0.3s,baz=334,slow=18,SNR=2.4						
WRAB	Tennant Creek	17.43	205	P	P	10 58 00.9	-0.4
	341nm,0.4s,SNR=22						
WRAB	Tennant Creek	17.43	205	eP	P	10 58 00.7	-0.7
	54nm,0.6s						
WRA	Warramunga Arr	17.44	205	P	P	10 58 01.0	-0.5
	6.3nm,0.3s,baz=19,slow=12,SNR=84						
WRA				pP		10 58 15.4	
	1.9nm,0.3s,baz=25,slow=14,SNR=6.7						
ASAR	Alice Springs	20.98	201	P	P	10 58 40.0	+0.2
	12nm,0.6s,baz=30,slow=10.0,SNR=128						
ASAR				sP		10 59 03.8	
	6.8nm,0.6s,baz=32,slow=10,SNR=4.5						
ASAR				tx	tx	10 59 16.3	
	6.8nm,0.7s,baz=27,slow=9.8,SNR=7.3						
MBWA	Marble Bar	27.52	230	eP	P	10 59 42.8	+0.6
	7.0nm,0.8s,mb4.2						
STKA	Stephens Creek	27.64	181	P	P	10 59 43.1	-0.1
	1.7nm,0.6s,mb3.8,baz=22,slow=20,SNR=4.0						
PALK	Pallekele	62.24	280	P	P	11 04 16.7	-0.1
	5.5nm,0.8s,mb4.6						
MKAR	Makanchi Array	72.92	322	P	P	11 05 23.9	+0.9
	1.7nm,0.7s,mb4.0,baz=108,slow=7.7,SNR=12						
MKAR				pP	pP	11 05 44.0	-5.6

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	0.3nm,0.6s,baz=104,slow=5.9,SNR=2.7						
MKAR				sP	sP	11 05 52.8	-7.9
	0.5nm,0.6s,baz=129,slow=7.8,SNR=3.7						
MAW	**Mawson**	**82.10**	**202**	P	**P**	**11 06 12.9**	**-0.4**
	0.5nm,0.4s,mb3.7,baz=79,slow=16,SNR=3.4						
BRVK	**Borovoye**	**82.42**	**325**	eP	**P**	**11 06 15.0**	**-0.2**
	3.7nm,0.6s,mb4.4						
ZRNK	**Zerenda**	**83.13**	**324**	eP	**P**	**11 06 19.3**	**+0.5**
	3.0nm,0.9s,mb4.1						
COLA	**College**	**85.37**	**24**	eP	**P**	**11 06 29.3**	**-0.4**
	3.9nm,0.9s,mb4.3						
ILAR	**Eielson Array**	**85.73**	**24**	P	**P**	**11 06 30.0**	**-1.4**
	1.4nm,0.6s,mb4.1,baz=260,slow=4.5,SNR=25						
ILAR				pP	pP	11 06 51.9	-6.9
	0.2nm,0.7s,baz=248,slow=3.5,SNR=1.5						
ILAR				sP	sP	11 07 00.8	-9.2
	0.4nm,0.5s,baz=266,slow=4.3,SNR=2.7						
QSPA	**South Pole Qui**	**85.86**	**180**	eP	**P**	**11 06 32.9**	**+1.1**
	3.3nm,0.9s,mb4.3						
EBR	**Ebro Roquetas**	**129.72**	**322**	eRs		11 12 38.0	
LPAZ	**La Paz**	**143.94**	**125**	PKP	PKPdf	11 13 28.9	+1.7
	3.5nm,0.4s,baz=288,slow=2.3,SNR=27						
LPAZ	**La Paz**	**143.94**	**125**	ePKPdf	PKPdf	11 13 29.1	+1.8
DBIC	**Dimbokro**	**146.94**	**276**	PKPbc	PKPbc	11 13 36.5	+2.2
	2.5nm,0.6s,baz=44,slow=6.5,SNR=7.3						
DBIC	**Dimbokro**	**146.94**	**276**	PKPbc	PKPbc	11 13 36.5	+2.2

IDC 07 12:03:54.8±5.0**,5.66S**×**146.07E,mb3.6**/3**,mb1 3.8**/4**, mb1mx3.6**/12**,ML3.9**/1**,Error ellipse: s-maj=143.0km s-min=32.9km az=105.0,Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.21**	**218**	P	P	12 08 11.0	+0.1
	0.4nm,0.3s,baz=38,slow=11,SNR=17						
ASAR	**Alice Springs**	**21.40**	**212**	P	P	12 08 43.9	-2.5
	1.0nm,0.8s,baz=37,slow=11,SNR=22						
FITZ	**Fitzroy Crossi**	**23.48**	**236**	P	P	12 09 05.0	-2.1
	0.6nm,0.3s,baz=48,slow=14,SNR=6.9						
MKAR	**Makanchi Array**	**76.65**	**321**	P	P	12 15 48.2	-1.1
	1.7nm,1.1s,baz=117,slow=5.4,SNR=4.2						

*CSEM **07** 12:09:08.1,12.15N×43.45E,h18km,ML3.8,After DHMR*

DHMR 07 12:09:07.6±0.6**,12.21N**×**43.41E,h6**km±10km**,ML3.9,3D, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
UDYN	**Al 'Udayn**	**1.84**	**18**	⇓iP	Pn	12 09 40.9	+0.9
UDYN				AML	AML	12 09 48.5	
	comp=Z,1µm,0.5s						
UDYN				iS	Sn	12 10 06.1	+2.4
UDYN	**Al 'Udayn**	**1.84**	**18**	⇓iP	Pn	12 09 40.8	+0.9
UDYN				iS	Sn	12 10 06.1	+2.4
LBOS		**2.44**	**47**	iP	Pn	12 09 49.8	+1.3
LBOS				iS	Sn	12 10 23.7	+4.7
BDHA	**Al Bayda'**	**2.74**	**50**	iP	Pn	12 09 55.1	+2.3
BDHA				iS	Sn	12 10 31.9	+5.4
BDHA	**Al Bayda'**	**2.74**	**50**	iP	Pn	12 09 55.2	+2.4
BDHA				iS	Sn	12 10 29.7	+3.1
HAJJ	**Hajjah**	**3.47**	**3**	⇓iP	Pn	12 10 04.9	+1.6
HAJJ				iS	Sn	12 10 49.6	+4.4

GUC 07 12:11:46.7±0.8**,32.01S**×**71.39W,h30**km±7km**,MD3.5, ML2.4,1C,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.53**	**185**	⇑iP	Pb	12 11 57.4	-0.1
PACH				iS	Sb	12 12 05.6	+0.7
RCDM	**Rinconada Maip**	**1.55**	**162**	eP	Pn	12 12 13.2	+0.4
RCDM				iS	Sn	12 12 33.4	+1.3
FCH	**Farellones**	**1.60**	**145**	eP	Pn	12 12 14.2	+0.7
FCH				iS	Sn	12 12 36.5	+3.1
FCH				AMP		12 12 36.9	
	comp=E,52nm,0.2s						
TLL	**Tololo Astrono**	**1.91**	**15**	eP	Pn	12 12 18.9	+1.1
TLL				iS	Sn	12 12 43.9	+2.8
TLL				AMP		12 12 47.6	
	comp=E,72nm,0.6s						
CHCH	**Chadas Angostu**	**2.01**	**162**	eP	Pn	12 12 20.0	+0.7
CHCH				iS	Sn	12 12 44.2	+0.4
CICH	**Cipreses**	**2.44**	**161**	eP	Pn	12 12 26.2	+0.7

IDC 07 12:12:24.5±2.6**,6.22S**×**130.15E,mb3.6**/1**,mb1 3.9**/4**, mb1mx3.6**/12**,ML3.6**/3**,MS2.9**/2**,Ms1 2.9**/2**,ms1mx2.7**/10**, Error ellipse: s-maj=114.0km s-min=29.3km az=77.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.61**	**200**	Pn	P	12 15 25.1	-2.9
	0.2nm,0.3s,baz=18,slow=18,SNR=7.5						
FITZ				Sn	S	12 17 30.4	-20
	0.2nm,0.3s,baz=194,slow=19,SNR=3.5						
WRA	**Warramunga Arr**	**14.24**	**164**	Pn	P	12 15 47.7	-2.1
	0.5nm,0.3s,baz=337,slow=12,SNR=16						
WRA				Sn	S	12 18 12.6	-17
	0.4nm,0.3s,baz=332,slow=22,SNR=7.3						
WRA				LR	LR	12 21 01.5	
	comp=Z,37nm,20.8s,baz=225,slow=36						
PMG	**Port Moresby**	**17.15**	**102**	LR	LR	12 23 30.6	
	comp=Z,67nm,20.0s,baz=340,slow=39						
ASAR	**Alice Springs**	**17.72**	**169**	P	P	12 16 32.9	-1.6
	0.3nm,0.3s,baz=351,slow=12,SNR=22						
ASAR				S	S	12 19 39.6	-11
	0.1nm,0.3s,baz=347,slow=28,SNR=4.8						
MKAR	**Makanchi Array**	**67.65**	**327**	P	P	12 23 23.5	-2.1
	0.3nm,0.4s,baz=130,slow=7.6,SNR=4.0						

IDC 07 12:52:45.9±13.0**,18.40S**×**177.82W,h559**km±135km**, mb2.9**/4**,mb1 3.2**/4**,mb1mx3.0**/13**,Error ellipse: s-maj=138.0km s-min=46.7km az=131.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.89**	**242**	P	P	12 59 24.5	-0.6
	1.5nm,0.6s,baz=51,slow=6.5,SNR=3.7						
WRA	**Warramunga Arr**	**45.10**	**260**	P	P	13 00 12.6	-1.8
	0.6nm,0.4s,baz=98,slow=7.1,SNR=17						
ASAR	**Alice Springs**	**45.20**	**255**	P	P	13 00 13.6	-1.6
	2.5nm,0.9s,baz=93,slow=7.5,SNR=35						
ASAR				PcP	PcP	13 01 41.9	-1.8
	0.4nm,0.6s,baz=102,slow=4.1,SNR=6.7						
ILAR	**Eielson Array**	**86.24**	**13**	P	P	13 04 28.0	-1.0
	0.3nm,0.7s,baz=215,slow=5.0,SNR=6.0						

*IDC **07** 12:54:54.2±0.5,28.38N×57.36E,mb5.0/23,mb1 5.1/24, mb1mx5.1/24,ML4.6/1,MS4.1/17,Ms1 4.1/17, ms1mx4.0/23,Error ellipse: s-maj=16.4km s-min=11.2km az=25.0*
*BJI **07** 12:54:54.4,28.18N×56.51E,h66km,mB5.2,mb5.5,Ms4.7, Msz4.4*
*THR **07** 12:54:55.8±0.3,28.39N×57.26E,h14km±4km,ML5.0*
*DHMR **07** 12:54:56.5±3.4,28.29N×57.24E,h58km±999km,mb5.3*
*MOS **07** 12:54:57.8±0.9,28.45N×57.27E,h33km,mb5.4/18, MS4.3/4,Error ellipse: s-maj=10.5km s-min=5.1km az=120.8*
*CSEM **07** 12:55:00.0±0.1,28.35N×57.29E,h62km,mb5.2/99, ML5.9/1,Ms3.9,Error ellipse: s-maj=2.8km s-min=1.5km az=18.0*
*NEIC **07** 12:55:01.0±0.6,28.33N×57.31E,h56km±4km,mb5.3/132, Error ellipse: s-maj=5.0km s-min=3.2km az=188.0*
*HRVD **07** 12:55:02.2±0.3,28.14N×57.34E,h12km,MW5.0/58, Centroid moment Tensor Solution. LP body waves: s25,c41;Mantle waves: s58,c92; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.72±.18; $M_{\theta\theta}$3.52±.12; $M_{\phi\phi}$-1.80±.18; $M_{r\theta}$-0.36±.38; $M_{\theta\phi}$2.09±.13; $M_{\phi r}$0.82±.56; Best double couple: $M_0$3.67×10^{16} NP1:ϕ_s211°,δ67°, λ-156°. NP2:ϕ_s111°,δ68°,λ-25°. Principal axes: T 4.24, Plg1°, Azm161°; N -1.14, Plg57°, Azm252°; P -3.1, Plg33°, Azm71°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NIC **07** 12:55:03.2±0.4,28.44N×57.18E,h50km,Earthquake Southern Iran 25 km S Zeyaralgah-e.*

ISC 07 12:54:57.7±0.4**,28.27N**±0.03×**57.29E**±0.01**,h41**km±3km**, h68**km±5.4km**:pP-P,n756,**σ**1.05**/769**,mb5.2**/187**,MS4.2**/30**, 40C-29D,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.31**	**229**	iPG	**P**	**12 55 21.4**	**+1.4**
BNDS				AMP		12 55 45.3	
	comp=E,25µm,0.6s						
BNDS				AMP		12 55 47.0	
	comp=N,19µm,0.7s						
KRBR	**Kerman**	**1.77**	**345**	iPG	**P**	**12 55 26.2**	**-0.2**
KRBR				AMP		12 56 02.7	
	comp=N,20µm,0.8s						
KRBR				AMP		12 56 04.5	
	comp=E,20µm,0.8s						
KRBR	**Kerman**	**1.77**	**345**	iSg	**S**	**12 55 48.8**	**+0.9**
	comp=E,23µm,0.7s						
ZHSF	**Zahedan**	**3.34**	**66**	ePN	**P**	**12 55 49.4**	**+0.7**
ZHSF	**Zahedan**	**3.34**	**66**	⇑ePn	**P**	**12 55 49.7**	**+1.0**
ZHSF				Sn	**S**	**12 56 27.8**	**+0.2**
IBAF	**Bafgh**	**3.63**	**336**	Pn	**P**	**12 55 54.2**	**+1.3**
GHIR	**Ghir-Karzin**	**3.79**	**271**	ePN	**P**	**12 55 55.7**	**+0.5**
GHIR				AMP		12 57 11.1	
	comp=N,2µm,0.6s						
GHIR				AMP		12 57 28.6	
	comp=E,2µm,0.8s						
GHIR	**Ghir-Karzin**	**3.79**	**271**	⇑iPn	**P**	**12 55 55.5**	**+0.3**
GHIR				Sn	**S**	**12 56 37.1**	**-2.0**
ISRV	**Sarvestan**	**3.83**	**288**	Pn	**P**	**12 55 56.8**	**+1.1**
IMEH	**Mehriz**	**3.88**	**324**	Pn	**P**	**12 55 58.0**	**+1.5**
IPAR	**Pars**	**4.03**	**294**	Pn	**P**	**12 55 59.8**	**+1.3**
IMOK	**Mook**	**4.09**	**282**	Pn	**P**	**12 56 00.3**	**+0.9**
SHI	**Shiraz**	**4.40**	**289**	Pn	**P**	**12 56 04.5**	**+0.7**
ICHK	**Chekchek**	**4.68**	**329**	Pn	**P**	**12 56 08.7**	**+0.9**
ISAD	**Sadrabad**	**4.79**	**320**	Pn	**P**	**12 56 10.4**	**+1.1**
NASN	**Na'in**	**5.94**	**321**	ePn	**P**	**12 56 23.7**	**-1.7**
NASN				Sn	**S**	**12 57 27.3**	**-5.9**
IVRN	**Varamin**	**8.21**	**326**	Pn	**P**	**12 56 58.0**	**+0.9**
QRN	**Al-Qurain**	**8.26**	**276**	eP	**P**	**12 56 54.6**	**-3.2**
SHGR	**Shooshtar-Gavs**	**8.28**	**300**	ePn	**P**	**12 56 56.2**	**-1.9**
KBD	**Kabd**	**8.47**	**278**	eP	**P**	**12 56 58.3**	**-2.5**
RDF	**Al-Radifah**	**8.59**	**277**	eP	**P**	**12 56 59.5**	**-2.8**
RDF				AML	AML	12 58 35.7	
	comp=Z,220nm,0.5s						
DAMV	**Damavand**	**8.62**	**330**	ePn	**P**	**12 57 00.8**	**-1.9**
DAMV				Sn	**S**	**12 58 31.5**	**-8.2**
ASAO	**Ashtian**	**8.81**	**317**	ePn	**P**	**12 57 03.4**	**-2.0**
ASAO				Sn	**S**	**12 58 36.8**	**-7.7**
IAFJ	**Afjeh**	**8.92**	**329**	Pn	**P**	**12 57 07.9**	**+1.0**
RST	**Umm Al-Ruwaisa**	**9.10**	**280**	eP	**P**	**12 57 06.7**	**-2.7**
RST				AML	AML	12 58 46.0	
	comp=Z,108nm,0.4s						
THKV	**Tehran--Karaj**	**9.36**	**326**	ePn	**P**	**12 57 10.6**	**-2.4**
THKV				Sn	**S**	**12 58 48.7**	**-9.4**
SNGE	**Sanandaj**	**10.86**	**311**	Sn	**S**	**12 59 25.9**	**-8.8**
RAYN	**Ar Rayn**	**11.61**	**249**	Pn	**P**	**12 57 38.7**	**-5.0**
	comp=Z,1µm,0.9s						
MZLS	**Mizel**	**11.64**	**251**	P	**P**	**12 57 38.8**	**-5.3**
DRP	**Derazinda**	**11.72**	**70**	P	**P**	**12 57 48.6**	**+3.4**
BHJ	**Bhuj**	**12.21**	**111**	eP	**P**	**12 57 51.2**	**-0.6**
SBDP	**Sheikh Budin**	**12.36**	**68**	P	**P**	**12 57 54.0**	**+0.3**
GRMI	**Germi**	**13.10**	**326**	ePn	**P**	**12 58 02.6**	**-1.0**
THW	**Thamme Wali**	**13.25**	**67**	P	**P**	**12 58 04.9**	**-0.7**
AFFS	**'Afif**	**13.54**	**255**	P	**P**	**12 58 04.8**	**-4.7**
CEP	**Cherat**	**13.70**	**63**	P	**P**	**12 58 12.3**	**+0.8**
HILS	**Ha'il**	**13.74**	**270**	P	**P**	**12 58 07.4**	**-4.7**
MSL	**Mosul**	**14.42**	**307**	eP	**P**	**12 58 19.5**	**-1.4**
CHCP	**Chirah Chowk**	**14.72**	**65**	P	**P**	**12 58 24.4**	**-0.4**
MAKU	**Maku**	**15.21**	**320**	ePn	**P**	**12 58 31.9**	**+0.6**
TVAN	**Van**	**15.45**	**315**	iP	**P**	**12 58 37.2**	**+3.0**
AJM	**Ajmer**	**15.52**	**93**	iP	**P**	**12 58 35.0**	**-0.3**
GNI	**Garni**	**15.73**	**322**	eP	**P**	**12 58 41.0**	**+3.1**
	comp=Z,305nm,1.1s						
MUKL	**Al Mukalla**	**15.90**	**211**	⇓eP	**P**	**12 58 34.2**	**-6.0**
KHET	**Khetri**	**16.34**	**86**	eP	**P**	**12 58 43.8**	**-1.8**
KHET				e		12 58 50.8	
	comp=Z,130nm,1.2s						
THN	**Thein Dam**	**16.44**	**71**	eP	**P**	**12 58 45.7**	**-1.2**
	comp=Z,14nm,0.8s						
BEST	**Besiri**	**16.48**	**310**	iP	**P**	**12 58 44.3**	**-3.1**
RTK	**Rohtak**	**16.81**	**83**	eP	**P**	**12 58 50.2**	**-1.4**
RTK				e		12 58 55.5	
	comp=Z,366nm,1.0s						
TI2	**Plekhanov**	**16.89**	**326**	iP	**P**	**12 58 55.0**	**+2.6**
BHK	**Bhakra**	**16.89**	**75**	e	**P**	**12 59 04.3**	**+12**
KUDL	**Kundal**	**16.93**	**86**	eP	**P**	**12 58 51.8**	**-1.3**
KUDL				e		12 58 58.4	
	comp=Z,114nm,1.3s						
BHGR	**Bahadurgarh**	**17.29**	**84**	eP	**P**	**12 58 56.6**	**-1.0**
SONA	**Sohna**	**17.44**	**85**	eP	**P**	**12 58 58.5**	**-1.1**
SONA				e		12 59 03.2	
	comp=Z,231nm,1.1s						
AYAN	**Aya Nagar**	**17.46**	**85**	eP	**P**	**12 58 58.6**	**-1.2**
AYAN				e		12 59 03.6	
	comp=Z,259nm,1.3s						
NDI	**New Delhi**	**17.53**	**84**	eP	**P**	**12 58 57.5**	**-3.1**
NDI				e		13 02 05.5	
ERZM	**Erzurum**	**17.54**	**316**	iP	**P**	**12 59 03.3**	**+2.7**
HAJJ	**Hajjah**	**17.80**	**228**	⇑eP	**P**	**12 59 00.1**	**-3.9**
HAJJ				AMb	AMB	12 59 01.5	
	comp=Z,249nm,0.6s						
HAJJ	**Hajjah**	**17.80**	**228**	⇓eP	**P**	**12 59 00.7**	**-3.4**
BDHA	**Al Bayda'**	**17.92**	**220**	⇓eP	**P**	**12 59 01.8**	**-3.7**
BDHA	**Al Bayda'**	**17.92**	**220**	⇑iP	**P**	**12 59 01.6**	**-3.9**
POO	**Poona**	**18.01**	**119**	eP	**P**	**12 59 05.5**	**-1.2**
POO				e		12 59 09.3	
	comp=Z,83nm,1.7s						
ASOR	**Ausora**	**18.01**	**84**	eP	**P**	**12 59 07.9**	**+1.2**
ASF	**Jabal al Asfar**	**18.04**	**287**	P	**P**	**12 59 05.7**	**-1.3**
	comp=Z,1.8nm,0.3s,baz=342,slow=3.4,SNR=42						
ASF				S	**S**	**13 02 21.7**	**-2.2**
	comp=Z,1.0nm,0.3s,baz=339,slow=22,SNR=6.1						
ASF				LR	LR	13 07 46.8	
	comp=Z,1µm,18.4s,baz=332,slow=43						
LBOS		**18.18**	**220**	⇓eP	**P**	**12 59 04.8**	**-4.0**
LBOS				AMb	AMB	12 59 08.3	
	comp=Z,253nm,2.3s						
DDI	**Dehra Dun**	**18.23**	**79**	e	**P**	**12 59 07.0**	**-2.4**
AGRA	**Agra**	**18.32**	**88**	eP	**P**	**12 59 09.2**	**-1.3**
ELZG	**Elazig**	**18.35**	**308**	iP	**P**	**12 59 10.9**	**+0.2**
BCA	**Borcka**	**18.35**	**320**	P	**P**	**12 59 11.1**	**+0.3**
KLP	**Kalpa**	**18.46**	**75**	eP	**P**	**12 59 12.1**	**-0.1**
KLP				e		12 59 14.2	
	comp=Z,92nm,1.0s						
MYA	**Malataya**	**18.66**	**307**	P	**P**	**12 59 16.1**	**+1.6**
BHPL	**Bhopal**	**18.81**	**101**	eP	**P**	**12 59 15.8**	**-0.7**
BHPL				e		12 59 21.5	
	comp=Z,121nm,1.7s						
JMQS	**Jabal Moqyreh**	**18.82**	**277**	P	**P**	**12 59 15.3**	**-1.2**
GZT	**Gaziantep**	**18.86**	**304**	iP	**P**	**12 59 17.6**	**+0.6**
KAD	**Karad**	**18.99**	**121**	eP	**P**	**12 59 19.2**	**+0.6**
KAD				e		12 59 21.8	
	comp=Z,80nm,1.3s						
GUMT	**Gumushane**	**19.04**	**314**	P	**P**	**12 59 19.5**	**+0.5**
GAZ	**Gaziantep**	**19.06**	**303**	P	**P**	**12 59 20.1**	**+0.9**
KSH	**Kashi**	**19.11**	**49**	P	**P**	**12 59 20.0**	**+0.3**
KSH				PP	PP	12 59 38.8	+2.0
KSH				S	**S**	**13 02 48.2**	**+0.5**
KSH				AMB	AMB		
	comp=Z,360nm,5.5s						
KSH				LR	LR		
	comp=N,3µm,9.0s						
KSH				LR	LR		
	comp=E,1µm,6.6s						
HRI	**Mount Hermon**	**19.17**	**290**	P	**P**	**12 59 20.3**	**-0.2**
HMDT	**Nahal Hemdat**	**19.21**	**287**	P	**P**	**12 59 20.4**	**-0.5**
AML	**Almayashu**	**19.22**	**40**	P	**P**	**12 59 21.1**	**+0.2**
	SNR=37						
DRGI	**Dragot**	**19.26**	**285**	P	**P**	**12 59 20.8**	**-0.7**
MZDA	**Masada**	**19.27**	**284**	P	**P**	**12 59 20.8**	**-0.8**
MMLI	**Mount Malkishu**	**19.32**	**288**	P	**P**	**12 59 22.1**	**0.0**
ZFRI	**Zfri**	**19.39**	**282**	P	**P**	**12 59 22.7**	**-0.3**
AKL	**Akola**	**19.45**	**108**	i	**P**	**12 59 30.2**	**+6.5**
	comp=E,138nm,1.1s						
AKL				i		12 59 36.5	
JMOS	**Jabal al Moall**	**19.47**	**278**	P	**P**	**12 59 23.4**	**-0.5**
KAHT	**Ahir Dag**	**19.48**	**304**	iP	**P**	**12 59 24.7**	**+0.8**
ALWS	**Ilw as Safayha**	**19.50**	**278**	P	**P**	**12 59 25.0**	**+0.8**
BDAS	**Al Bad'**	**19.53**	**276**	P	**P**	**12 59 23.9**	**-0.6**
JOSI	**Joshimath**	**19.53**	**78**	eP	**P**	**12 59 24.7**	**+0.2**
PRNI	**Paran**	**19.54**	**281**	P	**P**	**12 59 24.2**	**-0.4**
COBT	**Iskenderun**	**19.55**	**300**	iP	**P**	**12 59 25.4**	**+0.7**
KIV	**Kislovodsk**	**19.55**	**327**	c iP	**P**	**12 59 25.3**	**+0.6**
KIV				pmax	pmax		
	comp=Z,156nm,1.3s						
KIV				MLR	MLR		
	comp=N,130nm,18.0s						
KIV				MLR	MLR		
	comp=E,124nm,18.0s						
KIV				MLR	MLR		
	comp=Z,219nm,18.0s						
KIV	**Kislovodsk**	**19.55**	**327**	eP	**P**	**12 59 25.2**	**+0.6**
	comp=Z,157nm,0.9s						
KIV	**Kislovodsk**	**19.55**	**327**	eP	**P**	**12 59 25.2**	**+0.5**
	comp=Z,157nm,0.9s						
EIL	**Elat**	**19.59**	**279**	P	**P**	**12 59 26.2**	**+1.0**
HNTI	**Hanita**	**19.61**	**290**	P	**P**	**12 59 25.1**	**-0.2**
EKS2	**Erkin-Say**	**19.61**	**39**	P	**P**	**12 59 25.9**	**+0.6**
	SNR=56						
SLTI	**Sal'it**	**19.61**	**287**	P	**P**	**12 59 25.4**	**0.0**
HAQS	**Haql**	**19.64**	**278**	P	**P**	**12 59 25.2**	**-0.4**
HAF	**Haifa**	**19.69**	**289**	P	**P**	**12 59 25.8**	**-0.4**
OFRI	**'Ofer**	**19.70**	**288**	P	**P**	**12 59 25.9**	**-0.5**
UCH	**Uchtor**	**19.75**	**41**	P	**P**	**12 59 27.0**	**+0.3**
	SNR=30						
KMTI	**Karmit**	**19.78**	**281**	P	**P**	**12 59 26.5**	**-0.7**
AAK	**Ala-Archa**	**19.99**	**40**	P	**P**	**12 59 30.3**	**+0.9**
	SNR=40						
AAK	**Ala-Archa**	**19.99**	**40**	d iP	**P**	**12 59 28.9**	**-0.5**
AAK	**Ala-Archa**	**19.99**	**40**	eP	**P**	**12 59 28.8**	**-0.7**
	comp=Z,104nm,0.8s						
AAK	**Ala-Archa**	**19.99**	**40**	eP	**P**	**12 59 28.8**	**-0.6**
	comp=Z,104nm,0.8s						
KZIT	**Kziot**	**20.07**	**283**	P	**P**	**12 59 29.8**	**-0.6**
KZA	**Kyzart**	**20.08**	**42**	P	**P**	**12 59 31.5**	**+1.2**
	SNR=11						
CEYT	**Ceyhan**	**20.09**	**301**	P	**P**	**12 59 28.9**	**-1.6**
PTH	**Pithoragarh**	**20.11**	**81**	eP	**P**	**12 59 29.0**	**-1.8**
PTH				e		13 03 02.6	
LGTI	**Lohaghat**	**20.14**	**81**	⇑iP	**P**	**12 59 29.5**	**-1.6**
FRU	**Bishkek**	**20.19**	**39**	eP	**P**	**12 59 34.0**	**+2.5**
LATR	**Latur**	**20.20**	**115**	eP	**P**	**12 59 34.0**	**+2.2**
GOF	**Gofitskoye**	**20.23**	**330**	⇓iP	**P**	**12 59 31.5**	**-0.4**
GOF				pmax	pmax		
	comp=Z,150nm,1.2s						
KBK	**Karagaybulak**	**20.27**	**40**	P	**P**	**12 59 33.6**	**+1.3**
	SNR=36						
CHMS	**Chumysh**	**20.37**	**39**	P	**P**	**12 59 34.4**	**+1.0**
	SNR=15						
SVSK	**Karacayir**	**20.38**	**310**	P	**P**	**12 59 33.8**	**+0.3**
USP	**Ospenovka**	**20.41**	**38**	P	**P**	**12 59 33.6**	**-0.1**
	SNR=19						
BNN	**Bunyan**	**20.71**	**306**	P	**P**	**12 59 37.9**	**+1.0**
ULHL	**Ulahol**	**20.77**	**43**	P	**P**	**12 59 38.5**	**+0.9**
	SNR=13						
TKM2	**Tokmak 2**	**20.80**	**41**	P	**P**	**12 59 38.4**	**+0.5**
	SNR=34						
SOC	**Sochi**	**20.82**	**322**	eP	**P**	**12 59 36.8**	**-1.2**
SOC				e		12 59 59.9	
SOC				eS	**S**	**13 03 18.0**	**-4.9**
SOC				e		13 03 39.4	
SOC				eSS	SS	13 03 53.2	-2.7
SOC				eSSS	SSS	13 04 08.2	-2.7
SOC				pmax	pmax		
	comp=N,88nm,0.9s						
SOC				pmax	pmax		
	comp=Z,97nm,0.9s						
SOC				pmax	pmax		
	comp=E,68nm,1.1s						
SOC				MLR	MLR		
	comp=Z,310nm,12.0s,MS3.9						
SOC				MLR	MLR		
	comp=N,302nm,11.0s,MS3.9						
SOC				MLR	MLR		
	comp=E,172nm,14.0s,MS3.9						
TOKT	**Tokat**	**20.88**	**311**	P	**P**	**12 59 37.5**	**-1.1**
NGP	**Nagpur**	**20.98**	**105**	e	**P**	**12 59 45.8**	**+6.0**
NGP				e		13 03 38.6	
MEST	**Erdemli**	**21.19**	**299**	iP	**P**	**12 59 42.1**	**+0.3**
NIG	**Nigde**	**21.32**	**303**	P	**P**	**12 59 45.2**	**+2.1**
AVNT	**Avonos**	**21.39**	**305**	iP	**P**	**12 59 45.7**	**+1.9**
YOZ	**Yozgat**	**21.41**	**308**	P	**P**	**12 59 44.8**	**+0.8**
CSS	**Prodhromos**	**21.44**	**294**	P	**P**	**12 59 44.8**	**+0.5**
	comp=E,3.0nm,1.0s						
CSS	**Prodhromos**	**21.44**	**294**	eP	**P**	**12 59 44.7**	**+0.4**
	comp=E,145nm,0.7s,mb5.4						
CSS	**Prodhromos**	**21.44**	**294**	eP	**P**	**12 59 44.7**	**+0.4**
	comp=E,145nm,0.7s,mb5.4						
IKL	**Isikli**	**21.45**	**298**	P	**P**	**12 59 42.0**	**-2.4**
SZAC	**Souni-Zanaja**	**21.76**	**293**	⇓iP	**P**	**12 59 48.6**	**+1.1**
	comp=E,4.1nm,0.7s						
LEF	**Lefka**	**21.82**	**294**	P	**P**	**12 59 46.7**	**-1.4**
ALFC	**Alevga**	**22.07**	**294**	P	**P**	**12 59 51.7**	**+1.2**
CTKT	**Corum**	**22.20**	**310**	iP	**P**	**12 59 52.1**	**+0.2**
HYB	**Hyderabad**	**22.34**	**114**	iP	**P**	**12 59 53.5**	**+0.1**
	comp=E,120nm,1.0s,mb5.3						
HYB				ePP	PP	13 00 22.0	+0.8
HYB				eS	**S**	**13 04 00.0**	**+8.6**
HYB	**Hyderabad**	**22.34**	**114**	eP	**P**	**12 59 53.5**	**+0.1**
	comp=E,120nm,1.0s,mb5.3						
HYB				eS	**S**	**13 04 00.0**	**+8.6**
KAMT	**Kaman**	**22.43**	**306**	P	**P**	**12 59 54.7**	**+0.5**
BOYT	**Boyabat**	**22.50**	**312**	iP	**P**	**12 59 54.2**	**-0.5**
HDMB	**Hadim**	**22.57**	**299**	P	**P**	**12 59 58.6**	**+3.0**
BRTR	**Keskin Array B**	**22.62**	**306**	P	**P**	**12 59 56.6**	**+0.5**
	comp=E,66nm,0.8s,mb5.1,baz=117,slow=8.3,SNR=174						
BRTR				S	**S**	**13 04 08.6**	**+12**
	comp=E,2.0nm,0.9s,baz=124,slow=10,SNR=6.6						
BRTR				ScP		13 07 26.9	
	comp=E,0.8nm,0.6s,baz=124,slow=5.2,SNR=2.7						
BRTR				LR	LR	13 10 36.2	
	comp=E,690nm,18.8s,MS4.1,baz=140,slow=42						
ANN	**Anapa**	**22.86**	**321**	eP	**P**	**12 59 57.3**	**-1.0**
ANN				eS	**S**	**13 04 03.9**	**+3.4**
ANN				pmax	pmax		
	comp=Z,47nm,0.8s,mb5.0						
TOS	**Tosya**	**22.91**	**310**	P	**P**	**12 59 59.4**	**+0.6**
KONT	**Konya--Tatoy**	**22.94**	**301**	P	**P**	**13 00 00.6**	**+1.4**
CANT	**Cankiri**	**23.00**	**309**	P	**P**	**13 00 01.2**	**+1.5**
KOLN	**Koldanda**	**23.22**	**85**	eP	**P**	**13 00 03.3**	**+1.3**
	comp=Z,383nm,1.5s,mb5.6						
BLSP	**Bilaspur**	**23.27**	**100**	eP	**P**	**13 00 04.1**	**+1.5**
ANTO	**Ankara**	**23.28**	**306**	P	**P**	**13 00 03.2**	**+0.7**
ANTO	**Ankara**	**23.28**	**306**	P	**P**	**13 00 04.2**	**+1.7**
LOD	**Lodumlu**	**23.31**	**306**	P	**P**	**13 00 04.5**	**+1.8**
BZK	**Bozkurt**	**23.35**	**312**	P	**P**	**13 00 02.6**	**-0.5**
KIZT	**Kizilcal**	**23.59**	**303**	P	**P**	**13 00 07.1**	**+1.6**
SAFT	**Safranbolu**	**23.91**	**309**	P	**P**	**13 00 07.8**	**-0.7**
GKN	**Gorkha**	**24.10**	**84**	eP	**P**	**13 00 11.5**	**+0.9**
	comp=Z,153nm,0.8s,mb5.5						
BCK	**Bucak**	**24.16**	**299**	P	**P**	**13 00 11.8**	**+0.8**
ISP	**Isparta**	**24.32**	**300**	P	**P**	**13 00 13.1**	**+0.5**
ISP	**Isparta**	**24.32**	**300**	eP	**P**	**13 00 13.3**	**+0.7**
	comp=Z,59nm,0.7s,mb5.1						
ELL	**Elmali**	**24.53**	**297**	P	**P**	**13 00 16.3**	**+1.7**
ESKT	**Eskisehir**	**24.56**	**304**	P	**P**	**13 00 16.4**	**+1.5**
DMN	**Daman**	**24.57**	**85**	eP	**P**	**13 00 16.1**	**+1.0**
	comp=Z,110nm,0.6s,mb5.5						
KKN	**Kakani**	**24.70**	**84**	eP	**P**	**13 00 17.3**	**+1.0**
	comp=Z,246nm,0.7s,mb5.8						
SIM	**Simferopol'**	**24.83**	**318**	⇑eP	**P**	**13 00 18.0**	**+0.5**
PKI	**Pulchoki**	**24.84**	**85**	eP	**P**	**13 00 18.5**	**+0.8**
	comp=Z,346nm,0.9s,mb5.9						
ALT	**Altintas**	**24.96**	**303**	P	**P**	**13 00 20.4**	**+1.6**
KHL	**Karahalli**	**25.20**	**301**	P	**P**	**13 00 20.0**	**-1.0**
GUN	**Gumba**	**25.21**	**84**	eP	**P**	**13 00 22.1**	**+0.9**
	comp=Z,838nm,1.1s,mb6.2						
HRT	**Hereke**	**25.85**	**306**	P	**P**	**13 00 27.8**	**+0.7**
ZRNK	**Zerenda**	**26.14**	**16**	eP	**P**	**13 00 29.8**	**+0.1**
	comp=Z,94nm,1.1s,mb5.2						
ZRNK	**Zerenda**	**26.14**	**16**	eP	**P**	**13 00 29.8**	**+0.1**
	comp=Z,94nm,1.1s,mb5.2						
MLSB	**Milas**	**26.31**	**298**	P	**P**	**13 00 23.7**	**-7.7**
BVAR	**Borovoye Array**	**26.57**	**18**	P	**P**	**13 00 34.1**	**+0.5**
	comp=Z,57nm,0.8s,mb5.2,baz=202,slow=8.0,SNR=188						
BVAR				PcP	PcP	13 03 57.5	-0.2
	comp=Z,7.4nm,0.9s,baz=218,slow=3.0,SNR=6.3						
BVAR				ScP		13 07 36.4	
	comp=Z,3.7nm,0.9s,baz=225,slow=2.1,SNR=5.4						
BRVK	**Borovoye**	**26.57**	**18**	eP	**P**	**13 00 34.0**	**+0.3**
	comp=Z,72nm,1.0s,mb5.2						
BRVK	**Borovoye**	**26.57**	**18**	eP	**P**	**13 00 34.0**	**+0.4**
	comp=Z,72nm,1.0s,mb5.2						
AKS	**Akhisar**	**26.64**	**301**	P	**P**	**13 00 35.9**	**+1.5**
CTT	**Catalca**	**26.84**	**306**	P	**P**	**13 00 37.5**	**+1.2**
MKAR	**Makanchi Array**	**26.93**	**40**	P	**P**	**13 00 37.1**	**+0.1**
	comp=Z,44nm,0.7s,mb5.1,baz=225,slow=8.0,SNR=275						

MKAR LR LR 13 12 23.4
comp=Z,558nm,18.1s,MS4.2,baz=245,slow=39
IZM Izmir 26.94 300 P **P 13 00 36.8 -0.4**
TRD Trivandrum 27.02 133⇑*i* **P 13 00 49.4 +11**
TRD *i* 13 05 43.4
VOR Voronezh 27.08 335 *e*P **P 13 00 38.5 +0.2**
VOR *e* 13 01 19.0
VOR pmax pmax
comp=N,100nm,1.2s
VOR pmax pmax
comp=E,110nm,1.2s
VOR pmax pmax
comp=Z,120nm,1.2s,mb5.3
KURK Kurchatov 27.63 30*d* *i*P **P 13 00 43.8 +0.5**
KURK Kurchatov 27.63 30 *e*P **P 13 00 43.8 +0.4**
comp=Z,55nm,0.8s,mb5.2
KURK Kurchatov 27.63 30 *e*P **P 13 00 43.8 +0.5**
comp=Z,55nm,0.8s,mb5.2
ARU Arti 28.16 2 P **P 13 00 47.2 -0.9**
ARU Arti 28.16 2 P **P 13 00 47.2 -0.9**
IDI Anoyia 28.33 293 P **P 13 00 50.3 +0.5**
comp=Z,23nm,0.7s,mb4.3,baz=111,slow=7.9,SNR=6.6
SVE Sverdlovsk 28.64 4⇓ *e*P **P 13 00 52.9 +0.5**
SVE *e* 13 04 10.0
SVE MLR MLR
comp=Z,1μm,14.0s,MS4.6
SVE MLR MLR
comp=N,500nm,12.0s
WMQ Urumqi 28.87 49⇓ *i*P **P 13 00 55.2 +0.7**
WMQ AP pP 13 01 13.0 +7.4
WMQ PP PP 13 01 51.0 +2.4
WMQ S **S 13 05 38.0 -2.5**
WMQ AMB AMB
comp=Z,48nm,1.0s,mb5.2
WMQ LR LR
comp=N,387nm,12.0s,MS4.5
WMQ LR LR
comp=E,546nm,12.0s,MS4.5
WMQ LR LR
comp=Z,715nm,12.0s,MS4.5
RDO Rodhopi 28.92 305 P **P 13 00 56.5 +1.5**
GVD Gavdhos 28.95 291 *e*P **P 13 00 52.3 -3.1**
comp=Z,47nm,0.8s,mb5.3
KIS Kishinev 29.05 318 *e*P **P 13 00 55.0 -1.1**
KIS *e* 13 11 40.0
LSA Lhasa 29.60 79 P **P 13 01 03.0 +1.8**
RZN Rozhen 29.67 305 P **P 13 01 02.0 +0.4**
PVL Pavlikeni 29.70 309 *e*P **P 13 01 03.0 +1.0**
MLR Muntele Rosu 30.14 313 P **P 13 01 07.7 +1.9**
PGB Panagyurishte 30.31 307 P **P 13 01 08.0 +0.7**
MMB Musomiste 30.35 305 *e*P **P 13 01 08.0 +0.2**
PALK Pallekele 30.43 129 P **P 13 01 08.9 +0.2**
comp=Z,13nm,1.1s,mb4.6
PALK Pallekele 30.43 129 P **P 13 01 08.9 +0.2**
comp=Z,13nm,1.1s,mb4.6
OBN Obninsk 30.73 337*d* *i*P **P 13 01 10.8 -0.1**
OBN *e* 13 02 11.2
OBN *e*S **S 13 06 10.4 +0.7**
OBN pmax pmax
comp=Z,39μm,0.7s
OBN MLR MLR
comp=Z,300nm,6.0s
OBN Obninsk 30.73 337 *e*P **P 13 01 09.8 -1.1**
comp=Z,58nm,0.8s,mb5.5
OBN Obninsk 30.73 337 *e*P **P 13 01 09.8 -1.1**
comp=Z,58nm,0.8s,mb5.5
AKASG Malin Array Be 30.84 324 P **P 13 01 10.6 -1.5**
comp=Z,19nm,0.5s,mb5.1,baz=131,slow=8.6,SNR=91
MOS Moscow 30.87 338 *e*P **P 13 01 01.6 -11**
MOS *e* 13 01 19.7
KKB Krupnik 30.89 305 P **P 13 01 12.0 -0.5**
VTS Vitosha 31.00 307 *e*P **P 13 01 13.5 0.0**
VTS Vitosha 31.00 307 P **P 13 01 13.8 +0.3**
BARS Barje 32.04 306⇓ *i*P **P 13 01 22.4 -0.2**
SKO Skopje 32.11 305 *i* P **P 13 01 23.3 +0.1**
comp=Z,0.0nm,1.0s
BOLS Boljevac 32.23 308⇑ *i*P **P 13 01 23.9 -0.3**
OHR Ohrid 32.39 303⇑ *i*P **P 13 01 25.3 -0.4**
NVS Novosibirsk 32.53 28 *i* P **P 13 01 26.1 -0.7**
NVS *e* 13 04 11.5
NVS *i*S **S 13 06 40.7 +2.7**
NVS pmax pmax
comp=Z,88nm,1.1s,mb5.6
NVS pmax pmax
comp=N,103nm,1.3s
NVS pmax pmax
comp=E,42nm,1.0s
NVS smax
comp=N,66nm,1.7s
NVS smax
comp=E,97nm,2.2s
GRUS Gruza 33.11 308⇓ *i*P **P 13 01 31.3 -0.6**
DIVS Divcibare 33.67 308⇓ *i*P **P 13 01 35.9 -0.8**
NVSS Nova Varos 2 33.72 307⇓ *i*P **P 13 01 36.0 -1.2**
MNK Minsk 33.83 329 *e*P **P 13 01 34.0 -4.0**
KOLS Kolonicke sedl 33.84 317 *i* P **P 13 01 38.7 +0.6**
KOLS *e* 13 01 41.0
KWP Kalwaria 33.89 319 *e*P **P 13 01 38.1 -0.4**
KECS Kecovo 34.75 316 *e*P **P 13 01 44.9 -1.1**
KECS *e* 13 01 53.9 -3.4
KMBO Kilima Mbogo 34.98 217 P **P 13 01 50.3 +2.0**
comp=E,9.4nm,0.9s,mb4.7,baz=23,slow=12,SNR=9.6
KMBO LR LR 13 15 52.7
comp=E,267nm,21.4s,MS4.0,baz=86,slow=36
KMBO Kilima Mbogo 34.98 217 *e*P **P 13 01 49.3 +1.0**
comp=E,15nm,1.0s,mb4.9
KMBO Kilima Mbogo 34.98 217 *e*P **P 13 01 49.3 +1.0**
comp=E,15nm,1.0s,mb4.9
PKSM Moragy 35.17 311⇓ *e*P **P 13 01 49.6 0.0**
PKS8 Sarbogard 35.35 312 *e*P **P 13 01 50.9 -0.2**
GRI Girifalco 35.39 298 P **P 13 01 52.4 +0.9**
RHK1 Bakonya 35.52 311⇑ *e*P **P 13 01 52.0 -0.6**
TDS Terranova Siba 35.53 299 *e*P **P 13 01 54.7 +2.0**
TDS Terranova Siba 35.53 299 *e*P **P 13 01 54.7 +2.0**
SOI Samo 35.62 297 P **P 13 01 53.3 -0.2**
PKSG 35.70 313⇓ *e*P **P 13 01 54.0 0.0**
SUW Suwalki 35.77 326 *e*P **P 13 01 53.9 -0.7**
SUW Suwalki 35.77 326 *e*P **P 13 01 53.7 -0.9**
comp=E,103nm,1.0s,mb5.7
SUW Suwalki 35.77 326 *e*P **P 13 01 53.7 -0.9**
comp=E,103nm,1.0s,mb5.7
SUW Suwalki 35.77 326 *e*P **P 13 01 53.9 -0.7**
OJC Ojcow 35.84 318 *e*P **P 13 01 54.9 -0.3**
SRO Srobarova 35.88 314 *e*P **P 13 01 55.9 +0.3**
MTTG Motta San Giov 35.91 297 *e*P **P 13 01 58.9 +3.0**
KOLL Kolacno 36.08 315 *i* P **P 13 01 57.0 -0.3**
KOLL *e* 13 02 02.4
SLCN Sala Consilina 36.15 301 *e*P **P 13 01 59.3 +1.3**
SLCN Sala Consilina 36.15 301 *e*P **P 13 01 59.3 +1.4**
MGR Morigerati 36.18 300 *e*P **P 13 01 58.4 +0.2**
MGR Morigerati 36.18 300 *e*P **P 13 01 58.4 +0.2**
MRLC Muro Lucano 36.30 301 *e*P **P 13 02 00.1 +0.9**
SGO Sicignano 36.42 301 *e*P **P 13 02 01.2 +1.1**
SGO Sicignano 36.42 301 *e*P **P 13 02 01.2 +1.0**
FG5 Orsara di Pugl 36.53 302 *e*P **P 13 02 03.5 +2.3**
FG5 Orsara di Pugl 36.53 302 *e*P **P 13 02 03.5 +2.4**
JAVC Velka Javorina 36.63 315 P **P 13 02 02.7 +0.8**
JAVC Velka Javorina 36.63 315 *e*P **P 13 02 02.3 +0.4**
CSSN Cassano Irpino 36.66 301 P **P 13 02 03.3 +1.0**
OKC Ostrava-Krasne 36.68 317⇑ *i*P **P 13 02 01.7 -0.6**
GTA Gaotai 36.73 61⇓ *i*P **P 13 02 03.2 +0.4**
GTA PP PP 13 03 30.3 +1.7
GTA PCP PcP 13 04 25.4 +0.3
GTA S **S 13 07 36.1 -6.9**
GTA SCS ScS 13 12 08.4 -4.3
GTA AMB AMB
comp=Z,43nm,0.9s,mb5.3
GTA AMB AMB
comp=Z,148nm,6.8s
GTA LR LR
comp=N,193nm,15.6s,MS4.0
GTA LR LR
comp=E,110nm,16.7s,MS4.0
GTA LR LR
comp=Z,247nm,16.0s,MS4.1
MRB1 Monte Rocchett 36.73 302 *e*P **P 13 02 04.6 +1.8**
MRB1 Monte Rocchett 36.73 302 *e*P **P 13 02 04.6 +1.8**
ZST Bratislava 36.77 314 *e*P **P 13 02 02.7 -0.4**
VSU Vasula 36.87 334 P **P 13 02 03.9 +0.2**
PSB1 Pescosannita 36.87 302 P **P 13 02 05.9 +2.0**
VTB1 Vitulano 37.00 302 P **P 13 02 06.5 +1.5**
MORC Moravsky Berou 37.02 316 *e*P **P 13 02 04.1 -1.1**
comp=Z,49nm,0.8s,mb5.4
MORC Moravsky Berou 37.02 316 *e*P **P 13 02 04.1 -1.1**
comp=Z,49nm,0.8s,mb5.4
GCIS Gornji Cirnik 37.12 310 *e*P **P 13 02 06.0 -0.1**
CSLB Castelbuono 37.19 296 P **P 13 02 09.3 +2.6**
SGG Gregorio Mates 37.21 302 *e*P **P 13 02 09.2 +2.3**
SGG Gregorio Mates 37.21 302 *e*P **P 13 02 09.2 +2.4**
CPI2 Carpinone 37.28 302 P **P 13 02 08.9 +1.5**
CII Carovilli 37.30 303 *e*P **P 13 02 09.4 +1.8**
CII Carovilli 37.30 303 *e*P **P 13 02 09.4 +1.8**
VRAC Vranov 37.45 315 P **P 13 02 08.9 +0.2**
VRAC Vranov 37.45 315 *e*P **P 13 02 08.7 0.0**
KRUC Moravsky 37.49 315 P **P 13 02 09.0 -0.1**
ARSA Arzberg 37.52 312⇑ *i*P **P 13 02 09.5 +0.1**
comp=Z,44nm,1.1s,mb5.1
ARSA *i* 13 02 16.9
PDKS Podkum 37.59 310 *e*P **P 13 02 10.2 +0.3**
INTR Introdacqua 37.64 303 *e*P **P 13 02 11.6 +1.2**
INTR Introdacqua 37.64 303 *e*P **P 13 02 11.6 +1.2**
SDI San Donato 37.67 303 *e*P **P 13 02 11.3 +0.7**
SDI San Donato 37.67 303 *e*P **P 13 02 11.3 +0.6**
VENT Ventotene 37.87 301 P **P 13 02 14.0 +1.7**
LJU Ljubljana 37.90 310 *i* P **P 13 02 12.9 +0.3**
USI Ustica 37.91 298 P **P 13 02 13.6 +0.8**
TERO Teramo 37.94 304 *e*P **P 13 02 13.4 +0.5**
TERO Teramo 37.94 304 *e*P **P 13 02 13.4 +0.5**
DPC Dobruska-Polom 37.96 317⇑ *i*P **P 13 02 12.6 -0.4**
OBKA Obir 37.99 310⇑ *i*P **P 13 02 13.5 +0.2**
comp=Z,62nm,1.4s,mb5.2
PTQR Pietraquaria 38.01 303 *e*P **P 13 02 14.7 +1.2**
PTQR Pietraquaria 38.01 303 *e*P **P 13 02 14.7 +1.2**
AQU L'Aquila 38.05 304 *e*P **P 13 02 15.5 +1.6**
AQU L'Aquila 38.05 304 *e*P **P 13 02 15.5 +1.6**
AOI Ancona 38.07 305 P **P 13 02 14.5 +0.5**
KSP Ksiaz 38.15 318 *e*P **P 13 02 14.1 -0.5**
KSP *e*pP pP 13 02 29.5 +3.5
KSP Ksiaz 38.15 318 *e*P **P 13 02 14.3 -0.3**
UPC Upice 38.20 317⇑ *i*P **P 13 02 14.8 -0.2**
NRCA Norcia 38.32 304 *e*P **P 13 02 16.9 +0.8**
NRCA Norcia 38.32 304 *e*P **P 13 02 16.9 +0.8**
VOJS Vojsko 38.33 309 *e*P **P 13 02 15.8 -0.3**
CING Cingoli 38.34 305 P **P 13 02 16.4 +0.2**
TRI Trieste 38.35 309 P **P 13 02 16.1 -0.2**
MBAR Mbarara 38.36 226 *e*P **P 13 02 16.5 -0.2**
comp=Z,16nm,0.9s,mb4.7
MBAR Mbarara 38.36 226 *e*P **P 13 02 16.5 -0.2**
comp=Z,16nm,0.9s,mb4.7
CADS Cadrg 38.47 310 *i* P **P 13 02 17.0 -0.3**
MOA Molln 38.50 312⇑ *i*P **P 13 02 17.3 -0.2**
comp=Z,43nm,0.9s,mb5.2
GKP Gorka Klasztor 38.54 322 *e*P **P 13 02 28.4 +11**
GKP Gorka Klasztor 38.54 322 *e*P **P 13 02 28.4 +11**
ARV Arcevia 38.54 305 *e*P **P 13 02 18.5 +0.6**
ARV Arcevia 38.54 305 *e*P **P 13 02 18.5 +0.6**
MNS Montasola 38.59 303 *e*P **P 13 02 19.1 +0.8**
MNS Montasola 38.59 303 *e*P **P 13 02 19.1 +0.8**
FSSB Fossombrone 38.69 306 *e*P **P 13 02 20.1 +1.0**
FSSB Fossombrone 38.69 306 *e*P **P 13 02 20.1 +1.0**
PTCC Patocco-Chiusa 38.77 310 *e*P **P 13 02 19.8 0.0**
PTCC Patocco-Chiusa 38.77 310 *e*P **P 13 02 19.8 0.0**
MURB Monte Urbino 38.81 305 *e*P **P 13 02 21.4 +1.3**
MURB Monte Urbino 38.81 305 *e*P **P 13 02 21.4 +1.3**
GMNA Gemona 38.82 310 *e*P **P 13 02 20.5 +0.3**
GMNA Gemona 38.82 310 *e*P **P 13 02 20.5 +0.3**
KBA Koelnbreinsper 38.92 311⇑ *i*P **P 13 02 21.1 +0.1**
comp=Z,120nm,1.9s,mb5.3
PRU Pruhonice 38.93 316⇑ *i*P **P 13 02 20.3 -0.7**
PRU pmax pmax
comp=Z,12nm,0.6s,mb4.8
PRU Pruhonice 38.93 316⇑ *i*P **P 13 02 20.3 -0.7**
comp=Z,12nm,0.6s,mb4.8
RSM Repubblica di 38.96 306 *e*P **P 13 02 22.9 +1.5**
RSM Repubblica di 38.96 306 *e*P **P 13 02 22.9 +1.6**
TOLF Tolfa 39.05 303 *e*P **P 13 02 22.9 +0.8**
TOLF Tolfa 39.05 303 *e*P **P 13 02 22.9 +0.7**
GEC2 GERESS Array S 39.13 314 *e*P **P 13 02 22.3 -0.4**
GEC2 pmax pmax
comp=Z,46nm,0.9s,mb5.2
GEC2 GERESS Array S 39.13 314 *e*P **P 13 02 22.3 -0.4**
comp=Z,46nm,0.9s,mb5.2
GERES GERESS Array B 39.13 314 P **P 13 02 22.7 0.0**
comp=Z,24nm,0.7s,mb5.0,baz=117,slow=9.0,SNR=91
GERES PcP PcP 13 04 32.0 -0.4
comp=Z,6.8nm,1.0s,baz=117,slow=3.0,SNR=4.4
GERES GERESS Array B 39.13 314 PcP PcP 13 04 32.0 -0.4
FINES FINESS Array B 39.13 337 P **P 13 02 22.4 -0.3**
comp=Z,6.5nm,0.5s,mb4.6,baz=132,slow=9.5,SNR=65
FINES LR LR 13 20 32.6
comp=Z,145nm,18.2s,MS3.8,baz=5.7,slow=39
FINES FINESS Array B 39.13 337 *e*P **P 13 02 22.4 -0.2**
FVI Forni Avoltri 39.20 310 *e*P **P 13 02 23.3 0.0**
FVI Forni Avoltri 39.20 310 *e*P **P 13 02 23.3 0.0**
CRE Caprese Michel 39.27 305 *e*P **P 13 02 25.0 +1.1**
CRE Caprese Michel 39.27 305 *e*P **P 13 02 25.0 +1.0**
KHC Kasperske Hory 39.28 314⇑ *i*P **P 13 02 23.6 -0.4**
CM31 Chiang Mai Arr 39.30 95 *e*P **P 13 02 24.4 -0.1**
comp=Z,13nm,1.0s,mb4.6
CM31 Chiang Mai Arr 39.30 95 *e*P **P 13 02 24.4 -0.1**
comp=Z,13nm,1.0s,mb4.6
CMAR Chiang Mai Arr 39.30 95 P **P 13 02 24.6 +0.1**
comp=Z,2.7nm,0.7s,baz=280,slow=10.0,SNR=22
CMAR PP PP 13 03 56.2 -2.7
comp=Z,4.8nm,1.0s,baz=294,slow=11,SNR=4.4
CMAR PcP PcP 13 04 33.6 +0.3
comp=Z,2.7nm,0.7s,baz=280,slow=5.0,SNR=8.2
CMAR LR LR 13 21 23.2
comp=Z,446nm,21.2s,baz=275,slow=40
CMAR Chiang Mai Arr 39.30 95 P **P 13 02 24.6 +0.1**
CMAR PP PP 13 03 56.6 -2.3
CMAR Chiang Mai Arr 39.30 95 P **P 13 02 24.5 0.0**
CMAR Chiang Mai Arr 39.30 95 PP PP 13 03 56.2 -2.7
SFI Santa Sofia 39.38 306 *e*P **P 13 02 26.7 +1.8**
SFI Santa Sofia 39.38 306 *e*P **P 13 02 26.7 +1.8**
PGD Poggio Sodo 39.47 306 *e*P **P 13 02 27.3 +1.7**
PGD Poggio Sodo 39.47 306 *e*P **P 13 02 27.3 +1.7**
KAF Kangasniemi 39.52 338 *e*p **P 13 02 23.5 -2.4**
BRG Berggiesshubel 39.56 317 *i* P **P 13 02 26.4 +0.1**
BRG pmax pmax
comp=Z,26nm,0.8s,mb5.0
BRG Berggiesshubel 39.56 317 *i* P **P 13 02 26.4 +0.1**
comp=Z,26nm,0.8s,mb5.0
VMG Vicchio 39.61 306 *e*P **P 13 02 28.8 +2.0**
VMG Vicchio 39.61 306 *e*P **P 13 02 28.8 +2.0**
SEST Monte Rota 39.61 310 P **P 13 02 26.7 0.0**
CSNT Castellina Chi 39.73 305 P **P 13 02 29.1 +1.3**
WET Wettzell 39.73 314 *e*P **P 13 02 26.7 -1.0**
WET pmax pmax
comp=Z,66nm,1.6s,mb5.1
WET Wettzell 39.73 314 *e*P **P 13 02 26.7 -1.0**
comp=Z,66nm,1.6s,mb5.1
SEI Scarperia 39.76 306 *e*P **P 13 02 29.5 +1.5**
SEI Scarperia 39.76 306 *e*P **P 13 02 29.5 +1.5**
CTI Castel Tesino 39.86 309 P **P 13 02 29.1 +0.3**
LZH Lanzhou 39.86 67 P **P 13 02 29.7 +0.7**
LZH AP pP 13 02 49.2 +8.8
LZH PP PP 13 04 07.0 +2.3
LZH *e*S **S 13 08 27.4 -3.2**
LZH AMB AMB
comp=Z,410nm,4.0s
LZH LR LR
comp=N,1μm,15.0s
LZH LR LR
comp=Z,810nm,15.7s,MS4.7
GRFL Gerfalco 39.92 304 *e*P **P 13 02 29.1 -0.2**
GRFL Gerfalco 39.92 304 *e*P **P 13 02 29.1 -0.3**
FNVD Fontana Vidola 39.94 306 *e*P **P 13 02 31.0 +1.5**
FNVD Fontana Vidola 39.94 306 *e*P **P 13 02 31.0 +1.5**
MOY Mondy 40.03 42 *e*P **P 13 02 31.9 +1.7**
ZCCA Zocca 40.06 306 *e*P **P 13 02 32.6 +2.1**
ZCCA Zocca 40.06 306 *e*P **P 13 02 32.7 +2.1**
WTTA Wattenberg 40.10 311⇑ *i*P **P 13 02 30.3 -0.5**
comp=Z,75nm,1.1s,mb5.3
WATA Walderalm 40.16 311⇓ *i*P **P 13 02 30.5 -0.8**
comp=Z,42nm,0.9s,mb5.2
BERN Bernov 40.25 316⇑P **P 13 02 38.9 +6.9**
CLL Collm 40.26 317⇑P **P 13 02 32.0 -0.1**
comp=Z,logA/T=1.8,mb5.3
CLL *i* pP 13 02 44.4 +0.8
CLL *i* *PP pP 13 02 48.2 +4.6
CLL *e*SP sP 13 02 59.0 +10
CLL Collm 40.26 317⇑ *i*P **P 13 02 32.0 -0.1**
CLL *i* *PP pP 13 02 48.2 +4.6
comp=Z,54nm,0.9s,mb5.3
CLL Collm 40.26 317⇑ *i*P **P 13 02 32.0 -0.1**
comp=Z,54nm,0.9s,mb5.3
CLL *i* pP pP 13 02 48.2 +4.6
CLL *es*P sP 13 02 59.0 +10
CLL Collm 40.26 317⇑ *i*P **P 13 02 32.0 -0.1**
comp=Z,54nm,0.9s,mb5.3
CLL *i* pP pP 13 02 48.2 +4.6
CD2 Chengdu 40.27 75 P **P 13 02 32.6 +0.2**
CD2 S **S 13 08 32.3 -4.5**
CD2 AMB AMB
comp=Z,40nm,0.9s,mb5.2
CD2 AMB AMB
comp=Z,80nm,4.7s
CD2 LR LR
comp=E,280nm,18.0s
CD2 LR LR
comp=Z,270nm,16.5s,MS4.2
NKC Novy Kostel 40.29 316 P **P 13 02 33.1 +0.8**
BDI Bagni Di Lucca 40.30 306 *e*P **P 13 02 32.2 -0.3**
BDI Bagni Di Lucca 40.30 306 *e*P **P 13 02 32.2 -0.3**
PII Pisa 40.31 305 P **P 13 02 31.9 -0.7**
GSCL Gusciola 40.34 306 *e*P **P 13 02 34.0 +1.2**
GSCL Gusciola 40.34 306 *e*P **P 13 02 34.0 +1.1**
ZGN Zaghouan 40.36 294 *i* P **P 13 02 34.0 +0.9**
SQTA Sankt Quirin 40.38 311⇑ *i*P **P 13 02 32.7 -0.4**
comp=Z,26nm,0.7s,mb5.1
MART Mareth 40.43 290 *i* P **P 13 02 34.5 +0.8**
VLC Villacollemand 40.46 306 *e*P **P 13 02 33.2 -0.7**
comp=Z,127nm,1.0s,mb5.6
VLC Villacollemand 40.46 306 *e*P **P 13 02 33.2 -0.6**
comp=Z,127nm,1.0s,mb5.6
MOTA Moosalm 40.47 311⇑ *i*P **P 13 02 32.9 -1.0**
comp=Z,20nm,0.8s,mb4.9
ERBM Eremo 40.48 306 *e*P **P 13 02 35.5 +1.5**
ERBM Eremo 40.48 306 *e*P **P 13 02 35.5 +1.5**
FUR Furstenfeldbru 40.53 312 *e*P **P 13 02 32.3 -2.1**
BSD Bornholm Skovb 40.54 323⇓ *i*P **P 13 02 33.0 -1.3**
comp=Z,108nm,0.6s,mb5.7
KMI Kunming 40.55 84 *e*P **P 13 02 35.6 +0.8**
KMI AP pP 13 02 48.8 +2.5
KMI PP PP 13 04 11.0 -0.7
KMI AMB AMB
comp=Z,118nm,0.8s,mb5.6
KMI AMB AMB
comp=Z,326nm,4.2s
KMI LR LR
comp=N,175nm,21.7s
KMI LR LR
comp=E,340nm,15.7s
KMI LR LR
comp=Z,349nm,15.4s
VALM 40.58 306 P **P 13 02 35.8 +0.9**
VALM 40.58 306 P **P 13 02 35.8 +0.9**
VINC Vinca 40.63 306 P **P 13 02 34.4 -0.8**
VINC Vinca 40.63 306 P **P 13 02 34.4 -0.8**
MABI Malga Bissina 40.64 309 *e*P **P 13 02 35.7 +0.4**
MABI Malga Bissina 40.64 309 *e*P **P 13 02 35.7 +0.4**
BACM 40.70 306 P **P 13 02 35.7 -0.1**
BACM 40.70 306 P **P 13 02 35.7 -0.1**
NANT Nan 40.72 94 P **P 13 02 35.0 -1.2**
GRAM 40.73 306 P **P 13 02 36.6 +0.5**
GRAM 40.73 306 P **P 13 02 36.6 +0.5**
BRMO Bormio 40.81 309 *e*P **P 13 02 37.1 +0.4**
BRMO Bormio 40.81 309 *e*P **P 13 02 37.1 +0.4**
TROT Trozza 40.81 293 *i* P **P 13 02 39.0 +2.2**
CODM 40.87 306 P **P 13 02 37.2 -0.1**
CODM 40.87 306 P **P 13 02 37.2 0.0**
VSL Villasalto 40.89 299 *e*P **P 13 02 38.5 +1.0**
comp=Z,45nm,0.8s,mb5.2
VSL Villasalto 40.89 299 *e*P **P 13 02 38.5 +1.0**
comp=Z,45nm,0.8s,mb5.2
MOX Moxa 40.91 316 *i* P **P 13 02 37.4 -0.1**
comp=Z,logA/T=1.2,mb4.6
MOX Moxa 40.91 316 *e*P **P 13 02 37.4 -0.1**
MOX pmax pmax
comp=Z,15nm,0.9s,mb4.6
MOX Moxa 40.91 316 *e*P **P 13 02 37.4 -0.1**
comp=Z,15nm,0.9s,mb4.6
GRA1 Grafenberg Arr 40.91 314 *e*P **P 13 02 37.6 +0.1**
comp=Z,78nm,0.8s,mb5.4
GRF Grafenberg Arr 40.91 314 *e*P **P 13 02 37.6 +0.1**
GRF pmax pmax
comp=Z,78nm,0.8s,mb5.4
KRIT Krib 41.19 294 *i* P **P 13 02 38.0 -1.9**
BOB Bobbio (Coli) 41.20 307 *e*P **P 13 02 41.0 +1.0**
BOB Bobbio (Coli) 41.20 307 *e*P **P 13 02 41.0 +1.1**
DAVA Damuels 41.28 311⇑ *i*P **P 13 02 39.9 -0.7**
comp=Z,98nm,1.1s,mb5.3
PGF Pioggiola 41.31 303 *e*P **P 13 02 40.5 -0.4**
comp=Z,106nm,1.1s,mb5.1
VDL Val di Lei 41.42 309⇓ P **P 13 02 42.0 +0.2**
NST Nakhon Sawan 41.46 98 P **P 13 02 44.0 +1.7**
comp=Z,58nm,0.7s,mb5.3
TUE Stuetta 41.51 309 P **P 13 02 42.6 +0.2**
LLS Linth-Limmern 41.79 310⇑ P **P 13 02 44.2 -0.6**
GHAT Ghardimaou 41.80 294 *i* P **P 13 02 46.0 +1.0**
PCP Pian Castagno 41.82 306 P **P 13 02 43.7 -1.3**
PCP Pian Castagno 41.82 306 P **P 13 02 43.7 -1.3**
VAI Varese 41.82 308 *e*P **P 13 02 44.2 -0.7**
VAI Varese 41.82 308 *e*P **P 13 02 44.2 -0.8**
APA Apatity 41.88 347 *e*P **P 13 02 44.0 -1.2**
APA pmax pmax
comp=Z,2.0nm,2.0s
WILA Wila 41.95 311⇑ P **P 13 02 45.6 -0.5**
CLZ Clausthal 41.99 317 *e*P **P 13 02 46.5 +0.2**
comp=Z,55nm,0.8s,mb5.2
STU Stuttgart 42.01 313 P **P 13 02 48.0 +1.6**
comp=Z,29nm,0.7s,mb5.0
STU Stuttgart 42.01 313 P **P 13 02 48.0 +1.5**
comp=Z,29nm,0.7s,mb5.0
FIN Finale Ligure 42.02 306 *e*P **P 13 02 47.0 +0.3**
MUO Muotathal 42.06 310⇓ P **P 13 02 46.7 -0.3**
RORO 42.12 306 P **P 13 02 46.7 -0.8**
RORO 42.12 306 P **P 13 02 46.7 -0.8**
IRK Irkutsk 42.14 42 *e*P **P 13 02 47.8 +0.3**
IRK *e* 13 04 40.9
IMI Imperia 42.23 305 *e*P **P 13 02 48.3 0.0**
IMI Imperia 42.23 305 *e*P **P 13 02 48.3 -0.1**
ROB Roburent 42.27 306 P **P 13 02 47.7 -1.1**
ROB Roburent 42.27 306 P **P 13 02 47.7 -1.0**
SLE Schleitheim 42.29 311⇑ P **P 13 02 47.6 -1.2**
ORO Oropa 42.34 308 P **P 13 02 48.5 -0.7**
ORX Oropa 42.34 308 P **P 13 02 46.9 -2.3**
ORX Oropa 42.34 308 P **P 13 02 46.9 -2.3**
MONE Monesi 42.34 306 P **P 13 02 48.7 -0.6**
MONE Monesi 42.34 306 P **P 13 02 48.7 -0.6**
NEGI Negi 42.36 305 P **P 13 02 48.7 -0.7**
NEGI Negi 42.36 305 P **P 13 02 48.7 -0.7**
MCGN Macugnaga 42.37 308 *e*P **P 13 02 49.0 -0.5**
MCGN Macugnaga 42.37 308 *e*P **P 13 02 49.0 -0.5**
MMK Mattmark 42.40 308⇓ P **P 13 02 48.6 -1.1**
TOD Tromm 42.43 314 *e*P **P 13 02 49.0 -0.9**
SAOF Saorge 42.47 305 *e*P **P 13 02 49.9 -0.5**
NNT Nongplab 42.48 103 P **P 13 02 53.0 +2.2**
TRAV 42.48 308 P **P 13 02 48.4 -2.0**
TRAV 42.48 308 P **P 13 02 48.4 -2.1**
BFO Black Forest 42.49 312 *e*P **P 13 02 48.8 -1.7**
SULZ Sulz-Cheisache 42.50 311⇑ P **P 13 02 50.3 -0.3**
CMAH Djebel Manchou 42.51 294 P **P 13 02 52.0 +1.2**
SONM Songino Array 42.51 49 P **P 13 02 51.4 +0.8**
comp=Z,42nm,0.8s,mb5.2,baz=257,slow=8.6,SNR=310
SBF Sospel 42.55 305 *e*P **P 13 02 50.6 -0.4**
comp=Z,286nm,0.7s,mb5.8
AUTN L'Aution 42.57 305 *e*P **P 13 02 51.2 0.0**
ENR Entracque 42.59 306 P **P 13 02 50.4 -1.0**
ENR Entracque 42.59 306 P **P 13 02 50.4 -0.9**
BSEG Bad Segeberg 42.62 320 *e*P **P 13 02 51.5 0.0**
BSEG pmax pmax
comp=Z,19nm,0.9s,mb4.8
AURF Auriere 42.63 305 *e*P **P 13 02 51.4 -0.3**
FELD Feldberg 42.63 311 *e*P **P 13 02 51.2 -0.4**
STV2 Anna di Valdie 42.66 306 P **P 13 02 50.7 -1.2**
STV2 Anna di Valdie 42.66 306 P **P 13 02 50.7 -1.2**
STV Sta Anna Valdi 42.66 306 P **P 13 02 51.1 -0.8**
STV Sta Anna Valdi 42.66 306 P **P 13 02 51.1 -0.8**
LKBD Leukerbad 42.67 309⇓ P **P 13 02 51.2 -0.8**
TOUF Mont Tournerai 42.70 305 *e*P **P 13 02 52.4 +0.2**
BHB Bricherasio 42.76 307 P **P 13 02 50.6 -2.1**
BHB Bricherasio 42.76 307 P **P 13 02 50.6 -2.1**
MVIF Mont Vial 42.76 305 *e*P **P 13 02 52.7 0.0**
DIX Grande Dixence 42.78 308⇓ P **P 13 02 52.6 -0.3**
RSP Reno Superiore 42.79 307 P **P 13 02 50.8 -2.2**
RSP Reno Superiore 42.79 307 P **P 13 02 50.8 -2.2**

KTD Kalmit 42.83 313 *eP* **P 13 02 52.7 -0.5**
PZZ Prazzo 42.84 306 P **P 13 02 51.8 -1.6**
PZZ Prazzo 42.84 306 P **P 13 02 51.8 -1.6**
LSD Ceresole Reale 42.89 307 P **P 13 02 53.0 -0.8**
LSD Ceresole Reale 42.89 307 P **P 13 02 53.0 -0.8**
FENE Fenestrelle 42.92 307 P **P 13 02 52.4 -1.6**
FENE Fenestrelle 42.92 307 P **P 13 02 52.4 -1.6**
CALN Calern 42.94 305 *eP* **P 13 02 53.7 -0.5**
LANF Langenberg 42.95 313 *eP* **P 13 02 52.7 -1.5**
OG22 Abries 42.98 307 *eP* **P 13 02 54.7 +0.2**
SURF Saint Ours 43.05 306 *eP* **P 13 02 55.4 +0.3**
MBDF Montbardon 43.09 306 *eP* **P 13 02 54.9 -0.6**
comp=Z,108nm,0.7s,mb5.4
FRF La Foret Royal 43.10 305 *eP* **P 13 02 54.8 -0.7**
comp=Z,45nm,0.8s,mb4.9
RRL Cesana Torines 43.10 307 P **P 13 02 55.1 -0.4**
RRL Cesana Torines 43.10 307 P **P 13 02 55.1 -0.4**
EMV Vieux Emosson 43.14 308 ⇓P **P 13 02 55.0 -0.8**
LPG La Plagne 43.18 307 *eP* **P 13 02 55.7 -0.4**
comp=Z,149nm,0.7s,mb5.5
LMR La Mourre 43.19 304 *eP* **P 13 02 55.3 -0.9**
comp=Z,26nm,0.8s,mb4.7
BNI Bardonecchia 43.19 307 *eP* **P 13 02 55.5 -0.7**
comp=Z,89nm,0.7s,mb5.6
BNI Bardonecchia 43.19 307 *eP* **P 13 02 55.5 -0.7**
comp=Z,89nm,0.7s,mb5.6
LPL La Plagne 43.20 308 *eP* **P 13 02 55.6 -0.7**
comp=Z,95nm,0.7s,mb5.3
CDF Champ du Feu 43.20 312 *eP* **P 13 02 54.7 -1.5**
comp=Z,29nm,0.9s,mb4.7
ECH Echery 43.24 311 *eP* **P 13 02 55.5 -1.1**
CASM Ain Smara 43.28 294 P **P 13 02 57.0 -0.1**
LOMF Lomont 43.34 310 *eP* **P 13 02 56.6 -0.8**
HINF Hinteralfeld 43.39 311 *eP* **P 13 02 56.4 -1.4**
comp=Z,33nm,0.9s,mb4.7
KKTK Khon Kaen 43.54 96 P **P 13 03 01.0 +1.6**
GYA Guiyang 43.65 80 ⇓*i*P **P 13 02 59.4 -0.8**
GYA PP PP 13 04 42.3 -1.4
GYA AMB AMB
comp=Z,30nm,0.7s,mb5.1
GYA LR LR
comp=N,170nm,15.8s,MS4.3
GYA LR LR
comp=E,280nm,17.3s,MS4.3
GYA LR LR
comp=Z,450nm,18.0s,MS4.4
ORIF Oris-en-Rattie 43.74 307 *eP* **P 13 02 58.9 -1.8**
comp=Z,50nm,0.8s,mb5.0
ORIF *eR*
comp=Z,285nm,23.0s
CABF La Chapelle 43.76 309 *eP* **P 13 03 00.5 -0.3**
comp=Z,64nm,0.7s,mb5.1
SMRF Simiane la Rot 43.90 305 *eP* **P 13 03 01.8 -0.2**
THEF They Montfort 44.02 311 *eP* **P 13 03 01.4 -1.5**
WLF Walferdange 44.13 313 *eP* **P 13 03 02.2 -1.6**
comp=Z,27nm,0.8s,mb5.0
WLF Walferdange 44.13 313 *eP* **P 13 03 02.2 -1.6**
comp=Z,27nm,0.8s,mb5.0
OG05 Jujurieux 44.13 308 *eP* **P 13 03 03.6 -0.2**
SET Setif 44.16 294 P **P 13 03 05.0 +0.8**
WTSB Winterswijk 44.16 317 *eP* **P 13 03 04.0 0.0**
comp=Z,24nm,1.2s,mb4.8
XAN Xi'an 44.18 69 P **P 13 03 06.3 +1.9**
XAN AMB AMB
comp=Z,38nm,1.1s,mb5.0
PRAF Pradon 44.18 305 *eP* **P 13 03 04.2 -0.1**
MEM Membach 44.39 315 P **P 13 03 06.4 +0.6**
comp=Z,36nm,1.6s,mb4.8
HGN Heimansgroeve 44.46 315 *eP* **P 13 03 06.7 +0.3**
comp=Z,12nm,1.4s,mb4.4
BTO Baotou 44.59 60 *eP* **P 13 03 06.5 -1.1**
BTO AMB AMB
comp=Z,43nm,0.6s,mb5.5
VIVF Saint-Julien-l 44.59 306 *eP* **P 13 03 06.7 -0.9**
comp=Z,137nm,1.0s,mb5.4
MEZF Maizieres J'vi 44.68 312 *eP* **P 13 03 07.4 -0.7**
comp=Z,77nm,0.8s,mb5.3
NB2 NORSAR Subarra 44.82 330 P **P 13 03 07.8 -1.3**
comp=Z,16nm,0.9s,mb4.9,baz=114,slow=7.9
NB2 NORSAR Subarra 44.82 330 P **P 13 03 07.8 -1.3**
comp=Z,16nm,0.9s,mb4.9,baz=114,slow=7.9,SNR=1.7
NOA NORSAR Array B 44.82 330 P **P 13 03 08.2 -0.8**
comp=Z,6.9nm,0.7s,mb4.6,baz=115,slow=7.9,SNR=28
NOA PP PP 13 04 53.2 -1.7
comp=Z,5.8nm,0.9s,baz=110,slow=9.4,SNR=3.9
NOA LR LR 13 24 08.7
comp=Z,106nm,18.0s,MS3.8,baz=125,slow=39
NOA NORSAR Array B 44.82 330 P **P 13 03 08.2 -0.9**
NOA NORSAR Array B 44.82 330 PP PP 13 04 53.2 -1.7
KEV Kevo 45.02 346 *ep* **P 13 03 09.4 -1.3**
comp=Z,29nm,0.7s,mb5.2
KEV Kevo 45.02 346 *eP* **P 13 03 09.4 -1.3**
KEV pmax pmax
comp=Z,29nm,0.7s,mb5.2
GIVF Givet 45.05 314 *eP* **P 13 03 11.4 +0.3**
comp=Z,128nm,1.0s,mb5.4
LASF Ste Croix 45.14 305 *eP* **P 13 03 11.3 -0.6**
comp=Z,80nm,0.8s,mb5.3
ARCES ARCESS Array B 45.19 345 P **P 13 03 11.9 -0.1**
comp=Z,15nm,0.8s,mb4.9,baz=143,slow=6.1,SNR=24
DOU Dourbes 45.19 314 P **P 13 03 12.8 +0.5**
comp=Z,28nm,1.6s,mb4.8
ENH Enshi 45.25 74 *eP* **P 13 03 12.6 -0.4**
comp=Z,69nm,1.0s,mb5.4
ENH Enshi 45.25 74 *eP* **P 13 03 12.6 -0.4**
comp=Z,69nm,1.0s,mb5.4
SMF Signal de Mont 45.30 309 *eP* **P 13 03 12.4 -0.8**
comp=Z,121nm,0.8s,mb5.5
COLF Collangettes 45.32 307 *eP* **P 13 03 12.2 -1.2**
LOR Lormes 45.34 310 *eP* **P 13 03 12.5 -1.0**
comp=Z,70nm,0.8s,mb5.2
LOR *eR*
comp=Z,234nm,21.5s
BAIF Baives 45.44 314 *eP* **P 13 03 14.5 +0.3**
comp=Z,180nm,1.3s,mb5.5
SNF Seneffe 45.45 314 P **P 13 03 15.4 +1.1**
comp=Z,22nm,1.6s,mb4.7
SSF Saint Saulge 45.56 309 *eP* **P 13 03 14.5 -0.8**
comp=Z,37nm,0.7s,mb5.4
LBL Lubilhac 45.62 307 *eP* **P 13 03 16.0 +0.2**
HHC Hu-ho-hao-te 45.76 59 ⇑P **P 13 03 17.2 +0.3**
HHC AP pP 13 03 36.0 +7.5
HHC XP sP 13 03 45.9 +12
HHC PCP PcP 13 04 54.7 +0.1
HHC PCS 13 08 48.6
HHC S **S 13 09 51.8 -5.0**
HHC SCS ScS 13 13 02.0 -4.8
HHC AMB AMB
comp=Z,38nm,1.2s,mb5.2
HHC AMB AMB
comp=Z,122nm,5.6s
HHC LR LR
comp=N,170nm,18.0s,MS4.3
HHC LR LR
comp=E,199nm,14.9s,MS4.3
PYM Petit Puy Mans 45.82 308 *eP* **P 13 03 17.8 +0.5**
EJON La Jonquera 45.83 303 P **P 13 03 16.8 -0.6**
comp=E,23nm,0.8s,mb5.2
EJON La Jonquera 45.83 303 P **P 13 03 16.8 -0.6**
comp=E,23nm,0.8s,mb5.1,SNR=6.4
BGF Bois d'Agland 45.98 309 *eP* **P 13 03 17.9 -0.7**
comp=E,64nm,0.7s,mb5.4
ABA Alger-Bouzarea 46.00 295 P **P 13 03 18.0 -0.9**
FILF Fillols 46.07 303 *eP* **P 13 03 19.6 +0.3**
LRDF Laroque-de-Fa 46.08 304 *eP* **P 13 03 19.1 -0.3**
MOR8 Moi Rana 46.11 337 *eP* **P 13 03 18.6 -0.8**
MOR8 AMb AMB 13 03 21.0
comp=Z,22nm,1.3s,mb4.9
MOR8 Moi Rana 46.11 337 *eP* **P 13 03 18.6 -0.8**
comp=Z,22nm,1.3s,mb4.9
EMHD Djebel Mahouad 46.13 294 P **P 13 03 21.0 +1.1**
HYF Humbligny 46.17 310 *eP* **P 13 03 19.0 -1.0**
VERF Verneugheol 46.18 308 *eP* **P 13 03 20.1 -0.1**
MTLF Montolieu 46.32 304 *eP* **P 13 03 21.4 +0.1**
comp=Z,109nm,0.8s,mb5.5
TCF Toulx Ste Croi 46.40 308 *eP* **P 13 03 21.5 -0.4**
comp=Z,67nm,0.8s,mb5.3
CAF Calviac 46.45 306 *eP* **P 13 03 22.2 -0.1**
comp=Z,108nm,0.8s,mb5.5
VALF Valcebollere 46.47 303 *eP* **P 13 03 23.0 +0.5**
LPEF Le Peyrat 46.55 304 *eP* **P 13 03 23.3 +0.2**
MELS Mels 46.74 338 *eP* **P 13 03 24.0 -0.2**
MELS AMb AMB 13 03 31.4
comp=Z,222nm,0.9s,mb6.1
EMIR Miracle 46.85 302 P **P 13 03 26.7 +1.2**
comp=Z,214nm,1.4s,mb5.9
EMIR Miracle 46.85 302 P **P 13 03 26.7 +1.3**
comp=Z,214nm,1.4s,mb5.9,SNR=13
RJF Les Rejaudoux 46.85 307 *eP* **P 13 03 25.5 +0.1**
comp=Z,98nm,0.7s,mb5.5
RJF *eR*
comp=Z,335nm,22.0s
EIBI Ibiza 47.14 298 P **P 13 03 26.0 -1.8**
comp=Z,16nm,0.7s,mb5.1,SNR=7.9
EPOB Poblet 47.20 301 P **P 13 03 29.1 +0.8**
comp=Z,156nm,1.3s,mb5.8
EPOB Poblet 47.20 301 P **P 13 03 29.1 +0.8**
comp=Z,156nm,1.3s,mb5.8,SNR=7.9
EBNR Beni Rached 47.26 295 P **P 13 03 28.0 -0.8**
LFF La Frestale 47.39 306 *eP* **P 13 03 29.6 -0.1**
comp=Z,119nm,0.6s,mb5.7
EANR `Ain N'Sour 47.65 294 P **P 13 03 33.0 +1.1**
EBR Ebro Roquetas 47.67 301 *eP* **P 13 03 33.2 +1.2**
EPF Esparros 47.69 304 *eP* **P 13 03 30.6 -1.5**
comp=Z,18nm,0.9s,mb4.8
IPM Ipoh 47.73 111 ⇑*eP* **P 13 03 33.0 +0.2**
EGRA Graus 47.74 303 P **P 13 03 32.9 +0.4**
comp=Z,35nm,0.8s,mb5.4,SNR=7.9
EBIE Bielsa 47.85 303 P **P 13 03 33.4 +0.1**
comp=Z,35nm,1.4s,mb5.2
EBIE Bielsa 47.85 303 P **P 13 03 33.4 +0.1**
comp=Z,35nm,1.4s,mb5.2,SNR=7.9
MFF Saint Martin d 48.04 309 *eP* **P 13 03 33.5 -1.3**
LDF La Druitiere 48.11 311 *eP* **P 13 03 33.7 -1.6**
comp=Z,25nm,0.7s,mb5.1
ESAC San Caprasio 48.34 302 P **P 13 03 37.8 +0.6**
comp=Z,124nm,0.9s,mb5.9
ESAC San Caprasio 48.34 302 P **P 13 03 37.8 +0.6**
comp=Z,124nm,0.9s,mb5.9
FLN La Foliniere 48.35 311 *eP* **P 13 03 35.9 -1.3**
comp=Z,75nm,1.0s,mb5.4
FLN *eR*
comp=Z,166nm,18.1s
ETSF Etsaut 48.36 304 *eP* **P 13 03 37.4 +0.1**
comp=Z,107nm,0.9s,mb5.6
FDAF Les Forges d'A 48.37 304 *eP* **P 13 03 37.3 0.0**
EBEN Beniarda 48.39 298 P **P 13 03 37.2 -0.4**
comp=Z,66nm,1.0s,mb5.6,SNR=4.8
EMOS Mosqueruela 48.44 300 P **P 13 03 39.8 +1.9**
comp=Z,93nm,1.2s,mb5.7
EMOS Mosqueruela 48.44 300 P **P 13 03 39.8 +1.9**
comp=Z,93nm,1.2s,mb5.7,SNR=14
GRR Gorron 48.59 311 *eP* **P 13 03 37.8 -1.1**
comp=Z,45nm,0.9s,mb5.2
LARF Larrau 48.67 304 *eP* **P 13 03 39.7 +0.1**
QIZ Qiongzhong 48.70 89 P **P 13 03 40.5 +0.3**
QIZ Qiongzhong 48.70 89 *eP* **P 13 03 40.0 -0.2**
comp=Z,89nm,1.3s,mb5.6
QIZ Qiongzhong 48.70 89 *eP* **P 13 03 40.0 -0.2**
comp=Z,89nm,1.3s,mb5.6
SJPF Ste Jean 48.84 304 *eP* **P 13 03 41.0 +0.1**
comp=Z,53nm,0.8s,mb5.3
BOD Bodaibo 48.93 36 ⇑*i*P **P 13 03 40.7 -0.7**
WHN Wuhan 49.31 73 ⇑P **P 13 03 44.5 -0.3**
BJT Baijiatuau 49.32 60 *eP* **P 13 03 44.0 -0.7**
comp=Z,69nm,0.9s,mb5.7
BJT *eP* PcP PcP 13 05 06.6 -0.7
BJT Baijiatuau 49.32 60 *eP* **P 13 03 44.0 -0.7**
comp=Z,69nm,0.9s,mb5.7
BJT Baijiatuau 49.32 60 *eP* PcP PcP 13 05 06.6 -0.7
BJI Beijing 49.32 60 P **P 13 03 44.5 -0.2**
BJI AMB AMB
comp=Z,51nm,0.8s,mb5.6
BJI LR LR
comp=N,323nm,20.5s,MS4.5
BJI LR LR
comp=E,306nm,20.6s,MS4.5
BJI LR LR
comp=Z,294nm,19.9s,MS4.3
ETOR Torete 49.60 301 P **P 13 03 47.3 +0.4**
comp=Z,51nm,1.2s,mb5.4
ETOR Torete 49.60 301 P **P 13 03 47.3 +0.4**
comp=Z,51nm,1.2s,mb5.4
ETOR Torete 49.60 301 P **P 13 03 47.3 +0.4**
comp=Z,51nm,1.2s,mb5.4,SNR=7.5
SGMF Saint Gilles 49.72 311 *eP* **P 13 03 46.6 -1.0**
comp=Z,38nm,0.8s,mb5.2
QUIF Quistinic 50.12 310 *eP* **P 13 03 49.4 -1.3**
comp=Z,38nm,1.0s,mb5.1
EVIA Vianos 50.17 298 P **P 13 03 51.9 +0.7**
comp=Z,66nm,0.7s,mb5.8
EVIA Vianos 50.17 298 P **P 13 03 51.9 +0.6**
comp=Z,66nm,0.7s,mb5.8,SNR=10
ROSF Rostrenen 50.20 311 *eP* **P 13 03 50.1 -1.2**
TIA Tai'an 50.54 65 *eP* **P 13 03 53.3 -0.8**
TIA AMB AMB
comp=Z,111nm,1.0s,mb5.8
ESK Eskdalemuir 50.59 320 *eP* **P 13 03 53.3 -0.9**
comp=Z,15nm,0.9s,mb4.9
ESK Eskdalemuir 50.59 320 *eP* **P 13 03 53.3 -0.9**
comp=Z,15nm,0.9s,mb4.9
EBER Berja 50.71 296 P **P 13 03 55.8 +0.4**
comp=Z,29nm,0.8s,mb5.3
EBER Berja 50.71 296 P **P 13 03 55.8 +0.4**
comp=Z,29nm,0.8s,mb5.3,SNR=9.6
EQES Quesada 50.72 297 P **P 13 03 55.4 -0.1**
comp=Z,74nm,1.3s,mb5.5
EQES Quesada 50.72 297 P **P 13 03 55.3 -0.2**
comp=Z,74nm,1.3s,mb5.4,SNR=18
ESDC Sonseca Array 51.17 300 P **P 13 03 58.8 -0.1**
comp=Z,5.6nm,0.6s,mb4.7,baz=66,slow=7.5,SNR=18
ESDC LR LR 13 29 26.2
comp=Z,135nm,20.7s,MS4.0,baz=30,slow=40
ESDC Sonseca Array 51.17 300 P **P 13 03 59.9 +1.0**
comp=Z,3.6nm,0.5s,mb4.6
ESDC Sonseca Array 51.17 300 P **P 13 03 59.9 +1.1**
comp=Z,3.6nm,0.5s,mb4.6,SNR=18
ESLA Sonseca Array 51.17 300 *eP* **P 13 03 58.7 -0.2**
comp=Z,8.3nm,1.1s,mb4.6
ESLA Sonseca Array 51.17 300 *eP* **P 13 03 58.7 -0.1**
comp=Z,8.3nm,1.1s,mb4.6
ERON Agron 51.41 296 P **P 13 04 00.4 -0.3**
comp=Z,7.3nm,0.4s,mb5.0,SNR=9.5
HIA Hailar 51.45 48 *eP* **P 13 04 00.8 -0.1**
comp=Z,75nm,0.6s,mb5.8
HIA *eP* PcP PcP 13 05 14.4 -0.5
HIA Hailar 51.45 48 *eP* **P 13 04 00.8 0.0**
comp=Z,75nm,0.6s,mb5.8
HIA Hailar 51.45 48 *eP* PcP PcP 13 05 14.4 -0.6
LSZ Lusaka 51.65 217 *eP* **P 13 04 04.1 +1.4**
comp=Z,11nm,1.0s,mb4.8
LSZ Lusaka 51.65 217 *eP* **P 13 04 04.1 +1.4**
comp=Z,11nm,1.0s,mb4.8
ELOJ Sierra Loja 51.67 297 P **P 13 04 01.3 -1.3**
comp=Z,1.8nm,0.2s,mb4.7
ELOJ Sierra Loja 51.67 297 P **P 13 04 01.3 -1.3**
comp=Z,1.8nm,0.2s,mb4.6,SNR=5.8
EADA Adamuz 51.85 298 P **P 13 04 04.3 +0.4**
comp=Z,32nm,1.0s,mb5.2
EADA Adamuz 51.85 298 P **P 13 04 04.3 +0.4**
comp=Z,32nm,1.0s,mb5.2,SNR=19
EMIJ Mijas 52.25 296 P **P 13 04 04.7 -2.3**
comp=Z,27nm,0.9s,mb5.2
EMIJ Mijas 52.25 296 P **P 13 04 04.7 -2.3**
comp=Z,27nm,0.9s,mb5.2,SNR=7.9
DMUB Kingscourt 52.63 318 *eP* **P 13 04 10.0 +0.4**
NJ2 Nanjing 52.74 70 *eP* **P 13 04 10.1 -0.6**
NJ2 AP pP 13 04 29.2 +6.8
NJ2 AMB AMB
comp=Z,100nm,1.0s,mb5.7
NJ2 AMB AMB
comp=Z,160nm,7.0s
NJ2 LR LR
comp=N,550nm,25.3s,MS4.6
NJ2 LR LR
comp=E,520nm,24.8s,MS4.6
NJ2 LR LR
comp=Z,490nm,19.7s
DCN Croghan 52.83 317 *eP* **P 13 04 10.0 -1.1**
ECAL Calabor 52.99 303 P **P 13 04 13.1 +0.6**
comp=Z,98nm,1.3s,mb5.6
ECAL Calabor 52.99 303 P **P 13 04 13.1 +0.6**
comp=Z,98nm,1.3s,mb5.6
PBRG Braganca 53.01 303 *eP* **P 13 04 12.5 -0.1**
comp=Z,20nm,1.2s,mb4.9
ESPR Espera 53.06 296 P **P 13 04 11.8 -1.3**
comp=Z,20nm,0.7s,mb5.2
ESPR Espera 53.06 296 P **P 13 04 11.8 -1.2**
comp=Z,20nm,0.7s,mb5.1,SNR=7.9
ERUA La Rua 53.24 303 P **P 13 04 16.9 +2.6**
comp=Z,32nm,1.1s,mb5.2
EMIN Mina Concepcio 53.54 298 P **P 13 04 15.3 -1.3**
comp=Z,36nm,1.5s,mb5.1
EMIN Mina Concepcio 53.54 298 P **P 13 04 15.4 -1.2**
comp=Z,36nm,1.5s,mb5.1
EBAD Badajoz 53.65 299 P **P 13 04 17.6 +0.1**
comp=Z,41nm,1.4s,mb5.2
EBAD Badajoz 53.65 299 P **P 13 04 17.6 +0.3**
comp=Z,41nm,1.4s,mb5.2,SNR=8.6
DL2 Dalian 53.65 61 P **P 13 04 16.8 -0.6**
DL2 *eS* **S 13 11 42.5 -4.0**
DL2 AMB AMB
comp=Z,100nm,1.0s,mb5.7
DL2 LR LR
comp=N,170nm,19.1s,MS4.2
DL2 LR LR
comp=E,140nm,20.2s,MS4.2
DL2 LR LR
comp=Z,330nm,40.0s
MTE Manteigas 53.80 301 *eP* **P 13 04 18.6 +0.1**
comp=Z,56nm,1.4s,mb5.3
MTE Manteigas 53.80 301 *eP* **P 13 04 18.1 -0.4**
comp=Z,100nm,1.3s,mb5.6
MTE Manteigas 53.80 301 *eP* **P 13 04 18.0 -0.5**
comp=Z,100nm,1.3s,mb5.6
PVRL Vila Real 53.80 302 *eP* **P 13 04 18.6 +0.1**
comp=Z,30nm,0.6s,mb5.4
PCBR Castelo Branco 53.83 300 *eP* **P 13 04 19.0 +0.3**
comp=Z,33nm,0.6s,mb5.4
ELOB Lobios 53.98 303 P **P 13 04 19.8 +0.1**
comp=Z,90nm,1.3s,mb5.5
ELOB Lobios 53.98 303 P **P 13 04 19.8 0.0**
comp=Z,90nm,1.3s,mb5.5,SNR=7.6
PVIS Viseu 54.02 302 *eP* **P 13 04 20.9 +0.8**
comp=Z,47nm,1.4s,mb5.2
STS Santiago 54.21 304 P **P 13 04 24.2 +2.8**
comp=Z,16nm,0.8s,mb5.0
PALC Alcoutim 54.23 297 *eP* **P 13 04 20.8 -0.8**
EZAM Zamans 54.41 303 P **P 13 04 22.8 -0.1**
comp=Z,5.7nm,0.5s,mb4.8
EZAM Zamans 54.41 303 P **P 13 04 22.8 -0.1**
comp=Z,5.7nm,0.5s,mb4.7,SNR=7.9
PBEJ Beja 54.43 298 *eP* **P 13 04 22.8 -0.3**
comp=Z,35nm,1.3s,mb5.1
EVO Evora 54.45 299 *eP* **P 13 04 23.7 +0.4**
comp=Z,45nm,0.9s,mb5.1
EVO *eR*
comp=Z,199nm,19.5s
EMAZ Mazaricos 54.51 304 P **P 13 04 23.2 -0.4**
comp=Z,55nm,1.2s,mb5.5
EMAZ Mazaricos 54.51 304 P **P 13 04 23.2 -0.4**
comp=Z,55nm,1.2s,mb5.5,SNR=7.9
CLNS Chul'man 54.67 39 *eP* **P 13 04 24.3 -0.3**
CLNS *e* 13 05 29.1
CLNS *eS* **S 13 11 56.9 -3.1**
CLNS *eSS* SS 13 15 39.3 -3.5
CLNS pmax pmax
comp=Z,39nm,0.9s,mb5.4
CLNS pmax pmax
comp=N,7.0nm,0.7s
CLNS pmax pmax
comp=E,17nm,0.9s
CLNS pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
CLNS pmax pmax
comp=N,16nm,0.9s
CLNS pmax pmax
comp=E,5.0nm,0.6s
CLNS smax
comp=N,7.0nm,1.0s
CLNS smax
comp=E,7.0nm,0.8s
CLNS smax
comp=Z,6.0nm,0.8s
CLNS MLR MLR
comp=N,200nm,13.0s,MS4.4
CLNS MLR MLR
comp=E,100nm,13.0s,MS4.4
CLNS MLR MLR
comp=Z,200nm,13.0s,MS4.4
SNY Shenyang 54.68 57 ⇓P **P 13 04 23.6 -1.3**
SNY AMB AMB
comp=Z,50nm,0.5s,mb5.8
SNY LR LR
comp=E,250nm,20.3s
SNY LR LR
comp=Z,250nm,20.5s,MS4.3
MOE Montemor 54.72 299 *eP* **P 13 04 26.0 +0.8**
SSE Sheshan 54.90 70 P **P 13 04 25.9 -0.7**
SSE PCP PcP 13 05 28.1 -0.1
SSE PCS 13 09 27.3
SSE S **S 13 12 01.0 -2.4**
SSE AMB AMB
comp=Z,28nm,0.8s,mb5.3
SSE LR LR
comp=N,174nm,21.3s,MS4.1
SSE LR LR
comp=E,38nm,21.5s,MS4.1
SSE LR LR
comp=Z,185nm,20.0s,MS4.2
CN2 Changchun 55.77 54 *eP* **P 13 04 31.8 -0.9**
CN2 AMB AMB
comp=Z,70nm,1.0s,mb5.7
CN2 AMB AMB
comp=Z,240nm,4.0s
CN2 LR LR
comp=N,660nm,22.0s,MS4.7
CN2 LR LR
comp=E,260nm,22.0s,MS4.7
CN2 LR LR
comp=Z,530nm,24.0s,MS4.5
OUK Oukaimeden 55.91 290 *i*P **P 13 04 34.0 +0.1**
CIA Chichaoua 56.56 291 *i*P **P 13 04 36.0 -2.6**
YAK Yakutsk 57.23 32 *eP* **P 13 04 40.9 -2.0**
YAK *e* 13 06 50.5
YAK *ePPP* PPP 13 08 10.4 -2.1
YAK *eS* **S 13 12 35.2 +1.3**
YAK *e* 13 14 21.1
YAK *eSS* SS 13 16 30.9 +6.2
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=Z,16nm,1.0s,mb5.0
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK pmax pmax
comp=Z,11nm,1.1s,mb4.8
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=E,11nm,1.3s
YAK smax
comp=E,8.0nm,1.1s
YAK smax
comp=N,3.0nm,1.3s
YAK Yakutsk 57.23 32 *eP* **P 13 04 40.8 -2.1**
comp=N,43nm,1.0s,mb5.4
YAK Yakutsk 57.23 32 *eP* **P 13 04 40.8 -2.1**
comp=N,43nm,1.0s,mb5.4
INCN Inchon 57.79 62 *eP* **P 13 04 45.9 -1.3**
comp=N,107nm,0.9s,mb5.9
INCN Inchon 57.79 62 *eP* **P 13 04 45.9 -1.3**
comp=N,107nm,0.9s,mb5.9
MDJ Mudanjiang 58.59 53 P **P 13 04 50.8 -1.8**
MDJ AMB AMB
comp=Z,13nm,1.2s,mb4.8
MDJ AMB AMB
comp=Z,87nm,6.3s
MDJ Mudanjiang 58.59 53 *eP* **P 13 04 51.2 -1.5**
comp=Z,17nm,0.9s,mb5.1
MDJ Mudanjiang 58.59 53 *eP* **P 13 04 51.2 -1.4**
comp=Z,17nm,0.9s,mb5.1
KS15 Wonju Array Si 58.77 61 *eP* **P 13 04 52.2 -1.8**
KS15 Wonju Array Si 58.77 61 *eP* **P 13 04 52.2 -1.9**
KLR Kul'dur 59.29 47 ⇑*eP* **P 13 04 53.0 -4.5**
KLR pmax pmax
comp=N,36nm,0.9s
KLR pmax pmax
comp=Z,60nm,0.9s,mb5.6
DAG Danmarks Havn 59.48 345 ⇑*i*P **P 13 04 57.5 -1.0**
comp=Z,6.8nm,0.7s,mb4.8
TSUM Tsumeb 60.84 224 P **P 13 05 07.8 -0.7**
comp=Z,16nm,1.2s,mb5.0
TSUM Tsumeb 60.84 224 P **P 13 05 07.8 -0.7**
comp=Z,16nm,1.2s,mb5.0
DBIC Dimbokro 62.37 262 P **P 13 05 20.1 +1.3**
comp=Z,8.5nm,0.6s,mb5.0,baz=39,slow=7.6,SNR=12
DBIC LR LR 13 34 40.1
comp=Z,222nm,19.2s,MS4.3,baz=33,slow=38
DBIC Dimbokro 62.37 262 *eP* **P 13 05 19.7 +0.8**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,20nm,1.0s,mb5.2						
DBIC	**Dimbokro**	**62.37**	**262**	*e*P	**P**	**13 05 19.7**	**+0.9**
	comp=Z,20nm,1.0s,mb5.2						
KIC	**Kosan Boka**	**62.42**	**262**	*e*P	**P**	**13 05 18.6**	**-0.5**
	comp=Z,49nm,0.8s,mb5.7						
TIC	**Toumodi**	**62.52**	**262**	*e*P	**P**	**13 05 18.4**	**-1.5**
	comp=Z,73nm,0.9s,mb5.8						
LIC	**Lamto**	**62.73**	**262**	*e*P	**P**	**13 05 21.7**	**+0.4**
	comp=Z,14nm,0.6s,mb5.0						
LIC	**Lamto**	**62.73**	**262**	*e*P	**P**	**13 05 21.4**	**+0.1**
	comp=Z,47nm,0.9s,mb5.6						
BOSA	**Boshof**	**64.34**	**211**	*e*P	**P**	**13 05 31.2**	**-0.5**
	comp=Z,19nm,0.8s,mb5.2						
BOSA	**Boshof**	**64.34**	**211**	*e*P	**P**	**13 05 31.2**	**-0.4**
	comp=Z,19nm,0.8s,mb5.2						
SUMG	**Summit**	**65.00**	**341**	*e*P	**P**	**13 05 35.5**	**+0.3**
	comp=Z,38nm,0.9s,mb5.4						
SUMG	**Summit**	**65.00**	**341**	*e*P	**P**	**13 05 35.5**	**+0.3**
	comp=Z,38nm,0.9s,mb5.4						
MAJO	**Matsushiro**	**66.96**	**60**	*e*P	**P**	**13 05 45.9**	**-2.3**
	comp=Z,54nm,1.0s,mb5.5						
MAJO	**Matsushiro**	**66.96**	**60**	*e*P	**P**	**13 05 45.9**	**-2.3**
	comp=Z,54nm,1.0s,mb5.5						
MAT	**Matsushiro**	**66.96**	**60**	P	**P**	**13 05 46.3**	**-1.9**
MAT	**Matsushiro**	**66.96**	**60**	*e*P	**P**	**13 05 46.0**	**-2.2**
YSS	**Yuzh-Sakhalins**	**66.99**	**48**	⇓*e*P	**P**	**13 05 46.6**	**-1.6**
YSS				pmax	pmax		
	comp=E,60nm,0.9s						
YSS				pmax	pmax		
	comp=Z,160nm,0.9s,mb6.0						
YSS	**Yuzh-Sakhalins**	**66.99**	**48**	*e*P	**P**	**13 05 47.0**	**-1.2**
	comp=Z,177nm,0.8s,mb6.1						
YSS	**Yuzh-Sakhalins**	**66.99**	**48**	*e*P	**P**	**13 05 47.0**	**-1.2**
	comp=Z,177nm,0.8s,mb6.1						
SEY	**Seymchan**	**67.47**	**30**	*e*P	**P**	**13 05 52.8**	**+1.8**
SEY				*e*		13 06 17.1	
SEY				pmax	pmax		
	comp=Z,110nm,0.9s,mb5.9						
MA2	**Magadan**	**67.77**	**33**	*e*P	**P**	**13 05 52.3**	**-0.7**
	comp=Z,84nm,1.3s,mb5.6						
MA2	**Magadan**	**67.77**	**33**	*e*P	**P**	**13 05 52.3**	**-0.6**
	comp=Z,84nm,1.3s,mb5.6						
SUR	**Sutherland**	**69.57**	**212**	*e*P	**P**	**13 06 05.2**	**+0.7**
	comp=Z,23nm,0.9s,mb5.1						
SUR	**Sutherland**	**69.57**	**212**	*e*P	**P**	**13 06 05.2**	**+0.7**
	comp=Z,23nm,0.9s,mb5.1						
RES	**Resolute Bay**	**75.71**	**353**	*e*P	**P**	**13 06 37.8**	**-2.1**
	comp=Z,14nm,1.1s,mb4.8						
RES	**Resolute Bay**	**75.71**	**353**	*e*P	**P**	**13 06 37.8**	**-2.2**
	comp=Z,14nm,1.1s,mb4.8						
MBWA	**Marble Bar**	**77.77**	**122**	*e*P	**P**	**13 06 52.2**	**-0.4**
	comp=Z,13nm,1.0s,mb4.8						
MBWA	**Marble Bar**	**77.77**	**122**	*e*P	**P**	**13 06 52.2**	**-0.4**
	comp=Z,13nm,1.0s,mb4.8						
FITZ	**Fitzroy Crossi**	**80.56**	**116**	LR	LR	13 42 35.5	
	comp=Z,87nm,19.2s,MS4.1,baz=319,slow=36						
IMA	**Indian Mountai**	**83.02**	**12**	*e*P	**P**	**13 07 20.3**	**+0.8**
NWAO	**Narrogin (SRO)**	**83.30**	**133**	*e*P	**P**	**13 07 21.1**	**-0.6**
	comp=Z,33nm,1.1s,mb5.3						
NWAO	**Narrogin (SRO)**	**83.30**	**133**	*e*P	**P**	**13 07 21.1**	**-0.6**
	comp=Z,33nm,1.1s,mb5.3						
INK	**Inuvik**	**83.38**	**4**	P	**P**	**13 07 21.1**	**-0.3**
	comp=Z,8.1nm,1.0s,mb4.7,baz=23,slow=4.7,SNR=7.5						
INK	**Inuvik**	**83.38**	**4**	*e*P	**P**	**13 07 20.1**	**-1.3**
	comp=Z,17nm,1.1s,mb5.0						
SCHQ	**Schefferville**	**84.38**	**331**	P	**P**	**13 07 27.2**	**+0.7**
	comp=Z,6.4nm,0.7s,mb4.9,baz=43,slow=7.6,SNR=7.3						
SCHQ				LR	LR	13 43 30.5	
	comp=Z,111nm,20.5s,MS4.2,baz=12,slow=35						
SCHQ	**Schefferville**	**84.38**	**331**	*e*P	**P**	**13 07 26.9**	**+0.3**
	comp=Z,16nm,0.9s,mb5.2						
SCHQ	**Schefferville**	**84.38**	**331**	*e*P	**P**	**13 07 26.9**	**+0.3**
	comp=Z,16nm,0.9s,mb5.2						
COLA	**College**	**85.12**	**10**	*e*P	**P**	**13 07 29.6**	**-0.5**
TTA	**Tatalina**	**85.32**	**15**	*e*P	**P**	**13 07 31.7**	**+0.6**
ILAR	**Eielson Array**	**85.37**	**10**	P	**P**	**13 07 30.9**	**-0.3**
	comp=Z,4.5nm,0.6s,mb4.8,baz=328,slow=3.3,SNR=36						
MCK	**McKinley**	**86.00**	**11**	*e*P	**P**	**13 07 34.3**	**-0.1**
	comp=Z,25nm,1.3s,mb5.3						
MCK	**McKinley**	**86.00**	**11**	*e*P	**P**	**13 07 34.3**	**-0.1**
	comp=Z,25nm,1.3s,mb5.3						
THY	**Trims Highway**	**86.82**	**10**	*e*P	**P**	**13 07 39.5**	**+1.2**
THY	**Trims Highway**	**86.82**	**10**	*e*P	**P**	**13 07 39.5**	**+1.1**
DAWY	**Dawson**	**87.05**	**7**	*e*P	**P**	**13 07 40.3**	**+0.8**
DAWY	**Dawson**	**87.05**	**7**	*e*P	**P**	**13 07 40.3**	**+0.8**
SPU	**Mount Spurr**	**87.73**	**14**	*e*P	**P**	**13 07 43.8**	**+0.9**
SPU	**Mount Spurr**	**87.73**	**14**	*e*P	**P**	**13 07 43.8**	**+0.9**
PWA	**Palmer West**	**87.74**	**13**	*e*P	**P**	**13 07 43.2**	**+0.3**
SML	**Sawmill**	**87.89**	**12**	*e*P	**P**	**13 07 44.0**	**+0.4**
SML	**Sawmill**	**87.89**	**12**	*e*P	**P**	**13 07 44.0**	**+0.4**
PMR	**Palmer**	**87.94**	**12**	*e*P	**P**	**13 07 44.7**	**+0.9**
RSO	**Redoubt South**	**88.23**	**14**	P	**P**	**13 07 41.9**	**-3.4**
WRA	**Warramunga Arr**	**88.50**	**113**	P	**P**	**13 07 48.9**	**+1.4**
	comp=Z,73nm,0.8s,mb6.0,baz=313,slow=4.1,SNR=380						
WRA				LR	LR	13 53 14.6	
	comp=Z,60nm,19.9s,MS4.0,baz=245,slow=40						
WRAB	**Tennant Creek**	**88.50**	**113**	P	**P**	**13 07 49.2**	**+1.7**
	comp=Z,798nm,0.9s,SNR=57						
WRAB	**Tennant Creek**	**88.50**	**113**	*e*P	**P**	**13 07 48.8**	**+1.3**
	comp=Z,210nm,0.9s						
SLKM	**Skilak Lake**	**88.72**	**13**	*e*P	**P**	**13 07 48.2**	**+0.6**
SLKM	**Skilak Lake**	**88.72**	**13**	*e*P	**P**	**13 07 48.2**	**+0.6**
YKW3	**Yellowknife Ar**	**89.26**	**356**	*e*P	**P**	**13 07 51.1**	**+1.0**
YKA	**Yellowknife Ar**	**89.32**	**356**	P	**P**	**13 07 51.5**	**+1.1**
	comp=Z,12nm,0.7s,mb5.3,baz=0.9,slow=5.1,SNR=33						
YKA				LR	LR	13 54 01.2	
	comp=Z,100nm,18.7s,MS4.3,baz=325,slow=40						
YKA	**Yellowknife Ar**	**89.32**	**356**	P	**P**	**13 07 51.5**	**+1.1**
ASAR	**Alice Springs**	**90.05**	**117**	P	**P**	**13 07 56.0**	**+1.2**
	comp=Z,23nm,0.9s,mb5.5,baz=304,slow=4.7,SNR=108						
DLBC	**Dease Lake**	**93.41**	**4**	P	**P**	**13 08 10.6**	**+1.1**
	comp=Z,2.7nm,0.8s,mb4.7,baz=280,slow=6.1,SNR=3.6						
MAW	**Mawson**	**95.67**	**178**	P	**P**	**13 08 22.1**	**+2.6**
	comp=Z,1.4nm,0.7s,mb4.5,baz=27,slow=12,SNR=4.9						
MAW				LR	LR	13 48 56.1	
	comp=Z,89nm,18.5s,MS4.3,baz=244,slow=34						
MAW	**Mawson**	**95.67**	**178**	*e*P	**P**	**13 08 19.2**	**-0.3**
	comp=Z,3.5nm,1.0s,mb4.7						
ULM	**Lac du Bonnet**	**98.28**	**343**	P	**P**	**13 08 33.3**	**+1.5**
	comp=Z,2.4nm,0.4s,mb5.1,slow=3.0,SNR=2.4						
ULM				LR	LR	13 54 59.1	
	comp=Z,121nm,21.2s,MS4.4,baz=21,slow=37						
CTA	**Charters Tower**	**98.39**	**108**	LR	LR	13 54 24.2	
	comp=Z,99nm,19.4s,MS4.3,baz=134,slow=36						
CTAO	**Charters Tower**	**98.39**	**108**	*e*P	**P**	**13 08 32.6**	**-0.4**
	comp=Z,3.5nm,0.7s,mb5.0						
EDM	**Edmonton**	**98.45**	**354**	*e*P	**P**	**13 08 33.5**	**+1.1**
STKA	**Stephens Creek**	**99.97**	**121**	P	**P**	**13 08 43.1**	**+3.1**
	comp=Z,5.5nm,0.9s,mb5.0,baz=290,slow=5.8,SNR=4.4						
STKA				LR	LR	13 53 58.7	
	comp=Z,139nm,18.3s,MS4.5,baz=350,slow=36						
STKA	**Stephens Creek**	**99.97**	**121**	*e*Pdif	**P**	**13 08 41.9**	**+2.0**
NVAR	**Mina Array Bea**	**113.52**	**356**	PKiKP		13 13 35.2	
	comp=Z,0.4nm,0.3s,SNR=7.5						
QSPA	**South Pole Qui**	**118.10**	**180**	*e*PKP	PKPdf	13 13 41.2	+1.8
SBA	**Scott Base**	**121.51**	**166**	*e*PKPdf	PKPdf	13 13 49.7	+3.5
LPAZ	**La Paz**	**128.48**	**271**	PKP	PKPdf	13 14 04.2	+3.2
	comp=Z,1.0nm,0.8s,baz=93,slow=7.9,SNR=4.1						

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*NIED **07** 13:01:00, 36.30N×140.60E, h65^{km}, Mw4.4 Best double couple: M$_0$4.14×10^{15} NP1:ϕ_s208°, δ70°, λ108°. NP2: ϕ_s345°, δ27°, λ50°.*
*BJI **07** 13:01:29.1, 35.95N×141.37E, h53^{km}, mB4.9, mb4.6, Ms4.3, Msz4.2*
*IDC **07** 13:01:34.7±3.0, 36.22N×140.65E, h38^{km}±27^{km}, mb3.8/11, mb1 4.0/14, mb1mx3.9/26, ML4.3/3, MS3.0/2, Ms1 3.0/2, ms1mx2.6/23, Error ellipse: s-maj=23.3km s-min=15.9km az=92.0*
*NEIC **07** 13:01:35.9±1.4, 36.19N×140.61E, h53^{km}±11^{km}, mb4.6/9, MW4.4(NIED), Error ellipse: s-maj=13.5km s-min=10.2km az=124.0*
NEIC Felt at Tokyo. Recorded [3 JMA] in Fukushima, Ibaraki and Tochigi; [2 JMA] in Gumma; [1 JMA] in Chiba and Saitama Prefectures.
*JMA **07** 13:01:35.8, 36.27N×140.56E, h59^{km}±1^{km}, M4.4 Broadband fault plane solution: P waves. NP1:ϕ_s273°, δ6°, λ-14°. NP2:ϕ_s17°, δ88°, λ-96°. Principal axes: T Plg43°, Azm113°; N Plg6°, Azm17°; P Plg46°, Azm281°;*
JMA Felt III J1.
ISC 07 13:01:34.8±0.5, **36.23N**±0.04×**140.66E**±0.05, **h57**^{km}±3^{km}, **n52**, σ**1^{s}16**/62, **mb4.4**/24, **MS4.2**/1, **7C, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.38**	**270**	⇑P	**P**	**13 01 46.0**	**+0.6**
JYT				S	**S**	**13 01 53.1**	**0.0**
JHO	**Hitachi**	**0.39**	**349**	⇑P	**P**	**13 01 46.2**	**+0.8**
JHO				S	**S**	**13 01 53.4**	**+0.2**
ONAJ	**Iwakimizuishiy**	**0.88**	**7**	⇑P	**P**	**13 01 51.7**	**+0.5**
ONAJ				S	**S**	**13 02 03.3**	**-0.2**
JSB	**Shiboa**	**0.95**	**321**	⇑P	**P**	**13 01 52.4**	**+0.2**
JSB				S	**S**	**13 02 05.0**	**-0.2**
JAG	**Ashikaga**	**1.00**	**282**	P	**P**	**13 01 52.9**	**0.0**
JAG				S	**S**	**13 02 05.5**	**-0.8**
JFK	**Kawauchi**	**1.15**	**8**	⇑P	**P**	**13 01 54.9**	**0.0**
JKT	**Katashina**	**1.26**	**296**	⇑P	**P**	**13 01 56.7**	**+0.2**
JKT				S	**S**	**13 02 12.5**	**-0.2**
JFT	**Otama**	**1.31**	**349**	⇑P	**P**	**13 01 57.6**	**+0.2**
JFT				S	**S**	**13 02 13.5**	**-0.6**
MAJO	**Matsushiro**	**2.01**	**280**	*e*Pn	**P**	**13 02 07.4**	**+0.5**
MAT	**Matsushiro**	**2.01**	**280**	P	**P**	**13 02 06.4**	**-0.6**
MAT				S	**S**	**13 02 29.8**	**-1.0**
MAT	**Matsushiro**	**2.01**	**280**	*e*P	**P**	**13 02 06.0**	**-1.0**
MAT				*e*S	**S**	**13 02 30.0**	**-0.8**
JHJ	**Hachijo jima 2**	**3.19**	**193**	Pn	**P**	**13 02 23.9**	**+0.2**
	73nm,0.3s,baz=36,slow=11,SNR=9.3						
JHJ				Sn	**S**	**13 03 00.1**	**-0.6**
	79nm,0.3s,baz=68,slow=22,SNR=6.1						
ASAJ	**Asahikawa**	**8.01**	**10**	Pn	**P**	**13 03 27.7**	**-3.3**
	3.2nm,0.3s,baz=237,slow=8.5,SNR=21						
ASAJ				Sn	**S**	**13 04 53.6**	**-7.5**
	0.5nm,0.3s,baz=278,slow=18,SNR=1.9						
ASAJ				LR	LR	13 06 55.5	
	comp=Z,50nm,18.3s,baz=173,slow=40						
CBIJ	**Chichi jima**	**9.20**	**171**	Pn	**P**	**13 03 43.2**	**-4.0**
	14nm,0.3s,baz=223,slow=16,SNR=8.2						
KS15	**Wonju Array Si**	**10.32**	**281**	*e*P	**P**	**13 04 05.0**	**+2.5**
YSS	**Yuzh-Sakhalins**	**10.83**	**8**	*e*Pn	**P**	**13 04 08.1**	**-1.4**
MDJ	**Mudanjiang**	**11.88**	**318**	*e*P	**P**	**13 04 23.1**	**-0.5**
	22nm,1.5s						
CN2	**Changchun**	**13.88**	**308**	*e*P	**P**	**13 04 52.2**	**+2.1**
JOW	**Kunigami**	**14.11**	**232**	LR	LR	13 10 08.3	
	comp=Z,125nm,18.2s,baz=90,slow=36						
NJ2	**Nanjing**	**18.52**	**263**	*e*P	**P**	**13 05 50.6**	**+1.8**
NJ2				AP		13 06 01.8	
NJ2				PP	PP	13 06 09.3	+4.2
NJ2				S	**S**	**13 09 12.0**	**+2.0**
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s						
NJ2				LR	LR		
	comp=N,550nm,15.2s						
NJ2				LR	LR		
	comp=E,580nm,16.7s						
NJ2				LR	LR		
	comp=Z,550nm,12.6s						
ENH	**Enshi**	**26.67**	**266**	*e*P	**P**	**13 07 05.9**	**-4.4**
	comp=Z,7.7nm,0.6s,mb4.4						
YAK	**Yakutsk**	**26.73**	**348**	P	**P**	**13 07 10.5**	**0.0**
	comp=Z,15nm,0.8s,mb4.6						
SONM	**Songino Array**	**27.75**	**305**	P	**P**	**13 07 19.2**	**-0.7**
	comp=Z,1.4nm,0.6s,mb3.8,baz=102,slow=8.2,SNR=5.4						
QIZ	**Qiongzhong**	**32.05**	**246**	P	**P**	**13 08 00.6**	**+2.3**
	comp=Z,40nm,1.4s,mb5.1						
KMI	**Kunming**	**34.25**	**262**	*e*P	**P**	**13 08 17.6**	**+0.3**
KMI				AP	pP	13 08 34.9	+3.1
KMI				S	**S**	**13 13 39.5**	**+0.4**
KMI				XS		13 14 08.1	
KMI				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.6						
KMI				AMB	AMB		
	comp=Z,93nm,5.0s						
KMI				LR	LR		
	comp=N,171nm,20.9s,MS4.2						
KMI				LR	LR		
	comp=E,340nm,16.3s,MS4.2						
KMI				LR	LR		
	comp=Z,349nm,15.4s,MS4.2						
WMQ	**Urumqi**	**40.67**	**298**	*e*P	**P**	**13 09 11.4**	**+0.5**
MKAR	**Makanchi Array**	**44.04**	**303**	P	**P**	**13 09 37.8**	**-0.6**
	comp=Z,3.2nm,0.7s,mb4.2,baz=90,slow=9.7,SNR=5.7						
KURK	**Kurchatov**	**45.96**	**309**	*e*P	**P**	**13 09 52.7**	**-0.9**
	comp=Z,24nm,1.2s,mb5.0						
GUN	**Gumba**	**46.64**	**276**	*e*P	**P**	**13 09 55.6**	**-3.7**
	comp=Z,14nm,0.6s,mb5.1						
PKI	**Pulchoki**	**47.16**	**276**	*e*P	**P**	**13 10 01.0**	**-2.4**
KKN	**Kakani**	**47.17**	**276**	*e*P	**P**	**13 10 01.1**	**-2.4**
	comp=Z,28nm,1.0s,mb5.1						
DMN	**Daman**	**47.39**	**276**	*e*P	**P**	**13 10 04.0**	**-1.2**
GKN	**Gorkha**	**47.60**	**277**	*e*P	**P**	**13 10 05.3**	**-1.5**
	comp=Z,26nm,0.7s,mb5.4						
KOLN	**Koldanda**	**48.53**	**277**	*e*P	**P**	**13 10 16.3**	**+2.2**
	comp=Z,35nm,1.2s,mb5.3						
COLA	**College**	**50.08**	**32**	*e*P	**P**	**13 10 26.0**	**+0.5**
	comp=Z,3.6nm,0.9s,mb4.4						
ILAR	**Eielson Array**	**50.49**	**32**	P	**P**	**13 10 28.5**	**-0.2**
	comp=Z,1.2nm,0.7s,mb4.1,baz=276,slow=7.2,SNR=8.0						
BVAR	**Borovoye Array**	**50.67**	**313**	P	**P**	**13 10 31.5**	**+1.3**
	comp=Z,1.3nm,0.7s,mb4.0,baz=83,slow=12,SNR=3.6						
ZRNK	**Zerenda**	**51.51**	**313**	P	**P**	**13 10 34.2**	**-2.2**
	comp=Z,6.2nm,0.9s,mb4.5						
INK	**Inuvik**	**55.38**	**27**	P	**P**	**13 11 04.4**	**-0.4**
	comp=Z,1.9nm,0.7s,mb4.3,baz=313,slow=5.1,SNR=4.3						
INK	**Inuvik**	**55.38**	**27**	P	**P**	**13 11 01.3**	**-3.5**
	comp=Z,5.9nm,1.0s,mb4.6						
WRA	**Warramunga Arr**	**56.19**	**187**	P	**P**	**13 11 09.9**	**-1.4**
	comp=Z,2.1nm,0.9s,mb4.2,baz=4.5,slow=7.3,SNR=5.8						
ASAR	**Alice Springs**	**59.91**	**187**	P	**P**	**13 11 36.4**	**-1.0**
	comp=Z,0.8nm,0.6s,mb3.9,baz=8.1,slow=8.8,SNR=6.1						
MBWA	**Marble Bar**	**60.41**	**203**	*e*P	**P**	**13 11 39.9**	**-0.9**
	comp=Z,5.6nm,0.8s,mb4.7						
FINES	**FINESS Array B**	**69.24**	**332**	P	**P**	**13 12 38.6**	**+1.5**
	comp=Z,1.8nm,0.9s,mb4.0,baz=83,slow=11,SNR=2.9						
NB2	**NORSAR Subarra**	**74.69**	**337**	P	**P**	**13 13 08.5**	**-0.9**
	comp=Z,2.3nm,0.8s,mb4.2,baz=41,slow=5.8						
NOA	**NORSAR Array B**	**74.69**	**337**	P	**P**	**13 13 08.9**	**-0.5**
	comp=Z,1.5nm,0.8s,mb4.0,baz=39,slow=5.8,SNR=4.5						
NVAR	**Mina Array Bea**	**75.95**	**53**	P	**P**	**13 13 18.4**	**+1.2**
	comp=Z,0.5nm,0.5s,mb3.7,baz=303,slow=5.3,SNR=5.5						
PDAR	**Pinedale Array**	**78.66**	**45**	P	**P**	**13 13 33.0**	**+0.9**
	comp=Z,0.4nm,0.5s,mb3.6,baz=315,slow=2.1,SNR=3.7						
PV10	**Paradox Valley**	**81.76**	**48**	*e*P	**P**	**13 13 49.6**	**+0.9**
ANMO	**Albuquerque**	**85.56**	**49**	P	**P**	**13 14 09.7**	**+1.7**
	comp=Z,2.4nm,1.1s,mb4.3						
SAML	**Samuel**	**145.24**	**44**	P	PKPdf	13 21 06.4	-0.1
LPAZ	**La Paz**	**147.62**	**60**	PKPbc	PKPdf	13 21 16.6	+6.2
	comp=Z,1.0nm,0.6s,baz=48,slow=4.1,SNR=3.9						

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*NNC **07** 13:03:25.9±2.5, 41.86N×78.47E, mpv3.5, Error ellipse: s-maj=32.7km s-min=9.7km az=154.0*
*KNET **07** 13:03:26.6±0.7, 41.80N×77.94E, ml3.4, Error ellipse: s-maj=12.5km s-min=4.6km az=34.0*
*BJI **07** 13:03:27.4, 41.64N×78.45E, h15^{km}, ML3.6*
ISC 07 13:03:29.8±1.2, **41.84N**±0.09×**78.21E**±0.10, **h33**^{km}, **n11**, σ**0^{s}96**/16, **9C-6D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**1.52**	**286**	⇓P	**P**	**13 03 51.9**	**-3.1**
	81nm,0.3s,SNR=11						
ULHL				⇓S	**S**	**13 04 12.7**	**-1.0**
	98nm,0.3s						
TKM2	**Tokmak 2**	**2.22**	**300**	⇓P	**P**	**13 04 04.7**	**-0.2**
	66nm,0.3s,SNR=35						
TKM2				⇓S	**S**	**13 04 35.5**	**+4.0**
	112nm,0.2s						
KZA	**Kyzart**	**2.22**	**277**	⇑P	**P**	**13 04 04.2**	**-0.7**
	75nm,0.3s,SNR=10						
KBK	**Karagaybulak**	**2.56**	**290**	⇑P	**P**	**13 04 10.5**	**+0.7**
	50nm,0.3s,SNR=26						
UCH	**Uchtor**	**2.78**	**279**	⇓P	**P**	**13 04 13.6**	**+0.6**
	28nm,0.4s,SNR=13						
CHMS	**Chumysh**	**2.81**	**296**	⇓P	**P**	**13 04 13.7**	**+0.3**
	14nm,0.3s,SNR=11						
AAK	**Ala-Archa**	**2.87**	**287**	⇑Pn	**Pn**	**13 04 15.2**	**+0.8**
	18nm,0.5s						
AAK				⇑Sn	**Sn**	**13 04 54.2**	**+6.0**
	107nm,0.8s						
AAK	**Ala-Archa**	**2.87**	**287**	⇑P	**P**	**13 04 15.1**	**+0.8**
	37nm,0.5s,SNR=12						
KSH	**Kashi**	**2.88**	**217**	*e*P	**P**	**13 04 14.5**	**+0.2**
KSH				S	**S**	**13 04 54.7**	**+6.6**
KSH				Smax			
	comp=N,220nm,0.6s						
KSH				Smax			
	comp=E,210nm,0.5s						
USP	**Ospenovka**	**3.09**	**299**	⇑P	**P**	**13 04 16.9**	**-0.5**
	comp=E,26nm,0.4s,SNR=11						
MK31	**Makanchi Array**	**5.75**	**29**	⇑Pn	**Pn**	**13 04 53.9**	**-1.3**
	comp=E,1.0nm,0.3s,baz=208,slow=12,SNR=63						
MK31				⇑Sn	**Sn**	**13 06 01.5**	**+0.7**
	comp=E,3.5nm,0.5s,baz=211,slow=18,SNR=5.0						
MK31				⇑Lg		13 06 24.6	
	comp=E,6.1nm,0.6s,baz=210,slow=27,SNR=3.9						

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*IDC **07** 13:32:07.0±1.8, 1.98N×96.97E, mb3.9/6, mb1 4.0/7, mb1mx3.8/17, ML3.7/1, Error ellipse: s-maj=78.2km s-min=19.8km az=57.0*
*DJA **07** 13:32:09.4±1.2, 1.98N×96.69E, h33^{km}, MD4.4/1, ML5.0/2, Error ellipse: s-maj=39.7km s-min=24.5km az=19.0*
*NEIC **07** 13:32:13.7±2.7, 2.02N×97.07E, h48^{km}±20^{km}, mb4.4/5, Error ellipse: s-maj=32.0km s-min=9.6km az=60.0*
ISC 07 13:32:11.1±2.7, **2.0N**±0.1×**96.9E**±0.1, **h47**^{km}±20^{km}, **n19**, σ**0^{s}83**/23, **mb4.1**/11, **7C-2D, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AEKI	**Aeknabara**	**1.56**	**86**	⇑*i*Pn	**P**	**13 32 36.3**	**-0.6**
	3μm,0.2s						
AEKI	**Aeknabara**	**1.56**	**86**	⇑*i*Pg	**P**	**13 32 37.8**	**+0.9**
AEKI				⇓*i*Sn	**S**	**13 32 57.0**	**+1.0**
AEKI	**Aeknabara**	**1.56**	**86**	⇑*i*Pn	**P**	**13 32 36.3**	**-0.6**
AEKI				⇑*i*Pg	**P**	**13 32 37.8**	**+0.9**
AEKI				*i* Sn	**S**	**13 32 57.0**	**+1.0**
SIMI	**Simarbalatuk**	**2.16**	**71**	⇑*i*Pn	**P**	**13 32 45.2**	**-0.2**
MRPI	**Mariponipon**	**2.44**	**99**	⇑*i*Pn	**P**	**13 32 49.4**	**-0.1**
	265nm,0.2s						
MRPI				⇓*i*Sn	**S**	**13 33 18.8**	**+0.5**
IPM	**Ipoh**	**4.85**	**58**	⇑*e*P	**P**	**13 33 22.5**	**-1.0**
CMAR	**Chiang Mai Arr**	**16.48**	**7**	Pn	**P**	**13 35 59.5**	**-1.2**
	0.1nm,0.3s,baz=188,slow=14,SNR=6.2						
WRA	**Warramunga Arr**	**42.71**	**123**	P	**P**	**13 40 04.6**	**-1.0**
	1.0nm,0.8s,mb3.6,baz=301,slow=9.2,SNR=12						
WRAB	**Tennant Creek**	**42.71**	**123**	P	**P**	**13 40 03.9**	**-1.7**
	2.7nm,0.5s,mb4.2						
ASAR	**Alice Springs**	**44.11**	**128**	P	**P**	**13 40 17.9**	**+1.0**
	0.3nm,0.7s,mb3.1,baz=304,slow=8.5,SNR=3.0						
KS15	**Wonju Array Si**	**45.34**	**35**	*e*P	**P**	**13 40 26.0**	**-0.6**
SONM	**Songino Array**	**46.40**	**9**	P	**P**	**13 40 35.4**	**+0.6**
	2.5nm,0.9s,mb4.2,baz=189,slow=8.5,SNR=13						
SONM				PcP	PcP	13 42 10.4	+0.8
	0.9nm,0.7s,baz=177,slow=3.4,SNR=4.9						
MKAR	**Makanchi Array**	**46.41**	**346**	P	**P**	**13 40 35.8**	**+0.9**
	1.4nm,0.5s,mb4.2,baz=160,slow=9.1,SNR=22						
KURK	**Kurchatov**	**50.95**	**345**	*e*P	**P**	**13 41 11.3**	**+1.2**
	4.2nm,0.9s,mb4.4						
HIA	**Hailar**	**50.99**	**19**	*e*P	**P**	**13 41 09.9**	**-0.4**
	3.7nm,0.7s,mb4.4						
BVAR	**Borovoye Array**	**55.41**	**341**	P	**P**	**13 41 43.0**	**0.0**
	1.1nm,0.7s,mb4.0,baz=129,slow=9.5,SNR=6.3						
ZRNK	**Zerenda**	**55.81**	**340**	*e*P	**P**	**13 41 45.9**	**0.0**
	2.0nm,0.8s,mb4.2						
YAK	**Yakutsk**	**64.75**	**16**	P	**P**	**13 42 46.4**	**-0.3**
	7.7nm,0.8s,mb4.8						
FINES	**FINESS Array B**	**79.16**	**332**	P	**P**	**13 44 13.4**	**+1.0**
	2.3nm,0.8s,mb4.1,baz=90,slow=8.3,SNR=3.4						

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*ISK **07** 14:04:32.7, 37.77N×27.03E, h13^{km}, MD3.1*
*CSEM **07** 14:04:32.5±0.4, 37.77N×27.05E, h8^{km}, MD3.1, Error ellipse: s-maj=9.0km s-min=7.4km az=65.0*
ISC 07 14:04:32.3±1.3, **37.75N**±0.03×**26.95E**±0.09, **h1**^{km}±9^{km}, **n8**, σ**0^{s}84**/14, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IZM	**Izmir**	**0.69**	**21**	PG	**Pg**	**14 04 45.2**	**-0.9**
IZM				SG	**Sg**	**14 04 56.0**	**+0.7**
KDAG	**Bornova**	**0.70**	**21**	*i* P	**Pg**	**14 04 45.3**	**-0.9**
KDAG				*i* S	**Sg**	**14 04 56.1**	**+0.6**
AYDN	**Tasoluk**	**0.74**	**97**	*i* P	**Pg**	**14 04 46.5**	**-0.5**
AYDN				*i* S	**Sg**	**14 04 56.7**	**-0.2**
BDRM	**Kayabasi**	**0.79**	**150**	*i* P	**Pg**	**14 04 48.9**	**+0.9**
BDRM				*i* S	**Sg**	**14 04 59.2**	**+0.7**
MLSB	**Milas**	**0.80**	**124**	PG	**Pg**	**14 04 48.3**	**+0.1**
MLSB				*e*SG	**Sg**	**14 04 58.4**	**-0.4**
YER	**Yerkesik**	**1.23**	**120**	PN	**Pn**	**14 04 55.1**	**-1.3**
AKS	**Akhisar**	**1.32**	**31**	PN	**Pn**	**14 04 57.2**	**-0.5**
MANT	**Manisa**	**1.47**	**59**	*i* P	**Pn**	**14 05 02.0**	**+2.1**
MANT				*i* S	**Sb**	**14 05 19.2**	**+0.1**

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*LDG **07** 14:07:30.8±0.1, 43.09N×0.52W, h2^{km}, Md2.8/2, Ml3.1/10, Error ellipse: s-maj=1.1km s-min=0.9km az=150.0*
*STR **07** 14:07:30.6±0.1, 43.08N×0.51W, h5^{km}±1^{km}, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **07** 14:07:30.6, 43.08N×0.51W, h5^{km}, ML3.1(LDG), ML2.7(STR), MN2.4(MDD), After STR.*
*MDD **07** 14:07:30.9±0.2, 43.10N×0.51W, h3^{km}±3^{km}, mbLg2.5/16, Error ellipse: s-maj=2.5km s-min=1.5km az=13.0, PRXIMO*
*CSEM **07** 14:07:30.9±0.0, 43.09N×0.51W, h2^{km}, ML3.0/13, Error ellipse: s-maj=1.0km s-min=0.8km az=154.0*
ISC 07 14:07:28.9±0.3, **43.20N**±0.02×**0.48W**±0.02, **h6**^{km}±2^{km}, **n61**, σ**1^{s}17**/118, **1C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.14**	**153**	Pg	**Pg**	**14 07 32.8**	**+0.8**
REYF				Sg	**Sg**	**14 07 35.0**	**+1.0**
REYF	**Montagne du Re**	**0.14**	**153**	P	**Pg**	**14 07 32.8**	**+0.9**
REYF				S	**Sg**	**14 07 34.6**	**+0.6**
ATE	**Arette**	**0.20**	**235**	P	**Pg**	**14 07 33.4**	**+0.5**
ATE				S	**Sg**	**14 07 35.5**	**-0.2**
ETSF	**Etsaut**	**0.30**	**191**	*e*Pg	**Pg**	**14 07 34.7**	**-0.4**
ETSF				*e*Sg	**Sg**	**14 07 36.9**	**-2.3**
	1μm,0.3s						
ORDF	**Ordiarp**	**0.33**	**273**	Pg	**Pg**	**14 07 37.2**	**+1.6**
ORDF				Sg	**Sg**	**14 07 42.7**	**+2.6**
ORDF	**Ordiarp**	**0.33**	**273**	P	**Pg**	**14 07 37.2**	**+1.6**
ORDF				S	**Sg**	**14 07 41.4**	**+1.2**
FDAF	**Les Forges d'A**	**0.39**	**190**	Pg	**Pg**	**14 07 36.2**	**-0.5**
FDAF				Sg	**Sg**	**14 07 40.2**	**-1.6**
FDAF	**Les Forges d'A**	**0.39**	**190**	P	**Pg**	**14 07 36.2**	**-0.5**
FDAF				S	**Sg**	**14 07 40.2**	**-1.6**
LARF	**Larrau**	**0.41**	**247**	Pg	**Pg**	**14 07 37.5**	**+0.4**
LARF				Sg	**Sg**	**14 07 43.0**	**+0.5**
LARF	**Larrau**	**0.41**	**247**	P	**Pg**	**14 07 37.6**	**+0.6**
LARF				S	**Sg**	**14 07 43.0**	**+0.5**
LABF	**Labassere**	**0.43**	**110**	Pg	**Pg**	**14 07 38.5**	**+0.9**
LABF				Sg	**Sg**	**14 07 45.4**	**+2.0**
LABF	**Labassere**	**0.43**	**110**	P	**Pg**	**14 07 38.5**	**+0.9**
LABF				S	**Sg**	**14 07 44.5**	**+1.1**
VIEF	**Viey**	**0.48**	**130**	Pg	**Pg**	**14 07 39.0**	**+0.3**
VIEF				Sg	**Sg**	**14 07 45.1**	**-0.1**
VIEF	**Viey**	**0.48**	**130**	P	**Pg**	**14 07 39.0**	**+0.3**
VIEF				S	**Sg**	**14 07 44.9**	**-0.2**
SJPF	**Ste Jean**	**0.55**	**261**	*e*Pg	**Pg**	**14 07 40.3**	**+0.3**
SJPF				*e*Sg	**Sg**	**14 07 47.3**	**-0.1**
	80nm,0.3s						
OSSF	**Osses**	**0.57**	**276**	Pg	**Pg**	**14 07 40.9**	**+0.5**
OSSF	**Osses**	**0.57**	**276**	P	**Pg**	**14 07 41.1**	**+0.7**
OSSF				S	**Sg**	**14 07 48.6**	**+0.5**
EBIE	**Bielsa**	**0.69**	**138**	⇑Pg	**Pg**	**14 07 42.4**	**-0.3**
	11nm,0.1s,SNR=18						
EBIE				Lg		14 07 50.8	
	87nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**0.69**	**138**	Pg	**Pg**	**14 07 42.4**	**-0.3**
	11nm,0.1s,SNR=18						
RESF	**Ens**	**0.72**	**123**	P	**Pg**	**14 07 43.4**	**+0.2**
RESF				S	**Sg**	**14 07 52.8**	**-0.1**
EALK	**Alkurruntz**	**0.75**	**272**	Pg	**Pg**	**14 07 44.3**	**+0.4**
	2.8nm,0.2s,SNR=14						
EALK				Lg		14 07 54.3	
	29nm,0.2s,SNR=5.0						
MELF	**Melles**	**0.96**	**109**	Pg	**Pg**	**14 07 48.6**	**+0.4**
MELF				Sg	**Sg**	**14 08 02.0**	**+0.9**
MELF	**Melles**	**0.96**	**109**	P	**Pb**	**14 07 48.5**	**+0.8**
MELF				S	**Sb**	**14 08 01.4**	**+0.9**
EGRA	**Graus**	**1.16**	**149**	Pg	**Pg**	**14 07 51.6**	**-0.5**
	4.6nm,0.2s,SNR=7.9						
EGRA				Lg		14 08 06.5	
	16nm,0.2s,SNR=7.9						
MLS	**Moulis**	**1.18**	**101**	S	**Sb**	**14 08 08.4**	**+1.7**
SALF	**Salau**	**1.30**	**109**	Pg	**Pg**	**14 07 55.5**	**+0.6**
SALF				Sg	**Sg**	**14 08 13.0**	**+0.7**
SALF	**Salau**	**1.30**	**109**	P	**Pb**	**14 07 55.0**	**+1.6**
SALF				S	**Sb**	**14 08 11.7**	**+1.4**

ESAC	San Caprasio	1.48	180	Pg	Pg	14 07 57.2	-1.2
	44nm,0.2s,SNR=17						
ESAC				Lg		14 08 14.5	
	104nm,0.2s,SNR=5.0						
ESAC	San Caprasio	1.48	180	Pg	Pg	14 07 57.2	-1.2
	44nm,0.2s,SNR=17						
LFF	La Frestale	1.95	26	ePn	Pn	14 08 04.8	+1.8
LFF				ePg	Pg	14 08 09.1	+1.2
LFF				eSg	Sg	14 08 36.1	+2.2
	52nm,0.3s						
LFF	La Frestale	1.95	26	ePn	Pn	14 08 04.8	+1.8
LFF				eSg	Sg	14 08 36.1	+2.2
	26nm,0.3s						
EMIR	Miracle	1.96	130	Pg	Pg	14 08 06.9	-1.1
	4.3nm,0.1s,SNR=7.0						
EMIR				Lg		14 08 32.6	
	35nm,0.4s,SNR=5.0						
EMIR	Miracle	1.96	130	Pg	Pg	14 08 06.9	-1.2
	4.3nm,0.1s,SNR=7.0						
MTLF	Montolieu	1.98	85	ePn	Pn	14 08 04.0	+0.7
MTLF				ePg	Pg	14 08 08.0	-0.4
MTLF				eSg	Sg	14 08 34.0	-0.7
	17nm,0.3s						
VALF	Valcebollere	2.00	113	Pg	Pg	14 08 08.8	-0.1
ELAN	Lanestosa	2.16	272	Pg	Pg	14 08 10.3	-1.7
	7.0nm,0.5s,SNR=4.0						
ELAN				Sn	Sn	14 08 33.7	+0.3
	3.8nm,0.2s,SNR=7.9						
ELAN				Lg		14 08 37.2	
	3.8nm,0.2s,SNR=7.9						
ELAN	Lanestosa	2.16	272	Pg	Pg	14 08 10.3	-1.7
ELAN				Sn	Sn	14 08 33.6	+0.2
ELAN				Lg		14 08 37.2	
ELAN	Lanestosa	2.16	272	Pg	Pg	14 08 10.3	-1.7
	7.0nm,0.5s,SNR=4.0						
ELAN				Sn	Sn	14 08 33.7	+0.3
	3.8nm,0.2s,SNR=7.9						
EPOB	Poblet	2.18	147	Pg	Pg	14 08 10.1	-2.3
	2.9nm,0.2s,SNR=7.7						
EPOB				Lg		14 08 37.1	
	11nm,0.2s,SNR=5.0						
EPOB	Poblet	2.18	147	Pg	Pg	14 08 10.1	-2.3
	2.9nm,0.2s,SNR=7.7						
EBR	Ebro Roquetas	2.48	163	eS*	Sb	14 08 47.0	+2.4
CAF	Calviac	2.52	46	ePn	Pn	14 08 12.1	+1.0
CAF				ePg	Pg	14 08 19.3	+0.1
CAF				eSn	Sn	14 08 42.9	+0.4
CAF				eSg	Sg	14 08 52.7	-0.1
	14nm,0.2s						
RJF	Les Rejaudoux	2.55	34	ePn	Pn	14 08 12.8	+1.3
RJF				ePg	Pg	14 08 20.2	+0.4
RJF				eSn	Sn	14 08 43.5	+0.2
RJF				eSg	Sg	14 08 54.2	+0.4
	30nm,0.2s						
EJON	La Jonquera	2.59	106	Pn	Pn	14 08 12.9	+0.8
	3.8nm,0.5s,SNR=4.0						
EJON				Pg	Pg	14 08 18.0	-2.7
	1.1nm,0.2s,SNR=7.9						
EJON				Sn	Sn	14 08 43.5	-0.8
	1.6nm,0.3s,SNR=7.9						
EJON				Lg		14 08 53.8	
	7.0nm,0.3s,SNR=7.9						
EJON	La Jonquera	2.59	106	Pn	Pn	14 08 12.9	+0.8
	3.8nm,0.5s,SNR=4.0						
EJON	La Jonquera	2.59	106	Pg	Pg	14 08 18.0	-2.6
	1.1nm,0.2s,SNR=7.9						
EJON				Sn	Sn	14 08 43.5	-0.8
	1.6nm,0.3s,SNR=7.9						
ETOR	Torete	2.65	207	Pn	Pn	14 08 13.3	+0.3
	1.6nm,0.2s,SNR=7.0						
ETOR				Sn	Sn	14 08 42.5	-3.4
	5.0nm,0.2s,SNR=7.9						
ETOR				Lg		14 08 51.3	
	4.9nm,0.2s,SNR=5.0						
ETOR	Torete	2.65	207	Pn	Pn	14 08 13.3	+0.3
	1.6nm,0.2s,SNR=7.0						
ETOR				Sn	Sn	14 08 42.5	-3.4
ETOR				Sn	Sn	14 08 42.5	-3.4
	5.0nm,0.2s,SNR=7.9						
EMOS	Mosqueruela	2.83	180	Pn	Pn	14 08 15.5	-0.1
	2.0nm,0.2s,SNR=7.9						
EMOS				Sn	Sn	14 08 47.9	-2.6
	4.4nm,0.3s,SNR=7.9						
EMOS				Lg		14 08 57.3	
	5.5nm,0.2s,SNR=7.9						
EMOS	Mosqueruela	2.83	180	Pn	Pn	14 08 15.5	-0.1
EMOS				Sn	Sn	14 08 47.9	-2.6
EMOS				Lg		14 08 55.3	
EMOS	Mosqueruela	2.83	180	Pn	Pn	14 08 15.5	-0.1
	2.0nm,0.2s,SNR=7.9						
EMOS				Sn	Sn	14 08 47.9	-2.6
	4.4nm,0.3s,SNR=7.9						
LASF	Ste Croix	3.27	73	ePn	Pn	14 08 21.9	+0.1
LASF				eSg	Sg	14 09 15.8	-1.9
	5.2nm,0.2s						
MFF	Saint Martin d	3.41	4	ePn	Pn	14 08 24.6	+0.8
MFF				ePg	Pg	14 08 36.1	-0.9
MFF				eSg	Sg	14 09 20.3	-2.2
	7.5nm,0.3s						
TCF	Toulx Ste Croi	3.63	31	ePn	Pn	14 08 27.7	+0.7
TCF				ePg	Pg	14 08 41.1	-0.4
TCF				eSn	Sn	14 09 09.7	-1.1
TCF				eSg	Sg	14 09 27.3	-2.7
	7.9nm,0.4s						
TCF	Toulx Ste Croi	3.63	31	Pn	Pn	14 08 27.7	+0.7
TCF				Sn	Sn	14 09 09.7	-1.1
VIVF	Saint-Julien-l	4.07	64	ePg	Pg	14 08 47.5	-2.6
VIVF				eSn	Sn	14 09 19.3	-2.5
VIVF				eSg	Sg	14 09 40.6	-3.8
	3.1nm,0.3s						
BGF	Bois d'Agland	4.11	34	ePn	Pn	14 08 34.5	+0.8
BGF				eSn	Sn	14 09 20.8	-2.0
BGF				eSg	Sg	14 09 43.9	-1.8
	26nm,0.4s						
SMF	Signal de Mont	4.61	40	ePn	Pn	14 08 40.6	-0.3
SSF	Saint Saulge	4.78	35	ePn	Pn	14 08 42.5	-0.8
ECAL	Calabor	4.79	257	Pn	Pn	14 08 42.9	-0.5
	1.1nm,0.2s,SNR=7.9						
ECAL				Sn	Sn	14 09 35.9	-4.1
	5.2nm,0.3s,SNR=7.9						
ECAL	Calabor	4.79	257	Pn	Pn	14 08 42.9	-0.5
ECAL				Sn	Sn	14 09 35.9	-4.1

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*NEIC **07** 14:14:31.7, 45.08S×166.94E, h5^{km}, ML3.8(WEL), After WEL.*

WEL 07 14:14:33.5±0.5**, 45.14S×166.95E, h25^{km}**±3^{km}**, ML3.9**/4**, 2D, Error ellipse: s-maj=5.5km s-min=3.6km az=90.0, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.36	157	⇓P*	Pb	14 14 41.2	-0.3
DCZ				S*	Sb	14 14 46.9	0.0
MLZ	Mavora Lakes	0.89	104	P	Pb	14 14 49.2	-0.9
MLZ				S	Sb	14 15 01.1	-0.4
MLZ	Mavora Lakes	0.89	104	⇓PN	Pn	14 14 49.2	-1.2
MLZ				S*	Sb	14 15 00.5	-1.0
TUZ	Tuapeka	2.05	114	eP	Pn	14 15 06.5	-0.6
TUZ	Tuapeka	2.05	114	PN	Pn	14 15 06.3	-0.7
TUZ				SN	Sn	14 15 30.1	-1.9
LBZ	Lake Benmore	2.42	73	eP	Pn	14 15 11.8	-0.6
LBZ	Lake Benmore	2.42	73	PN	Pn	14 15 11.8	-0.6
LBZ				SN	Sn	14 15 39.5	-2.0
ODZ	Otahua Downs	2.62	89	PN	Pn	14 15 14.0	-1.1
ODZ				SN	Sn	14 15 44.1	-2.3
WVZ	Waitaha Valley	3.42	54	eP	Pn	14 15 23.5	-3.0
WVZ	Waitaha Valley	3.42	54	PN	Pn	14 15 23.5	-3.0
WVZ				SN	Sn	14 16 00.4	-6.3
MQZ	McQueen's Vall	4.33	73	eP	Pn	14 15 36.3	-3.1
MQZ	McQueen's Vall	4.33	73	PN	Pn	14 15 36.1	-3.3
MQZ				SN	Sn	14 16 23.3	-6.4
CRLZ	Canterbury Las	4.36	71	eP	Pn	14 15 37.5	-2.3
CRLZ	Canterbury Las	4.36	71	PN	Pn	14 15 37.4	-2.5
CRLZ				SN	Sn	14 16 25.3	-5.1
LTZ	Lake Taylor	4.50	60	eP	Pn	14 15 39.5	-2.5
LTZ	Lake Taylor	4.50	60	PN	Pn	14 15 39.5	-2.4
THZ	Tophouse	5.49	54	ePN	Pn	14 15 53.2	-2.7
QRZ	Quartz Range	5.94	45	eP	Pn	14 15 59.1	-3.1
QRZ	Quartz Range	5.94	45	PN	Pn	14 15 58.3	-3.9
NNZ	Nelson	6.12	52	ePN	Pn	14 16 02.3	-2.4

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*IDC **07** 14:16:56.0±4.7, 39.04N×75.04E, mb3.6/2, mb1 3.5/3, mb1mx3.3/19, ML2.8/1, Error ellipse: s-maj=87.7km s-min=35.7km az=175.0*

ISC 07 14:16:57.0±2.7**, 38.7N**±0.2×**74.8E**±0.3**, h33^{km}, n9, σ1§18**/9**, mb3.5**/2**, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	3.56	346	P	P	14 17 55.6	+4.3
	SNR=16						
UCH	Uchtor	3.56	356	P	P	14 17 50.9	-0.3
	SNR=8.8						
ULHL	Ulahol	3.73	16	P	P	14 17 55.9	+2.2
	SNR=10						
KBK	Karagaybulak	3.98	1	P	P	14 17 56.8	-0.4
	SNR=13						
TKM2	Tokmak 2	4.29	8	P	P	14 18 00.1	-1.5
	SNR=5.2						
USP	Ospenovka	4.60	357	P	P	14 18 17.4	+11
	SNR=5.1						
MKAR	Makanchi Array	9.80	32	Pn	P	14 19 13.5	-5.1
	0.1nm,0.3s,baz=210,slow=12,SNR=4.2						
SONM	Songino Array	24.61	58	P	P	14 22 14.9	-0.3
	0.3nm,0.6s,mb3.0,baz=268,slow=10.0,SNR=4.2						
FINES	FINESS Array B	37.46	324	P	P	14 24 09.0	+0.3
	2.5nm,1.0s,mb4.0,baz=112,slow=10,SNR=7.4						

MEX 07 14:54:15.2±0.4**, 20.79N×103.58W, h5^{km}, MD3.5, Jalisco**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFJM	Santa Fe	0.59	121	*i* P	Pg	14 54 26.0	-0.9
SFJM				*i* S	Sg	14 54 34.5	-0.3
CJM	Chamela	1.88	227	*i* P	Pn	14 54 49.8	+1.4
CJM				*i* S	Sn	14 55 07.6	-5.1
MOIG	Morelia	2.50	116	*i* S	Sn	14 55 24.9	-3.5

MEX 07 14:55:23.6±0.8**, 20.81N×103.48W, h5^{km}, MD4.2, Jalisco**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFJM	Santa Fe	0.52	128	*i* P	Pg	14 55 33.0	-1.1
SFJM				*i* S	Sg	14 55 41.0	-0.1
CGX	Ciudad Guzman	1.12	181	*i* P	Pb	14 55 44.5	-0.5
CJM	Chamela	1.97	229	eP	Pn	14 55 54.3	-3.7
CJM				*i* S	Sn	14 56 18.7	-4.6
MOIG	Morelia	2.43	117	eP	Pn	14 56 03.8	-0.8
MOIG				*i* S	Sn	14 56 31.8	-3.2

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*NEIC **07** 15:13:34.8, 19.99N×65.34W, h25^{km}, ML3.9(RSPR), After RSPR.*

RSPR 07 15:13:34.8, 19.99N×65.34W, h25^{km}±17^{km}**, MD3.3**/12**, MD3.3**/12**, 10C-4D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBYP	Canovanas	1.77	196	⇓eP	Pn	15 14 01.6	-2.7
CBYP				eS	Sn	15 14 23.1	-3.2
CSB	Colonia Sabana	1.85	205	⇑eP	Pn	15 14 02.8	-2.7
HUMP	Col San Antoni	1.90	195	⇑eP	Pn	15 14 03.5	-2.6
HUMP				eS	Sn	15 14 25.8	-3.6
CPD	Cerro la Pandu	2.01	196	⇑eP	Pn	15 14 05.2	-2.6
CPD				eS	Sn	15 14 29.0	-3.3
SJG	San Juan	2.02	202	⇑eP	Pn	15 14 05.4	-2.5
SJG	San Juan	2.02	202	⇓eP	Pn	15 14 05.4	-2.4
SJG				eS	Sn	15 14 29.0	-3.5
AOPR	Arecibo Observ	2.10	219	⇑eP	Pn	15 14 06.4	-2.7
AOPR				eS	Sn	15 14 31.9	-2.8
LRS	Lares	2.20	220	⇓eP	Pn	15 14 08.0	-2.5
LRS				eS	Sn	15 14 33.3	-3.9
CELP	Cerrillos	2.23	212	⇑eP	Pn	15 14 08.6	-2.4
OBIP	Obispado Ponce	2.27	212	⇓eP	Pn	15 14 09.0	-2.5
OBIP				eS	Sn	15 14 36.2	-2.8
PORP	Portuguez	2.28	213	⇑eP	Pn	15 14 08.8	-2.8
LSP	Las Mesas	2.44	223	⇑eP	Pn	15 14 11.5	-2.4
MGP	Maguayo	2.57	220	⇑eP	Pn	15 14 13.0	-2.8
MGP				eS	Sn	15 14 43.3	-3.2
IDE	Isla Desecheo	2.57	232	⇑eP	Pn	15 14 12.8	-2.9
IDE				eS	Sn	15 14 42.7	-3.8

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*ISK **07** 15:17:54.4, 38.73N×38.65E, h3^{km}, MD3.5*

*CSEM **07** 15:17:54.4, 38.73N×38.65E, h3^{km}, MD3.5, After ISK*

ISC 07 15:17:56.2±0.5**, 38.70N**±0.04×**38.70E**±0.04**, h3^{km}, n18, σ1§29**/28**, 1C, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ELZG	Elazig	0.30	132	⇑*i*P	Pg	15 18 02.0	-0.3
ELZG				*i* S	Sg	15 18 07.2	+0.8
MYA	Malataya	0.43	210	*i* PG	Pg	15 18 03.7	-1.2
MYA				*i* SG	Sg	15 18 10.4	-0.2
PTK	Pertek	0.57	70	*i* PG	Pg	15 18 06.9	-0.8
PTK				*i* SG	Sg	15 18 16.0	+0.6
EZC	Erzincan	1.36	39	*i* PN	Pn	15 18 16.9	-5.2
DIY	Diyarbakir	1.45	123	PN	Pn	15 18 23.9	+0.5
GZT	Gaziantep	1.61	214	*i* P	Pn	15 18 26.8	+1.0
GZT				*i* S	Sb	15 18 51.6	+4.6
SVST	Sivas	1.73	309	*i* P	Pn	15 18 29.1	+1.7
SVST				*i* S	Sn	15 18 53.9	+3.7
KAHT	Ahir Dag	1.79	234	*i* P	Pn	15 18 29.4	+1.0
KAHT				*i* S	Sn	15 18 59.2	+7.3
SVSK	Karacayir	1.79	313	PN	Pn	15 18 26.8	-1.5
GUMT	Gumushane	1.86	19	PN	Pn	15 18 28.3	-1.0
GAZ	Gaziantep	1.93	218	PN	Pn	15 18 29.1	-1.1
BEST	Besiri	2.18	111	*i* P	Pn	15 18 35.6	+1.7
BEST				*i* S	Sn	15 19 06.5	+4.8
BTMT	Batman	2.25	102	PN	Pn	15 18 32.6	-2.3
TOKT	Tokat	2.32	315	PN	Pn	15 18 34.4	-1.5
EZM	Erzurum	2.39	59	PN	Pn	15 18 36.7	-0.2
ERZM	Erzurum	2.39	59	*i* P	Pn	15 18 41.3	+4.4
ERZM				*i* S	Sn	15 19 18.0	+11
COBT	Iskenderun	2.92	222	eP	Pn	15 18 43.4	-1.1
COBT				*i* S	Sn	15 19 27.5	+7.1
AVNT	Avonos	3.01	273	eP	Pn	15 18 47.0	+1.3
AVNT				*i* S	Sn	15 19 34.2	+12

IDC 07 15:23:16.8±11.0**, 9.54S×160.22E, h354^{km}**±120^{km}**, mb3.3**/5**, mb1 3.4**/6**, mb1mx3.2**/15**, Error ellipse: s-maj=62.9km s-min=46.6km az=141.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	17.08	231	P	P	15 26 53.8	-1.8
	0.3nm,0.3s,baz=51,slow=10,SNR=7.5						
WRA	Warramunga Arr	27.04	245	P	P	15 28 28.3	-1.6
	2.7nm,0.4s,baz=73,slow=9.0,SNR=25						
STKA	Stephens Creek	28.15	215	P	P	15 28 38.0	-1.7
	2.0nm,0.8s,baz=27,slow=9.0,SNR=4.4						
ASAR	Alice Springs	28.79	238	P	P	15 28 43.0	-2.4
	1.1nm,0.4s,baz=63,slow=10,SNR=24						
FITZ	Fitzroy Crossi	34.59	252	P	P	15 29 33.7	-1.4
	0.5nm,0.5s,baz=53,slow=5.1,SNR=5.4						
ILAR	Eielson Array	83.90	20	P	P	15 35 07.2	-1.2
	0.2nm,0.5s,baz=244,slow=5.5,SNR=5.3						

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*IDC **07** 15:29:36.5±1.1, 31.18N×96.37E, mb3.7/6, mb1 3.8/8, mb1mx3.7/19, ML4.0/2, MS2.8/1, Ms1 3.0/1, ms1mx2.2/25, Error ellipse: s-maj=64.0km s-min=20.2km az=57.0*

*NEIC **07** 15:29:40.6±5.2, 31.22N×96.39E, h26^{km}±38^{km}, mb3.9/1, Error ellipse: s-maj=18.0km s-min=14.2km az=89.0*

*BJI **07** 15:29:42.2, 31.33N×96.47E, h25^{km}, ML3.7*

ISC 07 15:29:39.3±2.2**, 31.19N**±0.10×**96.22E**±0.09**, h36^{km}**±22^{km}**, n18, σ1§16**/20**, mb3.8**/6**, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LSA	Lhasa	4.62	253	P	P	15 30 58.0	+9.5
LSA	Lhasa	4.62	253	eP	P	15 30 51.4	+2.8
CD2	Chengdu	6.48	91	ePG	P	15 31 34.8	+20
GUN	Gumba	9.57	253	eP	P	15 31 58.3	+0.5
	21nm,0.4s						
GUN				eS	S	15 33 46.8	+1.5
PKI	Pulchoki	10.09	252	eP	P	15 32 02.5	-2.4
	8.7nm,0.4s						
KKN	Kakani	10.11	253	eP	P	15 32 04.7	-0.4
	5.2nm,0.2s						
KKN				eS	S	15 33 57.1	-1.4
GKN	Gorkha	10.56	255	eP	P	15 32 12.8	+1.4
	7.1nm,0.4s						
KOLN	Koldanda	11.51	256	eP	P	15 32 24.0	-0.1
	4.1nm,0.3s						
KOLN				eS	S	15 34 31.6	-0.8
CMAR	Chiang Mai Arr	12.91	168	LR	LR	15 38 00.6	
	comp=Z,44nm,20.3s,baz=356,slow=39						
SONM	Songino Array	18.36	22	P	P	15 33 52.1	-0.7
	0.1nm,0.3s,baz=203,slow=12,SNR=8.3						
MKAR	Makanchi Array	18.93	329	P	P	15 33 59.6	0.0
	0.4nm,0.3s,baz=136,slow=13,SNR=14						
KURK	Kurchatov	23.49	331	P	P	15 34 45.1	-1.4
	2.8nm,0.7s,mb3.8						
FINES	FINESS Array B	53.71	326	P	P	15 39 00.3	+0.7
	0.6nm,0.5s,mb3.8,baz=90,slow=7.6,SNR=6.4						
FINES	FINESS Array B	53.71	326	P	P	15 39 00.3	+0.7
ARCES	ARCESS Array B	54.41	336	P	P	15 39 04.8	+0.1
	2.7nm,0.8s,mb4.2,baz=90,slow=9.0,SNR=3.6						
NOA	NORSAR Array B	60.89	326	P	P	15 39 52.8	+2.4
	1.1nm,0.8s,mb4.0,baz=270,slow=6.6,SNR=3.2						
WRA	Warramunga Arr	62.64	139	P	P	15 40 03.0	+0.3
	0.2nm,0.6s,mb3.5,baz=322,slow=8.4,SNR=3.2						
ASAR	Alice Springs	65.41	142	P	P	15 40 20.0	-0.7
	0.3nm,0.8s,mb3.4,baz=327,slow=6.3,SNR=4.9						

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*CSEM **07** 15:30:56.8±0.1, 40.04N×32.41E, h10^{km}, MD2.9, Error ellipse: s-maj=2.1km s-min=1.0km az=16.0*

*ISK **07** 15:30:57.0, 40.02N×32.40E, h8^{km}, MD2.9*

ISC 07 15:30:58.4±0.5**, 39.97N**±0.05×**32.42E**±0.04**, h10^{km}, n10, σ1§09**/15**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LOD	Lodumlu	0.27	107	PG	Pg	15 31 03.6	-0.5
ANTO	Ankara	0.30	109	PG	Pg	15 31 04.2	-0.5
ANTO				SG	Sg	15 31 09.3	+0.4
SGKT	Sivrigoynuk	0.67	335	*i* P	Pb	15 31 11.3	-0.3
SGKT				*i* S	Sb	15 31 22.3	+1.7
ELDT	Eldivan	0.93	56	*i* P	Pb	15 31 16.5	+0.4
ELDT				*i* S	Sb	15 31 32.3	+4.1
MDU	Mudurnu	1.05	299	PG	Pg	15 31 16.7	-2.7
CANT	Cankiri	1.11	55	PN	Pn	15 31 18.6	-1.4
KAMT	Kaman	1.16	121	PN	Pn	15 31 20.3	-0.4
KAMT				SN	Sn	15 31 38.1	+1.4
KIZT	Kizilcal	1.17	201	PN	Pn	15 31 20.6	-0.1
ESKT	Eskisehir	1.29	250	PN	Pn	15 31 21.9	-0.6
ESKT	Eskisehir	1.29	250	*i* P	Pb	15 31 21.9	-0.4
ESKT				*i* S	Sb	15 31 40.5	+1.7

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*IPEC **07** 15:31:02.0±0.3, 51.63N×16.24E, ML2.5/3, Error ellipse: s-maj=2.0km s-min=1.6km az=34.0*

*BGR **07** 15:31:02.5±0.9, 51.64N×16.20E, h1^{km}, ML3.2/6, Error ellipse: s-maj=16.7km s-min=6.7km az=170.0*

*NEIC **07** 15:31:03.3±0.8, 51.56N×16.13E, h5^{km}, ML3.2(SZGRF), ML3.2(VIE), ML2.9(BRG), ML2.8(CLL), Error ellipse: s-maj=8.8km s-min=4.7km az=203.0*

*PRU **07** 15:31:04.1, 51.52N×16.14E*

*WAR **07** 15:31:04.4, 51.54N×16.13E, ML3.2, Mining Induced*

*CSEM **07** 15:31:04.8±0.1, 51.50N×16.14E, h1^{km}, ML3.4/6, Error ellipse: s-maj=2.3km s-min=1.2km az=14.0*

ISC 07 15:31:02.7±0.6**, 51.46N**±0.03×**16.10E**±0.03**, n45, σ1§25**/83**, 2C-5D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.63	169	*i* PG	Pg	15 31 17.3	+2.0
KSP				eSG	Sg	15 31 27.3	+3.6
KSP	Ksiaz	0.63	169	⇓*i*Pg	Pg	15 31 17.3	+2.0
KSP				e		15 31 18.3	
KSP				eSg	Sg	15 31 26.3	+2.6
KSP				e		15 31 32.5	
KSP	Ksiaz	0.63	169	⇓*i*Pg	Pg	15 31 17.3	+2.0
KSP				eSg	Sg	15 31 26.3	+2.6
KSP	Ksiaz	0.63	169	ePg	Pg	15 31 17.4	+2.1
KSP				eSg	Sg	15 31 26.8	+3.1
UPC	Upice	0.96	183	ePG	Pg	15 31 23.4	+1.6
DPC	Dobruska-Polom	1.12	173	ePG	Pg	15 31 26.1	+1.0
DPC				eSG	Sg	15 31 41.8	+1.8
	73nm,0.5s						
PVCC	Panska Ves	1.35	227	ePg	Pg	15 31 29.9	+0.3
PVCC				eSg	Sg	15 31 49.9	+2.4
BRG	Berggiesshubel	1.48	247	ePn	Pn	15 31 32.4	+1.8
BRG				eSg	Sg	15 31 53.2	+1.1
BRG	Berggiesshubel	1.48	247	ePn	Pn	15 31 30.9	+0.2
BRG				*i* Pg	Pg	15 31 32.7	+0.4
BRG				*i* Sg	Sg	15 31 53.3	+1.3
BRG	Berggiesshubel	1.48	247	*i* Pg	Pg	15 31 32.7	+0.4
BRG				Sg	Sg	15 31 53.2	+1.2
RUE	Ruedersdorf	1.76	306	ePn	Pn	15 31 33.6	-1.0
RUE	Ruedersdorf	1.76	306	ePn	Pn	15 31 33.6	-1.1
PRU	Pruhonice	1.78	215	PN	Pn	15 31 35.6	+0.7
PRU				PG	Pg	15 31 37.7	-0.5
PRU				*i* x	x	15 31 41.9	
PRU				*i* x	x	15 31 54.8	
PRU				SG	Sg	15 32 02.0	+0.1
	45nm,0.5s						
RAC	Raciborz	1.92	135	eP	Pn	15 31 41.0	+4.1
RAC				eS	Sn	15 32 08.0	+6.0
MORC	Moravsky Berou	1.92	151	ePn	Pn	15 31 37.5	+0.6
MORC	Moravsky Berou	1.92	151	ePn	Pn	15 31 37.4	+0.5
MORC				eSg	Sg	15 32 05.9	-0.7
	26nm,0.4s						
CLL	Collm	1.95	267	ePn	Pn	15 31 36.9	-0.5
CLL				eSg	Sg	15 32 07.1	-0.5
CLL	Collm	1.95	267	*i* PN	Pn	15 31 36.7	-0.6
	logA/T=1.4						
CLL				*i* PG	Pg	15 31 40.1	-1.5
CLL				*i*		15 31 43.9	
CLL				*i* SG	Sg	15 32 06.3	-1.3
CLL				*i*		15 32 12.5	
CLL	Collm	1.95	267	*i* Pn	Pn	15 31 36.7	-0.6
CLL				*i* Pg	Pg	15 31 40.1	-1.5
CLL				*i* Sg	Sg	15 32 06.3	-1.3
CLL	Collm	1.95	267	Pn	Pn	15 31 36.8	-0.5
CLL	Collm	1.95	267	*i* Pg	Pg	15 31 40.1	-1.5
CLL				Sg	Sg	15 32 07.1	-0.5
OKC	Ostrava-Krasne	2.08	141	ePG	Pg	15 31 43.5	-0.7
OKC				eSG	Sg	15 32 10.4	-1.6
VRAC	Vranov	2.18	172	ePn	Pn	15 31 41.6	+1.0
VRAC				eSg	Sg	15 32 14.7	-0.5
	28nm,0.3s						
KRUC	Moravsky	2.41	175	ePn	Pn	15 31 45.1	+1.2
KRUC				eSg	Sg	15 32 23.1	+0.2
	13nm,0.3s						
TANN	Tannenbergstha	2.53	247	ePn	Pn	15 31 46.8	+1.1
WERD	Werda	2.61	249	ePn	Pn	15 31 47.0	+0.2
NKC	Novy Kostel	2.62	243	ePN	Pn	15 31 47.9	+0.9
NKC				ePG	Pg	15 31 54.0	-1.0
NKC				eSG	Sg	15 32 30.1	+0.1
NKC	Novy Kostel	2.62	243	ePg	Pg	15 31 54.0	-1.0
NKC				eSg	Sg	15 32 30.1	+0.1
OJC	Ojcow	2.65	117	ePG	Pg	15 31 55.0	-0.6
OJC				eSG	Sg	15 32 29.0	-2.0
OJC	Ojcow	2.65	117	ePg	Pg	15 31 54.9	-0.7
OJC				eSg	Sg	15 32 28.9	-2.1
OJC	Ojcow	2.65	117	ePg	Pg	15 31 54.9	-0.7
OJC				eSg	Sg	15 32 28.9	-2.1
OJC				⇓((			
KHC	Kasperske Hory	2.84	216	ePN	Pn	15 31 50.7	+0.6
KHC				ePG	Pg	15 31 56.8	-2.6
KHC				eSG	Sg	15 32 35.9	-1.3
	22nm,0.4s						
MOX	Moxa	2.95	256	ePg	Pg	15 32 00.0	-1.5
MOX				eSg	Sg	15 32 40.2	-0.6
MOX	Moxa	2.95	256	ePg	Pg	15 32 00.0	-1.5
MOX				Sg	Sg	15 32 40.1	-0.7
GEC2	GERESS Array S	3.04	211	ePn	Pn	15 31 54.6	+1.6
GEC2	GERESS Array S	3.04	211	ePn	Pn	15 31 54.6	+1.6
SMOL	Smolenice	3.07	163	ePG	Pg	15 32 02.7	-1.3
SMOL				eSB	Sb	15 32 43.8	+7.5
WET	Wettzell	3.11	223	ePn	Pn	15 31 54.7	+0.8
NIE	Niedzica	3.38	126	eP	Pn	15 32 06.9	+9.1
NIE				eS	Sn	15 32 52.7	+14
NIE				⇓((			
GRA1	Grafenberg Arr	3.58	242	Sg	Sg	15 33 00.4	-1.5
GRF	Grafenberg Arr	3.58	242	eSg	Sg	15 33 00.4	-1.5
MOA	Molln	3.81	199	⇑*i*PN	Pn	15 32 04.7	+0.9
MOA				*i* SG	Sg	15 33 08.2	-1.3
	18nm,0.6s						
ARSA	Arzberg	4.23	185	⇓*i*PN	Pn	15 32 11.4	+1.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ARSA				*i* SG	**Sg**	**15 33 21.0**	**-2.6**
	17nm,0.7s						
KOLS	**Kolonicke sedl**	**4.70**	**120**	*e*PN	**Pn**	**15 32 15.8**	**-0.7**
KBA	**Koelnbreinsper**	**4.75**	**203**	⇑*i*PN	**Pn**	**15 32 17.9**	**+0.7**
KBA				*i* SG	**Sg**	**15 33 38.1**	**-2.5**
	6.7nm,0.4s						

NEIC 07 15:36:58.9±2.9**,43.18N×126.31W,h10km,mb3.4**/2**, 4C-2D,Error ellipse: s-maj=33.7km s-min=7.7km az=72.0,Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**1.48**	**101**	*e*P	Pn	15 37 23.6	-2.2
HSO	**Harness Mounta**	**2.38**	**81**	*e*P	Pn	15 37 36.9	-1.6
MPOR	**Mary's Peak**	**2.40**	**56**	P	Pn	15 37 36.9	-1.9
HUMO	**Hull Mountain**	**2.53**	**102**	*e*P	Pn	15 37 38.7	-2.0
COR	**Corvallis**	**2.59**	**56**	*e*P	Pn	15 37 39.8	-1.8
BBOR	**Butler Butte**	**2.68**	**95**	⇓P	Pn	15 37 42.3	-0.5
HBO	**Huckleberry Mo**	**2.98**	**76**	P	Pn	15 37 47.0	-0.2
BROR	**Big Rock Looko**	**3.00**	**67**	P	Pn	15 37 46.5	-0.9
IRO	**Indian Ridge**	**3.06**	**73**	P	Pn	15 37 47.8	-0.5
FRIS	**Frissel Point**	**3.22**	**70**	P	Pn	15 37 50.1	-0.5
SSOR	**Sweet Springs**	**3.24**	**58**	⇑P	Pn	15 37 50.4	-0.5
HUOR	**Husband**	**3.37**	**72**	P	Pn	15 37 52.4	-0.3
GT2	**Goat Mountain**	**3.51**	**54**	⇑P	Pn	15 37 54.2	-0.5
BKCOR	**Black Crater**	**3.53**	**70**	P	Pn	15 37 54.4	-0.5
VLMM	**Larch Mountain**	**3.87**	**51**	⇓P	Pn	15 37 58.7	-1.0
TDH	**Tom, Dick, Har**	**3.87**	**55**	⇑P	Pn	15 37 59.1	-0.7
VBEM	**Beaver Butte**	**3.89**	**59**	P	Pn	15 37 58.6	-1.4
LVP	**Lakeview Peak**	**4.01**	**43**	P	Pn	15 38 00.3	-1.5
VLL	**Laurance Lake**	**4.03**	**54**	P	Pn	15 38 01.4	-0.6
MTMW	**Mount Mitchell**	**4.08**	**44**	P	Pn	15 38 01.1	-1.7
VFP	**Flag Point**	**4.08**	**57**	P	Pn	15 38 02.7	-0.1
FL2	**Flat Top 2**	**4.13**	**42**	P	Pn	15 38 01.9	-1.5
APM	**Augspurger Mou**	**4.18**	**51**	P	Pn	15 38 03.3	-1.0
ERK	**Elk Rock**	**4.21**	**41**	P	Pn	15 38 02.7	-1.9
CDFW	**Cedar Flats**	**4.23**	**45**	P	Pn	15 38 03.1	-1.8
VIPM	**Ingram Point**	**4.33**	**70**	P	Pn	15 38 05.0	-1.2
GULW	**Guler Mountain**	**4.34**	**49**	P	Pn	15 38 05.6	-1.0
ASR	**Mount Adams--S**	**4.49**	**47**	P	Pn	15 38 07.2	-1.4
VGB	**Gordon Butte**	**4.60**	**58**	*e*P	Pn	15 38 07.0	-3.2
GLK	**Glacier Lake**	**4.75**	**43**	P	Pn	15 38 10.8	-1.5
LON	**Longmire**	**4.79**	**40**	P	Pn	15 38 11.2	-1.7
GL2	**New Goldendale**	**4.80**	**53**	P	Pn	15 38 11.5	-1.6
WPW	**White Pass**	**4.88**	**42**	P	Pn	15 38 12.2	-1.9
FMW	**Mount Fremont**	**4.99**	**40**	⇑P	Pn	15 38 13.7	-1.9
HTW	**Haystack Looko**	**5.62**	**33**	P	Pn	15 38 21.2	-3.3
TBM	**Table Mountain**	**5.67**	**43**	P	Pn	15 38 24.1	-1.3
EPH	**Ephrata**	**6.31**	**46**	P	Pn	15 38 32.8	-1.5
DPW	**Davenport**	**7.37**	**48**	*e*P	Pn	15 38 45.7	-3.5
SDCO	**Great Sand Dun**	**16.73**	**102**	*e*P	P	15 40 54.5	-0.3
	1.4nm,0.9s						
WMOK	**Wichita Mounta**	**22.93**	**102**	*e*P	P	15 42 04.6	+0.6
	2.7nm,0.9s						

IDC 07 15:42:34.6±3.4**,0.97S×134.43E,mb3.3**/2**,mb1 3.5**/3**, mb1mx3.4**/13**,ML3.5**/1**,Error ellipse: s-maj=167.0km s-min=26.8km az=77.0,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.86**	**180**	P	P	15 46 55.9	-2.7
	0.2nm,0.3s,baz=359,slow=11,SNR=4.9						
ASAR	**Alice Springs**	**22.57**	**181**	P	P	15 47 37.1	-0.9
	0.7nm,0.7s,baz=6.1,slow=11,SNR=8.8						
MKAR	**Makanchi Array**	**65.83**	**324**	P	P	15 53 22.0	-2.2
	0.3nm,0.7s,baz=121,slow=6.2,SNR=3.8						

*IDC **07** 16:00:36.6±0.7,2.52N×126.67E,mb4.2/12,mb1 4.4/12, mb1mx4.2/19,MS3.5/2,Ms1 3.5/2,ms1mx2.8/21,Error ellipse: s-maj=37.6km s-min=12.2km az=73.0*
*BJI **07** 16:00:41.8,2.40N×126.80E,h40km,mB4.9,mb4.5*
*NEIC **07** 16:00:41.9±4.3,2.45N×126.78E,h41km±43km,mb4.6/8, Error ellipse: s-maj=17.8km s-min=7.9km az=75.0*
ISC 07 16:00:36.3±4.3**,2.47N**±0.06×**126.7E**±0.1**,h11**km±26km**, n27,**σ0s**82**/28**,mb4.3**/20**,MS3.4**/2**,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.47**	**183**	P	**P**	**16 05 16.4**	**-0.5**
	10nm,0.5s,baz=13,slow=8.7,SNR=64						
WRAB	**Tennant Creek**	**23.50**	**162**	P	**P**	**16 05 46.8**	**-0.5**
	225nm,0.7s,SNR=14						
WRAB	**Tennant Creek**	**23.50**	**162**	*e*P	**P**	**16 05 47.1**	**-0.1**
	45nm,0.8s,mb5.0						
WRA	**Warramunga Arr**	**23.51**	**162**	P	**P**	**16 05 47.4**	**+0.1**
	10nm,0.3s,mb4.7,baz=337,slow=10,SNR=109						
WRA				S	**S**	**16 09 57.4**	**+0.3**
	2.0nm,1.0s,baz=330,slow=21,SNR=4.7						
MBWA	**Marble Bar**	**24.45**	**196**	*e*P	**P**	**16 05 57.9**	**+1.4**
	11nm,1.0s,mb4.2						
ASAR	**Alice Springs**	**26.91**	**165**	P	**P**	**16 06 19.0**	**-0.5**
	4.2nm,0.5s,mb4.2,baz=350,slow=7.1,SNR=86						
ASAR				PcP	PcP	16 09 44.4	+2.2
	0.6nm,0.8s,baz=347,slow=1.6,SNR=3.9						
ASAR				S	**S**	**16 11 02.0**	**+7.7**
	1.6nm,0.9s,baz=340,slow=17,SNR=5.5						
CTA	**Charters Tower**	**29.52**	**140**	P	**P**	**16 06 47.4**	**+4.2**
	1.8nm,0.6s,mb4.0,baz=18,slow=8.9,SNR=3.6						
CM31	**Chiang Mai Arr**	**31.49**	**302**	P	**P**	**16 07 00.6**	**+0.1**
	2.1nm,0.7s,mb4.1						
CMAR	**Chiang Mai Arr**	**31.49**	**302**	P	**P**	**16 07 00.3**	**-0.2**
	1.8nm,0.8s,mb3.9,baz=114,slow=6.9,SNR=16						
JHJ	**Hachijo jima 2**	**32.87**	**21**	LR	LR	16 18 19.3	
	comp=Z,132nm,21.6s,MS3.6,baz=353,slow=32						
KS15	**Wonju Array Si**	**34.82**	**2**	P	**P**	**16 07 29.9**	**+0.6**
MAJO	**Matsushiro**	**35.53**	**16**	*e*P	**P**	**16 07 34.6**	**-0.8**
	12nm,0.9s,mb4.8						
STKA	**Stephens Creek**	**36.98**	**159**	P	**P**	**16 07 47.5**	**-0.1**
	7.0nm,0.8s,mb4.5,baz=335,slow=9.0,SNR=16						
STKA	**Stephens Creek**	**36.98**	**159**	*e*P	**P**	**16 07 46.6**	**-1.0**
BJT	**Baijiatuau**	**38.57**	**347**	*e*P	**P**	**16 08 02.3**	**+1.3**
	12nm,0.8s,mb4.7						
BJI	**Beijing**	**38.59**	**347**	P	**P**	**16 08 02.4**	**+1.3**
BJI				AMB	AMB		
	comp=Z,7.0nm,0.5s,mb4.7						
HHC	**Hu-ho-hao-te**	**40.57**	**342**	*e*P	**P**	**16 08 23.6**	**+6.1**
HHC				AMB	AMB		
	comp=Z,12nm,1.4s,mb4.3						
HHC				AMB	AMB		
	comp=Z,77nm,4.9s						
ASAJ	**Asahikawa**	**43.80**	**17**	P	**P**	**16 08 44.7**	**+0.8**
	comp=Z,6.8nm,0.7s,mb4.5,baz=179,slow=3.6,SNR=5.7						
ASAJ				LR	LR	16 27 48.9	
	comp=Z,32nm,18.8s,MS3.3,baz=175,slow=37						
SONM	**Songino Array**	**48.47**	**342**	P	**P**	**16 09 20.8**	**-0.1**
	comp=Z,1.2nm,0.6s,mb4.1,baz=152,slow=7.3,SNR=8.3						
MKAR	**Makanchi Array**	**58.56**	**326**	P	**P**	**16 10 34.7**	**-0.6**
	comp=Z,1.0nm,0.5s,mb4.1,baz=119,slow=7.0,SNR=10						
MKAR	**Makanchi Array**	**58.56**	**326**	P	**P**	**16 10 34.7**	**-0.6**
YAK	**Yakutsk**	**59.46**	**2**	*e*P	**P**	**16 10 40.9**	**-0.5**
	comp=Z,9.2nm,0.8s,mb4.9						
KURK	**Kurchatov**	**62.77**	**328**	*e*P	**P**	**16 11 02.0**	**-2.0**
	comp=Z,3.5nm,0.8s,mb4.5						
BVAR	**Borovoye Array**	**68.35**	**327**	P	**P**	**16 11 39.1**	**-0.7**
	comp=Z,0.6nm,0.7s,mb3.8,baz=233,slow=39,SNR=3.1						
MAW	**Mawson**	**82.57**	**200**	P	**P**	**16 13 01.1**	**+0.8**
	comp=Z,1.8nm,0.9s,mb4.1,baz=60,slow=8.9,SNR=4.0						
MAW	**Mawson**	**82.57**	**200**	*e*P	**P**	**16 13 01.4**	**+1.0**
	comp=Z,3.3nm,0.9s,mb4.4						
ILAR	**Eielson Array**	**86.25**	**25**	P	**P**	**16 13 18.9**	**0.0**
	comp=Z,0.2nm,0.5s,mb3.6,baz=235,slow=5.7,SNR=4.3						

*LDG **07** 16:14:08.7±0.1,39.96N×77.49E,h10km,Mb4.9/20, Ms4.0/7,Error ellipse: s-maj=4.7km s-min=3.6km az=39.0*
*MOS **07** 16:14:14.9±1.0,40.27N×77.50E,h33km,mb5.1/32, MS4.3/12,Error ellipse: s-maj=10.0km s-min=5.8km az=120.7*
*BJI **07** 16:14:14.6,40.28N×77.51E,h13km,mB5.1,mb5.0,ML5.5, Ms4.5,Msz4.3*
*NNC **07** 16:14:17.8±2.6,40.66N×77.51E,h8km±4km,mpv5.3, Error ellipse: s-maj=22.9km s-min=12.1km az=178.0*
*NEIC **07** 16:14:17.3±0.8,40.26N×77.46E,h43km±7km,mb5.0/77, MS4.3/2,Error ellipse: s-maj=5.9km s-min=4.0km az=194.0*
*HRVD **07** 16:14:17.3±0.8,40.38N×77.51E,h17km±3km,MW4.8/37, Centroid moment Tensor Solution. LP body waves: s8,c10;Mantle waves: s37,c54; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.99±.16; Mθθ-0.80±.11; Mφφ-0.19±.08; Mrθ1.90±.50; Mθφ-0.23±.06; Mφr0.17±.24; Best double couple: Mo2.12×10^16 NP1:φs245°,δ14°,λ72°. NP2:φs83°,δ77°,λ94°. Principal axes: T 2.2, Plg58°, Azm359°; N -.15, Plg4°, Azm262°; P -2.05, Plg32°, Azm170°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **07** 16:14:18.6±3.4,40.25N×77.47E,h53km±30km,mb4.5/22, mb1 4.6/24,mb1mx4.6/25,ML4.5/2,MS4.1/6,Ms1 4.1/6, ms1mx3.6/20 Error ellipse: s-maj=16.7km s-min=11.6km az=28.0*
ISC 07 16:14:15.1±0.4**,40.03N**±0.02×**77.44E**±0.03**,h44**km±4km**, h42**km±1.7km**:pP-P,n325,**σ**1s27**/345**,mb4.9**/117**,MS4.3**/26**, 27C-18D,Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.24**	**246**	*i* PNR	**P**	**16 14 39.3**	**+3.0**
KSH				S	**S**	**16 14 59.3**	**+7.2**
ULHL	**Ulahol**	**2.39**	**338**	P	**P**	**16 14 53.5**	**+0.9**
	SNR=1071						
KZA	**Kyzart**	**2.63**	**322**	P	**P**	**16 14 57.5**	**+1.4**
	SNR=237						
UCH	**Uchtor**	**3.12**	**316**	P	**P**	**16 15 03.9**	**+1.0**
	SNR=708						
TKM2	**Tokmak 2**	**3.20**	**335**	P	**P**	**16 15 04.8**	**+0.6**
	SNR=522						
KBK	**Karagaybulak**	**3.23**	**325**	P	**P**	**16 15 05.5**	**+1.0**
	SNR=62						
AAK	**Ala-Archa**	**3.42**	**320**	⇑Pn	**P**	**16 15 08.3**	**+1.0**
	3μm,1.2s						
AAK				⇑Pg	**P**	**16 15 12.3**	**+5.1**
AAK				⇑Lg		16 15 54.3	
	5μm,0.8s						
AAK	**Ala-Archa**	**3.42**	**320**	P	**P**	**16 15 08.0**	**+0.8**
	SNR=43						
AAK	**Ala-Archa**	**3.42**	**320*c***	*i*PN	**P**	**16 15 07.1**	**-0.1**
AAK	**Ala-Archa**	**3.42**	**320**	*e*Pn	**P**	**16 15 07.2**	**-0.1**
AAK				*e*Sn	**S**	**16 15 53.5**	**+6.6**
FRU	**Bishkek**	**3.51**	**324**	⇑*i*PN	**P**	**16 15 10.0**	**+1.4**
FRU				*i*		16 15 14.0	
FRU				*e*		16 15 50.0	
FRU				*i* S	**S**	**16 15 53.0**	**+3.6**
FRU				pmax	pmax		
	comp=Z,5μm,1.6s						
FRU				smax			
	comp=E,12μm,2.0s						
AML	**Almayashu**	**3.52**	**308**	P	**P**	**16 15 10.2**	**+1.4**
	SNR=559						
CHMS	**Chumysh**	**3.59**	**327**	P	**P**	**16 15 10.2**	**+0.6**
	SNR=324						
EKS2	**Erkin-Say**	**3.81**	**315**	P	**P**	**16 15 13.9**	**+1.2**
	SNR=198						
USP	**Ospenovka**	**3.91**	**327**	P	**P**	**16 15 14.8**	**+0.6**
	SNR=64						
CHCP	**Chirah Chowk**	**7.19**	**209**	⇓P	**P**	**16 16 02.9**	**+2.7**
CEP	**Cherat**	**7.61**	**217**	⇓P	**P**	**16 16 07.1**	**+1.0**
CEP				S	**S**	**16 17 32.0**	**0.0**
MK31	**Makanchi Array**	**7.62**	**26**	⇑Pn	**P**	**16 16 03.6**	**-2.7**
	comp=E,62nm,0.6s,baz=198,slow=11,SNR=317						
MK31				⇑Sn	**S**	**16 17 27.5**	**-4.7**
	comp=E,176nm,0.8s,baz=200,slow=22,SNR=3.5						
MK31				⇓Lg		16 18 00.9	
	comp=E,260nm,0.8s,baz=217,slow=31,SNR=3.7						
MKAR	**Makanchi Array**	**7.62**	**26**	P	**P**	**16 16 03.4**	**-2.8**
	comp=E,7.7nm,0.3s,baz=207,slow=11,SNR=109						
MKAR				S	**S**	**16 17 28.3**	**-3.9**
	comp=E,16nm,0.3s,baz=198,slow=19,SNR=5.0						
MKAR	**Makanchi Array**	**7.62**	**26**	P	**P**	**16 16 03.4**	**-2.8**
MKAR				S	**S**	**16 17 28.3**	**-3.9**
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.3s						
MKAR				smax			
	comp=N,16nm,0.3s						
MKAR	**Makanchi Array**	**7.62**	**26**	P	**P**	**16 16 03.4**	**-2.8**
MKAR				S	**S**	**16 17 28.3**	**-3.9**
THN	**Thein Dam**	**7.71**	**191**	*e*P	**P**	**16 16 08.6**	**+1.2**
THN				*e*		16 17 38.2	
KLP	**Kalpa**	**8.51**	**175**	*e*P	**P**	**16 16 20.2**	**+1.8**
KLP				*e*		16 18 14.0	
	comp=E,3μm,1.0s						
KLP				*e*		16 18 15.3	
	comp=N,3μm,0.8s						
WMQ	**Urumqi**	**8.53**	**60**	⇓*i*P	**P**	**16 16 18.3**	**-0.5**
WMQ				S	**S**	**16 17 47.5**	**-7.2**
WMQ				Smax			
	comp=N,429nm,1.0s						
WMQ				Smax			
	comp=E,433nm,1.0s						
WMQ				LR	LR		
	comp=N,1μm,8.0s						
WMQ				LR	LR		
	comp=E,745nm,8.0s						
WMQ				LR	LR		
	comp=Z,668nm,7.0s						
THW	**Thamme Wali**	**8.56**	**214**	P	**P**	**16 16 18.9**	**-0.2**
BHK	**Bhakra**	**8.64**	**186**	*e*	**P**	**16 16 28.0**	**+7.8**
BHK				*e*		16 17 58.0	
SARP	**Sargodha**	**8.97**	**207**	P	**P**	**16 16 25.7**	**+0.9**
SBDP	**Sheikh Budin**	**9.39**	**217**	P	**P**	**16 16 40.3**	**+10**
JOSI	**Joshimath**	**9.61**	**169**	*e*P	**P**	**16 16 34.3**	**+0.6**
JOSI				*e*		16 17 35.9	
JOSI				*e*		16 18 29.5	
DDI	**Dehra Dun**	**9.70**	**177**	⇓*e*S	**S**	**16 18 20.2**	**-3.4**
KKR	**Kurukshetra**	**10.06**	**183**	*e*P	**P**	**16 16 39.5**	**-0.4**
DRP	**Derazinda**	**10.14**	**218**	P	**P**	**16 16 40.9**	**0.0**
PTH	**Pithoragarh**	**10.70**	**167**	*e*P	**P**	**16 16 46.4**	**-2.2**
PTH				*e*		16 18 47.4	
KURK	**Kurchatov**	**10.72**	**4**	⇓Pn	**P**	**16 16 43.9**	**-4.8**
	comp=Z,44nm,0.7s,baz=193,slow=10,SNR=152						
KURK				⇑Lg		16 19 40.2	
	comp=Z,790nm,1.4s,baz=81,slow=14,SNR=6.0						
KURK	**Kurchatov**	**10.72**	**4*c***	*i*P	**P**	**16 16 44.0**	**-4.7**
KURK	**Kurchatov**	**10.72**	**4**	*e*P	**P**	**16 16 44.0**	**-4.7**
	comp=Z,98nm,0.7s						
KURK				*e*S	**S**	**16 18 43.4**	**-5.0**
LGTI	**Lohaghat**	**10.80**	**167**	⇓*i*P	**P**	**16 16 49.0**	**-1.0**
LGTI				*e*		16 18 54.0	
RTK	**Rohtak**	**11.00**	**185**	*e*P	**P**	**16 16 51.6**	**-1.1**
ASOR	**Ausora**	**11.25**	**179**	*e*P	**P**	**16 16 53.5**	**-2.5**
NDI	**New Delhi**	**11.32**	**181**	*e*P	**P**	**16 16 54.0**	**-3.0**
NDI				*e*S	**S**	**16 18 57.0**	**-6.1**
BHGR	**Bahadurgarh**	**11.32**	**182**	*e*P	**P**	**16 16 57.0**	**-0.1**
BHGR				*e*		16 18 53.9	
AYAN	**Aya Nagar**	**11.52**	**181**	*e*P	**P**	**16 16 57.5**	**-2.3**
KUDL	**Kundal**	**11.88**	**184**	*e*P	**P**	**16 17 03.0**	**-1.5**
KUDL				*e*S	**S**	**16 19 08.4**	**-8.3**
KHET	**Khetri**	**12.00**	**187**	*e*P	**P**	**16 17 04.1**	**-2.1**
KHET				*e*S	**S**	**16 19 15.1**	**-4.5**
KHET				*e*		16 19 19.3	
	comp=E,133nm,0.4s						
KHET				*e*		16 19 20.3	
	comp=N,140nm,0.4s						
AGRA	**Agra**	**12.77**	**178**	*e*P	**P**	**16 17 14.4**	**-2.1**
AGRA				*e*S	**S**	**16 19 32.4**	**-5.8**
AGRA				*e*		16 19 59.2	
	comp=E,482nm,0.9s						
AGRA				*e*		16 19 59.3	
	comp=N,302nm,0.7s						
KOLN	**Koldanda**	**13.25**	**155**	*e*P	**P**	**16 17 20.4**	**-2.4**
	comp=N,115nm,0.5s						
KOLN				*e*S	**S**	**16 19 47.6**	**-2.0**
GKN	**Gorkha**	**13.39**	**151**	*e*P	**P**	**16 17 21.8**	**-2.8**
	comp=N,124nm,0.4s						
GKN				*e*S	**S**	**16 19 49.4**	**-3.6**
VOSK	**Vostochnaya**	**13.45**	**343**	⇑Pn	**P**	**16 17 20.5**	**-4.8**
	comp=N,34nm,1.1s						
VOSK				⇓Lg		16 21 04.9	
	comp=N,521nm,1.9s						
AJM	**Ajmer**	**13.71**	**191**	*e*P	**P**	**16 17 26.5**	**-2.3**
KKN	**Kakani**	**13.83**	**150**	*e*P	**P**	**16 17 28.1**	**-2.2**
	comp=N,198nm,0.7s						
KKN				*e*S	**S**	**16 19 59.3**	**-4.0**
BVA0	**Borovoye Array**	**13.86**	**342**	⇑Pn	**P**	**16 17 25.7**	**-4.9**
	comp=N,8.6nm,0.9s						
BVA0				⇑Lg		16 21 18.4	
	comp=N,61nm,1.2s,baz=157,slow=25,SNR=7.5						
BVAR	**Borovoye Array**	**13.86**	**342**	P	**P**	**16 17 26.5**	**-4.1**
	comp=N,1.8nm,0.3s,baz=150,slow=12,SNR=75						
BRVK	**Borovoye**	**13.92**	**342**	*e*P	**P**	**16 17 26.4**	**-4.9**
	comp=N,30nm,0.9s						
DMN	**Daman**	**13.92**	**151**	*e*P	**P**	**16 17 29.3**	**-2.3**
	comp=N,140nm,0.6s						
GUN	**Gumba**	**13.96**	**147**	*e*P	**P**	**16 17 30.1**	**-2.0**
	comp=N,210nm,0.6s						
PKI	**Pulchoki**	**14.07**	**150**	*e*P	**P**	**16 17 31.4**	**-2.2**
	comp=N,127nm,0.5s						
ZRNK	**Zerenda**	**14.15**	**339**	⇑Pn	**P**	**16 17 30.1**	**-4.3**
	comp=N,61nm,0.9s						
ZRNK				⇑Lg		16 21 30.4	
	comp=N,550nm,1.3s						
JASL	**Jaisalmer**	**14.16**	**205**	*e*	**P**	**16 17 30.2**	**-4.5**
LSA	**Lhasa**	**15.24**	**128**	P	**P**	**16 17 51.5**	**+2.7**
LSA				LR	LR		
	comp=N,420nm,13.6s						
LSA				LR	LR		
	comp=E,330nm,12.5s						
LSA				LR	LR		
	comp=Z,670nm,13.0s						
NVS	**Novosibirsk**	**15.32**	**13**	*i* P	**P**	**16 17 45.0**	**-4.6**
NVS				pmax	pmax		
	comp=Z,83nm,1.0s						
NVS				pmax	pmax		
	comp=N,122nm,1.1s						
BHPL	**Bhopal**	**16.74**	**180**	*e*P	**P**	**16 18 08.2**	**+0.4**
BHPL				AMb	AMB	16 18 11.5	
	comp=Z,62nm,0.7s						
BHPL				*e*		16 21 08.3	
GTA	**Gaotai**	**17.22**	**85**	*e*P	**P**	**16 18 11.5**	**-2.3**
GTA				AP		16 18 20.5	
GTA				XP		16 18 26.9	
GTA				S	**S**	**16 21 16.4**	**-5.8**
GTA				PCP	PcP	16 23 01.1	+4.7
GTA				LG2		16 23 24.2	
GTA				SCP		16 26 33.1	
GTA				PCS		16 26 35.7	
GTA				LR	LR		
	comp=N,303nm,12.5s						
GTA				LR	LR		
	comp=E,335nm,11.4s						
GTA				LR	LR		
	comp=Z,439nm,11.0s						
SHL	**Shillong**	**18.82**	**136**	*e*	**P**	**16 18 41.2**	**+7.7**
SHL				*e*		16 25 04.2	
NGP	**Nagpur**	**18.87**	**175**	*e*P	**P**	**16 18 33.7**	**-0.5**
NGP				*e*		16 21 59.4	
MOY	**Mondy**	**20.02**	**47**	*e*P	**P**	**16 18 47.2**	**+0.6**
SVE	**Sverdlovsk**	**20.07**	**332**	⇓*e*P	**P**	**16 18 46.0**	**-1.2**
SVE				pmax	pmax		
	comp=Z,80nm,2.2s						
SVE				MLR	MLR		
	comp=N,2μm,12.0s,MS4.7						
SVE				MLR	MLR		
	comp=E,2μm,12.0s,MS4.7						
SVE				MLR	MLR		
	comp=Z,4μm,12.0s,MS4.9						
ARU	**Arti**	**20.56**	**329**	*e*P	**P**	**16 18 51.1**	**-1.1**
ARU				*e*		16 19 11.5	
ARU				*e*S	**S**	**16 22 39.8**	**+5.1**
ARU				*e*SS	SS	16 22 57.6	-9.1
ARU				MLR	MLR		
	comp=Z,700nm,16.0s,MS4.1						
ARU				MLR	MLR		
	comp=N,500nm,15.0s,MS4.1						
ARU				MLR	MLR		
	comp=E,500nm,19.0s,MS4.1						
ARU	**Arti**	**20.56**	**329**	P	**P**	**16 18 50.2**	**-2.0**
IMP	**Imphal**	**20.56**	**133**	*e*P	**P**	**16 18 54.0**	**+1.5**
LZH	**Lanzhou**	**21.13**	**92**	⇓P	**P**	**16 18 59.4**	**+1.2**
LZH				AP		16 19 12.5	
LZH				PP	PP	16 19 28.0	+5.8
LZH				S	**S**	**16 22 55.0**	**+9.2**
LZH				AMB	AMB		
	comp=Z,70nm,1.0s,mb5.0						
LZH				AMB	AMB		
	comp=Z,300nm,4.0s						
LZH				LR	LR		
	comp=E,1μm,9.0s						
LZH				LR	LR		
	comp=Z,1μm,10.7s,MS4.6						
LATR	**Latur**	**21.55**	**182**	*e*P	**P**	**16 19 03.8**	**+1.2**
LATR				*e*		16 22 53.2	
POO	**Poona**	**21.65**	**189**	*e*P	**P**	**16 19 04.3**	**+0.8**
POO				AMb	AMB	16 19 09.6	
	comp=Z,58nm,0.8s,mb5.1						
IRK	**Irkutsk**	**22.10**	**48**	*e*P	**P**	**16 19 08.3**	**+0.5**
SONM	**Songino Array**	**22.17**	**60**	P	**P**	**16 19 09.2**	**+0.7**
	comp=Z,40nm,0.9s,mb4.8,baz=261,slow=8.2,SNR=52						
HYB	**Hyderabad**	**22.55**	**177**	*i* P	**P**	**16 19 14.0**	**+1.5**
	comp=Z,57nm,0.8s,mb5.0						
HYB				*e*pP		16 19 24.0	
HYB				*e*PP	PP	16 19 45.0	+3.6
HYB				*e*S	**S**	**16 23 24.0**	**+12**
HYB	**Hyderabad**	**22.55**	**177**	*e*P	**P**	**16 19 14.0**	**+1.5**
	comp=Z,57nm,0.8s,mb5.0						
HYB				*e*S	**S**	**16 23 24.0**	**+12**
VIS	**Vishakhapatnam**	**22.81**	**165**	*e*P	**P**	**16 19 18.5**	**+3.5**
KAD	**Karad**	**22.82**	**188**	*e*P	**P**	**16 19 18.0**	**+2.9**
CD2	**Chengdu**	**23.22**	**105**	P	**P**	**16 19 23.0**	**+4.1**
CD2				S	**S**	**16 23 38.9**	**+15**
CD2				AMB	AMB		
	comp=Z,40nm,1.0s,mb4.8						
CD2				LR	LR		
	comp=E,230nm,11.9s						
CD2				LR	LR		
	comp=Z,240nm,13.0s,MS3.8						
BTO	**Baotou**	**24.78**	**78**	*e*P	**P**	**16 19 36.3**	**+2.4**
BTO				LR	LR		
	comp=N,719nm,8.4s						
BTO				LR	LR		
	comp=E,363nm,8.2s						
GNI	**Garni**	**24.94**	**281**	⇓*e*P	**P**	**16 19 38.3**	**+2.8**
GNI				pmax	pmax		
	comp=Z,34nm,1.2s						
GNI				MLR	MLR		
	comp=Z,200nm,18.0s						
GNI	**Garni**	**24.94**	**281**	*e*P	**P**	**16 19 37.7**	**+2.2**
	comp=Z,246nm,1.5s,mb5.5						
GOF	**Gofitskoye**	**25.72**	**293**	⇓*i*P	**P**	**16 19 46.0**	**+3.2**
GOF				pmax	pmax		
	comp=Z,40nm,1.3s,mb4.8						
KMI	**Kunming**	**25.87**	**117**	*e*P	**P**	**16 19 47.0**	**+2.6**
KMI				AP	pP	16 19 50.1	-5.8
KMI				PP	PP	16 20 31.7	+5.8
KMI				S	**S**	**16 24 19.7**	**+11**
KMI				XS		16 24 29.2	
KMI				AMB	AMB		
	comp=Z,28nm,1.0s,mb4.8						
KMI				LR	LR		
	comp=N,361nm,12.5s,MS4.2						
KMI				LR	LR		
	comp=E,215nm,13.1s,MS4.2						
KMI				LR	LR		
	comp=Z,423nm,13.7s,MS4.1						
HHC	**Hu-ho-hao-te**	**25.89**	**77**	*e*P	**P**	**16 19 50.4**	**+6.0**
HHC				XP	sP	16 20 02.1	+0.8
HHC				S	**S**	**16 24 21.3**	**+12**
HHC				PCS		16 26 53.2	
HHC				SCS	ScS	16 30 37.3	+1.5
HHC				AMB	AMB		
	comp=Z,31nm,1.2s,mb4.7						
HHC				LR	LR		
	comp=N,286nm,9.8s						
HHC				LR	LR		
	comp=E,359nm,9.6s						
HHC				LR	LR		
	comp=Z,327nm,10.4s,MS4.1						
KIV	**Kislovodsk**	**26.01**	**290**	*e*P	**P**	**16 19 48.1**	**+2.6**
KIV	**Kislovodsk**	**26.01**	**290**	*e*P	**P**	**16 19 45.0**	**-0.5**
	comp=Z,37nm,0.9s,mb4.9						
UMR	**Umm Al-Rimmam**	**26.44**	**256**	*e*P	**P**	**16 19 51.6**	**+2.0**
UMR				AMb	AMB	16 20 03.6	
	comp=Z,45nm,0.7s,mb5.1						
MIB	**Mutribah**	**26.60**	**257**	*e*P	**P**	**16 19 51.9**	**+0.9**
MIB				AMb	AMB	16 20 05.9	
	comp=Z,76nm,0.7s,mb5.3						
RDF	**Al-Radifah**	**26.90**	**255**	*e*P	**P**	**16 19 55.5**	**+1.7**
RDF				AMb	AMB	16 20 07.4	
	comp=Z,74nm,1.2s,mb5.1						
RST	**Umm Al-Ruwaisa**	**27.01**	**257**	*e*P	**P**	**16 19 55.6**	**+0.8**
RST				AMb	AMB	16 20 00.3	
	comp=Z,41nm,0.7s,mb5.1						
GYA	**Guiyang**	**27.80**	**110**	⇑*i*P	**P**	**16 20 04.3**	**+2.2**
GYA				AP	pP	16 20 15.0	+1.3
GYA				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.9						
GYA				LR	LR		

comp=N,190nm,11.7s,MS4.1
GYA LR LR
comp=E,260nm,13.2s,MS4.1
GYA LR LR
comp=Z,480nm,12.0s,MS4.3
ENH Enshi 27.83 100 *e*P **P 16 20 04.3 +2.1**
comp=Z,17nm,0.8s,mb4.7
SOC Sochi 28.18 290 *e*P **P 16 20 07.4 +2.1**
SOC *e* 16 20 53.5
SOC *e*PPP PPP 16 21 09.2 +0.2
SOC *e* 16 23 17.7
SOC *e*S **S 16 24 49.4 +3.2**
SOC *e*SS SS 16 26 17.9 +6.6
SOC *e*SSS SSS 16 26 33.6 +3.3
SOC pmax pmax
comp=N,23nm,0.9s
SOC pmax pmax
comp=Z,14nm,0.9s,mb4.6
SOC pmax pmax
comp=E,11nm,0.8s
SOC MLR MLR
comp=Z,315nm,14.0s,MS4.1
SOC MLR MLR
comp=N,652nm,16.0s,MS4.4
SOC MLR MLR
comp=E,171nm,13.0s,MS4.4
CM31 Chiang Mai Arr 28.39 133 *e*P **P 16 20 06.7 -0.8**
comp=E,7.5nm,0.7s,mb4.4
CMAR Chiang Mai Arr 28.39 133 P **P 16 20 08.4 +0.9**
comp=E,3.9nm,0.9s,mb4.0,baz=318,slow=8.9,SNR=21
CMAR LR LR 16 32 53.0
comp=E,67nm,21.8s,baz=300,slow=39
CMAR Chiang Mai Arr 28.39 133 P **P 16 20 08.4 +0.9**
CMAR pmax pmax
comp=Z,4.0nm,0.9s
CMAR MLR MLR
comp=Z,67nm,21.8s
VOR Voronezh 28.75 307 *e*P **P 16 20 10.5 +0.2**
VOR pmax pmax
comp=Z,90nm,1.6s,mb5.2
BOD Bodaibo 29.40 41 *e*P **P 16 20 12.9 -3.1**
BJI Beijing 29.50 77 P **P 16 20 18.5 +1.4**
BJI S **S 16 25 20.3 +13**
BJI LR LR
comp=N,428nm,16.3s,MS4.3
BJI LR LR
comp=E,340nm,16.8s,MS4.3
BJI LR LR
comp=Z,188nm,21.0s,MS3.7
BJT Baijiatuau 29.50 77 P **P 16 20 21.5 +4.4**
comp=Z,9.6nm,1.1s,mb4.4
ANN Anapa 29.70 293 *e*P **P 16 20 06.3 -13**
ANN pmax pmax
comp=Z,23nm,0.7s,mb5.0
ANN MLR MLR
comp=N,826nm,15.0s,MS4.5
ANN MLR MLR
comp=E,437nm,15.0s,MS4.5
ANN MLR MLR
comp=Z,512nm,15.0s,MS4.3
MOS Moscow 30.47 314 *e*P **P 16 20 24.9 -0.6**
MOS *e* 16 21 25.5
MOS *e*PPP PPP 16 21 34.3 -6.5
MOS *e*SSS SSS 16 27 23.7 -2.9
MOS pmax pmax
comp=Z,80nm,0.8s,mb5.5
MOS MLR MLR
comp=Z,700nm,11.0s,MS4.6
OBN Obninsk 30.91 313*c i*P **P 16 20 28.5 -1.0**
OBN *e* 16 21 30.5
OBN *e*S **S 16 25 27.5 -1.8**
OBN pmax pmax
comp=Z,24nm,0.8s,mb5.1
OBN MLR MLR
comp=Z,500nm,20.0s,MS4.2
OBN Obninsk 30.91 313 *e*P **P 16 20 28.4 -1.1**
comp=Z,62nm,1.2s,mb5.3
HIA Hailar 31.12 59 *e*P **P 16 20 31.9 +0.5**
comp=Z,14nm,1.2s,mb4.7
HIA *e* 16 21 27.5
TIA Tai'an 31.27 84 *e*P **P 16 20 37.6 +4.7**
WHN Wuhan 31.39 96 ⇑P **P 16 20 39.3 +5.3**
PALK Pallekele 32.75 174 P **P 16 20 47.2 +1.2**
comp=Z,50nm,1.4s,mb5.2
BRTR Keskin Array B 33.36 284 P **P 16 20 51.6 +0.6**
comp=Z,13nm,0.8s,mb4.9,baz=90,slow=8.5,SNR=37
BRTR Keskin Array B 33.36 284 P **P 16 20 51.6 +0.6**
BRTR pmax pmax
comp=Z,13nm,0.8s
NJ2 Nanjing 34.17 90 *e*P **P 16 21 00.3 +2.2**
NJ2 AP pP 16 21 12.5 +2.4
NJ2 PP PP 16 22 15.6 +2.0
NJ2 S **S 16 26 23.0 +2.6**
NJ2 SS SS 16 28 35.0 +4.0
NJ2 AMB AMB
comp=Z,30nm,0.8s,mb5.3
NJ2 AMB AMB
comp=Z,350nm,5.4s
NJ2 LR LR
comp=N,610nm,16.8s,MS4.6
NJ2 LR LR
comp=E,580nm,15.3s,MS4.6
NJ2 LR LR
comp=Z,690nm,19.4s,MS4.4
QIZ Qiongzhong 34.82 117 *e*P **P 16 21 09.2 +5.4**
QIZ *e*S **S 16 26 30.5 -0.1**
QIZ AMB AMB
comp=Z,23nm,1.3s,mb5.0
QIZ LR LR
comp=Z,262nm,13.4s,MS4.2
AKASG Malin Array Be 34.94 304 P **P 16 21 03.5 -1.0**
comp=Z,10nm,0.8s,mb4.8,baz=74,slow=8.2,SNR=29
AKASG PcP PcP 16 23 35.8 -0.8
comp=Z,2.0nm,0.5s,baz=67,slow=3.4,SNR=5.1
AKASG Malin Array Be 34.94 304 P **P 16 21 03.5 -0.9**
AKASG 16 23 35.8
AKASG pmax pmax
comp=Z,10.0nm,0.9s
AKASG pmax pmax
comp=Z,2.0nm,0.5s
KIS Kishinev 35.47 298 *e*P **P 16 21 08.0 -1.0**
KIS *e*S **S 16 26 48.0 +7.8**
KIS MLR MLR
comp=Z,600nm,17.0s,MS4.4
KIS MLR MLR
comp=Z,600nm,16.0s
CN2 Changchun 35.53 68 *e*P **P 16 21 12.1 +2.5**
CN2 *e*S **S 16 26 41.1 -0.1**
CN2 AMB AMB
comp=Z,170nm,5.0s
CN2 LR LR
comp=N,330nm,12.0s,MS4.4
CN2 LR LR
comp=E,300nm,12.0s,MS4.4
CN2 LR LR
comp=Z,440nm,13.0s,MS4.4
MNK Minsk 35.84 311 *e*P **P 16 21 09.0 -3.1**
SSE Sheshan 36.38 90 P **P 16 21 16.4 -0.5**
SSE XP sP 16 21 32.6 -1.9
SSE S **S 16 26 54.5 0.0**
SSE XS 16 27 14.1
SSE AMB AMB
comp=Z,29nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,59nm,3.9s
SSE LR LR
comp=N,81nm,14.4s,MS3.7
SSE LR LR
comp=E,52nm,14.4s,MS3.7
SSE LR LR
comp=Z,72nm,13.7s,MS3.6
APA Apatity 36.54 333⇓*e*P **P 16 21 17.0 -0.9**
APA pmax pmax
comp=Z,21nm,1.0s,mb4.9
APA MLR MLR
comp=Z,4μm,10.0s
FINES FINESS Array B 37.61 322 P **P 16 21 26.6 -0.3**
comp=Z,10nm,0.8s,mb4.6,baz=104,slow=9.9,SNR=48
FINES LR LR 16 37 18.5
comp=Z,450nm,20.9s,MS4.2,baz=122,slow=37
FINES FINESS Array B 37.61 322 P **P 16 21 26.6 -0.3**
FINES pmax pmax
comp=Z,10.0nm,0.8s
FINES MLR MLR
comp=Z,450nm,20.9s
KAF Kangasniemi 37.63 323 *ep* **P 16 21 25.8 -1.2**

YAK Yakutsk 38.13 37*c i*P **P 16 21 29.9 -1.3**
YAK pmax pmax
comp=Z,56nm,1.5s,mb5.1
YAK MLR MLR
comp=Z,400nm,13.0s,MS4.4
YAK Yakutsk 38.13 37 *e*P **P 16 21 28.2 -3.0**
comp=Z,28nm,0.7s,mb5.1
MDJ Mudanjiang 38.29 66 P **P 16 21 33.7 +1.0**
MDJ AP pP 16 21 44.9 +0.1
MDJ XP sP 16 21 49.9 -0.4
MDJ PP PP 16 23 01.6 -2.6
MDJ S **S 16 27 22.1 -1.3**
MDJ XS 16 27 43.5
MDJ AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
MDJ AMB AMB
comp=Z,61nm,4.2s
MDJ LR LR
comp=N,245nm,14.5s,MS4.4
MDJ LR LR
comp=E,350nm,15.9s,MS4.4
MDJ LR LR
comp=Z,472nm,14.2s,MS4.5
MDJ Mudanjiang 38.29 66 P **P 16 21 35.6 +2.9**
comp=Z,8.6nm,0.8s,mb4.5
SUW Suwalki 38.57 310 *e*P **P 16 21 31.1 -3.8**
SUW Suwalki 38.57 310 *e*P **P 16 21 31.1 -3.8**
KLR Kul'dur 38.97 58 *e*P **P 16 21 39.4 +1.1**
KLR MLR MLR
comp=E,500nm,13.0s
KLR MLR MLR
comp=Z,900nm,13.0s,MS4.8
KS15 Wonju Array Si 39.01 77 *e*P **P 16 21 42.5 +3.7**
KWP Kalwaria 39.20 303 *e*P **P 16 21 40.6 +0.4**
KWP Kalwaria 39.20 303 *e*P **P 16 21 40.6 +0.4**
KEV Kevo 39.57 335 *e*p **P 16 21 41.9 -1.2**
comp=Z,22nm,0.9s,mb4.9
KEV Kevo 39.57 335 *e*P **P 16 21 41.9 -1.2**
KEV pmax pmax
comp=Z,22nm,0.9s,mb4.9
KOLS Kolonicke sedl 39.57 302 *e*P **P 16 21 43.8 +0.5**
KOLS *e*PP PP 16 23 12.0 -6.4
KOLS *e*PCP PcP 16 23 54.6 +3.9
ARCES ARCESS Array B 39.98 334 P **P 16 21 46.5 0.0**
comp=Z,23nm,0.7s,mb5.0,baz=102,slow=9.1,SNR=72
ARCES ARCESS Array B 39.98 334 P **P 16 21 46.5 0.0**
ARCES pmax pmax
comp=Z,23nm,0.7s
ARE0 ARCESS Array S 39.98 334 *e*P **P 16 21 46.1 -0.4**
TIXI Tiksi 40.60 22⇓*e*P **P 16 21 51.0 -0.6**
TIXI pmax pmax
comp=Z,18nm,0.9s,mb4.7
NIE Niedzica 40.77 303 *e*P **P 16 21 54.5 +1.3**
KECS Kecovo 40.81 301 *e* **P 16 21 49.6 -4.0**
OJC Ojcow 40.98 304 *e*P **P 16 21 55.0 +0.1**
OJC Ojcow 40.98 304 *e*P **P 16 21 55.0 +0.1**
PSZ Piszkesteto 41.30 301⇓*e*P **P 16 21 59.6 +1.9**
OKC Ostrava-Krasne 42.09 304 *e*P **P 16 22 04.5 +0.5**
GKP Gorka Klasztor 42.15 309 *e*P **P 16 22 04.4 -0.1**
GKP Gorka Klasztor 42.15 309 *e*P **P 16 22 04.4 -0.1**
MORC Moravsky Berou 42.49 304 *e*P **P 16 22 07.6 +0.3**
comp=Z,14nm,0.9s,mb4.6
PKSM Moragy 42.51 298⇑*i*P **P 16 22 07.7 +0.2**
KSP Ksiaz 43.08 306 *e*P **P 16 22 11.9 -0.2**
KSP *e* 16 22 15.0
KSP Ksiaz 43.08 306 *e*P **P 16 22 12.1 0.0**
DPC Dobruska-Polom 43.15 305 *e*P **P 16 22 13.5 +0.8**
UPC Upice 43.32 305 *e*P **P 16 22 14.5 +0.4**
MOR8 Moi Rana 43.36 328 *e*P **P 16 22 13.0 -1.2**
MOR8 AMb AMB 16 22 14.3
comp=Z,40nm,1.2s,mb5.0
MOR8 Moi Rana 43.36 328 *e*P **P 16 22 13.0 -1.2**
comp=Z,40nm,1.2s,mb5.0
MELS Mels 43.71 329 *e*P **P 16 22 16.9 -0.1**
MELS *e*pP pP 16 22 28.5 -0.8
JOW Kunigami 43.87 91 P **P 16 22 23.5 +4.7**
comp=Z,24nm,0.8s,mb5.0,baz=161,slow=14,SNR=3.2
PVCC Panska Ves 44.22 305 *e*P **P 16 22 22.0 +0.7**
ARSA Arzberg 44.34 301⇓*i*P **P 16 22 22.3 0.0**
comp=Z,12nm,1.1s,mb4.5
PRU Pruhonice 44.35 305 P **P 16 22 22.7 +0.3**
PRU pmax pmax
comp=Z,9.0nm,0.7s,mb4.6
PRU Pruhonice 44.35 305 P **P 16 22 22.7 +0.3**
comp=Z,9.1nm,0.7s,mb4.6
PRU *i* x x 16 22 26.0
BRG Berggiesshubel 44.54 306 *e*P **P 16 22 24.3 +0.4**
BRG *e* 16 24 10.5
BRG pmax pmax
comp=Z,27nm,1.6s,mb4.8
BRG Berggiesshubel 44.54 306 *e*P **P 16 22 24.3 +0.4**
comp=Z,27nm,1.6s,mb4.8
BRG *i* 16 22 28.5
BRG *e* 16 24 10.5
NB2 NORSAR Subarra 44.74 321 P **P 16 22 24.5 -0.8**
comp=Z,10nm,0.7s,mb4.8,baz=87,slow=7.9
NB2 NORSAR Subarra 44.74 321 P **P 16 22 24.5 -0.8**
baz=87,slow=7.9
NOA NORSAR Array B 44.74 321 P **P 16 22 24.8 -0.5**
comp=Z,9.4nm,0.7s,mb4.7,baz=88,slow=7.9,SNR=19
NOA LR LR 16 41 47.5
comp=Z,459nm,19.0s,MS4.4,baz=80,slow=37
NOA NORSAR Array B 44.74 321 P **P 16 22 24.8 -0.5**
NOA pmax pmax
comp=Z,9.0nm,0.7s
NOA MLR MLR
comp=Z,459nm,19.0s
CRES Cresnjev 44.75 299 *e*P **P 16 22 25.9 +0.2**
PERS Pernice 44.76 300 *e*P **P 16 22 25.8 +0.1**
PERS *e* 16 24 14.5
PERS *i* 16 24 24.3
LEGS Legarje 44.81 299 *e*P **P 16 22 26.2 +0.1**
NAO01 NORSAR Array S 44.91 320 *e*P **P 16 22 24.8 -2.0**
comp=Z,7.3nm,0.5s,mb4.8
MOA Molln 45.02 302⇑*i*P **P 16 22 27.9 +0.2**
comp=Z,9.5nm,0.9s,mb4.6
CLL Collm 45.03 307 ⇑P **P 16 22 27.5 -0.3**
comp=Z,logA/T=1.2,mb4.8
CLL *i* 16 22 31.2
CLL *e**PP pP 16 22 40.0 -0.1
CLL *e*PP PP 16 24 08.0 -6.2
CLL *e**PPP 16 24 25.0
CLL *e* 16 25 05.0
CLL eL 16 34 34.0
CLL Collm 45.03 307⇑*i*P **P 16 22 27.5 -0.3**
CLL *e* pP 16 22 40.0 -0.1
CLL pmax pmax
comp=Z,17nm,1.2s,mb4.8
CLL Collm 45.03 307⇑*i*P **P 16 22 27.5 -0.3**
comp=Z,17nm,1.2s,mb4.8
CLL *i* 16 22 31.2
CLL *e* pP 16 22 40.0 -0.1
GEC2 GERESS Array S 45.14 303 *e*P **P 16 22 29.1 +0.4**
GEC2 pmax pmax
comp=Z,26nm,1.0s,mb5.0
GEC2 GERESS Array S 45.14 303 *e*P **P 16 22 29.1 +0.4**
comp=Z,26nm,1.0s,mb5.0
GERES GERESS Array B 45.14 303 P **P 16 22 29.3 +0.6**
comp=Z,9.5nm,0.7s,mb4.7,baz=79,slow=6.8,SNR=80
GERES PcP PcP 16 24 11.7 +2.7
comp=Z,4.9nm,1.1s,baz=90,slow=2.7,SNR=3.6
GERES GERESS Array B 45.14 303 P **P 16 22 29.3 +0.6**
GERES 16 24 11.7
GERES pmax pmax
comp=Z,10.0nm,0.7s
GERES pmax pmax
comp=Z,5.0nm,1.1s
KHC Kasperske Hory 45.15 304 *e*P **P 16 22 29.1 +0.3**
VISS Visnje 45.17 299 *e*P **P 16 22 29.4 +0.4**
VISS *i* 16 22 32.5
VISS *i* 16 24 13.6
OBKA Obir 45.17 300⇑*i*P **P 16 22 29.7 +0.7**
comp=Z,21nm,1.1s,mb4.9
LJU Ljubljana 45.31 299 *e*P **P 16 22 30.6 +0.5**
LJU *e* 16 22 33.9
WET Wettzell 45.59 304 *e*P **P 16 22 32.6 +0.3**
WET pmax pmax
comp=Z,17nm,1.2s,mb4.8
WET Wettzell 45.59 304 *e*P **P 16 22 32.6 +0.3**
comp=Z,17nm,1.2s,mb4.8
NKC Novy Kostel 45.61 305 *e*P **P 16 22 33.0 +0.5**
KBA Koelnbreinsper 45.82 301⇑*i*P **P 16 22 34.0 -0.2**
comp=Z,14nm,1.1s,mb4.8
MOX Moxa 46.03 306 *i*P **P 16 22 35.4 -0.4**
comp=Z,logA/T=1.1,mb4.8
MOX L 16 43 09.0
MOX Moxa 46.03 306 *e*P **P 16 22 35.4 -0.4**
MOX pmax pmax
comp=Z,22nm,1.6s,mb4.8
MOX MLR MLR
comp=Z,600nm,17.0s,MS4.6
MOX Moxa 46.03 306 *e*P **P 16 22 35.4 -0.4**
comp=Z,22nm,1.6s,mb4.8
MOX LR LR
comp=Z,600nm,17.0s,MS4.6
BSEG Bad Segeberg 46.12 311 *e*P **P 16 22 36.7 +0.3**
BSEG pmax pmax
comp=Z,32nm,1.3s,mb5.1
MRLC Muro Lucano 46.30 292 *e*P **P 16 22 38.9 +0.9**
SGO Sicignano 46.50 292 *e*P **P 16 22 40.5 +1.0**
GRA1 Grafenberg Arr 46.51 305 *e*P **P 16 22 39.8 +0.3**
comp=Z,34nm,1.0s,mb5.2
GRF Grafenberg Arr 46.51 305 *e*P **P 16 22 39.8 +0.3**
GRF pmax pmax
comp=Z,34nm,1.0s,mb5.2
CLZ Clausthal 46.52 308 *e*P **P 16 22 39.6 0.0**
comp=Z,15nm,1.3s,mb4.8
FUR Furstenfeldbru 46.87 303 *e*P **P 16 22 42.9 +0.5**
FUR pmax pmax
comp=Z,43nm,1.2s,mb5.2
FUR Furstenfeldbru 46.87 303 *e*P **P 16 22 42.9 +0.5**
comp=Z,43nm,1.2s,mb5.2
WTTA Wettenberg 46.89 302⇑*i*P **P 16 22 42.2 -0.3**
comp=Z,17nm,1.2s,mb4.8
MAJO Matsushiro 47.02 74 *e*P **P 16 22 44.1 +0.4**
comp=Z,20nm,1.1s,mb5.0
MAT Matsushiro 47.02 74 P **P 16 22 45.9 +2.2**
MAT Matsushiro 47.02 74 *e*P **P 16 22 46.0 +2.3**
comp=Z,12nm,1.0s,mb4.8
ASAJ Asahikawa 47.41 63 P **P 16 22 47.2 +0.5**
comp=Z,17nm,1.1s,mb4.9,baz=301,slow=5.9,SNR=4.7
ASAJ Asahikawa 47.41 63 P **P 16 22 47.3 +0.6**
ASAJ pmax pmax
comp=Z,17nm,1.1s
MNS Montasola 47.71 295 *e*P **P 16 22 49.0 -0.1**
PGD Poggio Sodo 47.87 297 *e*P **P 16 22 51.8 +1.5**
VMG Vicchio 47.96 297 *e*P **P 16 22 52.6 +1.5**
DAVA Damuels 48.03 302⇑*i*P **P 16 22 51.4 -0.1**
comp=Z,26nm,0.8s,mb5.3
STU Stuttgart 48.03 304 *e*P **P 16 22 49.9 -1.6**
comp=Z,36nm,1.3s,mb5.2
MA2 Magadan 48.43 41 P **P 16 22 56.5 +2.1**
comp=Z,48nm,1.3s,mb5.4
GSCL Gusciola 48.48 298 *e*P **P 16 22 56.4 +1.3**
ERBM Eremo 48.58 298 *e*P **P 16 22 57.5 +1.7**
BFO Black Forest 48.71 304 *e*P **P 16 22 56.4 -0.4**
BFO pmax pmax
comp=Z,25nm,1.4s,mb5.0
BFO Black Forest 48.71 304 *e*P **P 16 22 56.4 -0.4**
comp=Z,25nm,1.4s,mb5.0
BOB Bobbio (Coli) 49.11 299 *e*P **P 16 23 01.0 +1.1**
CDF Champ du Feu 49.36 304 *e*P **P 16 23 01.1 -0.7**
comp=Z,29nm,1.1s,mb4.9
WLF Walferdange 49.68 306 *e*P **P 16 23 04.4 +0.1**
comp=Z,15nm,0.9s,mb5.0
HINF Hinteralfeld 49.81 304 *e*P **P 16 23 04.5 -0.8**
comp=Z,32nm,1.0s,mb5.0
PGF Pioggiola 50.20 297 *e*P **P 16 23 07.6 -0.7**
LPG La Plagne 50.65 301 *e*P **P 16 23 11.6 -0.1**
comp=Z,89nm,1.3s,mb5.2
LPL La Plagne 50.66 301 *e*P **P 16 23 11.7 -0.1**
comp=Z,60nm,1.1s,mb5.1
CABF La Chapelle 50.70 302 *e*P **P 16 23 11.2 -0.9**
comp=Z,23nm,1.0s,mb4.8
MEZF Maizieres J'vi 50.73 305 *e*P **P 16 23 11.8 -0.5**
SBF Sospel 50.78 299 *e*P **P 16 23 12.2 -0.5**
BNI Bardonecchia 50.86 300 *e*P **P 16 23 11.6 -1.7**
comp=Z,30nm,1.0s,mb5.2
MBDF Montbardon 50.91 300 *e*P **P 16 23 12.7 -1.0**
comp=Z,52nm,1.3s,mb5.0
FRF La Foret Royal 51.42 299 *e*P **P 16 23 16.8 -0.8**
ORIF Oris-en-Rattie 51.44 300 *e*P **P 16 23 16.4 -1.2**
comp=Z,21nm,0.9s,mb4.8
ORIF *e*R
comp=Z,630nm,20.2s
LMR La Mourre 51.60 298 *e*P **P 16 23 18.1 -0.8**
comp=Z,58nm,1.4s,mb5.0
LOR Lormes 51.91 304 *e*P **P 16 23 19.5 -1.6**
LOR *e*R
comp=Z,330nm,18.8s
SMRF Simiane la Rot 51.99 299 *e*P **P 16 23 21.1 -0.7**
SMF Signal de Mont 52.14 303 *e*P **P 16 23 21.8 -1.1**
comp=Z,50nm,1.2s,mb5.0
SSF Saint Saulge 52.21 304 *e*P **P 16 23 22.1 -1.3**
comp=Z,14nm,0.9s,mb4.6
VIVF Saint-Julien-l 52.26 301 *e*P **P 16 23 23.1 -0.7**
comp=Z,34nm,1.2s,mb4.8
DAG Danmarks Havn 52.80 343⇓*i*P **P 16 23 26.6 -0.8**
comp=Z,34nm,0.8s,mb5.3
LASF Ste Croix 53.09 300 *e*P **P 16 23 29.6 -0.5**
comp=Z,43nm,1.2s,mb5.0
TCF Toulx Ste Croi 53.32 303 *e*P **P 16 23 30.8 -0.9**
comp=Z,24nm,1.1s,mb4.8
ESK Eskdalemuir 53.34 315 *e*P **P 16 23 28.9 -2.9**
comp=Z,24nm,1.1s,mb5.0
LDF La Druitiere 53.92 307 *e*P **P 16 23 34.6 -1.5**
CAF Calviac 53.94 302 *e*P **P 16 23 35.8 -0.5**
RJF Les Rejaudoux 54.15 302 *e*P **P 16 23 37.3 -0.5**
comp=Z,46nm,1.2s,mb5.0
RJF *e*R
comp=Z,240nm,18.5s
GRR Gorron 54.45 307 *e*P **P 16 23 38.5 -1.5**
MTLF Montolieu 54.48 300 *e*P **P 16 23 39.4 -0.8**
MFF Saint Martin d 54.70 304 *e*P **P 16 23 40.4 -1.4**
LFF La Frestale 54.80 302 *e*P **P 16 23 41.9 -0.7**
KMBO Kilima Mbogo 54.98 232 P **P 16 23 46.8 +2.5**
comp=Z,7.7nm,0.8s,mb4.3,baz=36,slow=10,SNR=2.8
KMBO Kilima Mbogo 54.98 232 P **P 16 23 46.7 +2.4**
comp=Z,7.4nm,1.0s,mb4.7
SGMF Saint Gilles 55.55 307 *e*P **P 16 23 46.6 -1.3**
ROSF Rostrenen 55.95 307 *e*P **P 16 23 49.5 -1.4**
QUIF Quistinic 56.06 307 *e*P **P 16 23 50.1 -1.5**
ETSF Etsaut 56.51 300 *e*P **P 16 23 53.1 -1.8**
MBAR Mbarara 58.68 238 P **P 16 24 09.2 -1.3**
comp=Z,9.8nm,1.0s,mb4.8
SUMG Summit 59.34 342 *e*P **P 16 24 14.0 -0.4**
comp=Z,31nm,1.1s,mb5.2
ESDC Sonseca Array 60.27 298 P **P 16 24 20.1 -1.1**
comp=Z,3.8nm,0.8s,mb4.5,baz=55,slow=7.2,SNR=9.3
ESLA Sonseca Array 60.27 298 *e*P **P 16 24 19.0 -2.2**
comp=Z,7.2nm,1.3s,mb4.5
EVO Evora 63.56 299 *e*P **P 16 24 42.4 -0.9**
comp=Z,13nm,0.9s,mb4.7
EVO *e*R
comp=Z,140nm,20.0s
RES Resolute Bay 65.46 358 P **P 16 24 48.8 -6.1**
comp=Z,14nm,1.1s,mb4.9
INK Inuvik 69.52 12 *e*P **P 16 25 19.6 -0.8**
comp=Z,28nm,1.0s,mb5.1
COLA College 69.59 19*d i*P **P 16 25 20.7 -0.2**
COLA College 69.59 19 *e*P **P 16 25 18.8 -2.1**
comp=Z,19nm,0.9s,mb5.0
ILAR Eielson Array 69.91 19 P **P 16 25 21.7 -1.2**
comp=Z,8.2nm,0.8s,mb4.7,baz=321,slow=5.4,SNR=56
ILAR Eielson Array 69.91 19 P **P 16 25 21.7 -1.2**
ILAR pmax pmax
comp=Z,8.0nm,0.8s
MCK McKinley 70.24 20 *e*P **P 16 25 22.8 -2.1**
comp=Z,3.0nm,0.6s,mb4.4
THY Trims Highway 71.32 19 *e*P **P 16 25 30.2 -1.2**
LSZ Lusaka 71.58 230 *e*P **P 16 25 35.3 +1.6**
comp=Z,11nm,1.2s,mb4.7
RSO Redoubt South 71.77 24 *e*P **P 16 25 35.1 +1.0**
SML Sawmill 71.97 21 *e*P **P 16 25 34.5 -0.8**
SML *e* 16 25 37.9
SLKM Skilak Lake 72.49 23 *e*P **P 16 25 36.7 -1.7**
MBWA Marble Bar 72.53 139 *e*P **P 16 25 40.3 +1.0**
comp=Z,40nm,1.0s,mb5.3
MBWA *e* 16 25 44.3
FITZ Fitzroy Crossi 73.21 132 P **P 16 25 45.4 +2.0**
comp=Z,15nm,1.0s,mb4.9,baz=333,slow=3.8,SNR=4.9
EYAK Cordova Ski Ar 73.72 21 *e*P **P 16 25 45.6 +0.1**
YKW3 Yellowknife Ar 77.30 6 *e*P **P 16 26 05.2 -0.6**
YKW3 *e* 16 26 09.5
YKA Yellowknife Ar 77.36 6 P **P 16 26 05.9 -0.4**
comp=Z,5.0nm,0.6s,mb4.6,baz=346,slow=5.6,SNR=17
YKA LR LR 17 04 23.0
comp=Z,92nm,18.9s,MS4.1,baz=10.0,slow=39
YKA Yellowknife Ar 77.36 6 P **P 16 26 05.9 -0.4**
YKA pmax pmax

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,5.0nm,0.6s						
YKA				MLR	MLR		
	comp=Z,92nm,18.9s						
YKA	Yellowknife Ar	77.36	6	P	P	16 26 05.9	-0.4
YKA				LR	LR	17 04 23.0	
WRA	Warramunga Arr	79.79	127	P	P	16 26 21.6	+1.3
	comp=Z,6.4nm,0.9s,mb4.6,baz=324,slow=5.1,SNR=16						
WRA				PKKPbc		16 45 07.5	
	comp=Z,1.0nm,0.8s,baz=144,slow=2.0,SNR=8.8						
WRAB	Tennant Creek	79.79	127	eP	P	16 26 23.5	+3.1
	comp=Z,17nm,0.9s,mb5.0						
DBIC	Dimbokro	79.85	270	P	P	16 26 21.3	+0.4
	comp=Z,10nm,0.8s,mb4.8,baz=48,slow=8.7,SNR=11						
DBIC	Dimbokro	79.85	270	P	P	16 26 21.3	+0.4
DBIC				pmax	pmax		
	comp=Z,10.0nm,0.8s						
DBIC	Dimbokro	79.85	270	eP	P	16 26 20.8	-0.1
	comp=Z,16nm,0.9s,mb5.0						
DBIC				e		16 26 24.9	
KIC	Kosan Boka	79.96	270	eP	P	16 26 21.5	+0.1
	comp=Z,60nm,0.8s,mb5.6						
TIC	Toumodi	80.00	270	eP	P	16 26 21.3	-0.3
	comp=Z,110nm,1.3s,mb5.6						
LIC	Lamto	80.27	270	eP	P	16 26 26.5	+3.4
	comp=Z,24nm,0.8s,mb4.9						
LIC	Lamto	80.27	270	eP	P	16 26 23.2	+0.1
	comp=Z,22nm,0.9s,mb5.1						
LIC				eP		16 26 26.5	
SCHQ	Schefferville	80.68	340	P	P	16 26 24.4	-0.1
	comp=Z,5.4nm,0.8s,mb4.5,baz=253,slow=0.6,SNR=4.4						
SCHQ				LR	LR	17 02 11.3	
	comp=Z,88nm,18.8s,MS4.1,baz=309,slow=36						
SCHQ	Schefferville	80.68	340	eP	P	16 26 23.9	-0.5
	comp=Z,63nm,1.5s,mb5.3						
TSUM	Tsumeb	81.09	236	P	P	16 26 29.8	+2.5
	comp=Z,21nm,1.2s,mb5.0						
FCC	Fort Churchill	81.32	356	eP	P	16 26 31.9	+4.2
	comp=Z,32nm,0.9s,mb5.2						
ASAR	Alice Springs	82.34	130	P	P	16 26 35.0	+1.3
	comp=Z,18nm,1.2s,mb4.9,baz=326,slow=5.8,SNR=18						
ASAR				PKKPbc		16 45 00.8	
	comp=Z,0.5nm,0.9s,baz=128,slow=2.8,SNR=4.6						
BOSA	Boshof	83.76	224	P	P	16 26 43.4	+2.5
	comp=Z,11nm,0.9s,mb5.0						
FFC	Flin Flon	85.61	360	eP	P	16 26 49.4	-0.1
	comp=Z,30nm,0.8s,mb5.6						
FFC				e		16 26 53.1	
EDM	Edmonton	86.65	6	eP	P	16 26 52.5	-2.1
CTA	Charters Tower	87.59	119	P	P	16 27 02.1	+2.2
	comp=Z,3.7nm,0.8s,mb4.6,baz=318,slow=7.9,SNR=5.4						
CTA	Charters Tower	87.59	119	P	P	16 27 02.1	+2.2
CTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CTAO	Charters Tower	87.59	119	eP	P	16 27 02.1	+2.2
	comp=Z,6.8nm,1.0s,mb4.8						
ULM	Lac du Bonnet	89.91	356	P	P	16 27 10.0	-0.1
	comp=Z,10nm,0.7s,mb5.2,baz=14,slow=6.3,SNR=5.1						
ULM				LR	LR	17 10 54.7	
	comp=Z,216nm,18.9s,MS4.6,baz=51,slow=38						
ULM	Lac du Bonnet	89.91	356	eP	P	16 27 09.9	-0.2
	comp=Z,12nm,0.8s,mb5.3						
ULM				e		16 27 14.2	
RPW	Rockport	90.31	12	eP	P	16 27 12.0	-0.1
WALA	Waterton Lakes	90.73	7	eP	P	16 27 14.5	+0.4
	comp=Z,27nm,1.0s,mb5.5						
NLW	Nelson Butte	90.86	12	eP	P	16 27 15.0	+0.3
NEW	Newport	91.14	10	eP	P	16 27 15.7	-0.3
	comp=Z,16nm,0.9s,mb5.3						
DPW	Davenport	91.38	10	eP	P	16 27 18.3	+1.2
CHMT	Chamberlain Mo	92.91	7	eP	P	16 27 24.6	+0.4
ACCN	Adirondack Com	92.96	339	eP	P	16 27 24.0	-0.4
HRY	Holter Researc	93.24	6	P	P	16 27 26.6	+1.0
BOZ	Bozeman (W)	94.32	6	eP	P	16 27 31.0	+0.4
	comp=Z,11nm,1.0s,mb5.2						
BOZ				e		16 27 34.9	
MCMT	McKenzie Canyo	95.02	7	eP	P	16 27 34.8	+1.0
PDAR	Pinedale Array	97.34	5	P	P	16 27 44.5	0.0
	comp=Z,1.1nm,0.7s,mb4.4,baz=34,slow=3.8,SNR=8.7						
HWUT	Hardware Ranch	98.33	7	eP	P	16 27 49.9	+1.0
	comp=Z,10nm,1.0s,mb5.3						
HWUT				e		16 27 54.5	
NVAR	Mina Array Bea	100.60	13	P	P	16 28 00.7	+1.4
	comp=Z,1.2nm,0.8s,baz=339,slow=3.4,SNR=6.3						
SNAA	Sanae	124.52	202	e	PKPdf	16 33 09.6	+1.0
SNAA	Sanae	124.52	202	ePKPdf	PKPdf	16 33 10.6	+2.0
SNAA				e		16 33 15.1	
VNA2	Neumayer--Watz	125.61	204	e	PKPdf	16 33 16.3	+5.6
VNA1	Neumayer--Stat	125.79	204	e	PKPdf	16 33 20.6	+10
VNA3	Neumayer Olymp	126.42	204	e	PKPdf	16 33 15.6	+3.4
QSPA	South Pole Qui	129.81	180	ePKP	PKPdf	16 33 21.9	+3.3
SAML	Samuel	133.27	301	ePKPdf	PKPdf	16 33 28.6	+1.7
CPUP	Villa Florida	140.17	276	PKP	PKPdf	16 33 40.5	+1.4
	comp=Z,4.7nm,0.9s,baz=90,slow=2.9,SNR=9.7						
CPUP	Villa Florida	140.17	276	PKIKP	PKPdf	16 33 40.6	+1.5
CPUP				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CPUP	Villa Florida	140.17	276	eP	PKPdf	16 33 40.2	+1.1
LPAZ	La Paz	141.89	298	PKP	PKPdf	16 33 43.2	+0.8
	comp=Z,1.5nm,0.9s,baz=76,slow=5.3,SNR=4.5						
LPAZ	La Paz	141.89	298	PKIKP	PKPdf	16 33 43.2	+0.8
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.9s						
LVC	Limon Verde	146.67	291	ePKPbc	PKPbc	16 33 55.4	+3.5
LVC				e		16 33 59.0	
TRQA	Tornquist	148.61	260	ePKPbc	PKPdf	16 33 59.4	+6.2
TRQA				e		16 34 03.2	

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*LDG **07** 16:14:29.4±0.1, 44.50N×7.28E, h5^{km}, Md2.2/1, Ml2.0/7, Error ellipse: s-maj=2.2km s-min=1.0km az=67.0*
*STR **07** 16:14:30.0±0.5, 44.48N×7.22E, h5^{km}±1^{km}, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 07 16:14:29.7±0.6**, 44.49N**±0.03×**7.28E**±0.06**, h16**^{km}±10^{km}**, n15, σ0^{s}71**/27**, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SURF	Saint Ours	0.33	268	Pg	Pb	16 14 36.3	-0.5
SURF				Sg	Sb	16 14 39.6	-2.0
MBDF	Montbardon	0.43	303	ePg	Pb	16 14 38.2	-0.2
MBDF				eSg	Sb	16 14 43.7	-0.7
	24nm,0.2s						
TOUF	Mont Tournerai	0.48	183	Pg	Pb	16 14 39.3	+0.1
AUTN	L'Aution	0.51	168	Pg	Pb	16 14 39.2	-0.5
AUTN				Sg	Sb	16 14 46.6	0.0
SAOF	Saorge	0.54	158	Pg	Pb	16 14 40.1	-0.2
SAOF				Sg	Sb	16 14 46.4	-1.2
AURF	Auriere	0.61	177	Pg	Pb	16 14 41.3	-0.1
AURF				Sg	Sb	16 14 49.6	+0.2
SBF	Sospel	0.64	170	ePg	Pb	16 14 41.8	-0.2
SBF				eSg	Sb	16 14 50.3	-0.1
	8.0nm,0.2s						
CALN	Calern	0.79	201	Pg	Pb	16 14 45.1	+0.5
FRF	La Foret Royal	1.04	206	ePg	Pb	16 14 48.9	+0.2
FRF				eSg	Sb	16 15 02.7	+0.8
	7.1nm,0.2s						
LPG	La Plagne	1.07	340	ePg	Pb	16 14 49.7	+0.3
LPG				eSg	Sb	16 15 03.6	+0.7
	3.8nm,0.2s						
ORIF	Oris-en-Rattie	1.08	294	ePg	Pb	16 14 49.6	0.0
ORIF				eSg	Sb	16 15 03.9	+0.6
	2.3nm,0.3s						
LPL	La Plagne	1.09	339	ePg	Pb	16 14 49.9	+0.1
LPL				eSg	Sb	16 15 04.1	+0.5
	2.3nm,0.2s						
LMR	La Mourre	1.28	206	ePg	Pn	16 14 53.1	+0.1
LMR				eSg	Sb	16 15 09.8	+0.7
	15nm,0.4s						
SMRF	Simiane la Rot	1.33	248	ePg	Pn	16 14 54.5	+0.8
SMRF				eSg	Sb	16 15 11.6	+1.2
	3.4nm,0.3s						
VIVF	Saint-Julien-l	1.90	282	eSn	Sn	16 15 23.7	-1.7
	1.0nm,0.3s						

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*IDC **07** 16:16:34.2±0.8, 0.72S×133.85E, mb4.3/7, mb1 4.5/9, mb1mx4.3/17, ML4.6/2, MS3.2/1, Ms1 3.2/1, ms1mx2.7/20, Error ellipse: s-maj=35.2km s-min=15.7km az=69.0*
*NEIC **07** 16:16:38.0±6.4, 0.76S×133.77E, h26^{km}±46^{km}, mb4.5/11, Error ellipse: s-maj=21.6km s-min=10.5km az=71.0*
ISC 07 16:16:37.2±4.1**, 0.83S**±0.05×**133.8E**±0.1**, h34**^{km}±38^{km}**, n27, σ1^{s}27**/26**, mb4.4**/16**, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	18.92	204	P	P	16 20 58.3	+0.3
	0.8nm,0.3s,baz=25,slow=10,SNR=17						
FITZ				S	S	16 24 22.3	-1.8
	0.4nm,0.3s,baz=63,slow=8.9,SNR=9.7						
WRAB	Tennant Creek	18.99	178	P	P	16 20 58.0	-0.7
	SNR=9.1						
WRAB	Tennant Creek	18.99	178	P	P	16 20 58.0	-0.7
	SNR=8.2						
WRAB	Tennant Creek	18.99	178	eP	P	16 20 57.0	-1.7
	17nm,0.7s						
WRA	Warramunga Arr	19.00	178	P	P	16 20 58.0	-0.8
	2.4nm,0.3s,baz=359,slow=11,SNR=135						
WRA				S	S	16 24 25.6	-0.2
	0.1nm,0.3s,baz=9.2,slow=21,SNR=2.7						
ASAR	Alice Springs	22.70	180	P	P	16 21 38.0	+0.8
	4.1nm,0.4s,mb4.2,baz=5.5,slow=11,SNR=94						
ASAR				LR	LR	16 31 16.0	
	comp=Z,63nm,19.2s,baz=95,slow=39						
CTA	Charters Tower	22.71	148	P	P	16 21 40.3	+2.9
	9.0nm,0.6s,mb4.3,baz=332,slow=11,SNR=17						
CTAO	Charters Tower	22.71	148	eP	P	16 21 39.4	+2.0
	10nm,0.7s,mb4.4						
MBWA	Marble Bar	24.40	213	P	P	16 21 55.4	+1.5
	11nm,0.9s,mb4.3						
STKA	Stephens Creek	31.75	167	P	P	16 22 59.9	-0.7
	1.3nm,0.5s,mb4.0,baz=343,slow=8.1,SNR=6.7						
STKA	Stephens Creek	31.75	167	eP	P	16 22 59.2	-1.4
KS15	Wonju Array Si	38.47	352	P	P	16 23 59.0	+1.2
ENH	Enshi	38.62	325	eP	P	16 24 03.2	+4.1
	12nm,1.0s,mb4.6						
CM31	Chiang Mai Arr	39.22	301	eP	P	16 24 05.1	+0.9
	4.7nm,0.8s,mb4.3						
CMAR	Chiang Mai Arr	39.22	301	P	P	16 24 05.5	+1.3
	2.9nm,0.8s,mb4.1,baz=114,slow=6.9,SNR=10						
BJT	Baijiatuau	43.72	340	eP	P	16 24 40.5	-0.5
	8.6nm,0.8s,mb4.5						
MDJ	Mudanjiang	45.40	356	P	P	16 24 52.5	-2.0
	5.2nm,0.8s,mb4.4						
YAK	Yakutsk	62.77	358	eP	P	16 26 59.8	-1.6
	9.8nm,0.8s,mb5.0						
MKAR	Makanchi Array	65.32	324	P	P	16 27 18.2	+0.1
	3.3nm,0.5s,mb4.6,baz=108,slow=8.8,SNR=11						
BVAR	Borovoye Array	74.97	326	P	P	16 28 16.9	+0.1
	1.8nm,0.8s,mb4.1,baz=104,slow=5.9,SNR=3.5						
SBA	Scott Base	78.94	173	eP	P	16 28 40.1	+1.5
	5.4nm,1.3s,mb4.3						
ILAR	Eielson Array	86.21	25	P	P	16 29 15.3	-0.7
	1.3nm,0.7s,mb4.3,baz=256,slow=4.7,SNR=8.2						
QSPA	South Pole Qui	89.10	180	eP	P	16 29 32.0	+2.3
	3.0nm,0.6s,mb4.8						
KIV	Kislovodsk	91.34	314	P	P	16 29 39.2	-1.8
	14nm,1.0s,mb5.3						
CPUP	Villa Florida	150.95	159	PKPbc	PKPdf	16 36 29.5	+8.1
	3.9nm,0.9s,baz=16,slow=2.8,SNR=6.6						
LPAZ	La Paz	152.50	129	PKPbc	PKPdf	16 36 35.5	+12
	1.7nm,0.7s,baz=296,slow=3.6,SNR=6.9						
LPAZ				PKPab	PKPab	16 36 44.5	+0.9
	1.0nm,0.7s,baz=256,slow=4.2,SNR=4.0						
LPAZ	La Paz	152.50	129	PKPbc	PKPdf	16 36 35.5	+12
LPAZ				PKPab	PKPab	16 36 44.5	+0.9

IDC 07 16:20:01.1±1.8**, 2.29N**×**127.50E, mb4.1**/4**, mb1 4.3**/4**, mb1mx3.9**/14**, Error ellipse: s-maj=134.0km s-min=24.4km az=66.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.09	163	P	P	16 25 09.6	-0.2
	3.7nm,0.4s,baz=343,slow=11,SNR=13						
ASAR	Alice Springs	26.54	167	P	P	16 25 40.8	-1.9
	0.8nm,0.4s,baz=341,slow=8.1,SNR=15						
STKA	Stephens Creek	36.52	160	P	P	16 27 08.5	-1.8
	5.0nm,1.0s,baz=339,slow=8.2,SNR=14						
MKAR	Makanchi Array	59.17	325	P	P	16 30 04.4	-1.8
	1.6nm,0.9s,baz=119,slow=8.3,SNR=4.9						

DJA 07 16:20:53.3±0.9**, 8.81S**×**115.77E, h110**^{km}±6^{km}**, MD4.4**/3**, ML3.5**/2**, 3C-1D, Error ellipse: s-maj=36.4km s-min=11.0km az=1.0, Bali region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	Rata	0.25	289⇑	ePg	P	16 21 08.7	-0.3
	182nm,0.1s						
RATI				eSg	S	16 21 20.2	-0.6
KEDI	Kedomdong	0.46	47⇓	ePg	P	16 21 09.7	-0.4
	164nm,0.2s						
KEDI				eSg	S	16 21 21.7	-1.0
KELI	Kelakatan	1.40	295⇑	ePn	P	16 21 18.9	-0.4
	45nm,0.2s						
KELI				eSn	S	16 21 37.6	-1.3
SRDI	Scrawed	1.64	281⇑	iPn	P	16 21 21.9	-0.4
	39nm,0.2s						
SRDI				eSn	S	16 21 42.5	-1.6

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*IDC **07** 16:53:01.9±0.7, 44.25N×141.96E, h221^{km}±7^{km}, mb3.0/5, mb1 3.2/5, mb1mx3.1/21, Error ellipse: s-maj=25.2km s-min=20.5km az=154.0*
*NEIC **07** 16:53:01.1±0.8, 44.24N×141.96E, h214^{km}±8^{km}, mb3.6/2, Error ellipse: s-maj=17.1km s-min=9.2km az=108.0*
*JMA **07** 16:53:01.2±0.2, 44.35N×141.96E, h229^{km}±2^{km}, M3.5*
ISC 07 16:53:00.9±0.4**, 44.32N**±0.04×**142.00E**±0.07**, h228**^{km}±3^{km}**, n31, σ0^{s}84**/47**, mb3.2**/6**, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSS	Shosan	0.13	308	P	P	16 53 31.1	+0.4
JYG	Yagishiri	0.42	285	P	P	16 53 31.4	+0.1
ASAJ	Asahikawa	0.48	115	P	P	16 53 31.6	+0.1
	48nm,0.3s,baz=270,slow=8.1,SNR=356						
ASAJ	Asahikawa	0.48	115	P	P	16 53 31.7	+0.2
ASAJ				eS	S	16 53 55.0	-0.2
JHR	Hokuryu	0.61	199	P	P	16 53 32.5	+0.6
JHR				eS	S	16 53 56.7	+0.7
JKK2	Kamakawa 2	0.70	129	P	P	16 53 32.9	+0.6
JKK2				eS	S	16 53 56.8	+0.1
JSE	Soyaes	0.77	33	P	P	16 53 32.6	0.0
JSE				eS	S	16 53 56.6	-0.6
JAB	Ashibetsu	0.83	169	P	P	16 53 33.4	+0.5
JAB				eS	S	16 53 58.2	+0.5
JWK2	Keihoku	1.00	356	P	P	16 53 33.8	0.0
JWK2				eS	S	16 53 58.8	-0.5
JFR	Furan	1.23	159	P	P	16 53 35.6	+0.2
JTKR	Abashiri--Toko	1.42	104	P	P	16 53 37.7	+0.8
JTKR				eS	S	16 54 05.4	+0.7
JSK	Shakotan	1.47	229	P	P	16 53 37.6	+0.4
JEW	Eniwo	1.53	195	P	P	16 53 38.4	+0.6
JEW				eS	S	16 54 06.8	+0.5
JAR	Ashorobuto	1.64	128	P	P	16 53 39.7	+1.0
JAR				eS	S	16 54 09.1	+1.2
JCH	Churui	1.97	149	P	P	16 53 40.9	-0.8
JCH				eS	S	16 54 10.6	-2.5
JNBK	Urakawa-nobuka	2.11	165	P	P	16 53 43.5	+0.5
JNBK				eS	S	16 54 16.2	+0.6
JRA	Rausu	2.28	99	P	P	16 53 45.8	+1.0
JAK	Akkeshi	2.36	123	P	P	16 53 45.5	-0.1
JAK				eS	S	16 54 19.5	-0.7
JKB	Kayabe	2.53	197	P	P	16 53 46.7	-0.7
JKB				eS	S	16 54 21.8	-1.6
YSS	Yuzh-Sakhalins	2.69	11	ePn	P	16 53 48.8	-0.3
YSS				eSn	S	16 54 24.7	-1.7
NEM2	Nemuro 2	2.87	108	P	P	16 53 51.0	-0.1
NEM2				eS	S	16 54 28.2	-1.8
JOSM	Okushiri--Mats	2.90	220	P	P	16 53 51.0	-0.4
MAJO	Matsushiro	8.29	202	eP	P	16 54 56.8	-1.8
MAT	Matsushiro	8.29	202	P	P	16 54 57.1	-1.5
MAT				eS	S	16 56 31.9	+1.2
MAT	Matsushiro	8.29	202	eP	P	16 54 57.0	-1.6
	7.6nm,0.9s						
SONM	Songino Array	24.81	291	P	P	16 58 04.0	+0.7
	0.5nm,0.5s,mb3.4,baz=82,slow=8.5,SNR=6.1						
MKAR	Makanchi Array	41.01	295	P	P	17 00 22.9	-0.1
	0.6nm,0.8s,mb3.1,baz=67,slow=11,SNR=3.7						
MKAR				PcP	PcP	17 02 18.1	-0.8
	0.1nm,0.3s,baz=74,slow=5.5,SNR=5.2						
ILAR	Eielson Array	43.23	36	P	P	17 00 41.6	+1.0
	0.5nm,0.6s,mb3.1,baz=276,slow=8.9,SNR=5.9						
ZRNK	Zerenda	47.05	308	eP	P	17 01 10.4	-0.5
	1.2nm,0.8s,mb3.3						
ASAR	Alice Springs	68.06	188	P	P	17 03 37.2	-0.4
	0.3nm,0.5s,mb3.2,baz=9.3,slow=5.8,SNR=7.2						
PDAR	Pinedale Array	72.31	47	P	P	17 04 03.8	+0.7
	0.5nm,0.7s,mb3.2,baz=315,slow=2.1,SNR=5.0						

DJA 07 16:58:20.5±1.0**, 9.67S**×**115.06E, h80**^{km}**, MD4.5**/2**, ML4.1**/3**, 2C-2D, Error ellipse: s-maj=25.6km s-min=9.4km az=6.0, South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	Rata	1.05	26⇑	ePg	P	16 58 38.5	-1.9
	187nm,0.2s						
RATI				eSg	S	16 58 50.7	-4.6
SRDI	Scrawed	1.49	322⇑	ePn	P	16 58 45.5	-0.7
	464nm,0.2s						
SRDI				eSn	S	16 59 02.7	-2.5
KELI	Kelakatan	1.55	339⇓	ePn	P	16 58 46.8	-0.2
KELI				eSn	S	16 59 05.4	-1.1
KEDI	Kedomdong	1.57	41⇓	ePn	P	16 58 46.9	-0.3
	120nm,0.2s						
KEDI				eSn	S	16 59 05.6	-1.3

KRSC 07 17:04:09.4±0.8**, 55.46N**×**166.47E, h19**^{km}±5^{km}**, ML3.9, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	0.38	228	i P	Pb	17 04 17.3	-0.1
BKI				i S	Sb	17 04 22.8	0.0
BKI				Smax			
	4μm,0.8s						
KBTR	Krutoberegovo	2.19	292	eP	Pn	17 04 44.2	-1.3
KBTR				eS	Sn	17 05 11.0	-1.4
KBG	Krutoberegovo	2.27	292	eS	Sn	17 05 13.1	-1.2
KBG				Smax			
	140nm,0.5s						
MKZ	Mys Kozlova	2.88	254	eP	Pn	17 04 54.9	-0.4
MKZ				eS	Sn	17 05 28.2	-1.5
SVLR	Shiveluch	3.15	293	eP	Pn	17 04 59.8	+0.6
SVLR				eS	Sn	17 05 37.0	+0.3
ZLN	Zelenaya	3.25	282	eP	Pn	17 05 00.5	-0.1
ZLN				eS	Sn	17 05 37.8	-1.4
CIRR	Tsirk	3.30	284	eP	Pn	17 05 01.7	+0.4
LGNR	Loginova	3.32	283	eP	Pn	17 05 02.5	+0.8
LGNR				eS	Sn	17 05 41.2	+0.1
KLY	Klyuchi	3.39	287	eP	Pn	17 05 00.6	-1.9
KLY				eS	Sn	17 05 38.5	-4.1
KRSR	Krestovskiy	3.42	285	eP	Pn	17 05 03.0	+0.1
KRSR				eS	Sn	17 05 42.5	-0.9
KMNR	Kamenistaya	3.55	277	eP	Pn	17 05 05.4	+0.6
KMNR				eS	Sn	17 05 46.8	+0.1
KPT	Kopyto	3.57	281	eP	Pn	17 05 04.9	-0.3
KPT				eS	Sn	17 05 45.9	-1.4
TUMR	Tumrok	3.61	270	eP	Pn	17 05 06.4	+0.6
TUMR				eS	Sn	17 05 48.4	0.0
KOZ	Kozyrevsk	3.77	282	eP	Pn	17 05 09.3	+1.2
KOZ				eS	Sn	17 05 53.2	+0.7
SRDR	Sredinnyy	3.90	286	eP	Pn	17 05 10.3	+0.5
SRDR				eS	Sn	17 05 55.5	-0.1
ESO	Esso	4.42	279	eP	Pn	17 05 17.5	+0.2
ESO				eS	Sn	17 06 06.9	-2.0
SPN	Mys Shipunski	4.46	241	i P	Pn	17 05 16.8	-1.0
SPN				eS	Sn	17 06 06.2	-3.6
NLC	Nalytchevo	4.76	244	eP	Pn	17 05 21.0	-1.0
NLC				eS	Sn	17 06 12.9	-4.5
SDLR	Sedlovina	4.95	247	eP	Pn	17 05 24.6	-0.1
SMAR	Somma	5.00	247	eP	Pn	17 05 25.4	0.0
UGLR	Uglovaya	5.01	246	eP	Pn	17 05 26.0	+0.4
AVH	Avacha	5.03	247	i P	Pn	17 05 26.4	+0.6
PET	Petropavlovsk	5.19	245	eP	Pn	17 05 27.7	-0.5
PET				eS	Sn	17 06 24.8	-3.5
GNL	Ganaly	5.27	254	eP	Pn	17 05 29.7	+0.5
GNL				eS	Sn	17 06 28.4	-1.7
RUS	Russkaya	5.59	240	eP	Pn	17 05 33.9	+0.1
RUS				eS	Sn	17 06 35.0	-3.3
GRL	Gorelyy	5.74	243	eP	Pn	17 05 36.0	+0.1
GRL				eS	Sn	17 06 39.0	-3.1

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*IDC **07** 17:04:31.2±1.4, 14.42N×146.77E, mb3.5/5, mb1 3.7/5, mb1mx3.6/18, Error ellipse: s-maj=53.9km s-min=23.2km az=92.0*
*NEIC **07** 17:04:37.2±4.0, 14.38N×146.77E, h41^{km}±33^{km}, Error ellipse: s-maj=44.7km s-min=17.7km az=89.0*
ISC 07 17:04:34.1±1.2**, 14.4N**±0.1×**146.9E**±0.2**, h33**^{km}**, n7, σ0^{s}51**/7**, mb3.6**/5**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	2.12	247	Pn	Pn	17 05 08.6	+0.5
GUMO				eSn	Sn	17 05 42.7	+9.1
WRA	Warramunga Arr	36.31	200	P	P	17 11 37.2	+0.3
	0.2nm,0.5s,mb3.3,baz=20,slow=9.1,SNR=5.1						
ASAR	Alice Springs	39.93	199	P	P	17 12 06.3	-0.7
	0.2nm,0.6s,mb3.0,baz=14,slow=7.4,SNR=6.3						
SONM	Songino Array	47.20	323	P	P	17 13 05.4	-0.2
	0.6nm,0.7s,mb3.7,baz=130,slow=7.2,SNR=5.3						
MKAR	Makanchi Array	62.26	315	P	P	17 14 54.6	-0.5
	1.5nm,0.4s,mb4.5,baz=94,slow=8.0,SNR=32						
ILAR	Eielson Array	66.98	25	P	P	17 15 26.1	+0.7
	0.2nm,0.5s,mb3.4,baz=243,slow=6.0,SNR=4.1						
DBIC	Dimbokro	145.00	305	PKP	PKPdf	17 24 10.1	+1.0
	2.4nm,0.8s,baz=33,slow=4.2,SNR=5.5						

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*IDC **07** 17:07:00.1±0.5, 14.55N×147.10E, mb4.6/19, mb1 4.8/19, mb1mx4.7/22, MS4.2/14, Ms1 4.2/14, ms1mx4.1/23, Error ellipse: s-maj=18.5km s-min=13.7km az=100.0*
*BJI **07** 17:07:02.1, 14.69N×147.34E, h30^{km}, mB4.9, mb5.0, Ms4.4, Msz4.2*
*MOS **07** 17:07:03.4±1.0, 14.64N×146.91E, h33^{km}, mb5.2/5, Error ellipse: s-maj=24.6km s-min=11.6km az=100.1*
*NEIC **07** 17:07:03.2±3.6, 14.57N×147.05E, h21^{km}±25^{km}, mb4.9/23, Error ellipse: s-maj=10.2km s-min=6.4km az=98.0*
*HRVD **07** 17:07:03.2±0.4, 14.44N×147.27E, h12^{km}±1^{km}, MW4.9/57, Centroid moment Tensor Solution. LP body waves: s22,c27;Mantle waves: s57,c96; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.11±.18; $M_{\theta\theta}$0.00±.11; $M_{\phi\phi}$2.11±.12; $M_{r\theta}$0.00±.41; $M_{\theta\phi}$1.14±.09; $M_{\phi r}$0.13±.30; Best double couple: $M_0$2.36×10^{16} NP1:ϕ_s26°,δ44°,λ-87°. NP2:ϕ_s202°,δ47°,λ-93°. Principal axes: T 2.61, Plg1°, Azm294°; N -.49, Plg2°, Azm204°; P -2.12, Plg88°, Azm61°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 07 17:06:59.8±1.5**, 14.57N**±0.05×**147.07E**±0.05**, h10**^{km}±9^{km}**, h26**^{km}±1.9^{km}**:pP-P, n117, σ1^{s}10**/97**, mb4.9**/64**, MS4.2**/24**, 12C-4D, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	2.35	246	ePn	Pn	17 07 40.6	+1.4
JOW	Kunigami	21.37	308	P	P	17 11 51.0	+1.2
	40nm,0.6s,mb5.0,baz=119,slow=5.7,SNR=9.4						
JOW				LR	LR	17 19 26.9	
	comp=Z,926nm,18.5s,MS4.2,baz=132,slow=35						
MAJO	Matsushiro	23.27	342	eP	P	17 12 05.7	-2.9
	27nm,0.7s,mb4.8						
MAT	Matsushiro	23.27	342	P	P	17 12 06.6	-2.0
MAT				eS	S	17 16 22.0	+5.2
MAT	Matsushiro	23.27	342	eP	P	17 12 07.0	-1.6
KS15	Wonju Array Si	28.46	327	eP	P	17 12 55.6	-1.6
SSE	Sheshan	28.87	309	eP	P	17 12 58.8	-2.1
SSE				XP	sP	17 13 11.3	+6.3
SSE				S	S	17 17 49.3	-0.4
SSE				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,60nm,4.0s						
SSE				LR	LR		
	comp=N,110nm,18.8s,MS3.7						
SSE				LR	LR		
	comp=E,134nm,18.8s,MS3.7						
SSE				LR	LR		
	comp=Z,313nm,19.3s,MS3.9						
ASAJ	Asahikawa	29.70	353	P	P	17 13 09.2	+1.0
	comp=Z,18nm,0.6s,mb5.0						
NJ2	Nanjing	31.07	309	eP	P	17 13 20.6	0.0
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						

YSS	Yuzh-Sakhalins	32.49	354	eP	P	17 13 32.0	-0.8
YSS				e		17 20 57.0	
YSS				MLR	MLR		
	comp=Z,300nm,16.0s,MS4.1						
YSS	Yuzh-Sakhalins	32.49	354	eP	P	17 13 32.6	-0.2
	comp=Z,10nm,0.7s,mb4.8						
MDJ	Mudanjiang	33.43	337	P	P	17 13 39.8	-1.3
CTA	Charters Tower	34.45	181	LR	LR	17 26 41.5	
	comp=Z,279nm,19.6s,MS4.0,baz=14,slow=34						
CTAO	Charters Tower	34.45	181	eP	P	17 13 48.9	-1.2
	comp=Z,6.3nm,0.7s,mb4.7						
QIZ	Qiongzhong	35.87	282	P	P	17 14 03.5	+1.3
QIZ				S	S	17 19 41.9	+2.6
QIZ				AMB	AMB		
	comp=Z,20nm,1.4s,mb4.8						
QIZ				AMB	AMB		
	comp=Z,122nm,5.4s						
QIZ				LR	LR		
	comp=E,388nm,19.8s						
QIZ				LR	LR		
	comp=Z,514nm,19.9s,MS4.3						
WRAB	Tennant Creek	36.50	200	P	P	17 14 07.9	+0.4
	comp=Z,90nm,1.3s,mb5.5,SNR=8.4						
WRAB	Tennant Creek	36.50	200	eP	P	17 14 06.3	-1.2
	comp=Z,57nm,1.3s,mb5.3						
WRAB				e		17 14 21.5	
WRA	Warramunga Arr	36.51	200	P	P	17 14 07.0	-0.6
	comp=Z,8.1nm,0.8s,mb4.6,baz=24,slow=9.2,SNR=36						
WRA				PcP	PcP	17 16 31.6	0.0
	comp=Z,2.2nm,0.6s,baz=20,slow=3.3,SNR=11						
WRA				LR	LR	17 27 47.6	
	comp=Z,170nm,19.8s,MS3.8,baz=20,slow=34						
WRA	Warramunga Arr	36.51	200	P	P	17 14 06.9	-0.7
WRA				PP	PcP	17 16 31.6	0.0
BJI	Beijing	37.06	319	P	P	17 14 15.2	+3.2
BJI				S	S	17 19 53.6	-3.7
BJI				AMB	AMB		
	comp=Z,17nm,0.7s,mb5.0						
BJI				LR	LR		
	comp=N,294nm,18.0s,MS4.3						
BJI				LR	LR		
	comp=E,280nm,17.3s,MS4.3						
BJI				LR	LR		
	comp=Z,354nm,19.5s,MS4.2						
ENH	Enshi	37.89	301	eP	P	17 14 19.8	+0.7
	comp=Z,21nm,0.9s,mb4.9						
FITZ	Fitzroy Crossi	38.74	214	PcP	PcP	17 16 38.9	+0.4
	comp=Z,4.8nm,0.8s,baz=276,slow=1.6,SNR=6.4						
FITZ				LR	LR	17 29 24.1	
	comp=Z,84nm,21.9s,MS3.5,baz=44,slow=35						
PET	Petropavlovsk	39.45	11	eP	P	17 14 32.6	+0.7
	comp=Z,12nm,0.6s,mb4.8						
GYA	Guiyang	39.49	294	P	P	17 14 34.2	+1.7
GYA				AP	pP	17 14 41.6	+6.2
GYA				XP	sP	17 14 46.8	+10
GYA				S	S	17 20 31.9	-2.5
GYA				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.0						
GYA				AMB	AMB		
	comp=Z,40nm,3.7s						
GYA				LR	LR		
	comp=N,80nm,4.2s						
GYA				LR	LR		
	comp=E,60nm,4.5s						
GYA				LR	LR		
	comp=Z,100nm,5.7s						
XAN	Xi'an	39.51	306	P	P	17 14 33.1	+0.5
XAN				AP	pP	17 14 40.0	+4.5
XAN				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.4						
ASAR	Alice Springs	40.12	199	P	P	17 14 37.5	-0.3
	comp=Z,4.5nm,0.8s,mb4.2,baz=26,slow=6.6,SNR=85						
ASAR				PP	PP	17 16 16.0	+2.1
	comp=Z,2.9nm,0.9s,baz=23,slow=9.9,SNR=6.0						
ASAR				PcP	PcP	17 16 42.9	0.0
	comp=Z,0.9nm,0.6s,baz=43,slow=3.5,SNR=3.9						
ASAR				LR	LR	17 30 34.6	
	comp=Z,199nm,18.6s,MS4.0,baz=14,slow=35						
HHC	Hu-ho-hao-te	40.47	317	⇑P	P	17 14 41.8	+1.4
HHC				PP	PP	17 16 18.3	+1.1
HHC				PCP	PcP	17 16 42.2	-1.6
HHC				PCS		17 20 37.0	
HHC				S	S	17 20 50.5	+1.7
HHC				SCS	ScS	17 24 46.2	+1.5
HHC				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.7						
HHC				LR	LR		
	comp=N,146nm,15.5s,MS4.0						
HHC				LR	LR		
	comp=E,117nm,16.9s,MS4.0						
HHC				LR	LR		
	comp=Z,135nm,16.5s,MS3.9						
HIA	Hailar	41.21	333	eP	P	17 14 46.5	+0.2
	comp=Z,15nm,1.0s,mb4.6						
BTO	Baotou	41.38	316	eP	P	17 14 48.5	+0.7
KMI	Kunming	42.83	291	eP	P	17 15 01.7	+1.7
KMI				AP	pP	17 15 10.8	+7.9
KMI				XP	sP	17 15 14.6	+10
KMI				PP	PP	17 16 44.8	+2.7
KMI				S	S	17 21 27.1	+3.0
KMI				XS		17 21 42.3	
KMI				SS	SS	17 24 33.7	+4.8
KMI				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.3						
KMI				LR	LR		
	comp=N,167nm,20.5s,MS4.2						
KMI				LR	LR		
	comp=E,237nm,20.9s,MS4.2						
KMI				LR	LR		
	comp=Z,299nm,17.3s,MS4.2						
CD2	Chengdu	42.84	300	eP	P	17 15 00.4	+0.4
CD2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.0						
LZH	Lanzhou	44.11	307	P	P	17 15 12.0	+1.7
LZH				XP	sP	17 15 26.7	+12
LZH				eS	S	17 21 42.1	-0.3
LZH				SS	SS	17 24 56.0	+4.1
LZH				AMB	AMB		
	comp=Z,80nm,1.0s,mb5.4						
LZH				AMB	AMB		
	comp=Z,320nm,4.6s						
LZH				LR	LR		
	comp=E,800nm,17.6s						
LZH				LR	LR		
	comp=Z,770nm,20.7s,MS4.6						
MBWA	Marble Bar	44.51	218	eP	P	17 15 13.3	-0.4
	comp=Z,32nm,1.0s,mb5.1						
MA2	Magadan	45.01	3	eP	P	17 15 18.6	+1.4
MA2				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.0						
MA2	Magadan	45.01	3	eP	P	17 15 17.6	+0.4
	comp=Z,30nm,0.8s,mb5.2						
CM31	Chiang Mai Arr	46.21	282	eP	P	17 15 28.0	+0.8
	comp=Z,13nm,0.7s,mb5.0						
CMAR	Chiang Mai Arr	46.21	282	P	P	17 15 28.1	+0.9
	comp=Z,7.6nm,0.6s,mb4.8,baz=80,slow=6.1,SNR=74						
CMAR				PcP	PcP	17 17 04.6	+1.1
	comp=Z,1.1nm,0.5s,baz=100,slow=2.0,SNR=7.1						
STKA	Stephens Creek	46.48	186	P	P	17 15 28.3	-0.9
	comp=Z,3.3nm,0.5s,mb4.5,baz=5.9,slow=11,SNR=14						
STKA				LR	LR	17 35 38.2	
	comp=Z,269nm,19.6s,MS4.2,baz=19,slow=37						
STKA	Stephens Creek	46.48	186	eP	P	17 15 27.8	-1.4
SONM	Songino Array	47.20	323	P	P	17 15 34.9	+0.2
	comp=Z,7.8nm,0.6s,mb4.8,baz=137,slow=7.1,SNR=58						
GTA	Gaotai	48.15	310	P	P	17 15 43.2	+0.9
GTA				XP	sP	17 15 57.3	+11
GTA				PCP	PcP	17 17 11.2	+1.1
GTA				PP	PP	17 17 36.0	+1.9
GTA				S	S	17 22 41.2	+1.0
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.5						
GTA				AMB	AMB		
	comp=Z,45nm,4.6s						
GTA				LR	LR		
	comp=N,103nm,18.2s,MS4.0						
GTA				LR	LR		
	comp=E,122nm,18.2s,MS4.0						
GTA				LR	LR		
	comp=Z,183nm,20.2s,MS4.0						
YAK	Yakutsk	49.00	349c	iP	P	17 15 47.3	-1.2
YAK				pmax	pmax		
	comp=Z,30nm,0.7s,mb5.4						
YAK				MLR	MLR		
	comp=Z,200nm,16.0s,MS4.2						
YAK	Yakutsk	49.00	349	eP	P	17 15 47.1	-1.4
	comp=Z,38nm,0.7s,mb5.5						
BOD	Bodaibo	49.80	338	eP	P	17 15 52.8	-1.9
NWAO	Narrogin (SRO)	55.17	211	LR	LR	17 40 12.2	
	comp=Z,222nm,21.2s,MS4.2,baz=52,slow=36						
NWAO	Narrogin (SRO)	55.17	211	eP	P	17 16 34.6	-0.7
	comp=Z,9.1nm,0.8s,mb4.9						
WMQ	Urumqi	58.03	313	P	P	17 16 56.4	+1.0
WMQ				XP	sP	17 17 11.0	+11
WMQ				S	S	17 24 53.0	-1.3
WMQ				SS	SS	17 28 46.0	-1.1
WMQ				AMB	AMB		
	comp=Z,19nm,1.0s,mb5.1						
WMQ				LR	LR		
	comp=Z,198nm,18.0s,MS4.3						
GUN	Gumba	58.04	294	eP	P	17 16 56.1	+0.4
	comp=Z,66nm,0.6s,mb5.8						
TIXI	Tiksi	58.10	353	⇑eP	P	17 16 54.5	-1.1
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.6						
PKI	Pulchoki	58.46	294	eP	P	17 16 58.3	-0.4
	comp=Z,25nm,0.6s,mb5.4						
KKN	Kakani	58.58	294	eP	P	17 16 59.0	-0.5
	comp=Z,26nm,0.6s,mb5.4						
DMN	Daman	58.73	294	eP	P	17 17 00.1	-0.5
	comp=Z,42nm,0.6s,mb5.6						
GKN	Gorkha	59.14	294	eP	P	17 17 03.1	-0.3
	comp=Z,60nm,0.5s,mb5.8						
KOLN	Koldanda	60.06	294	eP	P	17 17 09.5	-0.3
	comp=Z,54nm,1.1s,mb5.5						
MKAR	Makanchi Array	62.29	315	P	P	17 17 24.5	-0.1
	comp=Z,27nm,0.5s,mb5.6,baz=90,slow=8.2,SNR=289						
MKAR				LR	LR	17 46 44.2	
	comp=Z,120nm,18.9s,MS4.1,baz=97,slow=38						
NVS	Novosibirsk	63.20	324	iP	P	17 17 28.8	-1.7
NVS				e		17 17 42.3	
NVS				pmax	pmax		
	comp=Z,13nm,0.6s,mb5.2						
NVS				pmax	pmax		
	comp=E,12nm,0.6s						
KURK	Kurchatov	65.23	319d	iP	P	17 17 42.7	-1.1
KURK	Kurchatov	65.23	319	eP	P	17 17 42.9	-0.8
	comp=E,38nm,0.8s,mb5.5						
HYB	Hyderabad	65.62	283	iP	P	17 17 46.0	-0.8
HYB	Hyderabad	65.62	283	eP	P	17 17 46.0	-0.8
COLA	College	66.41	25	eP	P	17 17 49.6	-1.5
ILAR	Eielson Array	66.77	25	P	P	17 17 51.9	-1.5
	comp=E,3.0nm,0.6s,mb4.5,baz=251,slow=5.9,SNR=42						
AAK	Ala-Archa	67.50	310	eP	P	17 17 57.6	-0.8
	comp=E,2.9nm,0.6s,mb4.5						
BRVK	Borovoye	70.56	321	eP	P	17 18 16.5	-0.5
	comp=E,12nm,0.9s,mb4.8						
ZRNK	Zerenda	71.33	321	eP	P	17 18 20.8	-1.0
	comp=E,7.8nm,0.7s,mb4.8						
INK	Inuvik	72.65	23	P	P	17 18 29.4	+0.1
	comp=E,3.9nm,0.6s,mb4.5,baz=250,slow=6.2,SNR=15						
INK	Inuvik	72.65	23	eP	P	17 18 29.4	+0.1
	comp=E,7.6nm,0.9s,mb4.6						
DLBC	Dease Lake	74.00	33	P	P	17 18 38.6	+1.3
	comp=E,1.8nm,0.6s,mb4.2,baz=216,slow=6.4,SNR=5.7						
YBH	Yreka Blue Hor	80.62	49	P	P	17 19 15.8	+1.3
	comp=E,2.2nm,0.9s,mb4.1,baz=11,slow=5.5,SNR=4.9						
YKW3	Yellowknife Ar	80.98	28	P	P	17 19 15.7	-0.3
YKA	Yellowknife Ar	81.01	28	P	P	17 19 16.5	+0.4
	comp=E,3.0nm,0.5s,mb4.4,baz=285,slow=5.2,SNR=14						
YKA				LR	LR	17 59 26.2	
	comp=E,187nm,18.6s,MS4.5,baz=215,slow=39						
NEW	Newport	83.08	42	P	P	17 19 28.0	+0.9
	comp=E,3.7nm,0.7s,mb4.5						
RES	Resolute Bay	83.10	14	eP	P	17 19 27.7	+0.9
	comp=E,8.1nm,0.8s,mb4.8						
CMB	Columbia Colle	83.14	53	eP	P	17 19 28.3	+0.7
	comp=E,5.9nm,0.7s,mb4.7						
NVAR	Mina Array Bea	84.64	52	P	P	17 19 36.6	+1.3
	comp=E,2.9nm,0.7s,mb4.5,baz=270,slow=5.4,SNR=16						
WALA	Waterton Lakes	84.92	41	P	P	17 19 36.3	-0.1
	comp=E,6.8nm,1.0s,mb4.7						
TPH	Tonopah	85.55	52	eP	P	17 19 40.9	+1.1
	comp=E,3.8nm,0.8s,mb4.7						
KEV	Kevo	86.25	342	ep	P	17 19 41.7	-0.9
ARCES	ARCESS Array B	86.81	343	P	P	17 19 45.5	+0.2
	comp=E,5.6nm,0.6s,mb5.0,baz=79,slow=6.2,SNR=28						
ARCES				LR	LR	18 02 48.1	
	comp=E,199nm,18.1s,MS4.6,baz=18,slow=39						
HWUT	Hardware Ranch	88.72	47	eP	P	17 19 55.5	+0.3
MSU	Marysvale	89.24	50	eP	P	17 19 59.6	+1.9
OBN	Obninsk	89.44	327	eP	P	17 19 58.0	-0.2
OBN				pmax	pmax		
	comp=Z,8.0nm,1.5s,mb4.8						
PDAR	Pinedale Array	89.76	46	P	P	17 20 01.0	+0.9
	comp=Z,0.7nm,0.6s,mb4.2,baz=243,slow=4.0,SNR=3.4						
PDAR				LR	LR	17 57 35.4	
	comp=Z,122nm,20.4s,MS4.3,baz=131,slow=34						
KAF	Kangasniemi	90.70	336	ep	P	17 19 57.5	-6.4
	comp=Z,3.1nm,0.6s,mb4.8						
KAF	Kangasniemi	90.70	336	eP	P	17 19 57.5	-6.4
KAF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.8						
FINES	FINESS Array B	91.17	336	P	P	17 20 05.1	-1.0
	comp=Z,4.9nm,0.6s,mb5.0,baz=61,slow=5.1,SNR=41						
FINES				LR	LR	18 05 45.8	
	comp=Z,97nm,19.9s,MS4.2,baz=324,slow=39						
SOC	Sochi	92.19	316	eP	P	17 20 09.3	-1.9
SOC				e		17 23 47.7	
SOC				ePPP	PPP	17 25 46.4	-8.9
SOC				eS	S	17 31 04.8	-6.4
SOC				eSS	SS	17 37 17.9	-6.6
SOC				pmax	pmax		
	comp=Z,16nm,0.6s,mb5.5						
SOC				pmax	pmax		
	comp=N,24nm,1.0s						
SOC				pmax	pmax		
	comp=E,16nm,0.8s						
HFS	Hagfors	96.69	339	P	P	17 20 30.3	-1.1
	comp=E,1.5nm,0.6s,mb4.6,baz=80,slow=9.0,SNR=4.8						
NOA	NORSAR Array B	96.88	340	P	P	17 20 31.8	-0.5
	comp=E,0.8nm,0.6s,mb4.3,baz=45,slow=5.0,SNR=3.4						
NOA				LR	LR	18 10 08.0	
	comp=E,77nm,18.9s,MS4.2,baz=10.0,slow=39						
TXAR	Lajitas Array	99.03	57	P	P	17 20 44.2	+1.5
	comp=E,0.2nm,0.6s,mb3.9,baz=270,slow=3.6,SNR=4.1						
TXAR				LR	LR	18 00 41.4	
	comp=E,191nm,18.6s,MS4.6,baz=250,slow=32						
KMBO	Kilima Mbogo	109.46	274	PKiKP		17 25 31.8	
	comp=E,1.0nm,0.5s,baz=56,slow=2.1,SNR=5.1						
LUPA	Lehigh Univers	112.46	34	ePKPdf	PKPdf	17 25 34.7	-4.7
SNAA	Sanae	120.15	191	⇑iP	PKPdf	17 25 50.7	-3.0
SNAA	Sanae	120.15	191	⇓i	PKPdf	17 25 51.6	-2.1
SNAA	Sanae	120.15	191	⇑i	PKPdf	17 26 02.3	+8.6
SNAA	Sanae	120.15	191	⇓i	PKPdf	17 26 06.2	+13
SNAA	Sanae	120.15	191	PKP	PKPdf	17 25 51.2	-2.5
	comp=E,0.6nm,0.5s,baz=210,slow=5.5,SNR=23						
VNA2	Neumayer--Watz	121.56	190	⇓iP	PKPdf	17 25 57.5	+1.0
VNA2	Neumayer--Watz	121.56	190	⇑i	PKPdf	17 25 58.0	+1.5
VNA2	Neumayer--Watz	121.56	190	⇑i	PKPdf	17 26 12.6	+16
VNA3	Neumayer Olymp	121.62	189	P	PKPdf	17 25 56.6	0.0
VNA3	Neumayer Olymp	121.62	189	⇑i	PKPdf	17 25 57.6	+1.0
VNA3	Neumayer Olymp	121.62	189	⇑i	PKPdf	17 26 05.6	+9.0
VNA3	Neumayer Olymp	121.62	189	⇑i	PKPdf	17 26 12.1	+15
VNA1	Neumayer--Stat	121.94	189	⇑iP	PKPdf	17 25 56.9	-0.3
VNA1	Neumayer--Stat	121.94	189	⇑i	PKPdf	17 26 06.1	+8.9
LVC	Limon Verde	145.04	109	ePKPdf	PKPdf	17 26 38.7	-2.6
DBIC	Dimbokro	145.07	305	PKPbc	PKPbc	17 26 40.0	+1.1
	comp=E,40nm,0.5s,baz=29,slow=3.4,SNR=122						
DBIC	Dimbokro	145.07	305	ePKPdf	PKPdf	17 26 39.6	-2.0
DBIC				e		17 26 53.8	
KIC	Kosan Boka	145.16	305	ePKP1	PKPbc	17 26 40.1	+1.0
	comp=E,179nm,0.6s						
TIC	Toumodi	145.21	305	ePKP1	PKPbc	17 26 40.2	+0.9
	comp=E,108nm,0.6s						
LIC	Lamto	145.47	305	ePKP1	PKPbc	17 26 41.1	+1.2
	comp=E,178nm,0.7s						
LPAZ	La Paz	146.04	98	PKPbc	PKPbc	17 26 44.5	+3.3
	comp=E,5.7nm,0.5s,baz=295,slow=2.6,SNR=23						
LPAZ	La Paz	146.04	98	ePKPbc	PKPbc	17 26 43.6	+2.4
LPAZ				e		17 26 58.3	
SAML	Samuel	149.88	83	ePKPdf	PKPdf	17 26 48.6	-0.9
SAML				ePKPbc	PKPdf	17 26 53.0	+3.5
SAML				e		17 27 07.3	
CPUP	Villa Florida	154.37	121	PKPbc	PKPdf	17 27 02.7	+7.1
	comp=E,1.1nm,0.5s,baz=164,slow=1.6,SNR=4.5						
CPUP				PKPab	PKPab	17 27 17.6	-0.1
	comp=E,1.8nm,0.6s,baz=267,slow=2.8,SNR=7.0						
CPUP	Villa Florida	154.37	121	PKPbc	PKPdf	17 27 02.7	+7.1
CPUP				PKPab	PKPab	17 27 17.6	-0.1

IDC 07 17:13:05.0±2.9, 14.41N×147.22E, mb3.7/5, mb1 3.8/5, mb1mx3.7/18, MS4.1/1, Ms1 4.1/1, ms1mx3.4/23, Error ellipse: s-maj=95.9km s-min=25.9km az=81.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	36.41	201	P	P	17 20 09.5	-3.8
	0.8nm,0.8s,baz=21,slow=8.9,SNR=3.8						
ASAR	Alice Springs	40.02	199	P	P	17 20 43.2	-0.4
	0.3nm,0.6s,baz=30,slow=7.3,SNR=3.8						
CMAR	Chiang Mai Arr	46.38	282	P	P	17 21 34.0	-1.2
	0.5nm,0.7s,baz=88,slow=6.1,SNR=4.6						
SONM	Songino Array	47.41	323	P	P	17 21 40.6	-2.4
	0.4nm,0.5s,baz=137,slow=7.6,SNR=3.7						
URZ	Urewera	59.42	153	LR	LR	17 41 54.7	
	comp=Z,174nm,21.8s,baz=22,slow=29						
MKAR	Makanchi Array	62.50	315	P	P	17 23 30.1	-2.6
	1.3nm,0.4s,baz=91,slow=8.4,SNR=24						
DBIC	Dimbokro	145.27	305	PKPbc	PKPbc	17 32 45.5	-0.6
	1.1nm,0.4s,baz=21,slow=4.1,SNR=14						

NEIC 07 17:19:30.6±4.0, 7.43S×128.44E, h114^{km}±42^{km}, mb4.0/5, Error ellipse: s-maj=31.3km s-min=18.4km az=214.0

IDC 07 17:19:35.3±3.2, 7.62S×128.30E, h160^{km}±28^{km}, mb3.5/3, mb1 3.6/6, mb1mx3.5/12, Error ellipse: s-maj=68.4km s-min=20.2km az=69.0

ISC 07 17:19:31.1±2.7, 7.52S±0.10×128.3E±0.1, h135^{km}±28^{km}, n14, σ0^{s}95/18, mb4.0/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.82	193	P	P	17 22 04.3	+1.1
	1.0nm,0.3s,baz=9.2,slow=9.9,SNR=19						
FITZ				S	S	17 24 00.3	-2.0
	2.6nm,0.3s,baz=150,slow=20,SNR=10.0						
WRAB	Tennant Creek	13.67	155	eP	P	17 22 39.4	-1.0
	4.1nm,0.6s						
WRAB				eS	S	17 25 01.8	-7.6
WRA	Warramunga Arr	13.68	155	P	P	17 22 39.7	-0.8
	0.8nm,0.3s,baz=332,slow=14,SNR=33						
WRA				S	S	17 25 03.7	-5.7
	1.3nm,0.3s,baz=335,slow=23,SNR=10.0						
MBWA	Marble Bar	15.87	210	eP	P	17 23 09.5	+1.3
	8.0nm,0.9s						
ASAR	Alice Springs	16.94	162	P	P	17 23 22.2	+0.8
	0.4nm,0.3s,baz=341,slow=11,SNR=27						
ASAR				S	S	17 26 24.8	+1.0
	0.4nm,0.3s,baz=344,slow=25,SNR=6.2						
ASAR				ScP		17 31 18.3	
	0.0nm,0.3s,baz=348,slow=2.0,SNR=3.8						
CTAO	Charters Tower	21.44	127	P	P	17 24 18.4	+8.8
	8.8nm,1.3s,mb3.9						
STKA	Stephens Creek	27.23	155	P	P	17 25 04.4	-0.1
	2.0nm,0.6s,mb3.9,baz=332,slow=9.8,SNR=4.3						
KS15	Wonju Array Si	44.73	360	P	P	17 27 42.5	+10
SONM	Songino Array	58.41	343	P	P	17 29 15.0	+0.3
	1.1nm,1.1s,mb3.6,baz=158,slow=6.7,SNR=4.2						
MKAR	Makanchi Array	67.73	328	P	P	17 30 16.0	-0.1
	0.7nm,0.5s,mb3.6,baz=158,slow=7.8,SNR=4.9						
MKAR	Makanchi Array	67.73	328	P	P	17 30 16.0	-0.1
MA2	Magadan	69.25	12	P	P	17 30 17.2	-8.0
	62nm,1.5s,mb5.1						
KURK	Kurchatov	72.08	329	eP	P	17 30 42.1	-0.2
	4.1nm,1.0s,mb4.1						
ZRNK	Zerenda	78.28	328	eP	P	17 31 16.8	-0.7
	3.9nm,1.1s,mb4.0						

IDC 07 17:23:53.4±7.0, 5.46S×153.50E, mb3.8/3, mb1 4.2/3, mb1mx3.7/12, Error ellipse: s-maj=150.0km s-min=45.1km az=95.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.55	231	P	P	17 29 06.3	-0.1
	2.5nm,0.7s,baz=53,slow=9.5,SNR=9.8						
ASAR	Alice Springs	26.15	224	P	P	17 29 28.4	-2.9
	1.1nm,0.7s,baz=56,slow=9.2,SNR=5.0						
CMAR	Chiang Mai Arr	58.79	295	P	P	17 33 54.4	-1.8
	1.8nm,1.2s,baz=113,slow=4.7,SNR=4.6						

IDC 07 17:26:25.1±0.9, 55.29S×28.94W, mb4.0/3, mb1 4.1/4, mb1mx4.0/11, ML4.2/1, MS3.3/1, Ms1 3.3/1, ms1mx3.0/13, Error ellipse: s-maj=78.0km s-min=21.4km az=51.0

NEIC 07 17:26:26.5±0.6, 55.07S×28.73W, h10^{km}, mb4.2/6, Error ellipse: s-maj=22.3km s-min=11.1km az=54.0

ISC 07 17:26:24.8±1.1, 55.0S±0.2×28.8W±0.3, h10^{km}, n25, σ1^{s}48/20, mb4.2/6, MS3.3/1, 6C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	18.14	158	⇑i	P	17 30 40.6	+2.5
VNA1	Neumayer--Stat	18.14	158		P	17 30 43.5	+5.4
VNA1	Neumayer--Stat	18.14	158	⇑i	P	17 30 45.7	+7.6
VNA1	Neumayer--Stat	18.14	158	P	P	17 30 43.5	+5.4
VNA3	Neumayer Olymp	18.32	160	⇓i	P	17 30 43.9	+3.6
VNA3	Neumayer Olymp	18.32	160	⇑i	P	17 30 44.2	+3.9
VNA3	Neumayer Olymp	18.32	160	⇑i	P	17 30 46.4	+6.1
VNA2	Neumayer--Watz	18.54	158		P	17 30 42.8	-0.3
VNA2	Neumayer--Watz	18.54	158	⇑i	P	17 30 45.3	+2.2
PMSA	Palmer Station	19.93	226	eP	P	17 30 58.5	-0.7
	24nm,1.1s						
SNAA	Sanae	20.10	156	⇑i	P	17 30 57.7	-3.4
SNAA	Sanae	20.10	156	P	P	17 30 57.6	-3.4
	0.6nm,0.3s,baz=302,slow=11,SNR=56						
SNAA	Sanae	20.10	156	eP	P	17 30 57.2	-3.8
	5.4nm,0.5s						
TRQA	Tornquist	28.04	293	P	P	17 32 17.5	-0.4
	3.7nm,0.9s,mb4.0						
CPUP	Villa Florida	35.40	312	P	P	17 33 23.2	+0.6
	2.7nm,1.0s,mb4.1,baz=172,slow=8.3,SNR=4.3						
CPUP				LR	LR	17 46 20.3	
	comp=Z,46nm,19.0s,MS3.3,baz=62,slow=34						
CPUP	Villa Florida	35.40	312	eP	P	17 33 23.0	+0.4
	3.1nm,0.9s,mb4.2						
MAW	Mawson	41.57	145	P	P	17 34 11.9	-1.6
	0.6nm,0.4s,mb3.6,baz=259,slow=8.4,SNR=3.6						
LPAZ	La Paz	48.99	306	P	P	17 35 15.2	+1.8
	1.7nm,0.6s,mb4.3,baz=22,slow=7.8,SNR=6.1						
TSUM	Tsumeb	50.01	63	P	P	17 35 15.2	-6.1
	13nm,1.2s,mb4.8						
SAML	Samuel	53.38	316	P	P	17 35 45.6	-1.1
	3.1nm,1.0s,mb4.2						
ASAR	Alice Springs	100.29	164	P	P	17 40 10.9	-1.7
	0.2nm,0.7s,baz=191,slow=4.2,SNR=5.4						
FINES	FINESS Array B	123.88	28	PKP	PKPdf	17 45 23.9	-1.3
	2.6nm,1.1s,baz=180,slow=1.9,SNR=4.4						
ARCES	ARCESS Array B	130.30	22	PKP	PKPdf	17 45 35.9	-1.3
	3.6nm,0.9s,baz=45,slow=1.7,SNR=4.3						
ILAR	Eielson Array	148.70	313	PKPbc	PKPdf	17 46 13.2	+3.4
	2.0nm,0.8s,baz=119,slow=0.9,SNR=11						
SONM	Songino Array	151.59	86	PKPbc	PKPdf	17 46 20.2	+5.4
	0.7nm,0.6s,baz=221,slow=3.7,SNR=7.6						

MAN 07 17:45:23.3, 6.70N×124.43E, h7^{km}, mb4.2, ML3.0, MS2.8, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	Cotabato--PC H	0.55	341	⇑iP	Pg	17 45 34.6	+0.2
CTBH				iS	Sg	17 45 42.2	+0.6
KCP	Kidapawan	0.73	65	eP	Pb	17 45 37.2	-0.7
BUKP	Musuan	1.33	28	eP	Pb	17 45 48.0	-0.2
BUKP				eS	Sb	17 46 06.4	+1.0
PAGZ	Pagadian	1.54	318	eP	Pn	17 45 51.0	-0.3
PAGZ				eS	Sb	17 46 12.1	+0.7
IPIL	Ipil	2.13	301	eP	Pn	17 46 00.2	+0.3
IPIL				eS	Sn	17 46 26.2	-0.7

DJA 07 18:22:01.5±0.9, 8.23S×117.96E, h144^{km}±15^{km}, MD4.6/4, ML4.8/4, 1C-3D, Error ellipse: s-maj=85.1km s-min=22.1km az=3.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	Kedomdong	1.84	262	⇓ePn	P	18 22 34.9	+0.1
	874nm,0.2s						
KEDI				eSn	S	18 22 58.8	-1.5
RATI	Rata	2.45	258	⇓ePn	P	18 22 42.0	-0.3

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	2μm,0.2s						
RATI				eSn	S	18 23 12.5	-0.9
KELI	Kelakatan	3.43	270	⇑ePn	P	18 22 55.4	+0.4
	117nm,0.2s						
KELI				eSn	S	18 23 33.4	-2.6
SRDI	Scrawed	3.78	266	⇓ePn	P	18 22 58.9	-0.7
	171nm,0.2s						
SRDI				eSn	S	18 23 42.2	-2.0

IDC 07 18:32:01.9±2.6, 0.95S×134.87E, mb3.6/2, mb1 3.8/4, mb1mx3.6/14, ML3.3/2, Error ellipse: s-maj=95.2km s-min=25.9km az=81.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.88	182	P	P	18 36 23.4	-2.8
	0.2nm,0.3s,baz=360,slow=12,SNR=12						
FITZ	Fitzroy Crossi	19.31	207	P	P	18 36 29.5	-1.7
	0.0nm,0.3s,baz=358,slow=16,SNR=2.1						
ASAR	Alice Springs	22.60	182	P	P	18 37 04.2	-1.4
	1.1nm,0.7s,baz=8.4,slow=11,SNR=17						
MKAR	Makanchi Array	66.08	323	P	P	18 42 50.7	-2.2
	0.9nm,0.8s,baz=122,slow=6.9,SNR=5.7						

IDC 07 18:42:39.9±1.6, 55.09S×28.08W, mb4.2/3, mb1 4.3/3, mb1mx4.0/10, MS3.4/1, Ms1 3.4/1, ms1mx3.1/12, Error ellipse: s-maj=73.9km s-min=32.7km az=20.0

NEIC 07 18:42:40.5±0.6, 55.30S×28.29W, h10^{km}, mb4.1/2, Error ellipse: s-maj=32.9km s-min=14.1km az=57.0

ISC 07 18:42:38.4±0.8, 55.2S±0.2×28.1W±0.4, h10^{km}, n16, σ1^{s}15/14, mb4.2/4, MS3.4/1, 5C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	17.75	158	⇑iP	P	18 46 47.7	+0.9
VNA1	Neumayer--Stat	17.75	158	⇑i	P	18 47 03.0	+16
VNA3	Neumayer Olymp	17.94	161	⇑iP	P	18 46 44.3	-4.8
VNA3	Neumayer Olymp	17.94	161	⇑i	P	18 46 59.5	+10
VNA2	Neumayer--Watz	18.15	158	⇑iP	P	18 46 45.5	-6.3
VNA2	Neumayer--Watz	18.15	158		P	18 47 00.7	+8.9
SNAA	Sanae	19.70	156	⇓iP	P	18 47 09.0	-1.3
QSPA	South Pole Qui	35.03	180	P	P	18 49 39.1	+6.5
CPUP	Villa Florida	35.89	312	P	P	18 49 39.3	-1.1
	1.2nm,0.7s,mb3.9,baz=162,slow=9.0,SNR=3.0						
CPUP				LR	LR	19 02 29.7	
	comp=Z,54nm,18.5s,MS3.4,baz=247,slow=33						
LPAZ	La Paz	49.49	306	P	P	18 51 32.9	+2.0
	2.0nm,0.8s,mb4.2,baz=166,slow=6.7,SNR=8.5						
LPAZ	La Paz	49.49	306	eP	P	18 51 32.4	+1.5
	1.8nm,0.7s,mb4.2						
SAML	Samuel	53.87	315	P	P	18 52 02.8	-1.0
	1.0nm,0.6s,mb3.9						
DBIC	Dimbokro	64.63	26	P	P	18 53 18.6	+0.2
	8.4nm,1.2s,mb4.6,baz=180,slow=5.1,SNR=3.6						
STKA	Stephens Creek	92.80	171	eP	P	18 55 52.9	+1.0
ILAR	Eielson Array	149.19	313	PKPbc	PKPdf	19 02 27.9	+3.7
	2.5nm,0.8s,baz=79,slow=1.4,SNR=15						
SONM	Songino Array	151.16	86	PKPbc	PKPdf	19 02 34.0	+6.2
	0.2nm,0.3s,baz=247,slow=2.9,SNR=4.3						
SONM				PKPab	PKPab	19 02 41.4	+0.6
	0.7nm,0.8s,baz=236,slow=2.2,SNR=4.9						

CASC 07 18:53:23.5±2.3, 14.31N×91.84W, h62^{km}±11^{km}, MD4.1, ML4.6, 5C-4D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAT	Jato	0.20	88	⇓eP	P	18 53 32.9	-0.2
JAT				eS	S	18 53 42.0	+1.8
JAT				AML	AML	18 53 42.4	
	comp=N,71μm,0.3s						
TP2	Tecpan 2	0.92	59	⇑eP	P	18 53 41.7	+0.9
TP2				eS	S	18 53 56.1	+2.4
TP2				AML	AML	18 53 59.3	
	comp=N,5μm,0.5s						
FUG	Fuego 3	0.98	82	⇑eP	P	18 53 40.8	-0.7
PCG	Pacaya	1.20	86	⇑eP	P	18 53 44.2	-0.3
PCG				eS	S	18 54 00.8	+0.6
IXG	Ixpaco	1.35	96	eP	P	18 53 46.1	-0.7
IXG				eS	S	18 54 03.9	-0.1
IXG				AML	AML	18 54 09.6	
	comp=E,22μm,0.5s						
NBG	Las Nubes	1.47	79	⇑eP	P	18 53 49.3	+0.9
NBG				eS	S	18 54 10.1	+3.3
NBG				AML	AML	18 54 21.2	
	comp=N,8μm,0.5s						
CUSS	Cusmapa	1.88	102	eP	P	18 53 53.1	-0.9
CUSS				eS	S	18 54 16.6	+0.1
RTR	El Retiro	2.17	101	⇓eP	P	18 53 57.9	-0.1
RTR				eS	S	18 54 26.1	+2.4
SBLS	San Blas	2.20	102	⇑eP	P	18 53 58.1	-0.4
SBLS				eS	S	18 54 25.6	+1.1
SNJE	San Jose	2.21	101	⇓eP	P	18 53 58.2	-0.5
SNJE				eS	S	18 54 26.0	+1.2
MTO2	Montecristo 2	2.40	88	eP	P	18 54 01.9	+0.5
BOQS	Boqueron	2.55	103	eP	P	18 54 03.0	-0.5
BOQS				eS	S	18 54 33.6	+0.3
LFU	La Fuente	2.70	102	eP	P	18 54 04.7	-0.9
LFU				eS	S	18 54 37.2	0.0
LBRS	Las Brisas	2.77	102	eP	P	18 54 06.8	+0.2
LFRS	El Faro	2.78	104	⇓eP	P	18 54 06.3	-0.5
LFRS				eS	S	18 54 38.3	-0.9
LCBS	La Ceiba	2.85	103	eP	P	18 54 07.7	0.0
LCBS				eS	S	18 54 40.9	-0.1
SNVI	San Vicente	3.00	103	eP	P	18 54 10.0	+0.3
SNVI				eS	S	18 54 44.6	0.0

NEIC 07 18:54:23.0±0.8, 14.50N×147.12E, h35^{km}, mb4.5/2, Error ellipse: s-maj=22.5km s-min=11.1km az=93.0

IDC 07 18:54:24.4±1.8, 14.53N×147.26E, h51^{km}±5^{km}, mb3.7/8, mb1 3.8/8, mb1mx3.7/20, Error ellipse: s-maj=64.4km s-min=14.9km az=86.0

ISC 07 18:54:22.5±0.8, 14.51N±0.10×147.2E±0.1, h51^{km}, h51^{km}±.8^{km}:pP-P, n14, σ0^{s}65/14, mb4.0/10, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	2.42	248	ePn	P	18 54 58.6	-1.9
GUMO				eSn	S	18 55 29.7	+0.7
CAUP	Cauayan	24.52	279	eP	P	18 59 38.4	-0.3
WRAB	Tennant Creek	36.48	201	eP	P	19 01 24.5	-0.3
	3.8nm,0.8s,mb4.4						
WRA	Warramunga Arr	36.49	201	P	P	19 01 24.8	-0.1
	0.7nm,0.7s,mb3.7,baz=18,slow=8.9,SNR=7.5						
WRA				pP	pP	19 01 38.8	+0.5
	0.8nm,0.7s,baz=23,slow=9.6,SNR=4.4						
FITZ	Fitzroy Crossi	38.74	214	P	P	19 01 44.0	+0.3
	1.4nm,0.7s,mb3.8,baz=26,slow=11,SNR=8.7						
ASAR	Alice Springs	40.10	199	P	P	19 01 55.6	+0.7
	0.4nm,0.7s,mb3.3,baz=28,slow=7.0,SNR=8.1						
ASAR				pP	pP	19 02 09.3	+0.8
	0.3nm,0.7s,baz=85,slow=8.7,SNR=2.2						
CMAR	Chiang Mai Arr	46.31	282	P	P	19 02 46.2	+0.8
	0.8nm,0.6s,mb3.9,baz=76,slow=6.2,SNR=6.7						
SONM	Songino Array	47.30	323	P	P	19 02 53.3	+0.4
	0.7nm,0.5s,mb3.8,baz=140,slow=5.3,SNR=8.9						
SONM				pP	pP	19 03 06.8	+0.3
	0.6nm,0.5s,baz=141,slow=8.2,SNR=3.7						
MKAR	Makanchi Array	62.40	315	P	P	19 04 42.7	+0.3
	2.4nm,0.4s,mb4.7,baz=93,slow=8.1,SNR=45						
MKAR				pP	pP	19 04 56.6	-0.1
	1.5nm,0.4s,baz=93,slow=8.4,SNR=6.0						
MKAR	Makanchi Array	62.40	315	P	P	19 04 42.7	+0.3
MKAR				pP	pP	19 04 56.6	-0.1
KURK	Kurchatov	65.33	319	eP	P	19 05 01.2	-0.3
	2.9nm,0.6s,mb4.5						
BVAR	Borovoye Array	70.60	321	P	P	19 05 34.2	-0.1
	0.6nm,0.3s,mb3.9,baz=97,slow=7.8,SNR=7.1						
BVAR				pP	pP	19 05 48.6	-0.3
	0.8nm,0.4s,baz=112,slow=8.0,SNR=4.3						
FINES	FINESS Array B	91.26	336	P	P	19 07 23.1	-0.3
	2.7nm,0.9s,mb4.6,baz=90,slow=1.9,SNR=5.5						
DBIC	Dimbokro	145.18	305	PKPbc	PKPbc	19 13 57.9	+2.0
	2.3nm,0.4s,baz=15,slow=3.8,SNR=11						
DBIC				pPKPbc		19 14 12.1	
	1.4nm,0.5s,baz=185,slow=3.2,SNR=1.5						

MAN 07 18:58:45.3, 20.32N×122.14E, h33^{km}, mb4.4, ML3.3, MS3.2

JMA 07 18:58:47.2±0.5, 20.72N×122.55E

ISC 07 18:58:43.9±0.5, 20.34N±0.03×122.39E±0.07, h33^{km}, n12, σ1^{s}29/22, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BBP	Basco	0.41	284	eP	P	18 58 53.4	+0.3
BBP				eS	S	18 58 58.9	-0.7
SGCP	Mt. Cagua	2.11	189	eP	P	18 59 17.5	0.0
SGCP				eS	S	18 59 41.3	-1.5
APYP	Conner	2.69	204	eP	P	18 59 25.6	-0.2
APYP				eS	S	18 59 56.0	-1.5
ABRA	Dolores	3.11	211	eP	P	18 59 33.0	+1.2
ABRA				eS	S	19 00 08.5	+0.3
HATJ	Hateruma jima	3.92	19	P	P	18 59 44.8	+1.5
HATJ				eS	S	19 00 27.8	-1.1
YOJ	Yonaguni jima	4.14	8	P	P	18 59 48.2	+1.8
JKRS	Kuro-shima	4.16	21	P	P	18 59 48.5	+1.8
JKRS				eS	S	19 00 33.5	-1.3
IRIF	Iriomote-Funau	4.17	17	P	P	18 59 48.1	+1.4
IRIF				S	S	19 00 33.1	-1.8
JIJ	Ishigaki jima	4.32	22	P	P	18 59 50.2	+1.2
JIJ				S	S	19 00 36.0	-2.9
BALP	Baler	4.64	190	eP	P	18 59 53.7	+0.2
JTJ	Tarama	4.79	26	P	P	18 59 57.3	+1.8
JTJ				eS	S	19 00 49.4	-1.2
JKE	Kume jima 2	7.20	33	P	P	19 00 29.6	+0.2
JKE				eS	S	19 01 46.7	-4.2

IDC 07 19:05:18.7±18.0, 19.15S×174.78W, mb4.1/5, mb1 4.3/5, mb1mx4.0/16, Error ellipse: s-maj=337.0km s-min=146.0km az=81.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	36.66	262	P	P	19 12 27.9	-1.2
	2.0nm,0.3s,baz=97,slow=9.6,SNR=3.9						
STKA	Stephens Creek	41.10	243	P	P	19 13 04.6	-1.4
	3.5nm,1.0s,baz=84,slow=12,SNR=4.7						
ASAR	Alice Springs	47.79	255	P	P	19 13 57.6	-2.3
	2.2nm,0.5s,baz=94,slow=8.2,SNR=60						
WRA	Warramunga Arr	47.80	260	P	P	19 13 57.5	-2.6
	0.5nm,0.3s,baz=97,slow=7.3,SNR=34						
FITZ	Fitzroy Crossi	56.23	261	P	P	19 15 01.6	-1.7
	1.0nm,0.7s,baz=101,slow=5.2,SNR=7.9						

IDC 07 19:09:02.8±0.9, 52.22N×92.46E, mb3.8/5, mb1 4.0/7, mb1mx3.7/23, ML3.4/3, MS3.0/2, Ms1 3.1/2, ms1mx2.4/29, Error ellipse: s-maj=21.0km s-min=13.2km az=2.0

NEIC 07 19:09:04.5±0.6, 52.38N×92.32E, h10^{km}, mb4.6/4, Error ellipse: s-maj=14.0km s-min=7.7km az=187.0

MOS 07 19:09:06.4±3.1, 52.37N×91.87E, h15^{km}, mb4.1/3, Error ellipse: s-maj=16.1km s-min=15.0km az=159.2

BJI 07 19:09:08.7, 52.49N×92.49E, h23^{km}, mB4.5

NNC 07 19:09:09.9±4.5, 52.09N×91.71E, h17^{km}±26^{km}, mpv4.0, Error ellipse: s-maj=33.6km s-min=23.2km az=28.0

ISC 07 19:09:04.5±1.1, 52.39N±0.06×92.22E±0.08, h24^{km}±9^{km}, n34, σ1^{s}29/41, mb4.1/8, MS3.0/2, 6C-1D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CERR	Cheremushki	0.68	314	ePG	Pb	19 09 16.8	-0.8
CERR				i S	Sb	19 09 25.3	-1.2
TASR	Tashtagol	2.67	280	ePN	Pn	19 09 50.6	+3.5
TASR				eS	Sn	19 10 24.1	+5.0
ELDR	Elanda	3.98	255	ePN	Pn	19 10 07.2	+1.5
ELDR				e		19 10 15.3	
ELDR				eS	Sb	19 11 03.8	+1.7
UKR	Ust'-Kan	4.86	256	ePN	Pb	19 10 29.6	+0.8
UKR				eS	Sb	19 11 32.2	+4.8
MOY	Mondy	5.46	94	ePN	Pn	19 10 22.9	-3.7
MOY				eS	Sb	19 11 53.0	+8.1
MOY				pmax	pmax		
	comp=Z,45nm,0.7s						
MOY				smax			
	comp=N,334nm,1.3s						
MOY	Mondy	5.46	94	ePn	Pn	19 10 22.9	-3.7
	comp=N,45nm,0.7s						
MOY				eS	Sb	19 11 53.0	+8.1
NVS	Novosibirsk	5.88	298	ePN	Pb	19 10 46.0	-0.3
NVS				e		19 12 01.9	
IRK	Irkutsk	7.39	86	eP	Pb	19 11 15.0	+3.0
IRK				pmax	pmax		
	comp=Z,16nm,0.1s						
MK31	Makanchi Array	8.54	233	⇓Pn	P	19 11 09.3	-0.4
	comp=Z,13nm,0.9s,baz=58,slow=13,SNR=100						
MK31				⇑Lg		19 13 29.5	
	comp=Z,35nm,0.8s,baz=50,slow=30,SNR=6.3						
MKAR	Makanchi Array	8.54	233	Pn	P	19 11 08.5	-1.3
	comp=Z,0.4nm,0.3s,baz=50,slow=13,SNR=15						
MKAR				Lg		19 13 33.4	
	comp=Z,2.7nm,0.3s,baz=58,slow=27,SNR=7.7						
KURK	Kurchatov	8.64	264	⇑Pn	P	19 11 09.7	-1.5
	comp=Z,3.9nm,1.0s,baz=75,slow=12,SNR=8.3						
KURK				⇑Sn	Sn	19 12 43.6	-5.3
	comp=Z,8.0nm,0.8s,baz=239,slow=16,SNR=3.5						
KURK				⇑Lg		19 13 31.8	
	comp=Z,71nm,1.1s						
KURK	Kurchatov	8.64	264	eP	P	19 11 10.7	-0.5
SONM	Songino Array	10.18	111	Pn	P	19 11 31.5	-0.8
	comp=Z,0.0nm,0.3s,baz=149,slow=8.4,SNR=2.9						
SONM				Pg	P	19 12 06.7	+34
	comp=Z,0.3nm,0.3s,baz=297,slow=17,SNR=8.0						
SONM				Lg		19 14 20.8	
	comp=Z,0.5nm,0.3s,baz=302,slow=28,SNR=5.2						
BVA0	Borovoye Array	13.25	281	Pn	P	19 12 13.5	-0.1
	comp=Z,0.3nm,0.5s,baz=86,slow=15,SNR=7.2						
BVAR	Borovoye Array	13.25	281	Pn	P	19 12 12.3	-1.3
	comp=Z,0.4nm,0.3s,baz=84,slow=13,SNR=6.1						
BVAR				Sn	S	19 14 34.6	-6.6
	comp=Z,0.5nm,0.3s,baz=78,slow=24,SNR=3.5						
BRVK	Borovoye	13.31	282	P	P	19 12 14.0	-0.4
	comp=Z,5.6nm,0.8s						
BRVK				eS	S	19 14 33.1	-10
GTA	Gaotai	14.01	155	eP	P	19 12 31.2	+7.6
GTA				XP		19 12 41.4	
GTA				AMB	AMB		
	comp=Z,55nm,5.3s						
BJT	Baijiatuau	20.57	117	eP	P	19 13 43.9	-0.1
	comp=Z,10.0nm,0.7s						
YAK	Yakutsk	22.15	50	⇑eP	P	19 14 07.9	+8.1
YAK	Yakutsk	22.15	50	P	P	19 14 00.6	+0.8
	comp=Z,11nm,0.7s,mb4.4						
YAK				e		19 14 07.5	
TIXI	Tiksi	25.14	26	⇑eP	P	19 14 30.4	+1.7
FINES	FINESS Array B	35.70	311	P	P	19 16 05.5	+2.9
	comp=Z,2.2nm,0.9s,mb4.1,baz=74,slow=10,SNR=4.6						
FINES	FINESS Array B	35.70	311	P	P	19 16 05.5	+2.9
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NOA	NORSAR Array B	42.53	315	LR	LR	19 38 10.6	
	comp=Z,16nm,21.0s,MS2.9,baz=255,slow=41						
ASF	Jabal al Asfar	44.41	265	LR	LR	19 37 51.1	
	comp=Z,23nm,20.7s,MS3.1,baz=252,slow=39						
SUMG	Summit	50.72	343	P	P	19 18 12.5	+8.9
	comp=Z,16nm,1.2s,mb4.8						
ILAR	Eielson Array	54.61	27	P	P	19 18 32.2	-0.5
	comp=Z,0.6nm,0.8s,mb3.7,baz=322,slow=3.9,SNR=4.5						
ILAR	Eielson Array	54.61	27	P	P	19 18 32.3	-0.4
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
INK	Inuvik	54.93	19	eP	P	19 18 39.0	+3.9
	comp=Z,21nm,1.6s,mb4.9						
YKW3	Yellowknife Ar	63.45	14	eP	P	19 19 34.4	+0.4
FITZ	Fitzroy Crossi	75.97	147	P	P	19 20 49.6	-1.6
	comp=Z,1.8nm,0.8s,mb4.1,baz=315,slow=7.1,SNR=5.0						
WRA	Warramunga Arr	80.81	140	P	P	19 21 16.2	-1.4
	comp=Z,0.8nm,0.7s,mb3.8,baz=343,slow=6.0,SNR=9.5						
WRA	Warramunga Arr	80.81	140	P	P	19 21 16.2	-1.4
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	Alice Springs	84.02	142	P	P	19 21 35.1	+1.0
	comp=Z,0.3nm,1.1s,mb3.3,baz=341,slow=5.5,SNR=3.0						

ZUR 07 19:21:07.8, 46.33N×13.28E, h5^{km}, ML3.3/3

NEIC 07 19:21:08.3±0.3, 46.40N×13.15E, h3^{km}±3^{km}, ML3.8(SZGRF), ML3.7(VIE), ML3.5(LEDBW), ML3.5(LDG), ML3.4(ROM), ML3.1(STR), Error ellipse: s-maj=2.4km s-min=2.0km az=210.0

LDG 07 19:21:09.1±0.1, 46.37N×13.24E, h10^{km}, Ml3.5/22, Error ellipse: s-maj=3.1km s-min=2.3km az=28.0

CSEM 07 19:21:09.4±0.1, 46.42N×13.20E, h10^{km}, ML3.6/26, Error ellipse: s-maj=1.2km s-min=1.0km az=79.0

ROM 07 19:21:09.0±0.2, 46.42N×13.12E, h6^{km}±1^{km}, MD3.4/8, ML3.1/9, Error ellipse: s-maj=1.7km s-min=1.6km az=90.0

BGR 07 19:21:10.1±0.6, 46.44N×13.19E, h10^{km}, ML3.8/8, Error ellipse: s-maj=5.6km s-min=4.4km az=139.0

STR 07 19:21:31.0±0.7, 47.14N×11.27E, h10^{km}±1^{km}, Ml3.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0

ISC 07 19:21:08.1±0.2, 46.464N±0.010×13.15E±0.01, h12^{km}±1^{km}, n221, σ1^{s}35/360, 15C-31D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLRO	Paularo	0.09	359	⇑iPg	Pg	19 21 12.7	+1.8
PLRO				eSg	Sg	19 21 15.2	+2.5
BOO	Bordano	0.15	193	⇑iPg	Pg	19 21 12.1	+0.3
BOO				eSg	Sg	19 21 14.7	+0.5
PTCC	Patocco-Chiusa	0.15	113	⇓iPG	Pg	19 21 13.1	+1.3
PTCC	Patocco-Chiusa	0.15	113	⇓iPg	Pg	19 21 13.1	+1.2
ZOU	Zoufplan	0.15	307	⇑iPg	Pg	19 21 13.2	+1.4
ZOU				eSg	Sg	19 21 16.2	+1.8
ZOU	Zoufplan	0.15	307	⇑iPg	Pg	19 21 13.2	+1.4
ZOU				eSg	Sg	19 21 17.4	+3.1
GMNA	Gemona	0.20	162	⇓iPG	Pg	19 21 12.7	+0.1
GMNA				SG	Sg	19 21 15.3	-0.3
GMNA	Gemona	0.20	162	⇓iPg	Pg	19 21 12.7	+0.1
GMNA				eSg	Sg	19 21 15.3	-0.3
BAD	Bernadia	0.24	164	ePg	Pg	19 21 13.4	+0.2
BAD				eSg	Sg	19 21 17.4	+0.6
BUA	Buia	0.25	184	⇓iPg	Pg	19 21 13.4	0.0
BUA				eSg	Sg	19 21 17.6	+0.5
BUA	Buia	0.25	184	⇓iPg	Pg	19 21 13.4	-0.1
BUA				eSg	Sg	19 21 17.6	+0.5
MPRI	Monte Prat	0.25	207	⇓iPg	Pg	19 21 13.5	0.0
MPRI				eSg	Sg	19 21 16.8	-0.3
LSR	Lussari	0.26	87	⇓iPg	Pg	19 21 15.0	+1.3
LSR				eSg	Sg	19 21 19.7	+2.2
FVI	Forni Avoltri	0.29	298	⇓iPG	Pg	19 21 15.1	+0.9
FVI	Forni Avoltri	0.29	298	⇓iPg	Pg	19 21 15.1	+0.8
ROBS	Robic	0.33	131	⇓iPg	Pg	19 21 15.1	0.0
	comp=Z,475nm,0.1s						
ROBS	Robic	0.33	131	Pg	Pg	19 21 15.1	0.0
	comp=Z,475nm,0.1s						
CSMI	Casera Mimoias	0.35	278	⇓ePg	Pg	19 21 15.8	+0.5
CSMI				eSg	Sg	19 21 20.5	+0.3
COLI	Coloredo	0.37	154	⇓iPg	Pg	19 21 15.6	-0.1
COLI				eSg	Sg	19 21 21.1	+0.3
DRE	Drenchia	0.45	130	⇓ePg	Pg	19 21 17.1	-0.2
DRE				eSg	Sg	19 21 24.3	+0.8
CADS	Cadrg	0.47	120	⇓iPg	Pg	19 21 17.4	-0.3
CADS				i		19 21 17.6	
MLNI	Malnisio	0.49	230	ePg	Pg	19 21 17.6	-0.5
MLNI				eSg	Sg	19 21 26.0	+1.2
TLI	Talmassons	0.54	183	ePg	Pg	19 21 18.4	-0.7
CSO	Casso	0.60	252	ePg	Pg	19 21 19.4	-0.9
CSO				eSg	Sg	19 21 28.6	+0.1
KBA	Koelnbreinsper	0.63	12	⇑iPG	Pg	19 21 22.3	+1.5
KBA				i SG	Sg	19 21 31.2	+1.9
	comp=Z,968nm,0.2s						
VOJS	Vojsko	0.67	130	i Pg	Pg	19 21 20.6	-1.0
AFL	Alpe Faloria	0.67	276	⇓iPg	Pg	19 21 21.9	+0.3
AFL				eSg	Sg	19 21 31.6	+0.8
CAE	Caneva	0.67	227	ePg	Pg	19 21 21.7	0.0
CAE				eSg	Sg	19 21 31.4	+0.6
VOY	Vojsko	0.67	130	⇓ePg	Pg	19 21 20.4	-1.3
VOY				eSg	Sg	19 21 30.2	-0.6
FAU	Forcella Aurin	0.84	254	ePg	Pg	19 21 24.7	-0.3
FAU				eSg	Sg	19 21 35.7	-0.7
JAVS	Javornik	0.85	132	i Pg	Pg	19 21 23.7	-1.5
OBKA	Obir	0.97	87	⇑iPG	Pg	19 21 27.0	-0.5
OBKA				i SG	Sg	19 21 40.5	0.0
	comp=Z,236nm,0.2s						
IESO	Jesolo	1.03	204	⇑iPg	Pg	19 21 29.1	+0.3
IESO				eSg	Sg	19 21 45.1	+2.4
LJU	Ljubljana	1.04	113	ePg	Pg	19 21 28.0	-1.0
LJU				i		19 21 29.0	
LJU				i Sg	Sg	19 21 44.6	+1.6
CGRP	Cima Grappa	1.10	239	ePg	Pg	19 21 29.6	-0.6
CGRP				eSg	Sg	19 21 46.2	+1.2
CTI	Castel Tesino	1.12	249	ePN	Pn	19 21 29.7	+0.2
CTI				SN	Sn	19 21 46.1	+1.3
CTI	Castel Tesino	1.12	249	ePn	Pn	19 21 29.7	+0.2
CTI				eSn	Sn	19 21 46.1	+1.3
SCE	Schlegeis	1.14	301	⇓iPg	Pg	19 21 30.5	-0.5
SCE				eSg	Sg	19 21 45.7	-0.6
CEY	Cerknica	1.15	129	i Pg	Pg	19 21 28.9	-2.2
CEY				e		19 21 32.1	
BGLD	Berchtesgaden	1.19	356	⇓iPg	Pg	19 21 32.2	+0.2
BGLD				eSg	Sg	19 21 48.4	+0.5
WTTA	Wattenberg	1.31	308	⇑iPG	Pg	19 21 33.8	-0.5
WTTA				i SG	Sg	19 21 52.0	+0.2
	comp=Z,138nm,0.3s						
PERS	Pernice	1.37	82	⇓iPg	Pg	19 21 34.4	-1.1
WATA	Walderalm	1.39	310	⇓iPG	Pg	19 21 35.0	-0.8
WATA				i SG	Sg	19 21 54.7	+0.3
	comp=Z,207nm,0.3s						
TEOL	Teolo	1.51	224	⇑iPg	Pg	19 21 35.4	-2.9
TEOL				eSg	Sg	19 21 56.9	-1.7
TEOL	Teolo	1.51	224	⇑iPg	Pg	19 21 35.4	-2.9
TEOL				eSg	Sg	19 21 56.8	-1.7
SQTA	Sankt Quirin	1.53	300	⇓iPG	Pg	19 21 37.5	-1.2
SQTA				i SG	Sg	19 21 58.7	-0.5
	comp=Z,240nm,0.3s						
MOA	Molln	1.58	28	⇓iPG	Pg	19 21 39.4	-0.3
MOA				i SG	Sg	19 22 02.3	+1.5
	comp=Z,85nm,0.4s						
MOTA	Moosalm	1.66	303	⇑iPG	Pg	19 21 39.9	-1.3
MOTA				i SG	Sg	19 22 03.3	0.0
	comp=Z,171nm,0.3s						
CRES	Cresnjev	1.73	111	i Pn	Pn	19 21 38.9	+0.8
GOLS	Golise	1.78	104	i Pn	Pn	19 21 40.0	+1.2
GOLS				i		19 21 41.8	
GOLS	Golise	1.78	104	i Pn	Pn	19 21 40.0	+1.1
ARSA	Arzberg	1.81	63	⇑iPG	Pg	19 21 41.5	-2.7
ARSA				i SG	Sg	19 22 07.7	-0.7
	comp=Z,72nm,0.7s						
MABI	Malga Bissina	1.87	258	ePN	Pn	19 21 42.0	+1.7
BRMO	Bormio	1.92	271	ePN	Pn	19 21 43.2	+2.3
	comp=Z,113nm,0.4s						
BRMO	Bormio	1.92	271	ePn	Pn	19 21 43.2	+2.3
BRMO	Bormio	1.92	271	ePn	Pn	19 21 43.2	+2.3
	comp=Z,113nm,0.4s						
FUORN	Ofenpass	2.00	276	⇓iPn	Pn	19 21 44.6	+2.6
	comp=Z,29nm,0.6s						
FUR	Furstenfeldbru	2.13	324	ePn	Pn	19 21 46.7	+2.9
FUR				eSg	Sg	19 22 17.9	-1.0
FUR	Furstenfeldbru	2.13	324	ePn	Pn	19 21 46.7	+2.8
FUR				eSg	Sg	19 22 17.9	-1.0
BERNI	Berninapass	2.16	270	⇓iPn	Pn	19 21 46.8	+2.4
	comp=Z,8.5nm,0.6s						
BERNI	Berninapass	2.16	270	⇓iP	Pn	19 21 46.8	+2.4
NVLJ	Novalja	2.25	147	i Pn	Pn	19 21 46.0	+0.3
NVLJ				i Sn	Sn	19 22 14.0	+0.3
NVLJ	Novalja	2.25	147	i Sn	Sn	19 22 14.0	+0.4
DAVOX	Davos	2.28	279	ePn	Pn	19 21 49.0	+3.0
	comp=Z,31nm,0.8s						
DAVOX	Davos	2.28	279	eP	Pn	19 21 49.0	+3.0
DAVA	Damuels	2.39	291	⇓iPN	Pn	19 21 49.6	+2.0
DAVA				i SN	Sn	19 22 19.6	+2.6
UBR	Uberruh	2.41	301	ePn	Pn	19 21 50.6	+2.7
UBR				Sn	Sn	19 22 21.6	+4.0
UBR				Sg	Sg	19 22 26.9	-1.4
UBR	Uberruh	2.41	301	eP	Pn	19 21 50.6	+2.7
UBR				Sg	Sg	19 22 26.9	-1.4
GEC2	GERESS Array S	2.41	9	ePn	Pn	19 21 50.1	+2.2
GEC2				eSg	Sg	19 22 27.5	-0.9
GEC2	GERESS Array S	2.41	9	ePn	Pn	19 21 50.1	+2.1
GEC2				eSg	Sg	19 22 27.5	-0.9
SISC	Sisak	2.46	113	i Pn	Pn	19 21 50.0	+1.4
SISC				i Sn	Sn	19 22 21.5	+2.7
SISC	Sisak	2.46	113	i Pn	Pn	19 21 50.0	+1.4
SISC				i Sn	Sn	19 22 21.4	+2.6
SOP	Sopron	2.63	61	ePn	Pn	19 21 45.4	-5.7
PLONS	Plons	2.66	284	ePn	Pn	19 21 54.3	+2.8
	comp=Z,6.7nm,0.4s						
PLONS	Plons	2.66	284	eP	Pn	19 21 54.3	+2.8

KHC	Kasperske Hory	2.68	6	ePN	Pn	19 21 53.7	+1.8
KHC				ePG	Pg	19 21 59.7	-2.0
KHC				eSN	Sn	19 22 27.6	+3.1
KHC				eSG	Sg	19 22 34.9	-2.6
	comp=Z,63nm,0.3s						
WET	Wettzell	2.69	356	ePn	Pn	19 21 53.6	+1.7
WET				eSn	Sn	19 22 26.7	+2.1
WET				eSg	Sg	19 22 36.0	-1.6
WET	Wettzell	2.69	356	ePn	Pn	19 21 53.6	+1.7
WET				eSn	Sn	19 22 26.7	+2.1
WET				eSg	Sg	19 22 36.0	-1.6
SFI	Santa Sofia	2.72	200	ePN	Pn	19 21 51.8	-0.6
	comp=Z,40nm,0.5s						
SFI	Santa Sofia	2.72	200	ePn	Pn	19 21 51.8	-0.6
VMG	Vicchio	2.75	205	ePN	Pn	19 21 53.3	+0.5
	comp=Z,166nm,0.6s						
VMG	Vicchio	2.75	205	ePn	Pn	19 21 53.2	+0.5
VMG	Vicchio	2.75	205	ePn	Pn	19 21 53.2	+0.4
PGD	Poggio Sodo	2.78	202	ePN	Pn	19 21 52.9	-0.3
	comp=Z,54nm,0.7s						
PGD	Poggio Sodo	2.78	202	ePn	Pn	19 21 52.9	-0.3
PGD	Poggio Sodo	2.78	202	ePn	Pn	19 21 52.9	-0.3
	comp=Z,54nm,0.7s						
FSSB	Fossombrone	2.79	186	ePN	Pn	19 21 53.1	-0.2
	comp=Z,63nm,0.5s						
FSSB	Fossombrone	2.79	186	ePn	Pn	19 21 53.1	-0.2
FSSB	Fossombrone	2.79	186	ePn	Pn	19 21 53.1	-0.2
	comp=Z,63nm,0.5s						
VKA	Vienna	2.81	49	e(PN)	Pn	19 21 53.0	-0.6
VKA				i		19 22 40.3	
LLS	Linth-Limmern	2.88	279	ePn	Pn	19 21 57.3	+2.7
	comp=Z,2.8nm,0.4s						
HDH	Heidenheim	2.91	318	Pn	Pn	19 21 56.3	+1.2
HDH				Sn	Sn	19 22 30.6	+0.3
HDH				Sg	Sg	19 22 41.6	-3.4
CRE	Caprese Michel	2.97	197	ePN	Pn	19 21 56.5	+0.6
	comp=Z,32nm,0.4s						
CRE	Caprese Michel	2.97	197	ePn	Pn	19 21 56.5	+0.6
CRE	Caprese Michel	2.97	197	ePn	Pn	19 21 56.5	+0.6
	comp=Z,32nm,0.4s						
ARV	Arcevia	2.97	183	ePN	Pn	19 21 55.7	-0.2
	comp=Z,39nm,0.6s						
ARV	Arcevia	2.97	183	ePn	Pn	19 21 55.7	-0.3
ARV	Arcevia	2.97	183	ePn	Pn	19 21 55.7	-0.2
	comp=Z,39nm,0.6s						
WEIN	Weingarten	3.04	292	ePn	Pn	19 21 59.5	+2.6
WEIN	Weingarten	3.04	292	eP	Pn	19 21 59.5	+2.6
WILA	Wila	3.06	290	ePn	Pn	19 21 59.5	+2.3
WILA	Wila	3.06	290	eP	Pn	19 21 59.5	+2.3
SISB	Singen-Sch Ber	3.11	295	Pn	Pn	19 21 59.7	+1.7
SISB				Sn	Sn	19 22 35.9	+0.5
GUT	Gutenstein	3.18	302	⇓ePn	Pn	19 22 00.5	+1.6
GUT				Sn	Sn	19 22 37.3	+0.2
ZST	Bratislava	3.20	56	ePG	Pg	19 22 07.6	-4.3
ZST				eSB	Sb	19 22 48.5	+5.0
BUCH	Bad Urach	3.25	309	Pn	Pn	19 22 01.6	+1.6
BUCH				Sn	Sn	19 22 41.6	+2.7
BUCH				Sg	Sg	19 22 53.0	-3.4
BUCH	Bad Urach	3.25	309	SG	Sg	19 22 53.0	-3.4
BUCH	Bad Urach	3.25	309	P	Pn	19 22 01.6	+1.7
BUCH				Sg	Sg	19 22 53.0	-3.4
BUCH	Bad Urach	3.25	309	Pn	Pn	19 22 01.5	+1.6
BUCH				Sg	Sg	19 22 53.0	-3.4
BNALP	Bannalp	3.28	279	ePn	Pn	19 22 02.5	+2.2
BNALP	Bannalp	3.28	279	eP	Pn	19 22 02.5	+2.2
FLACH	Flaach	3.32	291	ePn	Pn	19 22 02.9	+1.9
FLACH	Flaach	3.32	291	eP	Pn	19 22 02.9	+1.9
ROTZ	Rotzenmuhle	3.37	350	⇑iPn	Pn	19 22 02.3	+0.8
SPAK	Spaichingen	3.39	300	Pn	Pn	19 22 03.7	+1.8
KRUC	Moravsky	3.40	39	ePn	Pn	19 22 00.7	-1.3
KRUC				eSg	Sg	19 22 54.4	-6.8
RHK1	Bakonya	3.43	94	eP	Pn	19 22 01.6	-0.9
SLE	Schleitheim	3.44	294	⇓iPn	Pn	19 22 03.9	+1.4
SLE	Schleitheim	3.44	294	⇓iP	Pn	19 22 03.9	+1.4
TUBL	Tuebingen Lnz	3.44	308	Pn	Pn	19 22 04.3	+1.7
GRA1	Grafenberg Arr	3.48	339	ePn	Pn	19 22 04.3	+1.1
GRA1				eSg	Sg	19 23 01.6	-2.3
GRF	Grafenberg Arr	3.48	339	ePn	Pn	19 22 04.3	+1.1
GRF				eSg	Sg	19 23 01.6	-2.4
STU	Stuttgart	3.53	312	ePn	Pn	19 22 05.3	+1.4
STU				eSn	Sn	19 22 46.9	+0.8
STU				eSg	Sg	19 23 05.0	-0.8
STU	Stuttgart	3.53	312	ePn	Pn	19 22 05.3	+1.4
STU				ePn	Pn	19 22 05.5	+1.6
STU				ePg	Pg	19 22 16.4	-2.2
STU				eSn	Sn	19 22 46.9	+0.9
SMOL	Smolenice	3.55	53	ePN	Pn	19 22 05.3	+1.1
NRCA	Norcia	3.63	180	ePN	Pn	19 22 04.4	-0.9
	comp=Z,21nm,0.3s						
NRCA	Norcia	3.63	180	ePn	Pn	19 22 04.4	-0.9
NRCA	Norcia	3.63	180	ePn	Pn	19 22 04.4	-0.9
	comp=Z,21nm,0.3s						
PRU	Pruhonice	3.65	14	PN	Pn	19 22 06.3	+0.8
PRU				i x	x	19 22 14.9	
PRU				ePG	Pg	19 22 17.3	-3.6
PRU				eSN	Sn	19 22 47.7	-1.2
PRU				eSG	Sg	19 23 05.2	-4.3
	comp=Z,42nm,0.3s						
VRAC	Vranov	3.67	38	eSg	Sg	19 23 03.2	-7.1
LBG	Lerchenberg	3.68	308	ePn	Pn	19 22 07.3	+1.3
LBG				Sn	Sn	19 22 48.3	-1.5
SIND	Sindeldorf	3.74	322	Pn	Pn	19 22 07.7	+0.8
SIND				Pg	Pg	19 22 20.2	-2.6
SIND				Sn	Sn	19 22 50.0	-1.3
SIND				Sg	Sg	19 23 07.8	-5.0
SIND	Sindeldorf	3.74	322	S	Sn	19 22 50.1	-1.2
SIND	Sindeldorf	3.74	322	P	Pn	19 22 07.7	+0.8
SIND				Pg	Pg	19 22 20.2	-2.6
SIND				S	Sn	19 22 50.1	-1.2
SIND				Sg	Sg	19 23 07.8	-4.9
BFO	Black Forest	3.77	301	ePn	Pn	19 22 08.6	+1.3
BFO				eSn	Sn	19 22 51.8	-0.2
FELD	Feldberg	3.78	294	Pn	Pn	19 22 08.3	+0.8
FELD	Feldberg	3.78	294	Pn	Pn	19 22 07.9	+0.4
FELD	Feldberg	3.78	294	P	Pn	19 22 08.3	+0.8
NKC	Novy Kostel	3.80	353	ePN	Pn	19 22 08.8	+1.1
NKC				ePG	Pg	19 22 21.4	-2.6
NKC				eSN	Sn	19 22 53.2	+0.4
NKC				eSG	Sg	19 23 10.9	-3.7
PKSM	Moragy	3.81	92	⇑iP	Pn	19 22 07.1	-0.8
PKSM				eS	Sn	19 22 50.6	-2.5
BALST	Balsthal	3.84	285	⇑ePn	Pn	19 22 09.5	+1.2
BALST	Balsthal	3.84	285	eP	Pn	19 22 09.5	+1.2
KIZ	Kirchzarten	3.87	295	Pn	Pn	19 22 09.4	+0.8
KIZ				Sn	Sn	19 22 51.5	-2.9
TANN	Tannenbergstha	3.98	354	ePn	Pn	19 22 11.7	+1.4
TANN				eSn	Sn	19 22 58.8	+1.4
BBS	Basel-Blauen	3.99	287	Pn	Pn	19 22 11.1	+0.7
BBS	Basel-Blauen	3.99	287	Pn	Pn	19 22 10.9	+0.5
MNS	Montasola	4.09	185	ePN	Pn	19 22 10.8	-1.1
	comp=Z,18nm,0.5s						
MNS	Montasola	4.09	185	ePn	Pn	19 22 10.8	-1.1
MNS	Montasola	4.09	185	ePn	Pn	19 22 10.8	-1.1
	comp=Z,18nm,0.5s						
AQU	L'Aquila	4.11	177	ePn	Pn	19 22 09.0	-3.2
AQU	L'Aquila	4.11	177	ePn	Pn	19 22 09.0	-3.2
FIN	Finale Ligure	4.15	239	ePN	Pn	19 22 12.2	-0.5
	comp=Z,15nm,0.4s						
FIN	Finale Ligure	4.15	239	ePn	Pn	19 22 12.2	-0.5
FIN	Finale Ligure	4.15	239	ePn	Pn	19 22 12.2	-0.5
	comp=Z,15nm,0.4s						
PVCC	Panska Ves	4.17	13	eSG	Sg	19 23 23.3	-3.8
SWS	Schriesheim	4.25	317	Pn	Pn	19 22 14.9	+0.8
SWS				Sn	Sn	19 23 02.1	-2.0
TOD	Tromm	4.29	319	Pn	Pn	19 22 15.1	+0.4
TOD	Tromm	4.29	319	Pn	Pn	19 22 15.2	+0.6
MOX	Moxa	4.31	347	ePn	Pn	19 22 15.3	+0.3
MOX				eSn	Sn	19 23 04.7	-0.9
MOX				eSg	Sg	19 23 27.3	-4.2
MOX	Moxa	4.31	347	iP	Pn	19 22 15.1	+0.2
MOX				S	Sn	19 23 03.0	-2.6
MOX				Sg	Sg	19 23 27.0	-4.5
MOX	Moxa	4.31	347	ePn	Pn	19 22 15.1	+0.2
MOX				eSn	Sn	19 23 03.9	-1.7
MOX				eSg	Sg	19 23 27.3	-4.2
MOF	Molkenrain	4.33	291	ePn	Pn	19 22 16.0	+0.7
MOF				Sn	Sn	19 23 05.6	-0.7
MOF	Molkenrain	4.33	291	Pn	Pn	19 22 15.1	-0.2
WLS	Welschbruch	4.39	298	Pn	Pn	19 22 17.1	+1.0
WLS	Welschbruch	4.39	298	Pn	Pn	19 22 16.6	+0.5
LOMF	Lomont	4.42	284	Pn	Pn	19 22 17.3	+0.7
LOMF				Sn	Sn	19 23 07.9	-0.7
LOMF	Lomont	4.42	284	Pn	Pn	19 22 16.9	+0.3
DPC	Dobruska-Polom	4.42	27	ePN	Pn	19 22 16.5	-0.1
DPC				eSG	Sg	19 23 28.8	-6.6
	comp=Z,36nm,0.5s						
MORC	Moravsky Berou	4.43	40	ePn	Pn	19 22 17.2	+0.5
MORC	Moravsky Berou	4.43	40	ePn	Pn	19 22 17.2	+0.5
MORC				eSg	Sg	19 23 28.7	-6.9
ECH	Echery	4.43	295	Pn	Pn	19 22 17.4	+0.7
ECH				Sn	Sn	19 23 07.1	-1.8
ECH	Echery	4.43	295	Pn	Pn	19 22 17.3	+0.6
ECH				Sg	Sn	19 23 08.3	-0.6
CDF	Champ du Feu	4.44	298	ePn	Pn	19 22 17.3	+0.5
CDF				eSn	Sn	19 23 05.6	-3.3
CDF				eSg	Sg	19 23 29.6	-6.2
	comp=Z,34nm,0.6s						
BRG	Berggiesshubel	4.44	7	ePn	Pn	19 22 17.6	+0.7
BRG				i Pg	Pg	19 22 34.2	-2.6
BRG				i Sn	Sn	19 23 08.3	-0.8
BRG				eSg	Sg	19 23 31.5	-4.6
BRG	Berggiesshubel	4.44	7	ePn	Pn	19 22 17.0	+0.1
BRG				i Pg	Pg	19 22 34.2	-2.6
BRG				i Sn	Sn	19 23 08.3	-0.8
BRG				i Sg	Sg	19 23 31.3	-4.7
UPC	Upice	4.47	24	ePN	Pn	19 22 17.8	+0.5
UPC				ePG	Pg	19 22 33.1	-4.2
HINF	Hinteralfeld	4.50	290	ePn	Pn	19 22 18.3	+0.6
HINF				eSn	Sn	19 23 06.6	-4.0
	comp=Z,36nm,0.3s						
LPG	La Plagne	4.56	260	ePn	Pn	19 22 19.8	+1.2
LPG				eSn	Sn	19 23 07.6	-4.5
	comp=Z,7.6nm,0.6s						
LPL	La Plagne	4.57	260	eSg	Sg	19 23 36.6	-3.7
	comp=Z,5.1nm,0.3s						
LPL	La Plagne	4.57	260	ePn	Pn	19 22 19.8	+1.1
LPL				eSn	Sn	19 23 06.7	-5.6
LPL				eSg	Sg	19 23 36.6	-3.7
BNI	Bardonecchia	4.74	255	ePn	Pn	19 22 19.6	-1.5
BNI	Bardonecchia	4.74	255	ePn	Pn	19 22 19.6	-1.5
SDI	San Donato	4.78	174	ePN	Pn	19 22 20.0	-1.6
	comp=Z,14nm,0.4s						
SDI	San Donato	4.78	174	ePn	Pn	19 22 20.0	-1.6
SDI	San Donato	4.78	174	ePn	Pn	19 22 20.0	-1.6
	comp=Z,14nm,0.4s						
MBDF	Montbardon	4.80	251	ePn	Pn	19 22 19.6	-2.3
MBDF				eSn	Sn	19 23 11.8	-6.3
	comp=Z,17nm,0.6s						
SBF	Sospel	4.80	239	ePn	Pn	19 22 21.2	-0.8
SBF				eSn	Sn	19 23 12.8	-5.4
	comp=Z,15nm,0.4s						
PSZ	Piszkesteto	4.82	70	ePn	Pn	19 22 22.4	+0.2
STON	Ston	4.84	136	i Pn	Pn	19 22 21.8	-0.7
STON				i Sn	Sn	19 23 17.7	-1.4
CLL	Collm	4.85	359	ePn	Pn	19 22 23.2	+0.6
CLL				i Sn	Sn	19 23 18.2	-1.1
CLL				i Sg	Sg	19 23 43.7	-5.8
CLL	Collm	4.85	359	i PN	Pn	19 22 23.3	+0.7
	comp=Z,logA/T=1.4						
CLL				i SN	Sn	19 23 18.2	-1.1
CLL				i SG	Sg	19 23 43.7	-5.8
KSP	Ksiaz	4.85	24	ePn	Pn	19 22 22.5	-0.1
KSP				ePg	Pg	19 22 41.6	-3.3
KSP				eSn	Sn	19 23 18.0	-1.4
KSP				eSg	Sg	19 23 40.5	-9.1
CABF	La Chapelle	4.88	274	ePn	Pn	19 22 22.8	-0.2
CABF				eSn	Sn	19 23 15.9	-4.1
	comp=Z,13nm,0.4s						
PGF	Pioggiola	4.91	219	ePn	Pn	19 22 21.8	-1.7
PGF				eSn	Sn	19 23 14.7	-6.2
	comp=Z,3.5nm,0.3s						
ABH	Alteburg	5.07	314	⇓ePn	Pn	19 22 27.2	+1.5
THEF	They Montfort	5.18	293	Pn	Pn	19 22 28.1	+0.8
THEF	They Montfort	5.18	293	Pn	Pn	19 22 28.0	+0.7
ORIF	Oris-en-Rattie	5.32	256	ePn	Pn	19 22 29.3	0.0
ORIF				eSn	Sn	19 23 25.6	-5.6
	comp=Z,10nm,0.4s						
FRF	La Foret Royal	5.45	240	ePn	Pn	19 22 29.5	-1.6
LMR	La Mourre	5.66	239	ePn	Pn	19 22 32.3	-1.7
MEZF	Maizieres J'vi	5.86	293	ePn	Pn	19 22 36.4	-0.4
MEZF				eSn	Sn	19 23 39.6	-5.0
	comp=Z,11nm,0.4s						
SMRF	Simiane la Rot	5.90	248	ePn	Pn	19 22 37.3	-0.1
VIVF	Saint-Julien-l	6.16	258	ePn	Pn	19 22 39.4	-1.6
VIVF				eSn	Sn	19 23 45.3	-6.8
	comp=Z,4.1nm,0.5s						
LOR	Lormes	6.42	281	ePn	Pn	19 22 42.4	-2.4
LOR				eSn	Sn	19 23 52.4	-6.3
	comp=Z,8.7nm,0.3s						
SMF	Signal de Mont	6.42	275	ePn	Pn	19 22 43.7	-1.1
SMF				eSn	Sn	19 23 54.7	-4.1
	comp=Z,21nm,0.5s						
HGN	Heimansgroeve	6.43	315	eP	Pn	19 22 46.7	+1.8
	comp=Z,2.1nm,0.3s						
HGN				eS	Sn	19 23 54.0	-5.0
GIVF	Givet	6.64	306	ePg	Pg	19 23 15.5	-5.2
GIVF				eSn	Sn	19 23 58.3	-5.9
	comp=Z,5.9nm,0.3s						
SSF	Saint Saulge	6.65	279	ePn	Pn	19 22 46.9	-1.1
SSF				eSn	Sn	19 23 56.8	-7.7
	comp=Z,3.3nm,0.5s						
BAIF	Baives	6.97	304	ePn	Pn	19 22 52.9	+0.4
BAIF				eSn	Sn	19 24 06.4	-6.0
	comp=Z,8.1nm,0.6s						
LASF	Ste Croix	6.98	253	ePn	Pn	19 22 50.4	-2.2
LASF				eSn	Sn	19 24 04.5	-8.2
	comp=Z,4.0nm,0.5s						
BGF	Bois d'Agland	7.11	274	ePn	Pn	19 22 53.4	-1.1
BGF				eSn	Sn	19 24 09.2	-6.8
	comp=Z,21nm,0.3s						
HYF	Humbligny	7.25	280	eSn	Sn	19 24 12.5	-7.0
TCF	Toulx Ste Croi	7.57	273	ePn	Pn	19 22 57.9	-3.0
TCF				eSn	Sn	19 24 19.8	-7.7
	comp=Z,6.3nm,0.4s						
CAF	Calviac	7.91	263	ePn	Pn	19 23 04.5	-1.2
MTLF	Montolieu	8.36	252	ePn	P	19 23 08.3	-3.7
LFF	La Frestale	8.82	265	ePn	P	19 23 14.4	-3.9
MFF	Saint Martin d	9.17	276	ePn	P	19 23 21.0	-2.1
LDF	La Druitiere	9.23	288	ePn	P	19 23 22.9	-1.1
FLN	La Foliniere	9.49	289	ePn	P	19 23 25.7	-1.9
GRR	Gorron	9.69	287	ePn	P	19 23 28.6	-1.6
QUIF	Quistinic	11.20	283	ePn	P	19 23 47.7	-3.2

IDC ***07*** *19:23:23.2±6.2, 35.60N×71.29E, mb3.7/2, mb1 3.8/3, mb1mx3.5/18, ML3.2/1, Error ellipse: s-maj=116.0km s-min=47.9km az=3.0*

ISC 07 19:23:22.6±2.8**, 35.1N**±0.2×**71.2E**±0.3**, h33^{km}, n12, σ0^{s}84**/12**, mb3.5**/2**, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	7.32	15	P	P	19 25 10.5	+0.7
	SNR=33						
UCH	Uchtor	7.60	19	P	P	19 25 14.2	+0.5
	SNR=42						
EKS2	Erkin-Say	7.84	14	P	P	19 25 17.4	+0.3
	SNR=11						
AAK	Ala-Archa	7.98	18	P	P	19 25 19.2	+0.3
	SNR=20						
KBK	Karagaybulak	8.12	20	P	P	19 25 21.9	+1.0
	SNR=11						
ULHL	Ulahol	8.17	27	P	P	19 25 21.9	+0.3
	SNR=12						
CHMS	Chumysh	8.38	18	P	P	19 25 23.8	-0.8
	SNR=11						
TKM2	Tokmak 2	8.55	22	P	P	19 25 26.8	-0.1
	SNR=7.2						
USP	Ospenovka	8.58	16	P	P	19 25 25.8	-1.5
	SNR=12						
MKAR	Makanchi Array	14.38	32	Pn	P	19 26 42.3	-3.2
	0.1nm,0.3s,baz=215,slow=12,SNR=5.8						
SONM	Songino Array	29.02	53	P	P	19 29 21.8	+0.3
	0.3nm,0.8s,mb3.1,baz=269,slow=10.0,SNR=4.1						
ARCES	ARCESS Array B	42.54	338	P	P	19 31 16.1	-0.1
	3.2nm,1.0s,mb4.0,baz=104,slow=10.0,SNR=4.6						

NIED ***07*** *19:26:00, 42.30N×143.10E, h50^{km}, Mw5.1 Best double couple: $M_0$5.54×10^{16} NP1:ϕ_s31°, δ64°, λ80°. NP2:ϕ_s232°, δ28°, λ109°.*

SKHL ***07*** *19:26:41.7±2.1, 42.30N×142.90E, h52^{km}±6^{km}, mb5.4/8, mbh5.1/1, mbv5.4/1, ms4.4/3, msh5.2/3*

BJI ***07*** *19:26:42.2, 42.32N×143.14E, h64^{km}, mB5.2, mb5.1, Ms4.6, Msz4.4*

IDC ***07*** *19:26:43.8±0.6, 42.33N×143.04E, h52^{km}±4^{km}, mb4.6/25, mb1 4.8/28, mb1mx4.8/29, MS4.2/19, Ms1 4.2/19, ms1mx4.1/25, Error ellipse: s-maj=13.2km s-min=10.6km az=116.0*

NEIC ***07*** *19:26:43.5±0.1, 42.41N×143.04E, mb5.1/109, MW5.1(NIED), Error ellipse: s-maj=3.9km s-min=2.8km az=161.0*

NEIC Recorded [3 JMA] in south-central Hokkaido, [2 JMA] in the Kushiro-Obihiro area and [1 JMA] throughout southern and eastern Hokkaido. Also recorded [1 JMA] in Aomori Prefecture, Honshu.

SYO ***07*** *19:26:43.4, 42.41N×143.06E, h48^{km}, MB5.1, MS4.3*

HRVD ***07*** *19:26:43.5±0.2, 42.21N×143.06E, h54^{km}, MW5.2/68, Centroid moment Tensor Solution. LP body waves: s48,c81;Mantle waves: s68,c124; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.43±.20; $M_{\theta\theta}$-2.83±.14; $M_{\phi\phi}$-2.60±.15; $M_{r\theta}$1.04±.11; $M_{\theta\phi}$-3.28±.10; $M_{\phi r}$2.76±.09; Best double couple: $M_0$6.44×10^{16} NP1: ϕ_s239°, δ34°, λ111°. NP2:ϕ_s34°, δ59°, λ77°. Principal axes: T 6.29, Plg73°, Azm271°; N .31, Plg11°, Azm41°; P -6.6, Plg13°, Azm134°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MOS ***07*** *19:26:45.6±1.0, 42.59N×142.98E, h72^{km}, mb5.3/30 Error ellipse: s-maj=10.9km s-min=5.3km az=102.5*

JMA ***07*** *19:26:45.0±0.1, 42.34N×143.12E, h50^{km}±1^{km}, M5.1 Broadband fault plane solution: P waves. NP1:ϕ_s250°, δ31°, λ123°. NP2:ϕ_s34°, δ64°, λ72°. Principal axes: T Plg66°, Azm271°; N Plg16°, Azm42°; P Plg17°, Azm137°;*

JMA Felt III J1.

ISC 07 19:26:43.3±0.2**, 42.31N**±0.02×**143.07E**±0.03**, h62**^{km}±1^{km}**, h49**^{km}±1.1^{km}**:pP-P, n507, σ0^{s}95**/503**, mb5.1**/159**, 71C-19D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	Urakawa-nobuka	0.23	264	⇓P	P	19 26 53.8	+0.5
JNBK				eS	S	19 27 00.9	+0.3
JEM	Erimo	0.30	167	⇑P	P	19 26 54.5	+0.8
JEM				eS	S	19 27 01.7	+0.3
ERM	Erimo	0.30	167	Pn	P	19 26 54.3	+0.6
	SNR=11721						
ERM	Erimo	0.30	167	ePg	P	19 26 55.2	+1.5
ERM				eSg	S	19 27 01.9	+0.6
JCH	Churui	0.38	35	⇑P	P	19 26 54.3	-0.1
JCH				eS	S	19 27 01.7	-0.9
JBT2	Biratori 2	0.70	313	⇓P	P	19 26 59.0	+1.2
JOB	Onbets	0.82	43	⇑P	P	19 27 00.4	+1.0
JOB				eS	S	19 27 11.8	+0.5
JFR	Furan	0.93	338	⇓P	P	19 27 00.4	-0.3
JFR				eS	S	19 27 12.7	-0.9
JAR	Ashorobuto	1.12	27	⇑P	P	19 27 03.5	+0.2
JAR				eS	S	19 27 17.7	-0.4
JEW	Eniwo	1.31	295	⇓P	P	19 27 07.7	+1.7
JAB	Ashibetsu	1.35	333	⇓P	P	19 27 08.0	+1.4
JAK	Akkeshi	1.39	60	⇑P	P	19 27 06.8	-0.3
JAK				eS	S	19 27 24.5	-0.2
JNB	Noboribetsu	1.51	277	⇓P	P	19 27 09.4	+0.6
JKB	Kayabe	1.57	255	⇓P	P	19 27 10.8	+1.2
JKK2	Kamakawa 2	1.58	352	⇓P	P	19 27 10.6	+0.8
JMP	Maruseppu	1.71	7	⇓P	P	19 27 12.3	+0.8
JNK	Nakash	1.76	43	⇑P	P	19 27 11.9	-0.3
JOT	Ohata	1.77	239	⇑P	P	19 27 13.3	+1.0
JTKR	Abashiri--Toko	1.78	20	⇓P	P	19 27 13.1	+0.7
ASAJ	Asahikawa	1.84	349	P	P	19 27 14.2	+0.8
	287nm,0.3s,baz=212,slow=13,SNR=950						
ASAJ				S	S	19 27 28.3	-7.2
	288nm,0.3s,baz=206,slow=24,SNR=19						
ASAJ				LR	LR	19 27 56.1	
	comp=Z,6µm,21.8s,baz=245,slow=40						
ASAJ	Asahikawa	1.84	349	⇓P	P	19 27 14.3	+1.0
ASAJ	Asahikawa	1.84	349	PN	P	19 27 14.2	+0.9
ASAJ				S	S	19 27 28.3	-7.2
ASAJ				pmax	pmax		
	comp=Z,287nm,0.3s						
ASAJ				smax			
	comp=N,288nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,6µm,21.8s						
JTM	Tenmabayashi	2.13	225	⇑P	P	19 27 18.3	+0.9
JANG	Nango	2.25	212	⇑P	P	19 27 19.3	+0.2
JKZ	Kuzumaki	2.66	210	P	P	19 27 25.0	+0.1
YUK	Yuzh-Kuril'sk	2.68	49	eP	P	19 27 24.4	-0.7
YUK				AMB	AMB	19 27 31.3	
	comp=Z,2µm,0.4s						
YUK				AMB	AMB	19 27 31.3	
	comp=Z,4µm,0.7s						
YUK				AMB	AMB	19 27 31.3	
	comp=Z,5µm,0.7s						
YUK				AMB	AMB	19 27 31.9	
	comp=Z,3µm,0.5s						
YUK				AMB	AMB	19 27 31.9	
	comp=Z,2µm,1.9s						
YUK				AMB	AMB	19 27 31.9	
	comp=Z,2µm,1.9s						
YUK				i S	S	19 27 55.0	-1.4
YUK				A		19 28 02.8	
	comp=Z,17µm,0.5s						
YUK				A		19 28 02.8	
	comp=Z,14µm,0.5s						
YUK				A		19 28 08.0	
	comp=Z,46µm,1.0s						
YUK				A		19 28 08.0	
	comp=Z,29µm,1.0s						
YUK	Yuzh-Kuril'sk	2.68	49	ePN	P	19 27 24.4	-0.7
YUK				i S	S	19 27 55.0	-1.4
YUK				pmax	pmax		
	comp=N,4µm,0.7s						
YUK				pmax	pmax		
	comp=Z,5µm,0.7s						
YUK				pmax	pmax		
	comp=E,2µm,0.4s						
YUK				pmax	pmax		
	comp=Z,3µm,0.5s						
YUK				pmax	pmax		
	comp=N,2µm,0.3s						
YUK				pmax	pmax		
	comp=E,2µm,0.3s						
YUK				smax			
	comp=N,17µm,0.5s						
YUK				smax			
	comp=E,14µm,0.5s						
YUK				smax			
	comp=N,46µm,1.0s						
YUK				smax			
	comp=E,29µm,1.0s						
JIW	Iwasaki	2.87	234	⇑P	P	19 27 28.4	+0.7
JOM	Ohasama	3.13	206	⇓P	P	19 27 31.1	-0.4
OFUJ	Ofunato	3.39	199	⇓P	P	19 27 34.1	-1.0
JMK	Ichinoseki	3.63	203	P	P	19 27 37.6	-0.9
JIO	Ouri	4.06	199	P	P	19 27 42.9	-1.6
JOU	Okura	4.34	206	P	P	19 27 47.7	-0.7
JYA	Atsumi	4.50	216	P	P	19 27 50.9	+0.2
KUR	Kuril'sk	4.54	48	eP	P	19 27 49.5	-1.8
KUR				AMB	AMB	19 27 51.0	
	comp=E,2µm,1.2s						
KUR				AMB	AMB	19 27 51.0	
	comp=E,568nm,0.9s						
KUR				AMB	AMB	19 27 51.0	
	comp=E,1µm,0.9s						
KUR				AMB	AMB	19 27 51.0	
	comp=E,2µm,0.9s						
KUR				eS	S	19 28 42.0	-1.3
KUR				A		19 28 48.0	
	comp=E,10µm,1.2s						
KUR				A		19 28 48.0	
	comp=E,8µm,1.2s						
KUR				A		19 28 49.3	
	comp=E,2µm,0.8s						
KUR				A		19 28 49.3	
	comp=E,2µm,0.8s						
KUR	Kuril'sk	4.54	48	ePN	P	19 27 49.5	-1.8
KUR				eS	S	19 28 42.0	-1.3
KUR				pmax	pmax		
	comp=N,280nm,0.9s						
KUR				pmax	pmax		
	comp=E,260nm,0.9s						
KUR				pmax	pmax		
	comp=Z,1µm,0.9s						
KUR				pmax	pmax		

comp=Z,2μm,1.2s
KUR smax
comp=N,2μm,0.8s
KUR smax
comp=E,2μm,0.8s
KUR smax
comp=N,10μm,2.0s
KUR smax
comp=E,8μm,2.0s
YSS Yuzh-Sakhalins 4.65 357⇑ *i*P **P 19 27 53.4 +0.6**
YSS AMB AMB 19 27 57.8
comp=E,480nm,1.0s
YSS AMB AMB 19 27 57.8
comp=E,260nm,1.0s
YSS *es*P 19 28 14.0
YSS *e*S **S 19 28 47.0 +0.9**
YSS *e*LQ 19 29 24.0
YSS AMS AMS 19 30 33.0
comp=E,2μm,11.0s
YSS AMS AMS 19 30 33.0
comp=E,1μm,12.0s
YSS Yuzh-Sakhalins 4.65 357⇑ *e*PN **P 19 27 53.4 +0.6**
YSS *e*S **S 19 28 47.0 +0.9**
YSS pmax pmax
comp=N,260nm,1.0s
YSS pmax pmax
comp=Z,480nm,1.0s
YSS MLR MLR
comp=Z,2μm,11.0s
YSS MLR MLR
comp=N,1μm,12.0s
YSS Yuzh-Sakhalins 4.65 357 *e*P **P 19 27 53.7 +0.9**
JAW Awa shima 4.82 218 P **P 19 27 55.3 +0.1**
TEY Ternei 5.42 302 *e*P **P 19 28 05.0 +1.5**
TEY AMB AMB 19 28 06.0
comp=N,50nm,0.8s
TEY AMB AMB 19 28 06.0
comp=N,40nm,0.9s
TEY AMB AMB 19 28 06.0
comp=N,60nm,0.9s
TEY AMS AMS 19 30 09.0
comp=N,3μm,12.0s
TEY AMS AMS 19 30 09.0
comp=N,6μm,19.0s
JSD Sado 5.63 222 P **P 19 28 06.5 +0.2**
JHG Hegura jima 6.48 229 P **P 19 28 18.8 +0.6**
JAG Ashikaga 6.50 207 P **P 19 28 16.9 -1.7**
UGL Uglegorsk 6.81 354⇑ *i*P **P 19 28 20.0 -2.8**
UGL *e*P 19 28 20.0
UGL AMB AMB 19 28 22.0
comp=N,600nm,1.0s
UGL AMB AMB 19 28 23.0
comp=N,360nm,0.8s
UGL AMB AMB 19 28 23.0
comp=N,270nm,1.0s
UGL AMB AMB 19 28 23.0
comp=N,380nm,1.0s
UGL *e*S **S 19 29 38.0 -1.7**
UGL A 19 29 45.0
comp=N,2μm,5.0s
UGL A 19 29 45.0
comp=N,900nm,5.0s
UGL A 19 29 45.0
comp=N,1μm,5.0s
UGL *e*L 19 30 20.0
UGL AMS AMS 19 31 22.0
comp=N,1μm,12.0s
UGL AMS AMS 19 31 22.0
comp=N,1μm,12.0s
UGL AMS AMS 19 31 22.0
comp=N,1μm,12.0s
UGL Uglegorsk 6.81 354⇑ *i*PN **P 19 28 20.0 -2.8**
UGL S **S 19 29 38.0 -1.7**
UGL pmax pmax
comp=Z,360nm,0.8s
UGL pmax pmax
comp=N,270nm,1.0s
UGL pmax pmax
comp=E,380nm,1.0s
UGL smax
comp=N,2μm,5.0s
UGL smax
comp=E,900nm,5.0s
UGL smax
comp=Z,1μm,5.0s
UGL MLR MLR
comp=N,1μm,12.0s
UGL MLR MLR
comp=E,1μm,12.0s
UGL MLR MLR
comp=Z,1μm,12.0s
MAJO Matsushiro 6.87 215 *e*Pn **P 19 28 23.0 -0.7**
comp=Z,80nm,0.6s
MAT Matsushiro 6.87 215 P **P 19 28 23.1 -0.6**
MAT *e*S **S 19 29 41.5 +0.3**
MAT Matsushiro 6.87 215 *e*P **P 19 28 23.0 -0.7**
comp=Z,69nm,0.8s
MAT S **S 19 29 42.0 +0.8**
JNG Nsakai 7.03 215 P **P 19 28 25.5 -0.5**
JGM Miyama 8.24 219 P **P 19 28 42.5 0.0**
TYV Tymovskoe 8.57 358 *e*P **P 19 28 44.0 -3.0**
TYV AMB AMB 19 28 49.9
comp=Z,140nm,1.0s
TYV A 19 30 32.0
comp=Z,900nm,9.0s
TYV A 19 30 32.0
comp=Z,2μm,9.0s
TYV Tymovskoe 8.57 358 *e*PN **P 19 28 44.0 -3.0**
TYV S **S 19 30 27.0 +3.9**
TYV pmax pmax
comp=Z,140nm,1.0s
TYV smax
comp=E,2μm,10.0s
TYV smax
comp=N,900nm,8.0s
JKY Yasaka 9.10 226 P **P 19 28 54.6 +0.3**
JHJ Hachijo jima 2 9.53 197 P **P 19 28 56.4 -3.8**
comp=N,57nm,0.3s,baz=236,slow=18,SNR=20
JHJ S **S 19 30 37.0 -10**
comp=N,189nm,0.3s,baz=52,slow=23,SNR=8.3
MDJ Mudanjiang 10.07 288 P **P 19 29 08.4 +0.9**
MDJ XP 19 29 23.4
MDJ S **S 19 30 59.0 -0.8**
MDJ PCS 19 38 46.6
MDJ AMB AMB
comp=Z,45nm,1.1s
MDJ AMB AMB
comp=Z,417nm,5.6s
MDJ LR LR
comp=N,653nm,16.2s
MDJ LR LR
comp=E,2μm,22.2s
MDJ LR LR
comp=Z,3μm,22.6s
MDJ Mudanjiang 10.07 288 *e*Pn **P 19 29 05.5 -2.0**
KLR Kul'dur 10.50 315 *e*PN **P 19 29 11.5 -1.9**
KLR *e* 19 31 13.5
KLR MLR MLR
comp=N,2μm,10.5s
KLR MLR MLR
comp=Z,4μm,10.5s
NKL Nikolayevsk 10.97 352 *e*P **P 19 29 13.0 -6.7**
NKL *e*L 19 32 44.0
OKH Okha 11.25 360 *e*L 19 30 50.0
OKH AMS AMS 19 35 05.8
comp=Z,2μm,14.0s
OKH AMS AMS 19 35 05.8
comp=Z,2μm,16.0s
SKR Severo-Kuril's 12.28 42 *e*P **P 19 29 37.9 +0.7**
SKR AMB AMB 19 29 39.2
comp=Z,40nm,0.5s
SKR pP 19 29 51.5
SKR AMS AMS 19 34 16.0
comp=Z,2μm,18.0s
SKR AMS AMS 19 34 16.0
comp=Z,4μm,18.0s
SKR AMS AMS 19 34 16.0
comp=Z,3μm,18.0s
SKR AMS AMS 19 34 16.0
comp=Z,3μm,18.0s
SKR Severo-Kuril's 12.28 42 *e*PN **P 19 29 37.9 +0.7**
SKR pmax pmax
comp=Z,40nm,0.5s
SKR MLR MLR
comp=N,4μm,18.0s
SKR MLR MLR
comp=Z,3μm,18.0s
KS15 Wonju Array Si 12.63 252 *e*P **P 19 29 41.7 -0.3**
KS15 *e* 19 29 48.4
CN2 Changchun 12.98 283 *e*P **P 19 29 46.5 0.0**
CN2 *e*AP 19 29 54.7
CN2 *e*S **S 19 32 10.1 +0.2**
CN2 AMB AMB
comp=Z,20nm,0.8s
CN2 AMB AMB
comp=Z,320nm,8.0s
CN2 LR LR
comp=N,1μm,17.0s
CN2 LR LR
comp=E,2μm,17.0s
CN2 LR LR
comp=Z,3μm,19.0s
INCN Inchon 13.50 255 *e*P **P 19 29 52.7 -0.7**
comp=Z,34nm,0.9s
SNY Shenyang 14.49 275⇑ P **P 19 30 06.5 +0.3**
SNY AP 19 30 22.4
SNY AMB AMB
comp=Z,30nm,0.9s
SNY AMB AMB
comp=Z,210nm,10.4s
SNY LR LR
comp=N,610nm,21.4s
SNY LR LR
comp=E,1μm,23.5s
SNY LR LR
comp=Z,2μm,24.5s
CBIJ Chichi jima 15.19 183 P **P 19 30 13.7 -1.7**
comp=Z,27nm,0.3s,baz=305,slow=19,SNR=10
CBIJ S **S 19 32 49.8 -12**
comp=Z,40nm,0.3s,baz=266,slow=22,SNR=8.2
CBIJ LR LR 19 36 09.2
comp=Z,285nm,18.7s,baz=327,slow=37
ZEA Zeya 15.54 323 *e*P **P 19 30 21.9 +2.2**
ZEA AMB AMB 19 30 23.6
comp=Z,55nm,0.9s
ZEA AMB AMB 19 30 23.6
comp=Z,44nm,0.9s
ZEA AMB AMB 19 30 23.6
comp=Z,65nm,0.9s
ZEA AMB AMB 19 30 37.0
comp=Z,400nm,9.0s
ZEA AMB AMB 19 30 37.0
comp=Z,600nm,7.0s
ZEA sP 19 30 44.3
ZEA A 19 33 38.0
comp=Z,300nm,12.0s
ZEA A 19 33 38.0
comp=Z,500nm,12.0s
ZEA A 19 33 38.0
comp=Z,400nm,12.0s
ZEA *e*LQ 19 35 10.0
ZEA *e*LR LR 19 35 24.0
DL2 Dalian 16.62 265 P **P 19 30 33.3 -0.1**
DL2 XP 19 30 52.0
DL2 S **S 19 33 39.0 +3.8**
DL2 AMB AMB
comp=Z,300nm,3.7s
DL2 LR LR
comp=N,360nm,14.6s
DL2 LR LR
comp=E,620nm,15.6s
DL2 LR LR
comp=Z,600nm,26.3s
HIA Hailar 17.65 301 *e*P **P 19 30 44.8 -1.5**
comp=Z,58nm,1.1s
MA2 Magadan 17.94 13⇑ *e*P **P 19 30 48.5 -1.2**
MA2 pmax pmax
comp=Z,76nm,1.5s
MA2 MLR MLR
comp=Z,200nm,10.0s
MA2 Magadan 17.94 13 *e*P **P 19 30 47.0 -2.7**
comp=Z,51nm,1.0s
CLNS Chul'man 18.63 328 *e*P **P 19 30 57.4 -0.6**
CLNS pmax pmax
comp=N,24nm,1.0s
CLNS pmax pmax
comp=Z,69nm,1.0s
CLNS pmax pmax
comp=E,15nm,0.8s
CLNS pmax pmax
comp=Z,17nm,0.7s
CLNS pmax pmax
comp=N,42nm,1.0s
CLNS pmax pmax
comp=E,33nm,1.0s
CLNS MLR MLR
comp=N,600nm,12.0s
CLNS MLR MLR
comp=Z,900nm,12.0s
CLNS MLR MLR
comp=E,100nm,13.0s
JOW Kunigami 19.62 223 P **P 19 31 06.5 -2.7**
comp=E,8.6nm,0.3s,baz=337,slow=15,SNR=9.1
JOW LR LR 19 39 23.9
comp=E,619nm,19.7s,baz=80,slow=39
BJI Beijing 20.34 273 P **P 19 31 13.6 -3.2**
BJI AP 19 31 31.6
BJI S **S 19 35 01.9 +5.6**
BJI AMB AMB
comp=Z,41nm,0.9s
BJI AMB AMB
comp=Z,248nm,4.3s
BJI LR LR
comp=N,679nm,13.8s
BJI LR LR
comp=E,903nm,13.8s
BJI LR LR
comp=Z,2μm,23.4s
BJT Baijiatuau 20.35 273 *e*P **P 19 31 14.1 -2.8**
comp=Z,58nm,0.8s
BJT LR LR
comp=Z,2μm,19.0s
SSE Sheshan 20.75 244 P **P 19 31 25.0 +4.0**
SSE XP 19 31 43.3
SSE AMB AMB
comp=Z,42nm,0.8s
SSE LR LR
comp=N,759nm,14.6s
SSE LR LR
comp=E,587nm,14.8s
SSE LR LR
comp=Z,605nm,20.4s
TIA Tai'an 20.95 262 *e*P **P 19 31 19.9 -3.1**
TIA AMB AMB
comp=Z,60nm,1.2s
YAK Yakutsk 21.31 343 *e*P **P 19 31 22.0 -4.5**
YAK *e**PP 19 31 42.2
YAK *e*S **S 19 35 13.4 -1.0**
YAK *e* 19 35 24.8
YAK *e**SS 19 35 45.4
YAK *e* 19 42 41.0
YAK pmax pmax
comp=Z,71nm,0.9s,mb5.0
YAK pmax pmax
comp=N,16nm,1.0s
YAK pmax pmax
comp=E,15nm,1.0s
YAK smax
comp=N,25nm,1.1s
YAK smax
comp=Z,15nm,1.1s
YAK smax
comp=E,18nm,1.2s
YAK Yakutsk 21.31 343 *e*P **P 19 31 21.6 -4.9**
comp=E,169nm,0.9s,mb5.4
YAK LR LR
comp=Z,714nm,20.0s
SEY Seymchan 21.38 12 *e*P **P 19 31 25.3 -1.8**
SEY *e* 19 31 51.7
SEY *e*S **S 19 35 09.5 -6.2**
SEY *SS 19 35 33.4
SEY *e*SS SS 19 35 43.9 -10
SEY pmax pmax
comp=N,60nm,0.7s
SEY pmax pmax
comp=E,20nm,0.7s
SEY pmax pmax
comp=Z,100nm,0.7s,mb5.2
SEY smax
comp=N,500nm,6.6s
SEY smax
comp=E,150nm,6.3s
NJ2 Nanjing 21.77 250 *e*P **P 19 31 32.5 +1.2**
NJ2 AP 19 31 44.3
NJ2 XP 19 31 49.7
NJ2 PP PP 19 31 59.1 +1.2
NJ2 S **S 19 35 28.0 +4.9**
NJ2 XS 19 35 45.0
NJ2 SS SS 19 36 06.0 +2.0
NJ2 AMB AMB
comp=Z,70nm,0.9s,mb5.1
NJ2 AMB AMB
comp=Z,260nm,6.7s
NJ2 LR LR
comp=N,3μm,16.9s
NJ2 LR LR
comp=E,3μm,20.9s
NJ2 LR LR
comp=Z,2μm,17.8s
FX1 Attu Island--F 22.73 52 P **P 19 31 42.5 +2.1**
comp=Z,51nm,0.9s,mb5.0,baz=105,slow=20,SNR=3.1
FX1 LR LR 19 39 56.4
comp=Z,42nm,18.4s,baz=263,slow=35
FX1 Attu Island--F 22.73 52 P **P 19 31 42.5 +2.1**
FX1 pmax pmax
comp=Z,51nm,0.9s
FX1 MLR MLR
comp=Z,42nm,18.4s
HHC Hu-ho-hao-te 23.55 277 *e*P **P 19 31 50.2 +1.8**
HHC AP 19 32 02.7
HHC XP 19 32 07.0
HHC PP PP 19 32 24.6 +2.2
HHC PCP PcP 19 35 30.1 -4.0
HHC S **S 19 36 02.1 +7.5**
HHC XS 19 36 22.5
HHC SCP 19 39 00.5
HHC PCS 19 39 11.2
HHC AMB AMB
comp=Z,236nm,7.4s
HHC LR LR
comp=N,381nm,15.2s
HHC LR LR
comp=E,482nm,16.2s
HHC LR LR
comp=Z,575nm,17.5s
BOD Bodaibo 24.01 320 *e*P **P 19 31 49.1 -3.6**
BTO Baotou 24.74 277 *e*P **P 19 32 00.8 +0.7**
WHN Wuhan 25.79 252⇑ P **P 19 32 09.5 -0.6**
WHN S **S 19 36 39.0 +6.5**
WHN LR LR
comp=N,352nm,12.0s
WHN LR LR
comp=E,639nm,17.0s
WHN LR LR
comp=Z,2μm,19.5s
SONM Songino Array 26.31 295 P **P 19 32 14.5 -0.1**
comp=Z,69nm,1.1s,mb5.1,baz=80,slow=6.6,SNR=218
IRK Irkutsk 27.83 304 *e*P **P 19 32 28.3 -0.3**
IRK *e* pP 19 32 40.9 -2.8
XAN Xi'an 27.94 264 P **P 19 32 28.5 -1.2**
ENH Enshi 29.42 257 *e*P **P 19 32 41.5 -1.5**
comp=Z,53nm,0.9s,mb5.3
ENH LR LR
comp=Z,681nm,21.0s
MOY Mondy 29.82 303 *e*P **P 19 32 46.0 -0.3**
TIXI Tiksi 30.25 351⇑ *e*P **P 19 32 49.7 -0.2**
LZH Lanzhou 30.82 272⇑ P **P 19 32 55.7 +0.3**
LZH AP pP 19 33 08.6 -2.2
LZH S **S 19 37 50.0 -3.2**
LZH AMB AMB
comp=Z,70nm,1.0s,mb5.5
LZH AMB AMB
comp=Z,340nm,5.0s
LZH LR LR
comp=N,1μm,15.6s
LZH LR LR
comp=Z,2μm,15.9s
GZH Guangzhou 31.27 242 P **P 19 32 56.4 -3.0**
GZH S **S 19 37 52.2 -8.2**
GZH LR LR
comp=N,697nm,16.5s
GZH LR LR
comp=E,775nm,15.4s
GZH LR LR
comp=Z,521nm,23.3s
GTA Gaotai 32.58 280 P **P 19 33 11.1 +0.4**
GTA AP pP 19 33 23.1 -3.1
GTA PP PP 19 34 19.9 -1.0
GTA PCP PcP 19 35 56.6 +0.6
GTA S **S 19 38 19.6 -1.1**
GTA PCS 19 39 41.9
GTA SCS ScS 19 43 34.1 +2.8
GTA AMB AMB
comp=Z,36nm,0.8s,mb5.3
GTA AMB AMB
comp=Z,122nm,8.8s
GTA LR LR
comp=N,238nm,20.9s
GTA LR LR
comp=E,427nm,16.0s
GTA LR LR
comp=Z,497nm,16.7s
CD2 Chengdu 33.27 263 *e*P **P 19 33 16.1 -0.6**
CD2 AMB AMB
comp=Z,20nm,1.1s,mb5.0
GYA Guiyang 33.65 254 P **P 19 33 19.1 -1.0**
GYA AP pP 19 33 31.8 -3.9
GYA PP PP 19 34 38.5 +4.2
GYA PCP PcP 19 35 59.9 +0.8
GYA S **S 19 38 33.1 -4.3**
GYA SS SS 19 40 41.8 -3.7
GYA AMB AMB
comp=Z,20nm,0.9s,mb5.0
GYA AMB AMB
comp=Z,340nm,7.1s
GYA LR LR
comp=N,630nm,19.7s
GYA LR LR
comp=E,640nm,20.6s
GYA LR LR
comp=Z,630nm,21.0s
QIZ Qiongzhong 36.45 241 P **P 19 33 45.1 +1.1**
QIZ XP sP 19 34 03.9 -3.4
QIZ S **S 19 39 24.1 +3.6**
QIZ AMB AMB
comp=Z,22nm,1.7s,mb4.8
QIZ AMB AMB
comp=Z,160nm,6.2s
QIZ LR LR
comp=N,477nm,19.7s
QIZ LR LR
comp=E,446nm,18.3s
QIZ LR LR
comp=Z,519nm,15.7s
KMI Kunming 37.27 256 *e*P **P 19 33 51.4 +0.6**
KMI S **S 19 39 32.7 -0.3**
KMI AMB AMB
comp=Z,53nm,0.9s,mb5.4
KMI LR LR
comp=N,460nm,20.7s
KMI LR LR
comp=E,325nm,21.3s
KMI LR LR
comp=Z,440nm,20.2s
WMQ Urumqi 39.84 292⇑ *i*P **P 19 34 12.4 +0.4**
WMQ AP pP 19 34 30.0 +2.2
WMQ PP PP 19 35 49.0 +0.9
WMQ S **S 19 40 13.0 +1.3**
WMQ SS SS 19 43 04.0 0.0
WMQ SCS ScS 19 44 14.0 +2.8
WMQ AMB AMB
comp=Z,75nm,1.0s,mb5.4
WMQ LR LR
comp=N,524nm,16.0s
WMQ LR LR
comp=E,815nm,15.0s
WMQ LR LR
comp=Z,1μm,18.0s
IMA Indian Mountai 41.55 33 *e*P **P 19 34 25.4 -0.2**
comp=Z,153nm,0.7s,mb5.7
IMA *ep*P pP 19 34 37.9 -3.7
IMA *es*P sP 19 34 44.9 -4.0
RSO Redoubt South 42.05 42 *e*P **P 19 34 21.0 -8.8**
SPU Mount Spurr 42.34 41 *e*P **P 19 34 31.5 -0.7**
MKAR Makanchi Array 42.60 298 P **P 19 34 34.6 0.0**
comp=Z,133nm,1.2s,mb5.6,baz=80,slow=8.0,SNR=180
MKAR PcP PcP 19 36 25.9 -0.6
comp=Z,11nm,0.8s,baz=56,slow=4.4,SNR=4.8

MKAR LR LR 19 52 56.1
comp=Z,404nm,20.7s,baz=79,slow=37
MKAR Makanchi Array 42.60 298 P **P** **19 34 34.6 0.0**
MKAR 19 36 25.9
MKAR pmax pmax
comp=Z,133nm,1.2s
MKAR pmax pmax
comp=Z,11nm,0.8s
MKAR MLR MLR
comp=Z,404nm,20.7s
NANT Nan 42.77 250 ⇑P **P** **19 34 34.5 -1.9**
comp=Z,62nm,0.8s,mb5.4
KKTK Khon Kaen 43.02 245 P **P** **19 34 39.0 +0.6**
comp=Z,864nm,0.7s
LSA Lhasa 43.22 270 P **P** **19 34 41.5 +1.6**
MCK McKinley 43.60 37 *eP* **P** **19 34 41.8 -0.7**
comp=Z,15nm,0.9s,mb4.7
KURK Kurchatov 43.86 304 *c iP* **P** **19 34 44.5 -0.3**
KURK Kurchatov 43.86 304 *eP* **P** **19 34 44.4 -0.3**
comp=Z,160nm,0.9s,mb5.8
KURK LR LR
comp=Z,102nm,20.0s
COLA College 43.99 35 *c iP* **P** **19 34 45.7 +0.1**
COLA College 43.99 35 *eP* **P** **19 34 45.1 -0.6**
comp=Z,49nm,0.9s,mb5.2
SML Sawmill 44.05 39 *eP* **P** **19 34 44.8 -1.4**
SML *epP* pP 19 34 58.4 -3.7
CM31 Chiang Mai Arr 44.23 251 *eP* **P** **19 34 48.4 +0.2**
comp=Z,14nm,0.8s,mb4.7
CM31 LR LR
comp=Z,554nm,20.0s
CMAR Chiang Mai Arr 44.23 251 P **P** **19 34 49.0 +0.7**
comp=Z,9.0nm,0.7s,mb4.6,baz=44,slow=7.0,SNR=82
CMAR PcP PcP 19 36 32.6 +0.2
comp=Z,2.2nm,0.8s,baz=4.3,slow=1.9,SNR=4.2
CMAR LR LR 19 54 01.8
comp=Z,398nm,19.2s,baz=55,slow=37
CMAR Chiang Mai Arr 44.23 251 P **P** **19 34 49.0 +0.8**
CMAR 19 36 32.6
CMAR pmax pmax
comp=Z,9.0nm,0.7s
CMAR pmax pmax
comp=Z,2.0nm,0.8s
CMAR MLR MLR
comp=Z,398nm,19.2s
ILAR Eielson Array 44.41 35 P **P** **19 34 48.0 -0.9**
comp=Z,33nm,1.1s,mb5.0,baz=267,slow=5.9,SNR=103
ILAR Eielson Array 44.41 35 P **P** **19 34 48.0 -1.0**
ILAR pmax pmax
comp=Z,33nm,1.1s
BDT Bhumibol Dam 45.01 250 P **P** **19 34 48.0 -6.4**
THY Trims Highway 45.05 37 P **P** **19 34 51.2 -2.9**
NST Nakhon Sawan 45.31 247 P **P** **19 34 58.0 +1.1**
DIV Divide 45.37 40 *eP* **P** **19 34 56.4 -0.3**
comp=Z,65nm,0.8s,mb5.5
EYAK Cordova Ski Ar 45.48 41 *eP* **P** **19 34 57.5 0.0**
DAWY Dawson 47.73 35 *eP* **P** **19 35 14.2 -1.1**
GUN Gumba 48.09 272 *eP* **P** **19 35 19.1 +0.6**
comp=Z,408nm,0.8s
BRVK Borovoye 48.15 309 *eP* **P** **19 35 18.5 -0.1**
comp=Z,59nm,1.0s,mb5.6
BRVK *ePcP* PcP 19 36 45.1 -0.6
BRVK LR LR
comp=Z,161nm,20.0s
TKM2 Tokmak 2 48.41 295 P **P** **19 35 21.4 +0.6**
SNR=20
KKN Kakani 48.60 272 *eP* **P** **19 35 22.8 +0.3**
comp=Z,165nm,0.9s,mb6.1
PKI Pulchoki 48.62 272 *eP* **P** **19 35 22.8 +0.1**
comp=Z,66nm,0.7s,mb5.8
DMN Daman 48.82 272 *eP* **P** **19 35 25.0 +0.8**
CHMS Chumysh 48.95 295 P **P** **19 35 24.8 -0.2**
SNR=6.3
KBK Karagaybulak 48.95 295 P **P** **19 35 24.4 +0.4**
SNR=43
GKN Gorkha 48.96 273 *eP* **P** **19 35 25.2 -0.1**
comp=Z,72nm,0.8s,mb5.7
USP Ospenovka 49.01 296 P **P** **19 35 25.1 -0.3**
SNR=12
INK Inuvik 49.15 29 P **P** **19 35 25.4 -0.8**
comp=Z,5.5nm,0.5s,mb4.9,baz=304,slow=5.7,SNR=13
INK Inuvik 49.15 29 P **P** **19 35 25.4 -0.8**
INK pmax pmax
comp=Z,6.0nm,0.5s
INK Inuvik 49.15 29 *eP* **P** **19 35 25.1 -1.1**
comp=Z,13nm,0.6s,mb5.1
AAK Ala-Archa 49.27 295 P **P** **19 35 27.7 +0.3**
SNR=7.3
AAK Ala-Archa 49.27 295⇓ *eP* **P** **19 35 26.6 -0.8**
AAK Ala-Archa 49.27 295 *eP* **P** **19 35 25.6 -1.9**
comp=Z,25nm,1.0s,mb5.2
KSH Kashi 49.58 291 P **P** **19 35 31.0 +1.1**
KSH *eAP* pP 19 35 42.3 -3.8
KSH *eXP* sP 19 35 49.7 -3.5
KSH *ePCP* PcP 19 36 52.1 +1.1
KSH *ePP* PP 19 37 26.5 +1.3
KSH *ePPP* PPP 19 38 21.5 +0.2
KSH *eSCP* 19 40 42.8
KSH *ePCS* 19 40 47.3
KSH *eS* **S** **19 42 37.5 +5.4**
KSH *eXS* 19 42 59.5
KSH *eSCS* ScS 19 45 10.0 -2.6
KSH *eSS* SS 19 46 06.0 +5.0
KSH LR LR
comp=N,600nm,12.8s
KSH LR LR
comp=E,570nm,12.8s
EKS2 Erkin-Say 49.74 295 P **P** **19 35 31.0 -0.1**
SNR=9.1
KOLN Koldanda 49.85 273 *eP* **P** **19 35 32.4 +0.2**
comp=E,126nm,0.8s,mb6.0
AML Almayashu 50.02 295 P **P** **19 35 33.5 +0.3**
SNR=6.3
KLP Kalpa 51.79 280 *eP* **P** **19 35 46.9 +0.2**
KLP *e* 19 35 50.9
comp=Z,53nm,1.2s
SVE Sverdlovsk 52.13 316⇑ *iP* **P** **19 35 48.7 -0.2**
SVE *e* 19 37 08.0
SVE *eS* **S** **19 43 26.0 +19**
SVE pmax pmax
comp=Z,140nm,1.0s,mb5.8
SVE MLR MLR
comp=Z,600nm,14.0s
SVE MLR MLR
comp=N,300nm,12.0s
SVE MLR MLR
comp=E,400nm,12.0s
DDI Dehra Dun 52.57 279 *eP* **P** **19 35 50.0 -2.6**
THN Thein Dam 53.16 283 *eP* **P** **19 35 55.7 -1.4**
ARU Arti 53.34 316⇑ *iP* **P** **19 35 57.0 -1.0**
ARU *i* pP 19 36 17.1 +2.7
ARU *eSP* sP 19 36 26.8 +5.3
ARU *e* 19 37 02.4
ARU *e* 19 37 59.6
ARU *eS* **S** **19 43 23.4 0.0**
ARU pmax pmax
comp=Z,111nm,1.0s,mb5.8
ARU Arti 53.34 316 *eP* **P** **19 35 55.2 -2.8**
comp=Z,183nm,1.1s,mb5.9
ARU *e* pP 19 36 11.4 -3.0
ARU *e* 19 36 17.3
ARU LR LR
comp=Z,170nm,22.0s
NDI New Delhi 54.06 278⇑ *iP* **P** **19 36 01.5 -2.2**
AYAN Aya Nagar 54.24 278 *eP* **P** **19 36 03.6 -1.4**
AYAN *e* 19 36 05.1
comp=Z,35nm,0.5s
BHGR Bahadurgarh 54.27 278 *eP* **P** **19 36 03.9 -1.3**
AGRA Agra 54.33 276 *eP* **P** **19 36 04.9 -0.8**
AGRA *e* 19 36 05.7
comp=Z,49nm,0.2s
KUDL Kundal 54.90 278 *eP* **P** **19 36 08.6 -1.2**
KUDL *e* 19 36 10.1
comp=Z,12nm,0.6s
KHET Khetri 55.44 278 *eP* **P** **19 36 12.1 -1.6**
KHET *e* 19 36 13.8
comp=Z,18nm,0.5s
BHPL Bhopal 57.01 273 *eP* **P** **19 36 23.6 -1.4**
RES Resolute Bay 57.19 16 *eP* **P** **19 36 23.7 -1.9**
comp=Z,44nm,0.8s,mb5.5
YKW3 Yellowknife Ar 58.60 32 *eP* **P** **19 36 33.5 -2.1**
YKW3 *epP* pP 19 36 48.4 -3.8
YKW3 *esP* sP 19 36 53.1 -6.3
YKA Yellowknife Ar 58.64 32 P **P** **19 36 35.0 -0.8**
comp=Z,4.7nm,0.7s,mb4.6,baz=304,slow=6.8,SNR=16

YKA *pP* pP 19 36 48.7 -3.8
comp=Z,7.0nm,0.7s,baz=304,slow=7.0,SNR=4.0
YKA LR LR 20 05 53.7
comp=Z,146nm,18.1s,baz=290,slow=40
YKA Yellowknife Ar 58.64 32 P **P** **19 36 35.0 -0.9**
YKA *PP pP 19 36 48.7 -3.8
YKA pmax pmax
comp=Z,5.0nm,0.7s
YKA pmax pmax
comp=N,7.0nm,0.7s
YKA MLR MLR
comp=Z,146nm,18.1s
YKA Yellowknife Ar 58.64 32 P **P** **19 36 35.0 -0.8**
YKA *pP* pP 19 36 48.7 -3.8
YKA LR LR 20 05 53.7
KEV Kevo 58.99 339 *ep* **P** **19 36 36.0 -2.2**
ARCES ARCESS Array B 59.53 339 P **P** **19 36 40.2 -1.8**
comp=Z,7.0nm,0.8s,mb4.7,baz=79,slow=8.2,SNR=16
ARCES LR LR 20 06 54.0
comp=Z,259nm,18.0s,baz=186,slow=40
ARCES ARCESS Array B 59.53 339 P **P** **19 36 40.2 -1.8**
ARCES pmax pmax
comp=Z,7.0nm,0.9s
ARCES MLR MLR
comp=Z,259nm,18.0s
JASL Jaisalmer 59.67 280 *eP* **P** **19 36 42.4 -1.1**
HYB Hyderabad 59.72 266 *i P* **P** **19 36 43.0 -0.9**
HYB Hyderabad 59.72 266 *eP* **P** **19 36 43.0 -0.9**
LATR Latur 60.57 269 *eP* **P** **19 36 49.5 -0.2**
DAG Danmarks Havn 60.64 355 *i P* **P** **19 36 48.0 -1.5**
comp=Z,10.0nm,0.9s,mb5.0
TRO Tromso 61.16 341 *eP* **P** **19 36 50.3 -2.7**
TRO AMb AMB 19 36 58.0
comp=Z,46nm,1.8s,mb5.3
TRO *epP* pP 19 37 03.2 -6.6
TRO Tromso 61.16 341 *eP* **P** **19 36 50.3 -2.7**
comp=Z,46nm,1.8s,mb5.3
CTA Charters Tower 62.15 177 LR LR 20 00 14.0
comp=Z,188nm,19.0s,baz=351,slow=32
CTAO Charters Tower 62.15 177 *eP* **P** **19 37 00.2 -0.1**
comp=Z,28nm,1.3s,mb5.2
CTAO *epP* pP 19 37 14.0 -3.1
FITZ Fitzroy Crossi 62.22 199 LR LR 20 00 59.7
comp=Z,76nm,19.7s,baz=38,slow=33
WRAB Tennant Creek 62.44 189 *eP* **P** **19 37 00.9 -1.4**
comp=Z,54nm,1.0s,mb5.6
WRAB *epP* pP 19 37 15.2 -3.9
WRAB *esP* sP 19 37 20.9 -5.3
WRA Warramunga Arr 62.45 189 P **P** **19 37 01.0 -1.4**
comp=Z,8.5nm,0.9s,mb4.9,baz=4.2,slow=6.9,SNR=61
WRA Warramunga Arr 62.45 189 P **P** **19 37 01.0 -1.4**
WRA pmax pmax
comp=Z,9.0nm,0.9s
POO Poona 62.51 271 *eP* **P** **19 37 01.0 -1.7**
BHJ Bhuj 62.74 277 *eP* **P** **19 37 02.8 -1.5**
KAD Karad 63.03 269 *eP* **P** **19 37 05.0 -1.2**
RMW Rattlesnake Mo 63.41 49 *eP* **P** **19 37 08.6 +0.2**
MOS Moscow 63.81 323 *eP* **P** **19 37 08.8 -1.9**
MOS *e* pP 19 37 28.1 +0.5
MOS *eS* **S** **19 45 36.2 -3.1**
MOS *eSS* SS 19 49 53.9 +4.0
MOS pmax pmax
comp=Z,70nm,1.4s,mb5.5
NLW Nelson Butte 63.88 48 *eP* **P** **19 37 11.6 +0.3**
KAF Kangasniemi 64.23 332 *ep* **P** **19 37 10.8 -2.5**
comp=Z,26nm,0.9s,mb5.3,baz=45,slow=6.3
KAF Kangasniemi 64.23 332 *eP* **P** **19 37 10.8 -2.5**
KAF pmax pmax
comp=Z,27nm,0.9s,mb5.3
PUL Pulkovo 64.33 329⇑ *eP* **P** **19 37 13.9 -0.1**
PUL pmax pmax
comp=N,97nm,0.9s
PUL pmax pmax
comp=E,125nm,0.9s
PUL pmax pmax
comp=Z,76nm,0.9s,mb5.7
EDM Edmonton 64.47 40 *eP* **P** **19 37 14.5 -0.5**
EDM *epP* pP 19 37 28.0 -3.9
EDM *esP* sP 19 37 34.4 -4.5
OBN Obninsk 64.67 322 *c iP* **P** **19 37 15.2 -1.1**
OBN *i* *PP pP 19 37 37.0 +3.8
OBN pmax pmax
comp=Z,51nm,1.1s,mb5.5
OBN MLR MLR
comp=Z,400nm,18.0s
OBN Obninsk 64.67 322 *eP* **P** **19 37 14.9 -1.4**
comp=Z,58nm,1.0s,mb5.6
FINES FINESS Array B 64.77 332 P **P** **19 37 15.4 -1.5**
comp=Z,25nm,0.6s,mb5.5,baz=47,slow=8.0,SNR=130
FINES LR LR 20 08 01.3
comp=Z,355nm,18.6s,baz=223,slow=38
FINES FINESS Array B 64.77 332 P **P** **19 37 15.4 -1.4**
FINES pmax pmax
comp=Z,25nm,0.6s
FINES MLR MLR
comp=Z,355nm,18.6s
PALK Pallekele 64.81 256 *eP* **P** **19 37 17.5 -0.4**
comp=Z,19nm,0.8s,mb5.2
PALK LR LR
comp=Z,34nm,20.0s
MOR8 Moi Rana 64.87 339⇑ *iP* **P** **19 37 14.7 -2.8**
MOR8 AMb AMB 19 37 17.0
comp=Z,59nm,1.1s,mb5.5
MOR8 Moi Rana 64.87 339 *eP* **P** **19 37 14.7 -2.7**
comp=Z,59nm,1.1s,mb5.5
DPW Davenport 65.17 47 *eP* **P** **19 37 18.6 -1.0**
SUMG Summit 65.42 1 *eP* **P** **19 37 20.6 -0.3**
comp=Z,98nm,1.0s,mb5.8
SUMG *e* pP 19 37 35.1 -2.7
VOR Voronezh 65.51 318 P **P** **19 37 20.0 -1.8**
VOR *e* 19 37 43.0
VOR pmax pmax
comp=Z,60nm,1.2s,mb5.5
NEW Newport 65.52 46 *eP* **P** **19 37 21.6 -0.3**
comp=Z,17nm,0.9s,mb5.1
ASAR Alice Springs 66.18 189 P **P** **19 37 26.4 -0.2**
comp=Z,5.2nm,0.8s,mb4.6,baz=12,slow=6.9,SNR=36
ASAR LR LR 20 05 23.1
comp=Z,89nm,18.4s,baz=358,slow=35
MBWA Marble Bar 66.72 204 *eP* **P** **19 37 29.1 -0.9**
comp=Z,11nm,0.8s,mb4.9
MBWA *epP* pP 19 37 45.7 -1.3
MBWA *e* pP 19 37 45.9 -1.1
WALA Waterton Lakes 66.73 44 *eP* **P** **19 37 29.7 +0.2**
comp=Z,18nm,0.9s,mb5.1
WALA *epP* pP 19 37 44.1 -2.4
WDC Whiskeytown Da 66.97 56 *eP* **P** **19 37 31.5 +0.3**
comp=Z,8.2nm,0.9s,mb4.8
GOF Gofitskoye 67.58 311⇓ *iP* **P** **19 37 36.0 +1.0**
GOF pmax pmax
comp=Z,60nm,1.1s,mb5.5
OHCM Honcut 68.36 56 *eP* **P** **19 37 40.0 +0.1**
OHCM *epP* pP 19 37 52.6 -4.4
CHMT Chamberlain Mo 68.41 46 *eP* **P** **19 37 38.8 -1.3**
CHMT *e* 19 37 48.7
KIV Kislovodsk 68.45 310 *c iP* **P** **19 37 40.6 +0.2**
KIV pmax pmax
comp=Z,90nm,1.0s,mb5.8
KIV Kislovodsk 68.45 310 *eP* **P** **19 37 40.8 +0.4**
comp=Z,116nm,1.0s,mb5.9
KIV LR LR
comp=Z,112nm,19.0s
FFC Flin Flon 68.61 34 *eP* **P** **19 37 40.6 -0.6**
comp=Z,25nm,1.0s,mb5.1
FFC *e* 19 37 49.1
FFC *epP* pP 19 37 53.6 -4.7
FFC *ePcP* PcP 19 38 05.4 -0.5
BEKR Beckwourth 68.73 55 *eP* **P** **19 37 42.6 +0.4**
comp=Z,16nm,0.8s,mb5.0
BEKR *epP* pP 19 37 55.4 -3.9
FCC Fort Churchill 68.74 28 *eP* **P** **19 37 40.5 -1.5**
comp=Z,41nm,1.1s,mb5.3
MNK Minsk 68.89 326 *eP* **P** **19 37 40.0 -2.9**
HRY Holter Researc 69.29 45 *eP* **P** **19 37 45.5 -0.1**
HRY *epP* pP 19 38 00.3 -2.4
NB2 NORSAR Subarra 69.82 337 P **P** **19 37 47.6 -1.0**
comp=Z,18nm,0.8s,mb5.1,baz=36,slow=6.2
NB2 NORSAR Subarra 69.82 337 P **P** **19 37 47.6 -1.0**
baz=36,slow=6.2
NOA NORSAR Array B 69.82 337 P **P** **19 37 47.6 -1.0**
comp=Z,17nm,0.8s,mb5.0,baz=36,slow=6.1,SNR=34
NOA *pP* pP 19 38 03.6 -2.0
comp=Z,7.6nm,0.7s,baz=36,slow=6.1,SNR=8.3
NOA LR LR 20 11 59.8
comp=Z,252nm,18.9s,baz=25,slow=39

NOA NORSAR Array B 69.82 337 P **P** **19 37 47.6 -1.0**
NOA *PP pP 19 38 03.7 -2.0
NOA pmax pmax
comp=Z,17nm,0.8s
NOA pmax pmax
comp=N,8.0nm,0.7s
NOA MLR MLR
comp=Z,253nm,18.9s
CMB Columbia Colle 69.84 57 *eP* **P** **19 37 49.7 +0.6**
comp=Z,11nm,0.8s,mb4.8
CMB *epP* pP 19 38 01.5 -4.7
HLID Hailey 69.90 49 *eP* **P** **19 37 49.9 +0.5**
comp=Z,4.7nm,1.0s,mb4.4
BOZ Bozeman (W) 70.09 46 *eP* **P** **19 37 50.8 +0.4**
comp=Z,15nm,0.8s,mb5.0
SOC Sochi 70.35 311 *eP* **P** **19 37 51.8 -0.3**
SOC *e* 19 38 16.1
SOC *e* 19 40 26.9
SOC *eS* S 19 46 55.1 -3.2
SOC *ePS* PS 19 47 17.7 -17
SOC *e* 19 47 35.5
SOC *eSS* SS 19 51 24.7 -6.9
SOC *eSSS* SSS 19 54 32.0 -5.4
SOC pmax pmax
comp=N,10.0nm,0.7s
SOC pmax pmax
comp=E,14nm,0.7s
SOC pmax pmax
comp=Z,29nm,0.7s,mb5.3
SOC MLR MLR
comp=N,177nm,24.0s
SOC MLR MLR
comp=E,156nm,24.0s
SOC MLR MLR
comp=Z,397nm,24.0s
ANN Anapa 70.82 313 *eP* **P** **19 37 52.4 -2.5**
ANN *e* *PP pP 19 38 20.0 +8.0
ANN *eS* S 19 46 59.5 -4.1
ANN pmax pmax
comp=Z,48nm,1.0s,mb5.4
ANN MLR MLR
comp=N,370nm,15.0s
ANN MLR MLR
comp=E,237nm,15.0s
ANN MLR MLR
comp=Z,226nm,15.0s
NVAR Mina Array Bea 70.87 55 P **P** **19 37 56.6 +1.3**
comp=Z,30nm,1.1s,mb5.1,baz=297,slow=4.1,SNR=65
NVAR LR LR 20 04 24.6
comp=Z,80nm,20.7s,baz=60,slow=32
AKASG Malin Array Be 70.92 322 P **P** **19 37 54.5 -0.9**
comp=Z,12nm,0.7s,mb4.9,baz=42,slow=6.0,SNR=68
AKASG Malin Array Be 70.92 322 P **P** **19 37 54.5 -0.9**
AKASG pmax pmax
comp=Z,12nm,0.7s
OMM Old Mammoth Mi 70.96 56 *eP* **P** **19 37 55.1 -0.7**
YMR Madison River 71.08 46 *eP* **P** **19 37 56.5 +0.1**
YMR *epP* pP 19 38 10.3 -3.3
YMR *esP* sP 19 38 15.2 -5.0
SUW Suwalki 71.14 327 *eP* **P** **19 37 55.5 -1.2**
SUW MLR MLR
comp=Z,300nm,26.4s
SUW Suwalki 71.14 327 *eP* **P** **19 37 55.5 -1.2**
SUW MLR MLR 20 07 48.7
comp=Z,300nm,26.4s
YFT Old Faithful 71.30 47 *eP* **P** **19 38 00.2 +2.5**
YFT *epP* pP 19 38 12.7 -2.2
MTUM Tungsten Hills 71.39 56 *eP* **P** **19 37 59.7 +1.3**
TPH Tonopah 71.76 55 *eP* **P** **19 38 00.9 +0.3**
comp=Z,9.6nm,0.9s,mb4.7
TPH *epP* pP 19 38 13.4 -4.4
MOOW Moose Ponds 71.81 47 *eP* **P** **19 38 01.4 +0.6**
MOOW *epP* pP 19 38 14.2 -3.8
TPAW Teton Pass 71.87 47 P **P** **19 37 59.0 -2.2**
HVU Hansel Valley 71.98 50 *eP* **P** **19 38 02.0 +0.2**
BGU Big Grassy Mou 72.39 51 *eP* **P** **19 38 03.3 -1.0**
SIM Simferopol' 72.48 315 *eP* **P** **19 38 05.4 +0.7**
SIM pmax pmax
comp=Z,23nm,0.8s,mb5.2
SIM MLR MLR
comp=Z,300nm,17.0s
DAC Darwin (Calif) 72.68 57 *eP* **P** **19 38 06.6 +0.5**
comp=Z,9.8nm,0.8s,mb4.8
DAC *epP* pP 19 38 20.6 -2.7
DUG Dugway 73.00 51 *eP* **P** **19 38 08.5 +0.7**
comp=Z,12nm,1.0s,mb4.8
DUG LR LR
comp=Z,94nm,20.0s
TPNV Topopah Spring 73.07 55 *eP* **P** **19 38 09.0 +0.6**
comp=Z,19nm,0.8s,mb5.1
PDAR Pinedale Array 73.11 47 P **P** **19 38 08.8 +0.4**
comp=Z,4.0nm,0.6s,mb4.5,baz=283,slow=1.5,SNR=35
PDAR pP pP 19 38 22.6 -3.0
comp=Z,4.0nm,0.8s,baz=293,slow=3.2,SNR=10
PDAR LR LR 20 12 29.7
comp=Z,123nm,18.8s,baz=319,slow=38
WAR Warsaw 73.33 327 *eP* **P** **19 38 09.8 +0.3**
WAR Warsaw 73.33 327 *eP* **P** **19 38 09.8 +0.3**
NLU North Lily Min 73.58 51 *eP* **P** **19 38 12.1 +0.8**
NLU *epP* pP 19 38 24.9 -3.6
KIS Kishinev 73.72 319 *eP* **P** **19 38 10.0 -1.9**
KIS *e* pP 19 38 30.0 +0.9
KIS *e* 19 47 42.0
KIS *e* 19 48 30.0
KIS MLR MLR
comp=Z,200nm,21.0s
KIS MLR MLR
comp=Z,300nm,20.0s
DAU Daniels Canyon 73.74 50 *eP* **P** **19 38 11.8 -0.4**
MPU Maple Canyon 73.79 50 *eP* **P** **19 38 12.3 -0.1**
MPU *epP* pP 19 38 25.6 -4.1
STKA Stephens Creek 73.83 181 P **P** **19 38 12.6 -0.3**
comp=Z,3.6nm,0.8s,mb4.3,baz=358,slow=14,SNR=4.4
STKA LR LR 20 09 03.1
comp=Z,158nm,21.1s,baz=25,slow=34
STKA Stephens Creek 73.83 181 *eP* **P** **19 38 12.9 +0.1**
GKP Gorka Klasztor 74.02 330 *eP* **P** **19 38 13.3 -0.2**
GKP MLR MLR
comp=Z,400nm,22.4s
GKP Gorka Klasztor 74.02 330 *eP* **P** **19 38 13.3 -0.2**
GKP MLR MLR 20 12 39.0
comp=Z,400nm,22.4s
UMR Umm Al-Rimmam 74.41 296 *eP* **P** **19 38 16.1 -0.2**
UMR AMb AMB 19 38 18.2
comp=Z,55nm,0.8s,mb5.5
ULM Lac du Bonnet 74.43 35 P **P** **19 38 15.7 -0.3**
comp=Z,6.7nm,0.7s,mb4.7,baz=297,slow=7.9,SNR=5.8
ULM LR LR 20 12 53.0
comp=Z,124nm,19.8s,baz=49,slow=37
ULM Lac du Bonnet 74.43 35 *eP* **P** **19 38 15.2 -0.7**
comp=Z,13nm,0.9s,mb4.9
BOYT Boyabat 74.45 312 *i P* **P** **19 38 16.9 +0.6**
MVU Marysvale 74.46 52 *eP* **P** **19 38 17.5 +1.1**
comp=Z,7.0nm,1.0s,mb4.5
MVU *epP* pP 19 38 29.9 -3.8
MSU Marysvale 74.48 52 *eP* **P** **19 38 17.4 +0.9**
MIB Mutribah 74.50 296 *eP* **P** **19 38 16.1 -0.7**
MIB AMb AMB 19 38 18.2
comp=Z,102nm,0.7s,mb5.8
TMUT Trail Mountain 74.52 51 *eP* **P** **19 38 17.0 +0.3**
KWP Kalwaria 74.59 324 *eP* **P** **19 38 17.5 +0.6**
KWP MLR MLR
comp=Z,400nm,20.2s
KWP Kalwaria 74.59 324 *eP* **P** **19 38 17.5 +0.6**
KWP MLR MLR 20 13 49.4
comp=Z,400nm,20.2s
KBD Kabd 74.66 295 *eP* **P** **19 38 17.9 +0.2**
NEN Nelson 74.78 56 *eP* **P** **19 38 19.3 +1.0**
RDF Al-Radifah 74.92 295 *eP* **P** **19 38 19.0 -0.3**
RDF AMb AMB 19 38 21.2
comp=Z,110nm,0.8s,mb5.9
RST Umm Al-Ruwaisa 74.92 296 *eP* **P** **19 38 18.6 -0.6**
RST AMb AMB 19 38 21.0
comp=Z,98nm,0.8s,mb5.8
LDFC Landfair 74.99 56 *eP* **P** **19 38 19.9 +0.3**
SRU San Rafael 75.03 51 *eP* **P** **19 38 20.1 +0.5**
CTKT Corum 75.06 312 *i P* **P** **19 38 20.3 +0.5**
PFO Pinyon Flat Ob 75.12 58 *eP* **P** **19 38 19.7 -0.6**
comp=Z,8.5nm,0.8s,mb4.7
BALT Daday 75.20 313 *i P* **P** **19 38 21.7 +1.1**
KOLS Kolonicke sedl 75.31 324 *eP* **P** **19 38 21.0 0.0**
OJC Ojcow 75.37 326 *eP* **P** **19 38 21.5 +0.1**
OJC Ojcow 75.37 326 *eP* **P** **19 38 21.5 +0.1**
BAR Barrett 75.59 59 *eP* **P** **19 38 23.5 +0.5**
GZT Gaziantep 75.69 308 *i P* **P** **19 38 24.6 +1.1**

NIE Niedzica 75.77 325 eP P 19 38 24.4 +0.7
RUE Ruedersdorf 75.92 331 eP P 19 38 24.4 0.0
comp=Z,36nm,1.0s,mb5.3
BSEG Bad Segeberg 75.93 333 eP P 19 38 24.5 0.0
BSEG pmax pmax
comp=Z,22nm,0.9s,mb5.1
MLR Muntele Rosu 76.19 320 P P 19 38 26.3 +0.2
comp=Z,4.8nm,0.8s,mb4.5,baz=143,slow=20,SNR=13
MLR Muntele Rosu 76.19 320 P P 19 38 26.3 +0.2
MLR pmax pmax
comp=Z,5.0nm,0.9s
KSP Ksiaz 76.29 328⇑ eP P 19 38 27.0 +0.4
KSP e*PP pP 19 38 39.7 -4.2
KSP MLR MLR
comp=Z,600nm,28.9s
KSP Ksiaz 76.29 328 eP P 19 38 27.1 +0.5
KSP MLR MLR 20 08 16.9
comp=Z,600nm,34.6s
BRTR Keskin Array B 76.32 312 P P 19 38 27.2 +0.2
comp=Z,8.4nm,0.8s,mb4.7,baz=57,slow=4.1,SNR=29
BRTR PP PP 19 41 19.6 -1.0
comp=Z,3.0nm,1.0s,baz=68,slow=6.7,SNR=4.3
BRTR LR LR 20 18 44.1
comp=Z,134nm,19.4s,baz=120,slow=41
BRTR Keskin Array B 76.32 312 P P 19 38 27.2 +0.2
BRTR 19 41 19.6
BRTR pmax pmax
comp=Z,8.0nm,0.8s
BRTR pmax pmax
comp=Z,3.0nm,1.0s
BRTR MLR MLR
comp=Z,134nm,19.4s
OKC Ostrava-Krasne 76.34 327⇑ iP P 19 38 27.4 +0.5
OKC AMS AMS 20 15 50.0
comp=Z,300nm,16.0s
PV10 Paradox Valley 76.38 50 eP P 19 38 29.0 +1.6
PV10 epP pP 19 38 42.6 -2.1
PV10 e 19 38 55.8
SGKT Sivrigoynuk 76.59 313 i P P 19 38 29.3 +0.8
MORC Moravsky Berou 76.64 327 eP P 19 38 28.7 +0.2
comp=Z,20nm,0.9s,mb5.1
MORC epP pP 19 38 44.4 -1.5
UPC Upice 76.66 328⇑ iP P 19 38 29.1 +0.4
DPC Dobruska-Polom 76.67 328 eP P 19 38 29.4 +0.7
DPC AMS AMS 20 13 20.0
comp=Z,500nm,24.1s
PV01 Paradox Valley 76.82 50 eP P 19 38 30.5 +0.6
COBT Iskenderun 77.03 308 i P P 19 38 32.1 +1.1
PSZ Piszkesteto 77.11 325⇑ iP P 19 38 31.6 +0.4
CLL Collm 77.16 330 ⇑P P 19 38 31.2 -0.2
comp=Z,logA/T=1.5,mb5.2
CLL i 19 38 35.9
CLL e*SP sP 19 38 53.0 -2.6
CLL Collm 77.16 330⇑ iP P 19 38 31.2 -0.2
CLL e*SP sP 19 38 53.0 -2.6
CLL pmax pmax
comp=Z,30nm,0.9s,mb5.2
CLL Collm 77.16 330⇑ iP P 19 38 31.2 -0.2
comp=Z,30nm,0.9s,mb5.2
CLL esP sP 19 38 53.0 -2.6
BRG Berggiesshubel 77.16 330 eP P 19 38 31.6 +0.1
BRG pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
BRG Berggiesshubel 77.16 330 eP P 19 38 31.6 +0.1
comp=Z,9.7nm,1.2s,mb4.6
PVCC Panska Ves 77.20 329⇑ iP P 19 38 32.2 +0.5
PVCC AMS AMS 20 13 30.0
comp=Z,400nm,22.8s
ISCO Idaho Springs 77.31 47 eP P 19 38 33.4 +0.9
comp=Z,5.5nm,0.8s,mb4.5
VRAC Vranov 77.39 327 P P 19 38 33.4 +0.7
comp=Z,12nm,0.9s,mb4.8,baz=20,slow=5.3,SNR=10
PRU Pruhonice 77.65 329⇑ iP P 19 38 34.6 +0.4
PRU Pruhonice 77.65 329⇑ iP P 19 38 34.6 +0.4
PRU AMS AMS 20 13 10.0
CLZ Clausthal 77.65 332 eP P 19 38 34.4 +0.3
comp=Z,21nm,0.8s,mb5.1
SMOL Smolenice 77.68 326 eP P 19 38 35.4 +1.1
ESKT Eskisehir 77.99 313 i P P 19 38 36.5 +0.2
ZST Bratislava 78.06 326 eP P 19 38 36.2 -0.3
MOX Moxa 78.20 331 i P P 19 38 37.2 0.0
comp=Z,logA/T=1.2,mb4.9
MOX Moxa 78.20 331 eP P 19 38 37.2 0.0
MOX pmax pmax
comp=Z,19nm,1.1s,mb4.9
MOX Moxa 78.20 331 eP P 19 38 37.2 0.0
comp=Z,19nm,1.1s,mb4.9
NKC Novy Kostel 78.24 330⇑ eP P 19 38 37.8 +0.4
NKC AMS AMS 20 15 30.0
comp=Z,400nm,22.7s
ULDT Uludag 78.47 314 i P P 19 38 39.0 +0.1
ESK Eskdalemuir 78.61 341 eP P 19 38 39.0 -0.3
comp=Z,20nm,1.0s,mb5.0
ESK epP pP 19 38 54.5 -2.2
ESK esP sP 19 38 59.6 -3.9
RYDS Riyadh 78.61 292 P P 19 38 38.0 -2.0
KHC Kasperske Hory 78.71 329⇑ iP P 19 38 40.4 +0.4
KHC LR LR
comp=Z,500nm,23.8s
KHC Kasperske Hory 78.71 329⇑ iP P 19 38 40.4 +0.4
KHC AMS AMS 20 14 40.0
comp=Z,500nm,23.8s
WTSB Winterswijk 78.74 334 eP P 19 38 39.3 -0.8
comp=Z,14nm,0.8s,mb4.9
SDCO Great Sand Dun 78.82 49 eP P 19 38 41.3 +0.4
comp=Z,7.8nm,1.0s,mb4.6
GEC2 GERESS Array S 78.89 329 eP P 19 38 41.3 +0.3
GEC2 pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
GEC2 GERESS Array S 78.89 329 eP P 19 38 41.3 +0.3
comp=Z,6.0nm,0.8s,mb4.6
GERES GERESS Array B 78.89 329 P P 19 38 41.1 0.0
comp=Z,7.7nm,1.0s,mb4.6,baz=36,slow=5.9,SNR=39
GERES GERESS Array B 78.89 329 P P 19 38 41.1 +0.1
GERES pmax pmax
comp=Z,8.0nm,1.0s
WET Wettzell 78.97 329 eP P 19 38 41.9 +0.5
WET pmax pmax
comp=Z,15nm,1.0s,mb4.9
WET Wettzell 78.97 329 eP P 19 38 41.9 +0.5
comp=Z,15nm,1.0s,mb4.9
PKSM Moragy 78.97 324⇑ iP P 19 38 41.1 -0.4
GRA1 Grafenberg Arr 79.13 330 eP P 19 38 43.0 +0.7
comp=Z,29nm,0.8s,mb5.3
GRF Grafenberg Arr 79.13 330 eP P 19 38 43.0 +0.7
GRF pmax pmax
comp=Z,29nm,0.8s,mb5.3
RHK1 Bakonya 79.31 325⇓ eP P 19 38 43.4 0.0
ARSA Arzberg 79.46 327⇑ iP P 19 38 44.0 -0.2
comp=Z,6.9nm,1.1s,mb4.5
MOA Molln 79.48 328⇑ iP P 19 38 44.7 +0.4
comp=Z,6.8nm,0.9s,mb4.6
TUC Tucson 79.52 56 eP P 19 38 45.4 +0.6
comp=Z,5.9nm,1.0s,mb4.5
ALN Alexandroupoli 79.52 317 eP P 19 38 43.9 -0.7
RZN Rozhen 79.60 318 P P 19 38 46.0 +0.9
VTS Vitosha 79.66 319 eP P 19 38 46.0 +0.6
MZLS Mizel 79.70 293 P P 19 38 46.1 +0.2
HILS Ha'il 79.76 298 P P 19 38 46.9 +0.7
ARSS Ar Rass 79.80 296 P P 19 38 46.3 -0.1
CSS Prodhromos 79.82 308 eP P 19 38 46.4 +0.1
comp=Z,27nm,0.9s,mb5.2
CSS e pP 19 39 04.3 +0.5
RAYN Ar Rayn 79.83 292 P P 19 38 46.4 -0.3
comp=Z,103nm,1.1s,mb5.7,SNR=16
GRUS Gruza 79.85 322⇑ iP P 19 38 46.1 -0.2
SCHQ Schefferville 79.93 17 P P 19 38 45.8 -0.8
comp=Z,4.9nm,0.7s,mb4.5,baz=356,slow=6.9,SNR=5.2
SCHQ LR LR 20 17 57.6
comp=Z,146nm,20.5s,baz=320,slow=38
SCHQ Schefferville 79.93 17 eP P 19 38 45.1 -1.5
comp=Z,6.9nm,0.6s,mb4.8
SCHQ LR LR 20 17 57.5
HGN Heimansgroeve 80.06 334 eP P 19 38 47.2 -0.1
comp=Z,8.1nm,1.0s,mb4.6
GROS Grobnik 80.10 326 i P P 19 38 47.6 0.0
PERS Pernice 80.12 327 eP P 19 38 48.0 +0.3
PERS e pP 19 39 04.5 -0.6
MMB Musomiste 80.17 318 P P 19 38 48.5 +0.4
LAZ Ladron 80.25 52 eP P 19 38 50.0 +1.3
LAZ epP pP 19 39 03.8 -2.3
ANMO Albuquerque 80.25 51⇓ eP P 19 38 50.2 +1.5
ANMO Albuquerque 80.25 51 eP P 19 38 49.9 +1.2
comp=Z,6.6nm,0.9s,mb4.6
FUR Furstenfeldbru 80.38 330 eP P 19 38 49.7 +0.7
FUR pmax pmax
comp=Z,39nm,1.0s,mb5.3
FUR Furstenfeldbru 80.38 330 eP P 19 38 49.7 +0.7
comp=Z,39nm,1.0s,mb5.3
OBKA Obir 80.45 327⇑ iP P 19 38 49.6 +0.1
comp=Z,11nm,1.1s,mb4.7
KBA Koelnbreinsper 80.47 328⇑ iP P 19 38 50.3 +0.7
comp=Z,23nm,1.1s,mb5.0
SRS Serrai 80.59 318 eP P 19 38 50.1 -0.2
PDKS Podkum 80.62 326 iP P 19 38 50.2 -0.1
STU Stuttgart 80.63 331 eP P 19 38 49.9 -0.5
comp=Z,33nm,1.0s,mb5.2
LJU Ljubljana 80.84 327 eP P 19 38 51.3 -0.2
WATA Walderalm 80.95 329⇑ iP P 19 38 52.4 +0.3
comp=Z,9.8nm,0.6s,mb4.9
SKO Skopje 80.98 320 iP P 19 38 53.5 +1.1
comp=Z,0.0nm,0.8s
GIVF Givet 80.99 334 eP P 19 38 51.8 -0.4
OUR Ouranopolis 80.99 317 eP P 19 38 52.5 +0.1
WTTA Wattenberg 80.99 329⇑ iP P 19 38 52.9 +0.6
comp=Z,15nm,0.7s,mb5.0
PTCC Patocco-Chiusa 81.02 327 eP P 19 38 52.0 -0.4
VOJS Vojsko 81.11 327 eP P 19 38 51.7 -1.3
MOTA Moosalm 81.12 329⇑ iP P 19 38 53.4 +0.4
comp=Z,22nm,0.8s,mb5.2
CEY Cerknica 81.13 326 eP P 19 38 52.7 -0.4
SQTA Sankt Quirin 81.19 329⇑ iP P 19 38 53.8 +0.5
comp=Z,19nm,1.1s,mb4.9
BAIF Baives 81.22 335 eP P 19 38 53.3 -0.2
DLF Lyons Farm 81.24 342 eP P 19 38 52.2 -1.3
THE Thessaloniki 81.27 318 eP P 19 38 53.3 -0.6
AFFS 'Afif 81.27 294 P P 19 38 54.6 +0.4
GRG Griva 81.30 319 eP P 19 38 54.0 -0.1
BFO Black Forest 81.32 331 eP P 19 38 54.0 0.0
BFO pmax pmax
comp=Z,13nm,1.1s,mb4.8
BFO Black Forest 81.32 331 eP P 19 38 54.0 0.0
comp=Z,13nm,1.1s,mb4.8
DCN Croghan 81.36 343 eP P 19 38 52.9 -1.2
CDF Champ du Feu 81.62 332 eP P 19 38 55.5 -0.1
comp=Z,19nm,0.8s,mb4.8
DAVA Damuels 81.63 330⇑ iP P 19 38 56.0 +0.4
comp=Z,26nm,1.0s,mb5.1
LIT Litokhoron 81.91 318 eP P 19 38 56.7 -0.5
FNA Florina 81.93 319 eP P 19 38 57.6 +0.2
DAVOX Davos 82.06 330 P P 19 38 59.0 +1.1
comp=Z,12nm,0.8s,mb4.9,baz=212,slow=1.9,SNR=13
BRMO Bormio 82.12 329 eP P 19 38 59.2 +1.0
HINF Hinteralfeld 82.27 332 eP P 19 38 58.5 -0.5
comp=Z,15nm,0.9s,mb4.6
MEZF Maizieres J'vi 82.30 333 eP P 19 38 59.0 -0.1
comp=Z,39nm,1.0s,mb5.0
KBRS Khaybar 82.50 298 P P 19 39 01.7 +1.1
JMQS Jabal Moqyreh 82.53 302 P P 19 39 02.0 +1.3
KSU1 Kansas State U 82.54 43 eP P 19 38 59.4 -1.1
TBKS Tabuk 82.57 301 P P 19 39 02.3 +1.4
KAMS Al Khamasin 82.61 291 P P 19 39 01.8 +0.6
AGG Agios Georgios 82.81 318 eP P 19 39 00.5 -1.4
JMOS Jabal al Moall 82.81 303 P P 19 39 03.4 +1.3
HAQS Haql 83.00 303 P P 19 39 03.9 +0.8
AMTX Amarillo 83.02 49 eP P 19 39 03.7 +0.7
comp=Z,7.8nm,0.7s,mb4.8
AMTX epP pP 19 39 18.8 -1.7
CPRX Cap Rock 83.13 51 eP P 19 39 03.8 +0.1
VAI Varese 83.24 330 eP P 19 39 03.7 -0.2
BDAS Al Bad' 83.33 302 P P 19 39 05.9 +1.1
AYUS 'Aynunah 83.40 302 P P 19 39 06.2 +1.1
IGT Igoumenitsa 83.40 319 eP P 19 39 04.6 -0.3
GDL2 Guadalupe Moun 83.44 52 eP P 19 39 06.4 +1.2
CABF La Chapelle 83.58 332 eP P 19 39 05.9 +0.4
comp=Z,14nm,0.9s,mb4.8
FGMS Monte Sant'Ang 83.72 323 eP P 19 39 06.9 +0.5
PGD Poggio Sodo 83.76 327 eP P 19 39 08.1 +1.6
LOR Lormes 83.77 333 eP P 19 39 06.5 0.0
comp=Z,58nm,1.0s,mb5.4
LOR eR
comp=Z,184nm,20.8s
FLN La Foliniere 83.80 337 eP P 19 39 06.3 -0.3
comp=Z,49nm,1.1s,mb5.2
FLN eR
comp=Z,216nm,20.8s
ERBM Eremo 83.83 328 eP P 19 39 08.7 +1.8
LDF La Druitiere 83.85 336 eP P 19 39 06.9 +0.1
comp=Z,12nm,0.7s,mb4.8
LKD Levkas 83.89 318 eP P 19 39 07.6 +0.3
TATS Tathlith 83.89 291 P P 19 39 09.2 +1.5
NRCA Norcia 84.04 325 eP P 19 39 08.8 +0.9
SSF Saint Saulge 84.07 334 eP P 19 39 08.1 +0.1
comp=Z,36nm,0.9s,mb5.2
UMJS Umm Lajj 84.15 299 P P 19 39 10.5 +1.6
HYF Humbligny 84.17 334 eP P 19 39 08.9 +0.4
GRR Gorron 84.25 337 eP P 19 39 09.1 +0.3
comp=Z,46nm,0.9s,mb5.3
LPL La Plagne 84.29 331 eP P 19 39 09.9 +0.8
comp=Z,34nm,0.9s,mb5.2
LPG La Plagne 84.30 331 eP P 19 39 10.1 +0.9
comp=Z,16nm,0.5s,mb5.1
AQU L'Aquila 84.31 325 eP P 19 39 10.4 +1.0
comp=Z,21nm,0.8s,mb5.3
AQU epP pP 19 39 26.9 0.0
SMF Signal de Mont 84.32 333 eP P 19 39 09.5 +0.3
comp=Z,55nm,0.9s,mb5.4
MNS Montasola 84.59 325 eP P 19 39 10.8 +0.1
SDI San Donato 84.66 324 eP P 19 39 11.4 +0.3
BNI Bardonecchia 84.70 331 eP P 19 39 11.3 +0.1
comp=Z,16nm,0.9s,mb5.1
WMOK Wichita Mounta 84.72 47 eP P 19 39 12.2 +0.6
comp=Z,11nm,1.0s,mb4.9
WMOK LR LR
comp=Z,260nm,21.0s
BGF Bois d'Agland 84.72 334 eP P 19 39 11.6 +0.3
comp=Z,17nm,0.9s,mb4.9
ORI Oriolo Calabro 84.82 322 eP P 19 39 13.2 +1.3
SGMF Saint Gilles 84.86 338 eP P 19 39 12.5 +0.6
comp=Z,15nm,0.6s,mb5.0
MBDF Montbardon 84.95 330 eP P 19 39 12.5 +0.1
comp=Z,25nm,0.8s,mb5.1
BLJS Baljurashi 84.96 292 P P 19 39 14.7 +1.7
ROSF Rostrenen 84.98 338 eP P 19 39 13.1 +0.6
comp=Z,51nm,1.0s,mb5.3
DJNS Zahran al Janu 85.08 289 P P 19 39 15.5 +1.8
ORIF Oris-en-Rattie 85.11 331 eP P 19 39 13.8 +0.6
comp=Z,26nm,0.9s,mb5.1
ORIF eR
comp=Z,105nm,18.4s
TCF Toulx Ste Croi 85.17 334 eP P 19 39 14.1 +0.6
comp=Z,9.0nm,0.8s,mb4.7
TDS Terranova Siba 85.19 322 eP P 19 39 14.8 +1.0
IMI Imperia 85.23 329 eP P 19 39 14.3 +0.5
QUIF Quistinic 85.33 338 eP P 19 39 14.7 +0.4
comp=Z,51nm,1.1s,mb5.3
SBF Sospel 85.44 330 eP P 19 39 14.6 -0.3
comp=Z,68nm,0.8s,mb5.5
VIVF Saint-Julien-l 85.59 332 eP P 19 39 16.3 +0.7
MFF Saint Martin d 85.64 336 eP P 19 39 16.6 +0.8
comp=Z,53nm,0.9s,mb5.5
PPT Papeete 85.91 118 eS S 19 49 58.6 +14
PPT eSS SS 19 55 38.2 +12
PPT eR 20 05 26.8
comp=Z,778nm,26.2s,baz=322
TXAR Lajitas Array 85.93 54 P P 19 39 18.6 +1.0
comp=Z,9.3nm,0.7s,mb5.1,baz=288,slow=4.0,SNR=33
TXAR pP pP 19 39 33.4 -1.9
comp=Z,6.6nm,0.7s,baz=291,slow=2.9,SNR=7.4
TXAR PKKPbc 19 57 19.3
comp=Z,1.0nm,0.8s,baz=135,slow=5.3,SNR=4.5
TXAR LR LR 20 13 58.9
comp=Z,75nm,19.5s,baz=315,slow=33
PGF Pioggiola 85.96 328 eP P 19 39 17.3 -0.1
comp=Z,15nm,0.9s,mb4.9
CCM Cathedral Cave 85.99 40 eP P 19 39 18.0 +0.3
comp=Z,23nm,0.8s,mb5.5
CCM epP pP 19 39 32.4 -2.9
FRF La Foret Royal 86.00 330 eP P 19 39 17.4 -0.2
comp=Z,52nm,1.2s,mb5.3
SMRF Simiane la Rot 86.03 331 eP P 19 39 18.4 +0.6
comp=Z,15nm,0.8s,mb5.0
LMR La Mourre 86.24 330 eP P 19 39 19.1 +0.3
RJF Les Rejaudoux 86.27 334 eP P 19 39 18.8 -0.1
comp=Z,30nm,1.0s,mb5.2
RJF eR
comp=Z,279nm,22.0s
CAF Calviac 86.42 333 eP P 19 39 21.1 +1.4
comp=Z,52nm,0.9s,mb5.5
LASF Ste Croix 86.56 332 eP P 19 39 21.2 +0.8
comp=Z,59nm,1.2s,mb5.4
SOI Samo 86.60 321 eP P 19 39 21.1 +0.4
LFF La Frestale 86.84 334 eP P 19 39 22.9 +1.2
comp=Z,74nm,1.0s,mb5.6
LOZ Lake Ozonia 87.14 26 eP P 19 39 21.9 -1.3
MTLF Montolieu 87.77 333 eP P 19 39 27.2 +0.9
comp=Z,32nm,1.0s,mb5.2
ACSO Alum Creek Sta 87.87 33 PFAKE 19 39 40.0 +13
ACSO LR LR
comp=Z,616nm,21.0s
ACCN Adirondack Com 88.54 26 eP P 19 39 29.8 -0.1
EPF Esparros 88.68 334 eP P 19 39 31.4 +0.8
comp=Z,15nm,0.9s,mb5.0
ETSF Etsaut 89.09 334 eP P 19 39 33.7 +1.2
comp=Z,20nm,0.6s,mb5.3
SJPF Ste Jean 89.11 335 eP P 19 39 33.9 +1.3
HRV Harvard--Oak R 90.00 25 eP P 19 39 38.1 +1.3
comp=Z,20nm,0.9s,mb5.5
WES Weston 90.18 25 eP P 19 39 37.6 -0.1
comp=Z,48nm,1.0s,mb5.8
WES epP pP 19 39 52.0 -3.5
WES esP sP 19 39 59.4 -2.5
SWET Sewanee 90.78 38 eP P 19 39 40.7 +0.1
PBRG Braganca 91.95 338 eP P 19 39 46.1 +0.2
PVRL Vila Real 92.71 338 eP P 19 39 49.7 +0.3
ESDC Sonseca Array 93.09 335 P P 19 39 51.9 +0.7
comp=Z,5.6nm,1.0s,mb5.0,baz=19,slow=3.9,SNR=12
ESDC LR LR 20 24 53.0
comp=Z,185nm,21.1s,baz=340,slow=38
ESLA Sonseca Array 93.09 335 eP P 19 39 51.4 +0.2
comp=Z,2.2nm,0.9s,mb4.6
MTE Manteigas 93.48 338 eP P 19 39 53.2 +0.3
comp=Z,23nm,1.0s,mb5.6
SDV Santo Domingo 120.46 39 eP PKPdf 19 45 29.6 +1.5
DBIC Dimbokro 123.16 321 PKP PKPdf 19 45 34.2 +0.8
comp=Z,12nm,1.2s,baz=315,slow=2.0,SNR=5.5
DBIC Dimbokro 123.16 321 PKP PKPdf 19 45 34.2 +0.8
DBIC LR LR
comp=Z,243nm,21.0s
MAW Mawson 124.82 207 PKP PKPdf 19 45 37.6 +2.5
comp=Z,9.5nm,0.8s,baz=2.4,slow=1.8,SNR=28
MAW pPKP 19 45 52.8
comp=Z,5.3nm,0.8s,baz=327,slow=4.5,SNR=7.0
MAW Mawson 124.82 207 PKIKP PKPdf 19 45 37.6 +2.5
MAW 19 45 52.8
MAW pmax pmax
comp=Z,10.0nm,0.8s
MAW pmax pmax
comp=N,5.0nm,0.8s
MAW Mawson 124.82 207 ePKPdf PKPdf 19 45 37.1 +2.0
MAW e 19 45 52.2
QSPA South Pole Qui 132.04 180 ePKP PKPdf 19 45 51.4 +2.7
QSPA LR LR
comp=Z,60nm,22.0s
SYO Syowa Base 133.46 209 ||PKPdf PKPdf 19 45 51.2 -0.4
SYO Syowa Base 133.46 209 ⇑PKiKP 19 45 53.4
SAML Samuel 139.55 42 ePKPpre 19 45 58.6
SAML ePKPdf PKPdf 19 46 05.6 +1.4
LPAZ La Paz 142.78 55 PKP PKPdf 19 46 09.7 -0.1
comp=Z,2.1nm,0.7s,baz=4.9,slow=6.1,SNR=11
LPAZ La Paz 142.78 55 PKIKP PKPdf 19 46 09.7 -0.1
LPAZ pmax pmax
comp=Z,2.0nm,0.7s
LPAZ La Paz 142.78 55 ePKPdf PKPdf 19 46 09.7 -0.1
SNAA Sanae 146.15 199 P PKPdf 19 46 16.3 +2.3
SNAA Sanae 146.15 199⇑ i PKPdf 19 46 18.9 +4.9
SNAA Sanae 146.15 199 i PKPdf 19 46 20.2 +6.2
SNAA Sanae 146.15 199⇑ i PKPdf 19 46 23.6 +10
SNAA Sanae 146.15 199⇓ i PKPdf 19 46 30.4 +16
SNAA Sanae 146.15 199⇓ i PKPdf 19 46 33.9 +20
SNAA Sanae 146.15 199⇑ i PKPdf 19 46 37.3 +23
LVC Limon Verde 146.91 64 ePKPdf PKPdf 19 46 20.7 +3.9
VNA2 Neumayer--Watz 147.72 198⇑ iP PKPdf 19 46 21.7 +5.1
VNA2 Neumayer--Watz 147.72 198 PKPdf 19 46 24.3 +7.7
VNA2 Neumayer--Watz 147.72 198 PKPdf 19 46 26.7 +10
VNA2 Neumayer--Watz 147.72 198 PKPdf 19 46 34.8 +18
VNA2 Neumayer--Watz 147.72 198 PKPdf 19 46 40.8 +24
VNA2 Neumayer--Watz 147.72 198⇑ i PKPdf 19 46 46.9 +30
VNA3 Neumayer Olymp 147.98 196 P PKPdf 19 46 21.8 +4.8
VNA3 Neumayer Olymp 147.98 196⇑ i PKPdf 19 46 25.1 +8.1
VNA3 Neumayer Olymp 147.98 196⇑ i PKPdf 19 46 27.0 +10
VNA3 Neumayer Olymp 147.98 196⇑ i PKPdf 19 46 42.2 +25
VNA3 Neumayer Olymp 147.98 196⇑ i PKPdf 19 46 47.0 +30
VNA1 Neumayer--Stat 148.12 198⇑ iP PKPdf 19 46 23.8 +6.5
VNA1 Neumayer--Stat 148.12 198⇑ i PKPdf 19 46 26.8 +10
VNA1 Neumayer--Stat 148.12 198⇑ i PKPdf 19 46 28.6 +11
VNA1 Neumayer--Stat 148.12 198⇑ i PKPdf 19 46 35.8 +19
VNA1 Neumayer--Stat 148.12 198⇑ i PKPdf 19 46 43.7 +26
BDFB Brasilia 151.77 23 PKP PKPdf 19 46 27.0 +2.5
comp=Z,17nm,0.8s,baz=241,slow=11,SNR=3.4
BDFB PKPbc PKPdf 19 46 33.5 +9.0
comp=Z,21nm,0.8s,baz=233,slow=1.7,SNR=25
BDFB Brasilia 151.77 23 PKIKP PKPdf 19 46 27.0 +2.5
BDFB pmax pmax
comp=Z,17nm,0.8s
BDFB pmax pmax
comp=Z,21nm,0.8s
BAO Brasilia Array 151.77 23 eP PKPdf 19 46 33.3 +8.8
BAO e 19 46 43.0
BAO e 19 46 48.4
BAO e 19 47 02.0
BAO e 19 47 15.9
CPUP Villa Florida 156.90 53 PKPab PKPab 19 47 03.6 -0.3
comp=Z,2.2nm,0.7s,baz=213,slow=2.0,SNR=4.2
CPUP Villa Florida 156.90 53 PKP2 PKPab 19 47 03.6 -0.3
CPUP pmax pmax
comp=Z,2.0nm,0.7s

MAN 07 19:40:59.7, 18.06N×120.37E, h33km, mb3.9, ML2.6, MS2.2, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIP	Pasuquin	0.36	42	eP	P	19 41 09.4	+1.2
PIP				eS	S	19 41 16.7	+2.4
ABRA	Dolores	0.52	141	eP	P	19 41 11.3	+0.8
ABRA				eS	S	19 41 15.8	-2.5
APYP	Conner	0.86	103	eP	P	19 41 15.8	+0.5
APYP				eS	S	19 41 27.2	+0.4

THE 07 19:46:48.8, 39.91N×20.61E, h10km, ML2.5
CSEM 07 19:46:48.7±0.2, 39.92N×20.63E, h2km, ML2.5, Error ellipse: s-maj=5.1km s-min=3.1km az=160.0
ATH 07 19:46:49.7, 39.79N×20.59E, h5km, MD2.9/3

ISC 07 19:46:48.6±0.7, 39.89N±0.03×20.61E±0.05, h2km±8km, n10, σ0°62/16, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSK	Leskovik	0.26	358	i Pg	Pg	19 46 53.6	-0.2
LSK				i Sg	Sg	19 46 58.5	+1.2
JAN	Janina	0.30	142	ePG	Pg	19 46 53.7	-0.8
JAN				eSG	Sg	19 46 58.4	0.0
IGT	Igoumenitsa	0.42	211	ePg	Pg	19 46 56.6	-0.3
IGT				eSg	Sg	19 47 03.1	+0.7
MEV	Metsovon	0.49	102	ePg	Pg	19 46 57.8	-0.5
MEV				eSg	Sg	19 47 05.3	+0.5
KEK	Kerkira	0.65	255	ePB	Pb	19 47 01.8	-0.5
LKD	Levkas	1.18	179	ePb	Pb	19 47 12.1	+0.7
EVR	Evrytania	1.34	136	ePB	Pb	19 47 14.5	+0.3
LIT	Litokhoron	1.46	81	ePb	Pb	19 47 15.6	-0.5
LIT				eSb	Sb	19 47 35.3	+0.3
AGG	Agios Georgios	1.59	123	ePb	Pb	19 47 18.0	-0.4
AGG				eSb	Sb	19 47 39.6	+0.8
GRG	Griva	1.73	51	ePb	Pb	19 47 19.8	-1.1

LDG 07 19:48:47.0±0.5, 42.85N×1.52W, h3km, Md2.6/2, Ml2.1/3, Error ellipse: s-maj=7.6km s-min=6.2km az=41.0
STR 07 19:48:47.4±0.3, 42.86N×1.50W, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0
MDD 07 19:48:48.6±0.4, 42.87N×1.43W, h2km±6km, mbLg1.8/9, Error ellipse: s-maj=3.0km s-min=2.1km az=36.0, PRXIMO AftershockPLICA

ISC 07 19:48:46.3±0.5, 42.83N±0.03×1.49W±0.03, h3km±4km, n26, σ1°06/43, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SJPF	Ste Jean	0.34	34	ePg	Pg	19 48 54.0	+0.8
SJPF				eSg	Sg	19 48 56.8	-1.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	79nm,0.3s						
EALK	Alkurruntz	0.39	358	Pg	Pg	19 48 55.1	+1.0
	7.5nm,0.3s,SNR=27						
EALK				Lg		19 49 00.7	
	28nm,0.3s						
LARF	Larrau	0.42	61	Pg	Pg	19 48 55.2	+0.4
LARF				Sg	Sg	19 49 01.5	+1.1
LARF	Larrau	0.42	61	P	Pg	19 48 55.4	+0.6
LARF				S	Sg	19 49 01.4	+1.0
OSSF	Osses	0.46	21	Pg	Pg	19 48 55.9	+0.4
OSSF				Sg	Sg	19 49 01.9	+0.3
OSSF	Osses	0.46	21	P	Pg	19 48 55.9	+0.5
OSSF				S	Sg	19 49 01.1	-0.5
ORDF	Ordiarp	0.56	47	Pg	Pg	19 48 57.9	+0.4
ORDF				Sg	Sg	19 49 05.5	+0.6
ORDF	Ordiarp	0.56	47	P	Pg	19 48 58.0	+0.5
ORDF				S	Sg	19 49 05.0	+0.1
ATE	Arette	0.63	66	P	Pg	19 48 58.9	-0.1
ATE				S	Sg	19 49 07.6	+0.2
FDAF	Les Forges d'A	0.68	91	P	Pg	19 49 00.5	+0.6
FDAF				S	Sg	19 49 09.7	+0.7
ETSF	Etsaut	0.69	84	ePg	Pg	19 48 59.6	-0.5
ETSF				eSg	Sg	19 49 08.5	-0.7
	17nm,0.4s						
VIEF	Viey	1.11	87	S	Sb	19 49 22.9	+0.2
LABF	Labassere	1.17	79	S	Sb	19 49 24.8	+0.6
EBIE	Bielsa	1.21	96	Pg	Pg	19 49 10.8	+0.3
	SNR=7.9						
EBIE				Lg		19 49 27.0	
	0.6nm,0.1s,SNR=7.9						
ESAC	San Caprasio	1.34	145	Pg	Pg	19 49 13.0	-0.2
	15nm,0.3s,SNR=9.3						
ESAC				Lg		19 49 31.1	
	29nm,0.2s						
RESF	Ens	1.34	90	S	Sb	19 49 32.7	+3.3
ELAN	Lanestosa	1.48	286	Pg	Pg	19 49 16.0	+0.1
	8.6nm,0.8s,SNR=16						
ELAN				Lg		19 49 36.7	
	3.8nm,0.3s						
ETOR	Torete	2.05	192	Pn	Pn	19 49 23.2	+1.0
	SNR=7.9						
ETOR				Pg	Pg	19 49 26.5	-0.9
	2.9nm,0.3s,SNR=11						
ETOR				Sn	Sn	19 49 49.9	+1.2
	4.7nm,0.6s						
ETOR				Lg		19 49 54.5	
	1.4nm,0.2s,SNR=7.9						
EMIR	Miracle	2.42	111	Pg	Pg	19 49 33.4	-1.2
	SNR=4.0						
EMIR				Lg		19 50 05.9	
	1.7nm,0.2s,SNR=7.9						
EPOB	Poblet	2.42	127	Pn	Pn	19 49 28.2	+0.8
	SNR=7.9						
EPOB				Pg	Pg	19 49 33.0	-1.6
	SNR=7.9						
EPOB				Sn	Sn	19 49 57.5	-0.4
	0.8nm,0.1s,SNR=7.9						
EPOB				Lg		19 50 04.3	
	1.2nm,0.2s,SNR=7.9						
EMOS	Mosqueruela	2.58	162	Pg	Pg	19 49 36.8	-1.1
	SNR=7.9						
EMOS				Sn	Sn	19 50 03.2	+1.1
	SNR=7.9						
MTLF	Montolieu	2.76	78	eSn	Sn	19 50 03.9	-2.8
	1.0nm,0.3s						
EARI	Arriondas	2.77	281	Sn	Sn	19 50 07.0	+0.2
	SNR=7.9						
RJF	Les Rejaudoux	3.29	40	ePn	Pn	19 49 36.9	-2.9
CAF	Calviac	3.31	50	ePn	Pn	19 49 37.9	-2.3
CAF				eSn	Sn	19 50 15.8	-4.9
	0.8nm,0.3s						
ECAL	Calabor	3.99	259	Pn	Pn	19 49 51.5	+1.7
	SNR=7.9						
ECAL				Sn	Sn	19 50 35.8	-1.9
	SNR=7.9						
ECAL				Lg		19 50 56.3	
	3.4nm,0.4s,SNR=7.9						

IDC ***07*** *20:03:53.6±1.6, 22.41N×93.49E, mb3.4/4, mb1 3.5/5, mb1mx3.4/19, ML3.4/1, Error ellipse: s-maj=50.3km s-min=18.8km az=60.0*

ISC 07 20:03:56.7±1.8**, 22.4N**±0.2×**93.6E**±0.4**, h33km, n6,** $\sigma 0^{s}83$/6**, mb3.2**/4**, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IMP	Imphal	2.36	8	eP	P	20 04 49.0	+15
CMAR	Chiang Mai Arr	6.38	127	Pn	Pn	20 05 31.8	+0.7
	0.2nm,0.3s,baz=306,slow=14,SNR=6.3						
CMAR				Lg		20 07 19.5	
	0.2nm,0.3s,baz=304,slow=29,SNR=5.3						
MKAR	Makanchi Array	25.97	342	P	P	20 09 28.7	+0.7
	0.8nm,0.7s,mb3.4,baz=152,slow=11,SNR=9.5						
SONM	Songino Array	27.35	19	P	P	20 09 40.2	-0.5
	0.1nm,0.4s,mb2.7,baz=198,slow=9.1,SNR=2.5						
WRA	Warramunga Arr	57.94	134	P	P	20 13 47.7	-0.8
	0.3nm,0.8s,mb3.4,baz=320,slow=7.5,SNR=6.8						
ASAR	Alice Springs	60.30	137	P	P	20 14 04.7	-0.1
	0.2nm,0.5s,mb3.4,baz=316,slow=6.6,SNR=5.8						

NEIC ***07*** *20:14:44.1±4.9, 18.17S×177.88W, h595km±61km, mb4.3/4, Error ellipse: s-maj=30.6km s-min=20.2km az=208.0*
IDC ***07*** *20:14:47.2±2.5, 18.29S×177.86W, h642km±33km, mb3.5/9, mb1 3.7/9, mb1mx3.5/15, Error ellipse: s-maj=31.8km s-min=14.2km az=159.0*

ISC 07 20:14:43.3±3.1**, 18.0S**±0.2×**178.1W**±0.1**, h596km**±38km**, n21,** $\sigma 1^{s}00$/18**, mb4.1**/11**, 1C, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	20.65	191	P	P	20 18 41.8	-2.6
	16nm,1.0s,baz=83,slow=16,SNR=4.1						
CTA	Charters Tower	33.77	261	P	P	20 20 40.0	+1.4
	4.5nm,0.5s,mb4.4,baz=92,slow=10,SNR=19						
CTAO	Charters Tower	33.77	261	eP	P	20 20 39.7	+1.2
	9.8nm,0.8s,mb4.5						
STKA	Stephens Creek	38.90	241	P	P	20 21 21.5	+1.0
	6.6nm,0.7s,mb4.3,baz=101,slow=14,SNR=29						
STKA	Stephens Creek	38.90	241	eP	P	20 21 20.9	+0.4
WRAB	Tennant Creek	44.95	260	P	P	20 22 08.9	+0.5
	131nm,0.4s,SNR=10						
WRAB	Tennant Creek	44.95	260	eP	P	20 22 07.6	-0.7
	19nm,0.4s,mb5.0						
WRA	Warramunga Arr	44.96	260	P	P	20 22 08.6	+0.1
	8.5nm,0.3s,mb4.7,baz=96,slow=7.0,SNR=495						
ASAR	Alice Springs	45.10	254	P	P	20 22 09.8	+0.2
	11nm,0.4s,mb4.8,baz=92,slow=7.9,SNR=480						
ASAR				PcP	PcP	20 23 36.0	-1.4
	1.1nm,0.5s,baz=103,slow=3.6,SNR=4.7						
ASAR				S	S	20 28 05.2	-1.5
	0.7nm,0.8s,baz=92,slow=15,SNR=7.3						
MBWA	Marble Bar	58.39	256	eP	P	20 23 44.2	-0.8
	11nm,0.8s,mb4.0						
QSPA	South Pole Qui	72.08	180	eP	P	20 25 08.4	-0.7
	2.3nm,0.5s,mb4.0						
NVAR	Mina Array Bea	79.23	44	P	P	20 25 49.1	+0.2
	1.0nm,0.7s,mb3.2,baz=218,slow=7.7,SNR=8.1						
TXAR	Lajitas Array	85.74	57	P	P	20 26 21.8	0.0
	0.8nm,0.5s,mb3.6,baz=217,slow=6.3,SNR=5.3						
ILAR	Eielson Array	85.87	13	P	P	20 26 20.2	-1.3
	0.7nm,0.5s,mb3.6,baz=220,slow=5.0,SNR=13						
CMAR	Chiang Mai Arr	89.23	290	P	P	20 26 38.4	-0.1
	1.0nm,1.0s,mb3.6,baz=76,slow=4.6,SNR=5.2						
VNA3	Neumayer Olymp	90.66	176⇑	i	P	20 26 45.4	+1.6
VNA2	Neumayer--Watz	91.10	177		P	20 26 46.8	+1.0
MKAR	Makanchi Array	109.42	314	PKiKP		20 32 06.1	
	0.2nm,0.4s,baz=194,slow=1.4,SNR=7.4						
BVAR	Borovoye Array	117.11	321	PKP	PKPdf	20 32 20.8	-0.3
	0.4nm,0.3s,baz=141,slow=2.9,SNR=5.6						
BRTR	Keskin Array B	145.07	315	PKPbc	PKPbc	20 33 15.2	+0.7
	1.1nm,0.5s,baz=76,slow=2.1,SNR=5.4						
GERES	GERESS Array B	147.76	345	PKPbc	PKPdf	20 33 22.5	+4.7
	1.0nm,0.5s,baz=26,slow=3.1,SNR=11						

BJI 07 20:23:44.6, 20.51N×107.88E, h15km, ML3.9, Ms3.4, Msz3.0, Gulf of Tongking

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
QIZ	Qiongzhong	2.36	128	P	Pn	20 24 23.0	-0.5
QIZ				PG	Pg	20 24 30.3	-1.6
QIZ				SG	Sg	20 25 03.6	+0.2
QIZ				Smax			
	comp=N,153nm,0.6s						
GYA	Guiyang	6.03	350	PG	Pg	20 25 27.8	-17
GYA				Smax			
	comp=N,80nm,0.8s						
GYA				Smax			
	comp=E,100nm,0.9s						
KMI	Kunming	6.60	315	ePG	Pg	20 25 44.4	-12
KMI				Smax			
	comp=N,17nm,0.9s						
KMI				Smax			
	comp=E,16nm,1.0s						
KMI				LR	LR		
	comp=N,144nm,5.5s						
KMI				LR	LR		
	comp=E,172nm,7.4s						
KMI				LR	LR		
	comp=Z,103nm,8.4s						

IDC ***07*** *20:44:21.7±0.9, 0.93S×134.48E, mb4.1/7, mb1 4.3/9, mb1mx4.2/15, ML4.2/2, MS3.6/2, Ms1 3.6/2, ms1mx2.9/16, Error ellipse: s-maj=38.3km s-min=15.3km az=74.0*
NEIC ***07*** *20:44:27.7±0.5, 1.08S×134.44E, h35km, mb4.3/6, Error ellipse: s-maj=21.4km s-min=9.1km az=77.0*

ISC 07 20:44:25.7±0.6**, 1.09S**±0.07×**134.4E**±0.2**, h33km, n19,** $\sigma 1^{s}22$/19**, mb4.1**/12**, MS3.4**/2**, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRAB	Tennant Creek	18.73	180	eP	P	20 48 43.5	-0.7
	12nm,0.7s						
WRA	Warramunga Arr	18.74	180	P	P	20 48 43.9	-0.4
	0.6nm,0.3s,baz=360,slow=12,SNR=70						
FITZ	Fitzroy Crossi	18.96	206	P	P	20 48 45.1	-1.8
	0.8nm,0.3s,baz=5.1,slow=6.7,SNR=27						
CTA	Charters Tower	22.17	149	P	P	20 49 21.0	+0.5
	1.6nm,0.5s,mb3.7,baz=288,slow=15,SNR=3.7						
CTA				LR	LR	20 59 04.4	
	comp=Z,140nm,19.4s,MS3.4,baz=186,slow=40						
CTAO	Charters Tower	22.17	149	eP	P	20 49 19.7	-0.8
	6.4nm,0.7s,mb4.2						
ASAR	Alice Springs	22.45	181	P	P	20 49 24.9	+1.7
	5.7nm,0.6s,mb4.2,baz=9.6,slow=11,SNR=75						
ASAR				LR	LR	20 59 09.5	
	comp=Z,132nm,19.4s,MS3.4,baz=173,slow=39						
MBWA	Marble Bar	24.54	215	P	P	20 49 45.8	+2.0
	8.5nm,0.9s,mb4.3						
STKA	Stephens Creek	31.37	168	P	P	20 50 46.4	+0.6
	4.3nm,0.6s,mb4.5,baz=348,slow=11,SNR=7.6						
STKA	Stephens Creek	31.37	168	eP	P	20 50 45.4	-0.4
CMAR	Chiang Mai Arr	39.88	301	P	P	20 51 58.0	-0.3
	1.3nm,0.8s,mb3.7,baz=118,slow=7.6,SNR=8.1						
SONM	Songino Array	54.48	337	P	P	20 53 51.0	-1.4
	0.2nm,0.6s,mb3.2,baz=146,slow=10,SNR=2.5						
MA2	Magadan	61.84	9	P	P	20 54 44.7	+0.9
	50nm,1.2s						
MKAR	Makanchi Array	65.89	324	P	P	20 55 09.4	-1.0
	2.2nm,0.7s,mb4.3,baz=119,slow=7.9,SNR=9.9						
KURK	Kurchatov	69.93	326	P	P	20 55 36.0	+0.5
	4.3nm,1.1s,mb4.3						
BVAR	Borovoye Array	75.53	326	P	P	20 56 08.5	0.0
	0.8nm,0.7s,mb3.7,baz=117,slow=9.7,SNR=3.5						
BRVK	Borovoye	75.60	326	P	P	20 56 10.9	+1.9
	1.5nm,0.6s,mb4.1						
DIV	Divide	86.04	29	P	P	20 57 07.8	+3.9
	28nm,0.8s						
ILAR	Eielson Array	86.18	25	P	P	20 57 03.0	-1.5
	3.2nm,1.1s,mb4.5,baz=261,slow=4.9,SNR=12						
QSPA	South Pole Qui	88.85	180	eP	P	20 57 24.6	+7.5
	1.9nm,0.7s,mb4.5						

IDC 07 21:02:30.2±3.4**, 4.59N×128.52E, mb3.4**/3**, mb1 3.6**/3**, mb1mx3.4**/17**, Error ellipse: s-maj=270.0km s-min=26.8km az=68.0, North of Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.04	167	P	P	21 07 55.7	-2.1
	1.1nm,0.9s,baz=347,slow=10,SNR=6.0						
ASAR	Alice Springs	28.57	170	P	P	21 08 28.8	-1.4
	0.3nm,0.9s,baz=349,slow=9.2,SNR=3.0						
MKAR	Makanchi Array	57.89	324	P	P	21 12 24.0	-2.3
	0.2nm,0.4s,baz=117,slow=7.8,SNR=5.9						

IDC ***07*** *21:03:51.9±1.2, 3.57N×128.57E, mb3.8/7, mb1 3.9/7, mb1mx3.8/18, Error ellipse: s-maj=67.8km s-min=17.2km az=68.0*
NEIC ***07*** *21:03:53.1±0.6, 3.61N×128.58E, h10km, mb4.7/5, Error ellipse: s-maj=19.8km s-min=10.4km az=74.0*

ISC 07 21:03:54.4±0.6**, 3.67N**±0.09×**128.6E**±0.1**, h33km, n12,** $\sigma 0^{s}98$/12**, mb4.0**/11**, North of Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	Guam	18.82	57	P	P	21 08 13.8	-0.3
	160nm,1.2s						
FITZ	Fitzroy Crossi	21.83	188	P	P	21 08 43.6	-2.3
	1.3nm,0.5s,mb3.6,baz=355,slow=5.1,SNR=5.5						
WRAB	Tennant Creek	24.12	167	eP	P	21 09 09.6	+1.1
	15nm,1.1s,mb4.3						
WRA	Warramunga Arr	24.13	167	P	P	21 09 09.4	+0.9
	1.2nm,0.6s,mb3.5,baz=346,slow=10,SNR=7.8						
ASAR	Alice Springs	27.65	170	P	P	21 09 41.5	0.0
	0.4nm,0.7s,mb3.2,baz=358,slow=7.5,SNR=4.2						
ASAR				PcP	PcP	21 12 58.6	+0.2
	0.6nm,0.8s,baz=352,slow=2.4,SNR=5.8						
CMAR	Chiang Mai Arr	32.54	299	P	P	21 10 25.8	+0.8
	0.7nm,0.7s,mb3.7,baz=108,slow=6.2,SNR=6.4						
STKA	Stephens Creek	37.44	162	P	P	21 11 06.3	-0.3
	1.8nm,0.7s,mb4.0,baz=316,slow=6.2,SNR=4.5						
SONM	Songino Array	47.98	340	P	P	21 12 32.9	+0.9
	3.7nm,1.3s,mb4.2,baz=164,slow=9.0,SNR=6.5						
MKAR	Makanchi Array	58.69	324	P	P	21 13 51.4	+0.2
	0.6nm,0.4s,mb4.0,baz=115,slow=7.9,SNR=12						
KURK	Kurchatov	62.82	327	P	P	21 14 17.5	-1.6
	3.8nm,0.9s,mb4.5						
BRVK	Borovoye	68.48	326	eP	P	21 14 55.1	-0.2
	7.3nm,1.2s,mb4.6						
MAW	Mawson	84.36	201	P	P	21 16 33.1	+8.9
	7.7nm,1.2s,mb4.7						

IDC ***07*** *21:04:54.2±3.8, 33.28N×23.92E, mb3.9/5, mb1 3.9/10, mb1mx3.7/24, ML3.5/4, Error ellipse: s-maj=64.4km s-min=29.4km az=26.0*

ISC 07 21:04:54.6±4.6**, 33.3N**±0.1×**24.0E**±0.1**, h15km**±36km**, n11,** $\sigma 0^{s}91$/12**, mb3.8**/5**, Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IDI	Anoyia	2.11	19	Pn	Pn	21 05 31.9	+2.0
	7.1nm,0.3s,baz=24,slow=20,SNR=49						
IDI				Sn	Sn	21 05 55.5	-0.5
	8.0nm,0.3s,baz=38,slow=23,SNR=9.0						
BRTR	Keskin Array B	10.04	48	Pn	P	21 07 20.3	-1.1
	0.1nm,0.3s,baz=326,slow=13,SNR=2.9						
ASF	Jabal al Asfar	10.89	92	Pn	P	21 07 32.6	-0.5
	0.6nm,0.3s,baz=239,slow=3.0,SNR=3.3						
GERES	GERESS Array B	17.35	337	P	P	21 08 56.5	-1.2
	0.1nm,0.3s,baz=159,slow=14,SNR=3.4						
AKASG	Malin Array Be	17.81	11	P	P	21 09 04.1	+0.8
	3.0nm,0.3s,baz=201,slow=10,SNR=10.0						
HFS	Hagfors	27.70	349	P	P	21 10 44.2	+0.3
	2.2nm,0.3s,mb4.2,baz=157,slow=11,SNR=25						
FINES	FINESS Array B	28.19	2	P	P	21 10 48.5	+0.2
	0.7nm,0.6s,mb3.5,baz=188,slow=14,SNR=4.0						
NB2	NORSAR Subarra	28.98	347	P	P	21 10 55.0	-0.4
	0.3nm,0.3s,mb3.5,baz=147,slow=10						
NOA	NORSAR Array B	28.98	347	P	P	21 10 55.6	+0.2
	0.7nm,0.5s,mb3.7,baz=153,slow=8.9,SNR=3.5						
ARCES	ARCESS Array B	36.30	1	P	P	21 11 58.5	-0.6
	2.0nm,0.9s,mb4.1,baz=184,slow=9.8,SNR=7.4						
MKAR	Makanchi Array	45.59	55	P	P	21 13 16.8	+1.1
	0.4nm,0.5s,mb3.6,baz=262,slow=7.8,SNR=5.7						

IDC 07 21:09:50.6±2.1**, 3.75N×128.61E, mb3.4**/4**, mb1 3.6**/4**, mb1mx3.5**/16**, Error ellipse: s-maj=97.4km s-min=22.4km az=62.0, North of Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.20	167	P	P	21 15 08.7	-1.4
	0.4nm,0.6s,baz=346,slow=10,SNR=5.0						
ASAR	Alice Springs	27.73	170	P	P	21 15 41.4	-1.6
	0.3nm,0.7s,slow=8.1,SNR=3.2						
CMAR	Chiang Mai Arr	32.49	299	P	P	21 16 23.7	-1.7
	0.3nm,0.4s,baz=124,slow=6.5,SNR=3.8						
MKAR	Makanchi Array	58.62	324	P	P	21 19 49.3	-2.6
	0.5nm,0.8s,baz=114,slow=8.2,SNR=6.8						

IDC 07 21:17:59.5±5.5**, 3.49S×67.50E, mb3.6**/4**, mb1 3.8**/4**, mb1mx3.5**/16**, Error ellipse: s-maj=139.0km s-min=40.6km az=82.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	37.88	54	P	P	21 25 18.8	-1.5
	1.3nm,1.0s,baz=245,slow=10,SNR=6.9						
SONM	Songino Array	61.40	29	P	P	21 28 17.5	-2.3
	0.2nm,0.5s,baz=217,slow=7.2,SNR=4.6						
ASAR	Alice Springs	67.02	114	P	P	21 28 55.3	-1.6
	0.2nm,0.4s,baz=286,slow=6.7,SNR=3.7						
WRA	Warramunga Arr	67.06	110	P	P	21 28 54.5	-2.7
	0.5nm,0.7s,baz=287,slow=6.1,SNR=4.8						

CASC 07 21:19:22.9±2.0**, 14.11N×91.29W, h74km**±13km**, MD3.7, ML4.0, 2C-5D, Guatemala**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAT	Jato	0.39	302⇓	eP	P	21 19 35.5	+0.2
JAT				eS	S	21 19 46.1	+1.5
JAT				AML	AML	21 19 46.4	
	comp=N,4μm,0.3s						
FUG	Fuego 3	0.55	52⇓	eP	P	21 19 36.7	-0.1
TP2	Tecpan 2	0.72	21⇓	eP	P	21 19 39.4	+0.9
TP2				eS	S	21 19 51.7	+1.6
TP2				AML	AML	21 19 53.3	
	comp=E,1μm,0.3s						
PCG	Pacaya	0.72	67	eP	P	21 19 38.6	0.0
PCG				eS	S	21 19 51.2	+1.0
IXG	Ixpaco	0.82	85⇓	eP	P	21 19 39.2	-0.4
IXG				eS	S	21 19 51.6	-0.4
IXG				AML	AML	21 19 53.9	
	comp=E,10μm,0.5s						
NBG	Las Nubes	1.03	63⇓	eP	P	21 19 42.8	+0.6
NBG				eS	S	21 20 00.0	+3.3
NBG				AML	AML	21 20 03.3	
	comp=N,4μm,0.3s						
RTR	El Retiro	1.61	97⇑	eP	P	21 19 50.0	0.0
RTR				eS	S	21 20 10.8	+0.8
SBLS	San Blas	1.64	99	eP	P	21 19 50.4	0.0
SBLS				eS	S	21 20 12.2	+1.5
SNJE	San Jose	1.66	98	eP	P	21 19 50.7	+0.1
SNJE				eS	S	21 20 12.7	+1.7
LFU	La Fuente	2.15	99	eP	P	21 19 56.4	-1.0
LFRS	El Faro	2.22	102⇑	eP	P	21 19 57.9	-0.5
LFRS				eS	S	21 20 24.9	+0.2
LCBS	La Ceiba	2.29	101	eP	P	21 19 59.8	+0.4
LCBS				eS	S	21 20 28.2	+1.8

IDC ***07*** *21:23:08.2±0.9, 3.32S×67.97E, mb3.9/8, mb1 4.0/8, mb1mx3.9/16, MS3.4/1, Ms1 3.6/1, ms1mx3.2/23, Error ellipse: s-maj=24.5km s-min=22.3km az=39.0*
NEIC ***07*** *21:23:09.9±0.6, 3.30S×68.04E, h10km, mb4.4/3, Error ellipse: s-maj=18.0km s-min=13.0km az=155.0*

ISC 07 21:23:07.9±0.6**, 3.3S**±0.1×**68.1E**±0.1**, h10km, n14,** $\sigma 1^{s}14$/13**, mb4.0**/11**, MS3.4**/1**, Chagos Archipelago region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALK	Pallekele	16.42	50	eP	P	21 26 59.4	-0.9
KMBO	Kilima Mbogo	30.85	273	P	P	21 29 27.2	+0.4
	1.2nm,0.9s,mb3.7,baz=4.1,slow=23,SNR=2.2						
KMBO	Kilima Mbogo	30.85	273	P	P	21 29 27.2	+0.4
KMBO				eP	pP	21 29 28.9	-0.9
CM31	Chiang Mai Arr	37.32	54	eP	P	21 30 24.6	+2.2
	7.2nm,1.0s,mb4.5						
CMAR	Chiang Mai Arr	37.32	54	P	P	21 30 24.7	+2.3
	2.4nm,1.0s,mb4.0,baz=249,slow=10,SNR=12						
CMAR				LR	LR	21 45 18.1	
	comp=Z,55nm,18.1s,MS3.4,baz=235,slow=36						
LSZ	Lusaka	41.01	250	eP	P	21 30 54.3	+1.2
	5.1nm,1.0s,mb4.1						
MKAR	Makanchi Array	51.43	12	P	P	21 32 14.2	-1.2
	0.7nm,0.9s,mb3.6,baz=225,slow=6.1,SNR=3.5						
BRTR	Keskin Array B	53.20	327	P	P	21 32 27.5	-1.3
	0.9nm,0.7s,mb3.8,baz=100,slow=7.5,SNR=4.9						
SONM	Songino Array	60.96	29	P	P	21 33 23.8	+0.2
	2.1nm,0.8s,mb4.3,baz=221,slow=6.9,SNR=11						
MAW	Mawson	64.30	182	P	P	21 33 44.7	-0.9
	0.9nm,0.8s,mb3.9,baz=332,slow=13,SNR=4.0						
ASAR	Alice Springs	66.60	114	P	P	21 34 01.1	+0.1
	1.1nm,0.8s,mb3.9,baz=279,slow=5.7,SNR=9.2						
WRA	Warramunga Arr	66.61	110	P	P	21 34 01.1	-0.1
	1.6nm,0.8s,mb4.1,baz=282,slow=6.2,SNR=11						
WRAB	Tennant Creek	66.62	110	P	P	21 34 00.2	-1.1
	5.8nm,1.0s,mb4.6						
PV10	Paradox Valley	144.98	356	eP	PKPbc	21 42 47.7	+1.6

IDC ***07*** *21:34:25.9±1.4, 3.86N×129.01E, mb3.8/7, mb1 3.9/7, mb1mx3.8/17, Error ellipse: s-maj=70.0km s-min=17.0km az=68.0*
NEIC ***07*** *21:34:27.9±1.0, 3.78N×128.92E, h10km, mb4.4/2, Error ellipse: s-maj=47.7km s-min=12.2km az=68.0*

ISC 07 21:34:29.2±1.2**, 3.8N**±0.2×**128.9E**±0.4**, h33km, n9,** $\sigma 1^{s}04$/9**, mb3.9**/9**, North of Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	22.02	188	P	P	21 39 21.4	-1.2
	6.0nm,1.3s,mb3.9,baz=346,slow=4.2,SNR=3.0						
WRAB	Tennant Creek	24.21	167	eP	P	21 39 44.9	+0.8
	10nm,1.2s,mb4.1						
WRA	Warramunga Arr	24.22	167	P	P	21 39 45.1	+0.9
	0.8nm,0.5s,mb3.5,baz=345,slow=10,SNR=9.0						
ASAR	Alice Springs	27.75	170	P	P	21 40 17.2	0.0
	0.5nm,0.8s,mb3.2,baz=350,slow=7.5,SNR=4.6						
CMAR	Chiang Mai Arr	32.70	299	P	P	21 41 02.3	+1.2
	1.0nm,0.8s,mb3.8,baz=120,slow=7.4,SNR=6.6						
STKA	Stephens Creek	37.50	162	P	P	21 41 41.3	-0.6
	2.8nm,1.0s,mb3.9,baz=340,slow=9.4,SNR=5.8						
SONM	Songino Array	47.93	340	P	P	21 43 07.1	+0.7
	0.2nm,0.3s,mb3.6,baz=150,slow=10,SNR=3.0						
MKAR	Makanchi Array	58.72	324	P	P	21 44 24.6	-1.6
	1.6nm,0.4s,mb4.4,baz=112,slow=8.1,SNR=48						
KURK	Kurchatov	62.83	327	eP	P	21 44 50.1	-4.0
	2.7nm,0.6s,mb4.5						

DHMR ***07*** *21:46:15.9±3.0, 37.27N×54.68E, h10km, mb5.6*
BGS ***07*** *21:46:15.9, 36.98N×55.11E, h33km, mb5.5*
THR ***07*** *21:46:15.2±1.0, 37.40N×54.58E, h17km, ML6.2*
SYO ***07*** *21:46:18.2, 37.05N×54.50E, h22km, MB5.7, MS5.4*
CSEM ***07*** *21:46:19.3, 37.37N×54.37E, h30km, mb5.6*
BJI ***07*** *21:46:19.0, 37.32N×54.23E, h46km, mB5.6, mb5.5, Ms5.5, Msz5.3*
IDC ***07*** *21:46:20.4±0.6, 37.15N×54.39E, h34km±3km, mb5.2/28, mb1 5.3/31, mb1mx5.3/31, ML4.5/3, MS5.2/17, Ms1 5.2/17, ms1mx5.1/25, Error ellipse: s-maj=13.1km s-min=8.7km az=23.0*
ZUR_RM ***07*** *21:46:20, 37.13N×54.48E, h30km, Mw5.7/13, Moment Tensor Solution. s13 Moment tensor: Scale 10^{17}Nm; M_{rr}3.59; $M_{\theta\theta}$-2.04; $M_{\phi\phi}$-1.55; $M_{r\theta}$-1.44; $M_{\theta\phi}$-2.33; $M_{\phi r}$0.56; Best double couple: $M_0 4.19\times10^{17}$ NP1:ϕ_s248°,δ54°,λ116°. NP2:ϕ_s28°,δ43°,λ59°. Principal axes: T 4.175, Plg69°, Azm216°; N .029, Plg21°, Azm52°; P -4.204, Plg5°, Azm320°;*
SFS ***07*** *21:46:20.0, 37.00N×54.30E, h35km, ML5.6*
HRVD ***07*** *21:46:20.3±0.1, 37.37N×54.32E, h32km, MW5.6/75, Centroid moment Tensor Solution. LP body waves: s69,c141;Mantle waves: s75,c157; Half duration: $1^{s}6$ Moment tensor: Scale 10^{17}Nm; M_{rr}2.45±.04; $M_{\theta\theta}$-1.69±.04; $M_{\phi\phi}$-0.76±.04; $M_{r\theta}$-1.04±.07; $M_{\theta\phi}$-2.09±.03; $M_{\phi r}$0.45±.06; Best double couple: $M_0 3.2\times10^{17}$ NP1:ϕ_s27°, δ46°,λ53°. NP2:ϕ_s254°,δ55°,λ122°. Principal axes: T 2.98, Plg64°, Azm222°; N .44, Plg26°, Azm55°; P -3.41, Plg5°, Azm323°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***07*** *21:46:20.3±0.1, 37.13N×54.48E, mb5.6/163, MS5.4/131, MW5.6, ML6.0(THR) Error ellipse: s-maj=3.5km s-min=1.9km az=178.0, Moment Tensor Solution. s25 Moment tensor: Scale 10^{17}Nm; M_{rr}2.52; $M_{\theta\theta}$-2.70; $M_{\phi\phi}$0.17; $M_{r\theta}$-1.01; $M_{\theta\phi}$-1.30; $M_{\phi r}$0.11; Best double couple: $M_0$3.1×10^{17} NP1:ϕ_s56°,δ38°,λ70°. NP2:ϕ_s260°, δ55°,λ105°. Principal axes: T 2.77, Plg75°, Azm215°; N .57, Plg12°, Azm72°; P -3.34, Plg9°, Azm340°;*

NEIC At least 60 people injured in Golestan. Felt as far west as Tehran.

MOS ***07*** *21:46:22.9±0.9, 37.78N×54.29E, h33km, mb5.8/45, MS5.1/37 Error ellipse: s-maj=7.1km s-min=3.7km az=128.8*

ISC 07 21:46:18.7±0.1**, 37.17N**±0.02×**54.43E**±0.01**, h33km, h33km**±.7km**:pP-P, n1323,** σ1.04/1296**, mb5.6**/246**, MS5.3**/178**, 220C-35D, Iran-Turkmenistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAMV	**Damavand**	**2.51**	**233**	*e*Pn	**Pn**	**21 47 01.0**	**+2.8**
THKV	**Tehran--Karaj**	**3.12**	**247**	*e*PN	**Pn**	**21 47 09.4**	**+2.5**
THKV				AMP		21 48 02.5	
	comp=N,55μm,0.6s						
THKV				AMP		21 48 09.8	
	comp=E,56μm,0.6s						
THKV	**Tehran--Karaj**	**3.12**	**247⇑**	*e*Pn	**Pn**	**21 47 09.5**	**+2.6**
THKV				Sn	**Sn**	**21 47 46.4**	**+2.9**
ASAO	**Ashtian**	**4.43**	**235**	*e*PN	**Pn**	**21 47 26.8**	**+1.2**
ASAO	**Ashtian**	**4.43**	**235⇑**	*i*Pn	**Pn**	**21 47 26.9**	**+1.4**
NASN	**Na'in**	**4.56**	**197**	*i* PN	**Pn**	**21 47 28.5**	**+1.2**
NASN	**Na'in**	**4.56**	**197**	*i* Pn	**Pn**	**21 47 28.6**	**+1.3**
GRMI	**Germi**	**5.42**	**290**	*e*PN	**Pn**	**21 47 37.8**	**-1.6**
GRMI				AMP		21 48 42.8	
	comp=N,8μm,0.6s						
GRMI	**Germi**	**5.42**	**290**	*e*Pn	**Pn**	**21 47 37.8**	**-1.6**
	comp=N,8μm,0.7s						
SNGE	**Sanandaj**	**6.10**	**252**	*e*PN	**Pn**	**21 47 50.0**	**+0.9**
SNGE	**Sanandaj**	**6.10**	**252**	*e*Pn	**Pn**	**21 47 49.9**	**+0.9**
SNGE				Sn	**Sn**	**21 48 57.9**	**-0.5**
SHGR	**Shooshtar-Gavs**	**6.86**	**224**	*e*PN	**Pn**	**21 48 01.2**	**+1.5**
SHGR	**Shooshtar-Gavs**	**6.86**	**224**	*i* Pn	**Pn**	**21 48 01.2**	**+1.5**
KRBR	**Kerman**	**7.42**	**164**	*e*PN	**Pn**	**21 48 09.1**	**+1.4**
KRBR	**Kerman**	**7.42**	**164**	*i* Pn	**Pn**	**21 48 09.2**	**+1.5**
MAK	**Makhachkala**	**7.85**	**320*c***	*i*P	**Pn**	**21 48 11.0**	**-2.6**
MAK				*i* S	**Sn**	**21 49 36.0**	**-6.3**
MAK				pmax	pmax		
	comp=Z,3μm,7.0s						
MAKU	**Maku**	**7.97**	**289**	*e*PN	**Pn**	**21 48 13.3**	**-2.0**
MAKU	**Maku**	**7.97**	**289**	*e*Pn	**Pn**	**21 48 14.0**	**-1.3**
MAKU				Sn	**Sn**	**21 49 39.4**	**-5.9**
GNI	**Garni**	**8.14**	**294**	P	**P**	**21 48 17.4**	**-0.3**
GNI	**Garni**	**8.14**	**294*d***	*i*P	**P**	**21 48 16.7**	**-1.0**
GNI	**Garni**	**8.14**	**294⇓**	*i*Pn	**P**	**21 48 16.6**	**-1.0**
DGRG	**David-gareji**	**8.22**	**304⇑**	*i*P	**P**	**21 48 16.7**	**-2.0**
HKR	**Hakkari**	**8.52**	**276**	P	**P**	**21 48 27.1**	**+4.2**
MTA	**Mtatsminda**	**8.72**	**304⇓**	*i*P	**P**	**21 48 22.9**	**-2.8**
TI2	**Plekhanov**	**8.77**	**304⇓**	*i*P	**P**	**21 48 23.0**	**-3.3**
TI2				*i*		21 49 59.0	
TBLG	**Delisi**	**8.77**	**304**	*i* P	**P**	**21 48 23.0**	**-3.4**
TVAN	**Van**	**8.83**	**282**	*i* P	**P**	**21 48 28.4**	**+1.2**
VANT	**Van**	**8.83**	**282**	P	**P**	**21 48 30.8**	**+3.6**
VANT	**Van**	**8.83**	**282**	Pn	**P**	**21 48 30.7**	**+3.5**
VANB	**Van**	**8.85**	**283**	P	**P**	**21 48 28.6**	**+1.2**
GHIR	**Ghir-Karzin**	**8.94**	**188**	*e*PN	**P**	**21 48 29.4**	**+0.6**
GHIR	**Ghir-Karzin**	**8.94**	**188**	*i* Pn	**P**	**21 48 29.4**	**+0.7**
DUS	**Dusheti**	**8.97**	**306⇓**	*i*P	**P**	**21 48 26.7**	**-2.4**
ZHSF	**Zahedan**	**9.21**	**143**	*e*PN	**P**	**21 48 31.9**	**-0.6**
ZHSF	**Zahedan**	**9.21**	**143**	*e*Pn	**P**	**21 48 32.1**	**-0.4**
MIB	**Mutribah**	**9.43**	**221**	*e*P	**P**	**21 48 34.4**	**-1.1**
UMR	**Umm Al-Rimmam**	**9.44**	**218**	*e*P	**P**	**21 48 35.1**	**-0.5**
AKH	**Akhalkalaki**	**9.48**	**300⇑**	*i*P	**P**	**21 48 36.3**	**+0.2**
KARS	**Kars**	**9.48**	**295**	P	**P**	**21 48 36.5**	**+0.3**
KBD	**Kabd**	**9.76**	**217**	*e*P	**P**	**21 48 38.4**	**-1.7**
BNDS	**Bandar-Abbas**	**9.85**	**171**	*e*PN	**P**	**21 48 41.2**	**-0.1**
BNDS	**Bandar-Abbas**	**9.85**	**171**	*e*Pn	**P**	**21 48 41.6**	**+0.3**
RST	**Umm Al-Ruwaisa**	**9.85**	**221**	*e*P	**P**	**21 48 39.8**	**-1.5**
QRN	**Al-Qurain**	**10.02**	**215**	*e*P	**P**	**21 48 41.9**	**-1.7**
RDF	**Al-Radifah**	**10.04**	**217**	*e*P	**P**	**21 48 42.3**	**-1.5**
BTMT	**Batman**	**10.31**	**280**	P	**P**	**21 48 47.3**	**-0.3**
BEST	**Besiri**	**10.48**	**278**	*i* P	**P**	**21 48 51.1**	**+1.2**
ERZM	**Erzurum**	**10.59**	**289**	*i* P	**P**	**21 48 53.4**	**+2.0**
EZM	**Erzurum**	**10.60**	**289**	P	**P**	**21 48 54.5**	**+3.1**
BCA	**Borcka**	**10.80**	**297**	P	**P**	**21 48 54.6**	**+0.3**
KIV	**Kislovodsk**	**11.21**	**311*c***	*i*P	**P**	**21 48 55.7**	**-4.1**
KIV				pmax	pmax		
	comp=Z,208nm,0.7s						
KIV				MLR	MLR		
	comp=Z,6μm,19.0s						
KIV	**Kislovodsk**	**11.21**	**311**	*e*P	**P**	**21 48 55.7**	**-4.1**
KIV				*e*S	**S**	**21 50 51.6**	**-13**
GOF	**Gofitskoye**	**11.65**	**316⇓**	*i*P	**P**	**21 49 01.0**	**-4.8**
GOF				*i*		21 51 03.0	
GOF				pmax	pmax		
	comp=Z,360nm,1.2s						
EZC	**Erzincan**	**11.75**	**287**	P	**P**	**21 49 11.1**	**+4.0**
PTK	**Pertek**	**11.99**	**283**	P	**P**	**21 49 11.8**	**+1.5**
GUMT	**Gumushane**	**12.12**	**290**	P	**P**	**21 49 11.1**	**-1.0**
ELZG	**Elazig**	**12.29**	**281**	*i* P	**P**	**21 49 14.9**	**+0.5**
MYA	**Malataya**	**12.72**	**280**	P	**P**	**21 49 18.4**	**-1.8**
SOC	**Sochi**	**12.91**	**304**	*i* P	**P**	**21 49 19.1**	**-3.6**
SOC				*e*S	**S**	**21 51 40.7**	**-5.5**
SOC				pmax	pmax		
	comp=N,60nm,1.0s						
SOC				pmax	pmax		
	comp=Z,149nm,1.0s						
SOC				pmax	pmax		
	comp=E,86nm,0.9s						
SOC				MLR	MLR		
	comp=Z,10μm,17.0s						
SOC				MLR	MLR		
	comp=N,8μm,19.0s						
SOC				MLR	MLR		
	comp=E,8μm,18.0s						
GZT	**Gaziantep**	**13.44**	**276**	*i* P	**P**	**21 49 29.6**	**-0.1**
GAZ	**Gaziantep**	**13.74**	**275**	P	**P**	**21 49 27.6**	**-5.9**
SVSK	**Karacayir**	**13.92**	**287**	P	**P**	**21 49 29.4**	**-6.5**
SVST	**Sivas**	**13.94**	**286**	*i* P	**P**	**21 49 39.5**	**+3.3**
KAHT	**Ahir Dag**	**13.97**	**277**	*i* P	**P**	**21 49 36.5**	**-0.1**
DRP	**Derazinda**	**14.09**	**108**	P	**P**	**21 49 38.6**	**+0.4**
TOKT	**Tokat**	**14.31**	**288**	P	**P**	**21 49 46.9**	**+5.9**
TOKT	**Tokat**	**14.31**	**288**	Pn	**P**	**21 49 46.8**	**+5.8**
SBDP	**Sheikh Budin**	**14.31**	**105**	P	**P**	**21 49 41.1**	**0.0**
COBT	**Iskenderun**	**14.57**	**273**	*i* P	**P**	**21 49 41.0**	**-3.5**
CEP	**Cherat**	**14.62**	**98**	P	**P**	**21 49 44.0**	**-1.2**
ARSS	**Ar Rass**	**14.74**	**223**	P	**P**	**21 49 44.0**	**-2.8**
BNN	**Bunyan**	**14.75**	**282**	P	**P**	**21 49 45.9**	**-0.9**
THW	**Thamme Wali**	**14.85**	**102**	P	**P**	**21 49 47.3**	**-0.8**
ANN	**Anapa**	**14.91**	**306*d***	*i*P	**P**	**21 49 47.7**	**-1.2**
ANN				*e*S	**S**	**21 52 33.0**	**-0.6**
ANN				pmax	pmax		
	comp=Z,83nm,0.6s						
ANN				MLR	MLR		
	comp=N,5μm,14.0s						
ANN				MLR	MLR		
	comp=E,3μm,13.0s						
ANN				MLR	MLR		
	comp=Z,4μm,13.0s						
CEYT	**Ceyhan**	**14.92**	**275**	P	**P**	**21 49 56.4**	**+7.4**
YOZ	**Yozgat**	**15.19**	**285**	P	**P**	**21 49 57.9**	**+5.4**
YOZ	**Yozgat**	**15.19**	**285**	Pn	**P**	**21 49 57.8**	**+5.3**
ASF	**Jabal al Asfar**	**15.26**	**256**	Pn	**P**	**21 49 53.4**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=305,slow=4.5,SNR=15						
ASF				LR	LR	21 57 05.0	
	comp=Z,9μm,19.4s,baz=294,slow=42						
MZLS	**Mizel**	**15.30**	**214**	P	**P**	**21 49 51.1**	**-3.0**
AVNT	**Avonos**	**15.53**	**282**	*i* P	**P**	**21 50 00.2**	**+3.4**
RAYN	**Ar Rayn**	**15.62**	**212**	Pn	**P**	**21 49 55.0**	**-3.2**
	comp=Z,5μm,1.0s						
AML	**Almayashu**	**15.64**	**66**	P	**P**	**21 50 04.1**	**+5.8**
	SNR=12						
CTKT	**Corum**	**15.68**	**289**	*i* P	**P**	**21 50 03.4**	**+4.6**
BOYT	**Boyabat**	**15.70**	**292**	*i* P	**P**	**21 49 59.2**	**+0.1**
NIG	**Nigde**	**15.73**	**279**	P	**P**	**21 50 07.0**	**+7.4**
CHCP	**Chirah Chowk**	**15.75**	**97**	P	**P**	**21 49 58.3**	**-1.5**
CHCP				S	**S**	**21 52 58.0**	**+4.7**
HRI	**Mount Hermon**	**15.77**	**261**	P	**P**	**21 50 01.9**	**+1.9**
BYBT	**Boyabat**	**15.81**	**292**	P	**P**	**21 50 02.4**	**+1.9**
EKS2	**Erkin-Say**	**15.81**	**64**	P	**P**	**21 50 06.1**	**+5.5**
	SNR=28						
MEST	**Erdemli**	**16.25**	**274**	*i* P	**P**	**21 50 07.5**	**+1.4**
UCH	**Uchtor**	**16.25**	**66**	P	**P**	**21 50 10.8**	**+4.7**
	SNR=58						
HNTI	**Hanita**	**16.27**	**261**	P	**P**	**21 50 08.2**	**+1.8**
HMDT	**Nahal Hemdat**	**16.30**	**258**	P	**P**	**21 50 08.2**	**+1.4**
MMLI	**Mount Malkishu**	**16.31**	**259**	P	**P**	**21 50 08.9**	**+2.0**
AAK	**Ala-Archa**	**16.32**	**64**	P	**P**	**21 50 04.7**	**-2.3**
	SNR=13						
AAK	**Ala-Archa**	**16.32**	**64*d***	*i*P	**P**	**21 50 05.4**	**-1.6**
AAK	**Ala-Archa**	**16.32**	**64**	*e*P	**P**	**21 50 02.9**	**-4.2**
	comp=Z,199nm,1.0s						
AAK	**Ala-Archa**	**16.32**	**64**	*e*P	**P**	**21 50 02.9**	**-4.1**
	comp=Z,199nm,1.0s						
KAMT	**Kaman**	**16.42**	**284**	P	**P**	**21 50 12.0**	**+3.7**
AFFS	**'Afif**	**16.45**	**220**	P	**P**	**21 50 05.8**	**-2.9**
BZK	**Bozkurt**	**16.45**	**293**	P	**P**	**21 50 11.6**	**+2.9**
FRU	**Bishkek**	**16.46**	**64**	*e*P	**P**	**21 50 10.0**	**+1.3**
FRU				MLR	MLR		
	comp=Z,25μm,14.0s						
USP	**Ospenovka**	**16.48**	**62**	P	**P**	**21 50 06.3**	**-2.7**
	SNR=9.1						
BRTR	**Keskin Array B**	**16.49**	**285**	Pn	**P**	**21 50 10.1**	**+0.9**
	comp=Z,1.2nm,0.3s,baz=112,slow=13,SNR=85						
BRTR				LR	LR	21 58 16.7	
	comp=Z,9μm,20.4s,baz=325,slow=44						
BRTR	**Keskin Array B**	**16.49**	**285**	P	**P**	**21 50 10.1**	**+1.0**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BRTR				MLR	MLR		
	comp=Z,9μm,20.4s						
HAF	**Haifa**	**16.50**	**260**	P	**P**	**21 50 11.0**	**+1.7**
CANT	**Cankiri**	**16.56**	**288**	P	**P**	**21 50 09.8**	**-0.2**
CANT	**Cankiri**	**16.56**	**288**	Pn	**P**	**21 50 09.7**	**-0.3**
OFRI	**'Ofer**	**16.58**	**260**	P	**P**	**21 50 11.9**	**+1.5**
CHMS	**Chumysh**	**16.59**	**63**	P	**P**	**21 50 13.5**	**+3.1**
	SNR=81						
PHNC	**Paralimni**	**16.63**	**269**	P	**P**	**21 50 13.9**	**+2.9**
KBK	**Karagaybulak**	**16.66**	**64**	P	**P**	**21 50 15.0**	**+3.8**
	SNR=19						
DRGI	**Dragot**	**16.66**	**256**	P	**P**	**21 50 12.8**	**+1.4**
SLTI	**Sal'it**	**16.68**	**259**	P	**P**	**21 50 14.1**	**+2.5**
ELDT	**Eldivan**	**16.70**	**288**	*i* P	**P**	**21 50 14.2**	**+2.4**
KZA	**Kyzart**	**16.76**	**67**	P	**P**	**21 50 13.9**	**+1.3**
	SNR=20						
MZDA	**Masada**	**16.81**	**255**	P	**P**	**21 50 14.5**	**+1.3**
BALT	**Daday**	**16.84**	**291**	*i* P	**P**	**21 50 14.2**	**+0.6**
KSH	**Kashi**	**17.06**	**76**	P	**P**	**21 50 15.2**	**-1.1**
KSH				*e*AP		21 50 24.0	
KSH				XP		21 50 27.8	
KSH				PP	PP	21 50 30.6	+0.1
KSH				PPP	PPP	21 50 38.3	-0.2
KSH				S	**S**	**21 53 21.7**	**-1.7**
KSH				XS		21 53 34.8	
KSH				SS	SS	21 53 43.1	-1.4
KSH				*e*PCP	PcP	21 55 02.0	+0.7
KSH				AMB	AMB		
	comp=Z,2μm,1.8s						
KSH				LR	LR		
	comp=N,9μm,12.2s						
KSH				LR	LR		
	comp=E,11μm,13.2s						
ANTO	**Ankara**	**17.14**	**286**	P	**P**	**21 50 17.8**	**+0.4**
ANTO	**Ankara**	**17.14**	**286**	Pn	**P**	**21 50 17.7**	**+0.3**
SIM	**Simferopol'**	**17.15**	**303⇑**	*e*P	**P**	**21 50 16.9**	**-0.6**
SIM				*e*S	**S**	**21 53 26.5**	**+1.0**
SIM				pmax	pmax		
	comp=Z,402nm,0.7s						
SIM				MLR	MLR		
	comp=Z,6μm,21.0s						
LOD	**Lodumlu**	**17.17**	**286**	P	**P**	**21 50 21.5**	**+3.8**
LOD	**Lodumlu**	**17.17**	**286**	Pn	**P**	**21 50 21.4**	**+3.7**
TKM2	**Tokmak 2**	**17.18**	**64**	P	**P**	**21 50 20.1**	**+2.3**
	SNR=42						
KBRS	**Khaybar**	**17.18**	**233**	P	**P**	**21 50 17.4**	**-0.6**
CSS	**Prodhromos**	**17.20**	**269**	P	**P**	**21 50 18.4**	**+0.2**
	comp=Z,3.4nm,1.2s						
CSS	**Prodhromos**	**17.20**	**269⇑**	*e*P	**P**	**21 50 18.5**	**+0.4**
	comp=Z,212nm,1.0s						
MAMC	**Mammari**	**17.24**	**270**	P	**P**	**21 50 20.2**	**+1.5**
JASL	**Jaisalmer**	**17.28**	**122**	*e*P	**P**	**21 50 19.1**	**0.0**
JASL				*e*		21 50 23.6	
	comp=Z,286nm,2.0s						
ZFRI	**Zfri**	**17.29**	**253**	P	**P**	**21 50 20.3**	**+1.1**
SAFT	**Safranbolu**	**17.33**	**290**	P	**P**	**21 50 22.6**	**+2.9**
SAFT	**Safranbolu**	**17.33**	**290**	Pn	**P**	**21 50 22.5**	**+2.8**
MASH	**Mash'abbe Sade**	**17.39**	**255**	P	**P**	**21 50 22.5**	**+2.0**
RTMM	**Retamin**	**17.44**	**255**	P	**P**	**21 50 22.3**	**+1.1**
TBKS	**Tabuk**	**17.47**	**244**	P	**P**	**21 50 22.4**	**+0.8**
PRNI	**Paran**	**17.51**	**253**	P	**P**	**21 50 23.3**	**+1.3**
HDMB	**Hadim**	**17.52**	**276**	P	**P**	**21 50 17.1**	**-5.0**
KONT	**Konya--Tatoy**	**17.52**	**279**	P	**P**	**21 50 26.3**	**+4.2**
ULHL	**Ulahol**	**17.52**	**66**	P	**P**	**21 50 24.6**	**+2.6**
	SNR=14						
LEF	**Lefka**	**17.52**	**270**	P	**P**	**21 50 22.6**	**+0.5**
JMQS	**Jabal Moqyreh**	**17.59**	**247**	P	**P**	**21 50 25.5**	**+2.4**
SZAC	**Souni-Zanaja**	**17.61**	**269**	P	**P**	**21 50 24.7**	**+1.5**
	comp=Z,3.8nm,0.8s						
KZIT	**Kziot**	**17.73**	**255**	P	**P**	**21 50 26.1**	**+1.4**
ALFC	**Alevga**	**17.74**	**270**	⇓P	**P**	**21 50 25.2**	**+0.3**
	comp=Z,2.4nm,0.8s						
SGKT	**Sivrigoynuk**	**17.74**	**288**	*i* P	**P**	**21 50 25.1**	**+0.2**
KMTI	**Karmit**	**17.84**	**253**	P	**P**	**21 50 27.1**	**+1.0**
KIZT	**Kizilcal**	**17.85**	**282**	P	**P**	**21 50 27.1**	**+1.0**
KIZT	**Kizilcal**	**17.85**	**282**	Pn	**P**	**21 50 27.0**	**+0.9**
MBH	**Mount Berech**	**17.85**	**251**	P	**P**	**21 50 29.7**	**+3.5**
EIL	**Elat**	**17.88**	**251**	P	**P**	**21 50 27.4**	**+0.8**
ALWS	**Ilw as Safayha**	**17.98**	**250**	P	**P**	**21 50 30.3**	**+2.4**
PPCY	**Paphos**	**18.01**	**269**	P	**P**	**21 50 28.8**	**+0.6**
JMOS	**Jabal al Moall**	**18.02**	**249**	P	**P**	**21 50 31.2**	**+2.8**
VOR	**Voronezh**	**18.12**	**328⇓**	*i*P	**P**	**21 50 25.0**	**-4.5**
VOR				*e*		21 53 38.0	
VOR				pmax	pmax		
	comp=N,570nm,0.9s						
VOR				pmax	pmax		
	comp=E,540nm,0.9s						
VOR				pmax	pmax		
	comp=Z,960nm,0.9s						
VOR				smax			
	comp=N,6μm,1.4s						
VOR				smax			
	comp=E,3μm,1.4s						
VOR				smax			
	comp=Z,2μm,1.4s						
HAQS	**Haql**	**18.21**	**249**	P	**P**	**21 50 31.6**	**+0.8**
AAA	**Alma-Ata**	**18.22**	**63**	*e*P	**P**	**21 50 32.0**	**+1.2**
AAA				*e*S	**S**	**21 53 56.0**	**+6.3**
AAA				pmax	pmax		
	comp=Z,1μm,8.0s						
AAA				smax			
	comp=N,3μm,8.0s						
AAA				smax			
	comp=E,2μm,8.0s						
AAA				MLR	MLR		
	comp=N,10μm,15.0s						
AAA				MLR	MLR		
	comp=E,18μm,15.0s						
AAA				MLR	MLR		
	comp=Z,18μm,15.0s						
MDU	**Mudurnu**	**18.38**	**287**	P	**P**	**21 50 32.7**	**-0.1**
MDU	**Mudurnu**	**18.38**	**287**	Pn	**P**	**21 50 32.6**	**-0.2**
BDAS	**Al Bad'**	**18.41**	**247**	P	**P**	**21 50 33.9**	**+0.7**
AYUS	**'Aynunah**	**18.42**	**246**	P	**P**	**21 50 34.0**	**+0.6**
TAYS	**Tayyib Ism**	**18.52**	**248**	P	**P**	**21 50 35.0**	**+0.5**
ESKT	**Eskisehir**	**18.64**	**284**	P	**P**	**21 50 36.5**	**+0.6**
ESKT	**Eskisehir**	**18.64**	**284**	*i* P	**P**	**21 50 35.7**	**-0.2**
HENT	**Hendek**	**18.64**	**289**	*i* P	**P**	**21 50 36.2**	**+0.3**
KAMS	**Al Khamasin**	**18.87**	**210**	P	**P**	**21 50 37.6**	**-1.2**
BCK	**Bucak**	**18.96**	**278**	P	**P**	**21 50 39.1**	**-0.7**
ISP	**Isparta**	**18.98**	**279**	P	**P**	**21 50 40.0**	**0.0**
ISP	**Isparta**	**18.98**	**279⇑**	*i*P	**P**	**21 50 39.7**	**-0.3**
ISP				pmax	pmax		
	comp=Z,290nm,1.2s						
ISP	**Isparta**	**18.98**	**279**	Pn	**P**	**21 50 39.9**	**-0.1**
BHK	**Bhakra**	**19.03**	**101**	*e*	**P**	**21 50 47.2**	**+6.5**
BHJ	**Bhuj**	**19.08**	**132**	*e*P	**P**	**21 50 39.4**	**-1.8**
BHJ				*e*S	**S**	**21 54 13.3**	**+3.9**
ALT	**Altintas**	**19.22**	**283**	P	**P**	**21 50 43.2**	**+0.4**
BRVK	**Borovoye**	**19.36**	**30**	*e*P	**P**	**21 50 43.0**	**-1.3**
BRVK				pmax	pmax		
	comp=Z,110nm,0.8s						
BRVK	**Borovoye**	**19.36**	**30**	*e*P	**P**	**21 50 43.0**	**-1.3**
	comp=Z,106nm,0.8s						
BRVK				*e*S	**S**	**21 54 02.9**	**-13**
BRVK	**Borovoye**	**19.36**	**30**	*e*P	**P**	**21 50 43.0**	**-1.3**
	comp=Z,106nm,0.8s						
BVAR	**Borovoye Array**	**19.38**	**30**	P	**P**	**21 50 43.3**	**-1.2**
	comp=Z,14nm,0.3s,baz=220,slow=9.9,SNR=144						
BVAR				S	**S**	**21 54 04.9**	**-11**
	comp=Z,3.2nm,0.3s,baz=228,slow=21,SNR=5.9						
BVAR				LR	LR	21 59 45.4	
	comp=Z,278nm,18.9s,baz=320,slow=42						
BVAR				P3KPbc		22 25 09.4	
	comp=Z,0.1nm,0.3s,baz=68,slow=8.0,SNR=8.6						
ARU	**Arti**	**19.47**	**7⇑**	*i*P	**P**	**21 50 44.0**	**-1.5**
ARU				pmax	pmax		
	comp=Z,242nm,1.1s						
ARU				MLR	MLR		
	comp=N,14μm,19.0s						
ARU				MLR	MLR		
	comp=Z,20μm,19.0s						
ARU				MLR	MLR		
	comp=E,2μm,18.0s						
ARU	**Arti**	**19.47**	**7⇑**	*i*P	**P**	**21 50 43.9**	**-1.6**
	comp=E,486nm,0.9s						
ARU				*e*S	**S**	**21 54 20.9**	**+3.1**
ARU	**Arti**	**19.47**	**7⇑**	*i*P	**P**	**21 50 43.9**	**-1.6**
	comp=E,486nm,0.9s						
HRT	**Hereke**	**19.57**	**288**	P	**P**	**21 50 47.7**	**+0.9**
HRT	**Hereke**	**19.57**	**288**	Pn	**P**	**21 50 47.6**	**+0.8**
ELL	**Elmali**	**19.59**	**276**	P	**P**	**21 50 46.5**	**-0.5**
YLV	**Yalova**	**19.79**	**288**	P	**P**	**21 50 46.4**	**-2.7**
KSL	**Kastellorizon**	**19.95**	**275**	*e*P	**P**	**21 50 49.2**	**-1.8**
ULDT	**Uludag**	**19.96**	**286**	*i* P	**P**	**21 50 50.0**	**-1.0**
KKR	**Kurukshetra**	**19.97**	**105**	*e*P	**P**	**21 50 49.5**	**-1.6**
KKR				*e*		21 51 05.6	
	comp=Z,340nm,1.2s						
TATS	**Tathlith**	**20.00**	**212**	P	**P**	**21 50 50.2**	**-1.4**
ISK	**Istanbul-Kandi**	**20.04**	**289**	P	**P**	**21 50 47.4**	**-4.4**
ISK	**Istanbul-Kandi**	**20.04**	**289**	Pn	**P**	**21 50 47.3**	**-4.5**
RTK	**Rohtak**	**20.09**	**107**	*e*P	**P**	**21 50 50.5**	**-1.9**
RTK				*e*		21 51 00.2	
	comp=Z,253nm,1.6s						
SVE	**Sverdlovsk**	**20.10**	**10α**	*i*P	**P**	**21 50 49.0**	**-3.3**
SVE				*i* S	**S**	**21 54 26.0**	**-5.0**
SVE				pmax	pmax		
	comp=Z,630nm,3.2s						
SVE				pmax	pmax		
	comp=Z,2μm,9.0s						
SVE				smax			
	comp=N,4μm,8.0s						
SVE				smax			
	comp=E,3μm,8.0s						
SVE				MLR	MLR		
	comp=Z,13μm,13.0s,MS5.5						
SVE				MLR	MLR		
	comp=N,10μm,15.0s,MS5.3						
SVE				MLR	MLR		
	comp=E,4μm,15.0s,MS5.3						
KHET	**Khetri**	**20.12**	**111**	*e*P	**P**	**21 50 51.6**	**-1.2**
KHET				*e*		21 50 55.8	
	comp=Z,185nm,1.6s						
DNZL	**Cakiroluk**	**20.15**	**279**	*i* P	**P**	**21 50 52.6**	**-0.4**
DENT	**Denizli**	**20.16**	**279**	P	**P**	**21 50 53.1**	**+0.1**
AJM	**Ajmer**	**20.17**	**116**	*e*P	**P**	**21 50 52.0**	**-1.3**
DST	**Dursunbey**	**20.35**	**285**	P	**P**	**21 50 49.2**	**-5.9**
DST	**Dursunbey**	**20.35**	**285**	Pn	**P**	**21 50 49.1**	**-6.0**
PECR	**Pechory**	**20.38**	**343⇓**	*i*P	**P**	**21 50 53.4**	**-1.8**
PECR				*e*S	**S**	**21 54 28.6**	**-8.1**
PECR				pmax	pmax		
	comp=N,4μm,8.0s						
PECR				pmax	pmax		
	comp=Z,3μm,8.0s						
PECR				pmax	pmax		
	comp=E,2μm,7.6s						
PECR				smax			
	comp=N,3μm,6.0s						
PECR				smax			
	comp=E,4μm,4.4s						
PECR				MLR	MLR		
	comp=E,4μm,16.0s						
PECR				MLR	MLR		
	comp=Z,8μm,16.0s,MS5.2						
KLP	**Kalpa**	**20.43**	**99**	*e*P	**P**	**21 50 55.9**	**0.0**
KLP				*e*		21 51 01.2	
	comp=Z,504nm,1.2s						
MANT	**Manisa**	**20.46**	**282**	*i* P	**P**	**21 50 56.2**	**0.0**
CTT	**Catalca**	**20.52**	**289**	P	**P**	**21 50 48.3**	**-8.5**
CTT	**Catalca**	**20.52**	**289**	Pn	**P**	**21 50 48.2**	**-8.6**
BLJS	**Baljurashi**	**20.55**	**217**	P	**P**	**21 50 56.3**	**-0.9**
DALT	**Dalyan (Mudla)**	**20.60**	**277**	P	**P**	**21 50 56.6**	**-1.0**
DALT	**Dalyan (Mudla)**	**20.60**	**277**	Pn	**P**	**21 50 56.5**	**-1.1**
KUDL	**Kundal**	**20.60**	**110**	*e*P	**P**	**21 50 56.0**	**-1.7**
BHGR	**Bahadurgarh**	**20.66**	**108**	*e*P	**P**	**21 50 57.1**	**-1.2**
DDI	**Dehra Dun**	**20.77**	**102**	*i* P	**P**	**21 50 56.4**	**-3.0**
DDI				*e*		21 54 57.6	
LTHS	**Al Lith**	**20.80**	**220**	P	**P**	**21 50 59.4**	**-0.4**
YER	**Yerkesik**	**20.83**	**278**	P	**P**	**21 50 56.5**	**-3.5**
NDI	**New Delhi**	**20.88**	**107**	*e*P	**P**	**21 50 58.0**	**-2.5**
NDI				*e*		21 54 44.0	
NAMS	**An Nimas**	**20.88**	**214**	P	**P**	**21 51 00.8**	**+0.2**
AYAN	**Aya Nagar**	**20.91**	**108**	*e*P	**P**	**21 50 59.8**	**-1.1**
AYAN				*e*		21 51 06.6	
	comp=Z,350nm,1.6s						
PSN	**Preselentsi**	**20.96**	**296**	*i* P	**P**	**21 51 01.5**	**+0.2**
AKS	**Akhisar**	**21.02**	**283**	P	**P**	**21 51 00.2**	**-1.7**
AYDN	**Tasoluk**	**21.08**	**279**	*i* P	**P**	**21 51 01.4**	**-1.1**
ARG	**Arkhangelos**	**21.10**	**275**	*e*P	**P**	**21 51 02.0**	**-0.7**
ARG	**Arkhangelos**	**21.10**	**275**	P	**P**	**21 51 02.4**	**-0.3**
MLSB	**Milas**	**21.20**	**278**	P	**P**	**21 51 03.1**	**-0.7**
ASOR	**Ausora**	**21.27**	**106**	*e*P	**P**	**21 51 03.6**	**-0.9**
CFR	**Carcaliu**	**21.28**	**300⇓**	*i*P	**P**	**21 51 03.9**	**-0.6**
KIS	**Kishinev**	**21.31**	**306α**	*i*P	**P**	**21 51 03.0**	**-1.8**
KIS				*i*		21 51 20.0	
KIS				*i*		21 51 34.0	
KIS				*i* S	**S**	**21 54 56.0**	**+1.3**
KIS				pmax	pmax		
	comp=Z,6μm,1.2s						
KIS				pmax	pmax		
	comp=Z,1μm,2.2s,mb5.9						
KIS				smax			
	comp=N,2μm,3.0s						
KIS				smax			
	comp=E,2μm,2.8s						
KIS				smax			
	comp=N,4μm,8.0s						
KIS				smax			
	comp=E,7μm,8.0s						
KIS				MLR	MLR		
	comp=E,3μm,15.0s						
KIS				MLR	MLR		
	comp=Z,4μm,15.0s,MS4.9						
KIS				MLR	MLR		
	comp=Z,3μm,16.0s						
KIS	**Kishinev**	**21.31**	**306⇑**	*i*P	**P**	**21 51 03.0**	**-1.8**
	comp=Z,6μm,1.2s						
KIS				*i* S	**S**	**21 54 56.0**	**+1.3**
	comp=Z,4μm,8.0s						
KGT	**Karabiga**	**21.36**	**287**	P	**P**	**21 51 06.6**	**+1.2**
PRD	**Provadia**	**21.46**	**295**	P	**P**	**21 51 06.0**	**-0.3**
KDAG	**Bornova**	**21.48**	**282**	*i* P	**P**	**21 51 06.8**	**+0.2**
IZM	**Izmir**	**21.48**	**282**	P	**P**	**21 51 08.0**	**+1.4**
IZM	**Izmir**	**21.48**	**282**	Pn	**P**	**21 51 07.9**	**+1.3**
BDRM	**Kayabasi**	**21.50**	**278**	*i* P	**P**	**21 51 06.2**	**-0.6**
DJNS	**Zahran al Janu**	**21.63**	**209**	P	**P**	**21 51 07.9**	**-0.3**
OBN	**Obninsk**	**21.69**	**332*c***	*i*P	**P**	**21 51 07.1**	**-1.4**
OBN				*i*		21 51 19.3	
OBN				*i*		21 51 30.8	
OBN				*e*S	**S**	**21 55 03.6**	**+1.9**
OBN				*e*SS	SS	21 55 31.5	-7.3
OBN				pmax	pmax		
	comp=Z,269nm,0.8s,mb5.7						
OBN				MLR	MLR		
	comp=Z,6μm,15.0s,MS5.1						
OBN	**Obninsk**	**21.69**	**332⇑**	*i*P	**P**	**21 51 07.0**	**-1.5**
	comp=Z,1μm,1.0s,mb6.2						
OBN				*e*S	**S**	**21 54 56.9**	**-4.8**
OBN				LR	LR		
	comp=Z,1μm,20.0s,MS4.4						
OBN	**Obninsk**	**21.69**	**332⇑**	*i*P	**P**	**21 51 07.0**	**-1.5**
	comp=Z,1μm,1.0s,mb6.2						
MOS	**Moscow**	**21.78**	**334**	*i* P	**P**	**21 51 08.7**	**-0.8**
MOS				*e*		21 51 31.5	
MOS				*e*PPP	PPP	21 51 38.7	-5.8
MOS				*i* S	**S**	**21 55 00.8**	**-2.6**
MOS				*e*SS	SS	21 55 32.6	-8.6
MOS				*e*SSS	SSS	21 55 52.0	-4.0
MOS				pmax	pmax		
	comp=Z,2μm,1.2s,mb6.3						
MOS				pmax	pmax		
	comp=Z,1μm,0.9s,mb6.3						

MOS MLR MLR
comp=N,4μm,14.0s
MOS MLR MLR
comp=Z,5μm,14.0s,MS5.1
NISR Nisiros 21.82 277 *eP* **P 21 51 10.5 +0.5**
EDRB Edirne 21.82 291 P **P 21 51 04.8 -5.2**
EDRB Edirne 21.82 291 Pn **P 21 51 04.7 -5.3**
JOSI Joshimath 21.85 100 *eP* **P 21 51 12.6 +2.3**
AYVA Ayvalik 21.86 284 *i P* **P 21 51 10.2 -0.2**
KURK Kurchatov 21.94 44 P **P 21 51 11.7 +0.7**
KURK pmax pmax
comp=Z,730nm,1.2s,mb6.0
KURK MLR MLR
comp=Z,4μm,19.0s,MS4.8
KURK Kurchatov 21.94 44 *eP* **P 21 51 11.2 +0.2**
comp=Z,726nm,1.2s,mb6.0
KURK LR LR
comp=Z,4μm,19.0s,MS4.8
KURK Kurchatov 21.94 44 *eP* **P 21 51 11.2 +0.2**
comp=Z,726nm,1.2s,mb6.0
JMB Yambol 21.98 293 *eP* **P 21 51 13.0 +1.4**
KARP Karpathos 22.00 274 *eP* **P 21 51 11.5 -0.3**
BRD Bordesti 22.13 301⇑ *iP* **P 21 51 15.6 +2.6**
AGRA Agra 22.18 110 *eP* **P 21 51 15.4 +1.8**
AGRA *e* 21 51 19.6
comp=Z,271nm,1.6s
PRK Paraskevi 22.19 284 *eP* **P 21 51 03.5 -10**
ALN Alexandroupoli 22.32 288 *eP* **P 21 51 15.5 +0.5**
BOZC Bozcaada 22.33 286 *i P* **P 21 51 15.3 +0.3**
VRI Vrincioaia 22.40 302⇑ *iP* **P 21 51 17.3 +1.6**
VRI Vrincioaia 22.40 302 P **P 21 51 16.8 +1.1**
AKASG Malin Array Be 22.50 315 P **P 21 51 15.8 -0.8**
comp=Z,173nm,0.8s,mb5.6,baz=122,slow=10.0,SNR=171
AKASG S **S 21 55 22.0 +5.5**
comp=Z,31nm,0.9s,baz=122,slow=21,SNR=5.1
SZH Strazhica 22.53 295 P **P 21 51 18.0 +1.0**
BUC1 Bucharest 22.60 297⇑ *iP* **P 21 51 21.9 +4.2**
RDO Rodhopi 22.71 289 *eP* **P 21 51 20.0 +1.3**
RDO Rodhopi 22.71 289 P **P 21 51 20.1 +1.4**
MKAR Makanchi Array 22.73 56 P **P 21 51 20.0 +1.1**
comp=Z,416nm,1.2s,mb5.8,baz=249,slow=10,SNR=188
MKAR LR LR 22 01 35.1
comp=Z,12μm,18.7s,MS5.4,baz=238,slow=40
MKAR P3KPbc 22 24 55.3
comp=Z,6.0nm,0.9s,baz=75,slow=3.5,SNR=25
DIM Dimitrovgrad 22.74 291 P **P 21 51 20.0 +1.0**
PTH Pithoragarh 22.79 102 *eP* **P 21 51 18.0 -1.7**
PTH *e* 21 55 16.0
KDZ Kurdzhali 22.81 290 P **P 21 51 21.0 +1.3**
LGTI Lohaghat 22.86 102 *eP* **P 21 51 21.0 +0.7**
MLR Muntele Rosu 22.86 300 P **P 21 51 21.8 +1.6**
comp=Z,206nm,0.8s,mb5.6,baz=156,slow=1.4,SNR=77
MLR Muntele Rosu 22.86 300 P **P 21 51 21.8 +1.6**
MLR pmax pmax
comp=Z,206nm,0.8s
MLR Muntele Rosu 22.86 300⇑ *iP* **P 21 51 24.3 +4.1**
PVL Pavlikeni 22.97 294 P **P 21 51 23.0 +1.8**
APE Apeiranthos 23.01 279 P **P 21 51 15.8 -5.9**
APE Apeiranthos 23.01 279 *eP* **P 21 51 23.4 +1.7**
APE Apeiranthos 23.01 279 P **P 21 51 23.7 +2.0**
FRSS Farasan al Kab 23.08 211 P **P 21 51 23.1 +0.5**
SANT Santorini 23.19 277⇑ *iP* **P 21 51 23.5 +0.1**
comp=Z,380nm,1.2s,mb5.7
SANT Santorini 23.19 277⇑ *iP* **P 21 51 23.5 +0.1**
comp=Z,380nm,1.2s,mb5.7
THR4 Thira Island, 23.22 277 *eP* **P 21 51 24.2 +0.4**
THR6 Thira Island, 23.24 277 *eP* **P 21 51 24.9 +0.9**
THR5 Thira Island, 23.27 277 *eP* **P 21 51 24.4 +0.2**
NPS Neapolis 23.29 274 *eP* **P 21 51 25.0 +0.5**
MUKL Al Mukalla 23.30 193⇓ *eP* **P 21 51 23.6 -1.1**
MUKL AMb AMB 21 51 25.7
comp=Z,167nm,1.1s,mb5.4
MUKL Al Mukalla 23.30 193⇓ *eP* **P 21 51 24.1 -0.6**
XRY Khrisi 23.32 273 *eP* **P 21 51 25.5 +0.8**
RZN Rozhen 23.33 290 P **P 21 51 26.0 +1.2**
PLD Plovdiv 23.36 291 *eP* **P 21 51 20.0 -5.0**
MTUR Matau 23.42 299⇓ *iP* **P 21 51 27.7 +2.1**
PGB Panagyurishte 23.77 292 P **P 21 51 31.0 +2.0**
IDI Anoyia 23.86 274 P **P 21 51 29.6 -0.4**
comp=Z,139nm,0.6s,mb5.5,baz=53,slow=12,SNR=47
IDI S **S 21 55 44.1 +3.4**
comp=Z,64nm,1.3s,baz=119,slow=16,SNR=2.1
OUR Ouranopolis 23.90 287 *eP* **P 21 51 31.3 +1.0**
AOS Alonnisos 24.05 284 *eP* **P 21 51 32.5 +0.7**
MMB Musomiste 24.07 290 P **P 21 51 33.0 +1.0**
PAIG Paliouri 24.15 286 *eP* **P 21 51 33.5 +0.7**
BHPL Bhopal 24.16 119 *eP* **P 21 51 35.1 +2.1**
BHPL *e* 21 51 51.5
comp=Z,479nm,1.2s
SRS Serrai 24.18 289 *eP* **P 21 51 34.3 +1.3**
PTL Penteli 24.18 281 *eP* **P 21 51 34.5 +1.4**
PLG Polygyros 24.31 287 *eP* **P 21 51 35.6 +1.3**
ATH Athens Observa 24.31 281 *eP* **P 21 51 35.7 +1.4**
SOH Sokhos 24.36 288 *eP* **P 21 51 36.8 +2.0**
VAM Vamos 24.39 275 *eP* **P 21 51 35.5 +0.4**
BDHA Al Bayda' 24.41 201⇑ *eP* **P 21 51 36.4 +0.9**
BDHA AMb AMB 21 51 37.6
comp=Z,221nm,1.3s,mb5.4
VTS Vitosha 24.48 293 P **P 21 51 37.0 +1.0**
VTS Vitosha 24.48 293 P **P 21 51 37.3 +1.3**
NEO Neokhori 24.55 285 *eP* **P 21 51 38.0 +1.4**
KKB Krupnik 24.56 291 P **P 21 51 37.2 +0.5**
XOR Xorichti 24.57 285 *eP* **P 21 51 37.2 +0.4**
LBOS 24.61 202⇑ *eP* **P 21 51 38.3 +0.9**
LBOS AMb AMB 21 51 39.3
comp=Z,332nm,1.6s,mb5.6
GVD Gavdhos 24.61 274⇑ *iP* **P 21 51 36.8 -0.5**
comp=Z,735nm,1.3s,mb6.0
GVD *eS* **S 21 55 58.5 +5.1**
GVD Gavdhos 24.61 274⇑ *iP* **P 21 51 36.8 -0.5**
comp=Z,735nm,1.3s,mb6.0
THE Thessaloniki 24.66 288 *eP* **P 21 51 38.0 +0.3**
LIT Litokhoron 25.05 287 *eP* **P 21 51 41.5 0.0**
GRG Griva 25.08 289 *eP* **P 21 51 41.9 +0.2**
VLI Veliai 25.12 279 *eP* **P 21 51 41.0 -1.1**
KYTH Kithira 25.12 278 *eP* **P 21 51 41.4 -0.8**
MNK Minsk 25.14 322 *eP* **P 21 51 38.0 -4.1**
MNK *eS* **S 21 56 04.0 +1.9**
MNK pmax pmax
comp=E,370nm,1.0s
MNK pmax pmax
comp=Z,470nm,1.0s,mb6.0
POO Poona 25.20 132⇓ *iP* **P 21 51 44.0 +1.0**
comp=Z,250nm,1.0s,mb5.7
POO *i* 21 56 15.0
LVV L'vov 25.23 310 *eP* **P 21 51 45.1 +2.1**
LVV *eS* **S 21 56 09.2 +5.6**
LVV MLR MLR
comp=Z,2μm,14.0s,MS4.9
AGG Agios Georgios 25.27 284 *eP* **P 21 51 43.4 0.0**
BOLS Boljevac 25.46 295⇓ *iP* **P 21 51 46.0 +0.8**
BOLS Boljevac 25.46 295 P **P 21 51 46.0 +0.8**
BARS Barje 25.51 293⇑ *iP* **P 21 51 46.4 +0.7**
AKL Akola 25.59 124 *i* **P 21 51 54.1 +7.5**
comp=Z,261nm,1.5s,mb5.5
AKL *i* 21 52 21.1
KZN Kozani 25.59 287 *eP* **P 21 51 47.5 +1.0**
EVR Evrytania 25.68 284 *eP* **P 21 51 47.6 +0.3**
SKO Skopje 25.78 291⇑ *iP* **P 21 51 48.8 +0.5**
comp=Z,0.1nm,0.9s
SKO *i* 21 52 03.4
ITM Ithomi 25.84 280 *eP* **P 21 51 47.5 -1.3**
ITM Ithomi 25.84 280 P **P 21 51 47.7 -1.1**
FNA Florina 25.86 288 *eP* **P 21 51 49.3 +0.2**
BIA Bitola 25.89 289 *i P* **P 21 51 49.5 +0.2**
UZH Uzhgorod 25.99 306 *eP* **P 21 51 01.0 +0.9**
KWP Kalwaria 25.99 309 *eP* **P 21 51 50.5 +0.4**
KWP *e**PP pP 21 51 54.7 -5.0
KWP *eS* **S 21 56 14.6 -1.7**
KWP *e**SS 21 56 32.7
KWP MLR MLR
comp=Z,5μm,24.2s,MS5.0
KWP Kalwaria 25.99 309 *eP* **P 21 51 50.5 +0.4**
KWP *epP* pP 21 51 54.7 -5.0
KWP *ePcP* PcP 21 55 07.0 -11
KWP *eS* **S 21 56 14.6 -1.7**
KWP *eSS* 21 56 32.7
KWP Kalwaria 25.99 309 *eP* **P 21 51 50.5 +0.4**
KWP *epP* pP 21 51 54.7 -5.0
KWP *ePcP* PcP 21 55 07.0 -11
KWP *eS* **S 21 56 14.6 -1.7**
KWP *eSS* 21 56 32.7
KWP MLR MLR 22 03 50.0
comp=Z,5μm,24.2s
SVIS Svilajnac 26.03 296 *eP* **P 21 51 51.5 +1.0**
WMQ Urumqi 26.03 65⇓ *iP* **P 21 51 52.0 +1.4**
WMQ XP sP 21 52 09.0 +4.6
WMQ PP PP 21 52 34.0 +1.9
WMQ S **S 21 56 18.0 +1.0**
WMQ SS SS 21 57 26.0 +1.6
WMQ AMB AMB
comp=Z,384nm,1.0s,mb5.9
WMQ AMB AMB
comp=Z,365nm,8.0s
WMQ LR LR
comp=N,3μm,14.0s,MS5.3
WMQ LR LR
comp=E,5μm,15.0s,MS5.3
WMQ LR LR
comp=Z,5μm,15.0s,MS5.1
MEV Metsovon 26.04 286 *eP* **P 21 51 51.2 +0.5**
KOLS Kolonicke sedl 26.08 307 *i P* **P 21 51 52.2 +1.3**
KOLS *e* 21 51 58.2
IDID Didziasalis 26.11 323 *i P* **P 21 51 51.0 -0.2**
IDID AMPb AMB 21 52 04.8
comp=Z,275nm,1.1s,mb5.7
KOLN Koldanda 26.25 102 *eP* **P 21 51 53.4 +0.7**
comp=Z,981nm,1.3s,mb6.2
OHR Ohrid 26.29 289⇑ *iP* **P 21 51 52.6 -0.3**
OHR *i* 21 52 08.5
JAN Janina 26.34 286 *eP* **P 21 51 54.0 +0.5**
KAD Karad 26.35 133 *eP* **P 21 51 55.0 +1.2**
GRUS Gruza 26.36 295⇓ *iP* **P 21 51 53.7 +0.1**
IIGN Ignalina 26.38 323 *i P* **P 21 51 53.4 -0.2**
IIGN AMPb AMB 21 52 07.8
comp=Z,112nm,1.4s,mb5.2
NVS Novosibirsk 26.41 39 *i P* **P 21 51 52.9 -1.0**
NVS pmax pmax
comp=Z,143nm,1.5s,mb5.3
NVS pmax pmax
comp=N,234nm,1.7s
ISAL Salakas 26.55 323 *i P* **P 21 51 54.8 -0.3**
ISAL AMPb AMB 21 52 09.9
comp=Z,133nm,0.8s,mb5.5
IZAR Zarasai 26.58 323 *eP* **P 21 51 55.1 -0.4**
IZAR AMPb AMB 21 52 10.3
comp=Z,96nm,1.0s,mb5.3
LKD Levkas 26.60 284 *eP* **P 21 51 55.2 -0.6**
LKD Levkas 26.60 284 P **P 21 51 55.2 -0.7**
BEO Belgrade 26.61 297⇑ *iP* **P 21 51 56.5 +0.6**
NGP Nagpur 26.66 120 *eP* **P 21 51 58.4 +1.8**
NGP *e* 21 56 33.8
IGT Igoumenitsa 26.75 286 *eP* **P 21 51 56.6 -0.6**
PVY Plav 26.87 292⇓ *iP* **P 21 51 57.6 -0.6**
DIVS Divcibare 26.90 296⇓ *iP* **P 21 51 58.6 +0.1**
IVA Berane 26.93 293⇑ *iP* **P 21 51 58.9 +0.2**
LATR Latur 26.94 128 *eP* **P 21 52 00.0 +0.8**
GKN Gorkha 26.95 101 *eP* **P 21 51 59.8 +0.7**
comp=Z,1μm,1.2s,mb6.3
HOPOS Hopovo Monaste 27.08 298⇑ *iP* **P 21 52 01.3 +1.2**
NVSS Nova Varos 2 27.08 294⇑ *iP* **P 21 51 60.0 -0.2**
KECS Kecovo 27.13 305 *eP* **P 21 52 01.2 +0.7**
KECS *epP* pP 21 52 11.2 +1.1
KECS *e* 21 52 26.0
KECS Kecovo 27.13 305 *eP* **P 21 52 01.2 +0.7**
KECS P 21 52 04.4
KECS *e* pP 21 52 11.2 +1.1
KECS *e* 21 52 26.0
KEK Kerkira 27.15 286 *eP* **P 21 52 01.2 +0.4**
KEK Kerkira 27.15 286 P **P 21 52 02.1 +1.3**
SUW Suwalki 27.29 318 *eP* **P 21 52 01.2 -0.8**
SUW *e**PP pP 21 52 06.8 -4.7
SUW *eS* **S 21 56 37.2 -0.3**
SUW *e**SS 21 56 53.2
SUW MLR MLR
comp=Z,4μm,22.4s,MS5.0
SUW Suwalki 27.29 318 *eP* **P 21 52 01.2 -0.8**
SUW *epP* pP 21 52 06.8 -4.7
SUW *ePcP* PcP 21 55 12.8 -8.6
SUW *eS* **S 21 56 37.2 -0.3**
SUW *eSS* 21 56 53.2
SUW Suwalki 27.29 318 *eP* **P 21 52 01.2 -0.8**
SUW *epP* pP 21 52 06.8 -4.7
SUW *eS* **S 21 56 37.2 -0.3**
SUW Suwalki 27.29 318 *eP* **P 21 52 01.2 -0.8**
SUW *epP* pP 21 52 06.8 -4.7
SUW *ePcP* PcP 21 55 12.8 -8.6
SUW *eS* **S 21 56 37.2 -0.3**
SUW *eSS* 21 56 53.2
SUW MLR MLR 22 04 51.6
comp=Z,4μm,22.4s
PLE Pljevlja 27.30 294⇑ *iP* **P 21 52 03.0 +0.8**
PUL Pulkovo 27.40 333⇓ *eP* **P 21 52 03.7 +0.8**
PUL *eS* **S 21 56 53.5 +3.2**
PUL *e* 21 56 53.5
PUL *eSS* SS 21 57 51.1 -6.0
PUL pmax pmax
comp=Z,356nm,0.8s,mb6.0
PUL pmax pmax
comp=E,686nm,0.9s
PUL smax
comp=N,1μm,1.1s
PUL smax
comp=E,730nm,1.1s
PUL MLR MLR
comp=N,2μm,13.0s,MS5.1
PUL MLR MLR
comp=E,3μm,14.0s,MS5.1
PUL MLR MLR
comp=Z,3μm,14.0s,MS5.0
PUL Pulkovo 27.40 333⇓ *eP* **P 21 52 03.2 +0.3**
TTG Podgorica 27.40 292⇑ *iP* **P 21 52 01.5 -1.6**
PSZ Piszkesteto 27.41 304⇓ *eP* **P 21 52 04.1 +1.0**
PSZ *i* sP 21 56 59.7
PSZ Piszkesteto 27.41 304⇑ *iP* **P 21 52 03.7 +0.6**
PSZ pmax pmax
comp=Z,290nm,1.1s,mb5.7
ULC Ulcinj 27.42 291⇑ *iP* **P 21 52 02.0 -1.3**
NIE Niedzica 27.45 307⇓ *eP* **P 21 52 04.3 +0.9**
NIE *e* pP 21 52 15.7 +2.7
DMN Daman 27.50 101 *eP* **P 21 52 04.9 +0.7**
comp=Z,379nm,0.9s,mb6.0
KKN Kakani 27.55 101 *eP* **P 21 52 05.1 +0.5**
comp=Z,765nm,1.2s,mb6.2
NKY Niksic 27.59 293⇑ *iP* **P 21 52 03.8 -1.0**
GOA Goa 27.61 136 *e* **P 21 52 07.8 +2.6**
GOA *e* 21 56 53.5
UPM Unac-Piva 27.65 294⇑ *iP* **P 21 52 04.8 -0.6**
BUM Brajici-Budva 27.67 292⇑ *iP* **P 21 52 04.5 -1.0**
PKI Pulchoki 27.76 101 *eP* **P 21 52 06.9 +0.4**
comp=Z,757nm,1.1s,mb6.2
WAR Warsaw 27.82 313 *eP* **P 21 52 08.4 +1.6**
WAR *e**PP pP 21 52 13.5 -2.8
WAR *eS* **S 21 56 47.5 +1.5**
WAR *e**SS 21 57 00.1
WAR MLR MLR
comp=Z,4μm,20.3s,MS5.0
WAR Warsaw 27.82 313 *eP* **P 21 52 08.4 +1.6**
WAR *eS* **S 21 56 47.5 +1.5**
WAR Warsaw 27.82 313 *eP* **P 21 52 08.4 +1.6**
WAR *epP* pP 21 52 13.5 -2.8
WAR *eS* **S 21 56 47.5 +1.5**
WAR *eSS* 21 57 00.1
WAR MLR MLR 22 05 13.0
comp=Z,4μm,20.3s
BRY Bratogost 27.92 293⇑ *iP* **P 21 52 07.0 -0.9**
BRY Bratogost 27.92 293⇑ *iP* **P 21 52 06.9 -0.9**
VSU Vasula 27.93 329 *i* Pr 21 52 07.1
OJC Ojcow 27.96 309⇑ *eP* **P 21 52 08.2 +0.1**
OJC *e**PP pP 21 52 16.1 -1.6
OJC *e**SP sP 21 52 20.3 -1.7
OJC *eS* **S 21 56 51.3 +3.0**
OJC MLR MLR
comp=Z,2μm,17.7s,MS4.8
OJC Ojcow 27.96 309⇑ *eP* **P 21 52 08.2 +0.1**
OJC *eS* **S 21 56 51.3 +3.0**
comp=Z,1.0nm,17.7s
OJC Ojcow 27.96 309⇑ *eP* **P 21 52 08.2 +0.1**
OJC *epP* pP 21 52 16.1 -1.6
OJC *esP* sP 21 52 20.3 -1.7
OJC *eS* **S 21 56 51.3 +3.0**
OJC MLR MLR 22 10 56.2
comp=Z,2μm,17.7s
HCY Herceg Novi 27.96 292⇑ *iP* **P 21 52 06.9 -1.3**
GUN Gumba 27.97 100 *eP* **P 21 52 09.2 +0.8**
comp=Z,599nm,1.0s,mb6.2
PKSM Moragy 28.01 300⇑ *iP* **P 21 52 08.6 0.0**
PKS8 Sarbogard 28.07 302⇑ *eP* **P 21 52 09.0 -0.1**
LIKS Likavka 28.14 306 *epP* pP 21 52 17.2 -2.0
BLSP Bilaspur 28.23 114 *eP* **P 21 52 10.7 -0.1**
PKS9 Tamasi 28.30 301⇑ *eP* **P 21 52 11.5 +0.3**
RHK1 Bakonya 28.40 300⇑ *eP* **P 21 52 12.1 +0.1**
SRO Srobarova 28.44 303 *esP* sP 21 52 26.0 -0.3
KOLL Kolacno 28.50 305 *eP* **P 21 52 13.5 +0.5**
KOLL *epP* pP 21 52 22.9 +0.3
KOLL *esP* sP 21 52 28.4 +1.6
STON Ston 28.54 293 *i P* **P 21 52 12.2 -1.2**
PE1 Pezze di Greco 28.86 289 *ePn* **P 21 52 14.2 -2.0**
OKC Ostrava-Krasne 28.91 308 *eP* **P 21 52 16.8 +0.2**
OKC *e**PP pP 21 52 24.2 -2.0
OKC MLR MLR
comp=Z,3μm,17.1s,MS4.9
OKC Ostrava-Krasne 28.91 308 *eP* **P 21 52 16.8 +0.2**
OKC *epP* pP 21 52 24.2 -2.0
OKC *eS* **S 21 57 14.4 +11**
OKC AMS AMS 22 05 40.0
comp=Z,3μm,17.1s
RAC Raciborz 28.93 308 *eP* **P 21 52 17.0 +0.2**
RAC *eS* **S 21 57 06.0 +2.1**
RAC MLR MLR
comp=E,4μm,24.3s
RAC MLR MLR
comp=Z,3μm,26.5s,MS4.7
RAC MLR MLR
comp=N,4μm,19.9s
RAC Raciborz 28.93 308 *eP* **P 21 52 17.0 +0.2**
RAC *eS* **S 21 57 06.0 +2.1**
RAC LME 22 05 56.8
comp=N,4μm,24.3s
RAC MLR MLR 22 06 01.3
comp=N,3μm,26.5s
RAC LMN 22 07 06.2
comp=N,4μm,19.9s
HYB Hyderabad 28.95 126 *i P* **P 21 52 18.0 +0.7**
comp=N,80nm,1.0s,mb5.4
HYB *e* pP 21 52 27.5 +0.6
HYB *eS* **S 21 57 02.0 -2.6**
HYB LR LR 22 06 10.0
comp=N,6.7nm,16.0s
HYB Hyderabad 28.95 126 *eP* **P 21 52 18.0 +0.7**
comp=N,80nm,1.0s,mb5.4
HYB *eS* **S 21 57 06.0 +1.4**
JAVC Velka Javorina 29.03 305 P **P 21 52 19.0 +1.3**
SMOL Smolenice 29.13 305 *eP* **P 21 52 18.8 +0.1**
BAI Bari 29.24 289 *ePn* **P 21 52 18.1 -1.6**
MORC Moravsky Berou 29.28 307⇑ *eP* **P 21 52 19.1 -0.9**
MORC pmax pmax
comp=Z,100nm,1.2s,mb5.4
MORC Moravsky Berou 29.28 307⇑ *eP* **P 21 52 19.1 -0.9**
comp=Z,100nm,1.3s,mb5.4
MORC Moravsky Berou 29.28 307⇑ *eP* **P 21 52 19.1 -0.9**
comp=Z,100nm,1.3s,mb5.4
ZST Bratislava 29.30 304 *eP* **P 21 52 20.1 -0.1**
ZST *e* 21 52 32.5
ZST *eS* **S 21 57 11.7 +1.9**
ZST Bratislava 29.30 304 *eP* **P 21 52 20.1 -0.1**
ZST *e* *eS* **S 21 57 11.7 +1.9**
SG1 Sgolgore (BA) 29.42 289 *ePn* **P 21 52 19.5 -1.8**
SISC Sisak 29.54 298 *i P* **P 21 52 21.8 -0.6**
SOP Sopron 29.59 303⇑ *iP* **P 21 52 22.6 -0.2**
ORI Oriolo Calabro 29.67 287 *eP* **P 21 52 22.9 -0.7**
ORI Oriolo Calabro 29.67 287 *eP* **P 21 52 22.9 -0.7**
CDT Castel del Mon 29.70 289 *ePn* **P 21 52 22.3 -1.5**
VRAC Vranov 29.80 306 P **P 21 52 24.2 -0.5**
comp=Z,29nm,1.3s,mb4.8,baz=99,slow=9.5,SNR=15
TDS Terranova Siba 29.81 287 *eP* **P 21 52 24.3 -0.5**
GRI Girifalco 29.86 285 *eP* **P 21 52 24.7 -0.6**
GRI Girifalco 29.86 285 *eP* **P 21 52 24.7 -0.6**
FGMS Monte Sant'Ang 29.89 291 *eP* **P 21 52 24.4 -1.1**
KRUC Moravsky 29.89 306 *eP* **P 21 52 25.5 0.0**
MS1 Monte Sant'Ang 29.90 291 *ePn* **P 21 52 24.2 -1.4**
FINES FINESS Array B 30.08 333 P **P 21 52 26.1 -0.9**
comp=Z,56nm,1.2s,mb5.2,baz=127,slow=9.5,SNR=38
FINES Px Px 21 52 53.0
comp=Z,85nm,0.9s,baz=134,slow=10,SNR=9.1
FINES LR LR 22 06 21.7
comp=Z,3μm,21.4s,MS5.0,baz=292,slow=40
FINES FINESS Array B 30.08 333 P **P 21 52 26.1 -0.9**
FINES LR LR 22 06 21.7
FINES FINESS Array B 30.08 333 P **P 21 52 26.0 -1.0**
GCIS Gornji Cirnik 30.09 299 *i P* **P 21 52 26.9 -0.4**
DPC Dobruska-Polom 30.17 308 *eP* **P 21 52 28.4 +0.5**
DPC *epP* pP 21 52 39.3 +1.8
DPC *eS* **S 21 57 25.3 +1.8**
DPC AMS AMS 22 06 20.0
comp=Z,2μm,25.1s
DPC Dobruska-Polom 30.17 308 *eP* **P 21 52 28.4 +0.5**
DPC *eS* **S 21 57 25.3 +1.8**
RGNG Rignano Grg 30.17 291 *eP* **P 21 52 27.0 -1.0**
CRES Cresnjev 30.20 299 P **P 21 52 28.2 0.0**
GROS Grobnik 30.20 300 *i P* **P 21 52 28.0 -0.2**
DOBS Dobrina 30.20 300 P **P 21 52 28.1 -0.2**
MNGI Mangalore 30.25 138 *i P* **P 21 52 28.8 -0.1**
MNGI *i* S **S 21 57 28.1 +2.9**
ARSA Arzberg 30.25 302⇑ *iP* **P 21 52 28.7 +0.1**
comp=Z,95nm,1.4s,mb5.3
SLCN Sala Consilina 30.25 288 *eP* **P 21 52 28.4 -0.4**
SLCN Sala Consilina 30.25 288 *eP* **P 21 52 28.4 -0.3**
SOI Samo 30.27 284 *eP* **P 21 52 28.1 -0.9**
SOI Samo 30.27 284 *eP* **P 21 52 28.0 -0.9**
KSP Ksiaz 30.28 309⇑ *eP* **P 21 52 29.2 +0.3**
KSP *e**PP pP 21 52 37.8 -0.7
KSP *eS* **S 21 57 26.5 +1.1**
KSP Ksiaz 30.28 309⇑ *eP* **P 21 52 29.2 +0.3**
KSP *epP* pP 21 52 37.8 -0.7
KSP *e* 21 52 51.3
KSP *eS* **S 21 57 26.5 +1.1**
KSP Ksiaz 30.28 309⇑ *eP* **P 21 52 29.2 +0.3**
KSP *eS* **S 21 57 26.5 +1.1**
KSP Ksiaz 30.28 309 *eP* **P 21 52 28.6 -0.3**
KSP *epP* pP 21 52 36.1 -2.4
KSP *eS* **S 21 57 26.6 +1.2**
KSP MLR MLR 22 07 35.3
comp=Z,4μm,20.0s
LEGS Legarje 30.30 299 P **P 21 52 29.5 +0.4**
MRLC Muro Lucano 30.32 289 *eP* **P 21 52 28.5 -0.9**
MRLC Muro Lucano 30.32 289 *eP* **P 21 52 28.5 -0.9**
GKP Gorka Klasztor 30.33 314 *eP* **P 21 52 28.8 -0.4**
GKP *e**PP pP 21 52 34.6 -4.2
GKP *eS* **S 21 57 25.4 -0.6**
GKP MLR MLR
comp=Z,5μm,18.5s,MS5.2
GKP Gorka Klasztor 30.33 314 *epP* pP 21 52 34.6 -4.2
GKP *eS* **S 21 57 25.4 -0.6**
comp=Z,2.5nm,18.5s
GKP Gorka Klasztor 30.33 314 *eP* **P 21 52 28.8 -0.4**
GKP *epP* pP 21 52 34.6 -4.2
GKP *eS* **S 21 57 25.4 -0.6**
GKP MLR MLR 22 07 37.8
comp=Z,5μm,18.5s
MGR Morigerati 30.34 288 *eP* **P 21 52 28.9 -0.7**
MGR Morigerati 30.34 288 *eP* **P 21 52 28.9 -0.6**
UPC Upice 30.39 308 *eP* **P 21 52 30.4 +0.6**
FG5 Orsara di Pugl 30.44 290 *eP* **P 21 52 30.4 0.0**
FG5 Orsara di Pugl 30.44 290 *eP* **P 21 52 30.4 0.0**
KAF Kangasniemi 30.44 334 *ep* **P 21 52 28.0 -2.1**
PERS Pernice 30.48 301 P **P 21 52 30.6 -0.1**
SGO Sicignano 30.48 289 *eP* **P 21 52 30.4 -0.3**
SCLL Scilla 30.50 284 *eP* **P 21 52 30.8 -0.1**
SCLL Scilla 30.50 284 *eP* **P 21 52 30.8 -0.1**
PDKS Podkum 30.53 299 *i P* **P 21 52 31.1 0.0**
PDKS *e* 21 52 52.9
PDKS *ePcP* PcP 21 55 30.0 +0.4
PDKS *epPcP* 21 55 41.3
MTTG Motta San Giov 30.56 284 *eP* **P 21 52 31.1 -0.4**
MTTG Motta San Giov 30.56 284 *eP* **P 21 52 31.1 -0.4**
NVLJ Novalja 30.58 297⇑ *iP* **P 21 52 30.5 -1.1**
VISS Visnje 30.63 299 *eP* **P 21 52 31.0 -1.0**
VISS *epP* pP 21 52 44.3 +2.7
MRB1 Monte Rocchett 30.68 290 *eP* **P 21 52 32.7 +0.2**
MRB1 Monte Rocchett 30.68 290 *eP* **P 21 52 32.7 +0.3**
PSB1 Pescosannita 30.79 290 P **P 21 52 33.7 +0.3**
LJU Ljubljana 30.86 299 *eP* **P 21 52 34.0 0.0**
LJU *epP* pP 21 52 46.5 +2.9
LJU *e* 21 52 55.6
LJU *ePcP* PcP 21 55 30.8 +0.3
LJU *epPcP* 21 55 41.9
LJU *eS* **S 21 57 37.4 +3.0**

LJU			e		21 57 57.9
LJU			e		21 59 57.4
LJU			e		22 06 37.4
LJU	Ljubljana	30.86 299	eP	P	21 52 34.0 0.0
LJU			eS	S	21 57 37.4 +3.0
OBKA	Obir	30.86 300⇑	iP	P	21 52 34.2 +0.2
	comp=Z,75nm,1.6s,mb5.3				
CEY	Cerknica	30.91 299	P	P	21 52 34.5 0.0
VTB1	Vitulano	30.93 290	P	P	21 52 34.5 -0.2
SGG	Gregorio Mates	31.09 290	eP	P	21 52 36.0 -0.2
SGG	Gregorio Mates	31.09 290	eP	P	21 52 36.0 -0.1
CII	Carovilli	31.12 291	eP	P	21 52 36.6 +0.2
SLNA	Salina	31.13 285	eP	P	21 52 35.7 -0.8
SLNA	Salina	31.13 285	eP	P	21 52 35.7 -0.8
OVO	Vesuviano	31.14 289	eP	P	21 52 36.7 +0.1
OVO	Vesuviano	31.14 289	eP	P	21 52 36.7 +0.2
MOA	Molln	31.15 303⇑	iP	P	21 52 36.4 -0.2
	comp=Z,64nm,1.6s,mb5.2				
SSY	Sortino	31.21 282	P	P	21 52 36.2 -1.0
PRU	Pruhonice	31.23 307	eP	P	21 52 36.9 -0.3
PRU			epP	pP	21 52 49.0 +2.1
PRU			eS	S	21 57 41.2 +1.0
PRU			AMS	AMS	22 07 10.0
PRU	Pruhonice	31.23 307	eP	P	21 52 36.9 -0.3
PRU			eS	S	21 57 41.2 +1.0
RNI2	Rionero Sannit	31.23 291	P	P	21 52 37.9 +0.5
VOY	Vojsko	31.30 299	eP	P	21 52 37.3 -0.6
PVCC	Panska Ves	31.30 308	eP	P	21 52 38.1 +0.2
PVCC			epP	pP	21 52 49.6 +2.1
PVCC			eS	S	21 57 44.5 +3.2
PVCC			AMS	AMS	22 08 40.0
	comp=Z,2µm,14.8s				
PVCC	Panska Ves	31.30 308	eP	P	21 52 38.1 +0.2
PVCC			eS	S	21 57 44.5 +3.2
TRI	Trieste	31.38 299	eP	P	21 52 37.8 -0.8
TRI	Trieste	31.38 299	eP	P	21 52 37.8 -0.8
LSA	Lhasa	31.39 93	P	P	21 52 41.0 +2.1
LSA			AP	pP	21 52 50.0 +1.5
LSA			XP	sP	21 52 54.0 +1.3
LSA			PCP	PcP	21 55 33.0 +1.0
LSA			S	S	21 57 46.3 +3.4
LSA			XS		21 58 07.0
LSA			LR	LR	
	comp=N,2µm,18.0s,MS5.4				
LSA			LR	LR	
	comp=E,7µm,18.5s,MS5.4				
LSA			LR	LR	
	comp=Z,7µm,18.5s,MS5.3				
INTR	Introdacqua	31.39 292	eP	P	21 52 38.3 -0.4
INTR	Introdacqua	31.39 292	eP	P	21 52 38.3 -0.5
CADS	Cadrg	31.41 300	i P	P	21 52 38.3 -0.5
SDI	San Donato	31.49 291	eP	P	21 52 39.4 -0.3
SDI	San Donato	31.49 291	eP	P	21 52 39.3 -0.3
AOI	Ancona	31.52 295	P	P	21 52 39.8 0.0
TERO	Teramo	31.57 293	eP	P	21 52 40.1 -0.2
ROBS	Robic	31.57 300	P	P	21 52 39.8 -0.5
VVLD	Villa Vallelon	31.61 291	P	P	21 52 41.3 +0.6
GEC2	GERESS Array S	31.62 305	eP	P	21 52 40.6 -0.1
GEC2			e		21 55 32.4
GEC2			pmax	pmax	
	comp=Z,118nm,1.4s,mb5.5				
GEC2	GERESS Array S	31.62 305	eP	P	21 52 40.6 -0.1
	comp=Z,118nm,1.4s,mb5.5				
GEC2			ePcP	PcP	21 55 32.4 -0.1
GEC2	GERESS Array S	31.62 305	eP	P	21 52 40.6 -0.1
	comp=Z,118nm,1.4s,mb5.5				
GEC2	GERESS Array S	31.62 305	ePcP	PcP	21 55 32.4 -0.1
GERES	GERESS Array B	31.62 305	P	P	21 52 40.5 -0.2
	comp=Z,14nm,0.7s,mb4.9,baz=101,slow=6.8,SNR=96				
GERES			PcP	PcP	21 55 31.3 -1.2
	comp=Z,16nm,0.9s,baz=180,slow=1.3,SNR=7.3				
GERES	GERESS Array B	31.62 305	P	P	21 52 40.5 -0.2
GERES					21 55 31.3
GERES			pmax	pmax	
	comp=Z,14nm,0.7s				
GERES	GERESS Array B	31.62 305	PcP	PcP	21 55 31.3 -1.2
PTCC	Patocco-Chiusa	31.68 300	eP	P	21 52 40.9 -0.4
PTCC	Patocco-Chiusa	31.68 300	eP	P	21 52 40.9 -0.4
KBA	Koelnbreinsper	31.72 301⇑	iP	P	21 52 41.7 +0.1
	comp=Z,95nm,1.7s,mb5.3				
AQU	L'Aquila	31.74 292	P	P	21 52 41.9 +0.1
AQU			pmax	pmax	
	comp=Z,180nm,1.1s,mb5.8				
AQU	L'Aquila	31.74 292	eP	P	21 52 42.1 +0.3
AQU	L'Aquila	31.74 292	eP	P	21 52 42.1 +0.3
KHC	Kasperske Hory	31.74 305	eP	P	21 52 41.2 -0.5
KHC			e*PP	pP	21 52 52.0 +0.7
KHC			e		21 53 39.0
KHC			eS	S	21 57 50.6 +2.5
KHC			MLR	MLR	
	comp=Z,6µm,27.0s,MS5.1				
KHC	Kasperske Hory	31.74 305	eP	P	21 52 41.2 -0.5
KHC			epP	pP	21 52 52.0 +0.7
KHC			x	x	21 53 39.0
KHC			eS	S	21 57 50.6 +2.5
KHC			AMS	AMS	22 07 20.0
	comp=Z,6µm,27.0s				
KHC	Kasperske Hory	31.74 305	eP	P	21 52 41.2 -0.5
KHC			eS	S	21 57 50.6 +2.5
BRG	Berggiesshubel	31.75 309	i P	P	21 52 42.4 +0.6
BRG			i		21 52 55.6
BRG			i		21 53 44.4
BRG			i		21 55 32.3
BRG			i S	S	21 57 53.0 +4.7
BRG			pmax	pmax	
	comp=Z,242nm,1.8s,mb5.7				
BRG			MLR	MLR	
	comp=N,2µm,18.1s,MS5.0				
BRG			MLR	MLR	
	comp=E,2µm,18.1s,MS5.0				
BRG			MLR	MLR	
	comp=Z,3µm,16.5s,MS5.0				
BRG	Berggiesshubel	31.75 309	i P	P	21 52 42.4 +0.6
	comp=Z,242nm,1.8s,mb5.7				
BRG			i		21 52 55.6
BRG			i PP	PP	21 53 44.4 -2.9
BRG			i PcP	PcP	21 55 32.3 -0.5
BRG			i S	S	21 57 53.0 +4.7
BRG			LR	LR	
	comp=Z,3µm,16.5s,MS5.0				
GMNA	Gemona	31.76 300	eP	P	21 52 41.8 -0.1
GMNA	Gemona	31.76 300	eP	P	21 52 41.8 -0.1
PTQR	Pietraquaria	31.77 292	eP	P	21 52 42.5 +0.4
PTQR	Pietraquaria	31.77 292	eP	P	21 52 42.5 +0.5
CING	Cingoli	31.82 294	eP	P	21 52 42.4 -0.2
CING	Cingoli	31.82 294	eP	P	21 52 42.3 -0.2
CSLB	Castelbuono	31.84 284	P	P	21 52 42.0 -0.8
GIB	Gibilmanna	31.86 284	eP	P	21 52 42.4 -0.5
GIB	Gibilmanna	31.86 284	eP	P	21 52 42.3 -0.6
VENT	Ventotene	31.88 289	P	P	21 52 42.4 -0.6
NRCA	Norcia	31.91 293	eP	P	21 52 43.2 -0.1
NRCA	Norcia	31.91 293	eP	P	21 52 43.2 -0.1
WDD	Wield Dalam	31.94 280	P	P	21 52 43.2 -0.4
VIS	Vishakhapatnam	31.94 119	eP	P	21 52 42.7 -1.1
ARV	Arcevia	32.00 295	eP	P	21 52 44.2 +0.1
ARV	Arcevia	32.00 295	eP	P	21 52 44.2 +0.1
CERT	Cerreto	32.08 292	eP	P	21 52 44.5 -0.3
CERT	Cerreto	32.08 292	eP	P	21 52 44.5 -0.3
FVI	Forni Avoltri	32.09 300	eP	P	21 52 44.4 -0.4
FSSB	Fossombrone	32.11 295	eP	P	21 52 45.4 +0.4
FSSB	Fossombrone	32.11 295	eP	P	21 52 45.4 +0.4
RUE	Ruedersdorf	32.16 312⇑	iP	P	21 52 45.0 -0.4
	comp=Z,201nm,1.2s,mb5.8				
RUE	Ruedersdorf	32.16 312⇑	iP	P	21 52 45.0 -0.3
	comp=Z,201nm,1.2s,mb5.8				
BSD	Bornholm Skovb	32.17 317⇑	iP	P	21 52 43.6 -1.9
	comp=Z,89nm,0.8s,mb5.7				
BSD			i	pP	21 52 54.9 -0.2
BSD			i S	S	21 57 56.3 +1.4
	comp=Z,1µm,16.0s				
BSD	Bornholm Skovb	32.17 317⇑	iP	P	21 52 43.6 -1.9
	comp=Z,89nm,0.8s,mb5.7				
BSD			i S	S	21 57 56.3 +1.4
MNS	Montasola	32.27 292	eP	P	21 52 46.0 -0.3
MNS	Montasola	32.27 292	eP	P	21 52 46.0 -0.4
FAVR	Favara	32.29 283	eP	P	21 52 47.9 +1.3
FAVR	Favara	32.29 283	eP	P	21 52 47.9 +1.3
MURB	Monte Urbino	32.32 294	eP	P	21 52 47.4 +0.6
MURB	Monte Urbino	32.32 294	eP	P	21 52 47.4 +0.6
RSM	Repubblica di	32.34 295	eP	P	21 52 47.6 +0.7
RSM	Repubblica di	32.34 295	eP	P	21 52 47.6 +0.6
MA9	Marino	32.34 291	P	P	21 52 46.9 -0.1

USI	Ustica	32.38 286	eP	P	21 52 46.9 -0.5
USI	Ustica	32.38 286	eP	P	21 52 46.9 -0.5
CLL	Collm	32.41 309	⇑P	P	21 52 47.6 +0.1
	comp=Z,logA/T=1.5,mb5.1				
CLL			i *PP	pP	21 52 54.7 -2.5
CLL			i *SP	sP	21 52 59.6 -1.8
CLL			i		21 53 16.9
CLL			i		21 53 27.1
CLL			e		21 54 16.0
CLL			ePCP	PcP	21 55 35.3 +0.7
CLL			eS	S	21 58 02.0 +3.4
CLL			ePCS		21 59 12.0
CLL			eSSS	SSS	22 00 18.0 -0.4
CLL	Collm	32.41 309⇑	iP	P	21 52 47.6 +0.1
CLL			i *SP	sP	21 52 59.6 -1.8
CLL			eS	S	21 58 02.0 +3.4
CLL			pmax	pmax	
	comp=Z,36nm,1.1s,mb5.1				
CLL	Collm	32.41 309⇑	iP	P	21 52 47.6 +0.1
	comp=Z,36nm,1.1s,mb5.1				
CLL			i sP	sP	21 52 59.6 -1.8
CLL			eS	S	21 58 02.0 +3.4
SEST	Monte Rota	32.48 301	P	P	21 52 48.4 +0.2
CLTB	Caltabellotta	32.57 283	eP	P	21 52 48.7 -0.4
CLTB	Caltabellotta	32.57 283	eP	P	21 52 48.7 -0.4
NKC	Novy Kostel	32.60 307	eP	P	21 52 49.3 +0.1
NKC			eS	S	21 58 05.3 +3.7
NKC			AMS	AMS	22 09 40.0
	comp=Z,3µm,14.6s				
APA	Apatity	32.68 345⇑	iP	P	21 52 50.2 +0.4
APA			i	pP	21 52 58.7 -0.7
APA			eSS	SS	21 59 57.0 -4.2
APA			pmax	pmax	
	comp=Z,59nm,1.4s,mb5.3				
APA			MLR	MLR	
	comp=Z,4µm,13.0s,MS5.3				
CRJA	Costa Raja	32.69 284	eP	P	21 52 49.9 -0.2
CRJA	Costa Raja	32.69 284	eP	P	21 52 49.9 -0.2
CRE	Caprese Michel	32.71 295	eP	P	21 52 50.7 +0.5
CRE	Caprese Michel	32.71 295	eP	P	21 52 50.7 +0.4
LVZ	Lovozero	32.72 346	eP	P	21 52 49.1 -1.0
LVZ			MLR	MLR	
	comp=Z,8µm,14.0s,MS5.5				
LVZ	Lovozero	32.72 346	eP	P	21 52 49.2 -0.9
MMGO	Monte Magaggia	32.74 284	eP	P	21 52 49.9 -0.6
MMGO	Monte Magaggia	32.74 284	eP	P	21 52 49.9 -0.7
MFNL	Monte Finestre	32.75 284	eP	P	21 52 50.3 -0.4
SFI	Santa Sofia	32.77 295	eP	P	21 52 51.7 +0.9
SFI	Santa Sofia	32.77 295	eP	P	21 52 51.7 +0.9
TOLF	Tolfa	32.80 292	P	P	21 52 50.7 -0.3
CTI	Castel Tesino	32.86 299	eP	P	21 52 51.0 -0.5
CTI	Castel Tesino	32.86 299	eP	P	21 52 51.0 -0.5
PGD	Poggio Sodo	32.86 295	eP	P	21 52 52.8 +1.2
PGD	Poggio Sodo	32.86 295	eP	P	21 52 52.8 +1.2
WTTA	Wattenberg	32.89 302⇑	iP	P	21 52 51.3 -0.5
	comp=Z,124nm,1.2s,mb5.7				
WTTA			i		21 55 35.4
	comp=Z,152nm,1.5s				
WATA	Walderalm	32.94 302⇑	iP	P	21 52 51.2 -1.0
	comp=Z,95nm,1.2s,mb5.6				
WATA			i		21 55 36.4
	comp=Z,61nm,1.1s				
ERC	Erice	32.96 285	eP	P	21 52 51.3 -1.2
ERC	Erice	32.96 285	eP	P	21 52 51.3 -1.2
VMG	Vicchio	32.99 295	eP	P	21 52 54.1 +1.4
VMG	Vicchio	32.99 295	eP	P	21 52 54.1 +1.5
SEI	Scarperia	33.12 296	eP	P	21 52 55.3 +1.5
APPI	Appiano	33.15 300	P	P	21 52 53.1 -1.0
LVI	Isola Levanzo	33.17 284	P	P	21 52 53.4 -0.9
FUR	Furstenfeldbru	33.18 303	eP	P	21 52 53.6 -0.6
FUR			pmax	pmax	
	comp=Z,58nm,1.4s,mb5.3				
FUR	Furstenfeldbru	33.18 303	eP	P	21 52 53.6 -0.6
	comp=Z,58nm,1.4s,mb5.3				
MOX	Moxa	33.18 308	i P	P	21 52 55.1 +0.8
	comp=Z,logA/T=1.7,mb5.4				
MOX			pP	pP	21 53 07.0 +3.1
MOX			PcP	PcP	21 55 36.0 -0.7
MOX			S	S	21 58 17.0 +6.4
MOX			L		22 10 21.0
MOX	Moxa	33.18 308	eP	P	21 52 55.1 +0.8
MOX			e		21 53 07.3
MOX			pmax	pmax	
	comp=Z,65nm,1.4s,mb5.4				
MOX			MLR	MLR	
	comp=Z,2µm,18.0s,MS4.8				
MOX	Moxa	33.18 308	eP	P	21 52 55.1 +0.8
	comp=Z,65nm,1.4s,mb5.4				
MOX			e		21 53 07.3
MOX			LR	LR	
	comp=Z,2µm,18.0s,MS4.8				
SQTA	Sankt Quirin	33.18 301⇑	iP	P	21 52 53.5 -0.8
	comp=Z,68nm,1.2s,mb5.5				
SQTA			i		21 55 36.1
	comp=Z,61nm,1.0s				
CSNT	Castellina Chi	33.20 295	eP	P	21 52 53.8 -0.7
CSNT	Castellina Chi	33.20 295	eP	P	21 52 53.8 -0.7
RAVA	Ravarino	33.26 297	P	P	21 52 56.0 +1.0
MOTA	Moosalm	33.26 302⇓	iP	P	21 52 53.9 -1.1
	comp=Z,46nm,1.3s,mb5.2				
MOTA			i		21 55 36.3
	comp=Z,52nm,1.0s				
FNVD	Fontana Vidola	33.28 296	P	P	21 52 56.2 +1.0
MDRS	Chennai	33.29 129	e	P	21 52 54.0 -1.6
MDRS			i		21 58 19.0
GRA1	Grafenberg Arr	33.33 306	eP	P	21 52 55.6 +0.1
	comp=Z,46nm,1.2s,mb5.3				
GRA1			ePcP	PcP	21 55 37.7 +0.6
GRF	Grafenberg Arr	33.33 306	eP	P	21 52 55.6 +0.1
GRF			e		21 55 37.7
GRF			pmax	pmax	
	comp=Z,46nm,1.2s,mb5.3				
ZCCA	Zocca	33.38 296	eP	P	21 52 57.4 +1.4
ZCCA	Zocca	33.38 296	eP	P	21 52 57.4 +1.4
MAON	Monte Argentar	33.41 293	eP	P	21 52 55.5 -0.9
MAON	Monte Argentar	33.41 293	eP	P	21 52 55.5 -0.8
GRFL	Gerfalco	33.45 294	eP	P	21 52 56.1 -0.6
GRFL	Gerfalco	33.45 294	eP	P	21 52 56.2 -0.5
SAL	Salo	33.65 299	eP	P	21 52 59.2 +0.8
SAL	Salo	33.65 299	eP	P	21 52 59.2 +0.8
MABI	Malga Bissina	33.65 299	eP	P	21 52 58.2 -0.2
MABI	Malga Bissina	33.65 299	eP	P	21 52 58.2 -0.2
GSCL	Gusciola	33.65 296	eP	P	21 52 59.2 +0.8
GSCL	Gusciola	33.65 296	eP	P	21 52 59.2 +0.8
BDI	Bagni Di Lucca	33.66 296	eP	P	21 52 58.4 -0.1
COP	Copenhagen	33.70 317	i P	P	21 53 06.1 +7.4
	comp=Z,116nm,1.2s,mb5.7				
COP			i S	S	21 58 22.5 +4.0
	comp=Z,2µm,19.0s				
PII	Pisa	33.74 295	eP	P	21 52 58.5 -0.7
BRMO	Bormio	33.74 300	eP	P	21 52 59.1 -0.2
BRMO	Bormio	33.74 300	eP	P	21 52 59.1 -0.1
ERBM	Eremo	33.77 296	eP	P	21 53 00.6 +1.1
ERBM	Eremo	33.77 296	eP	P	21 53 00.6 +1.1
VLC	Villacollemand	33.81 296	eP	P	21 52 59.5 -0.3
	comp=Z,107nm,1.0s,mb5.7				
VLC	Villacollemand	33.81 296	eP	P	21 52 59.5 -0.3
	comp=Z,107nm,1.0s,mb5.7				
HDH	Heidenheim	33.91 304	eP	P	21 52 59.7 -0.9
HDH	Heidenheim	33.91 304	P	P	21 53 00.8 +0.2
UBR	Uberruh	33.94 302⇑	eP	P	21 52 59.7 -1.2
UBR	Uberruh	33.94 302	P	P	21 53 00.2 -0.7
DAVA	Damuels	34.09 302⇑	iP	P	21 53 01.1 -1.1
	comp=Z,161nm,1.3s,mb5.8				
DAVA			i		21 55 38.9
	comp=Z,103nm,1.2s				
CLZ	Clausthal	34.11 310	eP	P	21 53 02.7 +0.4
	comp=Z,106nm,1.4s,mb5.6				
CLZ			ePcP	PcP	21 55 39.9 +0.6
SIND	Sindeldorf	34.35 305	eP	P	21 53 04.1 -0.3
SIND	Sindeldorf	34.35 305	P	P	21 53 04.6 +0.2
VDL	Val di Lei	34.37 300	⇑P	P	21 53 04.3 -0.3
BOB	Bobbio (Coli)	34.44 297	eP	P	21 53 05.5 +0.3
BOB	Bobbio (Coli)	34.44 297	eP	P	21 53 05.5 +0.2
BUCH	Bad Urach	34.47 304⇑	eP	P	21 53 05.5 0.0
BUCH	Bad Urach	34.47 304	P	P	21 53 06.2 +0.7
BSEG	Bad Segeberg	34.49 313	eP	P	21 53 05.9 +0.4
BSEG			pmax	pmax	
	comp=Z,169nm,1.1s,mb5.9				
HFS	Hagfors	34.54 325	P	P	21 53 04.7 -1.2
	comp=Z,112nm,1.1s,mb5.7,baz=121,slow=8.6,SNR=77				
HFS			Px	Px	21 53 48.0
	comp=Z,31nm,0.7s,baz=98,slow=10,SNR=3.4				

STU	Stuttgart	34.59 304	P	P	21 53 05.6 -0.9
STU			pmax	pmax	
	comp=Z,89nm,1.2s,mb5.6				
STU	Stuttgart	34.59 304⇑	eP	P	21 53 05.5 -1.0
	comp=Z,147nm,1.2s,mb5.8				
STU	Stuttgart	34.59 304⇑	eP	P	21 53 05.5 -1.0
	comp=Z,147nm,1.2s,mb5.8				
GUT	Gutenstein	34.62 303	eP	P	21 53 05.4 -1.3
GUT	Gutenstein	34.62 303	P	P	21 53 06.4 -0.3
LLS	Linth-Limmern	34.68 301	⇑P	P	21 53 06.3 -1.0
SISB	Singen-Sch Ber	34.71 302	P	P	21 53 07.1 -0.4
WILA	Wila	34.75 302	⇓P	P	21 53 07.3 -0.6
MBZ	Menzel Bouzelf	34.76 283	i P	P	21 53 09.0 +1.0
DGI	Dorgali Grotta	34.82 289	P	P	21 53 07.9 -0.7
SPAK	Spaichingen	34.84 303	eP	P	21 53 07.6 -1.0
SPAK	Spaichingen	34.84 303	P	P	21 53 08.8 +0.2
LBG	Lerchenberg	34.85 304⇑	eP	P	21 53 07.7 -1.0
LBG	Lerchenberg	34.85 304	P	P	21 53 09.3 +0.6
VAI	Varese	34.87 299	eP	P	21 53 07.7 -1.2
VAI	Varese	34.87 299	eP	P	21 53 07.7 -1.2
TOD	Tromm	34.89 306⇑	eP	P	21 53 09.1 +0.1
MUO	Muotathal	34.94 301	⇑P	P	21 53 08.7 -0.8
SWS	Schriesheim	34.95 305⇑	eP	P	21 53 09.6 +0.1
SWS	Schriesheim	34.95 305	P	P	21 53 10.3 +0.8
PGF	Pioggiola	34.96 293	eP	P	21 53 09.0 -0.7
	comp=Z,506nm,1.0s,mb6.1				
ZUR	Zurich	34.97 302	⇓P	P	21 53 09.3 -0.5
SLE	Schleitheim	35.03 302	⇑P	P	21 53 08.9 -1.4
TRD	Trivandrum	35.09 139⇓	i	P	21 53 19.4 +8.3
TRD			i		21 58 45.4
VSL	Villasalto	35.14 288⇑	iP	P	21 53 10.7 -0.6
	comp=Z,184nm,1.1s,mb5.9				
VSL			e		21 53 23.0
VSL	Villasalto	35.14 288⇑	iP	P	21 53 10.7 -0.6
ZGN	Zaghouan	35.28 282	i P	P	21 53 12.5 0.0
SULZ	Sulz-Cheisache	35.29 302	⇓P	P	21 53 11.7 -0.7
KTD	Kalmit	35.34 305	eP	P	21 53 13.3 +0.4
FELD	Feldberg	35.36 303⇑	eP	P	21 53 11.8 -1.3
FELD	Feldberg	35.36 303	eP	P	21 53 11.9 -1.2
FIN	Finale Ligure	35.37 296	eP	P	21 53 12.1 -1.1
FIN	Finale Ligure	35.37 296	eP	P	21 53 12.1 -1.1
GTA	Gaotai	35.41 72	P	P	21 53 14.8 +1.2
GTA			AP	pP	21 53 25.5 +2.2
GTA			XP	sP	21 53 29.3 +1.9
GTA			PP	PP	21 54 36.9 +3.3
GTA			S	S	21 58 40.5 -4.8
GTA			AMB	AMB	
	comp=Z,166nm,6.5s				
GTA			LR	LR	
	comp=N,2µm,20.9s,MS5.1				
GTA			LR	LR	
	comp=E,3µm,17.1s,MS5.1				
GTA			LR	LR	
	comp=Z,4µm,16.7s,MS5.2				
MCGN	Macugnaga	35.41 299	P	P	21 53 12.1 -1.4
KIZ	Kirchzarten	35.42 303⇑	eP	P	21 53 12.3 -1.3
KIZ	Kirchzarten	35.42 303	P	P	21 53 13.0 -0.6
MMK	Mattmark	35.42 299	⇑P	P	21 53 12.4 -1.2
ORO	Oropa	35.43 299	eP	P	21 53 11.8 -1.9
ORO	Oropa	35.43 299	eP	P	21 53 11.8 -1.9
LANF	Langenberg	35.51 304⇑	eP	P	21 53 13.9 -0.4
IMI	Imperia	35.62 296	eP	P	21 53 15.0 -0.3
IMI	Imperia	35.62 296	eP	P	21 53 15.0 -0.3
MOY	Mondy	35.64 51	eP	P	21 53 16.6 +1.2
MOY			e		21 53 28.6
LKBD	Leukerbad	35.65 300	⇑P	P	21 53 13.5 -2.0
LKBD			⇑P		21 53 14.6
LKBD	Leukerbad	35.65 300	⇑P	P	21 53 14.6 -0.9
MUD	Monsted U'grnd	35.66 317	i P	P	21 53 15.8 +0.3
	comp=Z,125nm,1.4s,mb5.7				
MUD			i S	S	21 58 50.4 +1.4
	comp=Z,3µm,19.0s				
BBS	Basel-Blauen	35.70 302⇑	eP	P	21 53 14.5 -1.4
BBS	Basel-Blauen	35.70 302	eP	P	21 53 14.6 -1.3
ABH	Alteburg	35.72 306⇑	eP	P	21 53 16.7 +0.7
ABH	Alteburg	35.72 306⇑	eP	P	21 53 16.9 +0.9
WLS	Welschbruch	35.80 303⇑	eP	P	21 53 15.6 -1.2
IMP	Imphal	35.80 99	eP	P	21 53 18.0 +1.0
DIX	Grande Dixence	35.81 299	⇑P	P	21 53 16.4 -0.5
KEV	Kevo	35.83 344	ep	P	21 53 15.6 -1.2
CDF	Champ du Feu	35.85 303	eP	P	21 53 16.0 -1.2
	comp=Z,72nm,1.2s,mb5.2				
SAOF	Saorge	35.86 296⇑	eP	P	21 53 17.0 -0.3
TROT	Trozza	35.88 281	i P	P	21 53 19.0 +1.4
ECH	Echery	35.93 303⇑	eP	P	21 53 16.9 -1.0
AUTN	L'Aution	35.95 296	eP	P	21 53 18.8 +0.7
SBF	Sospel	35.95 296	eP	P	21 53 17.7 -0.4
	comp=Z,160nm,0.9s,mb5.6				
MART	Mareth	35.96 278	i P	P	21 53 18.8 +0.5
ARCES	ARCESS Array B	36.00 343	P	P	21 53 17.6 -0.6
	comp=Z,5.2nm,0.5s,mb4.7,baz=142,slow=8.4,SNR=51				
ARCES			pP	pP	21 53 28.4 +0.4
	comp=Z,10nm,0.5s,baz=150,slow=8.8,SNR=9.0				
ARCES			Px	Px	21 54 14.9
	comp=Z,14nm,0.7s,baz=144,slow=10,SNR=4.6				
ARCES			LR	LR	22 11 18.6
	comp=Z,6µm,18.4s,MS5.4,baz=147,slow=42				
ARCES	ARCESS Array B	36.00 343	P	P	21 53 17.6 -0.6
ARCES			pP	pP	21 53 28.4 +0.4
ARCES			LR	LR	22 11 18.6
ARCES	ARCESS Array B	36.00 343	P	P	21 53 17.6 -0.6
ARE0	ARCESS Array S	36.00 343	eP	P	21 53 17.1 -1.1
NB2	NORSAR Subarra	36.02 325	P	P	21 53 17.2 -1.3
	comp=Z,135nm,1.4s,mb5.7,baz=114,slow=8.6				
NB2	NORSAR Subarra	36.02 325	P	P	21 53 17.2 -1.3
	baz=114,slow=8.6				
NOA	NORSAR Array B	36.02 325	P	P	21 53 17.2 -1.3
	comp=Z,22nm,0.8s,mb5.2,baz=113,slow=8.1,SNR=30				
NOA			LR	LR	22 10 25.6
	comp=Z,3µm,18.0s,MS5.1,baz=120,slow=40				
NOA	NORSAR Array B	36.02 325	P	P	21 53 17.2 -1.3
NOA			pmax	pmax	
	comp=Z,22nm,0.8s				
NOA			MLR	MLR	
	comp=Z,3µm,18.0s				
NOA	NORSAR Array B	36.02 325	P	P	21 53 17.2 -1.3
NOA			LR	LR	22 10 25.6
RUP	Ruppelstein	36.02 306⇑	eP	P	21 53 18.8 +0.2
RUP	Ruppelstein	36.02 306	eP	P	21 53 19.0 +0.4
AURF	Auriere	36.03 296	eP	P	21 53 19.1 +0.3
TOUF	Mont Tournerai	36.07 296	eP	P	21 53 19.2 +0.1
KRIT	Krib	36.09 283	i P	P	21 53 20.0 +0.7
NAO01	NORSAR Array S	36.09 325	eP	P	21 53 17.7 -1.4
	comp=Z,170nm,1.2s,mb5.8				
NAO01	NORSAR Array S	36.09 325	eP	P	21 53 17.7 -1.4
	comp=Z,170nm,1.2s,mb5.8				
HINF	Hinteralfeld	36.14 302	eP	P	21 53 18.1 -1.5
MVIF	Mont Vial	36.16 296	eP	P	21 53 19.9 +0.1
KTK1	Kautokeino	36.16 342⇓	iP	P	21 53 19.1 -0.5
KTK1			AMb	AMB	21 53 31.8
	comp=Z,119nm,1.2s,mb5.7				
KTK1	Kautokeino	36.16 342	eP	P	21 53 19.0 -0.6
	comp=Z,119nm,1.2s,mb5.7				
KTK1	Kautokeino	36.16 342	eP	P	21 53 19.0 -0.6
	comp=Z,119nm,1.2s,mb5.7				
LOMF	Lomont	36.16 302⇑	eP	P	21 53 18.9 -0.9
EMV	Vieux Emosson	36.16 299	⇓P	P	21 53 19.7 -0.2
OG22	Abries	36.22 297	eP	P	21 53 19.3 -1.0
KONO	Kongsberg	36.30 323	PFAKE		21 53 30.0 +9.1
KONO			LR	LR	
	comp=Z,5µm,19.0s,MS5.3				
LPG	La Plagne	36.30 299	eP	P	21 53 20.5 -0.5
	comp=Z,121nm,1.0s,mb5.5				
LPL	La Plagne	36.31 299	eP	P	21 53 20.5 -0.6
	comp=Z,59nm,0.7s,mb5.3				
WTSB	Winterswijk	36.33 309	eP	P	21 53 21.7 +0.5
	comp=Z,43nm,1.2s,mb5.2				
SURF	Saint Ours	36.34 297	eP	P	21 53 21.0 -0.4
MBDF	Montbardon	36.35 297	eP	P	21 53 20.7 -0.7
	comp=Z,90nm,0.8s,mb5.5				
CALN	Calern	36.36 296⇑	eP	P	21 53 21.4 -0.1
RSL	Roselend	36.38 299	eP	P	21 53 20.9 -0.8
BNI	Bardonecchia	36.39 298⇑	eP	P	21 53 20.7 -1.0
BNI			pmax	pmax	
	comp=Z,190nm,1.2s,mb5.9				
BNI	Bardonecchia	36.39 298⇑	eP	P	21 53 20.7 -1.1
	comp=Z,192nm,1.2s,mb5.9				
BNI	Bardonecchia	36.39 298⇑	eP	P	21 53 20.7 -1.0
	comp=Z,192nm,1.2s,mb5.9				
HAU	Haudompre	36.48 303	eP	P	21 53 21.2 -1.3
WIT	Witteveen	36.49 311	eP	P	21 53 23.1 +0.6
	comp=Z,210nm,1.0s,mb6.0				
FRF	La Foret Royal	36.56 295	eP	P	21 53 22.5 -0.7

comp=Z,360nm,1.1s,mb5.8
WLF Walferdange 36.61 306 P **P** **21 53 24.6 +1.0**
WLF pmax pmax
comp=Z,78nm,1.2s,mb5.4
WLF Walferdange 36.61 306 *eP* **P** **21 53 24.2 +0.6**
comp=Z,98nm,1.3s,mb5.5
WLF Walferdange 36.61 306 *eP* **P** **21 53 24.2 +0.6**
comp=Z,98nm,1.3s,mb5.5
GHAT Ghardimaou 36.64 283 *i* P **P** **21 53 23.5 -0.5**
LMR La Mourre 36.68 295 *eP* **P** **21 53 23.2 -1.0**
comp=Z,138nm,1.2s,mb5.3
CABF La Chapelle 36.70 300 *eP* **P** **21 53 24.0 -0.3**
comp=Z,418nm,1.3s,mb5.8
THEF They Montfort 36.72 303⇑ *eP* **P** **21 53 23.7 -0.8**
HGN Heimansgroeve 36.79 307 *eP* **P** **21 53 25.6 +0.5**
comp=Z,17nm,0.6s,mb5.0
HGN *ePP* PP 21 54 51.2 +0.4
HGN *eS* **S** **21 59 03.3 -3.1**
ORIF Oris-en-Rattie 36.96 298 *eP* **P** **21 53 25.8 -0.8**
ORIF *eR*
comp=Z,2µm,23.0s
TAVF Tavernes 36.97 295⇑ *eP* **P** **21 53 26.4 -0.3**
MOR8 Moi Rana 37.03 334 *eP* **P** **21 53 26.6 -0.3**
MOR8 AMb AMB 21 53 39.6
comp=Z,125nm,1.4s,mb5.6
MOR8 Moi Rana 37.03 334 *eP* **P** **21 53 26.6 -0.3**
comp=Z,125nm,1.4s,mb5.5
MOR8 Moi Rana 37.03 334 *eP* **P** **21 53 26.6 -0.3**
comp=Z,125nm,1.4s,mb5.6,SNR=30
STOF St-Etienne Org 37.04 296 *eP* **P** **21 53 27.6 +0.4**
NSS Namsos 37.13 331 ⇓ *iP* **P** **21 53 26.6 -1.2**
NSS *eS* **S** **21 59 14.3 +2.8**
NSS AMS AMS 22 10 55.0
comp=Z,4µm,18.8s,MS5.2
NSS Namsos 37.13 331 *eP* **P** **21 53 27.3 -0.5**
NSS Namsos 37.13 331 *eP* **P** **21 53 27.3 -0.5**
NSS *eS* **S** **21 59 14.3 +2.8**
SNR=31
OG05 Jujurieux 37.17 300 *eP* **P** **21 53 27.7 -0.6**
VILF Villemus 37.19 296 *eP* **P** **21 53 28.3 -0.2**
PUYF Puyloubier 37.24 295⇓ *eP* **P** **21 53 28.5 -0.4**
SMRF Simiane la Rot 37.28 296 *eP* **P** **21 53 28.6 -0.7**
comp=Z,35nm,1.0s,mb4.8
CMAH Djebel Manchou 37.30 284 P **P** **21 53 30.0 +0.5**
MEZF Maizieres J'vi 37.33 304 *eP* **P** **21 53 29.2 -0.5**
comp=Z,60nm,0.8s,mb5.2
DOMB Dombas 37.34 326 *eP* **P** **21 53 29.1 -0.4**
DOMB *epP* pP 21 53 39.8 +0.5
DOMB AMb AMB 21 53 43.8
comp=Z,135nm,1.3s,mb5.6
DOMB Dombas 37.34 326 *eP* **P** **21 53 29.1 -0.4**
comp=Z,135nm,1.3s,mb5.6
ABSA Djebel Ababsia 37.35 283 P **P** **21 53 31.0 +1.1**
GELF Grande-Etoile 37.46 295 *eP* **P** **21 53 30.4 -0.4**
TREF Trevaresse 37.46 296⇓ *eP* **P** **21 53 30.6 -0.2**
GIVF Givet 37.48 306 *eP* **P** **21 53 32.1 +1.2**
comp=Z,697nm,1.5s,mb6.0
PRAF Pradon 37.59 296⇑ *eP* **P** **21 53 31.5 -0.4**
DOU Dourbes 37.63 306 P **P** **21 53 33.3 +1.2**
comp=Z,64nm,1.4s,mb5.2
MELS Mels 37.64 335 *eP* **P** **21 53 31.0 -1.1**
CAEH 'Ain El Ouahch 37.70 284 P **P** **21 53 33.5 +0.7**
IRK Irkutsk 37.70 50 *eP* **P** **21 53 34.4 +1.7**
IRK *e* pP 21 53 44.8 +2.3
TRO Tromso 37.70 341 *eP* **P** **21 53 31.2 -1.4**
TRO *eS* S **21 59 21.4 +1.2**
TRO AMS AMS 22 12 28.5
comp=Z,6µm,17.0s,MS5.5
BLS5 Blasjo 37.78 322 *eP* **P** **21 53 34.2 +1.0**
BLS5 *epP* pP 21 53 43.9 +0.9
BLS5 AMb AMB 21 53 47.2
comp=Z,83nm,1.0s,mb5.4
BLS5 Blasjo 37.78 322 *eP* **P** **21 53 34.2 +1.0**
comp=Z,83nm,1.0s,mb5.4
UCC Uccle 37.79 307 P **P** **21 53 33.5 0.0**
VIVF Saint-Julien-l 37.82 298 *eP* **P** **21 53 32.9 -0.9**
BAIF Baives 37.88 306 *eP* **P** **21 53 35.5 +1.3**
comp=Z,482nm,1.3s,mb5.8
CASM Ain Smara 38.12 284 P **P** **21 53 37.0 +0.6**
PALK Pallekele 38.16 135 *eP* **P** **21 53 36.8 -0.1**
comp=Z,79nm,1.2s,mb5.3
PALK *e* pP 21 53 47.6 +0.9
PALK LR LR
comp=Z,983nm,19.0s,MS4.6
PALK Pallekele 38.16 135 *eP* **P** **21 53 36.8 -0.2**
MOL Molde 38.19 327 *eP* **P** **21 53 40.7 +4.0**
MOL AMb AMB 21 54 05.7
comp=Z,148nm,1.6s,mb5.5
MOL Molde 38.19 327 *eP* **P** **21 53 40.7 +4.0**
comp=Z,148nm,1.6s,mb5.6
LOR Lormes 38.19 302 *eP* **P** **21 53 36.0 -0.8**
comp=Z,137nm,1.2s,mb5.3
LOR *eR*
comp=Z,2µm,21.5s
SMF Signal de Mont 38.24 301 *eP* **P** **21 53 36.6 -0.7**
comp=Z,227nm,1.2s,mb5.5
LOF Lofoten 38.37 337 *eP* **P** **21 53 38.0 -0.2**
SSF Saint Saulge 38.44 301 *eP* **P** **21 53 38.3 -0.7**
comp=Z,26nm,0.8s,mb5.6
COLF Collangettes 38.44 299 *eP* **P** **21 53 38.7 -0.3**
LASF Ste Croix 38.50 297 *eP* **P** **21 53 38.9 -0.6**
comp=Z,198nm,1.2s,mb5.4
DFRA Djebel Bou Aff 38.52 284 P **P** **21 53 40.5 +0.8**
RUND Rundenannen 38.55 323 *eP* **P** **21 53 40.4 +0.6**
AGO Saint Agoulin 38.78 300⇑ *eP* **P** **21 53 42.8 +0.9**
LBL Lubilhac 38.79 298⇑ *eP* **P** **21 53 42.8 +0.9**
PYM Petit Puy Mans 38.90 299⇑ *eP* **P** **21 53 43.9 +1.1**
BGF Bois d'Agland 38.93 301 *eP* **P** **21 53 42.4 -0.7**
SET Setif 38.98 284 P **P** **21 53 45.0 +1.4**
HYF Humbligny 39.01 302 *eP* **P** **21 53 43.8 0.0**
SONM Songino Array 39.09 57 P **P** **21 53 45.3 +0.9**
comp=Z,34nm,0.8s,mb5.1,baz=277,slow=9.4,SNR=123
SONM pP pP 21 53 56.3 +2.1
comp=Z,44nm,1.2s,baz=285,slow=7.8,SNR=11
SONM P3KPbc 22 23 45.0
comp=Z,0.9nm,0.8s,baz=90,slow=3.7,SNR=5.2
SONM Songino Array 39.09 57 P **P** **21 53 45.3 +0.9**
SONM pP pP 21 53 56.3 +2.1
SONM *e* 22 23 45.0
MENF Mencas 39.19 307 *eP* **P** **21 53 45.9 +0.7**
VERF Verneugheol 39.26 299 *eP* **P** **21 53 46.0 +0.1**
LZH Lanzhou 39.31 76 ⇓ **P** **21 53 48.3 +1.9**
LZH AP pP 21 53 58.2 +2.1
LZH XP sP 21 54 01.7 +1.5
LZH S **S** **21 59 48.1 +3.3**
LZH XS 22 00 04.0
LZH AMB AMB
comp=Z,220nm,1.4s,mb5.7
LZH AMB AMB
comp=Z,650nm,5.0s
LZH LR LR
comp=N,12µm,16.0s
LZH LR LR
comp=Z,11µm,16.8s,MS5.8
TCF Toulx Ste Croi 39.40 300 *eP* **P** **21 53 46.9 -0.1**
comp=Z,227nm,1.1s,mb5.5
EJON La Jonquera 39.45 294 P **P** **21 53 46.0 -1.4**
comp=Z,34nm,1.2s,mb4.9,SNR=7.9
ULN Ulaanbaatar 39.53 57 PFAKE 21 54 00.0 +12
ULN LR LR
comp=Z,2µm,20.0s,MS5.0
LRDF Laroque-de-Fa 39.62 295 *eP* **P** **21 53 48.0 -0.8**
CAF Calviac 39.66 298 *eP* **P** **21 53 48.9 -0.2**
comp=Z,138nm,1.2s,mb5.2
FILF Fillols 39.66 294 *eP* **P** **21 53 48.4 -0.8**
MTLF Montolieu 39.78 296 *eP* **P** **21 53 49.7 -0.5**
comp=Z,147nm,1.2s,mb5.3
RJF Les Rejaudoux 39.99 299 *eP* **P** **21 53 52.1 +0.2**
comp=Z,218nm,1.2s,mb5.4
RJF *eR*
comp=Z,2µm,20.5s
LPEF Le Peyrat 40.07 295 *eP* **P** **21 53 52.4 -0.2**
VALF Valcebollere 40.09 294 *eP* **P** **21 53 52.2 -0.5**
EMIR Miracle 40.54 294 ⇑ *P* **P** **21 53 56.6 +0.2**
comp=Z,252nm,1.0s,mb5.8
EMIR Miracle 40.54 294 P **P** **21 53 56.7 +0.3**
comp=Z,252nm,1.0s,mb5.8,SNR=18
LFF La Frestale 40.59 298 *eP* **P** **21 53 56.6 -0.2**
SALF Salau 40.62 295 *eP* **P** **21 53 55.9 -1.2**
ABA Alger-Bouzarea 40.64 286 P **P** **21 53 57.0 -0.3**
LDF La Druitiere 40.76 304 *eP* **P** **21 53 57.9 -0.3**
comp=Z,71nm,1.0s,mb5.0
EMHD Djebel Mahouad 40.87 285 P **P** **21 53 59.0 -0.2**
KSY Syston 40.88 311⇑ *eP* **P** **21 53 59.0 -0.1**
CD2 Chengdu 40.98 84 P **P** **21 54 02.1 +2.0**
CD2 PP PP 21 55 38.8 +1.2
CD2 PPP PPP 21 56 11.1 +3.6
CD2 S **S** **22 00 12.8 +3.0**
CD2 XS 22 00 29.2
CD2 SS SS 22 03 11.9 +4.0
CD2 AMB AMB
comp=Z,90nm,1.0s,mb5.3
CD2 LR LR
comp=E,3µm,17.3s
CD2 LR LR
comp=Z,2µm,19.4s,MS5.0
MFF Saint Martin d 40.98 301 *eP* **P** **21 53 59.3 -0.7**
comp=Z,199nm,1.2s,mb5.3
EPOB Poblet 40.98 293 ⇑ P **P** **21 53 59.5 -0.5**
comp=Z,105nm,0.9s,mb5.5
EPOB Poblet 40.98 293 P **P** **21 53 59.5 -0.6**
comp=Z,105nm,0.9s,mb5.5,SNR=18
FLN La Foliniere 40.99 304 *eP* **P** **21 53 59.6 -0.4**
comp=Z,114nm,1.0s,mb5.2
FLN *eR*
comp=Z,2µm,18.2s
BJO Bjornoya 40.99 346 *eP* **P** **21 54 05.4 +5.6**
BJO AMS AMS 22 14 24.9
comp=Z,2µm,16.8s,MS5.1
SKP1 Kophill 41.03 309⇑ *iP* **P** **21 54 00.5 +0.1**
EPF Esparros 41.19 296 *eP* **P** **21 54 00.1 -1.6**
comp=Z,49nm,1.2s,mb4.7
GRR Gorron 41.27 304 *eP* **P** **21 54 01.9 -0.4**
comp=Z,346nm,1.3s,mb5.5
KMBO Kilima Mbogo 41.30 207 P **P** **21 54 04.5 +1.6**
comp=Z,16nm,1.3s,mb4.5,baz=18,slow=8.6,SNR=11
KMBO PcP PcP 21 56 00.9 -0.8
comp=Z,13nm,0.9s,baz=19,slow=9.2,SNR=8.3
KMBO LR LR 22 12 21.0
comp=Z,4µm,19.4s,MS5.3,baz=20,slow=38
KMBO Kilima Mbogo 41.30 207⇑ *eP* **P** **21 54 03.0 +0.1**
comp=Z,18nm,1.2s,mb4.6
KMBO *ePcP* PcP 21 55 59.9 -1.8
KMBO LR LR
comp=Z,4µm,20.0s,MS5.3
KMBO Kilima Mbogo 41.30 207⇑ *eP* **P** **21 54 03.0 +0.1**
comp=Z,18nm,1.2s,mb4.6
KMBO Kilima Mbogo 41.30 207 *ePcP* PcP 21 55 59.9 -1.8
EIBI Ibiza 41.33 289 P **P** **21 54 02.7 -0.2**
comp=Z,136nm,1.7s,mb5.3
EIBI Ibiza 41.33 289 P **P** **21 54 02.7 -0.2**
comp=Z,136nm,1.7s,mb5.3,SNR=7.9
LCHF La Chataignera 41.38 301 *eP* **P** **21 54 02.4 -0.8**
EBIE Bielsa 41.40 295 P **P** **21 54 01.6 -1.8**
comp=Z,96nm,1.4s,mb5.2
EBIE Bielsa 41.40 295 P **P** **21 54 01.6 -1.8**
comp=Z,96nm,1.4s,mb5.2,SNR=7.9
KBI1 Birley Grange 41.45 311⇑ *eP* **P** **21 54 03.0 -0.7**
HPK Haverah Park 41.51 312⇑ *iP* **P** **21 54 04.3 +0.2**
EBR Ebro Roquetas 41.53 292 *eP* **P** **21 54 04.3 -0.2**
KWE Weaver Farm 41.64 311⇑ *eP* **P** **21 54 04.9 -0.3**
LHO Holmfirth 41.64 312⇑ *iP* **P** **21 54 04.9 -0.4**
SWN1 Swindon 41.66 309⇑ *iP* **P** **21 54 06.0 +0.6**
LRW Lerwick 41.70 322⇑ *eP* **P** **21 54 04.9 -0.7**
SAN1 Sandwick 41.72 321 *eP* **P** **21 54 05.2 -0.6**
ETSF Etsaut 41.86 296 *eP* **P** **21 54 06.7 -0.5**
comp=Z,118nm,1.1s,mb5.1
FDAF Les Forges d'A 41.88 295 *eP* **P** **21 54 06.8 -0.6**
EBNR Beni Rached 41.95 285 P **P** **21 54 08.0 0.0**
ESAC San Caprasio 42.04 294 P **P** **21 54 08.6 -0.1**
comp=Z,294nm,1.3s,mb5.8
ESAC San Caprasio 42.04 294 P **P** **21 54 08.6 -0.1**
comp=Z,294nm,1.3s,mb5.8,SNR=19
HAE Alders End 42.10 309⇑ *iP* **P** **21 54 08.8 -0.2**
HAE AMb AMB 21 54 10.8
comp=Z,129nm,0.8s,mb5.6
ECHA Ech Chlef 42.11 285 P **P** **21 54 09.0 -0.4**
BTA Talkin 42.13 314⇑ *iP* **P** **21 54 09.4 +0.1**
LARF Larrau 42.14 296 *eP* **P** **21 54 09.2 -0.3**
SMD Mendips 42.24 308⇑ *iP* **P** **21 54 09.8 -0.5**
BBH Bruntsheil 42.28 314⇑ *iP* **P** **21 54 10.2 -0.3**
BDL Dobcross Hall 42.28 314⇑ *iP* **P** **21 54 10.8 +0.3**
HGH Gray Hill 42.28 309⇑ *iP* **P** **21 54 10.0 -0.6**
HGH AMb AMB 21 54 34.6
comp=Z,205nm,1.4s,mb5.6
HLM1 Long Mynd 42.28 310⇑ *iP* **P** **21 54 10.4 -0.1**
HLM1 AMb AMB 21 54 12.5
comp=Z,107nm,1.1s,mb5.4
SJPF Ste Jean 42.30 296 *eP* **P** **21 54 10.2 -0.6**
EMOS Mosqueruela 42.35 292 ⇑ P **P** **21 54 11.6 +0.3**
comp=Z,28nm,1.0s,mb4.8
EMOS Mosqueruela 42.35 292 P **P** **21 54 11.6 +0.3**
comp=Z,28nm,1.0s,mb4.8,SNR=18
MME1 Meikle Cairn 42.37 317⇑ *eP* **P** **21 54 10.7 -0.5**
MCH1 Michaelchurch 42.38 309⇑ *iP* **P** **21 54 10.9 -0.4**
EANR 'Ain N'Sour 42.38 285 P **P** **21 54 11.0 -0.6**
ETRT Tiaret 42.40 284 P **P** **21 54 12.0 +0.2**
SGMF Saint Gilles 42.41 304 *eP* **P** **21 54 11.6 0.0**
comp=Z,457nm,1.1s,mb5.7
EKA Eskdalemuir Ar 42.41 314 P **P** **21 54 11.3 -0.3**
comp=Z,82nm,1.1s,mb5.3,baz=104,slow=8.0,SNR=77
EKA PP PP 21 55 50.3 -2.2
comp=Z,19nm,0.9s,baz=94,slow=11,SNR=4.3
EKA PcP PcP 21 56 04.0 -0.9
comp=Z,20nm,0.8s,baz=108,slow=2.6,SNR=5.7
EKA Eskdalemuir Ar 42.41 314 P **P** **21 54 11.3 -0.3**
EKA 21 55 50.3
EKA 21 56 04.0
EKA pmax pmax
comp=Z,82nm,1.1s
EKA pmax pmax
comp=Z,19nm,0.9s
EKA Eskdalemuir Ar 42.41 314 PP PP 21 55 50.3 -2.2
SSP1 Stoney Pound 42.43 310 *eP* **P** **21 54 11.3 -0.5**
ESK Eskdalemuir 42.44 314 P **P** **21 54 11.0 -0.8**
comp=Z,438nm,1.2s,mb6.0,SNR=11
ESK Eskdalemuir 42.44 314⇑ *iP* **P** **21 54 11.3 -0.4**
ESK AMb AMB 21 54 24.6
comp=Z,133nm,1.2s,mb5.4
ESK Eskdalemuir 42.44 314 P **P** **21 54 11.5 -0.3**
ESK pmax pmax
comp=Z,89nm,1.1s,mb5.3
ESK Eskdalemuir 42.44 314 *eP* **P** **21 54 11.3 -0.5**
comp=Z,138nm,1.1s,mb5.5
ESK LR LR
comp=Z,553nm,20.0s,MS4.4
ESK Eskdalemuir 42.44 314 *eP* **P** **21 54 11.3 -0.5**
comp=Z,138nm,1.1s,mb5.5
BHH Howats Hill 42.44 314⇑ *iP* **P** **21 54 11.5 -0.3**
BBO1 Bothel 42.46 313⇑ *iP* **P** **21 54 12.0 0.0**
SBD Saint Breward 42.50 311⇑ *iP* **P** **21 54 12.4 +0.1**
MCD Coleburn Disti 42.54 318⇑ *eP* **P** **21 54 12.4 -0.1**
HTR Trewern Hill 42.54 310⇑ *eP* **P** **21 54 12.2 -0.5**
HTR AMb AMB 21 54 28.3
comp=Z,92nm,1.5s,mb5.3
EBEN Beniarda 42.59 289 ⇑ P **P** **21 54 13.7 +0.4**
comp=Z,212nm,0.8s,mb5.9
EBEN Beniarda 42.59 289 P **P** **21 54 13.7 +0.4**
comp=Z,212nm,0.8s,mb6.0,SNR=18
KMI Kunming 42.64 92 *eP* **P** **21 54 14.1 +0.2**
KMI AP pP 21 54 27.4 +3.8
KMI XP sP 21 54 33.3 +5.6
KMI PP PP 21 55 58.4 +3.1
KMI S **S** **22 00 34.6 +0.2**
KMI XS 22 00 51.3
KMI SS SS 22 03 39.6 +0.6
KMI AMB AMB
comp=Z,113nm,1.2s,mb5.5
KMI LR LR
comp=N,1µm,23.4s,MS5.0
KMI LR LR
comp=E,2µm,22.7s,MS5.0
KMI LR LR
comp=Z,3µm,21.3s,MS5.2
BTO Baotou 42.80 68 *eP* **P** **21 54 15.4 +0.4**
BTO AMB AMB
comp=Z,31nm,1.0s,mb5.0
BTO LR LR
comp=N,2µm,14.4s,MS5.3
BTO LR LR
comp=E,2µm,18.6s,MS5.3
QUIF Quistinic 42.86 303 *eP* **P** **21 54 15.0 -0.3**
comp=E,490nm,1.3s,mb5.8
ROSF Rostrenen 42.88 304 *eP* **P** **21 54 15.4 0.0**
comp=E,587nm,1.1s,mb5.9
HEX Exmoor 42.94 308⇑ *iP* **P** **21 54 15.5 -0.5**
MVH1 Achvaich 43.05 318⇑ *eP* **P** **21 54 15.7 -1.0**
HSA Swansea 43.11 309 *eP* **P** **21 54 16.6 -0.7**
CM31 Chiang Mai Arr 43.11 103 *eP* **P** **21 54 17.3 -0.5**
comp=E,90nm,0.9s,mb5.5
CM31 LR LR
comp=Z,2µm,20.0s,MS5.1
CM31 Chiang Mai Arr 43.11 103 *eP* **P** **21 54 17.3 -0.5**
comp=Z,90nm,0.9s,mb5.5
CMAR Chiang Mai Arr 43.11 103 P **P** **21 54 17.3 -0.5**
comp=Z,28nm,0.6s,mb5.1,baz=299,slow=8.1,SNR=162
CMAR pP pP 21 54 26.8 -0.8
comp=Z,27nm,0.9s,baz=298,slow=8.5,SNR=11
CMAR PcP PcP 21 56 07.7 -0.1
comp=Z,78nm,1.4s,baz=299,slow=7.2,SNR=4.6
CMAR LR LR 22 16 08.2
comp=Z,1µm,21.5s,MS4.8,baz=295,slow=41
CMAR Chiang Mai Arr 43.11 103 P **P** **21 54 17.3 -0.5**
CMAR *PP pP 21 54 26.8 -0.8
CMAR 21 56 07.7
CMAR pmax pmax
comp=Z,28nm,0.6s
CMAR pmax pmax
comp=Z,79nm,1.4s
CMAR MLR MLR
comp=Z,1µm,21.5s
CMAR Chiang Mai Arr 43.11 103 P **P** **21 54 17.3 -0.5**
CMAR pP pP 21 54 26.8 -0.8
CMAR PcP PcP 21 56 07.7 -0.1
CMAR LR LR 22 16 08.2
ETOR Torete 43.41 293 P **P** **21 54 18.9 -1.0**
comp=Z,103nm,1.6s,mb5.3
ETOR Torete 43.41 293 P **P** **21 54 18.9 -1.0**
comp=Z,103nm,1.6s,mb5.3,SNR=13
ETOR Torete 43.41 293 P **P** **21 54 18.9 -1.0**
comp=Z,103nm,1.6s,mb5.3
HPE Pembroke 43.48 309⇑ *eP* **P** **21 54 19.8 -0.5**
MBAR Mbarara 43.52 216 P **P** **21 54 19.6 -1.5**
comp=Z,93nm,1.2s,mb5.4,SNR=20
MBAR Mbarara 43.52 216 *eP* **P** **21 54 18.9 -2.2**
comp=Z,40nm,1.4s,mb5.0
MBAR *ePcP* PcP 21 56 08.1 -1.1
MBAR LR LR
comp=Z,1µm,21.0s,MS4.7
MBAR Mbarara 43.52 216 *eP* **P** **21 54 18.9 -2.2**
comp=Z,40nm,1.4s,mb5.0
MBAR Mbarara 43.52 216 *ePcP* PcP 21 56 08.1 -1.1
BOD Bodaibo 43.56 42 *eP* **P** **21 54 20.5 -0.3**
BOD *e* pP 21 54 28.3 -2.3
EMUR La Murta 43.60 289 P **P** **21 54 20.9 -0.6**
comp=Z,84nm,1.4s,mb5.3,SNR=14
CSA1 St Austell 43.70 307⇑ *iP* **P** **21 54 22.1 0.0**
ELAN Lanestosa 43.85 297 P **P** **21 54 22.7 -0.8**
comp=Z,98nm,1.3s,mb5.4
ELAN Lanestosa 43.85 297 P **P** **21 54 22.7 -0.7**
comp=Z,98nm,1.3s,mb5.4,SNR=7.3
BDT Bhumibol Dam 43.86 105 P **P** **21 54 24.0 +0.2**
comp=Z,40nm,0.8s,mb5.2
CMA1 Manaccan 43.88 307⇑ *iP* **P** **21 54 23.5 0.0**
HHC Hu-ho-hao-te 43.88 67 ⇑ P **P** **21 54 25.5 +1.8**
HHC AP pP 21 54 31.4 -2.1
HHC XP sP 21 54 36.7 -0.8
HHC PP PP 21 56 09.3 +1.9
HHC PCP PcP 21 56 11.3 +1.3
HHC PCS 22 00 01.9
HHC S **S** **22 00 56.0 +3.8**
HHC AMB AMB
comp=Z,48nm,1.5s,mb5.0
HHC AMB AMB
comp=Z,351nm,4.9s
HHC LR LR
comp=N,2µm,16.5s,MS5.1
HHC LR LR
comp=E,1µm,18.2s,MS5.1
HHC LR LR
comp=Z,1µm,16.7s,MS4.9
CRQ2 Rosemanowes 2 43.89 307⇑ *iP* **P** **21 54 23.6 0.0**
CGH1 Goonhilly 43.90 307⇑ *iP* **P** **21 54 23.3 -0.4**
XAN 'Xi'an 43.91 77 P **P** **21 54 24.7 +0.7**
XAN AP pP 21 54 34.0 +0.2
XAN AMB AMB
comp=Z,55nm,2.1s,mb4.9
XAN LR LR
comp=N,2µm,22.6s,MS5.4
XAN LR LR
comp=E,4µm,18.1s,MS5.4
XAN LR LR
comp=Z,6µm,17.3s,MS5.5
CCA1 Carnmenellis 43.93 307⇑ *iP* **P** **21 54 23.9 -0.1**
CGW Gweek 43.94 307 *i P* **P** **21 54 24.1 +0.1**
CPZ Penzance 44.16 307⇑ *iP* **P** **21 54 25.6 -0.2**
CPZ AMb AMB 21 54 27.6
comp=Z,133nm,1.1s,mb5.6
NANT Nan 44.29 101 ⇑ P **P** **21 54 26.0 -1.3**
comp=Z,50nm,1.0s,mb5.2
EVIA Vianos 44.32 290 ⇑ P **P** **21 54 27.0 -0.3**
comp=Z,139nm,0.8s,mb5.7
EVIA Vianos 44.32 290 P **P** **21 54 27.0 -0.4**
comp=Z,139nm,0.8s,mb5.8,SNR=18
DSB Dublin 44.36 311 *eP* **P** **21 54 26.2 -1.3**
comp=Z,17nm,0.8s,mb4.8
DSB Dublin 44.36 311 *eP* **P** **21 54 26.2 -1.2**
comp=Z,17nm,0.8s,mb4.8
DLF Lyons Farm 44.45 311 *eP* **P** **21 54 28.0 -0.1**
DMUB Kingscourt 44.63 312⇑ *iP* **P** **21 54 29.5 -0.1**
DCN Croghan 44.89 312⇑ *iP* **P** **21 54 31.7 0.0**
EQES Quesada 45.00 289 ⇑ P **P** **21 54 32.5 -0.3**
comp=Z,220nm,1.2s,mb5.9
EQES Quesada 45.00 289 P **P** **21 54 32.5 -0.3**
comp=Z,220nm,1.2s,mb5.9,SNR=18
EARI Arriondas 45.10 297 P **P** **21 54 33.0 -0.5**
comp=Z,128nm,1.3s,mb5.6
EARI Arriondas 45.10 297 P **P** **21 54 33.0 -0.5**
comp=Z,128nm,1.3s,mb5.6,SNR=9.0
ESDC Sonseca Array 45.12 292 P **P** **21 54 33.1 -0.6**
comp=Z,36nm,0.7s,mb5.3,baz=64,slow=8.1,SNR=95
ESDC PcP PcP 21 56 14.3 0.0
comp=Z,12nm,0.8s,baz=39,slow=3.6,SNR=6.2
ESDC Sonseca Array 45.12 292 ⇑ P **P** **21 54 33.1 -0.6**
comp=Z,75nm,0.7s,mb5.6
ESLA Sonseca Array 45.12 292⇑ *iP* **P** **21 54 32.9 -0.8**
comp=Z,38nm,1.1s,mb5.1
ESLA LR LR
comp=Z,7µm,21.0s,MS5.6
ESLA Sonseca Array 45.12 292⇑ *iP* **P** **21 54 32.9 -0.8**
comp=Z,38nm,1.1s,mb5.1
EBER Berja 45.14 288 ⇑ P **P** **21 54 33.4 -0.5**
comp=Z,254nm,1.2s,mb5.9
EBER Berja 45.14 288 P **P** **21 54 33.4 -0.5**
comp=Z,254nm,1.2s,mb5.9,SNR=18
GYA Guiyang 45.16 88 P **P** **21 54 33.9 -0.3**
GYA AP pP 21 54 44.9 +0.9
GYA PCP PcP 21 56 15.0 +0.4
GYA S **S** **22 01 12.5 +1.7**
GYA XS 22 01 31.7
GYA AMB AMB
comp=Z,50nm,1.3s,mb5.2
GYA AMB AMB
comp=Z,380nm,5.7s
GYA LR LR
comp=N,1µm,15.3s,MS5.1
GYA LR LR
comp=E,970nm,15.6s,MS5.1
GYA LR LR
comp=Z,2µm,15.6s,MS5.1
NST Nakhon Sawan 45.66 105 ⇑ P **P** **21 54 39.0 +0.7**
comp=Z,75nm,1.3s,mb5.5
ENH Enshi 45.77 82 *eP* **P** **21 54 39.0 +0.1**
comp=Z,67nm,1.1s,mb5.5
ENH Enshi 45.77 82 *eP* **P** **21 54 39.0 0.0**
comp=Z,67nm,1.1s,mb5.5
ERON Agron 45.80 288 P **P** **21 54 37.6 -1.5**
comp=Z,35nm,1.0s,mb5.2
ERON Agron 45.80 288 P **P** **21 54 37.6 -1.5**
comp=Z,35nm,1.0s,mb5.3,SNR=22
ELUQ Luque 45.98 289 P **P** **21 54 39.3 -1.2**
comp=Z,36nm,0.9s,mb5.3
ELUQ Luque 45.98 289 P **P** **21 54 39.3 -1.2**
comp=Z,36nm,0.9s,mb5.3,SNR=18
ELOJ Sierra Loja 46.02 289 P **P** **21 54 39.5 -1.4**
comp=Z,24nm,1.0s,mb5.1
ELOJ Sierra Loja 46.02 289 P **P** **21 54 39.5 -1.3**
comp=Z,24nm,1.0s,mb5.1,SNR=15
EADA Adamuz 46.02 290 P **P** **21 54 40.4 -0.5**
comp=Z,66nm,0.9s,mb5.6
EADA Adamuz 46.02 290 P **P** **21 54 40.4 -0.4**
comp=Z,66nm,0.9s,mb5.6,SNR=34
ECAL Calabor 46.53 296 P **P** **21 54 43.2 -1.6**
comp=Z,123nm,1.7s,mb5.6
ECAL Calabor 46.53 296 P **P** **21 54 43.2 -1.6**
comp=Z,123nm,1.7s,mb5.5,SNR=7.9

PBRG **Braganca** 46.57 296 *e*P P 21 54 45.3 +0.2
comp=Z,44nm,1.4s,mb5.2
JMIC **Jan Mayen** 46.58 336 *e*P P 21 54 45.8 +1.1
JMIC *e*S S 22 01 38.8 +8.3
JMIC AMS AMS 22 16 10.4
comp=Z,2μm,23.0s,MS4.9
EMIJ **Mijas** 46.68 288 P P 21 54 43.5 -2.6
comp=Z,79nm,0.7s,mb5.8
EMIJ **Mijas** 46.68 288 P P 21 54 43.5 -2.6
comp=Z,79nm,0.7s,mb5.7,SNR=7.9
ERUA **La Rua** 46.70 296 P P 21 54 45.3 -0.9
comp=Z,26nm,0.9s,mb5.2
ERUA **La Rua** 46.70 296 P P 21 54 45.3 -0.9
comp=Z,26nm,0.9s,mb5.1,SNR=6.0
REAL **Reales** 47.04 288 *e*P P 21 54 47.9 -1.0
LIJA **Lijar** 47.05 289 *i*P P 21 54 47.8 -1.2
NNT **Nongplab** 47.25 109 P P 21 54 51.8 +0.9
ESPR **Espera** 47.40 289 ⇑P P 21 54 50.2 -1.6
comp=Z,233nm,1.7s,mb5.8
ESPR **Espera** 47.40 289 P P 21 54 50.2 -1.6
comp=Z,233nm,1.7s,mb5.8,SNR=18
PVRL **Vila Real** 47.42 295 *e*P P 21 54 51.6 -0.3
comp=Z,68nm,1.3s,mb5.4
MOMI **Momias** 47.48 288 *e*P P 21 54 52.0 -0.4
BJI **Beijing** 47.48 67 P P 21 54 50.7 -1.7
BJI PCP PcP 21 56 22.2 -0.4
BJI S S 22 01 40.8 -3.0
BJI XS 22 01 59.9
BJI SS SS 22 05 08.9 +3.5
BJI AMB AMB
comp=Z,20nm,0.5s,mb5.3
BJI LR LR
comp=N,3μm,19.1s,MS5.4
BJI LR LR
comp=E,2μm,19.9s,MS5.4
BJI LR LR
comp=Z,2μm,24.1s,MS5.1
BJT **Baijiatuau** 47.48 67 *e*P P 21 54 49.5 -2.9
comp=Z,72nm,1.4s,mb5.4
BJT LR LR
comp=Z,4μm,19.0s,MS5.4
BJT **Baijiatuau** 47.48 67 *e*P P 21 54 49.5 -2.9
comp=Z,72nm,1.4s,mb5.4
ELOB **Lobios** 47.50 296 P P 21 54 52.9 +0.4
comp=Z,124nm,1.2s,mb5.8
ELOB **Lobios** 47.50 296 P P 21 54 52.9 +0.4
comp=Z,124nm,1.2s,mb5.8,SNR=14
MTE **Manteigas** 47.55 294 *e*P P 21 54 52.8 -0.1
comp=Z,164nm,1.3s,mb5.9
MTE *e*S S 22 01 49.2 +4.5
MTE **Manteigas** 47.55 294⇑*e*P P 21 54 52.7 -0.2
comp=Z,176nm,1.0s,mb6.0
EBAD **Badajoz** 47.66 292 P P 21 54 52.9 -0.9
comp=Z,108nm,1.1s,mb5.8
EBAD **Badajoz** 47.66 292 P P 21 54 52.9 -0.9
comp=Z,108nm,1.1s,mb5.8,SNR=26
PCBR **Castelo Branco** 47.66 293 *e*P P 21 54 53.1 -0.7
comp=Z,148nm,1.2s,mb5.9
HIA **Hailar** 47.69 54 *e*P P 21 54 54.3 +0.4
comp=Z,225nm,1.3s,mb6.0
HIA *e* pP 21 55 05.0 +1.2
HIA LR LR
comp=Z,13μm,19.0s,MS5.9
HIA **Hailar** 47.69 54 *e*P P 21 54 54.3 +0.4
PVIS **Viseu** 47.71 294 *e*P P 21 54 54.0 -0.2
comp=Z,88nm,1.3s,mb5.6
CNIL **Conil** 47.72 288 *e*P P 21 54 53.9 -0.4
EMIN **Mina Concepcio** 47.72 290 P P 21 54 53.4 -0.9
comp=Z,170nm,1.7s,mb5.8
EMIN **Mina Concepcio** 47.72 290 P P 21 54 53.4 -0.9
comp=Z,170nm,1.7s,mb5.8,SNR=26
SCRT **Cerro San Cris** 47.72 289 *e*P P 21 54 53.3 -1.0
SFS **San Fernando** 47.80 288 *i*P P 21 54 56.0 +1.1
SFS **San Fernando** 47.80 288 SS SS 22 05 21.3 +10
PALC **Alcoutim** 48.42 290 *e*P P 21 54 58.6 -1.1
comp=Z,77nm,1.2s,mb5.6
EVO **Evora** 48.47 292⇑*i*P P 21 55 00.1 0.0
comp=Z,142nm,1.2s,mb5.6
EVO *e*R
comp=Z,2μm,21.2s
PBEJ **Beja** 48.52 291 *e*P P 21 54 59.7 -0.8
comp=Z,60nm,1.2s,mb5.5
MOE **Montemor** 48.72 292 *e*P P 21 55 02.3 +0.3
PLOU **Loures** 49.20 293 *e*P P 21 55 06.3 +0.6
PTEO **Sao Teotonio** 49.33 291 *e*P P 21 55 05.8 -0.9
comp=Z,121nm,1.1s,mb5.8
TIA **Tai'an** 49.44 71 *e*P P 21 55 07.9 +0.3
TIA AMB AMB
comp=Z,83nm,1.4s,mb5.6
WHN **Wuhan** 49.49 79 ⇓P P 21 55 07.5 -0.5
WHN S S 22 02 16.0 +3.9
WHN AMB AMB
comp=Z,81nm,1.5s,mb5.5
WHN LR LR
comp=N,3μm,15.0s,MS5.6
WHN LR LR
comp=E,4μm,16.0s,MS5.6
WHN LR LR
comp=Z,11μm,16.3s,MS5.9
CLNS **Chul'man** 49.50 43 *e*P P 21 55 08.2 +0.4
CLNS *e* 21 56 28.4
CLNS *e* 21 56 59.8
CLNS *e*PPP PPP 21 57 51.4 -6.1
CLNS *e*S S 22 02 16.6 +4.7
CLNS pmax pmax
comp=Z,41nm,1.0s,mb5.4
CLNS pmax pmax
comp=N,18nm,0.9s
CLNS pmax pmax
comp=E,22nm,1.1s
CLNS pmax pmax
comp=Z,29nm,1.2s,mb5.2
CLNS pmax pmax
comp=N,27nm,1.0s
CLNS pmax pmax
comp=E,33nm,1.1s
CLNS smax
comp=N,9.0nm,1.1s
CLNS smax
comp=Z,2.0nm,0.9s
CLNS smax
comp=E,9.0nm,1.2s
CLNS MLR MLR
comp=N,2μm,14.0s,MS5.2
CLNS MLR MLR
comp=E,900nm,15.0s,MS5.2
CLNS MLR MLR
comp=Z,3μm,15.0s,MS5.3
DAG **Danmarks Havn** 50.29 343⇓*i*P P 21 55 13.2 -0.4
comp=Z,64nm,1.2s,mb5.5
TIXI **Tiksi** 50.32 23⇑*e*P P 21 55 13.2 -0.6
TIXI LR LR
comp=Z,15μm,19.0s,MS6.0
BORG **Borgarnes** 51.12 328 P P 21 55 21.9 +1.9
comp=Z,90nm,1.3s,mb5.5
BORG LR LR
comp=Z,677nm,19.0s,MS4.7
BORG **Borgarnes** 51.12 328 P P 21 55 21.9 +1.9
comp=Z,90nm,1.3s,mb5.5
YAK **Yakutsk** 51.22 36 P P 21 55 20.3 -0.4
YAK *e* pP 21 55 31.9 +1.2
YAK pmax pmax
comp=Z,60nm,0.8s,mb5.6
YAK **Yakutsk** 51.22 36 *e*P P 21 55 19.8 -0.9
comp=Z,102nm,1.0s,mb5.7
YAK *e* pP 21 55 29.1 -1.7
YAK LR LR
comp=Z,4μm,19.0s,MS5.5
YAK **Yakutsk** 51.22 36 *e*P P 21 55 19.8 -0.9
QIZ **Qiongzhong** 51.39 95 P P 21 55 23.0 +0.3
QIZ AP pP 21 55 33.5 +0.8
QIZ PP PP 21 57 24.1 +3.6
QIZ S S 22 02 40.0 +1.5
QIZ XS 22 02 57.8
QIZ SCS ScS 22 05 10.0 +2.8
QIZ AMB AMB
comp=Z,44nm,1.5s,mb5.2
QIZ LR LR
comp=N,2μm,20.0s
QIZ LR LR
comp=Z,2μm,19.6s,MS5.0
QIZ **Qiongzhong** 51.39 95 PFAKE 21 55 30.0 +7.3
QIZ LR LR
comp=Z,2μm,20.0s,MS5.1
SNG **Songkhla** 51.43 114 P P 21 55 21.0 -2.0
comp=Z,152nm,0.9s,mb5.9

DL2 **Dalian** 51.84 66 P P 21 55 26.6 +0.8
DL2 S S 22 02 47.1 +2.6
DL2 AMB AMB
comp=Z,40nm,1.2s,mb5.2
DL2 LR LR
comp=E,1μm,20.9s
DL2 LR LR
comp=Z,2μm,17.6s,MS5.1
GZH **Guangzhou** 52.09 88 P P 21 55 28.2 +0.3
GZH S S 22 02 40.5 -7.6
GZH LR LR
comp=N,2μm,21.5s,MS5.3
GZH LR LR
comp=E,2μm,23.3s,MS5.3
GZH LR LR
comp=Z,5μm,17.4s
SNY **Shenyang** 52.25 62 ⇑P P 21 55 28.6 -0.3
SNY AP pP 21 55 44.2 +5.3
SNY PP PP 21 57 27.2 -0.9
SNY S S 22 02 50.5 +0.5
SNY LR LR
comp=N,3μm,15.3s,MS5.5
SNY LR LR
comp=E,2μm,14.1s,MS5.5
SNY LR LR
comp=Z,3μm,15.5s,MS5.4
NJ2 **Nanjing** 52.37 75 *e*P P 21 55 30.1 +0.2
NJ2 AP pP 21 55 40.2 +0.3
NJ2 XP sP 21 55 44.2 +0.4
NJ2 PP PP 21 57 30.6 +1.1
NJ2 S S 22 02 53.0 +1.2
NJ2 XS 22 03 11.0
NJ2 SS SS 22 06 31.0 +2.9
NJ2 AMB AMB
comp=Z,70nm,0.9s,mb5.6
NJ2 AMB AMB
comp=Z,680nm,7.1s
NJ2 LR LR
comp=Z,5μm,23.7s,MS5.5
CN2 **Changchun** 52.91 59 *e*P P 21 55 33.8 0.0
CN2 *e*AP pP 21 55 41.5 -2.3
CN2 PCP PcP 21 56 42.2 -0.2
CN2 *e*S S 22 03 00.8 +1.9
CN2 AMB AMB
comp=Z,400nm,5.0s
CN2 LR LR
comp=N,4μm,16.0s,MS5.6
CN2 LR LR
comp=E,2μm,16.0s,MS5.6
CN2 LR LR
comp=Z,5μm,17.0s,MS5.7
AEKI **Aeknabara** 53.42 120⇑*i*P P 21 55 35.1 -2.8
IPM **Ipoh** 53.49 116⇓*e*P P 21 55 37.5 -0.9
comp=Z,79nm,0.9s,mb5.6
MRPI **Mariponipon** 54.37 120⇑*i*P P 21 55 42.6 -2.2
SSE **Sheshan** 54.58 75 P P 21 55 46.6 +0.4
SSE XP sP 21 56 01.0 +1.0
SSE S S 22 03 22.7 +1.0
SSE XS 22 03 41.6
SSE SCS ScS 22 05 30.7 +1.4
SSE AMB AMB
comp=Z,67nm,1.2s,mb5.5
SSE AMB AMB
comp=Z,177nm,3.9s
SSE LR LR
comp=N,3μm,18.7s,MS5.4
SSE LR LR
comp=E,1μm,19.3s,MS5.4
SSE LR LR
comp=Z,2μm,17.2s,MS5.2
KLR **Kul'dur** 55.30 51 *e*P P 21 55 47.0 -4.2
KLR *e*S S 22 03 29.5 -1.6
KLR *e* 22 05 35.5
KLR *e*SS SS 22 07 12.0 -3.4
KLR pmax pmax
comp=N,44nm,1.0s
KLR pmax pmax
comp=Z,84nm,1.0s,mb5.7
KLR MLR MLR
comp=E,2μm,14.0s
KLR MLR MLR
comp=Z,4μm,14.0s,MS5.6
MDJ **Mudanjiang** 55.45 57 P P 21 55 51.0 -1.3
MDJ AP pP 21 56 00.0 -2.3
MDJ PCP PcP 21 56 50.9 -1.1
MDJ PP PP 21 57 54.7 -2.9
MDJ S S 22 03 34.0 +0.9
MDJ SCS ScS 22 05 37.0 +1.7
MDJ SS SS 22 07 19.5 +1.7
MDJ AMB AMB
comp=Z,270nm,10.1s
MDJ LR LR
comp=N,2μm,15.6s,MS5.5
MDJ LR LR
comp=E,3μm,16.9s,MS5.5
MDJ LR LR
comp=Z,3μm,16.9s,MS5.5
MDJ **Mudanjiang** 55.45 57 *e*P P 21 55 51.4 -1.0
comp=Z,41nm,1.2s,mb5.3
MDJ LR LR
comp=Z,1μm,22.0s,MS5.0
MDJ **Mudanjiang** 55.45 57 *e*P P 21 55 51.4 -0.9
comp=Z,41nm,1.2s,mb5.3
SUMG **Summit** 55.84 339 *e*P P 21 55 54.8 +0.1
comp=Z,168nm,1.2s,mb6.0
SUMG *e*PcP PcP 21 56 53.8 +0.6
SUMG *e*PP PP 21 58 01.4 +0.6
SUMG **Summit** 55.84 339 *e*P P 21 55 54.8 0.0
comp=Z,168nm,1.2s,mb6.0
SUMG **Summit** 55.84 339 *e*PcP PcP 21 56 53.8 +0.6
INCN **Inchon** 56.03 66 P P 21 55 55.8 -0.8
comp=Z,31nm,0.8s,mb5.4
INCN LR LR
comp=Z,1μm,20.0s,MS5.1
INCN **Inchon** 56.03 66 P P 21 55 55.8 -0.8
comp=Z,31nm,0.8s,mb5.4
EFAM **Famara** 56.39 283 P P 21 56 00.0 +0.7
comp=Z,113nm,1.2s,mb5.8,SNR=7.7
KS15 **Wonju Array Si** 56.96 66 *e*P P 21 56 02.1 -1.2
KS15 **Wonju Array Si** 56.96 66 *e*P P 21 56 02.1 -1.2
TATO **Taipei** 57.64 82 *e*P P 21 56 09.2 +0.9
comp=Z,236nm,1.5s,mb6.0
TATO LR LR
comp=Z,3μm,20.0s,MS5.4
TATO **Taipei** 57.64 82 *e*P P 21 56 09.1 +0.9
comp=Z,236nm,1.5s,mb6.0
LSZ **Lusaka** 57.73 210 P P 21 56 07.1 -1.8
LSZ pmax pmax
comp=Z,20nm,1.0s,mb5.1
LSZ **Lusaka** 57.73 210 *e*P P 21 56 06.8 -2.1
comp=Z,30nm,1.2s,mb5.2
LSZ *e*PcP PcP 21 57 00.2 -1.1
LSZ LR LR
comp=Z,5μm,19.0s,MS5.7
LSZ **Lusaka** 57.73 210 *e*P P 21 56 06.8 -2.1
comp=Z,30nm,1.2s,mb5.2
LSZ **Lusaka** 57.73 210 *e*PcP PcP 21 57 00.2 -1.1
EOSO **Osorio** 58.45 283 P P 21 56 14.2 +0.4
comp=Z,162nm,1.3s,mb5.9
EOSO **Osorio** 58.45 283 P P 21 56 14.2 +0.3
comp=Z,162nm,1.3s,mb5.9,SNR=7.9
EBAJ **Bajamar** 58.85 284 P P 21 56 16.3 -0.3
comp=Z,110nm,0.8s,mb5.9
EBAJ **Bajamar** 58.85 284 P P 21 56 16.3 -0.3
comp=Z,110nm,0.8s,mb5.9,SNR=14
CRAJ **Montana Rajada** 59.17 284 P P 21 56 19.2 +0.3
SNR=7.9
CCAN **Las Canadas** 59.20 284 P P 21 56 19.3 +0.3
comp=Z,31nm,0.9s,mb5.3
CCAN **Las Canadas** 59.20 284 P P 21 56 19.3 +0.2
comp=Z,31nm,0.9s,mb5.3,SNR=6.3
CHIO **Chio** 59.35 284 P P 21 56 19.6 -0.5
comp=Z,335nm,1.0s,mb6.3,SNR=7.9
EGOM **La Gomera** 59.70 284 P P 21 56 21.7 -0.8
comp=Z,119nm,1.0s,mb5.9
EGOM **La Gomera** 59.70 284 P P 21 56 21.7 -0.8
comp=Z,119nm,1.0s,mb5.9,SNR=12
CHIE **El Hierro** 60.49 284 P P 21 56 27.4 -0.5
SNR=7.9
EHRO **Hierro** 60.59 284 P P 21 56 29.1 +0.5
comp=Z,306nm,1.2s,mb6.3
EHRO **Hierro** 60.59 284 P P 21 56 29.1 +0.5
comp=Z,306nm,1.2s,mb6.3,SNR=10
DBIC **Dimbokro** 61.66 256 P P 21 56 34.5 -1.5
comp=Z,95nm,0.9s,mb5.9,baz=30,slow=7.6,SNR=69
DBIC LR LR 22 26 50.5
comp=Z,3μm,18.6s,MS5.4,baz=33,slow=39
DBIC **Dimbokro** 61.66 256 P P 21 56 34.5 -1.6
DBIC pmax pmax
comp=Z,95nm,0.9s
DBIC MLR MLR
comp=Z,3μm,18.6s
DBIC **Dimbokro** 61.66 256⇑*i*P P 21 56 34.5 -1.6
comp=Z,151nm,1.0s,mb6.1
DBIC *e* 21 56 47.8
DBIC LR LR
comp=Z,3μm,19.0s,MS5.4
DBIC **Dimbokro** 61.66 256⇑*i*P P 21 56 34.5 -1.6
KIC **Kosan Boka** 61.77 256 *e*P P 21 56 35.4 -1.4
comp=Z,1μm,1.1s
MA2 **Magadan** 61.77 35 P P 21 56 37.2 +1.0
MA2 **Magadan** 61.77 35 *e*P P 21 56 36.7 +0.5
comp=Z,90nm,1.0s,mb5.9
MA2 LR LR
comp=Z,1μm,22.0s,MS5.0
TIC **Toumodi** 61.80 256 *e*P P 21 56 35.7 -1.3
comp=Z,1μm,1.2s
LIC **Lamto** 62.07 256 *e*P P 21 56 37.4 -1.4
comp=Z,853nm,1.1s
LIC **Lamto** 62.07 256⇑*i*P P 21 56 37.4 -1.4
comp=Z,162nm,0.7s,mb6.2
YSS **Yuzh-Sakhalins** 62.98 50⇑*e*P P 21 56 42.9 -1.5
YSS *e**SP sP 21 56 55.0 -3.2
YSS S S 22 05 11.0 +0.4
YSS *e*SSS SSS 22 12 06.0 +2.7
YSS pmax pmax
comp=Z,210nm,1.1s,mb6.2
YSS MLR MLR
comp=N,1μm,15.0s,MS5.4
YSS MLR MLR
comp=E,2μm,16.0s,MS5.4
YSS MLR MLR
comp=Z,2μm,16.0s,MS5.3
YSS **Yuzh-Sakhalins** 62.98 50 *e*P P 21 56 43.0 -1.4
comp=Z,285nm,1.1s,mb6.3
YSS *e* pP 21 56 54.9 +0.4
YSS LR LR
comp=Z,4μm,19.0s,MS5.6
YSS **Yuzh-Sakhalins** 62.98 50 *e*P P 21 56 43.0 -1.4
COCO **West Island** 63.22 132 PFAKE 21 57 00.0 +14
COCO LR LR
comp=Z,421nm,20.0s,MS4.6
PENI **Pendagan** 63.56 121⇑*i*P P 21 56 45.2 -3.5
comp=Z,55nm,0.6s,mb5.8
KKM **Kota Kinabalu** 63.99 103⇓*e*P P 21 56 52.3 +0.8
comp=Z,55nm,1.0s,mb5.5
ASAJ **Asahikawa** 64.17 53 LR LR 22 27 02.2
comp=Z,4μm,18.9s,MS5.6,baz=294,slow=38
PASI **Pasiripis** 64.66 121⇓*i*P P 21 56 52.8 -3.1
MAJO **Matsushiro** 64.76 62 P P 21 56 54.8 -1.4
MAJO pmax pmax
comp=Z,67nm,1.2s,mb5.5
MAJO **Matsushiro** 64.76 62 *e*P P 21 56 54.7 -1.5
comp=Z,54nm,1.1s,mb5.5
MAJO *e* pP 21 57 05.8 -0.6
MAJO LR LR
comp=Z,2μm,19.0s,MS5.2
MAJO **Matsushiro** 64.76 62 *e*P P 21 56 54.7 -1.5
MAT **Matsushiro** 64.76 62 P P 21 56 54.5 -1.7
MAT S S 22 05 35.0 +2.1
MAT **Matsushiro** 64.76 62 *e*P P 21 56 55.0 -1.2
comp=Z,66nm,1.2s,mb5.5
MAT *e*S S 22 05 35.0 +2.1
MAT LR LR
comp=Z,2μm,20.0s,MS5.2
MAT **Matsushiro** 64.76 62 *e*P P 21 56 55.0 -1.2
comp=Z,66nm,1.2s,mb5.5
MAT *e*S S 22 05 35.0 +2.1
ERM **Erimo** 65.52 55 PFAKE 21 57 10.0 +9.1
ERM LR LR
comp=Z,7.0nm,22.0s
TSUM **Tsumeb** 65.95 218 *e*P P 21 57 02.9 -1.2
comp=Z,14nm,0.8s,mb5.0
TSUM LR LR
comp=Z,3μm,19.0s,MS5.6
TSUM **Tsumeb** 65.95 218 *e*P P 21 57 02.9 -1.2
comp=Z,14nm,0.8s,mb5.0
YUK **Yuzh-Kuril'sk** 66.28 52 P P 21 57 03.0 -2.7
RES **Resolute Bay** 66.59 352 P P 21 57 07.7 +0.5
RES pmax pmax
comp=Z,53nm,1.1s,mb5.5
RES **Resolute Bay** 66.59 352 *e*P P 21 57 06.9 -0.4
comp=Z,64nm,1.2s,mb5.5
RES *e* pP 21 57 17.1 -0.4
RES **Resolute Bay** 66.59 352 *e*P P 21 57 06.9 -0.3
JHJ **Hachijo jima 2** 67.58 65 LR LR 22 29 22.6
comp=Z,1μm,19.8s,MS5.2,baz=296,slow=38
PET **Petropavlovsk** 68.85 39 *e*P P 21 57 25.9 +4.2
PET *e*S S 22 06 19.8 -2.1
PET *e*SS SS 22 10 42.3 -6.7
PET pmax pmax
comp=Z,200nm,21.3s
PET MLR MLR
comp=N,1μm,19.0s,MS5.5
PET MLR MLR
comp=Z,3μm,19.0s,MS5.6
PET MLR MLR
comp=E,2μm,18.0s,MS5.5
PET **Petropavlovsk** 68.85 39 PFAKE 21 57 30.0 +8.3
PET LR LR
comp=Z,4μm,19.0s,MS5.6
FRB **Frobisher Bay** 69.79 337 P P 21 57 27.0 -0.3
comp=Z,92nm,0.8s,mb5.8,baz=42,slow=7.0,SNR=34
FRB **Frobisher Bay** 69.79 337 P P 21 57 27.0 -0.3
FRB pmax pmax
comp=Z,92nm,0.8s
BOSA **Boshof** 70.94 207 P P 21 57 33.8 -1.1
BOSA **Boshof** 70.94 207 *e*P P 21 57 34.0 -0.9
comp=Z,115nm,1.2s,mb5.7
BOSA LR LR
comp=Z,3μm,20.0s,MS5.6
BOSA **Boshof** 70.94 207 *e*P P 21 57 34.0 -0.9
comp=Z,115nm,1.2s,mb5.7
SRDI **Scrawed** 71.91 116⇑*i*P P 21 57 27.2 -14
KELI **Kelakatan** 71.99 116⇑*i*P P 21 57 32.1 -9.3
TANI **Tanete Lipujan** 72.43 108⇓*i*P P 21 57 32.0 -12
TNA **Tin City** 72.46 17 *e*P P 21 57 43.3 0.0
comp=Z,47nm,1.0s,mb5.4
TNA LR LR
comp=Z,1μm,20.0s,MS5.2
TNA **Tin City** 72.46 17 *e*P P 21 57 43.3 0.0
comp=Z,47nm,1.0s,mb5.4
CBIJ **Chichi jima** 72.52 69 LR LR 22 33 41.1
comp=Z,1μm,19.3s,MS5.3,baz=139,slow=39
RATI **Rata** 73.08 115⇑*i*P P 21 57 34.9 -13
BUNI **Buntu Taipa** 73.29 108⇑*i*P P 21 57 45.9 -3.3
comp=Z,5.8nm,0.4s,mb4.9
KEDI **Kedomdong** 73.34 115⇑*i*P P 21 57 41.4 -8.1
NINI **Ninicomang** 73.36 109⇑*i*P P 21 57 43.3 -6.2
ANM **Nome** 73.89 17 *e*P P 21 57 52.5 +0.9
INK **Inuvik** 74.67 3 P P 21 57 55.9 -0.2
comp=Z,49nm,1.0s,mb5.4,baz=4.9,slow=7.1,SNR=27
INK **Inuvik** 74.67 3 P P 21 57 55.9 -0.2
INK pmax pmax
comp=Z,49nm,1.0s
INK **Inuvik** 74.67 3⇑*e*P P 21 57 55.6 -0.4
comp=Z,92nm,1.1s,mb5.6
INK **Inuvik** 74.67 3⇑*e*P P 21 57 55.6 -0.5
comp=Z,92nm,1.1s,mb5.6
IMA **Indian Mountai** 74.82 11 *e*P P 21 57 56.6 -0.4
SCHQ **Schefferville** 75.48 329 P P 21 58 00.8 -0.1
comp=Z,55nm,0.9s,mb5.5,baz=47,slow=6.2,SNR=30
SCHQ pP pP 21 58 11.2 0.0
comp=Z,35nm,0.8s,baz=40,slow=5.8,SNR=9.8
SCHQ LR LR 22 34 56.1
comp=Z,638nm,20.4s,MS4.9,baz=143,slow=39
SCHQ **Schefferville** 75.48 329⇑*e*P P 21 58 00.6 -0.3
comp=Z,111nm,1.0s,mb5.8
SCHQ *e* pP 21 58 11.4 +0.2
SCHQ LR LR
comp=Z,1μm,20.0s,MS5.2
FX1 **Attu Island--F** 75.77 33 *e*P P 21 58 01.3 -1.4
FX1 **Attu Island--F** 75.77 33 *e*P P 21 58 01.3 -1.4
SUR **Sutherland** 75.98 209 PFAKE 21 58 20.0 +16
SUR LR LR
comp=Z,1μm,20.0s,MS5.3
SMY **Shemya** 76.29 33 *e*P P 21 58 17.3 +12
COLA **College** 76.80 10 *e*P P 21 58 09.4 +1.2
ILAR **Eielson Array** 77.02 9 P P 21 58 09.5 +0.1
comp=Z,56nm,0.9s,mb5.5,baz=331,slow=3.8,SNR=132

ILAR pP pP 21 58 20.1 +0.4
comp=Z,42nm,1.0s,baz=319,slow=4.9,SNR=12
ILAR PKKPbc 22 17 16.6
comp=Z,1.4nm,0.9s,baz=191,slow=3.2,SNR=8.5
ILAR PKPPKP 22 25 13.8
comp=Z,0.7nm,1.0s,baz=204,slow=5.2,SNR=4.1
MCK McKinley 77.73 10 P **P 21 58 14.2 +0.8**
MCK pmax pmax
comp=Z,94nm,1.1s,mb5.6
MCK McKinley 77.73 10 *eP* **P 21 58 13.9 +0.5**
comp=Z,108nm,1.1s,mb5.7
MCK *e* pP 21 58 23.5 -0.2
MCK LR LR
comp=Z,880nm,20.0s,MS5.1
THY Trims Highway 78.47 9 *eP* **P 21 58 17.3 -0.1**
THY *e* pP 21 58 29.5 +1.8
THY Trims Highway 78.47 9 *eP* **P 21 58 17.3 -0.1**
DAWY Dawson 78.51 6 *eP* **P 21 58 18.3 +0.7**
DAWY *e* pP 21 58 29.6 +1.6
DAWY Dawson 78.51 6 *eP* **P 21 58 18.3 +0.7**
SPU Mount Spurr 79.64 13 *eP* **P 21 58 23.6 -0.2**
SPU *e* 21 58 36.9
SPU Mount Spurr 79.64 13 *eP* **P 21 58 23.6 -0.2**
SML Sawmill 79.65 11 *eP* **P 21 58 24.1 +0.2**
SML Sawmill 79.65 11 *eP* **P 21 58 24.1 +0.2**
PMR Palmer 79.74 11 P **P 21 58 26.1 +1.8**
PMR pmax pmax
comp=Z,230nm,1.0s,mb6.1
PMR Palmer 79.74 11 *eP* **P 21 58 24.8 +0.5**
FIB Fire Island 79.97 12 P **P 21 58 28.5 +2.9**
FIB Fire Island 79.97 12 *eP* **P 21 58 27.8 +2.2**
FIB LR LR
comp=Z,1μm,20.0s,MS5.2
FIB Fire Island 79.97 12 *eP* **P 21 58 27.8 +2.2**
RSO Redoubt South 80.19 13 *eP* **P 21 58 27.2 +0.4**
RSO *e* pP 21 58 37.7 +0.6
RSO Redoubt South 80.19 13 *eP* **P 21 58 27.2 +0.4**
YKW3 Yellowknife Ar 80.22 355 *eP* **P 21 58 27.0 +0.1**
YKW3 *e* pP 21 58 36.4 -1.0
YKW3 Yellowknife Ar 80.22 355 *eP* **P 21 58 27.0 +0.1**
YKA Yellowknife Ar 80.29 355 P **P 21 58 27.2 0.0**
comp=Z,60nm,0.8s,mb5.6,baz=5.0,slow=6.3,SNR=103
YKA pP pP 21 58 37.4 -0.3
comp=Z,66nm,1.1s,baz=32,slow=6.3,SNR=13
YKA LR LR 22 40 22.7
comp=Z,1μm,18.6s,MS5.3,baz=25,slow=40
YKA Yellowknife Ar 80.29 355 P **P 21 58 27.2 -0.1**
YKA *PP pP 21 58 37.4 -0.3
YKA pmax pmax
comp=Z,60nm,0.8s
YKA MLR MLR
comp=Z,1μm,18.6s
SLKM Skilak Lake 80.59 12 P **P 21 58 29.4 +0.5**
SLKM Skilak Lake 80.59 12 *eP* **P 21 58 29.0 +0.1**
SLKM *e* pP 21 58 39.5 +0.2
DIV Divide 80.67 10⇑*iP* **P 21 58 30.2 +0.9**
comp=Z,872nm,1.3s,mb6.5
DIV *e* pP 21 58 40.8 +1.1
DIV LR LR
comp=Z,4μm,19.0s,MS5.7
DIV Divide 80.67 10⇑*iP* **P 21 58 30.2 +0.9**
FCC Fort Churchill 80.89 344 P **P 21 58 31.4 +0.9**
FCC pmax pmax
comp=Z,140nm,1.0s,mb5.8
FCC Fort Churchill 80.89 344⇑*eP* **P 21 58 30.6 +0.1**
comp=Z,175nm,1.1s,mb5.9
FCC Fort Churchill 80.89 344⇑*eP* **P 21 58 30.5 0.0**
comp=Z,175nm,1.1s,mb5.9
EYAK Cordova Ski Ar 81.23 10⇑*eP* **P 21 58 33.4 +1.1**
EYAK Cordova Ski Ar 81.23 10⇑*eP* **P 21 58 33.4 +1.1**
PQI Presque Isle 81.89 324 PFAKE
PQI LR LR 21 58 50.0 +14
comp=Z,4μm,19.0s,MS5.8
UNV Unalaska Valle 82.70 23⇑*eP* **P 21 58 35.5 -4.5**
comp=Z,135nm,1.0s,mb5.9
UNV LR LR
comp=Z,9μm,19.0s,MS6.2
KDAK Kodiak Island 82.72 14 P **P 21 58 41.0 +1.0**
comp=Z,934nm,1.1s,SNR=16
KDAK Kodiak Island 82.72 14 *eP* **P 21 58 40.9 +0.8**
comp=Z,258nm,1.2s,mb6.1
KDAK *e* pP 21 58 49.6 -0.9
KDAK LR LR
comp=Z,488nm,21.0s,MS4.8
KDAK Kodiak Island 82.72 14 *eP* **P 21 58 40.9 +0.9**
EMMW East Machias 83.06 322⇑*eP* **P 21 58 41.9 -0.2**
EMMW *e* pP 21 58 53.4 +0.8
EMMW LR LR
comp=Z,3μm,20.0s,MS5.7
EMMW East Machias 83.06 322⇑*eP* **P 21 58 41.9 -0.2**
WVL Waterville 84.22 323 PFAKE
WVL LR LR 21 59 00.0 +12
comp=Z,4μm,19.0s,MS5.9
MBWA Marble Bar 84.51 122 *eP* **P 21 58 49.1 -0.9**
comp=Z,108nm,1.3s,mb5.8
MBWA *e* pP 21 58 59.3 -1.1
MBWA LR LR
comp=Z,2μm,21.0s,MS5.6
MBWA Marble Bar 84.51 122 *eP* **P 21 58 49.1 -0.8**
DLBC Dease Lake 84.68 2 P **P 21 58 50.6 +0.8**
comp=Z,41nm,0.9s,mb5.6,baz=335,slow=6.2,SNR=38
DLBC Dease Lake 84.68 2 *eP* **P 21 58 51.4 +1.5**
DLBC *e* pP 21 59 01.4 +1.1
SIT Sitka 85.78 5 *eP* **P 21 58 57.2 +1.8**
comp=Z,200nm,1.3s,mb6.2
SIT *e* pP 21 59 09.3 +3.4
SIT LR LR
comp=Z,1μm,19.0s,MS5.4
FFD Franklin Falls 86.00 324 P **P 21 58 58.0 +1.2**
comp=Z,44nm,1.5s,mb5.5
FFC Flin Flon 86.25 347 P **P 21 58 57.7 -0.1**
FFC pmax pmax
comp=Z,81nm,1.1s,mb5.9
FFC Flin Flon 86.25 347⇑*eP* **P 21 58 57.6 -0.2**
comp=Z,139nm,1.3s,mb6.0
FFC *e* pP 21 59 08.3 0.0
FFC LR LR
comp=Z,335nm,22.0s,MS4.7
LOZ Lake Ozonia 86.45 326 *eP* **P 21 58 59.4 +0.4**
FITZ Fitzroy Crossi 86.62 116 P **P 21 58 59.5 -0.9**
comp=Z,52nm,0.8s,mb5.8,baz=313,slow=3.1,SNR=75
WES Weston 86.66 323 *eP* **P 21 59 01.2 +1.1**
comp=Z,19nm,0.9s,mb5.3
WES LR LR
comp=Z,1μm,22.0s,MS5.2
HRV Harvard--Oak R 86.68 323 P **P 21 59 01.7 +1.5**
HRV Harvard--Oak R 86.68 323⇑*eP* **P 21 59 01.4 +1.1**
comp=Z,32nm,1.3s,mb5.4
HRV LR LR
comp=Z,972nm,19.0s,MS5.2
NCB Newcomb 86.79 326 PFAKE
NCB LR LR 21 59 10.0 +9.3
comp=Z,938nm,20.0s,MS5.2
ACCN Adirondack Com 87.00 325 *eP* **P 21 59 03.4 +1.7**
SADO Sadowa 88.28 329 P **P 21 59 09.7 +1.8**
comp=Z,4.4nm,0.6s,mb4.9,baz=337,slow=3.9,SNR=4.8
MENI Mendum Tagoi 88.30 94⇑*iP* **P 21 59 07.5 -1.2**
comp=Z,31nm,1.3s,mb5.4
YOMI Yo Moklole 88.49 94⇑*iP* **P 21 59 03.8 -5.8**
comp=Z,65nm,1.4s,mb5.7
BINY Binghamton 88.98 326 PFAKE
BINY LR LR 21 59 20.0 +8.7
comp=Z,1μm,19.0s,MS5.3
ULM Lac du Bonnet 89.10 341 P **P 21 59 11.7 0.0**
comp=Z,59nm,0.9s,mb5.9,baz=31,slow=5.1,SNR=27
ULM LR LR 22 42 18.5
comp=Z,1μm,18.9s,MS5.4,baz=217,slow=38
ULM Lac du Bonnet 89.10 341 *eP* **P 21 59 11.3 -0.3**
comp=Z,114nm,1.0s,mb6.2
ULM *e* pP 21 59 22.1 0.0
ULM LR LR
comp=Z,2μm,19.0s,MS5.6
EDM Edmonton 89.36 353 P **P 21 59 14.0 +1.2**
EDM Edmonton 89.36 353⇑*iP* **P 21 59 13.4 +0.6**
EDM *e* pP 21 59 23.5 +0.2
EYMN Ely 89.97 338 PFAKE
EYMN LR LR 21 59 30.0 +14
comp=Z,11nm,21.0s
NWAO Narrogin (SRO) 91.05 132 *eP* **P 21 59 19.9 -1.2**
comp=Z,108nm,1.4s,mb6.0
NWAO *e* 21 59 28.1
NWAO LR LR
comp=Z,1μm,22.0s,MS5.3
SSPA Standing Stone 91.09 326 PFAKE
SSPA LR LR 21 59 30.0 +8.9
comp=Z,1μm,20.0s,MS5.3
AAM Ann Arbor 92.16 330 PFAKE
AAM LR LR 21 59 40.0 +14
comp=Z,1μm,20.0s,MS5.3
DGMT Dagmar 92.64 346 *eP* **P 21 59 29.0 +1.0**
comp=Z,150nm,1.1s,mb6.3
DGMT *e* pP 21 59 39.5 +1.0
DGMT LR LR
comp=Z,1μm,20.0s,MS5.4
MCWV Mont Chateau 92.76 326 PFAKE
MCWV LR LR 21 59 40.0 +11
comp=Z,1μm,19.0s,MS5.3
CBN Corbin 92.81 324 PFAKE
CBN LR LR 21 59 40.0 +11
comp=Z,1μm,19.0s,MS5.3
WALA Waterton Lakes 93.53 352 *eP* **P 21 59 32.5 +0.4**
comp=Z,50nm,1.0s,mb5.9
WALA *e* pP 21 59 41.8 -0.8
ACSO Alum Creek Sta 93.63 329 PFAKE 21 59 40.0 +7.2
ACSO LR LR
comp=Z,1μm,19.0s,MS5.3
RCBR Riachuelo 93.74 266 PFAKE
RCBR LR LR 21 59 50.0 +16
comp=Z,1μm,21.0s,MS5.3
JFWS Jewell Farm 94.06 335 P **P 21 59 31.9 -2.8**
JFWS pmax pmax
comp=Z,52nm,1.0s,mb5.9
JFWS Jewell Farm 94.06 335 *e*PKPdf **P 21 59 31.0 -3.7**
comp=Z,52nm,1.0s,mb5.9
JFWS LR LR
comp=Z,1μm,20.0s,MS5.4
WRA Warramunga Arr 94.14 112 P **P 21 59 34.2 -1.4**
comp=Z,7.4nm,0.8s,mb5.2,baz=319,slow=4.3,SNR=30
WRA PP PP 22 03 17.4 -7.7
comp=Z,5.9nm,1.2s,baz=312,slow=8.2,SNR=5.8
WRA PKKPbc 22 16 37.8
comp=Z,2.0nm,0.7s,baz=129,slow=2.4,SNR=10
WRA PKPPKP 22 24 49.3
comp=Z,1.2nm,1.2s,baz=96,slow=2.7,SNR=5.0
WRAB Tennant Creek 94.15 112 *eP* **P 21 59 33.9 -1.7**
comp=Z,37nm,1.2s,mb5.7
WRAB LR LR
comp=Z,239nm,20.0s,MS4.7
NEW Newport 94.61 354 P **P 21 59 38.4 +1.3**
NEW pmax pmax
comp=Z,67nm,1.1s
NEW Newport 94.61 354 *eP* **P 21 59 38.2 +1.1**
comp=Z,110nm,1.2s,mb6.2
NEW *e* pP 21 59 48.9 +1.3
NEW LR LR
comp=Z,2μm,19.0s,MS5.5
CMW Cultus Mountai 94.73 358 P **P 21 59 39.1 +1.5**
LAO LASA Array 94.73 347 *eP* **P 21 59 39.0 +1.3**
comp=Z,225nm,1.3s,mb6.4
LAO *e* pP 21 59 48.9 +0.7
LAO LR LR
comp=Z,2μm,20.0s,MS5.5
JCW Jim Creek 94.95 358 P **P 21 59 38.9 +0.2**
NLW Nelson Butte 95.00 356 *eP* **P 21 59 40.5 +1.6**
NLW *e* pP 21 59 49.2 -0.2
BLA Blacksburg 95.02 325 PFAKE 21 59 50.0 +11
BLA LR LR
comp=Z,1μm,21.0s,MS5.4
STW Striped Peak 95.04 359 P **P 21 59 41.6 +2.5**
WAKE Wake Island 95.04 61 PFAKE 21 59 50.0 +10
WAKE LR LR
comp=Z,87μm,22.0s
DPW Davenport 95.08 355 P **P 21 59 41.2 +1.9**
DPW Davenport 95.08 355 P **P 21 59 41.1 +1.8**
WRW Wenatchee Ridg 95.25 357 P **P 21 59 41.0 +0.9**
SLFW Sugar Loaf 95.33 357 P **P 21 59 41.9 +1.4**
HTW Haystack Looko 95.34 357 P **P 21 59 41.6 +1.1**
WTV Waterville 95.36 356 P **P 21 59 42.0 +1.4**
OCWA Octopus Mounta 95.45 359 PFAKE 21 59 50.0 +9.0
OCWA LR LR
comp=Z,2μm,20.0s,MS5.6
ETW Entiat 95.48 356 P **P 21 59 42.5 +1.4**
HDW Hoodsport 95.53 358 P **P 21 59 43.2 +1.8**
CHMT Chamberlain Mo 95.57 352 *eP* **P 21 59 42.4 +0.8**
CHMT *e* pP 21 59 52.2 +0.1
HRY Holter Researc 95.59 351 *eP* **P 21 59 42.4 +0.8**
HRY *e* pP 21 59 52.6 +0.5
OD2 Odessa Site #2 95.60 355 P **P 21 59 42.7 +1.0**
GNW Green Mountain 95.61 358 *eP* **P 21 59 42.8 +1.0**
GNW *e* pP 21 59 53.8 +1.6
GMW Gold Mountain 95.63 358 P **P 21 59 43.6 +1.8**
RMW Rattlesnake Mo 95.68 357 P **P 21 59 43.3 +1.2**
RMW Rattlesnake Mo 95.68 357 P **P 21 59 43.2 +1.1**
EPH Ephrata 95.69 356 P **P 21 59 43.5 +1.4**
MSO Missoula 95.73 352 *eP* **P 21 59 42.5 +0.2**
comp=Z,31nm,1.2s,mb5.6
MSO *e* pP 21 59 52.4 -0.4
MSO LR LR
comp=Z,901nm,21.0s,MS5.2
GSM Grass Mountain 95.94 357 P **P 21 59 44.8 +1.6**
ASAR Alice Springs 96.10 115 P **P 21 59 43.0 -1.5**
comp=Z,6.7nm,0.8s,mb5.1,baz=310,slow=4.4,SNR=29
ASAR PP PP 22 03 38.1 -1.6
comp=Z,4.7nm,1.1s,baz=311,slow=6.6,SNR=4.6
ASAR PKKPbc 22 16 32.2
comp=Z,1.9nm,0.8s,baz=133,slow=3.1,SNR=11
ASAR LR LR 22 51 40.8
comp=Z,556nm,20.3s,MS5.0,baz=303,slow=41
EBG Ellensburg 96.18 357 P **P 21 59 45.9 +1.5**
GCMT Greycliff 96.19 349 *eP* **P 21 59 45.5 +1.1**
GCMT *e* pP 21 59 56.5 +1.6
FMW Mount Fremont 96.21 357 P **P 21 59 45.5 +1.0**
TRIS Tristan da Cun 96.25 228 PFAKE 22 00 00.0 +15
TRIS LR LR
comp=Z,3μm,22.0s,MS5.7
NAC Naches 96.37 357 P **P 21 59 46.2 +1.0**
MXC Moxie City 96.50 356 P **P 21 59 48.3 +2.5**
HAWA Hanford 96.64 356 PFAKE 22 00 00.0 +14
HAWA LR LR
comp=Z,2μm,20.0s,MS5.5
WCI Wyandotte Cave 96.68 330 PFAKE 22 00 00.0 +13
WCI LR LR
comp=Z,807nm,21.0s,MS5.2
BMW Boistfort Moun 96.71 358 P **P 21 59 49.0 +2.2**
RSSD Black Hills 96.77 345 P **P 21 59 48.3 +1.2**
RSSD pmax pmax
comp=Z,34nm,1.2s,mb5.7
RSSD Black Hills 96.77 345 *eP* **P 21 59 47.5 +0.5**
comp=Z,26nm,1.1s,mb5.6
RSSD *e* pP 21 59 57.1 -0.5
RSSD LR LR
comp=Z,3μm,19.0s,MS5.8
LNOR Lincton Mounta 97.08 355 P **P 21 59 50.9 +2.5**
LNOR *e* pP 22 00 00.6 +1.7
LNOR Lincton Mounta 97.08 355 *eP* **P 21 59 49.9 +1.5**
LNOR *e* pP 21 59 59.3 +0.4
LKWY Lake 97.50 349 PFAKE 22 00 00.0 +10
LKWY LR LR
comp=Z,3μm,19.0s,MS5.7
YFT Old Faithful 97.67 349 *eP* **P 21 59 51.4 +0.3**
NHSC New Hope 98.27 323 PFAKE 22 00 10.0 +16
NHSC LR LR
comp=Z,1μm,19.0s,MS5.4
LOHW Long Hollow 98.46 349 *eP* **P 21 59 56.0 +1.3**
LOHW *e* pP 22 00 06.0 +0.8
COR Corvallis 98.60 358 PFAKE 22 00 10.0 +15
COR LR LR
comp=Z,2μm,19.0s,MS5.5
CCM Cathedral Cave 98.72 333 P **P 21 59 58.4 +2.4**
CCM pmax pmax
comp=Z,13nm,1.3s,mb5.3
CCM Cathedral Cave 98.72 333 *eP* **P 21 59 56.5 +0.5**
comp=Z,9.1nm,1.0s,mb5.3
CCM LR LR
comp=Z,1μm,22.0s,MS5.3
MIDW Midway 98.80 45 PFAKE 22 00 10.0 +13
MIDW LR LR
comp=Z,2μm,22.0s,MS5.5
HLID Hailey 99.01 352 PFAKE 22 00 10.0 +13
HLID LR LR
comp=Z,1μm,19.0s,MS5.5
WVT Waverly 99.11 330 PFAKE 22 00 10.0 +12
WVT LR LR
comp=Z,848nm,19.0s,MS5.3
BW06 Boulder Array 99.12 348 PFAKE 22 00 10.0 +12
BW06 LR LR
comp=Z,1μm,22.0s,MS5.4
PDAR Pinedale Array 99.12 348 P **P 21 59 57.2 -0.4**
comp=Z,1.4nm,0.9s,mb4.5,baz=45,slow=4.2,SNR=8.5
PDAR PKiKP 22 04 29.1
comp=Z,0.8nm,0.9s,slow=9.9,SNR=2.1
PDAR LR LR 22 49 02.1
comp=Z,1μm,21.9s,MS5.3,baz=15,slow=38
AHID Auburn Hatcher 99.36 349 *eP* **P 22 00 00.5 +1.7**
comp=Z,9.4nm,0.9s,mb5.3
AHID *e* pP 22 00 09.2 -0.1
AHID LR LR
comp=Z,1μm,19.0s,MS5.3
HWUT Hardware Ranch 100.56 349 P P 22 00 04.9 +0.6
comp=Z,12nm,1.4s
HWUT LR LR
comp=Z,1μm,20.0s,MS5.5
HUMO Hull Mountain 100.57 358 PFAKE 22 00 20.0 +16
HUMO LR LR
comp=Z,2μm,22.0s,MS5.5
CBKS Cedar Bluff 100.73 340 PFAKE 22 00 20.0 +15
CBKS LR LR
comp=Z,2μm,20.0s,MS5.5
MOD Modoc 101.16 356 PFAKE 22 00 20.0 +13
MOD LR LR
comp=Z,1μm,21.0s,MS5.4
ISCO Idaho Springs 101.24 344 PFAKE 22 00 20.0 +13
ISCO LR LR
comp=Z,2μm,20.0s,MS5.5
LRAL Lakeview Retre 101.43 328 PFAKE 22 00 20.0 +12
LRAL LR LR
comp=Z,2μm,22.0s,MS5.6
YBH Yreka Blue Hor 101.43 358 PFAKE 22 00 20.0 +12
YBH LR LR
comp=Z,2μm,22.0s,MS5.5
SJG San Juan 101.58 303 PFAKE 22 00 20.0 +11
SJG LR LR
comp=Z,499nm,20.0s,MS5.0
ELK Elko 101.89 352 PFAKE 22 00 20.0 +10
ELK LR LR
comp=Z,1μm,20.0s,MS5.4
DUG Dugway 102.13 350 P Pdif 22 00 13.6 +2.3
DUG pmax pmax
comp=Z,76nm,1.1s
DUG Dugway 102.13 350 *e*Pdif Pdif 22 00 12.8 +1.5
comp=Z,16nm,1.3s
DUG *e* 22 00 24.9
DUG LR LR
comp=Z,1μm,20.0s,MS5.4
BMN Battle Mountai 102.40 353 PFAKE 22 00 20.0 +7.6
BMN LR LR
comp=Z,1μm,20.0s,MS5.4
WDC Whiskeytown Da 102.58 358 PFAKE 22 00 20.0 +6.8
WDC LR LR
comp=Z,1μm,21.0s,MS5.4
KWAJ Kwajalein Atol 102.67 69 PFAKE 22 00 30.0 +16
KWAJ LR LR
comp=Z,259nm,19.0s,MS4.8
MIAR Mount Ida 102.69 333 PFAKE 22 00 30.0 +16
MIAR LR LR
comp=Z,1μm,21.0s,MS5.4
SRU San Rafael 102.84 348 P Pdif 22 00 12.9 -1.5
DWPF Disney 102.97 321 PFAKE 22 00 30.0 +15
DWPF LR LR
comp=Z,749nm,19.0s,MS5.2
SDCO Great Sand Dun 103.19 344 PFAKE 22 00 30.0 +14
SDCO LR LR
comp=Z,2μm,20.0s,MS5.7
CTA Charters Tower 103.25 105 PKiKP 22 04 37.2
comp=Z,4.4nm,0.8s,baz=321,slow=2.5,SNR=4.1
CTA PKKPbc 22 16 12.8
comp=Z,2.5nm,0.5s,baz=214,slow=3.4,SNR=3.6
CTAO Charters Tower 103.25 105 PFAKE 22 00 30.0 +13
CTAO LR LR
comp=Z,983nm,22.0s,MS5.3
PV10 Paradox Valley 103.30 347 *e*Pdif Pdif 22 00 18.3 +1.8
MSU Marysvale 103.69 349 P Pdif 22 00 21.0 +2.8
MSU Marysvale 103.69 349 *e*Pdif Pdif 22 00 20.1 +2.0
MSU *e* 22 00 31.2
MVU Marysvale 103.70 349 PFAKE 22 00 30.0 +12
MVU LR LR
comp=Z,1μm,20.0s,MS5.5
HOPS Hopland 104.18 358 PFAKE 22 00 30.0 +10
HOPS LR LR
comp=Z,1μm,20.0s,MS5.4
WMOK Wichita Mounta 104.24 337 PFAKE 22 00 30.0 +9.3
WMOK LR LR
comp=Z,2μm,19.0s,MS5.7
MNV Mina 104.46 354 PFAKE 22 00 30.0 +8.4
MNV LR LR
comp=Z,1μm,21.0s,MS5.4
NVAR Mina Array Bea 104.48 354 Pdiff Pdif 22 00 24.6 +3.0
comp=Z,1.0nm,0.9s,baz=18,slow=2.9,SNR=7.8
NVAR PKiKP 22 04 38.4
comp=Z,1.3nm,0.7s,baz=77,slow=2.5,SNR=6.9
NVAR PKKPbc 22 16 08.4
comp=Z,0.7nm,0.8s,baz=202,slow=5.4,SNR=5.6
MAW Mawson 104.65 177 PKiKP 22 04 38.7
comp=Z,6.9nm,1.3s,baz=292,slow=11,SNR=4.6
MAW Mawson 104.65 177 PFAKE 22 00 30.0 +8.3
MAW LR LR
comp=Z,2μm,20.0s,MS5.6
TPH Tonopah 104.73 353 P Pdif 22 00 26.3 +3.5
TPH pmax pmax
comp=Z,34nm,1.4s
TPH Tonopah 104.73 353 *e*Pdif Pdif 22 00 24.2 +1.4
comp=Z,4.5nm,0.3s
TPH *e* 22 00 35.1
TPH LR LR
comp=Z,1μm,20.0s,MS5.4
CMB Columbia Colle 105.02 356 PFAKE 22 04 50.0
CMB LR LR
comp=Z,1μm,21.0s,MS5.4
MTUM Tungsten Hills 105.57 354 *eP* Pdif 22 00 29.9 +3.4
NATX Nacogdoches 105.59 333 PFAKE 22 04 50.0
NATX LR LR
comp=Z,1μm,19.0s,MS5.5
TPNV Topopah Spring 105.75 352 PFAKE 22 04 50.0
TPNV LR LR
comp=Z,2μm,21.0s,MS5.6
ANMO Albuquerque 106.08 344 PFAKE 22 04 50.0
ANMO LR LR
comp=Z,1μm,19.0s,MS5.5
SAO San Andreas Ge 106.34 357 PFAKE 22 04 50.0
SAO LR LR
comp=Z,985nm,21.0s,MS5.3
SYO Syowa Base 106.43 186⇑*p*Pdiff Pdif 22 00 30.2 +0.7
SYO Syowa Base 106.43 186⇓*p*Pdiff 22 00 38.1
DAC Darwin (Calif) 106.55 353 PFAKE 22 04 50.0
DAC LR LR
comp=Z,1μm,22.0s,MS5.5
HKT Hockley 107.65 333 PFAKE 22 05 00.0
HKT LR LR
comp=Z,1μm,19.0s,MS5.5
JCT Junction City 108.51 337 PFAKE 22 05 00.0
JCT LR LR
comp=Z,1μm,20.0s,MS5.5
PFO Pinyon Flat Ob 109.08 352 PFAKE 22 05 00.0
PFO LR LR
comp=Z,300nm,21.0s,MS4.8
BDFB Brasilia 109.09 265 PP PP 22 05 15.3 -3.5
comp=Z,19nm,1.0s,baz=44,slow=7.7,SNR=9.0
TUC Tucson 109.52 347 PFAKE 22 05 00.0
TUC LR LR
comp=Z,1μm,19.0s,MS5.5
LTX Lajitas 110.73 340 PFAKE 22 05 00.0 +6.5
LTX LR LR
comp=Z,2μm,21.0s,MS5.6
TXAR Lajitas Array 110.73 340 PKiKP 22 04 50.4
comp=Z,2.6nm,0.8s,baz=180,slow=1.3,SNR=6.0
TXAR Lajitas Array 110.73 340 PKPdf PKPdf 22 04 50.4 -3.1
TXAR PKP PKPdf 22 05 02.5 +9.0
SDV Santo Domingo 111.17 300 PFAKE 22 05 00.0 +5.3
SDV LR LR
comp=Z,364nm,20.0s,MS5.0
CASY Casey 111.71 159 PFAKE 22 05 00.0 +5.5
CASY LR LR
comp=Z,785nm,19.0s,MS5.3
SNAA Sanae 115.72 197⇑*iP* PKPdf 22 04 56.9 -5.4
SNAA Sanae 115.72 197⇑*i* PKPdf 22 05 08.5 +6.2
SNAA Sanae 115.72 197⇑*i* PKPdf 22 05 11.6 +9.3
VNA2 Neumayer--Watz 116.37 199⇑*iP* PKPdf 22 05 01.9 -1.6
VNA2 Neumayer--Watz 116.37 199⇑*i* PKPdf 22 05 09.2 +5.7
VNA2 Neumayer--Watz 116.37 199⇑*i* PKPdf 22 05 14.5 +11
VNA1 Neumayer--Stat 116.42 199⇑*iP* PKPdf 22 05 02.5 -1.2
ROSC El Rosal 116.60 300 PKP PKPdf 22 05 02.5 -2.8
comp=Z,7.8nm,0.4s,baz=163,slow=22,SNR=3.8
POHA Pohakuloa 116.72 32 PFAKE 22 05 10.0 +4.6
POHA LR LR
comp=Z,2μm,21.0s,MS5.6

VNA3	**Neumayer Olymp**	**117.15**	**199**	⇑*i*P	PKPdf	22 05 03.0	-2.0
VNA3	**Neumayer Olymp**	**117.15**	**199**	⇑*i*	PKPdf	22 05 12.8	+7.8
VNA3	**Neumayer Olymp**	**117.15**	**199**	⇑*i*	PKPdf	22 05 17.3	+12
SAML	**Samuel**	**117.31**	**280**	PFAKE		22 05 10.0	+3.4
SAML				LR	LR		
	comp=Z,990nm,21.0s,MS5.4						
JTS	**JuntasAbangare**	**119.34**	**313**	PFAKE		22 05 20.0	+9.4
JTS				LR	LR		
	comp=Z,141nm,19.0s,MS4.6						
CPUP	**Villa Florida**	**122.08**	**260**	PKP	PKPdf	22 05 10.4	-5.2
	comp=Z,10nm,0.8s,baz=105,slow=2.2,SNR=22						
CPUP				PP	PP	22 06 44.9	-4.7
	comp=Z,16nm,1.1s,baz=94,slow=6.1,SNR=8.4						
CPUP	**Villa Florida**	**122.08**	**260**	*e*PKPdf	PKPdf	22 05 09.9	-5.8
CPUP				*e*PP	PP	22 06 43.2	-6.3
CPUP				LR	LR		
	comp=Z,771nm,20.0s,MS5.3						
OTAV	**Otavalo**	**122.76**	**299**	PFAKE		22 05 30.0	+13
OTAV				LR	LR		
	comp=Z,416nm,19.0s,MS5.1						
LPAZ	**La Paz**	**125.49**	**276**	PKP	PKPdf	22 05 18.6	-3.9
	comp=Z,7.2nm,0.8s,baz=350,slow=2.0,SNR=26						
LPAZ	**La Paz**	**125.49**	**276**	PKIKP	PKPdf	22 05 18.6	-3.9
LPAZ				pmax	pmax		
	comp=Z,7.0nm,0.9s						
LPAZ	**La Paz**	**125.49**	**276**	*e*PKPdf	PKPdf	22 05 17.9	-4.6
LPAZ				LR	LR		
	comp=Z,721nm,19.0s,MS5.4						
QSPA	**South Pole Qui**	**126.98**	**180**	*e*PKP	PKPdf	22 05 18.9	-4.8
QSPA				LR	LR		
	comp=Z,1μm,18.4s,MS5.7						
LVC	**Limon Verde**	**129.47**	**270**	PFAKE		22 05 40.0	+10
LVC				LR	LR		
	comp=Z,432nm,20.0s,MS5.1						
TRQA	**Tornquist**	**130.53**	**248**	*e*PKPdf	PKPdf	22 05 27.1	-4.5
TRQA				LR	LR		
	comp=Z,2μm,21.0s,MS5.7						
SBA	**Scott Base**	**130.71**	**165**	PFAKE		22 05 40.0	+9.0
SBA				LR	LR		
	comp=Z,926nm,20.0s,MS5.5						
EFI	**East Falkland**	**131.38**	**230**	*e*PKPdf	PKPdf	22 05 29.0	-3.8
EFI				LR	LR		
	comp=Z,501nm,20.0s,MS5.2						
RPZ	**Rata Peaks**	**132.36**	**119**	PKP	PKPdf	22 05 30.6	-4.3
	comp=Z,18nm,1.0s,baz=116,slow=8.2,SNR=4.2						
PMSA	**Palmer Station**	**134.97**	**212**	*e*PKPpre		22 05 29.8	
PMSA				LR	LR		
	comp=Z,2μm,19.0s,MS5.8						
URZ	**Urewera**	**135.28**	**110**	PKP	PKPdf	22 05 34.9	-5.6
	comp=Z,39nm,1.1s,baz=95,slow=0.7,SNR=4.0						
RAR	**Rarotonga**	**146.39**	**71**	PKPbc	PKPbc	22 05 58.1	+1.6
	comp=Z,28nm,0.8s,baz=227,slow=13,SNR=3.6						
RAR	**Rarotonga**	**146.39**	**71**	PKPbc	PKPbc	22 05 58.1	+1.6
RAR				LR	LR		
	comp=Z,1μm,22.0s,MS5.7						
PMOR	**Pomariorio Ree**	**150.32**	**48**	*e*PKPbc	PKPdf	22 06 07.9	+0.8
	comp=Z,80nm,1.1s						
VAH	**Vaihoa**	**150.66**	**48**	*e*PKPbc	PKPdf	22 06 08.5	+0.9
	comp=Z,52nm,1.2s						
PPT	**Papeete**	**151.23**	**54**	PKPbc	PKPdf	22 06 11.5	+3.1
	comp=Z,16nm,0.3s,baz=36,slow=23,SNR=5.2						
PPT	**Papeete**	**151.23**	**54**	*e*PKPbc	PKPdf	22 06 10.3	+1.9
	comp=Z,61nm,1.1s						
PPT	**Papeete**	**151.23**	**54**	PKIKP	PKPdf	22 06 11.5	+3.1
PPT				pmax	pmax		
	comp=Z,16nm,0.3s						
PAE	**Paea**	**151.30**	**54**	*e*PKPbc	PKPdf	22 06 11.4	+2.9
	comp=Z,146nm,1.4s						
TIAR	**Tiarei**	**151.37**	**53**	*e*PKPbc	PKPdf	22 06 10.5	+1.9
	comp=Z,198nm,1.4s						
TVO	**Taravao**	**151.60**	**54**	*e*PKPbc	PKPdf	22 06 11.1	+2.2
	comp=Z,108nm,1.0s						

IDC 07 22:00:31.6±5.0**, 19.63S**×**175.59W, mb4.2**/3**, mb1 4.4**/3**, mb1mx3.9**/14**, Error ellipse: s-maj=254.0km s-min=49.4km az=151.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**35.84**	**263**	P	P	22 07 35.1	0.0
	3.6nm,0.5s,baz=97,slow=11,SNR=6.2						
ASAR	**Alice Springs**	**46.92**	**256**	P	P	22 09 03.9	-2.2
	1.1nm,0.5s,baz=89,slow=7.7,SNR=16						
WRA	**Warramunga Arr**	**46.97**	**261**	P	P	22 09 03.4	-3.1
	0.8nm,0.3s,baz=97,slow=7.4,SNR=9.4						
GERES	**GERESS Array B**	**149.91**	**348**	PKPbc	PKPdf	22 20 23.7	+3.1
	0.3nm,0.6s,baz=45,slow=1.9,SNR=4.2						

CASC 07 22:30:39.4±1.9**, 11.33N**×**87.48W, h35**^{km}±23^{km}**, MD3.9, 2C-1D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.96**	**350**	⇓*e*P	P	22 31 11.2	+0.3
CNCH				*e*S	S	22 31 35.7	+1.2
LCBS	**La Ceiba**	**2.74**	**328**	*e*P	P	22 31 20.5	-1.4
LCBS				*e*S	S	22 31 52.3	-1.8
LFRS	**El Faro**	**2.75**	**326**	⇑*e*P	P	22 31 21.1	-1.1
LFRS				*e*S	S	22 31 55.0	+0.4
LFU	**La Fuente**	**2.89**	**327**	⇑*e*P	P	22 31 23.1	-0.9
CGA2	**Cerro Gallo 2**	**3.23**	**114**	*e*P	P	22 31 29.9	+0.9
CGA2				*e*S	S	22 32 06.0	-0.8
SBLS	**San Blas**	**3.26**	**320**	*e*P	P	22 31 28.4	-1.0
SBLS				*e*S	S	22 32 07.0	-0.4
SNJE	**San Jose**	**3.27**	**321**	*e*P	P	22 31 29.1	-0.4
PRS1	**Puriscal**	**3.39**	**113**	*e*P	P	22 31 31.3	+0.1
LAJ	**Bijagual**	**3.61**	**114**	*e*P	P	22 31 29.2	-5.1

*LDG **07** 22:35:29.4±0.0, 46.18N×2.10E, h5^{km}, Md1.9/2, Ml1.4/7, Error ellipse: s-maj=1.0km s-min=0.6km az=137.0*
*STR **07** 22:35:32.4±1.2, 46.15N×2.21E, h5^{km}±1^{km}, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 07 22:35:27.8±0.5**, 46.19N**±0.03×**2.06E**±0.04**, h10**^{km}±7^{km}**, n11,** $\sigma 0^{s}93$/23**, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TCF	**Toulx Ste Croi**	**0.14**	**48**	*e*Pg	**Pg**	**22 35 32.5**	**+1.3**
TCF				*e*Sg	**Sg**	**22 35 34.5**	**+1.0**
	8.7nm,0.2s						
BGF	**Bois d'Agland**	**0.66**	**56**	*e*Pg	**Pg**	**22 35 42.0**	**+0.9**
BGF				*e*Pn	**Pn**	**22 35 43.7**	**+0.8**
BGF				*e*Sg	**Sg**	**22 35 50.3**	**+0.4**
	2.7nm,0.3s						
AGO	**Saint Agoulin**	**0.76**	**100**	Pg	**Pg**	**22 35 44.2**	**+1.1**
RJF	**Les Rejaudoux**	**0.96**	**203**	*e*Pg	**Pg**	**22 35 47.6**	**+0.5**
RJF				*e*Sg	**Sg**	**22 35 59.9**	**-0.1**
	2.2nm,0.2s						
PLDF	**La Plantade**	**1.11**	**101**	Pg	**Pg**	**22 35 51.1**	**+1.0**
PLDF				Sg	**Sg**	**22 36 05.6**	**+0.7**
CAF	**Calviac**	**1.27**	**180**	*e*Pn	**Pn**	**22 35 52.0**	**+0.4**
CAF				*e*Pg	**Pg**	**22 35 53.0**	**-0.1**
CAF				*e*Sg	**Sg**	**22 36 09.2**	**-0.8**
	0.6nm,0.2s						
SMF	**Signal de Mont**	**1.32**	**69**	*e*Pg	**Pg**	**22 35 53.8**	**-0.3**
SMF				*e*Sg	**Sg**	**22 36 09.7**	**-2.0**
	0.8nm,0.2s						
SSF	**Saint Saulge**	**1.32**	**48**	*e*Pg	**Pg**	**22 35 54.0**	**-0.3**
SSF				*e*Sg	**Sg**	**22 36 10.8**	**-1.2**
	0.5nm,0.2s						
LFF	**La Frestale**	**1.56**	**217**	*e*Sg	**Sg**	**22 36 18.4**	**-1.3**
	0.9nm,0.2s						
MFF	**Saint Martin d**	**1.58**	**286**	*e*Pn	**Pn**	**22 35 56.8**	**+0.7**
MFF				*e*Pg	**Pg**	**22 35 59.3**	**-0.1**
MFF				*e*Sg	**Sg**	**22 36 20.3**	**-0.1**
	0.7nm,0.2s						
LOR	**Lormes**	**1.64**	**48**	*e*Pg	**Pg**	**22 35 59.8**	**-0.9**
LOR				*e*Sg	**Sg**	**22 36 20.6**	**-2.0**
	0.2nm,0.2s						

*JMA **07** 22:39:14.4±0.1, 33.24N×137.21E, h40^{km}±2^{km}, M3.5*
ISC 07 22:39:14.5±1.2**, 33.24N**±0.06×**137.21E**±0.04**, h43**^{km}±22^{km}**, n16,** $\sigma 0^{s}53$/29**, 2C-5D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.61**	**31**	P	**P**	**22 39 26.6**	**-0.3**
TK01				S	**S**	**22 39 35.2**	**-0.6**
TK02	**Tokai 2**	**0.84**	**33**	⇓P	**P**	**22 39 30.0**	**0.0**
TK02				S	**S**	**22 39 41.5**	**+0.1**
TK03	**Tokai 3**	**1.12**	**34**	⇓P	**P**	**22 39 33.9**	**0.0**
TK03				*e*S	**S**	**22 39 48.4**	**0.0**
JIE	**Ise**	**1.22**	**340**	⇓P	**P**	**22 39 36.2**	**+0.8**
JIE				*e*S	**S**	**22 39 51.4**	**+0.4**
TK04	**Tokai 4**	**1.27**	**26**	⇓P	**P**	**22 39 36.4**	**+0.3**
TK04				S	**S**	**22 39 52.1**	**-0.2**
JWZ	**Kozaga**	**1.28**	**283**	⇑P	**P**	**22 39 36.4**	**+0.1**
JWZ				*e*S	**S**	**22 39 51.7**	**-0.9**
JAA	**Atsumi**	**1.39**	**358**	⇓P	**P**	**22 39 38.2**	**+0.3**
JAA				S	**S**	**22 39 55.1**	**-0.2**
TSUJ	**Tsu 2**	**1.60**	**336**	⇑P	**P**	**22 39 41.6**	**+0.7**
TSUJ				S	**S**	**22 40 00.7**	**+0.1**
JWM	**Minabe**	**1.66**	**292**	P	**P**	**22 39 42.1**	**+0.3**
JWM				*e*S	**S**	**22 40 01.5**	**-0.5**
JWY	**Kouya**	**1.66**	**306**	P	**P**	**22 39 42.7**	**+1.0**
JWY				*e*S	**S**	**22 40 02.0**	**0.0**
JHE	**Heguri**	**1.89**	**318**	*e*S	**S**	**22 40 08.2**	**+0.4**
SHZ3	**Shizuoka 3**	**2.00**	**24**	P	**P**	**22 39 46.6**	**+0.1**
JIZS	**Izushimoda**	**2.02**	**43**	*e*S	**S**	**22 40 10.5**	**-0.6**
JAI	**Aioi**	**2.37**	**284**	P	**P**	**22 39 52.2**	**+0.4**
JAI				*e*S	**S**	**22 40 18.3**	**-1.5**
JGM	**Miyama**	**2.49**	**351**	P	**P**	**22 39 54.0**	**+0.5**
JGM				S	**S**	**22 40 23.3**	**+0.5**
MAT	**Matsushiro**	**3.40**	**14**	P	**P**	**22 40 06.2**	**-0.2**
MAT				S	**S**	**22 40 45.0**	**-0.9**

ISC 07 22:39:22.5±1.0**, 46.40N**±0.06×**15.09E**±0.07**, n5,** $\sigma 0^{s}33$/7**, 2C, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PERS	**Pernice**	**0.23**	**4**	*e*Pg	**Pg**	**22 39 27.2**	**0.0**
GROS	**Grobnik**	**0.29**	**78**	*i* Pg	**Pg**	**22 39 28.6**	**+0.3**
DOBS	**Dobrina**	**0.36**	**134**	*i* Pg	**Pg**	**22 39 29.7**	**0.0**
OBKA	**Obir**	**0.39**	**286**	⇑*i*PG	**Pg**	**22 39 30.2**	**-0.1**
OBKA				*i* SG	**Sg**	**22 39 35.7**	**+0.2**
	12nm,0.4s						
ARSA	**Arzberg**	**0.90**	**19**	⇑*i*PG	**Pg**	**22 39 39.7**	**-0.7**
ARSA				*i* SG	**Sg**	**22 39 52.7**	**+0.3**
	2.0nm,0.3s						

*ATH **07** 23:01:06.6, 36.37N×22.68E, h57^{km}±3^{km}, MD3.4/12, ML3.5*
*NEIC **07** 23:01:06.6, 36.37N×22.68E, h57^{km}, MD3.4(ATH), After ATH.*
*CSEM **07** 23:01:07.4±0.1, 36.44N×22.60E, h25^{km}, ML3.5, Error ellipse: s-maj=4.4km s-min=1.7km az=25.0*
*THE **07** 23:01:08.4, 36.37N×22.66E, h55^{km}, ML3.4*
ISC 07 23:01:05.3±0.7**, 36.28N**±0.07×**22.53E**±0.06**, h74**^{km}±14^{km}**, n50,** $\sigma 1^{s}00$/53**, 1D, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.41**	**90**	⇓*i*P	**P**	**23 01 16.9**	**-0.9**
VLI	**Veliai**	**0.55**	**37**	⇑*i*P	**P**	**23 01 17.9**	**-1.2**
ITM	**Ithomi**	**1.02**	**332**	*e*P	**P**	**23 01 25.7**	**+1.2**
VAM	**Vamos**	**1.61**	**122**	*e*P	**P**	**23 01 33.4**	**+0.9**
NAIG	**Nisos Aigina**	**1.66**	**27**	*e*P	**P**	**23 01 33.0**	**-0.1**
NSAL	**Nisos Salamina**	**1.79**	**25**	*e*P	**P**	**23 01 35.0**	**+0.2**
ATH	**Athens Observa**	**1.94**	**29**	*e*P	**P**	**23 01 36.2**	**-0.6**
RLS	**Riolos of Patr**	**1.96**	**335**	*e*P	**P**	**23 01 39.8**	**+2.6**
MKIT	**Kithairon Oros**	**1.99**	**17**	*e*P	**P**	**23 01 39.0**	**+1.5**
PTL	**Penteli**	**2.06**	**31**	*e*P	**P**	**23 01 38.0**	**-0.5**
MPAR	**Parnis Oros**	**2.10**	**27**	*e*P	**P**	**23 01 38.5**	**-0.6**
THR5	**Thira Island,**	**2.28**	**86**	*e*Pn	**P**	**23 01 42.0**	**+0.3**
THR6	**Thira Island,**	**2.32**	**87**	*e*Pn	**P**	**23 01 42.9**	**+0.7**
THR6				*e*Sn	**S**	**23 02 09.0**	**-0.5**
THR3	**Thira Island,**	**2.32**	**86**	*e*Pn	**P**	**23 01 42.3**	**+0.1**
LKR	**Lokris**	**2.40**	**9**	*e*P	**P**	**23 01 42.5**	**-0.7**
VLS	**Valsamata**	**2.44**	**321**	*e*P	**P**	**23 01 44.4**	**+0.5**
EVR	**Evrytania**	**2.69**	**348**	*e*P	**P**	**23 01 51.0**	**+3.6**
AGG	**Agios Georgios**	**2.74**	**357**	*e*Pn	**P**	**23 01 49.6**	**+1.5**
AGG				*e*Sn	**S**	**23 02 20.5**	**+0.3**
LKD	**Levkas**	**2.84**	**329**	*e*Pn	**P**	**23 01 50.9**	**+1.3**
NEO	**Neokhori**	**3.07**	**10**	*e*P	**P**	**23 01 51.7**	**-1.0**
XOR	**Xorichti**	**3.12**	**10**	*e*Pn	**P**	**23 01 54.7**	**+1.2**
KEK	**Kerkira**	**4.05**	**329**	*e*P	**P**	**23 02 05.7**	**-0.6**
OUR	**Ouranopolis**	**4.21**	**15**	*e*Pn	**P**	**23 02 08.2**	**-0.4**
OUR	**Ouranopolis**	**4.21**	**15**	*e*Pn	**P**	**23 02 08.1**	**-0.4**
LCI	**Lecce**	**5.33**	**321**	*e*Pn	**P**	**23 02 24.0**	**-0.1**
LCI	**Lecce**	**5.33**	**321**	*e*Pn	**P**	**23 02 24.0**	**0.0**
PE1	**Pezze di Greco**	**6.03**	**320**	*e*Pn	**P**	**23 02 32.3**	**-1.4**
ORI	**Oriolo Calabro**	**6.10**	**310**	*e*Pn	**P**	**23 02 34.9**	**+0.2**
ORI	**Oriolo Calabro**	**6.10**	**310**	*e*Pn	**P**	**23 02 34.9**	**+0.3**
SG1	**Sgolgore (BA)**	**6.46**	**317**	*e*Pn	**P**	**23 02 38.7**	**-1.0**
BAI	**Bari**	**6.54**	**319**	*e*Pn	**P**	**23 02 39.3**	**-1.5**
MGR	**Morigerati**	**6.71**	**307**	*e*Pn	**P**	**23 02 42.9**	**-0.3**
CDT	**Castel del Mon**	**6.85**	**316**	*e*Pn	**P**	**23 02 43.3**	**-1.8**
SGO	**Sicignano**	**7.10**	**309**	*e*Pn	**P**	**23 02 48.6**	**0.0**
SGO	**Sicignano**	**7.10**	**309**	*e*Pn	**P**	**23 02 48.6**	**0.0**
MRLC	**Muro Lucano**	**7.10**	**311**	*e*Pn	**P**	**23 02 48.2**	**-0.4**
MRLC				*e*Sn	**S**	**23 04 04.3**	**-4.1**
MRLC	**Muro Lucano**	**7.10**	**311**	*e*Pn	**P**	**23 02 48.2**	**-0.4**
MRLC	**Muro Lucano**	**7.10**	**311**	*e*Sn	**S**	**23 04 04.3**	**-4.1**
MS1	**Monte Sant'Ang**	**7.46**	**319**	*e*Pn	**P**	**23 02 52.4**	**-1.1**
FG5	**Orsara di Pugl**	**7.55**	**314**	*e*Pn	**P**	**23 02 55.1**	**+0.3**
FG5	**Orsara di Pugl**	**7.55**	**314**	*e*Pn	**P**	**23 02 55.1**	**+0.3**
STON	**Ston**	**7.56**	**332**	*i* Pn	**P**	**23 02 51.5**	**-3.4**
STON				*i* Sn	Sx	23 04 08.8	
SGG	**Gregorio Mates**	**8.15**	**311**	*e*Pn	**P**	**23 03 03.2**	**+0.2**
SGG	**Gregorio Mates**	**8.15**	**311**	*e*Pn	**P**	**23 03 03.2**	**+0.2**
CII	**Carovilli**	**8.39**	**313**	*e*Pn	**P**	**23 03 07.8**	**+1.4**
CII	**Carovilli**	**8.39**	**313**	*e*Pn	**P**	**23 03 07.8**	**+1.5**
SDI	**San Donato**	**8.68**	**311**	*e*Pn	**P**	**23 03 10.3**	**0.0**
SDI	**San Donato**	**8.68**	**311**	*e*Pn	**P**	**23 03 10.3**	**0.0**
NRCA	**Norcia**	**9.78**	**315**	*e*Pn	**P**	**23 03 26.6**	**+1.5**
NRCA	**Norcia**	**9.78**	**315**	*e*Pn	**P**	**23 03 26.6**	**+1.5**

*THR **07** 23:02:49.0±0.5, 37.54N×54.53E, h15^{km}, ML4.1*
*IDC **07** 23:02:54.5±1.4, 37.13N×54.38E, h33^{km}±6^{km}, mb3.7/8, mb1 3.9/10, mb1mx3.7/21, ML3.6/2, Error ellipse: s-maj=35.1km s-min=16.1km az=19.0*
*CSEM **07** 23:02:54.4±0.1, 37.33N×54.36E, h32^{km}, mb4.1/1, Error ellipse: s-maj=5.7km s-min=2.5km az=141.0*
*NEIC **07** 23:02:55.1±0.7, 37.16N×54.48E, h35^{km}, mb3.9/4, ML4.2(THR), Error ellipse: s-maj=15.6km s-min=7.5km az=178.0*
ISC 07 23:02:54.2±0.4**, 37.29N**±0.05×**54.41E**±0.07**, h34**^{km}±1.5^{km}**:pP-P, n33,** $\sigma 1^{s}20$/32**, mb3.9**/10**, 1C, Iran-Turkmenistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAMV	**Damavand**	**2.57**	**231**	*e*PN	**P**	**23 03 35.4**	**+1.0**
DAMV				AMP		23 04 18.9	
	comp=N,694nm,0.6s						
DAMV				AMP		23 04 22.5	
	comp=E,705nm,0.5s						
DAMV	**Damavand**	**2.57**	**231**	*e*Pn	**P**	**23 03 35.9**	**+1.5**
THKV	**Tehran--Karaj**	**3.16**	**245**	*e*PN	**P**	**23 03 43.4**	**+0.6**
THKV				AMP		23 04 40.9	
	comp=E,445nm,0.6s						
THKV				AMP		23 04 41.9	
	comp=N,552nm,0.4s						
THKV	**Tehran--Karaj**	**3.16**	**245**	*e*Pn	**P**	**23 03 43.9**	**+1.2**
ASAO	**Ashtian**	**4.49**	**234**	*e*Pn	**P**	**23 04 03.4**	**+1.7**
NASN	**Na'in**	**4.67**	**197**	*e*Pn	**P**	**23 04 03.6**	**-0.7**
GRMI	**Germi**	**5.36**	**288**	*e*PN	**P**	**23 04 11.0**	**-3.0**
GRMI	**Germi**	**5.36**	**288**	*e*Pn	**P**	**23 04 11.2**	**-2.7**
KRBR	**Kerman**	**7.55**	**164**	*e*PN	**P**	**23 04 44.2**	**-0.4**
GNI	**Garni**	**8.08**	**294**	*e*Pn	**P**	**23 04 51.8**	**-0.1**
	comp=N,11nm,0.8s						
GHIR	**Ghir-Karzin**	**9.06**	**188**	*e*Pn	**P**	**23 05 04.4**	**-1.2**
KIV	**Kislovodsk**	**11.11**	**310**	*e*P	**P**	**23 05 29.3**	**-4.5**
KIV				*e*S	**S**	**23 07 25.0**	**-13**
ASF	**Jabal al Asfar**	**15.27**	**256**	Pn	**P**	**23 06 28.6**	**-0.3**
	comp=N,0.1nm,0.3s,baz=61,slow=6.5,SNR=2.8						
AAK	**Ala-Archa**	**16.29**	**65**	*e*P	**P**	**23 06 42.6**	**+0.8**
	comp=N,8.1nm,1.1s						
BRVK	**Borovoye**	**19.26**	**30**	P	**P**	**23 07 14.1**	**-4.3**
	comp=N,2.8nm,0.7s						
BVAR	**Borovoye Array**	**19.28**	**30**	P	**P**	**23 07 17.6**	**-1.0**
	comp=N,0.4nm,0.3s,baz=220,slow=12,SNR=13						
BVAR				S	**S**	**23 10 38.4**	**-10**
	comp=N,0.3nm,0.3s,baz=220,slow=24,SNR=4.4						
OBN	**Obninsk**	**21.57**	**331**	P	**P**	**23 07 42.5**	**-0.1**
OBN	**Obninsk**	**21.57**	**331**	P	**P**	**23 07 42.5**	**-0.1**
KURK	**Kurchatov**	**21.86**	**44**	*e*P	**P**	**23 07 46.2**	**+0.7**
	comp=N,7.3nm,0.9s,mb4.1						
KURK	**Kurchatov**	**21.86**	**44**	*e*P	**P**	**23 07 46.2**	**+0.7**
	comp=N,7.3nm,0.9s,mb4.1						
AKASG	**Malin Array Be**	**22.40**	**315**	P	**P**	**23 07 50.5**	**-0.4**
	comp=N,1.1nm,0.4s,mb3.7,baz=267,slow=1.6,SNR=6.5						
MKAR	**Makanchi Array**	**22.68**	**56**	P	**P**	**23 07 55.0**	**+1.4**
	comp=N,0.7nm,0.3s,mb3.5,baz=246,slow=8.1,SNR=24						
MLR	**Muntele Rosu**	**22.78**	**300**	P	**P**	**23 07 56.0**	**+1.3**
	comp=N,3.3nm,0.8s,mb3.8,baz=50,slow=3.3,SNR=7.3						
FINES	**FINESS Array B**	**29.96**	**333**	pP	pP	23 09 10.4	-0.5
	comp=N,2.4nm,0.8s,baz=136,slow=12,SNR=2.0						
HFS	**Hagfors**	**34.43**	**325**	P	**P**	**23 09 39.0**	**-1.2**
	comp=N,3.9nm,1.0s,mb4.3,baz=130,slow=11,SNR=4.3						
HFS				pP	pP	23 09 48.8	-1.2
	comp=N,4.8nm,0.8s,baz=100,slow=9.0,SNR=3.6						
ARCES	**ARCESS Array B**	**35.87**	**343**	P	**P**	**23 09 51.4**	**-1.1**
	comp=N,4.7nm,0.9s,mb4.4,baz=135,slow=10,SNR=3.0						
SONM	**Songino Array**	**39.04**	**57**	P	**P**	**23 10 19.8**	**+0.7**
	comp=N,0.7nm,0.6s,mb3.5,baz=280,slow=9.6,SNR=4.7						
CMAR	**Chiang Mai Arr**	**43.16**	**103**	P	**P**	**23 10 51.6**	**-1.9**
	comp=N,1.0nm,0.5s,mb3.8,baz=302,slow=8.4,SNR=7.9						
CMAR				pP	pP	23 11 00.9	-2.6
	comp=N,0.7nm,0.6s,baz=300,slow=8.9,SNR=3.7						
INK	**Inuvik**	**74.55**	**3**	*e*P	**P**	**23 14 33.0**	**+2.4**
	comp=N,5.7nm,0.8s,mb4.5						
SCHQ	**Schefferville**	**75.36**	**329**	P	**P**	**23 14 39.2**	**+3.7**
ILAR	**Eielson Array**	**76.90**	**9**	P	**P**	**23 14 44.0**	**-0.1**
	comp=N,0.2nm,0.4s,mb3.4,baz=321,slow=3.8,SNR=4.4						
ILAR				pP	pP	23 14 55.0	+0.5
	comp=N,0.7nm,0.7s,baz=323,slow=4.2,SNR=5.5						
VNA2	**Neumayer--Watz**	**116.48**	**199**	⇑*i*	PKPdf	23 21 35.8	+2.1
VNA3	**Neumayer Olymp**	**117.26**	**199**		PKPdf	23 21 36.2	+1.0

WEL 07 23:05:18.1±0.4**, 38.35S**×**175.96E, h157**^{km}±3^{km}**, ML3.7**/8**, 3C-2D, Error ellipse: s-maj=3.1km s-min=3.0km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MGZ	**Maungaku**	**0.73**	**207**	PN	P	23 05 42.1	+0.2
NGZ	**Ngauruhoe**	**0.88**	**199**	PN	P	23 05 42.9	+0.2
URZ	**Urewera**	**0.91**	**85**	PN	P	23 05 42.5	-0.4
URZ				SN	S	23 06 01.6	-0.5
CNZ	**Chateau**	**0.91**	**201**	PN	P	23 05 43.2	+0.2
BKZ	**Black Stump Fm**	**0.92**	**153**	⇑PN	P	23 05 43.2	+0.1
BKZ				SN	S	23 06 01.8	-0.4
TUVZ	**Tukino**	**0.95**	**195**	PN	P	23 05 43.6	+0.3
WNVZ	**Wahianoa**	**1.02**	**196**	PN	P	23 05 44.0	+0.1
MOVZ	**Moawhango**	**1.07**	**189**	⇑PN	P	23 05 43.9	-0.4
MOVZ				SN	S	23 06 03.3	-1.2
MWZ	**Matawai**	**1.23**	**90**	PN	P	23 05 45.6	-0.3
MWZ				SN	S	23 06 06.7	-0.5
KNZ	**Kokohu**	**1.50**	**117**	PN	P	23 05 48.5	0.0
KNZ				SN	S	23 06 11.4	-0.6
WAZ	**Wanganui**	**1.60**	**208**	PN	P	23 05 48.6	-1.0
TSZ	**Takapari Road**	**1.71**	**180**	PN	P	23 05 49.9	-0.8
PWZ	**Pawanui**	**1.82**	**158**	PN	P	23 05 51.5	-0.4
PWZ				SN	S	23 06 16.7	-1.3
MRZ	**Mangatainoka R**	**2.33**	**187**	⇑PN	P	23 05 55.7	-2.3
MRZ				SN	S	23 06 26.7	-2.0
BFZ	**Birch Farm**	**2.34**	**175**	PN	P	23 05 56.3	-1.9
KIW	**Kapiti Island**	**2.64**	**198**	⇓PN	P	23 05 58.9	-3.0
KIW				SN	S	23 06 31.4	-4.0
MTW	**Mount Morrison**	**2.83**	**187**	PN	P	23 06 00.9	-3.4
CAW	**Cannon Point**	**2.84**	**194**	PN	P	23 06 01.2	-3.3
MRW	**Makara Radio**	**3.04**	**198**	PN	P	23 06 03.2	-3.7
PAWZ	**Paruwai Farm**	**3.06**	**188**	PN	P	23 06 03.6	-3.6
MSWZ	**Moikau Station**	**3.11**	**190**	PN	P	23 06 04.1	-3.8
TUWZ	**Tuamarina**	**3.45**	**206**	PN	P	23 06 08.0	-4.2
TUWZ				SN	S	23 06 48.2	-5.5
NNZ	**Nelson**	**3.49**	**214**	SN	S	23 06 49.0	-5.7
QRZ	**Quartz Range**	**3.63**	**226**	SN	S	23 06 51.7	-6.2
THZ	**Tophouse**	**4.14**	**214**	PN	P	23 06 16.3	-5.0
THZ				SN	S	23 07 03.6	-6.2
KHZ	**Kahutara**	**4.47**	**204**	⇓PN	P	23 06 20.7	-4.8
KHZ				SN	S	23 07 10.5	-6.9
LTZ	**Lake Taylor**	**5.25**	**211**	*e*PN	P	23 06 29.6	-6.2
LTZ				SN	S	23 07 26.3	-10
MQZ	**McQueen's Vall**	**5.91**	**204**	*e*SN	S	23 07 41.0	-11

*LDG **07** 23:08:16.1±0.3, 51.58N×16.10E, h1^{km}, Ml3.9/8, Error ellipse: s-maj=8.2km s-min=2.9km az=8.0, Suspected Mining induced.*
*MOS **07** 23:08:16.2±2.6, 51.67N×16.00E, h10^{km}, mb4.0/1, Error ellipse: s-maj=10.2km s-min=5.0km az=83.0*
*IPEC **07** 23:08:16.4±0.3, 51.60N×16.19E, ML2.9/4, Error ellipse: s-maj=2.0km s-min=1.6km az=35.0*
*BGR **07** 23:08:16.4±0.7, 51.57N×16.19E, h1^{km}, ML3.5/7, Error ellipse: s-maj=7.8km s-min=5.6km az=157.0*
*NEIC **07** 23:08:16.7±0.7, 51.61N×16.09E, h5^{km}, ML3.5(SZGRF), ML3.5(VIE), ML3.0(BRG), Error ellipse: s-maj=8.6km s-min=5.6km az=197.0*
*PRU **07** 23:08:17.9, 51.53N×16.10E*
*CSEM **07** 23:08:17.8±0.1, 51.54N×16.11E, h2^{km}, ML3.7/11, Error ellipse: s-maj=2.1km s-min=1.5km az=18.0*
*IDC **07** 23:08:18.3±0.8, 51.51N×15.92E, mb1 3.6/8, mb1mx3.5/23, ML3.4/7, Error ellipse: s-maj=13.5km s-min=7.7km az=104.0*
*WAR **07** 23:08:18.2, 51.56N×16.10E, ML3.5, Mining Induced*
ISC 07 23:08:15.0±0.4**, 51.54N**±0.02×**16.13E**±0.02**, n96,** $\sigma 1^{s}43$/186**, 4C-6D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.70**	**171**	*i* PG	**Pg**	**23 08 31.4**	**+2.3**
KSP				*e*SG	**Sg**	**23 08 41.4**	**+2.9**
KSP	**Ksiaz**	**0.70**	**171**	⇓*i*P	**Pg**	**23 08 31.5**	**+2.4**
KSP				*e*		23 08 47.0	
KSP	**Ksiaz**	**0.70**	**171**	⇓*i*Pg	**Pg**	**23 08 31.5**	**+2.4**
KSP				*i* Sg	**Sg**	**23 08 41.0**	**+2.5**
KSP				*e*		23 08 47.0	
KSP	**Ksiaz**	**0.70**	**171**	⇓*i*Pg	**Pg**	**23 08 31.5**	**+2.4**
KSP				*i* Sg	**Sg**	**23 08 41.0**	**+2.5**
KSP	**Ksiaz**	**0.70**	**171**	⇓*i*Pg	**Pg**	**23 08 31.5**	**+2.4**
KSP				*e*Sg	**Sg**	**23 08 41.0**	**+2.5**
UPC	**Upice**	**1.04**	**184**	*e*PG	**Pg**	**23 08 37.4**	**+1.7**
UPC				*e*SG	**Sg**	**23 08 51.0**	**+1.5**
UPC	**Upice**	**1.04**	**184**	*e*Sg	**Sg**	**23 08 51.0**	**+1.5**
DPC	**Dobruska-Polom**	**1.20**	**174**	*e*P	**Pg**	**23 08 40.2**	**+1.3**
DPC				*e*		23 08 56.2	
DPC				smax			
	comp=N,361nm,1.1s						
DPC	**Dobruska-Polom**	**1.20**	**174**	*e*PG	**Pg**	**23 08 40.2**	**+1.3**
DPC				*e*SG	**Sg**	**23 08 56.2**	**+1.3**
	comp=N,361nm,1.1s						
PVCC	**Panska Ves**	**1.41**	**225**	*e*PG	**Pg**	**23 08 44.3**	**+1.1**
PVCC				*e*SG	**Sg**	**23 09 03.6**	**+1.6**
PVCC	**Panska Ves**	**1.41**	**225**	*e*Sg	**Sg**	**23 09 02.8**	**+0.8**
PVCC	**Panska Ves**	**1.41**	**225**	*e*Pg	**Pg**	**23 08 43.6**	**+0.4**
PVCC				Sg	**Sg**	**23 09 03.6**	**+1.6**
BRG	**Berggiesshubel**	**1.53**	**245**	*e*Pn	**Pn**	**23 08 45.2**	**+1.6**
BRG				*e*Sg	**Sg**	**23 09 06.7**	**+0.8**
BRG	**Berggiesshubel**	**1.53**	**245**	*e*P	**Pn**	**23 08 44.5**	**+0.8**
BRG				*i*		23 09 06.4	
BRG	**Berggiesshubel**	**1.53**	**245**	*e*Pn	**Pn**	**23 08 44.5**	**+0.8**
BRG				*i* Pg	**Pg**	**23 08 46.1**	**+0.6**
BRG				*i* Sg	**Sg**	**23 09 06.4**	**+0.5**
BRG	**Berggiesshubel**	**1.53**	**245**	*i* Pg	**Pg**	**23 08 46.1**	**+0.6**
BRG				Sg	**Sg**	**23 09 06.7**	**+0.8**
RUE	**Ruedersdorf**	**1.73**	**304**	*e*Pn	**Pn**	**23 08 43.6**	**-2.9**
RUE				*e*Sn	**Sn**	**23 09 10.4**	**+0.7**
PRU	**Pruhonice**	**1.85**	**214**	*i* P	**Pn**	**23 08 49.4**	**+1.1**
PRU						23 09 15.7	
PRU				smax			
	comp=N,76nm,0.4s						
PRU	**Pruhonice**	**1.85**	**214**	*i* PN	**Pn**	**23 08 49.4**	**+1.1**
PRU				*e*PG	**Pg**	**23 08 51.2**	**-0.8**
PRU				*e*x	x	23 09 08.1	
PRU				SG	**Sg**	**23 09 15.7**	**-1.0**
	comp=N,76nm,0.4s						
GKP	**Gorka Klasztor**	**1.86**	**21**	*e*P	**Pn**	**23 08 57.0**	**+8.5**
GKP				*e*S	**Sn**	**23 09 19.0**	**+6.0**
GKP	**Gorka Klasztor**	**1.86**	**21**	*e*P	**Pn**	**23 08 56.6**	**+8.1**
GKP				*e*		23 09 19.0	
GKP	**Gorka Klasztor**	**1.86**	**21**	*e*Pn	**Pn**	**23 08 56.6**	**+8.1**
GKP				*e*Pg	**Pg**	**23 08 58.2**	**+6.0**
GKP				*e*Sn	**Sn**	**23 09 19.0**	**+6.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GKP				eSg	Sg	23 09 22.2	+5.2
GKP	Gorka Klasztor	1.86	21	ePn	Pn	23 08 56.6	+8.1
GKP				ePg	Pg	23 08 58.2	+6.0
GKP				eSn	Sn	23 09 19.0	+6.0
GKP				eSg	Sg	23 09 22.2	+5.2
RAC	Raciborz	1.96	137	eP	Pn	23 08 54.0	+4.1
RAC				eS	Sn	23 09 20.0	+4.5
CLL	Collm	1.97	264	ePn	Pn	23 08 50.6	+0.6
CLL				eSg	Sg	23 09 20.2	-0.4
CLL	Collm	1.97	264	i PN	Pn	23 08 50.5	+0.5
	comp=N,logA/T=1.9						
CLL				i PG	Pg	23 08 53.7	-0.7
CLL				i		23 08 57.6	
CLL				i SG	Sg	23 09 19.8	-0.8
CLL	Collm	1.97	264	i P	Pn	23 08 50.5	+0.5
CLL				i		23 09 19.8	
CLL	Collm	1.97	264	i Pn	Pn	23 08 50.5	+0.5
CLL				i Pg	Pg	23 08 53.7	-0.7
CLL				i Sg	Sg	23 09 19.8	-0.8
CLL	Collm	1.97	264	i Pg	Pg	23 08 53.7	-0.7
CLL				Sg	Sg	23 09 20.2	-0.4
MORC	Moravsky Berou	1.98	152	ePn	Pn	23 08 51.4	+1.2
MORC				eSn	Sn	23 09 15.8	-0.2
MORC	Moravsky Berou	1.98	152	ePn	Pn	23 08 51.3	+1.1
MORC				eSn	Sn	23 09 15.8	-0.2
MORC				eSg	Sg	23 09 19.7	-1.3
	comp=N,64nm,0.4s						
OKC	Ostrava-Krasne	2.13	142	ePG	Pg	23 08 57.3	-0.3
OKC				eSG	Sg	23 09 26.6	+0.5
VRAC	Vranov	2.25	172	Pn	Pn	23 08 56.1	+2.0
	comp=N,5.5nm,0.3s,baz=342,slow=13,SNR=32						
VRAC				Lg		23 09 29.2	
	comp=N,7.3nm,0.3s,baz=34,slow=1.6,SNR=5.3						
VRAC	Vranov	2.25	172	ePn	Pn	23 08 55.8	+1.7
VRAC				eSg	Sg	23 09 29.0	-1.1
	comp=N,49nm,0.5s						
KRUC	Moravsky	2.49	176	ePn	Pn	23 08 59.2	+1.8
KRUC	Moravsky	2.49	176	ePn	Pn	23 08 59.2	+1.8
KRUC				eSg	Sg	23 09 35.9	-1.9
	comp=N,30nm,0.4s						
TANN	Tannenbergstha	2.58	246	ePn	Pn	23 09 00.0	+1.3
WERD	Werda	2.65	247	ePn	Pn	23 09 00.5	+0.7
NKC	Novy Kostel	2.67	242	ePN	Pn	23 09 01.1	+1.0
NKC				ePG	Pg	23 09 07.2	-1.2
NKC				eSG	Sg	23 09 44.4	+0.4
GUNZ	Gunzen	2.67	245	eSg	Sg	23 09 42.6	-1.5
OJC	Ojcow	2.67	118	ePN	Pn	23 09 01.0	+0.9
OJC				ePG	Pg	23 09 09.0	+0.6
OJC				eSG	Sg	23 09 44.0	-0.1
OJC	Ojcow	2.67	118	eP	Pn	23 09 01.0	+0.9
OJC				e		23 09 43.7	
OJC	Ojcow	2.67	118	ePn	Pn	23 09 01.0	+0.9
OJC				ePg	Pg	23 09 09.1	+0.7
OJC				eSg	Sg	23 09 43.7	-0.4
OJC	Ojcow	2.67	118	ePg	Pg	23 09 09.1	+0.7
OJC				eSg	Sg	23 09 43.7	-0.4
OJC	Ojcow	2.67	118	ePn	Pn	23 09 01.0	+0.9
OJC				ePg	Pg	23 09 09.1	+0.7
OJC				eSg	Sg	23 09 43.7	-0.4
JAVC	Velka Javorina	2.86	159	eSg	Sg	23 09 52.4	+2.1
JAVC	Velka Javorina	2.86	159	ePn	Pn	23 09 05.2	+2.5
KHC	Kasperske Hory	2.91	215	eP	Pn	23 09 04.2	+0.7
KHC				e		23 09 40.4	
KHC				smax			
	comp=N,39nm,0.5s						
KHC	Kasperske Hory	2.91	215	ePN	Pn	23 09 04.2	+0.7
KHC				ePG	Pg	23 09 10.6	-2.6
KHC				eSN	Sn	23 09 40.4	+0.7
KHC				eSG	Sg	23 09 50.0	-2.0
	comp=N,39nm,0.5s						
MOX	Moxa	2.98	254	i P	Pn	23 09 04.8	+0.3
MOX				Pg	Pg	23 09 13.0	-1.6
MOX				Sg	Sg	23 09 54.0	-0.3
MOX	Moxa	2.98	254	ePn	Pn	23 09 04.8	+0.3
MOX				ePg	Pg	23 09 13.4	-1.2
MOX				eSg	Sg	23 09 53.5	-0.8
MOX	Moxa	2.98	254	ePg	Pg	23 09 13.4	-1.2
MOX				Sg	Sg	23 09 52.8	-1.5
GEC2	GERESS Array S	3.12	211	ePn	Pn	23 09 08.0	+1.7
GEC2				eSg	Sg	23 09 55.7	-3.0
GEC2	GERESS Array S	3.12	211	ePn	Pn	23 09 08.0	+1.6
GEC2				eSg	Sg	23 09 55.7	-3.0
GERES	GERESS Array B	3.12	211	Pn	Pn	23 09 07.4	+1.0
	comp=N,3.7nm,0.3s,baz=30,slow=12,SNR=132						
GERES				Lg		23 09 54.3	
	comp=N,8.9nm,0.3s,baz=34,slow=24,SNR=6.1						
SMOL	Smolenice	3.14	164	ePN	Pn	23 09 09.5	+2.7
SMOL				ePG	Pg	23 09 17.1	-0.7
SMOL				eSG	Sg	23 09 58.8	-0.9
SMOL	Smolenice	3.14	164	ePg	Pg	23 09 17.1	-0.7
SMOL				eSg	Sg	23 09 58.8	-0.9
WET	Wettzell	3.17	222	ePn	Pn	23 09 08.1	+0.9
WET				eSg	Sg	23 09 59.5	-1.3
WET	Wettzell	3.17	222	ePn	Pn	23 09 08.1	+0.9
WET				eSg	Sg	23 09 59.5	-1.2
VKA	Vienna	3.28	178⇑	iPN	Pn	23 09 10.7	+2.0
VKA				i PG	Pg	23 09 19.0	-1.5
VKA				i SG	Sg	23 10 02.2	-2.0
VKA	Vienna	3.28	178	i Pg	Pg	23 09 19.0	-1.5
VKA				i Sg	Sg	23 10 02.2	-2.0
ZST	Bratislava	3.41	169	ePG	Pg	23 09 20.5	-2.5
ZST				eSB	Sb	23 10 04.5	+6.2
NIE	Niedzica	3.41	127	ePn	Pn	23 09 11.5	+0.9
NIE				ePg	Pg	23 09 21.5	-1.7
NIE				eSg	Sg	23 10 06.4	-2.3
GRA1	Grafenberg Arr	3.63	241	ePn	Pn	23 09 14.4	+0.7
GRA1				eSg	Sg	23 10 13.3	-2.6
GRA1	Grafenberg Arr	3.63	241	Pn	Pn	23 09 14.4	+0.7
GRA1				Sg	Sg	23 10 13.3	-2.6
GRF	Grafenberg Arr	3.63	241	ePn	Pn	23 09 14.4	+0.7
GRF				eSg	Sg	23 10 13.3	-2.6
GRFO	Grafenberg	3.63	241	ePn	Pn	23 09 14.3	+0.6
GRFO	Grafenberg	3.63	241	ePn	Pn	23 09 14.3	+0.6
BSD	Bornholm Skovb	3.66	349	i P	Pn	23 09 12.5	-1.5
BSD				i S	Sn	23 09 52.8	-5.7
BSD				i		23 09 57.6	
SOP	Sopron	3.87	176⇑	ePn	Pn	23 09 19.5	+2.4
SOP				eSB	Sb	23 10 20.4	+8.6
SOP	Sopron	3.87	176⇑	eP	Pn	23 09 19.6	+2.5
SOP				eS	Sb	23 10 20.4	+8.6
MOA	Molln	3.89	199⇓	iPN	Pn	23 09 18.2	+0.9
MOA				i SG	Sg	23 10 21.5	-2.9
	comp=N,25nm,0.5s						
ARSA	Arzberg	4.31	185⇓	iPN	Pn	23 09 25.0	+1.6
ARSA				i SG	Sg	23 10 33.9	-4.7
	comp=N,42nm,0.6s						
PSZ	Piszkesteto	4.37	145	ePn	Pn	23 09 23.9	-0.3
KWP	Kalwaria	4.61	112	ePN	Pn	23 09 27.0	-0.6
KWP				ePG	Pg	23 09 43.0	-4.0
KWP				eSG	Sg	23 10 48.0	-0.4
KWP	Kalwaria	4.61	112	ePn	Pn	23 09 26.9	-0.7
KWP				ePn	Pn	23 09 27.0	-0.6
KWP				eP*	Pb	23 09 34.8	-1.8
KWP				ePg	Pg	23 09 43.1	-3.9
KWP				eSg	Sg	23 10 47.9	-0.5
KWP	Kalwaria	4.61	112	ePg	Pg	23 09 43.1	-3.9
KWP				eSg	Sg	23 10 47.9	-0.5
KWP	Kalwaria	4.61	112	ePn	Pn	23 09 26.9	-0.7
KWP				eP*	Pb	23 09 34.8	-1.8
KWP				ePg	Pg	23 09 43.1	-3.9
KWP				eSg	Sg	23 10 47.9	-0.5
KOLS	Kolonicke sedl	4.73	121	ePN	Pn	23 09 29.2	-0.1
KOLS				ePG	Pg	23 09 48.0	-1.4
KOLS				eSG	Sg	23 10 51.3	-1.1
KBA	Koelnbreinsper	4.82	203⇑	iPN	Pn	23 09 31.7	+1.1
KBA				i SG	Sg	23 10 51.6	-4.0
	comp=N,20nm,0.6s						
DAVOS	Davos	6.27	224	P	Pn	23 09 52.5	+1.4
DAVOX	Davos	6.28	223	Pn	Pn	23 09 52.5	+1.3
	comp=N,0.6nm,0.3s,baz=34,slow=17,SNR=7.1						
DAVOX				Lg		23 11 37.0	
	comp=N,1.0nm,0.3s,baz=21,slow=24,SNR=4.1						
CDF	Champ du Feu	6.51	245	ePn	Pn	23 09 52.1	-2.3
CDF				ePg	Pg	23 10 17.7	-7.3
CDF				eSg	Sg	23 11 39.0	-13
	comp=N,47nm,0.9s						
HINF	Hinteralfeld	7.08	242	ePn	Pn	23 09 58.6	-3.8
HINF				eSg	Sg	23 11 58.6	-12
	comp=N,44nm,1.2s						
MEZF	Maizieres J'vi	7.75	251	eSg	Sg	23 12 18.5	-15
	comp=N,47nm,1.4s						
CABF	La Chapelle	8.23	237	eSg	Sg	23 12 33.1	-16
	comp=N,39nm,1.1s						
AKASG	Malin Array Be	8.29	91	Pn	P	23 10 18.5	-0.8
	comp=N,1.3nm,0.3s,baz=279,slow=12,SNR=5.3						
AKASG	Malin Array Be	8.29	91	P	P	23 10 18.5	-0.8
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
HFS	Hagfors	8.72	352	Pn	P	23 10 23.5	-1.9
	comp=Z,0.0nm,0.3s,baz=157,slow=11,SNR=3.7						
LOR	Lormes	9.07	247	ePn	P	23 10 25.8	-4.4
SMF	Signal de Mont	9.43	244	eSg	Sg	23 13 11.1	-18
	comp=Z,12nm,0.8s						
SBF	Sospel	9.65	221	ePn	P	23 10 34.1	-4.1
FINES	FINESS Array B	11.33	25	Pn	P	23 10 58.0	-3.1
	comp=Z,0.3nm,0.3s,baz=207,slow=12,SNR=5.9						
FINES				Sn	S	23 12 59.5	-10
	comp=Z,0.5nm,0.3s,baz=218,slow=22,SNR=6.2						
FINES	FINESS Array B	11.33	25	P	P	23 10 58.0	-3.1
FINES						23 12 59.5	
FINES				smax			
	comp=N,1.0nm,0.3s						
EKA	Eskdalemuir Ar	12.10	296	Pn	P	23 11 06.0	-5.6
	comp=N,0.2nm,0.3s,baz=104,slow=14,SNR=3.5						
ARCES	ARCESS Array B	18.59	10	Pn	P	23 12 30.7	-4.6
	comp=N,0.2nm,0.3s,baz=186,slow=14,SNR=5.2						

CSEM 07 23:14:02.3,37.62N×54.84E,h0km,ML3.8,After THR, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DAMV	Damavand	3.05	230	ePn	Pn	23 14 50.2	-2.5
THKV	Tehran--Karaj	3.61	243	ePn	Pn	23 14 57.6	-3.0
THKV				Sn	Sn	23 15 38.4	-6.2
	349nm,0.5s						
ASAO	Ashtian	4.96	233	ePn	Pn	23 15 16.8	-3.1
NASN	Na'in	5.09	200	ePn	Pn	23 15 17.5	-4.2
GRMI	Germi	5.60	284	ePn	Pn	23 15 25.6	-3.2
KRBR	Kerman	7.79	168	ePn	Pn	23 15 55.8	-3.8

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*THR **07** 23:21:02.0±0.6,37.55N×54.69E,h14km,ML4.3*
*IDC **07** 23:21:04.8±1.8,37.20N×54.45E,mb3.9/7,mb1 4.0/10, mb1mx3.8/21,ML3.5/3,Error ellipse: s-maj=40.6km s-min=20.0km az=10.0*
*CSEM **07** 23:21:06.9±0.2,37.32N×54.53E,h29km,mb3.8/1,ML4.8/1, Error ellipse: s-maj=6.8km s-min=2.7km az=127.0*
*NEIC **07** 23:21:09.0±0.9,37.15N×54.49E,h35km,mb4.6/4, ML4.3(THR),Error ellipse: s-maj=18.6km s-min=9.4km az=174.0*
ISC 07 23:21:05.2±0.5,**37.30N**±0.05×**54.57E**±0.07,**h14km,n37, σ1s18**/36,**mb4.0**/10,**Iran-Turkmenistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DAMV	Damavand	2.67	232	ePN	Pn	23 21 49.9	+1.3
DAMV				AMP		23 22 31.3	
	comp=E,1μm,0.3s						
DAMV				AMP		23 22 43.1	
	comp=N,773nm,0.7s						
DAMV	Damavand	2.67	232	ePn	Pn	23 21 50.0	+1.4
THKV	Tehran--Karaj	3.27	246	ePN	Pn	23 21 57.9	+0.8
THKV				AMP		23 22 50.9	
	comp=N,704nm,0.5s						
THKV				AMP		23 22 52.4	
	comp=E,546nm,0.5s						
THKV	Tehran--Karaj	3.27	246	ePn	Pn	23 21 58.2	+1.1
THKV				Sn	Sn	23 22 37.0	+0.8
	comp=E,516nm,0.5s						
ASAO	Ashtian	4.59	235	ePn	Pn	23 22 16.4	+0.5
NASN	Na'in	4.71	198	ePn	Pn	23 22 17.1	-0.5
GRMI	Germi	5.48	288	ePN	Pn	23 22 25.6	-2.8
GRMI	Germi	5.48	288	ePn	Pn	23 22 25.8	-2.6
SHGR	Shooshtar-Gavs	7.02	224	ePn	Pn	23 22 50.0	-0.2
KRBR	Kerman	7.52	165	ePN	Pn	23 22 57.1	0.0
KRBR	Kerman	7.52	165	ePn	Pn	23 22 55.7	-1.4
GNI	Garni	8.19	293	eP	P	23 23 06.6	+0.1
GNI	Garni	8.19	293	eP	P	23 23 06.6	+0.2
GHIR	Ghir-Karzin	9.09	189	ePN	P	23 23 18.0	-0.9
KIV	Kislovodsk	11.21	310	eP	P	23 23 43.2	-4.7
	comp=E,10nm,0.6s						
ASF	Jabal al Asfar	15.40	256	Pn	P	23 24 41.7	-1.9
	comp=E,0.1nm,0.3s,baz=132,slow=22,SNR=2.9						
BRTR	Keskin Array B	16.56	285	Pn	P	23 24 58.2	-0.2
	comp=E,0.0nm,0.3s,baz=136,slow=39,SNR=2.4						
BRVK	Borovoye	19.19	30	eP	P	23 25 31.0	+0.1
	comp=E,4.5nm,0.7s						
BRVK	Borovoye	19.19	30	eP	P	23 25 31.0	+0.1
	comp=E,4.5nm,0.7s						
BVAR	Borovoye Array	19.21	30	P	P	23 25 31.5	+0.4
	comp=E,1.3nm,0.3s,baz=214,slow=10,SNR=52						
OBN	Obninsk	21.63	331	eP	P	23 25 55.5	-1.2
	comp=E,23nm,0.8s,mb4.7						
OBN				e		23 26 06.7	
OBN	Obninsk	21.63	331	eP	P	23 25 55.5	-1.2
AKASG	Malin Array Be	22.49	315	P	P	23 26 04.4	-0.9
	comp=E,2.0nm,0.5s,mb3.8,baz=122,slow=8.9,SNR=9.5						
MKAR	Makanchi Array	22.57	56	P	P	23 26 08.7	+2.6
	comp=E,0.7nm,0.5s,mb3.4,baz=249,slow=10,SNR=13						
MLR	Muntele Rosu	22.89	300	P	P	23 26 10.9	+1.7
	comp=E,2.7nm,0.8s,mb3.7,baz=214,slow=14,SNR=5.3						
FINES	FINESS Array B	30.01	333	P	P	23 27 16.5	+1.2
	comp=E,4.2nm,1.1s,mb4.1,baz=180,slow=32,SNR=2.4						
FINES	FINESS Array B	30.01	333	P	P	23 27 16.5	+1.2
AQU	L'Aquila	31.79	292	P	P	23 27 33.0	+1.9
	comp=E,4.7nm,0.7s,mb4.4						
AQU	L'Aquila	31.79	292	P	P	23 27 33.0	+1.9
	comp=E,4.7nm,0.7s,mb4.4						
HFS	Hagfors	34.49	325	P	P	23 27 54.0	-0.4
	comp=E,1.5nm,0.6s,mb4.1,baz=106,slow=10,SNR=4.1						
HFS				pP	pP	23 28 02.8	+4.1
	comp=E,3.4nm,0.7s,baz=153,slow=9.9,SNR=3.3						
HFS	Hagfors	34.49	325	P	P	23 27 54.0	-0.4
HFS				pP	pP	23 28 02.8	+4.1
ARCES	ARCESS Array B	35.91	343	P	P	23 28 06.0	-0.4
	comp=E,2.6nm,0.9s,mb4.2,baz=30,slow=9.8,SNR=4.1						
ARCES	ARCESS Array B	35.91	343	P	P	23 28 06.0	-0.4
CMAR	Chiang Mai Arr	43.04	103	P	P	23 29 06.4	+0.3
	comp=E,0.5nm,0.6s,mb3.4,baz=298,slow=8.0,SNR=3.8						
CMAR				pP	pP	23 29 14.4	+4.0
	comp=E,0.8nm,0.7s,baz=303,slow=8.3,SNR=3.9						
RES	Resolute Bay	66.47	352	P	P	23 31 53.5	-2.2
	comp=E,10.0nm,1.3s,mb4.7						
ILAR	Eielson Array	76.88	9	pP	pP	23 33 07.7	+5.4
	comp=E,0.8nm,0.8s,baz=259,slow=2.4,SNR=4.3						
YKA	Yellowknife Ar	80.17	355	pP	pP	23 33 25.6	+5.2
	comp=E,1.0nm,0.8s,baz=358,slow=6.6,SNR=5.6						

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*IDC **07** 23:22:54.0±2.7,14.61N×147.09E,mb3.9/6,mb1 4.0/6, mb1mx3.8/18,MS4.4/2,Ms1 4.4/2,ms1mx3.2/27,Error ellipse: s-maj=91.4km s-min=22.4km az=82.0*
*NEIC **07** 23:22:58.7±1.0,14.46N×147.08E,h35km,mb4.5/4,Error ellipse: s-maj=26.7km s-min=13.4km az=86.0*
ISC 07 23:22:56.1±1.1,**14.5N**±0.1×**147.2E**±0.2,**h35km,n16, σ0s95**/12,**mb4.2**/10,**MS4.3**/2,**Mariana Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	Guam	2.43	249	ePn	P	23 23 33.9	-0.4
JOW	Kunigami	21.51	308	LR	LR	23 34 25.5	
	comp=Z,376nm,19.4s,MS3.8,baz=95,slow=32						
QIZ	Qiongzhong	36.01	282	P	P	23 29 50.1	-6.0
	25nm,1.2s,mb5.0						
WRAB	Tennant Creek	36.46	201	eP	P	23 29 58.3	-1.6
	3.7nm,0.8s,mb4.4						
WRA	Warramunga Arr	36.48	201	P	P	23 30 00.9	+0.8
	0.6nm,0.6s,mb3.7,baz=23,slow=9.4,SNR=3.2						
ASAR	Alice Springs	40.08	199	P	P	23 30 32.7	+2.6
	0.6nm,0.5s,mb3.5,baz=17,slow=9.4,SNR=8.9						
MBWA	Marble Bar	44.52	218	P	P	23 31 06.9	+0.4
	5.6nm,0.8s,mb4.5						
CMAR	Chiang Mai Arr	46.34	282	P	P	23 31 21.2	+0.3
	0.9nm,0.7s,mb3.8,baz=72,slow=6.3,SNR=5.1						
STKA	Stephens Creek	46.41	187	eP	P	23 31 20.2	-1.2
SONM	Songino Array	47.34	323	P	P	23 31 28.6	+0.1
	0.8nm,0.8s,mb3.7,baz=135,slow=7.2,SNR=4.9						
RPZ	Rata Peaks	61.89	161	LR	LR	23 54 18.1	
	comp=Z,762nm,20.3s,MS4.8,baz=304,slow=30						
MKAR	Makanchi Array	62.43	315	P	P	23 33 17.9	-0.2
	1.8nm,0.4s,mb4.5,baz=92,slow=8.3,SNR=42						
MKAR				pP	pP	23 33 32.2	+3.5
	0.8nm,0.4s,baz=93,slow=8.6,SNR=6.9						
KURK	Kurchatov	65.37	319	eP	P	23 33 36.9	-0.3
	4.4nm,0.7s,mb4.6						
BVAR	Borovoye Array	70.63	321	P	P	23 34 10.1	+0.2
	1.4nm,0.8s,mb3.9,baz=97,slow=8.2,SNR=5.6						
NVAR	Mina Array Bea	84.60	52	pP	pP	23 35 44.1	+5.6
	0.5nm,0.7s,baz=259,slow=8.9,SNR=4.0						
DBIC	Dimbokro	145.21	305	PKPbc	PKPbc	23 42 33.3	+1.7
	3.1nm,0.6s,baz=49,slow=8.7,SNR=7.8						

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*BJI **07** 23:24:51.7,14.65N×147.60E,h53km,mb5.0*
*NEIC **07** 23:24:53.8±2.2,14.48N×147.09E,h36km±18km,mb5.0/8, Error ellipse: s-maj=17.3km s-min=7.8km az=82.0*
*IDC **07** 23:24:55.9±0.6,14.52N×147.07E,h52km±5km,mb4.0/11, mb1 4.2/11,mb1mx4.0/21,MS3.4/1,Ms1 3.6/1, ms1mx2.9/24,Error ellipse: s-maj=21.6km s-min=13.2km az=90.0*
ISC 07 23:24:54.2±2.6,**14.46N**±0.07×**147.0E**±0.1,**h53km**±21km, **h49km**±1.7km**:pP-P,n39,σ0s96**/33,**mb4.7**/26,**MS3.4**/1, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	Guam	2.23	247	ePn	P	23 25 29.2	-0.4
PMG	Port Moresby	23.71	180	P	P	23 30 03.2	+0.9
	21nm,1.0s,mb4.5,baz=289,slow=5.7,SNR=3.7						
PMG				pP		23 30 17.3	
	35nm,0.8s,baz=13,slow=6.8,SNR=7.0						
WRAB	Tennant Creek	36.37	200	eP	P	23 31 54.9	-0.5
	11nm,1.0s,mb4.7						
WRAB				e	pP	23 32 08.8	-0.4
WRA	Warramunga Arr	36.38	200	P	P	23 31 55.7	+0.2
	4.1nm,0.9s,mb4.4,baz=22,slow=9.2,SNR=11						
WRA				pP	pP	23 32 09.6	+0.3
	2.0nm,0.7s,baz=23,slow=9.3,SNR=7.0						
BJT	Baijiatuau	37.08	319	P	P	23 32 00.8	-0.4
	16nm,1.4s,mb4.7						
FITZ	Fitzroy Crossi	38.60	214	P	P	23 32 14.8	+0.8
	6.0nm,0.9s,mb4.3,baz=10,slow=14,SNR=8.9						
GYA	Guiyang	39.47	294	P	P	23 32 22.7	+1.6
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
ASAR	Alice Springs	39.99	199	P	P	23 32 25.9	+0.4
	comp=Z,2.4nm,1.1s,mb3.9,baz=24,slow=6.5,SNR=8.3						
ASAR				pP	pP	23 32 39.7	+0.2
	comp=Z,1.2nm,0.8s,baz=22,slow=8.1,SNR=4.2						
KMI	Kunming	42.80	291	eP	P	23 32 50.9	+2.2
LZH	Lanzhou	44.11	307	eP	P	23 32 59.5	+0.3
LZH				AP	pP	23 33 13.5	+0.3
LZH				XP	sP	23 33 22.5	+3.0
LZH				AMB	AMB		
	comp=Z,26nm,1.0s,mb4.9						
MBWA	Marble Bar	44.38	218	eP	P	23 33 02.0	+0.5
	comp=Z,20nm,1.1s,mb4.8						
MA2	Magadan	45.12	3	eP	P	23 33 07.4	+0.5
	comp=Z,59nm,1.3s,mb5.2						
CMAR	Chiang Mai Arr	46.15	282	P	P	23 33 16.9	+1.3
	comp=Z,3.1nm,0.8s,mb4.3,baz=72,slow=5.4,SNR=15						
CMAR				LR	LR	23 49 32.2	
	comp=Z,44nm,20.7s,MS3.4,baz=273,slow=32						
CMAR	Chiang Mai Arr	46.15	282	P	P	23 33 16.9	+1.3
CMAR				LR	LR	23 49 32.2	
STKA	Stephens Creek	46.36	186	eP	P	23 33 16.4	-0.8
SONM	Songino Array	47.24	323	P	P	23 33 23.8	-0.1
	comp=Z,1.4nm,0.7s,mb4.0,baz=141,slow=8.5,SNR=7.2						
GTA	Gaotai	48.16	310	eP	P	23 33 31.9	+0.7
GTA				AP	pP	23 33 43.7	-1.5
TAU	Tasmania Unive	57.09	180	P	P	23 34 34.8	-2.7
	comp=Z,75nm,1.3s,mb5.6						
GUN	Gumba	58.01	294	eP	P	23 34 45.1	+0.9
	comp=Z,15nm,0.6s,mb5.2						
WMQ	Urumqi	58.05	313	eP	P	23 34 43.7	-0.5
PKI	Pulchoki	58.43	294	eP	P	23 34 45.9	-1.2
	comp=Z,12nm,0.7s,mb5.0						
KKN	Kakani	58.55	294	eP	P	23 34 47.8	-0.1
	comp=Z,10nm,0.8s,mb4.9						
DMN	Daman	58.70	294	eP	P	23 34 47.9	-1.1
	comp=Z,13nm,0.6s,mb5.1						
GKN	Gorkha	59.11	294	eP	P	23 34 51.5	-0.4
	comp=Z,28nm,0.9s,mb5.3						
KOLN	Koldanda	60.03	294	eP	P	23 34 55.1	-3.1
MKAR	Makanchi Array	62.31	315	P	P	23 35 13.1	-0.2
	comp=Z,5.6nm,0.7s,mb4.8,baz=92,slow=8.4,SNR=34						
MKAR				pP	pP	23 35 27.5	-0.4
	comp=Z,2.8nm,0.5s,baz=100,slow=7.4,SNR=8.7						
KURK	Kurchatov	65.26	319	eP	P	23 35 31.7	-0.8
	comp=Z,29nm,1.1s,mb5.2						
KURK				e	pP	23 35 44.2	-3.1
BVAR	Borovoye Array	70.53	321	P	P	23 36 04.9	-0.4
	comp=Z,1.1nm,0.4s,mb4.2,baz=108,slow=7.8,SNR=11						
BRVK	Borovoye	70.59	321	eP	P	23 36 05.0	-0.7
	comp=Z,5.3nm,0.9s,mb4.5						
NVAR	Mina Array Bea	84.77	52	P	P	23 37 25.4	+1.2
	comp=Z,0.3nm,0.5s,mb3.7,baz=230,slow=6.8,SNR=4.1						
NVAR				pP	pP	23 37 39.5	-0.1
	comp=Z,1.4nm,0.7s,baz=271,slow=4.1,SNR=10						
WALA	Waterton Lakes	85.06	41	eP	P	23 37 26.4	+0.9
	comp=Z,16nm,1.5s,mb4.9						
PDAR	Pinedale Array	89.89	46	P	P	23 37 48.5	-0.4
	comp=Z,1.0nm,0.6s,mb4.3,baz=235,slow=23,SNR=4.1						
FINES	FINESS Array B	91.23	336	P	P	23 37 53.5	-1.2
	comp=Z,2.2nm,0.8s,mb4.5,baz=117,slow=4.3,SNR=6.4						
DBIC	Dimbokro	145.06	305	PKPbc	PKPbc	23 44 28.0	+1.0
	comp=Z,6.1nm,0.7s,baz=116,slow=0.3,SNR=11						
DBIC				pPKPbc		23 44 42.0	
	comp=Z,9.2nm,1.0s,baz=10,slow=2.7,SNR=5.4						
KIC	Kosan Boka	145.16	305	ePKIKP	PKPdf	23 44 28.7	+1.8
	comp=Z,41nm,0.9s						
TIC	Toumodi	145.21	305	ePKIKP	PKPdf	23 44 28.9	+2.0
	comp=Z,187nm,1.5s						
LIC	Lamto	145.46	305	ePKIKP	PKPdf	23 44 28.9	+1.5
	comp=Z,79nm,1.2s						
LPAZ	La Paz	146.11	98	PKPbc	PKPbc	23 44 32.4	+3.0
	comp=Z,0.8nm,0.6s,baz=47,slow=9.5,SNR=4.4						
LPAZ				pPKPbc		23 44 47.0	
	comp=Z,1.6nm,0.7s,baz=194,slow=3.5,SNR=3.8						
LPAZ	La Paz	146.11	98	PKPbc	PKPbc	23 44 32.4	+2.9
LPAZ				pPKPbc		23 44 47.0	

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*INMG **07** 23:52:11.5±0.9,36.67N×8.05W,h13km±3km,ML2.0,Error ellipse: s-maj=4.7km s-min=2.3km az=39.0*
MDD 07 23:52:11.4±1.6,**36.62N×8.01W,h26km**±21km,**mb3.5**/9, **Error ellipse: s-maj=20.4km s-min=6.6km az=28.0, PRXIMO,West of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALC	Alcoutim	0.95	26	eP	Pb	23 52 28.2	-0.8
PALC				eS	Sb	23 52 40.2	-1.0
	22nm,0.1s						
PALC	Alcoutim	0.95	26	P	Pb	23 52 28.2	-0.8
PALC				S	Sb	23 52 40.2	-1.0
PTEO	Sao Teotonio	1.09	328	eP	Pn	23 52 29.9	-1.3
PTEO				eS	Sb	23 52 43.4	-1.9
	11nm,0.1s						
PTEO	Sao Teotonio	1.09	328	P	Pn	23 52 29.9	-1.3
PTEO				S	Sb	23 52 43.4	-1.9
PBEJ	Beja	1.41	4	eP	Pn	23 52 34.5	-1.3
PBEJ				eS	Sn	23 52 51.6	-2.1
	11nm,0.1s						
PBEJ	Beja	1.41	4	P	Pn	23 52 34.5	-1.3
PBEJ				S	Sn	23 52 51.6	-2.1
EMIN	Mina Concepcio	1.57	42	P	Pn	23 52 36.2	-1.8
	0.2nm,0.2s,SNR=7.9						
EMIN				S	Sn	23 52 54.9	-2.7
	1.6nm,0.1s,SNR=7.9						
ESPR	Espera	1.75	81	P	Pn	23 52 39.1	-1.4
	2.9nm,0.1s,SNR=6.1						
ESPR				S	Sn	23 52 58.6	-3.5
	29nm,0.2s,SNR=5.0						
MOE	Montemor	1.92	352	ePn	Pn	23 52 41.8	-1.3
MOE				eSn	Sn	23 53 03.9	-2.8
MOE	Montemor	1.92	352	P	Pn	23 52 41.8	-1.3
MOE				S	Sn	23 53 03.9	-2.8
EBAD	Badajoz	2.28	20	P	Pn	23 52 46.0	-2.1
	1.0nm,0.1s,SNR=9.9						
EBAD				S	Sn	23 53 13.1	-2.6
	3.1nm,0.1s,SNR=7.9						
PLOU	Loures	2.44	338	ePn	Pn	23 52 48.9	-1.6
PLOU				eSn	Sn	23 53 16.0	-3.8
	6.7nm,0.1s						
PLOU	Loures	2.44	338	Pn	Pn	23 52 48.9	-1.6
PLOU				Sn	Sn	23 53 16.0	-3.8
	3.3nm,0.1s						
EMIJ	Mijas	2.60	90	S	Sn	23 53 19.8	-4.1

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time	Res
	0.7nm,0.1s,SNR=7.9						
ELUQ	Luque	3.13	71	S	Sn	23 53 34.5	-2.9
	0.9nm,0.2s,SNR=7.9						
EADA	Adamuz	3.14	59	P	Pn	23 52 58.1	-2.4
	0.7nm,0.1s,SNR=10.0						
EADA				S	Sn	23 53 31.6	-5.9
	1.2nm,0.1s,SNR=5.0						
PCBR	Castelo Branco	3.25	7	*e*Pn	Pn	23 52 59.7	-2.2
PCBR				*e*Sn	Sn	23 53 35.7	-4.5
	3.2nm,0.1s						
PCBR	Castelo Branco	3.25	7	P	Pn	23 52 59.7	-2.3
PCBR				S	Sn	23 53 35.8	-4.4
MTE	Manteigas	3.79	5	*e*Sn	Sn	23 53 49.6	-4.5
PVIS	Viseu	4.09	1	*e*Pn	Pn	23 53 11.0	-3.0
PVIS				*e*Sn	Sn	23 53 55.9	-5.8
	2.8nm,0.1s						
PVIS	Viseu	4.09	1	Pn	Pn	23 53 11.0	-3.0
PVIS				Sn	Sn	23 53 55.9	-5.8
	1.4nm,0.1s						
EQES	Quesada	4.11	72	P	Pn	23 53 12.2	-2.1
	0.3nm,0.1s,SNR=7.9						
EQES				S	Sn	23 53 56.2	-5.9
	0.9nm,0.2s,SNR=7.9						
ESDC	Sonseca Array	4.41	45	P	Pn	23 53 15.7	-2.9
	0.4nm,0.1s,baz=230,slow=13,SNR=7.9						
ESDC				S	Sn	23 54 02.5	-7.3
	1.0nm,0.1s,baz=229,slow=24,SNR=19						
PVRL	Vila Real	4.66	3	*e*Pn	Pn	23 53 18.9	-3.1
PVRL				*e*Sn	Sn	23 54 08.9	-7.1
	4.9nm,0.1s						
PVRL	Vila Real	4.66	3	Pn	Pn	23 53 18.9	-3.1
PVRL				Sn	Sn	23 54 08.9	-7.1
	2.5nm,0.1s						
ELOB	Lobios	5.24	360	P	Pn	23 53 27.2	-3.1
	0.7nm,0.1s,SNR=6.3						
ELOB				S	Sn	23 54 23.1	-7.6
	1.1nm,0.1s,SNR=5.0						
PBRG	Braganca	5.27	10	*e*Sn	Sn	23 54 23.7	-7.7
PBRG	Braganca	5.27	10	P	Pn	23 53 25.9	-4.8
ECAL	Calabor	5.41	10	P	Pn	23 53 29.9	-2.7
	0.6nm,0.2s,SNR=7.9						
ECAL				S	Sn	23 54 28.3	-6.5
	1.4nm,0.2s,SNR=7.9						
ETOR	Torete	6.26	46	P	Pn	23 53 42.6	-2.1
	0.1nm,0.1s,SNR=7.9						
ETOR				S	Sn	23 54 47.8	-8.4
	0.5nm,0.3s,SNR=7.9						

*MDD **08** 00:38:51.9±2.0, 38.75N×15.19W, h83^{km}±126^{km}, mb3.7/4, Error ellipse: s-maj=17.6km s-min=15.1km az=57.0, PRXIMO*
*INMG **08** 00:38:54.4±2.0, 38.43N×15.22W, h10^{km}, ML3.1, Error ellipse: s-maj=23.5km s-min=13.1km az=4.0*
*IGIL **08** 00:38:54.1, 38.80N×14.90W, h0^{km}, ML3.6*
*CSEM **08** 00:38:54.6±0.5, 38.89N×14.59W, h2^{km}, ML3.8/17, Error ellipse: s-maj=8.5km s-min=5.7km az=71.0*
ISC 08 00:38:55.3±1.1**, 38.90N**±0.04×**14.30W**±0.07**, h10^{km}, n54, σ1^{s}36**/95**, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLOU	Loures	4.02	89	*e*Pn	Pn	00 40 00.1	+1.8
PLOU				*e*Sn	Sn	00 40 49.7	+3.7
	39nm,0.1s						
PLOU	Loures	4.02	89	Pn	Pn	00 40 00.1	+1.8
PLOU				Sn	Sn	00 40 49.7	+3.7
	19nm,0.1s						
LIS	Lisbon	4.03	91	*e*P	Pn	00 40 01.8	+3.3
LIS				*e*S	Sn	00 40 50.6	+4.3
LIS				*e*S	Sn	00 40 50.6	+4.4
LIS				AML	AML	00 40 53.2	
	comp=N,119nm,0.2s						
ALMR	Almeirim	4.46	85	*e*P	Pn	00 40 06.8	+2.1
ALMR				*e*S	Sn	00 41 01.1	+3.7
ALMR				*e*S	Sn	00 41 01.1	+3.8
ALMR	Almeirim	4.46	85	P	Pn	00 40 06.7	+2.0
ALMR				P		00 40 06.8	
ALMR				S	Sn	00 41 01.0	+3.6
PTEO	Sao Teotonio	4.59	105	*e*Pn	Pn	00 40 06.0	-0.5
PTEO				*e*Sn	Sn	00 40 59.9	-0.7
	comp=N,38nm,0.2s						
PTEO	Sao Teotonio	4.59	105	*e*Pn	Pn	00 40 06.0	-0.5
PTEO				*e*Sn	Sn	00 40 59.9	-0.7
	comp=N,38nm,0.2s						
MOE	Montemor	4.67	93	*e*Sn	Sn	00 41 04.5	+2.0
PBEJ	Beja	5.12	98	*e*Pn	Pn	00 40 14.8	+0.8
PBEJ				*e*Sn	Sn	00 41 14.1	+0.1
	comp=N,15nm,0.1s						
PBEJ	Beja	5.12	98	*e*Pn	Pn	00 40 14.8	+0.8
PBEJ				*e*Sn	Sn	00 41 14.1	+0.1
	comp=N,15nm,0.1s						
PVIS	Viseu	5.26	68	*e*Pn	Pn	00 40 16.8	+0.9
PVIS				*e*Sn	Sn	00 41 18.8	+1.5
	comp=N,18nm,0.1s						
PVIS	Viseu	5.26	68	Pn	Pn	00 40 16.8	+0.9
PVIS				Sn	Sn	00 41 18.8	+1.5
	comp=N,8.9nm,0.1s						
EZAM	Zamans	5.37	51	Pn	Pn	00 40 16.8	-0.6
	SNR=7.9						
EZAM				Sn	Sn	00 41 20.6	+0.6
	comp=N,1.6nm,0.2s,SNR=7.9						
PCBR	Castelo Branco	5.37	78	*e*Pn	Pn	00 40 18.0	+0.5
PCBR				*e*Sn	Sn	00 41 22.4	+2.2
	comp=N,5.9nm,0.1s						
PCBR	Castelo Branco	5.37	78	Pn	Pn	00 40 18.0	+0.5
PCBR				Sn	Sn	00 41 22.4	+2.2
	comp=N,3.0nm,0.1s						
MTE	Manteigas	5.43	72	*e*Sn	Sn	00 41 24.1	+2.5
	comp=N,7.5nm,0.3s						
MTE	Manteigas	5.43	72	Sn	Sn	00 41 24.1	+2.5
	comp=N,3.8nm,0.3s						
PALC	Alcoutim	5.56	103	*e*Pn	Pn	00 40 19.6	-0.6
PALC				*e*Sn	Sn	00 41 24.9	-0.1
	comp=N,16nm,0.2s						
PALC	Alcoutim	5.56	103	Pn	Pn	00 40 19.6	-0.6
PALC				Sn	Sn	00 41 24.9	-0.1
	comp=N,8.0nm,0.2s						
PVRL	Vila Real	5.58	63	*e*Pn	Pn	00 40 22.7	+2.2
PVRL				*e*Sn	Sn	00 41 27.3	+1.9
	comp=N,15nm,0.1s						
PVRL	Vila Real	5.58	63	Pn	Pn	00 40 22.7	+2.2
PVRL				Sn	Sn	00 41 27.3	+1.9
	comp=N,7.4nm,0.1s						
ELOB	Lobios	5.61	56	Pn	Pn	00 40 20.6	-0.3
	comp=N,1.2nm,0.1s,SNR=11						
ELOB				Sn	Sn	00 41 27.6	+1.4
	comp=N,6.7nm,0.2s						
ELOB	Lobios	5.61	56	Pn	Pn	00 40 20.6	-0.3
	comp=N,1.2nm,0.1s,SNR=11						
ELOB				Sn	Sn	00 41 27.6	+1.4
	comp=N,6.7nm,0.2s						
EBAD	Badajoz	5.69	89	Pn	Pn	00 40 22.5	+0.5
	comp=N,0.4nm,0.1s,SNR=7.1						
EBAD				Sn	Sn	00 41 29.3	+1.1
	SNR=7.9						
EBAD	Badajoz	5.69	89	Pn	Pn	00 40 22.5	+0.5
	comp=N,0.4nm,0.1s,SNR=7.1						
EBAD				Sn	Sn	00 41 29.3	+1.1
	SNR=7.9						
EMAZ	Mazaricos	5.71	43	Pn	Pn	00 40 22.4	+0.1
	comp=N,1.5nm,0.2s,SNR=7.9						
EMAZ				Sn	Sn	00 41 26.0	-2.8
	comp=N,2.0nm,0.1s,SNR=7.9						
EMAZ	Mazaricos	5.71	43	Pn	Pn	00 40 22.4	+0.1
	comp=N,1.5nm,0.2s,SNR=7.9						
EMAZ				Sn	Sn	00 41 26.0	-2.8
	comp=N,2.0nm,0.1s,SNR=7.9						
STS	Santiago	5.90	46	Pn	Pn	00 40 24.6	-0.4
	comp=N,2.1nm,0.1s,SNR=7.9						
STS				Sn	Sn	00 41 32.2	-1.3
	comp=N,4.8nm,0.1s,SNR=7.9						
EMIN	Mina Concepcio	6.10	98	Pn	Pn	00 40 27.7	-0.1
	comp=N,0.2nm,0.1s,SNR=12						
EMIN				Sn	Sn	00 41 37.3	-1.2
	comp=N,3.4nm,0.2s						
EMIN	Mina Concepcio	6.10	98	Pn	Pn	00 40 27.7	-0.1
	comp=N,0.2nm,0.1s,SNR=12						
EMIN				Sn	Sn	00 41 37.3	-1.2
	comp=N,3.4nm,0.2s						
PBRG	Braganca	6.46	61	*e*Pn	Pn	00 40 33.0	+0.1
PBRG				*e*Sn	Sn	00 41 48.0	+0.5
	comp=N,4.6nm,0.2s						
PBRG	Braganca	6.46	61	Pn	Pn	00 40 33.0	+0.1
PBRG				Sn	Sn	00 41 48.0	+0.5
	comp=N,2.3nm,0.2s						
ERUA	La Rua	6.47	55	Sn	Sn	00 41 46.7	-0.9
	comp=N,1.8nm,0.2s,SNR=7.9						
ECAL	Calabor	6.52	60	Pn	Pn	00 40 33.2	-0.6
	comp=N,1.2nm,0.2s,SNR=16						
ECAL				Sn	Sn	00 41 49.4	+0.4
	comp=N,2.7nm,0.2s,SNR=8.4						
ECAL	Calabor	6.52	60	Pn	Pn	00 40 33.2	-0.6
	comp=N,1.2nm,0.2s,SNR=16						
ECAL				Sn	Sn	00 41 49.4	+0.4
	comp=N,2.7nm,0.2s,SNR=8.4						
ESPR	Espera	6.98	104	Sn	Sn	00 42 00.6	+0.2
	comp=N,10nm,0.3s,SNR=7.9						
ESPR	Espera	6.98	104	Sn	Sn	00 42 00.6	+0.2
	comp=N,10nm,0.3s,SNR=7.9						
EPON	Pontenova	6.98	48	Pn	Pn	00 40 38.5	-1.7
	comp=N,0.5nm,0.2s,SNR=7.9						
EPON				Sn	Sn	00 41 56.9	-3.5
	comp=N,1.2nm,0.1s,SNR=8.7						
EPON	Pontenova	6.98	48	Pn	Pn	00 40 38.5	-1.7
	comp=N,0.5nm,0.2s,SNR=7.9						
EPON				Sn	Sn	00 41 56.9	-3.6
	comp=N,1.2nm,0.1s,SNR=8.7						
EADA	Adamuz	7.66	92	Pn	Pn	00 40 49.8	+0.1
	comp=N,0.2nm,0.1s,SNR=6.8						
EADA				Sn	Sn	00 42 15.2	-2.2
	comp=N,3.5nm,0.2s,SNR=9.1						
EADA	Adamuz	7.66	92	Pn	Pn	00 40 49.8	+0.1
	comp=N,0.2nm,0.1s,SNR=6.8						
EADA				Sn	Sn	00 42 15.2	-2.2
	comp=N,3.5nm,0.2s,SNR=9.1						
EMIJ	Mijas	7.90	104	Sn	Sn	00 42 21.2	-2.2
	comp=N,1.2nm,0.3s,SNR=7.9						
ELUQ	Luque	8.01	96	Sn	Sn	00 42 25.9	-0.2
	comp=N,2.3nm,0.2s,SNR=7.9						
ESDC	Sonseca Array	8.06	81	Pn	P	00 40 55.1	-0.1
	comp=N,1.3nm,0.2s,baz=268,slow=12,SNR=6.9						
ESDC				Sn	Sn	00 42 25.4	-1.9
	comp=N,2.3nm,0.2s,baz=0.5,slow=38,SNR=6.6						
ESDC	Sonseca Array	8.06	81	Pn	P	00 40 55.1	-0.1
	comp=N,1.3nm,0.2s,SNR=6.9						
ESDC				Sn	Sn	00 42 25.4	-1.9
	comp=N,2.3nm,0.2s,SNR=6.6						
EARI	Arriondas	8.15	54	Pn	P	00 40 56.3	-0.2
	comp=N,0.6nm,0.2s,SNR=14						
EARI				Sn	Sn	00 42 26.3	-3.4
	comp=N,0.4nm,0.2s,SNR=4.0						
EARI	Arriondas	8.15	54	Sn	Sn	00 42 28.9	-0.8
	comp=N,0.4nm,0.2s,SNR=4.0						
EARI	Arriondas	8.15	54	Pn	P	00 40 56.3	-0.3
	comp=N,0.6nm,0.2s,SNR=14						
EQES	Quesada	8.89	94	Sn	Sn	00 42 45.3	-2.8
	comp=N,1.1nm,0.2s,SNR=7.9						
EQES	Quesada	8.89	94	Sn	Sn	00 42 45.3	-2.8
	comp=N,1.1nm,0.2s,SNR=7.9						
EBER	Berja	9.24	99	Sn	Sn	00 42 54.0	-2.7
	comp=N,1.5nm,0.3s,SNR=7.9						
EBER	Berja	9.24	99	Sn	Sn	00 42 54.0	-2.7
	comp=N,1.5nm,0.3s,SNR=7.9						
ELAN	Lanestosa	9.28	59	Sn	Sn	00 42 55.1	-2.6
	comp=N,0.7nm,0.2s,SNR=4.0						
ETOR	Torete	9.61	75	Pn	P	00 41 15.8	-0.9
	comp=N,0.6nm,0.3s,SNR=7.9						
ETOR				Sn	Sn	00 43 00.7	-5.2
	comp=N,0.3nm,0.2s,SNR=7.9						

*LDG **08** 00:47:49.3±0.2, 41.42N×20.91E, h10^{km}, Mb5.0/36, Ms3.2/6, Error ellipse: s-maj=7.1km s-min=3.9km az=17.0*
*MOS **08** 00:47:49.9±1.2, 41.39N×20.99E, h10^{km}, mb4.2/8, Error ellipse: s-maj=9.1km s-min=4.7km az=93.5*
*TIR **08** 00:47:50.9, 41.42N×21.01E, h12^{km}, Ml3.8*
*ATH **08** 00:47:51.7, 41.42N×21.10E, h24^{km}±4^{km}, MD4.4/20, ML4.6*
*SKO **08** 00:47:51.9, 41.37N×21.05E, h22^{km}, ML4.7*
*PDG **08** 00:47:52.6±0.5, 41.38N×21.02E, h21^{km}±1^{km}*
*CSEM **08** 00:47:53.6, 41.39N×21.05E, h80^{km}, ML4.5*
*IDC **08** 00:47:54.5±2.1, 41.37N×21.00E, h35^{km}±16^{km}, mb4.1/16, mb1 4.2/26, mb1mx4.2/31, ML4.0/9, MS3.7/9, Ms1 3.7/9, ms1mx3.4/27, Error ellipse: s-maj=15.0km s-min=10.3km az=8.0*
*THE **08** 00:47:56.2, 41.24N×21.31E, h13^{km}, ML4.5*
*SOF **08** 00:47:56.7, 41.52N×21.60E, h10^{km}, MD4.0*
*HRVD **08** 00:47:56.2±1.0, 41.20N×20.92E, h12^{km}, MW4.6/36, Centroid moment Tensor Solution. LP body waves: s13,c13; Mantle waves: s36,c48; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.73±.09; $M_{\theta\theta}$-0.01±.08; $M_{\phi\phi}$0.73±.06; $M_{r\theta}$-0.54±.43; $M_{\theta\phi}$0.23±.07; $M_{\phi r}$0.23±.24; Best double couple: M_0.94×10^{16} NP1:ϕ_s42°, δ49°, λ-48°. NP2:ϕ_s168°, δ56°, λ-127°. Principal axes: T .8, Plg4°, Azm283°; N .27, Plg30°, Azm191°; P -1.07, Plg60°, Azm20°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **08** 00:47:56.2, 41.24N×21.31E, h13^{km}, mb4.3/38, MD4.4(PDG), ML4.7(SKO), ML4.6(ATH), ML4.5(THE), After THE.*
NEIC Felt [VI] at Krusevo; [V] at Bitola and Ohrid; [IV] at Skopje. Also felt at Florina, Kastoria and Pella, Greece.
*ZUR_RM **08** 00:47:56, 41.24N×21.31E, h27^{km}, Mw4.6/27, Moment Tensor Solution. s27 Moment tensor: Scale 10^{15}Nm; M_{rr}-7.52; $M_{\theta\theta}$-0.25; $M_{\phi\phi}$7.77; $M_{r\theta}$-0.61; $M_{\theta\phi}$1.11; $M_{\phi r}$-1.38; Best double couple: $M_0$7.87×10^{15} NP1:ϕ_s11°, δ50°, λ-86°. NP2:ϕ_s184°, δ40°, λ-95°. Principal axes: T 8.059, Plg5°, Azm98°; N -.382, Plg3°, Azm188°; P -7.677, Plg84°, Azm309°;*
*MED_RC **08** 00:47:56.2±0.2, 41.48N×21.08E, h27^{km}, MW4.5/16, Moment Tensor Solution. Body waves: s16,c23; Duration: 1^{s}0 Moment tensor: Scale 10^{15}Nm; M_{rr}-6.61±.32; $M_{\theta\theta}$0.80±.19; $M_{\phi\phi}$5.82±.18; $M_{r\theta}$0.17±.20; $M_{\theta\phi}$0.69±.13; $M_{\phi r}$-1.40±.16; Best double couple: $M_0$6.42×10^{15} NP1:ϕ_s190°, δ39°, λ-86°. NP2:ϕ_s5°, δ51°, λ-93°. Principal axes: T 6.06, Plg6°, Azm97°; N .72, Plg3°, Azm7°; P -6.78, Plg83°, Azm254°; nsta1 refers to waves, cutoff=35s.*
*BJI **08** 00:47:56.8, 41.20N×21.30E, h13^{km}, mb4.5*
ISC 08 00:47:52.1±0.3**, 41.43N**±0.01×**21.01E**±0.01**, h25^{km}**±2^{km}**, n535, σ1^{s}20**/604**, mb4.5**/33**, MS3.8**/6**, 59C-24D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OHR	Ohrid	0.35	207	⇓*i*Pg	Pb	00 47 58.9	-1.0
OHR				⇑*i*Sg	Sb	00 48 04.4	-0.9
BIA	Bitola	0.47	150	⇑*i*Pg	Pb	00 48 00.3	-1.4
BIA				*i* Sg	Sb	00 48 07.1	-1.3
SKO	Skopje	0.63	30	⇑*i*Pg	Pb	00 48 05.3	+0.9
SKO				*i* Sg	Sb	00 48 14.4	+1.5
SKO				Smax		00 48 15.0	
	comp=E,97nm,0.5s						
SKO				Smax		00 48 15.0	
	comp=N,108nm,0.4s						
SKO				Smax		00 48 16.0	
	comp=N,76nm,0.5s						
SKO	Skopje	0.63	30	⇑*i*Pg	Pb	00 48 05.3	+0.9
SKO				*i* Sg	Sb	00 48 14.4	+1.5
	comp=N,76μm,0.5s						
FNA	Florina	0.70	157	*e*Pg	Pb	00 48 04.5	-1.0
KBN	Korca	0.82	192	*i* Pg	Pb	00 48 07.2	-0.4
KBN				*i* Sg	Sb	00 48 20.2	+2.0
QSH	Qafa e Shtames	0.84	277	*i* Pg	Pb	00 48 08.0	+0.1
QSH				*i* Sg	Sb	00 48 22.0	+3.3
TIR	Tirane	0.87	265	⇑*i*Pg	Pb	00 48 08.0	-0.4
TIR				*i* Sg	Sb	00 48 21.5	+1.9
LACI	Lac	1.00	283	*i* Pg	Pn	00 48 11.6	+1.0
PRZA	Preza	1.01	271	*i* Pg	Pn	00 48 10.8	+0.1
PRZA				*i* Sg	Sb	00 48 25.0	+1.3
GRG	Griva	1.15	114	*e*Pg	Pn	00 48 13.3	+0.6
GRG				*e*Sg	Sb	00 48 25.0	-2.6
BCI	Bajram Curri	1.18	323	*i* Pg	Pn	00 48 14.3	+1.2
VAY	Valandovo	1.18	95	⇑*i*Pg	Pn	00 48 14.0	+0.9
VAY				*i* Sg	Sn	00 48 30.4	+2.0
KZN	Kozani	1.26	153	⇓*i*PN	Pn	00 48 14.6	+0.3
KZN				*e*SN	Sn	00 48 32.9	+2.4
SDA	Shkodra	1.29	299	*e*Pg	Pn	00 48 17.4	+2.6
LSK	Leskovik	1.31	194	*i* Pg	Pn	00 48 16.6	+1.5
TPE	Tepelena	1.36	214	*e*Pn	Pn	00 48 18.0	+2.2
PVY	Plav	1.40	327	⇓*i*Pg	Pn	00 48 18.3	+2.0
PVY				*e*Sg	Sn	00 48 39.0	+4.8
PVY	Plav	1.40	327	*e*Sg	Sn	00 48 39.0	+4.9
ULC	Ulcinj	1.43	293	⇑*i*Pg	Pn	00 48 18.0	+1.4
ULC				*e*Sg	Sn	00 48 39.3	+4.6
KNT	Kendrikon	1.45	100	*e*Pb	Pb	00 48 18.3	+0.1
KNT				*e*Sb	Sb	00 48 35.2	-1.0
BARS	Barje	1.52	23	⇓*i*Pn	Pn	00 48 19.7	+1.7
BARS				Sn	Sn	00 48 42.5	+5.3
KKB	Krupnik	1.61	73	⇑*i*P	Pn	00 48 21.0	+1.6
MEV	Metsovon	1.65	174	*e*Pb	Pb	00 48 21.9	+0.3
TTG	Podgorica	1.65	308	⇑*i*Pn	Pn	00 48 21.7	+1.9
TTG				*e*Sn	Sn	00 48 44.7	+4.3
IVA	Berane	1.67	331	⇓*i*Pn	Pn	00 48 23.0	+2.9
IVA				*e*Sn	Sn	00 48 45.3	+4.5
THE	Thessaloniki	1.68	118	*e*Pb	Pb	00 48 20.9	-1.2
SRN	Sarande	1.73	207	*e*pn?	Pn	00 48 24.7	+3.7
SRN				*i* Sn	Sn	00 48 45.5	+3.1
SRN	Sarande	1.73	207	*i* Pn	Pn	00 48 24.7	+3.7
SRN				*i* Sn	Sn	00 48 45.5	+3.1
LIT	Litokhoron	1.73	139	*e*Pb	Pb	00 48 21.9	-1.2
LIT				*e*Sb	Sb	00 48 41.6	-3.0
JAN	Janina	1.77	184	⇓*i*PN	Pn	00 48 24.0	+2.4
BUM	Brajici-Budva	1.81	300	⇑*i*Pn	Pn	00 48 24.9	+2.8
BUM				*e*Sn	Sn	00 48 47.8	+3.4
SOH	Sokhos	1.87	108	*e*Pb	Pb	00 48 23.6	-1.8
KEK	Kerkira	1.94	209	*e*PN	Pn	00 48 26.1	+2.0
IGT	Igoumenitsa	1.96	196	*e*Pb	Pb	00 48 27.1	+0.1
IGT				*e*Sb	Sb	00 48 50.7	-0.4
SRS	Serrai	1.97	98	*e*Pb	Pb	00 48 25.1	-2.0
SRS				*e*Sb	Sb	00 48 47.0	-4.3
VTS	Vitosha	2.01	54	P	Pn	00 48 27.0	+2.0
VTS				Pg	Pn	00 48 30.5	+5.5
VTS	Vitosha	2.01	54	Pn	Pn	00 48 26.9	+1.9
NKY	Niksic	2.04	313	⇑*i*Pn	Pn	00 48 28.0	+2.5
NKY				*e*Sn	Sn	00 48 53.7	+3.3
MMB	Musomiste	2.05	85	⇑*i*P	Pn	00 48 26.5	+0.9
PLG	Polygyros	2.12	119	⇑*i*PB	Pb	00 48 27.3	-2.4
HCY	Herceg Novi	2.14	299	⇑*i*Pn	Pn	00 48 28.7	+1.9
HCY				*e*Sn	Sn	00 48 56.0	+3.2
NVR	Nevrokopi	2.15	91	*e*PN	Pn	00 48 28.0	+1.0
PLE	Pljevlja	2.25	328	⇓*i*Pn	Pn	00 48 31.2	+2.7
PLE				*e*Sn	Sn	00 48 58.8	+3.1
NVSS	Nova Varos 2	2.30	335	⇑*i*Pn	Pn	00 48 29.8	+0.7
NVSS				Sn	Sn	00 48 56.8	-0.1
BRY	Bratogost	2.35	310	⇑*i*Pn	Pn	00 48 32.3	+2.3
BRY				*e*Sn	Sn	00 49 01.3	+3.0
UPM	Unac-Piva	2.36	319	⇑*i*Pn	Pn	00 48 32.7	+2.6
UPM				*e*Sn	Sn	00 49 01.7	+3.1
LCI	Lecce	2.46	245	*e*Pn	Pn	00 48 32.5	+1.0
LCI				*e*Sn	Sn	00 49 00.6	-0.3
LCI	Lecce	2.46	245	*e*Pn	Pn	00 48 32.5	+1.1
LCI				*e*Sn	Sn	00 49 00.6	-0.3
GRUS	Gruza	2.47	355	⇑*i*Pn	Pn	00 48 32.6	+0.9
GRUS				Sn	Sn	00 49 02.8	+1.5
OUR	Ouranopolis	2.50	115	*e*Pn	Pn	00 48 32.3	+0.2
BOLS	Boljevac	2.50	16	⇓*i*Pn	Pn	00 48 33.0	+0.9
BOLS				Sn	Sn	00 49 02.6	+0.5
PAIG	Paliouri	2.52	126	*e*Pn	Pn	00 48 32.5	+0.2
PAIG				*e*Sn	Sn	00 49 00.2	-2.4
EVR	Evrytania	2.58	166	*e*PN	Pn	00 48 34.2	+1.0
AGG	Agios Georgios	2.60	157	*e*Pn	Pn	00 48 34.2	+0.6
AGG				*e*Sn	Sn	00 49 03.5	-1.2
PGB	Panagyurishte	2.61	63	*i* P	Pn	00 48 35.0	+1.4
XOR	Xorichti	2.65	140	*e*Pn	Pn	00 48 34.2	0.0
NEO	Neokhori	2.71	141	⇑*i*PN	Pn	00 48 35.0	0.0
DIVS	Divcibare	2.77	345	⇑*i*Pn	Pn	00 48 36.9	+0.9
DIVS				Sn	Sn	00 49 10.2	+1.1
PE1	Pezze di Greco	2.78	258	⇑*i*Pn	Pn	00 48 36.9	+0.8
RZN	Rozhen	2.79	83	*i* P	Pn	00 48 37.2	+1.0
RZN				Pg	Pn	00 48 44.0	+7.8
RZN	Rozhen	2.79	83	⇑*i*P	Pn	00 48 37.2	+1.0
PLD	Plovdiv	2.84	75	P	Pn	00 48 38.8	+1.9
STON	Ston	2.86	301	*i* Pn	Pn	00 48 39.1	+1.9
STON	Ston	2.86	301	*i* Pn	Pn	00 48 39.0	+1.9
SVIS	Svilajnac	2.87	3	⇑*i*Pn	Pn	00 48 37.6	+0.2
SVIS				Sn	Sn	00 49 12.0	+0.5
BAI	Bari	3.13	266	⇑*i*Pn	Pn	00 48 41.7	+0.7
AOS	Alonnisos	3.14	135	*e*Pn	Pn	00 48 40.4	-0.8
LKR	Lokris	3.16	151	*e*PN	Pn	00 48 41.5	0.0
VLS	Valsamata	3.26	186	⇓*i*PN	Pn	00 48 43.0	+0.1
KDZ	Kurdzhali	3.31	85	P	Pn	00 48 43.0	-0.6
SG1	Sgolgore (BA)	3.33	261	⇑*i*Pn	Pn	00 48 44.3	+0.5
RLS	Riolos of Patr	3.38	174	*e*PN	Pn	00 48 46.0	+1.4
DJES	Djerdap	3.39	19	⇑*i*Pn	Pn	00 48 43.4	-1.4
DJES				Sn	Sn	00 49 23.8	-0.8
DJES	Djerdap	3.39	19	Pn	Pn	00 48 43.3	-1.4
DJES				Sn	Sn	00 49 23.8	-0.8
RDO	Rodhopi	3.42	93	*e*PN	Pn	00 48 45.1	0.0
LOS	Limnos	3.43	114	*e*Pn	Pn	00 48 44.8	-0.5
DIM	Dimitrovgrad	3.44	78	P	Pn	00 48 46.8	+1.4
DIM				Pg	Pn	00 48 56.0	+11
LIA	Limnos Island	3.52	114	*e*PN	Pn	00 48 46.2	-0.3
CDT	Castel del Mon	3.59	266	⇑*i*Pn	Pn	00 48 48.3	+0.8
PVL	Pavlikeni	3.67	59	P	Pn	00 48 47.8	-0.9
MKIT	Kithairon Oros	3.67	151	*e*PN	Pn	00 48 49.5	+0.8
ORI	Oriolo Calabro	3.72	250	*e*Pn	Pn	00 48 50.1	+0.6
ORI				*e*Sn	Sn	00 49 34.0	+1.0
ORI	Oriolo Calabro	3.72	250	*e*Pn	Pn	00 48 50.1	+0.6
ORI				*e*Sn	Sn	00 49 34.0	+1.0
FGMS	Monte Sant'Ang	3.81	276	*e*Pn	Pn	00 48 51.2	+0.6
FGMS	Monte Sant'Ang	3.81	276	*e*Pn	Pn	00 48 51.2	+0.6
HOPOS	Hopovo Monaste	3.81	347	⇑*i*Pn	Pn	00 48 51.2	+0.6
HOPOS				Sn	Sn	00 49 39.1	+4.0
MS1	Monte Sant'Ang	3.81	276	⇑*i*Pn	Pn	00 48 51.1	+0.4
ALN	Alexandroupoli	3.84	96	*e*Pn	Pn	00 48 51.0	0.0
ALN				*e*Sn	Sn	00 49 34.3	-1.6
MPAR	Parnis Oros	3.88	146	*e*PN	Pn	00 48 52.0	+0.3
TDS	Terranova Siba	3.98	245	*e*Pn	Pn	00 48 53.2	+0.2
TDS	Terranova Siba	3.98	245	*e*Pn	Pn	00 48 53.2	+0.2
NSAL	Nisos Salamina	3.99	151	*e*PN	Pn	00 48 53.5	+0.3
PTL	Penteli	4.03	146	*e*PN	Pn	00 48 53.6	-0.1
ATH	Athens Observa	4.03	148	⇑*i*PN	Pn	00 48 54.0	+0.2
RGNG	Rignano Grg	4.08	275	*e*Pn	Pn	00 48 54.7	+0.2
RGNG	Rignano Grg	4.08	275	*e*Pn	Pn	00 48 54.7	+0.2
SZH	Strazhica	4.08	62	P	Pn	00 48 56.0	+1.4
SZH				Pg	Pn	00 49 09.0	+14
NAIG	Nisos Aigina	4.13	152	*e*PN	Pn	00 48 55.9	+0.6
FG4	Candela	4.15	268	*e*Pn	Pn	00 48 56.4	+0.9
FG4	Candela	4.15	268	*e*Pn	Pn	00 48 56.4	+0.9
SLCN	Sala Consilina	4.21	258	*e*Pn	Pn	00 48 57.2	+0.9
SLCN	Sala Consilina	4.21	258	*e*Pn	Pn	00 48 57.2	+0.9
MRLC	Muro Lucano	4.23	263	*e*Pn	Pn	00 48 57.2	+0.6
MRLC	Muro Lucano	4.23	263	*e*Pn	Pn	00 48 57.2	+0.6
JMB	Yambol	4.28	74	P	Pn	00 48 57.0	-0.4
ITM	Ithomi	4.30	170	*e*PN	Pn	00 48 58.2	+0.6
EDRB	Edirne	4.32	83	*e*P	Pn	00 49 12.3	+14
FG5	Orsara di Pugl	4.33	270	*e*Pn	Pn	00 48 59.0	+1.0
FG5	Orsara di Pugl	4.33	270	*e*Pn	Pn	00 48 59.0	+1.0
MGR	Morigerati	4.34	255	*e*Pn	Pn	00 48 58.8	+0.6
MGR	Morigerati	4.34	255	*e*Pn	Pn	00 48 58.8	+0.6
BLY	Banja Luka	4.35	321	Pn	Pn	00 49 00.5	+2.2
GRI	Girifalco	4.38	235	*e*Pn	Pn	00 48 58.3	-0.4
GRI	Girifalco	4.38	235	*e*Pn	Pn	00 48 58.3	-0.4
FG2	Serracapriola	4.40	277	P	Pn	00 48 59.4	+0.3
SGO	Sicignano	4.40	261	*e*Pn	Pn	00 48 59.8	+0.7
SGO	Sicignano	4.40	261	*e*Pn	Pn	00 48 59.8	+0.7
MRB1	Monte Rocchett	4.56	268	*e*Pn	Pn	00 49 02.1	+0.7
MRB1	Monte Rocchett	4.56	268	*e*Pn	Pn	00 49 02.1	+0.8
PRK	Paraskevi	4.57	117	*e*PN	Pn	00 49 01.6	+0.1
CIGN	Sant'Elia a Pi	4.59	275	P	Pn	00 49 02.4	+0.6
PSB1	Pescosannita	4.67	270	P	Pn	00 49 04.0	+1.0
BUC1	Bucharest	4.70	50	⇑*i*P	Px	00 49 26.8	
MFT	Murefte	4.78	96	*i* P	Pn	00 49 05.1	+0.6
VTB1	Vitulano	4.81	269	P	Pn	00 49 04.0	-0.9
AYVA	Ayvalik	4.83	114	*i* P	Pn	00 49 05.7	+0.7
KGT	Karabiga	4.86	99	P	Pn	00 49 06.4	+0.7
RHK3	Tenkes	4.89	337	⇑*e*P	Pn	00 49 06.1	+0.1
VLI	Veliai	4.93	162	*e*PN	Pn	00 49 06.2	-0.4
CII	Carovilli	5.04	276	*e*Pn	Pn	00 49 08.9	+0.8
CII	Carovilli	5.04	276	*e*Pn	Pn	00 49 08.9	+0.8
PRD	Provadia	5.06	67	P	Pn	00 49 09.0	+0.7
SOI	Samo	5.08	230	*e*Pn	Pn	00 49 07.7	-1.0
SOI	Samo	5.08	230	*e*Pn	Pn	00 49 07.7	-1.0
PKSM	Moragy	5.08	341	⇑*i*P	Pn	00 49 08.8	+0.1
PKSM				*e*S	Sn	00 50 06.9	-0.4
RHK1	Bakonya	5.13	336	⇑*i*P	Pn	00 49 09.4	0.0
RHK1				*e*S	Sn	00 50 07.8	-0.7
RNI2	Rionero Sannit	5.15	275	P	Pn	00 49 10.8	+1.1
SCLL	Scilla	5.16	234	*e*Pn	Pn	00 49 09.5	-0.3
SCLL	Scilla	5.16	234	*e*Pn	Pn	00 49 09.5	-0.3

SISC Sisak 5.27 322 *i* Pn Pn 00 49 14.8 +3.5
PKS6 Bocsa 5.28 349⇑ *e*P Pn 00 49 10.7 -0.7
EDC Edincik 5.30 99 *e*P Pn 00 49 12.3 +0.5
MTTG Motta San Giov 5.34 232 *e*Pn Pn 00 49 11.0 -1.3
MTTG Motta San Giov 5.34 232 *e*Pn Pn 00 49 11.0 -1.3
INTR Introdacqua 5.35 279 *e*Pn Pn 00 49 12.9 +0.4
INTR Introdacqua 5.35 279 *e*Pn Pn 00 49 12.9 +0.4
KYTH Kithira 5.38 162 *e*PN Pn 00 49 15.0 +2.2
SDI San Donato 5.41 275 *e*Pn Pn 00 49 14.1 +0.7
SDI San Donato 5.41 275 *e*Pn Pn 00 49 14.1 +0.8
MLR Muntele Rosu 5.42 40 Pn Pn 00 49 14.5 +1.1
comp=N,4.3nm,0.3s,baz=240,slow=3.0,SNR=39
MLR Sn Sn 00 50 16.0 +0.2
comp=N,0.9nm,0.3s,baz=301,slow=23,SNR=3.8
MLR LR LR 00 51 35.2
comp=N,386nm,21.8s,baz=254,slow=40
MLR Muntele Rosu 5.42 40 P Pn 00 49 14.5 +1.0
MLR 00 50 16.0
MLR pmax pmax
comp=Z,4.0nm,0.3s
MLR smax
comp=N,1.0nm,0.3s
MLR MLR MLR
comp=Z,386nm,21.8s
MLR Muntele Rosu 5.42 40 ⇓ *i*P Pn 00 49 14.4 +0.9
NVLJ Novalja 5.49 307 *i* Pn Pn 00 49 15.1 +0.6
NVLJ *i* Sn Sn 00 50 17.4 -0.1
NVLJ Novalja 5.49 307 *i* Pn Pn 00 49 15.0 +0.6
NVLJ *i* Sn Sn 00 50 17.3 -0.2
PKS9 Tamasi 5.52 340⇑ *e*P Pn 00 49 14.6 -0.3
PKSN Nyarlorinc 5.53 352 *e*P Pn 00 49 15.3 +0.3
SLNA Salina 5.54 241 *e*Pn Pn 00 49 14.2 -0.9
SLNA Salina 5.54 241 *e*Pn Pn 00 49 14.2 -0.9
VVLD Villa Vallelon 5.55 277 P Pn 00 49 15.7 +0.3
APE Apeiranthos 5.59 140 *e*PN Pn 00 49 15.7 -0.1
TERO Teramo 5.65 285 *e*Pn Pn 00 49 16.9 +0.2
IZM Izmir 5.68 120 *e*P Pn 00 49 17.7 +0.7
KDAG Bornova 5.68 120 *i* P Pn 00 49 17.6 +0.5
KCT Karacabey 5.69 99 *e*P Pn 00 49 15.5 -0.7
PKS8 Sarbogard 5.70 344⇓ *e*P Pn 00 49 17.6 +0.1
PTQR Pietraquaria 5.73 278 *e*Pn Pn 00 49 18.4 +0.6
PTQR Pietraquaria 5.73 278 *e*Pn Pn 00 49 18.4 +0.6
AQU L'Aquila 5.76 282 *e*Pn Pn 00 49 19.0 +0.8
AQU L'Aquila 5.76 282 *e*Pn Pn 00 49 19.0 +0.8
PSN Preselentsi 5.76 65 P Pn 00 49 18.0 -0.2
VENT Ventotene 5.77 266 P Pn 00 49 17.7 -0.7
AKS Akhisar 5.80 114 *e*P Pn 00 49 19.1 +0.3
AOI Ancona 5.88 294 P Pn 00 49 19.9 0.0
CRES Cresnjev 5.97 319 *e*Pn Pn 00 49 22.1 +1.0
MNO Monte Soro 5.99 236 *e*Pn Pn 00 49 22.4 +0.8
MNO Monte Soro 5.99 236 *e*Pn Pn 00 49 22.4 +0.9
BRD Bordesti 6.01 45⇑ *i*P Pn 00 49 24.2 +2.4
GOLS Golise 6.02 321 P Pn 00 49 23.3 +1.4
THR4 Thira Island, 6.02 144 *e*Pn Pn 00 49 22.2 +0.2
CERT Cerreto 6.04 278 *e*Pn Pn 00 49 22.5 +0.3
CERT Cerreto 6.04 278 *e*Pn Pn 00 49 22.5 +0.3
NRCA Norcia 6.04 286 *e*Pn Pn 00 49 22.6 +0.4
NRCA Norcia 6.04 286 *e*Pn Pn 00 49 22.6 +0.4
ISK Istanbul-Kandi 6.08 91 *e*P Pn 00 49 23.3 +0.6
CING Cingoli 6.11 291 *e*Pn Pn 00 49 22.8 -0.3
CING Cingoli 6.11 291 *e*Pn Pn 00 49 22.8 -0.4
SANT Santorini 6.12 144 *e*Pn Pn 00 49 22.4 -1.0
SANT Santorini 6.12 144 *e*Pn Pn 00 49 22.4 -1.0
DOBS Dobrina 6.20 322 P Pn 00 49 25.7 +1.3
TIRR Tirgusor 6.22 58⇑ *i*P Pn 00 49 24.6 -0.1
BUD Budapest 6.22 347 *e*P Pn 00 49 25.0 +0.2
PKSG 6.25 343 *e*P Pn 00 49 25.4 +0.2
MA9 Marino 6.27 276 *e*Pn Pn 00 49 26.3 +0.8
MA9 Marino 6.27 276 *e*Pn Pn 00 49 26.3 +0.8
MNS Montasola 6.29 282 *e*Pn Pn 00 49 26.1 +0.4
MNS Montasola 6.29 282 *e*Pn Pn 00 49 26.1 +0.4
ULDT Uludag 6.30 99 *i* P Pn 00 49 25.9 0.0
ARV Arcevia 6.32 292 *e*Pn Pn 00 49 25.6 -0.5
ARV Arcevia 6.32 292 *e*Pn Pn 00 49 25.6 -0.5
PDKS Podkum 6.37 319 *i* Pn Pn 00 49 27.6 +0.7
YLV Yalova 6.38 95 *e*P Pn 00 49 26.4 -0.7
GIB Gibilmanna 6.39 240 *e*Pn Pn 00 49 26.2 -0.9
GIB Gibilmanna 6.39 240 *e*Pn Pn 00 49 26.2 -0.9
CSLB Castelbuono 6.40 239 P Pn 00 49 26.3 -0.9
MEU Monte Lauro 6.40 230 P Pn 00 49 27.9 +0.7
CFR Carcaliu 6.41 52⇓ *i*P Pn 00 49 27.7 +0.3
GROS Grobnik 6.41 324 P Pn 00 49 28.1 +0.6
CEY Cerknica 6.44 314 *e*Pn Pn 00 49 28.6 +0.7
CEY Cerknica 6.44 314 *e*Pn Pn 00 49 28.5 +0.7
MANT Manisa 6.50 114 *i* P Pn 00 49 29.0 +0.4
AYDN Tasoluk 6.50 123 *i* P Pn 00 49 28.5 -0.2
VAM Vamos 6.51 156 *e*PN Pn 00 49 28.1 -0.7
PSZ Piszkesteto 6.54 353 *e*Pn Pn 00 49 28.5 -0.7
comp=Z,43nm,0.7s
PSZ Piszkesteto 6.54 353 *e*Pn Pn 00 49 28.5 -0.8
comp=Z,43nm,0.7s
MURB Monte Urbino 6.55 289 *e*Pn Pn 00 49 29.8 +0.4
MURB Monte Urbino 6.55 289 *e*Pn Pn 00 49 29.8 +0.4
HRT Hereke 6.56 92 *e*P Pn 00 49 26.9 -2.7
LJU Ljubljana 6.58 317 *e*Pn Pn 00 49 30.6 +0.7
LJU *i* 00 49 35.1
LJU *e*Sn Sn 00 50 43.9 -1.0
LJU Ljubljana 6.58 317 *e*Pn Pn 00 49 30.6 +0.7
LJU *e*Sn Sn 00 50 43.9 -1.0
USI Ustica 6.59 248 *e*Pn Pn 00 49 29.1 -0.9
USI Ustica 6.59 248 *e*Pn Pn 00 49 29.1 -0.9
SRO2 Moca 6.61 344 *e*SN Sn 00 50 46.2 +0.8
SRO1 Iza 6.64 344 *e*PN Pn 00 49 31.5 +0.9
SRO1 *e*SN Sn 00 50 45.0 -1.3
MLSB Milas 6.67 126 *e*P Pn 00 49 30.6 -0.5
SRO Srobarova 6.67 344 *e*SN Sn 00 50 47.3 +0.2
PERS Pernice 6.72 323 *i* Pn Pn 00 49 31.9 +0.1
TOLF Tolfa 6.77 278 P Pn 00 49 32.5 0.0
TRI Trieste 6.78 312 *e*Pn Pn 00 49 32.6 -0.1
TRI Trieste 6.78 312 *e*Pn Pn 00 49 32.6 -0.1
RSM Repubblica di 6.79 294 *e*Pn Pn 00 49 33.0 +0.2
IDI Anoyia 6.84 152 Pn Pn 00 49 30.8 -2.7
comp=Z,1.9nm,0.3s,baz=317,slow=15,SNR=38
IDI Sn Sn 00 50 48.2 -3.2
comp=Z,12nm,0.3s,baz=261,slow=18,SNR=4.4
BURAR Bucovina Array 6.88 24⇑ *i*P Pn 00 49 34.3 +0.3
OBKA Obir 6.89 320⇑ *i*PN Pn 00 49 35.1 +0.8
OBKA *i* SN Sn 00 50 49.7 -3.0
VOY Vojsko 6.91 314 *e*Pn Pn 00 49 34.7 +0.2
VOY *e*Sn Sn 00 50 51.5 -1.6
GVD Gavdhos 7.01 159 *e*Pn Pn 00 49 34.1 -1.7
comp=Z,59nm,0.3s
GVD *e*Sn Sn 00 50 49.5 -6.0
GVD Gavdhos 7.01 159 *e*Pn Pn 00 49 34.1 -1.7
comp=Z,59nm,0.3s
GVD *e*Sn Sn 00 50 49.5 -6.0
SOP Sopron 7.02 335⇑ *i*Pn Pn 00 49 37.2 +1.2
SOP *e*Sn Sn 00 50 58.4 +2.6
ARSA Arzberg 7.03 328⇓ *i*PN Pn 00 49 35.9 -0.2
ARSA *i* SN Sn 00 50 53.1 -2.9
CRE Caprese Michel 7.04 291 *e*Pn Pn 00 49 37.2 +0.9
FAVR Favara 7.04 236 *e*Pn Pn 00 49 37.8 +1.5
FAVR Favara 7.04 236 *e*Pn Pn 00 49 37.8 +1.4
KECS Kecovo 7.07 357 *e*PN Pn 00 49 36.3 -0.4
CLTB Caltabellotta 7.15 240 *e*Pn Pn 00 49 38.7 +0.9
CLTB Caltabellotta 7.15 240 *e*Pn Pn 00 49 38.7 +0.9
CRJA Costa Raja 7.16 242 P Pn 00 49 38.6 +0.6
SFI Santa Sofia 7.20 293 *e*Pn Pn 00 49 39.1 +0.6
SFI Santa Sofia 7.20 293 *e*Pn Pn 00 49 39.1 +0.6
MFNL Monte Finestre 7.22 242 *e*Pn Pn 00 49 39.4 +0.5
DNZL Cakiroluk 7.24 118 *i* P Pn 00 49 39.6 +0.5
ROBS Robic 7.25 314 *i* Pn Pn 00 49 39.1 -0.2
COLI Coloredo 7.25 313⇑ *e*P Pn 00 49 39.0 -0.3
MMGO Monte Magaggia 7.26 241 P Pn 00 49 39.7 +0.4
PGD Poggio Sodo 7.27 293 *e*Pn Pn 00 49 40.2 +0.7
PGD Poggio Sodo 7.27 293 *e*Pn Pn 00 49 40.2 +0.6
TLI Talmassons 7.28 311⇑ *e*P Pn 00 49 39.0 -0.7
ZST Bratislava 7.32 339 *i* PN Pn 00 49 40.7 +0.5
BAD Bernadia 7.39 313⇓ *e*P Pn 00 49 41.0 -0.2
GMNA Gemona 7.42 313 *e*Pn Pn 00 49 43.2 +1.6
VMG Vicchio 7.42 293 *e*Pn Pn 00 49 42.5 +0.9
MAON Monte Argentar 7.44 281 *e*Pn Pn 00 49 42.2 +0.4
PTCC Patocco-Chiusa 7.44 315 *e*Pn Pn 00 49 42.0 +0.1
BUA Buia 7.45 313⇓ *e*P Pn 00 49 43.0 +1.0
CSNT Castellina Chi 7.47 289 *e*Pn Pn 00 49 42.4 0.0
CSNT Castellina Chi 7.47 289 *e*Pn Pn 00 49 42.4 0.0
WDD Wield Dalam 7.52 225 P Pn 00 49 44.6 +1.6
SMOL Smolenice 7.53 342 *i* PN Pn 00 49 43.8 +0.7
MPRI Monte Prat 7.54 312⇑ *e*P Pn 00 49 43.0 -0.2
KOLS Kolonicke sedl 7.56 6 *e*PN Pn 00 49 43.7 +0.1

SEI Scarperia 7.58 293 *e*Pn Pn 00 49 44.6 +0.8
SEI Scarperia 7.58 293 *e*Pn Pn 00 49 44.6 +0.8
VKA Vienna 7.61 336 *e*(PN) Pn 00 49 43.0 -1.2
VKA *i* (SN) Sn 00 51 09.9 -0.6
GRFL Gerfalco 7.64 286 *e*Pn Pn 00 49 45.1 +0.4
GRFL Gerfalco 7.64 286 *e*Pn Pn 00 49 45.1 +0.4
MLNI Malnisio 7.70 311 ⇓ *i*P Pn 00 49 45.0 -0.5
CAE Caneva 7.71 309⇓ *e*P Pn 00 49 45.0 -0.7
FNVD Fontana Vidola 7.77 294 *e*Pn Pn 00 49 47.4 +0.9
FNVD Fontana Vidola 7.77 294 *e*Pn Pn 00 49 47.4 +0.9
MDU Mudurnu 7.78 94 *e*P Pn 00 49 45.7 -1.0
FVI Forni Avoltri 7.87 314 P Pn 00 49 47.6 -0.2
KBA Koelnbreinsper 7.89 318⇑ *i*PN Pn 00 49 48.6 +0.5
KBA *i* SN Sn 00 51 15.6 -1.8
KIS Kishinev 7.90 43 *e*P Pn 00 49 47.0 -1.3
KIS MLR MLR
comp=Z,600nm,7.0s
KIS MLR MLR
comp=Z,600nm,8.0s
ZCCA Zocca 7.93 295 *e*Pn Pn 00 49 49.8 +1.1
ZCCA Zocca 7.93 295 *e*Pn Pn 00 49 49.8 +1.1
RAVA Ravarino 7.97 298 P Pn 00 49 50.6 +1.3
NIE Niedzica 8.01 357⇑ *e*P P 00 49 50.2 +0.4
NIE *e*S Sn 00 51 27.7 +7.2
MOA Molln 8.02 325⇑ *i*PN P 00 49 50.2 +0.2
MOA *i* SN Sn 00 51 18.0 -2.8
PII Pisa 8.07 290 *e*Pn P 00 49 50.2 -0.5
PII Pisa 8.07 290 *e*Pn P 00 49 50.2 -0.5
BDI Bagni Di Lucca 8.11 292 *e*Pn P 00 49 50.1 -1.1
BDI Bagni Di Lucca 8.11 292 *e*Pn P 00 49 50.1 -1.1
GSCL Gusciola 8.19 294 *e*Pn P 00 49 52.7 +0.3
GSCL Gusciola 8.19 294 *e*Pn P 00 49 52.7 +0.3
CTI Castel Tesino 8.20 307 *e*Pn P 00 49 51.6 -0.9
CTI Castel Tesino 8.20 307 *e*Pn P 00 49 51.6 -0.9
SEST Monte Rota 8.27 313 P P 00 49 51.6 -1.8
VLC Villacollemand 8.28 293 *e*Pn P 00 49 52.8 -0.8
comp=Z,29nm,0.6s
VLC *e*Sn Sn 00 51 23.3 -3.9
VLC Villacollemand 8.28 293 *e*Pn P 00 49 52.8 -0.8
comp=Z,29nm,0.6s
VLC *e*Sn Sn 00 51 23.3 -3.9
KWP Kalwaria 8.29 8 *e*Pn P 00 49 54.8 +1.0
comp=Z,7.5nm,0.4s
ERBM Eremo 8.33 295 *e*Pn P 00 49 55.2 +0.8
ERBM Eremo 8.33 295 *e*Pn P 00 49 55.2 +0.9
ELL Elmali 8.35 121 *e*P P 00 49 59.2 +4.7
VRAC Vranov 8.47 340 Pn P 00 49 56.2 0.0
comp=Z,0.6nm,0.3s,baz=166,slow=11,SNR=9.1
OKC Ostrava-Krasne 8.65 348 *e*PN P 00 49 58.4 -0.3
OKC *ex* x 00 51 38.2
OKC AMS AMS 00 53 50.0
comp=Z,400nm,13.8s
APPI Appiano 8.68 309 P P 00 49 58.8 -0.3
SAL Salo 8.69 302 *e*Pn P 00 49 58.5 -0.7
SAL Salo 8.69 302 *e*Pn P 00 49 58.5 -0.8
MORC Moravsky Berou 8.70 345 *e*Pn P 00 49 55.9 -3.5
comp=Z,4.9nm,0.8s
MORC *e*Sn Sn 00 51 35.9 -1.8
MORC Moravsky Berou 8.70 345 *e*Pn P 00 49 55.9 -3.5
comp=Z,4.8nm,0.8s
KIZT Kizilcal 8.70 103 *i* P P 00 49 59.7 +0.3
SAFT Safranbolu 8.79 87 *e*P P 00 50 00.2 -0.4
OJC Ojcow 8.84 355 *e*P P 00 50 01.0 -0.3
OJC *e*S Sn 00 51 44.0 +2.9
OJC Ojcow 8.84 355 *e*P P 00 50 01.0 -0.3
OJC *e*S Sn 00 51 44.0 +2.9
MABI Malga Bissina 8.89 305 *e*Pn P 00 50 01.3 -0.8
MABI Malga Bissina 8.89 305 *e*Pn P 00 50 01.3 -0.8
WTTA Wattenberg 8.89 314⇑ *i*PN P 00 50 02.4 +0.3
WTTA *i* SN Sn 00 51 40.6 -2.0
WATA Walderalm 8.97 314⇑ *i*PN P 00 50 03.3 +0.1
WATA *i* SN Sn 00 51 41.7 -2.7
PGF Pioggiola 9.02 281 *e*P P 00 50 02.6 -1.2
comp=Z,26nm,0.5s
GEC2 GERESS Array S 9.04 328 *e*P P 00 50 04.4 +0.3
GERES GERESS Array B 9.04 328 Pn P 00 50 04.2 +0.2
comp=Z,1.6nm,0.3s,baz=144,slow=13,SNR=42
GERES GERESS Array B 9.04 328 P P 00 50 04.2 +0.1
GERES pmax pmax
comp=Z,2.0nm,0.3s
BOB Bobbio (Coli) 9.10 295 *e*Pn P 00 50 05.2 +0.3
SQTA Sankt Quirin 9.10 313 ⇓ *i*PN P 00 50 05.7 +0.7
SQTA *i* SN Sn 00 51 45.5 -2.2
BRMO Bormio 9.18 307 *e*Pn P 00 50 05.8 -0.3
BRMO Bormio 9.18 307 *e*Pn P 00 50 05.8 -0.3
MOTA Moosalm 9.23 313 ⇓ *i*PN P 00 50 07.0 +0.2
MOTA *i* SN Sn 00 51 48.4 -2.5
KHC Kasperske Hory 9.31 328 *e*P P 00 50 07.8 -0.1
KHC MLR MLR
comp=Z,1μm,10.4s
KHC Kasperske Hory 9.31 328 *e*Pn P 00 50 07.8 -0.1
KHC *e* 00 50 13.0
KHC *e* 00 50 30.5
KHC Kasperske Hory 9.31 328 *e*PN P 00 50 07.8 -0.1
KHC x x 00 50 13.0
KHC x x 00 50 30.5
KHC AMS AMS 00 54 10.0
comp=Z,1μm,10.4s
DPC Dobruska-Polom 9.50 342 *e*PN P 00 50 11.8 +1.4
DPC AMS AMS 00 54 20.0
comp=Z,800nm,13.3s
WET Wettzell 9.61 326 *e*P P 00 50 12.7 +0.8
DAVOX Davos 9.63 308 Pn P 00 50 12.5 +0.3
comp=Z,7.0nm,0.3s,baz=125,slow=14,SNR=73
DAVOX Sn Sn 00 51 59.9 -0.7
comp=Z,3.0nm,0.3s,baz=332,slow=19,SNR=5.4
PRU Pruhonice 9.68 334 *e*PN P 00 50 11.9 -1.0
PRU AMS AMS 00 54 20.0
VDL Val di Lei 9.74 305 ⇓ P P 00 50 14.6 +0.9
BRTR Keskin Array B 9.76 96 Pn P 00 50 13.6 -0.4
comp=Z,0.3nm,0.3s,baz=282,slow=11,SNR=13
FIN Finale Ligure 9.81 291 *e*Pn P 00 50 13.6 -1.1
DAVA Damuels 9.89 310⇑ *i*PN P 00 50 15.9 +0.1
DAVA *i* SN Sn 00 52 04.5 -2.5
KAMT Kaman 9.90 98 *e*P P 00 50 16.9 +0.9
VAI Varese 9.92 301 *e*Pn P 00 50 13.9 -2.3
PVCC Panska Ves 10.14 336 AMS AMS 00 54 40.0
comp=Z,700nm,10.6s
LLS Linth-Limmern 10.19 306 ⇑P P 00 50 21.6 +1.8
SAOF Saorge 10.23 289 *e*P P 00 50 19.5 -1.0
SBF Sospel 10.30 288 *e*P P 00 50 19.4 -2.0
comp=Z,32nm,0.4s
AUTN L'Aution 10.32 289 *e*P P 00 50 21.8 +0.1
TOUF Mont Tournerai 10.46 289 *e*P P 00 50 23.9 +0.4
MCGN Macugnaga 10.46 300 *e*Pn P 00 50 21.4 -2.2
MUO Muotathal 10.47 306 ⇑P P 00 50 25.5 +1.8
WILA Wila 10.52 309 ⇑P P 00 50 24.4 0.0
NKC Novy Kostel 10.64 329 *e*PN P 00 50 26.0 0.0
NKC AMS AMS 00 54 50.0
comp=Z,900nm,11.1s
BRG Berggiesshubel 10.64 335 *e*Pn P 00 50 33.0 +7.0
BRG *e* 00 51 55.4
BRG *i* 00 53 24.0
BRG *e*Sg Sx 00 54 04.2
CALN Calern 10.67 287 *e*P P 00 50 26.3 -0.2
GRA1 Grafenberg Arr 10.74 324 *e*Pn P 00 50 28.9 +1.6
GRF Grafenberg Arr 10.74 324 *e*P P 00 50 28.9 +1.6
FRF La Foret Royal 10.82 286 *e*P P 00 50 28.1 -0.4
comp=Z,32nm,0.4s
LKBD Leukerbad 10.85 302 ⇑P P 00 50 26.9 -2.0
LKBD ⇑P 00 50 27.1
DIX Grande Dixence 10.88 300 ⇑P P 00 50 27.5 -1.8
AKASG Malin Array Be 10.88 29 Pn P 00 50 27.5 -1.8
comp=Z,0.4nm,0.3s,baz=219,slow=12,SNR=5.5
LMR La Mourre 10.90 285 *e*P P 00 50 27.9 -1.7
comp=Z,52nm,1.1s
MBDF Montbardon 10.93 292 *e*P P 00 50 27.8 -2.2
comp=Z,31nm,0.5s
SLE Schleitheim 10.94 310 ⇑P P 00 50 28.8 -1.3
SULZ Sulz-Cheisache 11.04 308 ⇑P P 00 50 30.6 -1.0
BNI Bardonecchia 11.07 294 *e*Pn P 00 50 30.1 -1.7
comp=Z,3.0nm,0.4s
BNI Sn S 00 52 23.2 -13
STU Stuttgart 11.11 315 *e*Pn P 00 50 32.0 -0.5
comp=Z,15nm,0.6s
LPG La Plagne 11.13 296 *e*P P 00 50 30.4 -2.4
comp=Z,66nm,0.5s
LPL La Plagne 11.15 296 *e*P P 00 50 30.5 -2.5
comp=Z,48nm,0.4s
EMV Vieux Emosson 11.21 299 ⇓P P 00 50 33.3 -0.5
FELD Feldberg 11.28 309 *e*P P 00 50 33.4 -1.4
MOX Moxa 11.29 328 *i* P P 00 50 37.8 +2.9

MOX L 00 55 30.0
MOX Moxa 11.29 328 *e*P P 00 50 37.8 +2.9
MOX MLR MLR
comp=Z,600nm,14.0s
CLL Collm 11.32 334 P P 00 50 39.0 +3.7
CLL *e* 00 50 52.0
CLL *e* 00 52 23.0
CLL *e*S S 00 52 59.0 +17
CLL *e*L 00 54 13.0
CLL Collm 11.32 334 *e*Pn P 00 50 39.0 +3.7
CLL *e* 00 52 59.0
CLL *e*Sg 00 54 13.0
BFO Black Forest 11.33 312 *e*Pn P 00 50 34.3 -1.2
BFO *e*Sn S 00 52 36.4 -5.9
BBS Basel-Blauen 11.38 307 *e*P P 00 50 34.5 -1.6
ORIF Oris-en-Rattie 11.59 293 *e*P P 00 50 38.1 -0.9
comp=Z,42nm,0.6s
ORIF *e*R
comp=Z,449nm,22.5s
CSS Prodhromos 11.64 120 *e*Pn P 00 50 37.8 -1.9
CSS Prodhromos 11.64 120 *e*Pn P 00 50 37.8 -1.9
SMRF Simiane la Rot 11.64 288 *e*P P 00 50 38.0 -1.7
comp=Z,24nm,0.8s
LOMF Lomont 11.74 305 *e*P P 00 50 39.7 -1.4
MOF Molkenrain 11.78 308 *e*P P 00 50 40.6 -1.0
CABF La Chapelle 11.93 301 *e*P P 00 50 41.4 -2.1
comp=Z,56nm,0.6s
HINF Hinteralfeld 11.93 307 *e*P P 00 50 42.8 -0.8
comp=Z,30nm,0.6s
ECH Echery 11.94 309 *e*P P 00 50 42.3 -1.4
CDF Champ du Feu 11.97 310 *e*P P 00 50 42.4 -1.7
comp=Z,25nm,0.7s
SVSK Karacayir 12.23 92 *e*P P 00 50 43.4 -4.2
HAU Haudompre 12.32 307 *e*P P 00 50 47.4 -1.4
VIVF Saint-Julien-l 12.42 291 *e*P P 00 50 48.1 -2.0
comp=Z,11nm,0.4s
ANN Anapa 12.46 69 *e*P Px 00 51 08.2
ANN pmax pmax
comp=Z,71nm,1.3s
THEF They Montfort 12.64 308 *e*P P 00 50 52.5 -0.6
SUW Suwalki 12.68 6 Pn P 00 50 48.7 -4.8
comp=Z,36nm,1.0s
SUW Suwalki 12.68 6 Pn P 00 50 48.7 -4.8
comp=Z,36nm,1.0s
LASF Ste Croix 12.89 288 *e*P P 00 50 54.3 -2.1
comp=Z,10nm,0.7s
WLF Walferdange 13.26 313 *e*Pn P 00 50 59.9 -1.4
comp=Z,8.2nm,0.8s
MEZF Maizieres J'vi 13.32 307 *e*P P 00 51 00.5 -1.6
comp=Z,25nm,0.8s
SMF Signal de Mont 13.40 299 *e*P P 00 51 00.6 -2.6
comp=Z,29nm,0.4s
LBL Lubilhac 13.48 292 *e*P P 00 51 04.1 -0.1
LOR Lormes 13.58 301 *e*P P 00 51 03.3 -2.2
comp=Z,26nm,0.5s
LOR *e*R
comp=Z,346nm,20.0s
AGO Saint Agoulin 13.72 296 *e*P P 00 51 06.5 -0.9
PYM Petit Puy Mans 13.74 294 *e*P P 00 51 06.0 -1.6
SSF Saint Saulge 13.75 300 *e*P P 00 51 05.3 -2.3
comp=Z,30nm,0.8s
SOC Sochi 13.97 75 *e*P P 00 51 13.8 +3.2
SOC *e*S S 00 53 48.1 +2.4
SOC pmax pmax
comp=Z,52nm,1.3s
SOC pmax pmax
comp=N,21nm,0.7s
SOC pmax pmax
comp=E,32nm,1.0s
SOC MLR MLR
comp=Z,69nm,11.0s
SOC MLR MLR
comp=N,94nm,20.0s
SOC MLR MLR
comp=E,35nm,12.0s
MTLF Montolieu 14.03 284 *e*P P 00 51 09.3 -2.0
comp=E,6.2nm,0.6s
BGF Bois d'Agland 14.04 298 *e*P P 00 51 09.8 -1.7
comp=E,22nm,0.5s
CAF Calviac 14.26 291 *e*P P 00 51 12.7 -1.7
comp=E,9.8nm,0.7s
HYF Humbligny 14.37 300 *e*P P 00 51 14.2 -1.6
TCF Toulx Ste Croi 14.40 296 *e*P P 00 51 14.7 -1.5
RJF Les Rejaudoux 14.70 292 *e*P P 00 51 18.2 -1.9
RJF *e*R
comp=E,338nm,17.0s
LFF La Frestale 15.20 290 *e*P P 00 51 24.6 -2.0
comp=E,15nm,0.8s
EPF Esparros 15.40 283 *e*P P 00 51 27.3 -2.0
ASF Jabal al Asfar 15.70 121 Pn P 00 51 32.8 -0.4
comp=E,0.1nm,0.3s,baz=237,slow=4.7,SNR=2.6
ASF LR LR 00 58 49.3
comp=E,153nm,19.1s,baz=310,slow=42
MFF Saint Martin d 16.06 296 *e*P P 00 51 36.3 -1.5
comp=E,27nm,1.0s
ETSF Etsaut 16.06 282 *e*P P 00 51 35.7 -2.1
comp=E,28nm,1.3s
VOR Voronezh 16.16 44 P P 00 51 45.0 +6.0
VOR pmax pmax
comp=Z,60nm,1.2s
VOR pmax pmax
comp=N,40nm,1.0s
VOR pmax pmax
comp=E,90nm,1.2s
GOF Gofitskoye 16.44 70 *e*P P 00 51 50.0 +7.4
QURS Qurayyt al Mil 16.49 122 P P 00 51 58.1 +15
SJPF Ste Jean 16.54 283 *e*P P 00 51 42.3 -1.6
LDF La Druitiere 16.54 303 *e*P P 00 51 45.3 +1.4
comp=E,31nm,0.8s
HAQS Haql 16.75 133 P P 00 51 46.5 -0.2
FLN La Foliniere 16.82 303 *e*P P 00 51 48.7 +1.3
comp=E,66nm,0.8s
FLN *e*R
comp=E,170nm,17.0s
GRR Gorron 16.95 302 *e*P P 00 51 48.0 -1.0
comp=E,29nm,1.0s
OBN Obninsk 17.11 32⇓ *e*P P 00 51 49.6 -1.4
OBN *e*S S 00 54 56.0 -3.0
OBN pmax pmax
comp=Z,56nm,1.5s
OBN MLR MLR
comp=Z,300nm,12.0s
OBN Obninsk 17.11 32 *e*P P 00 51 49.6 -1.4
comp=Z,57nm,1.4s
OBN Obninsk 17.11 32 *e*P P 00 51 49.6 -1.4
comp=Z,57nm,1.4s
ETOR Torete 17.39 276 P P 00 51 57.2 +2.7
comp=Z,0.9nm,0.7s
ETOR Torete 17.39 276 P P 00 51 57.2 +2.7
comp=Z,0.9nm,0.7s,SNR=7.9
ETOR Torete 17.39 276 P P 00 51 57.2 +2.7
comp=Z,0.9nm,0.7s
JMQS Jabal Moqyreh 17.41 131 P P 00 51 55.4 +0.5
MOS Moscow 17.98 32 *e*P P 00 52 04.0 +2.2
MOS pmax pmax
comp=Z,90nm,1.3s
GNI Garni 18.01 86 *d*/*i*P P 00 52 05.8 +3.5
GNI pmax pmax
comp=Z,20nm,1.1s
GNI Garni 18.01 86 *e*P P 00 52 00.2 -2.1
comp=Z,27nm,1.0s
GNI Garni 18.01 86 *e*P P 00 52 00.2 -2.1
comp=Z,27nm,1.0s
SGMF Saint Gilles 18.01 300 *e*P P 00 52 00.3 -2.0
comp=Z,40nm,1.0s
QUIF Quistinic 18.34 299 *e*P P 00 52 05.6 -0.7
comp=Z,82nm,1.0s
ROSF Rostrenen 18.50 300 *e*P P 00 52 07.3 -1.0
comp=Z,27nm,1.0s
EQES Quesada 18.89 267 P P 00 52 13.9 +0.9
comp=Z,3.1nm,0.6s
EQES Quesada 18.89 267 P P 00 52 13.9 +0.9
comp=Z,3.1nm,0.6s,SNR=7.2
ESDC Sonseca Array 19.05 273 P P 00 52 13.2 -1.7
baz=78,slow=10,SNR=6.5
ESDC LR LR 01 00 16.1
comp=Z,145nm,18.4s,baz=90,slow=39
ESDC Sonseca Array 19.05 273 P P 00 52 14.8 -0.1
comp=Z,1.2nm,0.5s
ESDC Sonseca Array 19.05 273 P P 00 52 14.8 -0.1
comp=Z,1.2nm,0.5s,SNR=6.6
ESLA Sonseca Array 19.05 273 *e*P P 00 52 13.2 -1.7
comp=Z,0.7nm,0.7s
EBER Berja 19.06 264 P P 00 52 16.5 +1.4
comp=Z,2.0nm,0.4s
EBER Berja 19.06 264 P P 00 52 16.5 +1.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,2.0nm,0.4s,SNR=5.7						
HFS	**Hagfors**	**19.27**	**349**	P	**P**	**00 52 15.1**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=150,slow=12,SNR=20						
EARI	**Arriondas**	**19.45**	**284**	P	**P**	**00 52 20.5**	**+1.0**
	comp=Z,2.2nm,0.6s						
EARI	**Arriondas**	**19.45**	**284**	P	**P**	**00 52 20.5**	**+1.0**
	comp=Z,2.2nm,0.6s,SNR=7.9						
ELUQ	**Luque**	**19.86**	**267**	P	**P**	**00 52 26.2**	**+2.0**
	comp=Z,2.0nm,0.3s						
ELUQ	**Luque**	**19.86**	**267**	P	**P**	**00 52 26.2**	**+2.0**
	comp=Z,2.0nm,0.3s,SNR=9.1						
EADA	**Adamuz**	**19.91**	**269**	P	**P**	**00 52 26.9**	**+2.2**
	comp=Z,0.4nm,0.3s						
EADA	**Adamuz**	**19.91**	**269**	P	**P**	**00 52 26.9**	**+2.2**
	comp=Z,0.4nm,0.3s,SNR=7.9						
ELOJ	**Sierra Loja**	**19.92**	**266**	P	**P**	**00 52 24.1**	**-0.7**
	comp=Z,2.0nm,0.2s						
ELOJ	**Sierra Loja**	**19.92**	**266**	P	**P**	**00 52 24.1**	**-0.7**
	comp=Z,2.0nm,0.2s,SNR=7.9						
FINES	**FINESS Array B**	**20.28**	**7**	P	**P**	**00 52 26.6**	**-1.8**
	comp=Z,4.9nm,0.8s,baz=173,slow=12,SNR=11						
FINES				PcP	PcP	00 56 38.9	-2.4
	comp=Z,1.0nm,0.5s,baz=135,slow=5.4,SNR=4.0						
FINES				LR	LR	01 01 15.7	
	comp=Z,100nm,19.2s,MS3.2,baz=249,slow=39						
FINES	**FINESS Array B**	**20.28**	**7**	P	**P**	**00 52 26.6**	**-1.8**
FINES						00 56 38.9	
FINES				pmax	pmax		
	comp=Z,5.0nm,0.8s						
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES				MLR	MLR		
	comp=Z,100nm,19.2s						
FINES	**FINESS Array B**	**20.28**	**7**	PcP	PcP	00 56 38.8	-2.4
NB2	**NORSAR Subarra**	**20.53**	**346**	P	**P**	**00 52 29.3**	**-1.7**
	comp=Z,5.2nm,0.6s,baz=163,slow=10						
NOA	**NORSAR Array B**	**20.53**	**346**	P	**P**	**00 52 29.5**	**-1.5**
	comp=Z,3.5nm,0.6s,baz=161,slow=10,SNR=8.4						
NOA	**NORSAR Array B**	**20.53**	**346**	P	**P**	**00 52 29.5**	**-1.5**
NOA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
EMIJ	**Mijas**	**20.59**	**265**	P	**P**	**00 52 30.9**	**-0.8**
	comp=Z,4.1nm,0.4s						
EMIJ	**Mijas**	**20.59**	**265**	P	**P**	**00 52 30.9**	**-0.8**
	comp=Z,4.1nm,0.4s,SNR=7.9						
EPON	**Pontenova**	**20.86**	**285**	P	**P**	**00 52 37.1**	**+2.6**
	comp=Z,2.8nm,0.6s						
EPON	**Pontenova**	**20.86**	**285**	P	**P**	**00 52 37.1**	**+2.7**
	comp=Z,2.8nm,0.6s,SNR=7.9						
KAF	**Kangasniemi**	**20.96**	**7**	*e*p	**P**	**00 52 33.7**	**-1.7**
	comp=Z,13nm,0.9s,baz=189,slow=10						
KAF	**Kangasniemi**	**20.96**	**7**	*e*P	**P**	**00 52 33.7**	**-1.7**
KAF				pmax	pmax		
	comp=Z,13nm,0.9s						
EKA	**Eskdalemuir Ar**	**21.10**	**319**	P	**P**	**00 52 35.6**	**-1.2**
	comp=Z,7.1nm,0.6s,mb4.2,baz=117,slow=9.9,SNR=23						
EKA	**Eskdalemuir Ar**	**21.10**	**319**	P	**P**	**00 52 35.6**	**-1.2**
EKA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ESK	**Eskdalemuir**	**21.11**	**319**	*e*P	**P**	**00 52 36.2**	**-0.8**
	comp=Z,80nm,1.4s,mb4.9						
PVRL	**Vila Real**	**21.53**	**279**	*e*P	**P**	**00 52 41.1**	**-0.2**
MTE	**Manteigas**	**21.57**	**277**	*e*P	**P**	**00 52 41.8**	**+0.1**
	comp=Z,24nm,1.2s,mb4.5						
MTE	**Manteigas**	**21.57**	**277**	*e*P	**P**	**00 52 41.8**	**+0.1**
	comp=Z,24nm,1.2s,mb4.5						
EMIN	**Mina Concepcio**	**21.61**	**269**	P	**P**	**00 52 41.5**	**-0.6**
	comp=Z,1.5nm,0.5s,mb3.7						
EMIN	**Mina Concepcio**	**21.61**	**269**	P	**P**	**00 52 41.5**	**-0.6**
	comp=Z,1.5nm,0.5s,mb3.7,SNR=6.6						
PCBR	**Castelo Branco**	**21.64**	**275**	*e*P	**P**	**00 52 45.3**	**+2.9**
PVIS	**Viseu**	**21.77**	**278**	*e*P	**P**	**00 52 49.6**	**+5.9**
ARCES	**ARCESS Array B**	**28.27**	**3**	P	**P**	**00 53 43.5**	**-1.5**
	comp=Z,11nm,1.3s,mb4.3,baz=189,slow=10,SNR=7.9						
ARCES				PcP	PcP	00 56 55.9	-2.2
	comp=Z,6.2nm,1.1s,baz=90,slow=3.6,SNR=4.0						
ARCES				LR	LR	01 05 54.6	
	comp=Z,177nm,19.4s,MS3.7,baz=198,slow=38						
ARCES	**ARCESS Array B**	**28.27**	**3**	P	**P**	**00 53 43.5**	**-1.5**
ARCES						00 56 55.9	
ARCES				pmax	pmax		
	comp=Z,11nm,1.3s						
ARCES				pmax	pmax		
	comp=Z,6.0nm,1.1s						
ARCES				MLR	MLR		
	comp=Z,177nm,19.4s						
ARCES	**ARCESS Array B**	**28.27**	**3**	P	**P**	**00 53 43.5**	**-1.5**
ARCES				PcP	PcP	00 56 55.9	-2.2
ARCES				LR	LR	01 05 54.6	
ARCES	**ARCESS Array B**	**28.27**	**3**	PcP	PcP	00 56 55.9	-2.2
BRVK	**Borovoye**	**34.74**	**53**	*e*P	**P**	**00 54 42.3**	**+0.3**
	comp=Z,28nm,1.0s,mb5.2						
BVA0	**Borovoye Array**	**34.81**	**53**	*i* P	**P**	**00 54 43.3**	**+0.7**
BVAR	**Borovoye Array**	**34.81**	**53**	P	**P**	**00 54 43.4**	**+0.8**
	comp=Z,3.0nm,0.8s,mb4.3,baz=270,slow=4.4,SNR=15						
AAK	**Ala-Archa**	**39.19**	**70**	P	**P**	**00 55 22.2**	**+2.6**
	comp=Z,4.0nm,0.6s,mb4.3						
KURK	**Kurchatov**	**40.10**	**56**	⇑*e*P	**P**	**00 55 27.4**	**+0.4**
KURK	**Kurchatov**	**40.10**	**56**	*e*P	**P**	**00 55 27.1**	**0.0**
	comp=Z,11nm,1.0s,mb4.5						
KURK	**Kurchatov**	**40.10**	**56**	*e*P	**P**	**00 55 27.1**	**+0.1**
	comp=Z,11nm,1.0s,mb4.5						
TIC	**Toumodi**	**41.67**	**221**	*e*P	**P**	**00 55 40.5**	**+0.2**
	comp=Z,37nm,0.9s,mb5.0						
KIC	**Kosan Boka**	**41.78**	**220**	*e*P	**P**	**00 55 40.6**	**-0.6**
	comp=Z,38nm,0.8s,mb5.1						
SUMG	**Summit**	**41.96**	**337**	*e*P	**P**	**00 55 43.7**	**+1.8**
	comp=Z,3.6nm,0.4s,mb4.3						
SUMG	**Summit**	**41.96**	**337**	*e*P	**P**	**00 55 43.7**	**+1.8**
	comp=Z,3.5nm,0.4s,mb4.3						
LIC	**Lamto**	**42.03**	**221**	*e*P	**P**	**00 55 42.8**	**-0.5**
	comp=Z,66nm,1.2s,mb5.1						
LIC	**Lamto**	**42.03**	**221**	*e*P	**P**	**00 55 42.1**	**-1.2**
	comp=Z,5.1nm,0.5s,mb4.4						
NVS	**Novosibirsk**	**42.23**	**50**	*e*P	**P**	**00 55 45.4**	**+1.0**
NVS				pmax	pmax		
	comp=Z,35nm,1.1s,mb4.9						
NVS				pmax	pmax		
	comp=E,16nm,1.0s						
ZAL	**Zalesovo**	**43.28**	**51**	LR	LR	01 16 21.8	
	comp=E,144nm,18.6s,MS3.9,baz=222,slow=39						
MKAR	**Makanchi Array**	**43.35**	**61**	P	**P**	**00 55 54.0**	**+0.5**
	comp=E,2.5nm,0.5s,mb4.2,baz=282,slow=6.1,SNR=16						
MKAR	**Makanchi Array**	**43.35**	**61**	*i* P	**P**	**00 55 53.8**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
SCHQ	**Schefferville**	**56.36**	**316**	P	**P**	**00 57 31.8**	**-1.2**
	comp=Z,4.0nm,0.7s,mb4.5,baz=67,slow=8.7,SNR=7.2						
LSZ	**Lusaka**	**56.80**	**172**	*e*P	**P**	**00 57 36.1**	**-0.7**
	comp=Z,2.3nm,0.7s,mb4.3						
BOD	**Bodaibo**	**57.60**	**39**	*e*P	**P**	**00 57 33.6**	**-8.2**
SONM	**Songino Array**	**58.14**	**52**	P	**P**	**00 57 45.7**	**0.0**
	comp=Z,1.7nm,1.1s,mb4.0,baz=288,slow=7.8,SNR=8.0						
HHC	**Hu-ho-hao-te**	**64.91**	**57**	*e*P	**P**	**00 58 39.5**	**+8.1**
HHC				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.7						
SADO	**Sadowa**	**68.40**	**311**	P	**P**	**00 58 52.0**	**-1.4**
	comp=Z,3.5nm,0.5s,mb4.7,baz=68,slow=4.9,SNR=6.8						
CMAR	**Chiang Mai Arr**	**69.10**	**83**	P	**P**	**00 58 55.9**	**-2.4**
	comp=Z,0.6nm,0.5s,mb3.8,baz=311,slow=8.3,SNR=4.1						
CMAR	**Chiang Mai Arr**	**69.10**	**83**	P	**P**	**00 58 55.9**	**-2.3**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**69.10**	**83**	P	**P**	**00 58 55.8**	**-2.4**
YKA	**Yellowknife Ar**	**70.47**	**340**	P	**P**	**00 59 04.9**	**-0.9**
	comp=Z,1.0nm,0.5s,mb4.0,baz=39,slow=6.3,SNR=12						
YKA				LR	LR	01 31 54.6	
	comp=Z,70nm,18.4s,MS4.0,baz=115,slow=37						
YKA	**Yellowknife Ar**	**70.47**	**340**	P	**P**	**00 59 04.9**	**-0.9**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA				MLR	MLR		
	comp=Z,70nm,18.4s						
MCWV	**Mont Chateau**	**71.96**	**307**	*e*P	**P**	**00 59 15.8**	**+0.6**
	comp=Z,7.1nm,0.6s,mb4.8						
MCWV	**Mont Chateau**	**71.96**	**307**	*e*P	**P**	**00 59 15.8**	**+0.6**
	comp=Z,7.1nm,0.6s,mb4.8						
ULM	**Lac du Bonnet**	**73.32**	**323**	P	**P**	**00 59 22.4**	**-0.5**
	comp=Z,6.3nm,0.9s,mb4.5,baz=66,slow=3.6,SNR=4.4						
ULM	**Lac du Bonnet**	**73.32**	**323**	P	**P**	**00 59 22.4**	**-0.5**
ILAR	**Eielson Array**	**73.72**	**355**	P	**P**	**00 59 25.1**	**+0.2**
	comp=Z,0.8nm,0.7s,mb3.8,baz=359,slow=4.8,SNR=7.8						
ILAR	**Eielson Array**	**73.72**	**355**	P	**P**	**00 59 25.2**	**+0.3**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ILAR	**Eielson Array**	**73.72**	**355**	P	**P**	**00 59 25.1**	**+0.2**
WCI	**Wyandotte Cave**	**76.70**	**309**	*e*P	**P**	**00 59 42.4**	**-0.1**
	comp=Z,7.4nm,0.8s,mb4.7						
WCI	**Wyandotte Cave**	**76.70**	**309**	*e*P	**P**	**00 59 42.4**	**-0.1**
	comp=Z,7.4nm,0.8s,mb4.7						
CCM	**Cathedral Cave**	**79.64**	**312**	*e*P	**P**	**00 59 58.4**	**-0.3**
	comp=Z,8.9nm,0.6s,mb4.9						
CCM				*e*		01 00 03.4	
CCM	**Cathedral Cave**	**79.64**	**312**	*e*P	**P**	**00 59 58.3**	**-0.4**
LAO	**LASA Array**	**80.51**	**326**	*e*P	**P**	**01 00 03.9**	**+0.7**
	comp=Z,8.5nm,0.9s,mb4.7						
LAO	**LASA Array**	**80.51**	**326**	*e*P	**P**	**01 00 03.8**	**+0.7**
	comp=Z,8.5nm,0.9s,mb4.7						
KSU1	**Kansas State U**	**81.80**	**316**	*e*P	**P**	**01 00 10.2**	**+0.2**
KSU1				*e*		01 00 15.8	
DPW	**Davenport**	**84.03**	**334**	*e*P	**P**	**01 00 22.0**	**+0.7**
DPW	**Davenport**	**84.03**	**334**	*e*P	**P**	**01 00 22.0**	**+0.8**
PDAR	**Pinedale Array**	**85.08**	**326**	P	**P**	**01 00 27.1**	**+0.4**
	comp=Z,1.5nm,0.9s,mb4.1,baz=45,slow=6.3,SNR=9.9						
PDAR	**Pinedale Array**	**85.08**	**326**	P	**P**	**01 00 27.0**	**+0.4**
BDFB	**Brasilia**	**85.25**	**245**	P	**P**	**01 00 29.2**	**+1.1**
	comp=Z,5.4nm,0.7s,mb4.8,baz=66,slow=6.0,SNR=7.7						
BDFB	**Brasilia**	**85.25**	**245**	P	**P**	**01 00 29.2**	**+1.1**
BDFB				pmax	pmax		
	comp=Z,5.0nm,0.7s						
WMOK	**Wichita Mounta**	**86.21**	**314**	*e*P	**P**	**01 00 33.2**	**+0.7**
	comp=Z,3.6nm,0.8s,mb4.7						
WMOK				*e*		01 00 38.6	
WMOK	**Wichita Mounta**	**86.21**	**314**	*e*P	**P**	**01 00 33.2**	**+0.8**
DUG	**Dugway**	**88.58**	**326**	*e*P	**P**	**01 00 44.4**	**+0.7**
	comp=Z,3.9nm,0.8s,mb4.8						
DUG				*e*		01 00 49.7	
ROSC	**El Rosal**	**90.82**	**277**	LR	LR	01 37 03.5	
	comp=Z,78nm,18.0s,MS4.2,baz=178,slow=32						
TXAR	**Lajitas Array**	**93.00**	**314**	P	**P**	**01 01 05.6**	**+1.1**
	comp=Z,1.7nm,0.8s,mb4.5,baz=59,slow=3.0,SNR=14						
CPUP	**Villa Florida**	**98.88**	**243**	LR	LR	01 44 50.6	
	comp=Z,64nm,19.7s,MS4.1,baz=254,slow=35						
VNA1	**Neumayer--Stat**	**113.75**	**190**	⇑*i*Pdif	Pdif	01 02 36.5	+0.4
VNA2	**Neumayer--Watz**	**113.89**	**190**	⇑*i*Pdif	Pdif	01 02 35.0	-1.7
SNAA	**Sanae**	**114.06**	**188**	⇓*i*Pdif	Pdif	01 02 47.2	+10
VNA3	**Neumayer Olymp**	**114.49**	**190**	⇑*i*Pdif	Pdif	01 02 34.0	-5.3
ASAR	**Alice Springs**	**122.09**	**94**	PKP	PKPdf	01 06 44.2	-5.2
	comp=Z,0.6nm,0.5s,baz=15,slow=1.7,SNR=8.7						

IDC 08 00:48:23.3±15.0**,21.70S**×**179.43E,mb4.2**/4**,mb1 4.4**/5**, mb1mx4.1**/14**,ML4.8**/1**,Error ellipse: s-maj=281.0km s-min=56.0km az=63.0,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**16.62**	**186**	Pn	P	00 52 18.2	-1.1
	3.5nm,0.3s,baz=348,slow=10,SNR=11						
STKA	**Stephens Creek**	**35.11**	**245**	P	P	00 55 17.1	-3.4
	0.8nm,0.4s,baz=92,slow=12,SNR=4.7						
ASAR	**Alice Springs**	**41.92**	**258**	P	P	00 56 15.9	-1.5
	1.4nm,0.4s,baz=99,slow=7.1,SNR=19						
WRA	**Warramunga Arr**	**42.07**	**264**	P	P	00 56 18.3	-0.4
	2.7nm,0.4s,baz=95,slow=8.4,SNR=36						
FITZ	**Fitzroy Crossi**	**50.50**	**264**	P	P	00 57 23.0	-2.5
	2.8nm,0.9s,baz=122,slow=6.1,SNR=8.0						

*IDC **08** 00:55:11.5±0.8, 9.89S×74.96W, h132^{km}±7^{km}, mb3.9/9, mb1 4.0/10, mb1mx3.9/18, Error ellipse: s-maj=29.8km s-min=12.5km az=54.0*

*NEIC **08** 00:55:11.7±0.4, 9.78S×74.78W, mb4.3/9, Error ellipse: s-maj=13.6km s-min=6.6km az=52.0*

ISC 08 00:55:11.2±0.8**,9.71S**±0.07×**74.76W**±0.09**,h142**^{km}±7^{km}**, h131**^{km}±2.2^{km}**:pP-P,n65,**σ**1s03**/61**,mb4.2**/20**,2C-1D, Central Peru**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**7.43**	**155**	P	**P**	**00 56 59.0**	**+0.9**
PATA	**Patacocha**	**8.93**	**336**	P	**P**	**00 57 17.4**	**-0.6**
ARRY	**Arrayan**	**8.94**	**335**	⇑P	**P**	**00 57 16.9**	**-1.2**
ULBA	**Ulba**	**8.97**	**336**	P	**P**	**00 57 17.4**	**-1.2**
RETU	**Refugio**	**8.98**	**336**	P	**P**	**00 57 17.9**	**-0.8**
CUSU	**Cusua**	**9.01**	**335**	P	**P**	**00 57 17.7**	**-1.4**
IGUA	**Igualata**	**9.03**	**334**	P	**P**	**00 57 20.4**	**+1.1**
LPAZ	**La Paz**	**9.19**	**136**	P	**P**	**00 57 20.8**	**-0.7**
	0.4nm,0.3s,baz=331,slow=15,SNR=9.5						
LPAZ	**La Paz**	**9.19**	**136**	*e*Pn	**P**	**00 57 20.4**	**-1.0**
LPAZ				*e*		00 57 35.2	
PISA	**Pisayambo**	**9.32**	**337**	⇓P	**P**	**00 57 22.5**	**-0.7**
TAMB	**Tambo**	**9.65**	**338**	P	**P**	**00 57 27.1**	**-0.6**
VC1	**Cotopaxi 1**	**9.71**	**338**	P	**P**	**00 57 29.1**	**+0.7**
ANTI	**Antisana**	**9.80**	**340**	⇑P	**P**	**00 57 29.3**	**-0.4**
CAYR	**Refugio Cayamb**	**10.19**	**341**	P	**P**	**00 57 34.4**	**-0.3**
GGP	**Refugio Guagua**	**10.21**	**338**	P	**P**	**00 57 36.9**	**+1.8**
TERV	**Terraza Guagua**	**10.21**	**338**	P	**P**	**00 57 39.6**	**+4.5**
PINO	**Pino**	**10.23**	**338**	P	**P**	**00 57 38.3**	**+2.9**
CAYA	**Cayambe**	**10.23**	**341**	P	**P**	**00 57 36.6**	**+1.2**
YANA	**Yana**	**10.25**	**338**	P	**P**	**00 57 39.9**	**+4.2**
OTAV	**Otavalo**	**10.54**	**339**	*e*Pn	**P**	**00 57 41.6**	**+2.2**
	3.8nm,0.7s						
COTA	**Cotacachi**	**10.59**	**340**	P	**P**	**00 57 45.2**	**+5.1**
SAML	**Samuel**	**11.45**	**87**	*e*Pn	**P**	**00 57 49.5**	**-1.8**
	20nm,0.6s						
SAML				*e*Sn	**S**	**00 59 52.2**	**-4.7**
LVC	**Limon Verde**	**14.00**	**157**	*e*Pn	**P**	**00 58 28.7**	**+4.2**
	5.2nm,0.6s						
ROSC	**El Rosal**	**14.47**	**2**	P	**P**	**00 58 39.8**	**+9.3**
	1.4nm,0.3s,baz=160,slow=18,SNR=6.6						
SDV	**Santo Domingo**	**18.92**	**13**	*e*P	**P**	**00 59 24.6**	**+0.9**
	9.7nm,0.5s						
CPUP	**Villa Florida**	**23.36**	**137**	P	**P**	**01 00 07.5**	**-0.3**
	3.8nm,0.8s,mb3.9,baz=349,slow=12,SNR=7.0						
CPUP				pP		01 00 35.0	
	6.0nm,0.8s,baz=345,slow=11,SNR=6.9						
BDFB	**Brasilia**	**26.73**	**105**	P	**P**	**01 00 40.6**	**+1.0**
	6.4nm,0.6s,mb4.4,baz=253,slow=7.2,SNR=3.9						
SJG	**San Juan**	**28.92**	**17**	P	**P**	**01 00 59.5**	**+0.3**
	13nm,0.6s,mb4.8,baz=258,slow=13,SNR=7.6						
SJG	**San Juan**	**28.92**	**17**	P	**P**	**01 00 59.5**	**+0.3**
AOPR	**Arecibo Observ**	**28.97**	**16**	*e*P	**P**	**01 01 00.2**	**+0.5**
CBYP	**Canovanas**	**29.15**	**18**	*e*P	**P**	**01 01 01.4**	**+0.1**
TXAR	**Lajitas Array**	**47.78**	**325**	P	**P**	**01 03 36.4**	**+0.2**
	2.1nm,0.4s,mb4.1,baz=151,slow=8.8,SNR=40						
TXAR				pP	pP	01 04 05.9	-2.7
	0.8nm,0.6s,baz=148,slow=9.6,SNR=4.1						
CPRX	**Cap Rock**	**50.75**	**328**	*e*P	**P**	**01 03 59.0**	**+0.1**
ANMO	**Albuquerque**	**53.60**	**328**	*e*P	**P**	**01 04 19.8**	**-0.2**
	3.5nm,1.1s,mb4.0						
SADO	**Sadowa**	**54.36**	**356**	P	**P**	**01 04 36.2**	**+11**
	6.1nm,0.7s,mb4.4,baz=194,slow=7.0,SNR=5.7						
PV01	**Paradox Valley**	**57.12**	**328**	*e*P	**P**	**01 04 45.4**	**+0.1**
PV01				*e*pP	pP	01 05 16.3	-2.3
PV10	**Paradox Valley**	**57.54**	**328**	*e*P	**P**	**01 04 47.8**	**-0.4**
DUG	**Dugway**	**60.86**	**327**	*e*P	**P**	**01 05 10.9**	**-0.2**
	5.9nm,0.8s,mb4.5						
PDAR	**Pinedale Array**	**61.13**	**331**	P	**P**	**01 05 12.5**	**-0.4**
	0.6nm,0.4s,mb3.7,baz=135,slow=6.3,SNR=6.8						
HWUT	**Hardware Ranch**	**61.24**	**329**	*e*P	**P**	**01 05 12.8**	**-0.9**
	2.7nm,0.4s,mb4.4						
ULM	**Lac du Bonnet**	**62.48**	**345**	P	**P**	**01 05 34.8**	**+13**
	3.3nm,0.4s,mb4.5,baz=145,slow=5.1,SNR=3.9						
ELK	**Elko**	**62.56**	**326**	*e*P	**P**	**01 05 22.1**	**-0.3**
	1.6nm,0.7s,mb4.0						
NVAR	**Mina Array Bea**	**62.77**	**323**	P	**P**	**01 05 23.7**	**-0.1**
	1.4nm,0.8s,mb3.8,baz=139,slow=7.9,SNR=8.7						
HLID	**Hailey**	**64.11**	**329**	*e*P	**P**	**01 05 32.4**	**-0.2**
	1.3nm,0.7s,mb3.9						
MCMT	**McKenzie Canyo**	**64.25**	**331**	*e*P	**P**	**01 05 33.3**	**-0.1**
YBH	**Yreka Blue Hor**	**67.47**	**323**	P	**P**	**01 05 52.3**	**-1.7**
	2.3nm,0.8s,mb4.0,baz=125,slow=2.1,SNR=4.9						
LIC	**Lamto**	**71.24**	**80**	*e*P	**P**	**01 06 16.8**	**-0.6**
	61nm,1.6s,mb5.1						
TIC	**Toumodi**	**71.34**	**80**	*e*P	**P**	**01 06 17.6**	**-0.4**
	63nm,1.2s,mb5.2						
KIC	**Kosan Boka**	**71.55**	**80**	*e*P	**P**	**01 06 18.9**	**-0.3**
	31nm,0.7s,mb5.2						
VNA3	**Neumayer Olymp**	**72.97**	**162**	*e*	**P**	**01 06 29.8**	**+3.2**
VNA3	**Neumayer Olymp**	**72.97**	**162**	*e*	**P**	**01 06 29.8**	**+3.2**
VNA1	**Neumayer--Stat**	**73.20**	**161**	*e*	**P**	**01 06 32.3**	**+4.4**
VNA1	**Neumayer--Stat**	**73.20**	**161**	*e*	**P**	**01 06 32.3**	**+4.4**
VNA2	**Neumayer--Watz**	**73.56**	**162**	*e*	**P**	**01 06 30.8**	**+0.8**
VNA2	**Neumayer--Watz**	**73.56**	**162**	*e*	**P**	**01 06 30.8**	**+0.8**
SNAA	**Sanae**	**75.18**	**162**	*e*	**P**	**01 06 39.0**	**-0.3**
SNAA	**Sanae**	**75.18**	**162**	P	**P**	**01 06 38.3**	**-1.0**
	0.8nm,0.6s,mb3.5,baz=315,slow=8.0,SNR=16						
SNAA				pP	pP	01 07 11.9	-2.6
	0.6nm,0.8s,baz=281,slow=4.8,SNR=4.5						
SNAA	**Sanae**	**75.18**	**162**	P	**P**	**01 06 38.3**	**-1.0**
SNAA				*e*		01 06 39.0	
SNAA				pP	pP	01 07 11.9	-2.6
YKA	**Yellowknife Ar**	**78.28**	**342**	pP	pP	01 07 31.7	-0.4
	0.6nm,0.6s,baz=139,slow=5.7,SNR=2.8						
YKA	**Yellowknife Ar**	**78.28**	**342**	P	**P**	**01 07 15.5**	**+19**
	1.5nm,0.8s,mb3.7,baz=132,slow=6.1,SNR=9.6						
ESDC	**Sonseca Array**	**81.73**	**47**	P	**P**	**01 07 17.9**	**+2.3**
	0.9nm,0.5s,mb3.7,baz=250,slow=5.5,SNR=6.4						
ZAL	**Zalesovo**	**132.94**	**16**	PKP	PKPdf	01 14 11.6	+1.8
	0.7nm,0.4s,baz=46,slow=7.2,SNR=3.1						
ASAR	**Alice Springs**	**136.58**	**220**	PKP	PKPdf	01 14 18.8	+1.6
	0.8nm,0.8s,baz=140,slow=1.5,SNR=6.7						
ASAR				pPKP		01 14 52.5	
	0.5nm,0.8s,baz=115,slow=1.6,SNR=2.2						
MKAR	**Makanchi Array**	**138.20**	**24**	PKP	PKPdf	01 14 21.9	+2.2
	0.5nm,0.8s,baz=315,slow=3.4,SNR=2.7						
WRA	**Warramunga Arr**	**138.91**	**224**	pPKP		01 14 56.5	
	0.7nm,0.6s,baz=124,slow=2.0,SNR=3.6						

IGQ 08 01:13:43.1,2.80S×**79.79W,h12**^{km}±13^{km}**,mb4.4,1C-6D, Error ellipse: s-maj=11.6km s-min=7.7km az=66.5,Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**1.73**	**41**	P	Pn	01 14 14.1	+0.8
IGUA				S	Sn	01 14 38.3	+2.8
ARRY	**Arrayan**	**1.85**	**46**	P	Pn	01 14 16.3	+1.3
PATA	**Patacocha**	**1.87**	**46**	P	Pn	01 14 16.6	+1.3
RETU	**Refugio**	**1.89**	**45**	P	Pn	01 14 19.7	+4.1
JUIV	**Juive**	**1.90**	**44**	P	Pn	01 14 19.0	+3.3
ULBA	**Ulba**	**1.92**	**46**	P	Pn	01 14 18.8	+2.8
PISA	**Pisayambo**	**2.23**	**39**	P	Pn	01 14 23.4	+3.1
NAS1	**Nasa**	**2.52**	**31**	P	Pn	01 14 27.6	+3.0
TAMB	**Tambo**	**2.53**	**34**	⇓P	Pn	01 14 27.6	+2.9
VC1	**Cotopaxi 1**	**2.55**	**33**	P	Pn	01 14 28.1	+3.1
JUA2	**San Juan 2**	**2.83**	**25**	P	Pn	01 14 30.5	+1.6
ANTI	**Antisana**	**2.84**	**35**	P	Pn	01 14 31.9	+2.7
ANTI				S	Sn	01 15 10.4	+6.7
CGGP	**Crater GGP**	**2.86**	**24**	⇓P	Pn	01 14 31.1	+1.7
CGGP				S	Sn	01 15 08.1	+4.0
GGP	**Refugio Guagua**	**2.87**	**25**	⇓P	Pn	01 14 31.2	+1.7
PINO	**Pino**	**2.88**	**24**	⇓P	Pn	01 14 31.2	+1.5
YANA	**Yana**	**2.93**	**25**	⇓P	Pn	01 14 31.8	+1.5
YANA				S	Sn	01 15 07.5	+1.7
JOR1	**San Jorge 1**	**3.01**	**22**	⇓P	Pn	01 14 29.5	-2.0
CAYR	**Refugio Cayamb**	**3.31**	**33**	P	Pn	01 14 39.1	+3.2
CAYA	**Cayambe**	**3.37**	**32**	P	Pn	01 14 39.3	+2.6
COTA	**Cotacachi**	**3.43**	**25**	⇑P	Pn	01 14 39.6	+2.0

*STR **08** 01:45:23.1±0.6, 43.82N×7.60E, h2^{km}±1^{km}, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 08 01:45:22.2±0.6**,44.02N**×**7.56E,h2**^{km}**,Md1.7**/2**,Ml1.8**/2**, Error ellipse: s-maj=10.2km s-min=6.7km az=53.0, Northern Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SAOF	**Saorge**	**0.03**	**183**	Pg	Pg	01 45 26.2	+3.2
AUTN	**L'Aution**	**0.10**	**255**	Pg	Pg	01 45 27.6	+3.4
AUTN				Sg	Sg	01 45 30.6	+5.1
SBF	**Sospel**	**0.18**	**210**	*e*Pg	Pg	01 45 25.7	-0.1
SBF				*e*Sg	Sg	01 45 27.5	-0.7
	127nm,0.3s						
AURF	**Auriere**	**0.21**	**232**	Pg	Pg	01 45 27.4	+0.9
AURF				Sg	Sg	01 45 30.0	+0.7
FRF	**La Foret Royal**	**0.80**	**235**	*e*Pg	Pg	01 45 37.8	-0.5
FRF				*e*Sg	Sg	01 45 48.0	-1.0
	1.0nm,0.2s						
LMR	**La Mourre**	**1.02**	**228**	*e*Pg	Pg	01 45 41.6	-1.1
LMR				*e*Sg	Sg	01 45 54.2	-2.1
	1.9nm,0.2s						
SMRF	**Simiane la Rot**	**1.43**	**269**	*e*Pg	Pg	01 45 48.8	-2.0
SMRF				*e*Sg	Sg	01 46 07.3	-2.6
	1.6nm,0.3s						

*NEIC **08** 01:47:25.0, 41.37N×21.05E, h22^{km}, MD3.3(ATH), MD2.8(PDG), ML2.5(SKO), After SKO.*
NEIC Felt [III] at Krusevo.
*TIR **08** 01:47:25.7, 41.44N×20.98E, h3^{km}*
*SKO **08** 01:47:25.0, 41.37N×21.05E, h22^{km}*
*PDG **08** 01:47:28.0±0.3, 41.41N×20.79E, h10^{km}±1^{km}*
*CSEM **08** 01:47:27.9±0.2, 41.27N×21.08E, h5^{km}, ML2.5, Error ellipse: s-maj=5.8km s-min=3.4km az=40.0*
*ATH **08** 01:47:28.1, 41.42N×21.05E, h36^{km}, MD3.3/3*
*THE **08** 01:47:29.6, 41.25N×21.20E, h11^{km}, ML2.9*

ISC 08 01:47:26.0±0.3**,41.37N**±0.02×**21.08E**±0.02**,h5**^{km}**,n40,** σ**1s21**/63**,3C-5D,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.33**	**220**	⇑*i*Pg	**Pg**	**01 47 32.0**	**-0.6**
OHR				*i* Sg	**Sg**	**01 47 37.0**	**-0.1**
BIA	**Bitola**	**0.39**	**152**	⇑*i*Pg	**Pg**	**01 47 33.9**	**0.0**
BIA				*i* Sg	**Sg**	**01 47 40.5**	**+1.3**
FNA	**Florina**	**0.62**	**159**	*e*Pg	**Pg**	**01 47 38.1**	**-0.4**
FNA				*e*Sg	**Sg**	**01 47 46.5**	**-0.4**
SKO	**Skopje**	**0.67**	**24**	*i* Pg	**Pg**	**01 47 39.5**	**+0.2**
SKO				*i* Sg	**Sg**	**01 47 48.5**	**+0.3**
SKO				Smax		01 47 49.0	
	comp=Z,0.3nm,0.4s						
KBN	**Korca**	**0.77**	**197**	*i* Pg	**Pg**	**01 47 44.1**	**+2.6**
KBN				*i* Sg	**Sg**	**01 47 53.5**	**+1.7**
QSH	**Qafa e Shtames**	**0.90**	**280**	*i* Pg	**Pg**	**01 47 43.0**	**-0.9**
TIR	**Tirane**	**0.91**	**269**	*i* Pg	**Pg**	**01 47 42.1**	**-2.2**
TIR				*i* Sg	**Sg**	**01 47 55.0**	**-1.4**
GRG	**Griva**	**1.08**	**112**	*e*Pg	**Pg**	**01 47 47.3**	**-0.3**
GRG				*e*Sg	**Sg**	**01 48 01.5**	**-0.5**
VAY	**Valandovo**	**1.12**	**92**	⇑*i*Pg	**Pg**	**01 47 48.2**	**-0.3**
VAY				*i* Sg	**Sg**	**01 48 04.0**	**+0.5**
KZN	**Kozani**	**1.18**	**153**	*e*PN	**Pn**	**01 47 48.9**	**-0.2**
KZN				*e*SN	**Sn**	**01 48 07.5**	**+1.8**
BCI	**Bajram Curri**	**1.25**	**323**	*i* Pg	**Pn**	**01 47 48.0**	**-2.2**
LSK	**Leskovik**	**1.27**	**197**	*i* Pn	**Pn**	**01 47 50.0**	**-0.4**
LSK				*i* Sn	**Sn**	**01 48 08.8**	**+0.9**
PVY	**Plav**	**1.48**	**327**	⇓*i*Pg	**Pn**	**01 47 52.5**	**-0.9**
PVY				*e*Sg	**Sg**	**01 48 13.7**	**-1.6**
ULC	**Ulcinj**	**1.49**	**294**	⇓*i*Pg	**Pn**	**01 47 51.5**	**-2.2**
ULC				*e*Sg	**Sn**	**01 48 11.6**	**-2.1**
MEV	**Metsovon**	**1.58**	**176**	*e*Pb	**Pb**	**01 47 55.5**	**+0.1**
LIT	**Litokhoron**	**1.66**	**139**	*e*Pb	**Pb**	**01 47 56.0**	**-0.7**
LIT				*e*Sb	**Sb**	**01 48 16.3**	**-1.5**
SRN	**Sarande**	**1.69**	**209**	*i* Pn	**Pn**	**01 47 58.0**	**+1.5**
SRN				*i* Sn	**Sn**	**01 48 17.6**	**-1.2**
JAN	**Janina**	**1.71**	**186**	*e*PB	**Pb**	**01 47 58.5**	**+0.8**
TTG	**Podgorica**	**1.72**	**309**	⇓*i*Pg	**Pn**	**01 47 56.6**	**-0.3**
TTG				*e*Sg	**Sn**	**01 48 19.8**	**+0.3**
IVA	**Berane**	**1.74**	**330**	⇓*i*Pn	**Pn**	**01 47 57.1**	**-0.1**
IVA				*e*Sn	**Sn**	**01 48 22.2**	**+2.2**
SOH	**Sokhos**	**1.80**	**107**	*e*Pb	**Pb**	**01 47 58.7**	**-0.5**
BUM	**Brajici-Budva**	**1.88**	**301**	⇓*i*Pn	**Pn**	**01 47 58.8**	**-0.3**
BUM				*e*Sn	**Sn**	**01 48 24.9**	**+1.4**
SRS	**Serrai**	**1.91**	**97**	*e*Pb	**Pb**	**01 47 59.5**	**-1.6**
SRS				*e*Sb	**Sb**	**01 48 23.5**	**-1.7**
IGT	**Igoumenitsa**	**1.92**	**197**	*e*Sb	**Sb**	**01 48 24.4**	**-0.9**
KEK	**Kerkira**	**1.92**	**211**	*e*PN	**Pn**	**01 48 00.5**	**+0.8**
PLG	**Polygyros**	**2.05**	**118**	*e*PN	**Pn**	**01 48 02.2**	**+0.6**
NVR	**Nevrokopi**	**2.10**	**89**	*e*PN	**Pn**	**01 48 03.2**	**+1.0**
NKY	**Niksic**	**2.12**	**314**	*e*Pn	**Pn**	**01 48 04.1**	**+1.6**
NKY				*e*Sn	**Sn**	**01 48 30.1**	**+0.6**
HCY	**Herceg Novi**	**2.21**	**300**	*e*Pn	**Pn**	**01 48 04.1**	**+0.3**
HCY				*e*Sn	**Sn**	**01 48 33.3**	**+1.5**
PLE	**Pljevlja**	**2.33**	**328**	*e*Pn	**Pn**	**01 48 06.2**	**+0.7**
PLE				*e*Sn	**Sn**	**01 48 37.3**	**+2.4**
BRY	**Bratogost**	**2.43**	**310**	*e*Pn	**Pn**	**01 48 07.3**	**+0.3**
BRY				*e*Sn	**Sn**	**01 48 38.7**	**+1.3**
UPM	**Unac-Piva**	**2.44**	**320**	*e*Pn	**Pn**	**01 48 08.7**	**+1.5**
UPM				*e*Sn	**Sn**	**01 48 38.9**	**+1.1**
EVR	**Evrytania**	**2.51**	**167**	*e*PN	**Pn**	**01 48 10.3**	**+2.2**
MRLC	**Muro Lucano**	**4.27**	**264**	*e*Pn	**Pn**	**01 48 32.8**	**-0.3**
MRLC	**Muro Lucano**	**4.27**	**264**	*e*Pn	**Pn**	**01 48 32.8**	**-0.4**
SGO	**Sicignano**	**4.44**	**261**	*e*Pn	**Pn**	**01 48 34.4**	**-1.2**
NRCA	**Norcia**	**6.10**	**287**	*e*Pn	**Pn**	**01 48 57.2**	**-1.9**
NRCA	**Norcia**	**6.10**	**287**	*e*Pn	**Pn**	**01 48 57.2**	**-1.9**
FSSB	**Fossombrone**	**6.56**	**294**	*e*Pn	**Pn**	**01 49 03.4**	**-2.1**
FSSB	**Fossombrone**	**6.56**	**294**	*e*Pn	**Pn**	**01 49 03.4**	**-2.1**

*THR **08** 01:49:16.9±0.4,37.64N×54.85E,h15km,ML4.2*
*NEIC **08** 01:49:23.3±1.8,36.98N×54.67E,h35km,mb4.0/3, ML4.1(THR),Error ellipse: s-maj=37.2km s-min=9.8km az=172.0*
*CSEM **08** 01:49:24.6±0.1,37.40N×54.48E,h45km,mb3.9/3,Error ellipse: s-maj=6.2km s-min=2.3km az=131.0*
*IDC **08** 01:49:28.0±6.2,37.33N×54.49E,h61km±48km,mb3.5/10, mb1 3.7/12,mb1mx3.6/22,ML3.8/2,Error ellipse: s-maj=74.7km s-min=18.0km az=180.0*
*MOS **08** 01:49:28.0±1.1,37.93N×54.33E,h33km,mb4.0/8,Error ellipse: s-maj=30.2km s-min=17.1km az=131.1*
ISC 08 01:49:24.9±1.4,37.2N±0.1×54.59E±0.09,h54km±18km, n40,σ0s87/40,mb3.7/11,Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAMV	Damavand	2.65	234	ePN	P	01 50 06.9	+0.7
DAMV				AMP		01 50 56.0	
	comp=E,586nm,0.5s						
DAMV				AMP		01 50 56.5	
	comp=N,672nm,0.4s						
DAMV	Damavand	2.65	234	ePn	P	01 50 06.4	+0.2
THKV	Tehran--Karaj	3.27	247	ePN	P	01 50 14.8	-0.1
THKV				AMP		01 51 12.4	
	comp=E,474nm,0.5s						
THKV				AMP		01 51 17.2	
	comp=N,407nm,0.6s						
THKV	Tehran--Karaj	3.27	247	ePn	P	01 50 14.6	-0.3
ASAO	Ashtian	4.57	236	ePn	P	01 50 34.0	+0.7
GRMI	Germi	5.52	289	ePN	P	01 50 41.9	-4.6
GRMI	Germi	5.52	289	ePn	P	01 50 42.0	-4.5
SHGR	Shooshtar-Gavs	6.99	225	ePn	P	01 51 06.7	-0.4
KRBR	Kerman	7.45	165	ePN	P	01 51 12.5	-1.0
KRBR	Kerman	7.45	165	ePn	P	01 51 12.2	-1.3
GNI	Garni	8.23	294	ePn	P	01 51 25.2	+1.0
	comp=N,5.6nm,0.6s						
BRTR	Keskin Array B	16.59	285	P	P	01 53 15.3	+0.2
	comp=N,0.1nm,0.3s,baz=111,slow=12,SNR=3.6						
BRVK	Borovoye	19.24	30	eP	P	01 53 46.6	-0.7
	comp=N,2.8nm,0.8s						
BRVK	Borovoye	19.24	30	eP	P	01 53 46.6	-0.7
	comp=N,2.8nm,0.8s						
BVAR	Borovoye Array	19.26	30	P	P	01 53 46.9	-0.6
	comp=N,1.1nm,0.3s,baz=217,slow=9.9,SNR=37						
ARU	Arti	19.39	7	eP	P	01 53 47.7	-1.2
	comp=N,9.0nm,0.8s						
ARU	Arti	19.39	7	eP	P	01 53 47.7	-1.2
	comp=N,9.0nm,0.8s						
KURK	Kurchatov	21.80	44	eP	P	01 54 14.6	+0.8
	comp=N,8.0nm,0.9s,mb4.2						
KURK	Kurchatov	21.80	44	eP	P	01 54 14.6	+0.8
	comp=N,8.0nm,0.9s,mb4.2						
AKASG	Malin Array Be	22.55	315	P	P	01 54 20.6	-0.6
	comp=N,2.6nm,0.5s,mb4.0,baz=122,slow=8.8,SNR=5.6						
AKASG	Malin Array Be	22.55	315	P	P	01 54 20.6	-0.5
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MKAR	Makanchi Array	22.59	56	P	P	01 54 24.0	+2.5
	comp=Z,1.3nm,0.7s,mb3.5,baz=247,slow=9.9,SNR=10.0						
MKAR	Makanchi Array	22.59	56	P	P	01 54 24.0	+2.4
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	Makanchi Array	22.59	56	P	P	01 54 24.0	+2.4
MLR	Muntele Rosu	22.94	300	P	P	01 54 26.5	+1.5
	comp=Z,3.0nm,0.7s,mb3.8,baz=137,slow=5.3,SNR=6.0						
MLR	Muntele Rosu	22.94	300	P	P	01 54 26.5	+1.5
MLR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GERES	GERESS Array B	31.69	305	P	P	01 55 44.5	-0.8
	comp=Z,0.2nm,0.4s,mb3.3,baz=95,slow=12,SNR=3.0						
HFS	Hagfors	34.56	325	P	P	01 56 09.4	-0.7
	comp=Z,2.3nm,0.7s,mb4.2,baz=101,slow=7.6,SNR=6.2						
HFS	Hagfors	34.56	325	P	P	01 56 09.4	-0.6
HFS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARCES	ARCESS Array B	35.97	343	P	P	01 56 21.5	-0.5
	comp=Z,2.9nm,0.9s,mb4.2,baz=140,slow=9.5,SNR=6.2						
ARCES	ARCESS Array B	35.97	343	P	P	01 56 21.5	-0.5
ARCES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SONM	Songino Array	38.95	57	P	P	01 56 47.5	+0.4
	comp=Z,0.3nm,0.6s,mb3.2,baz=280,slow=8.8,SNR=3.2						
EKA	Eskdalemuir Ar	42.46	314	P	P	01 57 15.1	-0.8
	comp=Z,1.2nm,0.9s,mb3.5,baz=104,slow=6.9,SNR=3.8						
EKA	Eskdalemuir Ar	42.46	314	P	P	01 57 15.1	-0.8
EKA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ILAR	Eielson Array	76.94	9	P	P	02 01 13.1	+0.4
	comp=Z,0.7nm,0.8s,mb3.6,baz=325,slow=5.3,SNR=5.6						
ILAR	Eielson Array	76.94	9	P	P	02 01 13.1	+0.4
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
DAWY	Dawson	78.43	6	eP	P	02 01 20.7	-0.2
DAWY	Dawson	78.43	6	eP	P	02 01 20.7	-0.2
YKA	Yellowknife Ar	80.24	355	P	P	02 01 31.4	+0.7
	comp=Z,1.0nm,0.9s,mb3.8,baz=16,slow=8.7,SNR=3.4						
YKA	Yellowknife Ar	80.24	355	P	P	02 01 31.4	+0.7
YKA				pmax	pmax		
	comp=Z,1.0nm,0.9s						

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*BJI **08** 02:10:09.3,37.73N×72.14E,h182km,mb3.9*
*NEIC **08** 02:10:09.7±5.0,37.53N×72.18E,h184km±28km,mb3.7/1, Error ellipse: s-maj=54.3km s-min=17.1km az=193.0*
*IDC **08** 02:10:11.4±13.0,37.62N×72.22E,h195km±86km,mb3.5/5, mb1 3.7/8,mb1mx3.3/22,Error ellipse: s-maj=124.0km s-min=25.5km az=11.0*
*NNC **08** 02:10:15.2±12.0,37.86N×72.52E,h208km±118km,mpv4.5, Error ellipse: s-maj=220.0km s-min=120.2km az=88.0*
ISC 08 02:10:08.2±0.9,37.43N±0.05×72.2E±0.1,h189km±9km, n34,σ0s83/38,mb3.7/6,2C-3D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH	Kashi	3.65	54	⇑iP	P	02 11 07.4	+1.6
KSH				S	S	02 11 49.6	-0.7
KSH				Smax			
	comp=N,1μm,0.3s						
KSH				Smax			
	comp=E,790nm,0.4s						
AML	Almayashu	4.84	14	P	P	02 11 21.6	+0.6
	SNR=266						
UCH	Uchtor	5.12	20	P	P	02 11 25.3	+0.6
	SNR=61						
KZA	Kyzart	5.22	26	P	P	02 11 25.9	0.0
	SNR=23						
EKS2	Erkin-Say	5.37	13	P	P	02 11 28.3	+0.5
	SNR=85						
AAK	Ala-Archa	5.50	18	⇓P	P	02 11 29.9	+0.3
	comp=E,32nm,0.5s						
AAK				⇑S	S	02 12 29.4	-3.2
	comp=E,40nm,0.6s						
AAK	Ala-Archa	5.50	18	P	P	02 11 30.4	+0.8
	SNR=43						
AAK	Ala-Archa	5.50	18	ePn	P	02 11 29.1	-0.4
	comp=E,48nm,0.4s						
AAK				eSn	S	02 12 29.6	-3.0
KBK	Karagaybulak	5.64	21	P	P	02 11 32.6	+1.2
	SNR=9.6						
ULHL	Ulahol	5.74	32	P	P	02 11 32.6	-0.1
	SNR=15						
THN	Thein Dam	5.78	149	eP	P	02 11 33.8	+0.6
	comp=E,102nm,0.4s						
THN				eS	S	02 12 37.7	-1.6
CHMS	Chumysh	5.90	19	P	P	02 11 34.7	-0.1
	SNR=16						
TKM2	Tokmak 2	6.08	25	P	P	02 11 37.7	+0.6
	SNR=11						
USP	Ospenovka	6.10	16	P	P	02 11 37.0	-0.3
	SNR=10						
DDI	Dehra Dun	8.62	144	e	P	02 12 09.0	-1.4
MK31	Makanchi Array	11.99	36	⇓P	P	02 12 53.5	-0.5
	comp=E,1.1nm,0.5s,baz=207,slow=10,SNR=19						
MKAR	Makanchi Array	11.99	36	P	P	02 12 53.2	-0.8
	comp=E,0.2nm,0.3s,baz=207,slow=12,SNR=6.6						
KOLN	Koldanda	13.62	132	eP	P	02 13 14.3	-0.4
	comp=E,9.9nm,0.4s						
GKN	Gorkha	14.09	128	eP	P	02 13 20.5	0.0
	comp=E,16nm,0.3s						
KKN	Kakani	14.64	127	eP	P	02 13 27.7	+0.3
	comp=E,17nm,0.5s						
PKI	Pulchoki	14.87	128	eP	P	02 13 31.7	+1.4
	comp=E,14nm,0.5s						
GUN	Gumba	14.94	125	eP	P	02 13 31.9	+0.7
	comp=E,18nm,0.4s						
BVA0	Borovoye Array	15.64	356	⇓P	P	02 13 39.6	-0.1
	comp=E,0.6nm,0.8s,baz=162,slow=11,SNR=18						
BVAR	Borovoye Array	15.64	356	P	P	02 13 39.0	-0.7
	comp=E,0.4nm,0.3s,baz=166,slow=12,SNR=20						
BRVK	Borovoye	15.68	356	eP	P	02 13 39.8	-0.4
	comp=E,2.0nm,0.6s						
ZAL	Zalesovo	18.67	24	P	P	02 14 12.7	-1.2
	comp=E,3.7nm,0.3s,baz=161,slow=8.7,SNR=46						
GTA	Gaotai	21.73	76	eP	P	02 14 46.3	+1.5
GTA				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb3.8						
SONM	Songino Array	27.05	56	P	P	02 15 34.7	0.0
	comp=Z,1.2nm,0.5s,mb3.8,baz=267,slow=8.8,SNR=11						
KMI	Kunming	28.74	106	eP	P	02 15 55.1	+4.9
ARCES	ARCESS Array B	40.65	337	P	P	02 17 31.1	+0.2
	comp=Z,3.7nm,0.9s,mb4.0,baz=114,slow=8.4,SNR=5.6						
NOA	NORSAR Array B	44.20	322	P	P	02 17 59.7	+0.1
	comp=Z,0.8nm,0.9s,mb3.4,baz=110,slow=11,SNR=3.0						
INK	Inuvik	72.84	10	P	P	02 21 16.9	-0.4
	comp=Z,2.2nm,0.9s,mb3.9,baz=357,slow=15,SNR=4.2						
YKA	Yellowknife Ar	80.27	3	P	P	02 21 58.7	0.0
	comp=Z,0.6nm,0.4s,mb3.6,baz=349,slow=5.5,SNR=9.0						
YKA	Yellowknife Ar	80.27	3	P	P	02 21 58.7	0.0

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*ATH **08** 02:11:24.5,38.75N×23.75E,h30km±2km,MD3.1/10, ML3.2*
*NEIC **08** 02:11:24.5,38.75N×23.75E,h30km,ML3.2(ATH),After ATH.*
*CSEM **08** 02:11:24.7±0.1,38.73N×23.79E,h10km,ML3.2,Error ellipse: s-maj=3.1km s-min=1.3km az=87.0*
*THE **08** 02:11:28.7,38.85N×23.63E,h20km,ML2.6*
ISC 08 02:11:24.5±0.6,38.75N±0.02×23.74E±0.06,h20km±5km, n22,σ0s81/33,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LKR	Lokris	0.59	261	ePN	Pn	02 11 36.0	-1.6
LKR				eSN	Sn	02 11 46.3	-0.3
MPAR	Parnis Oros	0.59	180	ePB	Pb	02 11 35.5	-0.6
MKIT	Kithairon Oros	0.67	214	ePB	Pb	02 11 37.4	0.0
NEO	Neokhori	0.69	325	⇑iPN	Pn	02 11 38.9	-0.2
NEO				eSN	Sn	02 11 48.7	-0.5
PTL	Penteli	0.70	172	ePB	Pb	02 11 37.5	-0.4
PTL				eSN	Sn	02 11 49.5	-0.1
XOR	Xorichti	0.75	326	ePg	Pb	02 11 39.9	+1.1
XOR				eSg	Sb	02 11 50.1	+1.6
ATH	Athens Observa	0.77	181	ePN	Pn	02 11 39.1	-1.2
ATH				eSN	Sn	02 11 51.9	+0.6
NSAL	Nisos Salamina	0.86	195	ePB	Pb	02 11 40.6	-0.1
NSAL				eSN	Sn	02 11 54.6	+0.9
NAIG	Nisos Aigina	1.00	191	ePB	Pb	02 11 43.2	+0.1
AGG	Agios Georgios	1.13	285	ePg	Pb	02 11 46.6	+1.3
AGG				eSg	Sb	02 11 59.4	-0.2
PAIG	Paliouri	1.18	358	ePg	Pb	02 11 46.6	+0.5
PAIG				eSg	Sb	02 12 01.2	+0.3
EVR	Evrytania	1.52	277	ePN	Pn	02 11 51.7	+0.8
OUR	Ouranopolis	1.60	7	ePb	Pb	02 11 52.7	-0.5
PLG	Polygyros	1.64	352	ePB	Pb	02 11 53.3	-0.7
PLG				eSN	Sn	02 12 13.4	0.0
LIT	Litokhoron	1.66	325	ePb	Pb	02 11 53.9	-0.4
LIT				eSb	Sb	02 12 12.4	-2.5
SOH	Sokhos	2.10	352	ePn	Pn	02 11 59.9	+0.7
ITM	Ithomi	2.12	223	ePB	Pb	02 12 01.4	-0.7
VLI	Veliai	2.12	198	ePN	Pn	02 12 00.2	+0.6
SRS	Serrai	2.37	357	ePn	Pn	02 12 03.6	+0.5
SRS				eSn	Sn	02 12 30.8	-1.2
GRG	Griva	2.44	335	ePn	Pn	02 12 05.0	+1.0
NVR	Nevrokopi	2.60	2	ePN	Pn	02 12 06.7	+0.2
FNA	Florina	2.73	319	ePn	Pn	02 12 08.6	+0.3

CSEM 08 02:35:02.8±0.4,37.39N×54.02E,h2km,ML4.2/1,1C, Error ellipse: s-maj=11.7km s-min=6.4km az=37.0, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAMV	Damavand	2.41	224	ePn	Pn	02 35 45.3	+1.5
THKV	Tehran--Karaj	2.92	241	ePn	Pn	02 35 52.4	+1.3
THKV				Sn	Sn	02 36 27.8	+0.5
	207nm,0.6s						
ASAO	Ashtian	4.30	230	ePn	Pn	02 36 11.9	+1.1
GRMI	Germi	5.03	288	ePn	Pn	02 36 21.2	+0.1
KRBR	Kerman	7.74	162	⇑ePn	Pn	02 36 58.5	-0.7
STON	Ston	28.15	293	i Sg	S	02 45 45.4	+2.6

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*IDC **08** 02:48:14.3±6.4,18.53S×171.40E,mb4.4/5,mb1 4.5/5, mb1mx4.1/13,Error ellipse: s-maj=150.0km s-min=46.5km az=28.0*
ISC 08 02:48:52.4±3.2,19.4S±0.1×168.9E±0.4,h176km±9km,n8, σ0s85/10,mb4.2/5,1C,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKM	Butte a Klehm	1.79	339	⇑iP	P	02 49 27.0	-0.4
BKM				S	S	02 49 54.4	+0.1
DZM	Mont Dzumac	3.57	220	eP	P	02 49 48.8	+0.2
NOUC	Port Laguerre	3.68	221	eP	P	02 49 50.6	+0.6
NOUC				eS	S	02 50 33.9	-0.5
CTA	Charters Tower	21.36	264	P	P	02 53 29.4	+2.8
	3.0nm,0.6s,mb3.8,baz=88,slow=12,SNR=4.6						
STKA	Stephens Creek	27.54	238	P	P	02 54 24.7	-0.1
	1.6nm,0.4s,mb4.1,baz=55,slow=10,SNR=12						
WRA	Warramunga Arr	32.55	263	P	P	02 55 08.0	-1.1
	2.9nm,0.7s,mb4.2,baz=96,slow=8.4,SNR=21						
ASAR	Alice Springs	32.81	256	P	P	02 55 10.9	-0.4
	12nm,0.5s,mb4.9,baz=83,slow=9.0,SNR=176						
MAW	Mawson	78.22	202	P	P	03 00 24.5	-9.0
	1.9nm,0.5s,mb4.0,baz=84,slow=9.2,SNR=8.8						

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*IDC **08** 02:55:15.0±1.4,52.77N×167.28W,mb3.8/11,mb1 4.1/12, mb1mx3.9/24,ML3.7/1,Error ellipse: s-maj=34.0km s-min=18.9km az=13.0*
*NEIC **08** 02:55:21.0±0.9,52.78N×167.12W,h41km±7km, ML3.3(AEIC),Error ellipse: s-maj=11.9km s-min=5.4km az=165.0*
ISC 08 02:55:19.7±1.2,52.7N±0.1×167.10W±0.10,h49km±9km, n29,σ0s98/31,mb3.8/11,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OKCD	Okmok Cone D	0.94	320	P	P	02 55 37.6	+0.9
OKCE	Okmok Cone E	0.95	318	P	P	02 55 38.1	+1.2
MGOD	Makushin Gods	1.08	7	P	P	02 55 38.6	-0.2
NIKO	Nikolski	1.09	284	P	P	02 55 38.4	-0.5
UNV	Unalaska Valle	1.18	18	P	P	02 55 39.6	-0.6
MNAT	Makushin Natee	1.19	12	P	P	02 55 40.1	-0.2
MSW	Makushin Switc	1.21	9	P	P	02 55 40.5	0.0
MCIR	Makushin Cirqu	1.24	6	P	P	02 55 41.5	+0.5
MTBL	Makushin Table	1.28	11	P	P	02 55 42.2	+0.7
AKGG	Akutan Green G	1.62	24	P	P	02 55 46.6	+0.1
WESE	West Dahl East	2.31	40	P	P	02 55 55.9	-0.3
WESE				S	S	02 56 25.3	+1.9
WESN	West Dahl Nort	2.38	38	P	P	02 55 57.2	0.0
DRIA	Deer Island	3.64	50	P	P	02 56 13.8	-1.3
DRIA				S	S	02 56 55.8	-1.5
ATKA	Atka Island	4.37	266	P	P	02 56 24.6	-0.8
IMA	Indian Mountai	14.97	22	P	P	02 58 50.7	+1.2
ILAR	Eielson Array	15.89	33	Pn	P	02 58 59.2	-2.1
	0.1nm,0.3s,baz=237,slow=9.4,SNR=8.0						
DAWY	Dawson	18.26	41	eP	P	02 59 30.0	-0.8
DLBC	Dease Lake	21.52	60	P	P	03 00 07.8	+1.7
	2.5nm,1.0s,mb3.6,baz=91,slow=25,SNR=2.9						
INK	Inuvik	22.30	33	P	P	03 00 12.5	-1.3
	4.4nm,0.8s,mb4.0,baz=259,slow=5.7,SNR=8.9						
INK	Inuvik	22.30	33	P	P	03 00 12.5	-1.3
YKA	Yellowknife Ar	28.96	50	P	P	03 01 16.9	+0.7
	0.4nm,0.5s,mb3.4,baz=273,slow=8.7,SNR=4.0						
NVAR	Mina Array Bea	36.29	93	P	P	03 02 21.3	+1.1
	0.8nm,0.8s,mb3.7,baz=293,slow=9.2,SNR=4.7						
PDAR	Pinedale Array	38.98	81	P	P	03 02 43.5	+1.0
	0.2nm,0.5s,mb3.1,baz=315,slow=6.3,SNR=4.4						
TXAR	Lajitas Array	51.36	91	P	P	03 04 21.4	+0.1
	0.7nm,0.5s,mb3.8,baz=300,slow=5.4,SNR=12						
SONM	Songino Array	52.30	302	P	P	03 04 28.6	+0.5
	0.2nm,0.4s,mb3.4,baz=45,slow=6.1,SNR=4.0						
ARCES	ARCESS Array B	57.71	355	P	P	03 05 06.0	-1.1
	5.1nm,0.9s,mb4.5,baz=14,slow=5.6,SNR=5.9						
MKAR	Makanchi Array	64.56	315	P	P	03 05 52.4	-1.1
	2.1nm,0.9s,mb4.2,baz=53,slow=6.1,SNR=8.1						
FINES	FINESS Array B	65.70	353	P	P	03 05 59.9	-0.7
	2.9nm,0.6s,mb4.5,baz=21,slow=8.5,SNR=22						
GERES	GERESS Array B	78.81	359	P	P	03 07 19.4	+1.0
	1.0nm,1.1s,mb3.7,baz=18,slow=3.1,SNR=3.6						

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*IDC **08** 03:31:34.4±2.2,17.00S×175.17W,mb3.8/4,mb1 4.1/4, mb1mx3.8/13,Error ellipse: s-maj=132.0km s-min=28.5km az=151.0*
ISC 08 03:31:37.7±0.9,17.2S±0.3×175.2W±0.2,h33km,n8, σ0s72/8,mb3.8/4,1C-3D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	47.80	258	P	P	03 40 14.2	-0.1
	0.7nm,0.4s,mb4.1,baz=95,slow=7.0,SNR=16						
ASAR	Alice Springs	47.96	253	P	P	03 40 15.7	+0.2
	3.0nm,0.7s,mb4.4,baz=87,slow=8.9,SNR=31						
TXAR	Lajitas Array	83.00	57	P	P	03 44 01.5	+0.1
	0.3nm,0.8s,mb3.4,baz=233,slow=6.3,SNR=4.2						
ILAR	Eielson Array	84.49	12	P	P	03 44 08.1	-0.1
	0.2nm,0.6s,mb3.4,baz=222,slow=5.8,SNR=4.1						
SNAA	Sanae	91.25	178	⇑i	P	03 44 40.8	+0.3
VNA3	Neumayer Olymp	91.27	175	⇓i	P	03 44 53.2	+13
VNA2	Neumayer--Watz	91.74	176	⇓i	P	03 44 42.0	-0.8
VNA1	Neumayer--Stat	91.95	176	⇓i	P	03 44 48.2	+4.5

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*NEIC **08** 03:37:51.8±0.4,15.18S×173.81W,mb4.3/2,Error ellipse: s-maj=22.7km s-min=10.1km az=141.0*
*IDC **08** 03:37:53.0±1.0,15.31S×173.67W,h84km±6km,mb3.6/9, mb1 3.9/9,mb1mx3.8/14,MS3.8/8,Ms1 3.8/8,ms1mx3.5/15, Error ellipse: s-maj=50.1km s-min=16.2km az=145.0*
ISC 08 03:37:45.6±0.6,15.1S±0.2×173.9W±0.2,h33km,n21, σ0s35/14,mb4.0/11,MS3.8/8,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	2.33	60	ePn	Pn	03 38 17.3	-5.3
AFI				eSn	Sn	03 38 37.1	-13
URZ	Urewera	24.43	197	LR	LR	03 51 12.0	
	comp=Z,218nm,18.4s,MS3.7,baz=321,slow=33						
RPZ	Rata Peaks	31.32	201	LR	LR	03 55 24.1	
	comp=Z,178nm,21.8s,MS3.7,baz=159,slow=34						
CTA	Charters Tower	38.28	257	LR	LR	03 56 39.5	
	comp=Z,77nm,19.9s,MS3.5,baz=48,slow=29						
STKA	Stephens Creek	43.81	240	P	P	03 45 49.9	-0.5
	4.5nm,1.1s,mb4.1,baz=63,slow=9.0,SNR=3.0						
WRAB	Tennant Creek	49.48	257	P	P	03 46 35.1	0.0
	1.2nm,0.6s,mb4.1						
WRA	Warramunga Arr	49.48	257	P	P	03 46 35.4	+0.2
	0.5nm,0.4s,mb3.9,baz=93,slow=7.5,SNR=11						
WRA	Warramunga Arr	49.48	257	P	P	03 46 35.4	+0.2
ASAR	Alice Springs	49.79	252	P	P	03 46 37.7	+0.2
	3.3nm,0.5s,mb4.6,baz=86,slow=8.2,SNR=39						
ASAR				LR	LR	04 05 33.1	
	comp=Z,44nm,18.7s,MS3.5,baz=102,slow=33						
YBH	Yreka Blue Hor	73.61	37	P	P	03 49 17.6	0.0
	1.3nm,0.9s,mb3.9,baz=242,slow=3.6,SNR=3.9						
NVAR	Mina Array Bea	74.39	42	P	P	03 49 22.2	+0.1
	0.7nm,0.6s,mb3.8,baz=222,slow=8.5,SNR=7.7						
NVAR				pP	pP	03 49 42.6	+10
	0.4nm,0.7s,baz=214,slow=10,SNR=3.1						
NVAR				LR	LR	04 17 27.4	
	comp=Z,37nm,19.2s,MS3.7,baz=250,slow=32						
QSPA	South Pole Qui	74.97	180	eP	P	03 49 24.8	+0.1
	6.0nm,1.0s,mb4.5						
TXAR	Lajitas Array	80.80	56	P	P	03 49 58.2	+0.2
	0.2nm,0.7s,mb3.2,baz=180,slow=2.5,SNR=3.0						
TXAR				pP	pP	03 50 17.4	+9.0
	1.3nm,1.2s,baz=207,slow=5.6,SNR=3.6						
ILAR	Eielson Array	82.22	11	P	P	03 50 04.7	+0.1
	0.4nm,0.6s,mb3.5,baz=232,slow=6.3,SNR=9.0						
PDAR	Pinedale Array	82.32	42	P	P	03 50 05.2	-0.3
	0.5nm,0.8s,mb3.5,baz=225,slow=2.1,SNR=4.6						
PDAR				LR	LR	04 20 29.3	
	comp=Z,59nm,21.4s,MS3.9,baz=64,slow=31						
MAW	Mawson	87.95	199	P	P	03 50 33.0	+0.1
	1.3nm,0.5s,mb4.5,baz=134,slow=12,SNR=4.4						
YKA	Yellowknife Ar	89.98	24	LR	LR	04 24 21.0	
	comp=Z,95nm,19.3s,MS4.2,baz=275,slow=31						
ULM	Lac du Bonnet	93.96	39	LR	LR	04 27 06.3	
	comp=Z,60nm,20.6s,MS4.0,baz=352,slow=31						
MLR	Muntele Rosu	145.39	335	PKPbc	PKPbc	03 57 22.4	+1.6
	1.8nm,0.8s,baz=197,slow=8.6,SNR=4.4						
BRTR	Keskin Array B	145.63	321	PKPbc	PKPbc	03 57 23.9	+2.3
	1.0nm,0.7s,baz=129,slow=3.2,SNR=5.6						
BRTR				pPKPbc		03 57 47.2	
	2.7nm,1.0s,baz=90,slow=2.5,SNR=5.9						
GERES	GERESS Array B	145.76	351	PKPbc	PKPbc	03 57 23.6	+2.0
	0.6nm,0.9s,baz=38,slow=5.9,SNR=3.4						
GERES				pPKPbc		03 57 45.5	
	0.3nm,0.6s,baz=63,slow=2.2,SNR=1.6						

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*NEIC **08** 03:42:51.2±0.6,49.80N×8.49E,h10km,ML2.7(LDG), ML2.3(STR),ML2.0(SZGRF),Error ellipse: s-maj=6.8km s-min=4.3km az=177.0*
*LDG **08** 03:42:52.6±0.1,49.78N×8.51E,h10km,Md2.8/5,Ml2.7/10, Error ellipse: s-maj=1.9km s-min=1.2km az=20.0*
*BGR **08** 03:42:52.2±0.3,49.79N×8.53E,h5km,ML2.0/3,Error ellipse: s-maj=3.3km s-min=1.1km az=135.0*
*CSEM **08** 03:42:52.3±0.1,49.78N×8.53E,h10km,ML2.6/7,Error ellipse: s-maj=2.0km s-min=1.1km az=172.0*
*STR **08** 03:42:53.3±0.1,49.71N×8.55E,h5km±1km,Ml2.3,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LEDBW **08** 03:42:53.3±0.6,49.75N×8.57E,h10km,ML2.2,Error ellipse: s-maj=10.0km s-min=8.0km az=140.0*
ISC 08 03:42:49.9±0.4,49.79N±0.02×8.49E±0.02,h14km±2km, n56,σ1s18/113,2D,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TOD	Tromm	0.28	133	⇓iPg	Pg	03 42 57.5	+1.6
TOD				Sg	Sg	03 43 00.8	+0.8
TOD	Tromm	0.28	133	Pg	Pg	03 42 57.4	+1.5
TOD				Sg	Sg	03 43 00.8	+0.8
SWS	Schriesheim	0.34	156	⇓ePg	Pg	03 42 58.5	+1.4
SWS				eSg	Sg	03 43 02.6	+0.7
KTD	Kalmit	0.54	210	Pg	Pg	03 43 02.1	+1.1
KTD				eSg	Sg	03 43 10.7	+2.3
	SNR=4.0						
KTD	Kalmit	0.54	210	Pg	Pg	03 43 02.9	+1.9
ABH	Alteburg	0.62	279	Pg	Pg	03 43 05.1	+2.6
ABH	Alteburg	0.62	279	Pg	Pg	03 43 06.2	+3.7
SIND	Sindeldorf	0.85	121	ePg	Pg	03 43 08.3	+1.3
SIND				Sg	Sg	03 43 18.8	+0.3
LANF	Langenberg	0.93	209	Pn	Pn	03 43 09.9	+1.6
LANF				ePg	Pg	03 43 10.3	+1.7
	SNR=7.3						
LANF				eSg	Sg	03 43 22.6	+1.5
	SNR=4.3						
LANF	Langenberg	0.93	209	Pg	Pg	03 43 09.7	+1.1
LANF				Sg	Sg	03 43 22.2	+1.1
STU	Stuttgart	1.12	156	ePg	Pg	03 43 13.8	+1.4
STU				eSg	Sg	03 43 27.6	+0.1
	SNR=2.0						
STU	Stuttgart	1.12	156	ePg	Pg	03 43 13.8	+1.4
STU				eSg	Sg	03 43 28.6	+1.2
LBG	Lerchenberg	1.15	170	ePn	Pn	03 43 12.8	+1.4
LBG				i Pg	Pg	03 43 14.0	+1.1
LBG				Sg	Sg	03 43 28.9	+0.7
TUBL	Tuebingen Lnz	1.33	163	Pg	Pg	03 43 17.5	+1.0
TUBL				Sn	Sn	03 43 31.6	+0.1
TUBL				i Sg	Sg	03 43 34.6	+0.3
UBBA	Unterbreizbach	1.41	43	ePg	Pg	03 43 18.6	+0.5
	SNR=1.3						
UBBA				eSg	Sg	03 43 36.5	-0.5
	SNR=2.3						
BUCH	Bad Urach	1.46	157	ePn	Pn	03 43 19.2	+3.3
BUCH				ePg	Pg	03 43 19.8	+0.7
BUCH				Sn	Sn	03 43 35.8	+1.0
BUCH				eSg	Sg	03 43 38.3	-0.3
BUCH	Bad Urach	1.46	157	eP	Pn	03 43 19.2	+3.3
BUCH				eP		03 43 19.8	
BUCH				eS	Sg	03 43 38.3	-0.3
BFO	Black Forest	1.47	184	Pn	Pn	03 43 16.9	+0.9
BFO				i Pg	Pg	03 43 20.2	+0.9
BFO				Sn	Sn	03 43 34.9	-0.2
BFO				Sg	Sg	03 43 39.1	+0.2

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BFO	**Black Forest**	**1.47**	**184**	*e*Pg	**Pg**	**03 43 20.1**	**+0.8**
BFO				*e*Sg	**Sg**	**03 43 39.3**	**+0.4**
WLF	**Walferdange**	**1.52**	**266**	*e*Pg	**Pg**	**03 43 23.5**	**+3.1**
WLF				*e*Sg	**Sg**	**03 43 42.6**	**+1.8**
WLS	**Welschbruch**	**1.57**	**209**	Pg	**Pg**	**03 43 21.6**	**+0.3**
WLS				*e*Sg	**Sg**	**03 43 41.8**	**-0.6**
	SNR=5.6						
WLS	**Welschbruch**	**1.57**	**209**	Pg	**Pg**	**03 43 21.8**	**+0.5**
CDF	**Champ du Feu**	**1.60**	**211**	*e*Pn	**Pn**	**03 43 18.7**	**+0.8**
CDF				*e*Pg	**Pg**	**03 43 22.1**	**+0.3**
CDF				*e*Sg	**Sg**	**03 43 42.2**	**-1.0**
	14nm,0.3s						
HDH	**Heidenheim**	**1.65**	**136**	Pg	**Pg**	**03 43 22.9**	**-0.1**
HDH				*e*Sg	**Sg**	**03 43 43.5**	**-1.5**
GUT	**Gutenstein**	**1.77**	**166**	Pn	**Pn**	**03 43 21.7**	**+1.3**
GUT				*i* Pg	**Pg**	**03 43 25.6**	**+0.3**
GUT				Sn	**Sn**	**03 43 41.7**	**-1.0**
GUT				*e*Sg	**Sg**	**03 43 48.1**	**-0.9**
GUT	**Gutenstein**	**1.77**	**166**	P	**Pn**	**03 43 21.7**	**+1.3**
GUT				*i* P		03 43 25.6	
GUT				*e*S	**Sg**	**03 43 48.1**	**-0.9**
GRA1	**Grafenberg Arr**	**1.77**	**92**	*e*Pg	**Pg**	**03 43 25.1**	**-0.2**
GRA1				*e*Sg	**Sg**	**03 43 47.6**	**-1.4**
GRF	**Grafenberg Arr**	**1.77**	**92**	*e*Pg	**Pg**	**03 43 25.1**	**-0.2**
GRF				*e*Sg	**Sg**	**03 43 47.8**	**-1.2**
	SNR=3.7						
ECH	**Echery**	**1.81**	**210**	Sg	**Sg**	**03 43 49.4**	**-0.8**
ECH	**Echery**	**1.81**	**210**	Pg	**Pg**	**03 43 24.6**	**-1.4**
KIZ	**Kirchzarten**	**1.88**	**192**	Pg	**Pg**	**03 43 27.7**	**+0.3**
KIZ				*e*Sn	**Sn**	**03 43 44.3**	**-1.1**
KIZ				*e*Sg	**Sg**	**03 43 51.3**	**-1.2**
KIZ	**Kirchzarten**	**1.88**	**192**	*e*S	**Sn**	**03 43 44.3**	**-1.1**
KIZ				*e*S	**Sg**	**03 43 51.3**	**-1.2**
FELD	**Feldberg**	**1.95**	**190**	Pg	**Pg**	**03 43 28.6**	**-0.2**
FELD				Sg	**Sg**	**03 43 53.1**	**-1.6**
SISB	**Singen-Sch Ber**	**2.13**	**171**	Sg	**Sg**	**03 44 00.1**	**-0.9**
MOF	**Molkenrain**	**2.14**	**205**	*e*Pg	**Pg**	**03 43 32.7**	**+0.1**
	SNR=2.8						
MOF				Sg	**Sg**	**03 44 00.8**	**-0.4**
MOF	**Molkenrain**	**2.14**	**205**	S	**Sg**	**03 44 00.8**	**-0.4**
MOF	**Molkenrain**	**2.14**	**205**	Pg	**Pg**	**03 43 32.6**	**-0.1**
MOX	**Moxa**	**2.18**	**66**	*e*Pg	**Pg**	**03 43 32.4**	**-1.0**
	SNR=2.1						
MOX				*e*Sg	**Sg**	**03 44 01.0**	**-1.5**
	SNR=3.4						
MOX	**Moxa**	**2.18**	**66**	*e*Pg	**Pg**	**03 43 32.0**	**-1.4**
MOX				*e*Sg	**Sg**	**03 44 00.9**	**-1.6**
HINF	**Hinteralfeld**	**2.26**	**209**	*e*Pn	**Pn**	**03 43 28.1**	**+0.8**
HINF				*e*Pg	**Pg**	**03 43 34.0**	**-1.0**
HINF				*e*Sn	**Sn**	**03 43 54.1**	**-1.0**
HINF				*e*Sg	**Sg**	**03 44 02.6**	**-2.5**
	18nm,0.3s						
HINF	**Hinteralfeld**	**2.26**	**209**	*e*Pn	**Pn**	**03 43 28.1**	**+0.8**
HINF				*e*Sn	**Sn**	**03 43 54.1**	**-1.0**
HINF				*e*Sg	**Sg**	**03 44 02.6**	**-2.5**
	9.0nm,0.3s						
THEF	**They Montfort**	**2.28**	**227**	Sg	**Sg**	**03 44 04.0**	**-1.8**
RFYF	**Reffroy**	**2.30**	**241**	*e*Pn	**Pn**	**03 43 28.9**	**+1.0**
RFYF				*e*Pg	**Pg**	**03 43 35.2**	**-0.6**
RFYF				*e*Sg	**Sg**	**03 44 03.9**	**-2.6**
	7.4nm,0.2s						
UBR	**Uberruh**	**2.37**	**153**	Pn	**Pn**	**03 43 30.7**	**+1.8**
UBR				*e*Pg	**Pg**	**03 43 38.5**	**+1.3**
UBR				Sg	**Sg**	**03 44 07.7**	**-1.1**
UBR	**Uberruh**	**2.37**	**153**	*e*PG	**Pg**	**03 43 38.5**	**+1.3**
UBR				SG	**Sg**	**03 44 07.7**	**-1.1**
GUNZ	**Gunzen**	**2.54**	**76**	*e*Pg	**Pg**	**03 43 39.7**	**-0.9**
	SNR=2.2						
MEZF	**Maizieres J'vi**	**2.60**	**242**	*e*Pg	**Pg**	**03 43 40.6**	**-1.3**
MEZF				*e*Sg	**Sg**	**03 44 13.5**	**-3.1**
	2.9nm,0.3s						
TANN	**Tannenbergstha**	**2.63**	**75**	*e*Pg	**Pg**	**03 43 41.8**	**-0.6**
	SNR=3.8						
SFTF	**Sexfontaines**	**2.77**	**236**	*e*Pn	**Pn**	**03 43 35.3**	**+0.6**
SFTF				*e*Pg	**Pg**	**03 43 44.2**	**-1.1**
SFTF				*e*Sg	**Sg**	**03 44 19.2**	**-3.2**
	2.1nm,0.2s						
BAIF	**Baives**	**2.78**	**277**	*e*Pn	**Pn**	**03 43 35.5**	**+0.7**
CLL	**Collm**	**3.25**	**60**	*e*Pg	**Pg**	**03 43 54.0**	**-0.8**
CLL				*e*Sg	**Sg**	**03 44 35.0**	**-3.2**
KHC	**Kasperske Hory**	**3.38**	**99**	*e*SN	**Sn**	**03 44 21.5**	**-2.1**
KHC				*e*SG	**Sg**	**03 44 38.0**	**-4.6**
CABF	**La Chapelle**	**3.57**	**208**	*e*Sg	**Sg**	**03 44 44.3**	**-4.4**
	3.7nm,0.5s						
LOR	**Lormes**	**3.98**	**232**	*e*Pn	**Pn**	**03 43 51.7**	**-0.2**
LOR				*e*Sg	**Sg**	**03 44 57.1**	**-5.4**
	2.0nm,0.3s						
SSF	**Saint Saulge**	**4.30**	**232**	*e*Pn	**Pn**	**03 43 55.9**	**-0.5**
SMF	**Signal de Mont**	**4.43**	**226**	*e*Pn	**Pn**	**03 43 58.0**	**-0.2**

*GUC **08** 03:50:37.4±0.8, 30.64S×72.00W, h12km±9km, MD4.5, ML4.4*
*NEIC **08** 03:50:37.4, 30.64S×72.00W, h12km, mb4.4/5, ML4.4(GUC), After GUC.*
*SYO **08** 03:50:37.4, 30.64S×72.00W, h12km, MB4.5*
*IDC **08** 03:50:41.2±5.4, 30.43S×71.98W, h53km±47km, mb3.9/5, mb1 4.0/7, mb1mx3.8/15, ML3.9/2, MS3.7/2, Ms1 3.6/2, ms1mx3.2/15, Error ellipse: s-maj=40.0km s-min=20.3km az=91.0*
ISC 08 03:50:37.2±1.3**, 30.56S**±0.04×**72.05W**±0.08**, h31**km±9km**, n33,** σ1ˢ**07**/36**, mb4.2**/8**, MS3.5**/1**, 3C-2D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.73**	**94**	*e*P	**Pb**	**03 50 50.2**	**-1.2**
OVCH				*i* S	**Sb**	**03 51 00.1**	**-1.1**
OVCH				AMP		03 51 03.6	
	comp=N,16μm,0.3s						
LSCH	**La Serena**	**0.95**	**47**	⇓*i*P	**Pn**	**03 50 55.0**	**+0.5**
LSCH				*i* S	**Sb**	**03 51 08.3**	**+1.0**
LSCH				AMP		03 51 11.4	
	comp=N,11μm,0.4s						
CMCH	**Combarbala**	**1.09**	**124**	⇑*i*P	**Pn**	**03 50 56.2**	**-0.3**
CMCH				*i* S	**Sn**	**03 51 09.7**	**-0.9**
CMCH				AMP		03 51 13.8	
	comp=N,38μm,0.8s						
TLL	**Tololo Astrono**	**1.14**	**70**	⇓*i*P	**Pn**	**03 50 58.1**	**+0.8**
TLL				*i* S	**Sn**	**03 51 14.2**	**+2.2**
PACH	**Papudo**	**2.04**	**165**	*e*P	**Pn**	**03 51 10.7**	**+0.6**
VACH	**Vallenar**	**2.27**	**30**	*i* P	**Pn**	**03 51 14.2**	**+0.7**
JACH	**Jahuel**	**2.45**	**150**	*i* P	**Pn**	**03 51 17.1**	**+1.1**
IHA	**Instituto Hidr**	**2.48**	**172**	*e*P	**Pn**	**03 51 17.8**	**+1.4**
PEL	**Peldehue**	**2.82**	**156**	*e*P	**Pn**	**03 51 22.1**	**+0.8**
PEL				AMP		03 52 13.5	
	comp=N,3μm,0.5s						
CLCH	**Cerro Calan**	**3.10**	**156**	*e*P	**Pn**	**03 51 25.3**	**0.0**
RCDM	**Rinconada Maip**	**3.10**	**160**	*e*P	**Pn**	**03 51 25.8**	**+0.5**
RCDM				AMP		03 52 19.6	
	comp=N,1μm,0.5s						
FCH	**Farellones**	**3.14**	**152**	*e*P	**Pn**	**03 51 25.6**	**-0.1**
MDZ	**Mendoza**	**3.58**	**131**	*e*P	**Pn**	**03 51 36.1**	**+4.1**
MDZ				*i*		03 51 41.2	
MDZ				*i* S	**Sn**	**03 52 26.0**	**+12**
LVC	**Limon Verde**	**8.40**	**20**	*e*Pn	**P**	**03 52 36.5**	**-3.3**
	comp=N,6.8nm,0.6s						
TRQA	**Tornquist**	**11.18**	**135**	*e*Pn	**P**	**03 53 16.9**	**-1.3**
	comp=N,6.6nm,0.6s						
CPUP	**Villa Florida**	**13.62**	**76**	P	**P**	**03 53 48.9**	**-1.8**
	comp=N,0.1nm,0.3s,baz=250,slow=18,SNR=3.1						
CPUP				LR	LR	03 59 32.0	
	comp=N,285nm,19.3s,baz=292,slow=39						
CPUP	**Villa Florida**	**13.62**	**76**	*e*Pn	**P**	**03 53 49.9**	**-0.8**
LPAZ	**La Paz**	**14.65**	**15**	P	**P**	**03 54 05.4**	**+1.1**
	comp=N,0.3nm,0.3s,baz=179,slow=10,SNR=8.2						
LPAZ	**La Paz**	**14.65**	**15**	*e*Pn	**P**	**03 54 06.0**	**+1.7**
	comp=N,2.1nm,0.7s						
SAML	**Samuel**	**23.04**	**23**	*e*P	**P**	**03 55 40.1**	**-0.9**
	comp=N,5.7nm,1.2s,mb3.9						
USHA	**Ushuaia**	**24.40**	**175**	P	**P**	**03 55 55.5**	**+1.7**
	comp=N,9.0nm,1.0s,mb4.2,baz=22,slow=5.4,SNR=3.9						
BDFB	**Brasilia**	**26.55**	**61**	P	**P**	**03 56 13.8**	**-0.5**
	comp=N,7.2nm,0.6s,mb4.4,baz=239,slow=6.5,SNR=12						
BDFB				LR	LR	04 07 38.7	
	comp=N,132nm,18.6s,MS3.5,baz=284,slow=38						
BAO	**Brasilia Array**	**26.57**	**61**	*e*P	**P**	**03 56 13.8**	**-0.7**
BAO				*e*	pP	03 56 22.3	-1.3
PMSA	**Palmer Station**	**34.60**	**174**	*e*P	**P**	**03 57 24.3**	**-0.9**
	comp=N,28nm,1.1s,mb5.1						
SNAA	**Sanae**	**54.77**	**159**	P	**P**	**04 00 05.6**	**-0.3**
	comp=N,1.2nm,0.6s,mb4.1,baz=282,slow=8.5,SNR=41						
SNAA	**Sanae**	**54.77**	**159**	*e*P	**P**	**04 00 05.1**	**-0.8**
	comp=N,2.9nm,0.6s,mb4.5						
QSPA	**South Pole Qui**	**59.67**	**180**	*e*P	**P**	**04 00 40.7**	**+0.3**
	comp=N,1.9nm,0.8s,mb4.2						
TXAR	**Lajitas Array**	**66.75**	**330**	P	**P**	**04 01 26.4**	**-1.5**
	comp=N,0.5nm,0.8s,mb3.6,baz=153,slow=8.4,SNR=4.7						
SYO	**Syowa Base**	**69.06**	**159**	⇑P	**P**	**04 01 40.6**	**-1.0**
SYO	**Syowa Base**	**69.06**	**159**	⇑pP	pP	04 01 47.0	-4.4
MAW	**Mawson**	**76.47**	**164**	P	**P**	**04 02 25.9**	**+0.8**
	comp=N,1.6nm,0.6s,mb4.1,baz=215,slow=9.2,SNR=6.0						
MAW	**Mawson**	**76.47**	**164**	*e*P	**P**	**04 02 25.5**	**+0.3**
	comp=N,3.6nm,0.8s,mb4.3						
MKAR	**Makanchi Array**	**154.39**	**44**	PKPbc	PKPdf	04 10 35.3	+4.4
	comp=N,0.9nm,0.9s,baz=319,slow=2.5,SNR=3.8						
MKAR				PKPab	PKPab	04 10 48.1	-2.5
	comp=N,2.2nm,1.0s,baz=297,slow=2.7,SNR=5.9						

*GUC **08** 03:56:03.0±0.8, 35.08S×72.15W, h35km±3km, ML4.4*
*NEIC **08** 03:56:03.0, 35.08S×72.15W, h35km, mb4.0/3, ML4.4(GUC), After GUC.*
NEIC Felt [III] at Cauquenes, Curico, Hiloca, Hualane, San Clemente, San Javier and Talca; [II] at Chillan, Linares and Parral.
*SYO **08** 03:56:03, 35.08S×72.15W, h35km, MB4.0*
ISC 08 03:56:02.3±0.8**, 35.14S**±0.04×**72.26W**±0.07**, h33**km**, n22,** σ**0ˢ75**/35**, mb4.2**/2**, 7C-4D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TALC	**Talca**	**0.57**	**117**	⇓*i*P	**P**	**03 56 13.9**	**0.0**
TALC				*i* S	**S**	**03 56 21.7**	**-0.6**
TALC				AMP		03 56 22.1	
	comp=E,122μm,0.1s						
NICH	**Los Niches**	**0.86**	**81**	⇓*i*P	**P**	**03 56 17.8**	**-0.1**
NICH				*i* S	**S**	**03 56 28.4**	**-1.1**
SFDO	**San Fernando**	**1.15**	**63**	⇑*i*P	**P**	**03 56 22.2**	**0.0**
SFDO				*i* S	**S**	**03 56 37.0**	**0.0**
LNV	**Longovilo**	**1.37**	**31**	⇑*i*P	**P**	**03 56 25.3**	**-0.1**
LNV				*i* S	**S**	**03 56 42.4**	**-0.2**
CCHI	**Chillan**	**1.47**	**174**	*e*P	**P**	**03 56 29.3**	**+2.5**
CCHI				*i* S	**S**	**03 56 49.4**	**+4.4**
CCHI				AMP		03 56 52.7	
	comp=N,13μm,0.4s						
CACH	**El Canelo**	**1.71**	**54**	*i* P	**P**	**03 56 31.0**	**+0.9**
CACH				*i* S	**S**	**03 56 52.0**	**+1.0**
CICH	**Cipreses**	**1.72**	**62**	⇑*i*P	**P**	**03 56 30.5**	**+0.2**
CICH				*i* S	**S**	**03 56 52.0**	**+0.6**
LCCH	**Las Cruces**	**1.75**	**19**	*e*P	**P**	**03 56 30.5**	**-0.4**
CHCH	**Chadas Angostu**	**1.79**	**48**	⇓*i*P	**P**	**03 56 31.4**	**+0.1**
CHCH				*i* S	**S**	**03 56 52.8**	**-0.3**
RCDM	**Rinconada Maip**	**2.04**	**37**	⇑*i*P	**P**	**03 56 34.6**	**-0.3**
RCDM				AMP		03 57 04.5	
	comp=E,2μm,0.2s						
ANTU	**Antumapu**	**2.06**	**41**	*e*P	**P**	**03 56 35.6**	**+0.4**
ANTU				*i* S	**S**	**03 56 59.7**	**-0.3**
ANTU				AMP		03 57 04.0	
	comp=N,5μm,0.6s						
PCH	**Pirque**	**2.09**	**44**	⇑*i*P	**P**	**03 56 35.7**	**0.0**
PCH				*i* S	**S**	**03 57 00.5**	**-0.3**
LMEL	**Las Melosas**	**2.13**	**53**	*e*P	**P**	**03 56 36.4**	**+0.2**
LMEL				*i* S	**S**	**03 57 02.4**	**+0.6**
LMEL				AMP		03 57 07.3	
	comp=N,3μm,0.2s						
FSR	**Penalolen**	**2.19**	**41**	*e*P	**P**	**03 56 37.4**	**+0.3**
FSR				*i* S	**S**	**03 57 03.0**	**-0.3**
FSR				AMP		03 57 10.3	
	comp=N,3μm,0.4s						
DSCH	**Colegio Aleman**	**2.23**	**39**	*e*P	**P**	**03 56 37.6**	**0.0**
DSCH				*i* S	**S**	**03 57 03.6**	**-0.6**
DSCH				AMP		03 57 16.1	
	comp=N,5μm,0.6s						
CLCH	**Cerro Calan**	**2.25**	**40**	⇑*i*P	**P**	**03 56 37.8**	**-0.1**
CLCH				*i* S	**S**	**03 57 05.0**	**+0.2**
CLCH				AMP		03 57 16.4	
	comp=N,3μm,0.8s						
CLCH				AMP		03 57 16.9	
	comp=N,4μm,0.8s						
PEL	**Peldehue**	**2.38**	**34**	*e*P	**P**	**03 56 40.9**	**+1.1**
LPAZ	**La Paz**	**19.13**	**12**	*e*P	**P**	**04 00 24.8**	**-0.6**
	comp=N,1.9nm,0.6s						
SNAA	**Sanae**	**50.61**	**157**	*e*P	**P**	**04 04 57.4**	**-2.2**
	comp=N,1.3nm,0.7s,mb4.0						
QSPA	**South Pole Qui**	**55.10**	**180**	P	**P**	**04 05 31.8**	**-1.1**
	comp=N,1.5nm,0.4s,mb4.4						
SYO	**Syowa Base**	**64.88**	**158**	⇑pP	**P**	**04 06 44.3**	**+4.4**
SYO	**Syowa Base**	**64.88**	**158**	⇓sP	pP	04 06 48.3	-1.9

*PRU **08** 04:04:52.7, 51.46N×16.05E*
*WAR **08** 04:04:52, 51.51N×16.03E, ML2.8, Mining Induced*
ISC 08 04:04:50.2±1.1**, 51.47N**±0.06×**16.02E**±0.04**, n12,** σ**1ˢ12**/26**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.65**	**164**	*i* PG	**Pg**	**04 05 04.9**	**+1.8**
KSP				*e*SG	**Sg**	**04 05 14.9**	**+3.1**
KSP	**Ksiaz**	**0.65**	**164**	*e*Pg	**Pg**	**04 05 04.8**	**+1.7**
KSP				*e*Sg	**Sg**	**04 05 13.8**	**+2.0**
UPC	**Upice**	**0.96**	**180**	*e*PG	**Pg**	**04 05 10.6**	**+1.2**
DPC	**Dobruska-Polom**	**1.14**	**170**	*e*PG	**Pg**	**04 05 13.4**	**+0.6**
DPC				*e*SG	**Sg**	**04 05 28.8**	**+0.8**
PVCC	**Panska Ves**	**1.31**	**225**	*e*PG	**Pg**	**04 05 17.0**	**+0.7**
PRU	**Pruhonice**	**1.75**	**213**	*e*PN	**Pn**	**04 05 22.7**	**+0.7**
PRU				PG	**Pg**	**04 05 24.6**	**-0.6**
PRU				*i* x	x	04 05 41.4	
PRU				*e*SG	**Sg**	**04 05 48.1**	**-0.4**
	13nm,0.5s						
OKC	**Ostrava-Krasne**	**2.12**	**139**	*e*PG	**Pg**	**04 05 31.5**	**-1.0**
OKC				*e*SG	**Sg**	**04 05 59.9**	**-0.9**
NKC	**Novy Kostel**	**2.58**	**243**	*e*PN	**Pn**	**04 05 34.7**	**+0.9**
NKC				*e*PG	**Pg**	**04 05 41.3**	**-0.3**
NKC				*e*SG	**Sg**	**04 06 14.9**	**-1.1**
OJC	**Ojcow**	**2.70**	**116**	*e*PG	**Pg**	**04 05 44.0**	**-0.1**
OJC				*e*SG	**Sg**	**04 06 19.0**	**-1.2**
OJC	**Ojcow**	**2.70**	**116**	*e*Pg	**Pg**	**04 05 43.7**	**-0.4**
OJC				*e*Sg	**Sg**	**04 06 18.7**	**-1.5**
KHC	**Kasperske Hory**	**2.81**	**215**	*e*PN	**Pn**	**04 05 37.7**	**+0.5**
KHC				*e*PG	**Pg**	**04 05 44.0**	**-2.3**
KHC				*e*SN	**Sn**	**04 06 13.0**	**+0.7**
KHC				*e*SG	**Sg**	**04 06 22.1**	**-1.7**
NIE	**Niedzica**	**3.43**	**125**	*e*P	**Pg**	**04 06 00.0**	**+1.4**
NIE				*e*S	**Sg**	**04 06 43.2**	**-1.1**

*IDC **08** 04:06:17.5±1.0, 25.61N×102.12E, mb3.8/6, mb1 4.0/7, mb1mx3.8/18, ML4.0/1, MS3.2/2, Ms1 3.2/2, ms1mx2.7/24, Error ellipse: s-maj=39.0km s-min=18.1km az=73.0*
*BJI **08** 04:06:19.0, 25.45N×102.01E, h14km, mB4.7, mb4.2, ML4.0, Ms4.2*
ISC 08 04:06:17.3±0.8**, 25.45N**±0.07×**101.94E**±0.08**, h14**km**, n14,** σ**1ˢ15**/18**, mb3.8**/6**, MS3.5**/1**, 1D, Yunnan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMI	**Kunming**	**0.79**	**114**	*e*PG	**Pg**	**04 06 32.7**	**-0.6**
KMI				SG	**Sg**	**04 06 44.1**	**+0.1**
KMI				Smax			
	comp=N,3μm,0.8s						
KMI				Smax			
	comp=E,3μm,0.9s						
KMI				LR	LR		
	comp=N,16μm,4.4s						
KMI				LR	LR		
	comp=E,5μm,3.8s						
KMI				LR	LR		
	comp=Z,3μm,5.4s						
CD2	**Chengdu**	**5.67**	**16**	P	**Pn**	**04 07 44.6**	**+1.3**
CD2				PG	**Pg**	**04 08 02.0**	**-8.6**
CD2				S	**Sn**	**04 08 47.4**	**-1.6**
CD2				SG	**Sg**	**04 09 08.0**	**-18**
CD2				Smax			
	comp=N,172nm,1.0s						
CD2				Smax			
	comp=E,352nm,1.2s						
CD2				LR	LR		
	comp=E,3μm,10.4s						
NANT	**Nan**	**6.71**	**190**	P	**Pg**	**04 08 22.0**	**-9.4**
	comp=E,50nm,2.0s						
CHG	**Chiang Mai**	**7.16**	**203**	⇓P	**Pg**	**04 08 34.6**	**-5.7**
CMAR	**Chiang Mai Arr**	**7.49**	**202**	Pn	**Pn**	**04 08 12.5**	**+3.6**
	comp=E,0.5nm,0.3s,baz=8.1,slow=13,SNR=3.8						
CMAR				Pg	**Pg**	**04 08 38.7**	**-8.2**
	comp=E,0.2nm,0.3s,baz=3.1,slow=17,SNR=14						
CMAR				Lg		04 10 16.1	
	comp=E,0.8nm,0.3s,baz=14,slow=30,SNR=4.5						
CMAR				LR	LR	04 11 33.0	
	comp=E,66nm,18.0s,baz=355,slow=41						
XAN	**Xi'an**	**10.49**	**34**	P	**P**	**04 08 50.9**	**+0.5**
XAN				AMB	AMB		
	comp=Z,7.0nm,0.6s						
HHC	**Hu-ho-hao-te**	**17.33**	**25**	*e*P	**P**	**04 10 21.1**	**+0.7**
HHC				PP	PP	04 10 38.8	+3.9
HHC				AMB	AMB		
	comp=Z,12nm,1.1s						
HHC				AMB	AMB		
	comp=Z,137nm,4.3s						
SONM	**Songino Array**	**22.62**	**8**	P	**P**	**04 11 19.7**	**+0.7**
	comp=Z,1.3nm,0.8s,mb3.4,baz=181,slow=12,SNR=5.0						
MKAR	**Makanchi Array**	**26.43**	**329**	P	**P**	**04 11 56.8**	**+1.4**
	comp=Z,1.2nm,0.8s,mb3.5,baz=148,slow=11,SNR=6.6						
WRA	**Warramunga Arr**	**55.02**	**142**	P	**P**	**04 15 49.9**	**-1.1**
	comp=Z,0.7nm,0.8s,mb3.7,baz=333,slow=8.2,SNR=5.7						
ASAR	**Alice Springs**	**57.81**	**145**	P	**P**	**04 16 12.2**	**+1.3**
	comp=Z,0.4nm,0.4s,mb3.8,baz=330,slow=6.7,SNR=6.2						
AKASG	**Malin Array Be**	**59.96**	**315**	P	**P**	**04 16 24.6**	**-0.9**
	comp=Z,0.5nm,0.3s,mb4.0,baz=105,slow=7.3,SNR=4.4						
FINES	**FINESS Array B**	**61.26**	**328**	LR	LR	04 46 28.1	
	comp=Z,34nm,18.6s,MS3.5,baz=64,slow=39						
ARCES	**ARCESS Array B**	**61.67**	**337**	P	**P**	**04 16 35.1**	**-1.7**
	comp=Z,6.0nm,1.1s,mb4.6,baz=96,slow=9.1,SNR=4.8						

IDC 08 04:25:08.5±2.2**, 2.48N**×**127.64E, mb3.3**/3**, mb1 3.5**/3**, mb1mx3.3**/14**, Error ellipse: s-maj=156.0km s-min=26.4km az=67.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LUBP	**Lubang**	**13.36**	**327**	*e*P	P	04 28 21.6	-0.4
WRA	**Warramunga Arr**	**23.24**	**164**	P	P	04 30 17.5	-1.1
	0.1nm,0.4s,baz=343,slow=10,SNR=6.8						
ASAR	**Alice Springs**	**26.70**	**167**	P	P	04 30 49.4	-2.1
	0.3nm,0.4s,baz=356,slow=8.0,SNR=5.3						
MKAR	**Makanchi Array**	**59.09**	**325**	P	P	04 35 11.1	-2.0
	0.5nm,0.6s,baz=121,slow=7.6,SNR=5.1						

IDC 08 04:35:47.2±8.2**, 5.61S**×**146.72E, mb3.8**/3**, mb1 4.0**/6**, mb1mx3.8**/15**, ML3.5**/3**, MS3.0**/2**, Ms1 3.0**/2**, ms1mx2.7**/14**, Error ellipse: s-maj=121.0km s-min=46.3km az=38.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.80**	**173**	Pn	Pn	04 36 47.5	-0.7
	6.9nm,0.3s,baz=349,slow=6.8,SNR=12						
PMG				Sn	Sn	04 37 27.4	-6.9
	13nm,0.3s,baz=175,slow=22,SNR=7.7						
PMG				Lg		04 37 41.5	
	19nm,0.3s,baz=152,slow=15,SNR=4.9						
CTA	**Charters Tower**	**14.40**	**182**	Pn	P	04 39 12.4	-2.2
	0.3nm,0.3s,baz=357,slow=15,SNR=2.2						
CTA				LR	LR	04 44 21.3	
	comp=Z,59nm,21.7s,baz=225,slow=36						
WRA	**Warramunga Arr**	**18.66**	**219**	P	P	04 40 06.0	-2.8
	0.3nm,0.3s,baz=41,slow=11,SNR=11						
ASAR	**Alice Springs**	**21.79**	**213**	P	P	04 40 40.8	-2.1
	1.2nm,0.7s,baz=53,slow=9.6,SNR=10						
ASAR				LR	LR	04 48 55.1	
	comp=Z,48nm,18.6s,baz=46,slow=36						
FITZ	**Fitzroy Crossi**	**24.04**	**237**	P	P	04 41 04.2	-0.9
	3.0nm,0.6s,baz=52,slow=6.2,SNR=17						
STKA	**Stephens Creek**	**26.57**	**190**	P	P	04 41 27.6	-1.4
	1.6nm,0.6s,baz=358,slow=11,SNR=3.7						

*SKO **08** 06:07:12.7, 41.37N×21.05E, h22km, ML2.2*
*CSEM **08** 06:07:13.9±0.1, 41.34N×21.05E, h5km, ML2.2, Error ellipse: s-maj=2.2km s-min=1.5km az=4.0*
*THE **08** 06:07:16.2, 41.28N×21.25E, h5km, ML2.7*
ISC 08 06:07:13.0±0.6**, 41.38N**±0.03×**21.10E**±0.04**, h3**km±12km**, n9,** σ**0ˢ78**/17**, 2C-1D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.35**	**221**	⇑*i*Pg	**Pg**	**06 07 19.7**	**-0.4**
OHR				⇓*i*Sg	**Sg**	**06 07 25.2**	**+0.4**
BIA	**Bitola**	**0.40**	**155**	*i* Pg	**Pg**	**06 07 21.5**	**+0.5**
BIA				*i* Sg	**Sg**	**06 07 28.2**	**+1.9**
FNA	**Florina**	**0.63**	**161**	*e*Pg	**Pg**	**06 07 25.4**	**-0.2**
FNA				*e*Sg	**Sg**	**06 07 33.5**	**-0.5**
SKO	**Skopje**	**0.64**	**23**	⇑*i*Pg	**Pg**	**06 07 26.1**	**+0.3**
SKO				*i*		06 07 27.4	
SKO				*i* Sg	**Sg**	**06 07 35.1**	**+0.7**
SKO				Smax		06 07 36.0	
	comp=Z,0.1nm,0.4s						
QSH	**Qafa e Shtames**	**0.91**	**279**	*e*Pg	**Pg**	**06 07 31.0**	**-0.2**
QSH				*i* Sg	**Sg**	**06 07 43.0**	**-0.4**
GRG	**Griva**	**1.07**	**113**	*e*Pg	**Pg**	**06 07 33.9**	**-0.4**
GRG				*e*Sg	**Sg**	**06 07 47.1**	**-1.5**
KNT	**Kendrikon**	**1.37**	**99**	*e*Pb	**Pb**	**06 07 39.5**	**+0.6**
KNT				*e*Sb	**Sb**	**06 07 57.3**	**+0.5**
KNT	**Kendrikon**	**1.37**	**99**	*e*Pb	**Pb**	**06 07 39.5**	**+0.5**
KNT				*e*Sb	**Sb**	**06 07 57.3**	**+0.5**
SRS	**Serrai**	**1.89**	**97**	*e*Pb	**Pb**	**06 07 46.8**	**-1.2**

MEX 08 06:13:06.7±1.7**, 16.85N**×**94.08W, h142**km±20km**, MD3.9, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.80**	**287**	*i* P	P	06 13 28.0	-1.4
CMIG				*i* S	S	06 13 43.9	-3.0
HUIG	**Huatulco**	**2.22**	**241**	*i* P	P	06 13 40.9	-3.6
HUIG				*i* S	S	06 14 11.7	-1.7
OXX	**Oaxaca**	**2.54**	**276**	*i* P	P	06 13 47.5	-1.0
OXX				*i* S	S	06 14 18.5	-1.9
VHO	**Vista Hermosa**	**2.55**	**275**	*i* P	P	06 13 46.8	-1.8
VHO				*i* S	S	06 14 16.9	-3.7

FUNV 08 06:19:02.7, 7.02N×**73.15W, h180**km**, MD3.8, 1C, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.18**	**44**	⇑*i*P	P	06 19 31.0	-1.1
CAPV				*e*S	S	06 19 52.3	-2.6
VIGV	**El Vigia**	**2.53**	**44**	*e*P	P	06 19 45.2	-1.1
VIGV				*e*S	S	06 20 16.4	-3.5
SOCV	**Socops**	**2.60**	**61**	*e*P	P	06 19 45.9	-1.2
SOCV				*e*S	S	06 20 17.7	-3.5
VIRV	**Villa del Rosa**	**3.54**	**12**	*i* P	P	06 19 57.4	-1.3
VIRV				*e*S	S	06 20 36.4	-5.5
BAUV	**El Baul**	**5.41**	**69**	*e*P	P	06 20 19.8	-2.9
BAUV				*e*S	S	06 21 17.4	-7.4

*LDG **08** 06:28:23.2±0.5, 25.01N×95.47E, h33km, Mb4.7/15, Ms3.9/1, Error ellipse: s-maj=28.2km s-min=19.1km az=173.0*
*MOS **08** 06:28:24.1±1.2, 25.35N×95.95E, h36km, mb5.3/8, Error ellipse: s-maj=25.7km s-min=8.1km az=118.4*
*IDC **08** 06:28:27.9±3.7, 25.31N×95.71E, h50km±34km, mb4.3/22, mb1 4.4/23, mb1mx4.4/26, ML4.3/1, MS3.9/4, Ms1 3.9/4, ms1mx3.5/23, Error ellipse: s-maj=22.4km s-min=11.8km az=53.0*
*BJI **08** 06:28:27.5, 25.18N×95.75E, h79km, mB4.9, mb4.7, Ms4.6, Msz4.4*
*NEIC **08** 06:28:28.3±0.9, 25.31N×95.78E, h56km±8km, mb4.7/26, Error ellipse: s-maj=8.2km s-min=5.7km az=53.0*
ISC 08 06:28:25.8±0.6**, 25.18N**±0.04×**95.62E**±0.03**, h49**km±5km**, n158,** σ**1ˢ28**/156**, mb4.7**/60**, MS4.1**/12**, 5C-6D, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LKP	**Lekhapani**	**2.19**	**10**	*e*P	**P**	**06 29 02.0**	**+1.6**
LKP				*e*S	**S**	**06 29 28.0**	**+1.7**
SHL	**Shillong**	**3.40**	**277**	*e*P	**P**	**06 29 21.0**	**+3.3**
SHL				*e*S	**S**	**06 29 59.0**	**+1.8**
LSA	**Lhasa**	**6.01**	**320**	P	**P**	**06 29 55.5**	**+1.3**
LSA				S	**S**	**06 31 05.0**	**+2.4**

LSA Smax
comp=N,90nm,0.8s
LSA Smax
comp=E,170nm,0.9s
KMI Kunming 6.45 89 *eP* **P 06 30 01.7 +1.2**
KMI Smax
comp=N,142nm,1.4s
KMI Smax
comp=E,94nm,1.3s
KMI LR LR
comp=N,4µm,13.0s
KMI LR LR
comp=E,2µm,14.0s
KMI LR LR
comp=Z,2µm,14.0s
CHG Chiang Mai 7.04 153 ⇓P Px 06 30 32.9
comp=Z,200nm,0.6s
CM31 Chiang Mai Arr 7.36 155 *ePn* **P 06 30 13.2 -0.1**
comp=Z,30nm,0.8s
CMAR Chiang Mai Arr 7.36 155 P **P 06 30 13.1 -0.1**
comp=Z,1.3nm,0.3s,baz=328,slow=13,SNR=12
CMAR Lg 06 32 18.4
comp=Z,0.0nm,0.3s,baz=321,slow=23,SNR=3.7
BDT Bhumibol Dam 8.50 158 P **P 06 30 32.0 +3.1**
comp=Z,38nm,0.8s
GUN Gumba 9.14 289 *ePn* **P 06 30 37.2 -0.5**
GUN *eSn* **S 06 32 19.7 -0.6**
comp=Z,407nm,0.9s
CD2 Chengdu 9.18 50 *eP* **P 06 30 39.8 +1.5**
CD2 AMB AMB
comp=Z,10.0nm,0.7s
PKI Pulchoki 9.46 287 *ePn* **P 06 30 40.7 -1.5**
PKI *eSn* **S 06 32 26.4 -1.8**
comp=Z,135nm,0.7s
KKN Kakani 9.62 288 *ePn* **P 06 30 42.8 -1.6**
KKN *eSn* **S 06 32 29.4 -2.8**
comp=Z,165nm,0.7s
DMN Daman 9.73 287 *ePn* **P 06 30 43.9 -2.1**
DMN *eSn* **S 06 32 30.8 -4.1**
comp=Z,142nm,0.6s
GYA Guiyang 10.03 80⇑ *iP* **P 06 30 49.3 -0.8**
GYA AMB AMB
comp=Z,20nm,1.1s
GYA AMB AMB
comp=Z,130nm,4.6s
GKN Gorkha 10.22 288 *ePn* **P 06 30 50.5 -2.2**
GKN *eSn* **S 06 32 45.1 -1.9**
comp=Z,114nm,0.5s
KOLN Koldanda 11.07 286 *ePn* **P 06 31 01.2 -3.0**
KOLN *eSn* **S 06 33 02.6 -5.0**
comp=Z,100nm,0.5s
LZH Lanzhou 12.97 31 *eP* **P 06 31 26.5 -3.1**
LZH AMB AMB
comp=Z,40nm,1.0s
LZH AMB AMB
comp=Z,150nm,4.0s
LZH LR LR
comp=N,2µm,14.0s
LZH LR LR
comp=Z,2µm,14.6s
ENH Enshi 13.29 64 *ePn* **P 06 31 32.2 -1.6**
comp=Z,34nm,1.1s
LGTI Lohaghat 14.31 291 *eP* **P 06 31 47.3 0.0**
PTH Pithoragarh 14.36 291 *eP* **P 06 31 47.0 -0.9**
PTH *e* 06 34 18.0
XAN Xi'an 14.54 50 P **P 06 31 53.0 +2.7**
XAN AMB AMB
comp=Z,11nm,1.3s
GTA Gaotai 14.63 13 P **P 06 31 55.4 +4.1**
GTA AP 06 32 06.8
GTA XP 06 32 11.1
JOSI Joshimath 15.18 294 *e* **P 06 32 04.9 +6.4**
AGRA Agra 16.00 281 *e* **P 06 32 06.3 -2.7**
AGRA *e* 06 32 06.8
comp=Z,42nm,0.3s
DDI Dehra Dun 16.37 292 *e* **P 06 32 11.2 -2.4**
DDI *e* 06 35 04.0
KLP Kalpa 16.54 296 *e* **P 06 32 12.6 -3.2**
KLP *e* 06 32 21.4
comp=Z,44nm,0.6s
BHPL Bhopal 16.71 267 *i* P **P 06 32 17.4 -0.6**
BHPL AMb AMB 06 32 19.8
comp=Z,37nm,0.4s
NDI New Delhi 16.78 286 *e* **P 06 32 14.0 -4.8**
NDI *e* 06 35 18.0
AYAN Aya Nagar 16.83 285 *eP* **P 06 32 20.1 +0.7**
AYAN *e* 06 32 24.7
comp=Z,50nm,1.0s
SONA Sohna 16.84 285 *eP* **P 06 32 18.0 -1.6**
SONA *e* 06 32 22.5
comp=Z,16nm,0.6s
SONA *e* 06 35 15.2
KUDL Kundal 17.35 284 *eP* **P 06 32 26.2 +0.2**
KUDL *e* 06 32 30.4
comp=Z,29nm,1.3s
WHN Wuhan 17.40 68 ⇓P **P 06 32 26.0 -0.6**
HYB Hyderabad 17.67 247 *i* P **P 06 32 34.0 +4.0**
HYB *eS* **S 06 35 51.5 +8.8**
HYB Hyderabad 17.67 247 *eP* **P 06 32 34.0 +4.0**
KHET Khetri 17.95 284 *eP* **P 06 32 33.0 -0.5**
KHET *e* 06 32 38.3
comp=Z,62nm,0.9s
BTO Baotou 19.53 35 *eP* **P 06 32 50.3 -1.5**
BTO AMB AMB
comp=Z,11nm,0.4s
BTO LR LR
comp=N,1µm,11.4s
BTO LR LR
comp=E,668nm,11.6s
WMQ Urumqi 19.69 343 *eP* **P 06 32 52.6 -1.0**
WMQ PP PP 06 33 13.0 +0.2
WMQ S **S 06 36 33.0 +5.3**
WMQ AMB AMB
comp=Z,16nm,0.8s
WMQ LR LR
comp=Z,325nm,10.0s
POO Poona 21.25 256 *e* **P 06 33 12.0 +2.1**
KAD Karad 21.44 253 *eP* **P 06 33 14.0 +2.1**
KAD AMb AMB 06 33 24.2
comp=Z,38nm,0.9s,mb4.7
TIA Tai'an 21.47 54 *eP* **P 06 33 10.7 -1.3**
NJ2 Nanjing 21.49 66 *eP* **P 06 33 11.5 -0.8**
NJ2 AP 06 33 31.5
NJ2 PP PP 06 33 40.3 +2.8
NJ2 S **S 06 36 55.0 -7.7**
NJ2 AMB AMB
comp=Z,100nm,1.1s,mb5.1
NJ2 LR LR
comp=N,530nm,15.1s,MS4.5
NJ2 LR LR
comp=E,1µm,10.9s,MS4.5
NJ2 LR LR
comp=Z,5µm,13.4s,MS5.1
KSH Kashi 21.84 316⇑ *iP* **P 06 33 17.1 +1.4**
KSH AP 06 33 30.7
KSH XP 06 33 41.1
KSH LR LR
comp=N,280nm,11.3s,MS4.3
KSH LR LR
comp=E,650nm,11.0s,MS4.3
SSE Sheshan 23.28 70 *eP* **P 06 33 26.3 -3.6**
MKAR Makanchi Array 24.05 337 P **P 06 33 38.1 +1.0**
comp=E,17nm,0.5s,mb4.7,baz=150,slow=11,SNR=95
MKAR Makanchi Array 24.05 337 *eP* **P 06 33 38.1 +0.9**
MKAR pmax pmax
comp=Z,3.0nm,0.4s
TKM2 Tokmak 2 24.16 322 P **P 06 33 40.6 +2.4**
SNR=16
SONM Songino Array 24.17 18 P **P 06 33 38.5 +0.2**
comp=Z,6.2nm,0.8s,mb4.1,baz=201,slow=11,SNR=24
UCH Uchtor 24.34 320 P **P 06 33 43.3 +3.2**
SNR=16
AAK Ala-Archa 24.60 320 P **P 06 33 45.1 +2.5**
SNR=22
AAK Ala-Archa 24.60 320 *d iP* **P 06 33 44.3 +1.7**
AAK pmax pmax
comp=Z,26nm,0.9s,mb4.8
AAK MLR MLR
comp=Z,200nm,17.0s,MS3.7
AAK Ala-Archa 24.60 320 *eP* **P 06 33 44.1 +1.5**
comp=Z,23nm,0.8s,mb4.8
FRU Bishkek 24.65 321 *eP* **P 06 33 46.0 +2.9**
CHMS Chumysh 24.68 321 P **P 06 33 46.0 +2.6**
SNR=7.0
AML Almayashu 24.77 318 P **P 06 33 47.1 +2.9**
SNR=14
USP Ospenovka 25.00 321 P **P 06 33 47.3 +0.9**
SNR=15
EKS2 Erkin-Say 25.04 320 P **P 06 33 49.4 +2.6**
SNR=14
ZAL Zalesovo 29.84 347 P **P 06 34 29.9 -0.5**
comp=Z,4.7nm,0.3s,mb4.6,baz=228,slow=8.0,SNR=13
NVS Novosibirsk 31.02 346 *eP* **P 06 34 39.2 -1.6**
NVS pmax pmax
comp=Z,24nm,1.1s,mb4.9
NVS pmax pmax
comp=N,21nm,0.8s
BVA0 Borovoye Array 33.67 332 P **P 06 35 03.8 -0.1**
BRVK Borovoye 33.73 332 *eP* **P 06 35 03.9 -0.6**
comp=N,22nm,0.8s,mb5.1
BOD Bodaibo 35.16 17 *eP* **P 06 35 13.6 -3.0**
MAJO Matsushiro 38.00 62 P **P 06 35 37.9 -2.9**
comp=N,3.9nm,0.3s,mb4.6
SVE Sverdlovsk 40.40 331 *i* P **P 06 36 00.0 -0.5**
SVE pmax pmax
comp=Z,80nm,0.9s,mb5.5
SVE MLR MLR
comp=Z,500nm,13.0s,MS4.5
SVE MLR MLR
comp=N,300nm,14.0s,MS4.5
SVE MLR MLR
comp=E,400nm,14.0s,MS4.5
ARU Arti 41.11 329 *c iP* **P 06 36 06.9 +0.6**
ARU pmax pmax
comp=Z,28nm,0.6s,mb5.1
ARU MLR MLR
comp=Z,200nm,16.0s,MS4.1
ARU Arti 41.11 329 *eP* **P 06 36 06.3 0.0**
comp=Z,30nm,0.5s,mb5.2
QRN Al-Qurain 42.45 286 *eP* **P 06 36 19.2 +1.5**
QRN AMb AMB 06 36 20.6
comp=Z,41nm,0.7s,mb5.2
RDF Al-Radifah 42.75 286 *eP* **P 06 36 21.2 +1.1**
RDF AMb AMB 06 36 25.3
comp=Z,58nm,0.6s,mb5.5
MIB Mutribah 42.84 287 *eP* **P 06 36 22.3 +1.5**
MIB AMb AMB 06 36 25.9
comp=Z,29nm,0.7s,mb5.1
RST Umm Al-Ruwaisa 43.16 287 *eP* **P 06 36 25.1 +1.5**
RST AMb AMB 06 36 26.9
comp=Z,30nm,0.7s,mb5.1
GNI Garni 44.77 302 *d iP* **P 06 36 39.2 +2.9**
GNI pmax pmax
comp=Z,22nm,0.9s
GNI Garni 44.77 302 *eP* **P 06 36 38.3 +2.0**
comp=Z,28nm,1.0s,mb5.0
TVAN Van 45.74 300 *i* P **P 06 36 45.2 +1.1**
KIV Kislovodsk 46.60 308 *c iP* **P 06 36 51.8 +1.0**
KIV pmax pmax
comp=Z,25nm,0.8s,mb5.2
KIV MLR MLR
comp=Z,100nm,18.0s,MS3.8
BEST Besiri 47.42 299 *i* P **P 06 36 59.1 +1.8**
ELZG Elazig 49.21 300 *i* P **P 06 37 13.5 +2.3**
TIXI Tiksi 50.11 13 *eP* **P 06 37 15.2 -2.5**
TIXI pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
TIXI MLR MLR
comp=Z,300nm,17.0s,MS4.4
GZT Gaziantep 50.38 299 *i* P **P 06 37 21.8 +1.5**
ANN Anapa 50.42 308 *eP* **P 06 37 20.1 -0.3**
ANN pmax pmax
comp=Z,74nm,1.2s,mb5.6
KAHT Ahir Dag 50.92 299 *i* P **P 06 37 25.6 +1.4**
ASF Jabal al Asfar 51.45 292 P **P 06 37 30.1 +1.7**
comp=Z,19nm,0.5s,mb4.3,baz=321,slow=4.3,SNR=6.9
COBT Isnderun 51.49 298 *i* P **P 06 37 29.0 +0.4**
MBWA Marble Bar 51.67 151 *eP* **P 06 37 30.1 0.0**
comp=Z,5.6nm,0.6s,mb4.7
OBN Obninsk 52.12 321 *eP* **P 06 37 33.3 +0.3**
OBN pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
OBN MLR MLR
comp=Z,100nm,22.0s,MS3.8
BOYT Boyabat 52.26 304 *i* P **P 06 37 34.8 +0.6**
MEST Erdemli 53.18 298 *i* P **P 06 37 40.5 -0.7**
BRTR Keskin Array B 53.30 302 P **P 06 37 42.2 +0.1**
comp=Z,2.9nm,0.6s,mb4.4,baz=112,slow=6.5,SNR=11
BALT Daday 53.39 304 *i* P **P 06 37 43.1 +0.4**
ELDT Eldivan 53.42 303 *i* P **P 06 37 43.6 +0.7**
SGKT Sivrigoynuk 54.45 303 *i* P **P 06 37 51.0 +0.4**
AKASG Malin Array Be 56.14 315 P **P 06 38 00.9 -1.6**
comp=Z,5.3nm,0.4s,mb4.9,baz=75,slow=6.1,SNR=25
AKASG LR LR 07 05 15.1
comp=Z,106nm,18.6s,MS4.0,baz=85,slow=39
KAF Kangasniemi 58.41 329 *ep* **P 06 38 21.3 +2.9**
comp=Z,0.5nm,0.4s,mb3.9,baz=36,slow=4.2
FINES FINESS Array B 58.45 328 P **P 06 38 17.4 -1.3**
comp=Z,2.3nm,0.7s,mb4.3,baz=104,slow=7.9,SNR=8.3
FINES FINESS Array B 58.45 328 P **P 06 38 17.4 -1.3**
MLR Muntele Rosu 58.53 309 P **P 06 38 19.2 -0.3**
comp=Z,8.0nm,0.7s,mb4.8,baz=44,slow=4.0,SNR=11
WRA Warramunga Arr 58.56 136 P **P 06 38 19.8 -0.2**
comp=Z,7.5nm,0.6s,mb4.9,baz=326,slow=7.4,SNR=92
WRA LR LR 07 07 02.1
comp=Z,86nm,20.3s,MS3.9,baz=290,slow=40
WRAB Tennant Creek 58.56 136 *eP* **P 06 38 19.8 -0.2**
comp=Z,15nm,0.8s,mb5.1
ARCES ARCESS Array B 59.71 337 P **P 06 38 27.9 +0.5**
comp=Z,4.5nm,0.9s,mb4.5,baz=90,slow=4.9,SNR=6.6
IDI Anoyia 60.80 298 P **P 06 38 34.7 -0.5**
comp=Z,8.0nm,0.6s,mb5.0,baz=148,slow=3.3,SNR=3.2
ASAR Alice Springs 61.10 140 P **P 06 38 37.5 0.0**
comp=Z,8.3nm,0.6s,mb5.0,baz=322,slow=6.8,SNR=134
ASAR LR LR 07 05 43.4
comp=Z,91nm,20.3s,MS3.9,baz=336,slow=37
NIE Niedzica 61.94 314 *eP* **P 06 38 44.0 +1.3**
KMBO Kilima Mbogo 62.17 254 P **P 06 38 45.6 +0.8**
comp=Z,1.4nm,0.7s,mb4.2,baz=51,slow=14,SNR=5.4
OJC Ojcow 62.17 315 *eP* **P 06 38 44.2 -0.1**
OJC Ojcow 62.17 315 *eP* **P 06 38 44.2 -0.1**
VRAC Vranov 64.36 315 P **P 06 38 58.5 -0.1**
comp=Z,5.1nm,0.6s,mb4.8,baz=84,slow=9.0,SNR=7.2
DPC Dobruska-Polom 64.36 316 *eP* **P 06 38 58.7 0.0**
HFS Hagfors 64.53 327 P **P 06 38 59.3 -0.3**
comp=Z,3.2nm,0.5s,mb4.6,baz=117,slow=3.3,SNR=14
PRU Pruhonice 65.55 316 *eP* **P 06 39 06.8 +0.4**
NB2 NORSAR Subarra 65.63 328 P **P 06 39 05.4 -1.3**
comp=Z,1.4nm,0.5s,mb4.2,baz=83,slow=6.2
NOA NORSAR Array B 65.63 328 P **P 06 39 05.3 -1.4**
comp=Z,1.7nm,0.5s,mb4.3,baz=82,slow=6.4,SNR=5.3
NOA LR LR 07 09 54.2
comp=Z,79nm,18.7s,MS3.9,baz=60,slow=38
BRG Berggiesshubel 65.77 317 *eP* **P 06 39 08.0 +0.3**
comp=Z,9.4nm,1.4s,mb4.6
GERES GERESS Array B 66.31 314 P **P 06 39 10.6 -0.6**
comp=Z,5.3nm,0.8s,mb4.6,baz=76,slow=5.5,SNR=27
KHC Kasperske Hory 66.33 315 *eP* **P 06 39 11.5 +0.2**
CTAO Charters Tower 66.69 128 *eP* **P 06 39 14.7 +0.6**
MOX Moxa 67.26 317 *eP* **P 06 39 16.0 -1.1**
MOX pP pP 06 39 40.0 +8.9
GRA1 Grafenberg Arr 67.72 316 *eP* **P 06 39 21.0 +1.0**
comp=Z,11nm,1.4s,mb4.7
DAVOX Davos 69.29 313 P **P 06 39 29.2 -0.6**
comp=Z,4.0nm,0.5s,mb4.6,baz=136,slow=7.6,SNR=5.3
DAVOS Davos 69.33 313 P **P 06 39 29.3 -0.8**
CDF Champ du Feu 70.55 315 *eP* **P 06 39 36.6 -0.9**
comp=Z,8.5nm,0.7s,mb4.5
WLF Walferdange 70.91 317 *eP* **P 06 39 40.2 +0.6**
comp=Z,8.5nm,0.4s,mb5.0
HINF Hinteralfeld 70.99 315 *eP* **P 06 39 39.6 -0.5**
PGF Pioggiola 71.06 309 *eP* **P 06 39 39.8 -0.9**
comp=Z,11nm,0.8s,mb4.5
STKA Stephens Creek 71.73 140 P **P 06 39 45.8 +1.0**
comp=Z,6.3nm,0.9s,mb4.5,baz=336,slow=6.5,SNR=8.1
LPG La Plagne 71.74 312 *eP* **P 06 39 45.1 +0.5**
comp=Z,7.9nm,0.5s,mb4.6
LPL La Plagne 71.75 312 *eP* **P 06 39 44.7 0.0**
comp=Z,11nm,0.5s,mb4.7
CABF La Chapelle 71.85 313 *eP* **P 06 39 44.9 -0.3**
comp=Z,30nm,1.2s,mb4.8
MBDF Montbardon 71.96 311 *eP* **P 06 39 46.6 +0.7**
comp=Z,6.4nm,0.7s,mb4.4
ORIF Oris-en-Rattie 72.50 312 *eP* **P 06 39 48.1 -1.1**
LOR Lormes 73.09 315 *eP* **P 06 39 51.2 -1.4**
comp=Z,3.2nm,0.5s,mb4.2
SMF Signal de Mont 73.31 314 *eP* **P 06 39 53.3 -0.5**
VIVF Saint-Julien-l 73.34 312 *eP* **P 06 39 54.1 0.0**
SSF Saint Saulge 73.39 315 *eP* **P 06 39 53.2 -1.1**
comp=Z,7.4nm,0.6s,mb4.5
HYF Humbligny 73.88 315 *eP* **P 06 39 55.8 -1.4**
BGF Bois d'Agland 73.98 314 *eP* **P 06 39 56.6 -1.2**
comp=Z,5.9nm,0.5s,mb4.5
LASF Ste Croix 74.15 312 *eP* **P 06 39 58.7 -0.1**
comp=Z,14nm,0.8s,mb4.6
EKA Eskdalemuir Ar 74.44 324 P **P 06 40 00.6 +0.3**
comp=Z,4.9nm,0.9s,mb4.4,baz=67,slow=6.4,SNR=7.9
RJF Les Rejaudoux 75.29 313 *eP* **P 06 40 04.6 -0.7**
MTLF Montolieu 75.52 311 *eP* **P 06 40 07.0 +0.3**
comp=Z,16nm,0.9s,mb4.7
SGMF Saint Gilles 76.79 317 *eP* **P 06 40 13.7 -0.1**
ROSF Rostrenen 77.19 317 *eP* **P 06 40 16.6 +0.5**
comp=Z,38nm,1.0s,mb5.0
ETSF Etsaut 77.57 312 *eP* **P 06 40 17.7 -0.6**
comp=Z,13nm,0.7s,mb4.7
SUMG Summit 77.67 347 *eP* **P 06 40 17.3 -0.9**
comp=Z,6.9nm,0.7s,mb4.7
SJPF Ste Jean 77.94 312 *eP* **P 06 40 19.4 -0.9**
ILAR Eielson Array 78.29 23 P **P 06 40 20.2 -1.6**
comp=Z,1.1nm,0.8s,mb3.8,baz=304,slow=5.2,SNR=8.0
ILAR PP PP 06 43 17.2 -3.7
comp=Z,0.6nm,0.7s,baz=307,slow=7.2,SNR=5.2
INK Inuvik 80.08 17 *eP* **P 06 40 30.2 -1.2**
comp=Z,2.3nm,0.5s,mb4.4
ESDC Sonseca Array 81.22 310 P **P 06 40 38.1 0.0**
comp=Z,0.8nm,0.4s,mb4.0,baz=51,slow=3.4,SNR=4.2
SNAA Sanae 116.33 200⇑ *iP* PKPdf 06 46 59.8 -3.5
SNAA Sanae 116.33 200 *eS* 06 55 55.4
VNA2 Neumayer--Watz 117.81 201 ⇓ *iP* PKPdf 06 47 09.6 +3.4
VNA2 Neumayer--Watz 117.81 201 *eS* 06 55 35.8
VNA1 Neumayer--Stat 118.12 202⇑ *iP* PKPdf 06 47 09.2 +2.4
VNA1 Neumayer--Stat 118.12 202 *eS* 06 55 29.7
VNA3 Neumayer Olymp 118.53 201 ⇓ *iP* PKPdf 06 47 09.6 +2.0
VNA3 Neumayer Olymp 118.53 201 *eS* 06 55 33.6
BAO Brasilia Array 144.69 279 *eP* PKPbc 06 47 58.9 +1.2
BDFB Brasilia 144.72 279 PKP PKPdf 06 47 59.2 +1.4
comp=Z,14nm,0.7s,baz=126,slow=2.0,SNR=24
ROSC El Rosal 148.59 341 PKPbc PKPdf 06 48 10.9 +6.5
comp=Z,17nm,0.7s,baz=208,slow=4.8,SNR=12
SAML Samuel 154.16 305 *ePKPbc* PKPdf 06 48 22.3 +10
CPUP Villa Florida 155.62 261 PKPab PKPab 06 48 42.8 -0.2
comp=Z,1.4nm,0.9s,baz=70,slow=3.0,SNR=5.1

NEIC ***08*** *06:33:37.3±1.8,51.56N×16.12E,h5km,ML2.9(VIE), ML2.7(BRG),Error ellipse: s-maj=19.2km s-min=7.5km az=212.0*
PRU ***08*** *06:33:38.2,51.53N×16.09E*
WAR ***08*** *06:33:38.3,51.56N×16.10E,ML2.8,Mining Induced*
ISC 08 06:33:36.1±0.9,51.52N±0.04×16.07E±0.04,n16,σ1s17/35, 1D,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.69**	**168**	*eP*		**Pg**	**Pg**	**06 33 51.6**	**+1.7**
KSP				*e*				06 33 54.2	
KSP				*eSg*		**Sg**	**Sg**	**06 34 01.2**	**+2.1**
KSP	**Ksiaz**	**0.69**	**168**	*eP*		**Pg**	**Pg**	**06 33 51.7**	**+1.8**
KSP				*eSg*		**Sg**	**Sg**	**06 34 01.3**	**+2.2**
UPC	**Upice**	**1.01**	**182**	*ePG*		**Pg**	**Pg**	**06 33 57.7**	**+1.3**
DPC	**Dobruska-Polom**	**1.18**	**172**	*ePG*		**Pg**	**Pg**	**06 34 00.1**	**+0.4**
DPC				*eSG*		**Sg**	**Sg**	**06 34 16.5**	**+1.1**
	35nm,0.5s								
PVCC	**Panska Ves**	**1.37**	**224**	*ePG*		**Pg**	**Pg**	**06 34 04.6**	**+1.1**
BRG	**Berggiesshubel**	**1.49**	**245**	*i Pg*		**Pg**	**Pg**	**06 34 06.2**	**+0.4**
BRG				*i Sg*		**Sg**	**Sg**	**06 34 27.1**	**+1.5**
PRU	**Pruhonice**	**1.81**	**213**	PN		**Pn**	**Pn**	**06 34 09.4**	**+0.5**
PRU				PG		**Pg**	**Pg**	**06 34 11.5**	**-0.9**
PRU				*i* x		x	x	06 34 13.9	
PRU				*i* x		x	x	06 34 28.8	
PRU				SG		**Sg**	**Sg**	**06 34 36.4**	**-0.1**
	29nm,0.3s								
CLL	**Collm**	**1.93**	**265**	*ePN*		**Pn**	**Pn**	**06 34 11.0**	**+0.4**
CLL				*i PG*		**Pg**	**Pg**	**06 34 13.5**	**-1.2**
CLL				*i*				06 34 18.4	
CLL				*i SG*		**Sg**	**Sg**	**06 34 39.9**	**-0.6**
CLL	**Collm**	**1.93**	**265**	*ePn*		**Pn**	**Pn**	**06 34 11.0**	**+0.4**
CLL				*i Pg*		**Pg**	**Pg**	**06 34 13.5**	**-1.2**
CLL				*i Sg*		**Sg**	**Sg**	**06 34 39.9**	**-0.6**
MORC	**Moravsky Berou**	**1.98**	**151**	*ePn*		**Pn**	**Pn**	**06 34 11.6**	**+0.4**
MORC				*eSn*		**Sn**	**Sn**	**06 34 37.2**	**+0.1**
OKC	**Ostrava-Krasne**	**2.14**	**141**	*eSG*		**Sg**	**Sg**	**06 34 46.1**	**-1.3**
NKC	**Novy Kostel**	**2.63**	**242**	*ePN*		**Pn**	**Pn**	**06 34 21.6**	**+1.0**
NKC				*ePG*		**Pg**	**Pg**	**06 34 28.0**	**-0.7**
NKC				*eSG*		**Sg**	**Sg**	**06 35 02.7**	**-1.0**
OJC	**Ojcow**	**2.70**	**117**	*ePG*		**Pg**	**Pg**	**06 34 29.0**	**-1.0**
OJC				*eSG*		**Sg**	**Sg**	**06 35 04.0**	**-1.9**
OJC	**Ojcow**	**2.70**	**117**	*ePg*		**Pg**	**Pg**	**06 34 29.2**	**-0.8**
OJC				*eSg*		**Sg**	**Sg**	**06 35 04.1**	**-1.8**
KHC	**Kasperske Hory**	**2.88**	**215**	*ePN*		**Pn**	**Pn**	**06 34 25.5**	**+1.4**
KHC				*ePG*		**Pg**	**Pg**	**06 34 30.9**	**-2.6**
KHC				*eSN*		**Sn**	**Sn**	**06 34 59.5**	**-0.4**
KHC				*eSG*		**Sg**	**Sg**	**06 35 10.4**	**-1.4**
MOA	**Molln**	**3.85**	**198**	⇓ *iPN*		**Pn**	**Pn**	**06 34 38.6**	**+0.6**
MOA				*i SG*		**Sg**	**Sg**	**06 35 42.1**	**-2.4**
	5.5nm,0.5s								

IDC ***08*** *07:07:42.5±1.1,80.30N×0.15W,mb3.7/6,mb1 3.8/8, mb1mx3.6/23,ML3.8/3,MS3.4/10,Ms1 3.4/10, ms1mx3.1/24,Error ellipse: s-maj=29.2km s-min=16.5km az=46.0*
NEIC ***08*** *07:07:43.5±0.8,80.22N×0.25W,h10km,ML3.9(BER), Error ellipse: s-maj=13.0km s-min=10.1km az=207.0*
NAO ***08*** *07:07:54.4±7.8,80.48N×6.96E,h6km±39km,ML3.9*
BER ***08*** *07:07:56.8±3.8,80.79N×9.85E,h1 1km±39km, ML3.9(NAO)*
ISC 08 07:07:41.6±0.8,80.14N±0.10×0.5W±0.4,h10km,n23, σ1s36/22,mb3.6/4,MS3.4/8,North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**3.74**	**113**	Pn		**Pn**	**Pn**	**07 08 40.8**	**+0.2**
	baz=351,slow=7.4								
SPA0				Lg				07 09 25.7	
	baz=324,slow=37								
DAG	**Danmarks Havn**	**4.95**	**236**	*i* P		**Pn**	**Pn**	**07 08 56.4**	**-1.4**
	18nm,0.3s								
JMIC	**Jan Mayen**	**9.40**	**196**	Pn		**P**	**P**	**07 09 59.3**	**-0.9**
	27nm,0.3s,baz=78,slow=1.8,SNR=30								
JMIC				Sn		**Sn**	**Sn**	**07 11 36.4**	**-11**
	6.7nm,0.3s,baz=147,slow=21,SNR=9.5								
JMIC				LR		LR	LR	07 12 26.5	
	comp=Z,124nm,18.9s,baz=272,slow=30								
SUMG	**Summit**	**11.42**	**249**	*ePn*		**P**	**P**	**07 10 23.7**	**-3.8**
	15nm,0.4s								
ARA0	**ARCESS Array S**	**12.43**	**134**	Pn		**P**	**P**	**07 10 40.6**	**-0.6**
	baz=357,slow=11								
ARA0				Sn		**S**	**S**	**07 12 50.2**	**-11**
	baz=351,slow=22								
ARCES	**ARCESS Array B**	**12.43**	**134**	Pn		**P**	**P**	**07 10 39.8**	**-1.4**
	0.2nm,0.3s,baz=323,slow=9.8,SNR=11								
ARCES				Sn		**S**	**S**	**07 12 51.9**	**-8.8**
	1.0nm,0.3s,baz=354,slow=22,SNR=6.9								
ARCES	**ARCESS Array B**	**12.43**	**134**	Pn		**P**	**P**	**07 10 39.8**	**-1.4**
ARCES				Sn		**S**	**S**	**07 12 51.9**	**-8.8**
BORG	**Borgarnes**	**16.48**	**213**	P		**P**	**P**	**07 11 34.4**	**+0.4**
	42nm,1.1s								
NOA	**NORSAR Array B**	**19.50**	**163**	Pn		**P**	**P**	**07 12 13.3**	**+2.1**
	0.1nm,0.3s,baz=350,slow=16,SNR=3.2								
NOA				LR		LR	LR	07 18 27.3	
	comp=Z,42nm,19.4s,baz=340,slow=33								
NOA	**NORSAR Array B**	**19.50**	**163**	Pn		**P**	**P**	**07 12 13.3**	**+2.1**
NOA				LR		LR	LR	07 18 27.3	
FINES	**FINESS Array B**	**20.30**	**142**	P		**P**	**P**	**07 12 18.7**	**-1.1**
	3.3nm,0.9s,slow=12,SNR=3.1								
FINES				LR		LR	LR	07 19 22.7	
	comp=Z,55nm,21.4s,MS2.9,baz=352,slow=34								
HFS	**Hagfors**	**20.55**	**160**	P		**P**	**P**	**07 12 24.0**	**+1.6**
	2.6nm,0.8s,baz=342,slow=14,SNR=2.8								
FRB	**Frobisher Bay**	**24.37**	**269**	P		**P**	**P**	**07 13 02.4**	**+2.3**
	4.0nm,0.8s,mb3.9,baz=40,slow=7.1,SNR=2.8								
FRB	**Frobisher Bay**	**24.37**	**269**	P		**P**	**P**	**07 13 02.4**	**+2.3**
AKASG	**Malin Array Be**	**31.20**	**142**	P		**P**	**P**	**07 14 05.1**	**+2.6**
	0.1nm,0.2s,mb3.2,baz=342,slow=8.8,SNR=2.7								
SCHQ	**Schefferville**	**32.49**	**261**	LR		LR	LR	07 28 38.0	
	comp=Z,74nm,19.6s,MS3.4,baz=345,slow=38								
YKA	**Yellowknife Ar**	**32.89**	**309**	LR		LR	LR	07 27 04.9	
	comp=Z,81nm,19.7s,MS3.4,baz=340,slow=35								
ILAR	**Eielson Array**	**34.06**	**335**	P		**P**	**P**	**07 14 26.5**	**-0.8**
	0.4nm,0.7s,mb3.5,baz=21,slow=6.9,SNR=9.6								
ILAR				LR		LR	LR	07 27 15.3	
	comp=Z,50nm,18.1s,MS3.3,baz=0.6,slow=35								
ZAL	**Zalesovo**	**36.61**	**81**	LR		LR	LR	07 33 59.6	

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time	Res
	comp=Z,86nm,18.5s,MS3.6,baz=181,slow=43						
ULM	Lac du Bonnet	41.85	287	LR	LR	07 31 55.9	
	comp=Z,101nm,20.1s,MS3.7,baz=317,slow=35						
MKAR	Makanchi Array	43.07	87	P	P	07 15 42.5	-0.1
	1.2nm,0.7s,mb3.7,baz=27,slow=8.1,SNR=8.5						
MKAR				LR	LR	07 34 28.1	
	comp=Z,33nm,19.0s,MS3.2,baz=138,slow=37						
MKAR	Makanchi Array	43.07	87	P	P	07 15 42.5	-0.1
MKAR				LR	LR	07 34 28.1	
SJG	San Juan	68.16	249	LR	LR	07 47 00.6	
	comp=Z,56nm,21.2s,MS3.8,baz=274,slow=34						

*KISR **08** 07:15:54.3±0.7, 28.14N×58.84E, h57km±999km, ML4.9*
*THR **08** 07:15:57.1±0.5, 29.25N×58.42E, h14km±20km, ML4.1*
*CSEM **08** 07:15:59.8, 29.27N×58.36E, ML4.1, After THR*
ISC 08 07:15:56.2±0.9, **28.94N**±0.07×**58.16E**±0.06, **h10km, n20, σ1s08**/24, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
KRBR	Kerman	1.60	311	*i* PG	Pg	07 16 26.9	-1.2
KRBR				AMP		07 16 55.5	
	comp=N,6μm,0.7s						
KRBR	Kerman	1.60	311	*e*Pg	Pg	07 16 27.5	-0.6
KRBR				*e*Sg	Sg	07 16 48.8	-0.6
	comp=N,6μm,0.6s						
BNDS	Bandar-Abbas	2.33	229	*e*PN	Pn	07 16 42.2	+7.0
BNDS				AMP		07 17 26.9	
	comp=E,925nm,0.4s						
BNDS				AMP		07 17 28.6	
	comp=N,709nm,0.5s						
BNDS	Bandar-Abbas	2.33	229	*i* Pn	Pn	07 16 42.2	+7.0
ZHSF	Zahedan	2.38	73	*e*PG	Pn	07 16 35.1	-0.8
ZHSF				AMP		07 17 09.3	
	comp=N,710nm,0.8s						
ZHSF	Zahedan	2.38	73	*e*Pn	Pn	07 16 35.2	-0.7
	comp=N,845nm,0.3s						
GHIR	Ghir-Karzin	4.59	263	*i* PN	Pn	07 17 12.3	+5.0
GHIR				AMP		07 18 24.8	
	comp=N,145nm,0.4s						
GHIR				AMP		07 18 34.4	
	comp=E,121nm,0.6s						
GHIR	Ghir-Karzin	4.59	263	*e*Pn	Pn	07 17 12.4	+5.1
QRN	Al-Qurain	8.98	271	*e*P	P	07 18 10.2	+1.3
QRN				*e*S	Sn	07 19 49.8	-1.4
QRN				AML	AML	07 19 53.6	
	comp=Z,50nm,0.6s						
UMR	Umm Al-Rimmam	9.14	276	*e*P	P	07 18 12.7	+1.6
UMR				AML	AML	07 19 55.0	
	comp=Z,19nm,0.6s						
KBD	Kabd	9.16	274	*e*P	P	07 18 13.1	+1.7
KBD				*e*S	Sn	07 19 55.6	0.0
RDF	Al-Radifah	9.29	272	*e*P	P	07 18 14.3	+1.1
RDF				*e*S	Sn	07 19 58.3	-0.6
RDF				AML	AML	07 20 01.2	
	comp=Z,27nm,0.6s						
MIB	Mutribah	9.48	278	*e*P	P	07 18 17.0	+1.2
RST	Umm Al-Ruwaisa	9.77	276	*e*P	P	07 18 21.3	+1.5
RST				AML	AML	07 20 11.7	
	comp=Z,26nm,0.5s						
MZLS	Mizel	12.59	250	P	P	07 18 56.8	-1.4
ARSS	Ar Rass	13.60	261	P	P	07 19 10.5	-1.1
AFFS	‘Afif	14.46	253	P	P	07 19 23.5	+0.5
HILS	Ha’il	14.52	268	P	P	07 19 23.6	-0.2
TATS	Tathlith	16.32	238	P	P	07 19 45.9	-1.2
DJNS	Zahran al Janu	17.45	233	P	P	07 20 00.8	-0.5

IDC 08 07:23:21.3±2.6, **21.60S**×**179.51W, h672**km±33km, **mb3.2**/6, **mb1 3.4**/6, **mb1mx3.1**/14, **Error ellipse: s-maj=55.1km s-min=21.7km az=3.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
CTA	Charters Tower	31.99	266	P	P	07 28 56.4	-1.6
	2.1nm,0.3s,baz=75,slow=12,SNR=7.4						
STKA	Stephens Creek	36.05	245	P	P	07 29 30.0	-1.3
	2.7nm,0.8s,baz=107,slow=9.9,SNR=6.8						
ASAR	Alice Springs	42.90	258	P	P	07 30 24.9	-1.2
	3.3nm,0.5s,baz=98,slow=7.9,SNR=44						
ASAR				S	S	07 36 04.2	-1.9
	0.6nm,0.9s,baz=93,slow=15,SNR=3.8						
WRA	Warramunga Arr	43.06	264	P	P	07 30 25.7	-1.7
	2.3nm,0.3s,baz=96,slow=7.8,SNR=122						
WRA				S	S	07 36 06.8	-1.5
	0.4nm,1.0s,baz=98,slow=14,SNR=3.2						
SNAA	Sanae	86.95	179	P	P	07 34 56.8	-1.3
	0.5nm,1.0s,baz=243,slow=2.3,SNR=3.3						
CMAR	Chiang Mai Arr	89.16	290	P	P	07 35 12.5	+3.0
	0.8nm,0.4s,baz=138,slow=1.8,SNR=6.9						
AKASG	Malin Array Be	143.26	329	PKP	PKPdf	07 41 40.9	0.0
	1.0nm,0.4s,baz=39,slow=4.4,SNR=11						

DJA 08 07:52:46.3±1.0, **9.91S**×**116.17E, h170**km±20km, **MD4.7**/4, **ML4.2**/1, **6C, Error ellipse: s-maj=79.9km s-min=18.7km az=1.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
RATI	Rata	1.34	332⇑	*e*Pn	P	07 53 16.0	-0.2
RATI			⇑	*e*Sn	S	07 53 38.1	-1.2
KEDI	Kedomdong	1.42	358	*e*Pn	P	07 53 16.8	-0.2
KEDI			⇑	*e*Sn	S	07 53 38.8	-1.8
KELI	Kelakatan	2.36	315⇑	*e*Pn	P	07 53 27.5	+0.2
SRDI	Scrawed	2.46	305⇑	*e*Pn	P	07 53 28.1	-0.3
	102nm,0.2s						
SRDI			⇑	*e*Sn	S	07 53 58.8	-2.0

IDC 08 08:08:37.0±17.0, **15.05S**×**179.16W, h434**km±196km, **mb3.2**/7, **mb1 3.5**/7, **mb1mx3.4**/13, **Error ellipse: s-maj=120.0km s-min=47.2km az=157.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
CTA	Charters Tower	33.31	256	P	P	08 14 37.3	-1.0
	1.7nm,0.3s,baz=82,slow=11,SNR=14						
WRA	Warramunga Arr	44.51	257	P	P	08 16 07.7	-2.2
	1.2nm,0.4s,baz=94,slow=7.0,SNR=10						
FITZ	Fitzroy Crossi	52.84	259	P	P	08 17 11.2	-1.5
	0.8nm,0.4s,baz=111,slow=6.5,SNR=7.5						
NVAR	Mina Array Bea	77.89	45	P	P	08 19 49.0	-1.0
	0.6nm,0.6s,baz=231,slow=11,SNR=3.6						
ILAR	Eielson Array	83.28	13	P	P	08 20 16.1	-1.2
	0.4nm,0.4s,baz=229,slow=5.3,SNR=4.5						
TXAR	Lajitas Array	85.09	58	P	P	08 20 27.0	-0.1
	0.4nm,0.7s,baz=215,slow=7.3,SNR=5.8						
PDAR	Pinedale Array	85.79	44	P	P	08 20 28.9	-1.2
	0.6nm,0.6s,baz=226,slow=2.9,SNR=5.9						

*NEIC **08** 08:14:51.5±2.2, 51.52N×16.11E, h5km, ML2.8(VIE), ML2.0(BRG), Error ellipse: s-maj=22.2km s-min=7.8km az=201.0*
*PRU **08** 08:14:52.9, 51.48N×16.10E*
*WAR **08** 08:14:52.7, 51.50N×16.10E, ML2.9, Mining Induced*
ISC 08 08:14:50.0±0.9, **51.48N**±0.05×**16.10E**±0.04, **n15, σ1s18**/30, **1C, Poland**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
KSP	Ksiaz	0.65	169	*e*Pg	Pg	08 15 04.8	+1.7
KSP				*e*Sg	Sg	08 15 13.4	+1.6
KSP	Ksiaz	0.65	169	*e*Pg	Pg	08 15 04.9	+1.8
KSP				*e*Sg	Sg	08 15 13.7	+1.9
UPC	Upice	0.98	183	*e*PG	Pg	08 15 10.9	+1.3
DPC	Dobruska-Polom	1.14	173	*e*PG	Pg	08 15 13.7	+0.8
DPC				*e*SG	Sg	08 15 28.9	+0.8
	25nm,0.3s						
PVCC	Panska Ves	1.36	226	*e*PG	Pg	08 15 17.9	+0.8
BRG	Berggiesshubel	1.49	247	*i* Pg	Pg	08 15 20.5	+0.8
BRG				*i* Sg	Sg	08 15 40.5	+1.0
PRU	Pruhonice	1.79	214	PG	Pg	08 15 25.3	-0.5
PRU				*i* x	x	08 15 28.6	
PRU				*i* x	x	08 15 42.4	
PRU				SG	Sg	08 15 49.1	-0.6
	20nm,0.4s						
MORC	Moravsky Berou	1.94	151	*e*Pn	Pn	08 15 24.4	-0.2
MORC				*e*Sn	Sn	08 15 48.8	-1.3
CLL	Collm	1.94	266	*i* PG	Pg	08 15 28.3	-0.5
CLL				*i* SG	Sg	08 15 54.6	-0.2
OKC	Ostrava-Krasne	2.10	141	*e*PG	Pg	08 15 32.4	+0.4
OKC				*e*SG	Sg	08 15 59.4	-0.6
NKC	Novy Kostel	2.63	243	*e*PG	Pg	08 15 42.3	-0.2
NKC				*e*SG	Sg	08 16 15.5	-2.0
OJC	Ojcow	2.67	117	*e*PG	Pg	08 15 42.0	-1.3
OJC				*e*SG	Sg	08 16 17.0	-1.8
OJC	Ojcow	2.67	117	*e*Pg	Pg	08 15 42.3	-1.0
OJC				*e*Sg	Sg	08 16 17.5	-1.3
KHC	Kasperske Hory	2.85	215	*e*PN	Pn	08 15 40.1	+2.4
KHC				*e*PG	Pg	08 15 44.7	-2.3
KHC				*e*SN	Sn	08 16 13.5	+0.3
KHC				*e*SG	Sg	08 16 23.3	-1.8
MOA	Molln	3.83	199⇑	*i*PN	Pn	08 15 52.9	+1.4
MOA				*i* SG	Sg	08 16 56.7	-0.7
	7.7nm,0.6s						

IDC 08 08:21:47.2±46.0, **16.83S**×**177.14W, mb3.9**/3, **mb1 4.1**/3, **mb1mx3.8**/12, **Error ellipse: s-maj=860.0km s-min=161.5km az=78.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
STKA	Stephens Creek	40.21	240	P	P	08 29 26.2	-1.1
	1.0nm,0.8s,baz=84,slow=9.2,SNR=4.9						
WRA	Warramunga Arr	46.03	258	P	P	08 30 12.5	-2.1
	0.5nm,0.7s,baz=96,slow=7.5,SNR=16						
ASAR	Alice Springs	46.25	253	P	P	08 30 14.5	-1.9
	2.9nm,0.5s,baz=88,slow=8.4,SNR=63						

*BJI **08** 08:27:50.7, 10.73S×162.04E, h18km, mB6.4, mb6.1, Ms7.0, Msz6.8*
*MOS **08** 08:27:52.7±1.0, 10.78S×162.15E, h33km, mb6.2/49, MS6.9/29, Error ellipse: s-maj=9.5km s-min=6.7km az=58.6*
*IDC **08** 08:27:53.2±1.3, 10.78S×162.15E, h34km±8km, mb5.8/18, mb1 5.9/19, mb1mx5.9/19, ML5.8/1, MS6.6/18, Ms1 6.6/18, ms1mx6.5/20, Error ellipse: s-maj=10.9km s-min=9.8km az=77.0*
*HRVD **08** 08:27:53.5±0.1, 10.87S×162.27E, h40km, MW6.7/89, Centroid moment Tensor Solution. LP body waves: s89,c241; Mantle waves: s86,c202; Half duration: 5s7 Moment tensor: Scale 10^{19}Nm; M_{rr}0.55±.01; $M_{\theta\theta}$0.05±.01; $M_{\phi\phi}$-0.60±.01; $M_{r\theta}$0.63±.01; $M_{\theta\phi}$1.05; $M_{\phi r}$0.92±.01; Best double couple: $M_0$1.61×10^{19} NP1:ϕ_s108°, δ51°, λ23°. NP2:ϕ_s3°, δ72°, λ138°. Principal axes: T 1.77, Plg42°, Azm318°; N -.31, Plg45°, Azm164°; P -1.46, Plg13°, Azm60°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to mantle waves, cutoff=125s.*
*SYO **08** 08:27:53.3, 11.00S×162.16E, h36km, MB6.1, MS6.9*
*NEIC **08** 08:27:53.5±0.1, 10.95S×162.16E, h36km, mb6.1/74, ME6.8, MS6.9/123, MW6.8, Error ellipse: s-maj=4.6km s-min=2.9km az=157.0 Broadband fault plane solution: P waves. NP1:ϕ_s15°, δ70°, λ140°. NP2:ϕ_s121°, δ53°, λ25°. Principal axes: T Plg42°, Azm332°; N Plg0°, Azm0°; P Plg11°, Azm72°; Moment Tensor Solution. s53 Moment tensor: Scale 10^{19} Nm; M_{rr}0.77; $M_{\theta\theta}$0.41; $M_{\phi\phi}$-1.19; $M_{r\theta}$0.52; $M_{\theta\phi}$0.64; $M_{\phi r}$0.61; Best double couple: $M_0$1.5×10^{19} NP1:ϕ_s127°, δ48°, λ32°. NP2:ϕ_s14°, δ67°, λ134°. Principal axes: T 1.43, Plg49°, Azm331°; N .06, Plg39°, Azm174°; P -1.49, Plg11°, Azm74°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
*IGIL **08** 08:27:54.6, 10.80S×162.20E, h37km, MS7.1*
ISC 08 08:27:52.4±0.1, **10.94S**±0.02×**162.12E**±0.02, **h38**km±.9km**:pP-P, n1200, σ0s98**/518, **mb6.2**/136, **MS6.8**/180, **128C-30D, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
BKM	Butte a Klehm	8.94	139⇑	*i*P	P	08 29 59.0	-3.0
NOUC	Port Laguerre	11.80	161	*e*P	P	08 30 40.0	-1.2
NOUC				*e*S	S	08 32 45.3	-7.4
DZM	Mont Dzumac	11.82	160	*e*P	P	08 30 39.4	-2.1
DZM				*e*S	S	08 32 38.2	-15
RAB	Rabaul	11.92	303	*e*P	P	08 30 47.0	+4.1
PMG	Port Moresby	14.80	275	*e*P	P	08 31 27.7	+6.6
WAU	Wau	15.62	282	*e*P	P	08 31 37.7	+6.1
FUNA	Funafuti	17.01	83	P	P	08 31 45.1	-4.0
FUNA				S	S	08 34 55.7	+0.1
CTA	Charters Tower	17.77	237	P	P	08 32 02.6	+3.8
	21nm,0.3s,baz=71,slow=13,SNR=295						
CTA				S	S	08 35 27.6	+15
	5.1nm,0.3s,baz=357,slow=13,SNR=2.9						
CTAO	Charters Tower	17.77	237	*e*P	P	08 32 02.2	+3.5
CTAO				pmax	pmax		
	comp=Z,430nm,0.8s						
CTAO	Charters Tower	17.77	237	*e*P	P	08 32 02.2	+3.5
	comp=Z,425nm,0.8s						
YOMI	Yo Moklole	22.92	290⇑	*e*P	P	08 32 54.8	+0.4
MENI	Mendum Tagoi	23.10	290	*e*P	P	08 32 56.8	+0.7
OUZ	Omahuta	26.33	158	P	P	08 33 28.0	+1.2
WCZ	Waipu Caves	27.25	158	P	P	08 33 36.0	+0.8
STKA	Stephens Creek	28.17	219	P	P	08 33 44.4	+0.8
	comp=Z,79nm,0.6s,mb5.5,baz=37,slow=11,SNR=107						
STKA				PcP	PcP	08 36 57.1	+0.1
	comp=Z,74nm,0.8s,baz=8.1,slow=14,SNR=2.3						
STKA				S	S	08 38 37.7	+13
	comp=Z,52nm,1.1s,baz=76,slow=12,SNR=1.8						
STKA				LR	LR	08 44 57.1	
	comp=Z,305μm,19.2s,MS6.9,baz=40,slow=36						
STKA				P3KPbc		09 06 04.0	
	comp=Z,4.4nm,0.8s,baz=261,slow=2.9,SNR=6.7						
STKA	Stephens Creek	28.17	219	P	P	08 33 44.4	+0.8
STKA				PcP	PcP	08 36 57.1	+0.1
STKA				S	S	08 38 37.7	+13
STKA				LR	LR	08 44 57.1	
STKA				*e*		09 06 04.0	
WRAB	Tennant Creek	28.18	248	P	P	08 33 44.0	+0.2
	comp=Z,3μm,0.6s,mb7.1						
WRAB	Tennant Creek	28.18	248	*e*P	P	08 33 44.1	+0.3
	comp=Z,645nm,0.9s,mb6.3						
WRAB				LR	LR		
	comp=Z,209μm,20.0s,MS6.7						
WRA	Warramunga Arr	28.20	248	P	P	08 33 43.9	0.0
	comp=Z,170nm,0.7s,mb5.8,baz=75,slow=9.2,SNR=477						
WRA				PcP	PcP	08 36 56.7	-0.5
	comp=Z,111nm,0.9s,baz=84,slow=2.9,SNR=6.8						
WRA				S	S	08 38 38.7	+13
	comp=Z,22nm,1.0s,baz=73,slow=14,SNR=3.2						
WRA				PKiKP		08 44 30.0	
	comp=Z,9.3nm,0.9s,baz=343,slow=0.5,SNR=10						
WRA				P3KPbc		09 06 03.3	
	comp=Z,2.0nm,1.0s,baz=261,slow=3.2,SNR=5.0						
WRA	Warramunga Arr	28.20	248	P	P	08 33 43.9	0.0
WRA						08 36 56.7	
WRA				*i*		08 44 30.0	
WRA				pmax	pmax		
	comp=Z,170nm,0.7s						
KUZ	Kuaotunu	28.48	157	P	P	08 33 46.8	+0.5
ASAR	Alice Springs	29.69	241	P	P	08 33 57.0	-0.1
	comp=Z,170nm,0.6s,mb5.9,baz=73,slow=9.5,SNR=670						
ASAR				PcP	PcP	08 37 00.5	-0.4
	comp=Z,75nm,0.9s,baz=76,slow=3.4,SNR=4.7						
ASAR				S	S	08 38 55.6	+6.5
	comp=Z,30nm,1.0s,baz=77,slow=12,SNR=3.8						
ASAR				ScP		08 40 39.5	
	comp=Z,28nm,0.9s,baz=70,slow=3.5,SNR=5.7						
ASAR				PKiKP		08 44 32.1	
	comp=Z,3.1nm,0.7s,baz=105,slow=1.5,SNR=5.0						
ASAR				LR	LR	08 45 14.8	
	comp=Z,180μm,21.2s,MS6.7,baz=62,slow=35						
ASAR				P3KPbc		09 05 57.2	
	comp=Z,4.2nm,1.1s,baz=231,slow=4.1,SNR=11						
HIZ	Hauiti	29.73	160	P	P	08 33 58.3	+0.9
GUMO	Guam	29.78	325	*e*P	P	08 33 58.3	+0.3
	comp=Z,389nm,0.8s,mb6.2						
GUMO				LR	LR		
	comp=Z,192μm,21.0s,MS6.7						
URZ	Urewera	30.34	156	P	P	08 34 02.6	-0.3
	comp=Z,91nm,0.8s,mb5.5,baz=342,slow=5.3,SNR=18						
URZ				S	S	08 39 02.3	+3.0
	comp=Z,6.0nm,0.6s,baz=348,slow=21,SNR=2.4						
URZ				LR	LR	08 44 43.0	
	comp=Z,154μm,18.8s,MS6.7,baz=329,slow=33						
MGZ	Maungaku	30.40	159	P	P	08 34 04.2	+0.8
MWZ	Matawai	30.57	156	P	P	08 34 04.8	-0.1
NGZ	Ngauruhoe	30.58	159	P	P	08 34 05.8	+0.8
CNZ	Chateau	30.58	159	P	P	08 34 06.7	+1.7
PUZ	Puketiti	30.65	155	P	P	08 34 03.8	-1.8
DRZ	Dome Shelter	30.66	159	P	P	08 34 06.8	+1.1
TUVZ	Tukino	30.68	159	P	P	08 34 07.6	+1.7
BKZ	Black Stump Fm	30.89	158	P	P	08 34 06.9	-0.8
TSZ	Takapari Road	31.50	159	P	P	08 34 12.4	-0.6
SARN	Sarigan	31.87	329	*e*P	P	08 34 16.4	-0.1
MRZ	Mangatainoka R	31.91	160	P	P	08 34 15.6	-1.0
ADE	Adelaide	32.03	218	*e*P	P	08 34 19.0	+1.2
THZ	Tophouse	32.13	165	P	P	08 34 18.3	-0.3
WVZ	Waitaha Valley	32.89	168	P	P	08 34 23.9	-1.2
KHZ	Kahutara	32.91	164	P	P	08 34 23.4	-2.0
LTZ	Lake Taylor	32.94	166	P	P	08 34 25.2	-0.4
JCZ	Jackson Bay	33.51	171	P	P	08 34 31.2	+0.7
RPZ	Rata Peaks	33.56	168	P	P	08 34 30.6	-0.4
	comp=Z,272nm,0.8s,mb6.2,baz=333,slow=0.8,SNR=93						
RPZ				S	S	08 39 47.3	-2.3
	comp=Z,3.9nm,0.7s,baz=200,slow=22,SNR=1.7						
RPZ				LR	LR	08 47 15.5	
	comp=Z,106μm,18.6s,MS6.6,baz=338,slow=34						
RPZ	Rata Peaks	33.56	168	P	P	08 34 29.7	-1.3
MQZ	McQueen’s Vall	33.90	166	P	P	08 34 33.6	-0.3
LBZ	Lake Benmore	34.05	170	P	P	08 34 34.2	-0.9
TAU	Tasmania Unive	34.36	199	*e*P	P	08 34 40.2	+2.4
	comp=Z,208nm,1.1s,mb6.0						
TAU				LR	LR		
	comp=Z,18μm,19.0s,MS5.8						
ODZ	Otahua Downs	34.77	169	P	P	08 34 40.3	-1.0
TUZ	Tuapeka	35.48	171	P	P	08 34 47.7	+0.3
FITZ	Fitzroy Crossi	35.97	254	P3KPbc		09 05 30.0	
	comp=Z,2.6nm,0.9s,baz=214,slow=7.4,SNR=4.6						
RAR	Rarotonga	37.93	110	P	P	08 35 06.2	-2.0
	comp=Z,45nm,0.7s,mb5.3,baz=303,slow=6.9,SNR=5.3						
RAR				S	S	08 41 00.2	+3.4
	comp=Z,15nm,0.7s,baz=79,slow=22,SNR=2.0						
RAR				LR	LR	08 48 05.2	
	comp=Z,47μm,20.2s,MS6.3,baz=273,slow=32						
RAR	Rarotonga	37.93	110	*e*P	P	08 35 06.1	-2.1
	comp=Z,4μm,2.5s,mb6.7						
RAR				LR	LR		
	comp=Z,50μm,21.0s,MS6.3						
MATI	Mati	39.87	295	*e*P	P	08 35 22.8	-1.6
DAV	Davao City (W)	40.53	295⇓	*e*P	P	08 35 31.0	+1.1
KCP	Kidapawan	40.94	294⇓	*e*P	P	08 35 34.6	+1.3
BUKP	Musuan	41.34	295	*e*P	P	08 35 37.5	+0.9
BUTP	Butuan	41.34	297	*e*P	P	08 35 37.2	+0.6
CTBH	Cotabato--PC H	41.79	294	*e*P	P	08 35 40.9	+0.5
MBWA	Marble Bar	41.87	251	*e*P	P	08 35 41.8	+0.9
	comp=Z,985nm,1.0s,mb6.4						
MBWA				LR	LR		
	comp=Z,224μm,21.0s,MS7.0						
NINI	Niniconang	42.44	275⇑	*e*P	P	08 35 45.2	-0.6
CBIJ	Chichi jima	42.47	333	P	P	08 35 44.9	-0.9
	comp=Z,1μm,0.8s,mb6.6,baz=190,slow=3.1,SNR=48						
CBIJ				S	S	08 42 00.7	-4.2
	comp=Z,86nm,1.1s,baz=304,slow=21,SNR=5.2						
MSLP	Maasin	42.55	298	*e*P	P	08 35 47.5	+0.9
BESP	Borongan	42.77	300	*e*P	P	08 35 48.7	+0.2
PAGZ	Pagadian	42.83	294	*e*P	P	08 35 49.6	+0.7
PLP	Palo	42.95	300	*e*P	P	08 35 49.7	-0.2
DCPH	Dipolog City	43.17	295⇓	*e*P	P	08 35 52.4	+0.6
OCLP	Ormoc	43.21	299	*e*P	P	08 35 52.4	+0.4
TBP	Tagbilaran	43.22	297	*e*P	P	08 35 52.3	+0.2
LLP	Lapu-Lapu	43.41	298	*e*P	P	08 35 53.4	-0.3
	comp=Z,411μm,0.9s						
SNPH	Sibulan	43.61	296	*e*P	P	08 35 56.0	+0.7
MIDW	Midway	43.69	27	*e*P	P	08 35 59.0	+3.2
	comp=Z,384nm,1.0s,mb6.1						
CNP	Catarman	43.88	301	*e*P	P	08 35 57.6	+0.1
GUIM	Jordan	44.76	297	*e*P	P	08 36 04.8	+0.4
PVCP	Virac	44.86	302	*e*P	P	08 36 05.5	+0.2
RCP	Roxas	45.05	299	*e*P	P	08 36 08.2	+1.4
KEDI	Kedomdong	45.38	269⇑	*e*P	P	08 36 08.8	-0.7
	comp=Z,2μm,0.6s,mb7.1						
RATI	Rata	45.92	268⇑	*e*P	P	08 36 13.2	-0.6
AUQP	San Andres	45.96	301	*e*P	P	08 36 16.4	+2.2
OTRP	Odiongan	46.06	299	*e*P	P	08 36 14.7	-0.2
CUYO	Cuyo Island	46.23	297	*e*P	P	08 36 17.4	+1.2
GQP	Guinayangan	46.45	301⇑	*e*P	P	08 36 18.1	+0.3
NWAO	Narrogin (SRO)	46.59	235	LR	LR	08 56 11.1	
	comp=Z,246μm,18.8s,MS7.2,baz=41,slow=36						
NWAO	Narrogin (SRO)	46.59	235	P	P	08 36 19.6	+0.8
NWAO				pmax	pmax		
	comp=Z,460nm,1.1s						
NWAO	Narrogin (SRO)	46.59	235	*e*P	P	08 36 19.3	+0.5
	comp=Z,460nm,1.1s,mb6.3						
NWAO				*e*PP	PP	08 38 10.4	+2.2
NWAO				LR	LR		
	comp=Z,158μm,21.0s,MS7.0						
BOAC	Boac	46.73	300	*e*P	P	08 36 19.7	-0.5
SJMP	San Jose	46.88	299	*e*P	P	08 36 21.5	+0.2
KELI	Kelakatan	47.01	269⇑	*e*P	P	08 36 21.8	-0.5
	comp=Z,3μm,0.5s						
PAE	Paea	47.18	104	*e*P	P	08 36 22.5	-1.1
	comp=Z,1μm,1.3s,mb6.6						
PAE				*e*sP	sP	08 36 32.4	-6.8
PPT	Papeete	47.18	104	P	P	08 36 23.0	-0.6
	comp=Z,233nm,1.1s,mb6.0,baz=256,slow=3.1,SNR=14						
PPT	Papeete	47.18	104	*e*P	P	08 36 22.8	-0.8
	comp=Z,355nm,1.4s,mb6.1						
PPT				*e*sP	sP	08 36 33.1	-6.1
PPT	Papeete	47.18	104	*e*L		08 47 56.2	
PPT				*e*R		08 49 40.7	
	comp=Z,213μm,30.5s,baz=284						
PPT	Papeete	47.18	104	P	P	08 36 23.0	-0.6
PPT				pmax	pmax		
	comp=Z,233nm,1.1s						
POLP	Polilio Island	47.28	302	*e*P	P	08 36 23.5	-1.0
SRDI	Scrawed	47.31	269⇑	*e*P	P	08 36 23.6	-1.1
	comp=Z,2μm,0.8s,mb7.1						
TIAR	Tiarei	47.40	104	*e*P	P	08 36 24.5	-0.9
	comp=Z,2μm,1.4s,mb6.8						
TIAR				*e*sP	sP	08 36 34.4	-6.5
BUSP	Coron	47.47	297	*e*P	P	08 36 24.5	-1.4
TVO	Taravao	47.49	104	*e*P	P	08 36 25.3	-0.8
	comp=Z,1μm,1.2s,mb6.7						
TVO				*e*sP	sP	08 36 35.1	-6.6
TBI	Tubuai	47.68	112	*e*P	P	08 36 26.6	-0.9
	comp=Z,579nm,1.0s,mb6.5						
TBI				*e*sP	sP	08 36 36.7	-6.3
TBI				*e*L		08 48 05.4	
TBI				*e*R		08 50 10.4	
	comp=Z,191μm,32.8s,baz=282						
PPR	Puerto Princes	47.80	294⇑	*i*P	P	08 36 28.2	-0.4
PALP	Palanan	48.10	305	*e*P	P	08 36 31.2	+0.4
BALP	Baler	48.10	303	*e*P	P	08 36 39.8	+9.0
LUBP	Lubang	48.23	300	*e*P	P	08 36 29.6	-2.2
LUBP	Lubang	48.23	300	*e*P	P	08 36 30.6	-1.2
BATP	Bataraza	48.25	292	*e*P	P	08 36 32.7	+0.6
CAUP	Cauayan	48.52	304	*e*P	P	08 36 35.1	+1.0
MEH	Mehetia	48.63	104	*e*P	P	08 36 33.9	-1.0
	comp=Z,780nm,1.2s,mb6.6						
MEH				*e*sP	sP	08 36 43.8	-6.6
KKM	Kota Kinabalu	48.70	288⇓	*e*P	P	08 36 35.2	-0.4
	comp=Z,589nm,0.9s,mb6.6						
JHJ	Hachijo jima 2	48.71	335	P	P	08 36 35.8	+0.4
	comp=Z,4μm,0.8s,baz=179,slow=8.8,SNR=42						
JHJ				S	S	08 43 27.4	-6.7
	comp=Z,280nm,0.9s,baz=248,slow=23,SNR=2.5						
PMOR	Pomariorio Ree	48.80	100	*e*P	P	08 36 35.5	-0.8
	comp=Z,1μm,1.5s,mb6.7						
PMOR				*e*sP	sP	08 36 45.8	-6.0
CVP	Callao Caves	48.92	305	*e*P	P	08 36 38.0	+0.8
SGCP	Mt. Cagua	49.04	306	*e*P	P	08 36 37.2	-0.9
VAH	Vaihoa	49.05	101	*e*P	P	08 36 36.9	-1.3
	comp=Z,1μm,1.4s,mb6.7						
VAH				*e*sP	sP	08 36 47.3	-6.5
BCPH	Baguio City Da	49.25	303⇑	*i*P	P	08 36 39.0	-0.7
APYP	Conner	49.48	305	*e*P	P	08 36 41.4	0.0
SCZP	Santa Cruz	49.50	302	*e*P	P	08 36 40.6	-1.0
HON	Honolulu	50.62	51	P	P	08 36 49.6	-0.5
HON				*e*	pP	08 37 01.6	+0.5
HON	Honolulu	50.62	51	*e*P	P	08 36 49.1	-1.0
HON				*e*pP	pP	08 37 00.6	-0.5
KIP	Kipapa	50.66	51	P	P	08 36 49.0	-1.5
KIP				pmax	pmax		
	comp=Z,250nm,1.0s,mb6.1						
KIP	Kipapa	50.66	51	*e*P	P	08 36 48.5	-2.0
	comp=Z,252nm,0.9s,mb6.2						
KIP				LR	LR		
	comp=Z,99μm,20.0s,MS6.8						
SPT	South Point	51.14	55	*e*P	P	08 36 52.6	-1.6
KKH	Kailua Kona	51.23	54	P	P	08 36 54.4	-0.3
KKH	Kailua Kona	51.23	54	*e*P	P	08 36 53.4	-1.4
DAH	Dandelion	51.34	54⇓	*e*P	P	08 36 54.0	-1.6
KIH	Kanekii	51.35	54⇑	*e*P	P	08 36 54.2	-1.4

RCO	**Red Cone**	**51.40**	**54**⇑	*e*P		**P**	**08 36 54.7**	**-1.4**
WOH	**Wood Valley**	**51.42**	**55**⇑	*e*P		**P**	**08 36 54.4**	**-1.8**
SWH	**Southwest Rift**	**51.45**	**54**⇑	*e*P		**P**	**08 36 55.0**	**-1.4**
MWH	**Mokuaweoweo**	**51.47**	**54**⇑	*e*P		**P**	**08 36 55.3**	**-1.3**
WIH	**Wilkes Camp**	**51.47**	**54**⇑	*e*P		**P**	**08 36 55.3**	**-1.3**
DES	**Desert**	**51.56**	**55**⇑	*e*P		**P**	**08 36 55.8**	**-1.5**
HKL	**Haleakala**	**51.61**	**52**	P		**P**	**08 36 57.2**	**-0.4**
HKL	**Haleakala**	**51.61**	**52**	*e*P		**P**	**08 36 56.4**	**-1.3**
WKH	**Waikii**	**51.62**	**54**⇑	*e*P		**P**	**08 36 56.5**	**-1.2**
HMH	**Humuula**	**51.62**	**54**⇑	*e*P		**P**	**08 36 56.6**	**-1.1**
CPK	**Cone Peak**	**51.64**	**55**⇓	*e*P		**P**	**08 36 56.6**	**-1.3**
MLH	**Mauna Loa**	**51.64**	**54**⇓	*e*P		**P**	**08 36 56.9**	**-1.0**
PWH	**Poliokeawe Pal**	**51.66**	**55**	*e*P		**P**	**08 36 56.8**	**-1.2**
POHA	**Pohakuloa**	**51.67**	**54**	*e*P		**P**	**08 36 56.3**	**-1.7**
	comp=Z,657nm,0.9s,mb6.6							
POHA				LR		LR		
	comp=Z,110μm,21.0s,MS6.9							
OUT	**Outlet**	**51.67**	**55**	*e*P		**P**	**08 36 56.6**	**-1.4**
RSD	**Rainshed**	**51.71**	**54**⇑	*e*P		**P**	**08 36 56.8**	**-1.6**
PUH	**Pauahi**	**51.71**	**55**⇑	*e*P		**P**	**08 36 57.1**	**-1.3**
HPU	**Hale Pohaku**	**51.74**	**54**⇑	*e*P		**P**	**08 36 57.7**	**-0.9**
KKU	**Keanakolu**	**51.89**	**54**⇑	*e*P		**P**	**08 36 58.7**	**-1.0**
HUL	**Heiheiahulu**	**51.93**	**55**⇑	*e*P		**P**	**08 36 58.8**	**-1.2**
NGH	**National Guard**	**52.04**	**54**⇑	*e*P		**P**	**08 36 59.3**	**-1.5**
MAJO	**Matsushiro**	**52.32**	**336**	P		**P**	**08 37 01.8**	**-0.9**
MAJO				S		**S**	**08 44 25.5**	**+1.5**
MAJO	**Matsushiro**	**52.32**	**336**	P		**P**	**08 37 01.6**	**-1.1**
MAJO				pmax		pmax		
	comp=Z,300nm,0.8s,mb6.3							
MAJO	**Matsushiro**	**52.32**	**336**	*e*P		**P**	**08 37 01.9**	**-0.9**
	comp=Z,298nm,0.8s,mb6.3							
MAJO				LR		LR		
	comp=Z,60μm,19.0s,MS6.7							
MAT	**Matsushiro**	**52.32**	**336**	P		**P**	**08 37 01.8**	**-0.9**
MAT				S		**S**	**08 44 23.0**	**-1.0**
MAT	**Matsushiro**	**52.32**	**336**	*e*P		**P**	**08 37 02.0**	**-0.7**
	comp=Z,416nm,1.0s,mb6.3							
MAT				*e*S		**S**	**08 44 23.0**	**-1.0**
TATO	**Taipei**	**53.32**	**313**	*e*P		**P**	**08 37 10.5**	**+0.1**
	comp=Z,225nm,0.8s,mb6.2							
TATO				LR		LR		
	comp=Z,171μm,20.0s,MS7.1							
QZH	**Quanzhou**	**55.43**	**311**⇑	*i*P		**P**	**08 37 25.7**	**-0.1**
QZH				S		**S**	**08 45 08.8**	**+2.6**
QZH				AMB		AMB		
	comp=Z,220nm,0.9s,mb6.2							
QZH				LR		LR		
	comp=N,44μm,18.6s,MS7.1							
QZH				LR		LR		
	comp=E,140μm,19.6s,MS7.1							
QZH				LR		LR		
	comp=Z,161μm,21.4s,MS7.1							
ERM	**Erimo**	**55.50**	**343**	P		**P**	**08 37 27.4**	**+1.4**
	comp=Z,3μm,1.2s,mb7.2,SNR=67							
PASI	**Pasiripis**	**55.96**	**269**⇓	*e*P		**P**	**08 37 29.2**	**-0.5**
	comp=Z,3μm,0.8s							
PENI	**Pendagan**	**56.54**	**271**⇓	*e*P		**P**	**08 37 32.6**	**-1.3**
	comp=Z,260nm,0.4s,mb6.6							
YUK	**Yuzh-Kuril'sk**	**56.67**	**346**⇑	*i*P		**P**	**08 37 34.0**	**-0.5**
YUK				*e*			08 39 45.0	
YUK				*i* S		**S**	**08 45 20.0**	**-2.4**
YUK				*e*			08 47 21.0	
YUK				*e*SS		SS	08 49 05.0	-6.1
YUK				*e*SSS		SSS	08 51 23.0	-0.5
YUK				pmax		pmax		
	comp=Z,640nm,1.0s,mb6.6							
YUK				pmax		pmax		
	comp=Z,46μm,6.0s							
YUK				pmax		pmax		
	comp=N,40μm,4.0s							
YUK				pmax		pmax		
	comp=E,12μm,5.0s							
YUK				smax				
	comp=N,21μm,6.0s							
YUK				smax				
	comp=E,15μm,8.0s							
SSE	**Sheshan**	**57.34**	**318**	⇑P		**P**	**08 37 38.6**	**-0.8**
SSE				AP		pP	08 37 51.2	+0.6
SSE				XP		sP	08 37 55.5	+0.4
SSE				AMB		AMB		
	comp=Z,311nm,1.0s,mb6.3							
SSE				LR		LR		
	comp=N,18μm,22.7s,MS6.5							
SSE				LR		LR		
	comp=E,43μm,22.7s,MS6.5							
SSE				LR		LR		
	comp=Z,50μm,19.1s,MS6.6							
HKC	**Hong Kong**	**57.45**	**305**⇑	*i*P		**P**	**08 37 42.0**	**+1.7**
HKC				*i* S		**S**	**08 45 46.0**	**+13**
ASAJ	**Asahikawa**	**57.59**	**343**	PKPPKP			09 07 24.6	
	comp=Z,29nm,1.3s,baz=270,slow=5.6,SNR=3.7							
DRV	**Dumont d'Urvil**	**57.63**	**190**	P		**P**	**08 37 46.0**	**+5.0**
DRV				SP		SP	08 45 35.0	-12
DRV				L			08 52 00.0	
DRV				R			08 55 00.0	
KS15	**Wonju Array Si**	**57.85**	**328**	*e*P		**P**	**08 37 42.7**	**-0.1**
GZH	**Guangzhou**	**58.50**	**306**	P		**P**	**08 37 46.7**	**-0.9**
GZH				S		**S**	**08 45 52.5**	**+5.9**
GZH				LR		LR		
	comp=N,22μm,20.8s,MS6.7							
GZH				LR		LR		
	comp=E,50μm,20.8s,MS6.7							
GZH				LR		LR		
	comp=Z,90μm,20.8s,MS6.9							
INCN	**Inchon**	**58.54**	**327**	P		**P**	**08 37 47.6**	**-0.1**
INCN				S		**S**	**08 45 50.7**	**+3.8**
INCN	**Inchon**	**58.54**	**327**	*e*P		**P**	**08 37 47.3**	**-0.4**
	comp=Z,935nm,1.2s,mb6.7							
INCN				LR		LR		
	comp=Z,79μm,22.0s,MS6.8							
NJ2	**Nanjing**	**59.49**	**318**	*e*P		**P**	**08 37 54.5**	**+0.2**
NJ2				AP		pP	08 38 05.8	+0.2
NJ2				XP		sP	08 38 09.5	-0.5
NJ2				PP		PP	08 40 08.2	+0.6
NJ2				S		**S**	**08 46 04.0**	**+4.7**
NJ2				SCS		ScS	08 47 42.0	+4.4
NJ2				AMB		AMB		
	comp=Z,650nm,1.0s,mb6.6							
NJ2				AMB		AMB		
	comp=Z,4μm,8.2s							
NJ2				LR		LR		
	comp=N,89μm,22.4s,MS7.0							
NJ2				LR		LR		
	comp=E,110μm,24.3s,MS7.0							
QIZ	**Qiongzhong**	**59.51**	**300**⇑	*i*P		**P**	**08 37 52.6**	**-2.1**
QIZ				XP		sP	08 38 08.1	-2.2
QIZ				S		**S**	**08 46 01.3**	**+1.5**
QIZ				PS		PS	08 46 25.5	+5.6
QIZ				AMB		AMB		
	comp=Z,197nm,1.3s,mb6.0							
QIZ				LR		LR		
	comp=E,46μm,26.0s							
QIZ				LR		LR		
	comp=Z,111μm,26.0s,MS6.9							
QIZ	**Qiongzhong**	**59.51**	**300**	*e*P		**P**	**08 37 54.8**	**+0.1**
	comp=Z,128nm,0.4s,mb6.3							
YSS	**Yuzh-Sakhalins**	**60.17**	**345**α	*e*P		**P**	**08 37 59.0**	**+0.2**
YSS				*i* *PP		pP	08 38 10.8	+0.7
YSS				*i* *SP		sP	08 38 15.5	+1.0
YSS				*e*			08 38 51.0	
YSS				*e*			08 40 20.0	
YSS				*i* S		**S**	**08 46 08.0**	**0.0**
YSS				*e*PS		PS	08 46 24.0	-4.6
YSS				*e**SS			08 46 27.7	
YSS				*e*PPS		PPS	08 46 30.0	-6.9
YSS				*e*SSS		SSS	08 52 39.0	-0.7
YSS				pmax		pmax		
	comp=N,2μm,2.4s							
YSS				pmax		pmax		
	comp=Z,4μm,2.4s,mb7.0							
YSS				pmax		pmax		
	comp=E,190nm,0.9s							
YSS				pmax		pmax		
	comp=Z,26μm,5.0s							
YSS				pmax		pmax		
	comp=N,12μm,4.0s							
YSS				smax				
	comp=N,13μm,10.0s							
YSS				smax				
	comp=E,8μm,15.0s							
YSS	**Yuzh-Sakhalins**	**60.17**	**345**	*e*P		**P**	**08 37 58.9**	**0.0**
	comp=E,441nm,1.0s,mb6.4							
YSS				LR		LR		
	comp=Z,90μm,21.0s,MS6.9							
VLA	**Vladivostok**	**60.47**	**335**⇓	*i*P		**P**	**08 38 00.0**	**-0.9**
VLA				*i*			08 38 16.0	
VLA				*i*			08 40 09.0	
VLA				*i* S		**S**	**08 46 09.0**	**-2.8**
VLA				*i* PS		PS	08 46 43.0	+11
VLA				*i* SS		SS	08 50 12.0	+0.8
VLA				pmax		pmax		
	comp=Z,24μm,5.0s							
VLA				pmax		pmax		
	comp=N,12μm,6.0s							
VLA				pmax		pmax		
	comp=E,5μm,6.0s							
VLA				pmax		pmax		
	comp=E,5μm,8.0s							
VLA				pmax		pmax		
	comp=Z,9μm,8.0s							
VLA				pmax		pmax		
	comp=N,5μm,9.0s							
VLA				smax				
	comp=N,16μm,10.0s							
VLA				smax				
	comp=E,6μm,8.0s							
VLA				MLR		MLR		
	comp=N,29μm,19.0s,MS6.5							
VLA				MLR		MLR		
	comp=E,14μm,18.0s,MS6.5							
VLA				MLR		MLR		
	comp=Z,36μm,18.0s,MS6.6							
RKT	**Rikitea**	**60.97**	**110**	*e*P		**P**	**08 38 03.0**	**-1.6**
	comp=Z,456nm,1.1s,mb6.5							
RKT				*es*P		sP	08 38 13.1	-7.1
RKT	**Rikitea**	**60.97**	**110**	*e*SS		SS	08 50 30.0	+11
RKT				*eL*			08 53 38.9	
RKT				*eR*			08 56 15.8	
	comp=Z,237μm,30.8s,baz=279							
SKR	**Severo-Kuril's**	**61.58**	**356***c*	*i*P		**P**	**08 38 04.0**	**-4.3**
SKR				*e*		pP	08 38 16.5	-3.1
SKR				*i*		pP	08 38 18.0	-1.6
SKR				*e*			08 40 20.0	
SKR				*e*PPP		PPP	08 41 58.0	+3.1
SKR				*e*S		**S**	**08 46 26.0**	**+0.1**
SKR				*e*PS		PS	08 46 48.0	+0.7
SKR				*e*SS		SS	08 50 20.0	-8.9
SKR				*e*SSS		SSS	08 53 00.0	-9.4
SKR				pmax		pmax		
	comp=N,8μm,10.0s							
SKR				pmax		pmax		
	comp=Z,16μm,10.0s							
SKR				pmax		pmax		
	comp=E,10μm,6.0s							
SKR				pmax		pmax		
	comp=Z,240nm,0.8s,mb6.4							
SKR				pmax		pmax		
	comp=N,270nm,1.0s							
SKR				pmax		pmax		
	comp=E,360nm,1.0s							
SKR				smax				
	comp=E,30μm,12.0s							
SKR				smax				
	comp=Z,21μm,12.0s							
SKR				smax				
	comp=N,20μm,14.0s							
SKR				MLR		MLR		
	comp=N,44μm,18.0s,MS6.7							
SKR				MLR		MLR		
	comp=E,26μm,18.0s,MS6.7							
SKR				MLR		MLR		
	comp=Z,74μm,18.0s,MS6.9							
WHN	**Wuhan**	**61.70**	**313**	⇓P		**P**	**08 38 08.5**	**-0.9**
WHN				PP		PP	08 40 24.0	-3.5
WHN				S		**S**	**08 46 26.0**	**-1.6**
WHN				AMB		AMB		
	comp=Z,285nm,1.5s,mb6.2							
WHN				LR		LR		
	comp=N,40μm,19.3s,MS7.0							
WHN				LR		LR		
	comp=E,95μm,19.6s,MS7.0							
WHN				LR		LR		
	comp=Z,175μm,19.9s,MS7.2							
DL2	**Dalian**	**62.30**	**325**⇑	*i*P		**P**	**08 38 12.9**	**-0.4**
DL2				XP		sP	08 38 29.3	+0.3
DL2				PP		PP	08 40 33.0	+0.4
DL2				S		**S**	**08 46 37.7**	**+2.6**
DL2				XS			08 46 49.4	
DL2				AMB		AMB		
	comp=Z,260nm,1.1s,mb6.3							
DL2				LR		LR		
	comp=N,20μm,20.0s,MS6.4							
DL2				LR		LR		
	comp=E,21μm,20.0s,MS6.4							
DL2				LR		LR		
	comp=Z,42μm,21.2s,MS6.6							
MDJ	**Mudanjiang**	**62.65**	**334**	P		**P**	**08 38 15.7**	**+0.2**
MDJ				AP		pP	08 38 25.0	-1.9
MDJ				XP		sP	08 38 28.9	-2.3
MDJ				PP		PP	08 40 34.4	-0.9
MDJ				S		**S**	**08 46 44.2**	**+4.8**
MDJ				SCS		ScS	08 48 04.4	+3.4
MDJ				SS		SS	08 50 48.8	+2.7
MDJ				AMB		AMB		
	comp=Z,549nm,1.0s,mb6.6							
MDJ				LR		LR		
	comp=N,31μm,20.4s,MS6.8							
MDJ				LR		LR		
	comp=E,64μm,22.6s,MS6.8							
MDJ				LR		LR		
	comp=Z,76μm,24.1s,MS6.8							
MDJ	**Mudanjiang**	**62.65**	**334**	*e*P		**P**	**08 38 15.3**	**-0.3**
	comp=Z,613nm,1.0s,mb6.7							
IPM	**Ipoh**	**62.72**	**281**⇑	*e*P		**P**	**08 38 16.0**	**-0.5**
	comp=Z,93nm,0.5s,mb6.2							
TIA	**Tai'an**	**63.20**	**320**	P		**P**	**08 38 17.9**	**-1.5**
TIA				AP		pP	08 38 28.0	-2.7
TIA				XP		sP	08 38 32.9	-2.1
TIA				S		**S**	**08 46 42.5**	**-4.0**
TIA				AMB		AMB		
	comp=Z,193nm,1.2s,mb6.1							
TIA				AMB		AMB		
	comp=Z,3μm,6.0s							
TIA				LR		LR		
	comp=N,40μm,20.0s,MS6.7							
TIA				LR		LR		
	comp=E,20μm,19.0s,MS6.7							
SNY	**Shenyang**	**63.33**	**329**	⇑P		**P**	**08 38 19.2**	**-0.9**
SNY				S		**S**	**08 46 47.9**	**0.0**
SNY				SS		SS	08 50 57.3	+0.6
SNY				LR		LR		
	comp=E,34μm,22.1s							
SNY				LR		LR		
	comp=Z,61μm,20.2s,MS6.8							
MRPI	**Mariponipon**	**63.68**	**277**⇑	*e*P		**P**	**08 38 22.6**	**-0.3**
PET	**Petropavlovsk**	**63.77**	**358**α	*i*P		**P**	**08 38 22.8**	**0.0**
PET				*e*		pP	08 38 34.5	+0.3
PET				*e*			08 38 53.4	
PET				*e*			08 40 39.7	
PET				*e*PPP		PPP	08 42 14.8	-1.9
PET				*e*S		**S**	**08 46 55.6**	**+2.3**
PET				*e*SP		SP	08 47 15.4	+3.1
PET				*e*			08 47 18.1	
PET				*e*SS		SS	08 50 58.2	-5.0
PET				pmax		pmax		
	comp=Z,347nm,1.0s,mb6.3							
PET				pmax		pmax		
	comp=Z,16μm,5.4s							
PET				pmax		pmax		
	comp=N,6μm,5.9s							
PET				pmax		pmax		
	comp=E,4μm,4.5s							
PET				pmax		pmax		
	comp=Z,14μm,26.4s							
PET				pmax		pmax		
	comp=E,3μm,27.3s							
PET				pmax		pmax		
	comp=N,6μm,25.2s							
PET				pmax		pmax		
	comp=Z,4μm,19.8s							
PET				smax				
	comp=E,19μm,9.0s							
PET				smax				
	comp=N,12μm,7.8s							
PET				smax				
	comp=E,16μm,14.4s							
PET				smax				
	comp=N,9μm,15.4s							
PET	**Petropavlovsk**	**63.77**	**358**	*e*P		**P**	**08 38 22.5**	**-0.3**
	comp=N,394nm,1.0s,mb6.4							
PET				LR		LR		
	comp=Z,43μm,21.0s,MS6.6							
SNG	**Songkhla**	**63.80**	**284**	P		**P**	**08 38 22.0**	**-1.6**
	comp=Z,610nm,1.0s,mb6.6							
COCO	**West Island**	**63.83**	**262**	*e*P		**P**	**08 38 23.6**	**-0.2**
	comp=Z,518nm,0.5s,mb6.8							
COCO				LR		LR		
	comp=Z,12μm,22.0s,MS6.0							
CN2	**Changchun**	**63.87**	**331**	*e*P		**P**	**08 38 23.3**	**-0.3**
CN2				*e*AP		pP	08 38 33.8	-1.2
CN2				SS		SS	08 51 03.1	-1.7
CN2				AMB		AMB		
	comp=Z,90nm,1.1s,mb5.7							
CN2				LR		LR		
	comp=N,65μm,20.0s,MS7.0							
CN2				LR		LR		
	comp=E,69μm,20.0s,MS7.0							
CN2				LR		LR		
	comp=Z,97μm,21.0s,MS7.0							
SMY	**Shemya**	**64.24**	**8**	P		**P**	**08 38 25.4**	**-0.4**
SMY				pmax		pmax		
	comp=Z,700nm,0.9s,mb6.7							
SMY	**Shemya**	**64.24**	**8**	*e*P		**P**	**08 38 27.8**	**+2.0**
FX1	**Attu Island--F**	**64.27**	**7**	*e*P		**P**	**08 38 24.4**	**-1.6**
KKTK	**Khon Kaen**	**64.61**	**294**	P		**P**	**08 38 28.0**	**-0.8**
	comp=Z,4μm,0.6s							
AEKI	**Aeknabara**	**64.63**	**278**⇑	*e*P		**P**	**08 38 27.9**	**-1.1**
	comp=Z,568nm,0.6s,mb6.8							
KIWB	**Kanaga Island**	**65.05**	**14**	*e*P		**P**	**08 38 30.5**	**-0.6**
ENH	**Enshi**	**65.09**	**311**	*e*P		**P**	**08 38 31.4**	**-0.4**
	comp=Z,389nm,1.4s,mb6.2							
CASY	**Casey**	**65.21**	**200**	*e*P		**P**	**08 38 31.8**	**-0.1**
	comp=Z,266nm,1.2s,mb6.2							
CASY				LR		LR		
	comp=Z,26μm,20.0s,MS6.4							
PTCN	**Pitcairn Islan**	**65.41**	**113**	PFAKE			08 38 40.0	+6.1
PTCN				LR		LR		
	comp=Z,27μm,20.0s,MS6.5							
GYA	**Guiyang**	**65.44**	**306**⇑	*i*P		**P**	**08 38 33.9**	**-0.1**
GYA				AP		pP	08 38 43.5	-2.0
GYA				XP		sP	08 38 47.7	-2.0
GYA				S		S	08 47 16.7	+2.5
GYA				SS		SS	08 51 29.5	-0.1
GYA				AMB		AMB		
	comp=Z,130nm,1.4s,mb5.8							
GYA				LR		LR		
	comp=N,41μm,21.3s,MS6.8							
GYA				LR		LR		
	comp=E,51μm,22.2s,MS6.8							
GYA				LR		LR		
	comp=Z,66μm,22.5s,MS6.8							
GSTR	**Great Sitkin T**	**65.54**	**15**	*e*P		**P**	**08 38 34.3**	**+0.1**
KLR	**Kul'dur**	**65.60**	**339***d*	*i*P		**P**	**08 38 31.5**	**-3.2**
KLR				*e*S		S	08 47 07.5	-8.3
KLR				*e*SS		SS	08 51 34.0	+2.4
KLR				pmax		pmax		
	comp=N,900nm,2.8s							
KLR				pmax		pmax		
	comp=Z,2μm,2.8s,mb6.7							
KLR				pmax		pmax		
	comp=N,9μm,12.0s							
KLR				pmax		pmax		
	comp=E,4μm,12.0s							
KLR				pmax		pmax		
	comp=Z,24μm,12.0s							
KLR				smax				
	comp=N,11μm,9.0s							
KLR				smax				
	comp=E,3μm,9.0s							
BJT	**Baijiatuau**	**66.19**	**323**	*e*P		**P**	**08 38 37.5**	**-1.1**
	comp=E,282nm,1.3s,mb6.1							
BJI	**Beijing**	**66.20**	**323**	P		**P**	**08 38 37.8**	**-0.9**
BJI				PP		PP	08 41 06.8	0.0
BJI				AMB		AMB		
	comp=Z,217nm,1.1s,mb6.1							
BJI				LR		LR		
	comp=N,61μm,25.1s,MS6.8							
BJI				LR		LR		
	comp=E,36μm,25.5s,MS6.8							
BJI				LR		LR		
	comp=Z,94μm,39.1s							
NST	**Nakhon Sawan**	**66.81**	**292**	P		**P**	**08 38 42.5**	**-0.4**
	comp=Z,540nm,0.8s,mb6.6							
XAN	**Xi'an**	**67.45**	**314**	P		**P**	**08 38 45.8**	**-0.8**
XAN				S		S	08 47 33.4	-5.1
XAN				LR		LR		
	comp=N,24μm,22.4s							
XAN				LR		LR		
	comp=E,42μm,51.5s							
XAN				LR		LR		
	comp=Z,78μm,21.5s,MS6.9							
KMI	**Kunming**	**68.05**	**303**	*e*P		**P**	**08 38 51.1**	**+0.6**
KMI				XP		sP	08 39 05.5	-0.7
KMI				PCP		PcP	08 39 17.3	+0.7
KMI				PP		PP	08 41 25.0	+2.1
KMI				S		S	08 47 48.4	+2.6
KMI				AMB		AMB		
	comp=Z,326nm,1.2s,mb6.2							
KMI				LR		LR		
	comp=N,29μm,18.7s,MS6.9							
KMI				LR		LR		
	comp=E,55μm,18.1s,MS6.9							
KMI				LR		LR		
	comp=Z,60μm,21.2s,MS6.8							
NIKO	**Nikolski**	**68.33**	**18**	*e*P		**P**	**08 38 51.0**	**-0.9**
BDT	**Bhumibol Dam**	**68.36**	**294**	P		**P**	**08 38 52.0**	**-0.6**
	comp=Z,29nm,0.8s,mb5.4							
CM31	**Chiang Mai Arr**	**68.82**	**295**	*e*P		**P**	**08 38 55.7**	**+0.3**
	comp=Z,386nm,0.9s,mb6.3							
CM31				LR		LR		
	comp=Z,22μm,20.0s,MS6.4							
CMAR	**Chiang Mai Arr**	**68.82**	**295**	P		**P**	**08 38 55.1**	**-0.3**
	comp=Z,216nm,0.9s,mb6.1,baz=115,slow=4.5,SNR=384							
CMAR				PcP		PcP	08 39 22.4	+2.5
	comp=Z,85nm,0.9s,baz=117,slow=4.3,SNR=5.9							
CMAR				S		S	08 47 53.5	-1.5
	comp=Z,0.6nm,0.4s,baz=29,slow=33,SNR=2.2							
CMAR				PKP2bc			09 07 07.5	
	comp=Z,4.8nm,0.8s,baz=274,slow=5.0,SNR=12							
CMAR				LR		LR	09 09 03.4	
	comp=Z,18μm,21.9s,MS6.3,baz=105,slow=36							
CMAR	**Chiang Mai Arr**	**68.82**	**295**	P		**P**	**08 38 55.1**	**-0.3**
CMAR				PcP		PcP	08 39 22.4	+2.5
CMAR				S		S	08 47 53.5	-1.5
CMAR				⇑*e*			09 07 07.5	
CMAR				LR		LR	09 09 03.4	
CHG	**Chiang Mai**	**68.94**	**295**	⇑P		**P**	**08 38 56.1**	**-0.1**
	comp=Z,150nm,1.2s,mb5.8							
HHC	**Hu-ho-hao-te**	**69.48**	**321**⇑	*i*P		**P**	**08 38 59.2**	**+0.1**
HHC				AP		pP	08 39 09.2	-1.4
HHC				XP		sP	08 39 14.3	-0.5
HHC				PCP		PcP	08 39 17.5	-4.9
HHC				PP		PP	08 41 37.7	+2.7
HHC				SCP			08 43 23.5	
HHC				PCS			08 43 25.3	
HHC				S		S	08 48 04.1	+1.6
HHC				SS		SS	08 52 35.2	+3.2
HHC				AMB		AMB		
	comp=Z,220nm,1.4s,mb5.9							
HHC				LR		LR		
	comp=N,18μm,21.2s,MS6.4							
HHC				LR		LR		
	comp=E,15μm,20.0s,MS6.4							
HHC				LR		LR		
	comp=Z,30μm,23.1s,MS6.5							
CD2	**Chengdu**	**69.73**	**309**	P		**P**	**08 38 58.4**	**-2.4**
CD2				XP		sP	08 39 13.0	-3.5
CD2				S		S	08 47 58.2	-7.5
CD2				AMB		AMB		
	comp=Z,250nm,0.8s,mb6.2							
CD2				LR		LR		
	comp=E,31μm,21.0s							
CD2				LR		LR		
	comp=Z,34μm,22.3s,MS6.5							
UNV	**Unalaska Valle**	**69.82**	**19**	*e*P		**P**	**08 39 00.7**	**-0.3**
	comp=Z,557nm,1.0s,mb6.5							
UNV				LR		LR		
	comp=Z,181μm,19.0s,MS7.3							
BTO	**Baotou**	**70.30**	**320**	*e*P		**P**	**08 39 04.4**	**+0.3**
BTO				S		S	08 48 12.9	+0.8
HIA	**Hailar**	**70.56**	**332**	P		**P**	**08 39 05.7**	**+0.2**
HIA				S		S	08 48 18.7	+3.7
HIA	**Hailar**	**70.56**	**332**	*e*P		**P**	**08 39 05.6**	**+0.1**
	comp=Z,829nm,0.9s,mb6.7							
MA2	**Magadan**	**70.87**	**354***c*	*i*P		**P**	**08 39 06.2**	**-1.0**
MA2				pmax		pmax		

comp=Z,285nm,1.3s,mb6.0
MA2 Magadan 70.87 354 *e*P P **08 39 05.9 -1.3**
comp=Z,236nm,1.0s,mb6.1
MA2 LR LR
comp=Z,27µm,22.0s,MS6.5
MIR Mirnyy 71.76 203α *i*P P **08 39 13.0 +0.5**
MIR *e* 08 41 59.0
MIR *e*S S 08 48 32.0 +3.4
MIR pmax pmax
comp=Z,900nm,1.6s,mb6.5
MIR pmax pmax
comp=Z,7µm,4.0s
MIR smax
comp=E,10µm,11.0s
MIR smax
comp=N,29µm,12.0s
MIR MLR MLR
comp=N,2µm,18.0s,MS6.0
MIR MLR MLR
comp=E,8µm,18.0s,MS6.0
MIR MLR MLR
comp=Z,24µm,18.0s,MS6.5
LZH Lanzhou 72.08 314 P P **08 39 15.6 +0.8**
LZH AP pP 08 39 27.2 +0.9
LZH XP sP 08 39 30.1 -0.4
LZH PP PP 08 41 55.3 -1.6
LZH S S 08 48 29.5 -3.3
LZH XS 08 48 50.0
LZH PS PS 08 49 03.0 -5.5
LZH SS SS 08 53 07.0 -5.1
LZH AMB AMB
comp=Z,880nm,1.2s,mb6.6
LZH LR LR
comp=E,127µm,19.0s
LZH LR LR
comp=Z,185µm,20.6s,MS7.3
SDPT Sand Point 73.09 21 *e*P P **08 39 19.9 -0.6**
SEY Seymchan 74.03 355 *e*P P **08 39 27.2 +1.4**
SEY pP 08 39 40.6 +3.3
SEY *e* 08 42 10.0
SEY *e*PPP PPP 08 44 04.6 +6.6
SEY *e*S S 08 48 56.6 +2.3
SEY 08 49 34.9
SEY *e*SS SS 08 53 37.0 -4.7
SEY pmax pmax
comp=Z,60nm,1.0s,mb5.5
CLNS Chul'man 74.20 340*c i*P P **08 39 27.8 +0.9**
CLNS *e**PP pP 08 39 40.6 +2.2
CLNS *e* 08 39 43.9
CLNS *e* 08 49 21.7
CLNS pmax pmax
comp=Z,572nm,1.2s,mb6.4
CLNS pmax pmax
comp=N,302nm,1.3s
CLNS pmax pmax
comp=E,99nm,1.1s
IMP Imphal 75.34 299⇑ *i* P **08 39 38.0 +3.8**
ULN Ulaanbaatar 76.15 325 PFAKE 08 39 50.0 +12
ULN LR LR
comp=Z,66µm,22.0s,MS6.9
GTA Gaotai 76.44 315⇑ *i*P P **08 39 40.9 +0.7**
GTA AP pP 08 39 54.1 +2.4
GTA PP PP 08 42 33.9 +0.2
GTA S S 08 49 24.4 +2.9
GTA SKS SKS 08 49 43.8 +0.4
GTA AMB AMB
comp=Z,212nm,1.6s,mb5.8
GTA AMB AMB
comp=Z,7µm,10.6s
GTA LR LR
comp=N,23µm,23.2s,MS6.6
GTA LR LR
comp=E,24µm,22.8s,MS6.6
GTA LR LR
comp=Z,31µm,22.8s,MS6.5
SONM Songino Array 76.50 325 P P **08 39 41.0 +0.6**
comp=Z,540nm,0.8s,mb6.5,baz=135,slow=3.5,SNR=474
SONM PP PP 08 42 29.4 -4.6
comp=Z,16nm,0.9s,baz=127,slow=7.2,SNR=2.0
SONM S S 08 49 22.5 +0.4
comp=Z,1.0nm,0.8s,baz=157,slow=11,SNR=2.2
SONM PKPPKP 09 06 53.2
comp=Z,2.3nm,0.9s,baz=326,slow=4.5,SNR=5.9
YAK Yakutsk 77.02 345*c i*P P **08 39 42.6 -0.4**
YAK *i* *PP pP 08 39 55.9 +1.4
YAK pmax pmax
comp=Z,827nm,0.8s,mb6.7
YAK Yakutsk 77.02 345 *e*P P **08 39 42.6 -0.4**
comp=Z,791nm,0.8s,mb6.7
YAK LR LR
comp=Z,40µm,21.0s,MS6.7
SHL Shillong 77.35 299 *i* P P **08 39 45.0 -0.5**
comp=Z,2µm,1.5s,mb6.8
SHL *e*S S 08 49 32.0 +0.4
AGT Agartala 77.36 298 *i* P **08 39 55.0 +9.3**
KDAK Kodiak Island 77.83 23 P P **08 39 47.0 -0.5**
comp=Z,2µm,0.8s,mb7.1,SNR=58
KDAK Kodiak Island 77.83 23 *e*P P **08 39 46.9 -0.6**
comp=Z,256nm,0.8s,mb6.2
KDAK LR LR
comp=Z,8µm,20.0s,MS6.1
BOD Bodaibo 78.95 336 *e*P P **08 39 52.4 -1.3**
BOD *e* pP 08 40 02.9 -2.3
ANM Nome 79.19 14 *e*P P **08 39 55.7 +0.9**
LSA Lhasa 79.30 303 P P **08 39 55.0 -1.2**
LSA AP pP 08 40 08.3 +0.6
LSA XP sP 08 40 13.5 +1.6
LSA S S 08 49 53.5 +1.2
LSA AMB AMB
comp=Z,150nm,1.2s,mb5.8
LSA AMB AMB
comp=Z,7µm,12.0s
LSA LR LR
comp=N,24µm,21.5s,MS6.8
LSA LR LR
comp=E,36µm,22.4s,MS6.8
LSA LR LR
comp=Z,36µm,22.4s,MS6.7
TNA Tin City 79.48 12 *e*P P **08 39 56.4 0.0**
comp=Z,124nm,0.9s,mb5.8
TNA *e*pP pP 08 40 08.8 +0.8
TNA LR LR
comp=Z,19µm,21.0s,MS6.4
CAL Calcutta 79.53 295⇑ *i*P P **08 39 58.1 +0.5**
CAL *i* 08 43 20.3
RSO Redoubt South 79.65 21 *e*P P **08 39 56.6 -0.9**
TTA Tatalina 80.39 18 *e*P P **08 40 00.6 -0.7**
SPU Mount Spurr 80.41 21 *e*P P **08 40 01.2 -0.2**
SLKM Skilak Lake 80.59 22 P P **08 40 02.1 -0.3**
SLKM Skilak Lake 80.59 22 *e*P P **08 40 02.2 -0.3**
FIB Fire Island 81.06 21 P P **08 40 06.9 +2.0**
FIB Fire Island 81.06 21 *e*P P **08 40 05.2 +0.4**
FIB LR LR
comp=Z,24µm,20.0s,MS6.5
MOY Mondy 81.50 327 *e*P P **08 40 08.0 +0.6**
PMR Palmer 81.72 21 *e*P P **08 40 08.3 0.0**
SML Sawmill 82.14 21 *e*P P **08 40 10.1 -0.4**
EYAK Cordova Ski Ar 82.30 23 *e*P P **08 40 11.2 -0.2**
DIV Divide 82.65 23 *e*P P **08 40 13.1 0.0**
comp=Z,687nm,1.1s,mb6.6
DIV LR LR
comp=Z,132µm,20.0s,MS7.3
VIS Vishakhapatnam 82.82 290 *e*P P **08 40 15.0 +0.2**
PALK Pallekele 83.01 279 *e*P P **08 40 16.7 +0.8**
comp=Z,211nm,0.8s,mb6.2
PALK LR LR
comp=Z,10µm,22.0s,MS6.1
GUN Gumba 83.17 300 *e*P P **08 40 15.6 -0.8**
comp=Z,1µm,1.2s,mb6.8
MCK McKinley 83.21 20 *e*P P **08 40 14.8 -1.1**
comp=Z,351nm,1.1s,mb6.3
MCK *e* pP 08 40 26.9 -0.6
MCK LR LR
comp=Z,33µm,20.0s,MS6.7
IMA Indian Mountai 83.39 17 P P **08 40 17.1 +0.3**
IMA *e* pP 08 40 29.8 +1.4
IMA pmax pmax
comp=Z,520nm,0.8s,mb6.6
IMA Indian Mountai 83.39 17 *e*P P **08 40 17.0 +0.2**
MAW Mawson 83.47 202 P P **08 40 17.4 +0.2**
comp=Z,124nm,1.1s,mb5.9,baz=97,slow=6.1,SNR=106
MAW S S 08 50 32.9 -1.5
comp=Z,1.8nm,1.0s,baz=277,slow=21,SNR=1.4
MAW LR LR 09 14 43.9
comp=Z,22µm,19.6s,MS6.5,baz=90,slow=34

PKI Pulchoki 83.47 300 *e*P P **08 40 16.7 -1.3**
comp=Z,1µm,1.2s,mb6.8
KKN Kakani 83.64 300 *e*P P **08 40 17.7 -1.3**
comp=Z,1µm,1.2s,mb6.8
DMN Daman 83.74 300 *e*P P **08 40 18.3 -1.2**
comp=Z,2µm,1.1s,mb7.1
RPN Rapa Nui 83.82 116 *e*P P **08 40 20.8 +1.0**
RPN *e*pP pP 08 40 31.5 0.0
RPN LR LR
comp=Z,11µm,22.0s,MS6.2
THY Trims Highway 84.09 21 *e*P P **08 40 20.8 +0.4**
GKN Gorkha 84.25 300 *e*P P **08 40 19.9 -2.1**
comp=Z,2µm,1.3s,mb7.2
COLA College 84.33 19*c i*P P **08 40 20.6 -0.9**
COLA College 84.33 19 *e*P P **08 40 20.5 -1.0**
ILAR Eielson Array 84.57 20 P P **08 40 21.0 -1.7**
comp=Z,34nm,0.6s,mb5.7,baz=246,slow=4.8,SNR=291
ILAR S S 08 50 43.9 -1.5
comp=Z,2.9nm,1.2s,baz=252,slow=5.7,SNR=2.5
ILAR PKKPbc 08 58 31.0
comp=Z,4.8nm,0.9s,baz=353,slow=1.5,SNR=17
ILAR PKPPKP 09 06 38.5
comp=Z,4.7nm,1.1s,baz=25,slow=1.4,SNR=5.0
ILAR LR LR 09 12 48.2
comp=Z,50µm,20.8s,MS6.9,baz=245,slow=32
MDRS Chennai 84.67 284 *i* P P **08 40 24.0 -0.3**
MDRS *i* 08 41 57.0
MDRS *e* 08 51 25.0
MDRS *e* 08 59 57.0
SIT Sitka 84.87 29 P P **08 40 25.0 +0.6**
SIT *e*pP pP 08 40 36.7 +0.6
BLSP Bilaspur 84.97 294 *i* P P **08 40 25.0 -0.7**
KOLN Koldanda 85.07 299 *e*P P **08 40 23.8 -2.3**
comp=Z,659nm,1.1s,mb6.7
HOPS Hopland 85.27 49 *e*P P **08 40 26.5 -0.4**
comp=Z,143nm,1.1s,mb6.0
TIXI Tiksi 85.33 350*c i*P P **08 40 25.8 -0.6**
TIXI *i* *PP pP 08 40 41.2 +3.1
TIXI *e* 08 43 41.4
TIXI *i*S S 08 50 44.5 -8.2
TIXI *e*SS SS 08 56 23.1 -8.0
TIXI pmax pmax
comp=Z,369nm,2.5s,mb6.1
TIXI MLR MLR
comp=Z,25µm,19.0s,MS6.6
TIXI Tiksi 85.33 350⇑ *i*P P **08 40 25.8 -0.6**
TIXI LR LR
comp=Z,31µm,19.0s,MS6.7
KHMM Horse Mountain 85.38 47 *e*P P **08 40 27.5 +0.2**
NSHM Saint Helena R 85.47 50 *e*P P **08 40 27.6 -0.2**
KEBM Edson Butte 85.60 45 *e*P P **08 40 28.4 0.0**
LKC Lake Chabot 85.65 50 *e*P P **08 40 28.8 0.0**
SAO San Andreas Ge 85.83 52 P P **08 40 30.8 +1.2**
SAO pmax pmax
comp=Z,52nm,0.9s,mb5.8
SAO San Andreas Ge 85.83 52 *e*P P **08 40 30.4 +0.8**
comp=Z,52nm,0.9s,mb5.8
SAO LR LR
comp=Z,122µm,19.0s,MS7.3
LRV Little Rabbit 86.07 52 *e*P P **08 40 30.9 +0.2**
WDC Whiskeytown Da 86.15 48 P P **08 40 30.7 -0.4**
WDC pmax pmax
comp=Z,85nm,1.2s,mb5.8
WDC Whiskeytown Da 86.15 48 *e*P P **08 40 30.6 -0.5**
comp=Z,85nm,1.2s,mb5.8
WDC LR LR
comp=Z,77µm,19.0s,MS7.1
YBH Yreka Blue Hor 86.38 46 P P **08 40 32.4 +0.2**
comp=Z,81nm,0.9s,mb6.0,baz=312,slow=1.2,SNR=40
YBH S S 08 50 55.5 -8.0
comp=Z,1.6nm,0.8s,baz=7.6,slow=21,SNR=2.5
YBH Yreka Blue Hor 86.38 46 P P **08 40 32.4 +0.2**
YBH S S 08 50 55.5 -8.0
YBH pmax pmax
comp=Z,81nm,0.9s
YBH Yreka Blue Hor 86.38 46 *e*P P **08 40 32.7 +0.5**
comp=Z,76nm,0.9s,mb5.9
YBH LR LR
comp=Z,41nm,19.0s,MS6.8
HUMO Hull Mountain 86.48 46 *e*P P **08 40 33.3 +0.7**
comp=Z,90nm,0.9s,mb6.0
HUMO LR LR
comp=Z,67µm,19.0s,MS7.1
WMQ Urumqi 86.51 316⇑ *i*P P **08 40 32.5 -0.3**
WMQ AP pP 08 40 43.0 -1.5
WMQ XP sP 08 40 47.0 -1.5
WMQ PP PP 08 43 57.0 +0.3
WMQ S S 08 51 05.0 +0.3
WMQ PS PS 08 52 11.0 +0.5
WMQ SS SS 08 56 50.0 +1.1
WMQ AMB AMB
comp=Z,153nm,1.5s,mb6.0
WMQ LR LR
comp=N,43µm,24.0s,MS7.0
WMQ LR LR
comp=E,51µm,25.0s,MS7.0
WMQ LR LR
comp=Z,64µm,24.0s,MS6.9
BBB Bella Bella 86.53 35 S S 08 51 01.6 -3.1
comp=Z,21nm,1.1s,baz=167,slow=22,SNR=2.4
BBB LR LR 09 15 11.8
comp=Z,24µm,18.7s,MS6.6,baz=251,slow=33
OHCM Honcut 86.55 49 *e*P P **08 40 33.1 0.0**
DAWY Dawson 86.77 22 *e*P P **08 40 34.3 +0.7**
BUOR Burton Butte 86.88 46 P P **08 40 34.8 +0.2**
TRD Trivandrum 86.89 279 *e*P P **08 40 35.4 +0.1**
TRD *e* 08 40 38.3
comp=Z,142nm,1.0s
CMB Columbia Colle 87.00 51 P P **08 40 35.5 +0.1**
CMB PcP PcP 08 40 45.7 +7.7
CMB SKSac 08 50 58.8
CMB Columbia Colle 87.00 51 P P **08 40 35.0 -0.3**
CMB pmax pmax
comp=Z,79nm,1.0s,mb5.9
CMB Columbia Colle 87.00 51 *e*P P **08 40 34.7 -0.6**
comp=Z,79nm,1.0s,mb5.9
CMB LR LR
comp=Z,52µm,19.0s,MS7.0
KMOR Kings Mountain 87.07 43 P P **08 40 35.7 +0.2**
JBP Jabalpur 87.14 294 *e* PcP 08 41 00.6 +22
JBP *e* 08 51 22.9
HYB Hyderabad 87.19 288 *i* P P **08 40 36.0 -0.7**
comp=Z,200nm,1.4s,mb6.2
HYB *e* 08 40 52.5
HYB *e*PP PP 08 44 04.0 +0.8
HYB *e*SKS SKS 08 50 56.0 -2.5
HYB *e*S S 08 51 12.0 +0.2
HYB *e* 08 52 28.0
HYB LR LR 09 14 00.0
comp=Z,52nm,30.0s
HYB Hyderabad 87.19 288 *e*P P **08 40 36.0 -0.7**
comp=Z,200nm,1.4s,mb6.2
OCWA Grotopus Mounta 87.31 40 *e*P P **08 40 37.7 +1.1**
comp=Z,189nm,1.2s,mb6.2
OCWA LR LR
comp=Z,56µm,19.0s,MS7.0
BROR Big Rock Looko 87.34 44 P P **08 40 36.9 +0.1**
BMW Boistfort Moun 87.51 42 P P **08 40 39.2 +1.6**
BMW Boistfort Moun 87.51 42 P P **08 40 37.4 -0.2**
SSOR Sweet Springs 87.52 44 P P **08 40 38.4 +0.8**
SSOR Sweet Springs 87.52 44 P P **08 40 38.0 +0.3**
NGP Nagpur 87.53 292 *e*P P **08 40 36.3 -1.9**
NGP *e*S S 08 51 00.9 -14
BEKR Beckwourth 87.54 49 *e*P P **08 40 37.8 -0.1**
comp=Z,92nm,1.2s,mb5.9
PGO Gresham 87.71 43 P P **08 40 39.7 +1.2**
CPW Capitol Peak 87.73 41 P P **08 40 39.5 +0.9**
GT2 Goat Mountain 87.74 43 P P **08 40 39.7 +1.0**
RRHS Rochester High 87.74 42 P P **08 40 40.5 +1.8**
MWC Mount Wilson 87.81 55 *e*P P **08 40 39.0 -0.3**
MWC *e*pP pP 08 40 50.8 -0.3
WCN Washoe City 87.83 49 P P **08 40 39.7 +0.4**
WCN pmax pmax
comp=Z,69nm,0.9s,mb5.9
WCN Washoe City 87.83 49 *e*P P **08 40 39.5 +0.2**
comp=Z,69nm,0.9s,mb5.9
BKCOR Black Crater 87.87 44 P P **08 40 40.0 +0.7**
LVP Lakeview Peak 87.93 42 P P **08 40 40.6 +1.0**
OMM Old Mammoth Mi 87.95 51 *e*P P **08 40 40.3 +0.4**
HDW Hoodsport 88.00 41 P P **08 40 41.6 +1.8**
FL2 Flat Top 2 88.00 42 P P **08 40 41.8 +1.8**
VLMM Larch Mountain 88.01 43 P P **08 40 40.7 +0.8**
DLBC Dease Lake 88.03 29 S S 08 51 14.7 -4.0
comp=Z,2.1nm,0.9s,baz=230,slow=27,SNR=2.1

DLBC LR LR 09 17 53.8
comp=Z,108µm,18.4s,MS7.3,baz=249,slow=34
DLBC Dease Lake 88.03 29 *e*P P **08 40 39.6 -0.1**
ERK Elk Rock 88.04 42 P P **08 40 42.2 +2.1**
PGC Sidney 88.07 40 *e*P P **08 40 41.1 +0.9**
comp=Z,59nm,1.0s,mb5.8
TDH Tom, Dick, Har 88.10 43 P P **08 40 40.8 +0.3**
GNW Green Mountain 88.12 41 *e*P P **08 40 41.1 +0.6**
GMW Gold Mountain 88.14 41 P P **08 40 42.1 +1.5**
TDL Tradedollar La 88.14 42 P P **08 40 41.9 +1.3**
MOD Modoc 88.15 47 *e*P P **08 40 40.9 +0.1**
comp=Z,65nm,0.8s,mb5.9
MOD LR LR
comp=Z,37µm,19.0s,MS6.8
MTUM Tungsten Hills 88.21 52 *e*P P **08 40 41.4 +0.2**
PAHR Pah Rah Range 88.22 49 *e*P P **08 40 41.8 +0.7**
comp=Z,177nm,0.8s,mb6.3
VLL Laurance Lake 88.23 43 P P **08 40 41.8 +0.7**
PCMD Pierce County 88.25 42 P P **08 40 43.0 +1.9**
VFP Flag Point 88.33 43 P P **08 40 42.2 +0.7**
LGTI Lohaghat 88.34 300⇓ *i*P P **08 40 43.0 +1.0**
LGTI *e* 08 41 45.0
PTH Pithoragarh 88.39 300 *e*P P **08 40 41.8 -0.4**
PTH *e* 08 42 30.0
LON Longmire 88.53 42 *e*P P **08 40 43.1 +0.7**
BAR Barrett 88.55 56 *e*P P **08 40 42.4 -0.5**
CROR Criterion Ridg 88.55 44 P P **08 40 42.7 +0.1**
GLK Glacier Lake 88.61 42 P P **08 40 44.5 +1.7**
FMW Mount Fremont 88.67 42 P P **08 40 43.6 +0.5**
GSM Grass Mountain 88.68 41 P P **08 40 43.9 +0.7**
WPW White Pass 88.69 42 P P **08 40 45.1 +1.9**
NVAR Mina Array Bea 88.69 51 P P **08 40 43.4 -0.1**
comp=Z,71nm,0.7s,mb6.1,baz=240,slow=8.2,SNR=318
NVAR S S 08 51 12.6 -13
comp=Z,1.0nm,1.0s,baz=198,slow=2.9,SNR=2.2
NVAR PKKPbc 08 58 26.5
comp=Z,4.5nm,0.9s,baz=183,slow=1.1,SNR=8.5
NVAR PKPPKP 09 06 26.8
comp=Z,2.2nm,0.9s,baz=80,slow=5.4,SNR=6.4
NVAR LR LR 09 16 44.6
comp=Z,54µm,18.4s,MS7.0,baz=275,slow=33
NVAR Mina Array Bea 88.69 51 P P **08 40 43.4 -0.1**
NVAR S S 08 51 12.6 -13
NVAR PKKPbc 08 58 26.5
NVAR P'P' 09 06 26.8
NVAR LR LR 09 16 44.6
DAC Darwin (Calif) 88.69 53 P P **08 40 44.3 +0.8**
DAC pmax pmax
comp=Z,76nm,1.1s,mb5.9
DAC Darwin (Calif) 88.69 53 *e*P P **08 40 43.9 +0.5**
comp=Z,76nm,1.1s,mb5.9
DAC *e*pP pP 08 40 55.0 -0.3
DAC LR LR
comp=Z,136µm,19.0s,MS7.4
RMW Rattlesnake Mo 88.75 41 P P **08 40 44.3 +0.8**
MNV Mina 88.81 51 P P **08 40 43.8 -0.2**
MNV pmax pmax
comp=Z,54nm,0.8s,mb5.9
MNV Mina 88.81 51 *e*P P **08 40 43.7 -0.3**
comp=Z,54nm,0.8s,mb5.9
MNV LR LR
comp=Z,61µm,19.0s,MS7.0
JCW Jim Creek 88.89 40 P P **08 40 45.1 +1.0**
VTHM Trough 88.90 44 P P **08 40 45.0 +0.8**
PFO Pinyon Flat Ob 88.95 56 P P **08 40 44.0 -0.8**
comp=Z,239nm,1.1s,mb6.4,SNR=32
PFO Pinyon Flat Ob 88.95 56 P P **08 40 44.6 -0.2**
PFO pmax pmax
comp=Z,49nm,1.1s,mb5.8
PFO Pinyon Flat Ob 88.95 56 *e*P P **08 40 44.4 -0.4**
comp=Z,49nm,1.1s,mb5.8
PFO *e*pP pP 08 40 56.5 -0.1
PFO LR LR
comp=Z,17µm,22.0s,MS6.4
NAC Naches 89.17 42 P P **08 40 46.3 +0.8**
JOSI Joshimath 89.18 301 *e*P P **08 40 46.6 +0.6**
TPH Tonopah 89.43 51 *e*P P **08 40 46.6 -0.3**
comp=Z,1.8nm,0.4s
TBM Table Mountain 89.45 42 P P **08 40 47.5 +0.8**
BHPL Bhopal 89.45 294 *e*P P **08 40 46.2 -1.2**
BHPL *e* 08 40 49.1
comp=Z,30nm,0.6s
MXC Moxie City 89.48 42 P P **08 40 48.2 +1.3**
PRW Prosser 89.78 43 P P **08 40 50.5 +2.1**
BVW Beverly 89.81 42 P P **08 40 49.5 +1.0**
MNGI Mangalore 89.81 283 *i* P P **08 40 47.6 -1.6**
MNGI *e* 08 51 35.1
MDW Midway 89.84 42 P P **08 40 49.5 +0.9**
SNIWA Snively Ranch 89.87 43 P P **08 40 49.6 +0.9**
NLW Nelson Butte 89.87 41 *e*P P **08 40 49.1 +0.3**
TPNV Topopah Spring 89.91 52 P P **08 40 49.3 +0.1**
TPNV pmax pmax
comp=Z,67nm,0.8s,mb6.0
TPNV Topopah Spring 89.91 52 *e*P P **08 40 49.1 0.0**
comp=Z,67nm,0.8s,mb6.0
TPNV *e*pP pP 08 41 00.9 -0.1
TPNV *e*PP PP 08 44 21.7 -2.8
TPNV LR LR
comp=Z,122µm,22.0s,MS7.3
GBB Gable Butte 89.93 42 P P **08 40 49.7 +0.7**
REDWA Red Mountain 89.97 43 P P **08 40 50.3 +1.1**
BMN Battle Mountai 90.01 49 P P **08 40 50.3 +0.7**
BMN pmax pmax
comp=Z,100nm,1.1s,mb6.1
BMN Battle Mountai 90.01 49 *e*P P **08 40 50.0 +0.4**
comp=Z,102nm,1.1s,mb6.1
BMN LR LR
comp=Z,31µm,20.0s,MS6.7
WAH2 Wahluke Slope 90.01 42 P P **08 40 49.9 +0.4**
LDFC Landfair 90.37 54 *e*P P **08 40 51.5 +0.1**
DDI Dehra Dun 90.39 301 *e*P P **08 40 48.8 -2.8**
KLP Kalpa 90.49 302 *e*P P **08 40 51.9 -0.2**
LNOR Lincton Mounta 90.63 43 P P **08 40 53.6 +1.2**
LNOR Lincton Mounta 90.63 43 *e*P P **08 40 53.4 +1.1**
NEN Nelson 90.71 54 *e*P P **08 40 53.0 0.0**
TRCR Troy Canyon 90.74 51 *e*P P **08 40 53.3 +0.2**
TRCR *e*pP pP 08 41 05.0 +0.1
TRCR *e*PP PP 08 44 27.9 -3.3
NDI New Delhi 90.76 299 *e* 08 51 16.0
SYO Syowa Base 90.83 198⇓P P **08 40 52.2 -0.6**
SYO Syowa Base 90.83 198⇓P P **08 40 53.0 +0.2**
SYO Syowa Base 90.83 198⇓pP pP 08 41 04.1 -0.5
INK Inuvik 90.97 20 S 08 51 20.7
comp=Z,2.9nm,1.1s,baz=44,slow=32,SNR=6.4
INK PKKPbc 08 58 16.6
comp=Z,8.1nm,0.8s,baz=86,slow=4.3,SNR=8.9
INK PKPPKP 09 06 31.7
comp=Z,5.0nm,1.1s,baz=342,slow=7.6,SNR=3.1
INK LR LR 09 17 13.1
comp=Z,68µm,20.6s,MS7.1,baz=239,slow=33
INK Inuvik 90.97 20 P P **08 40 53.4 -0.1**
INK pmax pmax
comp=Z,47nm,1.0s
INK Inuvik 90.97 20 *e*P P **08 40 53.1 -0.3**
comp=Z,47nm,1.0s,mb5.8
MKAR Makanchi Array 91.02 317 P P **08 40 53.7 -0.5**
comp=Z,166nm,0.7s,mb6.5,baz=99,slow=5.2,SNR=348
MKAR PP PP 08 44 28.4 -4.8
comp=Z,17nm,0.9s,baz=84,slow=6.8,SNR=3.6
MKAR S 08 51 16.2
comp=Z,2.3nm,1.0s,baz=45,slow=8.2,SNR=2.5
MKAR PKKPbc 08 58 16.6
comp=Z,4.6nm,0.9s,baz=300,slow=1.5,SNR=6.0
MKAR PKPPKP 09 06 28.9
comp=Z,2.4nm,0.9s,baz=270,slow=2.4,SNR=6.5
MKAR LR LR 09 20 58.8
comp=Z,22µm,21.9s,MS6.6,baz=92,slow=35
MKAR Makanchi Array 91.02 317 P P **08 40 53.7 -0.5**
MKAR PP PP 08 44 28.4 -4.8
MKAR S 08 51 16.2
MKAR PKKPbc 08 58 16.6
MKAR P'P' 09 06 28.9
MKAR LR LR 09 20 58.8
DPW Davenport 91.20 41 P P **08 40 54.8 -0.2**
DPW Davenport 91.20 41 *e*P P **08 40 54.6 -0.3**
GOA Goa 91.25 285 *i* P P **08 40 56.4 +0.4**
GOA *e* 08 44 37.1
KAD Karad 91.26 287 *e*P P **08 40 55.7 -0.2**
KUDL Kundal 91.28 298 *e*P P **08 40 54.3 -1.5**
ELK Elko 91.55 49 P P **08 40 56.9 +0.1**
ELK pmax pmax
comp=Z,97nm,1.0s
ELK Elko 91.55 49 *e*P P **08 40 56.6 -0.1**
comp=Z,96nm,1.0s,mb6.1

ELK LR LR
comp=Z,29µm,20.0s,MS6.7
POO Poona 91.80 288 *i* 08 51 44.0
KHET Khetri 91.86 298 *e*P **P** **08 40 58.0 -0.5**
BHK Bhakra 92.00 301 *e* **P** **08 41 06.7 +7.6**
NEW Newport 92.00 41 P **P** **08 40 58.4 -0.2**
NEW pmax pmax
comp=Z,72nm,1.0s
NEW Newport 92.00 41 *e*P **P** **08 40 58.2 -0.5**
comp=Z,72nm,1.0s,mb6.0
NEW LR LR
comp=Z,30µm,19.0s,MS6.8
ARUT Antelope Range 92.27 52 P **P** **08 41 01.3 +1.1**
ARUT Antelope Range 92.27 52 *e*P **P** **08 41 01.1 +1.0**
ARUT *e*pP pP 08 41 11.2 -0.8
NVS Novosibirsk 92.53 325 *i* P **P** **08 40 59.0 -1.9**
NVS *e* 08 44 40.1
NVS *e* 08 51 24.9
NVS pmax pmax
comp=Z,1µm,2.6s,mb6.8
NVS pmax pmax
comp=E,449nm,2.1s
NVS pmax pmax
comp=Z,597nm,2.8s,mb6.5
NVS pmax pmax
comp=E,762nm,3.2s
AJM Ajmer 92.57 296⇑ *i*P **P** **08 41 00.0 -1.8**
HLID Hailey 92.77 46 *e*P **P** **08 41 02.7 +0.4**
comp=E,5.1nm,0.1s,mb5.9
HLID LR LR
comp=Z,61µm,19.0s,MS7.1
BGU Big Grassy Mou 93.22 49 *e*P **P** **08 41 04.3 -0.1**
DUG Dugway 93.24 50 P **P** **08 41 04.7 +0.2**
DUG pmax pmax
comp=Z,450nm,0.4s,mb7.2
DUG Dugway 93.24 50 *e*P **P** **08 41 04.5 -0.1**
comp=Z,34nm,0.4s,mb6.1
DUG LR LR
comp=Z,26µm,22.0s,MS6.6
TUC Tucson 93.33 58 P **P** **08 41 05.6 +0.4**
TUC SKSac 08 51 38.9
TUC ScS ScS 08 52 14.6 +6.3
TUC Tucson 93.33 58 P **P** **08 41 05.1 -0.1**
TUC pmax pmax
comp=Z,13nm,0.9s,mb5.4
TUC Tucson 93.33 58 *e*P **P** **08 41 05.3 +0.2**
comp=Z,13nm,0.8s,mb5.4
TUC LR LR
comp=Z,48µm,19.0s,MS7.0
MVU Marysvale 93.36 52 *e*P **P** **08 41 06.2 +1.0**
comp=Z,18nm,0.9s,mb5.5
MVU LR LR
comp=Z,84µm,22.0s,MS7.2
MSU Marysvale 93.39 52 P **P** **08 41 06.1 +0.8**
MSU Marysvale 93.39 52 *e*P **P** **08 41 05.8 +0.6**
HVU Hansel Valley 93.58 48 P **P** **08 41 07.0 +1.0**
HVU Hansel Valley 93.58 48 *e*P **P** **08 41 06.4 +0.4**
SPUT South Promonto 93.73 49 *e*P **P** **08 41 07.4 +0.7**
SPUT *e*PP PP 08 44 52.9 -2.1
NLU North Lily Min 93.75 50 *e*P **P** **08 41 07.4 +0.6**
MSO Missoula 93.78 43 *e*P **P** **08 41 07.6 +0.8**
comp=Z,11nm,1.1s
MSO LR LR
comp=Z,19µm,20.0s
NOQ North Oquirrh 93.85 50 *e*P **P** **08 41 06.9 -0.3**
NOQ *e*pP pP 08 41 19.1 0.0
AAA Alma-Ata 93.92 313 *e*P **P** **08 41 07.0 -0.5**
AAA *e* 08 51 40.0
AAA pmax pmax
comp=Z,4µm,10.0s
KSH Kashi 93.92 309⇑ *i*P **P** **08 41 09.3 +1.7**
KSH *e*AP pP 08 41 19.7 +0.2
KSH XP sP 08 41 25.1 +1.8
KSH PP PP 08 44 56.7 +0.1
KSH *e*SKS SKS 08 51 41.4 +3.7
KSH S S 08 52 09.1 -2.7
KSH *e*XS 08 52 31.1
KSH PS PS 08 53 39.5 +3.0
KSH *e*SS SS 08 58 40.5 +4.8
KSH LR LR
comp=N,12µm,16.7s,MS7.0
KSH LR LR
comp=E,44µm,18.9s,MS7.0
MPU Maple Canyon 94.09 50 *e*P **P** **08 41 09.3 +1.0**
MCMT McKenzie Canyo 94.12 45 *e*P **P** **08 41 08.9 +0.5**
CTU Camp Tracy 94.13 50 *e*P **P** **08 41 09.3 +0.8**
ULHL Ulahol 94.23 312 P **P** **08 41 10.3 +1.4**
SNR=6.0
WALA Waterton Lakes 94.25 41 *e*P **P** **08 41 09.3 +0.5**
comp=E,28nm,1.1s,mb5.6
CHMT Chamberlain Mo 94.26 43 *e*P **P** **08 41 09.2 +0.2**
TMUT Trail Mountain 94.28 51 *e*P **P** **08 41 10.5 +1.3**
TMUT *e*pP pP 08 41 20.8 -0.3
JLU Jordanelle 94.34 50 *e*P **P** **08 41 10.9 +1.4**
HWUT Hardware Ranch 94.44 49 *e*P **P** **08 41 10.2 +0.3**
comp=E,22nm,0.9s,mb5.6
HWUT LR LR
comp=Z,60µm,19.0s,MS7.1
DAU Daniels Canyon 94.45 50 P **P** **08 41 12.4 +2.4**
DAU Daniels Canyon 94.45 50 *e*P **P** **08 41 12.1 +2.1**
TCUT Toone Canyon 94.47 49 *e*P **P** **08 41 09.4 -0.7**
SRU San Rafael 94.77 51 P **P** **08 41 12.4 +0.9**
SRU San Rafael 94.77 51 *e*P **P** **08 41 11.9 +0.3**
TKM2 Tokmak 2 94.83 313 P **P** **08 41 12.1 +0.4**
SNR=7.9
KZA Kyzart 94.93 312 P **P** **08 41 13.4 +1.3**
SNR=17
AHID Auburn Hatcher 94.99 48 *e*P **P** **08 41 11.9 -0.5**
comp=Z,17nm,1.0s,mb5.4
QLMT Earthquake Lak 95.12 45 *e*P **P** **08 41 13.6 +0.7**
HRY Holter Researc 95.18 44 *e*P **P** **08 41 13.1 -0.1**
TPAW Teton Pass 95.22 47 *e*P **P** **08 41 14.1 +0.6**
TPAW *e*pP pP 08 41 25.2 -0.1
REDW Red Top Meadow 95.27 47 *e*P **P** **08 41 15.2 +1.5**
SNOW Snow King Moun 95.36 47 *e*P **P** **08 41 14.4 +0.4**
WUWY Wally Ulrich 95.38 47 *e*P **P** **08 41 14.7 +0.5**
EDM Edmonton 95.41 37 P **P** **08 41 14.6 +0.5**
EDM Edmonton 95.41 37 *e*P **P** **08 41 14.3 +0.2**
EDM *e*pP pP 08 41 25.8 -0.2
MOOW Moose Ponds 95.41 47 *e*P **P** **08 41 14.8 +0.5**
YMR Madison River 95.42 46 *e*P **P** **08 41 16.2 +1.9**
CHMS Chumysh 95.45 313 P **P** **08 41 15.1 +0.5**
SNR=7.6
YFT Old Faithful 95.47 46 *e*P **P** **08 41 15.5 +0.9**
LOHW Long Hollow 95.49 47 *e*P **P** **08 41 15.6 +0.9**
LOHW *e*pP pP 08 41 26.4 -0.2
UCH Uchtor 95.49 312 P **P** **08 41 16.0 +1.2**
SNR=13
FRU Bishkek 95.52 312 *αe*P **P** **08 41 15.0 +0.2**
FRU *e* 08 51 42.0
FRU *e*PS PS 08 53 46.0 -7.9
FRU pmax pmax
comp=Z,360nm,2.8s,mb6.3
FRU pmax pmax
comp=Z,4µm,17.0s
FRU MLR MLR
comp=Z,22µm,19.0s,MS6.7
AAK Ala-Archa 95.58 312 P **P** **08 41 15.5 +0.4**
SNR=13
AAK Ala-Archa 95.58 312 P **P** **08 41 14.4 -0.7**
AAK pmax pmax
comp=Z,11nm,0.8s,mb5.3
AAK Ala-Archa 95.58 312 *e*P **P** **08 41 14.0 -1.1**
comp=Z,11nm,0.8s,mb5.3
AAK LR LR
comp=Z,11µm,21.0s,MS6.3
YNR Norris Junctio 95.62 46 P **P** **08 41 16.2 +0.9**
USP Ospenovka 95.68 313 P **P** **08 41 15.5 0.0**
SNR=18
PV10 Paradox Valley 95.80 52 *e*P **P** **08 41 16.3 +0.1**
LKWY Lake 95.80 46 P **P** **08 41 20.6 +4.6**
LKWY pmax pmax
comp=Z,8.0nm,0.7s,mb5.3
LKWY Lake 95.80 46 *e*P **P** **08 41 16.9 +0.9**
comp=Z,8.4nm,0.7s,mb5.3
LKWY LR LR
comp=Z,100µm,19.0s,MS7.3
NVL N'lazarevskaya 96.02 190⇑ *e*P **P** **08 41 17.0 +0.6**
NVL *e* 08 45 19.0
NVL *e*S 08 51 44.0
NVL pmax pmax
comp=Z,2µm,3.4s
NVL MLR MLR
comp=Z,57µm,18.0s,MS7.1

MAIT Maitri 96.02 189 *e*P **P** **08 41 20.2 +3.8**
MAIT *e*S S 08 51 59.7 -29
AML Almayashu 96.08 312 P **P** **08 41 18.2 +0.9**
SNR=15
EKS2 Erkin-Say 96.10 312 P **P** **08 41 18.5 +1.0**
SNR=11
BW06 Boulder Array 96.11 48 *e*P **P** **08 41 17.4 -0.1**
comp=Z,11nm,0.8s,mb5.3
BW06 LR LR
comp=Z,34µm,19.0s,MS6.8
PDAR Pinedale Array 96.11 48 P **P** **08 41 16.4 -1.1**
comp=Z,9.9nm,0.8s,mb5.3,baz=253,slow=2.0,SNR=36
PDAR S 08 51 40.7
comp=Z,0.5nm,0.8s,baz=207,slow=4.0,SNR=2.4
PDAR PS PS 08 53 52.9 -7.4
comp=Z,0.4nm,1.0s,baz=315,slow=2.6,SNR=2.5
PDAR PKKPbc 08 57 58.6
comp=Z,3.4nm,0.8s,baz=84,slow=3.6,SNR=5.0
PDAR PKPPKP 09 06 10.4
comp=Z,2.6nm,1.1s,baz=90,slow=1.5,SNR=6.9
PDAR LR LR 09 21 53.6
comp=Z,29µm,18.8s,MS6.8,baz=263,slow=34
PV01 Paradox Valley 96.12 52 *e*P **P** **08 41 17.8 +0.1**
BHJ Bhuj 96.48 292 *e*P **P** **08 41 18.3 -1.3**
BHJ *i* 08 44 08.3
GCMT Greycliff 96.50 45 *e*P **P** **08 41 20.1 +0.9**
YKA Yellowknife Ar 96.52 28 P **P** **08 41 17.4 -1.5**
comp=Z,67nm,1.1s,mb6.0,baz=260,slow=4.7,SNR=64
YKA PKKPbc 08 58 02.2
comp=Z,3.3nm,0.9s,baz=83,slow=2.8,SNR=7.2
YKA LR LR 09 22 16.6
comp=Z,46µm,19.1s,MS7.0,baz=250,slow=34
YKA Yellowknife Ar 96.52 28 P **P** **08 41 17.4 -1.5**
YKA PKKPbc 08 58 02.2
YKA LR LR 09 22 16.6
YKW3 Yellowknife Ar 96.53 28 *e*P **P** **08 41 18.1 -0.9**
LAZ Ladron 96.69 56 *e*P **P** **08 41 21.5 +1.2**
LENM Lemitar 96.79 57 *e*P **P** **08 41 22.0 +1.1**
RW3 Ridgway 96.83 52 P **P** **08 41 22.1 +1.2**
RW3 Ridgway 96.83 52 *e*P **P** **08 41 21.7 +0.8**
PMSA Palmer Station 96.96 162 *e*P **P** **08 41 22.4 +1.5**
comp=Z,91nm,1.0s,mb6.2
PMSA *e*pP pP 08 41 33.2 +0.5
PMSA LR LR
comp=Z,48µm,21.0s,MS7.0
SNAA Sanae 96.96 185 *e* PP 08 45 33.6 +14
SNAA Sanae 96.96 185 *e* 08 46 08.8
SNAA Sanae 96.96 185 *e*P **P** **08 41 20.1 -0.7**
SNAA *e**PP pP 08 41 31.0 -1.6
SNAA pmax pmax
comp=Z,140nm,1.3s
SNAA Sanae 96.96 185⇑ *i*P **P** **08 41 20.8 0.0**
SNAA *e* pP 08 41 32.7 +0.1
SNAA *e* 08 41 36.6
SNAA *e* 08 45 33.6
SNAA *e* 08 46 08.8
LPM Los Pinos Moun 97.09 57 *e*P **P** **08 41 22.8 +0.6**
ANMO Albuquerque 97.33 56 P **P** **08 41 23.5 +0.2**
ANMO pmax pmax
comp=Z,11nm,1.0s
ANMO Albuquerque 97.33 56 *e*P **P** **08 41 23.2 -0.1**
comp=Z,11nm,0.9s,mb5.3
ANMO LR LR
comp=Z,35µm,20.0s,MS6.8
VNA3 Neumayer Olymp 97.82 183 *e* PP 08 45 38.6 +13
VNA3 Neumayer Olymp 97.82 183 *e* 08 46 14.4
VNA3 Neumayer Olymp 97.82 183⇑ *i*P **P** **08 41 26.3 +1.7**
VNA3 *e* pP 08 41 38.2 +1.7
VNA3 *e* 08 41 42.4
VNA3 *e* 08 45 38.6
VNA3 *e* 08 46 14.4
VNA2 Neumayer--Watz 98.02 183 *e* PP 08 45 40.1 +12
VNA2 Neumayer--Watz 98.02 183 *e* 08 46 15.2
VNA2 Neumayer--Watz 98.02 183⇑ *i*P **P** **08 41 27.3 +1.8**
VNA2 *e* pP 08 41 39.2 +1.9
VNA2 *e* 08 41 43.4
VNA2 *e* 08 45 40.1
VNA2 *e* 08 46 15.2
VNA2 *e* 08 46 17.6
VNA1 Neumayer--Stat 98.34 183 *e* 08 46 17.6
VNA1 Neumayer--Stat 98.34 183⇑ *i*P **P** **08 41 29.9 +2.9**
VNA1 *e* pP 08 41 40.6 +1.8
VNA1 *e* pP 08 41 44.6 +5.8
VNA1 *e* 08 45 42.2
VNA1 *e* 08 46 17.6
SDCO Great Sand Dun 98.47 53 *e*P **P** **08 41 28.6 +0.3**
comp=Z,3.7nm,0.8s
SDCO LR LR
comp=Z,95µm,22.0s
ISCO Idaho Springs 98.64 51 P **P** **08 41 30.4 +1.4**
ISCO pmax pmax
comp=Z,5.0nm,0.9s
ISCO Idaho Springs 98.64 51 *e*P **P** **08 41 29.6 +0.6**
comp=Z,5.1nm,0.8s,mb5.1
ISCO LR LR
comp=Z,120µm,22.0s,MS7.3
GDL2 Guadalupe Moun 98.69 59 *e*P **P** **08 41 29.0 -0.4**
LTX Lajitas 98.91 62 P **P** **08 41 33.2 +2.7**
LTX pmax pmax
comp=Z,4.0nm,0.8s
LTX Lajitas 98.91 62 *e*Pdif **P** **08 41 30.2 -0.3**
comp=Z,4.2nm,0.8s,mb5.0
LTX LR LR
comp=Z,43µm,21.0s,MS6.9
TXAR Lajitas Array 98.91 62 P **P** **08 41 29.4 -1.2**
comp=Z,3.5nm,0.7s,baz=231,slow=5.1,SNR=24
TXAR PS PS 08 54 19.1 -11
comp=Z,0.2nm,0.7s,baz=307,slow=41,SNR=2.3
TXAR PKKPbc 08 57 56.0
comp=Z,5.6nm,0.7s,baz=103,slow=2.8,SNR=26
TXAR PKPPKP 09 06 07.0
comp=Z,0.8nm,1.0s,baz=90,slow=6.3,SNR=4.6
TXAR LR LR 09 17 17.2
comp=Z,39µm,21.5s,baz=220,slow=30
LAO LASA Array 98.99 44 *e*Pdif **P** **08 41 31.2 +0.7**
comp=Z,56nm,0.9s,mb6.1
LAO *e*PP PP 08 45 33.4 -1.6
LAO LR LR
comp=Z,23µm,20.0s,MS6.7
CPRX Cap Rock 99.21 58 *e*Pdif **P** **08 41 30.9 -0.8**
BVA0 Borovoye Array 99.68 322 *i* P **P** **08 41 32.9 -0.5**
BVA0 pmax pmax
comp=Z,2.0nm,0.9s
BVAR Borovoye Array 99.68 322 PKKPbc 08 57 54.7
comp=Z,1.7nm,0.7s,baz=270,slow=3.0,SNR=4.3
BVAR LR LR 09 24 08.2
comp=Z,180nm,21.3s,baz=195,slow=34
BRVK Borovoye 99.75 322 P **P** **08 41 33.4 -0.3**
BRVK pmax pmax
comp=Z,25nm,1.0s,mb5.6
BRVK Borovoye 99.75 322 *e*Pdif **P** **08 41 33.1 -0.6**
comp=Z,25nm,1.0s,mb5.6
BRVK *e*PP PP 08 45 37.4 -3.5
RSSD Black Hills 100.27 47 P P 08 41 39.0 +2.6
RSSD pmax pmax
comp=Z,16nm,1.1s
RSSD Black Hills 100.27 47 *e*Pdif P 08 41 36.6 +0.2
comp=Z,16nm,1.1s
RSSD LR LR
comp=Z,7µm,20.0s,MS6.2
DGMT Dagmar 100.53 42 *e*Pdif P 08 41 37.1 -0.3
comp=Z,55nm,0.9s
DGMT *e*PP PP 08 45 42.5 -4.8
DGMT LR LR
comp=Z,44µm,19.0s,MS7.0
FFC Flin Flon 102.25 36 *e*Pdif Pdif 08 41 44.1 -0.8
FFC LR LR
comp=Z,8µm,19.0s,MS6.3
CBKS Cedar Bluff 103.08 53 *e*P Pdif 08 41 48.5 -0.6
CBKS Cedar Bluff 103.08 53 *e*Pdif Pdif 08 41 48.4 -0.7
CBKS LR LR
comp=Z,75µm,22.0s,MS7.2
WMOK Wichita Mounta 103.58 57 P Pdif 08 41 52.0 +0.6
WMOK Wichita Mounta 103.58 57 *e*Pdif Pdif 08 41 50.3 -1.1
WMOK LR LR
comp=Z,46µm,21.0s,MS7.0
SVE Sverdlovsk 105.36 326 *α* *i*P Pdif 08 41 56.0 -2.6
SVE *e* 08 46 21.0
SVE *e* 08 53 52.0
SVE *i* PS PS 08 55 33.0 -2.6
SVE *e* 09 05 19.0
SVE pmax pmax
comp=Z,440nm,3.4s
SVE pmax pmax
comp=Z,2µm,10.0s
ULM Lac du Bonnet 106.00 41 Pdiff Pdif 08 42 03.0 +1.4

comp=Z,4.5nm,0.7s,baz=212,slow=4.5,SNR=4.0
ULM PKiKP 08 46 16.1
comp=Z,6.7nm,0.9s,baz=185,slow=2.9,SNR=3.2
ULM Lac du Bonnet 106.00 41 Pdif Pdif 08 42 03.0 +1.4
ULM *e*PKP 08 46 12.7
ULM PKPdf Px 08 46 16.1
FCC Fort Churchill 106.44 32 *e*PKP 08 46 13.1
ARU Arti 106.54 326 *e*P Pdif 08 41 56.9 -6.9
ARU *i* S SKS 08 52 34.7 -4.8
ARU *i* PS PS 08 55 41.7 -5.6
ARU MLR MLR
comp=N,6µm,17.0s,MS6.9
ARU MLR MLR
comp=E,29µm,20.0s,MS6.9
ARU MLR MLR
comp=Z,41µm,20.0s,MS7.0
ARU Arti 106.54 326 *e*PKP 08 46 15.0
ARU LR LR
comp=Z,11µm,20.0s,MS6.4
NATX Nacogdoches 106.86 60 *e*PKP 08 46 16.2
NATX *e*PP PP 08 46 29.6 -5.7
NATX LR LR
comp=Z,51µm,22.0s,MS7.0
PAYG Puerto Ayora 107.14 94 PFAKE 08 46 30.0
PAYG LR LR
comp=Z,22µm,20.0s,MS6.7
VAN Vannovskaya 107.66 306 P Pdif 08 42 07.8 -1.4
VAN S SKS 08 52 46.5 +1.7
EFI East Falkland 108.65 155 PFAKE 08 46 30.0
EFI LR LR
comp=Z,4µm,21.0s,MS6.0
CCM Cathedral Cave 109.74 53 PFAKE 08 46 30.0
CCM LR LR
comp=Z,6µm,19.0s,MS6.2
JFWS Jewell Farm 110.27 48 *e*PKP PKPdf 08 46 21.2 +0.8
JFWS LR LR
comp=Z,23µm,19.0s,MS6.8
OXF Oxford 111.30 57 PFAKE 08 46 40.0 +17
OXF LR LR
comp=Z,50µm,21.0s,MS7.1
WVT Waverly 112.54 55 PFAKE 08 46 40.0 +15
WVT LR LR
comp=Z,28µm,22.0s,MS6.8
BJO Bjornoya 113.09 350 *e*PP PP 08 47 15.2 -4.9
BJO AMS AMS 09 39 05.6
comp=Z,11µm,19.9s,MS6.4
LRAL Lakeview Retre 113.35 59 *e*PKP PKPdf 08 46 27.5 +0.8
LRAL LR LR
comp=Z,54µm,21.0s,MS7.1
LVZ Lovozero 113.61 341 *i* PKIKP PKPdf 08 46 26.7 +0.3
LVZ MLR MLR
comp=Z,32µm,23.0s,MS6.9
LVZ Lovozero 113.61 341 *e*PKP PKPdf 08 46 26.7 +0.3
WCI Wyandotte Cave 113.62 53 *e*PKP PKPdf 08 46 28.0 +0.8
WCI LR LR
comp=Z,5µm,19.0s,MS6.2
DAG Danmarks Havn 114.18 0⇑ *i*P PKPdf 08 46 28.0 +0.6
comp=Z,9.7nm,0.8s
DAG Danmarks Havn 114.18 0⇑ *i*P PP 08 47 22.0 -5.7
comp=Z,7µm,2.2s
comp=Z,18µm,20.0s
APA Apatity 114.19 341⇑ *i*PKIKP PKPdf 08 46 28.1 +0.5
APA *i* 08 46 40.1
APA *e*PPP PPP 08 49 54.0 +1.7
APA *i* 08 53 14.0
APA *i* PS PS 08 56 55.0 -5.5
APA *i* SS SS 09 03 30.0 +17
APA *e*SSS SSS 09 07 30.0 +0.9
APA pmax pmax
comp=Z,230nm,2.0s
APA MLR MLR
comp=Z,1µm,20.0s
JTS JuntasAbangare 114.20 84 PFAKE 08 46 40.0 +11
JTS LR LR
comp=Z,11µm,20.0s,MS6.5
PECR Pechory 114.44 327 *e*P Pdif 08 42 38.4 -0.2
PECR *i* 08 47 25.3
PECR *e* 08 53 16.0
PECR pmax pmax
comp=N,3µm,10.0s
PECR pmax pmax
comp=E,7µm,10.0s
PECR pmax pmax
comp=Z,8µm,10.0s
PECR MLR MLR
comp=Z,43µm,20.0s,MS7.0
PECR MLR MLR
comp=N,20µm,19.0s,MS7.0
PECR MLR MLR
comp=E,27µm,19.0s,MS7.0
KEV Kevo 114.77 344 *e*pkp PKPdf 08 46 28.5 -0.2
comp=E,13nm,0.7s
KEV Kevo 114.77 344 *e*PKIKP PKPdf 08 46 28.5 -0.2
KEV pmax pmax
comp=Z,13nm,0.7s
AAM Ann Arbor 115.17 48 PFAKE 08 46 40.0 +10
AAM LR LR
comp=Z,45µm,20.0s,MS7.1
ARCES ARCESS Array B 115.31 344 PKP PKPdf 08 46 30.4 +0.6
comp=Z,20nm,0.6s,baz=79,slow=1.3,SNR=52
ARCES PKKPbc 08 57 04.3
comp=Z,9.6nm,0.8s,baz=270,slow=1.2,SNR=5.9
ARE0 ARCESS Array S 115.31 344 *e*PKPdf PKPdf 08 46 30.7 +1.0
ACSO Alum Creek Sta 115.97 51 PFAKE 08 46 40.0 +8.3
ACSO LR LR
comp=Z,74µm,19.0s,MS7.3
TRQA Tornquist 116.17 142 *e*PKPdf PKPdf 08 46 32.7 +0.6
TRQA *e*pPKPdf 08 46 44.2
TRQA LR LR
comp=Z,20µm,22.0s,MS6.7
KBD Kabd 116.52 297 *e*P PKPdf 08 46 34.4 +1.4
RDF Al-Radifah 116.66 297 *e*P PKPdf 08 46 33.8 +0.5
RDF AMb AMB 08 46 36.5
comp=Z,167nm,1.0s
TRO Tromso 116.86 346 *e* PKPdf 08 46 31.9 -0.8
TRO *e*PP PP 08 47 43.8 -2.8
TRO *e*SKSa 08 53 19.1
TRO *e*SS SS 09 03 47.0 -0.3
TRO AMS AMS 09 36 28.1
comp=Z,13µm,16.7s,MS6.6
RST Umm Al-Ruwaisa 117.12 298 *e*P PKPdf 08 46 35.9 +1.8
RST AMb AMB 08 46 38.3
comp=Z,127nm,1.1s
NNA Nana 117.17 110 *e*PKPdf PKPdf 08 46 35.6 +1.1
NNA LR LR
comp=Z,6µm,20.0s,MS6.2
SUMG Summit 117.18 7 *e*PKPdf PKPdf 08 46 34.8 +1.6
SUMG *ep*PKPdf 08 46 47.7
RYDS Riyadh 117.56 292 P PKPdf 08 46 37.5 +2.4
TI2 Plekhanov 117.58 311 *e*PKIKP PKPdf 08 46 34.0 -0.7
TI2 *i* 08 47 51.0
GNI Garni 117.85 310 *e*P PKPdf 08 46 38.6 +3.4
GNI Garni 117.85 310 *c* *i*PKIKP PKPdf 08 46 36.1 +0.9
GNI MLR MLR
comp=Z,24µm,24.0s
GNI Garni 117.85 310 *e*PKPdf PKPdf 08 46 36.6 +1.4
GNI LR LR
comp=Z,14µm,21.0s,MS6.6
PWV Princeton 117.85 54 *e*PKPdf PKPdf 08 46 36.2 +0.9
PWV *ep*PKPdf 08 46 46.4
SADO Sadowa 117.95 45 PKP PKPdf 08 46 34.8 -0.5
comp=Z,21nm,1.2s,baz=24,slow=1.3,SNR=7.7
SADO PKKPbc 08 56 56.0
comp=Z,12nm,0.8s,baz=90,slow=2.3,SNR=6.6
SADO Sadowa 117.95 45 PKP PKPdf 08 46 34.8 -0.5
SADO PKKPbc 08 56 56.0
FWV Forest Hill 118.00 53 *e*PKPdf PKPdf 08 46 36.0 +0.4
MOS Moscow 118.03 328 *e*P Pdif 08 42 55.4 +1.0
MOS *e* 08 46 35.6
MOS *i* 08 46 48.1
MOS *e*PS PS 08 57 31.5 -4.7
MOS *e*SSS SSS 09 08 27.4 +0.5
MOS pmax pmax
comp=Z,80nm,1.0s
MOS MLR MLR
comp=N,20µm,20.0s,MS7.1
MOS MLR MLR
comp=E,43µm,20.0s,MS7.1
MOS MLR MLR
comp=Z,59µm,20.0s,MS7.2
MOS Moscow 118.03 328 *e*P Pdif 08 42 54.9 +0.5
JSC Jenkinsville 118.04 57 *e*PKPdf PKPdf 08 46 36.0 +0.3
DWPF Disney 118.34 64 PFAKE 08 46 50.0 +13
DWPF LR LR
comp=Z,7µm,22.0s,MS6.3

BLA	Blacksburg	118.36	54	ePKPdf	PKPdf	08 46 37.0	+0.7
BLA				LR	LR		
	comp=Z,31μm,22.0s,MS6.9						
MCWV	Mont Chateau	118.44	51	PFAKE		08 46 50.0	+14
MCWV				LR	LR		
	comp=Z,87μm,22.0s,MS7.3						
KIV	Kislovodsk	118.61	314c	iPKIKP	PKPdf	08 46 36.6	-0.1
KIV				MLR	MLR		
	comp=Z,42μm,25.0s,MS7.0						
KIV	Kislovodsk	118.61	314	ePKPdf	PKPdf	08 46 38.4	+1.8
KIV				epPKPdf		08 46 51.6	
VOR	Voronezh	118.66	323	PKIKP	PKPdf	08 46 38.0	+1.5
VOR				pmax	pmax		
	comp=Z,330nm,2.0s						
OBN	Obninsk	118.84	328c	iPKIKP	PKPdf	08 46 37.6	+0.8
OBN				e		08 47 53.9	
OBN				e		08 53 27.8	
OBN				iPS	PS	08 57 42.0	-1.4
OBN				iSS	SS	09 04 07.1	-6.2
OBN				pmax	pmax		
	comp=Z,72nm,1.3s						
OBN				MLR	MLR		
	comp=Z,60μm,20.0s,MS7.2						
OBN	Obninsk	118.84	328	ePKPdf	PKPdf	08 46 37.5	+0.7
OBN				epPKPdf		08 46 51.1	
MZLS	Mizel	118.86	291	P	PKPdf	08 46 39.5	+1.9
OTAV	Otavalo	118.90	96	ePKPdf	PKPdf	08 46 39.2	+1.2
OTAV				LR	LR		
	comp=Z,8μm,21.0s,MS6.3						
NHSC	New Hope	119.06	58	PFAKE		08 46 50.0	+12
NHSC				LR	LR		
	comp=Z,65μm,22.0s,MS7.2						
TVAN	Van	119.14	308	iP	PKPdf	08 46 41.0	+3.2
LOF	Lofoten	119.26	347	e	PKPdf	08 46 40.2	+2.8
LOF	Lofoten	119.26	347	eP	PKPdf	08 46 39.7	+2.4
GENY	Geneseo	119.33	47	ePKPdf	PKPdf	08 46 37.6	-0.5
GENY				ePKKPbc		08 56 50.8	
KAMS	Al Khamasin	119.42	287	P	PKPdf	08 46 40.7	+1.9
PUL	Pulkovo	119.59	334	eP	Pdif	08 42 44.6	-17
PUL				MLR	MLR		
	comp=N,6μm,23.0s,MS6.9						
PUL				MLR	MLR		
	comp=E,30μm,20.0s,MS6.9						
PUL				MLR	MLR		
	comp=Z,37μm,20.0s,MS7.0						
JMIC	Jan Mayen	119.71	356	ePP	PP	08 48 02.6	-3.2
JMIC				eSS	SS	09 04 30.5	+6.2
JMIC				AMS	AMS	09 30 47.2	
	comp=Z,4μm,20.8s,MS6.0						
SSPA	Standing Stone	119.73	49	ePKPdf	PKPdf	08 46 39.2	+0.2
SSPA				LR	LR		
	comp=Z,17μm,20.0s,MS6.7						
KAF	Kangasniemi	119.83	338	epkp	PKPdf	08 46 38.1	-0.5
	baz=52,slow=2.1						
LVC	Limon Verde	119.91	124	ePKPdf	PKPdf	08 46 40.8	+1.1
LVC				epPKPdf		08 46 53.4	
LVC				ePP	PP	08 48 04.0	-4.1
LVC				LR	LR		
	comp=Z,22μm,22.0s,MS6.8						
BCA	Borcka	119.93	312	P	PKPdf	08 46 41.2	+1.9
MELS	Mels	120.24	346	eP	PKPdf	08 46 40.0	+0.7
DJNS	Zahran al Janu	120.31	284	P	PKPdf	08 46 43.2	+2.7
FINES	FINESS Array B	120.33	337	PKP	PKPdf	08 46 39.7	+0.1
	comp=Z,23nm,0.8s,baz=90,slow=5.7,SNR=35						
FINES				PKKPbc		08 56 48.2	
	comp=Z,7.9nm,0.9s,baz=176,slow=2.7,SNR=6.8						
ARE	Arequipa	120.40	116	eP	PKPdf	08 46 48.0	+7.2
ARE				e		08 48 19.0	
ARE				e		08 58 00.0	
TATS	Tathlith	120.44	286	P	PKPdf	08 46 43.0	+2.2
ERZM	Erzurum	120.45	310	iP	PKPdf	08 46 43.1	+2.7
EZM	Erzurum	120.45	310	eP	PKPdf	08 46 43.3	+2.9
SCO	Scoresbysund	120.45	2	iP	PP	08 48 08.8	-1.8
	comp=Z,14nm,0.8s						
VRT	Varto	120.48	309	iP	PKPdf	08 46 43.6	+3.1
CBN	Corbin	120.59	52	ePKPdf	PKPdf	08 46 41.7	+1.0
CBN				LR	LR		
	comp=Z,90μm,22.0s,MS7.4						
ARSS	Ar Rass	120.61	294	P	PKPdf	08 46 42.8	+1.8
MOR8	Moi Rana	120.62	345	eP	PKPdf	08 46 40.0	0.0
MOR8				AMb	AMB	08 46 41.8	
	comp=Z,49nm,1.1s						
BTMT	Batman	120.69	308	eP	PKPdf	08 46 43.3	+2.4
BINY	Binghamton	120.78	47	ePKPdf	PKPdf	08 46 41.0	+0.1
BINY				LR	LR		
	comp=Z,81μm,19.0s,MS7.4						
SOC	Sochi	120.79	314	iPKIKP	PKPdf	08 46 39.4	-1.5
SOC				e		08 48 14.3	
SOC				e		08 53 41.6	
SOC				e		08 57 52.6	
SOC				eSS	SS	09 04 51.2	+12
SOC				pmax	pmax		
	comp=Z,82nm,1.9s						
SOC				pmax	pmax		
	comp=N,27nm,0.6s						
SOC				pmax	pmax		
	comp=E,45nm,1.2s						
SOC				MLR	MLR		
	comp=N,21μm,22.0s,MS6.8						
SOC				MLR	MLR		
	comp=E,9μm,22.0s,MS6.8						
SOC				MLR	MLR		
	comp=Z,32μm,22.0s,MS6.9						
AFFS	'Afif	120.89	291	P	PKPdf	08 46 42.9	+1.3
BEST	Besiri	120.91	308	iP	PKPdf	08 46 43.4	+2.1
LOZ	Lake Ozonia	121.13	44	ePKPdf	PKPdf	08 46 41.0	-0.6
NCB	Newcomb	121.56	45	ePKPdf	PKPdf	08 46 42.9	+0.5
NCB				LR	LR		
	comp=Z,61μm,19.0s,MS7.3						
FRSS	Farasan al Kab	121.63	283	P	PKPdf	08 46 45.7	+2.6
EZC	Erzincan	121.64	310	iP	PKPdf	08 46 46.6	+4.0
GUMT	Gumushane	121.73	311	eP	PKPdf	08 46 45.5	+2.7
SCHQ	Schefferville	121.80	31	PKP	PKPdf	08 46 42.7	+0.1
	comp=Z,19nm,0.7s,baz=5.6,slow=2.0,SNR=21						
SCHQ				PKKPbc		08 56 42.7	
	comp=Z,12nm,0.7s,baz=137,slow=4.1,SNR=13						
SCHQ	Schefferville	121.80	31	ePKPdf	PKPdf	08 46 42.7	+0.2
SCHQ				LR	LR		
	comp=Z,69μm,20.0s,MS7.3						
HILS	Ha'il	121.81	295	P	PKPdf	08 46 45.5	+2.2
VSU	Vasula	121.86	334⇑	iPKP	PKPdf	08 46 43.7	+1.1
MIV	Mineville/With	122.01	45	ePKPdf	PKPdf	08 46 43.0	-0.2
ANN	Anapa	122.02	316	ePKIKP	PKPdf	08 46 43.3	+0.1
ANN				e*PP		08 46 56.4	
ANN				e		08 48 18.6	
ANN				e		08 53 38.6	
ANN				eSP	SP	08 58 07.7	-0.1
ANN				eSS	SS	09 05 15.6	+21
ANN				pmax	pmax		
	comp=Z,63nm,0.9s						
ANN				MLR	MLR		
	comp=Z,30μm,21.0s,MS6.9						
ANN				MLR	MLR		
	comp=N,25μm,24.0s,MS6.9						
ANN				MLR	MLR		
	comp=E,22μm,22.0s,MS6.9						
ANN	Anapa	122.02	316	eP	PKPdf	08 46 42.1	-1.1
ACCN	Adirondack Com	122.11	45	ePKPdf	PKPdf	08 46 43.3	-0.2
PTK	Pertek	122.15	309	eP	PKPdf	08 46 47.4	+3.7
BRNJ	Basking Ridge	122.18	49	ePKPdf	PKPdf	08 46 44.7	+1.0
BLJS	Baljurashi	122.21	287	P	PKPdf	08 46 46.7	+2.5
MDV	Middlebury	122.27	45	ePKPdf	PKPdf	08 46 44.3	+0.5
MDV				epPKPdf		08 46 55.8	
ELZG	Elazig	122.55	309	iP	PKPdf	08 46 53.4	+9.0
NSS	Namsos	122.57	345	eP	PKPdf	08 46 43.7	-0.2
NSS				ePP	PP	08 48 21.7	-3.9
NSS				AMS	AMS	09 45 18.9	
	comp=Z,23μm,27.2s,MS6.7						
PAL	Palisades	122.59	48	ePKPdf	PKPdf	08 46 44.2	-0.3
CPNY	Central Park	122.60	48	ePKPdf	PKPdf	08 46 45.1	+0.6
BOSA	Boshof	122.70	226	ePKPdf	PKPdf	08 46 46.5	+1.5
BOSA				LR	LR		
	comp=Z,29μm,19.0s,MS7.0						
HNH	Hanover	122.98	45	ePKPdf	PKPdf	08 46 46.0	+0.8
SUR	Sutherland	123.24	219	PKP	PKPdf	08 46 47.2	+1.2
	comp=Z,29nm,0.9s,baz=168,slow=3.8,SNR=9.4						
SUR	Sutherland	123.24	219	ePKPdf	PKPdf	08 46 47.4	+1.5
SUR				LR	LR		
	comp=Z,11μm,20.0s,MS6.5						
LTHS	Al Lith	123.33	287	P	PKPdf	08 46 48.1	+1.7
QUA2	Belchertown	123.36	46	ePKPdf	PKPdf	08 46 49.5	+3.6
LPAZ	La Paz	123.41	118	PKP	PKPdf	08 46 47.2	+0.6
	comp=Z,13nm,0.8s,baz=10,slow=1.9,SNR=14						
LPAZ				PKKPbc		08 56 38.8	
	comp=Z,4.5nm,1.0s,baz=9.7,slow=4.2,SNR=2.6						
LPAZ	La Paz	123.41	118	ePKPdf	PKPdf	08 46 47.5	+0.9
LPAZ				epPKPdf		08 46 59.9	
LPAZ				LR	LR		
	comp=Z,19μm,22.0s,MS6.7						
FFD	Franklin Falls	123.49	45	ePKPdf	PKPdf	08 46 47.0	+0.9
MNK	Minsk	123.58	330	ePKIKP	PKPdf	08 46 44.0	-2.0
SVSK	Karacayir	123.71	311	eP	PKPdf	08 46 49.2	+2.5
SVST	Sivas	123.78	311	iP	PKPdf	08 46 49.2	+2.4
ROSC	El Rosal	123.83	91	PKP	PKPdf	08 46 48.2	+0.7
	comp=Z,35nm,0.4s,baz=321,slow=5.7,SNR=23						
HRV	Harvard--Oak R	123.85	46	ePKPdf	PKPdf	08 46 46.5	-0.4
HRV				LR	LR		
	comp=Z,32μm,21.0s,MS7.0						
KMBO	Kilima Mbogo	123.89	261	PKP	PKPdf	08 46 48.2	+0.6
	comp=Z,33nm,1.1s,baz=53,slow=2.6,SNR=40						
KMBO				PP	PP	08 48 34.2	-1.9
	comp=Z,19nm,1.0s,baz=72,slow=6.6,SNR=5.6						
KMBO	Kilima Mbogo	123.89	261	ePKPdf	PKPdf	08 46 48.5	+0.9
KMBO				ePP	PP	08 48 32.8	-3.3
KMBO				LR	LR		
	comp=Z,46μm,21.0s,MS7.1						
GZT	Gaziantep	123.90	308	iP	PKPdf	08 46 48.8	+1.7
BRYW	Bryant College	124.04	47	ePKPdf	PKPdf	08 46 48.0	+0.8
WES	Weston	124.06	46	ePKPdf	PKPdf	08 46 48.1	+0.9
WES				LR	LR		
	comp=Z,51μm,21.0s,MS7.2						
KVT	Kavak	124.09	312	eP	PKPdf	08 46 48.3	+1.0
KBRS	Khaybar	124.19	294	P	PKPdf	08 46 50.1	+2.2
GAZ	Gaziantep	124.22	308	eP	PKPdf	08 46 50.1	+2.4
KAHT	Ahir Dag	124.37	308	iP	PKPdf	08 46 49.8	+1.8
WVL	Waterville	124.48	43	PFAKE		08 47 00.0	+12
WVL				LR	LR		
	comp=Z,130μm,21.0s,MS7.6						
PQI	Presque Isle	124.76	40	PFAKE		08 47 00.0	+11
PQI				LR	LR		
	comp=Z,187μm,20.0s,MS7.8						
AKASG	Malin Array Be	124.79	325	PKP	PKPdf	08 46 48.1	-0.3
	comp=Z,38nm,0.7s,baz=60,slow=2.8,SNR=89						
AKASG				PKKPbc		08 56 30.6	
	comp=Z,7.2nm,0.7s,baz=256,slow=4.6,SNR=25						
AKASG				tx	tx	09 03 59.9	
	comp=Z,0.1nm,0.2s,baz=236,slow=6.9,SNR=4.4						
BNN	Bunyan	124.85	310	eP	PKPdf	08 46 50.9	+2.0
COBT	Iskenderun	125.11	307	iP	PKPdf	08 46 51.1	+1.6
CTKT	Corum	125.14	312	iP	PKPdf	08 46 50.2	+0.8
CEYT	Ceyhan	125.39	308	eP	PKPdf	08 46 52.1	+2.1
YNBS	Yanbu' al Bahr	125.44	292	P	PKPdf	08 46 52.8	+2.3
ASF	Jabal al Asfar	125.47	302	PKP	PKPdf	08 46 52.0	+1.7
	comp=Z,47nm,1.0s,baz=291,slow=0.3,SNR=56						
HFS	Hagfors	125.59	341	PKKPbc		08 56 28.1	
	comp=Z,11nm,1.1s,baz=180,slow=4.4,SNR=5.0						
AVNT	Avonos	125.61	310	iP	PKPdf	08 46 50.3	0.0
NB2	NORSAR Subarra	125.61	343	PKPdf	PKPdf	08 46 50.1	+0.4
	comp=Z,53nm,0.9s,baz=35,slow=1.8						
NB2	NORSAR Subarra	125.61	343	PKPd		08 46 50.1	
	baz=34,slow=1.9						
NB2	NORSAR Subarra	125.61	343	⇓PKP	PKPdf	08 46 50.1	+0.4
NOA	NORSAR Array B	125.61	343	PKP	PKPdf	08 46 49.7	0.0
	comp=Z,32nm,0.9s,baz=30,slow=1.7,SNR=59						
NOA				PKKPbc		08 56 27.4	
	comp=Z,8.9nm,0.8s,baz=216,slow=4.2,SNR=11						
BALT	Daday	125.86	314	iP	PKPdf	08 46 50.8	+0.1
NAO01	NORSAR Array S	125.87	343	ePKPdf	PKPdf	08 46 51.2	+0.9
NAO01				LR	LR		
	comp=Z,20μm,19.0s,MS6.8						
EMMW	East Machias	125.89	42	ePKPdf	PKPdf	08 46 50.8	0.0
EMMW				epPKPdf		08 47 03.0	
EMMW				ePP	PP	08 48 42.5	-5.9
EMMW				LR	LR		
	comp=Z,174μm,21.0s,MS7.7						
NRS	Narsarsuaq	125.95	16	iP	Pdif	08 43 24.7	-4.4
NRS				i		08 46 49.0	
NRS	Narsarsuaq	125.95	16	eP	Pdif	08 43 24.7	-4.4
NRS				i		08 46 49.0	
NIG	Nigde	125.98	309	eP	PKPdf	08 46 53.2	+2.1
UMJS	Umm Lajj	125.99	293	P	PKPdf	08 46 54.0	+2.5
CANT	Cankiri	125.99	313	eP	PKPdf	08 46 53.2	+2.2
ELDT	Eldivan	126.17	312	iP	PKPdf	08 46 53.4	+2.0
BORG	Borgarnes	126.21	2	ePKPdf	PKPdf	08 46 53.1	+2.3
BORG				epPKPdf		08 47 04.2	
BORG				LR	LR		
	comp=Z,4μm,20.0s,MS6.1						
HRI	Mount Hermon	126.23	303	P	PKPdf	08 46 53.5	+1.8
BRTR	Keskin Array B	126.25	312	PKP	PKPdf	08 46 52.0	+0.4
	comp=Z,86nm,1.3s,baz=135,slow=3.5,SNR=40						
BRTR				tx	tx	08 56 38.8	
	comp=Z,3.4nm,0.9s,baz=224,slow=6.8,SNR=5.5						
KAMT	Kaman	126.30	311	iP	PKPdf	08 46 53.0	+1.3
TBKS	Tabuk	126.35	297	P	PKPdf	08 46 54.6	+2.5
SAFT	Safranbolu	126.45	314	iP	PKPdf	08 46 53.7	+1.7
HMDT	Nahal Hemdat	126.59	302	P	PKPdf	08 46 54.2	+1.7
MMLI	Mount Malkishu	126.65	302	P	PKPdf	08 46 54.4	+1.8
CPUP	Villa Florida	126.69	135	PKP	PKPdf	08 46 53.0	+0.1
	comp=Z,38nm,0.9s,baz=287,slow=2.0,SNR=42						
CPUP	Villa Florida	126.69	135	PKIKP	PKPdf	08 46 53.0	+0.2
CPUP				pmax	pmax		
	comp=Z,38nm,0.9s						
CPUP	Villa Florida	126.69	135	ePKPdf	PKPdf	08 46 53.5	+0.7
CPUP				epPKPdf		08 47 05.3	
CPUP				LR	LR		
	comp=Z,23μm,22.0s,MS6.8						
HNTI	Hanita	126.72	303	P	PKPdf	08 46 54.1	+1.4
MEST	Erdemli	126.74	308	iP	PKPdf	08 46 54.1	+1.5
KIS	Kishinev	126.76	322	eP	Pdif	08 43 35.0	+2.0
KIS				e		08 46 53.0	
KIS				e		08 47 06.0	
KIS				i		08 48 50.0	
KIS				iPPP	PPP	08 51 30.0	-7.2
KIS				iPS	PS	08 58 48.0	-6.0
KIS				iSS	SS	09 05 59.0	+4.6
KIS				pmax	pmax		
	comp=Z,2μm,1.0s						
KIS				pmax	pmax		
	comp=Z,1μm,6.0s						
KIS				pmax	pmax		
	comp=Z,5μm,7.0s						
KIS				pmax	pmax		
	comp=Z,5μm,20.0s						
ANTO	Ankara	126.82	312	eP	PKPdf	08 46 52.4	-0.3
DRGI	Dragot	126.83	301	P	PKPdf	08 46 54.4	+1.4
LOD	Lodumlu	126.84	312	eP	PKPdf	08 46 54.6	+1.8
JMQS	Jabal Moqyreh	126.85	298	P	PKPdf	08 46 55.6	+2.5
MZDA	Masada	126.90	301	P	PKPdf	08 46 54.5	+1.4
OFRI	'Ofer	126.97	303	P	PKPdf	08 46 54.2	+1.0
SLTI	Sal'it	127.00	302	P	PKPdf	08 46 54.8	+1.5
SGKT	Sivrigoynuk	127.13	313	iP	PKPdf	08 46 54.9	+1.6
IKL	Isikli	127.19	307	eP	PKPdf	08 46 51.8	-1.7
ZFRI	Zfri	127.19	300	P	PKPdf	08 46 55.1	+1.4
KONO	Kongsberg	127.22	343	eP	tx	08 47 57.6	
KONO				AMS	AMS	09 49 18.1	
	comp=Z,21μm,20.0s,MS6.8						
KONO	Kongsberg	127.22	343	PFAKE		08 47 10.0	+17
KONO				LR	LR		
	comp=Z,25μm,20.0s,MS6.9						
PRNI	Paran	127.37	300	P	PKPdf	08 46 55.4	+1.4
MASH	Mash'abbe Sade	127.45	301	P	PKPdf	08 46 55.5	+1.3
LSZ	Lusaka	127.46	241	ePKPdf	PKPdf	08 46 54.5	0.0
LSZ				epPKPdf		08 47 09.5	
LSZ				LR	LR		
	comp=Z,37μm,20.0s,MS7.1						
JMOS	Jabal al Moall	127.47	298	P	PKPdf	08 46 56.7	+2.4
AYUS	'Aynunah	127.48	297	P	PKPdf	08 46 56.5	+2.2
ALWS	Ilw as Safayha	127.49	299	P	PKPdf	08 46 56.7	+2.4
RTMM	Retamin	127.52	301	P	PKPdf	08 46 55.5	+1.2
EIL	Elat	127.53	299	P	PKPdf	08 46 55.7	+1.3
MBH	Mount Berech	127.54	299	P	PKPdf	08 46 55.7	+1.3
BDAS	Al Bad'	127.59	297	P	PKPdf	08 46 56.7	+2.2
HAQS	Haql	127.65	298	P	PKPdf	08 46 56.9	+2.3
KMTI	Karmit	127.65	300	P	PKPdf	08 46 55.7	+1.1
MDU	Mudurnu	127.77	313	eP	PKPdf	08 46 55.9	+1.4
TAYS	Tayyib Ism	127.77	298	P	PKPdf	08 46 57.1	+2.2
KZIT	Kziot	127.79	301	P	PKPdf	08 46 56.1	+1.3
CSS	Prodhromos	127.79	306	ePKPdf	PKPdf	08 46 54.4	-0.4
KIZT	Kizilcal	127.81	311	iP	PKPdf	08 46 56.5	+1.8
HENT	Hendek	127.87	314	iP	PKPdf	08 46 55.5	+0.8
CFR	Carcaliu	128.00	320⇓	iP	PKPdf	08 46 56.6	+1.8
SDV	Santo Domingo	128.05	87	ePKPdf	PKPdf	08 46 56.0	+0.3
SDV				LR	LR		
	comp=Z,14μm,21.0s,MS6.6						
LVV	L'vov	128.10	327	iP	PKPdf	08 46 55.5	+0.6
LVV				ePKS	PKS	08 50 18.0	-12
WAR	Warsaw	128.21	331	ePKIKP	PKPdf	08 46 56.3	+1.3
WAR				e		08 47 09.5	
WAR				e		08 48 58.4	
WAR				e		08 53 55.2	
WAR				MLR	MLR		
	comp=Z,39μm,23.0s,MS7.0						
WAR	Warsaw	128.21	331	ePKP	PKPdf	08 46 56.3	+1.3
WAR				epPKP		08 47 09.5	
WAR				ePP	PP	08 48 58.4	-5.0
WAR				eSKS	SKS	08 53 55.2	-2.1
WAR				MLR	MLR	09 43 14.5	
	comp=Z,39μm,23.0s						
ESKT	Eskisehir	128.35	312	eP	PKPdf	08 46 57.4	+1.7
ESKT	Eskisehir	128.35	312	iP	PKPdf	08 46 57.2	+1.6
EYL	Eskiyayla	128.49	314	P	PKPdf	08 46 57.5	+1.6
BRD	Bordesti	128.52	321⇓	iP	PKPdf	08 46 58.7	+2.9
VRI	Vrincioaia	128.56	321	P	PKPdf	08 46 57.8	+1.9
VRI	Vrincioaia	128.56	321⇓	iP	PKPdf	08 46 57.3	+1.4
PSN	Preselentsi	128.62	318	eP	PKPdf	08 46 50.5	-5.5
KWP	Kalwaria	128.91	327	ePKIKP	PKPdf	08 46 58.1	+1.7
KWP				e		08 47 10.4	
KWP				e		08 49 03.7	
KWP				MLR	MLR		
	comp=Z,47μm,21.6s,MS7.1						
KWP	Kalwaria	128.91	327	ePKP	PKPdf	08 46 58.1	+1.7
KWP				epPKP		08 47 10.4	
KWP				ePP	PP	08 49 03.7	-4.7
KWP				MLR	MLR	09 44 50.8	
	comp=Z,47μm,21.6s						
YLV	Yalova	129.04	314	eP	PKPdf	08 46 55.6	-1.3
ALT	Altintas	129.05	312	eP	PKPdf	08 46 58.3	+1.3
ISK	Istanbul-Kandi	129.08	315	eP	PKPdf	08 46 58.8	+1.9
ISP	Isparta	129.16	310	eP	PKPdf	08 46 57.3	+0.1
ISP	Isparta	129.16	310	P	PKPdf	08 46 57.3	+0.1
ISP				P		08 47 00.4	
MLR	Muntele Rosu	129.22	321	PKP	PKPdf	08 46 58.4	+1.3
	comp=Z,29nm,1.0s,baz=349,slow=4.5,SNR=24						
MLR	Muntele Rosu	129.22	321	PKIKP	PKPdf	08 46 58.4	+1.3
MLR				pmax	pmax		
	comp=Z,29nm,1.0s						
MLR	Muntele Rosu	129.22	321⇑	iP	PKPdf	08 46 59.3	+2.2
GKP	Gorka Klasztor	129.29	333	ePKIKP	PKPdf	08 46 58.6	+1.6
GKP				e		08 47 10.5	
GKP				e		08 49 06.4	
GKP				e		08 54 05.2	
GKP				MLR	MLR		
	comp=Z,52μm,20.6s,MS7.2						
GKP	Gorka Klasztor	129.29	333	ePKP	PKPdf	08 46 58.6	+1.6
GKP				epPKP		08 47 10.5	
GKP				ePP	PP	08 49 06.4	-4.2
GKP				e		08 49 23.1	
GKP				e		08 50 39.8	
GKP				eSKS	SKS	08 54 05.2	+5.1
GKP				LR	LR		
	comp=Z,52μm,20.6s,MS7.2						
GKP	Gorka Klasztor	129.29	333	ePKP	PKPdf	08 46 58.6	+1.6
GKP				epPKP		08 47 10.5	
GKP				ePP	PP	08 49 06.4	-4.2
GKP				e		08 49 23.1	
GKP				e		08 50 39.8	
GKP				eSKS	SKS	08 54 05.2	+5.1
GKP				MLR	MLR	09 46 09.5	
	comp=Z,52μm,20.6s						
PRD	Provadia	129.34	318	P	PKPdf	08 46 59.0	+1.6
LRW	Lerwick	129.34	349	eP	PKPdf	08 46 58.0	+1.0
ULDT	Uludag	129.37	313	iP	PKPdf	08 46 59.5	+1.9
COP	Copenhagen	129.46	338⇑	iP	PKPdf	08 46 57.1	-0.2
COP				e		08 47 11.5	
COP				i		08 49 07.3	
KOLS	Kolonicke sedl	129.54	327	ePKP	PKPdf	08 47 00.0	+2.4
KOLS				e		08 47 13.2	
UZH	Uzhgorod	129.71	326	iPKIKP	PKPdf	08 46 57.0	-1.0
UZH				e		08 54 00.0	
BUC1	Bucharest	129.71	320⇑	iP	PKPdf	08 46 58.0	-0.1
ELL	Elmali	129.96	309	eP	PKPdf	08 47 00.5	+1.7
OJC	Ojcow	130.07	329	ePKIKP	PKPdf	08 47 00.0	+1.4
OJC				e		08 49 12.2	
OJC				e		08 54 04.5	
OJC				eSP	SP	08 59 16.7	-0.4
OJC				eSS	SS	09 06 33.6	-1.8
OJC				MLR	MLR		
	comp=Z,36μm,21.8s,MS7.0						
OJC	Ojcow	130.07	329	ePKPdf	PKPdf	08 47 00.0	+1.4
OJC				ePP	PP	08 49 12.2	-3.3
OJC				e		08 50 20.6	
OJC				eSKSac		08 54 04.5	
OJC				eSP	SP	08 59 16.7	-0.4
OJC				eSS	SS	09 06 33.6	-1.8
OJC				LR	LR		
	comp=Z,36μm,21.8s,MS7.0						
OJC	Ojcow	130.07	329	ePKP(df)		08 47 00.0	
OJC				ePP	PP	08 49 12.2	-3.3
OJC				e		08 50 20.6	
OJC				eSKS(ac)		08 54 04.5	
OJC				eSP	SP	08 59 16.7	-0.4
OJC				eSS	SS	09 06 33.6	-1.8
OJC				MLR	MLR	09 45 36.0	
	comp=Z,36μm,21.8s						
JMB	Yambol	130.20	317	iP	PKPdf	08 47 01.0	+1.9
SZH	Strazhica	130.27	318	P	PKPdf	08 47 01.0	+1.8
DENT	Denizli	130.29	311	eP	PKPdf	08 47 01.5	+2.1
NIE	Niedzica	130.30	328	ePKP	PKPdf	08 47 02.0	+2.9
DNZL	Cakiroluk	130.30	311	iP	PKPdf	08 47 01.3	+1.8
MBAR	Mbarara	130.33	260	ePKPdf	PKPdf	08 47 01.2	+1.1
MBAR				eSKPbc		08 50 22.6	
MBAR				e		08 50 43.0	
MBAR				LR	LR		
	comp=Z,7μm,20.0s,MS6.4						
EDRB	Edirne	130.35	316	eP	PKPdf	08 47 01.3	+1.9
MANT	Manisa	130.38	312	iP	PKPdf	08 47 00.6	+1.0
PVL	Pavlikeni	130.68	319	P	PKPdf	08 47 02.0	+2.0
AKS	Akhisar	130.79	312	iP	PKPdf	08 47 01.1	+0.8
SAML	Samuel	130.79	112	ePKPdf	PKPdf	08 47 01.5	+0.5
SAML				LR	LR		
	comp=Z,22μm,22.0s,MS6.8						
DALT	Dalyan (Mudla)	130.92	310	eP	PKPdf	08 47 02.2	+1.6
RAC	Raciborz	130.96	330	ePKP(df)		08 47 01.7	
RAC				MLR	MLR	09 47 23.3	
	comp=Z,33μm,20.8s						
RAC				LMN		09 47 36.8	
	comp=Z,25μm,20.3s						
RAC				LME		09 47 48.6	
	comp=Z,40μm,20.3s						
DIM	Dimitrovgrad	131.08	317	eP	PKPdf	08 47 02.0	+1.2
OKC	Ostrava-Krasne	131.14	330	iPKIKP	PKPdf	08 47 01.3	+0.7
OKC				e		08 47 14.5	
OKC				MLR	MLR		
	comp=Z,27μm,19.4s,MS7.0						
OKC	Ostrava-Krasne	131.14	330	iPKPDF	PKPdf	08 47 01.3	+0.7
OKC				epPKP		08 47 14.5	
OKC				ePP	PP	08 49 15.1	-7.7
OKC				eSKP		08 50 25.3	
OKC				AMS	AMS	09 49 00.0	
	comp=Z,27μm,19.4s						
AYDN	Tasoluk	131.18	311	iP	PKPdf	08 47 02.1	+1.1
ALN	Alexandroupoli	131.23	316	eP	PKPdf	08 47 01.8	+0.8
RUE	Ruedersdorf	131.33	335	ePKPdf	PKPdf	08 47 02.9	+2.0
RUE				epPKPdf		08 47 14.7	
KDZ	Kurdzhali	131.34	317	eP	PKPdf	08 47 01.5	+0.2
KDAG	Bornova	131.36	312	iP	PKPdf	08 47 02.2	+0.8
IZM	Izmir	131.37	312	eP	PKPdf	08 47 02.5	+1.0
KSP	Ksiaz	131.37	332	ePKIKP	PKPdf	08 47 01.7	+0.6
KSP				e		08 47 15.2	
KSP				e		08 49 18.0	
KSP				ePPP	PPP	08 52 06.5	-7.4
KSP				ePPS	PPS	09 01 12.0	-0.8
KSP				MLR	MLR		
	comp=Z,75μm,24.0s,MS7.3						
KSP	Ksiaz	131.37	332	ePdif	Pdif	08 43 53.5	+0.3
KSP				ePKPdf	PKPdf	08 47 01.7	+0.6
KSP				epPKPdf		08 47 15.2	
KSP				ePP	PP	08 49 18.0	-6.1
KSP				e		08 49 33.3	
KSP				ePKS	PKS	08 50 22.5	-14
KSP				e		08 50 46.5	
KSP				ePPP	PPP	08 52 06.5	-7.4
KSP				eSKKS		08 56 15.0	
KSP				eSP	SP	08 59 18.0	-10
KSP				ePPS	PPS	09 01 12.0	-0.8
KSP				eSS	SS	09 07 00.0	+8.9
KSP				LR	LR		
	comp=Z,75μm,24.0s,MS7.3						

Sta	Name	Dist	Az	Phase	ID	Time	Res
KSP	Ksiaz	131.37	332	ePKP	PKPdf	08 47 02.0	+0.9
KSP				epPKP		08 47 15.2	
KSP				ePP	PP	08 49 18.4	-5.7
KSP				e		08 49 37.6	
KSP				e		08 50 25.7	
KSP				e		08 50 44.8	
KSP				e		08 52 09.5	
KSP				eSKS	SKS	08 54 13.8	+8.3
KSP				MLR	MLR	09 44 44.8	
	comp=Z,65µm,24.0s						
MLSB	Milas	131.39	311	eP	PKPdf	08 47 02.1	+0.6
MLA1	Latheron	131.45	350	eP	PKPdf	08 47 01.9	+0.9
RDO	Rodhopi	131.47	316	P	PKPdf	08 47 03.1	+1.6
MORC	Moravsky Berou	131.48	330	ePKPdf	PKPdf	08 47 02.1	+0.8
MORC				ePP	PP	08 49 20.4	-4.4
ARG	Arkhangelos	131.49	309	P	PKPdf	08 47 04.9	+3.2
BSEG	Bad Segeberg	131.59	338	ePKPdf	PKPdf	08 47 03.0	+1.6
BSEG				ePP	PP	08 49 22.2	-3.2
BSEG				eSKPbc		08 50 26.9	
PLD	Plovdiv	131.61	318	P	PKPdf	08 47 03.0	+1.2
DPC	Dobruska-Polom	131.69	331	i PKIKP	PKPdf	08 47 03.2	+1.5
DPC				e		08 47 16.3	
DPC				e		08 49 20.7	
DPC				MLR	MLR		
	comp=Z,46µm,22.0s,MS7.1						
DPC	Dobruska-Polom	131.69	331	i PKPDF	PKPdf	08 47 03.2	+1.5
DPC				epPKP		08 47 16.3	
DPC				ePP	PP	08 49 20.7	-5.4
DPC				eSKP		08 50 27.8	
DPC				AMS	AMS	09 45 10.0	
	comp=Z,46µm,22.0s						
BDRM	Kayabasi	131.72	310	i P	PKPdf	08 47 02.7	+0.5
UPC	Upice	131.73	332	i PKPDF	PKPdf	08 47 02.7	+1.0
UPC				epPKP		08 47 15.9	
UPC				ePP	PP	08 49 21.1	-5.2
UPC				eSKP		08 50 28.0	
PGB	Panagyurishte	131.75	318	P	PKPdf	08 47 03.0	+1.0
DJES	Djerdap	131.75	322	⇑iP	PKPdf	08 47 02.8	+0.8
RZN	Rozhen	131.79	317	i P	PKPdf	08 47 03.5	+1.4
KOLL	Kolacno	131.81	328	ePKP	PKPdf	08 47 16.5	+15
KOLL				ePP	PP	08 49 24.8	-2.0
KOLL				e		08 50 29.6	
KOLL				e		08 50 49.6	
MGP	Maguayo	131.95	76	ePKPdf	PKPdf	08 47 02.2	-0.8
MGP				epPKPdf		08 47 15.4	
MGP				eSKPbc		08 50 25.7	
MVH1	Achvaich	131.96	350	eP	PKPdf	08 47 02.0	+0.1
TRIS	Tristan da Cun	131.97	186	ePKPdf	PKPdf	08 47 06.5	+3.9
TRIS				epPKPdf		08 47 16.0	
TRIS				LR	LR		
	comp=Z,23µm,22.0s,MS6.8						
BBSR	BB Station	132.00	56	PFAKE		08 47 20.0	+17
BBSR				LR	LR		
	comp=Z,33µm,21.0s,MS7.0						
JAVC	Velka Javorina	132.01	329	P	PKPdf	08 47 05.1	+2.8
MCD	Coleburn Disti	132.12	349	eP	PKPdf	08 47 03.2	+0.9
LIA	Limnos Island	132.25	315	eP	PKPdf	08 47 03.3	+0.2
VRAC	Vranov	132.25	330	P	PKPdf	08 47 05.4	+2.6
AOPR	Arecibo Observ	132.26	75	ePKPdf	PKPdf	08 47 03.8	+0.2
MME1	Meikle Cairn	132.32	349	eP	PKPdf	08 47 02.8	+0.1
SRO	Srobarova	132.33	327	ePKP	PKPdf	08 47 04.8	+1.8
SRO				e		08 47 18.0	
SRO				e		08 50 30.2	
SRO				e		08 50 51.3	
SMOL	Smolenice	132.35	329	ePKP	PKPdf	08 47 04.7	+1.7
VTS	Vitosha	132.35	319	i P	PKPdf	08 47 04.5	+1.3
VTS	Vitosha	132.35	319	⇓iPKIKP	PKPdf	08 47 04.5	+1.3
VTS	Vitosha	132.35	319	P	PKPdf	08 47 05.1	+1.9
PVCC	Panska Ves	132.38	332	i PKPDF	PKPdf	08 47 03.7	+0.7
PVCC				epPKP		08 47 17.5	
PVCC				ePP	PP	08 49 23.7	-6.5
PVCC				AMS	AMS	09 46 20.0	
	comp=Z,63µm,21.6s						
SRO1	Iza	132.41	327	ePKP	PKPdf	08 47 06.1	+3.0
SRO1				e		08 47 18.8	
BRG	Berggiesshubel	132.42	333	ePKIKP	PKPdf	08 47 05.0	+2.0
BRG				i		08 47 17.9	
BRG				ePS	PS	08 59 32.5	-9.3
BRG				pmax	pmax		
	comp=Z,257nm,1.5s						
BRG				MLR	MLR		
	comp=N,28µm,23.0s,MS7.0						
BRG				MLR	MLR		
	comp=E,20µm,23.0s,MS7.0						
BRG				MLR	MLR		
	comp=Z,46µm,20.8s,MS7.2						
BRG	Berggiesshubel	132.42	333	ePKP	PKPdf	08 47 05.0	+2.0
BRG				i		08 47 17.9	
BRG				ePP	PP	08 49 13.0	-17
BRG				i		08 50 29.7	
BRG				e		08 50 33.0	
BRG				i		08 59 24.0	
BRG				ePS	PS	08 59 32.5	-9.3
BRG				i SS	SS	09 07 15.0	+11
BRG				LR	LR		
	comp=Z,46µm,20.8s,MS7.2						
MDO	Dochfour	132.45	350	eP	PKPdf	08 47 04.0	+1.1
KARP	Karpathos	132.45	309	eP	PKPdf	08 47 04.3	+0.7
MMB	Musomiste	132.49	318	P	PKPdf	08 47 04.0	+0.5
NVR	Nevrokopi	132.51	317	eP	PKPdf	08 47 03.5	0.0
KRUC	Moravsky	132.51	330	P	PKPdf	08 47 04.9	+1.6
CLL	Collm	132.51	334	i PDIF	Pdif	08 44 00.0	+1.8
CLL				i PKIKP	PKPdf	08 47 04.6	+1.4
CLL				i *PPKP		08 47 17.4	
CLL				i		08 47 20.8	
CLL				i		08 47 28.7	
CLL				i PP	PP	08 49 28.3	-2.7
CLL				i *PPP		08 49 37.1	
CLL				i *SPP		08 49 42.3	
CLL				e		08 49 57.0	
CLL				i		08 50 29.5	
CLL				i PKS	PKS	08 50 34.8	-3.7
CLL				i		08 50 48.9	
CLL				ePPP	PPP	08 52 20.0	-3.6
CLL				e		08 53 04.0	
CLL				e		08 54 12.0	
CLL				e		08 56 18.0	
CLL				ePS	PS	08 59 34.0	-8.6
CLL				ePPS	PPS	09 01 20.0	-4.2
CLL				eSS	SS	09 07 12.0	+6.6
CLL				eSSS	SSS	09 12 06.0	+4.7
CLL				e		09 26 18.0	
CLL	Collm	132.51	334	i PKIKP	PKPdf	08 47 04.6	+1.4
CLL				i		08 47 17.4	
CLL				MLR	MLR		
	comp=Z,50µm,19.9s,MS7.2						
CLL	Collm	132.51	334	i PKP	PKPdf	08 47 04.6	+1.4
CLL				i pPKP		08 47 17.4	
CLL				i SKP		08 50 29.5	
CLL				LR	LR		
	comp=Z,50µm,19.9s,MS7.2						
SVIS	Svilajnac	132.72	322	⇑iP	PKPdf	08 47 05.8	+2.0
ZST	Bratislava	132.72	329	ePKP	PKPdf	08 47 05.7	+2.0
ZST				e		08 47 19.1	
ZST				ePP	PP	08 49 24.2	-8.1
ZST				e		08 50 32.1	
ZST				e		08 50 52.9	
ZST				esSKSDF		08 54 31.8	
ZST	Bratislava	132.72	329	⇑ePKIKP	PKPdf	08 47 05.7	+2.0
ZST				e		08 47 19.1	
PRU	Pruhonice	132.77	332	ePKIKP	PKPdf	08 47 04.6	+0.9
PRU				e		08 47 17.9	
PRU				e		08 49 30.1	
PRU				MLR	MLR		
	comp=Z,48µm,21.0s,MS7.2						
PRU	Pruhonice	132.77	332	ePKPDF	PKPdf	08 47 04.6	+0.9
PRU				epPKP		08 47 17.9	
PRU				ePP	PP	08 49 30.1	-2.5
PRU				eSKP		08 50 31.1	
PRU				AMS	AMS	09 47 20.0	
	comp=Z,48µm,21.0s						
KKB	Krupnik	132.78	318	i P	PKPdf	08 47 05.0	+1.0
KKB	Krupnik	132.78	318	⇓iPKIKP	PKPdf	08 47 05.0	+1.0
SJG	San Juan	132.84	75	PKP	PKPdf	08 47 03.6	-1.1
	comp=Z,94nm,0.8s,baz=322,slow=3.8,SNR=28						
SJG				SKPbc		08 50 29.0	
	comp=Z,7.6nm,0.4s,baz=310,slow=23,SNR=3.9						
SJG	San Juan	132.84	75	PKIKP	PKPdf	08 47 03.6	-1.1
SJG				pmax	pmax		
	comp=Z,95nm,0.8s						
SJG				pmax	pmax		

Sta	Name	Dist	Az	Phase	ID	Time	Res
	comp=N,8.0nm,0.4s						
SJG	San Juan	132.84	75	ePKPdf	PKPdf	08 47 05.4	+0.7
SJG				epPKPdf		08 47 17.9	
SJG				eSKPbc		08 50 29.1	
SJG				LR	LR		
	comp=Z,18µm,21.0s,MS6.8						
CPD	Cerro la Pandu	133.07	76	ePKPdf	PKPdf	08 47 05.5	+0.3
CPD				eSKPbc		08 50 30.1	
VKA	Vienna	133.08	329	⇑iPKP	PKPdf	08 47 06.2	+1.8
VKA				i		08 49 18.0	
	comp=Z,8µm,6.0s						
VKA				i		08 50 30.6	
	comp=Z,12µm,5.0s						
HOPOS	Hopovo Monaste	133.08	324	eP	PKPdf	08 47 06.3	+1.8
CBYP	Canovanas	133.12	75	ePKPdf	PKPdf	08 47 05.5	+0.3
CBYP				eSKPbc		08 50 30.2	
BARS	Barje	133.12	320	⇑iP	PKPdf	08 47 04.9	+0.3
HUMP	Col San Antoni	133.13	75	ePKPdf	PKPdf	08 47 05.5	+0.2
HUMP				eSKPbc		08 50 30.8	
PKSM	Moragy	133.13	326	⇑iP	PKPdf	08 47 05.8	+1.3
PKSM				i		08 50 32.6	
APE	Apeiranthos	133.14	311	i P	PKPdf	08 47 05.3	+0.5
CLZ	Clausthal	133.20	336	ePKPdf	PKPdf	08 47 06.4	+1.9
CLZ				ePP	PP	08 49 32.4	-2.9
CLZ				eSKPbc		08 50 33.0	
GRUS	Gruza	133.25	322	⇓iP	PKPdf	08 47 06.2	+1.4
SOP	Sopron	133.33	328	⇑iPKP/D		08 47 05.9	
SOP				ePP	PP	08 49 29.4	-6.9
VAY	Valandovo	133.38	318	⇑iPKP	PKPdf	08 47 05.2	0.0
VAY				i PP	PP	08 49 35.2	-1.7
SANT	Santorini	133.45	310	ePKPdf	PKPdf	08 47 06.8	+1.3
SANT				eSKPbc		08 50 32.9	
NKC	Novy Kostel	133.54	333	i PKIKP	PKPdf	08 47 05.8	+0.6
NKC				e		08 47 19.6	
NKC				MLR	MLR		
	comp=Z,26µm,20.6s,MS6.9						
NKC	Novy Kostel	133.54	333	i PKPDF	PKPdf	08 47 05.8	+0.6
NKC				epPKP		08 47 19.6	
NKC				eSKP		08 50 34.3	
NKC				AMS	AMS	09 49 30.0	
	comp=Z,26µm,20.6s						
MOX	Moxa	133.60	334	ePKIKP	PKPdf	08 47 07.1	+1.8
MOX				e		08 47 19.8	
MOX				e		08 49 35.2	
MOX				MLR	MLR		
	comp=Z,37µm,21.0s,MS7.1						
MOX	Moxa	133.60	334	ePKP	PKPdf	08 47 07.1	+1.8
MOX				e		08 47 19.8	
MOX				e		08 49 35.2	
MOX				e		08 50 34.6	
MOX				LR	LR		
	comp=Z,37µm,21.0s,MS7.1						
WIT	Witteveen	133.79	340	ePKP	PKPdf	08 47 08.2	+2.6
	comp=Z,259nm,0.7s						
WIT				ex	x	08 47 21.0	
SKO	Skopje	133.80	319	⇑iPKP	PKPdf	08 47 06.7	+0.8
	comp=Z,0.1nm,1.1s						
SKO				⇑i		08 47 19.8	
SKO				⇑iPP	PP	08 49 37.5	-2.3
SKO				i PKS	PKS	08 50 35.0	-6.2
	comp=Z,0.8nm,1.8s						
KHC	Kasperske Hory	133.82	332	ePKHKP		08 46 58.2	
KHC				i		08 47 07.0	
KHC				e		08 47 20.0	
KHC				e		08 49 36.3	
KHC				MLR	MLR		
	comp=Z,44µm,20.0s,MS7.2						
KHC	Kasperske Hory	133.82	332	ePKP	PKPdf	08 46 58.2	-7.6
KHC				⇑iPKP	PKPdf	08 47 06.8	+1.0
KHC				i		08 47 07.0	
KHC				P		08 47 07.5	
KHC				e		08 47 20.0	
KHC				ePP	PP	08 49 36.3	-3.4
KHC				eSKP		08 50 34.1	
KHC				e		08 59 35.0	
KHC				LR	LR		
	comp=Z,44µm,20.0s,MS7.2						
KHC	Kasperske Hory	133.82	332	ePKPpre		08 46 58.2	
KHC				i PKPDF	PKPdf	08 47 07.0	+1.2
KHC				epPKP		08 47 20.0	
KHC				ePP	PP	08 49 36.3	-3.4
KHC				eSKP		08 50 34.1	
KHC				ex	x	08 59 35.0	
KHC				AMS	AMS	09 50 50.0	
	comp=Z,44µm,20.0s						
XOR	Xorichti	133.87	315	eP	PKPdf	08 47 06.6	+0.5
NEO	Neokhori	133.87	315	eP	PKPdf	08 47 06.1	0.0
GEC2	GERESS Array S	133.96	331	ePKPdf	PKPdf	08 47 07.5	+1.5
GEC2				ePP	PP	08 49 38.3	-2.4
GEC2				eSKPbc		08 50 35.3	
GERES	GERESS Array B	133.96	331	PKhKP		08 46 49.4	
	comp=Z,0.9nm,0.9s,baz=270,slow=1.3,SNR=6.4						
GERES				PKP	PKPdf	08 47 07.3	+1.3
	comp=Z,24nm,1.0s,SNR=24						
GERES				SKPbc		08 50 33.6	
	comp=Z,22nm,1.2s,baz=27,slow=3.0,SNR=4.1						
GERES	GERESS Array B	133.96	331	PKHKP		08 46 49.4	
GERES						08 47 07.3	
GERES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
GERES				pmax	pmax		
	comp=Z,24nm,1.0s						
TSUM	Tsumeb	133.97	230	PKhKP		08 46 56.8	
	comp=Z,30nm,0.7s,baz=76,slow=1.2,SNR=5.3						
TSUM				PP	PP	08 49 35.9	-5.7
	comp=Z,14nm,1.0s,baz=110,slow=5.4,SNR=3.3						
TSUM	Tsumeb	133.97	230	PKP	PKPdf	08 46 56.8	-10
TSUM				PP	PP	08 49 35.9	-5.7
TSUM				LR	LR		
	comp=Z,84µm,20.0s,MS7.5						
LIT	Litokhoron	134.01	316	eP	PKPdf	08 47 07.2	+0.8
NVSS	Nova Varos 2	134.07	322	⇑iP	PKPdf	08 47 07.8	+1.4
WET	Wettzell	134.13	332	ePKPdf	PKPdf	08 47 08.0	+1.7
WET				ePP	PP	08 49 40.2	-1.6
WET				eSKPbc		08 50 36.2	
ARSA	Arzberg	134.15	328	⇑iP	PKPdf	08 47 07.0	+0.6
ARSA				i		08 47 19.9	
EKA	Eskdalemuir Ar	134.22	348	PKKP	PKKP	08 57 03.0	+17
	comp=Z,5.6nm,1.0s,baz=180,slow=0.8,SNR=4.6						
ESK	Eskdalemuir	134.25	348	eP	PKPdf	08 47 07.0	+0.6
ESK				AMb	AMB	08 47 23.8	
	comp=Z,95nm,2.4s						
ESK	Eskdalemuir	134.25	348	ePKPdf	PKPdf	08 47 08.1	+1.8
ESK				LR	LR		
	comp=Z,6µm,22.0s,MS6.2						
IDI	Anoyia	134.28	309	PP	PP	08 49 39.8	-3.2
	comp=Z,26nm,0.9s,baz=14,slow=8.9,SNR=3.2						
IDI				SKPbc		08 50 34.1	
	comp=Z,73nm,1.2s,baz=86,slow=13,SNR=2.4						
IVA	Berane	134.30	321	⇑iPKP	PKPdf	08 47 08.2	+1.4
KMR	Kremsmunster	134.30	330	c iPKP	PKPdf	08 47 08.0	+1.3
KMR				i		08 49 16.8	
KMR	Kremsmunster	134.30	330	⇑iPKP	PKPdf	08 47 08.0	+1.3
KMR				i		08 49 16.8	
LKR	Lokris	134.32	314	eP	PKPdf	08 47 07.1	+0.1
PLE	Pljevlja	134.36	322	⇑iPKP	PKPdf	08 47 08.6	+1.7
MOA	Molln	134.38	330	⇑iP	PKPdf	08 47 07.2	+0.4
MOA				i		08 47 20.9	
PVY	Plav	134.40	321	⇑iPKP	PKPdf	08 47 08.3	+1.3
WTSB	Winterswijk	134.44	339	ePKP	PKPdf	08 47 08.2	+1.4
	comp=Z,32nm,1.3s						
WTSB				ex	x	08 47 20.4	
WTSB	Winterswijk	134.44	339	P	PKPdf	08 47 08.9	+2.1
GRA1	Grafenberg Arr	134.47	334	ePdif	Pdif	08 44 11.7	+4.8
GRA1				ePKPdf	PKPdf	08 47 08.7	+1.8
GRA1				epPKPdf		08 47 20.8	
GRA1				ePP	PP	08 49 41.7	-2.1
GRA1				epPP		08 49 56.0	
GRA1				eSKPbc		08 50 37.8	
GRA1				e		09 01 41.4	
GRA1				eSS	SS	09 07 31.1	+2.3
GRA1				eSSS	SSS	09 12 36.0	+6.3
GRA1				LR	LR		
	comp=Z,39µm,20.6s,MS7.1						
GRF	Grafenberg Arr	134.47	334	ePKIKP	PKPdf	08 47 08.7	+1.8
GRF				e		08 47 20.8	
GRF				e		08 49 41.7	
GRF				e		09 01 41.4	
GRF				eSS	SS	09 07 31.1	+2.3
GRF				eSSS	SSS	09 12 36.0	+6.3
GRFO	Grafenberg	134.48	334	PKPdf	PKPdf	08 47 08.2	+1.3
GRFO				PP	PP	08 49 39.8	-4.0

Sta	Name	Dist	Az	Phase	ID	Time	Res
AGG	Agios Georgios	134.62	315	eP	PKPdf	08 47 07.4	-0.1
OHR	Ohrid	134.65	318	⇑iPKP	PKPdf	08 47 07.4	-0.1
OHR				⇑i		08 47 21.1	
OHR				i PP	PP	08 49 43.5	-1.6
GROS	Grobnik	134.68	328	ePKPdf	PKPdf	08 47 06.9	-0.5
UPM	Unac-Piva	134.72	322	⇑iPKP	PKPdf	08 47 08.8	+1.3
PERS	Pernice	134.76	328	ePKPdf	PKPdf	08 47 08.0	+0.4
SISC	Sisak	134.84	326	i P	PKPdf	08 47 09.2	+1.5
NKY	Niksic	134.89	321	ePKP	PKPdf	08 47 08.9	+1.0
GOLS	Golise	134.90	327	ePKPdf	PKPdf	08 47 08.3	+0.5
CKE	Keswick	134.91	348	eP	PKPdf	08 47 08.5	+1.0
TTG	Podgorica	134.94	321	⇑iPKP	PKPdf	08 47 09.2	+1.2
GAL1	Galloway	134.96	349	eP	PKPdf	08 47 08.5	+0.8
QSH	Qafa e Shtames	135.01	319	i p	PKPdf	08 47 09.0	+0.8
MEV	Metsovon	135.02	317	eP	PKPdf	08 47 10.4	+2.2
GVD	Gavdhos	135.06	309	ePKPdf	PKPdf	08 47 09.6	+1.2
GVD				eSKPbc		08 50 38.8	
LEGS	Legarje	135.10	327	P	PKPdf	08 47 10.1	+1.9
CRES	Cresnjev	135.11	327	i PKPdf	PKPdf	08 47 09.1	+0.9
CRES				ePP	PP	08 49 41.0	-6.7
BRY	Bratogost	135.11	322	⇑iPKP	PKPdf	08 47 09.2	+0.9
OBKA	Obir	135.14	328	⇑iP	PKPdf	08 47 08.4	+0.2
OBKA				i		08 47 22.2	
CDU1	Dunnerdale	135.16	348	eP	PKPdf	08 47 08.8	+0.8
HPK	Haverah Park	135.17	346	eP	PKPdf	08 47 08.9	+0.9
PDKS	Podkum	135.19	328	ePKPdf	PKPdf	08 47 07.9	-0.5
ULC	Ulcinj	135.19	320	⇑iPKP	PKPdf	08 47 09.8	+1.4
BUM	Brajici-Budva	135.23	321	⇑iPKP	PKPdf	08 47 10.1	+1.6
KYTH	Kithira	135.29	311	eP	PKPdf	08 47 10.0	+1.2
KBA	Koelnbreinsper	135.36	330	⇑iP	PKPdf	08 47 08.9	+0.3
KBA				i		08 47 22.2	
HCY	Herceg Novi	135.40	321	⇑iPKP	PKPdf	08 47 09.9	+1.1
SIND	Sindeldorf	135.43	335	⇑eP	PKPdf	08 47 10.0	+1.3
SIND	Sindeldorf	135.43	335	P	PKPdf	08 47 10.5	+1.8
LJU	Ljubljana	135.46	328	ePKPdf	PKPdf	08 47 04.0	-4.8
LJU				i PKPbc	PKPdf	08 47 10.2	+1.4
LJU				e		08 47 22.6	
LJU				ePP	PP	08 49 45.2	-4.6
LJU				eSKPdf		08 50 39.7	
LJU				e		08 50 60.0	
LJU				e		09 01 46.4	
LJU				e		09 03 06.9	
LJU				e		09 08 07.4	
LJU	Ljubljana	135.46	328	i PKPdf	PKPdf	08 47 10.2	+1.4
LJU				e		08 47 22.6	
LJU				ePP	PP	08 49 45.2	-4.6
LJU				eSKPdf		08 50 39.7	
LJU				e		08 50 60.0	
LJU				e		09 01 46.4	
LJU				e		09 03 06.9	
LJU				e		09 08 07.4	
TOD	Tromm	135.56	335	eP	PKPdf	08 47 10.3	+1.4
TOD	Tromm	135.56	335	P	PKPdf	08 47 11.0	+2.1
FUR	Furstenfeldbru	135.58	332	ePKPdf	PKPdf	08 47 10.6	+1.6
FUR				ePP	PP	08 49 46.2	-4.2
FUR				eSKPbc		08 50 41.2	
LHO	Holmfirth	135.61	346	eP	PKPdf	08 47 09.5	+0.7
STON	Ston	135.64	322	i P	PKPdf	08 47 08.7	-0.5
RLS	Riolos of Patr	135.66	314	eP	PKPdf	08 47 10.1	+0.7
SWS	Schriesheim	135.70	335	eP	PKPdf	08 47 09.9	+0.8
SWS	Schriesheim	135.70	335	P	PKPdf	08 47 12.4	+3.3
CEY	Cerknica	135.71	328	ePKPbc	PKPdf	08 47 09.8	+0.6
HGN	Heimansgroeve	135.74	338	ePdif	Pdif	08 44 18.4	+6.0
HGN				ePKP	PKPdf	08 47 07.8	-1.4
	comp=Z,30nm,0.6s						
HGN				ex	x	08 47 25.1	
HGN				ePP	PP	08 49 43.6	-7.8
HGN				ePKS	PKS	08 50 45.8	+1.3
HGN				ex	x	08 56 43.1	
HGN				eSKKS		08 59 53.8	
HGN				ex	x	09 02 02.2	
HGN				ex	x	09 02 52.4	
HGN				ex	x	09 07 49.5	
HGN	Heimansgroeve	135.74	338	P	PKPdf	08 47 11.1	+1.9
CADS	Cadrg	135.75	329	ePKPbc	PKPdf	08 47 09.4	+0.1
HDH	Heidenheim	135.75	333	eP	PKPdf	08 47 10.5	+1.2
HDH	Heidenheim	135.75	333	P	PKPdf	08 47 11.0	+1.7
VOY	Vojsko	135.80	328	ePKPdf	PKPdf	08 47 03.2	-6.2
VOY				ePKPbc	PKPdf	08 47 09.6	+0.2
KBI1	Birley Grange	135.80	346	eP	PKPdf	08 47 10.0	+0.8
PLRO	Paularo	135.82	329	⇑eP	PKPdf	08 47 12.0	+2.5
KSY	Syston	135.83	345	eP	PKPdf	08 47 09.8	+0.6
ABH	Alteburg	135.85	336	eP	PKPdf	08 47 11.1	+1.7
ABH	Alteburg	135.85	336	P	PKPdf	08 47 10.8	+1.4
ROBS	Robic	135.85	329	ePKPbc	PKPdf	08 47 09.8	+0.3
ZOU	Zoufplan	135.91	329	⇓eP	PKPdf	08 47 11.0	+1.4
LKD	Levkas	135.93	316	eP	PKPdf	08 47 11.5	+1.6
GMNA	Gemona	135.97	329	ePKP	PKPdf	08 47 07.7	-2.1
BAD	Bernadia	135.99	329	⇓eP	PKPdf	08 47 11.0	+1.2
BOO	Bordano	136.01	329	⇓eP	PKPdf	08 47 11.0	+1.2
KEK	Kerkira	136.01	317	eP	PKPdf	08 47 10.0	0.0
WATA	Walderalm	136.04	331	⇑iP	PKPdf	08 47 11.1	+1.3
WATA				i		08 47 24.8	
STU	Stuttgart	136.04	334	ePKPdf	PKPdf	08 47 11.2	+1.4
STU				eSKPdf		08 50 42.9	
WTTA	Wattenberg	136.06	331	⇑iP	PKPdf	08 47 10.8	+0.9
WTTA				i		08 47 24.5	
BUA	Buia	136.06	329	⇓eP	PKPdf	08 47 11.0	+1.1
KTD	Kalmit	136.08	336	eP	PKPdf	08 47 11.2	+1.4
TRI	Trieste	136.08	328	ePKP	PKPdf	08 47 07.7	-2.2
TRI				P		08 47 11.6	
KWE	Weaver Farm	136.09	346	eP	PKPdf	08 47 10.1	+0.3
MPRI	Monte Prat	136.12	329	⇑eP	PKPdf	08 47 09.0	-1.0
RUP	Ruppelstein	136.18	337	eP	PKPdf	08 47 12.0	+2.0
RUP	Ruppelstein	136.18	337	P	PKPdf	08 47 12.6	+2.6
BUCH	Bad Urach	136.22	334	⇑eP	PKPdf	08 47 11.7	+1.6
BUCH	Bad Urach	136.22	334	P	PKPdf	08 47 11.8	+1.7
NVLJ	Novalja	136.24	326	⇑iP	PKPdf	08 47 09.7	-0.6
MOTA	Moosalm	136.25	332	⇑iP	PKPdf	08 47 11.5	+1.3
MOTA				i		08 47 27.8	
DMUB	Kingscourt	136.26	351	⇑iP	PKPdf	08 47 11.1	+1.0
DMUB	Kingscourt	136.26	351	eP	PKPdf	08 47 25.3	+15
TLI	Talmassons	136.28	329	⇑eP	PKPdf	08 47 14.0	+3.7
LBG	Lerchenberg	136.29	334	eP	PKPdf	08 47 12.0	+1.7
LBG	Lerchenberg	136.29	334	P	PKPdf	08 47 12.8	+2.5
AFL	Alpe Faloria	136.32	330	⇑eP	PKPdf	08 47 12.0	+1.6
LANF	Langenberg	136.46	336	P	PKPdf	08 47 13.5	+2.9
UBR	Uberruh	136.47	333	⇑eP	PKPdf	08 47 11.8	+1.2
UBR	Uberruh	136.47	333	P	PKPdf	08 47 12.3	+1.7
SBD	Saint Breward	136.52	347	eP	PKPdf	08 47 11.8	+1.2
WLF	Walferdange	136.56	337	ePKPdf	PKPdf	08 47 11.8	+1.0
WLF				eSKPdf		08 50 44.6	
GUT	Gutenstein	136.61	334	⇑eP	PKPdf	08 47 11.9	+1.0
GUT	Gutenstein	136.61	334	P	PKPdf	08 47 12.5	+1.6
FAU	Forcella Aurin	136.63	330	⇓eP	PKPdf	08 47 13.0	+2.0
GIVF	Givet	136.69	339	ePKIKP	PKPdf	08 47 05.4	-5.6
SPAK	Spaichingen	136.73	334	eP	PKPdf	08 47 11.9	+0.8
BFO	Black Forest	136.75	335	ePKPdf	PKPdf	08 47 12.2	+1.1
BFO				ePP	PP	08 49 54.8	-2.7
BFO				eSKPbc		08 50 44.2	
DLF	Lyons Farm	136.78	350	eP	PKPdf	08 47 02.1	-9.0
DLF	Lyons Farm	136.78	350	⇑iP	PKPdf	08 47 12.2	+1.1
DLF	Lyons Farm	136.78	350	⇑iP	PKPdf	08 47 26.3	+15
HLM1	Long Mynd	136.79	347	eP	PKPdf	08 47 11.1	0.0
HLM1				AMb	AMB	08 47 16.6	
	comp=Z,106nm,1.3s						
DSB	Dublin	136.80	350	ePKPdf	PKPdf	08 47 12.4	+1.3
DCN	Croghan	136.86	351	eP	PKPdf	08 47 02.4	-8.8
DCN	Croghan	136.86	351	⇑iP	PKPdf	08 47 12.4	+1.2
DCN	Croghan	136.86	351	⇑iP	PKPdf	08 47 26.5	+15
BAIF	Baives	136.94	339	ePKIKP	PKPdf	08 47 05.8	-5.7
SSP1	Stoney Pound	136.94	347	eP	PKPdf	08 47 11.9	+0.5
SISB	Singen-Sch Ber	136.97	333	P	PKPdf	08 47 14.6	+3.0
WLS	Welschbruch	137.09	335	PKP	PKPdf	08 47 03.1	-8.7
WLS				P		08 47 14.2	
SLE	Schleitheim	137.12	334	⇑P	PKPdf	08 47 13.0	+1.2
CDF	Champ du Feu	137.12	335	ePKIKP	PKPdf	08 47 03.8	-8.0
	comp=Z,9.6nm,0.8s						
HAE	Alders End	137.16	346	eP	PKPdf	08 47 12.6	+0.8
HAE				AMb	AMB	08 47 17.3	
	comp=Z,100nm,1.3s						
LIBD	Limburg	137.19	335	eP	PKPdf	08 47 12.9	+0.9
MENF	Mencas	137.19	341	PKP	PKPdf	08 47 08.0	-3.9
TPP	Pointe-a-Pierr	137.20	87	eP	PKPdf	08 47 13.6	+0.7
KIZ	Kirchzarten	137.21	334	eP	PKPdf	08 47 12.6	+0.6
KIZ	Kirchzarten	137.21	334	P	PKPdf	08 47 14.2	+2.2
FELD	Feldberg	137.24	334	eP	PKPdf	08 47 13.2	+1.1
FELD	Feldberg	137.24	334	PKP	PKPdf	08 47 02.9	-9.2
TRN	Trinidad (W)	137.28	86	eP	PKPdf	08 47 13.6	+0.5
TRN	Trinidad (W)	137.28	86	e	Sx	08 50 43.7	

HTR	Trewern Hill	137.29	347	eP	PKPdf	08 47 13.0	+1.0
HTR				AMb	AMB	08 47 16.1	
	comp=Z,120nm,1.1s						
MCH1	Michaelchurch	137.31	346	eP	PKPdf	08 47 12.8	+0.7
ECH	Echery	137.33	335	PKP	PKPdf	08 47 04.8	-7.4
ECH				P		08 47 14.1	
ZUR	Zurich	137.38	333	⇑P	PKPdf	08 47 13.9	+1.6
SULZ	Sulz-Cheisache	137.46	334	⇓P	PKPdf	08 47 14.3	+1.8
LLS	Linth-Limmern	137.59	333	⇑P	PKPdf	08 47 13.0	+0.3
HGH	Gray Hill	137.59	346	eP	PKPdf	08 47 13.2	+0.6
HGH				AMb	AMB	08 47 17.1	
	comp=Z,225nm,1.1s						
MOF	Molkenrain	137.62	335	PKP	PKPdf	08 47 05.1	-7.7
MOF				P		08 47 14.8	
MUO	Muotathal	137.66	333	⇑P	PKPdf	08 47 13.7	+0.8
HPE	Pembroke	137.75	348	eP	PKPdf	08 47 12.9	0.0
HINF	Hinteralfeld	137.77	335	ePKIKP	PKPdf	08 47 06.8	-6.2
	comp=Z,4.2nm,0.5s						
BBS	Basel-Blauen	137.77	334	eP	PKPdf	08 47 14.3	+1.3
BBS	Basel-Blauen	137.77	334	P	PKPdf	08 47 14.6	+1.6
SAL	Salo	137.78	330	ePKP	PKPdf	08 47 11.6	-1.5
THEF	They Montfort	137.79	336	PKP	PKPdf	08 47 05.5	-7.5
THEF				P		08 47 15.8	
HSA	Swansea	137.80	347	eP	PKPdf	08 47 13.2	+0.2
MEZF	Maizieres J'vi	137.93	337	ePKIKP	PKPdf	08 47 07.4	-5.9
FSSB	Fossombrone	137.95	326	ePKP	PKPdf	08 47 12.1	-1.4
LOMF	Lomont	138.15	335	PKP	PKPdf	08 47 05.9	-7.8
LOMF				P		08 47 12.3	
TERO	Teramo	138.19	325	ePKP	PKPdf	08 47 15.3	+1.4
MRB1	Monte Rocchett	138.31	322	ePKP	PKPdf	08 47 15.3	+1.1
HEX	Exmoor	138.36	347	eP	PKPdf	08 47 14.4	+0.5
MURB	Monte Urbino	138.37	326	ePKP	PKPdf	08 47 15.7	+1.4
INTR	Introdacqua	138.40	324	ePKP	PKPdf	08 47 14.1	-0.2
SEI	Scarperia	138.46	328	ePKP	PKPdf	08 47 12.1	-2.2
AQU	L'Aquila	138.47	325	ePKPdf	PKPdf	08 47 14.1	-0.4
LKBD	Leukerbad	138.55	333	⇓P	PKPdf	08 47 15.0	+0.5
GRAM		138.81	329	P	PKPdf	08 47 06.8	-8.2
VALM		138.82	329	P	PKPdf	08 47 06.5	-8.5
DIX	Grande Dixence	138.89	333	⇑P	PKPdf	08 47 17.3	+2.2
VLC	Villacollemand	138.89	329	ePKPdf	PKPdf	08 47 16.4	+1.3
VLC				ePP	PP	08 50 07.7	-3.7
BACM		138.96	329	P	PKPdf	08 47 06.8	-8.5
ORX	Oropa	138.97	332	P	PKPdf	08 47 09.0	-6.2
CODM		138.99	329	P	PKPdf	08 47 07.2	-8.2
VINC	Vinca	139.02	329	P	PKPdf	08 47 06.5	-8.9
CABF	La Chapelle	139.04	335	ePKIKP	PKPdf	08 47 08.7	-6.7
	comp=Z,50nm,1.2s						
EMV	Vieux Emosson	139.12	334	⇑P	PKPdf	08 47 17.7	+2.2
TRAV		139.17	332	P	PKPdf	08 47 09.2	-6.4
LOR	Lormes	139.40	337	ePKIKP	PKPdf	08 47 09.6	-6.4
	comp=Z,37nm,0.9s						
LSD	Ceresole Reale	139.48	333	P	PKPdf	08 47 09.7	-6.5
SCLL	Scilla	139.49	318	ePKP	PKPdf	08 47 13.2	-3.2
PCP	Pian Castagno	139.52	331	P	PKPdf	08 47 08.5	-7.7
FLN	La Foliniere	139.59	342	ePKIKP	PKPdf	08 47 09.7	-6.6
LPL	La Plagne	139.62	333	ePKIKP	PKPdf	08 47 11.2	-5.2
	comp=Z,9.5nm,0.6s						
LPG	La Plagne	139.63	333	ePKIKP	PKPdf	08 47 11.4	-5.0
	comp=Z,8.3nm,0.5s						
LDF	La Druitiere	139.63	342	ePKIKP	PKPdf	08 47 09.6	-6.8
	comp=Z,23nm,0.8s						
RSP	Reno Superiore	139.67	332	P	PKPdf	08 47 10.2	-6.4
SSF	Saint Saulge	139.71	337	ePKIKP	PKPdf	08 47 10.7	-5.8
	comp=Z,37nm,1.0s						
FENE	Fenestrelle	139.85	332	P	PKPdf	08 47 10.6	-6.3
BHB	Bricherasio	139.90	332	P	PKPdf	08 47 09.9	-7.1
SMF	Signal de Mont	139.92	337	ePKIKP	PKPdf	08 47 10.2	-6.7
FIN	Finale Ligure	139.93	331	P	PKPdf	08 47 08.8	-8.2
BNI	Bardonecchia	140.01	333	ePKPdf	PKPdf	08 47 18.0	+0.9
ROB	Roburent	140.03	331	P	PKPdf	08 47 10.3	-6.9
GRR	Gorron	140.04	342	ePKIKP	PKPdf	08 47 10.5	-6.6
	comp=Z,45nm,1.0s						
RRL	Cesana Torines	140.06	332	P	PKPdf	08 47 11.2	-6.0
RORO		140.07	331	P	PKPdf	08 47 09.6	-7.7
BDFB	Brasilia	140.16	131	PKhKP		08 47 08.3	
	comp=Z,25nm,0.9s,baz=303,slow=1.9,SNR=13						
BDFB				PP	PP	08 50 15.8	-3.9
	comp=Z,26nm,0.9s,baz=165,slow=5.8,SNR=3.1						
BDFB	Brasilia	140.16	131	PKHKP		08 47 08.3	
BDFB						08 50 15.8	
BDFB				pmax	pmax		
	comp=Z,25nm,0.9s						
BDFB				pmax	pmax		
	comp=Z,26nm,1.0s						
BAO	Brasilia Array	140.18	131	eP	PKPdf	08 47 11.8	-6.4
BAO				e		08 47 21.5	
BAO				e		08 47 25.9	
BAO				e		08 47 31.5	
MBDF	Montbardon	140.22	332	ePKIKP	PKPdf	08 47 11.8	-5.7
	comp=Z,6.5nm,0.7s						
PZZ	Prazzo	140.23	332	P	PKPdf	08 47 11.0	-6.5
MONE	Monesi	140.25	331	P	PKPdf	08 47 10.7	-6.9
ENR	Entracque	140.29	331	P	PKPdf	08 47 10.0	-7.7
IMI	Imperia	140.31	331	P	PKPdf	08 47 09.0	-8.7
STV2	Anna di Valdie	140.32	331	P	PKPdf	08 47 10.4	-7.4
STV	Sta Anna Valdi	140.33	331	P	PKPdf	08 47 10.0	-7.8
BGF	Bois d'Agland	140.38	337	ePKIKP	PKPdf	08 47 10.8	-7.0
	comp=Z,2.8nm,0.3s						
SURF	Saint Ours	140.38	332	PKP	PKPdf	08 47 14.9	-2.9
SAOF	Saorge	140.41	331	PKP	PKPdf	08 47 11.8	-6.1
NEGI	Negi	140.44	331	P	PKPdf	08 47 09.6	-8.4
AUTN	L'Aution	140.47	331	PKP	PKPdf	08 47 11.8	-6.2
ORIF	Oris-en-Rattie	140.47	333	ePKIKP	PKPdf	08 47 12.4	-5.6
	comp=Z,17nm,0.6s						
TOUF	Mont Tournerai	140.54	331	PKP	PKPdf	08 47 12.3	-5.9
SBF	Sospel	140.56	331	ePKIKP	PKPdf	08 47 12.7	-5.5
	comp=Z,94nm,1.0s						
SGMF	Saint Gilles	140.65	344	ePKIKP	PKPdf	08 47 11.1	-7.1
MVIF	Mont Vial	140.67	331	PKP	PKPdf	08 47 12.8	-5.6
AGO	Saint Agoulin	140.69	337	PKP	PKPdf	08 47 14.1	-4.3
PGF	Pioggiola	140.74	328	ePKIKP	PKPdf	08 47 12.4	-6.2
	comp=Z,20nm,0.7s						
ROSF	Rostrenen	140.76	345	ePKIKP	PKPdf	08 47 10.0	-8.4
	comp=Z,81nm,1.4s						
TCF	Toulx Ste Croi	140.84	338	ePKIKP	PKPdf	08 47 12.0	-6.6
	comp=Z,20nm,0.8s						
COLF	Collangettes	140.91	336	PKP	PKPdf	08 47 13.6	-5.2
OCF	Saint Nazaire	140.99	333	PKP	PKPdf	08 47 13.4	-5.5
OG26	St.-Nazaire-De	140.99	333	PKP	PKPdf	08 47 13.4	-5.5
PYM	Petit Puy Mans	140.99	337	PKP	PKPdf	08 47 14.8	-4.1
VIVF	Saint-Julien-l	141.04	334	ePKIKP	PKPdf	08 47 13.3	-5.7
	comp=Z,11nm,0.7s						
QUIF	Quistinic	141.12	344	ePKIKP	PKPdf	08 47 11.7	-7.4
	comp=Z,19nm,0.9s						
FRF	La Foret Royal	141.16	331	ePKIKP	PKPdf	08 47 13.7	-5.6
	comp=Z,50nm,0.8s						
STOF	St-Etienne Org	141.17	332	PKP	PKPdf	08 47 16.3	-3.0
VERF	Verneugheol	141.19	337	PKP	PKPdf	08 47 15.0	-4.3
LBL	Lubilhac	141.32	336	PKP	PKPdf	08 47 16.2	-3.3
SMRF	Simiane la Rot	141.34	333	ePKIKP	PKPdf	08 47 14.0	-5.6
	comp=Z,25nm,0.8s						
VILF	Villemus	141.37	332	PKP	PKPdf	08 47 16.1	-3.5
TAVF	Tavernes	141.40	332	PKP	PKPdf	08 47 15.2	-4.5
MFF	Saint Martin d	141.40	340	ePKIKP	PKPdf	08 47 14.5	-5.1
	comp=Z,113nm,1.1s						
LMR	La Mourre	141.40	331	ePKIKP	PKPdf	08 47 13.2	-6.5
	comp=Z,58nm,0.8s						
FRNF	Fournols	141.47	337	PKP	PKPdf	08 47 16.2	-3.5
LCHF	La Chataignera	141.53	341	PKP	PKPdf	08 47 16.0	-3.8
PUYF	Puyloubier	141.63	332	PKP	PKPdf	08 47 16.9	-3.2
PRAF	Pradon	141.66	333	PKP	PKPdf	08 47 16.7	-3.4
TREF	Trevaresse	141.70	332	PKP	PKPdf	08 47 17.2	-3.0
BERF	Bertagne	141.80	332	PKP	PKPdf	08 47 16.7	-3.7
GELF	Grande-Etoile	141.87	332	PKP	PKPdf	08 47 17.2	-3.3
RJF	Les Rejaudoux	141.93	338	ePKIKP	PKPdf	08 47 15.5	-5.0
	comp=Z,80nm,1.1s						
LASF	Ste Croix	142.01	334	ePKIKP	PKPdf	08 47 15.3	-5.4
	comp=Z,33nm,0.9s						
CAF	Calviac	142.04	337	ePKIKP	PKPdf	08 47 15.2	-5.5
LFF	La Frestale	142.53	338	ePKIKP	PKPdf	08 47 17.5	-4.1
VSL	Villasalto	142.65	324	ePKPpre		08 47 19.5	
VSL				ePKPdf	PKPdf	08 47 23.3	+1.3
LRDF	Laroque-de-Fa	143.50	334	PKP	PKPdf	08 47 21.2	-2.1
SJAF	Saint Jean de	143.72	334	PKP	PKPdf	08 47 20.7	-3.0
EJON	La Jonquera	143.75	334	PKP	PKPdf	08 47 22.4	-1.3
LPEF	Le Peyrat	143.75	335	PKP	PKPdf	08 47 21.6	-2.1
CARF	Carcanieres	143.86	335	PKP	PKPdf	08 47 23.9	0.0
MLS	Moulis	144.07	336	PKP	PKPdf	08 47 22.5	-1.8
VALF	Valcebollere	144.16	334	PKP	PKPdf	08 47 23.9	-0.5
SALF	Salau	144.20	336	PKP	PKPdf	08 47 22.6	-1.9
LABF	Labassere	144.40	337	PKP	PKPdf	08 47 24.1	-0.7
RESF	Ens	144.50	337	PKP	PKPdf	08 47 26.2	+1.2
REYF	Montagne du Re	144.56	338	PKP	PKPdf	08 47 25.3	+0.2
VIEF	Viey	144.56	337	PKP	PKPdf	08 47 26.2	+1.1
ORDF	Ordiarp	144.63	338	PKP	PKPdf	08 47 24.8	-0.5
EBIE	Bielsa	144.68	337	PKP	PKPdf	08 47 26.9	+1.6
OSSF	Osses	144.71	339	PKP	PKPdf	08 47 24.2	-1.2
EMIR	Miracle	144.77	335	PKP	PKPdf	08 47 26.2	+0.7
LARF	Larrau	144.80	338	PKP	PKPdf	08 47 26.8	+1.2
EALK	Alkurruntz	144.83	339	PKP	PKPdf	08 47 26.4	+0.8
FDAF	Les Forges d'A	144.84	338	PKP	PKPdf	08 47 24.8	-0.8
EGRA	Graus	145.03	336	PKP	PKPdf	08 47 27.6	+1.6
EPOB	Poblet	145.42	334	PKP	PKPdf	08 47 27.7	+1.0
ELAN	Lanestosa	145.46	341	PKP	PKPdf	08 47 28.4	+1.7
ESAC	San Caprasio	145.74	337	PKP	PKPdf	08 47 29.6	+2.4
EARI	Arriondas	145.93	343	PKP	PKPdf	08 47 29.5	+2.0
EBR	Ebro Roquetas	146.11	335	eP	PKPdf	08 47 30.2	+2.3
EBR	Ebro Roquetas	146.11	335	P	PKPdf	08 47 30.4	+2.5
EPON	Pontenova	146.41	346	PKP	PKPdf	08 47 30.5	+2.2
EMOS	Mosqueruela	146.89	335	PKP	PKPdf	08 47 31.9	+2.7
ETOR	Torete	147.12	338	PKP	PKPdf	08 47 31.9	+2.3
STS	Santiago	147.15	347	PKP	PKPdf	08 47 33.8	+4.2
EMAZ	Mazaricos	147.18	348	PKP	PKPdf	08 47 31.2	+1.6
EIBI	Ibiza	147.19	332	PKP	PKPdf	08 47 31.7	+2.0
ERUA	La Rua	147.29	345	PKP	PKPdf	08 47 31.6	+1.7
ECAL	Calabor	147.61	344	PKP	PKPdf	08 47 32.0	+1.7
EZAM	Zamans	147.88	347	PKP	PKPdf	08 47 35.4	+4.7
ELOB	Lobios	148.01	346	PKP	PKPdf	08 47 32.5	+1.5
EBEN	Beniarda	148.17	333	PKP	PKPdf	08 47 33.5	+2.1
PVRL	Vila Real	148.48	345	ePKP	PKPdf	08 47 36.4	+4.6
ESDC	Sonseca Array	148.82	339	PKP	PKPdf	08 47 33.7	+1.4
	comp=Z,16nm,0.8s,baz=13,slow=3.1,SNR=19						
ESDC				PKPbc	PKPdf	08 47 37.8	+5.4
	comp=Z,67nm,1.1s,baz=24,slow=2.6,SNR=32						
ESDC				PP	PP	08 51 08.6	-1.7
	comp=Z,7.1nm,0.8s,baz=18,slow=6.1,SNR=4.3						
ESLA	Sonseca Array	148.82	339	ePKPdf	PKPdf	08 47 34.6	+2.2
ESLA				ePKPbc	PKPdf	08 47 38.0	+5.7
ESLA				LR	LR		
	comp=Z,180µm,21.0s,MS7.8						
PVIS	Viseu	149.06	345	ePKP	PKPdf	08 47 35.1	+2.4
EVIA	Vianos	149.18	336	PKP	PKPdf	08 47 35.2	+2.2
MTE	Manteigas	149.26	344	ePKP	PKPdf	08 47 35.2	+2.2
MTE	Manteigas	149.26	344	ePKPdf	PKPdf	08 47 34.9	+1.8
MTE				ePKPbc	PKPdf	08 47 39.6	+6.6
EMUR	La Murta	149.33	334	PKP	PKPdf	08 47 34.8	+1.6
CART	Cartagena	149.43	333	ePKPdf	PKPdf	08 47 35.7	+2.3
CART				ePKPbc	PKPdf	08 47 39.1	+5.7
EQES	Quesada	150.13	336	PKP	PKPdf	08 47 36.7	+2.2
EADA	Adamuz	150.38	338	PKP	PKPdf	08 47 35.4	+0.6
STGR	Santa Cruz	150.56	16	ePKP	PKPdf	08 47 41.3	+6.2
EBAD	Badajoz	150.65	342	PKP	PKPdf	08 47 36.5	+1.3
ALMR	Almeirim	150.70	345	eP	PKPdf	08 47 37.1	+1.8
PCED	Cedros	150.78	18	ePKP	PKPdf	08 47 48.9	+13
ELUQ	Luque	150.80	337	PKP	PKPdf	08 47 43.4	+7.9
CALA	Caldeira	150.82	18	ePKP	PKPdf	08 47 44.4	+8.9
ROSA	Rosais	150.83	17	ePKP	PKPdf	08 47 43.2	+7.7
EBER	Berja	150.83	335	PKP	PKPdf	08 47 36.8	+1.2
PMAN	Manadas	150.95	17	ePKP	PKPdf	08 47 43.6	+7.9
PICO	Pico	150.98	17	ePKP	PKPdf	08 47 44.4	+8.7
PSBA	Serra de Santa	151.03	15	ePKP	PKPdf	08 47 39.4	+3.6
PBIS	Biscoitos	151.06	15	ePKP	PKPdf	08 47 41.1	+5.2
PVNV	Vila Nova	151.08	15	ePKP	PKPdf	08 47 44.2	+8.3
ERON	Agron	151.10	336	PKP	PKPdf	08 47 38.7	+2.7
PLOU	Loures	151.10	346	ePKP	PKPdf	08 47 41.9	+6.0
PPAD	Pico dos Padre	151.10	15	ePKP	PKPdf	08 47 42.7	+6.8
ELOJ	Sierra Loja	151.12	337	PKP	PKPdf	08 47 42.5	+6.5
PID	Ribeirinha	151.12	17	ePKP	PKPdf	08 47 43.8	+7.8
EVO	Evora	151.14	344	ePKIKP	PKPdf	08 47 33.7	-2.3
	comp=Z,242nm,1.6s						
PFAV	Pico das Favas	151.15	15	ePKP	PKPdf	08 47 41.9	+5.9
PSCM	Serra do Cume	151.15	15	ePKP	PKPdf	08 47 43.9	+7.9
ADH	Angra Heroismo	151.16	15	ePKP	PKPdf	08 47 44.3	+8.3
ADH	Angra Heroismo	151.16	15	ePP	PP	08 51 32.5	+8.4
ADH	Angra Heroismo	151.16	15	eLR	LR	09 31 25.0	
RIB2	Ribeirinha	151.16	15	ePKP	PKPdf	08 47 39.9	+3.9
LIS	Lisbon	151.26	346	eP	PKPdf	08 47 38.1	+2.0
LIS				ePP	PP	08 51 21.5	-3.0
LIS				eSS	SS	09 10 42.1	+0.3
LIS				AMS	AMS	10 03 51.7	
	comp=Z,31µm,19.2s,MS7.1						
EMIN	Mina Concepcio	151.45	341	PKP	PKPdf	08 47 38.7	+2.2
PBEJ	Beja	151.57	343	ePKP	PKPdf	08 47 38.8	+2.2
EMIJ	Mijas	151.87	337	PKP	PKPdf	08 47 37.5	+0.3
PALC	Alcoutim	151.98	342	ePKP	PKPdf	08 47 39.0	+1.7
ESPR	Espera	151.99	339	PKP	PKPdf	08 47 39.8	+2.5
PTEO	Sao Teotonio	152.26	344	ePKP	PKPdf	08 47 38.8	+1.1
SET2	Ginetes	152.28	14	ePKP	PKPdf	08 47 34.4	-3.3
PFET	Feteiras	152.31	14	ePKP	PKPdf	08 47 34.4	-3.3
PSET	Sete Cidades	152.32	13	ePKP	PKPdf	08 47 28.5	-9.3
PDA	Ponta Delgada	152.41	13	ePKP	PKPdf	08 47 42.4	+4.5
PDA	Ponta Delgada	152.41	13	ePP	PP	08 51 29.6	-1.1
PCNG	Congro	152.45	13	ePKP	PKPdf	08 47 38.1	+0.2
VIF	Vila Franca	152.46	13	ePKP	PKPdf	08 47 34.1	-3.9
PRCH	Ribeira Ch	152.47	13	ePKP	PKPdf	08 47 37.7	-0.3
PSMN	Pico do Norte,	153.25	13	ePKP	PKPdf	08 47 37.0	-2.1
RCBR	Riachuelo	155.52	132	ePKPdf	PKPdf	08 47 45.0	+2.2
RCBR				epPKPdf		08 47 56.7	
RCBR				LR	LR		
	comp=Z,16µm,20.0s,MS6.8						
EFAM	Famara	161.45	348	PKP	PKPdf	08 47 50.0	+0.6
EBAJ	Bajamar	162.43	356	PKP	PKPdf	08 47 51.1	+0.8
CCAN	Las Canadas	162.76	356	PKP	PKPdf	08 47 52.3	+1.5
EGOM	La Gomera	162.85	358	PKP	PKPdf	08 47 51.1	+0.3
EHRO	Hierro	163.27	1	PKP	PKPdf	08 47 52.3	+1.0
CHIE	El Hierro	163.30	0	PKP	PKPdf	08 47 48.9	-2.4
KIC	Kosan Boka	166.24	252	ePKIKP	PKPdf	08 47 55.6	+1.1
	comp=Z,3µm,2.0s						
DBIC	Dimbokro	166.45	253	PKP	PKPdf	08 47 55.2	+0.6
	comp=Z,57nm,1.0s,baz=122,slow=1.6,SNR=24						
DBIC				PKPab	PKPab	08 48 59.2	+0.8
	comp=Z,41nm,0.8s,baz=87,slow=7.6,SNR=7.1						
DBIC				PP	PP	08 52 45.8	-1.5
	comp=Z,21nm,0.9s,baz=127,slow=5.0,SNR=3.7						
DBIC	Dimbokro	166.45	253	PKIKP	PKPdf	08 47 55.2	+0.6
DBIC						08 48 59.2	
DBIC						08 52 45.8	
DBIC				pmax	pmax		
	comp=Z,57nm,1.0s						
DBIC				pmax	pmax		
	comp=Z,21nm,0.9s						
DBIC	Dimbokro	166.45	253	ePKPdf	PKPdf	08 47 55.8	+1.2
DBIC				epPKPdf		08 48 08.3	
DBIC				epPKPab		08 48 58.0	
DBIC				LR	LR		
	comp=Z,44µm,20.0s						
LIC	Lamto	166.46	251	ePKIKP	PKPdf	08 47 55.6	+1.0
	comp=Z,1µm,2.0s						
TIC	Toumodi	166.59	253	ePKIKP	PKPdf	08 47 55.8	+1.1
	comp=Z,3µm,2.0s						

*IDC **08** 08:28:47.7±2.6, 32.11S×68.79W, mb4.0/2, mb1 4.0/4, mb1mx3.9/13, ML3.8/2, Error ellipse: s-maj=70.0km s-min=33.1km az=5.0*

*NEIC **08** 08:29:03.5±0.6, 31.07S×68.25W, h76km±9km, mb3.7/1, MD4.3(GUC), Error ellipse: s-maj=9.6km s-min=5.7km az=91.0*

*GUC **08** 08:29:04.4±0.7, 31.14S×68.68W, h150km, MD4.3, ML4.2*

ISC 08 08:29:03.4±0.7**, 31.10S**±0.03×**68.39W**±0.08**, h98**km±9km**, n34, σ1^{s}00**/47**, mb3.8**/3**, 5C-6D, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MDZ	Mendoza	1.82	192	i P	P	08 29 35.2	+1.2
MDZ				i S	S	08 29 57.3	+0.6
CMCH	Combarbala	2.24	267	⇓iP	P	08 29 40.2	+0.6
CMCH				i S	S	08 30 07.2	+0.6
CMCH				AMP		08 30 09.3	
	comp=E,5µm,0.5s						
TLL	Tololo Astrono	2.28	293	⇑iP	P	08 29 41.5	+1.4
TLL				i S	S	08 30 09.4	+1.9
TLL				AMP		08 30 11.4	
	comp=E,1µm,0.3s						
JACH	Jahuel	2.45	229	i P	P	08 29 43.2	+0.6
LSCH	La Serena	2.73	295	eP	P	08 29 46.1	-0.4
LSCH				i S	S	08 30 17.6	-1.1
LSCH				AMP		08 30 47.2	
	comp=N,496nm,0.6s						
FCH	Farellones	2.75	215	eP	P	08 29 47.8	+1.2
FCH				i S	S	08 30 20.8	+1.8
FCH				AMP		08 30 26.1	
	comp=N,450nm,0.2s						
CLCH	Cerro Calan	2.93	218	⇓iP	P	08 29 49.2	+0.1
CLCH				i S	S	08 30 23.1	-0.3
CLCH				AMP		08 30 31.8	
	comp=E,698nm,0.8s						
DSCH	Colegio Aleman	2.94	218	eP	P	08 29 49.5	+0.1
DSCH				i S	S	08 30 23.5	-0.4
DSCH				AMP		08 30 26.1	
	comp=E,791nm,0.6s						
PACH	Papudo	2.96	240	eP	P	08 29 47.5	-2.2
FSR	Penalolen	2.99	217	eP	P	08 29 50.1	+0.2
FSR				i S	S	08 30 24.6	-0.3
FSR				AMP		08 30 31.0	
	comp=N,378nm,0.6s						
STL	Santa Lucia	3.01	219	i P	P	08 29 50.2	-0.1
STL				i S	S	08 30 24.9	-0.7
STL				AMP		08 30 27.9	
	comp=N,142nm,0.3s						
PCH	Pirque	3.09	215	eP	P	08 29 51.7	+0.3
ANTU	Antumapu	3.11	217	i P	P	08 29 51.5	-0.1
ANTU				i S	S	08 30 27.5	-0.5
ANTU				AMP		08 30 29.0	
	comp=E,297nm,0.4s						
LMEL	Las Melosas	3.14	209	⇑iP	P	08 29 52.6	+0.5
RCDM	Rinconada Maip	3.14	220	eP	P	08 29 51.5	-0.6
RCDM				i S	S	08 30 27.7	-1.1
RCDM				AMP		08 30 29.2	
	comp=E,732nm,0.1s						
VACH	Vallenar	3.25	320	⇑iP	P	08 29 53.7	+0.2
TACH	Talagante	3.34	220	⇓iP	P	08 29 53.6	-1.2
CHCH	Chadas Angostu	3.41	213	i P	P	08 29 54.9	-0.9
CICH	Cipreses	3.64	208	eP	P	08 29 57.9	-1.0
CPCH	Copiapo	4.10	335	⇓iP	P	08 30 05.8	+0.6
CPCH				i S	S	08 30 51.5	-0.8
CPCH				AMP		08 30 56.3	
	comp=E,1µm,0.1s						
LVC	Limon Verde	8.46	357	ePn	P	08 31 03.1	-1.7
	comp=E,7.5nm,0.4s						
TRQA	Tornquist	8.72	144	ePn	P	08 31 05.7	-2.6
	comp=E,20nm,0.6s						
TRQA				e		08 31 33.0	
CPUP	Villa Florida	10.81	67	Pn	P	08 31 32.7	-3.7
	comp=E,0.2nm,0.3s,baz=260,slow=12,SNR=4.5						
CPUP				Sn	S	08 33 44.8	+8.8
	comp=E,0.2nm,0.3s,baz=203,slow=7.1,SNR=2.9						
CPUP				Lg		08 34 34.8	
	comp=E,0.3nm,0.3s,baz=209,slow=19,SNR=1.9						
CPUP	Villa Florida	10.81	67	ePn	P	08 31 32.4	-4.0
LPAZ	La Paz	14.74	1	Pn	P	08 32 32.8	+4.7
	comp=E,0.2nm,0.3s,baz=177,slow=9.4,SNR=6.5						
LPAZ	La Paz	14.74	1	eP	P	08 32 28.9	+0.8
	comp=E,1.6nm,0.6s						
NNA	Nana	20.56	336	P	P	08 33 36.9	+0.7
SAML	Samuel	22.57	14	eP	P	08 33 56.4	+0.2
	comp=E,2.6nm,0.8s,mb3.6						
VNA3	Neumayer Olymp	50.92	159	⇑i	P	08 37 57.9	+1.7
VNA1	Neumayer--Stat	51.17	158	⇓i	P	08 38 02.4	+4.3
VNA2	Neumayer--Watz	51.53	158	⇑i	P	08 38 01.1	+0.3
SNAA	Sanae	53.14	159	⇓i	P	08 38 14.6	+1.8
TXAR	Lajitas Array	68.84	327	P	P	08 39 58.1	-1.3
	comp=E,0.5nm,0.5s,mb3.6,baz=158,slow=8.4,SNR=9.3						
DBIC	Dimbokro	71.31	70	P	P	08 40 13.9	-0.7
	comp=E,3.4nm,1.1s,mb4.1,baz=243,slow=6.8,SNR=2.3						

*HEL **08** 08:38:04.8±0.4, 56.47N×21.07E, ML1.5, ML2.7(UPP), ML2.2(NAO), Explosion*

*BER **08** 08:38:04.7±3.3, 56.36N×21.22E, ML2.2(NAO), Suspected explosion*

*CSEM **08** 08:38:05.0±0.3, 56.67N×21.16E, h2km, ML2.7, Error ellipse: s-maj=7.6km s-min=2.3km az=159.0, Suspected Mining explosion.*

*NAO **08** 08:38:06.4±4.9, 56.61N×21.10E, ML2.2*

*UPP **08** 08:38:07.2, 56.71N×20.89E, h0km, ML2.7, Suspected Mining explosion.*

ISC 08 08:38:05.6±0.8**, 56.76N**±0.05×**21.13E**±0.07**, n28, σ0^{s}93**/45**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GOTU	Gotland	1.68	305	eP	Pn	08 38 36.0	-0.3
GOTU				eS	Sb	08 38 59.5	+0.8
BYXU	Byxelkrok	2.32	285	eP	Pn	08 38 45.4	-0.1
VSTU	Vaestervik	2.66	292	eP	Pn	08 38 50.6	+0.2
VSTU				eS	Sn	08 39 24.6	+0.8
VSTU	Vaestervik	2.66	292	P	Pn	08 38 50.5	+0.1
VSTU				S	Sn	08 39 24.6	+0.7
OSKU	Oskarshamn	2.79	281	eP	Pn	08 38 51.0	-1.3
NYNU	Nynaeshamn	2.81	325	eP	Pn	08 38 53.1	+0.6
VIKU	Vikbolandet	2.96	308	eP	Pn	08 38 55.0	+0.4
EKSU	Eksjoe	3.28	287	eP	Pn	08 38 58.9	-0.4
EKSU	Eksjoe	3.28	287	P	Pn	08 38 58.8	-0.4
PVF	Pernaja	4.53	31	eP	Pn	08 39 17.9	+0.9
PVF				eS	Sn	08 40 12.9	+1.6
PVF	Pernaja	4.53	31	P	Pn	08 39 17.9	+0.9
PVF				S	Sn	08 40 12.8	+1.6
VJF	Virojoki	5.06	39	eP	Pn	08 39 24.6	0.0
VJF				eS	Sn	08 40 22.0	-2.6
VJF	Virojoki	5.06	39	P	Pn	08 39 24.5	0.0
HFS	Hagfors	5.17	314	Pn	Pn	08 39 25.7	-0.3
	baz=136,slow=14						
HFS				Sn	Sn	08 40 26.1	-1.3
	baz=126,slow=28						
HFS	Hagfors	5.17	314	eP	Pn	08 39 25.7	-0.3
HFS				eS	Sn	08 40 26.1	-1.3
FIA0	FINESS Array S	5.35	26	Pn	Pn	08 39 28.8	+0.2
	baz=191,slow=12						
FIA0				Sn	Sn	08 40 30.5	-1.3
	baz=216,slow=28						
FIA0				Lg		08 40 60.0	
	baz=222,slow=28						
FIA0	FINESS Array S	5.35	26	eP	Pn	08 39 29.1	+0.6
FIA0				eS	Sn	08 40 32.2	+0.5
FIA0				eSG	Sg	08 40 58.3	-5.2
KEF	Keuruu	5.75	18	eP	Pn	08 39 35.9	+1.6
KEF				eS	Sn	08 40 42.4	+0.5
KEF	Keuruu	5.75	18	P	Pn	08 39 35.8	+1.5
KEF				S	Sn	08 40 42.4	+0.5
KAF	Kangasniemi	5.99	24	eP	Pn	08 39 37.8	+0.3
KAF				eS	Sn	08 40 47.6	-0.2
KAF				eSG	Sg	08 41 18.2	-6.6
KAF				MSG		08 41 21.2	
	comp=Z,0.3nm,0.3s						
KAF	Kangasniemi	5.99	24	P	Pn	08 39 37.8	+0.3
KAF				S	Sn	08 40 47.5	-0.3
VAF	Ylistaro	6.36	6	eP	Pn	08 39 42.8	0.0
VAF	Ylistaro	6.36	6	P	Pn	08 39 42.7	-0.1
SUF	Sumiainen	6.50	21	eP	Pn	08 39 45.3	+0.5
SUF				eS	Sn	08 40 58.4	-2.2
SUF	Sumiainen	6.50	21	P	Pn	08 39 45.2	+0.4
VRAC	Vranov	7.95	202	ePg	Pb	08 40 24.0	-0.2
ARA0	ARCESS Array S	12.97	7	Pn	P	08 41 08.0	-5.7
	baz=188,slow=16						
ARA0	ARCESS Array S	12.97	7	eP	P	08 41 08.0	-5.7

*LDG **08** 08:50:32.5±0.1, 42.35N×2.18E, h4km, Ml2.1/6, Error ellipse: s-maj=1.9km s-min=1.4km az=127.0*

*MDD **08** 08:50:33.1±0.3, 42.35N×2.15E, h4km±6km, mbLg1.5/8, Error ellipse: s-maj=3.0km s-min=2.6km az=161.0, PRXIMO AftershockPLICA*

ISC 08 08:50:31.6±0.7**, 42.36N**±0.04×**2.14E**±0.05**, h14**km±5km**, n16, σ1^{s}11**/25**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBRU	Bruguera	0.08	157	Pg	Pg	08 50 34.2	-0.3
VALF	Valcebollere	0.10	296	P	Pg	08 50 35.2	+0.5
VALF				S	Sb	08 50 37.0	+0.1
CLLI	Llivia	0.17	315	Pg	Pg	08 50 36.5	+0.7
CARF	Carcanieres	0.36	356	P	Pg	08 50 40.2	+1.1
CARF				S	Sg	08 50 45.2	+1.0
EJON	La Jonquera	0.56	81	Pg	Pg	08 50 43.6	+0.4
	5.8nm,0.7s,SNR=7.9						
EJON				Lg		08 50 51.3	
	3.4nm,0.1s,SNR=7.9						
CORG	Organya	0.62	258	Pg	Pg	08 50 44.6	+0.4
EMIR	Miracle	0.64	226	Pg	Pg	08 50 44.7	+0.2
	3.0nm,0.1s,SNR=7.9						
EMIR				Lg		08 50 53.6	
	4.7nm,0.1s,SNR=7.9						
MTLF	Montolieu	0.98	3	ePg	Pg	08 50 51.4	0.0
MTLF				eSg	Sg	08 51 04.7	+0.1

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	4.1nm,0.2s						
CAVN	Les Avellanes	1.14	246	Pg	Pg	08 50 54.0	-0.4
EPOB	Poblet	1.28	219	Pg	Pg	08 50 56.3	-0.9
	3.7nm,0.4s,SNR=15						
EPOB				Lg		08 51 13.3	
	6.7nm,0.1s,SNR=7.9						
EGRA	Graus	1.36	264	Pg	Pg	08 50 59.0	+0.2
	SNR=5.0						
EGRA				Lg		08 51 17.6	
	1.6nm,0.1s,SNR=4.0						
EBIE	Bielsa	1.51	283	Pn	Pn	08 51 01.0	+2.6
	0.3nm,0.2s,SNR=5.0						
EBIE				Pg	Pg	08 51 03.9	+2.1
	0.3nm,0.1s,SNR=7.9						
EBIE				Lg		08 51 22.7	
	1.3nm,0.1s,SNR=7.9						
ETSF	Etsaut	2.06	286	ePn	Pn	08 51 06.7	+0.4
ETSF				ePg	Pg	08 51 11.7	-1.1
ETSF				eSg	Sg	08 51 39.3	-1.0
	3.1nm,0.3s						
LASF	Ste Croix	2.13	36	ePg	Pg	08 51 11.7	-2.4
LASF				eSg	Sg	08 51 39.1	-3.4
	1.0nm,0.3s						
CAF	Calviac	2.57	359	ePn	Pn	08 51 13.2	-0.3
CAF				eSg	Sg	08 51 53.5	-3.6
	3.5nm,0.3s						
SJPF	Ste Jean	2.59	288	ePn	Pn	08 51 13.8	-0.1
SJPF				eSg	Sg	08 51 55.0	-2.9
	0.8nm,0.2s						

*MOS **08** 09:21:27.0±1.4, 44.04N×149.64E, h33km, mb4.3/6, Error ellipse: s-maj=23.1km s-min=17.4km az=130.5*
*IDC **08** 09:21:30.6±0.6, 43.99N×149.71E, h46km±4km, mb3.6/12, mb1 3.8/13, mb1mx3.8/21, Error ellipse: s-maj=15.7km s-min=13.9km az=135.0*
*NEIC **08** 09:21:30.7±0.6, 44.00N×149.77E, Error ellipse: s-maj=18.0km s-min=14.8km az=137.0*
ISC 08 09:21:28.7±0.7**, 44.0N**±0.1×**149.6E**±0.1**, h47km, h47km**±1.6km**:pP-P, n25, σ1§07**/23**, mb3.8**/12**, 1C, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.76	316	⇑iPN	P	09 21 53.6	-3.7
KUR				pmax	pmax		
	comp=N,210nm,0.6s						
KUR				pmax	pmax		
	comp=E,170nm,0.6s						
KUR				pmax	pmax		
	comp=Z,380nm,0.6s						
YUK	Yuzh-Kuril'sk	2.70	272	ePN	P	09 22 08.5	-2.2
YUK				pmax	pmax		
	comp=Z,120nm,0.4s						
ASAJ	Asahikawa	5.05	274	P	P	09 22 44.6	+0.7
	comp=Z,1.2nm,0.3s,baz=83,slow=12,SNR=7.7						
SONM	Songino Array	30.02	293	P	P	09 27 35.7	+0.8
	comp=Z,3.7nm,0.9s,mb4.1,baz=63,slow=8.3,SNR=8.7						
SONM				pP	pP	09 27 48.8	+1.4
	comp=Z,2.1nm,0.6s,baz=66,slow=8.9,SNR=5.5						
SONM				sP	sP	09 27 52.4	-0.8
	comp=Z,1.9nm,0.7s,baz=68,slow=9.6,SNR=3.9						
ILAR	Eielson Array	40.25	36	P	P	09 29 00.8	-1.3
	comp=Z,0.6nm,1.0s,mb3.3,baz=268,slow=8.0,SNR=5.0						
ILAR				pP	pP	09 29 15.3	+0.5
	comp=Z,0.5nm,0.6s,baz=263,slow=8.2,SNR=5.0						
ILAR	Eielson Array	40.25	36	P	P	09 29 00.8	-1.3
ILAR				*PP	pP	09 29 15.3	+0.5
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ILAR				pmax	pmax		
	comp=N,1.0nm,0.6s						
INK	Inuvik	45.30	31	P	P	09 29 42.9	-0.2
	comp=N,1.5nm,0.8s,mb3.9,baz=297,slow=6.8,SNR=3.1						
INK	Inuvik	45.30	31	P	P	09 29 42.9	-0.1
INK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR	Makanchi Array	46.05	298	P	P	09 29 49.4	+0.2
	comp=Z,2.4nm,0.8s,mb4.2,baz=66,slow=8.8,SNR=5.6						
MKAR				pP	pP	09 30 03.1	+1.0
	comp=Z,4.8nm,0.7s,baz=76,slow=7.9,SNR=12						
MKAR	Makanchi Array	46.05	298	P	P	09 29 49.4	+0.2
MKAR				*PP	pP	09 30 03.1	+1.0
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR				pmax	pmax		
	comp=N,5.0nm,0.7s						
YKA	Yellowknife Ar	54.61	35	pP	pP	09 31 07.0	-0.3
	comp=N,1.6nm,0.7s,baz=290,slow=6.8,SNR=6.3						
WRA	Warramunga Arr	65.13	196	P	P	09 32 06.1	-0.9
	comp=N,0.6nm,0.5s,mb3.9,baz=12,slow=6.7,SNR=10						
WRA				pP	pP	09 32 19.2	-1.3
	comp=N,0.8nm,0.6s,baz=13,slow=6.6,SNR=5.4						
WRA	Warramunga Arr	65.13	196	P	P	09 32 06.1	-0.9
WRA				*PP	pP	09 32 19.2	-1.2
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA				pmax	pmax		
	comp=N,1.0nm,0.6s						
FINES	FINESS Array B	65.46	334	P	P	09 32 07.9	-0.5
	comp=N,3.5nm,1.0s,mb4.3,baz=45,slow=8.1,SNR=5.8						
FINES				pP	pP	09 32 21.2	-0.6
	comp=N,3.4nm,0.7s,baz=45,slow=8.1,SNR=4.8						
FINES	FINESS Array B	65.46	334	P	P	09 32 07.9	-0.5
FINES				*PP	pP	09 32 21.2	-0.6
FINES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
FINES				pmax	pmax		
	comp=N,3.0nm,0.7s						
NVAR	Mina Array Bea	65.94	59	pP	pP	09 32 26.1	+0.7
	comp=N,1.0nm,0.8s,baz=295,slow=8.2,SNR=3.8						
PDAR	Pinedale Array	68.39	51	P	P	09 32 26.3	-0.8
	comp=N,0.2nm,0.7s,mb3.3,baz=297,slow=8.1,SNR=2.9						
PDAR				pP	pP	09 32 40.6	-0.1
	comp=N,0.3nm,0.6s,SNR=3.4						
ASAR	Alice Springs	68.84	195	P	P	09 32 30.9	+0.6
	comp=N,0.7nm,1.0s,mb3.5,baz=11,slow=6.0,SNR=8.6						
ASAR				pP	pP	09 32 44.3	+0.5
	comp=N,0.5nm,0.6s,baz=5.0,slow=4.3,SNR=4.1						
NB2	NORSAR Subarra	70.01	340	P	P	09 32 36.3	-0.4
	comp=N,1.3nm,0.6s,mb4.0,baz=31,slow=6.2						
NOA	NORSAR Array B	70.01	340	P	P	09 32 37.1	+0.4
	comp=N,2.3nm,0.8s,mb4.2,baz=33,slow=5.9,SNR=4.8						
NOA				pP	pP	09 32 50.3	0.0
	comp=N,2.6nm,0.8s,baz=32,slow=6.1,SNR=5.5						
NOA	NORSAR Array B	70.01	340	P	P	09 32 37.1	+0.4
NOA				*PP	pP	09 32 50.3	0.0
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA				pmax	pmax		
	comp=N,3.0nm,0.8s						
AKASG	Malin Array Be	72.43	325	P	P	09 32 52.0	+0.6
	comp=N,2.2nm,0.8s,mb4.1,baz=32,slow=5.7,SNR=6.2						
AKASG				pP	pP	09 33 05.0	0.0
	comp=N,1.8nm,0.8s,baz=34,slow=6.0,SNR=2.8						
AKASG	Malin Array Be	72.43	325	P	P	09 32 52.1	+0.7
AKASG				*PP	pP	09 33 05.1	+0.1
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKASG				pmax	pmax		
	comp=N,2.0nm,0.8s						
GERES	GERESS Array B	79.80	332	P	P	09 33 35.3	+2.3
	comp=N,0.2nm,0.3s,mb3.5,slow=1.3,SNR=3.8						
GERES				pP	pP	09 33 47.4	+0.5
	comp=N,0.4nm,0.5s,baz=37,slow=6.7,SNR=2.8						
TXAR	Lajitas Array	81.03	58	P	P	09 33 41.0	+1.0
	comp=N,0.3nm,0.8s,mb3.3,baz=301,slow=4.7,SNR=8.8						
TXAR				pP	pP	09 33 54.6	+0.7
	comp=N,1.0nm,0.6s,baz=302,slow=4.0,SNR=11						

MAN 08 09:28:57.4, 11.01N×124.12E, h1km, mb4.7, ML3.5, MS3.5, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OCLP	Ormoc	0.49	85	eP	Pg	09 29 06.8	-0.3
MSLP	Maasin	1.13	140	eP	Pb	09 29 20.3	+0.8
TBP	Tagbilaran	1.33	191	eP	Pb	09 29 22.3	-0.6
BESP	Borongan	1.43	65	eP	Pb	09 29 23.3	-1.2
GUIM	Jordan	1.55	256	eP	Pn	09 29 32.3	+6.1
CNP	Catarman	1.59	20	eP	Pn	09 29 27.8	+1.0
BUKP	Musuan	3.24	163	eP	Pn	09 29 50.8	+0.3

IDC 08 09:33:07.0±2.3**, 7.69S**×**150.94E, mb3.2**/3**, mb1 3.6**/3**, mb1mx3.5**/11**, Error ellipse: s-maj=137.0km s-min=30.8km az=129.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	20.18	231	P	P	09 37 44.8	-1.2
	0.7nm,0.7s,baz=56,slow=10,SNR=9.2						
ASAR	Alice Springs	22.79	224	P	P	09 38 09.7	-2.9
	0.4nm,0.7s,baz=57,slow=8.8,SNR=4.9						
ILAR	Eielson Array	85.52	22	P	P	09 45 46.9	-0.9
	0.2nm,0.5s,baz=254,slow=5.8,SNR=5.3						

*NAO **08** 09:49:08.6±3.5, 67.72N×34.00E, ML2.2*
*HEL **08** 09:49:08.8±0.3, 67.69N×34.04E, ML2.6, ML2.5(BER), ML2.2(NAO), Explosion*
*CSEM **08** 09:49:08.0±0.3, 67.64N×33.81E, h2km, ML2.2, Error ellipse: s-maj=8.3km s-min=4.0km az=92.0, Mining explosion.*
ISC 08 09:49:06.4±1.1**, 67.68N**±0.04×**34.1E**±0.2**, n25, σ1§23**/41**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
APA0	Apatity Array	0.43	261	i P	Pg	09 49 16.1	+1.1
APA0				i S	Sg	09 49 21.6	+0.8
APA0				eRG		09 49 23.5	
APA0	Apatity Array	0.43	261	Pg	Pg	09 49 16.1	+1.1
APA0				Lg		09 49 21.6	
	baz=78,slow=37						
APA0				Rg		09 49 23.5	
	baz=106,slow=28						
APA0	Apatity Array	0.43	261	Pg	Pg	09 49 16.1	+1.1
MSF	Maaselka	2.68	231	eP	Pn	09 49 53.3	+1.9
MSF				eS	Sn	09 50 26.7	+1.6
SGF	Sodankyl	2.92	269	eP	Pn	09 49 55.8	+0.8
SGF				eS	Sn	09 50 30.5	-0.7
SGF				eSB	Sb	09 50 35.6	+0.1
SGF				MSG		09 50 38.5	
	comp=Z,23nm,0.3s						
SGF	Sodankyl	2.92	269	P	Pn	09 49 55.7	+0.8
SGF				S	Sn	09 50 30.4	-0.8
KEV	Kevo	3.33	312	eP	Pn	09 50 02.7	+2.0
KEV				ePG	Pg	09 50 08.5	-4.2
KEV				eS	Sn	09 50 41.5	0.0
KEV	Kevo	3.33	312	P	Pn	09 50 02.7	+2.0
KEV				S	Sn	09 50 41.5	0.0
ARA0	ARCESS Array S	3.66	305	Pn	Pn	09 50 05.7	+0.2
	baz=125,slow=16						
ARA0				Sn	Sn	09 50 48.0	-2.1
	baz=119,slow=28						
ARA0				Lg		09 50 59.4	
	baz=110,slow=28						
ARA0	ARCESS Array S	3.66	305	eP	Pn	09 50 05.7	+0.2
ARA0				eS	Sn	09 50 48.0	-2.1
ARA0				eSG	Sg	09 50 59.4	-8.9
ARA0	ARCESS Array S	3.66	305	P	Pn	09 50 05.7	+0.2
ARA0				S	Sn	09 50 47.9	-2.1
OUL	Oulu	4.21	236	eP	Pn	09 50 14.2	+1.0
OUL				eS	Sn	09 51 02.4	-1.4
OUL	Oulu	4.21	236	P	Pn	09 50 14.2	+1.0
OUL				S	Sn	09 51 02.3	-1.5
KTK1	Kautokeino	4.25	293	eP	Pn	09 50 13.8	+0.1
KTK1				AML	AML	09 51 20.3	
	comp=Z,23nm,0.4s						
KTK1	Kautokeino	4.25	293	P	Pn	09 50 13.8	0.0
	comp=Z,23nm,0.4s						
KJN	Kajaani	4.46	219	eP	Pn	09 50 17.1	+0.3
KJN				eS	Sn	09 51 07.3	-2.9
KIF	Kilpisjarvi	5.11	291	eP	Pn	09 50 25.3	-0.6
KIF				eS	Sn	09 51 22.0	-4.5
SUF	Sumiainen	6.00	218	eP	Pn	09 50 38.3	-0.2
SUF				eS	Sn	09 51 43.9	-5.0
KEF	Keuruu	6.78	220	eP	Pn	09 50 48.3	-1.2
KEF				eS	Sn	09 52 03.1	-5.3
KEF	Keuruu	6.78	220	P	Pn	09 50 48.2	-1.3
FIA0	FINESS Array S	7.14	213	Lg		09 52 46.3	
	baz=39,slow=37						
FIA0	FINESS Array S	7.14	213	eP	Pn	09 50 53.7	-1.0
FIA0	FINESS Array S	7.14	213	Lg		09 52 46.3	
	baz=39,slow=37						
SPA0	Spitsbergen Ar	11.67	342	Pn	P	09 51 53.3	-3.7
	baz=151,slow=14						
SPA0	Spitsbergen Ar	11.67	342	eP	P	09 51 53.3	-3.7

*IDC **08** 09:59:38.6±3.5, 64.56N×31.97E, mb1 3.2/4, mb1mx3.1/20, ML2.7/4, Error ellipse: s-maj=46.4km s-min=10.4km az=107.0*
*HEL **08** 09:59:41.3±0.2, 64.76N×30.83E, ML1.8, Explosion*
ISC 08 09:59:39.1±1.0**, 64.72N**±0.03×**30.8E**±0.2**, n15, σ1§21**/28**, Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSF	Maaselka	1.41	329	eP	Pb	10 00 05.8	-0.2
MSF				eS	Sb	10 00 24.4	+0.1
KJN	Kajaani	1.49	246	eP	Pn	10 00 06.1	-1.1
KJN				eS	Sb	10 00 27.2	+0.5
OUL	Oulu	2.13	282	eP	Pn	10 00 17.2	+0.9
OUL				eS	Sn	10 00 45.2	+1.4
SUF	Sumiainen	2.89	228	eP	Pn	10 00 28.8	+1.6
SUF				eS	Sn	10 01 04.2	+1.1
SGF	Sodankyl	3.24	329	eP	Pn	10 00 33.1	+0.9
SGF				eS	Sn	10 01 10.8	-1.3
KAF	Kangasniemi	3.31	220	eP	Pn	10 00 34.8	+1.6
KAF				eS	Sn	10 01 13.8	-0.1
KEF	Keuruu	3.70	229	eP	Pn	10 00 40.0	+1.3
KEF				eS	Sn	10 01 24.3	+0.7
KEF				eSG	Sg	10 01 36.2	-6.0
KEF				MSG		10 01 38.1	
	comp=Z,1.5nm,0.2s						
FIA0	FINESS Array S	3.93	215	eP	Pn	10 00 43.5	+1.5
FIA0				eS	Sn	10 01 27.3	-2.3
FINES	FINESS Array B	3.93	215	Pn	Pn	10 00 42.2	+0.2
	comp=Z,0.1nm,0.3s,baz=37,slow=14,SNR=3.4						
FINES				Lg		10 01 46.5	
	comp=Z,1.1nm,0.3s,baz=46,slow=29,SNR=7.2						
VAF	Ylistaro	3.98	249	eP	Pn	10 00 43.6	+1.0
VAF				eS	Sn	10 01 29.1	-1.5
VJF	Virojoki	4.46	201	eP	Pn	10 00 49.2	-0.3
VJF				eS	Sn	10 01 41.5	-1.4
PVF	Pernaja	4.77	211	eP	Pn	10 00 55.9	+2.0
PVF				eS	Sn	10 01 49.3	-1.6
ARCES	ARCESS Array B	5.26	339	Pn	Pn	10 01 00.1	-0.7
	comp=Z,0.3nm,0.3s,baz=152,slow=13,SNR=20						
ARCES				Sn	Sn	10 02 02.7	-0.4
	comp=Z,0.3nm,0.3s,baz=159,slow=23,SNR=3.2						
ARCES				Lg		10 02 26.6	
	comp=Z,0.7nm,0.3s,baz=159,slow=30,SNR=6.2						
HFS	Hagfors	9.16	248	Pn	P	10 01 53.2	-2.3
	comp=Z,0.0nm,0.3s,baz=57,slow=13,SNR=3.7						
NOA	NORSAR Array B	9.66	257	Pn	P	10 02 00.9	-1.3
	comp=Z,0.2nm,0.3s,baz=134,slow=24,SNR=2.7						

JMA 08 10:07:05.2±0.1**, 26.63N**×**129.55E, h45km, M3.8, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOW	Kunigami	1.16	280	P	P	10 07 25.6	+0.4
JOW				S	S	10 07 39.7	-0.4
JTK	Tokunoshima	1.27	335	P	P	10 07 27.2	+0.4
JTK				S	S	10 07 42.2	-0.8
JIH	Iheya	1.47	286	P	P	10 07 30.2	+0.4
JIH				S	S	10 07 48.2	+0.2
JJT2	Tamagusuku 2	1.69	254	P	P	10 07 33.2	+0.4
JJT2				S	S	10 07 54.2	+0.8
JMZ	Minamidaito 2	1.70	118	P	P	10 07 33.0	0.0
JMZ				eS	S	10 07 52.9	-0.8
JZK	Kikaishima	1.72	12	P	P	10 07 34.1	+0.9
JZK				S	S	10 07 55.0	+0.9
NAH1	Naha	1.72	256	P	P	10 07 33.7	+0.4
NAH1				S	S	10 07 53.8	-0.4
JAM	Amami Oshima	1.77	2	P	P	10 07 33.8	-0.2
JAM				S	S	10 07 55.0	-0.5
JAGN	Aguni-jima	2.07	269	P	P	10 07 38.5	+0.3
JAGN				S	S	10 08 01.8	-1.0
JKE	Kume jima 2	2.50	264	P	P	10 07 43.8	-0.5
JKE				eS	S	10 08 13.3	-0.4
JNN	Nakanoshima	3.21	5	P	P	10 07 54.1	-0.4
JNN				eS	S	10 08 29.8	-2.1

*ATH **08** 10:20:17.8, 36.24N×22.94E, h19km±1km, MD3.7/10*
*NEIC **08** 10:20:17.8, 36.24N×22.94E, h19km, MD3.7(ATH), After ATH.*
*CSEM **08** 10:20:19.0±0.2, 36.27N×22.94E, h2km, MD3.7, Error ellipse: s-maj=4.2km s-min=2.0km az=51.0*
*THE **08** 10:20:21.3, 36.47N×23.13E, h10km, ML3.5*
ISC 08 10:20:17.2±1.2**, 36.25N**±0.05×**22.97E**±0.05**, h6km**±12km**, n23, σ0§96**/33**, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KYTH	Kithira	0.06	60	ePB	Pb	10 20 21.5	+1.0
VLI	Veliai	0.47	356	ePB	Pb	10 20 27.6	+0.2
VLI				eSB	Sb	10 20 34.4	+0.1
ITM	Ithomi	1.25	318	ePN	Pn	10 20 41.3	0.0
VAM	Vamos	1.30	130	ePN	Pn	10 20 42.9	+0.9
GVD	Gavdhos	1.68	147	ePn	Pn	10 20 46.2	-1.1
GVD				ePg	Pg	10 20 50.6	0.0
GVD				eSg	Sg	10 21 12.0	-1.1
GVD	Gavdhos	1.68	147	ePn	Pn	10 20 46.2	-1.1
GVD	Gavdhos	1.68	147	ePg	Pg	10 20 50.7	0.0
THR5	Thira Island,	1.92	84	ePb	Pb	10 20 52.0	-0.3
THR6	Thira Island,	1.96	86	ePb	Pb	10 20 52.9	-0.1
THR6				eSb	Sb	10 21 17.3	-0.4
THR3	Thira Island,	1.97	85	ePb	Pb	10 20 53.5	+0.4
THR3				eSb	Sb	10 21 17.7	-0.2
THR4	Thira Island,	1.97	83	ePb	Pb	10 20 53.3	+0.2
THR4				eSb	Sb	10 21 17.0	-0.9
THR1	Thera Island	2.01	86	ePb	Pb	10 20 54.1	+0.2
THR1				eSb	Sb	10 21 18.9	-0.3
RLS	Riolos of Patr	2.17	327	ePB	Pb	10 20 54.9	-1.6
APE	Apeiranthos	2.21	68	ePN	Pn	10 20 56.2	+1.2
NPS	Neapolis	2.36	114	ePN	Pn	10 20 57.6	+0.4
LKR	Lokris	2.40	0	ePN	Pn	10 20 58.3	+0.7
VLS	Valsamata	2.70	316	ePB	Pb	10 21 04.0	-1.7
LKD	Levkas	3.07	324	ePn	Pn	10 21 10.1	+2.8
LKD				eSn	Sn	10 21 45.1	+0.4
XOR	Xorichti	3.11	3	ePn	Pn	10 21 08.3	+0.4
XOR				eSn	Sn	10 21 43.4	-2.5
XOR	Xorichti	3.11	3	ePn	Pn	10 21 08.3	+0.4
XOR				eSn	Sn	10 21 43.3	-2.6
KARP	Karpathos	3.47	100	ePN	Pn	10 21 14.7	+1.7
OUR	Ouranopolis	4.15	11	ePn	Pn	10 21 21.9	-0.8
KEK	Kerkira	4.27	325	ePN	Pn	10 21 25.0	+0.7

*NEIC **08** 10:24:17.9±3.4, 36.16N×70.32E, h157km±26km, mb3.8/1, Error ellipse: s-maj=29.2km s-min=13.9km az=216.0*
*IDC **08** 10:24:19.8±8.6, 36.21N×70.38E, h175km±75km, mb3.6/8, mb1 3.8/10, mb1mx3.5/21, Error ellipse: s-maj=46.9km s-min=17.7km az=33.0*
*NNC **08** 10:24:28.3±9.8, 36.75N×70.87E, h202km±105km, mpv4.6, Error ellipse: s-maj=181.9km s-min=99.6km az=105.0*
ISC 08 10:24:22.5±0.5**, 36.44N**±0.03×**70.54E**±0.08**, h207km**±6km**, n50, σ1§03**/57**, mb3.6**/7**, 3C-3D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEP	Cherat	2.84	156	⇑P	P	10 25 12.8	+1.6
CEP				S	S	10 25 49.0	+0.2
CHCP	Chirah Chowk	3.56	140	P	P	10 25 21.6	+1.8
CHCP				S	S	10 26 03.0	-1.1
THW	Thamme Wali	3.77	164	⇓P	P	10 25 23.4	+1.1
SBDP	Sheikh Budin	4.14	177	P	P	10 25 27.0	+0.1
DRP	Derazinda	4.70	184	P	P	10 25 34.6	+0.7
SARP	Sargodha	4.84	158	P	P	10 25 36.1	+0.4
SARP				S	S	10 26 31.0	-1.6
THN	Thein Dam	5.85	132	eP	P	10 25 49.6	+0.9
THN				eS	S	10 26 56.4	+0.7
AML	Almayashu	6.18	22	P	P	10 25 52.8	-0.2
	SNR=416						
UCH	Uchtor	6.54	27	P	P	10 25 57.8	+0.2
	SNR=211						
EKS2	Erkin-Say	6.69	21	P	P	10 25 59.5	0.0
	SNR=32						
KZA	Kyzart	6.71	32	P	P	10 25 59.5	-0.3
	SNR=39						
AAK	Ala-Archa	6.89	25	⇓P	P	10 26 02.2	0.0
	25nm,0.6s						
AAK				⇑S	S	10 27 17.2	-2.7
	24nm,0.5s						
AAK	Ala-Archa	6.89	25	P	P	10 26 02.2	+0.1
	SNR=34						
AAK	Ala-Archa	6.89	25	ePn	P	10 26 01.0	-1.2
	24nm,0.4s						
AAK				eSn	S	10 27 16.9	-3.0
BHK	Bhakra	6.99	134	eS	S	10 27 22.5	+0.2
KBK	Karagaybulak	7.08	27	P	P	10 26 04.8	+0.2
	SNR=19						
ULHL	Ulahol	7.28	36	P	P	10 26 07.3	0.0
	SNR=18						
CHMS	Chumysh	7.31	25	P	P	10 26 06.9	-0.6
	SNR=19						
USP	Ospenovka	7.46	23	P	P	10 26 08.8	-0.8
	SNR=20						
TKM2	Tokmak 2	7.55	29	P	P	10 26 10.7	0.0
	SNR=116						
BHGR	Bahadurgarh	9.43	143	eS	S	10 28 14.6	-4.1
KHET	Khetri	9.46	150	e	S	10 28 16.4	-3.1
KHET				AML	AML	10 28 19.1	
	comp=N,60nm,0.4s						
KHET				AML	AML	10 28 19.5	
	comp=E,54nm,0.3s						
JASL	Jaisalmer	9.49	178	e	S	10 28 18.8	-1.5
JOSI	Joshimath	9.54	125	e	S	10 28 21.4	0.0
NDI	New Delhi	9.56	142	eP	P	10 26 35.0	-1.8
NDI				eS	S	10 28 17.5	-4.5
KUDL	Kundal	9.68	147	e	S	10 28 20.3	-4.3
AYAN	Aya Nagar	9.69	143	eS	S	10 28 21.1	-3.7
SONA	Sohna	9.86	144	eS	S	10 28 23.8	-5.0
SONA				AML	AML	10 28 31.1	
	comp=E,54nm,0.3s						
SONA				AML	AML	10 28 31.4	
	comp=N,26nm,0.5s						
MK31	Makanchi Array	13.55	37	⇑P	P	10 27 27.6	+0.1
	comp=N,2.4nm,0.5s,baz=222,slow=15,SNR=23						
MKAR	Makanchi Array	13.55	37	P	P	10 27 27.4	-0.1
	comp=N,0.8nm,0.3s,baz=222,slow=15,SNR=23						
KOLN	Koldanda	14.03	124	eP	P	10 27 34.0	+0.5
	comp=N,4.2nm,0.3s						
BHPL	Bhopal	14.44	154	eP	P	10 27 42.6	+4.0
BHPL				e		10 30 12.1	
GKN	Gorkha	14.59	121	eP	P	10 27 43.9	+3.5
	comp=N,14nm,0.3s						
DMN	Daman	15.15	121	eP	P	10 27 50.7	+3.3
KKN	Kakani	15.16	121	eP	P	10 27 51.6	+4.1
	comp=N,21nm,0.4s						
PKI	Pulchoki	15.39	121	eP	P	10 27 53.5	+3.2
	comp=N,29nm,0.6s						
GUN	Gumba	15.51	119	eP	P	10 27 56.1	+4.3
	comp=N,13nm,0.4s						
BVA0	Borovoye Array	16.58	360	⇓P	P	10 28 05.0	+0.4
	comp=N,0.5nm,0.8s						
BVAR	Borovoye Array	16.58	360	P	P	10 28 04.4	-0.1
	comp=N,0.6nm,0.3s,baz=166,slow=12,SNR=9.4						
BRVK	Borovoye	16.62	359	eP	P	10 28 04.3	-0.6
	comp=N,2.0nm,0.4s						
ZAL	Zalesovo	20.11	25	P	P	10 28 42.0	+0.4
	comp=N,4.3nm,0.4s,baz=163,slow=5.9,SNR=8.4						
ZAL	Zalesovo	20.11	25	P	P	10 28 42.0	+0.4
SONM	Songino Array	28.67	55	P	P	10 30 03.9	+1.9
	comp=N,0.5nm,0.5s,mb3.4,baz=262,slow=9.2,SNR=4.5						
FINES	FINESS Array B	37.33	326	P	P	10 31 15.9	-0.2
	comp=N,4.6nm,1.0s,mb4.0,baz=116,slow=11,SNR=10						
ARCES	ARCESS Array B	41.06	338	P	P	10 31 47.1	+0.2
	comp=N,2.6nm,0.5s,mb3.9,baz=108,slow=8.0,SNR=22						
NB2	NORSAR Subarra	44.21	323	P	P	10 32 11.5	-0.7
	comp=N,1.5nm,0.7s,mb3.4,baz=96,slow=7.9						
NOA	NORSAR Array B	44.21	323	P	P	10 32 11.9	-0.3
	comp=N,3.1nm,0.8s,mb3.7,baz=98,slow=7.8,SNR=5.5						
ILAR	Eielson Array	74.94	16	P	P	10 35 42.0	+0.2
	comp=N,1.1nm,1.1s,mb3.4,baz=302,slow=4.7,SNR=5.9						
WRA	Warramunga Arr	82.27	122	P	P	10 36 21.7	-0.5
	comp=N,0.6nm,0.4s,mb3.5,baz=322,slow=5.0,SNR=16						
ASAR	Alice Springs	84.52	125	P	P	10 36 33.4	-0.2
	comp=N,0.7nm,0.6s,mb3.6,baz=310,slow=5.0,SNR=18						

*NEIC **08** 10:40:49.1±0.9, 10.89S×162.25E, h35km, mb4.2/3, Error*

ellipse: s-maj=16.1km s-min=13.1km az=63.0

*IDC **08** 10:41:15.3±12.0, 11.11S×161.65E, h254km±98km, mb3.6/6, mb1 3.7/8, mb1mx3.5/17, Error ellipse: s-maj=80.0km s-min=28.9km az=92.0*

ISC 08 10:41:00.9±3.0**, 11.6S**±0.2×**162.6E**±0.2**, h181**km±28km**, n14, σ0§52**/16**, mb4.0**/8**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.04**	**161**	eP	**P**	**10 43 35.4**	**+0.6**
DZM				eS	**S**	**10 45 34.7**	**-0.6**
DZM	**Mont Dzumac**	**11.04**	**161**	eP	**P**	**10 43 35.4**	**+0.6**
DZM				eS	**S**	**10 45 34.7**	**-0.6**
PMG	**Port Moresby**	**15.35**	**277**	P	**P**	**10 44 28.9**	**-0.5**
	0.4nm,0.3s,baz=87,slow=7.7,SNR=4.1						
WAU	**Wau**	**16.23**	**284**	P	**P**	**10 44 35.6**	**-4.8**
CTA	**Charters Tower**	**17.84**	**240**	P	**P**	**10 44 59.5**	**+0.7**
	0.5nm,0.3s,baz=79,slow=12,SNR=4.5						
CTAO	**Charters Tower**	**17.84**	**240**	eP	**P**	**10 44 59.7**	**+0.9**
	4.8nm,0.6s						
STKA	**Stephens Creek**	**27.97**	**221**	P	**P**	**10 46 40.9**	**+4.1**
	1.3nm,0.4s,mb4.0,baz=43,slow=8.2,SNR=3.5						
WRAB	**Tennant Creek**	**28.39**	**250**	eP	**P**	**10 46 40.6**	**-0.1**
	8.4nm,1.0s,mb4.4						
WRA	**Warramunga Arr**	**28.40**	**249**	P	**P**	**10 46 40.4**	**-0.4**
	1.9nm,0.4s,mb4.2,baz=77,slow=8.9,SNR=19						
WRA				PcP	PcP	10 49 50.5	+2.0
	0.5nm,0.9s,baz=94,slow=2.7,SNR=4.8						
ASAR	**Alice Springs**	**29.80**	**242**	P	**P**	**10 46 53.5**	**+0.4**
	0.6nm,0.5s,mb3.6,baz=64,slow=10,SNR=10						
FITZ	**Fitzroy Crossi**	**36.26**	**255**	P	**P**	**10 47 48.3**	**-0.3**
	3.5nm,0.5s,mb4.2,baz=73,slow=6.2,SNR=9.8						
MBWA	**Marble Bar**	**42.10**	**251**	eP	**P**	**10 48 36.9**	**-0.1**
	4.7nm,0.9s,mb4.1						
SONM	**Songino Array**	**77.32**	**325**	P	**P**	**10 52 36.9**	**-0.1**
	3.3nm,0.6s,mb4.1,baz=135,slow=5.1,SNR=22						
MKAR	**Makanchi Array**	**91.83**	**317**	P	**P**	**10 53 49.5**	**+0.1**
	0.3nm,0.5s,mb3.6,baz=88,slow=5.9,SNR=4.4						

IDC 08 10:47:59.1±1.5**, 3.82N**×**128.45E, mb3.6**/5**, mb1 3.8**/5**, mb1mx3.7**/18**, Error ellipse: s-maj=95.7km s-min=19.3km az=74.0, North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.95**	**187**	P	P	10 52 55.6	-0.8
	0.8nm,0.5s,baz=43,slow=16,SNR=3.0						
WRA	**Warramunga Arr**	**24.31**	**166**	P	P	10 53 18.6	-1.0
	1.4nm,0.6s,baz=346,slow=10,SNR=12						
ASAR	**Alice Springs**	**27.83**	**169**	P	P	10 53 50.0	-2.4
	0.4nm,0.6s,baz=356,slow=7.4,SNR=8.1						
SONM	**Songino Array**	**47.78**	**340**	P	P	10 56 38.4	-1.7
	0.5nm,0.8s,baz=135,slow=4.1,SNR=3.0						
MKAR	**Makanchi Array**	**58.47**	**324**	P	P	10 57 56.9	-2.5
	0.6nm,0.3s,baz=117,slow=8.2,SNR=10						

CASC 08 10:48:23.5±1.6**, 14.21N**×**90.57W, h133**km±14km**, MD4.0, 1C-5D, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTR	**El Retiro**	**0.95**	**109**	⇓eP	P	10 48 46.4	0.0
RTR				eS	S	10 49 05.1	+1.2
SBLS	**San Blas**	**0.99**	**112**	eP	P	10 48 46.8	0.0
SBLS				eS	S	10 49 05.9	+1.4
SNJE	**San Jose**	**1.00**	**110**	⇓eP	P	10 48 46.8	-0.1
SNJE				eS	S	10 49 06.1	+1.6
BOQS	**Boqueron**	**1.34**	**110**	⇓iP	P	10 48 50.1	-0.3
BOQS				eS	S	10 49 15.6	+4.5
LFU	**La Fuente**	**1.49**	**108**	⇑eP	P	10 48 52.1	0.0
LFU				eS	S	10 49 14.7	+0.8
LBRS	**Las Brisas**	**1.56**	**107**	eP	P	10 48 52.6	-0.2
LFRS	**El Faro**	**1.58**	**111**	⇓eP	P	10 48 52.8	-0.3
LFRS				eS	S	10 49 15.6	-0.1
LCBS	**La Ceiba**	**1.65**	**109**	⇓eP	P	10 48 53.7	-0.1
LCBS				eS	S	10 49 17.6	+0.6
VCR	**Vista de Mar**	**6.31**	**129**	eP	P	10 49 56.0	+0.7
JCR	**Jicaral**	**6.88**	**128**	eP	P	10 50 03.8	+0.8
CGA2	**Cerro Gallo 2**	**7.28**	**124**	eP	P	10 50 11.2	+2.7
PRS1	**Puriscal**	**7.43**	**124**	eP	P	10 50 12.4	+2.0
PRS1				eS	S	10 51 34.1	+0.5
LAJ	**Bijagual**	**7.65**	**124**	eP	P	10 50 09.9	-3.5
URSC	**Urasca**	**7.94**	**122**	eP	P	10 50 20.2	+2.9
BUS	**Buena Vista**	**8.12**	**124**	eP	P	10 50 21.9	+2.2

IGQ 08 10:56:23.5, 3.32S×**78.13W, h12**km±5km**, mb4.6, 7C-2D, Error ellipse: s-maj=19.9km s-min=5.4km az=169.1, Peru-Ecuador border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATA	**Patacocha**	**1.83**	**351**	⇑P	Pn	10 56 57.2	+2.2
ARRY	**Arrayan**	**1.83**	**350**	⇑P	Pn	10 56 56.7	+1.7
ARRY				S	Sn	10 57 20.1	+1.9
ULBA	**Ulba**	**1.88**	**352**	⇑P	Pn	10 56 58.0	+2.3
RETU	**Refugio**	**1.88**	**350**	⇓P	Pn	10 56 58.4	+2.6
RETU				S	Sn	10 57 22.1	+2.5
IGUA	**Igualata**	**1.88**	**344**	⇑P	Pn	10 56 59.4	+3.6
IGUA				S	Sn	10 57 24.3	+4.6
CUSU	**Cusua**	**1.89**	**349**	⇓P	Pn	10 56 58.6	+2.7
CUSU				S	Sn	10 57 23.2	+3.2
JUIV	**Juive**	**1.91**	**350**	P	Pn	10 56 58.7	+2.5
JUIV				S	Sn	10 57 23.5	+3.2
PISA	**Pisayambo**	**2.26**	**354**	⇑P	Pn	10 57 04.5	+3.2
PISA				S	Sn	10 57 34.3	+5.1
MARY	**Rancho Maria**	**2.59**	**352**	P	Pn	10 57 10.6	+4.7
MARY				S	Sn	10 57 45.2	+7.5
TAMB	**Tambo**	**2.62**	**355**	⇑P	Pn	10 57 09.7	+3.3
VC1	**Cotopaxi 1**	**2.67**	**354**	P	Pn	10 57 10.8	+3.7
NAS1	**Nasa**	**2.69**	**353**	⇑P	Pn	10 57 11.7	+4.3
NAS1				S	Sn	10 57 46.0	+5.8
ANTI	**Antisana**	**2.85**	**359**	P	Pn	10 57 11.1	+1.4
EPALM	**Reventador vol**	**3.11**	**7**	P	Pn	10 57 13.9	+0.6
JUA2	**San Juan 2**	**3.12**	**351**	P	Pn	10 57 19.9	+6.4
JUA2				S	Sn	10 58 00.4	+9.4
CGGP	**Crater GGP**	**3.15**	**351**	P	Pn	10 57 20.6	+6.7
GGP	**Refugio Guagua**	**3.15**	**352**	P	Pn	10 57 20.6	+6.6
PINO	**Pino**	**3.17**	**351**	P	Pn	10 57 21.2	+7.0
YANA	**Yana**	**3.21**	**352**	P	Pn	10 57 21.1	+6.4
YANA				S	Sn	10 58 02.4	+9.1
AZU1	**Azuela**	**3.26**	**10**	P	Pn	10 57 22.3	+6.9
AZU1				S	Sn	10 58 01.6	+7.1
CONE	**Cono NE Rev Vo**	**3.26**	**9**	P	Pn	10 57 14.7	-0.8
CAYR	**Refugio Cayamb**	**3.31**	**2**	P	Pn	10 57 23.1	+6.8
CAYR				S	Sn	10 58 04.2	+8.2
JOR1	**San Jorge 1**	**3.33**	**351**	P	Pn	10 57 19.7	+3.2
CAYA	**Cayambe**	**3.37**	**2**	P	Pn	10 57 23.6	+6.5
COTA	**Cotacachi**	**3.63**	**357**	P	Pn	10 57 28.8	+8.0

IDC 08 11:12:42.2±3.5**, 14.54N**×**147.08E, mb3.6**/5**, mb1 3.7**/5**, mb1mx3.6**/20**, Error ellipse: s-maj=124.0km s-min=23.3km az=85.0, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**36.48**	**200**	P	P	11 19 48.8	-2.4
	0.4nm,0.6s,baz=23,slow=9.4,SNR=5.5						
FITZ	**Fitzroy Crossi**	**38.71**	**214**	P	P	11 20 08.2	-1.8
	0.5nm,0.4s,baz=70,slow=12,SNR=4.2						
ASAR	**Alice Springs**	**40.10**	**199**	P	P	11 20 20.1	-1.3
	0.2nm,0.6s,baz=36,slow=6.4,SNR=4.3						
SONM	**Songino Array**	**47.23**	**323**	P	P	11 21 16.9	-1.8
	0.3nm,0.4s,baz=136,slow=7.3,SNR=3.7						
MKAR	**Makanchi Array**	**62.31**	**315**	P	P	11 23 06.6	-2.1
	1.3nm,0.4s,baz=91,slow=8.2,SNR=15						
DBIC	**Dimbokro**	**145.09**	**305**	PKP	PKPdf	11 32 21.7	-2.8
	2.1nm,0.6s,baz=1.5,slow=5.3,SNR=4.7						

*NEIC **08** 11:37:50.7, 18.94N×68.63W, h169km, MD3.8(RSPR), After RSPR.*

RSPR 08 11:37:50.7, 18.94N×**68.63W, h169**km±3km**, MD3.8**/11**, MD3.8**/11**, 11C-1D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**1.22**	**117**	⇑eP	P	11 38 17.6	-1.9
IDE				eS	S	11 38 41.4	-0.2
AGP	**Aguadilla**	**1.51**	**110**	P	P	11 38 23.3	+1.1
LSP	**Las Mesas**	**1.65**	**117**	⇑eP	P	11 38 23.1	-0.5
LSP				eS	S	11 38 49.3	+0.3
MGP	**Maguayo**	**1.73**	**122**	⇑eP	P	11 38 22.3	-2.1
MGP				eS	S	11 38 50.8	+0.3
LRS	**Lares**	**1.81**	**110**	⇓eP	P	11 38 25.6	+0.3
LRS				eS	S	11 38 52.0	0.0
AOPR	**Arecibo Observ**	**1.88**	**108**	⇑eP	P	11 38 26.4	+0.4
AOPR				eS	S	11 38 53.2	-0.1
PORP	**Portuguez**	**2.09**	**115**	⇑eP	P	11 38 27.6	-0.8
PORP				eS	S	11 38 57.1	-0.3
OBIP	**Obispado Ponce**	**2.12**	**115**	⇑eP	P	11 38 28.0	-0.7
OBIP				eS	S	11 38 58.9	+0.9
CELP	**Cerrillos**	**2.13**	**113**	⇑eP	P	11 38 28.0	-0.8
CELP				eS	S	11 38 57.4	-0.8
CSB	**Colonia Sabana**	**2.43**	**105**	⇑eP	P	11 38 32.5	-0.1
CSB				eS	S	11 39 05.4	+0.8
SJG	**San Juan**	**2.49**	**109**	eS	S	11 39 05.4	-0.5
SJG	**San Juan**	**2.49**	**109**	eS	S	11 39 06.1	+0.2
SJG	**San Juan**	**2.49**	**109**	P	P	11 38 33.3	+0.1
CBYP	**Canovanas**	**2.71**	**104**	⇑eP	P	11 38 35.8	-0.2
CBYP				eS	S	11 39 10.6	-0.1
CPD	**Cerro la Pandu**	**2.73**	**109**	⇑eP	P	11 38 36.2	+0.1
CPD				eS	S	11 39 11.3	+0.3
HUMP	**Col San Antoni**	**2.75**	**106**	⇑eP	P	11 38 36.8	+0.3
HUMP				eS	S	11 39 11.4	-0.1

*NEIC **08** 11:42:24.0, 60.10N×153.44W, h163km, mb3.9/2, After AEIC.*

*IDC **08** 11:42:25.9±4.7, 60.43N×153.51W, h176km±41km, mb3.7/6, mb1 4.1/10, mb1mx3.8/23, MS4.8/1, Ms1 4.8/1, ms1mx3.5/27, Error ellipse: s-maj=41.7km s-min=13.6km az=35.0*

ISC 08 11:42:22.1±0.3**, 60.14N**±0.03×**153.50W**±0.07**, h166**km±3km**, n87, σ0§82**/95**, mb3.9**/8**, 1D, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILW	**Iliamna West**	**0.20**	**113**	P	**P**	**11 42 45.1**	**+0.5**
IVS	**Iliamna South**	**0.24**	**121**	P	**P**	**11 42 45.1**	**+0.3**
ILIM	**Iliamna**	**0.28**	**102**	P	**P**	**11 42 45.2**	**+0.3**
ILIM				S	**S**	**11 43 01.9**	**-0.4**
RSO	**Redoubt South**	**0.49**	**48**	i Pn	**P**	**11 42 46.3**	**+0.6**
NCT	**North Crescent**	**0.51**	**33**	P	**P**	**11 42 46.3**	**+0.6**
RDN	**Redoubt North**	**0.53**	**44**	P	**P**	**11 42 46.4**	**+0.6**
DFR	**Drift River**	**0.61**	**41**	P	**P**	**11 42 46.6**	**+0.4**
RDT	**Redoubt**	**0.70**	**51**	P	**P**	**11 42 47.2**	**+0.6**
AUW	**Augustine West**	**0.77**	**179**	P	**P**	**11 42 47.5**	**+0.4**
AGU	**Augustine-Summ**	**0.78**	**178**	P	**P**	**11 42 47.6**	**+0.4**
AUI	**Augustine Isla**	**0.80**	**177**	P	**P**	**11 42 47.7**	**+0.4**
AUI				S	**S**	**11 43 05.9**	**-0.8**
MCNL	**McNeil River**	**1.04**	**204**	P	**P**	**11 42 49.2**	**+0.2**
SPU	**Mount Spurr**	**1.27**	**33**	P	**P**	**11 42 51.7**	**+0.7**
CNPM	**China Poot**	**1.30**	**117**	P	**P**	**11 42 51.7**	**+0.5**
CRP	**Crater Peak**	**1.31**	**30**	P	**P**	**11 42 52.6**	**+1.2**
CRP				S	**S**	**11 43 15.0**	**+0.9**
BRLK	**Bradley Lake**	**1.37**	**105**	P	**P**	**11 42 52.5**	**+0.6**
CGLM	**Capps Glacier**	**1.39**	**31**	P	**P**	**11 42 53.0**	**+0.8**
STLK	**Strandline Lak**	**1.59**	**30**	P	**P**	**11 42 55.0**	**+0.8**
SYI	**Shuyak Island**	**1.63**	**159**	P	**P**	**11 42 54.5**	**-0.1**
SYI				S	**S**	**11 43 18.5**	**-1.2**
SLKM	**Skilak Lake**	**1.67**	**76**	P	**P**	**11 42 54.9**	**-0.1**
KAHC	**Katmai Hardscr**	**1.68**	**208**	P	**P**	**11 42 55.1**	**0.0**
KAIC	**Katmai Ikaglui**	**1.84**	**206**	P	**P**	**11 42 56.9**	**+0.1**
KAWH	**Katmai**	**1.88**	**201**	P	**P**	**11 42 57.1**	**-0.1**
FIB	**Fire Island**	**1.94**	**56**	P	**P**	**11 42 58.7**	**+0.8**
SEW	**Seward**	**2.03**	**89**	P	**P**	**11 42 58.9**	**0.0**
RC01	**Rabbit Creek A**	**2.09**	**61**	P	**P**	**11 42 58.7**	**-0.9**
RC01				S	**S**	**11 43 27.4**	**-1.0**
MPA	**Moose Pass**	**2.09**	**78**	P	**P**	**11 42 59.8**	**+0.2**
KABR	**Katmai Barrier**	**2.15**	**201**	P	**P**	**11 42 59.9**	**-0.4**
CAHL	**Cahill**	**2.29**	**205**	P	**P**	**11 43 01.9**	**-0.1**
PWA	**Palmer West**	**2.33**	**48**	eP	**P**	**11 43 02.1**	**-0.4**
KJL	**Kejulik**	**2.35**	**208**	P	**P**	**11 43 02.9**	**+0.2**
KDAK	**Kodiak Island**	**2.41**	**168**	Pn	**P**	**11 43 01.0**	**-2.5**
	878nm,0.4s						
KDAK	**Kodiak Island**	**2.41**	**168**	⇓iPn	**P**	**11 43 01.8**	**-1.7**
KDAK				eSn	**S**	**11 43 22.2**	**-13**
PMR	**Palmer**	**2.59**	**54**	eP	**P**	**11 43 04.0**	**-1.6**
GHO	**Glory Hole Cre**	**2.77**	**52**	P	**P**	**11 43 07.0**	**-0.9**
SML	**Sawmill**	**3.02**	**54**	P	**P**	**11 43 10.1**	**-1.0**
TT01	**Tatalina**	**3.03**	**338**	P	**P**	**11 43 11.2**	**+0.1**
TTA	**Tatalina**	**3.05**	**338**	eP	**P**	**11 43 11.0**	**-0.4**
SCM	**Sheep Creek Mo**	**3.45**	**58**	P	**P**	**11 43 15.8**	**-0.7**
KTH	**Kantishna Hill**	**3.64**	**18**	P	**P**	**11 43 18.6**	**-0.3**
TRF	**Thorofare Moun**	**3.66**	**23**	P	**P**	**11 43 19.3**	**+0.2**
MID	**Middleton Isla**	**3.69**	**98**	P	**P**	**11 43 19.2**	**-0.3**
EYAK	**Cordova Ski Ar**	**3.87**	**81**	P	**P**	**11 43 21.8**	**-0.1**
DIV	**Divide**	**3.93**	**72**	P	**P**	**11 43 21.9**	**-0.8**
KLU	**Klutina**	**3.95**	**67**	P	**P**	**11 43 22.2**	**-0.7**
DHY	**Denali Highway**	**4.15**	**42**	P	**P**	**11 43 25.4**	**-0.2**
MCK	**McKinley**	**4.20**	**29**	P	**P**	**11 43 26.1**	**-0.1**
TZL	**Tazlina**	**4.36**	**60**	P	**P**	**11 43 28.2**	**-0.1**
BMRM	**Bremner River**	**4.47**	**75**	P	**P**	**11 43 28.9**	**-0.8**
SDG	**Sourdough**	**4.52**	**55**	P	**P**	**11 43 30.6**	**+0.3**
PAX	**Paxson**	**4.78**	**50**	P	**P**	**11 43 33.8**	**+0.1**
GCSA	**Galena City Sc**	**4.89**	**343**	P	**P**	**11 43 35.3**	**+0.2**
GLB	**Gilahina Butte**	**4.92**	**70**	P	**P**	**11 43 35.4**	**-0.2**
THY	**Trims Highway**	**4.93**	**45**	ePn	**P**	**11 43 36.7**	**+1.0**
THY				eSn	**S**	**11 44 31.7**	**-0.9**
WAX	**Waxell Ridge**	**5.31**	**82**	P	**P**	**11 43 40.8**	**+0.2**
COLA	**College**	**5.42**	**26**	P	**P**	**11 43 41.5**	**-0.6**
IL1	**Eielson Array**	**5.57**	**31**	P	**P**	**11 43 43.2**	**-0.9**
ILAR	**Eielson Array**	**5.57**	**31**	P	**P**	**11 43 43.1**	**-0.9**
	38nm,0.3s,baz=221,slow=13,SNR=1560						
ILAR				S	**S**	**11 44 44.2**	**-3.5**
	17nm,0.3s,baz=215,slow=24,SNR=11						
BALM	**Baldy**	**5.57**	**76**	P	**P**	**11 43 44.1**	**+0.1**
DOT	**Dot Lake**	**5.68**	**48**	P	**P**	**11 43 45.5**	**0.0**
YAH	**Yahtse**	**5.86**	**83**	P	**P**	**11 43 48.8**	**+0.9**
IM3	**Indian Mountai**	**5.87**	**359**	P	**P**	**11 43 48.5**	**+0.4**
IMA	**Indian Mountai**	**5.96**	**359**	eP	**P**	**11 43 49.6**	**+0.4**
COLD	**Coldfoot**	**7.27**	**10**	P	**P**	**11 44 05.9**	**-0.7**
DAWY	**Dawson**	**7.70**	**53**	ePn	**P**	**11 44 12.8**	**+0.5**
BM3	**Burnt Mountain**	**8.29**	**24**	P	**P**	**11 44 18.9**	**-1.3**
SIT	**Sitka**	**9.97**	**100**	ePn	**P**	**11 44 43.2**	**+1.2**
INK	**Inuvik**	**11.88**	**38**	P	**P**	**11 45 06.9**	**0.0**
	4.5nm,0.3s,baz=243,slow=14,SNR=97						
INK				S	**S**	**11 47 18.5**	**+1.9**
	0.2nm,0.3s,baz=264,slow=10,SNR=2.0						
INK	**Inuvik**	**11.88**	**38**	eP	**P**	**11 45 07.3**	**+0.4**
DLBC	**Dease Lake**	**12.10**	**88**	P	**P**	**11 45 14.2**	**+4.5**
	1.5nm,0.3s,baz=275,slow=8.4,SNR=38						
DLBC				S	**S**	**11 47 26.8**	**+5.1**
	0.4nm,0.3s,baz=270,slow=19,SNR=2.3						
DLBC	**Dease Lake**	**12.10**	**88**	ePn	**P**	**11 45 12.7**	**+2.9**
YKW3	**Yellowknife Ar**	**18.61**	**66**	eP	**P**	**11 46 28.7**	**+0.1**
YKA	**Yellowknife Ar**	**18.62**	**66**	P	**P**	**11 46 28.9**	**+0.1**
	0.7nm,0.3s,baz=277,slow=10.0,SNR=30						
YKA				PcP	PcP	11 50 49.2	-1.1
	0.1nm,0.3s,baz=274,slow=1.4,SNR=6.1						
YKA	**Yellowknife Ar**	**18.62**	**66**	P	**P**	**11 46 28.9**	**+0.1**
YKA				PcP	PcP	11 50 49.2	-1.1
FX1	**Attu Island--F**	**19.60**	**263**	LR	LR	11 53 38.1	
	comp=Z,3μm,20.6s,baz=311,slow=34						
OCWA	**Octopus Mounta**	**21.04**	**113**	P	**P**	**11 46 51.5**	**-2.1**
EDM	**Edmonton**	**22.81**	**90**	eP	**P**	**11 47 13.2**	**+2.5**
NEW	**Newport**	**24.03**	**103**	P	**P**	**11 47 22.1**	**-0.2**
	0.9nm,0.6s,mb3.5						
NVAR	**Mina Array Bea**	**31.01**	**119**	P	**P**	**11 48 27.9**	**+2.2**
	0.4nm,0.7s,mb3.3,baz=311,slow=9.0,SNR=4.3						
NVAR				PcP	PcP	11 51 18.1	+0.6
	0.4nm,0.5s,baz=270,slow=3.6,SNR=3.9						
NVAR	**Mina Array Bea**	**31.01**	**119**	P	**P**	**11 48 27.9**	**+2.2**
NVAR				PcP	PcP	11 51 18.1	+0.6
TXAR	**Lajitas Array**	**45.26**	**110**	P	**P**	**11 50 26.5**	**+2.2**
	0.8nm,1.0s,mb3.3,baz=329,slow=7.3,SNR=5.0						
SONM	**Songino Array**	**54.51**	**305**	P	**P**	**11 51 35.0**	**+0.8**
	5.9nm,0.9s,mb4.3,baz=42,slow=6.8,SNR=32						
SONM				PcP	PcP	11 52 35.5	+0.2
	0.8nm,0.6s,baz=60,slow=1.6,SNR=4.3						
ZAL	**Zalesovo**	**57.13**	**323**	P	**P**	**11 51 52.3**	**-0.5**
	5.6nm,0.5s,mb4.7,baz=347,slow=7.0,SNR=20						
KURK	**Kurchatov**	**61.78**	**325**	eP	**P**	**11 52 23.7**	**-1.0**
	2.5nm,0.5s,mb4.3						
MKAR	**Makanchi Array**	**64.17**	**321**	P	**P**	**11 52 39.3**	**-1.0**
	2.3nm,0.5s,mb4.3,baz=39,slow=6.6,SNR=23						
CMAR	**Chiang Mai Arr**	**82.58**	**294**	P	**P**	**11 54 26.9**	**-0.6**
	1.7nm,0.8s,mb3.8,baz=12,slow=6.1,SNR=10						
QSPA	**South Pole Qui**	**149.93**	**180**	eP	PKPdf	12 01 52.5	+7.3

*IDC **08** 11:56:46.7±2.2, 52.74N×172.33E, mb4.1/9, mb1 4.3/9, mb1mx3.9/25, Error ellipse: s-maj=53.7km s-min=15.1km az=10.0*

*NEIC **08** 11:56:48.3±3.5, 52.66N×172.25E, h14km±13km, mb4.2/2, Error ellipse: s-maj=34.7km s-min=13.9km az=207.0*

ISC 08 11:56:48.4±4.2**, 52.7N**±0.3×**172.3E**±0.3**, h25**km±18km**, n18, σ0§54**/19**, mb4.1**/11**, Near Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	**0.57**	**72**	Pn	**Pn**	**11 57 00.6**	**-0.2**
	548nm,0.3s,baz=252,slow=3.4,SNR=1308						
FX1	**Attu Island--F**	**0.57**	**72**	eP	**Pb**	**11 57 00.3**	**+0.6**
SMY	**Shemya**	**1.12**	**88**	eP	**Pn**	**11 57 08.9**	**+0.3**
SMY				eS	**Sb**	**11 57 22.2**	**-0.8**
IMA	**Indian Mountai**	**21.53**	**38**	P	**P**	**12 01 36.8**	**-0.6**
	13nm,0.6s,mb4.5						
ILAR	**Eielson Array**	**23.89**	**44**	P	**P**	**12 02 01.7**	**+1.3**
	1.6nm,0.8s,mb3.5,baz=256,slow=8.3,SNR=14						
INK	**Inuvik**	**29.66**	**38**	P	**P**	**12 02 53.6**	**0.0**
	0.6nm,0.3s,mb3.8,baz=302,slow=7.6,SNR=10						
INK				PcP	PcP	12 05 57.2	-0.6
	1.7nm,1.0s,baz=259,slow=5.2,SNR=3.1						
INK	**Inuvik**	**29.66**	**38**	P	**P**	**12 02 53.6**	**0.0**
INK				PcP	PcP	12 05 57.2	-0.6
YKA	**Yellowknife Ar**	**38.29**	**46**	P	**P**	**12 04 08.6**	**+0.6**
	0.9nm,0.5s,mb3.8,baz=288,slow=7.5,SNR=6.1						
NEW	**Newport**	**43.50**	**66**	P	**P**	**12 04 51.1**	**+0.2**
	1.0nm,0.5s,mb3.8						
PDAR	**Pinedale Array**	**51.04**	**68**	P	**P**	**12 05 50.3**	**+0.2**
	1.6nm,0.6s,mb4.1,baz=312,slow=3.3,SNR=16						
ARCES	**ARCESS Array B**	**55.67**	**346**	P	**P**	**12 06 23.6**	**-0.4**
	1.5nm,0.7s,mb4.1,baz=17,slow=9.4,SNR=3.1						
SCHQ	**Schefferville**	**62.19**	**34**	P	**P**	**12 07 08.8**	**-0.7**
	2.4nm,0.6s,mb4.5,baz=301,slow=5.9,SNR=3.7						
SCHQ	**Schefferville**	**62.19**	**34**	P	**P**	**12 07 08.8**	**-0.7**
TXAR	**Lajitas Array**	**63.79**	**75**	P	**P**	**12 07 20.5**	**+0.2**
	0.8nm,0.4s,mb4.1,baz=305,slow=4.8,SNR=21						
TXAR	**Lajitas Array**	**63.79**	**75**	P	**P**	**12 07 20.5**	**+0.2**
NOA	**NORSAR Array B**	**65.59**	**350**	P	**P**	**12 07 31.1**	**-0.3**
	3.0nm,1.1s,mb4.2,baz=353,slow=7.3,SNR=3.4						
HFS	**Hagfors**	**66.19**	**348**	P	**P**	**12 07 35.0**	**-0.3**
	2.3nm,0.9s,mb4.2,baz=27,slow=6.6,SNR=6.5						
HFS	**Hagfors**	**66.19**	**348**	P	**P**	**12 07 35.0**	**-0.3**

WEL 08 12:04:14.6±0.4**, 36.70S**×**177.91E, h111**km±4km**, ML3.6**/3**, Error ellipse: s-maj=3.7km s-min=2.8km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.92**	**160**	PN	P	12 04 34.9	-0.4
MXZ				SN	S	12 04 49.9	-0.9
PUZ	**Puketiti**	**1.40**	**169**	PN	P	12 04 42.5	+1.8
PUZ				SN	S	12 04 59.5	-0.8
MWZ	**Matawai**	**1.66**	**191**	PN	P	12 04 43.1	-0.7
MWZ				SN	S	12 05 05.8	0.0
URZ	**Urewera**	**1.69**	**202**	PN	P	12 04 43.4	-0.7
URZ				SN	S	12 05 04.6	-1.7
KUZ	**Kuaotunu**	**1.76**	**268**	PN	P	12 04 44.3	-0.8
KNZ	**Kokohu**	**2.33**	**185**	PN	P	12 04 51.4	-1.1
BKZ	**Black Stump Fm**	**2.71**	**204**	PN	P	12 04 55.5	-2.1
BKZ				SN	S	12 05 30.0	-0.1
MGZ	**Maungaku**	**2.97**	**219**	PN	P	12 05 01.9	+0.8
KAVZ	**Karewarewa**	**2.99**	**216**	PN	P	12 05 01.5	+0.1
NGZ	**Ngauruhoe**	**3.08**	**216**	PN	P	12 05 02.1	-0.4
CNZ	**Chateau**	**3.12**	**216**	ePN	P	12 05 04.1	+0.9
TUVZ	**Tukino**	**3.13**	**214**	PN	P	12 05 03.1	-0.1
MOVZ	**Moawhango**	**3.20**	**212**	PN	P	12 05 02.8	-1.5
WNVZ	**Wahianoa**	**3.20**	**214**	PN	P	12 05 03.7	-0.5
PWZ	**Pawanui**	**3.43**	**194**	PN	P	12 05 04.3	-3.0
WAZ	**Wanganui**	**3.83**	**216**	PN	P	12 05 11.5	-1.2
BFZ	**Birch Farm**	**4.18**	**198**	PN	P	12 05 14.0	-3.6
BFZ				SN	S	12 06 00.4	-5.4
MRZ	**Mangatainoka R**	**4.36**	**204**	SN	S	12 06 03.3	-6.8
KIW	**Kapiti Island**	**4.77**	**209**	PN	P	12 05 21.5	-4.1
CAW	**Cannon Point**	**4.93**	**206**	PN	P	12 05 23.4	-4.3
CAW				SN	S	12 06 17.8	-6.2
TUWZ	**Tuamarina**	**5.64**	**212**	PN	P	12 05 32.3	-5.0

*JMA **08** 12:34:24.8±0.4, 25.50N×122.30E, h256km, M3.1*

TAP 08 12:34:20.8, 25.62N×**121.97E, h286**km**, ML3.8, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**2.05**	**128**	P	P	12 35 06.0	-0.9
IRIF				eS	S	12 35 37.6	-5.3
HATJ	**Hateruma jima**	**2.28**	**133**	eS	S	12 35 41.6	-5.0
JKRS	**Kuro-shima**	**2.31**	**126**	P	P	12 35 07.9	-1.4
JKRS				eS	S	12 35 41.9	-5.1
JIJ	**Ishigaki jima**	**2.33**	**122**	P	P	12 35 07.7	-1.8
JIJ				S	S	12 35 41.2	-6.3
JTJ	**Tarama**	**2.66**	**111**	P	P	12 35 11.3	-1.3
JTJ				S	S	12 35 47.7	-5.2
JKE	**Kume jima 2**	**4.39**	**80**	P	P	12 35 30.1	-1.1

*IDC **08** 12:42:31.3±1.2, 13.37N×120.55E, mb3.5/5, mb1 3.8/5, mb1mx3.6/19, Error ellipse: s-maj=59.7km s-min=19.9km az=62.0*

*MAN **08** 12:42:33.5, 13.33N×120.24E, h5km, mb4.5, ML3.4, MS3.3*

ISC 08 12:42:33.3±1.3**, 13.33N**±0.05×**120.17E**±0.09**, h21**km±11km**, n10, σ1§12**/14**, mb3.6**/5**, 1C, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.41**	**11**	eP	**Pb**	**12 42 41.7**	**-0.2**
LUBP				eS	**Sb**	**12 42 46.2**	**-1.5**
TGY	**Tagaytay City**	**1.07**	**44**	⇑iP	**Pb**	**12 42 53.3**	**+0.3**
TGY				i S	**Sb**	**12 43 09.3**	**+2.6**
SJMP	**San Jose**	**1.27**	**133**	eP	**Pn**	**12 42 56.1**	**0.0**
SJMP				eS	**Sb**	**12 43 12.1**	**-0.1**
BUSP	**Coron**	**1.32**	**179**	eP	**Pn**	**12 42 57.7**	**+0.9**
BUSP				eS	**Sn**	**12 43 14.2**	**+0.3**
BOAC	**Boac**	**1.64**	**85**	eP	**Pn**	**12 43 01.5**	**+0.1**
CMAR	**Chiang Mai Arr**	**21.03**	**287**	P	**P**	**12 47 20.4**	**+1.9**
	0.6nm,0.7s,mb3.0,baz=99,slow=9.7,SNR=6.3						
WRA	**Warramunga Arr**	**35.88**	**157**	P	**P**	**12 49 31.9**	**-2.3**
	0.7nm,0.4s,mb4.0,baz=336,slow=9.6,SNR=5.9						
SONM	**Songino Array**	**36.27**	**344**	P	**P**	**12 49 36.6**	**-0.6**
	0.3nm,0.6s,mb3.4,baz=135,slow=6.1,SNR=2.8						
ASAR	**Alice Springs**	**39.14**	**160**	P	**P**	**12 50 00.3**	**-1.2**
	1.1nm,0.6s,mb3.8,baz=338,slow=6.9,SNR=9.0						
BVAR	**Borovoye Array**	**55.79**	**326**	P	**P**	**12 52 11.6**	**+0.4**
	0.3nm,0.4s,mb3.7,baz=124,slow=10,SNR=2.4						

IDC 08 12:43:17.1±1.3**, 3.13S**×**142.63E, mb3.9**/5**, mb1 4.0**/6**, mb1mx3.9**/13**, ML3.7**/1**, Error ellipse: s-maj=52.2km s-min=23.5km az=104.0, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.57**	**205**	P	P	12 47 35.4	-2.2
	0.3nm,0.3s,baz=26,slow=11,SNR=17						
FITZ	**Fitzroy Crossi**	**22.33**	**227**	P	P	12 48 15.9	-2.2
	4.8nm,1.1s,baz=35,slow=4.9,SNR=7.8						
STKA	**Stephens Creek**	**28.61**	**182**	P	P	12 49 15.9	-1.4
	1.2nm,0.8s,baz=352,slow=12,SNR=3.3						
MKAR	**Makanchi Array**	**72.53**	**321**	P	P	12 54 46.8	-1.2
	0.8nm,0.9s,baz=101,slow=6.2,SNR=4.2						
BVAR	**Borovoye Array**	**81.91**	**324**	P	P	12 55 38.6	-1.3
	0.9nm,0.6s,baz=90,slow=4.4,SNR=5.7						
ILAR	**Eielson Array**	**84.61**	**24**	P	P	12 55 51.8	-1.7
	1.0nm,0.7s,baz=261,slow=4.9,SNR=14						

IDC 08 12:54:45.5±1.8**, 4.03S**×**144.92E, mb3.3**/3**, mb1 3.5**/4**, mb1mx3.3**/13**, ML3.2**/1**, Error ellipse: s-maj=89.3km s-min=27.8km az=123.0, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.88**	**212**	P	P	12 59 07.8	-2.1
	0.1nm,0.3s,baz=33,slow=12,SNR=6.7						
ASAR	**Alice Springs**	**22.23**	**208**	P	P	12 59 43.6	-1.9
	0.3nm,0.6s,baz=37,slow=7.8,SNR=9.8						
FITZ	**Fitzroy Crossi**	**23.49**	**232**	P	P	12 59 57.7	-0.3
	1.0nm,0.8s,baz=74,slow=15,SNR=9.3						

ILAR Eielson Array 84.50 24 P P 13 07 19.9 -1.4
0.6nm,1.1s,baz=246,slow=5.5,SNR=4.3

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*BJI **08** 13:16:26.5, 7.62S×122.15E, h578km, mB4.7, mb4.5*
*NEIC **08** 13:16:27.9±0.8, 7.54S×121.81E, h555km±11km, mb4.3/11, Error ellipse: s-maj=14.6km s-min=6.0km az=66.0*
*IDC **08** 13:16:28.4±1.5, 7.52S×121.89E, h560km±18km, mb3.8/9, mb1 3.8/12, mb1mx3.7/19, Error ellipse: s-maj=26.8km s-min=7.9km az=61.0*
ISC 08 13:16:27.3±1.2, **7.50S**±0.09×**121.8E**±0.1, **h565**km±19km, **n35**, σ0s52/36, **mb4.4**/23, **Flores Sea**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
FITZ Fitzroy Crossi 11.18 161 P **P 13 18 57.6 -0.3**
1.0nm,0.3s,baz=356,slow=9.0,SNR=63
FITZ S **S 13 20 58.8 0.0**
0.2nm,0.3s,baz=183,slow=22,SNR=6.1
MBWA Marble Bar 13.73 188 eP **P 13 19 23.3 -0.3**
12nm,0.5s
WRA Warramunga Arr 17.33 137 P **P 13 19 59.5 +0.9**
2.0nm,0.3s,baz=314,slow=9.8,SNR=119
WRA S **S 13 22 49.0 +0.1**
0.2nm,0.3s,baz=316,slow=17,SNR=4.5
WRAB Tennant Creek 17.33 137 P **P 13 19 59.2 +0.5**
66nm,0.5s,SNR=17
WRAB Tennant Creek 17.33 137 eP **P 13 19 59.2 +0.5**
6.8nm,0.3s
ASAR Alice Springs 19.82 146 P **P 13 20 21.9 -0.2**
1.1nm,0.3s,baz=322,slow=8.8,SNR=92
ASAR S **S 13 23 31.1 +0.2**
0.1nm,0.3s,baz=321,slow=17,SNR=4.0
ASAR PcP PcP 13 24 13.4 -0.6
0.1nm,0.3s,baz=334,slow=1.1,SNR=5.3
ASAR ScP 13 26 56.3
0.2nm,0.3s,baz=342,slow=2.3,SNR=15
NWAO Narrogin (SRO) 25.66 189 P **P 13 21 13.6 -1.1**
9.5nm,0.5s,mb4.7,baz=23,slow=8.1,SNR=20
NWAO Narrogin (SRO) 25.66 189 eP **P 13 21 13.2 -1.5**
5.6nm,0.4s,mb4.5
STKA Stephens Creek 30.46 145 P **P 13 21 56.3 0.0**
14nm,0.3s,mb5.0,baz=325,slow=8.6,SNR=103
CM31 Chiang Mai Arr 34.27 319 eP **P 13 22 29.6 +1.1**
7.3nm,0.9s,mb4.2
CMAR Chiang Mai Arr 34.27 319 P **P 13 22 29.6 +1.1**
5.9nm,0.8s,mb4.2,baz=144,slow=6.8,SNR=36
ENH Enshi 39.37 343 eP **P 13 23 10.2 +0.1**
4.1nm,0.3s,mb4.4
XAN Xi'an 43.08 344 P **P 13 23 39.0 -0.6**
XAN AMB AMB
comp=Z,14nm,0.7s,mb4.6
GUN Gumba 49.45 317 eP **P 13 24 28.5 +0.2**
comp=Z,27nm,0.4s,mb5.1
PKI Pulchoki 49.55 316 eP **P 13 24 28.9 -0.2**
comp=Z,20nm,0.4s,mb4.9
KKN Kakani 49.78 316 eP **P 13 24 30.5 -0.2**
comp=Z,15nm,0.5s,mb4.7
DMN Daman 49.79 316 eP **P 13 24 30.8 0.0**
GKN Gorkha 50.36 316 eP **P 13 24 34.8 -0.1**
comp=Z,20nm,0.3s,mb5.0
KOLN Koldanda 50.93 315 eP **P 13 24 39.0 -0.1**
comp=Z,18nm,0.5s,mb4.7
MDJ Mudanjiang 52.34 7 P **P 13 24 48.5 -0.5**
MDJ AMB AMB
comp=Z,8.0nm,1.0s,mb4.0
MDJ AMB AMB
comp=Z,114nm,3.9s
MDJ Mudanjiang 52.34 7 eP **P 13 24 48.5 -0.6**
comp=Z,5.2nm,0.6s,mb4.0
RPZ Rata Peaks 56.03 139 P **P 13 25 14.5 -0.4**
comp=Z,10nm,0.6s,mb4.2,baz=235,slow=6.0,SNR=9.4
HIA Hailar 56.55 358 eP **P 13 25 18.0 -0.4**
comp=Z,2.9nm,0.4s,mb3.9
SONM Songino Array 56.75 348 P **P 13 25 19.7 0.0**
comp=Z,5.2nm,0.7s,mb3.9,baz=165,slow=8.4,SNR=33
MKAR Makanchi Array 64.45 331 P **P 13 26 10.5 +0.2**
comp=Z,11nm,0.5s,mb4.6,baz=140,slow=7.0,SNR=98
AAK Ala-Archa 65.89 324 eP **P 13 26 19.0 -0.4**
comp=Z,4.9nm,0.7s,mb4.2
ZAL Zalesovo 68.68 338 P **P 13 26 35.2 -0.9**
comp=Z,8.6nm,0.4s,mb4.7,baz=260,slow=3.6,SNR=22
ZAL Zalesovo 68.68 338 P **P 13 26 35.2 -0.9**
KURK Kurchatov 68.93 332 eP **P 13 26 37.4 -0.3**
comp=Z,6.8nm,0.8s,mb4.2
MAW Mawson 71.60 200 P **P 13 26 53.4 +0.4**
comp=Z,1.6nm,0.7s,mb3.6,baz=52,slow=7.0,SNR=5.8
BVAR Borovoye Array 74.33 331 P **P 13 27 08.8 +0.1**
comp=Z,1.2nm,0.7s,mb3.4,baz=127,slow=7.4,SNR=5.1
QSPA South Pole Qui 82.49 180 eP **P 13 27 51.9 +0.4**
comp=Z,3.7nm,0.5s,mb4.1
GNI Garni 85.02 311 eP **P 13 28 05.7 +0.9**
comp=Z,6.3nm,0.7s,mb4.2
CPUP Villa Florida 146.37 181 PKPbc PKPbc 13 35 07.1 +1.9
comp=Z,1.7nm,0.7s,baz=196,slow=3.4,SNR=3.8
LPAZ La Paz 154.40 157 PKPab PKPab 13 35 45.1 +1.0
comp=Z,0.7nm,0.5s,baz=180,slow=4.9,SNR=4.7

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*THR **08** 13:45:48.8±1.0, 37.39N×54.53E, h15km, ML4.9*
*CSEM **08** 13:45:52.0±0.1, 37.24N×54.46E, h32km, mb4.8/18, Ms3.6, Error ellipse: s-maj=2.5km s-min=1.8km az=66.0*
*IDC **08** 13:45:53.7±0.6, 37.11N×54.45E, h31km±3km, mb4.1/22, mb1 4.3/25, mb1mx4.3/27, ML4.1/3, MS3.8/4, Ms1 3.8/4, ms1mx3.3/30, Error ellipse: s-maj=15.2km s-min=10.1km az=15.0*
*MOS **08** 13:45:53.8±1.5, 37.43N×54.28E, h33km, mb4.5/15, Error ellipse: s-maj=10.5km s-min=7.0km az=114.4*
*NEIC **08** 13:45:53.3±0.3, 37.06N×54.51E, mb4.8/22, ML4.9(THR), Error ellipse: s-maj=7.9km s-min=5.5km az=176.0*
*BJI **08** 13:45:53.5, 37.07N×54.19E, h46km, mB5.2, mb4.6*
ISC 08 13:45:52.0±0.2, **37.18N**±0.03×**54.36E**±0.03, **h31**km, **h31**km±.7km**:pP-P, n180**, σ1s**18**/166, **mb4.6**/53, **MS3.7**/5, **9C-6D, Iran-Turkmenistan border region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
DAMV Damavand 2.47 232 ePN **Pn 13 46 35.0 +3.8**
DAMV AMP 13 47 16.9
comp=E,5μm,0.2s
DAMV AMP 13 47 19.7
comp=N,6μm,0.4s
DAMV Damavand 2.47 232 ePn **Pn 13 46 35.2 +4.1**
THKV Tehran--Karaj 3.07 247 ePN **Pn 13 46 41.2 +1.6**
THKV AMP 13 47 36.9
comp=E,4μm,0.8s
THKV AMP 13 47 39.2
comp=N,3μm,0.6s
THKV Tehran--Karaj 3.07 247 ePn **Pn 13 46 42.9 +3.2**
ASAO Ashtian 4.39 235 ePn **Pn 13 47 01.5 +3.1**
NASN Na'in 4.55 197 ePN **Pn 13 47 02.2 +1.5**
NASN Na'in 4.55 197 i Pn **Pn 13 47 02.3 +1.6**
GRMI Germi 5.36 290 ePN **Pn 13 47 11.2 -0.9**
GRMI Germi 5.36 290 ePn **Pn 13 47 11.5 -0.6**
SNGE Sanandaj 6.04 252 ePN **Pn 13 47 22.9 +1.2**
SHGR Shooshtar-Gavs 6.82 224 ePN **Pn 13 47 33.5 +0.8**
SHGR Shooshtar-Gavs 6.82 224 ePn **Pn 13 47 35.3 +2.6**
KRBR Kerman 7.45 164 ePN **Pn 13 47 42.3 +0.8**
KRBR Kerman 7.45 164 ePn **Pn 13 47 40.9 -0.6**
MAKU Maku 7.92 289 ePN **Pn 13 47 47.0 -0.9**
MAKU Maku 7.92 289 ePn **Pn 13 47 46.3 -1.7**
GNI Garni 8.09 294 i P **P 13 47 50.1 -0.2**
GNI pmax pmax
comp=Z,22nm,0.6s
GNI Garni 8.09 294 ePn **P 13 47 50.7 +0.4**
GNI Sn **Sn 13 49 17.8 -3.8**
DGRG David-gareji 8.17 304 eP **P 13 47 50.4 -1.0**
DGRG eS Sx 13 48 18.3
STE Stepanavan 8.63 299 i P **P 13 47 57.0 -0.9**
STE eS Sx 13 48 23.0
MTA Mtatsminda 8.66 304 eP **P 13 47 56.2 -2.2**
GHIR Ghir-Karzin 8.94 188 ePN **P 13 48 03.0 +0.7**
GHIR Ghir-Karzin 8.94 188 i Pn **P 13 48 03.1 +0.9**
ZHSF Zahedan 9.26 143 ePN **P 13 48 05.6 -1.0**
ZHSF Zahedan 9.26 143 ePn **P 13 48 03.5 -3.0**
AKH Akhalkalaki 9.42 300 eP **P 13 48 10.8 +2.0**
BNDS Bandar-Abbas 9.87 171 ePN **P 13 48 15.5 +0.5**
KIV Kislovodsk 11.16 311 c iP **P 13 48 29.7 -2.9**
KIV pmax pmax
comp=Z,41nm,1.0s
GOF Gofitskoye 11.61 316⇑iP **P 13 48 34.5 -4.1**
GOF i S **S 13 50 40.5 -7.6**
GOF pmax pmax
comp=Z,50nm,1.2s
GOF smax
comp=E,170nm,1.3s
HASS Wahat al Ahsa' 12.60 200 P **P 13 48 51.4 -0.6**
SOC Sochi 12.86 304 eP **P 13 48 55.1 -0.3**
SOC eS **S 13 51 18.2 -0.2**
SOC pmax pmax
comp=Z,26nm,1.1s
SOC pmax pmax
comp=N,16nm,0.5s
SOC pmax pmax
comp=E,39nm,1.2s
SOC MLR MLR
comp=Z,203nm,15.0s
SOC MLR MLR
comp=N,357nm,25.0s
SOC MLR MLR
comp=E,104nm,18.0s
HILS Ha'il 14.42 231 P **P 13 49 14.4 -1.6**
ARSS Ar Rass 14.71 223 P **P 13 49 18.2 -1.7**
ASF Jabal al Asfar 15.21 256 Pn **P 13 49 33.6 +7.3**
comp=E,0.2nm,0.3s,baz=295,slow=7.0,SNR=15
ASF LR LR 13 56 38.8
comp=E,257nm,18.4s,baz=131,slow=42
MZLS Mizel 15.28 213 P **P 13 49 25.4 -1.9**
RAYN Ar Rayn 15.60 212 Pn **P 13 49 29.8 -1.6**
comp=E,439nm,0.6s,SNR=25
AAK Ala-Archa 16.37 64 i P **P 13 49 42.5 +1.4**
AAK pmax pmax
comp=Z,6.0nm,0.8s
AAK Ala-Archa 16.37 64 eP **P 13 49 38.7 -2.4**
comp=Z,7.9nm,0.6s
AAK Ala-Archa 16.37 64 eP **P 13 49 38.7 -2.4**
comp=Z,7.9nm,0.6s
AFFS 'Afif 16.42 220 P **P 13 49 40.6 -1.2**
BRTR Keskin Array B 16.43 285 Pn **P 13 49 45.8 +4.0**
comp=Z,0.2nm,0.3s,baz=101,slow=13,SNR=5.5
FRU Bishkek 16.50 64 eP **P 13 49 45.5 +2.7**
VOR Voronezh 18.08 328 P **P 13 49 59.0 -3.5**
VOR pmax pmax
comp=Z,160nm,1.0s
VOR pmax pmax
comp=N,50nm,1.3s
VOR pmax pmax
comp=E,120nm,1.0s
BRVK Borovoye 19.38 30 eP **P 13 50 16.4 -1.6**
comp=E,20nm,0.6s
BRVK Borovoye 19.38 30 eP **P 13 50 16.4 -1.6**
comp=E,20nm,0.6s
BVA0 Borovoye Array 19.40 30 i P **P 13 50 16.7 -1.5**
BVA0 pmax pmax
comp=Z,2.0nm,0.6s
BVAR Borovoye Array 19.40 30 P **P 13 50 17.0 -1.2**
comp=Z,7.4nm,0.3s,baz=217,slow=10,SNR=248
ARU Arti 19.46 7⇑iP **P 13 50 16.7 -2.2**
ARU pmax pmax
comp=Z,49nm,0.7s
ARU MLR MLR
comp=N,400nm,19.0s
ARU MLR MLR
comp=Z,500nm,19.0s
ARU MLR MLR
comp=E,200nm,18.5s
ARU Arti 19.46 7 eP **P 13 50 16.4 -2.5**
comp=E,39nm,0.4s
ARU Arti 19.46 7 eP **P 13 50 16.4 -2.5**
comp=E,39nm,0.4s
SVE Sverdlovsk 20.10 10⇓eP **P 13 50 23.0 -2.8**
SVE pmax pmax
comp=Z,40nm,1.2s
SVE MLR MLR
comp=Z,500nm,11.0s,MS4.1
SVE MLR MLR
comp=N,300nm,13.0s,MS4.0
SVE MLR MLR
comp=E,400nm,13.0s,MS4.0
NDI New Delhi 20.94 107 eP **P 13 50 31.0 -3.6**
KIS Kishinev 21.26 306 eP **P 13 50 38.0 +0.2**
KIS e 13 51 10.0
OBN Obninsk 21.65 332 d iP **P 13 50 40.9 -0.8**
OBN e 13 50 53.0
OBN eS **S 13 54 33.3 -1.3**
OBN pmax pmax
comp=Z,84nm,0.8s,mb5.2
OBN MLR MLR
comp=Z,200nm,19.0s,MS3.5
MOS Moscow 21.75 334 eP **P 13 50 41.3 -1.3**
MOS i 13 50 51.7
MOS e 13 51 00.5
MOS eS **S 13 54 36.2 -0.1**
MOS pmax pmax
comp=Z,100nm,1.1s,mb5.2
KURK Kurchatov 21.97 44 i P **P 13 50 44.9 0.0**
KURK pmax pmax
comp=Z,13nm,0.8s,mb4.4
KURK Kurchatov 21.97 44 eP **P 13 50 44.8 -0.1**
comp=Z,25nm,0.8s,mb4.7
KURK Kurchatov 21.97 44 eP **P 13 50 44.8 -0.1**
comp=Z,25nm,0.8s,mb4.7
AKASG Malin Array Be 22.45 315 P **P 13 50 49.6 -0.1**
comp=Z,18nm,0.4s,mb4.8,baz=122,slow=9.3,SNR=49
AKASG Malin Array Be 22.45 315 P **P 13 50 49.6 -0.1**
AKASG pmax pmax
comp=Z,18nm,0.4s
MKAR Makanchi Array 22.77 56 P **P 13 50 53.5 +0.7**
comp=Z,2.7nm,0.5s,mb4.0,baz=246,slow=11,SNR=45
MKAR pP 13 51 01.8
comp=Z,5.1nm,0.6s,baz=248,slow=10,SNR=11
MKAR LR LR 14 00 56.4
comp=Z,274nm,18.9s,MS3.7,baz=278,slow=40
MKAR Makanchi Array 22.77 56 P **P 13 50 53.5 +0.7**
MKAR *PP 13 51 01.8
MKAR pmax pmax
comp=Z,3.0nm,0.5s
MKAR pmax pmax
comp=N,5.0nm,0.6s
MKAR MLR MLR
comp=Z,275nm,18.9s
MKAR Makanchi Array 22.77 56 P **P 13 50 53.5 +0.7**
MKAR pP 13 51 01.8
MKAR LR LR 14 00 56.4
MLR Muntele Rosu 22.80 300 P **P 13 50 56.1 +2.9**
comp=Z,16nm,0.7s,mb4.6,baz=212,slow=9.5,SNR=29
MLR Muntele Rosu 22.80 300 P **P 13 50 56.1 +3.0**
MLR pmax pmax
comp=Z,16nm,0.7s
MLR Muntele Rosu 22.80 300 P **P 13 50 56.0 +2.9**
IDI Anoyia 23.81 274 P **P 13 51 03.9 +1.0**
comp=Z,5.6nm,0.4s,mb4.3,baz=64,slow=7.1,SNR=12
KWP Kalwaria 25.94 309 eP **P 13 51 24.7 +1.5**
comp=Z,13nm,0.8s,mb4.5
KWP Kalwaria 25.94 309 eP **P 13 51 24.7 +1.5**
comp=Z,13nm,0.8s,mb4.5
WMQ Urumqi 26.08 65 eP **P 13 51 30.8 +6.3**
WMQ AMB AMB
comp=Z,15nm,1.0s,mb4.5
KOLN Koldanda 26.31 102 eP **P 13 51 26.9 +0.1**
comp=Z,31nm,0.7s,mb4.9
ZAL Zalesovo 26.82 42 P **P 13 51 30.4 -0.8**
comp=Z,3.1nm,0.4s,mb4.2,baz=144,slow=5.3,SNR=7.6
ZAL LR LR 14 03 28.7
comp=Z,169nm,19.4s,MS3.6,baz=24,slow=39
ZAL Zalesovo 26.82 42 P **P 13 51 30.4 -0.8**
ZAL pmax pmax
comp=Z,3.0nm,0.4s
ZAL MLR MLR
comp=Z,169nm,19.4s
ZAL Zalesovo 26.82 42 P **P 13 51 30.4 -0.8**
ZAL LR LR 14 03 28.7
GKN Gorkha 27.01 101 eP **P 13 51 32.8 -0.4**
comp=Z,36nm,0.7s,mb5.0
NIE Niedzica 27.39 307 eP **P 13 51 38.8 +2.3**
DMN Daman 27.56 101 eP **P 13 51 38.3 +0.1**
comp=Z,37nm,0.8s,mb5.0
KKN Kakani 27.61 101 eP **P 13 51 38.8 +0.1**
comp=Z,25nm,0.7s,mb4.9
PKI Pulchoki 27.81 101 eP **P 13 51 40.4 -0.1**
comp=Z,26nm,0.7s,mb5.0
OJC Ojcow 27.91 309 eP **P 13 51 41.6 +0.5**
GUN Gumba 28.03 100 eP **P 13 51 42.5 +0.1**
comp=Z,59nm,0.9s,mb5.2
FINES FINESS Array B 30.04 333 P **P 13 51 59.8 -0.3**
comp=Z,1.3nm,0.5s,mb3.9,baz=146,slow=6.9,SNR=17
FINES FINESS Array B 30.04 333 P **P 13 51 59.8 -0.3**
FINES pmax pmax
comp=Z,1.0nm,0.5s
KAF Kangasniemi 30.40 334 ep pP 13 52 15.0 +2.4
GERES GERESS Array B 31.57 305 P **P 13 52 14.4 +0.6**
comp=Z,0.6nm,0.5s,mb3.7,baz=82,slow=6.9,SNR=5.6
GERES GERESS Array B 31.57 305 P **P 13 52 14.4 +0.6**
GERES pmax pmax
comp=Z,1.0nm,0.5s
BRG Berggiesshubel 31.70 309 eP pP 13 52 28.4 +4.3
BRG pmax pmax
comp=Z,7.0nm,1.1s,mb4.4
CLL Collm 32.36 309 e pP 13 52 36.0 +6.2
DAVOX Davos 34.03 301 P **P 13 52 37.7 +2.5**
comp=Z,2.5nm,0.5s,mb4.4,baz=321,slow=20,SNR=2.6
HFS Hagfors 34.50 325 P **P 13 52 39.1 0.0**
comp=Z,4.3nm,0.4s,mb4.7,baz=112,slow=8.0,SNR=25
HFS pP pP 13 52 48.6 +0.3
comp=Z,15nm,0.7s,baz=101,slow=7.3,SNR=11
HFS Hagfors 34.50 325 P **P 13 52 39.1 0.0**
HFS *PP pP 13 52 48.6 +0.2
HFS pmax pmax
comp=Z,4.0nm,0.4s
HFS pmax pmax
comp=N,15nm,0.7s
PGF Pioggiola 34.90 293 eP **P 13 52 43.1 +0.4**
comp=N,14nm,0.6s,mb4.7
SBF Sospel 35.90 296 eP **P 13 52 51.2 0.0**
ARCES ARCESS Array B 35.97 343 P **P 13 52 51.8 +0.3**
comp=N,1.8nm,0.4s,mb4.3,baz=141,slow=8.6,SNR=33
ARCES pP pP 13 53 01.5 +0.6
comp=N,3.3nm,0.8s,baz=143,slow=8.6,SNR=2.0
ARCES ARCESS Array B 35.97 343 P **P 13 52 51.8 +0.3**
ARCES *PP pP 13 53 01.5 +0.7
ARCES pmax pmax
comp=Z,2.0nm,0.4s
ARCES pmax pmax
comp=N,3.0nm,0.8s
NB2 NORSAR Subarra 35.97 325 P **P 13 52 51.3 -0.3**
comp=N,7.6nm,1.0s,mb4.6,baz=108,slow=9.3
NOA NORSAR Array B 35.97 325 P **P 13 52 51.8 +0.1**
comp=N,1.7nm,0.5s,mb4.2,baz=116,slow=8.3,SNR=9.1
NOA pP pP 13 53 00.9 -0.1
comp=N,3.9nm,0.6s,baz=116,slow=8.1,SNR=8.1
NOA LR LR 14 09 57.3
comp=N,126nm,19.0s,MS3.7,baz=180,slow=40
NOA NORSAR Array B 35.97 325 P **P 13 52 51.8 +0.2**
NOA *PP pP 13 53 00.9 -0.1
NOA pmax pmax
comp=Z,2.0nm,0.5s
NOA pmax pmax
comp=N,4.0nm,0.6s
NOA MLR MLR
comp=Z,127nm,19.0s
NAO01 NORSAR Array S 36.05 325 eP **P 13 52 52.0 -0.3**
comp=Z,4.5nm,0.5s,mb4.7
NAO01 NORSAR Array S 36.05 325 eP **P 13 52 52.0 -0.3**
comp=Z,4.5nm,0.5s,mb4.7
MBDF Montbardon 36.29 297 eP **P 13 52 54.9 +0.4**
comp=Z,7.5nm,0.6s,mb4.5
FRF La Foret Royal 36.50 295 eP **P 13 52 56.5 +0.3**
CABF La Chapelle 36.64 300 eP **P 13 52 58.0 +0.6**
comp=Z,8.6nm,0.7s,mb4.4
LOR Lormes 38.13 302 eP **P 13 53 10.4 +0.5**
SONM Songino Array 39.13 57 P **P 13 53 18.9 +0.7**
comp=Z,0.5nm,0.6s,baz=266,slow=8.3,SNR=6.2
SONM pP pP 13 53 27.5 -0.2
comp=Z,1.0nm,0.7s,baz=276,slow=11,SNR=6.2
SONM pPcP 13 55 36.3
comp=Z,0.5nm,0.6s,baz=270,slow=4.9,SNR=3.9
MFF Saint Martin d 40.92 301 eP **P 13 53 33.2 +0.2**
KMBO Kilima Mbogo 41.28 206 P **P 13 53 36.1 -0.2**
comp=Z,1.0nm,0.7s,mb3.6,baz=39,slow=22,SNR=3.2
KMBO Kilima Mbogo 41.28 206 P **P 13 53 35.2 -1.1**
SGMF Saint Gilles 42.35 304 eP **P 13 53 44.9 +0.2**
comp=Z,26nm,0.9s,mb4.6
EKA Eskdalemuir Ar 42.36 314 P **P 13 53 45.5 +0.8**
comp=Z,2.8nm,0.6s,mb4.1,baz=91,slow=8.1,SNR=13
EKA pP pP 13 53 54.8 +0.7
comp=Z,3.6nm,0.6s,baz=95,slow=9.2,SNR=6.5
EKA Eskdalemuir Ar 42.36 314 P **P 13 53 45.5 +0.8**
EKA *PP pP 13 53 54.8 +0.7
EKA pmax pmax
comp=Z,3.0nm,0.6s
EKA pmax pmax
comp=N,4.0nm,0.6s
KMI Kunming 42.70 92 eP **P 13 53 47.6 -0.2**
KMI AP pP 13 53 57.7 +0.5
KMI AMB AMB
comp=Z,8.0nm,1.1s,mb4.4
ROSF Rostrenen 42.82 304 eP **P 13 53 48.7 +0.2**
comp=Z,44nm,1.1s,mb4.8
CMAR Chiang Mai Arr 43.17 103 P **P 13 53 51.0 -0.7**
comp=Z,3.1nm,0.5s,mb4.3,baz=296,slow=9.4,SNR=20
CMAR pP pP 13 54 00.6 -0.6
comp=Z,2.8nm,0.5s,baz=302,slow=8.9,SNR=8.1
CMAR Chiang Mai Arr 43.17 103 P **P 13 53 51.1 -0.7**
CMAR *PP pP 13 54 00.6 -0.6
CMAR pmax pmax
comp=Z,3.0nm,0.5s
CMAR pmax pmax
comp=N,3.0nm,0.5s
CMAR Chiang Mai Arr 43.17 103 P **P 13 53 51.0 -0.8**
CMAR pP pP 13 54 00.6 -0.6
BOD Bodaibo 43.59 42 eP **P 13 53 54.4 -0.2**
BOD e 13 54 11.6
ESDC Sonseca Array 45.06 292 P **P 13 54 08.0 +1.2**
comp=N,0.3nm,0.3s,mb3.6,baz=69,slow=8.2,SNR=3.4
ESDC pP pP 13 54 16.5 +0.3
comp=N,2.5nm,0.6s,baz=72,slow=8.4,SNR=4.9
EVO Evora 48.41 292 eP **P 13 54 35.1 +2.0**
comp=N,78nm,1.4s,mb5.2
TIXI Tiksi 50.33 23 i P **P 13 54 47.9 +0.4**
TIXI pmax pmax
comp=Z,10.0nm,1.6s,mb4.6
NJ2 Nanjing 52.42 75 eP **P 13 55 06.6 +2.8**
NJ2 AP pP 13 55 16.6 +3.2
NJ2 XP sP 13 55 21.0 +3.9
NJ2 PP PP 13 57 05.9 +2.3
NJ2 S **S 14 02 28.0 +1.9**
NJ2 XS 14 02 44.0
NJ2 SS SS 14 06 04.0 +1.3
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.2
SSE Sheshan 54.63 75 eP **P 13 55 20.6 +0.5**
SSE AMB AMB
comp=Z,13nm,0.8s,mb5.0
SSE AMB AMB
comp=Z,187nm,6.0s
KLR Kul'dur 55.34 51 eP **P 13 55 28.0 +3.0**
SUMG Summit 55.81 339 eP **P 13 55 29.0 +0.9**
comp=Z,9.8nm,0.9s,mb4.8
SUMG Summit 55.81 339 eP **P 13 55 29.0 +0.9**
comp=Z,9.8nm,0.9s,mb4.8
DBIC Dimbokro 61.61 256 P **P 13 56 08.5 -0.7**
comp=Z,4.2nm,0.6s,mb4.8,baz=24,slow=8.3,SNR=12
DBIC Dimbokro 61.61 256 P **P 13 56 08.5 -0.7**
DBIC pmax pmax
comp=Z,4.0nm,0.6s
DBIC Dimbokro 61.61 256 eP **P 13 56 07.6 -1.6**
comp=Z,7.8nm,0.8s,mb4.9
DBIC Dimbokro 61.61 256 eP **P 13 56 07.6 -1.6**
comp=Z,7.8nm,0.8s,mb4.9
KIC Kosan Boka 61.71 256 eP **P 13 56 09.2 -0.7**
comp=Z,81nm,1.1s
TIC Toumodi 61.75 256 eP **P 13 56 09.3 -0.9**
comp=Z,9.8nm,0.2s,mb5.5
LIC Lamto 62.02 256 eP **P 13 56 11.0 -1.0**
comp=Z,15nm,0.5s,mb5.1
LIC Lamto 62.02 256 eP **P 13 56 11.2 -0.8**
comp=Z,22nm,0.4s,mb5.7
INK Inuvik 74.67 3 pP pP 13 57 40.0 +0.6
comp=Z,3.1nm,0.6s,baz=357,slow=6.5,SNR=4.5
INK Inuvik 74.67 3 eP pP 13 57 39.6 +0.2
IMA Indian Mountai 74.82 11 eP **P 13 57 31.8 +1.3**
comp=Z,24nm,0.8s,mb5.2
IMA e pP 13 57 41.5 +1.2
IMA Indian Mountai 74.82 11 eP **P 13 57 31.8 +1.3**
SCHQ Schefferville 75.44 329 pP pP 13 57 45.2 +1.1
comp=Z,7.9nm,1.1s,baz=54,slow=6.3,SNR=3.0
SUR Sutherland 75.96 209 eP **P 13 57 35.6 -2.1**
comp=Z,17nm,1.0s,mb4.9
COLA College 76.80 10 eP **P 13 57 41.6 -0.1**
comp=Z,15nm,0.8s,mb5.0
COLA e pP 13 57 52.9 +1.3
COLA College 76.80 10 eP **P 13 57 41.6 -0.1**
ILAR Eielson Array 77.02 9 P **P 13 57 43.5 +0.6**
comp=Z,0.7nm,0.7s,mb3.7,baz=338,slow=4.9,SNR=7.0
ILAR pP pP 13 57 53.5 +0.6

	comp=Z,3.8nm,0.8s,baz=340,slow=5.3,SNR=23						
ILAR	**Eielson Array**	**77.02**	**9**	P	**P**	**13 57 43.5**	**+0.6**
ILAR				*PP	pP	13 57 53.5	+0.6
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ILAR				pmax	pmax		
	comp=N,4.0nm,0.8s						
MCK	**McKinley**	**77.73**	**10**	*e*P	**P**	**13 57 47.2**	**+0.3**
MCK				*e*pP	pP	13 57 57.8	+1.0
MCK	**McKinley**	**77.73**	**10**	*e*P	**P**	**13 57 47.2**	**+0.3**
MCK				*e*pP	pP	13 57 57.8	+1.0
DAWY	**Dawson**	**78.50**	**6**	*e*P	**P**	**13 57 51.3**	**+0.2**
DAWY				*e*pP	pP	13 58 01.5	+0.5
DAWY	**Dawson**	**78.50**	**6**	*e*P	**P**	**13 57 51.3**	**+0.2**
DAWY				*e*pP	pP	13 58 01.5	+0.4
SML	**Sawmill**	**79.65**	**11**	*e*P	**P**	**13 57 58.8**	**+1.3**
SML				*e*pP	pP	13 58 07.0	-0.3
SML	**Sawmill**	**79.65**	**11**	*e*P	**P**	**13 57 58.8**	**+1.4**
SML				*e*pP	pP	13 58 07.1	-0.3
PMR	**Palmer**	**79.74**	**11**	*e*P	**P**	**13 57 58.8**	**+0.9**
	comp=N,18nm,0.8s,mb5.1						
PMR				*e*pP	pP	13 58 08.3	+0.4
PMR	**Palmer**	**79.74**	**11**	*e*P	**P**	**13 57 58.8**	**+0.9**
	comp=N,18nm,0.8s,mb5.1						
PMR				*e*pP	pP	13 58 08.3	+0.5
YKA	**Yellowknife Ar**	**80.27**	**355**	P	**P**	**13 58 01.4**	**+0.7**
	comp=N,1.3nm,0.7s,mb4.0,baz=6.5,slow=5.8,SNR=3.9						
YKA				pP	pP	13 58 11.3	+0.7
	comp=N,5.9nm,0.8s,baz=5.6,slow=6.3,SNR=14						
YKA	**Yellowknife Ar**	**80.27**	**355**	P	**P**	**13 58 01.4**	**+0.7**
YKA				*PP	pP	13 58 11.3	+0.6
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA				pmax	pmax		
	comp=N,6.0nm,0.8s						
YKA	**Yellowknife Ar**	**80.27**	**355**	P	**P**	**13 58 01.4**	**+0.7**
YKA				pP	pP	13 58 11.3	+0.7
YKA	**Yellowknife Ar**	**80.27**	**355**	P	**P**	**13 58 01.4**	**+0.7**
YKA				pP	pP	13 58 11.4	+0.7
EYAK	**Cordova Ski Ar**	**81.23**	**10**	*e*P	**P**	**13 58 05.4**	**-0.4**
MBWA	**Marble Bar**	**84.56**	**122**	P	**P**	**13 58 22.2**	**-1.5**
	comp=N,27nm,1.6s,mb5.1						
DLBC	**Dease Lake**	**84.67**	**2**	pP	pP	13 58 35.2	+1.7
	comp=N,4.4nm,0.8s,baz=342,slow=9.6,SNR=4.6						
FFC	**Flin Flon**	**86.23**	**347**	P	**P**	**13 58 32.2**	**+0.9**
	comp=N,4.4nm,0.7s,mb4.8						
FFC				*e*pP	pP	13 58 40.9	-0.4
FFC	**Flin Flon**	**86.23**	**347**	P	**P**	**13 58 32.2**	**+1.0**
	comp=N,4.3nm,0.7s,mb4.8						
FFC				*e*pP	pP	13 58 40.9	-0.4
FITZ	**Fitzroy Crossi**	**86.68**	**116**	P	**P**	**13 58 33.4**	**-0.9**
	comp=N,4.0nm,0.8s,mb4.7,baz=315,slow=4.1,SNR=8.8						
FITZ				pP	pP	13 58 43.4	-0.9
	comp=N,7.1nm,0.9s,baz=298,slow=3.6,SNR=8.7						
ULM	**Lac du Bonnet**	**89.07**	**341**	P	**P**	**13 58 45.7**	**+0.7**
	comp=N,2.0nm,0.4s,mb4.8,baz=270,slow=4.0,SNR=2.8						
ULM				pP	pP	13 58 55.9	+0.8
	comp=N,3.6nm,0.6s,baz=1.8,slow=6.1,SNR=3.3						
ULM	**Lac du Bonnet**	**89.07**	**341**	P	**P**	**13 58 45.7**	**+0.7**
ULM				pP	pP	13 58 55.8	+0.7
EDM	**Edmonton**	**89.34**	**353**	P	**P**	**13 58 46.2**	**-0.1**
EDM				*e*pP	pP	13 58 57.5	+1.2
EDM	**Edmonton**	**89.34**	**353**	P	**P**	**13 58 46.2**	**0.0**
EDM				*e*pP	pP	13 58 57.5	+1.2
WRA	**Warramunga Arr**	**94.20**	**112**	P	**P**	**13 59 09.8**	**+0.3**
	comp=N,0.5nm,0.6s,mb4.2,baz=320,slow=4.1,SNR=6.4						
WRA	**Warramunga Arr**	**94.20**	**112**	P	**P**	**13 59 09.8**	**+0.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SNAA	**Sanae**	**115.72**	**197**	⇑*i*P	PKPdf	14 04 34.4	-1.3
SNAA	**Sanae**	**115.72**	**197**	⇓*i*	PKPdf	14 04 51.6	+16
SNAA	**Sanae**	**115.72**	**197**	⇑*i*		14 08 06.5	
VNA2	**Neumayer--Watz**	**116.36**	**199**	⇑*i*P	PKPdf	14 04 34.7	-2.3
VNA2	**Neumayer--Watz**	**116.36**	**199**	⇑*i*	PKPdf	14 04 47.1	+10
VNA2	**Neumayer--Watz**	**116.36**	**199**	⇑*i*	PKPdf	14 04 51.2	+14
VNA2	**Neumayer--Watz**	**116.36**	**199**	⇓*i*	PP	14 05 46.5	+3.6
VNA2	**Neumayer--Watz**	**116.36**	**199**	⇑*i*		14 08 09.8	
VNA1	**Neumayer--Stat**	**116.42**	**199**	⇓*i*P	PKPdf	14 04 33.5	-3.6
VNA3	**Neumayer Olymp**	**117.14**	**199**	⇓*i*P	PKPdf	14 04 35.3	-3.1
VNA3	**Neumayer Olymp**	**117.14**	**199**		PKPdf	14 04 48.0	+10
JTS	**JuntasAbangare**	**119.29**	**313**	PKP	PKPdf	14 04 41.8	-2.1
	comp=Z,0.8nm,0.4s,baz=306,slow=8.7,SNR=7.3						
QSPA	**South Pole Qui**	**127.00**	**180**	*e*PKPdf	PKPdf	14 04 52.8	-4.4

*ATH **08** 13:52:37.5, 34.54N×27.22E, h54^{km}±44^{km}, MD4.2/8*
*NEIC **08** 13:52:37.5, 34.54N×27.22E, h54^{km}, MD4.2(ATH), After ATH.*
*CSEM **08** 13:52:37.5, 34.54N×27.22E, h54^{km}, MD4.2/8, After ATH*
ISC 08 13:52:39.1±2.4**, 34.6N**±0.2×**27.2E**±0.2**, h46**^{km}±44^{km}**, n14,** σ**0**^{s}**89**/16**, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.98**	**0**	*e*P	**P**	**13 52 57.2**	**+0.5**
KARP				*e*S	**S**	**13 53 09.7**	**0.0**
XRY	**Khrisi**	**1.24**	**285**	*e*P	**P**	**13 53 00.2**	**-0.2**
NPS	**Neapolis**	**1.45**	**299**	*e*P	**P**	**13 53 02.2**	**-1.2**
ARG	**Arkhangelos**	**1.83**	**25**	*e*P	**P**	**13 53 07.4**	**-1.4**
THR1	**Thera Island**	**2.27**	**323**	*e*P	**P**	**13 53 15.5**	**+0.4**
SANT	**Santorini**	**2.27**	**323**	*e*Pn	**P**	**13 53 14.6**	**-0.5**
SANT				Sn	**S**	**13 53 38.6**	**-3.4**
THR6	**Thira Island,**	**2.29**	**322**	*e*P	**P**	**13 53 16.4**	**+1.1**
THR3	**Thira Island,**	**2.33**	**323**	*e*P	**P**	**13 53 16.6**	**+0.7**
THR5	**Thira Island,**	**2.37**	**322**	*e*P	**P**	**13 53 16.6**	**+0.3**
THR4	**Thira Island,**	**2.37**	**323**	*e*P	**P**	**13 53 18.0**	**+1.5**
APE	**Apeiranthos**	**2.83**	**333**	*e*P	**P**	**13 53 23.4**	**+0.4**
KYTH	**Kithira**	**3.77**	**298**	*e*P	**P**	**13 53 35.5**	**-0.8**
VLI	**Veliai**	**4.05**	**303**	*e*P	**P**	**13 53 40.3**	**0.0**
ITM	**Ithomi**	**4.98**	**303**	*e*P	**P**	**13 53 53.5**	**+0.1**

*ISK **08** 13:53:30.3, 37.69N×26.66E, h5^{km}, MD4.0, ML4.1*
*ATH **08** 13:53:32.3, 37.91N×26.89E, h10^{km}, MD3.9/5*
*NEIC **08** 13:53:32.3, 37.91N×26.89E, h10^{km}, MD3.9(ATH), After ATH.*
*CSEM **08** 13:53:32.2±0.1, 37.73N×26.82E, h5^{km}, MD3.9, Error ellipse: s-maj=2.6km s-min=1.5km az=38.0*
*THE **08** 13:53:34.4, 37.72N×26.97E, h11^{km}, ML3.3*
ISC 08 13:53:33.3±0.5**, 37.77N**±0.03×**26.83E**±0.03**, h12**^{km}±3^{km}**, n81,** σ**0**^{s}**98**/94**, 1C-1D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.06**	**172**	⇓*e*PG	**Pg**	**13 53 36.7**	**+1.0**
SMG				*e*SG	**Sg**	**13 53 39.0**	**+1.7**
BLCB	**Balcova**	**0.64**	**15**	*i* PG	**Pg**	**13 53 45.4**	**-0.9**
BLCB				*i* SG	**Sg**	**13 53 55.7**	**+0.7**
IZM	**Izmir**	**0.72**	**28**	*i* PG	**Pg**	**13 53 46.4**	**-1.4**
IZM	**Izmir**	**0.72**	**28**	Pg	**Pg**	**13 53 46.2**	**-1.6**
KDAG	**Bornova**	**0.72**	**29**	*i* P	**Pb**	**13 53 46.2**	**-1.2**
KDAG				*i* S	**Sb**	**13 53 52.3**	**-4.7**
AYDN	**Tasoluk**	**0.84**	**97**	*i* P	**Pb**	**13 53 47.9**	**-1.5**
AYDN				*i* S	**Sb**	**13 53 58.3**	**-2.2**
BDRM	**Kayabasi**	**0.85**	**145**	⇑*i*P	**Pb**	**13 53 48.9**	**-0.8**
BDRM				*i* S	**Sb**	**13 53 59.8**	**-1.0**
MLSB	**Milas**	**0.89**	**122**	PG	**Pg**	**13 53 49.1**	**-2.1**
MLSB				SG	**Sg**	**13 54 02.8**	**-0.3**
APE	**Apeiranthos**	**1.24**	**236**	PN	**Pn**	**13 53 50.9**	**-5.7**
APE	**Apeiranthos**	**1.24**	**236**	Pn	**Pn**	**13 53 50.8**	**-5.8**
YER	**Yerkesik**	**1.32**	**118**	PN	**Pn**	**13 53 57.0**	**-0.7**
YER				SN	**Sn**	**13 54 16.1**	**+0.8**
AKS	**Akhisar**	**1.35**	**35**	PN	**Pn**	**13 53 58.4**	**+0.2**
AKS	**Akhisar**	**1.35**	**35**	Pn	**Pn**	**13 53 58.5**	**+0.3**
AKS				Sg	**Sg**	**13 54 17.5**	**-1.1**
PRK	**Paraskevi**	**1.54**	**344**	*e*PB	**Pb**	**13 54 00.3**	**-1.1**
AYVA	**Ayvalik**	**1.54**	**356**	*i* P	**Pn**	**13 54 03.7**	**+2.8**
AYVA				*i* S	**Sb**	**13 54 25.7**	**+4.9**
MANT	**Manisa**	**1.54**	**62**	*i* P	**Pn**	**13 54 01.6**	**+0.7**
MANT				*i* S	**Sb**	**13 54 19.2**	**-1.6**
DENT	**Denizli**	**1.75**	**90**	*e*PN	**Pn**	**13 54 04.8**	**+1.0**
DENT	**Denizli**	**1.75**	**90**	Pn	**Pn**	**13 54 02.6**	**-1.2**
DALT	**Dalyan (Mudla)**	**1.75**	**124**	PN	**Pn**	**13 54 03.6**	**-0.3**
DALT	**Dalyan (Mudla)**	**1.75**	**124**	Pn	**Pn**	**13 54 03.8**	**-0.1**
DNZL	**Cakiroluk**	**1.76**	**92**	*i* P	**Pn**	**13 54 03.3**	**-0.8**
DNZL				*i* S	**Sn**	**13 54 29.6**	**+3.1**
KHL	**Karahalli**	**2.20**	**75**	*e*PN	**Pn**	**13 54 11.3**	**+1.0**
KHL	**Karahalli**	**2.20**	**75**	Pn	**Pn**	**13 54 11.4**	**+1.1**
DST	**Dursunbey**	**2.31**	**37**	*e*PN	**Pn**	**13 54 13.0**	**+1.1**
PTL	**Penteli**	**2.36**	**278**	*e*PN	**Pn**	**13 54 13.2**	**+0.6**
ATH	**Athens Observa**	**2.47**	**276**	*e*PB	**Pb**	**13 54 14.9**	**-2.4**
LIA	**Limnos Island**	**2.49**	**329**	*e*PN	**Pn**	**13 54 14.5**	**+0.1**
LOS	**Limnos**	**2.56**	**328**	*e*Pn	**Pn**	**13 54 16.3**	**+0.9**
LOS				*e*Sn	**Sn**	**13 54 47.4**	**+0.6**
ELL	**Elmali**	**2.66**	**112**	*e*PN	**Pn**	**13 54 17.2**	**+0.3**
ELL	**Elmali**	**2.66**	**112**	Pn	**Pn**	**13 54 16.1**	**-0.8**
BNT	**Bandirma**	**2.72**	**18**	*e*PN	**Pn**	**13 54 17.9**	**+0.1**
BNT	**Bandirma**	**2.72**	**18**	Pn	**Pn**	**13 54 17.3**	**-0.5**
KCT	**Karacabey**	**2.77**	**25**	*e*PN	**Pn**	**13 54 19.2**	**+0.8**
KCT	**Karacabey**	**2.77**	**25**	Pn	**Pn**	**13 54 18.2**	**-0.2**
ORLT	**Orhaneli**	**2.79**	**35**	*e*PN	**Pn**	**13 54 19.5**	**+0.8**
ORLT	**Orhaneli**	**2.79**	**35**	Pn	**Pn**	**13 54 20.3**	**+1.6**
ALT	**Altintas**	**2.88**	**62**	*e*PN	**Pn**	**13 54 20.9**	**+0.9**
ALT	**Altintas**	**2.88**	**62**	Pn	**Pn**	**13 54 20.3**	**+0.3**
ISP	**Isparta**	**2.92**	**87**	*e*PN	**Pn**	**13 54 21.7**	**+1.2**
ISP	**Isparta**	**2.92**	**87**	Pn	**Pn**	**13 54 21.1**	**+0.6**
BCK	**Bucak**	**3.00**	**95**	*e*PN	**Pn**	**13 54 21.4**	**-0.4**
BCK	**Bucak**	**3.00**	**95**	Pn	**Pn**	**13 54 21.1**	**-0.7**
ANTB	**Antalya**	**3.17**	**105**	*e*PN	**Pn**	**13 54 24.2**	**+0.1**
PAIG	**Paliouri**	**3.27**	**312**	*e*Pn	**Pn**	**13 54 26.5**	**+0.9**
OUR	**Ouranopolis**	**3.39**	**320**	*e*Pn	**Pn**	**13 54 27.5**	**+0.3**
OUR				*e*Sn	**Sn**	**13 55 07.6**	**-0.2**
YLV	**Yalova**	**3.43**	**34**	*e*PN	**Pn**	**13 54 28.8**	**+1.0**
YLV	**Yalova**	**3.43**	**34**	Pn	**Pn**	**13 54 27.4**	**-0.4**
RDO	**Rodhopi**	**3.52**	**344**	*e*PN	**Pn**	**13 54 22.9**	**-6.2**
CTT	**Catalca**	**3.60**	**20**	*e*PN	**Pn**	**13 54 29.7**	**-0.5**
CTT	**Catalca**	**3.60**	**20**	Pn	**Pn**	**13 54 30.8**	**+0.6**
ESKT	**Eskisehir**	**3.60**	**60**	*e*PN	**Pn**	**13 54 30.3**	**0.0**
ESKT	**Eskisehir**	**3.60**	**60**	Pn	**Pn**	**13 54 31.2**	**+0.9**
GPA	**Golpazari**	**3.70**	**46**	*e*PN	**Pn**	**13 54 32.6**	**+0.9**
PLG	**Polygyros**	**3.70**	**316**	*e*PG	**Pg**	**13 54 41.4**	**-5.9**
ISK	**Istanbul-Kandi**	**3.72**	**27**	*e*PN	**Pn**	**13 54 31.3**	**-0.6**
ISK	**Istanbul-Kandi**	**3.72**	**27**	Pn	**Pn**	**13 54 31.7**	**-0.2**
HRT	**Hereke**	**3.76**	**35**	*e*PN	**Pn**	**13 54 32.4**	**-0.2**
EYL	**Eskiyayla**	**3.81**	**42**	*e*PN	**Pn**	**13 54 34.2**	**+1.0**
KDZ	**Kurdzhali**	**4.03**	**345**	*i* P	**Pn**	**13 54 35.5**	**-0.8**
EDRB	**Edirne**	**4.08**	**359**	*e*PN	**Pn**	**13 54 36.3**	**-0.7**
EDRB	**Edirne**	**4.08**	**359**	Pn	**Pn**	**13 54 35.9**	**-1.1**
KIZT	**Kizilcal**	**4.13**	**73**	*e*PN	**Pn**	**13 54 38.9**	**+1.2**
SRS	**Serrai**	**4.18**	**324**	*e*Pn	**Pn**	**13 54 38.5**	**0.0**
RZN	**Rozhen**	**4.24**	**338**	*i* P	**Pn**	**13 54 39.0**	**-0.3**
NVR	**Nevrokopi**	**4.25**	**328**	*e*PN	**Pn**	**13 54 39.6**	**+0.1**
MDU	**Mudurnu**	**4.35**	**50**	*e*PN	**Pn**	**13 54 42.1**	**+1.2**
KONT	**Konya--Tatoy**	**4.38**	**86**	*e*PN	**Pn**	**13 54 41.6**	**+0.2**
DIM	**Dimitrovgrad**	**4.39**	**347**	*e*P	**Pn**	**13 54 41.0**	**-0.5**
MMB	**Musomiste**	**4.50**	**329**	*e*P	**Pn**	**13 54 42.5**	**-0.6**
HDMB	**Hadim**	**4.58**	**98**	*e*PN	**Pn**	**13 54 44.7**	**+0.6**
PLD	**Plovdiv**	**4.63**	**340**	*e*P	**Pn**	**13 54 45.0**	**+0.1**
JMB	**Yambol**	**4.70**	**358**	*e*P	**Pn**	**13 54 45.5**	**-0.3**
LOD	**Lodumlu**	**5.10**	**64**	*e*PN	**Pn**	**13 54 52.7**	**+1.2**
ANTO	**Ankara**	**5.11**	**64**	*e*PN	**Pn**	**13 54 52.8**	**+1.1**
PGB	**Panagyurishte**	**5.19**	**338**	*e*P	**Pn**	**13 54 52.0**	**-0.8**
SZH	**Strazhica**	**5.54**	**353**	*e*P	**Pn**	**13 54 57.0**	**-0.7**
VTS	**Vitosha**	**5.56**	**331**	*e*P	**Pn**	**13 54 58.0**	**0.0**
PVL	**Pavlikeni**	**5.56**	**349**	*e*P	**Pn**	**13 54 56.5**	**-1.5**
IKL	**Isikli**	**5.70**	**103**	*e*PN	**Pn**	**13 55 00.1**	**+0.2**
SAFT	**Safranbolu**	**5.71**	**51**	*e*PN	**Pn**	**13 55 01.3**	**+1.2**
KHC	**Kasperske Hory**	**14.86**	**324**	*e*P	**P**	**13 57 12.0**	**+7.1**

IDC 08 13:54:33.6±6.2**, 2.72S**×**130.23E, h26**^{km}±40^{km}**, mb3.4**/2**, mb1 3.7**/4**, mb1mx3.5**/16**, ML3.5**/2**, Error ellipse: s-maj=107.0km s-min=20.1km az=74.0, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.93**	**196**	Pn	P	13 58 16.5	-1.4
	0.1nm,0.3s,baz=14,slow=14,SNR=3.4						
WRA	**Warramunga Arr**	**17.58**	**167**	P	P	13 58 35.7	-3.0
	0.2nm,0.3s,baz=349,slow=12,SNR=13						
WRA				S	S	14 01 45.5	-6.0
	0.1nm,0.3s,baz=334,slow=22,SNR=3.6						
ASAR	**Alice Springs**	**21.12**	**171**	P	P	13 59 17.1	-1.8
	3.5nm,1.0s,baz=346,slow=9.3,SNR=22						
ASAR				S	S	14 03 11.2	+3.6
	0.6nm,0.9s,baz=353,slow=23,SNR=5.1						
MKAR	**Makanchi Array**	**64.82**	**326**	P	P	14 05 10.1	-2.4
	0.2nm,0.5s,baz=132,slow=7.2,SNR=4.4						

*GUC **08** 14:01:59.1±0.8, 24.45S×70.54W, h66^{km}±4^{km}, ML4.2*
*NEIC **08** 14:01:59.1, 24.45S×70.54W, h66^{km}, mb3.9/2, After GUC.*
*IDC **08** 14:02:02.7±0.9, 24.70S×69.77W, h58^{km}±4^{km}, mb3.8/4, mb1 3.8/6, mb1mx3.8/14, MS3.1/2, Ms1 3.2/2, ms1mx3.0/17, Error ellipse: s-maj=32.3km s-min=19.6km az=111.0*
ISC 08 14:01:58.9±1.0**, 24.42S**±0.05×**70.7W**±0.2**, h70**^{km}±5^{km}**, n27,** σ**0**^{s}**97**/18**, mb3.9**/4**, 3C, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPN1	**Cerro Paranal**	**0.32**	**130**	*e*P	**P**	**14 02 10.9**	**+0.6**
CPN1				*i* S	**S**	**14 02 18.3**	**-0.5**
CPN1				AMP		14 02 20.7	
	comp=N,12μm,0.2s						
ANCH	**Antofagasta**	**0.77**	**18**	*e*P	**P**	**14 02 14.6**	**-0.2**
ANCH				*i* S	**S**	**14 02 26.6**	**-0.1**
ANCH				AMP		14 02 29.5	
	comp=N,11μm,0.5s						
LVC	**Limon Verde**	**2.42**	**42**	*e*P	**P**	**14 02 37.0**	**-0.1**
LVC				*i* S	**S**	**14 03 06.1**	**+0.5**
LVC				AMP		14 03 10.6	
	comp=N,5μm,0.3s						
CPCH	**Copiapo**	**2.94**	**174**	*e*P	**P**	**14 02 44.2**	**-0.2**
CPCH				*i* S	**S**	**14 03 18.2**	**-0.4**
LPAZ	**La Paz**	**8.43**	**17**	P	**P**	**14 04 02.7**	**+2.1**
	comp=N,1.0nm,0.3s,baz=204,slow=6.8,SNR=20						
LPAZ				LR	LR	14 07 49.6	
	comp=N,83nm,19.6s,baz=280,slow=41						
LPAZ	**La Paz**	**8.43**	**17**	*e*Pn	**P**	**14 04 02.2**	**+1.6**
	comp=N,2.9nm,0.4s						
CPUP	**Villa Florida**	**12.21**	**102**	P	**P**	**14 04 45.1**	**-6.7**
	comp=N,0.1nm,0.3s,baz=294,slow=9.0,SNR=3.0						
CPUP				LR	LR	14 09 42.0	
	comp=N,124nm,18.1s,baz=71,slow=40						
CPUP	**Villa Florida**	**12.21**	**102**	*e*PKPdf	**P**	**14 04 45.1**	**-6.7**
TRQA	**Tornquist**	**15.48**	**153**	*e*P	**P**	**14 05 36.0**	**+1.7**
	comp=N,9.4nm,0.8s						
TRQA				*e*pP		14 05 48.9	
TRQA				*e*sP		14 05 57.1	
SAML	**Samuel**	**16.96**	**26**	*e*Pn	**P**	**14 05 51.2**	**-1.9**
	comp=N,5.6nm,0.8s						
BDFB	**Brasilia**	**22.98**	**72**	P	**P**	**14 06 54.5**	**-3.8**
	comp=N,8.4nm,0.5s,mb4.3,baz=247,slow=8.4,SNR=11						
BDFB				pP		14 07 09.6	
	comp=N,4.1nm,0.6s,baz=230,slow=12,SNR=3.2						
BDFB				sP		14 07 16.6	
	comp=N,7.1nm,0.9s,baz=304,slow=6.1,SNR=3.0						
VNA3	**Neumayer Olymp**	**57.86**	**160**	⇑*i*	pP	14 11 59.3	-4.3
VNA3	**Neumayer Olymp**	**57.86**	**160**	⇑*i*	pP	14 12 05.3	+1.7
VNA2	**Neumayer--Watz**	**58.46**	**160**	⇑*i*	pP	14 12 03.2	-4.7
VNA2	**Neumayer--Watz**	**58.46**	**160**		pP	14 12 09.8	+1.9
SNAA	**Sanae**	**60.08**	**160**		pP	14 12 14.3	-4.8
SNAA	**Sanae**	**60.08**	**160**		sP	14 12 20.9	-6.2
SNAA	**Sanae**	**60.08**	**160**	P	**P**	**14 12 00.4**	**-0.3**
	comp=N,0.2nm,0.6s,mb3.3,baz=270,slow=10,SNR=4.3						
SNAA				pP	pP	14 12 15.5	-3.6
	comp=N,0.4nm,0.8s,baz=283,slow=8.9,SNR=3.1						
SNAA				sP	sP	14 12 21.8	-5.4
	comp=N,0.5nm,0.8s,baz=250,slow=11,SNR=3.1						
QSPA	**South Pole Qui**	**65.78**	**180**	*e*P	pP	14 12 56.0	-0.9
DBIC	**Dimbokro**	**71.12**	**73**	P	**P**	**14 13 11.2**	**-1.0**
	comp=N,2.0nm,0.6s,mb4.1,baz=184,slow=8.9,SNR=4.4						
DBIC				sP	sP	14 13 33.6	-5.0
	comp=N,5.2nm,0.8s,baz=202,slow=6.7,SNR=4.0						
NVAR	**Mina Array Bea**	**76.82**	**323**	pP	pP	14 14 08.7	+4.7
	comp=N,0.2nm,0.5s,baz=135,slow=5.1,SNR=1.8						
NVAR				sP	sP	14 14 14.8	+3.0
	comp=N,0.2nm,0.5s,baz=177,slow=4.5,SNR=3.1						
MAW	**Mawson**	**82.00**	**164**	P	**P**	**14 14 12.9**	**+0.7**
	comp=N,0.9nm,0.5s,mb3.9,baz=191,slow=7.3,SNR=4.8						
ASAR	**Alice Springs**	**126.58**	**208**	PKP	PKPdf	14 20 59.5	+4.7
	comp=N,0.5nm,0.9s,baz=180,slow=1.8,SNR=4.8						
ASAR				pPKP		14 21 15.8	
	comp=N,0.5nm,1.0s,baz=135,slow=1.6,SNR=2.6						
WRA	**Warramunga Arr**	**129.63**	**211**	pPKP		14 21 22.0	
	comp=N,0.4nm,0.7s,baz=151,slow=1.8,SNR=4.6						
ZAL	**Zalesovo**	**145.28**	**26**	PKPbc	PKPbc	14 21 33.2	+4.5
	comp=N,5.8nm,0.9s,baz=71,slow=4.7,SNR=24						
ZAL				pPKPbc		14 21 49.0	
	comp=N,2.9nm,0.8s,baz=79,slow=4.5,SNR=3.3						
ZAL	**Zalesovo**	**145.28**	**26**	PKPbc	PKPbc	14 21 33.2	+4.5
ZAL				pPKPbc		14 21 49.0	
MKAR	**Makanchi Array**	**148.94**	**37**	PKPbc	PKPdf	14 21 43.0	+8.5
	comp=N,3.1nm,0.7s,baz=323,slow=2.4,SNR=23						
MKAR				pPKPbc		14 22 00.4	
	comp=N,2.0nm,0.7s,baz=298,slow=2.1,SNR=6.3						
MKAR				sPKPbc		14 22 06.7	
	comp=N,1.8nm,0.8s,baz=315,slow=1.7,SNR=5.6						

*IDC **08** 14:02:34.2±3.8, 22.94N×93.60E, mb3.4/2, mb1 3.2/3, mb1mx3.1/19, ML2.5/1, Error ellipse: s-maj=100.0km s-min=34.6km az=56.0*
ISC 08 14:02:37.9±2.0**, 23.0N**±0.2×**93.8E**±0.3**, h38**^{km}±23^{km}**, n5,** σ**1**^{s}**72**/6**, mb3.1**/2**, 2C, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**1.79**	**4**	⇑*i*P	**P**	**14 03 07.0**	**+0.1**
SHL	**Shillong**	**3.11**	**326**	⇑*i*PN	**P**	**14 03 27.0**	**+1.3**
SHL				*e*SN	**S**	**14 03 59.0**	**-3.0**
CMAR	**Chiang Mai Arr**	**6.59**	**132**	Pn	**P**	**14 04 14.3**	**-0.5**
	0.0nm,0.3s,baz=302,slow=9.9,SNR=4.6						
MKAR	**Makanchi Array**	**25.50**	**341**	P	**P**	**14 08 04.6**	**+0.2**
	0.2nm,0.4s,mb3.0,baz=173,slow=9.8,SNR=5.1						
SONM	**Songino Array**	**26.77**	**19**	P	**P**	**14 08 16.2**	**+0.1**
	0.8nm,0.9s,mb3.2,baz=210,slow=10.0,SNR=4.9						

*MOS **08** 14:35:56.5±0.9, 13.88N×120.45E, h33^{km}, mb6.6/56, MS5.8/35, Error ellipse: s-maj=9.0km s-min=4.9km az=113.0*
*IGIL **08** 14:36:05.8, 13.90N×120.60E, h105^{km}, MS5.9*
*BJI **08** 14:36:05.8, 13.92N×120.85E, h121^{km}, mB6.4, mb6.2*
*IDC **08** 14:36:06.7±0.4, 13.79N×120.68E, h115^{km}±3^{km}, mb5.6/25, mb1 5.6/26, mb1mx5.6/27, MS5.5/17, Ms1 5.5/17, ms1mx5.3/30, Error ellipse: s-maj=13.1km s-min=6.5km az=70.0*
*MAN **08** 14:36:06.1, 13.82N×120.41E, h94^{km}, mb6.4, ML5.5, MS6.2*
MAN Intensity V Puerto Galera Tagaytay City San Fernando Pampanga Malolos Bulacan Los Banos LagunaIntensity IV - Buco Talisay Batangas.
*SYO **08** 14:36:06, 13.95N×120.53E, h105^{km}, MB6.4*
*NEIC **08** 14:36:06.1±0.1, 13.93N×120.53E, h105^{km}, mb6.3/117, ME6.4, MW6.5, Error ellipse: s-maj=3.7km s-min=3.0km az=30.0 Broadband fault plane solution: P waves. NP1: ϕ_s10°, δ45°, λ130°. NP2: ϕ_s140°, δ57°, λ57°. Principal axes: T Plg62°, Azm356°; N Plg0°, Azm0°; P Plg7°, Azm253°; Moment Tensor Solution. s31 Moment tensor: Scale 10^{18} Nm; M_{rr}4.02; $M_{\theta\theta}$0.87; $M_{\phi\phi}$-4.89; $M_{r\theta}$2.85; $M_{\theta\phi}$3.53; $M_{\phi r}$1.38; Best double couple: $M_0$6.6×10^{18} NP1: ϕ_s123°, δ56°, λ42°. NP2: ϕ_s6°, δ57°, λ138°. Principal axes: T 6.54, Plg52°, Azm334°; N .03, Plg38°, Azm155°; P -6.57, Plg0°, Azm65°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Power outages occurred in the Manila area, Luzon. Felt [V PIVS] at Puerto Galera. Also felt [V PIVS] at Los Banos, Malolos, San Fernando and Tagaytay; [IV PIVS] at Buco and Talisay, Luzon. Felt on Mindoro and throughout central and southern Luzon.
*HRVD **08** 14:36:06.1±0.1, 13.91N×120.50E, h111^{km}, MW6.4/85, Centroid moment Tensor Solution. LP body waves: s85,c225;Mantle waves: s75,c156; Half duration: 4^{s}0 Moment tensor: Scale 10^{18}Nm; M_{rr}2.87±.03; $M_{\theta\theta}$0.06±.04; $M_{\phi\phi}$-2.94±.04; $M_{r\theta}$3.13±.03; $M_{\theta\phi}$2.85±.03; $M_{\phi r}$1.00±.03; Best double couple: $M_0$5.18×10^{18} NP1: ϕ_s1°, δ51°, λ144°. NP2: ϕ_s115°, δ63°, λ45°. Principal axes: T 5.6, Plg50°, Azm334°; N -.85, Plg39°, Azm140°; P -4.76, Plg7°, Azm235°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.*
ISC 08 14:36:06.6±0.2**, 13.89N**±0.02×**120.59E**±0.02**, h121**^{km}±2^{km}**, h114**^{km}±.7^{km}**: pP-P, n1066,** σ**1**^{s}**01**/984**, mb6.2**/192**, 206C-52D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.37**	**245**	*e*P	**P**	**14 36 21.4**	**-2.7**
LUBP				*e*S	**S**	**14 36 25.0**	**-12**
TGY	**Tagaytay City**	**0.40**	**58**	⇓*i*P	**P**	**14 36 23.3**	**-0.8**
TGY				*i* S	**S**	**14 36 35.8**	**-1.7**
BOAC	**Boac**	**1.29**	**109**	*e*P	**P**	**14 36 31.4**	**-0.8**
SJMP	**San Jose**	**1.51**	**160**	*e*P	**P**	**14 36 32.8**	**-1.9**
SJMP				*e*S	**S**	**14 36 52.8**	**-3.2**
POLP	**Polilio Island**	**1.55**	**57**	*e*P	**P**	**14 36 35.8**	**+0.7**
GQP	**Guinayangan**	**1.80**	**89**	⇓*i*P	**P**	**14 36 37.8**	**-0.3**
GQP				*i* S	**S**	**14 37 10.3**	**+8.4**
BUSP	**Coron**	**1.92**	**191**	*e*P	**P**	**14 36 36.4**	**-3.1**
BUSP				*e*S	**S**	**14 36 58.8**	**-5.6**
SCZP	**Santa Cruz**	**1.98**	**341**	*e*P	**P**	**14 36 39.4**	**-0.9**
OTRP	**Odiongan**	**2.06**	**137**	*e*P	**P**	**14 36 40.1**	**-1.2**
BALP	**Baler**	**2.07**	**27**	*e*P	**P**	**14 36 42.4**	**+0.9**
AUQP	**San Andres**	**2.10**	**105**	*e*P	**P**	**14 36 43.8**	**+1.9**
BCPH	**Baguio City Da**	**2.47**	**360**	⇓*i*P	**P**	**14 36 46.5**	**-0.3**
BCPH				*i* S	**S**	**14 37 19.9**	**+2.7**
BOLP	**Bolinao**	**2.56**	**345**	*e*P	**P**	**14 36 47.2**	**-0.7**
KALP	**Kalibo**	**2.79**	**142**	⇓*e*P	**P**	**14 36 50.1**	**-0.8**
KALP				*i* S	**S**	**14 37 26.6**	**+2.1**
CUYO	**Cuyo Island**	**3.05**	**172**	*e*P	**P**	**14 36 51.5**	**-3.0**
RCP	**Roxas**	**3.13**	**138**	⇑*e*P	**P**	**14 36 54.7**	**-0.9**
CAUP	**Cauayan**	**3.26**	**21**	*e*P	**P**	**14 36 58.0**	**+0.7**
MMPH	**Masbate**	**3.33**	**117**	⇑*i*P	**P**	**14 36 58.3**	**+0.2**
MMPH				*i* S	**S**	**14 37 31.8**	**-5.7**
PVCP	**Virac**	**3.48**	**94**	*e*P	**P**	**14 37 00.8**	**+0.6**
PALP	**Palanan**	**3.62**	**29**	*e*P	**P**	**14 37 02.3**	**+0.3**
AAP	**Anini-y**	**3.70**	**159**	⇑*e*P	**P**	**14 36 58.0**	**-5.1**
AAP				*e*S	S	14 37 25.0	-21
ABRA	**Dolores**	**3.74**	**2**	*e*P	**P**	**14 37 02.9**	**-0.8**
GUIM	**Jordan**	**3.79**	**149**	*e*P	**P**	**14 37 03.7**	**-0.7**
CVP	**Callao Caves**	**3.97**	**17**	⇑*i*P	**P**	**14 37 06.0**	**-0.8**
APYP	**Conner**	**4.00**	**9**	*e*P	**P**	**14 37 07.9**	**+0.7**
CNP	**Catarman**	**4.20**	**109**	*e*P	**P**	**14 37 11.2**	**+1.3**
PIP	**Pasuquin**	**4.41**	**0**	⇑*i*P	**P**	**14 37 13.7**	**+1.0**
PIP				*i* S	**S**	**14 38 08.7**	**+5.3**
PPR	**Puerto Princes**	**4.48**	**204**	⇑*i*P	**P**	**14 37 11.7**	**-1.9**
PPR				*i* S	**S**	**14 38 00.7**	**-4.5**
SGCP	**Mt. Cagua**	**4.55**	**18**	*e*P	**P**	**14 37 15.1**	**+0.5**
OCLP	**Ormoc**	**4.84**	**125**	*e*P	**P**	**14 37 20.2**	**+1.7**
LLP	**Lapu-Lapu**	**4.85**	**137**	⇑*e*P	**P**	**14 37 18.8**	**+0.1**
LLP				*i* S	**S**	**14 38 16.3**	**+2.1**
PLP	**Palo**	**5.07**	**122**	*e*P	**P**	**14 37 23.2**	**+1.6**
SNPH	**Sibulan**	**5.21**	**150**	*e*P	**P**	**14 37 24.0**	**+0.5**
SNPH				*i* S	**S**	**14 38 25.0**	**+2.1**
BESP	**Borongan**	**5.25**	**115**	*e*P	**P**	**14 37 23.9**	**-0.1**
TBP	**Tagbilaran**	**5.26**	**142**	*e*P	**P**	**14 37 24.8**	**+0.6**
TBP				*i* S	**S**	**14 38 22.8**	**-1.4**
MSLP	**Maasin**	**5.60**	**131**	*e*P	**P**	**14 37 30.0**	**+1.2**
BATP	**Bataraza**	**5.75**	**209**	*e*P	**P**	**14 37 27.1**	**-3.7**
DCPH	**Dipolog City**	**5.93**	**153**	⇑*i*P	**P**	**14 37 32.2**	**-1.0**
SCPH	**Surigao**	**6.30**	**130**	*e*P	**P**	**14 37 40.0**	**+1.7**
SCPH				*e*S	S	14 38 07.1	-42
IPIL	**Ipil**	**6.37**	**162**	*e*P	**P**	**14 37 38.0**	**-1.2**
PAGZ	**Pagadian**	**6.60**	**155**	*e*P	**P**	**14 37 43.0**	**+0.6**
BBP	**Basco**	**6.64**	**11**	*e*P	**P**	**14 37 41.8**	**-1.2**
BUTP	**Butuan**	**6.95**	**134**	*e*P	**P**	**14 37 49.0**	**+1.8**
BUKP	**Musuan**	**7.42**	**143**	*e*P	**P**	**14 37 54.7**	**+1.3**
CTBH	**Cotabato--PC H**	**7.54**	**151**	⇓*e*P	**P**	**14 37 55.6**	**+0.5**
CTBH				*e*S	**S**	**14 39 23.2**	**+3.6**
BIPH	**Bislig**	**8.02**	**134**	*e*P	**P**	**14 38 03.3**	**+1.7**
KCP	**Kidapawan**	**8.15**	**147**	⇑*e*P	**P**	**14 38 04.4**	**+1.1**
DAV	**Davao City (W)**	**8.37**	**144**	⇓*e*P	**P**	**14 38 09.0**	**+2.7**
MATI	**Mati**	**8.87**	**141**	*e*P	**P**	**14 38 15.3**	**+2.3**
KKM	**Kota Kinabalu**	**8.91**	**209**	⇑*e*P	**P**	**14 38 13.0**	**-0.5**
HKC	**Hong Kong**	**10.35**	**325**	⇑*i*P	**P**	**14 38 32.4**	**-0.4**
HKC				*i* S	**S**	**14 40 30.0**	**+2.8**
TATO	**Taipei**	**11.06**	**4**	*e*P	**P**	**14 38 40.3**	**-1.9**
	1μm,1.6s						
QZH	**Quanzhou**	**11.15**	**351**	⇑*i*P	**P**	**14 38 43.4**	**-0.1**
QZH				S	**S**	**14 40 45.0**	**-1.3**
QZH				LR	LR		
	comp=N,30μm,11.8s						
QZH				LR	LR		
	comp=E,28μm,12.1s						
QZH				LR	LR		
	comp=Z,68μm,25.6s						
GZH	**Guangzhou**	**11.44**	**324**	P	**P**	**14 38 50.3**	**+3.1**
GZH				S	**S**	**14 40 54.2**	**+1.2**
GZH				AMB	AMB		
	comp=Z,1μm,2.0s						

GZH LR LR
comp=N,46µm,14.0s
GZH LR LR
comp=E,62µm,14.3s
GZH LR LR
comp=Z,59µm,34.8s
QIZ Qiongzhong 11.50 298 P **P** **14 38 48.4 +0.3**
QIZ S **S** **14 40 54.1 -0.5**
QIZ AMB AMB
comp=Z,1µm,1.7s
QIZ AMB AMB
comp=Z,12µm,10.2s
QIZ Qiongzhong 11.50 298 *e*Pn **P** **14 38 48.2 +0.1**
comp=Z,3µm,1.5s
QIZ *e*Sn **S** **14 40 54.0 -0.5**
JOW Kunigami 14.74 28 P **P** **14 39 30.9 +0.7**
comp=Z,5.3nm,0.3s,baz=195,slow=11,SNR=41
JOW LR LR 14 44 40.8
comp=Z,19µm,19.1s,baz=217,slow=35
UBT Ubonrachathani 15.13 277 ⇓P **P** **14 39 37.0 +1.8**
comp=Z,556nm,1.5s
SSE Sheshan 17.13 2 ⇑P **P** **14 39 59.8 -0.2**
SSE XP 14 40 34.7
SSE AMB AMB
comp=Z,19µm,12.0s
SSE LR LR
comp=N,36µm,37.7s
SSE LR LR
comp=E,36µm,37.8s
SSE LR LR
comp=Z,49µm,34.2s
TANI Tanete Lipujan 17.26 184⇓ *e*P **P** **14 40 02.2 +0.6**
KKTK Khon Kaen 17.32 280 ⇓P **P** **14 40 04.0 +1.6**
comp=Z,4µm,1.3s
WHN Wuhan 17.54 342 ⇑P **P** **14 40 05.3 +0.3**
WHN XP 14 40 37.0
WHN S **S** **14 43 21.0 +7.1**
WHN AMB AMB
comp=Z,3µm,1.5s
WHN AMB AMB
comp=Z,8µm,4.0s
WHN LR LR
comp=N,7µm,11.8s
WHN LR LR
comp=E,57µm,11.3s
WHN LR LR
comp=Z,65µm,20.0s
GYA Guiyang 18.07 316⇑ *i*P **P** **14 40 12.7 +1.6**
GYA XP 14 40 44.3
GYA S **S** **14 43 26.6 +1.1**
GYA AMB AMB
comp=Z,960nm,1.6s
GYA LR LR
comp=N,25µm,14.4s
GYA LR LR
comp=E,12µm,14.9s
GYA LR LR
comp=Z,17µm,14.9s
NJ2 Nanjing 18.14 355 *e*P **P** **14 40 12.5 +0.5**
NJ2 AP 14 40 25.0
NJ2 PP PP 14 40 30.6 +1.5
NJ2 S **S** **14 43 31.0 +3.8**
NJ2 XS 14 43 50.0
NJ2 SS SS 14 43 58.0 +1.0
NJ2 AMB AMB
comp=Z,1µm,0.8s
NJ2 AMB AMB
comp=Z,5µm,4.1s
NJ2 LR LR
comp=N,30µm,13.8s
NJ2 LR LR
comp=E,34µm,11.1s
NJ2 LR LR
comp=Z,42µm,14.2s
NINI Niniconang 18.21 183⇑ *e*P **P** **14 40 12.7 -0.2**
comp=Z,2µm,0.9s
ENH Enshi 19.25 330 P **P** **14 40 23.9 -0.1**
ENH S **S** **14 43 55.9 +5.6**
ENH ScS ScS 14 51 45.6 -0.1
ENH Enshi 19.25 330⇑ *e*P **P** **14 40 23.9 0.0**
comp=Z,13nm,0.4s
NANT Nan 19.70 287 ⇓P **P** **14 40 27.0 -1.7**
comp=Z,1µm,1.8s
NST Nakhon Sawan 19.86 278 P **P** **14 40 31.0 +0.6**
comp=Z,500nm,0.8s
KMI Kunming 20.17 306 *e*P **P** **14 40 35.6 +2.1**
KMI AP 14 40 58.1
KMI XP 14 41 12.8
KMI S **S** **14 44 20.0 +12**
KMI SCP 14 48 09.5
KMI AMB AMB
comp=Z,1µm,1.8s
KMI LR LR
comp=N,54µm,15.6s
KMI LR LR
comp=E,37µm,17.5s
KMI LR LR
comp=Z,41µm,19.5s
SNG Songkhla 20.73 253 P **P** **14 40 38.0 -1.2**
comp=Z,806nm,1.0s
BDT Bhumibol Dam 21.06 282 P **P** **14 40 44.0 +1.5**
comp=Z,158nm,1.0s,mb5.3
CM31 Chiang Mai Arr 21.27 285 *e*P **P** **14 40 46.3 +1.7**
comp=Z,4µm,1.4s,mb6.5
CMAR Chiang Mai Arr 21.27 285 P **P** **14 40 46.2 +1.5**
comp=Z,398nm,1.2s,mb5.6,baz=91,slow=9.3,SNR=414
CMAR PcP PcP 14 44 46.2 +0.5
comp=Z,12nm,0.7s,baz=99,slow=0.2,SNR=6.3
CMAR ScP 14 48 12.2
comp=Z,20nm,1.0s,baz=90,slow=1.2,SNR=6.0
CMAR LR LR 14 48 39.9
comp=Z,17µm,18.0s,baz=101,slow=35
CHG Chiang Mai 21.33 286 ⇓P **P** **14 40 46.5 +1.3**
IPM Ipoh 21.39 246⇓ *e*P **P** **14 40 46.0 +0.1**
comp=Z,136nm,0.8s,mb5.3
TIA Tai'an 22.44 353 ⇑P **P** **14 40 56.5 +0.5**
TIA S **S** **14 44 49.3 0.0**
TIA AMB AMB
comp=Z,1µm,1.6s,mb5.9
TIA AMB AMB
comp=Z,15µm,8.0s
TIA LR LR
comp=N,15µm,12.0s
TIA LR LR
comp=E,7µm,11.0s
KEDI Kedomdong 22.67 192 *e*P **P** **14 40 58.4 -0.1**
comp=E,501nm,0.9s,mb5.8
XAN Xi'an 22.68 334 P **P** **14 40 58.8 +0.4**
XAN PP PP 14 41 30.2 -0.9
XAN S **S** **14 44 57.3 +3.8**
XAN AMB AMB
comp=Z,20µm,12.8s
XAN LR LR
comp=N,20µm,22.4s
XAN LR LR
comp=E,24µm,20.0s
XAN LR LR
comp=Z,32µm,42.0s
KELI Kelakatan 22.78 196⇓ *e*P **P** **14 41 00.8 +1.2**
CD2 Chengdu 22.95 320 P **P** **14 41 01.6 +0.6**
CD2 PP PP 14 41 42.0 +7.1
CD2 AMB AMB
comp=Z,2µm,1.4s,mb6.2
CD2 AMB AMB
comp=Z,20µm,6.9s
CD2 LR LR
comp=E,30µm,12.8s
CD2 LR LR
comp=Z,14µm,15.0s
RATI Rata 23.02 193⇓ *e*P **P** **14 41 02.7 +0.8**
SRDI Scrawed 23.13 196⇓ *e*P **P** **14 41 03.9 +1.0**
comp=Z,1µm,1.0s,mb6.3
GUMO Guam 23.59 88 *e*P **P** **14 41 07.6 +0.3**
GUMO pmax pmax
comp=Z,2µm,1.1s,mb6.2
GUMO Guam 23.59 88 *e*P **P** **14 41 07.6 +0.3**
comp=Z,2µm,1.2s,mb6.2
CBIJ Chichi jima 24.07 54 P **P** **14 41 10.2 -1.6**
comp=Z,930nm,1.0s,mb6.1,baz=225,slow=5.4,SNR=34
CBIJ LR LR 14 50 34.9
comp=Z,18µm,18.9s,baz=244,slow=36
INCN Inchon 24.10 12 P **P** **14 41 12.2 +0.2**
INCN pP 14 41 39.1
INCN S **S** **14 45 25.9 +8.1**
INCN sS 14 46 10.1
INCN Inchon 24.10 12⇑ *e*P **P** **14 41 11.9 -0.1**
comp=Z,2µm,1.7s,mb6.2
INCN *e*pP 14 41 40.5
INCN *e*sP 14 41 54.0
ANAT Anatahan 24.32 81 *e*P **P** **14 41 16.0 +1.7**
MRPI Mariponipon 24.32 242⇓ *e*P **P** **14 41 14.4 0.0**
KS15 Wonju Array Si 24.34 14⇑ *i*P **P** **14 41 13.9 -0.4**
KS15 *e*pP 14 41 39.8
SARN Sarigan 24.44 80 *e*P **P** **14 41 16.6 +1.1**
PENI Pendagan 24.66 219⇑ *e*P **P** **14 41 18.5 +0.9**
comp=Z,1µm,1.1s,mb6.2
AEKI Aeknabara 24.82 244⇓ *e*P **P** **14 41 17.9 -1.2**
comp=Z,746nm,1.0s,mb6.1
DL2 Dalian 24.93 2⇑ *i*P **P** **14 41 20.0 0.0**
DL2 XP 14 41 56.8
DL2 S **S** **14 45 36.1 +4.3**
DL2 AMB AMB
comp=Z,5µm,8.7s
DL2 LR LR
comp=E,13µm,24.9s
DL2 LR LR
comp=Z,17µm,25.2s
MENI Mendum Tagoi 25.54 128⇓ *e*P **P** **14 41 26.2 +0.3**
YOMI Yo Moklole 25.73 128⇑ *e*P **P** **14 41 27.4 -0.3**
comp=Z,230nm,0.9s,mb5.6
JHJ Hachijo jima 2 25.92 39 P **P** **14 41 28.4 -0.8**
comp=Z,2µm,1.1s,mb6.3,baz=174,slow=7.3,SNR=7.4
JHJ LR LR 14 49 46.2
comp=Z,16µm,20.6s,baz=286,slow=32
BJI Beijing 26.34 352 P **P** **14 41 32.9 -0.1**
BJI XP sP 14 42 10.0 -3.0
BJI S **S** **14 45 53.9 -1.1**
BJI AMB AMB
comp=Z,1µm,1.3s,mb6.2
LZH Lanzhou 26.73 329 ⇑P **P** **14 41 37.4 +0.8**
LZH AP pP 14 41 58.0 -4.5
LZH XP sP 14 42 14.2 -2.4
LZH S **S** **14 46 05.0 +3.6**
LZH XS 14 46 48.0
LZH SCP 14 48 28.0
LZH LR LR
comp=N,71µm,12.0s
LZH LR LR
comp=Z,50µm,13.8s
IMP Imphal 27.33 297 *e*P **P** **14 41 41.0 -1.3**
MAJO Matsushiro 27.52 32 P **P** **14 41 41.3 -2.6**
MAJO Matsushiro 27.52 32⇑ *e*P **P** **14 41 41.2 -2.7**
MAJO pmax pmax
comp=Z,370nm,1.2s,mb5.8
MAJO Matsushiro 27.52 32⇑ *e*P **P** **14 41 41.2 -2.7**
comp=Z,373nm,1.3s,mb5.8
MAT Matsushiro 27.52 32 P **P** **14 41 41.0 -2.9**
MAT S **S** **14 46 19.0 +4.7**
MAT Matsushiro 27.52 32 *e*P **P** **14 41 41.0 -2.9**
comp=Z,689nm,1.5s,mb6.0
MAT *e*S **S** **14 46 20.0 +5.7**
MAT LR LR
comp=Z,11µm,20.0s
SNY Shenyang 27.95 5 ⇑P **P** **14 41 46.4 -1.3**
SNY LR LR
comp=N,16µm,27.1s
SNY LR LR
comp=E,26µm,19.4s
SNY LR LR
comp=Z,34µm,36.1s
HHC Hu-ho-hao-te 27.99 345⇑ *i*P **P** **14 41 48.1 0.0**
HHC AP pP 14 42 12.8 -1.4
HHC XP sP 14 42 25.5 -2.7
HHC PP PP 14 42 41.8 -0.6
HHC PCP PcP 14 44 54.9 -5.3
HHC S **S** **14 46 25.9 +4.1**
HHC XS 14 47 10.5
HHC AMB AMB
comp=Z,987nm,1.8s,mb6.0
HHC LR LR
comp=N,10µm,16.2s
HHC LR LR
comp=E,11µm,16.2s
HHC LR LR
comp=Z,9µm,13.4s
BTO Baotou 28.17 343 *e*P **P** **14 41 48.6 -1.1**
BTO S **S** **14 46 31.2 +6.5**
BTO AMB AMB
comp=Z,643nm,2.2s,mb5.8
BTO LR LR
comp=N,13µm,11.3s
BTO LR LR
comp=E,18µm,14.2s
SHL Shillong 29.34 298⇑ *i* Px 14 42 59.3
SHL *e*S **S** **14 46 44.3 +1.0**
AGT Agartala 29.43 294 *i* **P** **14 42 09.0 +7.9**
AGT *i* 14 43 17.0
CN2 Changchun 30.10 7 *e*P **P** **14 42 04.9 -1.9**
CN2 *e*AP pP 14 42 29.1 -4.1
CN2 PCP PcP 14 45 07.0 +1.5
CN2 *e*S **S** **14 46 54.5 -0.5**
CN2 AMB AMB
comp=Z,6µm,10.0s
CN2 LR LR
comp=N,15µm,15.0s
CN2 LR LR
comp=E,10µm,15.0s
CN2 LR LR
comp=Z,8µm,13.0s
VLA Vladivostok 30.71 16⇓ *i*P **P** **14 42 12.0 -0.2**
VLA *i* 14 43 23.0
VLA *i* S **S** **14 47 09.0 +4.3**
VLA *i* SS SS 14 49 00.0 +3.9
VLA pmax pmax
comp=Z,6µm,11.0s
VLA pmax pmax
comp=N,3µm,13.0s
VLA pmax pmax
comp=E,2µm,12.0s
VLA smax
comp=N,13µm,16.0s
VLA smax
comp=E,2µm,11.0s
VLA MLR MLR
comp=Z,13µm,15.0s
VLA MLR MLR
comp=N,12µm,17.0s
VLA MLR MLR
comp=E,4µm,13.0s
GTA Gaotai 31.32 328 P **P** **14 42 18.0 +0.4**
GTA AP pP 14 42 41.5 -2.7
GTA XP sP 14 42 54.7 -3.6
GTA PP PP 14 43 24.7 -0.3
GTA PCP PcP 14 45 10.9 +2.1
GTA S **S** **14 47 13.4 -0.9**
GTA SCP 14 48 41.4
GTA SCS ScS 14 52 38.8 +3.4
GTA AMB AMB
comp=Z,597nm,1.6s,mb6.1
GTA AMB AMB
comp=Z,6µm,11.1s
GTA LR LR
comp=N,9µm,17.1s
GTA LR LR
comp=E,12µm,14.4s
GTA LR LR
comp=Z,16µm,16.8s
LSA Lhasa 31.41 305 P **P** **14 42 20.0 +1.5**
LSA PP PP 14 43 24.2 -2.1
LSA LR LR
comp=N,16µm,34.6s
LSA LR LR
comp=E,15µm,22.5s
LSA LR LR
comp=Z,11µm,20.8s
MDJ Mudanjiang 31.57 12 P **P** **14 42 18.9 -0.8**
MDJ AP pP 14 42 41.6 -4.8
MDJ PP PP 14 43 31.3 +3.2
MDJ PCP PcP 14 45 08.2 -1.2
MDJ S **S** **14 47 21.8 +3.7**
MDJ XS 14 48 01.0
MDJ SCP 14 48 42.1
MDJ PCS 14 48 52.9
MDJ SCS ScS 14 52 40.4 +3.8
MDJ AMB AMB
comp=Z,220nm,1.1s,mb5.8
MDJ LR LR
comp=N,24µm,38.1s
MDJ LR LR
comp=E,11µm,22.1s
MDJ LR LR
comp=Z,28µm,38.8s
MDJ Mudanjiang 31.57 12⇑ *i*P **P** **14 42 18.7 -1.0**
comp=Z,332nm,1.2s,mb5.9
CAL Calcutta 31.77 290 *e* **P** **14 42 24.8 +3.2**
CAL *e* 14 47 28.1
FITZ Fitzroy Crossi 32.18 171 P **P** **14 42 23.1 -2.2**
comp=Z,80nm,0.8s,mb5.5,baz=3.1,slow=8.3,SNR=94
FITZ pP pP 14 42 47.3 -4.7
comp=Z,187nm,0.9s,baz=4.7,slow=10,SNR=13
WAU Wau 33.43 128 *e*P **P** **14 42 34.7 -1.4**
ERM Erimo 34.17 31 P **P** **14 42 42.5 +0.4**
comp=Z,3µm,1.3s,mb6.9,SNR=29
MBWA Marble Bar 34.84 181⇓ *i*P **P** **14 42 45.8 -2.2**
comp=Z,440nm,0.7s,mb6.4
MBWA *e*pP pP 14 43 10.5 -4.7
COCO West Island 35.01 223 *e*P **P** **14 42 48.3 -1.2**
comp=Z,807nm,1.1s,mb6.5
COCO *e*pP pP 14 43 15.2 -1.5
PMG Port Moresby 35.09 130 P **P** **14 42 49.4 -0.7**
comp=Z,67nm,0.9s,mb5.5
PMG Port Moresby 35.09 130 P **P** **14 42 49.4 -0.8**
PMG pmax pmax
comp=Z,67nm,0.9s
GUN Gumba 35.16 299 *e*P **P** **14 42 51.5 +0.9**
HIA Hailar 35.28 359⇑ *e*P **P** **14 42 50.1 -1.4**
HIA pmax pmax
comp=Z,210nm,1.1s
HIA Hailar 35.28 359⇑ *e*P **P** **14 42 50.1 -1.4**
comp=Z,210nm,1.1s,mb5.9
PKI Pulchoki 35.47 298 *e*P **P** **14 42 53.2 -0.1**
ASAJ Asahikawa 35.51 28 P **P** **14 42 53.5 0.0**
comp=Z,435nm,1.2s,mb6.3,baz=243,slow=11
ASAJ Asahikawa 35.51 28 P **P** **14 42 53.5 0.0**
ASAJ pmax pmax
comp=Z,435nm,1.2s
KKN Kakani 35.63 298 *e*P **P** **14 42 54.8 +0.1**
DMN Daman 35.74 298 *e*P **P** **14 42 55.6 +0.1**
SONM Songino Array 35.84 344 P **P** **14 42 56.5 +0.2**
comp=Z,446nm,0.9s,mb6.4,baz=164,slow=8.8,SNR=708
SONM ScP 14 48 58.1
comp=Z,11nm,0.8s,baz=177,slow=4.5,SNR=4.6
SONM Songino Array 35.84 344 P **P** **14 42 56.5 +0.2**
SONM ScP 14 48 58.1
VIS Vishakhapatnam 36.02 281 *e*P **P** **14 43 00.0 +2.0**
RAB Rabaul 36.11 118 *e*P **P** **14 43 00.5 +1.6**
WRAB Tennant Creek 36.24 158 P **P** **14 42 57.0 -2.8**
comp=Z,843nm,1.4s,mb6.5
WRAB Tennant Creek 36.24 158 *e*P **P** **14 42 56.9 -3.0**
comp=Z,399nm,1.2s,mb6.2
WRAB *e*pP pP 14 43 22.7 -4.4
WRAB *e*sP sP 14 43 38.2 -3.2
GKN Gorkha 36.24 299 *e*P **P** **14 42 59.7 -0.1**
WRA Warramunga Arr 36.24 158 P **P** **14 42 57.8 -2.1**
comp=Z,113nm,0.9s,mb5.8,baz=337,slow=9.5,SNR=106
WRA pP pP 14 43 22.7 -4.4
comp=Z,256nm,0.8s,baz=322,slow=12,SNR=22
WRA S **S** **14 48 24.5 -6.1**
comp=Z,52nm,1.1s,baz=343,slow=15,SNR=5.6
WRA ScP 14 48 58.1
comp=Z,68nm,1.2s,baz=342,slow=4.0,SNR=4.8
WRA PKPPKP 15 15 57.0
comp=Z,2.6nm,1.2s,baz=198,slow=1.4,SNR=5.1
KLR Kul'dur 36.41 12⇓ *i*P **P** **14 42 57.3 -3.7**
KLR *e*SSS SS 14 51 11.5 +5.8
KLR pmax pmax
comp=Z,210nm,1.2s,mb5.9
KLR pmax pmax
comp=N,4µm,7.5s
KLR pmax pmax
comp=E,1µm,7.5s
KLR pmax pmax
comp=Z,8µm,7.5s
KLR MLR MLR
comp=N,3µm,15.0s
KLR MLR MLR
comp=E,8µm,15.0s
KLR MLR MLR
comp=Z,11µm,15.0s
YUK Yuzh-Kuril'sk 37.00 31⇑ *i*P **P** **14 43 05.0 -1.0**
YUK *e*S **S** **14 48 42.0 +0.2**
YUK *e*SSS SS 14 51 23.0 +4.5
YUK pmax pmax
comp=E,4µm,2.5s
YUK pmax pmax
comp=Z,10µm,2.5s
YUK pmax pmax
comp=N,8µm,3.0s
YUK pmax pmax
comp=Z,1µm,1.2s,mb6.7
YUK smax
comp=N,7µm,10.0s
YUK smax
comp=E,7µm,12.0s
KOLN Koldanda 37.07 298 *e*P **P** **14 43 06.7 0.0**
comp=E,8µm,1.7s
BLSP Bilaspur 37.40 288 *e*P **P** **14 43 10.3 +0.8**
BLSP *e* 14 43 51.2
YSS Yuzh-Sakhalins 37.82 25α *i*P **P** **14 43 11.5 -1.4**
YSS *i* 14 44 44.0
YSS *e*PPP PPP 14 45 06.0 -2.3
YSS *e* 14 45 25.4
YSS *i* S **S** **14 48 54.0 -0.4**
YSS *e*SS SS 14 51 34.0 -3.3
YSS pmax pmax
comp=Z,340nm,1.3s,mb6.0
YSS pmax pmax
comp=N,110nm,1.1s
YSS pmax pmax
comp=E,430nm,1.8s
YSS pmax pmax
comp=N,3µm,7.0s
YSS pmax pmax
comp=Z,5µm,7.0s
YSS pmax pmax
comp=E,2µm,6.0s
YSS pmax pmax
comp=N,220nm,1.3s
YSS pmax pmax
comp=Z,440nm,1.3s,mb6.1
YSS smax
comp=E,4µm,18.0s
YSS smax
comp=N,6µm,19.0s
YSS MLR MLR
comp=N,8µm,17.0s
YSS MLR MLR
comp=E,9µm,17.0s
YSS MLR MLR
comp=Z,10µm,17.0s
YSS Yuzh-Sakhalins 37.82 25⇑ *i*P **P** **14 43 12.2 -0.7**
comp=Z,599nm,1.5s,mb6.2
YSS *e*pP pP 14 43 40.2 0.0
YSS *e*sP sP 14 43 51.9 -2.8
MDRS Chennai 39.21 274⇓ *e* **P** **14 43 25.0 +0.3**
MDRS *i* 14 44 03.0
MDRS *i* 14 45 28.0
MDRS *e* 14 49 17.0
MDRS *e* 14 52 18.0
JBP Jabalpur 39.48 290 *e* pP 14 43 55.9 +1.5
JBP *e* 14 49 46.6
ASAR Alice Springs 39.53 161 P **P** **14 43 26.1 -1.2**
comp=Z,74nm,0.7s,mb5.6,baz=336,slow=7.1,SNR=262
ASAR pP pP 14 43 50.6 -4.2
comp=Z,241nm,0.8s,baz=339,slow=7.2,SNR=14
ASAR ScP 14 49 09.3
comp=Z,14nm,0.8s,baz=338,slow=3.7,SNR=3.9
ASAR S **S** **14 49 15.6 -4.8**
comp=Z,15nm,1.0s,baz=314,slow=12,SNR=6.2
ASAR PKPPKP 15 15 54.6
comp=Z,1.9nm,1.0s,baz=180,slow=2.7,SNR=5.9
PALK Pallekele 39.71 265⇓ *e*P **P** **14 43 29.4 +0.6**
comp=Z,671nm,1.6s,mb6.2
PALK pP pP 14 43 56.9 +0.4
PALK *e*sP sP 14 44 05.6 -5.2
LGTI Lohaghat 40.33 299 *e*P **P** **14 43 35.0 +1.2**
LGTI *e* 14 45 10.5
PTH Pithoragarh 40.38 299 *e*P **P** **14 43 33.3 -0.9**
PTH *e* 14 49 26.0
IRK Irkutsk 40.43 345 *e*P **P** **14 43 34.3 0.0**
IRK *e* 14 43 50.9
IRK *e*S **S** **14 49 35.4 +2.1**
HYB Hyderabad 40.57 281⇓ *i*P **P** **14 43 36.5 +0.7**
comp=Z,680nm,1.0s,mb6.4
HYB *e*pP pP 14 44 03.0 -0.5
HYB *e*sP sP 14 44 15.5 -2.3

HYB ePP PP 14 45 12.0 -2.3
HYB ePcP PcP 14 45 38.5 +2.1
HYB eScP 14 49 15.0
HYB ePcS 14 49 28.5
HYB eS **S** **14 49 37.0 +1.2**
HYB esS 14 50 18.0
HYB e 14 52 14.0
HYB eScS ScS 14 53 31.5 +5.1
HYB LR LR 14 55 56.0
comp=Z,14nm,20.0s
HYB Hyderabad 40.57 281 eP **P** **14 43 36.5 +0.7**
comp=Z,680nm,1.0s,mb6.4
HYB e pP 14 44 03.0 -0.5
HYB e 14 44 15.5
HYB eS **S** **14 49 30.0 -5.8**
MOY Mondy 40.85 341 eP **P** **14 43 38.8 +1.0**
WMQ Urumqi 40.99 323⇑ iP **P** **14 43 40.4 +1.4**
WMQ AP pP 14 44 06.0 -0.7
WMQ XP sP 14 44 19.0 -1.9
WMQ PP PP 14 45 21.0 +2.8
WMQ S **S** **14 49 44.0 +2.3**
WMQ SCS ScS 14 53 31.0 +2.4
WMQ AMB AMB
comp=Z,1μm,1.5s,mb6.5
WMQ AMB AMB
comp=Z,4μm,7.5s
WMQ LR LR
comp=N,20μm,16.0s
WMQ LR LR
comp=E,15μm,16.0s
WMQ LR LR
comp=Z,16μm,18.0s
BHPL Bhopal 41.83 289 eP **P** **14 43 46.6 +0.4**
BHPL e 14 43 51.2
comp=Z,976nm,1.4s
BHPL eS **S** **14 49 53.9 -0.5**
AKL Akola 42.05 286 i **P** **14 43 55.8 +7.7**
AKL i pP 14 44 21.1 +5.3
CTA Charters Tower 42.16 143 P **P** **14 43 48.2 -0.8**
comp=Z,98nm,0.9s,mb5.5,baz=323,slow=10,SNR=84
CTA pP pP 14 44 13.7 -3.0
comp=Z,60nm,0.8s,baz=325,slow=9.3,SNR=4.0
CTAO Charters Tower 42.16 143⇓ eP **P** **14 43 47.7 -1.3**
CTAO pmax pmax
comp=Z,170nm,1.0s,mb5.7
CTAO Charters Tower 42.16 143⇓ eP **P** **14 43 47.7 -1.3**
comp=Z,166nm,1.0s,mb5.7
CTAO epP pP 14 44 13.5 -3.2
CTAO esP sP 14 44 28.6 -2.3
DDI Dehra Dun 42.39 300 eP **P** **14 43 48.0 -2.7**
DDI e 14 49 20.0
LATR Latur 42.45 282 eP **P** **14 43 52.5 +1.1**
NDI New Delhi 42.76 297⇑ iP **P** **14 43 50.0 -3.8**
NDI e 14 53 28.0
CLNS Chul'man 42.98 3 eP **P** **14 43 54.1 -1.1**
CLNS eS **S** **14 50 12.5 +1.7**
CLNS pmax pmax
comp=E,90nm,1.1s
CLNS pmax pmax
comp=Z,261nm,1.1s,mb5.9
CLNS pmax pmax
comp=N,205nm,1.2s
CLNS smax
comp=N,4μm,11.6s
CLNS smax
comp=Z,513nm,11.0s
CLNS smax
comp=E,612nm,12.6s
CLNS MLR MLR
comp=Z,12μm,15.0s
CLNS MLR MLR
comp=N,8μm,14.0s
TRD Trivandrum 43.09 268 eP **P** **14 43 57.7 +1.1**
TRD e 14 44 01.9
comp=Z,469nm,1.1s
BHK Bhakra 44.01 301 eP **P** **14 44 06.4 +2.6**
BHK e 14 46 06.6
BOD Bodaibo 44.12 355⇓ iP **P** **14 44 03.3 -1.0**
MNGI Mangalore 44.48 274 i P **P** **14 44 07.9 +0.2**
MNGI i 14 50 30.4
AJM Ajmer 44.68 294 eP **P** **14 44 08.7 -0.6**
AJM e 14 51 19.3
KAD Karad 44.75 281 eP **P** **14 44 10.9 +1.0**
KAD eS **S** **14 50 37.4 +0.6**
THN Thein Dam 44.82 302 eP **P** **14 44 09.2 -1.1**
comp=Z,89nm,0.8s,mb5.5
THN e 14 53 54.6
POO Poona 45.02 282 eP **P** **14 44 13.5 +1.5**
POO e 14 44 18.2
comp=Z,2μm,1.5s
POO eS **S** **14 50 39.9 -0.9**
GOA Goa 45.20 278 e **P** **14 44 16.8 +3.4**
GOA e 14 50 31.6
MKAR Makanchi Array 45.81 324 P **P** **14 44 18.7 +0.7**
comp=Z,148nm,0.8s,mb5.8,baz=126,slow=8.8,SNR=442
MKAR ScP 14 49 37.3
comp=Z,60nm,1.2s,baz=108,slow=7.7,SNR=3.8
MKAR LR LR 15 05 08.0
comp=Z,8μm,18.3s,baz=120,slow=38
MKAR Makanchi Array 45.81 324 i P **P** **14 44 18.7 +0.8**
MKAR pmax pmax
comp=Z,148nm,0.8s
MKAR Makanchi Array 45.81 324 P **P** **14 44 18.7 +0.7**
MKAR ScP 14 49 37.3
MKAR LR LR 15 05 08.0
BOM Bombay 46.00 283 eP **P** **14 44 18.9 -0.9**
BOM e 14 50 50.3
KWAJ Kwajalein Atol 46.32 91 eP **P** **14 44 21.6 -0.8**
comp=Z,3μm,1.6s,mb6.7
SKR Severo-Kuril's 46.62 31 eP **P** **14 44 20.5 -3.7**
SKR e 14 44 34.8
SKR eS **S** **14 51 01.4 -1.6**
SKR pmax pmax
comp=N,3μm,6.0s
SKR pmax pmax
comp=Z,7μm,6.0s
SKR pmax pmax
comp=E,5μm,8.0s
SKR pmax pmax
comp=Z,450nm,1.0s,mb6.2
SKR pmax pmax
comp=N,360nm,1.1s
SKR pmax pmax
comp=E,300nm,1.1s
SKR smax
comp=N,11nm,12.0s
SKR smax
comp=E,5.0nm,14.0s
SKR MLR MLR
comp=N,3μm,12.0s
SKR MLR MLR
comp=E,3μm,16.0s
SKR MLR MLR
comp=Z,6μm,16.0s
NWAO Narrogin (SRO) 46.66 184 P **P** **14 44 22.9 -2.0**
comp=Z,233nm,0.8s,mb6.0,baz=6.5,slow=7.1,SNR=152
NWAO pP pP 14 44 49.9 -3.1
comp=Z,377nm,1.1s,baz=331,slow=8.8,SNR=6.2
NWAO Narrogin (SRO) 46.66 184⇓ iP **P** **14 44 22.7 -2.1**
comp=Z,512nm,1.2s,mb6.1
NWAO epP pP 14 44 49.4 -3.5
KSH Kashi 46.69 312⇑ iP **P** **14 44 27.0 +2.0**
KSH AP pP 14 44 53.7 +0.6
KSH XP sP 14 45 04.2 -2.6
KSH PCP PcP 14 45 59.2 +2.1
KSH PP PP 14 46 20.8 +4.8
KSH SCP 14 49 42.1
KSH PCS 14 49 52.4
KSH S **S** **14 51 10.4 +6.2**
KSH XS 14 51 54.5
KSH SCS ScS 14 54 10.1 +5.7
KSH LR LR
comp=N,14μm,14.4s
KSH LR LR
comp=E,9μm,13.4s
AAA Alma-Ata 47.45 317 i P **P** **14 44 31.0 +0.2**
AAA eS **S** **14 51 24.0 +9.2**
AAA smax
comp=N,4μm,9.0s
AAA MLR MLR
comp=Z,8μm,12.0s
ULHL Ulahol 47.51 315 P **P** **14 44 32.9 +1.6**
SNR=48
KZA Kyzart 48.13 315 P **P** **14 44 38.1 +1.9**
SNR=24
TKM2 Tokmak 2 48.21 316 P **P** **14 44 37.9 +1.1**
SNR=367
YAK Yakutsk 48.51 6 c iP **P** **14 44 37.5 -1.3**
YAK e 14 46 28.8
YAK i S **S** **14 51 28.7 -0.7**
YAK pmax pmax
comp=Z,269nm,1.0s,mb6.1
YAK pmax pmax
comp=N,205nm,1.1s
YAK pmax pmax
comp=E,44nm,1.2s
YAK pmax pmax
comp=Z,48nm,0.9s,mb5.4
YAK pmax pmax
comp=N,66nm,1.2s
YAK pmax pmax
comp=E,31nm,1.0s
YAK smax
comp=E,17nm,1.3s
YAK smax
comp=Z,10.0nm,1.1s
YAK MLR MLR
comp=Z,4μm,15.0s
YAK MLR MLR
comp=N,2μm,14.0s
YAK MLR MLR
comp=E,3μm,17.0s
YAK Yakutsk 48.51 6⇓ iP **P** **14 44 37.2 -1.6**
comp=E,659nm,1.1s,mb6.5
YAK epP pP 14 45 02.4 -4.7
KBK Karagaybulak 48.55 315 P **P** **14 44 40.9 +1.5**
SNR=56
UCH Uchtor 48.69 315 P **P** **14 44 42.3 +1.8**
SNR=764
CHMS Chumysh 48.81 316 P **P** **14 44 42.2 +0.8**
SNR=12
ZAL Zalesovo 48.84 333 P **P** **14 44 40.9 -0.5**
comp=E,90nm,0.7s,mb5.8,baz=266,slow=5.6,SNR=167
ZAL LR LR 15 07 07.6
comp=E,11μm,18.8s,baz=250,slow=38
ZAL Zalesovo 48.84 333 P **P** **14 44 40.9 -0.5**
ZAL pmax pmax
comp=Z,90nm,0.7s
ZAL MLR MLR
comp=Z,11μm,18.8s
FRU Bishkek 48.84 315⇑ iP **P** **14 44 43.0 +1.4**
FRU pmax pmax
comp=Z,2μm,1.9s,mb6.6
FRU pmax pmax
comp=Z,11μm,10.0s
AAK Ala-Archa 48.85 315 P **P** **14 44 43.0 +1.3**
SNR=302
AAK Ala-Archa 48.85 315⇑ eP **P** **14 44 40.8 -0.9**
AAK pmax pmax
comp=Z,1μm,1.4s,mb6.7
AAK Ala-Archa 48.85 315⇑ eP **P** **14 44 40.8 -0.9**
comp=Z,1μm,1.4s,mb6.7
AAK esP sP 14 45 20.8 -2.7
BHJ Bhuj 48.96 289 eP **P** **14 44 43.4 +0.6**
BHJ eS **S** **14 51 40.9 +4.6**
USP Ospenovka 49.09 316 P **P** **14 44 44.2 +0.7**
SNR=633
AML Almayashu 49.23 314 P **P** **14 44 46.3 +1.7**
SNR=760
PET Petropavlovsk 49.31 29 c iP **P** **14 44 45.2 +0.1**
PET e 14 46 42.5
PET eS **S** **14 51 45.0 +4.3**
PET eSS SS 14 55 22.1 +12
PET pmax pmax
comp=Z,287nm,1.5s,mb6.0
PET pmax pmax
comp=Z,5μm,6.0s
PET pmax pmax
comp=Z,4μm,14.6s
PET pmax pmax
comp=N,2μm,17.4s
PET pmax pmax
comp=E,1μm,17.5s
PET smax
comp=N,11μm,21.9s
PET Petropavlovsk 49.31 29⇑ eP **P** **14 44 44.2 -0.8**
comp=N,369nm,1.3s,mb6.2
PET epP pP 14 45 14.1 +0.7
EKS2 Erkin-Say 49.36 315 P **P** **14 44 46.8 +1.2**
SNR=19
STKA Stephens Creek 49.77 156 P **P** **14 44 46.7 -2.2**
comp=N,36nm,0.7s,mb5.4,baz=334,slow=7.3,SNR=50
STKA pP pP 14 45 13.6 -3.6
comp=N,141nm,0.8s,baz=332,slow=7.5,SNR=14
STKA LR LR 15 09 35.4
comp=N,4μm,19.6s,baz=331,slow=40
STKA Stephens Creek 49.77 156 P **P** **14 44 46.7 -2.2**
STKA epP pP 14 45 13.3 -4.0
STKA pP pP 14 45 13.6 -3.6
STKA LR LR 15 09 35.4
KURK Kurchatov 49.97 326 i P **P** **14 44 50.6 +0.4**
KURK pmax pmax
comp=Z,3μm,1.3s,mb7.1
KURK Kurchatov 49.97 326⇑ iP **P** **14 44 50.5 +0.3**
comp=Z,7μm,1.4s
KURK epP pP 14 45 18.8 +0.2
NVS Novosibirsk 50.12 333 i P **P** **14 44 50.0 -1.3**
NVS pmax pmax
comp=E,754nm,1.6s
NVS pmax pmax
comp=Z,993nm,1.6s,mb6.5
NVS pmax pmax
comp=N,1μm,1.5s
MA2 Magadan 50.76 19 c eP **P** **14 44 55.5 -0.5**
MA2 e 14 46 51.6
MA2 eS **S** **14 52 09.1 +8.5**
MA2 e 14 54 34.8
MA2 pmax pmax
comp=Z,260nm,1.2s,mb6.1
MA2 MLR MLR
comp=Z,37μm,14.0s
MA2 Magadan 50.76 19⇑ iP **P** **14 44 55.1 -0.9**
comp=Z,698nm,1.4s,mb6.5
MA2 epP pP 14 45 24.5 0.0
ADE Adelaide 51.54 161⇑ iP **P** **14 45 00.6 -1.7**
SEY Seymchan 53.86 17 i P **P** **14 45 20.8 +1.7**
SEY e 14 47 23.7
SEY eS **S** **14 52 48.9 +6.1**
SEY 14 55 04.9
SEY eSS SS 14 56 26.3 +1.2
SEY pmax pmax
comp=N,100nm,0.9s
SEY pmax pmax
comp=Z,200nm,0.9s,mb6.2
SEY pmax pmax
comp=E,160nm,1.1s
SEY MLR MLR
comp=Z,32μm,21.0s
SEY MLR MLR
comp=N,12μm,20.0s
BVA0 Borovoye Array 55.55 326 i P **P** **14 45 31.4 -0.1**
BVA0 pmax pmax
comp=Z,26nm,1.0s,mb5.2
BVAR Borovoye Array 55.55 326 LR LR 15 08 08.7
comp=Z,61nm,19.4s,baz=295,slow=34
BRVK Borovoye 55.63 326⇑ iP **P** **14 45 31.8 -0.3**
BRVK pmax pmax
comp=Z,3μm,1.2s,mb7.2
BRVK Borovoye 55.63 326⇑ iP **P** **14 45 31.8 -0.3**
comp=Z,3μm,1.2s,mb7.2
BRVK epP pP 14 46 00.6 -0.4
BRVK esP sP 14 46 11.3 -3.2
BKM Butte a Klehm 56.52 122 i P **P** **14 45 38.2 -0.7**
FX1 Attu Island--F 56.81 35⇑ iP **P** **14 45 39.1 -1.4**
NOUC Port Laguerre 57.34 128 eP **P** **14 45 43.6 -1.1**
DZM Mont Dzumac 57.43 128 eP **P** **14 45 44.3 -0.9**
TIXI Tiksi 57.95 3 c iP **P** **14 45 46.0 -2.2**
TIXI e 14 47 55.9
TIXI i S **S** **14 53 41.6 +4.8**
TIXI eSS SS 14 57 36.8 +5.5
TIXI pmax pmax
comp=Z,425nm,0.9s,mb6.5
TIXI MLR MLR
comp=Z,8μm,18.0s
TIXI Tiksi 57.95 3⇑ iP **P** **14 45 46.0 -2.2**
MIDW Midway 59.07 65⇑ eP **P** **14 45 55.9 -0.7**
comp=Z,2μm,1.3s,mb6.9
TAU Tasmania Unive 61.62 158⇑ eP **P** **14 46 13.0 -0.7**
TAU pmax pmax
comp=Z,180nm,1.2s,mb6.0
TAU Tasmania Unive 61.62 158⇑ eP **P** **14 46 13.0 -0.7**
comp=Z,182nm,1.3s,mb6.0
TAU epP pP 14 46 41.5 -1.7
KIWB Kanaga Island 62.13 38 eP **P** **14 46 15.7 -1.3**
SVE Sverdlovsk 62.19 327α iP **P** **14 46 15.5 -1.8**
SVE ePPP PPP 14 50 00.0 -7.8
SVE i S **S** **14 54 32.0 +0.8**
SVE pmax pmax
comp=Z,2μm,1.2s,mb7.1
SVE pmax pmax
comp=Z,9μm,8.0s
SVE pmax pmax
comp=N,2μm,9.0s
SVE pmax pmax
comp=E,4μm,9.0s
SVE smax
comp=N,4μm,9.0s
SVE smax
comp=E,3μm,9.0s
SVE MLR MLR
comp=Z,8μm,14.0s
SVE MLR MLR
comp=N,2μm,16.0s
SVE MLR MLR
comp=E,4μm,16.0s
GSTR Great Sitkin T 62.84 38 eP **P** **14 46 21.1 -0.6**
ARU Arti 63.16 327⇑ iP **P** **14 46 22.5 -1.3**
ARU i 14 47 03.6
ARU i 14 48 42.4
ARU eS **S** **14 54 41.1 -2.4**
ARU pmax pmax
comp=Z,660nm,1.5s,mb6.3
ARU MLR MLR
comp=N,2μm,16.0s
ARU MLR MLR
comp=E,2μm,18.0s
ARU MLR MLR
comp=Z,4μm,18.0s
ARU Arti 63.16 327⇑ iP **P** **14 46 22.2 -1.5**
comp=Z,1μm,1.3s,mb6.6
ARU epP pP 14 46 51.0 -2.5
ARU esP sP 14 47 03.0 -3.8
HASS Wahat al Ahsa' 67.11 292 P **P** **14 46 49.2 -0.4**
NIKO Nikolski 67.33 38 eP **P** **14 46 49.1 -1.3**
MAK Makhachkala 68.32 311 eP **P** **14 46 56.0 -0.8**
MAK e 14 49 31.0
MAK eS S 14 55 50.0 +3.6
MAK ePS PS 14 56 16.0 -14
MAK e 14 56 41.5
MAK pmax pmax
comp=Z,10μm,8.0s
MAK smax
comp=N,5μm,10.0s
MAK smax
comp=E,5μm,10.0s
QRN Al-Qurain 68.40 296 eP **P** **14 46 56.4 -1.2**
QRN AMb AMB 14 47 03.0
comp=Z,1μm,1.6s,mb6.5
UMR Umm Al-Rimmam 68.52 297 eP **P** **14 46 57.6 -0.7**
UMR AMb AMB 14 47 02.3
comp=Z,1μm,1.3s,mb6.6
KBD Kabd 68.56 296 eP **P** **14 46 58.2 -0.4**
RDF Al-Radifah 68.71 296 eP **P** **14 46 58.9 -0.5**
RDF AMb AMB 14 47 03.2
comp=Z,2μm,1.3s,mb6.7
UNV Unalaska Valle 68.82 37⇑ eP **P** **14 46 58.1 -1.6**
comp=Z,903nm,1.3s,mb6.4
MIB Mutribah 68.82 297 eP **P** **14 46 59.0 -1.1**
MIB AMb AMB 14 47 03.5
comp=Z,1μm,1.4s,mb6.5
MUKL Al Mukalla 69.14 280⇑ eP **P** **14 47 05.1 +2.9**
RST Umm Al-Ruwaisa 69.14 297 eP **P** **14 47 01.2 -0.9**
RST AMb AMB 14 47 05.8
comp=Z,1μm,1.1s,mb6.6
TNA Tin City 69.80 25 eP **P** **14 47 05.7 +0.2**
comp=Z,147nm,1.4s,mb5.6
RYDS Riyadh 69.98 291 P **P** **14 47 06.5 -0.7**
GNI Garni 70.41 308 c iP **P** **14 47 10.2 +0.6**
GNI pmax pmax
comp=Z,2μm,1.7s
GNI Garni 70.41 308⇑ eP **P** **14 47 10.2 +0.5**
comp=Z,2μm,1.5s,mb6.8
PECR Pechory 71.07 325⇑ iP **P** **14 47 12.0 -1.3**
PECR e pP 14 47 40.6 -3.0
PECR e 14 49 55.0
PECR e 14 51 41.0
PECR i S S 14 56 18.0 -0.3
PECR e 14 56 59.0
PECR e 14 57 13.0
PECR pmax pmax
comp=Z,5μm,9.0s
PECR pmax pmax
comp=E,2μm,4.0s
PECR pmax pmax
comp=Z,3μm,4.0s
PECR smax
comp=N,4μm,10.0s
PECR smax
comp=E,3μm,10.0s
PECR MLR MLR
comp=Z,5μm,19.0s
PECR MLR MLR
comp=E,5μm,18.0s
RAYN Ar Rayn 71.09 290 P **P** **14 47 14.9 +0.9**
comp=E,5μm,1.2s,mb7.2
MZLS Mizel 71.30 291 P **P** **14 47 15.3 +0.2**
HKR Hakkari 71.31 305 P **P** **14 47 15.9 +0.9**
TVAN Van 71.52 306 i P **P** **14 47 16.5 +0.2**
VANB Van 71.53 306 i P **P** **14 47 16.8 +0.5**
GOF Gofitskoye 71.54 313⇓ iP **P** **14 47 16.0 -0.3**
GOF i 14 50 03.0
GOF i S S 14 56 26.0 +2.2
GOF i 14 57 12.0
GOF pmax pmax
comp=Z,850nm,1.8s,mb6.3
GOF pmax pmax
comp=Z,10μm,7.0s
GOF pmax pmax
comp=Z,8μm,6.0s
GOF smax
comp=N,640nm,1.8s
GOF smax
comp=N,6μm,10.0s
KARS Kars 71.65 308 eP **P** **14 47 18.7 +1.7**
KIV Kislovodsk 71.82 312⇑ iP **P** **14 47 17.5 -0.4**
KIV pmax pmax
comp=Z,2μm,1.4s,mb6.6
KIV Kislovodsk 71.82 312⇑ iP **P** **14 47 17.5 -0.4**
comp=Z,1μm,1.4s,mb6.6
KIV epP pP 14 47 47.4 -0.9
KIV esP sP 14 47 58.9 -2.6
KAMS Al Khamasin 72.38 287 P **P** **14 47 21.5 -0.1**
SDPT Sand Point 72.41 36 eP **P** **14 47 20.2 -1.0**
AFI Afiamalu 72.43 110 eP **P** **14 47 23.8 +1.8**
comp=Z,963nm,1.7s,mb6.3
BCA Borcka 72.72 309 P **P** **14 47 22.9 -0.4**
LBOS 72.81 280⇑ eP **P** **14 47 27.1 +2.7**
ARSS Ar Rass 72.83 293 P **P** **14 47 24.4 +0.1**
VRT Varto 72.94 307 i P **P** **14 47 26.4 +1.8**
ERZM Erzurum 73.02 308 i P **P** **14 47 25.9 +0.8**
EZM Erzurum 73.02 308 P **P** **14 47 26.4 +1.3**
BTMT Batman 73.05 306 P **P** **14 47 26.2 +0.9**
BEST Besiri 73.24 306 i P **P** **14 47 26.8 +0.4**
AFFS 'Afif 73.31 291 P **P** **14 47 27.3 +0.2**
TATS Tathlith 73.52 287 P **P** **14 47 28.5 +0.1**
DJNS Zahran al Janu 73.76 285 P **P** **14 47 30.5 +0.7**
BINT Bingol 73.77 307 P **P** **14 47 30.6 +1.0**
VOR Voronezh 73.90 320⇑ iP **P** **14 47 28.7 -1.3**
VOR e 14 50 12.5
VOR eS S 14 56 50.0 -0.4
VOR pmax pmax
comp=N,70nm,1.5s
VOR pmax pmax
comp=E,2μm,1.5s
VOR pmax pmax
comp=Z,2μm,1.5s,mb6.6
VOR smax
comp=N,2μm,1.6s
VOR smax
comp=E,500nm,1.6s
VOR smax
comp=Z,210nm,1.6s
HILS Ha'il 73.92 295 P **P** **14 47 31.2 +0.6**
SOC Sochi 73.99 312 i P **P** **14 47 29.4 -1.3**
SOC e 14 50 17.9

SOC *e*PPP PPP 14 51 56.3 -8.0
SOC *e*S S 14 56 51.0 -0.5
SOC *e* 14 57 23.3
SOC pmax pmax
comp=E,214nm,1.4s
SOC pmax pmax
comp=Z,519nm,1.4s,mb6.1
SOC pmax pmax
comp=N,141nm,1.5s
SOC pmax pmax
comp=Z,3μm,2.7s,mb6.5
SOC pmax pmax
comp=N,215nm,1.4s
SOC pmax pmax
comp=E,814nm,2.3s
SOC smax
comp=N,979nm,5.8s
SOC smax
comp=E,747nm,5.0s
SOC MLR MLR
comp=Z,4μm,21.0s
SOC MLR MLR
comp=N,3μm,18.0s
SOC MLR MLR
comp=E,4μm,19.0s
SOC Sochi 73.99 312⇑ *i*P **P 14 47 29.4 -1.3**
SOC *e*S S 14 56 46.6 -4.9
URZ Urewera 74.06 137 LR LR 15 18 05.4
comp=E,3μm,19.8s,baz=123,slow=34
DIY Diyarbakir 74.06 306 P **P 14 47 32.3 +1.1**
EZC Erzincan 74.22 308 *i*P **P 14 47 35.3 +3.2**
GUMT Gumushane 74.41 308 *e*P **P 14 47 34.1 +0.9**
MOS Moscow 74.69 324 *i*P **P 14 47 33.8 -0.6**
MOS *e* 14 47 53.0
MOS *e*PPP PPP 14 52 08.4 -1.9
MOS *e*S S 14 56 56.1 -2.9
MOS *e*PS 14 57 28.8
MOS *e**SS 14 57 45.9
MOS pmax pmax
comp=E,380nm,1.4s
MOS pmax pmax
comp=Z,1μm,1.4s,mb6.4
MOS pmax pmax
comp=N,310nm,1.3s
MOS pmax pmax
comp=Z,4μm,2.6s,mb6.7
MOS smax
comp=N,3μm,5.3s
MOS smax
comp=E,3μm,5.3s
MOS MLR MLR
comp=E,8μm,19.0s
MOS MLR MLR
comp=Z,8μm,19.0s
MOS Moscow 74.69 324⇑ *i*P **P 14 47 33.4 -1.0**
MOS *e*S S 14 56 55.4 -3.6
ELZG Elazig 74.98 307 *i*P **P 14 47 37.8 +1.3**
BLJS Baljurashi 75.22 287 P **P 14 47 39.1 +1.0**
FRSS Farasan al Kab 75.27 284 P **P 14 47 41.4 +2.9**
OBN Obninsk 75.32 324*c* *i*P **P 14 47 37.1 -0.9**
OBN *e* 14 50 34.5
OBN *i*S S 14 57 04.0 -2.0
OBN pmax pmax
comp=Z,2μm,1.7s,mb6.5
OBN MLR MLR
comp=Z,5μm,15.0s
OBN Obninsk 75.32 324⇑ *e*P **P 14 47 36.8 -1.2**
comp=Z,2μm,1.4s,mb6.5
OBN *e*pP pP 14 48 06.2 -2.5
OBN *e*sP sP 14 48 19.3 -2.5
OBN *e*PP PP 14 50 28.4 -1.6
MYA Malataya 75.44 306 *i*P **P 14 47 40.5 +1.5**
ANN Anapa 75.53 313*c* *i*P **P 14 47 38.4 -1.0**
ANN *e* 14 50 34.3
ANN *e*S S 14 57 07.3 -1.1
ANN *e**SS 14 57 57.9
ANN pmax pmax
comp=Z,1μm,1.6s,mb6.4
IMA Indian Mountai 75.68 25 *e*P **P 14 47 40.6 +0.8**
IMA pmax pmax
comp=Z,2μm,1.2s,mb6.8
IMA Indian Mountai 75.68 25 *e*P **P 14 47 39.9 +0.1**
LVZ Lovozero 75.71 337 *e*P **P 14 47 38.8 -1.2**
LVZ pmax pmax
comp=Z,283nm,1.2s,mb5.9
LVZ pmax pmax
comp=E,48nm,1.0s
LVZ pmax pmax
comp=Z,771nm,1.4s,mb6.2
LVZ pmax pmax
comp=E,53nm,1.3s
LVZ MLR MLR
comp=N,2μm,16.0s
LVZ MLR MLR
comp=E,3μm,17.0s
LVZ MLR MLR
comp=Z,6μm,17.0s
LVZ Lovozero 75.71 337 *i*P **P 14 47 39.9 -0.1**
APA Apatity 76.19 337⇓ *i*P **P 14 47 41.7 -1.0**
APA *i* 14 50 36.6
APA *i*PPP PPP 14 52 23.0 -1.7
APA *i*S S 14 57 14.0 -1.3
APA *i*PS PS 14 57 59.0 -12
APA pmax pmax
comp=Z,310nm,1.3s,mb5.9
APA pmax pmax
comp=Z,12μm,9.0s
GZT Gaziantep 76.22 305 *i*P **P 14 47 43.9 +0.4**
LTHS Al Lith 76.25 288 P **P 14 47 44.6 +0.7**
RSO Redoubt South 76.39 31 *e*P **P 14 47 43.4 -0.5**
RSO *e*pP pP 14 48 12.8 -1.9
KBRS Khaybar 76.39 294 P **P 14 47 46.1 +1.5**
SVST Sivas 76.41 308 *i*P **P 14 47 45.6 +1.1**
GAZ Gaziantep 76.53 305 P **P 14 47 45.9 +0.7**
TOKT Tokat 76.66 309 *i*P **P 14 47 46.5 +0.6**
SPU Mount Spurr 76.68 30 *e*P **P 14 47 44.9 -0.6**
SPU *e*pP pP 14 48 16.4 +0.2
KDAK Kodiak Island 76.69 33 P **P 14 47 45.6 -0.1**
comp=Z,2μm,1.5s,mb6.7,SNR=74
KDAK Kodiak Island 76.69 33⇑ *e*P **P 14 47 45.2 -0.5**
comp=Z,919nm,1.4s,mb6.3
KDAK *e*pP pP 14 48 15.1 -1.3
KAHT Ahir Dag 76.74 306 *i*P **P 14 47 47.3 +0.9**
KVT Kavak 76.94 309 *i*P **P 14 47 47.9 +0.5**
KIP Kipapa 77.17 71 *e*P **P 14 47 51.1 +2.0**
KIP pmax pmax
comp=Z,700nm,1.3s,mb6.2
KIP Kipapa 77.17 71 *e*P **P 14 47 51.1 +2.0**
comp=Z,696nm,1.3s,mb6.2
HON Honolulu 77.20 71 *e*P **P 14 47 51.8 +2.5**
QURS Qurayyt al Mil 77.23 299 P **P 14 47 51.2 +1.9**
COBT Iskenderun 77.37 305 *i*P **P 14 47 50.1 +0.2**
BNN Bunyan 77.38 307 P **P 14 47 50.8 +0.8**
HTY Hatay 77.52 304 P **P 14 47 51.7 +0.9**
FIB Fire Island 77.59 30 P **P 14 47 51.6 +1.0**
FIB Fire Island 77.59 30 *e*P **P 14 47 50.6 +0.1**
SLKM Skilak Lake 77.64 30 *e*P **P 14 47 49.4 -1.5**
YOZ Yozgat 77.68 308 *e*P **P 14 47 51.9 +0.3**
CEYT Ceyhan 77.71 305 *e*P **P 14 47 52.5 +0.7**
BOYT Boyabat 77.75 310 *i*P **P 14 47 51.5 -0.4**
YNBS Yanbu' al Bahr 77.77 292 P **P 14 47 53.5 +1.2**
SIM Simferopol' 77.85 314⇑ *e*P **P 14 47 52.1 -0.3**
SIM *e*S S 14 57 36.9 +3.3
MCK McKinley 77.87 27 P **P 14 47 51.8 -0.3**
MCK pmax pmax
comp=Z,590nm,1.1s,mb6.2
MCK McKinley 77.87 27⇑ *e*P **P 14 47 51.7 -0.4**
comp=Z,591nm,1.2s,mb6.2
CTKT Corum 77.94 309 *i*P **P 14 47 53.1 +0.1**
PMR Palmer 78.04 29⇑ *e*P **P 14 47 52.0 -1.0**
PMR pmax pmax
comp=Z,580nm,1.2s,mb6.2
PMR Palmer 78.04 29 *e*P **P 14 47 52.3 -0.7**
COLA College 78.20 26 P **P 14 47 53.3 -0.6**
COLA pmax pmax
comp=Z,330nm,1.1s,mb6.0
COLA College 78.20 26 *e*P **P 14 47 53.1 -0.8**
UMJS Umm Lajj 78.22 293 P **P 14 47 56.4 +1.6**
PUL Pulkovo 78.26 329 *e*P **P 14 47 53.8 -0.5**
PUL *e* 14 50 54.7
PUL pmax pmax
comp=Z,3μm,1.9s,mb6.7
PUL pmax pmax
comp=N,569nm,1.2s
PUL pmax pmax
comp=E,2μm,1.4s
PUL pmax pmax
comp=E,2μm,1.3s
PUL pmax pmax
comp=Z,1μm,1.3s,mb6.4
PUL pmax pmax
comp=N,528nm,1.2s
PUL MLR MLR
comp=Z,6μm,19.0s
PUL MLR MLR
comp=N,2μm,14.0s
PUL MLR MLR
comp=E,5μm,21.0s
PUL Pulkovo 78.26 329 *i*P **P 14 47 54.3 0.0**
HRI Mount Hermon 78.28 302 P **P 14 47 55.9 +1.0**
KEV Kevo 78.31 339 *ep* **P 14 47 53.9 -0.5**
comp=E,106nm,0.9s,mb5.6
KEV Kevo 78.31 339 *e*P **P 14 47 53.9 -0.5**
KEV pmax pmax
comp=Z,106nm,0.9s,mb5.6
BZK Bozkurt 78.34 311 P **P 14 47 55.3 +0.2**
SML Sawmill 78.39 29⇑ *e*P **P 14 47 54.5 -0.4**
SML *e*pP pP 14 48 24.4 -1.4
TBKS Tabuk 78.39 296 P **P 14 47 56.8 +1.1**
NIG Nigde 78.44 307 *i*P **P 14 47 56.7 +0.9**
TOS Tosya 78.46 310 *i*P **P 14 47 56.0 +0.3**
HMDT Nahal Hemdat 78.61 301 P **P 14 47 57.8 +1.0**
ILAR Eielson Array 78.63 26 P **P 14 47 55.1 -1.0**
comp=Z,101nm,1.1s,mb5.6,baz=271,slow=3.4,SNR=134
ILAR PKKPbc 15 06 51.5
comp=Z,1.2nm,0.9s,baz=91,slow=2.3,SNR=5.8
ILAR PKPPKP 15 14 53.5
comp=Z,4.3nm,1.1s,baz=294,slow=1.1,SNR=4.8
ILAR LR LR 15 25 41.1
comp=Z,3μm,18.6s,baz=81,slow=38
MMLI Mount Malkishu 78.67 301 P **P 14 47 58.4 +1.3**
HNTI Hanita 78.77 301 P **P 14 47 58.5 +0.9**
HNTI Hanita 78.77 301 P **P 14 47 55.4 -2.2**
CANT Cankiri 78.83 309 *e*P **P 14 47 58.4 +0.6**
DRGI Dragot 78.83 300 P **P 14 47 58.8 +0.8**
BALT Daday 78.86 310 *i*P **P 14 47 58.4 +0.5**
JMQS Jabal Moqyreh 78.86 297 P **P 14 47 59.2 +1.0**
ARCES ARCESS Array B 78.87 339 P **P 14 47 57.2 -0.2**
comp=Z,61nm,0.8s,mb5.5,baz=77,slow=7.1,SNR=144
ARCES pP pP 14 48 27.0 -1.3
comp=Z,55nm,0.9s,baz=90,slow=6.1,SNR=2.5
ARCES LR LR 15 29 23.5
comp=Z,6μm,18.2s,baz=72,slow=40
ARCES ARCESS Array B 78.87 339 P **P 14 47 57.2 -0.2**
ARCES pP pP 14 48 26.9 -1.3
ARCES LR LR 15 29 23.5
ARE0 ARCESS Array S 78.87 339 *e*P **P 14 47 57.0 -0.4**
MZDA Masada 78.90 300 P **P 14 47 59.1 +0.7**
HAF Haifa 78.94 301 P **P 14 47 59.3 +0.7**
KAMT Kaman 78.95 308 P **P 14 47 58.3 -0.2**
BRTR Keskin Array B 78.95 308 P **P 14 47 58.2 -0.2**
comp=Z,41nm,1.0s,mb5.2,baz=127,slow=6.2,SNR=62
BRTR pP pP 14 48 27.4 -2.0
comp=Z,20nm,0.9s,baz=117,slow=5.5,SNR=3.6
BRTR PKKPbc 15 06 51.5
comp=Z,0.5nm,0.4s,baz=270,slow=2.5,SNR=3.5
ELDT Eldivan 78.99 309 *i*P **P 14 47 58.8 +0.1**
OFRI 'Ofer 79.00 301 P **P 14 47 59.8 +0.9**
SLTI Sal'it 79.02 301 P **P 14 48 00.0 +1.0**
MEST Erdemli 79.04 305 *i*P **P 14 47 58.6 -0.5**
ZFRI Zfri 79.18 295 P **P 14 48 00.7 +0.8**
THY Trims Highway 79.33 27⇑ *e*P **P 14 47 60.0 -0.1**
KKH Kailua Kona 79.33 72 P **P 14 48 03.2 +2.3**
PRNI Paran 79.36 299 P **P 14 48 01.8 +0.9**
SAFT Safranbolu 79.43 310 *i*P **P 14 48 01.3 +0.3**
MASH Mash'abbe Sade 79.44 299 P **P 14 48 01.8 +0.5**
IKL Isikli 79.47 305 P **P 14 48 01.4 0.0**
JMOS Jabal al Moall 79.48 298 P **P 14 48 02.5 +1.0**
ALWS Ilw as Safayha 79.49 298 P **P 14 48 02.7 +1.0**
AYUS 'Aynunah 79.51 297 P **P 14 48 02.6 +0.9**
RTMM Retamin 79.51 299 P **P 14 48 02.2 +0.5**
EIL Elat 79.53 298 P **P 14 48 02.6 +0.8**
MBH Mount Berech 79.54 298 P **P 14 48 02.7 +0.8**
ANTO Ankara 79.57 309 *i*P **P 14 48 02.0 +0.2**
LOD Lodumlu 79.59 309 *e*P **P 14 48 02.3 +0.3**
KIH Kanekii 79.60 72⇑ *e*P **P 14 48 04.7 +2.3**
KIH *e* pP 14 48 32.8 -0.5
BDAS Al Bad' 79.61 297 P **P 14 48 03.0 +0.7**
KMTI Karmit 79.64 299 P **P 14 48 03.0 +0.6**
HAQS Haql 79.65 297 P **P 14 48 03.5 +1.0**
DIV Divide 79.71 29⇑ *e*P **P 14 48 02.2 +0.1**
comp=Z,2μm,1.4s,mb6.8
DIV *e*pP pP 14 48 32.3 -0.7
DAH Dandelion 79.72 73⇑ *e*P **P 14 48 04.3 +1.3**
DAH *e*pP pP 14 48 34.1 +0.2
MID Middleton Isla 79.72 31 *e*P **P 14 48 03.9 +1.7**
BJO Bjornoya 79.74 344 *e*P **P 14 48 05.5 +3.4**
BJO AMS AMS 15 30 33.3
comp=Z,4μm,21.4s
RCO Red Cone 79.74 72 *e*P **P 14 48 05.2 +2.0**
MWH Mokuaweoweo 79.75 72⇑ *e*P **P 14 48 06.0 +2.8**
SWH Southwest Rift 79.75 72 *e*P **P 14 48 04.6 +1.4**
KTK1 Kautokeino 79.76 339⇑ *i*P **P 14 48 01.5 -0.7**
KTK1 AMb AMB 14 48 05.4
comp=Z,329nm,1.3s,mb6.0
KTK1 *e*pP pP 14 48 33.3 +0.2
KTK1 Kautokeino 79.76 339 *e*P **P 14 48 01.2 -1.0**
comp=Z,329nm,1.3s,mb6.0
POHA Pohakuloa 79.76 72 *e*P **P 14 48 05.6 +2.4**
comp=Z,672nm,1.2s,mb6.3
KZIT Kziot 79.78 299 P **P 14 48 03.6 +0.4**
EYAK Cordova Ski Ar 79.82 30⇑ *e*P **P 14 48 02.9 +0.2**
EYAK *e*pP pP 14 48 32.5 -1.1
KAF Kangasniemi 79.84 332 *ep* **P 14 48 01.2 -1.6**
comp=Z,257nm,1.2s,mb5.9,baz=76,slow=4.9
KAF Kangasniemi 79.84 332 *e*P **P 14 48 01.2 -1.6**
KAF pmax pmax
comp=Z,257nm,1.2s,mb5.9
PLL Puu Ulaula 79.87 72⇑ *e*P **P 14 48 05.7 +1.8**
WOH Wood Valley 79.89 73 *e*P **P 14 48 05.6 +1.6**
HSP Hornsund 79.90 347 *e*P **P 14 48 03.3 +0.4**
MLH Mauna Loa 79.95 72⇑ *e*P **P 14 48 05.7 +1.4**
CSS Prodhromos 79.97 304 ⇑P **P 14 48 04.5 +0.4**
comp=Z,16nm,1.7s
CSS Prodhromos 79.97 304⇑ *e*P **P 14 48 04.4 +0.3**
comp=Z,1μm,1.3s,mb6.6
CSS *e*pP pP 14 48 34.3 -0.7
DES Desert 79.98 72⇑ *e*P **P 14 48 06.7 +2.2**
DES *e*pP pP 14 48 36.6 +1.3
SGKT Sivrigoynuk 80.01 309 *i*P **P 14 48 04.3 +0.1**
MAMC Mammari 80.02 304 ⇓P **P 14 48 06.3 +1.9**
CPK Cone Peak 80.02 72 *e*P **P 14 48 06.0 +1.3**
FINES FINESS Array B 80.07 331 P **P 14 48 03.3 -0.7**
comp=Z,270nm,1.2s,mb6.0,baz=59,slow=5.2,SNR=92
FINES pP pP 14 48 33.7 -1.3
comp=Z,48nm,0.8s,baz=104,slow=7.9,SNR=4.6
FINES S S 14 57 56.7 0.0
comp=Z,7.4nm,0.9s,baz=60,slow=15,SNR=6.2
FINES LR LR 15 24 33.3
comp=Z,4μm,21.3s,baz=77,slow=36
FINES FINESS Array B 80.07 331 *i*P **P 14 48 03.3 -0.7**
FINES pmax pmax
comp=Z,270nm,1.2s
FINES FINESS Array B 80.07 331 P **P 14 48 03.3 -0.7**
FINES pP pP 14 48 33.7 -1.3
FINES S S 14 57 56.7 0.0
FINES LR LR 15 24 33.3
AHA Ahua 80.09 72⇓ *e*P **P 14 48 06.9 +1.9**
PUH Pauahi 80.13 72⇓ *e*P **P 14 48 07.1 +1.8**
PWH Poliokeawe Pal 80.14 73 *e*P **P 14 48 06.5 +1.2**
KNHH Kane Nui o Ham 80.17 72⇓ *e*P **P 14 48 08.0 +2.5**
KONT Konya--Tatoy 80.22 307 *i*P **P 14 48 06.1 +0.7**
NGH National Guard 80.24 72⇓ *e*P **P 14 48 08.4 +2.6**
AKASG Malin Array Be 80.25 320 P **P 14 48 03.8 -1.4**
comp=Z,186nm,1.1s,mb5.8,baz=64,slow=4.7,SNR=181
AKASG S S 14 57 59.2 +0.5
comp=Z,9.5nm,1.0s,baz=69,slow=11,SNR=5.0
AKASG LR LR 15 26 20.1
comp=Z,4μm,20.1s,baz=70,slow=38
AKASG Malin Array Be 80.25 320 P **P 14 48 03.8 -1.4**
AKASG S S 14 57 59.3 +0.5
AKASG pmax pmax
comp=Z,186nm,1.1s
AKASG MLR MLR
comp=Z,4μm,20.1s
CASY Casey 80.29 184 *e*P **P 14 48 03.4 -1.8**
comp=Z,227nm,1.2s,mb5.9
VSU Vasula 80.29 328⇑ *i*P **P 14 48 04.8 -0.5**
HDMB Hadim 80.29 306 P **P 14 48 05.9 +0.1**
LEF Lefka 80.29 304 *e*P **P 14 48 06.1 +0.3**
SZAC Souni-Zanaja 80.36 303 P **P 14 48 06.6 +0.4**
MNK Minsk 80.41 324⇓ *i*P **P 14 48 04.0 -2.0**
MNK *e* 14 51 10.0
MNK *e*S S 14 58 01.0 +0.6
KIZT Kizilcal 80.43 308 *i*P **P 14 48 06.3 -0.1**
ALFC Alevga 80.52 304 P **P 14 48 07.2 +0.2**
MDU Mudurnu 80.66 309 *i*P **P 14 48 07.3 -0.3**
AKMC Akamas 80.76 304 P **P 14 48 08.6 +0.3**
PPCY Paphos 80.78 304 P **P 14 48 08.8 +0.4**
HENT Hendek 80.83 310 *i*P **P 14 48 07.7 -0.9**
IDID Didziasalis 80.88 325 *e*P **P 14 48 07.9 -0.6**
IDID AMPb AMB 14 48 12.3
comp=Z,177nm,1.2s,mb5.8
IDID *e*pP pP 14 48 39.2 -0.3
IDID *e*sP sP 14 48 50.4 -2.5
IZAR Zarasai 81.07 325 *e*P **P 14 48 08.9 -0.6**
IZAR AMPb AMB 14 48 13.2
comp=Z,156nm,1.2s,mb5.7
IZAR *e*pP pP 14 48 40.0 -0.5
TRO Tromso 81.10 340⇑ *i*P **P 14 48 07.7 -1.7**
TRO AMb AMB 14 48 12.0
comp=Z,393nm,1.5s,mb6.0
TRO *e*PP PP 14 51 05.5 -12
TRO *e*S S 14 58 05.8 -1.4
TRO AMS AMS 15 30 01.2
comp=Z,4μm,18.8s
TRO Tromso 81.10 340 *e*P **P 14 48 07.2 -2.1**
comp=Z,393nm,1.5s,mb6.0
ESKT Eskisehir 81.11 308 P **P 14 48 09.7 -0.3**
ESKT Eskisehir 81.11 308 *i*P **P 14 48 09.0 -1.0**
IIGN Ignalina 81.16 325 *e*P **P 14 48 09.4 -0.6**
IIGN AMPb AMB 14 48 13.8
comp=Z,141nm,1.2s,mb5.7
IIGN *e*pP pP 14 48 40.8 -0.2
IIGN *e*sP sP 14 48 51.7 -2.7
ISAL Salakas 81.17 325 *e*P **P 14 48 09.3 -0.7**
ISAL AMPb AMB 14 48 13.8
comp=Z,105nm,1.3s,mb5.5
ISAL *e*pP pP 14 48 40.7 -0.3
ISAL *e*sP sP 14 48 51.7 -2.7
KIS Kishinev 81.18 316α *i*P **P 14 48 08.5 -1.7**
KIS *i* 14 51 22.0
KIS *i*S S 14 58 06.0 -2.5
KIS *i* 14 58 22.0
KIS *i**SS 14 58 58.0
KIS pmax pmax
comp=Z,1μm,2.0s,mb6.3
KIS pmax pmax
comp=Z,5μm,10.0s
KIS MLR MLR
comp=E,3μm,17.0s
KIS MLR MLR
comp=Z,4μm,17.0s
KIS MLR MLR
comp=Z,4μm,16.0s
EYL Eskiyayla 81.43 310 P **P 14 48 11.9 +0.2**
DRV Dumont d'Urvil 81.60 172 P **P 14 48 21.0 +9.0**
DRV S S 14 58 19.0 +6.6
ISP Isparta 81.68 307 P **P 14 48 12.1 -1.0**
ISP Isparta 81.68 307 P **P 14 48 12.9 -0.2**
ISP pmax pmax
comp=Z,960nm,1.4s,mb6.4
BCK Bucak 81.69 306 *e*P **P 14 48 14.5 +1.3**
ANTB Antalya 81.75 306 P **P 14 48 12.7 -0.8**
HRT Hereke 81.75 310 P **P 14 48 13.2 -0.1**
ALT Altintas 81.76 308 P **P 14 48 13.8 +0.3**
DAWY Dawson 81.95 26⇑ *e*P **P 14 48 14.3 +0.4**
IAS Iasi 81.98 317 P **P 14 48 16.1 +1.7**
CFR Carcaliu 82.00 314⇑ *e*P **P 14 48 14.4 -0.1**
YLV Yalova 82.02 310 *e*P **P 14 48 14.2 -0.5**
ISK Istanbul-Kandi 82.15 310 P **P 14 48 15.2 -0.2**
PSN Preselentsi 82.26 313 *i*P **P 14 48 20.0 +4.1**
PSN Preselentsi 82.26 313⇓ *i*P **P 14 48 20.0 +4.1**
ULDT Uludag 82.28 309 *i*P **P 14 48 15.8 -0.3**
KHL Karahalli 82.35 307 *e*P **P 14 48 16.6 +0.1**
ELL Elmali 82.36 306 P **P 14 48 16.9 +0.3**
CTT Catalca 82.60 310 *e*P **P 14 48 17.4 -0.3**
BRD Bordesti 82.68 315⇓ *i*P **P 14 48 19.9 +1.9**
MIR Mirnyy 82.77 191α *i*P **P 14 48 17.3 -0.7**
MIR *e* 14 51 31.0
MIR pmax pmax
comp=Z,350nm,1.4s,mb6.0
MIR pmax pmax
comp=Z,2μm,11.0s
MIR MLR MLR
comp=Z,2μm,18.0s
VRI Vrincioaia 82.82 315 P **P 14 48 19.3 +0.6**
VRI Vrincioaia 82.82 315⇑ *i*P **P 14 48 19.4 +0.7**
DENT Denizli 82.84 307 P **P 14 48 19.1 +0.1**
DNZL Cakiroluk 82.85 307 *i*P **P 14 48 18.6 -0.4**
INK Inuvik 82.96 21 P **P 14 48 18.9 -0.1**
comp=Z,456nm,1.1s,mb6.2,baz=291,slow=5.2,SNR=88
INK PKKPbc 15 06 41.9
comp=Z,7.9nm,1.0s,baz=133,slow=4.9,SNR=6.5
INK Inuvik 82.96 21⇑ *e*P **P 14 48 18.8 -0.1**
comp=Z,839nm,1.2s,mb6.4
MANT Manisa 83.06 308 *i*P **P 14 48 19.9 -0.1**
ISR Istrita 83.11 315⇓ *i*P **P 14 48 21.5 +1.3**
BNT Bandirma 83.15 310 P **P 14 48 20.7 +0.2**
SUW Suwalki 83.18 324 *e*P **P 14 48 19.7 -0.7**
SUW *e* 14 51 35.0
SUW *e*S S 14 58 26.2 -2.5
SUW *e* 14 58 30.5
SUW MLR MLR
comp=Z,6μm,25.2s
SUW Suwalki 83.18 324 *e*P **P 14 48 19.7 -0.7**
SUW *e*PcP PcP 14 48 22.5 -2.5
SUW *e*pP pP 14 48 50.6 -0.9
SUW *e*sP sP 14 49 01.8 -3.1
SUW *e*PP PP 14 51 35.0 +0.4
SUW *e*S S 14 58 26.2 -2.5
SUW *e*SKS SKS 14 58 30.5 +3.6
SUW *e*SS 14 59 18.4
SUW Suwalki 83.18 324 *e*P **P 14 48 19.7 -0.7**
SUW *e*PcP PcP 14 48 22.5 -2.5
SUW *e*pP pP 14 48 50.6 -0.9
SUW *e*sP sP 14 49 01.8 -3.1
SUW *e*PP PP 14 51 35.0 +0.4
SUW *e*S S 14 58 26.2 -2.5
SUW *e*SKS SKS 14 58 30.5 +3.6
SUW *e*sS 14 59 18.4
SUW MLR MLR 15 24 39.2
comp=Z,6μm,25.2s
DALT Dalyan (Mudla) 83.36 306 *e*P **P 14 48 21.4 -0.2**
LOF Lofoten 83.42 339 *e*P **P 14 48 21.7 +0.4**
LOF AMb AMB 14 48 28.7
comp=Z,316nm,1.7s,mb5.9
LOF *e*pP pP 14 48 51.0 -1.5
LOF Lofoten 83.42 339 *e*P **P 14 48 21.7 +0.4**
comp=Z,316nm,1.7s,mb5.9
MLR Muntele Rosu 83.44 315⇑ *i*P **P 14 48 22.3 +0.5**
AKS Akhisar 83.55 308 P **P 14 48 22.6 +0.1**
YER Yerkesik 83.56 307 P **P 14 48 22.9 +0.3**
BUC1 Bucharest 83.64 314⇑ *e*P **P 14 48 24.0 +1.1**
JMB Yambol 83.67 312 *i*P **P 14 48 23.5 +0.4**
EDRB Edirne 83.69 311 P **P 14 48 23.4 +0.2**
LVV L'vov 83.69 320*c* *i*P **P 14 48 22.0 -1.0**
LVV *i* 14 51 43.0
LVV *i*S S 14 58 32.0 -1.8
LVV pmax pmax
comp=Z,2μm,4.5s
AYDN Tasoluk 83.76 307 *i*P **P 14 48 24.2 +0.5**
MOR8 Moi Rana 83.78 337⇑ *i*P **P 14 48 21.4 -1.7**
MOR8 AMb AMB 14 48 25.8
comp=Z,430nm,1.5s,mb6.0
MOR8 Moi Rana 83.78 337 *e*P **P 14 48 21.2 -1.9**
comp=Z,430nm,1.5s,mb6.1
KMBO Kilima Mbogo 83.80 267 P **P 14 48 26.6 +2.2**
comp=Z,130nm,1.1s,mb5.7,baz=49,slow=6.5,SNR=88
KMBO LR LR 15 22 20.3
comp=Z,4μm,19.3s,baz=81,slow=33
KMBO Kilima Mbogo 83.80 267 *e*P **P 14 48 26.1 +1.7**
comp=Z,1μm,1.8s,mb6.4
KMBO *e*pP pP 14 48 54.8 -0.8
MELS Mels 83.81 338 *e*P **P 14 48 21.8 -1.4**
ARG Arkhangelos 83.88 306 *e*P **P 14 48 24.3 0.0**
ARG Arkhangelos 83.88 306 P **P 14 48 24.7 +0.4**
MLSB Milas 83.92 307 *i*P **P 14 48 24.5 0.0**
SZH Strazhica 83.95 313 *i*P **P 14 48 24.5 0.0**

KDAG Bornova 84.07 308 *i* P **P** **14 48 24.2 -0.9**
IZM Izmir 84.07 308 P **P** **14 48 25.0 -0.2**
MTUR Matau 84.11 315⇓ *i* P **P** **14 48 20.0 -5.2**
BDRM Kayabasi 84.23 307 *i* P **P** **14 48 25.3 -0.7**
BLCB Balcova 84.24 308 *i* P **P** **14 48 26.1 +0.1**
AYVA Ayvalik 84.30 309 *i* P **P** **14 48 25.4 -0.9**
PVL Pavlikeni 84.39 313 *i* P **P** **14 48 27.0 +0.3**
PVL Pavlikeni 84.39 313⇑ *i* P **P** **14 48 27.0 +0.3**
ALN Alexandroupoli 84.42 311 *eP* **P** **14 48 26.2 -0.6**
DIM Dimitrovgrad 84.52 312 *i* P **P** **14 48 27.0 -0.3**
SMG Samos 84.55 307 *eP* **P** **14 48 28.4 +0.8**
KWP Kalwaria 84.57 320 *eP* **P** **14 48 27.8 +0.4**
KWP *e* 14 51 45.2
KWP *e* 14 58 42.5
KWP *eS* S 14 58 46.1 +3.6
KWP MLR MLR
comp=Z,5µm,30.5s
KWP Kalwaria 84.57 320 *eP* **P** **14 48 27.8 +0.4**
KWP *ePcP* PcP 14 48 30.5 -0.6
KWP *epP* pP 14 48 57.2 -1.4
KWP *esP* sP 14 49 09.7 -2.3
KWP *ePP* PP 14 51 45.2 -0.6
KWP *eSKS* SKS 14 58 42.5 +6.2
KWP *eS* S 14 58 46.1 +3.6
KWP *eSS* 14 59 32.8
KWP Kalwaria 84.57 320 *eP* **P** **14 48 27.8 +0.4**
KWP *ePcP* PcP 14 48 30.5 -0.6
KWP *epP* pP 14 48 57.2 -1.4
KWP *esP* sP 14 49 09.7 -2.3
KWP *ePP* PP 14 51 45.2 -0.6
KWP *eSKS* SKS 14 58 42.5 +6.2
KWP *eS* S 14 58 46.1 +3.6
KWP *eSS* 14 59 32.8
KWP MLR MLR 15 26 01.6
comp=Z,5µm,30.5s
PRK Paraskevi 84.63 309 *eP* **P** **14 48 27.6 -0.3**
BOZC Bozcaada 84.66 310 *i* P **P** **14 48 27.1 -1.0**
RDO Rodhopi 84.73 311 *eP* **P** **14 48 27.9 -0.5**
RDO Rodhopi 84.73 311 P **P** **14 48 28.1 -0.3**
KARP Karpathos 84.80 305 *eP* **P** **14 48 29.5 +0.6**
WAR Warsaw 84.90 322 *eP* **P** **14 48 29.1 +0.1**
WAR *eS* S 14 58 46.7 +1.1
WAR Warsaw 84.90 322 *eP* **P** **14 48 29.1 +0.1**
WAR *ePcP* PcP 14 48 31.9 -0.6
WAR *epP* pP 14 48 57.6 -2.7
WAR *esP* sP 14 49 09.9 -3.7
WAR *eSKS* SKS 14 58 37.0 -1.4
WAR *eS* S 14 58 46.7 +1.1
WAR *eScS* ScS 14 59 00.3 +5.9
WAR *eSS* 14 59 37.6
WAR LR LR
comp=Z,7µm,30.9s
WAR Warsaw 84.90 322 *eP* **P** **14 48 29.1 +0.1**
WAR *ePcP* PcP 14 48 31.9 -0.6
WAR *epP* pP 14 48 57.6 -2.7
WAR *esP* sP 14 49 09.9 -3.7
WAR *eSKS* SKS 14 58 37.0 -1.4
WAR *eS* S 14 58 46.7 +1.1
WAR *eScS* ScS 14 59 00.3 +5.9
WAR *eSS* 14 59 37.6
WAR MLR MLR 15 24 11.6
comp=Z,7µm,30.9s
KOLS Kolonicke sedl 85.03 319 *eP* **P** **14 48 30.0 +0.3**
KOLS *e* 14 48 40.7
KOLS *e* 14 49 14.3
UZH Uzhgorod 85.09 319 *eP* **P** **14 48 30.0 0.0**
UZH *e* 14 51 45.0
PLD Plovdiv 85.11 312 *i* P **P** **14 48 30.0 -0.3**
RZN Rozhen 85.20 312 *i* P **P** **14 48 30.0 -0.7**
LIA Limnos Island 85.30 310 *eP* **P** **14 48 30.2 -1.1**
NSS Namsos 85.35 336 *eP* **P** **14 48 29.0 -1.9**
NSS *e* 14 48 29.0
NSS AMb AMB 14 48 34.0
comp=Z,287nm,1.8s,mb5.9
NSS *eSKSa* 14 58 45.0
NSS AMS AMS 15 31 26.4
comp=Z,4µm,13.9s
NSS Namsos 85.35 336 *eP* **P** **14 48 29.0 -1.9**
comp=Z,287nm,1.8s,mb5.9
LOS Limnos 85.36 310 *eP* **P** **14 48 30.7 -0.9**
PGB Panagyurishte 85.38 313 *i* P **P** **14 48 31.5 -0.1**
PGB Panagyurishte 85.38 313⇑ *i* P **P** **14 48 31.5 -0.1**
RAR Rarotonga 85.57 113 LR LR 15 21 08.2
comp=Z,2µm,19.5s,baz=125,slow=32
APE Apeiranthos 85.72 307 P **P** **14 48 31.6 -1.8**
APE Apeiranthos 85.72 307 *eP* **P** **14 48 31.9 -1.5**
NVR Nevrokopi 85.91 311 *eP* **P** **14 48 33.5 -0.7**
SANT Santorini 85.94 306⇓ *eP* **P** **14 48 33.0 -1.5**
comp=Z,2µm,1.4s,mb6.9
SANT *ePP* PP 14 51 56.8 -0.4
THR1 Thera Island 85.94 306 *eP* **P** **14 48 33.3 -1.2**
MMB Musomiste 85.94 312 *i* P **P** **14 48 33.5 -0.9**
MMB Musomiste 85.94 312⇑ *i* P **P** **14 48 33.5 -0.9**
SIT Sitka 85.95 32 *eP* **P** **14 48 34.4 +0.4**
SIT pmax pmax
comp=Z,790nm,1.4s,mb6.5
SIT Sitka 85.95 32 *eP* **P** **14 48 36.5 +2.5**
THR3 Thira Island, 85.98 306 *eP* **P** **14 48 33.6 -1.0**
DJES Djerdap 86.00 315⇑ *i* P **P** **14 48 34.5 0.0**
THR5 Thira Island, 86.02 306 *eP* **P** **14 48 33.7 -1.2**
VTS Vitosha 86.06 313 *i* P **P** **14 48 35.0 +0.1**
VTS Vitosha 86.06 313⇑ *i* P **P** **14 48 35.0 +0.1**
VTS Vitosha 86.06 313 P **P** **14 48 35.2 +0.3**
OUR Ouranopolis 86.08 310 *eP* **P** **14 48 34.5 -0.6**
NPS Neapolis 86.09 305 *eP* **P** **14 48 35.4 +0.2**
NIE Niedzica 86.13 320⇑ *i* P **P** **14 48 35.9 +0.8**
NIE *ePP* PP 14 52 04.4 +6.0
SRS Serrai 86.16 311 *eP* **P** **14 48 34.3 -1.1**
OJC Ojcow 86.21 321⇑ *i* P **P** **14 48 35.7 +0.2**
OJC *e* 14 51 58.9
OJC *e* 14 58 51.7
OJC *eS* S 14 59 01.5 +3.1
OJC MLR MLR
comp=Z,5µm,19.2s
OJC Ojcow 86.21 321⇑ *i* P **P** **14 48 35.7 +0.2**
OJC *ePP* PP 14 51 58.9 -0.3
OJC *eSKS(ac)* 14 58 51.7
OJC *eS* S 14 59 01.5 +3.1
OJC MLR MLR 15 27 15.0
comp=Z,5µm,19.2s
KECS Kecovo 86.29 319 *eP* **P** **14 48 36.3 +0.4**
KECS *ePP* PP 14 51 55.9 -4.0
KKB Krupnik 86.34 312 *i* P **P** **14 48 35.5 -0.8**
KKB Krupnik 86.34 312⇑ *i* P **P** **14 48 35.5 -0.8**
DAG Danmarks Havn 86.40 351⇑ *i* P **P** **14 48 34.9 -0.9**
comp=Z,78nm,1.0s,mb5.6
PAIG Paliouri 86.41 310 *eP* **P** **14 48 35.7 -1.0**
SOH Sokhos 86.42 311 *eP* **P** **14 48 35.5 -1.2**
AOS Alonnisos 86.45 309 *eP* **P** **14 48 35.5 -1.4**
BOLS Boljevac 86.61 314⇓ *i* P **P** **14 48 37.2 -0.4**
THE Thessaloniki 86.75 311 *eP* **P** **14 48 37.0 -1.3**
GKP Gorka Klasztor 86.79 324 *eP* **P** **14 48 38.1 -0.1**
GKP *e* 14 52 05.7
GKP *e* 14 58 57.1
GKP *eS* S 14 59 08.2 +4.5
GKP MLR MLR
comp=Z,10µm,22.2s
GKP Gorka Klasztor 86.79 324 *eP* **P** **14 48 38.1 -0.1**
GKP *ePcP* PcP 14 48 40.6 -0.1
GKP *epP* pP 14 49 09.0 -0.6
GKP *esP* sP 14 49 20.8 -2.0
GKP *ePP* PP 14 52 05.7 +1.4
GKP *eSKS* SKS 14 58 57.1 +6.2
GKP *eS* S 14 59 08.2 +4.5
GKP *ePS* 14 59 48.1
GKP *eSS* 15 00 00.0
GKP LR LR
comp=Z,10µm,22.2s
GKP Gorka Klasztor 86.79 324 *eP* **P** **14 48 38.1 -0.1**
GKP *ePcP* PcP 14 48 40.6 -0.1
GKP *epP* pP 14 49 09.0 -0.6
GKP *esP* sP 14 49 20.8 -2.0
GKP *ePP* PP 14 52 05.7 +1.4
GKP *eSKS* SKS 14 58 57.1 +6.2
GKP *eS* S 14 59 08.2 +4.5
GKP *epS* 14 59 48.1
GKP *eSS* 15 00 00.0
GKP MLR MLR 15 29 15.2
comp=Z,10µm,22.2s
PSZ Piszkesteto 86.83 319⇑ *eP* **P** **14 48 38.7 +0.2**
PSZ *i* PP PP 14 52 07.9 +3.1
PSZ Piszkesteto 86.83 319⇑ *eP* **P** **14 48 38.4 -0.1**
PSZ *e* 14 52 04.7
PSZ pmax pmax
comp=Z,440nm,1.5s,mb6.2
VAY Valandovo 86.85 312⇑ *iP* **P** **14 48 37.9 -0.9**
VAY *i* pP 14 49 07.1 -3.1
NEO Neokhori 86.91 310 *eP* **P** **14 48 37.5 -1.6**
XOR Xorichti 86.92 310 *eP* **P** **14 48 37.6 -1.5**
BARS Barje 86.98 313⇑ *iP* **P** **14 48 38.9 -0.4**
SVIS Svilajnac 86.99 315⇑ *iP* **P** **14 48 37.1 -2.3**
LIKS Likavka 86.99 320 *eP* **P** **14 48 40.6 +1.3**
NB2 NORSAR Subarra 87.04 333 P **P** **14 48 38.1 -1.1**
comp=Z,609nm,1.2s,mb6.4,baz=67,slow=4.5
NB2 NORSAR Subarra 87.04 333 P **P** **14 48 38.1 -1.1**
baz=67,slow=4.6
NOA NORSAR Array B 87.04 333 P **P** **14 48 38.2 -1.0**
comp=Z,207nm,1.2s,mb5.9,baz=68,slow=4.6,SNR=52
NOA LR LR 15 33 45.1
comp=Z,5µm,18.3s,baz=70,slow=40
GRG Griva 87.08 311 *eP* **P** **14 48 38.6 -1.3**
RAC Raciborz 87.24 321 *eP* **P** **14 48 41.4 +1.0**
RAC *eSKS(ac)* 14 59 04.1
RAC *eS* S 14 59 18.0 +10
RAC MLR MLR 15 31 19.8
comp=Z,5µm,17.3s
LIT Litokhoron 87.24 311 *eP* **P** **14 48 39.3 -1.4**
LKR Lokris 87.25 309 *eP* **P** **14 48 37.7 -3.1**
NAO01 NORSAR Array S 87.27 333 *eP* **P** **14 48 39.0 -1.3**
comp=Z,226nm,1.1s,mb6.0
NAO01 *epP* pP 14 49 09.6 -2.2
NAO01 *esP* sP 14 49 22.4 -2.6
OKC Ostrava-Krasne 87.34 321⇑ *iP* **P** **14 48 41.0 +0.1**
OKC *e* 14 58 57.3
OKC MLR MLR
comp=Z,4µm,15.8s
OKC Ostrava-Krasne 87.34 321⇑ *iP* **P** **14 48 41.0 +0.1**
OKC *epP* pP 14 49 07.6 -4.8
OKC *ex* x 14 49 23.9
OKC *eSKS* SKS 14 58 57.3 +2.7
OKC *ex* x 14 59 51.1
OKC AMS AMS 15 31 10.0
comp=Z,4µm,15.8s
BEO Belgrade 87.36 315⇑ *iP* **P** **14 48 41.4 +0.2**
GVD Gavdhos 87.41 305 *eP* **P** **14 48 41.2 -0.4**
comp=Z,545nm,1.3s,mb6.3
BSD Bornholm Skovb 87.45 326 *i* P **P** **14 48 39.8 -1.5**
comp=Z,86nm,1.0s,mb5.6
BSD Bornholm Skovb 87.45 326 *i* S S 14 58 58.2 -12
BSD *i* 14 59 09.0
BSD *i* 15 00 11.7
comp=Z,4µm,19.0s
GRUS Gruza 87.45 315⇓ *iP* **P** **14 48 41.4 -0.2**
SKO Skopje 87.49 313⇑ *iP* **P** **14 48 41.3 -0.5**
comp=Z,0.5nm,1.4s
SKO *i* pP 14 49 10.7 -2.6
SKO *i* 14 49 22.8
SKO *i* PP PP 14 52 11.5 +1.1
BUD Budapest 87.52 318 *eP* **P** **14 48 42.3 +0.4**
DOMB Dombas 87.56 334 *eP* **P** **14 48 41.4 -0.3**
DOMB AMb AMB 14 48 46.4
comp=Z,249nm,1.8s,mb5.9
DOMB Dombas 87.56 334 *eP* **P** **14 48 41.4 -0.3**
comp=Z,249nm,1.8s,mb5.9
KOLL Kolacno 87.58 319 *eP* **P** **14 48 42.4 +0.3**
KOLL *esP* PcP 14 48 50.3 +6.0
KOLL *e* pP 14 49 13.7 +0.1
KOLL *e* 14 49 25.6
KOLL *ePP* PP 14 52 10.3 -0.6
KOLL Kolacno 87.58 319 *eP* **P** **14 48 42.4 +0.3**
KOLL *e* 14 48 50.3
KOLL *e* 14 52 10.3
AGG Agios Georgios 87.65 310 *eP* **P** **14 48 40.8 -2.0**
HOPOS Hopovo Monaste 87.69 316 *eP* **P** **14 48 43.2 +0.5**
OSL Oslo 87.71 332 *eP* **P** **14 48 41.4 -1.1**
OSL AMb AMB 14 48 45.3
comp=Z,291nm,1.3s,mb6.2
OSL *epP* pP 14 49 10.1 -3.8
OSL Oslo 87.71 332 *eP* **P** **14 48 41.4 -1.1**
comp=Z,58nm,1.4s,mb5.4
KZN Kozani 87.72 311 *eP* **P** **14 48 40.8 -2.2**
MORC Moravsky Berou 87.73 321⇑ *eP* **P** **14 48 43.0 +0.2**
MORC *e* 14 52 10.1
MORC pmax pmax
comp=Z,470nm,1.5s,mb6.3
MORC Moravsky Berou 87.73 321⇑ *eP* **P** **14 48 43.0 +0.2**
comp=Z,474nm,1.5s,mb6.3
MORC *epP* pP 14 49 13.4 -0.9
MORC *esP* sP 14 49 25.4 -2.1
MORC *ePP* PP 14 52 10.1 -2.1
VLI Veliai 87.82 307 *eP* **P** **14 48 41.5 -2.0**
SRO2 Moca 87.84 319 *eP* **P** **14 48 44.5 +1.1**
KYTH Kithira 87.86 307 *eP* **P** **14 48 43.0 -0.8**
FNA Florina 87.87 311 *eP* **P** **14 48 41.8 -1.9**
SRO Srobarova 87.88 319 *eP* **P** **14 48 41.4 -2.2**
PKS8 Sarbogard 87.93 318⇓ *eP* **P** **14 48 43.5 -0.3**
SRO1 Iza 87.94 319 *eP* **P** **14 48 44.7 +0.8**
PKSG 87.96 318⇓ *eP* **P** **14 48 44.4 +0.4**
MOL Molde 87.97 335 *eP* **P** **14 48 46.6 +3.0**
MOL AMb AMB 14 48 53.2
comp=Z,136nm,1.5s,mb5.8
MOL Molde 87.97 335 *eP* **P** **14 48 46.6 +3.0**
comp=Z,136nm,1.5s,mb5.8
EVR Evrytania 88.07 310 *eP* **P** **14 48 43.0 -1.8**
DLBC Dease Lake 88.09 30 P **P** **14 48 45.4 +1.1**
comp=Z,103nm,1.3s,mb5.7,baz=308,slow=5.8,SNR=21
DLBC Dease Lake 88.09 30 *eP* **P** **14 48 46.2 +1.9**
DLBC *epP* pP 14 49 14.9 -0.9
DLBC *esP* sP 14 49 28.0 -1.0
KSP Ksiaz 88.14 322⇑ *iP* **P** **14 48 45.1 +0.4**
KSP *e* 14 52 09.0
KSP *e* 14 59 01.0
KSP *eS* S 14 59 15.9 -0.6
KSP Ksiaz 88.14 322⇑ *iP* **P** **14 48 45.1 +0.4**
KSP *epP* pP 14 49 15.5 -0.8
KSP *esP* sP 14 49 27.5 -2.0
KSP *ePP* PP 14 52 09.0 -6.4
KSP *eSKS* SKS 14 59 01.0 +1.4
KSP *eS* S 14 59 15.9 -0.6
KSP Ksiaz 88.14 322 *eP* **P** **14 48 45.1 +0.4**
KSP *ePcP* PcP 14 48 47.9 +1.2
KSP *epP* pP 14 49 15.5 -0.8
KSP *esP* sP 14 49 27.6 -1.9
KSP *ePP* PP 14 52 16.5 +1.1
KSP *eSKS* SKS 14 59 04.2 +4.6
KSP *eS* S 14 59 16.6 +0.1
KSP *eScS* ScS 14 59 30.6 +9.4
KSP *epS* 14 59 54.0
KSP *esS* 15 00 03.4
KSP MLR MLR 15 26 03.5
comp=Z,11µm,28.2s
PKSM Moragy 88.16 317⇑ *iP* **P** **14 48 44.8 -0.2**
PKSM *i* 14 52 19.7
OHR Ohrid 88.19 312⇑ *iP* **P** **14 48 43.7 -1.6**
OHR ⇑ *i* 14 48 46.6
OHR *i* 14 49 24.3
NVSS Nova Varos 2 88.27 314⇓ *iP* **P** **14 48 46.0 +0.4**
PKS9 Tamasi 88.28 318⇓ *eP* **P** **14 48 46.6 +1.1**
DPC Dobruska-Polom 88.29 322⇑ *iP* **P** **14 48 45.9 +0.5**
DPC *e* 14 52 15.9
DPC *e* 14 59 04.2
DPC MLR MLR
comp=Z,5µm,16.9s
DPC Dobruska-Polom 88.29 322⇑ *iP* **P** **14 48 45.9 +0.5**
DPC *epP* pP 14 49 14.5 -2.5
DPC *ex* x 14 49 28.7
DPC *ePP* PP 14 52 15.9 -0.7
DPC *eSKS* SKS 14 59 04.2 +3.6
DPC *ex* x 14 59 56.4
DPC AMS AMS 15 32 20.0
comp=Z,5µm,16.9s
IVA Berane 88.32 314⇑ *iP* **P** **14 48 45.4 -0.4**
KONO Kongsberg 88.35 332 *eP* **P** **14 48 47.2 +17**
KONO AMS AMS 15 35 06.2
comp=Z,6µm,16.0s
PVY Plav 88.35 313⇑ *iP* **P** **14 48 44.9 -1.0**
UPC Upice 88.42 322⇑ *iP* **P** **14 48 46.1 0.0**
UPC *e* 14 52 19.5
UPC Upice 88.42 322⇑ *iP* **P** **14 48 46.1 0.0**
UPC *epP* pP 14 49 15.8 -1.8
UPC *esP* sP 14 49 28.6 -2.2
UPC *ePP* PP 14 52 19.5 +1.9
ITM Ithomi 88.47 308 *eP* **P** **14 48 45.8 -0.9**
RGN Rugen 88.51 326 *eP* **P** **14 48 47.2 +0.8**
ZST Bratislava 88.52 319 *eP* **P** **14 48 47.4 +0.8**
ZST *e* 14 52 13.5
ZST *eS* S 14 59 06.0 -14
ZST Bratislava 88.52 319 *eP* **P** **14 48 47.4 +0.8**
ZST *e* 14 49 11.2
ZST *ePP* PP 14 52 13.5 -5.0
ZST *eS* S 14 59 06.0 -14
PLE Pljevlja 88.54 314⇑ *iP* **P** **14 48 47.4 +0.6**
COP Copenhagen 88.55 327⇑ *iP* **P** **14 48 48.4 +1.8**
comp=Z,81nm,1.0s,mb5.7
COP *i* 14 52 08.1
COP *i* S S 14 59 02.3 -18
comp=Z,2µm,19.0s
RLS Riolos of Patr 88.57 309 *eP* **P** **14 48 46.6 -0.5**
RHK1 Bakonya 88.58 317⇓ *eP* **P** **14 48 47.3 +0.4**
JAN Janina 88.58 310 *eP* **P** **14 48 46.1 -0.9**
JMIC Jan Mayen 88.59 345 *eP* **P** **14 48 48.1 +1.7**
JMIC *ePP* PP 14 52 15.9 -2.6
JMIC *eSKSa* 14 59 00.9
QSH Qafa e Shtames 88.72 312 *i* Pn **P** **14 48 47.0 -0.7**
TIR Tirane 88.80 312 *ePn* **P** **14 48 48.3 +0.2**
RES Resolute Bay 88.86 9 P **P** **14 48 47.7 +0.1**
RES pmax pmax
comp=Z,300nm,1.1s,mb6.2
RES Resolute Bay 88.86 9 *eP* **P** **14 48 47.6 0.0**
comp=Z,297nm,1.1s,mb6.2
TTG Podgorica 88.90 313⇑ *iP* **P** **14 48 47.4 -1.2**
UPM Unac-Piva 88.91 314⇑ *iP* **P** **14 48 47.8 -0.8**
NKY Niksic 88.97 314⇑ *iP* **P** **14 48 47.1 -1.7**
VKA Vienna 89.00 320⇑ *iP* **P** **14 48 49.4 +0.6**
comp=Z,2µm,3.0s
VKA *i* 14 49 32.6
comp=Z,3µm,4.0s
VKA *i* 14 52 24.8
comp=Z,3µm,5.5s
IGT Igoumenitsa 89.00 310 *eP* **P** **14 48 47.5 -1.6**
LKD Levkas 89.00 310 *eP* **P** **14 48 47.9 -1.2**
RUE Ruedersdorf 89.03 324 *eP* **P** **14 48 48.8 0.0**
comp=Z,694nm,1.3s,mb6.5
RUE *epP* pP 14 49 19.9 -0.6
RUE *ePP* PP 14 52 18.5 -3.9
SOP Sopron 89.04 319⇑ *e* **P** **14 48 48.8 -0.2**
SOP IPP 14 52 26.1
SOP Sopron 89.04 319⇑ *eP* **P** **14 48 48.8 -0.2**
SOP *i* 14 49 31.1
SOP *e* 14 52 26.1
ULC Ulcinj 89.05 313⇑ *iP* **P** **14 48 48.2 -1.0**
BUM Brajici-Budva 89.20 313⇑ *iP* **P** **14 48 48.7 -1.2**
BRY Bratogost 89.26 314⇑ *iP* **P** **14 48 49.0 -1.2**
PVCC Panska Ves 89.28 322⇑ *iP* **P** **14 48 50.4 +0.3**
PVCC *e* 14 59 11.5
PVCC MLR MLR
comp=Z,5µm,16.4s
PVCC Panska Ves 89.28 322⇑ *iP* **P** **14 48 50.4 +0.3**
PVCC *epP* pP 14 49 19.8 -1.9
PVCC *esP* sP 14 49 33.0 -1.9
PVCC *eSKS* SKS 14 59 11.5 +4.9
PVCC *ex* x 15 00 00.4
PVCC AMS AMS 15 37 00.0
comp=Z,5µm,16.4s
KEK Kerkira 89.34 311 *eP* **P** **14 48 49.2 -1.4**
HCY Herceg Novi 89.44 314⇑ *iP* **P** **14 48 49.9 -1.1**
PRU Pruhonice 89.49 322⇑ *iP* **P** **14 48 51.1 0.0**
PRU *e* 14 52 25.8
PRU *e* 14 59 11.9
PRU *i* 14 59 31.6
PRU pmax pmax
comp=Z,365nm,1.5s,mb6.2
PRU MLR MLR
comp=Z,4µm,19.0s
PRU Pruhonice 89.49 322⇑ *iP* **P** **14 48 51.1 0.0**
comp=Z,365nm,1.5s,mb6.2
PRU *epP* pP 14 49 19.8 -2.9
PRU *esP* sP 14 49 30.8 -5.1
PRU *ePP* PP 14 52 25.8 -0.4
PRU *eSKS* SKS 14 59 11.9 +4.0
PRU *iS* S 14 59 31.6 +2.6
PRU *ex* x 15 00 03.6
PRU AMS AMS 15 32 40.0
comp=Z,4µm,19.0s
BRG Berggiesshubel 89.52 323 *i* P **P** **14 48 51.4 +0.2**
BRG *e* 14 52 26.9
BRG *i* S S 14 59 39.0 +10
BRG *i* SS SS 15 05 41.0 +10
BRG pmax pmax
comp=Z,399nm,1.4s,mb6.3
BRG MLR MLR
comp=N,6µm,17.3s
BRG MLR MLR
comp=E,5µm,17.3s
BRG MLR MLR
comp=Z,4µm,21.9s
BRG Berggiesshubel 89.52 323 *i* P **P** **14 48 51.4 +0.2**
comp=Z,399nm,1.4s,mb6.3
BRG *i* pP 14 49 22.5 -0.3
BRG *i* 14 49 34.4
BRG *ePP* PP 14 52 26.9 +0.5
BRG *i* SKS SKS 14 59 04.0 -4.1
BRG *i* S S 14 59 39.0 +10
BRG *i* SS SS 15 05 41.0 +10
BRG LR LR
comp=Z,4µm,21.9s
ARSA Arzberg 89.85 319⇑ *iP* **P** **14 48 52.8 0.0**
comp=Z,2µm,3.3s
STON Ston 89.86 314 *i* P **P** **14 48 51.8 -1.2**
BLS5 Blasjo 89.88 332 *eP* **P** **14 48 52.4 -0.3**
BLS5 AMb AMB 14 48 56.6
comp=Z,164nm,1.3s,mb6.0
BLS5 Blasjo 89.88 332 *eP* **P** **14 48 52.4 -0.3**
comp=Z,164nm,1.3s,mb6.0
SISC Sisak 89.90 317 *i* P **P** **14 48 53.4 +0.2**
MUD Monsted U'grnd 89.91 329⇑ *iP* **P** **14 48 53.5 +0.6**
comp=Z,250nm,1.3s,mb6.2
MUD *i* 14 52 32.7
MUD *iS* S 14 59 13.3 -19
comp=Z,5µm,19.0s
CLL Collm 89.91 323⇑ *iP* **P** **14 48 52.8 -0.2**
comp=Z,logA/T=2.4,mb6.3
CLL *i* *PP pP 14 49 24.2 -0.5
CLL *i* *SP sP 14 49 35.6 -2.3
CLL *ePP PP 14 52 28.0 -1.5
CLL *e*SPP 14 53 02.0
CLL *e* 14 53 12.0
CLL *ePPP PPP 14 54 23.0 -6.5
CLL *e* 14 59 11.0
CLL *eS* S 14 59 42.0 +9.2
CLL *e*SS 15 00 25.0
CLL *eSP* SP 15 00 42.0 -0.5
CLL *e* 15 01 28.0
CLL Collm 89.91 323⇑ *iP* **P** **14 48 52.8 -0.2**
CLL pmax pmax
comp=Z,341nm,1.4s,mb6.3
CLL MLR MLR
comp=Z,5µm,18.5s
CLL Collm 89.91 323⇑ *iP* **P** **14 48 52.8 -0.2**
comp=Z,341nm,1.4s,mb6.3
CLL *i* pP pP 14 49 24.2 -0.5
CLL *eSKS* SKS 14 59 11.0 +0.5
CLL LR LR
comp=Z,5µm,18.5s
MBAR Mbarara 90.00 269 P **P** **14 48 54.9 +0.5**
comp=Z,526nm,1.1s,mb6.6,SNR=61
MBAR Mbarara 90.00 269 *eP* **P** **14 48 54.8 +0.4**
comp=Z,188nm,1.4s,mb6.0
MBAR *epP* pP 14 49 24.7 -1.3
MBAR *esP* sP 14 49 36.1 -3.1
GROS Grobnik 90.14 318 P **P** **14 48 54.5 +0.3**
GOLS Golise 90.21 318 *eP* **P** **14 48 54.4 -0.2**
DOBS Dobrina 90.26 318 P **P** **14 48 54.8 0.0**
PERS Pernice 90.32 318 *eP* **P** **14 48 54.8 -0.3**
BSEG Bad Segeberg 90.38 326 *eP* **P** **14 48 55.1 -0.1**
BSEG pmax pmax
comp=Z,287nm,1.3s,mb6.2
LCI Lecce 90.38 312 *eP* **P** **14 48 54.9 -0.6**
CRES Cresnjev 90.39 318 P **P** **14 48 55.7 +0.3**
KHC Kasperske Hory 90.39 321⇑ *iP* **P** **14 48 55.4 +0.1**
KHC *e* 14 52 36.4
KHC *e* 14 59 15.9
KHC MLR MLR
comp=Z,4µm,16.9s
KHC Kasperske Hory 90.39 321⇑ *iP* **P** **14 48 55.4 +0.1**
KHC *epP* pP 14 49 21.8 -5.2

KHC ex x 14 49 38.2
KHC eP PP 14 52 36.4 +3.0
KHC eSKS SKS 14 59 15.9 +2.6
KHC ex x 15 00 07.6
KHC AMS AMS 15 38 20.0
comp=Z,4µm,16.9s
GEC2 GERESS Array S 90.42 321 eP **P** **14 48 55.5 0.0**
GEC2 pmax pmax
comp=Z,493nm,1.6s,mb6.4
GEC2 GERESS Array S 90.42 321 eP **P** **14 48 55.5 0.0**
comp=Z,493nm,1.6s,mb6.4
GERES GERESS Array B 90.42 321 P **P** **14 48 55.6 +0.1**
comp=Z,204nm,1.3s,mb6.1,baz=63,slow=3.0,SNR=98
GERES pP pP 14 49 24.3 -2.9
comp=Z,19nm,0.8s,baz=72,slow=4.2,SNR=5.3
GERES PP PP 14 52 36.6 +3.0
comp=Z,27nm,1.2s,baz=90,slow=6.7,SNR=6.1
GERES ScS ScS 14 59 43.9 +3.8
comp=Z,0.2nm,0.2s,baz=76,slow=11,SNR=3.6
GERES PKKPbc 15 06 23.2
comp=Z,0.4nm,0.4s,baz=225,slow=1.9,SNR=5.0
GERES GERESS Array B 90.42 321 P **P** **14 48 55.6 +0.1**
GERES 14 52 36.6
GERES 14 59 43.9
GERES pmax pmax
comp=Z,204nm,1.3s
GERES pmax pmax
comp=Z,27nm,1.2s
MOA Molln 90.43 320⇑ *i*P **P** **14 48 55.8 +0.2**
comp=Z,1µm,2.0s,mb6.7
LEGS Legarje 90.43 318 P **P** **14 48 56.1 +0.5**
KMR Kremsmunster 90.44 320c *i*P **P** **14 48 56.6 +1.0**
KMR *i* 14 49 39.4
KMR Kremsmunster 90.44 320⇑ *i*P **P** **14 48 56.6 +1.0**
KMR *i* 14 49 39.4
PDKS Podkum 90.60 318 P **P** **14 48 56.6 +0.2**
BOJS Bojanci 90.63 317⇑ *e*P **P** **14 48 56.7 +0.1**
NKC Novy Kostel 90.65 322⇑ *i*P **P** **14 48 56.7 +0.2**
NKC *e* 14 52 35.0
NKC *e* 14 59 17.3
NKC MLR MLR
comp=Z,5µm,18.8s
NKC Novy Kostel 90.65 322⇑ *i*P **P** **14 48 56.7 +0.2**
NKC *e*pP pP 14 49 25.8 -2.4
NKC *e*sP sP 14 49 38.7 -2.7
NKC *e*PP PP 14 52 35.0 -0.4
NKC *e*SKS SKS 14 59 17.3 +2.4
NKC *e*S S 15 00 10.1 +31
NKC AMS AMS 15 34 00.0
comp=Z,5µm,18.8s
OBKA Obir 90.73 318⇑ *i*P **P** **14 48 56.8 -0.2**
comp=Z,2µm,4.0s
VISS Visnje 90.80 318 eP **P** **14 48 56.9 -0.5**
WET Wettzell 90.81 321 eP **P** **14 48 57.5 +0.2**
WET pmax pmax
comp=Z,372nm,1.5s,mb6.3
WET Wettzell 90.81 321 eP **P** **14 48 57.5 +0.2**
comp=Z,372nm,1.5s,mb6.3
LJU Ljubljana 90.92 318⇑ *i*P **P** **14 48 57.6 -0.3**
LJU *e* 14 49 00.5
LJU *e* pP 14 49 27.9 -1.6
LJU *e* 14 49 40.5
LJU *e*PP PP 14 52 40.7 +3.0
LJU *e* 14 53 19.2
LJU *e* 14 54 40.7
LJU *e*SKSac 14 59 20.4
LJU *e* 14 59 42.9
LJU *e*S S 15 00 08.7 +27
LJU *e*PS PS 15 01 15.1 +4.7
LJU *e*SS SS 15 05 50.5 -0.7
MOX Moxa 90.98 323 *i*P **P** **14 48 57.8 -0.3**
comp=Z,logA/T=2.4,mb6.3
MOX pP pP 14 49 28.0 -1.8
MOX PP PP 14 52 29.0 -9.0
MOX SKS SKS 14 59 22.0 +5.2
MOX LQ 15 12 43.0
MOX LR LR 15 18 52.0
MOX L 15 36 33.0
MOX Moxa 90.98 323 eP **P** **14 48 57.8 -0.3**
MOX pmax pmax
comp=Z,385nm,1.6s,mb6.3
MOX MLR MLR
comp=Z,3µm,19.0s
MOX Moxa 90.98 323 eP **P** **14 48 57.8 -0.3**
comp=Z,385nm,1.6s,mb6.3
MOX *e* pP 14 49 27.6 -2.2
MOX *e* 14 52 28.9
MOX LR LR
comp=Z,3µm,19.0s
CEY Cerknica 91.09 318 P **P** **14 48 58.6 -0.1**
CLZ Clausthal 91.21 324 eP **P** **14 48 59.1 0.0**
comp=Z,534nm,1.5s,mb6.5
NVLJ Novalja 91.22 317⇑ *i*P **P** **14 48 58.1 -1.2**
MAW Mawson 91.24 199 P **P** **14 48 59.0 +0.1**
comp=Z,84nm,1.1s,mb5.8,baz=41,slow=5.9,SNR=53
MAW pP pP 14 49 28.1 -2.5
comp=Z,24nm,0.8s,baz=55,slow=12,SNR=3.2
KBA Koelnbreinsper 91.30 319⇑ *i*P **P** **14 48 59.0 -0.6**
comp=Z,1µm,4.8s
VOY Vojsko 91.33 318 eP **P** **14 48 58.8 -1.0**
VOY *e* 14 49 18.0
FGMS Monte Sant'Ang 91.47 314 eP **P** **14 49 00.4 -0.2**
ROBS Robic 91.50 318 eP **P** **14 48 59.7 -1.0**
TRI Trieste 91.53 318 eP **P** **14 49 00.6 -0.1**
PTCC Patocco-Chiusa 91.54 319 eP **P** **14 49 00.1 -0.7**
GRA1 Grafenberg Arr 91.59 322 eP **P** **14 49 01.4 +0.5**
comp=Z,640nm,1.9s,mb6.5
GRA1 epP pP 14 49 31.0 -1.6
GRA1 esP sP 14 49 43.5 -2.3
GRA1 ePP PP 14 52 42.8 -0.1
GRA1 eS 14 59 16.8
GRA1 LR LR
comp=Z,6µm,32.2s
GRF Grafenberg Arr 91.59 322 eP **P** **14 49 01.4 +0.5**
GRF *e* 14 52 42.8
GRF pmax pmax
comp=Z,640nm,1.9s,mb6.5
GRFO Grafenberg 91.59 322 P **P** **14 49 01.4 +0.5**
GRFO PP PP 14 52 46.6 +3.7
GMNA Gemona 91.66 319 eP **P** **14 49 00.8 -0.6**
ORI Oriolo Calabro 91.67 312 eP **P** **14 49 02.5 +0.9**
RGNG Rignano Grg 91.74 314 eP **P** **14 49 01.2 -0.6**
FVI Forni Avoltri 91.84 319 eP **P** **14 49 01.7 -0.4**
TDS Terranova Siba 91.89 312 eP **P** **14 49 03.0 +0.5**
SCO Scoresbysund 91.97 348 *i*P **P** **14 49 03.7 +1.5**
comp=Z,13nm,0.9s,mb5.2
SCO *i*S PS 15 01 28.3 +6.0
FG4 Candela 91.97 313 eP **P** **14 49 02.6 -0.2**
FG2 Serracapriola 91.99 314 P **P** **14 49 03.4 +0.4**
FG5 Orsara di Pugl 92.10 313 eP **P** **14 49 03.8 +0.3**
GRI Girifalco 92.11 311 eP **P** **14 49 03.9 +0.4**
MRLC Muro Lucano 92.12 313 eP **P** **14 49 02.9 -0.7**
SEST Monte Rota 92.14 319 P **P** **14 49 02.8 -0.7**
SLCN Sala Consilina 92.15 312 eP **P** **14 49 03.5 -0.3**
CUC Castrocucco 92.15 312 P **P** **14 49 02.7 -1.0**
FUR Furstenfeldbru 92.17 321 eP **P** **14 49 04.0 +0.4**
FUR pmax pmax
comp=Z,1µm,1.9s,mb6.8
FUR Furstenfeldbru 92.17 321 eP **P** **14 49 04.0 +0.4**
comp=Z,1µm,1.9s,mb6.8
CIGN Sant'Elia a Pi 92.22 314 P **P** **14 49 03.9 -0.1**
MGR Morigerati 92.29 312 eP **P** **14 49 03.1 -1.3**
WTTA Wattenberg 92.30 320⇑ *i*P **P** **14 49 04.0 -0.2**
comp=Z,1µm,1.8s,mb6.8
WATA Walderalm 92.31 320⇓ *i*P **P** **14 49 03.9 -0.4**
comp=Z,447nm,1.5s,mb6.5
SGO Sicignano 92.32 313 eP **P** **14 49 04.0 -0.6**
MRB1 Monte Rocchett 92.36 313 eP **P** **14 49 06.6 +1.9**
CSSN Cassano Irpino 92.42 313 P **P** **14 49 04.6 -0.3**
AOI Ancona 92.44 316 P **P** **14 49 05.1 +0.1**
PSB1 Pescosannita 92.44 313 P **P** **14 49 05.2 +0.2**
YEL1 Yell 92.55 335 eP **P** **14 49 04.1 -1.0**
VTB1 Vitulano 92.58 313 P **P** **14 49 04.8 -0.9**
SQTA Sankt Quirin 92.58 320⇑ *i*P **P** **14 49 05.4 -0.2**
comp=Z,510nm,1.4s,mb6.7
YKW3 Yellowknife Ar 92.60 22 eP **P** **14 49 05.3 +0.1**
YKW3 epP pP 14 49 35.7 -1.2
MOTA Moosalm 92.60 320⇑ *i*P **P** **14 49 05.3 -0.3**
comp=Z,261nm,1.3s,mb6.4
CII Carovilli 92.62 314 eP **P** **14 49 06.1 +0.3**
SUMG Summit 92.62 354 eP **P** **14 49 05.7 +0.6**
comp=Z,236nm,1.4s,mb6.3
SOI Samo 92.63 310 P **P** **14 49 06.1 +0.1**

YKA Yellowknife Ar 92.64 22 P **P** **14 49 05.7 +0.3**
comp=Z,36nm,0.7s,mb5.8,baz=310,slow=4.2,SNR=88
YKA pP pP 14 49 34.3 -2.9
comp=Z,27nm,1.0s,baz=311,slow=4.3,SNR=2.5
YKA LR LR 15 36 25.2
comp=Z,2µm,19.8s,baz=310,slow=39
YKA Yellowknife Ar 92.64 22 P **P** **14 49 05.7 +0.3**
YKA pP pP 14 49 34.3 -2.9
YKA LR LR 15 36 25.2
HDH Heidenheim 92.65 321 eP **P** **14 49 05.5 -0.3**
HDH Heidenheim 92.65 321 P **P** **14 49 06.2 +0.4**
CPI2 Carpinone 92.66 314 eP **P** **14 49 06.5 +0.5**
SGG Gregorio Mates 92.69 314 eP **P** **14 49 05.5 -0.7**
SIND Sindeldorf 92.69 322 eP **P** **14 49 05.8 -0.2**
SIND Sindeldorf 92.69 322 P **P** **14 49 06.3 +0.3**
RNI2 Rionero Sannit 92.73 314 P **P** **14 49 06.3 -0.1**
CTI Castel Tesino 92.77 319 P **P** **14 49 06.2 -0.2**
CING Cingoli 92.78 316 eP **P** **14 49 06.7 +0.2**
TERO Teramo 92.78 315 eP **P** **14 49 06.3 -0.3**
INTR Introdacqua 92.79 314 P **P** **14 49 06.0 -0.6**
SCLL Scilla 92.82 310 eP **P** **14 49 06.3 -0.5**
LRW Lerwick 92.83 335 eP **P** **14 49 04.7 -1.6**
WIT Witteveen 92.83 326 eP **P** **14 49 08.2 +1.7**
APPI Appiano 92.87 319 P **P** **14 49 06.1 -0.8**
ARV Arcevia 92.90 316 eP **P** **14 49 07.3 +0.2**
MTTG Motta San Giov 92.92 310 eP **P** **14 49 07.4 +0.1**
SAN1 Sandwick 92.92 335 eP **P** **14 49 06.7 -0.1**
FSSB Fossombrone 92.94 316 eP **P** **14 49 07.6 +0.3**
WAL1 Walls 92.94 335 eP **P** **14 49 05.6 -1.2**
SDI San Donato 92.97 314 eP **P** **14 49 06.8 -0.6**
AQU L'Aquila 93.01 315 P **P** **14 49 07.8 +0.1**
NRCA Norcia 93.03 315 eP **P** **14 49 07.6 -0.1**
VVLD Villa Vallelon 93.04 314 P **P** **14 49 07.0 -0.8**
MSC Monte Massico 93.04 314 eP **P** **14 49 07.5 -0.3**
TOD Tromm 93.06 323 eP **P** **14 49 07.5 -0.1**
TOD Tromm 93.06 323 eP **P** **14 49 07.4 -0.2**
RSM Repubblica di 93.07 317 eP **P** **14 49 08.7 +0.8**
UBR Uberruh 93.08 321 eP **P** **14 49 07.6 -0.2**
UBR Uberruh 93.08 321 P **P** **14 49 08.1 +0.3**
PTQR Pietraquaria 93.14 315 eP **P** **14 49 08.0 -0.2**
WTSB Winterswijk 93.15 325 eP **P** **14 49 07.9 -0.1**
comp=Z,78nm,1.1s,mb6.0
WTSB *ex* x 14 49 38.9
SWS Schriesheim 93.17 323 eP **P** **14 49 08.0 -0.2**
SWS Schriesheim 93.17 323 P **P** **14 49 10.4 +2.2**
STU Stuttgart 93.18 322 eP **P** **14 49 08.0 -0.2**
STU *e* 14 52 51.3
STU pmax pmax
comp=Z,420nm,1.6s,mb6.5
STU Stuttgart 93.18 322 eP **P** **14 49 08.0 -0.3**
comp=Z,422nm,1.6s,mb6.5
STU epP pP 14 49 38.2 -1.8
STU esP sP 14 49 50.7 -2.4
STU ePP PP 14 52 51.3 -4.3
BUCH Bad Urach 93.22 322 eP **P** **14 49 08.6 +0.2**
BUCH Bad Urach 93.22 322 P **P** **14 49 08.6 +1.2**
MURB Monte Urbino 93.27 316 eP **P** **14 49 10.7 +1.9**
SLNA Salina 93.36 311 P **P** **14 49 08.7 -0.6**
DAVA Damuels 93.39 320⇑ *i*P **P** **14 49 09.1 -0.1**
comp=Z,1µm,3.5s
BRMO Bormio 93.41 319 eP **P** **14 49 09.5 +0.2**
CERT Cerreto 93.45 315 eP **P** **14 49 08.5 -1.2**
LBG Lerchenberg 93.46 322 eP **P** **14 49 09.5 0.0**
LBG Lerchenberg 93.46 322 P **P** **14 49 10.1 +0.6**
SFI Santa Sofia 93.48 317 eP **P** **14 49 10.6 +0.9**
MABI Malga Bissina 93.49 319 eP **P** **14 49 09.2 -0.5**
MNS Montasola 93.50 315 eP **P** **14 49 08.8 -1.0**
CRE Caprese Michel 93.52 316 eP **P** **14 49 10.7 +0.8**
GUT Gutenstein 93.53 321 eP **P** **14 49 09.4 -0.4**
GUT Gutenstein 93.53 321 P **P** **14 49 11.4 +1.6**
PGD Poggio Sodo 93.57 317 eP **P** **14 49 11.1 +1.0**
KTD Kalmit 93.60 322 eP **P** **14 49 10.2 +0.1**
KTD Kalmit 93.60 323 eP **P** **14 49 10.7 +0.6**
VMG Vicchio 93.66 317 eP **P** **14 49 11.3 +0.8**
ABH Alteburg 93.67 323 eP **P** **14 49 10.7 +0.3**
SAL Salo 93.67 319 eP **P** **14 49 12.1 +1.6**
MNO Monte Soro 93.68 310 P **P** **14 49 11.5 +0.7**
SPAK Spaichingen 93.71 321 eP **P** **14 49 10.4 -0.2**
SPAK Spaichingen 93.71 321 eP **P** **14 49 10.0 -0.7**
SEI Scarperia 93.75 317 eP **P** **14 49 11.8 +0.9**
SISB Singen-Sch Ber 93.78 321 P **P** **14 49 12.5 +1.5**
FNVD Fontana Vidola 93.86 317 eP **P** **14 49 12.5 +1.1**
ZCCA Zocca 93.88 317 eP **P** **14 49 13.1 +1.6**
BFO Black Forest 93.89 322 eP **P** **14 49 10.8 -0.6**
BFO pmax pmax
comp=Z,192nm,1.4s,mb6.2
BFO Black Forest 93.89 322 eP **P** **14 49 10.8 -0.6**
comp=Z,192nm,1.4s,mb6.2
LANF Langenberg 93.92 322 eP **P** **14 49 11.5 0.0**
WILA Wila 93.93 321⇑ P **P** **14 49 11.6 -0.1**
PPT Papeete 93.95 107 ePP PP 14 52 51.8 -11
PPT eS S 15 00 19.6 +11
PPT eSP SP 15 01 19.7 -10
PPT eSS SS 15 07 08.8 +34
PPT eL 15 15 56.4
PPT eR 15 19 21.5
comp=Z,26µm,33.0s,baz=296
VDL Val di Lei 93.97 320⇑ P **P** **14 49 12.2 +0.3**
OST Stronsay 94.00 334 eP **P** **14 49 10.8 -0.8**
CSNT Castellina Chi 94.02 316 eP **P** **14 49 11.8 -0.3**
RUP Ruppelstein 94.03 323 eP **P** **14 49 12.3 +0.3**
RUP Ruppelstein 94.03 323 eP **P** **14 49 12.4 +0.4**
SLE Schleitheim 94.03 321⇑ P **P** **14 49 11.8 -0.3**
OWE Westray 94.07 335 eP **P** **14 49 11.3 -0.7**
TOLF Tolfa 94.09 315 eP **P** **14 49 11.9 -0.6**
LLS Linth-Limmern 94.11 320⇑ P **P** **14 49 12.6 +0.1**
GSCL Gusciola 94.14 317 eP **P** **14 49 13.7 +1.0**
ZUR Zurich 94.15 321⇑ P **P** **14 49 11.9 -0.7**
GIB Gibilmanna 94.16 311 eP **P** **14 49 13.2 +0.3**
HGN Heimansgroeve 94.19 325 eP **P** **14 49 12.5 -0.2**
comp=Z,45nm,1.4s,mb5.6
HGN *ex* x 14 49 44.3
HGN ePP x 14 51 38.4
HGN ePPP x 14 52 37.6
HGN *ex* x 14 56 42.7
HGN eS 14 59 38.3
HGN ePPS SP 15 01 27.8 -3.2
HGN *ex* x 15 06 54.7
HGN *ex* x 15 15 36.2
ERBM Eremo 94.22 318 eP **P** **14 49 14.2 +1.1**
BDI Bagni Di Lucca 94.25 317 eP **P** **14 49 13.1 -0.1**
FELD Feldberg 94.28 321 eP **P** **14 49 13.0 -0.2**
MUO Muotathal 94.29 320⇑ P **P** **14 49 13.6 +0.3**
KIZ Kirchzarten 94.30 322 eP **P** **14 49 12.7 -0.6**
KIZ Kirchzarten 94.30 322 P **P** **14 49 14.0 +0.7**
SARO Sassorosso 94.32 317 P PP 14 53 01.5 -3.0
GRFL Gerfalco 94.36 316 eP **P** **14 49 13.0 -0.7**
VALM 94.36 318 P PP 14 53 02.0 -2.7
SULZ Sulz-Cheisache 94.37 321⇑ P **P** **14 49 13.4 -0.2**
MAIM 94.38 317 P PP 14 53 00.9 -4.0
LIBD Limburg 94.40 322 eP **P** **14 49 13.7 -0.1**
LIBD Limburg 94.40 322 eP **P** **14 49 13.5 -0.3**
GRAM 94.42 318 P PP 14 53 02.2 -3.0
PII Pisa 94.43 317 eP **P** **14 49 13.5 -0.5**
WLS Welschbruch 94.44 322 eP **P** **14 49 13.5 -0.4**
OHO Hoy 94.44 334 eP **P** **14 49 13.2 -0.5**
CDF Champ du Feu 94.48 322 eP **P** **14 49 13.6 -0.5**
comp=Z,643nm,1.5s,mb6.4
VINC Vinca 94.51 317 P PP 14 53 02.5 -3.2
USI Ustica 94.52 312 eP **P** **14 49 14.0 -0.6**
OBR Brabster 94.54 334 eP **P** **14 49 13.1 -1.0**
WLF Walferdange 94.57 324 eP **P** **14 49 14.7 +0.2**
WLF *e* 14 53 05.5
WLF pmax pmax
comp=Z,360nm,1.3s,mb6.6
WLF Walferdange 94.57 324 eP **P** **14 49 14.7 +0.2**
comp=Z,357nm,1.4s,mb6.6
WLF esP sP 14 49 57.6 -1.8
WLF ePP PP 14 53 05.5 -0.6
CODM 94.60 318 P PP 14 53 03.0 -3.5
ECH Echery 94.64 322 eP **P** **14 49 14.1 -0.8**
VAI Varese 94.68 319 eP **P** **14 49 14.8 -0.3**
FAVR Favara 94.68 310 P **P** **14 49 16.9 +1.5**
BOB Bobbio (Coli) 94.71 318 eP **P** **14 49 15.7 +0.4**
BBS Basel-Blauen 94.76 321 eP **P** **14 49 14.9 -0.6**
BBS Basel-Blauen 94.76 321 eP **P** **14 49 14.8 -0.7**
MOF Molkenrain 94.82 322 eP **P** **14 49 15.2 -0.5**
ORE Reay 94.83 334 eP **P** **14 49 15.5 0.0**
PMOR Pomariorio Ree 94.95 104 eP **P** **14 49 21.0 +4.0**
comp=Z,192nm,1.2s,mb6.4
HINF Hinteralfeld 95.00 322 eP **P** **14 49 15.6 -1.0**

comp=Z,333nm,1.5s,mb6.2
MMGO Monte Magaggia 95.05 311 P **P** **14 49 18.1 +1.1**
MMK Mattmark 95.10 320⇑ P **P** **14 49 17.5 +0.4**
GIVF Givet 95.12 324 eP **P** **14 49 16.5 -0.6**
comp=Z,503nm,1.4s,mb6.5
MCGN Macugnaga 95.13 320 eP **P** **14 49 17.9 +0.7**
LKBD Leukerbad 95.17 320⇓ P **P** **14 49 17.9 +0.6**
SBA Scott Base 95.20 171 eP **P** **14 49 16.8 0.0**
comp=Z,50nm,1.4s,mb5.8
HAU Haudompre 95.22 322 eP **P** **14 49 18.3 +0.8**
LOMF Lomont 95.23 321 eP **P** **14 49 17.2 -0.4**
VAH Vaihoa 95.25 104 eP **P** **14 49 21.8 +3.4**
comp=Z,134nm,1.2s,mb6.2
ORO Oropa 95.28 319 eP **P** **14 49 17.4 -0.5**
THEF They Montfort 95.33 322 eP **P** **14 49 16.9 -1.1**
TBI Tubuai 95.35 113 eS S 15 00 31.4 +11
TBI eSP SP 15 01 34.8 -10
TBI eSS SS 15 06 58.2 +3.6
TBI eR 15 20 20.1
comp=Z,13µm,36.5s,baz=290
DIX Grande Dixence 95.44 320⇑ P **P** **14 49 19.1 +0.5**
BAIF Baives 95.49 325 eP **P** **14 49 18.2 -0.5**
comp=Z,459nm,1.4s,mb6.4
FIN Finale Ligure 95.75 318 eP **P** **14 49 19.1 -0.9**
MEZF Maizieres J'vi 95.76 323 eP **P** **14 49 19.5 -0.4**
comp=Z,516nm,1.5s,mb6.4
EMV Vieux Emosson 95.77 320⇑ P **P** **14 49 20.3 +0.3**
LSZ Lusaka 95.84 256 eP **P** **14 49 21.0 0.0**
LSZ pmax pmax
comp=Z,300nm,1.5s,mb6.5
LSZ Lusaka 95.84 256 eP **P** **14 49 21.0 -0.1**
comp=Z,304nm,1.5s,mb6.5
LSZ epP pP 14 49 51.8 -1.0
LSZ esP sP 14 50 02.6 -3.3
ESY Stoneypath 95.87 332 eP **P** **14 49 19.3 -0.9**
ESY AMb AMB 14 49 23.7
comp=Z,100nm,1.4s,mb6.1
ROB Roburent 95.93 318 P PP 14 53 13.4 -3.2
PGF Pioggiola 95.93 316 eP **P** **14 49 20.1 -0.8**
comp=Z,384nm,1.3s,mb6.4
CABF La Chapelle 96.02 321 eP **P** **14 49 20.8 -0.4**
comp=Z,428nm,1.7s,mb6.3
BHB Bricherasio 96.08 319 P PP 14 53 15.4 -2.4
IMI Imperia 96.08 318 eP **P** **14 49 22.5 +1.0**
MONE Monesi 96.10 318 P PP 14 53 14.1 -3.8
LPG La Plagne 96.11 320 eP **P** **14 49 21.5 -0.1**
LPL La Plagne 96.11 320 eP **P** **14 49 21.3 -0.3**
comp=Z,301nm,1.4s,mb6.2
EDI Edinburgh 96.13 332 eP **P** **14 49 20.3 -1.1**
EDI AMb AMB 14 49 25.1
comp=Z,166nm,1.4s,mb6.3
EBL Broad Law 96.15 332 eP **P** **14 49 20.2 -1.3**
NEGI Negi 96.23 318 P PP 14 53 14.1 -5.0
ENR Entracque 96.25 318 P PP 14 53 12.2 -7.0
SAOF Saorge 96.27 318 eP **P** **14 49 21.9 -0.5**
EAU Auchinoon 96.29 332 eP **P** **14 49 21.7 -0.4**
EAU AMb AMB 14 49 26.0
comp=Z,273nm,1.4s,mb6.5
STV2 Anna di Valdie 96.30 318 P PP 14 53 14.1 -5.5
STV Sta Anna Valdi 96.30 318 P PP 14 53 14.3 -5.3
PZZ Prazzo 96.33 319 P PP 14 53 17.1 -2.7
AUTN L'Aution 96.35 318 eP **P** **14 49 22.4 -0.3**
SBF Sospel 96.40 318 eP **P** **14 49 21.8 -1.2**
comp=Z,167nm,1.3s,mb6.0
MBDF Montbardon 96.44 319 eP **P** **14 49 22.0 -1.2**
TOUF Mont Tournerai 96.45 318 eP **P** **14 49 23.3 +0.1**
ESK Eskdalemuir 96.49 331 P **P** **14 49 23.4 +0.3**
comp=Z,362nm,1.2s,mb6.7,SNR=8.8
ESK Eskdalemuir 96.49 331 eP **P** **14 49 22.3 -0.8**
ESK Eskdalemuir 96.49 331 eP **P** **14 49 23.1 0.0**
ESK *e* 14 53 17.9
ESK Eskdalemuir 96.49 331 eP **P** **14 49 23.1 0.0**
ESK epP pP 14 49 53.3 -1.5
ESK esP sP 14 50 05.3 -2.6
ESK ePP PP 14 53 17.9 -2.9
EAB Aberfoyle 96.49 333 eP **P** **14 49 23.0 -0.1**
EAB AMb AMB 14 49 27.0
comp=Z,167nm,1.5s,mb6.3
HPK Haverah Park 96.52 330 eP **P** **14 49 22.0 -1.3**
GDM Grand'Maison 96.64 320 eP **P** **14 49 24.3 +0.2**
OG05 Jujurieux 96.67 321 eP **P** **14 49 23.7 -0.5**
GNW Green Mountain 96.82 38 eP **P** **14 49 25.9 +1.0**
LHO Holmfirth 96.86 330 eP **P** **14 49 23.9 -0.9**
KBI1 Birley Grange 96.86 329 eP **P** **14 49 24.4 -0.4**
ORIF Oris-en-Rattie 96.92 319 eP **P** **14 49 24.9 -0.5**
comp=Z,204nm,1.3s,mb6.4
FRF La Foret Royal 97.05 318 eP **P** **14 49 24.9 -1.1**
comp=Z,342nm,1.6s,mb6.2
LOR Lormes 97.05 322 eP **P** **14 49 25.1 -0.8**
comp=Z,301nm,1.6s,mb6.2
LOR eR
comp=Z,6µm,22.0s
KWE Weaver Farm 97.16 329 eP **P** **14 49 25.9 -0.3**
LMR La Mourre 97.24 318 eP **P** **14 49 25.8 -1.0**
comp=Z,325nm,1.5s,mb6.2
STOF St-Etienne Org 97.33 319 eP **P** **14 49 28.0 +0.8**
SSF Saint Saulge 97.36 322 eP **P** **14 49 26.6 -0.7**
comp=Z,206nm,1.7s,mb6.0
SMF Signal de Mont 97.37 322 eP **P** **14 49 26.5 -0.8**
comp=Z,313nm,1.6s,mb6.2
RMW Rattlesnake Mo 97.48 37 P **P** **14 49 33.3 +5.5**
VILF Villemus 97.52 319 eP **P** **14 49 28.9 +0.8**
SMRF Simiane la Rot 97.55 319 eP **P** **14 49 27.7 -0.5**
comp=Z,259nm,1.8s,mb6.2
VIVF Saint-Julien-l 97.71 320 eP **P** **14 49 28.1 -0.8**
comp=Z,296nm,1.5s,mb6.3
HYF Humbligny 97.78 323 eP **P** **14 49 29.2 0.0**
TREF Trevarrasse 97.83 318 eP **P** **14 49 30.6 +1.1**
COLF Collangettes 98.00 321 eP **P** **14 49 30.5 +0.3**
BGF Bois d'Agland 98.01 322 eP **P** **14 49 29.6 -0.6**
NLW Nelson Butte 98.02 36 eP **P** **14 49 31.6 +1.4**
AGO Saint Agoulin 98.08 321 eP **P** **14 49 31.3 +0.7**
LBL Lubilhac 98.42 321 eP **P** **14 49 33.1 +1.0**
TCF Toulx Ste Croi 98.52 322 eP **P** **14 49 32.0 -0.6**
comp=Z,252nm,1.7s,mb6.2
LASF Ste Croix 98.60 319 eP **P** **14 49 32.6 -0.4**
comp=Z,288nm,1.7s,mb6.2
LDF La Druitiere 98.68 325 eP **P** **14 49 32.3 -0.9**
comp=Z,317nm,1.4s,mb6.3
FLN La Foliniere 98.79 325 eP **P** **14 49 32.7 -1.0**
comp=Z,221nm,1.5s,mb6.2
FLN eR
comp=Z,7µm,21.2s
EDM Edmonton 98.81 29 P **P** **14 49 36.3 +2.6**
EDM Edmonton 98.81 29 P **P** **14 49 34.3 +0.6**
DMUB Kingscourt 99.06 332⇑ *i*P **P** **14 49 35.6 +0.7**
DMUB Kingscourt 99.06 332⇑ *i*P 14 50 09.7
GRR Gorron 99.20 325 eP **P** **14 49 34.9 -0.7**
comp=Z,415nm,1.5s,mb6.4
HPE Pembroke 99.24 329 eP **P** **14 49 34.9 -0.8**
DLF Lyons Farm 99.26 331⇑ *i*P **P** **14 49 35.7 -0.1**
DLF Lyons Farm 99.26 331⇑ *i*P 14 50 10.2
CAF Calviac 99.30 321 eP **P** **14 49 35.9 -0.3**
comp=Z,117nm,1.4s,mb5.9
DPW Davenport 99.35 36 P **P** **14 49 41.8 +5.5**
RJF Les Rejaudoux 99.44 321 eP **P** **14 49 36.5 -0.3**
comp=Z,331nm,1.6s,mb6.3
RJF eR
comp=Z,3µm,20.2s
DCN Croghan 99.58 331⇑ *i*P **P** **14 49 37.6 +0.4**
DCN Croghan 99.58 331 eP 14 50 11.8
SYO Syowa Base 99.66 201‖ Pdiff **P** **14 49 39.0 +1.8**
SYO Syowa Base 99.66 201‖ pPdiff 14 50 03.5
SYO Syowa Base 99.66 201‖ sPdiff 14 50 16.2
SYO Syowa Base 99.66 201‖ PKiKP 14 54 03.7
YBH Yreka Blue Hor 99.69 43 P **P** **14 49 37.8 -0.3**
comp=Z,9.6nm,1.2s,mb5.3,baz=132,slow=3.0,SNR=5.7
YBH PP PP 14 53 42.7 -3.0
comp=Z,24nm,1.3s,baz=5.2,slow=1.5,SNR=5.0
YBH Yreka Blue Hor 99.69 43 P **P** **14 49 37.8 -0.2**
YBH 14 53 42.7
YBH pmax pmax
comp=Z,10.0nm,1.2s
YBH pmax pmax
comp=Z,25nm,1.3s
MFF Saint Martin d 99.75 323 eP **P** **14 49 37.7 -0.5**
MTLF Montolieu 99.99 319 eP **P** **14 49 38.4 -0.9**
comp=Z,122nm,1.6s,mb6.0
LFF La Frestale 100.10 321 eP P 14 49 39.6 -0.2
SGMF Saint Gilles 100.22 325 eP P 14 49 39.5 -0.7
WDC Whiskeytown Da 100.35 44 P P 14 49 44.2 +3.2
WDC pmax pmax
comp=Z,47nm,1.8s
WDC Whiskeytown Da 100.35 44 ePdif P 14 49 40.9 -0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,47nm,1.9s						
ROSF	Rostrenen	100.57	326	eP	P	14 49 40.4	-1.4
	comp=Z,201nm,1.7s						
QUIF	Quistinic	100.75	325	eP	P	14 49 41.5	-1.1
MOD	Modoc	101.18	42	ePdif	P	14 49 45.4	+0.6
	comp=Z,23nm,1.2s						
EPF	Esparros	101.33	320	eP	P	14 49 44.3	-1.1
ETSF	Etsaut	101.97	320	eP	P	14 49 46.6	-1.5
BEKR	Beckwourth	102.16	43	ePdif	Pdif	14 49 50.1	+1.0
	comp=Z,24nm,1.4s						
SJPF	Ste Jean	102.27	320	eP	Pdif	14 49 48.3	-1.2
	comp=Z,141nm,1.7s						
FRB	Frobisher Bay	102.28	4	P	Pdif	14 49 48.9	-0.1
	comp=Z,34nm,1.1s,baz=340,slow=5.4,SNR=6.0						
FRB	Frobisher Bay	102.28	4	P	Pdif	14 49 48.9	-0.1
FRB				pmax	pmax		
	comp=Z,34nm,1.1s						
EBR	Ebro Roquetas	102.37	318	ePP	PP	14 53 59.5	-6.6
CMB	Columbia Colle	103.04	45	P	Pdif	14 49 54.0	+1.0
CMB	Columbia Colle	103.04	45	ePdif	Pdif	14 49 53.7	+0.7
NVAR	Mina Array Bea	104.26	44	Pdiff	Pdif	14 49 59.6	+1.2
	comp=Z,9.8nm,1.1s,baz=317,slow=0.5,SNR=24						
NVAR				PP	PP	14 54 18.4	-1.8
	comp=Z,15nm,1.1s,baz=325,slow=3.5,SNR=10						
NVAR				PKKPbc		15 05 47.9	
	comp=Z,2.3nm,1.0s,baz=148,slow=2.6,SNR=5.9						
NVAR				PKKPab		15 06 07.7	
	comp=Z,2.9nm,0.9s,baz=164,slow=5.8,SNR=8.2						
NRS	Narsarsuaq	104.37	353	i P	Pdif	14 49 54.4	-3.9
NRS	Narsarsuaq	104.37	353	eP	Pdif	14 49 54.4	-3.9
ELK	Elko	105.03	41	P	Pdif	14 50 06.0	+4.3
ELK	Elko	105.03	41	ePdif	Pdif	14 50 01.9	+0.3
ESDC	Sonseca Array	105.87	319	Pdiff	Pdif	14 50 06.9	+1.5
	comp=Z,0.3nm,0.3s,baz=90,slow=4.4,SNR=4.5						
ESDC				PP	PP	14 54 30.7	-1.5
	comp=Z,33nm,1.1s,baz=55,slow=6.9,SNR=15						
ESDC				PKKPbc		15 05 41.1	
	comp=Z,2.1nm,0.8s,baz=267,slow=2.9,SNR=5.3						
ESLA	Sonseca Array	105.87	319	PKP		14 54 16.7	
HWUT	Hardware Ranch	106.80	38	PKP		14 54 18.3	
HWUT				ePP	PP	14 54 36.2	-3.2
DUG	Dugway	106.87	40	P	Pdif	14 50 13.8	+4.0
DUG	Dugway	106.87	40	ePdif	Pdif	14 50 09.9	+0.2
CTU	Camp Tracy	107.23	39	PKP		14 54 20.2	
CTU				ePP	PP	14 54 38.0	-4.8
PDAR	Pinedale Array	107.27	36	Pdiff	Pdif	14 50 16.1	+4.6
	comp=Z,0.5nm,0.6s,baz=270,slow=3.0,SNR=4.6						
PDAR				PKiKP		14 54 22.9	
	comp=Z,2.7nm,1.0s,baz=26,slow=0.9,SNR=4.4						
PDAR				PP	PP	14 54 38.5	-4.5
	comp=Z,15nm,1.2s,baz=304,slow=5.3,SNR=7.2						
PDAR				PKKPbc		15 05 37.6	
	comp=Z,2.8nm,1.0s,baz=122,slow=4.4,SNR=8.6						
PDAR				PKKPab		15 05 53.0	
	comp=Z,11nm,1.0s,baz=108,slow=4.7,SNR=24						
MTE	Manteigas	107.69	321	ePP	PP	14 54 43.5	-2.5
MTE				eLR	LR	15 27 44.8	
	comp=Z,476nm,19.6s						
	comp=Z,194nm,1.6s						
NEN	Nelson	108.08	45	Pdif	Pdif	14 50 15.2	0.0
MVU	Marysvale	108.22	41	ePKP		14 54 24.3	
MVU				ePP	PP	14 54 48.8	-1.2
MSU	Marysvale	108.24	41	eP	Pdif	14 50 16.8	+0.9
MSU				e		14 54 47.9	
TMUT	Trail Mountain	108.39	40	ePKP		14 54 21.9	
TMUT				ePP	PP	14 54 47.7	-3.6
ULM	Lac du Bonnet	108.57	24	PKKPab		15 05 45.5	
	comp=Z,19nm,1.1s,baz=146,slow=4.4,SNR=8.1						
PBEJ	Beja	109.31	319	ePP	PP	14 54 55.6	-2.7
LIS	Lisbon	109.70	320	ePP	PP	14 54 56.1	-5.0
LIS				eSS	SS	15 10 12.3	+0.3
LIS				eSS	SS	15 10 14.8	+2.8
LIS				AMS	AMS	15 38 37.9	
	comp=E,4μm,22.7s						
LIS	Lisbon	109.70	320	ePP	PP	14 54 56.1	-5.0
LIS				eSS	SS	15 10 12.3	+0.3
PV10	Paradox Valley	110.30	40	ePdif	Pdif	14 50 25.9	+1.0
RW3	Ridgway	111.21	39	P	Pdif	14 50 35.7	+6.8
SCHQ	Schefferville	111.26	5	PP	PP	14 55 07.2	-4.3
	comp=E,14nm,1.1s,baz=355,slow=4.6,SNR=4.3						
SCHQ				PKKPab		15 05 32.9	
	comp=E,12nm,1.0s,baz=161,slow=5.6,SNR=5.5						
SDCO	Great Sand Dun	112.86	38	ePKP	PKPdf	14 54 30.6	+1.3
SNAA	Sanae	113.30	197	P	Pdif	14 51 02.4	+25
SNAA	Sanae	113.30	197	⇓iP	PKPdf	14 54 32.3	+2.9
SNAA	Sanae	113.30	197			14 55 01.5	
SNAA	Sanae	113.30	197			14 55 11.6	
SNAA	Sanae	113.30	197	Pdiff	Pdif	14 50 40.4	+3.0
	comp=E,0.3nm,0.7s,baz=212,slow=19,SNR=3.1						
SNAA				PKiKP		14 54 31.3	
	comp=E,6.4nm,1.2s,baz=84,slow=3.8,SNR=6.5						
SNAA				PKKPab		15 05 23.1	
	comp=E,3.9nm,1.1s,baz=308,slow=4.6,SNR=5.6						
SNAA	Sanae	113.30	197	P	Pdif	14 50 40.4	+3.0
SNAA				i		14 54 31.3	
SNAA				pmax	pmax		
	comp=Z,6.0nm,1.2s						
SNAA	Sanae	113.30	197	Pdif	Pdif	14 50 40.4	+3.0
SNAA				⇓iPKPdf	PKPdf	14 54 32.3	+2.9
ANMO	Albuquerque	114.05	41	ePKIKP	PKPdf	14 54 34.2	+2.5
LPM	Los Pinos Moun	114.34	42	PKP	PKPdf	14 54 35.1	+2.7
VNA2	Neumayer--Watz	114.95	197	⇑iP	PKPdf	14 54 36.5	+3.8
VNA2	Neumayer--Watz	114.95	197	⇑i		14 55 05.9	
VNA2	Neumayer--Watz	114.95	197	⇓i		14 55 15.3	
VNA2	Neumayer--Watz	114.95	197	⇑iPdif	Pdif	14 51 05.9	+21
VNA2				⇑iPKPdf	PKPdf	14 54 36.5	+3.8
VNA1	Neumayer--Stat	115.34	197	⇑iP	PKPdf	14 54 37.5	+4.1
VNA1	Neumayer--Stat	115.34	197	⇑iPdif	Pdif	14 51 06.7	+20
VNA1				⇑iPKPdf	PKPdf	14 54 37.5	+4.1
VNA3	Neumayer Olymp	115.39	196	⇓iP	PKPdf	14 54 37.1	+3.6
VNA3	Neumayer Olymp	115.39	196	⇓i		14 55 07.2	
VNA3	Neumayer Olymp	115.39	196	⇑i		14 55 18.5	
VNA3	Neumayer Olymp	115.39	196	⇑iPdif	Pdif	14 51 03.6	+17
VNA3				⇓iPKPdf	PKPdf	14 54 37.1	+3.6
GDL2	Guadalupe Moun	117.14	42	ePKPdf	PKPdf	14 54 40.8	+3.0
CLNB	Carlsbad	117.41	42	ePKPdf	PKPdf	14 54 40.3	+2.0
SADO	Sadowa	118.93	16	PKP	PKPdf	14 54 44.0	+3.0
	comp=Z,2.6nm,0.4s,baz=310,slow=6.4,SNR=3.5						
SADO				PP	PP	14 56 01.8	-4.7
	comp=Z,16nm,1.1s,baz=351,slow=6.1,SNR=5.0						
SADO	Sadowa	118.93	16	PKP	PKPdf	14 54 44.0	+3.0
SADO				PP	PP	14 56 01.8	-4.7
LTX	Lajitas	119.41	44	ePKIKP	PKPdf	14 54 44.3	+2.1
LTX				e		14 56 05.4	
TXAR	Lajitas Array	119.41	44	PKP	PKPdf	14 54 45.3	+3.1
	comp=Z,3.8nm,0.5s,baz=225,slow=1.8,SNR=22						
TXAR				pPKP		14 55 14.4	
	comp=Z,2.7nm,0.6s,baz=316,slow=0.3,SNR=3.2						
TXAR				PP	PP	14 56 06.2	-3.6
	comp=Z,12nm,1.1s,baz=270,slow=2.5,SNR=6.0						
TXAR				PKKPbc		15 04 58.2	
	comp=Z,3.1nm,0.8s,baz=124,slow=4.5,SNR=12						
TXAR	Lajitas Array	119.41	44	PKP	PKPdf	14 54 45.3	+3.1
TXAR				pPKP		14 55 14.4	
TXAR				PP	PP	14 56 06.2	-3.6
TXAR				PKKPbc		15 04 58.2	
ADH	Angra Heroismo	119.68	331	ePP	PP	14 56 27.5	+16
ADH	Angra Heroismo	119.68	331	i LR	LR	15 33 12.5	
CCM	Cathedral Cave	120.32	29	ePKIKP	PKPdf	14 54 44.9	+1.1
NCB	Newcomb	120.85	12	ePKPdf	PKPdf	14 54 45.1	+0.4
NCB				ePP	PP	14 56 14.0	-5.0
ACSO	Alum Creek Sta	121.87	21	ePKPdf	PKPdf	14 54 48.6	+1.9
MIAR	Mount Ida	121.91	33	ePKIKP	PKPdf	14 54 48.2	+1.2
DBIC	Dimbokro	122.13	287	PKP	PKPdf	14 54 48.6	+0.8
	comp=Z,32nm,1.1s,baz=30,slow=3.2,SNR=13						
DBIC				pPKP		14 55 21.1	
	comp=Z,56nm,1.1s,baz=46,slow=2.3,SNR=12						
DBIC				PKKPbc		15 04 47.5	
	comp=Z,6.1nm,0.8s,baz=212,slow=3.2,SNR=4.9						
DBIC	Dimbokro	122.13	287	ePKPdf	PKPdf	14 54 49.8	+2.0
DBIC				epPKPdf		14 55 17.5	
KIC	Kosan Boka	122.14	287	ePKIKP	PKPdf	14 54 49.2	+1.4
	comp=Z,333nm,1.0s						
KIC				ePKP1		14 55 20.9	
BINY	Binghamton	122.14	14	ePKPdf	PKPdf	14 54 48.8	+1.6
BINY				ePP	PP	14 56 24.5	-3.6
TIC	Toumodi	122.29	287	ePKIKP	PKPdf	14 54 49.7	+1.6
	comp=Z,219nm,1.0s						
TIC				ePKP1		14 55 21.1	
WCI	Wyandotte Cave	122.36	25	ePKIKP	PKPdf	14 54 50.1	+2.4
UALR	University of	122.38	32	ePKPdf	PKPdf	14 54 49.7	+1.9
LIC	Lamto	122.45	287	ePKIKP	PKPdf	14 54 49.6	+1.2
	comp=Z,49nm,0.8s						
LIC	Lamto	122.45	287	ePKIKP	PKPdf	14 54 49.7	+1.3
	comp=Z,194nm,0.9s						
LIC				ePKP1		14 55 21.2	
BRYW	Bryant College	123.36	11	ePKPdf	PKPdf	14 54 51.4	+1.8
PAL	Palisades	123.75	13	ePKIKP	PKPdf	14 54 51.7	+1.3
PAL				e		14 56 33.4	
HKT	Hockley	124.03	38	ePKIKP	PKPdf	14 54 53.6	+2.4
OXF	Oxford	124.05	30	ePKIKP	PKPdf	14 54 52.6	+1.5
OXF				e		14 56 36.2	
PWV	Princeton	125.13	21	ePKPdf	PKPdf	14 54 54.1	+0.9
PWV				ePP	PP	14 56 43.1	-5.1
CPCT	Cooper Cave	125.47	25	ePKPdf	PKPdf	14 54 56.4	+2.5
MYNC	Murphy	125.95	25	ePKIKP	PKPdf	14 54 57.0	+2.2
PMSA	Palmer Station	129.08	177	ePKPdf	PKPdf	14 55 02.4	+2.5
USHA	Ushuaia	138.55	172	PKP	PKPdf	14 55 21.7	+3.8
	comp=Z,38nm,1.0s,baz=274,slow=4.7,SNR=5.7						
JTS	JuntasAbangare	145.08	48	ePKPbc	PKPbc	14 55 30.3	-0.7
AOPR	Arecibo Observ	147.16	13	ePKPbc	PKPdf	14 55 37.4	+3.5
AOPR				ePKPab	PKPab	14 55 39.7	-0.8
MGP	Maguayo	147.41	14	ePKP2	PKPab	14 55 38.2	-3.2
CBYP	Canovanas	147.42	11	ePKPbc	PKPdf	14 55 36.8	+2.5
SJG	San Juan	147.51	12	PKPbc	PKPdf	14 55 38.5	+4.0
	comp=Z,24nm,0.4s,baz=358,slow=20,SNR=11						
HUMP	Col San Antoni	147.54	11	ePKPbc	PKPdf	14 55 38.1	+3.6
CPD	Cerro la Pandu	147.63	12	ePKIKP	PKPdf	14 55 37.8	+3.1
CPD				e		14 55 40.7	
SDV	Santo Domingo	154.78	27	ePKPdf	PKPdf	14 55 46.8	+1.4
SDV				ePKPbc	PKPdf	14 55 57.0	+12
SDV				ePKPab	PKPab	14 56 10.4	-1.7
SDV				ePP	PP	14 59 44.4	-4.5
RCBR	Riachuelo	155.51	287	ePKPdf	PKPdf	14 55 48.1	+1.7
RCBR				ePKPab	PKPab	14 56 14.6	-0.7
TRQA	Tornquist	155.82	175	ePKPdf	PKPdf	14 55 48.1	+2.0
TRQA				ePKPab	PKPab	14 56 14.5	-1.5
ROSC	El Rosal	156.21	39	PKP	PKPdf	14 55 50.8	+3.5
	comp=Z,7.6nm,0.5s,baz=111,slow=23,SNR=14						
ROSC				PKPbc	PKPdf	14 56 01.3	+14
	comp=Z,23nm,0.8s,baz=117,slow=23,SNR=11						
OTAV	Otavalo	156.49	55	ePKPdf	PKPdf	14 55 49.5	+1.8
LPA	La Plata	159.03	183	c ePKP	PKPdf	14 55 51.0	+0.7
LPA				epPKP		14 56 16.0	
LPA				esPKP		14 56 31.0	
LPA				epPKP		14 56 53.0	
LPA				ePKS	PKS	14 59 21.0	-1.8
CAM4	Nova Friburgo	161.92	240	eP	PKPab	14 56 34.4	-8.3
CAM4				i		14 56 42.9	
CAM4				i		14 56 47.2	
CAM4				i		14 57 01.4	
CAM4				i		14 57 13.0	
CAM4				i		14 57 24.6	
CPUP	Villa Florida	167.47	189	PKP	PKPdf	14 56 01.3	+2.8
	comp=Z,14nm,1.2s,baz=74,slow=1.1,SNR=9.0						
CPUP				PKPab	PKPab	14 57 05.8	-1.0
	comp=Z,50nm,1.1s,baz=190,slow=3.6,SNR=16						
CPUP				pPKPab		14 57 35.4	
	comp=Z,9.5nm,0.9s,baz=184,slow=7.2,SNR=2.4						
CPUP				PP	PP	15 00 55.8	-0.2
	comp=Z,9.0nm,1.0s,baz=170,slow=4.4,SNR=3.8						
CPUP	Villa Florida	167.47	189	PKPdf	PKPdf	14 56 01.7	+3.3
CPUP				PKPab	PKPab	14 57 07.6	+0.9
CPUP	Villa Florida	167.47	189	PKIKP	PKPdf	14 56 01.3	+2.8
CPUP						14 57 05.8	
CPUP						15 00 55.8	
CPUP				pmax	pmax		
	comp=Z,14nm,1.3s						
CPUP				pmax	pmax		
	comp=Z,9.0nm,1.0s						
CPUP	Villa Florida	167.47	189	ePKPdf	PKPdf	14 56 00.4	+2.0
CPUP				ePKPab	PKPab	14 57 06.3	-0.4
BAO	Brasilia Array	168.82	260	P	PKPdf	14 56 02.2	+2.7
BAO				e		14 56 34.0	
BAO				e		14 56 53.5	
BAO				e		14 57 04.0	
BAO				i		14 57 15.1	
BAO				e		14 57 24.9	
BAO				e		14 57 43.7	
BAO				e		14 57 54.5	
BAO				e		15 01 08.6	
BDFB	Brasilia	168.84	260	PKP	PKPdf	14 56 02.6	+3.0
	comp=Z,12nm,1.1s,baz=1.1,slow=3.5,SNR=6.5						
BDFB				PKPab	PKPab	14 57 14.2	+1.2
	comp=Z,80nm,1.1s,baz=55,slow=4.4,SNR=14						
BDFB				pPKPab		14 57 43.8	
	comp=Z,27nm,0.8s,baz=54,slow=7.8,SNR=3.3						
LPAZ	La Paz	171.25	107	PKP	PKPdf	14 56 04.6	+3.6
	comp=Z,39nm,1.4s,baz=7.5,slow=1.4,SNR=26						
LPAZ				PKPab	PKPab	14 57 26.2	+2.6
	comp=Z,67nm,0.9s,baz=297,slow=4.7,SNR=24						
LPAZ				PP	PP	15 01 18.0	+2.9
	comp=Z,3.4nm,0.7s,baz=308,slow=4.9,SNR=10						
LPAZ	La Paz	171.25	107	PKIKP	PKPdf	14 56 04.6	+3.6
LPAZ						15 01 18.0	
LPAZ				pmax	pmax		
	comp=Z,39nm,1.4s						
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.7s						
LPAZ	La Paz	171.25	107	ePKPdf	PKPdf	14 56 03.5	+2.5
LPAZ				ePKPab	PKPab	14 57 26.6	+2.9
LPAZ				ePP	PP	15 01 17.3	+2.2
SAML	Samuel	173.85	37	ePKPdf	PKPdf	14 56 03.9	+1.6
SAML				ePKPab	PKPab	14 57 33.0	-2.3

*RSPR **08** 14:39:19.5, 19.23N×68.04W, h25km±41km, MD3.7/12, MD3.7/12*

*NEIC **08** 14:39:19.5, 19.23N×68.04W, h25km, ML4.2(RSPR), After RSPR.*

ISC 08 14:39:18.3±1.9**, 19.2N**±0.1×**67.9W**±0.1**, h20**km±12km**, n16, σ0^{s}35**/25**, 8C-4D, Mona Passage**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IDE	Isla Desecheo	0.92	155	⇑iP	Pb	14 39 34.9	-0.5
MPR	Mayaguez	1.23	145	⇑eP	Pn	14 39 41.1	+0.4
MPR				eS	Sb	14 39 56.1	-0.2
LSP	Las Mesas	1.29	144	⇑eP	Pn	14 39 41.0	-0.5
LRS	Lares	1.36	133	⇑iP	Pn	14 39 42.1	-0.3
AOPR	Arecibo Observ	1.39	129	⇑eP	Pn	14 39 42.7	-0.1
AOPR				eS	Sb	14 40 01.1	+0.4
MGP	Maguayo	1.43	148	⇑eP	Pn	14 39 43.3	-0.1
MGP				eS	Sb	14 40 02.0	+0.1
PORP	Portuguez	1.66	134	⇓eP	Pn	14 39 46.8	+0.1
CELP	Cerrillos	1.69	133	eS	Sn	14 40 09.0	+0.7
OBIP	Obispado Ponce	1.69	134	⇑eP	Pn	14 39 47.2	+0.1
OBIP				eS	Sn	14 40 08.6	+0.1
CSB	Colonia Sabana	1.89	119	⇑eP	Pn	14 39 50.3	+0.3
SJG	San Juan	1.99	124	eS	Sn	14 40 16.0	+0.1
SJG	San Juan	1.99	124	⇓eP	Pn	14 39 52.0	+0.7
SJG				eS	Sn	14 40 16.0	+0.1
SJG	San Juan	1.99	124	⇑eP	Pn	14 39 52.0	+0.6
SJG				eS	Sn	14 40 16.0	+0.1
CBYP	Canovanas	2.15	116	⇓eP	Pn	14 39 53.5	-0.2
CBYP				eS	Sn	14 40 19.6	-0.4
CPD	Cerro la Pandu	2.21	122	⇓eP	Pn	14 39 54.7	+0.1
CPD				eS	Sn	14 40 21.0	-0.6
HUMP	Col San Antoni	2.21	119	⇑eP	Pn	14 39 54.8	+0.2
HUMP				eS	Sn	14 40 21.4	-0.3

*TAP **08** 14:42:36.8, 24.46N×122.74E, h86km±2km, ML3.4*

JMA 08 14:42:37.3±0.2**, 24.61N×122.70E, h97**km±2km**, M2.4, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.32	117	P	P	14 42 51.6	-0.1
YOJ				S	S	14 43 02.6	0.0
IRIF	Iriomote-Funau	0.98	106	P	P	14 42 57.4	-0.1
IRIF				S	S	14 43 12.5	-0.1
HATJ	Hateruma jima	1.15	118	S	S	14 43 15.6	-0.6
JKRS	Kuro-shima	1.25	107	P	P	14 43 00.8	0.0
JKRS				S	S	14 43 18.3	-0.1
JIJ	Ishigaki jima	1.34	100	P	P	14 43 01.6	-0.2
JIJ				S	S	14 43 19.0	-1.0
JTJ	Tarama	1.82	89	P	P	14 43 08.1	+0.2
JTJ				S	S	14 43 30.6	+0.1

*NEIC **08** 14:42:54.2±1.2, 31.45S×69.37W, h159km±22km, MD3.7(GUC), Error ellipse: s-maj=15.1km s-min=8.7km az=76.0*

*GUC **08** 14:42:55.6±0.8, 31.46S×69.59W, h147km±10km, MD3.7, ML3.6*

ISC 08 14:42:54.6±1.0**, 31.44S**±0.04×**69.38W**±0.09**, h139**km±12km**, n16, σ0^{s}84**/26**, 2C-1D, San Juan Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MDZ	Mendoza	1.50	163	i P	P	14 43 24.0	+0.2
MDZ				i S	S	14 43 45.2	-0.9
JACH	Jahuel	1.61	219	eP	P	14 43 25.5	+0.6
JACH				i S	S	14 43 48.1	0.0
TLL	Tololo Astrono	1.77	316	eP	P	14 43 28.0	+1.3
TLL				i S	S	14 43 51.5	+0.2
TLL				AMP		14 43 54.3	
	comp=N,364nm,0.4s						
PEL	Peldehue	2.02	213	eP	P	14 43 29.8	+0.1
PEL				i S	S	14 43 56.2	-0.4
PEL				AMP		14 43 58.1	
	comp=N,531nm,0.2s						
FCH	Farellones	2.03	202	⇑iP	P	14 43 31.1	+1.2
FCH				i S	S	14 43 58.7	+1.9
FCH				AMP		14 44 02.4	
	comp=E,294nm,0.2s						
PACH	Papudo	2.06	237	eP	P	14 43 30.0	-0.2
PACH				i S	S	14 43 56.1	-1.2
CLCH	Cerro Calan	2.18	206	eP	P	14 43 32.3	+0.6
CLCH				i S	S	14 43 59.6	-0.5
CLCH				AMP		14 44 02.3	
	comp=E,434nm,0.5s						
LSCH	La Serena	2.22	313	⇓iP	P	14 43 32.5	+0.3
LSCH				i S	S	14 43 59.7	-1.2
LSCH				AMP		14 44 00.3	
	comp=N,670nm,0.3s						
RCDM	Rinconada Maip	2.37	210	eP	P	14 43 34.4	+0.3
RCDM				i S	S	14 44 03.5	-0.8
RCDM				AMP		14 44 05.5	
	comp=E,441nm,0.2s						
PCH	Pirque	2.37	203	⇑iP	P	14 43 34.5	+0.3
LMEL	Las Melosas	2.50	196	eP	P	14 43 36.5	+0.7
LMEL				i S	S	14 44 07.6	+0.4
LMEL				AMP		14 44 19.2	
	comp=N,164nm,0.2s						
TACH	Talagante	2.56	210	i P	P	14 43 36.5	-0.2
CHCH	Chadas Angostu	2.70	203	eP	P	14 43 38.8	+0.3
CICH	Cipreses	3.00	197	eP	P	14 43 42.6	+0.2
LNV	Longovilo	3.03	214	eP	P	14 43 41.4	-1.4
TRQA	Tornquist	8.98	139	ePn	P	14 45 00.1	-2.0

MAN 08 14:45:15.3, 13.74N×120.54E, h78km, mb3.7, ML2.5, MS2.0, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.29	268	eP	P	14 45 29.0	+1.5
LUBP				eS	S	14 45 39.2	+2.7
TGY	Tagaytay City	0.52	47	⇑iP	P	14 45 30.8	+1.6
TGY				i S	S	14 45 42.8	+3.3
BOAC	Boac	1.30	102	eP	P	14 45 39.0	+0.6
POLP	Polilio Island	1.67	54	eP	P	14 45 43.8	+0.4

MAN 08 14:52:39.3, 13.71N×120.55E, h76km, mb3.5, ML2.2, MS1.7, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.29	275	eP	P	14 52 53.4	+2.2
LUBP	Lubang	0.29	275	eP	P	14 52 52.9	+1.7
LUBP				eS	S	14 53 03.0	+3.0
TGY	Tagaytay City	0.55	44	⇓iP	P	14 52 53.4	+0.1
TGY				i S	S	14 53 06.8	+3.2
BOAC	Boac	1.29	101	eP	P	14 53 03.2	+1.1
SJMP	San Jose	1.36	156	eP	P	14 53 04.7	+1.6
POLP	Polilio Island	1.69	53	eP	P	14 53 08.1	+0.6
BUSP	Coron	1.73	191	eP	P	14 53 08.4	+0.3
CUYO	Cuyo Island	2.88	171	eP	P	14 53 23.6	-0.5

*IDC **08** 14:54:41.7±10.0, 11.70N×122.51E, mb3.8/4, mb1 3.9/4, mb1mx3.6/19, Error ellipse: s-maj=199.0km s-min=60.7km az=149.0*

*MAN **08** 14:55:14.7, 13.75N×120.48E, h90km, mb3.7, ML2.5, MS2.0*

ISC 08 14:55:14.2±0.6**, 13.76N**±0.06×**120.47E**±0.09**, h106**km±5km**, n14, σ0^{s}82**/16**, mb3.8**/4**, 1C, Mindoro**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.22	265	eP	P	14 55 29.2	0.0
LUBP				eS	S	14 55 39.8	-0.8
TGY	Tagaytay City	0.57	52	⇑iP	P	14 55 32.0	+0.8
TGY				i S	S	14 55 44.1	+0.1
BOAC	Boac	1.36	102	eP	P	14 55 39.2	-0.4
SJMP	San Jose	1.43	154	eP	P	14 55 40.8	+0.4
POLP	Polilio Island	1.72	56	eP	P	14 55 44.5	+0.6
BUSP	Coron	1.76	189	eP	P	14 55 44.4	0.0
OTRP	Odiongan	2.05	132	eP	P	14 55 48.1	0.0
SCZP	Santa Cruz	2.08	345	eP	P	14 55 48.8	+0.3
BALP	Baler	2.24	28	eP	P	14 55 50.5	-0.3
CUYO	Cuyo Island	2.94	170	eP	P	14 55 59.8	-0.4
CMAR	Chiang Mai Arr	21.20	286	P	P	14 59 55.1	+2.3
	1.5nm,0.9s,mb3.3,baz=96,slow=7.9,SNR=8.1						
SONM	Songino Array	35.94	344	P	P	15 02 05.1	-1.1
	0.9nm,0.4s,mb4.1,baz=165,slow=10,SNR=6.4						
MKAR	Makanchi Array	45.86	324	P	P	15 03 28.0	+0.6
	0.5nm,0.4s,mb3.6,baz=120,slow=8.3,SNR=13						
BVAR	Borovoye Array	55.60	326	P	P	15 04 39.4	-1.7
	0.8nm,0.4s,mb4.1,baz=124,slow=10,SNR=7.7						

*NEIC **08** 14:58:33.0±0.7, 13.96N×120.82E, h105km, mb4.4/3, Error ellipse: s-maj=62.3km s-min=10.3km az=69.0*

*MAN **08** 14:58:34.3, 13.78N×120.50E, h89km, mb5.2, ML4.2, MS4.4*

*IDC **08** 14:58:45.6±9.7, 13.89N×121.18E, h235km±101km, mb3.3/7, mb1 3.4/7, mb1mx3.2/19, Error ellipse: s-maj=113.0km s-min=15.2km az=67.0*

ISC 08 14:58:32.8±0.4**, 13.75N**±0.05×**120.43E**±0.08**, h114**km±4km**, n20, σ0^{s}91**/24**, mb4.0**/10**, 2D, Mindoro**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.18	264	eP	P	14 58 49.2	+0.4
LUBP				eS	S	14 59 00.0	-0.8
TGY	Tagaytay City	0.60	54	⇓iP	P	14 58 51.0	0.0
TGY				i S	S	14 59 03.1	-1.6
SJMP	San Jose	1.45	152	eP	P	14 59 00.7	+1.0
SJMP				eS	S	14 59 19.4	-0.6
BUSP	Coron	1.75	188	eP	P	14 59 04.2	+0.8
BUSP				eS	S	14 59 26.5	+0.1
GQP	Guinayangan	1.96	85	⇓eP	P	14 59 06.5	+0.5
SCZP	Santa Cruz	2.08	346	eP	P	14 59 07.9	+0.4
AUQP	San Andres	2.22	101	eP	P	14 59 11.3	+1.9
BALP	Baler	2.27	29	eP	P	14 59 09.9	-0.1
CUYO	Cuyo Island	2.94	169	eP	P	14 59 19.7	+0.6
MBWA	Marble Bar	34.70	181	eP	P	15 05 13.3	-0.4
	2.7nm,0.6s,mb4.2						
SONM	Songino Array	35.94	344	P	P	15 05 24.2	+0.3
	0.9nm,0.5s,mb4.0,baz=162,slow=9.8,SNR=7.4						
WRA	Warramunga Arr	36.17	157	P	P	15 05 24.4	-1.8
	0.6nm,0.6s,mb3.7,baz=341,slow=8.8,SNR=9.3						
ASAR	Alice Springs	39.45	160	P	P	15 05 52.8	-0.8
	0.3nm,0.5s,mb3.4,baz=338,slow=7.5,SNR=5.9						
MKAR	Makanchi Array	45.84	324	P	P	15 06 46.5	+1.5
	0.4nm,0.4s,mb3.5,baz=118,slow=8.9,SNR=6.2						
KURK	Kurchatov	50.00	326	eP	P	15 07 17.9	+0.5
	3.4nm,0.7s,mb4.4						
BVAR	Borovoye Array	55.59	326	P	P	15 07 59.2	+0.5
	0.7nm,0.4s,mb4.0,baz=121,slow=8.4,SNR=6.0						
BVAR	Borovoye Array	55.59	326	P	P	15 07 59.2	+0.5
BRVK	Borovoye	55.66	326	eP	P	15 07 59.0	-0.3
	2.5nm,0.7s,mb4.3						
ARCES	ARCESS Array B	78.94	339	P	P	15 10 24.4	-0.4
	4.4nm,0.8s,mb4.3,baz=67,slow=6.9,SNR=4.1						
FINES	FINESS Array B	80.11	331	P	P	15 10 29.7	-1.7
	2.1nm,0.8s,mb4.0,baz=97,slow=11,SNR=2.5						

*IDC **08** 15:05:45.6±1.0, 13.92N×121.01E, h112km±10km, mb3.6/13, mb1 3.8/13, mb1mx3.7/20, Error ellipse: s-maj=30.6km s-min=14.1km az=56.0*

*NEIC **08** 15:05:45.4±0.5, 13.97N×120.73E, mb4.4/5, Error ellipse:*

s-maj=14.8km s-min=9.4km az=55.0

*MAN **08** 15:05:45.8, 13.78N×120.47E, h92km, mb5.2, ML4.2, MS4.4*

ISC 08 15:05:44.9±0.4**, 13.76N**±0.05×**120.47E**±0.06**, h114**km±4km**, n33,** σ0s**89**/36**, mb4.0**/18**, 1D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.22**	**264**	*e*P	**P**	**15 06 01.0**	**+0.1**
LUBP				*e*S	**S**	**15 06 11.1**	**-2.0**
BOAC	**Boac**	**1.36**	**102**	*e*P	**P**	**15 06 10.8**	**0.0**
BOAC				*e*S	**S**	**15 06 29.1**	**-1.3**
SJMP	**San Jose**	**1.43**	**154**	*e*P	**P**	**15 06 12.4**	**+0.8**
SJMP				*e*S	**S**	**15 06 31.1**	**-0.6**
POLP	**Polilio Island**	**1.72**	**56**	*e*P	**P**	**15 06 15.0**	**0.0**
BUSP	**Coron**	**1.76**	**189**	*e*P	**P**	**15 06 16.1**	**+0.5**
GQP	**Guinayangan**	**1.92**	**85**	⇓*e*P	**P**	**15 06 18.3**	**+0.8**
OTRP	**Odiongan**	**2.05**	**132**	*e*P	**P**	**15 06 20.0**	**+0.9**
SCZP	**Santa Cruz**	**2.08**	**345**	*e*P	**P**	**15 06 19.3**	**-0.3**
AUQP	**San Andres**	**2.18**	**101**	*e*P	**P**	**15 06 23.1**	**+2.2**
BALP	**Baler**	**2.24**	**28**	*e*P	**P**	**15 06 22.1**	**+0.4**
BOLP	**Bolinao**	**2.67**	**348**	*e*P	**P**	**15 06 27.1**	**-0.4**
CUYO	**Cuyo Island**	**2.94**	**170**	*e*P	**P**	**15 06 31.2**	**+0.1**
CAUP	**Cauayan**	**3.43**	**22**	*e*P	**P**	**15 06 38.0**	**+0.4**
PVCP	**Virac**	**3.58**	**92**	*e*P	**P**	**15 06 40.1**	**+0.4**
QIZ	**Qiongzhong**	**11.47**	**299**	*e*Pn	**P**	**15 08 28.7**	**+2.5**
CM31	**Chiang Mai Arr**	**21.20**	**286**	*e*P	**P**	**15 10 27.2**	**+4.3**
	2.6nm,0.7s,mb3.7						
CMAR	**Chiang Mai Arr**	**21.20**	**286**	P	**P**	**15 10 27.4**	**+4.5**
	1.7nm,0.9s,mb3.4,baz=85,slow=7.9,SNR=11						
CMAR				pP		15 10 49.3	
	0.4nm,0.7s,baz=102,slow=8.3,SNR=2.3						
MBWA	**Marble Bar**	**34.70**	**181**	*e*P	**P**	**15 12 25.6**	**-0.3**
	3.1nm,0.5s,mb4.4						
SONM	**Songino Array**	**35.94**	**344**	P	**P**	**15 12 36.3**	**+0.3**
	2.5nm,0.4s,mb4.5,baz=165,slow=9.9,SNR=24						
WRA	**Warramunga Arr**	**36.16**	**158**	P	**P**	**15 12 37.4**	**-0.8**
	0.6nm,0.7s,mb3.6,baz=333,slow=9.9,SNR=5.6						
WRA				pP	pP	15 13 01.2	-2.9
	0.7nm,0.7s,baz=338,slow=9.6,SNR=5.9						
ASAR	**Alice Springs**	**39.44**	**160**	P	**P**	**15 13 05.3**	**-0.2**
	0.3nm,0.3s,mb3.6,baz=339,slow=7.1,SNR=7.5						
ASAR				pP	pP	15 13 30.1	-1.6
	0.7nm,0.7s,baz=335,slow=6.7,SNR=5.9						
MKAR	**Makanchi Array**	**45.86**	**324**	P	**P**	**15 13 58.4**	**+1.0**
	3.3nm,0.8s,mb4.1,baz=121,slow=8.6,SNR=17						
ZAL	**Zalesovo**	**48.91**	**333**	P	**P**	**15 14 19.7**	**-1.3**
	1.7nm,0.4s,mb4.3,baz=230,slow=2.2,SNR=3.1						
KURK	**Kurchatov**	**50.02**	**326**	*e*P	**P**	**15 14 30.0**	**+0.4**
	14nm,0.8s,mb4.9						
BVAR	**Borovoye Array**	**55.60**	**326**	P	**P**	**15 15 11.1**	**+0.2**
	2.0nm,0.4s,mb4.5,baz=112,slow=8.0,SNR=19						
BRVK	**Borovoye**	**55.67**	**326**	*e*P	**P**	**15 15 11.4**	**0.0**
	4.8nm,0.8s,mb4.6						
MCK	**McKinley**	**78.05**	**27**	*e*P	**P**	**15 17 31.2**	**-0.9**
	1.4nm,0.5s,mb4.0						
ILAR	**Eielson Array**	**78.80**	**26**	P	**P**	**15 17 34.9**	**-1.4**
	0.1nm,0.4s,mb3.0,baz=284,slow=3.7,SNR=5.2						
BRTR	**Keskin Array B**	**78.94**	**308**	P	**P**	**15 17 38.1**	**+0.6**
	1.8nm,1.1s,mb3.8,baz=100,slow=7.5,SNR=3.2						
ARCES	**ARCESS Array B**	**78.95**	**339**	P	**P**	**15 17 36.6**	**-0.4**
	5.3nm,1.0s,mb4.3,baz=68,slow=6.5,SNR=7.0						
FINES	**FINESS Array B**	**80.13**	**331**	P	**P**	**15 17 42.9**	**-0.6**
	1.3nm,0.9s,mb3.8,baz=90,slow=6.9,SNR=4.1						
INK	**Inuvik**	**83.12**	**21**	P	**P**	**15 17 55.1**	**-3.9**
	1.6nm,0.7s,mb4.0,baz=270,slow=5.1,SNR=1.9						
NOA	**NORSAR Array B**	**87.11**	**333**	P	**P**	**15 18 18.7**	**0.0**
	1.0nm,1.0s,mb3.7,baz=277,slow=4.5,SNR=2.3						

MAN 08 15:15:22.0, 13.77N×120.46E, h92km, mb4.7, ML3.6, MS3.6, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.21**	**262**	*e*P	P	15 15 37.1	+1.8
LUBP				*e*S	S	15 15 46.9	+1.6
BOAC	**Boac**	**1.38**	**103**	*e*P	P	15 15 46.5	-0.4
SJMP	**San Jose**	**1.45**	**154**	*e*P	P	15 15 48.7	+1.1
SJMP				*e*S	S	15 16 07.2	+0.6
POLP	**Polilio Island**	**1.73**	**56**	*e*P	P	15 15 51.6	+0.5
BUSP	**Coron**	**1.77**	**188**	*e*P	P	15 15 52.4	+0.6
OTRP	**Odiongan**	**2.06**	**132**	*e*P	P	15 15 55.3	-0.4
SCZP	**Santa Cruz**	**2.07**	**345**	*e*P	P	15 15 55.7	0.0
AUQP	**San Andres**	**2.20**	**101**	*e*P	P	15 15 58.9	+1.3
BALP	**Baler**	**2.24**	**29**	*e*P	P	15 15 58.1	0.0
CUYO	**Cuyo Island**	**2.95**	**169**	*e*P	P	15 16 07.6	-0.4

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*NEIC **08** 15:17:15.1, 18.64N×68.85W, h25km, ML4.1(RSPR), After RSPR.*

RSPR 08 15:17:15.1, 18.64N×68.85W, h25km±38km**, MD3.3**/9**, MD3.3**/9**, 8C-3D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**1.33**	**101**	⇑*e*P	Pn	15 17 34.2	-4.2
LSP	**Las Mesas**	**1.74**	**105**	⇓*e*P	Pn	15 17 41.1	-3.2
LSP				*e*S	Sn	15 18 02.3	-3.6
MGP	**Maguayo**	**1.79**	**110**	⇑*e*P	Pn	15 17 42.1	-2.9
MGP				*e*S	Sn	15 18 03.9	-3.2
LRS	**Lares**	**1.94**	**100**	⇑*e*P	Pn	15 17 44.9	-2.1
LRS				*e*S	Sn	15 18 07.1	-3.7
AOPR	**Arecibo Observ**	**2.02**	**98**	⇓*e*P	Pn	15 17 45.8	-2.5
AOPR				*e*S	Sn	15 18 09.7	-3.2
PORP	**Portuguez**	**2.18**	**105**	⇑*e*P	Pn	15 17 47.8	-2.8
PORP				*e*S	Sn	15 18 13.3	-3.9
OBIP	**Obispado Ponce**	**2.22**	**105**	⇑*e*P	Pn	15 17 50.1	-0.9
OBIP				*e*S	Sn	15 18 15.2	-2.8
CELP	**Cerrillos**	**2.23**	**104**	⇑*e*P	Pn	15 17 48.8	-2.5
CELP				*e*S	Sn	15 18 15.0	-3.4
CSB	**Colonia Sabana**	**2.58**	**97**	⇑*e*P	Pn	15 17 53.8	-2.5
CSB				*e*S	Sn	15 18 24.3	-3.0
SJG	**San Juan**	**2.62**	**101**	*e*S	Sn	15 18 23.9	-4.3
SJG	**San Juan**	**2.62**	**101**	*e*S	Sn	15 18 23.8	-4.5
CPD	**Cerro la Pandu**	**2.85**	**102**	*e*S	Sn	15 18 31.2	-2.9
CPD	**Cerro la Pandu**	**2.85**	**102**	*e*P	Pn	15 17 57.1	-3.0
CBYP	**Canovanas**	**2.87**	**97**	⇑*e*P	Pn	15 17 57.8	-2.6
CBYP				*e*S	Sn	15 18 30.1	-4.4
HUMP	**Col San Antoni**	**2.90**	**99**	⇓*e*P	Pn	15 17 57.6	-3.2
HUMP				*e*S	Sn	15 18 31.6	-3.5

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*LDG **08** 15:22:55.4±0.2, 43.07N×0.12W, h2km, Md1.9/2, Error ellipse: s-maj=4.6km s-min=1.5km az=173.0*

STR 08 15:22:55.2±0.1**, 43.07N×0.10W, h5**km±1km**, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.13**	**100**	Pg	Pg	15 22 58.3	+0.4
LABF				Sg	Sg	15 23 00.9	+1.1
VIEF	**Viey**	**0.21**	**154**	Pg	Pg	15 22 59.7	+0.3
VIEF				Sg	Sg	15 23 03.2	+0.9
ETSF	**Etsaut**	**0.38**	**243**	*e*Pg	Pg	15 23 02.5	-0.3
ETSF				*e*Sg	Sg	15 23 07.8	-0.1
	18nm,0.2s						
RESF	**Ens**	**0.41**	**129**	Pg	Pg	15 23 03.2	-0.3
RESF				Sg	Sg	15 23 09.0	-0.1
FDAF	**Les Forges d'A**	**0.42**	**234**	Pg	Pg	15 23 03.5	-0.2
FDAF				Sg	Sg	15 23 09.5	+0.1

MAN 08 15:25:30.4, 13.82N×120.45E, h91km, mb4.9, ML3.8, MS3.8, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.21**	**248**	*e*P	P	15 25 45.4	+1.8
LUBP				*e*S	S	15 25 55.2	+1.7
BOAC	**Boac**	**1.40**	**104**	*e*P	P	15 25 55.6	+0.2
POLP	**Polilio Island**	**1.71**	**58**	*e*P	P	15 25 59.7	+0.4
BUSP	**Coron**	**1.82**	**188**	*e*P	P	15 26 01.1	+0.4
SCZP	**Santa Cruz**	**2.02**	**345**	*e*P	P	15 26 03.3	-0.1
BALP	**Baler**	**2.20**	**30**	*e*P	P	15 26 05.8	-0.1
CUYO	**Cuyo Island**	**3.00**	**169**	*e*P	P	15 26 16.5	-0.4

MAN 08 15:26:22.2, 13.78N×120.47E, h90km, mb3.5, ML2.2, MS1.6, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.23**	**258**	*e*P	P	15 26 36.2	+0.8
LUBP	**Lubang**	**0.23**	**258**	*e*P	P	15 26 37.3	+1.9
LUBP				*e*S	S	15 26 47.2	+2.0
BOAC	**Boac**	**1.37**	**103**	*e*P	P	15 26 46.7	-0.1
SJMP	**San Jose**	**1.46**	**154**	*e*P	P	15 26 48.9	+1.0
BUSP	**Coron**	**1.79**	**189**	*e*P	P	15 26 51.8	-0.3

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*MOS **08** 15:28:30.5±1.0, 56.45S×26.77W, h33km, mb5.9/11, Error ellipse: s-maj=32.8km s-min=13.0km az=106.7*

*SYO **08** 15:28:38.4, 56.50S×26.86W, h95km, MB5.6*

*IDC **08** 15:28:39.4±0.5, 56.57S×26.99W, h101km±4km, mb5.0/15, mb1 5.0/16, mb1mx5.0/17, MS4.9/8, Ms1 4.8/8, ms1mx4.7/15, Error ellipse: s-maj=14.0km s-min=11.1km az=50.0*

*HRVD **08** 15:28:39.2±0.4, 56.54S×26.76W, h97km±5km, MW5.8/58, Centroid moment Tensor Solution. LP body waves: s17,c24;Mantle waves: s58,c91; Half duration: 1s9 Moment tensor: Scale 10^{17}Nm; M_{rr}-3.17±.32; $M_{\theta\theta}$6.37±.28; $M_{\phi\phi}$-3.20±.29; $M_{r\theta}$-0.44±.27; $M_{\theta\phi}$0.13±.28; $M_{\phi r}$-2.48±.17; Best double couple: $M_0$6.03×10^{17} NP1: ϕ_s305°, δ58°, λ-33°. NP2: ϕ_s54°, δ62°, λ-143°. Principal axes: T 6.4, Plg3°, Azm178°; N -.73, Plg45°, Azm85°; P -5.67, Plg45°, Azm271°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **08** 15:28:39.2±1.0, 56.53S×26.87W, h102km±8km, mb5.6/25 Error ellipse: s-maj=7.0km s-min=4.7km az=224.0*

*BJI **08** 15:28:39.2, 56.50S×26.90W, h101km, mB5.8*

ISC 08 15:28:37.4±0.2**, 56.52S**±0.04×**26.89W**±0.09**, h95**km±2.0km**: pP-P, n346,** σ**1s08**/103**, mb5.6**/38**, 31C-65D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.30**	**158**	⇑*i*P	**P**	**15 32 21.8**	**+0.5**
VNA1	**Neumayer--Stat**	**16.30**	**158**	⇓*i*	**P**	**15 32 22.8**	**+1.5**
VNA1	**Neumayer--Stat**	**16.30**	**158**	⇑*i*		15 32 33.5	
VNA1	**Neumayer--Stat**	**16.30**	**158**	⇑*i*	PP	15 32 37.0	+1.0
VNA1	**Neumayer--Stat**	**16.30**	**158**	⇑*i*		15 32 44.2	
VNA1	**Neumayer--Stat**	**16.30**	**158**			15 32 47.3	
VNA1	**Neumayer--Stat**	**16.30**	**158**	⇓*i*		15 40 37.0	
VNA3	**Neumayer Olymp**	**16.49**	**160**	⇑*i*P	**P**	**15 32 23.9**	**+0.2**
VNA3	**Neumayer Olymp**	**16.49**	**160**	⇑*i*	**P**	**15 32 24.9**	**+1.2**
VNA3	**Neumayer Olymp**	**16.49**	**160**	⇑*i*		15 32 36.3	
VNA3	**Neumayer Olymp**	**16.49**	**160**	⇑*i*	PP	15 32 39.5	+0.8
VNA3	**Neumayer Olymp**	**16.49**	**160**	⇑*i*		15 32 46.3	
VNA3	**Neumayer Olymp**	**16.49**	**160**	⇑*i*		15 32 49.5	
VNA3	**Neumayer Olymp**	**16.49**	**160**	⇓*i*S		15 35 51.0	
VNA3	**Neumayer Olymp**	**16.49**	**160**	⇑*i*		15 40 36.5	
VNA3	**Neumayer Olymp**	**16.49**	**160**	⇓*i*	ScS	15 44 16.3	+2.9
VNA2	**Neumayer--Watz**	**16.70**	**158**	⇑*i*P	**P**	**15 32 26.4**	**+0.2**
VNA2	**Neumayer--Watz**	**16.70**	**158**	⇑*i*	**P**	**15 32 27.4**	**+1.2**
VNA2	**Neumayer--Watz**	**16.70**	**158**	⇑*i*		15 32 39.5	
VNA2	**Neumayer--Watz**	**16.70**	**158**	⇑*i*	PP	15 32 43.4	+2.0
VNA2	**Neumayer--Watz**	**16.70**	**158**	⇑*i*		15 32 49.3	
VNA2	**Neumayer--Watz**	**16.70**	**158**			15 32 53.3	
VNA2	**Neumayer--Watz**	**16.70**	**158**	⇓*i*S		15 35 54.3	
VNA2	**Neumayer--Watz**	**16.70**	**158**	⇑*i*		15 40 37.1	
VNA2	**Neumayer--Watz**	**16.70**	**158**	⇓*i*	ScS	15 44 15.5	+1.5
SNAA	**Sanae**	**18.25**	**156**	⇑*i*P	**P**	**15 32 43.5**	**-1.6**
SNAA	**Sanae**	**18.25**	**156**	⇑*i*	**P**	**15 32 44.6**	**-0.5**
SNAA	**Sanae**	**18.25**	**156**	⇓*i*	**P**	**15 32 51.1**	**+6.0**
SNAA	**Sanae**	**18.25**	**156**			15 32 58.3	
SNAA	**Sanae**	**18.25**	**156**	⇑*i*	PP	15 33 00.0	-1.8
SNAA	**Sanae**	**18.25**	**156**	⇑*i*		15 33 09.3	
SNAA	**Sanae**	**18.25**	**156**	⇓*i*		15 33 19.7	
SNAA	**Sanae**	**18.25**	**156**	⇑*i*		15 40 37.7	
SNAA	**Sanae**	**18.25**	**156**	⇑*i*	ScS	15 44 18.4	-0.1
SNAA	**Sanae**	**18.25**	**156**	P	**P**	**15 32 43.7**	**-1.5**
	9.1nm,0.3s,baz=310,slow=9.4,SNR=835						
SNAA				PcP	PcP	15 37 12.6	-1.1
	0.7nm,0.3s,baz=270,slow=2.0,SNR=3.7						
SNAA				LR	LR	15 38 22.8	
	comp=Z,1μm,20.5s,baz=292,slow=32						
SNAA				ScP		15 40 37.1	
	0.5nm,0.3s,baz=311,slow=2.7,SNR=29						
SNAA	**Sanae**	**18.25**	**156**	⇑*e*P	**P**	**15 32 43.2**	**-1.9**
SNAA				pmax	pmax		
	comp=Z,1μm,1.5s						
EFI	**East Falkland**	**18.82**	**272**	⇓*i*P	**P**	**15 32 50.8**	**-0.9**
	comp=Z,810nm,1.4s						
PMSA	**Palmer Station**	**19.73**	**230**	⇓*i*P	**P**	**15 33 02.0**	**+0.7**
	comp=Z,528nm,1.1s						
MAIT	**Maitri**	**21.75**	**146**	*e*P	**P**	**15 33 21.2**	**-0.7**
NVL	**N'lazarevskaya**	**21.78**	**146**	⇑*e*P	**P**	**15 33 21.0**	**-1.2**
NVL				*e*S	**S**	**15 37 15.0**	**+3.0**
NVL				pmax	pmax		
	comp=Z,966nm,2.5s,mb5.7						
USHA	**Ushuaia**	**23.24**	**257**	P	**P**	**15 33 36.7**	**+0.5**
	comp=Z,106nm,0.9s,mb5.2,baz=85,slow=9.1,SNR=26						
USHA				PcP	PcP	15 37 22.3	-0.8
	comp=Z,13nm,0.8s,baz=81,slow=2.2,SNR=3.8						
TRQA	**Tornquist**	**29.66**	**294**	⇓*i*P	**P**	**15 34 33.7**	**-2.2**
	comp=Z,28nm,0.6s,mb5.1						
TRQA				*e*PcP	PcP	15 37 37.0	-1.0
SYO	**Syowa Base**	**31.12**	**140**	⇓P	**P**	**15 34 46.4**	**-1.9**
SYO	**Syowa Base**	**31.12**	**140**	⇓pP	pP	15 35 04.7	-5.4
SYO	**Syowa Base**	**31.12**	**140**	⇑PnPn		15 35 45.1	
SYO	**Syowa Base**	**31.12**	**140**	⇑PcP	PcP	15 37 39.7	-1.8
SYO	**Syowa Base**	**31.12**	**140**	SH	**S**	**15 39 42.0**	**-3.7**
SYO	**Syowa Base**	**31.12**	**140**	⇑P	tx	15 42 31.0	
QSPA	**South Pole Qui**	**33.73**	**180**	*e*P	**P**	**15 35 10.6**	**-0.4**
	comp=Z,110nm,0.7s,mb5.8						
QSPA				*e*	pP	15 35 30.4	-2.6
QSPA				*e*		15 37 48.0	
QSPA				*e*		15 41 22.3	
QSPA				*e*		15 45 10.5	
QSPA				LR	LR		
	comp=Z,2μm,21.1s						
CPUP	**Villa Florida**	**37.25**	**311**	P	**P**	**15 35 40.3**	**-0.9**
	comp=Z,88nm,0.6s,mb5.9,baz=171,slow=7.4,SNR=271						
CPUP				PcP	PcP	15 37 58.7	-0.7
	comp=Z,46nm,0.9s,baz=141,slow=2.2,SNR=7.4						
CPUP				ScP		15 41 34.4	
	comp=Z,7.3nm,0.7s,baz=162,slow=2.3,SNR=9.8						
CPUP	**Villa Florida**	**37.25**	**311**	P	**P**	**15 35 40.2**	**-1.0**
CPUP				P		15 35 40.6	
CPUP				PcP	PcP	15 37 58.7	-0.7
CPUP				ScP		15 41 34.1	
CPUP	**Villa Florida**	**37.25**	**311**	⇓*i*P	**P**	**15 35 40.0**	**-1.2**
CPUP				*e*		15 37 58.7	
CPUP				pmax	pmax		
	comp=Z,120nm,0.8s						
CPUP	**Villa Florida**	**37.25**	**311**	⇓*i*P	**P**	**15 35 40.0**	**-1.2**
	comp=Z,124nm,0.8s,mb5.9						
CPUP				*e*PcP	PcP	15 37 58.7	-0.8
FCH	**Farellones**	**37.60**	**289**	*e*P	**P**	**15 35 42.4**	**-1.7**
MAW	**Mawson**	**39.67**	**143**	P	**P**	**15 36 00.9**	**-0.1**
	comp=Z,22nm,0.8s,mb5.0,baz=234,slow=7.6,SNR=36						
MAW				pP	pP	15 36 23.9	+0.5
	comp=Z,29nm,0.8s,baz=250,slow=9.1,SNR=6.6						
MAW				ScP		15 41 44.4	
	comp=Z,14nm,0.9s,baz=259,slow=5.1,SNR=8.5						
MAW				LR	LR	15 49 37.4	
	comp=Z,2μm,20.6s,baz=253,slow=32						
SUR	**Sutherland**	**40.60**	**74**	P	**P**	**15 36 10.2**	**+1.2**
	comp=Z,12nm,0.8s,mb4.8,baz=192,slow=8.5,SNR=7.0						
SUR				pP	pP	15 36 33.0	+1.5
	comp=Z,21nm,0.8s,baz=214,slow=8.6,SNR=5.4						
SUR				LR	LR	15 48 36.0	
	comp=Z,2μm,19.8s,baz=129,slow=29						
SUR	**Sutherland**	**40.60**	**74**	P	**P**	**15 36 09.2**	**+0.3**
	comp=Z,13nm,0.7s,mb4.9						
BAO	**Brasilia Array**	**43.85**	**330**	*i* P	**P**	**15 36 36.8**	**+1.2**
BAO				*e*		15 36 43.5	
BAO				*e*		15 36 51.3	
BAO				*e*		15 37 11.8	
BDFB	**Brasilia**	**43.85**	**330**	P	**P**	**15 36 36.9**	**+1.3**
	comp=Z,47nm,0.5s,mb5.5,baz=148,slow=3.4,SNR=66						
LVC	**Limon Verde**	**45.68**	**300**	⇓*e*P	**P**	**15 36 50.0**	**-0.1**
	comp=Z,216nm,0.8s,mb5.9						
LVC				*e*PcP	PcP	15 38 26.9	-0.2
BOSA	**Boshof**	**45.92**	**75**	*e*P	**P**	**15 36 51.7**	**-0.3**
BOSA				pmax	pmax		
	comp=Z,21nm,1.0s,mb4.8						
BOSA	**Boshof**	**45.92**	**75**	*e*P	**P**	**15 36 51.7**	**-0.3**
	comp=Z,21nm,1.0s,mb4.8						
LBTB	**Lobatse**	**48.98**	**73**	P	**P**	**15 37 15.7**	**-0.2**
LBTB				pP	pP	15 37 39.4	+0.5
MIR	**Mirnyy**	**49.29**	**153**	⇑*e*P	**P**	**15 37 17.3**	**-0.5**
MIR				pmax	pmax		
	comp=Z,35nm,1.0s,mb5.2						
TSUM	**Tsumeb**	**49.77**	**60**	P	**P**	**15 37 22.2**	**+0.2**
	comp=Z,19nm,1.1s,mb5.0,baz=191,slow=5.6,SNR=12						
TSUM				pP	pP	15 37 46.1	+1.1
	comp=Z,14nm,0.6s,baz=205,slow=7.9,SNR=6.4						
TSUM	**Tsumeb**	**49.77**	**60**	*e*P	**P**	**15 37 22.1**	**+0.1**
	comp=Z,47nm,1.3s,mb5.3						
LPAZ	**La Paz**	**50.78**	**305**	P	**P**	**15 37 30.2**	**+0.4**
	comp=Z,248nm,0.4s,mb6.6,baz=130,slow=5.8,SNR=1514						
LPAZ				PcP	PcP	15 38 46.3	+0.8
	comp=Z,64nm,0.7s,baz=136,slow=2.9,SNR=3.9						
LPAZ				ScP		15 42 30.1	
	comp=Z,5.2nm,1.0s,baz=203,slow=4.5,SNR=3.7						
LPAZ	**La Paz**	**50.78**	**305**	P	**P**	**15 37 30.0**	**+0.2**
LPAZ				PcP	PcP	15 38 46.3	+0.7
LPAZ	**La Paz**	**50.78**	**305**	⇓*i*P	**P**	**15 37 30.1**	**+0.3**
LPAZ				*e*		15 38 45.7	
LPAZ				pmax	pmax		
	comp=Z,330nm,0.6s						
LPAZ	**La Paz**	**50.78**	**305**	⇓*i*P	**P**	**15 37 30.1**	**+0.3**
	comp=Z,328nm,0.6s,mb6.5						
LPAZ				*e*PcP	PcP	15 38 45.7	+0.2
RCBR	**Riachuelo**	**51.05**	**348**	*e*P	**P**	**15 37 29.5**	**-2.4**
	comp=Z,21nm,0.6s,mb5.3						
ARE	**Arequipa**	**52.19**	**301**	⇓*i*P	**P**	**15 37 41.2**	**+0.8**
CASY	**Casey**	**53.41**	**160**	*e*P	**P**	**15 37 48.1**	**-0.8**
	comp=Z,29nm,0.8s,mb5.4						
SAML	**Samuel**	**55.25**	**315**	⇓*i*P	**P**	**15 38 01.3**	**-1.6**
	comp=Z,200nm,1.0s,mb6.1						
LSZ	**Lusaka**	**58.39**	**68**	⇓*e*P	**P**	**15 38 24.4**	**-0.6**
LSZ				pmax	pmax		
	comp=Z,87nm,1.1s,mb5.7						
LSZ	**Lusaka**	**58.39**	**68**	⇓*e*P	**P**	**15 38 24.4**	**-0.6**
	comp=Z,87nm,1.1s,mb5.7						
NNA	**Nana**	**58.62**	**299**	⇓*i*P	**P**	**15 38 24.9**	**-1.7**
	comp=Z,49nm,1.1s,mb5.5						
LIC	**Lamto**	**65.05**	**24**	*e*P	**P**	**15 39 09.5**	**-0.2**
	comp=Z,140nm,0.7s,mb5.9						
KIC	**Kosan Boka**	**65.25**	**24**	*e*P	**P**	**15 39 10.9**	**-0.1**
	comp=Z,223nm,0.9s,mb6.0						
TIC	**Toumodi**	**65.46**	**24**	*e*P	**P**	**15 39 12.0**	**-0.4**
	comp=Z,171nm,0.7s,mb6.0						
DBIC	**Dimbokro**	**65.52**	**24**	P	**P**	**15 39 12.3**	**-0.4**
	comp=Z,18nm,0.6s,mb5.1,baz=172,slow=7.6,SNR=53						
DBIC				pP	pP	15 39 37.2	+0.3
	comp=Z,27nm,0.5s,baz=167,slow=8.2,SNR=8.3						
DBIC	**Dimbokro**	**65.52**	**24**	⇓*i*P	**P**	**15 39 12.2**	**-0.5**
DBIC				*e*	pP	15 39 36.7	-0.2
DBIC				pmax	pmax		
	comp=Z,19nm,0.7s						
DBIC	**Dimbokro**	**65.52**	**24**	⇓*i*P	**P**	**15 39 12.2**	**-0.6**
	comp=Z,19nm,0.6s,mb5.1						
DBIC				*e*PcP	PcP	15 39 36.7	-6.8
OTAV	**Otavalo**	**70.05**	**304**	⇓*e*P	**P**	**15 39 41.2**	**+0.3**
	comp=Z,188nm,0.9s,mb5.9						
MBAR	**Mbarara**	**72.21**	**62**	P	**P**	**15 39 55.8**	**+1.9**
	comp=Z,129nm,1.4s,mb5.6,SNR=16						
MBAR	**Mbarara**	**72.21**	**62**	⇓*i*P	**P**	**15 39 55.4**	**+1.5**
	comp=Z,50nm,1.5s,mb5.1						
ROSC	**El Rosal**	**72.33**	**310**	P	**P**	**15 39 54.5**	**0.0**
	comp=Z,125nm,0.6s,mb5.9,baz=173,slow=4.7,SNR=70						
SDV	**Santo Domingo**	**74.46**	**315**	⇓*i*P	**P**	**15 40 06.4**	**-0.5**
	comp=Z,230nm,1.0s,mb5.9						
KMBO	**Kilima Mbogo**	**75.05**	**69**	P	**P**	**15 40 13.4**	**+3.1**
	comp=Z,4.5nm,0.8s,baz=203,slow=4.4,SNR=12						
KMBO				pP	pP	15 40 37.2	+2.1
	comp=Z,12nm,1.1s,baz=207,slow=6.5,SNR=6.9						
KMBO	**Kilima Mbogo**	**75.05**	**69**	*e*P	**P**	**15 40 13.7**	**+3.4**
	comp=Z,6.1nm,1.1s						
RPZ	**Rata Peaks**	**79.00**	**193**	P	**P**	**15 40 32.0**	**+0.3**
	comp=Z,34nm,0.6s,mb5.3,baz=193,slow=4.4,SNR=26						
RPZ				LR	LR	16 09 03.2	
	comp=Z,741nm,20.5s,baz=205,slow=31						
WVZ	**Waitaha Valley**	**79.67**	**193**	P	**P**	**15 40 34.9**	**-0.4**
LTZ	**Lake Taylor**	**79.76**	**194**	P	**P**	**15 40 35.3**	**-0.5**
RKT	**Rikitea**	**80.41**	**243**	*e*P	**P**	**15 40 40.0**	**+0.3**
	comp=Z,210nm,1.1s,mb5.9						
BUS	**Buena Vista**	**80.70**	**303**	*e*P	**P**	**15 40 43.6**	**+2.2**
TAU	**Tasmania Unive**	**80.82**	**176**	*e*P	**P**	**15 40 40.6**	**-0.9**
TAU				pmax	pmax		
	comp=Z,130nm,1.0s,mb5.7						
TAU	**Tasmania Unive**	**80.82**	**176**	*e*P	**P**	**15 40 40.6**	**-0.9**
	comp=Z,132nm,1.0s,mb5.7						
URSC	**Urasca**	**80.96**	**303**	*e*P	**P**	**15 40 44.5**	**+1.7**
LCR2	**La Lucha 2**	**80.98**	**303**	⇓*e*P	**P**	**15 40 44.3**	**+1.4**
ICR	**Volcan Irazu**	**81.11**	**303**	*e*P	**P**	**15 40 44.6**	**+1.0**
NNZ	**Nelson**	**81.14**	**195**	P	**P**	**15 40 42.5**	**-0.7**
LAJ	**Bijagual**	**81.14**	**303**	*e*P	**P**	**15 40 45.7**	**+2.0**
CPD	**Cerro la Pandu**	**81.17**	**323**	⇓*i*P	**P**	**15 40 42.7**	**-1.1**
HUMP	**Col San Antoni**	**81.24**	**323**	⇓*e*P	**P**	**15 40 43.2**	**-0.9**
SJG	**San Juan**	**81.32**	**322**	P	**P**	**15 40 43.7**	**-0.9**
	comp=Z,56nm,0.7s,mb5.5,baz=318,slow=21,SNR=24						
SJG	**San Juan**	**81.32**	**322**	⇓*i*P	**P**	**15 40 43.3**	**-1.2**
SJG				pmax	pmax		
	comp=Z,200nm,1.3s						
SJG	**San Juan**	**81.32**	**322**	⇓*i*P	**P**	**15 40 43.2**	**-1.3**
	comp=Z,195nm,1.4s,mb5.7						
CBYP	**Canovanas**	**81.37**	**323**	⇓*i*P	**P**	**15 40 43.9**	**-0.9**
MGP	**Maguayo**	**81.54**	**322**	*e*P	**P**	**15 40 45.1**	**-0.6**
TRTC	**Tortuguero**	**81.58**	**304**	*e*P	**P**	**15 40 47.3**	**+1.3**
JCR	**Jicaral**	**81.59**	**302**	*e*P	**P**	**15 40 47.5**	**+1.4**
AOPR	**Arecibo Observ**	**81.74**	**322**	*e*P	**P**	**15 40 45.1**	**-1.6**
JTS	**JuntasAbangare**	**81.91**	**302**	P	**P**	**15 40 48.8**	**+1.1**
	comp=Z,973nm,1.2s,mb6.5,SNR=26						
JTS	**JuntasAbangare**	**81.91**	**302**	*e*P	**P**	**15 40 47.9**	**+0.2**
	comp=Z,352nm,1.4s,mb6.0						
VCR	**Vista de Mar**	**82.08**	**302**	*e*P	**P**	**15 40 50.1**	**+1.5**
TUVZ	**Tukino**	**82.69**	**197**	P	**P**	**15 40 51.9**	**+0.7**
DRZ	**Dome Shelter**	**82.69**	**197**	P	**P**	**15 40 52.0**	**+0.8**
CNZ	**Chateau**	**82.77**	**197**	P	**P**	**15 40 52.7**	**+1.1**
NGZ	**Ngauruhoe**	**82.78**	**197**	P	**P**	**15 40 51.9**	**+0.2**
MGZ	**Maungaku**	**82.97**	**197**	P	**P**	**15 40 52.6**	**0.0**
URZ	**Urewera**	**83.42**	**199**	P	**P**	**15 40 55.5**	**+0.6**
	comp=Z,24nm,0.7s,mb5.1,baz=127,slow=1.0,SNR=11						
URZ				LR	LR	16 12 32.7	
	comp=Z,715nm,21.8s,baz=117,slow=32						
NWAO	**Narrogin (SRO)**	**85.84**	**150**	P	**P**	**15 41 07.2**	**+0.2**
NWAO	**Narrogin (SRO)**	**85.84**	**150**	*e*P	**P**	**15 41 06.9**	**-0.1**
	comp=Z,29nm,1.2s,mb5.1						
WCZ	**Waipu Caves**	**86.15**	**197**	P	**P**	**15 41 07.0**	**-1.4**
TBI	**Tubuai**	**86.92**	**231**	*e*L		16 05 09.6	
TBI				*e*R		16 08 04.3	
	comp=Z,1μm,34.0s						
ADE	**Adelaide**	**88.06**	**168**	*e*P	**P**	**15 41 19.1**	**+1.4**
STKA	**Stephens Creek**	**91.41**	**170**	P	**P**	**15 41 33.6**	**+0.1**
	comp=Z,16nm,0.6s,mb5.3,baz=154,slow=4.5,SNR=59						
STKA				PP	PP	15 45 09.5	-4.9
	comp=Z,3.3nm,0.9s,baz=198,slow=9.1,SNR=3.2						
STKA				PKKPbc		15 58 53.4	
	comp=Z,1.3nm,0.6s,slow=3.0,SNR=4.2						
STKA				LR	LR	16 17 36.0	
	comp=Z,687nm,20.8s,baz=234,slow=32						
STKA	**Stephens Creek**	**91.41**	**170**	*e*P	**P**	**15 41 33.5**	**0.0**
TVO	**Taravao**	**91.72**	**234**	*e*P	**P**	**15 41 36.2**	**+1.0**
	comp=Z,322nm,1.3s,mb6.4						
PPT	**Papeete**	**92.06**	**233**	*e*L		16 07 32.4	
PPT				*e*R		16 11 30.4	
	comp=Z,1μm,25.8s						
RAR	**Rarotonga**	**93.01**	**223**	LR	LR	16 20 26.7	
	comp=Z,380nm,18.2s,baz=42,slow=33						
VAH	**Vaihoa**	**93.22**	**236**	*e*P	**P**	**15 41 40.9**	**-1.2**
	comp=Z,75nm,1.2s,mb5.9						
ESDC	**Sonseca Array**	**97.77**	**18**	P	**P**	**15 42 04.3**	**+2.0**
	comp=Z,1.7nm,0.6s,mb4.8,baz=187,slow=4.8,SNR=6.8						
ASAR	**Alice Springs**	**98.49**	**162**	P	**P**	**15 42 05.3**	**-0.6**
	comp=Z,10nm,0.9s,mb5.4,baz=188,slow=4.3,SNR=72						
ASAR				PP	PP	15 46 03.2	-6.5
	comp=Z,3.0nm,0.7s,baz=187,slow=7.0,SNR=8.4						
ASAR				PKiKP		15 46 36.6	
	comp=Z,1.0nm,0.7s,baz=193,slow=1.5,SNR=11						
ASAR				PKKPbc		15 58 34.6	
	comp=Z,2.6nm,0.9s,baz=19,slow=2.2,SNR=19						
ASAR				LR	LR	16 24 47.8	
	comp=Z,412nm,18.5s,baz=330,slow=34						
FITZ	**Fitzroy Crossi**	**102.16**	**153**	P	Pdif	15 42 24.0	+1.5
	comp=Z,2.2nm,1.1s,baz=221,slow=5.8,SNR=3.8						
WRA	**Warramunga Arr**	**102.21**	**162**	P	Pdif	15 42 22.0	-0.7
	comp=Z,5.4nm,1.2s,baz=194,slow=4.3,SNR=14						
WRA				PP	PP	15 46 31.9	-6.1
	comp=Z,2.4nm,0.9s,baz=190,slow=6.3,SNR=5.9						
WRA				PKiKP		15 46 43.9	
	comp=Z,2.3nm,0.9s,baz=224,slow=1.3,SNR=9.6						
WRA				PKKPbc		15 58 24.3	
	comp=Z,3.1nm,0.5s,baz=359,slow=2.9,SNR=44						
WRAB	**Tennant Creek**	**102.22**	**162**	*e*P	Pdif	15 42 22.9	+0.2
	comp=Z,13nm,1.2s						
CTAO	**Charters Tower**	**103.48**	**173**	P	Pdif	15 42 28.4	+0.2

CTAO	Charters Tower	103.48	173	eP	Pdif	15 42 27.6	-0.6
	comp=Z,4.6nm,1.0s						
LTX	Lajitas	107.16	297	ePKP		15 46 53.0	
TXAR	Lajitas Array	107.16	297	PKiKP		15 46 52.5	
	comp=Z,1.7nm,0.7s,baz=153,slow=5.6,SNR=8.7						
TXAR				PP	PP	15 47 13.3	-2.0
	comp=Z,1.6nm,0.6s,baz=163,slow=9.4,SNR=6.9						
TXAR	Lajitas Array	107.16	297	PKPdf		15 46 52.5	
TXAR				PP	PP	15 47 13.3	-2.0
BRTR	Keskin Array B	108.63	45	PP	PP	15 47 23.4	-2.6
	comp=Z,0.7nm,0.5s,baz=172,slow=8.7,SNR=4.6						
WMOK	Wichita Mounta	109.28	304	P	Pdif	15 42 50.4	-3.1
GERES	GERESS Array B	110.29	27	PKiKP		15 46 57.3	
	comp=Z,1.2nm,0.6s,baz=153,slow=3.0,SNR=7.8						
GERES				PKKPbc		15 57 58.1	
	comp=Z,0.6nm,0.8s,slow=4.0,SNR=3.4						
MORC	Moravsky Berou	112.15	29	ePKP	PKPdf	15 47 01.6	+1.0
LAZ	Ladron	112.99	298	ePKP	PKPdf	15 47 04.3	+1.6
ANMO	Albuquerque	113.09	299	i PKIKP	PKPdf	15 47 04.3	+1.4
EKA	Eskdalemuir Ar	113.15	14	PKiKP		15 47 02.8	
	comp=Z,0.9nm,0.5s,baz=220,slow=1.0,SNR=3.5						
SCHQ	Schefferville	115.66	336	PKP	PKPdf	15 47 07.8	+0.3
	comp=Z,5.6nm,0.5s,baz=202,slow=2.5,SNR=14						
SCHQ	Schefferville	115.66	336	ePKPdf	PKPdf	15 47 07.5	0.0
KIV	Kislovodsk	115.85	49	i PKIKP	PKPdf	15 47 09.3	+1.2
KIV				MLR	MLR		
	comp=Z,200nm,17.0s						
RW3	Ridgway	116.32	300	ePKIKP	PKPdf	15 47 10.5	+1.3
AKASG	Malin Array Be	116.47	36	PKP	PKPdf	15 47 09.2	+0.1
	comp=Z,1.9nm,0.5s,baz=242,slow=2.0,SNR=8.8						
PV01	Paradox Valley	116.65	299	ePKPdf	PKPdf	15 47 10.9	+1.1
PV10	Paradox Valley	117.07	299	ePKPdf	PKPdf	15 47 11.6	+1.0
LDFC	Landfair	117.52	292	ePKPdf	PKPdf	15 47 13.3	+1.8
NEN	Nelson	117.83	293	ePKPdf	PKPdf	15 47 13.1	+1.0
SRU	San Rafael	118.37	299	ePKIKP	PKPdf	15 47 13.8	+0.7
MSU	Marysvale	118.71	297	PKIKP	PKPdf	15 47 15.8	+2.0
MSU	Marysvale	118.71	297	ePKPdf	PKPdf	15 47 15.6	+1.8
MVU	Marysvale	118.72	297	ePKPdf	PKPdf	15 47 15.7	+1.9
MVU				eSKPdf		15 50 41.7	
ARUT	Antelope Range	118.78	296	PKIKP	PKPdf	15 47 15.7	+1.8
ARUT	Antelope Range	118.78	296	ePKPdf	PKPdf	15 47 15.5	+1.6
TMUT	Trail Mountain	118.85	298	ePKPdf	PKPdf	15 47 15.3	+1.3
RSSD	Black Hills	119.25	306	PKIKP	PKPdf	15 47 15.0	+0.3
RSSD	Black Hills	119.25	306	ePKPdf	PKPdf	15 47 14.8	+0.1
TPNV	Topopah Spring	119.55	293	ePKPdf	PKPdf	15 47 17.2	+1.8
MPU	Maple Canyon	119.61	298	ePKPdf	PKPdf	15 47 16.8	+1.3
DAU	Daniels Canyon	119.73	299	PKIKP	PKPdf	15 47 17.7	+2.0
DAU	Daniels Canyon	119.73	299	ePKPdf	PKPdf	15 47 17.5	+1.8
DAU				ePP	PP	15 48 41.2	-3.0
NLU	North Lily Min	119.78	298	ePKPdf	PKPdf	15 47 17.5	+1.7
JLU	Jordanelle	119.97	299	ePKPdf	PKPdf	15 47 17.6	+1.4
JLU				ePP	PP	15 48 43.5	-2.2
CTU	Camp Tracy	120.19	299	ePKPdf	PKPdf	15 47 17.8	+1.3
DUG	Dugway	120.33	298	PKIKP	PKPdf	15 47 18.3	+1.4
DUG	Dugway	120.33	298	⇓iPKPdf	PKPdf	15 47 18.0	+1.1
TCUT	Toone Canyon	120.35	299	ePKPdf	PKPdf	15 47 16.6	-0.3
ULM	Lac du Bonnet	120.70	316	PKP	PKPdf	15 47 17.0	-0.4
	comp=Z,7.2nm,0.5s,baz=273,slow=1.8,SNR=7.5						
ULM				PP	PP	15 48 43.6	-6.9
	comp=Z,8.4nm,0.8s,baz=144,slow=4.7,SNR=4.0						
ULM	Lac du Bonnet	120.70	316	ePKPdf	PKPdf	15 47 16.8	-0.6
ULM				ePP	PP	15 48 44.1	-6.4
PDAR	Pinedale Array	120.73	302	PKP	PKPdf	15 47 18.1	+0.4
	comp=Z,5.6nm,0.7s,baz=127,slow=4.8,SNR=31						
PDAR				PP	PP	15 48 47.5	-3.4
	comp=Z,11nm,1.2s,baz=135,slow=4.2,SNR=7.0						
PDAR				PKKPbc		15 57 23.1	
	comp=Z,1.2nm,0.8s,baz=154,slow=0.3,SNR=6.1						
NAO01	NORSAR Array S	120.74	20	ePKPdf	PKPdf	15 47 17.4	+0.3
HWUT	Hardware Ranch	120.80	300	⇓iPKPdf	PKPdf	15 47 18.4	+0.7
TPH	Tonopah	120.91	293	PKIKP	PKPdf	15 47 20.0	+1.9
TPH	Tonopah	120.91	293	ePKPdf	PKPdf	15 47 19.6	+1.5
NB2	NORSAR Subarra	120.98	21	PKPdf	PKPdf	15 47 17.6	0.0
	comp=Z,23nm,1.4s,baz=202,slow=1.9						
NB2	NORSAR Subarra	120.98	21	PKPd		15 47 17.6	
	baz=202,slow=1.9						
NB2	NORSAR Subarra	120.98	21	⇓PKP	PKPdf	15 47 17.6	0.0
NOA	NORSAR Array B	120.98	21	PKP	PKPdf	15 47 18.4	+0.7
	comp=Z,7.0nm,0.7s,baz=204,slow=1.9,SNR=21						
NOA				PKKPbc		15 57 20.4	
	comp=Z,1.9nm,0.8s,baz=23,slow=2.8,SNR=8.1						
BGU	Big Grassy Mou	120.99	298	ePKPdf	PKPdf	15 47 19.4	+1.3
SPUT	South Promonto	121.00	299	⇓iPKPdf	PKPdf	15 47 19.0	+0.8
BORG	Borgarnes	121.01	3	PKP	PKPdf	15 47 19.4	+1.8
	comp=Z,21nm,1.1s,baz=117,slow=2.3						
MTUM	Tungsten Hills	121.05	292	ePKPdf	PKPdf	15 47 19.9	+1.5
OMM	Old Mammoth Mi	121.47	292	ePKPdf	PKPdf	15 47 21.4	+2.3
OMM				ePP	PP	15 48 52.9	-3.3
HVU	Hansel Valley	121.52	299	PKIKP	PKPdf	15 47 20.6	+1.5
HVU	Hansel Valley	121.52	299	ePKPdf	PKPdf	15 47 20.1	+0.9
LRV	Little Rabbit	121.62	289	ePKPdf	PKPdf	15 47 21.7	+2.2
MNV	Mina	121.66	293	PKIKP	PKPdf	15 47 21.4	+1.9
MNV	Mina	121.66	293	ePKPdf	PKPdf	15 47 21.2	+1.7
NVAR	Mina Array Bea	121.73	293	PKP	PKPdf	15 47 21.7	+2.1
	comp=Z,18nm,0.8s,baz=137,slow=2.3,SNR=85						
NVAR				pPKP		15 47 48.0	
	comp=Z,2.6nm,0.6s,baz=153,slow=3.3,SNR=2.4						
NVAR				PKKPbc		15 57 20.6	
	comp=Z,1.3nm,0.8s,baz=320,slow=1.9,SNR=7.2						
REDW	Red Top Meadow	121.80	301	ePKPdf	PKPdf	15 47 20.1	+0.5
SNOW	Snow King Moun	121.83	302	ePKPdf	PKPdf	15 47 20.6	+0.9
LOHW	Long Hollow	121.87	302	⇓ePKPdf	PKPdf	15 47 20.7	+0.9
WUWY	Wally Ulrich	121.88	302	ePKPdf	PKPdf	15 47 21.0	+1.2
ELK	Elko	121.94	296	PKIKP	PKPdf	15 47 21.7	+1.7
ELK	Elko	121.94	296	⇓iPKPdf	PKPdf	15 47 21.3	+1.3
TPAW	Teton Pass	121.94	301	⇓ePKPdf	PKPdf	15 47 21.1	+1.2
MOOW	Moose Ponds	122.04	302	⇓ePKPdf	PKPdf	15 47 21.0	+0.9
MOOW				eSKPdf		15 50 46.8	
LAO	LASA Array	122.22	307	⇓ePKPdf	PKPdf	15 47 20.9	+0.5
CMB	Columbia Colle	122.51	291	PKIKP	PKPdf	15 47 23.0	+1.9
CMB	Columbia Colle	122.51	291	⇓iPKPdf	PKPdf	15 47 22.4	+1.3
OBN	Obninsk	122.61	38	d iPKIKP	PKPdf	15 47 21.3	+0.4
OBN				pmax	pmax		
	comp=Z,23nm,0.6s						
OBN	Obninsk	122.61	38	ePKPdf	PKPdf	15 47 20.9	0.0
YFT	Old Faithful	122.62	302	ePKPdf	PKPdf	15 47 23.4	+2.3
BMN	Battle Mountai	122.69	295	PKIKP	PKPdf	15 47 23.3	+1.9
BMN	Battle Mountai	122.69	295	⇓iPKPdf	PKPdf	15 47 22.6	+1.2
DGMT	Dagmar	122.70	310	ePKPdf	PKPdf	15 47 21.4	+0.2
DDI	Dehra Dun	122.80	84	e	PKPdf	15 47 22.1	+0.3
GCMT	Greycliff	123.09	304	ePKPdf	PKPdf	15 47 23.1	+1.1
GCMT				ePP	PP	15 49 02.7	-4.7
LKC	Lake Chabot	123.16	289	ePKPdf	PKPdf	15 47 24.2	+1.8
QLMT	Earthquake Lak	123.18	302	ePKPdf	PKPdf	15 47 23.0	+0.8
MCMT	McKenzie Canyo	123.85	301	ePKPdf	PKPdf	15 47 25.0	+1.4
MCMT				ePP	PP	15 49 08.1	-4.6
BEKR	Beckwourth	123.86	292	⇓iPKPdf	PKPdf	15 47 25.3	+1.5
KOLN	Koldanda	123.89	90	eP	PKPdf	15 47 24.1	0.0
	comp=Z,102nm,1.3s						
NSHM	Saint Helena R	124.03	290	ePKPdf	PKPdf	15 47 25.8	+1.7
OHCM	Honcut	124.05	291	ePKPdf	PKPdf	15 47 25.6	+1.5
DMN	Daman	124.60	91	eP	PKPdf	15 47 25.9	+0.5
	comp=Z,30nm,0.9s						
HOPS	Hopland	124.62	290	ePKPdf	PKPdf	15 47 26.8	+1.7
GKN	Gorkha	124.65	91	eP	PKPdf	15 47 25.1	-0.4
	comp=Z,94nm,1.3s						
FINES	FINESS Array B	124.72	28	PKP	PKPdf	15 47 25.3	+0.6
	comp=Z,30nm,0.6s,baz=147,slow=2.0,SNR=208						
FINES	FINESS Array B	124.72	28	PKP	PKPdf	15 47 25.3	+0.6
PKI	Pulchoki	124.74	92	eP	PKPdf	15 47 25.5	-0.2
	comp=Z,98nm,1.4s						
CM31	Chiang Mai Arr	124.74	111	ePKPdf	PKPdf	15 47 26.3	+0.5
CMAR	Chiang Mai Arr	124.74	111	PKP	PKPdf	15 47 26.9	+1.1
	comp=Z,8.8nm,0.8s,baz=226,slow=3.5,SNR=49						
CMAR				pPKP		15 47 53.1	
	comp=Z,7.6nm,0.9s,baz=252,slow=3.0,SNR=6.8						
CMAR				PKKPbc		15 57 09.2	
	comp=Z,1.3nm,0.9s,baz=8.0,slow=4.6,SNR=6.4						
HRY	Holter Researc	124.77	303	ePKPdf	PKPdf	15 47 26.0	+0.8
KKN	Kakani	124.84	91	eP	PKPdf	15 47 26.2	+0.4
	comp=Z,27nm,0.8s						
GUN	Gumba	125.27	92	eP	PKPdf	15 47 26.9	+0.3
	comp=Z,106nm,1.3s						
KAF	Kangasniemi	125.34	27	epkp	PKPdf	15 47 26.5	+0.7
	comp=Z,32nm,0.6s,baz=225,slow=1.7						
KAF	Kangasniemi	125.34	27	ePKIKP	PKPdf	15 47 26.5	+0.7
KAF				pmax	pmax		
	comp=Z,32nm,0.6s						
MOD	Modoc	125.34	294	⇓iPKPdf	PKPdf	15 47 27.9	+1.5
WDC	Whiskeytown Da	125.52	291	PKIKP	PKPdf	15 47 28.0	+1.2
WDC	Whiskeytown Da	125.52	291	ePKPdf	PKPdf	15 47 27.9	+1.2
CHMT	Chamberlain Mo	125.58	303	ePKPdf	PKPdf	15 47 27.8	+1.1
CHMT				eSKPdf		15 50 53.7	
MSO	Missoula	125.84	302	ePKPdf	PKPdf	15 47 28.0	+0.8
KHMM	Horse Mountain	126.35	291	ePKPdf	PKPdf	15 47 30.5	+2.2
YBH	Yreka Blue Hor	126.44	292	PKP	PKPdf	15 47 29.2	+0.7
	comp=Z,18nm,0.8s,baz=124,slow=1.4,SNR=28						
YBH	Yreka Blue Hor	126.44	292	PKIKP	PKPdf	15 47 29.7	+1.2
YBH	Yreka Blue Hor	126.44	292	⇓ePKPdf	PKPdf	15 47 29.2	+0.7
FFC	Flin Flon	126.53	316	PKIKP	PKPdf	15 47 28.3	0.0
FFC	Flin Flon	126.53	316	ePKPdf	PKPdf	15 47 28.7	+0.5
FFC				ePP	PP	15 49 24.4	-5.2
HUMO	Hull Mountain	127.20	293	ePKPdf	PKPdf	15 47 31.4	+1.5
HSO	Harness Mounta	127.93	294	PKIKP	PKPdf	15 47 33.9	+2.5
HSO	Harness Mounta	127.93	294	ePKPdf	PKPdf	15 47 33.4	+2.0
VGB	Gordon Butte	128.19	297	PKIKP	PKPdf	15 47 33.5	+1.7
VGB	Gordon Butte	128.19	297	ePKPdf	PKPdf	15 47 33.3	+1.5
SSOR	Sweet Springs	128.56	295	PKIKP	PKPdf	15 47 34.3	+1.8
SSOR	Sweet Springs	128.56	295	ePKPdf	PKPdf	15 47 33.5	+0.9
DPW	Davenport	128.61	301	PKIKP	PKPdf	15 47 33.7	+1.2
DPW	Davenport	128.61	301	ePKPdf	PKPdf	15 47 33.5	+1.0
BUSP	Coron	128.85	137	eP	Pdif	15 44 45.2	+25
SUMG	Summit	129.05	356	ePKPdf	PKPdf	15 47 34.2	+1.5
AML	Almayashu	129.20	71	P	PKPdf	15 47 35.5	+1.7
	SNR=25						
LSA	Lhasa	129.57	95	PKP	PKPdf	15 47 37.5	+2.6
EKS2	Erkin-Say	129.62	70	P	PKPdf	15 47 35.8	+1.2
	SNR=12						
UCH	Uchtor	129.69	71	P	PKPdf	15 47 36.6	+1.8
	SNR=12						
NLW	Nelson Butte	129.78	299	ePKPdf	PKPdf	15 47 35.3	+0.6
AAK	Ala-Archa	129.97	71	P	PKPdf	15 47 36.7	+1.4
	SNR=15						
AAK	Ala-Archa	129.97	71	d ePKIKP	PKPdf	15 47 35.2	-0.1
AAK				MLR	MLR		
	comp=Z,200nm,17.0s						
AAK	Ala-Archa	129.97	71	ePKPdf	PKPdf	15 47 35.6	+0.4
AAK				e		15 50 49.0	
KZA	Kyzart	129.97	72	P	PKPdf	15 47 37.1	+1.8
	SNR=8.3						
EDM	Edmonton	130.13	308	PKIKP	PKPdf	15 47 36.2	+0.9
EDM	Edmonton	130.13	308	ePKPdf	PKPdf	15 47 35.1	-0.2
EDM				e		15 50 46.6	
FRU	Bishkek	130.18	71	ePKIKP	PKPdf	15 47 37.5	+1.8
KBK	Karagaybulak	130.22	71	P	PKPdf	15 47 37.0	+1.3
	SNR=11						
USP	Ospenovka	130.42	70	P	PKPdf	15 47 37.0	+0.8
	SNR=10						
GNW	Green Mountain	130.63	297	ePKPdf	PKPdf	15 47 37.7	+1.3
ARCES	ARCESS Array B	131.31	22	PKhKP		15 47 21.8	
	comp=Z,8.6nm,1.1s,slow=2.4,SNR=7.9						
ARCES				PKP	PKPdf	15 47 37.5	+0.3
	comp=Z,12nm,0.4s,baz=195,slow=1.8,SNR=88						
ARCES				pPKP		15 48 05.5	
	comp=Z,6.9nm,0.5s,baz=208,slow=1.8,SNR=3.6						
ARCES				SKPbc		15 50 53.1	
	comp=Z,9.3nm,0.8s,baz=207,slow=2.7,SNR=7.3						
ARCES	ARCESS Array B	131.31	22	PKP	PKPdf	15 47 37.5	+0.3
ARCES				pPKP		15 48 05.5	
ARCES				SKPbc		15 50 53.1	
ARE0	ARCESS Array S	131.31	22	ePKPdf	PKPdf	15 47 37.3	+0.2
KEV	Kevo	131.80	22	epkp	PKPdf	15 47 32.6	-5.4
	comp=Z,37nm,1.2s						
KEV	Kevo	131.80	22	ePKIKP	PKPdf	15 47 32.6	-5.4
KEV				pmax	pmax		
	comp=Z,37nm,1.2s						
ARU	Arti	131.88	48	d iPKIKP	PKPdf	15 47 39.7	+1.2
ARU				MLR	MLR		
	comp=Z,200nm,17.0s						
ARU	Arti	131.88	48	ePKPdf	PKPdf	15 47 39.5	+1.0
KMI	Kunming	132.21	109	ePKP	PKPdf	15 47 41.4	+1.4
KMI				PP	PP	15 50 09.4	+2.2
KMI				SS	SS	16 07 38.2	+3.3
KMI				LR	LR		
	comp=Z,558nm,29.2s						
SVE	Sverdlovsk	133.01	49	⇓ePKIKP	PKPdf	15 47 41.0	+0.4
SVE				pmax	pmax		
	comp=Z,120nm,1.9s						
DAG	Danmarks Havn	133.13	3	i P	PKPdf	15 47 40.0	-0.4
	comp=Z,18nm,1.1s						
BRVK	Borovoye	134.86	58	PKIKP	PKPdf	15 47 45.2	+1.0
BRVK	Borovoye	134.86	58	ePKPdf	PKPdf	15 47 44.2	+0.1
BVAR	Borovoye Array	134.89	58	PKhKP		15 47 32.7	
	comp=Z,1.1nm,0.7s,baz=198,slow=4.7,SNR=5.2						
BVAR				PKP	PKPdf	15 47 45.2	+1.0
	comp=Z,6.3nm,0.5s,baz=190,slow=2.7,SNR=28						
BVAR				pPKP		15 48 12.9	
	comp=Z,3.9nm,0.5s,baz=207,slow=3.3,SNR=3.1						
BVAR				SKPbc		15 51 06.2	
	comp=Z,5.8nm,0.7s,baz=243,slow=3.3,SNR=9.6						
BVAR	Borovoye Array	134.89	58	PKP	PKPdf	15 47 45.2	+1.0
BVAR				pPKP		15 48 12.9	
BVAR				SKPbc		15 51 06.2	
GYA	Guiyang	135.33	112	PKP	PKPdf	15 47 45.9	+0.1
GYA				XPKP		15 48 24.2	
GYA				PP	PP		
	comp=Z,430nm,9.0s						
GYA				LR	LR		
	comp=N,250nm,19.2s						
GYA				LR	LR		
	comp=E,340nm,20.4s						
GYA				LR	LR		
	comp=Z,270nm,24.0s						
YKA	Yellowknife Ar	136.63	318	PKhKP		15 47 34.2	
	comp=Z,2.1nm,0.6s,baz=118,slow=3.8,SNR=6.4						
YKA				PKP	PKPdf	15 47 47.8	+0.8
	comp=Z,9.8nm,0.4s,baz=127,slow=2.3,SNR=31						
YKA				PP	PP	15 50 24.2	-9.1
	comp=Z,3.3nm,1.0s,baz=131,slow=6.0,SNR=4.5						
YKA				SKPbc		15 51 10.0	
	comp=Z,7.5nm,0.9s,baz=118,slow=2.0,SNR=9.3						
YKA	Yellowknife Ar	136.63	318	PKP	PKPdf	15 47 47.9	+0.8
YKA				PP	PP	15 50 24.2	-9.1
YKA				SKPbc		15 51 10.0	
YKW3	Yellowknife Ar	136.67	318	⇓ePKPdf	PKPdf	15 47 47.6	+0.4
YKW3				ePP	PP	15 50 27.5	-6.0
YKW3				eSKP		15 51 08.2	
MKAR	Makanchi Array	136.87	72	PKhKP		15 47 37.2	
	comp=Z,1.4nm,0.6s,baz=228,slow=1.9,SNR=11						
MKAR				PKP	PKPdf	15 47 50.2	+2.2
	comp=Z,4.1nm,0.6s,baz=231,slow=2.4,SNR=16						
MKAR				SKPbc		15 51 11.0	
	comp=Z,3.3nm,0.8s,baz=232,slow=2.7,SNR=7.1						
MKAR	Makanchi Array	136.87	72	PKP	PKPdf	15 47 50.2	+2.2
MKAR				SKPbc		15 51 11.0	
KURK	Kurchatov	137.45	65	PKIKP	PKPdf	15 47 49.3	+0.3
KURK	Kurchatov	137.45	65	ePKPdf	PKPdf	15 47 48.9	0.0
WMQ	Urumqi	137.83	79	ePKP	PKPdf	15 47 51.5	+1.6
RES	Resolute Bay	138.35	338	ePKIKP	PKPdf	15 47 51.4	+1.4
ENH	Enshi	139.87	112	ePKPdf	PKPdf	15 47 55.0	+1.0
DLBC	Dease Lake	140.73	306	PKhKP		15 47 48.5	
	comp=Z,14nm,0.8s,baz=176,slow=2.0,SNR=9.2						
DLBC				PKP	PKPdf	15 47 56.5	+2.0
	comp=Z,17nm,0.8s,baz=241,slow=2.8,SNR=14						
DLBC				SKPbc		15 51 21.5	
	comp=Z,7.2nm,0.7s,baz=92,slow=4.4,SNR=4.2						
DLBC	Dease Lake	140.73	306	PKP	PKPdf	15 47 56.5	+2.0
DLBC				SKPbc		15 51 21.5	
NVS	Novosibirsk	142.11	62	i PKHKP		15 47 53.1	
NVS				i		15 51 04.2	
NVS				pmax	pmax		
	comp=N,20nm,1.3s						
NVS				pmax	pmax		
	comp=E,9.0nm,1.3s						
NVS				pmax	pmax		
	comp=Z,34nm,1.3s						
ZAL	Zalesovo	142.41	64	PKhKP		15 47 54.2	
	comp=Z,4.3nm,0.8s,baz=126,slow=4.2,SNR=15						
ZAL				PKP	PKPdf	15 47 58.5	+1.0
	comp=Z,7.4nm,0.5s,baz=161,slow=3.7,SNR=16						
XAN	Xi'an	142.54	108	PKP	PKPdf	15 47 55.6	-2.8
NJ2	Nanjing	145.95	121	ePKP	PKPdf	15 48 05.9	+1.5
NJ2				PKP2	PKPab	15 48 09.5	+1.4
NJ2				PP	PP	15 51 33.0	+2.3
NJ2				PKS	PKS	15 51 40.0	+1.2
NJ2				LR	LR		
	comp=N,4μm,21.0s						
NJ2				LR	LR		
	comp=E,1μm,20.0s						
NJ2				LR	LR		
	comp=Z,4μm,20.4s						
INK	Inuvik	146.27	320	PKPbc	PKPbc	15 48 06.2	+1.2
	comp=Z,670nm,1.2s,baz=96,slow=3.3,SNR=147						
INK				SKPbc		15 51 35.0	
	comp=Z,20nm,1.0s,baz=150,slow=1.0,SNR=3.7						
INK	Inuvik	146.27	320	⇓iPKPbc	PKPbc	15 48 06.1	+1.1
INK				e		15 51 34.9	
DAWY	Dawson	147.23	311	⇓iPKPbc	PKPdf	15 48 08.7	+3.1
BTO	Baotou	147.97	101	ePKP	PKPdf	15 48 12.5	+5.1
TIA	Tai'an	148.46	115	ePKP	PKPdf	15 48 13.1	+4.7
EYAK	Cordova Ski Ar	148.85	303	⇓iPKPbc	PKPdf	15 48 14.0	+5.8
HHC	Hu-ho-hao-te	148.98	102	ePKP	PKPdf	15 48 14.7	+5.7
HHC				XPKP		15 48 46.9	
HHC				PKS	PKS	15 51 44.9	+1.9
HHC				SKS	SKS	15 55 12.1	+6.3
DIV	Divide	149.06	304	ePKPdf	PKPdf	15 48 10.3	+1.8
DIV				⇓iPKPbc	PKPdf	15 48 14.5	+6.0
DIV				ePKPab	PKPab	15 48 18.8	-0.7
MOY	Mondy	149.67	77	ePKIKP	PKPdf	15 48 07.1	-2.7
THY	Trims Highway	149.74	309	PKPdf	PKPdf	15 48 10.6	+1.0
THY				⇓iPKPbc	PKPdf	15 48 15.9	+6.4
SML	Sawmill	150.44	305	ePKPdf	PKPdf	15 48 12.0	+1.4
SML				⇓iPKPbc	PKPdf	15 48 17.5	+6.8
SML				ePKPab	PKPab	15 48 24.4	-0.7
ILAR	Eielson Array	150.55	311	PKP	PKPdf	15 48 09.6	-1.2
	comp=Z,10nm,1.0s,baz=328,slow=2.3,SNR=44						
ILAR				PKPbc	PKPdf	15 48 17.9	+7.1
	comp=Z,201nm,0.9s,baz=119,slow=1.5,SNR=276						
SONM	Songino Array	150.59	87	PKP	PKPdf	15 48 11.5	+0.2
	comp=Z,3.6nm,1.1s,baz=207,slow=2.8,SNR=16						
SONM				PKPbc	PKPdf	15 48 18.5	+7.1
	comp=Z,72nm,0.6s,baz=228,slow=3.1,SNR=334						
SONM				pPKP		15 48 40.5	
	comp=Z,22nm,0.6s,baz=213,slow=2.8,SNR=4.4						
PMR	Palmer	150.74	304	ePKIKP	PKPdf	15 48 09.6	-1.5
PMR				e		15 48 12.6	
PMR				i		15 48 18.1	
PMR				i		15 48 25.8	
PMR	Palmer	150.74	304	eP	PKPdf	15 48 10.0	-1.1
BJT	Baijiatuau	150.84	109	ePKPbc	PKPdf	15 48 18.4	+6.4
BJT				e		15 48 47.8	
SLKM	Skilak Lake	150.93	302	ePKIKP	PKPdf	15 48 19.3	+7.9
COLA	College	150.98	311	ePKIKP	PKPdf	15 48 18.2	+6.8
COLA				e		15 48 26.7	
COLA	College	150.98	311	eP	PKPdf	15 48 09.4	-2.0
COLA				⇓ePKPbc	PKPdf	15 48 18.2	+6.9
COLA				ePKPab	PKPab	15 48 26.7	-0.7
FIB	Fire Island	151.10	303	ePKIKP	PKPdf	15 48 11.5	-0.2
FIB				i		15 48 19.9	
FIB				e		15 48 26.6	
FIB	Fire Island	151.10	303	ePKPpre		15 48 11.5	
FIB				⇓iPKPbc	PKPdf	15 48 20.0	+8.3
FIB				ePKPab	PKPab	15 48 26.6	-1.3
KDAK	Kodiak Island	151.17	296	⇓iPKPbc	PKPdf	15 48 19.5	+7.6
MCK	McKinley	151.19	308	⇓iPKPbc	PKPdf	15 48 19.1	+7.4
IRK	Irkutsk	151.73	78	ePKIKP	PKPdf	15 48 19.7	+6.8
SPU	Mount Spurr	151.98	303	ePKPbc	PKPdf	15 48 21.2	+8.2
SPU				ePKPab	PKPab	15 48 30.4	-1.2
RSO	Redoubt South	152.12	301	ePKPdf	PKPdf	15 48 14.3	+1.1
RSO				ePKPbc	PKPdf	15 48 21.9	+8.7
RSO				ePKPab	PKPab	15 48 32.0	-0.2
IMA	Indian Mountai	153.55	313	ePKIKP	PKPdf	15 48 13.5	-1.5
IMA				e		15 48 25.5	
IMA				e		15 48 38.0	
IMA	Indian Mountai	153.55	313	eP	PKPdf	15 48 13.8	-1.2
MAJO	Matsushiro	157.64	147	ePKIKP	PKPdf	15 48 23.5	+2.1
CN2	Changchun	158.36	114	ePKP	PKPdf	15 48 22.5	+0.5
CN2				XPKP		15 48 58.1	
CN2				PP	PP	15 52 42.2	+1.8
CN2				LR	LR		
	comp=N,200nm,15.0s						
CN2				LR	LR		
	comp=E,190nm,15.0s						
CN2				LR	LR		
	comp=Z,430nm,16.0s						
HIA	Hailar	158.77	96	ePKPdf	PKPdf	15 48 22.9	+0.6
BOD	Bodaibo	158.95	70	ePKIKP	PKPdf	15 48 21.1	-1.2
BOD				e		15 49 00.6	
MDJ	Mudanjiang	161.01	119	PKP	PKPdf	15 48 26.0	+1.1
MDJ				APKP		15 48 51.8	
MDJ				XPKP		15 49 01.8	
MDJ				PKS	PKS	15 52 01.9	+4.5
MDJ				SKS	SKS	15 55 22.8	+4.0
MDJ				LR	LR		
	comp=E,433nm,48.0s						
MDJ				LR	LR		
	comp=Z,283nm,29.7s						
MDJ	Mudanjiang	161.01	119	ePKPdf	PKPdf	15 48 25.8	+0.9
MDJ				ePKPab	PKPab	15 49 08.8	-1.9
TIXI	Tiksi	161.72	25	⇑iPKP2	PKPab	15 49 13.9	+0.9
TIXI				e		15 52 57.5	
TIXI				pmax	pmax		
	comp=Z,46nm,1.6s						
CLNS	Chul'man	164.53	77	ePKIKP	PKPdf	15 48 28.1	+0.1
CLNS				pmax	pmax		
	comp=Z,26nm,1.1s						
CLNS				pmax	pmax		
	comp=N,10.0nm,1.0s						
KLR	Kul'dur	165.22	111	ePKIKP	PKPdf	15 48 27.0	-1.9
KLR				e		15 49 25.0	
KLR				pmax	pmax		
	comp=Z,45nm,2.0s						
YAK	Yakutsk	166.85	56	ePKIKP	PKPdf	15 48 29.4	-0.4
YSS	Yuzh-Sakhalins	168.49	142	⇓ePKIKP	PKPdf	15 48 32.0	+0.7
YSS				e		15 49 42.0	
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS	Yuzh-Sakhalins	168.49	142	⇓iPKPbc	PKPdf	15 48 32.4	+1.2
YSS				⇑iPKPab	PKPab	15 49 42.9	-0.3

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*NEIC **08** 15:32:57.2±2.1, 51.57N×16.19E, h5km, ML2.7(VIE), ML2.4(CLL), ML2.3(BRG), Error ellipse: s-maj=23.9km s-min=7.8km az=221.0*

*PRU **08** 15:32:58.6, 51.48N×16.10E*

*WAR **08** 15:32:59, 51.50N×16.09E, ML2.9, Mining Induced*

ISC 08 15:32:56.8±0.8, **51.46N**±0.04×**16.07E**±0.04, **n16,** σ1§**28**/36, **1C, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.64	167	ePg	Pg	15 33 11.1	+1.7
KSP				eSg	Sg	15 33 20.4	+2.5
UPC	Upice	0.95	182	ePG	Pg	15 33 17.3	+1.5
DPC	Dobruska-Polom	1.12	172	ePG	Pg	15 33 19.9	+0.7
DPC				eSG	Sg	15 33 34.7	+0.5
PVCC	Panska Ves	1.33	226	ePG	Pg	15 33 24.5	+1.2
BRG	Berggiesshubel	1.46	247	ePn	Pn	15 33 25.4	+0.9
BRG				i Pg	Pg	15 33 26.7	+0.8
BRG				i Sg	Sg	15 33 46.7	+1.3
PRU	Pruhonice	1.77	214	PG	Pg	15 33 30.7	-1.3
PRU				i x	x	15 33 33.2	
PRU				i x	x	15 33 48.3	
PRU				SG	Sg	15 33 54.5	-1.0
	19nm,0.4s						
CLL	Collm	1.93	267	ePN	Pn	15 33 31.0	-0.1
CLL				ePG	Pg	15 33 34.0	-1.2
CLL				i		15 33 37.4	
CLL				i		15 33 38.4	
CLL				i SG	Sg	15 34 00.4	-0.5
CLL	Collm	1.93	267	ePn	Pn	15 33 31.0	-0.1
CLL				ePg	Pg	15 33 34.0	-1.2
CLL				i Sg	Sg	15 34 00.4	-0.5
MORC	Moravsky Berou	1.93	150	ePn	Pn	15 33 31.6	+0.5
MORC				eSn	Sn	15 33 59.1	+2.6
OKC	Ostrava-Krasne	2.10	140	ePG	Pg	15 33 38.6	0.0
OKC				eSG	Sg	15 34 04.6	-2.0
NKC	Novy Kostel	2.60	243	ePN	Pn	15 33 42.0	+1.2
NKC				ePG	Pg	15 33 47.7	-1.0
NKC				eSG	Sg	15 34 22.9	-0.5
OJC	Ojcow	2.67	116	ePG	Pg	15 33 48.0	-2.1
OJC				eSG	Sg	15 34 24.0	-1.7
OJC	Ojcow	2.67	116	ePg	Pg	15 33 48.5	-1.6
OJC				eSg	Sg	15 34 23.9	-1.8
OJC	Ojcow	2.67	116	ePg	Pg	15 33 48.5	-1.6
OJC				eSg	Sg	15 34 23.9	-1.8
KHC	Kasperske Hory	2.83	215	ePN	Pn	15 33 44.8	+0.8
KHC				ePG	Pg	15 33 50.4	-2.8
KHC				eSN	Sn	15 34 19.0	-0.3
KHC				eSG	Sg	15 34 28.9	-2.0
MOA	Molln	3.80	199	⇑iPN	Pn	15 33 58.6	+0.8
MOA				i SG	Sg	15 35 02.3	-1.0
	3.6nm,0.5s						

MAN 08 15:35:44.0, 13.81N×120.46E, h90km, mb4.6, ML3.4, MS3.3, 2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.22**	**251**	*e*P	P	15 35 55.4	-1.6
LUBP	**Lubang**	**0.22**	**251**	*e*P	P	15 35 59.0	+2.0
LUBP	**Lubang**	**0.22**	**251**	*e*P	P	15 35 59.0	+2.0
LUBP				*e*S	S	15 36 08.8	+1.9
TGY	**Tagaytay City**	**0.55**	**58**	⇓*i*P	P	15 36 00.6	+1.3
TGY				*i* S	S	15 36 13.4	+2.7
BOAC	**Boac**	**1.39**	**104**	*e*P	P	15 36 08.9	+0.1
BOAC				*e*S	S	15 36 28.2	+1.1
SJMP	**San Jose**	**1.48**	**154**	*e*P	P	15 36 10.6	+0.7
SJMP				*e*S	S	15 36 29.4	+0.2
POLP	**Polilio Island**	**1.70**	**57**	*e*P	P	15 36 13.6	+0.8
GQP	**Guinayangan**	**1.93**	**87**	⇓*e*P	P	15 36 16.4	+0.6
SCZP	**Santa Cruz**	**2.03**	**345**	*e*P	P	15 36 17.1	0.0
OTRP	**Odiongan**	**2.09**	**133**	*e*P	P	15 36 17.3	-0.6
BALP	**Baler**	**2.21**	**29**	*e*P	P	15 36 19.6	+0.1
AUQP	**San Andres**	**2.21**	**102**	*e*P	P	15 36 20.8	+1.2
BOLP	**Bolinao**	**2.61**	**348**	*e*P	P	15 36 24.7	-0.5
CAUP	**Cauayan**	**3.39**	**23**	*e*P	P	15 36 36.1	+0.2
PVCP	**Virac**	**3.60**	**93**	*e*P	P	15 36 38.5	-0.3

IDC 08 15:57:02.9±3.4**, 5.49S×154.51E, mb3.7**/5**, mb1 3.9**/5**, mb1mx3.8**/13**, Error ellipse: s-maj=90.2km s-min=29.9km az=95.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.32**	**232**	P	P	16 02 22.9	-0.6
	3.4nm,1.0s,baz=55,slow=9.6,SNR=31						
ASAR	**Alice Springs**	**26.84**	**226**	P	P	16 02 45.1	-2.0
	0.7nm,0.6s,baz=56,slow=9.2,SNR=11						
STKA	**Stephens Creek**	**28.90**	**203**	P	P	16 03 03.2	-2.6
	0.9nm,0.5s,baz=25,slow=13,SNR=4.4						
CMAR	**Chiang Mai Arr**	**59.71**	**295**	P	P	16 07 11.2	-0.9
	0.3nm,0.7s,baz=112,slow=4.5,SNR=4.7						
MKAR	**Makanchi Array**	**81.96**	**319**	P	P	16 09 24.0	-2.1
	0.3nm,0.7s,baz=108,slow=4.6,SNR=2.8						

MAN 08 16:01:15.8, 13.83N×120.49E, h88^{km}, mb4.0, ML2.8, MS2.4, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.26**	**248**	*e*P	P	16 01 30.7	+1.9
LUBP				*e*S	S	16 01 40.9	+2.3
TGY	**Tagaytay City**	**0.51**	**58**	⇓*i*P	P	16 01 32.2	+1.6
TGY				*i* S	S	16 01 44.3	+2.7
BOAC	**Boac**	**1.37**	**106**	*e*P	P	16 01 40.4	+0.2
SJMP	**San Jose**	**1.50**	**156**	*e*P	P	16 01 42.4	+0.6
POLP	**Polilio Island**	**1.66**	**57**	*e*P	P	16 01 44.6	+0.6
BUSP	**Coron**	**1.84**	**189**	*e*P	P	16 01 46.1	-0.2
SCZP	**Santa Cruz**	**2.01**	**344**	*e*P	P	16 01 48.5	-0.1

*TAP **08** 16:05:26.8, 24.39N×121.74E, h8^{km}, ML1.0*
JMA 08 16:04:58.3±0.3**, 25.04N×123.46E, h22^{km}, M1.8, Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.71**	**215**	P	Pb	16 05 11.6	-0.2
IRIF	**Iriomote-Funau**	**0.74**	**161**	P	Pb	16 05 12.3	-0.2
IRIF				*e*S	Sb	16 05 22.1	-0.1
JIJ	**Ishigaki jima**	**0.92**	**137**	P	Pb	16 05 14.9	-0.5
JIJ				*e*S	Sb	16 05 27.4	+0.3
JKRS	**Kuro-shima**	**0.94**	**148**	P	Pb	16 05 15.8	0.0
JKRS				*e*S	Sb	16 05 27.5	-0.4

IDC 08 16:05:50.0±19.0**, 22.29S×176.48W, h97^{km}**±146^{km}**, mb3.8**/5**, mb1 3.9**/6**, mb1mx3.7**/15**, ML4.2**/1**, Error ellipse: s-maj=115.0km s-min=41.4km az=51.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**16.84**	**198**	P	P	16 09 40.5	-0.5
	0.8nm,0.3s,baz=286,slow=5.3,SNR=4.3						
URZ				S	S	16 12 42.6	-1.2
	0.6nm,0.3s,baz=90,slow=23,SNR=6.8						
RPZ	**Rata Peaks**	**23.73**	**203**	P	P	16 10 54.0	+0.1
	5.3nm,0.7s,baz=16,slow=24,SNR=5.4						
CTA	**Charters Tower**	**34.77**	**267**	P	P	16 12 31.9	-1.2
	1.2nm,0.4s,baz=89,slow=13,SNR=4.8						
STKA	**Stephens Creek**	**38.33**	**246**	P	P	16 13 03.0	0.0
	2.2nm,0.7s,baz=100,slow=11,SNR=11						
ASAR	**Alice Springs**	**45.52**	**258**	P	P	16 13 59.9	-1.9
	2.1nm,0.7s,baz=100,slow=7.4,SNR=37						
ASAR				PcP	PcP	16 15 36.2	-3.2
	0.9nm,1.1s,baz=104,slow=3.7,SNR=4.1						
WRA	**Warramunga Arr**	**45.78**	**263**	P	P	16 14 01.0	-2.9
	0.6nm,0.3s,baz=97,slow=8.0,SNR=25						

*IDC **08** 16:32:32.1±1.0, 38.68N×115.41W, mb3.4/2, mb1 3.8/6, mb1mx3.7/22, ML3.8/4, Error ellipse: s-maj=17.2km s-min=6.9km az=166.0*
*NEIC **08** 16:32:32.4, 38.69N×115.41W, h1^{km}, ML4.2(REN), After REN.*
ISC 08 16:32:30.1±0.2**, 38.71N**±0.02×**115.43W**±0.02**, h1^{km}, n56, σ1^{s}45**/94**, mb3.4**/2**, 3D, Nevada**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRCR	**Troy Canyon**	**0.38**	**200**	*e*Pg	**Pg**	**16 32 39.5**	**+2.0**
TRCR				*e*Sg	**Sg**	**16 32 44.2**	**+1.6**
TPH	**Tonopah**	**1.55**	**247**	*e*Pn	**Pn**	**16 33 00.1**	**+1.3**
TPH				*e*Sn	**Sn**	**16 33 21.7**	**+1.8**
ARUT	**Antelope Range**	**1.81**	**120**	*e*Pn	**Pn**	**16 33 03.2**	**+0.5**
ARUT				*e*Pg	**Pg**	**16 33 06.0**	**-0.2**
ARUT				Sg	**Sg**	**16 33 29.8**	**-0.5**
TPNV	**Topopah Spring**	**1.87**	**201**	⇓*e*Pn	**Pn**	**16 33 04.7**	**+1.1**
TPNV				Pg	**Pg**	**16 33 08.4**	**+1.0**
TPNV				*e*Sn	**Sn**	**16 33 28.9**	**+0.8**
ELK	**Elko**	**2.04**	**4**	⇓*i*Pn	**Pn**	**16 33 05.9**	**-0.1**
ELK				*e*S	**Sn**	**16 33 29.5**	**-3.0**
MNV	**Mina**	**2.16**	**264**	*e*Pn	**Pn**	**16 33 09.0**	**+1.4**
MNV				*e*Sg	**Sg**	**16 33 41.6**	**-0.2**
BMN	**Battle Mountai**	**2.21**	**322**	*e*Pn	**Pn**	**16 33 08.6**	**+0.2**
BMN				*e*Pg	**Pg**	**16 33 13.6**	**-0.6**
BMN				*e*Sg	**Sg**	**16 33 41.7**	**-2.0**
NVAR	**Mina Array Bea**	**2.27**	**264**	Pn	**Pn**	**16 33 09.8**	**+0.5**
	8.4nm,0.3s,baz=184,slow=20,SNR=186						
NVAR				Pg	**Pg**	**16 33 13.8**	**-1.7**
	16nm,0.3s,baz=80,slow=16,SNR=92						
NVAR				Lg		16 33 44.6	
	183nm,0.3s,baz=76,slow=34,SNR=14						
DUG	**Dugway**	**2.51**	**53**	*e*Pn	**Pn**	**16 33 12.9**	**+0.3**
MVU	**Marysvale**	**2.52**	**94**	*e*Pn	**Pn**	**16 33 13.4**	**+0.5**
MVU				*e*Sg	**Sg**	**16 33 52.0**	**-2.1**
MSU	**Marysvale**	**2.55**	**93**	*e*Pn	**Pn**	**16 33 13.7**	**+0.4**
MSU				*e*Sg	**Sg**	**16 33 52.2**	**-2.8**
MTUM	**Tungsten Hills**	**2.82**	**242**	*e*Pn	**Pn**	**16 33 18.7**	**+1.5**
MTUM				*e*Pg	**Pg**	**16 33 23.8**	**-2.6**
MTUM				*e*Sg	**Sg**	**16 34 03.5**	**-0.5**
NLU	**North Lily Min**	**2.88**	**63**	*e*Pn	**Pn**	**16 33 19.7**	**+1.7**
BGU	**Big Grassy Mou**	**2.88**	**39**	*e*Pn	**Pn**	**16 33 17.7**	**-0.3**
DAC	**Darwin (Calif)**	**2.98**	**216**	*e*Pn	**Pn**	**16 33 21.0**	**+1.7**
DAC				*e*Pg	**Pg**	**16 33 27.8**	**-1.6**
DAC				*e*Sg	**Sg**	**16 34 06.5**	**-2.7**
OMM	**Old Mammoth Mi**	**3.01**	**250**	*e*Pn	**Pn**	**16 33 21.6**	**+1.7**
OMM				*e*Pg	**Pg**	**16 33 27.5**	**-2.7**
OMM				*e*Sg	**Sg**	**16 34 08.9**	**-1.5**
NEN	**Nelson**	**3.09**	**171**	*e*Pn	**Pn**	**16 33 21.4**	**+0.5**
NEN				*e*Pg	**Pg**	**16 33 29.8**	**-1.9**
NEN				*e*Sg	**Sg**	**16 34 09.8**	**-3.0**
NOQ	**North Oquirrh**	**3.21**	**52**	*e*Pn	**Pn**	**16 33 22.8**	**+0.1**
MPU	**Maple Canyon**	**3.22**	**65**	*e*Pg	**Pg**	**16 33 28.4**	**-5.8**
MPU				*e*Sg	**Sg**	**16 34 09.6**	**-7.5**
PAHR	**Pah Rah Range**	**3.23**	**289**	Pn	**Pn**	**16 33 29.6**	**+6.6**
TMUT	**Trail Mountain**	**3.34**	**79**	*e*Pn	**Pn**	**16 33 26.8**	**+2.3**
TMUT				*e*Sg	**Sg**	**16 34 15.0**	**-6.2**
WCN	**Washoe City**	**3.43**	**281**	*e*Pn	**Pn**	**16 33 26.7**	**+1.0**
WCN				*e*Pg	**Pg**	**16 33 37.2**	**-1.2**
WCN				*e*Sg	**Sg**	**16 34 20.6**	**-3.5**
CTU	**Camp Tracy**	**3.46**	**54**	*e*P	**Pn**	**16 33 28.8**	**+2.6**
SPUT	**South Promonto**	**3.46**	**40**	*e*Pn	**Pn**	**16 33 26.3**	**0.0**
SPUT				*e*Pg	**Pg**	**16 33 36.5**	**-2.7**
JLU	**Jordanelle**	**3.60**	**57**	Pn	**Pn**	**16 33 28.1**	**-0.1**
JLU				*e*Sg	**Sg**	**16 34 23.1**	**-7.0**
LDFC	**Landfair**	**3.63**	**176**	⇓*i*Pn	**Pn**	**16 33 28.3**	**-0.3**
LDFC				*e*Pg	**Pg**	**16 33 39.3**	**-3.2**
LDFC				*e*Sg	**Sg**	**16 34 27.2**	**-3.7**
DAU	**Daniels Canyon**	**3.65**	**61**	*e*Pn	**Pn**	**16 33 31.5**	**+2.7**
HVU	**Hansel Valley**	**3.68**	**33**	*e*Pn	**Pn**	**16 33 28.8**	**-0.5**
HVU				Sg	**Sg**	**16 34 27.6**	**-4.9**
SRU	**San Rafael**	**3.84**	**82**	*e*Pn	**Pn**	**16 33 33.8**	**+2.1**
TCUT	**Toone Canyon**	**3.92**	**51**	*e*Pn	**Pn**	**16 33 31.5**	**-1.2**
TCUT				*e*Sg	**Sg**	**16 34 35.4**	**-5.0**
CMB	**Columbia Colle**	**3.96**	**262**	*e*Pg	**Pg**	**16 33 43.0**	**-6.0**
CMB				*e*Sg	**Sg**	**16 34 35.9**	**-5.8**
BEKR	**Beckwourth**	**4.00**	**288**	*e*Pn	**Pn**	**16 33 34.9**	**+1.0**
HWUT	**Hardware Ranch**	**4.14**	**44**	*e*Pn	**Pn**	**16 33 36.1**	**+0.2**
OHCM	**Honcut**	**4.76**	**279**	*e*P	**Pn**	**16 33 44.8**	**+0.1**
MOD	**Modoc**	**4.91**	**312**	*e*Pn	**Pn**	**16 33 47.0**	**+0.2**
MOD				*e*Pg	**Pg**	**16 34 06.6**	**-1.5**
HLID	**Hailey**	**4.91**	**9**	*e*Pn	**Pn**	**16 33 46.3**	**-0.5**
HLID				*e*Pg	**Pg**	**16 34 04.0**	**-4.1**
HLID				Sg	**Sg**	**16 35 05.2**	**-8.4**
LRV	**Little Rabbit**	**4.99**	**245**	*e*Pg	**Pg**	**16 34 08.1**	**-1.6**
PV10	**Paradox Valley**	**5.02**	**92**	*e*Pn	**Pn**	**16 33 49.6**	**+1.3**
PV10				*e*Pg	**Pg**	**16 34 01.1**	**-9.2**
SAO	**San Andreas Ge**	**5.15**	**250**	Pg	**Pg**	**16 34 08.2**	**-4.8**
	8.5nm,0.7s						
PFO	**Pinyon Flat Ob**	**5.15**	**190**	*e*Pn	**Pn**	**16 33 50.8**	**+0.6**
	10nm,0.6s						
AHID	**Auburn Hatcher**	**5.22**	**38**	Pn	**Pn**	**16 33 50.6**	**-0.5**
	9.0nm,0.6s						
PV01	**Paradox Valley**	**5.41**	**94**	*e*Pn	**Pn**	**16 33 54.6**	**+0.7**
PV01				*e*Sg	**Sg**	**16 35 19.8**	**-11**
NSHM	**Saint Helena R**	**5.63**	**270**	Pn	**Pn**	**16 33 59.3**	**+2.4**
TPAW	**Teton Pass**	**5.85**	**34**	Pn	**Pn**	**16 34 00.3**	**+0.2**
PDAR	**Pinedale Array**	**6.03**	**46**	Pn	**Pn**	**16 34 04.6**	**+2.1**
	0.7nm,0.3s,baz=225,slow=11,SNR=21						
PDAR				Lg		16 35 39.6	
	0.3nm,0.3s,baz=222,slow=42,SNR=3.2						
BAR	**Barrett**	**6.10**	**190**	Pg	**Pg**	**16 34 25.2**	**-6.5**
LOHW	**Long Hollow**	**6.10**	**35**	*e*Pn	**Pn**	**16 34 04.7**	**+1.1**
YBH	**Yreka Blue Hor**	**6.34**	**301**	Pn	**Pn**	**16 34 10.0**	**+3.0**
	0.2nm,0.3s,baz=123,slow=8.9,SNR=7.0						
YBH				Lg		16 35 52.8	
	0.2nm,0.3s,baz=343,slow=24,SNR=3.2						
MCMT	**McKenzie Canyo**	**6.41**	**17**	P	**Pn**	**16 34 12.0**	**+4.0**
ISCO	**Idaho Springs**	**7.69**	**79**	Pn	**Pn**	**16 34 23.6**	**-2.4**
	2.3nm,0.6s						
LAZ	**Ladron**	**7.93**	**120**	*e*Pg	**Pg**	**16 34 59.4**	**-9.0**
LAZ				*e*Sg	**Sg**	**16 36 37.8**	**-16**
ANMO	**Albuquerque**	**8.11**	**115**	Pn	**P**	**16 34 30.9**	**-0.8**
ANMO				*e*Pg	P	16 35 03.1	+31
TXAR	**Lajitas Array**	**13.50**	**130**	Pn	**P**	**16 35 49.1**	**+3.9**
	0.1nm,0.3s,baz=310,slow=9.8,SNR=4.7						
YKA	**Yellowknife Ar**	**23.82**	**1**	P	**P**	**16 37 46.0**	**+1.0**
	0.7nm,0.6s,mb3.4,baz=177,slow=8.2,SNR=5.3						
YKA	**Yellowknife Ar**	**23.82**	**1**	P	**P**	**16 37 46.0**	**+1.0**
ILAR	**Eielson Array**	**31.93**	**335**	P	**P**	**16 38 59.8**	**+0.7**
	0.5nm,1.0s,mb3.4,baz=151,slow=9.3,SNR=3.9						

MAN 08 16:32:49.4, 13.75N×120.54E, h87^{km}, mb3.7, ML2.5, MS2.0, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.28**	**266**	*e*P	P	16 33 04.5	+2.1
LUBP	**Lubang**	**0.28**	**266**	*e*P	P	16 33 04.6	+2.2
LUBP				*e*S	S	16 33 14.7	+2.4
TGY	**Tagaytay City**	**0.52**	**48**	⇑*i*P	P	16 33 06.3	+2.1
TGY				*i* S	S	16 33 18.4	+3.3
BOAC	**Boac**	**1.30**	**103**	*e*P	P	16 33 13.9	+1.0
SJMP	**San Jose**	**1.40**	**156**	*e*P	P	16 33 15.4	+1.1
SJMP				*e*S	S	16 33 33.7	+1.1
BUSP	**Coron**	**1.77**	**191**	*e*P	P	16 33 19.2	+0.3
OTRP	**Odiongan**	**2.00**	**134**	*e*P	P	16 33 21.8	-0.2
SCZP	**Santa Cruz**	**2.10**	**343**	*e*P	P	16 33 23.1	-0.3
CUYO	**Cuyo Island**	**2.92**	**171**	*e*P	P	16 33 34.2	-0.6

*STR **08** 16:48:25.6±0.1, 42.84N×1.48W, h5^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **08** 16:48:26.9±0.1, 42.87N×1.38W, h5^{km}, ML2.2/1, Error ellipse: s-maj=3.7km s-min=2.2km az=97.0*
*MDD **08** 16:48:27.0±0.6, 42.86N×1.39W, h9^{km}±9^{km}, mbLg1.4/7, Error ellipse: s-maj=4.7km s-min=2.7km az=52.0, PRXIMO AftershockPLICA*
*LDG **08** 16:48:27.0±1.0, 42.91N×1.46W, h7^{km}, Md2.0/2, Ml2.2/1, Error ellipse: s-maj=16.3km s-min=8.2km az=47.0*
ISC 08 16:48:25.2±0.8**, 42.82N**±0.05×**1.43W**±0.08**, h8^{km}**±13^{km}**, n13, σ0^{s}59**/20**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.34**	**27**	*e*Pg	**Pg**	**16 48 32.4**	**+0.4**
SJPF				*e*Sg	**Sg**	**16 48 35.3**	**-1.2**
	15nm,0.3s						
LARF	**Larrau**	**0.40**	**56**	Pg	**Pg**	**16 48 33.6**	**+0.4**
LARF				Sg	**Sg**	**16 48 39.5**	**+1.0**
LARF	**Larrau**	**0.40**	**56**	P	**Pg**	**16 48 33.7**	**+0.5**
LARF				S	**Sg**	**16 48 39.4**	**+0.9**
EALK	**Alkurruntz**	**0.41**	**352**	Pg	**Pg**	**16 48 33.7**	**+0.3**
	1.3nm,0.1s,SNR=7.9						
EALK				Lg		16 48 39.6	
	24nm,0.5s,SNR=12						
OSSF	**Osses**	**0.46**	**16**	Pg	**Pg**	**16 48 34.2**	**-0.2**
OSSF				Sg	**Sg**	**16 48 40.5**	**-0.1**
OSSF	**Osses**	**0.46**	**16**	P	**Pg**	**16 48 34.3**	**-0.1**
OSSF				S	**Sg**	**16 48 40.4**	**-0.2**
ETSF	**Etsaut**	**0.65**	**82**	*e*Pg	**Pg**	**16 48 37.7**	**-0.5**
ETSF				*e*Sg	**Sg**	**16 48 46.9**	**0.0**
	3.7nm,0.2s						
EBIE	**Bielsa**	**1.17**	**96**	Pg	**Pg**	**16 48 48.3**	**-0.2**
	2.0nm,0.2s,SNR=7.9						
EBIE				Lg		16 49 05.2	
	10.0nm,0.7s,SNR=7.9						
EBIE	**Bielsa**	**1.17**	**96**	Pg	**Pg**	**16 48 48.3**	**-0.2**
	2.0nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**1.31**	**146**	Pg	**Pg**	**16 48 50.9**	**-0.4**
	4.6nm,0.2s,SNR=4.0						
ESAC				Lg		16 49 08.2	
	9.2nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**1.31**	**146**	Pg	**Pg**	**16 48 50.9**	**-0.4**
	4.6nm,0.2s,SNR=4.0						
ETOR	**Torete**	**2.05**	**193**	Pn	**Pn**	**16 49 01.5**	**+1.1**
	0.1nm,0.2s,SNR=5.0						
ETOR				Pg	**Pg**	**16 49 06.0**	**0.0**
	0.2nm,0.2s,SNR=5.0						
ETOR				Sn	**Sn**	**16 49 25.7**	**-0.7**
	0.5nm,0.3s,SNR=7.9						
ETOR				Lg		16 49 33.4	
	16nm,1.6s,SNR=7.9						
EPOB	**Poblet**	**2.37**	**127**	Lg		16 49 43.3	
	3.4nm,0.6s,SNR=7.9						

MAN 08 16:50:11.6, 13.69N×120.55E, h73^{km}, mb3.5, ML2.2, MS1.7, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.30**	**279**	*e*P	P	16 50 25.1	+1.9
LUBP				*e*S	S	16 50 34.5	+2.7
TGY	**Tagaytay City**	**0.56**	**42**	⇓*i*P	P	16 50 27.2	+1.9
TGY				*i* S	S	16 50 39.0	+3.5
BOAC	**Boac**	**1.28**	**100**	*e*P	P	16 50 34.9	+0.8
SJMP	**San Jose**	**1.34**	**156**	*e*P	P	16 50 36.3	+1.2
POLP	**Polilio Island**	**1.69**	**52**	*e*P	P	16 50 40.0	+0.2
BUSP	**Coron**	**1.71**	**192**	*e*P	P	16 50 40.2	+0.2
CUYO	**Cuyo Island**	**2.86**	**171**	*e*P	P	16 50 55.6	-0.4

DJA 08 16:51:36.4±1.0**, 10.37S×113.27E, h2^{km}, MD5.2**/3**, ML4.2**/3**, 3C-4D, Error ellipse: s-maj=22.9km s-min=18.8km az=77.0, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**2.06**	**25**	⇑*e*Pn	Pn	16 52 09.1	-3.4
	60nm,0.2s						
SRDI				⇓*e*Sn	Sn	16 52 33.6	-5.5
KELI	**Kelakatan**	**2.45**	**29**	⇓*e*Pn	Pn	16 52 15.1	-2.9
	153nm,0.2s						
KELI				⇑*e*Sn	Sn	16 52 43.6	-5.4
RATI	**Rata**	**2.76**	**54**	⇑*e*Pn	Pn	16 52 19.7	-2.8
	177nm,0.2s						
RATI				⇓*e*Sn	Sn	16 52 50.3	-6.6
KEDI	**Kedomdong**	**3.37**	**57**	⇓*e*Pn	Pn	16 52 27.5	-3.6

*IDC **08** 16:55:54.3±2.5, 14.52N×147.17E, h53^{km}±8^{km}, mb3.5/7, mb1 3.6/7, mb1mx3.5/21, Error ellipse: s-maj=78.5km s-min=17.0km az=84.0*
*NEIC **08** 16:55:55.3±1.0, 14.50N×146.85E, mb4.4/1, Error ellipse: s-maj=25.7km s-min=9.7km az=89.0*
ISC 08 16:55:52.2±3.4**, 14.49N**±0.09×**147.0E**±0.3**, h48^{km}**±20^{km}**, h53^{km}**±1.3^{km}**:pP-P, n12, σ0^{s}57**/11**, mb3.8**/8**, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANA2	**Anatahan**	**2.24**	**325**	*e*P	**P**	**16 56 28.6**	**+0.8**
GUMO	**Guam**	**2.29**	**247**	*e*Pn	**P**	**16 56 27.7**	**-0.7**
SARN	**Sarigan**	**2.52**	**331**	*e*P	**P**	**16 56 31.4**	**-0.2**
WRA	**Warramunga Arr**	**36.42**	**200**	P	**P**	**17 02 54.4**	**+0.1**
	0.7nm,0.8s,mb3.6,baz=23,slow=9.2,SNR=6.3						
WRA				pP	pP	17 03 08.8	+1.6
	0.4nm,0.6s,baz=23,slow=9.4,SNR=2.9						
FITZ	**Fitzroy Crossi**	**38.65**	**214**	P	**P**	**17 03 13.4**	**+0.5**
	0.9nm,0.8s,mb3.6,baz=353,slow=13,SNR=2.8						
ASAR	**Alice Springs**	**40.04**	**199**	P	**P**	**17 03 24.5**	**+0.1**
	0.3nm,0.7s,mb3.1,baz=24,slow=7.6,SNR=5.0						
CMAR	**Chiang Mai Arr**	**46.19**	**282**	P	**P**	**17 04 15.4**	**+0.9**
	0.6nm,0.7s,mb3.7,baz=80,slow=6.1,SNR=7.0						
SONM	**Songino Array**	**47.24**	**323**	P	**P**	**17 04 22.3**	**-0.1**
	0.9nm,0.8s,mb3.7,baz=134,slow=7.4,SNR=6.4						
SONM				pP	pP	17 04 36.4	+0.8
	0.3nm,0.5s,baz=139,slow=7.4,SNR=3.9						
MKAR	**Makanchi Array**	**62.32**	**315**	P	**P**	**17 06 12.1**	**+0.1**
	1.8nm,0.4s,mb4.5,baz=92,slow=8.0,SNR=42						
MKAR				pP	pP	17 06 26.2	+0.6
	0.7nm,0.4s,baz=94,slow=8.0,SNR=4.0						
KURK	**Kurchatov**	**65.27**	**319**	*e*P	**P**	**17 06 30.4**	**-0.7**
	3.1nm,0.8s,mb4.4						
BVAR	**Borovoye Array**	**70.54**	**321**	P	**P**	**17 07 03.0**	**-0.9**
	0.9nm,0.7s,mb3.8,baz=104,slow=5.4,SNR=4.6						
DBIC	**Dimbokro**	**145.09**	**305**	PKPbc	PKPbc	17 15 27.1	+1.4
	2.4nm,0.6s,baz=94,slow=2.7,SNR=6.4						

*IDC **08** 17:03:15.8±1.1, 37.68N×26.99E, mb3.8/4, mb1 3.9/9, mb1mx3.7/24, ML3.5/5, MS2.8/1, Ms1 2.8/1, ms1mx2.6/23, Error ellipse: s-maj=28.5km s-min=19.7km az=131.0*
*MOS **08** 17:03:15.7±0.8, 37.72N×26.90E, h10^{km}, mb4.3/2, Error ellipse: s-maj=22.4km s-min=10.1km az=104.1*
*ISK **08** 17:03:15.3, 37.76N×26.87E, h14^{km}, MD3.8, ML3.9*
*ATH **08** 17:03:16.2, 37.83N×26.80E, h14^{km}±1^{km}, MD3.9/15, ML3.9*
*NEIC **08** 17:03:16.2, 37.83N×26.80E, h14^{km}, ML4.0(THE), ML3.9(ATH), ML3.9(ISK), After ATH.*
*CSEM **08** 17:03:16.6±0.1, 37.79N×26.99E, h15^{km}, ML3.9, Error ellipse: s-maj=1.4km s-min=1.2km az=179.0*
*THE **08** 17:03:19.8, 37.86N×26.75E, h12^{km}, ML4.1*
ISC 08 17:03:16.9±0.3**, 37.77N**±0.02×**26.88E**±0.02**, h19^{km}**±3^{km}**, n121, σ0^{s}99**/139**, mb3.7**/4**, 4C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.07**	**210**	⇑*i*PG	**Pb**	**17 03 19.9**	**-0.6**
SMG				*e*SG	**Sb**	**17 03 22.1**	**-0.9**
IZM	**Izmir**	**0.69**	**26**	*i* PG	**Pb**	**17 03 29.4**	**-0.7**
IZM				*i* SG	**Sb**	**17 03 40.7**	**+1.6**
KDAG	**Bornova**	**0.70**	**26**	*i* P	**Pb**	**17 03 29.5**	**-0.7**
KDAG				*i* S	**Sb**	**17 03 39.1**	**-0.2**
AYDN	**Tasoluk**	**0.80**	**98**	⇑*i*P	**Pb**	**17 03 30.9**	**-1.0**
AYDN				*i* S	**Sb**	**17 03 40.1**	**-2.1**
BDRM	**Kayabasi**	**0.84**	**148**	⇑*i*P	**Pb**	**17 03 31.5**	**-1.0**
BDRM				*i* S	**Sb**	**17 03 45.2**	**+1.9**
MLSB	**Milas**	**0.85**	**124**	PG	**Pb**	**17 03 31.7**	**-1.2**
MLSB				SG	**Sb**	**17 03 45.0**	**+1.1**
NISR	**Nisiros**	**1.18**	**170**	*e*PB	**Pb**	**17 03 40.0**	**+1.7**
YER	**Yerkesik**	**1.28**	**119**	*i* PN	**Pn**	**17 03 39.5**	**-0.4**
YER	**Yerkesik**	**1.28**	**119**	Pn	**Pn**	**17 03 39.9**	**0.0**
APE	**Apeiranthos**	**1.29**	**237**	PN	**Pn**	**17 03 39.5**	**-0.5**
APE	**Apeiranthos**	**1.29**	**237**	Pn	**Pn**	**17 03 39.0**	**-1.0**
APE	**Apeiranthos**	**1.29**	**237**	*e*Pb	**Pb**	**17 03 40.0**	**-0.2**
AKS	**Akhisar**	**1.32**	**33**	PN	**Pn**	**17 03 39.7**	**-0.8**
AKS	**Akhisar**	**1.32**	**33**	Pn	**Pn**	**17 03 40.6**	**+0.1**
MANT	**Manisa**	**1.50**	**61**	*i* P	**Pn**	**17 03 44.3**	**+1.2**
MANT				*i* S	**Sn**	**17 04 02.0**	**-0.3**
AYVA	**Ayvalik**	**1.54**	**354**	P	**Pn**	**17 03 45.3**	**+1.7**
AYVA				S	**Sn**	**17 04 08.2**	**+5.0**
PRK	**Paraskevi**	**1.55**	**342**	*e*PB	**Pb**	**17 03 43.8**	**-0.9**
DENT	**Denizli**	**1.70**	**90**	PN	**Pn**	**17 03 45.5**	**-0.4**
DENT	**Denizli**	**1.70**	**90**	Pn	**Pn**	**17 03 45.9**	**0.0**
DNZL	**Cakiroluk**	**1.72**	**92**	⇑*i*P	**Pn**	**17 03 46.1**	**0.0**
DNZL				*i* S	**Sn**	**17 04 12.9**	**+5.2**
DALT	**Dalyan (Mudla)**	**1.72**	**125**	PN	**Pn**	**17 03 45.9**	**-0.3**
THR4	**Thira Island,**	**1.77**	**223**	*e*Pb	**Pb**	**17 03 48.9**	**+0.4**
SANT	**Santorini**	**1.81**	**220**	*e*Pn	**Pn**	**17 03 46.9**	**-0.5**
SANT				Sn	**Sn**	**17 04 08.0**	**-1.9**
SANT	**Santorini**	**1.81**	**220**	*e*Pn	**Pn**	**17 03 46.9**	**-0.5**
SANT	**Santorini**	**1.81**	**220**	Sn	**Sn**	**17 04 08.0**	**-1.9**
THR1	**Thera Island**	**1.81**	**220**	*e*Pb	**Pb**	**17 03 49.1**	**0.0**
THR1				*e*Sb	**Sb**	**17 04 12.9**	**+1.6**
THR3	**Thira Island,**	**1.81**	**221**	*e*Pb	**Pb**	**17 03 50.1**	**+1.1**
THR5	**Thira Island,**	**1.83**	**223**	*e*Pb	**Pb**	**17 03 49.3**	**-0.1**
ARG	**Arkhangelos**	**1.84**	**147**	*e*PN	**Pn**	**17 03 47.6**	**-0.4**
THR6	**Thira Island,**	**1.85**	**220**	*e*Pb	**Pb**	**17 03 50.5**	**+0.7**
KHL	**Karahalli**	**2.15**	**74**	*e*PN	**Pn**	**17 03 53.1**	**+0.7**
KHL	**Karahalli**	**2.15**	**74**	Pn	**Pn**	**17 03 53.7**	**+1.3**
BOZC	**Bozcaada**	**2.17**	**343**	P	**Pn**	**17 03 55.0**	**+2.5**
BOZC				S	**Sn**	**17 04 27.1**	**+8.0**
BTOK	**Tokmak**	**2.18**	**24**	P	**Pn**	**17 03 56.2**	**+3.5**
KARP	**Karpathos**	**2.23**	**174**	*e*PN	**Pn**	**17 03 52.7**	**-0.8**
DST	**Dursunbey**	**2.28**	**36**	*e*PN	**Pn**	**17 03 53.2**	**-1.0**
DST	**Dursunbey**	**2.28**	**36**	Pn	**Pn**	**17 03 55.0**	**+0.8**
PTL	**Penteli**	**2.40**	**277**	*e*PN	**Pn**	**17 03 56.0**	**0.0**
LIA	**Limnos Island**	**2.50**	**328**	*e*PN	**Pn**	**17 03 57.5**	**+0.1**
ATH	**Athens Observa**	**2.51**	**275**	*e*PN	**Pn**	**17 03 58.0**	**+0.5**
LOS	**Limnos**	**2.58**	**327**	*e*Pn	**Pn**	**17 03 59.1**	**+0.7**
LOS				*e*Sn	**Sn**	**17 04 29.2**	**-0.3**
ELL	**Elmali**	**2.62**	**112**	*e*PN	**Pn**	**17 03 59.0**	**-0.1**
BNT	**Bandirma**	**2.70**	**17**	*e*PN	**Pn**	**17 03 59.6**	**-0.6**
BNT	**Bandirma**	**2.70**	**17**	Pn	**Pn**	**17 04 01.0**	**+0.8**
KSL	**Kastellorizon**	**2.70**	**126**	*e*PN	**Pn**	**17 04 03.1**	**+2.9**
NPS	**Neapolis**	**2.71**	**203**	*e*PN	**Pn**	**17 04 01.5**	**+1.2**
AOS	**Alonnisos**	**2.74**	**302**	*e*Pn	**Pn**	**17 04 01.4**	**+0.7**
KCT	**Karacabey**	**2.74**	**24**	*e*PN	**Pn**	**17 03 59.8**	**-1.0**
KCT	**Karacabey**	**2.74**	**24**	Pn	**Pn**	**17 04 01.2**	**+0.4**
ORLT	**Orhaneli**	**2.76**	**34**	*e*PN	**Pn**	**17 04 00.3**	**-0.8**
ORLT	**Orhaneli**	**2.76**	**34**	Pn	**Pn**	**17 04 03.3**	**+2.2**
ALT	**Altintas**	**2.84**	**62**	*e*PN	**Pn**	**17 04 01.9**	**-0.3**
ALT	**Altintas**	**2.84**	**62**	Pn	**Pn**	**17 04 03.0**	**+0.8**
ISP	**Isparta**	**2.87**	**87**	*e*PN	**Pn**	**17 04 02.0**	**-0.7**
ISP	**Isparta**	**2.87**	**87**	Pn	**Pn**	**17 04 03.2**	**+0.5**
ULDT	**Uludag**	**2.95**	**36**	P	**Pn**	**17 04 04.1**	**+0.4**
IDI	**Anoyia**	**2.95**	**214**	Pn	**Pn**	**17 04 03.3**	**-0.5**
	1.7nm,0.3s,baz=48,slow=12,SNR=19						
BCK	**Bucak**	**2.96**	**95**	*e*PN	**Pn**	**17 04 02.5**	**-1.4**
BCK	**Bucak**	**2.96**	**95**	Pn	**Pn**	**17 04 04.1**	**+0.2**
XRY	**Khrisi**	**3.05**	**199**	*e*PN	**Pn**	**17 04 05.5**	**+0.4**
ALN	**Alexandroupoli**	**3.19**	**348**	*e*Pn	**Pn**	**17 04 06.6**	**-0.5**
ALN				*e*Sn	**Sn**	**17 04 44.6**	**-0.4**
VAM	**Vamos**	**3.20**	**223**	*e*PB	**Pb**	**17 04 11.8**	**-1.1**
NEO	**Neokhori**	**3.25**	**299**	*e*PN	**Pn**	**17 04 08.3**	**+0.2**
PAIG	**Paliouri**	**3.30**	**312**	*e*Pn	**Pn**	**17 04 08.6**	**-0.1**
XOR	**Xorichti**	**3.30**	**300**	*e*Pn	**Pn**	**17 04 08.6**	**-0.1**
VLI	**Veliai**	**3.32**	**253**	*e*PN	**Pn**	**17 04 09.6**	**+0.6**
YLV	**Yalova**	**3.40**	**34**	*e*PN	**Pn**	**17 04 09.4**	**-0.7**
YLV	**Yalova**	**3.40**	**34**	Pn	**Pn**	**17 04 11.5**	**+1.4**
OUR	**Ouranopolis**	**3.41**	**319**	*e*Pn	**Pn**	**17 04 10.4**	**+0.1**
OUR				*e*Sn	**Sn**	**17 04 48.9**	**-1.8**
OUR	**Ouranopolis**	**3.41**	**319**	*e*Pn	**Pn**	**17 04 10.4**	**+0.1**
OUR				*e*Sn	**Sn**	**17 04 48.8**	**-1.9**
RDO	**Rodhopi**	**3.53**	**343**	*e*PN	**Pn**	**17 04 11.6**	**-0.3**
ESKT	**Eskisehir**	**3.56**	**59**	*e*PN	**Pn**	**17 04 12.8**	**+0.4**
ESKT	**Eskisehir**	**3.56**	**59**	P	**Pn**	**17 04 13.1**	**+0.6**
ESKT	**Eskisehir**	**3.56**	**59**	Pn	**Pn**	**17 04 13.8**	**+1.4**
CTT	**Catalca**	**3.58**	**19**	*e*PN	**Pn**	**17 04 12.8**	**+0.2**
CTT	**Catalca**	**3.58**	**19**	Pn	**Pn**	**17 04 13.3**	**+0.7**
GPA	**Golpazari**	**3.66**	**46**	*e*PN	**Pn**	**17 04 13.7**	**-0.2**
ISK	**Istanbul-Kandi**	**3.69**	**26**	*e*PN	**Pn**	**17 04 14.2**	**-0.1**
ISK	**Istanbul-Kandi**	**3.69**	**26**	Pn	**Pn**	**17 04 15.6**	**+1.3**
HRT	**Hereke**	**3.73**	**34**	*e*PN	**Pn**	**17 04 14.3**	**-0.6**

HRT	Hereke	3.73	34	Pn	Pn	17 04 16.2	+1.3
EYL	Eskiyayla	3.77	41	ePN	Pn	17 04 14.9	-0.6
EYL	Eskiyayla	3.77	41	Pn	Pn	17 04 16.2	+0.7
AGG	Agios Georgios	3.79	291	ePn	Pn	17 04 15.4	-0.3
ITM	Ithomi	3.99	263	ePN	Pn	17 04 19.9	+1.4
KDZ	Kurdzhali	4.03	344	eP	Pn	17 04 22.0	+2.8
EDRB	Edirne	4.07	359	ePN	Pn	17 04 20.0	+0.3
KIZT	Kizilcal	4.08	73	ePN	Pn	17 04 19.6	-0.2
KIZT	Kizilcal	4.08	73	Pn	Pn	17 04 19.8	0.0
SRS	Serrai	4.20	324	ePn	Pn	17 04 20.8	-0.7
SRS				eSn	Sn	17 05 08.9	-1.8
NVR	Nevrokopi	4.27	328	ePN	Pn	17 04 22.9	+0.4
MDU	Mudurnu	4.31	50	ePN	Pn	17 04 23.5	+0.4
MDU	Mudurnu	4.31	50	Pn	Pn	17 04 24.1	+1.0
MMB	Musomiste	4.52	328	i P	Pn	17 04 25.5	-0.6
HDMB	Hadim	4.54	99	ePN	Pn	17 04 25.9	-0.4
HDMB	Hadim	4.54	99	Pn	Pn	17 04 27.2	+0.9
KKB	Krupnik	5.03	326	i P	Pn	17 04 33.0	-0.2
PGB	Panagyurishte	5.21	337	eP	Pn	17 04 35.0	-0.7
PVL	Pavlikeni	5.56	348	eP	Pn	17 04 40.5	-0.3
VTS	Vitosha	5.58	331	i P	Pn	17 04 41.0	+0.1
BRTR	Keskin Array B	5.63	68	Pn	Pn	17 04 41.3	-0.4
	0.9nm,0.3s,baz=249,slow=15,SNR=16						
BRTR	Keskin Array B	5.63	68	P	Pn	17 04 41.3	-0.4
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MLR	Muntele Rosu	7.74	355	Pn	Pn	17 05 12.6	+1.2
	comp=Z,0.5nm,0.3s,baz=172,slow=12,SNR=6.4						
MLR	Muntele Rosu	7.74	355	P	Pn	17 05 12.6	+1.2
MLR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASF	Jabal al Asfar	9.93	121	Pn	P	17 05 38.8	-2.9
	comp=Z,0.3nm,0.3s,baz=217,slow=7.6,SNR=3.3						
ASF				LR	LR	17 09 49.5	
	comp=Z,52nm,20.0s,baz=157,slow=40						
HAQS	Haql	10.98	140	P	P	17 05 51.7	-4.5
HAQS				S	S	17 07 45.7	-14
JMOS	Jabal al Moall	10.99	139	P	P	17 05 53.6	-2.5
BDAS	Al Bad‘	11.58	141	P	P	17 05 59.0	-5.3
AYUS	‘Aynunah	11.86	141	P	P	17 06 02.9	-5.2
KIV	Kislovodsk	13.45	58	eP	P	17 06 21.3	-7.9
KIV				pmax	pmax		
	comp=Z,16nm,1.5s						
GNI	Garni	14.10	75	eP	P	17 06 31.3	-6.4
GNI				pmax	pmax		
	comp=Z,7.0nm,1.2s						
GERES	GERESS Array B	14.62	323	Pn	P	17 06 54.3	+10
	comp=Z,0.1nm,0.3s,baz=139,slow=12,SNR=7.2						
KHC	Kasperske Hory	14.88	324	eP	P	17 06 44.5	-3.4
MKAR	Makanchi Array	41.21	59	P	P	17 11 01.8	0.0
	comp=Z,0.8nm,0.6s,mb3.5,baz=272,slow=8.6,SNR=9.1						
MKAR	Makanchi Array	41.21	59	P	P	17 11 01.8	0.0
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	Makanchi Array	41.21	59	P	P	17 11 01.8	0.0
DBIC	Dimbokro	42.29	231	P	P	17 11 11.6	+0.6
	comp=Z,4.8nm,0.9s,mb4.1,baz=24,slow=12,SNR=4.2						
DBIC	Dimbokro	42.29	231	P	P	17 11 11.6	+0.6
DBIC				pmax	pmax		
	comp=Z,5.0nm,1.0s						
SONM	Songino Array	56.78	52	P	P	17 13 01.3	-0.5
	comp=Z,0.5nm,0.9s,mb3.5,baz=42,slow=32,SNR=3.3						
CMAR	Chiang Mai Arr	64.94	86	P	P	17 13 56.5	-1.0
	comp=Z,0.4nm,0.7s,mb3.6,baz=294,slow=8.8,SNR=4.1						
CMAR	Chiang Mai Arr	64.94	86	P	P	17 13 56.5	-1.1

MAN 08 17:08:38.0, 13.80N×120.54E, h88km, mb3.8, ML2.6, MS2.2, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.29	258	eP	P	17 08 53.0	+1.8
LUBP				eS	S	17 09 03.5	+2.4
SJMP	San Jose	1.44	157	eP	P	17 09 04.1	+0.7
SJMP				eS	S	17 09 22.9	+0.8
POLP	Polilio Island	1.65	56	eP	P	17 09 06.2	+0.2
BUSP	Coron	1.81	191	eP	P	17 09 08.0	-0.2

DJA 08 17:09:34.3±0.9, 9.26S×114.21E, h15km, MD5.2/3, ML4.1/1, 4C-3D, Error ellipse: s-maj=20.9km s-min=8.3km az=46.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	Scrawed	0.77	355	⇓ePg	Pg	17 09 47.8	-2.2
	354nm,0.2s						
SRDI				⇑eSg	Sg	17 09 58.4	-2.1
KELI	Kelakatan	1.07	15	⇓ePg	Pg	17 09 53.1	-2.7
	259nm,0.2s						
KELI				⇓eSg	Sg	17 10 06.6	-3.6
RATI	Rata	1.41	68	⇑ePn	Pn	17 09 56.9	-2.7
RATI				⇑eSn	Sn	17 10 13.0	-4.9
KEDI	Kedomdong	2.03	68	⇑ePn	Pn	17 10 05.7	-2.8

DJA 08 17:24:52.5±0.4, 8.79S×115.01E, h15km, MD4.9/4, ML4.3/2, 7C-5D, Error ellipse: s-maj=14.8km s-min=3.6km az=10.0, Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	Rata	0.52	83	⇑ePg	Pg	17 25 01.7	-1.5
	2μm,0.2s						
RATI				⇓eSg	Sg	17 25 08.7	-1.7
KELI	Kelakatan	0.77	318	⇓ePn	Pn	17 25 05.7	-2.9
	1μm,0.2s						
KELI	Kelakatan	0.77	318	⇑ePg	Pg	17 25 06.0	-2.1
KELI				⇓eSn	Sn	17 25 16.2	-3.6
KELI				⇓eSg	Sg	17 25 16.6	-1.9
SRDI	Scrawed	0.91	290	⇑ePn	Pn	17 25 08.2	-2.5
	457nm,0.1s						
SRDI	Scrawed	0.91	290	⇓ePg	Pg	17 25 08.5	-2.4
SRDI				⇑eSn	Sn	17 25 20.4	-3.1
SRDI				⇑eSg	Sg	17 25 20.7	-2.5
KEDI	Kedomdong	1.13	75	⇑ePn	Pn	17 25 11.2	-2.6
	389nm,0.2s						
KEDI				⇑eSn	Sn	17 25 25.3	-3.7

*IDC **08** 18:00:13.9±3.2, 11.43S×117.87E, mb3.5/2, mb1 3.8/5, mb1mx3.7/13, ML3.7/3, Error ellipse: s-maj=169.0km s-min=23.0km az=50.0*
*NEIC **08** 18:00:16.1±0.6, 11.54S×117.84E, h15km, Error ellipse: s-maj=27.7km s-min=7.7km az=48.0*
*DJA **08** 18:00:18.6±1.0, 11.61S×117.63E, h15km, MD4.6/3, ML4.7/2, Error ellipse: s-maj=32.7km s-min=20.9km az=56.0*
ISC 08 18:00:15.7±1.1, 11.6S±0.1×117.9E±0.2, h39km±18km, n13, σ1s11/21, mb3.5/2, 9C-1D, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	Kedomdong	3.53	331	⇑ePn	P	18 01 10.4	+0.8
	173nm,0.5s						
KEDI				⇓eSn	S	18 01 48.7	-2.0
KEDI	Kedomdong	3.53	331	⇑ePn	P	18 01 10.4	+0.8
KEDI				eSn	S	18 01 47.2	-3.5
RATI	Rata	3.66	321	⇑ePn	P	18 01 11.9	+0.5
	213nm,0.3s						
RATI				⇑eSn	S	18 01 50.0	-3.9
RATI	Rata	3.66	321	⇑ePn	P	18 01 11.9	+0.5
RATI				eSn	S	18 01 49.8	-4.1
KELI	Kelakatan	4.72	315	⇑ePn	P	18 01 26.8	+0.4
SRDI	Scrawed	4.80	310	⇑ePn	P	18 01 26.7	-0.8
SRDI				⇑eSn	S	18 02 17.6	-5.0
SRDI	Scrawed	4.80	310	⇑ePn	P	18 01 26.6	-0.9
SRDI				eSn	rx	18 02 02.0	
MBWA	Marble Bar	9.68	170	ePn	P	18 02 35.4	-0.2
FITZ	Fitzroy Crossi	9.92	132	Pn	P	18 02 38.6	-0.3
	1.3nm,0.3s,baz=339,slow=5.2,SNR=26						
FITZ				Sn	S	18 04 23.6	-6.4
	1.0nm,0.3s,baz=174,slow=19,SNR=6.4						
WRA	Warramunga Arr	17.88	120	P	P	18 04 24.0	+0.7
	0.1nm,0.3s,baz=288,slow=14,SNR=8.3						
WRA				S	S	18 07 31.6	-7.1
	0.1nm,0.3s,baz=292,slow=25,SNR=3.7						
ASAR	Alice Springs	19.41	130	P	P	18 04 44.6	+3.0
	0.3nm,0.3s,baz=298,slow=11,SNR=50						
ASAR				S	S	18 08 11.6	-1.6
	0.1nm,0.3s,baz=304,slow=23,SNR=5.5						
SONM	Songino Array	60.03	351	P	P	18 10 21.4	+0.3
	0.3nm,0.6s,mb3.5,baz=170,slow=8.9,SNR=3.8						
MKAR	Makanchi Array	66.26	334	P	P	18 11 03.0	+0.8
	0.3nm,0.5s,mb3.6,baz=146,slow=7.0,SNR=4.9						

MEX 08 18:08:27.3±0.9, 16.75N×95.19W, h96km±10km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.45	41	i P	P	18 08 41.1	-1.3
CMIG				i S	S	18 08 52.0	-1.8
HUIG	Huatulco	1.31	222	eP	P	18 08 48.9	-2.5
HUIG				eS	S	18 09 07.4	-2.0
TUIG	Tuzandepetl	1.48	30	i P	P	18 08 51.5	-2.0
TUIG				i S	S	18 09 10.8	-2.1
OXX	Oaxaca	1.50	283	i P	P	18 08 53.0	-0.8
OXX				eS	S	18 09 11.5	-1.9
VHO	Vista Hermosa	1.51	283	eP	P	18 08 52.1	-1.8
VHO				eS	S	18 09 11.1	-2.4
EVV	El Vigia	1.71	355	eP	P	18 08 53.5	-2.9
EVV				eS	S	18 09 13.0	-4.9
SCX	San Cristobal	2.45	90	eP	P	18 09 06.0	-0.4
SCX				eS	S	18 09 33.0	-2.5
CCIG	Comitan	2.97	98	eP	P	18 09 12.4	-1.1
CCIG				i S	S	18 09 44.7	-3.6
IISM	Ciudad Serdan	3.05	317	eP	P	18 09 18.0	+3.3
IISM				eS	S	18 09 46.0	-4.3
PPM	Popocatepetl	4.00	306	i P	P	18 09 28.5	+0.8

MAN 08 18:17:03.4, 13.77N×120.53E, h86km, mb3.8, ML2.5, MS2.1, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.28	262	eP	P	18 17 17.8	+1.5
LUBP				eS	S	18 17 28.4	+2.4
BOAC	Boac	1.32	104	eP	P	18 17 27.4	+0.2
SJMP	San Jose	1.43	156	eP	P	18 17 29.1	+0.5
SJMP				eS	S	18 17 47.9	+0.8
BUSP	Coron	1.79	190	eP	P	18 17 33.3	+0.1

*BJI **08** 18:17:46.2, 1.23N×127.02E, h10km, mB5.0, mb4.8*
*NEIC **08** 18:17:55.4±0.2, 2.15N×126.79E, h10km, mb4.8/13, Error ellipse: s-maj=12.3km s-min=5.2km az=82.0*
*MOS **08** 18:17:57.2±1.1, 2.21N×126.73E, h33km, mb5.2/9, Error ellipse: s-maj=25.4km s-min=11.2km az=105.3*
*IDC **08** 18:18:01.2±3.4, 2.12N×126.86E, h57km±30km, mb4.2/15, mb1 4.3/15, mb1mx4.2/19, MS3.7/4, Ms1 3.7/4, ms1mx3.4/16, Error ellipse: s-maj=31.6km s-min=10.6km az=74.0*
ISC 08 18:17:53.9±3.9, 2.15N±0.05×126.68E±0.09, h12km±24km, n69, σ0s90/64, mb4.8/39, MS3.9/5, 4C-4D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	20.15	183	P	P	18 22 29.9	-1.3
	2.8nm,0.4s,baz=18,slow=9.0,SNR=24						
FITZ				LR	LR	18 29 57.7	
	comp=Z,58nm,18.3s,MS3.0,baz=190,slow=36						
WRAB	Tennant Creek	23.20	161	P	P	18 23 01.9	-0.1
	221nm,0.6s,mb5.8,SNR=23						
WRAB	Tennant Creek	23.20	161	eP	P	18 23 01.9	-0.1
	35nm,0.7s,mb4.9						
WRA	Warramunga Arr	23.21	161	P	P	18 23 02.2	+0.2
	20nm,0.6s,mb4.8,baz=341,slow=11,SNR=94						
WRA				S	S	18 27 09.0	-0.4
	2.4nm,0.8s,baz=345,slow=17,SNR=4.7						
MBWA	Marble Bar	24.15	196	eP	P	18 23 12.5	+1.4
	28nm,1.4s,mb4.5						
JOW	Kunigami	24.59	3	P	P	18 23 15.1	-0.2
	37nm,0.9s,mb4.9,baz=230,slow=6.6,SNR=4.0						
ASAR	Alice Springs	26.61	165	P	P	18 23 34.1	-0.2
	2.0nm,0.6s,mb3.9,baz=345,slow=6.4,SNR=32						
SSE	Sheshan	29.25	350	eP	P	18 24 00.7	+2.5
SSE				AMB	AMB		
	comp=Z,33nm,0.9s,mb5.1						
CMAR	Chiang Mai Arr	31.65	303	P	P	18 24 20.1	+0.5
	comp=Z,4.6nm,1.0s,mb4.3,baz=113,slow=6.8,SNR=23						
CMAR				LR	LR	18 35 47.7	
	comp=Z,60nm,20.1s,MS3.3,baz=115,slow=34						
JHJ	Hachijo jima 2	33.17	20	LR	LR	18 35 09.8	
	comp=Z,928nm,21.6s,MS4.5,baz=167,slow=31						
XAN	Xi’an	35.80	334	P	P	18 24 54.0	-1.3
MAJO	Matsushiro	35.84	16	eP	P	18 24 54.8	-0.8
	comp=Z,16nm,0.8s,mb5.0						
MAT	Matsushiro	35.84	16	P	P	18 24 55.1	-0.5
MAT	Matsushiro	35.84	16	eP	P	18 24 55.0	-0.6
	comp=Z,15nm,0.8s,mb5.0						
STKA	Stephens Creek	36.69	158	P	P	18 25 02.4	-0.3
	comp=Z,5.7nm,0.7s,mb4.5,baz=324,slow=7.7,SNR=16						
STKA				LR	LR	18 40 31.1	
	comp=Z,124nm,20.9s,MS3.7,baz=254,slow=37						
STKA	Stephens Creek	36.69	158	P	P	18 25 02.4	-0.3
STKA				LR	LR	18 40 31.1	
BJT	Baijiatuau	38.88	347	eP	P	18 25 21.6	+0.5
	comp=Z,17nm,0.9s,mb4.8						
LZH	Lanzhou	39.84	331	eP	P	18 25 34.0	+4.9
LZH				AMB	AMB		
	comp=Z,29nm,1.5s,mb4.8						
MDJ	Mudanjiang	42.36	3	P	P	18 25 51.1	+1.3
MDJ				AMB	AMB		
	comp=Z,13nm,1.2s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,80nm,4.2s						
MDJ	Mudanjiang	42.36	3	eP	P	18 25 50.6	+0.8
	comp=Z,15nm,1.0s,mb4.6						
LSA	Lhasa	43.45	313	P	P	18 26 00.0	+1.2
ASAJ	Asahikawa	44.10	16	P	P	18 26 03.1	-0.8
	comp=Z,6.5nm,0.8s,mb4.4,baz=226,slow=24,SNR=5.0						
GUN	Gumba	46.62	307	eP	P	18 26 24.4	+0.2
	comp=Z,16nm,0.5s,mb5.2						
YSS	Yuzh-Sakhalins	46.77	15	deP	P	18 26 25.9	+0.8
YSS				pmax	pmax		
	comp=Z,26nm,1.5s,mb4.9						
PKI	Pulchoki	46.85	307	eP	P	18 26 26.1	+0.1
KKN	Kakani	47.05	307	eP	P	18 26 26.8	-0.8
	comp=Z,16nm,1.0s,mb4.9						
KLR	Kul’dur	47.10	5	eP	P	18 26 25.2	-2.5
DMN	Daman	47.11	307	eP	P	18 26 27.8	-0.3
	comp=Z,11nm,0.8s,mb4.8						
GKN	Gorkha	47.65	307	eP	P	18 26 31.8	-0.6
	comp=Z,9.3nm,0.7s,mb4.9						
KOLN	Koldanda	48.39	306	eP	P	18 26 38.1	0.0
	comp=Z,18nm,0.8s,mb5.2						
SONM	Songino Array	48.77	342	P	P	18 26 41.0	+0.3
	comp=Z,2.7nm,0.8s,mb4.4,baz=152,slow=6.9,SNR=20						
SONM				PcP	PcP	18 28 06.0	0.0
	comp=Z,1.4nm,0.9s,baz=164,slow=4.3,SNR=4.4						
MOY	Mondy	53.84	340	eP	P	18 27 19.5	+0.5
BOD	Bodaibo	56.41	352	eP	P	18 27 33.8	-3.8
MKAR	Makanchi Array	58.82	326	P	P	18 27 53.9	-0.8
	comp=Z,4.3nm,0.6s,mb4.7,baz=119,slow=7.8,SNR=69						
MKAR				PcP	PcP	18 28 43.6	-0.5
	comp=Z,11nm,1.2s,baz=135,slow=5.1,SNR=5.6						
MKAR	Makanchi Array	58.82	326	i P	P	18 27 53.9	-0.8
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MKAR	Makanchi Array	58.82	326	P	P	18 27 53.9	-0.8
MKAR				PcP	PcP	18 28 43.6	-0.5
YAK	Yakutsk	59.77	2	deP	P	18 28 01.1	0.0
YAK				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.4						
YAK	Yakutsk	59.77	2	eP	P	18 28 00.7	-0.4
	comp=Z,37nm,0.9s,mb5.4						
MA2	Magadan	60.24	14	eP	P	18 28 04.4	+0.1
MA2				pmax	pmax		
	comp=Z,41nm,1.1s,mb5.4						
AAK	Ala-Archa	61.49	318	eP	P	18 28 13.4	+0.3
AAK				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb4.5						
AAK	Ala-Archa	61.49	318	eP	P	18 28 12.7	-0.4
	comp=Z,6.8nm,1.4s,mb4.6						
ZAL	Zalesovo	61.97	333	P	P	18 28 15.3	-0.8
	comp=Z,1.4nm,0.4s,mb4.5,baz=240,slow=5.0,SNR=6.7						
ZAL	Zalesovo	61.97	333	i P	P	18 28 18.7	+2.6
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KURK	Kurchatov	63.04	328	eP	P	18 28 22.8	-0.5
KURK	Kurchatov	63.04	328	eP	P	18 28 22.3	-1.0
	comp=Z,7.6nm,0.6s,mb5.0						
BRVK	Borovoye	68.68	327	eP	P	18 28 59.2	-0.2
	comp=Z,2.8nm,0.4s,mb4.5						
TIXI	Tiksi	69.41	1	eP	P	18 29 03.4	-0.2
TIXI				pmax	pmax		
	comp=Z,11nm,1.4s,mb4.6						
TIXI				MLR	MLR		
	comp=Z,1μm,19.0s,MS5.1						
SVE	Sverdlovsk	75.27	329	⇓eP	P	18 29 37.8	-0.7
SVE				pmax	pmax		
	comp=Z,20nm,1.3s,mb4.9						
ARU	Arti	76.23	328	⇓iP	P	18 29 43.8	-0.2
ARU				e		18 29 53.5	
ARU				e		18 32 36.7	
ARU				ePPP	PPP	18 34 21.8	-2.4
ARU				eS	S	18 39 21.9	-4.9
ARU				eSS	SS	18 44 25.6	+2.0
ARU				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
ARU	Arti	76.23	328	eP	P	18 29 43.3	-0.7
	comp=Z,12nm,0.8s,mb4.9						
MAW	Mawson	82.27	200	P	P	18 30 17.2	+0.8
	comp=Z,1.7nm,0.5s,mb4.2,baz=33,slow=4.6,SNR=4.7						
IMA	Indian Mountai	83.84	24	eP	P	18 30 26.3	+1.9
	comp=Z,85nm,0.9s						
SPU	Mount Spurr	83.91	29	eP	P	18 30 25.1	+0.3
KIV	Kislovodsk	84.18	314	eP	P	18 30 26.4	-0.3
KIV				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.9						
SLKM	Skilak Lake	84.73	30	eP	P	18 30 29.8	+0.7
MCK	McKinley	85.59	26	eP	P	18 30 33.1	-0.2
	comp=Z,2.5nm,0.8s,mb4.5						
SML	Sawmill	85.74	28	eP	P	18 30 34.4	+0.3
ILAR	Eielson Array	86.54	25	P	P	18 30 37.1	-0.8
	comp=Z,1.1nm,0.8s,mb4.1,baz=254,slow=5.6,SNR=7.4						
OBN	Obninsk	88.31	325	eP	P	18 30 45.1	-1.6
OBN				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb5.1						
INK	Inuvik	91.64	22	P	P	18 31 02.2	+0.3
	comp=Z,5.7nm,1.1s,mb4.8,baz=257,slow=7.5,SNR=4.3						
INK	Inuvik	91.64	22	P	P	18 31 01.8	-0.1
	comp=Z,6.1nm,1.0s,mb4.9						
ARCES	ARCESS Array B	91.90	340	P	P	18 31 04.3	+1.2
	comp=Z,5.5nm,0.9s,mb4.9,baz=337,slow=16,SNR=3.7						
FINES	FINESS Array B	93.19	332	P	P	18 31 11.4	+2.2
	comp=Z,0.8nm,0.6s,mb4.3,baz=14,slow=5.7,SNR=5.9						
FINES	FINESS Array B	93.19	332	i P	P	18 31 10.3	+1.1
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
VNA2	Neumayer--Watz	105.29	194	⇑iP		18 36 13.9	
VNA2	Neumayer--Watz	105.29	194	⇑i	PP	18 36 19.6	-8.3
VNA2	Neumayer--Watz	105.29	194		tx	18 36 41.8	
VNA3	Neumayer Olymp	105.62	193	⇑iP		18 36 15.5	
VNA3	Neumayer Olymp	105.62	193	⇑i	PP	18 36 23.7	-6.4

MAN 08 18:19:49.7, 13.79N×122.82E, h9km, mb4.7, ML3.6, MS3.6, 4C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GQP	Guinayangan	0.38	287	⇓eP	Pg	18 19 56.9	-0.6
GQP				eS	Sg	18 20 02.9	+0.2
AUQP	San Andres	0.49	197	eP	Pg	18 20 00.5	+0.9
BOAC	Boac	1.01	251	eP	Pb	18 20 08.2	-0.7
BOAC				eS	Sb	18 20 24.1	+2.0
POLP	Polilio Island	1.26	317	eP	Pb	18 20 12.2	-1.1
POLP				eS	Sb	18 20 29.1	-0.4
LQP	Lukban	1.28	284	eP	Pb	18 20 13.2	-0.5
LQP				i S	Sb	18 20 29.9	-0.2
PVCP	Virac	1.31	98	eP	Pb	18 20 13.4	-0.6
PVCP				eS	Sb	18 20 31.4	+0.6
OTRP	Odiongan	1.62	209	eP	Pn	18 20 18.0	-0.7
MMPH	Masbate	1.63	151	⇑iP	Pn	18 20 16.5	-2.3
MMPH				i S	Sn	18 20 39.0	-1.0
TGY	Tagaytay City	1.86	280	⇑iP	Pn	18 20 18.1	-4.0
TGY				i S	Sn	18 20 26.1	-20
SJMP	San Jose	2.12	232	eP	Pn	18 20 26.0	+0.1
SJMP				eS	Sn	18 20 45.7	-6.9
KALP	Kalibo	2.16	193	⇑eP	Pn	18 20 26.7	+0.3
KALP	Kalibo	2.16	193	⇑eP	Pn	18 20 26.7	+0.3
BALP	Baler	2.28	328	eP	Pn	18 20 28.2	0.0
BUSP	Coron	3.12	235	eP	Pn	18 20 31.6	-8.5
PALP	Palanan	3.27	353	eP	Pn	18 20 42.9	+0.7
CAUP	Cauayan	3.28	343	eP	Pn	18 20 42.0	-0.4
CVP	Callao Caves	4.00	346	i P	Pn	18 20 54.0	+1.3
ABRA	Dolores	4.34	332	eP	Pn	18 21 00.1	+2.6

MAN 08 18:27:32.9, 13.84N×122.81E, h5km, mb4.3, ML3.1, MS2.8, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GQP	Guinayangan	0.35	281	⇓eP	Pg	18 27 40.1	+0.1
GQP				eS	Sg	18 27 46.1	+1.2
AUQP	San Andres	0.53	194	eP	Pg	18 27 43.7	+0.3
BOAC	Boac	1.01	248	eP	Pb	18 27 51.5	-0.9
BOAC				eS	Sb	18 28 07.4	+1.6
POLP	Polilio Island	1.22	317	eP	Pb	18 27 55.4	-0.7
LQP	Lukban	1.26	283	eP	Pb	18 27 57.0	+0.3
PVCP	Virac	1.33	100	eP	Pb	18 27 57.3	-0.7

*IDC **08** 18:41:39.8±2.4, 31.57S×68.47W, mb3.8/1, mb1 3.9/3, mb1mx3.7/13, ML3.9/2, MS3.0/1, Ms1 3.0/1, ms1mx2.8/12, Error ellipse: s-maj=80.5km s-min=39.1km az=156.0*
*GUC **08** 18:41:48.4±0.6, 30.29S×68.93W, h147km, MD4.1, ML4.5*
*NEIC **08** 18:41:48.9±0.7, 30.27S×68.57W, h42km±11km, MD4.1(GUC), Error ellipse: s-maj=10.5km s-min=7.9km az=98.0*
ISC 08 18:41:47.7±0.9, 30.33S±0.04×68.55W±0.07, h40km±14km, n30, σ1s23/38, mb3.6/1, 8C-8D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	Tololo Astrono	1.96	274	⇓iP	P	18 42 20.4	+1.3
TLL				i S	S	18 42 44.0	+1.4
TLL				AMP		18 42 46.3	
	comp=E,4μm,0.6s						
CMCH	Combarbala	2.27	248	⇑iP	P	18 42 24.1	+0.5
LSCH	La Serena	2.37	279	eP	P	18 42 25.1	+0.1
LSCH				eS	S	18 42 52.6	-0.5
LSCH				AMP		18 43 01.1	
	comp=E,2μm,0.5s						
MDZ	Mendoza	2.56	186	eP	P	18 42 31.2	+3.5
MDZ				i		18 42 37.0	
MDZ				i S	S	18 43 05.1	+7.2
VACH	Vallenar	2.60	312	eP	P	18 42 27.5	-0.8
JACH	Jahuel	2.92	216	⇓iP	P	18 42 33.9	+1.0
PACH	Papudo	3.31	227	eP	P	18 42 37.5	-0.8
PACH				i S	S	18 43 15.3	-1.5
FCH	Farellones	3.34	206	eP	P	18 42 40.1	+1.4
FCH				⇑iP		18 42 40.4	
FCH				i S	S	18 43 19.3	+1.7
FCH				AMP		18 43 29.9	
	comp=E,624nm,0.2s						
PEL	Peldehue	3.34	212	i S	S	18 43 18.0	+0.2
PEL				AMP		18 43 29.4	
	comp=N,1μm,0.3s						
CLCH	Cerro Calan	3.50	208	eP	P	18 42 41.6	+0.6
CLCH				i S	S	18 43 21.1	-0.6
RCDM	Rinconada Maip	3.69	211	⇑iP	P	18 42 43.7	-0.1
RCDM				i S	S	18 43 26.2	-0.3
LMEL	Las Melosas	3.78	201	⇑iP	P	18 42 45.9	+0.9
TACH	Talagante	3.89	211	⇓iP	P	18 42 46.1	-0.5
TACH				i S	S	18 43 30.5	-1.0
CHCH	Chadas Angostu	4.01	206	eP	P	18 42 48.5	+0.2
LCCH	Las Cruces	4.05	218	⇑iP	P	18 42 47.5	-1.4
LCCH				i S	S	18 43 32.8	-3.0
CICH	Cipreses	4.28	201	⇓iP	P	18 42 52.6	+0.4
LVC	Limon Verde	7.69	358	ePn	P	18 43 37.9	-2.0
	comp=N,4.6nm,0.6s						
TRQA	Tornquist	9.44	147	ePn	P	18 44 01.5	-2.5
	comp=N,16nm,0.6s						
CPUP	Villa Florida	10.66	71	Pn	P	18 44 18.3	-2.6
	comp=N,0.4nm,0.3s,baz=269,slow=16,SNR=8.0						
CPUP				Lg		18 47 33.4	
	comp=N,1.5nm,0.3s,baz=165,slow=20,SNR=2.8						
CPUP				LR	LR	18 48 45.5	
	comp=N,84nm,21.5s,baz=224,slow=38						
LPAZ	La Paz	13.98	2	Pn	P	18 45 16.3	+11
	comp=N,0.1nm,0.3s,baz=118,slow=2.4,SNR=4.2						
LPAZ	La Paz	13.98	2	eP	P	18 45 14.3	+9.0
BDFB	Brasilia	23.84	57	P	P	18 47 00.1	+2.0
	comp=N,0.9nm,0.3s,mb3.6,baz=198,slow=9.6,SNR=2.0						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**51.69**	**159**	⇓*i*	**P**	**18 50 53.0**	**+0.6**
VNA3	**Neumayer Olymp**	**51.69**	**159**	⇑*i*	**P**	**18 50 58.4**	**+6.0**
VNA1	**Neumayer--Stat**	**51.94**	**158**	⇑*i*	**P**	**18 50 54.1**	**-0.2**
VNA2	**Neumayer--Watz**	**52.30**	**159**	⇓*i*	**P**	**18 50 57.5**	**+0.6**
VNA2	**Neumayer--Watz**	**52.30**	**159**	⇑*i*	**P**	**18 51 02.5**	**+5.6**
SNAA	**Sanae**	**53.91**	**159**	⇓*i*	**P**	**18 51 06.4**	**-2.5**
SNAA	**Sanae**	**53.91**	**159**	⇓*i*	**P**	**18 51 12.9**	**+4.0**
MKAR	**Makanchi Array**	**152.11**	**46**	PKPbc	PKPdf	19 01 37.6	+5.9
	comp=N,0.3nm,0.5s,baz=331,slow=1.8,SNR=4.8						
MKAR				PKPab	PKPab	19 01 51.6	+1.3
	comp=N,0.6nm,0.6s,baz=315,slow=1.7,SNR=5.5						

*BJI **08** 18:46:55.6, 24.14N×124.37E, h120km, mB4.4, mb4.2*
*NIED **08** 18:47:00, 24.90N×123.70E, h107km, Mw4.3 Best double couple: M0 3.4×10^15 NP1: φs66°, δ84°, λ-68°. NP2: φs169°, δ22°, λ-165°.*
*NEIC **08** 18:47:05.8±0.4, 24.98N×123.73E, mb4.1/9, Error ellipse: s-maj=10.1km s-min=7.9km az=82.0*
*JMA **08** 18:47:05.0±0.1, 24.91N×123.67E, h101km±2km, M4.0*
*IDC **08** 18:47:06.1±0.8, 25.06N×123.81E, h120km±7km, mb4.0/18, mb1 4.1/19, mb1mx4.1/25, Error ellipse: s-maj=11.3km s-min=10.6km az=68.0*
ISC 08 18:47:03.6±0.3**, 24.93N**±0.04×**123.71E**±0.04**, h113**km±3km**, h121**km±4.9km**:pP-P, n60, σ1s09**/75**, mb4.1**/27**, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.60**	**178**	P	**P**	**18 47 21.3**	**-0.3**
IRIF				*e*S	**S**	**18 47 34.4**	**-0.8**
JIJ	**Ishigaki jima**	**0.69**	**145**	P	**P**	**18 47 22.3**	**0.0**
JIJ				S	**S**	**18 47 35.4**	**-1.1**
JKRS	**Kuro-shima**	**0.75**	**158**	P	**P**	**18 47 23.1**	**+0.3**
JKRS				S	**S**	**18 47 36.9**	**-0.4**
YOJ	**Yonaguni jima**	**0.79**	**234**	P	**P**	**18 47 23.2**	**0.0**
YOJ				S	**S**	**18 47 36.6**	**-1.4**
HATJ	**Hateruma jima**	**0.88**	**174**	P	**P**	**18 47 24.2**	**+0.1**
HATJ				*e*S	**S**	**18 47 38.9**	**-0.6**
JTJ	**Tarama**	**0.95**	**108**	P	**P**	**18 47 25.4**	**+0.6**
JTJ				S	**S**	**18 47 40.7**	**0.0**
JMJ	**Miyako jima 2**	**1.44**	**94**	P	**P**	**18 47 31.3**	**+0.9**
JMJ				S	**S**	**18 47 51.1**	**+0.5**
JOGS	**Gusukube**	**1.55**	**96**	P	**P**	**18 47 33.1**	**+1.5**
JOGS				*e*S	**S**	**18 47 54.2**	**+1.4**
TATO	**Taipei**	**2.02**	**272**	*e*Pn	**P**	**18 47 38.7**	**+1.3**
JKE	**Kume jima 2**	**3.10**	**63**	P	**P**	**18 47 52.7**	**+0.7**
JKE				*e*S	**S**	**18 48 30.6**	**+1.9**
JAGN	**Aguni-jima**	**3.59**	**62**	P	**P**	**18 47 59.3**	**+0.8**
JAGN				*e*S	**S**	**18 48 41.6**	**+1.2**
NAH1	**Naha**	**3.81**	**70**	S	**S**	**18 48 46.7**	**+0.9**
JJT2	**Tamagusuku 2**	**3.84**	**71**	P	**P**	**18 48 02.1**	**+0.1**
JIH	**Iheya**	**4.37**	**60**	P	**P**	**18 48 08.9**	**-0.2**
JIH				*e*S	**S**	**18 48 57.6**	**-1.7**
JOW	**Kunigami**	**4.53**	**64**	P	**P**	**18 48 10.6**	**-0.7**
	26nm,0.3s,baz=155,slow=15,SNR=132						
JOW				S	**S**	**18 49 01.4**	**-1.8**
	9.5nm,0.3s,baz=112,slow=25,SNR=3.1						
JOW	**Kunigami**	**4.53**	**64**	P	**P**	**18 48 10.6**	**-0.7**
JOW				*e*S	**S**	**18 49 01.6**	**-1.6**
JTK	**Tokunoshima**	**5.49**	**58**	P	**P**	**18 48 23.2**	**-1.1**
JTK				*e*S	**S**	**18 49 23.1**	**-3.7**
JAM	**Amami Oshima**	**6.31**	**55**	P	**P**	**18 48 33.5**	**-2.0**
JAM				*e*S	**S**	**18 49 41.9**	**-4.8**
JMZ	**Minamidaito 2**	**6.85**	**81**	P	**P**	**18 48 40.0**	**-2.9**
JMZ				*e*S	**S**	**18 49 51.0**	**-8.9**
KS15	**Wonju Array Si**	**12.97**	**15**	*e*Pn	**P**	**18 50 06.5**	**+1.9**
ENH	**Enshi**	**13.68**	**296**	*e*Pn	**P**	**18 50 20.7**	**+6.9**
BJT	**Baijiatuau**	**16.32**	**339**	P	**P**	**18 50 49.4**	**+2.2**
	7.3nm,0.7s						
CD2	**Chengdu**	**18.60**	**293**	P	**P**	**18 51 14.4**	**-0.1**
CD2				AMB	AMB		
	comp=Z,20nm,0.8s						
HHC	**Hu-ho-hao-te**	**18.83**	**330**	*e*P	**P**	**18 51 17.5**	**+0.5**
HHC				PP	PP	18 51 46.1	+10
HHC				AMB	AMB		
	comp=Z,16nm,1.3s						
HHC				AMB	AMB		
	comp=Z,103nm,4.8s						
CN2	**Changchun**	**18.88**	**4**	*e*P	**P**	**18 51 17.4**	**-0.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s						
BTO	**Baotou**	**19.37**	**327**	*e*P	**P**	**18 51 24.8**	**+2.1**
BTO				AMB	AMB		
	comp=Z,13nm,1.0s						
CM31	**Chiang Mai Arr**	**23.88**	**259**	P	**P**	**18 52 08.6**	**+0.9**
	comp=Z,1.6nm,0.6s,mb3.5						
CMAR	**Chiang Mai Arr**	**23.88**	**259**	P	**P**	**18 52 09.7**	**+2.0**
	comp=Z,2.4nm,1.0s,mb3.5,baz=61,slow=8.7,SNR=13						
CMAR				pP		18 52 36.1	
	comp=Z,0.7nm,0.8s,baz=75,slow=7.3,SNR=2.8						
HIA	**Hailar**	**24.49**	**354**	P	**P**	**18 52 12.8**	**-0.5**
	comp=Z,2.0nm,0.5s,mb3.7						
ASAJ	**Asahikawa**	**24.56**	**34**	P	**P**	**18 52 13.2**	**-0.9**
	comp=Z,1.7nm,0.3s,mb3.9,baz=246,slow=11,SNR=6.9						
GTA	**Gaotai**	**24.75**	**311**	P	**P**	**18 52 15.8**	**-0.1**
GTA				AMB	AMB		
	comp=Z,2.0nm,1.3s,mb3.4						
SONM	**Songino Array**	**26.65**	**333**	P	**P**	**18 52 33.8**	**+0.3**
	comp=Z,2.4nm,0.6s,mb3.9,baz=146,slow=8.8,SNR=14						
YAK	**Yakutsk**	**37.30**	**5**	*e*P	**P**	**18 54 03.5**	**-2.5**
YAK				*e*	pP	18 54 33.5	+1.6
MKAR	**Makanchi Array**	**39.43**	**314**	P	**P**	**18 54 23.4**	**-0.5**
	comp=Z,2.3nm,0.3s,mb4.4,baz=101,slow=9.2,SNR=77						
MKAR				pP	pP	18 54 50.9	+1.0
	comp=Z,1.2nm,0.6s,baz=99,slow=11,SNR=2.8						
MKAR				PcP	PcP	18 56 30.1	-0.3
	comp=Z,1.0nm,0.8s,baz=90,slow=6.1,SNR=3.7						
ZAL	**Zalesovo**	**40.90**	**325**	P	**P**	**18 54 36.7**	**+0.8**
	comp=Z,2.4nm,0.6s,mb4.2,baz=254,slow=6.0,SNR=7.8						
ZAL				pP	pP	18 55 02.4	+0.4
	comp=Z,1.0nm,0.7s,baz=240,slow=5.3,SNR=3.0						
ZAL	**Zalesovo**	**40.90**	**325**	P	**P**	**18 54 36.7**	**+0.8**
ZAL				pP	pP	18 55 02.4	+0.4
FITZ	**Fitzroy Crossi**	**42.82**	**177**	P	**P**	**18 54 52.2**	**+0.1**
	comp=Z,8.0nm,0.8s,mb4.5,baz=5.3,slow=7.1,SNR=17						
KURK	**Kurchatov**	**43.02**	**319**	*e*P	**P**	**18 54 52.7**	**-0.6**
	comp=Z,1.4nm,0.5s,mb4.0						
AAK	**Ala-Archa**	**43.90**	**306**	*e*P	**P**	**18 54 59.4**	**-1.1**
	comp=Z,2.2nm,0.8s,mb3.9						
WRAB	**Tennant Creek**	**45.78**	**166**	P	**P**	**18 55 16.6**	**+0.8**
	comp=Z,103nm,0.9s,mb5.6,SNR=12						
WRAB	**Tennant Creek**	**45.78**	**166**	*e*P	**P**	**18 55 16.2**	**+0.5**
	comp=Z,22nm,0.9s,mb4.9						
WRA	**Warramunga Arr**	**45.79**	**166**	P	**P**	**18 55 16.5**	**+0.6**
	comp=Z,9.0nm,0.6s,mb4.7,baz=348,slow=8.9,SNR=80						
MBWA	**Marble Bar**	**45.98**	**185**	*e*P	**P**	**18 55 16.6**	**-0.7**
	comp=Z,5.2nm,0.5s,mb4.5						
ASAR	**Alice Springs**	**49.31**	**168**	P	**P**	**18 55 44.1**	**+0.9**
	comp=Z,4.1nm,0.4s,mb4.7,baz=353,slow=7.9,SNR=129						
ARU	**Arti**	**55.90**	**323**	*e*P	**P**	**18 56 29.9**	**-1.8**
	comp=Z,2.2nm,0.4s,mb4.5						
STKA	**Stephens Creek**	**59.02**	**162**	P	**P**	**18 56 54.2**	**+0.2**
	comp=Z,2.2nm,0.6s,mb4.4,baz=348,slow=8.6,SNR=8.2						
STKA	**Stephens Creek**	**59.02**	**162**	P	**P**	**18 56 54.2**	**+0.2**
ILAR	**Eielson Array**	**67.49**	**28**	P	**P**	**18 57 47.8**	**-1.3**
	comp=Z,0.7nm,0.5s,mb3.8,baz=265,slow=4.7,SNR=20						
ARCES	**ARCESS Array B**	**69.70**	**338**	P	**P**	**18 58 02.4**	**-0.2**
	comp=Z,2.2nm,0.8s,mb4.1,baz=63,slow=5.4,SNR=3.6						
KAF	**Kangasniemi**	**71.64**	**331**	*e*p	**P**	**18 58 13.0**	**-1.3**
	comp=Z,1.1nm,0.5s,mb3.9,baz=70,slow=5.6						
FINES	**FINESS Array B**	**71.96**	**330**	P	**P**	**18 58 15.7**	**-0.6**
	comp=Z,2.6nm,0.6s,mb4.3,baz=60,slow=5.8,SNR=34						
AKASG	**Malin Array Be**	**73.83**	**319**	P	**P**	**18 58 26.4**	**-0.9**
	comp=Z,1.4nm,0.7s,mb3.8,baz=59,slow=5.7,SNR=6.0						
BRTR	**Keskin Array B**	**74.57**	**307**	P	**P**	**18 58 31.9**	**0.0**
	comp=Z,1.9nm,1.0s,mb3.8,baz=76,slow=5.1,SNR=6.2						
NB2	**NORSAR Subarra**	**78.63**	**333**	P	**P**	**18 58 53.4**	**-0.6**
	comp=Z,1.8nm,0.6s,mb4.1,baz=57,slow=5.3						
NOA	**NORSAR Array B**	**78.63**	**333**	P	**P**	**18 58 53.6**	**-0.4**
	comp=Z,2.0nm,0.5s,mb4.2,baz=57,slow=5.4,SNR=7.8						
YKA	**Yellowknife Ar**	**81.38**	**24**	P	**P**	**18 59 09.0**	**+0.2**
	comp=Z,2.8nm,0.8s,mb4.1,baz=310,slow=5.2,SNR=8.7						
YKA	**Yellowknife Ar**	**81.38**	**24**	P	**P**	**18 59 09.0**	**+0.2**
GERES	**GERESS Array B**	**83.71**	**321**	P	**P**	**18 59 21.5**	**+0.6**
	comp=Z,7.5nm,1.3s,mb4.4,baz=56,slow=4.8,SNR=12						
GERES				pP	pP	18 59 52.5	+2.3
	comp=Z,0.9nm,0.8s,baz=14,slow=5.5,SNR=3.4						
NVAR	**Mina Array Bea**	**94.31**	**44**	P	**P**	**19 00 13.6**	**+2.2**
	comp=Z,0.9nm,0.7s,mb4.2,baz=287,slow=7.7,SNR=5.7						
SDV	**Santo Domingo**	**143.59**	**24**	*e*PKPdf	PKPdf	19 06 25.4	-0.3

*IDC **08** 19:25:09.9±0.8, 36.32N×26.78E, h138km±17km, mb3.6/4, mb1 3.4/8, mb1mx3.2/24, Error ellipse: s-maj=24.4km s-min=11.9km az=169.0*
*CSEM **08** 19:25:09.1±0.1, 36.59N×26.86E, h123km, ML4.0, Error ellipse: s-maj=2.5km s-min=1.2km az=171.0*
*NEIC **08** 19:25:10.5±0.5, 36.45N×26.78E, h132km±5km, MG3.9(ISK), Error ellipse: s-maj=9.4km s-min=6.0km az=188.0*
*ISK **08** 19:25:11.6, 36.54N×26.82E, h105km, ML3.9*
*THE **08** 19:25:17.9, 36.50N×26.40E, h20km, ML4.0*
*SNSN **08** 19:26:37.4, 31.61N×32.38E, h10km, Ml2.8*
ISC 08 19:25:09.4±0.3**, 36.41N**±0.04×**26.82E**±0.03**, h129**km±4km**, n47, σ1s30**/63**, mb3.7**/4**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.82**	**37**	*i* P	**P**	**19 25 31.4**	**+0.7**
BDRM				*i* S	**S**	**19 25 46.5**	**-0.5**
THR1	**Thera Island**	**1.10**	**268**	*e*Pg	**P**	**19 25 35.7**	**+2.3**
THR1				*e*Sg	**S**	**19 25 48.6**	**-3.0**
THR3	**Thira Island,**	**1.15**	**270**	*e*Pg	**P**	**19 25 35.2**	**+1.3**
THR6	**Thira Island,**	**1.15**	**268**	*e*Pg	**P**	**19 25 35.3**	**+1.4**
THR6				*e*Sg	**S**	**19 25 50.3**	**-2.2**
MLSB	**Milas**	**1.17**	**41**	*i* PG	**P**	**19 25 34.4**	**+0.3**
MLSB				*i* SG	**S**	**19 25 50.4**	**-2.4**
MLSB	**Milas**	**1.17**	**41**	Pn	**P**	**19 25 34.8**	**+0.7**
MLSB				Sg	**S**	**19 25 52.8**	**0.0**
THR5	**Thira Island,**	**1.19**	**271**	*e*Pg	**P**	**19 25 36.5**	**+2.2**
APE	**Apeiranthos**	**1.23**	**303**	*i* PN	**P**	**19 25 34.7**	**-0.1**
APE	**Apeiranthos**	**1.23**	**303**	Pn	**P**	**19 25 34.9**	**+0.1**
YER	**Yerkesik**	**1.38**	**58**	*i* PN	**P**	**19 25 37.0**	**+0.6**
YER				*i* SN	**S**	**19 25 54.6**	**-2.5**
DALT	**Dalyan (Mudla)**	**1.50**	**76**	PN	**P**	**19 25 38.4**	**+0.6**
DALT	**Dalyan (Mudla)**	**1.50**	**76**	Pn	**P**	**19 25 39.4**	**+1.6**
AYDN	**Tasoluk**	**1.51**	**34**	*i* P	**P**	**19 25 38.0**	**+0.1**
AYDN				*i* S	**S**	**19 25 58.9**	**-0.7**
IDI	**Anoyia**	**1.93**	**235**	P	**P**	**19 25 44.2**	**+1.4**
	12nm,0.3s,baz=50,slow=11,SNR=134						
IDI				S	**S**	**19 26 07.6**	**-0.6**
	37nm,0.3s,baz=221,slow=21,SNR=30						
IDI	**Anoyia**	**1.93**	**235**	S	**S**	**19 26 07.6**	**-0.7**
IZM	**Izmir**	**2.01**	**10**	PN	**P**	**19 25 44.0**	**+0.1**
DNZL	**Cakiroluk**	**2.19**	**54**	*i* P	**P**	**19 25 47.2**	**+1.0**
DNZL				*i* S	**S**	**19 26 13.4**	**-0.7**
DENT	**Denizli**	**2.22**	**52**	PN	**P**	**19 25 47.3**	**+0.8**
MANT	**Manisa**	**2.49**	**33**	*i* P	**P**	**19 25 50.3**	**+0.1**
MANT				*i* S	**S**	**19 26 18.8**	**-2.2**
ELL	**Elmali**	**2.51**	**81**	PN	**P**	**19 25 51.7**	**+1.4**
AKS	**Akhisar**	**2.59**	**17**	PN	**P**	**19 25 50.8**	**-0.6**
BCK	**Bucak**	**3.19**	**70**	PN	**P**	**19 26 00.5**	**+1.1**
BCK	**Bucak**	**3.19**	**70**	Pn	**P**	**19 26 00.9**	**+1.5**
AGG	**Agios Georgios**	**4.42**	**308**	*e*Pn	**P**	**19 26 17.1**	**+1.4**
AGG				*e*Sn	**S**	**19 27 03.0**	**-3.6**
AGG	**Agios Georgios**	**4.42**	**308**	*e*Pn	**P**	**19 26 17.0**	**+1.3**
AGG				*e*Sn	**S**	**19 27 03.0**	**-3.6**
HDMB	**Hadim**	**4.58**	**81**	*e*PN	**P**	**19 26 20.1**	**+2.1**
HDMB	**Hadim**	**4.58**	**81**	Pn	**P**	**19 26 19.2**	**+1.2**
KIZT	**Kizilcal**	**4.71**	**57**	PN	**P**	**19 26 20.6**	**+1.0**
LKD	**Levkas**	**5.41**	**297**	*e*Pn	**P**	**19 26 29.7**	**+0.6**
LKD				*e*Sn	**S**	**19 27 25.7**	**-5.0**
IGT	**Igoumenitsa**	**6.00**	**303**	*e*Pn	**P**	**19 26 38.0**	**+1.1**
IGT				*e*Sn	**S**	**19 27 40.6**	**-4.4**
BRTR	**Keskin Array B**	**6.31**	**56**	P	**P**	**19 26 42.0**	**+0.8**
	0.1nm,0.3s,baz=231,slow=14,SNR=7.7						
BRTR				S	**S**	**19 27 53.8**	**+1.3**
	0.2nm,0.3s,baz=222,slow=22,SNR=3.1						
BRTR	**Keskin Array B**	**6.31**	**56**	P	**P**	**19 26 42.0**	**+0.8**
ASF	**Jabal al Asfar**	**9.34**	**114**	P	**P**	**19 27 21.2**	**-0.7**
	0.6nm,0.3s,baz=169,slow=3.4,SNR=4.3						
ASF				S	**S**	**19 29 03.6**	**-2.0**
	0.4nm,0.3s,baz=84,slow=18,SNR=3.2						
ALWS	**Ilw as Safayha**	**9.90**	**133**	P	**P**	**19 27 28.6**	**-0.8**
HAQS	**Haql**	**10.02**	**135**	P	**P**	**19 27 30.3**	**-0.6**
JMOS	**Jabal al Moall**	**10.03**	**134**	P	**P**	**19 27 30.2**	**-1.0**
BDAS	**Al Bad'**	**10.59**	**136**	P	**P**	**19 27 38.0**	**-0.5**
JMQS	**Jabal Moqyreh**	**10.70**	**132**	P	**P**	**19 27 39.5**	**-0.4**
AYUS	**'Aynunah**	**10.87**	**137**	P	**P**	**19 27 41.9**	**-0.3**
AKASG	**Malin Array Be**	**14.39**	**6**	P	**P**	**19 28 29.9**	**+2.0**
	1.0nm,0.3s,baz=194,slow=10,SNR=5.4						
GERES	**GERESS Array B**	**15.71**	**326**	P	**P**	**19 28 45.1**	**+0.6**
	0.2nm,0.3s,baz=139,slow=12,SNR=8.9						
KHC	**Kasperske Hory**	**15.97**	**327**	*e*P	**P**	**19 28 47.5**	**-0.3**
FINES	**FINESS Array B**	**25.06**	**359**	P	**P**	**19 30 21.4**	**-1.4**
	1.0nm,0.5s,mb3.6,baz=162,slow=13,SNR=9.2						
HFS	**Hagfors**	**25.20**	**345**	P	**P**	**19 30 22.7**	**-1.5**
	7.9nm,1.1s,mb4.1,baz=141,slow=9.5,SNR=9.8						
ARCES	**ARCESS Array B**	**33.19**	**359**	P	**P**	**19 31 33.4**	**-1.9**
	3.7nm,1.1s,mb4.0,baz=174,slow=8.2,SNR=5.0						
ARCES	**ARCESS Array B**	**33.19**	**359**	P	**P**	**19 31 33.4**	**-2.0**
MKAR	**Makanchi Array**	**41.96**	**58**	P	**P**	**19 32 48.5**	**-0.3**
	0.2nm,0.3s,mb3.2,baz=265,slow=8.5,SNR=4.1						

DJA 08 19:30:13.9±0.8**, 9.38S**×**113.53E, h33**km**, MD4.8**/4**, ML4.4**/4**, 4C-5D, Error ellipse: s-maj=17.8km s-min=13.8km az=60.0, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.08**	**34**	⇓*e*Pn	Pn	19 30 31.3	-1.6
	610nm,0.2s						
SRDI				⇓*e*Sn	Sn	19 30 44.4	-2.4
KELI	**Kelakatan**	**1.50**	**40**	⇑*e*Pn	Pn	19 30 38.0	-0.9
	568nm,0.2s						
KELI				⇓*e*Sn	Sn	19 30 54.5	-2.9
RATI	**Rata**	**2.08**	**72**	⇑*e*Pn	Pn	19 30 46.0	-1.3
	400nm,0.2s						
RATI	**Rata**	**2.08**	**72**	⇓*e*P	P	19 30 46.5	-0.6
RATI				⇑*e*Sn	Sn	19 31 09.1	-3.2
KEDI	**Kedomdong**	**2.70**	**71**	⇓*e*Pn	Pn	19 30 54.4	-1.7
	48nm,0.2s						
KEDI				⇑*e*Sn	Sn	19 31 23.8	-4.2

CASC 08 19:34:55.1±1.7**, 12.73N**×**88.48W, h46**km±52km**, MD3.5, 5C-7D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VSM	**San Miguel**	**0.72**	**16**	⇓*e*P	P	19 35 09.5	+0.5
VSM				*e*S	S	19 35 21.0	+1.8
BLLM	**Bellamira**	**0.75**	**19**	⇓*e*P	P	19 35 09.5	+0.1
BLLM				*e*S	S	19 35 20.2	+0.3
CNCH	**Conchagua**	**0.83**	**49**	⇑*i*P	P	19 35 11.2	+0.6
CNCH				*e*S	S	19 35 22.9	+0.9
SNVI	**San Vicente**	**0.94**	**339**	⇓*e*P	P	19 35 12.0	-0.1
SNVI				*e*S	S	19 35 24.6	-0.1
LCBS	**La Ceiba**	**1.04**	**332**	⇑*e*P	P	19 35 13.5	0.0
LCBS				*e*S	S	19 35 26.5	-0.6
LFRS	**El Faro**	**1.05**	**328**	⇓*e*P	P	19 35 13.6	0.0
LFRS				*e*S	S	19 35 27.9	+0.5
CAHU	**Cacacuatique**	**1.07**	**14**	*e*P	P	19 35 13.7	-0.1
CAHU				*e*S	S	19 35 28.4	+0.6
LBRS	**Las Brisas**	**1.14**	**332**	*e*P	P	19 35 15.4	+0.6
LBRS				*e*S	S	19 35 30.3	+0.7
LFU	**La Fuente**	**1.18**	**329**	*e*P	P	19 35 15.5	+0.1
BOQS	**Boqueron**	**1.26**	**322**	⇓*e*P	P	19 35 16.8	+0.1
BOQS				*e*S	S	19 35 33.0	+0.2
CRIN	**San Cristobal**	**1.40**	**91**	*e*P	P	19 35 19.0	+0.3
CRIN				*e*S	S	19 35 38.1	+1.9
SBLS	**San Blas**	**1.56**	**315**	*e*P	P	19 35 21.6	+0.6
SBLS				*e*S	S	19 35 41.5	+1.3
SNJE	**San Jose**	**1.57**	**316**	*e*P	P	19 35 21.1	0.0
SNJE				*e*S	S	19 35 41.2	+0.8
LEON	**Leon**	**1.58**	**101**	*e*P	P	19 35 20.5	-0.8
LEON				*e*S	S	19 35 39.1	-1.7
TEL3	**Telica 3**	**1.61**	**95**	⇓*e*P	P	19 35 21.2	-0.3
TELN	**Telica**	**1.62**	**94**	*e*P	P	19 35 21.0	-0.7
TELN				*e*S	S	19 35 40.5	-1.0
RTR	**El Retiro**	**1.62**	**316**	*e*P	P	19 35 22.1	+0.4
RTR				*e*S	S	19 35 42.2	+0.6
MIRN	**Miramar**	**1.75**	**99**	⇓*e*P	P	19 35 23.1	-0.5
MIRN				*e*S	S	19 35 46.0	+1.1
CNGN	**Cerro Negro**	**1.76**	**97**	⇑*e*P	P	19 35 23.4	-0.3
CUSS	**Cusmapa**	**1.84**	**310**	*e*P	P	19 35 24.9	-0.1
CUSS				*e*S	S	19 35 46.2	-0.9
MOMJ	**Momotombo**	**1.93**	**99**	⇑*e*P	P	19 35 25.6	-0.5
COPN	**Copaltepe**	**1.93**	**106**	⇑*e*P	P	19 35 25.4	-0.7
COPN				*e*S	S	19 35 47.9	-1.3
APYN	**Apoyeque**	**2.14**	**103**	*e*P	P	19 35 27.5	-1.7
TICN	**Ticuantepe**	**2.31**	**107**	*e*P	P	19 35 31.1	-0.4
TICN				*e*S	S	19 35 58.8	0.0

*NEIC **08** 19:48:29.3, 32.71S×71.70W, h27km, ML3.0(GUC), After GUC.*
GUC 08 19:48:29.3±0.8**, 32.71S**×**71.70W, h27**km±5km**, MD3.6, ML3.0, 4C-3D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.28**	**52**	⇓*i*P	Pb	19 48 36.4	+0.3
PACH				*i* S	Sb	19 48 41.5	+0.6
LCCH	**Las Cruces**	**0.77**	**172**	⇑*i*P	Pb	19 48 43.8	-0.3
LCCH				*i* S	Sb	19 48 53.8	-0.5
JACH	**Jahuel**	**0.93**	**89**	⇑*i*P	Pn	19 48 46.1	-0.6
JACH				*e*S	Sb	19 48 59.0	+0.3
PEL	**Peldehue**	**0.95**	**117**	*e*P	Pn	19 48 46.8	-0.2
PEL				*i* S	Sb	19 49 00.3	+0.9
PEL				AMP		19 49 02.6	
	comp=N,1μm,0.5s						
RCDM	**Rinconada Maip**	**1.08**	**137**	*i* P	Pn	19 48 48.4	-0.4
RCDM				*i* S	Sn	19 49 02.6	-0.4
RCDM				AMP		19 49 05.7	
	comp=N,350nm,0.1s						
TACH	**Talagante**	**1.14**	**146**	*e*P	Pn	19 48 49.4	-0.3
CLCH	**Cerro Calan**	**1.19**	**126**	⇓*i*P	Pn	19 48 50.6	+0.2
CLCH				*i* S	Sn	19 49 06.0	+0.2
CLCH				AMP		19 49 10.7	
	comp=N,332nm,0.4s						
LNV	**Longovilo**	**1.27**	**169**	⇑*i*P	Pn	19 48 51.0	-0.5
LNV				*i* S	Sn	19 49 06.6	-1.2
FCH	**Farellones**	**1.33**	**118**	⇓*i*P	Pn	19 48 52.7	+0.3
FCH				*i* S	Sn	19 49 10.3	+0.9
FCH				AMP		19 49 11.7	
	comp=E,414nm,0.2s						
PCH	**Pirque**	**1.35**	**133**	*e*P	Pn	19 48 53.1	+0.5
PCH				*e*S	Sn	19 49 10.6	+0.9
CHCH	**Chadas Angostu**	**1.50**	**145**	*e*P	Pn	19 48 55.6	+0.7
CHCH				*i* S	Sn	19 49 14.7	+1.0
CMCH	**Combarbala**	**1.64**	**21**	⇑*i*P	Pn	19 48 57.2	+0.5
CMCH				*i* S	Sn	19 49 18.4	+1.3
CMCH				AMP		19 49 21.9	
	comp=E,870nm,0.7s						
LMEL	**Las Melosas**	**1.69**	**133**	*e*P	Pn	19 48 58.8	+1.2
LMEL				*i* S	Sn	19 49 21.1	+2.7
LMEL				AMP		19 49 23.9	
	comp=N,289nm,0.2s						
CICH	**Cipreses**	**1.93**	**147**	*e*P	Pn	19 49 02.1	+1.2
SFDO	**San Fernando**	**1.99**	**164**	*i* S	Sn	19 49 27.6	+1.7
TLL	**Tololo Astrono**	**2.64**	**17**	*e*P	Pn	19 49 12.0	+0.9
TLL				AMP		19 50 03.4	
	comp=N,103nm,0.6s						

*IDC **08** 19:52:02.5±0.8, 7.66S×129.98E, mb4.1/6, mb1 4.3/10, mb1mx4.2/15, ML4.1/4, MS3.5/6, Ms1 3.6/6, ms1mx3.3/16, Error ellipse: s-maj=40.9km s-min=18.0km az=58.0*
*NEIC **08** 19:52:04.8±0.6, 7.87S×129.93E, h20km, mb4.3/6, Error ellipse: s-maj=17.3km s-min=10.0km az=66.0*
ISC 08 19:52:08.4±2.9**, 8.15S**±0.09×**129.99E**±0.09**, h83**km±30km**, n25, σ1s15**/26**, mb4.1**/10**, Timor Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.76**	**203**	Pn	**P**	**19 54 42.7**	**+1.3**
	2.3nm,0.3s,baz=20,slow=8.4,SNR=73						
FITZ				Sn	**S**	**19 56 39.4**	**-1.2**
	4.6nm,0.3s,baz=190,slow=16,SNR=7.3						
FITZ				LR	LR	19 59 16.9	
	comp=Z,98nm,21.8s,baz=63,slow=39						
WRAB	**Tennant Creek**	**12.45**	**161**	Pn	**P**	**19 55 02.0**	**-1.9**
	87nm,0.5s,SNR=22						
WRAB	**Tennant Creek**	**12.45**	**161**	*e*Pn	**P**	**19 55 02.5**	**-1.4**
	11nm,0.6s						
WRAB				*e*Sn	**S**	**19 57 16.7**	**-4.4**
WRA	**Warramunga Arr**	**12.45**	**161**	Pn	**P**	**19 55 03.1**	**-0.9**
	2.1nm,0.3s,baz=338,slow=14,SNR=88						
WRA				Sn	**S**	**19 57 21.5**	**+0.3**
	4.2nm,0.3s,baz=334,slow=23,SNR=11						
ASAR	**Alice Springs**	**15.88**	**167**	Pn	**P**	**19 55 49.1**	**+0.9**
	1.3nm,0.3s,baz=340,slow=9.4,SNR=70						
ASAR				Sn	**S**	**19 58 46.7**	**+5.2**
	1.2nm,0.3s,baz=351,slow=26,SNR=11						
ASAR				LR	LR	20 02 48.7	
	comp=Z,149nm,19.8s,baz=346,slow=40						
MBWA	**Marble Bar**	**16.29**	**216**	Pn	**P**	**19 55 54.5**	**+1.1**
MBWA				Sn	**S**	**19 58 47.8**	**-3.2**
PMG	**Port Moresby**	**17.01**	**95**	P	**P**	**19 56 01.6**	**-0.8**
	0.6nm,0.3s,baz=158,slow=15,SNR=2.7						
PMG	**Port Moresby**	**17.01**	**95**	P	**P**	**19 56 02.0**	**-0.4**
CTA	**Charters Tower**	**19.71**	**129**	P	**P**	**19 56 37.0**	**+3.2**
	11nm,1.2s,baz=312,slow=9.4,SNR=2.9						
CTA				LR	LR	20 05 18.5	
	comp=Z,224nm,18.9s,baz=122,slow=40						
CTAO	**Charters Tower**	**19.71**	**129**	P	**P**	**19 56 36.7**	**+2.9**
	3.8nm,0.7s						
STKA	**Stephens Creek**	**25.96**	**157**	P	**P**	**19 57 40.2**	**+5.2**
	2.6nm,0.6s,mb3.8,baz=345,slow=12,SNR=6.3						
STKA				LR	LR	20 09 21.7	
	comp=Z,250nm,18.1s,baz=205,slow=39						
STKA	**Stephens Creek**	**25.96**	**157**	P	**P**	**19 57 40.2**	**+5.2**
STKA				LR	LR	20 09 21.7	
NWAO	**Narrogin (SRO)**	**27.34**	**204**	LR	LR	20 10 38.5	
	comp=Z,146nm,20.7s,baz=110,slow=40						
CMAR	**Chiang Mai Arr**	**40.47**	**311**	P	**P**	**19 59 40.8**	**+0.1**
	1.7nm,1.0s,mb3.8,baz=141,slow=7.5,SNR=11						
CMAR				LR	LR	20 16 60.0	
	comp=Z,42nm,18.5s,baz=125,slow=37						
SONM	**Songino Array**	**59.52**	**342**	P	**P**	**20 02 04.8**	**-0.6**
	0.8nm,0.7s,mb3.8,baz=148,slow=7.1,SNR=6.0						
MKAR	**Makanchi Array**	**69.18**	**327**	P	**P**	**20 03 08.3**	**+0.2**
	3.7nm,0.5s,mb4.5,baz=118,slow=7.7,SNR=29						
YAK	**Yakutsk**	**69.97**	**360**	P	**P**	**20 03 12.4**	**-0.3**
	6.0nm,0.7s,mb4.5						
AAK	**Ala-Archa**	**71.41**	**320**	*e*P	**P**	**20 03 23.0**	**+1.3**
	2.3nm,0.9s,mb4.0						
ZAL	**Zalesovo**	**72.61**	**334**	P	**P**	**20 03 27.8**	**-0.7**
	1.1nm,0.9s,mb3.7,baz=223,slow=6.9,SNR=4.5						
KURK	**Kurchatov**	**73.49**	**329**	*e*P	**P**	**20 03 33.5**	**-0.2**
	2.1nm,0.8s,mb4.0						
BRVK	**Borovoye**	**79.10**	**328**	*e*P	**P**	**20 04 03.5**	**-1.9**
	2.2nm,0.8s,mb4.0						
ARU	**Arti**	**86.67**	**328**	P	**P**	**20 04 45.0**	**+1.1**
	4.3nm,0.8s,mb4.4						
ARU				*e*		20 04 59.5	
LVC	**Limon Verde**	**144.25**	**149**	*e*PKPdf	PKPdf	20 11 42.6	+7.1
CPUP	**Villa Florida**	**144.99**	**168**	PKPbc	PKPbc	20 11 43.5	+6.4
	3.0nm,1.0s,baz=246,slow=0.5,SNR=5.9						
LPAZ	**La Paz**	**149.81**	**144**	PKPbc	PKPdf	20 11 58.3	+13
	1.6nm,0.8s,baz=113,slow=2.1,SNR=6.2						

*PRU **08** 19:54:38.7, 50.29N×18.72E*
WAR 08 19:54:36.2, 50.24N×18.92E, ML2.5, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.57**	**92**	*e*PG	Pg	19 54 48.0	+0.5
OJC				*e*SG	Sg	19 54 56.0	+1.0
OKC	**Ostrava-Krasne**	**0.64**	**231**	*e*PG	Pg	19 54 48.9	-0.1
OKC				*e*SG	Sg	19 54 58.2	+0.7
NIE	**Niedzica**	**1.22**	**132**	*e*PG	Pg	19 55 00.0	-0.6
NIE				*e*SG	Sg	19 55 17.0	+0.2
DPC	**Dobruska-Polom**	**1.67**	**275**	*e*PG	Pg	19 55 05.8	-3.7
DPC				*e*SG	Sg	19 55 27.6	-4.1
KSP	**Ksiaz**	**1.78**	**291**	*e*PG	Pg	19 55 10.0	-1.7
KSP				*e*SG	Sg	19 55 33.0	-2.5
UPC	**Upice**	**1.88**	**279**	*e*SG	Sg	19 55 35.0	-3.8
PRU	**Pruhonice**	**2.83**	**267**	*e*SG	Sg	19 56 05.7	-4.7
KHC	**Kasperske Hory**	**3.64**	**254**	*e*PN	Pn	19 55 36.5	+1.5
KHC				*e*SG	Sg	19 56 30.6	-6.8

*STR **08** 20:10:30.9±0.0, 42.37N×1.89E, h5km±1km, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **08** 20:10:31.4±0.1, 42.34N×2.15E, h2km, ML1.7, Error ellipse: s-maj=2.9km s-min=2.4km az=133.0*
MDD 08 20:10:31.3±0.3**, 42.34N**×**2.16E, mbLg1.6**/3**, Error ellipse: s-maj=3.0km s-min=2.9km az=163.0, PRXIMO AftershockPLICA, Pyrenees**

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

CBRU	Bruguera	0.05	166	Pg	Pg	20 10 31.9	-0.5
VALF	Valcebollere	0.13	302	Pg	Pg	20 10 33.5	-0.4
VALF				Sg	Sg	20 10 35.4	-0.2
VALF	Valcebollere	0.13	302	P	Pg	20 10 33.6	-0.3
VALF				S	Sg	20 10 35.2	-0.3
CLLI	Llivia	0.20	316	Pg	Pg	20 10 34.9	-0.5
CARF	Carcanieres	0.38	354	Pg	Pg	20 10 38.4	-0.6
CARF				Sg	Sg	20 10 43.9	-0.2
CARF	Carcanieres	0.38	354	P	Pg	20 10 38.5	-0.5
CARF				S	Sg	20 10 43.8	-0.4
EJON	La Jonquera	0.55	78	Pg	Pg	20 10 42.0	-0.3
	1.0nm,0.2s,SNR=5.0						
EJON				Lg		20 10 48.9	
	5.1nm,0.3s,SNR=7.7						
EJON	La Jonquera	0.55	78	Pg	Pg	20 10 42.0	-0.3
	1.0nm,0.2s,SNR=5.0						
EMIR	Miracle	0.63	229	Pg	Pg	20 10 42.9	-1.1
	0.5nm,0.1s,SNR=7.9						
EMIR				Lg		20 10 52.0	
	7.2nm,0.1s,SNR=10						
EMIR	Miracle	0.63	229	Pg	Pg	20 10 42.9	-1.1
	0.5nm,0.1s,SNR=7.9						
CORG	Organya	0.64	261	Pg	Pg	20 10 43.0	-1.1
EPOB	Poblet	1.27	220	Pg	Pg	20 10 54.8	-1.9
	1.4nm,0.1s,SNR=8.1						
EPOB				Lg		20 11 11.6	
	2.0nm,0.1s,SNR=11						
EPOB	Poblet	1.27	220	Pg	Pg	20 10 54.8	-2.0
	1.4nm,0.1s,SNR=8.1						
EBIE	Bielsa	1.54	284	Pg	Pg	20 11 00.6	-1.4
	3.9nm,0.4s,SNR=7.9						
EBIE				Lg		20 11 21.5	
	SNR=7.9						
EBIE	Bielsa	1.54	284	Pg	Pg	20 11 00.6	-1.4
	3.9nm,0.4s,SNR=7.9						

*NEIC **08** 20:11:34.6±1.3, 7.82S×130.38E, h20km, Error ellipse: s-maj=32.3km s-min=14.4km az=71.0*
*IDC **08** 20:11:44.1±11.0, 8.31S×130.13E, h118km±131km, mb3.6/1, mb1 3.7/4, mb1mx3.4/12, ML4.0/3, Error ellipse: s-maj=79.7km s-min=45.6km az=15.0*
ISC 08 20:11:40.1±3.0, **8.20S**±0.08×**130.2E**±0.1, **h80**km±34km, **n7**, σ**0^{s}94**/10, **mb3.7**/1, **Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.78	204	P	P	20 14 13.9	+0.5
	1.1nm,0.3s,baz=24,slow=10,SNR=28						
FITZ				S	S	20 16 12.6	-0.4
	1.3nm,0.3s,baz=176,slow=22,SNR=6.1						
WRAB	Tennant Creek	12.35	161	ePn	P	20 14 33.4	-1.0
	4.4nm,0.4s						
WRA	Warramunga Arr	12.36	161	P	P	20 14 33.9	-0.7
	1.0nm,0.3s,baz=334,slow=12,SNR=48						
WRA				S	S	20 16 51.0	+0.2
	1.0nm,0.3s,baz=336,slow=23,SNR=7.8						
ASAR	Alice Springs	15.80	167	P	P	20 15 19.9	+0.8
	0.6nm,0.3s,baz=346,slow=14,SNR=26						
ASAR				S	S	20 18 12.2	+0.6
	0.2nm,0.3s,baz=350,slow=25,SNR=8.3						
LUBP	Lubang	23.91	336	eP	P	20 16 49.1	+1.6
MKAR	Makanchi Array	69.31	327	P	P	20 22 39.2	-1.7
	0.7nm,0.5s,mb3.7,baz=116,slow=7.7,SNR=13						
MKAR	Makanchi Array	69.31	327	P	P	20 22 39.2	-1.7

MEX 08 20:28:50.2±0.7, **16.22N**×**94.51W**, **h64**km±19km, **MD3.8**, **Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.94	338	eP	P	20 29 05.9	-1.9
CMIG				eS	S	20 29 19.0	-2.0
HUIG	Huatulco	1.60	254	iP	P	20 29 14.3	-2.6
HUIG				eS	S	20 29 34.5	-2.2
SCX	San Cristobal	1.87	74	eP	P	20 29 18.5	-2.1
SCX				eS	S	20 29 37.0	-6.0
CCIG	Comitan	2.28	88	eP	P	20 29 24.7	-1.6
CCIG				eS	S	20 29 50.2	-3.0
OXX	Oaxaca	2.29	292	eP	P	20 29 25.0	-1.5
OXX				eS	S	20 29 51.0	-2.5
VHO	Vista Hermosa	2.30	292	eP	P	20 29 25.3	-1.3
VHO				eS	S	20 29 51.2	-2.5

*MOS **08** 20:33:58.6±1.1, 14.03N×120.98E, h33km, mb4.7/6, Error ellipse: s-maj=37.9km s-min=15.3km az=123.4*
*IDC **08** 20:34:07.7±0.9, 13.90N×120.78E, h99km±8km, mb3.9/13, mb1 4.0/13, mb1mx3.9/20, Error ellipse: s-maj=34.7km s-min=13.1km az=58.0*
*BJI **08** 20:34:07.2, 13.84N×120.61E, h101km, mB4.9, mb4.6*
*MAN **08** 20:34:08.5, 13.83N×120.54E, h93km, mb5.2, ML4.1, MS4.3*
*NEIC **08** 20:34:09.5±2.2, 13.83N×120.71E, h116km±20km, mb4.4/8, Error ellipse: s-maj=17.9km s-min=8.3km az=67.0*
ISC 08 20:34:08.4±0.3, **13.83N**±0.03×**120.56E**±0.05, **h113**km±3km, **n80**, σ**0^{s}99**/83, **mb4.4**/30, **5C-6D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LUBP	Lubang	0.32	253	eP	P	20 34 23.9	-0.8
TGY	Tagaytay City	0.45	53	⇓iP	P	20 34 25.3	-0.1
TGY				iS	S	20 34 37.7	-0.5
LQP	Lukban	0.99	73	⇓iP	P	20 34 30.7	+0.6
BOAC	Boac	1.30	106	eP	P	20 34 33.9	+0.4
SJMP	San Jose	1.46	158	eP	P	20 34 35.6	+0.2
SJMP				eS	S	20 34 54.9	-0.8
POLP	Polilio Island	1.60	56	eP	P	20 34 37.9	+0.8
GQP	Guinayangan	1.83	87	⇓iP	P	20 34 41.2	+1.4
BUSP	Coron	1.85	191	eP	P	20 34 39.2	-0.9
OTRP	Odiongan	2.03	136	eP	P	20 34 42.8	+0.3
OTRP				eS	S	20 35 06.9	-1.1
SCZP	Santa Cruz	2.04	342	eP	P	20 34 42.0	-0.4
AUQP	San Andres	2.11	104	eP	P	20 34 46.3	+2.8
BALP	Baler	2.14	27	eP	P	20 34 44.4	+0.6
BCPH	Baguio City Da	2.54	0	⇓iP	P	20 34 48.7	-0.5
BCPH				iS	S	20 35 19.0	-0.9
BOLP	Bolinao	2.61	346	eP	P	20 34 49.7	-0.5
KALP	Kalibo	2.75	141	eP	P	20 34 50.8	-1.2
CUYO	Cuyo Island	2.99	171	eP	P	20 34 54.3	-1.0
RCP	Roxas	3.10	136	⇑eP	P	20 34 57.6	+0.8
CAUP	Cauayan	3.33	21	eP	P	20 35 00.2	+0.4
PVCP	Virac	3.50	93	eP	P	20 35 03.3	+1.2
PALP	Palanan	3.68	29	eP	P	20 35 04.6	0.0
GUIM	Jordan	3.75	148	eP	P	20 35 07.6	+2.1
ABRA	Dolores	3.80	2	eP	P	20 35 05.2	-1.0
CVP	Callao Caves	4.04	17	eP	P	20 35 09.0	-0.4
APYP	Conner	4.06	9	eP	P	20 35 10.2	+0.4
PPR	Puerto Princes	4.41	204	⇓eP	P	20 35 14.1	-0.4
BATP	Bataraza	5.69	209	eP	P	20 35 30.8	-1.0
IPIL	Ipil	6.32	162	eP	P	20 35 40.9	+0.6
PAGZ	Pagadian	6.56	155	eP	P	20 35 46.1	+2.5
QIZ	Qiongzhong	11.51	298	P	P	20 36 50.1	-0.2
QIZ	Qiongzhong	11.51	298	ePn	P	20 36 50.9	+0.6
	5.8nm,0.6s						
SSE	Sheshan	17.20	2	eP	P	20 38 00.1	-2.9
SSE				AMB	AMB		
	comp=Z,36nm,0.7s						
WHN	Wuhan	17.59	342	eP	P	20 38 09.0	+1.1
NJ2	Nanjing	18.21	355	eP	P	20 38 15.1	+0.1
NJ2				S	S	20 41 37.0	+5.9
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s						
NJ2				LR	LR		
	comp=N,382nm,15.2s						
NJ2				LR	LR		
	comp=E,1μm,14.6s						
NJ2				LR	LR		
	comp=Z,260nm,16.2s						
ENH	Enshi	19.30	330	eP	P	20 38 26.6	-0.3
	comp=Z,8.0nm,0.9s						
CM31	Chiang Mai Arr	21.27	285	eP	P	20 38 49.0	+1.9
	comp=Z,5.3nm,0.7s,mb4.0						
CMAR	Chiang Mai Arr	21.27	285	P	P	20 38 48.9	+1.8
	comp=Z,2.7nm,0.8s,mb3.6,baz=88,slow=11,SNR=20						
CMAR				sP		20 39 19.7	
	comp=Z,2.8nm,1.1s,baz=100,slow=8.0,SNR=2.7						
XAN	Xi'an	22.73	334	P	P	20 39 01.8	+0.5
XAN				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.2						
CD2	Chengdu	22.98	320	P	P	20 39 05.5	+1.7
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.5						
HHC	Hu-ho-hao-te	28.05	345	eP	P	20 39 51.2	+0.1
HHC				AMB	AMB		
	comp=Z,17nm,0.8s,mb4.6						
HHC				AMB	AMB		
	comp=Z,134nm,4.5s						
GTA	Gaotai	31.36	328	⇓P	P	20 40 20.8	+0.3
GTA				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.1						
MBWA	Marble Bar	34.78	181	eP	P	20 40 48.5	-1.6
	comp=Z,2.8nm,0.5s,mb4.3						
GUN	Gumba	35.17	299	eP	P	20 40 54.1	+0.8
	comp=Z,10nm,0.5s,mb4.9						
PKI	Pulchoki	35.48	298	eP	P	20 40 56.1	+0.2
	comp=Z,13nm,0.5s,mb5.0						
KKN	Kakani	35.64	299	eP	P	20 40 57.6	+0.2
DMN	Daman	35.74	298	eP	P	20 40 58.6	+0.4
	comp=Z,22nm,1.0s,mb5.0						
SONM	Songino Array	35.90	344	P	P	20 40 58.8	-0.5
	comp=Z,8.6nm,0.5s,mb4.9,baz=165,slow=9.6,SNR=36						
WRA	Warramunga Arr	36.19	158	P	P	20 41 00.8	-1.3
	comp=Z,1.2nm,0.7s,mb3.9,baz=336,slow=9.5,SNR=10						
WRA				pP	pP	20 41 22.7	-5.1
	comp=Z,2.8nm,0.5s,baz=335,slow=9.7,SNR=9.9						
GKN	Gorkha	36.25	299	eP	P	20 41 02.5	0.0
KOLN	Koldanda	37.08	298	eP	P	20 41 09.6	+0.2
	comp=Z,7.9nm,0.9s,mb4.6						
ASAR	Alice Springs	39.48	161	P	P	20 41 29.1	-0.3
	comp=Z,0.5nm,0.4s,mb3.7,baz=337,slow=7.4,SNR=9.0						
ASAR				pP	pP	20 41 52.2	-3.2
	comp=Z,3.8nm,0.7s,baz=340,slow=7.1,SNR=13						
MKAR	Makanchi Array	45.85	324	P	P	20 42 20.9	+0.1
	comp=Z,6.3nm,0.8s,mb4.4,baz=129,slow=9.1,SNR=47						
MKAR	Makanchi Array	45.85	324	iP	P	20 42 21.3	+0.4
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
YAK	Yakutsk	48.58	6	eP	P	20 42 40.1	-1.8
YAK				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
KBK	Karagaybulak	48.58	315	P	P	20 42 43.6	+1.4
	SNR=11						
UCH	Uchtor	48.72	315	P	P	20 42 44.9	+1.5
	SNR=6.2						
AAK	Ala-Archa	48.88	315	eP	P	20 42 44.6	0.0
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
AAK	Ala-Archa	48.88	315	eP	P	20 42 44.6	0.0
	comp=Z,1.6nm,0.5s,mb4.2						
ZAL	Zalesovo	48.88	333	P	P	20 42 43.4	-1.0
	comp=Z,2.3nm,0.6s,mb4.3,baz=267,slow=4.7,SNR=7.4						
USP	Ospenovka	49.12	316	P	P	20 42 46.9	+0.5
	SNR=6.8						
AML	Almayashu	49.25	314	P	P	20 42 48.9	+1.5
	SNR=6.8						
EKS2	Erkin-Say	49.38	315	P	P	20 42 49.5	+1.1
	SNR=5.6						
KURK	Kurchatov	50.01	326c	iP	P	20 42 53.0	-0.1
KURK	Kurchatov	50.01	326	eP	P	20 42 52.9	-0.2
	comp=Z,28nm,0.8s,mb5.2						
BVAR	Borovoye Array	55.59	326	P	P	20 43 33.9	-0.6
	comp=Z,6.1nm,0.6s,mb4.8,baz=113,slow=9.3,SNR=56						
BRVK	Borovoye	55.66	326	eP	P	20 43 34.4	-0.6
	comp=Z,20nm,0.9s,mb5.1						
TIXI	Tiksi	58.01	3	eP	P	20 43 48.9	-2.4
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
OBN	Obninsk	75.36	324c	eP	P	20 45 39.6	-1.3
OBN				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.6						
IMA	Indian Mountai	75.75	25	eP	P	20 45 43.2	+0.3
MCK	McKinley	77.94	27	eP	P	20 45 53.7	-1.5
	comp=Z,6.1nm,0.7s,mb4.4						
ARCES	ARCESS Array B	78.92	339	P	P	20 45 59.6	-0.8
	comp=Z,3.7nm,0.7s,mb4.3,baz=68,slow=6.5,SNR=7.5						
BRTR	Keskin Array B	78.97	308	P	P	20 46 01.4	+0.1
	comp=Z,1.0nm,0.8s,mb3.7,baz=121,slow=7.2,SNR=5.0						
FINES	FINESS Array B	80.11	331	P	P	20 46 06.2	-0.8
	comp=Z,1.6nm,0.8s,mb3.9,baz=53,slow=9.5,SNR=7.7						
FINES	FINESS Array B	80.11	331	iP	P	20 46 07.2	+0.2
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
INK	Inuvik	83.03	21	P	P	20 46 21.6	-0.5
	comp=Z,4.6nm,0.8s,mb4.4,baz=311,slow=5.4,SNR=7.3						
OJC	Ojcow	86.25	321	eP	P	20 46 38.9	+0.5
OJC	Ojcow	86.25	321	eP	P	20 46 38.9	+0.5
NOA	NORSAR Array B	87.09	333	P	P	20 46 40.5	-1.6
	comp=Z,2.0nm,1.0s,mb4.0,baz=70,slow=4.6,SNR=4.1						
GERES	GERESS Array B	90.45	321	P	P	20 46 57.8	-0.6
	comp=Z,0.3nm,0.7s,mb3.5,baz=53,slow=6.7,SNR=4.4						
SNAA	Sanae	113.23	197	⇑iP	PKPdf	20 52 33.6	+1.6
VNA3	Neumayer Olymp	115.32	196	⇑iP	PKPdf	20 52 40.4	+4.2

MEX 08 20:44:10.4±0.3, **20.00N**×**102.87W**, **h16**km±12km, **MD3.8**, **Michoacan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFJM	Santa Fe	0.51	341	iP	Pb	20 44 19.0	-1.5
CGX	Ciudad Guzman	0.68	243	iP	Pb	20 44 26.0	+2.6
MOIG	Morelia	1.61	101	eP	Pn	20 44 34.9	-3.6
MOIG				eS	Sn	20 44 53.6	-5.4
CJM	Chamela	2.11	257	eP	Pn	20 44 41.9	-3.7
CJM				eS	Sn	20 45 06.2	-5.5

*ISK **08** 21:09:47.9, 37.76N×26.86E, h5km, MD3.7, ML3.7*
*THE **08** 21:09:48.3, 37.71N×27.09E, h10km, ML4.0*
*ATH **08** 21:09:48.5, 37.73N×26.93E, h21km±2km, MD3.8/13*
*NEIC **08** 21:09:48.5, 37.73N×26.93E, h21km, MD3.8(ATH), ML3.7(ISK), After ATH.*
*CSEM **08** 21:09:49.6±0.1, 37.72N×26.96E, h10km, MD3.8, Error ellipse: s-maj=1.4km s-min=1.3km az=143.0*
ISC 08 21:09:49.1±0.2, **37.73N**±0.02×**26.90E**±0.02, **h10**km, **n83**, σ**1^{s}01**/101, **3C-1D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SMG	Samos	0.05	247	⇓ePB	Pb	21 09 53.0	+1.2
SMG				eSB	Sb	21 09 55.1	+1.6
IZM	Izmir	0.73	23	iPG	Pg	21 10 02.6	-1.1
IZM				iSG	Sg	21 10 11.7	-1.7
KDAG	Bornova	0.73	23	iP	Pb	21 10 02.8	-0.7
KDAG				iS	Sb	21 10 12.4	-0.9
AYDN	Tasoluk	0.78	95	iP	Pb	21 10 04.1	-0.2
AYDN				iS	Sb	21 10 15.5	+0.8
BDRM	Kayabasi	0.79	147	⇑iP	Pb	21 10 04.5	0.0
BDRM				iS	Sb	21 10 15.1	+0.1
MLSB	Milas	0.82	122	PG	Pg	21 10 04.7	-0.9
MLSB				SG	Sg	21 10 17.8	+1.2
MLSB	Milas	0.82	122	Pg	Pg	21 10 04.7	-0.9
MLSB				Sg	Sg	21 10 17.7	+1.1
NISR	Nisiros	1.13	171	ePN	Pn	21 10 10.7	-0.2
YER	Yerkesik	1.25	118	PN	Pn	21 10 12.8	+0.1
APE	Apeiranthos	1.27	239	ePN	Pn	21 10 11.7	-1.3
APE	Apeiranthos	1.27	239	ePn	Pn	21 10 12.8	-0.2
AKS	Akhisar	1.35	32	PN	Pn	21 10 13.8	-0.3
AKS	Akhisar	1.35	32	Pn	Pn	21 10 14.0	-0.1
MANT	Manisa	1.51	59	⇑iP	Pn	21 10 15.5	-0.9
MANT				iS	Sb	21 10 35.1	-0.8
AYVA	Ayvalik	1.58	354	iP	Pn	21 10 19.5	+2.1
AYVA				iS	Sb	21 10 41.7	+3.7
PRK	Paraskevi	1.59	342	ePB	Pb	21 10 16.7	-1.5
PRK				eSN	Sn	21 10 40.1	+1.8
DALT	Dalyan (Mudla)	1.69	124	PN	Pn	21 10 18.7	-0.2
DALT	Dalyan (Mudla)	1.69	124	Pn	Pn	21 10 19.4	+0.5
DENT	Denizli	1.69	89	PN	Pn	21 10 18.5	-0.5
DENT	Denizli	1.69	89	Pn	Pn	21 10 19.6	+0.6
DNZL	Cakiroluk	1.70	91	⇑iP	Pn	21 10 19.2	+0.1
DNZL				iS	Sn	21 10 44.7	+3.6
THR4	Thira Island,	1.75	224	ePb	Pb	21 10 19.8	-1.0
SANT	Santorini	1.78	221	ePn	Pn	21 10 19.5	-0.7
SANT				eSn	Sn	21 10 43.5	+0.5
SANT	Santorini	1.78	221	ePn	Pn	21 10 19.5	-0.7
THR1	Thera Island	1.78	221	ePb	Pb	21 10 19.9	-1.4
THR1				eSb	Sb	21 10 45.2	+1.5
THR3	Thira Island,	1.78	223	ePb	Pb	21 10 20.3	-1.1
ARG	Arkhangelos	1.80	147	ePN	Pn	21 10 20.5	0.0
THR5	Thira Island,	1.80	224	ePb	Pb	21 10 20.7	-1.1
KHL	Karahalli	2.16	73	ePN	Pn	21 10 26.2	+0.6
KHL	Karahalli	2.16	73	Pn	Pn	21 10 27.0	+1.4
KARP	Karpathos	2.19	174	ePB	Pb	21 10 25.8	-2.6
BOZC	Bozcaada	2.21	343	iP	Pn	21 10 26.3	0.0
BOZC				iS	Sn	21 11 00.8	+6.8
BTOK	Tokmak	2.21	23	iP	Pn	21 10 28.2	+1.8
DST	Dursunbey	2.31	35	ePN	Pn	21 10 28.4	+0.6
DST	Dursunbey	2.31	35	Pn	Pn	21 10 29.2	+1.4
PTL	Penteli	2.42	278	ePN	Pn	21 10 29.2	-0.2
LIA	Limnos Island	2.55	329	ePN	Pn	21 10 30.3	-0.9
ELL	Elmali	2.59	111	PN	Pn	21 10 32.8	+0.9
ELL	Elmali	2.59	111	Pn	Pn	21 10 32.4	+0.5
LOS	Limnos	2.62	328	ePn	Pn	21 10 32.7	+0.5
NPS	Neapolis	2.67	203	ePN	Pn	21 10 32.5	-0.5
BNT	Bandirma	2.74	17	ePN	Pn	21 10 34.3	+0.3
BNT	Bandirma	2.74	17	Pn	Pn	21 10 35.2	+1.2
KCT	Karacabey	2.78	24	ePN	Pn	21 10 34.0	-0.4
ORLT	Orhaneli	2.79	33	ePN	Pn	21 10 34.8	+0.2
ORLT	Orhaneli	2.79	33	Pn	Pn	21 10 36.0	+1.4
ALT	Altintas	2.85	61	ePN	Pn	21 10 35.2	-0.3
ALT	Altintas	2.85	61	Pn	Pn	21 10 37.1	+1.6
ISP	Isparta	2.86	87	ePN	Pn	21 10 36.8	+1.1
BCK	Bucak	2.94	94	ePN	Pn	21 10 37.4	+0.6
BCK	Bucak	2.94	94	Pn	Pn	21 10 37.6	+0.8
VAM	Vamos	3.18	224	ePB	Pb	21 10 43.8	-1.5
ALN	Alexandroupoli	3.23	348	ePn	Pn	21 10 39.9	-1.0
ALN				eSn	Sn	21 11 19.9	0.0
NEO	Neokhori	3.28	300	ePN	Pn	21 10 42.2	+0.5
XOR	Xorichti	3.33	300	ePn	Pn	21 10 42.4	+0.1
YLV	Yalova	3.42	33	ePN	Pn	21 10 43.4	-0.3
YLV	Yalova	3.42	33	Pn	Pn	21 10 44.9	+1.2
OUR	Ouranopolis	3.45	320	ePn	Pn	21 10 43.6	-0.5
RDO	Rodhopi	3.57	343	ePN	Pn	21 10 44.7	-1.0
ESKT	Eskisehir	3.57	59	ePN	Pn	21 10 45.8	0.0
ESKT	Eskisehir	3.57	59	iP	Pn	21 10 44.9	-0.9
ESKT	Eskisehir	3.57	59	Pn	Pn	21 10 47.0	+1.2
CTT	Catalca	3.61	19	ePN	Pn	21 10 46.4	+0.1
CTT	Catalca	3.61	19	Pn	Pn	21 10 47.4	+1.1
ISK	Istanbul-Kandi	3.73	26	ePN	Pn	21 10 48.1	+0.1
ISK	Istanbul-Kandi	3.73	26	Pn	Pn	21 10 49.2	+1.2
HRT	Hereke	3.76	34	ePN	Pn	21 10 48.9	+0.4
HRT	Hereke	3.76	34	Pn	Pn	21 10 49.9	+1.4
PLG	Polygyros	3.77	316	ePB	Pb	21 10 51.3	-4.1
EYL	Eskiyayla	3.80	41	ePN	Pn	21 10 49.3	+0.3
EYL	Eskiyayla	3.80	41	Pn	Pn	21 10 50.0	+1.0
KIZT	Kizilcal	4.08	72	PN	Pn	21 10 52.8	-0.2
KIZT	Kizilcal	4.08	72	Pn	Pn	21 10 53.0	0.0
EDRB	Edirne	4.11	358	ePN	Pn	21 10 52.3	-1.2
EDRB	Edirne	4.11	358	Pn	Pn	21 10 54.4	+0.9
SOH	Sokhos	4.13	319	ePn	Pn	21 10 53.6	-0.2
SRS	Serrai	4.24	324	ePn	Pn	21 10 55.1	-0.2
SRS				eSn	Sn	21 11 46.9	+1.4
NVR	Nevrokopi	4.31	328	ePN	Pn	21 10 56.2	-0.1
MDU	Mudurnu	4.33	50	ePN	Pn	21 10 57.0	+0.5
KONT	Konya--Tatoy	4.33	85	ePN	Pn	21 10 57.0	+0.5
HENT	Hendek	4.38	44	iP	Pg	21 11 10.4	-6.2
HENT				iS	Sg	21 12 11.8	-3.1
SGKT	Sivrigoynuk	4.91	53	iP	Pg	21 11 21.3	-5.9
SGKT				iS	Sg	21 12 30.4	-2.2
KAMT	Kaman	5.59	71	PN	Pn	21 11 13.9	-0.4

IDC 08 21:24:53.3±1.9, **2.30N**×**126.96E**, **mb3.6**/4, **mb1 3.8**/4, **mb1mx3.5**/14, **Error ellipse: s-maj=161.0km s-min=24.4km az=65.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LUBP	Lubang	13.16	330	eP	P	21 28 04.4	+0.1
WRA	Warramunga Arr	23.26	162	P	P	21 30 03.6	0.0
	0.6nm,0.4s,baz=340,slow=10,SNR=13						
ASAR	Alice Springs	26.68	166	P	P	21 30 35.0	-1.1
	0.5nm,0.3s,baz=350,slow=6.9,SNR=23						
STKA	Stephens Creek	36.72	159	P	P	21 32 00.5	-3.7
	0.6nm,0.3s,baz=339,slow=9.8,SNR=5.3						
MKAR	Makanchi Array	58.86	326	P	P	21 34 54.1	-2.1
	0.1nm,0.4s,baz=126,slow=7.4,SNR=5.4						

*NEIC **08** 21:30:11.8, 42.53N×13.18E, h5km, MD3.3(ROM), ML2.9(LDG), After ROM.*
*ROM **08** 21:30:11.7±0.1, 42.53N×13.18E, h5km, MD3.3/3, ML2.6/9, Error ellipse: s-maj=1.1km s-min=0.9km az=90.0*
*CSEM **08** 21:30:12.1±0.1, 42.51N×13.21E, h12km, ML2.6/3, Error ellipse: s-maj=1.6km s-min=1.3km az=92.0*
*LDG **08** 21:30:14.1±0.2, 42.46N×13.25E, h10km, Ml2.9/7, Error ellipse: s-maj=5.4km s-min=3.8km az=51.0*
ISC 08 21:30:12.8±0.3, **42.53N**±0.02×**13.15E**±0.03, **h20**km±4km, **n77**, σ**1^{s}05**/106, **13C-2D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AQU	L'Aquila	0.25	133	ePG	Pb	21 30 18.0	-0.7
FIAM	Fiamignano	0.26	186	ePG	Pb	21 30 18.4	-0.4
FIAM				SG	Sb	21 30 22.5	-0.5
FIAM	Fiamignano	0.26	186	ePg	Pb	21 30 18.4	-0.4
FIAM				eSg	Sb	21 30 22.5	-0.4
NRCA	Norcia	0.31	355	⇑iPG	Pb	21 30 18.6	-1.0
NRCA				SG	Sb	21 30 23.1	-1.1
NRCA	Norcia	0.31	355	⇑iPg	Pb	21 30 18.6	-1.0
NRCA				eSg	Sb	21 30 23.1	-1.1
TERO	Teramo	0.35	74	⇑iPG	Pb	21 30 18.9	-1.3
TERO				SG	Sb	21 30 23.8	-1.5
TERO	Teramo	0.35	74	⇑iPg	Pb	21 30 18.9	-1.3
TERO				eSg	Sb	21 30 23.8	-1.5
MNS	Montasola	0.38	248	⇑iPG	Pb	21 30 20.6	-0.1
MNS	Montasola	0.38	248	⇑iPg	Pb	21 30 20.6	-0.1
PTQR	Pietraquaria	0.54	160	ePG	Pb	21 30 22.8	-0.6
	287nm,0.5s						
PTQR	Pietraquaria	0.54	160	ePg	Pb	21 30 22.8	-0.6
PTQR	Pietraquaria	0.54	160	ePg	Pb	21 30 22.8	-0.6
	287nm,0.5s						
MTCE	Montecelio	0.59	211	ePG	Pb	21 30 24.0	-0.3
MTCE				SG	Sb	21 30 33.0	+0.9
MTCE	Montecelio	0.59	211	ePn	Pn	21 30 24.0	-1.8
MTCE				eSg	Sb	21 30 33.0	+0.9
CERT	Cerreto	0.59	192	⇑iPG	Pb	21 30 23.9	-0.4
INTR	Introdacqua	0.76	132	ePG	Pb	21 30 26.7	-0.4
INTR	Introdacqua	0.76	132	ePg	Pb	21 30 26.7	-0.4
CING	Cingoli	0.85	2	ePG	Pb	21 30 28.1	-0.5
CING				SG	Sb	21 30 41.5	+1.9
CING	Cingoli	0.85	2	ePg	Pb	21 30 28.1	-0.6
CING				eSg	Sb	21 30 41.5	+2.0
MURB	Monte Urbino	0.87	328	ePG	Pb	21 30 29.0	0.0
MURB				SG	Sb	21 30 42.7	+2.6
MURB	Monte Urbino	0.87	328	ePg	Pb	21 30 29.0	0.0
MURB				eSg	Sb	21 30 42.7	+2.6
SDI	San Donato	0.95	149	ePG	Pb	21 30 30.8	+0.3
	220nm,0.4s						
SDI	San Donato	0.95	149	ePn	Pn	21 30 30.8	-0.2
SDI	San Donato	0.95	149	ePg	Pb	21 30 30.8	+0.3
	220nm,0.4s						
TOLF	Tolfa	0.97	242	ePG	Pb	21 30 31.0	+0.2
TOLF				SG	Sb	21 30 45.6	+2.4
TOLF	Tolfa	0.97	242	ePn	Pn	21 30 31.0	-0.3
TOLF				eSg	Sb	21 30 45.6	+2.4
ARV	Arcevia	0.98	351	ePG	Pb	21 30 30.8	-0.1
ARV	Arcevia	0.98	351	ePg	Pb	21 30 30.8	-0.1
CII	Carovilli	1.18	133	ePN	Pn	21 30 36.0	+1.8
	75nm,0.6s						
CII	Carovilli	1.18	133	ePg	Pb	21 30 36.0	+1.8
FSSB	Fossombrone	1.20	347	ePN	Pn	21 30 34.5	0.0
	299nm,0.4s						
FSSB	Fossombrone	1.20	347	ePn	Pn	21 30 34.5	-0.1
FSSB	Fossombrone	1.20	347	ePn	Pn	21 30 34.5	0.0
	299nm,0.4s						
CRE	Caprese Michel	1.40	322	ePN	Pn	21 30 39.0	+1.5
	46nm,0.4s						
CRE	Caprese Michel	1.40	322	ePn	Pn	21 30 39.0	+1.5
CRE	Caprese Michel	1.40	322	ePn	Pn	21 30 39.0	+1.5
	46nm,0.4s						
MAON	Monte Argentar	1.50	267	ePN	Pn	21 30 39.5	+0.6
MAON	Monte Argentar	1.50	267	ePn	Pn	21 30 39.5	+0.7
CSNT	Castellina Chi	1.66	305	ePN	Pn	21 30 42.5	+1.3
	28nm,0.2s						
CSNT	Castellina Chi	1.66	305	ePn	Pn	21 30 42.5	+1.3
CSNT	Castellina Chi	1.66	305	ePn	Pn	21 30 42.5	+1.3
	28nm,0.2s						
SFI	Santa Sofia	1.68	326	ePN	Pn	21 30 42.4	+1.0
SFI	Santa Sofia	1.68	326	ePn	Pn	21 30 42.4	+1.0
VMG	Vicchio	1.85	321	ePN	Pn	21 30 45.6	+1.7
	96nm,0.4s						
VMG	Vicchio	1.85	321	ePn	Pn	21 30 45.6	+1.6
VMG	Vicchio	1.85	321	ePn	Pn	21 30 45.6	+1.7
	96nm,0.4s						
NVLJ	Novalja	2.39	31	iPn	Pn	21 30 51.9	+0.3

NVLJ				*i* Sn	Sn	21 31 21.4	+0.9
BDI	**Bagni Di Lucca**	**2.42**	**310**	*e*PN	**Pn**	**21 30 53.0**	**+1.0**
	12nm,0.5s						
BDI	**Bagni Di Lucca**	**2.42**	**310**	*e*Pn	**Pn**	**21 30 53.0**	**+1.0**
BDI	**Bagni Di Lucca**	**2.42**	**310**	*e*Pn	**Pn**	**21 30 53.0**	**+1.0**
	12nm,0.5s						
GSCL	**Gusciola**	**2.61**	**315**	*e*PN	**Pn**	**21 30 56.0**	**+1.3**
	12nm,0.7s						
GSCL	**Gusciola**	**2.61**	**315**	*e*Pn	**Pn**	**21 30 56.0**	**+1.2**
GSCL	**Gusciola**	**2.61**	**315**	*e*Pn	**Pn**	**21 30 56.0**	**+1.3**
	12nm,0.7s						
PGF	**Pioggiola**	**3.07**	**272**	*e*Pn	**Pn**	**21 31 01.9**	**+0.6**
PGF				*e*Sn	**Sn**	**21 31 37.5**	**-0.3**
	2.3nm,0.3s						
VOY	**Vojsko**	**3.54**	**8**	*e*Pn	**Pn**	**21 31 08.3**	**+0.3**
VOY				*e*Sn	**Sn**	**21 31 50.3**	**+0.5**
OBKA	**Obir**	**4.10**	**14**	⇑*i*PN	**Pn**	**21 31 17.0**	**+1.0**
OBKA				*i* SN	**Sn**	**21 32 02.7**	**-1.3**
VSL	**Villasalto**	**4.16**	**225**	*e*Pn	**Pn**	**21 31 16.8**	**0.0**
SBF	**Sospel**	**4.39**	**290**	*e*Pn	**Pn**	**21 31 19.8**	**-0.2**
SBF				*e*Sn	**Sn**	**21 32 09.3**	**-1.9**
	3.2nm,0.3s						
KBA	**Koelnbreinsper**	**4.55**	**2**	⇑*i*PN	**Pn**	**21 31 23.5**	**+1.2**
KBA				*i* SN	**Sn**	**21 32 14.0**	**-1.4**
WTTA	**Wattenberg**	**4.86**	**348**	⇑*i*PN	**Pn**	**21 31 26.7**	**0.0**
WTTA				*i* SN	**Sn**	**21 32 22.6**	**-0.4**
FRF	**La Foret Royal**	**4.88**	**284**	*e*Pn	**Pn**	**21 31 26.8**	**-0.2**
SQTA	**Sankt Quirin**	**4.89**	**344**	⇓*i*PN	**Pn**	**21 31 28.7**	**+1.6**
SQTA				*i* SN	**Sn**	**21 32 24.1**	**+0.2**
WATA	**Walderalm**	**4.94**	**347**	⇑*i*PN	**Pn**	**21 31 28.8**	**+1.0**
WATA				*i* SN	**Sn**	**21 32 25.0**	**0.0**
LMR	**La Mourre**	**4.94**	**282**	*e*Pn	**Pn**	**21 31 27.1**	**-0.8**
MOTA	**Moosalm**	**5.03**	**344**	⇓*i*PN	**Pn**	**21 31 30.6**	**+1.5**
MOTA				*i* SN	**Sn**	**21 32 27.2**	**-0.2**
MBDF	**Montbardon**	**5.13**	**298**	*e*Pn	**Pn**	**21 31 29.9**	**-0.6**
DAVA	**Damuels**	**5.29**	**335**	⇑*i*PN	**Pn**	**21 31 33.9**	**+1.1**
DAVA				*i* SN	**Sn**	**21 32 34.8**	**+0.8**
MOA	**Molln**	**5.38**	**8**	⇑*i*PN	**Pn**	**21 31 34.5**	**+0.5**
MOA				*i* SN	**Sn**	**21 32 34.1**	**-2.0**
LPG	**La Plagne**	**5.49**	**305**	*e*Pn	**Pn**	**21 31 35.2**	**-0.4**
LPG				*e*Sn	**Sn**	**21 32 37.0**	**-1.9**
	1.3nm,0.3s						
LPL	**La Plagne**	**5.51**	**305**	*e*Sn	**Sn**	**21 32 37.3**	**-2.1**
	1.2nm,0.3s						
SMRF	**Simiane la Rot**	**5.72**	**287**	*e*Pn	**Pn**	**21 31 39.2**	**+0.4**
ORIF	**Oris-en-Rattie**	**5.79**	**297**	*e*Pn	**Pn**	**21 31 39.1**	**-0.7**
CABF	**La Chapelle**	**6.49**	**311**	*e*Pn	**Pn**	**21 31 48.9**	**-0.8**
HINF	**Hinteralfeld**	**6.91**	**322**	*e*Pn	**Pn**	**21 31 54.6**	**-1.0**
HINF				*e*Sn	**Sn**	**21 33 10.1**	**-4.4**
	3.9nm,0.4s						
LASF	**Ste Croix**	**6.96**	**286**	*e*Pn	**Pn**	**21 31 55.9**	**-0.4**
CDF	**Champ du Feu**	**7.19**	**327**	*e*Pn	**Pn**	**21 31 57.7**	**-1.8**
CDF				*e*Sn	**Sn**	**21 33 16.7**	**-4.7**
	1.7nm,0.3s						
CAF	**Calviac**	**8.38**	**290**	*e*Pn	**P**	**21 32 14.5**	**-1.6**

IDC 08 21:42:38.8±8.3**, 16.83S**×**175.33W, mb3.7**/3**, mb1 4.0**/3**, mb1mx3.8**/13**, Error ellipse: s-maj=364.0km s-min=37.5km az=141.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.73**	**258**	P	P	21 51 17.3	-2.4
	0.5nm,1.0s,baz=95,slow=7.6,SNR=2.5						
ASAR	**Alice Springs**	**47.92**	**253**	P	P	21 51 19.6	-1.5
	0.7nm,0.4s,baz=87,slow=8.1,SNR=20						
ILAR	**Eielson Array**	**84.21**	**12**	P	P	21 55 11.7	-1.3
	0.5nm,0.7s,baz=216,slow=5.6,SNR=5.2						

*LDG **08** 21:47:54.1±0.4, 23.86N×94.14E, h10km, Mb4.7/12, Ms3.6/7, Error ellipse: s-maj=19.6km s-min=9.0km az=169.0*

*MOS **08** 21:48:01.6±1.2, 24.33N×94.37E, h33km, mb5.2/13, Error ellipse: s-maj=20.0km s-min=7.5km az=117.6*

*BJI **08** 21:48:04.7, 24.47N×94.12E, h62km, mB4.7, mb4.9, ML4.8, Ms4.2, Msz4.0*

*IDC **08** 21:48:05.7±0.4, 24.26N×94.36E, h70km±3km, mb4.5/24, mb1 4.6/25, mb1mx4.6/28, MS3.8/7, Ms1 3.8/7, ms1mx3.5/20, Error ellipse: s-maj=16.9km s-min=8.8km az=51.0*

*NEIC **08** 21:48:05.5±0.2, 24.30N×94.30E, mb4.9/37, Error ellipse: s-maj=8.3km s-min=4.2km az=52.0*

*HRVD **08** 21:48:05.4±0.5, 24.34N×94.35E, h78km±8km, MW4.8/39, Centroid moment Tensor Solution. LP body waves: s1,c1; Mantle waves: s39,c53; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.26±.27; $M_{\theta\theta}$-2.12±.18; $M_{\phi\phi}$0.86±.18; $M_{r\theta}$-0.94±.14; $M_{\theta\phi}$0.80±.15; $M_{\phi r}$-0.64±.12; Best double couple: $M_0$2.29×10^{16} NP1:ϕ_s139°,δ46°,λ147°. NP2: ϕ_s252°,δ67°,λ48°. Principal axes: T 2.09, Plg50°, Azm116°; N .39, Plg38°, Azm272°; P -2.48, Plg12°, Azm11°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 08 21:48:03.7±0.4**, 24.17N**±0.03×**94.07E**±0.03**, h68**km±3km**, h69**km±.5km**:pP-P, n239, σ1§12**/218**, mb4.8**/73**, 16C-12D, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**0.62**	**349**	*i* P	**P**	**21 48 19.0**	**+1.2**
IMP				*i* S	**S**	**21 48 28.0**	**-0.1**
SHL	**Shillong**	**2.42**	**305**	*i* P	**P**	**21 48 42.5**	**+0.6**
SHL				*e*S	**S**	**21 49 10.0**	**-0.4**
AGT	**Agartala**	**2.59**	**264**	*i*	**P**	**21 48 55.0**	**+11**
AGT				*i*		21 51 11.0	
LKP	**Lekhapani**	**3.63**	**29**	*e*P	**P**	**21 49 00.0**	**+1.1**
LKP				*e*S	**S**	**21 49 36.0**	**-4.7**
GTK	**Gangtok**	**5.83**	**304**	*e*	**P**	**21 49 25.0**	**-4.5**
GTK				*e*S	**S**	**21 50 30.0**	**-5.8**
LSA	**Lhasa**	**6.09**	**335**	P	**P**	**21 49 35.0**	**+2.0**
LSA				S	**S**	**21 50 38.9**	**-3.2**
LSA				Smax			
	comp=N,620nm,0.7s						
LSA				Smax			
	comp=E,910nm,0.7s						
CHG	**Chiang Mai**	**7.00**	**139**	⇑P	**P**	**21 49 45.2**	**-0.7**
	comp=E,75nm,0.5s						
CM31	**Chiang Mai Arr**	**7.28**	**140**	*e*Pn	**P**	**21 49 49.9**	**+0.2**
	comp=E,38nm,0.4s						
CMAR	**Chiang Mai Arr**	**7.28**	**140**	P	**P**	**21 49 49.0**	**-0.7**
	comp=E,8.2nm,0.3s,baz=314,slow=13,SNR=291						
CMAR				Lg		21 51 48.6	
	comp=E,2.0nm,0.3s,baz=302,slow=19,SNR=4.7						
CMAR				LR	LR	21 52 44.3	
	comp=E,552nm,20.5s,baz=338,slow=39						
CMAR				ScP		21 59 54.8	
	comp=E,0.1nm,0.3s,baz=280,slow=3.1,SNR=4.2						
CMAR	**Chiang Mai Arr**	**7.28**	**140**	P	**P**	**21 49 48.9**	**-0.8**
KMI	**Kunming**	**7.95**	**81**	*e*P	**P**	**21 50 00.8**	**+2.0**
KMI				S	**S**	**21 51 29.6**	**+1.5**
KMI				AMB	AMB		
	comp=Z,54nm,1.2s						
KMI				Smax			
	comp=N,97nm,2.1s						
KMI				Smax			
	comp=E,46nm,1.4s						
KMI				LR	LR		
	comp=N,2μm,10.3s						
KMI				LR	LR		
	comp=E,1μm,9.2s						
KMI				LR	LR		
	comp=Z,953nm,9.7s						
GUN	**Gumba**	**8.25**	**299**	*e*P	**P**	**21 50 02.3**	**-0.6**
	comp=Z,373nm,0.4s						
BDT	**Bhumibol Dam**	**8.30**	**145**	P	**P**	**21 50 05.0**	**+1.4**
	comp=Z,38nm,0.7s						
PKI	**Pulchoki**	**8.50**	**295**	*e*P	**P**	**21 50 04.6**	**-1.7**
	comp=Z,138nm,0.3s						
KKN	**Kakani**	**8.69**	**296**	*e*P	**P**	**21 50 07.6**	**-1.3**
	comp=Z,174nm,0.2s						
DMN	**Daman**	**8.76**	**295**	*e*P	**P**	**21 50 08.8**	**-1.1**
	comp=Z,92nm,0.3s						
GKN	**Gorkha**	**9.29**	**296**	*e*P	**P**	**21 50 15.8**	**-1.4**
	comp=Z,231nm,0.3s						
KOLN	**Koldanda**	**10.07**	**293**	*e*P	**P**	**21 50 25.0**	**-2.9**
	comp=Z,91nm,0.3s						
NST	**Nakhon Sawan**	**10.20**	**145**	P	**P**	**21 50 26.5**	**-3.1**
CD2	**Chengdu**	**10.90**	**50**	*e*P	**P**	**21 50 38.2**	**-0.9**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s						
BLSP	**Bilaspur**	**11.17**	**262**	*e*	**P**	**21 50 37.8**	**-4.8**
BLSP				*e*		21 52 24.8	
KKTK	**Khon Kaen**	**11.32**	**132**	P	**P**	**21 50 45.5**	**+0.7**
	comp=Z,309nm,0.6s						
GYA	**Guiyang**	**11.62**	**76**	P	**P**	**21 50 50.5**	**+1.7**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
GYA				AMB	AMB		
	comp=Z,80nm,4.8s						
GYA				LR	LR		
	comp=N,1μm,11.1s						
GYA				LR	LR		
	comp=E,400nm,5.7s						
GYA				LR	LR		
	comp=Z,530nm,6.9s						
VIS	**Vishakhapatnam**	**11.90**	**239**	*e*	**P**	**21 51 06.0**	**+13**
VIS				*e*S	**S**	**21 52 55.0**	**-9.4**
LGTI	**Lohaghat**	**13.41**	**296**	*e*P	**P**	**21 51 11.5**	**-0.9**
LGTI				*e*		21 53 37.0	
PTH	**Pithoragarh**	**13.47**	**296**	*e*P	**P**	**21 51 12.0**	**-1.2**
PTH				*e*		21 53 33.0	
UBT	**Ubonrachathani**	**13.60**	**129**	P	**P**	**21 51 18.0**	**+2.9**
NGP	**Nagpur**	**14.18**	**261**	*e*P	**P**	**21 51 23.5**	**+0.9**
NGP				*e*		21 53 58.4	
JOSI	**Joshimath**	**14.37**	**299**	*e*P	**P**	**21 51 24.7**	**-0.3**
JOSI				*e*		21 53 56.2	
LZH	**Lanzhou**	**14.57**	**33**	P	**P**	**21 51 24.2**	**-3.3**
LZH				AP		21 51 32.0	
LZH				AMB	AMB		
	comp=Z,70nm,1.0s						
LZH				AMB	AMB		
	comp=Z,280nm,4.0s						
LZH				LR	LR		
	comp=E,1μm,12.6s						
LZH				LR	LR		
	comp=Z,2μm,16.8s						
ENH	**Enshi**	**15.00**	**63**	*e*P	**P**	**21 51 29.9**	**-3.3**
	comp=Z,19nm,0.8s						
BHPL	**Bhopal**	**15.27**	**270**	*e*P	**P**	**21 51 36.1**	**-0.6**
BHPL				*e*		21 51 38.0	
	comp=Z,20nm,0.4s						
BHPL				*e*		21 54 21.3	
BHPL				*e*		21 54 36.9	
	comp=E,33nm,1.0s						
DDI	**Dehra Dun**	**15.49**	**297**	*e*	**P**	**21 51 32.0**	**-7.5**
DDI				*e*		21 54 18.0	
QIZ	**Qiongzhong**	**15.54**	**106**	P	**P**	**21 51 42.6**	**+2.5**
QIZ				S	**S**	**21 54 36.1**	**+5.8**
QIZ				AMB	AMB		
	comp=Z,49nm,1.0s						
QIZ				LR	LR		
	comp=N,434nm,13.2s						
QIZ				LR	LR		
	comp=E,280nm,13.3s						
QIZ	**Qiongzhong**	**15.54**	**106**	*e*P	**P**	**21 51 42.8**	**+2.7**
	comp=E,36nm,0.8s						
NDI	**New Delhi**	**15.74**	**290**	*e*P	**P**	**21 51 45.5**	**+2.8**
	comp=E,24nm,0.7s						
NDI				*e*		21 54 22.0	
SONA	**Sohna**	**15.77**	**289**	*e*	**P**	**21 51 40.7**	**-2.3**
SONA				*e*		21 54 24.4	
SONA				*e*		21 54 31.0	
	comp=E,76nm,0.8s						
AYAN	**Aya Nagar**	**15.78**	**289**	*e*P	**P**	**21 51 41.4**	**-1.7**
AYAN				*e*		21 54 26.9	
AYAN				*e*		21 54 28.3	
	comp=Z,51nm,0.8s						
KLP	**Kalpa**	**15.78**	**301**	*e*P	**P**	**21 51 43.1**	**0.0**
KLP				*e*		21 54 31.8	
GTA	**Gaotai**	**15.95**	**16**	*e*P	**P**	**21 51 39.7**	**-5.5**
GTA				AP		21 51 50.8	
GTA				SCP		22 00 07.8	
GTA				SCS	ScS	22 03 44.7	0.0
GTA				AMB	AMB		
	comp=Z,119nm,5.7s						
GTA				LR	LR		
	comp=N,182nm,18.3s						
GTA				LR	LR		
	comp=E,222nm,13.4s						
HYB	**Hyderabad**	**15.98**	**248**	*i* P	**P**	**21 51 51.5**	**+5.8**
HYB				*e*		21 51 55.0	
HYB				*e*PP	PP	21 52 08.5	+9.1
HYB				*e*		21 52 15.0	
HYB				*e*		21 54 31.0	
HYB				*e*S	**S**	**21 54 44.0**	**+3.5**
HYB	**Hyderabad**	**15.98**	**248**	*e*P	**P**	**21 51 51.5**	**+5.8**
KUDL	**Kundal**	**16.27**	**288**	*e*	**P**	**21 51 46.6**	**-2.7**
KUDL				*e*		21 54 33.0	
KUDL				*e*		21 54 40.3	
	comp=Z,30nm,0.8s						
KHET	**Khetri**	**16.85**	**287**	*e*P	**P**	**21 51 57.4**	**+0.8**
KHET				*e*		21 54 50.1	
AJM	**Ajmer**	**17.71**	**282**	*e*P	**P**	**21 52 06.0**	**-1.3**
SNG	**Songkhla**	**18.03**	**159**	P	**P**	**21 52 11.0**	**-0.3**
	comp=Z,132nm,0.8s						
THN	**Thein Dam**	**18.11**	**301**	*e*P	**P**	**21 52 11.0**	**-1.2**
	comp=Z,23nm,0.4s						
THN				*e*		21 55 20.3	
POO	**Poona**	**19.64**	**257**	*e*P	**P**	**21 52 31.0**	**+1.4**
	comp=Z,20nm,1.0s						
POO				*e*		21 55 57.0	
KAD	**Karad**	**19.80**	**254**	*e*		21 52 52.0	
KAD				*e*		21 56 27.0	
WMQ	**Urumqi**	**20.28**	**347**	⇓*i*P	**P**	**21 52 36.0**	**-0.2**
WMQ				AMB	AMB		
	comp=Z,158nm,1.0s						
IPM	**Ipoh**	**20.60**	**160**	⇑*e*P	**P**	**21 52 39.5**	**-0.1**
	comp=Z,54nm,0.6s						
JASL	**Jaisalmer**	**21.07**	**282**	*e*P	**P**	**21 52 44.6**	**+0.3**
BTO	**Baotou**	**21.16**	**35**	*e*P	**P**	**21 52 42.2**	**-2.9**
BTO				AMB	AMB		
	comp=Z,21nm,0.8s,mb4.5						
KSH	**Kashi**	**21.62**	**319**	*i* PR		21 52 51.5	
KSH				*e*AP		21 53 03.0	
KSH				*e*XP		21 53 12.4	
KSH				*e*PP	PP	21 53 15.1	-1.1
KSH				S	**S**	**21 56 41.0**	**+1.1**
KSH				*e*PCP	PcP	21 56 56.0	+6.0
KSH				*e*XS		21 56 58.0	
KSH				*e*SS	SS	21 57 14.1	-6.4
KSH				AMB	AMB		
	comp=Z,160nm,1.3s,mb5.2						
KSH				LR	LR		
	comp=N,190nm,4.7s						
KSH				LR	LR		
	comp=E,270nm,5.0s						
HHC	**Hu-ho-hao-te**	**22.16**	**37**	*e*P	**P**	**21 52 55.5**	**+0.4**
HHC				AP		21 53 05.6	
HHC				PP	PP	21 53 24.2	+0.8
HHC				S	**S**	**21 56 55.5**	**+5.7**
HHC				SCP		22 00 21.5	
HHC				PCS		22 00 24.5	
HHC				AMB	AMB		
	comp=Z,18nm,1.4s,mb4.2						
HHC				AMB	AMB		
	comp=Z,101nm,4.3s						
HHC				LR	LR		
	comp=N,145nm,12.0s						
HHC				LR	LR		
	comp=E,158nm,13.1s						
HHC				LR	LR		
	comp=Z,177nm,13.5s						
NJ2	**Nanjing**	**23.20**	**65**	*e*P	**P**	**21 53 03.7**	**-1.5**
NJ2				PP	PP	21 53 38.7	+0.8
NJ2				S	**S**	**21 57 03.0**	**-5.2**
NJ2				LR	LR		
	comp=N,390nm,11.6s						
NJ2				LR	LR		
	comp=E,450nm,14.5s						
NJ2				LR	LR		
	comp=Z,960nm,14.7s						
TIA	**Tai'an**	**23.20**	**54**	*e*P	**P**	**21 53 05.8**	**+0.6**
ULHL	**Ulahol**	**23.31**	**325**	P	**P**	**21 53 09.7**	**+3.5**
	SNR=12						
KZA	**Kyzart**	**23.72**	**323**	P	**P**	**21 53 12.9**	**+2.7**
	SNR=8.8						
KZA	**Kyzart**	**23.72**	**323**	P		22 00 27.1	
	SNR=6.8						
TKM2	**Tokmak 2**	**24.12**	**325**	P	**P**	**21 53 16.7**	**+2.7**
	SNR=76						
TKM2	**Tokmak 2**	**24.12**	**325**	P		22 00 27.3	
	SNR=6.0						
UCH	**Uchtor**	**24.23**	**323**	P	**P**	**21 53 18.4**	**+3.3**
	SNR=31						
UCH	**Uchtor**	**24.23**	**323**	P		22 00 28.4	
	SNR=6.2						
KBK	**Karagaybulak**	**24.28**	**324**	P	**P**	**21 53 18.5**	**+2.9**
	SNR=29						
KBK	**Karagaybulak**	**24.28**	**324**	P		22 00 28.1	
	SNR=6.1						
BJI	**Beijing**	**24.42**	**44**	P	**P**	**21 53 16.2**	**-0.8**
BJI				S	**S**	**21 57 21.6**	**-7.5**
BJI				LR	LR		
	comp=N,155nm,15.1s						
BJI				LR	LR		
	comp=E,145nm,15.3s						
BJI				LR	LR		
	comp=Z,109nm,39.2s						
MKAR	**Makanchi Array**	**24.47**	**340**	P	**P**	**21 53 18.7**	**+1.3**
	comp=Z,54nm,0.6s,mb5.0,baz=150,slow=10,SNR=303						
MKAR				pP		21 53 36.2	
	comp=Z,25nm,0.8s,baz=153,slow=11,SNR=4.2						
MKAR				ScP		22 00 27.3	
	comp=Z,10nm,0.9s,baz=135,slow=3.4,SNR=27						
MKAR	**Makanchi Array**	**24.47**	**340**	*i* P	**P**	**21 53 18.7**	**+1.3**
MKAR				pmax	pmax		
	comp=Z,103nm,0.9s						
MKAR	**Makanchi Array**	**24.47**	**340**	P	**P**	**21 53 18.7**	**+1.3**
MKAR				pP		21 53 36.2	
MKAR				ScP		22 00 27.3	
AAK	**Ala-Archa**	**24.51**	**323**	P	**P**	**21 53 20.9**	**+3.0**
	SNR=50						
AAK	**Ala-Archa**	**24.51**	**323**	*de*P	**P**	**21 53 19.7**	**+1.8**
AAK				pmax	pmax		
	comp=Z,51nm,1.0s,mb4.9						
AAK	**Ala-Archa**	**24.51**	**323**	*e*P	**P**	**21 53 19.5**	**+1.6**
	comp=Z,52nm,1.0s,mb4.9						
FRU	**Bishkek**	**24.58**	**324**	⇓*e*P	**P**	**21 53 21.5**	**+2.9**
FRU				*e*		21 53 40.0	
FRU				pmax	pmax		
	comp=Z,90nm,1.4s,mb5.0						
CHMS	**Chumysh**	**24.62**	**324**	P	**P**	**21 53 20.8**	**+1.9**
	SNR=22						
CHMS	**Chumysh**	**24.62**	**324**	P		22 00 28.6	
	SNR=5.6						
AML	**Almayashu**	**24.62**	**322**	P	**P**	**21 53 21.1**	**+2.1**
	SNR=45						
AML	**Almayashu**	**24.62**	**322**	P		22 00 29.2	
	SNR=6.2						
EKS2	**Erkin-Say**	**24.92**	**323**	P	**P**	**21 53 24.3**	**+2.5**
	SNR=47						
EKS2	**Erkin-Say**	**24.92**	**323**	P		22 00 29.9	
	SNR=6.4						
USP	**Ospenovka**	**24.94**	**325**	P	**P**	**21 53 23.8**	**+1.8**
	SNR=6.0						
SONM	**Songino Array**	**25.57**	**19**	P	**P**	**21 53 27.8**	**0.0**
	comp=Z,63nm,1.0s,mb5.0,baz=202,slow=8.4,SNR=147						
SONM				ScP		22 00 28.9	
	comp=Z,3.8nm,0.8s,baz=207,slow=2.8,SNR=21						
KURK	**Kurchatov**	**29.07**	**340**	*de*P	**P**	**21 53 59.7**	**0.0**
KURK				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.5						
KURK	**Kurchatov**	**29.07**	**340**	*e*P	**P**	**21 53 59.5**	**-0.2**
	comp=Z,23nm,0.8s,mb4.8						
ZAL	**Zalesovo**	**30.53**	**349**	P	**P**	**21 54 12.2**	**-0.3**
	comp=Z,22nm,0.4s,mb5.2,baz=214,slow=5.6,SNR=80						
ZAL				ScP		22 00 44.8	
	comp=Z,2.1nm,0.7s,baz=216,slow=4.4,SNR=7.2						
ZAL				LR	LR	22 08 45.4	
	comp=Z,174nm,21.6s,baz=182,slow=41						
BVA0	**Borovoye Array**	**33.92**	**334**	*i* P	**P**	**21 54 42.1**	**0.0**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.7						
BVAR	**Borovoye Array**	**33.92**	**334**	P	**P**	**21 54 42.1**	**0.0**
	comp=Z,9.8nm,0.5s,mb4.9,baz=135,slow=13,SNR=56						
BVAR				pP	pP	21 55 00.1	+1.2
	comp=Z,4.1nm,0.5s,baz=144,slow=13,SNR=5.1						
BVAR				ScP		22 00 57.4	
	comp=Z,7.5nm,1.1s,baz=180,slow=4.4,SNR=8.7						
BRVK	**Borovoye**	**33.99**	**334**	*e*P	**P**	**21 54 42.8**	**+0.1**
	comp=Z,13nm,0.7s,mb4.9						
BRVK				*e*pP	pP	21 54 60.0	+0.4
BOD	**Bodaibo**	**36.54**	**18**	⇑*i*P	**P**	**21 55 02.8**	**-1.5**
KLR	**Kul'dur**	**38.62**	**40**	*e*P	**P**	**21 55 25.8**	**+4.1**
SVE	**Sverdlovsk**	**40.61**	**332**	⇓*i*P	**P**	**21 55 38.5**	**+0.4**
SVE				*e*		21 57 10.0	
SVE				pmax	pmax		
	comp=Z,100nm,2.1s,mb5.3						
SVE				MLR	MLR		
	comp=E,200nm,15.0s						
SVE				MLR	MLR		
	comp=Z,300nm,15.0s						
ARU	**Arti**	**41.27**	**331**	*d i*P	**P**	**21 55 44.4**	**+0.8**
ARU				pmax	pmax		
	comp=Z,16nm,0.6s,mb5.0						
YSS	**Yuzh-Sakhalins**	**44.79**	**47**	*e*P	**P**	**21 56 09.9**	**-2.4**
YSS				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.6						
YSS				MLR	MLR		
	comp=Z,100nm,19.0s						
YAK	**Yakutsk**	**44.83**	**23**	*e*P	**P**	**21 56 11.1**	**-1.4**
YAK				pmax	pmax		
	comp=Z,60nm,2.1s,mb5.0						
YAK				MLR	MLR		
	comp=Z,100nm,16.0s						
GOF	**Gofitskoye**	**46.02**	**310**	*e*P	pP	21 56 41.0	+1.6
KIV	**Kislovodsk**	**46.10**	**308**	*ce*P	**P**	**21 56 25.1**	**+2.3**
KIV				pmax	pmax		
	comp=Z,25nm,1.2s,mb4.8						
KIV	**Kislovodsk**	**46.10**	**308**	*e*P	**P**	**21 56 24.2**	**+1.4**
	comp=Z,21nm,1.2s,mb4.7						
KIV				*e*pP	pP	21 56 42.9	+2.9
VOR	**Voronezh**	**49.78**	**318**	*e*P	**P**	**21 56 51.0**	**-0.3**
VOR				*e*	pP	21 57 09.5	+0.8
VOR				pmax	pmax		
	comp=Z,50nm,1.1s,mb5.4						
VOR				pmax	pmax		
	comp=E,40nm,1.4s						
ASF	**Jabal al Asfar**	**50.53**	**293**	P	**P**	**21 56 59.5**	**+2.2**
	comp=E,3.1nm,0.8s,mb4.4,baz=272,slow=5.9,SNR=6.9						
ASF				pP	pP	21 57 17.3	+2.5
	comp=E,6.8nm,0.8s,baz=298,slow=2.2,SNR=8.4						
TIXI	**Tiksi**	**51.41**	**13**	*e*P	**P**	**21 57 00.9**	**-2.5**
TIXI				*e*		21 58 14.9	
TIXI				*e*S	**S**	**22 04 05.9**	**-10**
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.6						
TIXI				MLR	MLR		
	comp=Z,300nm,20.0s						
MBWA	**Marble Bar**	**51.52**	**149**	*e*P	**P**	**21 57 03.9**	**-1.0**
	comp=Z,48nm,1.0s,mb5.5						
MOS	**Moscow**	**51.58**	**323**	*e*P	**P**	**21 57 04.9**	**0.0**
MOS				*e*	pP	21 57 21.2	-1.2
MOS				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.4						
OBN	**Obninsk**	**52.03**	**322**	*d i*P	**P**	**21 57 08.0**	**-0.2**
OBN				*e*		21 59 08.9	
OBN				*e*S	**S**	**22 04 23.9**	**-1.2**
OBN				pmax	pmax		
	comp=Z,37nm,1.4s,mb5.2						
FITZ	**Fitzroy Crossi**	**52.10**	**141**	P	**P**	**21 57 08.0**	**-1.2**
	comp=Z,6.6nm,0.5s,mb4.9,baz=344,slow=6.7,SNR=33						
FITZ				PcP	PcP	21 58 19.2	-1.3
	comp=Z,5.1nm,0.8s,slow=5.1,SNR=4.3						
BRTR	**Keskin Array B**	**52.64**	**302**	P	**P**	**21 57 13.7**	**+0.7**
	comp=Z,1.4nm,0.6s,mb4.1,baz=124,slow=6.7,SNR=7.8						
BRTR				pP	pP	21 57 31.4	+0.8
	comp=Z,3.2nm,0.8s,baz=122,slow=7.6,SNR=5.6						
BRTR				ScP		22 02 11.8	
	comp=Z,1.7nm,1.1s,baz=117,slow=5.5,SNR=4.1						
CFR	**Carcaliu**	**56.54**	**309**	⇓*i*P	**P**	**21 57 41.2**	**-0.2**
VRI	**Vrincioaia**	**57.51**	**310**	⇓*i*P	**P**	**21 57 49.1**	**+0.9**
ISR	**Istrita**	**57.67**	**309**	⇑*i*P	**P**	**21 57 51.4**	**+2.0**
MLR	**Muntele Rosu**	**58.07**	**310**	P	**P**	**21 57 53.7**	**+1.6**
	comp=Z,28nm,0.9s,mb5.3,baz=164,slow=2.4,SNR=49						
MLR				pP	pP	21 58 11.9	+1.8
	comp=Z,55nm,0.9s,baz=75,slow=2.9,SNR=20						
MLR	**Muntele Rosu**	**58.07**	**310**	P	**P**	**21 57 53.7**	**+1.6**
MLR				pP	pP	21 58 11.9	+1.8
MLR	**Muntele Rosu**	**58.07**	**310**	⇓*i*P	**P**	**21 57 53.3**	**+1.1**
BURAR	**Bucovina Array**	**58.48**	**312**	⇓*i*P	**P**	**21 57 55.0**	**+0.1**
KAF	**Kangasniemi**	**58.54**	**329**	*e*p	**P**	**21 57 54.5**	**-0.7**
	comp=Z,1.1nm,0.2s,mb4.5,baz=98,slow=7.0						
KAF	**Kangasniemi**	**58.54**	**329**	*e*P	**P**	**21 57 54.5**	**-0.7**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.2s,mb4.5						
FINES	**FINESS Array B**	**58.56**	**329**	P	**P**	**21 57 55.0**	**-0.3**
	comp=Z,6.8nm,0.8s,mb4.7,baz=77,slow=5.0,SNR=55						
FINES				pP	pP	21 58 11.8	-1.4
	comp=Z,15nm,1.1s,baz=101,slow=9.7,SNR=7.0						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
FINES				LR	LR	22 23 33.1	
	comp=Z,51nm,18.6s,baz=169,slow=36						
WRA	Warramunga Arr	58.84	135	P	P	21 57 55.8	-2.0
	comp=Z,21nm,0.6s,mb5.4,baz=323,slow=7.4,SNR=248						
WRA				LR	LR	22 25 47.0	
	comp=Z,76nm,19.7s,baz=55,slow=38						
WRAB	Tennant Creek	58.84	135	P	P	21 57 56.9	-0.9
	comp=Z,249nm,0.6s,SNR=17						
WRAB	Tennant Creek	58.84	135	eP	P	21 57 56.2	-1.6
	comp=Z,36nm,0.6s,mb5.6						
KEV	Kevo	59.62	338	ep	P	21 58 02.1	-0.5
SUW	Suwalki	59.65	320	eP	P	21 58 02.4	-0.6
	comp=Z,63nm,1.0s,mb5.6						
SUW				epP	pP	21 58 19.6	-1.3
IDI	Anoyia	60.01	298	P	P	21 58 06.9	+1.2
	comp=Z,5.3nm,0.5s,mb4.8,baz=284,slow=3.4,SNR=18						
KWP	Kalwaria	60.05	315	eP	P	21 58 05.9	+0.1
	comp=Z,91nm,0.9s,mb5.8						
KWP				epP	pP	21 58 23.8	0.0
ARCES	ARCESS Array B	60.09	338	P	P	21 58 05.8	0.0
	comp=Z,3.3nm,0.4s,mb4.7,baz=107,slow=7.4,SNR=47						
ARCES				LR	LR	22 25 25.8	
	comp=Z,78nm,19.2s,baz=310,slow=37						
VTS	Vitosha	60.28	307⇑	iP	P	21 58 07.8	+0.3
KOLS	Kolonicke sedl	60.38	314	eP	P	21 58 06.6	-1.4
KOLS				e	pP	21 58 26.1	+0.1
KOLS				e		21 59 01.3	
KMBO	Kilima Mbogo	60.53	254	P	P	21 58 11.2	+1.7
	comp=Z,1.9nm,0.7s,mb4.2,baz=50,slow=12,SNR=11						
KTK1	Kautokeino	60.80	337	eP	P	21 58 10.3	-0.3
KTK1				AMb	AMB	21 58 11.0	
	comp=Z,34nm,1.3s,mb5.2						
KTK1	Kautokeino	60.80	337	eP	P	21 58 10.3	-0.3
	comp=Z,34nm,1.3s,mb5.2						
ASAR	Alice Springs	61.28	138	P	P	21 58 13.4	-1.1
	comp=Z,15nm,0.7s,mb5.1,baz=321,slow=6.7,SNR=258						
KECS	Kecovo	61.59	313	eP	P	21 58 13.5	-2.7
NIE	Niedzica	61.62	315	eP	P	21 58 17.5	+1.1
PMG	Port Moresby	61.64	116	P	P	21 58 15.7	-1.3
	comp=Z,10nm,0.8s,mb4.9,baz=13,slow=7.8,SNR=5.3						
OJC	Ojcow	61.89	315	eP	pP	21 58 36.4	+0.1
OJC	Ojcow	61.89	315	eP	P	21 58 36.4	+18
PSZ	Piszkesteto	62.04	313⇑	i	pP	21 58 37.9	+0.6
OKC	Ostrava-Krasne	62.99	315	eP	P	21 58 25.6	+0.1
OKC				epP	pP	21 58 44.6	+0.9
PKSM	Moragy	63.09	311⇑	iP	P	21 58 26.1	-0.2
PKSM				i	pP	21 58 44.6	+0.2
MORC	Moravsky Berou	63.38	315	eP	P	21 58 27.7	-0.4
	comp=Z,18nm,0.9s,mb5.0						
MORC				epP	pP	21 58 45.6	-0.7
SMOL	Smolenice	63.61	314	e	pP	21 58 48.7	+0.9
ZST	Bratislava	63.87	313	e	pP	21 58 49.8	+0.3
MOR8	Moi Rana	63.97	334	eP	P	21 58 30.4	-1.3
MOR8				AMb	AMB	21 58 31.2	
	comp=Z,14nm,1.0s,mb4.7						
MOR8	Moi Rana	63.97	334	eP	P	21 58 30.4	-1.3
	comp=Z,14nm,1.0s,mb4.7						
KSP	Ksiaz	64.05	316	eP	P	21 58 32.4	0.0
KSP				epP	pP	21 58 51.2	+0.6
VRAC	Vranov	64.05	315	P	P	21 58 33.2	+0.7
	comp=Z,15nm,1.0s,mb4.8,baz=84,slow=6.2,SNR=13						
VRAC				pP	pP	21 58 51.9	+1.2
	comp=Z,36nm,0.8s,baz=87,slow=7.4,SNR=23						
DPC	Dobruska-Polom	64.09	316	eP	P	21 58 33.5	+0.8
DPC				epP	pP	21 58 51.3	+0.4
MELS	Mels	64.24	334	eP	P	21 58 32.9	-0.5
UPC	Upice	64.27	316	eP	P	21 58 31.9	-2.0
UPC				epP	pP	21 58 50.9	-1.2
LOF	Lofoten	64.28	336	eP	P	21 58 35.0	+1.3
LOF				AMb	AMB	21 58 36.0	
	comp=Z,72nm,1.6s,mb5.3						
LOF	Lofoten	64.28	336	eP	P	21 58 35.0	+1.3
	comp=Z,72nm,1.6s,mb5.3						
HFS	Hagfors	64.60	327	P	P	21 58 35.5	-0.3
	comp=Z,5.3nm,0.5s,mb4.6,baz=108,slow=4.7,SNR=37						
HFS				pP	pP	21 58 54.2	+0.2
	comp=Z,38nm,0.9s,baz=101,slow=7.6,SNR=14						
PVCC	Panska Ves	65.18	316	eP	pP	21 58 58.8	+0.8
PVCC	Panska Ves	65.18	316	epP	pP	21 58 58.8	+0.8
PRU	Pruhonice	65.28	316	eP	P	21 58 40.9	+0.5
	comp=Z,26nm,1.0s,mb5.0						
PRU				i	pP	21 58 58.9	+0.2
BRG	Berggiesshubel	65.52	317	eP	P	21 58 42.5	+0.5
	comp=Z,21nm,1.0s,mb4.9						
BRG				e	pP	21 59 00.9	+0.7
NB2	NORSAR Subarra	65.73	328	P	P	21 58 42.1	-1.0
	comp=Z,3.4nm,0.6s,mb4.3,baz=84,slow=6.5						
NB2	NORSAR Subarra	65.73	328	P	P	21 58 42.1	-1.0
	baz=84,slow=6.5						
NOA	NORSAR Array B	65.73	328	P	P	21 58 42.2	-0.9
	comp=Z,3.8nm,0.8s,mb4.3,baz=86,slow=5.8,SNR=14						
NOA				pP	pP	21 59 00.4	-1.0
	comp=Z,12nm,0.7s,baz=84,slow=6.6,SNR=19						
NOA				LR	LR	22 29 56.5	
	comp=Z,45nm,18.6s,baz=90,slow=38						
NOA	NORSAR Array B	65.73	328	P	P	21 58 42.2	-0.9
NOA				pP	pP	21 59 00.4	-1.0
NOA				LR	LR	22 29 56.5	
MOA	Molln	65.80	313⇑	iP	P	21 58 44.1	+0.3
	comp=Z,10nm,1.0s,mb4.6						
MOA				i	pP	21 59 02.3	+0.2
	comp=Z,28nm,0.9s						
NAO01	NORSAR Array S	65.91	328	eP	P	21 58 43.5	-0.8
	comp=Z,7.5nm,0.6s,mb4.7						
NAO01				epP	pP	21 59 00.9	-1.7
GEC2	GERESS Array S	66.00	315	eP	P	21 58 45.5	+0.4
	comp=Z,32nm,0.9s,mb5.2						
GEC2				epP	pP	21 59 04.3	+1.0
GERES	GERESS Array B	66.00	315	P	P	21 58 45.4	+0.4
	comp=Z,3.9nm,0.7s,mb4.4,baz=76,slow=5.5,SNR=46						
GERES				pP	pP	21 59 03.8	+0.4
	comp=Z,19nm,0.8s,baz=76,slow=5.5,SNR=34						
KHC	Kasperske Hory	66.03	315	eP	P	21 58 45.6	+0.3
KHC				epP	pP	21 59 03.4	-0.1
CLL	Collm	66.04	317	P	P	21 58 45.0	-0.3
CLL				i *PP	pP	21 59 03.9	+0.3
CLL	Collm	66.04	317	eP	P	21 58 45.0	-0.3
CLL				i	pP	21 59 03.9	+0.3
WET	Wettzell	66.48	315	eP	P	21 58 48.7	+0.6
	comp=Z,19nm,1.0s,mb4.9						
WET				epP	pP	21 59 07.3	+0.9
NKC	Novy Kostel	66.57	316	eP	P	21 58 48.9	+0.3
NKC				epP	pP	21 59 07.6	+0.7
MOX	Moxa	67.02	317	i P	pP	21 59 10.4	+0.6
	comp=Z,logA/T=1.3						
MOX	Moxa	67.02	317	eP	pP	21 59 10.4	+0.6
BSEG	Bad Segeberg	67.22	320	eP	P	21 58 53.5	+0.9
BSEG				epP	pP	21 59 11.8	+0.8
AQU	L'Aquila	67.47	308	eP	P	21 58 54.5	+0.1
	comp=Z,46nm,1.1s,mb5.2						
AQU				epP	pP	21 59 13.1	+0.3
PTQR	Pietraquaria	67.54	307	eP	P	21 58 55.5	+0.6
CLZ	Clausthal	67.57	318	eP	P	21 58 55.4	+0.6
	comp=Z,25nm,0.9s,mb5.0						
CLZ				epP	pP	21 59 13.7	+0.5
NRCA	Norcia	67.57	308	eP	P	21 58 55.8	+0.7
WTTA	Wattenberg	67.66	313⇑	iP	P	21 58 55.7	+0.2
	comp=Z,10.0nm,1.5s,mb4.4						
WTTA				i	pP	21 59 14.0	+0.1
	comp=Z,31nm,1.2s						
SQTA	Sankt Quirin	67.95	313⇑	iP	P	21 58 57.2	-0.1
	comp=Z,4.4nm,1.0s,mb4.2						
SQTA				i	pP	21 59 15.6	-0.1
	comp=Z,11nm,0.9s						
MOTA	Moosalm	68.00	313⇓	iP	P	21 58 57.4	-0.2
	comp=Z,6.6nm,1.2s,mb4.3						
MOTA				i	pP	21 59 15.9	-0.1
	comp=Z,14nm,1.0s						
DAVOX	Davos	68.94	313	P	P	21 59 03.8	+0.4
	comp=Z,1.6nm,0.5s,mb4.1,baz=73,slow=9.5,SNR=3.7						
DAVOX				pP	pP	21 59 22.4	+0.5
	comp=Z,21nm,1.1s,baz=108,slow=6.8,SNR=11						
DAVOS	Davos	68.98	313	P	P	21 59 03.8	+0.1
DAVOS				PP	pP	21 59 22.4	+0.3
CDF	Champ du Feu	70.26	315	eP	P	21 59 10.9	-0.6
PGF	Pioggiola	70.58	309	eP	P	21 59 13.2	-0.3
HINF	Hinteralfeld	70.69	314	eP	P	21 59 13.4	-0.6
SBF	Sospel	71.34	310	eP	P	21 59 17.7	-0.3
	comp=Z,13nm,0.7s,mb4.6						
LPG	La Plagne	71.36	312	eP	P	21 59 18.3	+0.1
	comp=Z,7.6nm,0.8s,mb4.3						
LPL	La Plagne	71.37	312	eP	P	21 59 18.2	0.0
	comp=Z,14nm,0.9s,mb4.5						
GIVF	Givet	71.38	317	eP	P	21 59 17.8	-0.4
CABF	La Chapelle	71.51	313	eP	P	21 59 18.8	-0.2
MBDF	Montbardon	71.56	311	eP	P	21 59 18.6	-0.7
DAG	Danmarks Havn	71.64	347	i P	P	21 59 19.2	-0.1
	comp=Z,6.3nm,1.1s,mb4.4						
MEZF	Maizieres J'vi	71.67	316	eP	P	21 59 19.8	-0.1
BAIF	Baives	71.77	317	eP	P	21 59 20.4	-0.1
STKA	Stephens Creek	71.90	139	P	P	21 59 20.5	-1.1
	comp=Z,12nm,0.7s,mb4.8,baz=324,slow=6.4,SNR=30						
STKA	Stephens Creek	71.90	139	eP	P	21 59 20.3	-1.4
STKA				epP	pP	21 59 39.3	-0.8
FRF	La Foret Royal	71.97	310	eP	P	21 59 21.5	-0.3
	comp=Z,46nm,1.2s,mb4.9						
ORIF	Oris-en-Rattie	72.11	312	eP	P	21 59 22.1	-0.6
	comp=Z,4.2nm,0.6s,mb4.1						
ORIF				eR			
	comp=Z,74nm,22.4s						
LMR	La Mourre	72.13	310	eP	P	21 59 22.5	-0.3
ADE	Adelaide	72.46	143⇑	iP	P	21 59 24.7	-0.2
SMRF	Simiane la Rot	72.59	311	eP	P	21 59 25.5	0.0
LOR	Lormes	72.79	315	eP	P	21 59 25.9	-0.6
	comp=Z,5.8nm,0.9s,mb4.1						
LOR				eR			
	comp=Z,88nm,19.7s						
VIVF	Saint-Julien-l	72.95	312	eP	P	21 59 27.4	-0.2
SMF	Signal de Mont	72.98	314	eP	P	21 59 27.2	-0.5
SSF	Saint Saulge	73.08	314	eP	P	21 59 27.9	-0.3
	comp=Z,9.2nm,1.0s,mb4.2						
HYF	Humbligny	73.58	315	eP	P	21 59 31.6	+0.4
BGF	Bois d'Agland	73.66	314	eP	P	21 59 31.3	-0.4
LASF	Ste Croix	73.75	311	eP	P	21 59 32.4	+0.2
TCF	Toulx Ste Croi	74.16	314	eP	P	21 59 34.7	+0.1
	comp=Z,10nm,0.9s,mb4.2						
EKA	Eskdalemuir Ar	74.42	324	P	P	21 59 36.5	+0.6
	comp=Z,1.7nm,0.8s,mb3.8,baz=71,slow=5.7,SNR=5.2						
EKA				pP	pP	21 59 54.9	+0.3
	comp=Z,5.9nm,0.8s,baz=77,slow=5.7,SNR=8.5						
CAF	Calviac	74.70	313	eP	P	21 59 37.2	-0.5
LDF	La Druitiere	74.92	317	eP	P	21 59 38.6	-0.3
	comp=Z,8.0nm,0.8s,mb4.2						
RJF	Les Rejaudoux	74.94	313	eP	P	21 59 39.6	+0.5
RJF				eR			
	comp=Z,73nm,17.9s						
MTLF	Montolieu	75.11	311	eP	P	21 59 40.1	0.0
LSZ	Lusaka	75.31	246	eP	P	21 59 42.5	+0.7
	comp=Z,8.2nm,0.9s,mb4.5						
LSZ				epP	pP	22 00 00.7	+0.3
GRR	Gorron	75.45	317	eP	P	21 59 41.5	-0.4
LFF	La Frestale	75.58	313	eP	P	21 59 43.1	+0.4
MFF	Saint Martin d	75.60	315	eP	P	21 59 42.6	-0.2
ETSF	Etsaut	77.17	311	eP	P	21 59 51.4	-0.4
SJPF	Ste Jean	77.55	312	eP	P	21 59 53.6	-0.2
SUMG	Summit	78.33	347	eP	P	21 59 58.2	+0.6
	comp=Z,31nm,1.1s,mb5.0						
SUMG				epP	pP	22 00 15.5	-0.8
ILAR	Eielson Array	79.75	22	P	P	22 00 04.5	-0.9
	comp=Z,2.2nm,0.6s,mb4.2,baz=298,slow=5.5,SNR=27						
ILAR				pP	pP	22 00 23.4	-0.9
	comp=Z,3.2nm,0.8s,baz=302,slow=7.5,SNR=7.9						
ILAR				LR	LR	22 35 08.0	
	comp=Z,90nm,21.4s,baz=170,slow=36						
ESDC	Sonseca Array	80.77	309	pP	pP	22 00 31.0	+0.8
	comp=Z,5.6nm,1.0s,baz=60,slow=5.8,SNR=7.8						
BOSA	Boshof	84.47	235	eP	P	22 00 32.3	+1.7
	comp=Z,32nm,1.0s,mb5.1						
BOSA				epP	pP	22 00 50.5	+0.8
MAW	Mawson	94.40	191	P	P	22 01 17.7	+1.1
	comp=Z,5.0nm,1.1s,mb4.8,baz=355,slow=9.9,SNR=8.5						
PDAR	Pinedale Array	109.92	18	PKiKP		22 06 28.9	
	comp=Z,0.2nm,0.5s,baz=34,slow=5.3,SNR=3.5						
QSPA	South Pole Qui	113.98	180	eP	PKPdf	22 06 35.2	+1.0
SNAA	Sanae	114.90	200		PKPdf	22 06 37.2	+1.1
VNA2	Neumayer--Watz	116.37	201⇑	i	PKPdf	22 06 43.0	+4.0
VNA1	Neumayer--Stat	116.67	201⇑	i	PKPdf	22 06 43.5	+4.0
VNA3	Neumayer Olymp	117.09	201⇑	i	PKPdf	22 06 43.8	+3.5
VNA3	Neumayer Olymp	117.09	201⇑	i		22 07 10.2	
JCT	Junction City	124.06	14	ePKPdf	PKPdf	22 06 56.0	+1.1
TXAR	Lajitas Array	124.14	19	PKP	PKPdf	22 06 56.4	+1.4
	comp=Z,1.6nm,0.6s,baz=270,slow=1.3,SNR=6.0						
TXAR				pPKP		22 07 16.3	
	comp=Z,2.0nm,0.8s,baz=342,slow=4.0,SNR=3.0						
BDFB	Brasilia	143.44	276	PKP	PKPdf	22 07 32.5	+1.4
	comp=Z,3.3nm,0.6s,baz=196,slow=1.0,SNR=5.4						
SDV	Santo Domingo	143.90	334	ePKPdf	PKPdf	22 07 31.5	-0.5
USHA	Ushuaia	146.73	198	PKPbc	PKPbc	22 07 40.4	+3.3
	comp=Z,17nm,0.7s,baz=106,slow=6.7,SNR=8.2						
ROSC	El Rosal	149.01	337	PKPbc	PKPdf	22 07 48.1	+7.5
	comp=Z,16nm,0.5s,baz=121,slow=17,SNR=6.8						
ROSC				pPKPbc		22 08 07.0	
	comp=Z,72nm,1.0s,baz=160,slow=20,SNR=7.0						
CPUP	Villa Florida	154.06	259	PKP	PKPdf	22 07 50.6	+3.0
	comp=Z,1.4nm,0.8s,baz=2.5,slow=2.6,SNR=4.5						
CPUP				PKPbc	PKPdf	22 07 57.4	+10
	comp=Z,4.6nm,0.9s,baz=185,slow=2.2,SNR=9.0						
CPUP				PKPab	PKPab	22 08 13.1	+1.0
	comp=Z,2.8nm,0.9s,baz=118,slow=2.8,SNR=4.5						
CPUP	Villa Florida	154.06	259	PKIKP	PKPdf	22 07 50.7	+3.1
CPUP				P		22 08 13.1	
CPUP	Villa Florida	154.06	259	PKP	PKPdf	22 07 50.6	+3.0
CPUP				PKPbc	PKPdf	22 07 57.4	+10
CPUP				PKPab	PKPab	22 08 13.1	+1.0
LPAZ	La Paz	161.56	292	PKP	PKPdf	22 08 00.7	+3.8
	comp=Z,1.6nm,0.9s,baz=14,slow=3.2,SNR=6.1						

IDC 08 21:54:08.0±50.0**, 16.53S**×**176.74W, mb4.2**/3**, mb1 4.4**/3**, mb1mx3.9**/13**, Error ellipse: s-maj=927.0km s-min=171.7km az=78.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	40.69	240	P	P	22 01 50.1	-1.8
	3.1nm,0.6s,baz=92,slow=6.6,SNR=4.1						
WRA	Warramunga Arr	46.46	258	P	P	22 02 37.1	-1.7
	0.7nm,0.6s,baz=92,slow=7.5,SNR=6.8						
ASAR	Alice Springs	46.71	253	P	P	22 02 39.0	-1.7
	6.0nm,0.6s,baz=88,slow=8.3,SNR=47						

*IDC **08** 22:02:33.7±13.0, 9.99S×160.33E, h74^{km}±120^{km}, mb3.8/10, mb1 4.1/11, mb1mx4.0/15, ML4.2/1, MS3.3/1, Ms1 3.3/1, ms1mx3.0/15, Error ellipse: s-maj=44.3km s-min=33.7km az=176.0*

*NEIC **08** 22:02:33.7±3.9, 10.00S×160.34E, h73^{km}±36^{km}, mb4.4/3, Error ellipse: s-maj=27.1km s-min=16.3km az=150.0*

ISC 08 22:02:28.0±0.9**, 9.9S**±0.2×**160.3E**±0.2**, h33^{km}, n15, $\sigma 0^{s}74$**/14**, mb4.0**/12**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	12.95	271	LR	LR	22 10 15.2	
	comp=Z,151nm,21.2s,baz=62,slow=36						
CTA	Charters Tower	16.92	232	P	P	22 06 25.7	+1.9
	0.5nm,0.3s,baz=58,slow=12,SNR=17						
CTAO	Charters Tower	16.92	232	eP	P	22 06 25.2	+1.4
	22nm,0.8s						
WRAB	Tennant Creek	26.94	245	eP	P	22 08 08.5	-0.1
	8.3nm,0.9s,mb4.3						
WRA	Warramunga Arr	26.95	245	P	P	22 08 08.8	+0.1
	3.5nm,1.0s,mb3.8,baz=73,slow=9.4,SNR=10						
STKA	Stephens Creek	27.90	216	P	P	22 08 16.3	-0.9
	1.7nm,0.6s,mb3.9,baz=59,slow=14,SNR=8.8						
ASAR	Alice Springs	28.66	238	P	P	22 08 23.2	-0.9
	0.6nm,0.6s,mb3.5,baz=63,slow=10.0,SNR=6.6						
FITZ	Fitzroy Crossi	34.55	252	P	P	22 09 15.6	-0.2
	2.1nm,0.7s,mb4.2,baz=80,slow=11,SNR=9.9						
CMAR	Chiang Mai Arr	66.74	295	P	P	22 13 17.8	-0.7
	1.4nm,0.6s,mb4.2,baz=118,slow=4.9,SNR=11						
SONM	Songino Array	74.62	326	P	P	22 14 06.4	+0.7
	1.8nm,0.6s,mb4.2,baz=139,slow=5.4,SNR=17						
MCK	McKinley	82.85	20	eP	P	22 14 49.7	-0.4
	4.1nm,0.9s,mb4.5						
ILAR	Eielson Array	84.20	20	P	P	22 14 56.1	-0.8
	1.3nm,0.6s,mb4.2,baz=247,slow=5.1,SNR=16						
MKAR	Makanchi Array	89.03	318	P	P	22 15 21.5	+0.5
	0.7nm,0.8s,mb4.0,baz=110,slow=5.6,SNR=4.0						
NVAR	Mina Array Bea	89.43	51	P	P	22 15 23.7	+0.6
	1.1nm,0.9s,mb4.2,baz=221,slow=5.8,SNR=4.5						
PDAR	Pinedale Array	96.74	48	P	P	22 15 57.1	+0.6
	0.1nm,0.4s,mb3.6,baz=284,slow=6.1,SNR=3.6						

*IDC **08** 22:15:21.9±5.3, 22.04S×171.16E, mb3.8/3, mb1 4.1/3, mb1mx3.8/11, MS3.5/1, Ms1 3.5/1, ms1mx3.0/13, Error ellipse: s-maj=202.0km s-min=52.4km az=150.0*

ISC 08 22:15:26.4±1.9**, 23.2S**±0.6×**171.1E**±0.2**, h33^{km}, n7, $\sigma 0^{s}99$**/7**, mb3.7**/3**, MS3.3**/1**, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.40	284	eP	P	22 16 33.9	+1.2
DZM				eS	S	22 17 22.3	-1.2
NOUC	Port Laguerre	4.52	283⇑	eP	P	22 16 35.9	+1.6
NOUC				eS	S	22 17 26.4	0.0
RPZ	Rata Peaks	20.46	180	LR	LR	22 27 31.0	
	comp=Z,126nm,19.4s,MS3.3,baz=206,slow=34						
ASAR	Alice Springs	34.02	262	P	P	22 22 09.8	+0.3
	1.6nm,0.5s,mb4.2,baz=84,slow=9.1,SNR=21						
WRA	Warramunga Arr	34.23	268	P	P	22 22 10.5	-0.9
	0.3nm,0.4s,mb3.6,baz=97,slow=8.5,SNR=7.1						
CMAR	Chiang Mai Arr	81.66	294	P	P	22 27 42.4	-0.9
	0.4nm,0.8s,mb3.4,baz=130,slow=2.7,SNR=4.0						
GERES	GERESS Array B	148.76	331	PKPbc	PKPdf	22 35 07.0	+0.6
	0.2nm,0.4s,baz=14,slow=4.0,SNR=4.4						

*THE **08** 22:20:13.4, 36.60N×31.00E, h6^{km}*

*CSEM **08** 22:20:46.8±0.1, 37.72N×26.90E, h12^{km}, MD3.6, Error ellipse: s-maj=3.2km s-min=2.4km az=64.0*

*ISK **08** 22:20:46.2, 37.72N×26.84E, h9^{km}, MD3.6*

ISC 08 22:20:47.7±0.7**, 37.73N**±0.02×**26.95E**±0.04**, h7^{km}**±5^{km}**, n37, $\sigma 1^{s}13$**/47**, 1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IZM	Izmir	0.71	20	i PG	Pg	22 21 00.5	-1.5
IZM				i SG	Sg	22 21 12.8	+1.3
KDAG	Bornova	0.72	21⇑	iP	Pg	22 21 00.7	-1.4
KDAG				i S	Sg	22 21 12.3	+0.6
AYDN	Tasoluk	0.74	95	i P	Pg	22 21 03.0	+0.4
AYDN				i S	Sg	22 21 11.9	-0.6
BDRM	Kayabasi	0.77	149	i P	Pb	22 21 02.8	-0.3
BDRM				i S	Sg	22 21 14.1	+0.6
MLSB	Milas	0.79	123	PG	Pg	22 21 02.8	-0.7
MLSB				SG	Sg	22 21 15.5	+1.4
YER	Yerkesik	1.22	119	PN	Pn	22 21 10.7	-0.5
APE	Apeiranthos	1.31	240	PN	Pn	22 21 10.4	-2.0
AKS	Akhisar	1.33	30	PN	Pn	22 21 12.0	-0.8
MANT	Manisa	1.48	59	i P	Pn	22 21 15.7	+0.8
MANT				i S	Sb	22 21 33.4	-0.8
AYVA	Ayvalik	1.59	353	i P	Pn	22 21 17.4	+0.9
AYVA				i S	Sb	22 21 38.8	+1.5
DALT	Dalyan (Mudla)	1.66	125	PN	Pn	22 21 17.6	+0.2
DENT	Denizli	1.66	89	ePN	Pn	22 21 17.9	+0.5
DNZL	Cakiroluk	1.67	91	i P	Pn	22 21 17.4	-0.2
DNZL				i S	Sn	22 21 43.7	+4.3
THR4	Thira Island,	1.77	225	ePn	Pn	22 21 21.2	+2.2
THR4	Thira Island,	1.77	225	eP	Pn	22 21 21.2	+2.2
THR1	Thera Island	1.80	222	ePn	Pn	22 21 17.9	-1.6
THR3	Thira Island,	1.81	224	ePn	Pn	22 21 20.9	+1.3
THR3	Thira Island,	1.81	224	eP	Pn	22 21 20.9	+1.3
THR5	Thira Island,	1.83	225	ePn	Pn	22 21 22.5	+2.6
THR5	Thira Island,	1.83	225	eP	Pn	22 21 22.5	+2.6
BTOK	Tokmak	2.20	22	i P	Pn	22 21 28.0	+2.8
BOZC	Bozcaada	2.22	342	i P	Pn	22 21 24.6	-0.9
DST	Dursunbey	2.29	35	ePN	Pn	22 21 26.7	+0.2
ELL	Elmali	2.56	112	ePN	Pn	22 21 29.4	-1.0
BNT	Bandirma	2.73	16	PN	Pn	22 21 31.6	-1.2
KCT	Karacabey	2.76	23	ePN	Pn	22 21 32.6	-0.6
ORLT	Orhaneli	2.77	33	PN	Pn	22 21 33.4	0.0
ALT	Altintas	2.82	61	ePN	Pn	22 21 34.5	+0.5
BCK	Bucak	2.91	94	ePN	Pn	22 21 35.2	-0.1
ULDT	Uludag	2.95	35	i P	Pn	22 21 42.1	+6.1
ULDT				i S	Sn	22 22 13.0	+0.9
ALN	Alexandroupoli	3.24	348	ePn	Pn	22 21 37.6	-2.4
YLV	Yalova	3.40	33	ePN	Pn	22 21 42.6	+0.2
KIZT	Kizilcal	4.05	72	PN	Pn	22 21 50.7	-0.8
SRS	Serrai	4.26	324	ePn	Pg	22 22 16.1	+3.2
SRS	Serrai	4.26	324	eP	Pg	22 22 16.1	+3.2
MDU	Mudurnu	4.30	49	PN	Pn	22 21 54.4	-0.7
SGKT	Sivrigoynuk	4.88	53	i P	Pg	22 22 19.3	-5.8
SGKT				i S	Sb	22 23 13.2	+0.4

*BER **08** 23:18:46.4±3.1, 67.83N×20.23E, ML1.6, Suspected explosion*

HEL 08 23:18:45.8±0.1**, 67.83N**×**20.03E, ML1.6, ML1.8**(BER)**, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KIF	Kilpisjarvi	1.22	13	eP	Pb	23 19 08.3	-1.0
KIF				eS	Sb	23 19 24.1	-1.4
KTK1	Kautokeino	1.68	43	eP	Pn	23 19 15.5	-1.1
KTK1				eS	Sb	23 19 37.0	-1.9
KTK1				AML	AML	23 19 41.3	
	comp=Z,8.2nm,0.2s						
TRO	Tromso	1.86	348	eP	Pn	23 19 18.3	-0.8
TRO				eSG	Sg	23 19 43.4	-4.2
TRO				AML	AML	23 19 45.9	
	comp=Z,8.4nm,0.3s						
LOF	Lofoten	2.46	280	e	Pn	23 20 07.6	+40
LOF				AML	AML	23 20 08.9	
	comp=Z,6.3nm,0.6s						
LOF	Lofoten	2.46	280	eSg	Sg	23 20 07.6	-0.2
LOF				AML	AML	23 20 08.9	
	comp=Z,6.3nm,0.6s						
SGF	Sodankyl	2.52	96	eP	Pn	23 19 27.4	-1.2
SGF				eS	Sn	23 19 58.6	-1.8
SGF				eSB	Sb	23 20 01.8	-1.4
SGF				MSG		23 20 03.3	
	comp=Z,2.2nm,0.2s						
MELS	Mels	2.63	251	eSg	Sg	23 20 09.8	-3.4
MOR8	Moi Rana	2.75	235	eSG	Sg	23 20 08.0	-10
MOR8				AML	AML	23 20 10.1	
	comp=Z,9.0nm,0.4s						
KEV	Kevo	3.19	49	eP	Pn	23 19 37.5	-0.7
KEV				eS	Sn	23 20 14.5	-3.0
OUL	Oulu	3.62	137	ePG	Pg	23 19 50.8	-7.3
OUL				eS	Sn	23 20 25.1	-3.4
MSF	Maaselka	4.04	114	eP	Pn	23 19 48.9	-1.5
MSF				eS	Sn	23 20 37.4	-1.7
NSS	Namsos	4.65	228	e	Pb	23 21 12.9	+65
NSS				AML	AML	23 21 13.7	
	comp=Z,3.5nm,0.5s						
NSS	Namsos	4.65	228	eSg	Sg	23 21 12.9	-7.8
NSS				AML	AML	23 21 13.7	
	comp=Z,3.5nm,0.5s						

*ISK **08** 23:27:10.2, 37.76N×26.94E, h5^{km}, MD3.3*

*CSEM **08** 23:27:12.3±0.1, 37.81N×27.12E, h2^{km}, MD3.3, Error ellipse: s-maj=3.0km s-min=2.0km az=141.0*

*THE **08** 23:27:16.4, 37.74N×27.11E, h20^{km}*

ISC 08 23:27:11.6±0.4**, 37.76N**±0.02×**26.96E**±0.03**, h2^{km}, n23, $\sigma 0^{s}80$**/35**, 1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IZM	Izmir	0.68	20	i PG	Pg	23 27 24.4	-0.7
IZM				i SG	Sg	23 27 35.3	+1.2
KDAG	Bornova	0.68	20⇑	iP	Pg	23 27 24.4	-0.9
KDAG				i S	Sg	23 27 34.3	0.0
AYDN	Tasoluk	0.73	98	i P	Pg	23 27 26.1	-0.1
AYDN				i S	Sg	23 27 35.9	-0.2
BDRM	Kayabasi	0.80	151	i P	Pg	23 27 27.1	-0.4
BDRM				i S	Sg	23 27 38.9	+0.8
MLSB	Milas	0.80	126	ePG	Pg	23 27 26.7	-0.8
MLSB				eSG	Sg	23 27 38.8	+0.6
YER	Yerkesik	1.22	120	PN	Pn	23 27 35.1	-0.6
AKS	Akhisar	1.30	31	PN	Pn	23 27 35.8	-1.0
APE	Apeiranthos	1.33	239	ePN	Pn	23 27 35.8	-1.5
MANT	Manisa	1.45	59	i P	Pn	23 27 40.0	+1.0
MANT				i S	Sb	23 27 57.5	-0.4
DENT	Denizli	1.64	90	ePN	Pn	23 27 42.1	+0.5
DNZL	Cakiroluk	1.65	92	i P	Pn	23 27 41.8	-0.1
DNZL				i S	Sb	23 28 07.4	+3.7
DALT	Dalyan (Mudla)	1.66	126	ePN	Pn	23 27 42.3	+0.3
THR4	Thira Island,	1.81	224	ePb	Pb	23 27 45.3	+0.2
THR4				eSb	Sb	23 28 07.3	-0.9
THR3	Thira Island,	1.84	223	ePb	Pb	23 27 46.1	+0.4
THR3				eSb	Sb	23 28 09.7	+0.5
THR3	Thira Island,	1.84	223	ePb	Pb	23 27 46.1	+0.4
THR3				eSb	Sb	23 28 09.6	+0.4
THR5	Thira Island,	1.86	224	ePb	Pb	23 27 46.0	-0.1
THR6	Thira Island,	1.88	222	ePb	Pb	23 27 46.5	+0.1
THR6				eSb	Sb	23 28 10.8	+0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BTOK	Tokmak	2.16	22	iP	Pn	23 27 46.4	-2.8
BOZC	Bozcaada	2.19	341	iP	Pn	23 27 53.4	+3.8
DST	Dursunbey	2.25	35	PN	Pn	23 27 50.7	+0.3
ELL	Elmali	2.56	112	ePN	Pn	23 27 55.2	+0.4
LOS	Limnos	2.62	326	ePn	Pn	23 27 56.6	+0.9
LOS				eSn	Sn	23 28 29.6	+1.2
KCT	Karacabey	2.72	23	ePN	Pn	23 27 57.0	-0.2

IDC 08 23:33:12.6±1.1, 28.39N×142.57E, mb3.8/8, mb1 3.9/8, mb1mx3.9/21, Error ellipse: s-maj=41.4km s-min=15.4km az=89.0
NEIC 08 23:33:17.4±0.8, 28.37N×142.55E, h35km, mb4.6/3, Error ellipse: s-maj=29.9km s-min=11.3km az=78.0
ISC 08 23:33:15.1±0.9**, 28.45N**±0.06×**142.6E**±0.2**, h33km, n13, σ1^{s}03**/14**, mb4.0**/11**, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	1.41	197	Pn	Pn	23 33 38.9	0.0
	19nm,0.3s,baz=291,slow=22,SNR=4.0						
CBIJ				Sn	Sn	23 33 56.9	+0.6
	74nm,0.3s,baz=78,slow=22,SNR=15						
MAJO	Matsushiro	8.89	336	Pn	P	23 35 22.6	-1.6
SONM	Songino Array	34.04	315	P	P	23 39 58.1	+0.1
	0.4nm,0.5s,mb3.6,baz=119,slow=7.7,SNR=4.7						
ZAL	Zalesovo	48.75	318	P	P	23 41 58.6	+0.1
	0.6nm,0.3s,mb4.1,baz=298,slow=10,SNR=3.4						
WRAB	Tennant Creek	48.76	190	eP	P	23 41 56.4	-2.5
	4.9nm,0.6s,mb4.7						
WRA	Warramunga Arr	48.77	190	P	P	23 41 58.2	-0.8
	1.5nm,0.6s,mb4.2,baz=11,slow=8.3,SNR=8.7						
MKAR	Makanchi Array	49.94	309	P	P	23 42 07.8	+0.1
	1.1nm,0.7s,mb4.0,baz=89,slow=10,SNR=11						
KURK	Kurchatov	52.34	314	eP	P	23 42 25.4	-0.3
	7.2nm,1.0s,mb4.6						
ASAR	Alice Springs	52.49	190	P	P	23 42 27.3	0.0
	0.2nm,0.5s,mb3.3,baz=17,slow=12,SNR=4.0						
ILAR	Eielson Array	56.34	29	P	P	23 42 55.2	+0.4
	0.5nm,1.1s,mb3.5,baz=243,slow=8.1,SNR=4.3						
BRVK	Borovoye	57.39	317	P	P	23 43 02.3	-0.3
	2.8nm,0.6s,mb4.5						
FINES	FINESS Array B	76.92	334	P	P	23 45 07.0	+1.6
	2.9nm,1.1s,mb4.1,baz=68,slow=7.5,SNR=5.6						
BRTR	Keskin Array B	85.38	313	P	P	23 45 52.5	+2.1
	0.5nm,0.6s,mb3.9,baz=63,slow=5.9,SNR=3.7						

IDC 08 23:57:18.7±0.9, 12.15N×45.85E, mb4.0/12, mb1 4.2/13, mb1mx4.1/20, ML3.1/1, MS3.6/8, Ms1 3.6/8, ms1mx3.4/22, Error ellipse: s-maj=26.2km s-min=19.9km az=85.0
NEIC 08 23:57:19.6±0.4, 12.09N×45.72E, h10km, mb4.2/5, Error ellipse: s-maj=16.0km s-min=9.1km az=119.0
DHMR 08 23:57:20.3±0.9, 12.36N×45.83E, h21km±8km, ML3.9
CSEM 08 23:57:22.0±0.1, 12.22N×45.74E, h30km, mb4.4/4, Error ellipse: s-maj=4.0km s-min=3.4km az=74.0
ISC 08 23:57:19.0±2.5**, 12.16N**±0.05×**45.70E**±0.06**, h15km**±19km**, n43, σ0^{s}99**/47**, mb4.1**/16**, MS3.6**/7**, 3C-1D, Western Gulf of Aden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LBOS		1.76	346	⇑iP	Pn	23 57 48.7	-0.5
LBOS				iS	Sn	23 58 10.4	-1.0
BDHA	Al Bayda'	1.81	356	iP	Pn	23 57 49.0	-1.0
BDHA				iS	Sn	23 58 10.8	-1.9
BDHA				AML	AML	23 58 28.0	
	comp=E,4μm,0.7s						
UDYN	Al 'Udayn	2.45	317	iP	Pn	23 58 00.2	+1.1
UDYN				AML	AML	23 58 50.7	
	comp=Z,475nm,0.8s						
UDYN	Al 'Udayn	2.45	317	⇑iP	Pn	23 58 00.3	+1.2
MUKL	Al Mukalla	3.86	57	iP	Pn	23 58 19.6	+0.4
MUKL				iS	Sn	23 59 05.7	+0.9
MUKL	Al Mukalla	3.86	57	⇓iP	Pn	23 58 20.1	+0.9
MUKL				iS	Sn	23 59 05.6	+0.9
HAJJ	Hajjah	4.07	330	⇑eP	Pn	23 58 22.8	+0.7
HAJJ				iS	Sn	23 59 11.0	+1.1
HAJJ	Hajjah	4.07	330	iP	Pn	23 58 23.5	+1.4
HAJJ				iS	Sn	23 59 11.4	+1.5
KMBO	Kilima Mbogo	15.64	213	Pn	P	00 00 59.7	-1.0
	comp=Z,0.1nm,0.3s,baz=30,slow=18,SNR=6.1						
KMBO				Lg		00 05 38.1	
	comp=Z,0.0nm,0.3s,baz=256,slow=22,SNR=3.2						
KMBO				LR	LR	00 06 21.9	
	comp=Z,144nm,22.0s,baz=59,slow=35						
KMBO	Kilima Mbogo	15.64	213	Pn	P	00 00 59.7	-1.0
MBAR	Mbarara	19.53	231	P	P	00 01 45.9	-3.0
	comp=Z,2.1nm,0.9s						
ASF	Jabal al Asfar	21.50	339	P	P	00 02 15.3	+5.9
	comp=Z,1.7nm,0.8s,mb3.5,baz=355,slow=13,SNR=3.7						
ASF				LR	LR	00 09 51.4	
	comp=Z,198nm,20.5s,MS3.5,baz=25,slow=35						
ASF	Jabal al Asfar	21.50	339	P	P	00 02 15.3	+5.9
ASF				LR	LR	00 09 51.4	
BRTR	Keskin Array B	29.45	341	P	P	00 03 25.5	+1.0
	comp=Z,1.9nm,0.8s,mb3.9,baz=158,slow=6.7,SNR=5.7						
BRTR				LR	LR	00 15 26.0	
	comp=Z,160nm,20.6s,MS3.6,baz=190,slow=37						
BRTR	Keskin Array B	29.45	341	P	P	00 03 25.5	+1.0
AAK	Ala-Archa	39.32	34	eP	P	00 04 49.7	+0.5
	comp=Z,4.1nm,1.0s,mb4.1						
AAK	Ala-Archa	39.32	34	eP	P	00 04 49.7	+0.5
	comp=Z,4.1nm,1.0s,mb4.1						
AKASG	Malin Array Be	40.73	344	P	P	00 05 01.6	+0.9
	comp=Z,0.8nm,0.6s,mb3.5,baz=150,slow=7.8,SNR=6.4						
GERES	GERESS Array B	45.17	330	P	P	00 05 37.6	+0.6
	comp=Z,1.5nm,0.9s,mb3.8,baz=153,slow=6.0,SNR=7.6						
GERES	GERESS Array B	45.17	330	P	P	00 05 37.6	+0.7
BRVK	Borovoye	45.28	21	eP	P	00 05 38.1	+0.4
	comp=Z,2.3nm,0.8s,mb4.1						
BRVK	Borovoye	45.28	21	eP	P	00 05 38.1	+0.3
	comp=Z,2.3nm,0.8s,mb4.1						
BVAR	Borovoye Array	45.29	21	P	P	00 05 38.1	+0.2
	comp=Z,1.9nm,0.8s,mb4.0,baz=214,slow=5.3,SNR=10						
BVAR	Borovoye Array	45.29	21	P	P	00 05 38.1	+0.3
MKAR	Makanchi Array	46.25	35	P	P	00 05 44.9	-0.6
	comp=Z,3.6nm,0.9s,mb4.3,baz=225,slow=6.9,SNR=9.8						
MKAR				LR	LR	00 27 03.1	
	comp=Z,49nm,19.8s,MS3.5,baz=62,slow=39						
MKAR	Makanchi Array	46.25	35	P	P	00 05 44.8	-0.7
KURK	Kurchatov	46.89	28	eP	P	00 05 50.4	-0.1
	comp=Z,1.4nm,0.4s,mb4.2						
KURK	Kurchatov	46.89	28	eP	P	00 05 50.4	-0.1
	comp=Z,1.4nm,0.4s,mb4.2						
FINES	FINESS Array B	51.23	348	LR	LR	00 28 05.2	
	comp=Z,45nm,18.4s,MS3.5,baz=171,slow=36						
CMAR	Chiang Mai Arr	51.59	76	P	P	00 06 26.1	-1.0
	comp=Z,3.5nm,0.7s,mb4.4,baz=276,slow=9.4,SNR=21						
CMAR	Chiang Mai Arr	51.59	76	P	P	00 06 26.1	-1.1
ZAL	Zalesovo	51.87	28	P	P	00 06 26.7	-2.1
	comp=Z,0.8nm,0.7s,mb3.8,baz=159,slow=1.5,SNR=5.6						
ZAL				LR	LR	00 29 41.0	
	comp=Z,45nm,18.3s,MS3.5,baz=359,slow=38						
ZAL	Zalesovo	51.87	28	P	P	00 06 26.7	-2.1
ZAL				LR	LR	00 29 41.0	
ZAL	Zalesovo	51.87	28	P	P	00 06 26.7	-2.1
NOA	NORSAR Array B	54.89	340	LR	LR	00 32 06.9	
	comp=Z,55nm,18.1s,MS3.7,baz=115,slow=38						
SONM	Songino Array	61.50	42	P	P	00 07 37.2	-0.3
	comp=Z,2.0nm,0.9s,mb4.2,baz=250,slow=7.7,SNR=11						
MAW	Mawson	80.52	173	P	P	00 09 32.9	+1.2
	comp=Z,1.2nm,0.9s,mb3.8,baz=308,slow=9.9,SNR=3.7						
MAW				LR	LR	00 41 36.3	
	comp=Z,69nm,18.5s,MS4.0,baz=245,slow=33						
MAW	Mawson	80.52	173	P	P	00 09 32.9	+1.2
WRA	Warramunga Arr	92.82	110	P	P	00 10 33.1	+0.2
	comp=Z,1.5nm,0.7s,mb4.6,baz=295,slow=3.3,SNR=7.7						
WRA	Warramunga Arr	92.82	110	P	P	00 10 33.1	+0.2
WRAB	Tennant Creek	92.83	110	eP	P	00 10 32.8	-0.2
	comp=Z,6.7nm,0.9s,mb5.1						
WRAB	Tennant Creek	92.83	110	eP	P	00 10 32.8	-0.1
	comp=Z,6.7nm,0.9s,mb5.1						
ASAR	Alice Springs	93.18	113	P	P	00 10 34.8	+0.2
	comp=Z,1.1nm,0.8s,mb4.4,baz=283,slow=4.3,SNR=12						

TRN 09 00:01:08.4, 16.62N×60.88W, h18km, MD3.6, 1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DEG	La Desirade	0.35	209	⇓iP	Pb	00 01 18.2	+2.4
SEG	Port Louis	0.64	250	eP	Pb	00 01 23.5	+2.8
MGG	Marie-Galante	0.82	211	eP	Pb	00 01 25.5	+1.7
DOG	Dongo Capester	0.92	231	eP	Pb	00 01 27.2	+1.6
MBRY		1.22	274	eP	Pb	00 01 32.7	+2.0
BBL	Barber's Block	1.23	208	eP	Pb	00 01 32.0	+1.1
BBL	Barber's Block	1.23	208	eP	Pb	00 01 33.0	+2.2
BBL				eS	Sb	00 01 49.4	+3.2
MLYT		1.26	275	eP	Pb	00 01 33.3	+1.9
MBWH		1.26	276	eP	Pb	00 01 32.9	+1.5
DLVT	Layou Valley	1.28	203	eP	Pn	00 01 33.2	+1.6
MBGB		1.30	275	eP	Pn	00 01 33.5	+1.7
MDN	Morne-Daniel	1.39	201	eP	Pn	00 01 35.0	+1.8
MDN				eS	Sb	00 01 55.2	+4.3

DJA 09 00:13:37.6±1.2**, 7.91S**×**113.94E, h15km, MD4.8**/4**, ML4.9**/1**, 2C-4D, Error ellipse: s-maj=32.0km s-min=15.1km az=152.0, Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SRDI	Scrawed	0.60	161	⇑ePn	Pn	00 13 48.9	-2.5
KELI	Kelakatan	0.63	120	⇓ePn	Pn	00 13 47.8	-3.9
	3μm,0.2s						
RATI	Rata	1.77	117	⇑ePn	Pn	00 14 06.0	-2.1
	786nm,0.2s						
RATI				⇓eSn	Sn	00 14 25.9	-4.5
KEDI	Kedomdong	2.23	105	⇓ePn	Pn	00 14 11.8	-2.8
KEDI				⇓eSn	Sn	00 14 36.5	-5.5

TAP 09 00:20:05.0, 24.70N×122.46E, h20km±1km, ML2.6
JMA 09 00:20:04.5±0.3**, 24.87N**×**122.70E, h12km, M2.5, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.49	145	P	Pg	00 20 14.1	-0.5
YOJ				eS	Sg	00 20 20.7	-0.7
IRIF	Iriomote-Funau	1.08	119	P	Pb	00 20 24.3	-0.3
IRIF				eS	Sb	00 20 40.9	+2.5
HATJ	Hateruma jima	1.29	129	eS	Sb	00 20 46.1	+1.4
JKRS	Kuro-shima	1.35	118	P	Pn	00 20 29.0	-0.2
JKRS				eS	Sb	00 20 47.1	+0.8
JIJ	Ishigaki jima	1.41	111	P	Pn	00 20 29.5	-0.6
JIJ				eS	Sb	00 20 47.9	-0.1

LDG 09 00:35:30.0±0.0, 46.61N×6.95E, h5km, Md2.0/1, Ml2.0/12, Error ellipse: s-maj=1.1km s-min=0.7km az=79.0
ZUR 09 00:35:30.4, 46.59N×6.98E, h13km, ML1.3/10
ISC 09 00:35:28.8±0.3**, 46.62N**±0.02×**6.86E**±0.03**, h13km, n25, σ1^{s}04**/44**, 1C-3D, Switzerland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TORNY	Torny	0.17	23	Pg	Pg	00 35 34.9	+2.0
	14nm,0.5s						
TORNY				iSg	Sg	00 35 37.5	+1.8
	14nm,0.5s						
AIGLE	Aigle	0.28	167	⇓iPg	Pg	00 35 35.9	+1.0
	2.2nm,0.2s						
AIGLE				iSg	Sg	00 35 39.8	+0.8
	2.2nm,0.2s						
SENIN	Lac Senin	0.39	130	⇓iPg	Pg	00 35 36.8	-0.2
	0.8nm,0.2s						
SENIN				eSg	Sg	00 35 42.5	0.0
	0.8nm,0.2s						
GRYON	Gryon	0.41	155	⇓iPg	Pg	00 35 37.5	+0.2
	0.5nm,0.2s						
GRYON				iSg	Sg	00 35 42.8	-0.1
	0.5nm,0.2s						
BRANT	Les Verrieres	0.42	320	⇑iPg	Pg	00 35 40.4	+2.9
	0.8nm,0.8s						
GIMEL	Gimel	0.42	259	ePg	Pg	00 35 40.8	+3.2
	0.4nm,0.3s						
SALAN	Lac Salanfe	0.48	171	ePg	Pg	00 35 39.4	+0.7
	0.3nm,0.2s						
WIMIS	Wimmis	0.53	85	Pg	Pg	00 35 39.3	-0.3
	1.3nm,0.7s						
WIMIS				eSg	Sg	00 35 45.7	-1.1
	1.3nm,0.7s						
CABF	La Chapelle	0.54	270	ePg	Pg	00 35 41.5	+1.7
CABF				eP		00 35 43.0	
CABF				eSg	Sg	00 35 49.3	+2.3
	2.8nm,0.2s						
EMV	Vieux Emosson	0.56	177	ePg	Pg	00 35 40.8	+0.6
	0.2nm,0.2s						
EMV				iSg	Sg	00 35 48.1	+0.4
	0.2nm,0.2s						
LKBD	Leukerbad	0.58	113	Pg	Pg	00 35 40.3	-0.3
	0.6nm,0.2s						
LKBD				iSg	Sg	00 35 47.2	-1.2
	0.6nm,0.2s						
BOURR	Bourrignon	0.82	18	ePg	Pg	00 35 46.4	+1.1
	0.9nm,0.6s						
HASLI	Hasliberg	0.90	81	ePg	Pg	00 35 46.9	0.0
	1.5nm,1.5s						
BALST	Balsthal	0.92	38	ePg	Pg	00 35 47.3	0.0
	1.3nm,0.6s						
LPL	La Plagne	1.10	185	ePg	Pg	00 35 50.9	-0.1
LPL				eSg	Sg	00 36 05.5	-0.3
	3.1nm,0.3s						
LPG	La Plagne	1.12	184	ePg	Pg	00 35 51.1	-0.3
LPG				eSg	Sg	00 36 06.1	-0.3
	2.1nm,0.2s						
HINF	Hinteralfeld	1.20	360	ePg	Pg	00 35 52.7	-0.2
HINF				eSg	Sg	00 36 08.6	-0.4
	4.8nm,0.2s						
CDF	Champ du Feu	1.82	9	ePn	Pn	00 36 00.6	+0.4
CDF				ePg	Pg	00 36 04.3	-0.9
CDF				eSg	Sg	00 36 27.2	-2.3
	1.4nm,0.3s						
ORIF	Oris-en-Rattie	1.83	202	eSg	Sg	00 36 28.7	-1.3
	1.2nm,0.3s						
SFTF	Sexfontaines	2.02	323	ePn	Pn	00 36 03.4	+0.4
SFTF				ePg	Pg	00 36 08.3	-0.8
SFTF				eSg	Sg	00 36 34.8	-1.2
	1.7nm,0.2s						
SMF	Signal de Mont	2.08	272	ePn	Pn	00 36 04.7	+0.7
SMF				ePg	Pg	00 36 10.1	-0.4
SMF				eSn	Sn	00 36 30.7	+0.8
SMF				eSg	Sg	00 36 37.7	-0.6
	2.1nm,0.2s						
LOR	Lormes	2.16	289	ePg	Pg	00 36 11.5	-0.5
LOR				eSg	Sg	00 36 39.8	-1.0
	1.7nm,0.3s						
VIVF	Saint-Julien-l	2.34	222	eSg	Sg	00 36 44.7	-2.0
	0.6nm,0.2s						
SSF	Saint Saulge	2.35	282	eSg	Sg	00 36 45.4	-1.7
	0.8nm,0.2s						
BGF	Bois d'Agland	2.77	270	ePn	Pn	00 36 14.0	+0.2

IDC 09 00:50:35.9±4.3**, 14.55N**×**147.24E, mb3.7**/3**, mb1 3.8**/3**, mb1mx3.6**/19**, Error ellipse: s-maj=168.0km s-min=33.2km az=82.0, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	36.55	201	P	P	00 57 43.5	-2.0
	0.3nm,0.4s,baz=24,slow=9.1,SNR=3.7						
SONM	Songino Array	47.31	323	P	P	00 59 11.0	-2.2
	0.2nm,0.4s,baz=137,slow=7.5,SNR=3.7						
MKAR	Makanchi Array	62.41	315	P	P	01 01 01.0	-2.0
	1.3nm,0.4s,baz=92,slow=8.6,SNR=30						
DBIC	Dimbokro	145.21	305	PKP	PKPdf	01 10 16.0	-2.4
	1.8nm,0.6s,baz=90,slow=2.5,SNR=4.8						

WEL 09 00:54:21.5±0.0**, 39.19S**×**175.02E, h28km, ML3.5**/23**, 6C-11D, Error ellipse: s-maj=0.5km s-min=0.4km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VRZ	Vera Road	0.22	288	⇓P*	Pb	00 54 27.4	-0.2
VRZ				S*	Sb	00 54 32.3	+0.5
VRZ				S*	Sb	00 54 32.3	+0.5
TWVZ	Taurewa	0.34	69	⇓P*	Pb	00 54 29.1	-0.3
TWVZ				S*	Sb	00 54 34.5	-0.2
TWVZ				S*	Sb	00 54 35.4	+0.6
WPVZ	Whakapapa	0.41	92	P*	Pb	00 54 30.1	-0.2
WPVZ				S*	Sb	00 54 36.5	+0.1
CNZ	Chateau	0.41	91	⇑P*	Pb	00 54 30.2	-0.2
DRZ	Dome Shelter	0.43	101	P*	Pb	00 54 30.6	0.0
MGZ	Maungaku	0.45	65	⇓P*	Pb	00 54 30.7	-0.3
WTVZ	West Tongariro	0.45	80	⇓P*	Pb	00 54 30.7	-0.2
WTVZ				S*	Sb	00 54 37.2	-0.2
NGZ	Ngauruhoe	0.45	88	⇓P*	Pb	00 54 30.8	-0.2
WNVZ	Wahianoa	0.47	107	⇑P*	Pb	00 54 31.2	-0.1
WNVZ				S*	Sb	00 54 37.2	-0.7
KAVZ	Karewarewa	0.49	79	⇑P*	Pb	00 54 31.5	-0.2
TUVZ	Tukino	0.50	99	⇓P*	Pb	00 54 31.7	0.0
TUVZ				S*	Sb	00 54 38.8	+0.1
RAEZ	Rainy Point	0.50	259	⇓P*	Pb	00 54 31.6	-0.1
WAZ	Wanganui	0.56	183	⇑P*	Pb	00 54 32.3	-0.4
WAZ				S*	Sb	00 54 40.9	+0.4
KATZ	Kakaramea	0.57	68	⇓P*	Pb	00 54 32.7	-0.2
MOVZ	Moawhango	0.60	111	⇓P*	Pb	00 54 33.0	-0.5
MOVZ				S*	Sb	00 54 41.0	-0.7
RATZ	Rangitukua	0.67	61	⇓P*	Pb	00 54 34.2	-0.3
RITZ	Rihia Road	0.69	72	P*	Pb	00 54 34.7	-0.1
HIZ	Hauiti	0.69	349	⇑P*	Pb	00 54 34.5	-0.4
HIZ				S*	Sb	00 54 44.7	+0.6
NEZ	North Egmont	0.72	264	⇑P*	Pb	00 54 35.1	-0.4
DFE	Dawson Falls	0.73	259	eP*	Pb	00 54 34.7	-0.8
WATZ	Wairara	0.74	49	⇓PN	Pn	00 54 35.2	-0.8
WATZ				S*	Sb	00 54 44.7	-0.6
PKE	Pukeiti	0.80	270	PN	Pn	00 54 36.4	-0.6
PKE				SN	Sn	00 54 48.0	-0.1
NRZ	Ngariki Road	0.86	260	PN	Pn	00 54 37.1	-0.6
HATZ	Hinemaiaia	0.89	70	PN	Pn	00 54 37.2	-0.9
HATZ				SN	Sn	00 54 49.2	-0.9
WHTZ	Whakaora	0.90	55	PN	Pn	00 54 37.5	-0.8
NWEZ	Newall Road	0.90	265	PN	Pn	00 54 38.0	-0.3
TSZ	Takapari Road	1.13	140	ePN	Pn	00 54 41.2	-0.4
BKZ	Black Stump Fm	1.14	89	ePN	Pn	00 54 40.7	-1.1
TOZ	Tahuroa Road	1.51	15	ePN	Pn	00 54 45.6	-1.4
TOZ				SN	Sn	00 55 04.2	-1.8
MRZ	Mangatainoka R	1.53	164	PN	Pn	00 54 47.1	-0.3
KIW	Kapiti Island	1.67	183	PN	Pn	00 54 48.4	-0.9
BFZ	Birch Farm	1.76	148	ePN	Pn	00 54 50.8	+0.2
URZ	Urewera	1.88	61	ePN	Pn	00 54 50.8	-1.5
CAW	Cannon Point	1.91	179	ePN	Pn	00 54 52.5	-0.4
MTW	Mount Morrison	2.00	170	ePN	Pn	00 54 54.4	+0.3
MRW	Makara Radio	2.05	187	ePN	Pn	00 54 54.2	-0.6
MKAZ	Moumakai	2.08	3	ePN	Pn	00 54 53.6	-1.7
MWZ	Matawai	2.14	67	ePN	Pn	00 54 54.9	-1.2
OTAZ	Otara	2.24	358	ePN	Pn	00 54 55.9	-1.7
WTAZ	Waiatarua	2.28	351	ePN	Pn	00 54 57.5	-0.7
NNZ	Nelson	2.38	211	ePN	Pn	00 54 58.8	-0.8
TUWZ	Tuamarina	2.38	200	ePN	Pn	00 54 59.6	+0.1
MTAZ	Motutapu	2.40	358	ePN	Pn	00 54 58.1	-1.8
KUZ	Kuaotunu	2.50	13	ePN	Pn	00 54 59.0	-2.3
KUZ				SN	Sn	00 55 27.8	-3.5
QRZ	Quartz Range	2.52	229	ePN	Pn	00 54 59.6	-1.8
THZ	Tophouse	3.03	212	ePN	Pn	00 55 07.9	-0.9
DSZ	Denniston Nort	3.54	223	ePN	Pn	00 55 13.9	-2.1
OUZ	Omahuta	4.13	344	ePN	Pn	00 55 22.2	-2.1
LTZ	Lake Taylor	4.15	209	ePN	Pn	00 55 22.8	-1.8
WVZ	Waitaha Valley	5.05	218	ePN	Pn	00 55 33.5	-3.9

NEIC 09 00:57:57.4±1.1**, 38.73N**×**115.38W, h2km**±9km**, ML3.5, Error ellipse: s-maj=4.2km s-min=2.7km az=153.0, Nevada**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TRCR	Troy Canyon	0.42	203	ePg	Pg	00 58 05.5	-0.3
TPH	Tonopah	1.59	246	ePn	Pn	00 58 26.3	-0.5
ARUT	Antelope Range	1.79	121	ePn	Pn	00 58 29.4	-0.3
TPNV	Topopah Spring	1.91	201	ePn	Pn	00 58 31.0	-0.4
ELK	Elko	2.01	3	ePn	Pn	00 58 32.0	-0.8
MNV	Mina	2.20	263	ePn	Pn	00 58 34.9	-0.6
BMN	Battle Mountai	2.21	321	ePn	Pn	00 58 35.2	-0.5
DUG	Dugway	2.46	53	ePn	Pn	00 58 39.2	-0.1
MVU	Marysvale	2.49	94	ePn	Pn	00 58 39.4	-0.3
MSU	Marysvale	2.52	94	ePn	Pn	00 58 39.8	-0.2
NLU	North Lily Min	2.84	64	ePn	Pn	00 58 44.7	0.0
BGU	Big Grassy Mou	2.84	39	ePn	Pn	00 58 44.3	-0.4
MTUM	Tungsten Hills	2.87	242	ePn	Pn	00 58 45.2	+0.1
MTUM				eSg	Sg	00 59 30.4	-2.6
DAC	Darwin (Calif)	3.02	216	Pn	Pn	00 58 46.7	-0.5
OMM	Old Mammoth Mi	3.06	250	Pn	Pn	00 58 47.9	+0.1
NEN	Nelson	3.11	172	ePn	Pn	00 58 47.7	-0.8
NEN				eSg	Sg	00 59 35.1	-5.8
NOQ	North Oquirrh	3.16	52	Pn	Pn	00 58 47.1	-2.1
MPU	Maple Canyon	3.17	65	ePn	Pn	00 58 47.8	-1.6
PAHR	Pah Rah Range	3.26	289	Pn	Pn	00 58 49.3	-1.3
TMUT	Trail Mountain	3.30	79	ePn	Pn	00 58 50.5	-0.7
CTU	Camp Tracy	3.41	54	ePn	Pn	00 58 52.5	-0.3
SPUT	South Promonto	3.42	40	ePn	Pn	00 58 52.5	-0.4
WCN	Washoe City	3.46	281	ePn	Pn	00 58 52.9	-0.6
JLU	Jordanelle	3.56	57	Pn	Pn	00 58 53.0	-1.9
DAU	Daniels Canyon	3.60	61	ePn	Pn	00 58 55.2	-0.2
HVU	Hansel Valley	3.64	32	ePn	Pn	00 58 55.2	-0.8
LDFC	Landfair	3.66	177	ePn	Pn	00 58 54.8	-1.5
SRU	San Rafael	3.80	83	ePn	Pn	00 58 59.1	+0.7
TCUT	Toone Canyon	3.87	51	ePn	Pn	00 58 58.5	-0.8
CMB	Columbia Colle	4.00	261	ePn	Pn	00 58 59.8	-1.4
BEKR	Beckwourth	4.03	288	ePn	Pn	00 59 00.5	-1.0
HWUT	Hardware Ranch	4.09	44	Pn	Pn	00 59 02.5	0.0
HLID	Hailey	4.88	8	ePn	Pn	00 59 12.2	-1.5
MOD	Modoc	4.92	312	Pn	Pn	00 59 14.5	+0.3
PV10	Paradox Valley	4.98	92	ePn	Pn	00 59 13.8	-1.3
PV01	Paradox Valley	5.38	94	ePn	Pn	00 59 18.5	-2.2
TPAW	Teton Pass	5.81	34	ePn	Pn	00 59 27.3	+0.6
RW3	Ridgway	6.05	92	ePn	Pn	00 59 28.6	-1.6
LOHW	Long Hollow	6.06	35	Pn	Pn	00 59 28.6	-1.6
MCMT	McKenzie Canyo	6.38	16	Pn	Pn	00 59 32.6	-2.1
ANMO	Albuquerque	8.08	115	Pn	P	01 00 02.0	+3.3

IDC 09 01:04:52.9±1.3, 17.09S×175.11W, h16km±4km, mb3.6/5, mb1 4.0/5, mb1mx3.8/12, MS3.8/7, Ms1 3.8/7, ms1mx3.6/18, Error ellipse: s-maj=83.0km s-min=17.3km az=151.0
NEIC 09 01:04:53.2±0.5, 16.88S×175.26W, mb4.2/1, Error ellipse: s-maj=27.0km s-min=13.9km az=141.0
ISC 09 01:04:52.1±0.5**, 16.7S**±0.2×**175.4W**±0.1**, h18km, h18km**±1.0km**:pP-P, n26, σ1^{s}17**/15**, mb3.8**/6**, MS3.9**/6**, 4C, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	4.49	52	P	Pn	01 05 56.7	-4.2
RAR	Rarotonga	15.46	109	LR	LR	01 12 14.9	
	comp=Z,265nm,19.1s,baz=292,slow=29						
PPT	Papeete	24.71	96	eL		01 14 34.1	
PPT				eR		01 15 30.3	
	429nm,26.2s,baz=265						
TBI	Tubuai	25.24	109	eL		01 14 43.1	
TBI				eR		01 15 42.5	
	333nm,30.0s						
WRAB	Tennant Creek	47.65	258	P	P	01 13 29.9	+0.3
WRA	Warramunga Arr	47.66	258	P	P	01 13 29.0	-0.7
	0.8nm,1.0s,mb3.7,baz=97,slow=5.7,SNR=4.4						
WRA				pP	pP	01 13 35.0	-0.2
	1.1nm,0.7s,baz=96,slow=7.5,SNR=6.4						
WRA				PcP	PcP	01 15 01.2	+1.8
	1.3nm,1.1s,baz=93,slow=3.5,SNR=2.8						
WRA				LR	LR	01 31 19.7	
	comp=Z,143nm,21.1s,MS3.9,baz=90,slow=33						
ASAR	Alice Springs	47.87	253	P	P	01 13 30.9	-0.3
	2.1nm,0.8s,mb4.2,baz=86,slow=8.3,SNR=18						
ASAR				pP	pP	01 13 36.9	+0.1
	4.9nm,0.7s,baz=89,slow=8.7,SNR=19						
ASAR				PcP	PcP	01 15 01.4	+1.3
	1.1nm,0.7s,baz=88,slow=4.5,SNR=5.5						
ASAR				LR	LR	01 30 43.2	
	comp=Z,91nm,19.0s,MS3.8,baz=77,slow=32						
CASY	Casey	68.41	205	P	P	01 15 53.2	-1.4
YBH	Yreka Blue Hor	75.82	38	pP	pP	01 16 45.4	+0.7
	1.7nm,0.8s,baz=277,slow=12,SNR=3.9						
NVAR	Mina Array Bea	76.60	43	pP	pP	01 16 48.6	-0.6
	1.0nm,0.8s,baz=220,slow=7.7,SNR=5.6						
NVAR				LR	LR	01 44 26.7	
	comp=Z,62nm,20.9s,MS3.9,baz=270,slow=31						
PV10	Paradox Valley	82.82	47	P	P	01 17 15.4	-1.5
TXAR	Lajitas Array	82.95	57	P	P	01 17 17.3	-0.4
	0.2nm,0.8s,mb3.2,baz=338,slow=4.9,SNR=2.6						
TXAR				pP	pP	01 17 21.8	-1.8
	1.9nm,1.2s,baz=239,slow=7.3,SNR=3.8						
TXAR				LR	LR	01 46 21.5	
	comp=Z,48nm,22.0s,MS3.8,baz=205,slow=30						
ILAR	Eielson Array	84.11	12	P	P	01 17 23.9	+1.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	0.5nm,0.8s,mb3.7,baz=188,slow=6.4,SNR=3.8						
ILAR				pP	pP	01 17 30.2	+1.5
	1.6nm,1.0s,baz=211,slow=5.7,SNR=7.8						
BW06	Boulder Array	84.54	42	eP	P	01 17 24.9	-0.6
	1.2nm,0.7s,mb4.1						
PDAR	Pinedale Array	84.54	42	P	P	01 17 25.3	-0.2
	0.5nm,0.7s,mb3.8,baz=194,slow=3.7,SNR=2.7						
PDAR				pP	pP	01 17 31.2	-0.2
	1.7nm,0.8s,baz=233,slow=1.8,SNR=7.8						
PDAR				LR	LR	01 48 17.6	
	comp=Z,67nm,20.3s,MS4.0,baz=92,slow=31						
DAWY	Dawson	85.18	15	P	P	01 17 30.0	+1.8
MAW	Mawson	85.93	199	LR	LR	01 54 31.5	
	comp=Z,59nm,20.7s,MS4.0,baz=100,slow=35						
SNAA	Sanae	91.69	178	⇑i	P	01 18 00.7	+1.6
VNA3	Neumayer Olymp	91.72	175	⇑i	P	01 17 59.8	+0.5
VNA2	Neumayer--Watz	92.19	176	⇑i	P	01 17 59.9	-1.5
VNA1	Neumayer--Stat	92.40	176	⇑i	P	01 18 04.3	+1.9
CLL	Collm	144.84	351	ePKIKP	PKPdf	01 24 33.0	+1.2
CLL				i *PPKP		01 24 35.7	
BRG	Berggiesshubel	145.11	350	eP	PKPbc	01 24 36.7	+8.0
BRTR	Keskin Array B	145.89	318	pPKPbc		01 24 39.2	
	2.2nm,1.1s,baz=124,slow=4.5,SNR=6.5						
KHC	Kasperske Hory	146.85	349	ePKP	PKPdf	01 24 39.0	+3.7
GERES	GERESS Array B	147.10	349	pPKPbc		01 24 42.2	
	0.9nm,0.7s,baz=45,slow=1.9,SNR=5.6						

JMA 09 01:05:38.7±0.2, 23.03N×125.20E, h50km, M4.0, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JKRS	Kuro-shima	1.62	318	P	P	01 06 06.0	+0.5
JKRS				eS	S	01 06 26.2	+0.9
HATJ	Hateruma jima	1.64	309	P	P	01 06 05.5	-0.2
HATJ				eS	S	01 06 25.9	+0.2
JIJ	Ishigaki jima	1.64	324	P	P	01 06 06.0	+0.3
JIJ				eS	S	01 06 25.4	-0.4
JTJ	Tarama	1.67	344	P	P	01 06 06.1	0.0
JTJ				eS	S	01 06 26.4	0.0
JOGS	Gusukube	1.73	6	eS	S	01 06 28.2	+0.2
JMJ	Miyako jima 2	1.78	3	P	P	01 06 07.8	+0.2
JMJ				eS	S	01 06 29.7	+0.6
IRIF	Iriomote-Funau	1.87	314	P	P	01 06 09.3	+0.4
IRIF				eS	S	01 06 31.8	+0.4
YOJ	Yonaguni jima	2.46	306	P	P	01 06 17.6	+0.3
YOJ				eS	S	01 06 45.6	-0.7
JKE	Kume jima 2	3.58	23	P	P	01 06 31.1	-2.1

ISC 09 01:23:25.3±1.0, 46.38N±0.06×15.11E±0.07, n5, σ0^{s}34/7, 2C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PERS	Pernice	0.26	2	ePg	Pg	01 23 30.7	+0.2
GROS	Grobnik	0.29	73	ePg	Pg	01 23 31.5	+0.5
OBKA	Obir	0.41	289	⇑iPG	Pg	01 23 33.5	+0.1
OBKA				i SG	Sg	01 23 38.9	+0.1
	2.3nm,0.2s						
LEGS	Legarje	0.45	161	ePg	Pg	01 23 34.1	-0.2
	comp=Z,2.0nm,0.2s						
ARSA	Arzberg	0.92	18	⇑iPG	Pg	01 23 43.0	-0.6
ARSA				i SG	Sg	01 23 55.8	-0.1
	comp=Z,0.9nm,0.2s						

NEIC 09 01:24:54.9, 38.07S×176.22E, h190km, After WEL.
WEL 09 01:24:53.8±0.4, 38.00S×176.24E, h195km±3km, ML3.9/8, 1D, Error ellipse: s-maj=5.5km s-min=4.7km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.74	111	P	P	01 25 21.5	-0.2
URZ	Urewera	0.74	111	PN	P	01 25 21.4	-0.3
URZ				SN	S	01 25 42.5	-0.8
MWZ	Matawai	1.07	109	P	P	01 25 24.0	+0.2
MWZ				S	S	01 25 46.8	-0.1
MWZ	Matawai	1.07	109	PN	P	01 25 23.9	+0.1
MWZ				SN	S	01 25 46.3	-0.6
MGZ	Maungaku	1.14	208	P	P	01 25 24.4	+0.1
MGZ	Maungaku	1.14	208	PN	P	01 25 24.2	-0.1
BKZ	Black Stump Fm	1.19	170	P	P	01 25 24.6	-0.1
BKZ	Black Stump Fm	1.19	170	⇓PN	P	01 25 24.6	-0.1
BKZ				SN	S	01 25 47.8	-0.8
TWVZ	Taurewa	1.25	210	P	P	01 25 24.9	-0.3
TWVZ	Taurewa	1.25	210	PN	P	01 25 24.8	-0.4
NGZ	Ngauruhoe	1.28	203	P	P	01 25 25.5	0.0
NGZ	Ngauruhoe	1.28	203	PN	P	01 25 25.4	-0.1
CNZ	Chateau	1.32	204	ePN	P	01 25 25.4	-0.4
TUVZ	Tukino	1.35	200	P	P	01 25 25.9	-0.2
TUVZ				S	S	01 25 49.1	-2.0
TUVZ	Tukino	1.35	200	PN	P	01 25 25.7	-0.4
TUVZ				SN	S	01 25 50.9	-0.2
WNVZ	Wahianoa	1.42	200	P	P	01 25 26.4	-0.3
WNVZ	Wahianoa	1.42	200	PN	P	01 25 26.4	-0.3
WNVZ				SN	S	01 25 52.5	+0.3
MOVZ	Moawhango	1.46	195	P	P	01 25 26.3	-0.8
MOVZ	Moawhango	1.46	195	PN	P	01 25 26.2	-0.8
KNZ	Kokohu	1.52	133	eP	P	01 25 28.3	+0.7
KNZ	Kokohu	1.52	133	PN	P	01 25 28.2	+0.5
PUZ	Puketiti	1.60	93	eP	P	01 25 28.0	-0.3
PUZ	Puketiti	1.60	93	PN	P	01 25 28.0	-0.3
PUZ				SN	S	01 25 53.0	-1.9
MXZ	Matakaoa Point	1.69	76	eP	P	01 25 29.2	-0.1
MXZ	Matakaoa Point	1.69	76	ePN	P	01 25 28.9	-0.3
TSZ	Takapari Road	2.07	186	P	P	01 25 32.2	-0.9
TSZ	Takapari Road	2.07	186	PN	P	01 25 32.0	-1.1
PWZ	Pawanui	2.09	167	eP	P	01 25 33.2	0.0
PWZ	Pawanui	2.09	167	PN	P	01 25 33.0	-0.3
BFZ	Birch Farm	2.68	180	eP	P	01 25 38.9	-1.1
BFZ	Birch Farm	2.68	180	PN	P	01 25 38.8	-1.2
MRZ	Mangatainoka R	2.71	191	eP	P	01 25 38.1	-2.2
MRZ	Mangatainoka R	2.71	191	PN	P	01 25 38.0	-2.3
MRZ				SN	S	01 26 12.5	-3.7
KIW	Kapiti Island	3.04	199	P	P	01 25 41.3	-2.9
KIW	Kapiti Island	3.04	199	PN	P	01 25 41.1	-3.1
MTW	Mount Morrison	3.21	190	P	P	01 25 43.2	-3.0
MTW	Mount Morrison	3.21	190	PN	P	01 25 43.1	-3.1
CAW	Cannon Point	3.24	196	P	P	01 25 43.7	-2.9
CAW	Cannon Point	3.24	196	ePN	P	01 25 43.5	-3.1
PAWZ	Paruwai Farm	3.44	190	ePN	P	01 25 45.4	-3.6
MRW	Makara Radio	3.44	200	P	P	01 25 45.8	-3.3
MRW	Makara Radio	3.44	200	ePN	P	01 25 45.3	-3.8
MSWZ	Moikau Station	3.50	192	P	P	01 25 46.4	-3.4
MSWZ	Moikau Station	3.50	192	PN	P	01 25 46.3	-3.5
TUWZ	Tuamarina	3.86	207	PN	P	01 25 50.2	-4.1
NNZ	Nelson	3.90	214	eP	P	01 25 50.8	-4.0
NNZ	Nelson	3.90	214	PN	P	01 25 50.6	-4.3
NNZ				SN	S	01 26 36.7	-5.3
QRZ	Quartz Range	4.03	224	eP	P	01 25 51.9	-4.5
QRZ	Quartz Range	4.03	224	PN	P	01 25 51.7	-4.8
QRZ				SN	S	01 26 39.3	-5.6
BSWZ	Blackbirch Sta	4.13	205	P	P	01 25 53.7	-4.0
BSWZ	Blackbirch Sta	4.13	205	ePN	P	01 25 53.3	-4.4
THZ	Tophouse	4.55	213	eP	P	01 25 58.6	-4.5
THZ	Tophouse	4.55	213	ePN	P	01 25 58.2	-4.9
KHZ	Kahutara	4.88	204	PN	P	01 26 02.9	-4.2
DSZ	Denniston Nort	5.07	221	P	P	01 26 05.3	-4.3
DSZ	Denniston Nort	5.07	221	ePN	P	01 26 04.0	-5.6
LTZ	Lake Taylor	5.66	211	eP	P	01 26 12.2	-5.1
LTZ	Lake Taylor	5.66	211	ePN	P	01 26 12.0	-5.4
MQZ	McQueen's Vall	6.32	204	eP	P	01 26 20.2	-5.7
MQZ	McQueen's Vall	6.32	204	ePN	P	01 26 19.5	-6.3
MQZ				eSN	S	01 27 27.9	-10
WVZ	Waitaha Valley	6.58	218	eP	P	01 26 23.7	-5.6
WVZ	Waitaha Valley	6.58	218	ePN	P	01 26 23.3	-5.9
LBZ	Lake Benmore	7.85	214	eP	P	01 26 39.5	-6.4
LBZ	Lake Benmore	7.85	214	ePN	P	01 26 39.3	-6.5
ODZ	Otahua Downs	8.20	209	eP	P	01 26 44.9	-5.5
ODZ	Otahua Downs	8.20	209	ePN	P	01 26 44.8	-5.6
JCZ	Jackson Bay	8.29	221	eP	P	01 26 45.8	-5.9
JCZ	Jackson Bay	8.29	221	ePN	P	01 26 44.6	-7.1

MEX 09 01:34:19.4±1.5, 16.92N×94.80W, h121km±10km, MD4.2
IDC 09 01:34:23.4±5.6, 17.23N×94.39W, h149km±54km, mb3.3/4, mb1 3.7/5, mb1mx3.5/18, Error ellipse: s-maj=50.0km s-min=18.9km az=49.0
NEIC 09 01:34:23.5±2.2, 17.22N×94.34W, h157km±21km, mb4.0/4, Error ellipse: s-maj=26.6km s-min=8.7km az=223.0
ISC 09 01:34:17.4±0.4, 16.89N±0.05×94.82W±0.03, h118km±4km, n33, σ1^{s}43/47, mb3.6/5, 1D, Oaxaca

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.21	344	i P	P	01 34 34.9	+1.0
CMIG				eS	S	01 34 46.6	+0.2
EVV	El Vigia	1.64	342	i P	P	01 34 46.2	-0.6
HUIG	Huatulco	1.66	228	i P	P	01 34 46.5	-0.5
HUIG				⇓eS	S	01 35 09.5	0.0
OXX	Oaxaca	1.83	276	i P	P	01 34 50.4	+1.3
OXX				eS	S	01 35 14.5	+1.5
VHO	Vista Hermosa	1.84	276	i P	P	01 34 50.9	+1.7
VHO				eS	S	01 35 14.2	+1.0
SCX	San Cristobal	2.10	94	i P	P	01 34 53.2	+0.7
SCX				i S	S	01 35 19.5	+0.5
CCIG	Comitan	2.64	103	eP	P	01 35 01.2	+1.5
CCIG				eS	S	01 35 30.2	-1.6
LVIG	Laguna Verde	3.20	332	eP	P	01 35 05.6	-1.7
LVIG				i S	S	01 35 40.9	-4.2
PNIG	Pinotepa	3.21	262	eP	P	01 35 06.1	-1.2
PNIG				eS	S	01 35 42.9	-2.3
IISM	Ciudad Serdan	3.21	311	i P	P	01 35 07.3	-0.1
IISM				eS	S	01 35 44.0	-1.3
SCIG		4.03	59	eP	P	01 35 17.1	-1.3
SCIG				eS	S	01 36 00.1	-5.1
PPM	Popocatepetl	4.22	302	i P	P	01 35 22.9	+1.9
YAIG	Yautepec	4.50	297	eP	P	01 35 26.5	+1.8
YAIG				i S	S	01 36 14.9	-1.4
PLIG	Platanillo	4.71	289	eP	P	01 35 28.2	+0.6
PLIG				i S	S	01 36 18.2	-3.2
ACX	Acapulco	4.88	271	eP	P	01 35 28.0	-1.9
CAIG	El Cayaco	5.21	273	i P	P	01 35 33.4	-1.0
CAIG				i S	S	01 36 31.3	-2.5
TEIG	Tepich	7.04	61	P	P	01 35 57.1	-2.2
	0.0nm,0.3s,baz=322,slow=20,SNR=4.3						
TEIG				S	S	01 37 10.9	-7.4
	0.0nm,0.3s,baz=349,slow=24,SNR=11						
JCT	Junction City	14.28	342	eP	P	01 37 36.2	+1.1
	6.5nm,0.6s						
TXAR	Lajitas Array	14.81	328	P	P	01 37 44.0	+2.0
	0.3nm,0.3s,baz=144,slow=14,SNR=14						
CLNB	Carlsbad	17.37	333	P	P	01 38 15.3	+1.4
CPRX	Cap Rock	18.03	335	P	P	01 38 22.3	+0.5
WMOK	Wichita Mounta	18.13	349	eP	P	01 38 20.6	-2.2
	4.3nm,0.5s						
LPM	Los Pinos Moun	20.33	331	P	P	01 38 48.3	+2.1
ANMO	Albuquerque	20.78	332	eP	P	01 38 51.4	+0.6
	3.4nm,0.7s						
WCI	Wyandotte Cave	22.54	18	eP	P	01 39 06.0	-2.1
SDCO	Great Sand Dun	22.81	338	eP	P	01 39 12.0	+1.3
	3.9nm,1.0s,mb3.7						
PV10	Paradox Valley	24.78	333	eP	P	01 39 30.4	+0.9
PDAR	Pinedale Array	28.70	337	P	P	01 40 05.5	0.0
	0.4nm,0.6s,mb3.2,baz=141,slow=5.8,SNR=3.2						
NVAR	Mina Array Bea	29.73	321	P	P	01 40 16.3	+1.6
	1.9nm,0.9s,mb3.7,baz=130,slow=9.3,SNR=8.7						
HLID	Hailey	31.36	332	eP	P	01 40 27.6	-1.4
SAML	Samuel	40.47	127	eP	P	01 41 44.5	-1.7
LPAZ	La Paz	42.18	140	P	P	01 42 02.3	+2.0
	1.1nm,0.6s,mb3.8,baz=322,slow=10,SNR=5.7						
ILAR	Eielson Array	59.13	337	P	P	01 44 06.8	-0.8
	0.5nm,0.7s,mb3.7,baz=163,slow=4.1,SNR=10						

PRU 09 01:35:25.5, 50.25N×18.84E
WAR 09 01:35:25.1, 50.26N×18.88E, ML2.7, Mining Induced
ISC 09 01:35:25.9±0.5, 50.16N±0.05×18.63E±0.04, n21, σ1^{s}69/43, 1D, Poland

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAC	Raciborz	0.29	255	ePg	Pg	01 35 35.3	+3.6
RAC				eSg	Sg	01 35 42.3	+6.7
OKC	Ostrava-Krasne	0.45	224	ePG	Pg	01 35 37.6	+2.8
OJC	Ojcow	0.75	85	ePG	Pg	01 35 37.0	-3.9
OJC				i SG	Sg	01 35 45.4	-5.5
OJC	Ojcow	0.75	85	ePg	Pg	01 35 37.0	-3.9
OJC				i Sg	Sg	01 35 45.4	-5.5
LIKS	Likavka	1.15	164	i PN	Pn	01 35 48.9	-0.2
LIKS				eSN	Sn	01 36 05.1	-0.7
NIE	Niedzica	1.32	124	ePG	Pg	01 35 49.0	-3.2
NIE				eSG	Sg	01 36 07.0	-2.7
NIE	Niedzica	1.32	124	ePg	Pg	01 35 49.2	-3.0
NIE				eSg	Sg	01 36 06.8	-2.9
DPC	Dobruska-Polom	1.50	278	ePG	Pg	01 35 54.4	-1.3
DPC				eSG	Sg	01 36 16.5	+0.9
	70nm,0.9s						
KSP	Ksiaz	1.64	296	ePN	Pn	01 35 57.0	+0.8
KSP				ePG	Pg	01 35 58.0	-0.7
KSP				eSN	Sn	01 36 19.0	+0.7
KSP				eSG	Sg	01 36 21.0	+0.4
KSP	Ksiaz	1.64	296	ePn	Pn	01 35 58.1	+1.9
KSP				eSn	Sn	01 36 21.2	+2.9
KSP				eSg	Sg	01 36 22.2	+1.6
UPC	Upice	1.71	283	ePG	Pg	01 35 57.7	-2.4
KECS	Kecovo	2.07	143	ePN	Pn	01 36 04.5	+2.2
PSZ	Piszkesteto	2.39	159	⇓e	Pn	01 36 12.3	+5.4
PSZ				eS	Sn	01 36 38.9	+1.6
PRU	Pruhonice	2.64	268	ePG	Pg	01 36 15.0	-3.6
PRU				eSG	Sg	01 36 53.0	-0.8
	15nm,0.8s						
KOLS	Kolonicke sedl	2.67	116	ePN	Pn	01 36 09.4	-1.5
KOLS				e		01 36 39.0	
KWP	Kalwaria	2.69	100	ePN	Pn	01 36 11.0	-0.1
KWP				eSN	Sn	01 36 45.0	+0.2
KWP				eSG	Sg	01 36 57.0	+1.7
KWP	Kalwaria	2.69	100	ePn	Pn	01 36 10.7	-0.4
KWP				eP*	Pb	01 36 15.7	+1.1
KWP				ePg	Pg	01 36 21.1	+1.6
KWP				eSn	Sn	01 36 44.7	-0.1
KWP				eSg	Sg	01 36 57.2	+1.9
KHC	Kasperske Hory	3.44	255	ePN	Pn	01 36 21.5	-0.3
KHC				ePG	Pg	01 36 29.5	-5.1
KHC				eSG	Sg	01 37 18.5	-2.0
MOA	Molln	3.69	233	i	Pn	01 36 27.3	+2.0
MOA	Molln	3.69	233	i SG	Sg	01 37 26.4	-2.3
	4.0nm,0.4s						
CLL	Collm	3.76	290	eSG	Sg	01 37 30.0	-0.9

IDC 09 01:38:01.4±0.9, 14.57N×146.98E, mb4.0/7, mb1 4.1/7, mb1mx4.0/19, Error ellipse: s-maj=36.6km s-min=21.0km az=94.0
NEIC 09 01:38:07.7±2.9, 14.51N×146.94E, h45km±23km, mb4.4/2, Error ellipse: s-maj=26.9km s-min=11.7km az=83.0
ISC 09 01:38:08.6±4.2, 14.5N±0.1×146.8E±0.3, h66km±32km, n14, σ0^{s}54/11, mb4.0/9, Mariana Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	Guam	2.08	244	eP	P	01 38 41.9	0.0
WRAB	Tennant Creek	36.34	200	P	P	01 45 07.5	-0.8
	2.6nm,0.8s,mb4.2						
WRA	Warramunga Arr	36.36	200	P	P	01 45 08.2	-0.2
	1.4nm,0.8s,mb3.9,baz=24,slow=9.3,SNR=6.7						
FITZ	Fitzroy Crossi	38.53	213	P	P	01 45 27.5	+1.0
	2.1nm,0.9s,mb4.0,baz=1.1,slow=14,SNR=5.8						
ASAR	Alice Springs	39.97	199	P	P	01 45 38.6	+0.1
	0.2nm,0.5s,mb3.2,baz=12,slow=9.3,SNR=4.3						
SONM	Songino Array	47.09	323	P	P	01 46 36.0	+0.3
	0.9nm,0.6s,mb3.7,baz=126,slow=7.1,SNR=8.6						
MKAR	Makanchi Array	62.14	315	P	P	01 48 25.5	+0.3
	2.4nm,0.4s,mb4.6,baz=92,slow=8.3,SNR=40						
KURK	Kurchatov	65.10	319	eP	P	01 48 43.7	-0.8
	5.6nm,0.8s,mb4.5						
BRVK	Borovoye	70.44	321	P	P	01 49 18.1	+0.4
NVAR	Mina Array Bea	84.89	52	P	P	01 50 38.1	+0.4
	0.3nm,0.5s,mb3.5,baz=270,slow=7.2,SNR=3.1						
FINES	FINESS Array B	91.11	336	P	P	01 51 06.3	-0.7
	2.7nm,1.1s,mb4.3,baz=45,slow=5.4,SNR=5.1						
DBIC	Dimbokro	144.88	305	PKP	PKPdf	01 57 40.8	+1.7
	3.4nm,0.5s,baz=38,slow=5.4,SNR=11						
LPAZ	La Paz	146.31	98	PKPbc	PKPbc	01 57 45.2	+2.5
	0.7nm,0.5s,baz=208,slow=2.0,SNR=4.7						
LPAZ	La Paz	146.31	98	PKPbc	PKPbc	01 57 45.2	+2.4

WEL 09 01:49:55.9±0.7, 35.49S×179.36E, h236km±8km, ML3.5/2, Error ellipse: s-maj=17.2km s-min=15.2km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.24	202	PN	P	01 50 39.4	-0.5
MXZ				eSN	S	01 51 13.2	-0.8
PUZ	Puketiti	2.73	199	ePN	P	01 50 45.1	+0.2
MWZ	Matawai	3.20	207	PN	P	01 50 50.8	+0.6
MWZ				SN	S	01 51 31.6	-0.8
URZ	Urewera	3.30	212	ePN	P	01 50 50.9	-0.5
URZ				SN	S	01 51 34.2	-0.3
MRZ	Mangatainoka R	5.96	209	ePN	P	01 51 22.2	-1.7
MRZ				SN	S	01 52 30.9	-1.7
KIW	Kapiti Island	6.41	212	ePN	P	01 51 28.6	-1.0
MQZ	McQueen's Vall	9.70	210	eSN	S	01 53 54.2	-3.8

MOS 09 01:51:05.1±1.8, 36.03N×71.32E, h33km, mb4.3/10, Error ellipse: s-maj=21.7km s-min=12.3km az=104.0
BJI 09 01:51:13.9, 36.25N×71.23E, h125km
NEIC 09 01:51:14.0±3.0, 36.23N×71.43E, h99km±27km, mb4.0/3, Error ellipse: s-maj=23.8km s-min=11.6km az=207.0
IDC 09 01:51:16.0±6.8, 36.27N×71.51E, h119km±64km, mb3.6/11, mb1 3.8/14, mb1mx3.6/23, Error ellipse: s-maj=33.2km s-min=14.1km az=26.0
NNC 09 01:51:21.6±11.0, 36.74N×71.31E, h189km±115km, mpv4.5, Error ellipse: s-maj=130.0km s-min=65.3km az=65.0
ISC 09 01:51:13.8±0.5, 36.20N±0.03×71.55E±0.06, h121km±6km, n72, σ1^{s}18/86, mb3.8/12, 5C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.39	173	⇓P	P	01 51 53.7	+0.8
CEP				S	S	01 52 24.0	+1.5
THW	Thamme Wali	3.40	177	P	P	01 52 06.0	-0.4
SBDP	Sheikh Budin	3.94	189	P	P	01 52 11.9	-1.7
SARP	Sargodha	4.37	167	P	P	01 52 18.7	-0.7
KSH	Kashi	4.82	45	eP	P	01 52 30.3	+4.8
KSH				S	S	01 53 25.9	+5.3
KSH				Smax			
	comp=N,170nm,0.4s						
KSH				Smax			
	comp=E,170nm,0.7s						
THN	Thein Dam	5.10	136	eP	P	01 52 30.7	+1.4
THN				e		01 53 31.0	
AML	Almayashu	6.15	15	P	P	01 52 43.3	-0.1
	SNR=30						
BHK	Bhakra	6.26	138	eS	S	01 53 57.6	+1.9
UCH	Uchtor	6.44	20	P	P	01 52 48.2	+0.8
	SNR=13						
KZA	Kyzart	6.53	25	P	P	01 52 49.5	+0.8
	SNR=14						
EKS2	Erkin-Say	6.68	14	P	P	01 52 50.7	0.0
	SNR=20						
AAK	Ala-Archa	6.81	19	⇑P	P	01 52 53.1	+0.5
	comp=E,14nm,0.3s						
AAK				⇑S	S	01 54 08.1	-1.0
	comp=E,59nm,1.2s						
AAK	Ala-Archa	6.81	19	P	P	01 52 53.2	+0.6
	SNR=29						
AAK	Ala-Archa	6.81	19	eP	P	01 52 51.6	-1.0
	comp=E,34nm,0.6s						
KBK	Karagaybulak	6.96	21	P	P	01 52 55.4	+0.8
	SNR=8.9						
ULHL	Ulahol	7.05	30	P	P	01 52 57.0	+1.2
	SNR=19						
CHMS	Chumysh	7.22	19	P	P	01 52 58.1	0.0
	SNR=22						
KLP	Kalpa	7.26	128	eP	P	01 52 59.8	+1.1
KLP				eS	S	01 54 18.3	-1.8
TKM2	Tokmak 2	7.40	24	P	P	01 53 01.2	+0.7
	SNR=21						
USP	Ospenovka	7.41	17	P	P	01 53 00.0	-0.6
	SNR=66						
DDI	Dehra Dun	8.00	135	eP	P	01 53 09.0	+0.4
DDI				eS	S	01 54 35.0	-3.0
JOSI	Joshimath	8.75	128	eP	P	01 53 21.5	+2.9
JOSI				eS	S	01 54 55.1	-0.9
KHET	Khetri	8.87	155	eP	P	01 53 19.4	-0.8
KHET				eS	S	01 54 53.3	-5.6
KHET				AML	AML	01 54 57.0	
	comp=E,48nm,0.2s						
KHET				AML	AML	01 54 57.2	
	comp=N,65nm,0.4s						
NDI	New Delhi	8.89	146	eP	P	01 53 19.0	-1.6
NDI				eS	S	01 54 53.0	-6.5
AYAN	Aya Nagar	9.03	147	eS	S	01 54 59.4	-3.3
KUDL	Kundal	9.06	151	eP	P	01 53 22.4	-0.3
KUDL				eS	S	01 54 56.9	-6.6
SONA	Sohna	9.21	148	eP	P	01 53 24.5	-0.2
SONA				AML	AML	01 55 06.0	
	comp=N,23nm,0.3s						
SONA				AML	AML	01 55 06.3	
	comp=E,43nm,0.3s						
PTH	Pithoragarh	9.85	130	eP	P	01 53 34.0	+0.6
PTH				eS	S	01 55 17.0	-5.5
KOLN	Koldanda	13.23	126	eP	P	01 54 17.1	-0.8
	comp=E,9.8nm,0.3s						
MK31	Makanchi Array	13.28	34	Pn	P	01 54 19.1	+0.6
	comp=E,5.0nm,0.8s,baz=217,slow=12,SNR=11						
MKAR	Makanchi Array	13.28	34	P	P	01 54 18.6	+0.1
	comp=E,0.2nm,0.3s,baz=219,slow=13,SNR=13						
GKN	Gorkha	13.77	123	eP	P	01 54 24.6	-0.2
	comp=E,16nm,0.2s						
DMN	Daman	14.34	123	eP	P	01 54 32.1	-0.1
	comp=E,11nm,0.2s						
KKN	Kakani	14.35	122	eP	P	01 54 31.8	-0.4
	comp=E,18nm,0.4s						
PKI	Pulchoki	14.57	122	eP	P	01 54 35.4	+0.3
	comp=E,11nm,0.2s						
GUN	Gumba	14.69	120	eP	P	01 54 36.0	-0.6
	comp=E,28nm,0.6s						
KURK	Kurchatov	15.38	17	⇑Pn	P	01 54 47.9	+2.8
	comp=E,3.2nm,0.8s,baz=198,slow=8.7,SNR=8.1						
KURK	Kurchatov	15.38	17	eP	P	01 54 46.9	+1.8
	comp=E,6.4nm,0.8s						
BVA0	Borovoye Array	16.84	358	Pn	P	01 55 01.5	-1.8
	comp=E,0.5nm,0.6s,baz=169,slow=13,SNR=17						
BVA0				⇑Sn	S	01 58 00.7	-4.5
	comp=E,0.5nm,0.6s,baz=171,slow=24,SNR=6.0						
BVAR	Borovoye Array	16.84	358	P	P	01 55 01.8	-1.5
	comp=E,0.7nm,0.3s,baz=162,slow=14,SNR=17						
BVAR				S	S	01 58 01.6	-3.6
	comp=E,0.5nm,0.3s,baz=163,slow=24,SNR=5.7						
BRVK	Borovoye	16.88	357	⇑Pn	P	01 55 02.3	-1.5
	comp=E,2.9nm,1.0s						
BRVK				⇓Sn	S	01 58 03.1	-2.9
	comp=E,2.3nm,1.1s						
BRVK	Borovoye	16.88	357	eP	P	01 55 01.7	-2.1
	comp=E,5.3nm,0.8s						
ZAL	Zalesovo	19.99	23	P	P	01 55 39.0	+0.4
	comp=E,2.0nm,0.3s,baz=175,slow=5.2,SNR=16						
ZAL	Zalesovo	19.99	23	P	P	01 55 39.0	+0.4
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.3s						
NVS	Novosibirsk	20.31	20	i P	P	01 55 41.0	-0.8
SVE	Sverdlovsk	21.90	344	eP	P	01 55 56.0	-1.7
ARU	Arti	22.06	341	eP	P	01 56 01.4	+2.2
ARU				e		01 56 20.6	
ARU				eS	S	01 59 58.5	+8.9
SONM	Songino Array	28.14	55	P	P	01 56 58.5	+2.0
	comp=Z,0.3nm,0.6s,mb3.0,baz=225,slow=4.1,SNR=2.4						
CMAR	Chiang Mai Arr	29.93	119	P	P	01 57 13.3	+0.7
	comp=Z,0.7nm,0.4s,mb3.7,baz=296,slow=6.9,SNR=5.1						
CMAR	Chiang Mai Arr	29.93	119	P	P	01 57 13.3	+0.7
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BRTR	Keskin Array B	29.95	288	P	P	01 57 12.4	-0.1
	comp=Z,1.4nm,0.7s,mb3.7,baz=102,slow=9.0,SNR=8.6						
BRTR	Keskin Array B	29.95	288	P	P	01 57 12.5	-0.1
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MLR	Muntele Rosu	35.31	300	P	P	01 58 00.7	+1.9
	comp=Z,4.9nm,0.9s,mb4.3,baz=130,slow=3.6,SNR=9.8						
MLR	Muntele Rosu	35.31	300	P	P	01 58 00.7	+1.9
MLR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
FINES	FINESS Array B	37.98	326	P	P	01 58 20.7	-0.4
	comp=Z,1.7nm,0.7s,mb4.0,baz=119,slow=8.3,SNR=12						
FINES	FINESS Array B	37.98	326	P	P	01 58 20.7	-0.3
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	FINESS Array B	37.98	326	P	P	01 58 20.7	-0.4
KAF	Kangasniemi	38.12	327	ep	P	01 58 12.3	-10

KEV	**Kevo**	**41.24**	**338**	*e*p	**P**	**01 58 44.0**	**-3.9**
	comp=Z,7.9nm,0.8s,mb4.6						
KEV	**Kevo**	**41.24**	**338**	*e*P	**P**	**01 58 44.0**	**-3.9**
KEV				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.6						
VRAC	**Vranov**	**41.53**	**306**	P	**P**	**01 58 50.8**	**+0.4**
	comp=Z,0.5nm,0.3s,mb3.6,baz=80,slow=12,SNR=3.5						
ARCES	**ARCESS Array B**	**41.59**	**338**	P	**P**	**01 58 50.9**	**+0.3**
	comp=Z,3.8nm,0.8s,mb4.2,baz=118,slow=8.6,SNR=9.2						
ARCES	**ARCESS Array B**	**41.59**	**338**	P	**P**	**01 58 50.9**	**+0.3**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ARCES	**ARCESS Array B**	**41.59**	**338**	P	**P**	**01 58 50.9**	**+0.3**
HFS	**Hagfors**	**43.57**	**322**	P	**P**	**01 59 07.1**	**+0.2**
	comp=Z,3.7nm,0.5s,mb4.3,baz=98,slow=10,SNR=15						
HFS	**Hagfors**	**43.57**	**322**	P	**P**	**01 59 07.1**	**+0.2**
HFS				pmax	pmax		
	comp=Z,4.0nm,0.5s						
NB2	**NORSAR Subarra**	**44.88**	**323**	P	**P**	**01 59 16.0**	**-1.4**
	comp=Z,2.2nm,0.6s,mb4.1,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**44.88**	**323**	P	**P**	**01 59 16.8**	**-0.6**
	comp=Z,2.0nm,0.6s,mb4.0,baz=96,slow=7.8,SNR=11						
NOA	**NORSAR Array B**	**44.88**	**323**	P	**P**	**01 59 16.8**	**-0.6**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
WRA	**Warramunga Arr**	**81.46**	**122**	P	**P**	**02 03 20.0**	**+0.8**
	comp=Z,0.5nm,0.8s,mb3.4,baz=328,slow=4.8,SNR=5.2						
WRA	**Warramunga Arr**	**81.46**	**122**	P	**P**	**02 03 20.0**	**+0.9**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**83.72**	**125**	P	**P**	**02 03 32.2**	**+1.6**
	comp=Z,0.2nm,0.5s,mb3.2,baz=314,slow=4.6,SNR=4.7						

*NEIC **09** 01:53:53.5, 32.69S×71.72W, h31km, ML3.7(GUC), After GUC.*

GUC 09 01:53:53.5±0.7**, 32.69S×71.72W, h31**km±2km**, MD3.5, ML3.7, 6C-9D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.34**	**169**	⇓*i*P	Pb	01 54 01.4	-0.2
IHA				*i* S	Sb	01 54 07.0	-0.2
LCCH	**Las Cruces**	**0.79**	**171**	⇑*i*P	Pn	01 54 08.3	-0.4
LCCH				*i* S	Sb	01 54 19.1	-0.2
JACH	**Jahuel**	**0.95**	**90**	⇑*i*P	Pn	01 54 10.5	-0.4
JACH				*i* S	Sn	01 54 23.9	+0.4
PEL	**Peldehue**	**0.98**	**118**	⇑*i*P	Pn	01 54 11.5	+0.2
PEL				*i* S	Sn	01 54 24.7	+0.5
PEL				AMP		01 54 26.8	
	comp=N,7μm,0.3s						
RCDM	**Rinconada Maip**	**1.11**	**136**	⇓*i*P	Pn	01 54 13.1	-0.1
RCDM				*i* S	Sn	01 54 27.6	+0.2
RCDM				AMP		01 54 30.6	
	comp=E,2μm,0.1s						
TACH	**Talagante**	**1.16**	**146**	⇑*i*P	Pn	01 54 14.1	+0.1
TACH				*i* S	Sn	01 54 29.3	+0.5
DSCH	**Colegio Aleman**	**1.20**	**127**	⇑*i*P	Pn	01 54 14.8	+0.3
DSCH				*i* S	Sn	01 54 30.4	+0.7
DSCH				AMP		01 54 35.8	
	comp=N,3μm,0.5s						
CLCH	**Cerro Calan**	**1.22**	**126**	⇓*i*P	Pn	01 54 15.0	+0.3
CLCH				*i* S	Sn	01 54 31.4	+1.1
CLCH				AMP		01 54 32.6	
	comp=N,2μm,0.5s						
CLCH				AMP		01 54 33.3	
	comp=N,2μm,0.5s						
ANTU	**Antumapu**	**1.27**	**134**	⇓*i*P	Pn	01 54 16.0	+0.6
ANTU				AMP		01 54 34.6	
	comp=E,2μm,0.6s						
FSR	**Penalolen**	**1.27**	**129**	*i* P	Pn	01 54 16.0	+0.5
FSR				AMP		01 54 40.0	
	comp=N,1μm,0.7s						
LNV	**Longovilo**	**1.29**	**169**	*e*P	Pn	01 54 15.5	-0.3
LNV				*i* S	Sn	01 54 33.0	+1.0
FCH	**Farellones**	**1.36**	**118**	⇓*i*P	Pn	01 54 17.2	+0.5
FCH				*i* S	Sn	01 54 36.1	+2.2
FCH				AMP		01 54 37.5	
	comp=E,2μm,0.2s						
PCH	**Pirque**	**1.37**	**133**	⇓*i*P	Pn	01 54 17.6	+0.7
PCH				⇓*i*S	Sn	01 54 35.6	+1.4
CHCH	**Chadas Angostu**	**1.53**	**145**	⇓*i*P	Pn	01 54 20.1	+0.9
CHCH				*i* S	Sn	01 54 40.0	+1.9
CMCH	**Combarbala**	**1.63**	**22**	*e*P	Pn	01 54 21.5	+0.9
CMCH				*i* S	Sn	01 54 42.5	+1.8
CMCH				AMP		01 54 46.8	
	comp=E,5μm,0.8s						
CACH	**El Canelo**	**1.71**	**147**	⇑*i*P	Pn	01 54 23.3	+1.7
CACH				*i* S	Sn	01 54 46.1	+3.5
LMEL	**Las Melosas**	**1.72**	**133**	*i* P	Pn	01 54 23.0	+1.2
LMEL				*i* S	Sn	01 54 45.4	+2.5
LMEL				AMP		01 54 49.1	
	comp=N,2μm,0.2s						
CICH	**Cipreses**	**1.96**	**147**	⇓*i*P	Pn	01 54 26.4	+1.1
SFDO	**San Fernando**	**2.01**	**163**	*i* P	Pn	01 54 26.6	+0.5
SFDO				*i* S	Sn	01 54 51.8	+1.4
TLL	**Tololo Astrono**	**2.63**	**18**	AMP		01 55 27.9	
	comp=N,611nm,0.5s						

*IDC **09** 01:59:27.5±0.8, 54.40S×136.69W, mb4.4/8, mb1 4.5/8, mb1mx4.4/12, MS4.4/13, Ms1 4.4/13, ms1mx4.3/16, Error ellipse: s-maj=44.1km s-min=17.2km az=176.0*

*NEIC **09** 01:59:28.9±0.5, 54.13S×136.70W, h10km, mb4.5/2, MS4.5/1, Error ellipse: s-maj=16.6km s-min=11.5km az=191.0*

ISC 09 01:59:27.1±0.6**, 54.2S**±0.1×**136.7W**±0.2**, h10**km**, n31, σ0.89**/20**, mb4.4**/10**, MS4.4**/14**, 4C, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**35.01**	**278**	LR	LR	02 17 12.2	
	comp=Z,724nm,19.9s,MS4.4,baz=45,slow=30						
RPZ	**Rata Peaks**	**35.12**	**265**	LR	LR	02 16 55.2	
	comp=Z,871nm,19.8s,MS4.5,baz=292,slow=30						
QSPA	**South Pole Qui**	**35.98**	**180**	*e*P	**P**	**02 06 30.6**	**+1.2**
	11nm,1.2s,mb4.7						
QSPA				LR	LR		
	comp=Z,810nm,22.0s,MS4.5						
RAR	**Rarotonga**	**37.31**	**323**	LR	LR	02 17 43.9	
	comp=Z,598nm,19.1s,MS4.4,baz=96,slow=29						
PPT	**Papeete**	**37.89**	**340**	*e*S	**S**	**02 12 38.0**	**+0.9**
PPT				*e*R		02 16 35.0	
	comp=Z,2μm,26.2s,baz=176						
USHA	**Ushuaia**	**38.19**	**120**	LR	LR	02 16 24.4	
	comp=Z,271nm,21.8s,MS4.0,baz=45,slow=27						
VNA3	**Neumayer Olymp**	**49.37**	**160**	*e*	**P**	**02 08 25.5**	**+7.5**
VNA3	**Neumayer Olymp**	**49.37**	**160**	⇑*i*P	**P**	**02 08 19.2**	**+1.2**
VNA3				*e*		02 08 25.5	
VNA3				*e*		02 09 37.5	
VNA2	**Neumayer--Watz**	**50.07**	**161**	*e*	**P**	**02 08 30.8**	**+7.4**
VNA2	**Neumayer--Watz**	**50.07**	**161**	⇑*i*P	**P**	**02 08 24.0**	**+0.6**
VNA2				*e*		02 08 30.8	
VNA2				*e*		02 09 42.4	
VNA1	**Neumayer--Stat**	**50.12**	**160**	*e*	**P**	**02 08 31.4**	**+7.6**
VNA1	**Neumayer--Stat**	**50.12**	**160**	⇑*i*P	**P**	**02 08 24.9**	**+1.1**
VNA1				*e*		02 08 31.4	
VNA1				*e*		02 09 43.3	
SNAA	**Sanae**	**50.30**	**163**	*e*	**P**	**02 08 30.4**	**+5.3**
SNAA	**Sanae**	**50.30**	**163**	⇑*i*P	**P**	**02 08 23.9**	**-1.2**
SNAA				*e*		02 08 30.4	
SNAA				*e*		02 09 42.3	
MAW	**Mawson**	**57.65**	**189**	P	**P**	**02 09 17.8**	**-1.4**
	comp=Z,3.3nm,0.8s,mb4.4,baz=183,slow=6.3,SNR=9.7						
MAW				LR	LR	02 33 23.4	
	comp=Z,217nm,18.0s,MS4.3,baz=356,slow=35						
STKA	**Stephens Creek**	**60.19**	**256**	P	**P**	**02 09 37.8**	**+0.4**
	comp=Z,5.7nm,0.9s,mb4.6,baz=151,slow=5.2,SNR=4.5						
STKA				LR	LR	02 29 53.3	
	comp=Z,273nm,18.3s,MS4.4,baz=300,slow=30						
CPUP	**Villa Florida**	**62.97**	**98**	P	**P**	**02 09 55.2**	**-0.8**
	comp=Z,3.7nm,1.0s,mb4.5,baz=260,slow=5.5,SNR=7.7						
CPUP				LR	LR	02 32 52.4	
	comp=Z,434nm,19.2s,MS4.6,baz=239,slow=32						
LPAZ	**La Paz**	**64.41**	**82**	P	**P**	**02 10 07.0**	**+1.4**
	comp=Z,6.2nm,1.1s,mb4.6,baz=210,slow=3.4,SNR=12						
LPAZ				LR	LR	02 31 51.0	
	comp=Z,91nm,18.2s,MS4.0,baz=300,slow=30						
CTAO	**Charters Tower**	**66.43**	**268**	*e*P	**P**	**02 10 18.3**	**-0.3**
ASAR	**Alice Springs**	**70.83**	**256**	P	**P**	**02 10 45.4**	**-0.5**
	comp=Z,3.2nm,1.0s,mb4.2,baz=138,slow=6.4,SNR=16						
SAML	**Samuel**	**73.14**	**82**	*e*P	**P**	**02 10 58.8**	**-0.9**
	comp=Z,2.9nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**73.50**	**259**	P	**P**	**02 11 01.1**	**-0.6**
	comp=Z,2.9nm,1.0s,mb4.2,baz=143,slow=5.3,SNR=19						
WRA				LR	LR	02 40 11.4	
	comp=Z,336nm,18.5s,MS4.7,baz=155,slow=33						
BDFB	**Brasilia**	**76.70**	**98**	P	**P**	**02 11 19.6**	**-0.5**
	comp=Z,4.9nm,0.8s,mb4.5,baz=208,slow=6.5,SNR=7.3						
BDFB				LR	LR	02 40 45.1	
	comp=Z,400nm,19.4s,MS4.7,baz=216,slow=32						
ROSC	**El Rosal**	**78.24**	**64**	LR	LR	02 38 39.8	
	comp=Z,149nm,19.2s,MS4.3,baz=222,slow=30						
FITZ	**Fitzroy Crossi**	**79.92**	**253**	P	**P**	**02 11 38.1**	**+0.4**
	comp=Z,1.8nm,0.7s,mb4.1,baz=201,slow=5.4,SNR=7.8						
NVAR	**Mina Array Bea**	**93.60**	**14**	LR	LR	02 47 21.6	
	comp=Z,173nm,21.9s,MS4.5,baz=90,slow=31						
PDAR	**Pinedale Array**	**99.34**	**20**	LR	LR	02 49 23.2	
	comp=Z,192nm,21.9s,MS4.6,baz=12,slow=30						
ESDC	**Sonseca Array**	**145.30**	**95**	PKPbc	PKPbc	02 19 07.1	+2.2
	comp=Z,2.1nm,0.8s,baz=242,slow=2.9,SNR=6.6						
MKAR	**Makanchi Array**	**154.40**	**269**	PKPab	PKPab	02 19 42.0	-1.2
	comp=Z,3.9nm,1.0s,baz=124,slow=5.2,SNR=7.3						
ZAL	**Zalesovo**	**155.91**	**286**	PKPab	PKPab	02 19 49.5	+0.1
	comp=Z,1.0nm,0.7s,baz=240,slow=2.6,SNR=4.9						
BRTR	**Keskin Array B**	**164.11**	**152**	PKPab	PKPab	02 20 23.6	-1.7
	comp=Z,1.2nm,0.8s,baz=183,slow=7.6,SNR=7.4						

DJA 09 02:01:34.1±0.8**, 8.85S×115.26E, h99**km±7km**, MD4.9**/4**, ML4.2**/3**, 2C-6D, Error ellipse: s-maj=33.1km s-min=7.8km az=6.0, Bali region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	**Rata**	**0.29**	**65**	⇑*e*Pn	P	02 01 48.2	-0.4
	2μm,0.2s						
RATI				⇑*e*Sn	S	02 01 58.8	-0.8
KEDI	**Kedomdong**	**0.91**	**67**	⇓*e*Pn	P	02 01 53.0	-0.8
	628nm,0.2s						
KEDI				⇓*e*Sn	S	02 02 07.3	-1.2
KELI	**Kelakatan**	**0.99**	**309**	⇓*e*Pn	P	02 01 54.2	-0.4
	291nm,0.2s						
KELI				⇓*e*Sg	S	02 02 08.5	-1.5
SRDI	**Scrawed**	**1.17**	**288**	⇓*e*Pn	P	02 01 56.2	-0.6
	295nm,0.2s						
SRDI				⇓*e*Sn	S	02 02 12.3	-1.4

*ATH **09** 02:26:24.4, 35.20N×24.01E, h10km±4km, MD3.7/15*

*NEIC **09** 02:26:24.4, 35.20N×24.01E, h10km, MD3.7(ATH), After ATH.*

*CSEM **09** 02:26:26.1±0.3, 35.25N×24.17E, h15km, MD3.7, Error ellipse: s-maj=8.6km s-min=2.8km az=28.0*

ISC 09 02:26:24.1±1.3**, 35.17N**±0.06×**24.12E**±0.07**, h12**km±8km**, n22, σ1.15**/24**, 1C-1D, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAM	**Vamos**	**0.24**	**16**	⇓*e*PG	**Pg**	**02 26 29.5**	**+0.1**
VAM				*e*SG	**Sg**	**02 26 33.7**	**+0.8**
GVD	**Gavdhos**	**0.33**	**184**	⇑*e*PB	**Pb**	**02 26 31.5**	**+0.1**
NPS	**Neapolis**	**1.23**	**85**	*e*PN	**Pn**	**02 26 48.2**	**+1.2**
XRY	**Khrisi**	**1.33**	**102**	*e*PB	**Pb**	**02 26 52.0**	**+3.6**
KYTH	**Kithira**	**1.41**	**322**	*e*PB	**Pb**	**02 26 50.0**	**+0.1**
THR5	**Thira Island,**	**1.59**	**38**	*e*P	**Pn**	**02 26 53.2**	**+0.9**
THR3	**Thira Island,**	**1.62**	**40**	*e*P	**Pn**	**02 26 53.5**	**+0.9**
SANT	**Santorini**	**1.62**	**42**	*e*P	**Pn**	**02 26 52.9**	**+0.2**
THR1	**Thera Island**	**1.62**	**42**	*e*P	**Pn**	**02 26 53.2**	**+0.6**
THR1	**Thera Island**	**1.62**	**42**	*e*P	**Pn**	**02 26 53.2**	**+0.5**
THR4	**Thira Island,**	**1.65**	**39**	*e*P	**Pn**	**02 26 53.9**	**+0.8**
VLI	**Veliai**	**1.82**	**328**	*e*PN	**Pn**	**02 26 55.5**	**0.0**
APE	**Apeiranthos**	**2.21**	**31**	*e*PN	**Pn**	**02 27 01.2**	**+0.1**
KARP	**Karpathos**	**2.52**	**81**	*e*PG	**Pg**	**02 27 11.0**	**-3.3**
KARP	**Karpathos**	**2.52**	**81**	*e*Pb	**Pb**	**02 27 08.1**	**-0.6**
KARP				*e*Pg	**Pg**	**02 27 11.0**	**-3.3**
KAP	**Karpathos**	**2.53**	**81**	*e*PB	**Pb**	**02 27 08.1**	**-0.8**
ITM	**Ithomi**	**2.68**	**319**	*e*PN	**Pn**	**02 27 10.3**	**+2.5**
PTL	**Penteli**	**2.88**	**356**	*e*PB	**Pb**	**02 27 13.0**	**-2.0**
ARG	**Arkhangelos**	**3.42**	**71**	*e*PB	**Pb**	**02 27 22.3**	**-2.0**
LKR	**Lokris**	**3.59**	**346**	*e*PN	**Pn**	**02 27 20.4**	**-0.3**
EVR	**Evrytania**	**4.17**	**334**	*e*PB	**Pb**	**02 27 34.5**	**-2.5**
NEO	**Neokhori**	**4.19**	**350**	*e*PN	**Pn**	**02 27 29.2**	**-0.1**

*MOS **09** 02:32:52.7±1.0, 22.16N×142.83E, h207km, mb5.0/6, Error ellipse: s-maj=23.4km s-min=10.6km az=116.0*

*IDC **09** 02:32:58.2±1.3, 22.02N×142.76E, h245km±11km, mb4.1/18, mb1 4.2/21, mb1mx4.2/26, Error ellipse: s-maj=15.4km s-min=8.6km az=91.0*

*BJI **09** 02:32:58.9, 21.98N×142.76E, h271km, mB4.8, mb4.8*

*NEIC **09** 02:33:00.2±1.7, 22.07N×142.76E, h265km±16km, mb4.6/12, Error ellipse: s-maj=11.2km s-min=7.6km az=91.0*

ISC 09 02:32:57.2±0.9**, 22.03N**±0.05×**142.85E**±0.07**, h251**km±7km**, n104, σ0.94**/106**, mb4.5**/44**, 4C-7D, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**4.62**	**353**	P	**P**	**02 34 09.6**	**+0.6**
JHHJ				S	**S**	**02 35 03.3**	**-1.6**
CBIJ	**Chichi jima**	**5.08**	**353**	P	**P**	**02 34 15.0**	**+0.5**
	158nm,0.3s,baz=281,slow=17,SNR=23						
CBIJ				S	**S**	**02 35 12.9**	**-1.9**
	159nm,0.3s,baz=281,slow=22,SNR=12						
CBIJ	**Chichi jima**	**5.08**	**353**	P	**P**	**02 34 15.4**	**+0.9**
CBIJ				*e*S	**S**	**02 35 14.1**	**-0.8**
JHJ	**Hachijo jima 2**	**11.37**	**347**	P	**P**	**02 35 33.2**	**-0.7**
	20nm,0.3s,baz=77,slow=19,SNR=5.0						
BSO1	**Boso 1**	**12.68**	**353**	P	**P**	**02 35 51.3**	**+1.1**
TK02	**Tokai 2**	**12.69**	**340**	P	**P**	**02 35 51.2**	**+0.9**
BSO3	**Boso 3**	**12.89**	**351**	P	**P**	**02 35 51.9**	**-0.8**
JIM2	**Oshima 3**	**12.99**	**347**	P	**P**	**02 35 52.2**	**-1.8**
BSO4	**Boso 4**	**13.10**	**351**	P	**P**	**02 35 55.1**	**-0.2**
BSO4				*e*S	**S**	**02 38 16.9**	**+0.8**
JIE	**Ise**	**13.45**	**338**	P	**P**	**02 36 00.0**	**+0.4**
JHMK	**Hamakita**	**13.50**	**342**	P	**P**	**02 36 01.2**	**+1.0**
HMMJ	**Hamamatsu 2**	**13.54**	**342**	P	**P**	**02 36 01.5**	**+0.6**
JOW	**Kunigami**	**14.11**	**293**	P	**P**	**02 36 09.8**	**+1.9**
	7.0nm,0.3s,baz=125,slow=14,SNR=9.5						
JHU	**Hanno**	**14.12**	**348**	P	**P**	**02 36 07.8**	**-0.1**
JRY	**Ryogami san**	**14.35**	**347**	P	**P**	**02 36 10.8**	**-0.1**
MAJO	**Matsushiro**	**15.01**	**345**	*e*P	**P**	**02 36 16.5**	**-2.4**
	18nm,0.4s						
MAT	**Matsushiro**	**15.01**	**345**	P	**P**	**02 36 18.5**	**-0.4**
MAT				S	**S**	**02 38 58.0**	**-0.7**
MAT	**Matsushiro**	**15.01**	**345**	*e*P	**P**	**02 36 19.0**	**+0.1**
	15nm,0.9s						
MAT				*e*S	**S**	**02 38 58.0**	**-0.7**
JHS	**Saijyo**	**15.48**	**329**	P	**P**	**02 36 26.4**	**+2.0**
JMK	**Ichinoseki**	**16.92**	**356**	P	**P**	**02 36 41.5**	**+0.9**
KS15	**Wonju Array Si**	**20.07**	**323**	*e*P	**P**	**02 37 12.3**	**-0.5**
SSE	**Sheshan**	**21.35**	**300**	*e*P	**P**	**02 37 26.5**	**+1.2**
SSE				AMB	AMB		
	comp=Z,34nm,0.9s,mb4.9						
SSE				AMB	AMB		
	comp=Z,182nm,4.3s						
ASAJ	**Asahikawa**	**22.02**	**360**	P	**P**	**02 37 35.5**	**+3.7**
	comp=Z,25nm,0.6s,mb4.9,baz=149,slow=12,SNR=16						
NJ2	**Nanjing**	**23.54**	**300**	*e*P	**P**	**02 37 46.1**	**-0.3**
NJ2				AMB	AMB		
	comp=Z,30nm,0.5s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,130nm,5.2s						
NJ2				LR	LR		
	comp=N,310nm,14.8s						
NJ2				LR	LR		
	comp=E,230nm,17.8s						
NJ2				LR	LR		
	comp=Z,2μm,14.7s						
YSS	**Yuzh-Sakhalins**	**24.86**	**360**	P	**P**	**02 37 54.8**	**-3.7**
SNY	**Shenyang**	**25.52**	**325**	⇓P	**P**	**02 38 04.1**	**-0.5**
SNY				LR	LR		
	comp=N,330nm,3.9s						
SNY				LR	LR		
	comp=E,250nm,3.9s						
SNY				LR	LR		
	comp=Z,180nm,14.1s						
WHN	**Wuhan**	**26.86**	**294**	⇑P	**P**	**02 38 17.3**	**+0.4**
KLR	**Kul'dur**	**28.54**	**345**	*e*P	**P**	**02 38 28.5**	**-3.2**
KLR				MLR	MLR		
	comp=Z,400nm,13.0s						
HHC	**Hu-ho-hao-te**	**32.38**	**313**	*e*P	**P**	**02 39 05.3**	**-0.1**
HHC				AMB	AMB		
	comp=Z,18nm,1.0s,mb4.6						
HHC				AMB	AMB		
	comp=Z,67nm,8.7s						
SONM	**Songino Array**	**38.88**	**320**	P	**P**	**02 40 00.7**	**+0.8**
	comp=Z,16nm,0.7s,mb4.7,baz=128,slow=7.2,SNR=39						
GTA	**Gaotai**	**40.43**	**305**	P	**P**	**02 40 13.1**	**+0.4**
GTA				PCP	PcP	02 42 11.5	+0.5
GTA				SCP		02 45 35.8	
GTA				AMB	AMB		
	comp=Z,6.0nm,0.5s,mb4.3						
CMAR	**Chiang Mai Arr**	**41.25**	**273**	P	**P**	**02 40 20.2**	**+0.6**
	comp=Z,3.6nm,0.5s,mb4.0,baz=81,slow=6.7,SNR=17						
CTA	**Charters Tower**	**41.99**	**175**	P	**P**	**02 40 25.8**	**+0.1**
	comp=Z,2.3nm,0.6s,mb3.8,baz=360,slow=11,SNR=3.6						
WRAB	**Tennant Creek**	**42.53**	**192**	P	**P**	**02 40 29.2**	**-0.8**
	comp=Z,127nm,0.7s,mb5.5,SNR=19						
WRAB	**Tennant Creek**	**42.53**	**192**	*e*P	**P**	**02 40 29.4**	**-0.6**
	comp=Z,16nm,0.6s,mb4.6						
WRA	**Warramunga Arr**	**42.54**	**192**	P	**P**	**02 40 30.1**	**-0.1**
	comp=Z,12nm,0.8s,mb4.4,baz=12,slow=8.7,SNR=88						
WRA				ScP		02 45 46.3	
	comp=Z,2.7nm,1.2s,baz=3.5,slow=4.1,SNR=5.7						
WRA				S	**S**	**02 46 31.6**	**-1.5**
	comp=Z,1.0nm,0.9s,baz=354,slow=17,SNR=5.8						
WRA	**Warramunga Arr**	**42.54**	**192**	P	**P**	**02 40 30.1**	**0.0**
WRA				S	**S**	**02 46 31.6**	**-1.5**
MOY	**Mondy**	**43.76**	**323**	*e*P	**P**	**02 40 40.1**	**+0.6**
ASAR	**Alice Springs**	**46.25**	**191**	P	**P**	**02 40 59.2**	**-0.2**
	comp=Z,3.6nm,0.6s,mb3.9,baz=16,slow=12,SNR=57						
ASAR				ScP		02 46 00.7	
	comp=Z,0.8nm,0.8s,baz=13,slow=4.6,SNR=5.0						
ASAR				S	**S**	**02 47 24.0**	**-2.1**
	comp=Z,1.4nm,0.8s,baz=21,slow=21,SNR=5.4						
UNV	**Unalaska Valle**	**49.53**	**37**	*e*P	**P**	**02 41 24.6**	**+0.4**
WMQ	**Urumqi**	**50.13**	**309**	*e*P	**P**	**02 41 30.0**	**+1.1**
WMQ				AMB	AMB		
	comp=Z,24nm,1.0s,mb4.5						
GUN	**Gumba**	**51.59**	**289**	*e*P	**P**	**02 41 39.6**	**-0.4**
	comp=Z,28nm,0.5s,mb5.0						
PKI	**Pulchoki**	**52.05**	**288**	*e*P	**P**	**02 41 43.0**	**-0.4**
	comp=Z,17nm,0.6s,mb4.7						
KKN	**Kakani**	**52.13**	**289**	*e*P	**P**	**02 41 43.4**	**-0.6**
	comp=Z,10nm,0.3s,mb4.7						
DMN	**Daman**	**52.31**	**288**	*e*P	**P**	**02 41 44.9**	**-0.4**
	comp=Z,17nm,0.4s,mb4.8						
GKN	**Gorkha**	**52.67**	**289**	*e*P	**P**	**02 41 47.2**	**-0.7**
	comp=Z,21nm,0.4s,mb4.9						
KOLN	**Koldanda**	**53.61**	**289**	*e*P	**P**	**02 41 54.6**	**-0.2**
	comp=Z,35nm,0.7s,mb5.0						
STKA	**Stephens Creek**	**53.62**	**181**	P	**P**	**02 41 54.6**	**-0.1**
	comp=Z,2.3nm,0.4s,mb4.0,baz=341,slow=8.6,SNR=7.3						
ZAL	**Zalesovo**	**53.77**	**322**	P	**P**	**02 41 54.6**	**-0.9**
	comp=Z,8.8nm,0.5s,mb4.5,baz=290,slow=6.6,SNR=40						
ZAL				PcP	PcP	02 42 57.3	-1.0
	comp=Z,2.5nm,0.4s,baz=277,slow=1.5,SNR=3.1						
MKAR	**Makanchi Array**	**54.24**	**312**	P	**P**	**02 41 59.0**	**0.0**
	comp=Z,8.6nm,0.5s,mb4.5,baz=92,slow=9.3,SNR=90						
MKAR				PcP	PcP	02 42 59.4	-0.8
	comp=Z,9.5nm,1.0s,baz=79,slow=6.2,SNR=5.1						
MKAR				ScP		02 46 33.0	
	comp=Z,1.5nm,1.0s,baz=90,slow=7.2,SNR=4.0						
MKAR	**Makanchi Array**	**54.24**	**312**	*i* P	**P**	**02 41 59.0**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.4s						
MKAR	**Makanchi Array**	**54.24**	**312**	P	**P**	**02 41 59.0**	**0.0**
MKAR				PcP	PcP	02 42 59.4	-0.8
MKAR				ScP		02 46 33.0	
NVS	**Novosibirsk**	**54.85**	**322**	*i* P	**P**	**02 42 02.1**	**-1.2**
NVS				pmax	pmax		
	comp=Z,69nm,2.1s,mb4.8						
NVS				pmax	pmax		
	comp=E,4.0nm,1.2s						
NVS				pmax	pmax		
	comp=N,8.0nm,1.4s						
KURK	**Kurchatov**	**57.02**	**317c**	*i*P	**P**	**02 42 18.1**	**-0.7**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.5						
KURK	**Kurchatov**	**57.02**	**317**	*e*P	**P**	**02 42 17.9**	**-0.8**
	comp=Z,18nm,0.8s,mb4.8						
TKM2	**Tokmak 2**	**58.90**	**308**	P	**P**	**02 42 32.7**	**+0.8**
	SNR=13						
KZA	**Kyzart**	**59.19**	**307**	P	**P**	**02 42 35.6**	**+1.7**
	SNR=25						
KBK	**Karagaybulak**	**59.38**	**307**	P	**P**	**02 42 35.9**	**+0.6**
	SNR=8.4						
USP	**Ospenovka**	**59.68**	**308**	P	**P**	**02 42 37.4**	**+0.1**
	SNR=10						
AAK	**Ala-Archa**	**59.72**	**307**	P	**P**	**02 42 37.8**	**+0.3**
	SNR=8.4						
AAK	**Ala-Archa**	**59.72**	**307c**	*i*P	**P**	**02 42 36.6**	**-1.0**
AAK				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.4						
AAK	**Ala-Archa**	**59.72**	**307**	*e*P	**P**	**02 42 36.5**	**-1.1**
	comp=Z,4.1nm,0.6s,mb4.2						
UCH	**Uchtor**	**59.73**	**307**	P	**P**	**02 42 39.1**	**+1.5**
	SNR=22						
EKS2	**Erkin-Say**	**60.24**	**307**	P	**P**	**02 42 41.6**	**+0.5**
	SNR=6.6						
HYB	**Hyderabad**	**60.32**	**278**	*i* P	**P**	**02 42 41.0**	**-0.9**
AML	**Almayashu**	**60.34**	**307**	P	**P**	**02 42 43.0**	**+1.2**
	SNR=17						
PMR	**Palmer**	**60.42**	**31**	P	**P**	**02 42 41.4**	**-0.7**
	comp=Z,2.1nm,0.8s,mb3.8						
SML	**Sawmill**	**60.83**	**30**	*e*P	**P**	**02 42 44.4**	**-0.4**
MCK	**McKinley**	**60.84**	**28**	*e*P	**P**	**02 42 44.6**	**-0.2**
	comp=Z,2.6nm,0.7s,mb4.0						
ILAR	**Eielson Array**	**61.88**	**27**	P	**P**	**02 42 51.4**	**-0.3**
	comp=Z,3.1nm,0.8s,mb4.0,baz=268,slow=6.2,SNR=31						
BVA0	**Borovoye Array**	**62.22**	**319**	*i* P	**P**	**02 42 53.8**	**-0.3**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.5						
BRVK	**Borovoye**	**62.28**	**319**	*e*P	**P**	**02 42 53.9**	**-0.6**
	comp=Z,14nm,0.5s,mb4.8						
INK	**Inuvik**	**67.39**	**24**	P	**P**	**02 43 27.3**	**+0.4**
	comp=Z,1.5nm,0.5s,mb3.9,baz=300,slow=3.9,SNR=8.3						
SVE	**Sverdlovsk**	**67.62**	**324**	⇓*e*P	**P**	**02 43 27.0**	**-1.6**
ARU	**Arti**	**68.81**	**324**	*e*P	**P**	**02 43 35.8**	**-0.1**
ARU				pmax	pmax		
	comp=Z,21nm,0.8s,mb4.8						
YKA	**Yellowknife Ar**	**76.31**	**28**	P	**P**	**02 44 20.3**	**+0.7**
	comp=Z,1.1nm,0.5s,mb3.7,baz=293,slow=5.8,SNR=7.0						
KEV	**Kevo**	**77.94**	**341**	*e*p	**P**	**02 44 27.9**	**-0.6**
ARCES	**ARCESS Array B**	**78.51**	**341**	P	**P**	**02 44 32.4**	**+0.8**
	comp=Z,9.4nm,0.6s,mb4.6,baz=72,slow=8.5,SNR=39						
ARE0	**ARCESS Array S**	**78.51**	**341**	*e*P	**P**	**02 44 31.6**	**0.0**
OBN	**Obninsk**	**81.04**	**326c**	*e*P	**P**	**02 44 45.3**	**+0.1**
OBN				pmax	pmax		
	comp=Z,27nm,1.6s,mb4.6						
KIV	**Kislovodsk**	**81.97**	**314d**	*i*P	**P**	**02 44 52.0**	**+1.8**
KIV				pmax	pmax		
	comp=Z,27nm,0.9s,mb4.9						
KIV	**Kislovodsk**	**81.97**	**314**	*e*P	**P**	**02 44 50.9**	**+0.6**
	comp=Z,32nm,1.0s,mb4.9						
KAF	**Kangasniemi**	**82.29**	**335**	*e*p	**P**	**02 44 49.6**	**-1.9**
	comp=Z,5.2nm,0.6s,mb4.3,baz=55,slow=4.9						
KAF	**Kangasniemi**	**82.29**	**335**	*e*P	**P**	**02 44 49.6**	**-1.9**
KAF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.3						
FINES	**FINESS Array B**	**82.75**	**334**	P	**P**	**02 44 53.5**	**-0.4**
	comp=Z,16nm,0.4s,mb5.1,baz=67,slow=5.2,SNR=258						
FINES	**FINESS Array B**	**82.75**	**334**	*i* P	**P**	**02 44 53.5**	**-0.4**
FINES				pmax	pmax		
	comp=Z,16nm,0.4s						
NVAR	**Mina Array Bea**	**83.18**	**51**	P	**P**	**02 44 58.7**	**+2.1**
	comp=Z,1.4nm,0.6s,mb3.9,baz=276,slow=6.8,SNR=10						
NVAR	**Mina Array Bea**	**83.18**	**51**	P	**P**	**02 44 58.7**	**+2.1**
SOC	**Sochi**	**84.09**	**315**	*i* P	**P**	**02 45 00.5**	**-0.5**
SOC				*e*SS	SS	03 00 44.9	+4.6
SOC				*e*SSS	SSS	03 04 14.6	+4.7
SOC				pmax	pmax		
	comp=Z,17nm,0.6s,mb5.0						
SOC				pmax	pmax		
	comp=N,24nm,1.3s						
SOC				pmax	pmax		
	comp=E,34nm,1.3s						
SOC				MLR	MLR		
	comp=Z,89nm,17.0s						
SOC				MLR	MLR		
	comp=N,34nm,15.0s						
SOC				MLR	MLR		
	comp=E,40nm,20.0s						
DUG	**Dugway**	**86.34**	**48**	*e*P	**P**	**02 45 13.7**	**+1.5**
	comp=E,1.3nm,0.6s,mb3.8						
NEN	**Nelson**	**86.83**	**53**	P	**P**	**02 45 16.4**	**+1.8**
SUW	**Suwalki**	**88.28**	**329**	*e*P	**P**	**02 45 20.3**	**-0.7**
	comp=E,71nm,1.0s,mb5.5						
NB2	**NORSAR Subarra**	**88.52**	**339**	P	**P**	**02 45 21.2**	**-0.8**
	comp=E,3.9nm,0.7s,mb4.3,baz=53,slow=4.8						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NOA	NORSAR Array B	88.52	339	P	P	02 45 21.5	-0.5
	comp=E,3.2nm,0.7s,mb4.3,baz=47,slow=4.3,SNR=12						
NOA	NORSAR Array B	88.52	339	P	P	02 45 21.5	-0.5
BRTR	Keskin Array B	89.89	313	P	P	02 45 28.8	-0.2
	comp=E,2.9nm,0.8s,mb4.2,baz=93,slow=3.1,SNR=14						
GERES	GERESS Array B	96.14	329	P	P	02 45 57.1	-0.3
	comp=E,0.9nm,0.8s,mb4.1,baz=41,slow=5.4,SNR=7.1						
SNAA	Sanae	126.61	193⇓	iP	PKPdf	02 51 31.4	+1.5
VNA2	Neumayer--Watz	128.10	192⇓	iP	PKPdf	02 51 37.2	+4.3
VNA3	Neumayer Olymp	128.26	191⇓	iP	PKPdf	02 51 36.9	+3.7
VNA1	Neumayer--Stat	128.49	192⇓	iP	PKPdf	02 51 37.7	+4.0
DBIC	Dimbokro	137.40	308	PKP	PKPdf	02 51 53.7	+2.0
	comp=E,5.4nm,1.0s,baz=60,slow=1.4,SNR=6.4						
DBIC	Dimbokro	137.40	308	PKP	PKPdf	02 51 53.7	+2.0
LPAZ	La Paz	150.22	84	PKPbc	PKPdf	02 52 22.7	+9.2
	comp=E,3.9nm,0.5s,baz=301,slow=2.7,SNR=25						

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*NIED **09** 02:40:00,32.00N×142.20E,h5^{km},Mw4.5 Best double couple: M$_0$5.55×10^{15} NP1:ϕ_s132°,δ75°,λ81°. NP2:ϕ_s343°, δ18°,λ120°.*
*JMA **09** 02:40:01.2±0.4,32.05N×142.21E,h16^{km},M4.0*
*MOS **09** 02:40:06.1±1.0,32.11N×141.85E,h33^{km},mb4.5/8,Error ellipse: s-maj=37.5km s-min=18.5km az=112.4*
*IDC **09** 02:40:09.7±0.7,32.10N×141.68E,h38^{km}±5^{km},mb3.8/13, mb1 4.1/14,mb1mx4.0/22,ML4.6/1,MS3.3/1,Ms1 3.3/1, ms1mx2.6/28,Error ellipse: s-maj=19.8km s-min=14.2km az=82.0*
*NEIC **09** 02:40:09.8±0.5,32.08N×141.68E,mb4.6/3,MW4.5(NIED), Error ellipse: s-maj=14.4km s-min=10.1km az=66.0*
ISC 09 02:40:03.8±1.5**,32.12N**±0.04×**141.90E**±0.08**,h15**^{km}±11^{km}**, h39**^{km}±1.6^{km}**:pP-P,n60,**σ1^s**12**/69**,mb4.3**/21**,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	Mitsune	2.02	300	P	Pn	02 40 39.3	+1.5
JHJ	Hachijo jima 2	2.04	300	Pn	Pn	02 40 38.7	+0.5
	62nm,0.3s,baz=222,slow=16,SNR=16						
JHJ				Sn	Sn	02 41 06.8	+3.2
	78nm,0.3s,baz=243,slow=23,SNR=5.3						
BSO1	Boso 1	2.64	343	P	Pn	02 40 46.8	+0.1
BSO2	Boso 2	2.79	340	eS	Sn	02 41 24.4	+1.9
BSO3	Boso 3	2.91	337	P	Pn	02 40 50.9	+0.3
BSO3				eS	Sn	02 41 27.0	+1.4
BSO4	Boso 4	3.14	336	P	Pn	02 40 54.3	+0.5
BSO4				eS	Sn	02 41 33.3	+1.9
JHU	Hanno	4.31	330	P	Pn	02 41 10.5	+0.1
JHU				eS	Sn	02 41 59.0	-1.9
JYN	Shimob	4.37	321	P	Pn	02 41 13.0	+1.7
JHO	Hitachi	4.61	347	P	Pn	02 41 13.7	-1.0
JRY	Ryogami san	4.61	328	P	Pn	02 41 15.6	+0.9
JAG	Ashikaga	4.75	335	P	Pn	02 41 16.0	-0.6
JAG				eS	Sn	02 42 09.7	-2.3
CBIJ	Chichi jima	5.02	177	Pn	Pn	02 41 20.4	0.0
	52nm,0.3s,baz=286,slow=16,SNR=7.2						
JSB	Shiboa	5.10	342	P	Pn	02 41 21.7	+0.1
MAJO	Matsushiro	5.36	326	eP	Pn	02 41 26.8	+1.4
	16nm,0.6s						
MAT	Matsushiro	5.36	326	P	Pn	02 41 25.8	+0.5
MAT				eS	Sn	02 42 26.9	-0.6
MAT	Matsushiro	5.36	326	eP	Pn	02 41 26.0	+0.7
	15nm,1.0s						
MAT				S	Sn	02 42 27.0	-0.5
JFT	Otama	5.53	347	P	Pn	02 41 26.7	-1.0
JFT				S	Sn	02 42 26.4	-5.4
JFY	Yanaizu	5.57	342	P	Pn	02 41 27.9	-0.4
JHK	Hiroka	5.64	336	P	Pn	02 41 29.6	+0.4
JHK				eS	Sn	02 42 32.6	-1.8
JMM	Marumori	5.80	351	P	Pn	02 41 30.9	-0.6
JYS	Shirataka	6.27	347	P	Pn	02 41 37.3	-0.8
JYA	Atsumi	6.70	345	P	Pn	02 41 43.0	-1.1
JMK	Ichinoseki	6.84	356	P	Pn	02 41 44.2	-1.9
JMK				eS	Sn	02 42 56.1	-8.2
ASAJ	Asahikawa	11.99	2	LR	LR	02 48 14.1	
	comp=Z,133nm,19.8s,baz=153,slow=40						
SONM	Songino Array	31.08	311	P	P	02 46 23.6	+0.1
	2.5nm,1.0s,mb4.0,baz=122,slow=12,SNR=3.6						
ZAL	Zalesovo	45.63	316	P	P	02 48 24.9	-0.2
	1.4nm,0.4s,mb4.3,baz=297,slow=10,SNR=6.7						
ZAL	Zalesovo	45.63	316	P	P	02 48 25.0	-0.2
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NVS	Novosibirsk	46.62	317	i P	P	02 48 32.0	-0.9
MKAR	Makanchi Array	47.20	306	P	P	02 48 37.8	+0.1
	comp=Z,7.3nm,0.8s,mb4.7,baz=91,slow=9.8,SNR=37						
MKAR	Makanchi Array	47.20	306	i P	P	02 48 37.8	+0.1
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
GUN	Gumba	48.24	280	eP	P	02 48 45.7	-0.3
	comp=Z,25nm,0.8s,mb5.3						
PKI	Pulchoki	48.74	280	eP	P	02 48 48.7	-1.2
	comp=Z,9.9nm,0.7s,mb4.9						
KKN	Kakani	48.78	280	eP	P	02 48 49.4	-0.8
	comp=Z,16nm,0.8s,mb5.1						
GKN	Gorkha	49.24	281	eP	P	02 48 52.9	-0.9
	comp=Z,16nm,0.9s,mb5.0						
KURK	Kurchatov	49.38	312	i P	P	02 48 54.6	+0.1
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
KURK	Kurchatov	49.38	312	eP	P	02 48 54.0	-0.5
	comp=Z,5.7nm,0.8s,mb4.7						
KOLN	Koldanda	50.18	281	eP	P	02 49 00.3	-0.7
	comp=Z,16nm,1.1s,mb5.0						
WRAB	Tennant Creek	52.26	189	eP	P	02 49 15.6	-1.2
	comp=Z,7.0nm,0.9s,mb4.6						
WRA	Warramunga Arr	52.27	189	P	P	02 49 16.2	-0.8
	comp=Z,4.5nm,0.8s,mb4.4,baz=4.6,slow=7.7,SNR=60						
WRA				pP	pP	02 49 28.8	+7.2
	comp=Z,2.8nm,0.6s,baz=6.6,slow=7.8,SNR=7.3						
WRA	Warramunga Arr	52.27	189	P	P	02 49 16.2	-0.7
WRA				*PP	pP	02 49 28.8	+7.2
WRA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
WRA				pmax	pmax		
	comp=N,3.0nm,0.6s						
COLA	College	53.06	30	P	P	02 49 23.6	+1.3
ILAR	Eielson Array	53.47	30	P	P	02 49 24.9	-0.3
	comp=N,0.6nm,0.8s,mb3.6,baz=244,slow=5.2,SNR=4.2						
ILAR	Eielson Array	53.47	30	P	P	02 49 24.9	-0.3
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRVK	Borovoye	54.31	315	eP	P	02 49 31.4	-0.1
	comp=Z,1.3nm,0.5s,mb4.1						
ASAR	Alice Springs	56.00	189	P	P	02 49 44.5	+0.3
	comp=Z,0.6nm,0.5s,mb3.9,baz=9.3,slow=7.8,SNR=14						
INK	Inuvik	58.60	26	P	P	02 50 02.3	+0.3
	comp=Z,1.6nm,0.9s,mb4.0,baz=338,slow=5.4,SNR=4.2						
INK				pP	pP	02 50 14.3	+7.6
	comp=Z,1.8nm,0.7s,baz=272,slow=9.0,SNR=2.2						
INK	Inuvik	58.60	26	P	P	02 50 02.3	+0.3
INK				*PP	pP	02 50 14.3	+7.6
INK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
INK				pmax	pmax		
	comp=N,2.0nm,0.7s						
KAF	Kangasniemi	72.86	334	ep	P	02 51 31.7	-1.8
FINES	FINESS Array B	73.35	333	P	P	02 51 36.5	+0.1
	comp=N,1.2nm,0.7s,mb4.0,baz=46,slow=7.9,SNR=13						
FINES				pP	pP	02 51 48.5	+7.4
	comp=N,1.3nm,0.6s,baz=44,slow=9.1,SNR=2.9						
FINES	FINESS Array B	73.35	333	P	P	02 51 36.5	+0.2
FINES				*PP	pP	02 51 48.5	+7.4
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES				pmax	pmax		
	comp=N,1.0nm,0.6s						
NVAR	Mina Array Bea	77.63	52	P	P	02 52 04.9	+3.8
	comp=N,1.6nm,1.0s,mb3.9,baz=307,slow=4.0,SNR=5.0						
NB2	NORSAR Subarra	78.87	338	P	P	02 52 07.7	+0.2
	comp=N,0.7nm,0.6s,mb3.8,baz=41,slow=5.3						
NOA	NORSAR Array B	78.87	338	P	P	02 52 08.0	+0.6
	comp=N,1.5nm,0.9s,mb3.9,baz=24,slow=8.2,SNR=4.5						
NOA				pP	pP	02 52 20.1	+7.8
	comp=N,1.9nm,0.7s,baz=41,slow=5.4,SNR=4.4						
NOA	NORSAR Array B	78.87	338	P	P	02 52 08.0	+0.5
NOA				*PP	pP	02 52 20.1	+7.8
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NOA				pmax	pmax		
	comp=N,2.0nm,0.7s						
NOA	NORSAR Array B	78.87	338	P	P	02 52 08.0	+0.6
NOA				pP	pP	02 52 20.1	+7.8
PDAR	Pinedale Array	80.83	45	P	P	02 52 21.6	+3.3
	comp=N,0.2nm,0.3s,mb3.5,SNR=3.1						
BRTR	Keskin Array B	82.43	312	P	P	02 52 28.4	+1.7
	comp=N,2.9nm,1.2s,mb4.1,baz=117,slow=2.8,SNR=6.8						
BRTR	Keskin Array B	82.43	312	P	P	02 52 28.5	+1.8
BRTR				pmax	pmax		
	comp=Z,3.0nm,1.2s						
CLL	Collm	85.56	331	P	P	02 52 44.0	+1.7
TXAR	Lajitas Array	92.78	53	P	P	02 53 19.2	+2.2
	comp=Z,0.6nm,0.8s,mb4.1,baz=277,slow=2.8,SNR=5.3						
TXAR				pP	pP	02 53 31.0	+9.1
	comp=Z,0.7nm,0.6s,baz=302,slow=3.4,SNR=7.1						

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*NAO **09** 03:05:43.8±2.7,75.91N×8.02E,ML3.0*
*IDC **09** 03:05:44.2±1.4,75.53N×7.28E,mb3.5/3,mb1 3.8/5, mb1mx3.6/20,ML2.9/2,Error ellipse: s-maj=59.7km s-min=14.3km az=42.0*
*BER **09** 03:05:48.6±32.0,77.46N×29.67E,h15^{km}±885^{km}, ML3.0(NAO)*
ISC 09 03:05:44.5±1.3**,75.78N**±0.06×**9.2E**±0.4**,h10**^{km}**,n12,** σ1^s**39**/20**,mb3.4**/3**,Greenland Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HSP	Hornsund	1.94	47	eP	Pn	03 06 19.5	+1.6
HSP				eS	Sn	03 06 42.4	0.0
SPA0	Spitsbergen Ar	2.90	30	Pn	Pn	03 06 32.2	+0.5
	baz=204,slow=14						
SPA0				Sn	Sn	03 07 05.6	-1.2
	baz=230,slow=28						
SPA0	Spitsbergen Ar	2.90	30	Pn	Pn	03 06 32.2	+0.6
	baz=204,slow=13,SNR=4.5						
SPA0				Sn	Sn	03 07 05.6	-1.3
	baz=230,slow=28,SNR=7.0						
SPA0	Spitsbergen Ar	2.90	30	Pn	Pn	03 06 32.2	+0.6
	baz=204,slow=13,SNR=55						
SPA0				Sn	Sn	03 07 05.6	-1.3
	baz=230,slow=28,SNR=55						
ARA0	ARCESS Array S	7.90	134	Pn	Pn	03 07 43.5	+1.2
	baz=330,slow=11						
ARA0				Sn	Sn	03 09 08.7	-3.9
	baz=329,slow=22						
ARA0	ARCESS Array S	7.90	134	Pn	Pn	03 07 43.5	+1.2
	baz=330,slow=11,SNR=5.7						
ARA0				Sn	Sn	03 09 08.7	-3.9
	baz=329,slow=20,SNR=6.9						
ARA0	ARCESS Array S	7.90	134	Pn	Pn	03 07 43.5	+1.2
	baz=330,slow=11,SNR=55						
ARA0				Sn	Sn	03 09 08.7	-3.9
	baz=329,slow=20,SNR=55						
ARCES	ARCESS Array B	7.90	134	Pn	Pn	03 07 42.7	+0.5
	0.1nm,0.3s,baz=333,slow=12,SNR=6.1						
ARCES				Sn	Sn	03 09 08.9	-3.8
	0.6nm,0.3s,baz=330,slow=19,SNR=7.5						
FINES	FINESS Array B	15.54	149	Pn	P	03 09 30.9	+6.0
	0.1nm,0.3s,baz=348,slow=13,SNR=4.8						
ILAR	Eielson Array	38.87	344	P	P	03 13 10.6	-0.4
	0.5nm,0.8s,mb3.3,baz=2.4,slow=6.9,SNR=6.7						
MKAR	Makanchi Array	41.10	91	P	P	03 13 34.1	+4.5
	0.7nm,0.9s,mb3.3,baz=306,slow=10,SNR=2.8						
TXAR	Lajitas Array	67.15	299	P	P	03 16 37.2	-3.0
	0.6nm,0.9s,mb3.6,baz=50,slow=5.6,SNR=4.5						

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*BJI **09** 03:45:47.8,38.00N×118.70W,h6^{km},mB4.9,mb4.7,Ms4.5, Msz4.1*
*IDC **09** 03:45:48.8±1.1,37.91N×118.61W,mb4.0/4,mb1 4.4/7, mb1mx4.0/22,ML4.0/3,MS3.7/12,Ms1 3.7/12, ms1mx3.6/23,Error ellipse: s-maj=11.3km s-min=7.7km az=118.0*
*NEIC **09** 03:45:48.9,37.97N×118.66W,h7^{km},ML4.6(REN), MW4.6(BRK),After REN.*
NEIC Felt [IV] at June Lake and Mammoth Lakes; [III] at Benton; [II] at Bishop and Lee Vining.
ISC 09 03:45:47.5±0.6**,37.95N**±0.02×**118.59W**±0.02**,h4**^{km}±5^{km}**, n108,**σ1^s**27**/113**,mb4.0**/4**,MS3.7**/9**,2C-3D, California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OMM	Old Mammoth Mi	0.46	224⇓	iPg	Pg	03 45 57.6	+0.9
OMM				eSg	Sg	03 46 03.3	+0.4
NVAR	Mina Array Bea	0.53	25	Pg	Pg	03 45 59.0	+1.0
	2μm,0.3s,baz=213,slow=20						
NVAR				Lg		03 46 07.2	
	5μm,0.3s,baz=222,slow=26,SNR=51						
MTUM	Tungsten Hills	0.60	178	i P	Pg	03 46 00.8	+1.4
TPH	Tonopah	1.09	83⇓	ePg	Pg	03 46 10.1	+1.0
TPH				eSg	Sg	03 46 24.5	+0.9
CMB	Columbia Colle	1.42	274⇓	ePn	Pn	03 46 13.4	-0.8
CMB				eS	Sb	03 46 30.7	-1.9
WCN	Washoe City	1.63	326⇑	iPn	Pn	03 46 17.7	+0.6
WCN				eS	Sb	03 46 39.2	+0.6
DAC	Darwin (Calif)	1.85	154	ePn	Pn	03 46 21.2	+0.9
DAC				eSg	Sg	03 46 47.5	-1.6
PAHR	Pah Rah Range	1.86	341	ePn	Pn	03 46 20.7	+0.3
PAHR				eSg	Sg	03 46 47.5	-1.8
BEKR	Beckwourth	2.36	325	ePn	Pn	03 46 27.6	0.0
BEKR				ePg	Pg	03 46 30.8	-3.7
TRCR	Troy Canyon	2.40	80	ePn	Pn	03 46 28.8	+0.6
TRCR				ePg	Pg	03 46 33.1	-2.3
TRCR				eSg	Sg	03 47 06.8	-0.6
LRV	Little Rabbit	2.47	233	ePn	Pn	03 46 30.3	+1.2
SAO	San Andreas Ge	2.57	243	ePn	Pn	03 46 30.9	+0.3
SAO				ePg	Pg	03 46 35.5	-3.2
SAO				eSg	Sg	03 47 02.1	-11
OHCM	Honcut	2.66	302	ePn	Pn	03 46 31.1	-0.7
OHCM				ePg	Pg	03 46 34.6	-5.8
BMN	Battle Mountai	2.69	23	ePn	Pn	03 46 32.1	-0.3
LKC	Lake Chabot	2.76	267	ePn	Pn	03 46 33.8	+0.5
SAC	San Andreas	3.06	264	ePn	Pn	03 46 37.4	-0.2
NSHM	Saint Helena R	3.21	281	ePn	Pn	03 46 39.2	-0.6
HOPS	Hopland	3.67	288	ePn	Pn	03 46 44.1	-2.1
MWC	Mount Wilson	3.75	173	ePn	Pn	03 46 48.8	+1.5
NEN	Nelson	3.78	126	ePn	Pn	03 46 48.6	+0.7
LDFC	Landfair	4.01	135	ePn	Pn	03 46 50.9	-0.2
WDC	Whiskeytown Da	4.04	312	ePn	Pn	03 46 50.5	-0.9
ARUT	Antelope Range	4.08	91	ePn	Pn	03 46 52.1	0.0
MOD	Modoc	4.16	342	ePn	Pn	03 46 54.4	+1.2
LASM	Arnica Sink	4.31	329	P	Pn	03 47 09.2	+14
LHEM	Herd Peak	4.62	324	P	Pn	03 47 14.6	+15
PFO	Pinyon Flat Ob	4.67	158	Pn	Pn	03 47 01.0	+0.6
	622nm,0.9s,SNR=15						
PFO	Pinyon Flat Ob	4.67	158	ePn	Pn	03 47 00.2	-0.3
YBH	Yreka Blue Hor	4.93	321	Pn	Pn	03 47 05.1	+1.0
	1.5nm,0.3s,baz=137,slow=4.9,SNR=40						
YBH				Lg		03 48 27.0	
	1.4nm,0.3s,baz=52,slow=22,SNR=3.7						
YBH	Yreka Blue Hor	4.93	321	ePn	Pn	03 47 03.5	-0.7
KHMM	Horse Mountain	4.94	308	ePn	Pn	03 47 01.5	-2.8
MVU	Marysvale	5.05	82	ePn	Pn	03 47 06.8	+0.9
MSU	Marysvale	5.08	82	ePn	Pn	03 47 07.1	+0.9
BGU	Big Grassy Mou	5.23	54	ePn	Pn	03 47 07.9	-0.5
NLU	North Lily Min	5.46	66	ePn	Pn	03 47 10.9	-0.7
BAR	Barrett	5.49	163	ePn	Pn	03 47 11.9	-0.1
NOQ	North Oquirrh	5.70	60	Pn	Pn	03 47 14.5	-0.4
HUMO	Hull Mountain	5.72	326	ePn	Pn	03 47 14.8	-0.6
MPU	Maple Canyon	5.80	67	ePn	Pn	03 47 15.8	-0.6
SPUT	South Promonto	5.80	53	ePn	Pn	03 47 15.3	-1.2
BBOR	Butler Butte	5.83	329	⇑P	Pn	03 47 19.0	+2.1
HVU	Hansel Valley	5.88	48	ePn	Pn	03 47 17.6	0.0
TMUT	Trail Mountain	5.93	75	ePn	Pn	03 47 15.3	-3.0
CTU	Camp Tracy	5.97	61	Pn	Pn	03 47 17.6	-1.1
JLU	Jordanelle	6.14	62	ePn	Pn	03 47 21.9	+0.7
DAU	Daniels Canyon	6.21	64	ePn	Pn	03 47 22.2	0.0
TCUT	Toone Canyon	6.39	58	ePn	Pn	03 47 25.1	+0.4
SRU	San Rafael	6.43	77	ePn	Pn	03 47 27.5	+2.2
BEND	Bend	6.45	342	P	Pn	03 47 28.8	+3.2
HWUT	Hardware Ranch	6.53	54	ePn	Pn	03 47 27.2	+0.5
HBO	Huckleberry Mo	6.53	336	P	Pn	03 47 29.9	+3.2
HSO	Harness Mounta	6.53	330	ePn	Pn	03 47 25.7	-1.0
KEBM	Edson Butte	6.58	320	Pn	Pn	03 47 23.9	-3.6
HUOR	Husband	6.64	339	P	Pn	03 47 31.5	+3.3
IRO	Indian Ridge	6.65	337	P	Pn	03 47 31.3	+2.8
VIPM	Ingram Point	6.73	348	P	Pn	03 47 32.9	+3.4
FRIS	Frissel Point	6.79	338	P	Pn	03 47 33.7	+3.2
BROR	Big Rock Looko	6.95	336	P	Pn	03 47 35.3	+2.7
CROR	Criterion Ridg	7.25	346	P	Pn	03 47 43.5	+6.6
VTHM	Trough	7.37	349	P	Pn	03 47 42.4	+3.9
SSOR	Sweet Springs	7.49	338	Pn	Pn	03 47 38.2	-1.9
COR	Corvallis	7.52	333	P	Pn	03 47 41.0	+0.4
	176nm,1.6s						
PV10	Paradox Valley	7.54	84	ePn	Pn	03 47 40.2	-0.7
VFP	Flag Point	7.67	345	P	Pn	03 47 49.1	+6.4
GT2	Goat Mountain	7.71	340	P	Pn	03 47 47.8	+4.6
TDH	Tom, Dick, Har	7.71	343	P	Pn	03 47 49.2	+5.9
PV01	Paradox Valley	7.91	86	ePn	Pn	03 47 44.9	-1.2
REDW	Red Top Meadow	7.99	45	ePn	Pn	03 47 45.4	-1.8
TPAW	Teton Pass	8.01	44	ePn	P	03 47 46.0	-1.5
SNOW	Snow King Moun	8.10	45	ePn	P	03 47 49.7	+0.9
MCMT	McKenzie Canyo	8.11	30	ePn	P	03 47 49.7	+0.8
WUWY	Wally Ulrich	8.16	44	ePn	P	03 47 49.5	-0.1
LOHW	Long Hollow	8.29	44	ePn	P	03 47 51.0	-0.3
MOOW	Moose Ponds	8.30	43	ePn	P	03 47 52.0	+0.5
REDWA	Red Mountain	8.37	356	P	P	03 47 57.3	+4.8
PDAR	Pinedale Array	8.40	52	Pn	P	03 47 55.1	+2.2
	0.4nm,0.3s,baz=234,slow=10,SNR=137						
PDAR				Lg		03 50 12.8	
	0.4nm,0.3s,baz=237,slow=18,SNR=4.4						
PDAR				LR	LR	03 51 35.6	
	comp=Z,505nm,18.4s,baz=272,slow=41						
PDAR	Pinedale Array	8.40	52	Pn	P	03 47 55.1	+2.2
PDAR				Lg		03 50 12.8	
PDAR				LR	LR	03 51 35.6	
H2OWA	Water	8.46	356	P	P	03 47 58.5	+4.7
HAWA	Hanford	8.46	356	eP	P	03 47 57.8	+4.0
	48nm,1.0s						
TUC	Tucson	8.52	129	ePn	P	03 47 54.1	-0.4
BENWA	Benson Ranch	8.60	355	P	P	03 47 59.7	+4.0
RW3	Ridgway	8.60	85	ePn	P	03 47 54.6	-1.1
GBB	Gable Butte	8.69	355	P	P	03 48 01.4	+4.5
MDW	Midway	8.70	355	P	P	03 48 02.0	+5.0
QLMT	Earthquake Lak	8.72	36	Pn	P	03 47 58.9	+1.4
CHMT	Chamberlain Mo	9.78	22	Pn	P	03 48 10.4	-1.6
HRY	Holter Researc	10.08	28	ePn	P	03 48 14.8	-1.3
CPRX	Cap Rock	12.96	108	Pn	P	03 48 55.2	+0.1
GDL2	Guadalupe Moun	12.98	112	Pn	P	03 48 54.7	-0.8
TXAR	Lajitas Array	15.10	120	Pn	P	03 49 28.1	+4.8
	0.0nm,0.3s,baz=300,slow=10,SNR=12						
TXAR				Lg		03 53 45.9	
	0.0nm,0.3s,baz=284,slow=7.4,SNR=2.7						
TXAR				LR	LR	03 56 05.0	
	comp=Z,140nm,21.9s,baz=35,slow=41						
EDM	Edmonton	15.70	12	Pn	P	03 49 31.1	+0.1
BBB	Bella Bella	15.72	338	LR	LR	03 55 15.6	
	comp=Z,416nm,21.6s,baz=24,slow=36						
ULM	Lac du Bonnet	20.33	46	P	P	03 50 25.9	-1.4
	11nm,0.9s,baz=248,slow=10,SNR=6.7						
ULM				LR	LR	03 57 23.8	
	comp=Z,85nm,20.6s,MS3.1,baz=302,slow=34						
ULM	Lac du Bonnet	20.33	46	eP	P	03 50 25.5	-1.8
DLBC	Dease Lake	21.81	344	LR	LR	03 59 08.7	
	comp=Z,255nm,21.8s,MS3.6,baz=154,slow=37						
YKA	Yellowknife Ar	24.69	4	LR	LR	04 01 14.9	
	comp=Z,109nm,18.6s,MS3.4,baz=145,slow=37						
ILAR	Eielson Array	31.61	337	P	P	03 52 14.4	+1.2
	1.3nm,0.9s,mb3.7,baz=150,slow=7.3,SNR=9.9						
ILAR				LR	LR	04 05 58.7	
	comp=Z,129nm,19.3s,MS3.6,baz=5.0,slow=38						
SCHQ	Schefferville	38.50	47	P	P	03 53 11.3	-1.0
	13nm,1.3s,mb4.5,baz=270,slow=11,SNR=3.8						
SCHQ				LR	LR	04 09 39.5	
	comp=Z,147nm,19.4s,MS3.8,baz=39,slow=37						
SCHQ	Schefferville	38.50	47	P	P	03 53 11.3	-1.0
SCHQ				LR	LR	04 09 39.5	
ROSC	El Rosal	52.00	118	LR	LR	04 22 08.1	
	comp=Z,97nm,18.9s,MS3.9,baz=26,slow=42						
MDJ	Mudanjiang	77.36	317	P	P	03 57 42.9	-2.0
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.9s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,72nm,7.0s						
ESDC	Sonseca Array	82.23	45	LR	LR	04 33 26.6	
	comp=Z,60nm,20.5s,MS3.9,baz=270,slow=35						
GERES	GERESS Array B	83.78	29	P	P	03 58 20.2	+1.4
	comp=Z,0.4nm,0.8s,mb3.6,baz=329,slow=5.7,SNR=4.1						
CPUP	Villa Florida	85.93	128	LR	LR	04 42 13.4	
	comp=Z,65nm,18.4s,MS4.1,baz=159,slow=39						
SSE	Sheshan	91.53	312	eP	P	03 58 57.0	+0.4
NJ2	Nanjing	92.17	314	eP	P	03 58 56.8	-2.7
MKAR	Makanchi Array	93.58	346	LR	LR	04 45 44.2	
	comp=Z,48nm,20.9s,MS3.9,baz=256,slow=38						
WMQ	Urumqi	95.19	341	eP	P	03 59 13.5	+0.3

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*WAR **09** 03:53:55.8,50.26N×18.86E,ML2.5,Mining Induced*
*PRU **09** 03:53:56.5,50.30N×18.80E*
ISC 09 03:53:54.6±0.6**,50.27N**±0.05×**18.72E**±0.04**,n12,**σ1^s**48**/17**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.57	221	ePG	Pg	03 54 08.0	+2.0
OJC	Ojcow	0.69	94	ePg	Pg	03 54 08.0	-0.4
OJC				eSg	Sg	03 54 16.9	-0.7
LIKS	Likavka	1.24	168	eSN	Sn	03 54 36.8	-0.1
NIE	Niedzica	1.33	129	ePg	Pg	03 54 20.2	-1.0
NIE				eSg	Sg	03 54 38.3	-0.7
DPC	Dobruska-Polom	1.54	274	ePG	Pg	03 54 24.8	-0.6
DPC				eSG	Sg	03 54 47.0	+1.0
	9.3nm,0.2s						
KSP	Ksiaz	1.65	291	ePN	Pn	03 54 27.0	+1.9
KSP				ePG	Pg	03 54 29.0	+1.4
KSP				eSG	Sg	03 54 51.0	+1.3
KOLL	Kolacno	1.70	187	eSN	Sn	03 54 51.3	+2.7
KOLS	Kolonicke sedl	2.67	119	ePN	Pn	03 54 40.3	+0.7
KOLS				e		03 55 11.0	
PRU	Pruhonice	2.71	266	eSG	Sg	03 55 22.2	-2.5
KHC	Kasperske Hory	3.53	253	eSG	Sg	03 55 49.5	-2.6
CLL	Collm	3.78	288	eSG	Sg	03 55 59.0	-1.4
NKC	Novy Kostel	4.03	272	eSG	Sg	03 56 06.0	-2.7

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*NAO **09** 04:11:07.2±2.4,67.16N×20.53E,ML2.2*
*BER **09** 04:11:09.8±4.0,67.21N×20.58E,ML1.8,ML2.2(NAO), Suspected explosion*
HEL 09 04:11:09.4±0.1**,67.24N×20.61E,ML2.1,ML1.9**(BER)**, ML2.2**(NAO)**,Explosion,Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KIF	Kilpisjarvi	1.78	2	eP	Pn	04 11 41.2	-0.4
KIF				eS	Sn	04 12 05.5	+0.3
KTK1	Kautokeino	2.04	28	eP	Pn	04 11 44.5	-0.8
KTK1				eSG	Sg	04 12 12.2	-5.0
KTK1				AML	AML	04 12 13.6	
	comp=Z,23nm,0.6s						
SGF	Sodankyl	2.30	82	eP	Pn	04 11 48.1	-1.0
SGF				eS	Sn	04 12 17.7	-0.9
TRO	Tromso	2.48	346	eSG	Sg	04 12 25.9	-6.2
TRO				AML	AML	04 12 28.9	
	comp=Z,6.2nm,0.4s						
MOR8	Moi Rana	2.67	249	eSG	Sg	04 12 26.5	-12
MOR8				AML	AML	04 12 29.5	
	comp=Z,13nm,0.4s						
MELS	Mels	2.72	265	eSg	Sg	04 12 34.3	-5.7
LOF	Lofoten	2.84	292	e	Sg	04 12 40.8	-3.1
LOF				AML	AML	04 12 45.1	
	comp=Z,5.9nm,0.6s						
LOF	Lofoten	2.84	292	eSg	Sg	04 12 40.8	-3.1
LOF				AML	AML	04 12 45.1	
	comp=Z,5.9nm,0.6s						
ARA0	ARCESS Array S	2.93	36	Pn	Pn	04 11 56.3	-1.9
	baz=211,slow=16						
ARA0				Sn	Sn	04 12 32.5	-2.2
	baz=206,slow=28						
ARA0	ARCESS Array S	2.93	36	eP	Pn	04 11 56.3	-1.9
ARA0				eS	Sn	04 12 32.5	-2.2
OUL	Oulu	3.05	133	eS	Sn	04 12 35.2	-2.3
OUL				MSG		04 12 44.2	
	comp=Z,4.6nm,0.3s						
KEV	Kevo	3.46	40	eS	Sn	04 12 44.9	-3.0
KEV				MSG		04 13 01.7	
	comp=Z,5.2nm,0.4s						
MSF	Maaselka	3.62	108	eSG	Sg	04 12 59.5	-10
MSF				MSG		04 12 59.9	
	comp=Z,4.2nm,0.3s						
NSS	Namsos	4.47	237	eSG	Sg	04 13 26.8	-11
NSS				AML	AML	04 13 27.6	
	comp=Z,4.8nm,0.5s						
FIA0	FINESS Array S	6.28	155	eS	Sn	04 13 50.3	-8.8
FIA0				eSG		04 14 22.7	
FIA0	FINESS Array S	6.28	155	Sn	Sn	04 13 50.3	-8.8
	baz=348,slow=22						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FIA0				Lg		04 14 22.7	
	baz=340,slow=28						
HFS	Hagfors	7.76	206	eS	Sn	04 14 24.6	-11
HFS				eSG		04 15 08.6	
HFS	Hagfors	7.76	206	Sn	Sn	04 14 24.6	-11
	baz=27,slow=22						
HFS				Lg		04 15 08.6	
	baz=13,slow=37						

IDC 09 04:14:03.9±7.4**, 15.46S×175.84W, mb3.7**/3**, mb1 4.0**/3**, mb1mx3.8**/13**, Error ellipse: s-maj=325.0km s-min=37.7km az=140.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	47.54	257	P	P	04 22 41.7	-1.6
	0.2nm,0.5s,baz=91,slow=7.3,SNR=8.7						
ASAR	Alice Springs	47.85	252	P	P	04 22 43.6	-2.1
	2.0nm,0.7s,baz=88,slow=8.6,SNR=32						
ILAR	Eielson Array	82.97	12	P	P	04 26 30.5	-1.4
	0.9nm,1.2s,baz=217,slow=6.2,SNR=4.2						

*CSEM **09** 04:18:45.8±0.1, 44.48N×10.91E, h25km, ML1.7/8, Error ellipse: s-maj=2.6km s-min=1.9km az=77.0*
*LDG **09** 04:18:47.4±0.5, 44.57N×10.97E, h10km, Ml2.6/13, Error ellipse: s-maj=8.9km s-min=4.9km az=105.0*
*ROM **09** 04:18:47.9±0.2, 44.35N×10.83E, h15km±2km, MD2.7/6, ML1.7/8, Error ellipse: s-maj=2.5km s-min=1.4km az=0.0*
*NEIC **09** 04:18:48.0, 44.35N×10.83E, h15km, MD2.7(ROM), ML2.6(LDG), After ROM.*
ISC 09 04:18:45.8±0.5**, 44.58N**±0.03×**10.89E**±0.04**, h25**km±5km**, n49,** σ1§**25**/73**, 2C-6D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZCCA	Zocca	0.24	165	⇓iPG	Pb	04 18 51.5	-0.5
GSCL	Gusciola	0.32	223	⇓iPG	Pb	04 18 52.4	-0.7
	39nm,0.3s						
GSCL	Gusciola	0.32	223	⇓iPg	Pb	04 18 52.4	-0.7
GSCL	Gusciola	0.32	223	⇓iPg	Pb	04 18 52.4	-0.7
	39nm,0.3s						
ERBM	Eremo	0.38	244	ePG	Pb	04 18 54.4	+0.4
ERBM				SG	Sb	04 19 01.2	+1.6
	27nm,0.1s						
ERBM	Eremo	0.38	244	ePg	Pb	04 18 54.4	+0.4
ERBM				eSg	Sb	04 19 01.2	+1.6
ERBM	Eremo	0.38	244	ePg	Pb	04 18 54.4	+0.4
	27nm,0.1s						
ERBM				Sg	Sb	04 19 01.2	+1.6
FNVD	Fontana Vidola	0.45	158	ePG	Pb	04 18 53.3	-1.8
FNVD				SG	Sb	04 18 59.9	-1.6
FNVD	Fontana Vidola	0.45	158	ePg	Pb	04 18 53.3	-1.8
FNVD				eSg	Sb	04 18 59.9	-1.6
VLC	Villacollemand	0.56	220	eP	Pb	04 18 55.7	-1.2
VLC	Villacollemand	0.56	220	eP	Pb	04 18 55.7	-1.2
BDI	Bagni Di Lucca	0.56	202	ePG	Pb	04 18 55.2	-1.8
	41nm,0.2s						
BDI	Bagni Di Lucca	0.56	202	ePg	Pb	04 18 55.2	-1.8
BDI	Bagni Di Lucca	0.56	202	ePg	Pb	04 18 55.2	-1.8
	41nm,0.2s						
SEI	Scarperia	0.63	147	ePG	Pb	04 18 58.8	+0.7
SEI				SG	Sb	04 19 06.2	-0.2
	116nm,0.3s						
SEI	Scarperia	0.63	147	ePg	Pb	04 18 58.8	+0.8
SEI				eSg	Sb	04 19 06.2	-0.3
SEI	Scarperia	0.63	147	ePg	Pb	04 18 58.8	+0.7
	116nm,0.3s						
SEI				Sg	Sb	04 19 06.2	-0.2
VMG	Vicchio	0.78	143	ePG	Pb	04 19 01.6	+1.0
	22nm,0.3s						
VMG	Vicchio	0.78	143	ePg	Pb	04 19 01.6	+0.9
VMG	Vicchio	0.78	143	ePg	Pb	04 19 01.6	+1.0
	22nm,0.3s						
PII	Pisa	0.90	197	ePG	Pb	04 19 03.0	+0.4
	43nm,0.2s						
PII	Pisa	0.90	197	ePg	Pb	04 19 03.0	+0.3
PII	Pisa	0.90	197	ePg	Pb	04 19 03.0	+0.4
	43nm,0.2s						
SFI	Santa Sofia	0.97	134	ePG	Pb	04 19 04.3	+0.5
	25nm,0.6s						
SFI	Santa Sofia	0.97	134	ePg	Pb	04 19 04.3	+0.5
SFI	Santa Sofia	0.97	134	ePg	Pb	04 19 04.3	+0.5
	25nm,0.6s						
CSNT	Castellina Chi	1.15	165	ePN	Pn	04 19 06.3	-0.1
	40nm,0.4s						
CSNT	Castellina Chi	1.15	165	ePg	Pn	04 19 06.3	-0.1
CRE	Caprese Michel	1.23	141	ePN	Pn	04 19 08.3	+0.7
	22nm,0.4s						
CRE	Caprese Michel	1.23	141	ePg	Pn	04 19 08.3	+0.7
BRMO	Bormio	1.93	349	ePN	Pn	04 19 23.0	+5.4
	6.0nm,0.4s						
BRMO	Bormio	1.93	349	ePg	Pn	04 19 23.0	+5.4
PGF	Pioggiola	2.45	215	ePn	Pn	04 19 25.0	-0.1
PGF				eSn	Sn	04 19 55.2	+0.6
	5.8nm,0.3s						
VOY	Vojsko	2.57	55	ePn	Pn	04 19 25.9	-0.9
VOY				eSn	Sn	04 19 56.6	-0.9
SBF	Sospel	2.58	255	ePn	Pn	04 19 27.9	+0.9
SBF				eSn	Sn	04 19 58.3	+0.4
	8.7nm,0.3s						
SQTA	Sankt Quirin	2.65	5	⇓iPN	Pn	04 19 29.9	+2.0
SQTA				i SN	Sn	04 19 55.0	-4.5
WTTA	Wattenberg	2.73	11	⇓iPN	Pn	04 19 31.2	+2.1
WTTA				i SN	Sn	04 19 57.2	-4.5
MOTA	Moosalm	2.77	3	⇑iPN	Pn	04 19 31.5	+1.9
MOTA				i SN	Sn	04 19 58.4	-4.1
MBDF	Montbardon	2.94	274	ePn	Pn	04 19 34.1	+2.0
MBDF				eSn	Sn	04 20 07.6	+0.6
	3.3nm,0.3s						
LPL	La Plagne	3.09	289	eSn	Sn	04 20 10.1	-0.6
	2.0nm,0.3s						
FRF	La Foret Royal	3.22	253	ePn	Pn	04 19 36.4	+0.3
FRF				eSn	Sn	04 20 14.4	+0.3
	4.9nm,0.2s						
LMR	La Mourre	3.40	250	ePn	Pn	04 19 38.5	-0.1
LMR				eSn	Sn	04 20 17.1	-1.4
	5.0nm,0.3s						
ORIF	Oris-en-Rattie	3.58	277	ePn	Pn	04 19 42.7	+1.5
ORIF				eSn	Sn	04 20 22.5	-0.7
	3.5nm,0.4s						
SMRF	Simiane la Rot	3.86	263	ePn	Pn	04 19 46.8	+1.6
SMRF				eSn	Sn	04 20 28.9	-1.4
	0.8nm,0.3s						
CABF	La Chapelle	3.93	303	ePn	Pn	04 19 47.0	+0.9
CABF				eSn	Sn	04 20 30.7	-1.3
	1.3nm,0.3s						
MOA	Molln	4.02	34	⇑iPN	Pn	04 19 48.3	+0.9
MOA				i SN	Sn	04 20 30.8	-3.5
HINF	Hinteralfeld	4.28	321	ePn	Pn	04 19 52.6	+1.5
HINF				eSn	Sn	04 20 37.2	-3.6
	1.9nm,0.2s						
CDF	Champ du Feu	4.57	328	ePn	Pn	04 19 54.7	-0.5
CDF				eSn	Sn	04 20 45.7	-2.5
	1.4nm,0.3s						
SMF	Signal de Mont	5.36	295	ePn	Pn	04 20 05.9	-0.4
SMF				eSn	Sn	04 21 04.5	-3.4
	1.1nm,0.3s						

*PRU **09** 04:30:31.0, 51.38N×16.09E*
*WAR **09** 04:30:31, 51.45N×16.09E, ML2.7, Mining Induced*
ISC 09 04:30:28.9±1.2**, 51.40N**±0.06×**16.03E**±0.06**, n9,** σ1§**27**/19**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.58	163	i PG	Pg	04 30 42.2	+1.7
KSP				eSG	Sg	04 30 51.2	+3.0
UPC	Upice	0.89	181	ePG	Pg	04 30 48.1	+1.4
DPC	Dobruska-Polom	1.06	170	ePG	Pg	04 30 51.0	+0.8
DPC				eSG	Sg	04 31 05.5	+1.1
PVCC	Panska Ves	1.27	227	ePG	Pg	04 30 55.2	+0.9
PRU	Pruhonice	1.70	214	ePG	Pg	04 31 01.9	-1.0
PRU				i x	x	04 31 06.2	
PRU				i x	x	04 31 18.7	
PRU				SG	Sg	04 31 25.1	-0.4
	4.5nm,0.3s						
CLL	Collm	1.90	268	ePG	Pg	04 31 06.0	-0.9
CLL				i		04 31 10.4	
CLL				eSG	Sg	04 31 33.0	+0.8
OKC	Ostrava-Krasne	2.06	138	ePG	Pg	04 31 08.7	-1.4
OKC				eSG	Sg	04 31 35.5	-2.1
NKC	Novy Kostel	2.55	244	ePN	Pn	04 31 12.7	+0.4
NKC				ePG	Pg	04 31 19.8	-0.1
NKC				eSG	Sg	04 31 54.3	+0.3
KHC	Kasperske Hory	2.76	216	ePN	Pn	04 31 16.1	+0.9
KHC				ePG	Pg	04 31 22.1	-2.0
KHC				eSN	Sn	04 31 46.0	-3.8
KHC				eSG	Sg	04 31 59.1	-1.8

IDC 09 04:44:48.4±2.0**, 0.16N×125.88E, mb3.1**/3**, mb1 3.3**/3**, mb1mx3.3**/15**, Error ellipse: s-maj=178.0km s-min=27.9km az=64.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.63	158	P	P	04 49 39.8	-2.6
	0.4nm,0.6s,baz=336,slow=11,SNR=8.0						
ASAR	Alice Springs	24.93	162	P	P	04 50 14.1	-0.8
	0.1nm,0.3s,baz=352,slow=14,SNR=3.5						
MKAR	Makanchi Array	60.02	327	P	P	04 54 57.0	-2.4
	0.1nm,0.3s,baz=120,slow=8.2,SNR=4.0						

*NIED **09** 05:44:00, 42.30N×141.50E, h95km, Mw4.3 Best double couple: M₀3.36×10¹⁵ NP1:φs249°, δ72°, λ112°. NP2:φs17°, δ28°, λ42°.*
*BJI **09** 05:44:28.8, 42.48N×141.71E, h119km, mB4.6, mb4.7*
*MOS **09** 05:44:29.2±1.3, 42.38N×141.45E, h109km, mb4.6/10, Error ellipse: s-maj=15.3km s-min=9.5km az=94.3*
*IDC **09** 05:44:30.9±0.6, 42.37N×141.51E, h108km±5km, mb3.9/21, mb1 4.1/22, mb1mx4.1/25, Error ellipse: s-maj=13.5km s-min=7.9km az=111.0*
*JMA **09** 05:44:30.4±0.1, 42.32N×141.51E, h99km±1km, M4.1 Broadband fault plane solution: P waves. NP1:φs3°, δ42°, λ9°. NP2:φs266°, δ84°, λ131°. Principal axes: T Plg37°, Azm212°; N Plg41°, Azm81°; P Plg27°, Azm325°;*
JMA Felt II J1.
*NEIC **09** 05:44:30.7±0.2, 42.35N×141.50E, mb4.7/24, MW4.3(NIED) Error ellipse: s-maj=6.9km s-min=5.3km az=110.0*
NEIC Recorded [2 JMA] in the Shizunai area and [1 JMA] in the Ebetsu-Tomakomai area, Obihiro area and in southwestern Hokkaido. Also recorded [1 JMA] in Aomori Prefecture, Honshu.
ISC 09 05:44:29.2±0.2**, 42.32N**±0.03×**141.55E**±0.04**, h107**km±2km**, h106**km±2.9km**:pP-P, n120,** σ0§**90**/131**, mb4.4**/45**, 14C-8D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNB	Noboribetsu	0.41	291	⇑P	P	05 44 45.1	-0.3
JNB				eS	S	05 44 56.3	-1.2
JEW	Eniwo	0.53	352	⇑P	P	05 44 46.3	+0.2
JEW				eS	S	05 44 58.4	-0.4
JKB	Kayabe	0.58	222	⇓P	P	05 44 46.5	0.0
JKB				eS	S	05 44 58.7	-0.8
JBT2	Biratori 2	0.75	52	⇑P	P	05 44 48.4	+0.4
JNBK	Urakawa-nobuka	0.89	92	P	P	05 44 49.6	+0.2
JYM2	Yakumo 2	0.90	257	⇑P	P	05 44 49.7	+0.2
JOT	Ohata	1.01	202	⇓P	P	05 44 51.0	+0.4
JOT				eS	S	05 45 06.5	-0.2
JFR	Furan	1.14	42	⇑P	P	05 44 52.0	-0.1
JSR	Shiriuchi	1.16	227	⇓P	P	05 44 52.8	+0.5
JSH	Shimam	1.16	287	⇓P	P	05 44 52.8	+0.4
ERM	Erimo	1.23	104	Pn	P	05 44 54.3	+1.2
	22μm,0.6s						
JSK	Shakotan	1.30	323	⇓P	P	05 44 54.5	+0.5
JSK				eS	S	05 45 12.6	+0.1
JCH	Churui	1.37	77	⇑P	P	05 44 55.3	+0.5
JCH				eS	S	05 45 14.2	+0.2
JHR	Hokuryu	1.43	5	⇑P	P	05 44 56.6	+1.1
JHR				eS	S	05 45 16.3	+1.2
JOSM	Okushiri--Mats	1.56	262	⇑P	P	05 44 57.4	+0.3
JKK2	Kamakawa 2	1.78	29	⇑P	P	05 45 00.3	+0.5
JKK2				eS	S	05 45 22.7	+0.1
JAR	Ashorobuto	1.90	58	⇑P	P	05 45 01.8	+0.5
JAR				eS	S	05 45 25.8	+0.5
JANG	Nango	1.95	181	P	P	05 45 01.6	-0.3
JANG				eS	S	05 45 25.0	-1.2
ASAJ	Asahikawa	1.95	23	P	P	05 45 02.1	+0.2
	56nm,0.3s,baz=228,slow=10,SNR=100						
ASAJ				S	S	05 45 27.4	+1.0
	79nm,0.3s,baz=68,slow=33,SNR=11						
ASAJ	Asahikawa	1.95	23	PN	P	05 45 02.2	+0.3
ASAJ				S	S	05 45 27.4	+1.0
ASAJ				pmax	pmax		
	comp=Z,56nm,0.3s						
ASAJ				smax			
	comp=N,79nm,0.3s						
YUK	Yuzh-Kuril'sk	3.59	60	PN	P	05 45 23.7	-0.4
YUK				i S	S	05 46 03.9	-1.9
YUK				pmax	pmax		
	comp=Z,550nm,0.5s						
YUK				pmax	pmax		
	comp=N,260nm,0.4s						
YUK				pmax	pmax		
	comp=E,190nm,0.5s						
YUK				pmax	pmax		
	comp=Z,2μm,2.0s						
YUK				pmax	pmax		
	comp=N,2μm,1.0s						
YUK				pmax	pmax		
	comp=E,2μm,1.0s						
YUK				smax			
	comp=N,2μm,0.5s						
YUK				smax			
	comp=E,650nm,0.5s						
YUK				smax			
	comp=N,3μm,1.0s						
YUK				smax			
	comp=E,2μm,2.0s						
YSS	Yuzh-Sakhalins	4.71	10	⇑iPN	P	05 45 40.0	+0.6
YSS				eS	S	05 46 31.7	-1.6
YSS				pmax	pmax		
	comp=N,150nm,0.8s						
YSS				pmax	pmax		
	comp=Z,150nm,0.8s						
YSS				smax			
	comp=E,80nm,0.8s						
YSS	Yuzh-Sakhalins	4.71	10	eP	P	05 45 40.7	+1.3
KUR	Kuril'sk	5.42	55	⇓ePN	P	05 45 49.0	0.0
KUR				eS	S	05 46 48.0	-2.6
KUR				pmax	pmax		
	comp=Z,160nm,0.8s						
KUR				smax			
	comp=N,150nm,0.5s						
KUR				smax			
	comp=E,190nm,0.5s						
MAJO	Matsushiro	6.32	205	eP	P	05 46 02.1	+0.7
	comp=E,31nm,0.6s						
MAT	Matsushiro	6.32	205	P	P	05 46 01.1	-0.3
MAT				eS	S	05 47 12.8	0.0
MAT	Matsushiro	6.32	205	eP	P	05 46 01.0	-0.4
	comp=E,21nm,0.6s						
MAT				S	S	05 47 13.0	+0.2
MDJ	Mudanjiang	9.00	289	P	P	05 46 38.2	+0.6
MDJ				AMB	AMB		
	comp=Z,24nm,1.3s						
MDJ				AMB	AMB		
	comp=Z,60nm,5.0s						
MDJ	Mudanjiang	9.00	289	eP	P	05 46 39.0	+1.3
	comp=Z,31nm,1.0s						
JHJ	Hachijo jima 2	9.29	189	P	P	05 46 41.5	-0.1
	comp=Z,27nm,0.3s,baz=73,slow=19,SNR=2.7						
JHJ				S	S	05 48 14.9	-10
	comp=Z,38nm,0.3s,baz=239,slow=23,SNR=3.7						
KLR	Kul'dur	9.72	319	ePN	P	05 46 45.2	-2.1
KLR				pmax	pmax		
	comp=Z,38nm,1.4s						
HIA	Hailar	16.69	302	eP	P	05 48 15.2	-2.4
	comp=Z,7.3nm,0.8s						
BOD	Bodaibo	23.29	321	eP	P	05 49 23.7	-3.9
TATO	Taipei	23.95	230	eP	P	05 49 34.7	+0.3
	comp=Z,23nm,0.5s,mb4.8						
SONM	Songino Array	25.28	295	P	P	05 49 47.5	+0.6
	comp=Z,1.9nm,0.6s,mb3.7,baz=108,slow=8.0,SNR=4.4						
GTA	Gaotai	31.47	279	P	P	05 50 44.3	+1.7
GTA				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.1						
ZAL	Zalesovo	38.61	308	P	P	05 51 43.0	-0.1
	comp=Z,8.7nm,0.5s,mb4.9,baz=293,slow=8.8,SNR=32						
ZAL	Zalesovo	38.61	308	P	P	05 51 43.0	-0.1
ZAL				pmax	pmax		
	comp=Z,9.0nm,0.5s						
ZAL	Zalesovo	38.61	308	P	P	05 51 43.0	-0.1
NVS	Novosibirsk	39.42	309	eP	P	05 51 49.1	-0.7
MKAR	Makanchi Array	41.60	297	P	P	05 52 07.5	-0.2
	comp=Z,3.2nm,0.6s,mb4.3,baz=82,slow=9.5,SNR=28						
MKAR	Makanchi Array	41.60	297	P	P	05 52 07.5	-0.2
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
IMA	Indian Mountai	42.15	33	eP	P	05 52 11.4	-0.5
	comp=Z,17nm,0.6s,mb5.0						
KURK	Kurchatov	42.92	304	eP	P	05 52 17.9	-0.6
	comp=Z,12nm,0.6s,mb4.8						
CMAR	Chiang Mai Arr	43.18	250	P	P	05 52 21.4	+0.4
	comp=Z,1.0nm,0.6s,mb3.7,baz=48,slow=7.5,SNR=6.6						
CMAR	Chiang Mai Arr	43.18	250	P	P	05 52 21.5	+0.5
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
COLA	College	44.62	35	eP	P	05 52 31.9	-0.1
	comp=Z,3.3nm,0.8s,mb4.1						
ILAR	Eielson Array	45.04	35	P	P	05 52 35.4	+0.1
	comp=Z,1.2nm,0.6s,mb3.8,baz=280,slow=7.5,SNR=16						
ILAR				pP	pP	05 53 01.3	+0.9
	comp=Z,0.4nm,0.6s,baz=266,slow=5.8,SNR=3.4						
ILAR	Eielson Array	45.04	35	P	P	05 52 35.4	+0.1
ILAR				*PP	pP	05 53 01.3	+0.9
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GUN	Gumba	46.96	271	eP	P	05 52 51.5	+0.5
	comp=Z,52nm,0.4s						
BRVK	Borovoye	47.27	309	eP	P	05 52 52.8	-0.3
	comp=Z,5.9nm,0.4s,mb4.7						
KKN	Kakani	47.47	271	eP	P	05 52 55.2	+0.2
	comp=Z,19nm,0.5s,mb5.1						
PKI	Pulchoki	47.50	271	eP	P	05 52 55.7	+0.5
	comp=Z,6.7nm,0.3s,mb4.9						
DMN	Daman	47.70	271	eP	P	05 52 56.3	-0.5
	comp=Z,13nm,0.4s,mb5.1						
GKN	Gorkha	47.84	272	eP	P	05 52 57.5	-0.3
	comp=Z,13nm,0.3s,mb5.2						
ZRNK	Zerenda	48.04	309	eP	P	05 52 59.0	-0.1
	comp=Z,15nm,0.7s,mb4.9						
AAK	Ala-Archa	48.24	294	eP	P	05 52 59.8	-1.0
	comp=Z,2.9nm,0.7s,mb4.2						
KOLN	Koldanda	48.73	272	eP	P	05 53 05.0	+0.2
	comp=Z,8.1nm,0.3s,mb5.1						
INK	Inuvik	49.68	29	P	P	05 53 11.2	-0.2
	comp=Z,3.3nm,0.4s,mb4.6,baz=297,slow=6.1,SNR=25						
INK	Inuvik	49.68	29	P	P	05 53 11.3	-0.2
INK				pmax	pmax		
	comp=Z,3.0nm,0.4s						
INK	Inuvik	49.68	29	eP	P	05 53 11.1	-0.4
	comp=Z,4.7nm,0.6s,mb4.6						
SVE	Sverdlovsk	51.34	316	⇑eP	P	05 53 23.0	-1.3
RES	Resolute Bay	57.47	15	eP	P	05 54 07.5	-1.2
	comp=Z,8.5nm,0.5s,mb5.0						
KEV	Kevo	58.56	338	ep	P	05 54 14.6	-1.7
	comp=Z,14nm,0.8s,mb5.0						
KEV	Kevo	58.56	338	eP	P	05 54 14.6	-1.7
KEV				pmax	pmax		
	comp=Z,14nm,0.8s,mb5.0						
ARCES	ARCESS Array B	59.11	338	P	P	05 54 18.9	-1.2
	comp=Z,2.3nm,0.5s,mb4.5,baz=41,slow=8.2,SNR=18						
ARCES	ARCESS Array B	59.11	338	P	P	05 54 18.9	-1.2
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
YKA	Yellowknife Ar	59.22	32	P	P	05 54 20.1	-0.9
	comp=Z,1.0nm,0.6s,mb4.0,baz=307,slow=6.8,SNR=3.9						
YKA	Yellowknife Ar	59.22	32	P	P	05 54 20.1	-0.8
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	Yellowknife Ar	59.22	32	P	P	05 54 20.1	-0.9
CTA	Charters Tower	62.24	175	P	P	05 54 40.6	-1.4
	comp=Z,2.3nm,0.7s,mb4.3,baz=333,slow=6.8,SNR=2.9						
CTA	Charters Tower	62.24	175	P	P	05 54 40.7	-1.3
CTA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WRA	Warramunga Arr	62.30	188	P	P	05 54 41.0	-1.4
	comp=Z,3.4nm,0.5s,mb4.6,baz=6.1,slow=7.0,SNR=66						
WRA	Warramunga Arr	62.30	188	P	P	05 54 41.0	-1.4
WRA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
KAF	Kangasniemi	63.69	332	ep	P	05 54 49.0	-1.8
	comp=Z,4.8nm,0.6s,mb4.5,baz=47,slow=6.3						
KAF	Kangasniemi	63.69	332	eP	P	05 54 49.0	-1.8
KAF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.5						
FINES	FINESS Array B	64.22	331	P	P	05 54 53.2	-1.0
	comp=Z,12nm,0.6s,mb4.9,baz=49,slow=8.3,SNR=72						
FINES				pP	pP	05 55 19.4	-1.5
	comp=Z,1.8nm,0.6s,baz=51,slow=6.7,SNR=1.7						
FINES	FINESS Array B	64.22	331	P	P	05 54 53.3	-1.0
FINES				*PP	pP	05 55 19.4	-1.6
FINES				pmax	pmax		
	comp=Z,12nm,0.6s						
FINES				pmax	pmax		
	comp=N,2.0nm,0.6s						
ASAR	Alice Springs	66.03	188	P	P	05 55 06.0	-0.6
	comp=N,2.6nm,0.8s,mb4.1,baz=3.3,slow=5.6,SNR=23						
ASAR				pP	pP	05 55 34.5	+1.0
	comp=N,0.7nm,0.6s,baz=1.3,slow=6.8,SNR=2.4						
NB2	NORSAR Subarra	69.37	337	P	P	05 55 25.8	-0.9
	comp=N,3.8nm,0.4s,mb4.6,baz=35,slow=6.2						
NOA	NORSAR Array B	69.37	337	P	P	05 55 26.1	-0.6
	comp=N,5.8nm,0.6s,mb4.6,baz=37,slow=6.3,SNR=22						
NOA				pP	pP	05 55 51.5	-2.3
	comp=N,2.7nm,0.8s,baz=35,slow=6.2,SNR=3.3						
NOA	NORSAR Array B	69.37	337	P	P	05 55 26.1	-0.6
NOA				*PP	pP	05 55 51.5	-2.3
NOA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
NOA				pmax	pmax		
	comp=N,3.0nm,0.8s						
NAO01	NORSAR Array S	69.62	337	eP	P	05 55 26.1	-2.1
	comp=N,2.3nm,0.5s,mb4.3						
AKASG	Malin Array Be	70.21	321	P	P	05 55 31.3	-0.7
	comp=N,2.8nm,0.5s,mb4.4,baz=44,slow=6.0,SNR=20						
AKASG	Malin Array Be	70.21	321	P	P	05 55 31.3	-0.7
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.5s						
NVAR	Mina Array Bea	71.78	54	P	P	05 55 41.2	-0.4
	comp=Z,0.6nm,0.6s,mb3.6,baz=301,slow=5.2,SNR=5.7						
STKA	Stephens Creek	73.83	180	P	P	05 55 54.6	+0.9
	comp=Z,2.0nm,0.6s,mb4.0,baz=341,slow=2.4,SNR=5.7						
PDAR	Pinedale Array	73.92	46	P	P	05 55 54.8	+0.7
	comp=Z,0.5nm,0.4s,mb3.6,baz=69,slow=0.3,SNR=6.4						
OJC	Ojcow	74.73	326	eP	P	05 55 59.0	+0.5
OJC	Ojcow	74.73	326	eP	P	05 55 59.0	+0.5
BRTR	Keskin Array B	75.46	311	P	P	05 56 03.5	+0.6
	comp=Z,0.5nm,0.4s,mb3.6,baz=186,slow=2.8,SNR=3.5						
BRTR	Keskin Array B	75.46	311	P	P	05 56 03.5	+0.6
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
PV10	Paradox Valley	77.23	49	eP	P	05 56 15.1	+2.3
KHC	Kasperske Hory	78.11	328	eP	P	05 56 18.5	+1.1
KHC				e	pP	05 56 44.5	-0.6
KHC	Kasperske Hory	78.11	328	eP	P	05 56 18.5	+1.1
KHC				pP	pP	05 56 44.5	-0.6
GERES	GERESS Array B	78.29	328	P	P	05 56 17.3	-1.2
	comp=Z,0.5nm,0.5s,mb3.5,baz=56,slow=4.8,SNR=6.1						
GERES	GERESS Array B	78.29	328	P	P	05 56 17.3	-1.1
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SCHQ	Schefferville	80.23	16	P	P	05 56 29.1	+0.2
	comp=Z,1.1nm,0.4s,mb4.0,baz=243,slow=12,SNR=6.5						
CDF	Champ du Feu	81.07	331	eP	P	05 56 33.6	+0.2
LOR	Lormes	83.24	333	eP	P	05 56 45.0	+0.4
SSF	Saint Saulge	83.54	333	eP	P	05 56 46.7	+0.7
	comp=Z,10.0nm,0.9s,mb4.3						
LPL	La Plagne	83.72	330	eP	P	05 56 48.1	+1.2
	comp=Z,5.7nm,0.6s,mb4.3						
LPG	La Plagne	83.73	330	eP	P	05 56 48.4	+1.4
	comp=Z,8.5nm,0.6s,mb4.5						
SMF	Signal de Mont	83.79	332	eP	P	05 56 48.1	+0.8
MBDF	Montbardon	84.37	329	eP	P	05 56 51.4	+1.2
	comp=Z,4.3nm,0.5s,mb4.2						
ORIF	Oris-en-Rattie	84.54	330	eP	P	05 56 51.8	+0.7
	comp=Z,10nm,0.8s,mb4.5						
FRF	La Foret Royal	85.41	329	eP	P	05 56 55.5	+0.1
	comp=Z,32nm,1.2s,mb4.8						
SMRF	Simiane la Rot	85.46	330	eP	P	05 56 57.1	+1.4
	comp=Z,15nm,1.0s,mb4.6						
LMR	La Mourre	85.66	329	eP	P	05 56 57.2	+0.6
CAF	Calviac	85.90	332	eP	P	05 56 59.0	+1.2
	comp=Z,46nm,1.2s,mb5.0						
TXAR	Lajitas Array	86.82	53	P	P	05 57 03.8	+1.1
	comp=Z,0.2nm,0.5s,baz=277,slow=2.8,SNR=5.2						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TXAR				pP	pP	05 57 31.6	+0.7
	comp=Z,0.4nm,0.6s,baz=288,slow=4.0,SNR=3.7						
EPF	**Esparros**	**88.16**	**333**	*e*P	**P**	**05 57 09.0**	**+0.3**
ETSF	**Etsaut**	**88.58**	**333**	*e*P	**P**	**05 57 11.8**	**+1.1**
MAW	**Mawson**	**124.32**	**207**	PKP	PKPdf	06 03 16.8	+2.1
	comp=Z,1.9nm,0.9s,baz=163,slow=3.7,SNR=4.9						
MAW	**Mawson**	**124.32**	**207**	PKIKP	PKPdf	06 03 16.8	+2.2
MAW				pmax	pmax		
	comp=Z,2.0nm,0.9s						
QSPA	**South Pole Qui**	**132.06**	**180**	*e*P	PKPdf	06 03 31.1	+2.0
SNAA	**Sanae**	**145.80**	**199**⇓	*i*	PKPdf	06 03 56.0	+2.3
VNA2	**Neumayer--Watz**	**147.39**	**198**⇑	*i*	PKPdf	06 04 03.3	+6.9
VNA3	**Neumayer Olymp**	**147.67**	**197**⇑	*i*	PKPdf	06 04 03.8	+6.9
VNA1	**Neumayer--Stat**	**147.79**	**198**⇓	*i*	PKPdf	06 04 04.3	+7.2

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*NEIC **09** 05:45:49.1±1.5, 20.65S×178.54W, h600km, mb3.9/3, Error ellipse: s-maj=49.4km s-min=17.1km az=204.0*
*IDC **09** 05:45:57.3±33.0, 20.64S×179.14W, h664km±283km, mb3.2/5, mb1 3.4/5, mb1mx3.1/13, Error ellipse: s-maj=309.0km s-min=83.6km az=80.0*
ISC 09 05:45:48.2±2.0**, 20.6S**±0.4×**178.6W**±0.3**, h600km, n11, σ0.62/11, mb3.9/7, 2C-1D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**32.91**	**265**	P	**P**	**05 51 36.3**	**+0.3**
	5.3nm,0.6s,mb4.3,baz=88,slow=10.0,SNR=12						
CTAO	**Charters Tower**	**32.91**	**265**	*e*P	**P**	**05 51 36.6**	**+0.7**
	4.2nm,0.5s,mb4.3						
STKA	**Stephens Creek**	**37.22**	**244**	P	**P**	**05 52 12.2**	**+0.8**
	2.6nm,0.7s,mb3.9,baz=98,slow=6.4,SNR=5.0						
ASAR	**Alice Springs**	**43.93**	**257**	P	**P**	**05 53 05.4**	**+0.3**
	4.9nm,0.8s,mb4.1,baz=93,slow=7.8,SNR=62						
ASAR				PcP	PcP	05 54 37.0	-0.7
	0.6nm,0.8s,baz=103,slow=4.6,SNR=4.9						
WRAB	**Tennant Creek**	**44.01**	**262**	*e*P	**P**	**05 53 04.3**	**-1.5**
	2.1nm,0.6s,mb3.8						
WRA	**Warramunga Arr**	**44.02**	**262**	P	**P**	**05 53 05.6**	**-0.2**
	1.0nm,0.3s,mb3.8,baz=98,slow=8.1,SNR=52						
MBWA	**Marble Bar**	**57.27**	**258**	*e*P	**P**	**05 54 41.5**	**-0.4**
	2.5nm,0.6s,mb3.6						
VNA3	**Neumayer Olymp**	**88.04**	**176**⇑	*i*	**P**	**05 57 35.7**	**-0.4**
VNA2	**Neumayer--Watz**	**88.48**	**177**⇑	*i*	**P**	**05 57 38.5**	**+0.3**
VNA1	**Neumayer--Stat**	**88.71**	**177**⇓	*i*	**P**	**05 57 39.2**	**-0.1**
CMAR	**Chiang Mai Arr**	**89.63**	**290**	P	**P**	**05 57 45.2**	**+0.5**
	0.5nm,0.4s,mb3.7,baz=117,slow=2.0,SNR=5.0						

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*BJI **09** 06:08:14.4, 27.84N×56.33E, h43km, mB4.9, mb4.6*
*KISR **09** 06:08:17.2±0.9, 26.90N×57.12E, h15km±999km, ML4.6*
*THR **09** 06:08:20.8±0.5, 28.40N×57.23E, h14km±5km, ML4.1*
*CSEM **09** 06:08:20.0±0.1, 28.32N×57.24E, h25km, mb4.5/9, ML5.1/2, Error ellipse: s-maj=3.9km s-min=2.1km az=72.0*
*IDC **09** 06:08:24.1±6.8, 28.26N×57.08E, h42km±63km, mb4.0/12, mb1 4.1/13, mb1mx4.0/20, ML4.0/1, MS3.1/2, Ms1 3.3/2, ms1mx2.7/26, Error ellipse: s-maj=30.2km s-min=20.0km az=173.0*
*NEIC **09** 06:08:26.4±0.9, 28.30N×57.14E, h64km±6km, mb4.5/19, Error ellipse: s-maj=10.6km s-min=5.3km az=171.0*
ISC 09 06:08:18.6±0.3**, 28.35N**±0.04×**57.13E**±0.03**, h10km, n78, σ1.08/85, mb4.3/34, MS3.4/1, Southern Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.28**	**222**	*e*PG	**Pg**	**06 08 46.0**	**+1.9**
BNDS				*e*SG	**Sg**	**06 09 04.7**	**+3.6**
BNDS				AMP		06 09 07.7	
	comp=N,3μm,0.5s						
BNDS				AMP		06 09 08.5	
	comp=E,3μm,0.3s						
BNDS	**Bandar-Abbas**	**1.28**	**222**	*e*Pg	**Pg**	**06 08 46.0**	**+1.9**
BNDS				*e*Sg	**Sg**	**06 09 03.2**	**+2.0**
	comp=E,4μm,0.5s						
KRBR	**Kerman**	**1.66**	**349**	*e*PG	**Pg**	**06 08 50.9**	**-0.8**
KRBR				AMP		06 09 23.5	
	comp=N,2μm,0.7s						
KRBR				AMP		06 09 25.6	
	comp=E,2μm,0.5s						
KRBR	**Kerman**	**1.66**	**349**	*i* Pg	**Pg**	**06 08 51.0**	**-0.7**
KRBR				*e*Sg	**Sg**	**06 09 12.9**	**-0.9**
	comp=E,2μm,0.6s						
ZHSF	**Zahedan**	**3.43**	**68**	*e*PN	**Pn**	**06 09 14.7**	**+1.5**
ZHSF	**Zahedan**	**3.43**	**68**	*e*Pn	**Pn**	**06 09 14.9**	**+1.7**
IBAF	**Bafgh**	**3.50**	**338**	Pn	**Pn**	**06 09 19.0**	**+4.8**
GHIR	**Ghir-Karzin**	**3.66**	**270**	*e*PN	**Pn**	**06 09 20.5**	**+4.1**
GHIR	**Ghir-Karzin**	**3.66**	**270**	*e*Pn	**Pn**	**06 09 19.2**	**+2.7**
ISRV	**Sarvestan**	**3.67**	**287**	Pn	**Pn**	**06 09 21.4**	**+4.7**
IMEH	**Mehriz**	**3.73**	**325**	Pn	**Pn**	**06 09 23.0**	**+5.4**
IMOK	**Mook**	**3.94**	**281**	Pn	**Pn**	**06 09 24.4**	**+3.9**
ICHK	**Chekchek**	**4.54**	**329**	Pn	**Pn**	**06 09 33.6**	**+4.6**
NASN	**Na'in**	**5.79**	**321**	*e*Pn	**Pn**	**06 09 47.9**	**+1.2**
HASS	**Wahat al Ahsa'**	**7.36**	**246**	P	**Pn**	**06 10 09.5**	**+0.8**
IVRN	**Varamin**	**8.07**	**327**	Pn	**P**	**06 10 21.9**	**+3.3**
IVRN				Sn	**Sn**	**06 11 47.1**	**-3.7**
QRN	**Al-Qurain**	**8.12**	**275**	*e*P	**P**	**06 10 19.7**	**+0.4**
QRN				*e*S	**Sn**	**06 11 49.5**	**-2.6**
QRN				AML	AML	06 11 51.6	
	comp=Z,40nm,0.3s						
KBD	**Kabd**	**8.33**	**278**	*e*P	**P**	**06 10 23.5**	**+1.2**
KBD				*e*S	**Sn**	**06 11 56.0**	**-1.3**
RDF	**Al-Radifah**	**8.44**	**276**	*e*P	**P**	**06 10 23.3**	**-0.5**
RDF				*e*S	**Sn**	**06 11 58.5**	**-1.7**
RDF				AML	AML	06 12 00.9	
	comp=Z,45nm,0.5s						
ASAO	**Ashtian**	**8.66**	**317**	*e*Pn	**P**	**06 10 27.3**	**+0.4**
IAFJ	**Afjeh**	**8.78**	**330**	Pn	**P**	**06 10 31.7**	**+3.2**
RST	**Umm Al-Ruwaisa**	**8.96**	**280**	*e*P	**P**	**06 10 31.7**	**+0.7**
RST				AML	AML	06 12 14.1	
	comp=Z,21nm,0.5s						
RAYN	**Ar Rayn**	**11.52**	**248**	Pn	**P**	**06 11 03.9**	**-2.3**
	comp=Z,151nm,0.5s,SNR=11						
MZLS	**Mizel**	**11.54**	**251**	P	**P**	**06 11 03.8**	**-2.8**
AFFS	**'Afif**	**13.44**	**254**	P	**P**	**06 11 30.1**	**-1.7**
AFFS	**'Afif**	**13.44**	**254**	P	**P**	**06 11 30.1**	**-1.8**
HILS	**Ha'il**	**13.61**	**270**	P	**P**	**06 11 32.2**	**-2.0**
GNI	**Garni**	**15.58**	**322**	P	**P**	**06 12 06.1**	**+6.1**
	comp=Z,16nm,1.0s						
ASF	**Jabal al Asfar**	**17.89**	**287**	P	**P**	**06 12 30.1**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=19,slow=1.6,SNR=3.1						
ASF				S	**S**	**06 15 47.7**	**+1.5**
	comp=Z,0.5nm,0.3s,baz=172,slow=22,SNR=3.5						
ASF				LR	LR	06 20 34.2	
	comp=Z,32nm,18.5s,baz=204,slow=41						
KIV	**Kislovodsk**	**19.41**	**327**	P	**P**	**06 12 46.2**	**-1.4**
KIV	**Kislovodsk**	**19.41**	**327**	P	**P**	**06 12 46.2**	**-1.3**
AAK	**Ala-Archa**	**20.01**	**40**	*e*P	**P**	**06 12 54.0**	**-0.3**
	comp=Z,4.7nm,0.6s						
BRTR	**Keskin Array B**	**22.46**	**306**	P	**P**	**06 13 21.1**	**+1.8**
	comp=Z,3.2nm,0.6s,mb3.9,baz=120,slow=10.0,SNR=18						
KOLN	**Koldanda**	**23.35**	**85**	*e*P	**P**	**06 13 28.6**	**+0.6**
GKN	**Gorkha**	**24.23**	**84**	*e*P	**P**	**06 13 36.3**	**-0.3**
KKN	**Kakani**	**24.82**	**85**	*e*P	**P**	**06 13 41.4**	**-0.9**
	comp=Z,16nm,0.6s,mb4.7						
PKI	**Pulchoki**	**24.97**	**85**	*e*P	**P**	**06 13 43.1**	**-0.6**
	comp=Z,12nm,0.6s,mb4.7						
GUN	**Gumba**	**25.33**	**84**	*e*P	**P**	**06 13 46.2**	**-1.0**
	comp=Z,14nm,0.5s,mb4.8						
BVAR	**Borovoye Array**	**26.53**	**18**	P	**P**	**06 13 59.0**	**+1.0**
	comp=Z,2.8nm,0.6s,mb4.0,baz=207,slow=6.6,SNR=18						
MKAR	**Makanchi Array**	**26.95**	**40**	P	**P**	**06 14 02.0**	**0.0**
	comp=Z,2.9nm,0.7s,mb3.9,baz=224,slow=8.7,SNR=23						
KURK	**Kurchatov**	**27.62**	**30**	*e*P	**P**	**06 14 08.6**	**+0.6**
	comp=Z,4.2nm,0.8s,mb4.1						
AKASG	**Malin Array Be**	**30.70**	**324**	P	**P**	**06 14 34.8**	**-0.8**
	comp=Z,0.6nm,0.3s,mb3.8,baz=130,slow=8.3						
ZAL	**Zalesovo**	**32.59**	**31**	P	**P**	**06 14 51.7**	**-0.5**
	comp=Z,6.5nm,0.3s,mb5.0,baz=208,slow=5.0,SNR=3.0						
ZAL	**Zalesovo**	**32.59**	**31**	P	**P**	**06 14 51.7**	**-0.5**
GTA	**Gaotai**	**36.80**	**61**	*e*P	**P**	**06 15 27.8**	**-0.6**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.4						
MORC	**Moravsky Berou**	**36.87**	**316**	*e*P	**P**	**06 15 28.3**	**-0.6**
	comp=Z,2.7nm,0.8s,mb4.1						
MORC	**Moravsky Berou**	**36.87**	**316**	*e*P	**P**	**06 15 28.3**	**-0.5**
	comp=Z,2.7nm,0.8s,mb4.1						
GERES	**GERESS Array B**	**38.97**	**314**	P	**P**	**06 15 45.9**	**-0.6**
	comp=Z,2.1nm,0.7s,mb4.0,baz=121,slow=7.8,SNR=8.1						
FINES	**FINESS Array B**	**39.00**	**337**	P	**P**	**06 15 47.0**	**+0.4**
	comp=Z,1.5nm,0.6s,mb3.9,baz=129,slow=8.9,SNR=10						
KHC	**Kasperske Hory**	**39.12**	**314**	*e*P	**P**	**06 15 48.0**	**+0.2**
CMAR	**Chiang Mai Arr**	**39.45**	**95**	LR	LR	06 35 09.9	
	comp=Z,54nm,18.6s,MS3.4,baz=161,slow=41						
CLL	**Collm**	**40.11**	**317**	P	**P**	**06 16 00.4**	**+4.5**
	comp=Z,logA/T=0.9,mb4.4						
CLL				*e**PP	pP	06 16 06.0	+7.1
CLL	**Collm**	**40.11**	**317**	*i* P	**P**	**06 16 00.4**	**+4.5**
	comp=Z,8.0nm,1.1s,mb4.4						
CLL				*e*		06 16 06.0	
SBF	**Sospel**	**42.39**	**305**	*e*P	**P**	**06 16 14.7**	**0.0**
	comp=Z,56nm,1.0s,mb4.8						
SONM	**Songino Array**	**42.55**	**49**	P	**P**	**06 16 16.2**	**+0.3**
	comp=Z,2.4nm,0.7s,mb4.0,baz=254,slow=9.0,SNR=6.7						
MBDF	**Montbardon**	**42.94**	**306**	*e*P	**P**	**06 16 20.0**	**+0.8**
	comp=Z,8.2nm,0.6s,mb4.3						
FRF	**La Foret Royal**	**42.94**	**305**	*e*P	**P**	**06 16 19.2**	**0.0**
	comp=Z,19nm,1.1s,mb4.4						
LPG	**La Plagne**	**43.02**	**307**	*e*P	**P**	**06 16 20.4**	**+0.6**
	comp=Z,22nm,1.0s,mb4.6						
BNI	**Bardonecchia**	**43.03**	**307**	*e*P	**P**	**06 16 20.6**	**+0.6**
	comp=Z,12nm,0.9s,mb4.6						
BNI	**Bardonecchia**	**43.03**	**307**	*e*P	**P**	**06 16 20.5**	**+0.6**
	comp=Z,12nm,0.9s,mb4.6						
LPL	**La Plagne**	**43.03**	**307**	*e*P	**P**	**06 16 20.1**	**+0.1**
	comp=Z,9.5nm,0.6s,mb4.4						
ORIF	**Oris-en-Rattie**	**43.58**	**307**	*e*P	**P**	**06 16 24.5**	**+0.1**
	comp=Z,8.6nm,0.9s,mb4.2						
CABF	**La Chapelle**	**43.60**	**309**	*e*P	**P**	**06 16 24.9**	**+0.4**
	comp=Z,17nm,0.8s,mb4.5						
VIVF	**Saint-Julien-l**	**44.44**	**306**	*e*P	**P**	**06 16 31.4**	**+0.1**
NOA	**NORSAR Array B**	**44.67**	**330**	P	**P**	**06 16 33.1**	**+0.1**
	comp=Z,0.5nm,0.6s,mb3.5,baz=147,slow=4.8,SNR=2.9						
ARCES	**ARCESS Array B**	**45.07**	**345**	P	**P**	**06 16 37.2**	**+1.0**
	comp=Z,3.6nm,0.8s,mb4.2,baz=130,slow=8.6,SNR=8.2						
SMF	**Signal de Mont**	**45.14**	**309**	*e*P	**P**	**06 16 37.7**	**+0.7**
	comp=Z,14nm,0.7s,mb4.6						
LOR	**Lormes**	**45.18**	**310**	*e*P	**P**	**06 16 37.1**	**-0.2**
	comp=Z,8.8nm,0.7s,mb4.4						
SSF	**Saint Saulge**	**45.40**	**309**	*e*P	**P**	**06 16 38.8**	**-0.2**
	comp=Z,16nm,0.8s,mb4.6						
MTLF	**Montolieu**	**46.16**	**304**	*e*P	**P**	**06 16 44.7**	**-0.3**
	comp=Z,24nm,1.1s,mb4.8						
CAF	**Calviac**	**46.29**	**306**	*e*P	**P**	**06 16 45.9**	**-0.2**
	comp=Z,36nm,1.2s,mb4.9						
RJF	**Les Rejaudoux**	**46.69**	**307**	*e*P	**P**	**06 16 49.4**	**+0.2**
ETSF	**Etsaut**	**48.20**	**304**	*e*P	**P**	**06 17 01.2**	**+0.1**
	comp=Z,16nm,1.0s,mb4.7						
YSS	**Yuzh-Sakhalins**	**67.03**	**48**	P	**P**	**06 19 11.8**	**-2.1**
YSS	**Yuzh-Sakhalins**	**67.03**	**48**	P	**P**	**06 19 11.8**	**-2.0**
ILAR	**Eielson Array**	**85.31**	**10**	P	**P**	**06 20 55.8**	**-0.6**
	comp=Z,0.2nm,0.5s,mb3.5,baz=321,slow=3.3,SNR=7.1						
WRA	**Warramunga Arr**	**88.66**	**113**	P	**P**	**06 21 13.4**	**-0.3**
	comp=Z,3.6nm,0.8s,mb4.8,baz=317,slow=4.0,SNR=46						
ASAR	**Alice Springs**	**90.21**	**117**	P	**P**	**06 21 20.7**	**-0.3**
	comp=Z,0.9nm,0.7s,mb4.2,baz=304,slow=4.9,SNR=10						

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*NEIC **09** 06:12:30.3, 34.85N×25.29E, h13km, MD3.5(ATH), After ATH.*
*CSEM **09** 06:12:30.3, 34.85N×25.29E, h13km, MD3.5/8, After ATH*
ATH 09 06:12:30.3, 34.85N×25.29E, h13km±3km, MD3.5/8, Crete

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.33**	**86**	*e*PG	Pg	06 12 36.5	-0.9
NPS	**Neapolis**	**0.49**	**33**	*e*PG	Pg	06 12 39.7	-0.6
NPS				*e*SB	Sb	06 12 46.0	-1.0
GVD	**Gavdhos**	**0.99**	**270**	*e*PB	Pb	06 12 49.2	+0.4
VAM	**Vamos**	**1.05**	**302**	*e*PN	Pn	06 12 50.6	-0.1
SANT	**Santorini**	**1.52**	**5**	*e*P	Pn	06 12 58.9	+1.4
KARP	**Karpathos**	**1.68**	**65**	*e*PG	Pg	06 13 02.5	-1.5
APE	**Apeiranthos**	**2.22**	**5**	*e*PN	Pn	06 13 09.4	+2.0
KYTH	**Kithira**	**2.33**	**308**	*e*PB	Pb	06 13 10.0	-1.7
VLI	**Veliai**	**2.67**	**315**	*e*PB	Pb	06 13 14.5	-3.1

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*BJI **09** 06:16:36.3, 41.50N×78.37E, h13km, ML3.1*
*NNC **09** 06:16:39.1±3.4, 42.08N×78.18E, mpv2.9, Error ellipse: s-maj=46.4km s-min=11.0km az=152.0*
ISC 09 06:16:40.5±1.4**, 41.8N**±0.1×**78.3E**±0.1**, h33km, n9, σ1.10/11, 2C-2D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KZA	**Kyzart**	**2.26**	**279**	P	**P**	**06 17 14.7**	**-1.5**
	SNR=28						
TKM2	**Tokmak 2**	**2.29**	**302**	P	**P**	**06 17 16.2**	**-0.4**
	SNR=39						
KBK	**Karagaybulak**	**2.61**	**291**	P	**P**	**06 17 21.7**	**+0.4**
	SNR=5.4						
UCH	**Uchtor**	**2.83**	**281**	P	**P**	**06 17 24.1**	**-0.2**
	SNR=7.4						
KSH	**Kashi**	**2.83**	**219**	*e*PG	**P**	**06 17 24.4**	**+0.1**
KSH				SG	**S**	**06 18 02.2**	**+4.7**
KSH				Smax			
	comp=N,100nm,1.0s						
KSH				Smax			
	comp=E,100nm,0.9s						
AAK	**Ala-Archa**	**2.93**	**289**	⇑Pn	**Pn**	**06 17 25.6**	**-0.3**
	comp=E,5.7nm,0.5s						
AAK				⇓Lg		06 18 06.4	
	comp=E,17nm,0.6s						
AAK	**Ala-Archa**	**2.93**	**289**	P	**P**	**06 17 25.8**	**+0.1**
	SNR=9.4						
AML	**Almayashu**	**3.42**	**278**	P	**P**	**06 17 35.4**	**+2.7**
	SNR=10						
MK31	**Makanchi Array**	**5.81**	**29**	⇑Pn	**Pn**	**06 18 05.3**	**-1.4**
	comp=E,0.2nm,0.3s,baz=208,slow=13,SNR=18						
MK31				Sn	**Sn**	**06 19 14.2**	**+1.1**
	comp=E,5.8nm,0.7s,baz=204,slow=21,SNR=9.0						
MK31				⇓Lg		06 19 37.1	
	comp=E,2.5nm,0.5s						

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*IDC **09** 06:51:01.2±3.7, 4.64S×144.31E, h93km±36km, mb4.0/9, mb1 4.0/12, mb1mx4.0/16, MS3.0/3, Ms1 3.0/3, ms1mx2.7/18, Error ellipse: s-maj=26.2km s-min=20.1km az=111.0*
*NEIC **09** 06:51:02.1±1.6, 4.65S×144.20E, h98km±16km, mb4.2/5, Error ellipse: s-maj=16.5km s-min=10.6km az=118.0*
ISC 09 06:51:01.0±2.2**, 4.7S**±0.1×**144.2E**±0.1**, h102km±22km, n26, σ0.84/21, mb4.1/12, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WAU	**Wau**	**3.62**	**137**	*e*P	**P**	**06 51 57.8**	**+1.5**
PMG	**Port Moresby**	**5.52**	**148**	P	**P**	**06 52 21.8**	**-0.3**
	4.6nm,0.3s,baz=320,slow=4.0,SNR=9.6						
PMG				S	**S**	**06 53 23.5**	**-1.3**
	7.7nm,0.3s,baz=103,slow=20,SNR=5.4						
PMG				LR	LR	06 54 07.8	
	comp=Z,89nm,19.1s,baz=302,slow=34						
CTA	**Charters Tower**	**15.43**	**173**	P	**P**	**06 54 35.4**	**+1.1**
	0.1nm,0.3s,baz=258,slow=18,SNR=2.3						
WRAB	**Tennant Creek**	**17.93**	**212**	*e*P	**P**	**06 55 04.7**	**-0.6**
	5.4nm,0.7s						
WRA	**Warramunga Arr**	**17.94**	**212**	P	**P**	**06 55 04.6**	**-0.9**
	0.5nm,0.3s,baz=35,slow=12,SNR=27						
WRA				LR	LR	07 02 34.2	
	comp=Z,42nm,20.5s,baz=185,slow=38						
ASAR	**Alice Springs**	**21.32**	**207**	P	**P**	**06 55 41.2**	**0.0**
	1.3nm,0.5s,mb3.5,baz=38,slow=8.0,SNR=29						
ASAR				LR	LR	07 05 32.3	
	comp=Z,53nm,18.2s,baz=234,slow=41						
FITZ	**Fitzroy Crossi**	**22.52**	**232**	P	**P**	**06 55 53.1**	**-0.1**
	17nm,0.6s,mb4.5,baz=38,slow=7.6,SNR=54						
STKA	**Stephens Creek**	**27.15**	**185**	P	**P**	**06 56 36.4**	**-0.4**
	2.0nm,1.1s,mb3.6,baz=311,slow=9.3,SNR=2.6						
MBWA	**Marble Bar**	**28.85**	**233**	*e*P	**P**	**06 56 51.8**	**-0.5**
	4.6nm,0.5s,mb4.4						
NWAO	**Narrogin (SRO)**	**37.72**	**219**	P	**P**	**06 58 09.5**	**+1.0**
	11nm,0.8s,mb4.8,baz=20,slow=7.6,SNR=3.2						
CMAR	**Chiang Mai Arr**	**50.19**	**299**	P	**P**	**06 59 49.5**	**+0.7**
	1.2nm,0.6s,mb4.0,baz=126,slow=6.6,SNR=5.1						
MKAR	**Makanchi Array**	**74.74**	**321**	P	**P**	**07 02 31.2**	**-0.4**
	1.3nm,0.4s,mb4.0,baz=104,slow=7.4,SNR=21						
ZAL	**Zalesovo**	**76.45**	**328**	P	**P**	**07 02 40.2**	**-1.0**
	2.3nm,0.5s,mb4.2,baz=351,slow=14,SNR=5.0						
ZAL	**Zalesovo**	**76.45**	**328**	P	**P**	**07 02 40.2**	**-1.0**
MAW	**Mawson**	**82.38**	**202**	P	**P**	**07 03 13.2**	**+0.4**
	2.9nm,0.9s,mb4.1,baz=104,slow=7.4,SNR=16						
MAW	**Mawson**	**82.38**	**202**	*e*P	**P**	**07 03 13.9**	**+1.1**
	1.9nm,0.7s,mb4.0						
BRVK	**Borovoye**	**84.16**	**324**	*e*P	**P**	**07 03 22.5**	**+0.4**
	3.7nm,0.8s,mb4.3						
ZRNK	**Zerenda**	**84.88**	**324**	*e*P	**P**	**07 03 25.7**	**0.0**
	2.1nm,0.6s,mb4.2						
QSPA	**South Pole Qui**	**85.26**	**180**	*e*P	**P**	**07 03 28.3**	**+1.3**
ILAR	**Eielson Array**	**85.40**	**24**	P	**P**	**07 03 26.6**	**-1.3**
	3.1nm,1.0s,mb4.2,baz=263,slow=5.6,SNR=19						
PMSA	**Palmer Station**	**107.62**	**168**	*e*P		07 09 07.7	
KIC	**Kosan Boka**	**149.05**	**275**	*e*PKP1	PKPdf	07 10 40.8	+6.7
	31nm,0.7s						
DBIC	**Dimbokro**	**149.16**	**275**	PKPbc	PKPdf	07 10 40.7	+6.4
	7.7nm,0.6s,baz=21,slow=1.7,SNR=19						
DBIC	**Dimbokro**	**149.16**	**275**	PKPbc	PKPdf	07 10 40.7	+6.4
TIC	**Toumodi**	**149.32**	**275**	*e*PKP1	PKPdf	07 10 41.5	+7.0
	40nm,0.6s						
LIC	**Lamto**	**149.34**	**274**	*e*PKP1	PKPdf	07 10 41.4	+6.8
	29nm,0.5s						

IDC 09 07:17:57.1±3.9**, 3.30N×127.01E, mb3.8/4, mb1 4.0/4, mb1mx3.7/18, Error ellipse: s-maj=108.0km s-min=58.8km az=78.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.31**	**184**	P	P	07 22 45.1	-2.8
	5.0nm,1.2s,baz=344,slow=8.7,SNR=4.8						
WRA	**Warramunga Arr**	**24.19**	**163**	P	P	07 23 15.5	-0.9
	1.5nm,0.3s,baz=343,slow=9.9,SNR=29						
ASAR	**Alice Springs**	**27.63**	**166**	P	P	07 23 46.8	-1.8
	0.3nm,0.4s,baz=352,slow=7.1,SNR=6.2						
STKA	**Stephens Creek**	**37.63**	**159**	P	P	07 25 14.0	-1.6
	1.6nm,0.8s,baz=321,slow=13,SNR=3.8						

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*IDC **09** 07:25:20.9±1.1, 15.21N×120.23E, mb3.8/6, mb1 3.9/6, mb1mx3.8/19, Error ellipse: s-maj=56.2km s-min=18.6km az=62.0*
ISC 09 07:25:21.3±0.6**, 13.77N**±0.05×**120.48E**±0.07**, h109km±5km, n16, σ0.61/20, mb3.9/4, 1C-1D, Mindoro**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.23**	**261**	*e*P	**P**	**07 25 36.9**	**+0.1**
LUBP				*e*S	**S**	**07 25 47.8**	**-0.5**
TGY	**Tagaytay City**	**0.55**	**53**⇑	*i*P	**P**	**07 25 39.0**	**+0.5**
TGY				*i* S	**S**	**07 25 50.8**	**-0.7**
LQP	**Lukban**	**1.08**	**72**⇓	*i*P	**P**	**07 25 43.9**	**+0.3**
LQP				*i* S	**S**	**07 25 60.0**	**-0.3**
BOAC	**Boac**	**1.36**	**103**	*e*P	**P**	**07 25 46.9**	**+0.1**
BOAC				*e*S	**S**	**07 26 05.8**	**-0.2**
SJMP	**San Jose**	**1.44**	**154**	*e*P	**P**	**07 25 48.5**	**+0.7**
SJMP				*e*S	**S**	**07 26 07.5**	**-0.1**
POLP	**Polilio Island**	**1.71**	**56**	*e*P	**P**	**07 25 51.8**	**+0.9**
OTRP	**Odiongan**	**2.05**	**133**	*e*P	**P**	**07 25 55.9**	**+0.5**
OTRP				*e*S	**S**	**07 26 20.3**	**-0.5**
SCZP	**Santa Cruz**	**2.07**	**345**	*e*P	**P**	**07 25 55.7**	**+0.1**
BOLP	**Bolinao**	**2.65**	**348**	*e*P	**P**	**07 26 04.1**	**+0.6**
CUYO	**Cuyo Island**	**2.95**	**170**	*e*P	**P**	**07 26 07.5**	**-0.1**
CMAR	**Chiang Mai Arr**	**21.20**	**286**	P	**P**	**07 30 03.6**	**+3.9**
	1.3nm,0.7s,mb3.4,baz=100,slow=8.3,SNR=7.0						
SONM	**Songino Array**	**35.93**	**344**	P	**P**	**07 32 11.9**	**-1.1**
	1.5nm,0.4s,mb4.2,baz=164,slow=10.0,SNR=14						
WRA	**Warramunga Arr**	**36.17**	**158**	P	pP	07 32 36.3	-3.8
	0.7nm,0.8s,baz=333,slow=10,SNR=5.6						
ASAR	**Alice Springs**	**39.45**	**160**	P	pP	07 33 05.9	-1.7
	0.5nm,0.8s,baz=344,slow=7.2,SNR=8.6						
MKAR	**Makanchi Array**	**45.85**	**324**	P	**P**	**07 33 34.5**	**+0.3**
	2.0nm,0.8s,mb3.9,baz=127,slow=9.4,SNR=13						
BVAR	**Borovoye Array**	**55.60**	**326**	P	**P**	**07 34 46.8**	**-1.0**
	1.0nm,0.4s,mb4.2,baz=108,slow=9.4,SNR=8.8						

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*NEIC **09** 07:56:56.2, 18.47N×68.52W, h171km, MD3.7(RSPR), After RSPR.*
RSPR 09 07:56:56.2, 18.47N×68.52W, h171km±4km, MD3.7/4, MD3.7/4, 5C, Mona Passage

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LSP	**Las Mesas**	**1.39**	**102**⇑	*e*P	P	07 57 25.9	-0.9
LSP				*e*S	S	07 57 49.5	-0.8
LRS	**Lares**	**1.60**	**96**⇑	*e*P	P	07 57 28.8	+0.1
LRS				*e*S	S	07 57 54.1	+0.3
AOPR	**Arecibo Observ**	**1.68**	**94**⇑	*e*P	P	07 57 29.4	-0.2
AOPR				*e*S	S	07 57 55.6	+0.3
PORP	**Portuguez**	**1.83**	**103**	*e*S	S	07 57 58.6	+0.4
CSB	**Colonia Sabana**	**2.25**	**94**⇑	*e*P	P	07 57 35.5	-0.4
CSB				*e*S	S	07 58 06.9	+0.4
SJG	**San Juan**	**2.28**	**99**	*e*S	S	07 58 04.8	-2.3
CBYP	**Canovanas**	**2.53**	**94**⇑	*e*P	P	07 57 39.4	+0.1
CBYP				*e*S	S	07 58 12.5	0.0
HUMP	**Col San Antoni**	**2.55**	**97**	*e*S	S	07 58 12.3	-0.7

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*MOS **09** 08:16:51.3±1.1, 51.08N×154.80E, h529km, mb4.3/1, Error ellipse: s-maj=99.9km s-min=36.7km az=60.1*
KRSC 09 08:16:50.8±0.5**, 51.03N×154.46E, h532km±10km, ML4.0, Northwest of Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GRL	**Gorelyy**	**2.71**	**54**	*e*P	P	08 18 03.0	-0.2
RUS	**Russkaya**	**2.88**	**59**	P	P	08 18 04.6	+0.4
RUS				S	S	08 18 57.6	-4.7
RUS	**Russkaya**	**2.88**	**59**	*e*P	P	08 18 04.9	+0.7
RUS				*e*S	S	08 18 58.8	-3.5
GNL	**Ganaly**	**3.42**	**37**	*e*P	P	08 18 07.4	-0.3
AVH	**Avacha**	**3.46**	**48**	*e*P	P	08 18 07.7	-0.3
AVH				*e*S	S	08 19 03.4	-5.8
SDLR	**Sedlovina**	**3.53**	**49**	*e*P	P	08 18 08.3	-0.2
NLC	**Nalytchevo**	**3.70**	**53**	*e*S	S	08 19 08.3	-4.0
SPN	**Mys Shipunski**	**4.01**	**57**	P	P	08 18 11.2	-0.8
SPN				S	S	08 19 10.3	-6.2
SPN	**Mys Shipunski**	**4.01**	**57**	*e*P	P	08 18 11.5	-0.5
SPN				*e*S	S	08 19 10.3	-6.2
TUMR	**Tumrok**	**5.46**	**37**	*e*P	P	08 18 23.9	-0.5
TUMR				*e*S	S	08 19 32.1	-6.5
MKZ	**Mys Kozlova**	**5.65**	**48**	*e*P	P	08 18 25.9	-0.2
MKZ				*e*S	S	08 19 35.3	-6.4
KOZ	**Kozyrevsk**	**5.98**	**31**	P	P	08 18 29.4	+0.2
KOZ	**Kozyrevsk**	**5.98**	**31**	*e*P	P	08 18 29.0	-0.2
KOZR	**Kozyr**	**6.00**	**31**	P	P	08 18 29.4	+0.1
KPT	**Kopyto**	**6.02**	**33**	*e*P	P	08 18 29.4	-0.2
SRDR	**Sredinnyy**	**6.15**	**28**	*e*P	P	08 18 30.7	0.0
ZLN	**Zelenaya**	**6.26**	**35**	*e*P	P	08 18 32.2	+0.3
ZLN				*e*S	S	08 19 46.8	-5.3
LGNR	**Loginova**	**6.28**	**34**	*e*P	P	08 18 32.7	+0.7
CIRR	**Tsirk**	**6.32**	**34**	*e*P	P	08 18 32.4	0.0
KRSR	**Krestovskiy**	**6.34**	**33**	*e*P	P	08 18 31.8	-0.8
KBTR	**Krutoberegovo**	**7.18**	**41**	P	P	08 18 40.4	-0.3
KBTR				S	S	08 20 00.6	-7.6
KBTR	**Krutoberegovo**	**7.18**	**41**	*e*P	P	08 18 41.1	+0.4
KBTR				*e*S	S	08 20 01.4	-6.8

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*BJI **09** 08:16:58.6, 5.75S×103.18E, h61km, mB5.2, mb5.2, Ms4.6, Msz4.3*
*MOS **09** 08:17:01.2±0.9, 4.54S×103.86E, h33km, mb5.4/13, Error ellipse: s-maj=79.1km s-min=12.5km az=117.7*
*DJA **09** 08:17:03.4±0.7, 5.21S×102.72E, h30km, mb5.4/2, ML5.6/2, Error ellipse: s-maj=40.4km s-min=4.4km az=41.0*
*IDC **09** 08:17:07.4±1.7, 4.86S×103.17E, h61km±13km, mb4.8/20, mb1 4.9/20, mb1mx4.9/20, MS4.0/10, Ms1 4.1/10, ms1mx3.9/14, Error ellipse: s-maj=20.8km s-min=8.4km az=46.0*
*NEIC **09** 08:17:07.4±0.7, 4.89S×103.10E, h62km±6km, mb5.2/23, Error ellipse: s-maj=8.5km s-min=4.5km az=54.0*
NEIC Felt [III] at Bengkulu and [II] at Kapahiang.
*HRVD **09** 08:17:07.4±0.4, 5.40S×102.67E, h70km±2km, MW5.0/53, Centroid moment Tensor Solution. LP body waves: s38,c49;Mantle waves: s53,c81; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.74±.22; $M_{\theta\theta}$-2.95±.18; $M_{\phi\phi}$0.21±.25; $M_{r\theta}$1.19±.12; $M_{\theta\phi}$2.78±.15; $M_{\phi r}$-0.22±.16; Best double couple: $M_0$3.89×10^{16} NP1:ϕ_s320°,δ40°,λ119°. NP2:ϕ_s104°,δ56°,λ68°. Principal axes: T 3.05, Plg70°, Azm324°; N 1.7, Plg18°, Azm117°; P -4.74, Plg9°, Azm210°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 09 08:17:05.8±0.8**, 4.84S**±0.04×**103.17E**±0.04**, h62km±7km, h55km±2.2km:pP-P, n236, σ1.07/189, mb5.2/68, 20C-11D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PENI	**Pendagan**	**2.12**	**110**⇓	*e*Pn	**P**	**08 17 42.5**	**+2.8**

3µm,0.2s
PASI Pasiripis 3.03 127⇑ *e*Pn P 08 17 53.2 +0.6
2µm,0.3s
PACI Pancar Gunung 4.11 115⇑ *e*Pn P 08 18 10.2 +2.5
KALI Kaliastana 4.14 123⇑ *e*Pn P 08 18 08.2 +0.1
KALI Kaliastana 4.14 123⇑ *e*P P 08 18 09.1 +1.0
MRPI Mariponipon 7.47 329⇑ *e*P P 08 18 53.3 -1.2
AEKI Aeknabara 8.35 326⇑ *e*P P 08 19 03.6 -2.9
AEKI ⇓*e*S S 08 20 38.6 -1.7
IPM Ipoh 9.60 347⇓ *e*P P 08 19 28.0 +4.2
19nm,0.5s
COCO West Island 9.62 220 Pn P 08 19 16.2 -7.8
6µm,1.0s,SNR=16
COCO West Island 9.62 220 *e*P P 08 19 16.4 -7.7
829nm,0.8s
COCO *e* 08 19 28.0
SRDI Scrawed 11.48 109⇓ *e*P P 08 19 49.8 +0.5
KELI Kelakatan 11.74 107⇓ *e*P P 08 19 53.2 +0.4
201nm,0.2s
KELI Kelakatan 11.74 107⇓ *e*P P 08 19 53.3 +0.5
201nm,0.2s
RATI Rata 12.87 108⇑ *e*P P 08 20 06.2 -1.6
660nm,0.2s
KEDI Kedomdong 13.36 106 *e*P P 08 20 11.7 -2.5
KEDI Kedomdong 13.36 106 *e*P P 08 20 11.2 -3.0
KKM Kota Kinabalu 16.93 50 *e*P P 08 21 05.0 +4.9
NST Nakhon Sawan 20.60 352 P P 08 21 42.8 +0.5
KKTK Khon Kaen 21.04 359 P P 08 21 49.0 +2.2
BDT Bhumibol Dam 22.32 349 P P 08 22 00.0 +0.5
MBWA Marble Bar 22.84 137 *e*P P 08 22 04.7 +0.1
9.8nm,0.8s,mb4.3
MBWA *e* 08 22 18.6
CM31 Chiang Mai Arr 23.52 350 *e*P P 08 22 12.2 +0.9
18nm,0.4s,mb4.8
CMAR Chiang Mai Arr 23.52 350 P P 08 22 11.9 +0.7
30nm,0.5s,mb5.0,baz=181,slow=8.9,SNR=125
CMAR PcP PcP 08 25 57.0 -0.1
2.9nm,0.8s,baz=206,slow=2.9,SNR=4.5
CMAR LR LR 08 33 03.6
comp=Z,354nm,18.1s,baz=175,slow=41
CHG Chiang Mai 23.87 350 ⇑P P 08 22 15.2 +0.6
50nm,0.7s,mb5.1
QIZ Qiongzhong 24.61 15 P P 08 22 24.6 +2.7
QIZ S S 08 26 50.1 +14
QIZ XS 08 27 05.2
QIZ LR LR
comp=N,282nm,24.7s
QIZ LR LR
comp=E,272nm,20.2s
QIZ LR LR
comp=Z,410nm,21.6s
FITZ Fitzroy Crossi 25.62 123 P P 08 22 31.4 0.0
comp=Z,52nm,0.8s,mb5.1,baz=317,slow=3.9,SNR=86
FITZ PcP PcP 08 26 01.3 -0.2
comp=Z,6.2nm,0.8s,baz=322,slow=2.2,SNR=3.1
FITZ LR LR 08 32 29.8
comp=Z,91nm,21.4s,baz=286,slow=36
VIS Vishakhapatnam 29.77 319 *e*P P 08 23 08.4 -0.5
KMI Kunming 29.79 359 *e*P P 08 23 10.8 +1.7
KMI AMB AMB
comp=Z,37nm,0.9s,mb5.1
KMI LR LR
comp=N,528nm,17.0s
KMI LR LR
comp=E,306nm,13.7s
KMI LR LR
comp=Z,570nm,16.2s
NWAO Narrogin (SRO) 30.88 157 P P 08 23 17.1 -1.5
comp=Z,6.9nm,0.8s,mb4.5,baz=9.5,slow=6.1,SNR=3.0
GYA Guiyang 31.30 6 P P 08 23 23.1 +0.7
GYA AMB AMB
comp=Z,220nm,4.1s
HYB Hyderabad 32.86 313 *i*P P 08 23 36.0 -0.1
HYB *e* pP 08 23 49.5 -2.1
WRA Warramunga Arr 33.85 119 P P 08 23 43.3 -1.3
comp=Z,40nm,0.7s,mb5.5,baz=295,slow=9.5,SNR=345
WRA PcP PcP 08 26 22.6 +0.1
comp=Z,5.6nm,0.7s,baz=297,slow=2.5,SNR=5.4
WRA S S 08 29 04.7 +1.4
comp=Z,2.2nm,1.0s,baz=294,slow=16,SNR=4.2
WRA P3KPbc 08 54 51.9
comp=Z,0.6nm,0.7s,baz=102,slow=4.2,SNR=11
WRA Warramunga Arr 33.85 119 P P 08 23 43.3 -1.3
WRA PcP PcP 08 26 22.6 +0.1
WRA S S 08 29 04.7 +1.4
WRA *e* 08 54 51.9
WRAB Tennant Creek 33.85 119 P P 08 23 44.0 -0.7
comp=Z,441nm,0.7s,SNR=44
WRAB Tennant Creek 33.85 119 *e*P P 08 23 43.9 -0.8
comp=Z,73nm,0.7s,mb5.7
ASAR Alice Springs 35.04 125 P P 08 23 54.4 -0.3
comp=Z,37nm,0.9s,mb5.3,baz=303,slow=8.0,SNR=246
ASAR PcP PcP 08 26 26.0 +0.1
comp=Z,8.5nm,0.9s,baz=292,slow=3.1,SNR=7.4
ASAR S S 08 29 20.9 -0.8
comp=Z,2.0nm,0.8s,baz=287,slow=13,SNR=6.6
ASAR LR LR 08 39 18.8
comp=Z,151nm,18.8s,baz=297,slow=38
ASAR P3KPbc 08 54 46.0
comp=Z,0.3nm,0.7s,baz=124,slow=4.3,SNR=4.2
ASAR Alice Springs 35.04 125 P P 08 23 54.4 -0.3
ASAR PcP PcP 08 26 26.0 +0.1
ASAR S S 08 29 20.9 -0.8
ASAR *e* 08 54 46.0
ENH Enshi 35.43 9 *e*P P 08 23 58.1 0.0
comp=Z,21nm,1.0s,mb5.0
CD2 Chengdu 35.55 1⇓ *i*P P 08 23 59.0 -0.1
CD2 AMB AMB
comp=Z,30nm,0.7s,mb5.3
LSA Lhasa 36.23 342 P P 08 24 06.0 +1.2
PKI Pulchoki 36.50 333 *e*P P 08 24 07.0 -0.1
comp=Z,42nm,0.7s,mb5.4
GUN Gumba 36.58 334 *e*P P 08 24 08.3 +0.5
comp=Z,216nm,0.7s,mb6.1
DMN Daman 36.67 333 *e*P P 08 24 08.6 0.0
comp=Z,82nm,0.9s,mb5.6
KKN Kakani 36.75 333 *e*P P 08 24 09.1 -0.1
comp=Z,122nm,0.8s,mb5.8
WHN Wuhan 36.77 16 ⇓P P 08 24 10.7 +1.3
POO Poona 37.07 310 *e*P P 08 24 13.0 +1.1
POO *e* 08 24 13.6
comp=Z,29nm,1.0s
GKN Gorkha 37.22 332 *e*P P 08 24 13.3 +0.1
comp=Z,74nm,0.6s,mb5.7
MENI Mendum Tagoi 37.24 88⇓ *e*P P 08 24 11.5 -2.0
YOMI Yo Mokiole 37.37 88⇓ *e*P P 08 24 13.2 -1.4
KOLN Koldanda 37.52 331 *e*P P 08 24 16.1 +0.5
comp=Z,153nm,0.9s,mb5.7
BHPL Bhopal 37.56 319 *e*P P 08 24 16.4 +0.3
BHPL *e* 08 24 17.3
comp=Z,30nm,0.9s
NJ2 Nanjing 39.61 21 *e*P P 08 24 33.6 +0.6
NJ2 AP pP 08 24 43.2 -5.6
NJ2 PP PP 08 26 05.5 -3.1
NJ2 AMB AMB
comp=Z,40nm,0.6s,mb5.3
NJ2 LR LR
comp=N,690nm,25.0s
NJ2 LR LR
comp=E,1µm,19.9s
NJ2 LR LR
comp=Z,4µm,18.3s
SSE Sheshan 39.66 25 *e*P P 08 24 31.2 -2.2
SSE AP pP 08 24 44.7 -4.5
SSE XP sP 08 24 53.6 -3.1
SSE AMB AMB
comp=Z,36nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,157nm,3.9s
SSE LR LR
comp=N,139nm,34.3s
SSE LR LR
comp=E,48nm,34.5s
AGRA Agra 40.13 324 *e*P P 08 24 35.0 -2.4
LGTI Lohaghat 40.58 329 *e*P P 08 24 41.5 +0.5
LZH Lanzhou 40.72 1 ⇑P P 08 24 43.1 +1.0
LZH AP pP 08 25 01.0 +3.1
LZH XP sP 08 25 08.7 +3.4
LZH AMB AMB
comp=Z,70nm,1.0s,mb5.2
LZH AMB AMB
comp=Z,130nm,4.7s
LZH LR LR
comp=E,790nm,14.5s
LZH LR LR
comp=Z,720nm,16.4s

ASOR Ausora 41.38 325 *e*P P 08 24 48.4 +0.8
SONA Sohna 41.40 324 *e*P P 08 24 47.9 +0.1
SONA *e* 08 24 48.5
comp=Z,51nm,0.4s
AYAN Aya Nagar 41.55 324 *e*P P 08 24 49.0 0.0
AYAN *e* 08 24 49.7
comp=Z,38nm,0.4s
AJM Ajmer 41.62 320 *e*P P 08 24 48.3 -1.4
AJM *e* 08 24 51.1
comp=Z,18nm,0.7s
NDI New Delhi 41.65 325⇑ *i*P P 08 24 48.5 -1.4
NDI *e*S S 08 30 59.0 -2.6
KUDL Kundal 41.67 323 *e*P P 08 24 50.0 -0.1
KUDL *e* 08 24 51.4
comp=Z,48nm,0.5s
JOSI Joshimath 41.82 329 *e*P P 08 24 50.9 -0.4
JOSI *e* 08 24 52.6
comp=Z,132nm,1.0s
KHET Khetri 42.03 323 *e*P P 08 24 53.3 +0.2
KHET *e* 08 24 54.2
comp=Z,27nm,0.7s
DDI Dehra Dun 42.43 327 *e* P 08 24 53.0 -3.3
PMG Port Moresby 43.86 98 P P 08 25 07.6 -0.6
comp=Z,21nm,0.6s,mb5.1,baz=248,slow=4.2,SNR=13
GTA Gaotai 44.14 356 P P 08 25 11.0 +0.9
GTA XP sP 08 25 27.7 -5.6
GTA PP PP 08 26 54.6 -0.5
GTA PPP PPP 08 27 33.1 -0.9
GTA SCP 08 30 41.1
GTA S S 08 31 41.1 +3.3
GTA AMB AMB
comp=Z,17nm,0.8s,mb4.8
GTA LR LR
comp=N,266nm,18.3s
GTA LR LR
comp=E,180nm,24.7s
GTA LR LR
comp=Z,321nm,18.3s
JASL Jaisalmer 44.39 317 *e*P P 08 25 10.8 -1.4
ADE Adelaide 44.46 137 *e*P P 08 25 13.5 +0.8
CTA Charters Tower 44.55 114 P P 08 25 14.3 +0.7
comp=Z,43nm,1.1s,mb5.2,baz=278,slow=9.9,SNR=22
CTA Charters Tower 44.55 114 P P 08 25 14.3 +0.6
CTAO Charters Tower 44.55 114 *e*P P 08 25 13.4 -0.3
comp=Z,65nm,1.1s,mb5.4
STKA Stephens Creek 44.91 131 P P 08 25 16.9 +0.5
comp=Z,33nm,0.7s,mb5.3,baz=302,slow=7.9,SNR=80
STKA LR LR 08 42 52.7
comp=Z,185nm,21.8s,baz=115,slow=34
STKA Stephens Creek 44.91 131 *e*P P 08 25 16.4 +0.1
STKA *e* pP 08 25 27.5 -4.8
STKA *e* pP 08 25 32.8 +0.4
HHC Hu-ho-hao-te 46.11 9 ⇑P P 08 25 27.2 +1.4
HHC AMB AMB
comp=Z,31nm,1.0s,mb5.2
HHC AMB AMB
comp=Z,89nm,5.8s
BJT Baijiatuan 46.22 14 *e*P P 08 25 27.0 +0.4
comp=Z,38nm,0.9s,mb5.3
BJT LR LR
comp=Z,471nm,21.0s
BJI Beijing 46.24 14 *e*P P 08 25 27.0 +0.2
BJI AMB AMB
comp=Z,37nm,0.9s,mb5.3
BJI LR LR
comp=N,305nm,25.2s
BJI LR LR
comp=E,251nm,19.9s
BJI LR LR
comp=Z,346nm,25.9s
WMQ Urumqi 50.41 345 P P 08 25 59.5 +0.4
WMQ AP pP 08 26 10.0 -5.2
WMQ PP PP 08 28 00.3 +4.4
WMQ AMB AMB
comp=Z,73nm,1.0s,mb5.7
WMQ LR LR
comp=Z,134nm,15.0s
KSH Kashi 50.77 333 P P 08 26 02.0 +0.2
KSH *e*AP pP 08 26 16.0 -2.0
KSH *e*XP sP 08 26 27.0 +1.9
KSH AMB AMB
comp=Z,210nm,3.9s
KSH LR LR
comp=N,160nm,5.0s
KSH LR LR
comp=E,160nm,5.2s
CN2 Changchun 52.42 20 *e*P P 08 26 13.6 -0.6
CN2 AMB AMB
comp=Z,30nm,1.1s,mb5.1
CN2 AMB AMB
comp=Z,250nm,4.0s
CN2 LR LR
comp=N,290nm,14.0s
CN2 LR LR
comp=E,250nm,14.0s
CN2 LR LR
comp=Z,250nm,16.0s
SONM Songino Array 52.53 3 P P 08 26 15.5 +0.5
comp=Z,28nm,0.8s,mb5.2,baz=182,slow=8.7,SNR=96
SONM PcP PcP 08 27 24.5 -0.2
comp=Z,5.9nm,0.5s,baz=184,slow=4.0,SNR=8.7
MAT Matsushiro 52.60 36 P P 08 26 13.7 -2.0
MAT Matsushiro 52.60 36 *e*P P 08 26 14.0 -1.7
ULHL Ulahol 52.88 335 P P 08 26 17.0 -0.6
SNR=12
KZA Kyzart 53.16 334 P P 08 26 19.9 +0.1
SNR=22
UCH Uchtor 53.60 334 P P 08 26 23.1 0.0
SNR=16
TKM2 Tokmak 2 53.70 335 P P 08 26 23.4 -0.3
SNR=67
KBK Karagaybulak 53.76 334 P P 08 26 24.3 +0.1
SNR=6.0
AML Almayashu 53.89 333 P P 08 26 25.0 -0.1
SNR=37
AAK Ala-Archa 53.94 334 P P 08 26 25.4 -0.1
SNR=9.0
AAK Ala-Archa 53.94 334*c* *i*P P 08 26 24.1 -1.4
AAK Ala-Archa 53.94 334 *e*P P 08 26 24.2 -1.3
comp=Z,10nm,0.9s,mb4.8
AAK LR LR
comp=Z,42nm,19.0s
FRU Bishkek 54.05 334⇑ *e*P P 08 26 26.0 -0.3
FRU pmax pmax
comp=Z,40nm,1.2s,mb5.2
EKS2 Erkin-Say 54.28 334 P P 08 26 27.9 -0.1
SNR=49
USP Ospenovka 54.45 334 P P 08 26 28.5 -0.7
SNR=12
MKAR Makanchi Array 54.63 343 P P 08 26 29.6 -0.9
comp=Z,34nm,0.5s,mb5.6,baz=148,slow=8.3,SNR=353
MKAR S S 08 34 04.5 +0.7
comp=Z,0.6nm,0.8s,baz=158,slow=16,SNR=3.6
MKAR LR LR 08 54 25.1
comp=Z,85nm,18.2s,baz=158,slow=41
MKAR Makanchi Array 54.63 343 *i*P P 08 26 29.5 -1.0
MKAR pmax pmax
comp=Z,20nm,0.5s
MDJ Mudanjiang 54.65 23 P P 08 26 30.1 -0.5
MDJ AMB AMB
comp=Z,17nm,1.3s,mb4.9
MDJ AMB AMB
comp=Z,91nm,6.7s
MDJ Mudanjiang 54.65 23 *e*P P 08 26 30.4 -0.2
comp=Z,20nm,1.1s,mb5.1
HIA Hailar 55.78 13 *e*P P 08 26 37.8 -1.0
comp=Z,24nm,1.1s,mb5.1
HIA LR LR
comp=Z,275nm,19.0s
KURK Kurchatov 59.23 342 *i*P P 08 27 02.0 -1.0
KURK pmax pmax
comp=Z,14nm,0.8s,mb5.0
KURK Kurchatov 59.23 342 *e*P P 08 27 02.0 -1.0
comp=Z,48nm,0.9s,mb5.5
KURK *e* pP 08 27 16.4 -3.2
KURK LR LR
comp=Z,38nm,20.0s
KLR Kul'dur 59.31 21 *e*P P 08 27 00.0 -3.6
HASS Wahat al Ahsa' 59.87 303 P P 08 27 07.3 -0.5
ZAL Zalesovo 60.56 348 LR LR 08 57 23.8
comp=Z,429nm,20.2s,baz=220,slow=40
NVS Novosibirsk 61.74 347 *e*P P 08 27 17.3 -2.7
NVS *i* *PP pP 08 27 34.1 -2.6
NVS *i* 08 29 41.1
NVS *i* S S 08 35 28.2 -8.2
NVS *i* SP SP 08 35 57.1 +4.6

NVS pmax pmax
comp=N,34nm,1.3s
NVS pmax pmax
NVS comp=E,12nm,1.3s
NVS pmax pmax
comp=Z,29nm,1.3s,mb5.2
NVS pmax pmax
NVS comp=Z,12nm,1.7s,mb4.8
NVS pmax pmax
comp=N,10.0nm,1.3s
NVS pmax pmax
NVS comp=E,6.0nm,1.3s
NVS smax
comp=N,18nm,1.9s
NVS smax
comp=E,25nm,1.9s
YSS Yuzh-Sakhalins 62.29 30⇑ *i*P P 08 27 22.9 -0.9
YSS *e* pP 08 27 36.0 -4.5
YSS pmax pmax
comp=Z,30nm,0.9s,mb5.4
YSS Yuzh-Sakhalins 62.29 30 *e*P P 08 27 23.0 -0.8
comp=Z,22nm,0.7s,mb5.4
RAYN Ar Rayn 62.87 299 P P 08 27 27.8 -0.2
comp=Z,53nm,0.7s,mb5.8,SNR=10
DJNS Zahran al Janu 62.94 293 P P 08 27 29.9 +1.4
BOD Bodaibo 63.07 6 *e*P P 08 27 27.6 -1.3
MZLS Mizel 63.29 300 P P 08 27 30.6 -0.2
TATS Tathlith 63.48 295 P P 08 27 32.3 +0.2
VOSK Vostochnaya 63.48 339 P P 08 27 29.9 -1.8
VOSK pmax pmax
comp=Z,9.0nm,0.6s,mb5.1
BVA0 Borovoye Array 63.94 339 *i*P P P 08 27 33.3 -1.3
BVA0 pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
BRVK Borovoye 64.01 339 *e*P P 08 27 32.7 -2.3
comp=Z,21nm,0.6s,mb5.3
BRVK *e* pP 08 27 48.9 -2.9
ZRNK Zerenda 64.39 338 P P 08 27 36.2 -1.3
ZRNK pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
AFFS 'Afif 65.17 299 P P 08 27 43.2 +0.1
BLJS Baljurashi 65.28 294 P P 08 27 45.2 +1.3
ARSS Ar Rass 65.58 301 P P 08 27 45.5 -0.2
KMBO Kilima Mbogo 65.91 271 P P 08 27 47.9 -0.1
comp=Z,1.3nm,0.6s,mb4.1,baz=227,slow=24,SNR=5.7
KMBO Kilima Mbogo 65.91 271 *e*P P 08 27 47.7 -0.3
comp=Z,3.3nm,0.8s,mb4.4
KMBO *e* 08 27 59.5
KMBO *e* pP 08 28 04.2 -0.7
KMBO LR LR
comp=Z,182nm,20.0s
LTHS Al Lith 66.46 294 P P 08 27 52.0 +0.7
HILS Ha'il 67.28 302 P P 08 27 57.2 +0.7
MAW Mawson 68.37 195 P P 08 28 01.9 -0.6
comp=Z,4.3nm,1.0s,mb4.4,baz=30,slow=8.4,SNR=10
MAW LR LR 08 51 36.2
comp=Z,390nm,21.2s,baz=55,slow=30
MAW Mawson 68.37 195 *e*P P 08 28 01.8 -0.7
MAW *e* pP 08 28 17.8 -1.7
KBRS Khaybar 68.97 300 P P 08 28 07.9 +1.0
YAK Yakutsk 69.73 13 *e*P P 08 28 09.9 -1.0
YAK pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
YAK pmax pmax
comp=N,9.0nm,1.3s
YAK pmax pmax
comp=E,8.0nm,1.5s
YAK Yakutsk 69.73 13 *e*P P 08 28 08.9 -2.1
comp=E,24nm,0.6s,mb5.3
GNI Garni 69.75 316*c* *i*P P 08 28 11.6 +0.1
GNI pmax pmax
comp=Z,23nm,1.6s
ARU Arti 71.07 336 *e*P P 08 28 15.2 -3.9
KIV Kislovodsk 72.75 319*c* *i*P P 08 28 28.8 -0.5
KIV pmax pmax
comp=Z,27nm,1.1s,mb5.1
LSZ Lusaka 74.26 256 *e*P P 08 28 37.8 -1.0
LSZ *e* pP 08 28 52.4 -3.6
CSS Prodhromos 76.45 308 *e*P P 08 28 50.7 -0.2
comp=Z,52nm,0.9s,mb5.5
ANN Anapa 76.54 318 *e*P P 08 28 38.3 -13
ANN *e**PP pP 08 28 52.2 -16
ANN pmax pmax
comp=Z,36nm,1.1s,mb5.2
BRTR Keskin Array B 77.56 312 P P 08 28 56.2 -0.8
comp=Z,14nm,0.8s,mb4.9,baz=129,slow=7.2,SNR=57
BRTR LR LR 09 05 44.1
comp=Z,68nm,19.9s,baz=180,slow=38
VOR Voronezh 78.09 325 *e*P P 08 28 59.0 -0.6
VOR *e* pP 08 29 15.0 -1.9
VOR pmax pmax
comp=Z,70nm,1.1s,mb5.5
TIXI Tiksi 78.18 8⇑ *i*P P 08 28 58.3 -1.4
TIXI *e* pP 08 29 10.7 -6.3
TIXI pmax pmax
comp=Z,11nm,0.8s,mb4.8
SBA Scott Base 79.87 169 *e*P P 08 29 09.3 +0.4
comp=Z,126nm,2.7s,mb5.4
SBA *e* 08 29 20.5
MOS Moscow 80.55 329 *e*P P 08 29 13.2 +0.3
MOS *i* pP 08 29 29.5 -0.7
MOS pmax pmax
comp=Z,100nm,1.0s,mb5.7
OBN Obninsk 80.86 328*c* *i*P P 08 29 14.6 +0.1
OBN *e* 08 29 19.8
OBN *e**PP pP 08 29 30.7 -1.2
OBN pmax pmax
comp=Z,47nm,0.8s,mb5.5
OBN MLR MLR
comp=Z,100nm,20.0s
OBN Obninsk 80.86 328 *e*P P 08 29 14.8 +0.2
comp=Z,48nm,0.9s,mb5.4
OBN *e* pP 08 29 31.2 -0.7
KIS Kishinev 82.94 318 *e*P P 08 29 25.0 -0.4
AKASG Malin Array Be 83.65 322 P P 08 29 28.6 -0.4
comp=Z,3.7nm,0.5s,mb4.8,baz=86,slow=4.7,SNR=17
MLR Muntele Rosu 84.52 316 P P 08 29 34.7 +1.3
comp=Z,9.0nm,0.7s,mb5.0,baz=130,slow=1.9,SNR=20
QSPA South Pole Qui 85.14 180 *e*P P 08 29 36.1 +0.3
comp=Z,13nm,1.0s,mb5.0
QSPA *e* 08 29 47.6
QSPA LR LR
comp=Z,110nm,20.4s
KWP Kalwaria 87.49 320 *e*P P 08 29 48.8 +0.9
KWP *e* pP 08 30 02.8 -2.8
KWP Kalwaria 87.49 320 *e*P P 08 29 48.8 +0.9
KWP *e* pP 08 30 02.8 -2.8
KOLS Kolonicke sedl 87.65 319 *i*P P 08 29 50.5 +1.8
SUW Suwalki 88.02 324 *e*P P 08 29 51.0 +0.7
SUW *e* pP 08 30 07.6 -0.4
SUW Suwalki 88.02 324 *e*P P 08 29 51.0 +0.7
SUW *e* pP 08 30 07.6 -0.4
FINES FINESS Array B 88.08 332 P P 08 29 51.2 +0.7
comp=Z,9.1nm,0.7s,mb5.2,baz=106,slow=5.2,SNR=32
KAF Kangasniemi 88.14 333 *e*p P 08 29 49.8 -0.9
comp=Z,22nm,0.7s,mb5.5
KAF Kangasniemi 88.14 333 *e*P P 08 29 49.8 -0.9
KAF pmax pmax
comp=Z,22nm,0.7s,mb5.5
DIVS Divcibare 88.44 314⇓ *i*P P 08 29 53.6 +1.0
KECS Kecovo 88.75 319 *e*P P 08 29 55.0 +1.1
NIE Niedzica 89.00 320 *e*P P 08 29 56.9 +1.8
PSZ Piszkesteto 89.05 318 *e*P P 08 29 56.2 +0.8
comp=Z,19nm,1.5s,mb5.2
OJC Ojcow 89.44 320 *e*P P 08 29 58.3 +1.1
OJC Ojcow 89.44 320 *e*P P 08 29 58.3 +1.1
PKSM Moragy 89.67 316⇑ *i*P P 08 29 59.1 +0.7
RHK1 Bakonya 90.05 316⇑ *e*P P 08 30 01.0 +0.9
ARCES ARCESS Array B 90.20 340 P P 08 30 00.9 +0.6
comp=Z,35nm,1.1s,mb5.6,baz=92,slow=5.2,SNR=28
ARCES LR LR 09 14 05.6
comp=Z,171nm,19.6s,baz=185,slow=38
SNAA Sanae 90.42 198 *e*P pP 08 30 18.9 -0.2
SNAA Sanae 90.42 198 *e*P P 08 30 02.0 +0.7
SNAA *e* 08 30 14.2
SNAA *e* 08 30 25.4
MORC Moravsky Berou 90.83 320 *e*P P 08 30 04.7 +1.0
comp=Z,24nm,0.6s,mb4.7
GROS Grobnik 91.86 316 *e*P P 08 30 09.5 +0.9
VNA2 Neumayer--Watz 92.06 198 *e*P P 08 30 07.1 -1.8
VNA2 *e* pP 08 30 27.7 +1.0
VNA2 *e* 08 30 34.0
PDKS Podkum 92.18 316 *e*P P 08 30 11.3 +1.3
PDKS *e*pP pP 08 30 27.9 +0.1

VISS	Visnje	92.27	316	iP	P	08 30 11.3	+0.9
VNA1	Neumayer--Stat	92.42	198	eP	P	08 30 07.4	-3.2
VNA1				e	pP	08 30 28.4	0.0
VNA1				e		08 30 34.7	
LJU	Ljubljana	92.50	316	iP	P	08 30 12.9	+1.4
VNA3	Neumayer Olymp	92.62	197	eP	P	08 30 08.8	-2.7
VNA3				e	pP	08 30 29.4	+0.1
VNA3				e		08 30 35.7	
PRU	Pruhonice	92.78	320	eP	P	08 30 13.7	+1.0
GERES	GERESS Array B	93.25	319	P	P	08 30 16.1	+1.2
	comp=Z,2.5nm,0.8s,mb4.7,baz=63,slow=3.0,SNR=12						
KHC	Kasperske Hory	93.35	319	eP	P	08 30 14.5	-0.8
HFS	Hagfors	93.90	330	P	P	08 30 17.8	+0.4
	comp=Z,6.3nm,0.8s,mb5.1,baz=135,slow=2.1,SNR=7.7						
NB2	NORSAR Subarra	95.15	331	P	P	08 30 22.9	-0.3
	comp=Z,6.7nm,1.0s,mb5.0,baz=94,slow=5.0						
NOA	NORSAR Array B	95.15	331	P	P	08 30 23.5	+0.3
	comp=Z,2.5nm,0.8s,mb4.7,baz=93,slow=4.5,SNR=6.0						
NOA				LR	LR	09 16 40.6	
	comp=Z,43nm,21.5s,baz=95,slow=38						
NOA	NORSAR Array B	95.15	331	P	P	08 30 23.5	+0.3
DAVOX	Davos	95.75	316	P	P	08 30 27.2	+0.9
	comp=Z,2.4nm,0.6s,mb4.8,baz=143,slow=17,SNR=3.1						
PMR	Palmer	102.62	28	P	Pdif	08 31 03.8	+6.9
	comp=Z,23nm,1.6s						
ILAR	Eielson Array	102.79	24	P	Pdif	08 30 57.5	-0.2
	comp=Z,0.3nm,0.9s,baz=304,slow=4.1,SNR=4.6						
ILAR				PP	PP	08 35 09.9	-4.8
	comp=Z,0.3nm,0.8s,baz=284,slow=6.4,SNR=4.7						
SML	Sawmill	102.94	28	eP	Pdif	08 30 56.7	-1.6
EDM	Edmonton	123.27	25	ePKPdf	PKPdf	08 35 57.0	+1.2
OHCM	Honcut	127.06	43	ePKPdf	PKPdf	08 36 05.5	+2.0
CMB	Columbia Colle	128.44	44	ePKPdf	PKPdf	08 36 08.8	+2.5
SCHQ	Schefferville	129.50	353	PKP	PKPdf	08 36 09.2	+1.5
	comp=Z,3.0nm,0.6s,baz=333,slow=4.1,SNR=7.0						
NVAR	Mina Array Bea	129.67	43	PKP	PKPdf	08 36 10.9	+2.4
	comp=Z,3.1nm,0.8s,baz=342,slow=1.2,SNR=6.0						
NVAR				SKPbc		08 39 28.5	
	comp=Z,0.6nm,0.8s,baz=297,slow=1.7,SNR=4.1						
NVAR	Mina Array Bea	129.67	43	PKP	PKPdf	08 36 10.9	+2.4
NVAR				SKPbc		08 39 28.5	
MNV	Mina	129.77	42	ePKPdf	PKPdf	08 36 11.2	+2.5
ELK	Elko	130.38	38	ePKPdf	PKPdf	08 36 12.8	+3.0
LAO	LASA Array	131.19	27	ePKPdf	PKPdf	08 36 12.6	+1.4
TPNV	Topopah Spring	131.83	43	ePKPdf	PKPdf	08 36 13.6	+0.9
ULM	Lac du Bonnet	131.99	16	PKP	PKPdf	08 36 13.8	+1.2
	comp=Z,5.2nm,0.8s,baz=343,slow=6.0,SNR=4.7						
ULM	Lac du Bonnet	131.99	16	PKP	PKPdf	08 36 13.8	+1.2
HWUT	Hardware Ranch	132.04	35	ePKPdf	PKPdf	08 36 15.5	+2.6
DUG	Dugway	132.19	37	ePKPdf	PKPdf	08 36 16.0	+2.7
DUG				e		08 36 30.1	
DUG				e		08 36 34.3	
PDAR	Pinedale Array	132.38	33	PKP	PKPdf	08 36 15.3	+1.7
	comp=Z,0.6nm,0.5s,baz=58,slow=1.5,SNR=6.4						
PDAR				SKPbc		08 39 38.0	
	comp=Z,0.8nm,0.8s,slow=1.5,SNR=4.6						
NEN	Nelson	133.48	44	ePKPdf	PKPdf	08 36 18.6	+2.8
NEN				e		08 36 32.2	
MSU	Marysvale	133.60	39	ePKPdf	PKPdf	08 36 19.1	+3.2
RSSD	Black Hills	134.14	27	ePKPpre		08 36 12.2	
SRU	San Rafael	134.25	37	ePKPdf	PKPdf	08 36 20.0	+2.8
SRU				e		08 36 35.0	
PV01	Paradox Valley	136.04	37	ePKPdf	PKPdf	08 36 23.6	+3.1
TUC	Tucson	138.12	45	ePKPdf	PKPdf	08 36 27.3	+2.8
ANMO	Albuquerque	139.41	39	iPKIKP	PKPdf	08 36 29.4	+2.7
GDL2	Guadalupe Moun	142.53	40	ePKPdf	PKPdf	08 36 32.1	-0.2
CPUP	Villa Florida	143.71	210	PKP	PKPdf	08 36 34.0	-0.5
	comp=Z,1.9nm,0.7s,baz=60,slow=4.7,SNR=5.4						
CPUP	Villa Florida	143.71	210	PKP	PKPdf	08 36 34.0	-0.5
WMOK	Wichita Mounta	143.97	32	ePKPdf	PKPdf	08 36 33.7	-1.0
ACSO	Alum Creek Sta	144.33	8	ePKPpre		08 36 34.6	
SSPA	Standing Stone	144.35	1	ePKPpre		08 36 34.2	
CCM	Cathedral Cave	144.43	20	ePKPdf	PKPdf	08 36 34.4	-1.0
BLO	Bloomington	144.72	13	ePKPpre		08 36 36.1	
FVM	French Village	144.76	19	ePKPdf	PKPdf	08 36 36.1	+0.1
FVM				e		08 36 53.1	
LTX	Lajitas	144.81	43	ePKPdf	PKPdf	08 36 38.1	+1.8
TXAR	Lajitas Array	144.81	43	PKP	PKPdf	08 36 38.2	+1.8
	comp=Z,21nm,0.8s,baz=273,slow=1.5,SNR=216						
TXAR				SKPbc		08 40 13.6	
	comp=Z,1.0nm,0.9s,SNR=3.8						
BAO	Brasilia Array	144.94	234	P	PKPdf	08 36 37.8	+0.9
BAO				e		08 36 48.7	
BAO				e		08 36 54.7	
BDFB	Brasilia	144.95	234	PKP	PKPdf	08 36 38.2	+1.3
	comp=Z,5.5nm,0.6s,baz=183,slow=2.4,SNR=12						
MCWV	Mont Chateau	145.23	4	ePKPdf	PKPdf	08 36 38.2	+1.4
USIN	University of	145.58	15	ePKPdf	PKPdf	08 36 39.2	+1.7
USIN				e		08 36 54.3	
WCI	Wyandotte Cave	145.67	13	ePKPdf	PKPdf	08 36 39.2	+1.6
WCI				e		08 36 56.5	
JCT	Junction City	146.55	38	ePKPdf	PKPdf	08 36 41.5	+2.2
MIAR	Mount Ida	146.62	26	ePKPdf	PKPdf	08 36 42.4	+3.1
GLAT	Glass	146.69	19	ePKPdf	PKPdf	08 36 42.2	+2.8
GNAR	Gosnell	146.73	20	ePKPdf	PKPdf	08 36 42.0	+2.6
UTMT	University of	146.75	18	ePKPdf	PKPdf	08 36 42.7	+3.2
WVT	Waverly	147.26	17	ePKPdf	PKPdf	08 36 44.1	+3.8
PWV	Princeton	147.43	6	ePKPdf	PKPdf	08 36 41.7	+1.1
OXF	Oxford	148.26	20	ePKPbc	PKPdf	08 36 46.5	+4.6
SWET	Sewanee	148.62	14	ePKPbc	PKPdf	08 36 47.1	+4.6
CPCT	Cooper Cave	148.72	12	ePKPbc	PKPdf	08 36 50.7	+8.1
HKT	Hockley	149.25	34	ePKPbc	PKPdf	08 36 50.5	+6.8
HKT				e		08 37 08.2	
LRAL	Lakeview Retre	150.39	17	ePKPbc	PKPdf	08 36 51.5	+6.1
LPAZ	La Paz	157.31	202	PKP	PKPdf	08 36 59.0	+3.6
	comp=Z,1.9nm,0.9s,baz=98,slow=5.8,SNR=6.1						
LPAZ	La Paz	157.31	202	PKP	PKPdf	08 36 59.0	+3.6

TIF 09 08:59:47.0,40.67N×42.95E,h2^{km},Mpv3.8,2C-1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKH	Akhalkalaki	0.85	29	⇑iP	Pg	09 00 04.2	+0.3
AKH				iS	Sg	09 00 16.8	+1.6
STE	Stepanavan	1.15	73	eP	Pb	09 00 10.0	+0.8
STE				iS	Sb	09 00 26.0	+1.6
DUS	Dusheti	1.94	42	eP	Pn	09 00 25.3	+4.0
ONI	Oni	1.94	11	⇓iP	Pn	09 00 23.4	+2.0
ONI				iS	Sn	09 00 48.6	+1.9
DGRG	David-gareji	1.99	66	⇑iP	Pn	09 00 27.1	+5.1
DGRG				iS	Sn	09 00 53.9	+6.0

MDD 09 09:29:31.8±3.3,35.71N×8.98W,h42^{km}±257^{km},mb3.7/2, Error ellipse: s-maj=25.7km s-min=23.1km az=2.0, PRXIMO
CSEM 09 09:29:33.1±1.0,36.03N×8.67W,h10^{km},ML1.8,Error ellipse: s-maj=21.3km s-min=12.6km az=9.0
INMG 09 09:29:32.7±0.7,35.73N×8.95W,h31^{km},ML1.8,Error ellipse: s-maj=6.9km s-min=5.5km az=47.0,West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	1.82	6	ePn	Pn	09 30 00.1	-2.4
PTEO				eSn	Sn	09 30 21.3	-3.4
	8.8nm,0.5s						
PTEO	Sao Teotonio	1.82	6	eP	Pn	09 30 00.1	-2.4
PTEO				eS	Sn	09 30 21.3	-3.4
	8.8nm,0.5s						
PALC	Alcoutim	2.10	34	ePn	Pn	09 30 04.3	-2.2
PALC				eSn	Sn	09 30 27.7	-4.1
	5.6nm,0.2s						
PALC	Alcoutim	2.10	34	Pn	Pn	09 30 04.3	-2.2
PALC				Sn	Sn	09 30 27.7	-4.1
	2.8nm,0.2s						
PALC	Alcoutim	2.10	34	eS	Sn	09 30 27.7	-4.1
	5.6nm,0.2s						
PBEJ	Beja	2.45	20	ePn	Pn	09 30 09.5	-2.0
PBEJ				eSn	Sn	09 30 36.5	-4.2
	2.2nm,0.1s						
PBEJ	Beja	2.45	20	Pn	Pn	09 30 09.5	-2.0
PBEJ				Sn	Sn	09 30 36.5	-4.2
	1.1nm,0.1s						
EMIN	Mina Concepcio	2.73	41	P	Pn	09 30 13.2	-2.4
	0.3nm,0.1s,SNR=7.4						
EMIN				S	Sn	09 30 42.6	-5.3
	0.6nm,0.1s,SNR=7.9						
EMIN	Mina Concepcio	2.73	41	P	Pn	09 30 13.2	-2.4
	0.3nm,0.1s,SNR=7.4						
EMIN				S	Sn	09 30 42.6	-5.3
	0.6nm,0.1s,SNR=7.9						
ESPR	Espera	2.75	65	S	Sn	09 30 43.2	-5.0
	0.8nm,0.3s,SNR=7.9						
ESPR	Espera	2.75	65	S	Sn	09 30 43.2	-5.0
	0.8nm,0.3s,SNR=7.9						
EBAD	Badajoz	3.39	27	P	Pn	09 30 21.5	-3.4
	1.1nm,0.1s,SNR=7.9						
EBAD				S	Sn	09 30 59.1	-5.4
	1.1nm,0.1s,SNR=7.9						
EBAD	Badajoz	3.39	27	P	Pn	09 30 21.5	-3.4
	1.1nm,0.1s,SNR=7.9						
EBAD				S	Sn	09 30 59.1	-5.4
	1.1nm,0.1s,SNR=7.9						
EADA	Adamuz	4.26	54	S	Sn	09 31 20.2	-6.5
	0.9nm,0.1s,SNR=7.9						
EADA	Adamuz	4.26	54	S	Sn	09 31 20.2	-6.4
	0.9nm,0.1s,SNR=7.9						

THE 09 09:48:18.9,39.19N×21.18E,h3^{km},ML3.0
ATH 09 09:48:18.6,39.17N×21.19E,h18^{km}±7^{km},MD3.2/4
NEIC 09 09:48:18.6,39.17N×21.19E,h18^{km},MD3.2(ATH),After ATH.
CSEM 09 09:48:18.9±0.1,39.17N×21.16E,h7^{km}±1^{km},MD3.2,Error ellipse: s-maj=1.8km s-min=1.6km az=11.0
ISC 09 09:48:18.3±0.6,39.18N±0.03×21.17E±0.04,h5^{km}±6^{km}, n16,σ0§62/24,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	Janina	0.54	333	ePN	Pg	09 48 29.0	-0.1
EVR	Evrytania	0.56	117	ePN	Pg	09 48 29.5	0.0
MEV	Metsovon	0.61	4	ePg	Pg	09 48 30.3	-0.2
LKD	Levkas	0.62	221	ePg	Pg	09 48 30.9	+0.2
LKD				eSg	Sg	09 48 40.1	+1.1
IGT	Igoumenitsa	0.74	299	ePg	Pg	09 48 32.7	-0.5
IGT				eSg	Sg	09 48 43.6	+0.6
AGG	Agios Georgios	0.91	99	ePg	Pg	09 48 36.0	-0.6
AGG				eSg	Sg	09 48 49.2	+0.5
VLS	Valsamata	1.10	205	ePB	Pb	09 48 38.5	-0.9
VLS				eSN	Sn	09 48 55.9	0.0
KEK	Kerkira	1.19	297	ePN	Pn	09 48 41.8	+0.2
LIT	Litokhoron	1.37	47	ePb	Pb	09 48 44.0	-0.1
LIT				eSb	Sb	09 49 03.6	+1.7
XOR	Xorichti	1.58	82	ePb	Pb	09 48 46.9	-0.7
XOR				eSb	Sb	09 49 08.4	+0.6
NEO	Neokhori	1.60	85	ePN	Pn	09 48 47.1	-0.3
FNA	Florina	1.61	6	ePb	Pb	09 48 47.2	-1.0
GRG	Griva	2.01	28	ePn	Pn	09 48 53.1	-0.2
GRG				eSn	Sn	09 49 19.2	+0.1
GRG	Griva	2.01	28	ePn	Pn	09 48 53.1	-0.2
GRG				eSn	Sn	09 49 19.2	+0.1
AOS	Alonnisos	2.10	89	ePn	Pn	09 48 54.1	-0.5
PLG	Polygyros	2.12	55	ePN	Pn	09 48 55.3	+0.4

IDC 09 10:07:44.9±1.6,6.84S×155.18E,mb3.7/5,mb1 3.9/6, mb1mx3.8/14,ML2.6/1,MS3.0/2,Ms1 3.0/2,ms1mx2.7/17, Error ellipse: s-maj=51.1km s-min=24.7km az=133.0
NEIC 09 10:07:48.1±1.2,6.97S×155.28E,h25^{km},mb3.6/1,Error ellipse: s-maj=38.9km s-min=15.4km az=133.0
ISC 09 10:07:45.2±5.8,6.8S±0.3×155.1E±0.2,h11^{km}±39^{km},n8, σ0§74/8,mb3.6/6,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.29	251	Pn	P	10 09 47.8	-0.4
	0.4nm,0.3s,baz=220,slow=7.9,SNR=2.8						
PMG				Sn	Sn	10 11 22.6	-0.2
	0.5nm,0.3s,baz=91,slow=22,SNR=4.7						
PMG				LR	LR	10 12 56.9	
	comp=Z,112nm,19.0s,baz=15,slow=37						
CTA	Charters Tower	15.74	212	LR	LR	10 16 12.9	
	comp=Z,45nm,20.0s,baz=48,slow=32						
WRAB	Tennant Creek	24.00	235	eP	P	10 13 01.4	+0.3
	1.4nm,0.7s,mb3.5						
WRA	Warramunga Arr	24.01	235	P	P	10 13 01.9	+0.8
	1.0nm,0.8s,mb3.3,baz=59,slow=9.8,SNR=16						
WRA				PcP	PcP	10 16 44.2	-0.5
	0.5nm,0.6s,baz=57,slow=2.0,SNR=8.3						
ASAR	Alice Springs	26.38	228	P	P	10 13 22.9	-0.6
	0.5nm,0.6s,mb3.2,baz=59,slow=8.6,SNR=10						
CMAR	Chiang Mai Arr	60.82	295	P	P	10 18 01.0	+0.8
	0.9nm,0.5s,mb4.2,baz=114,slow=5.3,SNR=7.5						
ILAR	Eielson Array	83.17	21	P	P	10 20 12.1	-0.4
	0.3nm,0.7s,mb3.4,baz=251,slow=5.1,SNR=4.5						
MKAR	Makanchi Array	83.36	319	P	P	10 20 13.5	-0.3
	0.7nm,0.8s,mb3.7,baz=111,slow=6.1,SNR=6.0						

IGQ 09 10:08:52.5,0.24N×81.51W,h12^{km}±27^{km},mb4.0,1C, Error ellipse: s-maj=27.1km s-min=13.2km az=19.2,Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOR1	San Jorge 1	2.88	95	P	Pn	10 09 39.8	+0.6
PINO	Pino	2.93	98	P	Pn	10 09 41.5	+1.6
PINO				S	Sn	10 10 14.1	-1.2
JUA2	San Juan 2	2.94	99	P	Pn	10 09 40.0	0.0
GGP	Refugio Guagua	2.94	98	⇑P	Pn	10 09 41.4	+1.4
YANA	Yana	2.96	97	P	Pn	10 09 40.5	+0.2
COTA	Cotacachi	3.18	88	P	Pn	10 09 45.9	+2.6
VC1	Cotopaxi 1	3.23	106	P	Pn	10 09 46.8	+2.7
TAMB	Tambo	3.28	106	P	Pn	10 09 47.1	+2.4
PISA	Pisayambo	3.38	112	P	Pn	10 09 48.0	+1.8
ARRY	Arrayan	3.51	120	P	Pn	10 09 49.1	+1.0
CAYR	Refugio Cayamb	3.51	94	P	Pn	10 09 51.0	+2.9
CAYR				S	Sn	10 10 30.3	+0.3
CAYA	Cayambe	3.52	93	P	Pn	10 09 51.3	+3.0
CAYA				S	Sn	10 10 31.0	+0.6
PATA	Patacocha	3.53	119	P	Pn	10 09 50.6	+2.2

MEX 09 10:10:32.3±0.8,15.96N×97.72W,h16^{km}±10^{km},MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.58	318	iP	Pb	10 10 41.8	-1.8
PNIG				iS	Sb	10 10 48.9	-2.4
VHO	Vista Hermosa	1.46	40	eP	Pn	10 10 54.4	-3.7
VHO				eS	Sb	10 11 11.2	-5.5
OXX	Oaxaca	1.47	40	eP	Pn	10 10 54.5	-3.8
OXX				eS	Sb	10 11 12.0	-5.1
HUIG	Huatulco	1.56	97	eP	Pn	10 10 56.9	-2.8
HUIG				eS	Sn	10 11 13.6	-6.1
ACX	Acapulco	2.29	293	eP	Pn	10 11 07.0	-3.1
CAIG	El Cayaco	2.67	294	iP	Pn	10 11 13.1	-2.4
CAIG				iS	Sn	10 11 40.7	-7.1
CMIG	Matias Romero	2.94	67	eP	Pn	10 11 15.1	-4.3
CMIG				iS	Sn	10 11 51.9	-2.8
PLIG	Platanillo	2.96	325	eP	Pn	10 11 18.1	-1.6
PLIG				eS	Sn	10 11 50.1	-5.0
IISM	Ciudad Serdan	3.03	6	eP	Pn	10 11 17.0	-3.6
IISM				eS	Sn	10 11 55.0	-1.9

MEX 09 10:15:50.5±1.4,16.23N×96.21W,h10^{km}±26^{km},MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.47	168	iP	Pg	10 15 60.0	-0.1
HUIG				iS	Sg	10 16 04.9	-1.6
VHO	Vista Hermosa	0.97	329	eP	Pb	10 16 05.2	-3.8
VHO				iS	Sb	10 16 20.2	-1.5
OXX	Oaxaca	0.98	330	eP	Pb	10 16 05.5	-3.6
OXX				eS	Sb	10 16 22.0	+0.2
CMIG	Matias Romero	1.53	56	eP	Pn	10 16 13.2	-4.8
CMIG				iS	Sb	10 16 33.3	-4.6
IISM	Ciudad Serdan	2.96	338	eP	Pn	10 16 43.0	+4.5

IDC 09 10:22:38.1±9.9,12.31S×166.95E,mb4.1/3,mb1 4.2/3, mb1mx3.8/14,MS3.2/1,Ms1 3.2/1,ms1mx2.6/18,Error ellipse: s-maj=303.0km s-min=55.0km az=127.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	32.19	252	P	P	10 29 07.9	-2.3
	0.9nm,0.6s,baz=84,slow=9.0,SNR=17						
ASAR	Alice Springs	33.32	246	P	P	10 29 18.1	-1.8
	1.0nm,0.5s,baz=68,slow=10.0,SNR=17						
FITZ	Fitzroy Crossi	40.22	257	LR	LR	10 46 01.0	
	comp=Z,34nm,21.4s,baz=343,slow=35						
MKAR	Makanchi Array	95.25	317	P	P	10 36 03.7	-1.3
	0.6nm,0.5s,baz=92,slow=6.5,SNR=4.9						

LDG 09 11:18:10.8±0.1,42.34N×2.18E,h4^{km},Md2.3/1,Ml2.3/6, Error ellipse: s-maj=2.2km s-min=1.6km az=132.0
STR 09 11:18:10.7±0.3,42.33N×2.15E,h5^{km}±1^{km},Ml2.1,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0
CSEM 09 11:18:11.1±0.1,42.35N×2.16E,h5^{km},ML2.4/5,Error ellipse: s-maj=2.5km s-min=1.8km az=125.0
MDD 09 11:18:11.6±0.3,42.33N×2.16E,mbLg1.7/9,Error ellipse: s-maj=2.8km s-min=2.1km az=162.0,AftershockPLICA PRXIMO
ISC 09 11:18:10.1±0.5,42.42N±0.03×2.15E±0.03,h11^{km}±4^{km}, n28,σ1§34/42,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VALF	Valcebollere	0.10	258	Pg	Pg	11 18 13.7	+0.8
VALF				Sg	Sg	11 18 15.6	+0.8
VALF	Valcebollere	0.10	258	P	Pg	11 18 13.7	+0.8
VALF				S	Sg	11 18 15.6	+0.8
CBRU	Bruguera	0.14	170	Pg	Pg	11 18 12.2	-1.3
CLLI	Llivia	0.14	294	Pg	Pg	11 18 15.1	+1.6
CARF	Carcanieres	0.29	354	Pg	Pg	11 18 18.7	+2.4
CARF				Sg	Sg	11 18 24.2	+3.8
CARF	Carcanieres	0.29	354	P	Pg	11 18 18.7	+2.4
CARF				S	Sg	11 18 24.1	+3.6
FILF	Fillols	0.34	66	Pg	Pg	11 18 16.8	-0.3
FILF				Sg	Sg	11 18 21.2	-0.5
FILF	Fillols	0.34	66	P	Pg	11 18 16.9	-0.1
FILF				S	Sg	11 18 21.0	-0.7
SJAF	Saint Jean de	0.55	83	Pg	Pg	11 18 21.8	+0.6
SJAF				Sg	Sg	11 18 29.3	+0.7
SJAF	Saint Jean de	0.55	83	P	Pb	11 18 21.8	+0.6
SJAF				S	Sb	11 18 29.2	+0.6
EJON	La Jonquera	0.55	87	Pg	Pg	11 18 22.2	+1.0
	1.1nm,0.1s,SNR=7.9						
EJON				Lg		11 18 29.3	
	10nm,0.2s,SNR=7.9						
EJON	La Jonquera	0.55	87	Pg	Pg	11 18 22.2	+1.0
	1.1nm,0.1s,SNR=7.9						
CORG	Organya	0.65	253	Pg	Pg	11 18 23.1	0.0
EMIR	Miracle	0.69	222	Pg	Pg	11 18 23.1	-0.9
	5.2nm,0.2s,SNR=7.9						
EMIR				Lg		11 18 31.5	
	6.7nm,0.2s,SNR=7.9						
EMIR	Miracle	0.69	222	Pg	Pg	11 18 23.1	-0.8
	5.2nm,0.2s,SNR=7.9						
SALF	Salau	0.78	296	S	Sb	11 18 37.3	+1.8
MTLF	Montolieu	0.92	3	ePg	Pg	11 18 30.0	+1.5
MTLF				eSg	Sg	11 18 43.0	+2.1
	10nm,0.2s						
EPOB	Poblet	1.33	217	Pg	Pg	11 18 34.6	-2.2
	2.4nm,0.1s,SNR=21						
EPOB				Lg		11 18 52.0	
	3.3nm,0.1s,SNR=7.9						
EPOB	Poblet	1.33	217	Pg	Pg	11 18 34.6	-2.2
	2.4nm,0.1s,SNR=21						
EGRA	Graus	1.38	261	Pg	Pg	11 18 38.0	+0.4
	SNR=7.9						
EGRA				Lg		11 18 56.6	
	2.8nm,0.2s,SNR=7.9						
EBIE	Bielsa	1.50	281	Pg	Pg	11 18 40.7	+0.5
	SNR=7.9						
EBIE				Lg		11 19 02.5	
	5.8nm,0.2s,SNR=7.9						
EBIE	Bielsa	1.50	281	Pg	Pg	11 18 40.7	+0.5
	SNR=7.9						
ETSF	Etsaut	2.05	284	ePg	Pg	11 18 49.8	-1.3
ETSF				eSg	Sg	11 19 16.8	-1.7
	4.0nm,0.3s						
ESAC	San Caprasio	2.07	251	Pn	Pn	11 18 46.6	+1.4
	SNR=5.0						
ESAC				Lg		11 19 15.8	
	9.4nm,0.2s,SNR=5.0						
ESAC	San Caprasio	2.07	251	Pn	Pn	11 18 46.6	+1.4
	SNR=5.0						
LASF	Ste Croix	2.07	37	ePg	Pg	11 18 50.3	-1.2
LASF				eSg	Sg	11 19 16.9	-2.2
	2.1nm,0.3s						
CAF	Calviac	2.50	359	ePn	Pn	11 18 50.9	-0.5
CAF				ePg	Pg	11 18 58.6	-1.5
CAF				eSg	Sg	11 19 32.0	-1.5
	3.9nm,0.3s						
RJF	Les Rejaudoux	2.92	351	ePg	Pg	11 19 06.5	-1.8
RJF				eSg	Sg	11 19 45.8	-1.4
	2.7nm,0.3s						

NEIC 09 11:59:09.1±0.5,13.85N×120.86E,h100^{km},mb4.6/4,Error ellipse: s-maj=20.9km s-min=8.7km az=70.0
MAN 09 11:59:11.1,13.79N×120.50E,h97^{km},mb4.6,ML3.5, MS3.4
IDC 09 11:59:13.7±6.0,13.82N×120.80E,h142^{km}±56^{km}, mb3.7/14,mb1 3.8/14,mb1mx3.7/20,Error ellipse: s-maj=31.9km s-min=11.8km az=64.0
ISC 09 11:59:10.3±0.3,13.79N±0.03×120.51E±0.05,h115^{km}±3^{km}, n52,σ1§04/60,mb4.2/20,1C-5D,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.26	258	eP	P	11 59 26.6	0.0
LUBP				eS	S	11 59 38.2	-0.8
PAZ	Puerto Azul	0.46	21	eP	P	11 59 27.3	-0.4
TGY	Tagaytay City	0.52	53	⇓iP	P	11 59 27.9	-0.1
TGY				iS	S	11 59 40.6	-0.7
NBP	Mount Natib	0.95	355	eP	P	11 59 32.2	+0.4
ARP	Angono	0.97	40	eP	P	11 59 30.7	-1.3
QVPH	Quezon City--P	1.01	32	eP	P	11 59 40.1	+7.8
LQP	Lukban	1.05	72	⇓iP	P	11 59 32.9	+0.1
BOAC	Boac	1.34	104	eP	P	11 59 36.1	+0.1
BOAC				eS	S	11 59 54.9	-0.6
SJMP	San Jose	1.45	156	eP	P	11 59 37.7	+0.4
POLP	Polilio Island	1.67	56	eP	P	11 59 40.2	+0.3
POLP				eS	S	12 00 02.5	+0.3
BUSP	Coron	1.80	190	eP	P	11 59 41.5	0.0
BUSP				eS	S	12 00 04.6	-0.3
GQP	Guinayangan	1.89	86	⇓eP	P	11 59 43.0	+0.5
GQP				eS	S	12 00 13.7	+6.9
OTRP	Odiongan	2.05	134	eP	P	11 59 44.7	+0.1
OTRP				eS	S	12 00 09.3	-1.1
SCZP	Santa Cruz	2.06	344	eP	P	11 59 44.5	-0.2
AUQP	San Andres	2.16	102	eP	P	11 59 48.7	+2.6
BCPH	Baguio City Da	2.58	2	⇓iP	P	11 59 51.1	-0.6
BOLP	Bolinao	2.64	348	eP	P	11 59 52.5	-0.1
BOLP				eS	Px	12 00 01.2	
KALP	Kalibo	2.76	139	⇓eP	P	11 59 55.8	+1.7
CUYO	Cuyo Island	2.96	170	eP	P	11 59 56.6	-0.3
CUYO				eS	S	12 00 30.9	-1.2
RCP	Roxas	3.11	135	⇑eP	P	11 59 59.4	+0.5
CAUP	Cauayan	3.38	22	eP	P	12 00 03.6	+1.0
PVCP	Virac	3.55	93	eP	P	12 00 05.4	+0.6
GUIM	Jordan	3.75	147	eP	P	12 00 09.7	+2.2
ABRA	Dolores	3.84	3	eP	P	12 00 07.7	-1.1
CVP	Callao Caves	4.09	18	eP	P	12 00 06.0	-6.1
APYP	Conner	4.11	10	eP	P	12 00 12.8	+0.4
SNPH	Sibulan	5.17	149	eP	P	12 00 29.0	+2.4
ENH	Enshi	19.30	330	eP	P	12 03 31.9	+3.2
	4.8nm,0.8s						
CMAR	Chiang Mai Arr	21.22	285	P	P	12 03 50.9	+2.5
	4.4nm,0.8s,mb3.9,baz=93,slow=7.3,SNR=29						
MBWA	Marble Bar	34.74	181	eP	P	12 05 50.2	-1.2
GUN	Gumba	35.14	299	eP	P	12 05 55.8	+1.0
	56nm,0.8s,mb5.4						
PKI	Pulchoki	35.45	298	eP	P	12 05 57.9	+0.5
	17nm,0.6s,mb5.1						
KKN	Kakani	35.61	299	eP	P	12 05 59.7	+0.9
DMN	Daman	35.71	298	eP	P	12 06 00.8	+1.2
SONM	Songino Array	35.92	344	P	P	12 06 01.4	+0.3
	2.0nm,0.6s,mb4.2,baz=162,slow=9.9,SNR=5.7						
WRA	Warramunga Arr	36.18	158	P	P	12 06 01.1	-2.5
	1.1nm,0.6s,mb4.0,baz=336,slow=9.5,SNR=18						
GKN	Gorkha	36.22	299	eP	P	12 06 04.3	+0.4
KOLN	Koldanda	37.05	298	eP	P	12 06 11.8	+1.0
	8.4nm,0.8s,mb4.7						
ASAR	Alice Springs	39.46	160	P	P	12 06 30.7	-0.3
	2.2nm,0.8s,mb4.0,baz=340,slow=6.9,SNR=22						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAR				PcP	PcP	12 08 35.4	-1.9
	0.5nm,0.5s,baz=339,slow=3.2,SNR=4.7						
MKAR	Makanchi Array	45.85	324	P	P	12 07 23.2	+0.7
	3.1nm,0.8s,mb4.1,baz=126,slow=9.2,SNR=18						
NWAO	Narrogin (SRO)	46.56	184	P	P	12 07 27.1	-1.2
	6.4nm,0.9s,mb4.4,baz=32,slow=15,SNR=4.9						
ZAL	Zalesovo	48.89	333	P	P	12 07 45.0	-1.2
	1.2nm,0.4s,mb4.2,baz=266,slow=4.5,SNR=4.1						
KURK	Kurchatov	50.01	326	eP	P	12 07 54.5	-0.3
	6.5nm,0.8s,mb4.6						
BVAR	Borovoye Array	55.59	326	P	P	12 08 35.6	-0.6
	2.1nm,0.5s,mb4.4,baz=117,slow=9.9,SNR=13						
BRVK	Borovoye	55.67	326	eP	P	12 08 35.0	-1.6
	4.9nm,0.7s,mb4.7						
ZRNK	Zerenda	56.32	325	eP	P	12 08 40.4	-0.9
	3.7nm,0.6s,mb4.6						
ILAR	Eielson Array	78.75	26	P	P	12 10 59.5	-1.8
	0.5nm,0.8s,mb3.4,baz=329,slow=4.7,SNR=5.0						
ARCES	ARCESS Array B	78.94	339	P	P	12 11 01.4	-0.8
	2.1nm,0.5s,mb4.2,baz=68,slow=6.5,SNR=8.6						
BRTR	Keskin Array B	78.95	308	P	P	12 11 02.8	-0.1
	1.1nm,0.7s,mb3.8,baz=162,slow=3.9,SNR=4.4						
FINES	FINESS Array B	80.12	331	P	P	12 11 07.4	-1.3
	1.3nm,0.9s,mb3.8,baz=34,slow=6.9,SNR=4.6						
KMBO	Kilima Mbogo	83.72	267	P	P	12 11 30.2	+1.8
	0.9nm,0.6s,mb3.8,baz=58,slow=9.5,SNR=5.5						
NOA	NORSAR Array B	87.09	333	P	P	12 11 43.0	-0.8
	0.7nm,0.7s,mb3.7,baz=74,slow=4.4,SNR=3.0						

IDC 09 12:11:27.6±12.0, 17.42S×178.56W, h570km±152km, mb2.5/4, mb1 2.9/4, mb1mx2.7/13, Error ellipse: s-maj=119.0km s-min=49.7km az=160.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	44.58	259	P	P	12 18 49.9	-1.5
	0.3nm,0.8s,baz=97,slow=7.5,SNR=10.0						
ASAR	Alice Springs	44.78	254	P	P	12 18 51.4	-1.6
	0.4nm,0.4s,baz=86,slow=8.8,SNR=14						
ILAR	Eielson Array	85.45	13	P	P	12 23 04.7	-1.3
	0.2nm,0.5s,baz=220,slow=5.4,SNR=7.2						
TXAR	Lajitas Array	85.86	58	P	P	12 23 08.1	-0.8
	0.2nm,0.8s,baz=207,slow=5.6,SNR=3.8						
GERES	GERESS Array B	147.11	345	PKPbc	PKPdf	12 30 06.6	+3.2
	0.3nm,0.5s,baz=333,slow=2.2,SNR=3.2						

*LDG **09** 12:18:50.0±0.0, 46.78N×0.93E, h4km, Md3.2/3, Ml2.8/26, Error ellipse: s-maj=0.9km s-min=0.7km az=28.0*
*STR **09** 12:18:50.9±0.5, 46.59N×0.86E, h5km±1km, Ml2.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **09** 12:18:50.0, 46.78N×0.93E, h4km, ML2.9(STR), ML2.8(LDG), After LDG.*
*CSEM **09** 12:18:50.0±0.0, 46.79N×0.93E, h5km, ML2.8/22, Error ellipse: s-maj=0.7km s-min=0.5km az=32.0*
ISC 09 12:18:46.8±0.3, 46.81N±0.02×0.94E±0.02, h5km±2km, n34, σ1^{s}40/102, France

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MFF	Saint Martin d	0.77	255	ePg	Pg	12 19 04.5	+2.2
MFF				ePn	Pn	12 19 06.4	+2.2
MFF				eSg	Sg	12 19 14.3	+1.7
	18nm,0.2s						
TCF	Toulx Ste Croi	1.02	120	ePg	Pg	12 19 09.2	+1.9
TCF				ePn	Pn	12 19 09.4	+1.7
TCF				eSg	Sg	12 19 22.2	+1.3
	33nm,0.2s						
TCF				eSn	Sn	12 19 23.3	+0.7
TCF	Toulx Ste Croi	1.02	120	ePn	Pn	12 19 09.4	+1.7
TCF				eSg	Sg	12 19 22.2	+1.3
	17nm,0.2s						
TCF				eSn	Sn	12 19 23.3	+0.7
LCHF	La Chataignera	1.16	264	Pn	Pn	12 19 11.8	+2.1
LCHF				Sg	Sg	12 19 27.0	+1.4
HYF	Humbligny	1.25	68	ePg	Pg	12 19 13.9	+2.1
HYF				eSg	Sg	12 19 29.7	+1.2
BGF	Bois d'Agland	1.34	100	ePn	Pn	12 19 14.1	+1.8
BGF				ePg	Pg	12 19 15.1	+1.5
BGF				eSn	Sn	12 19 30.9	+0.3
BGF	Bois d'Agland	1.34	100	ePg	Pg	12 19 15.1	+1.5
BGF				eSn	Sn	12 19 30.9	+0.3
VERF	Verneugheol	1.51	134	Pn	Pn	12 19 16.0	+1.3
VERF				Sg	Sg	12 19 36.8	-0.3
RJF	Les Rejaudoux	1.56	165	ePn	Pn	12 19 16.5	+1.1
RJF				ePg	Pg	12 19 18.6	+0.6
RJF				eSn	Sn	12 19 35.6	-0.7
RJF				eSg	Sg	12 19 37.0	-1.8
	25nm,0.2s						
AGO	Saint Agoulin	1.70	116	Pn	Pn	12 19 19.8	+2.4
AGO				Pg	Pg	12 19 22.2	+1.5
AGO				Sg	Sg	12 19 43.9	+0.5
AGO	Saint Agoulin	1.70	116	Pg	Pg	12 19 22.2	+1.5
AGO				Sg	Sg	12 19 43.9	+0.5
SSF	Saint Saulge	1.78	81	ePn	Pn	12 19 20.3	+1.8
SSF				ePg	Pg	12 19 23.1	+0.7
SSF				eSn	Sn	12 19 41.7	-0.1
	10nm,0.2s						
SSF	Saint Saulge	1.78	81	ePg	Pg	12 19 23.1	+0.7
SSF				eSn	Sn	12 19 41.7	-0.1
	5.1nm,0.2s						
PYM	Petit Puy Mans	1.79	126	Pn	Pn	12 19 21.5	+2.8
PYM				Sg	Sg	12 19 47.0	+0.7
LFF	La Frestale	1.88	184	ePn	Pn	12 19 20.9	+0.9
LFF				ePg	Pg	12 19 24.4	+0.1
LFF				eSn	Sn	12 19 43.0	-1.3
	26nm,0.2s						
LFF				eSg	Sg	12 19 48.2	-1.2
	35nm,0.3s						
LDF	La Druitiere	1.92	339	ePn	Pn	12 19 22.7	+2.1
LDF				ePg	Pg	12 19 26.1	+0.9
LDF				eSn	Sn	12 19 45.5	+0.1
LDF				eSg	Sg	12 19 51.4	+0.6
	8.0nm,0.3s						
GRR	Gorron	1.99	323	ePn	Pn	12 19 22.8	+1.2
GRR				ePg	Pg	12 19 27.9	+1.3
GRR				eSn	Sn	12 19 47.0	-0.2
GRR				eSg	Sg	12 19 53.5	+0.4
	5.7nm,0.2s						
SMF	Signal de Mont	2.00	94	ePn	Pn	12 19 23.2	+1.4
SMF				ePg	Pg	12 19 27.3	+0.4
SMF				eSn	Sn	12 19 47.0	-0.6
	7.6nm,0.2s						
SMF				eSg	Sg	12 19 52.6	-1.0
	8.8nm,0.2s						
CAF	Calviac	2.04	157	ePn	Pn	12 19 22.8	+0.5
CAF				ePg	Pg	12 19 27.4	-0.3
CAF				eSn	Sn	12 19 47.0	-1.6
CAF				eSg	Sg	12 19 53.7	-1.2
	18nm,0.2s						
LOR	Lormes	2.05	76	ePn	Pn	12 19 23.8	+1.4
LOR				ePg	Pg	12 19 28.3	+0.5
	baz=254						
LOR				eSn	Sn	12 19 47.8	-0.9
	baz=251						
LOR				eSg	Sg	12 19 53.5	-1.6
	17nm,0.2s,baz=248						
LOR	Lormes	2.05	76	ePg	Pg	12 19 28.3	+0.5
LOR				eSn	Sn	12 19 47.8	-0.9
LOR				eSg	Sg	12 19 53.5	-1.6
	8.4nm,0.2s						
FLN	La Foliniere	2.17	334	ePg	Pg	12 19 30.6	+0.3
FLN				eSn	Sn	12 19 51.1	-0.7
FLN				eSg	Sg	12 19 58.8	-0.4
	5.0nm,0.2s						
SGMF	Saint Gilles	2.77	303	ePn	Pn	12 19 33.4	+0.6
SGMF				ePg	Pg	12 19 41.5	-0.7
SGMF				eSn	Sn	12 20 05.4	-1.6
SGMF				eSg	Sg	12 20 17.3	-1.9
	3.6nm,0.2s						
QUIF	Quistinic	3.00	293	ePn	Pn	12 19 34.3	-1.7
QUIF				ePg	Pg	12 19 45.6	-1.1
QUIF				eSn	Sn	12 20 10.4	-2.4
QUIF				eSg	Sg	12 20 23.2	-3.5
	8.5nm,0.3s						
SFTF	Sexfontaines	3.11	62	ePg	Pg	12 19 48.0	-0.9
SFTF				eSn	Sn	12 20 13.6	-2.0
	baz=238						
SFTF				eSg	Sg	12 20 28.2	-2.2
	3.9nm,0.2s,baz=243						
ROSF	Rostrenen	3.23	300	ePn	Pn	12 19 40.0	+0.7
ROSF				ePg	Pg	12 19 49.8	-1.6
ROSF				eSn	Sn	12 20 15.2	-3.5
ROSF				eSg	Sg	12 20 31.2	-3.3
	21nm,0.9s						
MEZF	Maizieres J'vi	3.25	57	ePn	Pn	12 19 40.0	+0.4
MEZF				ePg	Pg	12 19 50.9	-0.9
	baz=248						
MEZF				eSg	Sg	12 20 32.5	-2.7
	4.9nm,0.3s,baz=243						
MEZF	Maizieres J'vi	3.25	57	ePg	Pg	12 19 50.9	-0.9
MEZF				eSg	Sg	12 20 32.5	-2.7
	2.5nm,0.3s						
VIVF	Saint-Julien-l	3.26	125	ePn	Pn	12 19 39.3	-0.4
VIVF				ePg	Pg	12 19 50.1	-1.9
VIVF				eSg	Sg	12 20 32.1	-3.4
	4.7nm,0.3s						
LASF	Ste Croix	3.42	142	ePg	Pg	12 19 53.2	-2.0
LASF				eSg	Sg	12 20 36.8	-4.0
	1.5nm,0.2s						
CABF	La Chapelle	3.55	91	ePg	Pg	12 19 55.9	-1.8
MTLF	Montolieu	3.59	165	ePg	Pg	12 19 55.9	-2.6
MTLF				eSn	Sn	12 20 23.6	-4.1
MTLF				eSg	Sg	12 20 41.4	-4.9
	3.3nm,0.3s						
SJPF	Ste Jean	4.00	203	eSn	Sn	12 20 34.0	-4.2
SJPF				eSg	Sg	12 20 54.5	-5.6
	1.5nm,0.3s						
HINF	Hinteralfeld	4.15	74	ePn	Pn	12 19 52.4	+0.1
HINF				ePg	Pg	12 20 06.9	-2.8
HINF				eSn	Sn	12 20 35.7	-6.2
	4.4nm,0.3s						
HINF				eSg	Sg	12 20 59.7	-5.3
	5.1nm,0.3s						

*IDC **09** 13:10:28.7±3.4, 10.66S×164.37E, mb3.8/5, mb1 4.0/5, mb1mx3.8/15, MS4.1/1, Ms1 4.1/1, ms1mx3.1/19, Error ellipse: s-maj=143.0km s-min=28.1km az=138.0*
ISC 09 13:10:39.3±1.1, 11.1S±0.1×164.4E±0.2, h100km, n8, σ0^{s}93/8, mb3.7/5, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	11.10	170	eP	P	13 13 17.4	+1.2
DZM				eS	S	13 15 17.0	-1.9
NOUC	Port Laguerre	11.11	171	eP	P	13 13 17.6	+1.3
WRA	Warramunga Arr	30.23	249	P	P	13 16 42.7	-0.2
	0.4nm,0.4s,mb3.4,baz=79,slow=9.2,SNR=7.0						
ASAR	Alice Springs	31.60	243	P	P	13 16 54.7	-0.1
	0.4nm,0.6s,mb3.3,baz=64,slow=10,SNR=5.3						
RPZ	Rata Peaks	33.02	171	LR	LR	13 27 52.4	
	comp=Z,311nm,19.9s,baz=294,slow=31						
FITZ	Fitzroy Crossi	38.09	255	P	P	13 17 50.2	+0.1
	1.1nm,0.5s,mb3.9,baz=147,slow=5.0,SNR=7.0						
ILAR	Eielson Array	83.97	19	P	P	13 22 58.5	-0.8
	1.1nm,0.9s,mb3.7,baz=240,slow=5.3,SNR=11						
MKAR	Makanchi Array	92.64	317	P	P	13 23 41.1	+0.1
	0.7nm,0.8s,mb4.0,baz=90,slow=5.8,SNR=4.3						

WEL 09 13:12:03.5±0.1, 39.02S×175.82E, h86km±1km, ML3.6/10, 8C-1D, Error ellipse: s-maj=1.3km s-min=0.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RITZ	Rihia Road	0.05	36	P*	P	13 12 15.7	0.0
KATZ	Kakaramea	0.11	295	P*	P	13 12 15.4	-0.3
KAVZ	Karewarewa	0.15	240	P*	P	13 12 15.5	-0.3
RATZ	Rangitukua	0.16	347	⇑P*	P	13 12 15.5	-0.2
RATZ				S*	S	13 12 25.0	0.0
WTVZ	West Tongariro	0.20	242	P*	P	13 12 15.6	-0.3
WTVZ				S*	S	13 12 25.3	0.0
MGZ	Maungaku	0.22	275	⇑P*	P	13 12 15.9	0.0
MGZ				S*	S	13 12 25.4	0.0
NGZ	Ngauruhoe	0.23	227	P*	P	13 12 15.7	-0.3
NGZ				S*	S	13 12 26.0	+0.5
CNZ	Chateau	0.28	230	P*	P	13 12 16.0	-0.3
TUVZ	Tukino	0.28	207	⇑P*	P	13 12 16.5	+0.2
TUVZ				S*	S	13 12 26.1	+0.1
WPVZ	Whakapapa	0.28	229	P*	P	13 12 16.0	-0.4
TWVZ	Taurewa	0.30	260	⇑P*	P	13 12 16.2	-0.2
TWVZ				S*	S	13 12 25.7	-0.5
WATZ	Wairara	0.32	348	P*	P	13 12 16.8	+0.2
WATZ				S*	S	13 12 26.1	-0.3
DRZ	Dome Shelter	0.32	218	P*	P	13 12 16.8	+0.2
WNVZ	Wahianoa	0.35	209	⇑P*	P	13 12 16.9	+0.1
WNVZ				S*	S	13 12 26.7	-0.1
MOVZ	Moawhango	0.39	187	⇑P*	P	13 12 16.7	-0.2
MOVZ				S*	S	13 12 26.5	-0.7
BKZ	Black Stump Fm	0.55	106	⇑P*	P	13 12 18.2	-0.1
BKZ				S*	S	13 12 28.7	-0.7
PATZ	Paeroa	0.73	28	P*	P	13 12 20.1	0.0
VRZ	Vera Road	0.83	262	P*	P	13 12 20.9	-0.3
UTU	Utuhina	0.89	19	P*	P	13 12 21.7	-0.1
HIZ	Hauiti	0.91	304	⇓PN	P	13 12 21.6	-0.4
TAZ	Tarawera	0.95	35	⇑P*	P	13 12 22.7	+0.1
WAZ	Wanganui	0.98	221	PN	P	13 12 22.9	+0.1
TSZ	Takapari Road	1.04	174	PN	P	13 12 23.6	0.0
EDRZ	Edgecumbe	1.16	39	P*	P	13 12 24.8	-0.3
MARZ	Manawahe	1.23	33	P*	P	13 12 25.8	-0.2
URZ	Urewera	1.27	53	P*	P	13 12 25.7	-0.7
PWZ	Pawanui	1.29	142	ePN	P	13 12 26.2	-0.5
PKE	Pukeiti	1.44	262	PN	P	13 12 28.2	-0.5
KNZ	Kokohu	1.45	91	PN	P	13 12 28.3	-0.5
KNZ				SN	S	13 12 46.5	-1.1
MWZ	Matawai	1.50	63	P*	P	13 12 28.8	-0.7
MRZ	Mangatainoka R	1.65	186	PN	P	13 12 30.1	-1.3
BFZ	Birch Farm	1.69	169	PN	P	13 12 30.6	-1.4
BFZ				SN	S	13 12 51.1	-1.8
KIW	Kapiti Island	1.97	201	PN	P	13 12 33.8	-1.8
PUZ	Puketiti	2.13	64	PN	P	13 12 36.7	-1.3
MTW	Mount Morrison	2.15	186	PN	P	13 12 35.7	-2.4
CAW	Cannon Point	2.16	195	PN	P	13 12 36.1	-2.3
MRW	Makara Radio	2.37	201	PN	P	13 12 38.3	-2.8
PAWZ	Paruwai Farm	2.38	187	PN	P	13 12 38.9	-2.4
WEL	Wellington	2.40	199	ePN	P	13 12 39.0	-2.6
MSWZ	Moikau Station	2.43	190	ePN	P	13 12 39.0	-3.1
BHW	Baring Head	2.49	197	ePN	P	13 12 39.8	-3.2
TUWZ	Tuamarina	2.80	210	ePN	P	13 12 43.9	-3.4
NNZ	Nelson	2.88	220	ePN	P	13 12 44.7	-3.7
BSWZ	Blackbirch Sta	3.07	208	ePN	P	13 12 47.5	-3.5
QRZ	Quartz Range	3.11	233	PN	P	13 12 48.1	-3.3
THZ	Tophouse	3.53	218	ePN	P	13 12 53.4	-3.9
KHZ	Kahutara	3.81	206	ePN	P	13 12 56.5	-4.6
DSZ	Denniston Nort	4.10	227	ePN	P	13 13 00.5	-4.7
CRLZ	Canterbury Las	5.15	207	ePN	P	13 13 12.6	-7.0
MQZ	McQueen's Vall	5.25	206	ePN	P	13 13 13.9	-7.1
ODZ	Otahua Downs	7.14	211	ePN	P	13 13 40.0	-7.2

IDC 09 13:36:21.7±4.2, 18.04S×173.36W, mb3.7/3, mb1 4.0/4, mb1mx3.8/15, ML4.3/1, MS3.8/1, Ms1 3.7/1, ms1mx3.1/15, Error ellipse: s-maj=182.0km s-min=38.5km az=5.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAR	Rarotonga	13.19	106	Pn	P	13 39 30.4	-2.6
	1.6nm,0.3s,baz=269,slow=13,SNR=4.9						
STKA	Stephens Creek	42.80	242	P	P	13 44 22.1	-1.0
	1.1nm,0.7s,baz=72,slow=10,SNR=4.3						
STKA				LR	LR	13 57 58.8	
	comp=Z,131nm,21.8s,baz=163,slow=30						
WRA	Warramunga Arr	49.33	259	P	P	13 45 12.6	-2.4
	0.4nm,0.5s,baz=97,slow=7.2,SNR=13						
ASAR	Alice Springs	49.38	254	P	P	13 45 13.2	-2.0
	0.8nm,0.7s,baz=97,slow=8.1,SNR=23						

*BER **09** 14:25:08.1±1.9, 72.34N×1.94W, h1km±351km, MD3.5, ML2.4*
*IDC **09** 14:25:09.6±2.4, 71.44N×1.99W, mb3.0/1, mb1 3.8/7, mb1mx3.6/26, ML3.3/6, MS3.3/5, Ms1 3.3/5, ms1mx3.0/12, Error ellipse: s-maj=48.2km s-min=18.0km az=2.0*
*NEIC **09** 14:25:11.7±1.1, 71.37N×2.16W, h10km, mb4.4/1, Error ellipse: s-maj=23.9km s-min=9.5km az=189.0*
*CSEM **09** 14:25:14.7±0.4, 71.34N×1.70W, h30km, mb4.4/1, Error ellipse: s-maj=15.8km s-min=5.8km az=9.0*
ISC 09 14:25:09.6±1.0, 71.5N±0.1×1.8W±0.1, h10km, n19, σ1^{s}29/22, mb3.6/2, MS3.3/2, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JMIC	Jan Mayen	2.23	261	Pn	Pn	14 25 47.8	+0.5
	1.8nm,0.3s,baz=138,slow=7.5,SNR=2.1						
JMIC				Sn	Sn	14 26 14.3	-0.9
	3.6nm,0.3s,baz=196,slow=3.9,SNR=2.5						
JMIC				LR	LR	14 26 18.6	
	comp=Z,396nm,21.1s,baz=292,slow=32						
LOF	Lofoten	6.26	115	eP	Pn	14 26 44.8	+0.4
LOF				eS	Sn	14 27 56.0	-0.7
LOF	Lofoten	6.26	115	eP	Pn	14 26 46.8	+2.4
LOF	Lofoten	6.26	115	eP	Pn	14 26 46.8	+2.4
LOF				eS	Sn	14 27 56.0	-0.7
	SNR=47						
MELS	Mels	7.18	122	eP	Pn	14 26 57.8	+0.5
MOR8	Moi Rana	7.89	124	eP	Pn	14 27 08.6	+1.3
MOR8				eS	Sn	14 28 36.1	-1.4
MOR8				AML	AML	14 28 38.1	
	comp=Z,3.3nm,0.3s						
MOR8	Moi Rana	7.89	124	eP	Pn	14 27 08.6	+1.3
	SNR=47						
MOR8				eS	Sn	14 28 36.1	-1.5
	comp=Z,3.3nm,0.3s,SNR=47						
NSS	Namsos	8.64	137	eP	P	14 27 17.8	+0.2
ARCES	ARCESS Array B	9.28	89	Pn	P	14 27 25.4	-1.1
	comp=Z,0.3nm,0.3s,baz=294,slow=12,SNR=7.4						
MOL	Molde	9.63	153	eP	P	14 27 33.8	+2.7
BORG	Borgarnes	9.88	237	Pn	P	14 27 29.8	-4.8
	comp=Z,0.7nm,0.3s,baz=17,slow=18,SNR=2.6						
NOA	NORSAR Array B	11.66	147	Pn	P	14 27 56.5	-2.4
	comp=Z,0.1nm,0.3s,baz=330,slow=12,SNR=3.3						
NOA				LR	LR	14 32 13.8	
	comp=Z,96nm,20.7s,baz=335,slow=36						
HFS	Hagfors	12.96	143	Pn	P	14 28 15.2	-1.1
	comp=Z,0.2nm,0.3s,baz=337,slow=11,SNR=23						
KAF	Kangasniemi	14.33	117	ep	P	14 28 33.9	-0.3
FINES	FINESS Array B	14.80	119	Pn	P	14 28 41.3	+0.9
	comp=Z,0.1nm,0.3s,baz=329,slow=11,SNR=7.3						
FINES				LR	LR	14 33 45.1	
	comp=Z,112nm,18.2s,baz=320,slow=35						
GERES	GERESS Array B	23.80	154	P	P	14 30 25.3	+2.5
	comp=Z,0.2nm,0.5s,mb2.9,baz=348,slow=9.0,SNR=3.6						
FRB	Frobisher Bay	25.22	286	LR	LR	14 39 46.6	
	comp=Z,70nm,18.2s,MS3.2,baz=171,slow=35						
YKA	Yellowknife Ar	38.60	317	LR	LR	14 46 33.0	
	comp=Z,64nm,19.6s,MS3.5,baz=265,slow=33						
CCM	Cathedral Cave	54.27	283	eP	P	14 34 37.0	-0.6
	comp=Z,2.4nm,0.6s,mb4.3						

*NEIC **09** 14:27:58.3±1.0, 32.75S×71.64W, h10km, Error ellipse: s-maj=11.8km s-min=6.4km az=103.0*
GUC 09 14:27:57.7±0.9, 32.69S×71.75W, h28km±5km, MD3.9, ML3.3, 15C-11D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PACH	Papudo	0.30	61	⇓iP	Pb	14 28 05.3	+0.3
PACH				iS	Sb	14 28 10.4	+0.4
PACH	Papudo	0.30	61	⇓iP	Pb	14 28 05.3	+0.3
PACH				iS	Sb	14 28 10.4	+0.4
IHA	Instituto Hidr	0.35	165	⇑iP	Pb	14 28 05.8	+0.1
IHA				iS	Sb	14 28 11.4	+0.2
IHA	Instituto Hidr	0.35	165	⇑iP	Pb	14 28 05.8	+0.1
IHA				iS	Sb	14 28 11.4	+0.2
LCCH	Las Cruces	0.80	169	⇑iP	Pb	14 28 12.5	-0.5
LCCH				iS	Sb	14 28 22.8	-0.7
LCCH	Las Cruces	0.80	169	⇑iP	Pb	14 28 12.5	-0.5
LCCH				iS	Sb	14 28 22.8	-0.7
JACH	Jahuel	0.98	90	⇑iP	Pn	14 28 14.9	-0.8
JACH				iS	Sb	14 28 28.4	-0.1
JACH	Jahuel	0.98	90	⇑iP	Pn	14 28 14.8	-0.9
JACH				iS	Sb	14 28 28.5	0.0
PEL	Peldehue	1.01	117	⇑iP	Pn	14 28 15.9	-0.2
PEL				iS	Sb	14 28 29.8	+0.5
PEL				AMP		14 28 31.2	
	comp=N,3μm,0.4s						
PEL	Peldehue	1.01	117	⇑iP	Pn	14 28 15.9	-0.2
PEL				iS	Sb	14 28 29.8	+0.5
RCDM	Rinconada Maip	1.13	135	eP	Pn	14 28 17.4	-0.4
RCDM				iS	Sn	14 28 33.0	+0.5
RCDM				AMP		14 28 34.1	
	comp=E,1μm,0.2s						
RCDM	Rinconada Maip	1.13	135	⇓iP	Pn	14 28 17.6	-0.2
RCDM				iS	Sn	14 28 33.0	+0.5
TACH	Talagante	1.18	145	⇑iP	Pn	14 28 18.6	0.0
TACH				iS	Sn	14 28 33.5	-0.3
TACH	Talagante	1.18	145	⇓iP	Pn	14 28 18.6	0.0
TACH				iS	Sn	14 28 34.7	+0.8
SAN	Santiago	1.19	130	iS	Sn	14 28 35.0	+0.9
DSCH	Colegio Aleman	1.22	126	⇑iP	Pn	14 28 19.2	0.0
DSCH				iS	Sn	14 28 35.1	+0.3
DSCH				AMP		14 28 36.2	
	comp=N,2μm,0.2s						
DSCH	Colegio Aleman	1.22	126	⇑iP	Pn	14 28 19.1	0.0
DSCH				iS	Sn	14 28 35.1	+0.3
CLCH	Cerro Calan	1.24	125	⇓iP	Pn	14 28 19.4	0.0
CLCH				iS	Sn	14 28 36.0	+0.6
CLCH				AMP		14 28 38.1	
	comp=E,1μm,0.2s						
CLCH				AMP		14 28 41.1	
	comp=N,945nm,0.4s						
CLCH	Cerro Calan	1.24	125	iP	Pn	14 28 20.0	+0.6
CLCH				iS	Sn	14 28 36.4	+1.0
ANTU	Antumapu	1.29	133	iS	Sn	14 28 37.1	+0.7
ANTU				AMP		14 28 39.0	
	comp=E,799nm,0.6s						
LNV	Longovilo	1.30	167	iP	Pn	14 28 19.9	-0.4
LNV				iS	Sn	14 28 36.0	-0.8
LNV	Longovilo	1.30	167	iP	Pn	14 28 19.7	-0.6
LNV				iS	Sn	14 28 36.9	+0.2
FCH	Farellones	1.38	118	⇓iP	Pn	14 28 21.6	+0.1
FCH				iS	Sn	14 28 39.5	+0.5
FCH				AMP		14 28 40.5	
	comp=E,695nm,0.2s						
FCH				AMP		14 28 42.6	
	comp=N,528nm,0.5s						
PCH	Pirque	1.40	132	⇑iP	Pn	14 28 22.0	+0.4
PCH				iS	Sn	14 28 41.5	+2.2
PCH	Pirque	1.40	132	⇓iP	Pn	14 28 22.1	+0.4
PCH				iS	Sn	14 28 41.5	+2.2
CHCH	Chadas Angostu	1.55	144	⇓iP	Pn	14 28 24.6	+0.8
CHCH				iS	Sn	14 28 46.0	+2.9
CACH	El Canelo	1.72	146	⇓iP	Pn	14 28 27.9	+1.6
CACH				iS	Sn	14 28 50.8	+3.3
CACH	El Canelo	1.72	146	⇓iP	Pn	14 28 27.9	+1.6
CACH				iS	Sn	14 28 51.4	+3.9
LMEL	Las Melosas	1.74	132	⇑iP	Pn	14 28 27.6	+1.0
LMEL				iS	Sn	14 28 50.0	+2.1
LMEL				AMP		14 28 56.4	
	comp=N,712nm,0.4s						
LMEL	Las Melosas	1.74	132	⇑iP	Pn	14 28 27.6	+1.0
LMEL				iS	Sn	14 28 51.0	+3.1
CICH	Cipreses	1.97	146	⇑iP	Pn	14 28 31.0	+1.1
SFDO	San Fernando	2.02	162	⇓iP	Pn	14 28 30.8	+0.3
SFDO				iS	Sn	14 28 58.2	+3.1
TLL	Tololo Astrono	2.64	18	eP	Pn	14 28 40.2	+0.7
TLL				AMP		14 29 23.2	
	comp=N,350nm,0.4s						
TLL	Tololo Astrono	2.64	18	P	Pn	14 28 40.5	+1.1
TLL				S	Sn	14 29 17.6	+6.8

IGQ 09 14:31:04.7, 1.08S×78.31W, h18km±2km, mb4.1, 19C-5D, Error ellipse: s-maj=1.0km s-min=0.4km az=11.0, Ecuador

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PISA	Pisayambo	0.08	283	⇓P	Pb	14 31 08.5	+0.4
JUIV	Juive	0.38	204	⇑P	Pb	14 31 12.7	+0.2
ULBA	Ulba	0.38	195	⇑P	Pb	14 31 12.7	+0.1
MARY	Rancho Maria	0.38	333	⇑P	Pb	14 31 13.2	+0.5
TAMB	Tambo	0.38	351	⇑P	Pb	14 31 13.1	+0.5
RETU	Refugio	0.40	200	⇑P	Pb	14 31 13.3	+0.4
RETU				S	Sb	14 31 19.4	+1.0
CUSU	Cusua	0.40	205	⇑P	Pb	14 31 13.3	+0.4
PATA	Patacocha	0.44	196	⇑P	Pb	14 31 14.1	+0.5
VC1	Cotopaxi 1	0.44	348	⇑P	Pb	14 31 14.3	+0.6
ARRY	Arrayan	0.45	199	⇑P	Pb	14 31 13.8	+0.1
NAS1	Nasa	0.47	339	⇑P	Pb	14 31 15.0	+0.9
IGUA	Igualata	0.53	219	⇓P	Pb	14 31 16.1	+1.0
IGUA				S	Sb	14 31 23.7	+1.6

ANTI	Antisana	0.64	13	⇑P	Pb	14 31 17.1	+0.1
JUA2	San Juan 2	0.91	341	⇑P	Pb	14 31 22.6	+1.1
GGP	Refugio Guagua	0.94	342	⇑P	Pb	14 31 23.2	+1.1
CGGP	Crater GGP	0.94	342	⇑P	Pb	14 31 23.2	+1.1
CGGP				S	Sb	14 31 37.5	+3.4
PINO	Pino	0.96	342	⇑P	Pb	14 31 23.5	+1.1
YANA	Yana	0.99	345	⇑P	Pb	14 31 23.9	+0.9
YANA				S	Sb	14 31 37.2	+1.7
JOR1	San Jorge 1	1.12	343	⇑P	Pb	14 31 22.5	-2.7
JOR1				S	Sb	14 31 34.1	-5.2
CAYR	Refugio Cayamb	1.13	16	⇑P	Pb	14 31 26.2	+0.9
CAYR				S	Sb	14 31 42.8	+3.3
CAYA	Cayambe	1.18	16	⇑P	Pb	14 31 27.2	+0.9
CAYA				S	Sb	14 31 43.7	+2.5
CONE	Cono NE Rev Vo	1.20	34	⇓P	Pb	14 31 27.7	+1.1
CONE				S	Sb	14 31 44.2	+2.5
AZU1	Azuela	1.22	36	⇓P	Pb	14 31 27.7	+0.8
AZU1				S	Sb	14 31 43.9	+1.6
COTA	Cotacachi	1.40	359	⇓P	Pn	14 31 31.5	+1.9

IDC 09 14:42:00.2±3.3, 11.76S×167.17E, mb3.7/5, mb1 3.9/5, mb1mx3.7/14, Error ellipse: s-maj=119.0km s-min=30.3km az=135.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	32.56	251	P	P	14 48 33.7	-1.8
	0.3nm,0.5s,baz=85,slow=8.9,SNR=7.8						
ASAR	Alice Springs	33.73	245	P	P	14 48 43.8	-1.9
	0.5nm,0.9s,baz=69,slow=9.9,SNR=5.0						
SONM	Songino Array	80.07	323	P	P	14 54 12.4	-1.0
	0.3nm,0.4s,baz=137,slow=4.6,SNR=2.4						
ILAR	Eielson Array	83.75	18	P	P	14 54 31.2	-0.9
	0.6nm,0.8s,baz=238,slow=5.2,SNR=10						
MKAR	Makanchi Array	94.99	317	P	P	14 55 23.4	-2.6
	0.3nm,0.5s,baz=90,slow=8.6,SNR=3.3						

IDC 09 14:48:33.2±2.2, 31.51N×50.93E, mb3.7/10, mb1 3.9/12, mb1mx3.8/23, ML3.8/1, MS3.1/1, Ms1 3.2/1, ms1mx2.5/23, Error ellipse: s-maj=50.5km s-min=20.5km az=11.0
NEIC 09 14:48:34.9±1.4, 31.59N×50.93E, h8km±9km, mb4.3/12, Error ellipse: s-maj=10.2km s-min=5.8km az=187.0
MOS 09 14:48:37.5±2.0, 31.68N×51.02E, h33km, mb4.0/6, Error ellipse: s-maj=24.2km s-min=15.8km az=120.1
THR 09 14:48:38.7±2.0, 32.01N×51.08E, h15km±13km, ML3.7
CSEM 09 14:48:38.1±0.1, 31.62N×51.00E, h50km, mb4.4/12, ML4.2/1, Error ellipse: s-maj=3.6km s-min=2.4km az=25.0
ISC 09 14:48:34.4±0.3, 31.59N±0.04×50.94E±0.03, h15km, n71, σ1s15/76, mb4.0/23, MS3.0/1, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBRJ	Borojen	0.33	58	Pg	Pg	14 48 40.5	-1.0
SHGR	Shooshtar-Gavs	1.89	286	ePG	Pg	14 49 12.8	+0.5
SHGR				eSG	Sg	14 49 40.2	+2.7
SHGR				AMP		14 49 48.2	
	comp=N,629nm,0.8s						
SHGR				AMP		14 49 53.9	
	comp=E,685nm,0.7s						
SHGR	Shooshtar-Gavs	1.89	286	ePn	Pn	14 49 10.9	+4.3
	comp=E,619nm,0.7s						
NASN	Na'in	1.99	52	ePG	Pn	14 49 08.8	+0.7
NASN				eSG	Sn	14 49 31.9	-0.9
NASN	Na'in	1.99	52	ePg	Pn	14 49 08.7	+0.7
NASN				eSg	Sn	14 49 33.8	+1.0
	comp=E,217nm,0.4s						
ISAD	Sadrabad	2.36	81	Pn	Pn	14 49 14.7	+1.4
SHI	Shiraz	2.37	145	Pn	Pn	14 49 14.6	+1.2
ASAO	Ashtian	3.05	346	ePN	Pn	14 49 23.8	+0.7
ASAO				AMP		14 50 24.2	
	comp=N,319nm,0.7s						
ASAO				AMP		14 50 27.7	
	comp=E,249nm,0.8s						
ASAO	Ashtian	3.05	346	ePn	Pn	14 49 26.1	+3.0
IMEH	Mehriz	3.15	93	Pn	Pn	14 49 26.3	+1.8
GHIR	Ghir-Karzin	3.74	151	ePN	Pg	14 49 43.1	-6.0
GHIR	Ghir-Karzin	3.74	151	ePn	Pn	14 49 34.9	+1.9
IKOM	Komasi	3.87	313	Pn	Pn	14 49 36.1	+1.4
IDMV	Damavand	4.08	13	Pn	Pn	14 49 39.1	+1.3
DAMV	Damavand	4.12	12	ePN	Pn	14 49 38.5	+0.2
DAMV	Damavand	4.12	12	ePn	Pn	14 49 39.0	+0.6
IFIR	Firoozkooh	4.32	20	Pn	Pn	14 49 41.8	+0.7
IFIR				Sn	Sn	14 50 30.3	-1.4
THKV	Tehran--Karaj	4.32	359	ePn	Pn	14 49 41.8	+0.7
SNGE	Sanandaj	4.61	320	ePN	Pn	14 49 46.7	+1.5
SNGE	Sanandaj	4.61	320	ePn	Pn	14 49 47.0	+1.7
KRBR	Kerman	5.26	106	ePn	Pn	14 49 54.8	+0.3
BNDS	Bandar-Abbas	6.18	131	ePn	Pn	14 50 07.4	-0.1
GRMI	Germi	7.62	342	ePn	Pn	14 50 28.3	+0.6
RAYN	Ar Rayn	9.37	212	Pn	P	14 50 50.3	-1.7
	comp=E,73nm,0.6s,SNR=11						
ASF	Jabal al Asfar	11.95	276	Pn	P	14 51 25.3	-2.0
	comp=E,0.6nm,0.3s,baz=326,slow=16,SNR=3.4						
ASF				Sn	S	14 53 36.4	-4.9
	comp=E,0.4nm,0.3s,baz=245,slow=23,SNR=2.7						
BRTR	Keskin Array B	16.22	305	Pn	P	14 52 22.5	-0.8
	baz=11,slow=6.3,SNR=2.2						
IDI	Anoyia	22.03	287	P	P	14 53 32.7	+2.7
	comp=E,4.5nm,0.8s,mb3.9,baz=68,slow=18,SNR=2.9						
MLR	Muntele Rosu	23.85	313	P	P	14 53 49.9	+2.0
	comp=E,3.5nm,0.7s,mb3.9,baz=204,slow=3.6,SNR=7.6						
MLR	Muntele Rosu	23.85	313	P	P	14 53 49.9	+2.1
MLR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
AKASG	Malin Array Be	24.98	326	P	P	14 53 58.7	0.0
	comp=Z,3.4nm,0.7s,mb4.0,baz=134,slow=9.0						
AKASG	Malin Array Be	24.98	326	P	P	14 53 58.7	0.0
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ZRNK	Zerenda	25.05	26	eP	P	14 53 59.0	-0.3
	comp=Z,3.3nm,1.0s,mb3.8						
ZRNK	Zerenda	25.05	26	eP	P	14 53 59.0	-0.3
	comp=Z,3.3nm,1.0s,mb3.8						
BVAR	Borovoye Array	25.64	28	P	P	14 54 05.1	+0.1
	comp=Z,0.9nm,0.7s,mb3.4,baz=239,slow=8.6,SNR=5.3						
KURK	Kurchatov	28.02	39	eP	P	14 54 26.4	-0.3
	comp=Z,4.8nm,1.0s,mb4.1						
KURK	Kurchatov	28.02	39	eP	P	14 54 26.4	-0.3
	comp=Z,4.8nm,1.0s,mb4.1						
MKAR	Makanchi Array	28.42	49	P	P	14 54 29.9	-0.5
	comp=Z,0.7nm,0.8s,mb3.3,baz=249,slow=10,SNR=4.7						
MKAR	Makanchi Array	28.42	49	P	P	14 54 29.9	-0.5
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GERES	GERESS Array B	32.84	313	P	P	14 55 13.2	+3.7
	comp=Z,0.3nm,0.7s,mb3.4,baz=97,slow=7.9,SNR=3.0						
ZAL	Zalesovo	32.92	37	P	P	14 55 10.1	0.0
	comp=Z,0.8nm,0.4s,mb4.0,baz=130,slow=8.4,SNR=5.5						
ZAL	Zalesovo	32.92	37	P	P	14 55 10.1	0.0
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAL	Zalesovo	32.92	37	P	P	14 55 10.1	-0.1
FINES	FINESS Array B	33.98	339	P	P	14 55 17.6	-1.7
	comp=Z,0.7nm,0.7s,mb3.7,baz=164,slow=14,SNR=3.6						
FINES	FINESS Array B	33.98	339	P	P	14 55 17.6	-1.7
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	FINESS Array B	33.98	339	P	P	14 55 17.5	-1.8
PGF	Pioggiola	34.89	300	eP	P	14 55 27.4	+0.2
	comp=Z,9.0nm,0.9s,mb4.4						
SBF	Sospel	36.13	302	eP	P	14 55 37.7	-0.1
	comp=Z,13nm,0.7s,mb4.7						
FRF	La Foret Royal	36.68	302	eP	P	14 55 42.0	-0.4
	comp=Z,23nm,1.1s,mb4.6						
MBDF	Montbardon	36.69	304	eP	P	14 55 42.6	+0.2
LPG	La Plagne	36.78	305	eP	P	14 55 43.1	-0.1
LPL	La Plagne	36.80	305	eP	P	14 55 43.1	-0.2
	comp=Z,16nm,1.1s,mb4.5						
ORIF	Oris-en-Rattie	37.33	304	eP	P	14 55 48.1	+0.2
CABF	La Chapelle	37.38	307	eP	P	14 55 47.7	-0.5
	comp=Z,31nm,1.2s,mb4.7						
LASF	Ste Croix	38.72	302	eP	P	14 55 58.5	-1.1
	comp=Z,56nm,1.5s,mb4.8						
SMF	Signal de Mont	38.92	307	eP	P	14 56 00.0	-1.1
LOR	Lormes	38.97	308	eP	P	14 56 00.8	-0.8
SSF	Saint Saulge	39.19	307	eP	P	14 56 02.7	-0.7
	comp=Z,6.2nm,1.1s,mb4.3						
NB2	NORSAR Subarra	39.21	331	P	P	14 56 02.1	-1.4
	comp=Z,1.0nm,0.8s,mb3.6,baz=120,slow=7.9						
NOA	NORSAR Array B	39.21	331	P	P	14 56 02.0	-1.5
	comp=Z,1.1nm,0.7s,mb3.7,baz=121,slow=8.4,SNR=4.4						
NOA				LR	LR	15 14 24.4	
	comp=Z,23nm,18.7s,MS3.0,baz=105,slow=40						
NOA	NORSAR Array B	39.21	331	P	P	14 56 02.0	-1.5
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,23nm,18.7s						
MTLF	Montolieu	39.89	301	eP	P	14 56 09.2	-0.1
TCF	Toulx Ste Croi	40.01	306	eP	P	14 56 09.8	-0.4
	comp=Z,16nm,1.1s,mb4.4						
CAF	Calviac	40.04	304	eP	P	14 56 10.3	-0.2
	comp=Z,8.4nm,1.0s,mb4.1						
RJF	Les Rejaudoux	40.44	304	eP	P	14 56 13.6	-0.2
EPF	Esparros	41.27	301	eP	P	14 56 19.5	-1.1
CMAR	Chiang Mai Arr	45.09	95	P	P	14 56 50.4	-1.6
	comp=Z,0.4nm,0.7s,mb3.4,baz=275,slow=6.7,SNR=4.5						
CMAR	Chiang Mai Arr	45.09	95	P	P	14 56 50.3	-1.6
BOD	Bodaibo	49.67	39	eP	P	14 57 25.4	-1.9
YAK	Yakutsk	57.44	33	P	P	14 58 22.3	-2.3
	comp=Z,5.2nm,0.8s,mb4.6						
YAK	Yakutsk	57.44	33	P	P	14 58 22.3	-2.3
	comp=Z,5.2nm,0.8s,mb4.6						
ILAR	Eielson Array	82.95	8	P	P	15 01 01.6	+2.1
	comp=Z,0.2nm,0.7s,mb3.3,baz=328,slow=4.9,SNR=5.2						

MOS 09 14:59:30.2±0.8, 56.06N×163.58E, h15km, mb4.4/1, Error ellipse: s-maj=25.7km s-min=13.4km az=61.4
KRSC 09 14:59:30.1±0.8, 56.14N×163.58E, h13km±2km, ML4.4, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.43	279	iP	Pg	14 59 38.8	-0.2
KBTR				eS	Sg	14 59 45.0	0.0
KBG	Krutoberegovo	0.50	284	iP	Pb	14 59 41.2	+0.9
KBG				eS	Sb	14 59 49.2	+2.0
KBG				Smax			
	28μm,0.7s						
SVLR	Shiveluch	1.39	289	iP	Pn	14 59 55.3	+0.1
SVLR				iS	Sb	15 00 14.3	+1.5
ZLN	Zelenaya	1.56	267	iP	Pn	14 59 58.7	+0.9
ZLN				eS	Sb	15 00 19.6	+1.7
CIRR	Tsirk	1.59	270	iP	Pn	14 59 58.3	+0.2
CIRR				eS	Sn	15 00 19.2	+0.6
LGNR	Loginova	1.62	269	iP	Pn	14 59 59.4	+0.8
LGNR				eS	Sn	15 00 20.4	+1.0
KLY	Klyuchi	1.64	277	P	Pn	14 59 57.7	-1.2
KLY				S	Sn	15 00 18.3	-1.7
KLY	Klyuchi	1.64	277	iP	Pn	14 59 57.6	-1.3
KLY				eS	Sn	15 00 18.3	-1.7
BKI	Bering	1.65	124	iP	Pn	14 59 57.5	-1.5
BKI				iS	Sn	15 00 17.8	-2.3
BKI				Smax			
	680nm,0.6s						
KRSR	Krestovskiy	1.69	274	iP	Pn	14 59 59.7	+0.1
KRSR				eS	Sn	15 00 21.1	0.0
KPT	Kopyto	1.89	266	iP	Pn	15 00 03.8	+1.3
KPT				eS	Sn	15 00 28.6	+2.3
MKZ	Mys Kozlova	1.91	214	P	Pn	15 00 01.4	-1.3
MKZ				S	Sn	15 00 23.4	-3.3
MKZ	Mys Kozlova	1.91	214	eP	Pn	15 00 01.6	-1.1
MKZ				eS	Sn	15 00 25.4	-1.3
KMNR	Kamenistaya	1.92	260	iP	Pn	15 00 04.4	+1.5
KMNR				iS	Sn	15 00 29.1	+2.1
KOZR	Kozyr	2.06	269	PN	Pn	15 00 06.4	+1.4
KOZR				S	Sn	15 00 33.0	+2.3
KOZ	Kozyrevsk	2.08	269	P	Pn	15 00 06.4	+1.2
KOZ				S	Sn	15 00 33.0	+1.9
KOZ	Kozyrevsk	2.08	269	eP	Pn	15 00 06.3	+1.1
KOZ				eS	Sn	15 00 33.0	+1.9
TUMR	Tumrok	2.12	248	iP	Pn	15 00 06.7	+0.9
TUMR				eS	Sn	15 00 32.8	+0.5
SRDR	Sredinnyy	2.16	276	eP	Pn	15 00 08.0	+1.6
SRDR				eS	Sn	15 00 35.4	+2.1
ESO	Esso	2.75	268	eP	Pn	15 00 16.0	+1.3
ESO				eS	Sn	15 00 47.8	-0.3
ESO				Smax			
	200nm,0.5s						
OSSR	Ossora	3.13	355	eP	Pn	15 00 19.8	-0.4
OSSR				eS	Sn	15 00 55.3	-2.5
OSSR				Smax			
	140nm,0.6s						
KII	Karymskiy	3.17	230	P	Pn	15 00 21.5	+0.7
KII	Karymskiy	3.17	230	iP	Pn	15 00 21.7	+0.9
SPN	Mys Shipunski	3.68	216	P	Pn	15 00 26.7	-1.3
SPN				S	Sn	15 01 07.2	-4.5
SPN	Mys Shipunski	3.68	216	eP	Pn	15 00 28.7	+0.7
SPN				eS	Sn	15 01 10.9	-0.8
NLC	Nalytchevo	3.86	221	P	Pn	15 00 29.9	-0.6
NLC				S	Sn	15 01 13.5	-2.7
NLC	Nalytchevo	3.86	221	eP	Pn	15 00 30.0	-0.5
NLC				eS	Sn	15 01 13.5	-2.7
SDLR	Sedlovina	3.96	225	eP	Pn	15 00 31.7	-0.2
SMAR	Somma	4.00	226	eP	Pn	15 00 33.2	+0.7
AVH	Avacha	4.02	226	eP	Pn	15 00 34.4	+1.5
AVH				eS	Sn	15 01 21.0	+0.6
UGLR	Uglovaya	4.03	225	eP	Pn	15 00 32.5	-0.5
GNL	Ganaly	4.07	235	eP	Pn	15 00 33.7	+0.1
PET	Petropavlovsk	4.24	225	P	Pn	15 00 36.0	+0.1
PET				S	Sn	15 01 23.6	-2.2
PET	Petropavlovsk	4.24	225	eP	Pn	15 00 36.0	+0.1
PET				eS	Sn	15 01 23.5	-2.3
RUS	Russkaya	4.75	221	P	Pn	15 00 42.1	-1.1
RUS				S	Sn	15 01 34.4	-4.5
RUS	Russkaya	4.75	221	eP	Pn	15 00 42.2	-1.0
RUS				eS	Sn	15 01 34.4	-4.5
GRL	Gorelyy	4.83	224	eP	Pn	15 00 44.3	0.0
KAMR	Kamenskoye	6.48	11	eP	Pn	15 01 06.8	-0.7
KAMR				eS	Sn	15 02 17.8	-4.2

IDC 09 15:09:30.1±0.9, 15.49S×177.29W, mb4.1/9, mb1 4.5/10, mb1mx4.4/15, ML4.4/1, MS4.0/8, Ms1 4.0/8, ms1mx3.8/24, Error ellipse: s-maj=50.0km s-min=16.9km az=152.0
NEIC 09 15:09:31.6±11.0, 15.45S×177.29W, h12km±68km, mb4.7/15, Error ellipse: s-maj=24.3km s-min=10.5km az=155.0
SYO 09 15:09:31.9, 15.40S×177.30W, h15km, MB4.7
ISC 09 15:09:33.2±0.4, 15.5S±0.1×177.33W±0.09, h33km, n47, σ1s08/36, mb4.5/25, MS4.0/7, 1C-4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	5.60	74	ePn	Pn	15 10 48.0	-8.5
RAR	Rarotonga	17.59	111	P	P	15 13 36.9	-0.7
	1.1nm,0.3s,baz=324,slow=4.5,SNR=3.0						
RAR				LR	LR	15 18 52.8	
	comp=Z,286nm,20.4s,baz=270,slow=32						
URZ	Urewera	23.19	191	LR	LR	15 22 13.3	
	comp=Z,442nm,21.2s,MS3.9,baz=131,slow=33						
PPT	Papeete	26.67	98	eS	S	15 19 35.4	-7.0
PPT				eL		15 20 37.8	
PPT				eR		15 21 33.9	
	1μm,26.2s,baz=262						
TBI	Tubuai	27.37	111	eL		15 20 54.7	
TBI				eR		15 21 57.3	
	1μm,28.8s,baz=282						
RPZ	Rata Peaks	29.81	197	LR	LR	15 25 50.9	
	comp=Z,283nm,21.9s,MS3.9,baz=46,slow=33						
CTA	Charters Tower	34.93	257	LR	LR	15 27 57.8	
	comp=Z,249nm,19.7s,MS4.0,baz=59,slow=32						
PMG	Port Moresby	35.17	276	LR	LR	15 28 49.4	
	comp=Z,334nm,20.2s,MS4.1,baz=74,slow=33						
TAU	Tasmania Unive	40.72	221	P	P	15 17 09.1	-3.4
	19nm,1.1s,mb4.6						
STKA	Stephens Creek	40.72	239	P	P	15 17 13.5	+0.9
	3.6nm,0.8s,mb4.1,baz=77,slow=9.4,SNR=6.6						
STKA				LR	LR	15 31 53.2	
	comp=Z,172nm,20.0s,MS3.9,baz=310,slow=33						
STKA	Stephens Creek	40.72	239	eP	P	15 17 13.6	+1.0
WRA	Warramunga Arr	46.13	257	P	P	15 17 56.1	-0.6
	1.5nm,0.9s,mb3.9,baz=89,slow=7.4,SNR=11						
WRA				LR	LR	15 33 21.0	
	comp=Z,123nm,21.9s,MS3.8,baz=80,slow=31						
ASAR	Alice Springs	46.48	252	P	P	15 17 59.2	0.0
	3.3nm,0.7s,mb4.4,baz=84,slow=8.5,SNR=36						
ASAR				LR	LR	15 35 49.5	
	comp=Z,232nm,18.5s,MS4.2,baz=75,slow=34						
FITZ	Fitzroy Crossi	54.48	259	P	P	15 19 00.0	-0.2
	1.4nm,0.9s,mb3.9,baz=54,slow=8.7,SNR=3.1						
MBWA	Marble Bar	59.69	254	P	P	15 19 35.6	-1.6
	21nm,1.5s,mb5.0						
SBA	Scott Base	62.86	184	eP	P	15 19 58.5	+0.6
	4.0nm,1.1s,mb4.5						
YSS	Yuzh-Sakhalins	71.77	332	P	P	15 20 59.1	+5.0
	35nm,1.4s,mb5.1						
QSPA	South Pole Qui	74.53	180	eP	P	15 21 09.5	-0.3
	5.5nm,1.0s,mb4.4						
YBH	Yreka Blue Hor	76.02	39	P	P	15 21 19.6	+0.6
	3.3nm,0.9s,mb4.2						
NVAR	Mina Array Bea	76.98	44	P	P	15 21 24.5	-0.1
	2.9nm,1.0s,mb4.2,baz=231,slow=7.3,SNR=8.8						
NVAR	Mina Array Bea	76.98	44	P	P	15 21 24.5	-0.1
MCK	McKinley	81.99	12	eP	P	15 21 49.5	-1.5
	4.1nm,1.0s,mb4.3						
HLID	Hailey	82.15	41	eP	P	15 21 52.6	+0.4
	5.3nm,1.2s,mb4.3						
BJT	Baijiatuau	82.82	315	eP	P	15 22 01.6	+5.9
	13nm,1.2s,mb4.8						
HWUT	Hardware Ranch	83.05	44	eP	P	15 21 55.3	-1.6
	5.2nm,1.3s,mb4.4						
COLA	College	83.22	12	eP	P	15 21 56.7	-0.5
	14nm,1.2s,mb4.9						
ILAR	Eielson Array	83.33	13	P	P	15 21 58.2	+0.4
	4.2nm,1.1s,mb4.4,baz=218,slow=5.6,SNR=14						
LPM	Los Pinos Moun	83.41	52	eP	P	15 21 59.6	+0.7
PV01	Paradox Valley	83.57	48	P	P	15 21 59.1	-0.5
MCMT	McKenzie Canyo	83.75	40	eP	P	15 21 59.2	-1.2
ANMO	Albuquerque	83.80	51	eP	P	15 22 01.1	+0.2
	6.3nm,1.1s,mb4.7						
ENH	Enshi	83.80	304	eP	P	15 22 07.3	+6.3
	21nm,1.2s,mb5.1						
TXAR	Lajitas Array	83.84	57	P	P	15 22 02.7	+1.5
	2.0nm,1.0s,mb4.2,baz=260,slow=5.5,SNR=3.6						
MSO	Missoula	84.07	38	P	P	15 22 03.9	+1.9
	4.6nm,1.2s,mb4.5						
PDAR	Pinedale Array	84.91	43	P	P	15 22 06.5	+0.3
	1.9nm,1.0s,mb4.2,baz=225,slow=4.2,SNR=8.6						
HIA	Hailar	85.03	324	P	P	15 22 12.2	+5.5
	15nm,1.8s,mb4.8						
SDCO	Great Sand Dun	85.62	49	eP	P	15 22 09.0	-0.9
	5.1nm,1.3s,mb4.6						
CMAR	Chiang Mai Arr	89.07	289	P	P	15 22 29.4	+2.5
	0.3nm,0.4s,mb4.0,baz=80,slow=5.5,SNR=4.0						
SYO	Syowa Base	91.71	193	⇓PcP	PcP	15 22 39.7	+0.5
SYO	Syowa Base	91.71	193	⇑pP	pP	15 22 44.0	-4.8
VNA3	Neumayer Olymp	93.05	176	⇓i	P	15 22 48.0	+3.7
VNA2	Neumayer--Watz	93.50	177	⇓i	P	15 22 50.5	+4.2
VNA1	Neumayer--Stat	93.72	176	⇓i	P	15 22 51.3	+4.0
ARU	Arti	121.42	327	ePKPdf	PKPdf	15 28 21.5	-1.6
BRTR	Keskin Array B	143.78	318	PKP	PKPdf	15 29 06.0	+0.8
	1.7nm,1.0s,baz=153,slow=3.2,SNR=2.6						
GRA1	Grafenberg Arr	145.21	350	ePKPbc	PKPbc	15 29 09.8	+2.0
GERES	GERESS Array B	145.55	347	PKPbc	PKPbc	15 29 10.9	+2.2
	0.5nm,0.7s,baz=27,slow=3.0,SNR=4.1						

CASC 09 15:16:54.6±1.4, 12.33N×86.46W, h8km±3km, MD3.8, ML3.4, 8C-7D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOMJ	Momotombo	0.11	314	⇓iP	Pg	15 16 58.0	+0.8
APYN	Apoyeque	0.14	132	⇓iP	Pg	15 16 58.5	+0.7
COPN	Copaltepe	0.20	221	⇓iP	Pg	15 16 58.8	0.0
XAVN	Gruta Xavier	0.22	144	⇓eP	Pg	15 16 59.9	+0.6
MIRN	Miramar	0.27	294	⇑eP	Pg	15 17 00.8	+0.6
MGAN	Managua	0.28	131	⇑eP	Pg	15 17 00.8	+0.5
MGAN				eS	Sg	15 17 04.8	+0.8
	comp=N,4μm,0.3s						
CNGN	Cerro Negro	0.29	306	⇓eP	Pg	15 17 01.2	+0.7
CNGN				eS	Sg	15 17 04.8	+0.4
WILN	Americas 2	0.32	122	⇑eP	Pg	15 17 01.6	+0.6
TICN	Ticuantepe	0.37	143	⇓eP	Pg	15 17 02.6	+0.5
CRUN	El Crucero	0.38	156	⇑eP	Pg	15 17 01.9	-0.4
LEON	Leon	0.43	281	⇑iP	Pg	15 17 03.3	0.0
PYTN	Playitas	0.44	62	⇑eP	Pg	15 17 04.2	+0.6
PYTN				eS	Sg	15 17 11.0	+1.5
TEL3	Telica 3	0.45	302	⇓eP	Pg	15 17 04.3	+0.6
TELN	Telica	0.45	307	eP	Pg	15 17 04.3	+0.6
TELN				eS	Sg	15 17 10.7	+0.8
APON	Apoyo	0.56	137	⇑eP	Pg	15 17 05.8	-0.1
CRIN	San Cristobal	0.68	302	⇑eP	Pg	15 17 08.0	-0.3
CRIN				eS	Sg	15 17 17.6	+0.2
CNCH	Conchagua	1.64	305	eP	Pn	15 17 23.0	-0.9
CNCH				eS	Sn	15 17 46.3	+1.0
LCBS	La Ceiba	2.79	298	eP	Pn	15 17 40.0	-0.4
LCBS				eS	Sn	15 18 15.1	+0.5
LFRS	El Faro	2.84	297	eP	Pn	15 17 41.0	-0.2
LFRS				eS	Sn	15 18 15.6	-0.4
SBLS	San Blas	3.43	296	eP	Pn	15 17 48.5	-1.0

IDC 09 15:18:25.0±2.9, 9.28S×112.33E, mb3.6/4, mb1 3.7/4, mb1mx3.6/14, Error ellipse: s-maj=183.0km s-min=24.1km az=49.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.76	119	P	P	15 23 39.5	-0.6
	1.9nm,0.9s,baz=292,slow=12,SNR=12						
ASAR	Alice Springs	25.10	127	P	P	15 23 51.5	-1.6
	0.7nm,0.8s,baz=307,slow=9.1,SNR=8.0						
STKA	Stephens Creek	35.24	134	P	P	15 25 21.3	-2.0
	1.3nm,0.6s,baz=314,slow=8.0,SNR=5.8						
MKAR	Makanchi Array	61.92	337	P	P	15 28 46.4	-2.4
	0.2nm,0.7s,baz=158,slow=9.3,SNR=2.4						

IDC 09 15:26:11.1±15.0, 20.97S×173.25E, mb4.2/6, mb1 4.3/6, mb1mx4.1/14, Error ellipse: s-maj=271.0km s-min=88.0km az=71.0
NEIC 09 15:26:30.9±3.4, 20.55S×171.97E, h100km, mb4.4/4, Error ellipse: s-maj=73.2km s-min=53.5km az=151.0
ISC 09 15:26:49.6±3.9, 21.3S±0.5×170.5E±0.3, h181km±20km, n13, σ0s54/16, mb4.1/8, 1C, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.82	257	eP	P	15 27 49.3	0.0
DZM				eS	S	15 28 35.4	+0.2
NOUC	Port Laguerre	3.96	257	⇑eP	P	15 27 50.9	-0.1
NOUC				eS	S	15 28 38.1	-0.1
NOUC	Port Laguerre	3.96	257	⇑eP	P	15 27 50.9	-0.1
NOUC				eS	S	15 28 38.1	-0.2
CTA	Charters Tower	22.68	269	P	P	15 31 40.9	+4.4
	2.1nm,0.6s,mb3.7,baz=104,slow=8.9,SNR=4.3						
CTAO	Charters Tower	22.68	269	P	P	15 31 35.8	-0.7
	4.4nm,0.8s,mb3.9						
STKA	Stephens Creek	27.82	242	P	P	15 32 24.3	+0.2
	3.1nm,0.9s,mb4.0,baz=85,slow=9.2,SNR=7.1						
WRAB	Tennant Creek	33.79	266	eP	P	15 33 15.7	-0.7
	3.0nm,0.6s,mb4.2						
WRA	Warramunga Arr	33.80	266	P	P	15 33 15.9	-0.6
	1.5nm,0.5s,mb3.9,baz=101,slow=8.0,SNR=28						
WRA	Warramunga Arr	33.80	266	P	P	15 33 15.9	-0.6
ASAR	Alice Springs	33.81	259	P	P	15 33 16.6	0.0
	1.9nm,0.8s,mb3.9,baz=83,slow=8.7,SNR=23						
FITZ	Fitzroy Crossi	42.22	266	P	P	15 34 27.9	+1.3
	3.5nm,0.8s,mb4.1,baz=160,slow=9.0,SNR=8.1						
MBWA	Marble Bar	47.12	260	eP	P	15 35 06.0	+0.5
	7.1nm,0.8s,mb4.3						
NWAO	Narrogin (SRO)	48.34	244	P	P	15 35 14.3	-0.5
	7.7nm,0.6s,mb4.5,baz=117,slow=9.0,SNR=5.7						

CSEM 09 15:38:29.3±0.0, 51.57N×16.07E, h2km, mb4.6/7, ML4.6/12, Error ellipse: s-maj=1.4km s-min=0.9km az=106.0
IPEC 09 15:38:29.7±0.3, 51.59N×16.26E, ML3.6/4, Error ellipse: s-maj=2.0km s-min=1.5km az=36.0
LDG 09 15:38:30.4±0.2, 51.50N×16.20E, h1km, Ml4.7/17, Error ellipse: s-maj=4.3km s-min=2.5km az=1.0, Suspected Mining induced.
BGR 09 15:38:30.2±0.6, 51.49N×16.28E, h1km, ML4.3/8, Error ellipse: s-maj=6.7km s-min=6.7km az=168.0
MOS 09 15:38:30.3±1.4, 51.57N×16.13E, h10km, mb4.5/5, Error ellipse: s-maj=8.3km s-min=4.8km az=84.8
NEIC 09 15:38:31.8±0.2, 51.52N×16.13E, h5km, mb4.6/13, ML4.4(VIE), ML4.3(SZGRF), Error ellipse: s-maj=3.2km s-min=2.6km az=129.0
ZUR_RM 09 15:38:31, 51.52N×16.13E, h18km, Mw3.5/14, Moment Tensor Solution. s14 Moment tensor: Scale 10^{14}Nm; M_{rr}-2.78; $M_{\theta\theta}$0.53; $M_{\phi\phi}$0.40; $M_{r\theta}$-0.15; $M_{\theta\phi}$0.02; $M_{\phi r}$0.47; Best double couple: $M_0$1.7×10^{14} NP1:ϕ_s100°, δ48°, λ-79°. NP2:ϕ_s263°, δ43°, λ-102°. Principal axes: T 1.155, Plg3°,

Azm182°; N 1.084, Plg8°, Azm272°; P -2.238, Plg81°, Azm72°;
IDC **09** 15:38:32.9±1.5,51.47N×16.08E,h8km±11km,mb3.9/11, mb1 4.1/20,mb1mx4.0/28,ML3.9/9 Error ellipse: s-maj=8.8km s-min=7.0km az=93.0
PRU **09** 15:38:32.4,51.46N×16.17E
WAR **09** 15:38:32,51.50N×16.14E,ML4.0,Mining Induced
UPP **09** 15:38:41.0,52.19N×15.38E,h0km,ML3.3,Suspected Mining explosion.
STR **09** 15:38:45.4±1.5,51.73N×14.26E,h5km±1km,Ml4.1,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0
ISC 09 15:38:29.2±0.1,**51.49N**±0.01×**16.13E**±0.02,**n293**, σ**1.41**/442,**mb4.3**/26,**19C-18D,Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.66	171	iPG	Pg	15 38 44.5	+2.1
KSP				eSG	Sg	15 38 54.5	+3.3
KSP	Ksiaz	0.66	171	⇓iP	Pg	15 38 44.5	+2.1
KSP				e		15 38 59.0	
KSP	Ksiaz	0.66	171	⇓iPg	Pg	15 38 44.5	+2.1
KSP				e		15 38 47.3	
KSP				eSg	Sg	15 38 53.6	+2.4
KSP				e		15 38 59.0	
KSP	Ksiaz	0.66	171	⇓iPg	Pg	15 38 44.5	+2.1
KSP				eSg	Sg	15 38 53.6	+2.4
KSP	Ksiaz	0.66	171	ePg	Pg	15 38 44.5	+2.1
KSP				eSg	Sg	15 38 53.6	+2.4
UPC	Upice	0.99	184	ePG	Pg	15 38 50.6	+1.7
DPC	Dobruska-Polom	1.15	174	eP	Pg	15 38 53.2	+1.0
DPC				e		15 39 08.2	
DPC				smax			
	comp=N,1μm,0.8s						
DPC	Dobruska-Polom	1.15	174	ePG	Pg	15 38 53.2	+1.0
DPC				eSG	Sg	15 39 08.2	+0.7
	comp=N,1μm,0.8s						
DPC	Dobruska-Polom	1.15	174	ePg	Pg	15 38 53.2	+1.0
DPC				eSg	Sg	15 39 08.5	+1.0
PVCC	Panska Ves	1.38	226	ePG	Pg	15 38 57.6	+0.9
PVCC	Panska Ves	1.38	226	eSg	Sg	15 39 17.2	+2.1
BRG	Berggiesshubel	1.51	247	ePn	Pn	15 38 58.6	+1.1
BRG				eSg	Sg	15 39 20.7	+1.4
BRG	Berggiesshubel	1.51	247	eP	Pn	15 38 58.8	+1.3
BRG				i		15 39 20.8	
BRG	Berggiesshubel	1.51	247	ePn	Pn	15 38 58.8	+1.3
BRG				iPg	Pg	15 39 00.7	+1.4
BRG				iSg	Sg	15 39 20.8	+1.4
BRG	Berggiesshubel	1.51	247	iPg	Pg	15 39 00.7	+1.4
RUE	Ruedersdorf	1.75	305	ePn	Pn	15 39 01.7	+0.6
RUE				eSg	Sg	15 39 29.3	+1.7
RUE	Ruedersdorf	1.75	305	ePn	Pn	15 39 01.7	+0.6
RUE				ePg	Pg	15 39 05.5	+1.3
RUE				eS	Sn	15 39 27.7	+3.3
RUE				eSg	Sg	15 39 29.3	+1.7
PRU	Pruhonice	1.81	214	iP	Pn	15 39 02.8	+0.9
PRU						15 39 28.5	
PRU				smax			
	comp=N,599nm,0.4s						
PRU				MLR	MLR		
	comp=Z,4μm,3.5s						
PRU	Pruhonice	1.81	214	iPN	Pn	15 39 02.8	+0.9
PRU				PG	Pg	15 39 05.4	0.0
PRU				ix	x	15 39 08.3	
PRU				ex	x	15 39 22.7	
PRU				SG	Sg	15 39 28.5	-1.0
	comp=Z,599nm,0.4s						
PRU				AMS	AMS	15 39 50.0	
GKP	Gorka Klasztor	1.91	21	ePN	Pn	15 39 05.0	+1.8
GKP				ePN	Pg	15 39 09.0	+1.8
GKP				eS	Sn	15 39 35.0	+6.7
GKP	Gorka Klasztor	1.91	21	eP	Pn	15 39 05.0	+1.8
GKP				e		15 39 34.8	
GKP	Gorka Klasztor	1.91	21	ePn	Pn	15 39 05.0	+1.8
GKP				ePg	Pg	15 39 08.9	+1.7
GKP				ePP	PP	15 39 12.9	+3.0
GKP				eSn	Sn	15 39 34.8	+6.5
GKP				eSg	Sg	15 39 38.0	+5.4
GKP	Gorka Klasztor	1.91	21	ePg	Pg	15 39 08.9	+1.7
GKP	Gorka Klasztor	1.91	21	ePn	Pn	15 39 05.0	+1.8
GKP				ePg	Pg	15 39 08.9	+1.7
GKP				ePP	PP	15 39 12.9	+3.0
GKP				eSn	Sn	15 39 34.8	+6.5
GKP				eSg	Sg	15 39 38.0	+5.4
RAC	Raciborz	1.93	136	ePN	Pn	15 39 04.0	+0.4
RAC				ePN	Pn	15 39 08.0	+4.4
RAC				eSN	Sn	15 39 28.0	-0.9
RAC				eSN	Sn	15 39 33.0	+4.1
RAC	Raciborz	1.93	136	ePn	Pn	15 39 03.9	+0.3
RAC				ePg	Pg	15 39 08.1	+0.4
RAC				eSg	Sg	15 39 33.5	+0.1
RAC				⇓((			
MORC	Moravsky Berou	1.94	152	ePn	Pn	15 39 04.8	+1.1
MORC				eSn	Sn	15 39 27.3	-1.9
MORC	Moravsky Berou	1.94	152	ePn	Pn	15 39 04.8	+1.1
MORC				eSn	Sn	15 39 27.3	-1.9
MORC				eSg	Sg	15 39 32.2	-1.6
	comp=Z,266nm,0.3s						
CLL	Collm	1.96	266	ePn	Pn	15 39 04.9	+0.8
CLL				eSg	Sg	15 39 35.4	+0.8
CLL	Collm	1.96	266	ePN	Pn	15 39 05.0	+0.9
CLL				iPG	Pg	15 39 08.8	+0.4
CLL				i		15 39 11.8	
CLL				i		15 39 13.7	
CLL				iSG	Sg	15 39 34.9	+0.3
CLL				iL		15 39 41.1	
CLL	Collm	1.96	266	eP	Pn	15 39 05.0	+0.9
CLL				i		15 39 34.9	
CLL	Collm	1.96	266	ePn	Pn	15 39 05.0	+0.9
CLL				iPg	Pg	15 39 08.8	+0.4
CLL				iSg	Sg	15 39 34.9	+0.3
CLL	Collm	1.96	266	iPg	Pg	15 39 08.8	+0.4
OKC	Ostrava-Krasne	2.10	141	eP	Pn	15 39 06.3	+0.3
OKC				e		15 39 37.1	
OKC	Ostrava-Krasne	2.10	141	ePN	Pn	15 39 06.3	+0.3
OKC				ePG	Pg	15 39 10.5	-0.6
OKC				eSG	Sg	15 39 37.1	-2.0
OKC	Ostrava-Krasne	2.10	141	Pg	Pg	15 39 10.5	-0.6
OKC				Sg	Sg	15 39 37.1	-2.0
VRAC	Vranov	2.21	172	Pn	Pn	15 39 09.4	+1.8
	comp=Z,22nm,0.3s,baz=348,slow=14,SNR=206						
VRAC				Lg		15 39 40.6	
	comp=Z,94nm,0.3s,baz=78,slow=19,SNR=5.5						
VRAC				Rg		15 39 53.2	
	comp=Z,137nm,0.5s,baz=261,slow=19,SNR=6.6						
VRAC	Vranov	2.21	172	⇓iPn	Pn	15 39 08.9	+1.3
VRAC				eSg	Sg	15 39 40.9	-1.8
	comp=Z,273nm,0.4s						
KRUC	Moravsky	2.44	176	⇓iPn	Pn	15 39 12.1	+1.2
KRUC				eSg	Sg	15 39 49.0	-1.4
	comp=Z,350nm,0.6s						
TANN	Tannenbergstha	2.56	246	ePn	Pn	15 39 14.6	+2.0
TANN				eSg	Sg	15 39 53.3	-1.0
WERD	Werda	2.63	248	ePn	Pn	15 39 14.8	+1.2
WERD				eSg	Sg	15 39 54.8	-2.0
NKC	Novy Kostel	2.65	243	ePG	Pg	15 39 22.7	+0.6
NKC				eSG	Sg	15 39 58.8	+1.4
GUNZ	Gunzen	2.65	246	ePn	Pn	15 39 16.1	+2.1
GUNZ				eSg	Sg	15 39 55.7	-1.8
OJC	Ojcow	2.65	117	ePN	Pn	15 39 13.0	-1.0
OJC				iPG	Pg	15 39 21.8	-0.4
OJC				eSN	Sn	15 39 45.8	-1.5
OJC				iSG	Sg	15 39 57.7	+0.1
OJC	Ojcow	2.65	117	eP	Pn	15 39 13.1	-0.9
OJC				e		15 39 44.6	
OJC	Ojcow	2.65	117	ePn	Pn	15 39 13.1	-0.9
OJC				iPg	Pg	15 39 21.8	-0.4
OJC				eSn	Sn	15 39 44.6	-2.7
OJC				iSg	Sg	15 39 57.7	+0.1
OJC	Ojcow	2.65	117	iPg	Pg	15 39 21.8	-0.4
OJC				eSn	Sn	15 39 44.6	-2.7
OJC				iSg	Sg	15 39 57.7	+0.1
OJC	Ojcow	2.65	117	ePn	Pn	15 39 13.1	-0.9
OJC				iPg	Pg	15 39 21.8	-0.4
OJC				eSn	Sn	15 39 44.6	-2.7
OJC				iSg	Sg	15 39 57.7	+0.1
OJC				Lubin			
OJC				Region))			
KHC	Kasperske Hory	2.87	216	eP	Pn	15 39 18.5	+1.4
KHC				e		15 39 54.0	
KHC	Kasperske Hory	2.87	216	ePN	Pn	15 39 18.5	+1.4
KHC				ePG	Pg	15 39 24.7	-1.9
KHC				eSN	Sn	15 39 54.0	+1.1
KHC				eSG	Sg	15 40 03.3	-1.6
KHC	Kasperske Hory	2.87	216	ePg	Pg	15 39 24.7	-1.9
KHC				eSg	Sg	15 40 03.3	-1.6
MOX	Moxa	2.97	255	ePn	Pn	15 39 19.2	+0.8
MOX				eSg	Sg	15 40 07.8	-0.3
MOX	Moxa	2.97	255	iP	Pn	15 39 19.2	+0.8
MOX				Pg	Pg	15 39 38.0	+10
MOX				Sg	Sg	15 40 08.0	0.0
MOX	Moxa	2.97	255	ePn	Pn	15 39 19.2	+0.8
MOX				ePg	Pg	15 39 37.9	+9.4
MOX				eSg	Sg	15 40 07.9	-0.1
GEC2	GERESS Array S	3.08	211	ePn	Pn	15 39 21.0	+1.0
GERES	GERESS Array B	3.08	211	Pn	Pn	15 39 21.1	+1.2
	comp=Z,8.8nm,0.3s,baz=35,slow=12,SNR=262						
GERES				Pg	Pg	15 39 28.7	-1.9
	comp=Z,39nm,0.3s,baz=34,slow=14,SNR=82						
GERES				Lg		15 40 09.3	
	comp=Z,60nm,0.3s,baz=33,slow=27,SNR=10						
GERES	GERESS Array B	3.08	211	Pg	Pg	15 39 28.7	-1.9
SMOL	Smolenice	3.10	164	ePN	Pn	15 39 23.2	+2.9
SMOL				ePB	Pg	15 39 30.9	-0.2
SMOL				eSG	Sg	15 40 12.2	-0.2
SMOL	Smolenice	3.10	164	ePg	Pg	15 39 30.9	-0.2
SMOL				eSg	Sg	15 40 12.2	-0.2
LIKS	Likavka	3.10	141	ePN	Pn	15 39 22.5	+2.1
LIKS				ePG	Pg	15 39 32.4	+1.2
LIKS				eSG	Sg	15 40 14.0	+1.4
LIKS	Likavka	3.10	141	ePn	Pn	15 39 22.5	+2.1
LIKS				eSg	Sg	15 40 14.0	+1.4
WAR	Warsaw	3.13	74	eP	Pn	15 39 24.4	+3.7
WAR				e		15 40 06.5	
WAR	Warsaw	3.13	74	ePn	Pn	15 39 24.4	+3.7
WAR				ePg	Pg	15 39 36.7	+5.1
WAR				eSn	Sn	15 40 06.5	+7.2
WAR				eSg	Sg	15 40 17.5	+4.2
WAR	Warsaw	3.13	74	ePn	Pn	15 39 24.4	+3.7
WAR				ePg	Pg	15 39 36.7	+5.1
WAR				eSn	Sn	15 40 06.5	+7.2
WAR				eSg	Sg	15 40 17.5	+4.2
WET	Wettzell	3.14	223	ePn	Pn	15 39 21.8	+0.9
VKA	Vienna	3.23	178	⇑iPN	Pn	15 39 23.8	+1.6
VKA				iPG	Pg	15 39 31.1	-2.7
VKA				iSG	Sg	15 40 15.3	-1.6
VKA	Vienna	3.23	178	iPg	Pg	15 39 31.1	-2.7
VKA				iSg	Sg	15 40 15.3	-1.6
ZST	Bratislava	3.36	169	ePN	Pn	15 39 25.8	+1.8
ZST				ePG	Pg	15 39 34.2	-2.1
ZST				eSB	Sg	15 40 18.7	-2.4
ZST	Bratislava	3.36	169	ePg	Pg	15 39 34.2	-2.1
ZST				eSg	Sg	15 40 18.7	-2.4
NIE	Niedzica	3.39	126	ePn	Pn	15 39 25.2	+0.8
NIE				ePg	Pg	15 39 34.9	-1.9
NIE				eSg	Sg	15 40 19.7	-2.3
NIE				⇓((			
RGN	Rugen	3.50	332	ePn	Pn	15 39 29.4	+3.4
RGN				ePg	Pg	15 39 40.2	+1.2
GRA1	Grafenberg Arr	3.61	242	ePn	Pn	15 39 28.7	+1.2
GRA1	Grafenberg Arr	3.61	242	eSg	Sg	15 40 28.1	-1.2
GRF	Grafenberg Arr	3.61	242	ePn	Pn	15 39 28.7	+1.2
GRF				eSg	Sg	15 40 28.1	-1.2
KMR	Kremsmunster	3.67	201	c iPN	Pn	15 39 30.4	+1.9
KMR				iSG	Sg	15 40 30.2	-1.3
KMR	Kremsmunster	3.67	201	⇑iPn	Pn	15 39 30.4	+1.9
KMR				iSg	Sg	15 40 30.2	-1.3
BSD	Bornholm Skovb	3.70	349	iP	Pn	15 39 28.0	-0.8
BSD				i		15 40 40.1	
SOP	Sopron	3.82	176	⇑ePn	Pn	15 39 31.7	+1.1
SOP				eSB	Sb	15 40 29.0	+4.4
MOA	Molln	3.84	199	⇑iPN	Pn	15 39 32.1	+1.3
MOA				iSG	Sg	15 40 34.7	-2.4
	comp=Z,210nm,0.5s						
KECS	Kecovo	4.12	135	ePN	Pn	15 39 34.9	+0.1
KECS				ePG	Pg	15 39 51.8	+0.3
PENC	Penc	4.24	150	⇑eP	Pn	15 39 37.2	+0.8
ARSA	Arzberg	4.26	186	⇑iPN	Pn	15 39 38.7	+1.8
ARSA				iSG	Sg	15 40 48.2	-3.0
	comp=Z,236nm,0.7s						
PSZ	Piszkesteto	4.33	144	⇑iPn	Pn	15 39 38.5	+0.7
PSZ				eSB	Sb	15 40 49.8	+10
PKSG		4.36	159	⇑eP	Pn	15 39 38.8	+0.5
KWP	Kalwaria	4.59	111	ePN	Pn	15 39 41.0	-0.5
KWP				ePG	Pg	15 40 01.0	+0.1
KWP				eSG	Sg	15 41 06.0	+4.0
KWP	Kalwaria	4.59	111	ePn	Pn	15 39 40.5	-1.1
KWP				ePb	Pb	15 39 48.9	-1.6
KWP				ePPP	PPP	15 39 55.6	+0.1
KWP				ePg	Pg	15 40 01.5	+0.6
KWP				eSg	Sg	15 41 06.1	+4.1
KWP	Kalwaria	4.59	111	ePn	Pn	15 39 40.5	-1.0
KWP	Kalwaria	4.59	111	ePn	Pn	15 39 41.0	-0.5
KWP				eP*	Pb	15 39 50.6	+0.1
KWP				ePPP	PPP	15 39 55.6	+0.1
KWP				ePg	Pg	15 40 01.5	+0.6
KWP				eSg	Sg	15 41 06.1	+4.1
KOLS	Kolonicke sedl	4.71	121	ePN	Pn	15 39 42.5	-0.6
KOLS				ePG	Pg	15 40 01.6	-1.5
COP	Copenhagen	4.74	334	⇑iP	Pg	15 40 07.5	+3.7
	comp=Z,154nm,1.0s						
COP				i		15 41 37.8	
KBA	Koelnbreinsper	4.78	203	⇑iPN	Pn	15 39 45.4	+1.2
KBA				iSG	Sg	15 41 05.4	-2.9
	comp=Z,184nm,0.6s						
BLEU	Blekinge	4.82	358	P	Pn	15 39 43.8	-1.0
UZH	Uzhgorod	4.90	123	eP	Pn	15 39 36.0	-10
PERS	Pernice	4.91	188	iPn	Pn	15 39 47.8	+1.8
PKS8	Sarbogard	4.91	159	⇑eP	Pn	15 39 46.6	+0.6
SUW	Suwalki	4.97	57	ePN	Pn	15 39 46.0	-0.9
SUW				ePG	Pg	15 40 05.0	-3.5
SUW				eSN	Sn	15 40 43.0	-3.0
SUW				eSG	Sg	15 41 19.0	+4.2
SUW	Suwalki	4.97	57	eP	Pb	15 39 56.9	-0.1
SUW				e		15 40 43.2	
SUW	Suwalki	4.97	57	ePn	Pn	15 39 45.7	-1.2
SUW				ePb	Pb	15 39 57.2	+0.1
SUW				ePg	Pg	15 40 04.6	-3.9
SUW				ePg	Pg	15 40 04.8	-3.7
SUW				eSn	Sn	15 40 43.2	-2.8
SUW				eS	Sb	15 40 59.7	+1.7
SUW	Suwalki	4.97	57	ePn	Pn	15 39 45.7	-1.2
SUW	Suwalki	4.97	57	ePg	Pg	15 40 04.8	-3.7
SUW	Suwalki	4.97	57	ePn	Pn	15 39 46.1	-0.8
SUW				eP*	Pb	15 39 56.9	-0.1
SUW				ePg	Pg	15 40 04.8	-3.7
SUW				eSn	Sn	15 40 43.2	-2.8
SUW				eS*	Sb	15 40 59.7	+1.7
SUW				eSg	Sg	15 41 18.8	+4.0
TOD	Tromm	5.04	251	P	Pn	15 39 47.7	-0.1
PKS9	Tamasi	5.11	163	⇓eP	Pn	15 39 50.2	+1.4
WATA	Walderalm	5.11	217	⇓iPN	Pn	15 39 49.5	+0.6
WATA				iSG	Sg	15 41 14.3	-5.0
	comp=Z,82nm,0.6s						
WATA	Walderalm	5.11	217	⇓iPn	Pn	15 39 49.5	+0.6
	comp=Z,82nm,0.6s						
WATA				iSg	Sg	15 41 14.3	-5.0
WTTA	Wattenberg	5.15	216	⇓iPN	Pn	15 39 50.3	+0.9
WTTA				iSG	Sg	15 41 15.2	-5.4
	comp=Z,78nm,0.5s						
WTTA	Wattenberg	5.15	216	⇓iPn	Pn	15 39 50.3	+0.9
	comp=Z,78nm,0.5s						
WTTA				iSg	Sg	15 41 15.2	-5.4
STU	Stuttgart	5.22	241	ePn	Pn	15 39 49.7	-0.8
STU				ePg	Pg	15 40 10.8	-2.7
STU				eSn	Sn	15 40 44.4	-7.9
STU	Stuttgart	5.22	241	ePn	Pn	15 39 49.7	-0.7
STU	Stuttgart	5.22	241	ePg	Pg	15 40 10.8	-2.7
MOTA	Moosalm	5.29	220	⇑iPn	Pn	15 39 51.8	+0.4
	comp=Z,72nm,0.6s						
MOTA				iSg	Sg	15 41 18.6	-6.7
	comp=Z,72nm,0.6s						
LVV	L'vov	5.30	105	eP	Pn	15 39 50.0	-1.5
LVV				eS	Sn	15 40 50.0	-4.3
SQTA	Sankt Quirin	5.35	219	⇓iPN	Pn	15 39 53.6	+1.4
SQTA				iSG	Sg	15 41 21.9	-5.3
	comp=Z,49nm,0.4s						
SQTA	Sankt Quirin	5.35	219	⇓iPn	Pn	15 39 53.6	+1.4
	comp=Z,49nm,0.4s						
SQTA				iSg	Sg	15 41 21.9	-5.3
FVI	Forni Avoltri	5.37	205	eP	Pn	15 39 53.7	+1.2
PTCC	Patocco-Chiusa	5.41	201	eP	Pn	15 39 54.0	+0.9
PTCC	Patocco-Chiusa	5.41	201	eP	Pn	15 39 54.0	+0.9
VXJU	Vaexsjoe	5.48	353	P	Pn	15 39 52.9	-1.2
PKSM	Moragy	5.54	162	⇓eP	Pn	15 39 55.0	+0.1
PKSM				eS	Sn	15 41 10.2	+10
RHK1	Bakonya	5.55	166	⇑iP	Pn	15 39 55.2	+0.1
GMNA	Gemona	5.56	201	eP	Pn	15 39 57.3	+2.2
GMNA	Gemona	5.56	201	eP	Pn	15 39 57.3	+2.1
LEGS	Legarje	5.58	186	ePn	Pn	15 39 56.4	+1.0
VOY	Vojsko	5.66	196	ePn	Pn	15 39 56.8	+0.2
VOY				eSn	Sg	15 41 32.7	-5.0
ABH	Alteburg	5.69	257	P	Pn	15 39 57.0	0.0
OSKU	Oskarshamn	5.71	360	P	Pn	15 39 56.0	-1.4
WTSB	Winterswijk	5.82	278	eP	Pn	15 39 57.9	-0.9
	comp=Z,11nm,0.4s						
WTSB				ex	x	15 41 34.2	
BYXU	Byxelkrok	5.83	5	P	Pn	15 39 57.9	-1.1
DAVA	Damuels	5.86	227	⇑iPN	Pn	15 39 59.1	-0.3
DAVA				iSG	Sg	15 41 39.5	-4.8
	comp=Z,102nm,0.8s						
DAVA	Damuels	5.86	227	⇑iPn	Pn	15 39 59.1	-0.3
	comp=Z,102nm,0.8s						
DAVA				iSg	Sg	15 41 39.5	-4.8
CEY	Cerknica	5.87	192	ePn	Pn	15 39 59.8	+0.3
RUP	Ruppelstein	6.04	256	P	Pn	15 40 01.7	-0.3
EKSU	Eksjoe	6.11	356	P	Pn	15 40 01.3	-1.7
VSTU	Vaestervik	6.18	2	P	Pn	15 40 02.8	-1.2
CTI	Castel Tesino	6.20	210	eP	Pn	15 40 05.8	+1.6
CTI	Castel Tesino	6.20	210	eP	Pn	15 40 05.8	+1.6
DAVOX	Davos	6.25	223	Pn	Pn	15 40 04.7	-0.2
	comp=Z,4.3nm,0.3s,baz=23,slow=8.9,SNR=24						
DAVOX				Sn	Sn	15 41 18.8	+0.9
	comp=Z,1.8nm,0.3s,baz=11,slow=22,SNR=2.2						
DAVOX				Lg		15 41 49.7	
	comp=Z,4.1nm,0.3s,baz=208,slow=17,SNR=4.8						
BRMO	Bormio	6.29	219	eP	Pn	15 40 07.8	+2.4
BRMO	Bormio	6.29	219	eP	Pn	15 40 07.8	+2.4
MEM	Membach	6.44	266	P	Pn	15 40 08.2	+0.6
MUD	Monsted U'grnd	6.44	323	iP	Pg	15 40 39.8	+2.0
	comp=Z,106nm,1.3s						
WLS	Welschbruch	6.45	245	P	Pn	15 40 07.6	-0.1
HGN	Heimansgroeve	6.46	267	eP	Pn	15 40 08.4	+0.5
HGN				ex	x	15 41 54.3	
CDF	Champ du Feu	6.49	245	ePn	Pn	15 40 06.2	-2.1
CDF				eSg	Sg	15 41 55.3	-10
	comp=Z,547nm,1.2s						
WLF	Walferdange	6.61	258	ePn	Pn	15 40 08.8	-1.2
WLF				eSb	Sb	15 41 50.4	+4.8
WLF				eSg	Sg	15 42 05.1	-4.2
WLF	Walferdange	6.61	258	ePn	Pn	15 40 08.9	-1.1
WLF	Walferdange	6.61	258	P	Pn	15 40 09.0	-1.0
ECH	Echery	6.66	244	P	Pn	15 40 11.1	+0.4
LNKU	Linkoeping	6.75	357	P	Pn	15 40 10.1	-1.9
VIKU	Vikbolandet	7.03	2	P	Pn	15 40 14.2	-1.7
HINF	Hinteralfeld	7.05	242	ePn	Pn	15 40 13.8	-2.4
HINF				eSg	Sg	15 42 12.6	-11
	comp=Z,276nm,1.1s						
GIVF	Givet	7.30	263	ePn	Pn	15 40 15.9	-3.8
GIVF				eSg	Sg	15 42 20.3	-12
	comp=Z,221nm,1.1s						
THEF	They Montfort	7.32	247	P	Pn	15 40 19.3	-0.7
VAI	Varese	7.44	224	eP	Pn	15 40 22.2	+0.6
VAI	Varese	7.44	224	eP	Pn	15 40 22.2	+0.5
DOU	Dourbes	7.44	264	P	Pn	15 40 20.6	-1.1
ASKU	Askersund	7.46	355	P	Pn	15 40 20.0	-1.9
NYNU	Nynaeshamn	7.61	7	P	Pn	15 40 22.3	-1.7
BAIF	Baives	7.69	264	eSg	Sg	15 42 32.8	-12
	comp=Z,148nm,1.0s						
MCGN	Macugnaga	7.72	227	eP	Pn	15 40 26.4	+0.8
MCGN	Macugnaga	7.72	227	eP	Pn	15 40 26.4	+0.8
MEZF	Maizieres J'vi	7.74	252	ePn	Pn	15 40 23.2	-2.6
MEZF				eSg	Sg	15 42 33.4	-13
	comp=Z,217nm,1.1s						
ESKU	Eskilstuna	7.76	1	P	Pn	15 40 26.1	0.0
SFTF	Sexfontaines	7.88	250	ePn	Pn	15 40 26.1	-1.8
SFTF				eSg	Sg	15 42 38.6	-13
	comp=Z,391nm,1.3s						
BOB	Bobbio (Coli)	8.07	216	eP	P	15 40 32.0	+1.5
BOB	Bobbio (Coli)	8.07	216	eP	P	15 40 32.0	+1.5
GRAM		8.10	212	P	P	15 40 31.0	+0.1
GRAM		8.10	212	P	P	15 40 31.0	+0.2
NRAU	Nora	8.12	356	P	P	15 40 29.1	-2.1
SFI	Santa Sofia	8.12	202	eP	P	15 40 31.3	+0.1
TRAV		8.17	226	P	P	15 40 33.4	+1.6
TRAV		8.17	226	P	P	15 40 33.4	+1.6
CABF	La Chapelle	8.20	237	eSg	Sg	15 42 49.9	-12
	comp=Z,574nm,1.5s						
CODM		8.26	213	P	P	15 40 33.3	+0.2
CODM		8.26	213	P	P	15 40 33.3	+0.2
BACM		8.28	212	P	P	15 40 33.5	+0.1
BACM		8.28	212	P	P	15 40 33.5	+0.1
AKASG	Malin Array Be	8.29	90	Pn	P	15 40 30.1	-3.3
AKASG				Sn	Sn	15 42 01.7	-7.3
AKASG				Lg		15 42 54.8	
NRTU	Norrtaelje	8.32	9	P	P	15 40 31.8	-2.2
BACU	Backbrunna	8.40	3	P	P	15 40 32.9	-2.2
MAIM		8.48	209	P	P	15 40 35.8	-0.4
MAIM		8.48	209	P	P	15 40 35.8	-0.4
LSD	Ceresole Reale	8.48	228	P	P	15 40 36.6	+0.4
LSD	Ceresole Reale	8.48	228	P	P	15 40 36.6	+0.4
PCP	Pian Castagno	8.61	219	P	P	15 40 38.1	+0.2
PCP	Pian Castagno	8.61	219	P	P	15 40 38.1	+0.1
LPL	La Plagne	8.64	230	ePn	P	15 40 37.6	-0.7
LPL				eSg	Sg	15 43 01.9	-15
	comp=Z,191nm,1.5s						
LPG	La Plagne	8.64	230	ePn	P	15 40 37.0	-1.4
LPG				eSg	Sg	15 43 01.7	-15
	comp=Z,234nm,1.3s						
RSP	Reno Superiore	8.67	226	P	P	15 40 39.5	+0.7
RSP	Reno Superiore	8.67	226	P	P	15 40 39.5	+0.7
FLYU	Flymyra	8.71	6	P	P	15 40 36.7	-2.7
HFS	Hagfors	8.77	352	Pn	P	15 40 38.0	-2.1
	comp=Z,0.2nm,0.3s,baz=156,slow=14,SNR=30						
HFS				Sn	Sn	15 42 13.9	-7.0
	comp=Z,0.2nm,0.3s,baz=177,slow=24,SNR=3.3						
HFS				Lg		15 43 03.3	
	comp=Z,0.1nm,0.3s,baz=163,slow=20,SNR=3.6						
OSTU	Oestervaala	8.78	3	P	P	15 40 37.6	-2.7
FENE	Fenestrelle	8.85	227	P	P	15 40 41.0	-0.3
FENE	Fenestrelle	8.85	227	P	P	15 40 41.0	-0.3
BHB	Bricherasio	8.90	225	P	P	15 40 41.4	-0.7
BHB	Bricherasio	8.90	225	P	P	15 40 41.4	-0.7
GRAU	Graesoe	8.96	8	P	P	15 40 40.5	-2.4
FIN	Finale Ligure	9.02	219	eP	P	15 40 44.2	+0.5
FIN	Finale Ligure	9.02	219	eP	P	15 40 44.2	+0.5
FALU	Falun	9.03	359	P	P	15 40 41.1	-2.6
LOR	Lormes	9.05	247	ePn	P	15 40 42.2	-1.9
LOR				eSg	Sg	15 43 14.8	-16
	comp=Z,110nm,1.1s						
RRL	Cesana Torines	9.06	227	P	P	15 40 43.7	-0.5
RRL	Cesana Torines	9.06	227	P	P	15 40 43.7	-0.5
ROB	Roburent	9.08	221	P	P	15 40 44.1	-0.5
ROB	Roburent	9.08	221	P	P	15 40 44.1	-0.5
RORO		9.16	219	P	P	15 40 44.8	-0.7
RORO		9.16	219	P	P	15 40 44.8	-0.8
MBDF	Montbardon	9.21	226	ePn	P	15 40 45.1	-1.2
MBDF				eSg	Sg	15 43 19.8	-16
	comp=Z,55nm,1.1s						
PZZ	Prazzo	9.24	224	P	P	15 40 45.0	-1.8
MONE	Monesi	9.31	220	P	P	15 40 47.6	-0.1
MONE	Monesi	9.31	220	P	P	15 40 47.6	-0.1
ENR	Entracque	9.33	222	P	P	15 40 46.2	-1.7
STV2	Anna di Valdie	9.35	223	P	P	15 40 46.0	-2.2
STV	Sta Anna Valdi	9.35	223	P	P	15 40 46.3	-2.0
SSF	Saint Saulge	9.36	247	ePn	P	15 40 45.5	-2.9
SSF				eSg	Sg	15 43 24.7	-16
	comp=Z,78nm,1.3s						
IMI	Imperia	9.40	219	eP	P	15 40 48.6	-0.2
IMI	Imperia	9.40	219	eP	P	15 40 48.7	-0.2
SMF	Signal de Mont	9.41	244	eSg	Sg	15 43 26.2	-16
	comp=Z,227nm,1.4s						
KIS	Kishinev	9.44	113	eP	P	15 40 52.0	+2.5
KIS				eS	Sn	15 42 43.0	+5.4
ORIF	Oris-en-Rattie	9.48	230	ePn	P	15 40 47.6	-2.5
NEGI	Negi	9.52	220	P	P	15 40 48.8	-1.7
SBF	Sospel	9.62	221	ePn	P	15 40 50.6	-1.2
NAO01	NORSAR Array S	9.81	345	ePn	P	15 40 49.7	-4.8
NAO01	NORSAR Array S	9.81	345	ePn	P	15 40 49.7	-4.8
NB2	NORSAR Subarra	9.95	346	P	P	15 40 51.8	-4.5
	comp=Z,0.6nm,0.4s,baz=165,slow=14						
NOA	NORSAR Array B	9.95	346	Pn	P	15 40 53.0	-3.4
	comp=Z,0.6nm,0.3s,baz=162,slow=12,SNR=5.1						
NOA				Sn	Sn	15 42 39.9	-10

comp=Z,0.3nm,0.3s,baz=162,slow=23,SNR=3.1
NOA Lg 15 43 42.3
comp=Z,0.4nm,0.3s,baz=43,slow=22,SNR=4.0
BGF Bois d'Agland 10.02 246 *e*Sg Sx 15 43 44.8
comp=Z,121nm,1.1s
PGF Pioggiola 10.18 211 *e*Pn **P 15 40 55.5 -4.1**
FRF La Foret Royal 10.19 223 *e*Pn **P 15 40 58.3 -1.5**
FINES FINESS Array B 11.38 25 Pn **P 15 41 11.8 -4.1**
comp=Z,0.8nm,0.3s,baz=203,slow=10,SNR=25
FINES Sn **S 15 43 13.1 -12**
comp=Z,1.2nm,0.3s,baz=222,slow=21,SNR=6.1
FINES Lg 15 44 28.5
comp=Z,0.2nm,0.3s,baz=214,slow=22,SNR=1.9
FINES FINESS Array B 11.38 25 P **P 15 41 11.8 -4.1**
FINES 15 43 13.1
FINES pmax pmax
comp=Z,1.0nm,0.3s
FINES smax
comp=N,1.0nm,0.3s
KAF Kangasniemi 12.00 24 *e*p **P 15 41 20.9 -3.4**
EKA Eskdalemuir Ar 12.12 296 Pn **P 15 41 22.1 -3.9**
comp=N,0.9nm,0.3s,baz=106,slow=14,SNR=10
EKA Sn **S 15 43 43.0 -0.1**
comp=N,0.3nm,0.3s,baz=73,slow=14,SNR=3.4
EKA Eskdalemuir Ar 12.12 296 P **P 15 41 22.1 -3.9**
EKA 15 43 43.0
EKA pmax pmax
comp=Z,1.0nm,0.3s
ESK Eskdalemuir 12.14 296 *e*Pn **P 15 41 20.6 -5.7**
ESK *e*S tx 15 43 22.7
OBN Obninsk 12.74 65⇓*e*P **P 15 41 28.2 -6.1**
OBN pmax pmax
comp=Z,21nm,1.4s
OBN MLR MLR
comp=Z,200nm,6.0s
OBN Obninsk 12.74 65 *e*P **P 15 41 28.1 -6.2**
MOS Moscow 13.43 63 *e*P **P 15 41 36.0 -7.5**
MOS *e* 15 44 16.2
MOS pmax pmax
comp=Z,60nm,0.8s
ANN Anapa 15.69 107 *e*P **P 15 41 59.2 -14**
ANN pmax pmax
comp=Z,15nm,0.9s
BRTR Keskin Array B 16.94 127 Pn **P 15 42 30.0 +1.0**
comp=Z,0.2nm,0.3s,baz=326,slow=4.5,SNR=6.1
ARCES ARCESS Array B 18.64 10 Pn **P 15 42 46.4 -3.6**
comp=Z,0.8nm,0.3s,baz=192,slow=11,SNR=12
ARCES ARCESS Array B 18.64 10 P **P 15 42 46.4 -3.6**
ARCES pmax pmax
comp=Z,1.0nm,0.3s
GNI Garni 22.79 109*de*P **P 15 43 37.2 +2.9**
GNI pmax pmax
comp=Z,26nm,1.5s
GNI Garni 22.79 109 *e*P **P 15 43 36.1 +1.8**
comp=Z,36nm,1.4s,mb4.7
GNI Garni 22.79 109 *e*P **P 15 43 36.1 +1.8**
comp=Z,36nm,1.4s,mb4.7
ASF Jabal al Asfar 24.59 134 P **P 15 43 52.6 +0.7**
comp=Z,1.1nm,0.4s,mb4.0,baz=270,slow=15,SNR=5.4
ARU Arti 25.14 62⇓*i*P **P 15 43 56.2 -0.7**
ARU *e* 15 44 31.2
ARU *e*S **S 15 48 23.4 +3.4**
ARU *e*SS SS 15 49 14.4 -4.7
ARU pmax pmax
comp=Z,12nm,1.1s,mb4.5
ARU Arti 25.14 62 *e*P **P 15 43 56.3 -0.6**
comp=Z,11nm,0.9s,mb4.6
ARU Arti 25.14 62 *e*P **P 15 43 56.3 -0.6**
comp=Z,11nm,0.9s,mb4.6
SVE Sverdlovsk 26.23 61⇑*e*P **P 15 44 07.2 +0.1**
SVE pmax pmax
comp=Z,40nm,1.6s,mb4.8
BRVK Borovoye 32.52 66 *e*P **P 15 45 03.4 0.0**
comp=Z,5.6nm,0.9s,mb4.5
BRVK Borovoye 32.52 66 *e*P **P 15 45 03.4 0.0**
comp=Z,5.6nm,0.9s,mb4.5
BVAR Borovoye Array 32.59 66 P **P 15 45 04.7 +0.7**
comp=Z,2.1nm,0.7s,mb4.2,baz=297,slow=6.6,SNR=12
KURK Kurchatov 38.19 66⇑*e*P **P 15 45 52.0 +0.2**
KURK Kurchatov 38.19 66 *e*P **P 15 45 52.0 +0.1**
comp=Z,7.8nm,1.3s,mb4.3
KURK *e*PP PP 15 47 18.4 -3.7
KURK Kurchatov 38.19 66 *e*P **P 15 45 52.0 +0.2**
comp=Z,7.8nm,1.3s,mb4.3
KURK Kurchatov 38.19 66 *e*PP PP 15 47 18.4 -3.7
NVS Novosibirsk 38.98 58 *e*P **P 15 45 57.3 -1.2**
NVS pmax pmax
comp=Z,17nm,1.5s,mb4.5
NVS pmax pmax
comp=E,11nm,1.4s
AAK Ala-Archa 39.77 79⇑*e*P **P 15 46 05.1 0.0**
AAK Ala-Archa 39.77 79 *e*P **P 15 46 05.8 +0.7**
comp=E,17nm,1.3s,mb4.5
AAK Ala-Archa 39.77 79 *e*P **P 15 46 05.8 +0.7**
comp=E,17nm,1.3s,mb4.5
ZAL Zalesovo 40.19 59 P **P 15 46 08.8 +0.3**
comp=E,0.8nm,0.8s,mb3.4,baz=78,slow=9.4,SNR=8.0
ZAL Zalesovo 40.19 59 P **P 15 46 08.8 +0.3**
ZAL pmax pmax
comp=Z,1.0nm,0.8s
MKAR Makanchi Array 42.21 69 P **P 15 46 25.6 +0.6**
comp=Z,0.7nm,0.5s,mb3.7,baz=306,slow=7.6,SNR=10
MKAR Makanchi Array 42.21 69 P **P 15 46 25.6 +0.6**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
SONM Songino Array 54.92 55 P **P 15 48 04.4 +0.9**
comp=Z,2.3nm,1.0s,mb4.2,baz=288,slow=7.8,SNR=7.5
YAK Yakutsk 55.22 32 *e*P **P 15 48 02.9 -2.6**
comp=Z,11nm,0.9s,mb4.9
INK Inuvik 58.40 347 *e*P **P 15 48 26.0 -2.1**
comp=Z,7.6nm,1.2s,mb4.6
INK Inuvik 58.40 347 *e*P **P 15 48 26.0 -2.1**
comp=Z,7.6nm,1.2s,mb4.6
SADO Sadowa 59.54 305 P **P 15 48 36.5 +0.1**
comp=Z,10nm,0.8s,mb4.9,baz=271,slow=3.2,SNR=2.7
ILAR Eielson Array 63.33 352 P **P 15 49 03.0 +1.4**
comp=Z,0.4nm,0.9s,mb3.5,baz=6.3,slow=8.2,SNR=3.7
CMAR Chiang Mai Arr 71.35 84 P **P 15 49 53.1 +0.3**
comp=Z,2.0nm,1.1s,mb4.2,baz=308,slow=6.8,SNR=13
CMAR Chiang Mai Arr 71.35 84 P **P 15 49 53.1 +0.3**
CMAR pmax pmax
comp=Z,2.0nm,1.1s
MSO Missoula 73.08 327 *e*P **P 15 50 02.6 +0.1**
comp=Z,7.1nm,1.2s,mb4.7
MSO Missoula 73.08 327 *e*P **P 15 50 02.6 +0.2**
comp=Z,7.1nm,1.2s,mb4.7
QLMT Earthquake Lak 73.91 324 *e*P **P 15 50 08.4 +1.1**
MOOW Moose Ponds 74.58 323 *e*P **P 15 50 13.4 +2.2**
LOHW Long Hollow 74.64 323 *e*P **P 15 50 13.2 +1.6**
PDAR Pinedale Array 74.96 322 P **P 15 50 14.5 +1.0**
comp=Z,0.9nm,0.7s,mb3.9,baz=45,slow=6.3,SNR=8.0
NIKO Nikolski 75.82 3 *e*P **P 15 50 11.8 -6.3**
HWUT Hardware Ranch 76.72 322 *e*P **P 15 50 24.7 +1.2**
comp=Z,8.4nm,1.2s,mb4.8
WMOK Wichita Mounta 76.94 310 *e*P **P 15 50 25.4 +0.5**
comp=Z,3.2nm,1.2s,mb4.3
SDCO Great Sand Dun 77.53 316 *e*P **P 15 50 29.4 +1.4**
comp=Z,8.6nm,1.4s,mb4.7
DUG Dugway 78.42 323 *e*P **P 15 50 35.2 +2.3**
comp=Z,13nm,1.3s,mb4.9
PV10 Paradox Valley 78.49 319 *e*P **P 15 50 35.8 +2.5**
PV01 Paradox Valley 78.50 319 *e*P **P 15 50 35.3 +2.0**
ELK Elko 78.84 324 *e*P **P 15 50 37.5 +2.4**
comp=Z,8.3nm,1.4s,mb4.6
MSU Marysvale 79.63 321 *e*P **P 15 50 41.6 +2.1**
ARUT Antelope Range 80.75 322 *e*P **P 15 50 47.8 +2.3**
NVAR Mina Array Bea 81.99 326 P **P 15 50 54.5 +2.6**
comp=Z,0.8nm,0.8s,mb3.9,baz=44,slow=4.4,SNR=5.2
TXAR Lajitas Array 83.73 310 P **P 15 51 00.8 -0.3**
comp=Z,0.2nm,0.4s,mb3.7,slow=6.3,SNR=5.3
CTAO Charters Tower 130.18 70 *e*PKPpre 15 57 37.8

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*IDC **09** 15:41:31.3±1.4, 3.25N×128.33E, mb3.7/7, mb1 3.8/7, mb1mx3.7/19, Error ellipse: s-maj=70.3km s-min=17.1km az=66.0*
*NEIC **09** 15:41:33.4±0.8, 3.26N×128.33E, h15^{km}, mb4.5/3, Error ellipse: s-maj=44.7km s-min=10.2km az=70.0*
ISC 09 15:41:32.5±18.0**, 3.3N**±0.3×**128.3E**±0.4**, h33**^{km}±173^{km}**, n12,** σ**0^{s}86**/12**, mb3.8**/10**, North of Halmahera**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
FITZ Fitzroy Crossi 21.40 187 P **P 15 46 19.2 -0.5**
0.3nm,0.5s,mb2.9,baz=72,slow=16,SNR=3.3
WRAB Tennant Creek 23.83 166 *e*P **P 15 46 46.1 +2.4**
5.1nm,0.8s,mb4.0
WRA Warramunga Arr 23.84 166 P **P 15 46 44.7 +0.9**
0.8nm,0.6s,mb3.3,baz=346,slow=11,SNR=9.1
ASAR Alice Springs 27.34 169 P **P 15 47 19.0 +2.3**
0.3nm,0.7s,mb2.9,baz=353,slow=7.3,SNR=4.7
CMAR Chiang Mai Arr 32.42 300 P **P 15 48 05.0 +3.0**
0.5nm,0.8s,mb3.4,baz=120,slow=7.3,SNR=5.3
STKA Stephens Creek 37.19 161 P **P 15 48 44.8 +2.3**
1.4nm,0.7s,mb3.9,baz=320,slow=8.6,SNR=4.0
STKA Stephens Creek 37.19 161 P **P 15 48 44.8 +2.3**
STKA *e*P 15 48 48.4
BJT Baijiatuau 38.18 345 P **P 15 48 52.4 +1.7**
MKAR Makanchi Array 58.80 325 P **P 15 51 31.8 +1.8**
2.7nm,0.6s,mb4.5,baz=118,slow=8.1,SNR=36
KURK Kurchatov 62.94 327 *e*P **P 15 51 59.1 +1.0**
2.8nm,0.6s,mb4.6
KURK *e* 15 52 06.9
BVAR Borovoye Array 68.53 327 P **P 15 52 35.4 +1.6**
1.1nm,0.6s,mb3.9,baz=124,slow=5.3,SNR=7.0
BRVK Borovoye 68.60 327 *e*P **P 15 52 35.4 +1.2**
2.7nm,0.7s,mb4.3

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*IDC **09** 15:44:22.9±0.5, 15.29S×173.21W, mb5.0/23, mb1 5.1/24, mb1mx5.1/26, ML4.9/1, MS5.2/21, Ms1 5.2/21, ms1mx5.1/23, Error ellipse: s-maj=22.5km s-min=11.7km az=139.0*
*SYO **09** 15:44:23.4, 15.15S×173.32W, h5^{km}, MB5.5, MS5.7*
*HRVD **09** 15:44:24.4±0.1, 15.20S×172.82W, h44^{km}, MW5.8/81, Centroid moment Tensor Solution. LP body waves: s73,c171; Mantle waves: s81,c184; Half duration: 1^{s}8 Moment tensor: Scale 10^{17}Nm; M_{rr}-2.97±.06; $M_{\theta\theta}$0.39±.05; $M_{\phi\phi}$2.57±.05; $M_{r\theta}$-3.72±.05; $M_{\theta\phi}$-2.35±.04; $M_{\phi r}$0.78±.05; Best double couple: $M_0$5.26×10^{17} NP1: ϕ_s355°, δ33°, λ-37°. NP2: ϕ_s117°, δ71°, λ-118°. Principal axes: T 5.1, Plg21°, Azm228°; N .32, Plg26°, Azm127°; P -5.42, Plg55°, Azm351°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **09** 15:44:24.4±0.2, 15.19S×173.28W, h10^{km}, mb5.5/64, MS5.7/7, MW5.9 Error ellipse: s-maj=10.1km s-min=4.4km az=145.0, Moment Tensor Solution. s42 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.95; $M_{\theta\theta}$-5.36; $M_{\phi\phi}$7.30; $M_{r\theta}$-4.22; $M_{\theta\phi}$-2.56; $M_{\phi r}$1.14; Best double couple: $M_0$8.3×10^{17} NP1: ϕ_s30°, δ58°, λ-16°. NP2: ϕ_s128°, δ77°, λ-147°. Principal axes: T 8.21, Plg12°, Azm256°; N .14, Plg55°, Azm148°; P -8.35, Plg32°, Azm353°;*
*BJI **09** 15:44:24.3, 15.13S×173.03W, h22^{km}, mB5.5, mb5.2, Ms5.5, Msz5.5*
*MOS **09** 15:44:28.7±1.2, 14.74S×173.18W, h33^{km}, mb5.5/8, MS5.3/16, Error ellipse: s-maj=46.8km s-min=15.6km az=109.1*
*ORF **09** 15:44:29.4, 15.77S×172.71W, h30^{km}, mb6.2*
ISC 09 15:44:25.3±0.1**, 15.23S**±0.03×**173.31W**±0.04**, h26**^{km}±.7^{km}**: pP-P, n465,** σ**1^{s}06**/220**, mb5.3**/97**, MS5.3**/41**, 34C-17D, Tonga Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AFI Afiamalu 1.98 49 *e*Pn **Pn 15 44 54.1 -3.7**
RAR Rarotonga 14.16 117 Pn **P 15 47 42.5 -4.0**
6.2nm,0.3s,baz=260,slow=8.5,SNR=8.7
RAR Sn **S 15 50 10.7 -13**
3.7nm,0.3s,baz=111,slow=16,SNR=3.5
RAR Rarotonga 14.16 117 *e*P **P 15 47 42.6 -3.9**
216nm,1.0s
DZM Mont Dzumac 20.34 247 *e*P **P 15 49 01.4 -1.2**
DZM Mont Dzumac 20.34 247 *e*P **P 15 49 01.4 -1.2**
NOUC Port Laguerre 20.48 247 *e*P **P 15 49 02.7 -1.3**
PAE Paea 22.88 99 *e*P **P 15 49 28.9 +0.6**
420nm,1.3s,mb5.7
PPT Papeete 22.88 99 *e*P **P 15 49 28.5 +0.2**
150nm,1.3s,mb5.3
PPT Papeete 22.88 99 *e*L 15 53 40.9
PPT *e*R 15 54 36.1
10μm,26.0s,baz=263
WCZ Waipu Caves 23.39 206 P **P 15 49 34.3 +1.2**
KUZ Kuaotunu 23.55 202 P **P 15 49 35.7 +1.1**
TBI Tubuai 23.89 113 *e*P **P 15 49 39.0 +1.0**
393nm,1.3s,mb5.7
TBI *e*L 15 54 08.0
TBI *e*R 15 55 07.6
11μm,27.0s,baz=284
MTAZ Motutapu 23.89 204 P **P 15 49 40.5 +2.6**
PUZ Puketiti 23.94 197 P **P 15 49 39.0 +0.6**
PUZ *e*S **S 15 53 52.5 +2.3**
KAAZ Kauri Point 24.01 204 *e*P **P 15 49 39.9 +0.9**
OTAZ Otara 24.03 204 *e*P **P 15 49 40.9 +1.6**
MKAZ Moumakai 24.08 203 *e*P **P 15 49 41.0 +1.3**
WTAZ Waiatarua 24.15 204 *e*P **P 15 49 41.1 +0.6**
MWZ Matawai 24.39 198 *e*P **P 15 49 42.3 -0.5**
URZ Urewera 24.45 198 P **P 15 49 43.0 -0.4**
117nm,0.6s,mb5.5,baz=28,slow=3.3,SNR=34
URZ LR LR 15 56 45.1
comp=Z,3μm,21.1s,MS4.7,baz=27,slow=30
URZ Urewera 24.45 198 *e*P **P 15 49 41.1 -2.2**
PMOR Pomariorio Ree 24.53 93 *e*P **P 15 49 44.8 +0.5**
522nm,1.4s,mb5.9
VAH Vaihoa 24.77 93 *e*P **P 15 49 46.5 -0.2**
386nm,1.2s,mb5.8
KNZ Kokohu 24.99 197 *e*P **P 15 49 44.6 -3.9**
KNZ pP 15 49 51.5
HIZ Hauiti 25.43 202 P **P 15 49 54.7 +2.0**
BKZ Black Stump Fm 25.47 199 *e*P **P 15 49 51.4 -1.7**
MGZ Maungaku 25.63 200 P **P 15 49 55.1 +0.6**
NGZ Ngauruhoe 25.77 200 P **P 15 49 56.1 +0.3**
TUVZ Tukino 25.83 200 *e*P **P 15 49 55.0 -1.4**
BFZ Birch Farm 26.94 198 P **P 15 50 05.7 -0.9**
QRZ Quartz Range 28.32 203 *e*P **P 15 50 18.3 -0.8**
NNZ Nelson 28.35 201 P **P 15 50 18.5 -0.9**
THZ Tophouse 29.00 202 *e*P **P 15 50 23.1 -2.1**
LTZ Lake Taylor 30.12 201 *e*P **P 15 50 31.8 -3.4**
WVZ Waitaha Valley 30.94 203 P **P 15 50 39.8 -2.6**
RPZ Rata Peaks 31.37 202 P **P 15 50 44.6 -1.6**
19nm,0.5s,mb5.1,baz=301,slow=3.6,SNR=20
LBZ Lake Benmore 32.27 202 *e*P **P 15 50 51.8 -2.2**
CTA Charters Tower 38.77 257 P **P 15 51 49.1 -0.6**
7.1nm,0.8s,mb4.4,baz=91,slow=9.9,SNR=9.4
CTA LR LR 16 05 18.1
comp=Z,4μm,21.8s,MS5.2,baz=77,slow=32
CTAO Charters Tower 38.77 257 *e*P **P 15 51 48.0 -1.7**
12nm,0.9s,mb4.6
PMG Port Moresby 39.01 274 P **P 15 51 53.4 +1.6**
9.8nm,0.7s,mb4.7,baz=108,slow=5.9,SNR=9.7
PMG Port Moresby 39.01 274 *e*P **P 15 51 52.6 +0.8**
25nm,0.9s,mb4.9
KIP Kipapa 39.40 23 P **P 15 51 59.8 +4.9**
166nm,1.1s,mb5.7
TAU Tasmania Unive 43.50 223 *e*P **P 15 52 28.8 +0.5**
19nm,1.0s,mb4.8
STKA Stephens Creek 44.20 240 P **P 15 52 33.1 -1.0**
40nm,0.7s,mb5.2,baz=83,slow=8.1,SNR=66
STKA PcP PcP 15 54 20.1 +0.9
9.9nm,0.9s,baz=135,slow=4.3,SNR=2.7
STKA LR LR 16 09 05.1
comp=Z,3μm,20.3s,MS5.1,baz=71,slow=34
STKA Stephens Creek 44.20 240 *e*P **P 15 52 32.9 -1.3**
ADE Adelaide 47.19 236 P **P 15 52 57.3 -0.6**
WRAB Tennant Creek 49.96 257 P **P 15 53 18.3 -1.3**
177nm,1.3s,mb5.9,SNR=12
WRAB Tennant Creek 49.96 257 *e*P **P 15 53 18.1 -1.4**
75nm,1.2s,mb5.6
WRA Warramunga Arr 49.97 257 P **P 15 53 18.6 -1.0**
10nm,0.5s,mb5.1,baz=92,slow=6.9,SNR=142
WRA LR LR 16 12 58.6
comp=Z,3μm,21.6s,MS5.3,baz=80,slow=34
ASAR Alice Springs 50.25 252 P **P 15 53 20.4 -1.3**
41nm,0.5s,mb5.7,baz=85,slow=8.0,SNR=224
ASAR LR LR 16 12 59.2
comp=Z,6μm,21.8s,MS5.6,baz=92,slow=34
FITZ Fitzroy Crossi 58.33 258 P **P 15 54 20.3 -0.6**
3.8nm,0.7s,mb4.5,baz=161,slow=5.4,SNR=10
DRV Dumont d'Urvil 59.78 200 P **P 15 54 39.0 +8.6**
DRV SP SP 16 02 49.0 -3.8
DRV R 16 12 00.0
CBIJ Chichi jima 60.30 314 LR LR 16 15 43.6
comp=Z,2μm,20.6s,MS5.2,baz=306,slow=31
SBA Scott Base 63.42 185 *e*P **P 15 54 55.9 +1.1**
36nm,0.8s,mb5.5
MBWA Marble Bar 63.49 254 *e*P **P 15 54 54.5 -1.4**
34nm,1.2s,mb5.3
NWAO Narrogin (SRO) 64.78 241 *e*P **P 15 55 03.0 -1.2**
31nm,1.1s,mb5.2
JHJ Hachijo jima 2 65.70 318 LR LR 16 17 41.7
comp=Z,1μm,21.6s,MS5.1,baz=111,slow=30
MAJO Matsushiro 68.87 320 *e*P **P 15 55 29.6 -0.4**
90nm,1.6s,mb5.5
MAT Matsushiro 68.87 320 P **P 15 55 28.4 -1.7**
MAT S S 16 04 25.0 -6.0
MAT Matsushiro 68.87 320 *e*P **P 15 55 28.0 -2.1**
10.0nm,1.0s,mb4.7
MAT *e*S S 16 04 25.0 -6.0
MAT LR LR
comp=Z,3μm,20.0s,MS5.5
JOW Kunigami 70.46 306 LR LR 16 20 51.3
comp=Z,1μm,21.9s,MS5.2,baz=118,slow=31
CASY Casey 70.60 205 *e*P **P 15 55 40.1 0.0**
comp=Z,21nm,0.9s,mb5.1
ASAJ Asahikawa 71.44 328 P **P 15 55 47.0 +1.4**
comp=Z,11nm,0.9s,mb4.8,baz=281,slow=3.0,SNR=2.5
ASAJ LR LR 16 26 25.3
comp=Z,556nm,18.7s,MS4.8,baz=155,slow=35
MWC Mount Wilson 71.95 46 *e*P **P 15 55 49.6 +0.8**
MWC *e* 15 56 06.1
MWC *e* 15 56 27.2
BAR Barrett 72.09 48 P **P 15 55 51.3 +1.7**
BAR *e* 15 56 08.0
PET Petropavlovsk 72.15 343 *e*P **P 15 55 49.2 -0.4**
PET *e**PP pP 15 56 05.7 +8.0
PET *e*S S 16 05 12.8 +3.9
PET *e*PS PS 16 05 50.7 +7.7
PET pmax pmax
comp=Z,600nm,11.0s
PET pmax pmax
comp=Z,700nm,7.3s
PET smax
comp=E,800nm,19.1s
CMB Columbia Colle 72.58 41 *e*P **P 15 55 51.5 -1.0**
comp=E,31nm,1.2s,mb5.1
OHCM Honcut 72.67 40 *e*P **P 15 55 52.8 -0.1**
OHCM *e* 15 56 15.3
PFO Pinyon Flat Ob 72.74 47 *e*P **P 15 55 54.6 +1.0**
comp=E,35nm,1.2s,mb5.2
PFO *e* 15 56 12.5
MTUM Tungsten Hills 73.36 43 *e*P **P 15 55 56.3 -0.8**
YSS Yuzh-Sakhalins 73.38 330*d i*P **P 15 55 57.0 0.0**
YSS pmax pmax
comp=Z,31nm,1.0s,mb5.2
YSS Yuzh-Sakhalins 73.38 330 *e*P **P 15 55 57.9 +0.9**
comp=Z,86nm,1.3s,mb5.5
YBH Yreka Blue Hor 73.41 37 P **P 15 55 56.6 -0.6**
comp=Z,13nm,0.9s,mb4.8,baz=184,slow=6.0,SNR=12
YBH Yreka Blue Hor 73.41 37 *e*P **P 15 55 57.2 -0.1**
comp=Z,46nm,1.1s,mb5.3
YBH *e* 15 56 17.9
BEKR Beckwourth 73.68 40 *e*P **P 15 55 58.8 -0.1**
comp=Z,44nm,1.1s,mb5.3
BEKR *e* 15 56 14.8
WCN Washoe City 73.72 41 *e*P **P 15 55 59.1 0.0**
comp=Z,51nm,1.0s,mb5.4
WCN *e* pP 15 56 07.2 -0.1
WCN *e* 15 56 17.3
NVAR Mina Array Bea 74.14 42 P **P 15 56 00.5 -1.1**
comp=Z,14nm,1.0s,mb4.8,baz=225,slow=8.7,SNR=27
NVAR LR LR 16 20 59.5
comp=Z,3μm,21.6s,MS5.6,baz=285,slow=30
NVAR Mina Array Bea 74.14 42 P **P 15 56 00.5 -1.1**
NVAR LR LR 16 20 59.5
MNV Mina 74.24 42 *e*P **P 15 56 00.9 -1.2**
comp=Z,141nm,1.4s,mb5.7
MNV *e* 15 56 28.4
LDFC Landfair 74.46 46 *e*P **P 15 56 03.1 -0.4**
LDFC *e* 15 56 27.3
TPH Tonopah 74.65 43 *e*P **P 15 56 04.0 -0.5**
comp=Z,85nm,1.1s,mb5.6
TPNV Topopah Spring 74.68 44 *e*P **P 15 56 04.5 -0.2**
comp=Z,26nm,0.9s,mb5.2
QSPA South Pole Qui 74.81 180 *e*P **P 15 56 05.8 +1.1**
comp=Z,87nm,1.1s,mb5.6
QSPA LR LR
comp=Z,1μm,20.2s,MS5.2
MOD Modoc 74.94 38 *e*P **P 15 56 05.9 -0.2**
comp=Z,50nm,1.0s,mb5.4
NEN Nelson 74.95 46 *e*P **P 15 56 06.2 -0.1**
NEN *e* pP 15 56 14.6 +0.2
NEN *e* 15 56 24.3
TRCR Troy Canyon 75.88 43 *e*P **P 15 56 11.7 +0.1**
TRCR *e* 15 56 34.5
BMN Battle Mountai 75.97 41 *e*P **P 15 56 12.3 +0.3**
comp=Z,47nm,1.1s,mb5.3
KS15 Wonju Array Si 76.12 315 P **P 15 56 15.1 +2.1**
TUC Tucson 76.22 51 *e*P **P 15 56 12.1 -1.5**
comp=Z,60nm,1.1s,mb5.4
TUC *e* 15 56 32.0
VLA Vladivostok 76.73 322⇑*i*P **P 15 56 19.0 +2.8**
VLA *i* 15 56 33.0
VLA *e* 15 59 15.0
VLA *i* S S 16 06 07.0 +6.9
VLA *e* 16 06 26.0
VLA *e* 16 06 42.0
VLA *i* SS SS 16 11 00.0 +0.9
VLA *e*SSS SSS 16 14 15.0 +0.2
VLA pmax pmax
comp=N,500nm,9.0s
VLA pmax pmax
comp=Z,600nm,9.0s
VLA pmax pmax
comp=E,500nm,8.0s
VLA pmax pmax
comp=Z,400nm,12.0s
VLA smax
comp=E,2μm,12.0s
VLA smax
comp=N,1μm,7.0s
VLA MLR MLR
comp=N,1μm,18.0s,MS5.2
VLA MLR MLR
comp=Z,1μm,18.0s,MS5.2
VLA MLR MLR
comp=E,500nm,20.0s,MS5.2
VGB Gordon Butte 76.86 35 *e*P **P 15 56 19.2 +2.3**
INCN Inchon 76.99 315 *e*P **P 15 56 16.8 -1.0**
comp=E,30nm,0.9s,mb5.2
ARUT Antelope Range 77.02 45 *e*P **P 15 56 18.1 +0.1**
RSO Redoubt South 77.23 10 *e*P **P 15 56 16.0 -2.6**
ELK Elko 77.40 41 *e*P **P 15 56 19.5 -0.5**
comp=E,64nm,1.4s,mb5.4
ELK *e* pP 15 56 27.9 -0.3
MIR Mirnyy 77.61 204⇑*e*P **P 15 56 20.0 -0.6**
MIR pmax pmax
comp=Z,50nm,1.6s,mb5.2
MIR MLR MLR
comp=Z,1μm,18.0s,MS5.2
BBB Bella Bella 77.70 27 P **P 15 56 21.7 +0.3**
comp=Z,31nm,1.1s,mb5.2,baz=3.3,slow=11,SNR=2.3
BBB Bella Bella 77.70 27 P **P 15 56 21.7 +0.3**
SSE Sheshan 77.93 307 ⇓P **P 15 56 24.1 +1.0**
SSE AP pP 15 56 33.0 +1.8
SSE XP sP 15 56 40.3 +6.3
SSE S S 16 06 11.1 -2.3
SSE AMB AMB
comp=Z,31nm,0.8s,mb5.3
SSE AMB AMB
comp=Z,285nm,7.3s
SPU Mount Spurr 78.02 10 *e*P **P 15 56 21.5 -1.5**
HAWA Hanford 78.09 35 *e*P **P 15 56 23.1 -0.5**
comp=Z,48nm,1.1s,mb5.3
MVU Marysvale 78.22 45 *e*P **P 15 56 25.2 +0.7**
comp=Z,68nm,1.4s,mb5.4
MSU Marysvale 78.24 45 *e*P **P 15 56 25.6 +0.9**
MSU *e* pP 15 56 32.5 -0.3
MSU *e* 15 56 42.9
LNOR Lincton Mounta 78.47 36 *e*P **P 15 56 25.2 -0.5**
DUG Dugway 78.68 43 *e*P **P 15 56 27.0 0.0**
comp=Z,53nm,1.3s,mb5.3
NLW Nelson Butte 78.69 33 *e*P **P 15 56 26.5 -0.4**
BGU Big Grassy Mou 78.91 42 *e*P **P 15 56 27.0 -1.3**
PMR Palmer 78.94 12 *e*P **P 15 56 27.4 -0.6**
comp=Z,151nm,1.5s,mb5.7
MDJ Mudanjiang 78.95 322 P **P 15 56 28.9 +0.5**
MDJ AP pP 15 56 41.2 +4.6
MDJ PP PP 15 59 32.7 +3.6
MDJ S S 16 06 31.7 +7.7
MDJ SS SS 16 11 35.8 +3.4
MDJ AMB AMB
comp=Z,520nm,9.0s
MDJ LR LR

comp=N,1µm,23.6s,MS5.3
MDJ LR LR
comp=E,1µm,24.2s,MS5.3
MDJ LR LR
comp=Z,2µm,23.6s,MS5.4
MDJ Mudanjiang 78.95 322 *e*P **P 15 56 28.5 +0.1**
NLU North Lily Min 79.04 43 *e*P **P 15 56 29.3 +0.3**
TTA Tatalina 79.08 8 *e*P **P 15 56 29.6 +0.9**
TMUT Trail Mountain 79.29 44 *e*P **P 15 56 31.7 +1.3**
TMUT *e* pP 15 56 39.4 +0.8
MPU Maple Canyon 79.36 43 *e*P **P 15 56 32.0 +1.2**
MPU *e* pP 15 56 39.6 +0.6
HLID Hailey 79.44 39 *e*P **P 15 56 30.7 -0.4**
comp=Z,57nm,1.0s,mb5.5
HLID *e* pP 15 56 39.5 +0.2
HLID *e* 15 56 49.5
SPUT South Promonto 79.49 42 *e*P **P 15 56 31.7 +0.3**
SPUT *e* pP 15 56 39.4 -0.2
HVU Hansel Valley 79.52 41 *e*P **P 15 56 31.2 -0.4**
HVU *e* pP 15 56 39.5 -0.2
HVU *e* 15 56 48.8
CTU Camp Tracy 79.63 43 *e*P **P 15 56 32.5 +0.4**
CTU *e* pP 15 56 40.4 +0.1
CTU *e* 15 56 50.2
SRU San Rafael 79.66 45 *e*P **P 15 56 32.3 -0.1**
SRU *e* pP 15 56 40.3 -0.3
DPW Davenport 79.70 34 *e*P **P 15 56 31.4 -1.1**
DPW *e* pP 15 56 38.6 -2.0
DPW *e* 15 56 49.7
JLU Jordanelle 79.78 43 *e*P **P 15 56 33.3 +0.3**
JLU *e* pP 15 56 40.9 -0.3
DAU Daniels Canyon 79.81 43 *e*P **P 15 56 33.8 +0.7**
LAZ Ladron 79.88 50 *e*P **P 15 56 34.6 +1.0**
LENM Lemitar 79.90 50 *e*P **P 15 56 34.2 +0.4**
MA2 Magadan 80.03 342 P **P 15 56 34.7 +0.8**
MA2 *e* 15 56 47.7
MA2 *e*S S 16 06 33.3 -1.7
MA2 *e*PS PS 16 07 38.6 +15
MA2 pmax pmax
comp=Z,90nm,2.2s,mb5.3
MA2 MLR MLR
comp=Z,3µm,32.0s,MS5.4
TCUT Toone Canyon 80.07 43 *e*P **P 15 56 32.2 -2.3**
NJ2 Nanjing 80.14 307 *e*P **P 15 56 35.4 +0.3**
NJ2 AP pP 15 56 45.8 +2.6
NJ2 PP PP 15 59 39.1 +0.1
NJ2 S S 16 06 44.0 +7.3
NJ2 XS 16 06 56.0
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
NJ2 AMB AMB
comp=Z,390nm,7.8s
NJ2 LR LR
comp=N,1µm,22.2s,MS5.6
NJ2 LR LR
comp=E,3µm,22.7s,MS5.6
NJ2 LR LR
comp=Z,3µm,25.2s,MS5.6
BNM Barren Site 80.15 51 *e*P **P 15 56 34.9 -0.2**
BNM *e* pP 15 56 43.5 +0.2
HWUT Hardware Ranch 80.21 42 *e*P **P 15 56 33.8 -1.5**
comp=Z,77nm,1.4s,mb5.4
HWUT *e* pP 15 56 43.1 -0.3
LPM Los Pinos Moun 80.22 50 *e*P **P 15 56 35.1 -0.4**
PV10 Paradox Valley 80.33 46 *e*P **P 15 56 35.1 -0.8**
PV10 *e* pP 15 56 43.8 -0.3
PV10 *e* 15 56 54.0
KLR Kul'dur 80.43 327 *ce*P **P 15 56 34.0 -2.2**
KLR *e*S S 16 06 41.0 +1.6
KLR *e*PS PS 16 07 34.0 +5.3
KLR *e*SS SS 16 11 47.5 -7.0
KLR pmax pmax
comp=Z,480nm,4.0s
KLR pmax pmax
comp=Z,1µm,9.0s
KLR smax
comp=N,1µm,13.0s
KLR smax
comp=E,1µm,13.0s
LTX Lajitas 80.44 56 *e*P **P 15 56 37.3 +0.5**
comp=E,109nm,1.5s,mb5.6
LTX *e* pP 15 56 44.9 -0.1
TXAR Lajitas Array 80.44 56 P **P 15 56 37.6 +0.9**
comp=E,16nm,1.1s,mb4.9,baz=233,slow=6.3,SNR=32
TXAR LR LR 16 25 07.0
comp=E,2µm,20.1s,MS5.4,baz=265,slow=30
NEW Newport 80.52 34 *e*P **P 15 56 35.8 -1.0**
comp=E,44nm,1.4s,mb5.2
NEW *e* pP 15 56 43.3 -1.6
NEW *e* 15 56 54.3
PV01 Paradox Valley 80.54 46 *e*P **P 15 56 36.9 -0.2**
ANMO Albuquerque 80.62 50 *de*P **P 15 56 37.1 -0.5**
ANMO Albuquerque 80.62 50 *e*P **P 15 56 36.9 -0.7**
comp=E,42nm,1.1s,mb5.3
ANMO *e* 15 56 56.1
MCK McKinley 80.94 11 *e*P **P 15 56 37.6 -1.1**
comp=E,46nm,1.0s,mb5.4
CN2 Changchun 81.02 320 *e*P **P 15 56 41.2 +1.7**
CN2 *e*S S 16 06 43.6 -2.0
CN2 AMB AMB
comp=Z,30nm,1.2s,mb5.1
CN2 AMB AMB
comp=Z,670nm,7.0s
CN2 LR LR
comp=N,640nm,24.0s,MS5.1
CN2 LR LR
comp=E,880nm,24.0s,MS5.1
CN2 LR LR
comp=Z,3µm,28.0s,MS5.5
GDL2 Guadalupe Moun 81.05 53 *e*P **P 15 56 40.4 +0.5**
MCMT McKenzie Canyo 81.07 39 *e*P **P 15 56 39.2 -0.5**
MCMT *e* pP 15 56 47.8 -0.1
MCMT *e* 15 56 58.1
AHID Auburn Hatcher 81.09 41 *e*P **P 15 56 40.6 +0.7**
comp=Z,96nm,1.4s,mb5.5
DL2 Dalian 81.13 314 PR 15 56 42.0
DL2 S S 16 06 54.2 +7.3
DL2 SS SS 16 12 06.5 +1.3
DL2 AMB AMB
comp=Z,20nm,1.0s,mb5.0
DL2 AMB AMB
comp=Z,300nm,6.7s
SNY Shenyang 81.21 318 ⇓P **P 15 56 41.7 +1.2**
SNY AP pP 15 56 47.6 -1.1
SNY XP sP 15 56 53.6 +2.2
SNY PP PP 15 59 46.4 -1.9
SNY S S 16 06 55.9 +8.2
SNY AMB AMB
comp=Z,40nm,2.3s,mb4.9
SNY LR LR
comp=N,570nm,22.2s,MS5.0
SNY LR LR
comp=E,510nm,24.0s,MS5.0
THY Trims Highway 81.27 12 *e*P **P 15 56 40.5 +0.1**
CLNB Carlsbad 81.45 53 *e*P **P 15 56 41.2 -0.8**
MSO Missoula 81.49 37 *e*P **P 15 56 41.4 -0.5**
comp=E,74nm,1.5s,mb5.4
MSO *e* pP 15 56 49.2 -0.9
MSO *e* 15 56 59.4
DLBC Dease Lake 81.51 21 P **P 15 56 41.6 -0.1**
comp=E,5.4nm,1.0s,mb4.5,baz=213,slow=8.3,SNR=7.9
DLBC LR LR 16 26 23.3
comp=E,2µm,19.8s,MS5.4,baz=221,slow=31
REDW Red Top Meadow 81.55 41 *e*P **P 15 56 43.0 +0.7**
TPAW Teton Pass 81.55 41 *e*P **P 15 56 41.3 -0.9**
TPAW *e* pP 15 56 50.3 -0.2
TPAW *e* 15 56 59.4
SNOW Snow King Moun 81.66 41 *e*P **P 15 56 43.1 +0.3**
WUWY Wally Ulrich 81.71 41 *e*P **P 15 56 43.4 +0.3**
WUWY *e* pP 15 56 50.6 -0.6
WUWY *e* 15 57 03.8
CPRX Cap Rock 81.77 53 *e*P **P 15 56 43.4 -0.2**
MOOW Moose Ponds 81.81 41 *e*P **P 15 56 43.7 +0.1**
MOOW *e* pP 15 56 51.0 -0.8
LOHW Long Hollow 81.83 41 *e*P **P 15 56 43.5 -0.2**
LOHW *e* pP 15 56 51.8 -0.2
LOHW *e* 15 57 01.6
QLMT Earthquake Lak 81.93 39 *e*P **P 15 56 44.6 +0.4**
CHMT Chamberlain Mo 81.94 37 *e*P **P 15 56 42.6 -1.6**
CHMT *e* 15 57 01.4
PDAR Pinedale Array 82.08 42 P **P 15 56 44.7 -0.3**
comp=E,12nm,1.1s,mb4.7,baz=207,slow=3.3,SNR=38
PDAR LR LR 16 27 24.8
comp=E,2µm,19.7s,MS5.5,baz=257,slow=32
YFT Old Faithful 82.11 40 *e*P **P 15 56 46.2 +1.1**
YMR Madison River 82.14 40 *e*P **P 15 56 47.0 +1.7**
COLA College 82.18 11 *d*P **P 15 56 44.6 -0.5**
COLA College 82.18 11 *e*P **P 15 56 45.1 0.0**
ILAR Eielson Array 82.26 11 P **P 15 56 44.4 -1.1**
comp=E,7.2nm,0.8s,mb4.7,baz=219,slow=5.4,SNR=35
ILAR LR LR 16 26 39.5
comp=E,972nm,21.6s,MS5.1,baz=224,slow=31
YNR Norris Junctio 82.34 40 *e*P **P 15 56 47.2 +0.9**
SEY Seymchan 82.38 345 *e*P **P 15 56 46.5 +0.3**
SEY 15 59 56.4
SEY PPP PPP 16 01 43.8 -5.8
SEY *e*S S 16 06 57.2 -2.0
SEY *e* 16 08 08.6
SEY *e*SS SS 16 12 20.2 -3.3
IMA Indian Mountai 82.39 8 *e*P **P 15 56 45.7 -0.4**
comp=E,374nm,1.8s,mb6.0
LKWY Lake 82.43 40 *e*P **P 15 56 47.0 +0.2**
comp=E,117nm,1.3s,mb5.7
SDCO Great Sand Dun 82.53 48 *e*P **P 15 56 46.0 -1.5**
comp=E,40nm,1.3s,mb5.3
HRY Holter Researc 82.66 38 *e*P **P 15 56 47.1 -0.9**
WALA Waterton Lakes 82.72 35 *e*P **P 15 56 46.4 -1.9**
comp=E,100nm,1.5s,mb5.6
TIA Tai'an 83.17 310 *e*P **P 15 56 52.0 +1.2**
DAWY Dawson 83.24 14 *e*P **P 15 56 49.9 -0.6**
ISCO Idaho Springs 83.35 46 *e*P **P 15 56 50.9 -0.8**
comp=E,44nm,1.2s,mb5.4
GCMT Greycliff 83.49 39 *e*P **P 15 56 52.4 +0.1**
JCT Junction City 83.98 56 *e*P **P 15 56 53.6 -1.5**
comp=E,23nm,1.2s,mb5.2
PMSA Palmer Station 84.29 156 *e*P **P 15 56 46.7 -9.1**
comp=E,10nm,0.8s,mb5.0
EDM Edmonton 85.30 31 *e*P **P 15 57 00.9 -0.2**
BJT Baijiatuau 85.42 313 *e*P **P 15 57 03.6 +1.5**
comp=E,120nm,1.6s,mb5.8
BJI Beijing 85.42 313 P **P 15 57 03.9 +1.8**
BJI SKS SKS 16 07 26.0 -3.9
BJI S S 16 07 38.5 +8.5
BJI SS SS 16 13 13.7 +5.1
BJI AMB AMB
comp=Z,33nm,2.0s,mb5.1
BJI LR LR
comp=N,610nm,25.6s,MS5.0
BJI LR LR
comp=E,513nm,25.6s,MS5.0
USHA Ushuaia 86.01 146 LR LR 16 26 21.8
comp=E,3µm,21.2s,MS5.6,baz=178,slow=29
LAO LASA Array 86.02 39 *e*P **P 15 57 05.5 +0.6**
comp=E,156nm,1.6s,mb6.0
LAO *e*pP pP 15 57 22.9 +10
RSSD Black Hills 86.28 42 *e*P **P 15 57 05.0 -1.2**
comp=E,14nm,1.0s,mb5.2
RSSD *e*pP pP 15 57 23.0 +8.5
WMOK Wichita Mounta 86.33 53 *e*P **P 15 57 05.6 -1.1**
comp=E,24nm,1.5s,mb5.2
WMOK *e* 15 57 23.2
ENH Enshi 86.91 302 *e*S **P 15 57 09.9 +0.2**
HKT Hockley 87.02 58 *e*P **P 15 57 10.6 +0.4**
comp=E,53nm,1.6s,mb5.5
CBKS Cedar Bluff 87.11 49 *e*P **P 15 57 10.3 -0.2**
comp=E,63nm,1.2s,mb5.7
HIA Hailar 87.12 323 *e*P **P 15 57 11.2 +1.0**
comp=E,30nm,1.2s,mb5.4
MAW Mawson 87.98 199 P **P 15 57 15.4 +1.4**
comp=E,9.9nm,0.7s,mb5.2,baz=127,slow=6.3,SNR=24
MAW LR LR 16 32 24.1
comp=E,2µm,21.8s,MS5.6,baz=121,slow=33
MAW Mawson 87.98 199 *e*P **P 15 57 14.6 +0.7**
comp=E,78nm,1.3s,mb5.8
MAW *e* 15 57 41.9
DGMT Dagmar 88.04 38 *e*P **P 15 57 14.7 0.0**
comp=E,42nm,0.9s,mb5.7
DGMT *e* 15 57 32.5
INK Inuvik 88.09 14 P **P 15 57 13.7 -0.7**
comp=E,7.7nm,0.9s,mb4.9,baz=210,slow=6.6,SNR=8.6
INK Inuvik 88.09 14 *e*P **P 15 57 13.0 -1.4**
comp=E,43nm,1.1s,mb5.6
INK *e* 15 57 34.9
CLNS Chul'man 88.13 331 *e*P **P 15 57 15.0 +0.1**
CLNS pmax pmax
comp=Z,18nm,1.0s,mb5.3
CLNS pmax pmax
comp=N,17nm,0.9s
CLNS pmax pmax
comp=E,10.0nm,1.1s
CLNS MLR MLR
comp=Z,700nm,15.0s,MS5.2
CLNS MLR MLR
comp=N,500nm,17.0s,MS5.0
CLNS MLR MLR
comp=E,100nm,15.0s,MS5.0
NATX Nacogdoches 88.56 57 *e*P **P 15 57 18.0 +0.5**
comp=E,107nm,1.2s,mb6.0
NATX *e* 15 57 37.3
XAN Xi'an 88.61 306 P **P 15 57 19.1 +1.4**
XAN AP pP 15 57 25.9 -0.1
XAN AMB AMB
comp=Z,278nm,7.4s
HHC Hu-ho-hao-te 88.98 313 *e*P **P 15 57 21.2 +1.8**
HHC PP PP 16 00 55.7 +4.2
HHC SKS SKS 16 07 50.0 -2.8
HHC S S 16 08 12.0 +8.3
HHC AMB AMB
comp=Z,29nm,1.6s,mb5.4
HHC AMB AMB
comp=Z,376nm,5.7s
YAK Yakutsk 89.00 337 ⇑ *i*P **P 15 57 19.3 +0.4**
YAK pmax pmax
comp=Z,20nm,1.1s,mb5.4
YAK Yakutsk 89.00 337 P **P 15 57 19.1 +0.2**
comp=Z,51nm,1.2s,mb5.7
YAK *e* 15 57 30.8
YKA Yellowknife Ar 89.91 23 P **P 15 57 23.2 +0.1**
comp=Z,6.5nm,0.9s,mb4.9,baz=232,slow=4.5,SNR=6.2
YKA LR LR 16 31 17.9
comp=Z,2µm,20.6s,MS5.6,baz=265,slow=31
YKW3 Yellowknife Ar 89.94 23 P **P 15 57 25.3 +1.9**
BTO Baotou 89.99 312 *e*P **P 15 57 25.2 +1.1**
MIAR Mount Ida 90.31 54 P **P 15 57 25.6 -0.1**
comp=Z,40nm,1.5s,mb5.5
JTS JuntasAbangare 91.09 80 *e*P **P 15 57 30.6 +0.8**
comp=Z,191nm,1.6s,mb6.2
JTS *e* 15 57 43.4
UALR University of 91.34 54 P **P 15 57 30.2 -0.3**
UALR *e* 15 57 44.7
UALR *e* 15 57 49.8
FFC Flin Flon 91.91 33 P **P 15 57 32.1 -0.5**
comp=Z,32nm,1.4s,mb5.5
CMAR Chiang Mai Arr 92.65 288 P **P 15 57 38.6 +1.8**
comp=E,1.7nm,0.9s,mb4.5,baz=97,slow=3.2,SNR=5.2
CMAR PKiKP 16 02 28.1
comp=Z,1.0nm,0.7s,baz=161,slow=0.1,SNR=5.9
CMAR LR LR 16 34 45.4
comp=Z,367nm,19.4s,MS4.8,baz=85,slow=33
SYO Syowa Base 92.78 191 ⇓P **P 15 57 36.1 -0.2**
SYO Syowa Base 92.78 191 ⇓PcP PcP 15 57 37.7 +0.5
SYO Syowa Base 92.78 191 ⇑sP sP 15 57 40.3 -6.9
VNA3 Neumayer Olymp 93.01 175 ⇓ *i*PKPdf **P 15 57 40.5 +3.2**
VNA3 *e* 15 57 56.3
VNA3 *e* 15 58 03.6
VNA3 *e* 16 01 20.9
VNA3 *e* 16 02 22.2
SNAA Sanae 93.07 177 ⇑ *i*P **P 15 57 39.9 +2.4**
SNAA Sanae 93.07 177 *e* pP 15 57 55.8 +10
SNAA Sanae 93.07 177 *e* Px 15 58 03.1
SNAA Sanae 93.07 177 *e*P **P 15 57 40.7 +3.1**
comp=Z,37nm,1.4s,mb5.6
SNAA *e* 15 57 55.8
SNAA *e* 15 58 03.1
SNAA *e* 16 01 20.2
SNAA *e* 16 02 20.3
CCM Cathedral Cave 93.16 52 *e*P **P 15 57 37.2 -1.5**
comp=Z,24nm,1.1s,mb5.5
CCM *e* 15 57 56.6
VNA2 Neumayer--Watz 93.51 175 ⇑ *i*PKPdf **P 15 57 43.9 +4.3**
VNA2 *e* 15 57 59.7
VNA2 *e* 15 58 07.0
VNA2 *e* 16 01 24.3
VNA2 *e* 16 02 24.9
OXF Oxford 93.58 55 *e*P **P 15 57 41.9 +1.1**
comp=Z,151nm,1.3s,mb6.3
OXF *e* pP 15 57 52.0 +2.9
OXF *e* 15 57 59.3
OXF *e* 15 58 07.3
VNA1 Neumayer--Stat 93.71 175 ⇑ *i*PKPdf **P 15 57 44.6 +4.1**
VNA1 *e* 15 58 00.2
VNA1 *e* 15 58 06.7
VNA1 *e* 16 01 25.3
VNA1 *e* 16 02 25.3
ULM Lac du Bonnet 93.75 39 P **P 15 57 41.8 +0.7**
comp=Z,1.7nm,0.4s,mb4.9,baz=260,slow=5.8,SNR=4.1
ULM LR LR 16 34 33.9
comp=Z,2µm,19.7s,MS5.6,baz=237,slow=32
FVM French Village 93.75 52 P **P 15 57 40.8 -0.7**
comp=Z,85nm,1.6s,mb5.9
FVM *e* 15 58 00.5
BOD Bodaibo 93.83 329 *e*P **P 15 57 41.4 +0.1**
BOD *e* 15 57 56.8
UTMT University of 94.51 54 P **P 15 57 46.2 +1.2**
comp=Z,287nm,1.2s
UTMT *e* 15 58 04.3
SONM Songino Array 94.78 318 P **P 15 57 48.2 +2.2**
comp=Z,2.7nm,1.0s,mb4.6,baz=117,slow=3.2,SNR=3.6
TIXI Tiksi 94.87 344 ⇓ *e*P **P 15 57 46.1 +0.3**
TIXI *e*S 16 08 21.0
TIXI *e*PS PS 16 10 21.2 +1.0
TIXI *e*SS SS 16 15 23.6 -0.1
TIXI pmax pmax
comp=Z,10.0nm,1.2s,mb5.1
GTA Gaotai 97.14 309 P **P 15 57 57.0 +0.1**
GTA XP sP 15 58 14.2 +6.4
GTA PP PP 16 01 52.2 -3.6
GTA SKS SKS 16 08 27.1 -12
GTA S S 16 09 08.1 -6.9
GTA AMB AMB
comp=Z,94nm,8.0s
LPAZ La Paz 99.78 110 P **P 15 58 11.3 +2.0**
comp=Z,0.5nm,0.5s,baz=299,slow=8.1,SNR=2.5
LPAZ LR LR 16 34 03.6
comp=Z,238nm,21.2s,baz=75,slow=30
LPAZ La Paz 99.78 110 P **P 15 58 11.3 +2.0**
LPAZ LR LR 16 34 03.6
ROSC El Rosal 99.91 88 LR LR 16 33 55.5
comp=Z,558nm,20.6s,MS5.0,baz=272,slow=30
WMQ Urumqi 106.82 312 PDIF Pdif 15 58 41.0 +1.0
WMQ PP PP 16 03 10.0 +0.8
WMQ S 16 10 36.0
WMQ PP PP
comp=Z,137nm,10.0s
WMQ LR LR
comp=N,362nm,25.0s,MS5.0
WMQ LR LR
comp=E,366nm,26.0s,MS5.0
ZAL Zalesovo 109.16 322 PKiKP 16 02 55.0
comp=E,1.7nm,0.3s,baz=326,slow=8.2,SNR=3.1
MKAR Makanchi Array 110.77 315 PKiKP 16 02 58.7
comp=E,1.7nm,0.6s,baz=119,slow=0.4,SNR=9.8
KURK Kurchatov 113.07 319 *c i*PKIKP PKPdf 16 03 01.5 -3.5
AAK Ala-Archa 116.45 310 *i*PKIKP PKPdf 16 03 07.8 -4.0
BVAR Borovoye Array 117.81 322 PKP PKPdf 16 03 10.4 -3.7
comp=E,5.9nm,1.1s,baz=90,slow=1.5,SNR=9.9
SVE Sverdlovsk 122.04 328 ⇓ *e*PKIKP PKPdf 16 03 20.0 -2.2
ARU Arti 123.25 328 *i*PKIKP PKPdf 16 03 21.3 -3.3
ARU MLR MLR
comp=Z,600nm,19.0s,MS5.3
ARU Arti 123.25 328 *e*PKPdf PKPdf 16 03 23.3 -1.3
ARCES ARCESS Array B 124.46 352 PKP PKPdf 16 03 21.7 -5.0
comp=Z,6.5nm,0.8s,baz=36,slow=23,SNR=4.4
FINES FINESS Array B 131.80 348 PKP PKPdf 16 03 39.4 -1.4
comp=Z,3.1nm,0.8s,baz=45,slow=5.4,SNR=5.0
FINES FINESS Array B 131.80 348 PKP PKPdf 16 03 39.4 -1.4
MOS Moscow 133.13 337 *e*PKIKP PKPdf 16 03 37.1 -6.4
OBN Obninsk 134.00 337 *d i*PKIKP PKPdf 16 03 40.8 -4.3
OBN *e* 16 06 07.4
OBN *e*SS SS 16 24 00.3 +1.7
OBN pmax pmax
comp=Z,13nm,0.8s
OBN MLR MLR
comp=Z,900nm,18.0s,MS5.5
NOA NORSAR Array B 134.14 357 PKP PKPdf 16 03 43.5 -1.7
comp=Z,1.2nm,0.8s,baz=21,slow=2.3,SNR=2.4
VOR Voronezh 135.30 332 PKIKP PKPdf 16 03 45.0 -2.6
VOR pmax pmax
comp=Z,100nm,2.0s
KIV Kislovodsk 138.13 321 *i*PKIKP PKPdf 16 03 49.7 -3.4
GNI Garni 138.62 314 *c i*PKIKP PKPdf 16 03 50.5 -3.6
GNI MLR MLR
comp=Z,600nm,21.0s
AKASG Malin Array Be 140.22 338 PKhKP 16 03 49.3
comp=Z,0.5nm,0.3s,baz=36,slow=4.0,SNR=3.1
AKASG PKP PKPdf 16 03 54.8 -1.8
comp=Z,3.0nm,0.8s,baz=32,slow=1.9,SNR=3.2
ANN Anapa 140.72 325 *e*PKIKP PKPdf 16 03 58.4 +0.7
ANN pmax pmax
comp=Z,38nm,2.1s
ANN MLR MLR
comp=Z,476nm,23.0s,MS5.2
ANN MLR MLR
comp=N,890nm,21.0s,MS5.5
ANN MLR MLR
comp=E,394nm,21.0s,MS5.5
LSZ Lusaka 142.99 216 *e*PKPdf PKPdf 16 03 58.1 -4.3
ELZG Elazig 143.34 315 *i*P PKPbc 16 03 58.2 +2.1
KIS Kishinev 143.36 334 *i*PKIKP PKPdf 16 04 13.0 +11
KIS *e* 16 07 16.0
KIS *e* 16 10 17.0
KIS *e* 16 19 40.0
KIS MLR MLR
comp=Z,1µm,20.0s,MS5.6
KIS MLR MLR
comp=Z,900nm,20.0s
OJC Ojcow 143.52 346 *e*PKIKP PKPdf 16 03 56.5 -5.8
OJC Ojcow 143.52 346 *e*PKP PKPdf 16 03 56.5 -5.8
KSP Ksiaz 143.65 350 *i*PKIKP PKPdf 16 04 01.3 -1.2
KSP *e* 16 04 12.8
KSP *e* 16 07 12.0
KSP *e*SS SS 16 25 54.0 +2.0
KSP MLR MLR
comp=Z,3µm,22.0s,MS6.0
KSP Ksiaz 143.65 350 *e*PKP PKPdf 16 03 57.6 -4.9
KSP *e*PKPdf PKPdf 16 04 01.3 -1.2
KSP *ep*PKP 16 04 12.8
KSP *e*PP PP 16 07 12.0 -2.2
KSP *e*SS SS 16 25 54.0 +2.0
KSP LR LR
comp=Z,3µm,22.0s,MS6.0
CLL Collm 143.66 353 *e*PKIKP PKPdf 16 03 58.0 -4.5
CLL *i* *PKP 16 04 05.2
CLL *i* 16 04 21.7
CLL *e* 16 06 32.0
CLL *ep*P PP 16 07 18.0 +3.7
BRG Berggiesshubel 143.97 352 *e*PKIKP PKPdf 16 04 01.0 -2.1
BRG *e* 16 07 14.0
BRG *e*SS SS 16 25 54.0 -1.9
BRG pmax pmax
comp=Z,16nm,1.3s
BRG MLR MLR
comp=N,870nm,23.3s,MS5.7
BRG MLR MLR
comp=E,1µm,23.3s,MS5.7
BRG MLR MLR
comp=Z,1µm,26.0s,MS5.5
BRG Berggiesshubel 143.97 352 *e*PKP PKPdf 16 04 01.0 -2.1
BRG *e* 16 04 22.2
BRG *e*PP PP 16 07 14.0 -2.2
BRG *e*SS SS 16 25 54.0 -1.9
BRG LR LR
comp=Z,1µm,26.0s,MS5.5
RAC Raciborz 144.01 347 *e*PKP(df) 16 03 59.1
RAC MLR MLR 17 02 58.8
comp=Z,1µm,23.4s
UPC Upice 144.02 350 *e*PKP PKPdf 16 04 00.3 -2.9
KOLS Kolonicke sedl 144.04 342 *e*PKP PKPdf 16 03 59.1 -4.2
KOLS *e* 16 04 03.2
KOLS *e* 16 04 11.2
KOLS *e* 16 04 26.5
KOLS *e* 16 05 24.0
KOLS Kolonicke sedl 144.04 342 *e*PKIKP PKPdf 16 03 59.1 -4.2
KOLS *e* 16 04 11.2
DPC Dobruska-Polom 144.11 349 *e*PKP PKPdf 16 03 59.0 -4.4
DPC *ep*PKP 16 04 04.7
DPC AMS AMS 17 03 40.0
comp=Z,1µm,19.9s
NIE Niedzica 144.13 345 *e*PKP PKPdf 16 03 59.2 -4.2
TSUM Tsumeb 144.14 198 *e*PKPdf PKPdf 16 04 00.1 -4.2
PVCC Panska Ves 144.22 351 AMS AMS 17 06 10.0
comp=Z,1µm,23.2s

OKC	Ostrava-Krasne	144.25	347	ePKP	PKPdf	16 03 59.5	-4.1
OKC				epPKP		16 04 05.2	
OKC				AMS	AMS	17 02 20.0	
	comp=Z,1μm,22.9s						
BOYT	Boyabat	144.28	322	i P	PKPbc	16 03 59.2	+0.4
MORC	Moravsky Berou	144.43	348	ePKPdf	PKPdf	16 03 59.6	-4.4
MOX	Moxa	144.46	355	i P	PKPbc	16 04 00.2	+1.3
	comp=Z,logA/T=1.5						
MOX				SKS	SKS	16 11 29.0	+17
MOX				L		16 11 29.0	
MOX	Moxa	144.46	355	ePKIKP	PKPdf	16 04 00.2	-3.8
MOX				pmax	pmax		
	comp=Z,47nm,1.5s						
MOX				MLR	MLR		
	comp=Z,700nm,21.0s,MS5.4						
DJNS	Zahran al Janu	144.61	279	P	PKPbc	16 04 02.5	+2.1
TATS	Tathlith	144.68	282	P	PKPbc	16 04 03.1	+2.6
PRU	Pruhonice	144.75	351	ePKP	PKPdf	16 04 00.2	-4.3
PRU				epPKP		16 04 06.3	
PRU				AMS	AMS	17 11 40.0	
NKC	Novy Kostel	144.78	354	ePKP	PKPdf	16 04 00.9	-3.7
NKC				AMS	AMS	17 03 00.0	
	comp=Z,600nm,22.2s						
AFFS	‘Afif	144.80	290	P	PKPbc	16 04 02.1	+1.4
CTKT	Corum	144.84	322	i P	PKPbc	16 04 02.0	+1.6
GZT	Gaziantep	144.88	315	i P	PKPbc	16 04 02.7	+2.2
KECS	Kecovo	144.95	344	ePKP	PKPdf	16 04 02.2	-2.7
KECS				e		16 04 07.2	
BALT	Daday	145.08	324	i P	PKPbc	16 04 02.5	+1.5
CFR	Carcaliu	145.09	333	⇑iP	PKPbc	16 04 02.4	+1.5
VRI	Vrincioaia	145.13	335	⇑iP	PKPbc	16 04 02.5	+1.6
GIVF	Givet	145.19	2	ePKP1	PKPbc	16 04 01.2	+0.3
BAIF	Baives	145.21	3	ePKP1	PKPbc	16 04 01.3	+0.3
KAHT	Ahir Dag	145.21	316	i P	PKPbc	16 04 04.0	+2.6
HILS	Ha’il	145.26	296	P	PKPbc	16 04 04.3	+2.4
KOLL	Kolacno	145.38	346	ePKP	PKPdf	16 04 03.5	-2.1
KOLL				e		16 04 10.0	
KOLL				e		16 04 29.6	
KOLL				e		16 04 36.7	
GRA1	Grafenberg Arr	145.44	355	ePKPbc	PKPbc	16 04 03.4	+1.8
GRA1	Grafenberg Arr	145.44	355	ePP	PP	16 07 24.6	-0.4
GRF	Grafenberg Arr	145.44	355	ePKIKP	PKPdf	16 04 03.4	-2.3
GRF				e		16 07 24.6	
GRF				MLR	MLR		
	comp=Z,800nm,21.2s,MS5.5						
ABH	Alteburg	145.44	359	PKP	PKPdf	16 04 02.9	-2.8
RUP	Ruppelstein	145.62	360	PKP	PKPdf	16 04 05.3	-0.7
PSZ	Piszkesteto	145.63	344	⇓iPKP/p		16 04 03.2	
SMOL	Smolenice	145.66	347	ePKP	PKPdf	16 04 04.7	-1.4
SMOL				e		16 04 10.7	
SMOL				e		16 04 17.5	
WLF	Walferdange	145.66	1	ePKPdf	PKPdf	16 04 03.5	-2.6
TOD	Tromm	145.68	358	PKP	PKPdf	16 04 03.9	-2.2
KMBO	Kilima Mbogo	145.69	244	PKPbc	PKPbc	16 04 06.0	+2.6
	comp=Z,16nm,0.9s,baz=70,slow=3.1,SNR=22						
KMBO	Kilima Mbogo	145.69	244	ePKPdf	PKPdf	16 04 04.9	-2.4
KHC	Kasperske Hory	145.73	352	ePKIKP	PKPdf	16 04 03.1	-3.1
KHC				e		16 04 10.6	
KHC				MLR	MLR		
	comp=Z,1μm,25.8s,MS5.6						
KHC	Kasperske Hory	145.73	352	ePKP	PKPdf	16 04 03.1	-3.1
KHC				e		16 04 10.6	
KHC				e		16 04 30.5	
KHC				LR	LR		
	comp=Z,1μm,25.8s,MS5.6						
KHC	Kasperske Hory	145.73	352	ePKP	PKPdf	16 04 03.1	-3.1
KHC				epPKP		16 04 10.6	
KHC				x	x	16 04 30.5	
KHC				AMS	AMS	17 03 40.0	
	comp=Z,1μm,25.8s						
ELDT	Eldivan	145.73	322	i P	PKPbc	16 04 04.6	+2.0
MLR	Muntele Rosu	145.75	336	PKPbc	PKPbc	16 04 04.5	+2.0
	comp=Z,24nm,0.9s,baz=132,slow=2.6,SNR=22						
WET	Wettzell	145.80	353	ePKIKP	PKPdf	16 04 03.7	-2.6
WET	Wettzell	145.80	353	ePKPbc	PKPbc	16 04 03.7	+1.2
ISR	Istrita	145.82	335	⇑iP	PKPbc	16 04 06.1	+3.4
AVNT	Avonos	145.90	319	i P	PKPbc	16 04 04.5	+1.4
GEC2	GERESS Array S	145.99	352	ePKP2	PKPab	16 04 04.8	-0.6
GEC2	GERESS Array S	145.99	352	ePKPbc	PKPbc	16 04 04.8	+1.8
GERES	GERESS Array B	145.99	352	PKPbc	PKPbc	16 04 04.8	+1.8
	comp=Z,8.5nm,0.8s,slow=1.3,SNR=40						
ZST	Bratislava	146.03	348	ePKP	PKPdf	16 04 05.5	-1.3
ZST				e		16 04 20.4	
BRTR	Keskin Array B	146.08	321	PKPbc	PKPbc	16 04 06.0	+2.5
	comp=Z,73nm,0.9s,baz=110,slow=1.6,SNR=113						
VKA	Vienna	146.12	348	⇑iPKP	PKPdf	16 04 05.4	-1.5
SRO	Srobarova	146.12	346	e	PKPbc	16 04 24.8	+21
SRO1	Iza	146.19	346	e	PKPbc	16 04 28.5	+25
COBT	Iskenderun	146.21	314	i P	PKPbc	16 04 06.3	+2.4
LANF	Langenberg	146.33	359	PKP	PKPdf	16 04 06.2	-1.1
BLJS	Baljurashi	146.44	283	P	PKPbc	16 04 06.9	+2.1
SGKT	Sivrigoynuk	146.47	324	i P	PKPbc	16 04 06.1	+1.7
PKSG		146.50	346	⇑eP	PKPbc	16 04 06.3	+2.1
SOP	Sopron	146.63	348	⇑ePKP/p		16 04 08.1	
BUC1	Bucharest	146.66	334	⇑P	PKPbc	16 04 07.9	+3.2
MEZF	Maizieres J’vi	146.80	2	ePKP1	PKPbc	16 04 06.3	+1.4
MOA	Molln	146.88	351	⇓iP	PKPbc	16 04 06.4	+1.3
	comp=Z,84nm,1.4s						
PKS8	Sarbogard	146.90	345	eP	PKPbc	16 04 07.2	+2.0
CDF	Champ du Feu	146.91	359	ePKP1	PKPbc	16 04 06.6	+1.5
	comp=Z,50nm,1.1s						
FUR	Furstenfeldbru	146.94	354	ePKP2	PKPab	16 04 08.9	-0.2
HENT	Hendek	146.95	325	i P	PKPbc	16 04 06.8	+1.3
BFO	Black Forest	146.97	358	ePKP2	PKPab	16 04 07.8	-1.4
THEF	They Montfort	147.09	1	PKP	PKPdf	16 04 09.5	+0.9
ECH	Echery	147.11	359	PKP	PKPdf	16 04 09.2	+0.6
LIBD	Limburg	147.17	359	PKP	PKPdf	16 04 08.8	+0.1
ARSA	Arzberg	147.24	349	⇑iP	PKPdf	16 04 07.7	-1.1
	comp=Z,59nm,1.2s						
PKS9	Tamasi	147.27	345	eP	PKPdf	16 04 14.0	+5.1
FELD	Feldberg	147.43	358	PKP	PKPdf	16 04 12.8	+3.7
MOF	Molkenrain	147.47	359	PKP	PKPdf	16 04 13.2	+4.0
HINF	Hinteralfeld	147.51	360	ePKP1	PKPdf	16 04 08.4	-0.8
PKSM	Moragy	147.53	344	⇑eP	PKPdf	16 04 09.1	-0.2
LTHS	Al Lith	147.54	284	P	PKPdf	16 04 10.9	+0.8
MEST	Erdemli	147.61	316	i P	PKPdf	16 04 09.1	-0.6
WATA	Walderalm	147.74	354	⇑iP	PKPdf	16 04 09.9	+0.3
	comp=Z,52nm,1.2s						
ASF	Jabal al Asfar	147.76	307	PKPbc	PKPdf	16 04 11.7	+1.5
	comp=Z,12nm,0.8s,baz=282,slow=1.0,SNR=20						
DJES	Djerdap	147.77	339	⇑iP	PKPdf	16 04 06.8	-2.9
KBA	Koelnbreinsper	147.77	351	⇓iP	PKPdf	16 04 08.9	-0.8
	comp=Z,41nm,1.1s						
MOTA	Moosalm	147.77	354	⇑iP	PKPdf	16 04 09.9	+0.2
	comp=Z,77nm,1.2s						
RHK1	Bakonya	147.78	345	eP	PKPdf	16 04 09.1	-0.6
WTTA	Wattenberg	147.80	354	⇑iP	PKPdf	16 04 10.3	+0.6
	comp=Z,62nm,1.3s						
KBRS	Khaybar	147.82	294	P	PKPdf	16 04 11.9	+1.5
SQTA	Sankt Quirin	147.89	354	⇑iP	PKPdf	16 04 10.4	+0.5
	comp=Z,97nm,1.5s						
DAVA	Damuels	147.93	356	⇑iP	PKPdf	16 04 09.8	-0.1
	comp=Z,103nm,1.2s						
LOR	Lormes	147.97	4	ePKP1	PKPdf	16 04 09.6	-0.4
	comp=Z,68nm,1.5s						
LOR				eR			
	comp=Z,2μm,20.5s						
SSF	Saint Saulge	148.16	4	ePKP1	PKPdf	16 04 09.9	-0.4
	comp=Z,119nm,1.4s						
HOPOS	Hopovo Monaste	148.19	342	⇑iP	PKPdf	16 04 10.9	+0.4
FVI	Forni Avoltri	148.32	352	ePKP	PKPdf	16 04 12.2	+1.7
ULDT	Uludag	148.39	326	i P	PKPdf	16 04 02.1	-8.8
PTCC	Patocco-Chiusa	148.43	351	ePKP	PKPdf	16 04 12.4	+1.6
SVIS	Svilajnac	148.51	340	eP	PKPdf	16 04 11.9	+1.0
LEGS	Legarje	148.53	348	ePKPbc	PKPdf	16 04 11.4	+0.5
LEGS				e		16 04 30.9	
LEGS				e		16 04 34.6	
GMNA	Gemona	148.57	351	ePKP	PKPdf	16 04 11.6	+0.6
LJU	Ljubljana	148.59	350	ePKPbc	PKPdf	16 04 11.6	+0.6
LJU				e		16 04 31.0	
LJU				e		16 04 34.6	
SMF	Signal de Mont	148.59	4	ePKP1	PKPdf	16 04 11.4	+0.4
	comp=Z,75nm,1.4s						
BGF	Bois d’Agland	148.60	5	ePKP1	PKPdf	16 04 11.5	+0.5
	comp=Z,89nm,1.3s						
CRES	Cresnjev	148.62	348	ePKP	PKPdf	16 04 11.9	+0.8
BOLS	Boljevac	148.67	339	⇑iP	PKPdf	16 04 11.8	+0.6
HNTI	Hanita	148.67	310	P	PKPdf	16 04 13.6	+2.0
BRMO	Bormio	148.70	355	ePKP	PKPdf	16 04 13.0	+1.8
VOJS	Vojsko	148.71	350	ePKPbc	PKPdf	16 04 10.7	-0.6
CABF	La Chapelle	148.71	1	ePKP1	PKPdf	16 04 11.7	+0.5
	comp=Z,104nm,1.2s						
MMLI	Mount Malkishu	148.78	308	P	PKPdf	16 04 13.9	+2.1
MMLI	Mount Malkishu	148.78	308	⇓P	PKPdf	16 04 13.9	+2.1
HMDT	Nahal Hemdat	148.78	308	P	PKPdf	16 04 13.8	+2.0
HMDT	Nahal Hemdat	148.78	308	⇓P	PKPdf	16 04 13.8	+2.0
TCF	Toulx Ste Croi	148.81	6	ePKP1	PKPdf	16 04 11.6	+0.2
	comp=Z,86nm,1.6s						
BOJS	Bojanci	148.97	348	ePKPdf	PKPdf	16 04 08.1	-3.6
BOJS				ePKPbc	PKPdf	16 04 13.3	+1.6
CTI	Castel Tesino	149.00	353	ePKP	PKPdf	16 04 14.5	+2.8
OFRI	‘Ofer	149.03	309	P	PKPdf	16 04 13.4	+1.2
GRUS	Gruza	149.04	340	⇑iP	PKPdf	16 04 10.5	-1.3
CSS	Prodhromos	149.05	314	⇑P	PKPdf	16 04 14.1	+2.0
	comp=Z,0.8nm,1.0s						
CSS	Prodhromos	149.05	314	ePKPbc	PKPdf	16 04 13.7	+1.5
DIVS	Divcibare	149.08	341	⇑iP	PKPdf	16 04 10.7	-1.1
DRGI	Dragot	149.17	307	P	PKPdf	16 04 14.5	+2.1
DRGI	Dragot	149.17	307	⇓P	PKPdf	16 04 14.5	+2.1
VTS	Vitosha	149.26	336	eP	PKPdf	16 04 13.5	+1.3
MCGN	Macugnaga	149.35	358	ePKP	PKPdf	16 04 16.3	+4.1
RZN	Rozhen	149.38	333	eP	PKPdf	16 04 13.0	+0.6
VAI	Varese	149.41	357	ePKP	PKPdf	16 04 13.8	+1.4
ALFC	Alevga	149.45	315	⇑P	PKPdf	16 04 14.8	+2.0
	comp=Z,1.2nm,0.7s						
SZAC	Souni-Zanaja	149.47	314	P	PKPdf	16 04 15.2	+2.4
TBKS	Tabuk	149.50	300	P	PKPdf	16 04 16.1	+3.0
SAL	Salo	149.55	355	ePKP	PKPdf	16 04 16.1	+3.5
BARS	Barje	149.59	338	⇑iP	PKPdf	16 04 14.8	+2.1
ORO	Oropa	149.68	358	ePKP	PKPdf	16 04 16.3	+3.5
NVSS	Nova Varos 2	149.71	341	⇑iP	PKPdf	16 04 14.0	+1.1
RJF	Les Rejaudoux	149.71	7	ePKP1	PKPdf	16 04 14.4	+1.5
RJF				eR			
	comp=Z,2μm,22.0s						
ZFRI	Zfri	149.77	305	P	PKPdf	16 04 16.1	+2.7
LPL	La Plagne	149.81	360	ePKP1	PKPdf	16 04 15.6	+2.6
	comp=Z,48nm,1.1s						
LPG	La Plagne	149.83	360	ePKP1	PKPdf	16 04 15.7	+2.7
	comp=Z,68nm,1.2s						
MMB	Musomiste	149.88	334	eP	PKPdf	16 04 15.0	+1.7
MASH	Mash‘abbe Sade	149.89	306	P	PKPdf	16 04 16.2	+2.6
KKB	Krupnik	149.92	335	eP	PKPdf	16 04 11.0	-2.3
NVLJ	Novalja	149.95	348	⇓iPKP	PKPdf	16 04 14.2	+1.0
PRNI	Paran	149.99	305	P	PKPdf	16 04 16.7	+2.9
CAF	Calviac	150.14	7	ePKP1	PKPdf	16 04 15.8	+2.3
KZIT	Kziot	150.23	306	P	PKPdf	16 04 17.0	+2.9
MBH	Mount Berech	150.28	304	P	PKPdf	16 04 17.3	+3.1
EIL	Elat	150.30	304	P	PKPdf	16 04 17.2	+2.9
KMTI	Karmit	150.31	305	P	PKPdf	16 04 17.1	+2.8
ORIF	Oris-en-Rattie	150.40	1	ePKP1	PKPdf	16 04 16.5	+2.6
	comp=Z,44nm,1.2s						
ORIF				eR			
	comp=Z,1μm,23.0s						
VIVF	Saint-Julien-l	150.42	3	ePKP1	PKPdf	16 04 16.2	+2.2
	comp=Z,26nm,1.0s						
BOB	Bobbio (Coli)	150.47	356	ePKP	PKPdf	16 04 18.0	+3.9
SKO	Skopje	150.47	337	i PKP	PKPdf	16 04 18.5	+4.4
HAQS	Haql	150.55	303	P	PKPdf	16 04 18.3	+3.7
AYUS	‘Aynunah	150.57	301	P	PKPdf	16 04 18.4	+3.7
MBDF	Montbardon	150.60	360	ePKP1	PKPdf	16 04 17.1	+2.9
	comp=Z,33nm,1.2s						
BDAS	Al Bad‘	150.63	301	P	PKPdf	16 04 18.5	+3.7
ERBM	Eremo	150.74	355	ePKP	PKPdf	16 04 18.4	+4.0
ZCCA	Zocca	150.75	354	ePKP	PKPdf	16 04 19.9	+5.4
GSCL	Gusciola	150.79	354	ePKP	PKPdf	16 04 18.2	+3.6
SURF	Saint Ours	150.85	360	PKP	PKPdf	16 04 20.2	+5.6
FNVD	Fontana Vidola	150.91	353	ePKP	PKPdf	16 04 13.0	-1.7
OG25	Le Caire	150.95	1	PKP	PKPdf	16 04 19.5	+4.7
RSM	Repubblica di	150.98	351	ePKP	PKPdf	16 04 20.0	+5.2
SEI	Scarperia	151.00	353	ePKP	PKPdf	16 04 19.8	+5.0
VMG	Vicchio	151.07	353	ePKP	PKPdf	16 04 19.8	+4.8
BDI	Bagni Di Lucca	151.07	354	ePKP	PKPdf	16 04 19.1	+4.1
SFI	Santa Sofia	151.09	352	ePKP	PKPdf	16 04 19.9	+5.0
PGD	Poggio Sodo	151.13	352	ePKP	PKPdf	16 04 20.3	+5.2
LASF	Ste Croix	151.15	4	ePKP1	PKPdf	16 04 18.4	+3.3
	comp=Z,68nm,1.1s						
FSSB	Fossombrone	151.16	351	ePKP	PKPdf	16 04 20.0	+4.9
TOUF	Mont Tournerai	151.31	359	PKP	PKPdf	16 04 23.7	+8.4
ARV	Arcevia	151.33	350	ePKP	PKPdf	16 04 20.2	+4.8
SAOF	Saorge	151.33	359	PKP	PKPdf	16 04 20.3	+4.9
SMRF	Simiane la Rot	151.34	2	ePKP1	PKPdf	16 04 18.5	+3.1
	comp=Z,105nm,1.5s						
SJPF	Ste Jean	151.40	12	ePKP1	PKPdf	16 04 18.5	+3.0
	comp=Z,70nm,1.5s						
IMI	Imperia	151.40	358	ePKP	PKPdf	16 04 20.9	+5.4
CING	Cingoli	151.41	350	ePKP	PKPdf	16 04 19.0	+3.5
AURF	Auriere	151.44	359	PKP	PKPdf	16 04 24.7	+9.2
OHR	Ohrid	151.46	337	i PKP	PKPdf	16 04 18.8	+3.2
SBF	Sospel	151.46	359	ePKP1	PKPdf	16 04 19.2	+3.7
	comp=Z,119nm,1.3s						
VILF	Villemus	151.46	1	PKP	PKPdf	16 04 26.2	+11
PRAF	Pradon	151.49	2	PKP	PKPdf	16 04 20.8	+5.2
MBAR	Mbarara	151.50	239	ePKPbc	PKPdf	16 04 19.3	+2.8
CALN	Calern	151.57	360	PKP	PKPdf	16 04 25.3	+10
MURB	Monte Urbino	151.62	351	ePKP	PKPdf	16 04 22.2	+6.4
FRF	La Foret Royal	151.77	0	ePKP1	PKPdf	16 04 19.8	+3.8
PUYF	Puyloubier	151.78	2	PKP	PKPdf	16 04 26.9	+11
GELF	Grande-Etoile	151.92	2	PKP	PKPdf	16 04 25.0	+8.7
GRFL	Gerfalco	151.94	353	ePKP	PKPdf	16 04 20.6	+4.3
NRCA	Norcia	151.95	350	ePKP	PKPdf	16 04 19.7	+3.4
LMR	La Mourre	151.99	0	ePKP1	PKPdf	16 04 20.4	+4.0
	comp=Z,87nm,1.3s						
FG2	Serracapriola	152.53	346	ePKP	PKPdf	16 04 40.4	+23
INTR	Introdacqua	152.60	348	ePKP	PKPdf	16 04 20.3	+3.0
PTQR	Pietraquaria	152.68	349	ePKP	PKPdf	16 04 23.2	+5.8
PGF	Pioggiola	152.71	356	ePKP1	PKPdf	16 04 22.0	+4.6
	comp=Z,91nm,1.2s						
SDI	San Donato	152.91	348	ePKP	PKPdf	16 04 20.5	+2.8
CPI2	Carpinone	152.92	347	ePKP	PKPdf	16 04 24.7	+6.9
SANT	Santorini	153.11	325	ePKPbc	PKPdf	16 04 22.1	+4.0
SANT				e		16 04 34.9	
EVO	Evora	153.41	26	ePKP1	PKPdf	16 04 22.8	+4.3
	comp=Z,62nm,1.4s						
EVO				eR			
	comp=Z,2μm,23.0s						
MRLC	Muro Lucano	153.44	345	ePKP	PKPdf	16 04 24.0	+5.5
SGO	Sicignano	153.67	345	ePKP	PKPdf	16 04 25.0	+6.2
ESDC	Sonseca Array	153.92	19	PKPab	PKPab	16 04 36.8	-1.4
	comp=Z,4.6nm,0.8s,baz=329,slow=2.9,SNR=9.7						
MGR	Morigerati	154.01	344	ePKP	PKPdf	16 04 26.9	+7.6
TDS	Terranova Siba	154.24	343	ePKP	PKPdf	16 04 22.9	+3.3
GRI	Girifalco	154.99	342	ePKP	PKPdf	16 04 24.5	+3.9

*IDC **09** 15:49:57.5±0.5, 13.82N×120.84E, h111^{km}±4^{km}, mb4.1/23, mb1 4.2/23, mb1mx4.2/25, MS3.4/1, Ms1 3.4/1, ms1mx3.0/19, Error ellipse: s-maj=22.3km s-min=8.2km az=63.0*

*BJI **09** 15:49:57.1, 13.73N×120.82E, h127^{km}, mB4.7, mb4.7*

*MAN **09** 15:49:57.9, 13.78N×120.47E, h102^{km}, mb5.1, ML4.0, MS4.1*

*NEIC **09** 15:49:58.3±1.8, 13.79N×120.76E, h117^{km}±16^{km}, mb4.6/10, Error ellipse: s-maj=12.5km s-min=6.7km az=59.0*

ISC 09 15:49:57.8±0.2**, 13.80N**±0.02×**120.56E**±0.03**, h116**^{km}±2^{km}**, h112**^{km}±.5^{km}**:pP-P, n119, σ1^{s}12**/119**, mb4.6**/41**, 11C-9D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LUBP	Lubang	0.31	258	eP	P	15 50 14.0	-0.4
LUBP				eS	S	15 50 24.9	-2.0
PAZ	Puerto Azul	0.44	15	eP	P	15 50 14.9	-0.3
TGY	Tagaytay City	0.48	51	⇓iP	P	15 50 15.4	+0.1
TGY				i S	S	15 50 28.1	-0.5
ARP	Angono	0.94	38	eP	P	15 50 18.3	-0.9
NBP	Mount Natib	0.95	352	eP	P	15 50 19.2	-0.1
QVPH	Quezon City--P	0.98	30	eP	P	15 50 27.2	+7.6
LQP	Lukban	1.00	72	⇓iP	P	15 50 20.3	+0.5
LQP				i S	S	15 50 36.5	+0.1
BOAC	Boac	1.30	105	eP	P	15 50 23.0	-0.1
SJMP	San Jose	1.44	157	eP	P	15 50 24.9	+0.1
SJMP				eS	S	15 50 43.8	-1.2
POLP	Polilio Island	1.63	55	eP	P	15 50 27.9	+0.9
BUSP	Coron	1.82	191	eP	P	15 50 28.9	-0.3
BUSP				eS	S	15 50 51.4	-1.5
GQP	Guinayangan	1.84	86	⇓eP	P	15 50 30.5	+1.0
GQP				eS	S	15 50 49.1	-4.4
OTRP	Odiongan	2.02	135	eP	P	15 50 31.2	-0.6
SCZP	Santa Cruz	2.06	343	eP	P	15 50 32.2	-0.1
AUQP	San Andres	2.12	103	eP	P	15 50 35.2	+2.2
BALP	Baler	2.17	27	eP	P	15 50 34.4	+0.6
BCPH	Baguio City Da	2.57	1	⇓iP	P	15 50 38.5	-0.6
BOLP	Bolinao	2.64	347	eP	P	15 50 39.5	-0.6
KALP	Kalibo	2.73	140	⇓eP	P	15 50 42.0	+0.7
CUYO	Cuyo Island	2.96	171	eP	P	15 50 43.7	-0.7
CUYO				eS	S	15 51 18.2	-1.5
RCP	Roxas	3.08	136	⇑eP	P	15 50 46.4	+0.4
CAUP	Cauayan	3.36	21	eP	P	15 50 49.9	+0.2
PVCP	Virac	3.50	93	eP	P	15 50 52.3	+0.6
GUIM	Jordan	3.73	148	eP	P	15 50 55.4	+0.7
ABRA	Dolores	3.83	2	eP	P	15 50 55.1	-1.0
CVP	Callao Caves	4.07	17	⇑eP	P	15 50 58.5	-0.8
APYP	Conner	4.09	9	eP	P	15 50 59.8	+0.1
CNP	Catarman	4.20	107	eP	P	15 51 01.9	+0.8
PPR	Puerto Princes	4.38	204	⇓eP	P	15 51 03.7	+0.2
PIP	Pasuquin	4.50	1	⇓eP	P	15 51 05.3	+0.1
SGCP	Mt. Cagua	4.65	18	eP	P	15 51 06.5	-0.6
LLP	Lapu-Lapu	4.81	136	⇑eP	P	15 51 10.1	+0.8
OCLP	Ormoc	4.81	124	eP	P	15 51 10.1	+0.7
SNPH	Sibulan	5.15	149	⇑eP	P	15 51 16.0	+2.1
TBP	Tagbilaran	5.21	141	eP	P	15 51 16.1	+1.4
TBP				eS	Px	15 51 42.0	
BESP	Borongan	5.24	114	eP	P	15 51 16.3	+1.2
MSLP	Maasin	5.57	130	eP	P	15 51 20.6	+1.1
IPIL	Ipil	6.29	161	eP	P	15 51 29.9	+0.5
PAGZ	Pagadian	6.53	155	eP	P	15 51 34.4	+1.7
BBP	Basco	6.74	11	eP	P	15 51 34.5	-1.1
BUKP	Musuan	7.36	143	eP	P	15 51 46.1	+2.1
QIZ	Qiongzhong	11.52	298	P	P	15 52 40.9	+1.2
QIZ				S	S	15 54 45.4	-1.0
QIZ				LR	LR		
	comp=N,285nm,14.3s						
QIZ				LR	LR		
	comp=Z,273nm,14.0s						
QIZ	Qiongzhong	11.52	298	eP	P	15 52 40.4	+0.8
QIZ				eS	S	15 54 43.9	-2.4
JOW	Kunigami	14.84	28	LR	LR	15 58 59.7	
	comp=Z,127nm,18.2s,baz=165,slow=37						
WHN	Wuhan	17.62	342	⇓P	P	15 53 58.8	+1.4
GYA	Guiyang	18.11	316	⇑iP	P	15 54 04.7	+1.6
GYA				AP		15 54 19.9	
GYA				AMB	AMB		
	comp=Z,30nm,1.1s						
GYA				AMB	AMB		
	comp=Z,320nm,7.8s						
GYA				LR	LR		
	comp=N,240nm,17.5s						
GYA				LR	LR		
	comp=E,350nm,16.8s						
GYA				LR	LR		
	comp=Z,380nm,17.0s						
ENH	Enshi	19.32	330	eP	P	15 54 15.8	-0.5
	comp=Z,33nm,0.8s						
NANT	Nan	19.69	287	⇑P	P	15 54 21.2	+1.0
	comp=Z,50nm,1.0s						
CM31	Chiang Mai Arr	21.27	285	eP	P	15 54 38.3	+2.1
	comp=Z,14nm,0.8s,mb4.3						
CMAR	Chiang Mai Arr	21.27	285	P	P	15 54 38.4	+2.1
	comp=Z,6.1nm,0.7s,mb4.0,baz=96,slow=7.4,SNR=38						
CHG	Chiang Mai	21.33	286	P	P	15 54 38.3	+1.5
XAN	Xi’an	22.75	334	P	P	15 54 50.1	-0.6
XAN				AMB	AMB		
	comp=Z,24nm,0.7s,mb4.6						
CD2	Chengdu	23.00	321	⇑iP	P	15 54 55.0	+1.9
CD2				AMB	AMB		
	comp=Z,50nm,0.8s,mb4.9						
CD2				AMB	AMB		
	comp=Z,90nm,5.7s						
CD2				LR	LR		
	comp=N,360nm,21.1s						
CD2				LR	LR		
	comp=Z,380nm,26.0s						
GUMO	Guam	23.62	88	eP	P	15 54 58.5	-0.8
	comp=Z,149nm,1.2s,mb5.2						
BJT	Baijiatuau	26.40	352	eP	P	15 55 25.0	-0.3
	comp=Z,41nm,1.3s,mb4.7						
BJI	Beijing	26.42	352	eP	P	15 55 25.3	-0.1
BJI				AMB	AMB		
	comp=Z,14nm,0.8s,mb4.4						
SHL	Shillong	29.35	298	eP	P	15 55 52.0	0.0
GTA	Gaotai	31.38	328	P	P	15 56 09.9	+0.1
GTA				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.3						
LSA	Lhasa	31.44	305	P	P	15 56 11.5	+1.1
FITZ	Fitzroy Crossi	32.09	171	P	P	15 56 13.1	-3.1
	comp=Z,5.6nm,0.8s,mb4.3,baz=22,slow=11,SNR=4.7						
PMG	Port Moresby	35.05	130	P	P	15 56 38.8	-2.7
	comp=Z,3.0nm,0.5s,mb4.4,baz=276,slow=6.8,SNR=3.5						
GUN	Gumba	35.17	299	eP	P	15 56 43.3	+0.8
	comp=Z,83nm,0.5s						
PKI	Pulchoki	35.48	298	eP	P	15 56 45.2	+0.1
	comp=Z,62nm,0.6s,mb5.6						
KKN	Kakani	35.65	299	eP	P	15 56 46.8	+0.3
	comp=Z,32nm,0.6s,mb5.4						
DMN	Daman	35.75	298	eP	P	15 56 47.6	+0.3
	comp=Z,36nm,0.4s,mb5.6						
SONM	Songino Array	35.92	344	P	P	15 56 48.5	-0.1
	comp=Z,8.7nm,0.4s,mb5.0,baz=162,slow=9.9,SNR=36						
WRAB	Tennant Creek	36.16	158	P	P	15 56 47.3	-3.6
	comp=Z,66nm,0.8s,mb5.6,SNR=10						
WRA	Warramunga Arr	36.17	158	P	P	15 56 47.9	-3.0
	comp=Z,8.0nm,0.8s,mb4.7,baz=340,slow=9.0,SNR=12						
WRA				pP	pP	15 57 13.7	-3.6
	comp=Z,7.1nm,1.0s,baz=343,slow=8.9,SNR=3.9						
WRA				sP	sP	15 57 26.2	-4.8
	comp=Z,11nm,0.9s,baz=337,slow=9.6,SNR=6.0						
WRA				ScP		16 02 47.6	
	comp=Z,1.4nm,0.8s,baz=345,slow=4.1,SNR=5.9						
GKN	Gorkha	36.26	299	eP	P	15 56 51.5	-0.1
	comp=Z,60nm,0.9s,mb5.5						
KOLN	Koldanda	37.08	298	eP	P	15 56 59.1	+0.6
	comp=Z,15nm,0.7s,mb5.0						
ASAR	Alice Springs	39.46	161	P	P	15 57 16.5	-1.8
	comp=Z,6.2nm,0.4s,mb4.8,baz=335,slow=7.3,SNR=23						
ASAR				pP	pP	15 57 42.2	-2.7
	comp=Z,3.4nm,0.6s,baz=342,slow=6.7,SNR=3.7						
ASAR				PcP	PcP	15 59 22.6	-2.0
	comp=Z,1.2nm,0.4s,baz=339,slow=3.5,SNR=9.8						
CTA	Charters Tower	42.11	143	P	P	15 57 39.0	-1.2
	comp=Z,5.4nm,0.5s,mb4.5,baz=325,slow=11,SNR=10						
MKAR	Makanchi Array	45.87	324	P	P	15 58 10.5	+0.4
	comp=Z,8.7nm,0.8s,mb4.5,baz=119,slow=8.1,SNR=52						
MKAR				pP	pP	15 58 36.0	-1.2
	comp=Z,2.7nm,0.7s,baz=120,slow=9.8,SNR=4.6						
NWAO	Narrogin (SRO)	46.57	184	P	P	15 58 14.3	-1.5
	comp=Z,22nm,0.6s,mb5.1,baz=5.1,slow=7.7,SNR=20						
NWAO	Narrogin (SRO)	46.57	184	P	P	15 58 14.3	-1.5
KZA	Kyzart	48.17	315	P	P	15 58 29.9	+1.7
	SNR=9.2						
TKM2	Tokmak 2	48.26	316	P	P	15 58 29.9	+1.1
	SNR=5.1						
KBK	Karagaybulak	48.59	315	P	P	15 58 32.8	+1.4
	SNR=9.7						
UCH	Uchtor	48.73	315	P	P	15 58 34.5	+1.9
	SNR=8.5						
AAK	Ala-Archa	48.90	315	eP	P	15 58 33.0	-0.8
	comp=Z,4.0nm,0.9s,mb4.3						
AAK				e		15 58 38.9	
ZAL	Zalesovo	48.91	333	P	P	15 58 32.5	-1.1
	comp=Z,2.0nm,0.3s,mb4.5,baz=254,slow=8.4,SNR=6.2						
USP	Ospenovka	49.13	316	P	P	15 58 36.1	+0.5
	SNR=8.2						
AML	Almayashu	49.27	314	P	P	15 58 37.8	+1.2
	SNR=8.8						
EKS2	Erkin-Say	49.40	315	P	P	15 58 38.7	+1.1
	SNR=5.1						
STKA	Stephens Creek	49.69	156	P	P	15 58 37.1	-2.9
	comp=Z,2.4nm,0.4s,mb4.5,baz=327,slow=8.6,SNR=10.0						
KURK	Kurchatov	50.03	326	eP	P	15 58 42.3	0.0
	comp=Z,25nm,0.8s,mb5.2						
KURK				e	pP	15 59 08.7	-1.0
KURK				e		15 59 22.7	
KURK				e		16 00 37.0	
VOSK	Vostochnaya	55.16	326	P	P	15 59 19.5	-0.9
VOSK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
BVA0	Borovoye Array	55.61	326	P	P	15 59 23.0	-0.7
BVAR	Borovoye Array	55.61	326	P	P	15 59 23.2	-0.5
	comp=Z,4.9nm,0.6s,mb4.7,baz=117,slow=9.9,SNR=34						
BRVK	Borovoye	55.69	326	ePdif	P	15 59 23.7	-0.5
ZRNK	Zerenda	56.34	325	P	P	15 59 28.0	-0.9
ZRNK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
ZRNK	Zerenda	56.34	325	eP	P	15 59 28.0	-0.9
	comp=Z,14nm,0.9s,mb5.0						
ASF	Jabal al Asfar	77.49	300	P	P	16 01 43.6	+1.2
	comp=Z,1.5nm,0.4s,mb4.1,baz=340,slow=18,SNR=4.4						
MCK	McKinley	77.97	27	eP	P	16 01 42.5	-1.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,5.4nm,0.8s,mb4.3						
ILAR	Eielson Array	78.72	26	P	P	16 01 46.5	-2.0
	comp=Z,0.7nm,0.5s,mb3.8,baz=281,slow=4.5,SNR=7.0						
ARCES	ARCESS Array B	78.94	339	P	P	16 01 48.7	-0.9
	comp=Z,3.0nm,0.6s,mb4.3,baz=69,slow=7.3,SNR=14						
ARCES	ARCESS Array B	78.94	339	P	P	16 01 48.7	-0.9
BRTR	Keskin Array B	78.98	308	P	P	16 01 50.1	-0.3
	comp=Z,1.7nm,0.8s,mb3.9,baz=123,slow=3.4,SNR=6.7						
KAF	Kangasniemi	79.90	332	*e*p	P	16 01 52.0	-2.9
FINES	FINESS Array B	80.13	331	P	P	16 01 54.9	-1.3
	comp=Z,1.4nm,0.6s,mb4.0,baz=71,slow=7.1,SNR=12						
FINES				pP	pP	16 02 23.8	-2.2
	comp=Z,1.5nm,0.7s,baz=63,slow=6.2,SNR=2.3						
AKASG	Malin Array Be	80.30	320	P	P	16 01 56.4	-0.9
DAWY	Dawson	82.05	26	P	P	16 02 05.2	-0.9
INK	Inuvik	83.06	21	P	P	16 02 10.2	-1.1
	comp=Z,3.3nm,0.8s,mb4.2,baz=253,slow=1.1,SNR=5.8						
INK	Inuvik	83.06	21	*e*P	P	16 02 09.9	-1.3
	comp=Z,3.7nm,0.8s,mb4.3						
MLR	Muntele Rosu	83.48	315	P	P	16 02 14.7	+0.8
	comp=Z,1.7nm,0.6s,mb4.1,baz=278,slow=1.9,SNR=8.8						
KMBO	Kilima Mbogo	83.76	267	P	P	16 02 17.7	+1.7
	comp=Z,3.3nm,1.0s,mb4.1,baz=50,slow=11,SNR=6.7						
NB2	NORSAR Subarra	87.11	333	P	P	16 02 29.6	-1.7
	comp=Z,1.0nm,0.6s,mb3.9,baz=67,slow=4.8						
NOA	NORSAR Array B	87.11	333	P	P	16 02 29.9	-1.4
	comp=Z,1.4nm,0.6s,mb4.0,baz=68,slow=4.6,SNR=6.5						
NOA				pP	pP	16 02 59.2	-2.4
	comp=Z,2.3nm,0.8s,baz=68,slow=4.6,SNR=6.2						
NOA	NORSAR Array B	87.11	333	P	P	16 02 29.9	-1.4
NOA				pP	pP	16 02 59.2	-2.4
GERES	GERESS Array B	90.47	321	P	P	16 02 47.0	-0.5
	comp=Z,0.3nm,0.5s,mb3.7,baz=59,slow=7.8,SNR=4.4						
GERES				pP	pP	16 03 16.4	-1.6
	comp=Z,0.6nm,0.8s,slow=1.3,SNR=3.3						
MAW	Mawson	91.14	199	P	P	16 02 49.7	-0.5
	comp=Z,1.4nm,0.6s,mb4.3,baz=56,slow=6.6,SNR=5.0						
SNAA	Sanae	113.20	197	⇑*i*	PKPdf	16 08 22.6	+1.6
VNA2	Neumayer--Watz	114.85	197	⇑*i*	PKPdf	16 08 26.3	+2.0
VNA2	Neumayer--Watz	114.85	197	⇑*i*	PKPdf	16 08 31.7	+7.4
VNA1	Neumayer--Stat	115.24	197	⇑*i*	PKPdf	16 08 25.2	+0.2
VNA3	Neumayer Olymp	115.29	196		PKPdf	16 08 25.3	+0.2
VNA3	Neumayer Olymp	115.29	196	⇓*i*	PKPdf	16 08 30.3	+5.2
CPUP	Villa Florida	167.38	189	PKPab	PKPab	16 10 56.0	-2.0
	comp=Z,1.8nm,0.8s,baz=282,slow=3.8,SNR=4.3						
LPAZ	La Paz	171.25	108	PKPab	PKPab	16 11 16.8	+1.3
	comp=Z,3.0nm,0.7s,baz=285,slow=3.8,SNR=14						

*IDC **09** 16:03:25.8±0.7, 14.55N×147.12E, mb4.1/13, mb1 4.3/13, mb1mx4.2/22, Error ellipse: s-maj=27.9km s-min=14.7km az=87.0*

*NEIC **09** 16:03:28.5±6.0, 14.53N×147.10E, h18^{km}±36^{km}, mb4.7/8, Error ellipse: s-maj=14.5km s-min=6.4km az=82.0*

ISC 09 16:03:29.6±2.8**, 14.52N**±0.07×**147.1E**±0.1**, h40**^{km}±23^{km}**, n31,** σ0^{s}**69**/28**, mb4.5**/26**, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	2.34	247	*e*Pn	P	16 04 06.5	+0.1
MAJO	Matsushiro	23.32	342	*e*P	P	16 08 35.7	+0.7
	94nm,1.8s,mb4.9						
PMG	Port Moresby	23.77	180	P	P	16 08 40.6	+1.0
	23nm,1.0s,mb4.6,baz=336,slow=5.9,SNR=7.6						
CTA	Charters Tower	34.40	181	P	P	16 10 15.4	+0.1
	2.3nm,0.8s,mb4.2,baz=47,slow=12,SNR=2.5						
WRAB	Tennant Creek	36.45	200	*e*P	P	16 10 32.5	-0.3
	12nm,1.0s,mb4.8						
WRA	Warramunga Arr	36.47	200	P	P	16 10 32.6	-0.3
	3.7nm,0.9s,mb4.3,baz=22,slow=9.1,SNR=21						
WRA				PcP	PcP	16 12 56.7	+0.1
	0.3nm,0.6s,baz=15,slow=3.6,SNR=4.2						
ENH	Enshi	37.93	301	*e*P	P	16 10 45.2	+0.1
	9.4nm,0.9s,mb4.5						
FITZ	Fitzroy Crossi	38.70	214	P	P	16 10 51.9	+0.3
	4.9nm,0.9s,mb4.3,baz=26,slow=5.0,SNR=9.2						
ASAR	Alice Springs	40.08	199	P	P	16 11 03.1	+0.2
	1.4nm,0.9s,mb3.7,baz=15,slow=5.5,SNR=9.5						
MBWA	Marble Bar	44.48	218	*e*P	P	16 11 37.9	-1.2
	8.0nm,0.9s,mb4.5						
CMAR	Chiang Mai Arr	46.23	282	P	P	16 11 53.9	+0.8
	1.3nm,0.5s,mb4.1,baz=82,slow=6.0,SNR=16						
STKA	Stephens Creek	46.43	186	P	P	16 11 53.7	-0.8
	1.3nm,0.6s,mb4.0,baz=5.2,slow=9.7,SNR=3.9						
STKA	Stephens Creek	46.43	186	*e*P	P	16 11 53.7	-0.8
SONM	Songino Array	47.24	323	P	P	16 12 00.6	0.0
	1.3nm,0.9s,mb3.9,baz=132,slow=6.3,SNR=5.5						
YAK	Yakutsk	49.05	349	P	P	16 12 13.5	-1.0
	7.7nm,0.8s,mb4.8						
GUN	Gumba	58.07	294	*e*P	P	16 13 21.9	+0.5
	8.2nm,0.4s,mb5.1						
KKN	Kakani	58.60	294	*e*P	P	16 13 25.1	-0.1
	12nm,1.0s,mb4.9						
DMN	Daman	58.76	294	*e*P	P	16 13 26.6	+0.3
	8.4nm,0.6s,mb4.9						
GKN	Gorkha	59.17	294	*e*P	P	16 13 29.3	+0.2
	9.3nm,0.4s,mb5.2						
KOLN	Koldanda	60.09	294	*e*P	P	16 13 35.3	-0.2
	18nm,1.2s,mb5.0						
ZAL	Zalesovo	62.15	324	P	P	16 13 47.9	-1.1
	0.7nm,0.3s,mb4.2,baz=274,slow=13,SNR=3.1						
MKAR	Makanchi Array	62.33	315	P	P	16 13 50.4	+0.1
	3.1nm,0.4s,mb4.8,baz=92,slow=8.4,SNR=61						
KURK	Kurchatov	65.27	319	*e*P	P	16 14 09.2	-0.3
	12nm,1.0s,mb4.9						
KURK				*e*	pP	16 14 21.7	+0.3
ILAR	Eielson Array	66.81	25	P	P	16 14 17.6	-1.4
	0.6nm,0.8s,mb3.7,baz=252,slow=5.5,SNR=4.5						
BRVK	Borovoye	70.60	321	*e*P	P	16 14 43.0	+0.4
	4.6nm,0.9s,mb4.4						
ZRNK	Zerenda	71.37	321	*e*P	P	16 14 46.8	-0.4
	4.4nm,1.0s,mb4.3						
ZRNK				*e*	pP	16 15 00.2	+0.9
NVAR	Mina Array Bea	84.66	52	P	P	16 16 02.7	+2.0
	0.8nm,0.7s,mb3.9,baz=270,slow=6.3,SNR=3.5						
FINES	FINESS Array B	91.22	336	P	P	16 16 32.0	+0.4
	2.0nm,1.0s,mb4.4,baz=45,slow=5.4,SNR=7.7						
DBIC	Dimbokro	145.10	305	PKPbc	PKPbc	16 23 05.5	+1.4
	9.2nm,0.8s,baz=66,slow=4.1,SNR=8.9						
DBIC	Dimbokro	145.10	305	PKPbc	PKPbc	16 23 05.5	+1.4
LPAZ	La Paz	146.03	98	PKPbc	PKPbc	16 23 09.7	+3.4
	2.8nm,1.1s,baz=214,slow=5.6,SNR=4.8						

MAN 09 16:25:36.2, 13.90N×120.42E, h95^{km}, mb4.1, ML2.9, MS2.5, Mindoro

TIF 09 16:40:00.0, 40.78N×43.14E, h8^{km}, Mpv3.7, 4C-1D, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKH	Akhalkalaki	0.68	23	⇑*i*P	Pb	16 40 13.7	0.0
AKH				*i* S	Sg	16 40 23.9	+1.0
STE	Stepanavan	0.98	77	*e*P	Pb	16 40 19.6	+0.9
STE				*i* S	Sb	16 40 35.5	+3.9
TBLG	Delisi	1.53	51	⇑*i*P	Pn	16 40 29.5	+1.7
TBLG				*i* S	Sb	16 40 52.4	+4.7
MTA	Mtatsminda	1.54	53	⇑*i*P	Pn	16 40 30.8	+2.9
MTA				*i* S	Sb	16 40 53.9	+5.9
DUS	Dusheti	1.76	41	*e*S	Sn	16 40 58.7	+5.0
ONI	Oni	1.81	7	⇓*i*P	Pn	16 40 33.1	+1.3
ONI				*i* S	Sn	16 40 58.1	+3.0
DGRG	David-gareji	1.81	68	⇑*i*P	Pn	16 40 35.8	+4.0
DGRG				*i* S	Sn	16 41 03.4	+8.2

*NEIC **09** 16:47:07.6±0.8, 31.20S×179.49W, h250^{km}, mb4.4/6, Error ellipse: s-maj=26.1km s-min=18.6km az=212.0*

*IDC **09** 16:47:20.7±2.2, 32.36S×179.93E, h364^{km}±23^{km}, mb3.6/4, mb1 3.9/6, mb1mx3.6/12, Error ellipse: s-maj=34.6km s-min=17.3km az=163.0*

ISC 09 16:47:22.0±0.8**, 32.46S**±0.07×**179.7E**±0.1**, h378**^{km}±9^{km}**, n92,** σ1^{s}**42**/115**, mb4.0**/10**, 3C, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	5.21	192	*e*P	P	16 48 44.9	-0.9
MXZ				*e*S	S	16 49 48.5	-3.0
MXZ	Matakaoa Point	5.21	192	P	P	16 48 48.1	+2.3
MXZ				S	S	16 49 52.2	+0.7
WIZ	White Island	5.45	201	*e*P	P	16 48 51.9	+3.5
PUZ	Puketiti	5.72	191	*e*P	P	16 48 50.0	-1.3
PUZ				*e*S	S	16 49 59.8	-1.5
PUZ	Puketiti	5.72	191	*e*P	P	16 48 52.8	+1.5
PUZ				*e*S	S	16 50 01.9	+0.6
MARZ	Manawahe	6.03	203	*e*P	P	16 48 55.8	+1.0
MWZ	Matawai	6.12	196	*e*P	P	16 48 54.4	-1.3
MWZ				S	S	16 50 04.3	-5.1
MWZ	Matawai	6.12	196	*e*P	P	16 48 58.5	+2.8
MWZ				S	S	16 50 11.6	+2.2
URZ	Urewera	6.15	199	P	P	16 48 55.6	-0.6
	16nm,0.3s,baz=285,slow=3.7,SNR=58						
URZ				S	S	16 50 11.6	+1.5
	22nm,0.3s,baz=54,slow=22,SNR=16						
URZ	Urewera	6.15	199	*e*P	P	16 48 54.4	-1.7
URZ	Urewera	6.15	199	*e*P	P	16 48 57.1	+1.0
URZ				S	S	16 50 13.0	+2.9
UTU	Utuhina	6.37	206	*e*P	P	16 49 03.0	+4.3
PATZ	Paeroa	6.53	204	*e*P	P	16 49 03.6	+3.1
KNZ	Kokohu	6.74	193	*e*P	P	16 49 02.1	-0.8
KNZ				*e*S	S	16 50 17.5	-4.8
KNZ	Kokohu	6.74	193	*e*P	P	16 49 04.8	+1.9
KNZ				S	S	16 50 23.0	+0.7
BKZ	Black Stump Fm	7.17	200	*e*P	P	16 49 04.2	-3.7
BKZ				*e*S	S	16 50 23.0	-8.2
BKZ	Black Stump Fm	7.17	200	*e*P	P	16 49 08.5	+0.6
BKZ				S	S	16 50 33.1	+1.9
HIZ	Hauiti	7.21	212	*e*P	P	16 49 13.3	+5.1
HIZ	Hauiti	7.21	212	*e*P	P	16 49 07.7	-0.5
KATZ	Kakaramea	7.26	205	*e*P	P	16 49 11.2	+2.3
MGZ	Maungaku	7.34	206	*e*P	P	16 49 10.0	+0.2
MGZ	Maungaku	7.34	206	*e*P	P	16 49 11.7	+1.9
KAVZ	Karewarewa	7.39	205	*e*P	P	16 49 12.4	+2.1
NGZ	Ngauruhoe	7.47	205	*e*P	P	16 49 11.1	-0.2
NGZ	Ngauruhoe	7.47	205	*e*P	P	16 49 13.9	+2.6
CNZ	Chateau	7.51	205	*e*P	P	16 49 12.5	+0.7
CNZ	Chateau	7.51	205	*e*P	P	16 49 14.1	+2.3
TUVZ	Tukino	7.54	205	*e*P	P	16 49 12.1	0.0
TUVZ	Tukino	7.54	205	*e*P	P	16 49 13.5	+1.4
VRZ	Vera Road	7.76	210	P	P	16 49 16.0	+1.4
VRZ	Vera Road	7.76	210	*e*P	P	16 49 17.6	+3.0
PWZ	Pawanui	7.88	196	P	P	16 49 13.8	-2.3
PWZ	Pawanui	7.88	196	*e*P	P	16 49 16.4	+0.3
PWZ				S	S	16 50 45.9	-0.1
PKE	Pukeiti	8.15	213	*e*P	P	16 49 21.9	+2.7
WAZ	Wanganui	8.21	206	P	P	16 49 19.1	-0.8
WAZ	Wanganui	8.21	206	P	P	16 49 21.3	+1.4
WAZ				S	S	16 50 56.1	+3.3
BFZ	Birch Farm	8.65	198	*e*P	P	16 49 23.2	-1.9
BFZ	Birch Farm	8.65	198	*e*P	P	16 49 25.8	+0.7
BFZ				S	S	16 51 02.8	+0.6
MRZ	Mangatainoka R	8.82	201	*e*P	P	16 49 24.1	-3.0
MRZ				S	S	16 51 00.7	-5.1
MRZ	Mangatainoka R	8.82	201	*e*P	P	16 49 25.5	-1.6
MRZ				S	S	16 51 04.9	-0.9
KIW	Kapiti Island	9.21	203	*e*P	P	16 49 29.2	-2.5
KIW	Kapiti Island	9.21	203	*e*P	P	16 49 30.7	-1.0
MTW	Mount Morrison	9.30	200	*e*P	P	16 49 30.7	-2.0
MTW	Mount Morrison	9.30	200	*e*P	P	16 49 32.3	-0.4
CAW	Cannon Point	9.38	202	*e*P	P	16 49 29.3	-4.4
CAW	Cannon Point	9.38	202	*e*P	P	16 49 31.6	-2.1
MRW	Makara Radio	9.61	203	*e*P	P	16 49 35.5	-0.9
MRW	Makara Radio	9.61	203	*e*P	P	16 49 35.8	-0.6
MRW				S	S	16 51 23.3	+0.6
WEL	Wellington	9.64	203	*e*P	P	16 49 35.1	-1.6
WEL	Wellington	9.64	203	*e*P	P	16 49 36.6	-0.1
BHW	Baring Head	9.72	202	*e*P	P	16 49 35.8	-1.9
BHW	Baring Head	9.72	202	*e*P	P	16 49 36.6	-1.1
NNZ	Nelson	10.09	208	*e*P	P	16 49 38.6	-3.4
NNZ				S	S	16 51 28.6	-4.2
NNZ	Nelson	10.09	208	*e*P	P	16 49 40.0	-2.0
NNZ				S	S	16 51 32.5	-0.3
QRZ	Quartz Range	10.13	212	*e*P	P	16 49 40.3	-2.2
QRZ	Quartz Range	10.13	212	*e*P	P	16 49 41.3	-1.2
THZ	Tophouse	10.74	208	*e*P	P	16 49 46.8	-3.0
THZ				S	S	16 51 35.5	-11
THZ	Tophouse	10.74	208	*e*P	P	16 49 48.2	-1.6
THZ				S	S	16 51 47.2	+0.5
KHZ	Kahutara	11.06	204	*e*P	P	16 49 50.2	-3.4
KHZ				S	S	16 51 47.2	-6.5
KHZ	Kahutara	11.06	204	*e*P	P	16 49 52.1	-1.5
KHZ				S	S	16 51 53.5	-0.2
DSZ	Denniston Nort	11.19	212	*e*P	P	16 49 52.9	-2.2
DSZ	Denniston Nort	11.19	212	*e*P	P	16 49 54.3	-0.8
LTZ	Lake Taylor	11.85	208	*e*P	P	16 49 59.7	-3.0
LTZ	Lake Taylor	11.85	208	*e*P	P	16 50 01.1	-1.6
LTZ				S	S	16 52 09.9	-0.6
MQZ	McQueen's Vall	12.51	204	*e*P	P	16 50 10.7	+0.3
MQZ				S	S	16 52 23.0	-1.2
WVZ	Waitaha Valley	12.73	211	*e*P	P	16 50 11.8	-1.1
WVZ				S	S	16 52 28.3	-0.5
RPZ	Rata Peaks	13.12	209	P	P	16 50 17.0	-0.3
	4.0nm,0.3s,baz=82,slow=5.5,SNR=25						
RPZ				S	S	16 52 37.5	+0.5
	3.5nm,0.3s,baz=68,slow=19,SNR=16						
ODZ	Otahua Downs	14.39	207	P	P	16 50 32.7	+1.5
ODZ				S	S	16 53 08.4	+5.5
JCZ	Jackson Bay	14.40	213	*e*P	P	16 50 30.9	-0.5
STKA	Stephens Creek	32.13	261	P	P	16 53 19.4	+2.1
	5.1nm,0.6s,mb3.9,baz=102,slow=10,SNR=19						
STKA	Stephens Creek	32.13	261	*e*P	P	16 53 19.3	+2.0
CTAO	Charters Tower	32.27	284	*e*P	P	16 53 18.5	-0.1
	44nm,1.6s,mb4.4						
ASAR	Alice Springs	41.08	270	P	P	16 54 32.1	+0.3
	1.7nm,0.4s,mb3.6,baz=106,slow=7.0,SNR=72						
ASAR				ScP		16 59 39.7	
	0.1nm,0.5s,baz=108,slow=4.3,SNR=3.5						
ASAR				S	S	17 00 17.5	+1.1
	0.6nm,0.8s,baz=108,slow=17,SNR=3.1						
WRAB	Tennant Creek	42.25	276	*e*P	P	16 54 40.5	-0.7
	4.7nm,0.5s,mb3.9						
WRA	Warramunga Arr	42.26	276	P	P	16 54 41.2	-0.2
	3.1nm,0.3s,mb3.9,baz=113,slow=7.9,SNR=215						
WRA				S	S	17 00 33.5	0.0
	0.3nm,0.6s,baz=112,slow=14,SNR=3.9						
QSPA	South Pole Qui	57.65	180	*e*P	P	16 56 39.3	+3.8
	5.2nm,0.8s,mb3.9						
SNAA	Sanae	76.14	179	⇑*i*	P	16 58 32.6	+2.6
SNAA	Sanae	76.14	179	*e*P	P	16 58 31.9	+1.9
	0.8nm,0.6s,mb3.6						
VNA3	Neumayer Olymp	76.37	177	⇑*i*	P	16 58 36.5	+5.2
VNA2	Neumayer--Watz	76.78	178		P	16 58 38.5	+4.9
VNA1	Neumayer--Stat	77.02	177	⇑*i*	P	16 58 39.5	+4.6
YSS	Yuzh-Sakhalins	85.77	336	P	P	16 59 20.0	-0.3
	4.4nm,0.6s,mb4.5						
NVAR	Mina Array Bea	91.09	44	P	P	16 59 44.7	-0.7
	0.6nm,0.8s,mb3.5,baz=243,slow=6.0,SNR=2.9						
SDCO	Great Sand Dun	98.64	51	P	P	17 00 12.2	-7.8
	6.5nm,1.5s,mb4.7						
MKAR	Makanchi Array	117.57	310	PKP	PKPdf	17 05 23.1	-0.1
	0.4nm,0.7s,baz=90,slow=1.2,SNR=5.0						
ZAL	Zalesovo	118.25	318	PKP	PKPdf	17 05 23.0	-1.3
	0.7nm,0.3s,baz=145,slow=4.3,SNR=2.6						
KAF	Kangasniemi	145.77	338	*e*p	PKPdf	17 06 14.7	-0.3
	5.3nm,0.6s						
FINES	FINESS Array B	146.34	337	PKPbc	PKPbc	17 06 17.9	+0.3
	5.8nm,0.5s,baz=47,slow=4.5,SNR=94						
NB2	NORSAR Subarra	150.43	349	PKP		17 06 28.2	
	1.3nm,0.5s,baz=17,slow=2.6						
NOA	NORSAR Array B	150.43	349	PKPbc	PKPdf	17 06 28.6	+6.0
	1.6nm,0.6s,baz=15,slow=4.1,SNR=8.3						
NOA				PKPab	PKPab	17 06 35.9	-2.8
	1.0nm,0.6s,baz=26,slow=4.1,SNR=5.4						
AKASG	Malin Array Be	151.64	319	PKPbc	PKPdf	17 06 31.9	+7.2
	0.5nm,0.3s,baz=48,slow=2.2,SNR=5.6						
BRTR	Keskin Array B	151.74	295	PKPbc	PKPdf	17 06 32.2	+7.1
	0.9nm,0.6s,baz=135,slow=5.2,SNR=3.6						

*IDC **09** 16:59:17.8±1.1, 1.73N×101.32W, mb4.5/10, mb1 4.7/11, mb1mx4.6/17, ML4.0/1, MS4.0/8, Ms1 4.0/8, ms1mx3.9/20, Error ellipse: s-maj=32.4km s-min=17.1km az=52.0*

*NEIC **09** 16:59:19.8±0.4, 1.73N×101.27W, h10^{km}, mb4.6/21, Error ellipse: s-maj=12.7km s-min=6.3km az=56.0*

ISC 09 16:59:18.3±0.5**, 1.74N**±0.07×**101.21W**±0.09**, h10**^{km}**, (h15**^{km}±.4^{km}**:pP-P), n64,** σ1^{s}**02**/55**, mb4.5**/27**, MS4.0**/7**, 1C-1D, Galapagos Triple Junction region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	JuntasAbangare	18.25	62	P	P	17 03 34.7	+1.1
	0.5nm,0.3s,baz=307,slow=20,SNR=5.4						
JTS				LR	LR	17 08 32.2	
	comp=Z,655nm,21.9s,baz=62,slow=30						
JTS	JuntasAbangare	18.25	62	*e*P	P	17 03 32.9	-0.7
	38nm,1.2s						
TEIG	Tepich	22.30	34	P	P	17 04 17.5	0.0
	0.0nm,0.3s,baz=295,slow=24,SNR=2.5						
OTAV	Otavalo	22.81	94	*e*P	P	17 04 26.6	+3.8
	12nm,1.0s,mb4.3						
OTAV				*e*		17 04 37.3	
ROSC	El Rosal	27.01	83	LR	LR	17 13 54.1	
	comp=Z,245nm,20.5s,MS3.8,baz=268,slow=32						
LTX	Lajitas	27.54	355	*e*P	P	17 05 07.8	+0.5
	7.4nm,0.8s,mb4.4						
LTX				*e*	pP	17 05 12.6	+2.4
TXAR	Lajitas Array	27.54	355	P	P	17 05 07.2	-0.1
	5.1nm,0.8s,mb4.2,baz=176,slow=11,SNR=44						
TXAR				PcP	PcP	17 08 25.2	-0.5
	0.4nm,0.8s,baz=158,slow=4.9,SNR=3.6						
TXAR				LR	LR	17 15 18.2	
	comp=Z,609nm,18.5s,MS4.2,baz=140,slow=35						
TXAR	Lajitas Array	27.54	355	P	P	17 05 07.2	-0.1
TXAR				PcP	PcP	17 08 25.2	-0.5
TXAR				LR	LR	17 15 18.2	
JCT	Junction City	28.61	3	*e*P	P	17 05 16.3	-0.7
	26nm,1.5s,mb4.7						
GDL2	Guadalupe Moun	30.44	355	*e*P	P	17 05 32.8	-0.6
GDL2				*e*		17 05 37.8	
GDL2				*e*		17 05 43.4	
SDV	Santo Domingo	31.25	76	*e*P	P	17 05 42.4	+1.7
	14nm,1.3s,mb4.6						
TUC	Tucson	31.71	344	*e*P	P	17 05 43.7	-0.9
	7.4nm,0.9s,mb4.5						
TUC				*e*		17 05 49.3	
BNM	Barren Site	32.63	352	*e*P	P	17 05 52.6	0.0
LAZ	Ladron	32.96	351	*e*P	P	17 05 56.1	+0.7
MIAR	Mount Ida	33.41	12	*e*P	P	17 05 58.3	-1.0
	8.3nm,0.9s,mb4.7						
NEN	Nelson	36.03	341	*e*P	P	17 06 20.8	-1.0
NEN				*e*		17 06 27.1	
PV01	Paradox Valley	36.84	350	*e*P	P	17 06 29.2	+0.7
PV10	Paradox Valley	37.16	350	*e*P	P	17 06 30.2	-1.1
PV10				*e*		17 06 36.2	
LPAZ	La Paz	37.26	120	P	P	17 06 33.3	+1.0
	4.7nm,0.9s,mb4.3,baz=303,slow=12,SNR=7.7						
LPAZ				LR	LR	17 19 42.7	
	comp=Z,373nm,21.7s,MS4.1,baz=310,slow=33						
LPAZ	La Paz	37.26	120	*e*P	P	17 06 33.6	+1.3
	7.2nm,1.0s,mb4.5						
LPAZ				*e*		17 06 40.8	
MSU	Marysvale	37.95	346	*e*P	P	17 06 39.3	+1.4
MSU				*e*	pP	17 06 43.9	+3.1
SJG	San Juan	38.05	62	P	P	17 06 39.5	+0.5
	8.1nm,0.3s,mb5.0,baz=318,slow=21,SNR=3.7						
ISCO	Idaho Springs	38.09	355	*e*P	P	17 06 39.6	+0.5
	5.6nm,0.9s,mb4.3						
ISCO				*e*	pP	17 06 44.5	+2.4
TMUT	Trail Mountain	38.47	347	*e*P	P	17 06 43.5	+1.3
TMUT				*e*	pP	17 06 47.8	+2.5
MTUM	Tungsten Hills	38.87	338	*e*P	P	17 06 45.9	+0.2
MTUM				*e*		17 06 51.7	
SAML	Samuel	39.36	106	*e*P	P	17 06 49.2	-0.7
	16nm,1.1s,mb4.7						
SAML				*e*		17 06 56.7	
DAU	Daniels Canyon	39.55	348	*e*P	P	17 06 51.6	+0.3
DAU				*e*	pP	17 06 56.4	+2.1
DUG	Dugway	39.70	346	*e*P	P	17 06 53.2	+0.7
	8.3nm,0.9s,mb4.5						
DUG				*e*		17 06 58.3	
NVAR	Mina Array Bea	39.73	339	P	P	17 06 53.0	+0.2
	4.2nm,0.8s,mb4.2,baz=172,slow=9.6,SNR=15						
NVAR				LR	LR	17 20 19.8	
	comp=Z,61nm,20.3s,MS3.4,baz=80,slow=32						
CMB	Columbia Colle	40.18	336	*e*P	P	17 06 56.5	0.0
	3.7nm,0.9s,mb4.1						
CMB				*e*		17 07 05.7	
HWUT	Hardware Ranch	40.77	348	*e*P	P	17 07 02.3	+1.0
	34nm,1.2s,mb4.8						
HWUT				*e*	pP	17 07 06.6	+2.3
WCN	Washoe City	41.03	338	*e*P	P	17 07 05.0	+1.6
	19nm,1.2s,mb4.6						
PDAR	Pinedale Array	41.52	351	P	P	17 07 07.3	-0.2
	12nm,0.7s,mb4.7,baz=152,slow=7.2,SNR=85						
PDAR				LR	LR	17 22 57.8	
	comp=Z,159nm,18.3s,MS3.9,baz=170,slow=34						
PDAR	Pinedale Array	41.52	351	P	P	17 07 07.3	-0.2
PDAR				LR	LR	17 22 57.8	
TPAW	Teton Pass	42.46	349	*e*P	P	17 07 15.4	+0.2
LOHW	Long Hollow	42.52	350	*e*P	P	17 07 15.1	-0.6
LOHW				*e*		17 07 20.4	
MOOW	Moose Ponds	42.68	350	*e*P	P	17 07 17.0	0.0
HLID	Hailey	43.27	346	*e*P	P	17 07 21.6	-0.1
	7.4nm,1.1s,mb4.3						
LKWY	Lake	43.41	350	*e*P	P	17 07 24.5	+1.6
	14nm,0.9s,mb4.7						
LKWY				*e*		17 07 35.0	
QLMT	Earthquake Lak	43.85	350	*e*P	P	17 07 26.9	+0.4
QLMT				*e*		17 07 32.0	
MCMT	McKenzie Canyo	44.12	348	*e*P	P	17 07 28.8	+0.1
MCMT				*e*		17 07 34.3	
DPW	Davenport	48.24	345	*e*P	P	17 07 52.1	-9.2
DPW				*e*		17 07 57.9	
NEW	Newport	48.33	346	*e*P	P	17 08 00.3	-1.7
	8.9nm,0.9s,mb4.8						
NEW				*e*		17 08 05.9	
ULM	Lac du Bonnet	48.54	5	P	P	17 08 02.2	-1.4
	8.9nm,0.7s,mb4.9,baz=183,slow=8.4,SNR=6.5						
ULM				LR	LR	17 28 33.1	
	comp=Z,239nm,18.8s,MS4.2,baz=340,slow=36						
ULM	Lac du Bonnet	48.54	5	*e*P	P	17 08 01.0	-2.6
	15nm,0.8s,mb5.1						
ULM				*e*		17 08 07.0	
CPUP	Villa Florida	50.71	127	P	P	17 08 19.9	-0.6
	4.4nm,0.9s,mb4.4,baz=329,slow=11,SNR=6.8						
CPUP	Villa Florida	50.71	127	*e*P	P	17 08 20.3	-0.3
	12nm,1.1s,mb4.7						
CPUP				*e*		17 08 27.3	
TRQA	Tornquist	53.66	142	*e*P	P	17 08 41.1	-1.3
	25nm,1.4s,mb4.9						
BDFB	Brasilia	55.34	110	P	P	17 08 54.2	-0.9
	2.1nm,0.7s,mb4.3,baz=321,slow=2.4,SNR=2.5						
SCHQ	Schefferville	59.87	22	P	P	17 09 25.2	-1.3
	2.8nm,0.8s,mb4.3,baz=322,slow=2.1,SNR=2.3						
DAWY	Dawson	68.12	343	*e*P	P	17 10 19.8	-0.6
DAWY				*e*	pP	17 10 24.4	+0.9
INK	Inuvik	69.99	348	LR	LR	17 39 46.2	
	comp=Z,104nm,18.4s,MS4.1,baz=305,slow=35						
ILAR	Eielson Array	70.94	341	P	P	17 10 35.4	-2.2
	5.2nm,0.7s,mb4.5,baz=150,slow=3.9,SNR=51						
QSPA	South Pole Qui	91.76	180	*e*P	P	17 12 29.0	+2.1
	5.3nm,0.8s,mb4.9						
VNA3	Neumayer Olymp	92.14	161		P	17 12 31.1	+2.3
VNA2	Neumayer--Watz	92.89	161	⇑*i*	P	17 12 31.7	-0.6
SNAA	Sanae	94.29	162	⇓*i*	P	17 12 37.2	-1.5
MKAR	Makanchi Array	131.57	357	PKP	PKPdf	17 18 33.5	-1.3
	0.4nm,0.7s,baz=270,slow=1.4,SNR=3.3						
GUN	Gumba	149.74	347	*e*P	PKPdf	17 19 09.6	+2.2
	66nm,1.0s						
GKN	Gorkha	149.90	350	*e*P	PKPdf	17 19 09.5	+1.8
	16nm,1.0s						
KKN	Kakani	149.98	348	*e*P	PKPdf	17 19 10.1	+2.3
	19nm,0.9s						
DMN	Daman	150.19	349	*e*P	PKPdf	17 19 11.5	+3.3
	18nm,1.0s						
KOLN	Koldanda	150.29	351	*e*P	PKPdf	17 19 12.1	+3.8
	36nm,1.3s						
CMAR	Chiang Mai Arr	151.78	316	PKPbc	PKPdf	17 19 15.4	+4.6
	1.4nm,0.8s,baz=14,slow=2.4,SNR=11						

CASC 09 17:03:14.7±2.5**, 12.78N**×**87.92W, h190**^{km}±13^{km}**, MD3.9, 2C-4D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	Conchagua	0.50	10	*e*P	P	17 03 39.5	-1.5
BLLM	Bellamira	0.73	335	*e*P	P	17 03 41.1	-0.9
BLLM				*e*S	S	17 04 02.9	-0.3
VSM	San Miguel	0.73	332	*e*P	P	17 03 41.4	-0.7
VSM				*e*S	S	17 04 04.8	+1.6
LEON	Leon	1.07	110	⇓*e*P	P	17 03 44.0	-0.2
LEON				*e*S	S	17 04 05.7	-1.2
TEL3	Telica 3	1.07	101	*e*P	P	17 03 44.3	+0.1
TEL3				*e*S	S	17 04 08.1	+1.1
TELN	Telica	1.08	99	*e*P	P	17 03 47.1	+2.8
TELN				*e*S	S	17 04 08.9	+1.8
CNGN	Cerro Negro	1.23	103	*e*P	P	17 03 45.6	+0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CNGN				eS	S	17 04 10.6	+1.3
MIRN	Miramar	1.23	106	eP	P	17 03 45.1	-0.4
MIRN				eS	S	17 04 09.9	+0.6
LCBS	La Ceiba	1.35	310	eP	P	17 03 47.0	+0.5
LCBS				eS	S	17 04 12.6	+1.5
LFRS	El Faro	1.39	307⇑	eP	P	17 03 47.0	+0.1
LFRS				eS	S	17 04 12.9	+1.1
COPN	Copaltepe	1.43	114⇓	eP	P	17 03 47.1	-0.2
COPN				eS	S	17 04 11.6	-0.8
LBRS	Las Brisas	1.45	311	eP	P	17 03 47.6	+0.2
APYN	Apoyeque	1.63	109⇑	eP	P	17 03 48.9	-0.2
APYN				eS	S	17 04 16.9	+1.2
MGAN	Managua	1.75	111⇓	eP	P	17 03 50.0	-0.4
MGAN				eS	S	17 04 18.6	+0.8
WILN	Americas 2	1.80	110	eP	P	17 03 51.7	+0.9
WILN				eS	S	17 04 20.0	+1.3
TICN	Ticuantepe	1.81	114	eP	P	17 03 51.2	+0.3
TICN				eS	S	17 04 19.6	+0.8
PYTN	Playitas	1.84	97⇓	iP	P	17 03 50.4	-0.8
PYTN				eS	S	17 04 21.1	+1.8
SBLS	San Blas	1.96	303	eP	P	17 03 53.7	+1.2
SBLS				eS	S	17 04 25.2	+3.7
JCR	Jicaral	4.01	136	i P	P	17 04 18.3	+1.3
JCR				eS	S	17 04 59.7	-5.3
PRS1	Puriscal	4.50	128	eP	P	17 04 24.9	+1.7
PRS1				eS	S	17 05 17.2	+1.0
URSC	Urasca	5.01	125	eP	P	17 04 32.4	+2.7
URSC				eS	S	17 05 31.5	+3.7
BUS	Buena Vista	5.19	128	eP	P	17 04 34.2	+2.1
BUS				eS	S	17 05 30.6	-1.5

IDC 09 17:05:06.0±2.1**, 3.43N**×**127.79E, mb3.2**/3**, mb1 3.4**/3**, mb1mx3.3**/17**, Error ellipse: s-maj=143.0km s-min=27.0km az=67.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.10	165	P	P	17 10 23.5	-1.0
	0.4nm,0.5s,baz=344,slow=10,SNR=9.4						
ASAR	Alice Springs	27.58	168	P	P	17 10 55.1	-2.0
	0.2nm,0.8s,baz=356,slow=7.6,SNR=3.9						
MKAR	Makanchi Array	58.41	325	P	P	17 15 03.5	-2.2
	0.2nm,0.5s,baz=128,slow=6.5,SNR=4.6						

*PRU **09** 17:06:15.3, 51.45N×16.12E*
*WAR **09** 17:06:15.0, 51.50N×16.14E, ML2.8, Mining Induced*
*NEIC **09** 17:06:20.5±1.6, 51.13N×15.83E, h5^{km}, ML2.9(VIE), Error ellipse: s-maj=19.9km s-min=7.9km az=186.0*
ISC 09 17:06:12.4±0.9**, 51.48N**±0.05×**16.10E**±0.04**, n18, σ1^{s}18**/34**, 1D, Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.65	169	ePG	Pg	17 06 27.0	+1.6
KSP				eSG	Sg	17 06 36.0	+1.9
KSP	Ksiaz	0.65	169	ePg	Pg	17 06 27.2	+1.8
KSP				eSg	Sg	17 06 36.1	+2.0
UPC	Upice	0.98	183	ePG	Pg	17 06 34.0	+2.1
DPC	Dobruska-Polom	1.14	173	ePG	Pg	17 06 36.1	+0.9
DPC				eSG	Sg	17 06 51.2	+0.8
PVCC	Panska Ves	1.36	226	ePG	Pg	17 06 40.7	+1.2
BRG	Berggiesshubel	1.48	247	i Pg	Pg	17 06 43.3	+1.2
BRG				i Sg	Sg	17 07 03.6	+1.7
PRU	Pruhonice	1.79	214	ePG	Pg	17 06 48.1	-0.1
PRU				i x	x	17 06 50.0	
PRU				i x	x	17 07 05.1	
PRU				eSG	Sg	17 07 11.6	-0.5
	22nm,0.5s						
MORC	Moravsky Berou	1.94	151	ePn	Pn	17 06 47.3	+0.3
MORC				eSn	Sn	17 07 11.2	-1.2
CLL	Collm	1.94	266	ePG	Pg	17 06 51.0	-0.3
CLL				e		17 07 15.0	
CLL				i SG	Sg	17 07 17.2	0.0
CLL	Collm	1.94	266	ePg	Pg	17 06 51.0	-0.3
CLL				i Sg	Sg	17 07 17.2	0.0
OKC	Ostrava-Krasne	2.10	141	ePG	Pg	17 06 54.8	+0.4
NKC	Novy Kostel	2.63	243	eSG	Sg	17 07 39.3	-0.6
OJC	Ojcow	2.67	117	e(PG)	Pg	17 07 05.0	-0.6
OJC				eSG	Sg	17 07 39.0	-2.2
OJC	Ojcow	2.67	117	ePg	Pg	17 07 05.1	-0.5
OJC				eSg	Sg	17 07 39.1	-2.1
OJC	Ojcow	2.67	117	ePg	Pg	17 07 05.1	-0.5
OJC				eSg	Sg	17 07 39.1	-2.1
KHC	Kasperske Hory	2.85	215	ePN	Pn	17 07 00.0	0.0
KHC				ePG	Pg	17 07 07.5	-1.9
KHC				eSN	Sn	17 07 35.5	-0.1
KHC				eSG	Sg	17 07 45.6	-1.8
MOX	Moxa	2.95	255	ePg	Pg	17 07 10.3	-1.0
MOX				eSg	Sg	17 07 50.2	-0.4
MOA	Molln	3.82	199⇓	iPN	Pn	17 07 13.9	+0.1
MOA				i SG	Sg	17 08 17.1	-2.6
	5.1nm,0.4s						

*NEIC **09** 17:12:35.3±1.2, 4.19S×152.18E, h187^{km}±9^{km}, mb4.1/5, Error ellipse: s-maj=31.4km s-min=14.1km az=100.0*
*IDC **09** 17:12:36.0±2.3, 4.36S×152.27E, h197^{km}±17^{km}, mb3.6/8, mb1 3.6/10, mb1mx3.6/15, Error ellipse: s-maj=34.0km s-min=13.0km az=108.0*
ISC 09 17:12:33.8±1.1**, 4.2S**±0.1×**152.3E**±0.2**, h191**^{km}±7^{km}**, n21, σ1^{s}01**/23**, mb4.3**/13**, 1D, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAB	Rabaul	0.10	279⇓	iP	P	17 12 59.3	+0.1
PMG	Port Moresby	7.24	224	P	P	17 14 18.1	+0.3
	2.1nm,0.3s,baz=2.9,slow=4.6,SNR=14						
PMG				S	S	17 15 39.2	+0.1
	5.6nm,0.3s,baz=112,slow=21,SNR=10						
CTA	Charters Tower	16.83	200	P	P	17 16 21.4	+1.5
	0.5nm,0.3s,baz=24,slow=12,SNR=9.0						
CTAO	Charters Tower	16.83	200	eP	P	17 16 21.4	+1.4
	3.5nm,0.6s						
WRAB	Tennant Creek	23.43	227	P	P	17 17 27.0	-0.1
	405nm,0.5s,SNR=48						
WRAB	Tennant Creek	23.43	227	eP	P	17 17 27.5	+0.4
	73nm,0.7s,mb5.2						
WRA	Warramunga Arr	23.45	227	P	P	17 17 28.1	+0.8
	40nm,0.6s,mb5.0,baz=50,slow=9.2,SNR=497						
WRA				S	S	17 21 25.6	+2.3
	0.6nm,0.7s,baz=45,slow=17,SNR=4.1						
ASAR	Alice Springs	26.23	221	P	P	17 17 50.6	-2.6
	4.2nm,0.5s,mb4.3,baz=54,slow=9.0,SNR=112						
ASAR				S	S	17 22 10.1	+0.7
	0.2nm,0.6s,baz=51,slow=13,SNR=2.6						
STKA	Stephens Creek	29.29	199	P	P	17 18 19.1	-1.5
	2.2nm,0.6s,mb4.1,baz=8.2,slow=8.7,SNR=6.2						
FITZ	Fitzroy Crossi	29.48	240	P	P	17 18 20.9	-1.5
	23nm,0.6s,mb5.1,baz=50,slow=4.4,SNR=163						
MBWA	Marble Bar	35.81	239	eP	P	17 19 15.1	-1.7
	24nm,0.9s,mb4.8						
NWAO	Narrogin (SRO)	43.42	225	P	P	17 20 19.0	-0.5
	4.7nm,0.8s,mb4.2,baz=271,slow=14,SNR=4.1						
CMAR	Chiang Mai Arr	57.15	295	P	P	17 22 03.8	+0.7
	1.8nm,0.7s,mb4.0,baz=118,slow=5.7,SNR=14						
SONM	Songino Array	65.54	328	P	P	17 22 59.7	+0.7
	0.2nm,0.5s,baz=123,slow=5.8,SNR=2.6						
MKAR	Makanchi Array	79.53	319	P	P	17 24 20.9	0.0
	1.5nm,1.0s,mb3.6,baz=80,slow=7.4,SNR=5.7						
ILAR	Eielson Array	81.82	22	pP	pP	17 25 17.9	-1.4
	1.4nm,1.1s,baz=243,slow=6.0,SNR=3.9						
AAK	Ala-Archa	83.88	314	eP	P	17 24 43.6	+0.1
	1.3nm,0.7s,mb3.8						
QSPA	South Pole Qui	85.75	180	eP	P	17 24 52.7	+0.8
	2.3nm,0.6s,mb4.1						
MAW	Mawson	85.91	203	P	P	17 24 53.6	+0.6
	1.3nm,0.7s,mb3.8,baz=94,slow=6.8,SNR=3.9						
MAW	Mawson	85.91	203	eP	P	17 24 53.0	0.0
	4.3nm,1.1s,mb4.1						
BVAR	Borovoye Array	88.45	323	P	P	17 25 05.4	0.0
	0.7nm,0.6s,mb3.7,baz=117,slow=3.3,SNR=5.1						

GUC 09 17:24:28.1±0.9**, 32.67S**×**71.73W, h26**^{km}±7^{km}**, MD3.7, ML2.9, 1C-8D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PACH	Papudo	0.28	61⇓	iP	Pb	17 24 34.9	0.0
IHA	Instituto Hidr	0.36	168⇓	iP	Pb	17 24 36.3	+0.2
IHA				i S	Sb	17 24 41.5	0.0
LCCH	Las Cruces	0.81	170	eP	Pb	17 24 42.8	-0.7
LCCH				eS	Sb	17 24 53.6	-0.5
PEL	Peldehue	1.00	118	i P	Pn	17 24 46.0	-0.5
PEL				i S	Sb	17 24 59.3	0.0
PEL				AMP		17 25 00.7	
	comp=N,1μm,0.3s						
RCDM	Rinconada Maip	1.12	137⇓	iP	Pn	17 24 47.6	-0.7
RCDM				AMP		17 25 07.3	
	comp=E,559nm,0.1s						
TACH	Talagante	1.18	146⇓	iP	Pn	17 24 48.8	-0.4
TACH				i S	Sn	17 25 04.5	0.0
CLCH	Cerro Calan	1.23	126	i P	Pn	17 24 49.4	-0.5
CLCH				i S	Sn	17 25 05.7	-0.1
CLCH				AMP		17 25 10.2	
	comp=E,334nm,0.3s						
LNV	Longovilo	1.31	168⇓	iP	Pn	17 24 50.3	-0.6
LNV				i S	Sn	17 25 08.2	+0.6
FCH	Farellones	1.38	119⇓	iP	Pn	17 24 51.5	-0.4
FCH				i S	Sn	17 25 09.7	+0.3
FCH				AMP		17 25 10.2	
	comp=E,202nm,0.2s						
PCH	Pirque	1.39	133⇓	iP	Pn	17 24 52.1	0.0
PCH				eS	Sn	17 25 11.3	+1.6
CHCH	Chadas Angostu	1.55	145⇑	iP	Pn	17 24 55.2	+0.8
CHCH				i S	Sn	17 25 13.7	-0.1
CACH	El Canelo	1.72	147	eP	Pn	17 24 58.1	+1.2
LMEL	Las Melosas	1.73	133⇓	iP	Pn	17 24 57.6	+0.6
LMEL				i S	Sn	17 25 20.4	+1.9
LMEL				AMP		17 25 24.0	
	comp=N,422nm,0.1s						
CICH	Cipreses	1.97	147	eP	Pn	17 25 01.2	+0.7

IDC 09 17:34:31.6±11.0**, 14.38N**×**146.32E, mb3.4**/4**, mb1 3.5**/4**, mb1mx3.4**/19**, Error ellipse: s-maj=446.0km s-min=23.6km az=82.0, Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	36.09	199	P	P	17 41 35.6	-1.6
	0.3nm,0.8s,baz=23,slow=9.3,SNR=4.4						
ASAR	Alice Springs	39.71	198	P	P	17 42 05.5	-2.1
	0.2nm,0.8s,baz=29,slow=8.4,SNR=3.4						
SONM	Songino Array	46.92	324	P	P	17 43 04.2	-1.5
	0.3nm,0.6s,baz=133,slow=6.5,SNR=3.2						
MKAR	Makanchi Array	61.91	316	P	P	17 44 52.9	-2.5
	0.6nm,0.4s,baz=91,slow=8.2,SNR=19						

*IDC **09** 17:45:07.7±0.8, 3.83N×128.54E, mb4.0/11, mb1 4.1/11, mb1mx4.1/18, MS3.5/2, Ms1 3.6/2, ms1mx2.9/25, Error ellipse: s-maj=45.1km s-min=14.5km az=71.0*
*BJI **09** 17:45:07.6, 3.64N×128.87E, h32^{km}, mB5.0, mb4.4*
*NEIC **09** 17:45:10.1±0.5, 3.84N×128.52E, h15^{km}, mb4.8/7, Error ellipse: s-maj=28.8km s-min=9.5km az=73.0*
ISC 09 17:45:13.5±2.7**, 3.81N**±0.08×**128.5E**±0.2**, h56**^{km}±23^{km}**, n27, σ1^{s}15**/27**, mb4.3**/21**, MS3.4**/2**, North of Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	4.35	318	eP	P	17 46 21.0	+2.3
FITZ	Fitzroy Crossi	21.96	187	P	P	17 50 02.9	-1.2
	1.6nm,0.7s,mb3.6,baz=346,slow=7.6,SNR=5.5						
PMG	Port Moresby	22.77	125	LR	LR	17 59 33.5	
	comp=Z,109nm,18.3s,MS3.3,baz=103,slow=38						
WRAB	Tennant Creek	24.29	167	eP	P	17 50 26.2	-0.7
	49nm,1.4s,mb4.7						
WRA	Warramunga Arr	24.30	167	P	P	17 50 27.2	+0.2
	4.5nm,0.7s,mb4.0,baz=345,slow=11,SNR=28						
WRA				S	S	17 54 40.8	+1.6
	0.7nm,1.0s,baz=357,slow=19,SNR=3.4						
ASAR	Alice Springs	27.82	169	P	P	17 50 59.1	-0.7
	1.5nm,0.9s,mb3.6,baz=350,slow=7.3,SNR=26						
ASAR				PcP	PcP	17 54 15.3	+0.3
	0.3nm,0.5s,baz=359,slow=2.4,SNR=4.6						
CM31	Chiang Mai Arr	32.36	299	P	P	17 51 42.5	+2.4
CMAR	Chiang Mai Arr	32.36	299	P	P	17 51 40.4	+0.4
	1.2nm,0.9s,mb3.7,baz=122,slow=7.1,SNR=12						
CMAR				LR	LR	18 06 40.3	
	comp=Z,88nm,18.3s,MS3.5,baz=115,slow=40						
XAN	Xi'an	35.16	331	P	P	17 52 03.5	-0.5
XAN				AP	pP	17 52 13.9	-4.6
XAN				AMB	AMB		
	comp=Z,9.0nm,1.3s,mb4.5						
STKA	Stephens Creek	37.62	162	P	P	17 52 24.4	-0.3
	comp=Z,1.3nm,0.4s,mb4.0,baz=339,slow=9.0,SNR=5.6						
STKA	Stephens Creek	37.62	162	eP	P	17 52 24.4	-0.3
BJI	Beijing	37.75	344	eP	P	17 52 25.5	-0.2
BJI				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.2						
LZH	Lanzhou	39.35	328	P	P	17 52 40.0	+0.9
LZH				AP	pP	17 52 53.5	-0.1
LZH				AMB	AMB		
	comp=Z,42nm,1.5s,mb5.0						
HHC	Hu-ho-hao-te	39.90	340	eP	P	17 52 43.3	-0.3
HHC				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.3						
HHC				AMB	AMB		
	comp=Z,133nm,7.8s						
SONM	Songino Array	47.80	340	P	P	17 53 46.7	-0.6
	comp=Z,0.9nm,0.6s,mb4.0,baz=158,slow=6.7,SNR=9.5						
MKAR	Makanchi Array	58.50	324	P	P	17 55 06.2	-0.2
	comp=Z,2.3nm,0.4s,mb4.6,baz=116,slow=8.0,SNR=71						
ZAL	Zalesovo	61.33	332	P	P	17 55 24.2	-1.4
	comp=Z,0.6nm,0.4s,mb4.1,baz=299,slow=5.9,SNR=3.2						
ZAL	Zalesovo	61.33	332	P	P	17 55 24.2	-1.4
KURK	Kurchatov	62.62	327	eP	P	17 55 33.4	-1.0
	comp=Z,9.7nm,1.1s,mb4.8						
BVAR	Borovoye Array	68.22	326	P	P	17 56 09.7	-0.5
	comp=Z,0.7nm,0.5s,mb4.0,baz=127,slow=7.2,SNR=3.9						
BRVK	Borovoye	68.29	326	eP	P	17 56 08.9	-1.7
	comp=Z,4.5nm,0.9s,mb4.5						
ZRNK	Zerenda	68.95	326	eP	P	17 56 13.7	-1.0
	comp=Z,2.5nm,0.4s,mb4.5						
MCK	McKinley	83.31	26	eP	P	17 57 36.9	+1.5
	comp=Z,10nm,1.4s,mb4.7						
ILAR	Eielson Array	84.27	25	P	P	17 57 41.6	+1.4
	comp=Z,0.4nm,0.5s,mb3.8,baz=259,slow=4.7,SNR=6.3						
MAW	Mawson	84.44	201	P	P	17 57 44.9	+3.9
	comp=Z,2.8nm,1.1s,mb4.3,baz=62,slow=15,SNR=8.9						
MAW	Mawson	84.44	201	eP	P	17 57 44.4	+3.5
MAW				P		17 57 44.9	
QSPA	South Pole Qui	93.72	180	eP	P	17 58 26.4	+1.7
	comp=Z,8.0nm,1.2s,mb5.0						

*NAO **09** 17:47:47.0±3.8, 60.21N×25.22E, ML2.2*
*HEL **09** 17:47:47.8±0.1, 60.17N×25.22E, ML1.7, ML2.1(UPP), ML2.2(NAO), Explosion*
*IDC **09** 17:47:47.4±1.6, 60.18N×25.36E, mb1 3.3/3, mb1mx3.1/20, ML2.7/3, Error ellipse: s-maj=17.3km s-min=6.7km az=143.0*
*BER **09** 17:47:47.0±3.8, 60.14N×25.40E, ML2.2(NAO)*
ISC 09 17:47:46.4±0.5**, 60.17N**±0.03×**25.22E**±0.06**, n26, σ1^{s}15**/40**, Finland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PVF	Pernaja	0.50	40	eP	Pg	17 47 56.2	-0.1
PVF				eS	Sg	17 48 02.1	-0.8
VJF	Virojoki	1.22	71	eP	Pb	17 48 09.0	-1.1
VJF				eS	Sb	17 48 25.2	-1.0
FIA0	FINESS Array S	1.35	18	eP	Pb	17 48 11.7	-0.5
FIA0				eS	Sb	17 48 28.6	-1.3
FIA0	FINESS Array S	1.35	18	Pn	Pn	17 48 11.7	-0.8
	baz=180,slow=18						
FIA0				Lg		17 48 28.8	
	baz=192,slow=37						
FINES	FINESS Array B	1.35	18	Pg	Pg	17 48 11.8	-1.5
	4.5nm,0.3s,baz=190,slow=17,SNR=154						
FINES				Pn	Pn	17 48 14.0	+1.5
	4.5nm,0.3s,baz=194,slow=12,SNR=170						
FINES				Lg		17 48 28.8	
	2.2nm,0.3s,baz=191,slow=28,SNR=21						
FINES				Sn	Sn	17 48 33.8	+2.5
	11nm,0.3s,baz=193,slow=25,SNR=25						
FINES				Rg		17 48 36.5	
	27nm,0.7s,baz=190,slow=34,SNR=25						
VSU	Vasula	1.88	155	eP	Pn	17 48 21.6	+1.5
VSU				eS	Sn	17 48 45.5	+0.7
KEF	Keuruu	2.02	355	eP	Pn	17 48 23.7	+1.7
KEF				eS	Sn	17 48 49.6	+1.3
KEF				MSG		17 48 50.4	
	comp=Z,4.3nm,0.1s						
KAF	Kangasniemi	2.02	15	eP	Pn	17 48 23.4	+1.2
KAF				eS	Sn	17 48 49.6	+1.1
KAF				MSG		17 48 51.6	
	comp=Z,3.3nm,0.1s						
SUF	Sumiainen	2.60	10	eP	Pn	17 48 31.9	+1.5
SUF				eS	Sn	17 49 03.4	+0.3
SUF				MSG		17 49 07.5	
	comp=Z,1.5nm,0.1s						
AAL	Aland	2.61	273	eP	Pn	17 48 31.0	+0.4
GRAU	Graesoe	3.33	276	eP	Pn	17 48 40.4	-0.5
NRTU	Norrtaelje	3.35	264	eP	Pn	17 48 41.5	+0.4
FLYU	Flymyra	3.67	273	eP	Pn	17 48 45.3	-0.3
NYNU	Nynaeshamn	3.85	256	eP	Pn	17 48 48.2	+0.1
IGGU	Iggoen	3.97	284	eP	Pn	17 48 49.2	-0.7
OSTU	Oestervaala	4.04	274	eP	Pn	17 48 50.5	-0.3
BACU	Backbrunna	4.08	269	eP	Pn	17 48 51.4	-0.1
ARNU	Arnoeviken	4.12	295	eP	Pn	17 48 52.0	0.0
HEMU	Hemsoen	4.27	309	eP	Pn	17 48 54.6	+0.4
HFS	Hagfors	5.76	275	Pn	Pn	17 49 13.7	-1.5
	baz=98,slow=12						
HFS				Sn	Sn	17 50 18.3	-4.6
	baz=89,slow=28						
HFS				Lg		17 50 45.4	
	baz=85,slow=37						
HFS	Hagfors	5.76	275	eP	Pn	17 49 13.7	-1.5
HFS				eS	Sn	17 50 18.3	-4.6
HFS				eSG	Sg	17 50 45.4	-13
HFS	Hagfors	5.76	275	Pn	Pn	17 49 13.6	-1.6
	comp=Z,0.0nm,0.3s,baz=96,slow=13,SNR=10						
HFS				Sn	Sn	17 50 19.0	-3.8
	comp=Z,0.1nm,0.3s,baz=78,slow=28,SNR=8.1						
HFS				Lg		17 50 46.5	
	comp=Z,0.1nm,0.3s,baz=93,slow=28,SNR=4.6						
NOA	NORSAR Array B	6.95	283	Pn	Pn	17 49 28.6	-3.4
	comp=Z,0.2nm,0.3s,baz=240,slow=20,SNR=2.6						
NOA				Sn	Sn	17 50 44.9	-7.9
	comp=Z,0.2nm,0.3s,baz=137,slow=19,SNR=2.7						
ARA0	ARCESS Array S	9.41	1	Pn	P	17 50 01.9	-4.3
	baz=185,slow=12						
ARA0	ARCESS Array S	9.41	1	eP	P	17 50 01.9	-4.3
ARCES	ARCESS Array B	9.41	1	Pn	P	17 50 03.2	-3.1
	comp=Z,0.1nm,0.3s,baz=180,slow=14,SNR=4.4						

GUC 09 17:49:20.0±0.9**, 33.14S**×**70.23W, h5**^{km}±2^{km}**, MD3.5, ML2.2, 6C-5D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FCH	Farellones	0.19	195⇑	iP	Pg	17 49 24.7	+0.7
FCH				i S	Sg	17 49 27.6	+1.0
FCH				AMP		17 49 28.2	
	comp=E,2μm,0.2s						
CLCH	Cerro Calan	0.36	225⇑	iP	Pg	17 49 27.8	+0.5
CLCH				i S	Sg	17 49 33.4	+1.3
CLCH				AMP		17 49 36.0	
	comp=E,745nm,0.6s						
PEL	Peldehue	0.38	269	AMP		17 49 41.8	
	comp=N,195nm,0.6s						
DSCH	Colegio Aleman	0.38	227⇓	iP	Pg	17 49 28.5	+0.8
DSCH				i S	Sg	17 49 34.1	+1.3
DSCH				AMP		17 49 36.4	
	comp=N,738nm,0.4s						
PCH	Pirque	0.53	206⇓	iP	Pg	17 49 31.2	+0.5
PCH				i S	Sg	17 49 39.2	+1.4
JACH	Jahuel	0.55	326⇑	iP	Pg	17 49 31.3	+0.3
JACH				i S	Sg	17 49 39.4	+1.1
RCDM	Rinconada Maip	0.59	234	eP	Pg	17 49 32.0	+0.1
RCDM				AMP		17 49 50.9	
	comp=E,110nm,0.1s						
LMEL	Las Melosas	0.71	178⇑	iP	Pg	17 49 34.3	+0.2
LMEL				i S	Sg	17 49 44.1	+0.6
LMEL				AMP		17 49 44.9	
	comp=N,314nm,0.1s						
TACH	Talagante	0.78	229⇑	iP	Pg	17 49 35.4	-0.3
CHCH	Chadas Angostu	0.87	204⇑	iP	Pb	17 49 37.0	-0.1
CHCH				i S	Sb	17 49 49.1	+0.3
LCCH	Las Cruces	1.17	253	eP	Pb	17 49 41.2	-1.1
LCCH				eS	Sb	17 49 57.3	-0.3
PACH	Papudo	1.18	300⇓	iP	Pb	17 49 42.2	-0.3
PACH				i S	Sb	17 49 58.1	+0.2
CICH	Cipreses	1.19	188⇓	iP	Pb	17 49 42.9	+0.3
CICH				i S	Sb	17 49 59.5	+1.4
LNV	Longovilo	1.28	230	eP	Pb	17 49 43.4	-0.7
SFDO	San Fernando	1.61	204⇓	iP	Pn	17 49 49.8	+0.6
SFDO				i S	Sb	17 50 11.8	+1.4

*IDC **09** 18:05:22.0±7.2, 14.46N×146.57E, mb3.7/5, mb1 3.7/5, mb1mx3.6/19, Error ellipse: s-maj=275.0km s-min=22.7km az=83.0*
*NEIC **09** 18:05:25.5±1.3, 14.44N×147.02E, h35^{km}, mb4.2/1, Error ellipse: s-maj=31.5km s-min=16.5km az=90.0*
ISC 09 18:05:22.7±1.4**, 14.5N**±0.1×**147.1E**±0.2**, h33**^{km}**, n7, σ0^{s}87**/7**, mb3.8**/6**, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	Guam	2.38	249	ePn	Pn	18 06 00.3	0.0
WRAB	Tennant Creek	36.43	201	eP	P	18 12 25.7	-0.8
	2.2nm,0.6s,mb4.3						
WRA	Warramunga Arr	36.44	201	P	P	18 12 25.6	-1.0
	1.3nm,1.2s,mb3.7,baz=22,slow=8.9,SNR=3.3						
ASAR	Alice Springs	40.05	199	P	P	18 12 58.8	+2.1
	0.2nm,0.7s,mb2.9,baz=23,slow=6.4,SNR=3.5						
SONM	Songino Array	47.31	323	P	P	18 13 55.1	0.0
	0.5nm,0.7s,mb3.6,baz=135,slow=6.4,SNR=3.8						
MKAR	Makanchi Array	62.40	315	P	P	18 15 44.7	0.0
	1.2nm,0.5s,mb4.3,baz=91,slow=8.3,SNR=35						
BVAR	Borovoye Array	70.61	321	P	P	18 16 36.6	0.0
	0.7nm,0.6s,mb3.8,baz=98,slow=7.1,SNR=5.0						

*MAN **09** 18:19:05.8, 8.00N×122.02E, h8^{km}, mb5.2, ML4.2, MS4.3*
*MOS **09** 18:19:07.3±0.9, 7.92N×122.26E, h40^{km}, mb4.8/3, Error ellipse: s-maj=33.2km s-min=13.9km az=117.6*
*HRVD **09** 18:19:08.4±0.8, 7.87N×122.14E, h33^{km}±2^{km}, MW4.8/27, Centroid moment Tensor Solution. LP body waves: s13,c13;Mantle waves: s27,c37; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.14±.32; $M_{\theta\theta}$-0.05±.18; $M_{\phi\phi}$-2.09±.19; $M_{r\theta}$-0.41±.22; $M_{\theta\phi}$0.28±.14; $M_{\phi r}$-0.56±.20; Best double couple: $M_0$2.24×10^{16} NP1:ϕ_s341°, δ40°, λ72°. NP2:ϕ_s184°, δ53°, λ105°. Principal axes: T 2.3, Plg77°, Azm144°; N -.11, Plg12°, Azm355°; P -2.19, Plg7°, Azm264°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **09** 18:19:08.3, 7.90N×122.20E, h32^{km}, mB4.9, mb4.9, Ms4.7*
*NEIC **09** 18:19:08.4±3.8, 7.92N×122.24E, h33^{km}±28^{km}, mb4.9/6, Error ellipse: s-maj=10.7km s-min=6.4km az=56.0*
*IDC **09** 18:19:11.4±6.3, 7.89N×122.22E, h59^{km}±58^{km}, mb3.8/16, mb1 4.0/16, mb1mx3.9/22, MS3.9/6, Ms1 3.9/6, ms1mx3.5/25, Error ellipse: s-maj=33.6km s-min=12.1km az=61.0*
ISC 09 18:19:04.1±0.3**, 8.01N**±0.03×**122.01E**±0.02**, h8**^{km}**, n68, σ1^{s}44**/80**, mb4.4**/29**, MS3.9**/6**, 7C-6D, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IPIL	Ipil	0.59	111	eP	Pg	18 19 16.8	+0.8
IPIL				eS	Sg	18 19 23.3	-0.7
ZMPH	Zamboanga City	1.04	177⇑	iP	Pb	18 19 25.1	+1.1
ZMPH				eS	Sb	18 19 30.0	-7.7
PAGZ	Pagadian	1.36	96	eP	Pb	18 19 29.4	-0.2
PAGZ				eS	Sb	18 19 45.9	-1.1
DCPH	Dipolog City	1.44	66⇑	iP	Pn	18 19 32.8	+2.1
SNPH	Sibulan	1.80	42⇑	eP	Pn	18 19 37.0	+1.3
SNPH				i S	Sn	18 19 52.0	-6.9
AAP	Anini-y	2.40	358	eP	Pn	18 19 44.0	-0.4
TBP	Tagbilaran	2.48	47	eP	Pn	18 19 46.0	+0.5
TBP				eS	Sn	18 20 20.5	+4.3
GUIM	Jordan	2.67	12	eP	Pn	18 19 50.3	+2.1
CGP	Cagayan de Oro	2.69	80⇓	eP	Pn	18 19 38.5	-10
CGP				i S	Sn	18 20 02.1	-20
CUYO	Cuyo Island	2.99	341	eP	Pn	18 19 55.4	+2.5
CUYO				eS	Sn	18 20 29.7	+0.5
LLP	Lapu-Lapu	3.00	40⇑	eP	Pn	18 19 53.5	+0.6
LLP				i S	Sn	18 20 28.2	-1.2
BUKP	Musuan	3.02	92	eP	Pn	18 19 53.9	+0.7
KCP	Kidapawan	3.21	108⇓	iP	Pn	18 19 57.6	+1.7
KCP				i S	Pg	18 20 10.3	+2.2
GSPH	General Santos	3.48	123	eP	Pg	18 20 15.0	+1.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**3.52**	**53**	eP	**Pn**	**18 20 02.6**	**+2.4**
RCP	**Roxas**	**3.60**	**11**	⇓eP	**Pn**	**18 20 04.4**	**+2.9**
RCP				eS	**Sn**	**18 20 44.6**	**-0.2**
DAV	**Davao City (W)**	**3.66**	**104**	eP	**Pn**	**18 20 04.0**	**+1.8**
KALP	**Kalibo**	**3.66**	**5**	⇓eP	**Pn**	**18 20 07.9**	**+5.6**
KALP				eS	**Sn**	**18 20 44.7**	**-1.6**
PPR	**Puerto Princes**	**3.69**	**299**	⇓eP	**Pn**	**18 20 02.7**	**0.0**
PPR				eS	**Sn**	**18 20 44.3**	**-2.6**
BUTP	**Butuan**	**3.69**	**75**	eP	**Pn**	**18 20 04.6**	**+1.8**
SCPH	**Surigao**	**3.86**	**63**	eP	**Pn**	**18 20 04.3**	**-0.8**
SCPH				eS	**Sn**	**18 20 49.4**	**-1.9**
OCLP	**Ormoc**	**3.96**	**40**	eP	**Pn**	**18 20 06.9**	**+0.3**
BATP	**Bataraza**	**4.24**	**281**	eP	**Pn**	**18 20 10.2**	**-0.4**
BATP				eS	**Sn**	**18 20 58.8**	**-2.1**
PLP	**Palo**	**4.29**	**43**	eP	**Pn**	**18 20 10.4**	**-0.9**
PLP				eS	**Sn**	**18 20 58.9**	**-3.2**
BESP	**Borongan**	**4.92**	**43**	eP	**Pn**	**18 20 14.2**	**-6.0**
KKM	**Kota Kinabalu**	**6.08**	**252**	⇑eP	**Pn**	**18 20 38.7**	**+2.2**
	31nm,0.5s						
JOW	**Kunigami**	**19.64**	**17**	LR	LR	18 30 51.1	
	comp=Z,393nm,18.6s,baz=143,slow=36						
GUMO	**Guam**	**23.12**	**74**	P	**P**	**18 24 10.0**	**-1.8**
NJ2	**Nanjing**	**24.11**	**353**	eP	**P**	**18 24 21.2**	**-0.1**
NJ2				AP		18 24 30.5	
NJ2				XP		18 24 34.5	
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,330nm,6.3s						
NJ2				LR	LR		
	comp=N,570nm,22.0s,MS4.6						
NJ2				LR	LR		
	comp=E,2μm,23.3s,MS4.6						
CMAR	**Chiang Mai Arr**	**24.71**	**297**	P	**P**	**18 24 29.4**	**+2.1**
	comp=E,1.1nm,0.8s,mb3.5,baz=118,slow=7.6,SNR=12						
CMAR				LR	LR	18 34 43.6	
	comp=E,229nm,18.4s,MS3.7,baz=115,slow=37						
FITZ	**Fitzroy Crossi**	**26.19**	**172**	P	**P**	**18 24 39.2**	**-2.0**
	comp=E,15nm,1.2s,mb4.4,baz=5.2,slow=14,SNR=6.3						
WRAB	**Tennant Creek**	**30.30**	**157**	eP	**P**	**18 25 14.7**	**-3.7**
	comp=E,31nm,1.4s,mb4.8						
WRAB				e		18 25 22.0	
WRA	**Warramunga Arr**	**30.31**	**157**	P	**P**	**18 25 14.8**	**-3.6**
	comp=E,5.9nm,1.0s,mb4.3,baz=338,slow=9.6,SNR=35						
WRA				PcP	PcP	18 28 15.7	-3.2
	comp=E,0.8nm,0.6s,baz=331,slow=2.5,SNR=5.8						
WRA				LR	LR	18 37 26.6	
	comp=E,116nm,19.5s,MS3.5,baz=340,slow=36						
PMG	**Port Moresby**	**30.44**	**124**	LR	LR	18 36 55.3	
	comp=E,170nm,19.0s,MS3.7,baz=274,slow=35						
ASAR	**Alice Springs**	**33.55**	**160**	P	**P**	**18 25 44.1**	**-2.7**
	comp=E,1.1nm,0.5s,mb4.1,baz=339,slow=6.8,SNR=43						
ASAR				PcP	PcP	18 28 24.2	-3.4
	comp=E,1.5nm,0.7s,baz=343,slow=2.6,SNR=18						
HHC	**Hu-ho-hao-te**	**34.01**	**346**	eP	**P**	**18 25 50.8**	**+0.2**
HHC				AMB	AMB		
	comp=Z,77nm,7.4s						
CTA	**Charters Tower**	**36.72**	**140**	P	**P**	**18 26 12.2**	**-1.7**
	comp=Z,6.0nm,1.1s,mb4.3,baz=1.1,slow=5.1,SNR=3.4						
GUN	**Gumba**	**39.44**	**305**	eP	**P**	**18 26 38.7**	**+2.1**
	comp=Z,51nm,0.9s,mb5.2						
KKN	**Kakani**	**39.88**	**304**	eP	**P**	**18 26 41.8**	**+1.5**
	comp=Z,12nm,1.0s,mb4.6						
DMN	**Daman**	**39.96**	**304**	eP	**P**	**18 26 43.1**	**+2.2**
	comp=Z,14nm,0.9s,mb4.7						
GKN	**Gorkha**	**40.49**	**304**	eP	**P**	**18 26 46.1**	**+0.8**
	comp=Z,7.9nm,0.7s,mb4.6						
NWAO	**Narrogin (SRO)**	**40.96**	**186**	P	**P**	**18 26 47.0**	**-2.1**
	comp=Z,9.4nm,1.2s,mb4.3,baz=81,slow=19,SNR=2.7						
KOLN	**Koldanda**	**41.26**	**303**	eP	**P**	**18 26 52.5**	**+0.9**
	comp=Z,12nm,0.9s,mb4.5						
SONM	**Songino Array**	**41.85**	**344**	P	**P**	**18 26 56.2**	**-0.1**
	comp=Z,0.8nm,0.9s,mb3.4,baz=158,slow=6.7,SNR=4.0						
SONM				PcP	PcP	18 28 50.7	-2.2
	comp=Z,2.2nm,1.2s,baz=144,slow=3.1,SNR=3.6						
STKA	**Stephens Creek**	**43.85**	**156**	P	**P**	**18 27 10.9**	**-1.8**
	comp=Z,12nm,0.8s,mb4.7,baz=328,slow=7.7,SNR=20						
STKA	**Stephens Creek**	**43.85**	**156**	eP	**P**	**18 27 11.0**	**-1.8**
STKA				e		18 27 18.8	
MKAR	**Makanchi Array**	**51.40**	**326**	P	**P**	**18 28 12.6**	**+0.9**
	comp=Z,1.6nm,0.5s,mb4.2,baz=120,slow=8.3,SNR=19						
MKAR				LR	LR	18 51 22.2	
	comp=Z,218nm,18.1s,MS4.2,baz=105,slow=37						
MKAR	**Makanchi Array**	**51.40**	**326**	i P	**P**	**18 28 12.6**	**+1.0**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AAK	**Ala-Archa**	**54.06**	**318**	eP	**P**	**18 28 32.0**	**+0.5**
YAK	**Yakutsk**	**54.21**	**4**	eP	**P**	**18 28 31.3**	**-1.0**
YAK				pmax	pmax		
	comp=N,5.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
YAK	**Yakutsk**	**54.21**	**4**	eP	**P**	**18 28 30.4**	**-1.9**
	comp=Z,24nm,1.0s,mb5.1						
ZAL	**Zalesovo**	**54.70**	**334**	P	**P**	**18 28 36.0**	**-0.1**
	comp=Z,0.6nm,0.7s,mb3.8,baz=247,slow=8.3,SNR=3.1						
ZAL	**Zalesovo**	**54.70**	**334**	P	**P**	**18 28 35.9**	**-0.1**
KURK	**Kurchatov**	**55.65**	**328**	⇑eP	**P**	**18 28 42.9**	**-0.1**
KURK	**Kurchatov**	**55.65**	**328**	eP	**P**	**18 28 42.6**	**-0.3**
	comp=Z,13nm,0.9s,mb5.0						
BVAR	**Borovoye Array**	**61.21**	**327**	P	**P**	**18 29 21.0**	**-0.8**
	comp=Z,1.6nm,0.9s,mb4.1,baz=124,slow=11,SNR=6.9						
BRVK	**Borovoye**	**61.28**	**327**	eP	**P**	**18 29 20.7**	**-1.5**
	comp=Z,6.1nm,0.9s,mb4.7						
BRVK				e		18 29 29.3	
BRVK				e		18 29 37.2	
ZRNK	**Zerenda**	**61.92**	**327**	eP	**P**	**18 29 25.5**	**-1.1**
	comp=Z,6.1nm,1.1s,mb4.6						
ZRNK				e		18 29 33.6	
ZRNK				e		18 29 40.3	
TIXI	**Tiksi**	**63.73**	**2**	⇑eP	**P**	**18 29 35.8**	**-2.5**
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.8						
KIV	**Kislovodsk**	**76.81**	**313**	d iP	**P**	**18 30 46.3**	**-12**
MCK	**McKinley**	**82.46**	**27**	eP	**P**	**18 31 26.9**	**-1.3**
	comp=Z,11nm,1.1s,mb4.7						
MCK				e		18 31 34.5	
MCK				e		18 31 38.4	
ILAR	**Eielson Array**	**83.29**	**26**	P	**P**	**18 31 31.7**	**-0.8**
	comp=Z,0.6nm,0.8s,mb3.7,baz=240,slow=5.7,SNR=5.3						
BRTR	**Keskin Array B**	**83.70**	**309**	P	**P**	**18 31 35.0**	**-0.2**
	comp=Z,1.4nm,1.1s,mb4.0,baz=124,slow=4.5,SNR=4.3						
KMBO	**Kilima Mbogo**	**84.97**	**268**	P	**P**	**18 31 43.5**	**+1.4**
	comp=Z,1.3nm,0.8s,mb4.1,baz=56,slow=20,SNR=3.2						
AKASG	**Malin Array Be**	**85.63**	**320**	P	**P**	**18 31 44.0**	**-0.6**
	comp=Z,0.7nm,0.5s,mb4.2,baz=68,slow=4.7,SNR=7.3						
AKASG	**Malin Array Be**	**85.63**	**320**	P	**P**	**18 31 43.9**	**-0.7**
FINES	**FINESS Array B**	**85.86**	**331**	P	**P**	**18 31 46.3**	**+0.9**
	comp=Z,2.3nm,1.1s,mb4.3,baz=11,slow=9.7,SNR=4.0						
NOA	**NORSAR Array B**	**92.88**	**333**	LR	LR	19 16 38.5	
	comp=Z,38nm,19.2s,MS3.9,slow=37						

*IDC **09** 18:36:50.8±2.7, 7.23S×129.63E, h125km±26km, mb3.7/7, mb1 3.9/11, mb1mx3.8/15, Error ellipse: s-maj=30.1km s-min=15.0km az=80.0*

*NEIC **09** 18:36:50.7±0.5, 7.31S×129.65E, h130km, mb4.1/7, Error ellipse: s-maj=16.7km s-min=7.4km az=73.0*

ISC 09 18:36:50.8±2.1**, 7.33S**±0.07×**129.51E**±0.09**, h149**km±22km**, n28, σ1.07**/33**, mb4.0**/16**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.35**	**199**	P	**P**	**18 39 29.2**	**-0.2**
	3.9nm,0.3s,baz=20,slow=10,SNR=77						
FITZ				S	**S**	**18 41 27.9**	**-5.9**
	4.0nm,0.3s,baz=358,slow=18,SNR=5.6						
WRAB	**Tennant Creek**	**13.38**	**160**	Pn	**P**	**18 39 54.8**	**-0.9**
	69nm,0.5s,SNR=13						
WRAB	**Tennant Creek**	**13.38**	**160**	eP	**P**	**18 39 54.7**	**-1.1**
	5.3nm,0.5s						
WRAB				eS	**S**	**18 42 15.1**	**-6.2**
WRA	**Warramunga Arr**	**13.38**	**160**	P	**P**	**18 39 54.8**	**-1.0**
	1.6nm,0.3s,baz=339,slow=13,SNR=63						
WRA				S	**S**	**18 42 16.9**	**-4.4**
	4.4nm,0.3s,baz=331,slow=22,SNR=12						
MBWA	**Marble Bar**	**16.68**	**214**	eP	**P**	**18 40 39.2**	**+1.9**
	8.1nm,0.6s						
MBWA				eS	**S**	**18 43 35.4**	**-1.2**
ASAR	**Alice Springs**	**16.78**	**166**	P	**P**	**18 40 39.2**	**+0.8**
	0.6nm,0.3s,baz=334,slow=10,SNR=50						
ASAR				S	**S**	**18 43 39.9**	**+1.1**
	0.4nm,0.3s,baz=330,slow=16,SNR=4.1						
ASAR				ScP		18 48 41.1	
	baz=350,slow=2.5,SNR=3.8						
PMG	**Port Moresby**	**17.59**	**98**	P	**P**	**18 40 52.2**	**+4.1**
	0.3nm,0.3s,baz=354,slow=14,SNR=2.2						
CTAO	**Charters Tower**	**20.60**	**130**	P	**P**	**18 41 19.7**	**-0.1**
STKA	**Stephens Creek**	**26.90**	**157**	P	**P**	**18 42 21.6**	**+1.7**
	1.6nm,0.5s,mb3.9,baz=325,slow=10,SNR=4.4						
STKA	**Stephens Creek**	**26.90**	**157**	eP	**P**	**18 42 22.2**	**+2.3**
NWAO	**Narrogin (SRO)**	**27.90**	**202**	P	**P**	**18 42 31.4**	**+2.4**
	12nm,1.0s,mb4.6,baz=359,slow=5.7,SNR=16						
CBIJ	**Chichi jima**	**36.36**	**19**	P	**P**	**18 43 42.0**	**-0.4**
	57nm,0.7s,baz=282,slow=20,SNR=1.7						
TAU	**Tasmania Unive**	**38.75**	**159**	eP	**P**	**18 44 01.0**	**-1.2**
	8.3nm,1.0s,mb4.3						
CMAR	**Chiang Mai Arr**	**39.57**	**311**	P	**P**	**18 44 10.1**	**+0.9**
	0.9nm,0.5s,mb3.6,baz=140,slow=7.2,SNR=11						
GUN	**Gumba**	**54.80**	**312**	eP	**P**	**18 46 07.7**	**-0.1**
	6.5nm,0.4s,mb4.7						
KKN	**Kakani**	**55.18**	**311**	eP	**P**	**18 46 09.7**	**-0.9**
	3.9nm,0.4s,mb4.5						
DMN	**Daman**	**55.22**	**311**	eP	**P**	**18 46 10.2**	**-0.6**
GKN	**Gorkha**	**55.78**	**311**	eP	**P**	**18 46 14.5**	**-0.3**
	4.9nm,0.3s,mb4.9						
KOLN	**Koldanda**	**56.44**	**310**	eP	**P**	**18 46 18.8**	**-0.7**
	4.9nm,0.5s,mb4.6						
SONM	**Songino Array**	**58.60**	**342**	P	**P**	**18 46 34.7**	**+0.4**
	0.3nm,0.5s,mb3.4,baz=158,slow=7.2,SNR=6.1						
MKAR	**Makanchi Array**	**68.23**	**327**	P	**P**	**18 47 37.7**	**+0.2**
	2.0nm,0.4s,mb4.2,baz=131,slow=7.4,SNR=54						
MKAR	**Makanchi Array**	**68.23**	**327**	P	**P**	**18 47 37.7**	**+0.2**
ZAL	**Zalesovo**	**71.66**	**334**	P	**P**	**18 47 59.1**	**+1.0**
	0.6nm,0.5s,mb3.6,baz=287,slow=7.3,SNR=3.1						
KURK	**Kurchatov**	**72.54**	**329**	eP	**P**	**18 48 03.7**	**+0.4**
	2.0nm,0.7s,mb4.0						
SBA	**Scott Base**	**73.07**	**172**	P	**P**	**18 48 02.7**	**-3.2**
	1.1nm,0.9s,mb3.6						
BRVK	**Borovoye**	**78.15**	**328**	eP	**P**	**18 48 34.7**	**-0.3**
	1.7nm,0.9s,mb3.7						
ZRNK	**Zerenda**	**78.78**	**328**	eP	**P**	**18 48 38.5**	**+0.1**
	1.7nm,0.6s,mb3.9						
ILAR	**Eielson Array**	**93.85**	**25**	P	**P**	**18 49 52.1**	**+0.1**
	0.2nm,0.6s,mb3.4,baz=270,slow=5.4,SNR=4.2						

IDC 09 18:48:15.9±3.1**, 28.22S**×**63.45E, mb3.7**/4**, mb1 3.8**/4**, mb1mx3.5**/15**, Error ellipse: s-maj=90.0km s-min=35.6km az=107.0, Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**39.41**	**180**	P	P	18 55 47.0	-1.9
	0.9nm,0.9s,baz=352,slow=7.1,SNR=2.8						
CMAR	**Chiang Mai Arr**	**57.73**	**41**	P	P	18 58 08.6	-2.5
	0.6nm,0.7s,baz=225,slow=7.1,SNR=6.2						
ASAR	**Alice Springs**	**62.72**	**104**	P	P	18 58 43.1	-2.0
	0.9nm,0.9s,baz=243,slow=6.7,SNR=5.4						
STKA	**Stephens Creek**	**66.33**	**115**	P	P	18 59 06.5	-2.0
	0.5nm,0.4s,baz=5.0,slow=19,SNR=2.8						

*IDC **09** 18:54:15.8±2.2, 31.81S×178.26W, h39km±5km, mb3.8/4, mb1 3.9/4, mb1mx3.7/13, Error ellipse: s-maj=91.0km s-min=25.8km az=160.0*

*NEIC **09** 18:54:15.5±0.8, 31.77S×178.23W, h40km, mb4.5/1, Error ellipse: s-maj=28.1km s-min=18.3km az=213.0*

ISC 09 18:54:18.6±4.1**, 32.5S**±0.7×**179.0W**±0.6**, h40**km**, (h40**km±.9km**:pP-P), n17,** σ**0.70**/10**, mb4.0**/5**, 2C-2D, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**33.24**	**260**	P	**P**	**19 00 54.9**	**+0.7**
	1.9nm,0.9s,mb4.0,baz=119,slow=13,SNR=2.7						
STKA				pP	pP	19 01 05.9	+0.7
	1.7nm,0.7s,baz=337,slow=23,SNR=2.3						
CTA	**Charters Tower**	**33.40**	**283**	P	**P**	**19 00 56.1**	**+0.5**
CTA				pP	pP	19 01 06.7	0.0
ASAR	**Alice Springs**	**42.22**	**270**	P	**P**	**19 02 09.8**	**+0.2**
	1.3nm,0.5s,mb3.8,baz=107,slow=7.4,SNR=18						
ASAR				pP	pP	19 02 21.0	+0.2
	2.0nm,0.6s,baz=110,slow=7.3,SNR=9.4						
WRA	**Warramunga Arr**	**43.40**	**275**	P	**P**	**19 02 18.2**	**-1.1**
	2.8nm,0.7s,mb4.1,baz=112,slow=8.0,SNR=20						
WRA				pP	pP	19 02 30.2	-0.4
	3.9nm,0.5s,baz=114,slow=7.8,SNR=13						
FITZ	**Fitzroy Crossi**	**51.56**	**272**	P	**P**	**19 03 22.6**	**-0.4**
	0.5nm,0.6s,mb3.7,baz=316,slow=5.7,SNR=2.7						
FITZ				pP	pP	19 03 33.9	-0.6
	0.6nm,0.5s,baz=220,slow=14,SNR=2.0						
QSPA	**South Pole Qui**	**57.57**	**180**	eP	**P**	**19 04 05.2**	**-1.0**
	3.6nm,0.8s,mb4.5						
SNAA	**Sanae**	**76.04**	**179**	⇓i	Px	19 05 56.2	
SNAA	**Sanae**	**76.04**	**179**	⇑i	**P**	**19 06 07.4**	**+4.5**
SNAA	**Sanae**	**76.04**	**179**	eP	**P**	**19 06 08.3**	**+5.5**
VNA3	**Neumayer Olymp**	**76.23**	**176**		**P**	**19 06 04.2**	**+0.3**
VNA3	**Neumayer Olymp**	**76.23**	**176**	⇑i	pP	19 06 12.2	-3.7
VNA2	**Neumayer--Watz**	**76.65**	**177**		**P**	**19 06 07.1**	**+0.8**
VNA2	**Neumayer--Watz**	**76.65**	**177**	⇓i	pP	19 06 13.6	-4.7
KAF	**Kangasniemi**	**146.26**	**339**	ep	PKPdf	19 13 48.2	-4.7
	3.4nm,0.8s						
FINES	**FINESS Array B**	**146.84**	**338**	PKPbc	PKPbc	19 13 50.9	-4.5
	5.3nm,0.8s,baz=27,slow=3.1,SNR=12						
FINES				pPKPbc		19 14 03.3	
	1.6nm,0.6s,baz=55,slow=4.8,SNR=2.3						
NB2	**NORSAR Subarra**	**150.72**	**350**	PKP		19 14 01.1	
	1.4nm,0.9s,baz=18,slow=4.1						
NOA	**NORSAR Array B**	**150.72**	**350**	PKPbc	PKPdf	19 14 01.3	+1.2
	0.8nm,0.8s,baz=18,slow=4.2,SNR=3.3						
NOA				pPKPbc		19 14 13.3	
	0.8nm,0.8s,baz=73,slow=4.8,SNR=1.0						

*NEIC **09** 18:59:41.9, 37.80S×177.07E, h135km, After WEL.*

WEL 09 18:59:42.7±0.3**, 37.82S**×**177.08E, h127**km±2km**, ML3.6**/7**, 7C, Error ellipse: s-maj=1.7km s-min=1.6km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MARZ	**Manawahe**	**0.36**	**242**	P	P	19 00 00.8	0.0
MARZ	**Manawahe**	**0.36**	**242**	PN	P	19 00 00.4	-0.5
EDRZ	**Edgecumbe**	**0.40**	**223**	P	P	19 00 01.0	0.0
EDRZ	**Edgecumbe**	**0.40**	**223**	PN	P	19 00 00.9	-0.1
URZ	**Urewera**	**0.44**	**177**	P	P	19 00 00.9	-0.4
URZ	**Urewera**	**0.44**	**177**	⇑PN	P	19 00 00.9	-0.4
URZ				SN	S	19 00 15.1	-0.2
LIRZ	**Lichensteins R**	**0.58**	**251**	PN	P	19 00 02.1	0.0
TAZ	**Tarawera**	**0.62**	**227**	P	P	19 00 02.6	+0.3
TAZ	**Tarawera**	**0.62**	**227**	PN	P	19 00 02.6	+0.3
MWZ	**Matawai**	**0.63**	**146**	⇑PN	P	19 00 02.2	-0.2
MWZ				SN	S	19 00 17.3	-0.1
UTU	**Utuhina**	**0.79**	**243**	PN	P	19 00 04.0	+0.4
MYRZ	**Mayor Island**	**0.86**	**308**	PN	P	19 00 03.6	-0.6
PATZ	**Paeroa**	**0.86**	**229**	P	P	19 00 04.5	+0.3
PATZ	**Paeroa**	**0.86**	**229**	PN	P	19 00 04.5	+0.3
PUZ	**Puketiti**	**0.96**	**106**	P	P	19 00 04.9	-0.3
PUZ	**Puketiti**	**0.96**	**106**	⇑PN	P	19 00 04.8	-0.5
PUZ				SN	S	19 00 21.7	-0.5
MXZ	**Matakaoa Point**	**1.00**	**76**	PN	P	19 00 05.3	-0.3
MXZ				SN	S	19 00 22.5	-0.4
KNZ	**Kokohu**	**1.29**	**159**	P	P	19 00 08.4	-0.2
KNZ				S	S	19 00 28.6	+0.4
KNZ	**Kokohu**	**1.29**	**159**	⇑PN	P	19 00 08.4	-0.2
KNZ				SN	S	19 00 27.8	-0.4
BKZ	**Black Stump Fm**	**1.43**	**199**	P	P	19 00 09.4	-0.8
BKZ	**Black Stump Fm**	**1.43**	**199**	⇑PN	P	19 00 09.4	-0.8
BKZ				SN	S	19 00 30.0	-1.1
KUZ	**Kuaotunu**	**1.52**	**314**	P	P	19 00 10.4	-0.9
KUZ	**Kuaotunu**	**1.52**	**314**	PN	P	19 00 10.2	-1.1
MGZ	**Maungaku**	**1.69**	**225**	P	P	19 00 13.0	-0.3
MGZ	**Maungaku**	**1.69**	**225**	PN	P	19 00 13.1	-0.2
KAVZ	**Karewarewa**	**1.71**	**221**	P	P	19 00 13.0	-0.4
KAVZ	**Karewarewa**	**1.71**	**221**	PN	P	19 00 13.2	-0.2
NGZ	**Ngauruhoe**	**1.79**	**220**	P	P	19 00 14.2	-0.2
NGZ	**Ngauruhoe**	**1.79**	**220**	⇑PN	P	19 00 14.3	-0.1
CNZ	**Chateau**	**1.83**	**221**	PN	P	19 00 14.7	-0.2
TUVZ	**Tukino**	**1.83**	**217**	P	P	19 00 14.4	-0.5
TUVZ	**Tukino**	**1.83**	**217**	PN	P	19 00 14.2	-0.7
MOVZ	**Moawhango**	**1.90**	**213**	P	P	19 00 14.5	-1.2
MOVZ	**Moawhango**	**1.90**	**213**	⇑PN	P	19 00 14.4	-1.3
MOVZ				SN	S	19 00 38.7	-2.1
WNVZ	**Wahianoa**	**1.91**	**217**	PN	P	19 00 15.0	-0.8
PWZ	**Pawanui**	**2.22**	**184**	eP	P	19 00 18.1	-1.7
PWZ	**Pawanui**	**2.22**	**184**	PN	P	19 00 18.1	-1.7
PWZ				SN	S	19 00 45.8	-2.0
TSZ	**Takapari Road**	**2.41**	**201**	P	P	19 00 20.0	-2.2
TSZ	**Takapari Road**	**2.41**	**201**	PN	P	19 00 19.8	-2.4
TSZ				SN	S	19 00 50.1	-2.1
WAZ	**Wanganui**	**2.54**	**220**	SN	S	19 00 53.5	-1.7
BFZ	**Birch Farm**	**2.93**	**193**	P	P	19 00 26.2	-3.0
BFZ	**Birch Farm**	**2.93**	**193**	PN	P	19 00 26.0	-3.2
BFZ				SN	S	19 01 01.3	-3.2
MRZ	**Mangatainoka R**	**3.07**	**202**	P	P	19 00 27.9	-3.2
MRZ	**Mangatainoka R**	**3.07**	**202**	PN	P	19 00 27.7	-3.4
MRZ				SN	S	19 01 03.2	-4.6
KIW	**Kapiti Island**	**3.48**	**208**	P	P	19 00 32.6	-3.8
KIW	**Kapiti Island**	**3.48**	**208**	PN	P	19 00 32.5	-3.9
KIW				SN	S	19 01 12.4	-5.1
MTW	**Mount Morrison**	**3.56**	**200**	P	P	19 00 33.2	-4.3
MTW	**Mount Morrison**	**3.56**	**200**	PN	P	19 00 33.1	-4.3
MTW				SN	S	19 01 13.6	-5.7
CAW	**Cannon Point**	**3.64**	**205**	P	P	19 00 34.5	-4.1
CAW	**Cannon Point**	**3.64**	**205**	PN	P	19 00 34.4	-4.2
CAW				SN	S	19 01 16.1	-5.2
PAWZ	**Paruwai Farm**	**3.78**	**199**	SN	S	19 01 18.4	-6.4
MSWZ	**Moikau Station**	**3.86**	**201**	SN	S	19 01 20.4	-6.3
TUWZ	**Tuamarina**	**4.35**	**213**	SN	S	19 01 32.0	-6.3
NNZ	**Nelson**	**4.44**	**219**	ePN	P	19 00 45.4	-4.0
NNZ				SN	S	19 01 35.3	-5.3
QRZ	**Quartz Range**	**4.64**	**228**	ePN	P	19 00 47.4	-4.6
QRZ				SN	S	19 01 38.9	-6.3
THZ	**Tophouse**	**5.09**	**218**	ePN	P	19 00 53.2	-4.8
THZ				SN	S	19 01 49.8	-6.3
DSZ	**Denniston Nort**	**5.65**	**224**	SN	S	19 02 01.5	-8.3
MQZ	**McQueen's Vall**	**6.78**	**208**	SN	S	19 02 25.9	-11
ODZ	**Otahua Downs**	**8.69**	**212**	SN	S	19 03 10.3	-13

IDC 09 19:01:09.8±13.0**, 6.77S**×**129.05E, h76**km±149km**, mb3.0**/1**, mb1 3.2**/4**, mb1mx3.1**/13**, ML3.0**/3**, Error ellipse: s-maj=120.0km s-min=61.1km az=35.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.75**	**196**	P	P	19 03 54.7	-1.6
	0.1nm,0.3s,baz=77,slow=18,SNR=5.1						
FITZ				S	S	19 05 53.0	-13
	0.3nm,0.3s,baz=12,slow=19,SNR=6.4						
WRA	**Warramunga Arr**	**14.07**	**159**	P	P	19 04 25.1	-1.8
	0.2nm,0.3s,baz=337,slow=12,SNR=9.2						
WRA				S	S	19 06 45.9	-16
	0.2nm,0.3s,baz=338,slow=22,SNR=5.9						
ASAR	**Alice Springs**	**17.44**	**165**	P	P	19 05 08.2	-1.4
	0.0nm,0.3s,baz=345,slow=11,SNR=4.1						
ASAR				S	S	19 08 09.8	-9.2
	0.1nm,0.3s,baz=350,slow=26,SNR=4.9						
MKAR	**Makanchi Array**	**67.52**	**327**	P	P	19 11 58.0	-2.0
	0.1nm,0.5s,baz=124,slow=7.7,SNR=5.0						

*IDC **09** 19:07:14.2±1.0, 9.00N×126.40E, mb3.8/7, mb1 3.9/7, mb1mx3.7/20, Error ellipse: s-maj=55.6km s-min=19.4km az=76.0*

*MAN **09** 19:07:19.1, 8.97N×126.55E, h11km, mb4.5, ML3.4, MS3.3*

ISC 09 19:07:20.2±0.8**, 8.95N**±0.03×**126.53E**±0.07**, h56**km±9km**, n23,** σ**1.16**/32**, mb3.5**/7**, 2D, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.78**	**192**	⇓iP	**P**	**19 07 34.3**	**-0.9**
BIPH				i S	**S**	**19 07 43.6**	**-2.8**
BUTP	**Butuan**	**0.90**	**271**	eP	**P**	**19 07 36.0**	**-0.9**
BUTP				eS	**S**	**19 07 48.3**	**-1.0**
SCPH	**Surigao**	**1.32**	**309**	eP	**P**	**19 07 42.2**	**-0.7**
SCPH				eS	**S**	**19 07 59.0**	**-0.8**
CGP	**Cagayan de Oro**	**1.88**	**255**	⇓eP	**P**	**19 07 50.5**	**-0.1**
CGP				eS	**S**	**19 08 13.2**	**+0.1**
MATI	**Mati**	**2.01**	**188**	eP	**P**	**19 07 53.9**	**+1.5**
MSLP	**Maasin**	**2.02**	**306**	eP	**P**	**19 07 55.1**	**+2.4**
KCP	**Kidapawan**	**2.40**	**217**	i S	**S**	**19 08 27.3**	**+1.2**
PLP	**Palo**	**2.68**	**325**	eP	**P**	**19 08 02.4**	**+0.4**
PLP				eS	**S**	**19 08 32.9**	**-0.5**
TBP	**Tagbilaran**	**2.73**	**286**	eP	**P**	**19 08 02.8**	**0.0**
TBP				eS	**S**	**19 08 34.4**	**-0.3**
OCLP	**Ormoc**	**2.82**	**318**	eP	**P**	**19 08 05.9**	**+1.9**
BESP	**Borongan**	**2.85**	**338**	eP	**P**	**19 08 04.5**	**+0.2**
BESP				eS	**S**	**19 08 39.2**	**+1.6**
PAGZ	**Pagadian**	**3.30**	**251**	eP	**P**	**19 08 11.6**	**+0.9**
CNP	**Catarman**	**3.99**	**333**	eP	**P**	**19 08 20.5**	**+0.1**
CNP				eS	**S**	**19 09 04.9**	**-1.5**
IPIL	**Ipil**	**4.08**	**254**	eP	**P**	**19 08 23.4**	**+1.7**
GUIM	**Jordan**	**4.23**	**294**	eP	**P**	**19 08 24.1**	**+0.3**
PVCP	**Virac**	**5.17**	**333**	eP	**P**	**19 08 38.8**	**+1.8**
PVCP				eS	**S**	**19 09 33.6**	**-2.5**
FITZ	**Fitzroy Crossi**	**26.89**	**182**	P	**P**	**19 12 57.7**	**-0.4**
	0.8nm,0.3s,mb3.7,baz=3.8,slow=14,SNR=16						
WRA	**Warramunga Arr**	**29.72**	**165**	P	**P**	**19 13 24.0**	**+0.5**
	0.4nm,1.0s,mb3.1,baz=346,slow=7.7,SNR=6.8						
ASAR	**Alice Springs**	**33.20**	**168**	P	**P**	**19 13 53.2**	**-0.8**
	0.2nm,0.4s,mb3.4,baz=351,slow=6.9,SNR=7.8						
CTA	**Charters Tower**	**34.78**	**146**	P	**P**	**19 14 07.6**	**0.0**
	0.9nm,0.4s,mb4.0,baz=282,slow=9.3,SNR=1.9						
STKA	**Stephens Creek**	**43.07**	**161**	P	**P**	**19 15 15.7**	**-1.0**
	0.5nm,0.4s,mb3.6,baz=346,slow=8.3,SNR=4.1						
MKAR	**Makanchi Array**	**53.23**	**323**	P	**P**	**19 16 33.5**	**-1.9**
	0.9nm,0.7s,mb3.8,baz=124,slow=8.4,SNR=11						
ILAR	**Eielson Array**	**80.51**	**26**	P	**P**	**19 19 28.2**	**+0.6**
	0.3nm,1.0s,mb3.2,baz=248,slow=4.9,SNR=3.3						

*NEIC **09** 19:14:44.6±0.4, 27.87S×176.57W, h100km, mb4.6/10, Error ellipse: s-maj=16.1km s-min=11.1km az=163.0*

*IDC **09** 19:14:47.5±9.5, 27.60S×176.72W, h115km±81km, mb3.9/11, mb1 4.1/11, mb1mx4.1/14, Error ellipse: s-maj=34.0km s-min=24.5km az=144.0*

ISC 09 19:14:43.6±0.5**, 27.9S**±0.1×**176.7W**±0.1**, h100**km**, n39,** σ**1.18**/29**, mb4.4**/20**, 3C-1D, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.65**	**275**	P	**P**	**19 21 26.9**	**+1.5**
	4.7nm,0.8s,mb4.3,baz=121,slow=9.0,SNR=5.7						
CTA	**Charters Tower**	**34.65**	**275**	P	**P**	**19 21 26.9**	**+1.5**
CTAO	**Charters Tower**	**34.65**	**275**	eP	**P**	**19 21 25.2**	**-0.1**
	7.8nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**36.26**	**253**	P	**P**	**19 21 39.2**	**+0.3**
	2.2nm,0.8s,mb4.1,baz=61,slow=6.5,SNR=4.4						
STKA	**Stephens Creek**	**36.26**	**253**	eP	**P**	**19 21 38.7**	**-0.2**
PMG	**Port Moresby**	**38.68**	**291**	P	**P**	**19 22 00.4**	**+1.2**
	12nm,0.9s,mb4.7,baz=134,slow=4.4,SNR=4.3						
ASAR	**Alice Springs**	**44.48**	**264**	P	**P**	**19 22 46.0**	**-0.6**
	2.2nm,0.6s,mb4.0,baz=99,slow=6.8,SNR=33						
WRAB	**Tennant Creek**	**45.24**	**269**	eP	**P**	**19 22 52.3**	**-0.5**
	8.7nm,1.0s,mb4.4						
WRA	**Warramunga Arr**	**45.24**	**269**	P	**P**	**19 22 51.5**	**-1.3**
	3.8nm,1.0s,mb4.1,baz=112,slow=6.6,SNR=19						
SBA	**Scott Base**	**50.65**	**184**	eP	**P**	**19 23 42.4**	**+8.3**
	9.2nm,1.0s,mb4.8						
MBWA	**Marble Bar**	**57.71**	**262**	eP	**P**	**19 24 25.6**	**-0.7**
	11nm,1.1s,mb4.8						
CASY	**Casey**	**57.92**	**207**	P	**P**	**19 24 26.4**	**-0.8**
	30nm,1.2s,mb5.2						
QSPA	**South Pole Qui**	**62.24**	**180**	eP	**P**	**19 24 56.2**	**-0.3**
	6.8nm,0.9s,mb4.7						
MAW	**Mawson**	**75.08**	**200**	P	**P**	**19 26 19.1**	**+3.5**
	1.5nm,0.7s,mb3.9,baz=314,slow=6.6,SNR=3.2						
SNAA	**Sanae**	**80.64**	**178**	⇑i	**P**	**19 26 46.4**	**+0.2**
SNAA	**Sanae**	**80.64**	**178**	eP	**P**	**19 26 45.6**	**-0.6**
	12nm,1.4s,mb4.5						
SNAA				e		19 26 55.9	
VNA3	**Neumayer Olymp**	**80.74**	**176**	⇓i	**P**	**19 26 47.9**	**+1.2**
VNA2	**Neumayer--Watz**	**81.19**	**176**	⇑i	**P**	**19 26 51.7**	**+2.6**
VNA1	**Neumayer--Stat**	**81.42**	**176**	⇑i	**P**	**19 26 48.1**	**-2.2**
YBH	**Yreka Blue Hor**	**85.32**	**37**	P	**P**	**19 27 10.9**	**+0.4**
	15nm,1.5s,mb4.7,baz=56,slow=11,SNR=2.0						
YBH	**Yreka Blue Hor**	**85.32**	**37**	P	**P**	**19 27 10.9**	**+0.4**
NVAR	**Mina Array Bea**	**85.58**	**42**	P	**P**	**19 27 11.7**	**-0.3**
	2.4nm,1.0s,mb4.1,baz=206,slow=6.8,SNR=7.9						
TPH	**Tonopah**	**86.00**	**43**	eP	**P**	**19 27 12.5**	**-1.5**
	5.4nm,1.0s,mb4.4						
TXAR	**Lajitas Array**	**90.03**	**57**	P	**P**	**19 27 33.6**	**+0.2**
	0.6nm,0.5s,mb4.0,baz=225,slow=7.7,SNR=3.5						
ANMO	**Albuquerque**	**91.08**	**51**	P	**P**	**19 27 39.7**	**+1.5**
	2.3nm,1.0s,mb4.3						
ENH	**Enshi**	**91.15**	**304**	eP	**P**	**19 27 38.0**	**-0.6**
	19nm,1.0s,mb5.2						
ENH				e		19 27 47.2	
PV10	**Paradox Valley**	**91.29**	**47**	eP	**P**	**19 27 37.5**	**-1.6**
PDAR	**Pinedale Array**	**93.49**	**43**	P	**P**	**19 27 49.3**	**+0.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	0.7nm,0.9s,mb4.0,baz=248,slow=4.9,SNR=4.0						
CMAR	Chiang Mai Arr	93.68	289	P	P	19 27 52.5	+2.1
	0.5nm,0.8s,mb3.9,baz=121,slow=2.8,SNR=4.6						
MKAR	Makanchi Array	117.02	311	PKP	PKPdf	19 33 16.9	+0.4
	0.5nm,0.6s,baz=45,slow=1.7,SNR=5.3						
MKAR	Makanchi Array	117.02	311	PKP	PKPdf	19 33 16.9	+0.4
BVAR	Borovoye Array	125.38	317	PKP	PKPdf	19 33 33.8	+1.2
	0.6nm,0.6s,baz=153,slow=3.3,SNR=4.8						
FINES	FINESS Array B	143.14	342	PKhKP		19 34 01.1	
	1.1nm,0.7s,baz=63,slow=4.3,SNR=6.6						
NB2	NORSAR Subarra	146.41	353	PKP		19 34 11.7	
	2.7nm,1.0s,baz=10.0,slow=3.1						
NOA	NORSAR Array B	146.41	353	PKPbc	PKPbc	19 34 12.9	+0.9
	2.4nm,0.9s,baz=10,slow=2.4,SNR=8.7						
AKASG	Malin Array Be	149.92	326	PKPbc	PKPdf	19 34 22.3	+5.6
	2.1nm,0.7s,baz=44,slow=2.9,SNR=7.9						
ASF	Jabal al Asfar	150.70	287	PKPbc	PKPdf	19 34 26.4	+8.0
	1.9nm,0.8s,baz=112,slow=12,SNR=3.6						
BRTR	Keskin Array B	152.31	303	PKPbc	PKPdf	19 34 27.8	+7.2
	0.5nm,0.8s,SNR=2.4						
BRTR				PKPab	PKPab	19 34 40.0	-0.2
	0.9nm,0.6s,baz=88,slow=3.7,SNR=4.9						
GERES	GERESS Array B	157.57	342	PKPab	PKPab	19 35 03.2	+0.9
	0.2nm,0.4s,baz=51,slow=8.5,SNR=4.1						

CASC 09 19:34:07.7±2.4, 13.76N×91.31W, h11km±13km, MD3.6, ML3.8, 3C-6D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAT	Jato	0.64	331⇑	eP	Pb	19 34 19.7	-0.7
JAT				eS	Sb	19 34 30.5	+1.5
JAT				AML	AML	19 34 30.9	
	comp=E,3μm,0.3s						
IXG	Ixpaco	0.93	63⇑	eP	Pb	19 34 25.0	-0.3
IXG				eS	Sb	19 34 38.0	+0.6
IXG				AML	AML	19 34 44.4	
	comp=E,3μm,0.5s						
NBG	Las Nubes	1.25	49⇓	eP	Pb	19 34 30.8	0.0
NBG				eS	Sb	19 34 49.3	+2.6
CUSS	Cusmapa	1.33	83	eP	Pb	19 34 31.4	-0.8
CUSS				eS	Sb	19 34 49.4	+0.2
RTR	El Retiro	1.63	85	eP	Pn	19 34 36.4	-0.1
RTR				eS	Sn	19 34 57.8	+0.3
SBLS	San Blas	1.64	87⇓	eP	Pn	19 34 36.2	-0.6
SBLS				eS	Sn	19 34 57.9	-0.1
SNJE	San Jose	1.66	86	eP	Pn	19 34 36.6	-0.4
SNJE				eS	Sn	19 34 58.8	+0.3
BOQS	Boqueron	1.98	90⇓	eP	Pn	19 34 41.1	-0.3
BOQS				eS	Sn	19 35 06.6	+0.2
MTO2	Montecristo 2	2.00	71⇑	eP	Pn	19 34 40.9	-0.9
MTO2				eS	Sn	19 35 09.2	+2.2
LFU	La Fuente	2.14	90⇓	eP	Pn	19 34 44.1	+0.3
LFRS	El Faro	2.19	93⇓	eP	Pn	19 34 44.1	-0.5
LFRS				eS	Sn	19 35 12.0	0.0
LCBS	La Ceiba	2.27	92⇓	eP	Pn	19 34 45.6	-0.1
LCBS				eS	Sn	19 35 14.0	0.0
SNVI	San Vicente	2.41	93	eP	Pn	19 34 47.3	-0.4
SNVI				eP		19 34 48.1	
SNVI				eS	Sn	19 35 17.0	-0.4
SNVI				eS	Sn	19 35 18.2	+0.8

*HRVD **09** 19:34:16.4±0.4, 22.68S×173.16E, h20km±2km, MW5.0/60, Centroid moment Tensor Solution. LP body waves: s20,c25;Mantle waves: s60,c95; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.41±.31; Mθθ-2.75±.20; Mφφ4.16±.23; Mrθ0.28±.46; Mθφ-1.24±.17; Mφr0.97±.37; Best double couple: Mo3.8×10^16 NP1:φs305°,δ73°,λ-175°. NP2:φs214°,δ85°,λ-17°. Principal axes: T 4.51, Plg9°, Azm261°; N -1.43, Plg72°, Azm19°; P -3.09, Plg16°, Azm168°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **09** 19:34:16.4±1.6, 22.55S×172.86E, h58km±13km, mb4.9/9, MS4.1/1 Error ellipse: s-maj=13.9km s-min=10.0km az=53.0*

*IDC **09** 19:34:20.4±8.3, 22.70S×172.90E, h92km±75km, mb4.0/10, mb1 4.2/11, mb1mx4.1/13, ML3.8/1, MS4.2/13, Ms1 4.2/13, ms1mx4.0/18, Error ellipse: s-maj=35.2km s-min=20.9km az=14.0*

ISC 09 19:34:12.3±2.8, **22.7S**±0.1×**173.0E**±0.1, **h35**km±23km, **h36**km±2.5km**:pP-P, n45**, σ1s**18**/38, **mb4.5**/18, **MS4.1**/13, **5C-2D, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	6.10	274	eP	P	19 35 41.3	-1.1
DZM				eS	S	19 36 52.9	+1.0
DZM	Mont Dzumac	6.10	274	eP	P	19 35 41.2	-1.1
DZM				eS	S	19 36 52.9	+1.0
NOUC	Port Laguerre	6.23	274	eP	P	19 35 44.1	0.0
NOUC				eS	S	19 36 55.6	+0.6
NOUC	Port Laguerre	6.23	274	eP	P	19 35 44.1	0.0
NOUC				eS	S	19 36 55.6	+0.6
URZ	Urewera	15.94	168	P	P	19 38 00.0	+4.5
	0.4nm,0.3s,baz=334,slow=8.5,SNR=5.0						
URZ				LR	LR	19 42 34.7	
	comp=Z,1μm,19.0s,baz=72,slow=31						
RPZ	Rata Peaks	21.05	184	P	P	19 38 55.7	+0.2
	15nm,0.7s,mb4.4,baz=94,slow=3.6,SNR=6.4						
RPZ				LR	LR	19 46 10.9	
	comp=Z,946nm,20.1s,MS4.2,baz=147,slow=34						
RPZ	Rata Peaks	21.05	184	P	P	19 38 55.7	+0.2
RPZ				LR	LR	19 46 10.9	
CTA	Charters Tower	25.03	271	P	P	19 39 37.3	+2.5
	4.2nm,0.8s,mb4.0,baz=82,slow=14,SNR=7.4						
CTA				LR	LR	19 48 06.7	
	comp=Z,568nm,21.7s,MS4.0,baz=84,slow=33						
CTAO	Charters Tower	25.03	271	eP	P	19 39 37.0	+2.2
	6.4nm,0.8s,mb4.2						
PMG	Port Moresby	28.06	294	LR	LR	19 49 40.9	
	comp=Z,343nm,18.1s,MS4.0,baz=107,slow=33						
STKA	Stephens Creek	29.30	245	P	P	19 40 13.4	-0.3
	3.3nm,0.8s,mb4.1,baz=104,slow=7.8,SNR=5.8						
STKA				LR	LR	19 50 57.0	
	comp=Z,239nm,19.1s,MS3.8,baz=247,slow=34						
TBI	Tubuai	34.49	99	eS	S	19 46 09.5	-15
TBI				eL		19 48 25.8	
TBI				eR		19 49 47.5	
	458nm,32.8s						
PPT	Papeete	35.44	89	eS	S	19 46 19.0	-20
PPT				eL		19 48 49.2	
PPT				eR		19 50 14.0	
	916nm,29.2s,baz=253						
ASAR	Alice Springs	35.89	261	P	P	19 41 11.4	+0.4
	4.0nm,0.8s,mb4.4,baz=77,slow=9.0,SNR=31						
ASAR				LR	LR	19 56 23.9	
	comp=Z,140nm,19.1s,MS3.8,baz=97,slow=37						
WRAB	Tennant Creek	36.05	267	eP	P	19 41 10.8	-1.7
	6.2nm,1.0s,mb4.5						
WRA	Warramunga Arr	36.06	267	P	P	19 41 10.8	-1.7
	0.9nm,0.5s,mb4.0,baz=97,slow=8.5,SNR=22						
WRA				LR	LR	19 55 19.8	
	comp=Z,430nm,19.9s,MS4.2,baz=100,slow=35						
WRA	Warramunga Arr	36.06	267	P	P	19 41 10.8	-1.7
WRA				LR	LR	19 55 19.8	
FITZ	Fitzroy Crossi	44.49	267	P	P	19 42 21.7	-0.6
	14nm,1.1s,mb4.6,baz=151,slow=6.5,SNR=17						
FITZ				LR	LR	20 00 27.5	
	comp=Z,175nm,19.1s,MS4.0,baz=99,slow=35						
MBWA	Marble Bar	49.23	261	eP	P	19 42 58.8	-0.7
	12nm,1.1s,mb4.8						
SBA	Scott Base	55.32	182	eP	P	19 43 43.9	-0.5
	60nm,1.2s,mb5.5						
QSPA	South Pole Qui	67.41	180	eP	P	19 45 05.0	-0.6
	19nm,1.1s,mb5.0						
QSPA				e	pP	19 45 15.3	-1.2
QSPA				LR	LR		
	comp=Z,120nm,20.2s,MS4.1						
MAW	Mawson	76.58	202	P	P	19 46 00.4	0.0
	comp=Z,2.0nm,0.7s,mb4.2,baz=78,slow=8.4,SNR=5.4						
MAW				LR	LR	20 17 36.7	
	comp=Z,150nm,18.5s,MS4.3,baz=110,slow=34						
MAW	Mawson	76.58	202	eP	P	19 45 59.5	-0.9
	comp=Z,6.9nm,0.8s,mb4.6						
MAW				LR	LR	20 17 36.8	
PMSA	Palmer Station	82.48	159	eP	P	19 46 28.8	-3.4
	comp=Z,20nm,0.9s,mb5.0						
PMSA				e	pP	19 46 41.4	-1.8
CMAR	Chiang Mai Arr	83.10	293	tx	tx	19 46 45.8	
	comp=Z,1.6nm,1.1s,baz=135,slow=3.8,SNR=3.9						
SNAA	Sanae	85.87	181⇓	i	P	19 46 46.9	-2.1
SNAA	Sanae	85.87	181		P	19 46 57.8	+8.8
SNAA	Sanae	85.87	181	eP	P	19 46 46.5	-2.5
	comp=Z,8.2nm,1.2s,mb4.8						
VNA3	Neumayer Olymp	86.33	179⇑	i	P	19 46 52.6	+1.4
VNA3	Neumayer Olymp	86.33	179⇓	i	pP	19 47 02.4	+0.1
VNA2	Neumayer--Watz	86.66	180⇑	i	P	19 46 54.4	+1.5
VNA2	Neumayer--Watz	86.66	180⇑	i	pP	19 47 04.0	0.0
VNA1	Neumayer--Stat	86.94	180⇑	i	P	19 46 56.3	+2.1
VNA1	Neumayer--Stat	86.94	180⇑	i	pP	19 47 06.0	+0.7
NVAR	Mina Array Bea	88.48	47	P	P	19 47 03.3	+0.9
	comp=Z,1.2nm,0.7s,mb4.3,baz=213,slow=5.9,SNR=7.5						
NVAR				LR	LR	20 18 15.9	
	comp=Z,113nm,21.1s,MS4.3,baz=85,slow=30						
ELK	Elko	91.69	46	eP	P	19 47 16.6	-0.8
	comp=Z,4.6nm,0.9s,mb4.8						
ELK				e	pP	19 47 27.3	-1.3
SONM	Songino Array	92.07	322	P	P	19 47 19.2	+0.3
	comp=Z,0.4nm,0.7s,mb3.9,baz=135,slow=3.7,SNR=3.8						
ILAR	Eielson Array	92.49	16	P	P	19 47 19.6	-0.8
	comp=Z,2.2nm,0.8s,mb4.5,baz=224,slow=6.3,SNR=12						
ILAR				LR	LR	20 21 34.5	
	comp=Z,114nm,20.9s,MS4.3,baz=198,slow=31						
TXAR	Lajitas Array	95.34	61	P	P	19 47 35.9	+1.6
	comp=Z,0.3nm,0.4s,mb4.1,baz=243,slow=8.1						
TXAR				LR	LR	20 21 25.3	
	comp=Z,134nm,19.1s,MS4.4,baz=275,slow=30						
PDAR	Pinedale Array	96.39	46	LR	LR	20 21 44.4	
	comp=Z,128nm,20.6s,MS4.4,baz=249,slow=30						
EKA	Eskdalemuir Ar	147.25	356	PKPbc	PKPdf	19 53 52.2	+2.9
	comp=Z,3.0nm,0.7s,baz=346,slow=2.3,SNR=9.4						
CLL	Collm	147.47	336	ePKP1	PKPdf	19 53 54.0	+4.3
CLL				e		19 54 04.0	
CLL				e*PPKP		19 54 12.0	
PRU	Pruhonice	147.91	334	ePKP	PKPdf	19 53 55.0	+4.5
KHC	Kasperske Hory	148.97	333	ePKP	PKPdf	19 54 00.0	+7.8
GERES	GERESS Array B	149.15	333	PKPbc	PKPdf	19 53 57.8	+5.3
	comp=Z,1.0nm,0.7s,slow=1.3,SNR=6.5						

*LDG **09** 19:41:57.5±0.1, 15.37N×59.66W, h10km, Mb4.7/11, Error ellipse: s-maj=8.2km s-min=4.6km az=158.0*

*TRN **09** 19:42:02.7, 15.27N×60.94W, h143km, MD4.0*

*IDC **09** 19:42:03.9±0.4, 15.14N×61.21W, h124km±2km, mb3.8/16, mb1 4.0/18, mb1mx3.9/24, MS3.4/1, Ms1 3.4/1, ms1mx2.8/21, Error ellipse: s-maj=12.1km s-min=5.0km az=81.0*

*NEIC **09** 19:42:06.4±0.8, 15.09N×61.32W, h149km±7km, mb4.5/20, Error ellipse: s-maj=8.4km s-min=6.9km az=143.0*

*RSPR **09** 19:42:10.9, 19.92N×60.64W, h25km±92km*

ISC 09 19:42:04.0±0.2, **15.13N**±0.03×**61.12W**±0.04, **h138**km±2km, **n93**, σ1s**08**/112, **mb4.1**/32, **13C-9D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DSTT	Stowe	0.21	303⇑	iP	P	19 42 24.6	+1.4
DSTT				eS	S	19 42 38.2	+0.2
DFBT	Forest Bistro	0.25	296⇑	iP	P	19 42 24.8	+1.4
DBCT	Belle View Cho	0.26	303⇑	iP	P	19 42 24.9	+1.5
DBCT				eS	S	19 42 39.6	+1.3
DSHT	Scott's Head	0.26	289⇓	iP	P	19 42 24.9	+1.5
DSHT				eS	S	19 42 39.0	+0.7
DPMT	Pointe Michel	0.28	298⇓	iP	P	19 42 25.2	+1.7
MDN	Morne-Daniel	0.32	306⇓	iP	P	19 42 25.2	+1.5
MDN				eS	S	19 42 39.8	+1.1
FDF	Fort de France	0.40	184⇓	iP	P	19 42 23.8	-0.3
FDF				eS	S	19 42 37.6	-1.7
DLVT	Layou Valley	0.40	319⇑	iP	P	19 42 25.8	+1.7
CRM	Caravelle	0.43	152	eP	P	19 42 23.3	-0.9
CRM				eS	S	19 42 36.9	-2.6
DWS	Wesley	0.47	337⇑	iP	P	19 42 24.5	+0.1
DWS				eS	S	19 42 38.8	-1.1
BBL	Barber's Block	0.52	320⇓	iP	P	19 42 24.1	-0.5
BBL	Barber's Block	0.52	320⇓	iP	P	19 42 26.1	+1.5
BBL				eS	S	19 42 37.5	-2.9
BBL				eS	S	19 42 40.6	+0.2
BIM	Bigot	0.61	175⇓	eP	P	19 42 25.0	-0.1
MVM	Montagne Vaucl	0.61	159	eP	P	19 42 24.6	-0.5
MVM				eS	S	19 42 39.0	-2.4
MGG	Marie-Galante	0.80	347⇓	eP	P	19 42 25.6	-0.7
DOG	Dongo Capester	1.01	332⇑	iP	P	19 42 27.8	-0.2
SLW	Petit Monier	1.12	171	eP	P	19 42 28.9	-0.1
SLW				eS	S	19 42 47.0	-1.2
DEG	La Desirade	1.18	3⇑	eP	P	19 42 28.6	-1.0
SEG	Port Louis	1.32	344⇑	eP	P	19 42 30.6	-0.4
SEG				eS	S	19 42 49.7	-2.2
SVV	Soufriere Volc	1.81	183⇑	iP	P	19 42 38.0	+1.6
SVV				eS	S	19 43 05.2	+3.8
MBSS		1.84	327	eP	P	19 42 36.6	-0.2
MBRY		1.85	328	eP	P	19 42 36.7	-0.3
MBRY				eS	S	19 43 00.9	-1.3
SVB	Belmont	1.85	184	eP	P	19 42 38.6	+1.6
SVB				eS	S	19 43 10.1	+7.8
MLYT		1.89	327	eP	P	19 42 37.2	-0.2
MLYT				eS	S	19 43 01.9	-1.1
MBWH		1.90	327	eP	P	19 42 37.1	-0.5
MBGB		1.91	326	eP	P	19 42 37.4	-0.3
TRN	Trinidad (W)	4.46	184	eP	P	19 43 12.1	+1.1
TRN				eS	S	19 44 02.0	-0.6
CPD	Cerro la Pandu	5.43	303	ePn	P	19 43 22.5	-1.4
HUMP	Col San Antoni	5.43	304⇑	eP	P	19 43 27.1	+3.2
HUMP	Col San Antoni	5.43	304	eS	S	19 44 27.1	+1.3
HUMP	Col San Antoni	5.43	304	ePn	P	19 43 22.4	-1.5
HUMP			⇑	eP		19 43 27.1	
HUMP				eS	S	19 44 27.1	+1.3
CBYP	Canovanas	5.50	305	eS	S	19 44 30.9	+3.3
CBYP	Canovanas	5.50	305⇓	eP	P	19 43 26.8	+1.9
CBYP				eS	S	19 44 30.9	+3.3
SJG	San Juan	5.66	302	eS	S	19 44 32.4	+1.1
SJG	San Juan	5.66	302	eS	S	19 44 32.5	+1.2
SJG	San Juan	5.66	302	P	P	19 43 26.0	-0.9
	3.0nm,0.3s,baz=94,slow=7.0,SNR=19						
SJG				S	S	19 44 28.5	-2.8
	3.8nm,0.3s,baz=81,slow=21,SNR=4.6						
SJG	San Juan	5.66	302	ePn	P	19 43 26.3	-0.7
	38nm,0.9s						
SJG				eSn	S	19 44 17.8	-13
CSB	Colonia Sabana	5.75	304⇑	eP	P	19 43 28.6	+0.3
CSB				eS	S	19 44 34.3	+0.6
AOPR	Arecibo Observ	6.27	301	ePn	P	19 43 35.2	0.0
LRS	Lares	6.32	301	eS	S	19 44 47.8	+0.5
LSP	Las Mesas	6.47	299	eS	S	19 44 54.3	+3.5
LSP	Las Mesas	6.47	299⇑	eP	P	19 43 44.1	+6.2
LSP				eS	S	19 44 54.3	+3.5
IDE	Isla Desecheo	6.89	299	eS	S	19 45 01.9	+0.7
SDV	Santo Domingo	11.18	237	eP	P	19 44 40.2	-0.6
	9.2nm,1.0s						
SDV				eSn	S	19 46 48.2	+4.7
ROSC	El Rosal	16.52	233	P	P	19 45 47.7	-1.4
	baz=223,slow=17,SNR=2.5						
SAML	Samuel	24.01	185	eP	P	19 47 07.0	-0.4
	12nm,0.9s,mb4.4						
JCT	Junction City	38.58	300	eP	P	19 49 13.4	-1.6
WMOK	Wichita Mounta	39.03	307	eP	P	19 49 16.9	-1.9
	1.8nm,0.5s,mb4.0						
WMOK				e		19 49 28.4	
SCHQ	Schefferville	39.86	355	P	P	19 49 26.1	+0.7
	3.1nm,1.0s,mb3.9,baz=204,slow=11,SNR=5.0						
CPUP	Villa Florida	41.38	175	LR	LR	20 07 05.5	
	comp=Z,56nm,21.1s,baz=178,slow=36						
ULM	Lac du Bonnet	44.90	329	P	P	19 50 05.0	-1.4
	2.1nm,0.5s,mb4.0,baz=130,slow=11,SNR=3.6						
ULM	Lac du Bonnet	44.90	329	P	P	19 50 05.0	-1.4
PDAR	Pinedale Array	49.66	314	P	P	19 50 43.1	-0.4
	3.0nm,0.7s,mb4.0,baz=113,slow=9.6,SNR=26						
ELK	Elko	53.22	310	eP	P	19 51 09.7	-0.6
	1.4nm,0.9s,mb3.7						
NVAR	Mina Array Bea	55.13	306	P	P	19 51 24.0	-0.3
	0.8nm,0.5s,mb3.7,baz=108,slow=6.3,SNR=7.1						
ESDC	Sonseca Array	55.31	52	P	P	19 51 26.3	+0.8
	1.3nm,0.7s,mb3.8,baz=268,slow=7.2,SNR=9.2						
DBIC	Dimbokro	55.76	92	P	P	19 51 28.6	-0.5
	2.2nm,0.5s,mb4.2,baz=292,slow=8.5,SNR=8.0						
DBIC	Dimbokro	55.76	92	eP	P	19 51 28.6	-0.6
	3.7nm,0.7s,mb4.3						
NEW	Newport	56.37	318	eP	P	19 51 31.6	-1.4
	7.3nm,0.7s,mb4.6						
EPF	Esparros	59.02	49	eP	P	19 51 52.9	+1.2
	7.1nm,0.6s,mb4.3						
EKA	Eskdalemuir Ar	59.63	34	P	P	19 51 55.1	-0.5
	1.5nm,0.7s,mb4.0,baz=270,slow=5.0,SNR=5.8						
RJF	Les Rejaudoux	60.20	46	eP	P	19 51 59.9	+0.3
	41nm,1.3s,mb4.8						
YKA	Yellowknife Ar	60.23	335	P	P	19 51 58.3	-1.2
	1.1nm,0.5s,mb3.9,baz=103,slow=7.4,SNR=3.8						
MTLF	Montolieu	60.43	49	eP	P	19 52 01.8	+0.6
	12nm,1.0s,mb4.4						
CAF	Calviac	60.53	47	eP	P	19 52 02.3	+0.4
TCF	Toulx Ste Croi	60.83	45	eP	P	19 52 03.8	-0.1
BGF	Bois d'Agland	61.30	45	eP	P	19 52 07.6	+0.5
AVF	Avril sur Loir	61.68	45	eP	P	19 52 09.6	0.0
	38nm,1.4s,mb4.8						
SSF	Saint Saulge	61.82	44	eP	P	19 52 10.6	0.0
	6.6nm,0.7s,mb4.3						
SMF	Signal de Mont	61.99	45	eP	P	19 52 12.0	+0.3
LOR	Lormes	62.09	44	eP	P	19 52 12.4	0.0
	32nm,1.1s,mb4.8						
VIVF	Saint-Julien-l	62.36	47	eP	P	19 52 15.1	+0.9
MEZF	Maizieres J'vi	63.05	43	eP	P	19 52 18.9	+0.2
	16nm,0.7s,mb4.7						
ORIF	Oris-en-Rattie	63.22	47	eP	P	19 52 20.5	+0.7
MBDF	Montbardon	63.83	47	eP	P	19 52 25.1	+1.2
	8.7nm,0.8s,mb4.3						
LPL	La Plagne	63.87	46	eP	P	19 52 25.4	+1.3
	7.9nm,0.7s,mb4.3						
LPG	La Plagne	63.88	47	eP	P	19 52 25.6	+1.4
	4.9nm,0.7s,mb4.1						
NB2	NORSAR Subarra	68.33	30	P	P	19 52 52.9	+0.8
	1.4nm,0.7s,mb3.8,baz=260,slow=6.2						
NOA	NORSAR Array B	68.33	30	P	P	19 52 52.3	+0.2
	2.1nm,0.8s,mb3.9,baz=261,slow=6.2,SNR=8.4						
GERES	GERESS Array B	68.79	43	P	P	19 52 55.3	+0.1
	1.1nm,0.7s,mb3.7,baz=270,slow=5.3,SNR=9.4						
BRG	Berggiesshubel	69.00	41	eP	P	19 52 57.2	+0.8
	16nm,1.6s,mb4.5						
BRG				e		19 53 59.5	
INK	Inuvik	69.55	338	P	P	19 52 57.9	-1.6
	4.3nm,0.7s,mb4.3,baz=138,slow=5.8,SNR=6.3						
MORC	Moravsky Berou	71.30	42	P	P	19 53 10.1	-0.2
	2.2nm,0.7s,mb4.0						
ILAR	Eielson Array	74.64	334	P	P	19 53 27.9	-1.5
	1.3nm,0.7s,mb3.6,baz=85,slow=4.8,SNR=16						
ARCES	ARCESS Array B	74.76	21	P	P	19 53 29.8	-0.3
	12nm,0.9s,mb4.5,baz=336,slow=12,SNR=4.7						
FINES	FINESS Array B	75.51	30	P	P	19 53 34.6	+0.1
	2.6nm,0.8s,mb3.9,baz=280,slow=5.1,SNR=8.7						
KAF	Kangasniemi	75.56	29	ep	P	19 53 32.9	-1.8
AKASG	Malin Array Be	78.67	40	P	P	19 53 52.5	+0.3
	0.1nm,0.3s,mb2.9,baz=254,slow=6.1,SNR=4.0						
BRTR	Keskin Array B	84.07	51	P	P	19 54 20.7	+0.1
	1.2nm,0.7s,mb3.7,baz=289,slow=5.2,SNR=5.5						
STKA	Stephens Creek	153.41	227	PKPbc	PKPdf	20 01 48.2	+10
	1.1nm,0.7s,baz=137,slow=1.9,SNR=3.0						
STKA	Stephens Creek	153.41	227	PKPbc	PKPdf	20 01 48.2	+10
ASAR	Alice Springs	163.49	237	PKP	PKPdf	20 01 51.9	+1.4
	0.8nm,0.9s,baz=86,slow=3.0,SNR=5.3						
ASAR				PKPab	PKPab	20 02 43.5	-1.3
	0.5nm,0.8s,baz=120,slow=4.1,SNR=6.8						
WRA	Warramunga Arr	164.50	250	PKP	PKPdf	20 01 53.0	+1.4
	1.9nm,1.2s,baz=277,slow=0.4,SNR=7.8						
WRA				PKPab	PKPab	20 02 48.9	-0.4
	1.4nm,0.6s,baz=96,slow=4.1,SNR=30						

*CASC **09** 19:48:53.2±3.2, 12.04N×88.34W, h95km±71km, MD4.2*

*NEIC **09** 19:48:57.0±1.9, 12.18N×88.05W, h55km±20km, mb4.4/5, Error ellipse: s-maj=32.3km s-min=14.7km az=49.0*

*IDC **09** 19:49:08.2±21.0, 12.78N×87.96W, h122km±156km, mb3.6/7, mb1 3.9/7, mb1mx3.6/19, Error ellipse: s-maj=115.0km s-min=37.7km az=160.0*

ISC 09 19:48:53.1±0.8, **11.90N**±0.05×**88.35W**±0.04, **h44**km±7km, **n46**, σ1s**03**/64, **mb4.2**/12, **15C-3D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CNCH	Conchagua	1.45	20⇑	eP	P	19 49 16.6	-0.7
CNCH				eS	S	19 49 34.9	-0.5
CRIN	San Cristobal	1.49	58	eP	P	19 49 16.9	-1.0
CRIN				eS	S	19 49 38.9	+2.5
LEON	Leon	1.51	70⇑	eP	P	19 49 17.2	-0.9
LEON				eS	S	19 49 39.7	+3.0
VSM	San Miguel	1.52	3⇑	eP	P	19 49 18.2	0.0
VSM				eS	S	19 49 37.5	+0.6
BLLM	Bellamira	1.53	4⇑	eP	P	19 49 18.0	-0.4
BLLM				eS	S	19 49 36.6	-0.8
TEL3	Telica 3	1.61	65	eP	P	19 49 18.6	-1.0
TEL3				eS	S	19 49 40.5	+1.3
TELN	Telica	1.64	65⇓	eP	P	19 49 18.9	-1.0
MIRN	Miramar	1.68	71	eP	P	19 49 19.9	-0.7
MIRN				eS	S	19 49 44.5	+3.4
CNGN	Cerro Negro	1.71	70	eP	P	19 49 20.8	-0.2
COPN	Copaltepe	1.74	81⇓	eP	P	19 49 21.1	-0.2
SNVI	San Vicente	1.77	344	eP	P	19 49 22.4	+0.7
SNVI				eS	S	19 49 42.4	-0.7
MOMJ	Momotombo	1.83	74⇑	eP	P	19 49 21.7	-1.0
MOMJ				eS	S	19 49 49.2	+4.4
LCBS	La Ceiba	1.85	341⇑	eP	P	19 49 22.6	-0.3
LCBS				eS	S	19 49 43.8	-1.4
LFRS	El Faro	1.85	338⇑	eP	P	19 49 22.6	-0.3
LFRS				eS	S	19 49 44.6	-0.5
CAHU	Cacacuatique	1.86	4⇑	eP	P	19 49 23.1	+0.1
LBRS	Las Brisas	1.95	340	eP	P	19 49 24.6	+0.3
APYN	Apoyeque	1.98	80⇑	eP	P	19 49 24.8	0.0
LFU	La Fuente	1.98	338	eP	P	19 49 24.9	+0.2
LFU				eS	S	19 49 49.2	+0.7
BOQS	Boqueron	2.04	333	eP	P	19 49 26.0	+0.4
BOQS				eS	S	19 49 49.2	-0.6
MGAN	Managua	2.07	83⇑	eP	P	19 49 25.7	-0.3
MGAN				eS	S	19 49 48.3	-2.4
TICN	Ticuantepe	2.07	86⇑	eP	P	19 49 26.5	+0.4
TICN				eS	S	19 49 55.4	+4.6
WILN	Americas 2	2.13	83⇑	eP	P	19 49 26.5	-0.4
WILN				eS	S	19 49 59.3	+7.1
APON	Apoyo	2.23	89	eP	P	19 49 27.9	-0.4
SBLS	San Blas	2.29	327⇑	eP	P	19 49 29.7	+0.4
SBLS				eS	S	19 49 56.4	0.0
SNJE	San Jose	2.31	328⇑	eP	P	19 49 30.0	+0.5
SNJE				eS	S	19 49 57.4	+0.7
PYTN	Playitas	2.32	74	eP	P	19 49 29.8	+0.1
PYTN				eS	S	19 49 60.0	+2.8
RTR	El Retiro	2.35	328⇑	eP	P	19 49 30.8	+0.7
RTR				eS	S	19 49 58.1	+0.2
MTO2	Montecristo 2	2.67	338⇓	eP	P	19 49 35.4	+0.8
JTS	JuntasAbangare	3.70	115	ePn	P	19 49 50.1	+0.9
JTS				eSn	S	19 50 51.0	+19
JCT	Junction City	21.32	332	eP	P	19 53 38.5	+0.2
	10nm,0.6s,mb4.3						
LTX	Lajitas	22.46	323	P	P	19 53 49.2	-0.5
	5.8nm,0.6s,mb4.2						
TXAR	Lajitas Array	22.46	323	P	P	19 53 51.4	+1.7
	1.4nm,0.5s,mb3.7,baz=146,slow=12,SNR=9.6						
MIAR	Mount Ida	23.04	349	eP	P	19 53 55.6	+0.2
	14nm,0.8s,mb4.4						
WMOK	Wichita Mounta	24.63	339	eP	P	19 54 11.1	+0.2
	12nm,1.1s,mb4.3						
AMTX	Amarillo	25.89	334	eP	P	19 54 22.5	-0.2
	9.3nm,0.6s,mb4.5						
SADO	Sadowa	33.69	12	P	P	19 55 30.3	-1.8
	13nm,1.1s,mb4.8,baz=239,slow=5.9,SNR=2.6						
SADO	Sadowa	33.69	12	P	P	19 55 30.3	-1.8
PDAR	Pinedale Array	35.85	333	P	P	19 55 52.4	+1.8
	0.8nm,1.0s,mb3.6,baz=117,slow=4.0,SNR=2.5						
PDAR				PcP	PcP	19 58 19.5	+1.9
	0.4nm,0.7s,baz=108,slow=5.7,SNR=3.1						
NVAR	Mina Array Bea	37.54	320	P	P	19 56 08.8	+3.9
	0.7nm,0.8s,mb3.4,baz=130,slow=7.0,SNR=2.1						
NVAR				PcP	PcP	19 58 26.0	+3.2
	0.3nm,0.3s,baz=112,slow=4.9,SNR=3.3						
ULM	Lac du Bonnet	38.73	352	P	P	19 56 13.2	-1.4
	6.4nm,0.6s,mb4.5,baz=168,slow=9.0,SNR=5.1						
MCMT	McKenzie Canyo	38.94	332	eP	P	19 56 19.3	+2.8
SCHQ	Schefferville	46.05	17	P	P	19 57 11.8	-2.4
	4.6nm,1.1s,mb4.3,baz=229,slow=10,SNR=5.7						
ILAR	Eielson Array	66.17	336	P	P	19 59 37.5	-0.6
	1.0nm,1.1s,mb3.7,baz=119,slow=6.7,SNR=5.1						
ASAR	Alice Springs	138.25	248	PKP	PKPdf	20 08 21.9	+7.5
	0.4nm,0.7s,baz=103,slow=1.7,SNR=5.4						
WRA	Warramunga Arr	138.28	253	PKhKP		20 08 17.9	
	0.3nm,1.0s,baz=93,slow=2.2,SNR=3.8						
WRA				PKP	PKPdf	20 08 22.2	+7.7
	0.4nm,0.7s,baz=89,slow=2.0,SNR=7.5						
CMAR	Chiang Mai Arr	148.99	346	PKPbc	PKPdf	20 08 38.6	+5.6
	1.1nm,0.8s,baz=325,slow=3.5,SNR=8.6						

*IDC **09** 20:03:10.1±7.4,24.32S×179.66E,h625km±81km,mb3.2/6, mb1 3.2/7,mb1mx3.1/15,Error ellipse: s-maj=68.2km s-min=25.2km az=51.0*
*NEIC **09** 20:03:14.4±3.5,24.32S×179.39E,h671km±39km,mb3.9/4, Error ellipse: s-maj=48.9km s-min=19.2km az=225.0*
ISC 09 20:03:16.5±4.3**,24.6S**±0.3×**179.0E**±0.4**,h682**km±44km**, n16,**σ0^s**81**/12**,mb3.9**/8**,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	13.67	186	P	P	20 06 12.4	+1.5
	0.8nm,0.3s,baz=319,slow=8.5,SNR=3.5						
URZ				S	S	20 08 30.5	-0.4
	0.7nm,0.3s,baz=102,slow=16,SNR=6.7						
RPZ	Rata Peaks	20.11	197	P	P	20 07 08.2	-1.7
	4.8nm,0.7s,baz=22,slow=5.4,SNR=2.8						
CTA	Charters Tower	30.56	272	P	P	20 08 41.0	+0.3
	4.9nm,0.4s,mb4.4,baz=92,slow=11,SNR=13						
CTAO	Charters Tower	30.56	272	eP	P	20 08 40.8	+0.2
	5.0nm,0.4s,mb4.4						
STKA	Stephens Creek	33.59	249	P	P	20 09 06.5	+0.7
	1.0nm,0.7s,mb3.5,baz=155,slow=20,SNR=2.9						
PMG	Port Moresby	33.88	291	P	P	20 09 07.2	-1.1
	7.8nm,0.8s,mb4.3,baz=237,slow=4.4,SNR=3.2						
ASAR	Alice Springs	41.01	262	P	P	20 10 06.5	+0.6
	0.8nm,0.5s,mb3.4,baz=94,slow=7.0,SNR=23						
WRAB	Tennant Creek	41.43	267	eP	P	20 10 09.0	-0.2
	4.1nm,0.5s,mb4.1						
WRA	Warramunga Arr	41.44	267	P	P	20 10 09.2	0.0
	2.2nm,0.4s,mb4.0,baz=98,slow=8.2,SNR=85						
MBWA	Marble Bar	54.34	261	eP	P	20 11 44.8	+0.1
	3.4nm,0.9s,mb3.6						
MAW	Mawson	76.74	201	eP	P	20 14 01.6	+0.2
	0.8nm,0.5s,mb3.5						
FINES	FINESS Array B	138.84	341	PKP	PKPdf	20 21 27.4	+0.3
	1.8nm,1.0s,baz=90,slow=3.8,SNR=3.8						
HFS	Hagfors	143.08	348	PKP	PKPdf	20 21 31.0	-3.3
	1.6nm,0.4s,baz=63,slow=3.3,SNR=14						
AKASG	Malin Array Be	145.07	326	PKPbc	PKPbc	20 21 38.8	-0.4
	0.6nm,0.4s,baz=45,slow=3.7,SNR=4.5						
BRTR	Keskin Array B	147.27	306	PKPbc	PKPdf	20 21 45.6	+3.5
	0.4nm,0.6s,baz=27,slow=9.7,SNR=3.0						
CLL	Collm	151.28	342	ePKP1	PKPdf	20 21 55.0	+7.1

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*IDC **09** 20:13:05.5±2.1,29.72S×179.17W,h339km±19km,mb3.9/8, mb1 4.0/10,mb1mx3.9/15,Error ellipse: s-maj=20.5km s-min=14.9km az=163.0*
*NEIC **09** 20:13:08.5±1.4,29.79S×179.33W,h362km±14km, mb4.3/10,Error ellipse: s-maj=13.3km s-min=11.7km az=92.0*
*SYO **09** 20:13:10.4,29.62S×179.54W,h376km,MB4.3*
ISC 09 20:13:04.9±0.8**,29.87S**±0.05×**179.37W**±0.10**, h332**km±9km**,n59,**σ1^s**27**/53**,mb4.1**/15**,2C,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	Puketiti	8.42	193	eP	P	20 15 01.8	-2.8
PUZ				S	S	20 16 38.0	-0.8
MWZ	Matawai	8.83	196	eP	P	20 15 09.8	+0.3
MWZ				S	S	20 16 48.5	+0.7
URZ	Urewera	8.86	198	P	P	20 15 12.1	+2.2
	6.3nm,0.3s,baz=273,slow=2.6,SNR=24						
URZ				S	S	20 16 52.1	+3.5
	4.1nm,0.3s,baz=252,slow=23,SNR=10						
KNZ	Kokohu	9.45	194	eP	P	20 15 18.4	+1.4
BKZ	Black Stump Fm	9.88	199	eP	P	20 15 22.8	+0.5
MGZ	Maungaku	10.03	203	eP	P	20 15 25.7	+1.6
NGZ	Ngauruhoe	10.17	203	eP	P	20 15 28.1	+2.4
TUVZ	Tukino	10.23	202	eP	P	20 15 27.3	+0.8
PWZ	Pawanui	10.60	196	eP	P	20 15 30.1	-0.8
TSZ	Takapari Road	10.86	199	eP	P	20 15 33.8	-0.3
BFZ	Birch Farm	11.36	197	eP	P	20 15 39.8	-0.5
BFZ				S	S	20 17 44.6	+1.4
MRZ	Mangatainoka R	11.53	200	eP	P	20 15 39.7	-2.6
MRZ				S	S	20 17 44.5	-2.3
KIW	Kapiti Island	11.91	201	eP	P	20 15 45.2	-1.8
CAW	Cannon Point	12.09	200	eP	P	20 15 47.0	-2.1
NNZ	Nelson	12.76	206	S	S	20 18 14.2	+0.5
QRZ	Quartz Range	12.77	209	eP	P	20 15 57.0	-0.2
THZ	Tophouse	13.41	206	eP	P	20 16 02.2	-2.8
THZ				S	S	20 18 28.0	-0.1
KHZ	Kahutara	13.76	203	eP	P	20 16 06.1	-2.9
DZM	Mont Dzumac	14.92	298	eP	P	20 16 22.6	+0.6
DZM	Mont Dzumac	14.92	298	eP	P	20 16 22.6	+0.6
NOUC	Port Laguerre	15.02	298	eP	P	20 16 23.3	+0.3
MQZ	McQueen's Vall	15.21	203	S	S	20 19 04.0	-1.4
RPZ	Rata Peaks	15.79	206	P	P	20 16 32.6	+1.4
	0.6nm,0.3s,baz=308,slow=11,SNR=3.5						
RPZ				S	S	20 19 18.0	+1.1
	0.7nm,0.3s,baz=48,slow=19,SNR=6.8						
AFI	Afiamalu	17.37	25	eP	P	20 16 47.6	-0.2
	41nm,1.0s						
TAU	Tasmania Unive	29.60	235	eP	P	20 18 41.4	-0.6
	6.7nm,0.8s,mb3.9						
CTA	Charters Tower	32.54	279	P	P	20 19 08.1	+0.6
	7.8nm,0.6s,mb4.2,baz=104,slow=11,SNR=19						
CTAO	Charters Tower	32.54	279	eP	P	20 19 07.5	0.0
	8.4nm,0.6s,mb4.2						
STKA	Stephens Creek	33.44	256	P	P	20 19 16.6	+1.5
	4.5nm,0.4s,mb4.0,baz=92,slow=8.7,SNR=31						
STKA	Stephens Creek	33.44	256	eP	P	20 19 16.3	+1.2
RAB	Rabaul	37.10	308	eP	P	20 19 47.2	+1.2
ASAR	Alice Springs	41.95	267	P	P	20 20 25.4	-0.2
	8.5nm,0.8s,mb3.9,baz=101,slow=8.1,SNR=72						
ASAR				PcP	PcP	20 22 12.7	-2.1
	0.5nm,0.4s,baz=120,slow=4.0,SNR=5.0						
WRAB	Tennant Creek	42.88	272	P	P	20 20 32.5	-0.6
	7.5nm,0.3s,mb4.3,SNR=28						
WRAB	Tennant Creek	42.88	272	eP	P	20 20 32.4	-0.8
	45nm,0.7s,mb4.7						
WRA	Warramunga Arr	42.89	272	P	P	20 20 32.4	-0.8
	22nm,0.4s,mb4.6,baz=110,slow=7.5,SNR=374						
WRA				PcP	PcP	20 22 16.0	-2.0
	1.2nm,0.6s,baz=115,slow=3.5,SNR=5.1						
WRA				ScP		20 25 36.5	
	0.7nm,0.7s,baz=111,slow=4.1,SNR=5.7						
WRA				S	S	20 26 32.5	-0.1
	0.8nm,0.8s,baz=108,slow=14,SNR=4.6						
FITZ	Fitzroy Crossi	51.17	270	P	P	20 21 36.9	-0.1
	9.5nm,0.6s,mb4.2,baz=160,slow=5.3,SNR=28						
MBWA	Marble Bar	55.10	264	eP	P	20 22 04.3	-1.2
	9.8nm,0.7s,mb4.2						
QSPA	South Pole Qui	60.24	180	eP	P	20 22 42.1	+1.9
	3.2nm,0.8s,mb3.8						
MAW	Mawson	72.38	201	P	P	20 23 56.7	+0.4
	2.0nm,0.6s,mb4.1,baz=148,slow=7.6,SNR=11						
MAW	Mawson	72.38	201	eP	P	20 23 56.9	+0.6
	3.7nm,0.7s,mb4.2						
MAJO	Matsushiro	77.14	326	eP	P	20 24 20.6	-3.2
	28nm,1.3s,mb4.8						
SYO	Syowa Base	77.36	193	⇑P	P	20 24 23.8	-0.6
SYO	Syowa Base	77.36	193	⇑pP	pP	20 25 51.6	+11
SNAA	Sanae	78.71	179	P	P	20 24 32.6	+1.0
	2.6nm,1.1s,mb3.9						
NVAR	Mina Array Bea	88.66	43	P	P	20 25 20.5	-1.5
	0.7nm,0.9s,mb3.5,baz=231,slow=5.8,SNR=2.9						
TPNV	Topopah Spring	88.97	46	eP	P	20 25 24.5	+1.0
	4.7nm,0.6s,mb4.5						
CMAR	Chiang Mai Arr	92.10	290	P	P	20 25 38.8	+0.4
	0.5nm,0.7s,mb3.6,baz=140,slow=3.9,SNR=5.0						
MKAR	Makanchi Array	116.52	311	PKP	PKPdf	20 31 08.3	-1.0
	0.4nm,0.4s,baz=225,slow=1.7,SNR=12						
MKAR	Makanchi Array	116.52	311	PKP	PKPdf	20 31 08.3	-1.0
ARCES	ARCESS Array B	137.82	347	PKP	PKPdf	20 31 49.5	+0.3
	4.4nm,0.9s,baz=18,slow=3.8,SNR=4.0						
KAF	Kangasniemi	143.65	340	ep	PKPbc	20 31 55.5	-3.1
FINES	FINESS Array B	144.24	339	PKP	PKPdf	20 31 58.5	-2.0
	5.7nm,0.3s,baz=53,slow=4.3,SNR=126						
NB2	NORSAR Subarra	148.04	350	PKP		20 32 09.3	
	2.0nm,0.6s,baz=15,slow=2.7						
NOA	NORSAR Array B	148.04	350	PKPbc	PKPdf	20 32 09.9	+3.0
	1.7nm,0.6s,baz=16,slow=4.2,SNR=13						
HFS	Hagfors	148.48	347	PKPbc	PKPdf	20 32 10.3	+2.7
	baz=63,slow=3.2						
AKASG	Malin Array Be	150.16	322	PKPbc	PKPdf	20 32 15.5	+4.9
BRTR	Keskin Array B	151.30	299	PKPbc	PKPdf	20 32 19.0	+6.3
	0.8nm,0.4s,baz=134,slow=4.4,SNR=7.2						
BRTR				PKPab	PKPab	20 32 28.9	-1.9
	1.0nm,0.8s,baz=194,slow=10,SNR=6.3						
CLL	Collm	156.68	340	i PKP2	PKPab	20 32 50.8	-2.4
GERES	GERESS Array B	158.58	336	PKPab	PKPab	20 32 58.4	-3.1
	0.5nm,0.7s,baz=56,slow=4.8,SNR=4.3						
DAVOX	Davos	161.65	339	PKPab	PKPab	20 33 12.9	-1.8

1.4nm,0.7s,baz=174,slow=2.4,SNR=5.9

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*IDC **09** 20:40:42.4±2.7,22.11S×169.91E,h38km±7km,mb3.5/7, mb1 3.6/7,mb1mx3.6/12,Error ellipse: s-maj=93.3km s-min=29.7km az=147.0*
*NEIC **09** 20:40:43.1±3.1,22.09S×169.89E,h46km±22km,mb4.7/2, Error ellipse: s-maj=28.2km s-min=25.6km az=121.0*
ISC 09 20:40:42.1±2.9**,22.2S**±0.2×**169.9E**±0.1**,h50**km±21km**, h40**km±4.6km**:pP-P,n18,**σ1^s**05**/20**,mb3.8**/9**,2C,Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.20	271	eP	P	20 41 30.8	-0.3
DZM				eS	S	20 42 08.7	+0.3
DZM	Mont Dzumac	3.20	271	eP	P	20 41 30.8	-0.3
DZM				eS	S	20 42 08.7	+0.3
NOUC	Port Laguerre	3.33	270⇑	eP	P	20 41 32.8	-0.2
NOUC				eS	S	20 42 12.4	+0.7
NOUC	Port Laguerre	3.33	270⇑	eP	P	20 41 32.8	-0.2
NOUC				eS	S	20 42 12.4	+0.7
STKA	Stephens Creek	26.94	243	P	P	20 46 21.4	+0.6
	0.7nm,0.6s,mb3.4,baz=81,slow=13,SNR=3.2						
STKA				sP	sP	20 46 35.3	-4.2
	1.7nm,0.9s,baz=94,slow=22,SNR=2.2						
ASAR	Alice Springs	33.13	260	P	P	20 47 15.2	-0.7
	0.3nm,0.7s,mb3.3,baz=82,slow=9.4,SNR=4.2						
ASAR				pP	pP	20 47 24.3	-4.6
	0.8nm,1.0s,baz=91,slow=8.6,SNR=3.2						
WRAB	Tennant Creek	33.20	267	eP	P	20 47 15.5	-0.9
WRA	Warramunga Arr	33.21	267	P	P	20 47 14.7	-1.8
	0.4nm,0.4s,mb3.7,baz=100,slow=8.3,SNR=18						
WRA				pP	pP	20 47 27.6	-2.0
	0.5nm,0.5s,baz=99,slow=8.0,SNR=4.5						
FITZ	Fitzroy Crossi	41.64	267	P	P	20 48 28.0	+0.6
	0.9nm,0.7s,mb3.5,baz=92,slow=9.0,SNR=2.8						
FITZ				pP	pP	20 48 39.5	-1.2
	0.7nm,0.6s,baz=125,slow=12,SNR=1.8						
CMAR	Chiang Mai Arr	80.26	294	P	P	20 52 51.0	+1.4
	0.5nm,0.7s,mb3.6,baz=88,slow=1.1,SNR=4.8						
SNAA	Sanae	86.28	182	P	P	20 53 15.7	-3.4
	2.4nm,1.1s,mb4.3						
VNA3	Neumayer Olymp	86.85	180		P	20 53 21.8	-0.1
VNA2	Neumayer--Watz	87.15	181⇑	i	P	20 53 24.9	+1.6
SONM	Songino Array	89.91	323	P	P	20 53 35.8	-1.2
	0.6nm,0.9s,mb3.9,baz=180,slow=3.7,SNR=4.3						
PALK	Pallekele	91.96	277	eP	P	20 53 42.5	-4.8
	6.9nm,0.9s,mb5.0						
ILAR	Eielson Array	92.83	17	P	P	20 53 51.1	+1.0
	0.1nm,0.5s,mb3.5,baz=229,slow=6.0,SNR=3.5						
CLL	Collm	145.81	334	i PKP1	PKPbc	21 00 15.8	0.0
GERES	GERESS Array B	147.33	330	PKPbc	PKPdf	21 00 20.1	+2.5
	0.7nm,0.8s,baz=90,slow=1.3,SNR=6.0						

IDC 09 20:52:30.6±24.0**,15.65S**×**174.34W,mb3.9**/4**,mb1 4.1**/4**, mb1mx3.8**/14**,Error ellipse: s-maj=455.0km s-min=156.4km az=70.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	37.70	257	P	P	20 59 48.0	-1.8
	0.7nm,0.3s,baz=59,slow=23,SNR=2.0						
STKA	Stephens Creek	43.13	240	P	P	21 00 33.0	-1.6
	1.2nm,0.5s,baz=94,slow=12,SNR=6.0						
WRA	Warramunga Arr	48.90	257	P	P	21 01 18.6	-1.9
	0.3nm,0.7s,baz=93,slow=7.2,SNR=10						
ASAR	Alice Springs	49.17	252	P	P	21 01 20.7	-1.9
	2.7nm,0.5s,baz=88,slow=8.2,SNR=76						

IDC 09 21:10:21.1±8.9**,0.27N**×**125.32E,h64**km±87km**,mb3.2**/7**, mb1 3.4**/8**,mb1mx3.3**/16**,ML3.4**/1**,Error ellipse: s-maj=62.7km s-min=16.8km az=57.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	18.26	179	P	P	21 14 28.8	-2.9
	0.1nm,0.3s,baz=12,slow=9.3,SNR=3.8						
WRA	Warramunga Arr	21.95	157	P	P	21 15 09.3	-1.6
	0.3nm,0.5s,baz=334,slow=11,SNR=8.8						
ASAR	Alice Springs	25.21	161	P	P	21 15 41.4	-1.3
	0.3nm,0.5s,baz=338,slow=7.5,SNR=6.7						
ASAR				PcP	PcP	21 19 13.4	-2.2
	0.2nm,0.5s,baz=352,slow=2.0,SNR=4.3						
CTA	Charters Tower	28.81	136	P	P	21 16 12.9	-2.6
	3.1nm,0.9s,baz=79,slow=20,SNR=2.3						
CMAR	Chiang Mai Arr	31.59	306	P	P	21 16 38.7	-1.4
	0.4nm,0.9s,baz=96,slow=9.1,SNR=3.1						
STKA	Stephens Creek	35.49	156	P	P	21 17 12.5	-1.2
	0.9nm,0.5s,baz=345,slow=1.7,SNR=5.4						
SONM	Songino Array	50.15	343	P	P	21 19 11.2	-0.9
	0.2nm,0.6s,baz=159,slow=12,SNR=2.9						
MKAR	Makanchi Array	59.62	327	P	P	21 20 16.8	-4.0
	0.4nm,0.8s,baz=100,slow=8.8,SNR=8.3						

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*IDC **09** 21:11:30.9±2.8,6.04S×154.94E,h180km±23km,mb3.4/10, mb1 3.6/12,mb1mx3.6/16,Error ellipse: s-maj=31.1km s-min=14.5km az=126.0*
*NEIC **09** 21:11:34.5±3.0,5.95S×154.68E,h207km±25km,mb4.1/1, Error ellipse: s-maj=27.6km s-min=14.8km az=100.0*
ISC 09 21:11:34.1±3.3**,6.1S**±0.1×**154.8E**±0.2**,h221**km±29km**,n15,** σ**1^{s}02**/17**,mb3.6**/11**,Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.23	246	P	P	21 13 30.4	-0.7
	2.5nm,0.3s,baz=68,slow=6.8,SNR=16						
PMG				S	S	21 15 06.0	+3.4
	2.3nm,0.3s,baz=125,slow=22,SNR=6.2						
CTA	Charters Tower	16.21	210	P	P	21 15 11.2	-0.2
	0.2nm,0.3s,baz=30,slow=17,SNR=4.8						
WRAB	Tennant Creek	24.16	233	eP	P	21 16 32.0	+0.3
	3.4nm,0.7s,mb4.1						
WRA	Warramunga Arr	24.17	233	P	P	21 16 32.3	+0.5
	2.0nm,0.5s,mb4.0,baz=56,slow=9.9,SNR=36						
WRA				S	S	21 20 40.7	+10
	0.2nm,0.8s,baz=43,slow=14,SNR=2.4						
ASAR	Alice Springs	26.63	227	P	P	21 16 53.6	-0.8
	0.4nm,0.5s,mb3.3,baz=60,slow=8.7,SNR=6.1						
FITZ	Fitzroy Crossi	30.83	245	P	P	21 17 30.1	-1.6
	0.9nm,0.7s,mb3.5,baz=159,slow=11,SNR=5.2						
KS15	Wonju Array Si	50.00	332	P	P	21 20 05.2	-2.8
CMAR	Chiang Mai Arr	60.16	295	P	P	21 21 21.0	0.0
	0.6nm,0.5s,mb3.5,baz=118,slow=5.4,SNR=6.6						
SONM	Songino Array	68.42	327	P	P	21 22 14.6	+0.7
	0.4nm,0.4s,mb3.4,baz=148,slow=5.1,SNR=8.4						
MKAR	Makanchi Array	82.54	319	P	P	21 23 34.1	+0.6
	0.7nm,0.4s,mb3.7,baz=92,slow=7.5,SNR=12						
ILAR	Eielson Array	82.59	22	P	P	21 23 34.2	+0.8
	0.3nm,0.8s,mb3.1,baz=248,slow=5.6,SNR=4.0						
ZAL	Zalesovo	83.27	326	P	P	21 23 36.8	-0.4
	0.8nm,0.3s,mb3.9,baz=225,slow=5.0,SNR=2.8						
MAW	Mawson	85.17	203	P	P	21 23 46.5	+0.2
	0.7nm,0.4s,mb3.7,baz=15,slow=5.9,SNR=3.2						
NVAR	Mina Array Bea	91.33	52	P	P	21 24 16.7	+0.6
	0.5nm,0.8s,mb3.5,baz=260,slow=9.7,SNR=3.6						
NVAR	Mina Array Bea	91.33	52	P	P	21 24 16.7	+0.6

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*IDC **09** 21:26:49.1±1.5,11.87N×86.31W,mb5.3/32,mb1 5.4/33, mb1mx5.4/33,ML2.5/3,MS6.9/22,Ms1 6.9/22, ms1mx6.7/27,Error ellipse: s-maj=18.9km s-min=10.0km az=62.0*
*MOS **09** 21:26:52.6±1.7,11.47N×86.50W,h33km,mb6.2/49, MS7.1/45,Error ellipse: s-maj=7.9km s-min=4.5km az=106.2 Broadband fault plane solution: P waves. NP1: ϕ_s336°,δ20°,λ101°. NP2:ϕ_s145°,δ71°,λ86°. Principal axes: T Plg64°, Azm49°; N Plg4°, Azm146°; P Plg26°, Azm238°;*
*CASC **09** 21:26:52.1±3.4,11.28N×86.74W,h0km±6km,MD5.3, ML6.4,mb6.0(NEIC)*
*HRVD **09** 21:26:53.7±0.1,11.25N×87.02W,h39km,MW6.9/83, Centroid moment Tensor Solution. LP body waves: s83,c232;Mantle waves: s81,c207; Half duration: 6^{s}9 Moment tensor: Scale 10^{19}Nm; M_{rr}2.32±.01; $M_{\theta\theta}$-1.51±.01; $M_{\phi\phi}$-0.81±.01; $M_{r\theta}$1.65±.03; $M_{\theta\phi}$1.15±.01; $M_{\phi r}$-0.94±.03; Best double couple: $M_0$3.01×10^{19} NP1: ϕ_s311°,δ26°,λ98°. NP2:ϕ_s122°,δ65°,λ86°. Principal axes: T 3, Plg70°, Azm24°; N .03, Plg3°, Azm124°; P -3.03, Plg19°, Azm215°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to mantle waves, cutoff=125s.*
*BJI **09** 21:26:53.3,11.40N×86.70W,h35km,mB6.5,Ms7.3, Msz7.2*
*NEIC **09** 21:26:53.7±0.2,11.42N×86.67W,h35km,mb6.0/197, ME6.5,MS7.0/86,MW6.8,ML6.8(SNET),Error ellipse: s-maj=4.5km s-min=2.8km az=216.0,Moment Tensor Solution. s63 Moment tensor: Scale 10^{19}Nm; M_{rr}1.41; $M_{\theta\theta}$-1.16; $M_{\phi\phi}$-0.24; $M_{r\theta}$1.20; $M_{\theta\phi}$0.52; $M_{\phi r}$-0.72; Best double couple: $M_0$2×10^{19} NP1:ϕ_s290°,δ23°,λ81°. NP2: ϕ_s119°,δ68°,λ94°. Principal axes: T 1.99, Plg67°, Azm36°; N -.02, Plg3°, Azm298°; P -1.97, Plg22°, Azm206°; Broadband fault plane solution: P waves. NP1:ϕ_s295°, δ30°,λ90°. NP2:ϕ_s115°,δ60°,λ90°. Principal axes: T Plg75°, Azm25°; N Plg0°, Azm0°; P Plg15°, Azm205°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt at Managua and in much of Nicaragua. Felt [IV] at San Salvador, El Salvador. Felt as far north as Tegucigalpa, Honduras and as far south as San Jose, Costa Rica.
*IGIL **09** 21:26:56.4,11.40N×86.50W,h61km,MS7.3*
*ORF **09** 21:27:30.2,16.49N×82.08W,h30km,mb5.9*
ISC 09 21:26:55.0±0.3**,11.42N**±0.02×**86.71W**±0.02**,h58**km±2km**, h57**km±4.5km**:pP-P,n1074,**σ**1^{s}38**/865**,mb5.8**/253**, MS7.0**/129**,135C-28D,Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	El Crucero	0.69	35	eP	P	21 27 09.8	+0.7
COPN	Copaltepe	0.77	9⇑	eP	P	21 27 10.3	+0.3
TICN	Ticuantepe	0.77	37⇓	iP	P	21 27 10.6	+0.5
MASN	Masaya	0.79	44⇓	eP	P	21 27 10.3	0.0
APON	Apoyo	0.80	52	eP	P	21 27 10.4	-0.1
APON			⇓	iP		21 27 10.5	
XAVN	Gruta Xavier	0.82	27⇓	eP	P	21 27 10.9	+0.2
MGAN	Managua	0.86	32⇓	eP	P	21 27 11.3	+0.1
APYN	Apoyeque	0.89	23⇑	eP	P	21 27 12.0	+0.4
WILN	Americas 2	0.90	34⇓	iP	P	21 27 12.2	+0.4
MOMJ	Momotombo	1.00	9⇓	eP	P	21 27 13.6	+0.4
LEON	Leon	1.01	350⇑	eP	P	21 27 13.7	+0.3
MIRN	Miramar	1.02	360	eP	P	21 27 13.8	+0.4
CNGN	Cerro Negro	1.08	0⇓	eP	P	21 27 15.5	+1.2
TEL3	Telica 3	1.16	353⇓	iP	P	21 27 15.9	+0.6
TELN	Telica	1.19	354⇓	eP	P	21 27 16.3	+0.6
CHIN	Chinandega	1.26	346	eP	Px	21 27 40.3	
CHIN				eS	Sx	21 28 11.2	
PYTN	Playitas	1.28	30⇓	iP	P	21 27 17.5	+0.4
CRIN	San Cristobal	1.32	345⇓	iP	P	21 27 18.2	+0.5
BOA	Boaco	1.44	42	eP	P	21 27 19.1	-0.3
VCR	Vista de Mar	1.66	140⇓	eP	P	21 27 18.5	-3.9
JTS	JuntasAbangare	2.06	123	Pn	P	21 27 27.1	-0.8
	1.6nm,0.3s,baz=330,slow=23,SNR=38						
JTS				Sn	S	21 27 58.5	+6.2
	4.4nm,0.3s,baz=349,slow=22,SNR=6.9						
JTS	JuntasAbangare	2.06	123	Pn	P	21 27 27.4	-0.5
	341µm,0.5s						
JTS	JuntasAbangare	2.06	123⇑	ePn	P	21 27 25.2	-2.6
CNCH	Conchagua	2.15	329	eP	P	21 27 29.1	-0.2
CNCH	Conchagua	2.15	329	eP	P	21 27 29.1	-0.1
JCR	Jicaral	2.21	135	eP	P	21 27 26.7	-3.4
FORC	Fortuna	2.21	115	eP	P	21 27 28.4	-1.7
BLLM	Bellamira	2.51	324	eP	P	21 27 34.2	-0.1
BLLM	Bellamira	2.51	324	eP	P	21 27 34.5	+0.1
VSM	San Miguel	2.52	323	eP	P	21 27 34.5	0.0
CGA2	Cerro Gallo 2	2.61	122	eP	P	21 27 34.2	-1.6
VPS2	Volcan Poas 2	2.72	116⇑	eP	P	21 27 37.7	+0.4
PRS1	Puriscal	2.75	121	eP	P	21 27 36.4	-1.4
CAHU	Cacacuatique	2.76	328	eP	P	21 27 37.8	-0.1
LAJ	Bijagual	2.97	121	eP	P	21 27 34.9	-6.1
SJS	Escuela Geolog	2.99	119⇑	eP	P	21 27 40.4	-0.8
SJS				eP		21 27 41.5	
SNVI	San Vicente	3.02	317	eP	P	21 27 41.8	+0.3
TRTC	Tortuguero	3.06	106⇓	iP	P	21 27 39.5	-2.6
LCR2	La Lucha 2	3.14	122	eP	P	21 27 41.9	-1.4
LCBS	La Ceiba	3.14	315	eP	P	21 27 42.4	-0.9
ICR	Volcan Irazu	3.17	116	eP	P	21 27 43.4	-0.3
LFRS	El Faro	3.18	314	eP	P	21 27 42.1	-1.6
LBRS	Las Brisas	3.25	316	eP	P	21 27 44.6	-0.2
LBRS	Las Brisas	3.25	316	eP	P	21 27 45.4	+0.6
LBRS				eS	S	21 28 21.6	-0.8
URSC	Urasca	3.28	118⇑	eP	P	21 27 43.9	-1.4
LFU	La Fuente	3.30	315	eP	P	21 27 47.7	+2.1
SNET	Serv Nac Est T	3.34	313	eP	P	21 27 46.5	+0.4
SNET				eS	S	21 28 29.8	+5.0
SNET				i		21 28 34.9	
	comp=Z,169µm,1.0s						
BOQS	Boqueron	3.41	313	eP	P	21 27 47.5	+0.5
BUS	Buena Vista	3.44	122	eP	P	21 27 47.1	-0.3
SBLS	San Blas	3.73	311	eP	P	21 27 51.7	+0.1
SNJE	San Jose	3.73	311	eP	P	21 27 51.6	0.0
RTR	El Retiro	3.78	311	eP	P	21 27 52.7	+0.4
RTR	El Retiro	3.78	311	eP	P	21 27 53.5	+1.2
LIO	Limon	3.87	111	eP	P	21 27 51.3	-2.2
MTO2	Montecristo 2	3.94	319	eP	P	21 27 57.3	+2.8
RBDL	Robledal	3.95	313⇑	eP	P	21 27 58.1	+3.4
CUSS	Cusmapa	4.02	308	eP	P	21 27 55.5	-0.1
CUSS	Cusmapa	4.02	308	eP	P	21 27 56.9	+1.3
ACR	Cerro Adams	4.44	128	eP	P	21 28 00.9	-0.5
IXG	Ixpaco	4.57	307	eP	P	21 28 06.8	+3.5
IXG				eS	S	21 29 01.4	+5.7
CNI	Changuinola	4.58	115	eP	P	21 28 03.7	+0.2
BRU2	Volcan	4.74	123	eP	P	21 28 05.6	-0.1
NBG	Las Nubes	4.75	312	eP	P	21 28 10.1	+4.3
NBG				eS	S	21 29 03.8	+3.7
FUG	Fuego 3	5.03	307	eP	P	21 28 11.8	+2.0
DVD	David	5.13	125	eP	P	21 28 11.1	-0.1
TP2	Tecpan 2	5.37	309	eP	P	21 28 19.6	+5.1
TP2				eS	S	21 29 21.2	+5.4
JAT	Jato	5.61	302	eP	P	21 28 20.1	+2.4
AZU	Azuero	7.29	119	eP	P	21 28 42.5	+1.2
UPA	Univ. de Panam	7.46	108	eP	P	21 28 44.4	+0.7
TEIG	Tepich	8.89	350	Pn	P	21 29 04.9	+1.7
	comp=Z,0.0nm,0.3s,baz=157,slow=24,SNR=35						
NEJ	Negril	10.57	49⇑	eP	P	21 29 29.1	+2.7
MCJ	Malvern	10.86	52⇑	eP	P	21 29 33.1	+2.8
MCJ				eS	tx	21 33 08.7	
CVJ	Coleyville	11.15	52⇑	eP	P	21 29 36.5	+2.3
STH	Stony Hill	11.64	54⇑	eP	P	21 29 43.6	+2.9
STH				eS	tx	21 33 39.7	
HOJ	Hope	11.65	55⇑	eP	P	21 29 45.3	+4.5
GWJ	Greenwich	11.70	54⇑	eP	P	21 29 44.5	+2.9
SOR	Soroa	11.85	17	eP	P	21 29 47.6	+4.0
MGV	Manicaragua	12.43	30	eP	P	21 29 54.3	+3.0
PAYG	Puerto Ayora	12.53	197⇓	eP	P	21 29 50.9	-1.8
LMGC	Las Mercedes	12.69	46	eP	P	21 29 56.5	+1.7
	comp=N,426µm,17.7s						
	comp=E,481µm,15.0s						
CCCC	Cccc	12.97	40	eP	P	21 30 05.2	+6.7
RCC	Rio Carpintero	13.60	50	eP	P	21 30 10.4	+3.6
	comp=N,719µm,19.1s						
	comp=E,682µm,19.1s						
OTAV	Otavalo	13.80	143⇑	eP	P	21 30 09.3	-0.2
	comp=E,142nm,1.0s						
ROSC	El Rosal	13.87	117	Pn	P	21 30 10.9	+0.5
	comp=E,1.8nm,0.3s,baz=142,slow=22,SNR=5.5						
ROSC				LR	LR	21 36 13.6	
	comp=E,287µm,19.4s,baz=323,slow=41						
HLGC	Holguin	13.90	46	eP	P	21 30 13.0	+2.3
MOAC	Moa	14.55	49	i P	P	21 30 19.7	+0.4
	comp=E,62µm,5.0s						
	comp=N,126µm,9.9s						
MASC	Masc	14.82	52	eP	P	21 30 25.4	+2.6
	comp=N,38µm,2.5s						
	comp=E,42µm,2.5s						
SDV	Santo Domingo	16.02	98⇑	eP	P	21 30 35.5	-2.6
	comp=E,2µm,1.2s						
DWPF	Disney	17.33	16	eP	P	21 30 54.4	-0.1
	comp=E,11µm,1.9s						
MGP	Maguayo	20.07	69⇑	eP	P	21 31 24.8	-1.5
HKT	Hockley	20.30	337	eP	P	21 31 28.1	-0.6
HKT				pmax	pmax		
	comp=Z,9µm,1.3s						
HKT				MLR	MLR		
	comp=Z,79µm,22.0s,MS6.0						
HKT	Hockley	20.30	337	PFAKE		21 31 40.0	+11
HKT				LR	LR		

comp=Z,79µm,22.0s,MS6.0
AOPR Arecibo Observ 20.47 68⇑ eP P 21 31 27.6 -2.9
SJG San Juan 20.95 69 P P 21 31 32.9 -2.5
comp=Z,59nm,0.5s,baz=258,slow=7.1,SNR=26
SJG PcP PcP 21 35 39.5 -2.0
comp=Z,58nm,0.8s,baz=238,slow=24,SNR=3.9
SJG LR LR 21 39 02.6
comp=Z,335µm,21.4s,MS6.7,baz=244,slow=36
SJG ScP 21 39 18.4
comp=Z,28nm,1.0s,baz=299,slow=19,SNR=3.0
SJG San Juan 20.95 69⇑ eP P 21 31 32.8 -2.6
SJG pmax pmax
comp=Z,48nm,0.6s
SJG MLR MLR
comp=Z,590µm,20.0s
SJG San Juan 20.95 69⇑ eP P 21 31 32.8 -2.6
comp=Z,831nm,0.9s
SJG LR LR
comp=Z,590µm,20.0s,MS7.0
CPD Cerro la Pandu 21.15 69⇑ eP P 21 31 34.6 -2.8
HUMP Col San Antoni 21.24 69⇑ eP P 21 31 35.5 -2.8
CBYP Canovanas 21.27 69⇑ eP P 21 31 35.5 -3.1
LRAL Lakeview Retre 21.52 359⇑ eP P 21 31 40.8 -0.2
comp=Z,2µm,1.0s,mb6.4
LRAL e 21 31 46.0
LRAL LR LR
comp=Z,416µm,21.0s,MS6.8
NATX Nacogdoches 21.54 341⇑ eP P 21 31 40.3 -0.8
comp=Z,12µm,1.3s
NATX e 21 31 46.9
NATX LR LR
comp=Z,364µm,22.0s
HBF Harts Bluff 22.19 14 eP P 21 31 51.3 +3.7
HBF Harts Bluff 22.19 14 eP P 21 31 46.3 -1.3
RGRS Roger Stewart 22.21 15 eP P 21 31 47.3 -0.5
CSU Charleston Sou 22.32 15 eP P 21 31 49.2 +0.3
NHSC New Hope 22.41 15⇑ eP P 21 31 50.7 +0.9
comp=Z,6µm,1.3s,mb6.9
NHSC LR LR
comp=Z,849µm,20.0s,MS7.2
TWB Tillmans-White 22.43 15 eP P 21 31 52.4 +2.4
JCT Junction City 22.53 329 PFAKE 21 32 00.0 +8.9
JCT LR LR
comp=Z,277µm,22.0s,MS6.7
OXF Oxford 23.12 354 P P 21 31 56.7 -0.1
OXF pmax pmax
comp=Z,140nm,1.4s,mb5.2
OXF MLR MLR
comp=Z,400µm,22.0s,MS6.8
OXF Oxford 23.12 354⇑ eP P 21 31 55.8 -1.0
comp=Z,2µm,0.7s,mb6.7
OXF e 21 32 01.5
OXF LR LR
comp=Z,397µm,22.0s,MS6.8
JSC Jenkinsville 23.30 11 P P 21 31 59.2 +0.7
JSC Jenkinsville 23.30 11 eP P 21 31 59.1 +0.6
JSC e 21 32 04.0
SABT Saba 23.52 72 eP P 21 32 04.2 +3.4
SWET Sewanee 23.70 2⇑ eP P 21 32 01.9 -0.4
SWET e 21 32 07.5
MET Memphis--Engin 23.78 353⇑ eP P 21 32 03.2 +0.1
MET e 21 32 07.0
UALR University of 23.81 348⇑ eP P 21 32 02.7 -0.7
comp=Z,1µm,0.7s,mb6.5
UALR e 21 32 07.8
LTX Lajitas 23.83 321 P P 21 32 04.1 +0.4
LTX pmax pmax
comp=Z,140nm,1.4s,mb5.2
LTX MLR MLR
comp=Z,120µm,22.0s,MS6.3
LTX Lajitas 23.83 321⇑ eP P 21 32 03.7 +0.1
comp=Z,3µm,0.9s,mb6.7
LTX e 21 32 08.3
LTX LR LR
comp=Z,119µm,22.0s,MS6.3
TXAR Lajitas Array 23.83 321 P P 21 32 04.2 +0.6
comp=Z,79nm,0.8s,mb5.2,baz=140,slow=9.8,SNR=150
TXAR PcP PcP 21 35 47.6 +0.3
comp=Z,22nm,0.8s,baz=216,slow=45,SNR=1.9
TXAR ScP 21 39 26.6
comp=Z,16nm,1.0s,baz=80,slow=5.5,SNR=2.7
TXAR LR LR 21 42 47.2
comp=Z,99µm,20.1s,MS6.3,baz=130,slow=40
TXAR PKiKP 21 43 31.4
comp=Z,3.8nm,0.8s,baz=108,slow=4.0,SNR=3.9
TXAR P3KPbc 22 05 24.5
comp=Z,4.7nm,0.9s,baz=269,slow=3.1,SNR=11
MIAR Mount Ida 23.86 346 P P 21 32 03.0 -0.9
MIAR pmax pmax
comp=Z,1µm,0.6s,mb6.6
MIAR MLR MLR
comp=Z,590µm,22.0s,MS7.0
MIAR Mount Ida 23.86 346⇑ eP P 21 32 03.1 -0.8
comp=Z,3µm,0.7s,mb6.8
MIAR e 21 32 07.9
MIAR LR LR
comp=Z,591µm,22.0s,MS7.0
CPCT Cooper Cave 24.01 4⇑ eP P 21 32 08.2 +2.9
CPCT e 21 32 12.8
HBAR Harrisburg 24.30 352 eP P 21 32 07.2 -1.0
HBAR e 21 32 11.8
HALT Halls 24.50 355⇑ eP P 21 32 10.2 +0.1
HALT e 21 32 13.4
GNAR Gosnell 24.62 354⇑ eP P 21 32 11.0 -0.3
GNAR e 21 32 15.2
WVT Waverly 24.63 358 P P 21 32 11.4 0.0
WVT S S 21 36 28.2 +2.4
WVT Waverly 24.63 358⇑ eP P 21 32 09.5 -1.9
WVT pmax pmax
comp=Z,67nm,0.6s,mb5.3
WVT MLR MLR
comp=Z,270µm,20.0s,MS6.7
WVT Waverly 24.63 358⇑ eP P 21 32 08.0 -3.4
comp=Z,698nm,0.8s,mb6.2
WVT e 21 32 15.2
WVT LR LR
comp=Z,270µm,20.0s,MS6.7
GLAT Glass 24.85 355⇑ eP P 21 32 13.3 -0.3
UTMT University of 24.89 356⇑ eP P 21 32 14.3 +0.3
comp=Z,2µm,1.0s,mb6.6
UTMT e 21 32 18.5
NNA Nana 25.23 157 eP P 21 32 16.9 -0.4
comp=Z,678nm,1.2s,mb6.0
NNA e pP 21 32 28.8 -2.6
NNA LR LR
comp=Z,14µm,20.0s
WMOK Wichita Mounta 25.69 337 eP P 21 32 19.2 -2.2
comp=Z,18µm,1.4s
WMOK LR LR
comp=Z,156µm,21.0s
CLNB Carlsbad 26.09 325 eP P 21 32 24.1 -1.0
BLA Blacksburg 26.30 11 P P 21 32 27.5 +0.4
BLA pmax pmax
comp=Z,81nm,1.2s,mb5.1
BLA MLR MLR
comp=Z,540µm,20.0s,MS7.1
BLA Blacksburg 26.30 11 eP P 21 32 27.3 +0.2
comp=Z,663nm,0.9s,mb6.2
BLA e 21 32 32.7
BLA e pP 21 32 36.8 -4.5
BLA LR LR
comp=Z,538µm,20.0s,MS7.1
PWV Princeton 26.31 10 eP P 21 32 26.2 -0.9
PWV e 21 32 31.6
GDL2 Guadalupe Moun 26.31 325 eP P 21 32 26.7 -0.5
USIN University of 26.45 358⇑ eP P 21 32 26.7 -1.8
comp=Z,2µm,1.2s,mb6.5
USIN e 21 32 32.2
FWV Forest Hill 26.59 11 eP P 21 32 29.8 +0.1
FWV e 21 32 33.9
CPRX Cap Rock 26.66 326 eP P 21 32 29.7 -0.7
FVM French Village 26.66 353 P P 21 32 28.8 -1.6
FVM pmax pmax
comp=Z,480nm,1.3s,mb5.9
FVM French Village 26.66 353⇑ eP P 21 32 27.5 -3.0
comp=Z,322nm,1.0s,mb5.8
FVM e 21 32 33.2
WCI Wyandotte Cave 26.70 1 P P 21 32 29.3 -1.5
WCI pmax pmax
comp=Z,480nm,0.8s,mb6.1
WCI MLR MLR
comp=Z,51µm,21.0s,MS6.0
WCI Wyandotte Cave 26.70 1 eP P 21 32 29.1 -1.7
comp=Z,661nm,0.8s,mb6.2
WCI e 21 32 34.3
WCI LR LR
comp=Z,51µm,21.0s,MS6.1
CCM Cathedral Cave 26.84 352 P P 21 32 29.4 -2.6
CCM sS 21 37 26.7
CCM Cathedral Cave 26.84 352 eP P 21 32 29.2 -2.8
comp=Z,568nm,0.7s,mb6.2
CCM LR LR
comp=Z,60µm,21.0s,MS6.1
AMTX Amarillo 27.05 332 eP P 21 32 32.2 -1.7
comp=Z,9µm,1.3s
SLM Saint Louis 27.29 354 eP P 21 32 34.8 -1.4
comp=Z,334nm,0.7s,mb6.0
BLO Bloomington 27.64 0 P P 21 32 37.7 -1.7
BLO pmax pmax
comp=Z,84nm,0.5s,mb5.6
BLO Bloomington 27.64 0⇑ eP P 21 32 36.8 -2.6
comp=Z,570nm,0.7s,mb6.3
BLO e 21 32 41.6
CBN Corbin 27.95 16 eP P 21 32 41.3 -0.9
comp=Z,880nm,0.9s,mb6.4
CBN e 21 32 46.0
CBN LR LR
comp=Z,969µm,20.0s,MS7.4
MCWV Mont Chateau 28.78 11 eP P 21 32 48.4 -1.1
comp=Z,276nm,0.6s,mb6.2
MCWV e 21 32 52.4
MCWV LR LR
comp=Z,503µm,20.0s,MS7.1
ACSO Alum Creek Sta 28.89 6⇑ eP P 21 32 48.6 -1.9
comp=Z,334nm,0.6s,mb6.2
ACSO e 21 32 53.5
ACSO LR LR
comp=Z,558µm,21.0s,MS7.2
KSU1 Kansas State U 28.95 344⇑ eP P 21 32 48.3 -2.7
KSU1 e 21 32 53.2
BNM Barren Site 29.03 324 eP P 21 32 51.1 -0.7
BNM e 21 32 56.5
BBSR BB Station 29.07 41 eP P 21 32 51.9 -0.3
comp=Z,446nm,0.9s,mb6.2
BBSR LR LR
comp=Z,669µm,20.0s,MS7.2
LPM Los Pinos Moun 29.15 325 eP P 21 32 52.1 -0.8
LPM e 21 32 57.0
LENM Lemitar 29.24 324 eP P 21 32 54.7 +1.0
LAZ Ladron 29.50 324 eP P 21 32 56.4 +0.3
LAZ e 21 33 02.5
ANMO Albuquerque 29.52 326 P P 21 32 56.2 0.0
ANMO pmax pmax
comp=Z,39nm,1.4s
ANMO MLR MLR
comp=Z,130µm,21.0s
ANMO Albuquerque 29.52 326 eP P 21 32 55.7 -0.5
comp=Z,636nm,1.0s,mb6.3
ANMO e 21 33 01.0
ANMO LR LR
comp=Z,135µm,21.0s,MS6.5
CBKS Cedar Bluff 29.66 339 P P 21 32 57.6 +0.3
CBKS pmax pmax
comp=Z,440nm,0.8s,mb6.2
CBKS MLR MLR
comp=Z,300µm,22.0s,MS6.9
CBKS Cedar Bluff 29.66 339 eP P 21 32 55.7 -1.7
comp=Z,994nm,1.0s,mb6.5
CBKS e 21 33 00.3
CBKS LR LR
comp=Z,296µm,22.0s,MS6.9
SSPA Standing Stone 30.13 13 eP P 21 33 00.1 -1.4
comp=Z,530nm,1.1s,mb6.2
SSPA LR LR
comp=Z,125µm,20.0s,MS6.5
TUC Tucson 30.39 317 P P 21 33 04.1 +0.2
TUC pmax pmax
comp=Z,320nm,1.4s,mb5.9
TUC MLR MLR
comp=Z,370µm,19.0s,MS7.0
TUC Tucson 30.39 317⇑ eP P 21 33 03.9 0.0
comp=Z,868nm,1.1s,mb6.4
TUC e 21 33 09.1
TUC LR LR
comp=Z,366µm,19.0s,MS7.0
ALLY Alegheny Colle 30.66 10 eP P 21 33 04.7 -1.5
ALLY e 21 33 09.3
LUPA Lehigh Univers 30.74 17⇑ eP P 21 33 05.8 -1.2
LUPA e 21 33 10.0
AAM Ann Arbor 30.88 4 P P 21 33 08.3 +0.1
AAM pmax pmax
comp=Z,2µm,1.6s,mb6.8
AAM MLR MLR
comp=Z,510µm,21.0s,MS7.2
AAM Ann Arbor 30.88 4⇑ eP P 21 33 06.6 -1.6
comp=Z,1µm,1.3s,mb6.5
AAM LR LR
comp=Z,511µm,21.0s,MS7.2
SAML Samuel 30.93 130⇑ eP P 21 33 05.2 -3.7
comp=Z,502nm,1.1s,mb6.3
SAML LR LR
comp=Z,96µm,20.0s,MS6.5
BRNJ Basking Ridge 31.06 18 eP P 21 33 08.3 -1.4
BRNJ e 21 33 12.2
SDCO Great Sand Dun 31.16 330 eP P 21 33 10.1 -0.6
comp=Z,1µm,0.8s,mb6.7
SDCO e 21 33 14.8
SDCO LR LR
comp=Z,179µm,22.0s,MS6.7
CPNY Central Park 31.34 19 eP P 21 33 12.0 -0.3
CPNY e 21 33 16.1
ARE Arequipa 31.52 151 eP P 21 33 16.0 +2.0
ARE e 21 38 29.0
JFWS Jewell Farm 31.53 355 eP P 21 33 10.8 -3.1
comp=Z,670nm,0.7s,mb6.6
JFWS LR LR
comp=Z,185µm,22.0s,MS6.7
PAL Palisades 31.55 19 P P 21 33 15.0 +0.9
PAL pmax pmax
comp=Z,140nm,0.7s,mb5.9
PAL Palisades 31.55 19 eP P 21 33 12.0 -2.1
comp=Z,169nm,0.7s,mb6.0
PAL e 21 33 16.8
BINY Binghamton 32.07 15 eP P 21 33 16.5 -2.1
comp=Z,764nm,1.0s,mb6.5
BINY e 21 33 20.9
BINY LR LR
comp=Z,727µm,21.0s,MS7.3
BUF Buffalo 32.13 11 P P 21 33 22.0 +2.9
GENY Geneseo 32.18 12 eP P 21 33 17.7 -1.8
GENY e 21 33 22.8
ISCO Idaho Springs 32.86 333 P P 21 33 24.9 -0.6
ISCO pmax pmax
comp=Z,75nm,0.5s,mb5.9
ISCO MLR MLR
comp=Z,190µm,22.0s,MS6.8
ISCO Idaho Springs 32.86 333⇑ eP P 21 33 23.6 -1.9
comp=Z,212nm,0.7s,mb6.2
ISCO e 21 33 29.4
ISCO LR LR
comp=Z,194µm,22.0s,MS6.8
PV01 Paradox Valley 33.02 327 eP P 21 33 26.8 -0.1
PV01 e 21 33 31.4
LPAZ La Paz 33.10 146 P P 21 33 27.6 -0.2
comp=Z,4.7nm,0.5s,baz=326,slow=5.0,SNR=13
LPAZ ScP 21 39 59.2
comp=Z,12nm,0.8s,baz=28,slow=11,SNR=3.6
LPAZ LR LR 21 47 23.3
comp=Z,39µm,20.5s,baz=148,slow=37
LPAZ La Paz 33.10 146⇑ eP P 21 33 27.0 -0.8
LPAZ pmax pmax
comp=Z,96nm,0.7s
LPAZ MLR MLR
comp=Z,44µm,19.0s
LPAZ La Paz 33.10 146⇑ eP P 21 33 27.0 -0.8
comp=Z,107nm,1.0s,mb5.7
LPAZ LR LR
comp=Z,44µm,19.0s,MS6.2
BRYW Bryant College 33.16 21 eP P 21 33 26.7 -1.4
comp=Z,147nm,0.6s,mb6.1
BRYW e 21 33 30.2
QUA2 Belchertown 33.20 20 P P 21 33 27.4 -1.1
comp=Z,199nm,0.7s,mb6.2
QUA2 e 21 33 34.0
PV10 Paradox Valley 33.45 327 eP P 21 33 29.5 -1.1
WES Weston 33.65 21 P P 21 33 33.4 +1.1
WES pmax pmax
comp=Z,4µm,2.2s,mb6.9
WES MLR MLR
comp=Z,1200µm,19.0s,MS7.6
WES Weston 33.65 21 eP P 21 33 30.8 -1.5
comp=Z,369nm,1.1s,mb6.2
WES e 21 33 36.8
WES LR LR
comp=Z,1173µm,19.0s,MS7.6
HRV Harvard--Oak R 33.67 20 P P 21 33 31.8 -0.7
HRV pmax pmax
comp=Z,200nm,1.1s,mb6.0
HRV MLR MLR
comp=Z,980µm,19.0s,MS7.5
HRV Harvard--Oak R 33.67 20 eP P 21 33 31.4 -1.1
comp=Z,79nm,0.6s,mb5.8
HRV e 21 33 37.5
HRV LR LR
comp=Z,978µm,19.0s,MS7.5
ACCN Adirondack Com 33.80 17 eP P 21 33 31.8 -1.7
SADO Sadowa 33.87 10 P P 21 33 33.4 -0.8
comp=Z,88nm,0.7s,mb5.8,baz=214,slow=10,SNR=24
SADO LR LR 21 47 20.3
comp=Z,381µm,21.6s,MS7.1,baz=209,slow=37
SADO Sadowa 33.87 10 P P 21 33 33.4 -0.8
SADO LR LR 21 47 20.3
NCB Newcomb 34.18 16 eP P 21 33 35.1 -1.7
comp=Z,308nm,1.2s,mb6.1
NCB e 21 33 38.9
NCB LR LR
comp=Z,575µm,19.0s,MS7.3
MIV Mineville/With 34.47 17 eP P 21 33 38.1 -1.2
FFD Franklin Falls 34.50 20⇑ eP P 21 33 39.3 -0.2
comp=Z,297nm,0.7s,mb6.3
FFD e 21 33 44.9
MDV Middlebury 34.50 17 eP P 21 33 37.7 -1.9
HNH Hanover 34.51 19 eP P 21 33 38.2 -1.4
comp=Z,16nm,0.9s,mb4.9
HNH e 21 33 43.6
PTN Potsdam (NY) 34.54 15 P P 21 33 38.6 -1.3
PTN Potsdam (NY) 34.54 15 eP P 21 33 37.6 -2.4
LOZ Lake Ozonia 34.69 15 eP P 21 33 38.4 -2.8
LOZ e 21 33 42.8
BAR Barrett 34.71 312 eP P 21 33 42.5 +1.0
BAR e 21 33 49.3
SRU San Rafael 34.77 327 eP P 21 33 41.8 -0.2
SRU San Rafael 34.77 327 eP P 21 33 41.2 -0.8
SRU e 21 33 46.6
LDFC Landfair 34.93 317⇑ eP P 21 33 45.2 +1.9
MSNY Massena 34.97 15 eP P 21 33 42.9 -0.6
PFO Pinyon Flat Ob 35.04 314 P P 21 33 47.4 +3.1
comp=Z,1µm,1.1s,mb6.8,SNR=72
PFO Pinyon Flat Ob 35.04 314 P P 21 33 46.5 +2.2
PFO pmax pmax
comp=Z,220nm,1.0s,mb6.0
PFO MLR MLR
comp=Z,53µm,19.0s,MS6.3
PFO Pinyon Flat Ob 35.04 314 eP P 21 33 44.9 +0.6
comp=Z,317nm,1.0s,mb6.2
PFO LR LR
comp=Z,53µm,19.0s,MS6.3
NEN Nelson 35.09 318 eP P 21 33 45.1 +0.4
NEN e 21 33 50.5
MSU Marysvale 35.28 324 P P 21 33 47.6 +1.4
MSU Marysvale 35.28 324 eP P 21 33 46.9 +0.7
MSU e 21 33 51.7
TMUT Trail Mountain 35.28 326⇑ eP P 21 33 45.9 -0.3
TMUT e 21 33 51.3
MVU Marysvale 35.29 324 eP P 21 33 46.8 +0.5
comp=Z,2µm,1.3s,mb6.8
MVU e 21 33 52.7
MVU LR LR
comp=Z,261µm,20.0s,MS7.0
ARUT Antelope Range 35.53 322 P P 21 33 49.7 +1.2
ARUT Antelope Range 35.53 322 eP P 21 33 48.6 +0.1
ARUT e 21 33 54.8
RSSD Black Hills 35.85 339 P P 21 33 50.1 -1.0
RSSD pmax pmax
comp=Z,250nm,0.8s,mb6.2
RSSD MLR MLR
comp=Z,37µm,21.0s,MS6.1
RSSD Black Hills 35.85 339 eP P 21 33 49.7 -1.4
comp=Z,331nm,0.8s,mb6.3
RSSD e 21 33 55.3
RSSD LR LR
comp=Z,37µm,21.0s,MS6.1
MPU Maple Canyon 36.02 327 eP P 21 33 52.3 -0.2
MPU e 21 33 56.9
DAU Daniels Canyon 36.10 327 P P 21 33 53.5 +0.3
DAU Daniels Canyon 36.10 327 eP P 21 33 52.9 -0.3
WVL Waterville 36.14 21 eP P 21 33 53.6 0.0
comp=Z,3µm,1.4s
WVL LR LR
comp=Z,2682µm,20.0s
NLU North Lily Min 36.22 326⇑ eP P 21 33 55.5 +1.3
JLU Jordanelle 36.34 327 eP P 21 33 55.1 -0.1
JLU e 21 33 59.6
MWC Mount Wilson 36.49 314 eP P 21 33 00.3 +3.7
MWC Mount Wilson 36.49 314 eP P 21 33 57.4 +0.8
MWC e 21 34 05.7
CTU Camp Tracy 36.57 327 eP P 21 33 57.3 +0.2
CTU e 21 34 01.5
CTU e pP 21 34 14.3 +2.3
TCUT Toone Canyon 36.69 328 eP P 21 33 57.2 -1.0
TCUT e 21 34 02.2
NOQ North Oquirrh 36.73 327 eP P 21 33 59.0 +0.4
NOQ e 21 34 02.9
TPNV Topopah Spring 36.77 319 P P 21 34 02.4 +3.5
TPNV pmax pmax
comp=Z,1µm,1.6s,mb6.5
TPNV MLR MLR
comp=Z,270µm,19.0s,MS7.0
TPNV Topopah Spring 36.77 319⇑ eP P 21 34 00.9 +2.0
comp=Z,450nm,1.1s,mb6.2
TPNV e 21 34 05.5
TPNV LR LR
comp=Z,269µm,19.0s,MS7.0
DUG Dugway 36.79 326 P P 21 33 59.6 +0.6
DUG pmax pmax
comp=Z,4µm,0.8s
DUG Dugway 36.79 326⇑ eP P 21 33 59.5 +0.4
comp=Z,323nm,0.9s,mb6.2
DUG e 21 34 04.4
DUG LR LR
comp=Z,278µm,20.0s,MS7.0
BW06 Boulder Array 37.02 332⇑ eP P 21 33 59.3 -1.6
comp=Z,272nm,0.8s,mb6.1
BW06 e 21 34 04.4
BW06 LR LR
comp=Z,246µm,22.0s,MS7.0
PDAR Pinedale Array 37.02 332 P P 21 33 59.4 -1.5
comp=Z,26nm,0.6s,mb5.2,baz=128,slow=10.0,SNR=64
PDAR PcP PcP 21 36 21.7 +0.5
comp=Z,36nm,0.7s,baz=107,slow=4.6,SNR=3.9
PDAR S S 21 39 45.5 +3.7
comp=Z,14nm,1.1s,baz=108,slow=18,SNR=3.3
PDAR ScP 21 40 11.3
comp=Z,61nm,1.0s,baz=149,slow=4.1,SNR=12
PDAR PKiKP 21 43 40.1
comp=Z,5.0nm,0.8s,baz=100,slow=1.4,SNR=5.2
PDAR P3KPbc 22 04 30.8
comp=Z,1.9nm,1.0s,baz=245,slow=0.9,SNR=7.2
PDAR P4KPbc 22 12 27.6
comp=Z,0.6nm,0.6s,baz=135,slow=4.2,SNR=4.5
EMMW East Machias 37.07 23⇑ eP P 21 34 00.3 -1.0
comp=Z,490nm,0.9s,mb6.3
EMMW LR LR
comp=Z,2043µm,19.0s,MS7.9
HWUT Hardware Ranch 37.13 329⇑ eP P 21 34 01.2 -0.7
comp=Z,1µm,0.8s,mb6.7
HWUT e 21 34 05.7
HWUT LR LR
comp=Z,160µm,20.0s,MS6.8
TRCR Troy Canyon 37.20 321⇑ eP P 21 34 04.5 +2.0
DAC Darwin (Calif) 37.27 317 P P 21 34 06.3 +3.2
DAC pmax pmax
comp=Z,200nm,1.2s,mb5.8
DAC MLR MLR
comp=Z,330µm,21.0s,MS7.1
DAC Darwin (Calif) 37.27 317⇑ eP P 21 34 03.2 +0.1
comp=Z,383nm,1.4s,mb6.0
DAC LR LR
comp=Z,332µm,21.0s,MS7.1
SPUT South Promonto 37.38 327 eP P 21 34 03.9 0.0
SPUT e 21 34 08.4
BGU Big Grassy Mou 37.42 326⇑ eP P 21 34 04.5 +0.3
BGU e 21 34 09.8
AHID Auburn Hatcher 37.76 330 eP P 21 34 06.9 -0.1
comp=Z,1µm,1.0s,mb6.6
AHID e 21 34 12.2

AHID LR LR
comp=Z,212µm,20.0s,MS6.9
HVU Hansel Valley 37.88 328 P **P** **21 34 09.0 +0.9**
HVU Hansel Valley 37.88 328⇑ *e*P **P** **21 34 08.9 +0.8**
HVU *e* 21 34 14.0
LVC Limon Verde 38.05 153 *e*P **P** **21 34 10.9 +1.2**
comp=Z,222nm,1.4s,mb5.7
LVC LR LR
comp=Z,45µm,19.0s,MS6.3
TPH Tonopah 38.06 319 P **P** **21 34 12.2 +2.6**
TPH pmax pmax
comp=Z,960nm,1.6s,mb6.3
TPH MLR MLR
comp=Z,300µm,19.0s,MS7.1
TPH Tonopah 38.06 319 *e*P **P** **21 34 10.1 +0.4**
comp=Z,692nm,1.4s,mb6.2
TPH LR LR
comp=Z,299µm,19.0s,MS7.1
REDW Red Top Meadow 38.09 331⇑ *e*P **P** **21 34 09.2 -0.5**
REDW *e* 21 34 13.9
SNOW Snow King Moun 38.12 331⇑ *e*P **P** **21 34 10.0 0.0**
SNOW *e* 21 34 14.8
LOHW Long Hollow 38.16 332⇑ *e*P **P** **21 34 09.8 -0.6**
LOHW *e* 21 34 15.3
WUWY Wally Ulrich 38.17 331 *e*P **P** **21 34 09.3 -1.2**
WUWY *e* 21 34 15.2
TPAW Teton Pass 38.23 331⇑ *e*P **P** **21 34 10.4 -0.6**
TPAW *e* 21 34 16.7
MOOW Moose Ponds 38.33 332⇑ *e*P **P** **21 34 10.9 -0.9**
MOOW *e* 21 34 16.0
MTUM Tungsten Hills 38.52 318 *e*P **P** **21 34 16.0 +2.6**
ELK Elko 38.52 324 P **P** **21 34 14.0 +0.5**
ELK MLR MLR
comp=Z,270µm,19.0s
ELK Elko 38.52 324⇑ *e*P **P** **21 34 13.4 -0.1**
comp=Z,611nm,1.0s,mb6.3
ELK *e* 21 34 19.6
ELK LR LR
comp=Z,273µm,19.0s,MS7.1
PQI Presque Isle 38.54 21 *e*P **P** **21 34 12.0 -1.6**
comp=Z,654nm,0.7s,mb6.5
PQI LR LR
comp=Z,2907µm,19.0s
LKWY Lake 38.80 333 P **P** **21 34 21.6 +5.9**
LKWY pmax pmax
comp=Z,380nm,1.2s,mb6.0
LKWY MLR MLR
comp=Z,270µm,22.0s,MS7.0
LKWY Lake 38.80 333 *e*P **P** **21 34 17.6 +1.8**
LKWY LR LR
comp=Z,273µm,22.0s,MS7.0
LAO LASA Array 38.85 338⇑ *e*P **P** **21 34 14.8 -1.2**
comp=Z,277nm,0.7s,mb6.1
LAO *e* 21 34 19.8
LAO LR LR
comp=Z,155µm,20.0s,MS6.8
MNV Mina 38.86 319 P **P** **21 34 17.0 +0.7**
MNV MLR MLR
comp=Z,240µm,19.0s,MS7.0
MNV Mina 38.86 319 *e*P **P** **21 34 16.7 +0.4**
comp=Z,527nm,1.1s,mb6.2
MNV LR LR
comp=Z,239µm,19.0s,MS7.0
YFT Old Faithful 38.91 332 *e*P **P** **21 34 17.5 +0.9**
YFT *e* 21 34 21.7
OMM Old Mammoth Mi 38.95 318 *e*P **P** **21 34 17.2 +0.2**
OMM *e* 21 34 23.5
NVAR Mina Array Bea 38.95 319 P **P** **21 34 17.8 +0.7**
comp=Z,56nm,0.6s,mb5.5,baz=123,slow=8.2,SNR=40
NVAR PcP PcP 21 36 25.1 -2.2
comp=Z,25nm,0.8s,baz=121,slow=5.3,SNR=2.0
NVAR ScP 21 40 20.2
comp=Z,11nm,0.7s,baz=127,slow=4.5,SNR=3.3
NVAR PKiKP 21 43 44.0
comp=Z,3.5nm,0.8s,baz=133,slow=3.5,SNR=3.5
NVAR LR LR 21 52 00.3
comp=Z,157µm,21.8s,MS6.8,baz=145,slow=39
NVAR P4KPbc 22 12 34.8
comp=Z,0.5nm,0.6s,baz=109,slow=6.1,SNR=3.7
YNR Norris Junctio 39.05 333 *e*P **P** **21 34 18.8 +1.1**
YNR *e* 21 34 22.7
YMR Madison River 39.14 332⇑ *e*P **P** **21 34 19.4 +0.9**
YMR *e* 21 34 23.2
ULM Lac du Bonnet 39.45 351 P **P** **21 34 17.8 -3.2**
comp=Z,328nm,0.7s,mb6.2,baz=170,slow=8.4,SNR=28
ULM ScP 21 40 18.6
comp=Z,140nm,1.3s,baz=106,slow=22,SNR=6.8
ULM LR LR 21 51 34.4
comp=Z,163µm,21.9s,MS6.8,baz=164,slow=38
ULM Lac du Bonnet 39.45 351⇑ *e*P **P** **21 34 17.6 -3.4**
comp=Z,610nm,0.8s,mb6.4
ULM *e* 21 34 22.8
ULM LR LR
comp=Z,265µm,22.0s,MS7.0
GCMT Greycliff 39.45 335 *e*P **P** **21 34 20.0 -1.1**
GCMT *e* 21 34 25.0
QLMT Earthquake Lak 39.48 332 P **P** **21 34 19.5 -1.9**
QLMT *e* 21 34 26.9
BMN Battle Mountai 39.48 322 P **P** **21 34 22.7 +1.3**
BMN pmax pmax
comp=Z,2µm,1.4s,mb6.6
BMN MLR MLR
comp=Z,220µm,19.0s,MS7.0
BMN Battle Mountai 39.48 322 *e*P **P** **21 34 21.7 +0.3**
comp=Z,1µm,1.2s,mb6.6
BMN *e* 21 34 27.0
BMN LR LR
comp=Z,218µm,19.0s,MS7.0
LRV Little Rabbit 39.70 315 *e*P **P** **21 34 27.0 +3.8**
LRV *e* 21 34 33.0
DGMT Dagmar 39.72 342 *e*P **P** **21 34 21.9 -1.4**
comp=Z,975nm,0.7s,mb6.6
DGMT LR LR
comp=Z,291µm,22.0s,MS7.1
HLID Hailey 40.00 328 *e*P **P** **21 34 25.0 -0.7**
comp=Z,326nm,0.8s,mb6.1
HLID *e* 21 34 31.3
HLID LR LR
comp=Z,236µm,21.0s,MS7.0
CMB Columbia Colle 40.10 317 P **P** **21 34 28.7 +2.1**
CMB Columbia Colle 40.10 317 P **P** **21 34 26.0 -0.6**
CMB pmax pmax
comp=Z,360nm,1.4s,mb5.9
CMB MLR MLR
comp=Z,180µm,21.0s,MS6.9
CMB Columbia Colle 40.10 317 *e*P **P** **21 34 24.2 -2.4**
comp=Z,430nm,1.4s,mb6.0
CMB *e* 21 34 28.9
CMB LR LR
comp=Z,184µm,21.0s,MS6.9
MCMT McKenzie Canyo 40.14 331 *e*P **P** **21 34 27.1 +0.3**
SAO San Andreas Ge 40.16 315 P **P** **21 34 34.7 +7.6**
SAO pmax pmax
comp=Z,140nm,1.0s,mb5.7
SAO MLR MLR
comp=Z,280µm,21.0s,MS7.1
SAO San Andreas Ge 40.16 315⇑ *e*P **P** **21 34 27.4 +0.2**
comp=Z,653nm,1.5s,mb6.1
SAO LR LR
comp=Z,276µm,21.0s,MS7.1
WCN Washoe City 40.38 319 P **P** **21 34 32.8 +3.9**
WCN pmax pmax
comp=Z,390nm,1.3s,mb6.0
WCN Washoe City 40.38 319 *e*P **P** **21 34 31.2 +2.3**
comp=Z,542nm,1.5s,mb6.1
LKC Lake Chabot 41.08 316 *e*P **P** **21 34 35.7 +1.0**
BEKR Beckwourth 41.09 320 *e*P **P** **21 34 34.8 +0.1**
comp=Z,371nm,1.0s,mb6.0
BEKR *e* 21 34 41.0
HRV Holter Researc 41.10 334 *e*P **P** **21 34 33.7 -1.0**
SAC San Andreas 41.24 315 P **P** **21 34 42.1 +6.1**
SAC San Andreas 41.24 315 P **P** **21 34 36.4 +0.4**
OHCM Honcut 41.52 318 *e*P **P** **21 34 39.6 +1.3**
OHCM *e* 21 34 44.5
NSHM Saint Helena R 41.84 316 *e*P **P** **21 34 39.5 -1.4**
CHMT Chamberlain Mo 41.89 333 *e*P **P** **21 34 39.6 -1.6**
MSO Missoula 42.14 332 *e*P **P** **21 34 41.9 -1.4**
comp=Z,559nm,1.3s,mb6.0
MSO *e* 21 34 47.3
MSO LR LR
comp=Z,98µm,20.0s,MS6.7
MOD Modoc 42.22 322 *e*P **P** **21 34 44.4 +0.4**
comp=Z,1µm,1.7s,mb6.2
MOD *e* 21 34 48.6
MOD LR LR
comp=Z,266µm,20.0s,MS7.1
HOPS Hopland 42.40 317 P **P** **21 34 44.3 -1.2**
comp=Z,418nm,1.3s,mb5.9
HOPS LR LR
comp=Z,254µm,22.0s,MS7.1
LTIM Timbered Crate 42.53 320 P **P** **21 34 51.0 +4.4**
LASM Arnica Sink 42.83 321 P **P** **21 34 54.0 +5.0**
WDC Whiskeytown Da 42.87 319 *e*P **P** **21 34 48.1 -1.3**
comp=Z,88nm,1.0s,mb5.4
WDC *e* 21 34 51.1
BSMT Bassoo Peak 43.28 332 P **P** **21 34 56.2 +3.6**
LAMM Antelope Mount 43.48 320 P **P** **21 34 58.2 +3.8**
LNOR Lincton Mounta 43.59 328 P **P** **21 34 55.7 +0.6**
LNOR Lincton Mounta 43.59 328 *e*P **P** **21 34 54.5 -0.7**
YBH Yreka Blue Hor 43.61 320 P **P** **21 34 54.5 -0.8**
comp=Z,2.9nm,0.7s,baz=82,slow=6.0,SNR=3.8
YBH PcP PcP 21 36 42.2 -0.3
comp=Z,42nm,1.1s,baz=101,slow=24,SNR=1.4
YBH Yreka Blue Hor 43.61 320 P **P** **21 34 56.7 +1.4**
YBH pmax pmax
comp=Z,52nm,0.7s
YBH MLR MLR
comp=Z,180µm,22.0s
YBH Yreka Blue Hor 43.61 320 *e*P **P** **21 34 54.8 -0.5**
comp=Z,69nm,0.8s,mb5.4
YBH LR LR
comp=Z,183µm,22.0s,MS6.9
BUOR Burton Butte 43.62 321 P **P** **21 34 59.5 +4.0**
KHMM Horse Mountain 43.80 319 *e*P **P** **21 34 57.3 +0.4**
KHMM *e* 21 35 01.9
WALA Waterton Lakes 43.80 334 *e*P **P** **21 34 54.2 -2.6**
comp=Z,497nm,1.0s,mb6.2
WALA *e* 21 34 60.0
VIPM Ingram Point 43.98 325 P **P** **21 35 03.1 +4.8**
YPT Yellepit 44.06 328 P **P** **21 35 02.7 +3.7**
TLL Tololo Astrono 44.09 160 *e*P **P** **21 34 59.4 0.0**
RPN Rapa Nui 44.16 209 *e*P **P** **21 35 02.0 +2.0**
comp=Z,3µm,1.9s,mb6.6
RPN LR LR
comp=Z,7µm,21.0s
HUMO Hull Mountain 44.24 321 P **P** **21 34 59.1 -1.4**
comp=Z,94nm,0.9s,mb5.5
HUMO LR LR
comp=Z,123µm,19.0s,MS6.8
KRMB Red Mountain 44.25 319 *e*P **P** **21 35 01.7 +1.1**
VTHM Trough 44.37 326 P **P** **21 35 05.2 +3.8**
ET3 Eltopia 44.40 328 P **P** **21 35 05.3 +3.7**
REDWA Red Mountain 44.47 328 P **P** **21 35 06.5 +4.2**
WIW Wooded Island 44.48 328 P **P** **21 35 06.2 +3.8**
H2OWA Water 44.53 328 P **P** **21 35 06.9 +4.2**
PRW Prosser 44.55 327 P **P** **21 35 07.3 +4.5**
HAWA Hanford 44.59 328⇑ *e*P **P** **21 35 02.0 -1.2**
comp=Z,500nm,0.8s,mb6.4
HAWA *e* 21 35 06.5
HAWA LR LR
comp=Z,262µm,22.0s,MS7.1
MJ2 May Junction 2 44.60 328 P **P** **21 35 07.6 +4.3**
OT3 Othello 3 44.61 328 P **P** **21 35 07.7 +4.4**
RSW Rattlesnake Hi 44.62 328 P **P** **21 35 07.7 +4.3**
IRO Indian Ridge 44.62 323 P **P** **21 35 08.0 +4.6**
NEW Newport 44.66 331 P **P** **21 35 03.5 -0.2**
NEW pmax pmax
comp=Z,320nm,1.2s
NEW MLR MLR
comp=Z,210µm,20.0s
NEW Newport 44.66 331 *e*P **P** **21 35 01.2 -2.5**
comp=Z,907nm,1.6s,mb6.3
NEW *e* 21 35 06.2
NEW LR LR
comp=Z,206µm,20.0s,MS7.0
GBL Gable Mountain 44.68 328 P **P** **21 35 07.0 +3.0**
VGB Gordon Butte 44.69 326 P **P** **21 35 07.9 +3.9**
VGB Gordon Butte 44.69 326 *e*P **P** **21 35 05.1 +1.1**
SNIWA Snively Ranch 44.70 328 P **P** **21 35 07.1 +3.1**
LOCW Locke Island 44.74 328 P **P** **21 35 08.5 +4.1**
BENWA Benson Ranch 44.76 328 P **P** **21 35 07.7 +3.2**
GBB Gable Butte 44.77 328 P **P** **21 35 07.7 +3.0**
CRF Corfu 44.79 328 P **P** **21 35 07.8 +3.0**
KBO Bosley Butte 44.82 320 *e*P **P** **21 35 03.1 -1.9**
KBO *e* 21 35 10.6
OD2 Odessa Site #2 44.83 329 P **P** **21 35 10.0 +4.9**
HSO Harness Mounta 44.84 322 P **P** **21 35 08.5 +3.3**
HSO Harness Mounta 44.84 322 *e*P **P** **21 35 07.2 +2.0**
FFC Flin Flon 44.86 347 P **P** **21 35 02.5 -2.7**
FFC pmax pmax
comp=Z,41nm,0.6s,mb5.4
FFC MLR MLR
comp=Z,56µm,22.0s,MS6.5
FFC Flin Flon 44.86 347⇑ *e*P **P** **21 35 03.2 -2.0**
comp=Z,448nm,0.6s,mb6.5
FFC *e* 21 35 07.8
FFC LR LR
comp=Z,56µm,22.0s,MS6.5
DPW Davenport 44.90 330 P **P** **21 35 05.1 -0.6**
DPW Davenport 44.90 330 *e*P **P** **21 35 03.7 -2.0**
DPW *e* 21 35 09.6
VFP Flag Point 44.95 325 P **P** **21 35 10.2 +4.1**
KEBM Edson Butte 45.24 321 P **P** **21 35 08.4 0.0**
KEBM *e* 21 35 13.6
SSOR Sweet Springs 45.24 324 P **P** **21 35 11.6 +3.2**
SSOR Sweet Springs 45.24 324 *e*P **P** **21 35 07.3 -1.1**
SAW Saint Andrews 45.38 329 P **P** **21 35 13.1 +3.6**
COR Corvallis 45.57 323 P **P** **21 35 14.6 +3.6**
COR pmax pmax
comp=Z,630nm,1.2s,mb6.4
COR MLR MLR
comp=Z,30µm,21.0s,MS6.2
COR Corvallis 45.57 323 *e*P **P** **21 35 09.6 -1.4**
comp=Z,299nm,0.8s,mb6.3
COR LR LR
comp=Z,30µm,21.0s,MS6.2
WTV Waterville 45.66 329 P **P** **21 35 15.3 +3.6**
LTY Liberty 45.74 328 P **P** **21 35 16.4 +4.1**
CBSW Chelan Butte S 45.77 329 P **P** **21 35 16.7 +4.1**
LON Longmire 46.02 327 *e*P **P** **21 35 14.8 +0.3**
SCHQ Schefferville 46.06 16 P **P** **21 35 11.4 -3.3**
comp=Z,52nm,0.6s,mb5.7,baz=210,slow=5.6,SNR=53
SCHQ PcP PcP 21 36 50.3 -0.4
comp=Z,117nm,0.7s,baz=250,slow=3.1,SNR=2.8
SCHQ LR LR 21 54 43.2
comp=Z,620µm,21.9s,MS7.5,baz=210,slow=37
SCHQ Schefferville 46.06 16 *e*P **P** **21 35 11.1 -3.7**
comp=Z,176nm,0.7s,mb6.1
SCHQ LR LR
comp=Z,959µm,22.0s,MS7.7
FMW Mount Fremont 46.06 327 P **P** **21 35 19.9 +5.0**
NLW Nelson Butte 46.10 329 *e*P **P** **21 35 13.6 -1.6**
NLW *e* 21 35 19.2
RMW Rattlesnake Mo 46.47 327 P **P** **21 35 23.1 +5.1**
RMW Rattlesnake Mo 46.47 327 *e*P **P** **21 35 18.0 0.0**
NLO Nicolai Mounta 46.53 325 P **P** **21 35 24.3 +5.8**
BMW Boistfort Moun 46.63 326 P **P** **21 35 23.3 +3.9**
BMW Boistfort Moun 46.63 326 P **P** **21 35 18.3 -1.1**
BDFB Brasilia 46.80 124 P **P** **21 35 17.8 -3.2**
comp=Z,107nm,0.9s,mb5.8,baz=287,slow=7.2,SNR=53
BDFB LR LR 21 56 57.3
comp=Z,96µm,19.5s,MS6.8,baz=310,slow=39
BAO Brasilia Array 46.81 124 *e*P **P** **21 35 18.8 -2.4**
EDM Edmonton 46.84 338 P **P** **21 35 19.0 -1.9**
EDM Edmonton 46.84 338⇑ *e*P **P** **21 35 18.2 -2.6**
EDM *e* 21 35 23.3
RPW Rockport 46.94 329 *e*P **P** **21 35 21.5 -0.3**
GNW Green Mountain 47.07 327 *e*P **P** **21 35 21.3 -1.5**
GNW *e* 21 35 24.9
CLCH Cerro Calan 47.15 161 *e*P **P** **21 35 22.7 -0.9**
CPUP Villa Florida 47.16 143 P **P** **21 35 24.6 +0.9**
comp=Z,74nm,0.9s,mb5.6,baz=357,slow=8.3,SNR=24
CPUP LR LR 21 57 37.6
comp=Z,22µm,18.6s,MS6.2,baz=345,slow=39
CPUP Villa Florida 47.16 143⇑ *e*P **P** **21 35 21.3 -2.5**
CPUP pmax pmax
comp=Z,330nm,1.0s
CPUP MLR MLR
comp=Z,25µm,21.0s
CPUP Villa Florida 47.16 143⇑ *e*P **P** **21 35 21.3 -2.5**
comp=Z,326nm,1.1s,mb6.2
CPUP LR LR
comp=Z,25µm,21.0s,MS6.2
FCH Farellones 47.16 161⇑ *e*P **P** **21 35 24.1 +0.3**
FCC Fort Churchill 47.58 355 P **P** **21 35 24.3 -2.3**
FCC pmax pmax
comp=Z,43nm,0.4s,mb5.8
FCC Fort Churchill 47.58 355 *e*P **P** **21 35 23.7 -2.9**
comp=Z,442nm,1.1s,mb6.4
LMEL Las Melosas 47.67 161⇑ *e*P **P** **21 35 27.5 -0.2**
OCWA Octopus Mounta 47.91 326 P **P** **21 35 29.1 -0.3**
comp=Z,306nm,0.9s,mb6.3
OCWA LR LR
comp=Z,350µm,21.0s,MS7.3
PGC Sidney 48.07 328 *e*P **P** **21 35 30.1 -0.5**
comp=Z,2µm,1.3s,mb6.9
PGC *e* 21 35 34.4
BBB Bella Bella 52.57 329 P **P** **21 36 04.1 -0.7**
comp=Z,119nm,0.9s,mb5.8,baz=130,slow=6.4,SNR=11
BBB LR LR 22 03 00.6
comp=Z,163µm,20.4s,MS7.1,baz=135,slow=42
RCBR Riachuelo 53.37 106 *e*P **P** **21 36 04.4 -7.0**
comp=Z,422nm,1.8s,mb6.1
RCBR LR LR
comp=Z,119µm,22.0s,MS6.9
LPA La Plata 53.54 151 *ce*P **P** **21 36 11.0 -1.3**
LPA *e*pP pP 21 36 18.0 -10
LPA *e*S **S** **21 43 42.0 +2.8**
comp=Z,12µm,18.0s
FRB Frobisher Bay 53.81 10 P **P** **21 36 10.8 -3.1**
comp=Z,39nm,0.5s,mb5.6,baz=205,slow=8.0,SNR=26
TRQA Tornquist 54.39 156 P **P** **21 36 17.8 -0.7**
TRQA *S* **S** **21 43 52.3 +1.7**
TRQA Tornquist 54.39 156 *e*P **P** **21 36 16.2 -2.2**
comp=Z,356nm,1.4s,mb6.1
TRQA LR LR
comp=Z,30µm,21.0s,MS6.3
CAM4 Nova Friburgo 54.76 128 *e*P **P** **21 36 18.6 -2.8**
CAM4 *i* 21 36 23.4
CAM4 *i* 21 36 26.7
CAM4 *i* pP 21 36 30.9 -6.0
CAM4 *i* 21 36 42.2
YKA Yellowknife Ar 54.80 345 P **P** **21 36 17.8 -3.2**
comp=Z,15nm,0.6s,mb5.2,baz=140,slow=7.0,SNR=19
YKA PcP PcP 21 37 25.6 +3.0
comp=Z,41nm,0.7s,baz=144,slow=4.1,SNR=9.2
YKA S **S** **21 43 55.6 -0.2**
comp=Z,1.9nm,0.8s,baz=113,slow=16,SNR=3.2
YKA LR LR 22 02 05.6
comp=Z,148µm,21.1s,MS7.0,baz=135,slow=39
YKA PKPPKP 22 06 23.4
comp=Z,2.9nm,0.8s,baz=0.6,slow=3.0,SNR=4.6
YKA Yellowknife Ar 54.80 345 P **P** **21 36 17.8 -3.2**
YKA PcP PcP 21 37 25.6 +3.0
YKA S **S** **21 43 55.6 -0.2**
YKA LR LR 22 02 05.6
YKA P'P' 22 06 23.4
YKW3 Yellowknife Ar 54.85 345 *e*P **P** **21 36 18.9 -2.6**
YKW3 *e* 21 36 23.5
PTCN Pitcairn Islan 55.72 229 PFAKE 21 36 40.0 +12
PTCN LR LR
comp=Z,21µm,22.0s,MS6.2
DLBC Dease Lake 57.15 335 P **P** **21 36 36.8 -1.3**
comp=Z,55nm,0.9s,mb5.6,baz=128,slow=6.1,SNR=43
DLBC ScP 21 41 35.8
comp=Z,19nm,0.8s,baz=112,slow=16,SNR=5.1
DLBC LR LR 22 03 54.1
comp=Z,151µm,20.9s,MS7.1,baz=116,slow=39
DLBC PKPPKP 22 06 30.6
comp=Z,9.2nm,1.3s,baz=265,slow=4.5,SNR=5.0
DLBC Dease Lake 57.15 335⇑ *e*P **P** **21 36 36.4 -1.7**
DLBC *e* 21 36 41.4
NRS Narsarsuaq 58.05 22 *i* P **P** **21 36 44.1 -0.2**
PCED Cedros 58.05 52 *e*P **P** **21 36 51.4 +6.8**
PPNO Prainha do Nor 58.36 52 *e*P **P** **21 36 53.4 +6.6**
RKT Rikitea 58.39 234 *e*P **P** **21 36 52.8 +5.6**
comp=Z,246nm,1.0s,mb6.2
RKT Rikitea 58.39 234 *e*SS SS 21 48 49.4 +11
RKT *e*L 21 51 59.4
RKT *e*R 21 54 22.7
comp=Z,102µm,27.0s
ROSA Rosais 58.42 52 *e*P **P** **21 36 50.7 +3.5**
PMAN Manadas 58.52 52 *e*P **P** **21 36 54.6 +6.7**
PGRA Graciosa 58.68 51 *e*P **P** **21 36 54.9 +5.9**
SIT Sitka 58.74 331 P **P** **21 36 51.3 +2.1**
SIT pmax pmax
comp=Z,92nm,0.9s,mb5.8
SIT MLR MLR
comp=Z,170µm,20.0s,MS7.2
SIT Sitka 58.74 331 *e*P **P** **21 36 52.2 +3.0**
PSBA Serra de Santa 59.14 52 *e*P **P** **21 36 51.2 -0.9**
ADH Angra Heroismo 59.19 52 *e*P **P** **21 36 54.9 +2.4**
ADH Angra Heroismo 59.19 52 *e*PP PP 21 39 22.0 +17
ADH *i*S **S** **21 45 00.0 +6.1**
ADH *i*SS SS 21 49 00.0 +9.4
ADH *i*LR LR 21 54 45.0
PDA Ponta Delgada 60.25 53 *e*P **P** **21 37 02.0 +2.1**
PDA Ponta Delgada 60.25 53 *e*PP PP 21 39 16.8 +1.7
PDA *e*S **S** **21 45 20.0 +12**
PDA *e*SS SS 21 49 08.8 +1.9
PDA *e*LQ 21 52 24.8
PDA *e*LR LR 21 55 10.4
RES Resolute Bay 63.42 358 P **P** **21 37 17.7 -2.9**
RES pmax pmax
comp=Z,37nm,0.7s,mb5.6
RES Resolute Bay 63.42 358 *e*P **P** **21 37 17.1 -3.5**
comp=Z,96nm,0.6s,mb6.1
DAWY Dawson 64.03 337⇑ *e*P **P** **21 37 23.1 -1.5**
INK Inuvik 64.40 343 P **P** **21 37 24.2 -2.8**
comp=Z,43nm,1.1s,mb5.4,baz=120,slow=8.0,SNR=23
INK PKPPKP 22 06 17.9
comp=Z,12nm,1.1s,baz=311,slow=4.6,SNR=5.0
INK LR LR 22 08 39.4
comp=Z,151µm,20.6s,MS7.2,baz=252,slow=39
INK Inuvik 64.40 343 P **P** **21 37 24.8 -2.2**
INK pmax pmax
comp=Z,120nm,0.8s
INK Inuvik 64.40 343 *e*P **P** **21 37 24.6 -2.4**
comp=Z,184nm,0.7s,mb6.2
INK *e* 21 37 29.5
EYAK Cordova Ski Ar 65.15 332 *e*P **P** **21 37 31.8 -0.1**
EYAK *e* 21 37 35.8
DIV Divide 65.38 333 *e*P **P** **21 37 32.6 -0.8**
comp=Z,491nm,0.8s,mb6.6
DIV *e* 21 37 35.7
VAH Vaihoa 65.88 248 *e*P **P** **21 37 42.3 +5.0**
comp=Z,439nm,1.2s,mb6.3
PMOR Pomariorio Ree 66.04 248 *e*P **P** **21 37 43.7 +5.3**
comp=Z,440nm,1.4s,mb6.3
CHIE El Hierro 66.04 65 P **P** **21 37 39.7 +1.5**
comp=Z,77nm,1.2s,mb5.6
THY Trims Highway 66.26 335 *e*P **P** **21 37 36.9 -2.1**
THY *e* 21 37 41.4
POHA Pohakuloa 66.44 287 *e*P **P** **21 37 43.4 +2.5**
comp=Z,2µm,1.6s,mb6.8
EGOM La Gomera 66.70 64 P **P** **21 37 43.2 +0.8**
comp=Z,188nm,0.9s,mb6.1
SML Sawmill 66.78 333 P **P** **21 37 41.8 -0.4**
SML Sawmill 66.78 333 *e*P **P** **21 37 41.6 -0.6**
SML *e* 21 37 44.9
HKL Haleakala 67.06 288 *e*P **P** **21 37 43.4 -1.3**
PMR Palmer 67.06 333 P **P** **21 37 43.3 -0.7**
PMR pmax pmax
comp=Z,51nm,0.8s,mb5.6
PMR Palmer 67.06 333 *e*P **P** **21 37 43.4 -0.6**
MEH Mehetia 67.20 245 *e*P **P** **21 37 50.8 +5.2**
comp=Z,276nm,1.3s,mb6.1
SLKM Skilak Lake 67.22 331 P **P** **21 37 44.7 -0.3**
SLKM Skilak Lake 67.22 331 *e*P **P** **21 37 43.7 -1.4**
SLKM *e* 21 37 48.1
CCAN Las Canadas 67.23 64 P **P** **21 37 48.0 +2.3**
comp=Z,37nm,0.8s,mb5.5
ILAR Eielson Array 67.25 336 P **P** **21 37 42.8 -2.4**
comp=Z,23nm,0.5s,mb5.5,baz=138,slow=4.4,SNR=91
ILAR PP PP 21 40 11.6 -4.2
comp=Z,100nm,1.2s,baz=131,slow=3.4,SNR=4.4
ILAR S S 21 46 38.0 +3.8
comp=Z,0.8nm,0.9s,baz=120,slow=7.3,SNR=3.1
ILAR PKPPKP 22 06 08.9
comp=Z,4.2nm,0.9s,baz=301,slow=2.9,SNR=10.0
ILAR LR LR 22 10 56.0
comp=Z,134µm,21.3s,MS7.1,baz=127,slow=40
SUMG Summit 67.41 14 *e*P **P** **21 37 42.9 -3.1**
comp=Z,187nm,1.1s,mb6.0
EBAJ Bajamar 67.46 64 P **P** **21 37 48.5 +1.4**
EFI East Falkland 67.55 161 *e*P **P** **21 37 47.5 +0.3**
comp=Z,437nm,1.1s,mb6.4
KDAK Kodiak Island 67.62 328 P **P** **21 37 50.0 +2.4**
comp=Z,2µm,0.7s,SNR=17
KDAK Kodiak Island 67.62 328 *e*P **P** **21 37 45.4 -2.2**
comp=Z,218nm,0.7s,mb6.3
KDAK *e* 21 37 50.1
COLA College 67.67 336 P **P** **21 37 45.7 -2.1**
COLA pmax pmax

comp=Z,130nm,0.7s,mb6.1
COLA College 67.67 336 *e*P P **21 37 46.7 -1.1**
comp=Z,155nm,0.7s,mb6.2
MCK McKinley 67.70 335 P P **21 37 46.3 -1.7**
MCK pmax pmax
comp=Z,150nm,1.0s,mb6.0
MCK McKinley 67.70 335 *e*P P **21 37 45.5 -2.5**
comp=Z,162nm,1.0s,mb6.0
USHA Ushuaia 67.77 169 P P **21 37 50.6 +2.0**
comp=Z,18nm,0.8s,mb5.1,baz=327,slow=9.4,SNR=4.8
USHA LR LR 22 03 34.4
comp=Z,22µm,18.6s,MS6.4,baz=335,slow=32
TVO Taravao 68.22 246 *e*P P **21 37 57.2 +5.2**
comp=Z,243nm,0.9s,mb6.2
TIAR Tiarei 68.23 246 *e*P P **21 37 57.1 +5.1**
comp=Z,840nm,1.1s,mb6.7
SPU Mount Spurr 68.27 332 *e*P P **21 37 50.2 -1.4**
SPU *e* 21 37 54.4
RSO Redoubt South 68.40 331 *e*P P **21 37 51.0 -1.4**
RSO *e* 21 37 55.5
PPT Papeete 68.44 246 P P **21 37 52.5 -0.9**
comp=Z,27nm,1.0s,mb5.2,baz=204,slow=21,SNR=1.6
PPT Papeete 68.44 246 *e*P P **21 37 58.8 +5.5**
comp=Z,218nm,1.4s,mb6.0
PPT Papeete 68.44 246 *e*SS SS 21 51 17.0 +1.8
PPT *e*R 21 58 26.6
comp=Z,161µm,24.5s,baz=54
PAE Paea 68.47 246 *e*P P **21 37 58.8 +5.2**
comp=Z,651nm,1.3s,mb6.0
HON Honolulu 68.64 289 *e*P P **21 37 52.7 -1.8**
KIP Kipapa 68.64 289 *e*P P **21 37 56.5 +1.9**
comp=Z,866nm,1.5s,mb6.5
BORG Borgarnes 69.34 25 P P **21 37 57.6 -0.6**
comp=Z,20nm,0.9s,mb5.0,baz=184,slow=3.5,SNR=2.2
IMA Indian Mountai 70.37 337 P P **21 38 02.6 -1.8**
IMA pmax pmax
comp=Z,370nm,1.0s,mb6.3
IMA Indian Mountai 70.37 337 *e*P P **21 38 01.9 -2.4**
comp=Z,548nm,1.1s,mb6.4
TBI Tubuai 70.42 240 *e*P P **21 38 10.6 +5.2**
comp=Z,554nm,1.4s,mb6.3
TBI *e*R 21 59 34.5
comp=Z,144µm,25.5s,baz=62
TTA Tatalina 70.53 333 *e*P P **21 38 05.8 +0.4**
SCO Scoresbysund 70.99 19 *i*P P **21 38 07.5 -0.6**
comp=Z,15nm,0.8s,mb5.0
SCO *i* 21 47 07.1
SDPT Sand Point 71.46 325 *e*P P **21 38 14.7 +3.6**
PLOU Loures 73.27 53 *e*P P **21 38 16.8 -5.4**
comp=Z,178nm,1.6s,mb5.8
PLOU *e*- 21 38 54.5
LIS Lisbon 73.28 53 *e*P P **21 38 20.4 -1.8**
LIS *e*S S 21 47 44.2 -0.6
LIS *e*S S 21 47 44.3 -0.6
LIS AMS AMS 22 05 38.5
comp=Z,159µm,20.8s,MS7.3
LIS Lisbon 73.28 53 *e*P P **21 38 20.4 -1.8**
LIS *e*S S 21 47 44.3 -0.6
comp=Z,159µm,20.8s
EMAZ Mazaricos 73.35 48 P P **21 38 24.4 +1.9**
comp=Z,38nm,1.0s,mb5.3
EZAM Zamans 73.57 49 P P **21 38 25.3 +1.5**
comp=Z,28nm,0.8s,mb5.2
PTEO Sao Teotonio 73.65 54 *e*P P **21 38 24.9 +0.5**
STS Santiago 73.67 49 P P **21 38 25.9 +1.5**
comp=Z,133nm,1.2s,mb5.7
DAG Danmarks Havn 73.99 13 *i*P P **21 38 24.0 -1.7**
comp=Z,6.0nm,0.6s,mb4.7
ELOB Lobios 74.04 50 P P **21 38 28.4 +1.8**
EVO Evora 74.17 53 *e*P P **21 38 25.6 -1.8**
comp=Z,57nm,0.6s,mb5.4
EVO *e*R
comp=Z,352µm,22.5s
PVIS Viseu 74.19 51 *e*P P **21 38 27.5 0.0**
comp=Z,92nm,1.2s,mb5.6
PVIS Viseu 74.19 51 *e*P P **21 38 28.3 +0.8**
PBEJ Beja 74.31 54 *e*P P **21 38 29.5 +1.3**
MTE Manteigas 74.47 51 *e*P P **21 38 27.6 -1.5**
comp=Z,116nm,1.0s,mb5.8
MTE *e*S S 21 48 02.4 +4.3
MTE *i*LQ 21 57 06.4
MTE *e*LR LR 22 01 56.4
MTE Manteigas 74.47 51 *e*P P **21 38 29.4 +0.3**
comp=Z,54nm,0.9s,mb5.5
PCBR Castelo Branco 74.54 52 *e*P P **21 38 29.3 -0.2**
comp=Z,68nm,1.9s,mb5.2
DCN Croghan 74.62 38 *e*P P **21 38 23.7 -6.0**
DCN Croghan 74.62 38⇑*i*P P **21 38 32.3 +2.6**
PALC Alcoutim 74.64 54 *e*P P **21 38 32.5 +2.3**
comp=Z,59nm,1.4s,mb5.3
EPON Pontenova 74.69 48 P P **21 38 31.6 +1.3**
comp=Z,20nm,0.7s,mb5.1
ERUA La Rua 74.71 49 P P **21 38 31.7 +1.3**
comp=Z,16nm,0.7s,mb5.0
UNV Unalaska Valle 74.85 323 *e*P P **21 38 30.6 -0.4**
comp=Z,3µm,0.7s
UNV *e* 21 38 35.6
DMUB Kingscourt 74.86 37 *e*P P **21 38 25.0 -6.0**
DMUB Kingscourt 74.86 37⇑*i*P P **21 38 33.9 +2.9**
ANM Nome 74.89 334 *e*P P **21 38 35.1 +4.1**
EBAD Badajoz 74.95 53 P P **21 38 33.1 +1.2**
comp=Z,6.4nm,0.6s
ECAL Calabor 75.03 50 P P **21 38 34.4 +2.2**
comp=Z,32nm,0.9s,mb5.2
PBRG Braganca 75.03 50 *e*P P **21 38 33.4 +1.1**
DLF Lyons Farm 75.07 38 *e*P P **21 38 25.5 -6.7**
DLF Lyons Farm 75.07 38⇑*i*P P **21 38 34.1 +1.9**
EMIN Mina Concepcio 75.26 54 P P **21 38 34.5 +0.8**
comp=Z,8.4nm,0.7s,mb4.8
JMIC Jan Mayen 75.43 19 P P **21 38 37.0 +3.0**
comp=Z,399nm,0.8s,mb5.4,baz=300,slow=22,SNR=2.3
JMIC LR LR 22 12 25.7
comp=Z,80µm,19.9s,MS7.0,baz=81,slow=36
JMIC Jan Mayen 75.43 19 *e*P P **21 38 35.2 +1.2**
JMIC AMS AMS 22 10 03.4
comp=Z,71µm,21.4s,MS6.9
ESPR Espera 75.97 55 P P **21 38 39.3 +1.5**
comp=Z,22nm,0.9s,mb5.1
TNA Tin City 76.05 335 *e*P P **21 38 38.4 +0.8**
comp=Z,104nm,1.1s,mb5.7
EARI Arriondas 76.10 48 P P **21 38 38.8 +0.4**
comp=Z,43nm,1.0s,mb5.3
NIKO Nikolski 76.25 322 *e*P P **21 38 38.9 -0.1**
NIKO *e* 21 38 43.4
MDO Dochfour 76.35 33 *e*P P **21 38 38.9 -0.5**
EAB Aberfoyle 76.36 35 *e*P P **21 38 38.4 -1.2**
EAB AMb AMB 21 39 05.2
comp=Z,121nm,1.9s,mb5.5
PCA1 Carrot 76.41 35 *e*P P **21 38 39.5 -0.3**
MVH1 Achvaich 76.45 33 *e*P P **21 38 39.8 -0.2**
PCOU Corrie 76.49 35 *e*P P **21 38 39.9 -0.4**
ORE Reay 76.67 32 *e*P P **21 38 41.2 0.0**
BWH Wardlaw 76.76 36 *e*P P **21 38 41.5 -0.3**
EMIJ Mijas 76.86 55 P P **21 38 43.2 +0.4**
comp=Z,297nm,1.8s,mb5.9
EAU Auchinoon 76.86 35 *e*P P **21 38 41.0 -1.4**
EAU AMb AMB 21 38 48.2
comp=Z,86nm,1.8s,mb5.4
MLA1 Latheron 76.88 33 *e*P P **21 38 42.0 -0.4**
EADA Adamuz 76.89 53 P P **21 38 43.5 +0.5**
comp=Z,10nm,0.6s,mb4.9
MCD Coleburn Disti 76.94 33 *e*P P **21 38 42.1 -0.7**
OBR Brabster 76.98 32 *e*P P **21 38 42.5 -0.5**
BBO1 Bothel 77.00 36 *e*P P **21 38 42.8 -0.4**
BBO1 AMb AMB 21 39 04.7
comp=Z,89nm,1.6s,mb5.5
BHH Howats Hill 77.01 36 *e*P P **21 38 42.9 -0.4**
EDI Edinburgh 77.01 35 *e*P P **21 38 42.7 -0.6**
EDI AMb AMB 21 38 49.1
comp=Z,98nm,2.0s,mb5.4
ESK Eskdalemuir 77.01 36 *e*P P **21 38 42.4 -0.9**
ESK AMb AMB 21 39 04.7
comp=Z,127nm,1.4s,mb5.7
ESK Eskdalemuir 77.01 36 P P **21 38 42.1 -1.1**
ESK pmax pmax
comp=Z,34nm,0.8s,mb5.3
ESK Eskdalemuir 77.01 36 *e*P P **21 38 38.4 -4.9**
comp=Z,59nm,0.8s,mb5.6
EKA Eskdalemuir Ar 77.04 36 P P **21 38 39.3 -4.1**
comp=Z,32nm,0.8s,mb5.3,baz=263,slow=5.2,SNR=25
CDU1 Dunnerdale 77.04 37 *e*P P **21 38 42.7 -0.8**
CKE Keswick 77.09 36 *e*P P **21 38 43.4 -0.3**
MME1 Meikle Cairn 77.11 34 *e*P P **21 38 42.5 -1.2**
BBH Bruntsheil 77.17 36 *e*P P **21 38 42.7 -1.5**
ELUQ Luque 77.18 54 P P **21 38 45.0 +0.4**
comp=Z,12nm,0.8s,mb4.9
ROSF Rostrenen 77.22 43 *e*P P **21 38 44.5 0.0**
comp=Z,68nm,0.9s,mb5.3
ESDC Sonseca Array 77.26 52 P P **21 38 43.4 -1.6**
comp=Z,21nm,0.6s,mb5.3,baz=285,slow=5.5,SNR=25
ESDC PKKPbc 21 57 54.9
comp=Z,1.4nm,0.7s,baz=51,slow=2.3,SNR=7.5
ESDC LR LR 22 09 05.1
comp=Z,133µm,19.9s,MS7.3,baz=270,slow=33
ESDC Sonseca Array 77.26 52 P P **21 38 45.5 +0.6**
comp=Z,21nm,0.6s,mb5.2
ESLA Sonseca Array 77.26 52 *e*P P **21 38 43.5 -1.5**
comp=Z,30nm,1.0s,mb5.2
ESLA *e* 21 38 47.8
OST Stronsay 77.29 32 *e*P P **21 38 44.5 -0.2**
ELOJ Sierra Loja 77.31 54 P P **21 38 46.6 +1.3**
comp=Z,18nm,0.8s,mb5.1
QUIF Quistinic 77.31 43 *e*P P **21 38 44.5 -0.6**
comp=Z,101nm,0.7s,mb5.6
BTA Talkin 77.32 36 *e*P P **21 38 44.5 -0.5**
ESY Stoneypath 77.33 35 *e*P P **21 38 44.1 -0.9**
ESY AMb AMB 21 39 00.0
comp=Z,95nm,2.1s,mb5.3
ELAN Lanestosa 77.40 48 P P **21 38 46.7 +1.1**
comp=Z,28nm,0.7s,mb5.3
ERON Agron 77.59 54 P P **21 38 47.6 +0.7**
comp=Z,27nm,0.6s,mb5.4
SGMF Saint Gilles 77.70 43 *e*P P **21 38 47.0 -0.2**
comp=Z,146nm,1.1s,mb5.5
WAL1 Walls 77.74 31 *e*P P **21 38 46.5 -0.6**
LHO Holmfirth 77.86 37 *e*P P **21 38 47.1 -0.9**
PMSA Palmer Station 77.87 170 P P **21 38 42.8 -5.1**
comp=Z,29nm,1.1s,mb5.1
KWE Weaver Farm 77.89 38 *e*P P **21 38 47.6 -0.6**
SAN1 Sandwick 77.94 31⇑*e*P P **21 38 47.9 -0.3**
LRW Lerwick 77.97 31⇑*e*P P **21 38 47.7 -0.7**
HPK Haverah Park 77.98 37 *e*P P **21 38 48.5 -0.1**
YEL1 Yell 78.00 30 *e*P P **21 38 48.8 +0.2**
KBI1 Birley Grange 78.07 38 *e*P P **21 38 48.8 -0.4**
EQES Quesada 78.11 54 P P **21 38 50.9 +1.3**
comp=Z,329nm,1.8s,mb6.0
EBER Berja 78.33 54 P P **21 38 51.6 +0.7**
comp=Z,144nm,0.9s,mb5.9
EVIA Vianos 78.47 53 P P **21 38 52.3 +0.7**
comp=Z,16nm,0.5s,mb5.2
ETOR Torete 78.62 50 P P **21 38 53.3 +0.9**
comp=Z,456nm,2.2s,mb6.0
KSY Syston 78.66 38 *e*P P **21 38 51.0 -1.3**
RAR Rarotonga 78.71 246 P P **21 38 56.3 +3.0**
comp=Z,12nm,0.8s,mb4.8,baz=35,slow=12,SNR=1.9
RAR LR LR 22 04 47.5
comp=Z,51µm,21.6s,MS6.8,baz=70,slow=29
RAR Rarotonga 78.71 246 *e*P P **21 38 53.8 +0.5**
comp=Z,285nm,1.4s,mb6.0
EALK Alkurruntz 78.81 48 P P **21 38 54.2 +0.9**
comp=Z,31nm,1.0s,mb5.2
GRR Gorron 78.82 43 *e*P P **21 38 52.5 -0.9**
comp=Z,156nm,0.8s,mb5.7
SJPF Ste Jean 79.02 48 *e*P P **21 38 54.2 -0.4**
comp=Z,117nm,0.8s,mb5.5
FLN La Foliniere 79.04 42 *e*P P **21 38 54.0 -0.5**
comp=Z,90nm,0.8s,mb5.4
FLN *e*R
comp=Z,332µm,19.5s
LARF Larrau 79.20 48 *e*P P **21 38 58.8 +3.2**
LDF La Druitiere 79.29 42 *e*P P **21 38 55.4 -0.5**
comp=Z,104nm,0.8s,mb5.5
MFF Saint Martin d 79.46 44 *e*P P **21 38 57.4 +0.5**
comp=Z,108nm,0.7s,mb5.6
ETSF Etsut 79.53 48 *e*P P **21 38 56.9 -0.4**
comp=Z,36nm,0.9s,mb5.0
EMUR La Murta 79.55 53 P P **21 38 57.8 +0.3**
comp=Z,44nm,1.3s,mb5.2
REYF Montagne du Re 79.63 48 *e*P P **21 39 01.1 +3.2**
ESAC San Caprasio 79.72 49 P P **21 38 58.9 +0.5**
comp=Z,631nm,1.8s,mb6.2
EMOS Mosqueruela 79.86 51 P P **21 38 59.8 +0.6**
comp=Z,22nm,0.7s,mb5.2
VIEF Viey 79.95 48 *e*P P **21 39 02.7 +3.1**
LABF Labassere 79.97 48 *e*P P **21 39 02.7 +3.0**
EBIE Bielsa 80.06 48 P P **21 39 00.9 +0.7**
EPF Esparros 80.17 48 *e*P P **21 39 00.8 0.0**
comp=Z,114nm,1.1s,mb5.4
RESF Ens 80.19 48 *e*P P **21 39 04.1 +3.2**
EBEN Beniarda 80.24 52 P P **21 39 01.5 +0.2**
LFF La Frestale 80.25 46 *e*P P **21 39 01.1 0.0**
comp=Z,160nm,1.1s,mb5.6
MELF Melles 80.49 48 *e*P P **21 39 06.4 +3.9**
EBR Ebro Roquetas 80.54 50 *e*PCP PcP 21 39 05.0 -4.8
TIC Toumodi 80.60 85 *e*PKP1 P **21 39 01.2 -2.4**
comp=Z,804nm,1.7s,mb6.4
LIC Lamto 80.66 86 *e*P P **21 39 01.7 -2.3**
comp=Z,88nm,0.7s,mb5.5
LIC Lamto 80.66 86 *e*PKP1 P **21 39 01.6 -2.4**
comp=Z,469nm,1.7s,mb6.1
GSTR Great Sitkin T 80.70 321 *e*P P **21 39 06.0 +2.7**
RJF Les Rejaudoux 80.75 46 *e*P P **21 39 03.7 -0.1**
comp=Z,62nm,1.0s,mb5.2
RJF *e*R
comp=Z,146µm,19.5s
DBIC Dimbokro 80.75 85 P P **21 39 01.8 -2.7**
comp=Z,15nm,1.0s,mb4.9,baz=297,slow=1.6,SNR=6.4
DBIC PKPPKP 22 05 46.5
comp=Z,13nm,1.2s,baz=218,slow=5.0,SNR=3.5
DBIC Dimbokro 80.75 85 *e*P P **21 39 02.6 -1.8**
DBIC pmax pmax
comp=Z,38nm,1.1s
DBIC Dimbokro 80.75 85 *e*P P **21 39 02.6 -1.9**
comp=Z,38nm,1.1s,mb5.2
SALF Salau 80.82 48 *e*P P **21 39 07.5 +3.3**
EPOB Poblet 80.91 50 P P **21 39 05.0 +0.3**
comp=Z,22nm,0.7s,mb5.2
KIC Kosan Boka 80.92 85 *e*PKP1 P **21 39 02.2 -3.1**
comp=Z,829nm,1.7s,mb6.4
TCF Toulx Ste Croi 81.11 45 *e*P P **21 39 05.2 -0.5**
comp=Z,76nm,1.0s,mb5.3
EMIR Miracle 81.17 49 P P **21 39 06.8 +0.7**
comp=Z,32nm,0.7s,mb5.4
CAF Calviac 81.18 46 *e*P P **21 39 06.0 -0.1**
comp=Z,59nm,1.0s,mb5.2
RUND Rundenannen 81.19 30 *e*P P **21 39 07.5 +1.7**
RUND AMb AMB 21 39 12.7
comp=Z,123nm,1.2s,mb5.7
HYF Humbligny 81.28 44 *e*P P **21 39 06.3 -0.2**
VERF Verneugheol 81.37 45 *e*P P **21 39 09.5 +2.5**
KIWB Kanaga Island 81.40 321 *e*P P **21 39 07.5 +0.4**
VALF Valcebollere 81.47 48 *e*P P **21 39 11.7 +4.0**
MTLF Montolieu 81.50 48 *e*P P **21 39 07.7 0.0**
comp=Z,89nm,1.1s,mb5.3
BGF Bois d'Agland 81.51 44 *e*P P **21 39 06.6 -1.2**
comp=Z,50nm,0.7s,mb5.3
HSP Hornsund 81.69 13 *e*P P **21 39 13.8 +5.7**
PYM Petit Puy Mans 81.73 45 *e*P P **21 39 11.5 +2.6**
AVF Avril sur Loir 81.83 44 *e*P P **21 39 08.6 -0.8**
comp=Z,37nm,1.0s,mb5.0
BLS5 Blasjo 81.88 31 *e*P P **21 39 10.1 +0.7**
BLS5 AMb AMB 21 39 22.3
comp=Z,43nm,1.4s,mb5.2
BLS5 Blasjo 81.88 31 *e*P P **21 39 10.1 +0.7**
comp=Z,43nm,1.4s,mb5.2
SSF Saint Saulge 81.89 44 *e*P P **21 39 08.8 -0.9**
comp=Z,52nm,0.9s,mb5.1
MOL Molde 81.92 28 *e*P P **21 39 14.6 +5.0**
MOL AMb AMB 21 39 17.5
comp=Z,52nm,1.4s,mb5.3
BAIF Baives 81.94 41 *e*P P **21 39 09.8 -0.1**
comp=Z,17nm,0.9s
LBL Lubilhac 81.97 46 *e*P P **21 39 13.1 +2.9**
LOR Lormes 82.10 43 *e*P P **21 39 10.4 -0.4**
comp=Z,60nm,0.8s,mb5.3
LOR *e*R
comp=Z,229µm,18.2s
EJON La Jonquera 82.11 48 P P **21 39 11.0 +0.1**
comp=Z,40nm,0.9s,mb5.3
SMF Signal de Mont 82.18 44 *e*P P **21 39 10.4 -0.8**
comp=Z,40nm,0.8s,mb5.1
GIVF Givet 82.32 41 *e*P P **21 39 11.8 -0.1**
LASF Ste Croix 82.57 47 *e*P P **21 39 13.2 -0.1**
comp=Z,82nm,1.2s,mb5.3
DOMB Dombas 82.71 28 *e*P P **21 39 15.4 +1.8**
DOMB AMb AMB 21 39 19.5
comp=Z,33nm,1.0s,mb5.3
DOMB Dombas 82.71 28 *e*P P **21 39 15.4 +1.8**
comp=Z,33nm,1.0s,mb5.3
MEZF Maizieres J'vi 82.71 42 *e*P P **21 39 13.6 -0.3**
comp=Z,69nm,0.7s,mb5.5
HGN Heimansgroeve 82.92 40 *e*P P **21 39 14.3 -0.6**
comp=Z,8.8nm,3.0s
HGN *e*PP PP 21 42 18.2 -9.5
HGN *e*PPP PPP 21 44 26.0 +5.0
HGN *e*S S 21 49 41.3 +14
HGN *e*SS SS 21 54 39.6 -15
VIVF Saint-Julien-l 83.03 46 *e*P P **21 39 15.3 -0.3**
comp=Z,99nm,1.1s,mb5.4
WIT Witteveen 83.04 38 *e*P P **21 39 20.5 +5.1**
comp=Z,80nm,1.7s,mb5.5
WLF Walferdange 83.24 41 P P **21 39 18.0 +1.5**
WLF pmax pmax
comp=Z,48nm,1.1s,mb5.4
WLF Walferdange 83.24 41 *e*P P **21 39 16.2 -0.3**
comp=Z,211nm,1.4s,mb6.0
WTSB Winterswijk 83.26 38 *e*P P **21 39 19.5 +2.9**
comp=Z,18nm,0.9s,mb5.1
BJO Bjornoya 83.27 15 *e*P P **21 39 19.1 +2.9**
BJO AMS AMS 22 15 58.3
comp=Z,127µm,23.1s,MS7.2
THEF They Montfort 83.37 42 *e*P P **21 39 18.0 +0.8**
NSS Namsos 83.49 25⇑*i*P P **21 39 16.2 -1.3**
NSS *e*SKSa 21 49 35.9
NSS *e*SS SS 21 55 15.5 +13
NSS AMS AMS 22 15 25.9
comp=Z,131µm,21.6s,MS7.3
NSS Namsos 83.49 25 *e*P P **21 39 19.8 +2.3**
HAU Haudompre 83.65 42 *e*P P **21 39 18.2 -0.5**
CABF La Chapelle 83.72 44 *e*P P **21 39 18.9 -0.1**
comp=Z,48nm,1.0s,mb5.3
NAO01 NORSAR Array S 83.80 29 P P **21 39 17.0 -2.1**
comp=Z,40nm,0.9s,mb5.5
SMRF Simiane la Rot 83.81 47 *e*P P **21 39 19.2 -0.4**
comp=Z,105nm,1.5s,mb5.5
MUD Monsted U'grnd 83.81 34 *i*P P **21 39 19.1 -0.2**
comp=Z,44nm,1.1s,mb5.5
MUD *i* 21 42 32.6
MUD *e* 21 49 13.3
MUD *i* 21 55 23.1
comp=Z,154µm,21.0s
RUP Ruppelstein 83.82 41 *e*P P **21 39 24.8 +5.3**
ORIF Oris-en-Rattie 83.86 46 *e*P P **21 39 19.9 +0.1**
ORIF *e*R
comp=Z,211µm,22.0s
NB2 NORSAR Subarra 83.92 29 P P **21 39 21.1 +1.4**
comp=Z,299nm,2.0s,mb6.1,baz=282,slow=5.0
NB2 NORSAR Subarra 83.92 29 P P **21 39 21.1 +1.4**
baz=282,slow=5.1
NOA NORSAR Array B 83.92 29 P P **21 39 16.8 -2.9**
comp=Z,1.1nm,0.7s,baz=288,slow=5.3,SNR=13
NOA PKKPbc 21 57 39.7
comp=Z,3.8nm,0.8s,baz=245,slow=3.0,SNR=7.2
NOA PKPPKP 22 05 39.3
comp=Z,1.9nm,0.9s,baz=256,slow=3.1,SNR=4.4
NOA LR LR 22 13 37.9
comp=Z,195µm,20.9s,MS7.5,baz=285,slow=34
NOA NORSAR Array B 83.92 29 P P **21 39 16.8 -2.9**
NOA PKKPbc 21 57 39.7
NOA P'P' 22 05 39.3
NOA LR LR 22 13 37.9
VILF Villemus 83.93 47 *e*P P **21 39 25.0 +4.8**
PUYF Puyloubier 83.97 47 *e*P P **21 39 24.8 +4.4**
HINF Hinteralfeld 84.02 43 *e*P P **21 39 20.3 -0.2**
comp=Z,36nm,0.9s,mb5.2
LOMF Lomont 84.08 43 *e*P P **21 39 21.7 +0.8**
ABH Alteburg 84.09 40 *e*P P **21 39 24.0 +3.2**
MOR8 Moi Rana 84.11 24 *e*P P **21 39 19.6 -0.9**
MOR8 AMb AMB 21 39 37.3
comp=Z,83nm,1.9s,mb5.5
MOR8 Moi Rana 84.11 24 *e*P P **21 39 18.8 -1.7**
comp=Z,83nm,1.9s,mb5.5
ECH Echery 84.15 42 *e*P P **21 39 24.1 +2.9**
OG01 Vacheresse 84.17 44 *e*P P **21 39 24.3 +3.0**
CDF Champ du Feu 84.19 42 *e*P P **21 39 21.4 0.0**
comp=Z,33nm,0.9s,mb5.2
MOF Molkenrain 84.20 42 *e*P P **21 39 24.1 +2.7**
TAVF Tavernes 84.21 47 *e*P P **21 39 22.7 +1.1**
WLS Welschbruch 84.24 42 *e*P P **21 39 26.9 +5.3**
LPL La Plagne 84.35 45 *e*P P **21 39 22.1 -0.1**
comp=Z,22nm,0.7s,mb5.1
LPG La Plagne 84.37 45 *e*P P **21 39 22.6 +0.3**
comp=Z,35nm,0.9s,mb5.2
LANF Langenberg 84.43 41 *e*P P **21 39 25.7 +3.2**
STR Strasbourg 84.48 42 *e*P P **21 39 26.2 +3.4**
RRL Cesana Torines 84.49 45 P P **21 39 24.7 +1.8**
MBDF Montbardon 84.52 46 *e*P P **21 39 23.4 +0.3**
comp=Z,16nm,0.7s,mb5.0
LMR La Mourre 84.59 47 *e*P P **21 39 23.6 +0.1**
comp=Z,53nm,1.1s,mb5.3
SURF Saint Ours 84.59 46 *e*P P **21 39 27.6 +4.1**
FRF La Foret Royal 84.64 47 *e*P P **21 39 23.6 -0.2**
comp=Z,16nm,0.7s,mb5.0
LSD Ceresole Reale 84.65 45 P P **21 39 24.7 +1.0**
FENE Fenestrelle 84.67 45 P P **21 39 25.2 +1.3**
TRO Tromso 84.74 20 *e*P P **21 39 25.3 +1.7**
TRO AMb AMB 21 39 30.6
comp=Z,120nm,1.7s,mb5.8
TRO *e*SS SS 21 55 21.7 +0.8
TRO AMS AMS 22 16 13.9
comp=Z,82µm,14.8s,MS7.2
TRO Tromso 84.74 20 *e*P P **21 39 25.3 +1.7**
comp=Z,120nm,1.7s,mb5.8
FELD Feldberg 84.77 42 *e*P P **21 39 27.9 +3.6**
RSP Reno Superiore 84.78 45 P P **21 39 25.2 +0.8**
CALN Calern 84.78 47 *e*P P **21 39 28.7 +4.3**
PZZ Prazzo 84.79 46 P P **21 39 25.9 +1.4**
LKBD Leukerbad 84.80 44⇓P P **21 39 26.4 +1.9**
BHB Bricherasio 84.84 45 P P **21 39 25.4 +0.7**
BFO Black Forest 84.89 42 *e*P P **21 39 24.3 -0.6**
BFO pmax pmax
comp=Z,109nm,1.4s,mb5.8
BFO Black Forest 84.89 42 *e*P P **21 39 24.3 -0.6**
comp=Z,109nm,1.4s,mb5.8
MVIF Mont Vial 84.94 46 *e*P P **21 39 28.4 +3.2**
TOD Tromm 84.95 41 *e*P P **21 39 28.3 +3.2**
BSEG Bad Segeberg 84.97 36 *e*P P **21 39 24.6 -0.5**
BSEG pmax pmax
comp=Z,441nm,1.9s,mb6.3
TOUF Mont Tournerai 84.99 46 *e*P P **21 39 28.5 +3.0**
STV Sta Anna Valdi 85.00 46 P P **21 39 27.0 +1.5**
STV2 Anna di Valdie 85.00 46 P P **21 39 26.7 +1.2**
TRAV 85.05 45 P P **21 39 26.1 +0.4**
AURF Auriere 85.07 46 *e*P P **21 39 28.8 +2.9**
ENR Entracque 85.07 46 P P **21 39 26.4 +0.5**
AUTN L'Aution 85.12 46 *e*P P **21 39 29.2 +3.1**
REVF Revere 85.13 47 *e*P P **21 39 29.4 +3.2**
MCGN Macugnaga 85.13 44 *e*P P **21 39 27.9 +1.8**
SBF Sospel 85.15 46 *e*P P **21 39 26.5 +0.2**
comp=Z,142nm,0.9s,mb5.8
ORO Oropa 85.19 45 *e*P P **21 39 28.0 +1.6**
ORX Oropa 85.19 45 P P **21 39 26.7 +0.3**
SAOF Saorge 85.21 46 *e*P P **21 39 29.4 +2.8**
MIDW Midway 85.27 298 *e*P P **21 39 28.1 +0.8**
comp=Z,788nm,1.4s,mb6.7
HFS Hagfors 85.32 30 P P **21 39 24.3 -2.4**
comp=Z,25nm,0.8s,mb5.4,baz=270,slow=1.5,SNR=41
HFS PKKPbc 21 57 37.1
comp=Z,1.0nm,0.5s,baz=135,slow=2.1,SNR=4.1
MONE Monesi 85.33 46 P P **21 39 27.7 +0.5**
NEGI Negi 85.34 46 P P **21 39 27.8 +0.6**
STU Stuttgart 85.37 41 P P **21 39 27.3 +0.1**
STU pmax pmax
comp=Z,41nm,1.1s,mb5.5
STU Stuttgart 85.37 41 *e*P P **21 39 26.6 -0.6**
comp=Z,33nm,0.8s,mb5.5
ROB Roburent 85.37 46 P P **21 39 28.4 +1.0**
CLZ Clausthal 85.45 38 *e*P P **21 39 27.6 0.0**
comp=Z,196nm,1.4s,mb6.0
IMI Imperia 85.46 46 P P **21 39 27.5 -0.3**
FIN Finale Ligure 85.63 46 P P **21 39 29.3 +0.7**
LLS Linth-Limmern 85.64 43⇓P P **21 39 30.8 +2.2**
VAI Varese 85.68 44 *e*P P **21 39 29.3 +0.5**
COP Copenhagen 85.76 34⇑*i*P P **21 39 25.8 -3.2**
comp=Z,49nm,1.0s,mb5.7
PCP Pian Castagno 85.80 46 P P **21 39 28.8 -0.7**
VDL Val di Lei 86.03 44⇑P P **21 39 34.2 +3.7**
DAVA Damuels 86.13 43⇓*i*P P **21 39 28.7 -2.3**
comp=Z,73nm,1.2s,mb5.8
DAVOX Davos 86.24 43 P P **21 39 30.6 -0.9**
comp=Z,15nm,0.7s,mb5.3,baz=334,slow=8.7,SNR=18
BOB Bobbio (Coli) 86.38 45 *e*P P **21 39 34.8 +2.5**
KTK1 Kautokeino 86.39 20 *e*P P **21 39 34.4 +2.6**
GRA1 Grafenberg Arr 86.46 40 *e*P P **21 39 32.4 -0.1**
comp=Z,227nm,1.4s,mb6.2

GRA1 e 21 40 09.4
GRA1 ePP PP 21 43 07.5 +11
GRA1 eS 21 50 30.5
GRA1 eSS SS 21 56 16.5 +30
GRA1 LR LR
comp=Z,279µm,20.3s,MS7.7
GRF Grafenberg Arr 86.46 40 eP **P 21 39 32.4 -0.1**
GRF pmax pmax
comp=Z,227nm,1.4s,mb6.2
GRF MLR MLR
comp=Z,279µm,20.3s,MS7.7
MOX Moxa 86.49 39 *i* P **P 21 39 32.4 -0.2**
MOX pP pP 21 40 09.0 +20
MOX PP PP 21 43 08.0 +11
MOX S S 21 50 11.0 +8.4
MOX PKKP PKKP 21 57 34.0 +22
MOX PKPPKP 22 05 40.0
MOX L 22 13 18.0
MOX Moxa 86.49 39 eP **P 21 39 32.4 -0.2**
MOX MLR MLR
comp=Z,82µm,22.0s,MS7.1
MOX Moxa 86.49 39 eP **P 21 39 32.4 -0.2**
MOX *e* 21 40 09.4
MOX *e* 21 43 07.5
MOX LR LR
comp=Z,82µm,22.0s,MS7.1
SMY Shemya 86.51 323 P **P 21 39 35.8 +3.1**
SMY pmax pmax
comp=Z,250nm,0.6s,mb6.6
SMY Shemya 86.51 323 eP **P 21 39 32.7 0.0**
comp=Z,769nm,1.1s,mb6.8
PGF Pioggiola 86.54 47 eP **P 21 39 32.5 -0.6**
comp=Z,55nm,0.7s,mb5.6
BRMO Bormio 86.64 43 eP **P 21 39 34.5 +1.0**
CODM 86.74 46 P **P 21 39 32.2 -1.8**
FUR Furstenfeldbru 86.85 42 eP **P 21 39 34.0 -0.5**
FUR pmax pmax
comp=Z,115nm,1.3s,mb6.0
FUR Furstenfeldbru 86.85 42 eP **P 21 39 34.0 -0.5**
comp=Z,115nm,1.3s,mb6.0
GRAM 86.87 45 P **P 21 39 33.1 -1.6**
ARCES ARCESS Array B 86.92 19 P **P 21 39 32.2 -2.2**
comp=Z,9.0nm,0.6s,mb5.2,baz=283,slow=3.5,SNR=15
ARCES PKKPbc 21 57 34.2
comp=Z,3.6nm,0.7s,baz=135,slow=1.7,SNR=5.0
ARCES LR LR 22 21 35.8
comp=Z,99µm,19.1s,MS7.2,baz=298,slow=38
ARCES ARCESS Array B 86.92 19 P **P 21 39 32.2 -2.2**
ARCES PKKPbc 21 57 34.2
ARCES LR LR 22 21 35.9
ARE0 ARCESS Array S 86.92 19 eP **P 21 39 35.7 +1.4**
BACM 86.92 46 P **P 21 39 33.1 -1.9**
MOTA Moosalm 86.93 42⇓ *i* P **P 21 39 34.6 -0.3**
comp=Z,96nm,1.8s,mb5.7
SAL Salo 86.94 44 eP **P 21 39 30.5 -4.5**
VINC Vinca 87.01 46 P **P 21 39 33.5 -1.9**
FX1 Attu Island--F 87.02 323 LR LR 22 18 41.3
comp=Z,712nm,21.5s,baz=265,slow=36
FX1 Attu Island--F 87.02 323 eP **P 21 39 33.7 -1.6**
SQTA Sankt Quirin 87.03 43⇓ *i* P **P 21 39 36.2 +0.8**
comp=Z,200nm,2.2s,mb6.0
NKC Novy Kostel 87.10 39 eP **P 21 39 35.6 -0.1**
NKC *e* 21 50 00.9
NKC *e* 21 51 21.5
NKC MLR MLR
comp=Z,140µm,21.5s,MS7.3
NKC Novy Kostel 87.10 39 eP **P 21 39 35.6 -0.1**
NKC *ex* x 21 40 12.7
NKC *eSKS* SKS 21 50 00.9 +5.6
NKC *ex* x 21 51 21.5
NKC AMS AMS 22 13 20.0
comp=Z,140µm,21.5s
BERN Bernov 87.14 39⇓ **P 21 39 35.4 -0.5**
CLL Collm 87.18 38 P **P 21 39 36.0 0.0**
comp=Z,logA/T=1.7,mb5.7
CLL *i* *PP pP 21 39 45.3 -7.3
CLL *i* *SP sP 21 39 49.5 -9.3
CLL *i* 21 40 01.1
CLL *i* 21 40 17.0
CLL *e* 21 41 17.0
CLL *e* 21 42 58.0
CLL *i* 21 43 06.7
CLL *e* 21 43 36.0
CLL *ePPP PPP 21 45 01.0 +0.8
CLL *e* 21 47 11.0
CLL eS S 21 50 16.0 +6.9
CLL ePS PS 21 51 21.0 +1.6
CLL *e* 21 52 38.0
CLL *e* 21 53 10.0
CLL eSS SS 21 55 58.0 +1.1
CLL ePKKP PKKP 21 57 32.0 +21
CLL eSSS SSS 21 59 59.0 +31
CLL L 22 02 42.0
CLL *e* 22 05 42.0
CLL Collm 87.18 38 eP **P 21 39 36.0 0.0**
CLL *i* pP 21 39 49.5 -3.1
CLL eS S 21 50 16.0 +6.9
CLL pmax pmax
comp=Z,51nm,1.1s,mb5.7
CLL MLR MLR
comp=Z,175µm,18.9s,MS7.5
CLL Collm 87.18 38 eP **P 21 39 36.0 0.0**
comp=Z,51nm,1.1s,mb5.7
CLL *i* pP 21 39 49.5 -3.1
CLL eS S 21 50 16.0 +6.9
CLL ePKKP PKKP 21 57 32.0 +21
CLL eP'P' 22 05 42.0
CLL LR LR
comp=Z,175µm,18.9s,MS7.5
SARO Sassorosso 87.18 46 P **P 21 39 34.1 -2.1**
GSCL Gusciola 87.27 45 eP **P 21 39 40.1 +3.5**
BSD Bornholm Skovb 87.28 34 *i* P **P 21 39 34.8 -1.6**
comp=Z,60nm,1.2s,mb5.7
BSD *e* 21 43 03.1
BSD *i* S S 21 50 22.6 +13
BSD *i* 21 56 17.1
comp=Z,73µm,20.0s
MAIM 87.30 46 P **P 21 39 34.5 -2.3**
RUE Ruedersdorf 87.34 37 eP **P 21 39 38.5 +1.7**
comp=Z,76nm,1.2s,mb5.8
ZCCA Zocca 87.54 45 eP **P 21 39 39.2 +1.3**
CTI Castel Tesino 87.60 44 eP **P 21 39 39.6 +1.4**
WET Wettzell 87.65 40 eP **P 21 39 38.3 0.0**
WET pmax pmax
comp=Z,284nm,1.5s,mb6.3
WET Wettzell 87.65 40 eP **P 21 39 38.3 0.0**
comp=Z,284nm,1.5s,mb6.3
GRFL Gerfalco 87.82 47 eP **P 21 39 42.7 +3.4**
BRG Berggiesshubel 87.86 39 eP **P 21 39 42.5 +3.2**
BRG *e* 21 43 06.0
BRG *i* S S 21 50 20.0 +4.4
BRG pmax pmax
comp=Z,281nm,2.3s,mb6.1
BRG MLR MLR
comp=N,69µm,18.8s,MS7.4
BRG MLR MLR
comp=E,119µm,18.8s,MS7.4
BRG MLR MLR
comp=Z,158µm,18.8s,MS7.5
BRG Berggiesshubel 87.86 39 eP **P 21 39 42.5 +3.2**
comp=Z,281nm,2.3s,mb6.1
BRG *e*PP PP 21 43 06.0 -2.2
BRG *i* S S 21 50 20.0 +4.4
BRG *i* PS PS 21 51 33.0 +5.4
BRG *i* SS SS 21 56 16.0 +8.8
BRG LR LR
comp=Z,158µm,18.8s,MS7.5
SEI Scarperia 87.88 46 eP **P 21 39 41.0 +1.4**
CSNT Castellina Chi 87.97 46 eP **P 21 39 43.6 +3.6**
AFI Afiamalu 88.00 255 P **P 21 39 41.0 +0.2**
comp=Z,105nm,1.2s,mb5.9
VMG Vicchio 88.03 46 eP **P 21 39 43.5 +3.2**
KHC Kasperske Hory 88.09 40 eP **P 21 39 40.3 -0.1**
KHC *e* 21 50 23.8
KHC *e* 21 51 32.2
KHC *e* 21 56 11.8
KHC MLR MLR
comp=Z,276µm,19.3s,MS7.7
KHC Kasperske Hory 88.09 40 eP **P 21 39 40.3 -0.1**
KHC *ex* x 21 40 11.0
KHC eS S 21 50 23.8 +6.0
KHC ePS PS 21 51 32.2 +1.8
KHC eSS SS 21 56 11.8 +1.2
KHC AMS AMS 22 16 10.0
comp=Z,276µm,19.3s
KHC Kasperske Hory 88.09 40 eP 21 57 31.6
PGD Poggio Sodo 88.17 46 eP **P 21 39 41.7 +0.7**
FVI Forni Avoltri 88.23 43 eP **P 21 39 46.3 +5.1**
GEC2 GERESS Array S 88.25 41 eP **P 21 39 41.2 0.0**
GEC2 pmax pmax
comp=Z,211nm,1.7s,mb6.1
GEC2 GERESS Array S 88.25 41 eP **P 21 39 41.2 0.0**
comp=Z,211nm,1.7s,mb6.1
GERES GERESS Array B 88.25 41 P **P 21 39 40.8 -0.3**
comp=Z,5.0nm,0.6s,mb4.9,baz=289,slow=3.4,SNR=23
GERES PP PP 21 43 09.5 -1.8
comp=Z,2.9nm,0.8s,baz=247,slow=7.5,SNR=3.0
GERES PKKPbc 21 57 29.5
comp=Z,1.8nm,0.6s,baz=180,slow=2.7,SNR=11
GERES PKPPKP 22 05 33.7
comp=Z,2.0nm,0.9s,baz=225,slow=1.9,SNR=6.7
PVCC Panska Ves 88.34 39 eP **P 21 39 42.9 +1.3**
PVCC *e* 21 50 30.8
PVCC MLR MLR
comp=Z,103µm,19.6s,MS7.2
PVCC Panska Ves 88.34 39 eP **P 21 39 42.9 +1.3**
PVCC *ex* x 21 40 15.1
PVCC *eSKS* SKS 21 50 30.8 +28
PVCC *ex* x 21 51 39.2
PVCC *ex* x 21 56 43.3
PVCC AMS AMS 22 16 10.0
comp=Z,103µm,19.6s
PVCC Panska Ves 88.34 39 eP 21 57 30.6
PRU Pruhonice 88.47 39 eP **P 21 39 42.9 +0.7**
PRU *e* 21 43 18.9
PRU *e* 21 50 29.1
PRU *e* 21 51 35.8
PRU pmax pmax
comp=Z,115nm,2.0s,mb5.8
PRU MLR MLR
comp=Z,224µm,23.0s,MS7.5
PRU Pruhonice 88.47 39 eP **P 21 39 42.9 +0.7**
comp=Z,115nm,2.0s,mb5.8
PRU *e*pP pP 21 40 12.0 +13
PRU *e*PP PP 21 43 18.9 +5.9
PRU *eS* S 21 50 29.1 +7.8
PRU *e*PS PS 21 51 35.8 +1.0
PRU AMS AMS 22 14 20.0
comp=Z,224µm,23.0s
PRU Pruhonice 88.47 39 eP 21 57 32.7
KBA Koelnbreinsper 88.48 42⇑ *i* P **P 21 39 40.4 -1.9**
comp=Z,44nm,1.1s,mb5.6
GMNA Gemona 88.61 43 eP **P 21 39 46.0 +3.1**
PTCC Patocco-Chiusa 88.66 43 eP **P 21 39 46.1 +2.9**
KMR Kremsmunster 88.73 41*c i* P **P 21 39 42.0 -1.5**
KMR Kremsmunster 88.73 41⇑ *i* P **P 21 39 42.0 -1.5**
MOA Molln 88.88 41⇑ *i* P **P 21 39 40.9 -3.3**
comp=Z,19nm,1.3s,mb5.3
FSSB Fossombrone 88.96 46 eP **P 21 39 46.0 +1.3**
CADS Cadrg 88.96 43 eP **P 21 39 44.3 -0.4**
CADS *e* 21 40 21.3
CADS *e* 21 43 26.8
VOY Vojsko 89.12 43 eP **P 21 39 48.4 +3.0**
VOY *e* 21 40 11.8
VOY *e* 21 40 21.9
GKP Gorka Klasztor 89.12 36 eP **P 21 39 44.2 -1.0**
GKP eS S 21 50 27.2 -0.1
GKP ePS PS 21 51 42.8 +0.4
GKP pmax pmax
comp=Z,8µm,14.3s
GKP MLR MLR
comp=Z,128µm,20.7s,MS7.3
GKP Gorka Klasztor 89.12 36 eP **P 21 39 44.2 -1.0**
GKP *e*pP pP 21 40 03.8 +1.9
GKP eS S 21 50 27.2 -0.1
GKP eSS 21 50 57.5
GKP ePS PS 21 51 42.8 +0.4
GKP eSS SS 21 56 54.3 +29
GKP LR LR
comp=Z,128µm,20.7s,MS7.3
GKP Gorka Klasztor 89.12 36 eP **P 21 39 44.2 -1.0**
comp=Z,8µm,14.3s
GKP *e*pP pP 21 40 03.8 +1.9
GKP eS S 21 50 27.2 -0.1
GKP esS 21 50 57.5
GKP ePS PS 21 51 42.8 +0.4
GKP eSS SS 21 56 54.3 +29
GKP MLR MLR 22 16 43.8
comp=Z,128µm,20.7s
MNS Montasola 89.22 47 eP **P 21 39 45.8 -0.1**
UPC Upice 89.23 39 eP **P 21 39 48.7 +2.9**
UPC *e* 21 43 24.9
UPC Upice 89.23 39 eP **P 21 39 48.7 +2.9**
UPC *ex* x 21 40 16.1
UPC *e*PP PP 21 43 24.9 +5.8
UPC Upice 89.23 39 eP 21 57 31.2
KSP Ksiaz 89.30 38⇑ eP **P 21 39 44.8 -1.3**
KSP *e* 21 43 12.5
KSP eS S 21 50 26.0 -3.0
KSP eSP SP 21 51 40.0 +3.4
KSP eSS SS 21 56 26.0 -1.8
KSP LR LR
comp=Z,376µm,19.4s,MS7.8
KSP Ksiaz 89.30 38 eP **P 21 39 44.5 -1.6**
comp=Z,13µm,15.4s
KSP *e*pP pP 21 40 02.1 -0.7
KSP eS S 21 50 09.9
KSP eS S 21 50 32.5 +3.5
KSP esS 21 50 58.1
KSP ePS PS 21 51 52.4 +8.0
KSP eSS SS 21 56 55.6 +28
KSP MLR MLR 22 18 25.0
comp=Z,326µm,19.4s
NRCA Norcia 89.42 46 eP **P 21 39 49.7 +2.9**
DPC Dobruska-Polom 89.46 39 eP **P 21 39 50.2 +3.3**
DPC *e* 21 50 16.7
DPC *e* 21 51 42.8
DPC MLR MLR
comp=Z,105µm,20.0s,MS7.3
DPC Dobruska-Polom 89.46 39 eP **P 21 39 50.2 +3.3**
DPC *e*pP pP 21 40 14.6 +11
DPC *e*SKS SKS 21 50 16.7 +6.7
DPC *e* 21 51 42.8
DPC LR LR
comp=Z,105µm,20.0s,MS7.3
DPC Dobruska-Polom 89.46 39 eP **P 21 39 50.2 +3.3**
DPC *ex* x 21 40 14.6
DPC *e*SKS SKS 21 50 16.7 +6.7
DPC ePS PS 21 51 42.8 -3.4
DPC AMS AMS 22 16 40.0
comp=Z,105µm,20.0s
DPC Dobruska-Polom 89.46 39 eP 21 57 30.1
LJU Ljubljana 89.54 43 eP **P 21 39 46.6 -0.8**
LJU *e* 21 40 23.5
LJU *e* 21 43 07.1
LJU *e* 21 43 30.2
LJU *e* 21 43 54.3
LJU ePKKPbc 21 57 27.8
LJU eP'P' 22 05 30.1
VISS Visnje 89.81 43 eP **P 21 39 47.1 -1.5**
VISS *e* 21 49 28.4
PTQR Pietraquaria 89.83 47 eP **P 21 39 52.9 +4.0**
PDKS Podkum 89.84 43 eP **P 21 39 48.2 -0.6**
ARSA Arzberg 89.86 42⇑ *i* P **P 21 39 51.8 +3.0**
comp=Z,9.3nm,0.8s,mb5.2
KRUC Moravsky 89.89 40 P **P 21 39 52.3 +3.4**
VRAC Vranov 89.94 40 P **P 21 39 48.8 -0.4**
comp=Z,15nm,1.1s,mb5.2,baz=292,slow=5.0,SNR=14
VRAC PKKPbc 21 57 28.3
comp=Z,2.1nm,0.7s,baz=57,slow=2.3,SNR=3.2
VKA Vienna 90.08 41⇓ *i* P **P 21 39 51.3 +1.5**
comp=Z,2µm,5.0s
VKA MLRZ 22 18 00.0
comp=Z,106nm,19.0s
NVLJ Novalja 90.18 44 *i* P **P 21 39 48.4 -2.0**
SDI San Donato 90.21 47 eP **P 21 39 51.5 +0.9**
ERC Erice 90.25 51 eP **P 21 39 53.8 +2.9**
GOLS Golise 90.28 43 eP **P 21 39 50.5 -0.3**
MORC Moravsky Berou 90.39 39 P **P 21 39 54.6 +3.4**
MORC pmax pmax
comp=Z,83nm,2.0s,mb5.7
MORC Moravsky Berou 90.39 39 eP **P 21 39 52.1 +0.8**
comp=Z,171nm,1.9s,mb6.1
SOP Sopron 90.41 41⇑ *e* **P 21 39 51.3 -0.1**
SOP *i* 21 43 23.4
APA Apatity 90.41 19 *i* P **P 21 39 51.0 0.0**
APA *e* 21 43 31.0
APA *i* S S 21 50 25.0 -14
APA eSS SS 21 56 52.0 +8.3
APA pmax pmax
comp=Z,4µm,6.0s
APA MLR MLR
comp=Z,32µm,19.0s,MS6.8
FINES FINESS Array B 90.57 26 P **P 21 39 50.8 -1.1**
comp=Z,41nm,1.1s,mb5.7,baz=270,slow=2.9,SNR=18
FINES PKKPbc 21 57 23.8
comp=Z,3.8nm,0.8s,baz=63,slow=4.3,SNR=6.1
FINES PKPPKP 22 05 32.5
comp=Z,3.7nm,0.9s,baz=56,slow=6.9,SNR=4.8
FINES LR LR 22 17 17.1
comp=Z,173µm,21.4s,MS7.5,baz=278,slow=34
ZST Bratislava 90.60 41 eP **P 21 39 50.8 -1.5**
ZST *e* 21 40 29.6
ZST *e*PP PP 21 43 23.4 -6.7
ZST eS S 21 51 00.8 +20
ZST eSS SS 21 56 59.6 +13
ZST Bratislava 90.60 41 eP **P 21 39 50.8 -1.5**
ZST *e* 21 43 23.4
ZST eSS SS 21 56 59.6 +13
CPI2 Carpinone 90.61 47 eP **P 21 39 55.4 +2.9**
LVZ Lovozero 90.64 19 eP **P 21 39 49.6 -2.4**
LVZ *e* 21 43 23.0
LVZ eS S 21 50 26.6 -14
LVZ pmax pmax
comp=Z,970nm,3.7s
LVZ pmax pmax
comp=N,133nm,2.6s
LVZ pmax pmax
comp=E,70nm,2.1s
LVZ MLR MLR
comp=N,75µm,19.0s,MS7.3
LVZ MLR MLR
comp=E,77µm,20.0s,MS7.3
LVZ MLR MLR
comp=Z,120µm,20.0s,MS7.3
RAC Raciborz 90.69 39 eP **P 21 39 53.0 +0.3**
RAC *e*PP PP 21 43 28.2 -2.6
RAC *e*SKS(ac) 21 50 21.6
RAC LME 22 13 36.7
comp=Z,144µm,24.4s
RAC LMN 22 14 17.2
comp=Z,117µm,21.2s
RAC MLR MLR 22 22 12.0
comp=Z,150µm,19.3s
SMOL Smolenice 90.71 40 eP **P 21 39 57.1 +4.3**
SMOL *e* 21 40 27.3
OKC Ostrava-Krasne 90.74 39 eP **P 21 39 56.1 +3.2**
OKC *e* 21 50 21.6
OKC *e* 21 52 02.1
OKC MLR MLR
comp=Z,107µm,21.2s,MS7.2
OKC Ostrava-Krasne 90.74 39 eP **P 21 39 56.1 +3.2**
OKC *ex* x 21 40 26.5
OKC *e*SKS SKS 21 50 21.6 +4.0
OKC ePS PS 21 52 02.1 +1.1
OKC ePKKP PKKP 21 57 11.6 +7.3
OKC AMS AMS 22 15 30.0
comp=Z,107µm,21.2s
OKC Ostrava-Krasne 90.74 39 eP 21 57 26.4
SISC Sisak 90.94 43 *i* P **P 21 39 51.5 -2.4**
SRO1 Iza 91.46 41 eP **P 21 39 58.1 +1.8**
SRO1 *e*PP PP 21 43 41.5 +4.5
SRO Srobarova 91.49 41 eP **P 21 39 58.8 +2.3**
SRO *e* 21 40 28.2
SRO *e*PP PP 21 43 42.2 +4.9
SRO Srobarova 91.49 41 eP **P 21 39 58.8 +2.3**
SRO *e* 21 43 42.2
SGO Sicignano 91.61 48 eP **P 21 39 59.9 +2.6**
OJC Ojcow 91.62 38⇑ eP **P 21 39 56.2 -0.8**
OJC *e* 21 43 39.8
OJC eS S 21 50 50.4 +0.7
OJC ePS PS 21 52 11.6 +0.1
OJC MLR MLR
comp=Z,95µm,19.0s,MS7.2
OJC Ojcow 91.62 38⇑ eP **P 21 39 56.2 -0.8**
OJC esP sP 21 40 19.8 +0.1
OJC *e*PP PP 21 43 39.8 +1.6
OJC *e*SKS Sx 21 49 53.1
OJC eS S 21 50 50.4 +0.7
OJC ePS PS 21 52 11.6 +0.1
OJC LR LR
comp=Z,95µm,19.0s,MS7.2
OJC Ojcow 91.62 38⇑ eP **P 21 39 56.2 -0.8**
OJC esP sP 21 40 19.8 +0.1
OJC *e*PP PP 21 43 39.8 +1.6
OJC *e*SKS SKS 21 49 53.1 -.30
OJC eS S 21 50 50.4 +0.7
OJC ePS PS 21 52 11.6 +0.1
OJC MLR MLR 22 19 58.7
comp=Z,95µm,19.0s
WAR Warsaw 91.64 36 eP **P 21 39 56.0 -1.0**
WAR *e* 21 43 40.2
WAR eS S 21 50 53.0 +3.2
WAR MLR MLR
comp=Z,252µm,19.9s,MS7.7
WAR Warsaw 91.64 36 eP **P 21 39 56.0 -1.0**
WAR *e*pP pP 21 40 24.1 +10
WAR *e*PP PP 21 43 40.2 +1.9
WAR eS S 21 50 53.0 +3.2
WAR ePS PS 21 52 19.3 +7.6
WAR LR LR
comp=Z,252µm,19.9s,MS7.7
WAR Warsaw 91.64 36 eP **P 21 39 56.0 -1.0**
WAR *e*pP pP 21 40 24.1 +10
WAR *e*PP PP 21 43 40.2 +1.9
WAR eS S 21 50 53.0 +3.2
WAR ePS PS 21 52 19.3 +7.6
WAR MLR MLR 22 19 08.6
comp=Z,252µm,19.9s
MRLC Muro Lucano 91.69 48 eP **P 21 39 59.2 +1.6**
RHK1 Bakonya 91.88 42 eP **P 21 39 58.9 +0.6**
MGR Morigerati 91.91 49 eP **P 21 39 59.4 +0.8**
SUW Suwalki 92.19 34 eP **P 21 39 58.0 -1.5**
SUW *e*PP pP 21 40 14.9 -1.4
SUW *e* 21 50 26.1
SUW eS S 21 50 53.3 -1.3
SUW ePS PS 21 52 19.2 +1.2
SUW MLR MLR
comp=Z,152µm,22.1s,MS7.4
SUW Suwalki 92.19 34 eP **P 21 39 58.0 -1.5**
SUW *e*pP pP 21 40 14.9 -1.4
SUW eSKS SKS 21 50 26.1 +0.3
SUW eS S 21 50 53.3 -1.3
SUW eSS 21 51 28.2
SUW ePS PS 21 52 19.2 +1.2
SUW eSS Sx 21 57 42.1
SUW Suwalki 92.19 34 eP **P 21 39 58.0 -1.5**
comp=Z,8µm,18.2s
SUW *e*pP pP 21 40 14.9 -1.4
SUW eSKS SKS 21 50 26.1 +0.3
SUW eS S 21 50 53.3 -1.3
SUW esS 21 51 28.2
SUW ePS PS 21 52 19.2 +1.2
SUW eSS SS 21 57 42.1 +33
SUW MLR MLR 22 17 20.8
comp=Z,152µm,22.1s
NIE Niedzica 92.21 39 eP **P 21 40 03.5 +3.8**
NIE *e*PP PP 21 43 51.0 +8.0
PKSM Moragy 92.22 42 eP **P 21 40 00.7 +0.9**
PSZ Piszkesteto 92.46 40 P **P 21 40 04.7 +3.8**
PSZ pmax pmax
comp=Z,29nm,1.0s,mb5.6
PSZ Piszkesteto 92.46 40 eP **P 21 40 01.3 +0.4**
comp=Z,161nm,1.5s,mb6.1
TDS Terranova Siba 92.63 49 eP **P 21 40 04.8 +3.0**
STON Ston 92.64 45 *i* P **P 21 40 00.9 -1.0**
GRI Girifalco 92.93 50 eP **P 21 40 03.0 -0.3**
PUL Pulkovo 93.20 27 eP **P 21 40 00.6 -3.4**
PUL *eS* 21 50 34.1

PUL pmax pmax
comp=Z,44nm,0.6s,mb6.1
KOLS Kolonicke sedl 93.58 39 *e*P **P 21 40 09.7 +3.7**
KOLS *e*PP PP 21 43 58.2 +4.2
KWP Kalwaria 93.58 38 *e*P **P 21 40 04.4 -1.6**
KWP *e**PP pP 21 40 22.5 -0.3
KWP *e* 21 50 39.1
KWP *e*S S 21 51 05.5 -1.4
KWP *e*PS PS 21 52 36.0 +2.5
KWP MLR MLR
comp=Z,81µm,24.6s,MS7.1
KWP Kalwaria 93.58 38 *e*P **P 21 40 04.4 -1.6**
KWP *e*pP pP 21 40 22.5 -0.3
KWP *e*SKS SKS 21 50 39.1 +5.3
KWP *e*S S 21 51 05.5 -1.4
KWP *e*SS 21 51 36.9
KWP *e*PS PS 21 52 36.0 +2.5
KWP *e*SS Sx 21 58 01.6
KWP Kalwaria 93.58 38 *e*P **P 21 40 04.4 -1.6**
comp=Z,7µm,14.7s
KWP *e*pP pP 21 40 22.5 -0.3
KWP *e*SKS SKS 21 50 39.1 +5.3
KWP *e*S S 21 51 05.5 -1.4
KWP *e*SS 21 51 36.9
KWP *e*PS PS 21 52 36.0 +2.5
KWP *e*SS SS 21 58 01.6 +32
KWP MLR MLR 22 15 07.4
comp=Z,81µm,24.6s
UZH Uzhgorod 93.71 39 *e*P **P 21 40 09.0 +2.4**
TIXI Tiksi 93.79 349 *e*P **P 21 40 04.8 -1.6**
TIXI *e* 21 43 53.4
TIXI *e*PS tx 21 53 02.9
TIXI pmax pmax
comp=Z,44nm,0.8s,mb5.9
TIXI Tiksi 93.79 349 *e*P **P 21 40 04.9 -1.5**
LVV L'vov 94.31 37 *i* P **P 21 40 10.0 +0.8**
LVV *i* S S 21 51 16.0 +3.0
GRUS Gruza 94.38 44⇑ *i* P **P 21 40 08.9 -0.8**
MNK Minsk 94.46 32 *e*P **P 21 40 06.0 -3.8**
MNK *e*S 21 50 44.0
PET Petropavlovsk 95.18 327 *ce*P **P 21 40 13.5 +0.4**
PET pmax pmax
comp=Z,195nm,1.8s,mb6.2
PET Petropavlovsk 95.18 327 P **P 21 40 14.1 +1.0**
comp=Z,92nm,1.1s,mb6.1
OHR Ohrid 95.40 46⇑ *i* P **P 21 40 13.0 -1.5**
SKO Skopje 95.55 45 *e*P **P 21 40 18.0 +2.9**
SKO *i* pP 21 40 35.0 +3.1
SKO *i* 21 40 52.0
SKO *i* 21 41 37.0
SKO *i* PP PP 21 44 18.2 +9.3
MA2 Magadan 95.68 334 *e*P **P 21 40 14.0 -1.3**
MA2 pmax pmax
comp=Z,62nm,1.1s,mb6.0
MA2 Magadan 95.68 334 *e*P **P 21 40 14.1 -1.2**
KMPD K-Podol'skiy 96.27 38 P **P 21 40 19.0 +0.8**
VAY Valandovo 96.57 46 *i* P **P 21 40 19.9 +0.1**
VNA3 Neumayer Olymp 96.60 161⇑ *i* P **P 21 40 21.9 +2.7**
VNA3 Neumayer Olymp 96.60 161⇑ *i* sP 21 40 39.6 -2.3
VNA3 Neumayer Olymp 96.60 161⇑ *i* sP 21 40 45.1 +3.2
VNA3 Neumayer Olymp 96.60 161⇑ *i* 21 44 58.4
VNA3 Neumayer Olymp 96.60 161⇑ *i* 21 45 15.2
VNA1 Neumayer--Stat 96.89 161 P **P 21 40 22.9 +2.4**
VNA1 Neumayer--Stat 96.89 161⇑ *i* pP 21 40 40.6 +3.2
VNA1 Neumayer--Stat 96.89 161⇑ *i* sP 21 40 45.0 +1.7
VNA1 Neumayer--Stat 96.89 161⇑ *i* 21 44 58.6
VNA1 Neumayer--Stat 96.89 161⇑ *i* S S 21 51 38.6 +4.1
KIEV Kiev 96.94 35 P **P 21 40 20.0 -1.2**
AKASG Malin Array Be 96.94 35 P **P 21 40 22.4 +1.1**
comp=Z,2.9nm,1.0s,baz=303,slow=3.3,SNR=3.2
AKASG PP PP 21 44 13.5 -6.3
comp=Z,1.7nm,0.8s,baz=288,slow=5.6,SNR=5.6
AKASG PKKPbc 21 57 07.5
comp=Z,2.9nm,0.7s,baz=90,slow=2.4,SNR=10
AKASG tx tx 22 01 34.1
comp=Z,0.2nm,0.4s,slow=2.9,SNR=4.3
AKASG PKPPKP 22 05 22.9
comp=Z,0.2nm,0.3s,baz=80,slow=2.1,SNR=4.3
MLR Muntele Rosu 97.23 41 P **P 21 40 20.7 -2.0**
comp=Z,1.8nm,0.8s,baz=325,slow=2.8,SNR=3.6
MLR PP PP 21 44 20.7 -1.5
comp=Z,16nm,1.1s,baz=342,slow=8.5,SNR=3.6
MLR PKKPbc 21 57 07.3
comp=Z,3.1nm,0.8s,baz=15,slow=1.4,SNR=3.2
MLR PKPPKP 22 05 22.2
comp=Z,1.1nm,0.5s,baz=62,slow=6.6,SNR=4.7
VNA2 Neumayer--Watz 97.23 161 P **P 21 40 21.7 -0.4**
VNA2 Neumayer--Watz 97.23 161 pP 21 40 35.4 -3.5
VNA2 Neumayer--Watz 97.23 161⇑ *i* pP 21 40 39.4 +0.5
VNA2 Neumayer--Watz 97.23 161⇑ *i* sP 21 40 45.6 +0.7
VNA2 Neumayer--Watz 97.23 161⇑ *i* 21 44 58.0
VNA2 Neumayer--Watz 97.23 161 21 45 13.9
VNA2 Neumayer--Watz 97.23 161⇑ *i* 21 45 20.5
SKR Severo-Kuril's 97.65 325 *e*P **P 21 40 22.0 -2.5**
SKR *e* pP 21 40 35.1 -6.2
SKR pmax pmax
comp=Z,80nm,0.6s,mb6.4
SKR pmax pmax
comp=Z,6µm,16.0s
KIS Kishinev 98.39 39*c i*P **P 21 40 22.0 -5.9**
KIS *i* 21 44 36.0
KIS *e* 21 51 04.0
KIS *e*S S 21 51 42.0 -5.6
KIS *i* PS PS 21 53 20.0 -4.7
KIS pmax pmax
comp=Z,3µm,16.0s
KIS pmax pmax
comp=Z,4µm,20.0s
KIS pmax pmax
comp=Z,4µm,16.0s
KIS pmax pmax
comp=Z,5µm,20.0s
OBN Obninsk 98.52 29*ce*P **P 21 40 26.2 -2.1**
OBN *i* 21 44 28.3
OBN *i* 21 51 07.4
OBN *i* S S 21 51 42.7 -5.9
OBN *i* PS PS 21 53 23.7 -2.3
OBN pmax pmax
comp=Z,23nm,1.2s,mb5.6
OBN pmax pmax
comp=Z,2µm,10.0s
OBN pmax pmax
comp=Z,3µm,19.3s
OBN MLR MLR
comp=Z,66µm,17.0s,MS7.2
OBN Obninsk 98.52 29 *e*P **P 21 40 25.3 -3.0**
comp=Z,10nm,0.8s,mb5.4
MOS Moscow 98.66 28 *e*P **P 21 40 24.2 -4.7**
MOS *e* 21 51 08.4
MOS *e*PS PS 21 53 25.5 -2.0
SNAA Sanae 98.83 161⇑ *i* P **P 21 40 29.8 +0.5**
SNAA Sanae 98.83 161 pP 21 40 47.2 +1.1
SNAA Sanae 98.83 161⇓ *i* sP 21 40 52.6 +0.6
SNAA Sanae 98.83 161⇑ *i* 21 45 24.5
SNAA Sanae 98.83 161⇑ *e*P **P 21 40 28.2 -1.1**
SNAA pmax pmax
comp=Z,94nm,1.5s
IDI Anoyia 100.50 51 P P 21 40 36.2 -1.6
comp=Z,2.0nm,0.9s,baz=118,slow=21,SNR=1.9
IDI PP PP 21 44 46.7 -1.0
comp=Z,12nm,1.2s,baz=336,slow=5.8,SNR=3.1
IDI PKiKP 21 45 04.7
comp=Z,5.1nm,0.7s,baz=346,slow=18,SNR=2.7
IDI PKKPbc 21 56 59.9
comp=Z,11nm,1.1s,baz=96,slow=4.2,SNR=5.2
IDI PKPPKP 22 05 19.3
comp=Z,4.4nm,1.0s,baz=29,slow=5.3,SNR=4.9
MXZ Matakaoa Point 100.78 234 *e*P 21 42 46.5
PECR Pechory 101.16 25 *e*P P 21 40 40.0 -0.2
PECR *i* 21 44 48.0
PECR *i* 21 51 20.0
PECR *e* 21 53 44.0
PECR *e* 21 59 23.0
PECR pmax pmax
comp=Z,2µm,18.0s
PECR pmax pmax
comp=N,2µm,16.0s
PECR pmax pmax
comp=E,2µm,16.0s
PECR pmax pmax
comp=Z,4µm,16.0s
QSPA South Pole Qui 101.39 180 *e*P P 21 40 42.0 +1.3
comp=Z,12nm,0.7s
QSPA *e*S Sx 21 51 20.0
QSPA LR LR
comp=Z,14µm,19.0s,MS6.5
YAK Yakutsk 101.46 343 *e*P P 21 40 41.1 -0.3
YAK *i* 21 44 49.3
YAK pmax pmax
comp=Z,2µm,18.8s
YAK pmax pmax
comp=N,630nm,18.5s
YAK pmax pmax
comp=E,417nm,18.7s
YAK pmax pmax
comp=Z,4µm,16.7s
YAK pmax pmax
comp=N,2µm,18.0s
YAK pmax pmax
comp=E,1µm,19.9s
YAK MLR MLR
comp=Z,53µm,24.0s,MS7.0
YAK MLR MLR
comp=N,44µm,22.0s,MS7.0
YAK MLR MLR
comp=E,37µm,22.0s,MS7.0
VOR Voronezh 101.75 31 P P 21 40 47.0 +4.1
VOR *e* 21 51 14.0
VOR pmax pmax
comp=Z,60nm,2.2s
SIM Simferopol' 102.61 39 P Pdif 21 40 47.1 +0.2
SIM 21 44 57.3
SIM PPP PPP 21 47 17.9 +2.2
SIM 21 51 27.9
SIM PS PS 21 54 10.6 +1.7
SIM MLR MLR
comp=Z,116µm,19.0s,MS7.4
NVL N'lazarevskaya 103.52 160⇑ *e*P Pdif 21 40 52.0 +1.7
NVL *e*S Sx 21 51 30.0
NVL pmax pmax
comp=Z,449nm,3.7s
ISP Isparta 103.58 46 *e*Pdif Pdif 21 40 49.3 -2.1
ANN Anapa 104.69 38*ce*P Pdif 21 40 53.1 -3.0
ANN *i* 21 45 12.5
ANN *e*PPP PPP 21 47 23.9 -9.5
ANN *e* 21 51 37.7
ANN *e*SP SP 21 54 23.3 +0.3
ANN pmax pmax
comp=N,5µm,18.6s
ANN pmax pmax
comp=Z,5µm,18.6s
ANN pmax pmax
comp=E,2µm,17.3s
ANN MLR MLR
comp=N,108µm,19.0s,MS7.5
ANN MLR MLR
comp=Z,141µm,19.0s,MS7.5
ANN MLR MLR
comp=E,62µm,20.0s,MS7.5
BRTR Keskin Array B 104.89 44 PKiKP 21 45 13.9
comp=E,3.9nm,0.9s,baz=288,slow=0.3,SNR=5.4
BRTR PKKPbc 21 56 41.0
comp=E,2.5nm,0.7s,baz=133,slow=3.9,SNR=7.0
BRTR PKPPKP 22 05 03.5
comp=E,1.2nm,0.8s,baz=124,slow=4.5,SNR=5.7
ARU Arti 106.51 19 *e*P Pdif 21 41 02.2 -1.6
ARU *i* 21 45 27.8
ARU *e*PPP PPP 21 47 42.8 -5.8
ARU *i* S SKS 21 51 41.9 +4.4
ARU *i* PS PS 21 54 45.7 -2.2
ARU *i* SS SS 22 00 22.4 -6.4
ARU *i* SSS SSS 22 04 36.6 +6.1
ARU MLR MLR
comp=N,101µm,20.0s,MS7.5
ARU MLR MLR
comp=E,82µm,20.0s,MS7.5
ARU MLR MLR
comp=Z,174µm,20.0s,MS7.6
TSUM Tsumeb 107.04 107 PKKPbc 21 56 39.6
comp=Z,5.6nm,1.0s,baz=146,slow=6.2,SNR=5.2
YSS Yuzh-Sakhalins 107.06 327*ce*P Pdif 21 41 07.0 +0.6
YSS *i* 21 45 37.0
YSS *i* 21 51 49.0
YSS *i* 21 52 19.0
YSS *e*PS PS 21 54 57.0 +3.5
YSS pmax pmax
comp=Z,2µm,20.0s
YSS pmax pmax
comp=Z,6µm,24.0s
YSS pmax pmax
comp=N,2µm,21.0s
YSS pmax pmax
comp=E,2µm,21.0s
YSS MLR MLR
comp=Z,104µm,25.0s,MS7.3
YSS MLR MLR
comp=E,64µm,24.0s
KIV Kislovodsk 108.26 36*c i*P Pdif 21 41 09.7 -2.1
BOD Bodaibo 108.95 348 *e*P Pdif 21 41 20.6 +6.1
KLR Kul'dur 110.78 334 *e*P Pdif 21 41 18.5 -4.3
KLR *e* 21 46 02.0
KLR *e*S SKS 21 52 03.5 +7.8
KLR pmax pmax
comp=E,500nm,15.0s
KLR pmax pmax
comp=Z,1µm,15.0s
ASF Jabal al Asfar 110.86 49 Pdiff Pdif 21 41 25.0 +1.5
comp=Z,0.8nm,0.6s,baz=228,slow=23,SNR=1.8
ASF PKiKP 21 45 25.7
comp=Z,3.9nm,0.9s,baz=259,slow=3.6,SNR=4.2
ASF PP PP 21 46 08.6 +3.8
comp=Z,7.4nm,1.1s,baz=140,slow=0.4,SNR=8.7
ASF PKKPbc 21 56 30.9
comp=Z,3.5nm,1.0s,baz=191,slow=2.1,SNR=5.4
GNI Garni 111.79 38 *i* PKIKP PKPdf 21 45 23.0 -0.5
GNI MLR MLR
comp=Z,64µm,20.0s
GNI Garni 111.79 38 *e*PKP PKPdf 21 45 23.1 -0.4
ZRNK Zerenda 112.59 16 PKIKP PKPdf 21 45 29.4 +4.7
ZRNK pmax pmax
comp=Z,24nm,1.1s
ZRNK Zerenda 112.59 16 *e*PKPdf PKPdf 21 45 27.6 +2.9
BRVK Borovoye 112.83 15 *e*PKP PKPdf 21 45 25.0 -0.1
BVA0 Borovoye Array 112.88 15 PKIKP PKPdf 21 45 30.3 +5.0
BVAR Borovoye Array 112.88 15 PKKPbc 21 56 13.8
comp=Z,3.9nm,0.9s,baz=153,slow=3.3,SNR=6.4
VOSK Vostochnaya 113.31 15 PKIKP PKPdf 21 45 30.0 +3.9
VOSK pmax pmax
comp=Z,51nm,1.7s
NVS Novosibirsk 113.46 6 *e*PKIKP PKPdf 21 45 29.3 +2.9
NVS *e* 21 52 11.3
NVS *e* 21 55 57.1
ZAL Zalesovo 114.51 6 PKP PKPdf 21 45 32.2 +3.7
comp=Z,9.5nm,0.8s,baz=118,slow=4.4,SNR=6.0
ZAL PP PP 21 46 22.9 -7.9
comp=Z,9.4nm,0.9s,baz=120,slow=2.0,SNR=2.5
ZAL PKKPbc 21 56 08.1
comp=Z,1.3nm,0.7s,baz=211,slow=7.8,SNR=3.9
BOSA Boshof 114.59 116 *e*PKPdf PKPdf 21 45 30.4 +1.1
HIA Hailar 115.24 341 Pdiff Pdif 21 41 44.3 +1.9
HIA Hailar 115.24 341 *e*PKPdf PKPdf 21 45 29.8 -0.3
MDJ Mudanjiang 115.26 332 PKP PKPdf 21 45 36.2 +6.0
MDJ PP PP 21 46 33.1 -3.1
MDJ SS SS 22 02 24.8 -0.8
MDJ PP PP
comp=Z,6µm,26.8s
MDJ LR LR
comp=N,13µm,30.4s,MS6.9
MDJ LR LR
comp=E,42µm,26.8s,MS6.9
MDJ LR LR
comp=Z,64µm,20.5s
MDJ Mudanjiang 115.26 332 PKPdf PKPdf 21 45 32.3 +2.1
VLA Vladivostok 115.29 330 *e*P Pdif 21 41 48.0 +5.3
VLA *i* 21 46 42.0
VLA *e* 21 52 45.0
VLA *i* 21 56 16.0
VLA pmax pmax
comp=Z,1µm,17.0s
VLA pmax pmax
comp=N,1µm,14.0s
VLA pmax pmax
comp=E,600nm,14.0s
VLA pmax pmax
comp=N,1µm,12.0s
VLA pmax pmax
comp=Z,4µm,12.0s
VLA pmax pmax
comp=E,2µm,14.0s
VLA MLR MLR
comp=Z,18µm,22.0s,MS6.6
VLA MLR MLR
comp=N,5µm,18.0s
VLA MLR MLR
comp=E,27µm,24.0s
IRK Irkutsk 115.90 353 *e*PKIKP PKPdf 21 45 36.7 +5.5
MAJO Matsushiro 116.27 321 *e*PKPdf PKPdf 21 45 34.4 +2.1
MAT Matsushiro 116.27 321 PKP PKPdf 21 45 35.9 +3.6
MAT Matsushiro 116.27 321 *e*PKP PKPdf 21 45 36.0 +3.7
MAT LR LR
comp=Z,23µm,20.0s,MS6.8
DRV Dumont d'Urvil 116.62 199 Pdif Pdif 21 41 50.0 +1.9
DRV Dumont d'Urvil 116.62 199 PP PP 21 46 47.0 +1.7
DRV SKS SKS 21 52 30.0 +12
DRV SP SP 21 56 24.0 +6.9
DRV SS SS 22 03 09.0 +26
LSZ Lusaka 116.73 101 *e*PKPdf PKPdf 21 45 35.0 +1.4
KURK Kurchatov 116.82 10⇑ *i* PKIKP PKPdf 21 45 33.4 +0.4
KURK Kurchatov 116.82 10 *e*PKPdf PKPdf 21 45 33.6 +0.6
MOY Mondy 116.83 355 *e*PKIKP PKPdf 21 45 37.9 +4.9
MBAR Mbarara 117.00 85 *e*PKPdf PKPdf 21 45 36.7 +2.4
SONM Songino Array 119.87 350 PKP PKPdf 21 45 39.6 +0.5
comp=Z,33nm,0.8s,baz=265,slow=0.5,SNR=47
SONM PP PP 21 47 03.2 -4.4
comp=Z,6.2nm,0.8s,slow=4.3,SNR=1.8
SONM PKKPbc 21 55 50.1
comp=Z,2.7nm,0.7s,baz=188,slow=3.4,SNR=7.8
SONM SKKPbc 21 59 31.1
comp=Z,3.0nm,0.9s,baz=194,slow=5.1,SNR=4.0
SONM SKKP 21 59 56.1
comp=Z,10.0nm,1.2s,baz=198,slow=3.9,SNR=4.5
SNY Shenyang 120.14 334⇑ PDIF Pdif 21 42 09.0 +4.9
SNY PP PP 21 47 10.5 +1.0
SNY LR LR
comp=N,45µm,20.7s,MS7.3
SNY LR LR
comp=E,51µm,20.1s,MS7.3
SNY LR LR
comp=Z,61µm,21.0s,MS7.2
MAW Mawson 120.37 167 PKP PKPdf 21 45 40.7 +1.2
comp=Z,6.4nm,0.8s,baz=279,slow=3.5,SNR=14
MAW PKKPbc 21 55 50.7
comp=Z,2.5nm,0.8s,baz=68,slow=11,SNR=4.1
MAW Mawson 120.37 167 *e*PKPdf PKPdf 21 45 40.3 +0.8
MKAR Makanchi Array 121.22 9 PKP PKPdf 21 45 39.5 -2.1
comp=Z,6.9nm,1.0s,baz=359,slow=2.9,SNR=16
MKAR PP PP 21 47 08.8 -8.1
comp=Z,7.8nm,0.8s,baz=31,slow=8.4,SNR=2.3
MKAR PKKPbc 21 55 46.3
comp=Z,2.7nm,0.8s,baz=153,slow=5.4,SNR=5.2
MKAR tx tx 21 58 28.1
comp=Z,6.0nm,1.0s,baz=143,slow=6.1,SNR=4.3
MKAR Makanchi Array 121.22 9 *i* PKIKP PKPdf 21 45 41.2 -0.5
MKAR pmax pmax
comp=Z,24nm,0.9s
KS15 Wonju Array Si 121.56 328 *e*PKPdf PKPdf 21 45 43.3 +0.8
INCN Inchon 122.17 329 *e*PKPdf PKPdf 21 45 44.0 +0.3
USP Ospenovka 122.94 16 P PKPdf 21 45 50.0 +5.0
SNR=47
GUMO Guam 123.13 295 *e*PKPdf PKPdf 21 45 50.4 +4.3
CHMS Chumysh 123.26 16 P PKPdf 21 45 49.1 +3.4
SNR=13
EKS2 Erkin-Say 123.29 17 P PKPdf 21 45 47.6 +1.8
SNR=24
FRU Bishkek 123.37 16 *e*P Pdif 21 42 21.0 +2.7
FRU *e* 21 45 45.0
FRU *e* 21 45 50.0
FRU *e* 21 47 26.0
FRU MLR MLR
comp=Z,90µm,20.0s,MS7.4
DL2 Dalian 123.39 334⇑ PDIF Pdif 21 42 21.7 +3.2
DL2 PKP PKPdf 21 45 46.7 +0.6
DL2 PP PP 21 47 32.0 -0.3
DL2 SKS SKS 21 52 54.4 +13
DL2 PP PP
comp=Z,4µm,22.4s
DL2 LR LR
comp=N,20µm,25.6s,MS6.7
DL2 LR LR
comp=E,10µm,25.0s,MS6.7
DL2 LR LR
comp=Z,34µm,26.3s,MS6.9
KMBO Kilima Mbogo 123.47 84 PKP PKPdf 21 45 45.9 -0.9
comp=Z,1.4nm,0.8s,baz=40,slow=24,SNR=3.8
KMBO PKKPbc 21 55 44.3
comp=Z,1.2nm,0.8s,baz=60,slow=11,SNR=3.1
KMBO Kilima Mbogo 123.47 84 *e*PKPdf PKPdf 21 45 46.0 -0.8
AAK Ala-Archa 123.52 17 P PKPdf 21 45 51.6 +5.4
SNR=17
AAK Ala-Archa 123.52 17⇓ *i* PKIKP PKPdf 21 45 46.3 +0.1
AAK Ala-Archa 123.52 17 *e*PKPdf PKPdf 21 45 45.7 -0.6
TKM2 Tokmak 2 123.56 16 P PKPdf 21 45 47.4 +1.1
SNR=18
AAA Alma-Ata 123.57 14 *e*PKIKP PKPdf 21 45 46.0 -0.3
AAA *e* 21 47 27.0
AAA *e* 21 52 55.0
AAA pmax pmax
comp=Z,600nm,6.0s
AAA MLR MLR
comp=Z,45µm,20.0s,MS7.1
KBK Karagaybulak 123.63 16 P PKPdf 21 45 52.0 +5.6
SNR=15
AML Almayashu 123.76 17 P PKPdf 21 45 48.7 +2.0
SNR=28
UCH Uchtor 123.90 17 P PKPdf 21 45 53.4 +6.4
SNR=21
CASY Casey 123.96 188 *e*PKPdf PKPdf 21 45 49.1 +2.6
KZA Kyzart 124.25 16 P PKPdf 21 45 51.4 +3.7
SNR=11
ULHL Ulahol 124.36 15 P PKPdf 21 45 53.5 +5.6
SNR=8.3
BJI Beijing 124.58 339 PKP PKPdf 21 45 49.0 +0.6
BJI PP PP
comp=Z,7µm,15.6s
BJI LR LR
comp=E,39µm,22.6s
BJI LR LR
comp=Z,121µm,28.4s
BJT Baijiatuau 124.60 339 *e*PKPdf PKPdf 21 45 48.9 +0.5
WMQ Urumqi 124.80 5 PKP PKPdf 21 45 50.0 +1.3
WMQ PP PP 21 47 43.0 +1.7
WMQ SKS SKS 21 52 53.0 +7.4
WMQ SKKS 21 54 27.0
WMQ SS SS 22 04 29.0 +0.6
MIR Mirnyy 124.93 180⇓ *i* PKIKP PKPdf 21 45 51.0 +2.7
MIR MLR MLR
comp=N,20µm,18.0s,MS6.8
MIR MLR MLR
comp=E,6µm,18.0s,MS6.8
MIR MLR MLR
comp=Z,41µm,18.0s,MS7.1
HHC Hu-ho-hao-te 125.32 343 *e*PKP PKPdf 21 45 51.0 +1.2
HHC XPKP 21 46 04.1
HHC PKS PKS 21 49 24.4 -1.1
HHC LR LR
comp=N,37µm,22.6s,MS7.1
HHC LR LR
comp=E,19µm,21.1s,MS7.1
HHC LR LR
comp=Z,51µm,22.7s,MS7.1
BTO Baotou 125.97 344 PKP PKPdf 21 45 56.6 +5.6
KSH Kashi 126.83 17 *i* PKP PKPdf 21 45 53.6 +0.9
KSH PP PP 21 47 50.6 -4.0
KSH LR LR
comp=N,18µm,17.8s,MS6.9
KSH LR LR
comp=E,17µm,18.2s,MS6.9
WAU Wau 127.19 269 P PKPdf 21 45 49.0 -5.1
TIA Tai'an 127.57 336 PKP PKPdf 21 45 55.0 +0.8
TIA LR LR
comp=N,37µm,19.0s,MS7.1
TIA LR LR
comp=E,20µm,19.0s,MS7.1
TIY Taiyuan 127.94 341⇑ PKP PKPdf 21 45 50.0 -4.9
CTAO Charters Tower 128.48 253 *e*PKPdf PKPdf 21 45 57.8 +1.4
GTA Gaotai 129.07 353 PDIF Pdif 21 42 49.2 +5.6
GTA PKP PKPdf 21 45 58.5 +1.5
GTA PP PP 21 48 07.1 -3.0
GTA PKS PKS 21 49 33.0 +0.5
GTA PPP PPP 21 50 53.6 -2.8
GTA SKS SKS 21 53 04.4 +6.4
GTA SKKS 21 54 55.0
GTA PP PP

comp=Z,5µm,22.4s
GTA LR LR
comp=N,40µm,25.5s,MS7.1
GTA LR LR
comp=E,29µm,20.9s,MS7.1
GTA LR LR
comp=Z,55µm,24.3s,MS7.2
SSE Sheshan 129.96 328 PDIF Pdif 21 42 53.5 +5.8
SSE Sheshan 129.96 328 PKPdf PKPdf 21 46 01.5 +2.5
SSE PP PP 21 48 14.0 -1.6
SSE PKSbc 21 49 24.3
NJ2 Nanjing 130.34 331 *e*PKP PKPdf 21 46 02.0 +2.4
NJ2 XPKP 21 46 17.0
NJ2 PP PP 21 48 17.0 -1.1
NJ2 PKS PKS 21 49 36.0 +0.9
NJ2 SKS SKS 21 53 08.0 +6.5
NJ2 SKKS 21 55 07.0
NJ2 LR LR
comp=N,23µm,27.7s,MS6.9
NJ2 LR LR
comp=E,22µm,28.1s,MS6.9
NJ2 LR LR
comp=Z,33µm,21.1s
STKA Stephens Creek 131.16 238 PKhKP 21 45 46.0
comp=Z,4.4nm,1.2s,baz=211,slow=12,SNR=2.5
STKA PKP PKPdf 21 46 05.0 +3.8
comp=Z,91nm,0.8s,baz=118,slow=2.0,SNR=39
STKA PP PP 21 48 25.2 +1.5
comp=Z,6.7nm,0.9s,baz=104,slow=2.6,SNR=1.6
STKA SKPbc 21 49 29.9
comp=Z,4.2nm,0.8s,baz=284,slow=5.7,SNR=2.1
STKA Stephens Creek 131.16 238 PKP PKPdf 21 45 46.0 -15
STKA *e*PKPpre 21 45 55.3
STKA *e*PKPdf PKPdf 21 46 02.6 +1.4
STKA PKP PKPdf 21 46 05.0 +3.8
STKA PP PP 21 48 25.2 +1.5
STKA SKPbc 21 49 29.9
LZH Lanzhou 131.72 349 PDIF Pdif 21 43 00.0 +4.7
LZH PKP PKPdf 21 46 05.2 +3.0
LZH PKS PKS 21 49 33.0 -4.5
LZH SKS SKS 21 53 12.0 +7.2
LZH SKKS 21 55 12.3
ADE Adelaide 132.64 233 P PKPdf 21 46 05.1 +1.2
THN Thein Dam 133.27 21 *e* PKPdf 21 46 09.6 +4.4
comp=Z,19nm,0.5s
THN *e* 21 49 38.3
WHN Wuhan 133.63 335 PKP PKPdf 21 46 07.8 +1.9
WHN PP PP 21 48 35.0 -4.1
WHN SS SS 22 06 18.0 +0.2
WHN LR LR
comp=Z,86µm,20.6s,MS7.5
KLP Kalpa 134.93 18 *e*PKP PKPdf 21 46 06.7 -1.6
ENH Enshi 135.72 340 *e*PKPpre 21 46 00.8
ENH *e*PKPdf PKPdf 21 46 09.2 -0.5
ENH *e* 21 46 14.5
DDI Dehra Dun 135.99 19 *e* PKPdf 21 46 06.6 -3.6
DDI *e* 21 48 25.0
JASL Jaisalmer 136.12 29 *e*PKP PKPdf 21 46 09.3 -1.3
JOSI Joshimath 136.23 17 *e*PKP PKPdf 21 46 08.8 -1.8
QZH Quanzhou 136.24 326 PDIF Pdif 21 43 21.6 +6.1
QZH PKS PKS 21 49 46.0 -0.1
QZH SS SS 22 06 54.0 +4.9
QZH PP PP
comp=Z,12µm,17.8s
CD2 Chengdu 136.73 347 PKP PKPdf 21 46 09.9 -1.7
CD2 PP PP 21 48 54.2 -3.8
CD2 PKS PKS 21 49 47.7 +0.9
CD2 PPP PPP 21 51 51.7 -7.1
CD2 LR LR
comp=N,48µm,19.8s
CD2 LR LR
comp=Z,68µm,20.3s,MS7.4
NDI New Delhi 137.22 21 *e*PKP PKPdf 21 46 11.0 -1.5
comp=Z,16nm,0.8s
NDI *e* 21 49 00.0
KHET Khetri 137.25 23 *e*PKP PKPdf 21 46 12.7 +0.1
ASOR Ausora 137.34 20 *e*PKP PKPdf 21 46 14.4 +1.6
PTH Pithoragarh 137.37 17 *e*PKP PKPdf 21 46 16.0 +3.2
PTH *e* 21 49 50.0
AYAN Aya Nagar 137.37 21 *e* PKPdf 21 46 18.0 +5.1
KUDL Kundal 137.44 22 *e* PKPdf 21 46 08.3 -4.7
LGTI Lohaghat 137.47 17 *e*PKP PKPdf 21 46 12.0 -1.0
BBP Basco 137.60 318 *e*P PKPdf 21 46 08.5 -4.9
AJM Ajmer 138.20 25⇑*i*PKP PKPdf 21 46 13.0 -1.4
BHJ Bhuj 138.50 34 *e* PKPdf 21 46 21.2 +6.2
AGRA Agra 138.80 21 *e*PKP PKPdf 21 46 17.3 +1.8
LSA Lhasa 139.07 3 PKP PKPdf 21 46 20.5 +4.6
SGCP Mt. Cagua 139.09 316 *e*P PKPdf 21 46 20.8 +4.6
ASAR Alice Springs 139.55 247 PKhKP 21 46 09.8
comp=Z,4.1nm,0.8s,baz=104,slow=2.2,SNR=17
ASAR PKP PKPdf 21 46 20.6 +3.8
comp=Z,57nm,0.7s,baz=109,slow=2.8,SNR=75
ASAR PP PP 21 49 21.8 +5.9
comp=Z,7.2nm,0.9s,baz=90,slow=3.6,SNR=2.7
ASAR SKP 21 49 56.9
comp=Z,4.5nm,0.9s,baz=291,slow=12,SNR=2.6
CVP Callao Caves 139.61 315 *e*P PKPdf 21 46 21.5 +4.4
WRAB Tennant Creek 139.66 253 *e*PKPdf PKPdf 21 46 09.6 -7.6
WRAB *e* 21 46 16.6
WRA Warramunga Arr 139.67 253 PKhKP 21 46 08.7
comp=Z,3.1nm,0.7s,baz=92,slow=3.1,SNR=21
WRA PKP PKPdf 21 46 19.5 +2.3
comp=Z,49nm,0.7s,baz=88,slow=0.9,SNR=51
WRA PP PP 21 49 20.4 +3.7
comp=Z,4.3nm,0.7s,baz=90,slow=1.2,SNR=3.5
WRA SKP 21 49 57.8
comp=Z,4.5nm,0.7s,baz=90,slow=1.8,SNR=2.4
APYP Conner 139.90 316 *e*P PKPdf 21 46 16.5 -1.1
GKN Gorkha 139.93 12 *e*P PKPdf 21 46 10.5 -7.0
comp=Z,324nm,1.1s
KOLN Koldanda 139.93 13 *e*P PKPdf 21 46 10.4 -7.1
comp=Z,79nm,0.7s
CAUP Cauayan 140.13 315 *e*P PKPdf 21 46 19.0 +0.9
GUN Gumba 140.25 10 *e*P PKPdf 21 46 12.7 -5.4
comp=Z,310nm,0.7s
KKN Kakani 140.26 11 *e*P PKPdf 21 46 11.2 -6.9
comp=Z,133nm,0.7s
DMN Daman 140.41 11 *e*P PKPdf 21 46 12.2 -6.2
ABRA Dolores 140.41 316 *e*P PKPdf 21 46 20.3 +1.7
PKI Pulchoki 140.50 11 *e*P PKPdf 21 46 13.0 -5.5
comp=Z,158nm,0.9s
PVCP Virac 140.57 308 *e*P PKPdf 21 46 16.5 -2.6
BESP Borongan 140.73 305 *e*P PKPdf 21 46 18.5 -0.9
HKC Hong Kong 140.73 329⇓*e*P PKPdf 21 46 18.0 -1.2
CNP Catarman 140.82 306 *e*P PKPdf 21 46 20.2 +0.6
BALP Baler 141.12 313 *e*P PKPdf 21 46 22.5 +2.5
POLP Polilio Island 141.52 312 *e*P PKPdf 21 46 19.9 -0.8
OCLP Ormoc 141.71 305 *e*P PKPdf 21 46 22.2 +1.2
SLGI Shiliguri 141.82 7 *e* PP 21 49 23.1 -6.5
SLGI *e* 21 50 20.3
BOLP Bolinao 141.84 316 *e*P PKPdf 21 46 28.9 +7.7
BUTP Butuan 142.00 301 *e*P PKPdf 21 46 22.0 +0.5
MSLP Maasin 142.01 303 *e*P PKPdf 21 46 22.7 +1.1
BHPL Bhopal 142.22 24 *e*PKP PKPdf 21 46 19.5 -2.2
SCZP Santa Cruz 142.26 315 *e*P PKPdf 21 46 23.5 +1.6
BOAC Boac 142.41 310 *e*P PKPdf 21 46 23.8 +1.6
MATI Mati 142.47 298 *e*P PKPdf 21 46 25.8 +3.4
RCP Roxas 142.89 307⇑*e*P PKPdf 21 46 25.9 +2.8
OTRP Odiongan 142.97 309 *e*P PKPdf 21 46 22.4 -0.8
DAV Davao City (W) 143.00 298 P 21 46 22.0
BUKP Musuan 143.04 300 *e*P PKPbc 21 46 24.3 +2.9
SHL Shillong 143.22 2 *e*PKP PKPdf 21 46 21.0 -2.3
SHL *e*PP PP 21 49 34.0 -4.0
JBP Jabalpur 143.25 21 *e* Px 21 46 42.5
JBP *e* 21 50 01.0
JBP *e* 22 04 16.6
LUBP Lubang 143.41 312 *e*P PKPbc 21 46 26.1 +3.7
GUIM Jordan 143.57 306 *e*P PKPbc 21 46 18.9 -4.0
SJMP San Jose 143.59 310 *e*P PKPbc 21 46 24.1 +1.1
BOM Bombay 143.74 34 *e*PKP PKPdf 21 46 24.0 -0.4
comp=Z,2µm,18.4s
BOM *e* 22 08 26.4
SNPH Sibulan 143.78 304 *e*P PKPbc 21 46 25.0 +1.4
AKL Akola 144.29 27 *i* PKP PKPdf 21 46 27.8 +2.5
comp=Z,91nm,0.8s
AKL *i* 21 46 48.8
PAGZ Pagadian 144.47 301 *e*P PKPbc 21 46 25.4 -0.1
BUSP Coron 144.57 310 *e*P PKPbc 21 46 25.7 -0.1
POO Poona 144.60 33⇓*i*PKP PKPdf 21 46 28.0 +2.1
comp=Z,140nm,1.0s
POO *e* 21 57 15.0
CUYO Cuyo Island 144.67 308 *e*P PKPbc 21 46 26.9 +0.8
NGP Nagpur 144.74 23 *e*PKP PKPdf 21 46 23.8 -2.3
NGP *i* 22 11 11.8
BLSP Bilaspur 144.91 18 *e* PKPdf 21 46 23.0 -3.4
BLSP *e*PP PP 21 49 45.5 -2.7
IPIL Ipil 145.18 302 *e*P PKPdf 21 46 32.2 +5.1
QIZ Qiongzhong 145.63 331 PKP PKPdf 21 46 29.5 +1.8
QIZ PP PP 21 49 54.4 +1.8
QIZ PPP PPP 21 53 07.1 -1.5
QIZ SS SS 22 08 40.7 +2.5
QIZ LR LR
comp=N,48µm,20.1s
QIZ LR LR
comp=Z,66µm,19.4s,MS7.4
QIZ Qiongzhong 145.63 331 PKPdf PKPdf 21 46 29.5 +1.8
QIZ PP PP 21 49 53.3 +0.7
QIZ PKKSdf 22 00 08.5
QIZ Qiongzhong 145.63 331⇑*e*PKPdf PKPdf 21 46 28.3 +0.6
KAD Karad 145.78 34 *e*PKP PKPdf 21 46 29.2 +1.2
CAL Calcutta 145.91 8 *e* PKPdf 21 46 36.7 +8.6
ZMPH Zamboanga City 146.05 301 *e*P PKPdf 21 46 32.0 +3.4
comp=Z,2µm,1.0s
LATR Latur 146.07 29 *e* PKPdf 21 46 33.3 +4.9
GOA Goa 147.04 36 *e*PKP PKPdf 21 46 33.0 +2.9
GOA *e* 21 49 47.4
PPR Puerto Princes 147.09 309 *e*P PKPdf 21 46 34.0 +3.7
HYB Hyderabad 147.86 27 *i* PKP PKPdf 21 46 32.5 +1.1
comp=Z,193nm,0.8s
HYB *e* 21 46 36.5
HYB *e*PKPAB PKPab 21 46 43.5 +4.3
HYB *e* 21 46 47.5
HYB *e*PP PP 21 50 00.0 -6.0
HYB *e*PPP PPP 21 53 20.0 -6.2
HYB *e*SKKS 21 56 58.0
HYB *e* 22 00 12.0
HYB *e*SS SS 22 08 56.0 -7.8
HYB LR LR 22 52 22.0
comp=Z,78nm,22.0s
HYB Hyderabad 147.86 27 *e*PKP PKPdf 21 46 32.5 +1.1
HYB *e* 21 46 36.5
FITZ Fitzroy Crossi 148.06 254 SKPbc 21 50 15.9
comp=Z,18nm,0.8s,baz=24,slow=12,SNR=1.6
BATP Bataraza 148.42 308 *e*P PKPdf 21 46 39.9 +7.5
NWAO Narrogin (SRO) 149.32 222 *e*PKPdf PKPdf 21 46 36.5 +3.1
VIS Vishakhapatnam 149.42 19 *i* PKP PKPdf 21 46 36.2 +2.3
CHG Chiang Mai 149.45 349 ⇑P PKPdf 21 46 36.6 +2.6
comp=Z,150nm,0.9s
MNGI Mangalore 149.64 38 *i* PKP PKPdf 21 46 36.1 +1.8
MNGI *i* 21 57 31.9
CM31 Chiang Mai Arr 149.80 349 *e*PKPdf PKPdf 21 46 35.9 +1.4
CMAR Chiang Mai Arr 149.80 349 PKP PKPdf 21 46 35.5 +0.9
comp=Z,14nm,0.7s,baz=307,slow=2.4,SNR=42
CMAR PKPbc PKPdf 21 46 40.4 +5.8
comp=Z,56nm,0.7s,baz=315,slow=1.8,SNR=75
CMAR SKKSac 21 57 09.3
comp=Z,1.5nm,0.9s,baz=197,slow=3.3,SNR=4.6
BDT Bhumibol Dam 150.97 349 P PKPdf 21 46 38.0 +1.7
comp=Z,176nm,0.8s
KKM Kota Kinabalu 151.34 306⇓*e*P PKPdf 21 46 44.0 +7.0
NST Nakhon Sawan 152.25 346 P PKPdf 21 46 43.0 +4.8
comp=Z,33nm,1.0s
MDRS Chennai 152.45 28⇑*e*PKP PKPdf 21 46 39.0 +0.4
MDRS *i* 21 50 22.0
MDRS *i* 21 53 59.0
MBWA Marble Bar 152.88 246 *e*PKPdf PKPdf 21 46 41.9 +2.9
TRD Trivandrum 154.39 40 *e* PKPdf 21 46 45.5 +4.3
NNT Nongplab 155.31 345 P PKPdf 21 46 50.0 +7.6
PALK Pallekele 157.60 35 *e*PKPdf PKPdf 21 46 47.0 +1.5
SNG Songkhla 160.14 338 P PKPdf 21 46 56.0 +7.5
comp=Z,376nm,1.0s
IPM Ipoh 162.35 334⇑*e*P PKPdf 21 46 54.0 +3.3
comp=Z,78nm,0.8s
COCO West Island 176.45 257 *e*PKPdf PKPdf 21 46 57.8 -1.6

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*IDC **09** 21:48:33.3±7.0, 11.81N×86.45W, h31km±50km, mb4.3/13, mb1 4.6/14, mb1mx4.3/22, ML3.9/1, Error ellipse: s-maj=38.7km s-min=12.9km az=57.0*
*CASC **09** 21:48:33.7±3.0, 11.44N×87.02W, h15km±10km, MD4.4, ML4.3, mb4.7(NEIC)*
*NEIC **09** 21:48:34.7±0.3, 11.60N×86.82W, h35km, mb4.7/29, Error ellipse: s-maj=11.6km s-min=4.8km az=50.0*
ISC 09 21:48:32.1±0.3**, 11.29N**±0.03×**87.02W**±0.03**, h33**km**, (h39**km±.2km**:pP-P), n120,** σ**1.38**/130**, mb4.6**/36**, 13C-16D, Near coast of Nicaragua**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
COPN Copaltepe 0.98 25⇑*i*P **P 21 48 49.8 +0.2**
CRUN El Crucero 0.99 46⇑*e*P **P 21 48 49.9 +0.2**
TICN Ticuantepe 1.07 46⇓*i*P **P 21 48 51.0 +0.1**
PYN Poneloya 1.09 0 *e*P **P 21 48 51.0 0.0**
XAVN Gruta Xavier 1.09 39⇓*i*P **P 21 48 51.2 0.0**
MASN Masaya 1.10 51⇓*e*P **P 21 48 51.1 -0.1**
APON Apoyo 1.13 56⇓*i*P **P 21 48 51.8 +0.1**
LEON Leon 1.13 7⇓*i*P **P 21 48 52.1 +0.4**
MGAN Managua 1.14 42⇓*i*P **P 21 48 50.8 -1.1**
MGAN *i* 21 49 07.3
comp=N,9µm,0.3s
APYN Apoyeque 1.15 35⇑*i*P **P 21 48 51.9 0.0**
MIRN Miramar 1.18 15⇑*i*P **P 21 48 52.6 +0.2**
WILN Americas 2 1.19 43⇓*i*P **P 21 48 52.5 0.0**
MOMJ Momotombo 1.21 23⇓*e*P **P 21 48 52.9 +0.1**
CNGN Cerro Negro 1.25 15⇓*i*P **P 21 48 53.4 +0.1**
TEL3 Telica 3 1.29 8⇓*e*P **P 21 48 54.3 +0.5**
TELN Telica 1.32 8⇓*e*P **P 21 48 54.7 +0.3**
TELN *e*S **S 21 49 11.9 +0.9**
CRIN San Cristobal 1.40 359⇓*e*P **P 21 48 56.4 +0.8**
CRIN *e*S **S 21 49 12.8 -0.3**
PYTN Playitas 1.56 37⇓*i*P **P 21 48 57.5 -0.3**
VCR Vista de Mar 1.79 130⇑*e*P **P 21 49 07.7 +6.5**
CNCH Conchagua 2.13 338⇑*e*P **P 21 49 06.7 +0.7**
CNCH *e*S **S 21 49 32.1 +0.6**
JTS JuntasAbangare 2.26 116 Pn **Pn 21 49 10.1 +2.0**
comp=N,5µm,0.5s,SNR=22
JTS JuntasAbangare 2.26 116 *e*Pn **Pn 21 49 09.5 +1.4**
JCR Jicaral 2.36 127 *e*P **P 21 49 10.9 +1.6**
JCR *e*S **S 21 49 49.1 +12**
BLLM Bellamira 2.45 331⇑*e*P **P 21 49 11.8 +1.2**
BLLM *e*S **S 21 49 42.5 +2.9**
FORC Fortuna 2.45 109 *e*P **P 21 49 14.2 +3.5**
VSM San Miguel 2.45 330⇑*e*P **P 21 49 12.3 +1.7**
VSM *e*S **S 21 49 40.8 +1.0**
CAHU Cacacuatique 2.73 335⇓*e*P **P 21 49 15.6 +1.0**
CAHU *e*S **S 21 49 49.2 +2.5**
CGA2 Cerro Gallo 2 2.81 116 *e*P **P 21 49 17.7 +1.9**
SNVI San Vicente 2.91 323 *e*P **P 21 49 18.3 +1.1**
SNVI *e*S **S 21 49 51.6 +0.2**
VPS2 Volcan Poas 2 2.95 111⇑*e*P **P 21 49 22.6 +4.8**
PRS1 Puriscal 2.96 116 *e*P **P 21 49 21.8 +3.8**
LCBS La Ceiba 3.03 321⇑*e*P **P 21 49 19.6 +0.7**
LCBS *e*S **S 21 49 53.4 -1.0**
LFRS El Faro 3.06 320⇓*e*P **P 21 49 19.9 +0.7**
LFRS *e*S **S 21 49 54.3 -0.8**
LBRS Las Brisas 3.13 321 *e*P **P 21 49 22.4 +2.0**
LBRS *e*S **S 21 49 57.1 +0.1**
LAJ Bijagual 3.19 116 *e*P **P 21 49 18.6 -2.5**
LFU La Fuente 3.19 320⇑*e*P **P 21 49 22.5 +1.4**
LFU *e*S **S 21 50 00.0 +1.7**
SJS Escuela Geolog 3.21 114 *e*P **P 21 49 25.5 +4.0**
SNET Serv Nac Est T 3.21 318 *e*P **P 21 49 23.6 +2.2**
SNET *e*S **S 21 49 58.2 -0.9**
BOQS Boqueron 3.28 318⇑*e*P **P 21 49 23.9 +1.5**
BOQS *e*S **S 21 50 00.9 +0.1**
TRTC Tortuguero 3.33 102⇑*e*P **P 21 49 23.0 -0.1**
LCR2 La Lucha 2 3.34 117 *e*P **P 21 49 25.7 +2.3**
LCR2 *e*S **S 21 50 14.1 +12**
ICR Volcan Irazu 3.40 112 *e*P **P 21 49 28.2 +4.2**
URSC Urasca 3.50 114⇓*e*P **P 21 49 28.8 +3.2**
SBLS San Blas 3.59 315 *e*P **P 21 49 28.4 +1.6**
SBLS *e*S **S 21 50 15.0 +6.4**
SNJE San Jose 3.60 316 *e*P **P 21 49 29.4 +2.5**
SNJE *e*S **S 21 50 08.2 -0.6**
RTR El Retiro 3.64 316 *e*P **P 21 49 30.1 +2.6**
RTR *e*S **S 21 50 11.0 +1.0**
BUS Buena Vista 3.64 118 *e*P **P 21 49 30.7 +3.1**
MTO2 Montecristo 2 3.84 324 *e*P **P 21 49 31.8 +1.4**
CUSS Cusmapa 3.86 313 *e*P **P 21 49 32.0 +1.2**
ROSC El Rosal 14.09 116 Pn **P 21 51 47.0 -4.8**
comp=N,13nm,0.3s,baz=349,slow=23,SNR=10
SDV Santo Domingo 16.31 97 *e*P **P 21 52 20.3 -0.2**
comp=N,53nm,1.9s
HKT Hockley 20.30 337 *e*P **P 21 53 06.6 -1.3**
comp=N,59nm,1.1s
NATX Nacogdoches 21.56 342 *e*P **P 21 53 19.4 -1.4**
comp=N,64nm,0.8s,mb5.1
LRAL Lakeview Retre 21.64 0 *e*P **P 21 53 18.8 -2.9**
comp=N,16nm,0.9s,mb4.5
JCT Junction City 22.48 330 *e*P **P 21 53 27.9 -2.1**
comp=N,26nm,1.1s,mb4.6
OXF Oxford 23.22 355 *e*P **P 21 53 35.2 -2.0**
comp=N,29nm,0.7s,mb4.8
JSC Jenkinsville 23.48 12 *e*P **P 21 53 38.8 -1.1**
JSC *e* 21 53 53.1
LTX Lajitas 23.73 322 *e*P **P 21 53 42.8 +0.5**
comp=N,20nm,0.8s,mb4.6
TXAR Lajitas Array 23.73 322 P **P 21 53 42.2 -0.1**
comp=N,8.5nm,0.6s,mb4.4,baz=140,slow=9.7,SNR=78
TXAR PcP PcP 21 57 27.3 -0.1
comp=N,1.3nm,0.6s,baz=150,slow=4.7,SNR=7.3
TXAR Lajitas Array 23.73 322 P **P 21 53 42.2 -0.1**
TXAR PcP PcP 21 57 27.3 -0.1
SWET Sewanee 23.84 2 *e*P **P 21 53 42.0 -1.3**
UALR University of 23.88 349 *e*P **P 21 53 41.5 -2.2**
comp=N,17nm,0.7s,mb4.6
MIAR Mount Ida 23.91 347 *e*P **P 21 53 42.4 -1.6**
comp=N,23nm,0.7s,mb4.7
CPCT Cooper Cave 24.16 5 *e*P **P 21 53 47.5 +1.1**
WMOK Wichita Mounta 25.68 337 *e*P **P 21 53 59.0 -2.0**
comp=N,132nm,1.1s,mb5.4
CLNB Carlsbad 26.02 326 *e*P **P 21 54 04.1 0.0**
GDL2 Guadalupe Moun 26.24 325 *e*P **P 21 54 05.7 -0.5**
CPRX Cap Rock 26.60 327 *e*P **P 21 54 08.6 -0.9**
CCM Cathedral Cave 26.92 353 *e*P **P 21 54 09.0 -3.4**
comp=N,21nm,0.9s,mb4.7
AMTX Amarillo 27.01 333 *e*P **P 21 54 11.5 -1.7**
comp=N,33nm,0.8s,mb4.9
AMTX *e*PcP PcP 21 57 34.2 -0.4
BNM Barren Site 28.95 325 *e*P **P 21 54 29.3 -1.5**
KSU1 Kansas State U 28.98 344 *e*P **P 21 54 27.2 -3.8**
ACSO Alum Creek Sta 29.05 6 *e*P **P 21 54 28.3 -3.2**
comp=N,7.7nm,0.6s,mb4.6
SAML Samuel 31.09 129 *e*P **P 21 54 47.8 -2.2**
comp=N,11nm,1.0s,mb4.6
SAML *e* pP 21 54 58.6 -0.9
SDCO Great Sand Dun 31.12 331 *e*P **P 21 54 49.2 -0.8**
comp=N,5.9nm,0.6s,mb4.6
LPAZ La Paz 33.17 145 P **P 21 55 10.2 +2.1**
comp=N,2.0nm,0.3s,mb4.5,baz=281,slow=0.3,SNR=4.8
SADO Sadowa 34.04 10 P **P 21 55 10.6 -4.7**
comp=N,18nm,1.2s,mb4.9,baz=204,slow=4.7,SNR=4.3
SRU San Rafael 34.71 327 *e*P **P 21 55 20.4 -0.7**
DUG Dugway 36.72 326 *e*P **P 21 55 37.6 -0.6**
comp=N,12nm,1.2s,mb4.6
DUG *e* pP 21 55 48.6 +0.7
PDAR Pinedale Array 36.99 332 P **P 21 55 38.7 -1.6**
comp=N,3.5nm,0.5s,mb4.5,baz=131,slow=11,SNR=11
PDAR PcP PcP 21 57 59.6 -1.9
comp=N,0.8nm,0.7s,baz=112,slow=4.9,SNR=5.7
HWUT Hardware Ranch 37.08 329 *e*P **P 21 55 39.7 -1.5**
comp=N,18nm,0.9s,mb4.9
SPUT South Promonto 37.32 328 *e*P **P 21 55 42.1 -1.0**
SPUT *e* 21 55 55.0
BGU Big Grassy Mou 37.35 327 *e*P **P 21 55 43.2 -0.2**
TPH Tonopah 37.95 320 *e*P **P 21 55 51.0 +2.5**
comp=N,2.3nm,0.7s,mb4.0
REDW Red Top Meadow 38.05 331 *e*P **P 21 55 48.2 -1.0**
SNOW Snow King Moun 38.08 332 *e*P **P 21 55 48.5 -1.0**
LOHW Long Hollow 38.13 332 *e*P **P 21 55 48.6 -1.3**
TPAW Teton Pass 38.19 331 *e*P **P 21 55 49.4 -1.1**
MOOW Moose Ponds 38.30 332 *e*P **P 21 55 49.9 -1.5**
ELK Elko 38.45 325 *e*P **P 21 55 53.3 +0.7**
comp=N,3.9nm,0.9s,mb4.1
ELK *e*PcP PcP 21 58 06.4 +0.4
NVAR Mina Array Bea 38.85 319 P **P 21 55 56.2 +0.2**
comp=N,2.7nm,0.8s,mb4.0,baz=127,slow=8.3,SNR=12
NVAR PcP PcP 21 58 07.8 +0.5
comp=N,4.7nm,0.7s,baz=119,slow=5.0,SNR=18
GCMT Greycliff 39.43 335 P **P 21 55 57.3 -3.4**
ULM Lac du Bonnet 39.52 351 P **P 21 55 56.4 -5.0**
comp=N,9.0nm,0.6s,mb4.7,baz=162,slow=8.4,SNR=8.2
ULM Lac du Bonnet 39.52 351 *e*P **P 21 55 56.1 -5.4**
comp=N,12nm,0.6s,mb4.8
HLID Hailey 39.94 329 *e*P **P 21 56 04.0 -1.0**
comp=N,3.7nm,0.7s,mb4.2
CMB Columbia Colle 39.98 317 *e*P **P 21 55 55.4 -10**
comp=N,12nm,1.0s,mb4.6
CMB *e* pP 21 56 06.3 -8.8
MCMT McKenzie Canyo 40.10 331 *e*P **P 21 56 05.8 -0.4**
BEKR Beckwourth 40.98 320 *e*P **P 21 56 15.6 +1.9**
comp=N,2.5nm,0.8s,mb3.9
WALA Waterton Lakes 43.78 335 P **P 21 56 34.8 -1.6**
comp=N,4.4nm,0.8s,mb4.2
SCHQ Schefferville 46.27 16 P **P 21 56 51.3 -4.9**
comp=N,3.8nm,0.5s,mb4.6,baz=215,slow=7.5,SNR=23
SCHQ Schefferville 46.27 16 *e*P **P 21 56 51.2 -5.0**
comp=N,4.9nm,0.4s,mb4.8
BDFB Brasilia 46.98 124 P **P 21 57 00.2 -2.1**
comp=N,5.7nm,0.6s,mb4.7,baz=305,slow=7.7,SNR=11
CPUP Villa Florida 47.24 143 P **P 21 57 03.6 -0.6**
comp=N,4.2nm,0.7s,mb4.5,baz=349,slow=7.7,SNR=12
CPUP Villa Florida 47.24 143 *e*P **P 21 57 03.3 -1.0**
comp=N,5.4nm,0.8s,mb4.5
FCC Fort Churchill 47.68 355 *e*P **P 21 57 03.1 -4.1**
comp=N,5.3nm,0.5s,mb4.8
YKA Yellowknife Ar 54.84 345 P **P 21 57 56.7 -4.5**
comp=N,4.5nm,0.8s,mb4.6,baz=135,slow=8.0,SNR=9.1
YKA Yellowknife Ar 54.84 345 P **P 21 57 56.7 -4.5**
DLBC Dease Lake 57.13 335 P **P 21 58 15.5 -2.3**
comp=N,4.5nm,0.7s,mb4.6,baz=163,slow=23,SNR=4.5
RES Resolute Bay 63.53 358 *e*P **P 21 58 56.8 -4.4**
comp=N,2.9nm,0.6s,mb4.5
INK Inuvik 64.43 343 P **P 21 59 04.0 -3.0**
comp=N,2.8nm,0.8s,mb4.4,baz=175,slow=11,SNR=4.3
INK Inuvik 64.43 343 *e*P **P 21 59 04.1 -3.0**
comp=N,6.4nm,1.0s,mb4.6
ILAR Eielson Array 67.25 336 P **P 21 59 22.2 -2.9**
comp=N,3.1nm,0.9s,mb4.3,baz=144,slow=5.1,SNR=33
ZAL Zalesovo 114.66 5 PKP PKPdf 22 07 08.8 -0.3
comp=N,0.6nm,0.5s,baz=343,slow=3.6,SNR=3.3
SONM Songino Array 119.94 350 PKP PKPdf 22 07 19.8 +0.2
comp=N,1.3nm,0.4s,baz=304,slow=0.9,SNR=22
MAW Mawson 120.32 167 PKP PKPdf 22 07 21.0 +1.2
comp=N,1.8nm,1.0s,baz=356,slow=6.2,SNR=3.6
MAW Mawson 120.32 167 *e*PKPdf PKPdf 22 07 20.6 +0.8
MKAR Makanchi Array 121.40 9 PKP PKPdf 22 07 21.4 -1.0
comp=N,0.3nm,0.4s,baz=313,slow=3.2,SNR=6.3
ENH Enshi 135.73 339 *e*PKPdf PKPdf 22 07 51.2 +1.1
CM31 Chiang Mai Arr 149.86 349 *e*PKPdf PKPdf 22 08 16.7 +1.7
CMAR Chiang Mai Arr 149.86 349 PKP PKPdf 22 08 15.6 +0.6
comp=N,3.8nm,0.7s,baz=303,slow=2.5,SNR=10
CMAR PKPbc PKPdf 22 08 20.0 +5.0
comp=N,3.8nm,0.6s,baz=345,slow=3.1,SNR=24

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*NEIC **09** 21:59:22.2±2.7, 7.40S×128.45E, h118km±28km, mb4.4/7, Error ellipse: s-maj=18.1km s-min=13.4km az=213.0*
*IDC **09** 21:59:23.6±4.1, 7.43S×128.42E, h126km±40km, mb3.8/8, mb1 4.2/11, mb1mx4.0/16, Error ellipse: s-maj=24.7km s-min=15.9km az=58.0*
ISC 09 21:59:23.8±2.1**, 7.51S**±0.06×**128.38E**±0.08**, h154**km±22km**, n32,** σ**1.03**/34**, mb4.3**/17**, 2C-1D, Banda Sea**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
FITZ Fitzroy Crossi 10.87 194 P **P 22 01 56.7 +0.7**
39nm,0.3s,baz=17,slow=9.7,SNR=388
FITZ S **S 22 03 55.2 -0.1**
6.8nm,0.3s,baz=22,slow=6.4,SNR=2.1
WRAB Tennant Creek 13.64 156 Pn **P 22 02 30.4 -1.6**
612nm,0.5s,SNR=25
WRAB Tennant Creek 13.64 156 *e*P **P 22 02 30.0 -2.0**
96nm,0.6s
WRAB *e*S **S 22 04 51.7 -8.5**
WRA Warramunga Arr 13.65 156 P **P 22 02 29.7 -2.4**
6.7nm,0.3s,baz=326,slow=14,SNR=95
WRA S **S 22 04 54.0 -6.2**
25nm,0.3s,baz=328,slow=23,SNR=16
MBWA Marble Bar 15.94 211 *e*P **P 22 03 03.0 +2.1**
14nm,0.5s
MBWA *e*S **S 22 05 50.7 -1.9**
ASAR Alice Springs 16.92 162 P **P 22 03 13.6 +0.7**
8.7nm,0.3s,baz=340,slow=9.8,SNR=308
ASAR S **S 22 06 15.7 +1.2**
5.6nm,0.3s,baz=336,slow=25,SNR=7.1
PMG Port Moresby 18.67 97 P **P 22 03 32.3 -0.3**
3.2nm,0.3s,baz=284,slow=3.9,SNR=34
CTA Charters Tower 21.36 128 P **P 22 04 01.2 +1.3**
7.2nm,0.9s,mb4.0,baz=298,slow=8.5,SNR=5.7

CTAO	Charters Tower	21.36	128	eP	P	22 04 01.0	+1.0
	23nm,1.4s,mb4.3						
STKA	Stephens Creek	27.20	155	P	P	22 04 55.4	+0.2
	2.9nm,0.5s,mb4.1,baz=339,slow=7.1,SNR=8.6						
STKA	Stephens Creek	27.20	155	eP	P	22 04 54.8	-0.3
STKA				e	pP	22 05 27.2	+0.2
STKA				e		22 05 31.8	
NWAO	Narrogin (SRO)	27.33	201	P	P	22 04 58.2	+1.8
	9.4nm,0.3s,mb4.9,baz=42,slow=8.3,SNR=35						
NWAO	Narrogin (SRO)	27.33	201	eP	P	22 04 58.0	+1.6
	48nm,1.3s,mb5.0						
CMAR	Chiang Mai Arr	38.85	312	P	P	22 06 37.0	+1.3
	1.9nm,1.0s,mb3.7,baz=144,slow=7.0,SNR=12						
KS15	Wonju Array Si	44.71	359	eP	P	22 07 22.9	-0.4
GUN	Gumba	54.09	312	eP	P	22 08 35.3	+0.3
	13nm,0.5s,mb5.0						
PKI	Pulchoki	54.25	312	eP	P	22 08 35.8	-0.4
	6.8nm,0.5s,mb4.7						
KKN	Kakani	54.46	312	eP	P	22 08 37.7	-0.1
	7.4nm,0.6s,mb4.6						
DMN	Daman	54.49	312	eP	P	22 08 38.2	+0.2
	4.3nm,0.4s,mb4.6						
GKN	Gorkha	55.05	312	eP	P	22 08 41.9	-0.2
	17nm,0.4s,mb5.2						
KOLN	Koldanda	55.70	311	eP	P	22 08 46.9	+0.2
	13nm,0.7s,mb4.9						
SONM	Songino Array	58.43	343	P	P	22 09 06.1	+0.5
	0.6nm,0.5s,mb3.7,baz=159,slow=7.2,SNR=7.1						
MKAR	Makanchi Array	67.78	328	P	P	22 10 07.5	+0.4
	1.5nm,0.4s,mb4.1,baz=119,slow=8.5,SNR=42						
AAK	Ala-Archa	69.90	321	eP	P	22 10 18.1	-2.1
	1.7nm,0.7s,mb3.9						
ZAL	Zalesovo	71.33	335	P	P	22 10 28.1	-0.5
	0.9nm,0.4s,mb3.9,baz=236,slow=4.6,SNR=4.4						
KURK	Kurchatov	72.12	329	eP	P	22 10 33.4	+0.1
	5.2nm,0.8s,mb4.3						
BVAR	Borovoye Array	77.64	328	P	P	22 11 05.2	+0.6
	0.4nm,0.5s,mb3.3,baz=124,slow=12,SNR=4.7						
ZRNK	Zerenda	78.33	328	eP	P	22 11 07.8	-0.5
	0.9nm,0.4s,mb3.8						
SYO	Syowa Base	82.61	201	⇓P	P	22 11 29.7	-1.0
SYO	Syowa Base	82.61	201	⇑PcP	PcP	22 11 33.7	-1.9
SYO	Syowa Base	82.61	201	⇑sP	pP	22 12 12.4	+3.2
LPAZ	La Paz	151.26	145	PKPbc	PKPdf	22 19 04.2	+11
	0.5nm,0.3s,baz=145,slow=0.7,SNR=1.9						

CASC 09 21:59:29.8±2.9**, 11.54N**×**86.84W, h27**km±7km**, MD4.0, ML4.0, 10C-10D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	Copaltepe	0.69	21	⇑eP	Pb	21 59 43.7	+0.5
CRUN	El Crucero	0.69	50	⇑eP	Pb	21 59 43.5	+0.2
TICN	Ticuantepe	0.78	50	⇓eP	Pb	21 59 44.5	-0.2
XAVN	Gruta Xavier	0.79	40	⇓iP	Pb	21 59 44.8	-0.1
MASN	Masaya	0.81	56	eP	Pb	21 59 44.9	-0.4
MGAN	Managua	0.84	44	⇓eP	Pb	21 59 45.3	-0.4
MGAN				eS	Sb	21 59 56.4	-0.3
MGAN				i		21 59 58.2	
	comp=N,4μm,0.5s						
APYN	Apoyeque	0.85	35	⇑eP	Pb	21 59 45.6	-0.2
APON	Apoyo	0.85	63	⇓iP	Pb	21 59 44.9	-1.0
LEON	Leon	0.88	357	⇑eP	Pb	21 59 46.6	+0.3
WILN	Americas 2	0.89	46	⇓eP	Pb	21 59 46.1	-0.5
WILN				eS	Sb	21 59 58.0	-0.1
MIRN	Miramar	0.91	8	⇑eP	Pb	21 59 47.4	+0.5
MIRN				eS	Sb	21 59 59.5	+0.9
MOMJ	Momotombo	0.92	19	eP	Pn	21 59 47.0	0.0
MOMJ				eS	Sb	21 59 58.3	-0.5
CNGN	Cerro Negro	0.97	8	⇓eP	Pn	21 59 48.1	+0.4
CNGN				eS	Sb	22 00 01.9	+1.6
TEL3	Telica 3	1.03	360	⇑eP	Pn	21 59 49.1	+0.5
TEL3				eS	Sb	22 00 05.7	+3.6
TELN	Telica	1.06	1	eP	Pn	21 59 49.8	+0.7
CRIN	San Cristobal	1.18	350	eP	Pn	21 59 51.1	+0.4
CRIN				eS	Sn	22 00 10.5	+4.6
PYTN	Playitas	1.26	38	⇓eP	Pn	21 59 51.1	-0.8
PYTN				eS	Sn	22 00 08.2	+0.2
VCR	Vista de Mar	1.84	140	eP	Pn	22 00 00.6	+0.4
CNCH	Conchagua	1.98	331	⇑eP	Pn	22 00 01.6	-0.6
CNCH				eS	Sn	22 00 26.0	-0.4
BLLM	Bellamira	2.33	324	⇑eP	Pn	22 00 06.8	-0.4
BLLM				eS	Sn	22 00 33.3	-2.0
VSM	San Miguel	2.34	324	eP	Pn	22 00 06.9	-0.5
VSM				eS	Sn	22 00 35.7	+0.1
JCR	Jicaral	2.39	134	eP	Pn	22 00 06.4	-1.6
CAHU	Cacacuatique	2.59	329	⇓eP	Pn	22 00 10.6	-0.3
CAHU				eS	Sn	22 00 43.4	+1.5
CGA2	Cerro Gallo 2	2.78	123	⇓eP	Pn	22 00 12.7	-1.0
SNVI	San Vicente	2.84	317	⇑eP	Pn	22 00 14.2	-0.2
SNVI				eS	Sn	22 00 48.3	+0.2
VPS2	Volcan Poas 2	2.89	117	eP	Pn	22 00 15.9	+0.7
PRS1	Puriscal	2.93	122	eP	Pn	22 00 16.0	+0.3
LCBS	La Ceiba	2.96	316	eP	Pn	22 00 15.5	-0.8
LCBS				eS	Sn	22 00 49.8	-1.5
LFRS	El Faro	3.00	314	⇓eP	Pn	22 00 15.7	-1.1
LFRS				eS	Sn	22 00 50.3	-2.0
LAJ	Bijagual	3.15	122	eP	Pn	22 00 14.6	-4.2
LAJ				eS	Sn	22 00 52.2	-3.7
SJS	Escuela Geolog	3.17	120	eP	Pn	22 00 20.1	+1.0
TRTC	Tortuguero	3.22	107	eP	Pn	22 00 16.7	-3.1
BOQS	Boqueron	3.23	313	eP	Pn	22 00 20.2	+0.2
LCR2	La Lucha 2	3.31	122	eP	Pn	22 00 19.6	-1.6
ICR	Volcan Irazu	3.34	117	⇑eP	Pn	22 00 24.4	+2.9
URSC	Urasca	3.45	119	eP	Pn	22 00 22.6	-0.6
SBLS	San Blas	3.55	310	eP	Pn	22 00 23.9	-0.6
SBLS				eS	Sn	22 01 06.3	+0.2
SNJE	San Jose	3.56	311	eP	Pn	22 00 25.4	+0.8
SNJE				eS	Sn	22 01 05.7	-0.6
BUS	Buena Vista	3.62	123	eP	Pn	22 00 25.6	+0.1
BUS				eS	Sn	22 01 14.7	+6.9

*CSEM **09** 21:59:47.7±1.6, 36.75N×9.45W, h40km, mb2.5/2, Error ellipse: s-maj=36.4km s-min=27.7km az=137.0*

MDD 09 21:59:45.4±0.6**, 36.65N**×**9.89W, h64**km±17km**, mb2.4**/2**, Error ellipse: s-maj=10.6km s-min=4.3km az=150.0, PRXIMO, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	1.29	46	eP	P	22 00 06.4	-1.4
PTEO				eS	S	22 00 21.5	-2.9
	6.2nm,0.1s						
	6.5nm,0.1s						
PTEO	Sao Teotonio	1.29	46	eP	P	22 00 06.4	-1.4
PTEO				eS	S	22 00 21.5	-2.9
	6.2nm,0.1s						
PALC	Alcoutim	2.09	66	eS	S	22 00 40.0	-3.8
	2.9nm,0.2s						
PALC	Alcoutim	2.09	66	eS	S	22 00 40.0	-3.8
	2.9nm,0.2s						
PBEJ	Beja	2.12	49	eS	S	22 00 40.9	-3.4
	1.6nm,0.1s						
PBEJ	Beja	2.12	49	eS	S	22 00 40.9	-3.4
	1.6nm,0.1s						
EMIN	Mina Concepcio	2.80	66	P	P	22 00 25.6	-3.3
	0.1nm,0.2s,SNR=5.0						
EMIN				S	S	22 00 57.0	-4.6
	0.4nm,0.1s,SNR=7.9						
EMIN	Mina Concepcio	2.80	66	P	P	22 00 25.6	-3.3
	0.1nm,0.2s,SNR=5.0						
EMIN				S	S	22 00 57.0	-4.6
	0.4nm,0.1s,SNR=7.9						
EBAD	Badajoz	3.10	46	P	P	22 00 29.7	-3.5
	SNR=7.9						
EBAD				S	S	22 01 04.3	-4.9
	0.9nm,0.0s,SNR=7.9						
ESPR	Espera	3.25	85	P	P	22 00 32.9	-2.3
	0.2nm,0.1s,SNR=4.0						
ESPR				S	S	22 01 07.1	-5.7
	1.6nm,0.3s,SNR=5.7						
ESPR	Espera	3.25	85	P	P	22 00 32.9	-2.3
	0.2nm,0.1s,SNR=4.0						
ESPR				S	S	22 01 07.1	-5.7
	1.6nm,0.3s,SNR=5.7						
EADA	Adamuz	4.49	69	P	P	22 00 49.4	-3.3
	SNR=7.9						
EADA				S	S	22 01 36.6	-7.5
	SNR=5.0						
EQES	Quesada	5.56	76	S	S	22 02 03.1	-7.7
	SNR=4.0						
EQES	Quesada	5.56	76	S	S	22 02 03.1	-7.7
	SNR=4.0						
EGOM	La Gomera	10.48	218	P	P	22 02 11.7	-3.6
	SNR=7.9						

*GUC **09** 22:01:54.7±0.5, 27.63S×69.63W, h125km, ML5.0*
*NEIC **09** 22:01:54.3±1.3, 27.57S×69.14W, h99km±12km, mb4.7/5, Error ellipse: s-maj=22.5km s-min=10.8km az=88.0*
*IDC **09** 22:01:56.1±0.8, 27.78S×69.42W, h112km±6km, mb3.9/4, mb1 4.0/6, mb1mx3.7/15, Error ellipse: s-maj=33.6km s-min=25.7km az=80.0*

ISC 09 22:01:52.2±0.6**, 27.70S**±0.03×**69.16W**±0.08**, h88**km±8km**, n30, σ1s06**/30**, mb4.4**/9**, 8C-1D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	Copiapo	1.11	287	⇑iP	P	22 02 14.9	+1.7
CPCH				i S	S	22 02 29.8	+0.7
VACH	Vallenar	1.66	238	⇑iP	P	22 02 21.4	+1.0
VACH				i S	S	22 02 41.6	+0.5
VACH				AMP		22 02 42.0	
	comp=N,60μm,0.4s						
LSCH	La Serena	2.86	219	i P	P	22 02 36.5	-0.4
LSCH				i S	S	22 03 08.8	-1.6
LSCH				AMP		22 03 10.9	
	comp=N,2μm,0.7s						
LSCH				AMP		22 03 11.2	
	comp=E,3μm,0.4s						
CPN1	Cerro Paranal	3.25	340	⇑iP	P	22 02 43.3	+1.0
CPN1				i S	S	22 03 19.1	-1.0
CPN1				AMP		22 03 21.2	
	comp=N,3μm,0.5s						
CPN1				AMP		22 03 28.1	
	comp=E,4μm,0.5s						
ANCH	Antofagasta	4.15	344	⇑iP	P	22 02 53.9	-0.7
ANCH				eS	S	22 03 40.0	-2.3
LVC	Limon Verde	5.07	3	ePn	P	22 03 08.0	+0.7
LVC				e		22 03 48.5	
MDZ	Mendoza	5.18	177	eP	P	22 03 13.3	+4.6
MDZ				i S	S	22 04 06.3	-1.4
CPUP	Villa Florida	10.64	85	P	P	22 04 23.5	+0.2
	comp=E,1.9nm,0.3s,baz=279,slow=11,SNR=24						
LPAZ	La Paz	11.39	5	P	P	22 04 32.8	-0.7
	comp=E,0.6nm,0.3s,baz=176,slow=0.7,SNR=9.1						
LPAZ	La Paz	11.39	5	eP	P	22 04 30.1	-3.4
LPAZ				P		22 04 32.8	
TRQA	Tornquist	11.96	152	eP	P	22 04 40.4	-0.5
	comp=E,24nm,0.6s						
BDFB	Brasilia	22.98	63	P	P	22 06 50.3	+0.3
	comp=E,3.2nm,0.6s,mb3.8,baz=225,slow=9.7,SNR=4.5						
USHA	Ushuaia	27.12	179	P	P	22 07 28.1	-0.5
	comp=E,12nm,0.8s,mb4.5,baz=19,slow=2.6,SNR=4.8						
PMSA	Palmer Station	37.23	176	P	P	22 08 56.6	+0.1
	comp=E,12nm,0.9s,mb4.8						
VNA3	Neumayer Olymp	54.33	160	⇑i	P	22 11 13.1	+1.6
VNA1	Neumayer--Stat	54.58	159	⇑i	P	22 11 15.7	+2.5
VNA2	Neumayer--Watz	54.93	159	⇓i	P	22 11 17.1	+1.2
SNAA	Sanae	56.55	160	⇑i	P	22 11 26.5	-0.9
SNAA	Sanae	56.55	160	eP	P	22 11 26.1	-1.3
	comp=E,4.2nm,0.6s,mb4.7						
SNAA				⇑iP		22 11 26.5	
QSPA	South Pole Qui	62.52	180	eP	P	22 12 07.6	-0.7
	comp=E,21nm,0.5s,mb5.3						
TXAR	Lajitas Array	65.62	327	P	P	22 12 29.6	+0.3
	comp=E,0.5nm,0.8s,mb3.4,baz=168,slow=8.3,SNR=3.0						
TXAR				pP	pP	22 12 55.3	+3.5
	comp=E,0.4nm,0.7s,baz=156,slow=8.9,SNR=2.7						
TXAR				sP	sP	22 13 07.0	+5.5
	comp=E,0.9nm,0.9s,baz=162,slow=7.9,SNR=4.6						
DBIC	Dimbokro	70.82	71	P	P	22 13 02.0	+0.3
	comp=E,4.5nm,0.9s,mb4.3,baz=277,slow=8.1,SNR=2.9						
DBIC				pP	pP	22 13 31.1	+6.6
	comp=E,2.6nm,0.9s,baz=166,slow=7.2,SNR=3.5						
MAW	Mawson	78.49	163	eP	P	22 13 43.8	-0.9
	comp=E,5.6nm,0.5s,mb4.5						
CASY	Casey	86.33	180	eP	P	22 14 24.9	0.0
	comp=E,5.8nm,0.7s,mb4.6						
ASAR	Alice Springs	124.30	206	PKP	PKPdf	22 20 41.1	-0.3
	comp=E,1.6nm,0.4s,baz=133,slow=1.8,SNR=21						
WRA	Warramunga Arr	127.46	208	PKP	PKPdf	22 20 47.6	0.0
	comp=E,2.8nm,0.6s,baz=154,slow=1.9,SNR=24						
FITZ	Fitzroy Crossi	132.27	199	PKP	PKPdf	22 20 57.4	+0.6
	comp=E,2.1nm,0.9s,baz=4.2,slow=14,SNR=3.5						
ZAL	Zalesovo	147.56	29	PKPbc	PKPdf	22 21 27.0	+4.0
	comp=E,3.3nm,0.6s,baz=72,slow=2.8,SNR=7.0						
MKAR	Makanchi Array	150.59	42	PKPbc	PKPdf	22 21 34.6	+6.6
	comp=E,5.2nm,0.7s,baz=306,slow=1.8,SNR=13						
MKAR				pPKPbc		22 22 05.8	
	comp=E,2.9nm,0.6s,baz=296,slow=2.4,SNR=5.4						
SONM	Songino Array	159.60	9	PKP	PKPdf	22 21 40.3	+0.4
	comp=E,1.4nm,1.0s,baz=180,slow=3.7,SNR=4.0						

CASC 09 22:03:52.5±3.4**, 11.52N**×**86.86W, MD3.8, ML3.3, 7C-4D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	Copaltepe	0.70	22	⇑eP	Pg	22 04 07.8	+1.2
COPN				eS	Sg	22 04 19.7	+3.7
CRUN	El Crucero	0.71	50	eP	Pg	22 04 07.3	+0.6
TICN	Ticuantepe	0.80	50	⇑eP	Pg	22 04 08.7	+0.3
XAVN	Gruta Xavier	0.81	40	⇓eP	Pg	22 04 09.7	+1.0
XAVN				eS	Sg	22 04 23.9	+4.4
MGAN	Managua	0.86	44	eP	Pg	22 04 10.0	+0.3
MGAN				eS	Sg	22 04 23.2	+2.0
MGAN				i		22 04 23.7	
	comp=E,922nm,0.6s						
APYN	Apoyeque	0.87	35	⇓eP	Pg	22 04 10.3	+0.6
APYN				eS	Sg	22 04 22.7	+1.4
APON	Apoyo	0.87	63	⇑eP	Pg	22 04 09.1	-0.7
APON				eS	Sg	22 04 20.8	-0.6
LEON	Leon	0.89	358	⇑eP	Pg	22 04 10.3	+0.1
LEON				eS	Sg	22 04 22.6	+0.5
WILN	Americas 2	0.91	46	⇓eP	Pg	22 04 10.4	-0.3
WILN				eS	Sg	22 04 24.3	+1.4
MIRN	Miramar	0.93	9	⇑eP	Pg	22 04 11.0	+0.1
MIRN				eS	Sg	22 04 26.6	+3.3
MOMJ	Momotombo	0.94	19	eP	Pg	22 04 11.1	-0.1
MOMJ				eS	Sg	22 04 23.5	-0.1
CNGN	Cerro Negro	0.98	9	eP	Pb	22 04 12.0	-0.2
TEL3	Telica 3	1.04	1	⇑eP	Pb	22 04 12.8	-0.3
PYTN	Playitas	1.28	38	⇑eP	Pb	22 04 15.5	-1.6
PYTN				eS	Sb	22 04 34.0	0.0
JCR	Jicaral	2.39	134	⇓iP	Pn	22 04 32.6	-0.9
JCR				eS	Sn	22 05 06.3	+2.4
CGA2	Cerro Gallo 2	2.79	122	eP	Pn	22 04 36.3	-2.9
PRS1	Puriscal	2.93	121	eP	Pn	22 04 41.4	+0.1
LAJ	Bijagual	3.15	121	eP	Pn	22 04 37.5	-6.9
TRTC	Tortuguero	3.23	107	eP	Pn	22 04 44.8	-0.7
LCR2	La Lucha 2	3.32	122	i P	Pn	22 04 46.7	0.0
LCR2				eS	Sn	22 05 30.1	+2.7
URSC	Urasca	3.46	119	eP	Pn	22 04 46.9	-1.8

*BJI **09** 22:07:46.4, 14.84N×147.27E, h48km, mB5.3, mb5.2, Ms6.0, Msz5.9*
*SYO **09** 22:07:46.7, 14.66N×147.01E, h35km, MB5.5*
*MOS **09** 22:07:48.2±1.0, 15.04N×146.52E, h33km, mb5.4/10, Error ellipse: s-maj=40.0km s-min=12.0km az=116.9*
*NEIC **09** 22:07:48.8±1.1, 14.63N×146.90E, h45km±9km, mb5.3/37, Error ellipse: s-maj=9.0km s-min=5.7km az=100.0*
*IDC **09** 22:07:50.0±4.6, 14.60N×146.87E, h50km±44km, mb4.5/27, mb1 4.6/28, mb1mx4.6/32, ML4.8/1, Error ellipse: s-maj=18.4km s-min=10.0km az=81.0*

ISC 09 22:07:47.9±0.9**, 14.60N**±0.04×**146.85E**±0.04**, h50**km±7km**, h48**km±5.7km**: pP-P, n183, σ1s13**/172**, mb5.2**/90**, MS5.9**/1**, 16C-9D, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANA2	Anatahan	2.05	328	⇑eP	P	22 08 21.8	+1.2
ANAT	Anatahan	2.09	327	⇑eP	P	22 08 21.9	+0.7
GUMO	Guam	2.17	243	ePn	P	22 08 21.9	-0.4
SARN	Sarigan	2.33	334	⇑iP	P	22 08 25.1	+0.4
JHJ	Hachijo jima 2	19.52	342	P	P	22 12 12.8	-1.1
	11nm,0.3s,baz=215,slow=21,SNR=2.9						
JOW	Kunigami	21.18	308	P	P	22 12 32.4	+1.1
	114nm,0.9s,mb5.2,baz=143,slow=12,SNR=11						
MAJO	Matsushiro	23.17	342	eP	P	22 12 48.9	-2.1
	56nm,1.2s,mb4.9						
MAT	Matsushiro	23.17	342	P	P	22 12 48.8	-2.2
MAT				S	Sx	22 17 14.0	
MAT	Matsushiro	23.17	342	eP	P	22 12 49.0	-2.0
PMG	Port Moresby	23.86	179	P	P	22 12 58.5	+0.7
	56nm,0.9s,mb5.0,baz=11,slow=9.7,SNR=22						
KS15	Wonju Array Si	28.31	327	eP	P	22 13 37.5	-1.6
KS15				e	pP	22 13 55.0	+3.1
SSE	Sheshan	28.68	309	P	P	22 13 41.9	-0.6
SSE				S	S	22 18 24.7	-1.7
SSE				SCS	ScS	22 24 16.4	-3.7
SSE				AMB	AMB		
	comp=Z,37nm,0.8s,mb5.2						
SSE				AMB	AMB		
	comp=Z,2μm,12.0s						
SSE				LR	LR		
	comp=N,25μm,20.0s,MS6.1						
SSE				LR	LR		
	comp=E,38μm,20.0s,MS6.1						
SSE				LR	LR		
	comp=Z,19μm,20.0s,MS5.7						
ASAJ	Asahikawa	29.64	354	P	P	22 13 51.1	+0.2
	comp=Z,24nm,0.9s,mb4.9,baz=213,slow=12,SNR=11						
NJ2	Nanjing	30.88	309	eP	P	22 14 02.1	0.0
NJ2				AMB	AMB		
	comp=Z,30nm,1.1s,mb5.0						
YSS	Yuzh-Sakhalins	32.43	355	eP	P	22 14 14.7	-0.8
YSS				pmax	pmax		
	comp=Z,35nm,1.2s,mb5.1						
YSS	Yuzh-Sakhalins	32.43	355	eP	P	22 14 14.1	-1.3
	comp=Z,36nm,1.1s,mb5.1						
DL2	Dalian	32.85	322	P	P	22 14 19.7	+0.5
DL2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
WHN	Wuhan	33.79	304	eP	P	22 14 27.7	+0.3
TIA	Tai'an	34.18	314	eP	P	22 14 30.1	-0.6
CN2	Changchun	34.37	332	eP	P	22 14 31.1	-1.1
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
CTA	Charters Tower	34.48	181	P	P	22 14 33.0	-0.4
	comp=Z,4.1nm,0.7s,mb4.5,baz=349,slow=11,SNR=4.6						
CTA	Charters Tower	34.48	181	P	P	22 14 33.0	-0.4
CTAO	Charters Tower	34.48	181	eP	P	22 14 26.7	-6.7
	comp=Z,48nm,1.5s,mb5.2						
WRAB	Tennant Creek	36.45	200	P	P	22 14 49.5	-0.7
	comp=Z,236nm,1.0s,mb6.1,SNR=19						
WRAB	Tennant Creek	36.45	200	eP	P	22 14 49.5	-0.7
	comp=Z,66nm,1.0s,mb5.5						
WRA	Warramunga Arr	36.47	200	P	P	22 14 50.0	-0.3
	comp=Z,22nm,0.9s,mb5.1,baz=22,slow=9.1,SNR=40						
KLR	Kul'dur	36.69	343	eP	P	22 14 47.1	-4.7
BJT	Baijiatuau	36.88	319	eP	P	22 14 52.9	-0.7
	comp=Z,107nm,1.2s,mb5.5						
BJI	Beijing	36.89	319	eP	P	22 14 53.1	-0.5
BJI				AMB	AMB		
	comp=Z,61nm,1.2s,mb5.3						
ENH	Enshi	37.69	301	eP	P	22 15 00.8	+0.4
	comp=Z,103nm,1.2s,mb5.4						
KEDI	Kedomdong	38.15	235	⇑eP	P	22 15 04.3	-0.1
	comp=Z,270nm,0.9s,mb6.0						
FITZ	Fitzroy Crossi	38.64	213	P	P	22 15 08.9	+0.4
	comp=Z,31nm,0.9s,mb5.0,baz=28,slow=8.6,SNR=20						
RATI	Rata	38.75	235	⇓eP	P	22 15 08.5	-0.9
	comp=Z,182nm,0.6s,mb6.0						
GYA	Guiyang	39.28	294	⇑iP	P	22 15 15.6	+1.9
GYA				AMB	AMB		
	comp=Z,40nm,1.2s,mb5.0						
KELI	Kelakatan	39.29	237	⇑eP	P	22 15 14.0	+0.1
	comp=Z,164nm,1.3s,mb5.6						
XAN	Xi'an	39.31	306	P	P	22 15 14.0	+0.1
SRDI	Scrawed	39.73	237	⇓eP	P	22 15 17.7	+0.2
	comp=Z,26nm,0.9s,mb5.0						
ASAR	Alice Springs	40.09	199	P	P	22 15 20.4	+0.1
	comp=Z,5.2nm,0.7s,mb4.3,baz=24,slow=8.2,SNR=21						
ASAR				PP	PP	22 16 55.1	-1.6
	comp=Z,4.9nm,0.9s,baz=15,slow=8.9,SNR=4.1						
HHC	Hu-ho-hao-te	40.30	317	⇑P	P	22 15 22.8	+0.8
HHC				AMB	AMB		
	comp=Z,58nm,1.2s,mb5.2						
HIA	Hailar	41.08	333	eP	P	22 15 27.8	-0.5
	comp=Z,32nm,1.2s,mb4.8						
NOUC	Port Laguerre	41.16	152	eP	P	22 15 28.5	-0.8
BTO	Baotou	41.20	316	eP	P	22 15 29.7	+0.3
BTO				AMB	AMB		
	comp=Z,88nm,1.2s,mb5.3						
KKTK	Khon Kaen	42.41	278	P	P	22 15 41.0	+1.3
KMI	Kunming	42.62	291	eP	P	22 15 42.7	+1.4
KMI				AP	pP	22 16 00.8	+6.2
KMI				AMB	AMB		
	comp=Z,21nm,1.6s,mb4.6						
CD2	Chengdu	42.63	300	P	P	22 15 41.8	+0.4
CD2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.0						
LZH	Lanzhou	43.91	307	P	P	22 15 53.1	+1.4
LZH				AP	pP	22 16 04.7	-0.3
LZH				XP	sP	22 16 13.4	+2.4
NANT	Nan	44.31	282	P	P	22 15 55.0	-0.1
MBWA	Marble Bar	44.41	217	eP	P	22 15 55.6	-0.2
	comp=Z,28nm,1.0s,mb5.0						
MA2	Magadan	44.99	3	eP	P	22 16 00.4	+0.5
	comp=Z,156nm,1.4s,mb5.7						
NST	Nakhon Sawan	45.04	278	P	P	22 16 03.0	+2.1
NNT	Nongplab	45.78	273	P	P	22 16 08.4	+1.5
PENI	Pendagan	45.93	247	⇓eP	P	22 16 08.4	+0.3
	comp=Z,34nm,0.8s,mb5.3						
CHG	Chiang Mai	45.97	282	⇑P	P	22 16 07.4	-0.9
	comp=Z,12nm,0.9s,mb4.8						
CM31	Chiang Mai Arr	45.99	282	eP	P	22 16 08.9	+0.4
	comp=Z,52nm,1.1s,mb5.4						
CM31				ePcP	PcP	22 17 46.7	+1.7
CMAR	Chiang Mai Arr	45.99	282	P	P	22 16 09.2	+0.8
	comp=Z,18nm,0.9s,mb5.0,baz=78,slow=6.1,SNR=94						
CMAR				PcP	PcP	22 17 47.1	+2.1
	comp=Z,8.2nm,0.8s,baz=80,slow=2.2,SNR=7.9						
BDT	Bhumibol Dam	46.00	280	P	P	22 16 09.0	+0.4
PASI	Pasiripis	46.06	245	⇑eP	P	22 16 07.3	-1.8
	comp=Z,54nm,0.9s,mb5.5						
STKA	Stephens Creek	46.49	186	P	P	22 16 11.6	-0.7
	comp=Z,7.1nm,0.8s,mb4.7,baz=24,slow=12,SNR=5.5						
STKA	Stephens Creek	46.49	186	eP	P	22 16 10.6	-1.6
SONM	Songino Array	47.04	323	P	P	22 16 17.0	+0.6
	comp=Z,14nm,0.8s,mb4.9,baz=138,slow=10.0,SNR=59						
GTA	Gaotai	47.97	310	⇑P	P	22 16 24.7	+0.9
GTA				AP	pP	22 16 35.6	-1.6
GTA				XP	sP	22 16 38.8	-4.2
GTA				AMB	AMB		
	comp=Z,21nm,1.2s,mb5.0						
MRPI	Mariponipon	48.67	259	⇓eP	P	22 16 30.1	+0.6
YAK	Yakutsk	48.93	349	eP	P	22 16 29.7	-1.1
YAK				pmax	pmax		
	comp=Z,43nm,1.1s,mb5.4						
YAK	Yakutsk	48.93	349	eP	P	22 16 29.6	-1.2
	comp=Z,45nm,1.0s,mb5.5						
BOD	Bodaibo	49.69	338	eP	P	22 16 34.9	-1.9
IRK	Irkutsk	50.51	327	eP	P	22 16 41.9	-1.3
SHL	Shillong	52.45	291	eP	P	22 16 59.0	+0.9
SHL				eS	S	22 24 21.0	+1.9
LSA	Lhasa	53.26	296	P	P	22 17 06.5	+2.4
NWAO	Narrogin (SRO)	55.09	210	P	P	22 17 17.6	+0.1
	comp=Z,20nm,1.1s,mb5.1,baz=43,slow=5.8,SNR=4.8						
NWAO	Narrogin (SRO)	55.09	210	eP	P	22 17 16.7	-0.7
	comp=Z,32nm,1.2s,mb5.2						
GUN	Gumba	57.83	294	eP	P	22 17 37.5	+0.4
	comp=Z,335nm,1.2s,mb6.2						
WMQ	Urumqi	57.85	313	P	P	22 17 37.7	+0.7
WMQ				AP	pP	22 17 51.0	+0.2
WMQ				AMB	AMB		
	comp=Z,80nm,1.2s,mb5.6						
TIXI	Tiksi	58.04	353	⇓eP	P	22 17 36.4	-1.5
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
PKI	Pulchoki	58.25	294	eP	P	22 17 39.8	-0.2
	comp=Z,164nm,1.2s,mb5.9						
KKN	Kakani	58.36	294	eP	P	22 17 40.6	-0.2
	comp=Z,179nm,1.3s,mb6.0						
DMN	Daman	58.52	294	eP	P	22 17 41.7	-0.2
	comp=Z,176nm,1.1s,mb6.0						
GKN	Gorkha	58.93	294	eP	P	22 17 44.6	-0.1
	comp=Z,352nm,1.2s						
URZ	Urewera	59.75	153	P	P	22 17 49.9	-0.4
	comp=Z,8.1nm,0.8s,mb4.8,baz=349,slow=11,SNR=3.2						
KOLN	Koldanda	59.85	294	eP	P	22 17 50.9	-0.2
	comp=Z,150nm,1.0s,mb6.0						
ZAL	Zalesovo	61.94	324	P	P	22 18 04.0	-0.8
	comp=Z,7.6nm,0.9s,mb4.8,baz=280,slow=6.9,SNR=26						
MKAR	Makanchi Array	62.11	315	P	P	22 18 06.2	+0.2
	comp=Z,24nm,0.5s,mb5.5,baz=90,slow=8.0,SNR=243						
MKAR	Makanchi Array	62.11	315	i P	P	22 18 06.2	+0.1
MKAR				pmax	pmax		

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,67nm,1.0s						
MKAR	Makanchi Array	62.11	315	P	P	22 18 06.2	+0.1
RPZ	Rata Peaks	62.11	160	P	P	22 18 05.4	-0.7
	comp=Z,7.2nm,0.8s,mb4.9,baz=235,slow=20,SNR=3.4						
PTH	Pithoragarh	62.77	296	e	P	22 18 05.8	-5.0
NVS	Novosibirsk	63.05	324	i P	P	22 18 10.1	-2.1
NVS				pmax	pmax		
	comp=E,50nm,1.6s						
NVS				pmax	pmax		
	comp=Z,56nm,1.6s,mb5.4						
NVS				pmax	pmax		
	comp=N,35nm,1.8s						
JOSI	Joshimath	63.31	297	eP	P	22 18 14.5	+0.1
JOSI				AMb	AMB	22 18 17.2	
	comp=Z,313nm,1.2s						
JOSI				eS	S	22 26 41.4	+0.4
SPU	Mount Spurr	63.52	28	eP	P	22 18 13.3	-1.9
KLP	Kalpa	64.40	298	eP	P	22 18 21.5	0.0
KLP				AMb	AMB	22 18 24.5	
	comp=Z,44nm,1.4s,mb5.3						
KLP				eS	S	22 26 56.7	+2.1
KLP				eS	S	22 26 58.3	+3.6
DDI	Dehra Dun	64.62	297	eP	P	22 18 20.0	-2.9
DDI				e		22 21 27.0	
AGRA	Agra	64.89	293	eP	P	22 18 23.5	-1.2
AGRA				AMb	AMB	22 18 24.7	
	comp=Z,62nm,0.8s,mb5.7						
AGRA				e		22 26 58.2	
ASOR	Ausora	64.95	295	eP	P	22 18 24.5	-0.6
ASOR				AMb	AMB	22 18 25.4	
	comp=Z,152nm,0.7s,mb6.2						
PMR	Palmer	64.99	28	P	P	22 18 19.6	-5.1
KURK	Kurchatov	65.06	319c	iP	P	22 18 24.7	-0.7
KURK				pmax	pmax		
	comp=Z,83nm,1.1s,mb5.7						
KURK	Kurchatov	65.06	319	eP	P	22 18 24.7	-0.7
	comp=Z,142nm,0.9s,mb6.0						
HYB	Hyderabad	65.40	283	i P	P	22 18 27.5	-0.6
HYB	Hyderabad	65.40	283	eP	P	22 18 27.5	-0.6
NDI	New Delhi	65.44	295	⇑iP	P	22 18 26.0	-2.2
AYAN	Aya Nagar	65.53	295	eP	P	22 18 27.6	-1.2
MCK	McKinley	65.69	26	P	P	22 18 29.7	+0.5
	comp=Z,10nm,1.1s,mb4.8						
KKR	Kurukshetra	65.70	297	eP	P	22 18 30.2	+0.3
KKR				AMb	AMB	22 18 34.2	
	comp=Z,65nm,1.2s,mb5.5						
BHPL	Bhopal	65.72	289	eP	P	22 18 30.0	-0.1
BHPL				AMb	AMB	22 18 31.9	
	comp=Z,36nm,1.1s,mb5.3						
KUDL	Kundal	66.11	295	eP	P	22 18 31.4	-1.1
KUDL				AMb	AMB	22 18 34.7	
	comp=Z,44nm,1.6s,mb5.2						
KSH	Kashi	66.17	307	eP	P	22 18 35.0	+2.4
KSH				eAP	pP	22 18 48.2	+1.5
KSH				eXP	sP	22 18 53.6	+1.4
TKM2	Tokmak 2	66.51	311	P	P	22 18 35.5	+0.8
	SNR=24						
KHET	Khetri	66.72	295	eP	P	22 18 35.5	-0.9
KHET				AMb	AMB	22 18 39.3	
	comp=Z,37nm,1.3s,mb5.3						
KHET				eS	S	22 27 23.3	+0.3
KZA	Kyzart	66.75	310	P	P	22 18 38.0	+1.7
	SNR=32						
ILAR	Eielson Array	66.84	25	P	P	22 18 35.1	-1.3
	comp=Z,1.9nm,0.6s,mb4.3,baz=260,slow=5.6,SNR=22						
KBK	Karagaybulak	66.98	310	P	P	22 18 38.4	+0.7
	SNR=15						
CHMS	Chumysh	67.14	311	P	P	22 18 39.1	+0.4
	SNR=11						
UCH	Uchtor	67.30	310	P	P	22 18 41.4	+1.7
	SNR=26						
AAK	Ala-Archa	67.32	310	P	P	22 18 40.4	+0.5
	SNR=10						
AAK	Ala-Archa	67.32	310	eP	P	22 18 39.6	-0.2
AAK				pmax	pmax		
	comp=Z,23nm,1.4s,mb5.0						
AAK	Ala-Archa	67.32	310	eP	P	22 18 39.1	-0.7
	comp=Z,21nm,1.2s,mb5.0						
USP	Ospenovka	67.32	311	P	P	22 18 40.1	+0.3
	SNR=21						
EKS2	Erkin-Say	67.85	310	P	P	22 18 43.5	+0.4
	SNR=19						
AJM	Ajmer	67.90	293	⇑iP	P	22 18 42.0	-1.7
AML	Almayashu	67.91	310	P	P	22 18 45.0	+1.5
	SNR=22						
POO	Poona	69.65	285	eP	P	22 18 54.7	0.0
POO				AMb	AMB	22 18 55.4	
	comp=Z,57nm,1.2s,mb5.4						
DAWY	Dawson	69.88	27	eP	P	22 18 52.3	-3.0
VOSK	Vostochnaya	69.96	321	P	P	22 18 55.2	-0.8
VOSK				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.9						
BVA0	Borovoye Array	70.33	321	i P	P	22 18 58.1	-0.1
BVA0				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
BVAR	Borovoye Array	70.33	321	P	P	22 18 58.1	-0.2
	comp=Z,96nm,1.1s,mb5.6,baz=101,slow=7.6,SNR=167						
BRVK	Borovoye	70.40	321	eP	P	22 18 58.1	-0.5
	comp=Z,76nm,1.0s,mb5.6						
ZRNK	Zerenda	71.17	321	P	P	22 19 02.6	-0.7
ZRNK				pmax	pmax		
	comp=Z,54nm,1.1s,mb5.4						
ZRNK	Zerenda	71.17	321	eP	P	22 19 02.7	-0.6
	comp=Z,73nm,1.1s,mb5.5						
JASL	Jaisalmer	71.17	294	eP	P	22 19 03.7	-0.1
INK	Inuvik	72.70	23	P	P	22 19 12.2	+0.1
	comp=Z,5.2nm,0.8s,mb4.5,baz=279,slow=5.8,SNR=5.0						
INK	Inuvik	72.70	23	eP	P	22 19 10.7	-1.4
	comp=Z,21nm,1.1s,mb5.0						
DLBC	Dease Lake	74.09	33	P	P	22 19 21.2	+0.8
	comp=Z,2.4nm,0.7s,mb4.2,baz=291,slow=9.9,SNR=4.7						
DLBC	Dease Lake	74.09	33	eP	P	22 19 21.1	+0.6
ARU	Arti	77.03	325	eP	P	22 19 37.0	-0.2
ARU				pmax	pmax		
	comp=Z,56nm,1.2s,mb5.4						
ARU	Arti	77.03	325	eP	P	22 19 37.2	-0.1
	comp=Z,60nm,1.2s,mb5.4						
YBH	Yreka Blue Hor	80.76	49	P	P	22 19 59.8	+2.0
	comp=Z,1.9nm,0.8s,mb4.1,baz=319,slow=4.5,SNR=3.4						
YKA	Yellowknife Ar	81.08	28	P	P	22 19 59.9	+0.8
	comp=Z,2.0nm,0.5s,mb4.3,baz=283,slow=5.1,SNR=3.8						
RES	Resolute Bay	83.12	14	eP	P	22 20 10.3	+0.9
	comp=Z,12nm,0.9s,mb4.9						
NEW	Newport	83.20	42	eP	P	22 20 13.8	+3.5
	comp=Z,17nm,1.2s,mb4.9						
CMB	Columbia Colle	83.29	53	P	P	22 20 12.7	+1.7
	comp=Z,9.7nm,1.0s,mb4.8						
NVAR	Mina Array Bea	84.79	52	P	P	22 20 21.0	+2.5
	comp=Z,2.4nm,0.9s,mb4.3,baz=275,slow=3.4,SNR=10.0						
WALA	Waterton Lakes	85.04	41	eP	P	22 20 22.5	+3.0
	comp=Z,32nm,1.4s,mb5.3						
TPH	Tonopah	85.70	52	P	P	22 20 21.7	-1.3
	comp=Z,9.9nm,1.1s,mb5.0						
HLID	Hailey	86.27	46	eP	P	22 20 27.1	+1.5
	comp=Z,7.1nm,1.0s,mb4.8						
ELK	Elko	86.47	49	eP	P	22 20 27.6	+0.9
	comp=Z,9.4nm,1.0s,mb5.0						
ARCES	ARCESS Array B	86.71	342	P	P	22 20 27.9	+0.7
	comp=Z,8.8nm,0.8s,mb5.0,baz=37,slow=6.1,SNR=6.2						
MCMT	McKenzie Canyo	86.97	45	eP	P	22 20 32.1	+3.0
HRY	Holter Researc	87.08	43	P	P	22 20 30.0	+0.4
DUG	Dugway	88.40	49	eP	P	22 20 37.5	+1.4
	comp=Z,34nm,1.3s,mb5.4						
ARUT	Antelope Range	88.65	51	P	P	22 20 33.7	-3.6
HWUT	Hardware Ranch	88.86	47	eP	P	22 20 39.9	+1.7
	comp=Z,13nm,1.3s,mb5.1						
JLU	Jordanelle	89.26	48	P	P	22 20 32.4	-7.7
OBN	Obninsk	89.30	327	⇓eP	P	22 20 39.2	-0.7
OBN	Obninsk	89.30	327	eP	P	22 20 39.0	-0.9
	comp=Z,36nm,1.3s,mb5.5						
DAU	Daniels Canyon	89.46	48	eP	P	22 20 43.5	+2.5
GNI	Garni	89.70	311	eP	P	22 20 41.2	-1.0
GNI				pmax	pmax		
	comp=Z,10.0nm,1.3s						
KIV	Kislovodsk	89.87	316	eP	P	22 20 42.5	-0.4
KIV				pmax	pmax		
	comp=Z,14nm,1.3s,mb5.1						
PDAR	Pinedale Array	89.89	46	P	P	22 20 44.1	+1.1
	comp=Z,0.3nm,0.5s,baz=32,slow=14,SNR=4.2						
SRU	San Rafael	90.42	49	eP	P	22 20 43.7	-1.9
KAF	Kangasniemi	90.59	336	ep	P	22 20 44.1	-1.7
FINES	FINESS Array B	91.05	336	P	P	22 20 47.4	-0.6
	comp=Z,10nm,0.8s,mb5.2,baz=72,slow=6.0,SNR=25						
PV10	Paradox Valley	91.75	50	eP	P	22 20 49.4	-2.4
PV01	Paradox Valley	92.19	50	P	P	22 20 52.5	-1.3
SUMG	Summit	92.95	2	P	P	22 20 58.0	+1.4
	comp=Z,16nm,1.3s,mb5.3						
SDCO	Great Sand Dun	94.59	49	P	P	22 21 07.9	+3.2
ANMO	Albuquerque	94.91	52	eP	P	22 21 09.3	+3.0
NB2	NORSAR Subarra	96.78	340	P	P	22 21 13.3	-0.8
	comp=Z,3.3nm,1.0s,mb4.7,baz=48,slow=4.6						
NOA	NORSAR Array B	96.78	340	P	P	22 21 13.7	-0.5
	comp=Z,1.7nm,0.9s,mb4.5,baz=45,slow=4.4,SNR=5.1						
BRTR	Keskin Array B	97.75	314	P	P	22 21 19.1	0.0
	comp=Z,0.9nm,0.6s,mb4.5,baz=90,slow=4.9,SNR=6.8						
SYO	Syowa Base	109.71	201	⇓PP	PP	22 26 46.5	-3.1
ESLA	Sonseca Array	119.54	334	ePKPdf	PKPdf	22 26 40.3	+7.8
SNAA	Sanae	120.14	191	⇑iP	PKPdf	22 26 32.6	-0.4
SNAA	Sanae	120.14	191	⇓i	Px	22 27 09.6	
VNA2	Neumayer--Watz	121.55	190	⇓iP	PKPdf	22 26 38.6	+2.9
VNA2	Neumayer--Watz	121.55	190		Px	22 27 16.4	
VNA3	Neumayer Olymp	121.62	189	P	PKPdf	22 26 40.2	+4.4
VNA3	Neumayer Olymp	121.62	189	⇑i	Px	22 27 05.5	
VNA3	Neumayer Olymp	121.62	189	⇑i	Px	22 27 19.4	
DBIC	Dimbokro	144.87	305	PKP	PKPdf	22 27 22.1	+1.5
	comp=Z,40nm,0.7s,baz=23,slow=4.5,SNR=31						
KIC	Kosan Boka	144.96	305	ePKP2	PKPab	22 27 22.3	+0.3
	comp=Z,302nm,0.9s						
TIC	Toumodi	145.01	305	ePKP2	PKPab	22 27 22.4	+0.2
	comp=Z,281nm,1.0s						
LVC	Limon Verde	145.25	109	ePKPdf	PKPdf	22 27 24.1	+3.2
LIC	Lamto	145.27	305	ePKP2	PKPab	22 27 23.5	+0.3
	comp=Z,328nm,1.0s						
LPAZ	La Paz	146.26	98	PKPbc	PKPbc	22 27 26.1	+2.2
	comp=Z,8.4nm,0.8s,baz=300,slow=2.3,SNR=12						
CPUP	Villa Florida	154.57	121	PKPbc	PKPdf	22 27 45.8	+11
	comp=Z,2.4nm,1.1s,baz=250,slow=11,SNR=2.3						
CPUP				PKPab	PKPab	22 28 00.4	-0.4
	comp=Z,2.9nm,0.8s,baz=260,slow=1.8,SNR=6.9						

CASC 09 22:11:18.1±3.8**, 11.44N**×**86.86W, h24**km±26km**, MD4.1, 7C-4D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRUN	El Crucero	0.77	45	⇓iP	Pb	22 11 32.8	0.0
COPN	Copaltepe	0.78	20	⇑eP	Pb	22 11 32.9	0.0
COPN				eS	Sb	22 11 41.2	-2.0
TICN	Ticuantepe	0.85	46	eP	Pb	22 11 33.6	-0.5
XAVN	Gruta Xavier	0.88	36	eP	Pb	22 11 34.1	-0.5
MASN	Masaya	0.88	52	eP	Pb	22 11 32.5	-2.1
APON	Apoyo	0.91	58	⇑eP	Pb	22 11 33.9	-1.2
MGAN	Managua	0.93	40	⇑eP	Pb	22 11 34.8	-0.6
MGAN				eS	Sb	22 11 49.8	+2.6
APYN	Apoyeque	0.94	32	eP	Pb	22 11 35.1	-0.4
LEON	Leon	0.97	358	⇑eP	Pb	22 11 35.5	-0.7
WILN	Americas 2	0.97	42	eP	Pb	22 11 35.4	-0.7
WILN				eS	Sb	22 11 50.1	+1.4
MIRN	Miramar	1.01	8	⇓eP	Pb	22 11 36.1	-0.6
MIRN				eS	Sb	22 11 53.8	+4.2
MOMJ	Momotombo	1.01	18	⇑eP	Pb	22 11 36.0	-0.8
MOMJ				eS	Sb	22 11 50.8	+1.0
CNGN	Cerro Negro	1.07	8	⇑eP	Pn	22 11 36.9	-0.8
CNGN				eS	Sb	22 11 51.9	+0.6
TEL3	Telica 3	1.13	1	eP	Pn	22 11 38.0	-0.6
TELN	Telica	1.16	1	eP	Pn	22 11 38.8	-0.2
TELN				eS	Sb	22 11 55.4	+1.4
PYTN	Playitas	1.34	36	⇓eP	Pn	22 11 40.4	-1.3
LIM	Lima	1.74	115	⇑eP	Pn	22 11 44.6	-2.7
LIM				eS	Sn	22 12 06.5	-2.4
JCR	Jicaral	2.33	132	eP	Pn	22 11 59.2	+3.4
CGA2	Cerro Gallo 2	2.74	121	eP	Pn	22 12 03.1	+1.4
PRS1	Puriscal	2.89	120	⇓eP	Pn	22 12 06.1	+2.3
LAJ	Bijagual	3.11	120	eP	Pn	22 12 02.0	-5.0
TRTC	Tortuguero	3.21	105	eP	Pn	22 12 08.7	+0.4
LCR2	La Lucha 2	3.27	121	eP	Pn	22 12 10.8	+1.5
ICR	Volcan Irazu	3.31	116	eP	Pn	22 12 14.2	+4.5
BUS	Buena Vista	3.58	121	eP	Pn	22 12 15.4	+1.9

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*IDC **09** 22:18:22.9±0.7, 3.84N×128.54E, mb4.1/13, mb1 4.2/13, mb1mx4.1/21, Error ellipse: s-maj=32.6km s-min=13.1km az=75.0*

*NEIC **09** 22:18:24.0±0.5, 3.79N×128.49E, h10km, mb4.5/8, Error ellipse: s-maj=23.4km s-min=8.3km az=75.0*

ISC 09 22:18:25.8±0.4**, 3.79N**±0.07×**128.5E**±0.1**, h33**km**, n31, σ0.94**/31**, mb4.2**/24**, North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.93	187	P	P	22 23 18.7	+0.5
	0.7nm,0.4s,mb3.4,baz=17,slow=13,SNR=4.1						
KMBE	Kimbe	23.56	113	eP	P	22 23 42.7	+8.3
WRAB	Tennant Creek	24.27	166	eP	P	22 23 41.6	+0.3
	15nm,1.0s,mb4.4						
WRA	Warramunga Arr	24.27	166	P	P	22 23 41.7	+0.3
	4.6nm,0.6s,mb4.1,baz=344,slow=10,SNR=12						
MBWA	Marble Bar	26.23	199	P	P	22 23 59.0	-0.9
	5.6nm,1.0s,mb4.0						
ASAR	Alice Springs	27.79	169	P	P	22 24 13.8	-0.3
	0.9nm,0.7s,mb3.5,baz=354,slow=7.3,SNR=9.0						
CTA	Charters Tower	29.46	144	P	P	22 24 29.5	+0.5
	1.3nm,0.5s,mb3.9,baz=10,slow=13,SNR=2.2						
CTA	Charters Tower	29.46	144	P	P	22 24 29.5	+0.5
CMAR	Chiang Mai Arr	32.36	299	P	P	22 24 55.2	+0.5
	1.5nm,0.7s,mb3.9,baz=116,slow=7.0,SNR=12						
STKA	Stephens Creek	37.60	162	P	P	22 25 38.9	-0.3
	3.1nm,0.7s,mb4.2,baz=344,slow=8.8,SNR=8.8						
STKA	Stephens Creek	37.60	162	eP	P	22 25 36.7	-2.6
BJT	Baijiatuau	37.75	344	eP	P	22 25 40.7	+0.2
	14nm,0.8s,mb4.7						
NWAO	Narrogin (SRO)	38.03	195	P	P	22 25 44.3	+1.4
	3.1nm,0.6s,mb4.2,baz=39,slow=20,SNR=2.1						
ASAJ	Asahikawa	42.05	15	P	P	22 26 16.1	+0.1
	5.2nm,0.8s,mb4.2,baz=305,slow=27,SNR=3.2						
GUN	Gumba	47.11	305	eP	P	22 26 59.5	+2.7
	17nm,0.8s,mb5.0						
KKN	Kakani	47.55	305	eP	P	22 27 01.1	+0.7
DMN	Daman	47.63	304	eP	P	22 27 01.0	+0.1
	3.5nm,0.3s,mb4.8						
SONM	Songino Array	47.82	340	P	P	22 27 02.2	0.0
	1.1nm,0.8s,mb3.9,baz=150,slow=5.7,SNR=9.3						
GKN	Gorkha	48.16	305	eP	P	22 27 06.1	+1.0
KOLN	Koldanda	48.93	304	eP	P	22 27 10.6	-0.4
	10nm,0.7s,mb5.0						
MKAR	Makanchi Array	58.51	324	P	P	22 28 21.1	-0.2
	2.4nm,0.4s,mb4.6,baz=112,slow=7.8,SNR=70						
ZAL	Zalesovo	61.34	332	P	P	22 28 38.8	-1.7
	0.6nm,0.7s,mb3.8,baz=213,slow=4.7,SNR=3.5						
KURK	Kurchatov	62.64	327	eP	P	22 28 48.4	-0.9
	4.2nm,0.6s,mb4.8						
BRVK	Borovoye	68.30	326	P	P	22 29 25.0	-0.6
ZRNK	Zerenda	68.97	326	eP	P	22 29 28.8	-0.9
	2.8nm,0.6s,mb4.4						
ARU	Arti	75.82	327	P	P	22 30 09.1	-1.2
	3.7nm,0.8s,mb4.4						
MCK	McKinley	83.34	26	eP	P	22 30 51.4	+0.9
	2.3nm,0.8s,mb4.3						
ILAR	Eielson Array	84.31	25	P	P	22 30 56.4	+1.0
	0.6nm,0.7s,mb3.9,baz=263,slow=5.5,SNR=5.0						
MAW	Mawson	84.41	201	eP	P	22 30 54.0	-1.9
	1.7nm,0.8s,mb4.2						
FINES	FINESS Array B	92.60	332	P	P	22 31 35.7	+0.6
	1.7nm,1.0s,mb4.4,baz=253,slow=26,SNR=2.8						
FINES	FINESS Array B	92.60	332	P	P	22 31 35.7	+0.6

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*CSEM **09** 22:19:35.3±0.1, 46.39N×10.55E, h2km, ML2.8/11, Error ellipse: s-maj=1.6km s-min=1.2km az=162.0*

*ZUR **09** 22:19:35.8, 46.43N×10.55E, h13km, ML2.5/6*

*NEIC **09** 22:19:36.4, 46.42N×10.57E, h5km, MD2.7(ROM), ML2.6(VIE), ML2.5(ZUR), ML2.4(LDG), ML2.4(SZGRF), After ROM.*

*ROM **09** 22:19:36.4±0.2, 46.42N×10.57E, h5km, MD2.7/3, ML2.1/2, Error ellipse: s-maj=2.2km s-min=2.0km az=0.0*

*PRU **09** 22:19:38.6, 46.53N×10.59E*

*LDG **09** 22:19:42.4±0.5, 46.60N×10.40E, h10km, Ml2.4/10, Error ellipse: s-maj=11.6km s-min=5.5km az=79.0*

ISC 09 22:19:35.9±0.3**, 46.46N**±0.02×**10.59E**±0.02**, h1**km±2km**, n78, σ1.09**/127**, 21C-7D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BRMO	Bormio	0.15	276	ePG	Pg	22 19 39.8	+0.9
BRMO				SG	Sg	22 19 41.7	+0.8
	290nm,0.3s						
BRMO	Bormio	0.15	276	ePg	Pg	22 19 39.8	+0.9
BRMO				eSg	Sg	22 19 41.7	+0.8
BRMO	Bormio	0.15	276	ePg	Pg	22 19 39.8	+0.9
	290nm,0.3s						
BRMO				Sg	Sg	22 19 41.7	+0.8
FUORN	Ofenpass	0.28	306	⇓iPg	Pg	22 19 42.0	+0.6
	25nm,0.4s						
FUORN				eSg	Sg	22 19 45.9	+0.8
	25nm,0.4s						
BERNI	Berninapass	0.39	263	⇑iPg	Pg	22 19 44.0	+0.2
	20nm,0.2s						
BERNI				eSg	Sg	22 19 48.6	-0.4
	20nm,0.2s						
DAVOX	Davos	0.58	304	⇓iPg	Pg	22 19 47.4	-0.2
	9.4nm,0.5s						
DAVOX				eSg	Sg	22 19 55.1	-0.2
	9.4nm,0.5s						
VDL	Val di Lei	0.77	272	ePg	Pg	22 19 50.6	-0.7
	5.9nm,0.4s						
VDL				eSg	Sg	22 20 00.3	-1.3
	5.9nm,0.4s						
VDL	Val di Lei	0.77	272	⇓iP	Pg	22 19 50.6	-0.7
VDL				eSg	Sg	22 20 00.3	-1.3
	5.9nm,0.4s						
CTI	Castel Tesino	0.84	119	ePG	Pg	22 19 53.2	+0.5
CTI				SG	Sg	22 20 05.0	+1.0
	50nm,0.3s						
CTI	Castel Tesino	0.84	119	ePg	Pg	22 19 53.2	+0.5
CTI				eSg	Sg	22 20 05.0	+1.0
CTI	Castel Tesino	0.84	119	ePg	Pg	22 19 53.2	+0.5
	50nm,0.3s						
SAL	Salo	0.85	183	ePG	Pg	22 19 53.1	+0.2
SAL				SG	Sg	22 20 05.2	+0.9
SAL	Salo	0.85	183	ePg	Pg	22 19 53.1	+0.2
SAL				eSg	Sg	22 20 05.2	+0.9
SQTA	Sankt Quirin	0.87	29	⇑iPG	Pg	22 19 53.7	+0.4
SQTA				i SG	Sg	22 20 04.9	0.0
	98nm,0.3s						
MOTA	Moosalm	0.95	22	⇑iPG	Pg	22 19 55.1	+0.2
MOTA				i SG	Sg	22 20 07.5	-0.1
	30nm,0.2s						
DAVA	Damuels	0.96	330	⇑iPG	Pg	22 19 54.9	-0.1
DAVA				i SG	Sg	22 20 07.9	+0.1
	16nm,0.3s						
SCE	Schlegeis	0.96	53	⇑iPg	Pg	22 19 54.9	-0.2
FAU	Forcella Aurin	0.99	103	⇓ePg	Pg	22 19 55.9	+0.3
FAU	Forcella Aurin	0.99	103	⇑ePg	Pg	22 19 56.0	+0.3
PLONS	Plons	1.02	306	⇑iPg	Pg	22 19 55.8	-0.4
	2.1nm,0.6s						
WTTA	Wattenberg	1.08	41	⇑iPG	Pg	22 19 57.2	-0.2
WTTA				i SG	Sg	22 20 11.9	+0.1
	13nm,0.3s						
AFL	Alpe Faloria	1.10	86	⇑ePg	Pg	22 19 58.2	+0.3
WATA	Walderalm	1.11	37	⇓iPG	Pg	22 19 57.9	-0.1
WATA				i SG	Sg	22 20 12.9	+0.2
	7.3nm,0.2s						
MUGIO	Muggio	1.20	244	⇑iPg	Pg	22 19 58.0	-1.9
	2.4nm,0.4s						
FUSIO	Fusio	1.33	270	⇑iPg	Pg	22 20 00.5	-2.0
	4.1nm,0.6s						
TEOL	Teolo	1.33	145	⇓ePg	Pg	22 20 02.1	-0.4
TEOL				eSg	Sg	22 20 20.8	+0.5
TEOL	Teolo	1.33	145	⇑ePg	Pg	22 20 02.1	-0.4
CAE	Caneva	1.36	109	⇑ePg	Pg	22 20 03.9	+0.8
CAE				eSg	Sg	22 20 22.1	+1.0
CAE	Caneva	1.36	109	⇑ePg	Pg	22 20 03.8	+0.8
VAI	Varese	1.40	246	ePN	Pn	22 20 02.0	-0.5
	33nm,0.5s						
VAI	Varese	1.40	246	ePg	Pg	22 20 02.0	-1.7
VAI	Varese	1.40	246	ePn	Pn	22 20 02.0	-0.5
	33nm,0.5s						
CSMI	Casera Mimoias	1.43	87	⇑ePg	Pg	22 20 03.8	-0.5
CSMI				eSg	Sg	22 20 24.2	+0.8
CSMI	Casera Mimoias	1.43	87	⇑ePg	Pg	22 20 04.2	-0.2
WILA	Wila	1.50	310	⇑iPn	Pn	22 20 05.4	+1.4
	5.6nm,0.4s						
FVI	Forni Avoltri	1.52	84	ePN	Pn	22 20 05.5	+1.2
	30nm,0.2s						
FVI	Forni Avoltri	1.52	84	ePg	Pg	22 20 05.5	-0.8
FVI	Forni Avoltri	1.52	84	ePn	Pn	22 20 05.5	+1.2
	30nm,0.2s						
FUR	Furstenfeldbru	1.77	15	ePg	Pg	22 20 11.3	+0.1
FUR				eSg	Sg	22 20 35.5	+0.7
PLRO	Paularo	1.77	86	⇓ePg	Pg	22 20 09.7	-1.5
PLRO				eSg	Sg	22 20 34.3	-0.5
SLE	Schleitheim	1.94	313	⇑iPn	Pn	22 20 11.8	+1.5
	1.9nm,0.3s						
KBA	Koelnbreinsper	1.99	71	⇑iPG	Pg	22 20 13.8	-1.9
KBA				i SG	Sg	22 20 41.7	-0.5
	9.4nm,0.3s						
VOY	Vojsko	2.33	99	ePn	Pn	22 20 21.3	+5.4
VOY				eSn	Sn	22 20 50.4	+4.8
BFO	Black Forest	2.42	321	ePn	Pn	22 20 18.1	+0.9
OBKA	Obir	2.74	88	⇑iPG	Pg	22 20 27.9	-2.6
OBKA				i SG	Sg	22 21 06.9	-0.1
	2.7nm,0.3s						
LPG	La Plagne	2.84	252	ePn	Pn	22 20 26.0	+2.8
LPG				eSn	Sn	22 20 56.6	-2.0
	5.4nm,0.5s						
LPL	La Plagne	2.85	252	ePn	Pn	22 20 26.4	+3.1
MOA	Molln	2.87	60	⇑iPG	Pg	22 20 30.3	-2.8
MOA				i SG	Sg	22 21 11.2	-0.2
	6.1nm,0.4s						
HINF	Hinteralfeld	2.89	299	ePn	Pn	22 20 24.3	+0.4
HINF				eSn	Sn	22 20 54.2	-5.5
HINF				eSg	Sg	22 21 06.2	-5.8
	4.0nm,0.3s						
CDF	Champ du Feu	2.98	312	ePn	Pn	22 20 25.9	+0.8
CDF				eSn	Sn	22 20 55.9	-6.1
CDF				eSg	Sg	22 21 09.4	-5.6
	6.4nm,0.4s						
WET	Wettzell	3.10	29	ePn	Pn	22 20 27.7	+0.9
WET				eSn	Sn	22 21 04.5	-0.5
CABF	La Chapelle	3.11	274	ePn	Pn	22 20 28.7	+1.7
CABF				eSn	Sn	22 21 00.9	-4.5
CABF				eSg	Sg	22 21 14.2	-5.2
	1.7nm,0.2s						
GEC2	GERESS Array S	3.18	40	ePn	Pn	22 20 28.9	+0.9
GEC2				eSn	Sn	22 21 08.0	+0.8
MBDF	Montbardon	3.19	238	ePn	Pn	22 20 31.9	+3.7
MBDF				eSn	Sn	22 21 05.8	-1.6
	2.3nm,0.4s						
KHC	Kasperske Hory	3.35	36	ePN	Pn	22 20 32.2	+1.8
KHC				ePG	Pg	22 20 39.4	-3.3
KHC				eSN	Sn	22 21 11.5	+0.2
KHC				eSG	Sg	22 21 22.7	-4.6
KHC	Kasperske Hory	3.35	36	ePg	Pg	22 20 39.4	-3.3
KHC				eSg	Sg	22 21 22.7	-4.6
KHC	Kasperske Hory	3.35	36	ePn	Pn	22 20 32.2	+1.8
KHC				eSn	Sn	22 21 11.5	+0.2
SBF	Sospel	3.42	222	ePn	Pn	22 20 32.6	+1.1
SBF				eSn	Sn	22 21 12.7	-0.6
	2.8nm,0.3s						
ORIF	Oris-en-Rattie	3.64	247	ePn	Pn	22 20 35.4	+0.8
NKC	Novy Kostel	3.97	17	ePG	Pg	22 20 51.6	-3.6
NKC				eSN	Sn	22 21 25.3	-1.9
NKC				eSG	Sg	22 21 42.6	-5.6
FRF	La Foret Royal	4.03	225	ePn	Pn	22 20 39.7	-0.3
FRF				eSn	Sn	22 21 26.7	-1.9
	1.2nm,0.3s						
PGF	Pioggiola	4.07	197	ePn	Pn	22 20 43.8	+3.1
PGF				eSn	Sn	22 21 29.9	+0.2
SFTF	Sexfontaines	4.16	297	ePn	Pn	22 20 43.0	+1.1
LMR	La Mourre	4.26	224	ePn	Pn	22 20 42.4	-1.0
LMR				eSn	Sn	22 21 31.6	-2.9
	0.3nm,0.2s						
PRU	Pruhonice	4.41	35	eSN	Sn	22 21 35.9	-2.3
PRU				eSG	Sg	22 21 56.6	-6.1
VIVF	Saint-Julien-l	4.45	251	ePn	Pn	22 20 46.3	+0.3
SMF	Signal de Mont	4.66	275	ePn	Pn	22 20 49.9	+0.9
LOR	Lormes	4.69	282	ePn	Pn	22 20 49.8	+0.4
SSF	Saint Saulge	4.91	280	ePn	Pn	22 20 52.9	+0.4
AVF	Avril sur Loir	5.00	276	ePn	Pn	22 20 54.0	+0.2
CLL	Collm	5.11	17	eSG	Sg	22 22 20.0	-5.9
LASF	Ste Croix	5.32	246	ePn	Pn	22 20 58.7	+0.4
BGF	Bois d'Agland	5.35	274	ePn	Pn	22 20 59.3	+0.6
UPC	Upice	5.42	40	eSG	Sg	22 22 29.2	-7.2
DPC	Dobruska-Polom	5.45	42	eSN	Sn	22 22 01.5	-3.0
DPC				eSG	Sg	22 22 29.1	-8.3
TCF	Toulx Ste Croi	5.80	271	ePn	Pn	22 21 05.1	-0.1
CAF	Calviac	6.17	259	ePn	Pn	22 21 09.8	-0.5
SGO	Sicignano	6.82	148	ePn	Pn	22 21 19.7	+0.1

IDC 09 22:26:00.1±10.0**, 4.31N**×**123.48E, h525**km±155km**,**

mb2.6/5, mb1 2.7/5, mb1mx2.5/18, Error ellipse: s-maj=48.2km s-min=17.1km az=93.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	22.37	175	P	P	22 30 19.5	-0.6
	1.5nm,1.0s,baz=171,slow=5.2,SNR=3.6						
WRA	Warramunga Arr	26.36	156	P	P	22 30 53.1	-2.8
	0.3nm,0.4s,baz=332,slow=11,SNR=3.2						
CBIJ	Chichi jima	28.86	36	P	P	22 31 16.1	-1.6
	43nm,0.4s,baz=252,slow=20,SNR=3.4						
ASAR	Alice Springs	29.61	160	P	P	22 31 22.4	-1.8
	0.3nm,0.4s,baz=336,slow=6.8,SNR=7.7						
STKA	Stephens Creek	39.90	156	P	P	22 32 48.8	-0.9
	0.5nm,0.4s,baz=116,slow=22,SNR=2.6						
MKAR	Makanchi Array	55.26	327	P	P	22 34 43.5	-1.9
	0.1nm,0.3s,baz=118,slow=7.4,SNR=6.5						

WEL 09 22:28:32.8±0.4, 40.65S×176.73E, h28km±2km, ML3.5/5, 1C-2D, Error ellipse: s-maj=3.7km s-min=2.2km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BFZ	Birch Farm	0.37	265	⇓P*	Pb	22 28 41.5	+0.4
BFZ				S*	Sb	22 28 47.3	+0.6
BFZ				S*	Sb	22 28 47.4	+0.6
PWZ	Pawanui	0.63	10	⇓P*	Pb	22 28 45.2	-0.1
PWZ				S*	Sb	22 28 54.1	+0.4
PWZ				S*	Sb	22 28 54.3	+0.6
TSZ	Takapari Road	0.83	315	P*	Pb	22 28 47.5	-1.1
MRZ	Mangatainoka R	0.87	269	⇑P*	Pb	22 28 48.8	-0.5
MRZ				S*	Sb	22 29 01.4	+0.8
MTW	Mount Morrison	1.06	241	P*	Pb	22 28 51.5	-1.0
PAWZ	Paruwai Farm	1.23	233	P*	Pb	22 28 53.9	-1.4
CAW	Cannon Point	1.34	249	PN	Pn	22 28 55.3	-0.7
KIW	Kapiti Island	1.40	261	PN	Pn	22 28 56.3	-0.5
MOVZ	Moawhango	1.45	329	PN	Pn	22 28 57.1	-0.4
BKZ	Black Stump Fm	1.49	353	PN	Pn	22 28 57.2	-0.9
BKZ				SN	Sn	22 29 14.8	-2.0
WNVZ	Wahianoa	1.58	326	PN	Pn	22 28 59.3	-0.1
WAZ	Wanganui	1.60	303	PN	Pn	22 28 58.9	-0.8
TUVZ	Tukino	1.61	329	PN	Pn	22 28 59.9	+0.1
MRW	Makara Radio	1.64	249	PN	Pn	22 28 59.8	-0.5
WPVZ	Whakapapa	1.70	327	ePN	Pn	22 29 01.6	+0.4
NGZ	Ngauruhoe	1.71	329	ePN	Pn	22 29 01.6	+0.4
CNZ	Chateau	1.71	328	ePN	Pn	22 29 01.0	-0.2
KAVZ	Karewarewa	1.76	331	ePN	Pn	22 29 02.4	+0.4
WTVZ	West Tongariro	1.76	330	ePN	Pn	22 29 02.4	+0.4
MGZ	Maungaku	1.88	331	ePN	Pn	22 29 05.7	+2.0
RAEZ	Rainy Point	2.25	306	ePN	Pn	22 29 08.4	-0.6
MWZ	Matawai	2.39	15	PN	Pn	22 29 09.0	-2.1
URZ	Urewera	2.40	7	PN	Pn	22 29 09.3	-1.9
NNZ	Nelson	2.60	256	PN	Pn	22 29 12.7	-1.3
THZ	Tophouse	3.09	248	ePN	Pn	22 29 18.1	-2.8
LTZ	Lake Taylor	3.96	236	ePN	Pn	22 29 31.0	-2.3
LTZ				SN	Sn	22 30 14.0	-5.3
MQZ	McQueen's Vall	4.30	223	SN	Sn	22 30 20.8	-7.3

IDC 09 22:41:03.6±8.5, 5.74S×128.98E, h296km±97km, mb3.1/1, mb1 3.4/4, mb1mx3.0/13, Error ellipse: s-maj=68.4km s-min=34.7km az=59.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.71	195	P	P	22 43 54.1	-1.9
	0.3nm,0.3s,baz=25,slow=9.5,SNR=9.7						
FITZ				S	S	22 46 18.3	+5.8
	0.1nm,0.3s,baz=142,slow=22,SNR=2.1						
WRA	Warramunga Arr	15.05	160	P	P	22 44 19.8	-4.2
	0.8nm,0.3s,baz=343,slow=13,SNR=28						
WRA				S	S	22 47 04.6	+1.2
	0.2nm,0.3s,baz=334,slow=21,SNR=4.5						
ASAR	Alice Springs	18.44	166	P	P	22 44 59.2	-0.6
	0.9nm,0.3s,baz=349,slow=12,SNR=99						
MKAR	Makanchi Array	66.63	327	P	P	22 51 22.8	-1.5
	0.3nm,0.4s,baz=120,slow=8.4,SNR=12						

CASC 09 22:50:49.5±2.7, 11.28N×86.95W, MD4.1, ML3.3, 7C-5D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	Copaltepe	0.96	21	⇑eP	Pg	22 51 08.6	0.0
COPN				eS	Sg	22 51 23.3	+1.9
TICN	Ticuantepe	1.02	43	⇓eP	Pb	22 51 09.7	-0.1
XAVN	Gruta Xavier	1.05	35	eP	Pb	22 51 09.8	-0.5
APON	Apoyo	1.07	54	eP	Pb	22 51 09.9	-0.7
MGAN	Managua	1.10	39	⇓eP	Pb	22 51 10.6	-0.4
MGAN				eS	Sb	22 51 26.3	+0.5
MGAN				⇓i		22 51 27.5	
	comp=N,729nm,0.8s						
APYN	Apoyeque	1.11	32	⇓eP	Pb	22 51 10.6	-0.7
LEON	Leon	1.13	3	⇑eP	Pb	22 51 10.8	-0.7
LEON				eS	Sb	22 51 27.3	+0.7
WILN	Americas 2	1.15	40	⇓iP	Pb	22 51 11.3	-0.6
WILN				eS	Sb	22 51 27.9	+0.7
MIRN	Miramar	1.17	11	⇑eP	Pb	22 51 11.7	-0.6
MIRN				eS	Sb	22 51 29.6	+1.6
MOMJ	Momotombo	1.19	20	⇑eP	Pb	22 51 11.8	-0.8
MOMJ				eS	Sb	22 51 28.3	-0.1
CNGN	Cerro Negro	1.23	11	⇑eP	Pb	22 51 12.1	-1.3
CNGN				eS	Sb	22 51 32.8	+3.1
TEL3	Telica 3	1.28	4	⇑eP	Pb	22 51 13.1	-1.2
TEL3				eS	Sb	22 51 33.7	+2.5
PYTN	Playitas	1.52	35	⇑eP	Pn	22 51 15.9	-2.1
PYTN				eP		22 51 16.7	
VCR	Vista de Mar	1.73	132	eP	Pn	22 51 26.1	+5.0
VCR				eS	Sb	22 51 49.8	+5.6
JCR	Jicaral	2.30	128	eP	Pn	22 51 32.8	+3.6
CGA2	Cerro Gallo 2	2.75	117	eP	Pn	22 51 36.6	+1.0
PRS1	Puriscal	2.90	116	eP	Pn	22 51 38.1	+0.4
LAJ	Bijagual	3.12	117	eP	Pn	22 51 36.0	-4.9
TRTC	Tortuguero	3.25	102	eP	Pn	22 51 39.9	-2.9
LCR2	La Lucha 2	3.27	118	eP	Pn	22 51 43.5	+0.4

JMA 09 22:51:20.8±0.4, 43.90N×148.26E, M3.5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.90	255	P	Pn	22 51 55.0	+0.2
NEM2				eS	Sn	22 52 20.2	+0.3
JNK	Nakash	2.58	264	P	Pn	22 52 04.6	0.0
JNK				eS	Sn	22 52 36.1	-1.1
JAK	Akkeshi	2.75	252	P	Pn	22 52 07.3	+0.4
JAK				eS	Sn	22 52 41.5	+0.2
JAR	Ashorobuto	3.32	261	P	Pn	22 52 15.8	+0.8
JAR				eS	Sn	22 52 56.0	+0.3
JNBK	Urakawa-nobuka	4.35	250	P	Pn	22 52 30.1	+0.5
JKB	Kayabe	5.68	252	P	Pn	22 52 47.9	-0.5
JKB				eS	Sn	22 53 52.8	-2.5

*IDC **09** 22:54:43.6±0.7, 11.62N×86.44W, mb4.2/11, mb1 4.4/12, mb1mx4.2/21, ML2.3/2, Error ellipse: s-maj=31.2km s-min=14.6km az=56.0*

*CASC **09** 22:54:44.7±3.7, 11.08N×87.08W, h10km±14km, MD4.6, mb4.5(NEIC)*

*NEIC **09** 22:54:48.9±0.4, 11.39N×86.74W, h35km, mb4.5/23, Error ellipse: s-maj=13.7km s-min=5.2km az=52.0*

ISC 09 22:54:47.2±0.5, 11.18N±0.05×86.95W±0.04, h48km±4km, n102, σ1§15/109, mb4.4/31, 15C-5D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	El Crucero	1.02	38	eP	P	22 55 05.9	+0.6
CRUN				eS	S	22 55 26.5	+7.7
COPN	Copaltepe	1.05	19	⇓iP	P	22 55 06.3	+0.5
TICN	Ticuantepe	1.10	39	⇑eP	P	22 55 06.5	0.0
MASN	Masaya	1.12	44	⇑eP	P	22 55 06.2	-0.5
MASN				eS	S	22 55 32.6	+11
APON	Apoyo	1.13	50	⇑eP	P	22 55 06.8	-0.1
XAVN	Gruta Xavier	1.14	32	⇑eP	P	22 55 07.0	0.0
MGAN	Managua	1.18	35	⇑iP	P	22 55 07.7	+0.2
PYN	Poneloya	1.20	356	⇑eP	P	22 55 06.9	-1.0
APYN	Apoyeque	1.20	29	⇓eP	P	22 55 08.1	+0.3
WILN	Americas 2	1.22	37	⇑eP	P	22 55 08.1	-0.1
LEON	Leon	1.23	2	⇑iP	P	22 55 08.8	+0.4
MIRN	Miramar	1.27	10	⇓iP	P	22 55 09.3	+0.3
MOMJ	Momotombo	1.28	18	⇑eP	P	22 55 09.2	+0.1
CNGN	Cerro Negro	1.33	10	⇑eP	P	22 55 10.1	+0.1
TEL3	Telica 3	1.39	4	⇑eP	P	22 55 10.8	+0.1
CRIN	San Cristobal	1.51	356	⇑eP	P	22 55 12.8	+0.3
PYTN	Playitas	1.60	33	⇑eP	P	22 55 13.4	-0.3
VCR	Vista de Mar	1.66	129	⇑eP	P	22 55 12.7	-1.8
JTS	JuntasAbangare	2.15	114	Pn	P	22 55 19.2	-2.2
	7µm,0.4s,SNR=90						
JTS	JuntasAbangare	2.15	114	ePn	P	22 55 19.4	-1.9
JCR	Jicaral	2.23	126	eP	P	22 55 20.8	-1.8
CNCH	Conchagua	2.26	337	⇑eP	P	22 55 23.4	+0.4
CNCH				eS	S	22 55 51.7	+2.1
BLLM	Bellamira	2.58	331	eP	P	22 55 28.2	+0.7
BLLM				eS	S	22 56 00.9	+3.1
VSM	San Miguel	2.58	330	eP	P	22 55 28.0	+0.4
CGA2	Cerro Gallo 2	2.70	115	⇓eP	P	22 55 29.4	+0.1
VPS2	Volcan Poas 2	2.84	110	eP	P	22 55 31.8	+0.6
PRS1	Puriscal	2.85	114	iP	P	22 55 30.9	-0.5
CAHU	Cacacuatique	2.86	334	eP	P	22 55 32.1	+0.6
SNVI	San Vicente	3.04	323	eP	P	22 55 34.1	-0.1
SNVI				eS	S	22 56 10.2	+0.5
LAJ	Bijagual	3.07	115	eP	P	22 55 29.5	-5.0
SJS	Escuela Geolog	3.10	113	eP	P	22 55 35.1	+0.2
LCBS	La Ceiba	3.16	321	eP	P	22 55 35.5	-0.3
LCBS				eS	S	22 56 11.7	-1.0
LFRS	El Faro	3.19	320	eP	P	22 55 35.5	-0.7
LFRS				eS	S	22 56 12.2	-1.1
LCR2	La Lucha 2	3.23	116	eP	P	22 55 37.2	+0.5
TRTC	Tortuguero	3.23	100	iP	P	22 55 35.2	-1.6
LBRS	Las Brisas	3.27	321	eP	P	22 55 40.2	+3.0
ICR	Volcan Irazu	3.29	111	eP	P	22 55 39.8	+2.3
LFU	La Fuente	3.32	321	eP	P	22 55 37.4	-0.6
LFU				eS	S	22 56 15.0	-1.5
URSC	Urasca	3.39	113	⇓eP	P	22 55 40.8	+1.8
BOQS	Boqueron	3.41	318	eP	P	22 55 39.5	+0.1
BOQS				eS	S	22 56 19.4	+0.5
BUS	Buena Vista	3.53	117	eP	P	22 55 41.3	+0.3
SBLS	San Blas	3.72	316	eP	P	22 55 44.0	+0.3
SBLS				eS	S	22 56 26.9	+0.2
SNJE	San Jose	3.73	316	eP	P	22 55 44.0	+0.2
SNJE				eS	S	22 56 25.5	-1.4
RTR	El Retiro	3.77	316	eP	P	22 55 43.2	-1.2
RTR				eS	S	22 56 26.0	-2.1
MTO2	Montecristo 2	3.98	324	eP	P	22 55 48.6	+1.3
TEIG	Tepich	9.09	352	Pn	P	22 56 49.6	-8.9
	0.0nm,0.3s,baz=305,slow=24,SNR=1.9						
ROSC	El Rosal	13.98	116	Pn	P	22 58 12.4	+7.8
	1.1nm,0.3s,baz=132,slow=22,SNR=4.9						
SDV	Santo Domingo	16.22	97	eP	P	22 58 35.8	+2.2
	33nm,1.3s						
HKT	Hockley	20.43	337	eP	P	22 59 21.4	-1.7
	41nm,1.2s						
SJG	San Juan	21.25	69	P	P	22 59 25.4	-6.2
	4.0nm,0.5s,mb4.0,baz=315,slow=20,SNR=2.4						
SJG	San Juan	21.25	69	P	P	22 59 25.4	-6.2
SJG				eP		22 59 29.8	
NATX	Nacogdoches	21.68	342	eP	P	22 59 36.0	+0.2
	53nm,1.0s,mb4.9						
LRAL	Lakeview Retre	21.75	360	eP	P	22 59 36.4	-0.1
	20nm,0.9s,mb4.5						
JCT	Junction City	22.61	330	P	P	22 59 42.1	-3.0
	8.0nm,0.6s,mb4.3						
OXF	Oxford	23.33	355	eP	P	22 59 51.5	-0.6
	50nm,0.8s,mb5.0						
LTX	Lajitas	23.87	322	eP	P	22 59 58.6	+1.3
	13nm,0.8s,mb4.4						
TXAR	Lajitas Array	23.87	322	P	P	22 59 58.9	+1.6
	5.6nm,0.7s,mb4.1,baz=137,slow=10,SNR=71						
TXAR				PcP	PcP	23 03 43.4	+2.5
	3.5nm,1.0s,baz=151,slow=4.9,SNR=9.8						
TXAR				ScP		23 07 23.8	
	0.8nm,0.8s,baz=108,slow=4.0,SNR=5.9						
TXAR	Lajitas Array	23.87	322	P	P	22 59 58.9	+1.6
TXAR				PcP	PcP	23 03 43.4	+2.5
TXAR				ScP		23 07 23.8	
SWET	Sewanee	23.95	2	eP	P	22 59 57.8	-0.2
MIAR	Mount Ida	24.03	346	eP	P	22 59 58.3	-0.5
	18nm,0.8s,mb4.6						
MIAR				e		23 00 06.5	
CPCT	Cooper Cave	24.26	5	eP	P	23 00 04.3	+3.2
WMOK	Wichita Mounta	25.81	337	eP	P	23 00 16.0	+0.1
	38nm,1.1s,mb4.8						
CLNB	Carlsbad	26.15	326	eP	P	23 00 17.9	-1.1
GDL2	Guadalupe Moun	26.37	325	eP	P	23 00 21.6	+0.5
CPRX	Cap Rock	26.73	327	eP	P	23 00 25.2	+0.9
CCM	Cathedral Cave	27.04	353	eP	P	23 00 24.6	-2.5
	17nm,1.1s,mb4.5						
BNM	Barren Site	29.09	325	eP	P	23 00 46.5	+0.9
ACSO	Alum Creek Sta	29.15	6	eP	P	23 00 44.3	-1.7
	24nm,0.9s,mb4.9						
ANMO	Albuquerque	29.59	326	eP	P	23 00 50.8	+0.8
	2.8nm,0.9s,mb4.0						
SAML	Samuel	30.96	129	eP	P	23 01 00.4	-2.0
	9.1nm,1.1s,mb4.5						
SDCO	Great Sand Dun	31.25	331	eP	P	23 01 04.9	+0.1
	4.6nm,0.8s,mb4.4						
LPAZ	La Paz	33.03	145	P	P	23 01 22.7	+2.2
	0.3nm,0.4s,mb3.6,baz=282,slow=24,SNR=2.6						
LPAZ	La Paz	33.03	145	P	P	23 01 22.7	+2.1
PV01	Paradox Valley	33.09	328	eP	P	23 01 21.2	+0.4
PV10	Paradox Valley	33.52	328	eP	P	23 01 16.1	-8.3
SADO	Sadowa	34.14	10	P	P	23 01 27.8	-2.0
	26nm,1.3s,mb5.0,baz=229,slow=6.9,SNR=4.8						
SRU	San Rafael	34.84	327	eP	P	23 01 35.1	-0.7
TMUT	Trail Mountain	35.34	327	eP	P	23 01 43.3	+3.2
RSSD	Black Hills	35.98	339	eP	P	23 01 46.2	+0.6
	4.0nm,1.0s,mb4.3						
RSSD				e	pP	23 02 00.6	+2.4
DAU	Daniels Canyon	36.18	328	eP	P	23 01 48.0	+0.8
DUG	Dugway	36.85	326	eP	P	23 01 53.4	+0.6
	5.1nm,1.1s,mb4.3						
PDAR	Pinedale Array	37.12	332	P	P	23 01 54.7	-0.4
	1.4nm,0.7s,mb3.9,baz=123,slow=10,SNR=13						
PDAR				PcP	PcP	23 04 15.7	+0.6
	1.2nm,0.9s,baz=126,slow=5.9,SNR=5.4						
HWUT	Hardware Ranch	37.21	329	eP	P	23 01 55.3	-0.5
	8.8nm,0.8s,mb4.6						
HWUT				ePcP	PcP	23 04 15.6	+0.2
ELK	Elko	38.58	325	eP	P	23 02 08.1	+0.9
	3.7nm,0.9s,mb4.1						
ELK				ePcP	PcP	23 04 20.4	+0.7
NVAR	Mina Array Bea	38.98	319	P	P	23 02 13.1	+2.5
	2.7nm,0.9s,mb4.0,baz=135,slow=6.4,SNR=14						
NVAR				PcP	PcP	23 04 22.8	+1.9
	2.9nm,0.8s,baz=132,slow=3.3,SNR=12						
NVAR	Mina Array Bea	38.98	319	P	P	23 02 13.1	+2.5
NVAR				PcP	PcP	23 04 22.8	+1.9
ULM	Lac du Bonnet	39.64	351	P	P	23 02 13.0	-3.0
	8.5nm,0.8s,mb4.5,baz=161,slow=9.9,SNR=6.4						
HLID	Hailey	40.08	329	eP	P	23 02 20.2	+0.6
	3.4nm,0.8s,mb4.1						
CMB	Columbia Colle	40.11	318	P	P	23 02 21.8	+1.8
	3.0nm,1.0s,mb4.0						
MCMT	McKenzie Canyo	40.23	331	eP	P	23 02 21.8	+0.9
SCHQ	Schefferville	46.35	16	P	P	23 03 07.5	-2.9
	5.6nm,1.0s,mb4.4,baz=197,slow=8.7,SNR=8.1						
SCHQ	Schefferville	46.35	16	eP	P	23 03 06.5	-3.8
	12nm,1.1s,mb4.7						
BDFB	Brasilia	46.86	124	P	P	23 03 14.2	-0.7
	2.5nm,0.5s,mb4.4,baz=276,slow=7.8,SNR=6.0						
CPUP	Villa Florida	47.11	143	P	P	23 03 17.8	+1.0
	0.7nm,0.6s,mb3.8,baz=72,slow=18,SNR=2.3						
INK	Inuvik	64.56	343	P	P	23 05 19.4	-2.0
	9.6nm,1.2s,mb4.7						
ILAR	Eielson Array	67.38	336	P	P	23 05 37.9	-1.5
	0.6nm,0.4s,mb4.0,baz=138,slow=5.1,SNR=23						
MCK	McKinley	67.82	335	eP	P	23 05 42.0	-0.2
	7.9nm,1.3s,mb4.6						
SONM	Songino Array	120.06	350	PKP	PKPdf	23 13 34.9	+1.9
	0.4nm,0.5s,baz=207,slow=2.8,SNR=5.3						
MKAR	Makanchi Array	121.49	9	PKP	PKPdf	23 13 35.9	+0.2
	0.4nm,0.6s,baz=320,slow=3.1,SNR=4.3						
ASAR	Alice Springs	139.24	247	PKhKP		23 14 11.5	
	0.5nm,0.6s,baz=106,slow=2.9,SNR=4.9						
ASAR				PKP	PKPdf	23 14 16.1	+6.2
	1.1nm,0.9s,baz=97,slow=1.9,SNR=6.0						
WRA	Warramunga Arr	139.38	252	PKP	PKPdf	23 14 12.8	+2.6
	1.0nm,0.8s,baz=93,slow=2.6,SNR=4.5						
CMAR	Chiang Mai Arr	149.98	349	PKP	PKPdf	23 14 30.9	+2.6
	4.9nm,0.9s,baz=341,slow=1.5,SNR=23						
CMAR				PKPbc	PKPdf	23 14 36.3	+7.9
	4.8nm,0.9s,baz=353,slow=4.4,SNR=24						

*IDC **09** 23:04:28.4±0.9, 11.77N×86.23W, mb4.2/10, mb1 4.4/11, mb1mx4.2/20, ML2.1/2, Error ellipse: s-maj=33.7km s-min=20.3km az=44.0*

*CASC **09** 23:04:30.3±3.2, 11.13N×87.02W, h20km±10km, MD4.5, ML4.1, mb4.4(NEIC)*

*NEIC **09** 23:04:32.7±0.5, 11.26N×86.93W, h35km, mb4.4/15, Error ellipse: s-maj=15.1km s-min=5.2km az=224.0*

ISC 09 23:04:31.0±0.5, 11.11N±0.04×87.01W±0.03, h47km±5km, n85, σ1§17/95, mb4.3/23, 14C-5D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	El Crucero	1.12	39	⇓eP	P	23 04 50.0	-0.5
COPN	Copaltepe	1.15	21	⇓iP	P	23 04 50.8	-0.1
TICN	Ticuantepe	1.20	40	⇑eP	P	23 04 51.1	-0.5
APON	Apoyo	1.23	49	⇑eP	P	23 04 51.2	-0.9
XAVN	Gruta Xavier	1.24	33	eP	P	23 04 51.6	-0.6
PYN	Poneloya	1.27	360	eP	P	23 04 50.9	-1.8
MGAN	Managua	1.28	36	⇑iP	P	23 04 52.1	-0.7
MGAN				eS	S	23 05 09.9	+0.8
MGAN				i		23 05 13.7	
	comp=N,4µm,0.5s						
APYN	Apoyeque	1.30	30	⇓eP	P	23 04 52.6	-0.5
LEON	Leon	1.31	5	⇑iP	P	23 04 53.2	-0.2
WILN	Americas 2	1.32	38	⇑eP	P	23 04 52.7	-0.9
WILN				eS	S	23 05 11.7	+1.4
MIRN	Miramar	1.36	13	⇓eP	P	23 04 53.5	-0.5
MOMJ	Momotombo	1.38	20	⇑eP	P	23 04 53.7	-0.6
MOMJ				eS	S	23 05 11.8	+0.3
CNGN	Cerro Negro	1.42	12	⇑eP	P	23 04 54.4	-0.5
CNGN				eS	S	23 05 14.4	+1.8
TEL3	Telica 3	1.47	6	⇑eP	P	23 04 55.3	-0.2
CRIN	San Cristobal	1.58	359	⇑eP	P	23 04 57.1	-0.1
CRIN				eS	S	23 05 20.8	+4.1
VCR	Vista de Mar	1.67	125	eP	P	23 04 57.3	-1.1
PYTN	Playitas	1.70	33	⇑eP	P	23 04 57.8	-1.1
PYTN				eS	S	23 05 22.0	+2.4
LIM	Lima	1.77	103	⇑eP	P	23 04 58.5	-1.4
JTS	JuntasAbangare	2.18	112	Pn	P	23 05 05.0	-0.6
	comp=N,4µm,0.7s,SNR=76						
JTS	JuntasAbangare	2.18	112	ePn	P	23 05 04.8	-0.8
JTS				eSn	S	23 05 36.7	+5.2
JCR	Jicaral	2.25	124	eP	P	23 05 05.7	-0.9
CNCH	Conchagua	2.30	340	eP	P	23 05 07.8	+0.4
CNCH				eS	S	23 05 33.4	-1.2
BLLM	Bellamira	2.61	333	eP	P	23 05 12.8	+1.0
BLLM				eS	S	23 05 43.9	+1.4
VSM	San Miguel	2.62	332	eP	P	23 05 13.2	+1.4
CGA2	Cerro Gallo 2	2.73	113	⇑eP	P	23 05 14.5	+1.1
VPS2	Volcan Poas 2	2.88	108	eP	P	23 05 14.8	-0.8
PRS1	Puriscal	2.88	113	eP	P	23 05 16.3	+0.7
CAHU	Cacacuatique	2.90	336	eP	P	23 05 16.6	+0.7
SNVI	San Vicente	3.06	325	eP	P	23 05 19.4	+1.2
SNVI				eS	S	23 05 53.4	-0.6
LAJ	Bijagual	3.10	113	eP	P	23 05 13.8	-4.9
SJS	Escuela Geolog	3.13	111	eP	P	23 05 19.1	-0.1
LCBS	La Ceiba	3.18	323	⇑eP	P	23 05 19.8	-0.1
LCBS				eS	S	23 05 55.0	-1.9
LFRS	El Faro	3.21	322	⇑eP	P	23 05 20.6	+0.4
LFRS				eS	S	23 05 56.2	-1.3
LCR2	La Lucha 2	3.26	114	eP	P	23 05 21.8	+0.9
LCR2				eS	S	23 06 05.4	+6.6
TRTC	Tortuguero	3.28	99	eP	P	23 05 19.8	-1.5
ICR	Volcan Irazu	3.32	109	eP	P	23 05 24.6	+2.7
LFU	La Fuente	3.33	322	eS	S	23 06 00.1	-0.7
URSC	Urasca	3.42	111	⇓eP	P	23 05 25.0	+1.7
BUS	Buena Vista	3.55	115	eP	P	23 05 26.1	+1.0
SBLS	San Blas	3.73	317	eP	P	23 05 27.9	+0.3
SBLS				eS	S	23 06 10.0	-0.6
SNJE	San Jose	3.73	318	eP	P	23 05 28.5	+0.8
RTR	El Retiro	3.78	317	eP	P	23 05 29.4	+1.1
RTR				eS	S	23 06 11.0	-1.1
MTO2	Montecristo 2	4.00	325	eP	P	23 05 34.2	+2.9
TEIG	Tepich	9.15	353	Pn	P	23 06 43.5	+0.3
	comp=N,0.0nm,0.3s,baz=150,slow=24,SNR=2.7						
ROSC	El Rosal	14.01	115	Pn	P	23 07 52.7	+3.9
	comp=N,0.7nm,0.3s,baz=153,slow=23,SNR=2.5						
SDV	Santo Domingo	16.28	96	eP	P	23 08 19.2	+1.1
	comp=N,7.1nm,0.8s						
HKT	Hockley	20.47	338	eP	P	23 09 07.2	-0.2
	comp=N,27nm,1.3s						
SJG	San Juan	21.34	69	P	P	23 09 06.9	-9.5
	comp=N,2.2nm,0.3s,mb4.0,baz=317,slow=19,SNR=2.1						
LRAL	Lakeview Retre	21.83	0	eP	P	23 09 21.4	+0.3
	comp=N,16nm,0.8s,mb4.5						
OXF	Oxford	23.40	355	eP	P	23 09 35.5	-1.0
	comp=N,28nm,0.8s,mb4.8						
LTX	Lajitas	23.88	322	eP	P	23 09 41.0	-0.3
	comp=N,10.0nm,0.7s,mb4.3						
TXAR	Lajitas Array	23.88	322	P	P	23 09 43.4	+2.1
	comp=N,5.9nm,0.8s,mb4.1,baz=137,slow=9.8,SNR=52						
TXAR				PcP	PcP	23 13 28.4	+3.6
	comp=N,1.6nm,0.8s,baz=146,slow=5.2,SNR=11						
SWET	Sewanee	24.02	2	eP	P	23 09 42.2	-0.4
MIAR	Mount Ida	24.09	347	eP	P	23 09 43.0	-0.2
	comp=N,10nm,0.8s,mb4.3						
MIAR				e		23 09 50.9	
CPCT	Cooper Cave	24.34	5	eP	P	23 09 48.3	+2.6
WVT	Waverly	24.93	358	eP	P	23 09 48.9	-2.5
	comp=N,13nm,1.2s,mb4.3						
GDL2	Guadalupe Moun	26.39	325	P	P	23 10 05.2	+0.1
CPRX	Cap Rock	26.76	327	eP	P	23 10 09.7	+1.3
CPRX				e	pP	23 10 20.5	-0.1
CCM	Cathedral Cave	27.10	353	eP	P	23 10 08.8	-2.8
	comp=N,9.6nm,1.0s,mb4.3						
CCM				e	pP	23 10 18.0	-5.7
ACSO	Alum Creek Sta	29.23	6	eP	P	23 10 28.6	-2.0
	comp=N,12nm,0.8s,mb4.7						
ANMO	Albuquerque	29.61	326	eP	P	23 10 33.5	-0.6
	comp=N,1.4nm,0.6s,mb3.9						
SAML	Samuel	30.96	129	eP	P	23 10 45.1	-1.2
	comp=N,6.3nm,0.9s,mb4.5						
SDCO	Great Sand Dun	31.29	331	eP	P	23 10 48.6	-0.3
	comp=N,4.6nm,0.7s,mb4.4						
SDCO				e		23 10 54.8	
SADO	Sadowa	34.22	10	P	P	23 11 09.3	-5.0
	comp=N,12nm,1.0s,mb4.8,baz=222,slow=8.0,SNR=3.8						
SADO				PcP	PcP	23 13 47.9	-2.5
	comp=N,17nm,1.0s,baz=155,slow=2.4,SNR=3.3						
SADO	Sadowa	34.22	10	P	P	23 11 09.3	-5.0
SADO				PcP	PcP	23 13 47.9	-2.5
DAU	Daniels Canyon	36.20	328	eP	P	23 11 32.6	+1.4
TPNV	Topopah Spring	36.80	319	eP	P	23 11 38.8	+2.5
	comp=N,4.7nm,0.7s,mb4.4						
PDAR	Pinedale Array	37.15	332	P	P	23 11 39.6	+0.4
	comp=N,0.5nm,0.3s,mb3.8,baz=117,slow=8.1,SNR=16						
PDAR				PcP	PcP	23 13 59.9	+0.8
	comp=N,1.1nm,0.9s,baz=153,slow=3.3,SNR=4.7						
HWUT	Hardware Ranch	37.24	329	eP	P	23 11 40.3	+0.3
	comp=N,8.6nm,0.8s,mb4.6						
HWUT				ePcP	PcP	23 14 00.2	+0.9
NVAR	Mina Array Bea	38.99	320	P	P	23 11 57.2	+2.6
	comp=N,0.8nm,0.6s,mb3.6,baz=140,slow=7.0,SNR=8.2						
NVAR				PcP	PcP	23 14 07.3	+2.5
	comp=N,3.2nm,0.7s,baz=129,slow=3.9,SNR=16						
NVAR	Mina Array Bea	38.99	320	P	P	23 11 57.2	+2.6
NVAR				PcP	PcP	23 14 07.3	+2.5
ULM	Lac du Bonnet	39.71	351	P	P	23 11 58.2	-2.2
	comp=N,5.8nm,0.6s,mb4.5,baz=173,slow=9.7,SNR=6.4						
ULM	Lac du Bonnet	39.71	351	P	P	23 11 58.2	-2.2
HLID	Hailey	40.10	329	eP	P	23 12 04.5	+0.8
	comp=N,3.1nm,0.8s,mb4.1						
MCMT	McKenzie Canyo	40.26	331	eP	P	23 12 06.7	+1.7
SCHQ	Schefferville	46.44	16	P	P	23 12 51.2	-3.7
	comp=N,1.5nm,0.5s,mb4.2,baz=205,slow=12,SNR=4.0						
SCHQ	Schefferville	46.44	16	P	P	23 12 51.2	-3.7
BDFB	Brasilia	46.87	124	P	P	23 12 58.4	-0.4
	comp=N,3.8nm,0.7s,mb4.4,baz=264,slow=9.0,SNR=6.9						
CPUP	Villa Florida	47.09	143	P	P	23 12 59.6	-0.9
	comp=N,1.2nm,0.8s,mb3.9,baz=244,slow=5.6,SNR=3.0						
ILAR	Eielson Array	67.42	336	P	P	23 15 22.4	-1.1
	comp=N,1.2nm,0.3s,mb4.3,baz=141,slow=5.1,SNR=24						
SONM	Songino Array	120.12	350	PKP	PKPdf	23 23 19.5	+2.6
	comp=N,0.4nm,0.5s,baz=4.6,slow=2.0,SNR=4.3						
STKA	Stephens Creek	130.75	237	PKP	PKPdf	23 23 45.5	+7.6
	comp=N,1.4nm,0.7s,baz=161,slow=22,SNR=3.3						
ASAR	Alice Springs	139.15	247	PKhKP		23 23 54.3	
	comp=N,0.7nm,0.7s,baz=91,slow=2.2,SNR=8.4						
ASAR				PKP	PKPdf	23 24 00.1	+6.5
	comp=N,0.7nm,0.7s,baz=90,slow=2.2,SNR=8.7						
WRA	Warramunga Arr	139.29	252	PKP	PKPdf	23 23 57.7	+3.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=N,0.5nm,0.7s,baz=88,slow=1.8,SNR=4.5						
CMAR	Chiang Mai Arr	150.04	349	PKP	PKPdf	23 24 15.4	+3.1
	comp=N,3.2nm,0.8s,baz=337,slow=2.7,SNR=17						
CMAR				PKPbc	PKPdf	23 24 20.6	+8.3
	comp=N,3.2nm,0.8s,baz=322,slow=2.4,SNR=18						

*IDC **09** 23:10:23.1±2.9, 11.51N×86.45W, mb3.8/4, mb1 4.1/4, mb1mx3.8/19, Error ellipse: s-maj=71.4km s-min=55.2km az=18.0*
*CASC **09** 23:10:30.3±3.4, 11.63N×86.99W, h3km±9km, MD4.1*
ISC 09 23:10:30.1±1.2**, 11.58N**±0.03×**87.00W**±0.03**, h8**km±8km**,**
n40, σ1ˢ**10**/54**, mb3.8**/4**, 6C-11D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	Copaltepe	0.72	34	⇑iP	Pb	23 10 45.1	+0.7
COPN				eS	Sg	23 10 55.7	+1.7
PYN	Poneloya	0.79	359	eP	Pb	23 10 45.6	-0.2
CRUN	El Crucero	0.80	60	⇑eP	Pb	23 10 45.4	-0.4
LEON	Leon	0.83	7	⇓eP	Pb	23 10 47.3	+0.9
XAVN	Gruta Xavier	0.87	50	⇓eP	Pb	23 10 46.6	-0.4
TICN	Ticuantepe	0.88	59	⇓eP	Pb	23 10 46.3	-0.8
MIRN	Miramar	0.90	19	⇑eP	Pb	23 10 47.9	+0.4
APYN	Apoyeque	0.91	45	⇑eP	Pb	23 10 47.2	-0.4
MASN	Masaya	0.93	64	eP	Pb	23 10 46.8	-1.2
MASN				⇓eP		23 10 47.0	
MASN				eS	Sb	23 11 05.9	+5.7
MGAN	Managua	0.93	53	eS	Sb	23 11 05.7	+5.4
MOMJ	Momotombo	0.94	29	⇓iP	Pb	23 10 48.2	0.0
MOMJ				eS	Sb	23 11 00.8	+0.2
CNGN	Cerro Negro	0.96	18	eP	Pb	23 10 48.7	+0.2
CNGN				eS	Sb	23 11 02.0	+0.8
APON	Apoyo	0.97	70	⇓iP	Pb	23 10 47.2	-1.6
APON				eS	Sb	23 11 03.9	+2.2
WILN	Americas 2	0.98	54	⇓eP	Pb	23 10 47.9	-1.1
WILN				⇓eP		23 10 47.9	
WILN				eS	Sb	23 11 00.4	-1.5
TEL3	Telica 3	0.99	9	⇓eP	Pb	23 10 49.5	+0.3
CRIN	San Cristobal	1.11	358	⇓eP	Pb	23 10 51.6	+0.5
PYTN	Playitas	1.32	44	⇓eP	Pb	23 10 52.8	-2.0
PYTN				eS	Sb	23 11 11.1	-0.7
CNCH	Conchagua	1.87	334	⇑eP	Pn	23 11 02.6	-0.1
CNCH				eS	Sn	23 11 29.9	+3.2
VCR	Vista de Mar	1.98	137	eP	Pn	23 11 05.5	+1.2
VCR				eS	Sn	23 11 33.8	+4.2
BLLM	Bellamira	2.21	327	eP	Pn	23 11 06.7	-0.8
BLLM				eS	Sn	23 11 39.5	+4.1
CAHU	Cacacuatique	2.47	332	eP	Pn	23 11 11.7	+0.3
JCR	Jicaral	2.54	133	eP	Pn	23 11 10.1	-2.1
JCR				eS	Sn	23 11 44.7	+1.0
SNVI	San Vicente	2.70	319	eP	Pn	23 11 15.1	+0.5
SNVI				eS	Sn	23 11 48.0	+0.2
LCBS	La Ceiba	2.82	317	⇑eP	Pn	23 11 16.6	+0.3
LCBS				eS	Sn	23 11 50.7	-0.2
LFRS	El Faro	2.85	315	eP	Pn	23 11 16.6	-0.2
LFRS				eS	Sn	23 11 51.2	-0.5
CGA2	Cerro Gallo 2	2.94	122	eP	Pn	23 11 19.8	+1.8
PRS1	Puriscal	3.09	121	eP	Pn	23 11 22.5	+2.4
LAJ	Bijagual	3.31	121	eP	Pn	23 11 17.5	-5.8
TRTC	Tortuguero	3.38	107	eP	Pn	23 11 24.9	+0.5
SBLS	San Blas	3.40	312	eP	Pn	23 11 24.5	-0.1
SBLS				eS	Sn	23 12 06.0	+0.4
LCR2	La Lucha 2	3.47	122	eP	Pn	23 11 24.3	-1.3
LCR2				eS	Sn	23 12 11.7	+4.3
ICR	Volcan Irazu	3.50	117	eP	Pn	23 11 27.2	+1.2
URSC	Urasca	3.62	118	eP	Pn	23 11 25.4	-2.3
BUS	Buena Vista	3.77	122	eP	Pn	23 11 30.4	+0.5
TXAR	Lajitas Array	23.52	321	P	P	23 15 39.3	-2.3
	1.6nm,0.5s,mb3.7,baz=137,slow=10,SNR=19						
SCHQ	Schefferville	45.98	16	P	P	23 18 47.5	-8.0
	2.7nm,0.8s,mb4.3,baz=215,slow=7.5,SNR=4.7						
DLBC	Dease Lake	56.87	335	P	P	23 20 11.7	-6.0
	0.5nm,0.4s,mb3.9,baz=108,slow=25,SNR=3.0						
ILAR	Eielson Array	66.98	336	P	P	23 21 19.0	-6.3
	0.2nm,0.5s,mb3.4,baz=159,slow=4.6,SNR=4.5						
WRA	Warramunga Arr	139.44	253	PKP	PKPdf	23 29 55.9	-6.0
	0.6nm,0.9s,baz=91,slow=1.7,SNR=5.3						
CMAR	Chiang Mai Arr	149.58	349	PKPbc	PKPdf	23 30 15.1	-4.2
	0.8nm,0.9s,baz=358,slow=6.0,SNR=6.6						

GUC 09 23:25:20.7±0.6**, 31.62S**×**69.21W, h150**km±13km**, MD3.5,**
ML3.4, 5D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	Jahuel	1.58	228	⇓iP	P	23 25 51.9	+0.4
JACH				i S	S	23 26 15.0	-0.1
FCH	Farellones	1.93	208	eP	P	23 25 55.9	+0.5
FCH				i S	S	23 26 23.4	+1.3
FCH				AMP		23 26 24.4	
	comp=N,120nm,0.4s						
TLL	Tololo Astrono	2.00	316	eP	P	23 25 57.0	+0.9
TLL				eS	S	23 26 23.8	+0.5
TLL				AMP		23 26 31.2	
	comp=N,251nm,0.6s						
CLCH	Cerro Calan	2.10	212	eP	P	23 25 57.7	+0.3
CLCH				i S	S	23 26 26.0	+0.5
CLCH				AMP		23 26 28.2	
	comp=N,176nm,0.7s						
PCH	Pirque	2.28	209	eP	P	23 26 00.1	+0.4
PCH				eS	S	23 26 28.9	-0.6
RCDM	Rinconada Maip	2.30	215	⇓iP	P	23 25 60.0	+0.1
RCDM				i S	S	23 26 30.0	0.0
RCDM				AMP		23 26 31.0	
	comp=E,166nm,0.3s						
LSCH	La Serena	2.45	314	⇓iP	P	23 26 01.7	0.0
LSCH				i S	S	23 26 32.6	-0.5
LSCH				AMP		23 26 33.8	
	comp=E,282nm,0.1s						
TACH	Talagante	2.50	215	⇓iP	P	23 26 02.0	-0.3
TACH				i S	S	23 26 33.9	-0.4
CHCH	Chadas Angostu	2.61	207	⇓iP	P	23 26 03.6	-0.2
CHCH				i S	S	23 26 36.7	0.0
LNV	Longovilo	2.98	218	i P	P	23 26 07.0	-1.5
LNV				i S	S	23 26 43.1	-1.9

*IDC **09** 23:38:20.2±0.5, 60.81S×51.03W, mb5.2/12, mb1 5.3/13, mb1mx5.3/14, ML4.7/1, MS5.7/13, Ms1 5.7/13, ms1mx5.6/16, Error ellipse: s-maj=30.2km s-min=15.3km az=72.0*
*HRVD **09** 23:38:21.6±0.4, 60.82S×51.19W, h14km±1km, MW5.9/57, Centroid moment Tensor Solution. LP body waves: s20,c30;Mantle waves: s57,c110; Half duration: 2ˢ3 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.73±.06; $M_{\theta\theta}$0.81±.04; $M_{\phi\phi}$-0.07±.04; $M_{r\theta}$0.00±.07; $M_{\theta\phi}$0.19±.02; $M_{\phi r}$0.48±.11; Best double couple: M_0.92×10^{18} NP1:ϕ_s103°, δ48°,λ-51°. NP2:ϕ_s233°,δ55°,λ-125°. Principal axes: T .85, Plg4°, Azm347°; N .14, Plg28°, Azm254°; P -.99, Plg62°, Azm84°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **09** 23:38:21.5, 60.70S×50.90W, h10km, mB6.2, Ms5.7, Msz5.8*
*NEIC **09** 23:38:21.6±0.2, 60.74S×50.88W, h10km, mb5.7/24, MS5.8/103, Error ellipse: s-maj=10.4km s-min=7.3km az=74.0*
*SYO **09** 23:38:21.6, 60.70S×50.92W, h10km, MB5.6, MS5.8*
*MOS **09** 23:38:24.4±1.5, 60.65S×50.75W, h10km, mb5.8/8, MS5.4/5, Error ellipse: s-maj=52.7km s-min=14.5km az=95.9*
ISC 09 23:38:21.1±0.3**, 60.68S**±0.04×**51.1W**±0.1**, h10**km**, n295,**
σ1ˢ**21**/91**, mb5.6**/32**, MS5.7**/113**, 13C-12D, Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	Palmer Station	7.22	230	ePn	Pn	23 40 08.0	-1.4
	15nm,0.3s						
EFI	East Falkland	9.81	334	ePn	P	23 40 46.5	+1.3
EFI				eSn	Sn	23 42 29.5	-7.1
USHA	Ushuaia	10.94	295	Pn	P	23 41 02.8	+2.2
	5.0nm,0.3s,baz=93,slow=13,SNR=29						
USHA				Sn	S	23 43 01.5	-2.5
	2.7nm,0.3s,baz=118,slow=22,SNR=5.3						
USHA				LR	LR	23 43 48.2	
	comp=Z,11µm,20.8s,baz=119,slow=30						
VNA3	Neumayer Olymp	19.43	140	⇑i	P	23 42 53.4	+3.5
VNA3	Neumayer Olymp	19.43	140	⇑i	P	23 43 01.2	+11
VNA3	Neumayer Olymp	19.43	140	⇑i	P	23 43 05.1	+15
VNA3	Neumayer Olymp	19.43	140	⇓iS	S	23 46 36.2	+13
VNA3	Neumayer Olymp	19.43	140	P	P	23 42 51.2	+1.3
VNA3				i S	S	23 46 36.2	+13
VNA1	Neumayer--Stat	19.78	138	P	P	23 42 55.6	+1.7
VNA1	Neumayer--Stat	19.78	138	⇑i	P	23 42 57.5	+3.6
VNA1	Neumayer--Stat	19.78	138	⇑i	P	23 43 05.3	+11
VNA1	Neumayer--Stat	19.78	138	⇑i	P	23 43 09.8	+16
VNA2	Neumayer--Watz	20.11	139	⇑iP	P	23 42 59.2	+1.8
VNA2	Neumayer--Watz	20.11	139	⇓i	P	23 43 01.5	+4.1
VNA2	Neumayer--Watz	20.11	139		P	23 43 11.7	+14
SNAA	Sanae	21.66	140	⇑iP	P	23 43 13.0	-0.2
SNAA	Sanae	21.66	140	⇑i	P	23 43 15.6	+2.4
SNAA	Sanae	21.66	140	⇑i	P	23 43 20.7	+7.5
SNAA	Sanae	21.66	140	⇑i	P	23 43 27.8	+15
SNAA	Sanae	21.66	140	S	S	23 47 08.4	+0.4
SNAA	Sanae	21.66	140	eP	P	23 43 12.5	-0.7
	606nm,1.3s,mb5.9						
SNAA				S	S	23 47 08.4	+0.4
TRQA	Tornquist	23.66	338	P	P	23 43 35.3	+2.2
TRQA				S	S	23 47 53.0	+8.8
TRQA	Tornquist	23.66	338	eP	P	23 43 35.3	+2.2
	595nm,1.4s,mb5.8						
LPA	La Plata	26.16	347	ceP	P	23 43 57.0	0.0
LPA				epP	pP	23 43 58.0	-1.9
LPA				eS	S	23 48 26.0	-0.5
	comp=Z,16µm,24.0s						
MAIT	Maitri	26.40	138	eP	P	23 44 00.1	+1.3
NVL	N'lazarevskaya	26.43	138	⇓eP	P	23 43 59.0	-0.1
NVL				pmax	pmax		
	comp=Z,548nm,1.7s,mb5.8						
NVL				MLR	MLR		
	comp=Z,10µm,17.0s,MS5.4						
QSPA	South Pole Qui	29.56	180	eP	P	23 44 27.6	+0.2
	comp=Z,160nm,0.9s,mb5.8						
QSPA				LR	LR		
	comp=Z,19µm,21.5s,MS5.7						
FCH	Farellones	30.09	327	eP	P	23 44 29.7	-2.9
CLCH	Cerro Calan	30.09	326	⇓eP	P	23 44 32.5	-0.1
TRIS	Tristan da Cun	33.97	64	PFAKE		23 45 20.0	+14
TRIS				LR	LR		
	comp=Z,6µm,22.0s,MS5.3						
CPUP	Villa Florida	34.60	350	P	P	23 45 12.2	+0.1
	comp=Z,24nm,0.8s,mb5.2,baz=190,slow=7.7,SNR=42						
CPUP				PcP	PcP	23 47 44.6	-2.1
	comp=Z,10nm,0.6s,baz=148,slow=3.2,SNR=9.4						
CPUP				LR	LR	23 59 10.2	
	comp=Z,9µm,20.1s,MS5.5,baz=189,slow=36						
CPUP	Villa Florida	34.60	350	eP	P	23 45 11.9	-0.2
	comp=Z,108nm,1.3s,mb5.6						
CPUP				LR	LR		
	comp=Z,10µm,20.0s,MS5.5						
SYO	Syowa Base	35.92	142	⇓pP	P	23 45 22.3	-0.6
SYO	Syowa Base	35.92	142	⇓sP	P	23 45 23.0	+0.1
CAM4	Nova Friburgo	38.75	13	eP	P	23 45 48.9	+1.7
CAM4				i		23 45 49.6	
CAM4				i	pP	23 45 53.4	+3.3
CAM4				i		23 46 00.3	
CAM4				i		23 46 08.1	
LVC	Limon Verde	40.02	334	eP	P	23 45 58.4	+0.8
	comp=Z,103nm,1.2s,mb5.4						
LVC				LR	LR		
	comp=Z,8µm,22.0s,MS5.5						
MAW	Mawson	43.34	149	P	P	23 46 23.9	-0.2
	comp=Z,50nm,1.1s,mb5.2,baz=216,slow=9.4,SNR=64						
MAW				LR	LR	00 03 31.2	
	comp=Z,26µm,19.7s,MS6.1,baz=229,slow=35						
MAW	Mawson	43.34	149	eP	P	23 46 24.5	+0.4
	comp=Z,77nm,0.9s,mb5.4						
BDFB	Brasilia	45.03	4	P	P	23 46 39.2	+0.8
	comp=Z,109nm,0.6s,mb5.8,baz=185,slow=4.0,SNR=163						
BDFB				LR	LR	00 04 15.8	
	comp=Z,9µm,21.0s,MS5.7,baz=165,slow=34						
BAO	Brasilia Array	45.03	4	eP	P	23 46 39.3	+0.7
BAO				e		23 46 46.4	
LPAZ	La Paz	46.00	337	P	P	23 46 47.7	+1.5
	comp=Z,9.4nm,0.6s,mb4.9,baz=164,slow=5.3,SNR=36						
LPAZ				LR	LR	00 07 08.3	
	comp=Z,9µm,19.2s,MS5.7,baz=163,slow=38						
LPAZ	La Paz	46.00	337	eP	P	23 46 47.4	+1.2
	comp=Z,44nm,1.0s,mb5.3						
LPAZ				LR	LR		
	comp=Z,9µm,20.0s,MS5.7						
ARE	Arequipa	46.54	333	eP	P	23 46 51.0	+0.6
MIR	Mirnyy	50.35	162	⇑eP	P	23 47 20.0	+0.6
MIR				pmax	pmax		
	comp=Z,100nm,1.2s,mb5.7						
RPN	Rapa Nui	51.26	284	PFAKE		23 47 40.0	+13
RPN				LR	LR		
	comp=Z,1µm,20.0s,MS4.9						
NNA	Nana	52.16	327	eP	P	23 47 34.2	+0.4
	comp=Z,275nm,1.4s,mb6.0						
NNA				LR	LR		
	comp=Z,866nm,20.0s,MS4.8						
SAML	Samuel	52.40	345	eP	P	23 47 35.0	-0.6
	comp=Z,147nm,1.1s,mb5.8						
SAML				LR	LR		
	comp=Z,8µm,22.0s,MS5.7						
CASY	Casey	52.62	171	eP	P	23 47 35.6	-1.0
	comp=Z,78nm,1.0s,mb5.6						
CASY				LR	LR		
	comp=Z,13µm,20.0s,MS6.0						
SUR	Sutherland	53.61	92	P	P	23 47 42.1	-2.3
	comp=Z,319nm,1.0s,mb6.2,SNR=12						
SUR	Sutherland	53.61	92	eP	P	23 47 43.6	-0.8
	comp=Z,53nm,0.9s,mb5.5						
RCBR	Riachuelo	55.92	18	PFAKE		23 48 10.0	+8.6
RCBR				LR	LR		
	comp=Z,3µm,20.0s,MS5.3						
BOSA	Boshof	58.88	94	eP	P	23 48 19.3	-2.9
	comp=Z,60nm,1.1s,mb5.5						
BOSA				LR	LR		
	comp=Z,5µm,19.0s,MS5.7						
LBTB	Lobatse	62.05	92	PFAKE		23 48 50.0	+6.2
LBTB				LR	LR		
	comp=Z,45177µm,21.0s						
TSUM	Tsumeb	63.02	81	eP	P	23 48 46.7	-3.6
	comp=Z,10nm,0.7s,mb5.1						
TSUM				LR	LR		
	comp=Z,2µm,20.0s,MS5.4						
PTCN	Pitcairn Islan	63.12	266	PFAKE		23 49 00.0	+9.0
PTCN				LR	LR		
	comp=Z,7µm,20.0s,MS5.8						
OTAV	Otavalo	64.30	329	eP	P	23 48 59.8	+0.9
	comp=Z,128nm,1.0s,mb5.9						
OTAV				LR	LR		
	comp=Z,2µm,19.0s,MS5.4						
PAYG	Puerto Ayora	66.94	317	PFAKE		23 49 30.0	+14
PAYG				LR	LR		
	comp=Z,3µm,20.0s,MS5.5						
ROSC	El Rosal	67.82	335	P	P	23 49 21.9	+0.6
	comp=Z,23nm,0.4s,mb5.5,baz=5.9,slow=23,SNR=16						
SDV	Santo Domingo	71.04	340	eP	P	23 49 40.1	-1.0
	comp=Z,69nm,0.9s,mb5.6						
LSZ	Lusaka	71.57	88	eP	P	23 49 42.7	-1.5
	comp=Z,31nm,0.9s,mb5.2						
LSZ				LR	LR		
	comp=Z,643nm,19.0s,MS4.9						
THZ	Tophouse	71.78	213	P	P	23 49 46.6	+1.6
NNZ	Nelson	72.16	214	P	P	23 49 48.5	+1.2
JTS	JuntasAbangare	75.65	326	P	P	23 50 08.5	+0.5
	comp=Z,611nm,1.1s,mb6.4,SNR=11						
JTS	JuntasAbangare	75.65	326	eP	P	23 50 08.2	+0.2
	comp=Z,82nm,0.8s,mb5.7						
JTS				LR	LR		
	comp=Z,558nm,20.0s,MS4.9						
LIC	Lamto	75.77	48	eP	P	23 50 07.7	-1.0
	comp=Z,138nm,0.7s,mb6.0						
KIC	Kosan Boka	76.00	48	eP	P	23 50 09.1	-0.9
	comp=Z,145nm,0.6s,mb6.1						
TIC	Toumodi	76.17	47	eP	P	23 50 09.8	-1.1
	comp=Z,323nm,1.3s,mb6.1						
DBIC	Dimbokro	76.25	48	P	P	23 50 10.3	-1.1
	comp=Z,13nm,0.6s,mb5.0,baz=177,slow=5.9,SNR=32						
DBIC	Dimbokro	76.25	48	eP	P	23 50 10.2	-1.2
	comp=Z,29nm,0.8s,mb5.2						
DBIC				LR	LR		
	comp=Z,3µm,19.0s,MS5.7						
CPD	Cerro la Pandu	79.34	346	eP	P	23 50 26.4	-1.9
HUMP	Col San Antoni	79.44	346	eP	P	23 50 27.4	-1.5
SJG	San Juan	79.45	345	P	P	23 50 28.1	-0.8
	comp=Z,9.8nm,0.4s,mb5.0,baz=290,slow=7.5,SNR=9.1						
SJG				LR	LR	00 25 55.5	
	comp=Z,3µm,21.8s,MS5.5,baz=143,slow=36						
SJG	San Juan	79.45	345	P	P	23 50 28.1	-0.8
SJG				LR	LR	00 25 55.5	
MGP	Maguayo	79.46	345	eP	P	23 50 27.7	-1.3
CBYP	Canovanas	79.57	346	eP	P	23 50 28.2	-1.4
AOPR	Arecibo Observ	79.75	345	eP	P	23 50 29.3	-1.3
RAR	Rarotonga	80.44	244	PFAKE		23 50 50.0	+16
RAR				LR	LR		
	comp=Z,3µm,19.0s,MS5.7						
GWJ	Greenwich	81.15	335	⇓eP	P	23 50 39.4	+1.4
STH	Stony Hill	81.17	335	⇓eP	P	23 50 39.4	+1.3
ADE	Adelaide	84.36	188	P	P	23 50 55.2	+1.1
MBAR	Mbarara	85.47	83	eP	P	23 51 00.7	+0.6
	comp=Z,12nm,1.2s,mb4.9						
MBAR				LR	LR		
	comp=Z,745nm,19.0s,MS5.1						
NWAO	Narrogin (SRO)	86.25	170	LR	LR	00 30 57.3	
	comp=Z,3µm,18.1s,MS5.8,baz=197,slow=37						
NWAO	Narrogin (SRO)	86.25	170	eP	P	23 51 03.3	-0.3
	comp=Z,147nm,1.2s,mb6.1						
NWAO				LR	LR		
	comp=Z,3µm,20.0s,MS5.7						
STKA	Stephens Creek	87.20	191	P	P	23 51 07.9	-0.3
	comp=Z,4.3nm,0.8s,mb4.8,baz=145,slow=6.0,SNR=11						
STKA				LR	LR	00 28 47.7	
	comp=Z,4µm,19.7s,MS5.9,baz=175,slow=35						
STKA	Stephens Creek	87.20	191	eP	P	23 51 07.4	-0.8
KMBO	Kilima Mbogo	88.22	89	P	P	23 51 14.8	+1.2
	comp=Z,23nm,1.3s,mb5.3,baz=222,slow=3.9,SNR=20						
KMBO				LR	LR	00 30 12.5	
	comp=Z,3µm,18.2s,MS5.7,baz=202,slow=35						
KMBO	Kilima Mbogo	88.22	89	eP	P	23 51 15.5	+2.0
	comp=Z,37nm,1.4s,mb5.4						
KMBO				LR	LR		
	comp=Z,3µm,22.0s,MS5.7						
DWPF	Disney	91.87	333	PFAKE		23 51 40.0	+10
DWPF				LR	LR		
	comp=Z,3µm,20.0s,MS5.7						
AFI	Afiamalu	92.06	237	PFAKE		23 51 40.0	+8.6
AFI				LR	LR		
	comp=Z,2µm,19.0s,MS5.6						
NOUC	Port Laguerre	92.12	214	eP	P	23 51 31.4	-0.1
BBSR	BB Station	93.38	349	PFAKE		23 51 50.0	+13
BBSR				LR	LR		
	comp=Z,3µm,21.0s,MS5.7						
ASAR	Alice Springs	95.86	185	P	P	23 51 47.5	-1.2
	comp=Z,16nm,1.1s,mb5.3,baz=172,slow=4.4,SNR=70						
ASAR				PP	PP	23 55 44.6	+1.5
	comp=Z,6.9nm,1.0s,baz=179,slow=7.6,SNR=5.5						
ASAR				PKiKP		23 56 26.6	
	comp=Z,0.8nm,0.6s,baz=170,slow=1.2,SNR=6.3						
ASAR				PKKPbc		00 08 35.8	
	comp=Z,1.2nm,0.5s,baz=353,slow=2.0,SNR=23						
ASAR				LR	LR	00 34 24.9	
	comp=Z,4µm,21.3s,MS5.8,baz=194,slow=35						
NHSC	New Hope	96.44	336	PFAKE		23 52 00.0	+8.9
NHSC				LR	LR		
	comp=Z,5µm,22.0s,MS5.9						
HKT	Hockley	97.40	322	PFAKE		23 52 10.0	+14
HKT				LR	LR		
	comp=Z,3µm,20.0s,MS5.8						
LRAL	Lakeview Retre	97.89	330	PFAKE		23 52 10.0	+12
LRAL				LR	LR		
	comp=Z,4µm,22.0s,MS5.9						
MBWA	Marble Bar	98.12	171	PFAKE		23 52 10.0	+11
MBWA				LR	LR		
	comp=Z,4µm,20.0s,MS5.9						
CTA	Charters Tower	98.30	196	LR	LR	00 34 12.5	
	comp=Z,3µm,20.2s,MS5.8,baz=177,slow=34						
CTAO	Charters Tower	98.30	196	PFAKE		23 52 10.0	+10
CTAO				LR	LR		
	comp=Z,4µm,20.0s,MS5.9						
NATX	Nacogdoches	98.75	324	PFAKE		23 52 10.0	+8.5
NATX				LR	LR		
	comp=Z,4µm,22.0s,MS5.9						
JCT	Junction City	99.14	319	PFAKE		23 52 10.0	+6.7
JCT				LR	LR		
	comp=Z,2µm,20.0s,MS5.7						
TXAR	Lajitas Array	99.38	315	P	P	23 52 05.8	+1.4
	comp=Z,0.5nm,0.7s,baz=165,slow=5.1,SNR=6.6						
TXAR				PP	PP	23 56 08.8	-1.3
	comp=Z,1.2nm,1.0s,slow=1.3,SNR=3.9						
TXAR				PKKPbc		00 08 34.4	
	comp=Z,0.7nm,1.0s,baz=243,slow=2.8,SNR=4.4						
TXAR				LR	LR	00 31 01.3	
	comp=Z,3µm,21.7s,baz=300,slow=32						
TXAR	Lajitas Array	99.38	315	P	P	23 52 05.8	+1.4
TXAR				PP	PP	23 56 08.8	-1.3
TXAR				PKKPbc		00 08 34.4	
TXAR				LR	LR	00 31 01.3	
WRA	Warramunga Arr	99.55	185	P	P	23 52 04.4	-1.0
	comp=Z,6.7nm,0.6s,mb5.3,baz=179,slow=4.1,SNR=66						
WRA				PP	PP	23 56 09.4	-2.3
	comp=Z,3.8nm,1.1s,baz=178,slow=5.9,SNR=4.1						
WRA				PKKPbc		00 08 25.6	
	comp=Z,1.6nm,0.8s,baz=351,slow=3.1,SNR=8.4						
WRA				LR	LR	00 36 59.8	
	comp=Z,5µm,20.9s,MS6.0,baz=180,slow=35						
WRA	Warramunga Arr	99.55	185	P	P	23 52 04.4	-1.0
WRA				PP	PP	23 56 09.4	-2.3
WRA				PKKPbc		00 08 25.6	
WRA				LR	LR	00 36 59.8	
OXF	Oxford	99.90	329	PFAKE		23 52 20.0	+13
OXF				LR	LR		
	comp=Z,2µm,21.0s,MS5.7						
BLA	Blacksburg	100.46	337	PFAKE		23 52 20.0	+11
BLA				LR	LR		
	comp=Z,4µm,22.0s,MS5.9						
MIAR	Mount Ida	101.05	325	PFAKE		23 52 20.0	+8.1
MIAR				LR	LR		
	comp=Z,3µm,20.0s,MS5.8						
FITZ	Fitzroy Crossi	101.46	177	P	P	23 52 13.4	-0.7
	comp=Z,2.5nm,0.9s,baz=197,slow=7.5,SNR=4.0						
FITZ				PKKPbc		00 08 20.6	
	comp=Z,2.7nm,0.6s,baz=110,slow=2.1,SNR=13						
COCO	West Island	103.02	148	PFAKE		23 52 30.0	+8.9
COCO				LR	LR		
	comp=Z,894nm,21.0s,MS5.3						
CCM	Cathedral Cave	103.72	328	PFAKE		23 52 30.0	+6.2
CCM				LR	LR		
	comp=Z,2µm,20.0s,MS5.7						
ACSO	Alum Creek Sta	103.89	335	PFAKE		23 52 40.0	+16
ACSO				LR	LR		
	comp=Z,3µm,22.0s,MS5.8						
HRV	Harvard--Oak R	104.18	345	PFAKE		23 52 40.0	+14
HRV				LR	LR		
	comp=Z,3µm,22.0s,MS5.8						
BINY	Binghamton	104.52	341	PFAKE		23 52 40.0	+13
BINY				LR	LR		
	comp=Z,3µm,21.0s,MS5.8						
ANMO	Albuquerque	105.46	315	PFAKE		23 57 00.0	
ANMO				LR	LR		
	comp=Z,3µm,19.0s,MS5.9						
EMMW	East Machias	105.87	348	PFAKE		23 57 00.0	
EMMW				LR	LR		
	comp=Z,13µm,21.0s,MS6.5						
WVL	Waterville	105.97	346	PFAKE		23 57 00.0	
WVL				LR	LR		
	comp=Z,16µm,20.0s,MS6.6						
NCB	Newcomb	105.98	343	PFAKE		23 57 00.0	
NCB				LR	LR		
	comp=Z,2µm,21.0s,MS5.7						
AAM	Ann Arbor	106.01	335	PFAKE		23 57 00.0	
AAM				LR	LR		
	comp=Z,3µm,20.0s,MS5.8						
CBKS	Cedar Bluff	106.81	322	PFAKE		23 57 00.0	
CBKS				LR	LR		
	comp=Z,3µm,21.0s,MS5.8						
ESLA	Sonseca Array	107.16	36	PFAKE		23 57 00.0	
ESLA				LR	LR		
	comp=Z,9µm,21.0s,MS6.3						
SDCO	Great Sand Dun	107.66	317	PFAKE		23 57 00.0	
SDCO				LR	LR		
	comp=Z,3µm,20.0s,MS5.9						
PQI	Presque Isle	107.87	348	PFAKE		23 57 00.0	
PQI				LR	LR		
	comp=Z,14µm,20.0s,MS6.5						
PFO	Pinyon Flat Ob	107.95	307	PFAKE		23 57 00.0	
PFO				LR	LR		
	comp=Z,874nm,22.0s,MS5.3						
JFWS	Jewell Farm	108.06	331	PFAKE		23 57 00.0	
JFWS				LR	LR		
	comp=Z,4µm,22.0s,MS6.0						
PMG	Port Moresby	108.66	199	PFAKE		23 57 00.0	
PMG				LR	LR		
	comp=Z,3µm,19.0s,MS5.8						
MVU	Marysvale	110.67	313	PFAKE		23 57 10.0	+14
MVU				LR	LR		
	comp=Z,3µm,20.0s,MS5.8						
DAC	Darwin (Calif)	110.74	308	PFAKE		23 57 10.0	+14

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
DAC				LR	LR		
	comp=Z,3μm,21.0s,MS5.9						
TPNV	**Topopah Spring**	**110.81**	**309**	PFAKE		23 57 10.0	+13
TPNV				LR	LR		
	comp=Z,3μm,20.0s,MS5.8						
TPH	**Tonopah**	**112.17**	**309**	PFAKE		23 57 10.0	+11
TPH				LR	LR		
	comp=Z,3μm,20.0s,MS5.9						
DUG	**Dugway**	**112.39**	**313**	PFAKE		23 57 10.0	+11
DUG				LR	LR		
	comp=Z,4μm,20.0s,MS6.0						
SAO	**San Andreas Ge**	**112.69**	**305**	PFAKE		23 57 10.0	+10
SAO				LR	LR		
	comp=Z,2μm,19.0s,MS5.8						
MNV	**Mina**	**112.83**	**308**	PFAKE		23 57 10.0	+10
MNV				LR	LR		
	comp=Z,4μm,21.0s,MS6.0						
NVAR	**Mina Array Bea**	**112.89**	**308**	PKiKP		23 56 57.7	
	comp=Z,1.0nm,0.7s,baz=154,slow=4.4,SNR=5.6						
NVAR				PP	PP	23 57 49.7	-1.3
	comp=Z,4.9nm,1.1s,baz=149,slow=6.0,SNR=6.5						
NVAR	**Mina Array Bea**	**112.89**	**308**	PKPdf	PKPdf	23 56 57.7	-2.8
NVAR				PP	PP	23 57 49.7	-1.3
RSSD	**Black Hills**	**112.97**	**321**	PFAKE		23 57 10.0	+9.4
RSSD				LR	LR		
	comp=Z,3μm,20.0s,MS5.9						
HWUT	**Hardware Ranch**	**113.19**	**315**	PFAKE		23 57 10.0	+8.9
HWUT				LR	LR		
	comp=Z,4μm,21.0s,MS6.0						
CMB	**Columbia Colle**	**113.36**	**306**	PFAKE		23 57 10.0	+8.5
CMB				LR	LR		
	comp=Z,2μm,20.0s,MS5.8						
BW06	**Boulder Array**	**113.53**	**317**	PFAKE		23 57 10.0	+8.3
BW06				LR	LR		
	comp=Z,7μm,19.0s,MS6.3						
PDAR	**Pinedale Array**	**113.53**	**317**	PKiKP		23 56 58.7	
	comp=Z,1.5nm,0.7s,baz=142,slow=4.3,SNR=9.9						
PDAR				PP	PP	23 57 53.0	-2.4
	comp=Z,5.8nm,1.3s,baz=169,slow=7.6,SNR=6.6						
ELK	**Elko**	**113.75**	**312**	PFAKE		23 57 10.0	+7.8
ELK				LR	LR		
	comp=Z,3μm,21.0s,MS5.9						
AHID	**Auburn Hatcher**	**114.06**	**316**	PFAKE		23 57 10.0	+7.2
AHID				LR	LR		
	comp=Z,3μm,20.0s,MS5.9						
BMN	**Battle Mountai**	**114.22**	**310**	PFAKE		23 57 10.0	+6.9
BMN				LR	LR		
	comp=Z,3μm,22.0s,MS5.8						
HOPS	**Hopland**	**115.26**	**305**	PFAKE		23 57 10.0	+4.8
HOPS				LR	LR		
	comp=Z,3μm,21.0s,MS5.9						
LKWY	**Lake**	**115.41**	**317**	PFAKE		23 57 10.0	+4.7
LKWY				LR	LR		
	comp=Z,4μm,20.0s,MS6.0						
PALK	**Pallekele**	**115.78**	**125**	PFAKE		23 57 20.0	+13
PALK				LR	LR		
	comp=Z,579nm,20.0s,MS5.2						
SCHQ	**Schefferville**	**115.84**	**350**	PKP	PKPdf	23 57 02.9	-3.1
	comp=Z,3.9nm,0.6s,baz=120,slow=4.1,SNR=8.3						
SCHQ	**Schefferville**	**115.84**	**350**	PKP	PKPdf	23 57 02.9	-3.0
SCHQ				LR	LR		
	comp=Z,5μm,22.0s,MS6.0						
HLID	**Hailey**	**115.91**	**314**	*e*PKPdf	PKPdf	23 57 02.9	-3.5
HLID				*e*PP	PP	23 58 09.9	-2.2
HLID				LR	LR		
	comp=Z,3μm,20.0s,MS5.9						
LAO	**LASA Array**	**115.95**	**321**	*e*PKPdf	PKPdf	23 57 03.2	-3.2
LAO				LR	LR		
	comp=Z,3μm,20.0s,MS5.8						
ULM	**Lac du Bonnet**	**116.30**	**330**	PFAKE		23 57 20.0	+13
ULM				LR	LR		
	comp=Z,3μm,20.0s,MS6.0						
MOD	**Modoc**	**116.66**	**309**	PFAKE		23 57 20.0	+12
MOD				LR	LR		
	comp=Z,3μm,21.0s,MS5.8						
DGMT	**Dagmar**	**116.93**	**323**	PFAKE		23 57 20.0	+12
DGMT				LR	LR		
	comp=Z,3μm,21.0s,MS5.8						
DAVOX	**Davos**	**117.92**	**43**	PKP	PKPdf	23 57 06.7	-3.4
	comp=Z,1.6nm,0.7s,baz=272,slow=11,SNR=6.0						
DAVOS	**Davos**	**117.94**	**43**	PKIKP	PKPdf	23 57 06.7	-3.4
HUMO	**Hull Mountain**	**118.29**	**307**	PFAKE		23 57 20.0	+9.0
HUMO				LR	LR		
	comp=Z,3μm,22.0s,MS5.9						
CHMT	**Chamberlain Mo**	**118.43**	**316**	*e*PKPdf	PKPdf	23 57 08.6	-2.6
MSO	**Missoula**	**118.59**	**316**	*e*PKPdf	PKPdf	23 57 08.4	-3.0
MSO				*e*PP	PP	23 58 24.6	-6.2
MSO				LR	LR		
	comp=Z,2μm,20.0s,MS5.7						
COR	**Corvallis**	**120.09**	**308**	PFAKE		23 57 20.0	+5.7
COR				LR	LR		
	comp=Z,3μm,20.0s,MS5.9						
HAWA	**Hanford**	**120.20**	**312**	PFAKE		23 57 20.0	+5.5
HAWA				LR	LR		
	comp=Z,3μm,21.0s,MS5.9						
GRA1	**Grafenberg Arr**	**120.89**	**42**	*e*PKPdf	PKPdf	23 57 17.7	+1.8
GRF	**Grafenberg Arr**	**120.89**	**42**	*e*PKIKP	PKPdf	23 57 17.7	+1.8
NEW	**Newport**	**120.92**	**315**	PFAKE		23 57 20.0	+4.0
NEW				LR	LR		
	comp=Z,3μm,20.0s,MS6.0						
DPW	**Davenport**	**120.97**	**314**	*e*PKPdf	PKPdf	23 57 12.1	-3.9
GERES	**GERESS Array B**	**121.00**	**44**	PKP	PKPdf	23 57 12.8	-3.3
	comp=Z,1.4nm,0.8s,baz=225,slow=1.9,SNR=9.8						
GERES				PP	PP	23 58 43.7	-2.8
	comp=Z,2.9nm,1.1s,baz=194,slow=5.5,SNR=4.8						
BRTR	**Keskin Array B**	**121.28**	**64**	PKP	PKPdf	23 57 12.8	-4.1
	comp=Z,1.9nm,0.8s,baz=194,slow=4.7,SNR=10						
BRTR	**Keskin Array B**	**121.28**	**64**	PKIKP	PKPdf	23 57 12.7	-4.2
ESK	**Eskdalemuir**	**121.70**	**30**	PFAKE		23 57 30.0	+13
ESK				LR	LR		
	comp=Z,428nm,20.0s,MS5.1						
EKA	**Eskdalemuir Ar**	**121.73**	**30**	PKP	PKPdf	23 57 14.6	-2.7
	comp=Z,1.8nm,1.0s,baz=180,slow=0.8,SNR=3.9						
MOX	**Moxa**	**121.84**	**42**	*e*P	PKPdf	23 57 18.0	+0.3
MOX				*e*		23 57 30.0	
MOX				*e*		23 57 47.0	
NLW	**Nelson Butte**	**121.92**	**312**	*e*PKPdf	PKPdf	23 57 14.9	-2.9
FFC	**Flin Flon**	**121.93**	**328**	PFAKE		23 57 30.0	+12
FFC				LR	LR		
	comp=Z,607nm,22.0s,MS5.2						
BRG	**Berggiesshubel**	**122.81**	**43**	*e*PKIKP	PKPdf	23 57 18.4	-1.0
BRG				*e*		23 57 31.9	
BRG				pmax	pmax		
	comp=Z,22nm,1.8s						
CLL	**Collm**	**122.86**	**42**	*e*PKIKP	PKPdf	23 57 21.0	+1.5
CLL				*e*		23 57 31.0	
OCWA	**Octopus Mounta**	**123.07**	**310**	PFAKE		23 57 30.0	+10
OCWA				LR	LR		
	comp=Z,4μm,21.0s,MS6.0						
HYB	**Hyderabad**	**123.98**	**118**	*i* PKP	PKPdf	23 57 19.0	-3.6
HYB	**Hyderabad**	**123.98**	**118**	*e*P	PKPdf	23 57 19.0	-3.6
OJC	**Ojcow**	**124.31**	**47**	*e*PKIKP	PKPdf	23 57 19.9	-2.5
OJC	**Ojcow**	**124.31**	**47**	*e*PKP	PKPdf	23 57 19.9	-2.5
FRB	**Frobisher Bay**	**124.80**	**351**	PKP	PKPdf	23 57 19.5	-3.4
	comp=Z,14nm,1.0s,baz=183,slow=6.7,SNR=5.1						
GNI	**Garni**	**126.69**	**72**	*i* PKIKP	PKPdf	23 57 21.8	-5.2
GNI				MLR	MLR		
	comp=Z,900nm,18.0s						
GNI	**Garni**	**126.69**	**72**	PFAKE		23 57 40.0	+13
GNI				LR	LR		
	comp=Z,2μm,19.0s,MS5.7						
ANN	**Anapa**	**127.03**	**63**	*e*PKIKP	PKPdf	23 57 22.2	-5.4
ANN				pmax	pmax		
	comp=Z,31nm,1.0s						
BORG	**Borgarnes**	**127.09**	**15**	PKP	PKPdf	23 57 28.1	+1.0
	comp=Z,22nm,0.9s,baz=256,slow=2.3,SNR=4.2						
BORG	**Borgarnes**	**127.09**	**15**	PKP	PKPdf	23 57 28.1	+1.0
BORG				LR	LR		
	comp=Z,592nm,21.0s,MS5.2						
AKASG	**Malin Array Be**	**128.26**	**53**	PKP	PKPdf	23 57 26.4	-3.5
	comp=Z,0.9nm,0.3s						
SUW	**Suwalki**	**128.61**	**47**	*e*PKP	PKPdf	23 57 25.2	-5.2
KIV	**Kislovodsk**	**128.72**	**67**	*i* PKIKP	PKPdf	23 57 25.2	-5.8
KIV	**Kislovodsk**	**128.72**	**67**	*e*PKPdf	PKPdf	23 57 26.6	-4.4
KIV				LR	LR		
	comp=Z,281nm,20.0s,MS5.0						
KONO	**Kongsberg**	**128.87**	**35**	PFAKE		23 57 40.0	+9.2
KONO				LR	LR		
	comp=Z,1μm,20.0s,MS5.7						
GOF	**Gofitskoye**	**129.73**	**67**	*e*PKIKP	PKPdf	23 57 31.0	-1.9
NAO01	**NORSAR Array S**	**130.22**	**34**	PFAKE		23 57 40.0	+6.7
NAO01				LR	LR		
	comp=Z,2μm,19.0s,MS5.9						
NB2	**NORSAR Subarra**	**130.47**	**35**	PKPdf	PKPdf	23 57 31.3	-2.5
	comp=Z,175nm,2.5s,baz=202,slow=1.9						
NB2	**NORSAR Subarra**	**130.47**	**35**	PKPd		23 57 31.3	
	baz=202,slow=1.9						
NB2	**NORSAR Subarra**	**130.47**	**35**	⇓PKP	PKPdf	23 57 31.3	-2.5
NOA	**NORSAR Array B**	**130.47**	**35**	PKP	PKPdf	23 57 29.8	-4.0
	comp=Z,1.3nm,0.7s,baz=222,slow=2.3,SNR=3.5						
NOA				SKPbc		00 00 57.1	
	comp=Z,3.9nm,1.0s,baz=203,slow=4.2,SNR=4.1						
MNK	**Minsk**	**130.69**	**49**	*e*PKIKP	PKPdf	23 57 28.0	-6.4
MIDW	**Midway**	**131.79**	**253**	PFAKE		23 57 50.0	+13
MIDW				LR	LR		
	comp=Z,1μm,20.0s,MS5.7						
KKTK	**Khon Kaen**	**131.90**	**145**	P	PKPdf	23 57 37.0	-0.7
YKA	**Yellowknife Ar**	**131.99**	**326**	PKP	PKPdf	23 57 33.5	-3.2
	comp=Z,8.9nm,0.6s,baz=142,slow=2.1,SNR=25						
YKA				PP	PP	23 59 58.5	-0.5
	comp=Z,1.3nm,0.7s,baz=131,slow=6.5,SNR=3.8						
YKA	**Yellowknife Ar**	**131.99**	**326**	PKP	PKPdf	23 57 33.5	-3.2
YKA				PP	PP	23 59 58.5	-0.5
CM31	**Chiang Mai Arr**	**132.75**	**140**	PFAKE		23 57 50.0	+11
CM31				LR	LR		
	comp=Z,2μm,21.0s,MS5.8						
CMAR	**Chiang Mai Arr**	**132.75**	**140**	PKP	PKPdf	23 57 36.0	-3.2
	comp=Z,2.0nm,0.6s,baz=231,slow=3.5,SNR=12						
CMAR				PP	PP	00 00 01.4	-3.3
	comp=Z,0.8nm,0.3s,baz=212,slow=7.3,SNR=4.8						
CMAR				SKP		00 01 10.7	
	comp=Z,5.2nm,1.0s,baz=226,slow=4.0,SNR=6.3						
VOR	**Voronezh**	**133.10**	**58**	PKIKP	PKPdf	23 57 34.0	-5.0
VOR				pmax	pmax		
	comp=Z,200nm,3.0s						
SUMG	**Summit**	**133.26**	**5**	*e*PKPdf	PKPdf	23 57 35.9	-2.9
NANT	**Nan**	**133.62**	**142**	P	PKPdf	23 57 38.0	-2.8
DLBC	**Dease Lake**	**133.68**	**314**	PKP	PKPdf	23 57 38.3	-1.5
	comp=Z,10.0nm,0.9s						
DLBC	**Dease Lake**	**133.68**	**314**	*e*PKPdf	PKPdf	23 57 37.1	-2.7
OBN	**Obninsk**	**134.50**	**54**	*i* PKIKP	PKPdf	23 57 36.0	-5.5
OBN				pmax	pmax		
	comp=Z,46nm,2.1s						
OBN				MLR	MLR		
	comp=Z,800nm,21.0s,MS5.4						
OBN	**Obninsk**	**134.50**	**54**	*e*PKP	PKPdf	23 57 36.0	-5.5
OBN				LR	LR		
	comp=Z,800nm,21.0s,MS5.4						
SIT	**Sitka**	**134.58**	**310**	PFAKE		23 57 50.0	+8.4
SIT				LR	LR		
	comp=Z,3μm,21.0s,MS5.9						
KOLN	**Koldanda**	**135.26**	**117**	*e*P	PKPdf	23 57 39.8	-3.9
	comp=Z,48nm,1.1s						
FINES	**FINESS Array B**	**135.31**	**42**	PKhKP		23 57 30.5	
	comp=Z,1.0nm,0.7s,baz=225,slow=2.7,SNR=5.3						
FINES				PKP	PKPdf	23 57 40.9	-2.0
	comp=Z,2.2nm,0.8s,baz=153,slow=4.3,SNR=7.3						
FINES	**FINESS Array B**	**135.31**	**42**	*i* PKIKP	PKPdf	23 57 52.8	+10
FINES				pmax	pmax		
	comp=Z,6.0nm,0.9s						
DMN	**Daman**	**135.77**	**118**	*e*P	PKPdf	23 57 40.2	-4.5
KAF	**Kangasniemi**	**135.87**	**41**	*e*p	PKPdf	23 57 37.8	-6.1
	comp=Z,7.1nm,0.8s						
KAF	**Kangasniemi**	**135.87**	**41**	*e*PKIKP	PKPdf	23 57 37.8	-6.1
KAF				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PKI	**Pulchoki**	**135.87**	**119**	*e*P	PKPdf	23 57 39.6	-5.2
	comp=Z,54nm,1.3s						
GKN	**Gorkha**	**135.91**	**118**	*e*P	PKPdf	23 57 40.3	-4.6
	comp=Z,44nm,1.1s						
KKN	**Kakani**	**136.01**	**118**	*e*P	PKPdf	23 57 40.4	-4.7
	comp=Z,18nm,0.7s						
GUN	**Gumba**	**136.37**	**119**	*e*P	PKPdf	23 57 39.5	-6.2
SHL	**Shillong**	**136.77**	**127**	*e*P	PKPdf	23 57 45.0	-1.4
RES	**Resolute Bay**	**138.13**	**344**	*e*PKPdf	PKPdf	23 57 45.9	-1.8
DAG	**Danmarks Havn**	**138.71**	**11**	*i* P	PKPdf	23 57 48.0	-0.8
	comp=Z,6.0nm,1.0s						
KMI	**Kunming**	**140.18**	**141**	*e*PKP	PKPdf	23 57 47.9	-4.9
ARCES	**ARCESS Array B**	**140.78**	**33**	PKhKP		23 57 41.8	
	comp=Z,5.1nm,0.7s,baz=273,slow=1.7,SNR=12						
DAWY	**Dawson**	**140.83**	**316**	*e*PKPpre		23 57 45.6	
DAWY				*e*PKPdf	PKPdf	23 57 49.2	-3.4
DIV	**Divide**	**141.31**	**309**	*e*PKP	PKPdf	23 57 48.6	-5.0
DIV				LR	LR		
	comp=Z,6μm,21.0s,MS6.3						
KEV	**Kevo**	**141.32**	**33**	*e*p	PKPdf	23 57 41.8	-12
KSH	**Kashi**	**141.37**	**99**	*e*PKP	PKPdf	23 57 49.4	-5.0
INK	**Inuvik**	**141.62**	**324**	PKhKP		23 57 45.4	
INK				PKP	PKPdf	23 57 52.9	-1.0
	comp=Z,10nm,0.7s						
INK	**Inuvik**	**141.62**	**324**	*e*PKPpre		23 57 45.3	
INK				PKP	PKPdf	23 57 52.9	-1.0
KDAK	**Kodiak Island**	**141.95**	**302**	PFAKE		23 58 00.0	+5.2
KDAK				LR	LR		
	comp=Z,620nm,20.0s,MS5.4						
AML	**Almayashu**	**142.25**	**94**	P	PKPdf	23 57 50.1	-5.6
	SNR=12						
GYA	**Guiyang**	**142.58**	**146**	PKP	PKPdf	23 57 53.6	-3.2
THY	**Trims Highway**	**142.69**	**312**	*e*PKPdf	PKPdf	23 57 54.1	-1.7
EKS2	**Erkin-Say**	**142.69**	**93**	P	PKPdf	23 57 51.0	-5.5
	SNR=6.7						
UCH	**Uchtor**	**142.73**	**94**	P	PKPdf	23 57 50.7	-5.9
	SNR=6.8						
PMR	**Palmer**	**142.88**	**308**	*e*PKPdf	PKPdf	23 57 50.8	-5.4
PMR				LR	LR		
	comp=Z,2μm,21.0s,MS5.9						
AAK	**Ala-Archa**	**143.02**	**94**	P	PKPbc	23 57 52.5	+0.6
	SNR=8.5						
AAK	**Ala-Archa**	**143.02**	**94**	*d i*PKHKP		23 57 49.0	
AAK				MLR	MLR		
	comp=Z,1μm,19.0s,MS5.6						
AAK	**Ala-Archa**	**143.02**	**94**	*e*PKP	PKPdf	23 57 49.4	-7.6
AAK				LR	LR		
	comp=Z,325nm,22.0s,MS5.0						
FIB	**Fire Island**	**143.03**	**307**	PFAKE		23 58 10.0	+19
FIB				LR	LR		
	comp=Z,1μm,20.0s,MS5.7						
FRU	**Bishkek**	**143.23**	**94**	*e*PKIKP	PKPdf	23 57 51.5	-5.9
FRU				pmax	pmax		
	comp=Z,240nm,2.6s						
KBK	**Karagaybulak**	**143.26**	**94**	P	PKPbc	23 57 52.4	-0.3
	SNR=14						
CHMS	**Chumysh**	**143.42**	**94**	P	PKPbc	23 57 52.3	-0.9
	SNR=12						
USP	**Ospenovka**	**143.49**	**93**	P	PKPbc	23 57 52.4	-0.9
	SNR=26						
ULHL	**Ulahol**	**143.59**	**96**	P	PKPbc	23 57 48.5	-5.2
	SNR=10						
RSO	**Redoubt South**	**143.64**	**305**	*e*PKPdf	PKPdf	23 57 53.8	-3.7
TKM2	**Tokmak 2**	**143.78**	**95**	P	PKPbc	23 57 53.2	-1.1
	SNR=18						
SPU	**Mount Spurr**	**143.78**	**306**	*e*PKPdf	PKPdf	23 57 53.4	-4.3
ILAR	**Eielson Array**	**143.87**	**314**	PKP	PKPdf	23 57 54.1	-3.7
	comp=Z,13nm,0.6s,baz=146,slow=1.3,SNR=156						
MCK	**McKinley**	**144.03**	**311**	*e*PKPdf	PKPdf	23 57 54.4	-3.7
MCK				LR	LR		
	comp=Z,938nm,21.0s,MS5.5						
COLA	**College**	**144.27**	**313**	*e*P	PKPbc	23 57 54.8	-0.2
COLA				LR	LR		
	comp=Z,2μm,22.0s,MS5.8						
ARU	**Arti**	**144.67**	**65**	*d i*PKHKP		23 57 53.2	
ARU				MLR	MLR		
	comp=Z,1μm,19.0s,MS5.7						
ARU	**Arti**	**144.67**	**65**	*e*PKPdf	PKPdf	23 57 54.4	-5.1
UNV	**Unalaska Valle**	**145.72**	**288**	*e*PKPdf	PKPdf	23 57 58.5	-2.8
SVE	**Sverdlovsk**	**145.83**	**65**	⇓*e*PKIKP	PKPdf	23 57 57.2	-4.3
CD2	**Chengdu**	**145.89**	**139**	*e*PKP	PKPdf	23 57 59.6	-2.8
NIKO	**Nikolski**	**146.29**	**285**	*e*PKPbc	PKPbc	23 58 04.4	+3.9
ENH	**Enshi**	**146.96**	**148**	*e*PKPdf	PKPdf	23 58 01.7	-2.5
IMA	**Indian Mountai**	**146.98**	**313**	*e*PKPdf	PKPdf	23 57 59.7	-3.5
IMA				*e*PKPbc	PKPbc	23 58 04.3	+2.6
ZRNK	**Zerenda**	**147.40**	**76**	PKP2	PKPab	23 58 02.5	-5.2
ZRNK				pmax	pmax		
	comp=Z,63nm,1.3s						
ZRNK	**Zerenda**	**147.40**	**76**	*e*PKPdf	PKPdf	23 58 02.2	-2.0
BRVK	**Borovoye**	**148.07**	**77**	*e*PKPdf	PKPdf	23 58 03.7	-1.6
BRVK				LR	LR		
	comp=Z,290nm,19.0s,MS5.1						
BVA0	**Borovoye Array**	**148.11**	**77**	PKIKP	PKPdf	23 58 03.4	-2.0
BVAR	**Borovoye Array**	**148.11**	**77**	PKPbc	PKPdf	23 58 05.5	+0.2
	comp=Z,7.4nm,0.5s,baz=270,slow=1.5,SNR=26						
VOSK	**Vostochnaya**	**148.21**	**78**	PKP2	PKPab	23 58 05.1	-5.8
VOSK				pmax	pmax		
	comp=Z,55nm,1.2s						
WHN	**Wuhan**	**148.34**	**156**	PKP	PKPdf	23 58 06.8	+0.3
MKAR	**Makanchi Array**	**149.86**	**96**	PKPbc	PKPdf	23 58 09.3	+1.0
	comp=Z,6.1nm,0.6s,baz=253,slow=1.2,SNR=29						
MKAR	**Makanchi Array**	**149.86**	**96**	*i* PKHKP		23 58 05.4	
MKAR				pmax	pmax		
	comp=Z,29nm,0.9s						
WMQ	**Urumqi**	**150.31**	**106**	*e*PKP	PKPdf	23 58 06.2	-3.0
WMQ				APKP		23 58 16.2	
NJ2	**Nanjing**	**150.61**	**162**	*e*PKP	PKPdf	23 58 02.8	-7.2
NJ2				APKP		23 58 12.8	
NJ2				XPKP		23 58 15.3	
NJ2				PP	PP		
	comp=Z,2μm,8.5s						
NJ2				LR	LR		
	comp=N,2μm,33.0s,MS5.9						
NJ2				LR	LR		
	comp=E,2μm,30.9s,MS5.9						
NJ2				LR	LR		
	comp=Z,2μm,23.8s						
LZH	**Lanzhou**	**150.65**	**136**	*e*PKP	PKPdf	23 58 13.0	+3.1
KURK	**Kurchatov**	**150.68**	**87**	*i* PKIKP	PKPdf	23 58 05.5	-4.0
KURK				pmax	pmax		
	comp=Z,28nm,1.2s						
KURK	**Kurchatov**	**150.68**	**87**	*e*PKPdf	PKPdf	23 58 06.7	-2.8
KURK				*e*PKPbc	PKPdf	23 58 11.9	+2.4
KURK				*e*PKPab	PKPab	23 58 20.5	-0.7
KURK				LR	LR		
	comp=Z,262nm,20.0s,MS5.0						
GTA	**Gaotai**	**152.09**	**126**	PKP	PKPdf	23 58 08.8	-3.2
GTA				APKP		23 58 15.6	
GTA				LR	LR		
	comp=N,267nm,18.6s,MS5.2						
GTA				LR	LR		
	comp=E,196nm,18.3s,MS5.2						
TNA	**Tin City**	**152.12**	**307**	*e*PKPdf	PKPdf	23 58 15.9	+4.7
MAJO	**Matsushiro**	**155.13**	**198**	*e*PKPab	PKPab	23 58 39.9	-0.5
MAJO				LR	LR		
	comp=Z,2μm,20.0s,MS5.8						
MAT	**Matsushiro**	**155.13**	**198**	PKP2	PKPab	23 58 40.2	-0.1
MAT	**Matsushiro**	**155.13**	**198**	P	PKPdf	23 58 30.0	+14
NVS	**Novosibirsk**	**155.37**	**83**	*e*PKP2	PKPab	23 58 37.3	-3.5
NVS				*i*		00 02 17.7	
NVS				pmax	pmax		
	comp=N,18nm,1.4s						
NVS				pmax	pmax		
	comp=Z,32nm,1.4s						
ZAL	**Zalesovo**	**155.65**	**86**	PKP	PKPdf	23 58 13.7	-2.6
	comp=Z,0.4nm,0.3s,baz=72,slow=13,SNR=2.9						
ZAL				PKPbc	PKPdf	23 58 24.7	+8.4
	comp=Z,0.9nm,0.5s,baz=111,slow=4.0,SNR=6.9						
ZAL				PKPab	PKPab	23 58 39.5	-2.5
	comp=Z,3.0nm,0.9s,baz=150,slow=2.0,SNR=9.3						
ZAL				PP	PP	00 02 19.9	-0.1
	comp=Z,1.0nm,0.8s,baz=159,slow=8.4,SNR=2.9						
INCN	**Inchon**	**156.74**	**175**	PFAKE		23 58 30.0	+12
INCN				LR	LR		
	comp=Z,1μm,22.0s,MS5.8						
BTO	**Baotou**	**156.78**	**141**	*e*PKP	PKPdf	23 58 14.4	-3.9
HHC	**Hu-ho-hao-te**	**157.46**	**144**	*e*PKP	PKPdf	23 58 15.6	-3.6
BJI	**Beijing**	**157.88**	**153**	*e*PKP	PKPdf	23 58 17.4	-2.3
SONM	**Songino Array**	**161.74**	**125**	PKP	PKPdf	23 58 21.6	-2.1
	comp=Z,2.7nm,1.1s,baz=180,slow=2.5,SNR=12						
SONM				PKPab	PKPab	23 59 08.6	+0.1
	comp=Z,7.3nm,1.2s,baz=214,slow=4.5,SNR=6.5						
SONM				PP	PP	00 02 56.6	+3.6
	comp=Z,1.8nm,1.0s,baz=216,slow=4.2,SNR=3.7						
PET	**Petropavlovsk**	**162.15**	**258**	PFAKE		23 58 30.0	+6.1
PET				LR	LR		
	comp=Z,2μm,19.0s						
MOY	**Mondy**	**162.17**	**108**	*e*PKIKP	PKPdf	23 58 21.2	-2.8
CN2	**Changchun**	**162.97**	**171**	*e*PKP	PKPdf	23 58 22.6	-2.4
YSS	**Yuzh-Sakhalins**	**164.06**	**217**	*i* PKIKP	PKPdf	23 58 13.0	-13
YSS				*e*		23 58 27.0	
YSS				*e*		23 59 18.0	
KLR	**Kul'dur**	**168.41**	**189**	*e*PKIKP	PKPdf	23 58 21.9	-7.4
TIXI	**Tiksi**	**168.98**	**0**	*e*PKP2	PKPab	23 59 35.7	-3.7
TIXI				*i*		00 03 26.7	
TIXI				pmax	pmax		
	comp=Z,22nm,1.7s						
MA2	**Magadan**	**169.05**	**274**	PFAKE		23 58 40.0	+11
MA2				LR	LR		
	comp=Z,2μm,22.0s						
BOD	**Bodaibo**	**171.85**	**104**	*e*PKIKP	PKPdf	23 58 23.2	-7.9

WEL 09 23:50:42.7±0.6**, 45.24S**×**167.38E, h136**^{km}±4^{km}**, ML3.6**/7**, Error ellipse: s-maj=4.7km s-min=3.6km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.29**	**214**	PN	P	23 51 01.0	-1.1
DCZ				SN	S	23 51 14.6	-2.3
MLZ	**Mavora Lakes**	**0.57**	**101**	PN	P	23 51 02.8	-0.6
MLZ				SN	S	23 51 18.0	-1.2
WHZ	**Wether Hill Ro**	**0.77**	**149**	PN	P	23 51 04.3	-0.4
WHZ				SN	S	23 51 20.5	-1.0
WKZ	**Wanaka**	**1.23**	**71**	PN	P	23 51 08.6	-0.1
WKZ				SN	S	23 51 27.1	-1.5
JCZ	**Jackson Bay**	**1.52**	**41**	PN	P	23 51 11.1	-0.8
TUZ	**Tuapeka**	**1.73**	**115**	PN	P	23 51 13.5	-0.8
TUZ				SN	S	23 51 35.4	-3.0
TUZ				SN	S	23 51 35.6	-2.8
LBZ	**Lake Benmore**	**2.17**	**68**	PN	P	23 51 17.3	-2.2
LBZ				SN	S	23 51 44.1	-3.6
ODZ	**Otahua Downs**	**2.31**	**86**	PN	P	23 51 19.8	-1.7
RPZ	**Rata Peaks**	**3.04**	**61**	PN	P	23 51 27.8	-3.0
WVZ	**Waitaha Valley**	**3.24**	**49**	PN	P	23 51 30.3	-3.2
LTZ	**Lake Taylor**	**4.29**	**57**	*e*PN	P	23 51 43.9	-3.6
DSZ	**Denniston Nort**	**4.75**	**44**	PN	P	23 51 50.0	-3.5

CASC 10 00:03:44.2±1.9**, 11.24N**×**86.89W, h28**^{km}±7^{km}**, MD3.9, ML3.6, 6C-3D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	**El Crucero**	**0.93**	**38**	⇑*e*P	Pn	00 04 01.9	+0.3
COPN	**Copaltepe**	**0.97**	**17**	⇑*e*P	Pn	00 04 01.8	-0.3
COPN				*e*S	Sb	00 04 16.1	+1.3
TICN	**Ticuantepe**	**1.01**	**39**	*e*P	Pn	00 04 02.8	+0.1
TICN				*e*S	Sb	00 04 17.4	+1.4
APON	**Apoyo**	**1.04**	**50**	⇓*e*P	Pn	00 04 02.8	-0.3
XAVN	**Gruta Xavier**	**1.05**	**31**	*e*P	Pn	00 04 03.2	-0.1
MGAN	**Managua**	**1.09**	**35**	⇑*e*P	Pn	00 04 03.4	-0.4
MGAN				*e*S	Sn	00 04 19.1	+1.0
MGAN				*i*		00 04 19.8	
	comp=N,1μm,0.4s						
APYN	**Apoyeque**	**1.11**	**28**	⇑*e*P	Pn	00 04 03.6	-0.5
APYN				*e*S	Sn	00 04 19.1	+0.5
WILN	**Americas 2**	**1.14**	**37**	*e*P	Pn	00 04 01.9	-2.6
WILN				*e*S	Sn	00 04 19.4	+0.1
LEON	**Leon**	**1.17**	**360**	⇓*e*P	Pn	00 04 04.6	-0.2
LEON				*e*S	Sn	00 04 20.8	+0.9
MIRN	**Miramar**	**1.20**	**8**	⇓*e*P	Pn	00 04 05.0	-0.4
MOMJ	**Momotombo**	**1.21**	**16**	*e*P	Pn	00 04 05.0	-0.5
MOMJ				*e*S	Sn	00 04 21.5	+0.6
CNGN	**Cerro Negro**	**1.26**	**8**	⇑*e*P	Pn	00 04 06.0	-0.2
CNGN				*e*S	Sn	00 04 23.4	+1.1
TEL3	**Telica 3**	**1.32**	**2**	*e*P	Pn	00 04 07.0	-0.1
PYTN	**Playitas**	**1.52**	**32**	⇑*e*P	Pn	00 04 09.2	-0.7
PYTN				*e*S	Sn	00 04 29.6	+0.7
PYTN				*e*S	Sn	00 04 30.4	+1.4
VCR	**Vista de Mar**	**1.66**	**132**	*e*P	Pn	00 04 12.7	+0.8
CGA2	**Cerro Gallo 2**	**2.67**	**117**	*e*P	Pn	00 04 30.1	+3.7
CGA2				*e*S	Sn	00 04 57.2	-1.1
LAJ	**Bijagual**	**3.04**	**117**	*e*P	Pn	00 04 27.9	-3.8

*CSEM **10** 00:03:51.4, 67.26N×20.59E, mb6.0, After BER*

*BER **10** 00:03:51.4±2.7, 67.26N×20.59E, ML1.7, Suspected explosion*

HEL 10 00:03:53.4±0.3**, 67.31N**×**20.64E, ML1.9**(BER)**, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIF	**Kilpisjarvi**	**1.71**	**2**	*e*P	Pn	00 04 24.9	+0.3
KIF				*e*S	Sb	00 04 46.4	-1.0
KTK1	**Kautokeino**	**1.97**	**28**	*e*SG	Sg	00 04 54.3	-4.7
KTK1				AML	AML	00 04 59.2	
	comp=Z,14nm,0.4s						
KTK1	**Kautokeino**	**1.97**	**28**	*e*Sg	Sg	00 04 54.3	-4.7
	comp=Z,14nm,0.4s,SNR=90						
SGF	**Sodankyl**	**2.28**	**84**	*e*S	Sn	00 04 60.0	-2.1
TRO	**Tromso**	**2.42**	**346**	*e*SG	Sg	00 05 07.8	-6.3
MOR8	**Moi Rana**	**2.71**	**248**	*e*S	Sn	00 05 07.7	-5.3
MOR8				AML	AML	00 05 13.3	
	comp=Z,6.2nm,0.4s						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MOR8	Moi Rana	2.71	248	eSg	Sg	00 05 07.7	-16
	comp=Z,6.2nm,0.4s,SNR=90						
MELS	Mels	2.74	264	eSg	Sg	00 05 17.0	-7.7
LOF	Lofoten	2.83	290	eSG	Sg	00 05 19.9	-7.7
NSS	Namsos	4.51	236	eSG	Sg	00 06 11.9	-12

*IDC **10** 00:13:31.9±0.6, 60.83S×50.82W, mb4.7/12, mb1 4.8/13, mb1mx4.7/15, ML4.2/1, MS4.8/2, Ms1 4.7/2, ms1mx4.5/17, Error ellipse: s-maj=27.9km s-min=17.9km az=61.0*
*BJI **10** 00:13:33.9, 60.70S×50.70W, h10^{km}, mB5.4, Ms5.9, Msz5.6*
*NEIC **10** 00:13:34.0±0.3, 60.70S×50.71W, h10^{km}, mb5.0/17, Error ellipse: s-maj=10.7km s-min=7.3km az=64.0*
*SYO **10** 00:13:34.6, 60.63S×50.98W, h10^{km}, MB5.0*
ISC 10 00:13:32.8±0.3**, 60.66S**±0.05×**51.2W**±0.1**, h10^{km}, n108, σ1§23**/71**, mb4.9**/26**, MS5.0**/3**, 6C, Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMSA	Palmer Station	7.22	230	eP	Pn	00 15 20.3	-0.7
	56nm,0.8s						
EFI	East Falkland	9.79	334	ePn	P	00 15 57.3	+0.7
EFI				eSn	Sn	00 17 42.5	-5.2
USHA	Ushuaia	10.91	295	Pn	P	00 16 14.0	+2.1
	1.7nm,0.3s,baz=86,slow=14,SNR=12						
USHA				Sn	S	00 18 12.4	-2.6
	0.3nm,0.3s,baz=162,slow=20,SNR=3.3						
USHA				LR	LR	00 19 26.5	
	comp=Z,5µm,20.8s,baz=105,slow=32						
VNA3	Neumayer Olymp	19.46	140	e	P	00 18 04.4	+2.4
VNA3	Neumayer Olymp	19.46	140	e	P	00 18 05.5	+3.5
VNA3	Neumayer Olymp	19.46	140	e	P	00 18 07.0	+5.0
VNA3	Neumayer Olymp	19.46	140	e	P	00 18 10.7	+8.7
VNA3	Neumayer Olymp	19.46	140	e	P	00 18 12.0	+10
VNA3	Neumayer Olymp	19.46	140	e		00 18 16.9	
VNA3	Neumayer Olymp	19.46	140	eS	S	00 21 37.7	+2.2
VNA3	Neumayer Olymp	19.46	140	⇑iP	P	00 18 02.9	+0.9
VNA3				e		00 18 04.4	
VNA3				e		00 18 05.5	
VNA3				e		00 18 07.0	
VNA3				e		00 18 10.7	
VNA3				e		00 18 12.0	
VNA3				e		00 18 16.9	
VNA3				e		00 21 37.7	
VNA1	Neumayer--Stat	19.81	138	e	P	00 18 08.3	+2.4
VNA1	Neumayer--Stat	19.81	138	e	P	00 18 09.4	+3.5
VNA1	Neumayer--Stat	19.81	138	e	P	00 18 10.6	+4.7
VNA1	Neumayer--Stat	19.81	138	e	P	00 18 14.0	+8.1
VNA1	Neumayer--Stat	19.81	138	e	P	00 18 15.3	+9.4
VNA1	Neumayer--Stat	19.81	138	e		00 18 22.3	
VNA1	Neumayer--Stat	19.81	138	eS	S	00 21 43.3	+0.1
VNA1	Neumayer--Stat	19.81	138	⇑iP	P	00 18 07.0	+1.1
VNA1				e		00 18 08.3	
VNA1				e		00 18 09.4	
VNA1				e		00 18 10.6	
VNA1				e		00 18 14.0	
VNA1				e		00 18 15.3	
VNA1				e		00 18 22.3	
VNA1				eS	S	00 21 43.3	+0.1
VNA2	Neumayer--Watz	20.14	139	e	P	00 18 11.4	+2.0
VNA2	Neumayer--Watz	20.14	139	e	P	00 18 12.5	+3.1
VNA2	Neumayer--Watz	20.14	139	e	P	00 18 13.9	+4.5
VNA2	Neumayer--Watz	20.14	139	e	P	00 18 17.7	+8.3
VNA2	Neumayer--Watz	20.14	139	e	P	00 18 19.0	+10
VNA2	Neumayer--Watz	20.14	139	e		00 18 25.8	
VNA2	Neumayer--Watz	20.14	139	eS	S	00 21 47.0	-3.0
VNA2	Neumayer--Watz	20.14	139	⇑iP	P	00 18 10.3	+0.9
VNA2				e		00 18 11.4	
VNA2				e		00 18 12.5	
VNA2				e		00 18 13.9	
VNA2				e		00 18 17.7	
VNA2				e		00 18 19.0	
VNA2				e		00 18 25.8	
VNA2				e		00 21 47.0	
SNAA	Sanae	21.68	140	⇑iP	P	00 18 24.8	-0.5
SNAA	Sanae	21.68	140	e	P	00 18 26.1	+0.8
SNAA	Sanae	21.68	140	e	P	00 18 27.4	+2.1
SNAA	Sanae	21.68	140	e	P	00 18 28.9	+3.6
SNAA	Sanae	21.68	140	e	P	00 18 32.4	+7.1
SNAA	Sanae	21.68	140	e	P	00 18 33.6	+8.3
SNAA	Sanae	21.68	140	e		00 18 42.3	
SNAA	Sanae	21.68	140	eS	S	00 22 02.3	-18
SNAA	Sanae	21.68	140	eP	P	00 18 24.5	-0.8
	155nm,1.4s,mb5.2						
TRQA	Tornquist	23.63	338	eP	P	00 18 47.1	+2.5
	157nm,1.5s,mb5.2						
QSPA	South Pole Qui	29.58	180	eP	P	00 19 39.5	+0.2
	25nm,0.7s,mb5.0						
FCH	Farellones	30.06	327	eP	P	00 19 44.0	-0.1
CPUP	Villa Florida	34.58	350	P	P	00 20 23.7	+0.1
	8.9nm,0.8s,mb4.7,baz=190,slow=7.6,SNR=20						
CPUP				PcP	PcP	00 22 56.1	-2.3
	4.5nm,0.8s,baz=165,slow=2.8,SNR=5.1						
CPUP	Villa Florida	34.58	350	eP	P	00 20 23.2	-0.4
	14nm,1.0s,mb4.8						
SYO	Syowa Base	35.95	142	⇑P	P	00 20 31.0	-3.8
SYO	Syowa Base	35.95	142	⇑pP	pP	00 20 35.1	-2.7
CAM4	Nova Friburgo	38.74	13	(P)	P	00 20 58.9	+0.1
CAM4				i	pP	00 21 00.6	-1.2
CAM4				i		00 21 06.8	
CAM4				i		00 21 11.9	
CAM4				i		00 21 19.2	
CAM4	Nova Friburgo	38.74	13	eP	P	00 20 58.9	+0.1
CAM4				i	pP	00 21 00.4	-1.4
CAM4				i		00 21 06.8	
CAM4				i		00 21 13.3	
SBA	Scott Base	39.80	192	eP	P	00 21 07.5	+0.5
	7.8nm,0.9s,mb4.4						
LVC	Limon Verde	39.99	334	eP	P	00 21 10.2	+1.1
	22nm,1.2s,mb4.8						
MAW	Mawson	43.36	149	P	P	00 21 36.3	+0.2
	17nm,1.2s,mb4.7,baz=225,slow=9.0,SNR=21						
MAW				LR	LR	00 38 41.2	
	comp=Z,955nm,19.6s,MS4.7,baz=283,slow=35						
MAW	Mawson	43.36	149	eP	P	00 21 36.7	+0.6
	39nm,1.1s,mb5.0						
BDFB	Brasilia	45.01	4	P	P	00 21 50.9	+0.8
	37nm,0.8s,mb5.3,baz=194,slow=3.7,SNR=48						
LPAZ	La Paz	45.98	337	P	P	00 21 59.1	+1.4
	4.7nm,0.7s,mb4.5,baz=160,slow=5.7,SNR=14						
LPAZ	La Paz	45.98	337	eP	P	00 21 59.3	+1.6
	7.4nm,0.9s,mb4.6						
NNA	Nana	52.13	327	eP	P	00 22 46.9	+1.5
	42nm,1.1s,mb5.3						
SAML	Samuel	52.38	345	eP	P	00 22 47.0	-0.2
	26nm,1.1s,mb5.1						
CASY	Casey	52.65	171	eP	P	00 22 47.9	-0.6
SUR	Sutherland	53.64	92	eP	P	00 22 55.3	-1.0
	4.3nm,0.5s,mb4.6						
BOSA	Boshof	58.91	94	eP	P	00 23 30.8	-3.3
	16nm,1.1s,mb5.0						
TSUM	Tsumeb	63.04	81	P	P	00 24 00.2	-2.0
	2.6nm,0.8s,mb4.4,baz=165,slow=12,SNR=3.3						
TSUM	Tsumeb	63.04	81	P	P	00 24 00.3	-1.9
	1.3nm,0.6s,mb4.2						
OTAV	Otavalo	64.27	329	eP	P	00 24 11.8	+1.4
	34nm,0.9s,mb5.4						
ROSC	El Rosal	67.79	335	P	P	00 24 33.6	+0.7
	14nm,0.6s,mb5.2,baz=141,slow=20,SNR=11						
SDV	Santo Domingo	71.02	340	eP	P	00 24 52.1	-0.6
	12nm,0.8s,mb4.9						
LIC	Lamto	75.78	48	eP	P	00 25 19.4	-1.1
	80nm,1.3s,mb5.5						
KIC	Kosan Boka	76.01	48	eP	P	00 25 20.8	-1.0
	45nm,0.8s,mb5.4						
TIC	Toumodi	76.17	48	eP	P	00 25 21.7	-1.0
	29nm,0.2s,mb5.8						
DBIC	Dimbokro	76.25	48	P	P	00 25 22.1	-1.0
	4.0nm,0.7s,mb4.5,baz=156,slow=3.8,SNR=5.4						
CPD	Cerro la Pandu	79.32	346	eP	P	00 25 38.5	-1.5
SJG	San Juan	79.42	346	P	P	00 25 39.6	-1.0
	3.5nm,0.4s,mb4.7,baz=335,slow=19,SNR=4.0						
SJG	San Juan	79.42	346	P	P	00 25 39.6	-1.0
STKA	Stephens Creek	87.21	191	P	P	00 26 19.8	-0.2
	1.8nm,0.8s,mb4.3,baz=152,slow=14,SNR=4.1						
KMBO	Kilima Mbogo	88.24	89	P	P	00 26 26.1	+0.7
	3.8nm,1.1s,mb4.5,baz=206,slow=2.9,SNR=8.0						
ASAR	Alice Springs	95.88	185	P	P	00 26 59.5	-1.1
	2.7nm,0.9s,mb4.7,baz=172,slow=4.9,SNR=15						
ASAR				PP	PP	00 30 49.8	-5.2
	1.4nm,1.0s,baz=182,slow=7.2,SNR=5.6						
WRA	Warramunga Arr	99.56	185	P	P	00 27 15.9	-1.3
	1.8nm,0.7s,mb4.6,baz=182,slow=4.1,SNR=13						
PDAR	Pinedale Array	113.50	317	PKiKP		00 32 10.2	
	0.4nm,0.7s,baz=135,slow=4.2,SNR=3.6						
MSO	Missoula	118.56	316	ePKPdf	PKPdf	00 32 20.5	-2.6
GERES	GERESS Array B	121.00	44	PKP	PKPdf	00 32 23.9	-4.0
	0.4nm,0.6s,baz=236,slow=4.8,SNR=3.6						
BRTR	Keskin Array B	121.30	64	PKP	PKPdf	00 32 25.1	-3.6
	0.8nm,0.9s,baz=180,slow=2.9,SNR=3.8						
NOA	NORSAR Array B	130.47	35	PKP	PKPdf	00 32 43.0	-2.5
	0.4nm,0.7s,baz=137,slow=2.3,SNR=2.7						
YKA	Yellowknife Ar	131.96	326	PKP	PKPdf	00 32 45.4	-2.9
	3.7nm,0.8s,baz=140,slow=3.1,SNR=7.4						
YKA	Yellowknife Ar	131.96	326	PKP	PKPdf	00 32 45.4	-2.9
CMAR	Chiang Mai Arr	132.78	140	PKP	PKPdf	00 32 48.0	-3.1
	0.9nm,0.4s,baz=226,slow=3.4,SNR=6.7						
KMI	Kunming	140.21	141	ePKP	PKPdf	00 33 03.2	-1.4
KMI				PKS	PKS	00 36 37.4	+1.2
KMI				LR	LR		
	comp=Z,718nm,30.8s,MS5.2						
DAWY	Dawson	140.80	316	ePKPpre		00 33 00.8	
INK	Inuvik	141.59	324	PKhKP		00 33 00.2	
	comp=Z,1.2nm,0.7s,baz=103,slow=4.4,SNR=3.4						
INK	Inuvik	141.59	324	PKP	PKPdf	00 33 00.2	-5.4
AAK	Ala-Archa	143.05	94	ePKPpre		00 33 03.2	
ILAR	Eielson Array	143.84	314	PKP	PKPdf	00 33 05.5	-4.0
	comp=Z,4.4nm,0.7s,baz=186,slow=1.8,SNR=34						
MCK	McKinley	144.01	311	ePKPpre		00 33 06.0	
COLA	College	144.25	313	ePKPpre		00 33 05.6	
CD2	Chengdu	145.92	139	ePKP	PKPdf	00 33 11.4	-2.8
IMA	Indian Mountai	146.95	313	ePKPbc	PKPbc	00 33 15.8	+2.3
ZRNK	Zerenda	147.42	76	ePKPdf	PKPdf	00 33 14.7	-1.3
BRVK	Borovoye	148.09	77	ePKPbc	PKPdf	00 33 16.6	-0.5
BVAR	Borovoye Array	148.13	77	PKPbc	PKPdf	00 33 17.3	+0.2
	comp=Z,10nm,0.9s,baz=225,slow=2.1,SNR=23						
MKAR	Makanchi Array	149.89	96	PKPbc	PKPdf	00 33 20.7	+0.5
	comp=Z,3.8nm,0.9s,baz=252,slow=3.8,SNR=21						
MKAR	Makanchi Array	149.89	96	PKPbc	PKPdf	00 33 20.7	+0.5
WMQ	Urumqi	150.33	106	ePKP	PKPdf	00 33 20.0	-1.0
XAN	Xi'an	150.39	145	PKP	PKPdf	00 33 23.0	+1.6
NJ2	Nanjing	150.63	163	ePKP	PKPdf	00 33 16.9	-4.9
NJ2				APKP		00 33 27.5	
NJ2				PKP2	PKPab	00 33 31.9	-1.5
NJ2				PP	PP	00 37 01.0	-3.4
NJ2				SKS	SKS	00 40 25.0	-3.8
LZH	Lanzhou	150.68	136	PKP	PKPdf	00 33 24.0	+2.3
KURK	Kurchatov	150.70	87	ePKPbc	PKPdf	00 33 23.4	+2.1
GTA	Gaotai	152.12	126	PKP	PKPdf	00 33 28.0	+4.2
GTA				PP	PP	00 37 15.0	+2.9
GTA				SS	SS	00 56 34.7	-2.7
GTA				PP	PP		
	comp=Z,242nm,16.0s						
GTA				LR	LR		
	comp=N,226nm,19.8s,MS5.1						
GTA				LR	LR		
	comp=E,227nm,19.8s,MS5.1						
GTA				LR	LR		
	comp=Z,308nm,22.1s,MS5.1						
ZAL	Zalesovo	155.67	86	PKPab	PKPab	00 33 50.2	-3.7
	comp=Z,0.7nm,0.3s,baz=234,slow=3.1,SNR=3.6						
ZAL	Zalesovo	155.67	86	PKPab	PKPab	00 33 50.2	-3.7
HHC	Hu-ho-hao-te	157.49	144	ePKP	PKPdf	00 33 31.3	+0.3
SONM	Songino Array	161.77	125	PKP	PKPdf	00 33 34.0	-1.4
	comp=Z,0.6nm,0.9s,baz=252,slow=3.9,SNR=3.8						
SONM				PKPab	PKPab	00 34 19.3	-1.1
	comp=Z,1.0nm,1.0s,baz=180,slow=2.5,SNR=3.8						
CN2	Changchun	162.99	172	ePKP	PKPdf	00 33 37.8	+1.0
CN2				PP	PP	00 38 15.0	+3.8
CN2				LR	LR		
	comp=N,880nm,21.0s						
CN2				LR	LR		
	comp=E,670nm,21.0s						
CN2				LR	LR		
	comp=Z,860nm,21.0s						
MDJ	Mudanjiang	163.92	182	PKP	PKPdf	00 33 36.7	-1.0

CASC 10 00:18:51.5±2.8**, 11.81N**×**86.83W, h67^{km}**±23^{km}**, MD4.0, 5C-4D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
COPN	Copaltepe	0.43	32	⇑eP	P	00 19 02.9	-0.7
COPN				eS	S	00 19 13.2	+0.8
XAVN	Gruta Xavier	0.59	55	⇓eP	P	00 19 04.7	-0.5
LEON	Leon	0.61	354	eP	P	00 19 05.7	+0.4
TICN	Ticuantepe	0.62	69	eP	P	00 19 04.3	-1.2
TICN				eS	S	00 19 16.4	+0.6
APYN	Apoyeque	0.63	48	⇑eP	P	00 19 05.3	-0.3
MIRN	Miramar	0.64	10	eP	P	00 19 06.2	+0.6
MOMJ	Momotombo	0.66	25	⇑eP	P	00 19 06.1	+0.3
MGAN	Managua	0.66	59	⇑eP	P	00 19 05.0	-0.9
MGAN				eS	S	00 19 17.4	+0.9
CNGN	Cerro Negro	0.70	10	⇓eP	P	00 19 07.3	+1.0
CNGN				eS	S	00 19 23.4	+6.0
WILN	Americas 2	0.72	61	⇓eP	P	00 19 05.4	-1.1
APON	Apoyo	0.75	82	⇑eP	P	00 19 04.8	-2.1
TEL3	Telica 3	0.76	359	eP	P	00 19 08.4	+1.4
TEL3				eS	S	00 19 18.6	0.0
PYTN	Playitas	1.04	46	⇓eP	P	00 19 10.6	-0.1
JCR	Jicaral	2.58	139	eP	P	00 19 29.7	-2.2
JCR				eS	S	00 20 08.1	+6.1
CGA2	Cerro Gallo 2	2.92	127	eP	P	00 19 38.2	+1.4
LAJ	Bijagual	3.29	126	eP	P	00 19 38.3	-3.5
LCR2	La Lucha 2	3.45	126	eP	P	00 19 42.5	-1.6
LCR2				eS	S	00 20 26.8	+2.7

CASC 10 00:32:29.8±2.3**, 11.53N**×**86.87W, MD3.7, 6C-4D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
COPN	Copaltepe	0.70	23	⇑eP	Pg	00 32 44.9	+1.1
COPN				eS	Sg	00 32 57.5	+4.4
CRUN	El Crucero	0.72	51	eP	Pg	00 32 44.8	+0.7
TICN	Ticuantepe	0.80	51	eP	Pg	00 32 45.7	0.0
XAVN	Gruta Xavier	0.81	41	⇓eP	Pg	00 32 46.1	0.0
XAVN				eS	Sg	00 32 59.7	+2.8
APYN	Apoyeque	0.86	36	⇑eP	Pg	00 32 47.0	-0.1
APYN				eS	Sg	00 33 01.0	+2.4
MGAN	Managua	0.86	45	⇓eP	Pg	00 32 46.6	-0.4
MGAN				eS	Sg	00 32 59.4	+0.9
APON	Apoyo	0.88	64	eP	Pg	00 32 46.2	-1.1
LEON	Leon	0.88	359	⇓eP	Pg	00 32 47.8	+0.4
LEON				eS	Sg	00 33 00.7	+1.6
WILN	Americas 2	0.92	47	eP	Pg	00 32 47.6	-0.5
WILN				⇑eP		00 32 47.6	
WILN				eS	Sg	00 33 01.5	+1.2
MIRN	Miramar	0.92	10	⇑eP	Pg	00 32 48.2	+0.1
MOMJ	Momotombo	0.93	20	eP	Pg	00 32 48.3	-0.1
CNGN	Cerro Negro	0.98	10	⇑eP	Pb	00 32 48.9	-0.5
TEL3	Telica 3	1.04	1	eP	Pb	00 32 50.1	-0.2
CRIN	San Cristobal	1.18	351	eP	Pb	00 32 52.7	0.0
PYTN	Playitas	1.28	38	⇓eP	Pb	00 32 52.5	-1.9
PYTN				⇑eP		00 32 52.8	
VCR	Vista de Mar	1.85	139	eP	Pn	00 33 01.6	-1.5
VCR				eS	Sn	00 33 28.7	+1.2
JCR	Jicaral	2.40	134	eP	Pn	00 33 11.3	+0.3
JCR				eS	Sn	00 33 42.0	+0.4
CGA2	Cerro Gallo 2	2.80	122	eP	Pn	00 33 16.3	-0.4
PRS1	Puriscal	2.95	121	eP	Pn	00 33 19.7	+1.0
PRS1				eS	Sn	00 33 56.0	+0.7
LAJ	Bijagual	3.17	121	eP	Pn	00 33 16.9	-4.9
LCR2	La Lucha 2	3.33	122	eP	Pn	00 33 23.0	-1.2
LCR2				eS	Sn	00 34 07.3	+2.2

IDC 10 00:53:38.6±4.8**, 31.25S**×**177.85W, mb3.5**/2**, mb1 3.8**/2**, mb1mx3.6**/12**, Error ellipse: s-maj=241.0km s-min=49.2km az=161.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	43.20	268	P	P	01 01 41.6	-1.4
	0.2nm,0.4s,baz=105,slow=7.3,SNR=5.7						
WRA	Warramunga Arr	44.26	273	P	P	01 01 49.7	-2.1
	0.5nm,0.3s,baz=111,slow=8.1,SNR=13						
FINES	FINESS Array B	145.99	340	PKP	PKPdf	01 13 16.2	-4.3
	0.4nm,0.3s,baz=45,slow=2.7,SNR=4.4						
FINES				PKPbc	PKPbc	01 13 19.8	+0.2
	0.7nm,0.6s,baz=43,slow=5.5,SNR=7.4						

*IDC **10** 00:53:52.3±0.9, 11.64N×86.37W, mb4.1/9, mb1 4.3/9, mb1mx4.1/18, Error ellipse: s-maj=42.2km s-min=18.9km az=55.0*
*CASC **10** 00:53:55.2±3.4, 11.08N×87.08W, h41^{km}±543^{km}, MD4.4, mb4.1(NEIC)*
*NEIC **10** 00:53:57.4±1.7, 11.44N×86.61W, h45^{km}±16^{km}, mb4.1/8, Error ellipse: s-maj=21.4km s-min=8.0km az=57.0*
ISC 10 00:53:54.6±0.5**, 11.07N**±0.04×**87.07W**±0.04**, h50^{km}**±6^{km}**, n62, σ1§33**/77**, mb4.1**/17**, 6C-5D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
COPN	Copaltepe	1.20	23	⇓eP	P	00 54 14.9	-0.4
TICN	Ticuantepe	1.27	41	eP	P	00 54 15.4	-0.9
APON	Apoyo	1.30	49	⇑iP	P	00 54 15.5	-1.3
XAVN	Gruta Xavier	1.30	34	⇓eP	P	00 54 15.8	-1.0
MGAN	Managua	1.35	37	eP	P	00 54 16.5	-0.9
MGAN				eS	S	00 54 35.9	+1.4
LEON	Leon	1.35	7	⇑eP	P	00 54 17.2	-0.4
LEON				eS	S	00 54 36.1	+1.4
APYN	Apoyeque	1.36	31	⇓eP	P	00 54 16.8	-0.9
APYN				eS	S	00 54 34.1	-0.7
WILN	Americas 2	1.39	38	⇑eP	P	00 54 17.0	-1.1
MIRN	Miramar	1.41	14	eP	P	00 54 17.8	-0.6
MIRN				eS	S	00 54 37.1	+1.0
MOMJ	Momotombo	1.43	21	eP	P	00 54 17.8	-0.9
MOMJ				eS	S	00 54 37.3	+0.7
CNGN	Cerro Negro	1.47	14	⇑eP	P	00 54 18.5	-0.7
CNGN				eS	S	00 54 39.5	+2.0
TEL3	Telica 3	1.51	8	eP	P	00 54 19.5	-0.3
TEL3				eS	S	00 54 40.3	+1.8
CRIN	San Cristobal	1.62	1	⇓eP	P	00 54 21.5	+0.2
CRIN				eS	S	00 54 43.2	+2.0
PYTN	Playitas	1.77	34	eP	P	00 54 22.2	-1.2
JTS	JuntasAbangare	2.22	110	Pn	P	00 54 28.8	-1.0
	2µm,0.6s,SNR=49						
JTS	JuntasAbangare	2.22	110	eP	P	00 54 28.4	-1.4
JCR	Jicaral	2.28	122	eP	P	00 54 29.8	-0.7
CNCH	Conchagua	2.32	341	eP	P	00 54 31.9	+0.7
CNCH				eS	S	00 54 58.9	+0.3
BLLM	Bellamira	2.62	334	eP	P	00 54 35.9	+0.4
BLLM				eS	S	00 55 06.9	+0.7
VSM	San Miguel	2.63	334	eP	P	00 54 36.0	+0.4
CGA2	Cerro Gallo 2	2.77	112	eP	P	00 54 38.5	+0.9
CGA2				eS	S	00 55 08.4	-1.6
PRS1	Puriscal	2.92	111	eP	P	00 54 40.0	+0.2
SNVI	San Vicente	3.06	326	eP	P	00 54 44.3	+2.5
SNVI				eS	S	00 55 16.6	-0.8
LAJ	Bijagual	3.14	112	eP	P	00 54 39.5	-3.4
SJS	Escuela Geolog	3.17	110	eP	P	00 54 46.0	+2.7
LCBS	La Ceiba	3.18	324	⇓eP	P	00 54 43.5	+0.1
LCBS				eS	S	00 55 18.5	-1.8
LFRS	El Faro	3.20	323	eP	P	00 54 44.2	+0.6
LFRS				eS	S	00 55 19.3	-1.6
LCR2	La Lucha 2	3.29	113	eP	P	00 54 46.2	+1.2
LFU	La Fuente	3.33	323	eP	P	00 54 46.2	+0.7
LFU				eS	S	00 55 22.4	-1.8
TRTC	Tortuguero	3.34	98	eP	P	00 54 44.4	-1.2
ICR	Volcan Irazu	3.37	108	⇑eP	P	00 54 48.9	+2.8
URSC	Urasca	3.46	110	⇑eP	P	00 54 49.8	+2.4
BUS	Buena Vista	3.59	114	eP	P	00 54 49.8	+0.6
BUS				eS	S	00 55 29.9	-0.9
SBLS	San Blas	3.71	318	eP	P	00 54 52.2	+1.2
SBLS				eS	S	00 55 31.8	-2.1
SNJE	San Jose	3.73	319	eP	P	00 54 52.0	+1.0
SNJE				eS	S	00 55 31.6	-2.6
RTR	El Retiro	3.77	319	eP	P	00 54 51.3	-0.4
LRAL	Lakeview Retre	21.87	0	eP	P	00 58 43.5	-1.3
	12nm,0.8s,mb4.4						
LTX	Lajitas	23.88	322	eP	P	00 59 06.8	+2.3
	4.5nm,0.6s,mb4.1						
TXAR	Lajitas Array	23.88	322	P	P	00 59 07.3	+2.8
	3.2nm,0.6s,mb3.9,baz=136,slow=9.7,SNR=48						
TXAR				PcP	PcP	01 02 52.0	+4.0
	1.1nm,0.7s,baz=146,slow=5.0,SNR=8.9						
TXAR	Lajitas Array	23.88	322	P	P	00 59 07.3	+2.8
TXAR				PcP	PcP	01 02 52.0	+4.0
CPCT	Cooper Cave	24.39	5	eP	P	00 59 12.5	+3.1
WMOK	Wichita Mounta	25.87	337	eP	P	00 59 24.3	+0.8
	7.1nm,0.8s,mb4.2						
CCM	Cathedral Cave	27.14	353	eP	P	00 59 33.0	-2.1
	3.5nm,0.8s,mb3.9						
SSPA	Standing Stone	30.55	14	eP	P	01 00 03.6	-2.1
	5.1nm,0.7s,mb4.5						
SAML	Samuel	30.98	129	eP	P	01 00 09.2	-0.6
	3.2nm,0.8s,mb4.2						
SDCO	Great Sand Dun	31.29	331	eP	P	01 00 12.5	+0.3
	2.5nm,0.7s,mb4.2						
PV10	Paradox Valley	33.55	328	eP	P	01 00 32.5	+0.6
SADO	Sadowa	34.27	10	P	P	01 00 34.8	-3.3
	2.7nm,0.4s,mb4.5,baz=220,slow=8.2,SNR=5.3						
BW06	Boulder Array	37.16	332	P	P	01 01 01.2	-1.3
PDAR	Pinedale Array	37.16	332	P	P	01 01 03.6	+1.1
	1.5nm,0.8s,mb3.9,baz=124,slow=11,SNR=13						
PDAR				PcP	PcP	01 03 24.0	+1.7
	0.6nm,0.8s,baz=135,slow=6.3,SNR=4.1						
REDW	Red Top Meadow	38.22	332	eP	P	01 01 12.3	+1.0
NVAR	Mina Array Bea	38.99	320	P	P	01 01 21.8	+4.1
	1.8nm,0.9s,mb3.8,baz=131,slow=8.9,SNR=4.9						
NVAR				PcP	PcP	01 03 31.7	+3.7
	6.9nm,1.1s,baz=121,slow=4.9,SNR=9.0						
NVAR	Mina Array Bea	38.99	320	P	P	01 01 21.8	+4.1
NVAR				PcP	PcP	01 03 31.7	+3.7
ULM	Lac du Bonnet	39.74	351	P	P	01 01 22.4	-1.5
	3.2nm,0.6s,mb4.2,baz=161,slow=10.0,SNR=3.8						
HLID	Hailey	40.11	329	eP	P	01 01 27.8	+0.7
	1.3nm,0.7s,mb3.8						
SCHQ	Schefferville	46.49	16	P	P	01 02 15.8	-2.8
	2.0nm,0.5s,mb4.3,baz=186,slow=5.8,SNR=7.4						
BDFB	Brasilia	46.90	124	P	P	01 02 22.6	+0.3
	3.0nm,0.6s,mb4.4,baz=301,slow=7.7,SNR=6.4						
CPUP	Villa Florida	47.09	143	P	P	01 02 26.3	+2.5
	0.8nm,0.7s,mb3.8,baz=12,slow=9.3,SNR=3.1						
ILAR	Eielson Array	67.43	336	P	P	01 04 46.6	-0.2
	0.3nm,0.4s,mb3.7,baz=136,slow=5.1,SNR=9.8						
ASAR	Alice Springs	139.08	247	PKP	PKPdf	01 13 21.8	+5.0
	0.5nm,0.7s,baz=87,slow=3.0,SNR=6.2						
WRA	Warramunga Arr	139.22	252	PKhKP		01 13 20.1	
	0.5nm,0.8s,baz=85,slow=1.9,SNR=3.3						
WRA				PKP	PKPdf	01 13 25.2	+8.2
	0.5nm,0.7s,baz=93,slow=2.4,SNR=5.6						
CMAR	Chiang Mai Arr	150.07	348	PKPbc	PKPdf	01 13 44.5	+8.9
	0.3nm,0.5s,baz=3.0,slow=4.1,SNR=4.2						

MAN 10 01:02:19.5, 9.26N×**125.14E, h25^{km}, mb4.2, ML3.0, MS2.7, 1C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUTP	Butuan	0.55	122	eP	Pb	01 02 30.6	+0.1
BUTP				eS	Sb	01 02 42.0	+3.9
SCPH	Surigao	0.62	33	eP	Pb	01 02 31.7	+0.1
SCPH				i S	Sb	01 02 42.3	+2.3
MSLP	Maasin	0.91	342	eP	Pb	01 02 36.1	-0.4
CGP	Cagayan de Oro	0.92	209	⇑iP	Pb	01 02 35.8	-0.8
CGP				i S	Sb	01 02 47.4	-1.0
TBP	Tagbilaran	1.33	289	eP	Pn	01 02 41.9	-1.0
TBP				eS	Sn	01 03 00.5	+0.5
BUKP	Musuan	1.38	183	eP	Pn	01 02 43.7	+0.2
BUKP				eS	Sn	01 03 03.1	+2.1
LLP	Lapu-Lapu	1.56	312	eP	Pn	01 02 45.9	-0.2
LLP				eS	Sn	01 03 06.1	+0.3
SNPH	Sibulan	1.89	273	eP	Pn	01 02 50.2	-0.5
DCPH	Dipolog City	1.89	249	eP	Pn	01 02 50.0	-0.9
DCPH				eS	Sn	01 03 14.0	-0.1
PAGZ	Pagadian	2.24	231	eP	Pn	01 02 54.9	-0.9
PAGZ				eS	Sn	01 03 22.9	0.0
GUIM	Jordan	2.86	299	eP	Pn	01 02 55.2	-9.4
IPIL	Ipil	2.94	240	eP	Pn	01 03 06.8	+1.1
IPIL				eS	Sn	01 03 41.1	+0.5

CASC 10 01:11:44.8±2.0**, 11.53N**×**86.88W, MD4.3, ML3.0, 8C-2D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
COPN	Copaltepe	0.70	23	⇑eP	Pg	01 11 59.7	+0.8
CRUN	El Crucero	0.72	51	eP	Pg	01 11 59.5	+0.3
TICN	Ticuantepe	0.81	52	⇑eP	Pg	01 12 00.8	-0.1
XAVN	Gruta Xavier	0.82	41	eP	Pg	01 12 01.2	+0.1
APYN	Apoyeque	0.87	36	eP	Pg	01 12 02.0	-0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
APYN				eS	Sg	01 12 16.2	+2.5
MGAN	Managua	0.87	45⇑	eP	Pg	01 12 01.8	-0.4
MGAN				eS	Sg	01 12 15.8	+2.0
	comp=E,434nm,0.2s						
LEON	Leon	0.88	359⇓	eP	Pg	01 12 02.1	-0.3
LEON				eS	Sg	01 12 16.6	+2.5
APON	Apoyo	0.88	64⇑	eP	Pg	01 12 01.3	-1.2
APON				eS	Sg	01 12 15.8	+1.6
MIRN	Miramar	0.92	10⇑	eP	Pg	01 12 02.7	-0.5
MIRN				eS	Sg	01 12 16.7	+1.3
WILN	Americas 2	0.92	47⇑	eP	Pg	01 12 02.5	-0.7
WILN				eS	Sg	01 12 17.2	+1.7
MOMJ	Momotombo	0.93	21⇑	eP	Pg	01 12 02.9	-0.6
MOMJ				eS	Sg	01 12 16.9	+1.1
CNGN	Cerro Negro	0.98	10⇓	eP	Pb	01 12 03.5	-0.9
CNGN				eS	Sg	01 12 20.8	+3.3
TEL3	Telica 3	1.04	2	eP	Pb	01 12 04.9	-0.4
PYTN	Playitas	1.28	39⇑	eP	Pb	01 12 07.4	-2.1
PYTN				eS	Sb	01 12 33.6	+7.1
VCR	Vista de Mar	1.86	139	eP	Pn	01 12 18.8	+0.7
JCR	Jicaral	2.41	134	eP	Pn	01 12 25.2	-0.9
LAJ	Bijagual	3.18	121	eP	Pn	01 12 36.6	-0.4
LCR2	La Lucha 2	3.34	122	eP	Pn	01 12 40.5	+1.1

MEX 10 01:14:25.2±1.3**, 16.57N×99.42W, h13**^{km}±19^{km}**, MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.56	302	i P	Pb	01 14 34.5	-1.9
ACX				i S	Sb	01 14 41.5	-2.5
CAIG	El Cayaco	0.94	301	eP	Pb	01 14 41.6	-1.3
CAIG				i S	Sb	01 14 52.8	-2.2
PLIG	Platanillo	1.82	358	eP	Pn	01 14 53.4	-3.2
PLIG				i S	Sn	01 15 13.0	-6.6
YAIG	Yautepec	2.31	8	eP	Pn	01 14 59.8	-3.8
PPM	Popocatepetl	2.60	17	eP	Pn	01 15 01.5	-6.2
VHO	Vista Hermosa	2.62	79	eP	Pn	01 15 04.2	-3.9
VHO				eS	Sn	01 15 35.4	-4.6
OXX	Oaxaca	2.63	78	eP	Pn	01 15 06.5	-1.7
OXX				eS	Sn	01 15 35.0	-5.3
IISM	Ciudad Serdan	3.10	39	eP	Pn	01 15 12.5	-2.3
IISM				eS	Sn	01 15 44.0	-8.1

IDC 10 01:24:06.1±16.0**, 17.86S×178.92W, h589**^{km}±204^{km}**, mb3.0**/4**, mb1 3.3**/4**, mb1mx3.1**/13**, Error ellipse: s-maj=142.0km s-min=50.2km az=176.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.22	241	P	P	01 30 37.1	-1.1
	1.0nm,0.6s,baz=115,slow=11,SNR=3.3						
WRA	Warramunga Arr	44.16	260	P	P	01 31 24.0	-1.5
	0.7nm,0.5s,baz=96,slow=7.1,SNR=15						
ASAR	Alice Springs	44.33	254	P	P	01 31 25.0	-1.8
	4.5nm,0.5s,baz=88,slow=8.3,SNR=95						
TXAR	Lajitas Array	86.38	58	P	P	01 35 47.2	-1.0
	0.6nm,0.8s,baz=207,slow=5.6,SNR=7.8						
GERES	GERESS Array B	147.44	344	PKPbc	PKPdf	01 42 44.2	+3.5
	0.4nm,0.5s,baz=22,slow=5.3,SNR=4.4						

CASC 10 01:32:44.6±1.9**, 11.13N×87.10W, h24**^{km}±46^{km}**, MD3.9, ML3.2, 4C-5D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
COPN	Copaltepe	1.15	25⇓	eP	Pn	01 33 05.3	-0.2
COPN				eS	Sb	01 33 22.1	+1.8
TICN	Ticuantepe	1.23	43	eP	Pn	01 33 06.2	-0.4
APON	Apoyo	1.28	52	eP	Pn	01 33 05.6	-1.6
LEON	Leon	1.29	9⇑	eP	Pn	01 33 07.7	+0.2
MGAN	Managua	1.31	40⇓	eP	Pn	01 33 07.0	-0.7
MGAN				eS	Sn	01 33 25.0	+0.5
	comp=N,366nm,0.4s						
APYN	Apoyeque	1.32	34⇑	eP	Pn	01 33 07.3	-0.6
APYN				eS	Sn	01 33 24.8	0.0
MIRN	Miramar	1.35	16⇓	eP	Pn	01 33 08.3	0.0
MOMJ	Momotombo	1.38	23	eP	Pn	01 33 08.2	-0.6
CNGN	Cerro Negro	1.42	16⇓	eP	Pn	01 33 09.0	-0.2
PYTN	Playitas	1.73	36⇑	eP	Pn	01 33 12.4	-1.3
PYTN				eS	Sn	01 33 35.7	+0.5
VCR	Vista de Mar	1.75	125	eP	Pn	01 33 18.0	+3.9
JCR	Jicaral	2.33	123	eP	Pn	01 33 27.2	+4.9
PRS1	Puriscal	2.97	112	eP	Pn	01 33 31.1	-0.3
LAJ	Bijagual	3.19	113⇓	eP	Pn	01 33 29.2	-5.3
LCR2	La Lucha 2	3.34	114	eP	Pn	01 33 34.7	-2.0
URSC	Urasca	3.51	111⇑	eP	Pn	01 33 39.5	+0.4
BUS	Buena Vista	3.64	115	eP	Pn	01 33 41.3	+0.3

*IDC **10** 01:44:01.1±2.7, 12.12N×85.92W, mb3.5/2, mb1 4.0/2, mb1mx3.6/18, Error ellipse: s-maj=214.0km s-min=51.5km az=48.0*
*CASC **10** 01:44:01.5±3.7, 11.08N×87.15W, h20^{km}±27^{km}, MD4.4, mb3.9(NEIC)*
*NEIC **10** 01:44:03.6±6.1, 11.87N×86.07W, h25^{km}±50^{km}, mb3.9/4, Error ellipse: s-maj=98.0km s-min=11.4km az=50.0*
ISC 10 01:44:02.0±0.7**, 11.03N**±0.04×**87.16W**±0.06**, h33**^{km}**, n34,** σ**1**^{s}**29**/37**, mb3.6**/6**, 10C-7D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
COPN	Copaltepe	1.27	26⇓	eP	P	01 44 23.9	+0.4
COPN				eS	S	01 44 40.0	+0.4
TICN	Ticuantepe	1.35	42⇓	eP	P	01 44 24.2	-0.5
MASN	Masaya	1.37	46	eP	P	01 44 23.0	-2.0
XAVN	Gruta Xavier	1.38	36⇓	eP	P	01 44 25.0	-0.1
APON	Apoyo	1.39	51⇑	eP	P	01 44 24.3	-1.0
LEON	Leon	1.40	11⇑	eP	P	01 44 26.2	+0.8
MGAN	Managua	1.42	39⇑	eP	P	01 44 25.3	-0.5
MGAN				eS	S	01 44 38.0	-5.5
APYN	Apoyeque	1.43	34⇑	eP	P	01 44 25.8	-0.2
MIRN	Miramar	1.47	17	eP	P	01 44 27.0	+0.6
WILN	Americas 2	1.47	40⇑	eP	P	01 44 25.8	-0.6
WILN				eS	S	01 44 39.3	-5.4
MOMJ	Momotombo	1.50	24⇑	eP	P	01 44 26.7	-0.1
CNGN	Cerro Negro	1.53	17	eP	P	01 44 26.1	-1.1
VCR	Vista de Mar	1.75	121	eP	P	01 44 29.0	-1.5
PYTN	Playitas	1.84	36⇑	eP	P	01 44 31.0	-0.8
PYTN				eS	S	01 44 56.0	+1.8
LIM	Lima	1.90	100⇑	eP	P	01 44 30.4	-2.2
JTS	JuntasAbangare	2.29	109	eP	P	01 44 34.5	-3.7
JCR	Jicaral	2.33	120	eP	P	01 44 37.6	-1.2
FORC	Fortuna	2.51	103	eP	P	01 44 46.0	+4.6
CGA2	Cerro Gallo 2	2.84	111	eP	P	01 44 46.0	0.0
PRS1	Puriscal	2.99	110	eP	P	01 44 50.2	+2.0
LAJ	Bijagual	3.21	111⇑	eP	P	01 44 47.0	-4.2
SJS	Escuela Geolog	3.24	109	eP	P	01 44 53.7	+1.9
LCR2	La Lucha 2	3.36	112⇓	eP	P	01 44 53.8	+0.3
TRTC	Tortuguero	3.42	97⇑	eP	P	01 44 55.4	+1.1
ICR	Volcan Irazu	3.44	107⇓	eP	P	01 44 56.7	+2.1
URSC	Urasca	3.53	109⇓	eP	P	01 44 57.3	+1.4
BUS	Buena Vista	3.66	113⇓	eP	P	01 44 58.0	+0.4
LTX	Lajitas	23.85	322	P	P	01 49 15.4	+2.1
	1.2nm,0.6s,mb3.5						
TXAR	Lajitas Array	23.85	322	P	P	01 49 15.3	+2.0
	1.0nm,0.7s,mb3.4,baz=137,slow=10,SNR=18						
TXAR				PcP	PcP	01 53 00.2	+2.7
	0.4nm,0.7s,baz=146,slow=4.5,SNR=5.0						
WMOK	Wichita Mounta	25.87	338	P	P	01 49 29.8	-2.7
	3.0nm,1.0s,mb3.8						
SAML	Samuel	31.03	129	eP	P	01 50 17.1	-2.2
	1.2nm,0.7s,mb3.8						
SDCO	Great Sand Dun	31.28	331	P	P	01 50 20.5	-0.8
	0.9nm,0.5s,mb3.9						
PDAR	Pinedale Array	37.15	332	P	P	01 51 11.3	-0.3
	0.4nm,0.7s,mb3.4,baz=129,slow=9.5,SNR=4.1						
CMAR	Chiang Mai Arr	150.08	348	PKPbc	PKPdf	02 03 51.4	+6.2
	2.9nm,1.1s,baz=14,slow=3.7,SNR=7.1						

CASC 10 02:02:11.5±3.9**, 11.37N×86.69W, h20**^{km}±90^{km}**, MD3.9, 3C-2D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TICN	Ticuantepe	0.79	34	eP	Pb	02 02 27.0	+0.6
COPN	Copaltepe	0.81	6	eP	Pb	02 02 26.7	0.0
COPN				eS	Sb	02 02 37.0	-0.1
APON	Apoyo	0.81	48⇑	eP	Pb	02 02 26.7	-0.1
MGAN	Managua	0.88	29⇓	eP	Pb	02 02 27.8	-0.1
MGAN				eS	Sb	02 02 40.2	+1.0
APYN	Apoyeque	0.92	21	eP	Pb	02 02 28.5	0.0
APYN				eS	Sb	02 02 47.0	+6.7
WILN	Americas 2	0.92	32	eP	Pb	02 02 28.3	-0.4
MOMJ	Momotombo	1.04	8	eP	Pb	02 02 29.8	-0.8
LEON	Leon	1.05	349⇑	eP	Pb	02 02 30.2	-0.7
MIRN	Miramar	1.06	359⇓	eP	Pb	02 02 30.4	-0.6
MIRN				eS	Sb	02 02 45.4	+1.0
CNGN	Cerro Negro	1.12	359	eP	Pb	02 02 31.6	-0.4
CNGN				eS	Sb	02 02 48.4	+2.2
PYTN	Playitas	1.31	28	eP	Pn	02 02 31.9	-3.1
VCR	Vista de Mar	1.61	140	eP	Pn	02 02 37.1	-2.2
SOMN	Somoto	2.04	2⇑	eP	Pn	02 02 43.0	-2.3
JCR	Jicaral	2.17	134	eP	Pn	02 02 43.3	-3.8
CGA2	Cerro Gallo 2	2.56	122	eP	Pn	02 02 55.3	+2.4
PRS1	Puriscal	2.71	120	eP	Pn	02 02 55.0	0.0
LCR2	La Lucha 2	3.10	121	eP	Pn	02 03 02.0	+1.5
LCR2				eS	Sn	02 03 43.4	+6.2
URSC	Urasca	3.24	118	eP	Pn	02 03 01.6	-0.8
BUS	Buena Vista	3.40	122	eP	Pn	02 03 05.8	+1.1

*NEIC **10** 02:22:15.4, 19.15N×67.48W, h25^{km}, ML3.6(RSPR), After RSPR.*
RSPR 10 02:22:15.4, 19.15N×67.48W, h25^{km}±27^{km}**, MD3.4**/13**, MD3.4**/13**, 11C-3D, Mona Passage**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AGP	Aguadilla	0.81	156	eP	Pb	02 22 27.7	-3.0
MPR	Mayaguez	0.99	161⇑	eP	Pb	02 22 31.5	-2.3
MPR				eS	Sb	02 22 44.3	-2.2
LSP	Las Mesas	1.04	159⇓	eP	Pn	02 22 32.4	-2.2
LSP				eS	Sb	02 22 44.7	-3.3
LRS	Lares	1.05	145⇑	eP	Pn	02 22 31.7	-3.0
LRS				eS	Sb	02 22 45.4	-2.8
AOPR	Arecibo Observ	1.06	139⇑	eP	Pn	02 22 31.7	-3.2
AOPR				eS	Sb	02 22 45.3	-3.2
MGP	Maguayo	1.20	162⇑	eP	Pn	02 22 34.7	-2.1
MGP				eS	Sn	02 22 50.0	-2.5
PORP	Portuguez	1.36	144⇑	eP	Pn	02 22 36.7	-2.4
PORP				eS	Sn	02 22 53.3	-3.1
CELP	Cerrillos	1.37	141⇑	eP	Pn	02 22 36.8	-2.6
CELP				eS	Sn	02 22 52.8	-4.0
OBIP	Obispado Ponce	1.38	143⇑	eP	Pn	02 22 37.4	-2.0
OBIP				eS	Sn	02 22 54.1	-3.0
CSB	Colonia Sabana	1.52	124⇓	eP	Pn	02 22 38.7	-2.7
CSB				eS	Sn	02 22 57.4	-3.2
SJG	San Juan	1.64	129⇑	eP	Pn	02 22 40.6	-2.5
SJG				eS	Sn	02 23 00.4	-3.1
SJG	San Juan	1.64	129⇓	eP	Pn	02 22 40.5	-2.5
SJG				eS	Sn	02 22 59.8	-3.7
CBYP	Canovanas	1.77	119⇑	eP	Pn	02 22 42.6	-2.5
CBYP				eS	Sn	02 23 02.9	-4.2
HUMP	Col San Antoni	1.85	123⇑	eP	Pn	02 22 43.7	-2.4
HUMP				eS	Sn	02 23 06.3	-2.6
CPD	Cerro la Pandu	1.85	126⇑	eP	Pn	02 22 44.0	-2.3
CPD				eS	Sn	02 23 06.1	-3.0

MAN 10 02:25:27.8, 15.56N×119.99E, h46^{km}**, mb4.4, ML3.2, MS3.0, 1C, Luzon**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCZP	Santa Cruz	0.23	340	eP	P	02 25 37.1	+1.2
SCZP				eS	S	02 25 44.3	+2.6
BOLP	Bolinao	0.82	355	eP	P	02 25 44.7	+1.6
BOLP				eS	S	02 25 57.3	+2.9
BCPH	Baguio City Da	1.00	35⇑	iP	P	02 25 46.5	+0.9
BCPH				i S	S	02 26 01.6	+2.8
BALP	Baler	1.54	83	eP	P	02 25 52.2	-1.1
BALP				eS	S	02 26 11.0	-1.2
LUBP	Lubang	1.83	172	eP	P	02 25 58.2	+0.8
ABRA	Dolores	2.19	18	eP	P	02 26 03.2	+0.7
ABRA				eS	S	02 26 33.4	+4.8
CAUP	Cauayan	2.23	52	eP	P	02 26 05.2	+2.0
APYP	Conner	2.59	27	eP	P	02 26 06.8	-1.4
APYP				eS	S	02 26 42.7	+4.1

CASC 10 02:25:30.3±2.9**, 11.29N×86.90W, h20**^{km}±14^{km}**, MD3.6, ML3.0, 4C-3D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
COPN	Copaltepe	0.94	18⇑	eP	Pb	02 25 47.5	-0.2
TICN	Ticuantepe	0.98	41	eP	Pb	02 25 48.0	-0.5
XAVN	Gruta Xavier	1.02	33⇓	eP	Pb	02 25 48.5	-0.6
APON	Apoyo	1.02	52⇑	eP	Pb	02 25 47.7	-1.5
MGAN	Managua	1.06	37⇑	eP	Pb	02 25 48.9	-1.0
MGAN				eS	Sb	02 26 04.5	+1.1
	comp=N,334nm,0.3s						
APYN	Apoyeque	1.08	30	eP	Pb	02 25 49.4	-0.8
LEON	Leon	1.12	0⇓	eP	Pb	02 25 50.5	-0.4
MIRN	Miramar	1.16	9⇓	eP	Pb	02 25 51.0	-0.5
MIRN				eS	Sb	02 26 09.6	+3.4
MOMJ	Momotombo	1.17	17⇑	eP	Pb	02 25 50.5	-1.1
MOMJ				eS	Sb	02 26 05.8	-0.5
CNGN	Cerro Negro	1.22	9	eP	Pn	02 25 51.7	-0.7
CNGN				eS	Sb	02 26 10.2	+2.4
PYTN	Playitas	1.49	33	eP	Pn	02 25 54.7	-1.5
PYTN				eS	Sn	02 26 15.8	+0.6
VCR	Vista de Mar	1.70	133	eP	Pn	02 26 00.3	+1.1
SOMN	Somoto	2.14	7	eP	Pn	02 26 06.4	+0.9
JCR	Jicaral	2.26	129	eP	Pn	02 26 02.5	-4.8
CGA2	Cerro Gallo 2	2.70	118	eP	Pn	02 26 13.9	+0.3
PRS1	Puriscal	2.85	117	eP	Pn	02 26 20.1	+4.4
LCR2	La Lucha 2	3.23	118	eP	Pn	02 26 20.6	-0.6
LCR2				eS	Sn	02 27 01.1	+1.6
ICR	Volcan Irazu	3.28	113	eP	Pn	02 26 19.6	-2.2

MEX 10 02:40:11.6±0.7**, 16.18N×98.45W, h5**^{km}**, MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.38	55	eP	Pg	02 40 17.9	-1.3
PNIG				eS	Sg	02 40 24.2	-0.1
VHO	Vista Hermosa	1.87	61	eP	Pn	02 40 41.6	-3.0
VHO				eS	Sn	02 41 04.0	-4.9
OXX	Oaxaca	1.89	61	eP	Pn	02 40 41.5	-3.3
OXX				eS	Sn	02 41 05.0	-4.2
YAIG	Yautepec	2.73	348	eP	Pn	02 40 52.6	-4.4
YAIG				eS	Sn	02 41 25.9	-4.8
CMIG	Matias Romero	3.54	75	eP	Pn	02 41 06.6	-1.7
CMIG				eS	Sn	02 41 47.0	-4.1

*THE **10** 04:03:31.7, 39.71N×20.88E, h10^{km}, ML2.7*
*ATH **10** 04:03:32.1, 39.70N×20.84E, h5^{km}, MD3.1/3*
*CSEM **10** 04:03:32.0±0.2, 39.70N×20.87E, h5^{km}, ML2.7, Error ellipse: s-maj=4.4km s-min=3.0km az=157.0*
ISC 10 04:03:31.4±0.6**, 39.71N**±0.04×**20.84E**±0.04**, h5**^{km}**, n10,** σ**0**^{s}**87**/15**, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAN	Janina	0.06	172	ePG	Pg	04 03 32.1	-0.8
JAN				eSG	Sg	04 03 33.5	-0.3
MEV	Metsovon	0.31	77	ePg	Pg	04 03 37.1	-0.6
IGT	Igoumenitsa	0.43	245	ePg	Pg	04 03 40.3	+0.2
IGT				eSg	Sg	04 03 47.2	+1.3
KEK	Kerkira	0.80	270	ePB	Pb	04 03 47.7	+0.2
LKD	Levkas	1.02	188	ePg	Pg	04 03 50.8	-0.9
EVR	Evrytania	1.09	136	ePB	Pb	04 03 53.2	+0.8
FNA	Florina	1.15	21	ePg	Pg	04 03 53.1	-1.2
FNA				eSg	Sg	04 04 09.8	+0.2
LIT	Litokhoron	1.33	73	ePb	Pb	04 03 56.2	-0.2
LIT				eSb	Sb	04 04 15.1	+1.5
AGG	Agios Georgios	1.35	120	ePb	Pb	04 03 56.4	-0.4
AGG				eSb	Sb	04 04 15.5	+1.4
THR3	Thira Island,	4.88	131	ePn	Pn	04 04 46.0	-1.3

IDC 10 04:12:16.0±2.3**, 31.06S×178.35W, mb3.9**/3**, mb1 4.1**/3**, mb1mx3.9**/12**, Error ellipse: s-maj=58.5km s-min=49.1km az=40.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	42.78	268	P	P	04 20 15.2	-1.9
	1.0nm,0.8s,baz=106,slow=7.8,SNR=9.2						
WRA	Warramunga Arr	43.82	273	P	P	04 20 24.2	-1.5
	0.7nm,0.4s,baz=114,slow=7.7,SNR=10						
MAW	Mawson	71.59	201	P	P	04 23 38.8	-1.8
	1.0nm,0.6s,baz=129,slow=7.6,SNR=4.2						
FINES	FINESS Array B	145.65	339	PKPbc	PKPbc	04 31 55.0	-1.3
	1.0nm,0.6s,baz=45,slow=5.9,SNR=6.6						

CASC 10 04:12:55.5±3.0**, 10.84N×87.28W, h10**^{km}±53^{km}**, MD4.2, 1C-1D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
COPN	Copaltepe	1.50	27⇓	eP	Pn	04 13 21.7	-0.8
TICN	Ticuantepe	1.57	41	eP	Pn	04 13 22.9	-0.7
APON	Apoyo	1.60	48	eP	Pn	04 13 23.2	-0.9
XAVN	Gruta Xavier	1.60	36	eP	Pn	04 13 27.4	+3.4
LEON	Leon	1.61	14⇑	eP	Pn	04 13 24.3	+0.1
MGAN	Managua	1.65	38	eP	Pn	04 13 23.1	-1.6
MGAN				eS	Sn	04 13 46.2	+0.1
APYN	Apoyeque	1.66	33	eP	Pn	04 13 23.7	-1.2
MIRN	Miramar	1.69	19	eP	Pn	04 13 24.6	-0.7
WILN	Americas 2	1.70	39	eP	Pn	04 13 27.6	+2.3
MOMJ	Momotombo	1.72	25	eP	Pn	04 13 24.8	-1.0
CNGN	Cerro Negro	1.75	19	eP	Pn	04 13 25.5	-0.6
VCR	Vista de Mar	1.77	113	eP	Pn	04 13 25.3	-1.2
LAJ	Bijagual	3.26	107	eP	Pn	04 13 40.9	-6.8
LCR2	La Lucha 2	3.41	108	eP	Pn	04 13 49.1	-0.7
ICR	Volcan Irazu	3.50	104	eP	Pn	04 13 52.7	+1.5
TRTC	Tortuguero	3.52	94	eP	Pn	04 13 50.4	-1.0
URSC	Urasca	3.59	106	eP	Pn	04 13 52.4	-0.1
BUS	Buena Vista	3.70	110	eP	Pn	04 13 51.6	-2.3

*ATH **10** 04:18:30.3, 38.17N×20.68E, h19^{km}±3^{km}, MD3.4/4*
*NEIC **10** 04:18:30.3, 38.17N×20.68E, h19^{km}, MD3.4(ATH), After ATH.*
*CSEM **10** 04:18:31.7±0.3, 38.09N×20.74E, h2^{km}, MD3.4, Error ellipse: s-maj=7.2km s-min=4.5km az=36.0*
*THE **10** 04:18:33.5, 38.24N×20.85E, h10^{km}, ML2.9*
ISC 10 04:18:29.6±1.5**, 38.08N**±0.06×**20.72E**±0.07**, h1**^{km}±10^{km}**, n11,** σ**1**^{s}**06**/16**, Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.14	313	ePB	Pb	04 18 34.0	-0.8
VLS				eSB	Sb	04 18 37.0	-1.1
RLS	Riolos of Patr	0.59	92	ePB	Pb	04 18 41.1	-1.2
LKD	Levkas	0.63	355	ePg	Pg	04 18 42.0	-0.2
LKD				eSg	Sg	04 18 50.6	-0.1
EVR	Evrytania	1.19	45	ePN	Pn	04 18 52.3	-1.1
ITM	Ithomi	1.31	133	ePN	Pn	04 18 57.3	+2.3
IGT	Igoumenitsa	1.48	348	ePb	Pb	04 18 58.9	+1.2
IGT				eSb	Sb	04 19 18.9	+1.9
AGG	Agios Georgios	1.57	53	ePb	Pb	04 18 59.9	+0.7
AGG				eSb	Sb	04 19 19.4	-0.1
LKR	Lokris	1.88	72	ePN	Pn	04 19 03.9	+0.7
NSAL	Nisos Salamina	2.17	94	ePB	Pb	04 19 08.0	-1.4
LIT	Litokhoron	2.44	34	ePn	Pn	04 19 11.6	+0.3
FNA	Florina	2.75	10	ePn	Pn	04 19 16.1	+0.4
FNA				eSn	Sn	04 19 49.1	-0.9

IDC 10 04:43:29.9±2.1**, 6.67S×129.24E, mb3.7**/1**, mb1 3.9**/3**, mb1mx3.6**/12**, ML3.5**/2**, Error ellipse: s-maj=116.0km s-min=31.6km az=68.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.09	160	Pn	P	04 46 51.3	-2.0
	0.4nm,0.3s,baz=339,slow=13,SNR=3.7						
WRA				Sn	S	04 49 13.3	-18
	0.9nm,0.3s,baz=334,slow=22,SNR=8.9						
ASAR	Alice Springs	17.48	166	P	P	04 47 35.2	-1.7
	0.2nm,0.3s,baz=338,slow=9.1,SNR=9.3						
ASAR				S	S	04 50 37.2	-13
	0.2nm,0.3s,baz=353,slow=27,SNR=5.9						
MKAR	Makanchi Array	67.54	327	P	P	04 54 28.2	-2.1
	0.4nm,0.4s,baz=120,slow=7.8,SNR=6.4						

CASC 10 04:45:07.2±2.9**, 11.25N×86.95W, MD3.9, 3C-4D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
COPN	Copaltepe	0.99	21⇓	eP	Pb	04 45 26.6	-0.3
COPN				eS	Sg	04 45 43.3	+3.0
TICN	Ticuantepe	1.05	42⇑	eP	Pb	04 45 28.6	+0.6
TICN				eS	Sb	04 45 42.3	+0.2
XAVN	Gruta Xavier	1.08	34⇓	eP	Pb	04 45 26.7	-1.9
APON	Apoyo	1.09	52	eP	Pb	04 45 29.1	+0.4
APON				eS	Sb	04 45 50.0	+6.7
MGAN	Managua	1.13	37⇑	eP	Pb	04 45 27.3	-2.0
MGAN				eS	Sb	04 45 44.3	0.0
APYN	Apoyeque	1.14	31	eP	Pb	04 45 28.2	-1.3
APYN				eS	Sb	04 45 46.1	+1.3
LEON	Leon	1.16	3	eP	Pb	04 45 29.4	-0.5
LEON				eS	Sb	04 45 46.5	+1.1
MIRN	Miramar	1.21	11⇓	eP	Pb	04 45 29.9	-0.8
MIRN				eS	Sb	04 45 49.2	+2.5
MOMJ	Momotombo	1.22	19⇓	eP	Pb	04 45 29.7	-1.2
MOMJ				eS	Sb	04 45 49.1	+2.0
CNGN	Cerro Negro	1.27	11	eP	Pb	04 45 30.9	-0.8
CNGN				eS	Sb	04 45 50.0	+1.5
PYTN	Playitas	1.55	34	eP	Pn	04 45 33.7	-2.5
CGA2	Cerro Gallo 2	2.73	116	eP	Pn	04 45 54.8	+1.8
PRS1	Puriscal	2.88	116⇑	eP	Pn	04 45 54.8	-0.4
LAJ	Bijagual	3.10	116	eP	Pn	04 45 52.1	-6.2
LCR2	La Lucha 2	3.26	117	eP	Pn	04 46 00.8	+0.2

CASC 10 04:50:14.5±3.3**, 11.12N×87.08W, h24**^{km}±19^{km}**, MD4.3, 8C-5D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CRUN	El Crucero	1.15	42⇓	eP	Pn	04 50 34.8	-0.5
COPN	Copaltepe	1.16	24⇓	iP	Pn	04 50 35.4	-0.1
COPN				eS	Sb	04 50 51.9	+1.6
TICN	Ticuantepe	1.23	42	eP	Pn	04 50 35.6	-0.8
TICN				eS	Sb	04 50 53.4	+0.9
MASN	Masaya	1.25	47	eP	Pn	04 50 37.2	+0.4
XAVN	Gruta Xavier	1.26	36⇑	eP	Pn	04 50 36.4	-0.5
APON	Apoyo	1.27	51⇑	eP	Pn	04 50 35.5	-1.6
LEON	Leon	1.30	8⇑	eP	Pn	04 50 37.9	+0.4
MGAN	Managua	1.31	39	eP	Pn	04 50 36.7	-0.8
MGAN				eS	Sn	04 50 55.3	+0.9
APYN	Apoyeque	1.32	33	eP	Pn	04 50 37.1	-0.6
APYN				eS	Sn	04 50 56.1	+1.4
WILN	Americas 2	1.35	40⇑	eP	Pn	04 50 37.1	-1.1
MIRN	Miramar	1.36	15⇓	eP	Pn	04 50 38.4	+0.1
MOMJ	Momotombo	1.39	22⇑	eP	Pn	04 50 38.3	-0.4
MOMJ				eS	Sn	04 50 59.0	+2.6
CNGN	Cerro Negro	1.42	15⇑	eP	Pn	04 50 39.2	0.0
CRIN	San Cristobal	1.57	1	eP	Pn	04 50 40.4	-0.9
PYTN	Playitas	1.73	35⇑	iP	Pn	04 50 42.3	-1.3
PYTN				eS	Sn	04 51 04.2	-0.9
VCR	Vista de Mar	1.73	125	eP	Pn	04 50 41.4	-2.3
QUIN	Quiabu	2.10	18	eP	Pn	04 50 48.3	-0.6
CNCH	Conchagua	2.27	341	eP	Pn	04 50 52.5	+1.2
CNCH				eS	Sn	04 51 16.7	-2.1
CGA2	Cerro Gallo 2	2.80	113	eP	Pn	04 50 58.1	-0.8
PRS1	Puriscal	2.95	112	eP	Pn	04 51 01.5	+0.4
LCBS	La Ceiba	3.13	324	eS	Sn	04 51 40.0	-0.6
LFRS	El Faro	3.15	322	eS	Sn	04 51 41.1	-0.1
LAJ	Bijagual	3.17	113	eP	Pn	04 50 58.8	-5.3
LFU	La Fuente	3.28	323	eP	Pn	04 51 08.2	+2.4
LFU				eS	Sn	04 51 44.0	-0.4
LCR2	La Lucha 2	3.32	114⇑	eP	Pn	04 51 06.6	+0.2
TRTC	Tortuguero	3.35	99⇓	eP	Pn	04 51 04.0	-2.8
BOQS	Boqueron	3.37	321	eP	Pn	04 51 09.7	+2.7
BOQS				eS	Sn	04 51 48.2	+1.5
ICR	Volcan Irazu	3.39	109	eP	Pn	04 51 09.3	+2.0
URSC	Urasca	3.49	111⇓	eP	Pn	04 51 09.6	+0.9
BUS	Buena Vista	3.62	115	eP	Pn	04 51 10.5	-0.1
SBLS	San Blas	3.67	318	eS	Sn	04 51 52.8	-1.5

*MOS **10** 04:57:50.4±1.8, 51.61N×16.01E, h10km, mb4.0/1, Error ellipse: s-maj=12.8km s-min=6.1km az=79.4*
*NEIC **10** 04:57:50.7±0.4, 51.54N×16.16E, h5km, ML3.1(SZGRF), ML3.1(VIE), ML2.7(BRG), Error ellipse: s-maj=5.1km s-min=4.1km az=70.0*
*BGR **10** 04:57:50.9±0.7, 51.51N×16.14E, h1km, ML3.1/7, Error ellipse: s-maj=8.9km s-min=6.7km az=158.0*
*CSEM **10** 04:57:51.4±0.2, 51.51N×16.13E, h1km, ML3.3/5, Error ellipse: s-maj=2.6km s-min=2.1km az=33.0*
*IPEC **10** 04:57:51.1±0.3, 51.48N×16.15E, ML2.4/4, Error ellipse: s-maj=4.1km s-min=2.1km az=82.0*
*IDC **10** 04:57:52.4±0.8, 51.47N×15.91E, mb1 3.3/6, mb1mx3.2/22, ML2.9/6, Error ellipse: s-maj=13.7km s-min=7.4km az=101.0*
*PRU **10** 04:57:52.4, 51.43N×16.09E*
*WAR **10** 04:57:52.2, 51.48N×16.10E, ML3.1, Mining Induced*
ISC 10 04:57:49.9±0.5**, 51.44N**±0.03×**16.08E**±0.03**, n65, σ1§35**/118**, 3C-4D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.61**	**167**	*i* PG	**Pg**	**04 58 04.1**	**+2.0**
KSP				*e*SG	**Sg**	**04 58 13.1**	**+2.8**
KSP	**Ksiaz**	**0.61**	**167**	⇓*i*P	**Pg**	**04 58 04.1**	**+2.0**
KSP				*e*		04 58 18.0	
KSP	**Ksiaz**	**0.61**	**167**	⇓*i*Pg	**Pg**	**04 58 04.1**	**+2.0**
KSP				*e*Sg	**Sg**	**04 58 12.6**	**+2.3**
KSP				*e*		04 58 18.0	
KSP	**Ksiaz**	**0.61**	**167**	⇓*i*Pg	**Pg**	**04 58 04.1**	**+2.0**
KSP				*e*Sg	**Sg**	**04 58 12.6**	**+2.3**
KSP	**Ksiaz**	**0.61**	**167**	*e*Pg	**Pg**	**04 58 04.1**	**+2.0**
KSP				*e*Sg	**Sg**	**04 58 13.4**	**+3.1**
UPC	**Upice**	**0.93**	**183**	*e*PG	**Pg**	**04 58 10.1**	**+1.6**
DPC	**Dobruska-Polom**	**1.10**	**172**	*e*P	**Pg**	**04 58 12.9**	**+1.0**
DPC				*e*		04 58 27.9	
DPC				smax			
	comp=N,77nm,0.6s						
DPC	**Dobruska-Polom**	**1.10**	**172**	*e*PG	**Pg**	**04 58 12.9**	**+1.0**
DPC				*e*SG	**Sg**	**04 58 27.9**	**+1.4**
	comp=N,77nm,0.6s						
PVCC	**Panska Ves**	**1.32**	**227**	*e*PG	**Pg**	**04 58 17.2**	**+0.9**
BRG	**Berggiesshubel**	**1.46**	**248**	*e*Pn	**Pn**	**04 58 18.9**	**+1.3**
BRG				*e*Sg	**Sg**	**04 58 39.8**	**+1.3**
BRG	**Berggiesshubel**	**1.46**	**248**	*e*P	**Pn**	**04 58 18.2**	**+0.6**
BRG				*i*		04 58 39.8	
BRG	**Berggiesshubel**	**1.46**	**248**	*e*Pn	**Pn**	**04 58 18.2**	**+0.6**
BRG				*i* Pg	**Pg**	**04 58 19.5**	**+0.4**
BRG				*i* Sg	**Sg**	**04 58 39.8**	**+1.3**
BRG	**Berggiesshubel**	**1.46**	**248**	*i* Pg	**Pg**	**04 58 19.5**	**+0.4**
BRG				Sg	**Sg**	**04 58 39.8**	**+1.3**
PRU	**Pruhonice**	**1.75**	**215**	*e*P	**Pn**	**04 58 22.6**	**+0.9**
PRU						04 58 48.1	
PRU				smax			
	comp=N,36nm,0.4s						
PRU	**Pruhonice**	**1.75**	**215**	*e*PN	**Pn**	**04 58 22.6**	**+0.9**
PRU				PG	**Pg**	**04 58 24.4**	**-0.4**
PRU				*i* x	x	04 58 28.6	
PRU				*i* x	x	04 58 41.3	
PRU				SG	**Sg**	**04 58 48.1**	**-0.1**
	comp=N,36nm,0.4s						
RUE	**Ruedersdorf**	**1.77**	**307**	*e*Pn	**Pn**	**04 58 21.6**	**-0.4**
RUE				*e*S	**Sn**	**04 58 48.2**	**+2.7**
RUE	**Ruedersdorf**	**1.77**	**307**	*e*Pn	**Pn**	**04 58 21.6**	**-0.4**
RUE				*e*S	**Sn**	**04 58 48.2**	**+2.7**
MORC	**Moravsky Berou**	**1.91**	**150**	*e*Pn	**Pn**	**04 58 24.7**	**+0.7**
MORC				*e*S	**Sn**	**04 58 52.5**	**+3.4**
MORC	**Moravsky Berou**	**1.91**	**150**	*e*Pn	**Pn**	**04 58 24.7**	**+0.7**
MORC				*e*Sg	**Sg**	**04 58 51.3**	**-2.1**
	comp=N,30nm,0.4s						
MORC				*e*S	**Sn**	**04 58 52.5**	**+3.4**
RAC	**Raciborz**	**1.91**	**134**	*e*P	**Pn**	**04 58 28.0**	**+4.0**
RAC				*e*S	**Sn**	**04 58 54.0**	**+4.9**
CLL	**Collm**	**1.93**	**267**	*e*Pn	**Pn**	**04 58 24.5**	**+0.1**
CLL				*e*Sg	**Sg**	**04 58 54.1**	**-0.2**
CLL	**Collm**	**1.93**	**267**	*i* PN	**Pn**	**04 58 24.6**	**+0.2**
CLL				*i* PG	**Pg**	**04 58 27.2**	**-1.3**
CLL				*e*		04 58 32.0	
CLL				*i* SG	**Sg**	**04 58 53.6**	**-0.7**
CLL	**Collm**	**1.93**	**267**	*i* P	**Pn**	**04 58 24.6**	**+0.2**
CLL				*i*		04 58 53.6	
CLL	**Collm**	**1.93**	**267**	*i* Pn	**Pn**	**04 58 24.6**	**+0.2**
CLL				*i* Pg	**Pg**	**04 58 27.2**	**-1.3**
CLL				*i* Sg	**Sg**	**04 58 53.6**	**-0.7**
CLL	**Collm**	**1.93**	**267**	*i* Pg	**Pg**	**04 58 27.2**	**-1.3**
CLL				Sg	**Sg**	**04 58 54.1**	**-0.2**
OKC	**Ostrava-Krasne**	**2.07**	**140**	*e*PG	**Pg**	**04 58 30.5**	**-0.8**
OKC				*e*SG	**Sg**	**04 58 57.7**	**-1.3**
VRAC	**Vranov**	**2.16**	**171**	Pn	**Pn**	**04 58 30.0**	**+2.4**
	comp=N,1.5nm,0.3s,baz=336,slow=14,SNR=13						
VRAC				Lg		04 59 01.2	
	comp=N,1.9nm,0.3s,baz=241,slow=21,SNR=4.5						
VRAC	**Vranov**	**2.16**	**171**	P	**Pn**	**04 58 29.9**	**+2.3**
VRAC	**Vranov**	**2.16**	**171**	*e*Pn	**Pn**	**04 58 29.0**	**+1.4**
VRAC				*e*Sg	**Sg**	**04 59 00.3**	**-1.4**
	comp=N,16nm,0.4s						
KRUC	**Moravsky**	**2.39**	**175**	*e*Pn	**Pn**	**04 58 32.1**	**+1.2**
KRUC				*e*Sg	**Sg**	**04 59 06.6**	**-2.8**
	comp=N,15nm,0.4s						
TANN	**Tannenbergstha**	**2.51**	**247**	*e*Pn	**Pn**	**04 58 34.1**	**+1.5**
TANN				*e*Sg	**Sg**	**04 59 11.6**	**-1.8**
WERD	**Werda**	**2.58**	**249**	*e*Pn	**Pn**	**04 58 34.5**	**+0.8**
NKC	**Novy Kostel**	**2.60**	**244**	*e*P	**Pn**	**04 58 35.3**	**+1.4**
NKC				*e*		04 59 16.1	
NKC	**Novy Kostel**	**2.60**	**244**	*e*PN	**Pn**	**04 58 35.3**	**+1.4**
NKC				*e*PG	**Pg**	**04 58 41.6**	**-0.2**
NKC				*e*SG	**Sg**	**04 59 16.1**	**-0.3**
GUNZ	**Gunzen**	**2.60**	**247**	*e*Pn	**Pn**	**04 58 35.3**	**+1.3**
OJC	**Ojcow**	**2.66**	**116**	*e*PG	**Pg**	**04 58 42.0**	**-1.0**
OJC				*e*SG	**Sg**	**04 59 17.0**	**-1.4**
OJC	**Ojcow**	**2.66**	**116**	*e*Pg	**Pg**	**04 58 42.2**	**-0.8**
OJC				*e*Sg	**Sg**	**04 59 17.5**	**-0.8**
OJC	**Ojcow**	**2.66**	**116**	*e*Pg	**Pg**	**04 58 42.2**	**-0.8**
OJC				*e*Sg	**Sg**	**04 59 17.5**	**-0.8**
OJC				⇓((			
KHC	**Kasperske Hory**	**2.81**	**216**	*e*P	**Pn**	**04 58 37.9**	**+1.0**
KHC				*e*		04 59 22.9	
KHC	**Kasperske Hory**	**2.81**	**216**	*e*Pn	**Pn**	**04 58 37.9**	**+1.0**
KHC				*e*Pg	**Pg**	**04 58 43.9**	**-2.2**
KHC				*e*Sg	**Sg**	**04 59 22.9**	**-0.6**
KHC	**Kasperske Hory**	**2.81**	**216**	*e*PN	**Pn**	**04 58 37.9**	**+1.0**
KHC				*e*PG	**Pg**	**04 58 43.9**	**-2.2**
KHC				*e*SN	**Sn**	**04 59 12.0**	**0.0**
KHC				*e*SG	**Sg**	**04 59 22.9**	**-0.6**
MOX	**Moxa**	**2.93**	**256**	*e*Pn	**Pn**	**04 58 39.2**	**+0.6**
MOX	**Moxa**	**2.93**	**256**	*i* P	**Pn**	**04 58 39.8**	**+1.2**
MOX				Pg	**Pg**	**04 58 47.0**	**-1.4**
MOX				Sg	**Sg**	**04 59 26.0**	**-1.4**
MOX	**Moxa**	**2.93**	**256**	*e*Pn	**Pn**	**04 58 39.8**	**+1.2**
MOX				*e*Pg	**Pg**	**04 58 46.6**	**-1.8**
MOX				*e*Sg	**Sg**	**04 59 26.2**	**-1.2**
MOX	**Moxa**	**2.93**	**256**	*e*Pg	**Pg**	**04 58 46.6**	**-1.8**
GEC2	**GERESS Array S**	**3.01**	**211**	*e*Pn	**Pn**	**04 58 41.8**	**+2.0**
GEC2				*e*Sg	**Sg**	**04 59 28.8**	**-1.4**
GEC2	**GERESS Array S**	**3.01**	**211**	*e*Pn	**Pn**	**04 58 41.8**	**+2.0**
GEC2				*e*Sg	**Sg**	**04 59 28.8**	**-1.4**
GERES	**GERESS Array B**	**3.01**	**211**	Pn	**Pn**	**04 58 40.8**	**+1.0**
	comp=N,1.6nm,0.3s,baz=29,slow=12,SNR=57						
GERES				Pg	**Pg**	**04 58 47.2**	**-2.8**
	comp=N,2.8nm,0.3s,baz=29,slow=18,SNR=28						
GERES				Lg		04 59 27.1	
	comp=N,2.5nm,0.3s,baz=39,slow=26,SNR=5.9						
WET	**Wettzell**	**3.08**	**223**	*e*Pn	**Pn**	**04 58 41.6**	**+0.8**
WET	**Wettzell**	**3.08**	**223**	*e*Pn	**Pn**	**04 58 41.6**	**+0.8**
VKA	**Vienna**	**3.18**	**177**	⇑*i*PG	**Pg**	**04 58 52.0**	**-1.4**
VKA				*i* SG	**Sg**	**04 59 35.2**	**-0.6**
ZST	**Bratislava**	**3.31**	**168**	*e*SB	**Sb**	**04 59 36.8**	**+6.3**
NIE	**Niedzica**	**3.38**	**125**	*e*P	**Pn**	**04 58 55.5**	**+10**
NIE				*e*S	**Sn**	**04 59 41.0**	**+15**
GRA1	**Grafenberg Arr**	**3.56**	**242**	*e*Pn	**Pn**	**04 58 47.8**	**+0.3**
GRA1				*e*Sg	**Sg**	**04 59 46.5**	**-1.8**
GRA1	**Grafenberg Arr**	**3.56**	**242**	Pn	**Pn**	**04 58 47.8**	**+0.3**
GRA1				Sg	**Sg**	**04 59 46.5**	**-1.8**
GRF	**Grafenberg Arr**	**3.56**	**242**	*e*Pn	**Pn**	**04 58 47.8**	**+0.3**
GRF				*e*Sg	**Sg**	**04 59 46.5**	**-1.8**
BSD	**Bornholm Skovb**	**3.75**	**350**	*i* P	**Pn**	**04 58 47.8**	**-2.5**
BSD				*i* S	**Sn**	**04 59 27.7**	**-8.1**
MOA	**Molln**	**3.78**	**199**	⇑*i*PN	**Pn**	**04 58 51.7**	**+1.0**
MOA				*i* SG	**Sg**	**04 59 55.5**	**-0.3**
	comp=N,18nm,0.6s						
ARSA	**Arzberg**	**4.21**	**185**	⇑*i*PN	**Pn**	**04 58 58.0**	**+1.2**
ARSA				*i* SG	**Sg**	**05 00 03.3**	**-6.7**
	comp=N,15nm,0.7s						
AKASG	**Malin Array Be**	**8.32**	**90**	Pn	**P**	**04 59 53.0**	**-1.7**
	comp=N,1.0nm,0.3s,baz=279,slow=12,SNR=2.2						
AKASG	**Malin Array Be**	**8.32**	**90**	P	**P**	**04 59 52.9**	**-1.8**
HFS	**Hagfors**	**8.82**	**352**	Pn	**P**	**04 59 58.0**	**-3.7**
	comp=N,0.0nm,0.3s,baz=153,slow=16,SNR=4.5						
HFS	**Hagfors**	**8.82**	**352**	P	**P**	**04 59 57.9**	**-3.8**
NOA	**NORSAR Array B**	**10.00**	**346**	Pn	**P**	**05 00 13.4**	**-4.3**
	comp=N,0.1nm,0.3s,baz=163,slow=12,SNR=2.8						
FINES	**FINESS Array B**	**11.44**	**25**	Pn	**P**	**05 00 32.2**	**-5.3**
	comp=N,0.1nm,0.3s,baz=202,slow=10,SNR=5.3						
FINES				Sn	**S**	**05 02 30.4**	**-17**
	comp=N,0.1nm,0.3s,baz=203,slow=18,SNR=3.1						

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*IDC **10** 05:11:06.6±2.6, 18.06S×178.58W, h667km±32km, mb3.3/7, mb1 3.6/7, mb1mx3.4/13, Error ellipse: s-maj=40.1km s-min=12.6km az=156.0*
*NEIC **10** 05:11:07.1±4.1, 17.87S×178.70W, h671km±51km, mb4.2/2, Error ellipse: s-maj=29.3km s-min=21.1km az=102.0*
ISC 10 05:11:04.1±3.2**, 17.9S**±0.2×**178.7W**±0.1**, h648**km±40km**, n20, σ1§09**/16**, mb3.9**/9**, 4C, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.41**	**241**	P	**P**	**05 17 35.0**	**+0.4**
	6.4nm,0.6s,mb4.2,baz=91,slow=11,SNR=19						
WRAB	**Tennant Creek**	**44.36**	**260**	*e*P	**P**	**05 18 21.7**	**0.0**
WRA	**Warramunga Arr**	**44.37**	**260**	P	**P**	**05 18 22.0**	**+0.3**
	0.6nm,0.3s,mb3.4,baz=97,slow=7.7,SNR=17						
WRA				PcP	PcP	05 19 50.5	-0.6
	0.7nm,0.3s,baz=90,slow=3.8,SNR=5.6						
WRA				S	**S**	**05 24 11.2**	**-0.6**
	0.7nm,0.8s,baz=98,slow=12,SNR=4.3						
ASAR	**Alice Springs**	**44.54**	**254**	P	**P**	**05 18 22.8**	**-0.2**
	3.2nm,0.4s,mb4.0,baz=94,slow=7.3,SNR=40						
ASAR				PcP	PcP	05 19 50.5	-1.1
	1.7nm,0.4s,baz=104,slow=3.9,SNR=11						
ASAR				S	**S**	**05 24 14.6**	**+0.5**
	1.6nm,0.6s,baz=91,slow=15,SNR=16						
QSPA	**South Pole Qui**	**72.17**	**180**	*e*P	**P**	**05 21 24.1**	**-2.3**
	9.5nm,0.8s,mb4.3						
MAW	**Mawson**	**83.79**	**200**	P	**P**	**05 22 26.7**	**-1.3**
	2.2nm,0.5s,mb4.0,baz=139,slow=4.5,SNR=13						
ILAR	**Eielson Array**	**85.92**	**13**	P	**P**	**05 22 38.0**	**-0.3**
	0.6nm,0.4s,mb3.6,baz=240,slow=4.3,SNR=6.7						
LTX	**Lajitas**	**86.21**	**58**	*e*P	**P**	**05 22 40.5**	**0.0**
	2.3nm,0.6s,mb4.0						
TXAR	**Lajitas Array**	**86.21**	**58**	P	**P**	**05 22 41.0**	**+0.5**
	1.7nm,0.7s,mb3.8,baz=221,slow=5.9,SNR=30						
PDAR	**Pinedale Array**	**87.52**	**44**	P	**P**	**05 22 45.9**	**-0.4**
	0.7nm,0.7s,mb3.4,baz=217,slow=4.4,SNR=5.0						
SNAA	**Sanae**	**90.63**	**179**	⇑*i*	**P**	**05 22 57.3**	**-2.7**
VNA3	**Neumayer Olymp**	**90.78**	**176**	⇑*i*	**P**	**05 23 02.1**	**+1.4**
VNA2	**Neumayer--Watz**	**91.22**	**177**	⇑*i*	**P**	**05 23 04.0**	**+1.3**
VNA1	**Neumayer--Stat**	**91.45**	**177**	⇑*i*	**P**	**05 23 05.5**	**+1.7**
MKAR	**Makanchi Array**	**108.93**	**314**	PKiKP		05 28 22.0	
	0.4nm,0.8s,baz=198,slow=1.1,SNR=4.6						
MKAR	**Makanchi Array**	**108.93**	**314**	PKPdf		05 28 22.0	
ARCES	**ARCESS Array B**	**126.24**	**350**	PKP	PKPdf	05 28 54.9	+0.5
	3.8nm,0.8s,baz=18,slow=3.8,SNR=4.4						
FINES	**FINESS Array B**	**133.09**	**344**	PKP	PKPdf	05 29 07.1	-0.4
	1.9nm,0.9s,slow=1.9,SNR=4.1						
CLL	**Collm**	**145.38**	**347**	*e*PKP1	PKPbc	05 29 34.0	+3.2
GERES	**GERESS Array B**	**147.52**	**345**	PKPbc	PKPdf	05 29 39.2	+5.9
	0.6nm,0.7s,slow=4.0,SNR=5.6						

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*IDC **10** 05:23:38.2±1.2, 18.42S×178.35W, h636km±13km, mb3.6/13, mb1 3.7/14, mb1mx3.7/20, Error ellipse: s-maj=17.3km s-min=9.7km az=162.0*
*NEIC **10** 05:23:38.4±1.9, 18.40S×178.31W, h642km±22km, mb4.5/5, Error ellipse: s-maj=16.0km s-min=12.7km az=171.0*
ISC 10 05:23:36.3±1.8**, 18.4S**±0.1×**178.37W**±0.09**, h628**km±24km**, n37, σ1§08**/27**, mb4.3**/17**, 2C, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**17.72**	**102**	P	**P**	**05 27 09.1**	**-0.4**
	0.5nm,0.3s,baz=214,slow=9.9,SNR=3.7						
URZ	**Urewera**	**20.18**	**190**	P	**P**	**05 27 31.0**	**-0.9**
	3.6nm,0.3s,baz=157,slow=9.0,SNR=7.5						
URZ				S	**S**	**05 30 34.4**	**-6.7**
	10.0nm,0.9s,baz=198,slow=19,SNR=3.7						
RPZ	**Rata Peaks**	**26.77**	**197**	P	**P**	**05 28 28.9**	**-1.5**
	9.6nm,0.8s,mb4.5,baz=334,slow=1.9,SNR=6.9						
CTA	**Charters Tower**	**33.41**	**261**	P	**P**	**05 29 27.8**	**+0.9**
	1.6nm,0.3s,mb4.1,baz=85,slow=15,SNR=4.1						
PMG	**Port Moresby**	**34.58**	**280**	P	**P**	**05 29 37.9**	**+1.3**
	18nm,0.7s,mb4.8,baz=73,slow=5.7,SNR=8.5						
STKA	**Stephens Creek**	**38.43**	**242**	P	**P**	**05 30 09.5**	**+1.6**
	16nm,0.6s,mb4.7,baz=92,slow=9.9,SNR=41						
WRA	**Warramunga Arr**	**44.58**	**260**	P	**P**	**05 30 56.2**	**-0.4**
	4.0nm,0.4s,mb4.3,baz=97,slow=6.6,SNR=59						
WRA				PcP	PcP	05 32 25.4	-0.3
	2.0nm,0.3s,baz=90,slow=3.8,SNR=8.3						
WRA				S	**S**	**05 36 46.0**	**-3.0**
	0.8nm,0.6s,baz=97,slow=13,SNR=4.5						
ASAR	**Alice Springs**	**44.70**	**255**	P	**P**	**05 30 57.6**	**+0.1**
	12nm,0.4s,mb4.8,baz=93,slow=7.4,SNR=139						
ASAR				PcP	PcP	05 32 25.4	-0.7
	4.5nm,0.5s,baz=105,slow=3.7,SNR=14						
ASAR				ScP		05 35 20.0	
	0.8nm,0.8s,baz=100,slow=4.5,SNR=4.8						
ASAR				S	**S**	**05 36 49.3**	**-1.2**
	3.2nm,0.6s,baz=90,slow=15,SNR=34						
FITZ	**Fitzroy Crossi**	**52.99**	**261**	P	**P**	**05 31 58.4**	**-0.2**
	1.4nm,0.3s,mb3.8,baz=135,slow=6.8,SNR=13						
CASY	**Casey**	**65.71**	**205**	*e*P	**P**	**05 33 21.8**	**-0.2**
	17nm,1.0s,mb4.4						
MAT	**Matsushiro**	**68.32**	**323**	P	**P**	**05 33 36.5**	**-1.8**
MAT	**Matsushiro**	**68.32**	**323**	*e*P	**P**	**05 33 37.0**	**-1.3**
	13nm,0.8s,mb4.4						
QSPA	**South Pole Qui**	**71.66**	**180**	*e*P	**P**	**05 33 58.6**	**+1.5**
	26nm,0.8s,mb4.8						
YBH	**Yreka Blue Hor**	**78.88**	**39**	P	**P**	**05 34 37.9**	**+0.5**
	6.1nm,1.4s,mb3.8,baz=161,slow=4.7,SNR=3.5						
MAW	**Mawson**	**83.41**	**200**	P	**P**	**05 35 00.9**	**+1.0**
	5.9nm,0.5s,mb4.3,baz=126,slow=5.8,SNR=53						
LTX	**Lajitas**	**86.22**	**58**	*e*P	**P**	**05 35 15.2**	**+0.8**
	3.8nm,0.6s,mb4.2						
TXAR	**Lajitas Array**	**86.22**	**58**	P	**P**	**05 35 15.2**	**+0.8**
	4.6nm,0.8s,mb4.1,baz=222,slow=6.0,SNR=28						
ILAR	**Eielson Array**	**86.35**	**13**	P	**P**	**05 35 12.3**	**-1.8**
	1.6nm,0.4s,mb4.0,baz=235,slow=4.9,SNR=32						
PDAR	**Pinedale Array**	**87.68**	**43**	P	**P**	**05 35 20.6**	**-0.3**
	0.5nm,0.6s,mb3.5,baz=245,slow=3.2,SNR=4.8						
SNAA	**Sanae**	**90.11**	**179**		**P**	**05 35 31.1**	**-0.4**
SNAA	**Sanae**	**90.11**	**179**	*e*P	**P**	**05 35 30.5**	**-1.0**
	6.0nm,0.8s,mb4.5						
VNA3	**Neumayer Olymp**	**90.25**	**176**	⇑*i*	**P**	**05 35 36.6**	**+4.5**
VNA2	**Neumayer--Watz**	**90.69**	**177**		**P**	**05 35 38.0**	**+3.8**
VNA1	**Neumayer--Stat**	**90.92**	**177**	⇑*i*	**P**	**05 35 40.2**	**+5.0**
MKAR	**Makanchi Array**	**109.50**	**314**	PKiKP		05 40 56.5	
	0.4nm,0.4s,baz=185,slow=0.5,SNR=9.6						
BDFB	**Brasilia**	**120.55**	**122**	PKP	PKPdf	05 41 19.1	+0.4
	1.9nm,0.8s,baz=270,slow=2.4,SNR=3.2						
ARCES	**ARCESS Array B**	**126.80**	**350**	PKP	PKPdf	05 41 29.5	0.0
	7.8nm,1.1s,baz=27,slow=2.7,SNR=9.9						
FINES	**FINESS Array B**	**133.67**	**344**	PKP	PKPdf	05 41 41.1	-1.6
	7.5nm,1.1s,baz=66,slow=4.4,SNR=7.5						
FINES				SKPbc		05 44 14.7	
	4.9nm,1.0s,baz=27,slow=3.1,SNR=5.5						
NB2	**NORSAR Subarra**	**136.86**	**353**	PKP		05 41 40.4	
	1.8nm,1.0s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**136.86**	**353**	PKP	PKPdf	05 41 50.5	+1.9
	1.5nm,1.0s,baz=13,slow=4.1,SNR=4.3						
NOA				SKP		05 44 24.9	
	1.0nm,0.7s,baz=14,slow=4.4,SNR=4.6						
AKASG	**Malin Array Be**	**141.01**	**332**	PKP	PKPdf	05 41 55.4	-0.8
	1.3nm,0.8s,baz=44,slow=3.1,SNR=4.6						
BRTR	**Keskin Array B**	**145.15**	**314**	PKPbc	PKPbc	05 42 05.8	+1.0
	1.7nm,0.8s,baz=90,slow=2.5,SNR=5.2						
KSP	**Ksiaz**	**145.59**	**344**	*e*P	PKPdf	05 42 07.0	+2.9
CLL	**Collm**	**145.95**	**347**	*i* PKP1	PKPbc	05 42 07.6	+1.3
KHC	**Kasperske Hory**	**147.86**	**345**	*e*P	PKPdf	05 42 12.5	+4.7
GERES	**GERESS Array B**	**148.09**	**345**	PKPbc	PKPdf	05 42 13.6	+5.4
	1.0nm,0.6s,baz=35,slow=3.5,SNR=9.7						
DBIC	**Dimbokro**	**166.74**	**151**	PKP	PKPdf	05 42 32.3	+0.7
	13nm,1.2s,baz=180,slow=12,SNR=3.6						
DBIC				PKPab	PKPab	05 43 41.1	+0.1
	3.0nm,1.0s,baz=224,slow=17,SNR=4.1						

GUC 10 05:24:16.6±0.8**, 33.92S**×**71.41W, h43**km±2km**, MD3.9, ML3.5, 11C-9D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.04**	**182**	⇑*i*P	P	05 24 23.6	+0.3
LLCH	**Llolleo**	**0.35**	**330**	⇑*i*P	P	05 24 24.3	-1.4
LLCH				*i* S	S	05 24 31.3	-0.7
LLCH				AMP		05 24 31.9	
	comp=N,8μm,0.1s						
LCCH	**Las Cruces**	**0.46**	**343**	⇓*i*P	P	05 24 26.6	-0.3
TACH	**Talagante**	**0.47**	**57**	⇑*i*P	P	05 24 27.6	+0.5
TACH				*i* S	S	05 24 36.0	+1.5
CHCH	**Chadas Angostu**	**0.63**	**92**	⇑*i*P	P	05 24 29.9	+0.7
CHCH				*i* S	S	05 24 38.9	+0.6
RCDM	**Rinconada Maip**	**0.66**	**50**	*e*P	P	05 24 29.4	-0.1
RCDM				*i* S	S	05 24 39.6	+0.6
RCDM				AMP		05 24 40.5	
	comp=N,8μm,0.2s						
CACH	**El Canelo**	**0.70**	**107**	⇓*i*P	P	05 24 31.4	+1.2
CACH				*i* S	S	05 24 41.8	+1.8
ANTU	**Antumapu**	**0.73**	**62**	*i* P	P	05 24 31.1	+0.6
ANTU				*i* S	S	05 24 42.1	+1.3
ANTU				AMP		05 24 43.5	
	comp=N,4μm,0.2s						
SFDO	**San Fernando**	**0.77**	**155**	⇓*i*P	P	05 24 31.6	+0.5
SAN	**Santiago**	**0.78**	**54**	⇑*i*P	P	05 24 31.8	+0.6
SAN				*i* S	S	05 24 42.8	+0.9
SAN				AMP		05 24 44.5	
	comp=E,1μm,0.3s						
PCH	**Pirque**	**0.80**	**69**	⇑*i*P	P	05 24 32.1	+0.6
PCH				*i* S	S	05 24 43.5	+1.0
FSR	**Penalolen**	**0.85**	**60**	⇓*i*P	P	05 24 32.8	+0.5
FSR				*i* S	S	05 24 45.3	+1.5
FSR				AMP		05 24 48.7	
	comp=N,1μm,0.3s						
DSCH	**Colegio Aleman**	**0.87**	**54**	⇑*i*P	P	05 24 33.2	+0.7
DSCH				*i* S	S	05 24 45.1	+0.9
DSCH				AMP		05 24 49.5	
	comp=N,2μm,0.4s						
CLCH	**Cerro Calan**	**0.89**	**55**	⇓*i*P	P	05 24 33.5	+0.6
CLCH				*i* S	S	05 24 46.3	+1.5
CLCH				AMP		05 24 51.1	
	comp=N,2μm,0.6s						
CLCH				AMP		05 24 57.7	
	comp=E,2μm,0.4s						
IHA	**Instituto Hidr**	**0.91**	**348**	⇑*i*P	P	05 24 33.0	0.0
IHA				*i* S	S	05 24 45.7	+0.5
CICH	**Cipreses**	**0.91**	**116**	⇑*i*P	P	05 24 33.7	+0.6
CICH				*i* S	S	05 24 46.6	+1.3
PEL	**Peldehue**	**0.98**	**38**	⇑*i*P	P	05 24 35.0	+0.9
PEL				*i* S	S	05 24 48.1	+1.2
LMEL	**Las Melosas**	**1.00**	**87**	⇓*i*P	P	05 24 35.2	+0.7
LMEL				*i* S	S	05 24 49.3	+1.7
LMEL				AMP		05 24 52.2	
	comp=N,4μm,0.2s						
FCH	**Farellones**	**1.10**	**58**	⇓*i*P	P	05 24 36.5	+0.7
FCH				*i* S	S	05 24 52.0	+1.9
FCH				AMP		05 24 52.8	
	comp=E,3μm,0.2s						
PACH	**Papudo**	**1.37**	**359**	⇑*i*P	P	05 24 40.1	+0.3
PACH				*i* S	S	05 24 58.6	+1.6
JACH	**Jahuel**	**1.41**	**29**	⇓*i*P	P	05 24 40.8	+0.6
JACH				*i* S	S	05 24 59.3	+1.5
TALC	**Talca**	**1.49**	**187**	⇓*i*P	P	05 24 41.7	+0.3
TALC				*i* S	S	05 25 00.9	+1.0
TALC				AMP		05 25 03.3	
	comp=N,3μm,0.1s						

CASC 10 05:29:27.1±2.4**, 11.03N**×**86.96W, h21**km±12km**, MD4.0, ML3.5, 1C, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	**El Crucero**	**1.15**	**34**	*e*P	Pn	05 29 48.0	-0.1
COPN	**Copaltepe**	**1.20**	**18**	*e*P	Pn	05 29 48.5	-0.4
COPN				*e*S	Sb	05 30 05.2	+1.1
TICN	**Ticuantepe**	**1.23**	**36**	*e*P	Pn	05 29 48.6	-0.6
MASN	**Masaya**	**1.24**	**40**	*e*P	Pn	05 29 46.1	-3.3
APON	**Apoyo**	**1.24**	**45**	*e*P	Pn	05 29 48.8	-0.7
XAVN	**Gruta Xavier**	**1.27**	**29**	*e*P	Pn	05 29 49.2	-0.7
MGAN	**Managua**	**1.31**	**32**	*e*P	Pn	05 29 49.8	-0.6
MGAN				*e*S	Sb	05 30 07.6	+0.3
	comp=E,904nm,0.6s						
APYN	**Apoyeque**	**1.34**	**27**	*e*P	Pn	05 29 50.1	-0.7
WILN	**Americas 2**	**1.36**	**34**	*e*P	Pn	05 29 50.2	-0.9
WILN				*e*S	Sn	05 30 04.2	-4.3
LEON	**Leon**	**1.38**	**3**	*e*P	Pn	05 29 51.1	-0.3
MIRN	**Miramar**	**1.42**	**10**	*e*P	Pn	05 29 51.5	-0.5
MOMJ	**Momotombo**	**1.43**	**17**	*e*P	Pn	05 29 51.4	-0.7
CNGN	**Cerro Negro**	**1.48**	**10**	*e*P	Pn	05 29 52.3	-0.6
CNGN				*e*S	Sn	05 30 13.3	+1.5
VCR	**Vista de Mar**	**1.59**	**124**	*e*P	Pn	05 29 52.6	-1.8
PYTN	**Playitas**	**1.74**	**31**	*e*P	Pn	05 29 55.5	-1.1
PYTN				*e*P		05 29 56.0	
JCR	**Jicaral**	**2.17**	**123**	*e*P	Pn	05 30 00.8	-1.9
JCR				*e*S	Sn	05 30 24.0	-5.1
CGA2	**Cerro Gallo 2**	**2.66**	**112**	*e*P	Pn	05 30 09.2	-0.4
PRS1	**Puriscal**	**2.81**	**112**	*e*P	Pn	05 30 11.8	0.0
LAJ	**Bijagual**	**3.03**	**112**	*e*P	Pn	05 30 09.3	-5.6
LCR2	**La Lucha 2**	**3.18**	**113**	⇑*e*P	Pn	05 30 17.8	+0.7
TRTC	**Tortuguero**	**3.23**	**98**	*e*P	Pn	05 30 15.1	-2.7
ICR	**Volcan Irazu**	**3.25**	**108**	*e*P	Pn	05 30 20.2	+2.1
URSC	**Urasca**	**3.35**	**110**	*e*P	Pn	05 30 20.0	+0.4
BUS	**Buena Vista**	**3.48**	**115**	*e*P	Pn	05 30 21.7	+0.4

PRE 10 05:30:42.8±1.0**, 32.71S**×**18.19E, h5**km**, ML3.6, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CER	**Ceres**	**1.13**	**125**	*e*P	Pb	05 31 03.0	-1.5
CER				*e*S	Sb	05 31 18.4	-0.9
CER				*e*		05 31 20.4	
	comp=Z,2μm,0.2s						
CVNA	**Calvinia**	**1.81**	**48**	*e*P	Pn	05 31 14.6	-0.4
CVNA				*e*S	Sn	05 31 37.2	-1.4
CVNA				*e*		05 31 43.5	
	comp=Z,687nm,0.3s						
UPI	**Upington**	**5.08**	**32**	*e*P	Pn	05 31 55.3	-6.2
UPI				*e*S	Sn	05 33 14.6	+13
UPI				*e*		05 33 25.1	
	comp=Z,20nm,0.8s						
GRM	**Grahamstown**	**7.07**	**97**	*e*S	Sn	05 33 53.5	+2.3
BOSA	**Boshof**	**7.33**	**58**	*e*P	Pn	05 32 27.8	-5.3
BOSA				*e*S	Sn	05 33 36.4	-21

CASC 10 05:39:13.6±2.2**, 12.63N**×**88.10W, h68**km±16km**, MD3.9, ML3.6, 12C-17D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.69**	**22**	⇑*e*P	P	05 39 28.4	-0.1
CNCH				*e*S	S	05 39 40.6	+1.1
VSM	**San Miguel**	**0.81**	**348**	*e*P	P	05 39 30.7	+0.9
VSM				*e*S	S	05 39 43.9	+2.0
BLLM	**Bellamira**	**0.82**	**351**	⇑*e*P	P	05 39 30.0	0.0
BLLM				*e*S	S	05 39 42.5	+0.4
CRIN	**San Cristobal**	**1.03**	**86**	⇓*e*P	P	05 39 33.9	+1.2
CRIN				*e*S	S	05 39 48.4	+1.6
CAHU	**Cacacuatique**	**1.14**	**355**	⇑*e*P	P	05 39 35.3	+1.2
CAHU				*e*S	S	05 39 50.0	+0.6
LEON	**Leon**	**1.20**	**100**	⇓*e*P	P	05 39 34.9	0.0
LEON				*e*S	S	05 39 50.0	-0.8
SNVI	**San Vicente**	**1.21**	**324**	⇑*e*P	P	05 39 35.3	+0.2
SNVI				*e*S	S	05 39 51.6	+0.5
LCBS	**La Ceiba**	**1.33**	**320**	⇓*i*P	P	05 39 36.8	0.0
LCBS				*e*S	S	05 39 53.9	0.0
LFRS	**El Faro**	**1.36**	**317**	⇓*i*P	P	05 39 37.3	+0.1
LFRS				*e*S	S	05 39 55.2	+0.6
MIRN	**Miramar**	**1.37**	**98**	⇑*e*P	P	05 39 37.5	+0.1
MIRN				*e*S	S	05 39 54.4	-0.6
CNGN	**Cerro Negro**	**1.38**	**95**	*e*P	P	05 39 37.5	+0.1
CNGN				*e*S	S	05 39 55.9	+0.8
LBRS	**Las Brisas**	**1.43**	**320**	⇑*e*P	P	05 39 38.2	+0.1
LBRS				*e*S	S	05 39 56.3	+0.1
LFU	**La Fuente**	**1.48**	**319**	⇓*e*P	P	05 39 39.0	+0.1
LFU				*e*S	S	05 39 58.6	+1.1
SNET	**Serv Nac Est T**	**1.52**	**314**	*e*P	P	05 39 39.5	+0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNET				eS	S	05 39 58.2	-0.1
SNET				i		05 40 04.2	
	comp=Z,822nm,0.3s						
COPN	Copaltepe	1.54	107	⇑eP	P	05 39 39.6	0.0
COPN				eS	S	05 39 58.4	-0.5
MOMJ	Momotombo	1.54	98	⇓eP	P	05 39 39.8	+0.2
MOMJ				eS	S	05 39 59.0	+0.2
BOQS	Boqueron	1.59	314	⇓eP	P	05 39 40.6	+0.4
BOQS				eS	S	05 40 00.1	+0.3
SOMN	Somoto	1.65	61	⇓eP	P	05 39 42.5	+1.4
SOMN				eS	S	05 40 03.9	+2.6
QUIN	Quiabu	1.72	73	⇓eP	P	05 39 41.6	-0.4
QUIN				eS	S	05 40 03.0	+0.1
APYN	Apoyeque	1.76	103	eP	P	05 39 42.7	+0.2
APYN				eS	S	05 40 04.0	+0.1
XAVN	Gruta Xavier	1.80	105	⇓eP	P	05 39 43.2	+0.1
XAVN				eS	S	05 40 01.0	-3.9
CRUN	El Crucero	1.88	110	eP	P	05 39 44.5	+0.4
CRUN				eS	S	05 40 07.2	+0.5
MGAN	Managua	1.88	105	⇑eP	P	05 39 44.2	0.0
MGAN				eS	S	05 40 06.8	+0.2
SBLS	San Blas	1.91	309	⇓iP	P	05 39 45.0	+0.5
SBLS				eS	S	05 40 07.7	+0.3
SNJE	San Jose	1.91	310	⇓eP	P	05 39 44.8	+0.2
SNJE				eS	S	05 40 08.9	+1.4
TICN	Ticuantepe	1.92	108	⇓eP	P	05 39 45.2	+0.4
TICN				eS	S	05 40 07.9	+0.1
WILN	Americas 2	1.93	104	⇑eP	P	05 39 44.9	0.0
WILN				eS	S	05 40 07.6	-0.3
RTR	El Retiro	1.96	310	⇓eP	P	05 39 45.8	+0.5
RTR				eS	S	05 40 07.4	-1.3
PYTN	Playitas	2.00	92	⇓eP	P	05 39 45.0	-0.8
PYTN				eP		05 39 45.3	
APON	Apoyo	2.11	109	eP	P	05 39 47.4	-0.1
MTO2	Montecristo 2	2.14	325	⇓iP	P	05 39 47.7	-0.2
MTO2				eS	S	05 40 13.5	+0.3
JCR	Jicaral	4.03	133	⇑eP	P	05 40 13.8	-0.6
JCR				eS	S	05 40 56.2	-4.4
CGA2	Cerro Gallo 2	4.41	126	eP	P	05 40 18.6	-1.1
PRS1	Puriscal	4.55	125	eP	P	05 40 20.9	-0.7
TRTC	Tortuguero	4.76	115	⇑eP	P	05 40 22.1	-2.5
LAJ	Bijagual	4.78	125	eP	P	05 40 20.5	-4.3
LCR2	La Lucha 2	4.94	125	⇑eP	P	05 40 26.8	-0.3
LCR2				eS	S	05 41 23.0	-0.5
ICR	Volcan Irazu	4.95	122	eP	P	05 40 30.6	+3.4
URSC	Urasca	5.07	123	⇓eP	P	05 40 30.7	+1.9
BUS	Buena Vista	5.25	125	eP	P	05 40 31.4	+0.2
BUS				eS	S	05 41 27.2	-3.9
ACR	Cerro Adams	6.26	129	eP	P	05 40 45.2	0.0

IDC 10 05:51:40.4±1.4**, 0.22S**×**124.36E, mb3.9**/4**, mb1 4.1**/5**, mb1mx3.8**/16**, ML3.8**/1**, Error ellipse: s-maj=117.0km s-min=22.5km az=65.0, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	17.81	176	P	P	05 55 49.7	-1.7
	0.3nm,0.3s,baz=8.1,slow=7.5,SNR=14						
WRA	Warramunga Arr	21.90	154	P	P	05 56 34.6	-2.5
	2.5nm,0.6s,baz=330,slow=11,SNR=15						
ASAR	Alice Springs	25.08	159	P	P	05 57 07.2	-1.1
	3.6nm,0.8s,baz=342,slow=7.1,SNR=46						
ASAR				PcP	PcP	06 00 41.9	-2.0
	0.2nm,0.4s,baz=356,slow=2.1,SNR=3.9						
STKA	Stephens Creek	35.45	154	P	P	05 58 38.5	-2.0
	0.7nm,0.4s,baz=332,slow=12,SNR=4.9						
MKAR	Makanchi Array	59.52	328	P	P	06 01 45.3	-2.6
	0.4nm,0.4s,baz=125,slow=7.5,SNR=7.1						

NIED ***10*** *05:54:00, 33.10N×137.00E, h20^{km}, Mw3.7 Best double couple: $M_0$3.46×10^{14} NP1:ϕ_s69°, δ46°, λ95°. NP2:ϕ_s241°, δ45°, λ85°.*

JMA ***10*** *05:54:22.6±0.1, 33.15N×137.02E, h41^{km}±3^{km}, M4.0*

ISC 10 05:54:22.6±0.8**, 33.16N**±0.06×**137.03E**±0.03**, h48**^{km}±20^{km}**, n16, σ0^{s}64**/31**, 9D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TK01	Tokai 1	0.76	38	P	P	05 54 37.2	0.0
TK01				S	S	05 54 47.5	-0.4
TK02	Tokai 2	0.99	38	⇓P	P	05 54 40.6	+0.2
TK02				S	S	05 54 53.5	0.0
JWZ	Kozaga	1.16	289	⇓P	P	05 54 42.7	0.0
JWZ				S	S	05 54 56.6	-1.1
JIE	Ise	1.26	348	⇓P	P	05 54 44.7	+0.6
JIE				S	S	05 55 00.2	0.0
TK03	Tokai 3	1.27	38	P	P	05 54 44.5	+0.2
TK03				S	S	05 55 00.6	+0.1
TK04	Tokai 4	1.41	30	⇓P	P	05 54 46.8	+0.4
TK04				S	S	05 55 03.8	-0.2
JWM	Minabe	1.56	297	⇓P	P	05 54 48.6	+0.1
JWM				S	S	05 55 06.7	-0.9
JWY	Kouya	1.59	312	⇓P	P	05 54 49.8	+0.8
JWY				S	S	05 55 08.5	0.0
TSUJ	Tsu 2	1.62	342	⇓P	P	05 54 49.9	+0.5
TSUJ				S	S	05 55 09.3	0.0
JHE	Heguri	1.86	323	⇓P	P	05 54 53.4	+0.7
JHE				S	S	05 55 15.3	+0.2
SHZ3	Shizuoka 3	2.14	27	P	P	05 54 56.6	0.0
JAJ2	Tsuna	2.18	306	P	P	05 54 58.1	+0.8
JAJ2				S	S	05 55 23.3	+0.2
JIZS	Izushimoda	2.19	44	P	P	05 54 58.5	+1.2
JIZS				S	S	05 55 21.9	-1.3
JAI	Aioi	2.24	287	⇓P	P	05 54 58.4	+0.3
JAI				S	S	05 55 23.1	-1.6
JHJ2	Mitsune	2.34	90	P	P	05 54 59.5	0.0
JHJ2				S	S	05 55 26.1	-1.0
MAT	Matsushiro	3.51	16	P	P	05 55 16.9	+0.8
MAT				S	S	05 55 56.1	-0.7

IDC 10 05:59:50.3±3.3**, 30.24S**×**138.56E, ML2.2**/2**, Error ellipse: s-maj=88.6km s-min=15.4km az=45.0, South Australia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	3.08	123	Pn	Pn	06 00 40.8	-0.4
	0.2nm,0.3s,baz=324,slow=14,SNR=5.4						
STKA				Pg	Pg	06 00 47.0	-4.7
	0.5nm,0.3s,baz=298,slow=17,SNR=8.0						
STKA				Sn	Sn	06 01 16.3	-2.9
	0.8nm,0.3s,baz=256,slow=16,SNR=5.3						
STKA				Lg		06 01 26.9	
	baz=38,slow=19						
ASAR	Alice Springs	7.75	327	Pn	Pn	06 01 43.7	-3.3
	0.1nm,0.3s,baz=152,slow=13,SNR=7.9						
ASAR				Sn	Sn	06 03 13.8	-2.8
	baz=150,slow=22						
WRA	Warramunga Arr	10.94	339	Pn	P	06 02 29.1	-2.0
	baz=151,slow=12						
WRA				Sn	S	06 04 30.6	-4.8
	baz=160,slow=24						

IDC ***10*** *06:06:36.9±3.5, 11.63N×86.32W, mb3.3/3, mb1 3.8/3, mb1mx3.6/16, Error ellipse: s-maj=209.0km s-min=69.8km az=53.0*

CASC ***10*** *06:06:38.8±3.1, 11.05N×87.04W, h16^{km}±12^{km}, MD4.2*

ISC 10 06:06:38.2±1.2**, 10.91N**±0.07×**87.03W**±0.06**, h35**^{km}±12^{km}**, n23, σ1^{s}09**/31**, mb3.3**/3**, 6C-4D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
COPN	Copaltepe	1.33	19	⇓eP	P	06 07 00.6	-0.1
COPN				eS	S	06 07 16.8	-0.6
TICN	Ticuantepe	1.36	35	eP	P	06 07 00.6	-0.4
MASN	Masaya	1.37	39	⇓eP	P	06 07 02.4	+1.1
APON	Apoyo	1.38	43	⇑eP	P	06 07 00.4	-0.9
XAVN	Gruta Xavier	1.41	29	⇑eP	P	06 07 01.2	-0.6
MGAN	Managua	1.45	32	⇑eP	P	06 07 01.7	-0.6
MGAN				eS	S	06 07 21.8	+1.5
APYN	Apoyeque	1.47	27	eP	P	06 07 02.3	-0.4
WILN	Americas 2	1.49	33	eP	P	06 07 02.1	-0.8
LEON	Leon	1.50	5	⇑eP	P	06 07 03.5	+0.5
MIRN	Miramar	1.55	12	⇓eP	P	06 07 03.9	+0.1
MIRN				eS	S	06 07 23.6	+0.7
MOMJ	Momotombo	1.56	18	eP	P	06 07 03.7	-0.2
MOMJ				eS	S	06 07 24.3	+1.1
CNGN	Cerro Negro	1.61	12	⇑eP	P	06 07 04.4	-0.3
CNGN				eS	S	06 07 27.6	+3.1
PYTN	Playitas	1.88	30	⇑eP	P	06 07 07.2	-1.2
PYTN				eS	S	06 07 31.0	-0.1
QUIN	Quiabu	2.28	15	eP	P	06 07 12.2	-2.0
CNCH	Conchagua	2.48	342	eP	P	06 07 17.9	+0.8
CNCH				eS	S	06 07 45.1	-1.3
BLLM	Bellamira	2.78	335	eP	P	06 07 22.2	+0.9
LCBS	La Ceiba	3.33	325	⇓eP	P	06 07 30.2	+1.1
LCBS				eS	S	06 08 05.8	-2.2
LFRS	El Faro	3.35	324	eP	P	06 07 30.6	+1.1
LFRS				eS	S	06 08 06.0	-2.5
SBLS	San Blas	3.86	319	eP	P	06 07 37.9	+1.2
TXAR	Lajitas Array	24.03	322	P	P	06 11 53.0	+2.0
	0.6nm,0.4s,mb3.3,baz=147,slow=9.0,SNR=10						
TXAR				PcP	PcP	06 15 35.7	+1.9
	0.4nm,0.9s,baz=135,slow=5.3,SNR=3.7						
PDAR	Pinedale Array	37.32	332	P	P	06 13 48.8	-0.2
	0.2nm,0.5s,mb3.2,baz=131,slow=9.6,SNR=1.9						
NVAR	Mina Array Bea	39.13	320	PcP	PcP	06 16 17.3	+3.4
	0.2nm,0.4s,baz=124,slow=5.3,SNR=3.7						
ILAR	Eielson Array	67.59	336	P	P	06 17 32.0	-1.0
	0.2nm,0.4s,mb3.5,baz=143,slow=4.7,SNR=4.2						

IDC 10 06:43:19.2±9.8**, 31.88S**×**178.41W, h67**^{km}±93^{km}**, mb3.6**/2**, mb1 3.9**/3**, mb1mx3.6**/13**, ML3.8**/1**, MS2.5**/1**, Ms1 2.5**/1**, ms1mx2.4**/17**, Error ellipse: s-maj=78.2km s-min=57.1km az=160.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.35	209	P	P	06 45 03.8	-2.3
	1.5nm,0.3s,baz=104,slow=1.5,SNR=9.1						
URZ				S	S	06 46 26.2	-2.5
	1.5nm,0.3s,baz=260,slow=23,SNR=8.1						
URZ				LR	LR	06 47 10.3	
	comp=Z,36nm,18.6s,baz=205,slow=32						
ASAR	Alice Springs	42.70	269	P	P	06 51 09.7	-1.6
	0.8nm,0.7s,baz=103,slow=7.5,SNR=14						
WRA	Warramunga Arr	43.82	274	P	P	06 51 18.7	-1.8
	1.0nm,0.4s,baz=116,slow=7.6,SNR=6.5						
FINES	FINESS Array B	146.40	339	PKPbc	PKPbc	07 02 51.0	-0.7
	1.7nm,0.8s,baz=27,slow=3.1,SNR=6.8						

IDC 10 06:50:50.5±1.4**, 18.83S**×**65.25E, mb4.0**/5**, mb1 4.1**/5**, mb1mx3.9**/18**, Error ellipse: s-maj=93.5km s-min=28.6km az=98.0, Mauritius - Reunion region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MAW	Mawson	48.78	181	P	P	06 59 36.8	-2.1
	1.6nm,0.7s,baz=14,slow=10,SNR=5.5						
CMAR	Chiang Mai Arr	49.68	44	P	P	06 59 44.3	-2.1
	0.7nm,0.4s,baz=225,slow=6.1,SNR=4.0						
MKAR	Makanchi Array	67.10	13	P	P	07 01 45.9	-2.1
	1.7nm,1.0s,baz=198,slow=7.7,SNR=5.7						
BVAR	Borovoye Array	71.69	3	P	P	07 02 13.7	-2.3
	2.2nm,0.9s,baz=169,slow=7.6,SNR=7.2						
ZAL	Zalesovo	74.39	12	P	P	07 02 30.2	-1.7
	0.8nm,0.6s,baz=190,slow=8.1,SNR=4.5						

BJI ***10*** *06:52:37.3, 6.90S×130.77E, h84^{km}, mB5.8, mb5.8, Ms4.9, Msz4.4*

MOS ***10*** *06:52:38.0±1.2, 6.59S×130.36E, h61^{km}, mb5.9/25, MS4.4/5, Error ellipse: s-maj=15.2km s-min=8.6km az=100.8*

HRVD ***10*** *06:52:39.8±0.2, 6.75S×130.48E, h94^{km}±1^{km}, MW5.5/83, Centroid moment Tensor Solution. LP body waves: s67,c118; Mantle waves: s83,c169; Half duration: 1^{s}3 Moment tensor: Scale 10^{17}Nm; M_{rr}1.20±.03; $M_{\theta\theta}$-1.34±.03; $M_{\phi\phi}$0.14±.04; $M_{r\theta}$0.69±.03; $M_{\theta\phi}$0.94±.03; $M_{\phi r}$0.53±.03; Best double couple: $M_0$1.81×10^{17} NP1: ϕ_s325°, δ47°, λ138°. NP2:ϕ_s87°, δ61°, λ52°. Principal axes: T 1.76, Plg56°, Azm305°; N .09, Plg33°, Azm108°; P -1.85, Plg8°, Azm203°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***10*** *06:52:39.8±0.7, 6.69S×130.44E, h69^{km}±5^{km}, mb5.7/41, MW5.5 Error ellipse: s-maj=4.3km s-min=3.5km az=205.0, Moment Tensor Solution. s8 Moment tensor: Scale 10^{17} Nm; M_{rr}0.31; $M_{\theta\theta}$0.15; $M_{\phi\phi}$-0.46; $M_{r\theta}$1.35; $M_{\theta\phi}$1.14; $M_{\phi r}$0.89; Best double couple: $M_0$1.8×10^{17} NP1:ϕ_s357°, δ55°, λ158°. NP2:ϕ_s100°, δ72°, λ37°. Principal axes: T 2.32, Plg39°, Azm324°; N -.96, Plg49°, Azm122°; P -1.36, Plg11°, Azm225°;*

SYO ***10*** *06:52:39, 6.67S×130.43E, h62^{km}, MB5.7*

IDC ***10*** *06:52:44.8±1.5, 6.76S×130.39E, h111^{km}±12^{km}, mb5.3/19, mb1 5.3/22, mb1mx5.3/22, MS4.4/14, Ms1 4.4/14, ms1mx4.2/19, Error ellipse: s-maj=15.0km s-min=7.4km az=64.0*

DJA ***10*** *06:52:46.4±1.0, 6.54S×129.99E, h113^{km}±15^{km}, mb5.2/9, MD5.4/7, Error ellipse: s-maj=91.3km s-min=14.2km az=164.0*

ISC 10 06:52:40.3±0.7**, 6.79S**±0.03×**130.39E**±0.03**, h90**^{km}±6^{km}**, h87**^{km}±4.7^{km}**:pP-P, n530, σ1^{s}14**/311**, mb5.7**/92**, 72C-24D, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.16	202	P	P	06 55 26.9	-4.9
	262nm,0.3s,baz=20,slow=10,SNR=498						
FITZ				S	S	06 57 34.4	-12
	105nm,0.3s,baz=2.3,slow=23,SNR=5.2						
FITZ				LR	LR	07 00 39.9	
	comp=Z,2µm,21.5s,baz=51,slow=39						
WRAB	Tennant Creek	13.62	164	Pn	P	06 55 45.6	-5.4
	9µm,0.4s						
WRAB	Tennant Creek	13.62	164	ePn	P	06 55 44.7	-6.2
	1µm,0.4s						
WRAB				eSn	S	06 58 04.9	-16
WRA	Warramunga Arr	13.63	164	P	P	06 55 45.0	-6.1
	62nm,0.3s,baz=346,slow=13,SNR=396						
WRA				S	S	06 58 04.3	-16
	72nm,0.3s,baz=347,slow=22,SNR=15						
WRA				P3KPbc		07 31 33.9	
	0.3nm,0.3s,baz=165,slow=3.1,SNR=12						
GSPH	General Santos	13.89	337	eP	P	06 55 58.0	+3.5
MATI	Mati	14.25	343	eP	P	06 55 58.9	-0.3
KEDI	Kedomdong	14.25	262	⇑iP	P	06 55 58.3	-0.9
	500nm,0.4s						
KEDI				⇓iS	S	06 58 33.1	-2.3
DAV	Davao City (W)	14.58	341	eP	P	06 56 03.8	+0.4
KCP	Kidapawan	14.69	339	⇓eP	P	06 56 06.2	+1.4
RATI	Rata	14.85	262	⇑iP	P	06 56 07.8	+0.9
	786nm,0.3s						
RATI				⇓iS	S	06 58 44.5	-4.9
CTBH	Cotabato--PC H	15.21	336	eP	P	06 56 13.6	+2.2
BIPH	Bislig	15.40	345	⇑iP	P	06 56 16.9	+3.0
BUKP	Musuan	15.51	340	eP	P	06 56 15.5	+0.2
KELI	Kelakatan	15.83	264	⇓iP	P	06 56 20.7	+1.4
	393nm,0.4s						
KELI				⇑iS	S	06 59 07.1	-4.8
ZMPH	Zamboanga City	15.98	329	⇓eP	P	06 56 22.0	+0.8
	9µm,1.0s						
PAGZ	Pagadian	16.13	334	eP	P	06 56 24.2	+1.1
SRDI	Scrawed	16.19	263	⇑iP	P	06 56 23.8	-0.1
	555nm,0.2s						
SRDI				⇑eS	S	06 59 12.1	-8.1
WAU	Wau	16.21	93	eP	P	06 56 22.9	-1.2
BUTP	Butuan	16.36	343	eP	P	06 56 25.9	0.0
IPIL	Ipil	16.45	332	eP		06 56 58.4	
PMG	Port Moresby	16.80	100	P	P	06 56 30.0	-1.4
	9.5nm,0.3s,baz=287,slow=6.2,SNR=55						
PMG				S	S	06 59 22.8	-11
	3.7nm,0.3s,baz=190,slow=19,SNR=9.2						
PMG	Port Moresby	16.80	100	eP	P	06 56 30.1	-1.3
DCPH	Dipolog City	16.80	335	⇓eP	P	06 56 33.5	+2.1
ASAR	Alice Springs	17.12	169	P	P	06 56 31.2	-4.1
	74nm,0.3s,baz=347,slow=14,SNR=431						
ASAR				S	S	06 59 32.3	-8.8
	32nm,0.3s,baz=355,slow=28,SNR=7.6						
ASAR				LR	LR	07 03 59.2	
	comp=Z,2µm,19.9s,baz=341,slow=39						
ASAR				P3KPbc		07 31 21.4	
	0.1nm,0.3s,baz=156,slow=4.0,SNR=13						
ASAR				P4KP		07 40 31.4	
	0.1nm,0.3s,baz=350,slow=5.3,SNR=9.1						
SCPH	Surigao	17.17	343	⇓iP	P	06 56 37.6	+1.6
SNPH	Sibulan	17.54	336	⇑eP	P	06 56 41.5	+0.9
TBP	Tagbilaran	17.61	338	eP	P	06 56 41.6	0.0
MBWA	Marble Bar	17.62	215	ePn	P	06 56 39.2	-2.5
	1.2nm,0.7s						
MBWA				eSn	S	06 59 42.9	-9.4
MSLP	Maasin	17.69	342	eP	P	06 56 42.7	+0.2
LLP	Lapu-Lapu	18.16	339	⇓eP	P	06 56 49.1	+1.1
PLP	Palo	18.63	343	eP	P	06 56 53.2	-0.3
OCLP	Ormoc	18.63	342	eP	P	06 56 54.1	+0.6
BESP	Borongan	18.92	345	eP	P	06 56 56.3	-0.4
GUIM	Jordan	18.96	336	eP	P	06 56 56.8	-0.4
KKM	Kota Kinabalu	19.04	312	⇓eP	P	06 56 58.7	+0.6
	535nm,0.9s						
RCP	Roxas	19.75	337	⇓iP	P	06 57 05.7	+0.1
CUYO	Cuyo Island	19.85	332	eP	P	06 57 07.3	+0.6
BATP	Bataraza	19.93	321	eP	P	06 57 07.3	-0.2
CNP	Catarman	20.00	343	eP	P	06 57 06.3	-1.9
PPR	Puerto Princes	20.14	325	⇑eP	P	06 57 10.6	+0.9
CTA	Charters Tower	20.29	132	P	P	06 57 11.0	-0.2
	102nm,0.6s,baz=309,slow=12,SNR=177						
CTA				S	S	07 00 55.8	+7.1
	45nm,0.7s,baz=29,slow=18,SNR=3.4						
CTA				LR	LR	07 05 29.5	
	comp=Z,2µm,19.1s,baz=92,slow=38						
CTA	Charters Tower	20.29	132	P	P	06 57 11.0	-0.2
CTA				S	S	07 00 55.8	+7.1
CTA				LR	LR	07 05 29.5	
CTAO	Charters Tower	20.29	132	⇓eP	P	06 57 11.0	-0.2
	97nm,0.6s						
CTAO				eS	S	07 00 50.2	+1.5
CTAO				LR	LR		
	comp=Z,2µm,21.0s						
OTRP	Odiongan	20.76	336	eP	P	06 57 17.0	+0.9
PVCP	Virac	21.18	343	eP	P	06 57 20.5	+0.3
SJMP	San Jose	21.23	334	eP	P	06 57 22.1	+1.4
BUSP	Coron	21.24	331	eP	P	06 57 21.4	+0.5
AUQP	San Andres	21.40	339	eP	P	06 57 25.0	+2.6
BOAC	Boac	21.83	337	eP	P	06 57 28.0	+1.3
LQP	Lukban	22.54	337	eP		06 58 04.5	
LUBP	Lubang	22.74	334	eP	P	06 57 37.5	+1.8
TGY	Tagaytay City	22.77	336	i S	P	06 57 37.6	+1.6
POLP	Polilio Island	22.96	339	eP	P	06 57 38.3	+0.5
BALP	Baler	24.02	339	eP	P	06 57 47.8	-0.2
PASI	Pasiripis	24.63	269	⇑iP	P	06 57 53.7	-0.3
	comp=Z,568nm,0.3s,mb6.2						
SCZP	Santa Cruz	24.70	335	eP	P	06 57 53.7	-1.0
BCPH	Baguio City Da	24.98	337	⇑iP	P	06 57 57.6	+0.3
CAUP	Cauayan	25.05	340	eP	P	06 57 57.5	-0.5
PENI	Pendagan	25.10	271	⇓iP	P	06 57 58.4	-0.1
	comp=Z,67nm,0.3s,mb5.2						
BOLP	Bolinao	25.25	336	eP	P	06 57 58.4	-1.4
CVP	Callao Caves	25.76	341	⇑eP	P	06 58 04.2	-0.4
	comp=Z,40µm,1.5s						
ABRA	Dolores	26.09	339	eP	P	06 58 05.9	-1.8
APYP	Conner	26.10	340	eP	P	06 58 06.1	-1.7
STKA	Stephens Creek	27.07	159	P	P	06 58 15.7	-0.9
	comp=Z,32nm,0.4s,mb5.2,baz=331,slow=8.6,SNR=77						
STKA				PP	PP	06 58 52.1	-14
	comp=Z,116nm,0.7s,baz=312,slow=11,SNR=5.9						
STKA				S	S	07 02 44.4	-1.6
	comp=Z,23nm,0.8s,baz=149,slow=12,SNR=2.0						
STKA	Stephens Creek	27.07	159	eP	P	06 58 15.5	-1.0
STKA				eS	S	07 02 32.0	-14
NWAO	Narrogin (SRO)	28.74	203	P	P	06 58 32.0	+0.4
	comp=Z,17nm,0.5s,mb4.9,baz=42,slow=9.0,SNR=30						
NWAO				S	S	07 03 12.5	-0.4
	comp=Z,36nm,0.5s,baz=305,slow=15,SNR=2.5						
NWAO				LR	LR	07 11 13.3	
	comp=Z,2µm,20.1s,baz=11,slow=38						
NWAO	Narrogin (SRO)	28.74	203	eP	P	06 58 31.8	+0.2
	comp=Z,190nm,1.8s,mb5.4						
NWAO				LR	LR		
	comp=Z,1µm,20.0s						
ADE	Adelaide	29.07	166	eP	P	06 58 35.1	+0.6
IPM	Ipoh	31.41	290	⇓eP	P	06 58 54.0	-1.4
	comp=Z,27nm,0.5s,mb5.2						
MRPI	Mariponipon	32.12	284	⇓iP	P	06 59 01.1	-0.4
	comp=Z,702nm,0.5s,mb6.4						
QIZ	Qiongzhong	32.68	322	P	P	06 59 05.1	-1.3
QIZ				AP	pP	06 59 21.3	-5.9
QIZ				eS	S	07 04 14.8	-0.1
QIZ				LR	LR		
	comp=N,724nm,20.9s						
QIZ				LR	LR		
	comp=E,498nm,19.8s						
QIZ				LR	LR		
	comp=Z,593nm,17.8s						
SIMI	Simarbalatuk	32.77	286	⇑iP	P	06 59 01.4	-5.8
	comp=Z,13nm,0.2s,mb5.2						
AEKI	Aeknabara	33.08	284	⇓iP	P	06 59 09.6	-0.3
	comp=Z,291nm,0.4s,mb6.2						
JOW	Kunigami	33.48	357	P	P	06 59 13.3	+0.1
	comp=Z,151nm,0.6s,mb6.0,baz=179,slow=8.8						
JOW				PcP	PcP	07 01 52.8	+0.3
	comp=Z,74nm,1.1s,baz=143,slow=10,SNR=4.8						
JOW				LR	LR	07 12 10.9	
	comp=Z,568nm,19.9s,baz=161,slow=35						
CBIJ	Chichi jima	35.56	18	P	P	06 59 28.6	-2.4
	comp=Z,95nm,0.3s,mb6.2,baz=266,slow=15,SNR=18						
CBIJ				LR	LR	07 11 31.7	
	comp=Z,293nm,21.4s,baz=312,slow=32						
KKTK	Khon Kaen	35.67	310	PG	P	06 59 31.0	-0.9
KKTK				SG	pP	06 59 58.0	+5.0
NNT	Nongplab	36.04	302	P	P	06 59 35.9	+0.8
NST	Nakhon Sawan	37.37	307	P	P	06 59 46.9	+0.7
	comp=Z,100nm,1.0s,mb5.7						
NOUC	Port Laguerre	37.83	118	eP	P	06 59 49.3	-0.7
NOUC	Port Laguerre	37.83	118	eP	P	06 59 49.3	-0.7
SSE	Sheshan	38.68	347	P	P	06 59 57.5	+0.5
SSE				PP	PP	07 01 27.3	-3.1
SSE				PCP	PcP	07 02 08.5	+0.6
SSE				S	S	07 05 52.6	+5.8
SSE				AMB	AMB		
	comp=Z,120nm,1.1s,mb5.6						
SSE				LR	LR		
	comp=N,358nm,20.0s						
SSE				LR	LR		
	comp=E,155nm,20.0s						
SSE				LR	LR		
	comp=Z,436nm,20.0s						
NANT	Nan	38.77	311	PG	P	06 59 58.5	+0.6
NANT				SG	Px	06 59 59.0	
TAU	Tasmania Unive	38.95	160	P	P	07 00 01.4	+2.3
	comp=Z,49nm,1.1s,mb5.2						
BDT	Bhumibol Dam	39.15	308	P	P	07 00 00.0	-1.0
	comp=Z,107nm,0.9s,mb5.7						
CMAR	Chiang Mai Arr	39.89	309	P	P	07 00 07.7	+0.5
	comp=Z,94nm,0.5s,mb5.9,baz=140,slow=7.4,SNR=300						
CMAR				PcP	PcP	07 02 13.3	+1.4
	comp=Z,19nm,0.8s,baz=172,slow=2.7,SNR=7.4						
CMAR				ScP		07 05 52.9	
	comp=Z,7.8nm,1.0s,baz=157,slow=2.9,SNR=6.7						
CMAR				LR	LR	07 16 16.0	
	comp=Z,362nm,19.8s,baz=115,slow=35						
CHG	Chiang Mai	40.10	310	⇑P	P	07 00 09.4	+0.5
	comp=Z,150nm,1.0s,mb5.8						
NJ2	Nanjing	40.16	345	eP	P	07 00 09.6	+0.4
NJ2				PCP	PcP	07 02 13.1	+0.5
NJ2				S	S	07 06 14.0	+5.1
NJ2				AMB	AMB		
	comp=Z,170nm,0.7s,mb6.0						
NJ2				AMB	AMB		
	comp=Z,1µm,4.8s						
NJ2				LR	LR		
	comp=N,570nm,12.6s						
NJ2				LR	LR		
	comp=E,490nm,18.0s						
NJ2				LR	LR		
	comp=Z,530nm,16.6s						
WHN	Wuhan	40.18	338	⇑P	P	07 00 10.0	+0.6
WHN				XP	sP	07 00 37.0	-4.3
WHN				S	S	07 06 04.1	-5.1
WHN				AMB	AMB		
	comp=Z,240nm,1.0s,mb6.0						
GYA	Guiyang	40.27	326	⇑iP	P	07 00 10.5	+0.3
GYA				PCP	PcP	07 02 14.6	+1.6
GYA				S	S	07 06 05.8	-4.9
GYA				SS	SS	07 09 10.9	+3.8
GYA				AMB	AMB		
	comp=Z,90nm,1.0s,mb5.5						
GYA				AMB	AMB		
	comp=Z,510nm,7.5s						
GYA				LR	LR		
	comp=N,220nm,20.1s						
GYA				LR	LR		
	comp=E,360nm,21.6s						
GYA				LR	LR		

comp=Z,480nm,18.6s
KMI Kunming 41.60 321 *e*P **P** **07 00 22.2 +1.0**
KMI XP sP 07 00 48.5 -4.5
KMI PP PP 07 02 02.1 +0.3
KMI PCP PcP 07 02 18.5 +1.1
KMI PPP PPP 07 02 33.2 -0.7
KMI SCP 07 06 00.3
KMI S **S** **07 06 35.6 +5.2**
KMI SS SS 07 09 35.0 +1.9
KMI AMB AMB
comp=Z,181nm,1.3s,mb5.6
KMI LR LR
comp=N,511nm,20.1s
KMI LR LR
comp=E,518nm,18.7s
MAJO Matsushiro 43.72 9 *e*P **P** **07 00 36.5 -1.9**
comp=E,139nm,1.0s,mb5.6
MAJO LR LR
comp=Z,454nm,20.0s
MAT Matsushiro 43.72 9 P **P** **07 00 36.6 -1.8**
MAT S **S** **07 06 55.5 -5.7**
MAT Matsushiro 43.72 9 *e*P **P** **07 00 37.0 -1.4**
comp=Z,149nm,1.0s,mb5.7
MAT *e*S **S** **07 06 56.0 -5.2**
KS15 Wonju Array Si 44.06 357 *e*P **P** **07 00 40.3 -0.8**
INCN Inchon 44.18 356 *e*P **P** **07 00 42.2 +0.2**
comp=Z,78nm,0.9s,mb5.4
INCN *e*PcP PcP 07 02 25.8 -0.1
TIA Tai'an 44.55 345 ⇑P **P** **07 00 44.0 -1.1**
TIA AMB AMB
comp=Z,142nm,1.2s,mb5.6
CD2 Chengdu 45.33 327 ⇓*i*P **P** **07 00 50.9 -0.5**
CD2 AMB AMB
comp=Z,103nm,1.2s,mb5.4
XAN Xi'an 45.41 335 P **P** **07 00 50.1 -1.8**
XAN LR LR
comp=Z,708nm,37.9s
DL2 Dalian 46.18 351 P **P** **07 00 57.8 -0.2**
DL2 AMB AMB
comp=Z,40nm,1.0s,mb5.1
BJI Beijing 48.41 345 *e*P **P** **07 01 14.6 -0.7**
BJI PCP PcP 07 02 41.4 +0.6
BJI S **S** **07 08 04.9 -3.0**
BJI SS SS 07 11 34.1 +0.2
BJI AMB AMB
comp=Z,284nm,0.9s,mb6.1
SNY Shenyang 48.78 353 ⇑*i*P **P** **07 01 17.3 -0.9**
SNY S **S** **07 08 04.1 -8.9**
SNY AMB AMB
comp=Z,100nm,1.1s,mb5.7
SNY LR LR
comp=N,370nm,5.0s
SNY LR LR
comp=Z,590nm,32.4s
AGT Agartala 48.87 310 *i* **P** **07 01 28.0 +8.9**
AGT *i* 07 02 41.0
SHL Shillong 49.34 312 ⇑*i*P **P** **07 01 21.8 -1.0**
SHL *e*S **S** **07 08 25.5 +4.3**
LZH Lanzhou 49.40 332 ⇑P **P** **07 01 23.5 +0.4**
LZH AP pP 07 01 42.4 -2.5
LZH PCP PcP 07 02 48.0 +3.6
LZH PP PP 07 03 16.0 -2.3
LZH PCS 07 06 41.0
LZH S **S** **07 08 17.0 -4.8**
LZH SCS ScS 07 11 06.0 +3.2
LZH AMB AMB
comp=Z,1μm,4.0s
LZH LR LR
comp=E,560nm,14.4s
LZH LR LR
comp=Z,980nm,20.9s
HHC Hu-ho-hao-te 50.46 341 ⇑P **P** **07 01 31.1 -0.1**
HHC XP sP 07 01 57.7 -5.3
HHC PCP PcP 07 02 48.9 +0.6
HHC SCP 07 06 35.3
HHC S **S** **07 08 38.0 +1.5**
HHC SS SS 07 12 12.0 +3.4
HHC AMB AMB
comp=Z,121nm,1.2s,mb5.7
HHC AMB AMB
comp=Z,556nm,4.6s
HHC LR LR
comp=N,150nm,13.1s
HHC LR LR
comp=E,225nm,13.1s
HHC LR LR
comp=Z,178nm,14.7s
CN2 Changchun 50.55 355 *e*P **P** **07 01 30.7 -1.1**
CN2 *e*AP pP 07 01 46.3 -7.4
CN2 PCP PcP 07 02 48.0 -0.5
CN2 *e*S **S** **07 08 40.0 +2.4**
CN2 AMB AMB
comp=Z,90nm,0.7s,mb5.9
CN2 AMB AMB
comp=Z,230nm,5.0s
CN2 LR LR
comp=N,370nm,20.0s
CN2 LR LR
comp=E,370nm,20.0s
CN2 LR LR
comp=Z,480nm,23.0s
BTO Baotou 50.75 340 *e*P **P** **07 01 31.9 -1.4**
BTO AMB AMB
comp=Z,42nm,0.8s,mb5.5
RPZ Rata Peaks 51.17 143 P **P** **07 01 36.8 +0.4**
comp=Z,75nm,0.5s,mb5.9,baz=276,slow=1.5,SNR=35
RPZ LR LR 07 22 37.0
comp=Z,836nm,20.7s,baz=103,slow=35
MDJ Mudanjiang 51.17 359 P **P** **07 01 35.8 -0.6**
MDJ S **S** **07 08 49.0 +2.9**
MDJ SS SS 07 12 24.2 +3.9
MDJ AMB AMB
comp=Z,86nm,1.0s,mb5.7
MDJ AMB AMB
comp=Z,227nm,7.8s
MDJ LR LR
comp=N,92nm,26.8s
MDJ LR LR
comp=E,378nm,31.8s
MDJ LR LR
comp=Z,484nm,33.5s
PALK Pallekele 51.49 285 *e*P **P** **07 01 38.1 -1.2**
comp=Z,76nm,1.2s,mb5.6
ASAJ Asahikawa 51.85 11 P **P** **07 01 41.0 -0.6**
comp=Z,48nm,0.7s,mb5.6,baz=230,slow=12,SNR=39
ASAJ PcP PcP 07 02 53.4 0.0
comp=Z,13nm,0.5s,baz=355,slow=5.1,SNR=3.3
ASAJ LR LR 07 22 50.6
comp=Z,192nm,18.3s,baz=3.8,slow=35
LSA Lhasa 52.31 316 P **P** **07 01 47.5 +2.3**
VIS Vishakhapatnam 52.46 298 *i*P **P** **07 01 46.0 -0.5**
URZ Urewera 52.53 134 P **P** **07 01 45.8 -0.9**
comp=Z,9.9nm,0.4s,mb5.2,baz=255,slow=9.4,SNR=14
GTA Gaotai 53.97 331 ⇑*i*P **P** **07 01 57.2 -0.2**
GTA PCP PcP 07 03 02.7 +1.3
GTA PP PP 07 04 00.4 -0.5
GTA PCS 07 06 58.2
GTA S **S** **07 09 22.0 -2.4**
GTA SCS ScS 07 11 35.7 +1.4
GTA SS SS 07 13 04.0 -2.3
GTA AMB AMB
comp=Z,66nm,1.3s,mb5.5
GTA LR LR
comp=N,145nm,19.8s
GTA LR LR
comp=E,169nm,19.8s
YSS Yuzh-Sakhalins 54.62 10 *e*P **P** **07 02 01.0 -1.0**
YSS *e**PP pP 07 02 24.3 +0.1
YSS *e*S **S** **07 09 28.0 -4.9**
YSS pmax pmax
comp=N,50nm,0.6s
YSS pmax pmax
comp=Z,70nm,0.6s,mb5.9
YSS Yuzh-Sakhalins 54.62 10 *e*P **P** **07 02 00.6 -1.4**
comp=Z,56nm,0.6s,mb5.8
YSS LR LR
comp=Z,360nm,21.0s
GUN Gumba 55.11 311 *e*P **P** **07 02 05.1 -0.7**
comp=Z,995nm,0.5s
PKI Pulchoki 55.28 310 *e*P **P** **07 02 06.2 -0.9**
comp=Z,417nm,0.6s,mb6.6
BLSP Bilaspur 55.31 303 *e*P **P** **07 02 06.3 -1.1**
KKN Kakani 55.49 310 *e*P **P** **07 02 08.1 -0.5**
comp=Z,630nm,0.7s,mb6.8
DMN Daman 55.53 310 *e*P **P** **07 02 08.6 -0.3**
comp=Z,1μm,1.0s
KLR Kul'dur 55.79 1*d i*P **P** **07 02 06.0 -4.4**
KLR *e* 07 03 02.2
KLR *e*S **S** **07 09 42.5 -6.0**
KLR pmax pmax
comp=N,28nm,1.0s
KLR pmax pmax
comp=Z,68nm,1.0s,mb5.6
KLR MLR MLR
comp=Z,500nm,15.0s
GKN Gorkha 56.09 310 *e*P **P** **07 02 12.4 -0.5**
comp=Z,1μm,0.7s
HYB Hyderabad 56.57 296 *i* P **P** **07 02 14.5 -1.9**
comp=Z,180nm,1.0s,mb6.1
HYB *e* 07 02 20.0
HYB *e*pP pP 07 02 34.0 -4.8
HYB *e*PcP PcP 07 03 13.0 +1.3
HYB Hyderabad 56.57 296 *e*P **P** **07 02 14.5 -1.9**
comp=Z,180nm,1.0s,mb6.1
HYB *e* 07 02 20.0
KOLN Koldanda 56.76 309 *e*P **P** **07 02 17.2 -0.5**
comp=Z,592nm,0.6s,mb6.8
AFI Afiamalu 57.22 102 *e*P **P** **07 02 21.0 0.0**
AFI pmax pmax
comp=Z,36nm,0.6s,mb5.6
AFI Afiamalu 57.22 102 *e*P **P** **07 02 20.9 -0.1**
comp=Z,36nm,0.6s,mb5.6
SONM Songino Array 58.36 341 P **P** **07 02 28.5 0.0**
comp=Z,79nm,0.7s,mb5.9,baz=161,slow=6.2,SNR=426
SONM S **S** **07 10 22.3 -0.1**
comp=Z,0.8nm,0.8s,baz=67,slow=11,SNR=3.4
SONM PKPPKP 07 31 59.9
comp=Z,0.6nm,0.8s,baz=207,slow=2.8,SNR=4.0
LATR Latur 58.70 296 *e*P **P** **07 02 29.3 -1.9**
BHPL Bhopal 59.73 302 *e*P **P** **07 02 36.8 -1.5**
BHPL *e* 07 02 38.3
comp=Z,96nm,0.7s
LGTI Lohaghat 60.16 309 ⇑*i*P **P** **07 02 40.5 -0.7**
PTH Pithoragarh 60.23 310 *e*P **P** **07 02 39.0 -2.6**
KAD Karad 60.47 294 *e*P **P** **07 02 41.6 -1.8**
AGRA Agra 60.95 306 *e*P **P** **07 02 44.3 -2.4**
AGRA *e* 07 02 45.8
comp=Z,131nm,0.6s
CASY Casey 60.97 189 *e*P **P** **07 02 46.1 -0.1**
comp=Z,26nm,1.0s,mb5.2
CASY LR LR
comp=Z,1μm,21.0s
POO Poona 61.16 295 *e*P **P** **07 02 46.8 -1.3**
POO *e* 07 02 47.8
comp=Z,112nm,0.8s
JOSI Joshimath 61.20 310 *e*P **P** **07 02 47.7 -0.5**
ASOR Ausora 61.76 308 *e*P **P** **07 02 50.3 -1.7**
ASOR *e* 07 02 52.1
comp=Z,410nm,0.5s
SONA Sohna 62.08 307 *e*P **P** **07 02 52.0 -2.2**
SONA *e* 07 02 53.4
comp=Z,176nm,0.4s
AYAN Aya Nagar 62.15 307 *e*P **P** **07 02 52.5 -2.1**
AYAN *e* 07 02 53.9
comp=Z,133nm,0.5s
NDI New Delhi 62.16 307 ⇑*i*P **P** **07 02 51.0 -3.7**
DDI Dehra Dun 62.24 309 *e*P **P** **07 02 53.1 -2.1**
BHGR Bahadurgarh 62.38 307 *e*P **P** **07 02 53.3 -2.9**
BHGR *e* 07 02 55.2
comp=Z,274nm,0.5s
KUDL Kundal 62.51 306 *e*P **P** **07 02 55.3 -1.7**
KUDL *e* 07 02 56.4
comp=Z,125nm,0.4s
KLP Kalpa 62.66 311 *e*P **P** **07 02 58.2 +0.2**
KLP *e* 07 02 59.5
comp=Z,96nm,0.4s
IRK Irkutsk 62.89 342 *e*P **P** **07 02 59.1 -0.1**
IRK *e* pP 07 03 26.7 +4.7
KHET Khetri 63.03 306 *e*P **P** **07 02 58.5 -2.0**
KHET *e* 07 03 00.1
comp=Z,112nm,0.9s
KKR Kurukshetra 63.03 308 *e*P **P** **07 02 59.4 -1.1**
KKR *e* 07 03 00.6
comp=Z,304nm,0.1s
AJM Ajmer 63.33 304 ⇑*i*P **P** **07 03 01.0 -1.5**
WMQ Urumqi 63.43 327 ⇑*i*P **P** **07 03 02.5 -0.4**
WMQ PP PP 07 05 24.0 -1.0
WMQ S **S** **07 11 28.0 +1.1**
WMQ SCS ScS 07 12 46.0 +2.3
WMQ SS SS 07 15 37.0 -0.1
WMQ AMB AMB
comp=Z,223nm,1.0s,mb6.0
WMQ LR LR
comp=N,516nm,16.0s
WMQ LR LR
comp=E,405nm,18.0s
WMQ LR LR
comp=Z,397nm,16.0s
MOY Mondy 63.45 340 *e*P **P** **07 03 03.8 +0.9**
MOY *e* pP 07 03 31.2 +5.5
CLNS Chul'man 63.56 357 *e*P **P** **07 03 03.4 -0.2**
CLNS pmax pmax
comp=Z,93nm,0.9s,mb5.6
CLNS pmax pmax
comp=N,51nm,0.8s
CLNS pmax pmax
comp=E,24nm,0.8s
PET Petropavlovsk 64.22 19 *e*P **P** **07 03 07.6 -0.3**
PET pmax pmax
comp=Z,380nm,1.1s,mb6.1
PET Petropavlovsk 64.22 19 *e*P **P** **07 03 07.3 -0.6**
comp=Z,380nm,1.1s,mb6.1
PET *e*PcP PcP 07 03 40.2 -1.6
MIR Mirnyy 64.95 196 ⇑*e*P **P** **07 03 13.5 +1.1**
MIR *e* pP 07 03 35.0 -0.3
MIR pmax pmax
comp=Z,25nm,1.2s,mb4.9
THN Thein Dam 64.98 310 *e*P **P** **07 03 11.6 -1.6**
comp=Z,103nm,0.8s,mb5.7
BOD Bodaibo 65.75 350 ⇓*i*P **P** **07 03 16.9 -0.8**
JASL Jaisalmer 66.59 303 *e*P **P** **07 03 22.8 -0.7**
JASL *e* 07 03 23.1
MA2 Magadan 68.11 11 *e*P **P** **07 03 32.3 -0.2**
MA2 Magadan 68.11 11 ⇑*e*P **P** **07 03 32.1 -0.4**
comp=Z,81nm,0.8s,mb5.6
KSH Kashi 68.12 317 ⇑*i*P **P** **07 03 34.2 +1.3**
KSH AP pP 07 03 51.4 -4.6
KSH *e*PCP PcP 07 04 00.6 +2.3
KSH PP PP 07 06 03.7 -2.6
KSH *e*PCS 07 08 04.8
KSH *e*S S 07 12 26.5 +2.3
KSH *e*PS PS 07 12 57.4 -4.5
KSH *e*SCS ScS 07 13 26.0 +6.0
KSH *e*SS SS 07 16 50.0 +0.2
KSH AMB AMB
comp=Z,630nm,1.9s,mb6.1
KSH LR LR
comp=N,210nm,4.4s
KSH LR LR
comp=E,150nm,5.6s
MKAR Makanchi Array 68.26 327 P **P** **07 03 33.7 +0.1**
comp=E,182nm,0.5s,mb6.2,baz=114,slow=8.4,SNR=1041
MKAR PKiKP 07 09 53.5
comp=E,1.1nm,0.6s,baz=185,slow=3.1,SNR=4.0
MKAR S S 07 12 25.1 -0.6
comp=E,2.0nm,1.1s,baz=124,slow=21,SNR=3.3
MKAR PKPPKP 07 31 48.8
comp=E,0.9nm,0.8s,baz=292,slow=6.5,SNR=5.3
MKAR P4KPbc 07 40 20.9
comp=E,0.6nm,0.7s,baz=153,slow=5.4,SNR=3.8
MKAR Makanchi Array 68.26 327 *i* P **P** **07 03 33.8 +0.2**
MKAR pmax pmax
comp=Z,119nm,0.5s
MKAR Makanchi Array 68.26 327 P **P** **07 03 33.7 +0.1**
YAK Yakutsk 68.61 360 ⇑*i*P **P** **07 03 34.8 -0.7**
YAK Yakutsk 68.61 360 *e*P **P** **07 03 34.2 -1.3**
comp=Z,496nm,0.7s,mb6.5
YAK LR LR
comp=Z,222nm,20.0s
RAR Rarotonga 68.80 110 P **P** **07 03 36.3 -1.0**
comp=Z,29nm,0.8s,mb5.2,baz=223,slow=3.8,SNR=5.3
RAR LR LR 07 29 44.5
comp=Z,237nm,20.9s,baz=29,slow=32
RAR Rarotonga 68.80 110 P **P** **07 03 36.3 -1.0**
comp=Z,57nm,1.0s,mb5.4
ULHL Ulahol 69.31 320 P **P** **07 03 41.4 +1.2**
SNR=13
FX1 Attu Island--F 69.61 26 *e*P **P** **07 03 40.6 -1.2**
KZA Kyzart 69.87 319 P **P** **07 03 45.0 +1.5**
SNR=187
TKM2 Tokmak 2 70.07 320 P **P** **07 03 45.8 +1.0**
SNR=11
KBK Karagaybulak 70.35 320 P **P** **07 03 47.9 +1.4**
SNR=19
UCH Uchtor 70.42 319 P **P** **07 03 48.2 +1.3**
SNR=160
AAK Ala-Archa 70.63 320 P **P** **07 03 49.2 +1.0**
SNR=125
AAK Ala-Archa 70.63 320*c i*P **P** **07 03 48.4 +0.2**
AAK pmax pmax
comp=Z,195nm,1.0s,mb5.9
AAK MLR MLR
comp=Z,200nm,21.0s
AAK Ala-Archa 70.63 320 ⇑*e*P **P** **07 03 48.0 -0.2**
comp=Z,203nm,1.0s,mb5.9
CHMS Chumysh 70.64 320 P **P** **07 03 48.9 +0.7**
SNR=23
AML Almayashu 70.90 319 P **P** **07 03 51.2 +1.4**
SNR=344
USP Ospenovka 70.94 320 P **P** **07 03 50.9 +0.9**
SNR=17
EKS2 Erkin-Say 71.11 319 P **P** **07 03 52.2 +1.2**
SNR=148
SEY Seymchan 71.53 10 *e*P **P** **07 03 53.4 +0.2**
SEY 07 04 11.7
SEY *PP pP 07 04 20.9 +4.4
SEY 07 06 30.1
SEY *e*S S 07 13 04.4 +0.9
SEY *SS 07 13 54.6
SEY *e*SS SS 07 17 45.5 +3.4
SEY pmax pmax
comp=Z,200nm,0.9s,mb6.0
SEY pmax pmax
comp=E,120nm,1.1s
SEY smax
comp=N,900nm,22.9s
ZAL Zalesovo 71.57 334 P **P** **07 03 52.9 -0.7**
comp=N,51nm,0.6s,mb5.6,baz=252,slow=5.3,SNR=242
ZAL S S 07 13 00.9 -3.2
comp=N,1.1nm,0.8s,baz=345,slow=25,SNR=12
KURK Kurchatov 72.54 328*c i*P **P** **07 03 59.1 -0.3**
KURK pmax pmax
comp=Z,71nm,0.8s,mb5.5
KURK Kurchatov 72.54 328 ⇑*i*P **P** **07 03 59.1 -0.3**
comp=Z,152nm,0.8s,mb5.9
NVS Novosibirsk 72.85 334 *i* P **P** **07 03 59.7 -1.4**
NVS *e**PP pP 07 04 23.0 -1.5
NVS *e*S S 07 13 15.3 -3.4
NVS *e**SS 07 13 47.9
NVS pmax pmax
comp=Z,106nm,0.9s,mb5.7
NVS pmax pmax
comp=E,46nm,0.7s
NVS pmax pmax
comp=N,75nm,0.9s
NVS smax
comp=N,33nm,1.7s
NVS smax
comp=E,21nm,1.2s
SBA Scott Base 73.49 172 *e*P **P** **07 04 06.1 +1.6**
comp=E,30nm,0.9s,mb5.1
SBA LR LR
comp=Z,390nm,19.0s
KIWB Kanaga Island 73.55 31 *e*P **P** **07 04 05.3 +0.1**
GSTR Great Sitkin T 74.24 31 *e*P **P** **07 04 09.3 0.0**
MAW Mawson 75.29 201 P **P** **07 04 16.5 +1.5**
comp=Z,17nm,0.7s,mb4.9,baz=73,slow=6.9,SNR=90
MAW LR LR 07 35 04.4
comp=Z,519nm,19.5s,baz=68,slow=34
MAW Mawson 75.29 201 ⇑*i*P **P** **07 04 16.1 +1.1**
MAW pmax pmax
comp=Z,50nm,1.1s
MAW Mawson 75.29 201 ⇑*i*P **P** **07 04 16.1 +1.2**
comp=Z,50nm,1.1s,mb5.2
VOSK Vostochnaya 77.63 328 P **P** **07 04 28.0 -0.4**
VOSK pmax pmax
comp=Z,50nm,0.7s,mb5.3
VOSK Vostochnaya 77.63 328 *i* P **P** **07 04 28.1 -0.3**
BVA0 Borovoye Array 78.09 328 P **P** **07 04 31.1 +0.2**
BVAR Borovoye Array 78.09 328 P **P** **07 04 30.8 -0.1**
comp=Z,79nm,0.8s,mb5.5,baz=127,slow=7.4,SNR=294
BVAR S S 07 14 17.7 +1.5
comp=Z,0.7nm,0.8s,baz=135,slow=12,SNR=2.8
BRVK Borovoye 78.16 328 ⇑*i*P **P** **07 04 31.1 -0.2**
comp=Z,103nm,0.8s,mb5.6
BRVK *e* pP 07 04 52.5 -2.5
BRVK LR LR
comp=Z,40nm,22.0s
PAE Paea 78.50 107 *e*P **P** **07 04 35.4 +1.5**
comp=Z,163nm,1.1s,mb5.8
PPT Papeete 78.51 107 P **P** **07 04 34.2 +0.3**
comp=Z,67nm,1.0s,mb5.4,baz=170,slow=2.5,SNR=4.1
PPT Papeete 78.51 107 *e*P **P** **07 04 35.5 +1.6**
comp=Z,87nm,1.2s,mb5.5
PPT Papeete 78.51 107 *e*PP PP 07 07 41.0 +7.0
PPT *e*S S 07 14 18.3 -3.1
PPT *e*L 07 25 58.9
PPT *e*R 07 29 29.1
comp=Z,434nm,28.5s
TIAR Tiarei 78.73 107 *e*P **P** **07 04 36.8 +1.7**
comp=Z,268nm,1.1s,mb6.0
ZRNK Zerenda 78.80 327 P **P** **07 04 34.7 -0.1**
ZRNK pmax pmax
comp=Z,64nm,0.8s,mb5.5
ZRNK Zerenda 78.80 327 *i* P **P** **07 04 34.7 -0.1**
TVO Taravao 78.81 107 *e*P **P** **07 04 37.3 +1.7**
comp=Z,75nm,0.9s,mb5.5
UNV Unalaska Valle 80.12 32 *e*P **P** **07 04 41.8 -0.1**
comp=Z,242nm,0.8s,mb6.1
PMOR Pomariorio Ree 80.30 104 *e*P **P** **07 04 45.2 +1.5**
comp=Z,140nm,1.2s,mb5.7
VAH Vaihoa 80.54 104 *e*P **P** **07 04 46.2 +1.3**
comp=Z,101nm,1.1s,mb5.6
MUKL Al Mukalla 83.36 285 ⇑*e*P **P** **07 05 03.1 +3.6**
SDPT Sand Point 83.93 32 *e*P **P** **07 05 01.5 0.0**
SYO Syowa Base 84.00 201 ⇓P **P** **07 05 02.0 +0.4**
SYO Syowa Base 84.00 201 ⇓PcP PcP 07 05 04.1 -1.6
HASS Wahat al Ahsa' 84.50 296 P **P** **07 05 05.8 +0.7**
SVE Sverdlovsk 84.79 329 ⇑*i*P **P** **07 05 05.5 -0.3**
SVE *e* pP 07 05 31.5 +1.7
SVE pmax pmax
comp=Z,360nm,1.6s,mb6.0
ANM Nome 85.38 23 *e*P **P** **07 05 09.8 +1.3**
ARU Arti 85.73 328 *e*P **P** **07 05 09.9 -0.5**
ARU *e* 07 08 31.8
ARU *e*PPP PPP 07 10 27.7 -1.8
ARU *e*S S 07 15 26.0 -8.0
ARU *e*SS SS 07 21 14.9 -0.6
ARU Arti 85.73 328 *e*P **P** **07 05 10.2 -0.2**
comp=Z,51nm,0.5s,mb5.7
LBOS 86.92 284 ⇑*e*P **P** **07 05 19.6 +2.4**
RAYN Ar Rayn 88.02 294 P **P** **07 05 23.5 +1.2**
comp=Z,730nm,0.8s,mb6.8
MZLS Mizel 88.36 294 P **P** **07 05 25.1 +1.2**
KAMS Al Khamasin 88.42 291 P **P** **07 05 25.4 +1.1**
KDAK Kodiak Island 88.83 31 P **P** **07 05 25.6 +0.2**
comp=Z,570nm,1.0s,mb6.6,SNR=28
KDAK Kodiak Island 88.83 31 *e*P **P** **07 05 25.4 0.0**
comp=Z,98nm,0.9s,mb5.8
DJNS Zahran al Janu 89.05 288 P **P** **07 05 29.3 +2.0**
TATS Tathlith 89.35 290 P **P** **07 05 30.3 +1.6**
RSO Redoubt South 89.43 29 *e*P **P** **07 05 28.5 +0.4**
SPU Mount Spurr 89.94 28 *e*P **P** **07 05 30.3 -0.2**
FRSS Farasan al Kab 90.29 287 P **P** **07 05 35.4 +2.3**
AFFS 'Afif 90.34 294 P **P** **07 05 34.9 +1.6**
ARSS Ar Rass 90.38 296 P **P** **07 05 34.3 +1.0**
NAMS An Nimas 90.49 289 P **P** **07 05 36.0 +2.0**
IMA Indian Mountai 90.50 23 *e*P **P** **07 05 33.4 +0.4**
IMA pmax pmax
comp=Z,96nm,0.6s,mb6.1
IMA Indian Mountai 90.50 23 *e*P **P** **07 05 32.8 -0.2**
SLKM Skilak Lake 90.66 29 P **P** **07 05 33.8 -0.1**
SLKM Skilak Lake 90.66 29 *e*P **P** **07 05 33.5 -0.4**
PWA Palmer West 91.07 28 *e*P **P** **07 05 34.7 -1.0**
BLJS Baljurashi 91.14 290 P **P** **07 05 39.0 +1.9**
PMR Palmer 91.41 28 *e*P **P** **07 05 36.3 -1.1**
comp=Z,16nm,0.6s,mb5.3
PMR LR LR
comp=Z,372nm,22.0s
SML Sawmill 91.82 28 *e*P **P** **07 05 38.6 -0.6**
HILS Ha'il 91.84 297 P **P** **07 05 41.7 +1.5**
MCK McKinley 91.92 26 *e*P **P** **07 05 38.6 -1.0**
MCK pmax pmax
comp=Z,41nm,1.2s,mb5.5
MCK McKinley 91.92 26 *e*P **P** **07 05 38.5 -1.1**

comp=Z,41nm,1.2s,mb5.5
LTHS Al Lith 92.30 290 P **P** **07 05 43.7 +1.3**
COLA College 92.60 25 *eP* **P** **07 05 41.7 -1.0**
EYAK Cordova Ski Ar 92.84 29 *eP* **P** **07 05 44.3 +0.4**
GOF Gofitskoye 92.89 315⇑ *iP* **P** **07 05 43.0 -1.5**
GOF pmax pmax
comp=Z,17nm,1.5s,mb5.2
DIV Divide 92.92 29 *eP* **P** **07 05 44.3 0.0**
comp=Z,237nm,1.1s,mb6.4
KMBO Kilima Mbogo 92.99 269 P **P** **07 05 47.1 +1.4**
comp=Z,17nm,1.1s,mb5.3,baz=59,slow=5.7,SNR=36
KMBO LR LR 07 46 03.3
comp=Z,146nm,21.3s,baz=87,slow=34
KMBO Kilima Mbogo 92.99 269 *eP* **P** **07 05 47.1 +1.3**
comp=Z,52nm,1.4s,mb5.7
KMBO LR LR
comp=Z,203nm,19.0s
ILAR Eielson Array 92.99 25 P **P** **07 05 42.7 -1.8**
comp=Z,30nm,0.7s,mb5.7,baz=286,slow=4.8,SNR=273
ILAR PKKPbc 07 22 55.2
comp=Z,1.3nm,0.7s,baz=0.9,slow=1.5,SNR=12
ILAR LR LR 07 42 38.7
comp=Z,111nm,20.8s,baz=306,slow=32
ILAR P4KP 07 43 00.8
comp=Z,0.2nm,0.6s,baz=276,slow=6.0,SNR=4.3
KIV Kislovodsk 93.01 314 *eP* **P** **07 05 48.9 +3.8**
KIV MLR MLR
comp=Z,92nm,20.0s
KIV MLR MLR
comp=E,78nm,21.0s
THY Trims Highway 93.27 27 *eP* **P** **07 05 46.1 +0.2**
KBRS Khaybar 93.92 295 P **P** **07 05 51.2 +1.5**
SOC Sochi 95.11 313 *eP* **P** **07 05 53.2 -1.5**
SOC *e* 07 06 08.3
SOC *e* 07 09 49.9
SOC *e* 07 16 22.6
SOC *eS* S 07 16 55.7 -3.0
SOC *eSS* SS 07 23 34.1 +3.6
SOC *eSSS* SSS 07 27 07.1 -6.5
SOC pmax pmax
comp=N,16nm,0.7s
SOC pmax pmax
comp=Z,15nm,0.7s,mb5.5
SOC pmax pmax
comp=E,25nm,1.3s
SOC MLR MLR
comp=Z,272nm,24.0s
SOC MLR MLR
comp=N,192nm,22.0s
SOC MLR MLR
comp=E,106nm,19.0s
UMJS Umm Lajj 95.63 295 P **P** **07 05 58.7 +1.2**
SNAA Sanae 95.96 193⇑ *iP* **P** **07 05 59.4 +1.5**
SNAA Sanae 95.96 193 pP 07 06 12.6 -10
SNAA Sanae 95.96 193⇑ *i* pP 07 06 18.1 -4.2
SNAA Sanae 95.96 193⇑ *i* sP 07 06 25.7 -5.8
SNAA Sanae 95.96 193⇑ *iS* S 07 17 14.8 +10
SNAA Sanae 95.96 193 *eP* **P** **07 05 59.3 +1.4**
SNAA pmax pmax
comp=Z,34nm,1.4s
SNAA Sanae 95.96 193 *eP* **P** **07 05 59.1 +1.3**
comp=Z,34nm,1.4s,mb5.6
GZT Gaziantep 96.31 307 *iP* **P** **07 06 01.1 +0.8**
ASF Jabal al Asfar 96.52 302 P **P** **07 06 01.8 +0.5**
comp=Z,17nm,0.9s,mb5.5,baz=335,slow=2.3,SNR=17
JMQS Jabal Moqyreh 97.18 298 P **P** **07 06 05.6 +1.2**
COBT Iskenderun 97.31 306 *iP* **P** **07 06 05.7 +0.8**
VNA2 Neumayer--Watz 97.53 193⇑ *iP* **P** **07 06 09.6 +4.6**
VNA2 Neumayer--Watz 97.53 193 pP 07 06 19.4 -10
VNA2 Neumayer--Watz 97.53 193 pP 07 06 24.5 -4.9
AYUS 'Aynunah 97.67 297 P **P** **07 06 07.5 +0.9**
OBN Obninsk 97.71 325*o iP* **P** **07 06 05.1 -1.1**
OBN *e* 07 16 32.0
OBN pmax pmax
comp=Z,67nm,1.5s,mb6.0
OBN MLR MLR
comp=Z,100nm,16.0s
OBN Obninsk 97.71 325 *eP* **P** **07 06 05.1 -1.1**
comp=Z,32nm,0.6s,mb6.0
VNA3 Neumayer Olymp 97.77 192 P **P** **07 06 10.1 +4.0**
VNA3 Neumayer Olymp 97.77 192⇑ *i* **P** **07 06 10.9 +4.8**
VNA3 Neumayer Olymp 97.77 192⇑ *i* pP 07 06 23.4 -7.1
VNA3 Neumayer Olymp 97.77 192⇑ *i* pP 07 06 28.3 -2.2
VNA1 Neumayer--Stat 97.92 193⇑ *iP* **P** **07 06 11.8 +5.0**
VNA1 Neumayer--Stat 97.92 193 pP 07 06 23.8 -7.4
AVNT Avonos 98.52 308 *i P* **P** **07 06 10.2 -0.1**
INK Inuvik 98.52 22 PKiKP 07 10 41.9
comp=Z,3.8nm,0.9s,baz=320,slow=4.1,SNR=3.9
INK PKKPbc 07 22 36.9
comp=Z,3.2nm,0.8s,baz=354,slow=2.6,SNR=9.4
INK Inuvik 98.52 22⇑ *eP* **P** **07 06 08.6 -1.0**
INK pmax pmax
comp=Z,38nm,1.0s
INK Inuvik 98.52 22⇑ *eP* **P** **07 06 08.6 -0.9**
comp=Z,38nm,1.0s,mb5.9
BOYT Boyabat 98.56 311 *i P* **P** **07 06 10.3 -0.1**
BRTR Keskin Array B 99.48 309 P **P** **07 06 14.3 -0.3**
comp=Z,3.8nm,0.9s,mb4.9,baz=135,slow=5.2,SNR=15
BRTR PP PP 07 10 16.1 -5.2
comp=Z,6.9nm,1.2s,baz=101,slow=7.3,SNR=3.5
BRTR PKKPbc 07 22 38.9
comp=Z,1.4nm,0.8s,baz=243,slow=2.8,SNR=4.7
BRTR LR LR 07 54 43.6
BALT Daday 99.70 311 *i P* **P** **07 06 15.6 0.0**
LSZ Lusaka 99.90 253 P **P** **07 06 18.1 +1.1**
LSZ pmax pmax
comp=Z,5.0nm,0.6s,mb5.3
LSZ Lusaka 99.90 253 *eP* **P** **07 06 17.9 +0.8**
comp=Z,5.2nm,0.6s,mb5.3
DLBC Dease Lake 100.77 32 P P 07 06 19.1 -0.8
comp=Z,3.8nm,0.9s,baz=219,slow=2.8,SNR=6.1
KEV Kevo 100.96 340 *ep* P P 07 06 20.6 0.0
ARCES ARCESS Array B 101.51 340 P P 07 06 22.5 -0.6
comp=Z,13nm,0.8s,baz=80,slow=5.5,SNR=25
ARCES PKiKP 07 10 47.1
comp=Z,5.5nm,0.7s,baz=74,slow=1.2,SNR=11
ARCES PKKPbc 07 22 28.9
comp=Z,7.3nm,1.1s,baz=270,slow=2.4,SNR=4.1
AKASG Malin Array Be 102.29 320 P Pdif 07 06 25.8 -1.2
comp=Z,0.8nm,0.5s,baz=74,slow=4.2,SNR=5.9
KAF Kangasniemi 102.55 332 *ep* Pdif 07 06 25.8 -2.0
comp=Z,7.4nm,0.6s,baz=77,slow=4.1
KAF Kangasniemi 102.55 332 *eP* Pdif 07 06 25.8 -2.0
KAF pmax pmax
comp=Z,7.0nm,0.6s
FINES FINESS Array B 102.76 331 P Pdif 07 06 27.6 -1.1
comp=Z,3.8nm,0.6s,baz=58,slow=5.8,SNR=20
FINES PKiKP 07 10 49.4
comp=Z,3.2nm,0.4s,baz=106,slow=3.2,SNR=16
FINES PKKPbc 07 22 28.0
comp=Z,2.0nm,0.8s,baz=135,slow=2.7,SNR=4.9
FINES FINESS Array B 102.76 331 *i P* Pdif 07 06 27.6 -1.1
FINES pmax pmax
comp=Z,4.0nm,0.6s
MLR Muntele Rosu 104.93 315 Pdiff Pdif 07 06 38.7 0.0
comp=Z,1.8nm,0.4s,baz=84,slow=6.6,SNR=4.5
MLR PKiKP 07 10 54.7
comp=Z,5.3nm,0.7s,baz=74,slow=4.8,SNR=5.0
MLR PKKPbc 07 22 23.3
comp=Z,2.7nm,0.9s,baz=147,slow=19,SNR=4.1
IDI Anoyia 106.54 305 PKKPbc 07 22 19.8
comp=Z,2.5nm,0.5s,baz=228,slow=4.6,SNR=6.5
KOLS Kolonicke sedl 106.97 319 *i* PKP 07 10 58.9
KOLS Kolonicke sedl 106.97 319 *e* Pdif Pdif 07 06 48.9 +1.4
KOLS *i* 07 10 58.9
RES Resolute Bay 107.39 11 P Pdif 07 06 49.5 +0.7
RES pmax pmax
comp=Z,5.0nm,0.7s
RES Resolute Bay 107.39 11 *eP* Pdif 07 06 49.1 +0.2
comp=Z,5.2nm,0.6s
YKA Yellowknife Ar 107.39 26 Pdiff Pdif 07 06 49.5 +0.4
comp=Z,2.2nm,0.7s,baz=290,slow=4.9,SNR=3.9
YKA PKiKP 07 10 57.3
comp=Z,2.4nm,0.5s,baz=290,slow=1.9,SNR=9.7
YKA Yellowknife Ar 107.39 26 Pdif Pdif 07 06 49.5 +0.4
YKA PKPdif 07 10 57.4
NIE Niedzica 108.15 320 *e*PKP 07 11 00.8
OJC Ojcow 108.32 321 *e*PKPdf 07 10 59.3
OJC Ojcow 108.32 321 *e*PKIKP 07 10 59.3
HFS Hagfors 108.96 332 PKKPbc 07 22 09.0
comp=Z,6.5nm,0.8s,baz=180,slow=4.4,SNR=15
OKC Ostrava-Krasne 109.44 321 *e*PKP 07 11 02.8
OKC *ex* x 07 11 38.8
NB2 NORSAR Subarra109.77 333 P Pdif 07 06 58.8 -0.7
comp=Z,6.7nm,0.9s,baz=67,slow=4.6
NB2 NORSAR Subarra109.77 333 PKPdf 07 11 02.0
comp=Z,2.2nm,0.8s,baz=68,slow=1.9
NB2 NORSAR Subarra109.77 333 P Pdif 07 06 58.8 -0.7
baz=67,slow=4.6
NB2 NORSAR Subarra109.77 333 P Pdif 07 06 58.8 -0.7
NB2 PKPdif 07 11 02.0
NOA NORSAR Array B 109.77 333 Pdiff Pdif 07 06 59.2 -0.4
comp=Z,3.6nm,0.9s,baz=72,slow=4.2,SNR=12
NOA PKiKP 07 11 02.6
comp=Z,3.7nm,0.8s,baz=262,slow=3.1,SNR=11
NOA PP PP 07 11 36.5 -1.7
comp=Z,3.9nm,0.9s,baz=64,slow=7.0,SNR=3.9
NOA PKKPbc 07 22 07.5
comp=Z,2.5nm,0.8s,baz=245,slow=2.8,SNR=10
NOA NORSAR Array B 109.77 333 Pdif Pdif 07 06 59.2 -0.4
NOA PKPdif 07 11 02.6
NOA PP PP 07 11 36.5 -1.7
NOA PKKPbc 07 22 07.5
MORC Moravsky Berou 109.84 321 *e*PKiKP 07 11 03.3
PKSM Moragy 109.88 317⇓ *eP* 07 11 03.2
KSP Ksiaz 110.36 322 *i* PKIKP PKPdf 07 11 04.1 +2.3
KSP *e* 07 11 40.0
KSP Ksiaz 110.36 322 *e*PKPdf PKPdf 07 11 04.1 +2.3
KSP *e*PP PP 07 11 40.0 -2.6
DPC Dobruska-Polom 110.46 321 *e*PKP PKPdf 07 11 04.5 +2.5
DPC *e*PP PP 07 11 38.2 -5.2
UPC Upice 110.61 322 *e*PKP PKPdf 07 11 04.8 +2.5
UPC *e*PP PP 07 11 35.5 -9.0
NVAR Mina Array Bea 110.86 52 Pdiff Pdif 07 07 09.3 +4.4
comp=Z,1.6nm,0.8s,baz=272,slow=3.3,SNR=6.1
NVAR PKiKP 07 11 06.5
comp=Z,1.3nm,0.6s,baz=230,slow=0.6,SNR=6.9
NVAR PKKPbc 07 22 05.5
comp=Z,3.6nm,1.0s,baz=128,slow=2.1,SNR=9.1
NVAR Mina Array Bea 110.86 52 Pdif Pdif 07 07 09.3 +4.4
NVAR PKPdf PKPdf 07 11 06.5 +3.4
NVAR PKKPbc 07 22 05.5
EDM Edmonton 110.98 35 *e*PKIKP PKPdf 07 11 05.0 +2.1
PVCC Panska Ves 111.50 322 *e*PKP PKPdf 07 11 06.5 +2.5
PVCC *e*PP PP 07 11 49.2 -1.4
PRU Pruhonice 111.66 321 *e*PKP PKPdf 07 11 06.1 +1.8
PRU *e*PP PP 07 11 47.8 -4.0
ARSA Arzberg 111.74 318⇑ *iP* PKPdf 07 11 06.0 +1.5
ARSA *i* 07 11 18.3
BRG Berggiesshubel 111.78 322 *e*PKIKP PKPdf 07 11 06.9 +2.4
BRG pmax pmax
comp=Z,25nm,1.5s
BRG Berggiesshubel 111.78 322 *eP* PKPdf 07 11 06.9 +2.4
BRG *e* 07 11 38.9
PERS Pernice 112.16 318 *i* PKiKP 07 11 07.1
CLL Collm 112.22 323 *i* PKIKP PKPdf 07 11 07.4 +2.0
comp=Z,logA/T=1.1
CLL *i* PP PP 07 11 58.8 +2.9
CLL Collm 112.22 323 *i* PKIKP PKPdf 07 11 07.4 +2.0
CLL *i* 07 11 58.8
CLL pmax pmax
comp=Z,13nm,1.1s
BOJS Bojanci 112.34 317 *i* PKiKP 07 11 08.1
MOA Molln 112.42 319⇑ *iP* PKPdf 07 11 07.6 +1.8
KHC Kasperske Hory 112.50 321 *e*PKP PKPdf 07 11 08.2 +2.2
KHC *e*PP PP 07 11 59.0 +0.8
GERES GERESS Array B 112.51 320 Pdiff Pdif 07 07 12.6 +0.7
comp=Z,0.3nm,0.6s,baz=104,slow=8.1,SNR=2.8
GERES PKiKP 07 11 08.0
comp=Z,6.4nm,0.5s,baz=86,slow=1.6,SNR=69
GERES PKKPbc 07 22 06.5
comp=Z,0.6nm,0.7s,baz=259,slow=6.8,SNR=4.2
LJU Ljubljana 112.70 317 *i* PKiKP 07 11 09.0
HLID Hailey 112.83 46 *e*PKiKP 07 11 10.0
NKC Novy Kostel 112.88 322 *e*PKP PKPdf 07 11 09.0 +2.3
KBA Koelnbreinsper 113.22 319⇑ *iP* PKPdf 07 11 08.5 +1.0
ROBS Robic 113.34 318 *i* PKiKP 07 11 09.4
MCMT McKenzie Canyo 113.62 44 *e*PKiKP 07 11 10.8
GRA1 Grafenberg Arr 113.80 322 *e*PKPdf PKPdf 07 11 09.8 +1.2
GRF Grafenberg Arr 113.80 322 *e*PKIKP PKPdf 07 11 09.8 +1.2
NEN Nelson 114.01 54 *e*PKiKP 07 11 11.6
WATA Walderalm 114.31 319⇓ *iP* PKPdf 07 11 11.3 +1.6
ARV Arcevia 114.44 315 *e*PKP PKPdf 07 11 12.5 +2.5
SQTA Sankt Quirin 114.58 319⇓ *iP* PKPdf 07 11 11.6 +1.4
MOTA Moosalm 114.61 319⇓ *iP* PKPdf 07 11 11.9 +1.6
MNS Montasola 114.90 314 *e*PKP PKPdf 07 11 12.4 +1.5
SFI Santa Sofia 115.09 315 *e*PKP PKPdf 07 11 13.9 +2.6
YEL1 Yell 115.28 336⇓ *eP* PKPdf 07 11 12.6 +1.4
TPAW Teton Pass 115.28 45 *e*PKPdf PKPdf 07 11 14.5 +2.9
BRMO Bormio 115.35 319 *e*PKP PKPdf 07 11 13.7 +2.0
STU Stuttgart 115.36 321 PKIKP PKPdf 07 11 13.7 +2.0
STU Stuttgart 115.36 321 *e*PKPdf PKPdf 07 11 13.1 +1.4
REDW Red Top Meadow 115.39 45 *e*PKPdf PKPdf 07 11 14.6 +2.7
WUWY Wally Ulrich 115.42 45 *e*PKPdf PKPdf 07 11 14.7 +2.7
SNOW Snow King Moun 115.43 45 *e*PKPdf PKPdf 07 11 15.0 +3.1
LOHW Long Hollow 115.50 45 *e*PKPdf PKPdf 07 11 14.7 +2.6
LRW Lerwick 115.56 335⇓ *eP* PKPdf 07 11 13.3 +1.5
MSU Marysvale 115.58 51 PKIKP PKPdf 07 11 16.1 +3.7
MSU Marysvale 115.58 51 *e*PKPdf PKPdf 07 11 15.3 +3.0
DAVOX Davos 115.58 319 PKKPbc 07 21 49.0
comp=Z,4.1nm,0.5s,baz=239,slow=6.1,SNR=11
SAN1 Sandwick 115.65 335 *eP* PKPdf 07 11 13.2 +1.3
TMUT Trail Mountain 116.14 49 *e*PKPdf PKPdf 07 11 15.8 +2.4
PDAR Pinedale Array 116.46 45 PKP PKPdf 07 11 15.9 +2.0
comp=Z,7.6nm,1.1s,baz=275,slow=0.6,SNR=25
PDAR PKKPbc 07 21 45.0
comp=Z,1.8nm,0.7s,baz=104,slow=6.1,SNR=12
PDAR SKKPbc 07 25 21.0
comp=Z,0.4nm,0.6s,baz=119,slow=5.8,SNR=3.6
VAI Varese 116.60 318 *e*PKP PKPdf 07 11 15.4 +1.3
USHA Ushuaia 116.62 168 PKKPbc 07 21 42.2
comp=Z,5.4nm,0.5s,baz=9.9,slow=8.6,SNR=9.0
CDF Champ du Feu 116.68 321 *e*PKIKP PKPdf 07 11 15.5 +1.3
comp=Z,25nm,1.1s
SRU San Rafael 116.70 50 PKIKP PKPdf 07 11 16.8 +2.3
SRU San Rafael 116.70 50 *e*PKPdf PKPdf 07 11 16.3 +1.8
MCGN Macugnaga 117.09 319 *e*PKP PKPdf 07 11 16.9 +1.9
HINF Hinteralfeld 117.16 321 *e*PKIKP PKPdf 07 11 16.5 +1.4
comp=Z,31nm,0.7s
PGF Pioggiola 117.47 315 *e*PKIKP PKPdf 07 11 17.7 +1.9
comp=Z,17nm,0.5s
GIVF Givet 117.50 324 *e*PKIKP PKPdf 07 11 17.8 +2.1
BAIF Baives 117.88 324 *e*PKIKP PKPdf 07 11 18.6 +2.2
comp=Z,51nm,0.9s
PV10 Paradox Valley 118.00 50 *e*PKPdf PKPdf 07 11 19.7 +2.7
MEZF Maizieres J'vi 118.02 322 *e*PKIKP PKPdf 07 11 18.7 +2.0
LPG La Plagne 118.06 318 *e*PKIKP PKPdf 07 11 19.1 +2.2
comp=Z,27nm,0.6s
LPL La Plagne 118.06 318 *e*PKIKP PKPdf 07 11 19.1 +2.2
comp=Z,36nm,0.5s
CABF La Chapelle 118.09 320 *e*PKIKP PKPdf 07 11 19.1 +2.2
comp=Z,68nm,0.6s
SBF Sospel 118.15 316 *e*PKIKP PKPdf 07 11 18.8 +1.7
comp=Z,51nm,0.7s
MBDF Montbardon 118.31 318 *e*PKIKP PKPdf 07 11 19.0 +1.6
comp=Z,20nm,0.6s
PV01 Paradox Valley 118.42 50 *e*PKPdf PKPdf 07 11 20.6 +2.7
ESY Stoneypath 118.58 332⇓ *eP* PKPdf 07 11 18.8 +1.1
ESY AMb AMB 07 11 20.2
comp=Z,32nm,0.8s
LCP Cassop 118.69 331⇓ *eP* PKPdf 07 11 18.9 +1.0
FRF La Foret Royal 118.79 316 *e*PKIKP PKPdf 07 11 20.2 +1.8
comp=Z,45nm,1.0s
EDI Edinburgh 118.84 332 *eP* PKPdf 07 11 19.9 +1.7
EDI AMb AMB 07 11 28.7
comp=Z,48nm,1.9s
ORIF Oris-en-Rattie 118.84 318 *e*PKIKP PKPdf 07 11 20.3 +1.8
comp=Z,26nm,0.6s
ORIF *e*R
comp=Z,183nm,22.6s
LMR La Mourre 118.96 316 *e*PKIKP PKPdf 07 11 20.4 +1.6
EAU Auchinoon 119.00 332⇓ *eP* PKPdf 07 11 20.1 +1.6
EAU AMb AMB 07 11 23.7
comp=Z,47nm,1.8s
EKA Eskdalemuir Ar 119.16 332 PKKPbc 07 21 35.5
comp=Z,2.9nm,0.6s,baz=240,slow=4.0,SNR=12
HPK Haverah Park 119.18 330⇓ *eP* PKPdf 07 11 20.6 +1.7
ESK Eskdalemuir 119.19 332⇓ *eP* PKPdf 07 11 20.1 +1.2
ESK AMb AMB 07 11 41.6
comp=Z,42nm,2.0s
EAB Aberfoyle 119.21 333 *eP* PKPdf 07 11 20.2 +1.3
EAB AMb AMB 07 11 35.6
comp=Z,30nm,1.5s
LOR Lormes 119.25 321 *e*PKIKP PKPdf 07 11 21.0 +1.8
comp=Z,24nm,0.8s
LOR *e*R
comp=Z,115nm,21.6s
SMRF Simiane la Rot 119.38 317 *e*PKIKP PKPdf 07 11 21.8 +2.3
comp=Z,40nm,0.8s
KBI1 Birley Grange 119.50 329⇑ *eP* PKPdf 07 11 20.8 +1.3
SMF Signal de Mont 119.51 321 *e*PKIKP PKPdf 07 11 21.2 +1.5
comp=Z,14nm,0.5s
LHO Holmfirth 119.51 329 *eP* PKPdf 07 11 21.2 +1.6
SSF Saint Saulge 119.55 321 *e*PKIKP PKPdf 07 11 21.7 +1.9
comp=Z,31nm,0.5s
VIVF Saint-Julien-l 119.66 318 *e*PKIKP PKPdf 07 11 21.8 +1.8
comp=Z,22nm,0.7s
AVF Avril sur Loir 119.76 321 *e*PKIKP PKPdf 07 11 21.8 +1.6
comp=Z,18nm,0.5s
KWE Weaver Farm 119.79 329⇑ *eP* PKPdf 07 11 21.5 +1.4
RSSD Black Hills 119.83 42 PKIKP PKPdf 07 11 22.1 +1.7
RSSD Black Hills 119.83 42 *e*PKPdf PKPdf 07 11 21.9 +1.5
BGF Bois d'Agland 120.17 321 *e*PKIKP PKPdf 07 11 23.0 +2.0
comp=Z,99nm,0.7s
ISCO Idaho Springs 120.17 48 PKIKP PKPdf 07 11 24.2 +3.0
ISCO Idaho Springs 120.17 48 *e*PKPdf PKPdf 07 11 23.7 +2.5
LASF Ste Croix 120.50 318 *e*PKIKP PKPdf 07 11 23.2 +1.5
TCF Toulx Ste Croi 120.68 321 *e*PKIKP PKPdf 07 11 23.9 +1.9
comp=Z,88nm,1.1s
SDCO Great Sand Dun 120.86 50 *e*PKPdf PKPdf 07 11 25.3 +2.7
ANMO Albuquerque 120.86 53 PKIKP PKPdf 07 11 25.6 +2.9
ANMO Albuquerque 120.86 53 *e*PKPdf PKPdf 07 11 25.4 +2.7
LPM Los Pinos Moun 120.88 54 *e*PKPdf PKPdf 07 11 25.3 +2.6
BNM Barren Site 120.92 54 *e*PKPdf PKPdf 07 11 25.5 +2.7
LDF La Druitiere 121.07 324 *e*PKIKP PKPdf 07 11 24.3 +1.6
comp=Z,8.7nm,0.5s
FLN La Foliniere 121.20 324 *e*PKIKP PKPdf 07 11 24.3 +1.3
comp=Z,34nm,0.8s
FLN *e*R
comp=Z,136nm,18.1s
CAF Calviac 121.34 319 *e*PKIKP PKPdf 07 11 25.6 +2.3
comp=Z,60nm,1.1s
RJF Les Rejaudoux 121.54 320 *e*PKIKP PKPdf 07 11 25.6 +1.9
RJF *e*R
comp=Z,149nm,22.6s
GRR Gorron 121.60 324 *e*PKIKP PKPdf 07 11 25.6 +1.9
EJON La Jonquera 121.76 316 PKP PKPdf 07 11 25.9 +1.7
MTLF Montolieu 121.88 318 *e*PKIKP PKPdf 07 11 26.1 +1.7
comp=Z,55nm,1.0s
MFF Saint Martin d 122.01 322 *e*PKIKP PKPdf 07 11 26.4 +1.8
comp=Z,114nm,0.8s
ULM Lac du Bonnet 122.06 33 PKP PKPdf 07 11 25.4 +0.8
comp=Z,7.0nm,0.5s,baz=327,slow=2.6,SNR=7.9
ULM PKKPbc 07 21 23.2
comp=Z,7.4nm,0.9s,baz=112,slow=3.7,SNR=4.2
LFF La Frestale 122.19 320 *e*PKIKP PKPdf 07 11 27.2 +2.3
SGMF Saint Gilles 122.65 324 *e*PKIKP PKPdf 07 11 27.4 +1.7
comp=Z,40nm,0.5s
EMIR Miracle 122.90 316 PKP PKPdf 07 11 29.0 +2.6
QUIF Quistinic 123.17 324 *e*PKIKP PKPdf 07 11 28.5 +1.7
EPF Esparros 123.26 318 *e*PKIKP PKPdf 07 11 29.2 +2.1
comp=Z,21nm,0.6s
EPOB Poblet 123.43 316 PKP PKPdf 07 11 29.4 +1.9
CPRX Cap Rock 123.43 55 *e*PKPdf PKPdf 07 11 29.5 +1.8
EBIE Bielsa 123.53 318 PKP PKPdf 07 11 30.4 +2.7
CLNB Carlsbad 123.62 56 *e*PKPdf PKPdf 07 11 30.2 +2.2
ETSF Etsaut 123.91 318 *e*PKIKP PKPdf 07 11 31.0 +2.6
comp=Z,74nm,1.1s
SJPF Ste Jean 124.26 319 *e*PKIKP PKPdf 07 11 31.6 +2.6
comp=Z,31nm,0.8s
ESAC San Caprasio 124.35 317 PKP PKPdf 07 11 31.6 +2.4
LTX Lajitas 124.48 59 *e*PKPdf PKPdf 07 11 31.7 +1.9
TXAR Lajitas Array 124.48 59 PKP PKPdf 07 11 32.3 +2.5
comp=Z,3.3nm,0.5s,baz=178,slow=3.1,SNR=52
TXAR PKKPbc 07 21 15.9
comp=Z,1.5nm,0.7s,baz=115,slow=5.6,SNR=14
AMTX Amarillo 124.66 52 *e*PKP PKPdf 07 11 31.7 +1.7
CBKS Cedar Bluff 124.79 47 PKIKP PKPdf 07 11 32.4 +2.2
CBKS Cedar Bluff 124.79 47 *e*PKPdf PKPdf 07 11 31.7 +1.5
EMOS Mosqueruela 124.90 315 PKP PKPdf 07 11 33.5 +3.1
EBEN Beniarda 125.38 313 PKP PKPdf 07 11 34.1 +2.8
ELAN Lanestosa 125.64 320 PKP PKPdf 07 11 34.5 +2.8
ETOR Torete 125.81 316 PKP PKPdf 07 11 35.2 +3.1
EARI Arriondas 126.74 320 PKP PKPdf 07 11 36.0 +2.2
KSU1 Kansas State U 126.92 45 *e*PKPdf PKPdf 07 11 36.3 +2.1
WMOK Wichita Mounta 126.96 51 PKIKP PKPdf 07 11 36.4 +1.9
WMOK Wichita Mounta 126.96 51 *e*PKPdf PKPdf 07 11 36.3 +1.8
EVIA Vianos 127.04 314 PKP PKPdf 07 11 37.2 +2.7
JCT Junction City 127.45 57 PKIKP PKPdf 07 11 36.1 +0.5
JCT Junction City 127.45 57 *e*PKPdf PKPdf 07 11 37.2 +1.6
ESDC Sonseca Array 127.62 316 PKP PKPdf 07 11 37.8 +2.2
comp=Z,2.2nm,0.6s,baz=16,slow=2.4,SNR=17
ESDC PP PP 07 13 40.3 -1.6
comp=Z,5.1nm,0.7s,baz=64,slow=6.9,SNR=12
ESDC Sonseca Array 127.62 316 PKP PKPdf 07 11 38.1 +2.5
EQES Quesada 127.79 313 PKP PKPdf 07 11 38.8 +2.8
EPON Pontenova 127.95 321 PKP PKPdf 07 11 39.0 +2.8
EBER Berja 128.02 312 PKP PKPdf 07 11 38.9 +2.4
ECAL Calabor 128.40 320 PKP PKPdf 07 11 39.9 +2.8
ERUA La Rua 128.43 320 PKP PKPdf 07 11 40.0 +2.9
PBRG Braganca 128.47 319 *e*PKPdf PKPdf 07 11 39.7 +2.5
ERON Agron 128.65 313 PKP PKPdf 07 11 39.6 +1.9
EADA Adamuz 128.72 314 PKP PKPdf 07 11 40.3 +2.5
ELUQ Luque 128.75 314 PKP PKPdf 07 11 40.2 +2.3
ELOJ Sierra Loja 128.84 313 PKP PKPdf 07 11 39.6 +1.5
STS Santiago 129.05 322 PKP PKPdf 07 11 41.1 +2.9
PVRL Vila Real 129.37 319 *e*PKPdf PKPdf 07 11 42.3 +3.4
EMIJ Mijas 129.54 313 PKP PKPdf 07 11 41.2 +1.8
MTE Manteigas 129.70 318 *e*PKPdf PKPdf 07 11 42.6 +3.0
PVIS Viseu 129.77 319 *e*PKPdf PKPdf 07 11 42.9 +3.2
PCBR Castelo Branco 129.94 318 *e*PKPdf PKPdf 07 11 43.2 +3.1
SCHQ Schefferville 130.13 13 PKP PKPdf 07 11 41.0 +1.1
comp=Z,7.7nm,0.7s,baz=316,slow=2.6,SNR=10
SCHQ Schefferville 130.13 13 *e*PKPdf PKPdf 07 11 41.9 +1.9
ESPR Espera 130.20 313 PKP PKPdf 07 11 43.2 +2.6
EMIN Mina Concepcio 130.37 315 PKP PKPdf 07 11 43.7 +2.7
EVO Evora 130.94 316 *e*PKIKP PKPdf 07 11 43.3 +1.3
comp=Z,47nm,1.0s
EVO *e*R
comp=Z,137nm,22.8s
MIAR Mount Ida 131.02 49 *e*PKIKP PKPdf 07 11 44.7 +2.4
PALC Alcoutim 131.08 315 *e*PKPdf PKPdf 07 11 42.5 +0.2
PBEJ Beja 131.09 316 *e*PKPdf PKPdf 07 11 44.9 +2.6
CCM Cathedral Cave 131.15 44 *e*PKIKP PKPdf 07 11 43.5 +1.1
MOE Montemor 131.18 317 *e*PKPdf PKPdf 07 11 46.0 +3.5
FVM French Village 131.75 44 *e*PKIKP PKPdf 07 11 44.3 +0.8
BLO Bloomington 133.71 40 *e*PKIKP PKPdf 07 11 49.8 +2.6
WCI Wyandotte Cave 134.39 41 *e*PKIKP PKPdf 07 11 50.6 +2.1
ACSO Alum Creek Sta 135.27 37 *e*PKPdf PKPdf 07 11 52.8 +2.7
KIC Kosan Boka 135.44 272 *e*PKP1 07 15 15.4
comp=Z,63nm,1.6s
DBIC Dimbokro 135.57 273 PKP PKPdf 07 11 52.2 +1.0
comp=Z,35nm,0.5s,baz=78,slow=2.0,SNR=9.2
DBIC SKPbc 07 15 16.1
comp=Z,7.7nm,0.8s,baz=70,slow=2.1,SNR=4.5
LIC Lamto 135.72 272 *e*PKIKP PKPdf 07 11 53.0 +1.5
comp=Z,80nm,0.6s
LIC Lamto 135.72 272 *e*PKP1 07 15 15.6
comp=Z,88nm,1.3s
TIC Toumodi 135.73 273 *e*PKP1 07 15 16.3
comp=Z,334nm,1.7s
GENY Geneseo 136.37 30 *e*PKPdf PKPdf 07 11 53.7 +1.7
LOZ Lake Ozonia 136.47 26 *e*PKPdf PKPdf 07 11 54.2 +2.1
LRAL Lakeview Retre 136.59 48 *e*PKPpre 07 11 41.6
LRAL *e*PKPdf PKPdf 07 11 54.4 +1.8
MIV Mineville/With 137.36 26 *e*PKPdf PKPdf 07 11 55.5 +1.8
MDV Middlebury 137.57 25 *e*PKPdf PKPdf 07 11 57.4 +3.3
BINY Binghamton 137.70 29 *e*PKPdf PKPdf 07 11 57.5 +3.0
SSPA Standing Stone 137.88 33 *e*PKPpre 07 11 42.7
SSPA *e*PKPdf PKPdf 07 11 56.0 +1.2
FWV Forest Hill 138.25 38 *e*PKPpre 07 11 45.8
FWV *e*PKPdf PKPdf 07 11 57.4 +1.8
PWV Princeton 138.26 39 *e*PKPpre 07 11 45.4
PWV *e*PKPdf PKPdf 07 11 58.4 +2.8
BLA Blacksburg 138.73 38 PKPdf PKPdf 07 12 00.1 +3.6
BLA Blacksburg 138.73 38 PKPdf PKPdf 07 11 58.2 +1.7
JTS JuntasAbangare 144.89 82⇑ *iP* PKPdf PKPdf 07 12 09.8 +1.8
LVC Limon Verde 145.20 148⇑ *eP* PKPdf PKPdf 07 12 11.7 +3.5
LVC *e* 07 12 20.5
CPUP Villa Florida 146.24 167 PKPbc PKPbc 07 12 12.6 +1.4
comp=Z,89nm,1.0s,baz=226,slow=1.9,SNR=88
CPUP Villa Florida 146.24 167 PKP2 PKPab 07 12 13.0 -1.2
CPUP Villa Florida 146.24 167 *e*PKPdf PKPdf 07 12 12.2 +2.2
CPUP LR LR
comp=Z,297nm,21.0s
NNA Nana 147.12 124 *e*PKPdf PKPdf 07 12 14.4 +2.7
NNA *e*PKPbc PKPbc 07 12 16.6 +4.9
ARE Arequipa 148.34 137⇑ *iP* PKPdf 07 12 21.0 +7.4
NEJ Negril 149.79 65⇑ *iP* PKPdf 07 12 12.3 -3.6
CAM4 Nova Friburgo 150.23 193⇓ *iP* PKPdf 07 12 25.2 +8.7
CAM4 *i* 07 12 35.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CAM4				i		07 12 54.6	
MCJ	Malvern	150.47	65⇑	iP	PKPdf	07 12 24.4	+7.4
OTAV	Otavalo	150.50	102	ePKPdf	PKPdf	07 12 20.5	+3.3
OTAV				ePKPab	PKPab	07 12 30.7	-1.1
LPAZ	La Paz	150.65	142	PKP	PKPdf	07 12 21.1	+3.9
	comp=Z,7.9nm,1.0s,baz=227,slow=1.2,SNR=21						
LPAZ				PKPbc	PKPdf	07 12 26.8	+10
	comp=Z,64nm,0.5s,baz=23,slow=1.6,SNR=211						
LPAZ	La Paz	150.65	142	PKPdf	PKPdf	07 12 21.0	+3.8
LPAZ				PKiKP		07 12 26.8	
LPAZ	La Paz	150.65	142	ePKPdf	PKPdf	07 12 20.9	+3.6
LPAZ				i PKPbc	PKPdf	07 12 26.8	+10
STH	Stony Hill	151.21	65⇑	iP	PKPdf	07 12 25.9	+7.9
GWJ	Greenwich	151.29	64⇑	iP	PKPdf	07 12 26.2	+8.1
ROSC	El Rosal	155.33	93	PKP	PKPdf	07 12 27.4	+3.5
	comp=Z,9.6nm,0.7s,baz=93,slow=1.8,SNR=10						
ROSC				PKPbc	PKPdf	07 12 36.7	+13
	comp=Z,29nm,0.7s,baz=231,slow=16,SNR=22						
ROSC				PKPab	PKPab	07 12 54.3	+2.2
	comp=Z,29nm,0.5s,baz=108,slow=7.1,SNR=11						
BDFB	Brasilia	157.66	184	PKP	PKPdf	07 12 30.1	+3.3
	comp=Z,8.7nm,0.8s,baz=81,slow=2.6,SNR=16						
BAO	Brasilia Array	157.67	184	eP	PKPdf	07 12 29.6	+2.7
BAO				i		07 12 59.0	
SDV	Santo Domingo	159.07	83	ePKPdf	PKPdf	07 12 30.2	+1.6
SAML	Samuel	159.33	139	ePKPdf	PKPdf	07 12 31.2	+2.3
SAML				ePKPab	PKPab	07 13 08.6	-0.7
SJG	San Juan	160.33	54	PKP	PKPdf	07 12 31.9	+2.0
	comp=Z,11nm,0.8s,baz=70,slow=8.4,SNR=5.9						
SJG				PKPab	PKPab	07 13 11.6	-1.8
	comp=Z,33nm,1.0s,baz=337,slow=17,SNR=4.0						
SJG	San Juan	160.33	54	PKIKP	PKPdf	07 12 31.8	+1.9
SJG	San Juan	160.33	54	ePKPdf	PKPdf	07 12 31.4	+1.5
HUMP	Col San Antoni	160.56	53	ePKPdf	PKPdf	07 12 32.1	+2.0
CPD	Cerro la Pandu	160.56	53	PKIKP	PKPdf	07 12 32.2	+2.1
CPD	Cerro la Pandu	160.56	53	PKPdf	PKPdf	07 12 31.4	+1.3

WEL 10 06:56:36.6±0.4**, 38.43S×175.88E, h153km±4km, ML3.5**/4**, Error ellipse: s-maj=4.5km s-min=2.9km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NGZ	Ngauruhoe	0.78	196	PN	P	06 57 00.2	0.0
CNZ	Chateau	0.81	198	PN	P	06 57 00.1	-0.3
TUVZ	Tukino	0.86	192	PN	P	06 57 00.8	0.0
BKZ	Black Stump Fm	0.88	147	PN	P	06 57 00.9	-0.1
BKZ				SN	S	06 57 18.7	-0.9
WNVZ	Wahianoa	0.92	193	PN	P	06 57 01.2	0.0
MOVZ	Moawhango	0.98	186	PN	P	06 57 01.1	-0.5
MWZ	Matawai	1.30	86	PN	P	06 57 04.6	-0.1
MWZ				SN	S	06 57 25.7	-0.6
KNZ	Kokohu	1.53	113	PN	P	06 57 06.6	-0.4
KNZ				SN	S	06 57 29.6	-0.8
PUZ	Puketiti	1.91	80	PN	P	06 57 10.2	-1.0
MRZ	Mangatainoka R	2.24	186	PN	P	06 57 12.3	-3.0
MRZ				SN	S	06 57 40.5	-4.3
KIW	Kapiti Island	2.54	197	PN	P	06 57 15.3	-3.6
MTW	Mount Morrison	2.74	186	PN	P	06 57 17.3	-4.2
CAW	Cannon Point	2.75	193	PN	P	06 57 17.4	-4.1
TUWZ	Tuamarina	3.35	206	PN	P	06 57 24.3	-4.9
NNZ	Nelson	3.38	214	PN	P	06 57 24.5	-5.2
NNZ				SN	S	06 58 04.2	-6.3
QRZ	Quartz Range	3.52	226	PN	P	06 57 26.0	-5.6
KHZ	Kahutara	4.36	203	PN	P	06 57 37.2	-5.3
KHZ				SN	S	06 58 25.7	-7.6

MAN 10 07:16:01.1, 13.83N×120.55E, h81km, mb4.3, ML3.1, MS2.9, 1C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.31	252	eP	P	07 16 15.3	+1.7
LUBP				eS	S	07 16 26.4	+3.4
TGY	Tagaytay City	0.46	54⇑	iP	P	07 16 16.8	+2.1
TGY				i S	S	07 16 27.1	+2.2
LQP	Lukban	1.00	74⇓	iP	P	07 16 21.5	+1.1
BOAC	Boac	1.31	106	eP	P	07 16 25.3	+0.8
BOAC				eS	S	07 16 44.1	+2.2
SJMP	San Jose	1.47	158	eP	P	07 16 27.1	+0.5
SJMP				eS	S	07 16 47.2	+1.8
BUSP	Coron	1.85	191	eP	P	07 16 30.9	-0.6
BUSP				eS	S	07 16 53.9	-0.1
OTRP	Odiongan	2.04	135	eP	P	07 16 34.4	+0.2
OTRP				eS	S	07 16 59.1	+0.5
CUYO	Cuyo Island	3.00	171	eP	P	07 16 45.5	-2.1

IDC 10 07:17:42.9±8.8**, 20.25S×178.41W, h523km±98km, mb3.3**/6**, mb1 3.7**/6**, mb1mx3.4**/12**, Error ellipse: s-maj=95.0km s-min=29.2km az=156.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	44.20	257	P	P	07 25 05.7	-1.1
	6.5nm,0.6s,baz=97,slow=7.5,SNR=88						
ASAR				PcP	PcP	07 26 37.9	-2.8
	0.8nm,0.6s,baz=111,slow=3.6,SNR=5.0						
WRA	Warramunga Arr	44.26	262	P	P	07 25 05.6	-1.6
	4.9nm,0.7s,baz=98,slow=8.3,SNR=26						
NVAR	Mina Array Bea	81.11	44	P	P	07 29 04.2	-0.3
	0.3nm,0.4s,baz=236,slow=11,SNR=3.6						
TXAR	Lajitas Array	87.25	57	P	P	07 29 34.4	-0.4
	1.0nm,0.9s,baz=217,slow=6.3,SNR=8.7						
ILAR	Eielson Array	88.16	13	P	P	07 29 36.3	-1.9
	0.9nm,1.1s,baz=214,slow=5.1,SNR=7.6						
CMAR	Chiang Mai Arr	89.67	290	P	P	07 29 46.9	+0.5
	1.6nm,0.9s,baz=122,slow=3.4,SNR=6.1						

*IDC **10** 07:28:18.9±3.0, 12.00N×86.10W, mb3.8/4, mb1 4.2/4, mb1mx3.9/17, MS3.3/2, Ms1 3.3/2, ms1mx2.8/19, Error ellipse: s-maj=224.0km s-min=25.3km az=46.0*
*CASC **10** 07:28:23.9±3.0, 11.42N×86.91W, h20km±11km, MD4.3, mb4.1(NEIC)*
*NEIC **10** 07:28:25.1±2.5, 11.31N×86.75W, h63km±19km, mb4.1/4, Error ellipse: s-maj=85.2km s-min=9.1km az=48.0*
ISC 10 07:28:24.3±0.4**, 11.43N**±0.04×**86.88W**±0.04**, h57km**±6km**, n58, σ1^{s}06**/74**, mb4.0**/8**, MS3.5**/1**, 12C-10D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CRUN	El Crucero	0.79	46⇑	eP	P	07 28 39.1	-0.5
CRUN				eS	S	07 28 51.1	+0.1
COPN	Copaltepe	0.80	21⇑	eP	P	07 28 39.5	-0.3
COPN				eS	S	07 28 49.7	-1.5
TICN	Ticuantepe	0.88	46⇓	eP	P	07 28 40.1	-0.6
XAVN	Gruta Xavier	0.90	37	eP	P	07 28 40.6	-0.4
MASN	Masaya	0.91	52⇑	eP	P	07 28 40.2	-0.9
APON	Apoyo	0.93	58⇑	eP	P	07 28 40.5	-1.0
MGAN	Managua	0.95	41⇑	eP	P	07 28 41.3	-0.4
MGAN				eS	S	07 28 54.8	+0.2
APYN	Apoyeque	0.95	33	eP	P	07 28 41.5	-0.3
LEON	Leon	0.98	359⇓	eP	P	07 28 41.9	-0.3
WILN	Americas 2	0.99	43⇓	eP	P	07 28 41.6	-0.8
WILN			⇑	eP		07 28 41.7	
WILN				eS	S	07 28 57.5	+1.7
MIRN	Miramar	1.02	9⇓	eP	P	07 28 42.7	-0.1
MIRN				eS	S	07 28 55.2	-1.2
MOMJ	Momotombo	1.03	19⇑	eP	P	07 28 42.8	-0.1
MOMJ				eS	S	07 28 50.7	-6.0
CNGN	Cerro Negro	1.08	9⇑	eP	P	07 28 43.4	-0.2
CNGN				eS	S	07 29 00.9	+3.1
CRIN	San Cristobal	1.28	352⇓	eP	P	07 28 46.8	+0.5
CRIN				eS	S	07 29 06.8	+4.1
PYTN	Playitas	1.37	36⇓	eP	P	07 28 47.0	-0.6
PYTN				eS	S	07 29 13.9	+8.9
QUIN	Quiabu	1.75	15⇓	eP	P	07 28 52.5	-0.3
QUIN				eS	S	07 29 15.6	+1.6
VCR	Vista de Mar	1.78	136	eP	P	07 28 54.6	+1.2
SOMN	Somoto	2.00	7⇓	eP	P	07 28 58.2	+1.9
CNCH	Conchagua	2.06	333⇑	eP	P	07 28 57.2	-0.1
JTS	JuntasAbangare	2.20	121	Pn	P	07 28 59.0	-0.3
	1μm,0.5s,SNR=39						
JTS	JuntasAbangare	2.20	121	eP	P	07 28 57.2	-2.1
JCR	Jicaral	2.34	132	eP	P	07 28 57.9	-3.4
JCR				eS	S	07 29 37.6	+8.8
FORC	Fortuna	2.37	113⇓	eP	P	07 29 03.5	+1.8
BLLM	Bellamira	2.40	327⇑	eP	P	07 29 02.8	+0.7
BLLM				eS	S	07 29 31.9	+1.4
VSM	San Miguel	2.41	326	eP	P	07 29 02.2	-0.1
CAHU	Cacacuatique	2.67	331	eP	P	07 29 06.0	+0.1
CGA2	Cerro Gallo 2	2.75	120	eP	P	07 29 06.0	-1.2
VPS2	Volcan Poas 2	2.87	115	eP	P	07 29 10.4	+1.6
SNVI	San Vicente	2.90	319	eP	P	07 29 08.0	-1.1
PRS1	Puriscal	2.90	119	eP	P	07 29 11.4	+2.2
LCBS	La Ceiba	3.02	317	eP	P	07 29 10.2	-0.7
LCBS				eS	S	07 29 45.9	-0.1
LFRS	El Faro	3.05	316⇓	eP	P	07 29 10.8	-0.5
LFRS				eS	S	07 29 46.4	-0.5
LBRS	Las Brisas	3.12	318	eP	P	07 29 08.5	-3.9
LAJ	Bijagual	3.12	120	eP	P	07 29 03.0	-9.4
SJS	Escuela Geolog	3.15	118	eP	P	07 29 12.7	+0.1
SJS				eS	S	07 29 53.2	+4.0
TRTC	Tortuguero	3.22	105	eP	P	07 29 10.6	-3.2
BOQS	Boqueron	3.28	315⇑	eP	P	07 29 14.3	-0.2
BOQS				eS	S	07 29 55.7	+3.1
LCR2	La Lucha 2	3.29	120⇑	eP	P	07 29 14.4	-0.3
ICR	Volcan Irazu	3.32	115	eP	P	07 29 17.0	+1.8
URSC	Urasca	3.43	117	eP	P	07 29 16.7	0.0
BUS	Buena Vista	3.59	121	eP	P	07 29 19.1	+0.2
SBLS	San Blas	3.59	312	eP	P	07 29 18.9	-0.1
SBLS				eS	S	07 30 00.1	-0.5
SNJE	San Jose	3.60	313	eP	P	07 29 21.2	+2.1
RTR	El Retiro	3.65	313	eP	P	07 29 18.8	-0.9
RTR				eS	S	07 30 02.0	+0.1
ROSC	El Rosal	14.03	117	LR	LR	07 36 34.3	
	comp=Z,67nm,18.2s,baz=226,slow=36						
LTX	Lajitas	23.72	321	eP	P	07 33 33.2	+1.2
	2.5nm,0.7s,mb3.8						
TXAR	Lajitas Array	23.72	321	P	P	07 33 33.6	+1.6
	1.3nm,0.5s,mb3.6,baz=135,slow=11,SNR=25						
WMOK	Wichita Mounta	25.61	337	eP	P	07 33 50.6	+0.4
	15nm,1.1s,mb4.4						
SAML	Samuel	31.07	130	eP	P	07 34 35.5	-4.0
SDCO	Great Sand Dun	31.07	331	eP	P	07 34 39.2	-0.2
	1.8nm,0.6s,mb4.1						
PV10	Paradox Valley	33.34	327	eP	P	07 34 58.3	-0.8
PDAR	Pinedale Array	36.93	332	P	P	07 35 29.0	-0.7
	1.0nm,0.6s,mb3.9,baz=130,slow=10,SNR=11						
PDAR				LR	LR	07 52 45.7	
	comp=Z,85nm,21.3s,MS3.5,baz=320,slow=40						
HWUT	Hardware Ranch	37.03	329	eP	P	07 35 30.5	-0.1
	2.1nm,0.5s,mb4.2						
REDW	Red Top Meadow	38.00	331	eP	P	07 35 38.8	+0.3
SNOW	Snow King Moun	38.03	331	eP	P	07 35 39.0	+0.2
NVAR	Mina Array Bea	38.84	319	PcP	PcP	07 37 57.8	+1.4
	1.6nm,0.8s,baz=148,slow=5.3,SNR=5.9						
BDFB	Brasilia	46.94	124	P	P	07 36 49.5	-2.1
	2.9nm,0.8s,mb4.2,baz=292,slow=12,SNR=5.8						
ILAR	Eielson Array	67.18	336	P	P	07 39 12.7	-1.6
	0.6nm,0.8s,mb3.7,baz=136,slow=4.2,SNR=15						

SKHL 10 07:35:48.6±0.3**, 52.59N×142.59E, h10km**±2km**, mb4.0**/5**, Sakhalin Island**

*NEIC **10** 07:57:12.7, 20.98N×69.57W, h25km, ML4.1(RSPR), After RSPR.*
RSPR 10 07:57:12.7, 20.98N×69.57W, h25km±99km**, MD4.1**/8**, 10C, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LSP	Las Mesas	3.64	140⇑	eP	Pn	07 58 03.8	-5.0
LSP				eS	Sn	07 58 47.5	-3.9
LRS	Lares	3.70	136⇑	eP	Pn	07 58 10.8	+1.1
LRS				eS	Sn	07 58 48.6	-4.5
AOPR	Arecibo Observ	3.73	134⇑	eP	Pn	07 58 12.0	+1.9
AOPR				eS	Sn	07 58 50.2	-3.5
MGP	Maguayo	3.77	141	eS	Sn	07 58 51.1	-3.6
MGP	Maguayo	3.77	141	eP	Pn	07 58 04.7	-5.9
PORP	Portuguez	4.01	136⇑	eP	Pn	07 58 10.1	-4.1
PORP				eS	Sn	07 58 56.0	-4.9
CELP	Cerrillos	4.03	135⇑	eP	Pn	07 58 15.1	+0.6
CELP				eS	Sn	07 58 57.2	-4.3
OBIP	Obispado Ponce	4.04	136	eS	Sn	07 58 56.8	-4.8
CSB	Colonia Sabana	4.18	129⇑	eP	Pn	07 58 17.9	+1.3
CSB				eS	Sn	07 59 02.1	-3.1
SJG	San Juan	4.30	131	eS	Sn	07 59 03.2	-5.1
SJG	San Juan	4.30	131⇑	eP	Pn	07 58 14.6	-3.7
SJG				eS	Sn	07 59 04.8	-3.5
SJG	San Juan	4.30	131	eP	Pn	07 58 11.8	-6.4
CBYP	Canovanas	4.41	127⇑	eP	Pn	07 58 15.4	-4.5
CBYP				eS	Sn	07 59 07.0	-4.1
HUMP	Col San Antoni	4.50	128⇑	eP	Pn	07 58 16.4	-4.7
HUMP				eS	Sn	07 59 09.3	-3.9
CPD	Cerro la Pandu	4.52	130⇑	eP	Pn	07 58 16.1	-5.3
CPD				eS	Sn	07 59 11.6	-2.1

*NEIC **10** 08:08:58.7, 35.42N×11.47W, h24km, MG4.5(MDD), After MDD.*
*MDD **10** 08:08:58.6±2.8, 35.41N×11.47W, h25km±169km, mb4.5/3, Error ellipse: s-maj=170.0km s-min=23.7km az=52.0, PRXIMO*
*INMG **10** 08:09:00.3±0.6, 35.57N×11.28W, ML2.2, Error ellipse: s-maj=5.8km s-min=4.3km az=109.0*
*CSEM **10** 08:09:00.2±0.3, 35.44N×11.10W, h2km, ML3.0/6, Error ellipse: s-maj=6.1km s-min=5.2km az=17.0*
ISC 10 08:09:00.2±1.4**, 35.59N**±0.07×**10.97W**±0.09**, h10km, n26, σ0^{s}95**/48**, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	2.66	42	ePn	Pn	08 09 45.0	+1.1
PTEO				eSn	Sn	08 10 18.3	+1.9
PTEO	Sao Teotonio	2.66	42	Pn	Pn	08 09 45.0	+1.2
PTEO				Sn	Sn	08 10 17.9	+1.5
PTEO	Sao Teotonio	2.66	42	Pn	Pn	08 09 45.0	+1.1
PTEO				Sn	Sn	08 10 18.0	+1.6
PALC	Alcoutim	3.37	55	ePn	Pn	08 09 55.3	+1.2
PALC				eSn	Sn	08 10 36.4	+1.8
	3.9nm,0.2s						
PALC	Alcoutim	3.37	55	Pn	Pn	08 09 55.3	+1.2
PALC				Sn	Sn	08 10 36.2	+1.6
PBEJ	Beja	3.48	45	ePn	Pn	08 09 55.9	+0.4
PBEJ				eSn	Sn	08 10 37.6	+0.4
	1.9nm,0.1s						
PBEJ	Beja	3.48	45	Pn	Pn	08 09 55.9	+0.4
PBEJ				Sn	Sn	08 10 37.6	+0.4
PLOU	Loures	3.59	23	ePn	Pn	08 09 57.0	-0.1
PLOU				eSn	Sn	08 10 39.1	-1.0
PLOU	Loures	3.59	23	Pn	Pn	08 09 57.1	0.0
PLOU				Sn	Sn	08 10 39.0	-1.1
MOE	Montemor	3.59	35	ePn	Pn	08 09 57.5	+0.3
MOE				eSn	Sn	08 10 40.5	+0.3
MOE	Montemor	3.59	35	Pn	Pn	08 09 57.5	+0.3
MOE				Sn	Sn	08 10 40.5	+0.3
EMIN	Mina Concepcio	4.08	57	Pn	Pn	08 10 04.6	+0.6
	0.7nm,0.2s,SNR=7.9						
EMIN				Sn	Sn	08 10 53.1	+0.7
	0.6nm,0.1s,SNR=7.9						
EMIN	Mina Concepcio	4.08	57	Pn	Pn	08 10 04.6	+0.5
	0.7nm,0.2s,SNR=7.9						
EMIN				Sn	Sn	08 10 53.1	+0.7
	0.6nm,0.1s,SNR=7.9						
ESPR	Espera	4.32	71	Pn	Pn	08 10 08.1	+0.5
	5.3nm,0.2s,SNR=19						
ESPR				Sn	Sn	08 10 59.4	+0.8
	6.1nm,0.3s						
ESPR	Espera	4.32	71	Pn	Pn	08 10 08.1	+0.5
ESPR				Sn	Sn	08 10 59.4	+0.8
ESPR	Espera	4.32	71	Pn	Pn	08 10 08.1	+0.5
	5.3nm,0.2s,SNR=19						
ESPR				Sn	Sn	08 10 59.4	+0.8
	6.1nm,0.3s						
EBAD	Badajoz	4.46	44	Pn	Pn	08 10 09.0	-0.6
	0.3nm,0.2s,SNR=4.0						
EBAD				Sn	Sn	08 11 01.6	-0.6
	2.1nm,0.2s,SNR=7.9						
EBAD	Badajoz	4.46	44	Pn	Pn	08 10 09.0	-0.6
	0.3nm,0.2s,SNR=4.0						
EBAD				Sn	Sn	08 11 01.6	-0.6
	2.1nm,0.2s,SNR=7.9						
PCBR	Castelo Branco	5.06	32	Sn	Sn	08 11 14.8	-2.4
PCBR	Castelo Branco	5.06	32	Sn	Sn	08 11 14.8	-2.5
EMIJ	Mijas	5.11	77	Pn	Pn	08 10 17.5	-1.2
	0.3nm,0.1s,SNR=4.0						
EMIJ				Sn	Sn	08 11 17.6	-0.9
	0.5nm,0.5s,SNR=4.0						
EADA	Adamuz	5.73	61	Pn	Pn	08 10 27.3	-0.1
	2.5nm,0.2s,SNR=20						
EADA				Sn	Sn	08 11 33.1	-1.0
	1.5nm,0.2s,SNR=7.9						
EADA	Adamuz	5.73	61	Pn	Pn	08 10 27.4	0.0
EADA				Sn	Sn	08 11 33.1	-0.9
	1.5nm,0.2s,SNR=7.9						
EQES	Quesada	6.71	69	Pn	Pn	08 10 40.6	-0.7
	SNR=7.9						
EQES				Sn	Sn	08 11 57.5	-1.1
	0.7nm,0.2s,SNR=5.0						
ESDC	Sonseca Array	6.89	52	Pn	Pn	08 10 43.1	-0.6
	2.4nm,0.1s,baz=239,slow=13,SNR=12						
ESDC	Sonseca Array	6.89	52	Pn	Pn	08 10 43.1	-0.7
	2.4nm,0.1s,SNR=12						

*CSEM **10** 08:13:55.9±0.1, 34.97N×4.18W, h15km, MD4.4, Error ellipse: s-maj=2.0km s-min=1.3km az=97.0*
*CNRM **10** 08:13:55.4, 35.10N×3.95W, h14km, MD4.4*
*IDC **10** 08:13:58.4±2.2, 35.04N×4.42W, mb3.8/6, mb1 4.0/8, mb1mx3.7/26, ML3.9/2, Error ellipse: s-maj=46.4km s-min=28.5km az=7.0*
*INMG **10** 08:13:59.1±1.3, 35.01N×3.93W, h21km±17km, ML3.3, Error ellipse: s-maj=15.9km s-min=4.5km az=165.0*
*IAG **10** 08:13:59, 35.07N×4.06W, h22km, Mw4.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-0.45; $M_{\theta\theta}$-0.29; $M_{\phi\phi}$0.74; $M_{r\theta}$-0.20; $M_{\theta\phi}$-0.99; $M_{\phi r}$0.29; Best double couple: $M_0$1.24×10^{15} NP1:ϕ_s284°, δ85°, λ170°. NP2:ϕ_s14°, δ80°, λ6°. Principal axes: T .897, Plg11°, Azm239°; N .515, Plg79°, Azm75°; P -1.41, Plg3°, Azm329°;*
*MDD **10** 08:13:59.0±1.0, 35.09N×4.01W, h1km±14km, mbLg3.0/2 Error ellipse: s-maj=18.3km s-min=5.8km az=174.0, PRXIMO AftershockPLICA*
*ZUR_RM **10** 08:13:59, 35.11N×4.09W, h15km, Mw4.0/5, Moment Tensor Solution. s5 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.56; $M_{\theta\theta}$-0.02; $M_{\phi\phi}$0.58; $M_{r\theta}$-0.20; $M_{\theta\phi}$-1.15; $M_{\phi r}$0.28; Best double couple: $M_0$1.22×10^{15} NP1:ϕ_s8°, δ85°, λ8°. NP2:ϕ_s277°, δ82°, λ175°. Principal axes: T 1.527, Plg9°, Azm232°; N -.618, Plg81°, Azm41°; P -.908, Plg2°, Azm142°;*
*SFS **10** 08:13:59.0, 35.12N×3.99W, h4km, ML4.5*
*NEIC **10** 08:13:59.6±1.5, 35.11N×4.09W, h10km, mb4.5/1, Error ellipse: s-maj=17.9km s-min=6.2km az=176.0*
*LDG **10** 08:14:00.8±0.6, 35.31N×3.77W, h10km, Ml4.0/1, Error ellipse: s-maj=13.8km s-min=5.7km az=174.0*
ISC 10 08:13:55.0±0.3**, 35.03N**±0.02×**4.14W**±0.02**, h1km, n136, σ1^{s}32**/213**, mb4.1**/5**, 3C-4D, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MPAL	Palemas	0.25	40	i P	Pg	08 13 59.0	-1.0
TOU	Touzarine	0.32	102	i P	Pg	08 13 59.5	-2.0
TZK	Tazeka	0.94	182	i P	Pg	08 14 13.5	-0.3
TZK				i S	Sg	08 14 27.0	+0.6
EMEL	Melilla	1.00	74	⇑P	Pb	08 14 14.9	-0.1
	1μm,0.2s,SNR=18						
EMEL				S	Sg	08 14 28.2	-0.3
	4μm,0.4s,SNR=8.1						
EMLI	Melilla	1.01	74	P	Pb	08 14 14.9	-0.1
	1μm,0.2s,SNR=18						
EMLI				S	Sg	08 14 28.2	-0.5
	4μm,0.4s,SNR=8.1						
MELI	Melilla	1.02	75	eS	Sb	08 14 27.2	-1.8
MELI	Melilla	1.02	75	i P	Pb	08 14 15.1	-0.1
ZAI	Zaio	1.15	93	i P	Pb	08 14 13.0	-4.3
ZAI				i S	Sb	08 14 25.5	-7.1
TGT	Taghat	1.22	218	i P	Pb	08 14 18.0	-0.6
TGT				i S	Sb	08 14 35.0	+0.2
MDAL	Dalia	1.40	309	i S	Sb	08 14 38.0	-1.8
EMIJ	Mijas	1.61	342	P	Pn	08 14 25.2	+0.4
	150nm,0.4s,SNR=7.9						
EMIJ				S	Sb	08 14 46.8	+0.7
	177nm,0.4s,SNR=7.9						
EMIJ				T		08 15 37.3	
	SNR=7.9						
EMIJ	Mijas	1.61	342	P	Pn	08 14 25.2	+0.4
EMIJ				S	Sb	08 14 45.8	-0.3
EMIJ	Mijas	1.61	342	P	Pn	08 14 25.2	+0.4
	150nm,0.4s,SNR=7.9						
EMIJ				S	Sb	08 14 45.8	-0.3
REAL	Reales	1.69	329	i P	Pn	08 14 26.2	+0.3
REAL				i S	Sb	08 14 46.5	-1.9
MIF	Mishlifen	1.85	209	i P	Pn	08 14 27.0	-1.3
MIF				i S	Sn	08 14 49.0	-3.7
ERON	Agron	2.00	8	P	Pn	08 14 30.2	-0.2
	42nm,0.3s,SNR=19						
ERON				S	Sn	08 14 54.5	-1.9
	69nm,0.4s,SNR=5.0						
ELOJ	Sierra Loja	2.11	360	P	Pn	08 14 33.2	+1.3
	71nm,0.3s,SNR=47						
ELOJ				S	Sn	08 15 00.5	+1.3
	38nm,0.3s,SNR=5.0						
EBER	Berja	2.12	28	P	Pn	08 14 30.9	-1.1
	77nm,0.3s,SNR=7.9						
EBER				S	Sn	08 14 56.9	-2.5
	252nm,0.5s,SNR=7.9						
EBER	Berja	2.12	28	P	Pn	08 14 30.8	-1.3
EBER				S	Sn	08 14 56.9	-2.5
EBER	Berja	2.12	28	P	Pn	08 14 30.9	-1.2
	77nm,0.3s,SNR=7.9						
EBER				S	Sn	08 14 56.9	-2.5
	252nm,0.5s,SNR=7.9						
LIJA	Lijar	2.13	332	eS	Sn	08 15 01.5	+1.7
LIJA	Lijar	2.13	332	i P	Pn	08 14 35.5	+3.3
ESPR	Espera	2.30	323	⇓P	Pn	08 14 37.8	+3.1
	37nm,0.4s,SNR=18						
ESPR				S	Sn	08 15 05.1	+1.0
	71nm,0.4s,SNR=7.9						
ESPR	Espera	2.30	323	⇓P	Pn	08 14 37.7	+3.1
ESPR				S	Sn	08 15 05.1	+1.0
ESPR	Espera	2.30	323	S	Sn	08 15 05.1	+1.0
	71nm,0.4s,SNR=7.9						
ESPR	Espera	2.30	323	⇓P	Pn	08 14 37.7	+3.0
RTC	Rabat Centre	2.47	246	i P	Pn	08 14 37.0	-0.1
RTC				i S	Sn	08 15 03.0	-5.4
ELUQ	Luque	2.52	358	P	Pn	08 14 40.6	+2.7
	41nm,0.3s,SNR=23						
ELUQ				S	Sn	08 15 12.9	+3.2
	43nm,0.4s,SNR=5.0						
OTSS	Djebel Tessala	2.75	84	P	Pn	08 14 43.0	+1.9
EQES	Quesada	2.90	17	⇑P	Pn	08 14 44.6	+1.5
	260nm,0.7s,SNR=18						
EQES				S	Sn	08 15 18.9	-0.3
	109nm,0.4s,SNR=7.9						
EQES	Quesada	2.90	17	⇑P	Pn	08 14 44.6	+1.5
EQES				S	Sn	08 15 16.6	-2.5
EQES	Quesada	2.90	17	P	Pn	08 14 44.6	+1.4
	260nm,0.7s,SNR=18						
EQES				S	Sn	08 15 18.9	-0.2
	109nm,0.4s,SNR=7.9						
ZFT	Errachidia	3.00	183	i P	Pn	08 14 44.0	-0.6
EADA	Adamuz	3.15	354	P	Pn	08 14 48.3	+1.6
	26nm,0.3s,SNR=7.9						
EADA				S	Sn	08 15 24.9	-0.7
	30nm,0.3s,SNR=7.9						
EADA	Adamuz	3.15	354	P	Pn	08 14 48.3	+1.5
	26nm,0.3s,SNR=7.9						
EADA				S	Sn	08 15 24.9	-0.6
	30nm,0.3s,SNR=7.9						
EMIN	Mina Concepcio	3.41	324	P	Pn	08 14 51.6	+1.1
	15nm,0.3s,SNR=7.9						
EMIN				S	Sn	08 15 31.4	-0.8
	18nm,0.3s,SNR=7.9						
EMIN	Mina Concepcio	3.41	324	P	Pn	08 14 51.6	+1.1
EMIN				S	Sn	08 15 30.4	-1.7
EMIN	Mina Concepcio	3.41	324	P	Pn	08 14 51.6	+1.1
	15nm,0.3s,SNR=7.9						
EMIN				S	Sn	08 15 31.4	-0.7
	18nm,0.3s,SNR=7.9						
ERIP	Rio Piedras	3.44	314	⇓P	Pn	08 14 52.3	+1.5
	3.7nm,0.2s,SNR=18						
ERIP				S	Sn	08 15 31.6	-1.2
	28nm,0.2s,SNR=7.9						
CART	Cartagena	3.59	44	eP	Pn	08 14 53.6	+0.5
PALC	Alcoutim	3.63	313	ePn	Pn	08 14 55.2	+1.6
PALC				eSn	Sn	08 15 37.3	-0.4

79nm,0.6s
PALC Alcoutim 3.63 313 P **Pn** 08 14 55.2 +1.6
PALC S **Sn** 08 15 37.3 -0.4
EMUR La Murta 3.65 39 P **Pn** 08 14 54.4 +0.5
26nm,0.6s,SNR=7.9
EMUR S **Sn** 08 15 32.6 -5.6
29nm,0.4s,SNR=7.9
EMUR La Murta 3.65 39 P **Pn** 08 14 54.4 +0.5
26nm,0.6s,SNR=7.9
EMUR S **Sn** 08 15 32.6 -5.6
29nm,0.4s,SNR=7.9
OJBR Djebel Berber 3.71 80 P **Pn** 08 14 55.0 +0.3
EVIA Vianos 3.83 20 P **Pn** 08 14 57.4 +0.9
96nm,0.6s,SNR=9.7
EVIA S **Sn** 08 15 39.8 -3.0
43nm,0.6s,SNR=4.0
EVIA Vianos 3.83 20 S **Sn** 08 15 42.1 -0.7
43nm,0.6s,SNR=4.0
PBEJ Beja 4.24 316 *e*Pn **Pn** 08 15 03.9 +1.7
23nm,0.4s
PBEJ Beja 4.24 316 P **Pn** 08 15 03.9 +1.8
PBEJ S **Sn** 08 15 52.5 -0.6
PBEJ Beja 4.24 316 P **Pn** 08 15 03.9 +1.7
PBEJ S **Sn** 08 15 52.5 -0.5
EBAD Badajoz 4.37 329 P **Pn** 08 15 05.0 +0.8
8.2nm,0.2s,SNR=7.9
EBAD S **Sn** 08 15 53.9 -2.6
44nm,0.2s,SNR=7.9
EBAD Badajoz 4.37 329 P **Pn** 08 15 05.2 +1.1
EBAD S **Sn** 08 15 53.9 -2.6
EBAD Badajoz 4.37 329 P **Pn** 08 15 05.0 +0.9
8.2nm,0.2s,SNR=7.9
EBAD S **Sn** 08 15 53.9 -2.6
44nm,0.2s,SNR=7.9
PTEO Sao Teotonio 4.47 305 *e*Pn **Pn** 08 15 08.1 +2.5
PTEO *e*Sn **Sn** 08 15 58.2 -0.9
45nm,0.6s
PTEO Sao Teotonio 4.47 305 P **Pn** 08 15 08.1 +2.6
PTEO S **Sn** 08 15 58.2 -0.8
PTEO Sao Teotonio 4.47 305 S **Sn** 08 15 58.2 -0.9
ESLA Sonseca Array 4.63 2 *e*Pn **Pn** 08 15 08.5 +0.6
ESDC Sonseca Array 4.64 2 Pn **Pn** 08 15 08.8 +1.0
8.9nm,0.3s,baz=181,slow=12,SNR=49
ESDC Sn **Sn** 08 16 00.7 -2.5
4.4nm,0.3s,baz=184,slow=22,SNR=4.8
ESDC Sonseca Array 4.64 2 P **Pn** 08 15 08.5 +0.7
23nm,0.3s,baz=178,slow=12,SNR=53
ESDC S **Sn** 08 15 58.8 -4.4
2.5nm,0.5s,baz=180,slow=24,SNR=4.0
ESDC Sonseca Array 4.64 2 P **Pn** 08 15 08.2 +0.3
ESDC S **Sn** 08 15 57.6 -5.6
ESDC Sonseca Array 4.64 2 P **Pn** 08 15 08.5 +0.6
23nm,0.3s,SNR=53
ESDC S **Sn** 08 15 57.6 -5.6
EVO Evora 4.67 319 *e*Pn **Pn** 08 15 09.8 +1.4
EVO *e*Sn **Sn** 08 16 01.8 -2.4
73nm,0.5s
EBNR Beni Rached 4.78 73 P **Pn** 08 15 08.0 -2.0
EBEN Beniarda 4.82 39 P **Pn** 08 15 11.6 +1.0
4.8nm,0.4s,SNR=5.0
EBEN S **Sn** 08 16 03.5 -4.5
5.1nm,0.4s,SNR=5.0
EBEN Beniarda 4.82 39 S **Sn** 08 16 03.5 -4.5
5.1nm,0.4s,SNR=5.0
EBEN Beniarda 4.82 39 P **Pn** 08 15 11.6 +1.0
4.8nm,0.4s,SNR=5.0
MOE Montemor 4.85 317 *e*Pn **Pn** 08 15 12.8 +1.8
MOE *e*Sn **Sn** 08 16 07.9 -0.8
MOE Montemor 4.85 317 P **Pn** 08 15 13.4 +2.4
MOE S **Sn** 08 16 07.9 -0.8
MOE Montemor 4.85 317 P **Pn** 08 15 13.4 +2.4
MOE S **Sn** 08 16 07.9 -0.8
OUK Oukaimeden 4.93 220 *i* P **Pn** 08 15 10.0 -2.1
CIA Chichaoua 5.19 229 *i* P **Pn** 08 15 14.0 -1.7
PCBR Castelo Branco 5.48 332 *e*Pn **Pn** 08 15 20.4 +0.5
PCBR *e*Sn **Sn** 08 16 19.3 -5.3
25nm,0.7s
PCBR Castelo Branco 5.48 332 P **Pn** 08 15 20.7 +0.8
PCBR S **Sn** 08 16 21.5 -3.1
PCBR Castelo Branco 5.48 332 P **Pn** 08 15 20.7 +0.8
PCBR S **Sn** 08 16 21.5 -3.1
JHA Jbel Lahdid 5.53 235 *i* P **Pn** 08 15 18.0 -2.5
PLOU Loures 5.56 315 *e*Pn **Pn** 08 15 22.0 +1.1
PLOU *e*Sn **Sn** 08 16 24.0 -2.4
37nm,0.7s
PLOU Loures 5.56 315 P **Pn** 08 15 22.0 +1.1
PLOU S **Sn** 08 16 24.0 -2.4
EMHD Djebel Mahouad 5.89 77 P **Pn** 08 15 25.0 -0.7
EIBI Ibiza 5.93 46 P **Pn** 08 15 23.5 -2.6
9.8nm,0.3s,SNR=4.0
MTE Manteigas 6.00 334 *e*Pn **Pn** 08 15 27.6 +0.5
MTE *e*Sn **Sn** 08 16 34.3 -3.1
45nm,0.8s
MTE Manteigas 6.00 334 P **Pn** 08 15 28.5 +1.4
MTE S **Sn** 08 16 34.2 -3.2
ETOR Torete 6.01 15 P **Pn** 08 15 28.0 +0.7
5.0nm,0.3s,SNR=11
ETOR S **Sn** 08 16 31.9 -5.7
9.2nm,0.6s,SNR=5.0
ETOR Torete 6.01 15 P **Pn** 08 15 28.0 +0.8
ETOR S **Sn** 08 16 34.0 -3.7
EMOS Mosqueruela 6.06 28 P **Pn** 08 15 29.4 +1.3
3.3nm,0.5s,SNR=7.9
EMOS S **Sn** 08 16 31.8 -7.3
3.0nm,0.6s,SNR=6.0
EMOS Mosqueruela 6.06 28 P **Pn** 08 15 29.6 +1.6
EMOS S **Sn** 08 16 31.8 -7.3
EMOS Mosqueruela 6.06 28 P **Pn** 08 15 29.4 +1.3
3.3nm,0.5s,SNR=7.9
PVIS Viseu 6.40 333 *e*Pn **Pn** 08 15 33.2 +0.4
PVIS *e*Sn **Sn** 08 16 42.7 -4.9
21nm,0.6s
PVIS Viseu 6.40 333 P **Pn** 08 15 33.6 +0.7
PVIS S **Sn** 08 16 43.2 -4.4
PVIS Viseu 6.40 333 P **Pn** 08 15 33.6 +0.8
PVRL Vila Real 6.84 337 *e*Pn **Pn** 08 15 39.1 +0.1
PVRL *e*Sn **Sn** 08 16 52.9 -5.6
17nm,0.6s
PVRL Vila Real 6.84 337 P **Pn** 08 15 39.3 +0.3
PVRL S **Sn** 08 16 53.2 -5.3
PVRL Vila Real 6.84 337 P **Pn** 08 15 39.3 +0.3
PBRG Braganca 7.06 344 *e*Pn **Pn** 08 15 42.3 +0.2
PBRG *e*Sn **Sn** 08 16 57.9 -6.2
15nm,0.8s
PBRG Braganca 7.06 344 P **Pn** 08 15 42.3 +0.1
PBRG S **Sn** 08 16 58.1 -6.0
ECAL Calabor 7.19 344 Lg 08 14 12.8
2.2nm,0.2s,SNR=7.9
ECAL Calabor 7.19 344 P **Pn** 08 15 44.0 +0.1
28nm,0.4s,SNR=7.9
ECAL S **Sn** 08 17 01.8 -5.5
20nm,0.4s,SNR=7.9
ECAL Calabor 7.19 344 P **Pn** 08 15 44.0 +0.1
ECAL S **Sn** 08 17 01.1 -6.2
ECAL Calabor 7.19 344 P **Pn** 08 15 44.0 +0.1
28nm,0.4s,SNR=7.9
ELOB Lobios 7.48 337 P **Pn** 08 15 48.7 +0.7
4.3nm,0.2s,SNR=7.9
ELOB S **Sn** 08 17 07.3 -7.3
18nm,0.4s,SNR=4.6
ELOB Lobios 7.48 337 P **Pn** 08 15 47.0 -1.0
ELOB S **Sn** 08 17 07.3 -7.3
ELOB Lobios 7.48 337 P **Pn** 08 15 48.7 +0.7
4.3nm,0.2s,SNR=7.9
ERUA La Rua 7.71 343 P **Pn** 08 15 51.3 0.0
7.0nm,0.5s,SNR=9.2
ERUA S **Sn** 08 17 13.4 -7.0
8.5nm,0.5s,SNR=8.9
EZAM Zamans 7.95 335 P **Pn** 08 15 53.4 -1.1
2.3nm,0.3s,SNR=4.0
EZAM S **Sn** 08 17 18.9 -7.4
2.9nm,0.4s,SNR=4.0
EZAM Zamans 7.95 335 P **Pn** 08 15 53.4 -1.1
EZAM S **Sn** 08 17 16.6 -10
ELAN Lanestosa 8.21 4 P **P** 08 15 58.7 +0.5
3.9nm,0.4s,SNR=7.9
ELAN Lanestosa 8.21 4 P **P** 08 15 57.0 -1.1
ELAN Lanestosa 8.21 4 P **P** 08 15 58.7 +0.6
3.9nm,0.4s,SNR=7.9
EARI Arriondas 8.30 355 P **P** 08 15 59.9 +0.5
2.2nm,0.3s,SNR=7.9
EARI S **Sn** 08 17 27.0 -7.9
3.0nm,0.6s,SNR=4.0
EARI Arriondas 8.30 355 P **P** 08 15 59.5 +0.1
EARI S **Sn** 08 17 27.0 -7.9
EARI Arriondas 8.30 355 P **P** 08 15 59.5 +0.1
ETSF Etsaut 8.33 18 *e*Pn **P** 08 15 54.1 -5.8
ETSF *e*P 08 15 59.9
ETSF Etsaut 8.33 18 *e*P **P** 08 15 59.9 0.0
EBIE Bielsa 8.34 22 P **P** 08 16 00.4 +0.4
1.6nm,0.4s,SNR=5.0
EBIE S **Sn** 08 17 26.8 -9.1
1.1nm,0.6s,SNR=5.0
EBIE Bielsa 8.34 22 P **P** 08 16 00.1 +0.1
EBIE S **Sn** 08 17 26.8 -9.1
EBIE Bielsa 8.34 22 P **P** 08 16 00.1 +0.1
SJPF Ste Jean 8.38 15 *e*Pn **P** 08 15 55.2 -5.3
SJPF *e*P 08 15 59.4
SJPF Ste Jean 8.38 15 *e*P **P** 08 15 59.4 -1.1
EALK Alkurruntz 8.43 13 P **P** 08 16 01.2 0.0
18nm,0.5s,SNR=7.9
EALK S **Sn** 08 17 27.8 -10
10nm,0.4s,SNR=7.9
STS Santiago 8.56 338 P **P** 08 16 03.0 0.0
1.9nm,0.3s,SNR=4.0
STS Santiago 8.56 338 P **P** 08 16 03.0 0.0
STS S **Sn** 08 17 31.2 -10
EPON Pontenova 8.61 345 Lg 08 14 18.5
0.5nm,0.2s,SNR=4.0
EPON Pontenova 8.61 345 P **P** 08 16 03.6 -0.1
2.7nm,0.3s,SNR=7.9
EPON Pontenova 8.61 345 P **P** 08 16 03.6 -0.1
MTLF Montolieu 9.65 29 *e*Pn **P** 08 16 10.7 -7.4
PGF Pioggiola 12.69 50 *e*P **P** 08 16 59.8 +0.3
QUIF Quistinic 12.89 3 *e*P **P** 08 17 02.6 +0.4
ROSF Rostrenen 13.31 3 *e*P **P** 08 17 08.8 +1.1
GERES GERESS Array B 19.08 38 P **P** 08 18 25.1 +3.8
0.0nm,0.3s,baz=240,slow=16,SNR=2.1
KHC Kasperske Hory 19.20 37 *e*P **P** 08 18 26.5 +3.7
EKA Eskdalemuir Ar 20.31 2 P **P** 08 18 37.4 +2.3
1.5nm,0.8s,baz=246,slow=10,SNR=3.7
VRAC Vranov 20.87 41 P **P** 08 18 43.6 +2.6
3.1nm,0.9s,baz=254,slow=8.9,SNR=3.3
IDI Anoyia 23.70 81 P **P** 08 19 15.2 +6.1
5.6nm,1.0s,mb4.0,baz=289,slow=12,SNR=5.7
KURK Kurchatov 59.55 47 *e*P **P** 08 24 01.4 -0.9
4.0nm,1.0s,mb4.4
MKAR Makanchi Array 63.24 50 P **P** 08 24 28.3 +1.1
6.0nm,0.6s,mb3.9,baz=268,slow=4.9,SNR=6.7
YKA Yellowknife Ar 68.11 332 P **P** 08 24 58.3 +0.1
1.7nm,0.7s,mb4.4,baz=51,slow=6.4,SNR=4.4
PDAR Pinedale Array 76.94 313 P **P** 08 25 52.7 +2.0
0.7nm,0.9s,mb3.8,baz=63,slow=4.0,SNR=4.3

*NEIC **10** 08:26:35.6±0.4,21.08S×177.70W,mb4.1/3,Error ellipse: s-maj=20.6km s-min=10.6km az=145.0*
*IDC **10** 08:26:36.8±0.8,20.99S×177.84W,h378km±8km,mb3.9/11, mb1 4.1/12,mb1mx4.1/15,Error ellipse: s-maj=23.7km s-min=11.5km az=146.0*
ISC 10 08:26:35.4±0.4,20.93S±0.08×177.8W±0.1,h371km, h371km±3.4km;pP-P,n47,σ1≤21/28,mb4.1/14,1C-1D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**9.06**	**41**	*e*P	**P**	**08 28 35.9**	**-7.3**
NOUC	**Port Laguerre**	**14.82**	**263**	*e*P	**P**	**08 29 51.1**	**+1.5**
NOUC	**Port Laguerre**	**14.82**	**263**	*e*P	**P**	**08 29 51.1**	**+1.4**
URZ	**Urewera**	**17.81**	**193**	P	**P**	**08 30 14.2**	**-6.2**
	3.1nm,0.3s,baz=44,slow=1.1,SNR=20						
URZ				S	**S**	**08 33 23.4**	**+1.2**
	1.5nm,0.3s,baz=78,slow=21,SNR=16						
RPZ	**Rata Peaks**	**24.54**	**200**	P	**P**	**08 31 23.6**	**-0.7**
	12nm,0.5s,mb4.4,baz=341,slow=3.4,SNR=13						
CTA	**Charters Tower**	**33.61**	**265**	P	**P**	**08 32 44.4**	**+0.3**
	12nm,0.5s,mb4.4,baz=98,slow=12,SNR=24						
STKA	**Stephens Creek**	**37.75**	**245**	P	**P**	**08 33 18.3**	**-0.2**
	13nm,0.7s,mb4.3,baz=89,slow=9.5,SNR=26						
ASAR	**Alice Springs**	**44.58**	**257**	P	**P**	**08 34 12.8**	**-1.1**
	5.1nm,0.6s,mb3.8,baz=100,slow=7.8,SNR=79						
ASAR				pP	pP	08 35 26.1	-1.9
	1.8nm,0.8s,baz=87,slow=7.9,SNR=1.8						
ASAR				PcP	PcP	08 35 48.0	-2.0
	6.1nm,0.6s,baz=104,slow=3.9,SNR=20						
WRA	**Warramunga Arr**	**44.70**	**262**	P	**P**	**08 34 13.8**	**-1.1**
	3.5nm,0.6s,mb3.7,baz=94,slow=5.1,SNR=79						
WRA				PcP	PcP	08 35 49.8	-0.8
	1.8nm,0.6s,baz=90,slow=3.8,SNR=6.5						
CASY	**Casey**	**63.64**	**205**	*e*P	**P**	**08 36 26.2**	**-3.2**
QSPA	**South Pole Qui**	**69.14**	**180**	*e*P	**P**	**08 37 01.9**	**-1.6**
MAW	**Mawson**	**81.21**	**200**	P	**P**	**08 38 10.0**	**-1.5**
	3.5nm,0.7s,mb4.2,baz=117,slow=7.3,SNR=13						
NVAR	**Mina Array Bea**	**81.23**	**43**	P	**P**	**08 38 13.0**	**+0.9**
	5.1nm,1.0s,mb4.2,baz=214,slow=6.7,SNR=10						
NVAR				pP	pP	08 39 37.5	+0.2
	1.4nm,0.9s,baz=218,slow=10,SNR=2.4						
NVAR	**Mina Array Bea**	**81.23**	**43**	P	**P**	**08 38 13.0**	**+0.9**
NVAR				pP	pP	08 39 37.5	+0.2
TPH	**Tonopah**	**81.72**	**44**	*e*P	**P**	**08 38 15.0**	**+0.4**
	4.7nm,1.0s,mb4.3						
TPNV	**Topopah Spring**	**81.73**	**45**	*e*P	**P**	**08 38 14.6**	**-0.1**
	1.3nm,0.6s,mb3.9						
LTX	**Lajitas**	**87.15**	**57**	P	**P**	**08 38 41.0**	**-0.7**
	1.4nm,0.5s,mb4.0						
TXAR	**Lajitas Array**	**87.15**	**57**	P	**P**	**08 38 42.4**	**+0.7**
	1.1nm,0.8s,mb3.8,baz=219,slow=6.2,SNR=16						
TXAR				pP	pP	08 40 10.1	+2.1
	1.1nm,0.9s,baz=202,slow=6.7,SNR=7.3						
SNAA	**Sanae**	**87.58**	**178**		**P**	**08 38 40.0**	**-2.7**
VNA3	**Neumayer Olymp**	**87.70**	**176**	⇑*i*	**P**	**08 38 44.7**	**+1.4**
VNA2	**Neumayer--Watz**	**88.14**	**177**		**P**	**08 38 47.1**	**+1.7**
MCMT	**McKenzie Canyo**	**88.18**	**40**	*e*P	**P**	**08 38 46.6**	**+0.5**
VNA1	**Neumayer--Stat**	**88.37**	**177**		**P**	**08 38 47.6**	**+1.2**
ILAR	**Eielson Array**	**88.70**	**13**	P	**P**	**08 38 46.9**	**-1.2**
	1.5nm,0.8s,mb3.9,baz=223,slow=5.7,SNR=14						
PDAR	**Pinedale Array**	**89.16**	**43**	P	**P**	**08 38 50.9**	**+0.1**
	1.5nm,0.8s,mb3.9,baz=221,slow=1.6,SNR=14						
SDCO	**Great Sand Dun**	**89.51**	**49**	P	**P**	**08 38 51.9**	**-0.6**
CMAR	**Chiang Mai Arr**	**90.41**	**290**	P	**P**	**08 38 59.3**	**+2.2**
	4.5nm,0.9s,mb4.4,baz=120,slow=3.2,SNR=25						
MKAR	**Makanchi Array**	**111.61**	**313**	PKiKP		08 44 25.6	
	1.0nm,0.7s,baz=45,slow=5.1,SNR=8.4						
ZRNK	**Zerenda**	**120.35**	**320**	*e*PKP	PKPdf	08 44 41.8	-1.0
FINES	**FINESS Array B**	**136.23**	**344**	PKhKP		08 45 10.1	
	2.4nm,0.8s,baz=117,slow=8.5,SNR=3.7						
FINES				PKP	PKPdf	08 45 13.9	+1.2
	2.6nm,0.8s,baz=135,slow=2.0,SNR=3.7						
FINES				SKP		08 48 10.8	
	1.7nm,0.8s,baz=72,slow=6.0,SNR=3.5						
FINES	**FINESS Array B**	**136.23**	**344**	PKP	PKPdf	08 45 10.1	-2.6
FINES				PKP	PKPdf	08 45 13.9	+1.2
FINES				SKP		08 48 10.8	
NOA	**NORSAR Array B**	**139.43**	**353**	PKhKP		08 45 14.0	
	0.4nm,0.8s,baz=194,slow=1.8,SNR=3.4						
AKASG	**Malin Array Be**	**143.47**	**331**	PKhKP		08 45 23.6	
	8.8nm,0.6s,baz=40,slow=4.4,SNR=55						
AKASG				PKP	PKPdf	08 45 25.3	-0.5
MBAR	**Mbarara**	**144.81**	**236**	*e*PKP	PKPdf	08 45 29.0	-0.3
BRTR	**Keskin Array B**	**147.25**	**312**	PKPbc	PKPdf	08 45 36.2	+3.6
	5.5nm,0.6s,baz=140,slow=3.7,SNR=18						
KOLS	**Kolonicke sedl**	**147.77**	**335**	*e*PKP	PKPdf	08 45 36.3	+3.1
CLL	**Collm**	**148.52**	**347**	⇓*i* PKP1	PKPdf	08 45 39.0	+4.7
CLL				*i* PKP1	PKPdf	08 45 40.6	+6.3
UPC	**Upice**	**148.53**	**343**	*e*P	PKPdf	08 45 39.3	+5.0
DPC	**Dobruska-Polom**	**148.59**	**343**	*e*P	PKPdf	08 45 39.8	+5.4
KECS	**Kecovo**	**148.83**	**336**	*e*PKP	PKPdf	08 45 42.0	+7.1
PVCC	**Panska Ves**	**148.89**	**345**	*e*P	PKPdf	08 45 40.7	+5.8
CSS	**Prodhromos**	**149.28**	**304**	PKPdf	PKPdf	08 45 36.9	+0.8
PRU	**Pruhonice**	**149.39**	**344**	*e*P	PKPdf	08 45 41.5	+5.8
ISP	**Isparta**	**150.27**	**311**	*e*PKPbc	PKPdf	08 45 43.2	+5.7
GRA1	**Grafenberg Arr**	**150.41**	**348**	*e*PKP	PKPdf	08 45 44.6	+7.3
KHC	**Kasperske Hory**	**150.43**	**345**	*e*P	PKPdf	08 45 42.9	+5.5
GERES	**GERESS Array B**	**150.66**	**344**	PKPbc	PKPdf	08 45 44.2	+6.5
	1.7nm,0.7s,baz=27,slow=3.0,SNR=9.8						

*MOS **10** 08:35:23.4±2.1,54.30N×110.41E,h6km,mb4.4/1,Error ellipse: s-maj=39.6km s-min=19.3km az=87.5*
BYKL 10 08:35:23.9±0.2,54.33N×110.45E,h14km±20km,12C-4D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YLYR	**Ulyunkhan**	**0.69**	**37**	*e*Pg	Pg	08 35 35.9	-1.9
YLYR				*e*Sg	Sg	08 35 45.0	-2.1
YLYR				*e*Sb	Sb	08 35 51.5	+5.3
YLYR				Pmax			
	67nm,0.2s						
YLYR				Smax			
	372nm,0.1s						
SYVR	**Suvo**	**0.72**	**202**	*e*Pg	Pg	08 35 37.2	-1.4
SYVR				*e*Sg	Sg	08 35 47.3	-1.1
SYVR				Pmax			
	36nm,0.2s						
SYVR				Smax			
	314nm,0.5s						
MXMB	**Maximikha**	**1.47**	**224**	⇑*i*Pg	Pg	08 35 51.3	-2.1
MXMB				*e*Sg	Sg	08 36 11.7	-1.4
MXMB				Pmax			
	82nm,0.3s						
MXMB				Smax			
	943nm,0.7s						
NIZ	**Nizh Angarsk**	**1.54**	**341**	⇑*i*Pg	Pg	08 35 51.5	-3.2
NIZ				*i* Sg	Sg	08 36 12.5	-2.8
NIZ				Pmax			
	71nm,0.6s						
NIZ				Smax			
	593nm,0.5s						
NIZ	**Nizh Angarsk**	**1.54**	**341**	*e*PG	Pg	08 35 51.5	-3.2
NIZ				*e*		08 36 12.5	
NIZ				pmax	pmax		
	comp=Z,63nm,0.3s						
NIZ				smax			
	comp=N,558nm,0.5s						
KMO	**Kumora**	**1.62**	**15**	⇓*i*Pg	Pg	08 35 53.1	-3.2
KMO				*e*Sg	Sg	08 36 15.6	-2.4
KMO				Pmax			
	comp=N,79nm,0.4s						
KMO				Smax			
	comp=N,729nm,1.2s						
OGRR	**Ongureny**	**1.82**	**249**	⇑*i*Pn	Pn	08 35 55.5	+0.3
OGRR				⇑*i*Pg	Pg	08 35 56.4	-3.9
OGRR				*e*Sn	Sn	08 36 19.3	+1.2
OGRR				*e*Sg	Sg	08 36 20.9	-3.8
OGRR				Pmax			
	comp=N,35nm,0.4s						
OGRR				Smax			
	comp=N,292nm,0.4s						
YOA	**Uoyan**	**1.95**	**21**	*e*Pn	Pn	08 35 56.7	-0.3
YOA				*e*Pg	Pg	08 35 58.7	-4.2
YOA				*e*Sg	Sg	08 36 25.9	-3.0
YOA				Pmax			
	comp=N,183nm,1.2s						
YOA				Smax			
	comp=N,792nm,0.6s						
YOA	**Uoyan**	**1.95**	**21**	⇑*i*PN	Pn	08 35 58.4	+1.4
YOA				*i*		08 36 25.3	
YOA				pmax	pmax		
	comp=Z,92nm,0.4s						
YOA				smax			
	comp=N,693nm,0.5s						
UKT	**Uakit**	**2.17**	**56**	⇑*i*Pg	Pg	08 36 01.7	-5.6
UKT	comp=N,27nm,0.5s						
				⇑*i*Pg	Pg	08 36 01.7	-5.6
UKT	comp=N,23nm,0.5s						
				⇑*i*Pg	Pg	08 36 01.7	-5.6
UKT	comp=N,25nm,0.5s						
UKT				*e*		08 36 08.1	
UKT				*e*		08 36 23.1	
UKT				*e*Sg	Sg	08 36 31.2	-5.1
UKT				max			
	comp=N,40nm,0.7s						
UKT				Smax			
	comp=N,289nm,0.5s						
SVKR	**Severomuysk**	**2.53**	**44**	*e*Pg	Pg	08 36 10.2	-4.2
SVKR				*e*Sn	Sn	08 36 36.1	+0.1
SVKR				*e*Sg	Sg	08 36 43.1	-5.0
SVKR				Pmax			
	comp=N,70nm,0.3s						
SVKR				Smax			
	comp=N,403nm,0.4s						
SVKR	**Severomuysk**	**2.53**	**44**	*e*PN	Pn	08 36 11.2	+6.0
SVKR				*e*S	Sn	08 36 35.8	-0.2
SVKR				*e*		08 36 42.5	
SVKR				pmax	pmax		
	comp=Z,70nm,0.3s						
SVKR				smax			
	comp=N,422nm,1.3s						
TRTB	**Turuntaevo**	**2.70**	**220**	*e*Sg	Sg	08 36 47.8	-6.1
TRTB				Smax			
	comp=N,77nm,0.3s						
TRG	**Tyrgan**	**2.91**	**239**	*e*Pn	Pn	08 36 10.3	-0.4
TRG				*e*Pg	Pg	08 36 16.7	-5.3
TRG				*e*Sn	Sn	08 36 44.0	-1.8
TRG				*e*Sg	Sg	08 36 52.7	-8.1
TRG				Pmax			
	comp=N,10.0nm,0.3s						
TRG				Smax			
	comp=N,131nm,0.3s						
CIT	**Chita**	**2.97**	**140**	*e*Pn	Pn	08 36 12.3	+0.7
CIT				⇑*i*Pg	Pg	08 36 17.1	-6.2
CIT				*e*Sg	Sg	08 36 55.0	-7.9
CIT				*e*SgSg		08 37 02.0	
CIT				Pmax			
	comp=N,36nm,0.8s						
CIT				max			
	comp=N,156nm,0.9s						
CIT	**Chita**	**2.97**	**140**	*e*PN	Pn	08 36 11.6	0.0
CIT				*e*		08 36 17.1	
CIT				*e*		08 36 55.0	
CIT				pmax	pmax		
	comp=Z,36nm,0.6s						
CIT				smax			
	comp=E,156nm,0.7s						
FFNB	**Fofonovo**	**3.19**	**226**	*e*	Pn	08 36 49.6	+35
FFNB				*e*Sg	Sg	08 37 02.5	-7.5
FFNB				Smax			
	comp=E,206nm,0.7s						
KAB	**Kabansk**	**3.23**	**227**	*e*Sg	Sg	08 37 04.9	-6.6
KAB				Smax			
	comp=E,495nm,1.5s						
HRMR	**Khuramsha**	**3.43**	**219**	*e*Pn	Pn	08 36 18.1	-0.1
HRMR				⇓*i*Pg	Pg	08 36 26.6	-5.9
HRMR				*e*Sg	Sg	08 37 11.4	-6.9
HRMR				Pmax			
	comp=E,38nm,0.5s						
HRMR				Smax			
	comp=E,480nm,0.9s						
NLYR	**Nelyaty**	**3.69**	**52**	*e*Pg	Pg	08 36 31.7	-6.0
NLYR				*e*Sg	Sg	08 37 17.9	-9.1
NLYR				Pmax			
	comp=E,23nm,0.5s						
NLYR				Smax			
	comp=E,140nm,0.9s						
BOD	**Bodaibo**	**4.02**	**28**	*e*Pn	Pn	08 36 24.0	-2.6
BOD				*e*Pg	Pg	08 36 35.9	-8.4
BOD				*e*Sn	Sn	08 37 12.8	-1.2
BOD				*e*Sg	Sg	08 37 27.0	-11
BOD				Pmax			
	comp=E,3.0nm,0.2s						
BOD				Smax			
	comp=E,25nm,0.7s						
LSTR	**Listvyanka**	**4.19**	**236**	*e*Pg	Pg	08 36 39.2	-8.4
LSTR				*e*Sg	Sg	08 37 31.3	-12
LSTR				Pmax			
	comp=E,10.0nm,1.1s						
LSTR				Smax			
	comp=E,71nm,1.3s						
KPC	**Khapcheranga**	**4.78**	**165**	*e*Pg	Pg	08 36 50.1	-9.3
KPC				*e*Sg	Sg	08 37 51.1	-12
KPC				Pmax			
	comp=E,3.0nm,0.5s						
KPC				Smax			
	comp=E,87nm,1.1s						
KPC	**Khapcheranga**	**4.78**	**165**	*e*PN	Pn	08 36 50.0	+13
KPC				*e*		08 37 51.2	
KPC				pmax	pmax		
	comp=Z,9.0nm,0.3s						
KPC				smax			
	comp=E,54nm,1.1s						
TLY	**Talaya**	**4.89**	**240**	⇑*i*Pn	Pn	08 36 36.8	-2.1
TLY				⇑*i*		08 36 49.4	
TLY				*e*Sg	Sg	08 37 53.5	-13
TLY				max			
	comp=E,3.0nm,0.6s						
TLY				Smax			
	comp=E,30nm,0.4s						
CRS	**Chara**	**5.12**	**57**	⇓*i*Pn	Pn	08 36 42.7	+0.5
CRS				⇓*i*Pg	Pg	08 36 56.5	-10
CRS				*e*Sn	Sn	08 37 39.6	-2.2
CRS				*e*Sg	Sg	08 38 01.6	-13
CRS				Pmax			
	comp=E,11nm,0.7s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CRS				Smax			
	comp=E,58nm,1.7s						
ARS	Arshan	5.40	247	ePg	Pg	08 36 59.7	-12
ARS				eSn	Sn	08 37 44.2	-4.5
ARS				eSg	Sg	08 38 08.8	-15
ARS				Pmax			
	comp=E,6.0nm,0.4s						
ARS				Smax			
	comp=E,222nm,0.7s						
ARS	Arshan	5.40	247	ePN	Pn	08 36 59.7	+14
ARS				e		08 38 08.4	
ARS				pmax	pmax		
	comp=Z,9.0nm,0.4s						
ARS				smax			
	comp=E,224nm,0.7s						
TUP	Tupik	5.56	85	⇑iPn	Pn	08 36 45.9	-2.3
TUP				ePg	Pg	08 37 04.2	-11
TUP				eSn	Sn	08 37 48.7	-3.9
TUP				eSg	Sg	08 38 15.3	-14
TUP				Pmax			
	comp=E,4.0nm,0.4s						
TUP				Smax			
	comp=E,95nm,1.1s						
TUP	Tupik	5.56	85	ePN	Pn	08 36 47.3	-0.9
TUP				e		08 37 03.8	
TUP				eS	Sn	08 37 48.5	-4.1
TUP				e		08 38 15.2	
TUP				pmax	pmax		
	comp=Z,6.0nm,0.4s						
TUP				smax			
	comp=N,73nm,0.7s						
ZAK	Zakamensk	5.91	231	eSg	Sg	08 38 27.5	-13
ZAK				Smax			
	comp=N,13nm,0.8s						
MOY	Mondy	6.30	249	e	Pn	08 37 15.1	+16
MOY				e		08 38 09.8	
MOY				eSg	Sg	08 38 36.9	-17
MOY				Smax			
	comp=N,34nm,1.2s						
ORL	Orlik	6.61	259	ePn	Pn	08 37 01.6	-1.5
ORL				eSn	Sn	08 38 14.9	-4.0
ORL				eSg	Sg	08 38 46.6	-17
ORL				max			
	comp=N,7.0nm,0.7s						
ORL				Smax			
	comp=N,25nm,1.4s						
TDJR	Todzha	8.80	263	eSg	Sg	08 39 56.8	-20

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*ATH **10** 08:51:19.1, 34.63N×25.35E, h19km±4km, MD3.5/7*
*NEIC **10** 08:51:19.1, 34.63N×25.35E, h19km, MD3.5(ATH), After ATH.*
*CSEM **10** 08:51:21.6±0.3, 34.82N×25.35E, h20km, MD3.5, Error ellipse: s-maj=7.5km s-min=2.5km az=148.0*
ISC 10 08:51:20.0±1.8, **34.7N**±0.2×**25.30E**±0.07, **h20**km, **n14**, σ1s**01**/15, **Crete**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
XRY	Khrisi	0.36	64	ePB	Pb	08 51 27.0	-0.6
NPS	Neapolis	0.60	25	ePN	Pn	08 51 31.6	-1.6
GVD	Gavdhos	1.00	277	ePN	Pn	08 51 39.5	+0.5
VAM	Vamos	1.13	308	ePB	Pb	08 51 41.2	+0.5
VAM				eSN	Sn	08 51 59.8	+3.9
THR6	Thira Island,	1.64	3	eP	Pn	08 51 50.4	+2.4
SANT	Santorini	1.65	4	eP	Pn	08 51 48.1	-0.2
SANT	Santorini	1.65	4	eP	Pn	08 51 48.1	-0.2
THR1	Thera Island	1.65	4	eP	Pn	08 51 48.6	+0.3
THR3	Thira Island,	1.69	3	eP	Pn	08 51 49.2	+0.3
THR5	Thira Island,	1.69	1	eP	Pn	08 51 49.0	+0.1
KARP	Karpathos	1.73	61	ePN	Pn	08 51 50.5	+1.0
KYTH	Kithira	2.42	311	ePB	Pb	08 52 02.0	-0.6
VLI	Veliai	2.77	317	ePN	Pn	08 52 03.0	-1.3
AGG	Agios Georgios	4.91	332	eP	Pn	08 52 34.0	-0.7

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*IDC **10** 09:20:23.9±9.0, 57.95N×155.07W, h82km±92km, mb3.1/3, mb1 3.5/5, mb1mx3.2/22, ML3.7/2, Error ellipse: s-maj=92.6km s-min=62.3km az=105.0*
*NEIC **10** 09:20:23.0, 57.70N×155.75W, h100km, After AEIC.*
ISC 10 09:20:20.4±0.5, **57.71N**±0.06×**155.8W**±0.1, **h114**km±5km, **n50**, σ1s**00**/56, **mb3.2**/2, **Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KJL	Kejulik	0.36	16	P	P	09 20 37.5	+0.4
CAHL	Cahill	0.43	35	P	P	09 20 37.7	+0.3
ACHA	Angle Creek He	0.56	25	P	P	09 20 39.0	+0.7
MGLS	Mageik LS	0.56	25	P	P	09 20 38.4	+0.2
CNTC	Contact Creek	0.56	354	P	P	09 20 38.7	+0.4
CNTC				S	S	09 20 50.8	-1.1
KABR	Katmai Barrier	0.60	45	P	P	09 20 38.9	+0.3
KAWH	Katmai	0.85	37	P	P	09 20 41.1	+0.3
KAIC	Katmai Ikaglui	0.87	26	P	P	09 20 41.6	+0.6
KAHC	Katmai Hardscr	1.03	23	P	P	09 20 43.1	+0.6
MCNL	McNeil River	1.66	26	P	P	09 20 50.6	+0.8
KDAK	Kodiak Island	1.71	86	Pn	P	09 20 50.0	-0.4
	238nm,0.3s						
KDAK	Kodiak Island	1.71	86	P	P	09 20 50.8	+0.3
KDAK				S	S	09 21 12.2	-0.8
SYI	Shuyak Island	2.01	62	P	P	09 20 55.1	+1.0
AUI	Augustine Isla	2.04	36	P	P	09 20 55.9	+1.3
AUW	Augustine West	2.06	35	P	P	09 20 56.2	+1.4
AGU	Augustine-Summ	2.06	35	P	P	09 20 56.1	+1.3
IVS	Iliamna South	2.70	30	P	P	09 21 04.6	+1.2
ILW	Iliamna West	2.73	29	P	P	09 21 04.6	+0.8
ILIM	Iliamna	2.79	30	P	P	09 21 05.6	+0.9
CNPM	China Poot	2.99	50	P	P	09 21 07.6	+0.2
CNPM				S	S	09 21 42.0	-0.8
RSO	Redoubt South	3.17	28	P	P	09 21 10.7	+0.9
NCT	North Crescent	3.22	26	P	P	09 21 11.1	+0.7
BRLK	Bradley Lake	3.28	49	P	P	09 21 11.0	-0.2
BRLK				S	S	09 21 47.4	-2.3
DFR	Drift River	3.30	27	P	P	09 21 12.4	+0.9
SDPT	Sand Point	3.52	230	P	P	09 21 13.8	-0.6
SDPT				S	S	09 21 54.7	-0.9
SPU	Mount Spurr	3.97	27	P	P	09 21 21.4	+0.9
SEW	Seward	4.06	51	P	P	09 21 20.9	-1.0
STLK	Strandline Lak	4.30	26	P	P	09 21 26.0	+1.0
MPA	Moose Pass	4.32	47	P	P	09 21 25.8	+0.4
RC01	Rabbit Creek A	4.58	40	P	P	09 21 28.4	-0.5
LTI	Latouche	4.73	57	P	P	09 21 30.1	-0.7
PWA	Palmer West	4.96	35	P	P	09 21 33.4	-0.5
PMR	Palmer	5.15	38	P	P	09 21 35.2	-1.3
SML	Sawmill	5.57	39	P	P	09 21 40.5	-1.6
EYAK	Cordova Ski Ar	5.89	57	P	P	09 21 45.8	-0.7
VLZ	Valdez	5.91	51	P	P	09 21 45.8	-1.0
SCM	Sheep Creek Mo	5.94	42	P	P	09 21 46.0	-1.2
KTH	Kantishna Hill	6.33	20	P	P	09 21 51.7	-0.9
TZL	Tazlina	6.78	46	P	P	09 21 58.9	+0.2
GLB	Gilahina Butte	7.13	53	P	P	09 22 03.1	-0.4
UNV	Unalaska Valle	7.18	242	P	P	09 22 03.0	-1.3
PAX	Paxson	7.34	40	P	P	09 22 05.1	-1.3
THY	Trims Highway	7.55	37	eP	P	09 22 08.8	-0.5
IL1	Eielson Array	8.27	27	P	P	09 22 15.9	-3.0
ILAR	Eielson Array	8.27	27	P	P	09 22 16.4	-2.6
	0.9nm,0.3s,baz=218,slow=13,SNR=52						
ILAR				S	S	09 23 40.9	-10
	0.5nm,0.3s,baz=212,slow=17,SNR=7.9						
BCA3	Beaver Creek A	8.75	46	P	P	09 22 25.5	+0.1
INK	Inuvik	14.55	34	P	P	09 23 41.2	-0.1
	0.1nm,0.3s,baz=220,slow=11,SNR=6.5						
YKA	Yellowknife Ar	20.79	59	P	P	09 24 54.6	+1.0
	1.5nm,0.6s,baz=271,slow=9.4,SNR=5.7						
PDAR	Pinedale Array	32.40	97	P	P	09 26 42.8	+1.8
	0.4nm,0.7s,mb3.2,baz=352,slow=6.4,SNR=3.5						
TXAR	Lajitas Array	45.64	105	P	P	09 28 32.9	+2.1
	0.2nm,0.5s,mb3.1,baz=316,slow=6.0,SNR=4.2						

IDC 10 09:28:53.4±25.0, **14.60N**×**147.41E**, **mb3.4**/3, **mb1 3.5**/3, **mb1mx3.4**/18, **Error ellipse: s-maj=932.0km s-min=30.2km az=82.0, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	36.66	201	P	P	09 36 01.6	-2.2
	0.2nm,0.5s,baz=25,slow=10.0,SNR=3.7						
ASAR	Alice Springs	40.26	199	P	P	09 36 32.5	-1.4
	0.1nm,0.6s,baz=18,slow=8.6,SNR=4.6						
MKAR	Makanchi Array	62.49	315	P	P	09 39 18.8	-2.2
	0.8nm,0.5s,baz=96,slow=7.4,SNR=8.7						

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*IDC **10** 09:33:47.7±1.9, 12.29N×86.49W, mb3.6/3, mb1 3.9/3, mb1mx3.6/17, Error ellipse: s-maj=174.0km s-min=27.5km az=46.0*
*CASC **10** 09:33:49.3±2.9, 11.43N×87.50W, h36km±999km, MD4.3*
ISC 10 09:33:48.7±0.6, **11.41N**±0.05×**87.50W**±0.04, **h36**km±12km, **n40**, σ1s**15**/54, **mb3.6**/3, **9C-5D**, **Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LEON	Leon	1.16	31	⇑iP	P	09 34 08.7	+0.1
COPN	Copaltepe	1.18	49	⇓eP	P	09 34 08.7	-0.1
COPN				eS	S	09 34 25.3	+1.4
MIRN	Miramar	1.28	37	⇓eP	P	09 34 10.2	-0.2
CRUN	El Crucero	1.31	64	⇑eP	P	09 34 10.3	-0.5
CNGN	Cerro Negro	1.34	36	⇑eP	P	09 34 10.8	-0.5
XAVN	Gruta Xavier	1.37	57	eP	P	09 34 11.3	-0.3
MOMJ	Momotombo	1.37	43	eP	P	09 34 11.9	+0.2
TICN	Ticuantepe	1.39	63	⇑eP	P	09 34 11.6	-0.3
APYN	Apoyeque	1.39	54	⇓eP	P	09 34 11.5	-0.5
MGAN	Managua	1.43	59	⇑eP	P	09 34 11.8	-0.8
MGAN				eS	S	09 34 32.3	+1.9
MASN	Masaya	1.44	66	eP	P	09 34 15.1	+2.4
WILN	Americas 2	1.49	60	⇑eP	P	09 34 12.7	-0.7
WILN				eP		09 34 13.9	
APON	Apoyo	1.50	70	⇓eP	P	09 34 12.9	-0.6
PYTN	Playitas	1.80	52	⇑eP	P	09 34 16.7	-1.2
PYTN				eS	S	09 34 42.7	+2.9
CNCH	Conchagua	1.88	350	⇑eP	P	09 34 19.4	+0.4
CNCH				eS	S	09 34 38.7	-3.0
BLLM	Bellamira	2.14	341	eP	P	09 34 21.9	-0.8
VCR	Vista de Mar	2.24	125	eP	P	09 34 23.7	-0.4
LIM	Lima	2.32	108	eP	P	09 34 24.7	-0.6
LIM				eS	S	09 34 52.1	-0.7
SNVI	San Vicente	2.55	329	eP	P	09 34 29.1	+0.6
SNVI				eS	S	09 34 58.5	-0.1
LCBS	La Ceiba	2.65	327	⇑eP	P	09 34 30.6	+0.6
LCBS				eS	S	09 35 00.1	-1.2
LFRS	El Faro	2.67	325	eP	P	09 34 30.7	+0.4
LFRS				eS	S	09 35 01.3	-0.6
LFU	La Fuente	2.81	326	eP	P	09 34 33.0	+0.8
LFU				eS	S	09 35 03.3	-1.9
JCR	Jicaral	2.82	123	iP	P	09 34 31.9	-0.5
BOQS	Boqueron	2.89	323	eP	P	09 34 35.0	+1.7
BOQS				eS	S	09 35 07.3	0.0
SBLS	San Blas	3.18	320	eP	P	09 34 38.3	+0.8
SBLS				eS	S	09 35 14.7	0.0
RTR	El Retiro	3.24	320	eP	P	09 34 39.7	+1.4
RTR				eS	S	09 35 14.5	-1.6
CGA2	Cerro Gallo 2	3.29	115	eP	P	09 34 40.1	+1.0
CGA2				eS	S	09 35 16.9	-0.7
PRS1	Puriscal	3.44	114	eP	P	09 34 41.3	+0.1
LAJ	Bijagual	3.66	115	⇓eP	P	09 34 41.0	-3.3
LAJ				eS	S	09 35 16.9	-10
TRTC	Tortuguero	3.81	102	eP	P	09 34 44.8	-1.7
LCR2	La Lucha 2	3.82	115	eP	P	09 34 48.1	+1.5
LCR2				eS	S	09 35 29.8	-1.2
ICR	Volcan Irazu	3.88	111	eP	P	09 34 50.6	+3.1
URSC	Urasca	3.98	113	eP	P	09 34 51.2	+2.3
URSC				eS	S	09 35 35.3	+0.3
BUS	Buena Vista	4.12	116	eP	P	09 34 52.2	+1.4
BUS				eS	S	09 35 36.1	-2.4
TXAR	Lajitas Array	23.35	322	P	P	09 38 57.0	+2.2
	1.0nm,0.6s,mb3.4,baz=134,slow=10,SNR=21						
PDAR	Pinedale Array	36.66	332	P	P	09 40 54.1	+0.2
	0.3nm,0.6s,mb3.3,baz=126,slow=9.6,SNR=4.0						
BDFB	Brasilia	47.44	124	P	P	09 42 21.6	-0.5
	1.1nm,0.5s,mb4.0,baz=301,slow=7.1,SNR=3.7						
ASAR	Alice Springs	138.83	247	PKP	PKPdf	09 53 18.9	+6.8
	0.2nm,0.7s,baz=120,slow=1.3,SNR=3.8						
WRA	Warramunga Arr	138.92	253	PKP	PKPdf	09 53 19.7	+7.3
	0.3nm,0.7s,baz=90,slow=1.9,SNR=5.2						
CMAR	Chiang Mai Arr	149.65	348	PKPbc	PKPdf	09 53 38.5	+7.7
	1.1nm,0.5s,baz=352,slow=3.4,SNR=7.8						

MAN 10 09:47:40.0, 10.14N×**126.49E, h19**km**, mb4.8, ML3.7, MS3.7, 1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCPH	Surigao	1.05	250	eP	Pb	09 47 57.7	-1.6
SCPH				eS	Sb	09 48 09.7	-3.0
BUTP	Butuan	1.45	216	eP	Pn	09 48 04.1	-1.3
BUTP				eS	Sn	09 48 22.9	-1.1
MSLP	Maasin	1.61	270	eP	Pn	09 48 07.6	-0.1
MSLP				eS	Sn	09 48 31.4	+3.3
BESP	Borongan	1.78	325	eP	Pn	09 48 09.9	-0.3
BESP				eS	Sn	09 48 41.8	+9.4
PLP	Palo	1.80	304	eP	Pn	09 48 10.9	+0.4
PLP				eS	Sn	09 48 32.7	-0.3
LLP	Lapu-Lapu	2.49	274	eP	Pn	09 48 19.9	-0.5
LLP				eS	Sn	09 48 46.8	-3.7
TBP	Tagbilaran	2.63	260	eP	Pn	09 48 22.2	-0.2
TBP				eS	Sn	09 48 54.6	+0.5
BUKP	Musuan	2.66	212	eP	Pn	09 48 23.0	+0.3
BUKP				eS	Sn	09 48 58.0	+3.2
CNP	Catarman	2.96	323	eP	Pn	09 48 26.2	-0.8
CNP				eS	Sn	09 49 01.4	-0.9
GUIM	Jordan	3.87	277	eP	Pn	09 48 40.6	+0.7
RCP	Roxas	3.94	291	⇓eP	Pn	09 48 42.1	+1.1
PVCP	Virac	4.12	327	eP	Pn	09 48 39.5	-4.0

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*CSEM **10** 09:48:50.3±0.2, 34.90N×3.83W, h15km, ML3.2/2, Error ellipse: s-maj=5.4km s-min=3.8km az=105.0*
*CNRM **10** 09:48:50.2, 35.09N×3.93W, h8km, MD3.5*
*SFS **10** 09:48:53.0, 35.15N×4.02W, ML3.7*
*INMG **10** 09:48:54.5±1.0, 34.98N×3.96W, h31km±13km, ML2.4, Error ellipse: s-maj=6.1km s-min=4.9km az=6.0*
*MDD **10** 09:48:54.6±1.1, 35.07N×3.95W, h17km±12km, mbLg2.5/12, Error ellipse: s-maj=10.0km s-min=6.6km az=133.0, PRXIMO AftershockPLICA*
*NEIC **10** 09:48:54.4, 35.20N×3.98W, MG3.6(MDD), After MDD.*
ISC 10 09:48:51.9±0.4, **35.05N**±0.02×**4.08W**±0.03, **h17**km, **n46**, σ1s**29**/78, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TOU	Touzarine	0.28	107	iP	Px	09 48 54.0	
EMEL	Melilla	0.95	74	P	Pb	09 49 09.6	+0.1
	SNR=31						
EMEL				S	Sb	09 49 21.4	-0.3
	506nm,0.2s,SNR=5.0						
EMLI	Melilla	0.96	74	P	Pb	09 49 09.6	0.0
	406nm,0.1s,SNR=31						
EMLI	Melilla	0.96	74	S	Sb	09 49 21.4	-0.5
	506nm,0.2s,SNR=5.0						
TZK	Tazeka	0.96	185	iP	Pb	09 49 08.5	-1.1
TZK				iS	Sb	09 49 22.0	+0.1
MELI	Melilla	0.97	75	iP	Pb	09 49 10.1	+0.3
MELI				eS	Sb	09 49 21.3	-0.9
ZAI	Zaio	1.09	94	iP	Pb	09 49 08.0	-4.0
ZAI				iS	Sb	09 49 21.0	-4.9
EMIJ	Mijas	1.62	340	P	Pn	09 49 19.9	0.0
	5.9nm,0.2s,SNR=7.9						
EMIJ				S	Sn	09 49 40.0	-0.6
	27nm,0.2s,SNR=7.9						
EMIJ				T		09 50 31.9	
	SNR=7.9						
IFR	Ifrane	1.75	210	P	Pn	09 49 24.0	+2.1
IFR				S	Sn	09 49 46.0	+2.0
MIF	Mishlifen	1.89	211	eP	Pn	09 49 22.0	-1.9
MIF				iS	Sn	09 49 46.0	-1.5
ERON	Agron	1.98	6	P	Pn	09 49 25.7	+0.5
	3.5nm,0.2s,SNR=5.0						
ERON				S	Sn	09 49 49.9	+0.1
	11nm,0.4s,SNR=5.0						
EBER	Berja	2.08	27	P	Pn	09 49 26.0	-0.7
	7.7nm,0.2s,SNR=10						
EBER				S	Sn	09 49 51.4	-1.1
	26nm,0.3s						
EBER	Berja	2.08	27	P	Pn	09 49 26.0	-0.7
	7.7nm,0.2s,SNR=10						
EBER				S	Sn	09 49 51.4	-1.0
	26nm,0.3s						
ELOJ	Sierra Loja	2.10	358	P	Pn	09 49 28.0	+1.1
	8.8nm,0.4s,SNR=5.0						
ELOJ				S	Sn	09 49 51.3	-1.5
	3.7nm,0.2s,SNR=12						
LIJA	Lijar	2.15	330	iP	Pn	09 49 31.7	+4.1
LIJA				eS	Sn	09 49 58.0	+4.0
ESPR	Espera	2.32	322	P	Pn	09 49 32.5	+2.4
	1.8nm,0.2s,SNR=7.6						
ESPR				S	Sn	09 49 59.1	+0.6
	8.7nm,0.2s						
ESPR	Espera	2.32	322	S	Sn	09 49 59.1	+0.6
	8.7nm,0.2s						
ESPR	Espera	2.32	322	P	Pn	09 49 32.5	+2.4
	1.8nm,0.2s,SNR=7.6						
ELUQ	Luque	2.52	357	P	Pn	09 49 35.7	+2.9
	5.2nm,0.3s,SNR=5.7						
ELUQ				S	Sn	09 50 05.7	+2.4
	7.0nm,0.3s,SNR=7.9						
EQES	Quesada	2.87	16	P	Pn	09 49 39.4	+1.5
	5.5nm,0.2s,SNR=12						
EQES				S	Sn	09 50 12.8	+0.5
	20nm,0.4s						
EQES	Quesada	2.87	16	P	Pn	09 49 39.2	+1.3
EQES				S	Sn	09 50 11.4	-1.0
EQES	Quesada	2.87	16	P	Pn	09 49 39.2	+1.3
EQES				S	Sn	09 50 12.8	+0.5
	20nm,0.4s						
ZFT	Errachidia	3.01	184	eP	Pn	09 49 38.0	-1.9
ZFT				iS	Sn	09 50 10.0	-5.9
EADA	Adamuz	3.14	353	P	Pn	09 49 42.7	+0.9
	3.5nm,0.3s,SNR=11						
EADA				S	Sn	09 50 17.5	-1.7
	7.0nm,0.3s						
EADA	Adamuz	3.14	353	P	Pn	09 49 42.7	+0.9
	3.5nm,0.3s,SNR=11						
EMIN	Mina Concepcio	3.43	323	P	Pn	09 49 46.2	+0.4
	0.9nm,0.1s,SNR=18						
EMIN				S	Sn	09 50 24.6	-1.9
	1.9nm,0.2s,SNR=7.3						
EMIN	Mina Concepcio	3.43	323	P	Pn	09 49 46.2	+0.4
	0.9nm,0.1s,SNR=18						
EMUR	La Murta	3.61	38	P	Pn	09 49 49.2	+0.8
	0.7nm,0.2s,SNR=7.9						
EMUR				S	Sn	09 50 27.1	-3.9
	2.7nm,0.3s,SNR=7.9						
EMUR	La Murta	3.61	38	S	Sn	09 50 27.1	-3.9
	2.7nm,0.3s,SNR=7.9						
EMUR	La Murta	3.61	38	P	Pn	09 49 49.2	+0.8
	0.7nm,0.2s,SNR=7.9						
PALC	Alcoutim	3.66	312	ePn	Pn	09 49 49.9	+0.8
PALC				eSn	Sn	09 50 31.3	-1.0
	4.3nm,0.3s						
PALC	Alcoutim	3.66	312	ePn	Pn	09 49 49.9	+0.8
PALC				eSn	Sn	09 50 31.3	-1.0
	4.3nm,0.3s						
EVIA	Vianos	3.80	19	P	Pn	09 49 51.8	+0.7
	0.9nm,0.2s,SNR=4.0						
EVIA				S	Sn	09 50 30.5	-5.4
	8.9nm,0.6s,SNR=4.0						
EVIA	Vianos	3.80	19	P	Pn	09 49 56.7	+5.6
EVIA				S	Sn	09 50 38.7	+2.7
EVIA	Vianos	3.80	19	S	Sn	09 50 38.7	+2.8
PBEJ	Beja	4.26	315	ePn	Pn	09 50 00.1	+2.4
PBEJ				eSn	Sn	09 50 46.0	-1.6
EBAD	Badajoz	4.39	328	P	Pn	09 49 60.0	+0.5
	1.2nm,0.1s,SNR=5.3						
EBAD				S	Sn	09 50 49.0	-1.8
	7.8nm,0.3s,SNR=7.9						
EBAD	Badajoz	4.39	328	P	Pn	09 49 59.2	-0.2
EBAD				S	Sn	09 50 48.0	-2.7
EBAD	Badajoz	4.39	328	P	Pn	09 49 59.2	-0.3
PTEO	Sao Teotonio	4.51	305	ePn	Pn	09 50 02.7	+1.6
PTEO				eSn	Sn	09 50 52.3	-1.5
ESDC	Sonseca Array	4.62	1	P	Pn	09 50 02.4	-0.3
	1.4nm,0.2s,baz=178,slow=12,SNR=8.1						
ESDC				S	Sn	09 50 51.6	-5.0
	1.4nm,0.6s,baz=180,slow=24,SNR=4.0						
ESDC	Sonseca Array	4.62	1	P	Pn	09 50 02.5	-0.3
ESDC				S	Sn	09 50 52.4	-4.3
ESDC	Sonseca Array	4.62	1	P	Pn	09 50 02.5	-0.3
PCBR	Castelo Branco	5.50	332	ePn	Pn	09 50 15.8	+0.7
PCBR				eSn	Sn	09 51 13.6	-5.1
	5.8nm,0.5s						
PCBR	Castelo Branco	5.50	332	Pn	Pn	09 50 15.8	+0.7
PCBR				Sn	Sn	09 51 13.6	-5.1
	2.9nm,0.5s						
PBRG	Braganca	7.07	344	ePn	Pn	09 50 37.2	0.0

CASC 10 09:59:06.4±3.0, **11.17N**×**87.08W, MD4.0, 4C-1D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
COPN	Copaltepe	1.12	26	⇓eP	Pb	09 59 28.0	-0.3
COPN				eS	Sb	09 59 45.5	+2.2
CRUN	El Crucero	1.12	43	eP	Pb	09 59 27.6	-0.8
TICN	Ticuantepe	1.20	44	eP	Pb	09 59 29.2	-0.5
XAVN	Gruta Xavier	1.23	37	eP	Pb	09 59 29.3	-0.8
APON	Apoyo	1.25	53	eP	Pb	09 59 28.8	-1.7
LEON	Leon	1.26	9	eP	Pb	09 59 30.5	-0.2
LEON				eS	Sb	09 59 50.1	+2.8
MGAN	Managua	1.27	40	⇑eP	Pb	09 59 29.6	-1.4
MGAN				eS	Sb	09 59 49.0	+1.2
APYN	Apoyeque	1.28	34	⇑eP	Pb	09 59 30.1	-1.1
APYN				eS	Sb	09 59 49.5	+1.5
MIRN	Miramar	1.32	16	eP	Pb	09 59 30.9	-0.9
WILN	Americas 2	1.32	42	eP	Pb	09 59 31.0	-0.8
WILN				eS	Sb	09 59 50.2	+1.0
MOMJ	Momotombo	1.35	23	⇑eP	Pb	09 59 31.0	-1.2
CNGN	Cerro Negro	1.38	16	eP	Pb	09 59 31.7	-1.1
CNGN				eS	Sb	09 59 52.4	+1.5
PYTN	Playitas	1.69	36	eP	Pn	09 59 35.9	-1.5
PYTN				eS	Sb	10 00 00.5	+0.5
VCR	Vista de Mar	1.76	126	eP	Pn	09 59 41.3	+2.9
JCR	Jicaral	2.34	124	eP	Pn	09 59 52.1	+5.5
JCR				eS	Sn	10 00 25.2	+8.7
FORC	Fortuna	2.47	106	eP	Pn	09 59 48.8	+0.3
CGA2	Cerro Gallo 2	2.82	114	eP	Pn	09 59 53.8	+0.3
PRS1	Puriscal	2.97	113	eP	Pn	09 59 55.1	-0.6
LAJ	Bijagual	3.19	114	eP	Pn	09 59 50.5	-8.3
LCR2	La Lucha 2	3.34	115	⇑eP	Pn	09 59 57.0	-4.0
TRTC	Tortuguero	3.36	100	eP	Pn	10 00 00.7	-0.6
ICR	Volcan Irazu	3.41	110	eP	Pn	09 59 59.2	-2.7
URSC	Urasca	3.51	112	eP	Pn	10 00 01.2	-2.2
BUS	Buena Vista	3.64	116	eP	Pn	10 00 05.8	+0.6

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*IDC **10** 09:59:44.9±5.9, 7.82S×117.99E, h70km±65km, mb3.1/3, mb1 3.5/5, mb1mx3.4/15, ML3.8/2, Error ellipse: s-maj=129.0km s-min=14.0km az=50.0*
*DJA **10** 09:59:50.1±0.9, 8.66S×117.55E, h200km±8km, MD4.6/4, ML4.9/4, Error ellipse: s-maj=69.0km s-min=20.7km az=4.0*
ISC 10 09:59:52.9±1.1, **8.5S**±0.2×**117.4E**±0.2, **h191**km±14km, **n10**, σ0s**74**/16, **mb3.2**/3, **2C-7D**, **Sumbawa region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KEDI	Kedomdong	1.25	268	⇓iPn	P	10 00 23.4	-0.6
	489nm,0.2s						
KEDI				⇓iSn	S	10 00 49.2	+1.2
RATI	Rata	1.84	261	⇓iPn	P	10 00 29.2	-0.4
	1µm,0.2s						
RATI	Rata	1.84	261	⇓iP	P	10 00 29.6	0.0
RATI				⇓iSn	S	10 00 56.5	-1.3
KELI	Kelakatan	2.87	274	⇓iPn	P	10 00 41.5	+0.5
	291nm,0.2s						
KELI				⇑iSn	S	10 01 18.7	+0.5
SRDI	Scrawed	3.20	269	⇓iPn	P	10 00 44.8	-0.3
	739nm,0.2s						
SRDI				⇑iSn	S	10 01 25.3	-0.1
FITZ	Fitzroy Crossi	12.51	141	P	P	10 02 45.8	+0.4
	0.1nm,0.3s,baz=323,slow=10,SNR=4.7						
FITZ				S	S	10 04 56.7	-4.5
	0.8nm,0.3s,baz=189,slow=22,SNR=9.4						
WRA	Warramunga Arr	20.00	127	P	P	10 04 11.8	-0.7
	0.9nm,0.3s,baz=304,slow=12,SNR=108						
WRA				S	S	10 07 52.1	+10
	0.1nm,0.3s,baz=308,slow=26,SNR=4.4						
ASAR	Alice Springs	21.90	136	P	P	10 04 32.0	+0.8
	0.6nm,0.7s,mb3.1,baz=312,slow=9.5,SNR=10						
SONM	Songino Array	56.88	351	P	P	10 09 19.0	-0.9
	0.3nm,0.4s,mb3.5,baz=174,slow=10.0,SNR=5.0						
MKAR	Makanchi Array	63.25	334	P	P	10 10 04.0	+0.8
	0.1nm,0.3s,mb3.1,baz=150,slow=6.6,SNR=3.4						

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*CSEM **10** 10:28:06.3±0.1, 26.76N×57.26E, h10km, mb4.4/2, Ms3.8, Error ellipse: s-maj=2.6km s-min=2.0km az=123.0*

*IDC **10** 10:28:08.6±0.8, 26.87N×57.51E, mb4.1/16, mb1 4.2/17, mb1mx4.2/24, ML4.3/1, MS3.7/12, Ms1 3.7/12, ms1mx3.5/29, Error ellipse: s-maj=19.9km s-min=18.3km az=24.0*
*THR **10** 10:28:08.1±0.5, 26.49N×57.58E, h17^{km}±4^{km}, ML4.2*
*BJI **10** 10:28:10.2, 26.90N×57.50E, h10^{km}, mb4.9, Ms4.0, Msz3.9*
*NEIC **10** 10:28:10.3±0.7, 26.90N×57.54E, h10^{km}, mb4.6/10, MS3.9/2, Error ellipse: s-maj=14.2km s-min=10.7km az=170.0*
*MOS **10** 10:28:13.0±1.0, 27.06N×57.62E, h33^{km}, mb4.4/5, Error ellipse: s-maj=21.2km s-min=11.5km az=108.2*
ISC 10 10:28:04.7±0.5, **26.36N**±0.05×**57.55E**±0.04, **h10**^{km}, **n82**, σ**1^{s}25**/82, **mb4.3**/31, **MS3.7**/17, **1D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.61**	**310**	*i* PG	**Pg**	**10 28 36.8**	**-0.2**
BNDS				*e*SG	**Sg**	**10 28 57.5**	**-1.0**
BNDS				AMP		10 29 00.5	
	comp=E,4µm,0.6s						
BNDS				AMP		10 29 01.4	
	comp=N,4µm,0.4s						
KRBR	**Kerman**	**3.68**	**349**	*e*PN	**Pn**	**10 29 05.0**	**+2.0**
KRBR				AMP		10 30 18.0	
	comp=N,285nm,0.5s						
KRBR				AMP		10 30 27.8	
	comp=E,325nm,0.7s						
ZHSF	**Zahedan**	**4.32**	**41**	*e*PN	**Pn**	**10 29 13.8**	**+1.7**
GHIR	**Ghir-Karzin**	**4.49**	**296**	*e*PN	**Pn**	**10 29 17.2**	**+2.7**
GHIR				SN	**Sn**	**10 30 07.8**	**+0.4**
GHIR				AMP		10 31 13.7	
	comp=N,178nm,0.6s						
GHIR				AMP		10 31 14.4	
	comp=E,207nm,0.8s						
HASS	**Wahat al Ahsa'**	**7.18**	**262**	P	**Pn**	**10 29 54.8**	**+2.4**
ASAO	**Ashtian**	**10.43**	**323**	*e*PN	**P**	**10 30 37.8**	**+0.3**
RAYN	**Ar Rayn**	**11.29**	**258**	Pn	**P**	**10 30 48.3**	**-1.0**
	comp=E,164nm,0.8s,SNR=18						
MZLS	**Mizel**	**11.41**	**261**	P	**P**	**10 30 50.0**	**-1.0**
ARSS	**Ar Rass**	**12.87**	**271**	P	**P**	**10 31 08.8**	**-1.8**
AFFS	**'Afif**	**13.40**	**263**	P	**P**	**10 31 16.9**	**-0.6**
THW	**Thamme Wali**	**13.91**	**59**	P	**P**	**10 31 22.4**	**-1.9**
HILS	**Ha'il**	**14.10**	**278**	P	**P**	**10 31 25.5**	**-1.4**
CEP	**Cherat**	**14.48**	**56**	P	**P**	**10 31 35.3**	**+3.5**
TATS	**Tathlith**	**14.62**	**245**	P	**P**	**10 31 32.6**	**-1.1**
DJNS	**Zahran al Janu**	**15.57**	**239**	P	**P**	**10 31 46.4**	**+0.3**
NAMS	**An Nimas**	**15.85**	**246**	P	**P**	**10 31 49.6**	**0.0**
BLJS	**Baljurashi**	**16.02**	**250**	P	**P**	**10 31 52.5**	**+0.6**
KBRS	**Khaybar**	**16.44**	**272**	P	**P**	**10 31 58.5**	**+1.2**
YNBS	**Yanbu' al Bahr**	**17.79**	**268**	P	**P**	**10 32 17.2**	**+3.0**
ASF	**Jabal al Asfar**	**18.92**	**293**	P	**P**	**10 32 29.4**	**+1.4**
	comp=E,1.0nm,0.3s,baz=303,slow=3.1,SNR=3.6						
ASF				LR	LR	10 41 31.5	
	comp=E,165nm,18.9s,baz=345,slow=43						
KIV	**Kislovodsk**	**21.30**	**329**	*d i*P	**P**	**10 32 54.3**	**+0.6**
KIV				pmax	pmax		
	comp=Z,27nm,1.2s,mb4.5						
KIV				MLR	MLR		
	comp=Z,100nm,17.0s,MS3.3						
KIV	**Kislovodsk**	**21.30**	**329**	*e*P	**P**	**10 32 52.0**	**-1.7**
	comp=Z,20nm,1.0s,mb4.4						
KIV	**Kislovodsk**	**21.30**	**329**	*e*P	**P**	**10 32 52.0**	**-1.7**
	comp=Z,20nm,1.0s,mb4.4						
AAK	**Ala-Archa**	**21.35**	**36**	*e*P	**P**	**10 32 53.1**	**-1.2**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb3.9						
AAK				MLR	MLR		
	comp=Z,300nm,20.0s,MS3.7						
AAK	**Ala-Archa**	**21.35**	**36**	*e*P	**P**	**10 32 52.4**	**-1.8**
	comp=Z,4.1nm,0.8s,mb3.8						
HYB	**Hyderabad**	**21.40**	**110**	*i* P	**P**	**10 33 04.0**	**+9.1**
SOC	**Sochi**	**22.48**	**324**	*i* P	**P**	**10 33 04.9**	**-0.7**
SOC				*e*		10 33 29.4	
SOC				*e*S	**S**	**10 36 57.6**	**-10**
SOC				*e*SS	SS	10 37 35.9	-13
SOC				pmax	pmax		
	comp=N,22nm,0.7s						
SOC				pmax	pmax		
	comp=Z,21nm,0.7s,mb4.7						
SOC				pmax	pmax		
	comp=E,13nm,0.5s						
SOC				MLR	MLR		
	comp=Z,298nm,16.0s,MS3.8						
SOC				MLR	MLR		
	comp=N,147nm,15.0s,MS3.8						
SOC				MLR	MLR		
	comp=E,186nm,14.0s,MS3.8						
CSS	**Prodhromos**	**22.49**	**298**	P	**P**	**10 33 05.7**	**0.0**
	comp=E,11nm,0.8s,mb4.3						
BRTR	**Keskin Array B**	**23.98**	**310**	P	**P**	**10 33 23.2**	**+3.0**
	comp=E,6.8nm,1.0s,mb4.0,baz=130,slow=9.6,SNR=14						
BRTR				LR	LR	10 43 47.1	
	comp=E,238nm,19.8s,MS3.7,baz=110,slow=40						
MKAR	**Makanchi Array**	**28.27**	**37**	P	**P**	**10 34 00.5**	**+0.3**
	comp=E,0.6nm,0.5s,mb3.5,baz=236,slow=7.7,SNR=11						
MKAR				LR	LR	10 47 02.0	
	comp=E,162nm,20.4s,MS3.6,baz=244,slow=41						
MKAR	**Makanchi Array**	**28.27**	**37**	*i* P	**P**	**10 34 00.5**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**28.27**	**37**	P	**P**	**10 34 00.4**	**+0.3**
BVAR	**Borovoye Array**	**28.32**	**16**	P	**P**	**10 33 59.8**	**-0.7**
	comp=Z,1.1nm,0.4s,mb3.9,baz=217,slow=7.2,SNR=8.8						
BRVK	**Borovoye**	**28.32**	**16**	*e*P	**P**	**10 33 59.3**	**-1.3**
BRVK	**Borovoye**	**28.32**	**16**	*e*P	**P**	**10 33 59.3**	**-1.2**
KURK	**Kurchatov**	**29.18**	**28**	P	**P**	**10 34 08.1**	**-0.2**
KURK	**Kurchatov**	**29.18**	**28**	P	**P**	**10 34 08.1**	**-0.2**
IDI	**Anoyia**	**29.32**	**296**	P	**P**	**10 34 13.7**	**+3.9**
	comp=Z,7.3nm,0.9s,mb4.4,baz=93,slow=7.1,SNR=7.9						
AKASG	**Malin Array Be**	**32.54**	**326**	P	**P**	**10 34 37.5**	**-0.4**
	comp=Z,0.8nm,0.4s,mb4.0,baz=130,slow=7.8,SNR=12						
OBN	**Obninsk**	**32.57**	**338**	*e*P	**P**	**10 34 38.1**	**-0.1**
OBN				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.6						
KMBO	**Kilima Mbogo**	**33.62**	**219**	P	**P**	**10 34 53.8**	**+6.1**
	comp=Z,2.6nm,0.8s,mb4.2,baz=34,slow=11,SNR=12						
KMBO				LR	LR	10 48 38.4	
	comp=Z,126nm,21.5s,MS3.6,baz=81,slow=36						
ZAL	**Zalesovo**	**34.13**	**29**	P	**P**	**10 34 51.0**	**-0.8**
	comp=Z,3.0nm,0.3s,mb4.6,baz=140,slow=5.6,SNR=9.2						
ZAL	**Zalesovo**	**34.13**	**29**	P	**P**	**10 34 50.9**	**-0.8**
ZAL	**Zalesovo**	**34.13**	**29**	P	**P**	**10 34 51.0**	**-0.8**
OJC	**Ojcow**	**37.43**	**320**	*e*P	**P**	**10 35 20.9**	**+1.2**
OJC	**Ojcow**	**37.43**	**320**	*e*P	**P**	**10 35 20.9**	**+1.2**
GTA	**Gaotai**	**37.48**	**59**	*e*P	**P**	**10 35 27.1**	**+6.8**
GTA				AP	pP	10 35 34.5	+11
CMAR	**Chiang Mai Arr**	**38.94**	**93**	LR	LR	10 53 33.8	
	comp=Z,63nm,19.5s,MS3.5,baz=295,slow=39						
LZH	**Lanzhou**	**40.44**	**65**	*e*P	**P**	**10 35 52.0**	**+7.0**
LZH				AMB	AMB		
	comp=Z,26nm,1.5s,mb4.7						
LZH				LR	LR		
	comp=Z,330nm,20.0s,MS4.2						
GERES	**GERESS Array B**	**40.63**	**315**	P	**P**	**10 35 47.0**	**+0.6**
	comp=Z,0.7nm,0.8s,mb3.4,baz=80,slow=15,SNR=4.3						
KHC	**Kasperske Hory**	**40.79**	**316**	*e*P	**P**	**10 35 45.5**	**-2.2**
KHC				pP	pP	10 35 59.0	+8.3
FINES	**FINESS Array B**	**40.98**	**338**	P	**P**	**10 35 49.1**	**0.0**
	comp=Z,2.3nm,0.5s,mb4.1,baz=133,slow=8.7,SNR=29						
FINES				LR	LR	10 56 34.3	
	comp=Z,45nm,19.0s,MS3.4,baz=173,slow=42						
SONM	**Songino Array**	**43.61**	**47**	P	**P**	**10 36 12.1**	**+1.4**
	comp=Z,0.6nm,0.6s,mb3.5,baz=248,slow=8.5,SNR=7.0						
SBF	**Sospel**	**43.86**	**307**	*e*P	**P**	**10 36 04.2**	**-8.6**
	comp=Z,100nm,1.3s,mb5.1						
MBDF	**Montbardon**	**44.43**	**308**	*e*P	**P**	**10 36 09.3**	**-8.2**
	comp=Z,14nm,1.1s,mb4.3						
LMR	**La Mourre**	**44.47**	**306**	*e*P	**P**	**10 36 08.6**	**-9.2**
	comp=Z,32nm,1.1s,mb4.7						
LPG	**La Plagne**	**44.54**	**309**	*e*P	**P**	**10 36 10.2**	**-8.2**
LPL	**La Plagne**	**44.56**	**309**	*e*P	**P**	**10 36 10.1**	**-8.4**
	comp=Z,20nm,1.1s,mb4.6						
CDF	**Champ du Feu**	**44.66**	**313**	*e*P	**P**	**10 36 10.5**	**-8.8**
HINF	**Hinteralfeld**	**44.83**	**312**	*e*P	**P**	**10 36 11.6**	**-9.0**
MEZF	**Maizieres J'vi**	**46.13**	**313**	*e*P	**P**	**10 36 22.1**	**-8.8**
	comp=Z,4.9nm,0.5s,mb4.4						
NB2	**NORSAR Subarra**	**46.59**	**331**	P	**P**	**10 36 33.5**	**-0.9**
	comp=Z,3.8nm,1.1s,mb4.2,baz=117,slow=7.9						
NOA	**NORSAR Array B**	**46.59**	**331**	P	**P**	**10 36 33.5**	**-0.8**
	comp=Z,1.8nm,0.8s,mb4.0,baz=118,slow=8.1,SNR=7.0						
NOA				LR	LR	10 58 59.3	
	comp=Z,37nm,19.2s,MS3.4,baz=130,slow=40						
SMF	**Signal de Mont**	**46.69**	**310**	*e*P	**P**	**10 36 26.7**	**-8.7**
	comp=Z,70nm,1.8s,mb5.0						
SSF	**Saint Saulge**	**46.97**	**311**	*e*P	**P**	**10 36 28.9**	**-8.7**
	comp=Z,21nm,1.6s,mb4.8						
AVF	**Avril sur Loir**	**47.04**	**310**	*e*P	**P**	**10 36 29.6**	**-8.6**
ARCES	**ARCESS Array B**	**47.09**	**345**	P	**P**	**10 36 37.9**	**-0.3**
	comp=Z,4.8nm,0.9s,mb4.4,baz=129,slow=7.8,SNR=9.4						
ARCES				LR	LR	10 59 24.3	
	comp=Z,122nm,18.8s,MS3.9,baz=14,slow=40						
RJF	**Les Rejaudoux**	**48.20**	**308**	*e*P	**P**	**10 36 38.9**	**-8.3**
RJF				*e*R			
	comp=Z,140nm,19.3s						
ETSF	**Etsaut**	**49.62**	**305**	*e*P	**P**	**10 36 50.5**	**-7.8**
FLN	**La Foliniere**	**49.80**	**313**	*e*P	**P**	**10 36 50.5**	**-9.1**
	comp=Z,127nm,1.6s,mb5.4						
FLN				*e*R			
	comp=Z,84nm,18.4s						
BOD	**Bodaibo**	**50.33**	**35**	*e*P	**P**	**10 37 03.2**	**-0.3**
ROSF	**Rostrenen**	**51.63**	**312**	*e*P	**P**	**10 37 04.9**	**-8.6**
SSE	**Sheshan**	**55.34**	**69**	P	**P**	**10 37 44.8**	**+3.6**
SSE				S	**S**	**10 45 20.8**	**-2.7**
SSE				XS		10 45 37.8	
SSE				SS	SS	10 49 06.5	-1.4
SSE				AMB	AMB		
	comp=Z,15nm,0.7s,mb5.1						
SSE				LR	LR		
	comp=N,87nm,19.0s,MS3.9						
SSE				LR	LR		
	comp=E,26nm,19.0s,MS3.9						
SSE				LR	LR		
	comp=Z,58nm,18.7s,MS3.7						
EVO	**Evora**	**55.59**	**300**	*e*P	**P**	**10 37 36.2**	**-6.7**
EVO				*e*R			
	comp=Z,75nm,17.6s						
TIXI	**Tiksi**	**59.35**	**20**	P	**P**	**10 38 13.0**	**+4.0**
DBIC	**Dimbokro**	**62.37**	**264**	LR	LR	11 04 04.2	
	comp=Z,53nm,18.9s,MS3.7,baz=9.8,slow=34						
SCHQ	**Schefferville**	**86.16**	**331**	P	**P**	**10 40 48.5**	**+1.5**
	comp=Z,3.7nm,0.9s,mb4.6,baz=215,slow=4.8,SNR=2.4						
ILAR	**Eielson Array**	**87.20**	**10**	P	**P**	**10 40 52.1**	**+0.2**
	comp=Z,0.3nm,0.6s,mb3.7,baz=332,slow=5.0,SNR=6.0						
ILAR				LR	LR	11 24 52.6	
	comp=Z,86nm,19.1s,MS4.2,baz=176,slow=39						
WRA	**Warramunga Arr**	**87.52**	**114**	P	**P**	**10 41 00.7**	**+6.1**
	comp=Z,1.3nm,0.9s,mb4.2,baz=313,slow=4.1,SNR=14						
ASAR	**Alice Springs**	**88.98**	**117**	P	**P**	**10 41 07.7**	**+6.3**
	comp=Z,1.0nm,0.8s,mb4.2,baz=304,slow=4.1,SNR=10						
YKA	**Yellowknife Ar**	**91.24**	**356**	LR	LR	11 24 53.7	
	comp=Z,59nm,20.5s,MS4.0,baz=40,slow=38						
DLBC	**Dease Lake**	**95.30**	**4**	LR	LR	11 27 30.4	
	comp=Z,64nm,19.4s,MS4.1,baz=154,slow=38						

CASC 10 10:31:40.4±2.8, **11.55N**×**86.91W**, **MD3.7**, **4C-5D**, **Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.70**	**26**⇑	*e*P	Pg	10 31 55.8	+1.4
COPN				*e*S	Sg	10 32 07.0	+3.2
CRUN	**El Crucero**	**0.74**	**54**	*e*P	Pg	10 31 56.1	+1.0
TICN	**Ticuantepe**	**0.82**	**54**	*e*P	Pg	10 31 57.0	+0.2
XAVN	**Gruta Xavier**	**0.83**	**44**	*i* P	Pg	10 31 57.3	+0.4
LEON	**Leon**	**0.86**	**1**⇓	*e*P	Pg	10 31 58.3	+0.7
LEON				*e*S	Sg	10 32 11.6	+2.5
APYN	**Apoyeque**	**0.88**	**39**⇑	*e*P	Pg	10 31 57.8	0.0
APYN				*e*S	Sg	10 32 11.1	+1.6
MGAN	**Managua**	**0.88**	**47**⇓	*e*P	Pg	10 31 57.8	-0.2
MGAN				*e*S	Sg	10 32 12.6	+2.9
APON	**Apoyo**	**0.90**	**66**⇑	*e*P	Pg	10 31 57.7	-0.7
APON				*e*S	Sg	10 32 11.5	+1.0
MIRN	**Miramar**	**0.91**	**12**	*e*P	Pg	10 31 58.7	+0.2
MOMJ	**Momotombo**	**0.93**	**23**⇓	*e*P	Pg	10 31 58.9	0.0
MOMJ				*e*S	Sg	10 32 12.6	+1.3
WILN	**Americas 2**	**0.93**	**49**	*e*P	Pg	10 31 58.8	-0.2
WILN				*e*S	Sg	10 32 12.5	+1.0
CNGN	**Cerro Negro**	**0.97**	**12**⇑	*e*P	Pg	10 31 59.5	-0.3
PYTN	**Playitas**	**1.29**	**40**⇓	*e*P	Pb	10 32 03.6	-1.6
VCR	**Vista de Mar**	**1.89**	**138**	*e*P	Pn	10 32 13.0	-1.2
VCR				*e*S	Sn	10 32 42.8	+3.7
JCR	**Jicaral**	**2.44**	**134**⇓	*e*P	Pn	10 32 21.8	-0.4
JCR				*e*S	Sn	10 32 55.3	+2.1
CGA2	**Cerro Gallo 2**	**2.84**	**122**	*e*P	Pn	10 32 24.6	-3.3
PRS1	**Puriscal**	**2.99**	**121**	*e*P	Pn	10 32 27.6	-2.3
LAJ	**Bijagual**	**3.21**	**121**	*e*P	Pn	10 32 29.3	-3.8
URSC	**Urasca**	**3.52**	**119**	*e*P	Pn	10 32 36.0	-1.4

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*IDC **10** 10:38:58.8±0.8, 15.22S×173.40W, mb3.9/8, mb1 4.2/8, mb1mx4.1/15, MS3.4/1, Ms1 3.4/1, ms1mx2.7/23, Error ellipse: s-maj=47.4km s-min=18.2km az=140.0*
*NEIC **10** 10:39:00.4±0.4, 15.18S×173.44W, h10^{km}, mb4.1/1, Error ellipse: s-maj=23.0km s-min=8.7km az=139.0*
ISC 10 10:38:59.1±6.6, **15.1S**±0.2×**173.6W**±0.2, **h11**^{km}±41^{km}, **n20**, σ**0^{s}61**/17, **mb3.9**/9, **MS3.4**/1, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.10**	**55**	*e*P	**Pn**	**10 39 34.7**	**0.0**
AFI				*e*S	**Sn**	**10 39 52.8**	**-8.1**
URZ	**Urewera**	**24.48**	**198**	P	**P**	**10 44 19.4**	**-0.1**
	12nm,0.8s,mb4.4,baz=169,slow=2.8,SNR=7.5						
CTA	**Charters Tower**	**38.57**	**257**	LR	LR	11 00 07.7	
	comp=Z,53nm,18.8s,MS3.4,baz=223,slow=33						
STKA	**Stephens Creek**	**44.05**	**240**	P	**P**	**10 47 07.5**	**-1.4**
	1.2nm,0.8s,mb3.7,baz=169,slow=12,SNR=2.1						
WRA	**Warramunga Arr**	**49.77**	**257**	P	**P**	**10 47 54.9**	**+0.8**
	0.2nm,0.5s,mb3.5,baz=96,slow=6.6,SNR=8.5						
ASAR	**Alice Springs**	**50.06**	**252**	P	**P**	**10 47 57.0**	**+0.8**
	0.9nm,0.6s,mb4.0,baz=92,slow=7.3,SNR=21						
NVAR	**Mina Array Bea**	**74.22**	**42**	P	**P**	**10 50 38.9**	**+0.8**
	1.0nm,0.7s,mb3.9,baz=210,slow=9.6,SNR=5.3						
QSPA	**South Pole Qui**	**74.92**	**180**	*e*P	**P**	**10 50 41.5**	**+0.1**
	0.9nm,0.5s,mb4.0						
PV10	**Paradox Valley**	**80.42**	**46**	*e*P	**P**	**10 51 12.7**	**+0.1**
TXAR	**Lajitas Array**	**80.58**	**56**	P	**P**	**10 51 13.8**	**+0.2**
	1.1nm,1.0s,mb3.8,baz=214,slow=4.5,SNR=7.4						
TXAR	**Lajitas Array**	**80.58**	**56**	P	**P**	**10 51 13.8**	**+0.2**
PV01	**Paradox Valley**	**80.63**	**46**	*e*P	**P**	**10 51 13.7**	**0.0**
GDL2	**Guadalupe Moun**	**81.17**	**53**	*e*P	**P**	**10 51 16.7**	**+0.1**
PDAR	**Pinedale Array**	**82.15**	**42**	P	**P**	**10 51 20.7**	**-0.8**
	1.7nm,1.1s,mb3.9,baz=235,slow=3.0,SNR=7.6						
ILAR	**Eielson Array**	**82.20**	**11**	P	**P**	**10 51 20.2**	**-1.0**
	0.6nm,0.7s,mb3.6,baz=99,slow=16,SNR=8.3						
SDCO	**Great Sand Dun**	**82.63**	**48**	P	**P**	**10 51 24.2**	**+0.1**
HRY	**Holter Researc**	**82.71**	**38**	*e*P	**P**	**10 51 24.5**	**+0.2**
KHC	**Kasperske Hory**	**145.58**	**352**	*e*P	PKPbc	10 58 40.5	+2.3
GERES	**GERESS Array B**	**145.84**	**351**	PKPbc	PKPbc	10 58 41.1	+2.3
	0.4nm,0.4s,baz=68,slow=7.2,SNR=4.7						
BRTR	**Keskin Array B**	**145.85**	**321**	PKPbc	PKPbc	10 58 41.2	+2.1
	1.5nm,0.9s,baz=90,slow=1.2,SNR=5.0						

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*IDC **10** 10:53:58.5±0.6, 33.01N×136.92E, mb4.2/18, mb1 4.4/18, mb1mx4.3/26, ML3.5/1, MS3.3/4, Ms1 3.4/4, ms1mx3.1/25, Error ellipse: s-maj=19.2km s-min=14.3km az=72.0*
*NIED **10** 10:54:00, 33.10N×136.90E, h14^{km}, Mw4.1 Best double couple: $M_0$1.56×10^{15} NP1:ϕ_s71°, δ78°, λ85°. NP2:ϕ_s272°, δ13°, λ110°.*
*BJI **10** 10:54:00.0, 33.00N×136.90E, h10^{km}, mB4.7, mb4.4*
*NEIC **10** 10:54:00.0±0.3, 33.00N×136.93E, h10^{km}, mb4.4/3, Error ellipse: s-maj=10.4km s-min=6.7km az=93.0*
NEIC Recorded [2 JMA] in Nara Prefecture.
*MOS **10** 10:54:01.1±0.9, 33.06N×137.11E, h33^{km}, mb4.5/10, Error ellipse: s-maj=35.2km s-min=16.7km az=95.5*
*JMA **10** 10:54:01.1±0.2, 33.08N×136.89E, h32^{km}, M4.4 Broadband fault plane solution: P waves. NP1:ϕ_s293°, δ24°, λ59°. NP2:ϕ_s147°, δ70°, λ103°. Principal axes: T Plg63°, Azm77°; N Plg12°, Azm322°; P Plg24°, Azm227°;*
JMA Felt II J1.
ISC 10 10:54:00.5±0.9, **33.09N**±0.04×**136.89E**±0.03, **h23**^{km}±6^{km}, **n62**, σ**1^{s}12**/71, **mb4.2**/23, **MS3.7**/3, **2C-6D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.89**	**41**	P	**Pb**	**10 54 17.3**	**+0.1**
TK01				*e*S	**Sb**	**10 54 29.0**	**+0.3**
JWZ	**Kozaga**	**1.08**	**294**	⇓P	**Pb**	**10 54 20.1**	**-0.2**
JWZ				*e*S	**Sb**	**10 54 33.3**	**-0.7**
TK02	**Tokai 2**	**1.12**	**40**	⇓P	**Pn**	**10 54 20.8**	**-0.1**
TK02				*e*S	**Sb**	**10 54 35.5**	**+0.3**
JIE	**Ise**	**1.31**	**353**	⇓P	**Pn**	**10 54 24.2**	**+0.6**
JIE				*e*S	**Sn**	**10 54 40.0**	**-0.5**
TK03	**Tokai 3**	**1.40**	**40**	P	**Pn**	**10 54 24.8**	**-0.1**
TK03				*e*S	**Sn**	**10 54 42.2**	**-0.5**
TK04	**Tokai 4**	**1.53**	**32**	⇓P	**Pn**	**10 54 26.9**	**+0.1**
TK04				*e*S	**Sn**	**10 54 45.6**	**-0.5**
JWY	**Kouya**	**1.56**	**317**	⇓P	**Pn**	**10 54 28.0**	**+0.8**
JWY				*e*S	**Sn**	**10 54 46.5**	**-0.4**
JAI	**Aioi**	**2.16**	**290**	P	**Pn**	**10 54 35.8**	**+0.1**
JAI				*e*S	**Sn**	**10 55 00.5**	**-1.5**
JHJ	**Hachijo jima 2**	**2.43**	**88**	Pn	**Pn**	**10 54 39.5**	**-0.1**
	26nm,0.3s,baz=231,slow=20,SNR=4.3						
JHJ				Sn	**Sn**	**10 55 07.0**	**-1.8**
	85nm,0.3s,baz=4.8,slow=22,SNR=8.5						
JWT	**Wachi**	**2.51**	**331**	⇑P	**Pn**	**10 54 41.4**	**+0.6**
JWT				S	**Sn**	**10 55 10.5**	**-0.6**
JMN	**Monobe**	**2.60**	**285**	P	**Pn**	**10 54 41.8**	**-0.2**
JMN				*e*S	**Sn**	**10 55 10.5**	**-2.7**
JIM2	**Oshima 3**	**2.67**	**52**	P	**Pn**	**10 54 43.5**	**+0.5**
JOD2	**Odawara 2**	**2.83**	**39**	P	**Pn**	**10 54 46.1**	**+0.7**
JRY	**Ryogami san**	**3.36**	**29**	P	**Pn**	**10 54 53.9**	**+1.0**
JRY				*e*S	**Sn**	**10 55 31.0**	**-1.5**
MAJO	**Matsushiro**	**3.61**	**17**	*e*P	**Pn**	**10 54 56.7**	**+0.2**
MAT	**Matsushiro**	**3.61**	**17**	P	**Pn**	**10 54 57.0**	**+0.6**
MAT				S	**Sn**	**10 55 37.0**	**-1.9**
MAT	**Matsushiro**	**3.61**	**17**	*e*P	**Pn**	**10 54 57.0**	**+0.6**
MAT				*e*S	**Sn**	**10 55 37.0**	**-1.9**
JOW	**Kunigami**	**9.73**	**232**	LR	LR	11 00 03.3	
	comp=Z,118nm,20.1s,baz=236,slow=38						
ASAJ	**Asahikawa**	**11.88**	**20**	LR	LR	11 01 48.6	
	comp=Z,169nm,19.1s,baz=336,slow=39						
YSS	**Yuzh-Sakhalins**	**14.55**	**16**	*e*P	**P**	**10 57 25.2**	**-1.7**
BJI	**Beijing**	**18.01**	**299**	*e*P	**P**	**10 58 14.5**	**+3.5**
BJI				AMB	AMB		
	comp=Z,14nm,0.9s						
HHC	**Hu-ho-hao-te**	**21.62**	**298**	*e*P	**P**	**10 58 54.5**	**+3.6**
HHC				AMB	AMB		
	comp=Z,17nm,1.0s,mb4.4						
HHC				AMB	AMB		
	comp=Z,77nm,5.2s						
XAN	**Xi'an**	**23.30**	**280**	P	**P**	**10 59 09.8**	**+2.2**
XAN				AP		10 59 19.0	
XAN				AMB	AMB		
	comp=Z,14nm,1.1s,mb4.3						
SONM	**Songino Array**	**27.27**	**312**	P	**P**	**10 59 45.3**	**+0.4**
	comp=Z,3.0nm,0.8s,mb3.9,baz=112,slow=7.6,SNR=20						
SONM				PcP	PcP	11 03 04.5	-0.2
	comp=Z,0.9nm,1.0s,baz=161,slow=2.5,SNR=4.6						
CMAR	**Chiang Mai Arr**	**36.93**	**256**	LR	LR	11 18 03.8	
	comp=Z,50nm,19.8s,MS3.3,baz=100,slow=39						
TIXI	**Tiksi**	**38.86**	**356**⇓	*i*P	**P**	**11 01 36.3**	**+11**
TIXI				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.6						
TIXI				MLR	MLR		
	comp=Z,800nm,29.0s,MS4.4						
ZAL	**Zalesovo**	**42.00**	**316**	P	**P**	**11 01 52.4**	**+1.1**
	comp=Z,0.8nm,0.4s,mb3.7,baz=284,slow=11,SNR=5.5						
ZAL	**Zalesovo**	**42.00**	**316**	P	**P**	**11 01 52.4**	**+1.1**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**43.20**	**305**	P	**P**	**11 02 02.7**	**+1.5**
	comp=Z,3.7nm,0.6s,mb4.3,baz=93,slow=10,SNR=35						
MKAR	**Makanchi Array**	**43.20**	**305**	P	**P**	**11 02 02.7**	**+1.5**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MKAR	**Makanchi Array**	**43.20**	**305**	P	**P**	**11 02 02.7**	**+1.4**
KURK	**Kurchatov**	**45.57**	**311**	*e*P	**P**	**11 02 20.1**	**-0.1**
	comp=Z,9.8nm,1.0s,mb4.7						
BVAR	**Borovoye Array**	**50.56**	**314**	P	**P**	**11 02 59.5**	**+0.5**
	comp=Z,3.1nm,0.7s,mb4.3,baz=108,slow=9.4,SNR=16						
FITZ	**Fitzroy Crossi**	**52.02**	**194**	P	**P**	**11 03 09.0**	**-1.5**
	comp=Z,0.9nm,0.5s,mb4.0,baz=333,slow=5.3,SNR=6.5						
WRAB	**Tennant Creek**	**52.78**	**183**	*e*P	**P**	**11 03 14.0**	**-2.2**
	comp=Z,4.8nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**52.79**	**183**	P	**P**	**11 03 14.8**	**-1.5**
	comp=Z,2.7nm,0.8s,mb4.3,baz=1.2,slow=7.7,SNR=27						
WRA				LR	LR	11 22 30.0	
	comp=Z,43nm,19.8s,MS3.5,baz=225,slow=32						
ILAR	**Eielson Array**	**54.79**	**31**	P	**P**	**11 03 30.1**	**-0.3**
	comp=Z,0.6nm,0.7s,mb3.7,baz=291,slow=5.7,SNR=7.6						
ILAR	**Eielson Array**	**54.79**	**31**	P	**P**	**11 03 30.1**	**-0.3**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**56.51**	**183**	P	**P**	**11 03 42.0**	**-1.3**
	comp=Z,1.7nm,0.9s,mb4.1,baz=13,slow=7.7,SNR=15						
INK	**Inuvik**	**59.56**	**26**	P	**P**	**11 04 03.0**	**-1.1**
	comp=Z,5.4nm,1.4s,mb4.4,baz=246,slow=12,SNR=4.2						
INK	**Inuvik**	**59.56**	**26**	P	**P**	**11 04 03.0**	**-1.1**
INK				pmax	pmax		
	comp=Z,5.0nm,1.4s						
STKA	**Stephens Creek**	**64.77**	**176**	P	**P**	**11 04 37.9**	**-1.5**
	comp=Z,1.0nm,0.6s,mb4.0,baz=22,slow=7.3,SNR=4.7						
ARCES	**ARCESS Array B**	**66.36**	**339**	P	**P**	**11 04 47.8**	**-1.3**
	comp=Z,4.2nm,0.8s,mb4.5,baz=18,slow=12,SNR=7.8						
ARCES	**ARCESS Array B**	**66.36**	**339**	P	**P**	**11 04 47.8**	**-1.2**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
FINES	**FINESS Array B**	**70.54**	**332**	P	**P**	**11 05 15.3**	**+0.3**
	comp=Z,1.5nm,0.6s,mb4.1,baz=56,slow=6.9,SNR=12						
FINES	**FINESS Array B**	**70.54**	**332**	P	**P**	**11 05 15.4**	**+0.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NB2	**NORSAR Subarra**	**76.33**	**336**	P	**P**	**11 05 49.0**	**+0.2**
	comp=Z,0.7nm,0.6s,mb3.8,baz=45,slow=5.8						
NOA	**NORSAR Array B**	**76.33**	**336**	P	**P**	**11 05 49.0**	**+0.2**
	comp=Z,1.7nm,0.8s,mb4.0,baz=44,slow=5.7,SNR=4.9						
NOA	**NORSAR Array B**	**76.33**	**336**	P	**P**	**11 05 49.0**	**+0.2**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRTR	**Keskin Array B**	**78.61**	**310**	P	**P**	**11 06 02.9**	**+1.0**
	comp=Z,1.1nm,0.8s,mb3.8,baz=72,slow=3.9,SNR=5.7						
BRTR	**Keskin Array B**	**78.61**	**310**	P	**P**	**11 06 02.9**	**+1.0**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NVAR	**Mina Array Bea**	**80.34**	**50**	P	**P**	**11 06 13.2**	**+2.0**
	comp=Z,1.1nm,0.7s,mb3.9,baz=304,slow=3.7,SNR=5.7						
PDAR	**Pinedale Array**	**83.08**	**43**	P	**P**	**11 06 26.6**	**+1.2**
	comp=Z,0.7nm,0.7s,mb3.8,baz=301,slow=3.4,SNR=6.9						
KHC	**Kasperske Hory**	**83.87**	**326**	*e*P	**P**	**11 06 30.5**	**+1.2**
GERES	**GERESS Array B**	**84.01**	**326**	P	**P**	**11 06 30.7**	**+0.6**
	comp=Z,5.2nm,1.1s,mb4.6,baz=34,slow=4.8,SNR=10.0						
GERES	**GERESS Array B**	**84.01**	**326**	P	**P**	**11 06 30.7**	**+0.7**
GERES				pmax	pmax		
	comp=Z,5.0nm,1.1s						
GRA1	**Grafenberg Arr**	**84.53**	**328**	*e*P	**P**	**11 06 34.6**	**+2.0**
PV10	**Paradox Valley**	**86.17**	**46**	*e*P	**P**	**11 06 42.5**	**+1.5**
TXAR	**Lajitas Array**	**95.48**	**50**	P	**P**	**11 07 26.7**	**+1.8**
	comp=Z,1.1nm,0.6s,mb4.5,baz=292,slow=3.1,SNR=20						
TXAR	**Lajitas Array**	**95.48**	**50**	P	**P**	**11 07 26.7**	**+1.8**
SNAA	**Sanae**	**135.90**	**197**		PKPdf	11 13 36.6	+13
VNA2	**Neumayer--Watz**	**137.50**	**197**⇑	*i*	PKPdf	11 13 39.7	+14

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*IDC **10** 11:01:16.4±1.7, 52.27N×174.67W, mb3.6/4, mb1 4.0/5, mb1mx3.6/24, ML4.2/1, Error ellipse: s-maj=61.3km s-min=31.0km az=136.0*
*NEIC **10** 11:01:38.0±0.3, 52.59N×174.40W, h184^{km}±5^{km}, Error ellipse: s-maj=19.4km s-min=6.8km az=157.0*
ISC 10 11:01:37.0±0.5, **52.6N**±0.2×**174.4W**±0.1, **h186**^{km}±6^{km}, **n20**, σ**0^{s}70**/25, **mb3.4**/4, **Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.45**	**167**	P	**P**	**11 02 02.8**	**+0.2**
ATKA				S	**S**	**11 02 22.1**	**-0.1**
GSIG	**Igitkin Island**	**1.17**	**237**	P	**P**	**11 02 06.8**	**0.0**
GSTR	**Great Sitkin T**	**1.18**	**243**	P	**P**	**11 02 07.4**	**+0.5**
GSMY	**Great Sitkin M**	**1.20**	**241**	P	**P**	**11 02 07.3**	**+0.2**
GSTD	**Great Sitkin T**	**1.24**	**243**	P	**P**	**11 02 07.7**	**+0.2**
GSTD				S	**S**	**11 02 30.8**	**-0.2**
ETKA	**Kagalaska Isla**	**1.48**	**239**	P	**P**	**11 02 08.8**	**-0.8**
ADAG	**Mount Adagdak**	**1.53**	**245**	P	**P**	**11 02 10.6**	**+0.5**
KIRH	**Kanaga Island**	**1.84**	**247**	P	**P**	**11 02 13.6**	**+0.5**
KIRH				S	**S**	**11 02 41.0**	**0.0**
KIKV	**Kanaga Island**	**1.89**	**247**	P	**P**	**11 02 14.0**	**+0.4**
KIWB	**Kanaga Island**	**1.89**	**247**	P	**P**	**11 02 13.9**	**+0.3**
KIMD	**Kanaga Island**	**1.98**	**245**	P	**P**	**11 02 14.8**	**+0.3**
KIMD				S	**S**	**11 02 42.0**	**-1.5**
NIKO	**Nikolski**	**3.35**	**82**	P	**P**	**11 02 31.5**	**+0.7**
NIKO				S	**S**	**11 03 11.2**	**-1.2**
UNV	**Unalaska Valle**	**4.87**	**72**	P	**P**	**11 02 50.8**	**+0.8**
MCK	**McKinley**	**17.26**	**40**	P	**P**	**11 05 27.4**	**-0.4**
THY	**Trims Highway**	**18.41**	**43**	P	**P**	**11 05 41.0**	**+0.9**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**18.54**	**38**	P	**P**	**11 05 39.2**	**-2.3**
	0.3nm,0.3s,baz=234,slow=9.7,SNR=38						
INK	**Inuvik**	**24.85**	**35**	P	**P**	**11 06 43.5**	**+0.4**
	0.7nm,0.5s,mb3.5,baz=246,slow=5.3,SNR=6.9						
PDAR	**Pinedale Array**	**43.32**	**76**	P	**P**	**11 09 22.3**	**+0.6**
	0.7nm,0.4s,mb3.6,baz=322,slow=2.6,SNR=11						
TXAR	**Lajitas Array**	**55.78**	**85**	P	**P**	**11 10 56.4**	**-0.1**
	0.3nm,0.7s,mb3.2,baz=328,slow=7.1,SNR=4.4						
ASAR	**Alice Springs**	**88.31**	**226**	P	**P**	**11 14 07.7**	**-0.6**
	0.2nm,0.6s,mb3.1,baz=19,slow=5.3,SNR=4.6						

DJA 10 11:08:42.3±1.1**,2.44N×99.95E,h74**km±10km**,MD4.6**/1**, ML3.7**/3**,2C-4D,Error ellipse: s-maj=27.3km s-min=16.8km az=69.0,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMI	**Simarbalatuk**	**1.03**	**284**	⇓*i*Pn	P	11 09 01.1	-0.5
	7.6nm,0.2s						
MRPI	**Mariponipon**	**1.04**	**218**	⇓*i*Pn	P	11 09 01.0	-0.7
	571nm,0.2s						
MRPI				⇑*i*Sn	S	11 09 14.8	-1.3
AEKI	**Aeknabara**	**1.53**	**257**	⇓*i*Pn	P	11 09 08.3	0.0
	242nm,0.2s						
AEKI	**Aeknabara**	**1.53**	**257**	⇓*i*P	P	11 09 08.5	+0.2
AEKI				⇑*i*Sn	S	11 09 25.7	-1.8

*NDI **10** 11:48:42.6±4.1,27.73N×87.73E,h10km,ML4.1*
*IDC **10** 11:48:55.2±6.6,28.05N×87.82E,h150km±62km,mb3.1/5, mb1 3.2/7,mb1mx3.1/21,Error ellipse: s-maj=54.3km s-min=17.2km az=58.0*
ISC 10 11:48:40.5±0.8**,27.65N**±0.06×**87.49E**±0.03**,h42**km±12km**, n22,σ1^{s}51**/31**,mb3.5**/5**,Nepal**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTK	**Gangtok**	**1.05**	**107**	*e*PG	**P**	**11 48 59.0**	**+0.1**
GTK				*e*SG	**S**	**11 49 11.0**	**-1.6**
SHL	**Shillong**	**4.45**	**117**	*i* PN	**P**	**11 49 49.0**	**+1.8**
SHL				*e*SN	**S**	**11 50 37.0**	**-1.4**
BLSP	**Bilaspur**	**7.33**	**223**	*e*	**S**	**11 51 56.2**	**+5.6**
BWNR	**Bhubaneshwar**	**7.48**	**192**	*e*P	**P**	**11 50 31.9**	**+2.2**
BWNR				*e*S	**S**	**11 51 52.1**	**-2.0**
BWNR				*e*		11 51 56.7	
	comp=N,133nm,0.3s						
BWNR				*e*		11 51 56.7	
	comp=E,93nm,0.4s						
JOSI	**Joshimath**	**7.52**	**295**	*e*	Px	11 50 51.0	
JOSI				*e*S	**S**	**11 51 56.8**	**+1.6**
AGRA	**Agra**	**8.49**	**269**	*e*S	**S**	**11 52 18.3**	**-1.1**
KLP	**Kalpa**	**8.93**	**298**	*e*S	**S**	**11 52 30.4**	**+0.2**
NDI	**New Delhi**	**9.12**	**279**	*e*P	**P**	**11 50 55.5**	**+2.9**
NDI				*e*S	**S**	**11 52 30.8**	**-4.3**
NDI				AML	AML	11 52 35.2	
	comp=N,48nm,0.3s						
NDI				AML	AML	11 52 35.9	
	comp=E,46nm,0.3s						
AYAN	**Aya Nagar**	**9.19**	**278**	*e*P	**P**	**11 50 56.9**	**+3.5**
AYAN				*e*S	**S**	**11 52 35.2**	**-1.5**
KUDL	**Kundal**	**9.74**	**275**	*e*P	**P**	**11 51 05.8**	**+4.7**
KUDL				*e*S	**S**	**11 52 47.2**	**-3.1**
NGP	**Nagpur**	**10.04**	**232**	*e*	**S**	**11 52 51.2**	**-6.5**
NGP				*e*S	**S**	**11 52 59.1**	**+1.4**
BHPL	**Bhopal**	**10.10**	**246**	*i* P	**P**	**11 51 11.1**	**+5.2**
BHPL				*e*S	**S**	**11 52 59.1**	**+0.1**
BHPL				*e*		11 53 05.0	
	comp=N,63nm,0.4s						
BHPL				*e*		11 53 05.2	
	comp=E,25nm,0.2s						
KHET	**Khetri**	**10.35**	**275**	*e*P	**P**	**11 51 13.6**	**+4.2**
KHET				*e*S	**S**	**11 53 02.7**	**-2.4**
VIS	**Vishakhapatnam**	**10.60**	**202**	*e*	**S**	**11 53 17.5**	**+6.3**
AJM	**Ajmer**	**11.51**	**267**	*e*S	**S**	**11 53 30.1**	**-3.2**
AJM				*e*		11 53 36.3	
	comp=E,33nm,0.2s						
AJM				*e*		11 53 36.3	
	comp=N,444nm,0.1s						
CMAR	**Chiang Mai Arr**	**13.95**	**129**	P	**P**	**11 52 07.2**	**+10**
	comp=N,0.1nm,0.3s,baz=322,slow=11,SNR=5.4						
MKAR	**Makanchi Array**	**19.55**	**349**	P	**P**	**11 53 07.0**	**-0.4**
	comp=N,0.2nm,0.3s,baz=151,slow=12,SNR=6.2						
SONM	**Songino Array**	**24.97**	**31**	P	**P**	**11 54 00.4**	**-1.1**
	comp=N,0.9nm,1.0s,mb3.2,baz=220,slow=9.6,SNR=5.1						
BVAR	**Borovoye Array**	**28.36**	**338**	P	**P**	**11 54 32.9**	**+0.3**
	comp=N,0.5nm,0.5s,mb3.4,baz=146,slow=10,SNR=2.8						
FINES	**FINESS Array B**	**52.50**	**328**	P	**P**	**11 57 50.8**	**-0.4**
	comp=N,1.6nm,0.9s,mb4.0,baz=124,slow=6.9,SNR=3.3						
WRA	**Warramunga Arr**	**65.53**	**131**	P	**P**	**11 59 22.7**	**+0.5**
	comp=N,0.2nm,0.4s,mb3.5,baz=326,slow=6.7,SNR=6.0						
ASAR	**Alice Springs**	**67.88**	**134**	P	**P**	**11 59 38.4**	**+1.4**
	comp=N,0.2nm,0.5s,mb3.4,baz=315,slow=6.4,SNR=7.2						

*NEIC **10** 12:37:22.6,42.51N×13.32E,h9km,MD3.4(ROM), ML3.3(LDG),After ROM.*
*ROM **10** 12:37:22.5±0.2,42.51N×13.32E,h8km±2km,MD3.4/7, ML3.0/7,Error ellipse: s-maj=1.3km s-min=0.9km az=90.0*
*CSEM **10** 12:37:22.8±0.1,42.50N×13.35E,h12km,ML3.0/7,Error ellipse: s-maj=1.6km s-min=1.1km az=71.0*
*LDG **10** 12:37:25.8±0.2,42.45N×13.21E,h10km,Ml3.3/4,Error ellipse: s-maj=10.0km s-min=5.3km az=47.0*
ISC 10 12:37:22.6±0.3**,42.52N**±0.02×**13.32E**±0.03**,h13**km±3km**, n78,σ0^{s}97**/107**,8C-5D,Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQU	**L'Aquila**	**0.18**	**160**	*e*PG	**Pg**	**12 37 27.5**	**+0.6**
AQU	**L'Aquila**	**0.18**	**160**	*e*Pg	**Pg**	**12 37 27.5**	**+0.6**
TERO	**Teramo**	**0.23**	**64**	⇑*i*PG	**Pg**	**12 37 28.2**	**+0.4**
TERO				SG	**Sg**	**12 37 32.0**	**+0.7**
TERO	**Teramo**	**0.23**	**64**	⇑*i*Pg	**Pg**	**12 37 28.2**	**+0.4**
TERO				*e*Sg	**Sg**	**12 37 32.0**	**+0.7**
NRCA	**Norcia**	**0.35**	**334**	*e*PG	**Pg**	**12 37 30.0**	**+0.1**
NRCA	**Norcia**	**0.35**	**334**	*e*Pg	**Pg**	**12 37 30.0**	**+0.1**
MNS	**Montasola**	**0.49**	**254**	⇑*i*PG	**Pg**	**12 37 32.3**	**-0.4**
MNS	**Montasola**	**0.49**	**254**	⇑*i*Pg	**Pg**	**12 37 32.2**	**-0.4**
PTQR	**Pietraquaria**	**0.50**	**173**	*e*PG	**Pg**	**12 37 32.7**	**-0.2**
PTQR				SG	**Sg**	**12 37 40.6**	**+0.8**
PTQR	**Pietraquaria**	**0.50**	**173**	*e*Pg	**Pg**	**12 37 32.7**	**-0.2**
PTQR				*e*Sg	**Sg**	**12 37 40.6**	**+0.8**
CERT	**Cerreto**	**0.62**	**204**	*e*PG	**Pg**	**12 37 34.6**	**-0.7**
CERT				SG	**Sg**	**12 37 44.4**	**+0.7**
CERT	**Cerreto**	**0.62**	**204**	*e*Pg	**Pg**	**12 37 34.6**	**-0.7**
CERT				*e*Sg	**Sg**	**12 37 44.4**	**+0.7**
MTCE	**Montecelio**	**0.66**	**221**	*e*PG	**Pg**	**12 37 34.7**	**-1.2**
MTCE				SG	**Sg**	**12 37 45.7**	**+0.9**
INTR	**Introdacqua**	**0.67**	**139**	*e*PG	**Pg**	**12 37 35.7**	**-0.5**
INTR				SG	**Sg**	**12 37 45.9**	**+0.7**
INTR	**Introdacqua**	**0.67**	**139**	*e*Pg	**Pg**	**12 37 35.7**	**-0.5**
INTR				*e*Sg	**Sg**	**12 37 45.9**	**+0.6**
CING	**Cingoli**	**0.86**	**354**	*e*PG	**Pg**	**12 37 39.0**	**-0.9**
CING	**Cingoli**	**0.86**	**354**	*e*Pg	**Pg**	**12 37 39.0**	**-0.8**
SDI	**San Donato**	**0.89**	**156**	*e*PG	**Pg**	**12 37 40.1**	**-0.4**
	566nm,0.4s						
SDI	**San Donato**	**0.89**	**156**	*e*Pg	**Pg**	**12 37 40.1**	**-0.4**
SDI	**San Donato**	**0.89**	**156**	*e*Pg	**Pg**	**12 37 40.1**	**-0.4**
	566nm,0.4s						
MA9	**Marino**	**0.90**	**213**	*e*PG	**Pg**	**12 37 40.6**	**0.0**
	572nm,0.4s						
MA9	**Marino**	**0.90**	**213**	*e*Pg	**Pg**	**12 37 40.6**	**0.0**
	572nm,0.4s						
ROM9	**Roma**	**0.91**	**221**	*e*PG	**Pg**	**12 37 40.3**	**-0.7**
MURB	**Monte Urbino**	**0.94**	**322**	*e*PG	**Pg**	**12 37 41.0**	**-0.6**
MURB				SG	**Sg**	**12 37 54.7**	**+0.5**
MURB	**Monte Urbino**	**0.94**	**322**	*e*Pg	**Pg**	**12 37 41.0**	**-0.5**
MURB				*e*Sg	**Sg**	**12 37 54.7**	**+0.5**
ARV	**Arcevia**	**1.01**	**344**	*e*PG	**Pg**	**12 37 42.0**	**-1.0**
ARV				SG	**Sg**	**12 37 57.3**	**+0.7**
	308nm,0.5s						
ARV	**Arcevia**	**1.01**	**344**	*e*Pg	**Pg**	**12 37 42.0**	**-0.9**
ARV				*e*Sg	**Sg**	**12 37 57.3**	**+0.7**
ARV	**Arcevia**	**1.01**	**344**	*e*Pg	**Pg**	**12 37 42.0**	**-1.0**
	308nm,0.5s						
ARV				Sg	**Sg**	**12 37 57.3**	**+0.7**
TOLF	**Tolfa**	**1.08**	**245**	*e*PN	**Pn**	**12 37 42.7**	**-0.6**
TOLF	**Tolfa**	**1.08**	**245**	*e*Pg	**Pg**	**12 37 42.6**	**-1.6**
CII	**Carovilli**	**1.08**	**137**	*e*PN	**Pn**	**12 37 43.5**	**+0.1**
CII	**Carovilli**	**1.08**	**137**	*e*Pn	**Pn**	**12 37 43.5**	**+0.1**
FSSB	**Fossombrone**	**1.24**	**341**	*e*PN	**Pn**	**12 37 46.1**	**+0.5**
	302nm,0.5s						
FSSB	**Fossombrone**	**1.24**	**341**	*e*Pg	**Pg**	**12 37 46.1**	**-1.3**
FSSB	**Fossombrone**	**1.24**	**341**	*e*Pn	**Pn**	**12 37 46.1**	**+0.5**
	302nm,0.5s						
SGG	**Gregorio Mates**	**1.38**	**145**	*e*PN	**Pn**	**12 37 48.6**	**+0.9**
SGG	**Gregorio Mates**	**1.38**	**145**	*e*Pn	**Pn**	**12 37 48.6**	**+0.9**
CRE	**Caprese Michel**	**1.49**	**318**	*e*PN	**Pn**	**12 37 50.1**	**+1.0**
CRE	**Caprese Michel**	**1.49**	**318**	*e*Pn	**Pn**	**12 37 50.1**	**+1.0**
FG2	**Serracapriola**	**1.55**	**117**	*e*PN	**Pn**	**12 37 49.0**	**-1.0**
	312nm,0.4s						
MAON	**Monte Argentar**	**1.62**	**267**	*e*PN	**Pn**	**12 37 51.3**	**+0.2**
MAON	**Monte Argentar**	**1.62**	**267**	*e*Pn	**Pn**	**12 37 51.2**	**+0.2**
MAON	**Monte Argentar**	**1.62**	**267**	*e*Pn	**Pn**	**12 37 51.2**	**+0.1**
SFI	**Santa Sofia**	**1.75**	**323**	*e*PN	**Pn**	**12 37 53.6**	**+0.7**
SFI	**Santa Sofia**	**1.75**	**323**	*e*Pn	**Pn**	**12 37 53.6**	**+0.7**
CSNT	**Castellina Chi**	**1.77**	**303**	*e*PN	**Pn**	**12 37 54.2**	**+1.1**
CSNT	**Castellina Chi**	**1.77**	**303**	*e*Pn	**Pn**	**12 37 54.2**	**+1.1**
GRFL	**Gerfalco**	**1.83**	**291**	*e*PN	**Pn**	**12 37 55.0**	**+0.9**
	9.0nm,0.3s						
GRFL	**Gerfalco**	**1.83**	**291**	*e*Pn	**Pn**	**12 37 55.0**	**+0.9**
GRFL	**Gerfalco**	**1.83**	**291**	*e*Pn	**Pn**	**12 37 55.0**	**+0.9**
	9.0nm,0.3s						
VMG	**Vicchio**	**1.94**	**319**	*e*PN	**Pn**	**12 37 56.2**	**+0.6**
VMG	**Vicchio**	**1.94**	**319**	*e*Pn	**Pn**	**12 37 56.1**	**+0.6**
SEI	**Scarperia**	**2.10**	**318**	*e*PN	**Pn**	**12 37 59.7**	**+1.8**
	198nm,0.6s						
SEI	**Scarperia**	**2.10**	**318**	*e*Pn	**Pn**	**12 37 59.6**	**+1.8**
SEI	**Scarperia**	**2.10**	**318**	*e*Pn	**Pn**	**12 37 59.7**	**+1.8**
	198nm,0.6s						
NVLJ	**Novalja**	**2.33**	**28**	*i* Pn	**Pn**	**12 38 01.7**	**+0.5**
NVLJ				*i* Sn	**Sn**	**12 38 30.4**	**+0.4**
PGF	**Pioggiola**	**3.19**	**272**	*e*Pn	**Pn**	**12 38 13.7**	**+0.2**
PGF				*e*Sn	**Sn**	**12 38 48.3**	**-3.4**
	4.1nm,0.3s						
VOY	**Vojsko**	**3.53**	**7**	*e*Pn	**Pn**	**12 38 17.7**	**-0.7**
VOY				*e*Sn	**Sn**	**12 39 00.1**	**-0.3**
OBKA	**Obir**	**4.08**	**12**	⇑*i*PN	**Pn**	**12 38 26.3**	**+0.1**
OBKA				*i* SN	**Sn**	**12 39 12.9**	**-1.4**
SBF	**Sospel**	**4.51**	**289**	*e*Pn	**Pn**	**12 38 31.4**	**-0.8**
KBA	**Koelnbreinsper**	**4.56**	**0**	⇓*i*PN	**Pn**	**12 38 33.1**	**+0.2**
KBA				*i* SN	**Sn**	**12 39 25.9**	**-0.4**
WTTA	**Wattenberg**	**4.89**	**346**	⇓*i*PN	**Pn**	**12 38 38.9**	**+1.3**
WTTA				*i* SN	**Sn**	**12 39 35.7**	**+1.0**
SQTA	**Sankt Quirin**	**4.93**	**343**	⇑*i*PN	**Pn**	**12 38 39.5**	**+1.3**
SQTA				*i* SN	**Sn**	**12 39 36.0**	**+0.2**
WATA	**Walderalm**	**4.97**	**346**	⇓*i*PN	**Pn**	**12 38 39.7**	**+1.0**
WATA				*i* SN	**Sn**	**12 39 37.0**	**+0.3**
ARSA	**Arzberg**	**4.98**	**18**	⇓*i*PN	**Pn**	**12 38 38.1**	**-0.8**
ARSA				*i* SN	**Sn**	**12 39 34.0**	**-3.0**
FRF	**La Foret Royal**	**5.00**	**284**	*e*Pn	**Pn**	**12 38 38.0**	**-1.1**
LMR	**La Mourre**	**5.07**	**282**	*e*Pn	**Pn**	**12 38 39.1**	**-1.0**
MOTA	**Moosalm**	**5.07**	**343**	⇓*i*PN	**Pn**	**12 38 41.3**	**+1.1**
MOTA				*i* SN	**Sn**	**12 39 39.9**	**+0.6**
MBDF	**Montbardon**	**5.24**	**297**	*e*Pn	**Pn**	**12 38 42.6**	**+0.1**
DAVA	**Damuels**	**5.35**	**334**	⇑*i*PN	**Pn**	**12 38 46.0**	**+1.9**
DAVA				*i* SN	**Sn**	**12 39 47.7**	**+1.3**
MOA	**Molln**	**5.37**	**7**	⇑*i*PN	**Pn**	**12 38 43.9**	**-0.5**
MOA				*i* SN	**Sn**	**12 39 45.1**	**-1.7**
SMRF	**Simiane la Rot**	**5.84**	**287**	*e*Pn	**Pn**	**12 38 49.5**	**-1.5**
ORIF	**Oris-en-Rattie**	**5.90**	**296**	*e*Pn	**Pn**	**12 38 53.1**	**+1.3**
CABF	**La Chapelle**	**6.59**	**311**	*e*Pn	**Pn**	**12 39 02.5**	**+1.0**
KHC	**Kasperske Hory**	**6.61**	**1**	*e*Pn	**Pn**	**12 38 59.7**	**-2.2**
KHC				*e*Sn	**Sn**	**12 40 11.3**	**-6.6**
KHC	**Kasperske Hory**	**6.61**	**1**	Pn	**Pn**	**12 38 59.7**	**-2.2**
HINF	**Hinteralfeld**	**6.99**	**321**	*e*Pn	**Pn**	**12 39 06.1**	**-1.1**
HINF				*e*Sn	**Sn**	**12 40 21.1**	**-6.2**
	6.5nm,0.4s						
CDF	**Champ du Feu**	**7.26**	**326**	*e*Pn	**Pn**	**12 39 09.1**	**-1.9**
CDF				*e*Sn	**Sn**	**12 40 27.8**	**-6.3**
	2.6nm,0.3s						

*IDC **10** 12:38:19.2±22.0,32.46N×138.75E,mb4.0/4,mb1 4.2/4, mb1mx3.6/22,Error ellipse: s-maj=465.0km s-min=161.9km az=171.0*
*JMA **10** 12:39:17.7±0.5,30.18N×139.55E,h426km±5km,M3.6*
ISC 10 12:39:17.4±0.9**,30.3N**±0.2×**139.6E**±0.2**,h446**km±24km**, n20,σ0^{s}64**/24**,mb3.4**/4**,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.85**	**5**	P	**P**	**12 40 22.8**	**-0.7**
JIM2	**Oshima 3**	**4.44**	**359**	P	**P**	**12 40 37.3**	**+0.3**
BSO1	**Boso 1**	**4.54**	**15**	P	**P**	**12 40 38.0**	**+0.1**
BSO4	**Boso 4**	**4.76**	**8**	P	**P**	**12 40 40.2**	**+0.2**
BSO4				*e*S	**S**	**12 41 45.6**	**+0.5**
JIE	**Ise**	**4.76**	**330**	P	**P**	**12 40 40.3**	**+0.3**
HMMJ	**Hamamatsu 2**	**4.83**	**342**	P	**P**	**12 40 40.7**	**0.0**
JNY	**Yasuok**	**5.27**	**345**	P	**P**	**12 40 45.6**	**+0.6**
JYN	**Shimob**	**5.28**	**351**	P	**P**	**12 40 46.2**	**+1.1**
JAO	**Obara**	**5.34**	**339**	P	**P**	**12 40 46.4**	**+0.6**
JAI	**Aioi**	**5.57**	**310**	P	**P**	**12 40 47.2**	**-0.9**
JHU	**Hanno**	**5.57**	**358**	P	**P**	**12 40 47.3**	**-0.8**
JHU				S	**S**	**12 41 58.0**	**-1.5**
JRY	**Ryogami san**	**5.76**	**355**	P	**P**	**12 40 50.2**	**+0.2**
JRY				*e*S	**S**	**12 42 03.5**	**+0.6**
JYT	**Yasato**	**5.97**	**5**	P	**P**	**12 40 52.3**	**+0.2**
JYT				*e*S	**S**	**12 42 05.9**	**-0.9**
JWT	**Wachi**	**6.10**	**326**	P	**P**	**12 40 53.9**	**+0.4**
JAG	**Ashikaga**	**6.14**	**359**	P	**P**	**12 40 53.2**	**-0.7**
JHO	**Hitachi**	**6.38**	**7**	P	**P**	**12 40 57.1**	**+0.6**
FITZ	**Fitzroy Crossi**	**49.92**	**197**	P	**P**	**12 47 30.0**	**-0.5**
	1.3nm,0.7s,mb3.4,baz=20,slow=11,SNR=4.7						
WRA	**Warramunga Arr**	**50.17**	**186**	P	**P**	**12 47 31.7**	**-0.7**
	1.1nm,0.3s,mb3.6,baz=1.7,slow=7.7,SNR=47						
ASAR	**Alice Springs**	**53.90**	**186**	P	**P**	**12 47 59.6**	**+0.1**
	0.4nm,0.3s,mb3.2,baz=5.7,slow=9.1,SNR=24						
STKA	**Stephens Creek**	**61.83**	**178**	P	**P**	**12 48 54.0**	**+0.6**
	1.1nm,0.5s,mb3.5,baz=350,slow=6.4,SNR=4.8						

MOS 10 12:44:53.2±1.8**,54.08N×111.46E,h11**km**,mb4.4**/1**,1C, Error ellipse: s-maj=92.0km s-min=32.8km az=83.3, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMO	**Kumora**	**1.82**	**355**	*e*PN	Pn	12 45 24.1	-0.6
KMO				*e*		12 45 25.2	
KMO				*e*S	Sn	12 45 48.0	+0.1
KMO				pmax	pmax		
	comp=Z,284nm,0.3s						
KMO				smax			
	comp=N,361nm,0.5s						
YOA	**Uoyan**	**2.06**	**4**	⇑*i*PN	Pn	12 45 29.9	+1.6
YOA				*i*		12 45 57.5	
YOA				pmax	pmax		
	comp=Z,176nm,0.4s						
YOA				smax			
	comp=N,899nm,0.6s						
SVKR	**Severomuysk**	**2.37**	**30**	*e*PN	Pn	12 45 36.7	+4.0
SVKR				*e*S	Sn	12 46 03.5	+1.5
SVKR				*e*		12 46 07.7	
SVKR				pmax	pmax		
	comp=Z,78nm,0.3s						
SVKR				smax			
	comp=N,484nm,1.1s						
TUP	**Tupik**	**4.99**	**83**	*e*PN	Pn	12 46 09.5	-0.4
TUP				*e*		12 46 23.5	
TUP				*e*S	Sn	12 47 06.0	-2.4
TUP				*e*		12 47 27.4	
TUP				pmax	pmax		
	comp=Z,7.0nm,0.4s						
TUP				smax			
	comp=N,77nm,0.9s						

GUC 10 12:48:46.6±0.9**,35.08S×70.51W,h2**km±3km**,MD3.5, ML3.0,9C-1D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.62**	**318**	⇓*i*P	Pg	12 48 59.1	+0.1
SFDO				*i* S	Sg	12 49 08.6	+1.4
CICH	**Cipreses**	**0.76**	**6**	⇑*i*P	Pg	12 49 00.7	-1.1
CICH				*i* S	Sg	12 49 11.7	-0.3
CACH	**El Canelo**	**0.96**	**356**	⇑*i*P	Pb	12 49 04.4	-1.3
CACH				*i* S	Sg	12 49 18.8	+0.2
TALC	**Talca**	**0.97**	**251**	⇑*i*P	Pb	12 49 05.3	-0.5
TALC				*i* S	Sb	12 49 19.2	+0.2
TALC				AMP		12 49 19.6	
	comp=E,3μm,0.1s						
CHCH	**Chadas Angostu**	**1.15**	**354**	⇑*i*P	Pb	12 49 08.0	-0.8
CHCH				*i* S	Sb	12 49 24.7	+0.7
LMEL	**Las Melosas**	**1.25**	**12**	⇑*i*P	Pb	12 49 09.9	-0.7
LMEL				*i* S	Sb	12 49 27.4	+0.3
LMEL				AMP		12 49 29.3	
	comp=N,196nm,0.2s						
LNV	**Longovilo**	**1.34**	**326**	⇑*i*P	Pb	12 49 11.2	-1.0
LNV				*i* S	Sb	12 49 29.8	+0.1
PCH	**Pirque**	**1.45**	**360**	*e*P	Pn	12 49 13.5	-0.5
PCH				*i* S	Sb	12 49 32.8	-0.1
TACH	**Talagante**	**1.46**	**346**	⇑*i*P	Pn	12 49 13.3	-0.8
TACH				*i* S	Sb	12 49 33.4	+0.2
RCDM	**Rinconada Maip**	**1.60**	**351**	*e*P	Pn	12 49 15.7	-0.4
RCDM				*i* S	Sb	12 49 37.5	+0.2
RCDM				AMP		12 49 38.8	
	comp=E,406nm,0.1s						
CLCH	**Cerro Calan**	**1.68**	**359**	*i* P	Pn	12 49 17.5	+0.4
CLCH				*i* S	Sb	12 49 40.7	+1.3
CLCH				AMP		12 49 41.8	
	comp=E,259nm,0.3s						
FCH	**Farellones**	**1.76**	**6**	⇑*i*P	Pn	12 49 18.9	+0.6
FCH				*i* S	Sn	12 49 42.6	+1.1
FCH				AMP		12 49 46.1	
	comp=N,169nm,0.2s						
LCCH	**Las Cruces**	**1.82**	**331**	⇑*i*P	Pn	12 49 19.3	+0.1
LCCH				*i* S	Sn	12 49 43.7	+0.5
JACH	**Jahuel**	**2.39**	**358**	*e*P	Pn	12 49 28.1	+0.7

IDC 10 12:56:06.3±2.1**,5.27S×129.39E,mb3.8**/1**,mb1 3.7**/4**, mb1mx3.5**/14**,ML3.2**/3**,Error ellipse: s-maj=82.2km s-min=28.4km az=74.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.27**	**196**	Pn	P	12 59 15.6	-3.1
	0.1nm,0.3s,baz=345,slow=12,SNR=5.0						
FITZ				Sn	S	13 01 15.4	-33
	0.1nm,0.3s,baz=65,slow=4.0,SNR=3.1						
WRA	**Warramunga Arr**	**15.36**	**162**	Pn	P	12 59 45.3	-1.0
	0.1nm,0.3s,baz=342,slow=12,SNR=12						
WRA				Sn	S	13 02 09.5	-29
	0.1nm,0.3s,baz=339,slow=21,SNR=6.4						
ASAR	**Alice Springs**	**18.80**	**167**	P	P	13 00 27.4	-2.3
	0.1nm,0.3s,baz=340,slow=9.4,SNR=12						
MKAR	**Makanchi Array**	**66.45**	**327**	P	P	13 06 57.7	-2.0
	0.9nm,0.8s,baz=135,slow=6.1,SNR=4.6						

*ATH **10** 12:58:24.3,39.11N×23.29E,h20km±1km,MD3.8/18, ML3.7*
*NEIC **10** 12:58:24.3,39.11N×23.29E,h20km,ML3.9(THE), ML3.7(ATH),After ATH.*
*CSEM **10** 12:58:24.7±0.1,39.11N×23.26E,h12km,ML3.7,Error ellipse: s-maj=1.7km s-min=1.0km az=89.0*
*THE **10** 12:58:26.6,39.17N×23.30E,h12km,ML3.6*
*SOF **10** 12:58:27.3,39.36N×23.40E,h10km,MD3.5*
ISC 10 12:58:24.9±0.5**,39.13N**±0.02×**23.29E**±0.03**,h13**km±3km**, n61,σ0^{s}94**/86**,3C-2D,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.18**	**344**	*e*PB	**Pb**	**12 58 29.7**	**+0.1**
NEO				*e*SB	**Sb**	**12 58 33.0**	**+0.3**
XOR	**Xorichti**	**0.24**	**342**	*e*Pg	**Pg**	**12 58 30.9**	**+0.6**
AOS	**Alonnisos**	**0.46**	**85**	*e*Pg	**Pg**	**12 58 35.0**	**+0.6**
AOS				*e*Sg	**Sg**	**12 58 42.1**	**+1.4**
LKR	**Lokris**	**0.53**	**205**	⇑*i*PN	**Pn**	**12 58 34.3**	**-3.6**
LKR				*e*SN	**Sn**	**12 58 40.8**	**-5.9**
PAIG	**Paliouri**	**0.85**	**21**	*e*Pg	**Pg**	**12 58 42.6**	**+0.6**
PAIG				*e*Sg	**Sg**	**12 58 53.7**	**+0.3**
MPAR	**Parnis Oros**	**1.04**	**160**	⇓*i*PN	**Pn**	**12 58 44.0**	**-1.2**
LIT	**Litokhoron**	**1.15**	**328**	*e*Pg	**Pg**	**12 58 46.2**	**-1.7**
LIT				*e*Sg	**Sg**	**12 59 02.5**	**-0.8**
EVR	**Evrytania**	**1.17**	**260**	*e*PB	**Pb**	**12 58 45.0**	**-1.6**
EVR				*e*SN	**Sn**	**12 59 02.8**	**-0.1**
PTL	**Penteli**	**1.17**	**157**	⇓*i*PN	**Pn**	**12 58 46.8**	**-0.3**
PTL				*e*SN	**Sn**	**12 59 02.8**	**-0.2**
ATH	**Athens Observa**	**1.21**	**164**	*e*PN	**Pn**	**12 58 47.3**	**-0.3**
ATH				*e*SN	**Sn**	**12 59 03.3**	**-0.5**
NSAL	**Nisos Salamina**	**1.23**	**174**	*e*PN	**Pn**	**12 58 47.2**	**-0.7**
PLG	**Polygyros**	**1.25**	**6**	⇑*i*PN	**Pn**	**12 58 48.3**	**+0.2**
PLG				*e*SN	**Sn**	**12 59 04.9**	**+0.1**
OUR	**Ouranopolis**	**1.31**	**24**	*e*Pb	**Pb**	**12 58 49.8**	**+0.8**
OUR				*e*Sb	**Sb**	**12 59 07.3**	**+1.7**
NAIG	**Nisos Aigina**	**1.38**	**173**	*e*PN	**Pn**	**12 58 49.6**	**-0.5**
THE	**Thessaloniki**	**1.52**	**351**	*e*Pb	**Pb**	**12 58 51.8**	**-0.7**
LIA	**Limnos Island**	**1.65**	**62**	*e*PN	**Pn**	**12 58 54.3**	**+0.4**
KZN	**Kozani**	**1.66**	**316**	*e*PN	**Pn**	**12 58 54.2**	**+0.2**
SOH	**Sokhos**	**1.69**	**2**	*e*Pb	**Pb**	**12 58 55.2**	**-0.1**
SOH				*e*Sb	**Sb**	**12 59 16.5**	**+0.1**
MEV	**Metsovon**	**1.72**	**293**	*e*Pb	**Pb**	**12 58 54.9**	**-1.1**
MEV				*e*Sb	**Sb**	**12 59 17.9**	**+0.4**
MEV	**Metsovon**	**1.72**	**293**	S	**Sn**	**12 59 17.9**	**+1.0**
RLS	**Riolos of Patr**	**1.79**	**234**	*e*PN	**Pn**	**12 58 56.9**	**+1.1**
GRG	**Griva**	**1.94**	**340**	*e*Pb	**Pb**	**12 58 58.0**	**-1.7**
GRG				*e*Sb	**Sb**	**12 59 23.1**	**-0.8**
GRG	**Griva**	**1.94**	**340**	P	**Pn**	**12 58 58.0**	**-0.1**
GRG				S	**Sn**	**12 59 23.1**	**+0.6**
JAN	**Janina**	**1.96**	**286**	*e*PN	**Pn**	**12 59 00.5**	**+2.2**
SRS	**Serrai**	**2.00**	**7**	*e*Pb	**Pb**	**12 58 59.2**	**-1.4**
SRS				*e*Sb	**Sb**	**12 59 24.4**	**-1.0**
LKD	**Levkas**	**2.10**	**259**	*e*Pn	**Pn**	**12 59 02.1**	**+1.7**
FNA	**Florina**	**2.21**	**319**	*e*Pn	**Pn**	**12 59 02.2**	**+0.3**
FNA				*e*Sn	**Sn**	**12 59 29.9**	**+0.6**
ITM	**Ithomi**	**2.23**	**209**	*e*PN	**Pn**	**12 59 02.6**	**+0.5**
ITM				*e*SN	**Sn**	**12 59 30.0**	**+0.3**
NVR	**Nevrokopi**	**2.26**	**11**	⇑*e*PN	**Pn**	**12 59 02.8**	**+0.2**
VLS	**Valsamata**	**2.32**	**247**	*e*PN	**Pn**	**12 59 03.8**	**+0.3**
IGT	**Igoumenitsa**	**2.33**	**281**	*e*Pn	**Pn**	**12 59 05.0**	**+1.5**
IGT				*e*Sn	**Sn**	**12 59 33.2**	**+1.0**
BIA	**Bitola**	**2.41**	**322**	*i* Pn	**Pn**	**12 58 56.0**	**-8.8**
BIA				*i*		12 59 04.2	
BIA				*i*		12 59 10.8	
BIA				*i* Sn	**Sn**	**12 59 33.3**	**-1.1**
BIA				*i*		12 59 44.0	
VLI	**Veliai**	**2.43**	**187**	⇑*i*PN	**Pn**	**12 59 03.9**	**-1.1**
MMB	**Musomiste**	**2.48**	**8**	⇑*i*P	**Pn**	**12 59 05.5**	**-0.2**
RDO	**Rodhopi**	**2.65**	**40**	*e*PN	**Pn**	**12 59 07.5**	**-0.7**
APE	**Apeiranthos**	**2.72**	**139**	*e*PN	**Pn**	**12 59 08.8**	**-0.3**
KKB	**Krupnik**	**2.73**	**357**	⇑*i*P	**Pn**	**12 59 09.0**	**-0.4**
OHR	**Ohrid**	**2.75**	**317**	*i* Pn	**Pn**	**12 59 10.1**	**+0.5**
OHR				*i*		12 59 16.8	
OHR				*i*		12 59 20.0	
OHR				*i* Sn	**Sn**	**12 59 42.1**	**-0.8**
OHR				*i* Sg	**Sg**	**12 59 56.1**	**-0.3**
ALN	**Alexandroupoli**	**2.75**	**49**	*e*Pn	**Pn**	**12 59 09.9**	**+0.2**
ALN				*e*Sn	**Sn**	**12 59 42.8**	**-0.4**
KEK	**Kerkira**	**2.76**	**283**	*e*PN	**Pn**	**12 59 10.5**	**+0.7**
RZN	**Rozhen**	**2.77**	**23**	*i* P	**Pn**	**12 59 10.3**	**+0.3**
KYTH	**Kithira**	**2.85**	**184**	*e*PN	**Pn**	**12 59 10.0**	**-1.1**
KDZ	**Kurdzhali**	**2.99**	**32**	*i* P	**Pn**	**12 59 12.0**	**-1.1**
SMG	**Samos**	**3.13**	**116**	*e*PN	**Pn**	**12 59 13.5**	**-1.5**
PLD	**Plovdiv**	**3.16**	**19**	P	**Pn**	**12 59 16.0**	**+0.6**
THR5	**Thira Island,**	**3.17**	**148**	*e*Pn	**Pn**	**12 59 16.1**	**+0.6**
SKO	**Skopje**	**3.17**	**334**	*e*Pn	**Pn**	**12 59 17.0**	**+1.5**
SANT	**Santorini**	**3.25**	**147**	Pn	**Pn**	**12 59 17.6**	**+0.8**
SANT				*e*Pg	**Pg**	**12 59 27.1**	**-2.7**
SANT				*e*Sg	**Sg**	**13 00 08.1**	**-5.1**
SANT	**Santorini**	**3.25**	**147**	Pn	**Pn**	**12 59 17.6**	**+0.9**
SANT	**Santorini**	**3.25**	**147**	*e*Pg	**Pg**	**12 59 27.1**	**-2.7**
THR1	**Thera Island**	**3.25**	**147**	*e*Pn	**Pn**	**12 59 17.6**	**+0.9**
THR1	**Thera Island**	**3.25**	**147**	*e*Pn	**Pn**	**12 59 17.6**	**+0.9**
DIM	**Dimitrovgrad**	**3.38**	**30**	P	**Pn**	**12 59 20.0**	**+1.5**
VTS	**Vitosha**	**3.46**	**359**	*i* P	**Pn**	**12 59 20.3**	**+0.7**
PGB	**Panagyurishte**	**3.48**	**11**	*i* P	**Pn**	**12 59 20.5**	**+0.5**
VAM	**Vamos**	**3.79**	**169**	*e*PN	**Pn**	**12 59 24.5**	**+0.1**
BARS	**Barje**	**3.84**	**344**	⇑*i*Pn	**Pn**	**12 59 24.8**	**-0.4**
BARS				Sn	**Sn**	**13 00 09.2**	**-1.5**
NPS	**Neapolis**	**4.29**	**154**	*e*PN	**Pn**	**12 59 33.1**	**+1.6**
GVD	**Gavdhos**	**4.33**	**171**	*e*Pn	**Pn**	**12 59 32.3**	**+0.2**
GVD	**Gavdhos**	**4.33**	**171**	*e*Pn	**Pn**	**12 59 32.3**	**+0.2**
PVL	**Pavlikeni**	**4.36**	**20**	*i* P	**Pn**	**12 59 30.0**	**-2.5**

MAN 10 12:59:22.4,18.98N×120.66E,h16km**,mb4.5,ML3.3, MS3.2,1C,Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.65**	**183**	⇑*i*P	Pb	12 59 35.1	+0.2
PIP				*e*S	Sb	12 59 51.5	+8.0
APYP	**Conner**	**1.24**	**153**	*e*P	Pb	12 59 44.4	-0.6
APYP				*e*S	Sb	13 00 08.6	+8.0

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**1.32**	**178**	*e*P	Pn	12 59 45.1	-1.3
ABRA				*e*S	Sb	13 00 10.2	+7.3
CVP	**Callao Caves**	**1.68**	**139**	*e*P	Pn	12 59 50.5	-1.0
CVP				*i* S	Sn	13 00 17.0	+4.2
BBP	**Basco**	**1.91**	**40**	*e*P	Pn	12 59 54.3	-0.4
CAUP	**Cauayan**	**2.31**	**151**	*e*P	Pn	13 00 01.0	+0.5

*NEIC **10** 12:59:24.8, 42.49N×13.27E, h3km, MD3.1(ROM), ML2.9(LDG), After ROM.*
*ROM **10** 12:59:24.8±0.1, 42.49N×13.27E, h3km±1km, MD3.1/8, ML2.5/6, Error ellipse: s-maj=1.1km s-min=1.0km az=90.0*
*LDG **10** 12:59:26.8±0.2, 42.42N×13.30E, h10km, Ml2.9/4, Error ellipse: s-maj=7.7km s-min=4.0km az=60.0*
ISC 10 12:59:25.5±0.3**, 42.51N**±0.02×**13.29E**±0.03**, h15**km±3km**, n55, σ1.14**/81**, 7C-7D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQU	**L'Aquila**	**0.17**	**153**	⇓*i*PG	**Pg**	**12 59 30.2**	**+0.3**
AQU	**L'Aquila**	**0.17**	**153**	⇓*i*Pg	**Pg**	**12 59 30.2**	**+0.3**
TERO	**Teramo**	**0.26**	**63**	⇑*i*PG	**Pg**	**12 59 31.0**	**-0.2**
TERO				SG	**Sg**	**12 59 34.9**	**-0.2**
TERO	**Teramo**	**0.26**	**63**	⇑*i*Pg	**Pg**	**12 59 31.0**	**-0.2**
TERO				*e*Sg	**Sg**	**12 59 34.9**	**-0.2**
NRCA	**Norcia**	**0.35**	**338**	⇓*i*PG	**Pg**	**12 59 32.7**	**-0.3**
	114nm,0.3s						
NRCA	**Norcia**	**0.35**	**338**	⇓*i*Pg	**Pg**	**12 59 32.7**	**-0.2**
MNS	**Montasola**	**0.47**	**255**	⇑*i*PG	**Pg**	**12 59 35.0**	**-0.3**
MNS				SG	**Sg**	**12 59 41.9**	**+0.1**
MNS	**Montasola**	**0.47**	**255**	⇑*i*Pg	**Pg**	**12 59 35.0**	**-0.3**
MNS				*e*Sg	**Sg**	**12 59 41.9**	**+0.1**
PTQR	**Pietraquaria**	**0.49**	**171**	*e*PG	**Pg**	**12 59 35.4**	**-0.3**
PTQR				SG	**Sg**	**12 59 43.1**	**+0.6**
PTQR	**Pietraquaria**	**0.49**	**171**	*e*Pg	**Pg**	**12 59 35.4**	**-0.3**
PTQR				*e*Sg	**Sg**	**12 59 43.1**	**+0.6**
CERT	**Cerreto**	**0.61**	**203**	*e*PG	**Pg**	**12 59 37.3**	**-0.6**
CERT				SG	**Sg**	**12 59 46.5**	**+0.4**
CERT	**Cerreto**	**0.61**	**203**	*e*Pg	**Pg**	**12 59 37.3**	**-0.5**
CERT				*e*Sg	**Sg**	**12 59 46.5**	**+0.4**
INTR	**Introdacqua**	**0.67**	**137**	*e*PG	**Pg**	**12 59 38.3**	**-0.9**
INTR				SG	**Sg**	**12 59 48.5**	**+0.2**
INTR	**Introdacqua**	**0.67**	**137**	*e*Pg	**Pg**	**12 59 38.4**	**-0.8**
INTR				*e*Sg	**Sg**	**12 59 48.5**	**+0.2**
SDI	**San Donato**	**0.89**	**154**	*e*PG	**Pg**	**12 59 42.1**	**-1.3**
	232nm,0.3s						
SDI	**San Donato**	**0.89**	**154**	*e*Pn	**Pn**	**12 59 42.1**	**-1.2**
MURB	**Monte Urbino**	**0.94**	**323**	*e*PG	**Pg**	**12 59 43.5**	**-1.0**
MURB				SG	**Sg**	**12 59 59.0**	**+1.8**
MURB	**Monte Urbino**	**0.94**	**323**	*e*Pn	**Pn**	**12 59 43.5**	**-0.6**
MURB				*e*Sn	**Sn**	**12 59 59.0**	**+1.7**
ARV	**Arcevia**	**1.02**	**345**	*e*PG	**Pg**	**12 59 44.7**	**-1.4**
ARV				SG	**Sg**	**13 00 00.2**	**+0.4**
	227nm,0.4s						
ARV	**Arcevia**	**1.02**	**345**	*e*Pn	**Pn**	**12 59 44.7**	**-0.6**
ARV				*e*Sn	**Sn**	**13 00 00.2**	**+0.9**
TOLF	**Tolfa**	**1.06**	**246**	*e*PG	**Pg**	**12 59 45.6**	**-1.2**
TOLF	**Tolfa**	**1.06**	**246**	*e*Pn	**Pn**	**12 59 45.6**	**-0.2**
CII	**Carovilli**	**1.09**	**136**	*e*PG	**Pg**	**12 59 47.0**	**-0.4**
CII	**Carovilli**	**1.09**	**136**	*e*Pn	**Pn**	**12 59 47.0**	**+0.8**
FSSB	**Fossombrone**	**1.24**	**342**	*e*PN	**Pn**	**12 59 48.7**	**+0.3**
	150nm,0.3s						
FSSB	**Fossombrone**	**1.24**	**342**	*e*Pn	**Pn**	**12 59 48.7**	**+0.3**
CRE	**Caprese Michel**	**1.48**	**319**	*e*PN	**Pn**	**12 59 53.4**	**+1.5**
	41nm,0.3s						
CRE	**Caprese Michel**	**1.48**	**319**	*e*Pn	**Pn**	**12 59 53.4**	**+1.5**
CSNT	**Castellina Chi**	**1.76**	**304**	*e*PN	**Pn**	**12 59 57.0**	**+1.2**
	23nm,0.4s						
CSNT	**Castellina Chi**	**1.76**	**304**	*e*Pn	**Pn**	**12 59 57.0**	**+1.3**
PGD	**Poggio Sodo**	**1.79**	**320**	*e*PN	**Pn**	**12 59 57.4**	**+1.2**
	19nm,0.5s						
PGD	**Poggio Sodo**	**1.79**	**320**	*e*Pn	**Pn**	**12 59 57.4**	**+1.2**
RGNG	**Rignano Grg**	**1.90**	**115**	*e*PN	**Pn**	**12 59 59.3**	**+1.5**
RGNG	**Rignano Grg**	**1.90**	**115**	*e*Pn	**Pn**	**12 59 59.3**	**+1.5**
NVLJ	**Novalja**	**2.35**	**29**	*i* Pn	**Pn**	**13 00 04.5**	**+0.2**
NVLJ				*i* Sn	**Sn**	**13 00 33.2**	**+0.1**
PGF	**Pioggiola**	**3.17**	**272**	*e*Pn	**Pn**	**13 00 16.0**	**0.0**
PGF				*e*Sn	**Sn**	**13 00 49.9**	**-4.1**
	5.0nm,0.4s						
BOJS	**Bojanci**	**3.31**	**25**	*i* Pn	**Pn**	**13 00 19.2**	**+1.3**
VOY	**Vojsko**	**3.55**	**7**	*e*Pn	**Pn**	**13 00 22.8**	**+1.5**
VOY				*e*Sn	**Sn**	**13 00 59.5**	**-3.9**
LJU	**Ljubljana**	**3.64**	**14**	*i* Pn	**Pn**	**13 00 25.3**	**+2.6**
LJU				*e*Sn	**Sn**	**13 01 06.1**	**+0.3**
CTI	**Castel Tesino**	**3.73**	**342**	*e*PN	**Pn**	**13 00 24.5**	**+0.6**
CTI	**Castel Tesino**	**3.73**	**342**	*e*Pn	**Pn**	**13 00 24.5**	**+0.6**
ROBS	**Robic**	**3.74**	**2**	*e*Pn	**Pn**	**13 00 24.3**	**+0.3**
OBKA	**Obir**	**4.10**	**12**	⇑*i*PN	**Pn**	**13 00 29.5**	**+0.3**
OBKA				*i* SN	**Sn**	**13 01 14.2**	**-3.2**
FVI	**Forni Avoltri**	**4.10**	**355**	*e*PN	**Pn**	**13 00 29.0**	**-0.2**
	8.0nm,0.4s						
FVI	**Forni Avoltri**	**4.10**	**355**	*e*Pn	**Pn**	**13 00 29.0**	**-0.2**
PERS	**Pernice**	**4.33**	**17**	*i* Pn	**Pn**	**13 00 34.4**	**+2.0**
KBA	**Koelnbreinsper**	**4.57**	**0**	⇑*i*PN	**Pn**	**13 00 36.4**	**+0.6**
KBA				*i* SN	**Sn**	**13 01 27.4**	**-1.9**
WTTA	**Wattenberg**	**4.90**	**347**	⇓*i*PN	**Pn**	**13 00 41.1**	**+0.6**
WTTA				*i* SN	**Sn**	**13 01 35.8**	**-1.8**
SQTA	**Sankt Quirin**	**4.94**	**343**	⇑*i*PN	**Pn**	**13 00 42.1**	**+1.0**
SQTA				*i* SN	**Sn**	**13 01 37.2**	**-1.4**
WATA	**Walderalm**	**4.98**	**346**	⇓*i*PN	**Pn**	**13 00 42.2**	**+0.6**
WATA				*i* SN	**Sn**	**13 01 38.4**	**-1.2**
MBDF	**Montbardon**	**5.23**	**297**	*e*Pn	**Pn**	**13 00 43.1**	**-2.0**
MOA	**Molln**	**5.38**	**7**	⇓*i*PN	**Pn**	**13 00 47.3**	**0.0**
MOA				*i* SN	**Sn**	**13 01 47.6**	**-2.2**
ORIF	**Oris-en-Rattie**	**5.89**	**297**	*e*P	**Pn**	**13 00 56.6**	**+2.2**
HINF	**Hinteralfeld**	**6.99**	**322**	*e*Pn	**Pn**	**13 01 07.7**	**-2.3**
HINF				*e*Sn	**Sn**	**13 02 22.7**	**-7.3**
	2.1nm,0.4s						
CDF	**Champ du Feu**	**7.26**	**326**	*e*Pn	**Pn**	**13 01 11.9**	**-1.9**
CDF				*e*Sn	**Sn**	**13 02 30.1**	**-6.6**
	0.8nm,0.2s						

*THE **10** 13:09:11.5, 39.08N×23.19E, h12km, ML2.8*
*ATH **10** 13:09:11.4, 39.11N×23.22E, h17km±2km, MD2.9/7, ML3.0*
*NEIC **10** 13:09:11.4, 39.11N×23.22E, h17km, ML3.0(ATH), After ATH.*
*CSEM **10** 13:09:11.7±0.1, 39.10N×23.21E, h15km, ML3.0, Error ellipse: s-maj=1.9km s-min=1.3km az=83.0*
ISC 10 13:09:11.5±0.6**, 39.12N**±0.02×**23.18E**±0.05**, h14**km±5km**, n17, σ0.57**/26**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.20**	**10**	⇑*i*PB	**Pb**	**13 09 16.4**	**+0.1**
NEO				*e*SB	**Sb**	**13 09 19.8**	**+0.4**
XOR	**Xorichti**	**0.25**	**2**	*e*Pg	**Pg**	**13 09 17.5**	**+0.4**
XOR				*e*Sg	**Sg**	**13 09 21.9**	**+1.1**
LKR	**Lokris**	**0.48**	**197**	⇑*i*PB	**Pb**	**13 09 20.8**	**-0.4**
LKR				*e*SB	**Sb**	**13 09 28.2**	**+0.3**
AOS	**Alonnisos**	**0.55**	**84**	*e*Pg	**Pg**	**13 09 21.7**	**-1.0**
AGG	**Agios Georgios**	**0.67**	**262**	*e*Pg	**Pg**	**13 09 24.6**	**-0.5**
AGG				*e*Sg	**Sg**	**13 09 34.0**	**-0.2**
PAIG	**Paliouri**	**0.90**	**25**	*e*Pg	**Pg**	**13 09 29.4**	**-0.2**
PAIG				*e*Sg	**Sg**	**13 09 42.1**	**+0.4**
MPAR	**Parnis Oros**	**1.06**	**155**	*e*PN	**Pn**	**13 09 31.5**	**-0.3**
EVR	**Evrytania**	**1.09**	**260**	*e*PN	**Pn**	**13 09 33.0**	**+0.8**
LIT	**Litokhoron**	**1.12**	**332**	*e*Pg	**Pg**	**13 09 32.8**	**-1.1**
LIT				*e*Sg	**Sg**	**13 09 49.0**	**0.0**
PTL	**Penteli**	**1.19**	**153**	*e*PN	**Pn**	**13 09 33.5**	**-0.2**
PTL				*e*SN	**Sn**	**13 09 49.5**	**-0.2**
ATH	**Athens Observa**	**1.22**	**160**	*e*PN	**Pn**	**13 09 35.0**	**+0.9**
ATH				*e*SN	**Sn**	**13 09 50.0**	**-0.3**
NSAL	**Nisos Salamina**	**1.23**	**169**	*e*PN	**Pn**	**13 09 34.5**	**+0.3**
PLG	**Polygyros**	**1.27**	**9**	*e*PN	**Pn**	**13 09 35.1**	**+0.2**
PLG				*e*SN	**Sn**	**13 09 51.5**	**-0.3**
OUR	**Ouranopolis**	**1.37**	**27**	*e*Pb	**Pb**	**13 09 35.9**	**-0.4**
NAIG	**Nisos Aigina**	**1.38**	**170**	*e*PN	**Pn**	**13 09 37.5**	**+1.2**
SRS	**Serrai**	**2.02**	**9**	*e*Pn	**Pn**	**13 09 45.0**	**-0.6**
FNA	**Florina**	**2.17**	**321**	*e*Pn	**Pn**	**13 09 47.3**	**-0.4**

*THE **10** 13:12:27.2, 39.07N×23.20E, h9km, ML2.9*
*ATH **10** 13:12:27.3, 39.11N×23.22E, h16km±3km, MD2.8/8, ML3.0*
*NEIC **10** 13:12:27.3, 39.11N×23.22E, h16km, ML3.0(ATH), After ATH.*
*CSEM **10** 13:12:27.5±0.1, 39.11N×23.20E, h15km, ML3.0, Error ellipse: s-maj=1.7km s-min=1.4km az=89.0*
ISC 10 13:12:27.2±0.5**, 39.11N**±0.03×**23.19E**±0.04**, h13**km±4km**, n18, σ0.57**/27**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.20**	**8**	⇑*i*PB	**Pb**	**13 12 32.2**	**0.0**
NEO				*e*SB	**Sb**	**13 12 35.3**	**-0.2**
XOR	**Xorichti**	**0.26**	**1**	*e*Pg	**Pg**	**13 12 33.3**	**+0.4**
XOR				*e*Sg	**Sg**	**13 12 37.3**	**+0.6**
LKR	**Lokris**	**0.48**	**198**	⇑*i*PB	**Pb**	**13 12 36.6**	**-0.4**
LKR				*e*SB	**Sb**	**13 12 43.6**	**0.0**
LKR	**Lokris**	**0.48**	**198**	*i* Pbu		13 12 36.6	
LKR				*e*Sb	**Sb**	**13 12 43.6**	**0.0**
AOS	**Alonnisos**	**0.54**	**83**	*e*Pg	**Pg**	**13 12 37.6**	**-0.7**
AOS				*e*Sg	**Sg**	**13 12 45.1**	**-0.6**
AGG	**Agios Georgios**	**0.67**	**263**	*e*Pg	**Pg**	**13 12 40.3**	**-0.6**
AGG				*e*Sg	**Sg**	**13 12 49.6**	**-0.4**
PAIG	**Paliouri**	**0.90**	**25**	*e*Pg	**Pg**	**13 12 45.2**	**-0.2**
PAIG				*e*Sg	**Sg**	**13 12 58.8**	**+1.3**
MPAR	**Parnis Oros**	**1.05**	**156**	*e*PN	**Pn**	**13 12 47.5**	**0.0**
EVR	**Evrytania**	**1.09**	**260**	*e*PN	**Pn**	**13 12 49.0**	**+0.9**
LIT	**Litokhoron**	**1.13**	**332**	*e*Pg	**Pg**	**13 12 48.8**	**-1.1**
LIT				*e*Sg	**Sg**	**13 13 05.5**	**+0.4**
LIT	**Litokhoron**	**1.13**	**332**	*e*Pg	**Pg**	**13 12 48.8**	**-1.1**
LIT				*e*Sg	**Sg**	**13 13 05.4**	**+0.4**
PTL	**Penteli**	**1.18**	**153**	*e*PN	**Pn**	**13 12 49.5**	**+0.1**
ATH	**Athens Observa**	**1.21**	**160**	*e*PN	**Pn**	**13 12 50.0**	**+0.2**
NSAL	**Nisos Salamina**	**1.22**	**170**	*e*PN	**Pn**	**13 12 50.5**	**+0.5**
PLG	**Polygyros**	**1.28**	**9**	*e*PN	**Pn**	**13 12 50.7**	**-0.1**
PLG				*e*SN	**Sn**	**13 13 07.0**	**-0.9**
NAIG	**Nisos Aigina**	**1.37**	**170**	*e*PN	**Pn**	**13 12 53.0**	**+0.9**
OUR	**Ouranopolis**	**1.37**	**26**	*e*Pb	**Pb**	**13 12 52.2**	**0.0**
SRS	**Serrai**	**2.03**	**9**	*e*Pn	**Pn**	**13 13 01.6**	**0.0**

*THE **10** 13:21:31.6, 39.08N×23.20E, h13km, ML2.6*
*CSEM **10** 13:21:31.9±0.1, 39.11N×23.22E, h15km±1km, MD2.7, Error ellipse: s-maj=2.1km s-min=1.3km az=72.0*
*ATH **10** 13:21:32.0, 39.10N×23.21E, h10km±5km, MD2.7/6, ML3.0*
*NEIC **10** 13:21:32.0, 39.10N×23.21E, h10km, MD2.7(ATH), After ATH.*
ISC 10 13:21:31.5±0.5**, 39.11N**±0.04×**23.19E**±0.04**, h11**km±7km**, n13, σ0.72**/19**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.20**	**8**	⇑*i*PG	**Pg**	**13 21 36.4**	**+0.3**
NEO				*e*SG	**Sg**	**13 21 39.7**	**+0.6**
XOR	**Xorichti**	**0.26**	**1**	*e*Pg	**Pg**	**13 21 37.5**	**+0.3**
XOR				*e*Sg	**Sg**	**13 21 41.9**	**+1.1**
LKR	**Lokris**	**0.48**	**198**	⇑*i*PB	**Pb**	**13 21 40.7**	**-0.7**
LKR				*e*SB	**Sb**	**13 21 48.1**	**0.0**
AOS	**Alonnisos**	**0.54**	**83**	*e*Pg	**Pg**	**13 21 41.7**	**-0.8**
AOS				*e*Sg	**Sg**	**13 21 50.0**	**+0.1**
AGG	**Agios Georgios**	**0.67**	**263**	*e*Pg	**Pg**	**13 21 44.5**	**-0.6**
AGG				*e*Sg	**Sg**	**13 21 54.5**	**+0.3**
MPAR	**Parnis Oros**	**1.04**	**156**	*e*PB	**Pb**	**13 21 51.5**	**+0.4**
EVR	**Evrytania**	**1.09**	**260**	*e*PN	**Pn**	**13 21 53.5**	**+0.9**
LIT	**Litokhoron**	**1.13**	**332**	*e*Pg	**Pg**	**13 21 53.1**	**-1.1**
LIT				*e*Sg	**Sg**	**13 22 08.6**	**-0.7**
PTL	**Penteli**	**1.18**	**153**	*e*PG	**Pg**	**13 21 54.0**	**-1.2**
ATH	**Athens Observa**	**1.21**	**160**	*e*PB	**Pb**	**13 21 54.9**	**+1.0**
NSAL	**Nisos Salamina**	**1.22**	**170**	*e*PB	**Pb**	**13 21 55.0**	**+0.9**
PLG	**Polygyros**	**1.28**	**9**	*e*PN	**Pn**	**13 21 55.3**	**-0.1**
OUR	**Ouranopolis**	**1.37**	**26**	*e*Pb	**Pb**	**13 21 56.0**	**-0.8**

DJA 10 13:22:39.4±0.9**, 8.28S**×**117.00E, h306**km±7km**, MD4.7**/4**, ML3.8**/4**, 3C-6D, Error ellipse: s-maj=68.8km s-min=19.8km az=0.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**0.90**	**257**	⇓*i*Pn	P	13 23 19.9	-0.3
	78nm,0.2s						
KEDI	**Kedomdong**	**0.90**	**257**	⇓*i*P	P	13 23 20.2	0.0
KEDI				⇓*i*Sn	S	13 23 50.0	-2.2
RATI	**Rata**	**1.52**	**253**	⇑*i*Pn	P	13 23 25.0	+1.4
	122nm,0.2s						
RATI				⇓*i*Sn	S	13 23 56.9	-1.3
KELI	**Kelakatan**	**2.49**	**271**	⇑*i*Pn	P	13 23 31.9	+0.7
	56nm,0.2s						
KELI				⇑*i*Sn	S	13 24 12.0	+0.4
SRDI	**Scrawed**	**2.84**	**266**	⇓*i*Pn	P	13 23 34.9	+0.5
	52nm,0.2s						
SRDI				⇓*i*Sn	S	13 24 14.6	-2.7

*STR **10** 13:43:38.9±0.3, 46.85N×2.25W, h2km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **10** 13:43:41.0±0.1, 46.88N×2.11W, h7km, Md2.5/1, Ml2.5/22, Error ellipse: s-maj=1.3km s-min=0.7km az=50.0*
*NEIC **10** 13:43:41.0, 46.88N×2.11W, h7km, ML2.5(LDG), After LDG.*
*CSEM **10** 13:43:41.1±0.1, 46.88N×2.10W, h8km, ML2.5/20, Error ellipse: s-maj=1.4km s-min=0.7km az=47.0*
ISC 10 13:43:38.6±0.5**, 46.89N**±0.02×**1.95W**±0.03**, h8**km±3km**, n20, σ1.19**/64**, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRYF	**La Roche-sur-Y**	**0.42**	**138**	Pg	**Pg**	**13 43 49.4**	**+2.4**
LRYF				Sg	**Sg**	**13 43 56.9**	**+4.2**
LCHF	**La Chataignera**	**0.86**	**105**	Pn	**Pn**	**13 43 59.2**	**+2.5**
LCHF				Sg	**Sg**	**13 44 13.2**	**+6.0**
MFF	**Saint Martin d**	**1.27**	**102**	*e*Pn	**Pn**	**13 44 04.7**	**+2.0**
MFF				*e*Pg	**Pg**	**13 44 06.9**	**+2.9**
MFF				*e*Sn	**Sn**	**13 44 22.5**	**+2.4**
MFF				*e*Sg	**Sg**	**13 44 24.6**	**+3.6**
	12nm,0.2s						
QUIF	**Quistinic**	**1.32**	**322**	*e*Pn	**Pn**	**13 44 03.2**	**-0.1**
QUIF				*e*Pg	**Pg**	**13 44 04.3**	**-0.6**
QUIF				*e*Sn	**Sn**	**13 44 19.8**	**-1.4**
QUIF				*e*Sg	**Sg**	**13 44 21.1**	**-1.4**
	19nm,0.2s						
SGMF	**Saint Gilles**	**1.42**	**343**	*e*Pn	**Pn**	**13 44 05.4**	**+0.6**
SGMF				*e*Pg	**Pg**	**13 44 07.5**	**+0.5**
SGMF				*e*Sn	**Sn**	**13 44 23.1**	**-0.8**
SGMF				*e*Sg	**Sg**	**13 44 25.5**	**-0.5**
	12nm,0.2s						
GRR	**Gorron**	**1.67**	**26**	*e*Pn	**Pn**	**13 44 09.7**	**+1.4**
GRR				*e*Pg	**Pg**	**13 44 13.3**	**+1.4**
GRR				*e*Sn	**Sn**	**13 44 30.6**	**+0.5**
GRR				*e*Sg	**Sg**	**13 44 35.5**	**+1.3**
	3.6nm,0.2s						
ROSF	**Rostrenen**	**1.70**	**329**	*e*Pn	**Pn**	**13 44 08.9**	**+0.1**
ROSF				*e*Pg	**Pg**	**13 44 12.5**	**0.0**
ROSF				*e*Sn	**Sn**	**13 44 28.9**	**-2.0**
ROSF				*e*Sg	**Sg**	**13 44 34.0**	**-1.2**
	4.3nm,0.2s						
LDF	**La Druitiere**	**2.10**	**35**	*e*Pn	**Pn**	**13 44 16.0**	**+1.5**
LDF				*e*Pg	**Pg**	**13 44 21.3**	**+0.8**
LDF				*e*Sn	**Sn**	**13 44 41.2**	**+0.1**
LDF				*e*Sg	**Sg**	**13 44 49.4**	**+0.8**
	4.6nm,0.3s						
FLN	**La Foliniere**	**2.12**	**27**	*e*Pn	**Pn**	**13 44 16.3**	**+1.6**
FLN				*e*Pg	**Pg**	**13 44 21.3**	**+0.5**
FLN				*e*Sn	**Sn**	**13 44 41.0**	**-0.5**
FLN				*e*Sg	**Sg**	**13 44 49.4**	**+0.3**
	3.0nm,0.2s						
LFF	**La Frestale**	**2.71**	**135**	*e*Pn	**Pn**	**13 44 24.0**	**+0.8**
LFF				*e*Pg	**Pg**	**13 44 32.2**	**-0.4**
LFF				*e*Sn	**Sn**	**13 44 56.1**	**-0.4**
LFF				*e*Sg	**Sg**	**13 45 08.6**	**-0.1**
	5.7nm,0.3s						
RJF	**Les Rejaudoux**	**2.89**	**122**	*e*Pn	**Pn**	**13 44 26.5**	**+0.8**
RJF				*e*Pg	**Pg**	**13 44 34.9**	**-1.3**
RJF				*e*Sn	**Sn**	**13 45 00.3**	**-0.7**
RJF				*e*Sg	**Sg**	**13 45 14.2**	**-0.5**
	4.9nm,0.2s						
TCF	**Toulx Ste Croi**	**2.93**	**100**	*e*Pn	**Pn**	**13 44 28.0**	**+1.6**
TCF				*e*Pg	**Pg**	**13 44 37.5**	**+0.4**
TCF				*e*Sn	**Sn**	**13 45 02.7**	**+0.5**
TCF				*e*Sg	**Sg**	**13 45 16.2**	**+0.1**
	8.1nm,0.5s						
BGF	**Bois d'Agland**	**3.31**	**94**	*e*Pn	**Pn**	**13 44 31.9**	**+0.1**
BGF				*e*Pg	**Pg**	**13 44 44.4**	**-0.4**
BGF				*e*Sn	**Sn**	**13 45 11.7**	**-0.2**
	8.1nm,0.4s						
BGF				*e*Sg	**Sg**	**13 45 28.0**	**-0.9**
	6.2nm,0.3s						
CAF	**Calviac**	**3.42**	**124**	*e*Pn	**Pn**	**13 44 34.2**	**+0.8**
CAF				*e*Pg	**Pg**	**13 44 46.0**	**-0.9**
CAF				*e*Sn	**Sn**	**13 45 11.3**	**-3.3**
	2.7nm,0.3s						
CAF				*e*Sg	**Sg**	**13 45 31.3**	**-1.2**
	2.1nm,0.2s						
AVF	**Avril sur Loir**	**3.64**	**90**	*e*Pn	**Pn**	**13 44 38.5**	**+2.1**
AVF				*e*Sn	**Sn**	**13 45 19.2**	**-0.9**
AVF				*e*Sg	**Sg**	**13 45 39.4**	**-0.4**
	3.5nm,0.6s						
SSF	**Saint Saulge**	**3.74**	**85**	*e*Pg	**Pg**	**13 44 52.4**	**-0.8**
SSF				*e*Sn	**Sn**	**13 45 21.3**	**-1.3**
SSF				*e*Sg	**Sg**	**13 45 41.5**	**-1.5**
	1.1nm,0.3s						
SJPF	**Ste Jean**	**3.81**	**172**	*e*Pn	**Pn**	**13 44 38.2**	**-0.7**
SJPF				*e*Sg	**Sg**	**13 45 40.7**	**-4.8**
	0.7nm,0.2s						
LOR	**Lormes**	**3.99**	**82**	*e*Sn	**Sn**	**13 45 27.2**	**-1.7**
LOR				*e*Sg	**Sg**	**13 45 49.0**	**-2.3**
	1.0nm,0.2s						
SMF	**Signal de Mont**	**3.99**	**91**	*e*Sg	**Sg**	**13 45 49.2**	**-2.1**
	0.9nm,0.2s						
ETSF	**Etsaut**	**4.11**	**166**	*e*Sg	**Sg**	**13 45 50.0**	**-5.5**
	0.9nm,0.3s						

WEL 10 13:59:41.0±0.2**, 37.92S**×**177.08E, h84**km±1km**, ML3.5**/7**, 1C, Error ellipse: s-maj=2.0km s-min=1.8km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARZ	**Manawahe**	**0.33**	**257**	P*	P	13 59 53.7	-0.3
URZ	**Urewera**	**0.35**	**176**	⇑P*	P	13 59 53.9	-0.3
URZ				S*	S	14 00 04.1	0.0
MWZ	**Matawai**	**0.55**	**140**	P*	P	13 59 55.7	-0.1
MWZ				S*	S	14 00 06.5	-0.3
TAZ	**Tarawera**	**0.55**	**235**	P*	P	13 59 55.9	+0.1
PUZ	**Puketiti**	**0.94**	**100**	*e*PN	P	13 59 59.9	0.0
MXZ	**Matakaoa Point**	**1.03**	**71**	P*	P	14 00 01.6	+0.6
MXZ				S*	S	14 00 16.2	+0.2
KNZ	**Kokohu**	**1.20**	**157**	PN	P	14 00 02.4	-0.7
KNZ				SN	S	14 00 18.4	-1.2
BKZ	**Black Stump Fm**	**1.33**	**200**	P*	P	14 00 04.0	-0.9
BKZ				S*	S	14 00 22.5	0.0
MGZ	**Maungaku**	**1.63**	**228**	P*	P	14 00 08.6	0.0
KAVZ	**Karewarewa**	**1.63**	**223**	P*	P	14 00 09.0	+0.3
NGZ	**Ngauruhoe**	**1.71**	**222**	P*	P	14 00 10.0	+0.3
TUVZ	**Tukino**	**1.75**	**219**	P*	P	14 00 09.9	-0.4
CNZ	**Chateau**	**1.76**	**223**	*e*P*	P	14 00 09.7	-0.7
MOVZ	**Moawhango**	**1.82**	**214**	PN	P	14 00 10.4	-0.8
WNVZ	**Wahianoa**	**1.83**	**219**	PN	P	14 00 11.1	-0.2
TSZ	**Takapari Road**	**2.31**	**202**	PN	P	14 00 15.5	-2.5
WAZ	**Wanganui**	**2.46**	**221**	PN	P	14 00 19.1	-0.9
MRZ	**Mangatainoka R**	**2.98**	**203**	PN	P	14 00 23.2	-4.1
MRZ				SN	S	14 00 57.4	-4.6
MTW	**Mount Morrison**	**3.46**	**200**	PN	P	14 00 29.4	-4.5
CAW	**Cannon Point**	**3.55**	**205**	PN	P	14 00 30.5	-4.7
TUWZ	**Tuamarina**	**4.26**	**214**	PN	P	14 00 39.8	-5.2
QRZ	**Quartz Range**	**4.57**	**229**	PN	P	14 00 45.2	-4.1
THZ	**Tophouse**	**5.01**	**219**	*e*PN	P	14 00 49.8	-5.5
LTZ	**Lake Taylor**	**6.09**	**216**	*e*PN	P	14 01 03.0	-7.2

NEIC 10 14:03:22.5, 37.96N×**118.66W, h7**km**, ML3.8**(REN)**, MW3.6**(BRK)**, After REN., California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OMM	**Old Mammoth Mi**	**0.43**	**218**	*e*P	Pg	14 03 30.9	-0.4
MTUM	**Tungsten Hills**	**0.61**	**173**	*e*P	Pg	14 03 34.1	-0.7
MNV	**Mina**	**0.61**	**40**	*e*P	Pg	14 03 34.1	-0.7
TPH	**Tonopah**	**1.14**	**84**	*e*P	Pb	14 03 44.0	-0.2
CMB	**Columbia Colle**	**1.37**	**274**	*e*P	Pb	14 03 47.2	-0.8
CMB				*e*S	Sb	14 04 04.2	-1.3
WCN	**Washoe City**	**1.59**	**328**	*e*P	Pn	14 03 51.2	0.0
PAHR	**Pah Rah Range**	**1.83**	**342**	*e*P	Pn	14 03 54.2	-0.6
DAC	**Darwin (Calif)**	**1.89**	**153**	*e*P	Pn	14 03 55.0	-0.5
TPNV	**Topopah Spring**	**2.17**	**117**	*e*Pn	Pn	14 03 58.9	-0.6
BEKR	**Beckwourth**	**2.32**	**326**	*e*Pn	Pn	14 04 01.5	-0.2
LRV	**Little Rabbit**	**2.43**	**232**	*e*Pn	Pn	14 04 02.9	-0.4
TRCR	**Troy Canyon**	**2.45**	**80**	*e*Pn	Pn	14 04 03.4	-0.3
SAO	**San Andreas Ge**	**2.52**	**243**	*e*Pn	Pn	14 04 03.9	-0.7
OHCM	**Honcut**	**2.60**	**303**	*e*Pn	Pn	14 04 04.1	-1.7
LKC	**Lake Chabot**	**2.71**	**266**	*e*Pn	Pn	14 04 06.4	-0.8
BMN	**Battle Mountai**	**2.71**	**24**	*e*Pn	Pn	14 04 05.8	-1.4
NSHM	**Saint Helena R**	**3.16**	**281**	*e*Pn	Pn	14 04 11.9	-1.8
MWC	**Mount Wilson**	**3.76**	**172**	*e*Pn	Pn	14 04 19.0	-3.3
NEN	**Nelson**	**3.83**	**126**	*e*Pn	Pn	14 04 23.8	+0.6
ELK	**Elko**	**3.84**	**43**	*e*Pn	Pn	14 04 21.6	-1.8
LDFC	**Landfair**	**4.06**	**134**	Pn	Pn	14 04 23.2	-3.2
MOD	**Modoc**	**4.13**	**343**	Pn	Pn	14 04 26.5	-1.1
PFO	**Pinyon Flat Ob**	**4.70**	**157**	*e*Pn	Pn	14 04 32.5	-3.0
HLID	**Hailey**	**6.46**	**29**	Pn	Pn	14 04 57.4	-2.9

CASC 10 14:13:30.2±3.7**, 10.62N**×**88.49W, MD4.2, 7C-3D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEON	**Leon**	**2.38**	**41**	⇑*e*P	Pn	14 14 12.5	+1.5
COPN	**Copaltepe**	**2.42**	**50**	⇓*i*P	Pn	14 14 10.1	-1.6
MIRN	**Miramar**	**2.51**	**44**	⇑*e*P	Pn	14 14 13.2	+0.3
TEL3	**Telica 3**	**2.52**	**40**	*e*P	Pn	14 14 15.1	+2.0
CNGN	**Cerro Negro**	**2.56**	**43**	*e*P	Pn	14 14 13.9	+0.2
MOMJ	**Momotombo**	**2.61**	**47**	⇑*e*P	Pn	14 14 13.1	-1.2
XAVN	**Gruta Xavier**	**2.61**	**54**	⇓*e*P	Pn	14 14 11.4	-2.9
TICN	**Ticuantepe**	**2.62**	**57**	*e*P	Pn	14 14 11.3	-3.2
APYN	**Apoyeque**	**2.64**	**52**	⇑*e*P	Pn	14 14 12.2	-2.6
APON	**Apoyo**	**2.70**	**61**	⇑*e*P	Pn	14 14 10.6	-5.0
WILN	**Americas 2**	**2.73**	**56**	*e*P	Pn	14 14 16.8	+0.7
PYTN	**Playitas**	**3.05**	**51**	*e*P	Pn	14 14 17.4	-3.2
QUIN	**Quiabu**	**3.21**	**39**	*e*P	Pn	14 14 22.7	-0.2
JCR	**Jicaral**	**3.41**	**103**	*e*S	Sn	14 15 08.4	+0.9
PRS1	**Puriscal**	**4.16**	**98**	⇑*e*P	Pn	14 14 36.2	-0.2
VPS2	**Volcan Poas 2**	**4.21**	**95**	*e*P	Pn	14 14 35.1	-1.9
LAJ	**Bijagual**	**4.36**	**100**	⇓*e*P	Pn	14 14 32.5	-6.8
LCR2	**La Lucha 2**	**4.50**	**101**	*e*P	Pn	14 14 40.0	-1.3
ICR	**Volcan Irazu**	**4.63**	**97**	*e*P	Pn	14 14 42.1	-0.9
TRTC	**Tortuguero**	**4.70**	**90**	*e*P	Pn	14 14 42.4	-1.6
URSC	**Urasca**	**4.70**	**99**	⇑*e*P	Pn	14 14 42.9	-1.1
BUS	**Buena Vista**	**4.78**	**102**	*e*P	Pn	14 14 44.4	-0.8

*IDC **10** 14:20:02.7±3.2, 11.98N×85.81W, mb3.6/2, mb1 4.1/2, mb1mx3.6/18, Error ellipse: s-maj=202.0km s-min=58.7km az=48.0*
*CASC **10** 14:20:07.3±2.5, 11.22N×86.93W, h20km±8km, MD4.3, ML3.4*
ISC 10 14:20:07.6±0.6**, 11.18N**±0.04×**86.94W**±0.04**, h46**km±14km**, n38, σ0.85**/46**, mb3.5**/2**, 11C-7D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	**El Crucero**	**1.01**	**38**	⇑*e*P	**P**	**14 20 25.7**	**+0.1**
COPN	**Copaltepe**	**1.05**	**19**	⇓*e*P	**P**	**14 20 26.2**	**+0.1**
COPN				*i* P		14 20 26.2	
TICN	**Ticuantepe**	**1.10**	**39**	⇑*e*P	**P**	**14 20 26.3**	**-0.4**
MASN	**Masaya**	**1.11**	**44**	*e*P	**P**	**14 20 27.3**	**+0.3**
APON	**Apoyo**	**1.13**	**49**	⇑*e*P	**P**	**14 20 26.6**	**-0.6**
XAVN	**Gruta Xavier**	**1.14**	**32**	⇑*e*P	**P**	**14 20 26.9**	**-0.4**
XAVN				*e*S	**S**	**14 20 42.5**	**+0.5**
MGAN	**Managua**	**1.18**	**35**	⇑*i*P	**P**	**14 20 27.5**	**-0.3**
MGAN				*e*S	**S**	**14 20 41.7**	**-1.3**
MGAN				*i*		14 20 43.6	
	comp=N,2µm,0.4s						
APYN	**Apoyeque**	**1.20**	**29**	⇓*e*P	**P**	**14 20 27.8**	**-0.3**
APYN				*e*S	**S**	**14 20 44.9**	**+1.4**
WILN	**Americas 2**	**1.22**	**37**	⇑*e*P	**P**	**14 20 28.0**	**-0.6**
WILN				*e*S	**S**	**14 20 43.5**	**-0.7**
LEON	**Leon**	**1.23**	**2**	⇑*i*P	**P**	**14 20 29.0**	**+0.3**
MIRN	**Miramar**	**1.27**	**10**	⇓*e*P	**P**	**14 20 29.1**	**-0.1**
MOMJ	**Momotombo**	**1.28**	**18**	⇑*e*P	**P**	**14 20 29.1**	**-0.3**
MOMJ				*e*S	**S**	**14 20 45.6**	**-0.1**
MOMJ				*i*		14 20 47.8	
	comp=Z,389nm,0.3s						
CNGN	**Cerro Negro**	**1.33**	**10**	⇓*e*P	**P**	**14 20 29.9**	**-0.4**
CNGN				*e*S	**S**	**14 20 47.5**	**+0.5**
TEL3	**Telica 3**	**1.39**	**4**	⇑*e*P	**P**	**14 20 31.1**	**+0.1**
TELN	**Telica**	**1.42**	**4**	*e*S	**S**	**14 20 49.9**	**+0.8**
PYTN	**Playitas**	**1.60**	**33**	⇑*e*P	**P**	**14 20 33.1**	**-0.9**
PYTN				*e*S	**S**	**14 20 56.6**	**+3.0**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
QUIN	Quiabu	2.00	15	⇓eP	P	14 20 39.6	+0.1
JCR	Jicaral	2.23	126	⇓eP	P	14 20 41.6	-1.3
CNCH	Conchagua	2.26	337	eP	P	14 20 43.2	-0.1
CNCH				eS	S	14 21 09.4	-0.7
FORC	Fortuna	2.34	107	eP	P	14 20 47.0	+2.5
BLLM	Bellamira	2.58	331	eP	P	14 20 48.1	+0.2
VSM	San Miguel	2.59	330	eP	P	14 20 48.8	+0.8
CGA2	Cerro Gallo 2	2.69	115	⇑eP	P	14 20 48.7	-0.8
PRS1	Puriscal	2.84	114	eP	P	14 20 51.6	-0.1
LAJ	Bijagual	3.06	115	eP	P	14 20 49.2	-5.6
LCBS	La Ceiba	3.17	321	eP	P	14 20 55.8	-0.4
LCBS				eS	S	14 21 31.4	-1.6
LFRS	El Faro	3.19	320	eP	P	14 20 56.9	+0.3
LFRS				eS	S	14 21 34.1	+0.4
LCR2	La Lucha 2	3.22	116	eP	P	14 20 57.4	+0.4
TRTC	Tortuguero	3.23	100	eP	P	14 20 54.6	-2.4
ICR	Volcan Irazu	3.28	111	eP	P	14 20 58.3	+0.5
URSC	Urasca	3.38	113	eP	P	14 21 00.7	+1.4
BOQS	Boqueron	3.42	318	eP	P	14 21 00.3	+0.6
BUS	Buena Vista	3.52	117	⇓eP	P	14 21 01.7	+0.5
SBLS	San Blas	3.72	316	eP	P	14 21 04.7	+0.7
TXAR	Lajitas Array	23.87	322	P	P	14 25 18.8	+1.1
	comp=Z,1.2nm,0.5s,mb3.6,baz=136,slow=10,SNR=12						
PDAR	Pinedale Array	37.12	332	P	P	14 27 14.5	-1.0
	comp=Z,0.4nm,0.5s,mb3.5,baz=118,slow=8.9,SNR=4.6						
WRA	Warramunga Arr	139.38	252	PKP	PKPdf	14 39 35.9	+5.1
	comp=Z,0.4nm,1.0s,baz=89,slow=2.7,SNR=3.0						
CMAR	Chiang Mai Arr	149.99	349	PKPbc	PKPdf	14 39 53.6	+4.8
	comp=Z,0.1nm,0.4s,slow=1.8,SNR=4.1						

*JMA **10** 14:20:43.6±0.2,24.69N×122.70E,h93^{km}±2^{km},M2.5*
TAP 10 14:20:40.0,24.47N×122.88E,h68^{km}±1^{km},ML3.7, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.12	94	P	P	14 20 57.7	+7.7
YOJ				S	S	14 21 08.7	+11
IRIF	Iriomote-Funau	0.79	100	P	P	14 21 03.6	+7.7
IRIF				S	S	14 21 18.8	+11
HATJ	Hateruma jima	0.94	116	P	P	14 21 06.1	+8.3
HATJ				eS	S	14 21 22.1	+11
JKRS	Kuro-shima	1.06	102	P	P	14 21 07.1	+7.7
JKRS				S	S	14 21 24.3	+11
JIJ	Ishigaki jima	1.16	95	P	P	14 21 07.8	+7.1
JIJ				S	S	14 21 25.2	+9.1
JTJ	Tarama	1.67	84	P	P	14 21 14.4	+6.7
JTJ				eS	S	14 21 37.6	+9.5
JOGS	Gusukube	2.32	82	eS	S	14 21 53.3	+9.2
JKE	Kume jima 2	3.99	62	eS	S	14 22 30.2	+4.2

*IDC **10** 14:35:57.2±1.1,11.23N×86.37W,mb4.2/6,mb1 4.5/6, mb1mx4.1/19,MS3.5/3,Ms1 3.5/3,ms1mx3.1/22,Error ellipse: s-maj=62.7km s-min=22.9km az=48.0*
*CASC **10** 14:36:00.7±2.7,10.82N×86.90W,h39^{km}±520^{km},MD4.5, mb4.3(NEIC)*
*NEIC **10** 14:36:01.5±4.8,11.28N×86.31W,h27^{km}±35^{km},mb4.3/8, Error ellipse: s-maj=26.8km s-min=8.7km az=55.0*
ISC 10 14:36:00.1±0.6,**10.81N**±0.04×**86.89W**±0.05,**h46**^{km}±6^{km},**n65,**σ1^{s}**16**/70,**mb4.2**/12,**MS3.7**/2,**13C-4D,Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRUN	El Crucero	1.30	26	eP	P	14 36 22.5	+0.3
APON	Apoyo	1.36	36	⇑eP	P	14 36 22.6	-0.5
MASN	Masaya	1.37	32	⇓eP	P	14 36 24.1	+0.8
MASN				eS	S	14 36 40.9	+0.3
TICN	Ticuantepe	1.37	28	⇑eP	P	14 36 23.2	-0.2
TICN				eS	S	14 36 41.3	+0.7
COPN	Copaltepe	1.39	12	⇓eP	P	14 36 23.6	+0.1
COPN				eS	S	14 36 43.2	+2.3
VCR	Vista de Mar	1.41	119	eP	P	14 36 23.0	-0.9
XAVN	Gruta Xavier	1.44	22	⇑eP	P	14 36 24.1	-0.1
XAVN				eS	S	14 36 47.3	+5.2
MGAN	Managua	1.47	25	⇑eP	P	14 36 24.5	-0.2
MGAN				iP		14 36 24.5	
WILN	Americas 2	1.51	27	⇑eP	P	14 36 24.8	-0.4
APYN	Apoyeque	1.51	20	⇓eP	P	14 36 25.2	0.0
LEON	Leon	1.59	360	⇑eP	P	14 36 27.1	+0.7
MOMJ	Momotombo	1.62	12	⇑eP	P	14 36 26.5	-0.3
MIRN	Miramar	1.63	6	⇓eP	P	14 36 27.3	+0.4
CNGN	Cerro Negro	1.69	6	⇑eP	P	14 36 27.9	+0.2
TEL3	Telica 3	1.75	1	⇑eP	P	14 36 29.2	+0.6
CRIN	San Cristobal	1.88	355	eP	P	14 36 28.4	-2.0
PYTN	Playitas	1.90	25	⇑eP	P	14 36 30.0	-0.7
PYTN				eS	S	14 37 00.1	+6.6
JTS	JuntasAbangare	1.97	105	Pn	P	14 36 29.2	-2.5
	4μm,0.4s,SNR=27						
JTS	JuntasAbangare	1.97	105	eP	P	14 36 29.2	-2.6
JTS				eS	S	14 37 03.9	+8.6
JCR	Jicaral	1.99	119	eP	P	14 36 30.3	-1.8
FORC	Fortuna	2.21	99	eP	P	14 36 37.0	+1.9
CGA2	Cerro Gallo 2	2.51	108	eP	P	14 36 38.8	-0.7
CNCH	Conchagua	2.62	339	⇑eP	P	14 36 41.0	0.0
CNCH				eS	S	14 37 10.1	-1.6
PRS1	Puriscal	2.67	108	eP	P	14 36 41.1	-0.5
VPS2	Volcan Poas 2	2.68	103	eP	P	14 36 44.1	+2.2
LAJ	Bijagual	2.88	109	⇑eP	P	14 36 38.5	-6.2
SJS	Escuela Geolog	2.92	107	eP	P	14 36 45.6	+0.3
BLLM	Bellamira	2.93	333	eP	P	14 36 45.6	+0.2
LCR2	La Lucha 2	3.03	110	iP	P	14 36 47.5	+0.6
ICR	Volcan Irazu	3.12	105	eP	P	14 36 50.0	+1.9
TRTC	Tortuguero	3.13	94	eP	P	14 36 47.0	-1.2
URSC	Urasca	3.21	107	eP	P	14 36 49.4	0.0
BUS	Buena Vista	3.33	112	eP	P	14 36 51.4	+0.4
SNVI	San Vicente	3.37	326	eP	P	14 36 52.4	+0.7
SNVI				eS	S	14 37 28.9	-2.0
LCBS	La Ceiba	3.49	324	⇑eP	P	14 36 53.4	+0.1
LCBS				eS	S	14 37 31.8	-1.9
LFRS	El Faro	3.51	323	eP	P	14 36 54.1	+0.5
LFRS				eS	S	14 37 33.1	-1.2
BOQS	Boqueron	3.73	321	eP	P	14 36 57.4	+0.7
SBLS	San Blas	4.02	319	eP	P	14 37 02.5	+1.7
SBLS				eS	S	14 37 47.6	+0.3
ROSC	El Rosal	13.77	114	LR	LR	14 44 46.9	
	comp=Z,64nm,19.1s,baz=112,slow=39						
SDV	Santo Domingo	16.13	95	P	P	14 39 42.2	-3.1
	7.3nm,0.2s						
SDV				e		14 40 02.4	
HKT	Hockley	20.79	338	eP	P	14 40 38.8	-1.0
	46nm,1.8s						
LRAL	Lakeview Retre	22.12	360	eP	P	14 40 51.9	-1.2
	7.6nm,0.9s,mb4.1						
LTX	Lajitas	24.19	322	eP	P	14 41 15.5	+2.1
	6.3nm,0.9s,mb4.0						
TXAR	Lajitas Array	24.19	322	P	P	14 41 15.7	+2.2
	4.6nm,0.8s,mb4.0,baz=137,slow=10.0,SNR=51						
TXAR				PcP	PcP	14 44 55.0	+0.4
	1.2nm,0.8s,baz=135,slow=5.3,SNR=8.4						
SWET	Sewanee	24.31	2	eP	P	14 41 13.7	-0.9
MIAR	Mount Ida	24.40	347	eP	P	14 41 14.6	-0.9
	7.7nm,0.9s,mb4.1						
CPCT	Cooper Cave	24.62	5	eP	P	14 41 19.9	+2.3
WMOK	Wichita Mounta	26.17	337	eP	P	14 41 32.1	-0.1
	15nm,0.9s,mb4.5						
GDL2	Guadalupe Moun	26.70	325	P	P	14 41 38.6	+1.4
CPRX	Cap Rock	27.07	327	eP	P	14 41 41.3	+0.8
WCI	Wyandotte Cave	27.30	1	eP	P	14 41 38.2	-4.4
CCM	Cathedral Cave	27.41	353	eP	P	14 41 39.6	-4.0
	15nm,1.3s,mb4.3						
SAML	Samuel	30.69	129	eP	P	14 42 11.6	-1.5
	3.0nm,0.9s,mb4.1						
PV10	Paradox Valley	33.86	328	eP	P	14 42 40.3	-0.1
SADO	Sadowa	34.49	10	P	P	14 42 43.2	-2.5
	6.9nm,0.8s,mb4.6,baz=215,slow=8.5,SNR=3.1						
PDAR	Pinedale Array	37.47	332	P	P	14 43 11.6	+0.6
	1.3nm,0.8s,mb3.8,baz=124,slow=11,SNR=12						
REDW	Red Top Meadow	38.53	332	eP	P	14 43 20.0	+0.1
NVAR	Mina Array Bea	39.30	320	P	P	14 43 28.8	+2.6
	1.7nm,0.8s,mb3.8,baz=130,slow=7.9,SNR=8.6						
NVAR				PcP	PcP	14 45 37.3	+2.3
	2.6nm,0.8s,baz=129,slow=5.4,SNR=8.5						
BDFB	Brasilia	46.61	124	P	P	14 44 26.0	0.0
	4.4nm,0.7s,mb4.5,baz=293,slow=11,SNR=7.2						
SCHQ	Schefferville	46.69	16	LR	LR	15 04 51.7	
	comp=Z,90nm,19.5s,MS3.7,baz=88,slow=38						
FRB	Frobisher Bay	54.43	10	LR	LR	15 09 24.2	
	comp=Z,63nm,19.8s,MS3.7,baz=143,slow=37						
ILAR	Eielson Array	67.73	336	P	P	14 46 54.2	-0.4
	7.2nm,1.4s,mb4.5,baz=108,slow=4.4,SNR=6.0						
ASAR	Alice Springs	139.15	246	PKP	PKPdf	14 55 29.8	+7.0
	0.3nm,0.6s,baz=102,slow=2.0,SNR=7.6						
WRA	Warramunga Arr	139.32	252	PKP	PKPdf	14 55 29.7	+6.5
	0.5nm,0.6s,baz=91,slow=2.0,SNR=12						
CMAR	Chiang Mai Arr	150.35	349	PKP	PKPdf	14 55 45.0	+3.0
	0.5nm,0.6s,baz=313,slow=1.5,SNR=5.7						
CMAR				PKPbc	PKPdf	14 55 50.9	+8.9
	1.8nm,0.9s,baz=324,slow=2.5,SNR=13						

IDC 10 14:42:30.5±1.5,**21.88S**×**69.27W,mb1 3.5**/1, **mb1mx3.3**/13,**ML3.4**/1,**Error ellipse: s-maj=254.0km s-min=43.7km az=105.0,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	5.66	11	Pn	Pn	14 43 56.6	-1.4
	0.7nm,0.3s,baz=212,slow=5.1,SNR=16						
ASAR	Alice Springs	129.43	208	PKP	PKPdf	15 01 41.2	-2.6
	0.7nm,1.1s,baz=153,slow=2.0,SNR=4.3						
WRA	Warramunga Arr	132.46	211	PKP	PKPdf	15 01 48.0	-1.8
	0.3nm,0.5s,baz=161,slow=1.7,SNR=7.8						
MKAR	Makanchi Array	146.13	36	PKPbc	PKPbc	15 02 11.8	-0.8
	1.3nm,0.5s,baz=330,slow=3.7,SNR=12						

CASC 10 14:53:37.0±3.3,**11.10N**×**87.05W,h20**^{km}±14^{km},**MD4.2, ML3.5,9C-3D,Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRUN	El Crucero	1.15	40	eP	Pb	14 53 57.1	-0.8
CRUN				eS	Sb	14 54 14.1	+1.7
COPN	Copaltepe	1.16	23	⇓eP	Pb	14 53 57.6	-0.7
TICN	Ticuantepe	1.23	41	eP	Pn	14 53 58.5	-0.8
MASN	Masaya	1.25	45	eP	Pn	14 54 01.9	+2.4
XAVN	Gruta Xavier	1.26	34	⇑eP	Pn	14 53 58.6	-1.1
APON	Apoyo	1.26	50	⇑eP	Pn	14 53 58.1	-1.6
MGAN	Managua	1.30	37	⇑eP	Pn	14 53 59.1	-1.2
MGAN				eS	Sb	14 54 17.6	+0.6
MGAN				i		14 54 18.7	
	comp=N,964nm,0.4s						
LEON	Leon	1.31	7	⇑eP	Pn	14 54 00.0	-0.5
APYN	Apoyeque	1.32	31	⇑eP	Pn	14 53 59.6	-0.9
WILN	Americas 2	1.35	39	eP	Pn	14 53 59.4	-1.6
WILN				⇓eP		14 53 59.9	
MIRN	Miramar	1.37	14	⇑eP	Pn	14 54 00.9	-0.4
MOMJ	Momotombo	1.39	21	⇑eP	Pn	14 54 00.7	-0.9
CNGN	Cerro Negro	1.43	14	eP	Pn	14 54 02.2	+0.1
TEL3	Telica 3	1.47	8	⇓eP	Pn	14 54 02.5	-0.2
TEL3				eS	Sn	14 54 22.6	+1.0
VCR	Vista de Mar	1.70	125	eP	Pn	14 54 03.5	-2.5
PYTN	Playitas	1.73	34	⇑eP	Pn	14 54 04.8	-1.6
JCR	Jicaral	2.28	123	eP	Pn	14 54 12.5	-1.8
CNCH	Conchagua	2.29	341	eP	Pn	14 54 14.3	-0.2
VSM	San Miguel	2.60	333	eP	Pn	14 54 15.9	-3.0
CGA2	Cerro Gallo 2	2.77	113	eP	Pn	14 54 20.1	-1.1
PRS1	Puriscal	2.92	112	eP	Pn	14 54 21.3	-2.1
LAJ	Bijagual	3.14	113	eP	Pn	14 54 20.9	-5.6
LCBS	La Ceiba	3.16	324	eP	Pn	14 54 26.6	-0.2
LCBS				eS	Sn	14 55 03.0	-1.3
SJS	Escuela Geolog	3.17	111	eP	Pn	14 54 29.6	+2.6
LFRS	El Faro	3.18	322	⇑eP	Pn	14 54 27.1	-0.1
LFRS				eS	Sn	14 55 03.9	-1.0
LCR2	La Lucha 2	3.29	114	eP	Pn	14 54 28.6	-0.2
TRTC	Tortuguero	3.32	99	eP	Pn	14 54 26.3	-2.8
ICR	Volcan Irazu	3.36	109	eP	Pn	14 54 31.6	+1.9
URSC	Urasca	3.46	111	eP	Pn	14 54 31.5	+0.4
BUS	Buena Vista	3.59	115	eP	Pn	14 54 32.1	-0.8

CASC 10 15:03:51.9±2.6,**11.17N**×**86.99W,h21**^{km}±18^{km},**MD4.3, 7C-3D,Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRUN	El Crucero	1.05	40	eP	Pb	15 04 11.3	+0.1
COPN	Copaltepe	1.07	21	⇓eP	Pb	15 04 11.6	0.0
COPN				eS	Sb	15 04 25.2	-0.1
TICN	Ticuantepe	1.13	41	eP	Pb	15 04 11.9	-0.7
XAVN	Gruta Xavier	1.17	34	⇑eP	Pn	15 04 12.5	-0.7
APON	Apoyo	1.17	51	eP	Pn	15 04 12.1	-1.1
MGAN	Managua	1.21	37	⇑eP	Pn	15 04 13.1	-0.7
MGAN				eS	Sb	15 04 29.0	-0.2
APYN	Apoyeque	1.23	31	⇑eP	Pn	15 04 13.6	-0.5
APYN				eS	Sb	15 04 31.5	+1.9
LEON	Leon	1.24	4	⇑eP	Pn	15 04 13.6	-0.6
LEON				eS	Sb	15 04 32.4	+2.4
WILN	Americas 2	1.26	39	⇑eP	Pn	15 04 13.4	-1.1
WILN				eS	Sb	15 04 28.0	-2.6
MIRN	Miramar	1.29	12	eP	Pn	15 04 14.5	-0.4
MOMJ	Momotombo	1.30	20	⇑eP	Pn	15 04 14.5	-0.6
CNGN	Cerro Negro	1.35	12	eP	Pn	15 04 15.1	-0.7
TEL3	Telica 3	1.40	6	⇓eP	Pn	15 04 16.2	-0.2
PYTN	Playitas	1.63	34	⇑eP	Pn	15 04 18.8	-1.1
VCR	Vista de Mar	1.69	128	eP	Pn	15 04 21.3	+0.6
JCR	Jicaral	2.27	125	eP	Pn	15 04 25.5	-3.5
CGA2	Cerro Gallo 2	2.73	115	eP	Pn	15 04 36.2	+0.6
PRS1	Puriscal	2.88	114	eP	Pn	15 04 37.7	0.0
LAJ	Bijagual	3.10	115	⇓eP	Pn	15 04 35.2	-5.7
LCR2	La Lucha 2	3.26	116	eP	Pn	15 04 41.3	-1.8
TRTC	Tortuguero	3.27	100	eP	Pn	15 04 44.6	+1.3
URSC	Urasca	3.42	113	eP	Pn	15 04 45.5	+0.1
BUS	Buena Vista	3.56	117	eP	Pn	15 04 45.7	-1.7

*WAR **10** 15:04:12.9,50.34N×18.98E,ML2.5,Mining Induced*
*PRU **10** 15:04:14.1,50.28N×18.91E*
ISC 10 15:04:11.8±0.7,**50.39N**±0.06×**18.91E**±0.05,**n10,**σ1^{s}**11**/17, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OJC	Ojcow	0.59	106	ePg	Pg	15 04 23.9	+0.3
OJC				eSg	Sg	15 04 31.8	+0.3
OKC	Ostrava-Krasne	0.74	222	ePG	Pg	15 04 27.3	+0.8
OKC				eSG	Sg	15 04 37.4	+1.0
NIE	Niedzica	1.33	136	ePg	Pg	15 04 37.5	-0.8
NIE				eSg	Sg	15 04 54.7	-1.3
DPC	Dobruska-Polom	1.66	270	ePG	Pg	15 04 43.7	-1.2
DPC				eSG	Sg	15 05 06.4	-0.6
KSP	Ksiaz	1.73	286	ePN	Pn	15 04 45.0	+1.7
KSP				ePG	Pg	15 04 46.0	-0.3
KSP				eSG	Sg	15 05 10.0	+0.7
UPC	Upice	1.86	275	eSG	Sg	15 05 13.2	-0.4
KOLS	Kolonicke sedl	2.63	122	ePN	Pn	15 05 00.5	+4.4
KOLS				e		15 05 22.9	
PRU	Pruhonice	2.84	264	eSG	Sg	15 05 42.4	-3.8
	12nm,0.7s						
KHC	Kasperske Hory	3.68	252	ePN	Pn	15 05 13.0	+1.9
KHC				ex	x	15 05 25.0	
KHC				eSG	Sg	15 06 10.5	-3.8
CLL	Collm	3.86	286	eSG	Sg	15 06 19.0	-1.1

IDC 10 15:05:15.8±2.1,**6.17S**×**151.95E,mb3.2**/3,**mb1 3.6**/4, **mb1mx3.4**/12,**ML2.4**/1,**Error ellipse: s-maj=142.0km s-min=26.9km az=131.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	5.73	236	Pn	Pn	15 06 44.5	+0.2
	0.7nm,0.3s,baz=187,slow=23,SNR=4.4						
PMG				Sn	Sn	15 07 56.4	+4.7
	1.1nm,0.3s,baz=75,slow=23,SNR=6.5						
WRA	Warramunga Arr	21.91	230	P	P	15 10 10.7	-2.0
	0.2nm,0.4s,baz=54,slow=10.0,SNR=7.0						
ASAR	Alice Springs	24.57	223	P	P	15 10 37.1	-1.7
	0.4nm,0.6s,baz=55,slow=9.3,SNR=7.5						
ILAR	Eielson Array	83.74	22	P	P	15 17 46.6	-1.2
	0.4nm,0.7s,baz=252,slow=4.5,SNR=7.5						

*IDC **10** 15:36:38.8±1.0,11.43N×86.68W,mb4.2/8,mb1 4.4/9, mb1mx4.1/21,ML2.4/1,MS3.8/11,Ms1 3.8/11, ms1mx3.6/18,Error ellipse: s-maj=35.9km s-min=21.4km az=44.0*
*CASC **10** 15:36:41.1±2.6,11.09N×87.00W,h14^{km}±14^{km},MD4.5, mb4.5(NEIC)*
*NEIC **10** 15:36:42.5±3.8,11.30N×86.71W,h31^{km}±27^{km},mb4.5/10, Error ellipse: s-maj=15.0km s-min=7.1km az=50.0*
ISC 10 15:36:41.1±0.4,**11.04N**±0.03×**87.05W**±0.03,**h33**^{km},**n87,** σ1^{s}**30**/86,**mb4.3**/17,**MS3.9**/10,**16C-12D,Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRUN	El Crucero	1.19	38	⇓iP	P	15 37 01.9	+0.4
COPN	Copaltepe	1.22	22	⇓iP	P	15 37 02.3	+0.4
COPN				eS	S	15 37 15.3	-2.2
TICN	Ticuantepe	1.27	39	⇑eP	P	15 37 02.3	-0.3
MASN	Masaya	1.29	43	⇓eP	P	15 37 02.0	-0.8
MASN				eP		15 37 03.2	
APON	Apoyo	1.30	48	⇑iP	P	15 37 02.7	-0.4
XAVN	Gruta Xavier	1.31	33	⇑eP	P	15 37 03.2	0.0
MGAN	Managua	1.35	36	⇑iP	P	15 37 03.7	-0.1
MGAN				eS	S	15 37 21.2	+0.4
APYN	Apoyeque	1.37	30	⇓eP	P	15 37 04.1	0.0
LEON	Leon	1.38	7	⇑iP	P	15 37 04.6	+0.4
LEON				eS	S	15 37 23.3	+2.0
WILN	Americas 2	1.40	37	⇑eP	P	15 37 04.2	-0.3
WILN				⇓eP		15 37 04.7	
MIRN	Miramar	1.43	14	⇑eP	P	15 37 05.0	+0.1
MIRN				eS	S	15 37 24.2	+1.5
MOMJ	Momotombo	1.45	20	⇑eP	P	15 37 05.2	0.0
MOMJ				eS	S	15 37 25.0	+1.7
CNGN	Cerro Negro	1.49	13	⇑eP	P	15 37 05.8	0.0
TEL3	Telica 3	1.54	8	⇑eP	P	15 37 06.7	+0.2
CRIN	San Cristobal	1.65	0	eP	P	15 37 07.8	-0.3
VCR	Vista de Mar	1.67	123	eP	P	15 37 08.5	+0.2
PYTN	Playitas	1.78	33	⇑iP	P	15 37 09.3	-0.6
JTS	JuntasAbangare	2.20	110	Pn	Pn	15 37 15.9	-0.2
	4μm,0.6s,SNR=29						
JTS	JuntasAbangare	2.20	110	eP	P	15 37 14.3	-1.6
CNCH	Conchagua	2.35	341	⇑eP	P	15 37 18.6	+0.5
FORC	Fortuna	2.41	103	eP	P	15 37 20.9	+1.9
BLLM	Bellamira	2.65	334	eP	P	15 37 22.6	+0.2
BLLM				eS	S	15 37 58.4	+4.6
VSM	San Miguel	2.66	333	⇓eP	P	15 37 23.9	+1.4
CGA2	Cerro Gallo 2	2.74	112	eP	P	15 37 24.4	+0.7
PRS1	Puriscal	2.90	111	eP	P	15 37 26.5	+0.6
VPS2	Volcan Poas 2	2.90	107	eP	P	15 37 27.2	+1.3
CAHU	Cacacuatique	2.94	338	eP	P	15 37 24.1	-2.4
SNVI	San Vicente	3.10	326	eP	P	15 37 28.6	-0.1
SNVI				eS	S	15 38 10.2	+5.2
LAJ	Bijagual	3.11	112	⇓eP	P	15 37 25.9	-3.1
SJS	Escuela Geolog	3.15	110	eP	P	15 37 30.3	+0.9
LCBS	La Ceiba	3.21	324	⇑eP	P	15 37 30.6	+0.3
LCBS				eS	S	15 38 10.0	+2.1
LFRS	El Faro	3.23	323	⇓eP	P	15 37 31.0	+0.3
LFRS				eS	S	15 38 10.7	+2.2
LCR2	La Lucha 2	3.27	113	eP	P	15 37 32.8	+1.6
LBRS	Las Brisas	3.31	324	eP	P	15 37 30.8	-1.0
TRTC	Tortuguero	3.31	98	iP	P	15 37 30.8	-1.0
ICR	Volcan Irazu	3.34	108	⇑eP	P	15 37 35.4	+3.2
LFU	La Fuente	3.36	323	eP	P	15 37 33.0	+0.5
LFU				eS	S	15 38 10.2	-1.5
URSC	Urasca	3.44	110	⇓eP	P	15 37 36.1	+2.5
BUS	Buena Vista	3.56	114	eP	P	15 37 36.4	+1.0
SBLS	San Blas	3.75	318	⇓eP	P	15 37 38.5	+0.5
SBLS				eS	S	15 38 23.2	+1.7
SNJE	San Jose	3.76	319	⇓eP	P	15 37 38.7	+0.6
RTR	El Retiro	3.80	319	⇓eP	P	15 37 39.8	+1.0
MTO2	Montecristo 2	4.03	326	⇑eP	P	15 37 44.6	+2.6
LIO	Limon	4.08	104	⇑eP	P	15 37 46.4	+3.6
ACR	Cerro Adams	4.50	121	eP	P	15 37 49.5	+0.8
ROSC	El Rosal	14.02	115	Pn	P	15 40 06.3	+6.7
	0.4nm,0.3s,baz=267,slow=24,SNR=4.2						
ROSC				LR	LR	15 45 27.2	
	comp=Z,296nm,19.8s,baz=345,slow=38						
SDV	Santo Domingo	16.32	96	P	P	15 40 24.6	-4.8
HKT	Hockley	20.52	338	eP	P	15 41 17.3	-1.8
	49nm,1.7s						
SJG	San Juan	21.41	68	P	P	15 41 24.9	-3.4
	3.1nm,0.3s,mb4.1,baz=308,slow=20,SNR=4.2						
LRAL	Lakeview Retre	21.89	0	eP	P	15 41 31.6	-1.4
	12nm,0.8s,mb4.4						
JSC	Jenkinsville	23.73	12	P	P	15 41 49.3	-1.9
LTX	Lajitas	23.91	322	eP	P	15 41 53.6	+0.6
	6.3nm,0.8s,mb4.1						
TXAR	Lajitas Array	23.91	322	P	P	15 41 54.3	+1.4
	4.7nm,0.7s,mb4.0,baz=138,slow=9.9,SNR=49						
TXAR				PcP	PcP	15 45 38.5	+1.9
	1.7nm,0.8s,baz=135,slow=5.3,SNR=9.9						
TXAR				ScP		15 49 17.9	
	0.8nm,1.1s,baz=56,slow=4.5,SNR=4.1						
SWET	Sewanee	24.09	2	eP	P	15 41 53.1	-1.5
MIAR	Mount Ida	24.14	347	eP	P	15 41 53.6	-1.6
	9.8nm,0.8s,mb4.3						
CPCT	Cooper Cave	24.41	5	eP	P	15 41 56.7	-1.1
WMOK	Wichita Mounta	25.90	337	eP	P	15 42 10.6	-1.4
	13nm,0.9s,mb4.5						
CCM	Cathedral Cave	27.16	353	eP	P	15 42 19.5	-4.0
	7.1nm,0.9s,mb4.2						
BNM	Barren Site	29.14	325	P	P	15 42 42.1	+0.8
KSU1	Kansas State U	29.21	345	P	P	15 42 39.7	-2.2
ACSO	Alum Creek Sta	29.30	6	P	P	15 42 39.0	-3.7
SSPA	Standing Stone	30.57	14	eP	P	15 42 50.9	-3.1
	35nm,1.4s,mb5.0						
SDCO	Great Sand Dun	31.32	331	eP	P	15 42 59.9	-0.8
	2.9nm,0.8s,mb4.2						
BINY	Binghamton	32.52	15	eP	P	15 43 07.5	-3.6
	16nm,0.8s,mb5.0						
LPAZ	La Paz	32.98	145	LR	LR	15 56 40.7	
	comp=Z,116nm,19.6s,MS3.6,baz=284,slow=36						
PV10	Paradox Valley	33.58	328	eP	P	15 43 19.1	-1.2
SADO	Sadowa	34.29	10	P	P	15 43 22.9	-3.5
	3.7nm,0.6s,mb4.5,baz=231,slow=8.7,SNR=3.7						
DUG	Dugway	36.91	326	eP	P	15 43 48.8	+0.2
PDAR	Pinedale Array	37.19	332	P	P	15 43 49.9	-1.1
	1.4nm,0.8s,mb3.9,baz=125,slow=11,SNR=13						
HWUT	Hardware Ranch	37.27	329	eP	P	15 43 51.3	-0.4
	49nm,1.2s,mb5.2						
NVAR	Mina Array Bea	39.02	320	P	P	15 44 08.3	+2.0
	1.0nm,0.7s,mb3.6,baz=132,slow=8.1,SNR=6.8						
NVAR				PcP	PcP	15 46 18.0	+1.3
	2.7nm,0.9s,baz=121,slow=4.6,SNR=8.1						
NVAR				ScP		15 50 09.8	
	0.3nm,0.7s,baz=346,slow=6.1,SNR=3.7						
NVAR	Mina Array Bea	39.02	320	P	P	15 44 08.3	+2.0
NVAR				PcP	PcP	15 46 18.0	+1.3
NVAR				ScP		15 50 09.8	
ULM	Lac du Bonnet	39.76	351	P	P	15 44 09.3	-3.0
	28nm,1.3s,mb4.8,baz=171,slow=8.5,SNR=4.1						
ULM	Lac du Bonnet	39.76	351	P	P	15 44 09.3	-3.0
SCHQ	Schefferville	46.51	16	LR	LR	16 06 19.1	
	comp=Z,217nm,18.1s,MS4.2,baz=285,slow=39						
BDFB	Brasilia	46.87	124	P	P	15 45 09.6	-0.7
	3.8nm,0.9s,mb4.3,baz=284,slow=7.1,SNR=5.5						
BDFB				LR	LR	16 05 21.6	
	comp=Z,220nm,20.8s,MS4.1,baz=140,slow=37						
CPUP	Villa Florida	47.06	143	LR	LR	16 08 30.2	
	comp=Z,59nm,19.2s,MS3.6,baz=348,slow=40						
YKA	Yellowknife Ar	55.06	345	LR	LR	16 14 40.6	
	comp=Z,60nm,19.7s,MS3.7,baz=195,slow=42						
ILAR	Eielson Array	67.46	336	P	P	15 47 33.2	-2.1
	0.5nm,0.8s,mb3.6,baz=146,slow=4.8,SNR=11						
ILAR				LR	LR	16 22 40.6	
	comp=Z,59nm,18.6s,MS3.8,baz=360,slow=41						
DBIC	Dimbokro	81.12	85	LR	LR	16 22 49.2	
	comp=Z,53nm,19.1s,MS3.9,baz=293,slow=34						
NOA	NORSAR Array B	84.41	29	LR	LR	16 29 39.9	
	comp=Z,40nm,18.2s,MS3.8,baz=275,slow=38						
ARCES	ARCESS Array B	87.39	19	LR	LR	16 31 55.3	
	comp=Z,55nm,21.1s,MS3.9,baz=14,slow=38						
FINES	FINESS Array B	91.06	26	LR	LR	16 28 55.4	
	comp=Z,49nm,18.8s,MS4.0,baz=335,slow=35						
ASAR	Alice Springs	139.09	247	PKP	PKPdf	15 56 07.8	+2.5
	0.7nm,0.8s,baz=110,slow=2.3,SNR=5.9						
WRA	Warramunga Arr	139.23	252	PKP	PKPdf	15 56 08.3	+2.7
	2.5nm,1.2s,baz=99,slow=2.0,SNR=7.4						
FITZ	Fitzroy Crossi	147.63	254	PKPbc	PKPdf	15 56 25.8	+5.5
	2.1nm,0.7s,baz=145,slow=12,SNR=5.8						
CMAR	Chiang Mai Arr	150.10	349	PKPbc	PKPdf	15 56 31.5	+7.3
	3.8nm,0.9s,baz=339,slow=3.7,SNR=23						

IDC 10 15:47:40.8±4.8,**21.34S**×**68.23W,h143**^{km}±42^{km},**mb3.2**/1, **mb1 3.3**/4,**mb1mx3.2**/14,**Error ellipse: s-maj=58.6km s-min=20.8km az=50.0,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	5.03	1	P	P	15 48 57.0	+1.7
	0.4nm,0.3s,baz=192,slow=6.7,SNR=13						
LPAZ				S	S	15 49 51.9	-1.0

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
	0.2nm,0.3s,baz=51,slow=21,SNR=3.7						
CPUP	Villa Florida	11.14	119	P	P	15 50 15.0	-1.9
	0.1nm,0.3s,baz=312,slow=14,SNR=3.1						
BDFB	Brasilia	19.98	77	P	P	15 52 03.1	-1.0
	0.3nm,0.3s,baz=256,slow=9.1,SNR=3.2						
TXAR	Lajitas Array	60.86	325	P	P	15 57 38.5	-2.2
	0.3nm,0.3s,baz=153,slow=6.0,SNR=4.6						
WRA	Warramunga Arr	133.41	210	PKP	PKPdf	16 06 39.8	-1.1
	0.3nm,0.9s,baz=162,slow=1.4,SNR=4.7						

GUC 10 16:11:53.1±0.4**,35.66S×72.68W,h22**^{km}±13^{km}**,MD3.6, ML3.1,3C,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	Talca	0.90	73	⇑iP	Pb	16 12 11.7	+1.9
TALC				i S	Sb	16 12 23.8	+2.5
TALC				AMP		16 12 27.7	
	comp=E,1μm,0.4s						
CICH	Cipreses	2.29	55	⇑iP	Pn	16 12 31.2	+0.8
CICH				i S	Sn	16 12 59.7	+1.5
CACH	El Canelo	2.30	49	⇑iP	Pn	16 12 31.3	+0.7
CACH				i S	Sn	16 13 00.7	+2.1
CHCH	Chadas Angostu	2.40	45	i P	Pn	16 12 32.1	+0.2
CHCH				i S	Sn	16 13 02.1	+1.1
FCH	Farellones	3.05	41	eP	Pn	16 12 42.1	+0.9
FCH				i S	Sn	16 13 19.3	+1.7
FCH				AMP		16 13 28.8	
	comp=E,51nm,0.3s						

*IDC **10** 16:27:46.6±0.9,28.22N×57.20E,mb4.0/13,mb1 4.1/14, mb1mx4.0/22,ML4.1/1,Error ellipse: s-maj=20.9km s-min=19.2km az=14.0*
*CSEM **10** 16:27:46.0±0.1,28.20N×57.35E,h2^{km},mb4.6/9,ML5.1/1, Ms3.2,Error ellipse: s-maj=3.1km s-min=2.0km az=65.0*
*THR **10** 16:27:48.9±0.7,28.40N×57.26E,h14^{km}±8^{km},ML3.9*
*KISR **10** 16:27:48.3±1.1,27.41N×57.42E,h63^{km}±999^{km},ML4.6*
*NEIC **10** 16:27:50.1±5.3,28.22N×57.27E,h21^{km}±38^{km},mb4.7/10, Error ellipse: s-maj=12.7km s-min=8.3km az=168.0*
ISC 10 16:27:46.6±1.1**,28.36N**±0.05×**57.29E**±0.04**,h1**^{km}±7^{km}**, n65,**σ**0**^{s}**98**/70**,mb4.3**/26**,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	Bandar-Abbas	1.38	226	i PG	Pg	16 28 14.2	+0.1
BNDS				eSG	Sg	16 28 33.5	+0.9
BNDS				AMP		16 28 35.9	
	comp=E,3μm,0.5s						
BNDS				AMP		16 28 35.9	
	comp=N,3μm,0.4s						
BNDS	Bandar-Abbas	1.38	226	i Pn	Pn	16 28 14.1	+1.0
BNDS				Sn	Sn	16 28 32.4	+0.2
	comp=N,3μm,0.4s						
KRBR	Kerman	1.68	344	i PG	Pg	16 28 19.2	-0.9
KRBR				AMP		16 28 50.1	
	comp=N,1μm,0.4s						
KRBR				AMP		16 28 57.6	
	comp=E,1μm,0.4s						
KRBR	Kerman	1.68	344	i Pn	Pn	16 28 19.3	+2.0
	comp=E,1μm,0.4s						
ZHSF	Zahedan	3.29	67	ePN	Pn	16 28 42.6	+2.2
ZHSF	Zahedan	3.29	67	ePn	Pn	16 28 43.2	+2.8
GHIR	Ghir-Karzin	3.80	270	ePN	Pn	16 28 48.7	+1.2
GHIR				AMP		16 29 56.2	
	comp=N,159nm,0.4s						
GHIR				AMP		16 30 11.9	
	comp=E,122nm,0.6s						
GHIR	Ghir-Karzin	3.80	270	ePn	Pn	16 28 49.0	+1.5
HASS	Wahat al Ahsa’	7.49	247	P	Pn	16 29 37.8	-1.9
QRN	Al-Qurain	8.25	275	eP	P	16 29 48.5	-1.9
QRN				eS	Sn	16 31 17.8	-7.6
QRN				AML	AML	16 31 21.6	
	comp=Z,60nm,0.3s						
KBD	Kabd	8.46	278	eP	P	16 29 53.4	+0.1
KBD				eS	Sn	16 31 23.8	-6.8
RDF	Al-Radifah	8.58	276	eP	P	16 29 53.3	-1.6
RDF				eS	Sn	16 31 26.5	-7.0
RDF				AML	AML	16 31 29.1	
	comp=Z,29nm,0.4s						
MIB	Mutribah	8.83	282	eP	P	16 29 57.4	-0.9
RST	Umm Al-Ruwaisa	9.09	280	eP	P	16 30 00.4	-1.6
RST				AML	AML	16 31 40.2	
	comp=Z,13nm,0.3s						
RAYN	Ar Rayn	11.65	248	Pn	P	16 30 31.9	-5.2
	comp=Z,79nm,0.7s,SNR=18						
MZLS	Mizel	11.68	251	P	P	16 30 32.1	-5.4
ARSS	Ar Rass	12.76	262	P	P	16 30 47.2	-4.9
HILS	Ha’il	13.75	270	P	P	16 31 00.5	-4.6
ASF	Jabal al Asfar	18.02	287	P	P	16 31 59.9	-0.1
	comp=Z,0.7nm,0.3s,baz=277,slow=1.8,SNR=2.9						
AAK	Ala-Archa	19.92	40	eP	P	16 32 21.5	-1.0
	comp=Z,3.0nm,0.6s						
AAK	Ala-Archa	19.92	40	eP	P	16 32 21.5	-1.1
	comp=Z,3.0nm,0.6s						
BRTR	Keskin Array B	22.57	306	P	P	16 32 49.8	+0.1
	comp=Z,2.8nm,0.7s,mb3.9,baz=126,slow=11,SNR=8.3						
KOLN	Koldanda	23.21	85	eP	P	16 33 01.5	+5.4
	comp=Z,1.2nm,0.3s,mb3.9						
GKN	Gorkha	24.09	84	eP	P	16 33 05.7	+1.1
DMN	Daman	24.55	85	eP	P	16 33 09.5	+0.4
	comp=Z,5.7nm,0.6s,mb4.5						
KKN	Kakani	24.68	85	eP	P	16 33 09.9	-0.5
	comp=Z,9.5nm,0.5s,mb4.8						
PKI	Pulchoki	24.83	85	eP	P	16 33 11.3	-0.5
	comp=Z,14nm,0.7s,mb4.8						
BVAR	Borovoye Array	26.48	18	P	P	16 33 27.0	0.0
	comp=Z,2.3nm,0.8s,mb3.9,baz=243,slow=33,SNR=7.6						
MKAR	Makanchi Array	26.85	40	P	P	16 33 30.6	+0.1
	comp=Z,1.8nm,0.7s,mb3.9,baz=222,slow=7.7,SNR=13						
MKAR	Makanchi Array	26.85	40	P	P	16 33 30.5	0.0
KURK	Kurchatov	27.54	30	eP	P	16 33 36.7	-0.1
	comp=Z,1.9nm,0.8s,mb4.0						
KURK	Kurchatov	27.54	30	eP	P	16 33 36.7	0.0
	comp=Z,1.9nm,0.8s,mb4.0						
ZAL	Zalesovo	32.51	31	P	P	16 34 20.3	-0.6
	comp=Z,3.8nm,0.3s,mb4.7,baz=149,slow=7.3,SNR=16						
ZAL	Zalesovo	32.51	31	P	P	16 34 20.3	-0.6
KMBO	Kilima Mbogo	35.06	217	P	P	16 34 39.7	-3.7
	comp=Z,0.4nm,0.3s,mb3.8,baz=62,slow=24,SNR=5.1						
FINES	FINESS Array B	39.05	337	P	P	16 35 15.4	-1.1
	comp=Z,1.0nm,0.5s,mb3.7,baz=129,slow=8.9,SNR=9.3						
GERES	GERESS Array B	39.06	314	P	P	16 35 15.4	-1.3
	comp=Z,1.2nm,0.7s,mb3.6,baz=121,slow=7.8,SNR=5.4						
KHC	Kasperske Hory	39.22	314	eP	P	16 35 17.0	-1.0
KHC				ex	x	16 35 20.0	
PGF	Pioggiola	41.26	303	eP	P	16 35 35.6	+0.7
	comp=Z,45nm,1.3s,mb4.7						
SONM	Songino Array	42.44	49	P	P	16 35 44.8	+0.3
	comp=Z,1.4nm,0.6s,mb3.9,baz=259,slow=9.3,SNR=18						
SBF	Sospel	42.50	305	eP	P	16 35 45.4	+0.3
	comp=Z,76nm,1.0s,mb5.1						
MBDF	Montbardon	43.04	306	eP	P	16 35 49.9	+0.4
LPG	La Plagne	43.12	307	eP	P	16 35 51.3	+1.2
	comp=Z,42nm,1.4s,mb4.7						
LPL	La Plagne	43.14	307	eP	P	16 35 51.3	+1.0
ORIF	Oris-en-Rattie	43.69	306	eP	P	16 35 55.4	+0.7
CABF	La Chapelle	43.70	309	eP	P	16 35 56.0	+1.2
SMRF	Simiane la Rot	43.85	305	eP	P	16 35 56.7	+0.7
VIVF	Saint-Julien-l	44.54	306	eP	P	16 36 01.8	+0.2
NOA	NORSAR Array B	44.73	330	P	P	16 36 01.8	-1.2
	comp=Z,0.6nm,0.8s,mb3.5,baz=208,slow=21,SNR=2.7						
ARCES	ARCESS Array B	45.10	345	P	P	16 36 05.2	-0.6
	comp=Z,2.9nm,0.9s,mb4.2,baz=139,slow=8.3,SNR=4.5						
SMF	Signal de Mont	45.24	309	eP	P	16 36 08.6	+1.4
	comp=Z,15nm,0.9s,mb4.6						
LOR	Lormes	45.28	310	eP	P	16 36 06.9	-0.6
BAIF	Baives	45.37	314	eP	P	16 36 08.7	+0.5
SSF	Saint Saulge	45.51	309	eP	P	16 36 09.7	+0.4
	comp=Z,3.9nm,0.8s,mb4.5						
BGF	Bois d’Agland	45.92	309	eP	P	16 36 13.2	+0.6
	comp=Z,41nm,1.1s,mb5.1						
MTLF	Montolieu	46.27	304	eP	P	16 36 15.8	+0.4
CAF	Calviac	46.40	306	eP	P	16 36 16.7	+0.3
	comp=Z,27nm,1.1s,mb4.9						
LDF	La Druitiere	48.05	311	eP	P	16 36 30.0	+0.7
FLN	La Foliniere	48.30	311	eP	P	16 36 31.8	+0.6
ETSF	Etsaut	48.31	304	eP	P	16 36 32.1	+0.7
SJPF	Ste Jean	48.79	304	eP	P	16 36 35.6	+0.5
ILAR	Eielson Array	85.27	10	P	P	16 40 24.2	-1.5
	comp=Z,0.2nm,0.6s,mb3.5,baz=318,slow=4.8,SNR=6.0						
WRA	Warramunga Arr	88.53	113	P	P	16 40 42.1	-0.6
	comp=Z,2.2nm,0.8s,mb4.4,baz=319,slow=4.0,SNR=22						
WRAB	Tennant Creek	88.54	113	eP	P	16 40 41.5	-1.3
	comp=Z,3.2nm,0.6s,mb4.7						
ASAR	Alice Springs	90.09	117	P	P	16 40 49.0	-0.9
	comp=Z,0.6nm,0.7s,mb4.0,baz=304,slow=4.7,SNR=19						

*ATH **10** 16:30:08.2,34.54N×25.31E,h27^{km}±5^{km},MD3.6/7*
*NEIC **10** 16:30:08.2,34.54N×25.31E,h27^{km},MD3.6(ATH),After ATH.*
*CSEM **10** 16:30:11.2±0.2,34.80N×25.37E,h20^{km},MD3.6,Error ellipse: s-maj=5.2km s-min=3.8km az=164.0*
ISC 10 16:30:10.1±1.3**,34.65N**±0.08×**25.36E**±0.06**,h27**^{km}**,n13,** σ**1**^{s}**15**/19**,Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	Khrisi	0.35	50	ePB	Pb	16 30 17.2	-0.9
XRY				eSB	Sb	16 30 25.2	+1.7
NPS	Neapolis	0.65	18	ePB	Pb	16 30 21.7	-1.1
NPS				eSN	Sn	16 30 34.7	+1.9
GVD	Gavdhos	1.07	281	ePN	Pn	16 30 29.5	0.0
VAM	Vamos	1.22	309	ePN	Pn	16 30 31.3	-0.3
VAM				eSN	Sn	16 30 48.9	+1.6
SANT	Santorini	1.72	3	eP	Pn	16 30 38.4	-0.4
SANT	Santorini	1.72	3	eP	Pn	16 30 38.4	-0.4
THR1	Thera Island	1.72	3	eP	Pn	16 30 38.1	-0.7
THR1				eS	Sn	16 30 58.2	-1.9
KARP	Karpathos	1.73	58	ePN	Pn	16 30 40.6	+1.7
THR3	Thira Island,	1.76	1	eP	Pn	16 30 38.9	-0.4
THR3				eS	Sn	16 31 00.1	-0.9
THR5	Thira Island,	1.77	360	eP	Pn	16 30 39.2	-0.3
APE	Apeiranthos	2.42	3	ePB	Pb	16 30 51.7	-1.1
VLI	Veliai	2.86	317	ePN	Pn	16 30 54.1	-1.0
AGG	Agios Georgios	5.00	332	eP	Pn	16 31 26.1	+0.7
AGG				eS	Sn	16 32 24.8	+1.7

DJA 10 16:31:22.5±0.6**,8.83S**×**116.48E,h160**^{km}**,MD4.7**/4**, ML3.6**/1**,4C-5D,Error ellipse: s-maj=46.8km s-min=15.1km az=0.0,Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	Kedomdong	0.50	314	⇑iPn	P	16 31 44.1	-1.3
	55nm,0.2s						
KEDI				⇑iSn	S	16 32 02.1	-0.9
RATI	Rata	0.94	277	⇓iPn	P	16 31 48.0	+0.1
	93nm,0.2s						
RATI	Rata	0.94	277	⇓iP	P	16 31 48.2	+0.3
RATI				⇓iSn	S	16 32 05.8	-1.7
KELI	Kelakatan	2.06	287	⇓iPn	P	16 32 00.7	+1.5
KELI				⇑iSn	S	16 32 24.7	-2.8
SRDI	Scrawed	2.33	278	⇑iPn	P	16 32 02.0	-0.6
SRDI				⇓iSn	S	16 32 30.5	-2.9

*ATH **10** 16:31:52.7,34.57N×25.31E,h31^{km}±5^{km},MD3.6/7*
*NEIC **10** 16:31:52.7,34.57N×25.31E,h31^{km},MD3.6(ATH),After ATH.*
*CSEM **10** 16:31:55.2±0.2,34.80N×25.29E,h12^{km},MD3.6,Error ellipse: s-maj=6.1km s-min=3.2km az=177.0*
ISC 10 16:31:52.9±1.7**,34.6N**±0.1×**25.34E**±0.09**,h20**^{km}±15^{km}**, n16,**σ**0**^{s}**66**/18**,Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	Khrisi	0.41	45	ePB	Pb	16 32 02.0	+0.6
NPS	Neapolis	0.71	18	ePB	Pb	16 32 06.1	-0.4
NPS				eSN	Sn	16 32 18.7	+0.5
GVD	Gavdhos	1.06	284	ePN	Pn	16 32 13.5	+0.8
VAM	Vamos	1.25	312	ePN	Pn	16 32 15.8	+0.4
VAM				eSN	Sn	16 32 32.4	+0.8
KARP	Karpathos	1.78	57	ePB	Pb	16 32 24.9	+0.3
THR1	Thera Island	1.79	3	eP	Pn	16 32 22.9	-0.2
SANT	Santorini	1.79	3	eP	Pn	16 32 22.0	-1.1
SANT	Santorini	1.79	3	eP	Pn	16 32 22.0	-1.1
THR3	Thira Island,	1.82	2	eP	Pn	16 32 23.8	+0.1
THR5	Thira Island,	1.83	0	eP	Pn	16 32 23.7	0.0
THR4	Thira Island,	1.87	1	eP	Pn	16 32 24.8	+0.5
APE	Apeiranthos	2.49	4	ePN	Pn	16 32 32.9	-0.2
ARG	Arkhangelos	2.80	54	ePN	Pn	16 32 37.6	0.0
VLI	Veliai	2.89	318	ePN	Pn	16 32 37.1	-1.8
AGG	Agios Georgios	5.04	332	eP	Pn	16 33 09.2	-0.3
AGG	Agios Georgios	5.04	332	eP	Pn	16 33 09.1	-0.3

*ATH **10** 16:39:59.8,39.12N×23.23E,h19^{km}±1^{km},MD3.1/11, ML3.1*
*NEIC **10** 16:39:59.8,39.12N×23.23E,h19^{km},ML3.1(ATH),After ATH.*
*THE **10** 16:40:00.4,39.07N×23.23E,h8^{km},ML3.2*
*CSEM **10** 16:40:00.7±0.1,39.09N×23.24E,h15^{km},ML3.1,Error ellipse: s-maj=2.0km s-min=1.3km az=87.0*
ISC 10 16:40:00.1±0.5**,39.09N**±0.02×**23.24E**±0.04**,h14**^{km}±4^{km}**, n21,**σ**0**^{s}**91**/30**,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	Neokhori	0.21	357	⇑iPB	Pb	16 40 05.3	0.0
NEO				eSB	Sb	16 40 08.3	-0.3
XOR	Xorichti	0.28	353	ePg	Pg	16 40 06.3	+0.1
XOR				eSg	Sg	16 40 10.9	+0.6
LKR	Lokris	0.48	203	ePN	Pn	16 40 09.6	-2.6
LKR				eSN	Sn	16 40 16.5	-3.7
AOS	Alonnisos	0.51	81	ePg	Pg	16 40 10.5	-0.1
AOS				eSg	Sg	16 40 17.5	0.0
AGG	Agios Georgios	0.71	265	ePg	Pg	16 40 13.2	-1.3
AGG				eSg	Sg	16 40 24.2	0.0
PAIG	Paliouri	0.90	22	ePg	Pg	16 40 18.5	+0.2
PAIG				eSg	Sg	16 40 30.6	+0.2
MPAR	Parnis Oros	1.02	157	ePN	Pn	16 40 20.4	+0.5
EVR	Evrytania	1.13	261	ePN	Pn	16 40 21.9	+0.5
PTL	Penteli	1.15	155	ePN	Pn	16 40 22.2	+0.4
LIT	Litokhoron	1.16	330	ePb	Pb	16 40 21.7	+0.2
LIT				eSb	Sb	16 40 39.5	+3.3
ATH	Athens Observa	1.18	161	ePN	Pn	16 40 23.0	+0.8
ATH				eSN	Sn	16 40 38.6	+0.6
NSAL	Nisos Salamina	1.20	171	ePN	Pn	16 40 22.5	+0.1
PLG	Polygyros	1.29	7	⇑iPN	Pn	16 40 23.8	0.0
PLG				eSN	Sn	16 40 40.0	-0.8
NAIG	Nisos Aigina	1.35	171	ePN	Pn	16 40 25.0	+0.4
OUR	Ouranopolis	1.37	25	ePb	Pb	16 40 25.4	+0.4
KZN	Kozani	1.66	317	ePN	Pn	16 40 29.7	+0.7
SOH	Sokhos	1.73	3	ePb	Pb	16 40 30.7	-0.5
SRS	Serrai	2.04	8	ePn	Pn	16 40 34.5	-0.1
VLS	Valsamata	2.27	247	ePN	Pn	16 40 39.5	+1.8
NVR	Nevrokopi	2.31	12	ePB	Pb	16 40 38.4	-2.6
VLI	Veliai	2.38	186	ePB	Pb	16 40 41.0	-1.3

*IDC **10** 16:48:45.5±2.8,22.20S×173.12E,mb4.0/7,mb1 4.1/7, mb1mx4.0/13,MS3.3/3,Ms1 3.3/3,ms1mx3.1/17,Error ellipse: s-maj=105.0km s-min=27.5km az=147.0*
ISC 10 16:48:48.7±6.5**,22.3S**±0.2×**173.0E**±0.1**,h30**^{km}±44^{km}**,n13,** σ**0**^{s}**77**/11**,mb3.9**/7**,MS3.2**/3**,2C,Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	6.11	271	eP	Pn	16 50 19.4	-0.1
DZM				eS	Sn	16 51 29.0	-0.1
RPZ	Rata Peaks	21.45	184	LR	LR	17 00 26.1	
	comp=Z,96nm,18.5s,MS3.2,baz=238,slow=32						
CTA	Charters Tower	25.05	270	P	P	16 54 13.9	+1.7
	7.2nm,1.1s,mb4.1,baz=90,slow=14,SNR=5.6						
CTA				LR	LR	17 02 20.3	
	comp=Z,69nm,20.4s,MS3.1,baz=25,slow=32						
STKA	Stephens Creek	29.49	244	P	P	16 54 52.2	-0.5
	1.1nm,0.7s,mb3.7,baz=80,slow=7.8,SNR=5.0						
ASAR	Alice Springs	35.98	260	P	P	16 55 48.6	-0.5
	0.5nm,0.4s,mb3.8,baz=78,slow=8.9,SNR=40						
ASAR				LR	LR	17 08 56.2	
	comp=Z,37nm,20.6s,MS3.1,baz=21,slow=34						
WRA	Warramunga Arr	36.11	266	P	P	16 55 48.9	-1.3
	0.3nm,0.3s,mb3.6,baz=101,slow=8.8,SNR=13						
FITZ	Fitzroy Crossi	44.54	266	P	P	16 57 00.7	+0.7
	1.6nm,0.4s,mb4.2,baz=96,slow=4.7,SNR=14						
VNA3	Neumayer Olymp	86.72	179		P	17 01 37.3	+6.8
VNA2	Neumayer--Watz	87.06	180	⇑i	P	17 01 32.5	+0.3
VNA2	Neumayer--Watz	87.06	180	⇑i	PcP	17 01 43.2	+8.6
SONM	Songino Array	91.78	322	P	P	17 01 55.3	+0.4
	0.2nm,0.4s,mb3.8,baz=117,slow=3.2,SNR=3.7						
ILAR	Eielson Array	92.10	16	P	P	17 01 55.4	-0.6
	0.7nm,0.8s,mb4.1,baz=235,slow=5.5,SNR=5.7						
EKA	Eskdalemuir Ar	146.86	356	PKPbc	PKPbc	17 08 28.8	+1.3
	1.0nm,0.6s,baz=342,slow=2.6,SNR=5.0						

MEX 10 16:55:59.6±1.4**,16.00N**×**97.71W,h11**^{km}±14^{km}**,MD3.8,1D, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.56	314	⇓iP	Pb	16 56 08.9	-2.0
PNIG				i S	Sg	16 56 16.7	-1.9
VHO	Vista Hermosa	1.42	41	i P	Pn	16 56 21.3	-4.1
VHO				i S	Sb	16 56 38.0	-5.4
OXX	Oaxaca	1.43	41	i P	Pn	16 56 21.8	-3.8
OXX				i S	Sb	16 56 38.8	-5.1
HUIG	Huatulco	1.56	98	eP	Pn	16 56 24.1	-3.3
HUIG				eS	Sb	16 56 43.0	-4.5
CMIG	Matias Romero	2.92	68	eP	Pn	16 56 43.0	-3.8
CMIG				i S	Sn	16 57 18.5	-3.6
PLIG	Platanillo	2.94	324	i P	Pn	16 56 47.2	+0.1
PLIG				i S	Sn	16 57 16.1	-6.5

*IDC **10** 17:09:16.2±2.2,11.19S×161.41E,mb3.8/6,mb1 4.1/7, mb1mx4.0/15,ML4.5/1,MS3.7/8,Ms1 3.7/8,ms1mx3.5/16, Error ellipse: s-maj=78.1km s-min=25.4km az=124.0*
*NEIC **10** 17:09:35.4±5.8,11.53S×161.43E,h168^{km}±48^{km},mb4.4/1, Error ellipse: s-maj=38.6km s-min=16.6km az=97.0*
ISC 10 17:09:36.1±6.2**,11.6S**±0.1×**161.3E**±0.3**,h185**^{km}±51^{km}**, n16,**σ**0**^{s}**58**/12**,mb3.6**/7**,Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAU	Wau	14.99	285	P	P	17 13 00.0	-0.1
CTA	Charters Tower	16.76	238	P	P	17 13 21.9	+0.2
	1.2nm,0.3s,baz=63,slow=14,SNR=16						
CTA				LR	LR	17 18 48.6	
	comp=Z,124nm,21.3s,baz=45,slow=34						
CTA	Charters Tower	16.76	238	P	P	17 13 21.9	+0.2
CTA				LR	LR	17 18 48.6	
CTAO	Charters Tower	16.76	238	eP	P	17 13 22.4	+0.7
	47nm,1.0s						
STKA	Stephens Creek	27.17	219	P	P	17 15 05.0	+0.6
	1.1nm,0.6s,mb3.7,baz=45,slow=11,SNR=5.0						
STKA				LR	LR	17 26 11.3	
	comp=Z,230nm,18.8s,baz=27,slow=37						
WRAB	Tennant Creek	27.21	249	eP	P	17 15 05.1	+0.2
WRA	Warramunga Arr	27.22	249	P	P	17 15 04.3	-0.7
	0.9nm,0.6s,mb3.6,baz=78,slow=9.2,SNR=9.1						
ASAR	Alice Springs	28.69	242	P	P	17 15 17.4	-0.7
	0.4nm,0.6s,mb3.4,baz=70,slow=9.6,SNR=12						
ASAR				LR	LR	17 26 02.2	
	comp=Z,113nm,18.3s,baz=44,slow=35						
URZ	Urewera	30.09	155	LR	LR	17 26 04.6	
	comp=Z,88nm,20.6s,baz=253,slow=33						
SONM	Songino Array	76.58	325	P	P	17 21 07.2	-0.4
	0.8nm,0.7s,mb3.5,baz=136,slow=6.0,SNR=6.7						
QSPA	South Pole Qui	78.42	180	eP	P	17 21 16.9	-0.3
	8.5nm,1.2s,mb4.2						
ILAR	Eielson Array	85.44	20	P	P	17 21 53.3	-0.3
	0.4nm,0.6s,mb3.3,baz=239,slow=5.4,SNR=7.1						
ILAR				LR	LR	17 55 37.4	
	comp=Z,34nm,19.3s,baz=180,slow=33						
DLBC	Dease Lake	88.98	29	LR	LR	17 55 20.6	
	comp=Z,61nm,21.3s,baz=107,slow=31						
MKAR	Makanchi Array	90.96	318	P	P	17 22 21.4	+1.3
	0.7nm,0.8s,mb3.8,baz=89,slow=5.9,SNR=4.4						
INK	Inuvik	91.85	20	LR	LR	17 56 11.2	
	comp=Z,63nm,21.6s,baz=288,slow=31						
TXAR	Lajitas Array	99.91	62	LR	LR	18 02 35.7	
	comp=Z,44nm,20.9s,baz=15,slow=32						

IDC 10 17:37:11.8±1.7**,19.58N**×**94.29E,mb3.3**/3**,mb1 3.5**/4**, mb1mx3.3**/19**,ML3.6**/1**,1D,Error ellipse: s-maj=47.4km s-min=23.9km az=54.0,Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHG	Chiang Mai	4.47	99	⇓P	Pg	17 38 37.7	-3.3
	33nm,0.8s						
CMAR	Chiang Mai Arr	4.54	103	Pn	Pn	17 38 20.8	-2.7
	0.7nm,0.3s,baz=282,slow=14,SNR=8.6						
CMAR				Pg	Pb	17 38 34.4	+2.1
	0.6nm,0.3s,baz=282,slow=18,SNR=6.3						
CMAR				Lg		17 39 22.8	
	0.9nm,0.3s,baz=282,slow=33,SNR=5.3						
BDT	Bhumibol Dam	5.04	117	P	Pb	17 38 43.0	+2.1
MKAR	Makanchi Array	28.87	343	P	P	17 43 11.7	-2.4
	0.5nm,0.8s,baz=157,slow=9.0,SNR=2.5						
WRA	Warramunga Arr	55.52	133	P	P	17 46 50.4	-0.9
	0.2nm,0.8s,baz=325,slow=7.3,SNR=6.6						
ASAR	Alice Springs	57.79	136	P	P	17 47 04.4	-3.1
	0.2nm,0.5s,baz=318,slow=7.2,SNR=7.3						

MEX 10 17:42:53.2±0.4**,16.09N**×**97.71W,h16**^{km}±15^{km}**,MD3.5, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.50	307	i P	Pb	17 43 01.6	-1.5
PNIG				i S	Sb	17 43 07.9	-1.9
VHO	Vista Hermosa	1.36	44	i P	Pn	17 43 13.9	-3.7
VHO				i S	Sb	17 43 30.2	-4.5
OXX	Oaxaca	1.37	44	i P	Pn	17 43 14.3	-3.5
OXX				i S	Sb	17 43 31.1	-4.0

*TAP **10** 17:44:33.7,24.41N×122.81E,h14^{km}±1^{km},ML3.0*
JMA 10 17:44:33.7±0.1**,24.35N**×**123.00E,h47**^{km}±2^{km}**,M2.5, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.11	5	P	P	17 44 41.1	0.0
YOJ				S	S	17 44 46.3	-0.2
IRIF	Iriomote-Funau	0.67	91	P	P	17 44 46.8	-0.1
IRIF				S	S	17 44 56.7	+0.1
HATJ	Hateruma jima	0.79	112	P	P	17 44 48.5	-0.1
JKRS	Kuro-shima	0.93	97	P	P	17 44 50.7	+0.2
JKRS				S	S	17 45 03.7	+0.7
JIJ	Ishigaki jima	1.04	89	P	P	17 44 51.9	-0.2
JIJ				S	S	17 45 05.1	-0.7
JTJ	Tarama	1.58	79	P	P	17 44 59.6	-0.2
JTJ				eS	S	17 45 19.0	-0.1

MAN 10 17:58:32.2,13.75N×**120.51E,h85**^{km}**,mb4.1,ML2.9, MS2.6,1C-1D,Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.26	268	eP	P	17 58 46.6	+1.7
LUBP				eS	S	17 58 57.3	+2.9
TGY	Tagaytay City	0.54	49	⇑iP	P	17 58 48.6	+1.6
TGY				i S	S	17 59 00.6	+2.6
LQP	Lukban	1.06	70	⇓iP	P	17 58 53.4	+0.8
BOAC	Boac	1.33	102	eP	P	17 58 56.4	+0.3
BOAC				eS	S	17 59 15.8	+2.2
SJMP	San Jose	1.41	155	eP	P	17 58 57.8	+0.7
SJMP				eS	S	17 59 16.6	+1.2
POLP	Polilio Island	1.69	55	eP	P	17 59 00.7	0.0
BUSP	Coron	1.76	190	eP	P	17 59 01.5	-0.1
BUSP				eS	S	17 59 23.9	+0.7
OTRP	Odiongan	2.01	133	eP	P	17 59 05.2	+0.2
OTRP				eS	S	17 59 29.7	+0.5

IDC 10 18:03:08.0±8.5**,35.07S**×**179.67W,h108**^{km}±82^{km}**, mb2.9**/2**,mb1 3.2**/2**,mb1mx3.1**/10**,Error ellipse: s-maj=89.2km s-min=55.3km az=165.0,East of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	4.10	218	P	P	18 04 08.8	-1.2
	baz=60,slow=4.5						
URZ				S	S	18 04 56.2	-1.0
	baz=298,slow=22,SNR=1.6						
ASAR	Alice Springs	41.69	273	P	P	18 10 45.9	-1.7

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	0.3nm,0.7s,baz=117,slow=7.5,SNR=6.5						
WRA	Warramunga Arr	43.10	278	P	P	18 10 57.9	-1.3
	0.2nm,0.4s,baz=118,slow=7.6,SNR=5.7						
FINES	FINESS Array B	148.94	336	PKPbc	PKPdf	18 22 41.9	+3.8
	1.2nm,0.8s,slow=3.8,SNR=5.5						

IDC 10 18:05:59.3±7.4, 23.73S×176.73W, mb3.8/4, mb1 4.0/4, mb1mx3.8/14, Error ellipse: s-maj=231.0km s-min=94.2km az=146.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	34.48	269	P	P	18 12 50.8	-0.4
	4.5nm,1.0s,baz=105,slow=14,SNR=6.5						
ASAR	Alice Springs	45.02	260	P	P	18 14 16.4	-2.3
	0.2nm,0.5s,baz=89,slow=6.9,SNR=7.8						
WRA	Warramunga Arr	45.41	265	P	P	18 14 18.6	-3.2
	0.2nm,0.3s,baz=103,slow=8.4,SNR=6.2						
CMAR	Chiang Mai Arr	92.29	289	P	P	18 19 12.3	-0.9
	0.4nm,0.4s,baz=114,slow=5.2,SNR=5.4						

CASC 10 18:14:10.6±1.9, 11.25N×87.16W, h27^{km}±16^{km}, MD4.3, 7C-4D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	Copaltepe	1.08	31	⇓eP	Pn	18 14 29.9	-0.2
COPN				eS	Sb	18 14 44.8	+0.5
LEON	Leon	1.19	12	⇑eP	Pn	18 14 31.9	+0.2
LEON				eS	Sn	18 14 47.9	+0.9
TICN	Ticuantepe	1.19	49	eP	Pn	18 14 30.9	-0.8
TICN				eS	Sn	18 14 52.1	+4.9
XAVN	Gruta Xavier	1.21	42	⇓eP	Pn	18 14 31.3	-0.7
APON	Apoyo	1.26	58	eP	Pn	18 14 31.7	-0.9
APYN	Apoyeque	1.26	39	eP	Pn	18 14 32.0	-0.6
MGAN	Managua	1.26	45	⇑eP	Pn	18 14 31.7	-1.0
MGAN				eS	Sn	18 14 49.2	+0.4
MIRN	Miramar	1.26	20	⇓eP	Pn	18 14 32.6	-0.1
MOMJ	Momotombo	1.30	28	⇑eP	Pn	18 14 33.0	-0.3
MOMJ				eS	Sn	18 14 50.9	+1.0
WILN	Americas 2	1.31	46	⇑eP	Pn	18 14 32.3	-1.2
WILN				eS	Sn	18 14 50.5	+0.3
CNGN	Cerro Negro	1.32	20	eP	Pn	18 14 32.7	-0.9
TEL3	Telica 3	1.35	13	⇑eP	Pn	18 14 34.1	+0.2
PYTN	Playitas	1.67	40	⇑eP	Pn	18 14 37.4	-1.2
PYTN				eS	Sn	18 15 00.9	+1.6
VCR	Vista de Mar	1.87	127	eP	Pn	18 14 41.2	-0.2
QUIN	Quiabu	2.00	21	⇑eP	Pn	18 14 42.8	-0.5
CNCH	Conchagua	2.12	342	eP	Pn	18 14 44.9	-0.2
JCR	Jicaral	2.44	124	eP	Pn	18 14 48.5	-1.1
FORC	Fortuna	2.56	107	eP	Pn	18 14 53.8	+2.5
SNVI	San Vicente	2.87	325	eP	Pn	18 14 56.2	+0.5
SNVI				eS	Sn	18 15 28.8	-0.9
CGA2	Cerro Gallo 2	2.91	115	eP	Pn	18 14 54.9	-1.5
LCBS	La Ceiba	2.98	324	eP	Pn	18 14 57.1	-0.2
LCBS				eS	Sn	18 15 31.9	-0.7
LFRS	El Faro	3.01	322	⇓eP	Pn	18 14 57.6	-0.1
LFRS				eS	Sn	18 15 31.9	-1.2
PRS1	Puriscal	3.06	114	eP	Pn	18 14 59.0	+0.5
LAJ	Bijagual	3.29	114	eP	Pn	18 14 56.0	-5.6
LCR2	La Lucha 2	3.44	115	eP	Pn	18 15 03.3	-0.5
TRTC	Tortuguero	3.45	101	eP	Pn	18 15 00.3	-3.6
ICR	Volcan Irazu	3.50	111	eP	Pn	18 15 05.2	+0.5
SBLS	San Blas	3.53	317	eS	Sn	18 15 46.0	-0.3
URSC	Urasca	3.61	113	eP	Pn	18 15 06.8	+0.6

*IDC **10** 18:20:39.1±2.1, 16.39S×167.44E, mb4.1/7, mb1 4.4/7, mb1mx4.1/16, MS3.6/2, Ms1 3.6/2, ms1mx3.1/23, Error ellipse: s-maj=79.7km s-min=24.4km az=141.0*

*NEIC **10** 18:20:43.0±8.7, 16.44S×167.41E, h25^{km}±60^{km}, mb4.2/2, Error ellipse: s-maj=31.6km s-min=19.1km az=198.0*

ISC 10 18:20:44.0±3.3, 16.6S±0.1×167.3E±0.2, h43^{km}±30^{km}, n14, σ0^{s}96/15, mb4.0/8, MS3.5/2, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	5.50	189	eP	P	18 22 05.8	+0.3
DZM				eS	S	18 23 07.7	-0.6
NOUC	Port Laguerre	5.55	190	eP	P	18 22 06.6	+0.4
NOUC				eS	S	18 23 09.0	-0.6
NOUC	Port Laguerre	5.55	190	eP	P	18 22 06.6	+0.4
NOUC				eS	S	18 23 09.0	-0.6
CTA	Charters Tower	20.30	257	P	P	18 25 20.3	+1.3
	15nm,0.9s,baz=86,slow=11,SNR=9.8						
STKA	Stephens Creek	27.85	232	P	P	18 26 33.0	+1.2
	5.3nm,0.9s,mb4.2,baz=27,slow=7.8,SNR=9.3						
WRAB	Tennant Creek	31.46	259	P	P	18 27 02.7	-1.3
	3.0nm,0.7s,mb4.2						
WRA	Warramunga Arr	31.47	259	P	P	18 27 02.8	-1.3
	2.2nm,0.9s,mb4.0,baz=88,slow=8.4,SNR=15						
ASAR	Alice Springs	32.10	252	P	P	18 27 09.3	-0.2
	13nm,0.8s,mb4.8,baz=78,slow=8.3,SNR=108						
ASAR				LR	LR	18 39 18.3	
	comp=Z,107nm,19.6s,MS3.5,baz=27,slow=35						
FITZ	Fitzroy Crossi	39.76	262	P	P	18 28 14.6	+0.1
	4.2nm,0.8s,mb4.2,baz=88,slow=5.6,SNR=8.3						
FITZ				LR	LR	18 44 44.7	
	comp=Z,66nm,18.7s,MS3.5,baz=163,slow=36						
QSPA	South Pole Qui	73.43	180	eP	P	18 32 14.5	+1.4
	2.2nm,1.0s,mb4.0						
SONM	Songino Array	84.03	324	P	P	18 33 11.9	+0.6
	0.3nm,0.7s,mb3.5,baz=108,slow=4.6,SNR=3.3						
ILAR	Eielson Array	88.29	18	P	P	18 33 30.2	-1.5
	0.1nm,0.4s,mb3.4,baz=320,slow=34,SNR=4.6						
ARCES	ARCESS Array B	122.07	345	PKP	PKPdf	18 39 35.0	+1.3
	3.2nm,0.9s,slow=27,SNR=3.0						
ARCES	ARCESS Array B	122.07	345	PKP	PKPdf	18 39 35.0	+1.3

*IDC **10** 18:35:46.3±4.2, 53.09S×160.05E, mb4.3/7, mb1 4.5/7, mb1mx4.4/10, MS3.6/4, Ms1 3.5/4, ms1mx3.3/16, Error ellipse: s-maj=123.0km s-min=29.0km az=86.0*

*NEIC **10** 18:35:47.7±1.2, 53.11S×160.09E, h10^{km}, mb4.2/1, Error ellipse: s-maj=43.2km s-min=11.0km az=77.0*

ISC 10 18:35:47.8±1.3, 53.1S±0.1×159.6E±0.5, h10^{km}, n15, σ0^{s}96/14, mb4.3/8, MS3.5/3, 2C-1D, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	Rata Peaks	12.07	44	LR	LR	18 42 40.3	
	comp=Z,287nm,21.1s,baz=76,slow=35						
STKA	Stephens Creek	24.87	321	P	P	18 41 12.8	+1.2
	9.2nm,0.9s,mb4.3,baz=152,slow=11,SNR=10						
STKA	Stephens Creek	24.87	321	P	P	18 41 12.8	+1.2
SBA	Scott Base	25.01	176	P	P	18 41 09.6	-2.9
CASY	Casey	27.21	222	P	P	18 41 33.2	+0.2
CTA	Charters Tower	34.51	338	P	P	18 42 38.0	-0.1
	6.3nm,1.0s,mb4.5,baz=176,slow=12,SNR=6.3						
CTA				LR	LR	18 54 54.0	
	comp=Z,90nm,18.4s,MS3.5,baz=221,slow=33						
ASAR	Alice Springs	35.23	316	P	P	18 42 44.0	-0.2
	14nm,1.1s,mb4.8,baz=150,slow=7.9,SNR=91						
ASAR				LR	LR	18 55 44.8	
	comp=Z,74nm,19.8s,MS3.4,baz=153,slow=34						
QSPA	South Pole Qui	37.03	180	eP	P	18 42 58.1	-0.8
	4.1nm,0.9s,mb4.3						
WRA	Warramunga Arr	38.40	320	P	P	18 43 09.7	-1.3
	6.6nm,1.1s,mb4.3,baz=154,slow=7.4,SNR=23						
FITZ	Fitzroy Crossi	43.76	310	P	P	18 43 54.8	-0.2
	4.2nm,0.8s,mb4.2,baz=173,slow=11,SNR=8.6						
MAW	Mawson	44.79	213	P	P	18 44 02.3	-0.5
	1.5nm,0.8s,mb3.9,baz=112,slow=9.7,SNR=4.9						
MAW				LR	LR	19 00 36.1	
	comp=Z,62nm,20.7s,MS3.5,baz=62,slow=33						
VNA3	Neumayer Olymp	55.74	184	⇑i	P	18 45 27.0	+0.8
VNA2	Neumayer--Watz	55.95	185	⇑i	P	18 45 28.1	+0.5
VNA1	Neumayer--Stat	56.26	185	⇓i	P	18 45 31.6	+1.7
CMAR	Chiang Mai Arr	88.29	304	P	P	18 48 40.9	+0.2
	1.1nm,1.0s,mb4.0,baz=190,slow=5.5,SNR=4.9						

IDC 10 18:39:35.8±5.8, 5.87S×127.92E, h400^{km}±64^{km}, mb3.1/2, mb1 3.2/4, mb1mx2.9/13, Error ellipse: s-maj=122.0km s-min=28.0km az=62.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	15.32	157	P	P	18 42 51.9	-2.0
	0.7nm,0.3s,baz=335,slow=11,SNR=71						
ASAR	Alice Springs	18.61	163	P	P	18 43 26.8	-0.3
	0.4nm,0.3s,baz=344,slow=12,SNR=29						
ASAR				PcP	PcP	18 47 35.0	-2.4
	0.0nm,0.3s,baz=358,slow=1.6,SNR=5.1						
STKA	Stephens Creek	28.86	155	P	P	18 44 59.7	-1.7
	0.8nm,0.4s,baz=337,slow=9.3,SNR=4.4						
MKAR	Makanchi Array	66.16	328	P	P	18 49 42.0	-1.7
	0.5nm,0.5s,baz=112,slow=8.8,SNR=6.4						

*IDC **10** 18:54:37.1±1.4, 27.38N×103.82E, mb3.2/4, mb1 3.4/4, mb1mx3.3/18, Error ellipse: s-maj=87.6km s-min=24.0km az=64.0*

*BJI **10** 18:54:38.2, 27.07N×103.75E, h20^{km}, ML3.6, Ms3.4, Msz3.3*

ISC 10 18:54:40.2±0.8, 27.46N±0.07×103.73E±0.09, h33^{km}, n7, σ0^{s}94/13, mb3.3/3, 1D, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	Kunming	2.49	201	eP	P	18 55 15.3	-3.9
KMI				PG	P	18 55 19.7	+0.5
KMI				SG	S	18 55 49.2	+0.4
KMI				Smax			
	comp=N,98nm,0.9s						
KMI				Smax			
	comp=E,68nm,0.9s						
GYA	Guiyang	2.81	110	⇓iP	P	18 55 25.0	+1.3
GYA				S	S	18 55 57.0	+0.2
GYA				SG	S	18 56 07.2	+10
GYA				Smax			
	comp=N,190nm,0.6s						
GYA				Smax			
	comp=E,150nm,0.6s						
CD2	Chengdu	3.44	0	PG	P	18 55 45.8	+13
CD2				S	S	18 56 24.6	+12
CD2				SG	S	18 56 35.1	+22
CD2				Smax			
	comp=N,175nm,0.8s						
CD2				Smax			
	comp=E,340nm,0.8s						
CD2				LR	LR		
	comp=E,340nm,5.7s						
CD2				LR	LR		
	comp=Z,110nm,6.2s						
SONM	Songino Array	20.45	5	P	P	18 59 17.2	-0.2
	comp=Z,1.1nm,1.1s,baz=192,slow=11,SNR=3.9						
MKAR	Makanchi Array	25.63	325	P	P	19 00 09.2	+0.8
	comp=Z,0.4nm,0.5s,mb3.2,baz=139,slow=13,SNR=6.2						
WRA	Warramunga Arr	55.67	145	P	P	19 04 14.4	-1.3
	comp=Z,0.3nm,0.9s,mb3.3,baz=334,slow=8.3,SNR=5.9						
ASAR	Alice Springs	58.58	147	P	P	19 04 35.1	-1.3
	comp=Z,0.2nm,0.7s,mb3.3,baz=328,slow=7.0,SNR=4.0						

*IDC **10** 19:02:19.5±1.7, 11.50N×84.37W, mb4.0/4, mb1 4.5/4, mb1mx3.9/18, Error ellipse: s-maj=54.2km s-min=19.6km az=97.0*

*CASC **10** 19:02:23.6±3.0, 10.38N×86.28W, h13^{km}±12^{km}, MD4.4, mb4.2(NEIC)*

*NEIC **10** 19:02:29.1±1.4, 10.42N×85.51W, h99^{km}±12^{km}, mb4.2/6, Error ellipse: s-maj=44.8km s-min=15.4km az=50.0*

ISC 10 19:02:24.3±0.7, 10.30N±0.05×86.31W±0.05, h45^{km}±7^{km}, n53, σ0^{s}98/63, mb4.1/10, 13C-5D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCR	Vista de Mar	0.69	105	⇑iP	P	19 02 36.6	-1.2
LIM	Lima	1.11	69	⇑eP	P	19 02 41.9	-1.7
LIM				eS	S	19 02 57.4	-0.7
JCR	Jicaral	1.26	111	eP	P	19 02 44.7	-1.1
JTS	JuntasAbangare	1.34	90	Pn	P	19 02 45.5	-1.5
	0.2nm,0.3s,baz=307,slow=22,SNR=4.5						
JTS				Sn	S	19 03 05.0	+1.3
	0.2nm,0.3s,baz=325,slow=22,SNR=5.9						
JTS	JuntasAbangare	1.34	90	Pn	P	19 02 45.0	-2.0
	7μm,0.5s						
APON	Apoyo	1.62	8	eP	P	19 02 51.9	+1.0
FORC	Fortuna	1.62	84	⇑eP	P	19 02 51.0	0.0
MASN	Masaya	1.68	5	eP	P	19 02 52.3	+0.5
MASN				⇑eP		19 02 54.2	
TICN	Ticuantepe	1.72	3	eP	P	19 02 53.0	+0.7
MGAN	Managua	1.83	2	⇑eP	P	19 02 54.3	+0.4
XAVN	Gruta Xavier	1.83	359	⇑eP	P	19 02 54.6	+0.6
CGA2	Cerro Gallo 2	1.84	99	eP	P	19 02 54.0	0.0
WILN	Americas 2	1.85	4	⇑eP	P	19 02 54.4	+0.3
WILN				eS	S	19 03 23.3	+6.9
COPN	Copaltepe	1.88	352	⇓eP	P	19 02 55.2	+0.6
COPN				eS	S	19 03 16.4	-0.9
APYN	Apoyeque	1.92	359	⇓eP	P	19 02 55.8	+0.7
APYN				eS	S	19 03 18.0	-0.1
PRS1	Puriscal	1.99	99	eP	P	19 02 55.5	-0.7
VPS2	Volcan Poas 2	2.04	93	⇑iP	P	19 02 57.6	+0.7
MOMJ	Momotombo	2.10	354	eP	P	19 02 58.1	+0.4
MOMJ				eS	S	19 03 22.6	-0.2
MIRN	Miramar	2.16	350	eP	P	19 02 59.0	+0.5
MIRN				eS	S	19 03 24.0	-0.2
LEON	Leon	2.17	345	⇑eP	P	19 02 59.5	+0.7
LEON				eS	S	19 03 25.0	+0.4
LAJ	Bijagual	2.20	101	eP	P	19 02 55.0	-4.1
CNGN	Cerro Negro	2.21	350	⇑eP	P	19 02 59.8	+0.4
CNGN				eS	S	19 03 25.8	+0.1
PYTN	Playitas	2.23	6	⇑eP	P	19 02 59.5	-0.1
SJS	Escuela Geolog	2.25	99	eP	P	19 03 00.1	+0.2
TEL3	Telica 3	2.31	347	eP	P	19 03 01.7	+0.9
TEL3				eS	S	19 03 28.8	+0.6
LCR2	La Lucha 2	2.34	104	eP	P	19 03 01.0	-0.2
ICR	Volcan Irazu	2.46	97	eP	P	19 03 03.7	+0.8
URSC	Urasca	2.54	100	⇓eP	P	19 03 05.0	+1.1
TRTC	Tortuguero	2.57	84	⇓eP	P	19 03 03.6	-0.8
BUS	Buena Vista	2.62	106	eP	P	19 03 05.4	+0.3
LIO	Limon	3.24	95	i P	P	19 03 14.4	+0.5
CNCH	Conchagua	3.31	333	⇓eP	P	19 03 14.9	0.0
CNCH				eS	S	19 03 52.2	-1.2
LCBS	La Ceiba	4.23	322	⇑eP	P	19 03 27.6	-0.4
LFRS	El Faro	4.26	321	⇑eP	P	19 03 28.3	-0.1
LFRS				eS	S	19 04 15.1	-2.3
SBLS	San Blas	4.78	318	eP	P	19 03 36.1	+0.4
SBLS				eS	S	19 04 29.2	-1.4
JCT	Junction City	23.68	330	eP	P	19 07 33.6	+0.8
	5.1nm,0.6s,mb4.1						
SWET	Sewanee	24.80	1	eP	P	19 07 41.9	-1.7
LTX	Lajitas	24.94	322	eP	P	19 07 46.5	+1.5
	4.4nm,0.6s,mb4.2						
TXAR	Lajitas Array	24.94	322	P	P	19 07 46.4	+1.4
	2.9nm,0.5s,mb4.1,baz=139,slow=9.9,SNR=32						
TXAR				PcP	PcP	19 11 20.7	+0.2
	1.5nm,0.9s,baz=135,slow=5.3,SNR=11						
MIAR	Mount Ida	25.03	346	eP	P	19 07 45.0	-0.8
	8.4nm,0.7s,mb4.4						
CPCT	Cooper Cave	25.08	3	eP	P	19 07 47.3	+1.0
WMOK	Wichita Mounta	26.86	337	eP	P	19 08 00.3	-2.5
	12nm,0.8s,mb4.5						
CCM	Cathedral Cave	27.98	352	P	P	19 08 10.1	-3.0
SAML	Samuel	29.93	129	P	P	19 08 22.9	-7.6
ANMO	Albuquerque	30.66	326	eP	P	19 08 38.9	+2.1
	1.3nm,0.6s,mb3.9						
SDCO	Great Sand Dun	32.32	331	eP	P	19 08 51.9	+0.5
	2.8nm,0.6s,mb4.3						
PDAR	Pinedale Array	38.18	332	P	P	19 09 40.6	-0.6
	0.7nm,0.6s,mb3.6,baz=119,slow=9.3,SNR=6.6						
PDAR				PcP	PcP	19 11 56.0	+0.3
	1.1nm,1.0s,baz=146,slow=5.3,SNR=4.9						
NVAR	Mina Array Bea	40.05	320	P	P	19 10 00.2	+3.4
	4.3nm,0.9s,mb4.2,baz=127,slow=8.6,SNR=19						
NVAR				PcP	PcP	19 12 02.8	+1.1
	3.3nm,1.0s,baz=128,slow=4.6,SNR=8.0						
NVAR	Mina Array Bea	40.05	320	P	P	19 10 00.2	+3.4
NVAR				PcP	PcP	19 12 02.8	+1.1
ILAR	Eielson Array	68.42	336	P	P	19 13 22.0	-1.2
	0.9nm,1.0s,mb3.8,baz=128,slow=3.9,SNR=6.4						
ASAR	Alice Springs	139.46	246	PKhKP		19 21 50.0	
	0.5nm,1.0s,baz=108,slow=2.8,SNR=5.6						
WRA	Warramunga Arr	139.70	251	PKhKP		19 21 50.0	
	0.2nm,0.5s,baz=92,slow=2.5,SNR=6.8						
CMAR	Chiang Mai Arr	150.96	350	PKPbc	PKPdf	19 22 11.3	+4.1
	1.1nm,0.9s,baz=284,slow=3.7,SNR=3.5						

IDC 10 19:04:37.6±9.2, 17.37N×144.76E, mb3.3/3, mb1 3.5/3, mb1mx3.3/19, MS2.9/1, Ms1 2.9/1, ms1mx2.2/14, Error ellipse: s-maj=361.0km s-min=31.0km az=79.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	Kunigami	17.93	305	LR	LR	19 14 04.5	
	comp=Z,32nm,18.1s,baz=21,slow=32						
WRA	Warramunga Arr	38.46	196	P	P	19 12 00.9	-2.3
	0.5nm,0.8s,baz=18,slow=8.5,SNR=4.5						
ASAR	Alice Springs	42.14	195	P	P	19 12 32.3	-1.3
	0.2nm,0.7s,baz=14,slow=7.4,SNR=3.0						
SONM	Songino Array	43.64	323	P	P	19 12 44.0	-1.5
	0.3nm,0.6s,baz=121,slow=6.4,SNR=3.6						

DJA 10 19:16:36.1±1.2, 7.80S×114.13E, h8^{km}±2^{km}, MD4.9/4, ML3.7/1, 2C-5D, Error ellipse: s-maj=30.6km s-min=12.2km az=158.0, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KELI	Kelakatan	0.55	140	⇓iPn	Pn	19 16 47.2	-2.7
	608nm,0.2s						
KELI	Kelakatan	0.55	140	⇓iP	Pg	19 16 47.5	+0.3
SRDI	Scrawed	0.68	179	⇑iPn	Pn	19 16 49.2	-2.6
	62nm,0.2s						
RATI	Rata	1.67	124	⇓iPn	Pn	19 17 02.6	-3.3
	62nm,0.3s						
RATI				⇑iSn	Sn	19 17 22.4	-5.3
KEDI	Kedomdong	2.08	109	⇓iPn	Pn	19 17 08.7	-3.1
KEDI				⇓iSn	Sn	19 17 32.9	-5.3

IDC 10 19:16:54.0±4.2, 30.31S×177.30W, mb4.1/4, mb1 4.2/4, mb1mx3.9/13, Error ellipse: s-maj=148.0km s-min=40.9km az=151.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	34.38	279	P	P	19 23 44.3	-0.6
	5.5nm,0.8s,baz=111,slow=8.6,SNR=3.9						
STKA	Stephens Creek	35.09	257	P	P	19 23 49.0	-1.9
	2.6nm,1.1s,baz=127,slow=8.9,SNR=4.7						
ASAR	Alice Springs	43.72	267	P	P	19 25 00.7	-2.0
	0.3nm,0.3s,baz=105,slow=7.2,SNR=17						
WRA	Warramunga Arr	44.70	272	P	P	19 25 08.5	-2.2
	0.7nm,0.3s,baz=111,slow=8.1,SNR=62						
KAF	Kangasniemi	144.66	341	ep	PKPbc	19 36 31.0	-0.6
FINES	FINESS Array B	145.26	340	PKPbc	PKPbc	19 36 33.1	-0.1
	1.0nm,0.3s,baz=52,slow=4.6,SNR=22						
AKASG	Malin Array Be	151.59	323	PKPab	PKPab	19 36 55.8	-4.7
	0.7nm,0.6s,baz=42,slow=2.8,SNR=4.7						

*IDC **10** 19:22:36.2±4.3, 58.03N×155.00W, h76^{km}±39^{km}, mb3.3/7, mb1 3.7/10, mb1mx3.6/23, ML3.9/3, Error ellipse: s-maj=29.9km s-min=18.1km az=16.0*

*NEIC **10** 19:22:37.7, 57.85N×154.83W, h67^{km}, ML3.3(AEIC), After AEIC.*

ISC 10 19:22:35.4±0.5, 57.89N±0.05×154.92W±0.08, h87^{km}±3^{km}, n50, σ0^{s}87/56, mb3.4/6, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KABR	Katmai Barrier	0.25	354	P	P	19 22 48.0	-0.2
CAHL	Cahill	0.26	309	P	P	19 22 48.2	0.0
KJL	Kejulik	0.39	296	P	P	19 22 49.3	+0.3
ACHA	Angle Creek He	0.39	327	P	P	19 22 49.2	+0.2
ACHA				S	S	19 22 58.8	-0.5
KAWH	Katmai	0.50	7	P	P	19 22 49.7	-0.2
KAWH				S	S	19 22 59.7	-1.1
KAIC	Katmai Ikaglui	0.60	354	P	P	19 22 50.9	0.0
KAIC				S	S	19 23 02.0	-0.3
KAHC	Katmai Hardscr	0.77	357	P	P	19 22 52.5	0.0
KDAK	Kodiak Island	1.25	94	P	P	19 22 58.4	+0.1
KDAK				S	S	19 23 15.7	+0.3
MCNL	McNeil River	1.34	13	P	P	19 22 59.7	+0.3
AUI	Augustine Isla	1.65	28	P	P	19 23 04.1	+0.7
AUI				S	S	19 23 25.2	+1.2
AGU	Augustine-Summ	1.67	27	P	P	19 23 04.7	+1.1
AUW	Augustine West	1.67	26	P	P	19 23 04.6	+0.9
OPT	Oil Point	1.98	26	P	P	19 23 08.7	+1.0
IVS	Iliamna South	2.33	23	P	P	19 23 13.5	+0.9
ILW	Iliamna West	2.37	22	P	P	19 23 13.7	+0.6
ILIM	Iliamna	2.42	24	P	P	19 23 14.5	+0.6
CNPM	China Poot	2.53	48	P	P	19 23 15.5	+0.1
RSO	Redoubt South	2.81	22	eP	P	19 23 19.6	+0.2
BRLK	Bradley Lake	2.82	46	P	P	19 23 19.1	-0.4
RDN	Redoubt North	2.86	22	P	P	19 23 20.8	+0.8
NCT	North Crescent	2.87	20	P	P	19 23 20.8	+0.6
DFR	Drift River	2.95	22	P	P	19 23 21.9	+0.7
SLKM	Skilak Lake	3.57	41	P	P	19 23 27.8	-2.0
SPU	Mount Spurr	3.61	23	P	P	19 23 31.4	+1.0
MPA	Moose Pass	3.87	45	P	P	19 23 34.5	+0.5
STLK	Strandline Lak	3.95	22	P	P	19 23 35.5	+0.6
SDPT	Sand Point	3.99	233	P	P	19 23 32.8	-2.7
RC01	Rabbit Creek A	4.16	37	P	P	19 23 37.2	-0.8
LTI	Latouche	4.25	56	P	P	19 23 37.8	-1.3
BLHA	Black Hill	4.50	244	P	P	19 23 43.5	+0.9
PWA	Palmer West	4.55	32	eP	P	19 23 37.3	-6.1
HAG	Hague Volcano	4.64	239	P	P	19 23 45.7	+1.2
PMR	Palmer	4.73	36	eP	P	19 23 44.8	-1.0
TT01	Tatalina	5.07	354	P	P	19 23 50.4	0.0
TTA	Tatalina	5.09	354	eP	P	19 23 50.5	-0.2
TRF	Thorofare Moun	6.03	20	P	P	19 24 02.4	-1.1
THY	Trims Highway	7.14	35	P	P	19 24 17.9	-1.2
BALM	Baldy	7.14	58	P	P	19 24 17.5	-1.6
YAH	Yahtse	7.22	64	P	P	19 24 19.4	-0.7
ILAR	Eielson Array	7.91	26	P	P	19 24 26.4	-3.2
	0.7nm,0.3s,baz=216,slow=14,SNR=26						
ILAR				S	S	19 25 53.5	-4.6
	0.4nm,0.3s,baz=205,slow=17,SNR=7.0						
IM3	Indian Mountai	8.14	3	P	P	19 24 32.4	-0.3
INK	Inuvik	14.14	34	P	P	19 25 52.6	+0.3
	0.2nm,0.3s,baz=288,slow=7.9,SNR=3.7						
FX1	Attu Island--F	18.70	268	P	P	19 26 48.6	-0.4
	1.5nm,0.3s,baz=51,slow=19,SNR=7.6						
YKA	Yellowknife Ar	20.31	60	P	P	19 27 04.9	-1.2
	2.8nm,0.6s,baz=274,slow=10.0,SNR=8.2						
NVAR	Mina Array Bea	30.68	113	P	P	19 28 45.0	+1.3
	0.6nm,0.6s,mb3.5,baz=325,slow=7.9,SNR=4.5						
PDAR	Pinedale Array	31.97	98	P	P	19 28 55.1	+0.3
	0.4nm,0.6s,mb3.3,baz=313,slow=4.0,SNR=4.4						
TXAR	Lajitas Array	45.26	106	P	P	19 30 46.3	+0.7
	0.3nm,0.7s,mb3.2,baz=304,slow=4.5,SNR=4.6						
SONM	Songino Array	55.22	306	P	P	19 32 00.4	-0.7
	0.2nm,0.4s,mb3.5,baz=42,slow=5.6,SNR=6.0						
SONM				pP	pP	19 32 21.2	-1.5
	0.5nm,0.5s,baz=38,slow=7.3,SNR=4.7						
ESDC	Sonseca Array	79.80	22	P	P	19 34 36.1	+1.0
	0.6nm,0.5s,mb3.6,baz=346,slow=5.8,SNR=6.1						
CMAR	Chiang Mai Arr	82.81	293	P	P	19 34 50.3	-0.9
	0.4nm,0.6s,mb3.4,baz=18,slow=5.7,SNR=4.3						

CASC 10 19:25:01.7±2.8, 12.62N×88.92W, h26^{km}±24^{km}, MD3.6, 2C-2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNVI	San Vicente	0.99	5	eP	Pn	19 25 18.7	-1.2
SNVI				eS	Sb	19 25 29.4	-3.3
LFRS	El Faro	1.00	352	⇓eP	Pn	19 25 19.9	-0.3
VSM	San Miguel	1.02	38	eP	Pn	19 25 22.2	+1.7
VSM				eS	Sb	19 25 33.4	-0.2
LCBS	La Ceiba	1.03	357	⇓eP	Pn	19 25 20.1	-0.5
BLLM	Bellamira	1.05	39	eP	Pn	19 25 22.4	+1.5
BLLM				eS	Sb	19 25 36.3	+1.7
LFU	La Fuente	1.14	351	eP	Pn	19 25 21.8	-0.3
CAHU	Cacacuatique	1.34	31	⇑eP	Pn	19 25 25.6	+0.7
FORC	Fortuna	4.69	117	eP	Pn	19 26 10.3	-2.4
FORC				eS	Sn	19 27 06.0	-0.9
TRTC	Tortuguero	5.50	111	eP	Pn	19 26 23.7	-0.4
LCR2	La Lucha 2	5.61	120	eP	Pn	19 26 23.7	-2.0
ICR	Volcan Irazu	5.64	117	⇑eP	Pn	19 26 24.3	-1.8
URSC	Urasca	5.76	118	eP	Pn	19 26 24.7	-3.1

CASC 10 19:30:44.8±2.6, 11.28N×86.84W, h59^{km}±70^{km}, MD4.1, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	El Crucero	0.88	37	eP	P	19 31 01.2	-0.1
COPN	Copaltepe	0.93	15	eP	P	19 31 01.5	-0.5
TICN	Ticuantepe	0.95	38	eP	P	19 31 01.4	-1.1
MASN	Masaya	0.97	44	eP	P	19 31 01.5	-1.2

XAVN	Gruta Xavier	1.00	30	eP	P	19 31 02.5	-0.5
MGAN	Managua	1.04	34	eP	P	19 31 02.8	-0.8
APYN	Apoyeque	1.06	27	eP	P	19 31 03.3	-0.6
APYN				eS	S	19 31 20.2	+2.2
LEON	Leon	1.13	357	eP	P	19 31 04.5	-0.3
MIRN	Miramar	1.16	6	eP	P	19 31 05.0	-0.1
MOMJ	Momotombo	1.16	15	eP	P	19 31 04.6	-0.5
CNGN	Cerro Negro	1.22	6	eP	P	19 31 05.8	-0.3
TEL3	Telica 3	1.28	360	eP	P	19 31 06.8	-0.2
CRIN	San Cristobal	1.43	352	eP	P	19 31 09.1	+0.1
PYTN	Playitas	1.46	31	eP	P	19 31 08.7	-0.8
VCR	Vista de Mar	1.65	134	eP	P	19 31 10.9	-1.1
CNCH	Conchagua	2.21	334	eP	P	19 31 19.5	-0.3
CNCH				eS	S	19 31 48.7	+2.7
JCR	Jicaral	2.21	130	eP	P	19 31 18.5	-1.5
JCR				eS	S	19 31 57.0	+11
CGA2	Cerro Gallo 2	2.65	118	eP	P	19 31 27.6	+1.5
PRS1	Puriscal	2.80	117	eP	P	19 31 29.6	+1.4
LAJ	Bijagual	3.02	118	eP	P	19 31 27.3	-4.1
TRTC	Tortuguero	3.15	103	eP	P	19 31 30.3	-2.9
TRTC				eS	S	19 32 16.8	+7.1
LCBS	La Ceiba	3.15	319	eP	P	19 31 32.1	-1.2
LCBS				eS	S	19 32 09.0	-0.9
LCR2	La Lucha 2	3.18	118	eP	P	19 31 33.9	+0.3
LFRS	El Faro	3.18	317	eP	P	19 31 33.0	-0.7
LFRS				eS	S	19 32 10.1	-0.6
ICR	Volcan Irazu	3.23	113	eP	P	19 31 34.5	+0.3
URSC	Urasca	3.33	115	eP	P	19 31 36.9	+1.1
BUS	Buena Vista	3.48	119	eP	P	19 31 37.2	-0.6

*CASC **10** 19:47:04.7±3.5, 10.79N×87.02W, h4^{km}±15^{km}, MD4.4, mb4.2(NEIC)*
*IDC **10** 19:47:07.3±1.7, 12.08N×85.47W, mb3.9/4, mb1 4.2/4, mb1mx3.8/17, MS3.1/2, Ms1 3.1/2, ms1mx2.7/23, Error ellipse: s-maj=169.0km s-min=26.4km az=45.0*
*NEIC **10** 19:47:08.3±7.0, 11.92N×85.62W, h12^{km}±46^{km}, mb4.2/2, Error ellipse: s-maj=40.6km s-min=9.5km az=55.0*
ISC 10 19:47:03.9±1.9, **10.74N**±0.05×**87.07W**±0.05, **h7**^{km}±12^{km}, **n45**, σ1^{s}**29**/42, **mb3.9**/6, **MS3.2**/1, **11C-2D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	Copaltepe	1.51	18	⇓eP	Px	19 47 27.9	
TICN	Ticuantepe	1.53	32	eP	Pn	19 47 30.9	-0.9
MASN	Masaya	1.53	36	⇓eP	Pn	19 47 32.4	+0.5
VCR	Vista de Mar	1.54	113	eP	Pn	19 47 31.0	-0.9
XAVN	Gruta Xavier	1.58	27	eP	Pn	19 47 32.1	-0.4
MGAN	Managua	1.62	30	⇑eP	Pn	19 47 32.6	-0.4
WILN	Americas 2	1.66	31	⇑eP	Pn	19 47 32.8	-0.9
LEON	Leon	1.68	6	⇑eP	Pn	19 47 34.8	+0.9
MIRN	Miramar	1.73	12	⇑eP	Pn	19 47 33.5	-1.2
MOMJ	Momotombo	1.74	17	⇑eP	Pn	19 47 30.7	-4.1
CNGN	Cerro Negro	1.79	12	⇑eP	Pn	19 47 33.7	-1.8
TEL3	Telica 3	1.84	7	⇑eP	Pn	19 47 36.2	0.0
PYTN	Playitas	2.05	29	eS	Sn	19 48 06.2	+1.0
JCR	Jicaral	2.12	114	eP	Pn	19 47 39.0	-1.1
JTS	JuntasAbangare	2.13	102	Pn	Pn	19 47 38.1	-2.2
	2μm,0.5s,SNR=17						
JTS	JuntasAbangare	2.13	102	eP	Pn	19 47 38.0	-2.4
FORC	Fortuna	2.37	96	eP	Pn	19 47 45.9	+2.0
CNCH	Conchagua	2.63	344	eP	Pn	19 47 50.0	+2.4
CGA2	Cerro Gallo 2	2.66	105	eP	Pn	19 47 47.5	-0.4
PRS1	Puriscal	2.81	105	eP	Pn	19 47 50.2	+0.1
PRS1				eS	Sn	19 48 24.3	-0.4
LAJ	Bijagual	3.03	106	eP	Pn	19 47 47.6	-5.5
SJS	Escuela Geolog	3.07	105	⇑eP	Pn	19 47 55.6	+1.8
SJS				eS	Sn	19 48 35.6	+4.5
LCR2	La Lucha 2	3.17	108	⇑eP	Pn	19 47 56.0	+0.8
ICR	Volcan Irazu	3.27	103	⇑eP	Pn	19 47 58.6	+1.9
TRTC	Tortuguero	3.30	92	eP	Pn	19 47 56.6	-0.5
URSC	Urasca	3.36	105	⇑eP	Pn	19 47 59.9	+2.0
LCBS	La Ceiba	3.45	327	eS	Sn	19 48 40.5	-0.3
BUS	Buena Vista	3.46	110	eP	Pn	19 48 00.1	+0.8
LFRS	El Faro	3.47	326	eS	Sn	19 48 40.4	-0.9
SBLS	San Blas	3.97	321	eS	Sn	19 48 56.2	+2.2
ROSC	El Rosal	13.90	114	LR	LR	19 55 02.0	
	comp=Z,69nm,19.7s,baz=14,slow=36						
TXAR	Lajitas Array	24.14	322	P	P	19 52 24.7	+3.1
	6.0nm,1.1s,mb3.9,baz=136,slow=10,SNR=24						
LTX	Lajitas	24.14	322	eP	P	19 52 24.5	+2.8
WMOK	Wichita Mounta	26.18	338	P	P	19 52 38.1	-2.7
	11nm,1.0s,mb4.3						
CPRX	Cap Rock	27.04	328	P	P	19 52 48.5	-0.3
CCM	Cathedral Cave	27.46	353	P	P	19 52 45.1	-7.5
ANMO	Albuquerque	29.89	327	P	P	19 53 13.9	-0.7
SAML	Samuel	30.77	129	P	P	19 53 20.8	-1.8
SDCO	Great Sand Dun	31.58	331	P	P	19 53 29.2	-0.3
	1.2nm,0.6s,mb3.9						
SADO	Sadowa	34.59	10	LR	LR	20 09 03.2	
	comp=Z,40nm,19.1s,MS3.2,baz=164,slow=40						
PDAR	Pinedale Array	37.45	332	P	P	19 54 19.8	0.0
	0.8nm,0.8s,mb3.6,baz=129,slow=9.5,SNR=7.7						
NVAR	Mina Array Bea	39.24	320	P	P	19 54 38.9	+4.1
	0.4nm,0.4s,mb3.5,baz=126,slow=3.3,SNR=4.0						
NVAR				PcP	PcP	19 56 46.9	+2.5
	1.3nm,0.7s,baz=119,slow=5.4,SNR=6.1						
BDFB	Brasilia	46.71	124	P	P	19 55 35.2	-0.5
	2.0nm,0.6s,mb4.2,baz=310,slow=10,SNR=3.1						
ASAR	Alice Springs	138.96	246	PKP	PKPdf	20 06 38.9	+4.1
	0.2nm,0.7s,baz=84,slow=1.4,SNR=4.0						
CMAR	Chiang Mai Arr	150.39	348	PKPbc	PKPdf	20 06 57.0	+2.5
	1.0nm,0.9s,baz=329,slow=3.7,SNR=7.4						

*CSEM **10** 20:00:21.8±0.2, 34.97N×3.95W, h5^{km}, MD3.4, Error ellipse: s-maj=6.5km s-min=3.9km az=96.0*
*CNRM **10** 20:00:22.6, 35.08N×3.95W, MD3.4*
*NEIC **10** 20:00:25.0, 35.05N×4.04W, MG3.0(MDD), After MDD.*
*MDD **10** 20:00:25.0±1.8, 35.05N×4.04W, mb3.0/4, Error ellipse: s-maj=19.0km s-min=6.9km az=16.0, PRXIMO AftershockPLICA*
*SFS **10** 20:00:25.0, 34.81N×3.96W, ML3.7*
ISC 10 20:00:22.5±0.9, **35.01N**±0.02×**4.07W**±0.04, **h6**^{km}±6^{km}, **n27**, σ1^{s}**25**/46, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	Palemas	0.24	25	i P	Pg	20 00 25.5	-1.8
TOU	Touzarine	0.26	101	i P	Pg	20 00 26.0	-1.8
TZK	Tazeka	0.92	186	i P	Pb	20 00 41.0	+0.5
TZK				i S	Sb	20 00 54.0	+1.2
EMEL	Melilla	0.95	72	P	Pb	20 00 41.9	+0.9
	128nm,0.1s,SNR=15						
EMEL				S	Sb	20 00 55.0	+1.3
	66nm,0.1s,SNR=5.0						
EMLI	Melilla	0.96	72	P	Pb	20 00 41.9	+0.8
	128nm,0.1s,SNR=15						
EMLI				S	Sb	20 00 55.0	+1.2
	66nm,0.1s,SNR=5.0						
MELI	Melilla	0.97	73	i P	Pb	20 00 42.1	+0.9
MELI				eS	Sb	20 00 52.5	-1.6
ZAI	Zaio	1.08	92	i P	Pb	20 00 40.5	-2.7
EMIJ	Mijas	1.65	340	P	Pn	20 00 52.4	+0.2
	0.4nm,0.1s,SNR=7.9						
EMIJ				S	Sn	20 01 11.4	-2.6
	6.7nm,0.2s,SNR=7.9						
MIF	Mishlifen	1.87	211	eP	Pn	20 00 55.0	-0.2
MIF				i S	Sn	20 01 19.0	-0.4
EBER	Berja	2.11	27	P	Pn	20 00 57.9	-0.9
	0.8nm,0.2s,SNR=5.6						
EBER				S	Sn	20 01 24.6	-1.0
	8.5nm,0.3s,SNR=5.0						
EBER	Berja	2.11	27	P	Pn	20 00 57.9	-0.9
	0.8nm,0.2s,SNR=5.6						
EBER				S	Sn	20 01 24.6	-1.0
	8.5nm,0.3s,SNR=5.0						
ELOJ	Sierra Loja	2.13	358	P	Pn	20 01 00.3	+1.2
	1.2nm,0.3s,SNR=5.0						
ELOJ				S	Sn	20 01 26.7	+0.5
	2.4nm,0.3s,SNR=4.7						
ESPR	Espera	2.36	322	P	Pn	20 01 04.2	+1.9
	0.3nm,0.2s,SNR=4.0						
ESPR				S	Sn	20 01 32.5	+0.6
	2.8nm,0.3s,SNR=4.0						
ESPR	Espera	2.36	322	P	Pn	20 01 04.2	+1.9
	0.3nm,0.2s,SNR=4.0						
ESPR				S	Sn	20 01 32.5	+0.7
	2.8nm,0.3s,SNR=4.0						
EQES	Quesada	2.90	16	P	Pn	20 01 11.3	+1.3
	1.3nm,0.4s,SNR=11						
EQES				S	Sn	20 01 45.1	-0.5
	13nm,0.5s,SNR=5.6						
EQES	Quesada	2.90	16	P	Pn	20 01 11.3	+1.3
	1.3nm,0.4s,SNR=11						
EQES				S	Sn	20 01 45.1	-0.5
	13nm,0.5s,SNR=5.6						
ZFT	Errachidia	2.98	185	eP	Pn	20 01 11.0	-0.1
ZFT				i S	Sn	20 01 45.0	-2.6
EADA	Adamuz	3.18	353	P	Pn	20 01 15.3	+1.3
	0.4nm,0.2s,SNR=4.9						
EADA				S	Sn	20 01 51.9	-0.7
	5.2nm,0.5s,SNR=7.9						
EADA	Adamuz	3.18	353	P	Pn	20 01 15.3	+1.3
	0.4nm,0.2s,SNR=4.9						
EADA				S	Sn	20 01 52.0	-0.7
EMIN	Mina Concepcio	3.46	323	P	Pn	20 01 18.8	+0.8
	1.1nm,0.3s,SNR=7.6						
EMIN				S	Sn	20 01 57.8	-2.1
	2.1nm,0.4s,SNR=4.0						
EMIN	Mina Concepcio	3.46	323	S	Sn	20 01 57.8	-2.1
	2.1nm,0.4s,SNR=4.0						
EMIN	Mina Concepcio	3.46	323	P	Pn	20 01 18.8	+0.8
	1.1nm,0.3s,SNR=7.6						
EBAD	Badajoz	4.42	329	P	Pn	20 01 31.8	+0.1
	0.2nm,0.2s,SNR=5.0						
EBAD				S	Sn	20 02 19.9	-4.3
	SNR=5.0						
EBAD	Badajoz	4.42	329	P	Pn	20 01 31.8	+0.1
EBAD				S	Sn	20 02 19.9	-4.3
EBAD	Badajoz	4.42	329	P	Pn	20 01 31.8	+0.1
	0.2nm,0.2s,SNR=5.0						
ESDC	Sonseca Array	4.66	1	P	Pn	20 01 36.0	+1.0
	0.3nm,0.1s,baz=176,slow=12,SNR=5.3						
ESDC	Sonseca Array	4.66	1	P	Pn	20 01 36.0	+1.0

CASC 10 20:02:09.5±3.7, **10.86N**×**86.69W**, **h3**^{km}±16^{km}, **MD4.4**, **8C-4D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APON	Apoyo	1.21	30	eP	Pb	20 02 32.8	+0.2
MASN	Masaya	1.23	25	⇓eP	Pb	20 02 33.5	+0.5
VCR	Vista de Mar	1.27	125	eP	Pb	20 02 32.8	-0.9
COPN	Copaltepe	1.31	4	i P	Pb	20 02 32.8	-1.6
COPN				⇓eP		20 02 32.8	
COPN				eS	Sb	20 02 53.5	+2.0
XAVN	Gruta Xavier	1.32	15	⇑eP	Pb	20 02 35.1	+0.5
MGAN	Managua	1.35	19	⇑eP	Pb	20 02 33.3	-1.7
MGAN				eS	Sb	20 02 54.5	+2.0
WILN	Americas 2	1.38	21	eP	Pb	20 02 33.5	-2.1
WILN				eS	Sb	20 02 54.7	+1.2
APYN	Apoyeque	1.40	14	eP	Pb	20 02 34.1	-1.9
MOMJ	Momotombo	1.54	5	eP	Pn	20 02 36.0	-2.0
MOMJ				eS	Sb	20 02 59.1	+0.9
LEON	Leon	1.56	353	⇑iP	Pn	20 02 36.0	-2.2
MIRN	Miramar	1.57	359	⇓eP	Pn	20 02 36.3	-2.0
MIRN				eS	Sb	20 02 58.9	0.0
CNGN	Cerro Negro	1.63	360	⇑eP	Pn	20 02 37.1	-2.1
CNGN				eS	Sb	20 03 01.2	+0.6
TEL3	Telica 3	1.71	355	⇓eP	Pn	20 02 38.5	-1.8
TEL3				eS	Sn	20 03 04.0	+1.1
PYTN	Playitas	1.77	20	⇑eP	Pn	20 02 38.8	-2.5
PYTN				eS	Sn	20 03 05.9	+1.3
JCR	Jicaral	1.85	123	i P	Pn	20 02 40.6	-1.7
FORC	Fortuna	2.02	101	⇑eP	Pn	20 02 45.4	+0.6
CGA2	Cerro Gallo 2	2.34	111	eP	Pn	20 02 49.9	+0.5
CGA2				eS	Sn	20 03 17.2	-1.7
PRS1	Puriscal	2.49	110	eP	Pn	20 02 51.0	-0.6
LAJ	Bijagual	2.71	111	⇑eP	Pn	20 02 49.3	-5.4
SJS	Escuela Geolog	2.75	109	eP	Pn	20 02 57.3	+2.1
LCR2	La Lucha 2	2.87	113	eP	Pn	20 02 57.5	+0.6
TRTC	Tortuguero	2.93	95	eP	Pn	20 02 58.2	+0.4
TRTC				eS	Sn	20 03 32.3	-1.8
ICR	Volcan Irazu	2.94	107	eP	Pn	20 02 59.9	+1.9
URSC	Urasca	3.04	109	⇑iP	Pn	20 03 00.9	+1.6
BUS	Buena Vista	3.16	114	eP	Pn	20 03 01.2	+0.1

*IDC **10** 20:03:45.6±1.1, 44.16N×105.83W, mb1 3.9/4, mb1mx3.5/22, ML3.5/4, Error ellipse: s-maj=25.2km s-min=8.8km az=146.0*
*NEIC **10** 20:03:46.1±0.5, 43.73N×105.22W, ML3.2, Error ellipse: s-maj=7.5km s-min=4.8km az=151.0, Suspected Mining explosion.*
NEIC 65 km [40 miles] SSE of Gillette.
ISC 10 20:03:44.3±0.6, **43.67N**±0.04×**105.21W**±0.07, **n40**, σ0^{s}**94**/40, **Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	0.96	62	eP	Pg	20 04 04.1	+0.6
LAO	LASA Array	3.10	347	eP	Pn	20 04 34.8	-0.7
BW06	Boulder Array	3.30	256	eP	Pn	20 04 39.1	+0.8
PDAR	Pinedale Array	3.30	256	Pn	Pn	20 04 38.8	+0.5
	4.3nm,0.3s,baz=70,slow=15,SNR=90						
PDAR				Lg		20 05 21.8	
	9.7nm,0.3s,baz=76,slow=34,SNR=10.0						
GCMT	Greycliff	3.82	305	eP	Pn	20 04 45.1	-0.5
LKWY	Lake	3.84	285	eP	Pn	20 04 47.4	+1.4
ISCO	Idaho Springs	3.88	185	eP	Pn	20 04 48.3	+1.8
LOHW	Long Hollow	3.92	271	eP	Pn	20 04 48.3	+1.3
MOOW	Moose Ponds	4.01	273	eP	Pn	20 04 48.9	+0.5
WUWY	Wally Ulrich	4.02	270	P	Pn	20 04 49.3	+0.7
SNOW	Snow King Moun	4.04	269	eP	Pn	20 04 49.4	+0.6
YNR	Norris Junctio	4.07	287	P	Pn	20 04 50.0	+0.7
REDW	Red Top Meadow	4.12	268	eP	Pn	20 04 49.7	-0.1
YFT	Old Faithful	4.13	283	P	Pn	20 04 50.0	0.0
TPAW	Teton Pass	4.17	269	eP	Pn	20 04 50.9	+0.2
YMR	Madison River	4.26	286	P	Pn	20 04 53.3	+1.4
AHID	Auburn Hatcher	4.40	260	eP	Pn	20 04 54.3	+0.4
QLMT	Earthquake Lak	4.62	287	P	Pn	20 04 57.0	0.0
DGMT	Dagmar	4.85	8	eP	Pn	20 04 59.8	-0.5
HWUT	Hardware Ranch	5.12	248	eP	Pn	20 05 03.9	-0.3
	7.6nm,0.4s						
TCUT	Toone Canyon	5.25	243	eP	Pn	20 05 03.7	-2.3
DAU	Daniels Canyon	5.55	236	eP	Pn	20 05 11.4	+1.1
JLU	Jordanelle	5.56	239	eP	Pn	20 05 09.4	-0.9
HRY	Holter Researc	5.58	305	eP	Pn	20 05 09.2	-1.4
MCMT	McKenzie Canyo	5.61	285	P	Pn	20 05 12.0	+1.0
CTU	Camp Tracy	5.70	241	eP	Pn	20 05 11.7	-0.6
SDCO	Great Sand Dun	5.92	182	eP	Pn	20 05 15.7	+0.2
NOQ	North Oquirrh	5.95	242	P	Pn	20 05 15.2	-0.6
SRU	San Rafael	6.06	223	eP	Pn	20 05 16.1	-1.3
PV01	Paradox Valley	6.09	206	eP	Pn	20 05 17.3	-0.5
TMUT	Trail Mountain	6.27	228	eP	Pn	20 05 20.9	+0.5
CHMT	Chamberlain Mo	6.53	303	eP	Pn	20 05 22.3	-1.7
DUG	Dugway	6.65	241	eP	Pn	20 05 24.8	-0.9
MSU	Marysvale	7.36	228	eP	Pn	20 05 35.1	-0.6
MVU	Marysvale	7.39	228	eP	Pn	20 05 35.5	-0.6
ULM	Lac du Bonnet	9.16	41	Pn	P	20 05 56.1	-4.7
	1.9nm,0.3s,baz=223,slow=14,SNR=7.0						
ULM				Lg		20 08 29.8	
	0.7nm,0.3s,baz=134,slow=15,SNR=2.7						
ULM	Lac du Bonnet	9.16	41	eP	P	20 05 56.4	-4.4
NVAR	Mina Array Bea	11.18	247	Pn	P	20 06 24.9	-3.6
	0.2nm,0.3s,baz=342,slow=42,SNR=3.2						
NVAR	Mina Array Bea	11.18	247	Pn	P	20 06 24.9	-3.6
TXAR	Lajitas Array	14.36	175	Pn	P	20 07 19.1	+8.1
	0.1nm,0.3s,baz=348,slow=9.5,SNR=4.2						
TXAR				Lg		20 11 29.3	
	0.0nm,0.3s,slow=33,SNR=3.0						

JMA 10 20:07:45.7±0.4, **26.30N**×**124.01E**, **h197**^{km}, **M3.8**, **Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTJ	Tarama	1.77	159	P	P	20 08 22.2	+0.2
JTJ				S	S	20 08 49.7	-0.3
JMJ	Miyako jima 2	1.88	142	P	P	20 08 23.2	+0.1
JMJ				S	S	20 08 51.4	-0.5
JIJ	Ishigaki jima	1.93	176	P	P	20 08 22.9	-0.7
JIJ				S	S	20 08 51.0	-1.9
IRIF	Iriomote-Funau	1.97	187	P	P	20 08 23.6	-0.5
IRIF				S	S	20 08 53.4	-0.2
JOGS	Gusukube	1.99	140	P	P	20 08 24.3	+0.1
JOGS				S	S	20 08 53.6	-0.2
YOJ	Yonaguni jima	2.04	206	P	P	20 08 25.1	+0.3
YOJ				eS	S	20 08 55.5	+0.6
JKRS	Kuro-shima	2.05	180	P	P	20 08 24.4	-0.5
JKRS				S	S	20 08 53.8	-1.3
HATJ	Hateruma jima	2.24	185	P	P	20 08 26.4	-0.6
HATJ				eS	S	20 08 57.1	-1.7
JKE	Kume jima 2	2.49	89	P	P	20 08 28.7	-1.1
JKE				eS	S	20 09 01.7	-2.1
JAGN	Aguni-jima	2.91	84	P	P	20 08 32.9	-1.7
JAGN				S	S	20 09 09.1	-3.4
NAH1	Naha	3.31	91	eS	S	20 09 17.1	-3.8
JJT2	Tamagusuku 2	3.36	92	P	P	20 08 38.4	-1.7
JIH	Iheya	3.62	77	P	P	20 08 41.4	-1.8
JIH				eS	S	20 09 23.0	-4.7
JOW	Kunigami	3.86	81	P	P	20 08 43.9	-2.3
JOW				eS	S	20 09 26.7	-6.3
JTK	Tokunoshima	4.65	70	P	P	20 08 52.3	-3.9
JTK				eS	S	20 09 44.2	-6.7
JAM	Amami Oshima	5.40	66	eS	S	20 09 59.7	-8.5
JMZ	Minamidaito 2	6.50	93	eS	S	20 10 24.7	-9.1

DJA 10 20:13:40.2±1.0, **5.70S**×**119.27E**, **h100**^{km}, **MD4.6**/6, **ML4.2**/6, **2C-9D, Error ellipse: s-maj=46.1km s-min=5.6km az=118.0, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NINI	Niniconang	1.36	21	⇓iPn	S	20 14 25.8	+2.1
	213nm,0.3s						
TANI	Tanete Lipujan	2.25	3	⇓iPn	P	20 14 15.8	-0.9
	72nm,0.2s						
TANI				⇓iSn	S	20 14 41.5	-2.3
BUNI	Buntu Taipa	2.29	28	⇓iPn	P	20 14 10.7	-6.5
	72nm,0.2s						
BUNI	Buntu Taipa	2.29	28	⇓iP	P	20 14 11.3	-5.8
KEDI	Kedomdong	4.18	228	⇓iPn	P	20 14 42.7	-0.4
	102nm,0.2s						
KEDI				⇓iSn	S	20 15 27.3	-3.8
RATI	Rata	4.77	231	⇓iPn	P	20 14 51.0	-0.2
	76nm,0.2s						
RATI				⇑iSn	S	20 15 40.3	-5.3
SRDI	Scrawed	5.79	241	⇑iPn	P	20 15 07.3	+2.4
	22nm,0.2s						
SRDI				⇓iSn	S	20 16 02.0	-8.6

*LDG **10** 20:26:39.9±0.1, 44.77N×7.76E, h9^{km}, Md2.4/1, Ml2.3/8, Error ellipse: s-maj=3.4km s-min=2.2km az=86.0*
*NEIC **10** 20:26:40.6, 44.78N×7.63E, h55^{km}, After GEN.*
*STR **10** 20:26:45.0±2.2, 44.57N×7.42E, h2^{km}±1^{km}, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 10 20:26:40.6±0.4, **44.78N**±0.02×**7.70E**±0.04, **h45**^{km}±7^{km}, **n38**, σ0^{s}**75**/65, **Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHB	Bricherasio	0.32	282	P	P	20 26 49.7	+0.2
BHB				S	S	20 26 55.8	+0.1
RSP	Reno Superiore	0.49	320	P	P	20 26 51.4	0.0
RSP				S	S	20 26 58.6	-0.5
ROB	Roburent	0.50	166	P	P	20 26 52.2	+0.7
ROB				S	S	20 26 60.0	+0.7
PZZ	Prazzo	0.50	238	P	P	20 26 51.5	-0.1
PZZ				S	S	20 26 59.0	-0.5
FENE	Fenestrelle	0.52	300	P	P	20 26 51.6	-0.1
FENE				S	S	20 26 59.1	-0.6
ENR	Entracque	0.58	200	P	P	20 26 52.8	+0.1
ENR				S	S	20 27 00.9	-0.4
STV2	Anna di Valdie	0.59	207	P	P	20 26 52.6	-0.1
STV2				S	S	20 27 00.8	-0.7
STV	Sta Anna Valdi	0.59	207	P	P	20 26 52.6	-0.2
STV				S	S	20 27 00.8	-0.8
PCP	Pian Castagno	0.65	111	P	P	20 26 54.0	+0.6
PCP				S	S	20 27 03.1	+0.2
MBDF	Montbardon	0.66	266	ePg	P	20 26 54.6	+1.0
MBDF				eSg	S	20 27 03.3	+0.1
	23nm,0.3s						
RRL	Cesana Torines	0.67	283	P	P	20 26 54.0	+0.4
RRL				S	S	20 27 03.4	+0.1
FIN	Finale Ligure	0.67	147	P	P	20 26 54.2	+0.4
FIN				S	S	20 27 03.7	+0.2
MONE	Monesi	0.70	177	P	P	20 26 54.6	+0.5
RORO		0.71	158	P	P	20 26 54.5	+0.2
TRAV		0.74	3	P	P	20 26 54.5	-0.2
TRAV				S	S	20 27 04.0	-1.0
LSD	Ceresole Reale	0.78	331	P	P	20 26 55.9	+0.6
SAOF	Saorge	0.80	187	Pg	P	20 26 56.0	+0.5
SAOF				Sg	S	20 27 02.9	-3.5
AUTN	L'Aution	0.80	194	Pg	P	20 26 55.6	0.0
AUTN				Sg	S	20 27 06.3	-0.3
TOUF	Mont Tournerai	0.83	203	Pg	P	20 26 56.1	+0.2
TOUF				Sg	S	20 27 02.4	-4.8
IMI	Imperia	0.88	171	P	P	20 26 56.8	+0.1
IMI				S	S	20 27 07.5	-0.9
ORX	Oropa	0.88	13	P	P	20 26 56.5	-0.1
AURF	Auriere	0.93	197	Pg	P	20 26 57.8	+0.5
NEGI	Negi	0.93	180	P	P	20 26 57.3	0.0
SBF	Sospel	0.93	192	ePg	P	20 26 58.0	+0.6
SBF				eSg	S	20 27 09.4	-0.4
	27nm,0.2s						
LPG	La Plagne	0.98	317	ePg	P	20 26 59.6	+1.5
LPG				eSg	S	20 27 11.4	+0.2
	6.4nm,0.3s						
LPG				eSn	S	20 27 12.9	+1.7
LPL	La Plagne	1.01	318	ePg	P	20 27 00.0	+1.5
LPL				eSg	S	20 27 11.4	-0.3
	6.4nm,0.3s						
ORIF	Oris-en-Rattie	1.30	277	ePg	P	20 27 05.2	+2.5
ORIF				eSg	S	20 27 22.5	+3.3
	12nm,0.5s						
FRF	La Foret Royal	1.43	212	ePg	P	20 27 04.9	+0.3
FRF				eSn	S	20 27 22.2	-0.2
	13nm,0.3s						
LMR	La Mourre	1.68	211	ePn	P	20 27 07.9	-0.1
LMR				eSn	S	20 27 28.1	-0.3
	2.9nm,0.2s						
SMRF	Simiane la Rot	1.72	243	ePn	P	20 27 09.6	+1.0
SMRF				ePg	P	20 27 12.3	+3.7
SMRF				eSg	S	20 27 35.0	+5.5
	2.8nm,0.4s						
VIVF	Saint-Julien-l	2.15	273	ePn	P	20 27 15.4	+0.6
VIVF				eSn	S	20 27 39.6	-0.8
	1.0nm,0.2s						
PGF	Pioggiola	2.42	157	ePn	P	20 27 17.5	-1.1
HINF	Hinteralfeld	3.10	349	ePn	P	20 27 26.7	-1.5
SMF	Signal de Mont	3.29	306	ePn	P	20 27 29.9	-1.0
AVF	Avril sur Loir	3.65	305	ePn	P	20 27 35.1	-0.9
CDF	Champ du Feu	3.65	356	ePn	P	20 27 34.8	-1.2
LOR	Lormes	3.66	314	ePn	P	20 27 35.3	-0.8
BGF	Bois d'Agland	3.84	299	ePn	P	20 27 38.5	-0.2

*NIED **10** 20:27:00, 36.60N×141.00E, h47^{km}, Mw4.0 Best double couple: $M_0$1.33×10^{15} NP1:ϕ_s241°, δ61°, λ-124°. NP2: ϕ_s115°, δ43°, λ-45°.*
*MOS **10** 20:27:07.6±0.9, 36.58N×140.94E, h33^{km}, mb4.2/10, Error ellipse: s-maj=35.9km s-min=15.1km az=96.5*
*JMA **10** 20:27:11.2±0.1, 36.60N×140.99E, h47^{km}±1^{km}, M4.4 Broadband fault plane solution: P waves. NP1:ϕ_s130°, δ35°, λ13°. NP2:ϕ_s29°, δ83°, λ125°. Principal axes: T Plg42°, Azm332°; N Plg34°, Azm204°; P Plg29°, Azm92°;*
JMA Felt II J1.
*IDC **10** 20:27:12.2±0.7, 36.57N×140.89E, h52^{km}±7^{km}, mb3.7/17, mb1 3.9/20, mb1mx3.8/28 Error ellipse: s-maj=18.5km s-min=9.7km az=100.0*
*NEIC **10** 20:27:12.2±0.3, 36.58N×140.94E, mb4.3/3, Error ellipse: s-maj=8.9km s-min=7.8km az=176.0*
NEIC Recorded [2 JMA] in Fukushima and Ibaraki; [1 JMA] in Chiba, Gumma and Tochigi Prefectures.
ISC 10 20:27:09.9±0.6, **36.59N**±0.03×**141.07E**±0.06, **h50**^{km}±5^{km}, **n55**, σ0^{s}**96**/66, **mb4.0**/20, **2C-6D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	Hitachi	0.41	273	⇓P	P	20 27 20.5	+0.4
JHO				S	S	20 27 26.8	-0.6
ONAJ	Iwakimizuishiy	0.56	337	⇓P	P	20 27 22.3	+0.5
ONAJ				S	S	20 27 29.7	-0.8
JFK	Kawauchi	0.79	349	⇑P	P	20 27 25.3	+0.4
JFK				eS	S	20 27 35.1	-0.8
JYT	Yasato	0.79	243	⇓P	P	20 27 25.2	+0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
JYT				eS	S	20 27 35.3	-0.7
JSB	Shiboa	1.00	293	⇓P	P	20 27 28.5	+0.7
JSB				eS	S	20 27 41.2	+0.2
JFT	Otama	1.10	328	P	P	20 27 30.5	+1.3
JFT				eS	S	20 27 43.9	+0.4
JMM	Marumori	1.29	350	⇑P	P	20 27 32.5	+0.5
JMM				eS	S	20 27 48.3	-0.1
JAG	Ashikaga	1.31	263	⇓P	P	20 27 32.5	+0.2
JKT	Katashina	1.48	277	⇓P	P	20 27 35.3	+0.7
JKT				eS	S	20 27 53.0	+0.1
MAJO	Matsushiro	2.31	270	eP	P	20 27 46.8	+0.5
MAT	Matsushiro	2.31	270	P	P	20 27 47.2	+0.9
MAT				eS	S	20 28 13.7	+0.2
MAT	Matsushiro	2.31	270	eP	P	20 27 47.0	+0.7
MAT				S	S	20 28 14.0	+0.5
JHJ	Hachijo jima 2	3.62	197	P	P	20 28 05.5	+0.6
	65nm,0.3s,baz=261,slow=23,SNR=24						
JHJ				S	S	20 28 45.6	-1.2
	129nm,0.3s,baz=292,slow=22,SNR=9.1						
ASAJ	Asahikawa	7.61	8	P	P	20 28 58.2	-2.5
	3.5nm,0.3s,baz=244,slow=6.7,SNR=24						
ASAJ				S	S	20 30 24.2	-2.2
	0.4nm,0.3s,baz=152,slow=32,SNR=2.9						
ASAJ	Asahikawa	7.61	8	P	P	20 28 58.2	-2.5
ASAJ				S	S	20 30 24.3	-2.1
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
CBIJ	Chichi jima	9.51	174	P	P	20 29 23.2	-3.7
	comp=Z,32nm,0.3s,baz=265,slow=24,SNR=13						
CBIJ				S	S	20 31 01.6	-12
	comp=Z,19nm,0.3s,baz=262,slow=23,SNR=7.4						
SONM	Songino Array	27.81	305	P	P	20 32 55.7	-0.5
	comp=Z,1.3nm,0.7s,mb3.7,baz=105,slow=8.1,SNR=14						
ZAL	Zalesovo	42.02	313	P	P	20 34 58.0	+0.3
	comp=Z,0.9nm,0.7s,mb3.5,baz=297,slow=9.1,SNR=4.7						
ZAL	Zalesovo	42.02	313	P	P	20 34 58.0	+0.3
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	Makanchi Array	44.12	302	P	P	20 35 15.2	+0.4
	comp=Z,0.9nm,0.7s,mb3.6,baz=52,slow=14,SNR=5.2						
MKAR	Makanchi Array	44.12	302	P	P	20 35 15.3	+0.4
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURK	Kurchatov	45.99	308	eP	P	20 35 28.3	-1.4
	comp=Z,2.0nm,0.7s,mb4.2						
ILAR	Eielson Array	50.02	32	P	P	20 36 01.8	+0.9
	comp=Z,0.8nm,0.6s,mb3.9,baz=269,slow=5.8,SNR=17						
ILAR	Eielson Array	50.02	32	P	P	20 36 01.8	+0.9
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	Borovoye Array	50.67	313	P	P	20 36 05.5	-0.5
	comp=Z,0.7nm,0.6s,mb3.8,baz=78,slow=7.5,SNR=2.8						
INK	Inuvik	54.91	27	P	P	20 36 38.0	+0.7
	comp=Z,0.9nm,0.7s,mb3.9,baz=155,slow=3.5,SNR=3.5						
INK	Inuvik	54.91	27	P	P	20 36 38.0	+0.7
INK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
INK	Inuvik	54.91	27	P	P	20 36 38.0	+0.7
WRAB	Tennant Creek	56.57	188	eP	P	20 36 48.9	-1.1
	comp=Z,2.3nm,0.4s,mb4.6						
WRA	Warramunga Arr	56.58	188	P	P	20 36 48.9	-1.1
	comp=Z,2.1nm,0.5s,mb4.5,baz=5.2,slow=7.4,SNR=74						
WRA	Warramunga Arr	56.58	188	P	P	20 36 48.9	-1.1
WRA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ASAR	Alice Springs	60.31	188	P	P	20 37 15.3	-0.6
	comp=Z,0.5nm,0.5s,mb3.8,baz=16,slow=10,SNR=11						
ASAR				pP	pP	20 37 30.1	+0.3
	comp=Z,0.3nm,0.5s,baz=16,slow=10,SNR=3.3						
ARCES	ARCESS Array B	64.32	339	P	P	20 37 41.0	-0.9
	comp=Z,5.8nm,1.0s,mb4.5,baz=52,slow=10,SNR=3.0						
ARCES	ARCESS Array B	64.32	339	P	P	20 37 41.0	-0.8
ARCES				pmax	pmax		
	comp=Z,6.0nm,1.0s						
STKA	Stephens Creek	68.11	180	P	P	20 38 06.7	+0.1
	comp=Z,1.1nm,0.4s,mb4.2,baz=354,slow=6.2,SNR=4.4						
KAF	Kangasniemi	68.58	333	ep	P	20 38 08.1	-0.8
	comp=Z,1.3nm,0.4s,mb4.2,baz=49,slow=6.0						
KAF	Kangasniemi	68.58	333	eP	P	20 38 08.1	-0.8
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
FINES	FINESS Array B	69.08	332	P	P	20 38 11.7	-0.3
	comp=Z,0.9nm,0.6s,mb3.9,baz=53,slow=9.5,SNR=6.1						
FINES	FINESS Array B	69.08	332	P	P	20 38 11.7	-0.4
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
HFS	Hagfors	74.38	336	P	P	20 38 43.5	0.0
	comp=Z,1.3nm,0.7s,mb4.0,baz=63,slow=6.6,SNR=4.8						
HFS	Hagfors	74.38	336	P	P	20 38 43.5	-0.1
HFS				pmax	pmax		
	comp=Z,1.0nm,0.7s						
HFS	Hagfors	74.38	336	P	P	20 38 43.5	0.0
AKASG	Malin Array Be	74.48	322	P	P	20 38 43.9	-0.5
	comp=Z,0.8nm,0.4s,mb4.0,baz=45,slow=6.4,SNR=8.5						
AKASG	Malin Array Be	74.48	322	P	P	20 38 43.9	-0.5
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NB2	NORSAR Subarra	74.49	337	P	P	20 38 43.9	-0.3
	comp=Z,0.5nm,0.5s,mb3.7,baz=40,slow=5.8						
NOA	NORSAR Array B	74.49	337	P	P	20 38 43.4	-0.8
	comp=Z,1.7nm,0.9s,mb4.0,baz=39,slow=5.8,SNR=5.1						
NOA	NORSAR Array B	74.49	337	P	P	20 38 43.4	-0.8
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NVAR	Mina Array Bea	75.47	53	P	P	20 38 52.6	+2.3
	comp=Z,0.9nm,0.5s,mb4.0,baz=308,slow=4.3,SNR=5.3						
PDAR	Pinedale Array	78.17	45	P	P	20 39 06.8	+1.5
	comp=Z,0.5nm,0.6s,mb3.6,baz=283,slow=1.5,SNR=6.2						
PV10	Paradox Valley	81.27	48	eP	P	20 39 24.7	+2.5
TXAR	Lajitas Array	90.61	52	P	P	20 40 09.6	+1.3
	comp=Z,0.5nm,0.7s,mb3.9,baz=316,slow=3.0,SNR=6.3						
TXAR				pP	pP	20 40 24.4	+1.5
	comp=Z,0.2nm,0.6s,baz=279,slow=2.6,SNR=5.3						
TXAR	Lajitas Array	90.61	52	P	P	20 40 09.6	+1.3
TXAR				pP	pP	20 40 24.4	+1.5
LPAZ	La Paz	147.15	60	PKPbc	PKPdf	20 46 50.6	+4.9
	comp=Z,0.9nm,0.7s,baz=52,slow=1.5,SNR=4.7						
LPAZ				pPKPbc		20 47 05.7	
	comp=Z,0.7nm,0.5s,baz=345,slow=3.0,SNR=2.4						
LPAZ	La Paz	147.15	60	PKP2	PKPab	20 46 50.6	-1.1
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.7s						
LPAZ				pmax	pmax		
	comp=N,1.0nm,0.5s						
LPAZ	La Paz	147.15	60	PKPbc	PKPdf	20 46 50.6	+4.9
LPAZ				pPKPbc		20 47 05.7	

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*ATH **10** 20:27:14.2, 37.82N×21.07E, h5^{km}, MD3.7/16, ML3.6*
*NEIC **10** 20:27:14.2, 37.82N×21.07E, h5^{km}, ML3.7(THE), ML3.6(ATH), After ATH.*
*THE **10** 20:27:16.3, 37.94N×21.01E, h10^{km}, ML3.7*
*CSEM **10** 20:27:16.0±0.2, 37.90N×21.04E, h1^{km}±1^{km}, ML3.6, Error ellipse: s-maj=3.8km s-min=2.2km az=34.0*
ISC 10 20:27:14.4±0.7**, 37.84N**±0.04×**20.98E**±0.05**, h5^{km}, n31, σ1^{s}07**/40**, 1D, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RLS	Riolos of Patr	0.44	60	⇓iPB	Pg	20 27 22.5	-0.8
RLS				eSB	Sg	20 27 28.5	-0.7
VLS	Valsamata	0.46	318	ePG	Pg	20 27 24.3	+0.8
VLS				eSB	Sb	20 27 32.7	+1.5
LKD	Levkas	0.90	344	ePg	Pg	20 27 31.8	-0.6
LKD				eSg	Sg	20 27 43.5	-1.0
ITM	Ithomi	1.00	131	ePN	Pn	20 27 32.9	-2.0
EVR	Evrytania	1.26	31	ePN	Pn	20 27 36.4	-2.2
EVR				eSB	Sb	20 27 55.8	+1.2
AGG	Agios Georgios	1.59	42	ePb	Pb	20 27 42.8	-1.1
AGG				eSb	Sb	20 28 04.8	+0.7
IGT	Igoumenitsa	1.76	344	ePb	Pb	20 27 46.2	-0.7
IGT				eSb	Sb	20 28 09.5	+0.2
LKR	Lokris	1.79	62	ePG	Pg	20 27 45.4	-4.6
JAN	Janina	1.82	357	ePN	Pn	20 27 48.7	+2.1
VLI	Veliai	1.92	125	ePN	Pn	20 27 49.5	+1.4
NSAL	Nisos Salamina	1.97	87	ePG	Pg	20 27 49.2	-4.5
NAIG	Nisos Aigina	1.99	92	ePG	Pg	20 27 49.7	-4.4
KEK	Kerkira	2.08	334	ePG	Pg	20 27 54.5	-1.5
ATH	Athens Observa	2.17	86	ePN	Pn	20 27 52.6	+1.0
MPAR	Parnis Oros	2.20	81	ePN	Pn	20 27 53.2	+1.1
KYTH	Kithira	2.27	133	ePG	Pg	20 27 55.0	-4.6
NEO	Neokhori	2.29	50	ePN	Pn	20 27 53.8	+0.4
PTL	Penteli	2.29	84	ePN	Pn	20 27 53.7	+0.3
XOR	Xorichti	2.31	48	ePn	Pn	20 27 53.9	+0.2
XOR	Xorichti	2.31	48	ePn	Pn	20 27 53.8	+0.2
KZN	Kozani	2.54	14	ePG	Pg	20 28 00.3	-4.8
LIT	Litokhoron	2.55	27	ePn	Pn	20 27 58.4	+1.4
LIT				eSn	Sn	20 28 28.9	+0.1
LIT	Litokhoron	2.55	27	S	Sn	20 28 28.9	+0.1
AOS	Alonnisos	2.64	59	ePn	Pn	20 27 58.4	+0.1
FNA	Florina	2.96	6	ePn	Pn	20 28 02.9	+0.1
FNA				eSn	Sn	20 28 39.4	+0.2
FNA	Florina	2.96	6	ePn	Pn	20 28 02.9	0.0
FNA				S	Sn	20 28 39.3	+0.1
OUR	Ouranopolis	3.42	42	ePn	Pn	20 28 09.5	+0.1
SOH	Sokhos	3.50	31	ePn	Pn	20 28 10.7	+0.1
VAM	Vamos	3.55	132	ePN	Pn	20 28 11.2	-0.1
SRS	Serrai	3.85	31	ePn	Pn	20 28 15.0	-0.5
SKO	Skopje	4.14	5	ePn	Pn	20 28 17.0	-2.7

DJA 10 20:31:38.7±1.0**, 8.88S**×**115.65E, h317^{km}**±8^{km}**, MD4.6**/4**, ML3.3**/2**, 2C-5D, Error ellipse: s-maj=93.7km s-min=20.0km az=8.0, Bali region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RATI	Rata	0.19	324	⇓iPn	P	20 32 18.5	-0.4
	56nm,0.2s						
RATI				⇓iSn	S	20 32 49.8	-0.6
KEDI	Kedomdong	0.60	50	⇓iPn	P	20 32 19.6	-0.1
	92nm,0.2s						
KELI	Kelakatan	1.32	300	⇑iPn	P	20 32 23.0	+0.3
	38nm,0.3s						
KELI				⇑iSn	S	20 32 55.8	-1.4
SRDI	Scrawed	1.54	285	⇓iPn	P	20 32 25.0	+0.9
	26nm,0.2s						
SRDI				⇓iSn	S	20 32 55.8	-3.7

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*THE **10** 20:55:53.5, 37.31N×20.61E, h6^{km}, ML3.0*
*ATH **10** 20:55:54.2, 37.44N×20.85E, h7^{km}±5^{km}, MD3.3/6*
*NEIC **10** 20:55:54.2, 37.44N×20.85E, h7^{km}, MD3.3(ATH), After ATH.*
*CSEM **10** 20:55:54.9±0.4, 37.44N×20.84E, h2^{km}, MD3.3, Error ellipse: s-maj=9.4km s-min=3.9km az=49.0*
ISC 10 20:55:53.0±1.3**, 37.35N**±0.06×**20.80E**±0.08**, h7^{km}, n10, σ1^{s}14**/17**, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VLS	Valsamata	0.84	349	ePG	Pg	20 56 08.4	-1.5
VLS				eSB	Sb	20 56 20.1	-0.8
RLS	Riolos of Patr	0.89	37	ePB	Pb	20 56 08.5	-1.8
RLS				eSB	Sb	20 56 20.3	-1.8
ITM	Ithomi	0.92	100	ePB	Pb	20 56 11.5	+0.6
ITM				eSB	Sb	20 56 23.1	0.0
LKD	Levkas	1.36	355	ePb	Pb	20 56 18.8	+0.3
LKD				eSb	Sb	20 56 37.0	+1.1
EVR	Evrytania	1.76	27	ePB	Pb	20 56 25.7	+0.5
EVR				eSB	Sb	20 56 48.6	+1.2
VLI	Veliai	1.82	110	ePG	Pg	20 56 29.5	0.0
AGG	Agios Georgios	2.06	35	ePn	Pn	20 56 29.6	+1.1
AGG				eSn	Sn	20 56 56.9	+2.1
LKR	Lokris	2.17	53	ePB	Pb	20 56 30.6	-1.7
IGT	Igoumenitsa	2.21	351	ePn	Pn	20 56 30.3	-0.4
IGT				eSn	Sn	20 56 58.3	-0.2
KEK	Kerkira	2.49	342	ePN	Pn	20 56 35.9	+1.3

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*NEIC **10** 21:02:59.2, 13.15N×89.26W, h59^{km}, mb3.6/2, MD3.5(SNET), After SNET.*
NEIC Felt [II] at San Salvador.
*CASC **10** 21:03:00.2±2.7, 13.19N×89.23W, h54^{km}±13^{km}, MD4.0, ML4.0, mb3.6(NEIC)*
ISC 10 21:02:59.1±0.5**, 13.2N**±0.1×**89.23W**±0.04**, h75^{km}**±9^{km}**, n45, σ0^{s}88**/68**, mb3.7**/1**, 4C-19D, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LFRS	El Faro	0.43	22	⇓iP	P	21 03 11.3	-0.6
LFRS	El Faro	0.43	22	⇓iP	P	21 03 11.3	-0.5
SNET	Serv Nac Est T	0.46	360	eP	P	21 03 11.6	-0.5
SNET	Serv Nac Est T	0.46	360	⇑eP	P	21 03 11.6	-0.5
SNET				eS	S	21 03 20.6	-1.3
SNET				i		21 03 21.5	
	comp=Z,10μm,0.3s						
LCBS	La Ceiba	0.49	30	⇓iP	P	21 03 11.9	-0.5
BOQS	Boqueron	0.51	354	⇓iP	P	21 03 12.5	0.0
BOQS				eS	S	21 03 23.4	+0.8
BOQS	Boqueron	0.51	354	⇓iP	P	21 03 12.5	0.0
BOQS				eS	S	21 03 24.6	+2.0
LFU	La Fuente	0.53	12	⇓iP	P	21 03 12.9	+0.1
LFU				eS	S	21 03 22.0	-1.0
LBRS	Las Brisas	0.54	20	eP	P	21 03 13.0	0.0
LBRS				eS	S	21 03 23.4	+0.2
LBRS	Las Brisas	0.54	20	⇓eP	P	21 03 13.0	+0.1
LBRS				eS	S	21 03 22.7	-0.4
SNVI	San Vicente	0.54	45	⇓eP	P	21 03 12.5	-0.4
SNVI				eS	S	21 03 22.1	-1.1
SBLS	San Blas	0.72	328	⇓eP	P	21 03 14.8	0.0
SBLS				eS	S	21 03 27.0	+0.6
SNJE	San Jose	0.74	330	⇓eP	P	21 03 15.1	+0.1
SNJE				eS	S	21 03 26.9	+0.1
RTR	El Retiro	0.78	329	⇓eP	P	21 03 15.8	+0.3
RTR				eS	S	21 03 27.9	+0.2
VSM	San Miguel	0.95	78	eP	P	21 03 18.1	+0.6
VSM	San Miguel	0.95	78	⇓eP	P	21 03 18.1	+0.6
VSM				eS	S	21 03 31.5	+0.2
CUSS	Cusmapa	0.97	314	eP	P	21 03 17.7	-0.1
CUSS				eS	S	21 03 31.1	-0.7
BLLM	Bellamira	0.99	77	eP	P	21 03 18.1	+0.2
BLLM	Bellamira	0.99	77	⇓eP	P	21 03 18.2	+0.2
BLLM				eS	S	21 03 32.0	-0.1
RBDL	Robledal	0.99	333	⇓iP	P	21 03 18.5	+0.6
CAHU	Cacacuatique	1.13	61	eP	P	21 03 20.3	+0.5
CAHU	Cacacuatique	1.13	61	⇓eP	P	21 03 20.2	+0.5
CAHU				eS	S	21 03 35.7	+0.5
MTO2	Montecristo 2	1.17	354	eP	P	21 03 21.1	+0.8
MTO2	Montecristo 2	1.17	354	⇓eP	P	21 03 21.1	+0.8
CNCH	Conchagua	1.36	88	eP	P	21 03 23.1	+0.1
CNCH	Conchagua	1.36	88	⇓eP	P	21 03 23.0	+0.1
CNCH				eS	S	21 03 40.8	+0.2
IXG	Ixpaco	1.52	308	⇓eP	P	21 03 24.7	-0.3
IXG				eS	S	21 03 43.4	-0.7
IXG				AML	AML	21 03 49.4	
	comp=E,10μm,0.4s						
FUG	Fuego 3	1.98	308	eP	P	21 03 31.1	-0.1
FUG				eS	S	21 03 59.3	+4.4
TP2	Tecpan 2	2.33	312	eP	P	21 03 38.6	+2.5
TP2				eS	S	21 04 07.9	+4.3
TEL3	Telica 3	2.41	105	eP	P	21 03 37.9	+0.6
TEL3				eS	S	21 04 04.5	-1.2
LEON	Leon	2.42	109	eP	P	21 03 37.6	+0.2
CNGN	Cerro Negro	2.57	106	⇑eP	P	21 03 40.4	+0.9
CNGN				eS	S	21 04 11.0	+1.4
MIRN	Miramar	2.58	107	⇑eP	P	21 03 40.2	+0.6
MIRN				eS	S	21 04 16.0	+6.2
JAT	Jato	2.58	295	eP	P	21 03 39.6	0.0
JAT				eS	S	21 04 09.2	-0.7
MOMJ	Momotombo	2.75	107	eP	P	21 03 42.8	+0.9
COPN	Copaltepe	2.77	112	eP	P	21 03 42.0	-0.3
APYN	Apoyeque	2.98	109	⇓eP	P	21 03 45.9	+0.7
XAVN	Gruta Xavier	3.03	110	eP	P	21 03 46.6	+0.7
MGAN	Managua	3.10	110	eP	P	21 03 49.7	+2.8
MGAN				eS	S	21 04 20.5	-2.4
MGAN				i		21 04 25.4	
	comp=N,165nm,0.2s						
WILN	Americas 2	3.15	109	eS	S	21 04 23.3	-0.9
TICN	Ticuantepe	3.16	112	eP	P	21 03 49.0	+1.4
PYTN	Playitas	3.17	102	⇑eP	P	21 03 46.0	-1.9
JTS	JuntasAbangare	5.10	124	ePn	P	21 04 14.3	-0.4
	comp=N,23nm,0.4s						
SDV	Santo Domingo	18.75	101	eP	P	21 07 13.1	-1.6
	comp=N,2.2nm,0.7s						
SAML	Samuel	33.98	129	eP	P	21 09 36.4	-1.4
	comp=N,0.7nm,0.6s,mb3.7						

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*ATH **10** 21:03:39.5, 41.38N×20.77E, h5^{km}, MD3.5/5*
*TIR **10** 21:03:41.9, 41.02N×20.49E, h25^{km}, Ml2.7*
*SKO **10** 21:03:41.1, 41.14N×20.77E, h13^{km}, ML2.6*
*PDG **10** 21:03:42.7±0.4, 41.19N×20.88E, h14^{km}±1^{km}*
*THE **10** 21:03:43.5, 41.16N×20.89E, h2^{km}, ML3.3*
*CSEM **10** 21:03:43.3±0.1, 41.12N×20.90E, h5^{km}, ML2.6, Error ellipse: s-maj=1.5km s-min=1.1km az=28.0*
*NEIC **10** 21:03:43.5, 41.16N×20.89E, h3^{km}, MD3.5(ATH), MD3.3(PDG), ML3.2(THE), After THE.*
NEIC Felt [IV] in the Ohrid-Struga area.
ISC 10 21:03:42.4±0.2**, 41.14N**±0.02×**20.82E**±0.02**, h10^{km}, n48, σ1^{s}23**/73**, 9C-1D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OHR	Ohrid	0.04	204	⇑iPg	Pg	21 03 43.6	-0.7
OHR				⇑iSg	Sg	21 03 45.2	-0.4
BIA	Bitola	0.40	108	⇑iPg	Pg	21 03 49.8	-0.8
BIA				i Sg	Sg	21 03 57.0	+0.9
KBN	Korca	0.52	183	i Pg	Pg	21 03 52.3	-0.6
KBN				i Sg	Sg	21 04 00.9	+0.9
FNA	Florina	0.56	130	ePg	Pg	21 03 53.2	-0.4
FNA				eSg	Sg	21 04 01.5	+0.3
FNA	Florina	0.56	130	P	Pg	21 03 53.2	-0.4
TIR	Tirane	0.75	286	⇓ipg?	Pg	21 03 54.2	-3.2
TIR				i Sg	Sg	21 04 04.9	-2.5
QSH	Qafa e Shtames	0.78	299	i pg?	Pg	21 03 55.8	-2.4
QSH				i Sg	Sg	21 04 07.8	-0.9
SKO	Skopje	0.95	29	i Pg	Pg	21 04 00.9	-0.6
SKO				i		21 04 02.0	
SKO				i Sg	Sg	21 04 13.0	-1.2
SKO				Lg		21 04 18.0	
	comp=Z,0.2nm,0.4s						
LACI	Lac	0.97	301	i pg?	Pg	21 03 58.4	-3.4
LACI				i Sg	Sg	21 04 11.9	-2.9
LACI	Lac	0.97	301	ePg	Pg	21 03 58.4	-3.4
LACI				i Sg	Sg	21 04 11.9	-2.9
LSK	Leskovik	1.01	190	ePn	Pn	21 03 59.9	-2.6
LSK				i Sn	Sn	21 04 16.2	-0.5
KZN	Kozani	1.11	139	ePB	Pb	21 04 04.5	+1.3
GRG	Griva	1.21	98	ePg	Pg	21 04 04.9	-1.8
GRG				eSg	Sg	21 04 21.9	-0.9
SDA	Shkodra	1.34	313	ePn	Pn	21 04 05.7	-1.6
BCI	Bajram Curri	1.34	336	ePn	Pn	21 04 07.3	0.0
MEV	Metsovon	1.39	167	ePb	Pb	21 04 09.2	+1.1
ULC	Ulcinj	1.43	305	ePg	Pg	21 04 06.6	-4.5
ULC				eSg	Sg	21 04 30.7	+0.5
JAN	Janina	1.48	179	ePN	Pn	21 04 12.5	+3.2
KNT	Kendrikon	1.57	89	ePb	Pb	21 04 11.2	+0.1
KEK	Kerkira	1.63	209	ePG	Pg	21 04 13.5	-1.4
LIT	Litokhoron	1.65	129	ePb	Pb	21 04 12.3	-0.1
LIT				eSb	Sb	21 04 34.9	+1.8
IGT	Igoumenitsa	1.65	193	ePb	Pb	21 04 13.8	+1.3
IGT				eSb	Sb	21 04 35.0	+1.7
THE	Thessaloniki	1.71	107	ePb	Pb	21 04 12.9	-0.5
THE	Thessaloniki	1.71	107	P	Pn	21 04 12.9	+0.4
TTG	Podgorica	1.73	318	⇑iPn	Pn	21 04 12.6	-0.3
TTG				eSn	Sn	21 04 38.2	+3.0
BARS	Barje	1.84	24	⇑iPn	Pn	21 04 14.1	-0.3
BARS				Sn	Sn	21 04 37.3	-0.5
BUM	Brajici-Budva	1.84	309	⇑iPn	Pn	21 04 14.9	+0.5
BUM				eSn	Sn	21 04 41.2	+3.2
IVA	Berane	1.86	339	⇑iPn	Pn	21 04 14.9	+0.3
IVA				eSn	Sn	21 04 40.5	+2.2
SOH	Sokhos	1.95	99	ePb	Pb	21 04 16.4	-1.1
SOH				eSb	Sb	21 04 41.8	-0.1
SRS	Serrai	2.10	90	ePn	Pn	21 04 17.6	-0.4
SRS				eSn	Sn	21 04 44.4	0.0
PLG	Polygyros	2.14	110	ePN	Pn	21 04 20.0	+1.3
NKY	Niksic	2.15	321	⇑iPn	Pn	21 04 19.3	+0.5
NKY				eSn	Sn	21 04 48.5	+2.7
HCY	Herceg Novi	2.17	308	⇑iPn	Pn	21 04 19.1	0.0
HCY				eSn	Sn	21 04 49.0	+2.8
EVR	Evrytania	2.35	161	ePN	Pn	21 04 26.0	+4.3
PLE	Pljevlja	2.43	335	ePn	Pn	21 04 23.2	+0.5
PLE				eSn	Sn	21 04 54.3	+1.5
BRY	Bratogost	2.44	317	ePn	Pn	21 04 22.8	-0.2
BRY				eSn	Sn	21 04 55.7	+2.6
UPM	Unac-Piva	2.50	326	ePn	Pn	21 04 23.9	+0.1
UPM				eSn	Sn	21 04 56.3	+1.7
OUR	Ouranopolis	2.54	108	ePn	Pn	21 04 24.1	-0.2
XOR	Xorichti	2.54	134	ePn	Pn	21 04 24.4	0.0
MRLC	Muro Lucano	4.05	266	ePn	Pn	21 04 45.4	-0.6
MRLC	Muro Lucano	4.05	266	ePn	Pn	21 04 45.4	-0.5
MGR	Morigerati	4.13	258	ePn	Pn	21 04 46.4	-0.6
MGR	Morigerati	4.13	258	ePn	Pn	21 04 46.4	-0.6
CSSN	Cassano Irpino	4.39	268	ePn	Pn	21 04 49.9	-0.8
CSSN	Cassano Irpino	4.39	268	ePn	Pn	21 04 49.9	-0.9
SGG	Gregorio Mates	4.86	275	ePn	Pn	21 04 58.1	+0.7
SGG	Gregorio Mates	4.86	275	ePn	Pn	21 04 58.1	+0.7
NRCA	Norcia	5.98	289	ePn	Pn	21 05 12.5	-0.7

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*SNSN **10** 21:05:58.6, 30.19N×34.89E, h23^{km}, Ml1.9*
*GII **10** 21:05:59.7±0.2, 30.15N×35.15E, h9^{km}±2^{km}, ML2.2/3, Mw2.3/4*
ISC 10 21:05:59.8±0.5**, 30.14N**±0.02×**35.12E**±0.08**, h20^{km}**±6^{km}**, n19, σ0^{s}83**/26**, Dead Sea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HRFI	Mount Harif	0.12	215	Pg	Pb	21 06 03.3	-0.7
HRFI				Sg	Sb	21 06 06.5	-0.4
PRNI	Paran	0.23	335	Pg	Pb	21 06 04.7	-0.8
PRNI				Sg	Sb	21 06 08.6	-0.7
KMTI	Karmit	0.34	264	Pg	Pb	21 06 07.0	-0.2
KMTI				Sg	Sb	21 06 12.3	+0.2
MBH	Mount Berech	0.39	207	Pg	Pb	21 06 07.6	-0.3
AQBJ	Aqaba	0.41	188	Pg	Pb	21 06 07.9	-0.4
ALWS	Ilw as Safayha	0.83	183	P	Pb	21 06 15.3	0.0
ALWS				S	Sb	21 06 27.5	+1.5
MASH	Mash'abbe Sade	0.90	341	Pg	Pb	21 06 17.0	+0.4
JMOS	Jabal al Moall	0.97	180	P	Pb	21 06 17.7	+0.1
JMOS				S	Sb	21 06 31.9	+1.8
RTMM	Retamin	0.98	338	Pg	Pb	21 06 18.1	+0.2
KZIT	Kziot	0.99	321	Pg	Pb	21 06 17.9	-0.1
KZIT				Sg	Sb	21 06 31.4	+0.9
HAQS	Haql	1.09	189	P	Pb	21 06 19.3	-0.6
HAQS				S	Sb	21 06 34.5	+0.9
MZDA	Masada	1.19	10	Sg	Sb	21 06 36.4	0.0
AMZI	Amatzia	1.33	352	Sn	Sb	21 06 43.5	+3.0
JMQS	Jabal Moqyreh	1.41	152	P	Pn	21 06 24.6	0.0
DRGI	Dragot	1.47	9	Sn	Sn	21 06 44.3	+0.1
TAYS	Tayyib Ism	1.60	188	P	Pn	21 06 26.1	-1.1
BDAS	Al Bad'	1.70	181	P	Pn	21 06 27.5	-1.2
AYUS	'Aynunah	1.95	176	P	Pn	21 06 31.2	-1.1
TBKS	Tabuk	2.28	146	P	Pn	21 06 37.6	+0.5

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*IDC **10** 21:25:48.0±1.1, 27.75S×177.29W, mb4.0/5, mb1 4.3/5, mb1mx4.1/11, MS3.4/3, Ms1 3.4/3, ms1mx3.1/18, Error ellipse: s-maj=45.6km s-min=27.6km az=144.0*
*NEIC **10** 21:25:49.4±0.5, 27.78S×177.28W, h10^{km}, mb4.2/2, Error ellipse: s-maj=20.2km s-min=15.3km az=145.0*
ISC 10 21:25:48.0±0.9**, 27.9S**±0.2×**177.3W**±0.2**, h10^{km}, n14, σ0^{s}32**/7**, mb4.0**/7**, MS3.4**/3**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	34.09	275	LR	LR	21 44 28.8	
	comp=Z,72nm,18.6s,MS3.4,baz=225,slow=33						
ASAR	Alice Springs	43.91	264	P	P	21 33 56.7	-0.1
	0.7nm,0.6s,mb3.6,baz=95,slow=7.2,SNR=15						
ASAR				LR	LR	21 52 44.3	
	comp=Z,35nm,20.5s,MS3.2,baz=196,slow=37						
WRAB	Tennant Creek	44.67	269	eP	P	21 34 02.6	-0.3
	1.4nm,0.6s,mb4.0						
WRA	Warramunga Arr	44.67	269	P	P	21 34 03.2	+0.2
	1.1nm,0.6s,mb3.9,baz=111,slow=6.4,SNR=23						
WRA				LR	LR	21 50 12.6	
	comp=Z,64nm,18.9s,MS3.6,baz=190,slow=33						
QSPA	South Pole Qui	62.25	180	eP	P	21 36 11.4	-0.5
	2.8nm,1.0s,mb4.3						
MAW	Mawson	74.90	200	P	P	21 37 30.8	+0.6
	0.8nm,0.7s,mb3.8,baz=90,slow=7.1,SNR=4.5						
NVAR	Mina Array Bea	85.96	42	P	P	21 38 29.7	0.0
	1.3nm,0.4s,mb4.5,baz=195,slow=6.9,SNR=3.5						
ILAR	Eielson Array	95.31	13	P	P	21 39 12.9	0.0
	0.3nm,0.7s,mb3.9,baz=216,slow=5.6,SNR=4.7						
FINES	FINESS Array B	142.94	342	PKhKP		21 45 18.9	
	0.9nm,0.6s,baz=27,slow=4.3,SNR=8.2						
FINES	FINESS Array B	142.94	342	PKP	PKPdf	21 45 18.9	-5.3
NB2	NORSAR Subarra	146.32	353	PKP		21 45 29.6	
	0.9nm,0.6s,baz=12,slow=2.9						
NOA	NORSAR Array B	146.32	353	PKPbc	PKPbc	21 45 29.5	+1.2
	1.2nm,0.6s,baz=14,slow=4.6,SNR=5.3						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HFS	Hagfors	146.86	350	PKPbc	PKPbc	21 45 30.9	+1.4
	2.4nm,0.6s,baz=90,slow=4.4,SNR=9.0						
AKASG	Malin Array Be	149.59	326	PKPbc	PKPdf	21 45 38.5	+2.7
	3.2nm,0.8s,baz=38,slow=3.4,SNR=7.4						
AKASG				PKPab	PKPab	21 45 42.4	-2.2
	1.5nm,0.6s,baz=39,slow=3.3,SNR=6.5						

TAP 10 21:44:03.6, 24.25N×120.84E, h33^{km}, ML3.8, 9C-4D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NSY	Sanyi	0.18	336	⇓iP	Pn	21 44 10.5	+0.7
NSY				S	Sn	21 44 15.5	+1.8
TCU	Taichung	0.18	236	⇑iP	Pn	21 44 10.2	+0.4
TCU				S	Sn	21 44 15.0	+1.2
TWT	Tachien	0.31	89	⇑iP	Pb	21 44 11.9	+0.5
TWT				S	Sb	21 44 17.2	+0.4
TYC	Yuchr	0.34	177	⇑iP	Pb	21 44 12.2	+0.3
TYC				S	Sb	21 44 18.6	+1.0
SMLT	Sun Moon Lake	0.37	171	⇑iP	Pb	21 44 12.8	+0.5
SMLT				S	Sb	21 44 19.5	+1.4
WNT	Mingjian	0.40	201	⇑iP	Pb	21 44 13.0	+0.3
WNT				S	Sb	21 44 19.9	+1.1
NSTT	Nanjuang	0.41	21	⇓iP	Pb	21 44 13.1	+0.4
NSTT				S	Sb	21 44 19.7	+0.6
NNS	Nan Shan	0.52	69	⇑iP	Pb	21 44 14.9	+0.4
NNS				S	Sb	21 44 23.0	+1.0
HSN	Hsinchu	0.56	12	eP	Pb	21 44 16.2	+1.0
HSN				S	Sb	21 44 25.6	+2.5
WGK	Gukeng	0.62	204	eP	Pn	21 44 16.3	+0.3
WGK				S	Sb	21 44 25.8	+1.3
NSK	Sanguang	0.64	48	⇑iP	Pn	21 44 16.6	+0.3
NSK				S	Sb	21 44 24.6	-0.4
WTCT	Ta-ch'eng	0.64	233	P	Pn	21 44 15.8	-0.5
WTCT				S	Sb	21 44 25.5	+0.4
CHN5	Tsauling	0.67	193	⇓iP	Pn	21 44 16.9	+0.1
CHN5				S	Sb	21 44 26.6	+0.7
ESL	Shilin	0.69	129	⇑P	Pn	21 44 17.8	+0.6
ESL				S	Sb	21 44 27.5	+0.8
TWD	Chiawan	0.71	104	eP	Pn	21 44 17.7	+0.3
TWD				S	Sb	21 44 27.5	+0.4
ALS	Alishan	0.74	182	⇓P	Pn	21 44 18.3	+0.6
ALS				S	Sb	21 44 29.1	+1.3
HWA	Hwalien	0.75	111	eP	Pn	21 44 18.7	+0.8
HWA				S	Sn	21 44 29.3	+1.1
ENTT	Nioudou	0.77	59	⇑P	Pn	21 44 18.7	+0.5
ENTT				S	Sn	21 44 28.4	-0.2
NCU	National Centr	0.78	24	eP	Pn	21 44 19.2	+0.8
NCU				S	Sn	21 44 29.5	+0.5
WSF	Szhu	0.83	223	eP	Pn	21 44 18.9	-0.1
WSF				S	Sn	21 44 30.6	+0.4
CHY	Chiayi	0.84	207	eP	Pn	21 44 19.4	+0.1
CHY				S	Sn	21 44 31.1	+0.7
ENA	Nanau	0.84	78	P	Pn	21 44 19.6	+0.4
ENA				S	Sn	21 44 31.3	+0.8
EHY	Hungye	0.86	149	eP	Pn	21 44 20.5	+1.0
EHY				S	Sn	21 44 32.1	+1.1
TWE	Neicheng	0.89	58	eP	Pn	21 44 20.8	+0.9
TWE				S	Sn	21 44 32.6	+0.9
CHN4	Tsaushan	0.92	194	eP	Pn	21 44 20.9	+0.5
CHN4				S	Sn	21 44 34.3	+1.7
TWC	Suao	0.99	69	eP	Pn	21 44 22.1	+0.8
TWC				S	Sn	21 44 36.0	+1.8
TWF1	Yuli	0.99	155	eP	Pn	21 44 22.4	+1.1
TWF1				S	Sn	21 44 35.7	+1.5
TWA	Mucha	0.99	43	eP	Pn	21 44 21.8	+0.4
TWA				S	Sn	21 44 34.9	+0.5
TWS1	Kuangyinshan	1.00	32	eP	Pn	21 44 21.9	+0.4
TWS1				S	Sn	21 44 35.5	+1.0
WTP	Ta-pu	1.02	192	eP	Pn	21 44 22.1	+0.3
WTP				S	Sn	21 44 36.4	+1.3
TWK	Hsinying	1.03	198	eP	Pn	21 44 22.3	+0.3
TWK				S	Sn	21 44 36.5	+1.2
CHN8	Yiju	1.07	213	eP	Pn	21 44 22.7	+0.3
CHN8				S	Sn	21 44 37.7	+1.5
ELDTW	Lidau	1.07	171	eP	Pn	21 44 23.2	+0.8
ELDTW				S	Sn	21 44 36.9	+0.7
STYT	Tauyuan	1.08	184	eP	Pn	21 44 23.4	+0.7
STYT				S	Sn	21 44 38.3	+1.6
CHN1	Nanshi	1.10	195	eP	Pn	21 44 23.2	+0.3
CHN1				S	Sn	21 44 38.3	+1.3
NWF	Wu-fen Shan	1.18	46	eP	Pn	21 44 24.2	+0.1
NWF				S	Sn	21 44 39.4	+0.2
SGST	Jiashian	1.19	192	eP	Pn	21 44 24.7	+0.6
SGST				S	Sn	21 44 41.2	+2.0
TWY	Chenhua	1.23	34	eP	Pn	21 44 25.5	+0.7
CHKT	Chengkung	1.24	157	eP	Pn	21 44 26.5	+1.6
CHKT				S	Sn	21 44 43.7	+3.0
TWB1	Santiao Chiao	1.29	54	eP	Pn	21 44 26.1	+0.5
TWB1				S	Sn	21 44 41.8	-0.1
PNG	Penghu	1.36	240	eP	Pn	21 44 25.2	-1.4
PNG				S	Sn	21 44 40.7	-2.9
TWG	Pinlang	1.44	171	eP	Pn	21 44 29.1	+1.3
TWG				S	Sn	21 44 48.6	+2.9
WDGT	Dungji	1.46	228	eP	Pn	21 44 27.5	-0.6
TWM1	Shoushan	1.47	195	eP	Pn	21 44 30.4	+2.2
SSD	Sandimen	1.51	187	eP	Pn	21 44 29.4	+0.7
SSD				S	Sn	21 44 51.4	+4.0
ECL	Taimali	1.65	176	eP	Pn	21 44 31.7	+0.9
ECL				S	Sn	21 44 54.5	+3.5
PCYT	Pengchaiyu	1.77	39	eP	Pn	21 44 32.3	-0.2
PCYT				S	Sn	21 44 54.4	+0.3
EAST	Anshuo	1.86	180	eP	Pn	21 44 34.3	+0.5
SCZT	Fangliau	1.88	186	eP	Pn	21 44 34.9	+0.9
KNM	Kinmen	2.20	275	eP	Pn	21 44 38.7	0.0

*LDG **10** 22:06:52.8±0.1, 42.83N×0.27W, h2^{km}, Md2.5/2, Ml2.5/8, Error ellipse: s-maj=2.2km s-min=1.1km az=2.0*
*STR **10** 22:06:52.5±0.1, 42.84N×0.26W, h5^{km}±1^{km}, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **10** 22:06:52.8, 42.83N×0.27W, h2^{km}, ML2.5(LDG), ML2.4(STR), MN2.1(MDD), After LDG.*
*CSEM **10** 22:06:53.3±0.1, 42.87N×0.26W, h2^{km}, ML2.5/10, Error ellipse: s-maj=1.9km s-min=1.4km az=178.0*
*MDD **10** 22:06:53.3±0.2, 42.86N×0.26W, h2^{km}±5^{km}, mbLg2.1/9, Error ellipse: s-maj=2.5km s-min=1.3km az=20.0, PRXIMO*
ISC 10 22:06:52.1±0.3, **42.91N**±0.02×**0.24W**±0.02, **h10**^{km}±2^{km}, **n54**, σ1s**06**/93, **1C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
REYF	Montagne du Re	0.19	325	Pg	Pg	22 06 57.6	+1.3
REYF				Sg	Sg	22 07 01.0	+1.9
REYF	Montagne du Re	0.19	325	P	Pg	22 06 57.6	+1.3
REYF				S	Sg	22 07 01.1	+2.0
VIEF	Viey	0.20	98	Pg	Pg	22 06 57.2	+0.8
VIEF				Sg	Sg	22 07 00.2	+0.9
VIEF	Viey	0.20	98	P	Pg	22 06 57.2	+0.8
VIEF				S	Sg	22 07 00.2	+0.9
ETSF	Etsaut	0.23	267	ePg	Pg	22 06 57.1	0.0
ETSF				eSg	Sg	22 06 59.6	-0.8
	278nm,0.3s						
FDAF	Les Forges d'A	0.26	249	Pg	Pg	22 06 57.2	-0.3
FDAF				Sg	Sg	22 07 00.4	-0.7
FDAF	Les Forges d'A	0.26	249	P	Pg	22 06 57.2	-0.3
FDAF				S	Sg	22 07 00.5	-0.7
LABF	Labassere	0.27	60	Pg	Pg	22 06 59.1	+1.4
LABF				Sg	Sg	22 07 03.5	+2.0
LABF	Labassere	0.27	60	P	Pg	22 06 59.2	+1.5
LABF				S	Sg	22 07 03.6	+2.1
EBIE	Bielsa	0.36	129	⇑Pg	Pg	22 06 59.6	+0.1
	8.3nm,0.1s,SNR=18						
EBIE				Lg		22 07 04.3	
	35nm,0.1s,SNR=7.9						
EBIE	Bielsa	0.36	129	Pg	Pg	22 06 59.6	+0.1
	8.3nm,0.1s,SNR=18						
EBIE				Lg		22 07 04.3	
	35nm,0.1s,SNR=7.9						
ATE	Arette	0.38	297	P	Pg	22 07 00.4	+0.5
ATE				S	Sg	22 07 05.7	+0.7
RESF	Ens	0.44	104	Pg	Pg	22 07 01.3	+0.3
RESF				Sg	Sg	22 07 07.3	+0.3
RESF	Ens	0.44	104	P	Pg	22 07 01.4	+0.3
RESF				S	Sg	22 07 07.6	+0.5
LARF	Larrau	0.56	283	Pg	Pg	22 07 03.7	+0.3
LARF				Sg	Sg	22 07 10.8	-0.2
LARF	Larrau	0.56	283	P	Pg	22 07 03.5	+0.1
LARF				S	Sg	22 07 11.6	+0.6
ORDF	Ordiarp	0.59	301	Pg	Pg	22 07 04.8	+0.8
ORDF				Sg	Sg	22 07 13.4	+1.5
ORDF	Ordiarp	0.59	301	P	Pg	22 07 04.8	+0.8
ORDF				S	Sg	22 07 13.0	+1.1
MELF	Melles	0.74	93	Pg	Pg	22 07 07.1	+0.2
MELF	Melles	0.74	93	P	Pb	22 07 06.8	+0.3
MELF				S	Sb	22 07 17.1	+0.8
SJPF	Ste Jean	0.75	286	ePg	Pg	22 07 07.3	+0.2
SJPF				eSg	Sg	22 07 17.2	+0.1
	32nm,0.2s						
OSSF	Osses	0.82	295	S	Sb	22 07 19.6	+0.8
EALK	Alkurruntz	0.98	289	Pg	Pg	22 07 11.3	-0.3
	0.3nm,0.1s,SNR=11						
EALK				Lg		22 07 24.1	
	13nm,0.1s,SNR=7.9						
SALF	Salau	1.06	98	Pg	Pg	22 07 13.0	-0.4
SALF				Sg	Sg	22 07 27.4	-0.2
SALF	Salau	1.06	98	P	Pb	22 07 13.2	+1.2
SALF				S	Sb	22 07 26.9	+1.1
ESAC	San Caprasio	1.20	188	Pg	Pg	22 07 15.5	-0.6
	2.9nm,0.2s,SNR=25						
ESAC				Lg		22 07 31.9	
	127nm,0.2s,SNR=7.9						
ESAC	San Caprasio	1.20	188	Pg	Pg	22 07 15.5	-0.6
	2.9nm,0.2s,SNR=25						
PAND	Andorre	1.38	106	S	Sb	22 07 36.7	+1.9
EMIR	Miracle	1.65	127	Pg	Pg	22 07 23.9	-1.1
	0.7nm,0.2s,SNR=14						
EMIR				Lg		22 07 46.3	
	7.0nm,0.1s,SNR=7.9						
EMIR	Miracle	1.65	127	Pg	Pg	22 07 23.9	-1.1
	0.7nm,0.2s,SNR=14						
EPOB	Poblet	1.84	147	Pg	Pg	22 07 26.6	-2.3
	0.4nm,0.1s,SNR=7.9						
EPOB				Lg		22 07 50.3	
	3.6nm,0.1s,SNR=7.9						
EPOB	Poblet	1.84	147	Pg	Pg	22 07 26.6	-2.3
	0.4nm,0.1s,SNR=7.9						
MTLF	Montolieu	1.85	76	ePg	Pg	22 07 27.9	-1.2
MTLF				eSg	Sg	22 07 52.7	-1.1
	7.5nm,0.2s						
LFF	La Frestale	2.15	19	ePg	Pg	22 07 33.8	-1.1
LFF				eSn	Sn	22 07 55.9	+0.6
LFF				eSg	Sg	22 08 02.7	-0.9
	9.9nm,0.3s						
EBR	Ebro Roquetas	2.16	165	eRs		22 08 00.0	
EBR				eRs		22 08 05.5	
EJON	La Jonquera	2.35	100	Pg	Pg	22 07 35.6	-3.5
	0.3nm,0.1s,SNR=7.9						
EJON				Lg		22 08 08.9	
	2.7nm,0.3s,SNR=7.9						
EJON	La Jonquera	2.35	100	Pg	Pg	22 07 38.9	-0.2
EJON				Lg		22 08 08.9	
EJON	La Jonquera	2.35	100	Pg	Pg	22 07 38.9	-0.2
	0.3nm,0.1s,SNR=7.9						
ELAN	Lanestosa	2.36	279	Pg	Pg	22 07 35.7	-3.5
	0.2nm,0.1s,SNR=7.9						
ELAN				Lg		22 08 08.8	
	1.5nm,0.3s,SNR=7.9						
ELAN	Lanestosa	2.36	279	Pg	Pg	22 07 35.7	-3.5
ELAN				Lg		22 08 05.6	
ELAN	Lanestosa	2.36	279	Pg	Pg	22 07 35.7	-3.5
	0.2nm,0.1s,SNR=7.9						
ETOR	Torete	2.49	214	Pn	Pn	22 07 34.3	+0.9
	6.3nm,0.9s,SNR=6.6						
ETOR				Sn	Sn	22 08 04.2	+0.1
	1.3nm,0.2s,SNR=7.9						
ETOR				Lg		22 08 11.2	
	1.1nm,0.1s,SNR=7.9						
ETOR	Torete	2.49	214	Pn	Pn	22 07 34.3	+1.0
	6.3nm,0.9s,SNR=6.6						
ETOR				Sn	Sn	22 08 04.2	+0.2
ETOR				Sn	Sn	22 08 04.2	+0.2
	1.3nm,0.2s,SNR=7.9						
EMOS	Mosqueruela	2.55	184	Pg	Pg	22 07 40.0	-3.1
	0.2nm,0.1s,SNR=7.9						
EMOS				Lg		22 08 11.5	
	2.0nm,0.3s,SNR=7.9						
EMOS	Mosqueruela	2.55	184	Pg	Pg	22 07 40.0	-3.1
	0.2nm,0.1s,SNR=7.9						
CAF	Calviac	2.61	39	ePn	Pn	22 07 35.4	+0.3
CAF				ePg	Pg	22 07 42.0	-2.2
CAF				eSn	Sn	22 08 07.5	+0.4
	3.8nm,0.2s						
RJF	Les Rejaudoux	2.71	27	ePn	Pn	22 07 37.3	+0.9
RJF				ePg	Pg	22 07 44.8	-1.3
RJF				eSn	Sn	22 08 09.8	+0.3
RJF				eSg	Sg	22 08 21.2	-1.0
	3.1nm,0.2s						
RJF	Les Rejaudoux	2.71	27	Pn	Pn	22 07 37.3	+0.9
RJF				Sn	Sn	22 08 09.8	+0.3
RJF				Lg		22 08 21.2	
	1.6nm,0.2s						
LASF	Ste Croix	3.20	67	ePn	Pn	22 07 43.6	+0.2
LASF				eSg	Sg	22 08 34.2	-4.5
	2.7nm,0.3s						
MFF	Saint Martin d	3.69	1	ePn	Pn	22 07 50.2	-0.2
MFF				ePg	Pg	22 08 02.1	-3.6
MFF				eSn	Sn	22 08 32.0	-2.4
MFF				eSg	Sg	22 08 49.0	-5.9
	2.0nm,0.4s						
TCF	Toulx Ste Croi	3.80	27	ePg	Pg	22 08 04.6	-3.4
TCF				eSn	Sn	22 08 35.9	-1.3
	4.0nm,0.6s						
VIVF	Saint-Julien-l	4.05	60	ePn	Pn	22 07 55.2	-0.3
VIVF				eSg	Sg	22 09 00.6	-6.3
	1.3nm,0.3s						
ESDC	Sonseca Array	4.28	222	Pn	Pn	22 07 57.9	-0.9
	1.1nm,0.1s,baz=41,slow=13,SNR=11						
ESDC				Sn	Sn	22 08 44.2	-5.1
	0.2nm,0.2s,SNR=7.9						
ESDC	Sonseca Array	4.28	222	Pn	Pn	22 07 57.9	-0.9
ESDC				Sn	Sn	22 08 44.2	-5.1

*SKO **10** 22:14:42.7, 41.14N×20.77E, h13^{km}, ML1.9*
*CSEM **10** 22:14:43.6±0.2, 41.19N×20.80E, h2^{km}, ML1.9, Error ellipse: s-maj=3.9km s-min=3.0km az=49.0*
*THE **10** 22:14:44.5, 41.21N×20.89E, h10^{km}, ML3.0*
ISC 10 22:14:43.6±0.5, **41.21N**±0.03×**20.81E**±0.03, **h2**^{km}, **n13**, σ1s**13**/25, **3C, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OHR	Ohrid	0.10	183	⇑iPg	Pg	22 14 45.2	-0.5
OHR				⇑iSg	Sg	22 14 46.9	-0.2
BIA	Bitola	0.44	116	⇑iPg	Pg	22 14 51.5	-0.8
BIA				i Sg	Sg	22 14 58.8	+0.6
FNA	Florina	0.61	135	ePg	Pg	22 14 55.0	-0.8
FNA				eSg	Sg	22 15 03.5	-0.3
FNA	Florina	0.61	135	ePg	Pg	22 14 55.0	-0.8
FNA				eSg	Sg	22 15 03.5	-0.4
TIR	Tirane	0.72	281	ePg	Pg	22 14 56.5	-1.5
TIR				i Sg	Sg	22 15 06.0	-1.7
QSH	Qafa e Shtames	0.74	295	i Pg	Pg	22 14 58.0	-0.5
QSH				i Sg	Sg	22 15 11.0	+2.6
SKO	Skopje	0.89	32	ePg	Pg	22 15 01.8	+0.3
SKO				i		22 15 03.3	
SKO				i Sg	Sg	22 15 15.0	+1.6
SKO				Lg		22 15 20.0	
	comp=Z,0.1nm,0.4s						
SKO	Skopje	0.89	32	ePg	Pg	22 15 01.8	+0.3
SKO				i Sg	Sg	22 15 15.0	+1.6
GRG	Griva	1.23	102	ePb	Pb	22 15 06.6	-0.7
GRG				eSb	Sb	22 15 23.9	+0.4
SRN	Sarande	1.47	205	ePn	Pn	22 15 13.6	+2.4
SRN				i Sn	Sn	22 15 32.6	+1.4
LIT	Litokhoron	1.70	130	ePb	Pb	22 15 14.0	-1.2
LIT				eSb	Sb	22 15 37.4	+0.4
IGT	Igoumenitsa	1.72	192	ePb	Pb	22 15 15.1	-0.5
IGT				eSb	Sb	22 15 39.2	+1.6
SRS	Serrai	2.10	92	ePn	Pn	22 15 19.4	-0.9

IDC 10 22:36:46.3±44.0, **15.93S**×**176.25W**, **mb4.2**/3, **mb1 4.4**/3, **mb1mx3.9**/13, **Error ellipse: s-maj=819.0km s-min=166.8km az=77.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	41.40	240	P	P	22 44 34.2	-1.8
	1.9nm,0.8s,baz=95,slow=11,SNR=3.5						
WRA	Warramunga Arr	47.05	257	P	P	22 45 20.2	-1.6
	1.1nm,0.5s,baz=92,slow=7.2,SNR=32						
ASAR	Alice Springs	47.33	252	P	P	22 45 22.1	-2.0
	6.3nm,0.5s,baz=87,slow=8.5,SNR=90						

*NNC **10** 23:11:28.1±20.0, 42.59N×85.97E, mpv3.0, Error ellipse: s-maj=150.6km s-min=131.0km az=149.0*
BJI 10 23:11:23.3, 42.01N×85.61E, h12^{km}, ML3.5, 3C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WMQ	Urumqi	2.37	40	eP	Pn	23 12 04.8	+2.1
WMQ				S	Sn	23 12 34.0	+2.1
WMQ				Smax			
	comp=N,194nm,0.5s						
WMQ				Smax			
	comp=E,312nm,0.5s						
MK31	Makanchi Array	5.34	335	⇑Pn	Pn	23 12 43.4	-1.4
	comp=E,0.3nm,0.2s,baz=130,slow=14,SNR=16						
MK31				⇓Pg	Pg	23 12 59.0	-11
	comp=E,1.5nm,0.3s,baz=143,slow=15,SNR=11						
MK31				⇑Sn	Sn	23 13 42.6	-4.4
	comp=E,2.5nm,0.5s,baz=190,slow=39,SNR=3.6						
MK31				⇑Lg		23 14 05.1	
	comp=E,13nm,0.6s,baz=151,slow=29,SNR=8.0						

*BER **10** 23:16:43.6±3.6, 67.81N×20.27E, ML1.6, Suspected explosion*
HEL 10 23:16:43.5±0.1, **67.86N**×**20.20E, ML1.9, ML1.8**(BER), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KIF	Kilpisjarvi	1.17	11	eP	Pb	23 17 04.9	-1.3
KIF				eS	Sb	23 17 20.9	-0.9
KTK1	Kautokeino	1.61	43	eP	Pn	23 17 12.1	-1.2
KTK1				eSN	Sn	23 17 35.3	+0.2
KTK1				AML	AML	23 17 37.5	
	comp=Z,9.9nm,0.2s						
TRO	Tromso	1.84	346	eP	Pn	23 17 15.0	-1.6
TRO				eSN	Sn	23 17 40.6	-0.2
TRO				AML	AML	23 17 43.2	
	comp=Z,7.8nm,0.3s						
SGF	Sodankyl	2.46	97	eP	Pn	23 17 23.9	-1.5
SGF				eS	Sn	23 17 55.0	-1.6
LOF	Lofoten	2.52	279	eSG	Sg	23 18 04.9	-2.6
LOF				AML	AML	23 18 06.4	
	comp=Z,5.2nm,0.5s						
MELS	Mels	2.70	251	eSg	Sg	23 18 09.6	-3.8
MOR8	Moi Rana	2.83	236	eSG	Sg	23 18 05.3	-12
MOR8				AML	AML	23 18 07.8	
	comp=Z,11nm,0.4s						
KEV	Kevo	3.12	49	eP	Pn	23 17 33.8	-1.1
KEV				eS	Sn	23 18 10.5	-2.9
KEV				MSG		23 18 21.4	
	comp=Z,3.4nm,0.4s						
OUL	Oulu	3.60	138	eSB	Sb	23 18 31.2	-1.4
OUL				MSG		23 18 42.0	
	comp=Z,2.2nm,0.3s						
NSS	Namsos	4.72	229	eSG	Sg	23 19 08.9	-12
NSS				AML	AML	23 19 10.7	
	comp=Z,2.7nm,0.4s						
VAF	Ylistaro	4.95	167	eP	Pn	23 17 59.0	-1.9
VAF				eS	Sn	23 18 54.9	-4.9

*IDC **10** 23:21:18.4±0.9, 50.07N×88.17E, mb3.8/7, mb1 4.0/11, mb1mx3.8/23, ML3.8/4, Error ellipse: s-maj=12.7km s-min=10.0km az=94.0*
*MOS **10** 23:21:20.1±2.3, 49.99N×87.87E, h15^{km}, mb4.1/4, Error ellipse: s-maj=16.0km s-min=9.1km az=112.6*
*BJI **10** 23:21:22.3, 49.99N×87.52E, h28^{km}, ML4.1*
*NEIC **10** 23:21:22.4±2.9, 50.04N×87.97E, h27^{km}±22^{km}, Error ellipse: s-maj=14.4km s-min=11.1km az=196.0*
*NNC **10** 23:21:23.4±8.0, 50.20N×87.61E, h13^{km}±55^{km}, mpv4.4, Error ellipse: s-maj=73.2km s-min=30.9km az=86.0*
ISC 10 23:21:19.0±0.4, **50.14N**±0.03×**88.06E**±0.06, **h15**^{km}, **n48**, σ1s**30**/60, **mb3.9**/10, **8C-1D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
UKR	Ust'-Kan	2.24	292	i PN	Pn	23 22 00.7	+4.5
UKR				i S	Sn	23 22 28.4	+4.7
TASR	Tashtagol	2.62	358	ePN	Pg	23 22 09.3	-2.1
TASR				i S	Sg	23 22 46.0	-0.4
ELT	Yel'tsovka	3.32	341	ePN	Pn	23 22 17.0	+5.5
ELT				eS	Sg	23 23 09.9	+0.2
CERR	Cheremushki	3.43	36	ePN	Pg	23 22 25.9	-1.6
CERR				i S	Sg	23 23 13.4	+0.2
ZAL	Zalesovo	4.30	333	Pn	Pn	23 22 28.2	+2.8
	6.8nm,0.3s,baz=234,slow=9.2,SNR=53						
ZAL				Sn	Sn	23 23 19.5	+3.6
	9.1nm,0.3s,baz=141,slow=23,SNR=8.6						
ZAL				Lg		23 23 37.8	
	12nm,0.3s,baz=331,slow=21,SNR=8.8						
ZAL	Zalesovo	4.30	333	PN	Pn	23 22 28.3	+2.9
ZAL						23 23 19.5	
ZAL				pmax	pmax		
	comp=Z,7.0nm,0.3s						
ZAL				smax			
	comp=N,9.0nm,0.3s						
MK31	Makanchi Array	5.09	231	⇑Pn	Pn	23 22 37.7	+1.1
	comp=N,25nm,0.4s,baz=59,slow=12,SNR=618						
MK31				⇑Sn	Sn	23 23 34.7	-1.2
	comp=N,39nm,0.5s,baz=59,slow=29						
MK31				⇑Lg		23 23 57.1	
	comp=N,149nm,0.7s,baz=50,slow=28						
MKAR	Makanchi Array	5.09	231	Pn	Pn	23 22 37.8	+1.1
	comp=N,28nm,0.3s,baz=51,slow=13,SNR=587						
MKAR				Sn	Sn	23 23 37.1	+1.2
	comp=N,16nm,0.3s,baz=62,slow=26,SNR=14						
MKAR				Lg		23 23 58.4	
	comp=N,22nm,0.3s,baz=45,slow=27,SNR=8.3						
MKAR	Makanchi Array	5.09	231	PN	Pn	23 22 37.8	+1.1
MKAR						23 23 37.1	
MKAR				pmax	pmax		
	comp=Z,28nm,0.3s						
MKAR				smax			
	comp=N,16nm,0.3s						
NVS	Novosibirsk	5.55	330	ePN	Pn	23 22 45.6	+2.5
NVS				e		23 23 04.7	
NVS				e	Sn	23 23 48.6	+1.2
NVS				i S	Sx	23 24 14.3	
KURK	Kurchatov	6.06	279	eP	Pn	23 22 50.1	-0.2
	comp=N,19nm,0.6s						
WMQ	Urumqi	6.33	182	eP	Pn	23 22 53.6	-0.5
WMQ				S	Sn	23 24 01.0	-5.8
WMQ				Smax			
	comp=N,83nm,0.8s						
WMQ				Smax			
	comp=E,73nm,0.8s						
VOSK	Vostochnaya	10.97	290	⇑Pn	P	23 23 55.3	-3.1
	comp=E,2.5nm,0.7s						
VOSK				⇑Sn	S	23 25 55.8	-6.0
	comp=E,1.5nm,0.5s						
TKM2	Tokmak 2	11.21	235	P	P	23 24 00.8	-0.8
	SNR=7.2						
BVA0	Borovoye Array	11.37	291	Pn	P	23 24 01.5	-2.3
	comp=E,0.3nm,0.5s,baz=106,slow=14,SNR=15						
BVA0				⇑Sn	S	23 26 04.8	-6.6
	comp=E,1.2nm,0.9s,baz=99,slow=25,SNR=3.6						
BVA0	Borovoye Array	11.37	291	eP	P	23 24 01.4	-2.4
BVAR	Borovoye Array	11.37	291	Pn	P	23 24 01.8	-2.0
	comp=E,1.5nm,0.3s,baz=104,slow=15,SNR=19						
BVAR				Sn	S	23 26 04.1	-7.3
	comp=E,1.5nm,0.3s,baz=106,slow=25,SNR=10						
BVAR				Lg		23 27 21.7	
	baz=93,slow=24,SNR=2.0						
BRVK	Borovoye	11.43	292	P	P	23 24 01.7	-3.0
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRVK	Borovoye	11.43	292	eP	P	23 24 01.7	-3.0
	comp=Z,3.3nm,0.8s						
USP	Ospenovka	11.56	239	P	P	23 24 06.0	-0.5
	SNR=19						
CHMS	Chumysh	11.61	237	P	P	23 24 06.6	-0.5
	SNR=5.3						
KBK	Karagaybulak	11.74	235	P	P	23 24 09.2	+0.4
	SNR=18						
AAK	Ala-Archa	11.99	236	⇑P	P	23 24 11.5	-0.8
	comp=Z,3.0nm,0.6s						
AAK	Ala-Archa	11.99	236	P	P	23 24 12.3	0.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	SNR=5.4						
AAK	Ala-Archa	11.99	236	*e*P	P	23 24 09.0	-3.3
	comp=Z,3.1nm,0.6s						
ZRNK	Zerenda	12.19	291	⇓Pn	P	23 24 12.5	-2.4
	comp=Z,2.3nm,0.5s						
ZRNK				⇑Sn	S	23 26 25.5	-5.9
	comp=Z,3.7nm,0.6s						
ZRNK	Zerenda	12.19	291	*e*P	P	23 24 12.1	-2.8
	comp=Z,5.6nm,0.8s						
SONM	Songino Array	12.26	94	Pn	P	23 24 16.0	+0.1
	comp=Z,0.0nm,0.3s,baz=276,slow=13,SNR=5.7						
SONM				Lg		23 27 45.1	
	comp=Z,0.1nm,0.3s,baz=289,slow=30,SNR=6.2						
EKS2	Erkin-Say	12.36	238	P	P	23 24 17.3	0.0
	SNR=9.0						
ARU	Arti	18.62	301	*e*P	P	23 25 39.0	+1.3
ARU				*e*S	S	23 29 10.3	+8.4
GKN	Gorkha	22.26	188	*e*P	P	23 26 18.2	+1.3
GUN	Gumba	22.26	185	*e*P	P	23 26 18.7	+1.8
	comp=Z,10nm,0.5s,mb4.5						
KKN	Kakani	22.42	186	*e*P	P	23 26 19.6	+1.2
	comp=Z,8.7nm,0.6s,mb4.4						
KOLN	Koldanda	22.60	190	*e*P	P	23 26 18.3	-1.9
	comp=Z,5.2nm,0.9s,mb4.0						
PKI	Pulchoki	22.63	186	*e*P	P	23 26 20.7	+0.2
FINES	FINESS Array B	35.26	313	P	P	23 28 15.2	+0.7
	comp=Z,1.5nm,0.7s,mb4.0,baz=63,slow=8.5,SNR=5.8						
FINES	FINESS Array B	35.26	313	P	P	23 28 15.2	+0.7
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRTR	Keskin Array B	39.10	276	P	P	23 28 48.1	+1.0
	comp=Z,2.1nm,0.8s,mb3.9,baz=85,slow=7.7,SNR=9.6						
BRTR	Keskin Array B	39.10	276	P	P	23 28 48.2	+1.1
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NB2	NORSAR Subarra	42.27	315	P	P	23 29 13.1	+0.3
	comp=Z,0.9nm,0.7s,mb3.5,baz=66,slow=7.9						
NOA	NORSAR Array B	42.27	315	P	P	23 29 13.4	+0.6
	comp=Z,1.1nm,0.8s,mb3.6,baz=64,slow=7.8,SNR=5.7						
NOA	NORSAR Array B	42.27	315	P	P	23 29 13.4	+0.6
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	Eielson Array	57.77	25	P	P	23 31 11.6	+0.4
	comp=Z,0.3nm,0.6s,mb3.5,baz=319,slow=7.4,SNR=4.6						
ESDC	Sonseca Array	62.02	299	P	P	23 31 40.7	0.0
	comp=Z,0.7nm,0.6s,mb4.0,baz=46,slow=6.7,SNR=6.2						
WRA	Warramunga Arr	80.86	136	P	P	23 33 32.8	-0.9
	comp=Z,0.4nm,0.6s,mb3.5,baz=341,slow=5.7,SNR=4.9						
ASAR	Alice Springs	83.95	139	P	P	23 33 49.4	-0.2
	comp=Z,0.4nm,0.5s,mb3.8,baz=336,slow=5.4,SNR=6.2						
CPUP	Villa Florida	144.38	299	PKP	PKPdf	23 40 54.2	-3.7
	comp=Z,2.2nm,0.7s,baz=86,slow=1.0,SNR=12						
CPUP	Villa Florida	144.38	299	PKIKP	PKPdf	23 40 54.2	-3.7
CPUP				pmax	pmax		
	comp=Z,2.0nm,0.7s						

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*MOS **10** 23:29:05.6±1.1, 52.19N×159.80E, h11km, mb4.3/1, Error ellipse: s-maj=29.6km s-min=12.4km az=89.7*
*KRSC **10** 23:29:05.1±0.8, 52.15N×159.84E, h14km±4km, ML4.0*
ISC 10 23:29:06.1±1.2**, 52.12N**±0.06×**159.87E**±0.06**, h25**km±6km**, n33,** σ1§**13**/52**, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RUS	Russkaya	0.89	291	P	Pb	23 29 21.5	-1.3
RUS				S	Sb	23 29 32.5	-1.8
RUS	Russkaya	0.89	291	*i* P	Pb	23 29 21.5	-1.3
RUS				*e*S	Sb	23 29 33.2	-1.1
SPN	Mys Shipunski	0.98	5	P	Pb	23 29 24.5	+0.2
SPN				S	Sb	23 29 38.6	+1.7
SPN	Mys Shipunski	0.98	5	*e*P	Pb	23 29 24.4	+0.1
SPN				*e*S	Sb	23 29 38.5	+1.6
NLC	Nalytchevo	1.10	343	P	Pn	23 29 25.4	-0.7
NLC				S	Sb	23 29 40.1	-0.1
NLC	Nalytchevo	1.10	343	*e*P	Pn	23 29 25.3	-0.8
NLC				*e*S	Sb	23 29 40.1	-0.1
PET	Petropavlovsk	1.17	321	P	Pn	23 29 26.8	-0.3
PET				S	Sb	23 29 42.0	-0.3
PET	Petropavlovsk	1.17	321	*e*P	Pn	23 29 26.4	-0.7
PET				*e*S	Sb	23 29 42.0	-0.3
GRL	Gorelyy	1.18	292	*e*P	Pn	23 29 27.0	-0.3
GRL				*e*S	Sb	23 29 43.3	+0.6
UGLR	Uglovaya	1.26	330	*i* P	Pn	23 29 28.3	-0.1
UGLR				*e*S	Sn	23 29 44.1	-0.6
SDLR	Sedlovina	1.30	333	*e*P	Pn	23 29 28.6	-0.4
SMAR	Somma	1.31	331	*e*P	Pn	23 29 28.7	-0.5
SMAR				*e*S	Sn	23 29 45.3	-0.8
AVH	Avacha	1.33	329	*e*P	Pn	23 29 29.5	0.0
KOK	Koryaka	1.39	328	*e*P	Pn	23 29 30.3	0.0
APC	Apacha	1.84	297	*i* P	Pn	23 29 37.1	+0.4
APC				*e*S	Sn	23 30 01.4	+2.0
APC				Smax			
	270nm,0.9s						
MIPR	Malaya Ipel'ka	1.92	276	*e*P	Pn	23 29 37.7	-0.2
MIPR				*e*S	Sn	23 30 01.4	-0.1
GNL	Ganaly	1.96	324	*e*P	Pn	23 29 38.8	+0.4
GNL				*e*S	Sn	23 30 03.4	+0.9
MKZ	Mys Kozlova	2.68	24	P	Pn	23 29 47.5	-1.3
MKZ				S	Sn	23 30 18.4	-2.4
MKZ	Mys Kozlova	2.68	24	*e*P	Pn	23 29 47.3	-1.5
MKZ				*e*S	Sn	23 30 18.7	-2.1
SKR	Severo-Kuril's	2.76	240	*e*PN	Pn	23 29 44.4	-5.4
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
TUMR	Tumrok	3.17	3	*e*P	Pn	23 29 56.6	+0.9
TUMR				*e*S	Sn	23 30 35.4	+2.2
KPT	Kopyto	3.86	3	P	Pn	23 30 04.7	-0.7
ESO	Esso	3.87	350	*e*P	Pn	23 30 05.5	-0.2
ESO				*e*S	Sn	23 30 49.0	-1.9
ESO				Smax			
	comp=Z,40nm,1.0s						
ZLN	Zelenaya	3.94	8	*e*P	Pn	23 30 05.6	-1.0
KOZ	Kozyrevsk	3.94	0	P	Pn	23 30 08.1	+1.4
KOZR	Kozyr	3.95	0	PN	Pn	23 30 08.1	+1.3
LGNR	Loginova	4.00	7	*e*P	Pn	23 30 09.8	+2.4
CIRR	Tsirk	4.03	7	*e*P	Pn	23 30 09.4	+1.4
KRSR	Krestovskiy	4.12	5	P	Pn	23 30 11.5	+2.3
SRDR	Sredinnyy	4.20	359	P	Pn	23 30 10.9	+0.5
KBTR	Krutoberegovo	4.45	22	P	Pn	23 30 13.1	-0.7
KBTR	Krutoberegovo	4.45	22	*i* P	Pn	23 30 13.2	-0.6
KBTR				*e*S	Sn	23 31 02.7	-2.7
BKI	Bering	4.76	47	*e*S	Sn	23 31 05.8	-7.7

IDC 10 23:42:02.5±52.0**, 15.29S**×**168.31E, mb4.4**/3**, mb1 4.6**/3**, mb1mx4.0**/14**, Error ellipse: s-maj=886.0km s-min=104.9km az=67.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	29.41	231	P	P	23 48 07.5	-2.4
	2.3nm,0.3s,baz=54,slow=9.4,SNR=18						
WRA	Warramunga Arr	32.67	257	P	P	23 48 36.9	-1.8
	2.2nm,0.5s,baz=88,slow=8.9,SNR=26						
ASAR	Alice Springs	33.42	250	P	P	23 48 43.0	-2.1
	3.1nm,0.5s,baz=78,slow=9.2,SNR=52						

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*BJI **10** 23:46:26.9, 9.40S×118.56E, h145km, mB4.9, mb4.8*
*DJA **10** 23:46:29.4±0.8, 8.75S×118.17E, h240km, MD4.6/7, ML5.4/5, Error ellipse: s-maj=30.9km s-min=4.7km az=148.0*
*IDC **10** 23:46:33.2±1.7, 8.42S×118.39E, h130km±14km, mb4.2/13, mb1 4.3/15, mb1mx4.2/21, MS3.2/5, Ms1 3.2/5, ms1mx3.0/17, Error ellipse: s-maj=22.1km s-min=10.1km az=59.0*
*NEIC **10** 23:46:34.9±0.5, 8.54S×118.23E, h146km±5km, mb4.4/10, Error ellipse: s-maj=7.7km s-min=7.1km az=94.0*
*SYO **10** 23:46:34.4, 8.60S×118.26E, h141km, MB4.5*
ISC 10 23:46:33.3±0.6**, 8.61S**±0.05×**118.29E**±0.05**, h151**km±6km**, n73,** σ1§**25**/64**, mb4.4**/26**, 9C-10D, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	Kedomdong	2.15	273	⇓*e*Pn	P	23 47 10.7	0.0
	4μm,0.2s						
KEDI	Kedomdong	2.15	273	⇑*i*P	P	23 47 10.9	+0.2
RATI	Rata	2.73	267	⇓*e*Pn	P	23 47 18.2	+0.3
	5μm,0.2s						
RATI	Rata	2.73	267	⇑*i*P	P	23 47 18.7	+0.8
RATI				⇑*i*Sn	S	23 47 53.4	+1.4
RATI	Rata	2.73	267	⇓*e*Pn	P	23 47 18.2	+0.3
RATI				*i* Sn	S	23 47 53.4	+1.4
KELI	Kelakatan	3.78	276	⇓*i*Pn	P	23 47 31.5	+0.1
	758nm,0.3s						
KELI				⇑*i*Sn	S	23 48 14.2	-1.9
SRDI	Scrawed	4.10	271	⇓*i*Pn	P	23 47 34.9	-0.8
	1μm,0.2s						
SRDI				⇓*i*Sn	S	23 48 23.1	-0.7
NINI	Niniconang	4.41	19	⇑*i*Pn	P	23 47 41.1	+1.4
TANI	Tanete Lipujan	5.25	12	⇑*i*Pn	P	23 47 51.5	+0.6
BUNI	Buntu Taipa	5.32	22	⇓*e*Pn	P	23 47 53.1	+1.4
	111nm,0.3s						
BUNI	Buntu Taipa	5.32	22	⇓*i*P	P	23 47 53.3	+1.6
BUNI	Buntu Taipa	5.32	22	⇓*i*P	P	23 47 53.3	+1.6
FITZ	Fitzroy Crossi	11.84	144	P	P	23 49 16.5	-1.7
	7.0nm,0.3s,baz=349,slow=8.5,SNR=165						
FITZ				S	S	23 51 18.6	-9.0
	9.9nm,0.3s,baz=186,slow=18,SNR=12						
FITZ				LR	LR	23 53 44.2	
	comp=Z,70nm,21.3s,baz=283,slow=36						
FITZ	Fitzroy Crossi	11.84	144	P	P	23 49 16.5	-1.7
FITZ				S	S	23 51 18.6	-9.0
FITZ				LR	LR	23 53 44.2	
MBWA	Marble Bar	12.56	174	⇓*e*Pn	P	23 49 26.1	-1.4
	89nm,0.6s						
MBWA				*e*Sn	S	23 51 31.1	-13
WRA	Warramunga Arr	19.19	128	P	P	23 50 46.2	-1.5
	3.4nm,0.3s,baz=301,slow=12,SNR=105						
WRA				S	S	23 54 10.3	-1.7
	1.8nm,0.3s,baz=304,slow=22,SNR=12						
WRA				ScP		23 58 27.9	
	0.0nm,0.3s,baz=321,slow=2.2,SNR=4.6						
WRAB	Tennant Creek	19.19	128	P	P	23 50 46.0	-1.7
	160nm,0.7s,SNR=55						
WRAB	Tennant Creek	19.19	128	*e*P	P	23 50 46.1	-1.6
	28nm,0.7s						
WRAB				*e*S	S	23 54 07.3	-4.8
ASAR	Alice Springs	21.16	137	P	P	23 51 08.6	+0.9
	17nm,0.5s,mb4.6,baz=311,slow=9.2,SNR=220						
ASAR				S	S	23 54 53.8	+4.9
	8.7nm,0.8s,baz=311,slow=18,SNR=8.0						
ASAR				ScP		23 58 33.0	
	2.2nm,0.5s,baz=334,slow=2.5,SNR=4.4						
ASAR				LR	LR	23 59 40.3	
	comp=Z,50nm,21.8s,baz=196,slow=37						
NWAO	Narrogin (SRO)	24.22	182	P	P	23 51 38.8	+1.5
	9.4nm,0.6s,mb4.5,baz=28,slow=7.1,SNR=7.0						
NWAO	Narrogin (SRO)	24.22	182	*e*P	P	23 51 38.6	+1.3
NWAO				*e*		23 52 00.9	
CTA	Charters Tower	29.35	116	P	P	23 52 24.2	-0.1
	5.4nm,0.6s,mb4.5,baz=279,slow=12,SNR=5.4						
CTA				PcP	PcP	23 55 27.8	+0.9
	5.8nm,0.9s,baz=304,slow=4.6,SNR=5.0						
CTA				LR	LR	00 04 17.1	
	comp=Z,45nm,19.3s,baz=218,slow=36						
CTA	Charters Tower	29.35	116	P	P	23 52 24.2	-0.1
CTA				PcP	PcP	23 55 27.8	+0.9
CTA				LR	LR	00 04 17.1	
CTAO	Charters Tower	29.35	116	*e*P	P	23 52 24.1	-0.1
	17nm,1.1s,mb4.7						
STKA	Stephens Creek	31.70	140	P	P	23 52 45.3	+0.4
	12nm,0.7s,mb4.7,baz=310,slow=8.8,SNR=35						
STKA				PcP	PcP	23 55 33.4	+0.5
	9.3nm,0.5s,baz=335,slow=4.7,SNR=7.6						
STKA				LR	LR	00 06 47.2	
	comp=Z,91nm,21.5s,baz=263,slow=38						
STKA	Stephens Creek	31.70	140	*e*P	P	23 52 45.1	+0.2
STKA				*e*pP	pP	23 53 15.3	-1.9
STKA				*e*PcP	PcP	23 55 33.8	+0.9
CMAR	Chiang Mai Arr	32.98	325	P	P	23 52 55.5	-0.6
	1.8nm,0.5s,mb4.1,baz=153,slow=7.2,SNR=15						
CMAR				ScP		23 59 09.0	
	0.8nm,0.4s,baz=172,slow=3.0,SNR=8.4						
CMAR				LR	LR	00 09 24.3	
	comp=Z,27nm,18.2s,baz=316,slow=42						
GUN	Gumba	47.96	320	*e*P	P	23 54 59.0	+0.3
	7.4nm,0.4s,mb4.7						
PKI	Pulchoki	48.03	320	*e*P	P	23 54 57.7	-1.5
KKN	Kakani	48.26	320	*e*P	P	23 55 00.9	-0.1
	3.0nm,0.2s,mb4.6						
GKN	Gorkha	48.82	319	*e*P	P	23 55 04.2	-1.1
	5.0nm,0.3s,mb4.7						
KOLN	Koldanda	49.34	318	*e*P	P	23 55 07.7	-1.5
	5.7nm,0.6s,mb4.4						
GTA	Gaotai	50.76	342	*e*P	P	23 55 20.5	+0.6
GTA				AMB	AMB		
	comp=Z,3.0nm,0.6s,mb4.1						
CN2	Changchun	52.56	7	*e*P	P	23 55 36.9	+3.5
MDJ	Mudanjiang	53.95	10	P	P	23 55 43.1	-0.4
MDJ				AMB	AMB		
	comp=Z,14nm,0.8s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,143nm,4.9s						
SONM	Songino Array	57.17	350	P	P	23 56 06.2	-0.3
	comp=Z,3.5nm,0.5s,mb4.4,baz=166,slow=8.7,SNR=46						
RPZ	Rata Peaks	57.57	137	P	P	23 56 10.5	+1.1
	comp=Z,36nm,1.0s,mb5.2,baz=337,slow=8.4,SNR=5.1						
CASY	Casey	57.83	184	*e*P	P	23 56 11.5	+0.6
	comp=Z,2.4nm,0.6s,mb4.2						
WMQ	Urumqi	59.10	335	*e*P	P	23 56 21.4	+1.3
WMQ				AMB	AMB		
	comp=Z,24nm,1.0s,mb5.0						
URZ	Urewera	60.35	129	P	P	23 56 28.3	-0.3
	comp=Z,12nm,0.8s,mb4.8,baz=170,slow=1.3,SNR=3.1						
MKAR	Makanchi Array	63.79	333	P	P	23 56 50.7	-0.8
	comp=Z,2.1nm,0.5s,mb4.3,baz=154,slow=8.4,SNR=28						
MKAR	Makanchi Array	63.79	333	P	P	23 56 50.7	-0.8
KURK	Kurchatov	68.34	334	*e*P	P	23 57 19.3	-0.9
	comp=Z,3.6nm,0.8s,mb4.2						
ZAL	Zalesovo	68.42	339	P	P	23 57 18.9	-1.7
	comp=Z,3.6nm,0.4s,mb4.4,baz=244,slow=4.4,SNR=21						
ZAL	Zalesovo	68.42	339	P	P	23 57 18.9	-1.7
MAW	Mawson	69.36	200	P	P	23 57 27.3	+1.1
	comp=Z,6.4nm,0.8s,mb4.4,baz=63,slow=7.2,SNR=20						
MAW	Mawson	69.36	200	*e*P	P	23 57 28.4	+2.3
	comp=Z,5.0nm,0.6s,mb4.4						
SBA	Scott Base	73.49	170	*e*P	P	23 57 52.9	+2.4
	comp=Z,2.5nm,0.5s,mb4.2						
BVAR	Borovoye Array	73.62	332	P	P	23 57 50.7	-1.0
	comp=Z,1.1nm,0.6s,mb3.8,baz=127,slow=7.4,SNR=8.3						
ZRNK	Zerenda	74.22	332	*e*P	P	23 57 53.9	-1.2
	comp=Z,2.3nm,0.6s,mb4.1						
SYO	Syowa Base	77.96	201	⇑P	P	23 58 18.0	+2.2
SYO	Syowa Base	77.96	201	⇑PcP	PcP	23 58 24.7	-0.6
SYO	Syowa Base	77.96	201	⇑pP	pP	23 58 50.3	-3.1
KMBO	Kilima Mbogo	80.97	270	P	P	23 58 35.2	+2.1
	comp=Z,1.2nm,0.5s,mb3.8,baz=60,slow=9.0,SNR=11						
QSPA	South Pole Qui	81.39	180	*e*P	P	23 58 36.2	+2.2
	comp=Z,6.4nm,0.9s,mb4.2						
MBAR	Mbarara	87.49	270	*e*P	P	23 59 06.9	+1.2
	comp=Z,3.2nm,0.6s,mb4.3						
YKA	Yellowknife Ar	114.12	24	PKiKP		00 04 56.0	
	comp=Z,0.6nm,0.4s,baz=296,slow=1.7,SNR=16						
YKA	Yellowknife Ar	114.12	24	PKPdf	PKPdf	00 04 56.0	+1.8
NVAR	Mina Array Bea	121.31	50	PKP	PKPdf	00 05 12.0	+3.2
	comp=Z,1.2nm,0.6s,baz=245,slow=0.7,SNR=7.1						
ELK	Elko	122.91	47	*e*P	PKPdf	00 05 14.4	+2.7
DBIC	Dimbokro	123.66	272	PKP	PKPdf	00 05 16.6	+2.7
	comp=Z,3.8nm,0.6s,baz=251,slow=8.6,SNR=7.7						
TXAR	Lajitas Array	135.61	57	PKhKP		00 05 26.0	
	comp=Z,0.2nm,0.6s,baz=315,slow=1.8,SNR=3.8						
TXAR				PKP	PKPdf	00 05 38.4	+2.1
	comp=Z,0.3nm,0.6s,baz=280,slow=1.0,SNR=4.9						
TXAR				SKPbc		00 08 56.2	
	comp=Z,0.4nm,0.8s,baz=252,slow=4.0,SNR=5.3						
TXAR	Lajitas Array	135.61	57	PKP	PKPdf	00 05 26.0	-10
TXAR				PKP	PKPdf	00 05 38.4	+2.1
TXAR				SKPbc		00 08 56.2	
CPUP	Villa Florida	145.01	187	PKPbc	PKPbc	00 05 56.7	+3.2
	comp=Z,18nm,0.8s,baz=199,slow=2.3,SNR=43						
CPUP	Villa Florida	145.01	187	PKPbc	PKPbc	00 05 56.7	+3.2
MCWV	Mont Chateau	145.08	25	*e*PKPdf	PKPdf	00 05 54.9	+2.0
SWET	Sewanee	145.47	36	*e*PKPbc	PKPbc	00 05 55.2	+0.8
LRAL	Lakeview Retre	146.28	40	*e*PKPbc	PKPbc	00 05 58.3	+1.9
PWV	Princeton	146.46	29	*e*PKPbc	PKPbc	00 05 58.8	+2.1
BDFB	Brasilia	152.35	209	PKPbc	PKPdf	00 06 16.0	+11
	comp=Z,4.4nm,0.5s,baz=181,slow=1.4,SNR=12						
LPAZ	La Paz	154.46	166	PKPbc	PKPdf	00 06 21.1	+13
	comp=Z,1.3nm,0.6s,baz=278,slow=4.4,SNR=5.2						
LPAZ				PKPab	PKPab	00 06 36.8	+2.9
	comp=Z,2.6nm,0.6s,baz=167,slow=4.2,SNR=8.1						
LPAZ	La Paz	154.46	166	PKPbc	PKPdf	00 06 21.1	+13
LPAZ				*e*PKPab	PKPab	00 06 36.1	+2.2
LPAZ				PKPab	PKPab	00 06 36.8	+2.9
SAML	Samuel	162.50	175	*e*PKPab	PKPab	00 07 10.0	+1.4

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*IGIL **11** 00:07:59.6, 39.00N×12.10W, h0km, ML2.8*
*NEIC **11** 00:07:59.4, 39.29N×12.03W, MG3.7(MDD), After MDD.*
*MDD **11** 00:07:59.1±1.6, 39.24N×12.07W, mb3.7/9, Error ellipse: s-maj=15.2km s-min=8.3km az=74.0, PRXIMO*
*INMG **11** 00:08:00.7±1.1, 39.13N×12.55W, h10km, ML2.3, Error ellipse: s-maj=9.2km s-min=5.3km az=75.0*
*CSEM **11** 00:08:00.4±0.5, 39.27N×12.12W, h20km, ML3.2/10, Error ellipse: s-maj=10.1km s-min=4.9km az=72.0*
ISC 11 00:08:00.6±1.0**, 39.32N**±0.04×**11.75W**±0.07**, h10**km**, n53,** σ1§**32**/107**, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLOU	Loures	2.07	101	*e*Pn	Pn	00 08 37.6	+1.7
PLOU				*e*Sn	Sn	00 09 06.1	+4.1
	29nm,0.2s						
PLOU	Loures	2.07	101	Pn	Pn	00 08 37.6	+1.7
PLOU				Sn	Sn	00 09 06.1	+4.1
	14nm,0.2s						
LIS	Lisbon	2.12	106	*e*P	Pn	00 08 36.9	+0.4
LIS				*e*S	Sn	00 09 04.5	+1.4
LIS				*e*S	Sn	00 09 04.5	+1.4
LIS				AML	AML	00 09 07.3	
	comp=N,55nm,0.5s						
LIS	Lisbon	2.12	106	P	Pn	00 08 36.9	+0.4
LIS				P		00 08 36.9	
LIS				S	Sn	00 09 04.5	+1.4
LIS				S	Sn	00 09 04.5	+1.4
LIS				S	Sn	00 09 07.3	+4.2
MOE	Montemor	2.77	106	*e*Pn	Pn	00 08 47.6	+1.7
MOE				*e*Sn	Sn	00 09 21.0	+1.2
PTEO	Sao Teotonio	2.97	126	*e*Pn	Pn	00 08 47.3	-1.4
PTEO				*e*Sn	Sn	00 09 21.4	-3.3
	comp=N,12nm,0.3s						
PTEO	Sao Teotonio	2.97	126	*e*Pn	Pn	00 08 47.3	-1.4
PTEO				*e*Sn	Sn	00 09 21.4	-3.3
	comp=N,12nm,0.3s						
PVIS	Viseu	3.27	64	*e*Pn	Pn	00 08 54.5	+1.4
PVIS				*e*Sn	Sn	00 09 34.6	+2.1
	comp=N,5.6nm,0.1s						
PVIS	Viseu	3.27	64	Pn	Pn	00 08 54.5	+1.4
PVIS				Sn	Sn	00 09 34.6	+2.1
	comp=N,2.8nm,0.1s						
PBEJ	Beja	3.31	112	*e*Pn	Pn	00 08 54.0	+0.5
PBEJ				*e*Sn	Sn	00 09 33.4	+0.1
	comp=N,5.2nm,0.2s						
PBEJ	Beja	3.31	112	Pn	Pn	00 08 54.0	+0.5
PBEJ				Sn	Sn	00 09 33.4	+0.1
	comp=N,2.6nm,0.2s						
PCBR	Castelo Branco	3.34	80	*e*Pn	Pn	00 08 54.9	+0.8
PCBR				*e*Sn	Sn	00 09 36.7	+2.4
MTE	Manteigas	3.42	70	*e*Pn	Pn	00 08 56.8	+1.8
MTE				*e*Sn	Sn	00 09 39.1	+3.1
	comp=N,3.7nm,0.4s						
MTE	Manteigas	3.42	70	Pn	Pn	00 08 56.8	+1.8
MTE				Sn	Sn	00 09 39.1	+3.1
	comp=N,1.9nm,0.4s						
PVRL	Vila Real	3.65	56	*e*Pn	Pn	00 08 59.8	+1.4
	comp=N,3.9nm,0.1s						
EZAM	Zamans	3.66	38	Pn	Pn	00 08 57.6	-0.9
	comp=N,0.4nm,0.1s,SNR=4.0						
EZAM				Sn	Sn	00 09 42.3	+0.1
	comp=N,0.9nm,0.1s,SNR=4.0						
EZAM	Zamans	3.66	38	Pn	Pn	00 08 57.6	-0.9
EZAM				Sn	Sn	00 09 39.5	-2.7
EZAM	Zamans	3.66	38	Pn	Pn	00 08 57.6	-0.9
	comp=N,0.4nm,0.1s,SNR=4.0						
EZAM				Sn	Sn	00 09 39.6	-2.6
	comp=N,0.9nm,0.1s,SNR=4.0						
EBAD	Badajoz	3.73	97	Pn	Pn	00 09 00.7	+1.1
	comp=N,1.2nm,0.2s,SNR=7.9						
EBAD				Sn	Sn	00 09 44.9	+0.8
	comp=N,4.1nm,0.1s,SNR=7.9						
EBAD	Badajoz	3.73	97	Pn	Pn	00 09 00.8	+1.3
EBAD				Sn	Sn	00 09 44.5	+0.4
EBAD	Badajoz	3.73	97	Pn	Pn	00 09 00.7	+1.1
	comp=N,1.2nm,0.2s,SNR=7.9						
EBAD				Sn	Sn	00 09 44.5	+0.4
ELOB	Lobios	3.79	47	Pn	Pn	00 09 00.5	+0.1
	comp=N,1.0nm,0.1s,SNR=7.9						
ELOB				Sn	Sn	00 09 44.4	-1.1
	comp=N,1.9nm,0.1s,SNR=7.9						
ELOB	Lobios	3.79	47	Pn	Pn	00 09 00.8	+0.4
ELOB				Sn	Sn	00 09 44.6	-1.0
ELOB	Lobios	3.79	47	Pn	Pn	00 09 00.5	+0.1
	comp=N,1.0nm,0.1s,SNR=7.9						
ELOB				Sn	Sn	00 09 44.6	-1.0
PALC	Alcoutim	3.84	118	*e*Pn	Pn	00 09 00.4	-0.6
PALC				*e*Sn	Sn	00 09 44.9	-1.8
	comp=N,5.8nm,0.1s						
PALC	Alcoutim	3.84	118	Pn	Pn	00 09 00.4	-0.6
PALC				Sn	Sn	00 09 44.9	-1.8
	comp=N,2.9nm,0.1s						
EMAZ	Mazaricos	4.19	29	Pn	Pn	00 09 04.1	-1.9
	comp=N,0.6nm,0.1s,SNR=5.0						
EMAZ				Sn	Sn	00 09 49.9	-5.8
	comp=N,4.7nm,0.1s,SNR=13						
EMAZ	Mazaricos	4.19	29	Pn	Pn	00 09 03.8	-2.3
EMAZ				Sn	Sn	00 09 49.8	-5.8
EMAZ	Mazaricos	4.19	29	Pn	Pn	00 09 04.1	-1.9
	comp=N,0.6nm,0.1s,SNR=5.0						
EMAZ				Sn	Sn	00 09 49.8	-5.8
EMIN	Mina Concepcio	4.28	110	Pn	Pn	00 09 07.2	-0.1
	comp=N,0.9nm,0.2s,SNR=7.9						
EMIN				Sn	Sn	00 09 56.3	-1.5
	comp=N,2.2nm,0.1s,SNR=7.9						
EMIN	Mina Concepcio	4.28	110	Pn	Pn	00 09 07.1	-0.2
EMIN				Sn	Sn	00 09 56.1	-1.7
EMIN	Mina Concepcio	4.28	110	Pn	Pn	00 09 07.1	-0.2
EMIN				Sn	Sn	00 09 56.3	-1.5
	comp=N,2.2nm,0.1s,SNR=7.9						
PBRG	Braganca	4.55	55	*e*Pn	Pn	00 09 11.9	+0.7
PBRG				*e*Sn	Sn	00 10 05.7	+0.8
ECAL	Calabor	4.63	54	Pn	Pn	00 09 12.1	-0.2
	comp=N,0.6nm,0.1s,SNR=7.9						
ECAL				Sn	Sn	00 10 06.1	-0.6
	comp=N,1.2nm,0.1s,SNR=7.9						
ECAL	Calabor	4.63	54	Pn	Pn	00 09 12.6	+0.3
ECAL				Sn	Sn	00 10 05.5	-1.3
ECAL	Calabor	4.63	54	Pn	Pn	00 09 12.6	+0.3
ECAL				Sn	Sn	00 10 06.1	-0.7
	comp=N,1.2nm,0.1s,SNR=7.9						
ERUA	La Rua	4.65	47	Pn	Pn	00 09 13.2	+0.6
	comp=N,1.2nm,0.1s,SNR=7.9						
ERUA				Sn	Sn	00 10 06.4	-1.0
	comp=N,1.6nm,0.2s,SNR=4.0						
ERUA	La Rua	4.65	47	Pn	Pn	00 09 13.1	+0.5
ERUA				Sn	Sn	00 10 06.5	-0.8
ERUA	La Rua	4.65	47	Pn	Pn	00 09 13.1	+0.5
ERUA				Sn	Sn	00 10 06.4	-1.0
	comp=N,1.6nm,0.2s,SNR=4.0						
ESPR	Espera	5.26	116	Pn	Pn	00 09 20.8	-0.3
	comp=N,0.4nm,0.1s,SNR=7.9						
ESPR				Sn	Sn	00 10 19.9	-2.6
	comp=N,3.9nm,0.2s,SNR=7.9						
ESPR	Espera	5.26	116	Pn	Pn	00 09 20.1	-1.0
ESPR				Sn	Sn	00 10 19.9	-2.6
ESPR	Espera	5.26	116	Pn	Pn	00 09 20.1	-1.1
ESPR				Sn	Sn	00 10 19.9	-2.7
	comp=N,3.9nm,0.2s,SNR=7.9						
EPON	Pontenova	5.29	39	Pn	Pn	00 09 20.9	-0.8
	comp=N,0.7nm,0.2s,SNR=7.9						
EPON				Sn	Sn	00 10 18.7	-4.8
	comp=N,1.0nm,0.1s,SNR=7.9						
EPON	Pontenova	5.29	39	Pn	Pn	00 09 20.9	-0.8
EPON				Sn	Sn	00 10 18.4	-5.1
EPON	Pontenova	5.29	39	Pn	Pn	00 09 20.9	-0.8
	comp=N,0.7nm,0.2s,SNR=7.9						
EPON				Sn	Sn	00 10 18.7	-4.8
	comp=N,1.0nm,0.1s,SNR=7.9						
EADA	Adamuz	5.73	99	Pn	Pn	00 09 27.5	-0.3
	comp=N,0.3nm,0.1s,SNR=7.9						
EADA				Sn	Sn	00 10 32.3	-2.0
	comp=N,0.7nm,0.1s,SNR=7.9						
EADA	Adamuz	5.73	99	Pn	Pn	00 09 27.5	-0.3
	comp=N,0.3nm,0.1s,SNR=7.9						
EADA				Sn	Sn	00 10 32.3	-2.1
	comp=N,0.7nm,0.1s,SNR=7.9						
ESDC	Sonseca Array	6.04	84	Pn	Pn	00 09 31.6	-0.6
	comp=N,0.6nm,0.1s,baz=269,slow=12,SNR=4.9						
ESDC				Sn	Sn	00 10 40.6	-1.5
	comp=N,0.4nm,0.1s,baz=267,slow=23,SNR=4.9						
ESDC	Sonseca Array	6.04	84	Pn	Pn	00 09 31.6	-0.6
ESDC				Sn	Sn	00 10 40.7	-1.4

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**6.04**	**84**	Pn	**Pn**	**00 09 31.6**	**-0.6**
	comp=N,0.6nm,0.1s,SNR=4.9						
ESDC				Sn	**Sn**	**00 10 40.6**	**-1.5**
	comp=N,0.4nm,0.1s,SNR=4.9						
EARI	**Arriondas**	**6.33**	**49**	Pn	**Pn**	**00 09 36.7**	**+0.3**
	comp=N,0.6nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**6.33**	**49**	Pn	**Pn**	**00 09 36.5**	**+0.2**
EARI				Sn	**Sn**	**00 10 47.5**	**-1.9**
EARI	**Arriondas**	**6.33**	**49**	Pn	**Pn**	**00 09 36.5**	**+0.2**
EARI				Sn	**Sn**	**00 10 47.5**	**-2.0**

FUNV 11 00:16:24.5, 6.87N×73.15W, h168km, MD3.7, 1C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.28**	**40**	⇑*i*P	P	00 16 53.0	-0.8
CAPV				*e*S	S	00 17 13.6	-2.7
VIGV	**El Vigia**	**2.63**	**42**	⇓*i*P	P	00 17 07.6	-1.1
VIGV				*e*S	S	00 17 38.9	-3.7
SOCV	**Socops**	**2.67**	**58**	⇓*i*P	P	00 17 08.1	-1.0
SOCV				*e*S	S	00 17 39.5	-3.8
VIRV	**Villa del Rosa**	**3.68**	**11**	*e*P	P	00 17 19.6	-2.3
VIRV				*e*S	S	00 18 00.9	-5.1
CURV	**Curarigua**	**4.43**	**45**	*e*P	P	00 17 29.8	-1.8
CURV				*e*S	S	00 18 17.2	-6.2
BAUV	**El Baul**	**5.46**	**68**	⇓*i*P	P	00 17 41.6	-3.4
BAUV				*e*S	S	00 18 40.3	-7.2

IGQ 11 00:16:31.5, 3.91S×80.28W, h12km±5km, mb4.2, 3D, Error ellipse: s-maj=11.7km s-min=5.1km az=39.0, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.91**	**34**	P	Pn	00 17 19.9	+1.4
IGUA				S	Sn	00 17 54.7	+0.9
ARRY	**Arrayan**	**3.00**	**37**	P	Pn	00 17 21.4	+1.5
PATA	**Patacocha**	**3.02**	**38**	⇓P	Pn	00 17 22.1	+2.0
PATA				S	Sn	00 17 58.8	+2.3
RETU	**Refugio**	**3.05**	**37**	P	Pn	00 17 22.3	+1.7
ULBA	**Ulba**	**3.08**	**38**	P	Pn	00 17 23.1	+2.1
PISA	**Pisayambo**	**3.41**	**34**	P	Pn	00 17 27.8	+2.2
NAS1	**Nasa**	**3.72**	**29**	P	Pn	00 17 32.7	+2.7
TAMB	**Tambo**	**3.72**	**31**	P	Pn	00 17 31.6	+1.5
VC1	**Cotopaxi 1**	**3.75**	**30**	P	Pn	00 17 32.2	+1.7
JUA2	**San Juan 2**	**4.03**	**25**	P	Pn	00 17 35.8	+1.3
ANTI	**Antisana**	**4.04**	**32**	P	Pn	00 17 35.8	+1.2
CGGP	**Crater GGP**	**4.07**	**24**	P	Pn	00 17 36.7	+1.7
GGP	**Refugio Guagua**	**4.07**	**24**	⇓P	Pn	00 17 37.1	+2.0
PINO	**Pino**	**4.08**	**24**	⇓P	Pn	00 17 36.9	+1.7
YANA	**Yana**	**4.13**	**24**	P	Pn	00 17 37.7	+1.7
JOR1	**San Jorge 1**	**4.21**	**23**	P	Pn	00 17 34.8	-2.3

IDC 11 00:33:51.0±3.5**, 29.79S×177.54W, mb3.8**/3**, mb1 4.0**/4**, mb1mx3.8**/12**, ML3.5**/1**, MS3.4**/2**, Ms1 3.4**/2**, ms1mx3.1**/14**, Error ellipse: s-maj=71.0km s-min=53.3km az=109.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**9.54**	**206**	Pn	P	00 36 09.6	-3.1
	0.5nm,0.3s,baz=14,slow=18,SNR=6.6						
STKA	**Stephens Creek**	**35.01**	**256**	P	P	00 40 45.4	-1.8
	2.2nm,0.9s,baz=126,slow=10,SNR=3.0						
PMG	**Port Moresby**	**38.72**	**294**	LR	LR	00 52 27.7	
	comp=Z,42nm,19.5s,baz=209,slow=29						
ASAR	**Alice Springs**	**43.55**	**266**	P	P	00 41 56.0	-2.3
	0.3nm,0.3s,baz=104,slow=6.8,SNR=5.2						
WRA	**Warramunga Arr**	**44.48**	**271**	P	P	00 42 04.5	-1.5
	0.4nm,0.3s,baz=111,slow=7.8,SNR=10						
WRA				LR	LR	00 59 08.1	
	comp=Z,56nm,21.0s,baz=215,slow=34						
FINES	**FINESS Array B**	**144.71**	**341**	PKP	PKPdf	00 53 28.4	-2.3
	1.1nm,0.5s,baz=27,slow=3.1,SNR=22						

MEX 11 00:39:36.0±1.5**, 16.65N×99.56W, h12km**±28km**, MD3.9, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.40**	**303**	*i* P	Pg	00 39 43.2	-1.1
ACX				*i* S	Sg	00 39 49.7	-0.2
CAIG	**El Cayaco**	**0.78**	**301**	*e*P	Pb	00 39 50.3	-0.8
CAIG				*e*S	Sb	00 39 58.1	-3.3
PLIG	**Platanillo**	**1.74**	**2**	*i* P	Pn	00 40 03.1	-3.2
PLIG				*i* S	Sn	00 40 23.5	-5.1
PPM	**Popocatepetl**	**2.57**	**20**	*i* P	Pn	00 40 15.0	-3.2
VHO	**Vista Hermosa**	**2.74**	**81**	*e*P	Pn	00 40 19.9	-0.8
VHO				*i* S	Sn	00 40 53.0	-1.1
OXX	**Oaxaca**	**2.75**	**81**	*i* P	Pn	00 40 24.3	+3.4
OXX				*i* S	Sn	00 40 47.5	-6.9

*INMG **11** 00:40:30.9±1.0, 36.96N×9.10W, h27km±6km, ML1.6, Error ellipse: s-maj=11.1km s-min=4.0km az=79.0*
*MDD **11** 00:40:30.4±2.1, 36.94N×9.10W, h27km±8km, mb2.8/3, Error ellipse: s-maj=16.9km s-min=10.8km az=68.0, PRXIMO*
*CSEM **11** 00:40:31.0±0.9, 36.90N×8.87W, h40km, ML1.6, Error ellipse: s-maj=17.2km s-min=9.5km az=38.0*
ISC 11 00:40:31.2±1.9**, 37.07N**±0.08×**8.88W**±0.09**, h27km, n25, σ1s38**/36**, Portugal**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**0.49**	**15**	*e*Pg	**Pb**	**00 40 43.0**	**+1.7**
PTEO				*e*Sg	**Sb**	**00 40 52.6**	**+4.4**
	20nm,0.1s						
PTEO	**Sao Teotonio**	**0.49**	**15**	*e*Pg	**Pb**	**00 40 43.0**	**+1.7**
PTEO				*e*Sg	**Sb**	**00 40 52.6**	**+4.4**
	20nm,0.1s						
PALC	**Alcoutim**	**1.19**	**70**	*e*P	**Pn**	**00 40 53.0**	**+0.7**
PALC				*e*S	**Sn**	**00 41 09.8**	**+2.1**
	3.5nm,0.2s						
PALC	**Alcoutim**	**1.19**	**70**	*e*P	**Pn**	**00 40 53.0**	**+0.7**
PALC				*e*S	**Sn**	**00 41 09.8**	**+2.1**
	3.5nm,0.2s						
PBEJ	**Beja**	**1.25**	**40**	*e*Sn	**Sn**	**00 41 11.5**	**+2.2**
MOE	**Montemor**	**1.51**	**16**	*e*Sn	**Sn**	**00 41 16.9**	**+1.0**
PLOU	**Loures**	**1.83**	**353**	*e*Sn	**Sn**	**00 41 23.4**	**-0.4**
EMIN	**Mina Concepcio**	**1.89**	**68**	P	**Pn**	**00 41 03.2**	**+0.9**
	0.3nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**00 41 26.2**	**+0.7**
	0.5nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.89**	**68**	P	**Pn**	**00 41 03.2**	**+0.9**
	0.3nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**00 41 26.2**	**+0.7**
	0.5nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**2.24**	**41**	S	**Sn**	**00 41 35.4**	**+1.0**
	2.9nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**2.24**	**41**	S	**Sn**	**00 41 35.4**	**+1.0**
	2.9nm,0.2s,SNR=7.9						
ESPR	**Espera**	**2.43**	**94**	S	**Sn**	**00 41 39.4**	**+0.2**
	1.4nm,0.2s,SNR=7.9						
ESPR	**Espera**	**2.43**	**94**	S	**Sn**	**00 41 39.4**	**+0.1**
	1.4nm,0.2s,SNR=7.9						
PCBR	**Castelo Branco**	**2.98**	**21**	*e*Pn	**Pn**	**00 41 17.8**	**-0.1**
PCBR				*e*Sn	**Sn**	**00 41 51.4**	**-1.7**
	1.8nm,0.3s						
PCBR	**Castelo Branco**	**2.98**	**21**	Pn	**Pn**	**00 41 17.8**	**-0.1**
PCBR				Sn	**Sn**	**00 41 51.4**	**-1.7**
	0.9nm,0.3s						
EADA	**Adamuz**	**3.59**	**71**	P	**Pn**	**00 41 25.9**	**-0.6**
	0.1nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**00 42 07.1**	**-1.4**
	1.1nm,0.2s,SNR=5.0						
EADA	**Adamuz**	**3.59**	**71**	P	**Pn**	**00 41 25.9**	**-0.6**
	0.1nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**00 42 07.1**	**-1.5**
	1.1nm,0.2s,SNR=5.0						
ESDC	**Sonseca Array**	**4.66**	**55**	P	**Pn**	**00 41 40.4**	**-1.3**
	0.2nm,0.2s,baz=247,slow=13,SNR=7.9						
ESDC				S	**Sn**	**00 42 34.0**	**-1.7**
	0.5nm,0.1s,baz=242,slow=23,SNR=7.9						
ESDC	**Sonseca Array**	**4.66**	**55**	P	**Pn**	**00 41 40.4**	**-1.3**
	0.2nm,0.2s,SNR=7.9						
EQES	**Quesada**	**4.68**	**79**	S	**Sn**	**00 42 34.6**	**-1.6**
	0.3nm,0.1s,SNR=7.9						
EQES	**Quesada**	**4.68**	**79**	S	**Sn**	**00 42 34.6**	**-1.6**
	0.3nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**4.83**	**7**	S	**Sn**	**00 42 36.6**	**-3.4**
	0.6nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**4.83**	**7**	S	**Sn**	**00 42 36.6**	**-3.4**
	0.6nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**5.14**	**18**	S	**Sn**	**00 42 44.4**	**-3.3**
	0.4nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**5.14**	**18**	S	**Sn**	**00 42 44.4**	**-3.3**
	0.4nm,0.2s,SNR=7.9						

*BJI **11** 00:46:46.2, 40.28N×70.72E, h23km, mB4.8, mb4.9, ML4.6, Ms4.1, Msz4.0*
*NNC **11** 00:46:48.6±4.2, 40.20N×71.22E, h5km±14km, mpv4.9, Error ellipse: s-maj=27.0km s-min=17.6km az=30.0*
*IDC **11** 00:46:48.5±0.7, 40.03N×71.39E, mb4.1/14, mb1 4.4/17, mb1mx4.3/22, ML4.6/3, MS3.8/11, Ms1 3.8/11, ms1mx3.6/23, Error ellipse: s-maj=14.3km s-min=12.8km az=158.0*
*MOS **11** 00:46:52.1±1.0, 40.19N×71.37E, h33km, mb4.5/15, Error ellipse: s-maj=11.2km s-min=7.4km az=106.0*
*NEIC **11** 00:46:52.4±2.3, 40.18N×71.42E, h23km±16km, mb4.5/25, MS4.3/1, Error ellipse: s-maj=9.2km s-min=4.6km az=180.0*
ISC 11 00:46:53.0±0.5**, 39.99N**±0.02×**71.49E**±0.04**, h49km**±6km**, n147, σ1s20**/161**, mb4.3**/38**, MS3.8**/14**, 11C-12D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TAS	**Tashkent**	**2.13**	**309**	⇓*e*PN	**P**	**00 47 24.5**	**-2.4**
TAS				*e*S	**S**	**00 47 53.2**	**+1.0**
TAS				pmax	pmax		
	comp=Z,3200µm,1.0s						
AML	**Almayashu**	**2.71**	**37**	P	**P**	**00 47 36.0**	**+0.9**
	SNR=516						
EKS2	**Erkin-Say**	**3.17**	**32**	P	**P**	**00 47 42.4**	**+0.7**
	SNR=60						
UCH	**Uchtor**	**3.19**	**45**	P	**P**	**00 47 43.5**	**+1.5**
	SNR=58						
AAK	**Ala-Archa**	**3.48**	**40**	⇓Pn	**P**	**00 47 47.0**	**+1.1**
	comp=Z,179nm,0.5s						
AAK				⇓Lg		00 48 39.1	
	comp=Z,734nm,0.6s						
AAK				⇑Rg		00 49 06.7	
	comp=Z,2µm,12.2s						
AAK	**Ala-Archa**	**3.48**	**40**	P	**P**	**00 47 47.1**	**+1.2**
	SNR=288						
AAK	**Ala-Archa**	**3.48**	**40**	*e*Pn	**P**	**00 47 45.9**	**0.0**
KSH	**Kashi**	**3.49**	**96**	*e*P	**P**	**00 47 52.6**	**+6.5**
KSH				SG	S	00 48 46.5	+20
KSH				Smax			
	comp=N,2µm,1.0s						
KSH				Smax			
	comp=E,950nm,0.6s						
KZA	**Kyzart**	**3.52**	**53**	P	**P**	**00 47 48.4**	**+1.8**
	SNR=257						
KBK	**Karagaybulak**	**3.72**	**43**	P	**P**	**00 47 51.2**	**+1.8**
	SNR=169						
CHMS	**Chumysh**	**3.87**	**38**	P	**P**	**00 47 52.4**	**+0.8**
	SNR=109						
USP	**Ospenovka**	**3.97**	**34**	P	**P**	**00 47 53.0**	**+0.1**
	SNR=278						
ULHL	**Ulahol**	**4.24**	**56**	P	**P**	**00 47 57.9**	**+1.2**
	SNR=22						
TKM2	**Tokmak 2**	**4.25**	**45**	P	**P**	**00 47 58.2**	**+1.3**
	SNR=593						
CEP	**Cherat**	**6.17**	**177**	⇓P	**P**	**00 48 28.2**	**+4.5**
CEP				S	**S**	**00 49 44.0**	**+10**
CHCP	**Chirah Chowk**	**6.48**	**167**	P	**P**	**00 48 33.4**	**+5.2**
THW	**Thamme Wali**	**7.19**	**178**	⇓P	**P**	**00 48 41.0**	**+3.0**
THN	**Thein Dam**	**8.28**	**154**	*e*	**S**	**00 50 25.6**	**-0.7**
BHK	**Bhakra**	**9.45**	**153**	*e*	**P**	**00 49 13.8**	**+4.6**
KLP	**Kalpa**	**10.07**	**145**	*e*P	**P**	**00 49 19.6**	**+1.9**
MK31	**Makanchi Array**	**10.38**	**46**	Pn	**P**	**00 49 20.3**	**-1.6**
	comp=E,5.8nm,0.5s,baz=229,slow=13,SNR=105						
MK31				⇑Lg		00 52 14.3	
	comp=E,29nm,0.6s						
MK31				⇑Rg		00 53 25.5	
	comp=E,253nm,9.2s						
MKAR	**Makanchi Array**	**10.38**	**46**	Pn	**P**	**00 49 20.3**	**-1.6**
	comp=E,3.8nm,0.3s,baz=232,slow=15,SNR=76						
MKAR				Lg		00 52 18.6	
	comp=E,3.0nm,0.3s,baz=237,slow=25,SNR=4.0						
MKAR				LR	LR	00 53 50.8	
	comp=E,390nm,19.7s,baz=296,slow=40						
MKAR	**Makanchi Array**	**10.38**	**46**	*i* P	**P**	**00 49 20.3**	**-1.7**
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.4s						
KKR	**Kurukshetra**	**10.92**	**155**	*e*P	**P**	**00 49 29.1**	**-0.2**
KKR				*e*		00 51 46.8	
	comp=Z,73nm,0.5s						
DDI	**Dehra Dun**	**11.04**	**149**	*e*P	**P**	**00 49 29.6**	**-1.3**
DDI				*e*		00 51 36.0	
JOSI	**Joshimath**	**11.49**	**143**	*e*P	**P**	**00 49 36.5**	**-0.5**
JOSI				*e*S	**S**	**00 51 37.9**	**-7.0**
KURK	**Kurchatov**	**11.83**	**23**	⇓Pn	**P**	**00 49 35.7**	**-5.8**
	comp=Z,11nm,1.0s,baz=220,slow=10,SNR=23						
KURK				⇓Lg		00 52 59.6	
	comp=Z,96nm,1.1s,baz=261,slow=4.6,SNR=3.5						
KURK				⇓Rg		00 54 07.8	
	comp=Z,305nm,11.9s,baz=337,slow=13,SNR=4.3						
KURK	**Kurchatov**	**11.83**	**23**	*e*P	**P**	**00 49 36.1**	**-5.4**
NDI	**New Delhi**	**12.23**	**156**	*e*P	**P**	**00 49 48.0**	**+1.0**
NDI				*e*S	**S**	**00 51 53.5**	**-9.2**
AYAN	**Aya Nagar**	**12.39**	**156**	*e*P	**P**	**00 49 48.6**	**-0.5**
AYAN				*e*S	**S**	**00 51 57.0**	**-10**
KHET	**Khetri**	**12.41**	**162**	*e*P	**P**	**00 49 48.2**	**-1.2**
KHET				*e*S	**S**	**00 52 00.4**	**-6.7**
KHET				*e*		00 52 14.7	
	comp=N,14nm,0.5s						
KHET				*e*		00 52 14.9	
	comp=E,20nm,1.2s						
KUDL	**Kundal**	**12.52**	**159**	*e*P	**P**	**00 49 49.4**	**-1.5**
KUDL				*e*S	**S**	**00 52 00.5**	**-9.2**
KUDL				*e*		00 52 07.6	
	comp=Z,23nm,0.3s						
SONA	**Sohna**	**12.59**	**157**	*e*P	**P**	**00 49 50.8**	**-1.1**
SONA				*e*		00 52 12.9	
	comp=N,31nm,1.2s						
SONA				*e*		00 52 12.9	
	comp=E,34nm,0.7s						
VOSK	**Vostochnaya**	**12.74**	**359**	⇓Pn	**P**	**00 49 47.4**	**-6.2**
	comp=E,6.7nm,0.7s						
VOSK				⇓Lg		00 53 25.5	
	comp=E,57nm,1.0s						
VOSK				⇑Rg		00 54 36.0	
	comp=E,650nm,12.5s						
LGTI	**Lohaghat**	**12.74**	**143**	*e*P	**P**	**00 49 54.0**	**+0.2**
LGTI				*e*		00 52 09.0	
JASL	**Jaisalmer**	**13.04**	**182**	*e*P	**P**	**00 49 56.1**	**-1.7**
JASL				*e*		00 49 57.4	
BVA0	**Borovoye Array**	**13.06**	**357**	⇑Pn	**P**	**00 49 52.1**	**-5.8**
	comp=E,2.3nm,0.5s,baz=157,slow=13,SNR=105						
BVA0				⇑Lg		00 53 37.7	
	comp=E,11nm,1.0s,baz=158,slow=24,SNR=4.0						
BVAR	**Borovoye Array**	**13.06**	**357**	Pn	**P**	**00 49 52.7**	**-5.2**
	comp=E,4.5nm,0.3s,baz=155,slow=12,SNR=110						
BVAR				Lg		00 53 42.7	
	comp=E,3.2nm,0.3s,baz=150,slow=21,SNR=4.8						
ZRNK	**Zerenda**	**13.07**	**353**	⇑Pn	**P**	**00 49 52.1**	**-6.0**
	comp=E,13nm,0.6s						
ZRNK				⇑Lg		00 53 37.3	
	comp=E,226nm,1.4s						
ZRNK				⇑Rg		00 54 48.5	
	comp=E,799nm,14.1s						
ZRNK	**Zerenda**	**13.07**	**353**	*e*P	**P**	**00 49 51.7**	**-6.4**
	comp=E,12nm,0.6s						
BRVK	**Borovoye**	**13.09**	**357**	*e*P	**P**	**00 49 52.0**	**-6.3**
	comp=E,6.2nm,0.4s						
AGRA	**Agra**	**13.81**	**155**	*e*P	**P**	**00 50 06.5**	**-1.3**
KOLN	**Koldanda**	**15.79**	**137**	*e*P	**P**	**00 50 32.1**	**-1.3**
	comp=E,36nm,0.7s						
KOLN				*e*S	**S**	**00 53 18.4**	**-8.4**
GKN	**Gorkha**	**16.16**	**134**	*e*P	**P**	**00 50 36.5**	**-1.7**
	comp=E,91nm,0.4s						
ZAL	**Zalesovo**	**16.60**	**28**	Pn	**P**	**00 50 41.2**	**-2.4**
	comp=E,4.5nm,0.3s,baz=162,slow=12,SNR=15						
ZAL				Lg		00 55 39.2	
	comp=E,0.7nm,0.3s,baz=262,slow=23,SNR=3.5						
ZAL				LR	LR	00 58 06.1	
	comp=E,390nm,18.9s,baz=160,slow=41						
KKN	**Kakani**	**16.69**	**133**	*e*P	**P**	**00 50 43.7**	**-1.1**
	comp=E,50nm,0.5s						
NVS	**Novosibirsk**	**16.81**	**24**	*i* P	**P**	**00 50 43.7**	**-2.4**
NVS				*e*S	**S**	**00 53 48.1**	**-2.1**
NVS				pmax	pmax		
	comp=Z,25nm,1.2s						
NVS				pmax	pmax		
	comp=N,34nm,1.3s						
NVS				pmax	pmax		
	comp=E,6.0nm,0.8s						
NVS				smax			
	comp=N,29nm,1.0s						
NVS				smax			
	comp=E,17nm,1.2s						
NVS	**Novosibirsk**	**16.81**	**24**	*i* P	**P**	**00 50 43.7**	**-2.4**
	comp=E,25nm,1.2s						
NVS				*e*S	**S**	**00 53 48.1**	**-2.1**
PKI	**Pulchoki**	**16.93**	**133**	*e*P	**P**	**00 50 45.9**	**-1.9**
	comp=E,41nm,0.8s						
GUN	**Gumba**	**16.94**	**131**	*e*P	**P**	**00 50 46.6**	**-1.3**
	comp=E,37nm,0.6s						
BHPL	**Bhopal**	**17.44**	**161**	*e*P	**P**	**00 50 54.0**	**-0.3**
BHPL				*e*		00 53 59.6	
SVE	**Sverdlovsk**	**18.28**	**341**	⇑*e*P	**P**	**00 51 02.0**	**-2.5**
SVE				pmax	pmax		
	comp=Z,30nm,2.3s						
SVE				MLR	MLR		
	comp=Z,2µm,12.0s						
SVE				MLR	MLR		
	comp=N,600nm,11.0s						
SVE				MLR	MLR		
	comp=E,400nm,11.0s						
SVE	**Sverdlovsk**	**18.28**	**341**	⇑*e*P	**P**	**00 51 02.0**	**-2.5**
	comp=E,30nm,2.3s						
ARU	**Arti**	**18.51**	**337**	⇓*i*P	**P**	**00 51 03.1**	**-4.2**
ARU				*e*S	**S**	**00 54 24.5**	**-4.2**
ARU				pmax	pmax		
	comp=Z,29nm,1.3s						
ARU				MLR	MLR		
	comp=Z,400nm,19.0s						
ARU				MLR	MLR		
	comp=N,300nm,20.0s						
ARU				MLR	MLR		
	comp=E,200nm,19.0s						
ARU	**Arti**	**18.51**	**337**	*e*P	**P**	**00 51 03.3**	**-4.0**
ARU				pmax	pmax		
	comp=Z,36nm,1.3s						
ARU				MLR	MLR		
	comp=Z,400nm,18.0s						
ARU	**Arti**	**18.51**	**337**	⇓*i*P	**P**	**00 51 03.1**	**-4.2**
	comp=Z,29nm,1.3s						
ARU				*e*P		00 51 03.3	
ARU				*e*S	**S**	**00 54 24.5**	**-4.2**
POO	**Poona**	**21.49**	**174**	*e*P	**P**	**00 51 41.0**	**+1.6**
GOF	**Gofitskoye**	**21.52**	**293**	*e*P	**P**	**00 51 38.5**	**-1.0**
KIV	**Kislovodsk**	**21.73**	**290**	*i* P	**P**	**00 51 40.4**	**-1.2**
KIV				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.3						
KIV				MLR	MLR		
	comp=Z,100nm,17.0s,MS3.3						
KIV	**Kislovodsk**	**21.73**	**290**	*i* P	**P**	**00 51 40.4**	**-1.2**
	comp=Z,7.0nm,0.6s,mb4.3						
KIV				LR	LR		
	comp=Z,100nm,17.0s,MS3.3						
GTA	**Gaotai**	**21.77**	**82**	*e*P	**P**	**00 51 44.2**	**+2.1**
GTA				AP		00 51 53.0	
SHL	**Shillong**	**22.31**	**124**	*e*P	**P**	**00 51 50.0**	**+2.5**
ERZM	**Erzurum**	**23.05**	**280**	P	**P**	**00 51 58.0**	**+3.4**
HYB	**Hyderabad**	**23.32**	**163**	*i* P	**P**	**00 52 01.5**	**+4.1**
MOY	**Mondy**	**23.47**	**50**	*e*P	**P**	**00 52 11.1**	**+13**
BEST	**Besiri**	**23.55**	**275**	P	**P**	**00 52 11.8**	**+12**
SOC	**Sochi**	**23.88**	**289**	*e*P	**P**	**00 52 02.6**	**-0.1**
SOC				*e*		00 52 35.3	
SOC				*e*S	**S**	**00 56 07.6**	**-4.8**
SOC				*e*SS	SS	00 57 05.6	+0.5
SOC				pmax	pmax		
	comp=N,14nm,0.9s						
SOC				pmax	pmax		
	comp=Z,24nm,0.9s,mb4.6						
SOC				pmax	pmax		
	comp=E,24nm,1.1s						
SOC				MLR	MLR		
	comp=N,102nm,23.0s,MS3.3						
SOC				MLR	MLR		
	comp=Z,117nm,23.0s,MS3.3						
SOC				MLR	MLR		
	comp=E,57nm,21.0s,MS3.3						
SOC	**Sochi**	**23.88**	**289**	*e*P	**P**	**00 52 02.6**	**-0.1**
	comp=E,24nm,0.9s,mb4.6						
SOC				*e*		00 52 35.3	
SOC				*e*S	**S**	**00 56 07.6**	**-4.8**
SOC				*e*SS	SS	00 57 05.6	+0.5
SOC				LR	LR		
	comp=Z,120nm,23.0s,MS3.3						
ZAK	**Zakamensk**	**24.52**	**54**	*e*P	**P**	**00 52 10.5**	**+1.7**
ELZG	**Elazig**	**25.15**	**277**	P	**P**	**00 52 17.2**	**+2.3**
SONM	**Songino Array**	**26.16**	**61**	P	**P**	**00 52 25.0**	**+0.6**
	comp=Z,0.8nm,0.6s,mb3.5,baz=276,slow=9.3,SNR=8.8						
KAHT	**Ahir Dag**	**26.98**	**276**	P	**P**	**00 52 33.6**	**+1.6**
MZLS	**Mizel**	**27.25**	**242**	P	**P**	**00 52 35.6**	**+1.0**
ARSS	**Ar Rass**	**27.43**	**248**	P	**P**	**00 52 36.7**	**+0.4**
HILS	**Ha'il**	**27.59**	**252**	P	**P**	**00 52 38.3**	**+0.6**
OBN	**Obninsk**	**27.64**	**315**	*i* P	**P**	**00 52 35.5**	**-2.3**
OBN				*e*		00 53 18.5	
OBN				*e*S	**S**	**00 57 09.8**	**-4.7**
OBN				pmax	pmax		
	comp=Z,34nm,2.6s,mb4.5						
OBN				MLR	MLR		
	comp=Z,200nm,16.0s,MS3.8						
OBN	**Obninsk**	**27.64**	**315**	*i* P	**P**	**00 52 35.5**	**-2.3**
	comp=Z,34nm,2.6s,mb4.5						
OBN				*e*		00 53 18.5	
OBN				*e*S	**S**	**00 57 09.8**	**-4.7**
OBN				LR	LR		
	comp=Z,200nm,16.0s,MS3.8						
BRTR	**Keskin Array B**	**28.91**	**282**	P	**P**	**00 52 49.8**	**+0.4**
	comp=Z,2.1nm,0.7s,mb4.0,baz=92,slow=8.0,SNR=18						
BRTR	**Keskin Array B**	**28.91**	**282**	P	**P**	**00 52 49.8**	**+0.4**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KAMS	**Al Khamasin**	**30.25**	**237**	P	**P**	**00 53 01.7**	**+0.2**
KBRS	**Khaybar**	**30.36**	**252**	P	**P**	**00 53 04.3**	**+1.9**
AKASG	**Malin Array Be**	**31.18**	**304**	P	**P**	**00 53 07.3**	**-2.0**
	comp=Z,1.0nm,0.5s,mb4.0,baz=80,slow=7.5,SNR=8.6						
AKASG	**Malin Array Be**	**31.18**	**304**	P	**P**	**00 53 07.3**	**-2.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
JMQS	**Jabal Moqyreh**	**31.20**	**260**	P	**P**	**00 53 11.1**	**+1.3**
CMAR	**Chiang Mai Arr**	**31.95**	**124**	P	**P**	**00 53 17.3**	**+0.9**
	comp=Z,1.0nm,0.8s,mb3.7,baz=317,slow=9.7,SNR=5.6						
CMAR	**Chiang Mai Arr**	**31.95**	**124**	P	**P**	**00 53 17.3**	**+0.9**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BOD	**Bodaibo**	**32.45**	**42**	*e*P	**P**	**00 53 19.5**	**-0.9**
FINES	**FINESS Array B**	**34.86**	**323**	P	**P**	**00 53 40.0**	**-1.1**
	comp=Z,2.6nm,0.4s,mb4.5,baz=112,slow=7.7,SNR=24						
FINES				LR	LR	01 08 51.2	
	comp=Z,143nm,18.4s,MS3.8,baz=121,slow=38						
FINES	**FINESS Array B**	**34.86**	**323**	*e*P	**P**	**00 53 40.2**	**-0.9**
KAF	**Kangasniemi**	**34.96**	**324**	*e*p	**P**	**00 53 40.5**	**-1.5**
	comp=Z,0.4nm,0.3s,mb3.8,baz=108,slow=8.8						
NIE	**Niedzica**	**36.93**	**302**	*e*P	**P**	**00 54 00.0**	**+1.2**
OJC	**Ojcow**	**37.20**	**304**	*e*P	**P**	**00 54 00.7**	**-0.3**
OJC	**Ojcow**	**37.20**	**304**	*e*P	**P**	**00 54 00.7**	**-0.3**
KEV	**Kevo**	**37.73**	**337**	*e*p	**P**	**00 54 03.8**	**-1.5**
	comp=Z,0.7nm,0.3s,mb3.9						
KEV	**Kevo**	**37.73**	**337**	*e*P	**P**	**00 54 03.8**	**-1.5**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.0						
ARCES	**ARCESS Array B**	**38.09**	**336**	P	**P**	**00 54 07.7**	**-0.6**
	comp=Z,3.4nm,0.3s,mb4.5,baz=110,slow=8.3,SNR=74						
ARCES				LR	LR	01 10 39.5	
	comp=Z,236nm,20.8s,MS4.0,baz=19,slow=38						
ARCES	**ARCESS Array B**	**38.09**	**336**	P	**P**	**00 54 07.7**	**-0.6**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ARCES				MLR	MLR		
	comp=Z,236nm,20.8s						
PRU	**Pruhonice**	**40.59**	**304**	*e*P	**P**	**00 54 36.9**	**+7.7**
PRU	**Pruhonice**	**40.59**	**304**	*e*pP	pP	00 54 36.9	-5.3
BRG	**Berggiesshubel**	**40.85**	**305**	*e*P	**P**	**00 54 31.6**	**+0.3**
BRG				*e*		00 54 37.4	
BRG				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.0						
BRG	**Berggiesshubel**	**40.85**	**305**	*e*P	**P**	**00 54 31.6**	**+0.3**
	comp=Z,3.0nm,0.7s,mb4.0						
BRG				*e*		00 54 37.4	
YAK	**Yakutsk**	**40.94**	**38**	*i* P	**P**	**00 54 31.7**	**-0.2**

SSE	Sheshan	40.95	87	P	P	00 54 34.3	+1.9
SSE				AMB	AMB		
	comp=Z,18nm,0.8s,mb4.8						
SSE				LR	LR		
	comp=N,41nm,17.0s,MS3.4						
SSE				LR	LR		
	comp=E,23nm,17.0s,MS3.4						
GERES	GERESS Array B	41.31	302	P	P	00 54 36.0	+0.9
	comp=E,0.9nm,0.4s,mb3.7,baz=63,slow=6.0,SNR=6.7						
GERES	GERESS Array B	41.31	302	P	P	00 54 36.0	+0.8
GERES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KHC	Kasperske Hory	41.34	303	eP	P	00 54 35.5	+0.1
CLL	Collm	41.38	306	P	P	00 54 35.0	-0.7
CLL				e*PP	pP	00 54 41.0	-7.7
CLL				e*SP	sP	00 54 45.0	-10
CLL	Collm	41.38	306	eP	P	00 54 35.0	-0.7
NB2	NORSAR Subarra	41.87	321	P	P	00 54 38.1	-1.4
	comp=Z,4.5nm,0.8s,mb4.2,baz=91,slow=7.9						
NOA	NORSAR Array B	41.87	321	P	P	00 54 38.6	-0.9
	comp=Z,1.8nm,0.6s,mb3.9,baz=92,slow=8.1,SNR=8.4						
NOA				LR	LR	01 12 59.1	
	comp=Z,116nm,19.6s,MS3.8,baz=80,slow=38						
NOA	NORSAR Array B	41.87	321	P	P	00 54 38.7	-0.8
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NOA				MLR	MLR		
	comp=Z,116nm,19.6s						
TIXI	Tiksi	42.41	23	eP	P	00 54 43.6	-0.2
TIXI				eS	S	01 00 56.5	-5.0
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.3						
TIXI				MLR	MLR		
	comp=Z,400nm,19.0s,MS4.3						
TIXI	Tiksi	42.41	23	eP	P	00 54 43.6	-0.2
	comp=Z,7.0nm,0.9s,mb4.3						
TIXI				eS	S	01 00 56.5	-5.0
TIXI				LR	LR		
	comp=Z,400nm,19.0s,MS4.3						
GRA1	Grafenberg Arr	42.76	304	eP	P	00 54 55.5	+8.5
	comp=Z,10.0nm,1.4s,mb4.3						
GRF	Grafenberg Arr	42.76	304	eP	P	00 54 55.5	+8.5
GRF				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.3						
CDF	Champ du Feu	45.57	303	eP	P	00 55 09.8	+0.2
	comp=Z,3.8nm,0.6s,mb4.2						
HINF	Hinteralfeld	45.99	302	eP	P	00 55 12.9	-0.1
	comp=Z,4.1nm,0.6s,mb4.2						
PGF	Pioggiola	46.09	295	eP	P	00 55 14.2	+0.4
LPG	La Plagne	46.71	299	eP	P	00 55 18.8	+0.1
	comp=Z,19nm,1.1s,mb4.6						
LPL	La Plagne	46.72	299	eP	P	00 55 18.8	+0.1
	comp=Z,6.1nm,0.4s,mb4.5						
CABF	La Chapelle	46.83	301	eP	P	00 55 19.8	+0.2
	comp=Z,113nm,1.7s,mb5.2						
MBDF	Montbardon	46.93	298	eP	P	00 55 20.7	+0.3
	comp=Z,7.0nm,0.7s,mb4.4						
ORIF	Oris-en-Rattie	47.48	299	eP	P	00 55 24.7	0.0
	comp=Z,21nm,1.1s,mb4.7						
ORIF				eR			
	comp=Z,97nm,19.5s						
SMRF	Simiane la Rot	47.99	297	eP	P	00 55 28.8	+0.1
	comp=Z,18nm,0.9s,mb4.8						
SMF	Signal de Mont	48.30	301	eP	P	00 55 30.7	-0.3
VIVF	Saint-Julien-l	48.31	299	eP	P	00 55 31.4	+0.2
	comp=Z,26nm,1.2s,mb4.8						
SSF	Saint Saulge	48.39	302	eP	P	00 55 30.5	-1.2
AVF	Avril sur Loir	48.57	302	eP	P	00 55 33.4	+0.2
	comp=Z,33nm,1.3s,mb4.9						
LASF	Ste Croix	49.12	298	eP	P	00 55 37.6	+0.2
	comp=Z,60nm,1.6s,mb5.1						
MTLF	Montolieu	50.49	298	eP	P	00 55 47.9	-0.1
	comp=Z,35nm,1.3s,mb4.9						
DAG	Danmarks Havn	51.50	343	iP	P	00 55 55.0	-0.2
KMBO	Kilima Mbogo	51.50	226	P	P	00 55 57.5	+1.5
	comp=Z,1.3nm,0.9s,mb3.9,baz=36,slow=11,SNR=5.4						
KMBO				LR	LR	01 19 07.5	
	comp=Z,53nm,19.4s,MS3.6,baz=102,slow=38						
ESDC	Sonseca Array	56.22	296	P	P	00 56 29.2	-1.1
	comp=Z,0.4nm,0.5s,mb3.7,baz=56,slow=7.2,SNR=4.5						
IMA	Indian Mountai	68.68	18	eP	P	00 57 53.1	+0.3
INK	Inuvik	70.40	10	eP	P	00 58 03.3	+0.1
	comp=Z,5.0nm,0.9s,mb4.4						
COLA	College	71.02	17	eP	P	00 58 07.4	+0.4
	comp=Z,2.6nm,0.7s,mb4.3						
ILAR	Eielson Array	71.32	16	P	P	00 58 08.8	0.0
	comp=Z,1.6nm,0.8s,mb4.0,baz=332,slow=3.6,SNR=20						
ILAR				LR	LR	01 32 40.8	
	comp=Z,45nm,20.1s,MS3.7,baz=175,slow=39						
ILAR	Eielson Array	71.32	16	P	P	00 58 08.8	0.0
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ILAR				MLR	MLR		
	comp=Z,45nm,20.1s						
YKA	Yellowknife Ar	77.74	3	P	P	00 58 46.1	+0.3
	comp=Z,1.5nm,0.5s,mb4.2,baz=351,slow=5.6,SNR=31						
YKA				LR	LR	01 35 13.1	
	comp=Z,71nm,20.8s,MS4.0,slow=37						
YKA	Yellowknife Ar	77.74	3	P	P	00 58 46.1	+0.4
YKA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
YKA				MLR	MLR		
	comp=Z,71nm,20.8s						
SCHQ	Schefferville	79.04	337	LR	LR	01 32 24.0	
	comp=Z,64nm,20.4s,MS4.0,baz=144,slow=35						
WRA	Warramunga Arr	83.53	123	P	P	00 59 18.4	+1.1
	comp=Z,2.4nm,0.9s,mb4.3,baz=325,slow=5.2,SNR=18						
WRA	Warramunga Arr	83.53	123	P	P	00 59 18.4	+1.2
WRA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WRAB	Tennant Creek	83.53	123	eP	P	00 59 18.0	+0.8
	comp=Z,4.7nm,0.8s,mb4.7						
ASAR	Alice Springs	85.95	125	P	P	00 59 30.7	+1.5
	comp=Z,1.5nm,0.8s,mb4.3,baz=322,slow=5.3,SNR=12						
ULM	Lac du Bonnet	89.45	352	LR	LR	01 44 47.5	
	comp=Z,78nm,21.0s,MS4.1,baz=293,slow=39						
PDAR	Pinedale Array	97.62	1	LR	LR	01 50 40.9	
	comp=Z,46nm,20.0s,MS4.0,baz=178,slow=39						

*TAP **11** 00:51:37.8, 24.62N×122.18E, h6km, ML3.3*
JMA 11 00:52:19.6±0.2**, 25.04N×122.48E, h13**km**, M3.1, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.75	140	P	Pb	00 52 33.8	-0.2
YOJ				S	Sb	00 52 43.9	0.0
IRIF	Iriomote-Funau	1.34	121	P	Pb	00 52 43.8	-0.2
IRIF				S	Sb	00 53 01.1	+0.2
HATJ	Hateruma jima	1.55	129	P	Pn	00 52 47.4	+0.2
HATJ				S	Sb	00 53 06.1	-1.1
JKRS	Kuro-shima	1.60	120	P	Pn	00 52 48.1	+0.2
JKRS				S	Sn	00 53 07.7	-0.8
JIJ	Ishigaki jima	1.66	114	P	Pn	00 52 48.8	+0.2
JIJ				S	Sn	00 53 08.9	-0.9

*TAP **11** 00:59:35.8, 24.63N×122.26E, h7km±1km, ML2.9*
JMA 11 01:00:19.5±0.3**, 25.07N×122.57E, M2.6, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.73	146	P	Pg	01 00 33.9	-0.1
YOJ				S	Sg	01 00 44.2	+0.5
IRIF	Iriomote-Funau	1.28	125	P	Pb	01 00 43.8	-0.4
IRIF				S	Sb	01 01 01.2	0.0
HATJ	Hateruma jima	1.51	132	P	Pn	01 00 48.0	+0.1
HATJ				S	Sb	01 01 07.8	0.0
JKRS	Kuro-shima	1.55	122	P	Pn	01 00 48.3	-0.2
JKRS				S	Sb	01 01 08.0	-0.9
JIJ	Ishigaki jima	1.59	116	P	Pn	01 00 49.1	0.0
JIJ				S	Sb	01 01 09.3	-0.9
JTJ	Tarama	1.98	102	P	Pn	01 00 56.3	+1.6
JTJ				eS	Sn	01 01 23.1	+2.5

*TAP **11** 01:04:11.7, 24.60N×122.22E, h11km±1km, ML3.4*
JMA 11 01:04:56.4±0.3**, 24.81N×122.30E, h30**km**, M2.8, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.73	118	P	Pb	01 05 10.1	-0.5
YOJ				S	Sb	01 05 20.1	-0.2
IRIF	Iriomote-Funau	1.39	110	P	Pn	01 05 20.0	0.0
IRIF				S	Sn	01 05 37.6	+0.1
HATJ	Hateruma jima	1.56	118	P	Pn	01 05 23.3	+0.7
HATJ				S	Sn	01 05 41.3	-0.7
JKRS	Kuro-shima	1.66	110	P	Pn	01 05 24.2	+0.3
JKRS				S	Sn	01 05 44.2	-0.2
JIJ	Ishigaki jima	1.74	104	P	Pn	01 05 25.2	+0.1
JIJ				S	Sn	01 05 45.3	-1.1
JTJ	Tarama	2.19	94	P	Pn	01 05 33.2	+1.6
JTJ				S	Sn	01 06 00.1	+2.1

*ISK **11** 01:25:11.3, 40.43N×28.94E, h11km, MD3.7, ML3.7*
*CSEM **11** 01:25:11.0±0.0, 40.43N×28.94E, h10km, MD3.7, Error ellipse: s-maj=1.3km s-min=1.0km az=174.0*
*SOF **11** 01:25:12.9, 40.52N×28.71E, h6km, MD3.2*
ISC 11 01:25:11.5±0.4**, 40.44N**±0.02×**28.93E**±0.02**, h9**km±3km**, n67, σ0.73/81, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULDT	Uludag	0.34	152	iP	Pg	01 25 18.8	+0.5
ULDT				iS	Sg	01 25 23.9	+0.9
YLV	Yalova	0.36	69	iPG	Pg	01 25 18.4	-0.5
YLV				iSG	Sg	01 25 23.7	-0.2
ORLT	Orhaneli	0.39	184	iPG	Pg	01 25 19.8	+0.3
BADT	Buyukada	0.44	19	iPG	Pg	01 25 21.0	+0.6
KCT	Karacabey	0.47	249	iPG	Pg	01 25 21.4	+0.4
KCT				iSG	Sg	01 25 28.1	+0.8
ISK	Istanbul-Kandi	0.64	9	PG	Pg	01 25 24.5	+0.2
HRT	Hereke	0.68	56	iPG	Pg	01 25 24.8	-0.4
BNT	Bandirma	0.77	264	PG	Pg	01 25 26.8	-0.2
CTT	Catalca	0.80	332	iPG	Pg	01 25 27.6	0.0
EDC	Edincik	0.82	264	iPG	Pg	01 25 27.4	-0.5
DST	Dursunbey	0.86	196	PG	Pg	01 25 28.4	-0.4
EYL	Eskiyayla	0.95	82	iPG	Pg	01 25 29.5	-1.0
BTOK	Tokmak	0.96	226	iP	Pb	01 25 30.1	+0.2
BTOK				iS	Sb	01 25 44.9	+2.4
GPA	Golpazari	1.07	98	PG	Pg	01 25 31.9	-0.9
BALB	Balikesir	1.13	226	PN	Pn	01 25 33.3	-0.2
KGT	Karabiga	1.24	271	iPN	Pn	01 25 35.4	+0.4
MFT	Murefte	1.30	286	PN	Pn	01 25 36.0	+0.1
HENT	Hendek	1.55	75	iP	Pn	01 25 39.9	+0.5
HENT				iS	Sb	01 26 00.5	+1.0
ALT	Altintas	1.66	146	PN	Pn	01 25 41.3	+0.4
LPK	Lapseki	1.66	268	PN	Pn	01 25 41.0	0.0
ESKT	Eskisehir	1.74	121	PN	Pn	01 25 42.4	+0.3
ESKT	Eskisehir	1.74	121	iP	Pn	01 25 42.5	+0.4
ESKT				iS	Sn	01 26 05.8	+1.2
MDU	Mudurnu	1.75	88	PN	Pn	01 25 42.7	+0.5
AKS	Akhisar	1.78	209	iPN	Pn	01 25 42.4	-0.3
MANT	Manisa	1.96	188	iP	Pn	01 25 48.7	+3.3
MANT				iS	Sn	01 26 07.7	-2.7
AYVA	Ayvalik	2.06	237	iP	Pn	01 25 50.9	+4.2
EZN	Ezine	2.09	254	ePN	Pn	01 25 47.4	+0.3
KHL	Karahalli	2.16	167	ePN	Pn	01 25 48.2	0.0
BOZC	Bozcaada	2.28	256	iP	Pn	01 25 53.8	+3.9
SGKT	Sivrigoynuk	2.39	86	iP	Pn	01 25 52.1	+0.7
SGKT				iS	Sn	01 26 31.0	+10
KDAG	Bornova	2.41	213	iP	Pn	01 25 51.0	-0.7
KDAG				iS	Sn	01 26 18.2	-3.3
IZM	Izmir	2.41	213	PN	Pn	01 25 50.8	-1.0
DENT	Denizli	2.68	178	ePN	Pn	01 25 55.8	+0.2
JMB	Yambol	2.69	320	iP	Pn	01 25 56.3	+0.6
DNZL	Cakiroluk	2.75	178	iP	Pn	01 26 03.8	+7.2
DNZL				iS	Sn	01 26 39.1	+8.9
KIZT	Kizilcal	2.76	123	PN	Pn	01 25 56.4	-0.3
ISP	Isparta	2.87	154	ePN	Pn	01 25 58.2	-0.1
AYDN	Tasoluk	2.89	197	iP	Pn	01 26 02.5	+3.9
AYDN				iS	Sn	01 26 44.8	+11
KDZ	Kurdzhali	2.92	296	iP	Pn	01 25 59.5	+0.5
SAFT	Safranbolu	2.96	73	ePN	Pn	01 25 59.2	-0.4
PRD	Provadia	2.99	338	P	Pn	01 26 07.3	+7.3
LOD	Lodumlu	2.99	99	ePN	Pn	01 25 59.8	-0.2
ANTO	Ankara	3.02	100	ePN	Pn	01 26 00.3	-0.1
DIM	Dimitrovgrad	3.02	303	P	Pn	01 26 00.0	-0.5
BCK	Bucak	3.24	156	PN	Pn	01 26 03.7	+0.1
MLSB	Milas	3.26	196	ePN	Pn	01 26 04.1	+0.2
PSN	Preselentsi	3.29	351	P	Pn	01 26 04.5	+0.2
YER	Yerkesik	3.34	189	ePN	Pn	01 26 04.6	-0.3
RZN	Rozhen	3.42	293	iP	Pn	01 26 05.3	-0.8
ELDT	Eldivan	3.43	88	iP	Pn	01 26 06.2	-0.1
ELDT				iS	Sn	01 27 04.0	+16
BALT	Daday	3.55	71	iP	Pn	01 26 09.1	+1.2
BALT				iS	Sn	01 27 05.9	+15
BDRM	Kayabasi	3.56	199	iP	Pn	01 26 06.9	-1.3
CANT	Cankiri	3.58	86	PN	Pn	01 26 08.2	-0.2
SZH	Strazhica	3.60	323	P	Pn	01 26 09.5	+0.8
KONT	Konya--Tatoy	3.65	132	ePN	Pn	01 26 09.0	-0.4
DALT	Dalyan (Mudla)	3.67	184	ePN	Pn	01 26 09.4	-0.3
ELL	Elmali	3.76	168	PN	Pn	01 26 10.8	-0.2
KAMT	Kaman	3.83	105	PN	Pn	01 26 11.4	-0.6
PVL	Pavlikeni	3.86	317	iP	Pn	01 26 13.0	+0.6
TOS	Tosya	3.92	80	ePN	Pn	01 26 13.0	-0.2
MMB	Musomiste	4.10	288	iP	Pn	01 26 15.0	-0.8
BZK	Bozkurt	4.12	67	PN	Pn	01 26 15.8	-0.3
PGB	Panagyurishte	4.15	302	P	Pn	01 26 16.3	-0.2
CTKT	Corum	4.47	86	iP	Pn	01 26 20.7	-0.4
BOYT	Boyabat	4.63	76	iP	Pn	01 26 31.8	+8.5
BOYT				iS	Sn	01 27 34.9	+17
KKB	Krupnik	4.64	290	P	Pn	01 26 23.0	-0.4
VTS	Vitosha	4.80	298	iP	Pn	01 26 25.0	-0.8

*NIED **11** 01:39:00, 36.30N×140.60E, h62km, Mw3.9 Best double couple: M0 9.11×10^14 NP1: φs221°, δ62°, λ117°. NP2: φs354°, δ38°, λ49°.*
*JMA **11** 01:39:24.5, 36.28N×140.55E, h58km±1km, M3.8*
JMA Felt II J1.
*IDC **11** 01:39:26.0±2.3, 36.25N×140.50E, h70km±21km, mb3.5/6, mb1 3.7/8, mb1mx3.5/24, Error ellipse: s-maj=33.7km s-min=14.0km az=85.0*
*NEIC **11** 01:39:26.3±2.2, 36.22N×140.47E, h72km±17km, mb4.3/1, Error ellipse: s-maj=30.5km s-min=13.9km az=65.0*
NEIC Recorded [2 JMA] in Tochigi and [1 JMA] in Fukushima, Gumma and Ibaraki Prefectures.
ISC 11 01:39:23.7±0.6**, 36.28N**±0.04×**140.60E**±0.07**, h64**km±4km**, n19, σ0.68/28, mb3.8/7, 2C-2D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	Yasato	0.33	262	⇑P	P	01 39 34.6	0.0
JYT				eS	S	01 39 41.6	-1.0
JHO	Hitachi	0.34	356	P	P	01 39 34.7	+0.1
JHO				eS	S	01 39 41.9	-0.8
JSB	Shiboa	0.88	322	P	P	01 39 41.0	+0.4
JSB				S	S	01 39 53.5	+0.4
JAG	Ashikaga	0.94	280	⇓P	P	01 39 41.4	+0.1
JAG				eS	S	01 39 53.8	-0.6
JFK	Kawauchi	1.11	11	⇑P	P	01 39 43.4	-0.3
JKT	Katashina	1.19	295	⇓P	P	01 39 45.2	+0.5
JKT				S	S	01 40 00.4	0.0
JFT	Otama	1.26	351	P	P	01 39 46.0	+0.3
JFT				eS	S	01 40 02.1	+0.1
MAJO	Matsushiro	1.95	279	eP	P	01 39 56.0	+0.9
MAT	Matsushiro	1.95	279	P	P	01 39 55.5	+0.4
MAT				eS	S	01 40 18.3	-0.1
MAT	Matsushiro	1.95	279	eP	P	01 39 56.0	+0.9
MAT				eS	S	01 40 11.0	-7.4
JHJ	Hachijo jima 2	3.22	192	P	P	01 40 14.6	+1.5
	26nm,0.3s,baz=269,slow=23,SNR=4.3						
JHJ				S	S	01 40 50.5	+0.1
	15nm,0.3s,baz=236,slow=21,SNR=2.4						
ASAJ	Asahikawa	7.98	10	P	P	01 41 19.2	-0.1
	1.1nm,0.3s,baz=173,slow=34,SNR=3.2						
SONM	Songino Array	27.68	305	P	P	01 45 06.4	-1.1
	0.7nm,0.7s,mb3.4,baz=103,slow=8.9,SNR=6.1						
ZAL	Zalesovo	41.96	313	P	P	01 47 09.7	+0.2
	1.1nm,0.4s,mb3.9,baz=295,slow=8.4,SNR=5.9						
MKAR	Makanchi Array	43.97	303	P	P	01 47 25.9	-0.1
	0.7nm,0.4s,mb3.8,baz=90,slow=4.3,SNR=6.7						
KURK	Kurchatov	45.89	309	eP	P	01 47 40.7	-0.5
	2.2nm,0.6s,mb4.3						
WRA	Warramunga Arr	56.22	187	P	P	01 48 58.7	-1.0
	0.8nm,0.8s,mb3.8,baz=5.6,slow=7.5,SNR=9.6						
ASAR	Alice Springs	59.95	187	P	P	01 49 24.4	-1.2
	0.6nm,0.8s,mb3.7,baz=9.1,slow=6.8,SNR=6.6						
TXAR	Lajitas Array	91.11	52	P	P	01 52 23.9	+1.3
	0.2nm,0.7s,mb3.6,baz=275,slow=2.7,SNR=3.4						

*CSEM **11** 01:45:54.7±0.3, 45.68N×26.51E, h132km±2km, MD3.4/7, Error ellipse: s-maj=5.5km s-min=3.2km az=123.0*
BUC 11 01:45:55.6±0.2**, 45.64N×26.57E, h137**km**, MD3.5, 6C-4D, Error ellipse: s-maj=5.9km s-min=3.3km az=71.0, Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRI	Vrincioaia	0.25	26	⇑iP	P	01 46 14.3	-0.6
VRI				iS	S	01 46 28.5	-1.1
BRD	Bordesti	0.33	105	⇑iP	P	01 46 15.8	+0.6
BRD				iS	S	01 46 31.0	+0.8
MLR	Muntele Rosu	0.46	252	⇑iP	P	01 46 15.2	-0.6
MLR				iS	S	01 46 30.3	-1.0
ISR	Istrita	0.52	182	⇓iP	P	01 46 16.0	-0.1
ISR				iS	S	01 46 31.2	-0.6
MTUR	Matau	1.14	249	⇑iP	P	01 46 20.4	-0.3
MTUR				iS	S	01 46 38.9	-1.1
CFR	Carcaliu	1.20	112	⇓iP	P	01 46 20.9	-0.4
CFR				iS	S	01 46 39.9	-1.1
BUC	Bucharest	1.27	195	iS	S	01 46 42.7	+0.3
BUC1	Bucharest	1.35	197	⇑iP	P	01 46 22.4	-0.5
BUC1				iS	S	01 46 42.7	-1.1
IAS	Iasi	1.70	23	⇑iP	P	01 46 25.8	-1.0
IAS				S	S	01 46 47.8	-2.9
TIRR	Tirgusor	1.76	131	⇓iP	P	01 46 27.0	-0.5
TIRR				S	S	01 46 49.4	-2.5
KIS	Kishinev	2.07	48	eP	P	01 46 30.0	-1.2
KIS				iS	S	01 46 54.7	-3.6
	300nm,0.5s						
BURAR	Bucovina Array	2.19	335	⇓iP	P	01 46 32.7	0.0
BURAR				iS	S	01 47 01.0	0.0

BJI 11 01:55:18.2, 38.43N×118.20E, h14km**, mB4.7, mb4.6, ML4.0, Ms3.9, Msz3.9, 1D, Northeastern China**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJI	Beijing	2.25	316	P	Pn	01 55 56.7	+1.1
BJI				PG	Pg	01 56 00.9	-2.3
BJI				S	Sn	01 56 23.3	0.0
BJI				SG	Sg	01 56 28.7	-4.5
BJI				Smax			
	comp=N,2μm,0.4s						
BJI				Smax			
	comp=E,1μm,0.6s						
TIA	Tai'an	2.38	202	P	Pn	01 55 57.4	0.0
TIA				PG	Pg	01 56 01.7	-4.0
TIA				S	Sn	01 56 25.4	-1.1
TIA				SG	Sg	01 56 30.2	-7.2
TIA				Smax			
	comp=N,388nm,0.6s						
TIA				Smax			
	comp=E,349nm,0.6s						
DL2	Dalian	2.73	79	P	Pn	01 56 04.9	+2.5
DL2				S	Sn	01 56 39.1	+3.7
DL2				SG	Sg	01 56 49.0	0.0
DL2				Smax			
	comp=N,625nm,0.6s						
DL2				Smax			
	comp=E,663nm,0.6s						
TIY	Taiyuan	4.61	263	PG	Pg	01 56 39.6	-11
TIY				S	Sn	01 57 31.4	+8.4
TIY				SG	Sg	01 57 35.0	-17
TIY				Smax			
	comp=N,310nm,1.0s						
TIY				Smax			
	comp=E,306nm,1.0s						
SNY	Shenyang	5.34	49	⇓P	Pn	01 56 40.7	+1.2
SNY				SG	Sg	01 58 10.7	-5.3
SNY				Smax			
	comp=N,70nm,0.8s						
SNY				Smax			
	comp=E,50nm,0.9s						
BTO	Baotou	6.69	292	ePG	Pg	01 57 19.4	-12
BTO				SG	Sg	01 58 43.2	-18
BTO				Smax			
	comp=N,41nm,0.3s						
BTO				Smax			
	comp=E,34nm,0.8s						
LZH	Lanzhou	11.68	263	eP	P	01 58 08.2	+0.8
LZH				AP		01 58 11.4	
LZH				XP		01 58 12.8	
LZH				AMB	AMB		
	comp=Z,19nm,1.2s						
LZH				AMB	AMB		
	comp=Z,83nm,4.5s						
LZH				LR	LR		
	comp=N,317nm,8.3s						
LZH				LR	LR		
	comp=Z,533nm,10.2s						

*IDC **11** 02:15:55.6±1.7, 15.05N×119.72E, mb3.7/3, mb1 3.9/3, mb1mx3.5/18, Error ellipse: s-maj=57.5km s-min=28.4km az=62.0*
*MAN **11** 02:15:55, 13.80N×120.47E, h86km, mb4.5, ML3.4, MS3.3*
ISC 11 02:15:54.1±0.7**, 13.83N**±0.08×**120.43E**±0.09**, h107**km±9km**, n15, σ0.56/16, mb3.9/2, 3D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.20	242	eP	P	02 16 09.2	0.0
LUBP	Lubang	0.20	242	eP	P	02 16 13.1	+3.9
PAZ	Puerto Azul	0.46	31	eP	P	02 16 11.0	+0.5
TGY	Tagaytay City	0.56	61	⇓iP	P	02 16 11.4	+0.2
TGY				iS	S	02 16 23.8	-0.3
NBP	Mount Natib	0.91	359	eP	P	02 16 14.5	+0.1
ARP	Angono	1.00	45	eP	P	02 16 14.2	-1.1
LQP	Lukban	1.12	75	⇓iP	P	02 16 16.6	-0.1
BOAC	Boac	1.43	105	eP	P	02 16 19.1	-1.2
BOAC				eS	S	02 16 40.9	+1.0
SJMP	San Jose	1.52	154	eP	P	02 16 21.5	+0.1
BUSP	Coron	1.83	187	eP	P	02 16 25.1	-0.2
GQP	Guinayangan	1.96	88	⇓iP	P	02 16 27.1	+0.1
BALP	Baler	2.20	30	eP	P	02 16 30.6	+0.4
CMAR	Chiang Mai Arr	21.14	285	P	P	02 20 32.1	+0.1
	3.5nm,0.7s,mb3.8,baz=101,slow=15,SNR=14						
SONM	Songino Array	35.86	344	P	P	02 22 45.4	+0.1
	0.9nm,0.6s,mb3.9,baz=163,slow=10,SNR=9.0						
ASAR	Alice Springs	39.53	160	P	pP	02 23 39.7	-1.2
	0.2nm,0.4s,baz=332,slow=6.7,SNR=4.8						

CASC 11 03:01:55.3±1.6**, 11.61N×86.92W, h43**km±36km**, MD3.7, 5C-8D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	Copaltepe	0.66	30	⇑eP	P	03 02 08.6	+0.3
COPN				eS	S	03 02 19.1	+1.4
CRUN	El Crucero	0.72	58	⇑eP	P	03 02 09.2	+0.2
CRUN				eS	S	03 02 19.1	-0.1
XAVN	Gruta Xavier	0.80	47	⇓eP	P	03 02 10.3	+0.1
XAVN				eS	S	03 02 21.0	-0.1
TICN	Ticuantepe	0.80	58	⇑eP	P	03 02 10.3	0.0
TICN				eS	S	03 02 24.5	+3.3
LEON	Leon	0.81	2	⇓eP	P	03 02 10.7	+0.4
LEON				eS	S	03 02 21.4	0.0
APYN	Apoyeque	0.84	42	⇑eP	P	03 02 10.9	+0.1
APYN				eS	S	03 02 22.4	+0.2
MGAN	Managua	0.85	51	⇓eP	P	03 02 11.2	+0.2
MGAN				eS	S	03 02 23.2	+0.7
MIRN	Miramar	0.85	14	⇑eP	P	03 02 11.2	+0.2
MIRN				eS	S	03 02 23.9	+1.4
MOMJ	Momotombo	0.88	25	⇓eP	P	03 02 11.6	+0.2
MOMJ				eS	S	03 02 22.4	-0.8
APON	Apoyo	0.89	70	⇓eP	P	03 02 11.3	-0.3
WILN	Americas 2	0.91	52	⇓eP	P	03 02 11.6	-0.1
WILN				eS	S	03 02 23.4	-0.5
CNGN	Cerro Negro	0.92	14	⇓eP	P	03 02 11.9	+0.1
PYTN	Playitas	1.25	42	⇓eP	P	03 02 16.5	-0.2
PYTN				eS	S	03 02 33.2	+0.5
LCBS	La Ceiba	2.86	316	eP	P	03 02 38.5	-1.1
LCBS				eS	S	03 03 12.7	-0.3
LFRS	El Faro	2.90	314	eP	P	03 02 38.7	-1.4
LFRS				eS	S	03 03 13.0	-0.9

*IDC **11** 03:08:55.3±1.1, 58.81S×148.43E, mb4.4/6, mb1 4.5/6,*

mb1mx4.4/10, MS4.4/12, Ms1 4.4/12, ms1mx4.2/17, Error ellipse: s-maj=37.1km s-min=23.6km az=102.0
*NEIC **11** 03:08:55.7±0.6, 58.94S×148.62E, h10km, mb4.8/4, Error ellipse: s-maj=22.2km s-min=10.4km az=92.0*
ISC 11 03:08:53.9±0.7**, 58.90S**±0.07×**148.6E**±0.3**, h10km, n32, σ0.88**/17**, mb4.4**/8**, MS4.3**/12**, 4C, West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TAU	Tasmania Unive	16.03	357	eP	P	03 12 41.0	+0.3
	242nm,1.2s						
CASY	Casey	18.72	231	eP	P	03 13 14.7	+0.4
	52nm,1.5s						
SBA	Scott Base	19.99	169	eP	P	03 13 24.9	-4.1
RPZ	Rata Peaks	20.56	52	LR	LR	03 19 59.9	
	comp=Z,2μm,18.3s,MS4.5,baz=201,slow=32						
STKA	Stephens Creek	27.43	347	P	P	03 14 42.2	+0.7
	6.2nm,1.0s,mb4.1,baz=183,slow=12,SNR=6.2						
STKA				LR	LR	03 22 58.0	
	comp=Z,583nm,18.9s,MS4.2,baz=176,slow=31						
STKA	Stephens Creek	27.43	347	P	P	03 14 42.2	+0.7
STKA				LR	LR	03 22 58.0	
URZ	Urewera	27.63	54	P	P	03 14 43.5	+0.3
	17nm,1.1s,mb4.6,baz=18,slow=7.1,SNR=3.5						
URZ				LR	LR	03 24 48.0	
	comp=Z,1μm,18.7s,MS4.5,baz=220,slow=34						
NWAO	Narrogin (SRO)	33.34	307	LR	LR	03 24 30.1	
	comp=Z,205nm,19.6s,MS3.9,baz=168,slow=28						
MAW	Mawson	36.44	220	P	P	03 16 00.5	+0.4
	0.7nm,0.5s,mb3.9,baz=128,slow=11,SNR=9.9						
MAW				LR	LR	03 31 05.2	
	comp=Z,1μm,18.2s,MS4.7,baz=112,slow=36						
ASAR	Alice Springs	36.71	337	P	P	03 16 02.9	+0.1
	3.2nm,0.6s,mb4.3,baz=164,slow=9.7,SNR=23						
ASAR				LR	LR	03 29 45.3	
	comp=Z,160nm,19.3s,MS3.8,baz=167,slow=34						
ASAR	Alice Springs	36.71	337	P	P	03 16 02.9	+0.1
ASAR				LR	LR	03 29 45.3	
CTA	Charters Tower	38.80	357	LR	LR	03 30 44.6	
	comp=Z,1μm,19.3s,MS4.7,baz=185,slow=34						
WRA	Warramunga Arr	40.25	339	P	P	03 16 32.1	-0.3
	3.8nm,0.7s,mb4.3,baz=164,slow=7.3,SNR=23						
WRA				LR	LR	03 30 45.5	
	comp=Z,459nm,19.8s,MS4.3,baz=180,slow=33						
WRAB	Tennant Creek	40.26	339	eP	P	03 16 31.5	-1.0
	25nm,0.8s,mb5.0						
MBWA	Marble Bar	43.01	319	eP	P	03 16 54.6	-0.4
	17nm,1.0s,mb4.7						
FITZ	Fitzroy Crossi	44.05	328	LR	LR	03 33 33.0	
	comp=Z,298nm,20.4s,MS4.2,baz=155,slow=34						
SNAA	Sanae	48.20	192	⇑i	P	03 17 33.7	-1.9
VNA3	Neumayer Olymp	49.25	189	⇑i	P	03 17 43.7	0.0
VNA2	Neumayer--Watz	49.36	190	⇑i	P	03 17 46.6	+2.0
PMG	Port Moresby	49.39	358	LR	LR	03 35 16.5	
	comp=Z,628nm,20.8s,MS4.6,baz=57,slow=32						
VNA1	Neumayer--Stat	49.70	190	⇑i	P	03 17 46.9	-0.3
CMAR	Chiang Mai Arr	87.11	314	P	P	03 21 45.6	+4.7
	0.8nm,0.4s,mb4.3,baz=187,slow=3.4,SNR=3.4						
CMAR				LR	LR	04 02 14.2	
	comp=Z,138nm,18.2s,MS4.4,baz=185,slow=37						
LPAZ	La Paz	99.30	144	LR	LR	04 00 17.4	
	comp=Z,111nm,18.5s,MS4.4,baz=319,slow=31						
TXAR	Lajitas Array	123.71	88	PKP	PKPdf	03 27 54.8	+0.1
	1.3nm,1.2s,baz=27,slow=2.0,SNR=3.6						
KWP	Kalwaria	147.88	277	PKP	PKPdf	03 28 38.5	+0.5
NIE	Niedzica	148.99	275	ePKP	PKPdf	03 28 53.5	+14
OJC	Ojcow	149.74	276	eP	PKPdf	03 28 44.1	+3.2
OJC	Ojcow	149.74	276	ePKP	PKPdf	03 28 44.1	+3.2
SUW	Suwalki	150.15	285	PKP	PKPdf	03 28 40.5	-0.9
GERES	GERESS Array B	152.06	269	PKPbc	PKPdf	03 28 52.4	+7.9
	0.6nm,0.7s,baz=124,slow=3.5,SNR=2.8						
KAF	Kangasniemi	152.19	302	ep	PKPdf	03 28 51.4	+7.1
	1.9nm,0.8s						
KEV	Kevo	153.61	318	ep	PKPab	03 29 22.6	+17
	4.2nm,0.8s						

MEX 11 03:09:47.0±1.2**, 16.90N×94.29W, h134km**±10km**, MD3.9, Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.60	288	i P	P	03 10 05.8	-1.5
CMIG				eS	S	03 10 20.4	-2.3
TUIG	Tuzandepetl	1.13	353	eP	P	03 10 09.6	-2.2
TUIG				i S	S	03 10 28.4	-2.1
SCX	San Cristobal	1.59	96	i P	P	03 10 15.3	-1.5
SCX				i S	S	03 10 37.2	-2.3
EVV	El Vigia	1.85	327	eP	P	03 10 17.5	-2.2
HUIG	Huatulco	2.08	237	eP	P	03 10 19.0	-3.6
HUIG				eS	S	03 10 47.1	-2.7
CCIG	Comitan	2.15	106	eP	P	03 10 22.4	-1.1
CCIG				eS	S	03 10 49.2	-2.1
OXX	Oaxaca	2.34	275	i P	P	03 10 25.0	-0.9
OXX				i S	S	03 10 54.0	-1.6
VHO	Vista Hermosa	2.35	274	eP	P	03 10 24.9	-1.2
VHO				eS	S	03 10 53.5	-2.3
IISM	Ciudad Serdan	3.60	306	eP	P	03 10 40.7	-1.8
IISM				i S	S	03 11 19.2	-5.7
PPM	Popocatepetl	4.66	298	eP	P	03 10 56.0	-0.6

DJA 11 03:20:47.4±0.9**, 9.91S×117.07E, h294km**±17km**, MD4.6**/4**, ML3.7**/4**, 2C-6D, Error ellipse: s-maj=100.5km s-min=23.1km az=6.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KEDI	Kedomdong	1.70	326	⇑iPn	P	03 21 32.0	+0.4
	14nm,0.1s						
KEDI				⇓iSn	S	03 22 05.8	-0.3
RATI	Rata	1.93	308	⇓iPn	P	03 21 33.5	+0.2
	144nm,0.2s						
RATI				⇓iSn	S	03 22 07.2	-1.8
KELI	Kelakatan	3.06	303	⇓ePn	P	03 21 44.2	+0.5
	22nm,0.2s						
KELI				⇑iSn	S	03 22 26.0	-1.5
SRDI	Scrawed	3.23	296	⇓iPn	P	03 21 46.9	+1.5
	56nm,0.2s						
SRDI				⇓iSn	S	03 22 29.0	-1.7

WEL 11 03:34:15.5±0.7**, 38.99S×175.35E, h240km**±6km**, ML3.5**/1**, Error ellipse: s-maj=6.8km s-min=3.3km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WAZ	Wanganui	0.81	200	PN	P	03 34 48.3	-0.3
WAZ				SN	S	03 35 13.7	-0.8
BKZ	Black Stump Fm	0.91	102	PN	P	03 34 49.3	+0.2
BKZ				SN	S	03 35 14.7	-0.5
TOZ	Tahuroa Road	1.27	5	PN	P	03 34 51.0	-0.4
MRZ	Mangatainoka R	1.68	174	PN	P	03 34 54.6	0.0
MRZ				SN	S	03 35 23.2	-1.7
KIW	Kapiti Island	1.90	190	PN	P	03 34 55.8	-0.7
PUZ	Puketiti	2.46	69	SN	S	03 35 36.4	-1.6

*MOS **11** 03:37:13.4±1.0, 13.67N×121.02E, h33km, mb4.9/8, Error ellipse: s-maj=39.1km s-min=12.2km az=124.1*
*MAN **11** 03:37:18.8, 13.43N×120.53E, h43km, mb5.3, ML4.3, MS4.5*
*BJI **11** 03:37:21.1, 13.40N×121.19E, h126km, mB4.8, mb4.4*
*NEIC **11** 03:37:22.8±0.4, 13.54N×120.81E, h100km, mb4.6/7, Error ellipse: s-maj=20.7km s-min=7.9km az=62.0*
*IDC **11** 03:37:25.5±8.8, 13.50N×120.75E, h122km±83km, mb3.9/9, mb1 4.0/9, mb1mx3.8/18, Error ellipse: s-maj=58.7km s-min=13.4km az=62.0*
ISC 11 03:37:18.7±0.3**, 13.42N**±0.03×**120.59E**±0.05**, h73km**±4km**, n69, σ1.03**/79**, mb4.6**/29**, 2C-3D, Mindoro**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.46	313	eP	P	03 37 29.6	-2.0
LUBP	Lubang	0.46	313	eP	P	03 37 36.7	+5.2
TGY	Tagaytay City	0.75	26	⇓iP	P	03 37 34.8	+0.1
TGY				i S	S	03 37 45.8	-0.7
PAZ	Puerto Azul	0.80	6	eP	P	03 37 35.5	+0.3
SJMP	San Jose	1.09	152	eP	P	03 37 38.9	+0.2
SJMP				eS	S	03 37 53.4	-0.3
LQP	Lukban	1.15	53	⇓iP	P	03 37 39.7	+0.1
LQP				i S	S	03 37 50.4	-4.7
BOAC	Boac	1.22	88	eP	P	03 37 39.8	-0.7
BOAC				eS	S	03 37 56.3	-0.4
ARP	Angono	1.24	26	eP	P	03 37 39.7	-1.0
QVPH	Quezon City--P	1.30	20	eP	P	03 37 41.1	-0.6
NBP	Mount Natib	1.32	353	eP	P	03 37 42.2	+0.2
BUSP	Coron	1.46	195	eP	P	03 37 43.9	+0.1
BUSP				eS	S	03 38 01.8	-0.5
OTRP	Odiongan	1.75	127	eP	P	03 37 48.2	+0.6
GQP	Guinayangan	1.87	75	⇑iP	P	03 37 50.4	+1.2
GQP				i S	S	03 38 15.5	+3.8
AUQP	San Andres	2.03	93	eP	P	03 37 54.5	+3.1
SCZP	Santa Cruz	2.43	344	eP	P	03 37 58.6	+1.5
KALP	Kalibo	2.43	135	eP	P	03 37 55.0	-2.2
BALP	Baler	2.49	22	eP	P	03 37 58.7	+0.7
CUYO	Cuyo Island	2.59	171	eP	P	03 37 59.1	-0.3
RCP	Roxas	2.80	131	eP	P	03 38 03.2	+0.8
BCPH	Baguio City Da	2.94	360	⇓eP	P	03 38 03.9	-0.4
BCPH				eS	S	03 38 37.4	-1.1
BOLP	Bolinao	3.01	348	eP	P	03 38 07.5	+2.2
GUIM	Jordan	3.40	145	eP	P	03 38 11.9	+1.3
PPR	Puerto Princes	4.06	207	eP	P	03 38 19.1	-0.7
PPR				eS	S	03 39 03.7	-2.8
CVP	Callao Caves	4.42	15	eP	P	03 38 24.0	-0.9
SNPH	Sibulan	4.81	147	eP	P	03 38 32.0	+1.6
SSE	Sheshan	17.60	2	P	P	03 41 19.8	-0.8
SSE				XP		03 41 51.4	
SSE				AMB	AMB		
	comp=Z,12nm,0.7s						
SSE				LR	LR		
	comp=N,51nm,20.0s						
SSE				LR	LR		
	comp=E,41nm,20.0s						
SSE				LR	LR		
	comp=Z,60nm,20.0s						
NJ2	Nanjing	18.61	355	eP	P	03 41 34.0	+1.3
NJ2				AP		03 41 51.6	
NJ2				PP	PP	03 41 55.1	+5.4
NJ2				XP		03 42 04.6	
NJ2				S	S	03 45 01.0	+6.6
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s						
NJ2				AMB	AMB		
	comp=Z,190nm,4.7s						
NJ2				LR	LR		
	comp=N,160nm,19.3s						
NJ2				LR	LR		
	comp=E,180nm,19.7s						
NJ2				LR	LR		
	comp=Z,140nm,17.0s						
CMAR	Chiang Mai Arr	21.40	286	P	P	03 42 04.8	+2.6
	comp=Z,5.2nm,0.8s,mb3.9,baz=95,slow=8.2,SNR=32						
CD2	Chengdu	23.31	321	⇑iP	P	03 42 22.7	+1.8
CD2				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.6						
HHC	Hu-ho-hao-te	28.44	346	eP	P	03 43 08.8	0.0
HHC				AMB	AMB		
	comp=Z,8.0nm,1.3s,mb4.1						
HHC				AMB	AMB		
	comp=Z,95nm,4.8s						
SHL	Shillong	29.56	298	eP	P	03 43 19.0	+0.1
GUN	Gumba	35.38	300	eP	P	03 44 10.9	+1.4
	comp=Z,61nm,0.6s,mb5.6						
PKI	Pulchoki	35.69	299	eP	P	03 44 12.8	+0.7
	comp=Z,27nm,0.6s,mb5.4						
WRAB	Tennant Creek	35.81	158	eP	P	03 44 12.9	-0.2
	comp=Z,4.3nm,0.7s,mb4.5						
WRA	Warramunga Arr	35.81	158	P	P	03 44 13.4	+0.3
	comp=Z,2.7nm,0.5s,mb4.4,baz=336,slow=9.6,SNR=20						
KKN	Kakani	35.86	299	eP	P	03 44 14.2	+0.7
	comp=Z,47nm,0.9s,mb5.4						
DMN	Daman	35.96	299	eP	P	03 44 15.2	+0.9
	comp=Z,24nm,0.5s,mb5.4						
SONM	Songino Array	36.29	344	P	P	03 44 16.8	-0.2
	comp=Z,4.6nm,0.9s,mb4.4,baz=160,slow=9.8,SNR=21						
GKN	Gorkha	36.47	299	eP	P	03 44 19.2	+0.6
	comp=Z,18nm,0.6s,mb5.2						
KOLN	Koldanda	37.29	298	eP	P	03 44 26.4	+0.9
	comp=Z,22nm,0.9s,mb5.1						
ASAR	Alice Springs	39.09	160	P	P	03 44 41.0	+0.5
	comp=Z,2.3nm,0.5s,mb4.3,baz=337,slow=6.9,SNR=28						
ZAK	Zakamensk	39.47	343	eP	P	03 44 43.1	-0.3
JOSI	Joshimath	41.42	301	eP	P	03 45 01.1	+1.4
JOSI				AMb	AMB	03 45 03.8	
	comp=Z,68nm,0.4s,mb5.8						
KLP	Kalpa	42.76	302	eP	P	03 45 11.4	+0.6
KLP				AMb	AMB	03 45 18.1	
	comp=Z,12nm,3.2s						
KUDL	Kundal	43.51	297	eP	P	03 45 16.2	-0.6
KUDL				AMb	AMB	03 45 16.9	
	comp=Z,3.9nm,1.0s,mb4.1						
KHET	Khetri	44.09	297	eP	P	03 45 21.2	-0.4
KHET				AMb	AMB	03 45 22.8	
	comp=Z,3.5nm,0.9s,mb4.1						
MKAR	Makanchi Array	46.19	324	P	P	03 45 39.0	+1.0
	comp=Z,5.3nm,0.7s,mb4.4,baz=130,slow=9.9,SNR=27						
MKAR	Makanchi Array	46.19	324	i P	P	03 45 38.6	+0.6
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
AAK	Ala-Archa	49.19	315	eP	P	03 46 01.9	+0.5
ZAL	Zalesovo	49.25	333	P	P	03 46 01.0	-0.8
	comp=Z,1.7nm,0.4s,mb4.3,baz=120,slow=11,SNR=4.1						
ZAL	Zalesovo	49.25	333	P	P	03 46 01.0	-0.8
KURK	Kurchatov	50.36	326	i P	P	03 46 10.5	+0.2
KURK				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9						
VOSK	Vostochnaya	55.49	326	P	P	03 46 47.4	-0.9
VOSK				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
VOSK	Vostochnaya	55.49	326	P	P	03 46 47.4	-0.9
	comp=Z,6.0nm,1.1s,mb4.5						
BVA0	Borovoye Array	55.94	326	P	P	03 46 51.1	-0.4
BVAR	Borovoye Array	55.94	326	P	P	03 46 51.4	-0.2
	comp=Z,3.2nm,0.9s,mb4.4,baz=112,slow=8.0,SNR=11						
BRVK	Borovoye	56.01	326	eP	P	03 46 51.3	-0.8
	comp=Z,13nm,1.0s,mb4.9						
ZRNK	Zerenda	56.67	325	P	P	03 46 56.1	-0.7
ZRNK				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.7						
TIXI	Tiksi	58.41	3	eP	P	03 47 06.1	-2.6
TIXI				e		03 49 16.3	
TIXI				eS	S	03 55 02.5	-1.7
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.4						
TIXI				MLR	MLR		
	comp=Z,700nm,24.0s						
TIXI	Tiksi	58.41	3	eP	P	03 47 06.1	-2.6
	comp=Z,4.0nm,1.1s,mb4.4						
TIXI				e		03 49 16.3	
TIXI				eS	S	03 55 02.5	-1.7
TIXI				LR	LR		
	comp=Z,700nm,24.0s						
KIV	Kislovodsk	72.13	312	eP	P	03 48 36.0	-1.3
KIV				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.6						
KIV	Kislovodsk	72.13	312	eP	P	03 48 36.0	-1.3
	comp=Z,6.0nm,0.6s,mb4.6						
SOC	Sochi	74.30	312	eP	P	03 48 48.7	-1.3
SOC				e	pP	03 49 04.6	-5.2
SOC				e		03 51 45.6	
SOC				eS	S	03 58 18.3	+1.6
SOC				pmax	pmax		
	comp=Z,18nm,0.7s,mb4.9						
SOC				pmax	pmax		
	comp=N,12nm,0.5s						
SOC				pmax	pmax		
	comp=E,10.0nm,0.5s						
SOC				MLR	MLR		
	comp=Z,176nm,24.0s						
SOC				MLR	MLR		
	comp=N,133nm,21.0s						
SOC				MLR	MLR		
	comp=E,44nm,19.0s						
SOC	Sochi	74.30	312	eP	P	03 48 48.7	-1.3
	comp=E,18nm,0.7s,mb4.9						
SOC				e	pP	03 49 04.6	-5.2
SOC				e		03 51 45.6	
SOC				eS	S	03 58 18.3	+1.6
SOC				LR	LR		
	comp=Z,180nm,24.0s						
OBN	Obninsk	75.70	324	eP	P	03 48 56.3	-1.5
OBN				e		03 49 06.7	
OBN				e		03 51 49.4	
OBN				eS	S	03 58 33.1	+1.1
OBN				eSS	SS	04 03 32.1	+4.6
OBN				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.5						
OBN				MLR	MLR		
	comp=Z,100nm,22.0s						
OBN	Obninsk	75.70	324	eP	P	03 48 56.3	-1.5
	comp=Z,11nm,1.1s,mb4.5						
OBN				e		03 49 06.7	
OBN				e		03 51 49.4	
OBN				eS	S	03 58 33.1	+1.1
OBN				eSS	SS	04 03 32.1	+4.6
OBN				LR	LR		
	comp=Z,100nm,22.0s						
FINES	FINESS Array B	80.47	331	P	P	03 49 23.5	-0.4
	comp=Z,1.6nm,0.9s,mb3.9,baz=63,slow=3.1,SNR=4.3						
NOA	NORSAR Array B	87.46	333	P	P	03 49 58.1	-0.9
	comp=Z,0.6nm,0.6s,mb3.7,baz=68,slow=4.7,SNR=4.1						
TXAR	Lajitas Array	119.74	45	PKP	PKPdf	03 56 02.0	+1.0
	comp=Z,0.2nm,0.5s,baz=315,slow=1.8,SNR=3.8						

IDC 11 04:00:13.7±11.0**, 7.83S×126.98E, h161km**±126km**, mb3.4**/1**, mb1 4.0**/4**, mb1mx3.5**/13**, ML4.2**/3**, Error ellipse: s-maj=85.7km s-min=51.0km az=31.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.29	187	P	P	04 02 38.9	+0.6
	2.4nm,0.3s,baz=21,slow=12,SNR=63						
FITZ				S	S	04 04 29.4	-2.1
	1.7nm,0.3s,baz=348,slow=20,SNR=10						
WRA	Warramunga Arr	14.00	150	P	P	04 03 23.6	-2.6
	0.9nm,0.3s,baz=326,slow=12,SNR=14						
WRA				S	S	04 05 48.9	-8.9
	2.3nm,0.3s,baz=324,slow=24,SNR=12						
ASAR	Alice Springs	17.09	158	P	P	04 04 04.0	-0.5
	1.5nm,0.3s,baz=339,slow=12,SNR=53						
ASAR				S	S	04 07 04.6	-3.0
	0.7nm,0.3s,baz=329,slow=16,SNR=9.0						
MKAR	Makanchi Array	67.31	328	P	P	04 10 51.1	-2.3
	0.6nm,0.6s,baz=136,slow=10.0,SNR=3.9						

*FUNV **11** 04:07:35.0, 6.77N×73.16W, h168km, MD3.9*
*IDC **11** 04:07:38.4±4.5, 6.07N×73.13W, h224km±88km, mb2.9/3, mb1 3.4/3, mb1mx3.0/19, Error ellipse: s-maj=169.0km s-min=63.2km az=20.0*
ISC 11 04:07:35.6±0.8**, 6.94N**±0.07×**72.93W**±0.07**, h173km**±7km**, n13, σ0.98**/22**, mb3.3**/3**, 1C-3D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CAPV	Capacho	1.11	34	⇓iP	P	04 08 04.4	+0.7
CAPV				eS	S	04 08 25.7	+0.2
VIGV	El Vigia	2.45	39	eP	P	04 08 19.0	+1.2
VIGV				eS	S	04 08 50.8	+0.5
SOCV	Socops	2.46	57	⇑eP	P	04 08 19.3	+1.4
SOCV				i S	S	04 08 51.4	+0.9
ROSC	El Rosal	2.49	214	P	P	04 08 16.8	-1.5
	28nm,0.3s,baz=43,slow=20,SNR=206						
ROSC				S	S	04 08 46.3	-4.9
	67nm,0.3s,baz=155,slow=22,SNR=18						
VIRV	Villa del Rosa	3.58	8	eP	P	04 08 31.2	-0.7
VIRV				eS	S	04 09 13.3	-2.0
QARV	Quebrada Arrib	4.03	36	⇓iP	P	04 08 38.7	+1.1
QARV				eS	S	04 09 25.2	-0.2
CURV	Curarigua	4.24	44	eP	P	04 08 40.9	+0.6
CURV				eS	S	04 09 29.9	-0.3
DABV	Dabajuro	4.56	30	eP	P	04 08 45.2	+0.7
DABV				eS	S	04 09 36.5	-1.3
BAUV	El Baul	5.24	67	⇓iP	P	04 08 52.9	-0.4
BAUV				eS	S	04 09 52.0	-1.6
CAOV	Caicara del Or	6.57	86	eP	P	04 09 10.2	-0.7
TXAR	Lajitas Array	36.53	311	P	P	04 14 26.6	+0.5
	0.2nm,0.5s,mb3.0,baz=130,slow=10.0,SNR=5.6						
PDAR	Pinedale Array	48.10	324	P	P	04 16 00.4	+0.8
	0.3nm,0.6s,mb3.1,baz=124,slow=9.8,SNR=3.2						
YKA	Yellowknife Ar	63.22	340	P	P	04 17 47.2	-0.2
	1.1nm,0.9s,mb3.7,baz=132,slow=6.5,SNR=5.0						

IDC 11 04:17:25.8±2.4**, 6.36S×130.39E, mb3.8**/1**, mb1 3.9**/3**, mb1mx3.6**/11**, ML3.6**/2**, MS3.3**/1**, Ms1 3.3**/1**, ms1mx2.5**/20**, Error ellipse: s-maj=139.0km s-min=32.0km az=70.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.03	165	Pn	P	04 20 45.2	-3.1
	0.4nm,0.3s,baz=348,slow=14,SNR=8.3						
WRA				Sn	S	04 23 15.1	-11
	0.3nm,0.3s,baz=335,slow=23,SNR=4.8						
ASAR	Alice Springs	17.53	169	P	P	04 21 32.4	-1.0
	0.3nm,0.3s,baz=344,slow=12,SNR=12						
ASAR				S	S	04 24 40.8	-6.9
	0.1nm,0.3s,baz=353,slow=28,SNR=2.6						
ASAJ	Asahikawa	51.44	11	LR	LR	04 46 30.5	
	comp=Z,25nm,18.3s,baz=202,slow=34						
MKAR	Makanchi Array	67.91	326	P	P	04 28 26.4	-2.1
	0.7nm,0.8s,baz=115,slow=7.5,SNR=4.9						

*IDC **11** 04:22:59.0±5.3, 5.27S×152.33E, h49km±48km, mb3.8/6, mb1 4.0/7, mb1mx3.8/15, ML3.3/1, Error ellipse: s-maj=45.2km s-min=28.4km az=115.0*
*NEIC **11** 04:23:00.3±1.7, 5.26S×152.24E, h60km±13km, mb4.2/1, Error ellipse: s-maj=36.1km s-min=11.0km az=115.0*
ISC 11 04:22:59.5±2.1**, 5.3S**±0.2×**152.2E**±0.2**, h66km**±16km**, n9, σ0.43**/10**, mb3.8**/7**, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAB	Rabaul	1.07	358	eP	P	04 23 19.1	0.0
PMG	Port Moresby	6.46	230	P	P	04 24 34.1	0.0
	4.0nm,0.3s,baz=66,slow=5.7,SNR=4.7						
PMG				S	S	04 25 47.2	-0.1
	7.9nm,0.3s,baz=90,slow=16,SNR=6.1						
WRAB	Tennant Creek	22.67	228	eP	P	04 27 56.4	+0.1
	10nm,1.0s,mb4.1						
WRA	Warramunga Arr	22.68	228	P	P	04 27 56.6	+0.2
	2.1nm,0.6s,mb3.6,baz=54,slow=9.7,SNR=15						
ASAR	Alice Springs	25.40	222	P	P	04 28 23.4	+0.9
	1.2nm,0.5s,mb3.6,baz=59,slow=8.8,SNR=19						
STKA	Stephens Creek	28.27	199	P	P	04 28 48.6	-0.3
	1.5nm,0.8s,mb3.6,baz=4.9,slow=23,SNR=2.5						
FITZ	Fitzroy Crossi	28.90	242	P	P	04 28 53.7	-0.9
	2.3nm,0.6s,mb4.0,baz=54,slow=5.3,SNR=12						
CMAR	Chiang Mai Arr	57.53	296	P	P	04 32 45.1	+0.3
	1.1nm,0.8s,mb4.0,baz=127,slow=4.5,SNR=4.1						
ILAR	Eielson Array	82.82	22	P	P	04 35 17.6	-0.2
	1.1nm,0.6s,mb3.9,baz=252,slow=5.3,SNR=16						

IDC 11 04:27:13.7±5.3**, 5.72S×151.13E, h48km**±45km**, mb3.7**/5**, mb1 4.0**/6**, mb1mx3.8**/14**, ML3.1**/1**, Error ellipse: s-maj=76.9km s-min=30.9km az=125.0, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.38	227	P	P	04 28 33.4	0.0
	4.1nm,0.3s,baz=39,slow=12,SNR=5.6						
PMG				S	S	04 29 30.8	-4.0
	2.4nm,0.3s,baz=111,slow=17,SNR=3.8						
WRA	Warramunga Arr	21.59	228	P	P	04 31 59.8	-1.7
	2.6nm,0.5s,baz=53,slow=11,SNR=16						
ASAR	Alice Springs	24.36	221	P	P	04 32 27.8	-0.8
	3.8nm,0.7s,baz=54,slow=9.3,SNR=32						
FITZ	Fitzroy Crossi	27.76	241	P	P	04 32 59.0	-1.3
	4.2nm,0.6s,baz=51,slow=6.5,SNR=16						
ILAR	Eielson Array	83.63	22	P	P	04 39 36.3	-1.8
	0.3nm,0.7s,baz=253,slow=5.3,SNR=8.3						
MAW	Mawson	84.09	203	P	P	04 39 38.5	-1.8
	0.4nm,0.6s,baz=72,slow=9.6,SNR=4.8						

*MOS **11** 04:42:24.6±0.7, 13.86N×120.91E, h119km, mb5.1/12, Error ellipse: s-maj=25.0km s-min=8.8km az=117.4*
*BJI **11** 04:42:24.3, 13.86N×120.96E, h110km, mB4.9, mb4.8*
*IDC **11** 04:42:25.9±0.6, 13.76N×120.83E, h114km±5km, mb4.3/23, mb1 4.4/24, mb1mx4.4/25, Error ellipse: s-maj=18.7km s-min=7.6km az=68.0*
*MAN **11** 04:42:26.0, 13.81N×120.43E, h94km, mb5.0, ML4.0, MS4.0*
MAN Intensity II Tagaytay City Intensity I Puerto Galera.
*NEIC **11** 04:42:25.4±0.2, 13.80N×120.78E, mb4.8/25, Error*

ellipse: s-maj=8.6km s-min=5.4km az=75.0
NEIC Felt [II PIVS] at Tagaytay, Luzon. Felt [I PIVS] at Puerto Galera.
ISC 11 04:42:25.7±0.2**, 13.80N**±0.02×**120.61E**±0.04**, h118**km±2km**, h108**km±3.1km**:pP-P, n154,** σ**1§11**/165**, mb4.8**/62**, 19C-3D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LUBP	Lubang	0.36	260	eP	P	04 42 41.4	-1.4
LUBP	Lubang	0.36	260	eP	P	04 42 44.9	+2.1
PAZ	Puerto Azul	0.43	8	eP	P	04 42 42.5	-0.7
TGY	Tagaytay City	0.44	46⇑	iP	P	04 42 43.5	+0.3
TGY				i S	S	04 42 55.6	-0.8
ARP	Angono	0.90	35	eP	P	04 42 46.1	-0.9
QVPH	Quezon City--P	0.95	27	eP	P	04 42 47.0	-0.5
NBP	Mount Natib	0.96	349	eP	P	04 42 46.6	-0.9
BOAC	Boac	1.24	106	eP	P	04 42 50.8	+0.3
BOAC				eS	S	04 43 11.3	+2.2
SJMP	San Jose	1.42	160	eP	P	04 42 52.0	-0.4
SJMP				eS	S	04 43 11.4	-1.4
POLP	Polilio Island	1.58	54	eP	P	04 42 53.9	-0.5
GQP	Guinayangan	1.78	86⇓	iP	P	04 42 58.7	+1.9
PCPH	Palayan	1.82	15⇓	iP	P	04 42 56.4	-0.8
PCPH				i S	S	04 43 20.6	-0.4
BUSP	Coron	1.83	193	eP	P	04 42 56.3	-1.0
BUSP				eS	S	04 43 19.6	-1.7
OTRP	Odiongan	1.98	136	eP	P	04 43 00.1	+0.8
OTRP				eS	S	04 43 24.9	+0.4
AUQP	San Andres	2.06	103	eP	P	04 43 03.9	+3.6
SCZP	Santa Cruz	2.08	341	eP	P	04 42 59.6	-0.9
BALP	Baler	2.15	26	eP	P	04 43 02.4	+0.9
BCPH	Baguio City Da	2.57	359⇑	iP	P	04 43 06.0	-1.1
BCPH				i S	S	04 43 42.1	+3.7
BOLP	Bolinao	2.66	345	eP	P	04 43 06.6	-1.6
KALP	Kalibo	2.69	141	eP	P	04 43 10.0	+1.2
CUYO	Cuyo Island	2.96	172	eP	P	04 43 11.5	-0.7
RCP	Roxas	3.04	137	eP	P	04 43 14.7	+1.2
CAUP	Cauayan	3.34	20	eP	P	04 43 19.1	+1.7
PVCP	Virac	3.45	93	eP	P	04 43 20.6	+1.8
GUIM	Jordan	3.70	148	eP	P	04 43 23.9	+1.7
CVP	Callao Caves	4.05	17	eP	P	04 43 26.0	-1.0
	10μm,1.0s						
APYP	Conner	4.09	8	eP	P	04 43 28.0	+0.5
CNP	Catarman	4.15	107	eP	P	04 43 31.4	+3.2
PPR	Puerto Princes	4.40	205⇑	eP	P	04 43 31.4	-0.3
PPR				i S	S	04 44 18.2	-4.1
SNPH	Sibulan	5.12	150⇑	iP	P	04 43 44.2	+2.8
TBP	Tagbilaran	5.17	142	eP	P	04 43 44.9	+2.8
TBP				eS	Px	04 44 08.1	
BATP	Bataraza	5.68	209	eP	P	04 43 48.2	-0.8
PAGZ	Pagadian	6.51	155	eP	P	04 44 03.8	+3.6
BBP	Basco	6.73	11	eP	P	04 44 02.2	-1.1
QIZ	Qiongzhong	11.57	298	eP	P	04 45 08.8	+0.6
JOW	Kunigami	14.82	28	P	P	04 45 49.7	-0.7
	1.5nm,0.3s,baz=189,slow=16,SNR=4.4						
SSE	Sheshan	17.23	2	P	P	04 46 14.3	-6.1
SSE				S	S	04 49 27.0	+0.8
SSE				XS		04 49 47.3	
SSE				AMB	AMB		
	comp=Z,21nm,0.7s						
SSE				LR	LR		
	comp=N,60nm,20.0s						
SSE				LR	LR		
	comp=E,50nm,20.0s						
SSE				LR	LR		
	comp=Z,76nm,20.0s						
WHN	Wuhan	17.64	342	eP	P	04 46 26.2	+0.8
KMI	Kunming	20.25	306	eP	P	04 46 57.6	+3.9
KMI				AMB	AMB		
	comp=Z,10.0nm,0.9s						
CMAR	Chiang Mai Arr	21.32	285	P	P	04 47 06.5	+2.0
	comp=Z,6.6nm,0.9s,mb4.0,baz=95,slow=8.6,SNR=32						
TIA	Tai'an	22.54	353	eP	P	04 47 17.6	+1.2
XAN	Xi'an	22.77	334	P	P	04 47 19.1	+0.4
XAN				AMB	AMB		
	comp=Z,29nm,0.7s,mb4.7						
CD2	Chengdu	23.04	320	P	P	04 47 22.4	+1.2
CD2				AMB	AMB		
	comp=Z,50nm,0.7s,mb5.0						
CBIJ	Chichi jima	24.11	53	P	P	04 47 31.4	-0.1
	comp=Z,75nm,0.8s,mb5.0,baz=281,slow=23,SNR=5.1						
BJI	Beijing	26.43	352	P	P	04 47 52.5	-0.8
BJI				AMB	AMB		
	comp=Z,31nm,1.4s,mb4.5						
HHC	Hu-ho-hao-te	28.09	345	⇓P	P	04 48 08.5	+0.2
HHC				AP	pP	04 48 31.3	-2.6
HHC				XP	sP	04 48 46.4	-1.2
HHC				AMB	AMB		
	comp=Z,27nm,1.1s,mb4.7						
HHC				AMB	AMB		
	comp=Z,48nm,5.1s						
SHL	Shillong	29.41	298	i P	P	04 48 19.7	-0.5
SHL				eS	S	04 53 00.2	-3.8
GTA	Gaotai	31.41	328	P	P	04 48 38.3	+0.5
GTA				AMB	AMB		
	comp=Z,11nm,0.7s,mb4.7						
LSA	Lhasa	31.49	305	P	P	04 48 39.8	+1.3
FITZ	Fitzroy Crossi	32.08	171	P	P	04 48 42.3	-1.5
	comp=Z,1.2nm,0.5s,mb3.9,baz=8.0,slow=11,SNR=11						
FITZ				pP	pP	04 49 06.2	-3.8
	comp=Z,2.3nm,0.8s,baz=346,slow=9.5,SNR=4.0						
MBWA	Marble Bar	34.75	181	eP	P	04 49 05.4	-1.3
	comp=Z,15nm,0.7s,mb4.9						
GUN	Gumba	35.22	299	eP	P	04 49 11.4	+0.8
	comp=Z,40nm,0.4s,mb5.6						
PKI	Pulchoki	35.53	298	eP	P	04 49 13.5	+0.3
	comp=Z,26nm,0.5s,mb5.4						
KKN	Kakani	35.70	299	eP	P	04 49 14.8	+0.2
	comp=Z,32nm,0.8s,mb5.3						
DMN	Daman	35.80	298	eP	P	04 49 15.8	+0.3
	comp=Z,27nm,0.5s,mb5.4						
SONM	Songino Array	35.94	344	P	P	04 49 16.4	-0.1
	comp=Z,22nm,0.5s,mb5.4,baz=164,slow=9.7,SNR=163						
WRAB	Tennant Creek	36.14	158	P	P	04 49 17.1	-1.3
	comp=Z,42nm,0.4s,mb5.7,SNR=13						
WRAB	Tennant Creek	36.14	158	eP	P	04 49 16.3	-2.1
	comp=Z,4.6nm,0.6s,mb4.6						
WRA	Warramunga Arr	36.14	158	P	P	04 49 17.0	-1.4
	comp=Z,1.9nm,0.3s,mb4.5,baz=335,slow=9.6,SNR=21						
WRA				pP	pP	04 49 41.6	-3.6
	comp=Z,12nm,1.1s,baz=337,slow=9.5,SNR=11						
WRA				S	S	04 54 43.0	-5.7
	comp=Z,0.6nm,0.4s,baz=343,slow=14,SNR=5.4						
GKN	Gorkha	36.31	299	eP	P	04 49 19.6	-0.1
	comp=Z,15nm,0.4s,mb5.2						
KOLN	Koldanda	37.13	298	eP	P	04 49 27.0	+0.3
	comp=Z,11nm,0.5s,mb5.0						
ZAK	Zakamensk	39.12	342⇑	iP	P	04 49 42.7	-0.3
ASAR	Alice Springs	39.44	161	P	P	04 49 45.9	0.0
	comp=Z,2.2nm,0.4s,mb4.4,baz=339,slow=7.3,SNR=37						
ASAR				pP	pP	04 50 10.7	-2.1
	comp=Z,9.4nm,1.0s,baz=338,slow=7.1,SNR=14						
ASAR				S	S	04 55 36.8	-1.7
	comp=Z,0.7nm,0.9s,baz=352,slow=18,SNR=4.7						
MOY	Mondy	40.95	341	eP	P	04 49 58.5	+0.5
WMQ	Urumqi	41.08	323	eP	P	04 50 01.6	+2.4
WMQ				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.8						
BOD	Bodaibo	44.22	355	eP	P	04 50 22.9	-1.6
MKAR	Makanchi Array	45.91	324	P	P	04 50 38.8	+0.7
	comp=Z,8.6nm,0.4s,mb4.8,baz=119,slow=8.4,SNR=84						
MKAR	Makanchi Array	45.91	324	i P	P	04 50 38.6	+0.5
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.2s						
NWAO	Narrogin (SRO)	46.57	184	P	P	04 50 42.6	-0.9
	comp=Z,10.0nm,0.7s,mb4.7,baz=315,slow=10,SNR=5.6						
ULHL	Ulahol	47.59	315	P	P	04 50 52.6	+1.2
	SNR=39						
KZA	Kyzart	48.21	315	P	P	04 50 57.8	+1.6
	SNR=22						
TKM2	Tokmak 2	48.30	316	P	P	04 50 57.9	+1.1
	SNR=24						
YAK	Yakutsk	48.60	6	eP	P	04 50 57.4	-1.5
YAK				pmax	pmax		
	comp=Z,25nm,0.7s,mb5.2						
YAK	Yakutsk	48.60	6	eP	P	04 50 57.4	-1.5
	comp=Z,25nm,0.7s,mb5.2						
UCH	Uchtor	48.78	315	P	P	04 51 02.2	+1.7
	SNR=25						
CHMS	Chumysh	48.90	316	P	P	04 51 02.1	+0.6
	SNR=7.1						
ZAL	Zalesovo	48.94	333	P	P	04 51 00.4	-1.2
	comp=Z,9.6nm,0.4s,mb5.1,baz=260,slow=5.9,SNR=17						
ZAL	Zalesovo	48.94	333	P	P	04 51 00.4	-1.2
AAK	Ala-Archa	48.94	315	P	P	04 51 02.7	+0.9
	SNR=8.6						
AAK	Ala-Archa	48.94	315c	iP	P	04 51 01.8	0.0
AAK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
AAK	Ala-Archa	48.94	315⇑	iP	P	04 51 01.8	0.0
	comp=Z,8.0nm,0.8s,mb4.7						
USP	Ospenovka	49.17	316	P	P	04 51 04.3	+0.7
	SNR=18						
AML	Almayashu	49.31	314	P	P	04 51 06.2	+1.6
	SNR=27						
EKS2	Erkin-Say	49.44	315	P	P	04 51 06.9	+1.3
	SNR=14						
STKA	Stephens Creek	49.67	156	P	P	04 51 05.8	-1.8
	comp=Z,0.6nm,0.3s,mb4.0,baz=330,slow=7.1,SNR=5.2						
STKA				pP	pP	04 51 31.5	-3.8
	comp=Z,1.2nm,0.4s,baz=339,slow=7.4,SNR=2.6						
KURK	Kurchatov	50.06	326c	iP	P	04 51 10.5	+0.2
KURK				pmax	pmax		
	comp=Z,58nm,1.0s,mb5.5						
KURK	Kurchatov	50.06	326⇑	iP	P	04 51 10.5	+0.2
NVS	Novosibirsk	50.22	333	i P	P	04 51 09.8	-1.6
NVS				e		04 51 48.2	
NVS				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
NVS				pmax	pmax		
	comp=N,17nm,1.2s						
NVS				pmax	pmax		
	comp=E,12nm,1.2s						
NVS	Novosibirsk	50.22	333	i P	P	04 51 09.8	-1.6
	comp=E,15nm,1.0s,mb4.9						
NVS				e		04 51 48.2	
VOSK	Vostochnaya	55.19	326	P	P	04 51 47.6	-0.8
VOSK				pmax	pmax		
	comp=Z,12nm,0.6s,mb5.1						
VOSK	Vostochnaya	55.19	326	P	P	04 51 47.6	-0.8
	comp=Z,12nm,0.6s,mb5.1						
BVA0	Borovoye Array	55.65	326	i P	P	04 51 51.3	-0.3
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
BVA0	Borovoye Array	55.65	326	i P	P	04 51 51.3	-0.3
	comp=Z,1.0nm,0.8s,mb3.9						
BVAR	Borovoye Array	55.65	326	P	P	04 51 51.1	-0.6
	comp=Z,12nm,0.4s,mb5.3,baz=112,slow=8.6						
BRVK	Borovoye	55.72	326	eP	P	04 51 51.3	-0.8
	comp=Z,42nm,0.8s,mb5.5						
ZRNK	Zerenda	56.38	325	P	P	04 51 56.4	-0.4
ZRNK				pmax	pmax		
	comp=Z,34nm,0.9s,mb5.4						
TIXI	Tiksi	58.04	3⇑	iP	P	04 52 05.9	-2.4
TIXI				i *PP	PcP	04 52 58.6	0.0
TIXI				i		04 59 46.3	
TIXI				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
TIXI	Tiksi	58.04	3⇑	iP	P	04 52 05.9	-2.4
	comp=Z,11nm,1.0s,mb4.8						
TIXI				i pP	PcP	04 52 58.6	0.0
TIXI				i		04 59 46.3	
SVE	Sverdlovsk	62.28	327⇑	eP	P	04 52 36.4	-0.9
SVE				pmax	pmax		
	comp=Z,60nm,2.0s,mb5.3						
SVE	Sverdlovsk	62.28	327⇑	eP	P	04 52 36.4	-0.9
	comp=Z,60nm,2.0s,mb5.3						
ARU	Arti	63.26	327⇑	iP	P	04 52 42.6	-1.2
ARU				pmax	pmax		
	comp=Z,23nm,1.0s,mb5.1						
ARU	Arti	63.26	327⇑	iP	P	04 52 42.6	-1.2
	comp=Z,23nm,1.0s,mb5.1						
KIV	Kislovodsk	71.90	312⇑	iP	P	04 53 38.5	+0.6
KIV				pmax	pmax		
	comp=Z,15nm,0.7s,mb4.9						
KIV	Kislovodsk	71.90	312⇑	iP	P	04 53 38.5	+0.6
	comp=Z,15nm,0.7s,mb4.9						
ARSS	Ar Rass	72.89	293	P	P	04 53 44.3	+0.2
AFFS	'Afif	73.36	291	P	P	04 53 47.4	+0.5
BLJS	Baljurashi	75.27	287	P	P	04 53 59.4	+1.5
OBN	Obninsk	75.41	324⇑	iP	P	04 53 57.1	-0.9
OBN				e*PP	pP	04 54 30.3	+2.3
OBN				pmax	pmax		
	comp=Z,14nm,0.6s,mb4.9						
OBN	Obninsk	75.41	324⇑	iP	P	04 53 57.1	-0.9
	comp=Z,14nm,0.6s,mb4.9						
OBN				epP	pP	04 54 30.3	+2.3
ANN	Anapa	75.61	313	eP	P	04 53 53.2	-6.1
ANN				pmax	pmax		
	comp=Z,106nm,1.6s,mb5.3						
ANN	Anapa	75.61	313	eP	P	04 53 53.2	-6.1
	comp=Z,106nm,1.6s,mb5.3						
IMA	Indian Mountai	75.76	25	eP	P	04 53 59.9	+0.2
	comp=Z,44nm,0.7s,mb5.3						
SPU	Mount Spurr	76.75	30	eP	P	04 54 05.0	-0.4
ASF	Jabal al Asfar	77.54	300	P	P	04 54 11.9	+1.5
	comp=Z,6.6nm,0.8s,mb4.4,baz=333,slow=5.7,SNR=7.6						
SIM	Simferopol'	77.94	314	eP	P	04 54 12.3	0.0
SIM				pmax	pmax		
	comp=Z,19nm,0.8s,mb4.9						
SIM	Simferopol'	77.94	314	eP	P	04 54 12.3	0.0
	comp=Z,19nm,0.8s,mb4.9						
MCK	McKinley	77.95	27	eP	P	04 54 11.2	-0.7
	comp=Z,13nm,0.8s,mb4.7						
PMR	Palmer	78.11	29	eP	P	04 54 11.8	-1.1
	comp=Z,7.3nm,0.4s,mb4.8						
COLA	College	78.28	26	eP	P	04 54 12.1	-1.6
	comp=Z,6.0nm,0.6s,mb4.5						
UMJS	Umm Lajj	78.28	293	P	P	04 54 16.1	+1.6
KEV	Kevo	78.41	339	ep	P	04 54 13.1	-1.3
	comp=Z,4.0nm,0.7s,mb4.3						
KEV	Kevo	78.41	339	eP	P	04 54 13.1	-1.3
KEV				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.3						
SML	Sawmill	78.46	29	eP	P	04 54 14.0	-0.8
ILAR	Eielson Array	78.70	26	P	P	04 54 14.7	-1.4
	comp=Z,2.7nm,0.8s,mb4.1,baz=275,slow=4.0,SNR=31						
ARCES	ARCESS Array B	78.97	339	P	P	04 54 17.1	-0.3
	comp=Z,3.8nm,0.5s,mb4.5,baz=77,slow=6.9,SNR=44						
BRTR	Keskin Array B	79.03	308	P	P	04 54 18.4	0.0
	comp=Z,2.3nm,0.5s,mb4.3,baz=117,slow=4.7,SNR=16						
THY	Trims Highway	79.40	27	eP	P	04 54 19.6	-0.3
AYUS	'Aynunah	79.58	297	P	P	04 54 22.8	+1.3
HAQS	Haql	79.72	297	P	P	04 54 23.7	+1.3
DIV	Divide	79.78	29	P	P	04 54 22.3	+0.4
KAF	Kangasniemi	79.93	332	ep	P	04 54 21.2	-1.6
	comp=Z,3.4nm,0.7s,mb4.3,baz=75,slow=5.0						
KAF	Kangasniemi	79.93	332	eP	P	04 54 21.2	-1.6
KAF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2						
FINES	FINESS Array B	80.16	331	P	P	04 54 23.4	-0.6
	comp=Z,3.4nm,0.7s,mb4.3,baz=54,slow=5.1,SNR=16						
AKASG	Malin Array Be	80.33	320	P	P	04 54 24.1	-1.1
	comp=Z,3.0nm,0.6s,mb4.3,baz=62,slow=4.7,SNR=16						
ISP	Isparta	81.76	307	eP	P	04 54 31.9	-1.0
	comp=Z,8.6nm,0.8s,mb4.6						
DAWY	Dawson	82.03	26	eP	P	04 54 33.8	0.0
INK	Inuvik	83.04	21	eP	P	04 54 38.1	-0.7
	comp=Z,13nm,1.0s,mb4.7						
MLR	Muntele Rosu	83.52	315	P	P	04 54 42.5	+0.8
	comp=Z,7.7nm,0.7s,mb4.7,baz=173,slow=0.5,SNR=18						
KMBO	Kilima Mbogo	83.82	267	P	P	04 54 46.4	+2.4
	comp=Z,12nm,0.3s,mb5.2,baz=46,slow=4.0,SNR=4.1						
NIE	Niedzica	86.22	320	eP	P	04 54 56.2	+1.2
OJC	Ojcow	86.30	321	eP	P	04 54 56.1	+0.7
OJC	Ojcow	86.30	321	eP	P	04 54 56.1	+0.7
IDI	Anoyia	86.73	305	P	P	04 54 57.7	-0.2
	comp=Z,2.8nm,0.3s,mb4.6,baz=157,slow=4.4,SNR=8.9						
NB2	NORSAR Subarra	87.14	333	P	P	04 54 57.8	-1.3
	comp=Z,1.9nm,0.6s,mb4.2,baz=69,slow=4.6						
NOA	NORSAR Array B	87.14	333	P	P	04 54 58.1	-1.0
	comp=Z,5.8nm,1.0s,mb4.5,baz=69,slow=4.6,SNR=10						
NOA				pP	pP	04 55 27.2	-2.7
	comp=Z,1.9nm,0.7s,baz=67,slow=4.8,SNR=3.9						
RES	Resolute Bay	88.95	9	eP	P	04 55 07.1	-0.5
BRG	Berggiesshubel	89.61	323	eP	P	04 55 07.3	-3.8
BRG				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.5						
BRG	Berggiesshubel	89.61	323	P	P	04 55 07.3	-3.8
	comp=Z,2.3nm,0.5s,mb4.6						
BRG				e		04 55 12.1	
CLL	Collm	90.00	323	P	P	04 55 13.0	+0.1
CLL	Collm	90.00	323	eP	P	04 55 07.0	-5.9
CLL				e		04 55 13.0	
GERES	GERESS Array B	90.50	321	P	P	04 55 15.9	+0.5
	comp=Z,1.7nm,0.9s,mb4.2,baz=90,slow=1.3,SNR=3.3						
MAW	Mawson	91.16	199	P	P	04 55 18.4	+0.4
	comp=Z,0.4nm,0.7s,mb3.7,baz=274,slow=21,SNR=3.0						
MAW				pP	pP	04 55 46.1	-2.9
	comp=Z,0.9nm,0.8s,baz=65,slow=7.5,SNR=2.6						
YKA	Yellowknife Ar	92.72	22	P	P	04 55 25.5	+0.3
	comp=Z,1.0nm,0.4s,mb4.5,baz=308,slow=4.4,SNR=13						
TXAR	Lajitas Array	119.46	44	PKP	PKPdf	05 01 01.6	-0.2
	comp=Z,0.2nm,0.5s,SNR=3.4						

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*IDC **11** 04:53:50.6±1.4, 33.33N×69.68E, mb4.0/4, mb1 4.1/6, mb1mx3.8/20, ML4.0/2, MS3.2/2, Ms1 3.2/2, ms1mx2.8/23, Error ellipse: s-maj=56.9km s-min=24.1km az=59.0*
*NNC **11** 04:53:52.2±4.6, 33.48N×69.35E, Error ellipse: s-maj=80.7km s-min=31.8km az=136.0*
*BJI **11** 04:53:58.1, 33.50N×69.80E, h61km, mb4.1, Ms4.2*
*NEIC **11** 04:53:59.1±4.8, 33.54N×69.82E, h61km±38km, mb3.8/3, Error ellipse: s-maj=41.5km s-min=15.8km az=48.0*
ISC 11 04:53:54.6±1.2**, 33.18N**±0.05×**69.6E**±0.1**, h91**km±12km**, n43,** σ**1§21**/48**, mb3.7**/4**, 7C-2D, Southeastern Afghanistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THW	Thamme Wali	1.87	101	P	P	04 54 26.9	+1.2
CEP	Cherat	2.06	71	⇑P	P	04 54 29.3	+1.1
CHCP	Chirah Chowk	3.13	80	⇓P	P	04 54 43.8	+0.8
THN	Thein Dam	5.24	97	eP	P	04 55 13.6	+1.7
THN				e		04 56 45.0	
JASL	Jaisalmer	6.34	169	eP	P	04 55 25.2	-1.9
JASL				e		04 56 38.3	
JASL				e		04 56 46.3	
KHET	Khetri	7.41	132	eP	P	04 55 40.2	-1.6
KHET				eS	S	04 57 05.6	+0.8
KHET				AML	AML	04 58 00.4	
	comp=N,15nm,0.2s						
KHET				AML	AML	04 58 01.4	
	comp=E,16nm,0.6s						
KLP	Kalpa	7.53	100	eP	P	04 55 45.0	+1.5
KLP				e		04 57 12.9	
KLP				AML	AML	04 58 18.4	
	comp=E,246nm,1.4s						
KLP				AML	AML	04 58 19.0	
	comp=N,156nm,0.8s						
DDI	Dehra Dun	7.77	109	eP	P	04 55 48.0	+1.2
DDI				e		04 57 26.0	
KUDL	Kundal	7.80	128	eP	P	04 55 46.2	-0.9
KUDL				eS	S	04 57 11.5	-2.9
KUDL				e		04 57 26.7	
	comp=Z,15nm,0.6s						
NDI	New Delhi	7.96	122	eP	P	04 55 48.0	-1.3
NDI				eS	S	04 57 19.5	+1.1
AYAN	Aya Nagar	8.01	124	eP	P	04 55 49.0	-1.0
AYAN				i S	S	04 57 20.9	+1.1
AYAN				e		04 58 26.2	
	comp=Z,33nm,0.6s						
KSH	Kashi	8.16	37	eP	P	04 55 53.5	+1.4
KSH				eXP		04 56 07.2	
KSH				AMB	AMB		
	comp=Z,100nm,3.4s						
KSH				LR	LR		
	comp=N,680nm,6.2s						
KSH				LR	LR		
	comp=E,700nm,7.3s						
JOSI	Joshimath	8.89	104	i P	P	04 56 02.1	+0.1
JOSI				e		04 57 44.9	
JOSI				AML	AML	04 58 00.3	
	comp=N,124nm,1.2s						
JOSI				AML	AML	04 58 01.1	
	comp=E,76nm,0.8s						
AML	Almayashu	9.51	19	P	P	04 56 09.4	-0.9
	SNR=40						
UCH	Uchtor	9.84	22	P	P	04 56 14.7	-0.1
	SNR=9.8						
KZA	Kyzart	9.96	25	P	P	04 56 15.3	-1.1
	SNR=6.2						
EKS2	Erkin-Say	10.03	18	P	P	04 56 17.6	+0.2
	SNR=11						
AAK	Ala-Archa	10.21	21	⇑Pn	P	04 56 18.8	-0.9
	comp=E,4.9nm,0.5s						
AAK				⇑Sn	S	04 58 10.9	-2.1
	comp=E,14nm,0.8s						
AAK	Ala-Archa	10.21	21	P	P	04 56 19.1	-0.6
	SNR=9.9						
AAK	Ala-Archa	10.21	21	eP	P	04 56 17.2	-2.5
	comp=E,7.0nm,0.5s						
TKM2	Tokmak 2	10.82	24	P	P	04 56 27.5	-0.5
	SNR=9.5						
BHPL	Bhopal	12.08	143	eP	P	04 56 44.5	-0.3
BHPL				e		04 58 58.3	
BHPL				e		04 58 59.5	
	comp=E,10nm,0.4s						
BHPL				e		04 58 59.6	
	comp=N,9.1nm,0.5s						
KOLN	Koldanda	13.25	110	eP	P	04 57 00.4	+0.2
KOLN				eS	S	04 59 25.8	+0.2
GKN	Gorkha	13.97	108	eP	P	04 57 09.1	-0.4
	comp=N,23nm,0.5s						
DMN	Daman	14.51	108	eP	P	04 57 15.6	-1.0
	comp=N,33nm,0.9s						
KKN	Kakani	14.57	107	eP	P	04 57 15.9	-1.4
	comp=N,39nm,0.6s						
PKI	Pulchoki	14.77	108	eP	P	04 57 18.8	-1.1
	comp=N,23nm,0.6s						
GUN	Gumba	15.00	106	eP	P	04 57 22.2	-0.7
	comp=N,25nm,0.6s						
MK31	Makanchi Array	16.70	32	⇑P	P	04 57 44.2	+0.2
	comp=N,2.6nm,0.7s,baz=216,slow=11,SNR=11						
MKAR	Makanchi Array	16.70	32	Pn	P	04 57 44.1	+0.1
	comp=N,0.2nm,0.3s,baz=221,slow=15,SNR=5.3						
KURK	Kurchatov	18.75	18	⇑P	P	04 58 08.3	-0.2
	comp=N,1.6nm,0.8s,baz=215,slow=15,SNR=3.5						
KURK	Kurchatov	18.75	18	eP	P	04 58 08.0	-0.6
	comp=N,3.6nm,0.9s						
VOSK	Vostochnaya	19.56	3	⇓P	P	04 58 17.4	0.0
	comp=N,3.7nm,0.7s						
ZRNK	Zerenda	19.76	359	⇑P	P	04 58 20.7	+1.1
	comp=N,6.6nm,0.9s						
ZRNK	Zerenda	19.76	359	eP	P	04 58 20.3	+0.7
	comp=N,4.0nm,0.6s						
BVA0	Borovoye Array	19.84	1	⇑P	P	04 58 21.3	+1.0
	comp=N,0.7nm,0.8s,baz=174,slow=10,SNR=24						
BVAR	Borovoye Array	19.84	1	P	P	04 58 21.4	+1.1
	comp=N,0.8nm,0.3s,baz=164,slow=11,SNR=17						
BRVK	Borovoye	19.87	1	eP	P	04 58 20.4	-0.3
	comp=N,4.7nm,0.6s						
FINES	FINESS Array B	39.64	329	LR	LR	05 17 56.7	
	comp=N,27nm,19.1s,baz=158,slow=37						
ARCES	ARCESS Array B	43.79	339	P	P	05 01 56.2	+3.8
	comp=N,3.8nm,1.0s,mb4.1,baz=127,slow=9.0,SNR=3.5						
NOA	NORSAR Array B	46.37	325	P	P	05 02 17.9	+4.9
	comp=N,0.4nm,0.6s,mb3.3,baz=108,slow=7.5,SNR=3.0						
NOA				LR	LR	05 23 16.7	
	comp=N,28nm,19.3s,baz=250,slow=38						
WRA	Warramunga Arr	81.28	121	P	P	05 06 08.4	+5.9
	comp=N,1.0nm,0.7s,mb3.8,baz=323,slow=4.9,SNR=6.4						
ASAR	Alice Springs	83.36	124	P	P	05 06 20.4	+7.2
	comp=N,1.1nm,0.8s,mb3.7,baz=311,slow=5.0,SNR=11						

CASC 11 05:01:40.3±4.5**, 11.36N**×**86.37W, h68**km±54km**, MD3.9, 4C-3D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRUN	El Crucero	0.62	6⇑	iP	P	05 01 55.8	+1.5
TICN	Ticuantepe	0.68	11	eP	P	05 01 56.5	+1.5
MGAN	Managua	0.79	9⇑	eP	P	05 01 57.7	+1.4
COPN	Copaltepe	0.85	345⇓	eP	P	05 01 56.6	-0.4
APYN	Apoyeque	0.87	1⇑	eP	P	05 01 58.2	+1.0
APYN				eS	S	05 02 07.9	-1.9
MOMJ	Momotombo	1.06	351	eP	P	05 01 59.6	-0.1
MIRN	Miramar	1.13	343⇓	eP	P	05 01 59.7	-0.9
LEON	Leon	1.17	334⇑	eP	P	05 01 59.2	-1.9
CNGN	Cerro Negro	1.18	344	eP	P	05 02 00.7	-0.6
PYTN	Playitas	1.21	14	eP	P	05 02 03.6	+1.9
LIM	Lima	1.27	121⇓	eP	P	05 01 59.6	-3.0
LIM				eS	S	05 02 20.3	+1.1
FORC	Fortuna	1.89	118	eP	P	05 02 14.2	+3.2
CGA2	Cerro Gallo 2	2.30	125	eP	P	05 02 14.4	-2.3
PRS1	Puriscal	2.44	124	eP	P	05 02 18.8	0.0
TRTC	Tortuguero	2.72	106	eP	P	05 02 24.0	+1.3
LCR2	La Lucha 2	2.83	124	eP	P	05 02 22.6	-1.6
URSC	Urasca	2.96	120	eP	P	05 02 25.0	-1.1

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*CSEM **11** 05:08:42.2, 30.26N×135.28E, h33km, mb5.7*

*NIED **11** 05:09:00,31.20N×135.60E,h480km,Mw5.1 Best double couple: $M_0 5.63\times10^{16}$ NP1:ϕ_s261°,δ85°,λ-26°. NP2: ϕ_s353°,δ64°,λ-175°.*
*MOS **11** 05:09:32.8±0.9,31.14N×135.44E,h469km,mb5.4/37, Error ellipse: s-maj=12.3km s-min=5.8km az=112.9*
*JMA **11** 05:09:34.8±0.1,31.18N×135.58E,h520km±2km,M5.0*
*BJI **11** 05:09:35.8,31.21N×135.40E,h499km,mB5.2,mb5.4*
*IDC **11** 05:09:36.7±0.6,31.14N×135.46E,h505km±5km,mb4.5/29, mb1 4.7/33,mb1mx4.7/34,Error ellipse: s-maj=7.0km s-min=5.6km az=85.0*
*NEIC **11** 05:09:36.4±0.4,31.17N×135.40E,h502km±4km, mb5.2/112,MW5.1(NIED),Error ellipse: s-maj=4.5km s-min=3.7km az=170.0*
*HRVD **11** 05:09:36.4±0.6,31.10N×135.51E,h504km±4km, MW5.3/33,Centroid moment Tensor Solution. LP body waves: s33,c43; Half duration: 1.0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.13±.04; $M_{\theta\theta}$-0.14±.06; $M_{\phi\phi}$0.01±.06; $M_{r\theta}$0.30±.07; $M_{\theta\phi}$1.01±.06; $M_{\phi r}$0.18±.09; Best double couple: $M_0 1.08\times10^{17}$ NP1:ϕ_s356°,δ72°,λ169°. NP2:ϕ_s90°, δ79°,λ18°. Principal axes: T 1.07, Plg20°, Azm314°; N .01, Plg69°, Azm119°; P -1.09, Plg5°, Azm222°; nsta1 refers to body waves, cutoff=40s.*
*BGS **11** 05:09:36.4±2.6,31.16N×135.39E,h502km,mb4.9*
ISC 11 05:09:35.8±0.2**,31.15N**±0.03×**135.54E**±0.02**,h506**km±1km**, h476**km±3.8km**:pP-P,n612,**σ0.95/673**,mb5.1**/172**,87C-17D, Southeast of Shikoku**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWZ	Kozaga	2.38	4	P	P	05 10 43.4	-0.6
JWZ				S	S	05 11 37.7	-0.3
MRT2	Murotomisaki 2	2.52	332	P	P	05 10 44.9	0.0
MRT2				S	S	05 11 39.7	+0.2
JWM	Minabe	2.69	357	P	P	05 10 45.9	0.0
JWM				S	S	05 11 42.2	+0.8
JAI	Aioi	2.79	341	P	P	05 10 46.5	0.0
JAI				S	S	05 11 42.7	+0.3
JTO	Tosashimizu	2.88	307	P	P	05 10 47.3	+0.2
JTO				S	S	05 11 43.8	+0.3
JMN	Monobe	2.93	332	P	P	05 10 47.7	+0.3
JMN				S	S	05 11 45.2	+1.2
JKU	Kubokawa	3.00	316	P	P	05 10 48.1	+0.2
JKU				S	S	05 11 45.8	+0.8
JWY	Kouya	3.06	1	P	P	05 10 48.4	+0.1
JWY				eS	S	05 11 46.1	+0.5
TK01	Tokai 1	3.13	33	P	P	05 10 48.4	-0.4
UWA2	Uwa jima 2	3.21	310	P	P	05 10 49.5	+0.1
UWA2				S	S	05 11 48.2	+0.6
JAJ2	Tsuna	3.30	351	P	P	05 10 50.0	0.0
JAJ2				S	S	05 11 49.4	+0.7
TK02	Tokai 2	3.36	33	P	P	05 10 50.3	-0.1
JET	Tanbara	3.36	322	P	P	05 10 50.7	+0.3
JET				S	S	05 11 50.9	+1.4
JIE	Ise	3.38	17	P	P	05 10 50.4	-0.1
JIE				eS	S	05 11 49.8	+0.1
JJS	Sakaide	3.49	338	P	P	05 10 51.1	-0.2
JJS				S	S	05 11 52.2	+1.1
JHE	Heguri	3.49	2	P	P	05 10 51.4	0.0
JHE				S	S	05 11 52.2	+1.0
JNA	Nagahama	3.53	314	P	P	05 10 52.0	+0.4
JNA				S	S	05 11 52.2	+0.5
JTSN	Tsuno	3.61	289	P	P	05 10 52.7	+0.5
TSUJ	Tsu 2	3.62	12	P	P	05 10 52.2	-0.1
TSUJ				S	S	05 11 54.7	+1.7
TK03	Tokai 3	3.63	34	P	P	05 10 52.6	+0.2
JMIK	Miki	3.67	354	P	P	05 10 52.7	0.0
JMIK				S	S	05 11 55.0	+1.4
JAA	Atsumi	3.72	21	P	P	05 10 53.1	0.0
JKIT	Kitakata	3.77	294	P	P	05 10 54.3	+0.8
JKIT				S	S	05 11 57.5	+2.5
TK04	Tokai 4	3.78	31	P	P	05 10 53.7	+0.2
JKS	Kasai	3.86	351	P	P	05 10 54.1	-0.1
JKS				S	S	05 11 57.6	+1.3
JHM	Kurahashi	3.91	320	P	P	05 10 54.9	+0.3
JHM				S	S	05 11 58.1	+1.1
JAD	Aida	3.95	343	P	P	05 10 54.7	-0.1
JAD				S	S	05 11 59.0	+1.5
JJG	Jouge	4.02	331	P	P	05 10 55.3	-0.1
JEG	Eigenji	4.04	10	P	P	05 10 55.9	+0.4
JEG				S	S	05 12 00.7	+1.9
JHJ	Hachijo jima 2	4.10	60	P	P	05 10 55.6	-0.5
	177nm,0.3s,baz=245,slow=20,SNR=28						
JHJ				S	S	05 12 02.2	+2.6
	98nm,0.3s,baz=231,slow=22,SNR=6.4						
JHJ2	Mitsune	4.12	61	P	P	05 10 56.5	+0.3
JWT	Wachi	4.12	358	P	P	05 10 56.4	+0.2
JWT				S	S	05 12 00.5	+0.5
HMMJ	Hamamatsu 2	4.12	26	P	P	05 10 56.1	-0.2
JSG	Sagara	4.16	32	P	P	05 10 56.9	+0.3
JKD	Kudamatsu	4.24	314	P	P	05 10 57.6	+0.4
JKD				S	S	05 12 02.8	+1.1
JYZW	Yoshizawa	4.25	25	P	P	05 10 57.2	-0.2
JKO	Kozu shima	4.28	44	P	P	05 10 57.0	-0.6
JHS	Saijyo	4.34	333	P	P	05 10 58.8	+0.7
JHS				S	S	05 12 02.6	-0.7
JAO	Obara	4.35	19	P	P	05 10 58.1	-0.1
JHT	Toyohira	4.37	324	P	P	05 10 58.3	-0.1
JHT				S	S	05 12 03.9	+0.1
JFM	Mihama	4.38	5	P	P	05 10 58.5	+0.1
JNU	Nakatsue	4.42	298	P	P	05 10 58.9	+0.2
JKR	Kurayoshi	4.45	342	P	P	05 10 59.2	+0.1
JKY	Yasaka	4.48	355	P	P	05 10 59.4	+0.1
JKY				S	S	05 12 06.4	+1.0
JKSM	Kasumi	4.48	351	P	P	05 10 59.2	-0.1
SHZ3	Shizuoka 3	4.50	29	P	P	05 10 59.2	-0.3
JIZS	Izushimoda	4.53	37	P	P	05 10 58.8	-0.9
JHIK	Hikimi	4.54	319	P	P	05 10 59.9	+0.1
JHIK				S	S	05 12 07.3	+1.0
JNY	Yasuok	4.62	24	P	P	05 11 00.3	-0.2
JGM	Miyama	4.64	12	P	P	05 11 00.5	-0.2
JGM				S	S	05 12 08.3	+0.4
JGF	Kuroka	4.69	18	P	P	05 11 00.6	-0.5
JGT	Gotsu	4.71	326	P	P	05 11 01.2	-0.1
JGT				S	S	05 12 09.6	+0.6
JFA	Akaike	4.75	304	P	P	05 11 01.6	-0.1
JNM	Ikuma	4.81	335	P	P	05 11 02.4	+0.2
JNM				S	S	05 12 11.6	+0.9
JSJ	Shimokoshiki	5.01	278	P	P	05 11 04.2	+0.3
JYN	Shimob	5.01	29	P	P	05 11 03.4	-0.6
JOD2	Odawara 2	5.06	35	P	P	05 11 03.0	-1.5
JUR	Ureshino	5.12	294	P	P	05 11 05.1	+0.1
JKG	Kaga	5.15	7	P	P	05 11 04.2	-1.1
JNT	Takato	5.18	24	P	P	05 11 05.2	-0.4
JGN	Niukaw	5.27	16	P	P	05 11 05.4	-1.0
SAI	Saigo	5.36	341	P	P	05 11 07.1	-0.1
JRY	Ryogami san	5.60	29	P	P	05 11 08.1	-1.4
JRY				S	S	05 12 22.7	-1.0
JTT	Ttatey	5.64	15	P	P	05 11 09.4	-0.4
JNG	Nsakai	5.66	21	P	P	05 11 09.3	-0.7
BSO1	Boso 1	5.75	51	P	P	05 11 07.3	-3.6
BSO1				S	S	05 12 19.7	-6.6
MAJO	Matsushiro	5.82	22	eP	P	05 11 09.2	-2.4
	445nm,0.8s						
MAJO				eS	S	05 12 25.5	-1.8
MAT	Matsushiro	5.82	22	P	P	05 11 09.5	-2.0
MAT				S	S	05 12 25.5	-1.8
MAT	Matsushiro	5.82	22	P	P	05 11 09.6	-1.9
MAT				S	S	05 12 25.5	-1.8
MAT	Matsushiro	5.82	22	eP	P	05 11 10.0	-1.5
	3µm,1.8s						
MAT				eS	S	05 12 26.0	-1.3
JAM	Amami Oshima	5.84	244	P	P	05 11 11.8	+0.1
JJH	Hakui	5.85	10	P	P	05 11 11.1	-0.8
JFU	Fukue jima 2	5.97	286	P	P	05 11 13.0	0.0
JGK	Kuni	5.98	25	P	P	05 11 12.0	-1.1
JTU	Tsushima	6.17	305	P	P	05 11 14.8	-0.1
JAG	Ashikaga	6.18	31	P	P	05 11 12.0	-3.1
JJN	Nakama	6.32	19	P	P	05 11 15.9	-0.5
JKT	Katashina	6.39	28	P	P	05 11 15.2	-1.9
JSZ	Suzu	6.46	13	P	P	05 11 16.9	-0.9
JMZ	Minamidaito 2	6.53	217	P	P	05 11 18.2	-0.3
JHK	Hiroka	6.73	24	P	P	05 11 18.1	-2.3
JHG	Hegura jima	6.78	9	P	P	05 11 20.3	-0.6
JSB	Shiboa	6.84	31	P	P	05 11 19.2	-2.4
JHO	Hitachi	6.86	36	P	P	05 11 18.1	-3.7
JIZZ	Izumozaki	6.88	22	P	P	05 11 20.6	-1.4
CBIJ	Chichi jima	7.08	123	P	P	05 11 19.0	-5.0
	339nm,0.3s,baz=317,slow=5.5,SNR=134						
CBIJ				S	S	05 12 43.7	-6.1
	222nm,0.3s,baz=289,slow=22,SNR=16						
CBIJ	Chichi jima	7.08	123	P	P	05 11 19.1	-4.9
JFY	Yanaizu	7.13	28	P	P	05 11 21.3	-3.2
JSD	Sado	7.22	17	P	P	05 11 23.3	-2.2
JNS	Sasagawa	7.34	24	P	P	05 11 24.1	-2.6
JOW	Kunigami	7.68	238	P	P	05 11 30.1	-0.1
	41nm,0.3s,baz=33,slow=6.2,SNR=127						
JOW				S	S	05 13 01.9	+0.9
	baz=347,slow=20,SNR=2.2						
JOW				ScP		05 19 55.6	
	1.7nm,0.3s,baz=202,slow=4.2,SNR=5.0						
JOW	Kunigami	7.68	238	P	P	05 11 30.0	-0.1
JIH	Iheya	7.79	240	P	P	05 11 31.5	+0.2
JAW	Awa shima	7.90	22	P	P	05 11 30.2	-2.2
KS15	Wonju Array Si	8.91	317⇑	eP	P	05 11 42.2	-0.8
JKE	Kume jima 2	9.06	240	P	P	05 11 43.5	-1.1
JMK	Ichinoseki	9.06	29	P	P	05 11 40.8	-3.8
JMK				S	S	05 13 22.9	-4.1
INCN	Inchon	9.70	313	eP	P	05 11 49.6	-1.6
	87nm,1.0s						
JOGS	Gusukube	10.99	237	P	P	05 12 05.4	+0.6
JOT	Ohata	11.13	22	P	P	05 12 04.4	-1.8
JOSM	Okushiri--Mats	11.36	15	P	P	05 12 06.9	-1.6
JKB	Kayabe	11.59	21	P	P	05 12 09.0	-1.9
SSE	Sheshan	12.30	273	P	P	05 12 16.0	-2.3
SSE				S	S	05 14 29.3	+0.2
SSE				AMB	AMB		
	comp=Z,58nm,1.0s						
ERM	Erimo	12.44	27	P	P	05 12 18.0	-1.8
	comp=Z,4µm,0.6s						
JBT2	Biratori 2	12.81	23	P	P	05 12 22.6	-1.1
DL2	Dalian	13.77	308	P	P	05 12 32.6	-0.9
DL2				XP		05 14 20.9	
DL2				S	S	05 14 58.7	+2.1
DL2				AMB	AMB		
	comp=Z,520nm,5.6s						
TATO	Taipei	13.84	247	eP	P	05 12 33.4	-0.9
	comp=Z,689nm,1.0s						
JKK2	Kamakawa 2	13.92	22	P	P	05 12 34.3	-0.7
ASAJ	Asahikawa	14.09	21	P	P	05 12 36.2	-0.5
	comp=Z,17nm,0.3s,baz=236,slow=12,SNR=120						
ASAJ				S	S	05 15 02.5	-0.1
	comp=Z,1.6nm,0.3s,baz=27,slow=24,SNR=9.0						
ASAJ				ScP		05 20 03.5	
ASAJ	Asahikawa	14.09	21	P	P	05 12 36.3	-0.4
ASAJ				S	S	05 15 02.5	-0.1
ASAJ				pmax	pmax		
	comp=Z,17nm,0.3s						
ASAJ				smax			
	comp=N,2.0nm,0.3s						
MDJ	Mudanjiang	14.23	342	P	P	05 12 37.4	-0.8
MDJ				XP		05 14 30.0	
MDJ				S	S	05 15 07.6	+2.3
MDJ				PCP	PcP	05 17 17.4	-1.6
MDJ				SCP		05 20 03.9	
MDJ				SCS	ScS	05 23 42.0	+1.1
MDJ				AMB	AMB		
	comp=Z,88nm,1.4s						
MDJ				AMB	AMB		
	comp=Z,259nm,4.5s						
JMP	Maruseppu	14.24	24	P	P	05 12 38.5	+0.2
NJ2	Nanjing	14.25	278	eP	P	05 12 37.7	-0.8
NJ2				XP		05 14 28.3	
NJ2				S	S	05 15 06.0	+0.3
NJ2				SCP		05 20 04.6	
NJ2				AMB	AMB		
	comp=Z,800nm,3.6s						
SNY	Shenyang	14.34	321	⇑P	P	05 12 39.6	+0.3
SNY				S	S	05 15 08.4	+1.1
JTKR	Abashiri--Toko	14.40	25	P	P	05 12 40.1	+0.2
CN2	Changchun	14.94	331	eP	P	05 12 45.2	-0.1
CN2				eXP		05 14 38.4	
CN2				eS	S	05 15 17.4	-1.0
CN2				SCP		05 20 05.3	
CN2				AMB	AMB		
	comp=Z,160nm,1.4s						
CN2				AMB	AMB		
	comp=Z,1µm,5.0s						
YUK	Yuzh-Kuril'sk	15.22	29	eP	P	05 12 52.5	+4.3
YUK				pmax	pmax		
	comp=N,370nm,0.5s						
YUK				pmax	pmax		
	comp=Z,420nm,0.5s						
YUK	Yuzh-Kuril'sk	15.22	29	eP	P	05 12 52.5	+4.3
	comp=Z,420nm,0.5s						
TIA	Tai'an	16.13	293	⇑P	P	05 12 57.2	-0.1
YSS	Yuzh-Sakhalins	16.73	17⇓	eP	P	05 13 03.6	+0.5
YSS				eS	S	05 15 54.0	+3.2
YSS				pmax	pmax		
	comp=Z,100nm,0.8s						
YSS				pmax	pmax		
	comp=N,60nm,0.7s						
YSS				pmax	pmax		
	comp=E,70nm,1.0s						
YSS				smax			
	comp=N,150nm,0.9s						
YSS				smax			
	comp=E,120nm,0.9s						
YSS				smax			
	comp=Z,6µm,10.0s						
YSS	Yuzh-Sakhalins	16.73	17⇓	eP	P	05 13 03.6	+0.5
	comp=Z,100nm,0.8s						
YSS				eS	S	05 15 54.0	+3.2
KUR	Kuril'sk	17.04	31	eP	P	05 13 04.4	-1.8
KUR				pmax	pmax		
	comp=N,190nm,0.9s						
KUR				pmax	pmax		
	comp=E,290nm,0.9s						
KUR				pmax	pmax		
	comp=Z,330nm,0.9s						
KUR	Kuril'sk	17.04	31	eP	P	05 13 04.4	-1.8
	comp=Z,330nm,0.9s						
BJI	Beijing	18.05	305	P	P	05 13 15.3	-0.7
BJI				XP		05 15 21.2	
BJI				S	S	05 16 15.0	+1.2
BJI				PCP	PcP	05 17 23.8	-1.1
BJI				SCP		05 20 10.3	
BJI				AMB	AMB		
	comp=Z,201nm,1.6s						
BJI				AMB	AMB		
	comp=Z,935µm,3.0s						
WHN	Wuhan	18.21	274	⇑P	P	05 13 18.5	+0.8
WHN				S	S	05 16 24.0	+7.4
WHN				AMB	AMB		
	comp=Z,157nm,1.0s						
CVP	Callao Caves	18.29	226	eP	P	05 13 18.0	-0.5
GUMO	Guam	19.47	152	eP	P	05 13 29.6	-0.2
	comp=Z,660nm,1.6s						
TYV	Tymovskoe	20.39	13	eP	P	05 13 36.1	-2.1
TYV				eS	S	05 16 50.0	-3.5
TYV				pmax	pmax		
	comp=Z,36nm,0.9s						
TYV				smax			
	comp=N,1µm,8.0s						
TYV				smax			
	comp=E,1µm,6.0s						
HHC	Hu-ho-hao-te	21.62	303⇑	iP	P	05 13 49.3	-0.4
HHC				S	S	05 17 13.3	-0.6
HHC				PCP	PcP	05 17 34.5	+2.9
HHC				SCP		05 20 20.8	
HHC				PCS		05 21 06.3	
HHC				SCS	ScS	05 24 00.7	-3.2
HHC				AMB	AMB		
	comp=Z,102nm,1.1s,mb5.3						
XAN	Xi'an	22.59	284	P	P	05 13 58.0	-0.6
XAN				S	S	05 17 27.8	-1.9
BTO	Baotou	22.66	302	eP	P	05 13 58.3	-0.9
BTO				AMB	AMB		
	comp=Z,43nm,1.0s,mb4.8						
SKR	Severo-Kuril's	24.80	32	eP	P	05 14 14.4	-3.9
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,60nm,0.5s,mb5.3						
SKR	Severo-Kuril's	24.80	32	eP	P	05 14 14.4	-3.9
	comp=Z,60nm,0.5s,mb5.3						
GYA	Guiyang	25.70	267⇑	iP	P	05 14 25.3	-1.2
GYA				PCP	PcP	05 17 40.2	-0.3
GYA				S	S	05 18 15.7	-3.8
GYA				SCP		05 20 31.4	
GYA				SCS	ScS	05 24 20.6	+0.1
GYA				AMB	AMB		
	comp=Z,50nm,0.8s,mb5.0						
GYA				AMB	AMB		
	comp=Z,80nm,3.6s						
CLNS	Chul'man	26.73	347	eP	P	05 14 35.7	+0.3
CLNS				e		05 17 41.6	
CLNS				pmax	pmax		
	comp=Z,170nm,1.1s,mb5.4						
CLNS				pmax	pmax		
	comp=N,107nm,1.0s						
CLNS				pmax	pmax		
	comp=E,46nm,1.1s						
CLNS				pmax	pmax		
	comp=N,16nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,24nm,0.9s,mb4.6						
CLNS				pmax	pmax		
	comp=E,21nm,0.8s						
CLNS				MLR	MLR		
	comp=N,300nm,14.0s						
CLNS				MLR	MLR		
	comp=Z,200nm,14.0s						
CLNS				MLR	MLR		
	comp=E,100nm,10.0s						
LZH	Lanzhou	26.78	289⇑	iP	P	05 14 35.5	-0.5
LZH				XP	sP	05 16 56.1	-2.7
LZH				PCP	PcP	05 17 44.7	+1.7
LZH				S	S	05 18 34.1	-2.3
LZH				SCP		05 20 35.0	
LZH				PCS		05 21 25.4	
LZH				AMB	AMB		
	comp=Z,112nm,1.3s,mb5.1						
LZH				AMB	AMB		
	comp=Z,394nm,5.3s						
CD2	Chengdu	27.19	278⇑	iP	P	05 14 38.6	-1.1
CD2				S	S	05 18 37.9	-4.9
CD2				SCS	ScS	05 24 26.5	-0.6
CD2				AMB	AMB		
	comp=Z,100nm,0.5s,mb5.5						
PET	Petropavlovsk	27.56	31	eP	P	05 14 42.6	0.0
	comp=Z,34nm,0.6s,mb5.0						
SONM	Songino Array	27.76	315	P	P	05 14 43.9	-0.7
	comp=Z,29nm,0.5s,mb4.9,baz=133,slow=9.3,SNR=140						
SONM				PcP	PcP	05 17 45.0	-0.3
	comp=Z,4.6nm,0.5s,baz=144,slow=2.6,SNR=6.9						
SONM				ScP		05 20 37.1	
	comp=Z,15nm,0.9s,baz=153,slow=2.8,SNR=23						
SONM				ScS	ScS	05 24 29.0	-0.5
	comp=Z,0.7nm,0.8s,baz=354,slow=11,SNR=3.3						
KMI	Kunming	29.47	266⇑	eP	P	05 14 58.3	-1.3
KMI				PP	PP	05 16 23.5	+3.6
KMI				XP	sP	05 17 18.1	-5.7
KMI				PCP	PcP	05 17 51.5	+1.7
KMI				S	S	05 19 16.0	-2.4
KMI				SCS	ScS	05 24 37.2	-0.6
GTA	Gaotai	30.15	296⇑	iP	P	05 15 04.8	-0.5
GTA				PP	PP	05 16 31.4	+3.4
GTA				AP		05 16 33.8	
GTA				XP	sP	05 17 26.8	-3.1
GTA				PCP	PcP	05 17 51.5	+0.1
GTA				S	S	05 19 25.5	-3.3
GTA				SCP		05 20 45.0	
GTA				PCS		05 21 35.0	
GTA				SS	SS	05 22 04.2	-2.0
GTA				SCS	ScS	05 24 40.2	-0.8
GTA				AMB	AMB		
	comp=Z,62nm,1.1s,mb5.0						
GTA				AMB	AMB		
	comp=Z,261nm,4.0s						
MA2	Magadan	30.22	15c	iP	P	05 15 05.6	0.0
MA2				e*PP		05 16 30.2	
MA2				iS	S	05 19 27.4	-2.2
MA2				i*SS		05 22 03.2	
MA2				pmax	pmax		
	comp=Z,40nm,0.8s,mb4.9						
MA2				pmax	pmax		
	comp=E,10.0nm,0.7s						
MA2				pmax	pmax		
	comp=N,20nm,0.8s						
MA2	Magadan	30.22	15⇑	iP	P	05 15 05.6	0.0
MA2				epP		05 16 30.2	
MA2				iS	S	05 19 27.4	-2.2
MA2				isS		05 22 03.2	
BOD	Bodaibo	30.50	337	eP	P	05 15 06.8	-1.3
ZAK	Zakamensk	30.73	318⇓	iP	P	05 15 09.6	-0.5
YAK	Yakutsk	31.12	355	eP	P	05 15 12.1	-1.3
YAK				e		05 17 52.8	
YAK				eS	S	05 19 39.1	-4.5
YAK				e		05 24 42.4	
YAK				pmax	pmax		
	comp=N,30nm,1.0s						
YAK				pmax	pmax		
	comp=Z,72nm,1.0s,mb5.1						
YAK				pmax	pmax		
	comp=E,5.0nm,0.8s						
YAK				smax			
	comp=N,59nm,1.0s						
YAK				smax			
	comp=Z,21nm,0.9s						
YAK				smax			
	comp=E,72nm,1.0s						
YAK	Yakutsk	31.12	355	eP	P	05 15 12.1	-1.3
	comp=E,72nm,1.0s,mb5.1						
YAK				e		05 17 52.8	
YAK				eS	S	05 19 39.1	-4.5
YAK				e		05 24 42.4	
MOY	Mondy	32.59	319	eP	P	05 15 25.7	-0.2
KKTK	Khon Kaen	33.23	251	P	P	05 15 31.8	+0.2
	comp=E,802nm,0.5s						
FX1	Attu Island--F	34.82	40	P	P	05 15 45.5	+1.0
	comp=E,59nm,0.7s,mb5.1						
FX1				PcP	PcP	05 18 04.6	+0.2
FX1				ScP		05 21 01.1	
	comp=E,30nm,0.6s,baz=21,slow=14,SNR=5.6						
FX1	Attu Island--F	34.82	40	P	P	05 15 45.5	+1.0
FX1						05 18 04.6	
FX1				pmax	pmax		
	comp=Z,59nm,0.7s						
FX1				pmax	pmax		
	comp=N,30nm,0.6s						
FX1	Attu Island--F	34.82	40	eP	P	05 15 45.5	+1.0
CM31	Chiang Mai Arr	35.38	258	P	P	05 15 49.2	-0.3
	comp=N,28nm,0.5s,mb4.9						
CMAR	Chiang Mai Arr	35.38	258	P	P	05 15 49.8	+0.2
	comp=N,20nm,0.6s,mb4.7,baz=51,slow=7.4,SNR=116						
CMAR				PcP	PcP	05 18 06.7	+0.3
	comp=N,4.7nm,0.8s,baz=39,slow=1.2,SNR=8.4						
CMAR				S	S	05 20 49.1	+0.1
	comp=N,1.4nm,0.7s,baz=52,slow=13,SNR=9.4						
CMAR				ScP		05 21 05.0	
	comp=N,2.3nm,0.9s,baz=58,slow=5.0,SNR=4.5						
CMAR	Chiang Mai Arr	35.38	258	P	P	05 15 49.8	+0.2
CMAR						05 18 06.7	
CMAR				S	S	05 20 49.1	+0.1
CMAR				pmax	pmax		
	comp=Z,20nm,0.6s						
CMAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CMAR				smax			
	comp=N,1.0nm,0.7s						
CMAR				pmax	pmax		
	comp=N,2.0nm,1.0s						
NST	Nakhon Sawan	35.77	253	P	P	05 15 53.0	+0.1
	comp=N,67nm,0.6s,mb5.2						
BDT	Bhumibol Dam	35.91	256	P	P	05 15 55.0	+1.0
	comp=N,27nm,0.6s,mb4.8						
NNT	Nongplab	37.79	249	P	P	05 16 10.8	+1.4
LSA	Lhasa	38.11	280	P	P	05 16 13.4	+1.5
SHL	Shillong	38.63	273	iP	P	05 16 15.5	-0.7
SHL				eS	S	05 21 33.5	-3.7
WMQ	Urumqi	39.50	302⇑	iP	P	05 16 23.6	+0.6
WMQ				AP	pP	05 17 52.0	-3.5
WMQ				PP	PP	05 18 08.2	+2.6
WMQ				S	S	05 21 51.0	+1.4
WMQ				SCS	ScS	05 25 36.0	+4.0
WAU	Wau	39.75	163	eP	P	05 16 14.7	-11
SNG	Songkhla	40.41	241	P	P	05 16 30.5	-0.2
TIXI	Tiksi	40.71	357c	iP	P	05 16 31.6	-1.0
TIXI				e		05 18 17.7	
TIXI				eS	S	05 22 05.2	-1.8
TIXI				pmax	pmax		
	comp=Z,74nm,0.9s,mb5.1						
TIXI				MLR	MLR		
	comp=Z,200nm,21.0s						
TIXI	Tiksi	40.71	357⇑	iP	P	05 16 31.6	-1.0

comp=Z,74nm,0.9s,mb5.1
TIXI e 05 18 17.7
TIXI eS S **05 22 05.2 -1.8**
TIXI LR LR
comp=Z,200nm,21.0s
ZAL Zalesovo 42.61 317 P P **05 16 47.2 -0.7**
comp=Z,42nm,0.4s,mb5.3,baz=281,slow=7.2,SNR=134
ZAL PcP PcP 05 18 27.8 -1.3
comp=Z,13nm,0.6s,baz=260,slow=5.2,SNR=6.0
ZAL ScP 05 21 30.1
comp=Z,12nm,0.8s,baz=269,slow=4.2,SNR=11
ZAL PcS 05 22 18.7
comp=Z,1.3nm,0.5s,baz=134,slow=23,SNR=6.1
ZAL S S **05 22 32.5 -1.9**
comp=Z,2.5nm,0.8s,baz=35,slow=14,SNR=4.7
ZAL ScS ScS 05 25 49.8 -1.0
comp=Z,2.5nm,0.8s,baz=158,slow=24,SNR=15
ZAL Zalesovo 42.61 317 P P **05 16 47.2 -0.7**
ZAL 05 18 27.8
ZAL S S **05 22 32.5 -1.8**
ZAL 05 25 49.8
ZAL pmax pmax
comp=Z,42nm,0.4s
ZAL pmax pmax
comp=Z,13nm,0.6s
ZAL pmax pmax
comp=N,12nm,0.8s
ZAL pmax pmax
comp=Z,1.0nm,0.5s
ZAL smax
comp=N,3.0nm,0.8s
ZAL pmax pmax
comp=N,3.0nm,0.8s
ZAL Zalesovo 42.61 317 P P **05 16 47.2 -0.7**
ZAL 05 18 27.8
ZAL S S **05 22 32.5 -1.8**
ZAL 05 25 49.8
GUN Gumba 43.05 279 eP P **05 16 52.3 +0.7**
comp=N,560nm,0.8s,mb6.0
MKAR Makanchi Array 43.41 307 P P **05 16 54.1 -0.1**
comp=N,290nm,0.9s,mb5.7,baz=92,slow=9.3,SNR=354
MKAR PcP PcP 05 18 30.9 -1.1
comp=N,17nm,0.5s,baz=82,slow=4.6,SNR=8.0
MKAR ScP 05 21 33.6
comp=N,36nm,0.6s,baz=86,slow=5.5,SNR=41
MKAR S S **05 22 45.4 -0.3**
comp=N,3.0nm,1.0s,baz=73,slow=16,SNR=1.9
MKAR ScS ScS 05 25 55.4 -0.5
comp=N,1.1nm,0.8s,baz=90,slow=6.1,SNR=4.2
MKAR Makanchi Array 43.41 307 *i* P P **05 16 54.1 -0.1**
MKAR pmax pmax
comp=Z,65nm,0.4s
PKI Pulchoki 43.54 278 eP P **05 16 55.5 0.0**
comp=Z,195nm,1.1s,mb5.5
KKN Kakani 43.59 279 eP P **05 16 56.1 +0.2**
comp=Z,395nm,1.0s,mb5.8
NVS Novosibirsk 43.69 318 *i* P P **05 16 54.9 -1.4**
NVS *i* S S **05 22 48.4 -1.1**
NVS pmax pmax
comp=Z,183nm,1.4s,mb5.3
NVS pmax pmax
comp=N,63nm,1.5s
NVS pmax pmax
comp=E,131nm,1.3s
NVS smax
comp=N,44nm,1.6s
NVS smax
comp=E,140nm,1.4s
NVS Novosibirsk 43.69 318 *i* P P **05 16 54.9 -1.4**
comp=E,183nm,1.4s,mb5.3
NVS *i* S S **05 22 48.4 -1.1**
DMN Daman 43.79 279 eP P **05 16 57.7 +0.2**
comp=E,227nm,1.0s,mb5.5
GKN Gorkha 44.07 279 eP P **05 16 59.7 0.0**
comp=E,336nm,1.1s,mb5.7
KOLN Koldanda 45.02 279 eP P **05 17 07.3 +0.3**
comp=E,295nm,1.0s,mb5.7
KURK Kurchatov 45.99 312*c* *i*P P **05 17 13.4 -0.8**
KURK pmax pmax
comp=Z,124nm,0.9s,mb5.3
KURK Kurchatov 45.99 312⇑ *i*P P **05 17 13.4 -0.8**
PTH Pithoragarh 47.34 283 eP P **05 17 24.0 -0.9**
PTH *e* 05 18 45.6
LGTI Lohaghat 47.35 283⇓ *i*P P **05 17 26.0 +1.1**
ULHL Ulahol 47.95 301 P P **05 17 29.6 +0.4**
SNR=24
TKM2 Tokmak 2 48.34 302 P P **05 17 32.8 +0.6**
SNR=187
KSH Kashi 48.54 297⇑ *i*P P **05 17 35.1 +1.3**
KSH *e*PCP PcP 05 18 54.5 +4.1
KSH ePP PP 05 19 34.8 +2.8
KSH S S **05 24 01.1 +4.0**
KSH eSS SS 05 27 36.6 +1.3
KSH AMB AMB
comp=Z,230nm,2.2s,mb5.1
KZA Kyzart 48.70 301 P P **05 17 36.3 +1.3**
SNR=43
KBK Karagaybulak 48.85 301 P P **05 17 36.4 +0.3**
SNR=8.3
DDI Dehra Dun 48.92 285 eP P **05 17 36.0 -0.8**
CHMS Chumysh 48.95 302 P P **05 17 36.6 -0.2**
SNR=31
FRU Bishkek 49.07 302 *i* P P **05 17 38.0 +0.3**
FRU pmax pmax
comp=Z,560nm,1.6s,mb5.6
FRU Bishkek 49.07 302 *i* P P **05 17 38.0 +0.3**
comp=Z,560nm,1.6s,mb5.6
USP Ospenovka 49.10 302 P P **05 17 37.6 -0.3**
SNR=9.4
AAK Ala-Archa 49.18 301 P P **05 17 38.5 0.0**
SNR=76
AAK Ala-Archa 49.18 301*c* *i*P P **05 17 37.2 -1.3**
AAK Ala-Archa 49.18 301⇑ *i*P P **05 17 37.2 -1.3**
UCH Uchtor 49.22 301 P P **05 17 39.7 +0.9**
SNR=144
EKS2 Erkin-Say 49.70 302 P P **05 17 42.1 -0.3**
SNR=35
AML Almayashu 49.84 301 P P **05 17 44.0 +0.6**
SNR=284
BHK Bhakra 49.97 287 *e* P **05 17 46.9 +2.3**
NDI New Delhi 50.11 283 eP P **05 17 44.5 -1.1**
comp=Z,458nm,0.7s,mb5.9
NDI eS S **05 24 18.5 -0.1**
THN Thein Dam 50.27 288 eP P **05 17 44.8 -2.0**
THN *e* 05 18 27.9
VOSK Vostochnaya 50.76 315 P P **05 17 49.0 -1.1**
VOSK pmax pmax
comp=Z,225nm,1.0s,mb5.5
VOSK Vostochnaya 50.76 315 P P **05 17 49.0 -1.1**
comp=Z,225nm,1.0s,mb5.5
WRAB Tennant Creek 50.80 181 P P **05 17 49.0 -1.8**
comp=Z,1μm,1.0s,mb6.1,SNR=99
WRAB Tennant Creek 50.80 181⇓ *i*P P **05 17 49.6 -1.3**
comp=Z,197nm,0.8s,mb5.5
WRAB eScP 05 22 06.7
WRAB eS S **05 24 26.8 -1.4**
WRA Warramunga Arr 50.81 181 P P **05 17 49.5 -1.4**
comp=Z,80nm,0.4s,mb5.4,baz=359,slow=7.7,SNR=226
WRA PcP PcP 05 18 58.9 -0.1
comp=Z,5.9nm,0.5s,baz=355,slow=4.1,SNR=2.5
WRA PP PP 05 19 51.3 -2.1
comp=Z,4.4nm,0.8s,baz=2.2,slow=8.2,SNR=6.0
WRA ScP 05 22 06.6
comp=Z,14nm,0.7s,baz=358,slow=4.6,SNR=18
WRA S S **05 24 26.5 -1.8**
comp=Z,10nm,1.0s,baz=11,slow=16,SNR=13
WRA Warramunga Arr 50.81 181 P P **05 17 49.5 -1.4**
WRA 05 18 58.9
WRA 05 19 51.3
WRA S S **05 24 26.5 -1.8**
WRA pmax pmax
comp=Z,80nm,0.4s
WRA pmax pmax
comp=Z,6.0nm,0.5s
WRA pmax pmax
comp=Z,4.0nm,0.8s
WRA pmax pmax
comp=N,14nm,0.7s
WRA smax
comp=N,10.0nm,1.0s
BVA0 Borovoye Array 51.11 315 P P **05 17 51.8 -0.8**
BVAR Borovoye Array 51.11 315 P P **05 17 51.8 -0.8**
comp=N,117nm,0.3s,mb5.7,baz=100,slow=9.0,SNR=710
BVAR PcP PcP 05 18 59.2 -0.5
comp=N,19nm,0.5s,baz=90,slow=4.4,SNR=6.3
BVAR ScP 05 22 05.6
comp=N,10nm,0.8s,baz=90,slow=3.0,SNR=6.0
BVAR PcS 05 22 55.2
comp=N,1.0nm,0.7s,baz=66,slow=17,SNR=2.1
BVAR S S **05 24 29.9 -1.9**
comp=N,5.0nm,0.8s,baz=100,slow=17,SNR=7.3
BVAR ScS ScS 05 26 45.4 -1.5
comp=N,1.7nm,0.8s,baz=90,slow=13,SNR=4.3
BRVK Borovoye 51.17 315⇑ *i*P P **05 17 52.3 -0.8**
comp=N,305nm,0.8s,mb5.7
BRVK *e*PcP PcP 05 18 59.3 -0.6
BRVK eS S **05 24 31.0 -1.6**
BHPL Bhopal 51.79 276 *e* S **05 24 37.4 -4.0**
ZRNK Zerenda 51.95 315 P P **05 17 57.8 -1.0**
ZRNK pmax pmax
comp=Z,152nm,1.0s,mb5.3
CTA Charters Tower 51.98 167 P P **05 17 58.0 -1.4**
comp=Z,29nm,0.9s,mb4.6,baz=358,slow=7.8,SNR=18
CTA ScP 05 22 10.7
comp=Z,6.6nm,0.9s,baz=66,slow=1.8,SNR=3.5
CTA Charters Tower 51.98 167 P P **05 17 58.0 -1.4**
CTA pmax pmax
comp=Z,29nm,0.9s
CTA pmax pmax
comp=N,7.0nm,0.9s
CTAO Charters Tower 51.98 167⇓ *e*P P **05 17 58.2 -1.3**
comp=N,58nm,1.2s,mb4.8
AJM Ajmer 52.98 281⇑ *i*P P **05 18 05.0 -1.6**
AJM eS S **05 24 54.1 -3.1**
TTA Tatalina 53.00 32 eP P **05 18 05.8 -0.4**
HYB Hyderabad 53.20 269 *i* P P **05 18 07.5 -0.7**
HYB ePcP PcP 05 19 07.0 -1.0
HYB eS S **05 25 00.0 -0.1**
HYB Hyderabad 53.20 269 eP P **05 18 07.5 -0.7**
MBWA Marble Bar 54.18 198⇓ *i*P P **05 18 13.7 -1.4**
comp=N,67nm,0.8s,mb5.0
MBWA *e*ScP 05 22 20.4
IMA Indian Mountai 54.19 28 eP P **05 18 14.9 +0.3**
RSO Redoubt South 54.52 35 eP P **05 18 17.0 +0.1**
ASAR Alice Springs 54.53 182 P P **05 18 16.0 -1.5**
comp=N,62nm,0.9s,mb4.9,baz=12,slow=8.5,SNR=266
ASAR ScP 05 22 22.8
comp=N,5.1nm,0.8s,baz=7.7,slow=4.5,SNR=9.1
ASAR S S **05 25 16.0 -1.6**
comp=N,6.6nm,0.9s,baz=7.5,slow=12,SNR=16
ASAR PKPPKP 05 48 16.9
comp=N,0.6nm,0.9s,baz=162,slow=2.9,SNR=4.5
ASAR PKP2bc 05 48 33.8
comp=N,2.7nm,1.1s,baz=181,slow=1.5,SNR=5.5
ASAR Alice Springs 54.53 182 P P **05 18 16.0 -1.5**
ASAR ScP 05 22 22.8
ASAR S S **05 25 16.0 -1.6**
ASAR P'P' 05 48 16.9
ASAR ⇑*e* 05 48 33.8
KDAK Kodiak Island 54.72 39 eP P **05 18 17.6 -0.8**
comp=N,10nm,0.5s,mb4.4
PWA Palmer West 55.87 34 eP P **05 18 25.4 -0.9**
MCK McKinley 56.20 31⇑ eP P **05 18 28.2 -0.4**
comp=N,19nm,0.8s,mb4.5
MCK *e*ScP 05 22 28.5
PMR Palmer 56.23 34 eP P **05 18 28.0 -0.8**
comp=N,15nm,0.9s,mb4.3
PMR *e*PcP PcP 05 19 17.2 -2.1
PMR *e*ScP 05 22 28.2
SML Sawmill 56.59 34 eP P **05 18 31.1 -0.2**
SML *e*ScP 05 22 30.8
COLA College 56.62 30 eP P **05 18 32.4 +0.9**
POO Poona 56.75 273 eP P **05 18 32.5 -0.5**
POO *e* 05 18 33.8
comp=Z,171nm,0.9s
KAD Karad 56.99 271 eP P **05 18 34.0 -0.6**
KAD *e* 05 18 35.4
comp=Z,129nm,1.5s
ILAR Eielson Array 57.03 30 P P **05 18 33.4 -1.0**
comp=Z,12nm,0.9s,mb4.2,baz=264,slow=5.2,SNR=113
ILAR PcP PcP 05 19 20.4 -1.9
comp=Z,4.8nm,1.0s,baz=277,slow=3.9,SNR=5.0
ILAR ScP 05 22 31.4
comp=Z,1.9nm,0.7s,baz=277,slow=4.5,SNR=6.5
ILAR S S **05 25 50.2 +0.7**
comp=Z,0.3nm,0.8s,baz=228,slow=21,SNR=3.4
ILAR ScS ScS 05 27 28.9 0.0
comp=Z,0.5nm,0.9s,baz=198,slow=9.0,SNR=3.1
ILAR PKPPKP 05 48 06.5
comp=Z,0.8nm,0.9s,baz=101,slow=2.5,SNR=5.6
ILAR Eielson Array 57.03 30 P P **05 18 33.4 -0.9**
ILAR 05 19 20.5
ILAR S S **05 25 50.3 +0.8**
ILAR 05 27 29.0
ILAR pmax pmax
comp=Z,12nm,0.9s
ILAR pmax pmax
comp=Z,5.0nm,1.0s
ILAR pmax pmax
comp=N,2.0nm,0.7s
ILAR pmax pmax
comp=N,1.0nm,0.9s
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ARU Arti 57.63 320*c* *i*P P **05 18 37.3 -1.2**
ARU pmax pmax
comp=Z,130nm,1.0s,mb5.2
ARU Arti 57.63 320⇑ *i*P P **05 18 37.3 -1.2**
comp=Z,130nm,1.0s,mb5.2
DIV Divide 57.88 34 eP P **05 18 40.7 +0.6**
comp=Z,66nm,0.6s,mb5.1
TRD Trivandrum 58.82 261 eP P **05 18 47.2 +0.1**
TRD *e* 05 18 48.1
comp=Z,74nm,0.6s
INK Inuvik 61.79 25 P P **05 19 06.0 0.0**
comp=Z,13nm,0.8s,mb4.4,baz=279,slow=5.0,SNR=41
INK ScP 05 22 53.5
comp=Z,3.1nm,0.8s,baz=252,slow=8.1,SNR=3.0
INK S S **05 26 49.1 -0.3**
comp=Z,4.4nm,1.0s,baz=120,slow=31,SNR=6.8
INK ScS ScS 05 28 04.0 -0.4
comp=Z,1.2nm,1.0s,baz=340,slow=26,SNR=2.3
INK Inuvik 61.79 25 P P **05 19 06.0 0.0**
INK S S **05 26 49.1 -0.3**
INK 05 28 04.1
INK pmax pmax
comp=Z,13nm,0.8s
INK pmax pmax
comp=N,3.0nm,0.9s
INK smax
comp=N,4.0nm,1.0s
INK pmax pmax
comp=N,1.0nm,1.0s
INK Inuvik 61.79 25⇑ eP P **05 19 05.4 -0.6**
comp=N,52nm,1.4s,mb4.8
INK epP pP 05 20 47.0 -2.8
INK eScP 05 22 53.2
STKA Stephens Creek 62.95 174 P P **05 19 13.4 -0.5**
comp=N,30nm,0.7s,mb5.0,baz=342,slow=6.9,SNR=66
STKA S S **05 27 03.1 -0.9**
comp=N,1.3nm,0.7s,baz=109,slow=15,SNR=2.3
STKA Stephens Creek 62.95 174⇓ eP P **05 19 13.2 -0.7**
NWAO Narrogin (SRO) 66.04 197 eP P **05 19 32.1 -1.4**
comp=N,15nm,0.7s,mb4.7
DLBC Dease Lake 66.24 35 P P **05 19 35.5 +1.3**
comp=N,10nm,0.8s,mb4.5,baz=288,slow=4.5,SNR=25
KEV Kevo 67.19 339 ep P **05 19 37.9 -2.1**
comp=N,44nm,0.8s,mb5.1
KEV Kevo 67.19 339 eP P **05 19 37.9 -2.1**
KEV pmax pmax
comp=Z,44nm,0.8s,mb5.1
ARCES ARCESS Array B 67.75 339 P P **05 19 43.0 -0.4**
comp=Z,40nm,0.4s,mb5.4,baz=63,slow=8.7,SNR=751
ARCES ARCESS Array B 67.75 339 P P **05 19 43.0 -0.4**
ARCES pmax pmax
comp=Z,40nm,0.4s
ARE0 ARCESS Array S 67.75 339 eP P **05 19 42.9 -0.5**
KTK1 Kautokeino 68.72 339 eP P **05 19 47.8 -1.5**
KTK1 AMb AMB 05 19 50.1
comp=Z,96nm,1.2s,mb5.2
KTK1 Kautokeino 68.72 339 eP P **05 19 47.8 -1.5**
comp=Z,96nm,1.2s,mb5.2
MOS Moscow 69.04 323 eP P **05 19 51.0 -0.4**
MOS pmax pmax
comp=Z,342nm,1.6s,mb5.6
MOS Moscow 69.04 323 eP P **05 19 51.0 -0.4**
comp=Z,342nm,1.6s,mb5.6
RES Resolute Bay 69.44 13 eP P **05 19 53.1 -0.4**
comp=Z,66nm,0.8s,mb5.2
TRO Tromso 69.65 340 eP P **05 19 53.1 -1.7**
TRO AMb AMB 05 19 54.5
comp=Z,67nm,0.8s,mb5.2
TRO Tromso 69.65 340 eP P **05 19 53.1 -1.7**
comp=Z,67nm,0.8s,mb5.2
OBN Obninsk 69.85 323*d* *i*P P **05 19 55.3 -0.9**
OBN *e**PP pP 05 21 36.5 -6.9
OBN pmax pmax
comp=Z,232nm,1.0s,mb5.7
OBN MLR MLR
comp=Z,100nm,17.0s
OBN Obninsk 69.85 323 *i* Pr 05 19 55.3
comp=Z,232nm,1.0s
OBN epP pP 05 21 36.5 -6.9
OBN LR LR
comp=Z,100nm,17.0s
VOR Voronezh 69.87 319 eP P **05 19 55.5 -0.9**
VOR pmax pmax
comp=N,110nm,1.2s
VOR pmax pmax
comp=E,200nm,1.2s
VOR pmax pmax
comp=Z,300nm,1.2s,mb5.7
GOF Gofitskoye 70.33 311⇑ *i*P P **05 19 59.0 -0.2**
GOF pmax pmax
comp=Z,61nm,1.4s,mb4.9
GOF Gofitskoye 70.33 311⇑ *i*P P **05 19 59.0 -0.2**
comp=Z,61nm,1.4s,mb4.9
KIV Kislovodsk 71.02 310*c* *i*P P **05 20 03.7 +0.4**
KIV *e* 05 20 19.6
KIV *e**PP pP 05 21 45.1 -5.9
KIV *i* S S 05 28 39.3 +0.8
KIV eSS SS 05 33 24.0 -3.5
KIV pmax pmax
comp=Z,195nm,0.9s,mb5.6
KIV pmax pmax
comp=N,8.0nm,6.6s
KIV smax
comp=N,194nm,2.9s
KIV smax
comp=E,141nm,2.4s
KIV MLR MLR
comp=N,23nm,18.0s
KIV MLR MLR
comp=E,19nm,18.0s
KIV MLR MLR
comp=Z,31nm,18.0s
KIV Kislovodsk 71.02 310⇑ *i*P P **05 20 03.7 +0.4**
comp=Z,195nm,0.9s,mb5.6
KIV *e* 05 20 19.6
KIV *e*pP pP 05 21 45.1 -5.9
KIV *i* S S 05 28 39.3 +0.8
KIV eSS SS 05 33 24.0 -3.5
KIV LR LR
comp=Z,30nm,18.0s
DAG Danmarks Havn 71.14 354⇓ *i*P P **05 20 03.2 -0.3**
comp=Z,65nm,0.8s,mb5.2
KAF Kangasniemi 71.25 332 *e*p P **05 20 02.4 -1.9**
comp=Z,80nm,0.7s,mb5.4,baz=56,slow=5.5
KAF Kangasniemi 71.25 332 eP P **05 20 02.4 -1.9**
KAF pmax pmax
comp=Z,81nm,0.7s,mb5.4
GNI Garni 71.25 306*c* *i*P P **05 20 05.6 +0.9**
GNI pmax pmax
comp=Z,133nm,1.1s
GNI Garni 71.25 306⇑ *i*P P **05 20 05.6 +0.9**
comp=Z,133nm,1.1s,mb5.4
YKA Yellowknife Ar 71.29 27 P P **05 20 04.6 0.0**
comp=Z,3.7nm,0.4s,mb4.3,baz=301,slow=6.0,SNR=55
YKA Yellowknife Ar 71.29 27 P P **05 20 04.6 0.0**
YKA pmax pmax
comp=Z,4.0nm,0.4s
FINES FINESS Array B 71.69 331 P P **05 20 06.3 -0.6**
comp=Z,98nm,0.4s,mb5.7,baz=78,slow=5.3,SNR=1348
FINES PP PP 05 22 52.7 -2.2
comp=Z,8.4nm,0.8s,baz=63,slow=8.5,SNR=4.3
FINES S S 05 28 45.0 -0.7
comp=Z,2.1nm,0.9s,baz=187,slow=33,SNR=3.1
FINES FINESS Array B 71.69 331 P P **05 20 06.3 -0.6**
FINES 05 22 52.7
FINES S S 05 28 45.0 -0.7
FINES pmax pmax
comp=Z,98nm,0.4s
FINES pmax pmax
comp=Z,8.0nm,0.9s
FINES smax
comp=N,2.0nm,0.9s
FINES FINESS Array B 71.69 331 P P **05 20 06.3 -0.6**
FINES PP PP 05 22 52.7 -2.2
FINES S S 05 28 45.0 -0.7
LOF Lofoten 72.12 340 eP P **05 20 11.3 +2.0**
LOF AMb AMB 05 20 14.4
comp=Z,144nm,1.8s,mb5.2
LOF Lofoten 72.12 340 eP P **05 20 11.3 +2.0**
comp=Z,144nm,1.8s,mb5.2
TVAN Van 72.89 305 *i* P P **05 20 14.0 -0.1**
VSU Vasula 72.98 329⇑ *i*P P **05 20 14.2 -0.1**
MOR8 Moi Rana 73.11 339 eP P **05 20 13.3 -1.6**
MOR8 AMb AMB 05 20 14.7
comp=Z,158nm,1.0s,mb5.5
MOR8 Moi Rana 73.11 339 eP P **05 20 13.3 -1.6**
comp=Z,158nm,1.0s,mb5.5
SOC Sochi 73.12 311 *i* P P **05 20 15.4 0.0**
SOC *e* 05 20 30.5
SOC eS S 05 29 05.4 +3.6
SOC *e* 05 29 33.6
SOC pmax pmax
comp=Z,140nm,0.7s,mb5.6
SOC pmax pmax
comp=N,10.0nm,0.5s
SOC pmax pmax
comp=E,11nm,0.6s
SOC pmax pmax
comp=Z,144nm,0.8s,mb5.6
SOC pmax pmax
comp=N,10.0nm,0.4s
SOC pmax pmax
comp=E,171nm,2.4s
SOC Sochi 73.12 311 *i* P P **05 20 15.4 0.0**
comp=E,140nm,0.7s,mb5.6
SOC *e* 05 20 30.5
SOC eS S 05 29 05.4 +3.6
SOC *e* 05 29 33.6
UMR Umm Al-Rimmam 73.68 295 eP P **05 20 18.7 -0.2**
UMR AMb AMB 05 20 20.1
comp=Z,206nm,0.4s,mb6.0
ERZM Erzurum 73.69 307 *i* P P **05 20 19.4 +0.7**
KBD Kabd 73.87 295 eP P **05 20 20.0 +0.1**
QRN Al-Qurain 73.89 294 eP P **05 20 19.9 -0.1**
QRN AMb AMB 05 20 20.8
comp=Z,244nm,0.7s,mb5.8
PGC Sidney 73.94 43 eP P **05 20 20.8 +0.9**
comp=Z,19nm,0.7s,mb4.7
ANN Anapa 74.01 313*c* *i*P P **05 20 20.3 -0.1**
ANN *e* 05 20 27.2
ANN eS S 05 29 14.3 +2.8
ANN pmax pmax
comp=Z,196nm,0.8s,mb5.7
ANN Anapa 74.01 313⇑ *i*P P **05 20 20.3 -0.1**
comp=Z,196nm,0.8s,mb5.7
ANN *e* 05 20 27.2
ANN eS S 05 29 14.3 +2.8
RDF Al-Radifah 74.09 294 eP P **05 20 20.9 -0.4**
RDF AMb AMB 05 20 22.3
comp=Z,259nm,0.5s,mb6.0
RST Umm Al-Ruwaisa 74.27 295 eP P **05 20 21.8 -0.4**
RST AMb AMB 05 20 23.2
comp=Z,263nm,0.6s,mb6.0
MNK Minsk 74.57 325 eP P **05 20 21.0 -2.3**
MNK pmax pmax
comp=Z,490nm,1.0s,mb6.0
MNK Minsk 74.57 325 eP P **05 20 21.0 -2.3**
comp=Z,490nm,1.0s,mb6.0
IDID Didziasalis 74.67 326 eP P **05 20 23.9 0.0**
IDID AMPb AMB 05 20 25.9
comp=Z,58nm,0.9s,mb5.1
IZAR Zarasai 74.67 326 eP P **05 20 24.0 +0.1**
IZAR AMPb AMB 05 20 25.9
comp=Z,63nm,0.9s,mb5.2
BEST Besiri 74.67 305 *i* P P **05 20 22.9 -1.4**
ISAL Salakas 74.82 326 eP P **05 20 24.8 0.0**
ISAL AMPb AMB 05 20 26.8
comp=Z,67nm,1.1s,mb5.1
GNW Green Mountain 74.83 43 eP P **05 20 26.1 +1.1**
IIGN Ignalina 74.90 326 eP P **05 20 25.2 +0.1**
IIGN AMPb AMB 05 20 27.2
comp=Z,50nm,0.9s,mb5.1
NSS Namsos 74.98 338 eP P **05 20 23.9 -1.5**

NSS AMb AMB 05 20 25.1
comp=Z,79nm,0.8s,mb5.3
NSS Namsos 74.98 388 *eP* **P 05 20 23.9 -1.5**
comp=Z,79nm,0.8s,mb5.3
RMW Rattlesnake Mo 75.48 43 *eP* **P 05 20 30.0 +1.4**
AKASG Malin Array Be 75.87 321 P **P 05 20 29.7 -0.9**
comp=Z,29nm,0.4s,mb5.2,baz=52,slow=6.0,SNR=209
AKASG Malin Array Be 75.87 321 P **P 05 20 29.7 -0.9**
AKASG pmax pmax
comp=Z,29nm,0.4s
ELZG Elazig 75.98 307 *i* P **P 05 20 32.5 +1.0**
SIM Simferopol' 76.00 314⇑ *i* P **P 05 20 31.6 +0.1**
SIM pmax pmax
comp=Z,121nm,0.8s,mb5.5
SIM Simferopol' 76.00 314⇑ *iP* **P 05 20 31.6 +0.1**
comp=Z,121nm,0.8s,mb5.5
NLW Nelson Butte 76.02 42 *eP* **P 05 20 32.3 +0.8**
KEBM Edson Butte 76.22 48 *eP* **P 05 20 34.3 +1.6**
SUMG Summit 76.47 358⇑ *iP* **P 05 20 34.9 +1.4**
comp=Z,77nm,0.8s,mb5.3
SVST Sivas 76.74 308 *i* P **P 05 20 36.8 +1.2**
EDM Edmonton 76.96 35 *eP* **P 05 20 36.7 +0.2**
SUW Suwalki 77.11 326 *eP* **P 05 20 37.2 -0.1**
SUW Suwalki 77.11 326 *eP* **P 05 20 37.2 -0.1**
BOYT Boyabat 77.28 311 *i* P **P 05 20 38.8 +0.4**
DPW Davenport 77.35 41 *eP* **P 05 20 39.5 +0.8**
GZT Gaziantep 77.51 306 *i* P **P 05 20 40.6 +0.8**
NB2 NORSAR Subarra 77.62 336 P **P 05 20 39.6 -0.3**
comp=Z,164nm,1.0s,mb5.4,baz=46,slow=5.3
NB2 NORSAR Subarra 77.62 336 P **P 05 20 39.6 -0.3**
baz=46,slow=5.3
NOA NORSAR Array B 77.62 336 P **P 05 20 39.5 -0.4**
comp=Z,115nm,0.9s,mb5.3,baz=48,slow=5.3,SNR=229
NOA PP PP 05 23 43.4 -0.9
comp=Z,2.1nm,0.9s,baz=49,slow=7.3,SNR=3.9
NOA S S 05 29 48.6 -1.1
comp=Z,0.5nm,0.8s,baz=131,slow=22,SNR=2.3
NOA NORSAR Array B 77.62 336 P **P 05 20 39.5 -0.4**
NOA 05 23 43.4
NOA S S 05 29 48.7 -1.0
NOA pmax pmax
comp=Z,115nm,1.0s
NOA pmax pmax
comp=Z,2.0nm,0.9s
NOA smax
comp=N,1.0nm,0.8s
DOMB Dombas 77.65 337 *eP* **P 05 20 39.8 -0.2**
DOMB AMb AMB 05 20 41.3
comp=Z,106nm,1.1s,mb5.2
DOMB Dombas 77.65 337 *eP* **P 05 20 39.8 -0.2**
comp=Z,106nm,1.1s,mb5.2
NEW Newport 77.75 41 *eP* **P 05 20 41.3 +0.4**
comp=Z,13nm,0.9s,mb4.4
CTKT Corum 77.75 310 *i* P **P 05 20 42.0 +0.9**
MOL Molde 77.77 338 *eP* **P 05 20 42.4 +1.7**
MOL AMb AMB 05 20 44.5
comp=Z,91nm,1.7s,mb4.9
MOL Molde 77.77 338 *eP* **P 05 20 42.4 +1.7**
comp=Z,91nm,1.7s,mb4.9
YBH Yreka Blue Hor 77.84 49 P **P 05 20 42.8 +1.3**
comp=Z,5.9nm,0.8s,baz=304,slow=3.7,SNR=9.3
YBH Yreka Blue Hor 77.84 49 P **P 05 20 42.8 +1.3**
YBH pmax pmax
comp=Z,6.0nm,0.8s
YBH Yreka Blue Hor 77.84 49 *eP* **P 05 20 42.8 +1.4**
comp=Z,11nm,1.3s,mb4.1
KAHT Ahir Dag 77.85 307 *i* P **P 05 20 41.8 +0.1**
NAO01 NORSAR Array S 77.87 336⇑ *iP* **P 05 20 40.3 -1.0**
comp=Z,51nm,0.8s,mb5.0
KIS Kishinev 78.09 318α *iP* **P 05 20 38.0 -4.7**
KIS *e* 05 30 22.0
KIS pmax pmax
comp=Z,200nm,1.0s,mb5.5
KIS pmax pmax
comp=Z,200nm,1.0s,mb5.5
KIS Kishinev 78.09 318 *i* Pcu 05 20 38.0
comp=Z,200nm,1.0s
KIS *e* 05 30 22.0
BALT Daday 78.20 311 *i* P **P 05 20 44.2 +0.8**
MZLS Mizel 78.24 291 P **P 05 20 44.6 +0.6**
RAYN Ar Rayn 78.24 290 P **P 05 20 44.2 +0.2**
comp=Z,613nm,1.1s,mb6.0,SNR=27
AVNT Avonos 78.65 308 *i* P **P 05 20 45.8 -0.1**
ELDT Eldivan 78.71 310 *i* P **P 05 20 46.8 +0.6**
COBT Iskenderun 78.84 306 *i* P **P 05 20 47.4 +0.4**
ARSS Ar Rass 78.91 293 P **P 05 20 47.7 +0.2**
BRTR Keskin Array B 78.97 310 P **P 05 20 48.0 +0.4**
comp=Z,93nm,0.9s,mb5.3,baz=101,slow=4.3,SNR=238
BRTR PP PP 05 23 56.5 +0.7
comp=Z,3.7nm,0.8s,baz=82,slow=7.1,SNR=3.9
BRTR S S 05 30 04.0 -0.2
comp=Z,0.3nm,0.3s,baz=266,slow=27,SNR=2.0
BRTR Keskin Array B 78.97 310 P **P 05 20 48.0 +0.4**
BRTR 05 23 56.5
BRTR S S 05 30 04.0 -0.2
BRTR pmax pmax
comp=Z,93nm,0.9s
BRTR pmax pmax
comp=Z,4.0nm,0.9s
WALA Waterton Lakes 79.06 39 *eP* **P 05 20 48.9 +1.1**
comp=Z,18nm,0.8s,mb4.7
MOD Modoc 79.28 47 *eP* **P 05 20 50.1 +0.9**
comp=Z,9.4nm,0.8s,mb4.4
HILS Ha'il 79.30 295 P **P 05 20 50.2 +0.7**
SGKT Sivrigoynuk 79.56 311 *i* P **P 05 20 50.9 +0.3**
KWP Kalwaria 79.94 323⇑ *eP* **P 05 20 53.3 +0.9**
KWP Kalwaria 79.94 323⇑ *eP* **P 05 20 53.3 +0.9**
AFFS 'Afif 80.05 292 P **P 05 20 54.3 +0.8**
HENT Hendek 80.17 312 *i* P **P 05 20 49.9 -3.9**
BSD Bornholm Skovb 80.19 330⇑ *iP* **P 05 20 53.2 -0.4**
comp=Z,99nm,0.8s,mb5.4
MEST Erdemli 80.26 307 *i* P **P 05 20 54.4 0.0**
PSN Preselentsi 80.29 315 P **P 05 20 55.0 +0.7**
BEKR Beckwourth 80.33 49 *eP* **P 05 20 55.4 +0.8**
comp=Z,9.7nm,0.8s,mb4.4
GKP Gorka Klasztor 80.36 328 *eP* **P 05 20 54.8 +0.3**
GKP Gorka Klasztor 80.36 328 *eP* **P 05 20 54.8 +0.3**
BLS5 Blasjo 80.44 336 *eP* **P 05 20 55.9 +1.1**
BLS5 AMb AMB 05 20 57.3
comp=Z,59nm,0.9s,mb5.1
BLS5 Blasjo 80.44 336 *eP* **P 05 20 55.9 +1.1**
comp=Z,59nm,0.9s,mb5.1
KOLS Kolonicke sedl 80.58 322 *i* P **P 05 20 56.4 +0.7**
MLR Muntele Rosu 80.58 318 P **P 05 20 56.6 +0.8**
comp=Z,14nm,0.6s,mb4.7,baz=350,slow=5.1,SNR=21
MLR Muntele Rosu 80.58 318 P **P 05 20 56.6 +0.8**
MLR pmax pmax
comp=Z,14nm,0.6s
ASF Jabal al Asfar 80.59 302 P **P 05 20 56.8 +0.6**
comp=Z,30nm,0.9s,mb4.8,baz=292,slow=2.6,SNR=36
CHMT Chamberlain Mo 80.67 40 *eP* **P 05 20 56.5 +0.3**
COP Copenhagen 80.85 331 *i* P **P 05 20 56.9 -0.1**
comp=Z,53nm,0.9s,mb5.1
HRI Mount Hermon 80.87 303 P **P 05 20 58.1 +0.5**
ESKT Eskisehir 80.90 311 *i* P **P 05 20 55.7 -1.9**
PRD Provadia 81.03 315 *eP* **P 05 20 59.0 +0.8**
OJC Ojcow 81.07 324⇑ *iP* **P 05 20 58.7 +0.5**
OJC Ojcow 81.07 324⇑ *iP* **P 05 20 58.7 +0.5**
NIE Niedzica 81.30 323⇑ *eP* **P 05 21 00.4 +0.9**
HNTI Hanita 81.36 303 P **P 05 21 00.7 +0.6**
MMLI Mount Malkishu 81.52 303 P **P 05 21 01.9 +1.0**
HMDT Nahal Hemdat 81.54 302 P **P 05 21 01.7 +0.7**
HRY Holter Researc 81.58 40 *eP* **P 05 21 02.1 +1.3**
MUD Monsted U'grnd 81.61 333⇓ *iP* **P 05 21 00.0 -0.8**
comp=Z,82nm,1.0s,mb5.2
ULDT Uludag 81.67 312 *i* P **P 05 21 01.2 -0.3**
CSS Prodhromos 81.68 306⇑ P **P 05 21 01.6 -0.1**
comp=Z,0.9nm,1.0s
CSS Prodhromos 81.68 306⇑ *eP* **P 05 21 01.6 -0.1**
comp=Z,132nm,1.1s,mb5.4
OFRI 'Ofer 81.74 303 P **P 05 21 02.4 +0.4**
KECS Kecovo 81.79 322 *i* P **P 05 21 02.5 +0.6**
TATS Tathlith 81.83 288 P **P 05 21 03.6 +0.9**
SZH Strazhica 81.87 316 *eP* **P 05 21 02.2 -0.2**
SLTI Sal'it 81.90 303 P **P 05 21 03.4 +0.6**
HLID Hailey 81.96 44⇑ *iP* **P 05 21 04.6 +1.7**
comp=Z,12nm,0.8s,mb4.5
DRGI Dragot 81.98 302 P **P 05 21 03.7 +0.5**
ISP Isparta 82.04 309⇑ *eP* **P 05 21 03.0 -0.4**
comp=Z,44nm,0.9s,mb5.0
KBRS Khaybar 82.06 295 P **P 05 21 04.9 +1.2**
ALFC Alevga 82.08 306⇑ P **P 05 21 03.5 -0.2**
comp=Z,2.4nm,0.7s
SZAC Souni-Zanaja 82.10 306 P **P 05 21 04.1 +0.3**
MCMT McKenzie Canyo 82.13 42 *eP* **P 05 21 04.7 +1.0**

OKC Ostrava-Krasne 82.13 325⇑ *iP* **P 05 21 04.0 +0.4**
MZDA Masada 82.15 302 P **P 05 21 04.6 +0.5**
PVL Pavlikeni 82.26 316 P **P 05 21 06.0 +1.6**
BOZ Bozeman (W) 82.33 41⇑ *eP* **P 05 21 05.5 +0.8**
comp=Z,14nm,0.8s,mb4.5
KSP Ksiaz 82.39 326⇑ *eP* **P 05 21 05.5 +0.6**
KSP *e* 05 30 34.0
KSP Ksiaz 82.39 326 *eP* **P 05 21 05.5 +0.6**
PSZ Piszkesteto 82.46 322 *jP* **P 05 21 06.5 +1.2**
NVAR Mina Array Bea 82.46 50 P **P 05 21 06.8 +1.3**
comp=Z,11nm,0.7s,mb4.5,baz=319,slow=4.1,SNR=74
RUE Ruedersdorf 82.46 328 *eP* **P 05 21 05.3 +0.2**
comp=Z,152nm,1.0s,mb5.5
MORC Moravsky Berou 82.47 325⇑ *iP* **P 05 21 05.4 +0.1**
comp=Z,35nm,0.9s,mb4.9
ZFRI Zfri 82.68 301 P **P 05 21 07.2 +0.4**
DPC Dobruska-Polom 82.69 326⇑ *iP* **P 05 21 07.2 +0.8**
DJNS Zahran al Janu 82.70 286 P **P 05 21 08.7 +1.6**
UPC Upice 82.74 326⇑ *iP* **P 05 21 07.2 +0.5**
DIM Dimitrovgrad 82.82 315 *eP* **P 05 21 08.0 +0.8**
TBKS Tabuk 82.88 299 P **P 05 21 08.9 +1.1**
MTUM Tungsten Hills 82.88 51 *eP* **P 05 21 08.7 +1.1**
PRNI Paran 82.92 301 P **P 05 21 08.4 +0.4**
PRNI Paran 82.92 301⇑ P **P 05 21 08.4 +0.4**
QLMT Earthquake Lak 82.93 41 *eP* **P 05 21 09.4 +1.6**
BSEG Bad Segeberg 82.95 331 *eP* **P 05 21 07.8 +0.1**
BSEG pmax pmax
comp=Z,99nm,1.0s,mb5.3
MANT Manisa 82.96 311 *iP* **P 05 21 07.9 -0.2**
JMQS Jabal Moqyreh 83.04 299 P **P 05 21 09.1 +0.5**
NAMS An Nimas 83.05 288 P **P 05 21 10.5 +1.6**
KZIT Kziot 83.07 302 P **P 05 21 08.9 +0.1**
DNZL Cakiroluk 83.09 310 *iP* **P 05 21 08.8 +0.1**
ELK Elko 83.09 46⇑ *iP* **P 05 21 10.4 +1.7**
comp=Z,11nm,0.8s,mb4.5
KDZ Kurdzhali 83.12 315 *eP* **P 05 21 10.0 +1.2**
BLJS Baljurashi 83.19 289 P **P 05 21 10.9 +1.3**
MBH Mount Berech 83.28 301 P **P 05 21 10.0 +0.2**
PLD Plovdiv 83.29 316 *eP* **P 05 21 10.0 +0.4**
YMR Madison River 83.30 41⇑ *iP* **P 05 21 11.7 +2.1**
EIL Elat 83.32 301 P **P 05 21 10.1 +0.1**
GCMT Greycliff 83.33 40 *eP* **P 05 21 11.0 +1.3**
PGB Panagyurishte 83.34 316 *eP* **P 05 21 11.0 +1.1**
SMOL Smolenice 83.35 324 *eP* **P 05 21 10.9 +1.1**
TPH Tonopah 83.36 49 *eP* **P 05 21 11.2 +1.1**
comp=Z,20nm,0.9s,mb4.7
PVCC Panska Ves 83.41 327⇑ *iP* **P 05 21 10.5 +0.5**
ALWS Ilw as Safayha 83.42 300 P **P 05 21 11.1 +0.5**
JMOS Jabal al Moall 83.46 300 P **P 05 21 11.0 +0.3**
BRG Berggiesshubel 83.47 327 *iP* **P 05 21 10.5 +0.2**
BRG *e* 05 24 29.2
BRG pmax pmax
comp=Z,43nm,0.8s,mb5.0
BRG Berggiesshubel 83.47 327 *iP* **P 05 21 10.5 +0.2**
comp=Z,43nm,0.8s,mb5.0
BRG *i* 05 21 33.9
BRG *e* 05 24 29.2
YFT Old Faithful 83.50 41 *eP* **P 05 21 13.9 +3.3**
RZN Rozhen 83.52 315 P **P 05 21 12.8 +2.0**
OWE Westray 83.55 340 *eP* **P 05 21 10.6 +0.2**
OWE AMb AMB 05 21 12.5
comp=Z,90nm,1.2s,mb5.2
OST Stronsay 83.60 340 *eP* **P 05 21 10.6 -0.1**
OST AMb AMB 05 21 11.9
comp=Z,32nm,0.8s,mb4.9
CLL Collm 83.61 328 ⇑P **P 05 21 10.9 -0.1**
comp=Z,logA/T=2.0,mb5.3
CLL *i* 05 21 17.5
CLL *e*PP PP 05 24 35.0 +1.8
CLL Collm 83.61 328⇑ *iP* **P 05 21 10.9 -0.1**
CLL pmax pmax
comp=Z,107nm,1.0s,mb5.3
CLL Collm 83.61 328⇑ *iP* **P 05 21 10.9 -0.1**
comp=Z,107nm,1.0s,mb5.3
CLL *i* 05 21 17.5
LKWY Lake 83.68 41⇑ *eP* **P 05 21 14.6 +3.1**
comp=Z,28nm,1.0s,mb4.7
ZST Bratislava 83.72 324 *eP* **P 05 21 12.8 +1.2**
PRU Pruhonice 83.79 326⇑ *iP* **P 05 21 12.2 +0.3**
PRU pmax pmax
comp=Z,44nm,1.0s,mb4.9
PRU Pruhonice 83.79 326⇑ *iP* **P 05 21 12.2 +0.3**
comp=Z,44nm,1.0s,mb4.9
KDAG Bornova 83.84 311 *i* P **P 05 21 11.6 -0.8**
UMJS Umm Lajj 83.85 296 P **P 05 21 13.8 +1.0**
BDAS Al Bad' 83.86 299 P **P 05 21 12.8 +0.1**
AYUS 'Aynunah 83.86 299 P **P 05 21 12.6 -0.1**
VTS Vitosha 83.88 317 P **P 05 21 14.0 +1.5**
TAYS Tayyib Ism 83.97 300 P **P 05 21 13.7 +0.4**
MOOW Moose Ponds 83.98 42 *eP* **P 05 21 14.7 +1.7**
HVU Hansel Valley 83.99 44⇑ *eP* **P 05 21 14.9 +1.8**
OHO Hoy 84.02 340⇑ *eP* **P 05 21 12.9 +0.1**
OHO AMb AMB 05 21 14.3
comp=Z,106nm,1.4s,mb5.2
TPAW Teton Pass 84.02 42⇑ *eP* **P 05 21 15.0 +1.8**
WUWY Wally Ulrich 84.11 42 *eP* **P 05 21 15.5 +1.9**
LOHW Long Hollow 84.15 42 *eP* **P 05 21 15.5 +1.7**
SNOW Snow King Moun 84.15 42 *eP* **P 05 21 15.3 +1.5**
REDW Red Top Meadow 84.16 42 *eP* **P 05 21 15.4 +1.6**
OBR Brabster 84.17 340⇑ *eP* **P 05 21 13.7 +0.2**
OBR AMb AMB 05 21 14.7
comp=Z,100nm,0.9s,mb5.4
MMB Musomiste 84.18 316 P **P 05 21 14.0 0.0**
FRSS Farasan al Kab 84.36 286 P **P 05 21 16.8 +1.4**
KKB Krupnik 84.40 316 P **P 05 21 15.0 -0.1**
ORE Reay 84.41 340⇑ *eP* **P 05 21 15.1 +0.4**
ORE AMb AMB 05 21 15.9
comp=Z,38nm,1.0s,mb4.9
CLZ Clausthal 84.41 329 *eP* **P 05 21 15.3 +0.4**
comp=Z,60nm,1.1s,mb5.0
BARS Barje 84.55 317⇑ *iP* **P 05 21 15.4 -0.4**
RHK1 Bakonya 84.58 322⇓ *eP* **P 05 21 16.2 +0.4**
LAO LASA Array 84.60 38 *eP* **P 05 21 16.8 +0.9**
comp=Z,22nm,0.9s,mb4.8
NKC Novy Kostel 84.61 327⇑ *iP* **P 05 21 16.0 +0.1**
MOX Moxa 84.70 328 *iP* **P 05 21 16.2 -0.1**
comp=Z,logA/T=1.5,mb4.9
MOX Moxa 84.70 328 *eP* **P 05 21 16.2 -0.1**
MOX pmax pmax
comp=Z,42nm,1.3s,mb4.9
MOX Moxa 84.70 328 *eP* **P 05 21 16.2 -0.1**
comp=Z,42nm,1.3s,mb4.9
DIVS Divcibare 84.80 319 *eP* **P 05 21 14.3 -2.7**
HWUT Hardware Ranch 84.81 44 *eP* **P 05 21 18.6 +1.5**
comp=Z,14nm,1.0s,mb4.5
KHC Kasperske Hory 84.83 326⇑ *iP* **P 05 21 17.1 +0.1**
KHC *e* 05 21 29.0
KHC *e* 05 22 30.2
KHC Kasperske Hory 84.83 326⇑ *iP* **P 05 21 17.1 +0.1**
KHC x x 05 21 29.0
KHC *ex* x 05 22 30.2
DUG Dugway 84.91 46 *eP* **P 05 21 19.0 +1.4**
comp=Z,11nm,0.9s,mb4.5
GEC2 GERESS Array S 84.97 326 *eP* **P 05 21 17.6 -0.1**
GEC2 pmax pmax
comp=Z,24nm,1.1s,mb4.7
GEC2 GERESS Array S 84.97 326 *eP* **P 05 21 17.6 -0.1**
comp=Z,24nm,1.1s,mb4.7
GERES GERESS Array B 84.97 326 P **P 05 21 17.2 -0.5**
comp=Z,5.5nm,0.5s,mb4.4,baz=39,slow=6.6,SNR=25
GERES PP PP 05 24 44.3 +0.3
comp=Z,1.9nm,0.7s,baz=51,slow=8.5,SNR=5.4
GERES GERESS Array B 84.97 326 P **P 05 21 17.2 -0.5**
GERES 05 24 44.3
GERES pmax pmax
comp=Z,6.0nm,0.5s
GERES pmax pmax
comp=Z,2.0nm,0.7s
VAY Valandovo 85.03 316 *iP* **P 05 21 18.3 +0.1**
ARSA Arzberg 85.14 324⇑ *iP* **P 05 21 18.7 +0.1**
comp=Z,34nm,1.3s,mb4.8
WET Wettzell 85.16 326 *eP* **P 05 21 19.1 +0.5**
WET pmax pmax
comp=Z,14nm,1.0s,mb4.5
WET Wettzell 85.16 326 *eP* **P 05 21 19.1 +0.5**
comp=Z,14nm,1.0s,mb4.5
TCUT Toone Canyon 85.20 44 *eP* **P 05 21 18.8 -0.3**
BW06 Boulder Array 85.27 42 *eP* **P 05 21 20.1 +0.8**
comp=Z,9.6nm,0.9s,mb4.4
PDAR Pinedale Array 85.27 42 P **P 05 21 20.2 +0.9**
comp=Z,7.5nm,0.7s,mb4.4,baz=312,slow=1.7,SNR=68
PDAR PP PP 05 24 48.0 +1.5
comp=Z,0.6nm,0.8s,baz=288,slow=5.7,SNR=2.9

SKO Skopje 85.30 317 *i* P **P 05 21 20.0 +0.5**
comp=Z,0.1nm,0.9s
MOA Molln 85.37 325⇑ *iP* **P 05 21 19.8 +0.1**
comp=Z,30nm,1.5s,mb4.7
JLU Jordanelle 85.50 45 *eP* **P 05 21 22.0 +1.6**
NLU North Lily Min 85.51 45 *eP* **P 05 21 22.4 +1.8**
GRA1 Grafenberg Arr 85.55 327 *eP* **P 05 21 20.9 +0.4**
comp=Z,43nm,1.0s,mb5.0
GRF Grafenberg Arr 85.55 327 *eP* **P 05 21 20.9 +0.4**
GRF pmax pmax
comp=Z,43nm,1.0s,mb5.0
MPU Maple Canyon 85.74 45 *eP* **P 05 21 23.1 +1.4**
PERS Pernice 85.76 323 *eP* **P 05 21 21.5 -0.1**
GOLS Golise 85.92 323 *iP* **P 05 21 22.1 -0.2**
PDKS Podkum 86.20 323 *eP* **P 05 21 23.4 -0.2**
OHR Ohrid 86.21 317⇑ *iP* **P 05 21 23.4 -0.4**
MSU Marysvale 86.32 47 *eP* **P 05 21 26.0 +1.6**
LJU Ljubljana 86.46 323 *iP* **P 05 21 24.7 -0.2**
FUR Furstenfeldbru 86.60 326 *eP* **P 05 21 26.3 +0.8**
FUR pmax pmax
comp=Z,72nm,0.8s,mb5.5
FUR Furstenfeldbru 86.60 326 *eP* **P 05 21 26.3 +0.8**
comp=Z,72nm,0.8s,mb5.5
SRU San Rafael 86.97 45 *eP* **P 05 21 28.6 +1.1**
ULM Lac du Bonnet 87.05 30 P **P 05 21 28.4 +0.9**
comp=Z,20nm,0.8s,mb4.9,baz=308,slow=5.1,SNR=15
WTTA Wattenberg 87.06 326⇑ *iP* **P 05 21 27.5 -0.2**
comp=Z,56nm,1.5s,mb5.1
IDI Anoyia 87.21 310 P **P 05 21 27.8 -0.9**
comp=Z,8.7nm,0.3s,mb4.9,baz=22,slow=8.1,SNR=20
RSSD Black Hills 87.45 38 *eP* **P 05 21 30.6 +0.9**
comp=Z,16nm,0.8s,mb4.8
BFO Black Forest 87.86 328 *eP* **P 05 21 31.1 -0.3**
BFO pmax pmax
comp=Z,38nm,0.9s,mb5.1
BFO Black Forest 87.86 328 *eP* **P 05 21 31.1 -0.3**
comp=Z,38nm,0.9s,mb5.1
DAVA Damuels 87.89 326⇑ *iP* **P 05 21 31.7 +0.1**
comp=Z,107nm,1.2s,mb5.5
GVD Gavdhos 88.00 310 *eP* **P 05 21 31.8 -0.6**
comp=Z,42nm,0.9s,mb5.2
GIVF Givet 88.07 331 *eP* **P 05 21 33.3 +0.9**
BRMO Bormio 88.23 326 *eP* **P 05 21 30.0 -3.2**
CDF Champ du Feu 88.27 328 *eP* **P 05 21 32.8 -0.6**
comp=Z,50nm,1.0s,mb4.9
PV10 Paradox Valley 88.34 45 *eP* **P 05 21 35.6 +1.7**
BAIF Baives 88.36 331 *eP* **P 05 21 34.4 +0.7**
PV01 Paradox Valley 88.78 45 *eP* **P 05 21 37.5 +1.5**
HINF Hinteralfeld 88.91 328 *eP* **P 05 21 35.3 -1.1**
comp=Z,34nm,0.9s,mb4.9
MEZF Maizieres J'vi 89.19 330 *eP* **P 05 21 36.6 -1.1**
DMUB Kingscourt 89.27 339⇑ *iP* **P 05 21 37.8 -0.1**
ISCO Idaho Springs 89.45 42⇑ *eP* **P 05 21 40.8 +1.7**
comp=Z,7.9nm,0.8s,mb4.6
DLF Lyons Farm 89.67 338⇑ *iP* **P 05 21 39.4 -0.3**
MCGN Macugnaga 89.75 326 *eP* **P 05 21 40.7 +0.4**
GRAM 89.81 324 P **P 05 21 40.9 +0.3**
VALM 89.82 324 P **P 05 21 40.7 +0.1**
SARO Sassorosso 89.86 324 P **P 05 21 41.5 +0.7**
DCN Croghan 89.86 339⇑ *iP* **P 05 21 40.5 -0.1**
BACM 89.95 324 P **P 05 21 41.5 +0.2**
CODM 89.98 324 P **P 05 21 41.3 -0.1**
ORX Oropa 90.00 326 P **P 05 21 40.4 -1.0**
MAIM 90.00 324 P **P 05 21 41.0 -0.6**
VINC Vinca 90.01 324 P **P 05 21 41.1 -0.5**
CABF La Chapelle 90.15 328 *eP* **P 05 21 41.6 -0.5**
comp=Z,79nm,1.2s,mb5.1
TRAV 90.19 326 P **P 05 21 41.1 -1.3**
LSD Ceresole Reale 90.52 327 P **P 05 21 44.0 +0.2**
LOR Lormes 90.65 329 *eP* **P 05 21 43.6 -0.8**
comp=Z,95nm,1.2s,mb5.3
LPL La Plagne 90.67 327 *eP* **P 05 21 44.3 -0.2**
comp=Z,38nm,0.8s,mb5.1
LPG La Plagne 90.68 327 *eP* **P 05 21 44.3 -0.3**
comp=Z,18nm,0.5s,mb5.0
FENE Fenestrelle 90.88 326 P **P 05 21 44.9 -0.6**
BHB Bricherasio 90.92 326 P **P 05 21 45.5 -0.2**
FIN Finale Ligure 90.93 325 P **P 05 21 44.2 -1.6**
SSF Saint Saulge 90.96 329 *eP* **P 05 21 45.1 -0.7**
comp=Z,57nm,1.1s,mb5.1
ROB Roburent 91.03 325 P **P 05 21 44.8 -1.4**
RORO 91.07 325 P **P 05 21 45.3 -1.2**
RRL Cesana Torines 91.09 326 P **P 05 21 46.3 -0.2**
SMF Signal de Mont 91.14 329 *eP* **P 05 21 45.9 -0.8**
comp=Z,101nm,1.0s,mb5.4
HYF Humbligny 91.18 330 *eP* **P 05 21 46.5 -0.3**
AVF Avril sur Loir 91.24 329 *eP* **P 05 21 46.4 -0.7**
comp=Z,131nm,1.2s,mb5.5
MBDF Montbardon 91.24 326 *eP* **P 05 21 45.9 -1.3**
MONE Monesi 91.25 325 P **P 05 21 46.4 -0.8**
LDF La Druitiere 91.27 332 *eP* **P 05 21 46.3 -0.9**
comp=Z,93nm,1.0s,mb5.4
FLN La Foliniere 91.28 333 *eP* **P 05 21 46.6 -0.6**
STV2 Anna di Valdie 91.33 326 P **P 05 21 46.7 -0.9**
STV Sta Anna Valdi 91.33 326 P **P 05 21 46.6 -1.1**
NEGI Negi 91.44 325 P **P 05 21 46.6 -1.5**
ORIF Oris-en-Rattie 91.52 327 *eP* **P 05 21 47.9 -0.6**
SBF Sospel 91.56 325 *eP* **P 05 21 47.3 -1.4**
comp=Z,59nm,0.9s,mb5.2
BGF Bois d'Agland 91.64 330 *eP* **P 05 21 48.3 -0.7**
comp=Z,39nm,0.9s,mb5.0
GRR Gorron 91.73 333 *eP* **P 05 21 48.7 -0.6**
comp=Z,139nm,0.9s,mb5.6
PGF Pioggiola 91.74 324 *eP* **P 05 21 47.6 -2.0**
comp=Z,38nm,0.9s,mb5.0
ANMO Albuquerque 92.12 47‖ *eP* **P 05 21 53.6 +2.1**
TCF Toulx Ste Croi 92.12 330 *eP* **P 05 21 50.7 -0.5**
comp=Z,53nm,0.8s,mb5.2
VIVF Saint-Julien-l 92.13 327 *eP* **P 05 21 50.5 -0.8**
comp=Z,58nm,1.1s,mb5.1
FRF La Foret Royal 92.17 326 *eP* **P 05 21 50.0 -1.5**
SCHQ Schefferville 92.22 13 P **P 05 21 51.6 +0.1**
comp=Z,12nm,0.8s,mb4.9,baz=28,slow=5.6,SNR=8.7
SMRF Simiane la Rot 92.37 326 *eP* **P 05 21 51.4 -1.0**
LMR La Mourre 92.40 325 *eP* **P 05 21 51.5 -1.1**
comp=Z,63nm,1.1s,mb5.1
SGMF Saint Gilles 92.50 333 *eP* **P 05 21 52.4 -0.5**
comp=Z,95nm,0.9s,mb5.4
ROSF Rostrenen 92.70 334 *eP* **P 05 21 53.3 -0.5**
comp=Z,163nm,1.0s,mb5.7
MFF Saint Martin d 92.87 331 *eP* **P 05 21 54.3 -0.4**
comp=Z,86nm,0.8s,mb5.5
QUIF Quistinic 93.00 334 *eP* **P 05 21 54.5 -0.7**
comp=Z,97nm,1.1s,mb5.4
LASF Ste Croix 93.10 327 *eP* **P 05 21 55.2 -0.6**
comp=Z,39nm,1.0s,mb5.1
RJF Les Rejaudoux 93.20 329 *eP* **P 05 21 55.7 -0.5**
comp=Z,65nm,0.9s,mb5.4
CAF Calviac 93.25 329 *eP* **P 05 21 56.4 -0.1**
comp=Z,56nm,1.0s,mb5.2
LFF La Frestale 93.82 330 *eP* **P 05 21 58.9 -0.2**
comp=Z,68nm,0.8s,mb5.4
MTLF Montclieu 94.42 328 *eP* **P 05 22 01.1 -0.8**
comp=Z,16nm,0.9s,mb4.8
KSU1 Kansas State U 94.93 38 *eP* **P 05 22 04.7 +0.5**
EPF Esparros 95.51 329 *eP* **P 05 22 08.6 +1.8**
comp=Z,88nm,1.5s,mb5.4
ETSF Etsaut 96.02 329 *eP* **P 05 22 08.4 -0.6**
comp=Z,16nm,0.8s,mb4.9
SJPF Ste Jean 96.13 330 *eP* **P 05 22 09.1 -0.5**
TXAR Lajitas Array 97.61 49 P **P 05 22 17.6 +0.9**
comp=Z,0.7nm,0.6s,mb4.2,baz=277,slow=2.0,SNR=14
TXAR pP pP 05 24 05.5 -5.1
comp=Z,1.1nm,0.8s,baz=284,slow=3.7,SNR=5.7
TXAR PKiKP 05 26 47.7
comp=Z,0.3nm,0.6s,baz=288,slow=2.9,SNR=3.2
KMBO Kilima Mbogo 97.68 273 P **P 05 22 17.4 +0.1**
comp=Z,2.2nm,0.8s,mb4.5,baz=37,slow=7.4,SNR=8.4
ESDC Sonseca Array 100.13 329 P P 05 22 26.5 -1.2
comp=Z,2.5nm,0.8s,baz=29,slow=3.7,SNR=7.1
MAW Mawson 112.19 203 PKiKP 05 27 12.4
comp=Z,2.0nm,0.9s,baz=348,slow=4.9,SNR=7.7
MAW PP PP 05 28 04.5 -5.4
comp=Z,2.2nm,1.0s,baz=60,slow=8.8,SNR=4.8
MAW SKP 05 30 01.0
comp=Z,1.3nm,0.7s,baz=183,slow=3.0,SNR=5.2
MAW PKKPbc 05 38 05.6
comp=Z,1.2nm,0.8s,baz=246,slow=6.5,SNR=4.7
MAW Mawson 112.19 203 *i* PKiKP PKPdf 05 27 12.4 +0.1
MAW 05 28 04.5
MAW 05 38 05.6
MAW pmax pmax
comp=Z,2.0nm,0.9s
MAW pmax pmax
comp=Z,2.0nm,1.0s

MAW				pmax	pmax		
	comp=N,1.0nm,0.7s						
MAW				pmax	pmax		
	comp=Z,1.0nm,0.8s						
DBIC	**Dimbokro**	**126.64**	**308**	PKP	PKPdf	05 27 42.5	+0.8
	comp=Z,13nm,0.8s,baz=79,slow=0.6,SNR=18						
DBIC	**Dimbokro**	**126.64**	**308**	PKIKP	PKPdf	05 27 42.5	+0.8
DBIC				pmax	pmax		
	comp=Z,13nm,0.9s						
DBIC	**Dimbokro**	**126.64**	**308**	PKP	PKPdf	05 27 42.5	+0.8
TIC	**Toumodi**	**126.77**	**308**	*e*P	PKPdf	05 27 42.6	+0.7
	comp=Z,23nm,0.2s						
SJG	**San Juan**	**126.77**	**26**	PKP	PKPdf	05 27 42.2	+0.4
	comp=Z,9.0nm,0.9s,baz=218,slow=21,SNR=4.2						
SJG	**San Juan**	**126.77**	**26**	PKIKP	PKPdf	05 27 42.2	+0.4
SJG				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KIC	**Kosan Boka**	**126.78**	**308**	*e*P	PKPdf	05 27 39.6	-2.4
	comp=Z,91nm,0.9s						
LIC	**Lamto**	**127.08**	**308**	*e*PKIKP	PKPdf	05 27 43.3	+0.8
	comp=Z,26nm,0.7s						
LIC	**Lamto**	**127.08**	**308**	*e*P	PKPdf	05 27 43.1	+0.6
	comp=Z,63nm,0.9s						
SDV	**Santo Domingo**	**132.95**	**37**	*e*PKPdf	PKPdf	05 27 55.4	+1.7
SNAA	**Sanae**	**133.72**	**197**	⇑*i*PKPdf	PKPdf	05 27 54.6	+1.0
SNAA				*e*		05 30 36.9	
ROSC	**El Rosal**	**134.23**	**44**	PKP	PKPdf	05 27 58.6	+2.6
	comp=Z,6.8nm,0.4s,baz=105,slow=17,SNR=6.6						
VNA2	**Neumayer--Watz**	**135.32**	**196**	⇓*i*PKPdf	PKPdf	05 28 00.4	+3.8
VNA2				*e*		05 30 44.4	
VNA3	**Neumayer Olymp**	**135.63**	**195**	⇓*i*PKPdf	PKPdf	05 27 59.9	+2.8
VNA3				*e*		05 30 44.7	
VNA1	**Neumayer--Stat**	**135.72**	**196**	⇓*i*PKPdf	PKPdf	05 27 59.7	+2.4
VNA1				*e*		05 30 45.4	
NNA	**Nana**	**144.55**	**65**	*e*PKPdf	PKPdf	05 28 15.3	+0.9
USHA	**Ushuaia**	**150.82**	**151**	PKP	PKPdf	05 28 25.6	+2.2
	comp=Z,5.8nm,1.0s,baz=250,slow=2.7,SNR=3.5						
USHA				PKPbc	PKPdf	05 28 32.2	+8.8
	comp=Z,38nm,0.7s,baz=188,slow=2.3,SNR=52						
ARE	**Arequipa**	**151.37**	**66**	*e*P	PKPdf	05 28 35.0	+10
SAML	**Samuel**	**151.85**	**42**	*e*PKPdf	PKPdf	05 28 27.9	+1.8
SAML				*e*PKPbc	PKPdf	05 28 34.5	+8.4
SAML				*e*PKPab	PKPab	05 28 45.1	-1.8
LPAZ	**La Paz**	**153.84**	**61**	PKP	PKPdf	05 28 32.0	+3.3
	comp=Z,2.0nm,0.8s,baz=342,slow=3.0,SNR=8.6						
LPAZ				PKPbc	PKPdf	05 28 40.2	+12
	comp=Z,2.1nm,0.4s,baz=16,slow=5.3,SNR=16						
LPAZ				PKPab	PKPab	05 28 54.9	-0.3
	comp=Z,4.2nm,1.1s,baz=55,slow=2.2,SNR=5.8						
LPAZ	**La Paz**	**153.84**	**61**	PKIKP	PKPdf	05 28 32.0	+3.3
LPAZ						05 28 54.9	
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.4s						
LPAZ				pmax	pmax		
	comp=Z,4.0nm,1.1s						
LPAZ	**La Paz**	**153.84**	**61**	*e*PKPdf	PKPdf	05 28 31.5	+2.8
LPAZ				*e*PKPbc	PKPdf	05 28 40.3	+12
LPAZ				*e*PKPab	PKPab	05 28 54.9	-0.3
BDFB	**Brasilia**	**164.22**	**13**	PKP	PKPdf	05 28 41.9	+1.3
	comp=Z,6.2nm,0.8s,baz=325,slow=3.6,SNR=8.0						
BDFB				PKPab	PKPab	05 29 39.5	-0.4
	comp=Z,6.7nm,0.8s,baz=315,slow=1.2,SNR=7.1						
BDFB	**Brasilia**	**164.22**	**13**	PKIKP	PKPdf	05 28 41.9	+1.3
BDFB						05 29 39.5	
BDFB				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BDFB				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CPUP	**Villa Florida**	**167.73**	**70**	PKP	PKPdf	05 28 45.3	+2.2
	comp=Z,3.7nm,1.2s,baz=27,slow=6.9,SNR=4.2						
CPUP	**Villa Florida**	**167.73**	**70**	PKIKP	PKPdf	05 28 45.3	+2.2
CPUP				pmax	pmax		
	comp=Z,4.0nm,1.2s						
CPUP	**Villa Florida**	**167.73**	**70**	*e*PKPdf	PKPdf	05 28 44.9	+1.7

CASC 11 05:29:42.6±3.2**, 10.90N**×**86.79W, h36**km±21km**, MD4.2, 6C-6D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRUN	**El Crucero**	**1.18**	**24**	⇓*e*P	P	05 30 03.6	+0.7
APON	**Apoyo**	**1.24**	**35**	⇓*e*P	P	05 30 04.2	+0.6
TICN	**Ticuantepe**	**1.25**	**26**	*e*P	P	05 30 04.0	+0.1
COPN	**Copaltepe**	**1.29**	**9**	⇓*e*P	P	05 30 04.5	+0.1
COPN				*e*S	S	05 30 18.7	-2.1
XAVN	**Gruta Xavier**	**1.32**	**20**	⇓*e*P	P	05 30 05.4	+0.5
MGAN	**Managua**	**1.35**	**23**	⇑*e*P	P	05 30 05.5	+0.1
MGAN				*e*S	S	05 30 21.1	-1.2
VCR	**Vista de Mar**	**1.37**	**124**	*e*P	P	05 30 03.1	-2.5
WILN	**Americas 2**	**1.39**	**25**	*e*P	P	05 30 05.3	-0.6
WILN				*e*S	S	05 30 22.6	-0.6
APYN	**Apoyeque**	**1.40**	**18**	*e*P	P	05 30 06.3	+0.3
LEON	**Leon**	**1.51**	**356**	⇑*e*P	P	05 30 07.5	-0.2
MIRN	**Miramar**	**1.54**	**3**	⇑*e*P	P	05 30 08.0	0.0
CNGN	**Cerro Negro**	**1.60**	**3**	⇑*e*P	P	05 30 08.4	-0.4
PYTN	**Playitas**	**1.78**	**24**	*e*P	P	05 30 11.3	-0.1
JCR	**Jicaral**	**1.95**	**122**	⇑*e*P	P	05 30 11.4	-2.4
JCR				*i* P		05 30 11.5	
JCR				*e*S	S	05 30 34.6	-2.7
FORC	**Fortuna**	**2.12**	**101**	*e*P	P	05 30 19.4	+3.1
CGA2	**Cerro Gallo 2**	**2.44**	**111**	*e*P	P	05 30 18.7	-2.3
PRS1	**Puriscal**	**2.60**	**110**	*e*P	P	05 30 23.9	+0.8
LAJ	**Bijagual**	**2.82**	**111**	⇓*e*P	P	05 30 21.6	-4.7
LCR2	**La Lucha 2**	**2.97**	**112**	*e*P	P	05 30 28.3	-0.1
TRTC	**Tortuguero**	**3.04**	**96**	*e*P	P	05 30 29.2	-0.2
ICR	**Volcan Irazu**	**3.05**	**107**	⇑*e*P	P	05 30 31.0	+1.4
URSC	**Urasca**	**3.14**	**109**	*e*P	P	05 30 31.6	+0.7
BUS	**Buena Vista**	**3.27**	**114**	⇓*e*P	P	05 30 32.1	-0.5

IDC 11 06:01:28.2±4.5**, 22.94S**×**177.80W, mb3.8**/4**, mb1 4.1**/4**, mb1mx3.9**/12**, Error ellipse: s-maj=269.0km s-min=32.1km az=157.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.19**	**259**	P	P	06 09 38.6	-2.3
	0.4nm,0.6s,baz=93,slow=7.9,SNR=6.4						
WRA	**Warramunga Arr**	**44.50**	**264**	P	P	06 09 42.0	-1.4
	1.2nm,1.2s,baz=101,slow=6.9,SNR=5.0						
NVAR	**Mina Array Bea**	**82.67**	**43**	P	P	06 13 54.0	-1.0
	0.7nm,0.9s,baz=233,slow=9.0,SNR=2.9						
CMAR	**Chiang Mai Arr**	**91.10**	**289**	P	P	06 14 35.4	-1.2
	0.7nm,0.5s,baz=131,slow=4.3,SNR=4.4						

CASC 11 06:01:40.9±3.9**, 7.33N**×**80.58W, h1**km±30km**, MD4.1, 1C-1D, Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AZU	**Azuero**	**0.55**	**33**	⇓*i*P	Pg	06 01 52.9	+1.0
AZU				*e*S	Sg	06 02 00.6	+1.4
UPA	**Univ. de Panam**	**1.94**	**32**	⇑*e*P	Pn	06 02 17.2	+1.9
UPA				*e*S	Sn	06 02 40.3	-0.4
DVD	**David**	**2.16**	**301**	*e*P	Pn	06 02 15.2	-3.3
DVD				*e*S	Sn	06 02 45.8	-0.4
BUS	**Buena Vista**	**3.85**	**305**	*e*P	Pn	06 02 44.4	+1.8
BUS				*e*S	Sn	06 03 30.8	+1.7
URSC	**Urasca**	**4.03**	**308**	*e*P	Pn	06 02 43.1	-2.0
URSC				*e*S	Sn	06 03 34.1	+0.5
LCR2	**La Lucha 2**	**4.15**	**305**	*e*P	Pn	06 02 47.1	+0.2
LCR2				*e*S	Sn	06 03 39.4	+2.6
ICR	**Volcan Irazu**	**4.16**	**310**	*e*P	Pn	06 02 47.4	+0.5
PRS1	**Puriscal**	**4.54**	**306**	*e*P	Pn	06 02 50.5	-1.9

*BJI **11** 06:37:11.8, 5.18N×126.44E, h42km, mB5.6, mb5.5, Ms5.3, Msz5.2*

*MOS **11** 06:37:12.2±1.2, 5.37N×126.37E, h33km, mb5.8/20, MS5.2/25, Error ellipse: s-maj=16.4km s-min=7.2km az=111.4*

*SYO **11** 06:37:12.5, 5.40N×126.46E, h24km, MB5.4, MS5.2*

*HRVD **11** 06:37:13.3±0.2, 5.37N×126.59E, h27km, MW5.8/79, Centroid moment Tensor Solution. LP body waves: s72,c138;Mantle waves: s79,c171; Half duration: 1s9 Moment tensor: Scale 10^17Nm; Mrr2.06±.07; Mθθ1.73±.06; Mφφ-3.78±.06; Mrθ3.14±.12; Mθφ-0.77±.05; Mφr3.16±.12; Best double couple: Mo5.58×10^17 NP1:φs153°,δ30°,λ26°. NP2:φs40°,δ77°,λ118°. Principal axes: T 5.42, Plg50°, Azm341°; N .32, Plg27°, Azm213°; P -5.74, Plg27°, Azm108°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **11** 06:37:13.3±2.1, 5.39N×126.44E, h30km±14km, mb5.5/57, MS5.2/121, MW5.6 Error ellipse: s-maj=6.4km s-min=4.5km az=80.0, Moment Tensor Solution. s23 Moment tensor: Scale 10^17Nm; Mrr0.89; Mθθ-0.02; Mφφ-0.88; Mrθ1.79; Mθφ-0.45; Mφr1.38; Best double couple: Mo2.5×10^17 NP1:φs180°,δ16°,λ42°. NP2:φs49°, δ80°,λ102°. Principal axes: T 2.5, Plg54°, Azm334°; N -.07, Plg12°, Azm227°; P -2.43, Plg33°, Azm129°;*

NEIC Felt [II PIVS] at Nabunturan and [I PIVS] at General Santos.

*IDC **11** 06:37:14.1±1.0, 5.42N×126.50E, h40km±7km, mb5.0/26, mb1 5.1/26, mb1mx5.1/27, MS4.8/17, Ms1 4.8/17, ms1mx4.7/23 Error ellipse: s-maj=12.7km s-min=6.5km az=78.0*

*CSEM **11** 06:37:15.5, 5.95N×125.90E, h33km, mb5.6*

*MAN **11** 06:37:16.0, 5.38N×126.43E, h32km, mb6.0, ML5.1, MS5.7*

MAN Nabunturan Compostela Valley Intensity II General Santos Intensity I.

ISC 11 06:37:10.2±0.2**, 5.29N**±0.02×**126.57E**±0.03**, h23**km±1.6km**: pP-P, n485,** σ**1s38**/351**, mb5.5**/108**, MS5.1**/169**, 46C-24D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	**Mati**	**1.67**	**349**	*e*P	**Pn**	**06 37 41.8**	**+3.2**
GSPH	**General Santos**	**1.80**	**296**	⇓*i*P	**Pn**	**06 37 39.0**	**-1.4**
DAV	**Davao City (W)**	**2.02**	**331**	⇓*e*P	**Pn**	**06 37 46.0**	**+2.4**
DMPH	**Davao City--Mi**	**2.07**	**329**	⇓*i*P	**Pn**	**06 37 48.3**	**+4.0**
DMPH				*i* S	**Sn**	**06 38 21.8**	**+12**
KCP	**Kidapawan**	**2.26**	**319**	⇓*e*P	**Pn**	**06 37 51.0**	**+4.1**
KCP				*i* S	**Sn**	**06 38 22.0**	**+7.7**
BIPH	**Bislig**	**2.88**	**356**	⇑*e*P	**Pn**	**06 37 58.8**	**+3.0**
BIPH				*e*S	**Sn**	**06 38 33.0**	**+2.8**
BUKP	**Musuan**	**2.98**	**330**	*e*P	**Pn**	**06 37 59.3**	**+2.1**
CTBH	**Cotabato--PC H**	**3.00**	**310**	⇑*e*P	**Pn**	**06 37 59.3**	**+1.7**
CTBH				*i* S	**Sn**	**06 38 38.7**	**+5.4**
CGP	**Cagayan de Oro**	**3.66**	**329**	⇓*e*P	**Pn**	**06 38 10.0**	**+3.2**
CGP				*e*S	**Sn**	**06 39 00.2**	**+10**
BUTP	**Butuan**	**3.77**	**346**	*e*P	**Pn**	**06 38 12.2**	**+3.7**
PAGZ	**Pagadian**	**4.06**	**309**	*e*P	**Pn**	**06 38 13.4**	**+0.7**
DCPH	**Dipolog City**	**4.57**	**316**	⇓*e*P	**Pn**	**06 38 23.0**	**+3.1**
SCPH	**Surigao**	**4.59**	**347**	*e*P	**Pn**	**06 38 22.8**	**+2.7**
SCPH				*e*S	**Sn**	**06 39 21.2**	**+7.8**
MSLP	**Maasin**	**5.10**	**341**	*e*P	**Pn**	**06 38 29.6**	**+2.2**
TBP	**Tagbilaran**	**5.13**	**329**	⇑*e*P	**Pn**	**06 38 29.4**	**+1.6**
TBP				*e*S	**Sn**	**06 39 33.0**	**+5.9**
SNPH	**Sibulan**	**5.21**	**321**	*e*P	**Pn**	**06 38 32.0**	**+3.1**
LLP	**Lapu-Lapu**	**5.62**	**333**	⇑*e*P	**Pn**	**06 38 37.4**	**+2.8**
LLP				*e*S	**Sn**	**06 39 38.9**	**-0.4**
OCLP	**Ormoc**	**6.04**	**341**	*e*P	**Pn**	**06 38 45.3**	**+4.7**
PLP	**Palo**	**6.04**	**345**	*i* P	**Pn**	**06 38 43.6**	**+2.9**
PLP				*i* S	**Sn**	**06 39 51.4**	**+1.4**
BESP	**Borongan**	**6.37**	**350**	*e*P	**Pn**	**06 38 48.7**	**+3.5**
GUIM	**Jordan**	**6.61**	**324**	*e*P	**Pn**	**06 38 53.2**	**+4.6**
AAP	**Anini-y**	**6.86**	**318**	*e*P	**Pn**	**06 38 53.0**	**+0.9**
RCP	**Roxas**	**7.29**	**329**	*e*P	**Pn**	**06 38 59.9**	**+1.8**
CNP	**Catarman**	**7.42**	**345**	*e*P	**Pn**	**06 39 03.8**	**+3.9**
KALP	**Kalibo**	**7.60**	**327**	*e*P	**Pn**	**06 39 03.5**	**+1.0**
CUYO	**Cuyo Island**	**7.79**	**315**	*e*P	**Pn**	**06 39 08.1**	**+2.9**
OTRP	**Odiongan**	**8.34**	**328**	*e*P	**P**	**06 39 17.5**	**+4.7**
PVCP	**Virac**	**8.59**	**344**	*e*P	**P**	**06 39 19.6**	**+3.4**
SJMP	**San Jose**	**8.93**	**323**	*e*P	**P**	**06 39 13.4**	**-7.6**
PPR	**Puerto Princes**	**8.96**	**300**	*e*P	**P**	**06 39 22.6**	**+1.2**
BUSP	**Coron**	**9.17**	**317**	*e*P	**P**	**06 39 17.1**	**-7.3**
BOAC	**Boac**	**9.36**	**330**	*e*P	**P**	**06 39 33.3**	**+6.4**
BATP	**Bataraza**	**9.38**	**292**	*e*P	**P**	**06 39 31.5**	**+4.3**
GQP	**Guinayangan**	**9.48**	**335**	⇓*i*P	**P**	**06 39 33.5**	**+5.0**
LQP	**Lukban**	**10.07**	**331**	⇑*e*P	**P**	**06 39 43.2**	**+6.4**
KKM	**Kota Kinabalu**	**10.34**	**275**	⇓*e*P	**P**	**06 39 42.7**	**+2.2**
	58nm,0.7s						
PCPH	**Palayan**	**11.54**	**333**	⇓*e*P	**P**	**06 40 02.0**	**+5.2**
SCZP	**Santa Cruz**	**12.30**	**328**	*e*P	**P**	**06 40 15.1**	**+8.0**
CAUP	**Cauayan**	**12.48**	**338**	*e*P	**P**	**06 40 11.4**	**+1.8**
CVP	**Callao Caves**	**13.18**	**340**	*e*P	**P**	**06 40 22.0**	**+3.2**
PIP	**Pasuquin**	**14.20**	**336**	⇑*e*P	**P**	**06 40 37.7**	**+5.3**
BBP	**Basco**	**15.71**	**344**	*e*P	**P**	**06 40 55.6**	**+3.5**
KEDI	**Kedomdong**	**17.21**	**217**	⇑*e*P	**P**	**06 41 13.2**	**+2.1**
RATI	**Rata**	**17.75**	**218**	⇑*e*P	**P**	**06 41 20.5**	**+2.7**
KELI	**Kelakatan**	**18.04**	**222**	⇑*i*P	**P**	**06 41 30.5**	**+9.1**
	255nm,0.4s						
SRDI	**Scrawed**	**18.46**	**222**	⇓*e*P	**P**	**06 41 31.6**	**+4.9**
GUMO	**Guam**	**19.83**	**64**	*e*P	**P**	**06 41 41.4**	**-1.1**
	284nm,1.2s						
TATO	**Taipei**	**20.17**	**347**	P	**P**	**06 41 44.1**	**-2.0**
	63nm,0.5s						
TATO				LR	LR		
	comp=Z,3μm,21.0s,MS4.7						
QZH	**Quanzhou**	**20.99**	**339**	⇑*i*P	**P**	**06 41 53.5**	**-1.1**
QZH				S	**S**	**06 45 43.5**	**+1.1**
QZH				AMB	AMB		
	comp=Z,220nm,1.0s						
QZH				AMB	AMB		
	comp=Z,2μm,3.8s						
QZH				LR	LR		
	comp=N,13μm,28.6s						
QZH				LR	LR		
	comp=E,4μm,13.9s						
QZH				LR	LR		
	comp=Z,19μm,26.5s,MS5.3						
QIZ	**Qiongzhong**	**21.27**	**311**	P	**P**	**06 41 57.0**	**-0.5**
QIZ				XP		06 42 10.2	
QIZ				S	**S**	**06 45 51.6**	**+3.8**
QIZ				AMB	AMB		
	comp=Z,1μm,6.1s						
QIZ				LR	LR		
	comp=E,5μm,19.2s						
QIZ				LR	LR		
	comp=Z,9μm,23.0s,MS5.1						
QIZ	**Qiongzhong**	**21.27**	**311**	*e*P	**P**	**06 41 56.7**	**-0.8**
	comp=Z,70nm,0.9s,mb5.0						
QIZ				LR	LR		
	comp=Z,9μm,21.0s,MS5.1						
JOW	**Kunigami**	**21.48**	**4**	P	**P**	**06 41 57.5**	**-2.0**
	comp=Z,33nm,0.9s,mb4.7,baz=155,slow=17,SNR=2.6						
JOW				S	**S**	**06 45 50.8**	**-0.9**
	comp=Z,2.4nm,0.3s,baz=333,slow=26,SNR=2.0						
JOW				LR	LR	06 50 01.1	
	comp=Z,6μm,19.9s,MS5.0,baz=124,slow=36						
GZH	**Guangzhou**	**21.82**	**325**	P	**P**	**06 42 05.1**	**+2.2**
GZH				AMB	AMB		
	comp=Z,2μm,4.9s						
GZH				LR	LR		
	comp=N,4μm,18.2s,MS5.0						
GZH				LR	LR		
	comp=E,3μm,18.0s,MS5.0						
GZH				LR	LR		
	comp=Z,7μm,18.1s,MS5.1						
FITZ	**Fitzroy Crossi**	**23.26**	**182**	P	**P**	**06 42 18.1**	**+0.8**
	comp=Z,112nm,0.9s,mb5.3,baz=10,slow=8.9,SNR=99						
FITZ				S	**S**	**06 46 27.5**	**+3.3**
	comp=Z,24nm,0.8s,baz=185,slow=18,SNR=3.5						
FITZ				ScP		06 49 40.7	
	comp=Z,14nm,0.9s,baz=14,slow=1.7,SNR=4.3						
FITZ				ScS	ScS	06 53 26.3	0.0
	comp=Z,1.8nm,1.0s,baz=5.7,slow=23,SNR=3.0						
PENI	**Pendagan**	**23.94**	**244**	⇑*e*P	**P**	**06 42 28.3**	**+4.4**
PASI	**Pasiripis**	**24.09**	**241**	⇓*i*P	**P**	**06 42 25.7**	**+0.3**
PMG	**Port Moresby**	**25.18**	**125**	P	**P**	**06 42 36.5**	**+0.7**
	comp=Z,25nm,1.0s,mb4.7,baz=322,slow=5.3,SNR=5.0						
PMG				LR	LR	06 52 10.2	
	comp=Z,4μm,21.7s,MS4.8,baz=283,slow=35						
PMG	**Port Moresby**	**25.18**	**125**	*e*P	**P**	**06 42 36.3**	**+0.4**
	comp=Z,18nm,0.8s,mb4.7						
IPM	**Ipoh**	**25.46**	**270**	⇓*e*P	**P**	**06 42 39.0**	**+0.4**
	comp=Z,25nm,0.7s,mb4.8						
KKTK	**Khon Kaen**	**25.75**	**297**	P	**P**	**06 42 43.0**	**+1.8**
KKTK				S	Px	06 43 08.0	
SSE	**Sheshan**	**26.16**	**349**	P	**P**	**06 42 45.6**	**+0.7**
SSE				PCP	PcP	06 46 12.5	+0.1
SSE				S	**S**	**06 47 17.3**	**+4.1**
SSE				XS		06 47 27.5	
SSE				PCS		06 49 53.4	
SSE				AMB	AMB		
	comp=Z,70nm,1.2s,mb5.1						
SSE				AMB	AMB		
	comp=Z,1μm,4.6s						
SSE				LR	LR		
	comp=N,2μm,20.7s,MS4.8						
SSE				LR	LR		
	comp=E,2μm,20.7s,MS4.8						
SSE				LR	LR		
	comp=Z,2μm,19.5s,MS4.8						
WRAB	**Tennant Creek**	**26.21**	**163**	P	**P**	**06 42 46.6**	**+1.2**
	comp=Z,2μm,0.7s,SNR=44						
WRAB	**Tennant Creek**	**26.21**	**163**	*e*P	**P**	**06 42 45.3**	**-0.1**
	comp=Z,387nm,0.9s,mb5.9						
WRAB				*e*ScP		06 49 50.1	
WRAB				LR	LR		
	comp=Z,1μm,21.0s,MS4.5						
WRA	**Warramunga Arr**	**26.21**	**163**	P	**P**	**06 42 45.8**	**+0.3**
	comp=Z,164nm,0.9s,mb5.6,baz=344,slow=9.9,SNR=64						
WRA				PcP	PcP	06 46 13.1	+0.5
	comp=Z,8.3nm,1.0s,baz=352,slow=2.5,SNR=3.8						
WRA				S	**S**	**06 47 16.3**	**+2.2**
	comp=Z,9.4nm,1.1s,baz=324,slow=15,SNR=2.9						
WRA				ScP		06 49 49.5	
	comp=Z,24nm,0.8s,baz=341,slow=3.4,SNR=21						
WRA				ScS	ScS	06 53 35.6	-2.6
	comp=Z,4.6nm,1.0s,baz=315,slow=4.2,SNR=5.3						
WRA				P3KPbc		07 15 32.8	
	comp=Z,1.9nm,0.8s,baz=166,slow=4.2,SNR=8.9						
WRA	**Warramunga Arr**	**26.21**	**163**	P	**P**	**06 42 45.8**	**+0.3**
WRA				PCP	PcP	06 46 13.1	+0.5
WRA				S	**S**	**06 47 16.3**	**+2.2**
WRA				SS	ScS	06 53 35.6	-2.6
WRA	**Warramunga Arr**	**26.21**	**163**	P	**P**	**06 42 45.8**	**+0.3**
WRA				PcP	PcP	06 46 13.1	+0.5
WRA				S	**S**	**06 47 16.3**	**+2.2**
WRA				ScP		06 49 49.5	
WRA				ScS	ScS	06 53 35.6	-2.6
WRA				*e*		07 15 32.8	
CBIJ	**Chichi jima**	**26.30**	**33**	P	**P**	**06 42 44.4**	**-1.8**
	comp=Z,710nm,1.1s,mb6.1,baz=266,slow=2.1,SNR=18						
CBIJ				S	**S**	**06 47 15.3**	**-0.2**
	comp=Z,55nm,0.7s,baz=282,slow=22,SNR=2.3						
CBIJ				LR	LR	06 53 18.2	
	comp=Z,1μm,18.7s,MS4.5,baz=14,slow=37						
MBWA	**Marble Bar**	**27.13**	**194**	*e*P	**P**	**06 42 53.8**	**-0.1**
	comp=Z,77nm,0.9s,mb5.2						
MBWA				LR	LR		
	comp=Z,1μm,19.0s,MS4.5						
MRPI	**Mariponipon**	**27.45**	**263**	⇓*i*P	**P**	**06 42 57.3**	**+0.5**
NJ2	**Nanjing**	**27.59**	**346**	*e*P	**P**	**06 42 58.7**	**+0.8**
NJ2				AP	pP	06 43 05.0	+0.4
NJ2				PP	PP	06 43 47.3	+1.0
NJ2				S	**S**	**06 47 38.0**	**+1.6**
NJ2				SS	SS	06 48 58.0	+2.6
NJ2				AMB	AMB		
	comp=Z,180nm,1.2s,mb5.6						
NJ2				AMB	AMB		
	comp=Z,2μm,7.0s						
NJ2				LR	LR		
	comp=N,4μm,23.3s,MS5.4						
NJ2				LR	LR		
	comp=E,11μm,24.9s,MS5.4						
NJ2				LR	LR		
	comp=Z,5μm,23.4s,MS5.0						
WHN	**Wuhan**	**27.63**	**337**	P	**P**	**06 42 58.0**	**-0.3**
WHN				S	**S**	**06 47 43.0**	**+5.9**
WHN				SCP		06 49 52.5	
WHN				AMB	AMB		
	comp=Z,606nm,7.0s						
WHN				LR	LR		
	comp=N,3μm,15.0s						
WHN				LR	LR		
	comp=Z,18μm,23.5s						
NST	**Nakhon Sawan**	**27.93**	**294**	P	**P**	**06 43 02.0**	**+0.8**
	comp=Z,108nm,1.0s,mb5.4						
AEKI	**Aeknabara**	**28.24**	**265**	⇑*i*P	**P**	**06 43 04.0**	**0.0**
	comp=Z,55nm,0.3s,mb5.7						
GYA	**Guiyang**	**28.37**	**320**	⇑*i*P	**P**	**06 43 04.5**	**-0.5**
GYA				AP	pP	06 43 10.6	-1.1
GYA				XS		06 48 09.2	
GYA				LR	LR		
	comp=N,4μm,18.8s,MS5.2						
GYA				LR	LR		
	comp=E,4μm,20.6s,MS5.2						
GYA				LR	LR		
	comp=Z,7μm,20.0s,MS5.3						
BDT	**Bhumibol Dam**	**29.48**	**296**	P	pP	06 43 27.0	+5.2
ENH	**Enshi**	**29.61**	**329**	*e*P	**P**	**06 43 14.4**	**-1.8**
	comp=Z,68nm,0.8s,mb5.4						
ENH				*e*ScP		06 49 58.5	
ENH				LR	LR		
	comp=Z,7μm,20.0s,MS5.3						
ASAR	**Alice Springs**	**29.66**	**166**	P	**P**	**06 43 16.8**	**+0.1**
	comp=Z,26nm,0.7s,mb5.0,baz=342,slow=6.3,SNR=79						
ASAR				PcP	PcP	06 46 20.7	-0.2
	comp=Z,7.1nm,0.6s,baz=352,slow=2.2,SNR=4.6						
ASAR				S	**S**	**06 48 14.3**	**+4.7**
	comp=Z,1.5nm,0.7s,baz=173,slow=37,SNR=2.7						
ASAR				ScP		06 49 59.6	
	comp=Z,26nm,0.9s,baz=353,slow=3.0,SNR=18						
ASAR				ScS	ScS	06 53 51.5	-2.1
	comp=Z,1.3nm,0.9s,baz=190,slow=31,SNR=3.5						
ASAR				P3KPbc		07 15 18.1	
	comp=Z,1.2nm,0.6s,baz=166,slow=4.0,SNR=11						
ASAR	**Alice Springs**	**29.66**	**166**	P	**P**	**06 43 16.8**	**+0.1**
ASAR				PcP	PcP	06 46 20.8	-0.2
ASAR				S	**S**	**06 48 14.3**	**+4.7**
ASAR				ScP		06 49 59.6	
ASAR				ScS	ScS	06 53 51.5	-2.1
ASAR				*e*		07 15 18.1	
CM31	**Chiang Mai Arr**	**29.98**	**298**	*e*P	**P**	**06 43 18.5**	**-1.1**
	comp=Z,16nm,0.6s,mb4.9						
CM31				*e*ScP		06 50 02.2	
CM31				LR	LR		
	comp=Z,4μm,19.0s,MS5.0						
CMAR	**Chiang Mai Arr**	**29.98**	**298**	P	**P**	**06 43 18.3**	**-1.3**
	comp=Z,12nm,0.7s,mb4.7,baz=114,slow=6.7,SNR=37						
CMAR				PcP	PcP	06 46 22.5	+0.7
	comp=Z,12nm,1.1s,baz=277,slow=0.2,SNR=5.0						
CMAR				S	**S**	**06 48 14.7**	**0.0**
	comp=Z,0.8nm,0.3s,baz=233,slow=29,SNR=2.0						
CMAR				ScP		06 50 01.1	
	comp=Z,35nm,1.1s,baz=124,slow=1.4,SNR=31						
CMAR				ScS	ScS	06 53 55.1	-0.1
	comp=Z,0.6nm,0.4s,baz=303,slow=2.9,SNR=4.0						
CMAR				LR	LR	06 55 37.1	
	comp=Z,4μm,18.4s,MS5.0,baz=110,slow=37						
KMI	**Kunming**	**30.19**	**313**	⇑*e*P	**P**	**06 43 21.4**	**0.0**
KMI				AP	pP	06 43 27.5	-0.5
KMI				PP	PP	06 44 19.6	-0.6
KMI				PCP	PcP	06 46 23.6	+1.3
KMI				S	**S**	**06 48 17.1**	**-0.9**
KMI				SS	SS	06 49 57.1	+0.4
KMI				AMB	AMB		
	comp=Z,48nm,1.1s,mb5.1						
KMI				AMB	AMB		
	comp=Z,319nm,3.6s						
KMI				LR	LR		
	comp=N,3μm,20.0s,MS5.2						
KMI				LR	LR		
	comp=E,4μm,18.7s,MS5.2						
KMI				LR	LR		
	comp=Z,7μm,26.1s						
CTAO	**Charters Tower**	**31.79**	**143**	*e*P	**P**	**06 43 37.4**	**+1.9**
	comp=Z,76nm,1.0s,mb5.5						
CTAO				LR	LR		
	comp=Z,2μm,20.0s,MS4.8						
TIA	**Tai’an**	**31.97**	**345**	⇑P	**P**	**06 43 36.0**	**-1.0**
TIA				S	**S**	**06 48 44.2**	**-1.7**
TIA				LR	LR		
	comp=N,2μm,22.0s,MS5.0						
TIA				LR	LR		
	comp=E,3μm,21.0s,MS5.0						
KS15	**Wonju Array Si**	**32.02**	**2**	*e*P	**P**	**06 43 37.6**	**+0.3**
INCN	**Inchon**	**32.04**	**0**	*e*P	**P**	**06 43 37.1**	**-0.5**
	comp=E,49nm,0.6s,mb5.5						
INCN				LR	LR		
	comp=Z,3μm,19.0s,MS5.0						
MAJO	**Matsushiro**	**32.88**	**17**	*e*P	**P**	**06 43 42.0**	**-2.9**
	comp=Z,36nm,1.1s,mb5.2						
MAJO				LR	LR		
	comp=Z,3μm,22.0s,MS5.0						
MAT	**Matsushiro**	**32.88**	**17**	P	**P**	**06 43 43.0**	**-1.9**
MAT				S	**S**	**06 48 59.0**	**-1.1**
MAT	**Matsushiro**	**32.88**	**17**	*e*P	**P**	**06 43 43.0**	**-1.9**
	comp=Z,20nm,1.0s,mb5.0						
MAT				*e*S	**S**	**06 48 49.0**	**-11**
MAT				LR	LR		
	comp=Z,3μm,21.0s,MS5.0						
XAN	**Xi’an**	**32.96**	**332**	P	**P**	**06 43 43.7**	**-1.9**

XAN AP pP 06 43 55.2 +2.9
XAN S **S** **06 48 58.9 -2.5**
XAN XS 06 49 19.1
XAN AMB AMB
comp=Z,132nm,2.3s,mb5.5
XAN LR LR
comp=N,3μm,29.4s
XAN LR LR
comp=E,2μm,23.4s
XAN LR LR
comp=Z,7μm,28.0s,MS5.2
CD2 Chengdu 33.31 323⇑*iP* **P** **06 43 47.1 -1.5**
CD2 AP pP 06 43 55.8 +0.5
CD2 PP PP 06 44 59.7 -0.7
CD2 S **S** **06 49 03.4 -3.3**
CD2 AMB AMB
comp=Z,60nm,1.1s,mb5.4
CD2 LR LR
comp=N,4μm,20.4s
CD2 LR LR
comp=Z,3μm,18.0s,MS5.0
DL2 Dalian 33.76 353 P **P** **06 43 52.0 -0.5**
DL2 *eS* **S** **06 49 16.5 +2.8**
DL2 AMB AMB
comp=Z,150nm,0.7s,mb6.0
DL2 AMB AMB
comp=Z,530nm,4.3s
DL2 LR LR
comp=E,1μm,23.8s
COCO West Island 34.29 239 PFAKE 06 44 10.0 +13
COCO LR LR
comp=Z,524nm,21.0s,MS4.2
BJT Baijiatuau 35.82 346⇑*eP* **P** **06 44 09.6 -0.5**
comp=Z,151nm,0.6s,mb6.1
BJT *e*ScP 06 50 21.0
BJT LR LR
comp=Z,2μm,19.0s,MS5.0
BJI Beijing 35.84 346 P **P** **06 44 10.3 0.0**
BJI PCP PcP 06 46 39.7 +1.9
BJI S **S** **06 49 41.2 -4.7**
BJI SCP 06 50 20.7
BJI PCS 06 50 26.5
BJI LR LR
comp=N,1μm,25.5s,MS4.9
BJI LR LR
comp=E,2μm,23.4s,MS4.9
BJI LR LR
comp=Z,2μm,26.1s,MS4.8
SNY Shenyang 36.48 356 ⇑P **P** **06 44 16.9 +1.3**
SNY AP pP 06 44 26.8 +4.4
SNY XP *s*P 06 44 30.6 +5.4
SNY S **S** **06 49 55.6 0.0**
SNY SS SS 06 52 21.7 0.0
SNY LR LR
comp=E,2μm,27.8s
SNY LR LR
comp=Z,2μm,18.4s
LZH Lanzhou 37.09 329 ⇑P **P** **06 44 21.1 +0.3**
LZH AP pP 06 44 27.1 -0.5
LZH PP PP 06 45 47.6 -0.1
LZH PCP PcP 06 46 42.1 +0.6
LZH S **S** **06 50 03.2 -1.9**
LZH SS SS 06 52 32.3 -3.1
LZH SCS ScS 06 54 32.5 +0.5
LZH AMB AMB
comp=Z,271nm,1.4s,mb5.9
LZH AMB AMB
comp=Z,789nm,5.5s
LZH LR LR
comp=N,4μm,13.0s
LZH LR LR
comp=Z,5μm,15.3s,MS5.5
HHC Hu-ho-hao-te 37.88 341⇑*iP* **P** **06 44 27.6 +0.2**
HHC PP PP 06 46 02.3 +5.2
HHC PCP PcP 06 46 38.6 -5.3
HHC S **S** **06 50 18.5 +1.4**
HHC SCP 06 50 28.4
HHC PCS 06 50 33.2
HHC SS SS 06 52 51.5 -1.9
HHC SCS ScS 06 54 37.0 +0.6
HHC AMB AMB
comp=Z,116nm,1.0s,mb5.6
HHC AMB AMB
comp=Z,1μm,5.0s
HHC LR LR
comp=N,877nm,16.7s,MS4.7
HHC LR LR
comp=E,776nm,19.2s,MS4.7
HHC LR LR
comp=Z,1μm,17.0s,MS4.7
VLA Vladivostok 37.96 6⇓*iP* **P** **06 44 30.0 +1.9**
VLA *i* 06 46 42.0
VLA *i*S **S** **06 50 17.0 -1.4**
VLA *i* 06 54 40.0
VLA pmax pmax
comp=Z,500nm,8.0s
VLA pmax pmax
comp=N,1μm,7.0s
VLA pmax pmax
comp=E,3μm,7.0s
VLA smax
comp=E,2μm,5.0s
VLA smax
comp=Z,400nm,8.0s
VLA smax
comp=N,900nm,7.0s
BTO Baotou 38.17 339 *eP* **P** **06 44 28.0 -1.9**
BTO S **S** **06 50 17.9 -3.6**
BTO AMB AMB
comp=Z,52nm,0.8s,mb5.3
BTO LR LR
comp=N,741nm,8.6s
BTO LR LR
comp=E,2μm,25.3s
CN2 Changchun 38.37 359 *eP* **P** **06 44 31.7 +0.2**
CN2 *eS* **S** **06 50 24.5 +0.1**
CN2 *eSS* SS 06 53 04.9 +0.7
CN2 AMB AMB
comp=Z,20nm,0.7s,mb5.0
CN2 AMB AMB
comp=Z,660nm,7.0s
CN2 LR LR
comp=N,1μm,18.0s,MS5.2
CN2 LR LR
comp=E,3μm,18.0s,MS5.2
CN2 LR LR
comp=Z,1μm,21.0s,MS4.8
AGT Agartala 38.69 302 *eP* **P** **06 44 35.0 +0.7**
SHL Shillong 38.84 305 *eP* **P** **06 44 35.0 -0.7**
SHL *e* 06 50 27.0
NWAO Narrogin (SRO) 39.03 193 *eP* **P** **06 44 37.7 +0.6**
comp=Z,40nm,0.6s,mb5.3
NWAO LR LR
comp=Z,1μm,19.0s,MS4.8
MDJ Mudanjiang 39.26 3 P **P** **06 44 39.6 +0.7**
MDJ AP pP 06 44 45.8 +0.1
MDJ PCP PcP 06 46 46.2 -2.0
MDJ S **S** **06 50 39.6 +1.7**
MDJ SCS ScS 06 54 44.7 +0.4
MDJ AMB AMB
comp=Z,118nm,0.8s,mb5.7
MDJ AMB AMB
comp=Z,430nm,11.3s
MDJ LR LR
comp=N,1μm,20.0s,MS5.0
MDJ LR LR
comp=E,2μm,22.9s,MS5.0
MDJ LR LR
comp=Z,1μm,20.0s,MS4.8
MDJ Mudanjiang 39.26 3 *eP* **P** **06 44 39.4 +0.5**
comp=Z,105nm,0.9s,mb5.6
MDJ LR LR
comp=Z,2μm,20.0s,MS4.9
STKA Stephens Creek 39.64 160 P **P** **06 44 42.8 +0.6**
comp=Z,25nm,0.5s,mb5.2,baz=332,slow=8.1,SNR=43
STKA ScP 06 50 36.5
comp=Z,8.0nm,0.7s,baz=331,slow=10,SNR=5.5
STKA S **S** **06 50 43.1 -0.7**
comp=Z,4.7nm,0.8s,baz=26,slow=24,SNR=3.7
STKA LR LR 07 02 04.4
comp=Z,649nm,19.9s,MS4.5,baz=331,slow=38
STKA Stephens Creek 39.64 160 *eP* **P** **06 44 42.5 +0.3**
ASAJ Asahikawa 41.16 18 P **P** **06 44 55.0 +0.4**
comp=Z,29nm,0.7s,mb5.0,baz=235,slow=19,SNR=12
ASAJ S **S** **06 51 04.0 -2.3**
comp=Z,3.0nm,0.3s,baz=128,slow=32,SNR=3.5
LSA Lhasa 41.31 310 P **P** **06 44 57.2 +1.3**
LSA S **S** **06 51 07.0 -1.7**
LSA XS 06 51 23.0
LSA SS SS 06 54 02.0 -5.8
LSA LR LR
comp=N,1μm,20.0s,MS5.0
LSA LR LR
comp=E,2μm,20.0s,MS5.0
WAKE Wake Island 41.43 67 PFAKE 06 45 10.0 +13
WAKE LR LR
comp=Z,45μm,21.0s
ADE Adelaide 41.64 165⇑*iP* **P** **06 45 01.8 +3.1**
GTA Gaotai 41.69 328 *eP* **P** **06 44 58.5 -0.5**
GTA PP PP 06 46 36.6 -2.0
GTA PCP PcP 06 46 57.8 +1.6
GTA SCP 06 50 43.2
GTA PCS 06 50 47.6
GTA S **S** **06 51 10.4 -3.9**
GTA SS SS 06 54 14.4 -0.5
GTA SCS ScS 06 54 58.6 -0.2
GTA AMB AMB
comp=Z,20nm,0.9s,mb4.8
GTA AMB AMB
comp=Z,331nm,5.3s
GTA LR LR
comp=N,2μm,18.3s,MS5.3
GTA LR LR
comp=E,3μm,19.0s,MS5.3
GTA LR LR
comp=Z,4μm,17.9s,MS5.4
YSS Yuzh-Sakhalins 43.79 16 *eP* **P** **06 45 16.0 0.0**
YSS *e* pP 06 45 22.2 -0.6
YSS *e* 06 47 03.9
YSS *eS* **S** **06 51 41.0 -3.9**
YSS *e* 06 54 51.0
YSS pmax pmax
comp=Z,30nm,0.9s,mb5.0
YSS MLR MLR
comp=N,2μm,21.0s,MS5.0
YSS MLR MLR
comp=Z,2μm,21.0s,MS4.9
YSS MLR MLR
comp=E,1μm,19.0s,MS5.0
YSS Yuzh-Sakhalins 43.79 16 *eP* **P** **06 45 16.0 0.0**
comp=E,30nm,0.9s,mb5.0
YSS *e* pP 06 45 22.2 -0.6
YSS *e* 06 47 03.9
YSS *eS* **S** **06 51 41.0 -3.9**
YSS *e* 06 54 51.0
YSS LR LR
comp=Z,2μm,21.0s,MS4.9
VIS Vishakhapatnam 44.02 290 *eP* **P** **06 45 19.0 +0.7**
VIS *eP* 06 50 52.5
HIA Hailar 44.20 354 P **P** **06 45 20.6 +1.3**
HIA PP PP 06 47 05.5 +1.7
HIA ScP 06 50 53.6
HIA Hailar 44.20 354 *eP* **P** **06 45 19.3 0.0**
comp=Z,114nm,0.9s,mb5.6
HIA *e*ScP 06 50 53.5
HIA LR LR
comp=Z,2μm,19.0s,MS5.1
GUN Gumba 44.70 305 *eP* **P** **06 45 22.7 -1.0**
comp=Z,232nm,0.7s,mb6.1
PKI Pulchoki 44.96 304 *eP* **P** **06 45 24.1 -1.6**
comp=Z,92nm,0.8s,mb5.7
KKN Kakani 45.14 304 *eP* **P** **06 45 25.8 -1.4**
comp=Z,90nm,0.6s,mb5.8
DMN Daman 45.22 304 *eP* **P** **06 45 26.4 -1.4**
comp=Z,142nm,0.9s,mb5.8
PALK Pallekele 45.62 275 PFAKE 06 45 40.0 +8.8
PALK LR LR
comp=Z,231nm,20.0s,MS4.1
GKN Gorkha 45.75 304 *eP* **P** **06 45 30.8 -1.2**
comp=Z,76nm,0.5s,mb5.9
SONM Songino Array 45.78 341 P **P** **06 45 31.1 -0.9**
comp=Z,29nm,0.7s,mb5.3,baz=160,slow=8.6,SNR=93
SONM PcP PcP 06 47 09.7 -0.2
comp=Z,17nm,1.0s,baz=156,slow=4.1,SNR=3.7
SONM ScP 06 50 59.3
comp=Z,12nm,1.1s,baz=162,slow=3.9,SNR=14
SONM S **S** **06 52 12.3 -1.2**
comp=Z,0.4nm,0.4s,baz=338,slow=6.7,SNR=2.7
SONM ScS ScS 06 55 22.1 -2.0
comp=Z,1.2nm,0.9s,baz=121,slow=7.2,SNR=3.8
MDRS Chennai 46.32 283 *i* 06 51 01.0
KOLN Koldanda 46.52 304 *eP* **P** **06 45 36.8 -1.3**
comp=Z,177nm,0.7s,mb6.1
NOUC Port Laguerre 47.47 126 *eP* **P** **06 45 46.6 +0.9**
HYB Hyderabad 48.46 289 *i* P **P** **06 45 50.5 -2.9**
HYB *e*ScP 06 51 10.0
HYB *eS* **S** **06 52 48.0 -4.0**
HYB *e*ScS ScS 06 55 40.0 -2.0
HYB *e* 06 56 26.0
HYB Hyderabad 48.46 289 *eP* **P** **06 45 50.5 -2.9**
ZAK Zakamensk 49.01 340⇑*iP* **P** **06 45 56.3 -0.9**
ZAK *e* 06 47 28.2
TRD Trivandrum 49.33 277 *i* **P** **06 46 04.4 +4.2**
LGTI Lohaghat 49.87 304 *eP* **P** **06 46 04.5 +0.4**
PTH Pithoragarh 49.92 305 *eP* **P** **06 46 02.2 -2.4**
PTH *e* 06 47 25.0
IRK Irkutsk 50.30 342 *eP* **P** **06 46 07.4 +0.3**
AKL Akola 50.44 292 *eP* **P** **06 46 11.7 +3.2**
AKL AMb AMB 06 46 20.8
comp=Z,61nm,0.6s,mb5.8
BHPL Bhopal 50.58 296 *eP* **P** **06 46 06.1 -3.5**
BHPL *e* pP 06 46 12.0 -4.6
comp=Z,27nm,0.8s
MOY Mondy 50.87 340 *eP* **P** **06 46 11.6 +0.2**
WMQ Urumqi 51.37 324 P **P** **06 46 14.0 -1.3**
WMQ PP PP 06 48 11.0 -2.2
WMQ S **S** **06 53 29.0 -3.0**
WMQ SS SS 06 57 02.0 -3.7
WMQ AMB AMB
comp=Z,25nm,1.0s,mb5.1
WMQ AMB AMB
comp=Z,283nm,8.0s
WMQ LR LR
comp=N,4μm,20.0s,MS5.5
WMQ LR LR
comp=E,3μm,20.0s,MS5.5
WMQ LR LR
comp=Z,4μm,22.0s,MS5.4
CLNS Chul'man 51.42 359 *eP* **P** **06 46 15.4 -0.1**
CLNS *e* 06 47 30.3
CLNS *e* 06 48 15.9
CLNS *eS* **S** **06 53 32.7 +0.2**
CLNS *e* 06 56 00.1
CLNS *eSS* SS 06 57 07.5 +1.1
CLNS pmax pmax
comp=Z,28nm,0.8s,mb5.2
CLNS pmax pmax
comp=N,18nm,1.0s
CLNS pmax pmax
comp=E,18nm,0.9s
CLNS pmax pmax
comp=Z,14nm,1.0s,mb4.8
CLNS pmax pmax
comp=N,12nm,0.9s
CLNS pmax pmax
comp=E,13nm,0.9s
CLNS smax
comp=N,13nm,0.9s
CLNS smax
comp=E,37nm,1.1s
CLNS smax
comp=Z,9.0nm,1.1s
CLNS MLR MLR
comp=Z,1μm,16.0s,MS4.9
CLNS MLR MLR
comp=N,800nm,17.0s,MS4.8
CLNS MLR MLR
comp=E,100nm,15.0s,MS4.8
TAU Tasmania Unive 51.53 161 *eP* **P** **06 46 18.6 +1.9**
comp=E,41nm,1.0s,mb5.3
TAU LR LR
comp=Z,512nm,19.0s,MS4.6
DDI Dehra Dun 51.95 305 *eP* **P** **06 46 17.9 -2.0**
NDI New Delhi 52.15 302 *eP* **P** **06 46 16.9 -4.6**
NDI *eP* 06 46 17.5
NDI AMb AMB 06 46 21.1
comp=Z,60nm,1.9s,mb5.2
NDI *e* 06 51 24.5
KAD Karad 52.58 288 *eP* **P** **06 46 23.7 -1.1**
POO Poona 53.05 289 *eP* **P** **06 46 27.0 -1.3**
BOD Bodaibo 53.31 352⇑*iP* **P** **06 46 29.4 -0.3**
BOD *e* 06 56 11.9
AJM Ajmer 53.77 299⇓*iP* **P** **06 46 31.0 -2.5**
PET Petropavlovsk 54.36 23 *eP* **P** **06 46 37.9 +0.5**
PET *e* 06 48 40.5
PET *eS* **S** **06 54 12.5 0.0**
PET *e* 06 56 20.6
PET *eSS* SS 06 57 54.0 -0.5
PET pmax pmax
comp=Z,126nm,1.1s,mb5.8
PET pmax pmax
comp=Z,300nm,28.3s
PET smax
comp=E,500nm,13.2s
PET smax
comp=N,400nm,15.3s
PET MLR MLR
comp=Z,1μm,19.0s,MS5.0
PET MLR MLR
comp=Z,1μm,15.0s
PET Petropavlovsk 54.36 23 *eP* **P** **06 46 37.9 +0.5**
comp=Z,126nm,1.1s,mb5.8
PET *e* 06 48 40.5
PET *eS* **S** **06 54 12.5 0.0**
PET *e* 06 56 20.6
PET *eSS* SS 06 57 54.0 -0.5
THN Thein Dam 54.52 306 *eP* **P** **06 46 35.0 -3.9**
comp=Z,31nm,0.7s,mb5.5
MKAR Makanchi Array 56.20 325 P **P** **06 46 49.1 -1.8**
comp=Z,42nm,0.5s,mb5.7,baz=124,slow=8.3,SNR=260
MKAR PcP PcP 06 47 48.0 -0.4
comp=Z,26nm,0.6s,baz=108,slow=3.8,SNR=3.7
MKAR ScP 06 51 43.1
comp=Z,5.3nm,0.6s,baz=107,slow=4.2,SNR=6.5
MKAR S **S** **06 54 33.5 -3.6**
comp=Z,2.1nm,0.9s,baz=125,slow=15,SNR=4.0
MKAR ScS ScS 06 56 32.9 -2.2
comp=Z,2.4nm,1.1s,baz=219,slow=33,SNR=2.6
MKAR LR LR 07 12 21.0
comp=Z,3μm,20.2s,MS5.4,baz=118,slow=38
MKAR Makanchi Array 56.20 325 *iP* **P** **06 46 49.0 -1.9**
MKAR pmax pmax
comp=Z,22nm,0.4s
YAK Yakutsk 56.66 2 *eP* **P** **06 46 52.8 -1.2**
KSH Kashi 56.84 314⇑*iP* **P** **06 46 55.0 -0.6**
KSH PP PP 06 49 04.0 +0.5
KSH PPP PPP 06 50 21.7 -0.9
KSH SCP 06 51 47.5
KSH *e*PCS 06 51 50.1
KSH *S* **S** **06 54 48.7 +2.9**
KSH *e*PS PS 06 55 01.2 +0.1
KSH *e*SCS ScS 06 56 41.1 +1.2
KSH *e*SS SS 06 58 34.5 -0.7
KSH AMB AMB
comp=Z,360nm,2.8s,mb5.9
KSH LR LR
comp=N,1μm,16.6s,MS5.3
KSH LR LR
comp=E,2μm,15.8s,MS5.3
MA2 Magadan 57.24 14 *eP* **P** **06 46 58.5 +0.4**
MA2 MLR MLR
comp=Z,600nm,23.0s,MS4.6
MIDW Midway 57.74 60 PFAKE 06 47 10.0 +7.9
MIDW LR LR
comp=Z,2μm,21.0s,MS5.3
ULHL Ulahol 57.77 317 P **P** **06 47 00.8 -1.3**
SNR=23
KZA Kyzart 58.37 317 P **P** **06 47 05.7 -0.6**
SNR=29
TKM2 Tokmak 2 58.48 318 P **P** **06 47 05.7 -1.4**
SNR=28
KBK Karagaybulak 58.81 317 P **P** **06 47 06.7 -2.7**
SNR=9.0
UCH Uchtor 58.93 317 P **P** **06 47 09.6 -0.6**
SNR=48
CHMS Chumysh 59.08 318 P **P** **06 47 09.4 -1.9**
SNR=12
FRU Bishkek 59.10 318 *iP* **P** **06 47 09.0 -2.4**
FRU pmax pmax
comp=Z,1μm,20.0s
AAK Ala-Archa 59.11 317 P **P** **06 47 10.6 -0.8**
SNR=16
AAK Ala-Archa 59.11 317*c iP* **P** **06 47 08.7 -2.7**
AAK Ala-Archa 59.11 317⇑*iP* **P** **06 47 08.7 -2.7**
ZAL Zalesovo 59.14 333 P **P** **06 47 09.3 -2.2**
comp=Z,13nm,0.5s,mb5.2,baz=258,slow=4.7,SNR=28
ZAL ScP 06 51 56.2
comp=Z,2.0nm,0.3s,baz=125,slow=4.9,SNR=2.1
ZAL S **S** **06 55 09.3 -6.4**
comp=Z,1.7nm,0.3s,baz=65,slow=24,SNR=3.2
ZAL ScS ScS 06 56 53.2 -3.2
comp=Z,1.4nm,0.3s,baz=38,slow=19,SNR=3.8
ZAL LR LR 07 14 47.6
comp=Z,2μm,22.0s,MS5.3,baz=248,slow=38
ZAL Zalesovo 59.14 333 P **P** **06 47 09.3 -2.2**
ZAL S **S** **06 55 09.4 -6.3**
ZAL SS ScS 06 56 53.3 -3.1
USP Ospenovka 59.36 318 P **P** **06 47 11.4 -1.8**
SNR=31
AML Almayashu 59.45 316 P **P** **06 47 12.5 -1.3**
SNR=59
EKS2 Erkin-Say 59.60 317 P **P** **06 47 13.5 -1.3**
SNR=41
KURK Kurchatov 60.35 327*c iP* **P** **06 47 17.5 -2.4**
KURK pmax pmax
comp=Z,89nm,0.8s,mb5.8
KURK Kurchatov 60.35 327⇑*iP* **P** **06 47 17.5 -2.4**
NVS Novosibirsk 60.42 333 *i* P **P** **06 47 17.2 -3.1**
NVS *i* 06 48 02.8
NVS *i*S **S** **06 55 23.7 -8.5**
NVS *i* 06 57 01.7
NVS pmax pmax
comp=Z,106nm,1.6s,mb5.6
NVS pmax pmax
comp=N,113nm,1.0s
NVS pmax pmax
comp=E,68nm,1.8s
NVS smax
comp=N,292nm,3.0s
NVS smax
comp=E,67nm,1.9s
NVS Novosibirsk 60.42 333 *i* P **P** **06 47 17.2 -3.1**
comp=E,106nm,1.6s,mb5.6
NVS *i* 06 48 02.8
NVS *i*S **S** **06 55 23.7 -8.5**
NVS *i* 06 57 01.7
SEY Seymchan 60.56 13 *eP* **P** **06 47 22.2 +1.1**
SEY *e* 06 48 02.1
SEY *eS* **S** **06 55 35.2 +1.4**
SEY *e* 06 57 02.9
SEY pmax pmax
comp=Z,130nm,0.9s,mb6.1
SEY pmax pmax
comp=N,70nm,1.1s
SEY pmax pmax
comp=E,30nm,0.8s
SEY smax
comp=N,2μm,10.4s
SEY smax
comp=E,3μm,9.9s
SEY MLR MLR
comp=Z,4μm,20.0s,MS5.5
SEY MLR MLR
comp=N,600nm,19.0s,MS5.4
SEY MLR MLR
comp=E,2μm,20.0s,MS5.4
SEY Seymchan 60.56 13 *eP* **P** **06 47 22.2 +1.1**
comp=E,130nm,0.9s,mb6.1
SEY *e* 06 48 02.1
SEY *eS* **S** **06 55 35.2 +1.4**
SEY *e* 06 57 02.9
SEY LR LR
comp=Z,4μm,20.0s,MS5.5
FX1 Attu Island--F 60.82 30 *eP* **P** **06 47 23.6 +0.6**
AFI Afiamalu 64.07 108 PFAKE 06 48 00.0 +15
AFI LR LR
comp=Z,2μm,19.0s,MS5.3
BVA0 Borovoye Array 65.94 327 P **P** **06 47 54.6 -2.1**
BVAR Borovoye Array 65.94 327 P **P** **06 47 54.2 -2.5**
comp=Z,18nm,0.7s,mb5.2,baz=131,slow=6.3,SNR=9.2
BVAR S S 06 56 35.3 -5.9
comp=Z,0.4nm,0.5s,baz=240,slow=45,SNR=2.0
BVAR ScS ScS 06 57 44.2 -3.5
comp=Z,0.6nm,0.7s,baz=301,slow=35,SNR=1.8
BVAR LR LR 07 19 01.7
comp=Z,20nm,19.4s,baz=270,slow=38

BVAR Borovoye Array 65.94 327 P **P** 06 47 54.2 -2.5
BVAR S S 06 56 35.3 -5.9
BVAR ScS ScS 06 57 44.2 -3.5
BVAR LR LR 07 19 01.6
BRVK Borovoye 66.01 327 *e*P **P** **06 47 55.1 -2.1**
comp=Z,97nm,0.9s,mb5.8
BRVK *e* 06 48 05.8
BRVK LR LR
comp=Z,421nm,21.0s,MS4.6
TIXI Tiksi 66.29 1 *d* iP **P** **06 47 58.6 -0.1**
TIXI *e* 06 50 22.9
TIXI *e*S S 06 56 43.8 -1.5
TIXI *e*SS SS 07 01 02.3 -0.8
TIXI pmax pmax
comp=Z,95nm,1.4s,mb5.6
TIXI Tiksi 66.29 1 *i* Pr 06 47 58.6
comp=Z,95nm,1.4s
TIXI *e* 06 50 22.9
TIXI *e*S S 06 56 43.8 -1.5
TIXI *e*SS SS 07 01 02.3 -0.8
UNV Unalaska Valle 72.24 35 *e*P **P** **06 48 36.8 +1.2**
comp=Z,161nm,0.8s,mb6.0
UNV LR LR
comp=Z,4μm,22.0s,MS5.7
CASY Casey 72.34 187⇑ *e*P **P** **06 48 36.4 +0.4**
comp=Z,31nm,0.8s,mb5.3
CASY LR LR
comp=Z,628nm,21.0s,MS4.9
DRV Dumont d'Urvil 72.43 174 P **P** **06 48 41.0 +4.5**
DRV S S 06 58 02.0 +4.3
SVE Sverdlovsk 72.56 328⇑ *i* P **P** **06 48 21.0 -16**
SVE *e*S S 06 57 48.0 -11
SVE *e*PS PS 06 58 32.0 -1.6
SVE pmax pmax
comp=Z,160nm,2.0s,mb5.6
SVE MLR MLR
comp=N,1μm,19.0s,MS5.3
SVE MLR MLR
comp=E,1μm,19.0s,MS5.3
SVE MLR MLR
comp=Z,600nm,19.0s,MS4.9
ARU Arti 73.54 328⇑ *i* P **P** **06 48 41.0 -2.1**
ARU *e* 06 48 56.8
ARU *e* 06 51 24.5
ARU *e*PPP PPP 06 53 07.1 -6.0
ARU *e*S S 06 58 09.4 -1.0
ARU *e* 06 58 47.8
ARU *e*SS SS 07 02 45.3 -10
ARU pmax pmax
comp=Z,46nm,0.7s,mb5.5
ARU MLR MLR
comp=N,900nm,20.0s,MS5.1
ARU MLR MLR
comp=Z,1μm,20.0s,MS5.1
ARU MLR MLR
comp=E,500nm,23.0s,MS5.1
ARU Arti 73.54 328⇑ *i* P **P** **06 48 41.0 -2.1**
comp=E,46nm,0.7s,mb5.5
ARU *e* 06 48 56.8
ARU *e* 06 51 24.5
ARU *e*PPP PPP 06 53 07.1 -6.0
ARU *e*S S 06 58 09.4 -1.0
ARU *e* 06 58 47.8
ARU *e*SS SS 07 02 45.3 -10
ARU LR LR
comp=Z,1μm,20.0s,MS5.1
MIR Mirnyy 75.63 193⇑ *e*P **P** **06 48 56.3 +1.3**
MIR *e* 06 59 33.0
MIR pmax pmax
comp=Z,70nm,1.4s,mb5.4
TTA Tatalina 79.59 27 *e*P **P** **06 49 18.1 +1.2**
RAYN Ar Rayn 79.73 293 P **P** **06 49 16.1 -2.4**
comp=Z,138nm,0.9s,mb5.9,SNR=12
LBOS 80.35 283⇓ *i* P **P** **06 49 22.7 +0.8**
baz=148,slow=5.3
LBOS *i* S Px 06 49 47.0
LBOS AML AML 06 49 47.8
comp=E,46nm,0.6s
GNI Garni 80.37 310 *c i* P **P** **06 49 21.2 -0.4**
GNI pmax pmax
comp=Z,49nm,2.0s
GNI MLR MLR
comp=Z,2μm,27.0s
GNI Garni 80.37 310⇑ *i* P **P** **06 49 21.2 -0.4**
comp=Z,49nm,2.0s,mb5.1
GNI LR LR
comp=Z,2μm,27.0s,MS5.2
KDAK Kodiak Island 80.66 32 *e*P **P** **06 49 23.3 +0.5**
comp=Z,63nm,1.1s,mb5.5
KDAK LR LR
comp=Z,234nm,21.0s,MS4.5
RSO Redoubt South 80.82 30 *e*P **P** **06 49 23.5 -0.1**
IMA Indian Mountai 81.03 24 *e*P **P** **06 49 26.0 +1.5**
SPU Mount Spurr 81.23 29 *e*P **P** **06 49 25.5 -0.1**
PECR Pechory 81.45 326 *e*P **P** **06 49 32.0 +5.1**
PECR MLR MLR
comp=Z,2μm,19.0s,MS5.4
ARSS Ar Rass 81.73 295 P **P** **06 49 27.5 -1.5**
TATS Tathlith 81.76 289 P **P** **06 49 29.4 +0.1**
DJNS Zahran al Janu 81.79 287 P **P** **06 49 30.2 +0.8**
KIV Kislovodsk 81.96 314 *c i* P **P** **06 49 28.4 -1.4**
KIV pmax pmax
comp=Z,23nm,0.9s,mb5.1
KIV MLR MLR
comp=Z,1μm,24.0s,MS5.2
KIV Kislovodsk 81.96 314⇑ *i* P **P** **06 49 28.4 -1.4**
comp=Z,23nm,0.9s,mb5.1
KIV LR LR
comp=Z,1μm,24.0s,MS5.2
SLKM Skilak Lake 82.07 30 *e*P **P** **06 49 29.9 -0.1**
FIB Fire Island 82.13 29 PFAKE 06 49 40.0 +10
FIB LR LR
comp=Z,946nm,22.0s,MS5.1
PWA Palmer West 82.30 29 *e*P **P** **06 49 30.8 -0.4**
comp=Z,51nm,1.1s,mb5.4
PMR Palmer 82.66 29 *e*P **P** **06 49 33.3 +0.2**
MCK McKinley 82.84 27 *e*P **P** **06 49 34.3 +0.3**
comp=Z,83nm,1.3s,mb5.6
MCK LR LR
comp=Z,288nm,20.0s,MS4.6
NAMS An Nimas 82.97 289 P **P** **06 49 36.5 +1.0**
SML Sawmill 83.05 28 *e*P **P** **06 49 35.4 +0.3**
BEST Besiri 83.08 307 *i* P **P** **06 49 37.4 +1.7**
COLA College 83.36 25 *e*P **P** **06 49 36.7 +0.1**
BLJS Baljurashi 83.51 289 P **P** **06 49 39.2 +0.8**
ILAR Eielson Array 83.77 25 P **P** **06 49 38.1 -0.6**
comp=Z,67nm,1.4s,mb5.6,baz=260,slow=3.0,SNR=57
ILAR S S 06 59 55.5 -3.4
comp=Z,1.4nm,1.2s,baz=215,slow=11,SNR=3.2
ILAR PKKPbc 07 07 56.7
comp=Z,0.9nm,1.0s,baz=162,slow=0.4,SNR=5.5
ILAR LR LR 07 26 54.4
comp=Z,237nm,20.9s,MS4.5,baz=290,slow=36
SOC Sochi 84.11 313 *e*P **P** **06 49 40.1 -0.8**
SOC *e*S S 06 59 57.4 -5.4
SOC MLR MLR
comp=Z,1μm,24.0s,MS5.2
SOC MLR MLR
comp=N,975nm,25.0s,MS5.2
SOC MLR MLR
comp=E,594nm,22.0s,MS5.2
VOR Voronezh 84.25 321 *e*P **P** **06 49 40.0 -1.4**
VOR *e**SP sP 06 49 51.0 -0.1
VOR pmax pmax
comp=Z,100nm,1.1s,mb5.9
THY Trims Highway 84.26 27 *e*P **P** **06 49 42.2 +1.0**
DIV Divide 84.27 29 *e*P **P** **06 49 42.6 +1.3**
comp=Z,657nm,1.4s
DIV LR LR
comp=Z,2μm,20.0s
EYAK Cordova Ski Ar 84.28 30 *e*P **P** **06 49 43.6 +2.2**
ELZG Elazig 84.86 308 *i* P **P** **06 49 45.0 +0.3**
MOS Moscow 85.07 325 *e*P **P** **06 49 44.1 -1.3**
MOS *e* pP 06 49 49.8 -2.9
MOS *e*S S 07 00 01.8 -10
MOS pmax pmax
comp=Z,112nm,1.0s,mb6.0
MOS MLR MLR
comp=E,4μm,25.4s
MOS MLR MLR
comp=Z,2μm,25.4s,MS5.4
MOS Moscow 85.07 325 *e*P **P** **06 49 44.1 -1.3**
comp=Z,112nm,1.0s,mb6.0
MOS *e* pP 06 49 49.8 -2.9
MOS *e*S S 07 00 01.8 -10
MOS LR LR
comp=Z,2μm,25.4s,MS5.4
MAW Mawson 85.16 200 P **P** **06 49 46.5 +1.0**
comp=Z,11nm,0.8s,mb5.0,baz=51,slow=5.4,SNR=26
MAW S S 07 00 06.5 -6.1
comp=Z,1.2nm,1.1s,baz=253,slow=14,SNR=1.9
MAW PKKPbc 07 07 52.9
comp=Z,2.5nm,0.9s,baz=353,slow=5.5,SNR=6.6
MAW PKPPKP 07 15 55.9
comp=Z,1.9nm,1.0s,baz=243,slow=4.5,SNR=3.4
MAW LR LR 07 24 51.0
comp=Z,529nm,21.3s,MS4.9,baz=68,slow=34
MAW Mawson 85.16 200 *e*P **P** **06 49 46.3 +0.7**
comp=Z,28nm,1.0s,mb5.3
MAW LR LR
comp=Z,1μm,22.0s,MS5.2
KBRS Khaybar 85.31 295 P **P** **06 49 48.2 +0.9**
ANN Anapa 85.70 314 *e*P **P** **06 49 42.1 -6.7**
ANN *e* pP 06 49 49.7 -6.4
ANN *e* 07 00 03.6
ANN pmax pmax
comp=Z,150nm,1.3s,mb6.1
ANN MLR MLR
comp=Z,1μm,25.0s,MS5.2
ANN MLR MLR
comp=N,2μm,22.0s,MS5.5
ANN MLR MLR
comp=E,972nm,20.0s,MS5.5
ANN Anapa 85.70 314 *e*P **P** **06 49 42.1 -6.7**
comp=E,150nm,1.3s,mb6.1
ANN *e* pP 06 49 49.7 -6.4
ANN *e* 07 00 03.6
ANN LR LR
comp=Z,1μm,25.0s,MS5.2
OBN Obninsk 85.70 325 *c i* P **P** **06 49 47.6 -1.0**
OBN *e* 06 49 58.6
OBN *e* 06 53 07.2
OBN *i* 07 00 08.8
OBN pmax pmax
comp=Z,125nm,1.2s,mb6.0
OBN MLR MLR
comp=Z,1μm,17.0s,MS5.3
OBN Obninsk 85.70 325⇑ *i* P **P** **06 49 47.6 -1.0**
comp=Z,125nm,1.2s,mb6.0
OBN *e* 06 49 58.6
OBN *e* 06 53 07.2
OBN *i* 07 00 08.8
OBN LR LR
comp=Z,1μm,17.0s,MS5.3
PPT Papeete 85.74 108 *e*S S 07 00 23.5 +4.2
PPT *e*SS SS 07 06 16.4 +17
PPT *e*L 07 13 56.9
PPT *e*R 07 17 17.2
comp=Z,3μm,26.5s,baz=289
LVZ Lovozero 85.86 338 *e*P **P** **06 49 49.8 +0.7**
LVZ pmax pmax
comp=Z,68nm,1.0s,mb5.8
LVZ pmax pmax
comp=N,8.0nm,0.7s
LVZ pmax pmax
comp=E,16nm,0.9s
LVZ pmax pmax
comp=Z,697nm,2.5s,mb6.5
LVZ pmax pmax
comp=N,199nm,2.6s
LVZ pmax pmax
comp=E,187nm,2.8s
LVZ MLR MLR
comp=Z,2μm,22.0s,MS5.5
LVZ MLR MLR
comp=N,295nm,14.0s
LVZ MLR MLR
comp=E,2μm,23.0s
SBA Scott Base 85.89 172 *e*P **P** **06 49 51.1 +2.0**
comp=E,21nm,1.3s,mb5.2
SBA LR LR
comp=Z,656nm,20.0s,MS5.0
GZT Gaziantep 86.04 307 *i* P **P** **06 49 50.6 -0.1**
APA Apatity 86.36 337⇑ *i* P **P** **06 49 52.8 +1.2**
APA *i* pP 06 49 59.6 +0.7
APA *e*S S 07 00 18.0 -6.2
APA pmax pmax
comp=Z,65nm,1.0s,mb5.8
APA Apatity 86.36 337⇑ *i* P **P** **06 49 52.8 +1.2**
comp=Z,65nm,1.0s,mb5.8
APA *i* pP 06 49 59.6 +0.7
APA *e*S S 07 00 18.0 -6.2
TBI Tubuai 86.55 114 *e*S S 07 00 31.0 +3.9
TBI *e*SS SS 07 06 12.3 +1.1
TBI *e*L 07 13 52.8
TBI *e*R 07 17 30.9
comp=Z,2μm,26.8s,baz=292
ASF Jabal al Asfar 86.94 302 P **P** **06 49 54.3 -1.0**
comp=Z,16nm,1.2s,mb5.1,baz=336,slow=4.0,SNR=8.2
ASF S S 07 00 18.9 -12
comp=Z,0.8nm,0.3s,baz=110,slow=18,SNR=1.9
ASF LR LR 07 34 13.7
comp=Z,445nm,21.2s,MS4.8,baz=312,slow=39
UMJS Umm Lajj 87.11 295 P **P** **06 49 58.4 +2.2**
SIM Simferopol 88.04 315 *e*P **P** **06 50 03.8 +3.6**
SIM pmax pmax
comp=Z,30nm,1.0s,mb5.5
SIM Simferopol' 88.04 315 *e*P **P** **06 50 03.8 +3.6**
comp=Z,30nm,1.0s,mb5.5
AVNT Avonos 88.06 309 *i* P **P** **06 49 59.8 -0.7**
DBAS Duba 88.14 297 P **P** **06 50 03.0 +1.9**
KEV Kevo 88.38 340 *ep* **P** **06 50 00.6 -0.7**
comp=Z,3.2nm,0.4s,mb4.9
KEV Kevo 88.38 340 *e*P **P** **06 50 00.6 -0.7**
KEV pmax pmax
comp=Z,3.0nm,0.4s,mb4.9
INK Inuvik 88.78 21 *e*P **P** **06 50 03.0 -0.2**
comp=Z,39nm,1.3s,mb5.6
BRTR Keskin Array B 88.91 310 P **P** **06 50 03.1 -1.4**
comp=Z,5.0nm,0.6s,mb5.0,baz=107,slow=4.6,SNR=20
BRTR S S 07 00 28.1 -21
comp=Z,0.3nm,0.3s,baz=287,slow=16,SNR=3.2
BRTR LR LR 07 38 51.9
comp=Z,304nm,20.3s,MS4.7,baz=25,slow=42
ARCES ARCESS Array B 88.94 340 P **P** **06 50 03.7 -0.3**
comp=Z,50nm,0.8s,mb5.9,baz=82,slow=6.4,SNR=136
ARCES LR LR 07 35 14.4
comp=Z,1μm,18.8s,MS5.3,baz=262,slow=39
ARCES ARCESS Array B 88.94 340 P **P** **06 50 03.7 -0.3**
ARCES LR LR 07 35 14.4
ARE0 ARCESS Array S 88.94 340 *e*P **P** **06 50 03.0 -0.9**
KMBO Kilima Mbogo 89.43 269 P **P** **06 50 07.9 +0.3**
comp=Z,4.2nm,0.9s,mb4.8,baz=46,slow=6.8,SNR=9.9
KMBO LR LR 07 27 58.1
comp=Z,330nm,21.4s,MS4.7,baz=96,slow=34
KMBO Kilima Mbogo 89.43 269 *e*P **P** **06 50 07.9 +0.3**
comp=Z,28nm,1.5s,mb5.4
KMBO LR LR
comp=Z,535nm,20.0s,MS5.0
BJO Bjornoya 89.53 345 AMS AMS 07 38 47.1
comp=Z,528nm,19.5s,MS5.0
CSS Prodhromos 89.66 305 P **P** **06 50 08.3 +0.1**
comp=Z,9.8nm,0.6s,mb5.3
KTK1 Kautokeino 89.84 339 *e*P **P** **06 50 07.8 -0.4**
KTK1 AMb AMB 06 50 10.6
comp=Z,80nm,1.2s,mb5.9
KTK1 Kautokeino 89.84 339 *e*P **P** **06 50 07.8 -0.4**
comp=Z,80nm,1.2s,mb5.9
SIT Sitka 90.00 33 PFAKE 06 50 20.0 +11
SIT LR LR
comp=Z,638nm,21.0s,MS5.0
KAF Kangasniemi 90.15 332 *ep* **P** **06 50 09.6 -0.2**
comp=Z,5.6nm,0.4s,mb5.2,baz=76,slow=4.4
KAF Kangasniemi 90.15 332 *e*P **P** **06 50 09.6 -0.2**
KAF pmax pmax
comp=Z,6.0nm,0.4s,mb5.3
FINES FINESS Array B 90.39 332 P **P** **06 50 10.2 -0.8**
comp=Z,6.4nm,0.4s,mb5.3,baz=54,slow=6.0,SNR=43
FINES S S 07 00 37.8 -24
comp=Z,1.9nm,0.9s,baz=342,slow=12,SNR=2.3
FINES ScS ScS 07 01 01.1 -3.7
comp=Z,4.0nm,1.0s,baz=72,slow=6.0,SNR=3.1
FINES LR LR 07 34 09.4
comp=Z,2μm,19.8s,MS5.5,baz=81,slow=38
AKASG Malin Array Be 90.59 321 P **P** **06 50 10.7 -1.4**
comp=Z,3.2nm,0.5s,mb4.9,baz=72,slow=3.8,SNR=13
AKASG S 07 00 37.4
comp=Z,0.6nm,0.4s,baz=99,slow=21,SNR=3.4
AKASG ScS ScS 07 01 04.5 -2.3
comp=Z,0.2nm,0.3s,baz=24,slow=12,SNR=4.3
VSU Vasula 90.66 329⇓ *e*P **P** **06 50 12.9 +0.7**
TRO Tromso 91.14 341 *e*P **P** **06 50 12.0 -2.1**
TRO AMb AMB 06 50 18.8
comp=Z,110nm,1.8s,mb5.9
TRO *e*SKSa 07 00 42.2
TRO AMS AMS 07 36 18.2
comp=Z,591nm,21.6s,MS5.0
TRO Tromso 91.14 341 *e*P **P** **06 50 12.0 -2.1**
comp=Z,110nm,1.8s,mb5.9
KIS Kishinev 91.44 317 *e*P **P** **06 50 15.0 -1.1**
KIS *e* 06 50 30.0
ULDT Uludag 92.29 310 *i* P **P** **06 50 19.4 -0.8**
LOF Lofoten 93.50 340 *e*P **P** **06 50 25.8 +0.7**
LOF AMb AMB 06 50 30.8
comp=Z,170nm,1.6s,mb6.2
LOF Lofoten 93.50 340 *e*P **P** **06 50 25.8 +0.7**
comp=Z,170nm,1.6s,mb6.2
SUW Suwalki 93.56 325 *e*P **P** **06 50 25.6 -0.1**
SUW MLR MLR
comp=Z,2μm,25.4s,MS5.4
SUW Suwalki 93.56 325 *e*P **P** **06 50 25.6 -0.1**
SUW MLR MLR 07 33 07.9
comp=Z,2μm,25.4s
MLR Muntele Rosu 93.67 316 P **P** **06 50 24.9 -1.5**
comp=Z,8.3nm,0.6s,mb5.3,baz=349,slow=2.5,SNR=12
SYO Syowa Base 93.82 201⇓ P **P** **06 50 28.4 +1.9**
SYO Syowa Base 93.82 201⇑ P **P** **06 50 29.3 +2.8**
SYO Syowa Base 93.82 201⇓ pP pP 06 50 34.5 +0.7
MOR8 Moi Rana 93.94 338 *e*P **P** **06 50 25.2 -1.9**
MOR8 AMb AMB 06 50 30.6
comp=Z,42nm,1.4s,mb5.7
MOR8 Moi Rana 93.94 338 *e*P **P** **06 50 25.2 -1.9**
comp=Z,42nm,1.4s,mb5.7
KWP Kalwaria 94.91 321 *e*P **P** **06 50 33.7 +1.7**
KWP MLR MLR
comp=Z,900nm,25.0s,MS5.1
KWP Kalwaria 94.91 321 *e*P **P** **06 50 33.7 +1.7**
KWP MLR MLR 07 33 29.6
comp=Z,900nm,25.0s
NSS Namsos 95.55 337 *e*P **P** **06 50 32.6 -2.0**
NSS AMb AMB 06 50 36.5
comp=Z,46nm,2.3s,mb5.5
NSS AMS AMS 07 37 24.4
comp=Z,2μm,22.3s,MS5.5
NSS Namsos 95.55 337 *e*P **P** **06 50 32.6 -2.0**
comp=Z,46nm,2.3s,mb5.5
DAG Danmarks Havn 95.69 352⇓ *i* P **P** **06 50 34.5 -0.5**
comp=Z,53nm,0.8s,mb6.0
MBAR Mbarara 95.87 270 PFAKE 06 50 50.0 +13
MBAR LR LR
comp=Z,115nm,20.0s,MS4.3
RES Resolute Bay 96.31 10 *e*P **P** **06 50 38.2 +0.4**
comp=Z,9.3nm,0.9s,mb5.2
IDI Anoyia 96.45 306 P **P** **06 50 39.5 +0.1**
comp=Z,8.1nm,1.0s,mb5.1,baz=264,slow=9.0,SNR=3.2
IDI S 07 01 11.4
comp=Z,1.1nm,0.4s,baz=54,slow=23,SNR=3.3
IDI PKKPbc 07 07 26.2
comp=Z,4.0nm,0.7s,baz=356,slow=8.9,SNR=4.5
NIE Niedzica 96.47 321 *e*P **P** **06 50 45.0 +5.9**
OJC Ojcow 96.57 322 *e*P **P** **06 50 41.3 +1.8**
OJC *e* 07 01 15.2
OJC MLR MLR
comp=Z,1μm,20.4s,MS5.3
OJC Ojcow 96.57 322 *e*P **P** **06 50 41.3 +1.8**
OJC *e*SKS(ac) 07 01 15.2
OJC MLR MLR 07 36 20.4
comp=Z,1μm,20.4s
HFS Hagfors 96.57 332 P **P** **06 50 37.6 -1.7**
comp=Z,19nm,0.8s,mb5.6,baz=90,slow=3.0,SNR=18
NB2 NORSAR Subarra 97.33 334 P **P** **06 50 41.3 -1.4**
comp=Z,14nm,0.7s,mb5.5,baz=65,slow=4.5
NB2 NORSAR Subarra 97.33 334 P **P** **06 50 41.3 -1.4**
baz=65,slow=4.4
NOA NORSAR Array B 97.33 334 P **P** **06 50 41.2 -1.4**
comp=Z,10nm,0.6s,mb5.4,baz=66,slow=4.5,SNR=54
NAO01 NORSAR Array S 97.56 334 *e*P **P** **06 50 41.9 -1.8**
comp=Z,11nm,0.6s,mb5.6
NAO01 LR LR
comp=Z,3μm,20.0s,MS5.7
OKC Ostrava-Krasne 97.70 322 AMS AMS 07 36 50.0
comp=Z,600nm,20.8s
MORC Moravsky Berou 98.09 322 *e*P **P** **06 50 47.0 +0.6**
comp=Z,9.0nm,1.3s,mb5.1
YKA Yellowknife Ar 98.15 24 P **P** **06 50 45.8 -0.5**
comp=Z,3.6nm,1.0s,mb4.9,baz=295,slow=4.2,SNR=6.0
YKA S 07 01 20.9
comp=Z,1.0nm,0.7s,baz=194,slow=34,SNR=2.5
YKA PKKPbc 07 07 22.4
comp=Z,1.9nm,0.8s,baz=120,slow=2.3,SNR=4.2
YKA LR LR 07 37 26.8
comp=Z,618nm,21.8s,MS5.1,baz=280,slow=37
YKA Yellowknife Ar 98.15 24 P **P** **06 50 45.8 -0.5**
YKA S 07 01 20.9
YKA PKKPbc 07 07 22.4
YKA LR LR 07 37 26.9
MOL Molde 98.20 336 *e*P **P** **06 50 47.9 +1.3**
MOL AMb AMB 06 50 54.9
comp=Z,47nm,1.4s,mb5.8
MOL Molde 98.20 336 *e*P **P** **06 50 47.9 +1.3**
comp=Z,47nm,1.4s,mb5.8
JMIC Jan Mayen 98.31 346 AMS AMS 07 40 22.2
comp=Z,617nm,18.4s,MS5.1
KSP Ksiaz 98.51 323 *e*P **P** **06 50 48.3 +0.1**
KSP *e* 06 54 45.0
KSP *e* 07 01 23.0
KSP *e*SP SP 07 03 40.0 -1.7
KSP *e*SS SS 07 09 01.0 +0.1
KSP MLR MLR
comp=Z,2μm,27.3s,MS5.5
KSP Ksiaz 98.51 323 *e*P **P** **06 50 48.3 +0.1**
KSP *e*PP PP 06 54 45.0 -6.4
KSP *e*SKS SKS 07 01 23.0 -7.9
KSP *e*SP SP 07 03 40.0 -1.7
KSP *e*SS SS 07 09 01.0 +0.1
KSP *e*SSS tx 07 13 23.0
KSP LR LR
comp=Z,2μm,27.3s,MS5.5
KONO Kongsberg 98.65 333 *e* 07 02 18.3
KONO AMS AMS 07 38 60.0
comp=Z,1μm,24.0s,MS5.4
KONO Kongsberg 98.65 333 PFAKE 06 51 00.0 +11
KONO LR LR
comp=Z,2μm,22.0s,MS5.5
DPC Dobruska-Polom 98.66 323 *e*P **P** **06 50 49.0 +0.1**
DPC AMS AMS 07 37 50.0
comp=Z,1μm,19.2s
UPC Upice 98.79 323 *e*P **P** **06 50 50.8 +1.3**
VRAC Vranov 98.83 322 P **P** **06 50 48.8 -0.9**
comp=Z,5.5nm,0.8s,mb5.2,baz=274,slow=15,SNR=2.2
VRAC LR LR 07 43 14.8
comp=Z,827nm,19.6s,MS5.2,baz=121,slow=40
VRAC Vranov 98.83 322 P **P** **06 50 48.8 -0.9**
VRAC LR LR 07 43 14.8
OCWA Octopus Mounta 98.86 40 PFAKE 06 51 00.0 +10
OCWA LR LR
comp=Z,900nm,20.0s,MS5.3
LSZ Lusaka 99.45 255 PFAKE 06 51 00.0 +6.7
LSZ LR LR
comp=Z,1μm,22.0s,MS5.3
PRU Pruhonice 99.86 323 *e*P **P** **06 50 55.4 +1.0**
PRU AMS AMS 07 39 10.0
BRG Berggiesshubel 99.90 324 *e*P **P** **06 50 56.0 +1.4**
BRG *e* 06 55 02.0
BRG *e* 07 01 27.0
BRG *e*PS PS 07 03 52.0 -6.8
BRG pmax pmax
comp=Z,13nm,1.1s,mb5.3
BRG MLR MLR
comp=N,1μm,24.2s,MS5.5
BRG MLR MLR
comp=E,1μm,24.2s,MS5.5
BRG MLR MLR
comp=Z,1μm,32.3s
BRG Berggiesshubel 99.90 324 *e*Pdif **P** **06 50 56.0 +1.4**
comp=Z,12nm,1.1s,mb5.3
BRG *e*PP PP 06 55 02.0 0.0
BRG *e*SKS SKS 07 01 27.0 -11
BRG *e*S S 07 02 08.0 -16
BRG *e*PS PS 07 03 52.0 -6.8
BRG *e*SS tx 07 09 48.0
BRG LR LR
comp=Z,1μm,32.3s,MS5.1
CLL Collm 100.29 324 P P 06 50 57.0 +0.6
CLL *e*PP PP 06 55 12.0 +6.8
CLL *e* 07 01 24.0

CLL ePS PS 07 04 00.0 -3.0
CLL Collm 100.29 324 eP P 06 50 49.0 -7.4
CLL e 07 01 24.0
CLL MLR MLR
comp=Z,1μm,21.1s,MS5.4
CLL Collm 100.29 324 eP P 06 50 49.0 -7.4
CLL e 06 50 58.0
CLL eSKS SKS 07 01 24.0 -16
CLL LR LR
comp=Z,1μm,21.1s,MS5.4
COR Corvallis 100.41 43 PFAKE 06 51 10.0 +13
COR LR LR
comp=Z,1μm,19.0s,MS5.4
KHC Kasperske Hory 100.75 322 eP P 06 51 02.7 +4.2
KHC AMS AMS 07 39 20.0
comp=Z,800nm,18.7s
BSEG Bad Segeberg 100.75 327 eP P 06 50 58.4 0.0
GEC2 GERESS Array S 100.77 322 eP P 06 50 58.2 -0.4
GERES GERESS Array B 100.77 322 P P 06 50 58.2 -0.3
comp=Z,0.3nm,0.3s,baz=133,slow=45,SNR=3.3
NKC Novy Kostel 101.02 323 eP P 06 51 01.3 +1.6
NKC AMS AMS 07 37 20.0
comp=Z,1μm,24.2s
WET Wettzell 101.17 322 eP P 06 51 00.6 +0.3
HUMO Hull Mountain 101.26 45 PFAKE 06 51 10.0 +9.1
HUMO LR LR
comp=Z,643nm,21.0s,MS5.1
MOX Moxa 101.36 324 *i* P P 06 51 00.7 -0.4
comp=Z,logA/T=1.2
MOX SKS SKS 07 01 30.0 -15
MOX L 07 43 22.0
MOX Moxa 101.36 324 eP P 06 51 00.7 -0.4
MOX pmax pmax
comp=Z,25nm,1.6s
MOX MLR MLR
comp=Z,700nm,21.0s,MS5.2
MOX Moxa 101.36 324 eP P 06 51 00.7 -0.4
comp=Z,25nm,1.6s
MOX LR LR
comp=Z,700nm,21.0s,MS5.2
CLZ Clausthal 101.59 325 ePdif P 06 51 02.1 -0.1
YBH Yreka Blue Hor 101.71 46 PFAKE 06 51 20.0 +17
YBH LR LR
comp=Z,631nm,21.0s,MS5.1
GRA1 Grafenberg Arr 101.96 323 ePdif P 06 51 03.6 -0.3
GRA1 LR LR
comp=Z,1μm,21.8s,MS5.3
GRF Grafenberg Arr 101.96 323 eP P 06 51 03.6 -0.3
GRF MLR MLR
comp=Z,1μm,21.8s,MS5.3
HOPS Hopland 102.27 48 PFAKE 06 51 20.0 +14
HOPS LR LR
comp=Z,1μm,22.0s,MS5.4
HAWA Hanford 102.30 40 PFAKE 06 51 20.0 +15
HAWA LR LR
comp=Z,570nm,20.0s,MS5.1
BOSA Boshof 102.44 242 PFAKE 06 51 20.0 +13
BOSA LR LR
comp=Z,462nm,22.0s,MS5.0
NEW Newport 103.10 38 ePdif Pdif 06 51 09.9 +1.0
NEW LR LR
comp=Z,609nm,22.0s,MS5.1
MOD Modoc 103.35 45 PFAKE 06 51 20.0 +10
MOD LR LR
comp=Z,606nm,20.0s,MS5.1
CMB Columbia Colle 104.57 49 PFAKE 06 51 30.0 +14
CMB LR LR
comp=Z,912nm,22.0s,MS5.3
CDF Champ du Feu 104.85 323 ePP PP 06 55 34.1 -5.6
MSO Missoula 105.66 38 PFAKE 06 55 50.0
MSO LR LR
comp=Z,426nm,21.0s,MS5.0
NVAR Mina Array Bea 105.98 48 Pdiff Pdif 06 51 22.2 +0.3
comp=Z,1.5nm,1.0s,baz=266,slow=7.0,SNR=7.0
NVAR PKKPbc 07 06 57.9
comp=Z,0.4nm,0.5s,baz=136,slow=4.6,SNR=3.6
NVAR Mina Array Bea 105.98 48 Pdif Pdif 06 51 22.2 +0.3
NVAR PKKPbc 07 06 57.9
BMN Battle Mountai 106.05 45 PFAKE 06 55 50.0
BMN LR LR
comp=Z,825nm,21.0s,MS5.3
MNV Mina 106.09 48 PFAKE 06 55 50.0
MNV LR LR
comp=Z,653nm,20.0s,MS5.2
SUR Sutherland 106.12 238 PFAKE 06 55 50.0
SUR LR LR
comp=Z,383nm,20.0s,MS5.0
PGF Pioggiola 106.20 317 ePP PP 06 55 43.2 -6.4
comp=Z,24nm,1.0s
LPG La Plagne 106.45 320 ePP PP 06 55 45.6 -6.0
comp=Z,12nm,0.8s
LPL La Plagne 106.45 321 ePP PP 06 55 45.7 -5.9
SNAA Sanae 106.67 195 ||*i*PKPdf 06 55 19.6
SNAA e 06 55 45.2
HLID Hailey 106.75 42 PFAKE 06 55 50.0
HLID LR LR
comp=Z,550nm,21.0s,MS5.1
MBDF Montbardon 106.77 320 ePP PP 06 55 47.9 -6.3
comp=Z,13nm,1.0s
ESK Eskdalemuir 106.80 333 PFAKE 06 55 50.0
ESK LR LR
comp=Z,223nm,20.0s,MS4.7
TPH Tonopah 106.90 48 PFAKE 06 55 50.0
TPH LR LR
comp=Z,754nm,21.0s,MS5.2
DAC Darwin (Calif) 107.26 50 PFAKE 06 55 50.0
DAC LR LR
comp=Z,619nm,21.0s,MS5.1
ORIF Oris-en-Rattie 107.26 320 ePP PP 06 55 51.5 -6.3
ELK Elko 107.33 45 PFAKE 06 55 50.0
ELK LR LR
comp=Z,713nm,22.0s,MS5.2
BOZ Bozeman (W) 107.62 39 PFAKE 06 55 50.0
BOZ LR LR
comp=Z,401nm,19.0s,MS5.0
FFC Flin Flon 107.92 27 PFAKE 06 55 50.0
FFC LR LR
comp=Z,155nm,21.0s,MS4.5
AVF Avril sur Loir 107.96 323 ePP PP 06 55 56.7 -6.0
comp=Z,32nm,1.2s
TPNV Topopah Spring 108.03 49 PFAKE 06 55 50.0
TPNV LR LR
comp=Z,626nm,20.0s,MS5.2
VIVF Saint-Julien-l 108.05 321 ePP PP 06 55 57.4 -6.0
VNA2 Neumayer--Watz 108.29 194 PKPdf 06 55 38.9
VNA2 e 06 56 06.5
VNA3 Neumayer Olymp 108.62 194 ||*i*PKPdf 06 55 36.9
VNA3 e 06 56 04.5
VNA1 Neumayer--Stat 108.69 194 ||*i*PKPdf 06 55 35.0
VNA1 e 06 56 02.1
TCF Toulx Ste Croi 108.89 323 ePP PP 06 56 02.9 -7.2
LKWY Lake 108.90 39 PFAKE 06 55 50.0
LKWY LR LR
comp=Z,640nm,19.0s,MS5.2
PFO Pinyon Flat Ob 109.05 52 PFAKE 06 55 50.0
PFO LR LR
comp=Z,138nm,19.0s,MS4.5
REDW Red Top Meadow 109.17 41 ePKiKP 06 55 41.6
SNOW Snow King Moun 109.18 40 ePKiKP 06 55 41.8
DUG Dugway 109.24 44 PFAKE 06 55 50.0
DUG LR LR
comp=Z,598nm,22.0s,MS5.1
AHID Auburn Hatcher 109.28 41 PFAKE 06 55 50.0
AHID LR LR
comp=Z,511nm,22.0s,MS5.0
HWUT Hardware Ranch 109.49 43 ePKiKP 06 55 41.7
HWUT LR LR
comp=Z,832nm,20.0s,MS5.3
NEN Nelson 109.56 49 PKiKP 06 55 40.8
NEN e 06 59 14.7
TSUM Tsumeb 109.64 252 PFAKE 06 55 50.0
TSUM LR LR
comp=Z,924nm,21.0s,MS5.3
BW06 Boulder Array 110.28 41 PFAKE 06 55 50.0 +5.1
BW06 LR LR
comp=Z,585nm,22.0s,MS5.1
PDAR Pinedale Array 110.28 41 PKiKP 06 55 42.6
comp=Z,1.2nm,0.7s,baz=18,slow=2.9,SNR=7.3
PDAR PP PP 06 56 27.6 +7.5
comp=Z,1.4nm,0.9s,slow=3.0,SNR=4.3
PDAR PKKPbc 07 06 48.0
comp=Z,1.2nm,0.7s,baz=135,slow=4.2,SNR=5.0
PDAR PKKP PKKP 07 06 58.6 +4.9
comp=Z,1.9nm,0.9s,baz=109,slow=4.2,SNR=6.8
LAO LASA Array 110.37 36 ePKiKP 06 55 43.9
LAO LR LR
comp=Z,534nm,19.0s,MS5.1
MVU Marysvale 110.37 46 PFAKE 06 55 50.0 +4.8
MVU LR LR
comp=Z,874nm,19.0s,MS5.3
MSU Marysvale 110.39 46 ePKiKP 06 55 44.9
DGMT Dagmar 110.53 33 PFAKE 06 55 50.0 +4.7
DGMT LR LR
comp=Z,513nm,22.0s,MS5.1
SRU San Rafael 111.30 45 ePKiKP 06 55 45.6
RSSD Black Hills 113.05 37 ePKiKP 06 55 47.5
RSSD eSKPdf 06 59 19.9
PV01 Paradox Valley 113.11 45 ePKiKP 06 55 49.4
ULM Lac du Bonnet 113.67 28 PFAKE 06 56 00.0 +8.6
ULM LR LR
comp=Z,827nm,21.0s,MS5.3
TUC Tucson 113.96 51 PFAKE 06 56 00.0 +7.6
TUC LR LR
comp=Z,615nm,20.0s,MS5.2
ISCO Idaho Springs 114.33 42 ePKiKP 06 55 51.5
ISCO LR LR
comp=Z,696nm,21.0s,MS5.2
SDCO Great Sand Dun 115.43 44 PFAKE 06 56 00.0 +4.9
SDCO LR LR
comp=Z,966nm,22.0s,MS5.4
ANMO Albuquerque 116.08 47 *c i* PKiKP PKPdf 06 55 55.5 -1.0
ANMO Albuquerque 116.08 47 ePKPdf PKPdf 06 55 55.4 -1.1
ANMO eSKPdf 06 59 27.2
ANMO LR LR
comp=Z,622nm,22.0s,MS5.2
ESLA Sonseca Array 116.18 319 PFAKE 06 56 10.0 +13
ESLA LR LR
comp=Z,4μm,22.0s,MS6.0
LPM Los Pinos Moun 116.25 48 ePKPdf PKPdf 06 55 55.3 -1.5
LPM eSKPdf 06 59 27.9
BNM Barren Site 116.33 48 ePKPdf PKPdf 06 55 55.8 -1.2
BNM eSKPdf 06 59 28.0
EYMN Ely 117.34 28 PFAKE 06 56 10.0 +11
EYMN LR LR
comp=Z,12nm,21.0s
MTE Manteigas 118.05 322 ePKPdf PKPdf 06 56 00.6 +0.5
MTE ePP PP 06 57 11.8 -3.7
MTE *i* - 07 06 47.8
MTE eSS SS 07 13 30.6 +5.9
MTE eLQ 07 27 03.8
MTE e- 07 34 35.7
PCBR Castelo Branco 118.34 321 ePKPdf PKPdf 06 56 00.4 -0.3
CBKS Cedar Bluff 118.70 40 PFAKE 06 56 10.0 +8.6
CBKS LR LR
comp=Z,915nm,22.0s,MS5.4
GDL2 Guadalupe Moun 118.91 49 ePKPdf PKPdf 06 56 00.2 -1.9
SCHQ Schefferville 119.06 9 PKP PKPdf 06 55 58.7 -3.0
comp=Z,6.0nm,0.5s,baz=225,slow=3.5,SNR=16
SCHQ Schefferville 119.06 9 PKP PKPdf 06 55 58.7 -3.1
SCHQ LR LR
comp=Z,1μm,22.0s,MS5.5
CLNB Carlsbad 119.24 48 ePKPdf PKPdf 06 56 01.0 -1.6
EVO Evora 119.43 320 ePKiKP PKPdf 06 55 58.9 -3.9
comp=Z,31nm,1.1s
PMSA Palmer Station 120.15 175 eP Pdif 06 52 06.8 -17
PMSA LR LR
comp=Z,418nm,20.0s,MS5.1
KSU1 Kansas State U 120.49 38 ePKPdf PKPdf 06 56 02.5 -2.5
KSU1 eSKPdf 06 59 34.1
LTX Lajitas 120.76 51 PFAKE 06 56 10.0 +4.3
LTX LR LR
comp=Z,1μm,19.0s,MS5.5
TXAR Lajitas Array 120.76 51 PKP PKPdf 06 56 03.3 -2.4
comp=Z,2.4nm,0.8s,baz=213,slow=1.4,SNR=31
TXAR SKP 06 59 35.8
comp=Z,4.0nm,1.1s,baz=288,slow=2.9,SNR=6.7
TXAR PKKPbc 07 06 07.0
comp=Z,0.9nm,0.8s,baz=133,slow=5.7,SNR=8.2
JFWS Jewell Farm 121.56 31 PFAKE 06 56 20.0 +13
JFWS LR LR
comp=Z,522nm,20.0s,MS5.2
WMOK Wichita Mounta 121.62 43 ePKPdf PKPdf 06 56 04.7 -2.5
WMOK LR LR
comp=Z,685nm,22.0s,MS5.2
JCT Junction City 123.15 48 ePKPdf PKPdf 06 56 08.1 -2.1
JCT LR LR
comp=Z,697nm,20.0s,MS5.3
CCM Cathedral Cave 124.39 36 ePKPdf PKPdf 06 56 09.7 -2.8
CCM LR LR
comp=Z,329nm,20.0s,MS5.0
FVM French Village 124.91 35 ePKPdf PKPdf 06 56 11.1 -2.5
MIAR Mount Ida 125.21 41 ePKPdf PKPdf 06 56 12.0 -2.2
MIAR eSKPdf 06 59 43.7
MIAR LR LR
comp=Z,684nm,22.0s,MS5.3
AAM Ann Arbor 125.23 27 PFAKE 06 56 20.0 +6.0
AAM LR LR
comp=Z,542nm,20.0s,MS5.2
UALR University of 125.86 40 ePKPdf PKPdf 06 56 13.2 -2.2
NATX Nacogdoches 126.15 44 PFAKE 06 56 30.0 +14
NATX LR LR
comp=Z,680nm,20.0s,MS5.3
BLO Bloomington 126.22 32 ePKPdf PKPdf 06 56 13.5 -2.5
HKT Hockley 126.34 47 PFAKE 06 56 30.0 +14
HKT LR LR
comp=Z,842nm,20.0s,MS5.4
PQI Presque Isle 126.67 12 PKPdf PKPdf 06 56 12.8 -3.8
PQI LR LR
comp=Z,4μm,20.0s,MS6.1
LOZ Lake Ozonia 126.80 19 ePKPdf PKPdf 06 56 14.1 -2.8
WCI Wyandotte Cave 127.03 32 ePKPdf PKPdf 06 56 15.5 -2.1
WCI eSKP 06 59 29.5
WCI LR LR
comp=Z,449nm,20.0s,MS5.1
ACSO Alum Creek Sta 127.17 28 ePKPdf PKPdf 06 56 15.0 -2.8
ACSO LR LR
comp=Z,592nm,22.0s,MS5.2
GENY Geneseo 127.29 22 ePKPdf PKPdf 06 56 15.7 -2.2
GENY eSKP 06 59 31.3
NCB Newcomb 127.50 19 ePKPdf PKPdf 06 56 15.9 -2.4
NCB LR LR
comp=Z,698nm,21.0s,MS5.3
MIV Mineville/With 127.62 18 ePKPdf PKPdf 06 56 16.0 -2.6
WVT Waverly 127.69 35 ePKPdf PKPdf 06 56 16.1 -2.8
WVT eSKP 06 59 31.4
WVT LR LR
comp=Z,416nm,20.0s,MS5.1
MDV Middlebury 127.80 18 ePKPdf PKPdf 06 56 16.9 -2.0
OXF Oxford 127.86 38 ePKPdf PKPdf 06 56 17.3 -2.0
OXF LR LR
comp=Z,393nm,19.0s,MS5.1
ACCN Adirondack Com 128.20 19 ePKPdf PKPdf 06 56 17.5 -2.3
ACCN eSKP 06 59 33.5
WVL Waterville 128.27 15 PFAKE 06 56 30.0 +10
WVL LR LR
comp=Z,3μm,19.0s,MS6.0
HNH Hanover 128.34 17 eSKP 06 59 34.7
BINY Binghamton 128.46 21 ePKPdf PKPdf 06 56 17.6 -2.6
BINY eSKP 06 59 34.3
BINY LR LR
comp=Z,675nm,20.0s,MS5.3
EMMW East Machias 128.66 13 PFAKE 06 56 30.0 +9.4
EMMW LR LR
comp=Z,4μm,22.0s,MS6.0
FFD Franklin Falls 128.74 17 eSKP 06 59 36.5
MCWV Mont Chateau 129.07 26 eSKP 06 59 37.5
MCWV LR LR
comp=Z,605nm,22.0s,MS5.2
SSPA Standing Stone 129.08 24 ePKPdf PKPdf 06 56 18.9 -2.6
SSPA eSKP 06 59 37.3
SSPA LR LR
comp=Z,516nm,21.0s,MS5.2
USHA Ushuaia 129.14 169 PKP PKPdf 06 56 19.3 -1.9
comp=Z,7.6nm,0.7s,baz=339,slow=3.1,SNR=9.6
USHA SKPbc 06 59 36.7
comp=Z,10nm,1.0s,baz=39,slow=2.7,SNR=2.8
SWET Sewanee 129.42 35 ePKPdf PKPdf 06 56 19.5 -2.8
SWET eSKP 06 59 37.7
HRV Harvard--Oak R 129.65 17 PFAKE 06 56 30.0 +7.5
HRV LR LR
comp=Z,668nm,20.0s,MS5.3
WES Weston 129.83 17 PFAKE 06 56 30.0 +7.1
WES LR LR
comp=Z,2μm,22.0s,MS5.7
CPCT Cooper Cave 130.04 33 eSKP 06 59 43.3
KIC Kosan Boka 130.04 283 ePKiKP PKPdf 06 56 22.7 -1.3
comp=Z,134nm,1.1s
DBIC Dimbokro 130.09 283 PKP PKPdf 06 56 21.4 -2.7
comp=Z,9.4nm,0.7s,baz=358,slow=3.8,SNR=4.9
DBIC SKPbc 06 59 40.6
comp=Z,50nm,0.9s,baz=67,slow=6.4,SNR=22
DBIC Dimbokro 130.09 283 ePKPdf PKPdf 06 56 22.3 -1.8
DBIC eSKP 06 59 40.7
DBIC LR LR
comp=Z,620nm,22.0s,MS5.3
PAL Palisades 130.25 20 eSKP 06 59 41.3
TIC Toumodi 130.25 283 ePKiKP PKPdf 06 56 22.3 -2.1
comp=Z,169nm,1.4s
FWV Forest Hill 130.30 29 ePKPdf PKPdf 06 56 21.8 -2.1
FWV eSKPab 06 59 41.5
BRNJ Basking Ridge 130.30 21 eSKP 06 59 42.2
LRAL Lakeview Retre 130.33 38 ePKPdf PKPdf 06 56 21.5 -2.5
LRAL eSKPab 06 59 41.3
LRAL LR LR
comp=Z,543nm,21.0s,MS5.2
LIC Lamto 130.35 283 ePKiKP PKPdf 06 56 22.9 -1.7
comp=Z,34nm,0.7s
LIC Lamto 130.35 283 ePKiKP PKPdf 06 56 22.2 -2.4
comp=Z,117nm,1.4s
PWV Princeton 130.38 29 ePKPdf PKPdf 06 56 21.9 -2.1
PWV eSKPab 06 59 42.0
CPNY Central Park 130.42 20 SKP 06 59 42.8
BLA Blacksburg 130.78 29 eSKP 06 59 43.2
BLA LR LR
comp=Z,477nm,20.0s,MS5.2
CBN Corbin 131.34 25 ePKPdf PKPdf 06 56 23.9 -1.9
CBN eSKPbc 06 59 45.8
CBN LR LR
comp=Z,611nm,22.0s,MS5.3
JSC Jenkinsville 132.67 32 PKPdf PKPdf 06 56 25.4 -3.1
JSC eSKPbc 06 59 49.9
COW Cow Castle Cre 133.66 32 ePKPdf PKPdf 06 56 29.7 -0.6
NHSC New Hope 134.15 32 eSKP 06 59 55.9
NHSC LR LR
comp=Z,587nm,21.0s,MS5.3
DWPF Disney 137.20 38 PFAKE 06 56 50.0 +13
DWPF LR LR
comp=Z,607nm,20.0s,MS5.3
PAYG Puerto Ayora 142.92 84 PFAKE 06 57 00.0 +12
PAYG LR LR
comp=Z,735nm,21.0s,MS5.4
SACV Santiago Islan 144.24 305 PFAKE 06 57 00.0 +15
SACV LR LR
comp=Z,205nm,21.0s,MS4.9
TRQA Tornquist 146.47 168 ePKPdf PKPdf 06 56 51.0 -2.0
TRQA LR LR
comp=Z,637nm,21.0s,MS5.4
STH Stony Hill 147.27 44 ||*i*P PKPdf 06 56 55.5 +0.5
GWJ Greenwich 147.33 44 ||*e*P PKPdf 06 56 55.3 +0.3
HOJ Hope 147.36 44 ||*i*P PKPdf 06 56 56.0 +0.9
DSCH Colegio Aleman 147.80 152 eP PKPdf 06 56 56.6 +1.2
CLCH Cerro Calan 147.82 152 ||*e*P PKPdf 06 56 55.8 +0.4
FCH Farellones 147.99 153 ||*e*P PKPdf 06 56 57.7 +2.0
AOPR Arecibo Observ 153.09 29 ePKPbc PKPdf 06 57 07.5 +3.6
MGP Maguayo 153.21 30 ePKPbc PKPdf 06 57 08.9 +4.9
SJG San Juan 153.57 28 PKP PKPdf 06 57 00.9 -3.6
comp=Z,2.4nm,0.3s
SJG PKPbc PKPdf 06 57 09.9 +5.4
comp=Z,12nm,0.5s,baz=5.5,slow=2.9,SNR=3.8
SJG San Juan 153.57 28 ePKPdf PKPdf 06 57 00.7 -3.8
SJG ePKPbc PKPdf 06 57 09.8 +5.3
SJG LR LR
comp=Z,338nm,21.0s,MS5.1
HUMP Col San Antoni 153.69 27 PKPdf PKPdf 06 56 59.5 -5.2
HUMP ePKPbc PKPdf 06 57 09.8 +5.1
CPD Cerro la Pandu 153.75 28 ePKPdf PKPdf 06 57 00.3 -4.5
CPD ePKPbc PKPdf 06 57 10.3 +5.6
OTAV Otavalo 154.41 78 ePKPdf PKPdf 06 57 05.1 -0.8
OTAV ePKPbc PKPdf 06 57 12.9 +7.0
OTAV LR LR
comp=Z,299nm,22.0s,MS5.1
NNA Nana 155.93 108 PFAKE 06 57 20.0 +12
NNA LR LR
comp=Z,179nm,21.0s,MS4.9
ROSC El Rosal 156.82 65 PKP PKPdf 06 57 07.6 -1.4
comp=Z,12nm,0.9s,baz=182,slow=4.8,SNR=9.7
ROSC PKPab PKPab 06 57 38.4 +1.5
comp=Z,35nm,1.0s,baz=199,slow=3.9,SNR=8.6
LVC Limon Verde 157.19 140 PFAKE 06 57 20.0 +11
LVC LR LR
comp=Z,965nm,22.0s,MS5.6
SDV Santo Domingo 157.80 51 ePKPdf PKPdf 06 57 08.7 -1.6
SDV LR LR
comp=Z,336nm,22.0s,MS5.1
CPUP Villa Florida 158.75 170 PKP PKPdf 06 57 09.1 -2.0
comp=Z,3.1nm,0.8s,baz=75,slow=1.2,SNR=7.0
CPUP PKPab PKPab 06 57 48.0 +3.2
comp=Z,11nm,0.8s,baz=203,slow=3.8,SNR=10.0
CPUP Villa Florida 158.75 170 ePKPdf PKPdf 06 57 08.9 -2.2
CPUP *e* 06 57 30.3
CPUP ePKPab PKPab 06 57 47.7 +3.0
CPUP LR LR
comp=Z,602nm,21.0s,MS5.4
LPAZ La Paz 161.91 128 PKP PKPdf 06 57 13.4 -1.2
comp=Z,8.1nm,1.2s,baz=351,slow=1.6,SNR=15
LPAZ PKPab PKPab 06 58 01.3 +2.7
comp=Z,5.7nm,0.9s,baz=203,slow=4.6,SNR=5.1
LPAZ La Paz 161.91 128 ePKPdf PKPdf 06 57 14.3 -0.3
LPAZ eSKPdf 07 00 43.7
LPAZ ePP PP 07 01 41.9 -1.5
LPAZ LR LR
comp=Z,581nm,22.0s
RCBR Riachuelo 162.55 267 PFAKE 06 57 20.0 +4.6
RCBR LR LR
comp=Z,594nm,21.0s
BAO Brasilia Array 168.42 207 P PKPdf 06 57 17.1 -3.1
BAO *e* 06 58 32.5
BDFB Brasilia 168.42 207 PKP PKPdf 06 57 18.3 -1.9
comp=Z,4.7nm,0.9s,baz=59,slow=3.0,SNR=5.5
BDFB PKPab PKPab 06 58 26.9 -0.1
comp=Z,15nm,1.0s,baz=71,slow=4.8,SNR=4.7
SAML Samuel 169.66 111 ePKPdf PKPdf 06 57 19.2 -1.8
SAML ePKPab PKPab 06 58 33.1 +0.5
SAML LR LR
comp=Z,620nm,21.0s

IDC 11 07:01:57.2±2.2, 4.89S×152.02E, mb3.4/3, mb1 3.8/3, mb1mx3.6/13, Error ellipse: s-maj=171.0km s-min=29.2km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.81**	**227**	P	P	07 07 02.0	-1.1
	0.4nm,0.4s,baz=54,slow=10,SNR=3.0						
ASAR	**Alice Springs**	**25.57**	**221**	P	P	07 07 27.9	-1.7
	0.4nm,0.5s,baz=56,slow=8.9,SNR=5.9						
ILAR	**Eielson Array**	**82.53**	**22**	P	P	07 14 21.7	-1.3
	0.4nm,0.8s,baz=249,slow=5.5,SNR=5.3						

JMA 11 07:02:24.3±0.2, 38.88N×145.09E, h56km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**2.63**	**286**	P	P	07 03 05.4	0.0
MIYJ				*eS*	S	07 03 36.1	-0.1
OFUJ	**Ofunato**	**2.67**	**275**	P	P	07 03 06.0	0.0
JTH	**Tanohata**	**2.71**	**294**	P	P	07 03 06.7	+0.2
JMK	**Ichinoseki**	**3.02**	**273**	P	P	07 03 11.2	+0.3
JCH	**Churui**	**3.95**	**341**	P	P	07 03 22.6	-1.4
JCH				*eS*	S	07 04 07.4	-2.2

NNC ***11*** *07:10:52.5±12.0, 36.59N×69.95E, mpv4.8, Error ellipse: s-maj=148.5km s-min=76.1km az=157.0*
MOS ***11*** *07:11:02.4±0.9, 36.42N×70.90E, h216km, mb3.9/9, Error ellipse: s-maj=20.6km s-min=11.8km az=93.8*
BJI ***11*** *07:11:03.4, 36.68N×70.87E, h211km, mb3.9*
NEIC ***11*** *07:11:03.0±1.7, 36.46N×70.97E, h202km±16km, mb4.2/5, Error ellipse: s-maj=12.4km s-min=9.4km az=205.0*
IDC ***11*** *07:11:06.9±2.8, 36.49N×71.00E, h241km±28km, mb3.8/15, mb1 4.0/18, mb1mx3.9/23, Error ellipse: s-maj=10.8km s-min=10.3km az=153.0*

ISC 11 07:11:02.5±0.5, 36.42N±0.03×71.02E±0.06, h214km±5km, n81, σ1s02/102, mb3.9/17, 4C-7D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.69**	**164**	||P	**P**	**07 11 50.2**	**+0.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CEP				S	S	07 12 29.0	+2.7
CHCP	Chirah Chowk	3.31	146	⇓P	P	07 11 58.0	+1.0
THW	Thamme Wali	3.66	170	⇓P	P	07 12 01.5	+0.3
KSH	Kashi	4.99	50	P	P	07 12 19.3	+1.6
KSH				S	S	07 13 16.4	+0.2
KSH				Smax			
	comp=N,780nm,0.6s						
KSH				Smax			
	comp=E,1µm,0.4s						
THN	Thein Dam	5.55	134	eP	P	07 12 24.9	0.0
THN				eS	S	07 13 28.2	-0.8
AML	Almayashu	6.07	19	P	P	07 12 31.3	-0.3
	SNR=338						
UCH	Uchtor	6.40	24	P	P	07 12 35.8	-0.1
	SNR=120						
KZA	Kyzart	6.54	29	P	P	07 12 37.2	-0.4
	SNR=29						
EKS2	Erkin-Say	6.59	18	P	P	07 12 38.2	0.0
	SNR=55						
BHK	Bhakra	6.71	136	e	Px	07 13 15.5	
BHK				eS	S	07 13 55.3	-0.3
AAK	Ala-Archa	6.76	22	⇓Pn	P	07 12 40.1	-0.3
	comp=E,31nm,0.5s						
AAK				⇑Sn	S	07 13 57.1	+0.1
	comp=E,354nm,0.9s						
AAK	Ala-Archa	6.76	22	P	P	07 12 40.7	+0.2
	SNR=68						
AAK	Ala-Archa	6.76	22	eP	P	07 12 39.2	-1.2
	comp=E,37nm,0.5s						
KBK	Karagaybulak	6.93	25	P	P	07 12 41.1	-1.5
	SNR=7.0						
ULHL	Ulahol	7.09	33	P	P	07 12 44.8	+0.1
	SNR=44						
CHMS	Chumysh	7.18	22	P	P	07 12 45.4	-0.4
	SNR=13						
USP	Ospenovka	7.35	20	P	P	07 12 47.7	-0.4
	SNR=34						
TKM2	Tokmak 2	7.39	27	P	P	07 12 48.8	+0.2
	SNR=27						
KLP	Kalpa	7.73	127	eP	P	07 12 55.2	+2.2
KLP				eS	S	07 14 17.4	-2.0
DDI	Dehra Dun	8.46	134	eP	P	07 13 02.1	-0.3
DDI				e		07 14 38.6	
JOSI	Joshimath	9.22	127	eP	P	07 13 14.3	+2.1
KHET	Khetri	9.25	153	eP	P	07 13 11.9	-0.7
KHET				eS	S	07 14 49.6	-4.9
NDI	New Delhi	9.31	144	eP	P	07 13 11.0	-2.5
NDI				eS	S	07 14 51.0	-5.0
AYAN	Aya Nagar	9.44	145	eS	S	07 14 54.2	-4.7
JASL	Jaisalmer	9.46	181	eP	P	07 13 14.0	-1.4
SONA	Sohna	9.62	146	eP	P	07 13 17.5	+0.1
SONA				eS	S	07 14 57.6	-5.5
SONA				e		07 14 59.5	
	comp=N,46nm,0.5s						
SONA				e		07 14 59.7	
	comp=E,157nm,0.5s						
LGTI	Lohaghat	10.40	129	eP	P	07 13 28.0	+0.5
LGTI				eS	S	07 15 20.0	-1.3
AGRA	Agra	10.88	145	eS	S	07 15 26.8	-5.6
MK31	Makanchi Array	13.35	36	⇓P	P	07 14 05.2	+0.5
	comp=E,7.5nm,0.5s,baz=208,slow=13,SNR=119						
MKAR	Makanchi Array	13.35	36	P	P	07 14 04.7	0.0
	comp=E,3.5nm,0.3s,baz=213,slow=14,SNR=113						
MKAR				S	S	07 16 32.8	+4.2
	baz=210,slow=35,SNR=1.8						
MKAR	Makanchi Array	13.35	36	P	P	07 14 04.7	0.0
MKAR				S	S	07 16 32.8	+4.2
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
KOLN	Koldanda	13.70	125	eP	P	07 14 10.0	+0.9
	comp=Z,37nm,0.3s						
KOLN				eS	S	07 16 34.3	-2.3
GKN	Gorkha	14.24	122	eP	P	07 14 16.7	+0.8
	comp=Z,123nm,0.4s						
GKN				eS	S	07 16 45.0	-3.8
DMN	Daman	14.82	122	eP	P	07 14 23.4	+0.5
	comp=Z,31nm,0.3s						
KKN	Kakani	14.82	121	eP	P	07 14 23.4	+0.4
	comp=Z,95nm,0.5s						
KKN				eS	S	07 16 56.8	-4.9
PKI	Pulchoki	15.05	122	eP	P	07 14 26.3	+0.5
	comp=Z,177nm,0.8s						
PKI				eS	S	07 17 02.8	-4.0
GUN	Gumba	15.16	120	eP	P	07 14 27.7	+0.5
	comp=Z,45nm,0.3s						
KURK	Kurchatov	15.30	19	⇑P	P	07 14 29.2	+0.4
	comp=Z,9.7nm,0.9s						
KURK	Kurchatov	15.30	19	P	P	07 14 27.3	-1.5
KURK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
VOSK	Vostochnaya	16.31	360	⇑P	P	07 14 40.1	-0.8
	comp=Z,16nm,0.8s						
ZRNK	Zerenda	16.59	356	⇓P	P	07 14 43.8	-0.5
	comp=Z,14nm,0.5s						
BVA0	Borovoye Array	16.61	359	⇓P	P	07 14 43.5	-1.0
	comp=Z,1.7nm,0.5s						
BVAR	Borovoye Array	16.61	359	P	P	07 14 43.7	-0.8
	comp=Z,12nm,0.3s,baz=162,slow=11,SNR=47						
BVAR				S	S	07 17 44.8	+3.4
	comp=Z,2.1nm,0.3s,baz=172,slow=22,SNR=7.5						
POO	Poona	17.99	171	eP	P	07 15 00.0	+0.4
POO				e		07 18 27.0	
ZAL	Zalesovo	19.97	24	P	P	07 15 19.6	-0.1
	comp=Z,14nm,0.3s,baz=168,slow=6.0,SNR=41						
ZAL				S	S	07 18 51.4	+4.1
	comp=Z,0.5nm,0.3s,baz=57,slow=19,SNR=2.5						
ZAL	Zalesovo	19.97	24	P	P	07 15 19.6	0.0
ZAL				S	S	07 18 51.4	+4.1
ZAL				pmax	pmax		
	comp=Z,14nm,0.3s						
ZAL				smax			
	comp=N,1.0nm,0.3s						
HYB	Hyderabad	20.07	159	iP	P	07 15 22.5	+1.6
HYB				eS	S	07 19 03.0	+14
NVS	Novosibirsk	20.25	21	iP	P	07 15 22.5	0.0
NVS				eS	S	07 18 55.7	+3.2
NVS				pmax	pmax		
	comp=N,51nm,1.6s						
NVS				pmax	pmax		
	comp=Z,40nm,1.6s						
NVS				pmax	pmax		
	comp=E,16nm,1.1s						
NVS				smax			
	comp=N,17nm,1.5s						
NVS				smax			
	comp=E,17nm,1.9s						
NVS	Novosibirsk	20.25	21	iP	P	07 15 22.5	0.0
	comp=E,40nm,1.6s						
NVS				eS	S	07 18 55.7	+3.2
SVE	Sverdlovsk	21.58	344	⇑eP	P	07 15 36.0	+0.5
GTA	Gaotai	22.87	74	eP	P	07 15 51.9	+3.7
SONM	Songino Array	28.37	55	P	P	07 16 39.8	+1.1
	comp=E,2.6nm,0.7s,mb4.0,baz=261,slow=9.6,SNR=12						
BRTR	Keskin Array B	29.48	288	P	P	07 16 48.2	-0.3
	comp=E,2.3nm,1.0s,mb3.8,baz=91,slow=9.3,SNR=6.5						
BRTR	Keskin Array B	29.48	288	P	P	07 16 48.2	-0.3
BRTR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
CMAR	Chiang Mai Arr	30.40	119	P	P	07 16 57.8	+0.9
	comp=Z,2.0nm,0.6s,mb3.9,baz=299,slow=9.6,SNR=9.4						
CMAR	Chiang Mai Arr	30.40	119	P	P	07 16 57.8	+0.9
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	Malin Array Be	33.01	309	P	P	07 17 18.3	-0.8
	comp=Z,0.8nm,0.3s,mb3.7,baz=78,slow=7.0,SNR=5.9						
AKASG	Malin Array Be	33.01	309	P	P	07 17 18.3	-0.8
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
IDI	Anoyia	37.13	282	P	P	07 17 54.8	+0.7
	comp=Z,2.2nm,0.7s,mb3.8,baz=67,slow=18,SNR=2.5						
FINES	FINESS Array B	37.56	326	P	P	07 17 57.2	-0.2
	comp=Z,1.7nm,0.4s,mb3.9,baz=117,slow=9.4,SNR=14						
FINES	FINESS Array B	37.56	326	P	P	07 17 57.2	-0.2
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KAF	Kangasniemi	37.70	327	ep	P	07 17 57.2	-1.4
	comp=Z,0.6nm,0.3s,mb3.6,baz=116,slow=9.8						
KAF	Kangasniemi	37.70	327	eP	P	07 17 57.2	-1.4
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.8						
ARCES	ARCESS Array B	41.23	338	P	P	07 18 28.0	+0.4
	comp=Z,9.5nm,0.6s,mb4.4,baz=112,slow=8.1,SNR=66						
ARCES	ARCESS Array B	41.23	338	P	P	07 18 28.0	+0.5
ARCES				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NB2	NORSAR Subarra	44.46	323	P	P	07 18 52.5	-1.0
	comp=Z,3.1nm,0.6s,mb3.8,baz=95,slow=7.9						
NOA	NORSAR Array B	44.46	323	P	P	07 18 52.6	-0.9
	comp=Z,2.4nm,0.6s,mb3.7,baz=97,slow=7.7,SNR=12						
NOA	NORSAR Array B	44.46	323	P	P	07 18 52.6	-0.9
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KMBO	Kilima Mbogo	48.78	228	P	P	07 19 29.2	+1.4
	comp=Z,2.5nm,0.6s,mb3.8,baz=37,slow=12,SNR=9.8						
INK	Inuvik	73.99	9	eP	P	07 22 15.9	+0.4
	comp=Z,2.1nm,0.5s,mb4.0						
DBIC	Dimbokro	74.71	267	P	P	07 22 19.1	-1.6
	comp=Z,18nm,1.3s,mb4.5,baz=45,slow=4.3,SNR=3.1						
DBIC	Dimbokro	74.71	267	P	P	07 22 19.2	-1.5
DBIC				pmax	pmax		
	comp=Z,18nm,1.3s						
FITZ	Fitzroy Crossi	74.83	127	P	P	07 22 21.4	0.0
	comp=Z,2.4nm,0.7s,mb4.0,baz=28,slow=2.8,SNR=6.9						
ILAR	Eielson Array	74.86	16	P	P	07 22 20.4	-0.2
	comp=Z,0.8nm,0.5s,mb3.6,baz=306,slow=4.6,SNR=32						
ILAR	Eielson Array	74.86	16	P	P	07 22 20.4	-0.1
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	Yellowknife Ar	81.33	3	P	P	07 22 56.4	+0.7
	comp=Z,0.7nm,0.4s,mb3.6,baz=350,slow=5.4,SNR=7.1						
YKA	Yellowknife Ar	81.33	3	P	P	07 22 56.4	+0.7
YKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
YKA	Yellowknife Ar	81.33	3	P	P	07 22 56.4	+0.7
WRA	Warramunga Arr	81.93	122	P	P	07 22 59.4	-0.2
	comp=Z,2.8nm,0.3s,mb4.3,baz=323,slow=4.9,SNR=23						
WRA	Warramunga Arr	81.93	122	P	P	07 22 59.4	-0.2
WRA				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ASAR	Alice Springs	84.19	125	P	P	07 23 11.0	-0.1
	comp=Z,3.3nm,0.6s,mb4.2,baz=309,slow=4.9,SNR=56						

*NEIC **11** 07:31:41.2, 37.86N×15.48E, h4^{km}, mb3.8/1, ML3.5(ROM), After ROM.*
*ROM **11** 07:31:41.2±0.2, 37.86N×15.48E, h4^{km}±2^{km}, MD3.4/8, ML3.5, Error ellipse: s-maj=1.5km s-min=1.4km az=90.0*
*CSEM **11** 07:31:41.6±0.1, 37.89N×15.46E, h12^{km}, mb3.8/1, Error ellipse: s-maj=2.0km s-min=1.3km az=130.0*
*IDC **11** 07:31:50.6±3.5, 38.39N×15.80E, h51^{km}±36^{km}, mb3.6/7, mb1 3.7/10, mb1mx3.6/25, ML3.8/2, Error ellipse: s-maj=54.1km s-min=22.7km az=34.0*
ISC 11 07:31:42.4±0.4**, 37.91N**±0.03×**15.48E**±0.05**, h21**^{km}±4^{km}**, n71, σ0^{s}73**/77**, mb3.9**/8**, 4C, Sicily**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MTTG	Motta San Giov	0.19	60	ePG	Pb	07 31 47.1	-0.5
ATN	Antennamare	0.25	357	ePG	Pb	07 31 47.8	-0.7
ATN				SG	Sb	07 31 53.5	+0.9
ATN	Antennamare	0.25	357	ePg	Pb	07 31 47.8	-0.7
ATN				eSg	Sb	07 31 53.5	+0.9
MSI	Messina ING	0.30	11	ePG	Pb	07 31 48.9	-0.4
MSI	Messina ING	0.30	11	ePg	Pb	07 31 48.9	-0.4
GMB	Gambarie	0.38	46	ePG	Pb	07 31 50.6	+0.1
GMB	Gambarie	0.38	46	ePg	Pb	07 31 50.6	+0.1
SCLL	Scilla	0.40	28	ePG	Pb	07 31 50.4	-0.3
SCLL	Scilla	0.40	28	ePg	Pb	07 31 50.4	-0.3
SOI	Samo	0.48	70	⇑iPG	Pb	07 31 51.9	-0.3
SOI	Samo	0.48	70	⇑iPg	Pb	07 31 51.9	-0.3
MNO	Monte Soro	0.62	273	⇑iPG	Pb	07 31 54.3	-0.2
MNO	Monte Soro	0.62	273	⇑iPg	Pb	07 31 54.3	-0.2
AGST	Augusta-Monte	0.68	197	ePG	Pb	07 31 55.1	-0.4
AGST				SG	Sb	07 32 05.3	+0.9
	679nm,0.2s						
AGST	Augusta-Monte	0.68	197	ePg	Pb	07 31 55.1	-0.4
AGST				eSg	Sb	07 32 05.3	+0.9
AGST	Augusta-Monte	0.68	197	ePg	Pb	07 31 55.1	-0.4
	679nm,0.2s						
AGST				Sg	Sb	07 32 05.3	+0.9
SLNA	Salina	0.83	322	ePG	Pb	07 31 58.3	+0.2
SLNA	Salina	0.83	322	ePg	Pb	07 31 58.2	+0.2
SLNA	Salina	0.83	322	ePg	Pb	07 31 58.2	+0.1
MEU	Monte Lauro	0.92	209	ePG	Pb	07 31 59.1	-0.4
MEU	Monte Lauro	0.92	209	ePg	Pb	07 31 59.1	-0.3
PZI	Palazzolo	0.95	207	ePG	Pb	07 31 59.7	-0.3
	742nm,0.4s						
PZI	Palazzolo	0.95	207	ePg	Pb	07 31 59.7	-0.3
CSLB	Castelbuono	1.13	272	ePN	Pn	07 32 03.1	0.0
CSLB	Castelbuono	1.13	272	ePg	Pb	07 32 03.1	+0.1
GIB	Gibilmanna	1.15	275	ePN	Pn	07 32 03.5	0.0
	536nm,0.6s						
GIB	Gibilmanna	1.15	275	ePn	Pn	07 32 03.5	0.0
GIB	Gibilmanna	1.15	275	ePn	Pn	07 32 03.5	0.0
	536nm,0.6s						
GRI	Girifalco	1.18	39	ePN	Pn	07 32 04.6	+0.8
GRI	Girifalco	1.18	39	ePn	Pn	07 32 04.6	+0.8
TDS	Terranova Siba	1.88	21	ePN	Pn	07 32 13.1	-0.7
	396nm,0.6s						
TDS	Terranova Siba	1.88	21	ePn	Pn	07 32 13.1	-0.7
TDS	Terranova Siba	1.88	21	ePn	Pn	07 32 13.1	-0.7
	396nm,0.6s						
MGR	Morigerati	2.23	1	ePN	Pn	07 32 18.4	-0.5
	101nm,0.4s						
MGR	Morigerati	2.23	1	ePn	Pn	07 32 18.4	-0.6
MGR	Morigerati	2.23	1	ePn	Pn	07 32 18.4	-0.5
	101nm,0.4s						
SLCN	Sala Consilina	2.48	3	ePN	Pn	07 32 23.1	+0.6
	134nm,0.3s						
SLCN	Sala Consilina	2.48	3	ePn	Pn	07 32 23.1	+0.6
	134nm,0.3s						
SGO	Sicignano	2.66	357	ePN	Pn	07 32 24.5	-0.5
	97nm,0.6s						
SGO	Sicignano	2.66	357	ePn	Pn	07 32 24.5	-0.5
SGO	Sicignano	2.66	357	ePn	Pn	07 32 24.5	-0.5
	97nm,0.6s						
MRLC	Muro Lucano	2.85	0	ePN	Pn	07 32 29.2	+1.5
	88nm,0.6s						
MRLC	Muro Lucano	2.85	0	ePn	Pn	07 32 29.2	+1.5
MRLC	Muro Lucano	2.85	0	ePn	Pn	07 32 29.2	+1.5
	88nm,0.6s						
CSSN	Cassano Irpino	2.97	353	ePN	Pn	07 32 30.4	+0.9
	73nm,0.7s						
CSSN	Cassano Irpino	2.97	353	ePn	Pn	07 32 30.4	+0.8
CSSN	Cassano Irpino	2.97	353	ePn	Pn	07 32 30.4	+0.9
	73nm,0.7s						
PTS	Pantelleria	2.98	250	ePN	Pn	07 32 29.6	-0.1
	69nm,0.5s						
PTS	Pantelleria	2.98	250	ePn	Pn	07 32 29.6	-0.1
SG1	Sgolgore (BA)	3.07	17	ePn	Pn	07 32 31.0	+0.1
PE1	Pezze di Greco	3.26	27	ePn	Pn	07 32 33.5	-0.1
BAI	Bari	3.38	18	ePn	Pn	07 32 36.0	+0.8
FGMS	Monte Sant'Ang	3.81	5	ePN	Pn	07 32 41.8	+0.3
	243nm,0.8s						
FGMS	Monte Sant'Ang	3.81	5	ePn	Pn	07 32 41.8	+0.4
FGMS	Monte Sant'Ang	3.81	5	ePn	Pn	07 32 41.8	+0.3
	243nm,0.8s						
SDI	San Donato	4.01	342	ePN	Pn	07 32 45.1	+0.8
	31nm,0.6s						
SDI	San Donato	4.01	342	ePn	Pn	07 32 45.1	+0.8
SDI	San Donato	4.01	342	ePn	Pn	07 32 45.1	+0.8
	31nm,0.6s						
IDI	Anoyia	8.01	106	P	P	07 33 42.1	+1.6
	0.5nm,0.3s,baz=305,slow=16,SNR=2.9						
IDI				S	Sn	07 35 04.5	-6.9
	2.1nm,0.3s,baz=349,slow=22,SNR=12						
GERES	GERESS Array B	11.01	354	P	P	07 34 20.4	-1.4
	0.4nm,0.3s,baz=165,slow=14,SNR=5.3						
KHC	Kasperske Hory	11.30	354	eP	P	07 34 26.0	+0.1
ESDC	Sonseca Array	15.27	283	P	P	07 35 24.7	+6.3
	baz=94,slow=12,SNR=2.8						
EKA	Eskdalemuir Ar	21.51	330	P	P	07 36 32.6	+0.7
	2.6nm,0.7s,mb3.8,baz=145,slow=11,SNR=6.3						
HFS	Hagfors	22.28	358	P	P	07 36 38.2	-1.3
	1.7nm,0.7s,mb3.6,baz=150,slow=12,SNR=4.2						
NOA	NORSAR Array B	23.31	355	P	P	07 36 50.4	+0.8
	0.8nm,0.8s,mb3.2,baz=180,slow=7.1,SNR=3.5						
FINES	FINESS Array B	24.48	12	P	P	07 36 59.2	-1.7
	1.4nm,0.5s,mb3.6,baz=180,slow=9.5,SNR=7.4						
ARCES	ARCESS Array B	32.15	7	P	P	07 38 06.6	-3.8
	1.4nm,0.7s,mb3.9,baz=202,slow=9.7,SNR=3.1						
ZRNK	Zerenda	39.50	50	P	P	07 39 12.9	-0.1
	0.9nm,0.4s,mb3.9						
ZRNK	Zerenda	39.50	50	P	P	07 39 12.9	-0.1
	0.9nm,0.4s,mb3.9						
ZAL	Zalesovo	48.81	47	P	P	07 40 27.1	-0.6
	1.6nm,0.3s,mb4.5,baz=109,slow=6.7,SNR=4.9						
MKAR	Makanchi Array	48.81	57	P	P	07 40 27.6	-0.3
	1.9nm,0.5s,mb4.4,baz=275,slow=6.6,SNR=20						

ISC 11 07:43:08.7±0.5**, 44.83N**±0.05×**18.47E**±0.04**, h10**^{km}**, n10, σ1^{s}04**/19**, 5C-3D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HOPOS	Hopovo Monaste	1.01	72	⇑iPg	Pg	07 43 28.9	-0.2
HOPOS				Sg	Sg	07 43 43.2	+0.6
DIVS	Divcibare	1.31	123	⇑iPg	Pn	07 43 30.2	-2.9
DIVS				Sg	Sn	07 43 46.6	-4.2
BEO	Belgrade	1.41	90	⇓iPn	Pn	07 43 34.8	+0.2
BEO				Sg	Sg	07 43 54.6	-1.2
NVSS	Nova Varos 2	1.59	146	⇑iPn	Pn	07 43 35.7	-1.4
NVSS				Sn	Sn	07 43 59.7	+1.8
GRUS	Gruza	1.86	120	⇓iPn	Pn	07 43 41.7	+0.7
GRUS				Sn	Sn	07 44 04.9	+0.1
VBY	Vinica-Bojanci	2.37	288	ePn	Pg	07 43 56.0	-0.1
VBY				eSn	Sg	07 44 26.7	-1.1
DOBS	Dobrina	2.49	303	ePn	Pn	07 43 50.8	+0.8
ARSA	Arzberg	3.18	321	⇑iPN	Pn	07 44 01.3	+1.5
ARSA				i SN	Sn	07 44 38.3	+0.2
OBKA	Obir	3.22	303	⇑iPN	Pn	07 44 00.9	+0.4
OBKA				i SN	Sn	07 44 39.0	-0.3
MOA	Molln	4.20	318	⇓iPN	Pn	07 44 15.3	+1.0
MOA				i SN	Sn	07 45 02.9	-1.1

IDC 11 08:14:12.7±32.0**, 14.56N**×**143.23E, mb4.1**/3**, mb1 4.3**/3**, mb1mx3.7**/18**, Error ellipse: s-maj=575.0km s-min=156.8km az=2.0, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	35.38	195	P	P	08 21 10.4	-1.9
	2.8nm,0.7s,baz=16,slow=9.6,SNR=18						
ASAR	Alice Springs	39.07	194	P	P	08 21 42.0	-1.3
	1.6nm,0.5s,baz=18,slow=13,SNR=25						
STKA	Stephens Creek	46.19	182	P	P	08 22 38.5	-2.8
	1.5nm,0.6s,baz=350,slow=9.9,SNR=7.1						

CASC 11 08:16:47.8±2.4**, 11.07N**×**87.04W, h30**^{km}±52^{km}**, MD4.0, 6C-2D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CRUN	El Crucero	1.16	38	⇑eP	Pn	08 17 07.8	-0.5
CRUN				eS	Sn	08 17 24.5	+1.4
COPN	Copaltepe	1.19	21	⇓eP	Pn	08 17 08.1	-0.6
TICN	Ticuantepe	1.24	39	eP	Pn	08 17 09.0	-0.4
APON	Apoyo	1.27	48	⇓eP	Pn	08 17 08.7	-1.1
MGAN	Managua	1.32	36	⇑eP	Pn	08 17 09.6	-0.9
MGAN				eS	Sn	08 17 28.6	+1.3
APYN	Apoyeque	1.34	30	⇑eP	Pn	08 17 10.2	-0.6
LEON	Leon	1.35	6	eP	Pn	08 17 10.5	-0.4
WILN	Americas 2	1.37	37	⇑eP	Pn	08 17 09.5	-1.7
MIRN	Miramar	1.40	13	eP	Pn	08 17 11.9	+0.3
PYTN	Playitas	1.75	33	⇑eP	Pn	08 17 15.1	-1.5
JCR	Jicaral	2.25	122	eP	Pn	08 17 22.9	-0.9
FORC	Fortuna	2.40	104	eP	Pn	08 17 25.4	-0.5
PRS1	Puriscal	2.89	112	eP	Pn	08 17 33.6	+0.7
LAJ	Bijagual	3.11	112	eP	Pn	08 17 30.3	-5.7
LCR2	La Lucha 2	3.26	114	eP	Pn	08 17 37.9	-0.3
TRTC	Tortuguero	3.30	98	eP	Pn	08 17 36.2	-2.6
ICR	Volcan Irazu	3.33	109	eP	Pn	08 17 40.2	+1.0
URSC	Urasca	3.43	111	⇑iP	Pn	08 17 41.3	+0.7
BUS	Buena Vista	3.56	115	eP	Pn	08 17 42.0	-0.4
BUS				eS	Sn	08 18 22.2	-1.8

*NEIC **11** 08:17:37.5±3.6, 29.54S×178.53W, h184^{km}±31^{km}, mb3.9/2, Error ellipse: s-maj=29.3km s-min=21.3km az=197.0*
*IDC **11** 08:17:40.3±2.6, 29.68S×178.57W, h209^{km}±21^{km}, mb3.5/6, mb1 3.7/7, mb1mx3.6/13, MS3.8/2, Ms1 3.8/2, ms1mx3.5/9, Error ellipse: s-maj=23.9km s-min=20.6km az=160.0*
ISC 11 08:17:39.1±1.9**, 29.74S**±0.08×**178.8W**±0.2**, h202**^{km}±18^{km}**, n35, σ1^{s}13**/28**, mb3.7**/8**, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	8.18	197	S	S	08 21 08.1	+1.7
PUZ	Puketiti	8.68	196	S	S	08 21 18.7	+0.7
MWZ	Matawai	9.11	199	P	P	08 19 46.4	-1.2
MWZ				S	S	08 21 30.2	+2.1
URZ	Urewera	9.16	201	P	P	08 19 48.8	+0.5
	2.0nm,0.3s,baz=37,slow=15,SNR=9.2						
URZ				S	S	08 21 31.3	+1.9
	6.3nm,0.3s,baz=241,slow=23,SNR=16						
URZ	Urewera	9.16	201	P	P	08 19 47.2	-1.1
BFZ	Birch Farm	11.65	199	S	S	08 22 27.2	+0.1
MRZ	Mangatainoka R	11.84	201	P	P	08 20 23.0	+0.4
MRZ				S	S	08 22 28.3	-3.0
KIW	Kapiti Island	12.24	203	S	S	08 22 38.6	-2.0
MTW	Mount Morrison	12.31	201	S	S	08 22 41.3	-1.0
CAW	Cannon Point	12.41	202	P	P	08 20 24.2	-5.6
MRW	Makara Radio	12.64	203	S	S	08 22 48.2	-1.5
NNZ	Nelson	13.12	207	P	P	08 20 39.0	+0.2
THZ	Tophouse	13.77	207	P	P	08 20 46.5	-0.4
THZ				S	S	08 23 15.7	+0.4
KHZ	Kahutara	14.09	204	P	P	08 20 49.8	-1.2
DSZ	Denniston Nort	14.21	210	P	P	08 20 51.9	-0.6
CTA	Charters Tower	33.05	279	P	P	08 23 58.5	+0.9
	2.6nm,0.7s,mb3.9,baz=126,slow=8.7,SNR=3.5						
CTA	Charters Tower	33.05	279	P	P	08 23 58.5	+0.9
STKA	Stephens Creek	34.00	256	P	P	08 24 07.4	+1.9
	1.2nm,0.8s,mb3.5,baz=77,slow=14,SNR=2.5						
STKA				LR	LR	08 36 50.6	
	comp=Z,168nm,20.6s,baz=204,slow=34						
ASAR	Alice Springs	42.50	267	P	P	08 25 15.9	-0.2
	1.3nm,0.8s,mb3.4,baz=101,slow=7.1,SNR=11						
ASAR				ScP		08 30 35.0	
	0.6nm,0.7s,baz=112,slow=4.2,SNR=5.0						
WRAB	Tennant Creek	43.42	272	eP	P	08 25 22.9	-0.7
	2.5nm,0.5s,mb3.9						
WRA	Warramunga Arr	43.42	272	P	P	08 25 23.2	-0.5
	2.4nm,0.7s,mb3.8,baz=110,slow=7.7,SNR=15						
WRA				ScP		08 30 37.4	
	1.3nm,1.1s,baz=108,slow=3.6,SNR=4.7						
WRA				LR	LR	08 42 40.6	
	comp=Z,118nm,19.4s,baz=160,slow=34						
CASY	Casey	55.42	208	P	P	08 26 54.4	+0.2
	0.8nm,0.5s,mb3.5						
MAW	Mawson	72.69	201	P	P	08 28 47.0	+1.0
	0.3nm,0.3s,mb3.3,baz=103,slow=14,SNR=4.1						
NVAR	Mina Array Bea	88.20	43	P	P	08 30 07.9	-0.3
	1.5nm,0.7s,mb4.0,baz=214,slow=6.2,SNR=9.6						
MKAR	Makanchi Array	116.85	310	PKP	PKPdf	08 35 58.6	-0.7
	0.5nm,0.5s,baz=27,slow=2.7,SNR=6.6						
BVAR	Borovoye Array	125.48	316	PKP	PKPdf	08 36 15.9	+0.2
	1.5nm,0.4s,baz=156,slow=2.7,SNR=10.0						
ARCES	ARCESS Array B	137.81	348	PKhKP		08 36 29.3	
	3.9nm,0.9s,slow=1.2,SNR=5.1						
ARCES				PKP	PKPdf	08 36 39.5	+1.0
	2.2nm,0.9s,baz=90,slow=3.6,SNR=5.0						
JOF	Joensuu	141.57	338	ep	PKPdf	08 36 50.1	+4.8
	0.4nm,0.3s						
KAF	Kangasniemi	143.71	340	ep	PKPbc	08 36 47.0	-1.0
	0.5nm,0.3s						
FINES	FINESS Array B	144.30	340	PKP	PKPdf	08 36 48.2	-1.9
	6.4nm,0.5s,baz=65,slow=4.2,SNR=99						
FINES	FINESS Array B	144.30	340	PKP	PKPdf	08 36 48.2	-1.9
NB2	NORSAR Subarra	148.00	351	PKP		08 36 59.1	
	2.6nm,0.9s,baz=17,slow=2.6						
NOA	NORSAR Array B	148.00	351	PKPbc	PKPdf	08 36 59.4	+3.2
	1.3nm,0.6s,baz=12,slow=4.1,SNR=7.9						
NOA	NORSAR Array B	148.00	351	PKPbc	PKPdf	08 36 59.4	+3.2
BRTR	Keskin Array B	151.71	299	PKPbc	PKPdf	08 37 10.0	+7.3
	1.4nm,0.4s,baz=124,slow=4.5,SNR=5.5						

*ATH **11** 08:33:37.5, 38.69N×20.57E, h5^{km}, MD3.5/8*
*NEIC **11** 08:33:37.5, 38.69N×20.57E, h5^{km}, MD3.5(ATH), After ATH.*
*CSEM **11** 08:33:38.3±0.2, 38.67N×20.52E, h15^{km}, MD3.5, Error ellipse: s-maj=7.7km s-min=4.3km az=76.0*
ISC 11 08:33:37.8±0.6**, 38.65N**±0.03×**20.56E**±0.08**, h5**^{km}**, n23, σ1^{s}16**/26**, Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LKD	Levkas	0.09	52	eP	Pg	08 33 46.7	+6.8
VLS	Valsamata	0.47	177	ePG	Pg	08 33 47.3	0.0
VLS				eSB	Sb	08 33 56.0	+0.8
IGT	Igoumenitsa	0.90	349	eP	Pb	08 33 55.4	-0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
RLS	Riolos of Patr	0.93	129	ePG	Pg	08 33 55.4	-0.9
EVR	Evrytania	1.01	74	ePG	Pg	08 33 55.7	-2.3
JAN	Janina	1.03	13	ePN	Pn	08 33 57.1	-1.7
KEK	Kerkira	1.22	331	ePB	Pb	08 34 00.2	-0.7
SRN	Sarande	1.30	341	ePn	Pn	08 34 02.8	+0.1
SRN				i Sn	Sn	08 34 20.5	-0.1
AGG	Agios Georgios	1.43	74	eP	Pn	08 34 03.6	-0.9
LSK	Leskovik	1.50	1	ePn	Pn	08 34 04.9	-0.6
LSK				i Sn	Sn	08 34 27.2	+1.6
ITM	Ithomi	1.82	143	ePN	Pn	08 34 14.2	+4.1
KZN	Kozani	1.90	29	ePG	Pg	08 34 11.6	-4.2
LKR	Lokris	1.91	89	ePN	Pn	08 34 14.4	+3.0
LIT	Litokhoron	2.08	45	eP	Pn	08 34 14.4	+0.6
LIT	Litokhoron	2.08	45	eP	Pn	08 34 14.4	+0.6
XOR	Xorichti	2.17	70	eP	Pn	08 34 16.7	+1.5
NEO	Neokhori	2.18	72	ePG	Pg	08 34 17.4	-3.9
FNA	Florina	2.22	16	eP	Pn	08 34 15.8	-0.1
AOS	Alonnisos	2.64	78	eP	Pn	08 34 22.9	+1.0
VLI	Veliai	2.70	135	ePG	Pg	08 34 28.5	-3.2
GRG	Griva	2.71	31	eP	Pn	08 34 23.0	+0.3
SOH	Sokhos	3.06	44	eP	Pn	08 34 28.2	+0.5
SOH	Sokhos	3.06	44	eP	Pn	08 34 28.2	+0.4

*LDG **11** 08:39:56.5±0.0, 46.32N×2.76E, h20^{km}, Md1.8/2, Ml2.0/4, Error ellipse: s-maj=1.4km s-min=0.7km az=136.0*
*STR **11** 08:39:58.0±0.3, 46.28N×2.67E, h2^{km}±1^{km}, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 11 08:39:56.5±0.4**, 46.35N**±0.04×**2.73E**±0.06**, h27**^{km}±4^{km}**, n13, σ0^{s}97**/29**, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGF	Bois d'Agland	0.22	21	ePg	Pb	08 40 03.0	+0.4
BGF				eSg	Sb	08 40 06.2	-0.5
	21nm,0.2s						
TCF	Toulx Ste Croi	0.37	260	ePg	Pb	08 40 04.8	+0.2
TCF				eSg	Sb	08 40 10.0	-0.2
	6.6nm,0.2s						
AGO	Saint Agoulin	0.41	137	Pg	Pb	08 40 05.5	+0.3
AVF	Avril sur Loir	0.61	44	ePg	Pb	08 40 08.9	+0.3
AVF				eSg	Sb	08 40 17.0	+0.1
	5.5nm,0.4s						
VERF	Verneugheol	0.63	196	Pg	Pb	08 40 08.2	-0.6
VERF				Sg	Sb	08 40 16.0	-1.2
PYM	Petit Puy Mans	0.63	162	Pg	Pb	08 40 09.2	+0.3
SMF	Signal de Mont	0.82	69	ePn	Pn	08 40 11.6	-0.7
SMF				ePg	Pb	08 40 12.3	+0.3
SMF				eSg	Sb	08 40 22.8	+0.1
	3.5nm,0.3s						
SSF	Saint Saulge	0.89	37	ePg	Pb	08 40 13.9	+0.7
SSF				eSn	Sn	08 40 24.1	-1.2
SSF				eSg	Sb	08 40 25.5	+0.8
	1.8nm,0.2s						
LOR	Lormes	1.20	40	ePn	Pn	08 40 17.0	-0.8
LOR				ePg	Pn	08 40 19.4	+1.6
LOR				eSn	Sn	08 40 31.6	-1.7
LOR				eSg	Sn	08 40 34.8	+1.5
	1.4nm,0.2s						
RJF	Les Rejaudoux	1.35	220	ePn	Pn	08 40 18.6	-1.3
RJF				ePg	Pn	08 40 21.7	+1.8
RJF				eSg	Sn	08 40 38.7	+1.6
CAF	Calviac	1.50	198	ePn	Pn	08 40 20.4	-1.7
CAF				eSg	Sn	08 40 42.2	+1.3
MFF	Saint Martin d	2.00	278	ePn	Pn	08 40 28.0	-1.3
MFF				ePg	Pn	08 40 34.2	+4.9
MFF				eSg	Sn	08 41 00.8	+7.0
	5.6nm,0.4s						
CABF	La Chapelle	2.33	82	eSn	Sn	08 40 58.2	-3.9
	1.3nm,0.3s						

*IDC **11** 08:58:47.2±0.5, 15.65N×119.71E, mb4.4/22, mb1 4.6/22, mb1mx4.6/23, MS4.4/15, Ms1 4.4/15, ms1mx4.1/24, Error ellipse: s-maj=25.9km s-min=11.3km az=64.0*
*HRVD **11** 08:58:48.1±0.2, 15.82N×119.29E, h13^{km}, MW5.1/66, Centroid moment Tensor Solution. LP body waves: s37,c46;Mantle waves: s66,c116; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.01±.18; $M_{\theta\theta}$-0.10±.10; $M_{\phi\phi}$-3.91±.13; $M_{r\theta}$0.51±.27; $M_{\theta\phi}$-0.05±.07; $M_{\phi r}$-3.77±.38; Best double couple: $M_0$5.49×10^{16} NP1:ϕ_s6°, δ23°, λ100°. NP2:ϕ_s175°, δ67°, λ86°. Principal axes: T 5.56, Plg68°, Azm77°; N -.14, Plg4°, Azm177°; P -5.42, Plg22°, Azm268°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MAN **11** 08:58:48.1, 15.71N×119.32E, h2^{km}, mb5.0, ML3.9, MS4.0*
*NEIC **11** 08:58:48.1±4.7, 15.61N×119.67E, h5^{km}±29^{km}, mb5.1/22, MS4.7/10, Error ellipse: s-maj=9.3km s-min=6.0km az=75.0*
*BJI **11** 08:58:49.2, 15.84N×119.35E, h5^{km}, mB5.2, mb4.8, Ms5.1, Msz4.9*
*MOS **11** 08:58:50.7±1.3, 15.63N×119.59E, h33^{km}, mb5.1/12, MS4.7/11, Error ellipse: s-maj=19.3km s-min=10.2km az=113.3*
*SYO **11** 08:58:50.1, 15.58N×119.55E, h17^{km}, MB5.1, MS4.5*
ISC 11 08:58:47.1±0.2**, 15.69N**±0.03×**119.28E**±0.03**, h2**^{km}**, n149, σ1^{s}42**/166**, mb4.8**/56**, MS4.7**/40**, 16C-15D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	Santa Cruz	0.61	82	eP	Pg	08 58 59.8	+0.5
BOLP	Bolinao	0.92	41	eP	Pb	08 59 05.0	-0.4
BCPH	Baguio City Da	1.43	61	⇑iP	Pn	08 59 13.8	-0.3
BCPH				i S	Sb	08 59 34.7	+2.0
PCPH	Palayan	1.75	94	⇑eP	Pn	08 59 18.3	-0.5
LUBP	Lubang	2.16	154	eP	Pn	08 59 22.9	-1.6
BALP	Baler	2.21	88	eP	Pn	08 59 25.0	-0.3
TGY	Tagaytay City	2.25	134	⇑eP	Pn	08 59 28.6	+2.8
TGY				eS	Sn	08 59 57.7	+3.2
LQP	Lukban	2.69	125	eP	Pn	08 59 33.1	+0.9
POLP	Polilio Island	2.74	110	eP	Pn	08 59 34.2	+1.4
CAUP	Cauayan	2.74	63	eP	Pn	08 59 35.7	+2.8
APYP	Conner	2.86	41	eP	Pn	08 59 35.2	+0.6
PIP	Pasuquin	2.92	26	⇑iP	Pn	08 59 39.5	+4.1
PIP				eS	Sn	09 00 20.0	+8.5
CVP	Callao Caves	3.15	50	eP	Pn	08 59 40.0	+1.2
CVP				i S	Sx	09 00 40.0	
GQP	Guinayangan	3.54	120	eP	Pn	08 59 46.4	+2.2
SJMP	San Jose	3.67	151	eP	Pn	08 59 47.5	+1.4
BUSP	Coron	3.77	166	eP	Pn	08 59 47.3	-0.3
PVCP	Virac	5.16	113	eP	Pn	09 00 08.8	+1.6
BBP	Basco	5.37	28	eP	Pn	09 00 11.4	+1.2
PPR	Puerto Princes	5.90	185	eP	Pn	09 00 09.0	-8.7
SNPH	Sibulan	7.39	148	eP	Pn	09 00 39.5	+0.8
QIZ	Qiongzhong	9.60	292	ePn	P	09 01 06.3	-3.2
QIZ				eSn	Sn	09 02 49.6	-10
DAV	Davao City (W)	10.56	144	eP	P	09 01 26.0	+3.4
JOW	Kunigami	13.89	36	LR	LR	09 06 47.7	
	comp=Z,2μm,21.3s,baz=164,slow=35						
WHN	Wuhan	15.46	344	eP	P	09 02 28.5	+0.5
WHN				AMB	AMB		
	comp=Z,227nm,7.0s						
WHN				LR	LR		
	comp=E,4μm,11.0s						
GYA	Guiyang	15.91	314	⇓iP	P	09 02 33.9	+0.1
GYA				AP		09 02 38.2	
GYA				PP	PP	09 02 52.6	+5.9
GYA				S	S	09 05 38.7	+7.6
GYA				AMB	AMB		
	comp=Z,510nm,8.4s						
GYA				LR	LR		
	comp=N,4μm,10.5s						
GYA				LR	LR		
	comp=E,3μm,10.8s						
GYA				LR	LR		
	comp=Z,3μm,11.6s						
ENH	Enshi	17.07	330	eP	P	09 02 51.3	+2.7
	comp=Z,46nm,1.4s						
KMI	Kunming	18.11	304	⇑eP	P	09 03 04.5	+2.9
KMI				AP		09 03 09.4	
KMI				XP		09 03 11.9	
KMI				PP	PP	09 03 21.2	+4.7
KMI				S	S	09 06 27.1	+5.5
KMI				SS	SS	09 06 50.6	+6.0
KMI				AMB	AMB		
	comp=Z,1μm,7.2s						
KMI				LR	LR		
	comp=N,4μm,12.2s						
KMI				LR	LR		
	comp=E,2μm,14.3s						
KMI				LR	LR		
	comp=Z,2μm,15.8s						
NST	Nakhon Sawan	18.44	273	P	P	09 03 00.0	-5.8
NNT	Nongplab	19.20	263	P	P	09 03 17.0	+2.0
BDT	Bhumibol Dam	19.51	277	P	P	09 03 20.0	+1.5
CM31	Chiang Mai Arr	19.64	281	eP	P	09 03 20.2	+0.2
	comp=Z,7.6nm,0.4s						
CMAR	Chiang Mai Arr	19.64	281	P	P	09 03 20.4	+0.4
	comp=Z,16nm,1.0s,baz=85,slow=8.6,SNR=31						
CMAR				LR	LR	09 11 15.1	
	comp=Z,2μm,18.4s,baz=100,slow=37						
SNG	Songkhla	20.14	247	P	P	09 03 24.5	-1.0
XAN	Xi'an	20.52	335	P	P	09 03 28.5	-0.9
XAN				AMB	AMB		
	comp=Z,439nm,8.6s						
XAN				LR	LR		
	comp=N,2μm,11.1s,MS4.9						
XAN				LR	LR		
	comp=E,2μm,10.6s,MS4.9						
XAN				LR	LR		
	comp=Z,4μm,9.1s						
TIA	Tai'an	20.53	355	P	P	09 03 29.2	-0.3
TIA				AMB	AMB		
	comp=Z,62nm,1.2s						
TIA				LR	LR		
	comp=N,2μm,11.0s,MS4.8						
TIA				LR	LR		
	comp=E,966nm,11.0s,MS4.8						
CD2	Chengdu	20.77	320	⇓iP	P	09 03 31.6	-0.3
CD2				S	S	09 07 21.3	+1.8
CD2				AMB	AMB		
	comp=Z,50nm,1.4s						
CD2				AMB	AMB		
	comp=Z,560nm,7.3s						
CD2				LR	LR		
	comp=N,3μm,10.8s						
CD2				LR	LR		
	comp=Z,3μm,10.8s,MS5.0						
IPM	Ipoh	21.07	240	⇓eP	P	09 03 37.7	+2.6
KS15	Wonju Array Si	22.97	18	eP	P	09 03 54.0	-0.1
DL2	Dalian	23.22	5	eP	P	09 03 55.2	-1.3
DL2				eS	S	09 08 03.6	-1.4
DL2				AMB	AMB		
	comp=Z,440nm,8.7s						
DL2				LR	LR		
	comp=N,810nm,15.0s,MS4.6						
DL2				LR	LR		
	comp=E,1μm,13.8s,MS4.6						
DL2				LR	LR		
	comp=Z,1μm,13.8s,MS4.5						
CBIJ	Chichi jima	24.11	58	LR	LR	09 11 30.6	
	comp=Z,512nm,20.0s,MS4.0,baz=271,slow=32						
BJT	Baijiatuau	24.39	354	eP	P	09 04 09.0	+1.2
	comp=Z,89nm,1.2s,mb5.1						
BJT				LR	LR		
	comp=Z,1μm,19.0s,MS4.4						
BJI	Beijing	24.41	354	P	P	09 04 09.2	+1.1
BJI				AMB	AMB		
	comp=Z,51nm,2.0s,mb4.6						
BJI				AMB	AMB		
	comp=Z,1μm,4.8s						
BJI				LR	LR		
	comp=N,1μm,13.8s,MS4.8						
BJI				LR	LR		
	comp=E,1μm,14.2s,MS4.8						
BJI				LR	LR		
	comp=Z,1μm,15.8s,MS4.5						
LZH	Lanzhou	24.54	329	⇓P	P	09 04 10.6	+1.2
LZH				AP		09 04 14.9	
LZH				XP		09 04 17.6	
LZH				PP	PP	09 04 47.7	+2.6
LZH				AMB	AMB		
	comp=Z,69nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,312nm,5.1s						
LZH				LR	LR		
	comp=N,3μm,10.2s						
LZH				LR	LR		
	comp=Z,4μm,12.2s,MS5.1						
JHJ	Hachijo jima 2	25.41	43	LR	LR	09 11 58.1	
	comp=Z,941nm,20.3s,MS4.3,baz=144,slow=31						
HHC	Hu-ho-hao-te	25.95	347	⇑P	P	09 04 25.8	+3.1
HHC				XP	sP	09 04 33.4	+10
HHC				AMB	AMB		
	comp=Z,28nm,1.7s,mb4.5						
HHC				AMB	AMB		
	comp=Z,430nm,6.1s						
HHC				LR	LR		
	comp=N,1μm,10.6s,MS4.9						
HHC				LR	LR		
	comp=E,1μm,11.0s,MS4.9						
HHC				LR	LR		
	comp=Z,1μm,13.4s,MS4.6						
BTO	Baotou	26.10	344	eP	P	09 04 23.6	-0.4
BTO				S	S	09 08 49.2	-4.8
BTO				LR	LR		
	comp=N,789nm,12.7s,MS4.9						
BTO				LR	LR		
	comp=E,2μm,10.0s,MS4.9						
SNY	Shenyang	26.31	7	⇓P	P	09 04 24.8	-1.2
SNY				S	S	09 08 53.5	-3.9
SNY				XS		09 09 09.9	
SNY				AMB	AMB		
	comp=Z,20nm,1.6s,mb4.4						
SNY				AMB	AMB		
	comp=Z,160nm,5.7s						
SNY				LR	LR		
	comp=E,2μm,13.9s						
SNY				LR	LR		
	comp=Z,2μm,13.5s,MS4.7						
MAT	Matsushiro	26.74	35	P	P	09 04 28.0	-2.0
MAT				eS	S	09 09 03.0	-1.5
MAT	Matsushiro	26.74	35	P	P	09 04 31.0	+1.0
MAT				S	S	09 09 04.0	-0.5
CN2	Changchun	28.51	9	eP	P	09 04 47.1	+1.1
CN2				eXP	sP	09 04 55.1	+8.3
CN2				eS	S	09 09 33.1	0.0
CN2				AMB	AMB		
	comp=Z,340nm,5.0s						
CN2				LR	LR		
	comp=N,2μm,12.0s,MS5.0						
CN2				LR	LR		
	comp=E,2μm,12.0s,MS5.0						
CN2				LR	LR		
	comp=Z,2μm,14.0s,MS4.9						
GTA	Gaotai	29.14	328	eP	P	09 04 52.3	+0.6
GTA				AP	pP	09 04 58.5	+6.3
GTA				XP	sP	09 05 02.0	+9.5
GTA				PPP	PPP	09 05 57.4	-1.5
GTA				S	S	09 09 39.1	-4.1
GTA				SCP		09 11 43.3	
GTA				AMB	AMB		
	comp=Z,257nm,6.5s						
GTA				LR	LR		
	comp=N,2μm,18.3s,MS5.0						
GTA				LR	LR		
	comp=E,2μm,15.2s,MS5.0						
GTA				LR	LR		
	comp=Z,3μm,14.8s,MS5.0						
LSA	Lhasa	29.36	303	P	P	09 04 55.0	+1.2
LSA				SCS	ScS	09 15 37.0	+2.2
LSA				LR	LR		
	comp=N,476nm,10.0s,MS4.7						
LSA				LR	LR		
	comp=E,873nm,10.0s,MS4.7						
GUN	Gumba	33.20	297	eP	P	09 05 27.3	-0.3
	comp=E,99nm,1.0s,mb5.7						
PKI	Pulchoki	33.52	296	eP	P	09 05 29.9	-0.5
	comp=E,68nm,1.1s,mb5.5						
KKN	Kakani	33.69	297	eP	P	09 05 30.3	-1.5
	comp=E,65nm,1.0s,mb5.5						
SONM	Songino Array	33.78	344	P	P	09 05 32.2	-0.2
	comp=E,2.0nm,0.5s,mb4.3,baz=165,slow=8.2,SNR=19						
SONM				PcP	PcP	09 08 11.9	0.0
	comp=E,1.0nm,0.8s,baz=170,slow=1.2,SNR=4.0						
DMN	Daman	33.79	296	eP	P	09 05 31.9	-0.9
	comp=E,79nm,1.2s,mb5.5						
FITZ	Fitzroy Crossi	34.16	169	P	P	09 05 32.3	-3.7
	comp=E,13nm,1.1s,mb4.8,baz=0.7,slow=9.4,SNR=10						
GKN	Gorkha	34.29	297	eP	P	09 05 35.5	-1.5
	comp=E,63nm,1.1s,mb5.5						
VIS	Vishakhapatnam	34.46	279	eP	P	09 05 40.0	+1.4
KOLN	Koldanda	35.13	296	eP	P	09 05 41.9	-2.4
	comp=E,39nm,1.1s,mb5.2						
MBWA	Marble Bar	36.62	179	eP	P	09 05 55.6	-1.3
	comp=E,89nm,1.8s,mb5.3						
YSS	Yuzh-Sakhalins	36.77	27	eP	P	09 05 55.9	-2.0
YSS				eS	S	09 11 42.0	-0.2
YSS				eSSS	SSS	09 14 38.0	-1.1
YSS				pmax	pmax		
	comp=Z,50nm,1.2s,mb5.2						
YSS				MLR	MLR		
	comp=Z,600nm,18.0s,MS4.4						
YSS				MLR	MLR		
	comp=N,500nm,17.0s,MS4.5						
YSS				MLR	MLR		
	comp=E,500nm,17.0s,MS4.5						
YSS	Yuzh-Sakhalins	36.77	27	eP	P	09 05 55.9	-2.0
	comp=E,50nm,1.2s,mb5.2						
YSS				eS	S	09 11 42.0	-0.2
YSS				eSSS	SSS	09 14 38.0	-1.1
YSS				LR	LR		
	comp=Z,600nm,18.0s,MS4.4						
ZAK	Zakamensk	36.95	343	⇓iP	P	09 05 59.2	-0.1
WRAB	Tennant Creek	38.37	157	P	P	09 06 08.0	-3.7
	comp=Z,162nm,1.5s,mb5.5,SNR=17						
WRAB	Tennant Creek	38.37	157	eP	P	09 06 07.9	-3.8
	comp=Z,90nm,1.4s,mb5.3						
WRA	Warramunga Arr	38.38	157	P	P	09 06 07.7	-4.0
	comp=Z,17nm,1.0s,mb4.7,baz=336,slow=9.5,SNR=60						
WRA				PcP	PcP	09 08 23.7	-2.2
	comp=Z,1.0nm,1.0s,baz=313,slow=6.0,SNR=3.1						
WMQ	Urumqi	38.80	323	P	P	09 06 17.5	+2.5
WMQ				PP	PP	09 07 51.0	+3.5
WMQ				S	S	09 12 16.0	+3.0
WMQ				SS	SS	09 14 59.0	+4.6
WMQ				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.5						
WMQ				LR	LR		
	comp=N,2μm,15.0s,MS5.2						
WMQ				LR	LR		
	comp=E,1μm,14.0s,MS5.2						
WMQ				LR	LR		
	comp=Z,1μm,14.0s,MS4.8						
HYB	Hyderabad	39.03	278	i P	P	09 06 17.5	+0.3
DDI	Dehra Dun	40.41	298	eP	P	09 06 27.8	-0.7
ASAR	Alice Springs	41.64	160	P	P	09 06 35.5	-3.2
	comp=Z,6.2nm,0.5s,mb4.5,baz=341,slow=6.7,SNR=82						
ASAR				PcP	PcP	09 08 34.3	-2.1
	comp=Z,1.4nm,0.7s,baz=338,slow=4.9,SNR=3.6						
MKAR	Makanchi Array	43.63	323	P	P	09 06 55.1	+0.5
	comp=Z,4.3nm,0.7s,mb4.3,baz=124,slow=8.7,SNR=15						
MKAR				PcP	PcP	09 08 42.4	-0.3
	comp=Z,2.3nm,0.8s,baz=108,slow=4.9,SNR=3.7						
MKAR				LR	LR	09 24 13.1	
	comp=Z,494nm,18.6s,MS4.5,baz=116,slow=35						
MKAR	Makanchi Array	43.63	323	i P	P	09 06 57.3	+2.7
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
CTA	Charters Tower	44.35	142	P	P	09 06 58.2	-2.7
	comp=Z,11nm,1.1s,mb4.5,baz=307,slow=11,SNR=7.4						
CTAO	Charters Tower	44.35	142	eP	P	09 06 57.9	-2.9
	comp=Z,36nm,1.4s,mb4.9						
KSH	Kashi	44.56	311	P	P	09 07 05.8	+3.5
KSH				eAP	pP	09 07 10.1	+7.2
KSH				eXP	sP	09 07 12.6	+9.4
KSH				PCP	PcP	09 08 48.0	+2.0
KSH				ePP	PP	09 08 51.6	+4.0
KSH				PPP	PPP	09 09 31.8	+5.5
KSH				eSCP		09 12 38.1	
KSH				PCS		09 12 39.3	
KSH				S	S	09 13 44.3	+6.0
KSH				XS		09 13 50.8	
KSH				eSS	SS	09 16 54.1	+4.6
KSH				eSCS	ScS	09 17 00.7	+1.6
KSH				AMB	AMB		
	comp=Z,240nm,4.8s						
KSH				LR	LR		
	comp=N,1μm,12.5s,MS5.2						
KSH				LR	LR		
	comp=E,1μm,10.1s,MS5.2						
ZAL	Zalesovo	46.67	333	P	P	09 07 18.5	-0.4
	comp=E,1.4nm,0.6s,mb4.1,baz=279,slow=5.0,SNR=6.2						
ZAL				LR	LR	09 27 08.2	
	comp=E,458nm,20.3s,MS4.4,baz=246,slow=36						
ZAL	Zalesovo	46.67	333	P	P	09 07 18.5	-0.4
AAK	Ala-Archa	46.70	314	c iP	P	09 07 22.2	+3.0
AAK				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
AAK				MLR	MLR		
	comp=Z,700nm,16.0s,MS4.7						
AAK	Ala-Archa	46.70	314	⇑iP	P	09 07 22.2	+3.0
	comp=Z,0.8nm,1.5s,mb3.4						
AAK				LR	LR		
	comp=Z,700nm,16.0s,MS4.7						
YAK	Yakutsk	46.87	7	⇑eP	P	09 07 19.4	-0.9
YAK				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb5.0						
YAK				MLR	MLR		
	comp=Z,600nm,12.0s,MS4.8						
YAK	Yakutsk	46.87	7	⇑eP	P	09 07 19.4	-0.9
	comp=Z,9.0nm,0.5s,mb5.0						
YAK				LR	LR		
	comp=Z,600nm,12.0s,MS4.8						
KURK	Kurchatov	47.78	326	c iP	P	09 07 27.7	0.0
KURK	Kurchatov	47.78	326	⇑iP	P	09 07 27.7	0.0
NWAO	Narrogin (SRO)	48.38	182	P	P	09 07 30.9	-1.6
	comp=Z,3.5nm,0.6s,mb4.6						
PET	Petropavlovsk	48.40	31	eP	P	09 07 30.8	-1.6
PET				e		09 09 30.1	
PET				eS	S	09 14 24.2	-8.6
PET				ePS	PS	09 14 42.0	+1.5
PET				eSS	SS	09 17 58.8	+1.4
PET				pmax	pmax		
	comp=Z,100nm,10.9s						
PET				pmax	pmax		
	comp=Z,100nm,10.7s						
PET				smax			
	comp=N,100nm,17.6s						
PET				MLR	MLR		
	comp=Z,400nm,20.0s,MS4.4						
PET				MLR	MLR		
	comp=Z,300nm,19.0s						
MA2	Magadan	49.51	20	c iP	P	09 07 39.1	-1.8
MA2				eS	S	09 14 46.3	-1.9
MA2				e		09 17 28.2	
MA2				pmax	pmax		
	comp=Z,30nm,1.4s,mb5.1						
MA2				pmax	pmax		
	comp=E,10.0nm,1.6s						
MA2				pmax	pmax		
	comp=N,20nm,1.7s						
MA2				MLR	MLR		
	comp=Z,500nm,20.0s,MS4.5						
MA2	Magadan	49.51	20	⇑iP	P	09 07 39.1	-1.8
MA2				eS	S	09 14 46.3	-1.9
MA2				e		09 17 28.2	
MA2				LR	LR		
	comp=Z,500nm,20.0s,MS4.5						
STKA	Stephens Creek	51.91	156	P	P	09 07 55.7	-3.9
	comp=Z,5.9nm,0.6s,mb4.7,baz=331,slow=9.0,SNR=18						
STKA				LR	LR	09 29 46.1	
	comp=Z,334nm,19.4s,MS4.4,baz=2.6,slow=36						
STKA	Stephens Creek	51.91	156	eP	P	09 07 55.5	-4.1
SEY	Seymchan	52.55	18	eP	P	09 08 18.8	+15
SEY				e		09 15 39.4	
BVAR	Borovoye Array	53.37	325	P	P	09 08 10.1	-0.1
	comp=Z,1.6nm,0.6s,mb4.1,baz=108,slow=14,SNR=7.8						
BVAR				PcP	PcP	09 09 17.2	-0.3
	comp=Z,2.4nm,0.6s,baz=135,slow=6.3,SNR=5.2						
BRVK	Borovoye	53.44	325	eP	P	09 08 10.6	-0.1
	comp=Z,16nm,1.1s,mb4.9						
TIXI	Tiksi	56.24	4	⇓eP	P	09 08 28.1	-2.7
TIXI				i S	S	09 16 12.2	-7.5
TIXI				pmax	pmax		
	comp=Z,19nm,1.4s,mb4.9						
TIXI				MLR	MLR		
	comp=Z,500nm,19.0s,MS4.6						
TIXI	Tiksi	56.24	4	⇓eP	P	09 08 28.1	-2.7
	comp=Z,19nm,1.4s,mb4.9						
TIXI				i S	S	09 16 12.2	-7.5
TIXI				LR	LR		
	comp=Z,500nm,19.0s,MS4.6						
SVE	Sverdlovsk	60.00	327	⇓eP	P	09 08 56.7	-0.7
SVE				eS	S	09 17 12.0	+3.0
SVE				pmax	pmax		
	comp=Z,80nm,2.7s,mb5.3						
SVE	Sverdlovsk	60.00	327	⇓eP	P	09 08 56.7	-0.7
	comp=Z,80nm,2.7s,mb5.3						
SVE				eS	S	09 17 12.0	+3.0
RAYN	Ar Rayn	69.29	290	P	P	09 09 58.0	-0.3

	comp=Z,77nm,1.0s,mb5.6,SNR=9.0						
KIV	Kislovodsk	69.69	311	c iP	P	09 10 03.3	+2.9
KIV				pmax	pmax		
	comp=Z,32nm,1.2s,mb5.1						
KIV				MLR	MLR		
	comp=Z,600nm,19.0s,MS4.9						
KIV	Kislovodsk	69.69	311	⇑iP	P	09 10 03.3	+2.9
	comp=Z,32nm,1.2s,mb5.1						
KIV				LR	LR		
	comp=Z,600nm,19.0s,MS4.9						
MOS	Moscow	72.50	324	eP	P	09 10 25.1	+8.0
MOS				pmax	pmax		
	comp=Z,44nm,1.0s,mb5.3						
MOS				MLR	MLR		
	comp=Z,900nm,19.6s,MS5.0						
MOS	Moscow	72.50	324	eP	P	09 10 25.1	+8.0
	comp=Z,44nm,1.0s,mb5.3						
MOS				LR	LR		
	comp=Z,900nm,19.6s,MS5.0						
OBN	Obninsk	73.13	323	⇓eP	P	09 10 21.4	+0.5
OBN				iS	S	09 19 45.3	-2.9
OBN				eSS	SS	09 24 25.9	-5.6
OBN				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
OBN				MLR	MLR		
	comp=Z,500nm,17.0s,MS4.9						
OBN	Obninsk	73.13	323	⇓eP	P	09 10 21.4	+0.5
	comp=Z,8.0nm,0.9s,mb4.7						
OBN				iS	S	09 19 45.3	-2.9
OBN				eSS	SS	09 24 25.9	-5.6
OBN				LR	LR		
	comp=Z,500nm,17.0s,MS4.9						
ANN	Anapa	73.38	313	eP	P	09 10 12.6	-10
ANN				pmax	pmax		
	comp=Z,164nm,1.0s,mb5.9						
IMA	Indian Mountai	74.59	25	eP	P	09 10 28.3	-0.8
	comp=Z,161nm,1.5s,mb5.7						
ASF	Jabal al Asfar	75.48	300	P	P	09 10 38.0	+3.0
	comp=Z,1.6nm,0.5s,mb4.2,baz=353,slow=3.3,SNR=6.6						
SPU	Mount Spurr	75.76	30	eP	P	09 10 34.5	-1.4
URZ	Urewera	76.23	137	LR	LR	09 43 03.7	
	comp=Z,206nm,19.1s,MS4.5,baz=66,slow=35						
ARCES	ARCESS Array B	76.75	339	P	P	09 10 41.1	-0.2
	comp=Z,4.1nm,0.7s,mb4.4,baz=34,slow=4.4,SNR=10.0						
BRTR	Keskin Array B	76.85	308	P	P	09 10 44.7	+2.2
	comp=Z,0.9nm,0.7s,mb3.8,baz=63,slow=3.2,SNR=3.0						
MCK	McKinley	76.86	27	eP	P	09 10 40.3	-1.8
	comp=Z,25nm,1.4s,mb5.0						
PMR	Palmer	77.10	29	eP	P	09 10 40.5	-2.9
PMR				LR	LR		
	comp=Z,375nm,19.0s,MS4.7						
COLA	College	77.15	26	⇓eP	P	09 10 43.3	-0.3
COLA	College	77.15	26	eP	P	09 10 42.6	-1.0
SML	Sawmill	77.44	29	eP	P	09 10 43.4	-1.9
ILAR	Eielson Array	77.57	26	P	P	09 10 43.6	-2.4
	comp=Z,3.7nm,1.2s,mb4.2,baz=283,slow=5.8,SNR=14						
ILAR				LR	LR	09 49 25.4	
	comp=Z,136nm,18.1s,MS4.3,baz=108,slow=39						
KAF	Kangasniemi	77.66	331	ep	P	09 10 45.0	-1.5
	comp=Z,0.6nm,0.4s,mb3.9						
KAF	Kangasniemi	77.66	331	eP	P	09 10 45.0	-1.5
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
FINES	FINESS Array B	77.89	331	P	P	09 10 47.2	-0.5
	comp=Z,3.6nm,0.7s,mb4.4,baz=104,slow=7.9,SNR=8.9						
FINES				LR	LR	09 48 11.8	
	comp=Z,244nm,18.8s,MS4.5,baz=6.4,slow=38						
FINES	FINESS Array B	77.89	331	iP	P	09 10 47.3	-0.5
FINES				pmax	pmax		
	comp=Z,4.0nm,0.7s						
FINES	FINESS Array B	77.89	331	P	P	09 10 47.2	-0.5
FINES				LR	LR	09 48 11.8	
AKASG	Malin Array Be	78.07	319	P	P	09 10 48.1	-0.8
	comp=Z,0.6nm,0.3s,mb3.9,baz=65,slow=5.4,SNR=9.0						
INK	Inuvik	81.75	21	P	P	09 11 07.7	-0.7
	comp=Z,8.6nm,1.1s,mb4.6,baz=310,slow=4.2,SNR=6.3						
CASY	Casey	81.99	184	P	P	09 11 08.3	-1.3
	comp=Z,20nm,1.3s,mb4.9						
KMBO	Kilima Mbogo	82.63	267	P	P	09 11 16.4	+2.4
	comp=Z,1.7nm,0.7s,mb4.2,baz=54,slow=21,SNR=10.0						
KMBO				LR	LR	09 47 52.3	
	comp=Z,144nm,20.1s,MS4.3,baz=75,slow=36						
KMBO	Kilima Mbogo	82.63	267	eP	P	09 11 16.4	+2.4
	comp=Z,42nm,1.8s,mb5.2						
NIE	Niedzica	83.95	320	eP	P	09 11 23.0	+3.0
OJC	Ojcow	84.03	320	eP	P	09 11 20.6	+0.2
OJC	Ojcow	84.03	320	eP	P	09 11 20.6	+0.2
MIR	Mirnyy	84.30	190	⇓eP	P	09 11 21.0	-0.4
MIR				pmax	pmax		
	comp=Z,20nm,1.4s,mb5.0						
DAG	Danmarks Havn	84.44	351	iP	P	09 11 21.0	-1.0
	comp=Z,5.2nm,0.8s,mb4.7						
NB2	NORSAR Subarra	84.87	332	P	P	09 11 22.8	-1.6
	comp=Z,22nm,1.7s,mb5.0,baz=65,slow=4.6						
NB2	NORSAR Subarra	84.87	332	P	P	09 11 22.8	-1.6
	baz=65,slow=4.6						
NOA	NORSAR Array B	84.87	332	P	P	09 11 23.6	-0.8
	comp=Z,1.5nm,0.7s,mb4.2,baz=66,slow=4.8,SNR=7.2						
NOA				LR	LR	09 54 17.7	
	comp=Z,288nm,18.4s,MS4.7,baz=65,slow=39						
KSP	Ksiaz	85.95	322	eP	P	09 11 31.6	+1.6
KSP				e*PP	pP	09 11 44.3	+14
KSP				e		09 21 55.0	
KSP				eSS	SS	09 27 37.0	-6.9
KSP				MLR	MLR		
	comp=Z,600nm,18.9s,MS5.0						
BRG	Berggiesshubel	87.34	322	eP	P	09 11 36.9	+0.1
BRG				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.8						
BRG	Berggiesshubel	87.34	322	eP	P	09 11 36.9	+0.1
	comp=Z,3.0nm,0.5s,mb4.8						
RAR	Rarotonga	87.43	113	LR	LR	09 50 01.2	
	comp=Z,129nm,18.5s,MS4.4,baz=279,slow=35						
GERES	GERESS Array B	88.23	320	P	P	09 11 42.4	+1.3
	comp=Z,1.7nm,0.9s,mb4.3,baz=36,slow=12,SNR=4.4						
GRA1	Grafenberg Arr	89.40	322	eP	P	09 11 48.2	+1.5
	comp=Z,5.0nm,0.7s,mb5.0						
GRA1				LR	LR		
	comp=Z,400nm,18.4s,MS4.9						
GRF	Grafenberg Arr	89.40	322	eP	P	09 11 48.2	+1.5
GRF				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb5.0						
GRF				MLR	MLR		
	comp=Z,400nm,18.4s,MS4.9						
YKA	Yellowknife Ar	91.47	22	P	P	09 11 54.9	-1.0
	comp=Z,4.5nm,1.1s,mb4.7,baz=310,slow=4.3,SNR=4.2						
YKA				LR	LR	09 59 03.0	
	comp=Z,83nm,18.3s,MS4.2,baz=290,slow=40						
MAW	Mawson	92.52	199	P	P	09 12 00.7	0.0
	comp=Z,3.6nm,1.2s,mb4.7,baz=8.9,slow=4.9,SNR=5.0						
MAW				LR	LR	09 48 43.1	
	comp=Z,73nm,18.1s,MS4.2,baz=63,slow=32						
MAW	Mawson	92.52	199	eP	P	09 12 00.7	0.0
SYO	Syowa Base	100.87	201	⇓pPdiff	P	09 12 44.4	+5.7
TXAR	Lajitas Array	118.99	43	PKP	PKPdf	09 17 38.5	-1.6
	comp=Z,1.5nm,1.2s,baz=140,slow=0.3,SNR=5.9						
CPD	Cerro la Pandu	146.10	9	ePKPdf	PKPdf	09 18 29.0	-1.8

IDC ***11*** *09:02:04.7±0.6, 15.64N×119.73E, mb4.3/16, mb1 4.4/16, mb1mx4.4/20, Error ellipse: s-maj=30.6km s-min=12.4km az=66.0*

BJI ***11*** *09:02:06.9, 15.48N×119.43E, h15km, mB4.9, mb4.5, Ms4.9, Msz4.6*

NEIC ***11*** *09:02:06.9±0.3, 15.62N×119.73E, h15km, mb4.6/6, Error ellipse: s-maj=13.1km s-min=7.9km az=74.0*

MAN ***11*** *09:02:06.8, 15.70N×119.26E, h14km, mb5.3, ML4.3, MS4.5*

ISC 11 09:02:06.4±0.3**, 15.68N**±0.05×**119.24E**±0.04**, h14km, n53, σ1^{s}22**/56**, mb4.4**/29**, MS4.7**/1**, 3C-4D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	Santa Cruz	0.66	81	eP	Pb	09 02 19.0	0.0
BOLP	Bolinao	0.95	43	eP	Pb	09 02 24.7	+0.5
BCPH	Baguio City Da	1.47	61	⇓iP	Pn	09 02 32.2	-0.4
BCPH				iS	Sb	09 02 52.7	+1.3
PCPH	Palayan	1.79	93	⇓eP	Pn	09 02 36.4	-0.8
PCPH				eS	Sn	09 03 00.5	+0.6
BALP	Baler	2.25	88	eP	Pn	09 02 44.4	+0.6
TGY	Tagaytay City	2.27	133	⇑eP	Pn	09 02 50.2	+6.2
TGY				eS	Sn	09 03 15.6	+3.7
LQP	Lukban	2.71	125	⇓iP	Pn	09 02 50.3	-0.1
APYP	Conner	2.90	41	eP	Pn	09 02 59.6	+6.5
PIP	Pasuquin	2.95	26	⇓iP	Pn	09 02 59.4	+5.7
PIP				eS	Sn	09 03 34.8	+5.6
GQP	Guinayangan	3.57	119	eP	Pn	09 03 05.8	+3.3
BUSP	Coron	3.77	166	eP	Pn	09 03 05.4	0.0
SNPH	Sibulan	7.41	148	eP	Pn	09 03 58.0	+1.3
CMAR	Chiang Mai Arr	19.60	281	P	P	09 06 39.4	+2.2
	5.5nm,0.8s,baz=84,slow=8.2,SNR=7.2						
XAN	Xi'an	20.52	335	P	P	09 06 46.3	-0.6
XAN				AP		09 06 53.9	
XAN				AMB	AMB		
	comp=Z,4.0nm,0.8s						
TIA	Tai'an	20.54	355	eP	P	09 06 46.5	-0.6
IPM	Ipoh	21.02	240	⇑eP	P	09 06 55.5	+3.3
KS15	Wonju Array Si	22.99	18	eP	P	09 07 10.4	-1.4
BJT	Baijiatuau	24.40	354	eP	P	09 07 26.2	+0.8
	comp=Z,70nm,1.3s,mb4.9						
BJI	Beijing	24.42	354	P	P	09 07 26.6	+1.0
BJI				AP		09 07 33.5	
BJI				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.4						
LZH	Lanzhou	24.53	329	eP	P	09 07 31.5	+4.8
LZH				AP		09 07 35.7	
LZH				XP		09 07 38.5	
LZH				PP	PP	09 08 08.2	+5.5
LZH				AMB	AMB		
	comp=Z,54nm,1.4s,mb4.9						
LZH				AMB	AMB		
	comp=Z,194nm,5.1s						
HHC	Hu-ho-hao-te	25.95	347	⇑P	P	09 07 48.3	+8.2
HHC				AP	pP	09 07 53.0	+8.8
HHC				XP	sP	09 07 57.5	+11
HHC				PCP	PcP	09 11 11.5	+2.2
HHC				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.5						
HHC				AMB	AMB		
	comp=Z,249nm,8.5s						
HHC				LR	LR		
	comp=N,1μm,10.3s,MS4.8						
HHC				LR	LR		
	comp=E,613nm,12.0s,MS4.8						
HHC				LR	LR		
	comp=Z,951nm,11.6s,MS4.6						
GUN	Gumba	33.17	297	eP	P	09 08 44.8	+0.1
	comp=Z,65nm,1.2s,mb5.5						
PKI	Pulchoki	33.49	296	eP	P	09 08 47.8	+0.2
	comp=Z,55nm,1.4s,mb5.3						
KKN	Kakani	33.65	297	eP	P	09 08 48.9	-0.1
	comp=Z,25nm,1.0s,mb5.1						
DMN	Daman	33.76	296	eP	P	09 08 50.3	+0.4
	comp=Z,19nm,0.8s,mb5.1						
SONM	Songino Array	33.78	344	P	P	09 08 48.5	-1.3
	comp=Z,2.1nm,0.9s,mb4.1,baz=162,slow=9.2,SNR=6.0						
FITZ	Fitzroy Crossi	34.15	169	P	P	09 08 49.0	-4.4
	comp=Z,6.4nm,0.9s,mb4.5,baz=7.3,slow=6.7,SNR=4.7						
GKN	Gorkha	34.26	297	eP	P	09 08 53.6	-0.6
	comp=Z,32nm,1.0s,mb5.2						
KOLN	Koldanda	35.10	296	eP	P	09 09 01.0	-0.4
WRAB	Tennant Creek	38.38	157	eP	P	09 09 25.3	-3.8
	comp=Z,21nm,1.0s,mb4.8						
WRA	Warramunga Arr	38.38	157	P	P	09 09 26.0	-3.1
	comp=Z,5.4nm,0.6s,mb4.5,baz=337,slow=9.4,SNR=13						
WRA				PcP	PcP	09 11 42.2	-1.0
	comp=Z,0.7nm,0.6s,baz=340,slow=3.2,SNR=3.4						
ASAR	Alice Springs	41.65	160	P	P	09 09 54.0	-2.2
	comp=Z,8.7nm,0.7s,mb4.5,baz=341,slow=6.8,SNR=19						
MKAR	Makanchi Array	43.61	323	P	P	09 10 12.2	+0.3
	comp=Z,1.2nm,0.8s,mb3.7,baz=135,slow=9.0,SNR=3.5						
CTA	Charters Tower	44.36	142	P	P	09 10 13.3	-5.1
	comp=Z,8.1nm,0.7s,mb4.6,baz=327,slow=9.8,SNR=7.3						
ZAL	Zalesovo	46.66	333	P	P	09 10 37.4	+1.2
	comp=Z,1.4nm,0.8s,mb3.9,baz=90,slow=1.0,SNR=1.5						
KURK	Kurchatov	47.77	326	P	P	09 10 44.4	-0.5
STKA	Stephens Creek	51.92	156	P	P	09 11 13.3	-3.7
	comp=Z,6.8nm,0.8s,mb4.7,baz=327,slow=8.3,SNR=9.5						
STKA	Stephens Creek	51.92	156	P	P	09 11 13.3	-3.7
BVAR	Borovoye Array	53.35	325	P	P	09 11 28.8	+1.4
	comp=Z,1.6nm,1.0s,mb3.9,baz=127,slow=7.2,SNR=2.9						
KEV	Kevo	76.19	339	ep	P	09 13 59.1	+3.6
	comp=Z,0.4nm,0.4s,mb3.7						
ARCES	ARCESS Array B	76.74	339	P	P	09 14 00.3	+1.8
	comp=Z,2.3nm,0.7s,mb4.2,baz=67,slow=6.9,SNR=7.0						
MCK	McKinley	76.89	27	eP	P	09 13 57.6	-1.9
	comp=Z,9.2nm,1.1s,mb4.6						
SML	Sawmill	77.47	29	eP	P	09 14 01.0	-1.7
ILAR	Eielson Array	77.60	26	P	P	09 14 01.6	-1.8
	comp=Z,0.5nm,0.6s,mb3.6,baz=273,slow=6.6,SNR=5.5						
KAF	Kangasniemi	77.65	331	ep	P	09 14 04.3	+0.6
	comp=Z,0.7nm,0.4s,mb3.9,baz=76,slow=5.2						
FINES	FINESS Array B	77.88	331	P	P	09 14 04.7	-0.3
	comp=Z,1.6nm,0.5s,mb4.2,baz=45,slow=5.4,SNR=13						
INK	Inuvik	81.77	21	P	P	09 14 24.9	-0.8
	comp=Z,4.0nm,1.0s,mb4.3,baz=286,slow=7.4,SNR=4.3						
INK	Inuvik	81.77	21	P	P	09 14 24.9	-0.8
KMBO	Kilima Mbogo	82.59	267	P	P	09 14 33.9	+2.9
	comp=Z,1.2nm,1.0s,mb3.9,baz=232,slow=19,SNR=2.2						
NB2	NORSAR Subarra	84.86	332	P	P	09 14 40.2	-1.4
	comp=Z,3.2nm,1.0s,mb4.4,baz=69,slow=4.6						
NOA	NORSAR Array B	84.86	332	P	P	09 14 41.1	-0.5
	comp=Z,1.3nm,0.9s,mb4.1,baz=67,slow=4.8,SNR=4.1						
MAW	Mawson	92.50	199	P	P	09 15 18.4	+0.6
	comp=Z,0.9nm,1.0s,mb4.1,baz=83,slow=13,SNR=3.0						
TXAR	Lajitas Array	119.03	43	PKP	PKPdf	09 20 56.6	-2.3
	comp=Z,0.5nm,0.7s,baz=185,slow=1.1,SNR=4.8						

CSEM ***11*** *09:20:44.2±0.3, 44.59N×23.77E, MD3.1/3, Error ellipse: s-maj=5.8km s-min=1.7km az=317.0, After BUC*

BUC 11 09:20:43.0±0.7**, 44.61N×23.63E, MD3.2**/4**, 1C-2D, Error ellipse: s-maj=10.7km s-min=3.9km az=129.0, Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTUR	Matau	1.19	58	⇑iP	Pb	09 21 06.7	+0.5
MTUR				iS	Sb	09 21 23.6	+1.6
MLR	Muntele Rosu	1.86	61	⇓iP	Pn	09 21 17.4	+1.0
MLR				S	Sn	09 21 43.1	+2.1
ISR	Istrita	2.13	75	⇓iP	Pn	09 21 21.0	+0.7
ISR				S	Sn	09 21 46.5	-1.4

ISC 11 09:26:29.0±0.7**, 40.19N**±0.04×**35.46E**±0.06**, h10km, n7, σ1^{s}21**/14**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOZ	Yozgat	0.56	191	ePG	Pg	09 26 39.7	-0.7
YOZ				eSG	Sg	09 26 48.0	0.0
CTKT	Corum	0.67	310	iP	Pb	09 26 41.8	-0.4
CTKT				iS	Sb	09 26 53.3	+2.1
SVST	Sivas	1.22	110	iP	Pb	09 26 50.8	-0.9
SVST				iS	Sb	09 27 08.4	+0.9
BOYT	Boyabat	1.29	341	iP	Pb	09 26 52.3	-0.7
BOYT				iS	Sb	09 27 12.8	+3.3
TOS	Tosya	1.38	308	iPG	Pg	09 26 54.2	-2.3
TOS				iSG	Sg	09 27 14.5	-0.5
AVNT	Avonos	1.49	198	iP	Pn	09 26 56.5	+0.6
AVNT				iS	Sb	09 27 19.0	+4.0
ELDT	Eldivan	1.58	281	iP	Pn	09 26 57.4	+0.2
ELDT				iS	Sb	09 27 23.2	+5.5

IDC ***11*** *09:36:05.8±1.2, 5.87S×151.68E, mb4.5/7, mb1 4.7/8, mb1mx4.5/14, ML3.8/1, Error ellipse: s-maj=46.5km s-min=17.5km az=119.0*

NEIC ***11*** *09:36:12.7±1.4, 5.93S×151.57E, h49km±13km, mb4.6/3, Error ellipse: s-maj=28.5km s-min=8.5km az=122.0*

ISC 11 09:36:11.8±1.6**, 5.9S**±0.1×**151.5E**±0.2**, h55km**±14km**, n18, σ0^{s}81**/20**, mb4.4**/10**, 1C, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAB	Rabaul	1.84	20	⇑iP	P	09 36 41.2	-0.4
PMG	Port Moresby	5.54	231	Pn	P	09 37 34.8	+1.2
	17nm,0.3s,baz=33,slow=7.8,SNR=42						
PMG				Sn	S	09 38 36.8	+0.1
	20nm,0.3s,baz=52,slow=16,SNR=10.0						
PMG	Port Moresby	5.54	231	eP	P	09 37 34.4	+0.8
WRAB	Tennant Creek	21.73	229	eP	P	09 40 58.6	-1.6
	23nm,0.9s,mb4.6						
WRA	Warramunga Arr	21.75	229	P	P	09 40 59.6	-0.8
	11nm,0.8s,mb4.3,baz=55,slow=10,SNR=35						
WRA				PcP	PcP	09 45 00.0	-0.2
	0.5nm,0.6s,baz=51,slow=1.9,SNR=3.9						
ASAR	Alice Springs	24.46	222	P	P	09 41 27.3	+0.3
	17nm,0.7s,mb4.6,baz=55,slow=9.3,SNR=114						
ASAR				S	S	09 45 53.4	+13
	0.8nm,1.1s,baz=34,slow=21,SNR=4.4						
STKA	Stephens Creek	27.43	199	P	P	09 41 55.2	+0.6
	9.9nm,1.0s,mb4.3,baz=358,slow=7.7,SNR=16						
FITZ	Fitzroy Crossi	28.01	242	P	P	09 41 59.5	-0.5
	6.1nm,0.5s,mb4.5,baz=74,slow=4.4,SNR=30						
MBWA	Marble Bar	34.31	241	eP	P	09 42 55.6	+0.3
CASY	Casey	66.56	197	P	P	09 46 57.5	-0.6
SONM	Songino Array	66.62	329	P	P	09 46 59.1	+0.5
	1.1nm,0.8s,mb3.9,baz=148,slow=4.7,SNR=6.7						
SBA	Scott Base	72.32	177	P	P	09 47 32.8	-0.3
SML	Sawmill	81.67	25	eP	P	09 48 25.9	+0.5
IMA	Indian Mountai	81.94	20	eP	P	09 48 28.3	+1.6
MCK	McKinley	82.39	23	eP	P	09 48 29.2	+0.1
	4.5nm,0.7s,mb4.5						
COLA	College	83.37	22	eP	P	09 48 32.4	-1.7
	6.7nm,0.9s,mb4.7						
ILAR	Eielson Array	83.68	22	P	P	09 48 35.8	+0.2
	3.5nm,0.6s,mb4.7,baz=251,slow=4.8,SNR=38						
MAW	Mawson	84.04	203	P	P	09 48 38.1	+0.8
	0.9nm,0.5s,mb4.1,baz=86,slow=6.0,SNR=9.0						

MAN 11 09:40:42.9, 13.78N×120.45E, h93km, mb4.3, ML3.2, MS3.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.21	257	eP	P	09 40 56.5	+0.2
LUBP				eS	S	09 41 08.8	+2.4
SJMP	San Jose	1.46	154	eP	P	09 41 09.5	+0.7
SJMP				eS	S	09 41 28.4	+0.4
POLP	Polilio Island	1.72	57	eP	P	09 41 12.5	+0.4
BUSP	Coron	1.78	188	eP	P	09 41 13.2	+0.3
BUSP				eS	S	09 41 36.3	+1.3
SCZP	Santa Cruz	2.05	345	eP	P	09 41 16.6	+0.2
OTRP	Odiongan	2.08	133	eP	P	09 41 16.8	0.0
AUQP	San Andres	2.21	102	eP	P	09 41 20.4	+1.8
BALP	Baler	2.23	29	eP	P	09 41 19.3	+0.4
BOLP	Bolinao	2.64	349	eP	P	09 41 24.3	-0.3
CUYO	Cuyo Island	2.96	169	eP	P	09 41 28.4	-0.7
CAUP	Cauayan	3.41	23	eP	P	09 41 35.5	+0.3
PVCP	Virac	3.60	92	eP	P	09 41 37.5	-0.4
GUIM	Jordan	3.77	146	eP	P	09 41 40.6	+0.5

IDC ***11*** *09:52:46.2±0.6, 75.62N×6.95E, mb3.9/11, mb1 4.2/16, mb1mx4.0/25, ML3.3/5, MS3.4/5, Ms1 3.4/5, ms1mx3.1/25, Error ellipse: s-maj=20.1km s-min=12.0km az=40.0*

NEIC ***11*** *09:52:47.6±0.3, 75.68N×7.07E, h10km, mb4.5/14, MS3.9/1, Error ellipse: s-maj=8.3km s-min=5.0km az=222.0*

ZUR_RM ***11*** *09:52:47, 75.68N×7.07E, h9km, Mw4.3/8, Moment Tensor Solution. s8 Moment tensor: Scale 10^{15}Nm; M_{rr}-4.48; $M_{\theta\theta}$1.92; $M_{\phi\phi}$2.56; $M_{r\theta}$-0.05; $M_{\theta\phi}$0.43; $M_{\phi r}$0.49; Best double couple: $M_0$3.66×10^{15} NP1:ϕ_s204°,δ48°,λ-93°. NP2:ϕ_s29°,δ42°,λ-86°. Principal axes: T 2.798, Plg3°, Azm296°; N 1.716, Plg2°, Azm206°; P -4.515, Plg86°, Azm80°;*

MOS ***11*** *09:52:48.0±3.3, 75.65N×7.65E, h10km, mb4.5/11 Error ellipse: s-maj=43.5km s-min=8.0km az=96.0*

BJI ***11*** *09:52:48.5, 76.12N×7.93E, h5km, mB5.0, mb4.7, Ms4.4, Msz4.3*

CSEM ***11*** *09:52:50.4, 75.86N×6.04E, h33km, mb4.6*

BER ***11*** *09:52:51.6±5.5, 76.05N×8.93E, h7km±67km, ML2.4, ML3.1(NAO)*

NAO ***11*** *09:52:52.3±4.5, 75.96N×10.75E, h14km±42km, ML3.1*

HEL ***11*** *09:52:54.4±1.1, 75.62N×9.42E, h10km, ML3.0, ML2.4(BER), ML3.1(NAO)*

ISC 11 09:52:46.5±0.3**, 75.47N**±0.05×**6.9E**±0.2**, h18km, h18km**±1.2km**:pP-P, n124, σ1^{s}42**/136**, mb4.4**/33**, MS3.8**/8**, 10C-6D, Greenland Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSP	Hornsund	2.58	49	eP	Pn	09 53 21.3	-7.0
HSP				e(S)	Sn	09 53 45.6	-14
BJO1	Bjornoya	3.30	101	eP	Pn	09 53 39.2	+0.7
BJO1				ePB	Pb	09 53 40.0	-4.1
BJO1				eS	Sn	09 54 11.9	-5.7
BJO1				AML	AML	09 54 16.1	
	comp=Z,28nm,0.5s						
BJO1	Bjornoya	3.30	101	eP	Pn	09 53 39.2	+0.7
BJO1				eS	Sn	09 54 13.2	-4.4
BJO1	Bjornoya	3.30	101	eP	Pn	09 53 39.2	+0.7
BJO1				S	Sn	09 54 11.9	-5.7
	comp=Z,28nm,0.5s						
BJO	Bjornoya	3.34	101	eP	Pn	09 53 39.2	+0.1
BJO				e		09 53 40.0	
	baz=306,slow=11						
BJO				eS	Sn	09 54 11.9	-6.9
BJO				AML	AML	09 54 16.1	
	comp=Z,28nm,0.5s						
BJO	Bjornoya	3.34	101	eP	Pn	09 53 39.2	+0.1
	SNR=50						
BJO				eS	Sn	09 54 11.9	-6.9
	comp=Z,28nm,0.5s,SNR=50						
SPA0	Spitsbergen Ar	3.48	34	Pn	Pn	09 53 33.2	-7.7
	baz=217,slow=12						
SPA0				Sn	Sn	09 54 04.8	-17
	baz=203,slow=28						
SPA0	Spitsbergen Ar	3.48	34	e	Pn	09 53 33.2	-7.7
SPA0				e		09 54 04.8	
SPA0	Spitsbergen Ar	3.48	34	Pn	Pn	09 53 33.2	-7.8
	SNR=50						
SPA0				Sn	Sn	09 54 04.8	-17
DAG	Danmarks Havn	6.25	294	iP	Pn	09 54 14.5	-5.8
DAG	Danmarks Havn	6.25	294	eP	Pn	09 54 14.5	-5.8
JMIC	Jan Mayen	6.32	232	Pn	Pn	09 54 23.2	+2.0
	comp=Z,12nm,0.3s,baz=345,slow=5.7,SNR=3.4						
JMIC				LR	LR	09 56 18.5	
	comp=Z,347nm,18.1s,baz=242,slow=33						
KIF	Kilpisjarvi	7.74	140	eP	Pn	09 54 41.8	+0.7
KIF				eS	Sn	09 56 04.0	-5.1
KIF	Kilpisjarvi	7.74	140	P	Pn	09 54 41.7	+0.6
KIF				S	Sn	09 56 04.0	-5.2
ARA0	ARCESS Array S	8.14	128	Pn	P	09 54 44.2	-2.5
	baz=324,slow=10						
ARA0				Sn	Sn	09 56 10.1	-9.0
	baz=333,slow=22						
ARA0	ARCESS Array S	8.14	128	eP	P	09 54 44.2	-2.5
ARA0				eS	Sn	09 56 10.1	-9.0
ARA0	ARCESS Array S	8.14	128	P	P	09 54 44.2	-2.5
	SNR=47						
ARA0				S	Sn	09 56 10.1	-9.1
	SNR=47						
ARCES	ARCESS Array B	8.14	128	Pn	P	09 54 44.0	-2.7
	comp=Z,0.7nm,0.3s,baz=333,slow=12,SNR=16						
ARCES				Sn	Sn	09 56 09.7	-9.4
	comp=Z,1.5nm,0.3s,baz=331,slow=19,SNR=7.1						
ARCES				LR	LR	09 58 15.1	
	comp=Z,144nm,21.5s,baz=19,slow=40						
ARE0	ARCESS Array S	8.14	128	ePn	P	09 54 44.2	-2.5
ARE0				eSn	Sn	09 56 09.2	-10
KTK1	Kautokeino	8.15	134	eP	P	09 54 47.6	+0.8
KTK1				eS	Sn	09 56 15.4	-4.0
KTK1				AML	AML	09 56 22.1	
	comp=Z,4.1nm,0.7s						
KTK1	Kautokeino	8.15	134	eP	P	09 54 47.6	+0.7
	SNR=47						
KTK1				eS	Sn	09 56 15.4	-4.1
	comp=Z,4.1nm,0.7s,SNR=47						
KEV	Kevo	8.27	124	eP	P	09 54 46.0	-2.5
KEV				MPN		09 54 51.4	
	comp=Z,0.5nm,0.2s						
KEV				eS	Sn	09 56 11.7	-11
KEV	Kevo	8.27	124	P	P	09 54 45.9	-2.6
	comp=Z,0.5nm,0.2s						
KEV				S	Sn	09 56 11.6	-11
SGF	Sodankyl	10.12	132	eP	P	09 55 11.5	-2.4
SGF				MPN		09 55 17.1	
	comp=Z,0.4nm,0.3s						
SGF				eS	S	09 56 57.2	-11
SGF	Sodankyl	10.12	132	P	P	09 55 11.5	-2.4
	comp=Z,0.4nm,0.3s						
SGF				S	S	09 56 57.1	-11
APA	Apatity	11.42	120	⇓iP	P	09 55 28.6	-3.0
APA				e		09 57 35.0	
MSF	Maaselka	11.95	132	eP	P	09 55 35.4	-3.4
MSF				MPN		09 55 41.3	
	comp=Z,0.4nm,0.2s						
MSF	Maaselka	11.95	132	P	P	09 55 35.4	-3.4

comp=Z,0.4nm,0.2s
SUMG Summit 12.55 279 ePn P 09 55 44.7 -2.1
comp=Z,18nm,0.9s
KJN Kajaani 13.38 138 eP P 09 55 57.5 -0.3
KJN MPN 09 56 02.7
comp=Z,0.5nm,0.2s
SUF Sumiainen 14.40 142 eP P 09 56 11.6 +0.5
SUF MPN 09 56 16.4
comp=Z,0.2nm,0.3s
NB2 NORSAR Subarra 14.58 172 P P 09 56 26.8 +13
comp=Z,13nm,1.1s,baz=353,slow=11
NOA NORSAR Array B 14.58 172 Pn P 09 56 17.2 +3.8
comp=Z,0.0nm,0.3s,baz=210,slow=18,SNR=3.6
KAF Kangasniemi 15.00 143 ep P 09 56 20.6 +1.7
comp=Z,4.4nm,0.7s,baz=340,slow=14
KAF Kangasniemi 15.00 143 eP P 09 56 17.9 -1.0
KAF MPN 09 56 21.8
comp=Z,0.2nm,0.2s
KAF Kangasniemi 15.00 143 eP P 09 56 20.6 +1.7
KAF pmax pmax
comp=Z,4.0nm,0.7s
JOF Joensuu 15.09 133 ep P 09 56 17.1 -3.0
comp=Z,4.4nm,0.8s
JOF Joensuu 15.09 133 eP P 09 56 17.1 -3.0
JOF pmax pmax
comp=Z,4.0nm,0.8s
HFS Hagfors 15.60 167 P P 09 56 36.7 +10
baz=70,slow=5.1
HFS Hagfors 15.60 167 e P 09 56 36.7 +10
HFS Hagfors 15.60 167 Pn P 09 56 31.0 +4.3
comp=Z,0.0nm,0.3s,baz=160,slow=43,SNR=2.1
FIA0 FINESS Array S 15.60 144 eP P 09 56 25.8 -0.9
FIA0 MPN 09 56 29.0
comp=Z,0.3nm,0.2s
FIA0 FINESS Array S 15.60 144 P P 09 56 27.9 +1.2
baz=346,slow=12
FINES FINESS Array B 15.60 144 Pn P 09 56 28.1 +1.3
comp=Z,0.1nm,0.3s,baz=76,slow=34,SNR=3.5
FINES LR LR 10 02 51.3
comp=Z,85nm,20.5s,baz=352,slow=38
EKA Eskdalemuir Ar 20.59 196 P P 09 57 35.4 +8.6
comp=Z,1.9nm,0.8s,baz=9.5,slow=10,SNR=4.1
EKA Eskdalemuir Ar 20.59 196 P P 09 57 35.4 +8.6
EKA pmax pmax
comp=Z,2.0nm,0.9s
MOS Moscow 22.97 132 eP P 09 57 58.4 +8.0
MOS pmax pmax
comp=Z,68nm,0.9s,mb5.1
MOS Moscow 22.97 132 eP P 09 57 58.4 +8.0
comp=Z,68nm,0.9s,mb5.1
OBN Obninsk 23.37 134⇓eP P 09 58 02.5 +8.2
OBN e 09 58 29.8
OBN e 10 01 44.2
OBN pmax pmax
comp=Z,36nm,1.3s,mb4.6
OBN MLR MLR
comp=Z,100nm,13.0s,MS3.5
OBN Obninsk 23.37 134⇓eP P 09 58 02.5 +8.2
comp=Z,4.6nm,1.8s,mb3.6
OBN e 09 58 29.8
OBN e 10 01 44.2
OBN LR LR
comp=Z,100nm,13.0s,MS3.5
CLL Collm 24.38 171 ePPP PPP 09 58 53.0 +2.8
MOX Moxa 25.00 173 i P P 09 58 16.5 +6.4
comp=Z,logA/T=1.2,mb4.5
MOX Moxa 25.00 173 eP P 09 58 16.5 +6.4
MOX pmax pmax
comp=Z,23nm,1.4s,mb4.5
MOX Moxa 25.00 173 eP P 09 58 16.5 +6.4
comp=Z,23nm,1.4s,mb4.5
OJC Ojcow 25.89 161 eP P 09 58 25.0 +6.5
OJC Ojcow 25.89 161 eP P 09 58 25.0 +6.5
GRA1 Grafenberg Arr 25.94 174 eP P 09 58 24.1 +5.1
comp=Z,6.0nm,1.1s,mb4.0
GRF Grafenberg Arr 25.94 174 eP P 09 58 24.1 +5.1
GRF pmax pmax
comp=Z,6.0nm,1.1s,mb4.0
FRB Frobisher Bay 26.51 285 LR LR 10 08 38.6
comp=Z,168nm,19.9s,MS3.6,baz=147,slow=36
NIE Niedzica 26.73 160 eP P 09 58 36.9 +11
GERES GERESS Array B 26.87 170 P P 09 58 29.0 +1.4
comp=Z,0.4nm,0.3s,mb3.4,baz=330,slow=19,SNR=2.6
ARU Arti 26.93 106 eP P 09 58 45.0 +17
ARU e 10 01 52.3
ARU e 10 09 25.2
SVE Sverdlovsk 27.08 103⇑eP P 09 58 34.3 +4.9
SVE pmax pmax
comp=Z,50nm,2.7s,mb4.6
SVE Sverdlovsk 27.08 103⇑eP P 09 58 34.3 +4.9
comp=Z,50nm,2.7s,mb4.6
TIXI Tiksi 28.90 34⇑eP P 09 58 45.8 +0.1
TIXI i 10 01 55.7
TIXI eS S 10 03 35.6 +1.6
TIXI pmax pmax
comp=Z,10.0nm,1.4s,mb4.3
TIXI MLR MLR
comp=Z,300nm,20.0s,MS3.9
TIXI Tiksi 28.90 34⇑eP P 09 58 45.8 +0.1
comp=Z,10.0nm,1.4s,mb4.3
TIXI i 10 01 55.7
TIXI eS S 10 03 35.6 +1.6
TIXI LR LR
comp=Z,300nm,20.0s,MS3.9
BRVK Borovoye 32.89 96 P P 09 59 24.2 +3.1
comp=Z,2.1nm,0.7s,mb4.2
BVAR Borovoye Array 32.95 96 P P 09 59 23.1 +1.5
comp=Z,1.1nm,0.6s,mb4.0,baz=329,slow=8.6,SNR=4.8
BVAR PP PP 10 00 36.3 +4.2
comp=Z,6.0nm,0.8s,baz=333,slow=9.9,SNR=8.8
INK Inuvik 34.32 335 eP P 09 59 30.7 -2.6
comp=Z,11nm,1.1s,mb4.7
INK e pP 09 59 35.9 -2.6
KIV Kislovodsk 35.20 133 eP P 09 59 42.9 +1.7
KIV pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
KIV Kislovodsk 35.20 133 eP P 09 59 42.9 +1.7
comp=Z,3.0nm,0.5s,mb4.5
ZAL Zalesovo 35.74 82 P P 09 59 46.6 +0.9
comp=Z,1.9nm,0.8s,mb4.1,baz=61,slow=7.5,SNR=8.4
ZAL LR LR 10 18 59.2
comp=Z,95nm,18.2s,MS3.6,baz=213,slow=44
KURK Kurchatov 37.13 90c iP P 10 00 02.6 +5.2
KURK Kurchatov 37.13 90⇑iP P 10 00 02.6 +5.2
comp=Z,0.9nm,1.1s,mb3.5
BRTR Keskin Array B 37.83 146 PP PP 10 01 33.0 +0.1
comp=Z,0.4nm,0.3s,baz=307,slow=14,SNR=2.5
ILAR Eielson Array 39.00 342 P P 10 00 12.0 -0.9
comp=Z,1.9nm,0.9s,mb3.8,baz=359,slow=7.4,SNR=14
ILAR Eielson Array 39.00 342 P P 10 00 12.0 -0.9
ILAR pmax pmax
comp=Z,2.0nm,0.9s
MKAR Makanchi Array 41.69 89 P P 10 00 35.8 +0.8
comp=Z,1.2nm,0.9s,mb3.5,baz=333,slow=6.4,SNR=6.8
MKAR PP PP 10 02 13.4 -1.2
comp=Z,1.5nm,0.7s,baz=11,slow=7.3,SNR=4.3
MKAR Makanchi Array 41.69 89 P P 10 00 35.8 +0.7
MKAR 10 02 13.5
MKAR pmax pmax
comp=Z,1.0nm,0.9s
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 41.69 89 P P 10 00 35.8 +0.7
MKAR e 10 02 13.5
CLNS Chul'man 41.99 46 eP P 10 00 34.8 -2.6
CLNS pmax pmax
comp=Z,17nm,1.0s,mb4.6
CLNS pmax pmax
comp=N,9.0nm,0.9s
CLNS pmax pmax
comp=E,3.0nm,1.0s
AAK Ala-Archa 43.62 98⇓eP P 10 00 57.6 +6.7
AAK pmax pmax
comp=Z,3.0nm,0.9s,mb4.0
AAK Ala-Archa 43.62 98⇓eP P 10 00 57.6 +6.7
comp=Z,3.0nm,0.9s,mb4.0
WMQ Urumqi 45.83 85 eP P 10 01 13.0 +4.4
WMQ PP PP 10 03 01.0 +4.6
WMQ S S 10 07 57.0 +6.1
WMQ LR LR
comp=Z,85nm,16.0s,MS3.8
EDM Edmonton 45.84 314 eP P 10 01 07.7 -0.8
EDM e pP 10 01 14.1 +0.3
SONM Songino Array 46.61 66 P P 10 01 13.6 -1.1
comp=Z,3.3nm,0.9s,mb4.3,baz=338,slow=6.7,SNR=4.3
GCMT Greycliff 52.24 308 eP P 10 01 57.8 -0.3
GCMT e pP 10 02 03.8 +0.3
GTA Gaotai 53.00 76 eP P 10 02 05.5 +1.7
GTA AP pP 10 02 08.1 -1.1
GTA PP PP 10 04 06.2 +1.0
GTA S S 10 09 30.6 -0.3
GTA AMB AMB
comp=Z,6.0nm,1.5s,mb4.3
GTA AMB AMB
comp=Z,92nm,3.8s
GTA LR LR
comp=N,81nm,15.6s,MS4.1
GTA LR LR
comp=E,107nm,13.3s,MS4.1
GTA LR LR
comp=Z,116nm,6.5s
MCMT McKenzie Canyo 53.79 310 eP P 10 02 09.0 -0.6
MCMT e pP 10 02 15.3 +0.3
CN2 Changchun 54.55 51 eP P 10 02 16.8 +1.6
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
PDAR Pinedale Array 55.12 307 P P 10 02 18.8 -0.6
comp=Z,2.5nm,1.1s,mb4.2,baz=18,slow=4.7,SNR=11
LZH Lanzhou 57.13 73 eP P 10 02 35.9 +1.9
LZH AP pP 10 02 39.4 0.0
LZH XP sP 10 02 40.7 -0.7
LZH PP PP 10 04 39.5 -3.0
LZH AMB AMB
comp=Z,24nm,1.3s,mb5.1
LZH AMB AMB
comp=Z,112nm,4.8s
LZH LR LR
comp=N,326nm,14.9s
LZH LR LR
comp=Z,491nm,17.5s,MS4.7
ISCO Idaho Springs 57.15 302 P P 10 02 33.5 -0.5
comp=Z,4.6nm,1.1s,mb4.4
TMUT Trail Mountain 58.80 307 eP P 10 02 45.8 +0.2
TMUT e pP 10 02 51.7 +0.7
PV10 Paradox Valley 59.24 305 eP P 10 02 48.8 +0.1
PV10 e pP 10 02 55.2 +1.2
PV01 Paradox Valley 59.37 304 eP P 10 02 49.5 0.0
PV01 e pP 10 02 55.4 +0.3
MSU Marysvale 59.75 307 eP P 10 02 52.6 +0.5
KOLN Koldanda 60.01 95 eP P 10 02 54.3 +0.3
comp=Z,17nm,1.0s,mb5.0
GKN Gorkha 60.05 94 eP P 10 02 54.9 +0.6
comp=Z,17nm,0.8s,mb5.1
KKN Kakani 60.41 94 eP P 10 02 58.2 +1.4
comp=Z,29nm,0.9s,mb5.3
GUN Gumba 60.45 93 eP P 10 02 59.4 +2.4
WMOK Wichita Mounta 60.48 294 eP P 10 02 57.0 -0.2
comp=Z,8.7nm,1.2s,mb4.7
WMOK e pP 10 03 02.7 +0.1
DMN Daman 60.54 94 eP P 10 02 57.5 -0.2
comp=Z,37nm,1.2s,mb5.4
NVAR Mina Array Bea 61.01 313 P P 10 03 00.5 -0.2
comp=Z,0.9nm,0.9s,mb3.9,baz=334,slow=3.5,SNR=5.0
NVAR Mina Array Bea 61.01 313 P P 10 03 00.5 -0.2
ANMO Albuquerque 61.99 301⇓eP P 10 03 07.1 -0.3
NJ2 Nanjing 64.48 61 eP P 10 03 24.5 +0.8
SSE Sheshan 65.91 59 P P 10 03 32.5 -0.4
SSE S S 10 12 19.3 +1.5
SSE XS 10 12 25.0
SSE SS SS 10 16 33.9 -0.4
SSE AMB AMB
comp=Z,15nm,0.7s,mb5.1
SSE LR LR
comp=N,12nm,22.5s,MS3.5
SSE LR LR
comp=E,33nm,22.6s,MS3.5
SSE LR LR
comp=Z,25nm,20.0s,MS3.4
TXAR Lajitas Array 66.78 297 P P 10 03 38.4 -0.1
comp=Z,2.0nm,0.9s,mb4.2,baz=44,slow=4.2,SNR=19
TXAR Lajitas Array 66.78 297 P P 10 03 38.4 -0.1
GYA Guiyang 67.02 74⇑iP P 10 03 44.1 +4.0
GYA AP pP 10 03 49.2 +3.6
GYA XP sP 10 03 51.6 +4.0
GYA S S 10 12 36.1 +4.8
GYA PS PS 10 13 10.2 +14
GYA AMB AMB
comp=Z,10.0nm,1.2s,mb4.7
CMAR Chiang Mai Arr 72.79 83 P P 10 04 16.9 +1.6
comp=Z,2.5nm,0.8s,mb4.2,baz=329,slow=6.3,SNR=5.8
CMAR Chiang Mai Arr 72.79 83 P P 10 04 17.0 +1.7
CMAR pmax pmax
comp=Z,3.0nm,0.8s
ASAR Alice Springs 121.71 59 PKP PKPdf 10 11 41.0 -1.8
comp=Z,0.4nm,0.5s,baz=349,slow=1.6,SNR=6.4
VNA1 Neumayer--Stat 146.21 189 e PKPbc 10 12 29.6 +5.9
VNA1 Neumayer--Stat 146.21 189⇑iPKPdf PKPdf 10 12 25.4 -1.0
VNA1 e 10 12 29.6
VNA2 Neumayer--Watz 146.45 188 e PKPbc 10 12 30.2 +6.0
VNA2 Neumayer--Watz 146.45 188 PKPdf PKPdf 10 12 26.0 -0.8
VNA2 e 10 12 30.2
VNA3 Neumayer Olymp 146.86 190 e PKPbc 10 12 35.2 +10
VNA3 Neumayer Olymp 146.86 190⇑iPKPdf PKPdf 10 12 31.2 +3.7
VNA3 e 10 12 35.2
SNAA Sanae 147.05 186 e PKPdf 10 12 34.6 +6.8
SNAA Sanae 147.05 186⇑iPKPdf PKPdf 10 12 30.6 +2.8
SNAA e 10 12 34.6
MAW Mawson 147.10 144 PKPbc PKPdf 10 12 29.2 +1.2
comp=Z,1.7nm,1.1s,baz=358,slow=13,SNR=3.3
MAW Mawson 147.10 144 PKP2 PKPab 10 12 29.2 -0.8
MAW pmax pmax
comp=Z,2.0nm,1.1s

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*IDC **11** 10:06:04.6±0.6, 75.88N×7.48E, mb4.2/17, mb1 4.4/22, mb1mx4.3/27, ML3.7/5, MS3.7/13, Ms1 3.7/13, ms1mx3.5/24, Error ellipse: s-maj=16.6km s-min=10.6km az=44.0*
*BJI **11** 10:06:05.8, 76.57N×8.07E, h5km, mB4.8, mb4.7, Ms4.4, Msz4.4*
*MOS **11** 10:06:06.9±2.6, 75.90N×7.46E, h10km, mb4.7/16, Error ellipse: s-maj=42.8km s-min=7.1km az=94.0*
*ZUR_RM **11** 10:06:06, 75.99N×7.44E, h9km, Mw4.5/9, Moment Tensor Solution. s9 Moment tensor: Scale 10^{15}Nm; M_{rr}-5.44; $M_{\theta\theta}$2.21; $M_{\phi\phi}$3.23; $M_{r\theta}$2.18; $M_{\theta\phi}$2.06; $M_{\phi r}$4.49; Best double couple: $M_0 7.15\times10^{15}$ NP1:ϕ_s210°, δ67°, λ-95°. NP2:ϕ_s44°, δ23°, λ-77°. Principal axes: T 6.809, Plg22°, Azm304°; N .692, Plg5°, Azm212°; P -7.501, Plg67°, Azm110°;*
*NEIC **11** 10:06:06.1±0.2, 75.99N×7.44E, h10km, mb4.6/36, MS3.9/2 Error ellipse: s-maj=7.3km s-min=4.0km az=223.0*
*CSEM **11** 10:06:08.9, 75.70N×5.59E, h33km, mb4.8*
*NAO **11** 10:06:08.4±6.6, 75.90N×9.65E, h20km±74km, ML3.5*
*BER **11** 10:06:09.6±3.4, 76.02N×9.28E, ML2.7, ML3.5(NAO)*
*HEL **11** 10:06:16.1±0.4, 75.74N×10.50E, h10km, ML3.5, ML2.7(BER), ML3.5(NAO)*

ISC 11 10:06:05.0±0.2**, 75.82N**±0.04×**7.3E**±0.1**, h18**km±1.0km**:pP-P, n172,** σ1ˢ**14**/174**, mb4.6**/62**, MS3.9**/20**, 13C-5D, Greenland Sea**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
HSP Hornsund 2.28 54 eP Pn 10 06 39.0 -3.5
HSP eS Sn 10 07 01.1 -9.3
SPA0 Spitsbergen Ar 3.13 36 Pn Pn 10 06 51.3 -3.3
baz=216,slow=14
SPA0 Sn Sn 10 07 24.5 -7.4
baz=229,slow=28
SPA0 Spitsbergen Ar 3.13 36 e Pn 10 06 51.3 -3.3
SPA0 e 10 07 24.5
BJO1 Bjornoya 3.28 108 eP Pn 10 06 56.6 -0.1
BJO1 eS Sn 10 07 27.8 -7.8
BJO1 AML AML 10 07 31.3
comp=Z,49nm,0.8s
BJO Bjornoya 3.32 108 eP Pn 10 06 56.6 -0.7
BJO eS Sn 10 07 27.8 -8.9
BJO AML AML 10 07 31.3
comp=Z,49nm,0.8s
DAG Danmarks Havn 6.22 291 i P Pn 10 07 33.0 -5.3
DAG Danmarks Havn 6.22 291 eP Pn 10 07 33.0 -5.3
JMIC Jan Mayen 6.62 231 Pn Pn 10 07 41.8 -2.2
comp=Z,21nm,0.3s,baz=20,slow=4.0,SNR=6.4
TRO Tromso 7.09 145 eP Pn 10 07 49.9 -0.7
KIF Kilpisjarvi 7.94 143 eP Pn 10 08 03.2 +0.8
KIF eS Sn 10 09 23.7 -9.0
ARA0 ARCESS Array S 8.27 130 Pn P 10 08 02.2 -4.8
baz=326,slow=12
ARA0 Sn Sn 10 09 28.2 -13
baz=328,slow=22
ARA0 ARCESS Array S 8.27 130 eP P 10 08 02.2 -4.8
ARA0 eS Sn 10 09 28.2 -13
ARCES ARCESS Array B 8.27 130 Pn P 10 08 02.4 -4.7
comp=Z,1.0nm,0.3s,baz=325,slow=9.1,SNR=16
ARCES Sn Sn 10 09 29.8 -11
comp=Z,2.5nm,0.3s,baz=329,slow=21,SNR=9.4
ARE0 ARCESS Array S 8.27 130 ePn P 10 08 06.6 -0.4
KTK1 Kautokeino 8.32 137 eP P 10 08 06.0 -1.7
KTK1 eS Sn 10 09 33.4 -8.8
KTK1 AML AML 10 09 40.3
comp=Z,8.8nm,0.8s
KEV Kevo 8.37 126 eP P 10 08 07.4 -1.2
KEV MPN 10 08 12.8
comp=Z,1.9nm,0.3s
KEV eS Sn 10 09 31.4 -12
SGF Sodankyl 10.28 135 eP P 10 08 33.2 -1.4
SGF MPN 10 08 38.5
comp=Z,2.0nm,0.3s
SGF eS S 10 10 17.8 -13
APA Apatity 11.50 122⇑iP P 10 08 49.6 -1.7
APA pmax pmax
comp=Z,72nm,1.2s
APA Apatity 11.50 122⇑iP P 10 08 49.6 -1.7
comp=Z,72nm,1.2s
MSF Maaselka 12.11 134 eP P 10 08 56.7 -2.7
MSF MPN 10 09 05.3
comp=Z,2.8nm,0.3s
OUL Oulu 12.34 141 eP P 10 09 00.9 -1.6
OUL MPN 10 09 04.2
comp=Z,1.1nm,0.2s
SUMG Summit 12.61 278 ePn P 10 09 02.7 -3.4
comp=Z,19nm,0.7s
KJN Kajaani 13.56 139 eP P 10 09 17.1 -1.5
KJN MPN 10 09 20.7
comp=Z,1.7nm,0.2s
KJN eS S 10 11 35.7 -14
BORG Borgarnes 14.48 235 LR LR 10 12 53.8
comp=Z,68nm,21.5s,baz=154,slow=28
SUF Sumiainen 14.61 144 eP P 10 09 31.2 -1.2
SUF MPN 10 09 35.5
comp=Z,0.5nm,0.3s
NB2 NORSAR Subarra 14.91 173 P P 10 09 43.1 +6.9
comp=Z,23nm,1.1s,baz=352,slow=11
NOA NORSAR Array B 14.91 173 Pn P 10 09 40.5 +4.3
comp=Z,0.1nm,0.3s,baz=353,slow=13,SNR=3.4
NOA LR LR 10 14 32.8
comp=Z,112nm,19.9s,baz=345,slow=34
KEF Keuruu 14.96 147 eP P 10 09 36.5 -0.4
KEF MPN 10 09 39.8
comp=Z,0.7nm,0.2s
NAO01 NORSAR Array S 15.10 173 P P 10 09 47.3 +8.6
comp=Z,14nm,0.9s
KAF Kangasniemi 15.21 144 ep P 10 09 37.5 -2.7
comp=Z,15nm,0.7s,baz=348,slow=13
KAF Kangasniemi 15.21 144 eP P 10 09 37.5 -2.7
KAF pmax pmax
comp=Z,15nm,0.7s
JOF Joensuu 15.25 135 ep P 10 09 37.2 -3.5
comp=Z,9.3nm,0.9s
JOF Joensuu 15.25 135 eP P 10 09 37.2 -3.5
JOF pmax pmax
comp=Z,9.0nm,0.9s
FIA0 FINESS Array S 15.82 146 P P 10 09 45.6 -2.5
baz=352,slow=9.3
FIA0 FINESS Array S 15.82 146 eP P 10 09 45.6 -2.5
FINES FINESS Array B 15.82 146 Pn P 10 09 48.5 +0.4
comp=Z,0.4nm,0.3s,baz=9.5,slow=12,SNR=11
FINES LR LR 10 15 47.6
comp=Z,210nm,21.3s,baz=353,slow=37
HFS Hagfors 15.92 168 P P 10 09 51.5 +2.2
baz=19,slow=12
HFS Hagfors 15.92 168 eP P 10 09 51.5 +2.2
HFS Hagfors 15.92 168 Pn P 10 09 52.2 +2.9
comp=Z,0.0nm,0.3s,baz=12,slow=14,SNR=3.7
EKA Eskdalemuir Ar 20.95 197 P P 10 10 50.6 +1.6
comp=Z,5.8nm,1.0s,slow=8.3,SNR=5.4
EKA Eskdalemuir Ar 20.95 197 P P 10 10 50.6 +1.6
EKA pmax pmax
comp=Z,6.0nm,1.0s
SUW Suwalki 22.73 155 P P 10 11 14.1 +7.5
comp=Z,98nm,1.0s,mb5.2
MOS Moscow 23.12 133 eP P 10 11 11.9 +1.5
MOS pmax pmax
comp=Z,104nm,1.4s,mb5.1
MOS MLR MLR
comp=Z,700nm,20.8s,MS4.1
MOS Moscow 23.12 133 eP P 10 11 11.9 +1.5
comp=Z,104nm,1.4s,mb5.1
MOS LR LR
comp=Z,700nm,20.8s,MS4.1
OBN Obninsk 23.53 135⇑eP P 10 11 20.3 +5.9
OBN e 10 11 26.4
OBN e 10 11 47.6
OBN eS S 10 15 35.6 +12
OBN pmax pmax
comp=Z,55nm,1.5s,mb4.8
OBN MLR MLR
comp=Z,100nm,5.0s
OBN Obninsk 23.53 135⇑eP P 10 11 20.3 +5.9
comp=Z,55nm,1.5s,mb4.8
OBN e 10 11 26.4
OBN e 10 11 47.6
OBN eS S 10 15 35.6 +12
CLL Collm 24.71 171 P P 10 11 33.0 +7.1
CLL Collm 24.71 171 eP P 10 11 34.0 +8.1
BRG Berggiesshubel 25.18 170 eP P 10 11 36.6 +6.2
BRG pmax pmax
comp=Z,3.0nm,0.8s,mb3.9
BRG Berggiesshubel 25.18 170 P P 10 11 36.6 +6.2
comp=Z,2.8nm,0.8s,mb3.8
MOX Moxa 25.33 174 i P P 10 11 34.1 +2.3
comp=Z,logA/T=1.5,mb4.8
MOX Moxa 25.33 174 eP P 10 11 34.1 +2.3
MOX pmax pmax
comp=Z,38nm,1.3s,mb4.8
MOX Moxa 25.33 174 eP P 10 11 34.1 +2.3
comp=Z,38nm,1.3s,mb4.8
PRU Pruhonice 26.09 169 eP P 10 11 43.2 +4.3
OJC Ojcow 26.18 162 eP P 10 11 48.2 +8.5
OJC Ojcow 26.18 162 eP P 10 11 48.2 +8.5
GRA1 Grafenberg Arr 26.27 174 eP P 10 11 42.7 +2.2
comp=Z,16nm,1.2s,mb4.4
GRF Grafenberg Arr 26.27 174 eP P 10 11 42.7 +2.2
GRF pmax pmax
comp=Z,16nm,1.2s,mb4.4
MORC Moravsky Berou 26.46 165 eP P 10 11 49.3 +7.0
comp=Z,20nm,1.6s,mb4.4
FRB Frobisher Bay 26.52 285 LR LR 10 22 07.2
comp=Z,230nm,18.9s,MS3.8,baz=327,slow=36
AKASG Malin Array Be 26.69 148 P P 10 11 44.0 -0.5
comp=Z,0.3nm,0.3s,baz=349,slow=9.9,SNR=4.5
VRAC Vranov 26.88 167 P P 10 11 49.7 +3.6
comp=Z,4.8nm,0.8s,mb4.1,baz=356,slow=9.5,SNR=4.6
KHC Kasperske Hory 26.91 171 eP P 10 11 51.5 +5.1
ARU Arti 26.93 107 eP P 10 11 55.2 +8.7
ARU e 10 12 40.7
ARU ePPP PPP 10 12 48.4 +4.2
ARU eSS SS 10 17 50.4 +16
ARU e 10 22 37.7
NIE Niedzica 27.02 161 eP P 10 11 55.4 +8.0
SVE Sverdlovsk 27.06 104⇑eP P 10 11 35.5 -12
SVE MLR MLR
comp=Z,300nm,10.0s,MS4.2
GERES GERESS Array B 27.20 171 P P 10 11 53.6 +4.6
comp=Z,2.0nm,0.8s,mb3.7,slow=11,SNR=5.6
GERES GERESS Array B 27.20 171 P P 10 11 53.6 +4.6
GERES pmax pmax
comp=Z,2.0nm,0.9s
TIXI Tiksi 28.55 34⇓eP P 10 12 07.0 +5.9
TIXI e 10 13 00.6
TIXI eS S 10 16 55.3 +8.5
TIXI eSS SS 10 18 18.2 +5.5
TIXI pmax pmax
comp=Z,16nm,1.5s,mb4.5
TIXI MLR MLR
comp=Z,600nm,19.0s,MS4.2
BRVK Borovoye 32.82 97 eP P 10 12 40.9 +1.9
comp=Z,5.2nm,0.9s,mb4.5
BVAR Borovoye Array 32.88 97 P P 10 12 40.1 +0.6
comp=Z,0.9nm,0.3s,mb4.1,baz=326,slow=16,SNR=0.9
BVAR PP PP 10 13 54.4 +4.7
comp=Z,8.0nm,0.8s,baz=342,slow=9.4,SNR=6.2
ANN Anapa 33.65 140 eP P 10 12 51.4 +5.1

ANN eS S 10 18 17.6 +10
ANN pmax pmax
comp=Z,218nm,1.1s
ANN Anapa 33.65 140 eP P 10 12 51.4 +5.1
comp=Z,218nm,1.1s
ANN eS S 10 18 17.6 +10
SCHQ Schefferville 33.97 275 LR LR 10 25 23.0
comp=Z,129nm,19.0s,MS3.7,baz=328,slow=34
INK Inuvik 34.05 335 eP P 10 12 48.7 -0.8
INK e pP 10 12 54.2 -0.7
NVS Novosibirsk 34.38 83⇓iP P 10 12 57.4 +4.9
NVS e 10 14 15.3
NVS pmax pmax
comp=N,16nm,1.5s
NVS pmax pmax
comp=Z,17nm,1.5s,mb4.8
KIV Kislovodsk 35.36 134 eP P 10 13 07.6 +6.6
KIV pmax pmax
comp=E,6.0nm,0.9s
KIV pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
KIV MLR MLR
comp=Z,101nm,19.0s,MS3.6
KIV MLR MLR
comp=N,84nm,21.0s,MS3.5
KIV MLR MLR
comp=E,37nm,20.0s,MS3.5
ZAL Zalesovo 35.59 83 P P 10 13 03.0 +0.1
comp=E,1.4nm,0.5s,mb4.2,baz=49,slow=15,SNR=4.3
ZAL LR LR 10 31 56.8
comp=E,158nm,18.3s,MS3.8,baz=56,slow=44
ZAL Zalesovo 35.59 83 P P 10 13 03.0 +0.1
ZAL pmax pmax
comp=Z,1.0nm,0.5s
ZAL MLR MLR
comp=Z,158nm,18.3s
ESDC Sonseca Array 36.59 195 P P 10 13 13.3 +1.8
comp=Z,2.3nm,0.8s,mb4.1,slow=8.9,SNR=4.6
KURK Kurchatov 37.02 91c iP P 10 13 20.7 +5.7
KURK Kurchatov 37.02 91 eP P 10 13 15.7 +0.7
comp=Z,15nm,1.0s,mb4.8
KURK e 10 14 38.8
YKA Yellowknife Ar 37.08 319 LR LR 10 29 20.5
comp=Z,56nm,18.5s,MS3.4,baz=20,slow=38
BRTR Keskin Array B 38.06 146 P P 10 13 25.6 +1.8
comp=Z,0.3nm,0.4s,baz=322,slow=16,SNR=3.0
BRTR PP PP 10 14 53.6 -0.5
comp=Z,2.2nm,1.0s,baz=339,slow=9.2,SNR=4.9
BRTR LR LR 10 30 23.8
comp=Z,60nm,21.4s,MS3.4,baz=90,slow=38
BRTR Keskin Array B 38.06 146 P P 10 13 25.6 +1.8
BRTR 10 14 53.6
BRTR pmax pmax
comp=Z,2.0nm,1.0s
BRTR MLR MLR
comp=Z,60nm,21.4s
COLA College 38.67 343⇓eP P 10 13 30.5 +1.9
COLA College 38.67 343 P P 10 13 25.6 -3.0
comp=Z,13nm,1.4s,mb4.5
ILAR Eielson Array 38.70 343 P P 10 13 29.7 +0.8
comp=Z,4.5nm,0.8s,mb4.2,baz=2.6,slow=7.0,SNR=62
ILAR Eielson Array 38.70 343 P P 10 13 29.7 +0.8
ILAR pmax pmax
comp=Z,5.0nm,0.8s
GNI Garni 39.42 133c iP P 10 13 39.4 +4.3
GNI pmax pmax
comp=Z,9.0nm,0.9s
GNI MLR MLR
comp=Z,100nm,19.0s
GNI Garni 39.42 133⇑iP P 10 13 39.4 +4.3
comp=Z,9.0nm,0.9s,mb4.5
GNI LR LR
comp=Z,100nm,19.0s,MS3.7
MKAR Makanchi Array 41.57 89 P P 10 13 53.5 +0.9
comp=Z,10nm,1.2s,mb4.3,baz=338,slow=6.5,SNR=14
MKAR PP PP 10 15 27.4 -4.5
comp=Z,2.2nm,0.9s,baz=349,slow=7.3,SNR=3.2
MKAR LR LR 10 33 39.0
comp=Z,211nm,19.9s,MS4.0,baz=332,slow=40
MKAR Makanchi Array 41.57 89 P P 10 13 53.5 +0.9
MKAR 10 15 27.4
MKAR pmax pmax
comp=Z,10.0nm,1.2s
MKAR pmax pmax
comp=Z,2.0nm,0.9s
MKAR MLR MLR
comp=Z,211nm,19.9s
MKAR Makanchi Array 41.57 89 P P 10 13 53.5 +0.9
MKAR e 10 15 27.4
CLNS Chul'man 41.68 47 eP P 10 13 52.9 -0.4
CLNS pmax pmax
comp=Z,23nm,1.0s,mb4.8
CLNS pmax pmax
comp=N,19nm,1.2s
CLNS pmax pmax
comp=E,8.0nm,1.0s
FFC Flin Flon 42.09 305 eP P 10 13 56.9 +0.1
comp=E,7.3nm,0.7s,mb4.4
ZAK Zakamensk 43.27 68 eP P 10 14 08.6 +2.1
ZAK e 10 15 53.2
AAK Ala-Archa 43.56 99c iP P 10 14 14.8 +5.9
AAK pmax pmax
comp=Z,8.0nm,1.5s,mb4.2
AAK MLR MLR
comp=Z,100nm,15.0s,MS3.8
AAK Ala-Archa 43.56 99⇑iP P 10 14 14.8 +5.9
comp=Z,8.0nm,1.5s,mb4.2
AAK LR LR
comp=Z,100nm,15.0s,MS3.8
ULM Lac du Bonnet 45.02 298 P P 10 14 20.2 -0.4
comp=Z,5.4nm,0.8s,mb4.4,baz=0.4,slow=5.7,SNR=4.8
ULM LR LR 10 34 15.8
comp=Z,162nm,18.2s,MS4.0,baz=40,slow=38
EDM Edmonton 45.68 314 eP P 10 14 25.7 -0.1
WMQ Urumqi 45.69 86 eP P 10 14 29.8 +3.8
WMQ PP PP 10 16 17.0 +3.5
WMQ S S 10 21 11.0 +3.6
WMQ SS SS 10 24 27.0 +3.6
WMQ AMB AMB
comp=Z,16nm,1.0s,mb4.9
WMQ LR LR
comp=N,115nm,18.0s,MS4.0
WMQ LR LR
comp=E,136nm,18.0s,MS4.0
WMQ LR LR
comp=Z,129nm,18.0s,MS3.9
SONM Songino Array 46.37 67 P P 10 14 32.0 +0.7
comp=Z,1.7nm,0.9s,mb4.0,baz=335,slow=6.6,SNR=9.3
LAO LASA Array 50.57 305 eP P 10 15 04.4 +0.4
comp=Z,9.4nm,0.9s,mb4.7
HRY Holter Researc 51.65 310 eP P 10 15 11.2 -0.9
CHMT Chamberlain Mo 51.72 311 eP P 10 15 12.1 -0.6
GCMT Greycliff 52.12 308 eP P 10 15 15.6 -0.1
GCMT e pP 10 15 21.8 +0.6
RSSD Black Hills 52.58 302 eP P 10 15 18.9 -0.3
comp=Z,6.3nm,1.2s,mb4.4
BOZ Bozeman (W) 52.63 309 eP P 10 15 19.5 -0.1
comp=Z,1.7nm,0.8s,mb4.0
GTA Gaotai 52.81 76 eP P 10 15 23.3 +2.4
GTA AP pP 10 15 26.7 +0.3
GTA XP sP 10 15 29.1 +0.6
GTA S S 10 22 47.7 +0.9
GTA AMB AMB
comp=Z,6.0nm,1.5s,mb4.3
GTA AMB AMB
comp=Z,132nm,4.4s
GTA LR LR
comp=N,66nm,11.4s
GTA LR LR
comp=E,70nm,16.7s
GTA LR LR
comp=Z,111nm,10.6s,MS4.2
QLMT Earthquake Lak 53.38 309 P P 10 15 25.7 +0.6
MCMT McKenzie Canyo 53.65 310 eP P 10 15 27.4 +0.4
WCI Wyandotte Cave 54.20 284 eP P 10 15 30.6 -0.6
CN2 Changchun 54.25 52 eP P 10 15 30.8 -0.6
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
REDW Red Top Meadow 54.68 308 eP P 10 15 34.7 0.0
BW06 Boulder Array 55.00 307 eP P 10 15 36.4 -0.6
comp=Z,14nm,1.4s,mb4.8
PDAR Pinedale Array 55.00 307 P P 10 15 36.8 -0.3
comp=Z,3.4nm,1.1s,mb4.3,baz=34,slow=5.3,SNR=18
PDAR LR LR 10 39 13.7
comp=Z,121nm,20.1s,MS4.0,baz=20,slow=36
HLID Hailey 55.17 311 eP P 10 15 37.6 -0.6
comp=Z,6.6nm,1.2s,mb4.5
KSU1 Kansas State U 55.77 294 eP P 10 15 41.2 -1.5
KSU1 e pP 10 15 47.4 -0.7
HWUT Hardware Ranch 56.52 308 P P 10 15 47.5 -0.4
comp=Z,13nm,1.6s,mb4.7
CBKS Cedar Bluff 56.74 297 eP P 10 15 48.5 -1.2
comp=Z,13nm,0.9s,mb5.0
CBKS e pP 10 15 55.3 +0.2
LZH Lanzhou 56.93 74 eP P 10 15 52.1 +1.1
LZH AP pP 10 15 55.4 -1.1
LZH XP sP 10 15 56.7 -1.9
LZH PP PP 10 18 00.4 +1.3
LZH AMB AMB
comp=Z,21nm,1.4s,mb5.0
LZH AMB AMB
comp=Z,120nm,4.5s
LZH LR LR
comp=N,334nm,15.2s
LZH LR LR
comp=Z,502nm,17.6s,MS4.7
ISCO Idaho Springs 57.06 302 eP P 10 15 52.0 +0.1
comp=Z,6.6nm,1.1s,mb4.6
ELK Elko 58.05 311 eP P 10 15 58.5 -0.3
comp=Z,4.4nm,0.9s,mb4.5
ELK e pP 10 16 04.3 0.0
DUG Dugway 58.12 309 eP P 10 15 59.0 -0.2
comp=Z,2.6nm,0.8s,mb4.3
NLU North Lily Min 58.21 308 eP P 10 16 00.1 +0.1
TMUT Trail Mountain 58.68 307 eP P 10 16 03.6 +0.4
SRU San Rafael 58.72 306 eP P 10 16 03.1 -0.4
SDCO Great Sand Dun 59.01 302 eP P 10 16 05.2 -0.3
comp=Z,4.9nm,0.9s,mb4.5
PV10 Paradox Valley 59.13 305 P P 10 16 07.0 +0.6
PV01 Paradox Valley 59.27 304 eP P 10 16 07.7 +0.3
PV01 e pP 10 16 13.3 +0.4
MIAR Mount Ida 59.43 290 eP P 10 16 06.9 -1.6
comp=Z,9.8nm,1.1s,mb4.8
MSU Marysvale 59.62 308 eP P 10 16 10.5 +0.8
MSU e pP 10 16 16.4 +1.0
MVU Marysvale 59.64 308 eP P 10 16 10.7 +0.9
comp=Z,5.6nm,1.0s,mb4.5
KOLN Koldanda 59.93 96 eP P 10 16 12.1 +0.1
comp=Z,25nm,1.0s,mb5.2
GKN Gorkha 59.96 95 eP P 10 16 12.3 +0.1
comp=Z,33nm,1.0s,mb5.3
KKN Kakani 60.33 94 eP P 10 16 14.8 +0.1
comp=Z,59nm,1.0s,mb5.6
GUN Gumba 60.36 94 eP P 10 16 15.6 +0.7
comp=Z,48nm,1.1s,mb5.4
WMOK Wichita Mounta 60.44 295 eP P 10 16 15.0 -0.4
comp=Z,8.0nm,0.8s,mb4.8
WMOK e pP 10 16 20.9 -0.1
DMN Daman 60.46 95 eP P 10 16 16.0 +0.4
comp=Z,40nm,1.2s,mb5.3
NVAR Mina Array Bea 60.85 313 P P 10 16 18.5 +0.3
comp=Z,1.8nm,0.8s,mb4.2,baz=18,slow=3.9,SNR=11
NVAR LR LR 10 41 53.0
comp=Z,52nm,19.0s,MS3.7,baz=320,slow=35
ANMO Albuquerque 61.91 302⇓eP P 10 16 24.9 -0.4
ANMO Albuquerque 61.91 302 eP P 10 16 25.1 -0.2
comp=Z,3.2nm,1.1s,mb4.4
CPRX Cap Rock 63.20 299 eP P 10 16 34.2 +0.3
CPRX e pP 10 16 40.3 +0.7
GDL2 Guadalupe Moun 64.11 299 eP P 10 16 39.6 -0.2
NJ2 Nanjing 64.22 61 eP P 10 16 43.8 +3.3
NJ2 S S 10 25 18.0 +2.6
NJ2 AMB AMB
comp=Z,30nm,0.9s,mb5.3
NJ2 LR LR
comp=N,200nm,30.8s,MS4.4
NJ2 LR LR
comp=E,320nm,26.0s,MS4.4
NJ2 LR LR
comp=Z,430nm,32.0s
JCT Junction City 64.76 294 eP P 10 16 44.0 0.0
comp=Z,8.2nm,1.1s,mb4.7
TUC Tucson 65.35 305 eP P 10 16 48.6 +0.8
comp=Z,4.5nm,1.0s,mb4.5
LTX Lajitas 66.72 297 eP P 10 16 55.9 -0.8
comp=Z,6.9nm,1.1s,mb4.6
LTX e pP 10 17 02.3 +0.1
TXAR Lajitas Array 66.72 297 P P 10 16 56.6 0.0
comp=Z,3.5nm,0.8s,mb4.4,baz=53,slow=5.3,SNR=24
TXAR LR LR 10 48 10.3
comp=Z,103nm,20.0s,MS4.0,baz=35,slow=38
GYA Guiyang 66.82 74⇓iP P 10 16 57.8 +0.5
GYA AP pP 10 17 02.3 -0.6
GYA XP sP 10 17 05.6 +0.7
GYA S S 10 25 45.2 -2.2
GYA PS PS 10 26 08.8 -3.4
GYA AMB AMB
comp=Z,10.0nm,1.2s,mb4.7
DBIC Dimbokro 69.44 193 P P 10 17 19.7 +5.9
comp=Z,8.4nm,1.1s,mb4.6,baz=315,slow=10.0,SNR=3.5
DBIC Dimbokro 69.44 193 P P 10 17 19.7 +5.9
DBIC pmax pmax
comp=Z,8.0nm,1.1s
TIC Toumodi 69.47 193 eP P 10 17 18.7 +4.7
comp=Z,243nm,1.7s
KIC Kosan Boka 69.74 193 eP P 10 17 16.6 +0.9
comp=Z,95nm,1.1s,mb5.7
LIC Lamto 69.89 193 eP P 10 17 16.1 -0.5
comp=Z,126nm,1.5s,mb5.6
CMAR Chiang Mai Arr 72.64 84 P P 10 17 33.5 +0.5
comp=Z,0.8nm,0.4s,mb4.0,baz=331,slow=6.6,SNR=7.1
CMAR Chiang Mai Arr 72.64 84 P P 10 17 33.5 +0.5
CMAR pmax pmax
comp=Z,1.0nm,0.4s
WRA Warramunga Arr 117.92 58 PKP PKPdf 10 24 55.0 +1.1
comp=Z,0.6nm,0.8s,baz=326,slow=2.4,SNR=5.0
WRA Warramunga Arr 117.92 58 PKIKP PKPdf 10 24 55.0 +1.0
WRA pmax pmax
comp=Z,1.0nm,0.8s
ASAR Alice Springs 121.44 60 PKP PKPdf 10 24 57.5 -3.4
comp=Z,0.4nm,0.6s,baz=7.1,slow=2.1,SNR=8.0
VNA1 Neumayer--Stat 146.57 189 e PKPbc 10 25 54.0 +11
VNA1 Neumayer--Stat 146.57 189⇑iPKPdf PKPdf 10 25 48.6 +3.0
VNA1 e 10 25 54.0
VNA2 Neumayer--Watz 146.81 189 e PKPbc 10 25 54.5 +11
VNA2 Neumayer--Watz 146.81 189 PKPdf PKPdf 10 25 49.7 +3.7
VNA2 e 10 25 54.5
VNA3 Neumayer Olymp 147.22 190 e PKPdf 10 25 55.2 +8.6
VNA3 Neumayer Olymp 147.22 190⇑iPKPdf PKPdf 10 25 49.9 +3.3
VNA3 e 10 25 55.2
MAW Mawson 147.32 144 PKPbc PKPdf 10 25 48.5 +1.7
comp=Z,2.6nm,0.8s,baz=311,slow=9.5,SNR=7.2
MAW Mawson 147.32 144 PKP2 PKPab 10 25 48.5 -0.8
MAW pmax pmax
comp=Z,3.0nm,0.8s
MAW Mawson 147.32 144 ePKPbc PKPdf 10 25 48.6 +1.8
SNAA Sanae 147.41 186 e PKPdf 10 25 53.8 +6.9
SNAA Sanae 147.41 186⇑iPKPdf PKPdf 10 25 48.6 +1.7
SNAA e 10 25 53.8

*IDC **11** 10:09:10.7±2.5, 11.78N×85.91W, mb3.8/5, mb1 4.2/5, mb1mx3.9/17, Error ellipse: s-maj=61.0km s-min=50.6km az=18.0*
*CASC **11** 10:09:14.6±2.9, 11.31N×86.86W, MD4.4, mb4.3(NEIC)*
*NEIC **11** 10:09:15.0±1.8, 11.32N×86.26W, h35km, mb4.3/2, Error ellipse: s-maj=41.5km s-min=34.3km az=74.0*
ISC 11 10:09:17.6±0.5, **11.35N**±0.05×**86.76W**±0.05, **h58**km±8km, **n46**, σ**1**s**25**/56, **mb3.9**/7, **3C-2D**, **Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRUN	**El Crucero**	**0.78**	**35**	eP	**P**	**10 09 32.6**	**-0.2**
COPN	**Copaltepe**	**0.84**	**11**	eP	**P**	**10 09 33.2**	**-0.5**
COPN				eS	**S**	**10 09 47.0**	**+1.3**
TICN	**Ticuantepe**	**0.86**	**37**	eP	**P**	**10 09 33.4**	**-0.5**
APON	**Apoyo**	**0.89**	**50**	eP	**P**	**10 09 33.6**	**-0.6**
XAVN	**Gruta Xavier**	**0.90**	**28**	eP	**P**	**10 09 34.0**	**-0.5**
MGAN	**Managua**	**0.94**	**32**	eP	**P**	**10 09 34.6**	**-0.4**
MGAN				eS	**S**	**10 09 49.3**	**+1.4**
APYN	**Apoyeque**	**0.97**	**24**	eP	**P**	**10 09 34.9**	**-0.4**
WILN	**Americas 2**	**0.98**	**35**	eP	**P**	**10 09 35.1**	**-0.5**
LEON	**Leon**	**1.07**	**353**	eP	**P**	**10 09 36.0**	**-0.8**
MOMJ	**Momotombo**	**1.08**	**12**	eP	**P**	**10 09 36.3**	**-0.6**
MIRN	**Miramar**	**1.09**	**3**	eP	**P**	**10 09 36.5**	**-0.5**
CNGN	**Cerro Negro**	**1.15**	**3**	eP	**P**	**10 09 37.2**	**-0.6**
PYTN	**Playitas**	**1.37**	**30**	eP	**P**	**10 09 40.4**	**-0.6**
CRIN	**San Cristobal**	**1.38**	**348**	eP	**P**	**10 09 40.4**	**-0.7**
VCR	**Vista de Mar**	**1.64**	**137**	eP	**P**	**10 09 46.9**	**+2.1**
CNCH	**Conchagua**	**2.19**	**331**⇑	eP	**P**	**10 09 50.9**	**-1.5**
CNCH				eS	**S**	**10 10 22.2**	**+4.0**
JCR	**Jicaral**	**2.20**	**132**	eP	**P**	**10 09 49.5**	**-3.1**
BLLM	**Bellamira**	**2.53**	**325**	eP	**P**	**10 09 56.7**	**-0.6**
BLLM				eS	**S**	**10 10 28.2**	**+1.2**
VSM	**San Miguel**	**2.54**	**325**⇓	eP	**P**	**10 09 56.8**	**-0.6**
VSM				eS	**S**	**10 10 29.5**	**+2.2**
CGA2	**Cerro Gallo 2**	**2.62**	**120**	eP	**P**	**10 09 57.5**	**-1.0**
VPS2	**Volcan Poas 2**	**2.73**	**115**	eP	**P**	**10 10 03.5**	**+3.4**
PRS1	**Puriscal**	**2.76**	**119**	eP	**P**	**10 10 02.0**	**+1.5**
CAHU	**Cacacuatique**	**2.79**	**330**	eP	**P**	**10 10 01.0**	**0.0**
LAJ	**Bijagual**	**2.98**	**119**	eP	**P**	**10 09 59.1**	**-4.6**
SJS	**Escuela Geolog**	**3.01**	**117**	eP	**P**	**10 10 03.7**	**-0.3**
SJS				eS	**S**	**10 10 46.0**	**+7.0**
SNVI	**San Vicente**	**3.03**	**318**⇓	eP	**P**	**10 10 05.4**	**+1.1**
SNVI				eS	**S**	**10 10 42.0**	**+2.4**
TRTC	**Tortuguero**	**3.09**	**104**	eP	**P**	**10 10 06.2**	**+1.0**
LCR2	**La Lucha 2**	**3.15**	**120**	eP	**P**	**10 10 06.3**	**+0.3**
LCBS	**La Ceiba**	**3.15**	**317**⇑	eP	**P**	**10 10 03.7**	**-2.4**
LCBS				eS	**S**	**10 10 45.6**	**+2.9**
ICR	**Volcan Irazu**	**3.18**	**115**	eP	**P**	**10 10 07.8**	**+1.3**
LFRS	**El Faro**	**3.19**	**315**	eP	**P**	**10 10 04.6**	**-2.0**
LFRS				eS	**S**	**10 10 48.3**	**+4.7**
URSC	**Urasca**	**3.29**	**117**⇑	eP	**P**	**10 10 09.0**	**+1.0**
BOQS	**Boqueron**	**3.42**	**314**	eP	**P**	**10 10 08.6**	**-1.2**
BOQS				eS	**S**	**10 10 49.9**	**+0.6**
BUS	**Buena Vista**	**3.45**	**121**	eP	**P**	**10 10 11.0**	**+0.8**
SBLS	**San Blas**	**3.73**	**312**	eP	**P**	**10 10 13.0**	**-1.2**
SNJE	**San Jose**	**3.74**	**312**	eP	**P**	**10 10 15.5**	**+1.2**
SNJE				eS	**S**	**10 11 01.9**	**+4.5**
RTR	**El Retiro**	**3.79**	**312**	eP	**P**	**10 10 13.5**	**-1.5**
TXAR	**Lajitas Array**	**23.85**	**321**	P	**P**	**10 14 26.9**	**+0.4**
	1.9nm,0.7s,mb3.6,baz=135,slow=10,SNR=22						
MIAR	**Mount Ida**	**23.91**	**346**	eP	**P**	**10 14 26.3**	**-0.8**
	3.8nm,0.7s,mb3.9						
WMOK	**Wichita Mounta**	**25.73**	**337**	eP	**P**	**10 14 44.9**	**+0.4**
	16nm,1.2s,mb4.4						
PDAR	**Pinedale Array**	**37.06**	**332**	P	**P**	**10 16 23.2**	**-0.6**
	1.1nm,0.8s,mb3.7,baz=128,slow=9.4,SNR=4.2						
PDAR				PcP	PcP	10 18 43.0	-0.9
	1.9nm,1.2s,baz=135,slow=3.8,SNR=3.6						
PDAR	**Pinedale Array**	**37.06**	**332**	P	**P**	**10 16 23.2**	**-0.6**
PDAR				PcP	PcP	10 18 43.0	-0.9
NVAR	**Mina Array Bea**	**38.97**	**319**	P	**P**	**10 16 42.6**	**+2.9**
	0.5nm,0.6s,mb3.5,baz=124,slow=6.5,SNR=3.7						
NVAR				PcP	PcP	10 18 51.0	+1.1
	1.6nm,0.7s,baz=124,slow=5.3,SNR=8.1						
SCHQ	**Schefferville**	**46.14**	**16**	P	**P**	**10 17 32.0**	**-6.0**
	3.9nm,0.8s,mb4.4,baz=239,slow=5.9,SNR=2.9						
ILAR	**Eielson Array**	**67.30**	**336**	P	**P**	**10 20 05.7**	**-2.4**
	0.7nm,1.0s,mb3.6,baz=142,slow=5.7,SNR=6.3						
WRA	**Warramunga Arr**	**139.60**	**253**	PKP	PKPdf	10 28 41.1	+1.5
	0.2nm,0.7s,baz=86,slow=2.8,SNR=4.6						

*IDC **11** 10:20:14.5±2.1, 5.49N×126.43E, mb3.6/4, mb1 3.8/4, mb1mx3.6/16, Error ellipse: s-maj=165.0km s-min=26.5km az=65.0*
ISC 11 10:20:21.1±0.9, **4.8N**±0.2×**125.8E**±0.6, **h33**km, **n6**, σ**0**s**66**/7, **mb3.5**/4, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**1.49**	**327**	eP	**P**	**10 20 46.0**	**+0.1**
KCP	**Kidapawan**	**2.27**	**343**	eP	**P**	**10 20 55.9**	**-1.2**
KCP				*i* S	**S**	**10 21 24.9**	**+0.7**
WRA	**Warramunga Arr**	**26.01**	**161**	P	**P**	**10 25 52.8**	**-0.4**
	1.0nm,0.7s,mb3.5,baz=343,slow=10,SNR=9.4						
ASAR	**Alice Springs**	**29.41**	**165**	P	**P**	**10 26 23.8**	**-0.1**
	0.2nm,0.5s,mb3.1,baz=349,slow=6.6,SNR=3.9						
STKA	**Stephens Creek**	**39.49**	**159**	P	**P**	**10 27 51.1**	**+0.8**
	0.6nm,0.4s,mb3.6,baz=333,slow=9.4,SNR=3.3						
MKAR	**Makanchi Array**	**56.11**	**325**	P	**P**	**10 29 54.5**	**-5.1**
	0.7nm,0.7s,mb3.6,baz=112,slow=7.1,SNR=4.1						

CASC 11 10:23:16.2±1.5, **11.17N**×**86.92W**, **h18**km±8km, **MD3.7**, **6C-4D**, **Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRUN	**El Crucero**	**1.01**	**37**⇓	eP	Pb	10 23 34.8	1.0
CRUN				eS	Sb	10 23 48.8	+1.2
COPN	**Copaltepe**	**1.05**	**18**⇑	eP	Pb	10 23 35.4	-0.2
COPN				eS	Sb	10 23 50.3	+1.4
TICN	**Ticuantepe**	**1.09**	**38**	eP	Pb	10 23 35.5	-0.7
APON	**Apoyo**	**1.12**	**48**	eP	Pb	10 23 35.9	-0.8
XAVN	**Gruta Xavier**	**1.13**	**31**⇑	eP	Pb	10 23 36.2	-0.7
MGAN	**Managua**	**1.17**	**34**⇑	eP	Pb	10 23 36.8	-0.8
MGAN				eS	Sb	10 23 52.3	0.0
APYN	**Apoyeque**	**1.19**	**28**⇑	eP	Pb	10 23 37.1	-0.8
APYN				eS	Sb	10 23 54.7	+1.7
WILN	**Americas 2**	**1.22**	**36**	eP	Pb	10 23 36.3	-2.1
LEON	**Leon**	**1.24**	**1**⇑	eP	Pb	10 23 38.3	-0.3
MIRN	**Miramar**	**1.28**	**9**⇓	eP	Pn	10 23 38.8	-0.5
MIRN				eS	Sb	10 23 56.5	+1.1
MOMJ	**Momotombo**	**1.28**	**17**⇑	eP	Pn	10 23 38.4	-1.0
CNGN	**Cerro Negro**	**1.34**	**9**⇓	eP	Pn	10 23 39.7	-0.5
PYTN	**Playitas**	**1.60**	**32**⇓	iP	Pn	10 23 42.9	-1.1
PYTN				eP		10 23 43.2	
JCR	**Jicaral**	**2.21**	**126**	eP	Pn	10 23 58.0	+5.3
URSC	**Urasca**	**3.36**	**113**	eP	Pn	10 24 09.4	+0.3

IDC 11 10:36:57.4±4.8, **4.20S**×**151.31E**, **mb3.6**/4, **mb1 3.8**/4, **mb1mx3.6**/14, **Error ellipse: s-maj=132.0km s-min=36.3km az=106.0**, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.77**	**225**	P	P	10 42 02.3	-0.7
	1.3nm,0.8s,baz=47,slow=9.3,SNR=11						
ASAR	**Alice Springs**	**25.63**	**219**	P	P	10 42 27.4	-3.1
	0.3nm,0.6s,baz=51,slow=9.4,SNR=9.0						
FITZ	**Fitzroy Crossi**	**28.67**	**239**	P	P	10 42 57.2	-1.1
	1.4nm,0.5s,baz=148,slow=6.1,SNR=6.7						
MKAR	**Makanchi Array**	**78.90**	**319**	P	P	10 49 03.1	-1.3
	0.2nm,0.3s,baz=90,slow=8.6,SNR=3.7						

*NEIC **11** 10:39:52.7±0.6, 13.91N×120.87E, mb4.2/2, Error ellipse: s-maj=24.5km s-min=11.5km az=60.0*
*MAN **11** 10:39:52.2, 13.82N×120.44E, h93km, mb4.4, ML3.3, MS3.1*
*IDC **11** 10:39:53.1±0.9, 13.89N×120.90E, h112km±8km, mb3.2/7, mb1 3.4/7, mb1mx3.3/19, Error ellipse: s-maj=36.6km s-min=14.6km az=62.0*
ISC 11 10:39:51.7±0.5, **13.80N**±0.04×**120.46E**±0.08, **h112**km±5km, **h108**km±3.3km: **pP-P**, **n30**, σ**0**s**74**/35, **mb3.7**/9, **2C-2D**, **Mindoro**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.22**	**252**	eP	**P**	**10 40 07.1**	**-0.4**
LUBP	**Lubang**	**0.22**	**252**	eP	**P**	**10 40 07.1**	**-0.3**
TGY	**Tagaytay City**	**0.55**	**57**⇑	iP	**P**	**10 40 09.7**	**+0.5**
TGY				*i* S	**S**	**10 40 21.7**	**-0.7**
LQP	**Lukban**	**1.09**	**73**⇓	iP	**P**	**10 40 14.6**	**+0.3**
BOAC	**Boac**	**1.39**	**104**	eP	**P**	**10 40 17.9**	**+0.2**
BOAC	**Boac**	**1.39**	**104**	eP	**P**	**10 40 17.8**	**+0.1**
BOAC				eS	**S**	**10 40 38.7**	**+1.4**
SJMP	**San Jose**	**1.48**	**154**	eP	**P**	**10 40 19.3**	**+0.6**
SJMP				eS	**S**	**10 40 38.5**	**-0.7**
POLP	**Polilio Island**	**1.70**	**57**	eP	**P**	**10 40 21.2**	**-0.2**
POLP	**Polilio Island**	**1.70**	**57**	eP	**P**	**10 40 21.8**	**+0.3**
BUSP	**Coron**	**1.81**	**188**	eP	**P**	**10 40 22.9**	**+0.2**
PCPH	**Palayan**	**1.85**	**19**⇑	iP	**P**	**10 40 22.5**	**-0.9**
PCPH				eS	**S**	**10 40 46.9**	**-0.2**
GQP	**Guinayangan**	**1.93**	**87**⇓	iP	**P**	**10 40 25.1**	**+0.8**
SCZP	**Santa Cruz**	**2.03**	**345**	eP	**P**	**10 40 25.9**	**+0.2**
SCZP	**Santa Cruz**	**2.03**	**345**	eP	**P**	**10 40 25.5**	**-0.1**
OTRP	**Odiongan**	**2.09**	**133**	eP	**P**	**10 40 26.7**	**+0.3**
OTRP				eS	**S**	**10 40 51.6**	**-0.8**
BALP	**Baler**	**2.21**	**29**	eP	**P**	**10 40 27.6**	**-0.4**
BALP	**Baler**	**2.21**	**29**	eP	**P**	**10 40 28.1**	**+0.1**
BOLP	**Bolinao**	**2.62**	**348**	eP	**P**	**10 40 33.6**	**+0.1**
BOLP	**Bolinao**	**2.62**	**348**	eP	**P**	**10 40 32.3**	**-0.3**
CUYO	**Cuyo Island**	**2.98**	**169**	eP	**P**	**10 40 38.1**	**-0.3**
CMAR	**Chiang Mai Arr**	**21.18**	**285**	P	**P**	**10 44 33.1**	**+3.5**
	1.4nm,1.0s,mb3.2,baz=85,slow=11,SNR=2.7						
SONM	**Songino Array**	**35.89**	**344**	P	**P**	**10 46 43.1**	**+0.4**
	2.0nm,0.4s,mb4.4,baz=165,slow=9.8,SNR=14						
WRA	**Warramunga Arr**	**36.21**	**158**	P	**P**	**10 46 44.8**	**-0.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	0.2nm,0.7s,mb3.2,baz=331,slow=10,SNR=4.1						
WRA				pP	pP	10 47 08.4	-2.6
	0.5nm,0.4s,baz=333,slow=10,SNR=5.9						
ASAR	**Alice Springs**	**39.49**	**160**	P	**P**	**10 47 13.2**	**+0.3**
	0.3nm,0.7s,mb3.2,baz=339,slow=7.9,SNR=3.8						
ASAR				pP	pP	10 47 37.8	-0.8
	0.6nm,0.6s,baz=338,slow=6.8,SNR=5.7						
MKAR	**Makanchi Array**	**45.81**	**324**	P	**P**	**10 48 05.0**	**+1.0**
	0.5nm,0.3s,mb3.6,baz=123,slow=8.3,SNR=9.4						
MKAR	**Makanchi Array**	**45.81**	**324**	P	**P**	**10 48 05.0**	**+1.0**
BVAR	**Borovoye Array**	**55.56**	**326**	P	**P**	**10 49 17.9**	**+0.3**
	1.0nm,0.4s,mb4.2,baz=120,slow=12,SNR=7.3						
BVAR				pP	pP	10 49 45.6	+1.0
	1.5nm,0.5s,baz=104,slow=6.1,SNR=7.2						
BRVK	**Borovoye**	**55.63**	**326**	*e*P	**P**	**10 49 17.8**	**-0.4**
	2.4nm,0.7s,mb4.3						
ZRNK	**Zerenda**	**56.29**	**325**	*e*P	**P**	**10 49 23.0**	**+0.1**
	0.9nm,0.4s,mb4.2						
ILAR	**Eielson Array**	**78.76**	**26**	P	**P**	**10 51 41.0**	**-2.1**
	0.2nm,0.5s,mb3.2,baz=270,slow=4.5,SNR=5.2						

IDC 11 10:58:34.1±1.5, 14.01N×121.23E, mb3.7/5, mb1 3.8/5, mb1mx3.6/19, Error ellipse: s-maj=56.8km s-min=25.0km az=61.0

ISC 11 10:58:46.6±1.0, 13.8N±0.2×120.8E±0.2, h120km±8km, n7, σ1s45/8, mb3.6/5, 2D, Mindoro

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.28**	**21**	⇓*i*P	**P**	**10 59 03.1**	**-0.4**
TGY				*i* S	**S**	**10 59 15.5**	**-0.8**
LQP	**Lukban**	**0.73**	**68**	⇓*i*P	**P**	**10 59 08.1**	**+1.8**
CMAR	**Chiang Mai Arr**	**21.52**	**285**	P	**P**	**11 03 28.9**	**+1.8**
	0.4nm,0.4s,mb3.1,baz=105,slow=10,SNR=2.4						
SONM	**Songino Array**	**35.96**	**343**	P	**P**	**11 05 37.5**	**+0.1**
	1.1nm,0.6s,mb4.0,baz=163,slow=9.5,SNR=8.2						
WRA	**Warramunga Arr**	**36.10**	**158**	P	**P**	**11 05 38.2**	**-0.6**
	0.9nm,1.2s,mb3.6,baz=341,slow=9.0,SNR=5.7						
MKAR	**Makanchi Array**	**46.00**	**323**	P	**P**	**11 06 59.0**	**-0.5**
	0.9nm,0.8s,mb3.6,baz=119,slow=8.8,SNR=3.8						
BVAR	**Borovoye Array**	**55.73**	**326**	P	**P**	**11 08 12.0**	**-1.0**
	1.7nm,1.0s,mb4.0,baz=100,slow=8.8,SNR=4.3						

NEIC 11 11:00:13.6, 37.18S×176.96E, h230km, After WEL.

WEL 11 11:00:13.3±0.2, 37.19S×176.94E, h232km±2km, ML3.8/6, 1C, Error ellipse: s-maj=3.2km s-min=2.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.08**	**173**	P	P	11 00 47.0	-0.1
URZ	**Urewera**	**1.08**	**173**	⇑PN	P	11 00 47.0	-0.1
URZ				SN	S	11 01 12.9	-0.5
MXZ	**Matakaoa Point**	**1.15**	**110**	*e*P	P	11 00 47.2	-0.4
MXZ	**Matakaoa Point**	**1.15**	**110**	PN	P	11 00 47.2	-0.4
MXZ				SN	S	11 01 13.9	-0.3
MWZ	**Matawai**	**1.24**	**158**	P	P	11 00 48.3	0.0
MWZ	**Matawai**	**1.24**	**158**	PN	P	11 00 48.2	0.0
MWZ				SN	S	11 01 14.7	-0.7
KNZ	**Kokohu**	**1.92**	**163**	*e*P	P	11 00 53.9	0.0
KNZ	**Kokohu**	**1.92**	**163**	PN	P	11 00 53.8	-0.1
KNZ				SN	S	11 01 23.9	-1.3
BKZ	**Black Stump Fm**	**2.01**	**190**	*e*P	P	11 00 54.6	-0.1
BKZ				S	S	11 01 26.4	-0.3
BKZ	**Black Stump Fm**	**2.01**	**190**	PN	P	11 00 54.4	-0.3
BKZ				SN	S	11 01 26.4	-0.3
MGZ	**Maungaku**	**2.12**	**211**	PN	P	11 00 55.9	0.0
NGZ	**Ngauruhoe**	**2.25**	**208**	P	P	11 00 57.9	+0.8
NGZ	**Ngauruhoe**	**2.25**	**208**	*e*PN	P	11 00 57.5	+0.4
CNZ	**Chateau**	**2.29**	**208**	PN	P	11 00 57.3	-0.2
TUVZ	**Tukino**	**2.31**	**206**	P	P	11 00 58.2	+0.4
TUVZ	**Tukino**	**2.31**	**206**	PN	P	11 00 57.8	0.0
MOVZ	**Moawhango**	**2.41**	**202**	P	P	11 00 58.4	-0.3
MOVZ	**Moawhango**	**2.41**	**202**	PN	P	11 00 58.1	-0.6
PWZ	**Pawanui**	**2.84**	**181**	*e*P	P	11 01 03.0	-0.4
PWZ	**Pawanui**	**2.84**	**181**	PN	P	11 01 02.9	-0.5
PWZ				SN	S	11 01 41.5	-0.7
TSZ	**Takapari Road**	**2.97**	**195**	*e*P	P	11 01 04.0	-0.8
TSZ	**Takapari Road**	**2.97**	**195**	PN	P	11 01 03.9	-0.9
TSZ				SN	S	11 01 44.1	-0.6
MRZ	**Mangatainoka R**	**3.63**	**197**	PN	P	11 01 09.8	-2.7
MRZ				SN	S	11 01 54.2	-4.2
KIW	**Kapiti Island**	**4.00**	**203**	P	P	11 01 14.8	-2.0
KIW	**Kapiti Island**	**4.00**	**203**	PN	P	11 01 14.7	-2.1
KIW				SN	S	11 02 05.0	-1.1
MTW	**Mount Morrison**	**4.12**	**195**	P	P	11 01 16.4	-2.0
MTW	**Mount Morrison**	**4.12**	**195**	PN	P	11 01 16.2	-2.2
CAW	**Cannon Point**	**4.18**	**200**	P	P	11 01 16.8	-2.3
CAW	**Cannon Point**	**4.18**	**200**	PN	P	11 01 16.6	-2.5
CAW				SN	S	11 02 08.0	-2.1
MRW	**Makara Radio**	**4.40**	**203**	PN	P	11 01 19.9	-1.8
MSWZ	**Moikau Station**	**4.42**	**197**	P	P	11 01 19.8	-2.2
MSWZ	**Moikau Station**	**4.42**	**197**	PN	P	11 01 19.6	-2.5
TUWZ	**Tuamarina**	**4.83**	**208**	PN	P	11 01 24.5	-2.6
NNZ	**Nelson**	**4.88**	**213**	PN	P	11 01 25.3	-2.5
QRZ	**Quartz Range**	**5.00**	**222**	PN	P	11 01 29.2	0.0
THZ	**Tophouse**	**5.54**	**213**	*e*P	P	11 01 33.5	-2.4
THZ	**Tophouse**	**5.54**	**213**	PN	P	11 01 32.8	-3.1
THZ				SN	S	11 02 37.2	-3.1
KHZ	**Kahutara**	**5.84**	**206**	PN	P	11 01 37.2	-2.6

IDC 11 11:31:32.9±4.6, 11.58N×86.43W, mb3.4/2, mb1 3.9/2, mb1mx3.6/18, Error ellipse: s-maj=290.0km s-min=62.7km az=45.0

CASC 11 11:31:34.9±3.2, 11.36N×87.12W, h115km±44km, MD4.3

ISC 11 11:31:36.7±0.9, 11.21N±0.04×87.16W±0.07, h33km, n27, σ1s07/32, mb3.3/2, 11C-3D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**1.11**	**30**	⇓*e*P	**P**	**11 31 56.2**	**+0.2**
CRUN	**El Crucero**	**1.14**	**47**	*e*P	**P**	**11 31 56.1**	**-0.2**
TICN	**Ticuantepe**	**1.22**	**48**	⇑*e*P	**P**	**11 31 56.6**	**-0.9**
LEON	**Leon**	**1.22**	**12**	⇑*e*P	**P**	**11 31 58.5**	**+0.9**
XAVN	**Gruta Xavier**	**1.24**	**41**	*e*P	**P**	**11 31 57.4**	**-0.3**
APON	**Apoyo**	**1.28**	**57**	⇑*e*P	**P**	**11 31 56.1**	**-2.2**
APON				*e*S	**S**	**11 32 19.5**	**+4.9**
APYN	**Apoyeque**	**1.29**	**38**	⇑*e*P	**P**	**11 31 58.2**	**-0.3**
MGAN	**Managua**	**1.29**	**44**	⇑*e*P	**P**	**11 31 57.7**	**-0.7**
MGAN				*e*S	**S**	**11 32 15.9**	**+1.1**
MIRN	**Miramar**	**1.30**	**20**	⇓*e*P	**P**	**11 31 59.0**	**+0.4**
MOMJ	**Momotombo**	**1.33**	**27**	⇑*e*P	**P**	**11 31 59.2**	**0.0**
WILN	**Americas 2**	**1.34**	**45**	⇑*e*P	**P**	**11 31 58.3**	**-1.0**
WILN				*e*S	**S**	**11 32 17.8**	**+1.7**
CNGN	**Cerro Negro**	**1.36**	**19**	⇑*e*P	**P**	**11 31 59.9**	**+0.4**
PYTN	**Playitas**	**1.70**	**39**	⇑*e*P	**P**	**11 32 03.2**	**-1.3**
PYTN				*e*S	**S**	**11 32 33.8**	**+8.6**
VCR	**Vista de Mar**	**1.85**	**126**	*e*P	**P**	**11 32 07.3**	**+0.8**
JCR	**Jicaral**	**2.42**	**124**	*e*P	**P**	**11 32 15.3**	**+0.5**
JCR				*e*S	**S**	**11 32 44.9**	**+1.3**
FORC	**Fortuna**	**2.55**	**107**	⇓*i*P	**P**	**11 32 18.2**	**+1.5**
CGA2	**Cerro Gallo 2**	**2.90**	**114**	⇑*e*P	**P**	**11 32 23.6**	**+2.0**
CGA2				*e*S	**S**	**11 33 06.0**	**+10**
PRS1	**Puriscal**	**3.05**	**113**	*e*P	**P**	**11 32 22.8**	**-1.0**
LAJ	**Bijagual**	**3.27**	**114**	*e*P	**P**	**11 32 20.7**	**-6.2**
LCR2	**La Lucha 2**	**3.43**	**115**	*e*P	**P**	**11 32 28.4**	**-0.7**
TRTC	**Tortuguero**	**3.44**	**100**	*e*P	**P**	**11 32 27.8**	**-1.5**
ICR	**Volcan Irazu**	**3.49**	**110**	*e*P	**P**	**11 32 29.0**	**-1.0**
URSC	**Urasca**	**3.59**	**112**	⇑*e*P	**P**	**11 32 30.9**	**-0.6**
BUS	**Buena Vista**	**3.73**	**116**	*e*P	**P**	**11 32 29.7**	**-3.7**
TXAR	**Lajitas Array**	**23.71**	**322**	P	**P**	**11 36 48.2**	**+1.5**
	0.7nm,0.6s,mb3.3,baz=135,slow=10,SNR=13						
PDAR	**Pinedale Array**	**36.99**	**332**	P	**P**	**11 38 44.8**	**-0.2**
	0.3nm,0.5s,mb3.4,baz=119,slow=11,SNR=3.5						
CMAR	**Chiang Mai Arr**	**149.91**	**348**	PKPbc	PKPdf	11 51 25.1	+5.5
	0.8nm,0.8s,baz=334,slow=4.7,SNR=4.6						

DJA 11 11:34:39.8±1.3, 8.21S×113.80E, h72km±7km, MD4.9/4, ML4.9/2, 5C-2D, Error ellipse: s-maj=58.4km s-min=19.4km az=168.0, Jawa

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**0.43**	**128**	⇓*i*Pn	P	11 34 51.8	-0.5
	861nm,0.3s						
SRDI				⇑*i*Sn	S	11 35 00.2	-1.3
KELI	**Kelakatan**	**0.69**	**91**	⇑*i*Pn	P	11 34 50.5	-4.3
	4μm,0.3s						
KELI				⇑*i*Sn	S	11 35 05.5	-0.5
RATI	**Rata**	**1.79**	**107**	⇑*e*Pn	P	11 35 08.9	-0.3
	884nm,0.2s						
RATI				⇓*i*Sn	S	11 35 24.3	-6.6
KEDI	**Kedomdong**	**2.31**	**97**	*e*Pn	P	11 35 14.7	-1.7
	489nm,0.3s						
KEDI				⇑*e*Sn	S	11 35 40.6	-3.1

IDC 11 11:44:38.4±5.1, 16.47S×175.33W, mb4.2/3, mb1 4.4/3, mb1mx3.9/13, Error ellipse: s-maj=168.0km s-min=101.5km az=156.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.89**	**240**	P	P	11 52 31.4	-0.9
	1.0nm,0.5s,baz=74,slow=9.9,SNR=3.7						
WRA	**Warramunga Arr**	**47.79**	**258**	P	P	11 53 17.7	-2.1
	1.7nm,0.8s,baz=95,slow=7.1,SNR=49						
ASAR	**Alice Springs**	**48.01**	**253**	P	P	11 53 19.2	-2.2
	5.5nm,0.6s,baz=87,slow=8.6,SNR=153						
ASAR				PcP	PcP	11 54 47.5	-2.4
	0.4nm,0.5s,baz=102,slow=4.0,SNR=4.6						

IDC 11 11:50:00.3±7.1, 25.11S×179.22W, h446km±78km, mb3.4/4, mb1 3.7/5, mb1mx3.3/13, Error ellipse: s-maj=59.1km s-min=28.3km az=14.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**13.48**	**192**	P	P	11 52 53.3	-3.7
	7.1nm,0.3s,baz=341,slow=1.8,SNR=27						
URZ				S	S	11 55 21.1	+2.2
	2.2nm,0.3s,baz=245,slow=23,SNR=10						
CTA	**Charters Tower**	**32.21**	**272**	P	P	11 55 50.9	-0.6
	6.5nm,0.5s,baz=105,slow=11,SNR=21						
ASAR	**Alice Springs**	**42.56**	**262**	P	P	11 57 15.8	-1.1
	0.8nm,0.3s,baz=94,slow=7.1,SNR=27						
WRA	**Warramunga Arr**	**43.05**	**267**	P	P	11 57 18.9	-1.8
	2.2nm,0.4s,baz=100,slow=7.1,SNR=118						
TXAR	**Lajitas Array**	**90.46**	**58**	P	P	12 02 14.7	+0.3
	0.2nm,0.7s,baz=225,slow=5.3,SNR=4.8						
NOA	**NORSAR Array B**	**143.38**	**352**	PKP	PKPdf	12 08 40.5	-1.5
	0.9nm,0.7s,baz=21,slow=2.5,SNR=3.8						
BRTR	**Keskin Array B**	**148.87**	**306**	PKPbc	PKPdf	12 08 56.2	+4.4
	0.5nm,0.4s,baz=45,slow=4.1,SNR=2.6						

MOS 11 12:22:01.2±1.2, 34.06N×23.91E, h33km, mb4.5/15, Error ellipse: s-maj=12.7km s-min=6.0km az=89.9

BJI 11 12:22:03.1, 34.48N×23.29E, h60km, mb4.6, Ms4.4

CSEM 11 12:22:03.4±0.1, 34.27N×24.20E, h53km, mb4.3/10, Ms3.2, Error ellipse: s-maj=3.6km s-min=1.6km az=30.0

IDC 11 12:22:06.0±2.6, 34.26N×23.86E, h58km±20km, mb3.9/11, mb1 4.1/16, mb1mx4.0/26, ML4.0/5, MS3.9/7, Ms1 3.9/7, ms1mx3.5/27, Error ellipse: s-maj=24.6km s-min=16.9km az=4.0

ATH 11 12:22:06.7, 34.62N×24.00E, h31km±3km, MD4.1/11, ML4.2

NEIC 11 12:22:06.7, 34.62N×24.00E, h31km, mb4.3/15, ML4.2(ATH), After ATH.

ISC 11 12:22:00.7±1.0, 34.13N±0.04×23.96E±0.03, h25km±7km, n151, σ1s32/154, mb4.5/29, MS4.0/9, 2C-5D, Crete

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.71**	**8**	⇓*e*PB	**Pb**	**12 22 13.5**	**-0.9**
VAM	**Vamos**	**1.29**	**9**	*e*PN	**Pn**	**12 22 23.1**	**-0.3**
IDI	**Anoyia**	**1.39**	**33**	P	**Pn**	**12 22 27.8**	**+3.1**
	20nm,0.3s,baz=219,slow=14,SNR=55						
IDI				S	**Sn**	**12 22 49.7**	**+7.3**
	45nm,0.3s,baz=119,slow=16,SNR=9.9						
XRY	**Khrisi**	**1.61**	**62**	*e*PB	**Pb**	**12 22 31.5**	**+1.9**
NPS	**Neapolis**	**1.77**	**50**	⇑*e*PN	**Pn**	**12 22 34.2**	**+4.0**
KYTH	**Kithira**	**2.27**	**341**	*e*PB	**Pb**	**12 22 38.5**	**-2.4**
SANT	**Santorini**	**2.55**	**28**	*e*Pn	**Pn**	**12 22 41.0**	**-0.5**
SANT	**Santorini**	**2.55**	**28**	*e*Pn	**Pn**	**12 22 41.0**	**-0.4**
VLI	**Veliai**	**2.71**	**342**	*e*PB	**Pb**	**12 22 44.7**	**-3.7**
KARP	**Karpathos**	**2.99**	**61**	*e*PN	**Pn**	**12 22 51.5**	**+3.9**
KARP	**Karpathos**	**2.99**	**61**	*e*Pn	**Pn**	**12 22 51.3**	**+3.7**
KAP	**Karpathos**	**3.00**	**61**	*e*PN	**Pn**	**12 22 51.3**	**+3.5**
APE	**Apeiranthos**	**3.20**	**23**	*e*PN	**Pn**	**12 22 50.5**	**-0.1**
APE	**Apeiranthos**	**3.20**	**23**	*e*PN	**Pn**	**12 22 51.1**	**+0.5**
APE	**Apeiranthos**	**3.20**	**23**	Pn	**Pn**	**12 22 48.9**	**-1.7**
ITM	**Ithomi**	**3.46**	**332**	*e*PN	**Pn**	**12 22 54.8**	**+0.4**
NAIG	**Nisos Aigina**	**3.64**	**354**	*e*PN	**Pn**	**12 22 56.5**	**-0.4**
NSAL	**Nisos Salamina**	**3.79**	**354**	*e*PN	**Pn**	**12 22 58.5**	**-0.5**
ATH	**Athens Observa**	**3.84**	**357**	*e*PN	**Pn**	**12 22 57.5**	**-2.2**
PTL	**Penteli**	**3.91**	**359**	*e*PN	**Pn**	**12 23 00.0**	**-0.8**
ARG	**Arkhangelos**	**4.00**	**57**	*e*PN	**Pn**	**12 23 04.0**	**+2.1**
MPAR	**Parnis Oros**	**4.02**	**357**	*e*PN	**Pn**	**12 23 01.0**	**-1.3**
BDRM	**Kayabasi**	**4.08**	**43**	*i* P	**Pn**	**12 23 04.1**	**+1.0**
RLS	**Riolos of Patr**	**4.41**	**333**	*e*PN	**Pn**	**12 23 08.7**	**+0.9**
MLSB	**Milas**	**4.43**	**43**	*e*PN	**Pn**	**12 23 09.2**	**+1.1**
MLSB	**Milas**	**4.43**	**43**	Pn	**Pn**	**12 23 07.2**	**-0.9**
LKR	**Lokris**	**4.58**	**351**	*e*PN	**Pn**	**12 23 07.9**	**-2.3**
DALT	**Dalyan (Mudla)**	**4.64**	**54**	PN	**Pn**	**12 23 12.4**	**+1.3**
DALT	**Dalyan (Mudla)**	**4.64**	**54**	Pn	**Pn**	**12 23 11.8**	**+0.7**
AYDN	**Tasoluk**	**4.75**	**41**	*i* P	**Pn**	**12 23 14.9**	**+2.3**
KSL	**Kastellorizon**	**5.03**	**65**	*e*PN	**Pn**	**12 23 18.4**	**+1.8**
EVR	**Evrytania**	**5.08**	**341**	*e*PN	**Pn**	**12 23 19.0**	**+1.7**
NEO	**Neokhori**	**5.20**	**354**	*e*PN	**Pn**	**12 23 16.8**	**-2.2**
DNZL	**Cakiroluk**	**5.44**	**48**	*i* P	**Pn**	**12 23 24.5**	**+2.1**
ELL	**Elmali**	**5.51**	**60**	PN	**Pn**	**12 23 24.8**	**+1.4**
ELL	**Elmali**	**5.51**	**60**	Pn	**Pn**	**12 23 24.6**	**+1.2**
MANT	**Manisa**	**5.72**	**39**	*i* P	**Pn**	**12 23 27.4**	**+1.1**
PLG	**Polygyros**	**6.25**	**356**	*e*PN	**Pn**	**12 23 34.8**	**+1.0**
HDMB	**Hadim**	**7.50**	**65**	*e*PN	**Pn**	**12 23 51.2**	**-0.2**
SOI	**Samo**	**7.51**	**304**	*e*Pn	**Pn**	**12 23 47.8**	**-3.7**
MTTG	**Motta San Giov**	**7.73**	**302**	*e*Pn	**Pn**	**12 23 49.0**	**-5.5**
MTTG				*e*Sn	**Sn**	**12 25 10.8**	**-11**
CSS	**Prodhromos**	**7.78**	**81**	*e*Pn	**Pn**	**12 23 53.3**	**-1.9**
	31nm,0.8s						
CSS	**Prodhromos**	**7.78**	**81**	*e*Pn	**Pn**	**12 23 53.3**	**-1.9**
	31nm,0.8s						
PZI	**Palazzolo**	**7.90**	**294**	*e*Pn	**Pn**	**12 23 52.1**	**-4.9**
PZI				*e*Sn	**Sn**	**12 25 14.0**	**-13**
MEU	**Monte Lauro**	**7.93**	**295**	*e*Pn	**Pn**	**12 23 53.5**	**-3.9**
KIZT	**Kizilcal**	**7.94**	**51**	PN	**Pn**	**12 23 56.7**	**-0.8**
KIZT	**Kizilcal**	**7.94**	**51**	Pn	**Pn**	**12 23 55.7**	**-1.8**
IKL	**Isikli**	**8.23**	**72**	PN	**P**	**12 24 00.1**	**-1.5**
IKL	**Isikli**	**8.23**	**72**	Pn	**P**	**12 24 00.7**	**-0.9**
MNO	**Monte Soro**	**8.41**	**299**	*e*Pn	**P**	**12 24 01.1**	**-2.9**
MEST	**Erdemli**	**8.67**	**71**	*i* P	**P**	**12 24 06.9**	**-0.7**
KZIT	**Kziot**	**9.38**	**107**	P	**P**	**12 24 16.6**	**-0.8**
BRTR	**Keskin Array B**	**9.55**	**51**	P	**P**	**12 24 19.9**	**+0.1**
	0.2nm,0.3s,baz=224,slow=13,SNR=18						
BRTR				LR	LR	12 28 52.9	
	comp=Z,416nm,18.1s,baz=355,slow=43						
AVNT	**Avonos**	**9.92**	**59**	*i* P	**P**	**12 24 28.1**	**+3.1**
DRGI	**Dragot**	**9.94**	**102**	P	**P**	**12 24 23.6**	**-1.6**
MZDA	**Masada**	**10.01**	**103**	P	**P**	**12 24 24.9**	**-1.2**
PRNI	**Paran**	**10.08**	**109**	P	**P**	**12 24 26.7**	**-0.4**
ZFRI	**Zfri**	**10.13**	**108**	P	**P**	**12 24 27.0**	**-0.9**
MBH	**Mount Berech**	**10.26**	**112**	P	**P**	**12 24 30.0**	**+0.4**
COBT	**Iskenderun**	**10.32**	**73**	*i* P	**P**	**12 24 26.1**	**-4.3**
ASF	**Jabal al Asfar**	**11.02**	**97**	S	**S**	**12 26 38.6**	**-4.8**
	0.7nm,0.3s,baz=230,slow=21,SNR=2.8						
KAHT	**Ahir Dag**	**11.04**	**68**	*i* P	**P**	**12 24 38.8**	**-1.4**
MLR	**Muntele Rosu**	**11.45**	**7**	P	**P**	**12 24 46.9**	**+1.2**
	0.1nm,0.3s,baz=112,slow=19,SNR=2.3						
PGF	**Pioggiola**	**14.42**	**310**	*e*P	**P**	**12 25 27.0**	**+1.7**
	86nm,1.4s						
SOC	**Sochi**	**15.46**	**48**	*e*P	**P**	**12 25 40.3**	**+1.5**
SOC				*e*S	**S**	**12 28 27.3**	**-2.4**
SOC				pmax	pmax		
	comp=Z,92nm,1.8s						
SOC				pmax	pmax		
	comp=N,86nm,2.1s						
SOC				pmax	pmax		
	comp=E,37nm,1.2s						
SOC				MLR	MLR		
	comp=Z,223nm,18.0s						
SOC				MLR	MLR		
	comp=N,309nm,28.0s						
SOC				MLR	MLR		
	comp=E,237nm,26.0s						
SOC	**Sochi**	**15.46**	**48**	*e*P	**P**	**12 25 40.3**	**+1.5**
	comp=E,92nm,1.8s						
SOC				*e*S	**S**	**12 28 27.3**	**-2.4**
SBF	**Sospel**	**16.08**	**312**	*e*P	**P**	**12 25 46.9**	**+0.1**
	comp=E,8.6nm,0.4s						
VRAC	**Vranov**	**16.12**	**342**	P	**P**	**12 25 48.3**	**+1.1**
	comp=E,0.3nm,0.3s,baz=191,slow=12,SNR=4.5						
OKC	**Ostrava-Krasne**	**16.27**	**346**	*e*P	**P**	**12 25 50.6**	**+1.5**
OKC				AMS	AMS	12 33 20.0	
	comp=E,500nm,14.1s						
MORC	**Moravsky Berou**	**16.34**	**345**	*e*P	**P**	**12 25 47.7**	**-2.3**
	comp=E,6.5nm,0.9s						
MORC	**Moravsky Berou**	**16.34**	**345**	*e*P	**P**	**12 25 47.7**	**-2.2**
	comp=E,6.5nm,0.9s						
GEC2	**GERESS Array S**	**16.57**	**336**	*e*P	**P**	**12 25 55.1**	**+2.2**
GERES	**GERESS Array B**	**16.57**	**336**	P	**P**	**12 25 54.1**	**+1.3**
	comp=E,0.5nm,0.3s,baz=153,slow=12,SNR=5.1						
GERES	**GERESS Array B**	**16.57**	**336**	P	**P**	**12 25 54.1**	**+1.2**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KHC	**Kasperske Hory**	**16.85**	**336**	*e*P	**P**	**12 25 56.1**	**-0.4**
KHC				MLR	MLR		
	comp=Z,300nm,15.2s						
KHC	**Kasperske Hory**	**16.85**	**336**	*e*P	**P**	**12 25 56.1**	**-0.4**
KHC				*e*		12 25 58.0	
KHC				*e*		12 26 07.0	
KHC	**Kasperske Hory**	**16.85**	**336**	*e*P	**P**	**12 25 56.1**	**-0.4**
KHC				x	x	12 25 58.0	
KHC				pP		12 26 07.0	
KHC				AMS	AMS	12 33 50.0	
	comp=Z,300nm,15.2s						
MBDF	**Montbardon**	**16.95**	**314**	*e*P	**P**	**12 25 57.9**	**+0.2**
	comp=Z,47nm,1.4s						
AKASG	**Malin Array Be**	**17.00**	**12**	P	**P**	**12 25 58.7**	**+0.4**
WET	**Wettzell**	**17.11**	**335**	*e*P	**P**	**12 26 00.3**	**+0.6**
DPC	**Dobruska-Polom**	**17.15**	**343**	*e*P	**P**	**12 26 00.4**	**+0.2**
DPC				AMS	AMS	12 34 10.0	
	comp=Z,500nm,16.1s						
PRU	**Pruhonice**	**17.30**	**339**	*e*P	**P**	**12 26 02.8**	**+0.8**
PRU				AMS	AMS	12 34 20.0	
UPC	**Upice**	**17.37**	**343**	*e*P	**P**	**12 26 02.5**	**-0.5**
LPG	**La Plagne**	**17.39**	**316**	*e*P	**P**	**12 26 04.5**	**+1.3**
KIV	**Kislovodsk**	**17.51**	**50**	*e*P	**P**	**12 26 05.4**	**+0.7**
KIV				*e*S	**S**	**12 29 16.0**	**-0.9**
KIV				pmax	pmax		
	comp=Z,13nm,0.8s						
KIV				pmax	pmax		
	comp=N,3.0nm,0.7s						
KIV				MLR	MLR		
	comp=Z,170nm,18.0s						
KIV	**Kislovodsk**	**17.51**	**50**	*e*P	**P**	**12 26 05.4**	**+0.7**
	comp=Z,13nm,0.8s						
KIV				*e*S	**S**	**12 29 16.0**	**-0.9**
KSP	**Ksiaz**	**17.62**	**344**	*e*P	**P**	**12 26 05.4**	**-0.6**
PVCC	**Panska Ves**	**17.77**	**340**	*e*P	**P**	**12 26 09.8**	**+1.9**
PVCC				AMS	AMS	12 34 30.0	
	comp=Z,500nm,14.0s						
NKC	**Novy Kostel**	**18.18**	**336**	*e*P	**P**	**12 26 06.3**	**-6.7**
NKC				AMS	AMS	12 34 30.0	
	comp=Z,400nm,13.0s						
CABF	**La Chapelle**	**18.41**	**318**	*e*P	**P**	**12 26 17.6**	**+1.7**
HINF	**Hinteralfeld**	**18.75**	**322**	*e*P	**P**	**12 26 21.3**	**+1.2**
	comp=Z,9.9nm,0.8s						
MOX	**Moxa**	**18.81**	**335**	*e*P	**P**	**12 26 26.0**	**+5.3**
MOX				L		12 34 10.0	
CLL	**Collm**	**18.92**	**338**	P	**P**	**12 26 19.8**	**-2.3**
	comp=Z,logA/T=1.0						
CLL				*i* *PP		12 26 25.1	
MEZF	**Maizieres J'vi**	**20.12**	**321**	*e*P	**P**	**12 26 36.5**	**+1.0**
BGF	**Bois d'Agland**	**20.25**	**314**	*e*P	**P**	**12 26 34.6**	**-2.3**
WLF	**Walferdange**	**20.33**	**325**	P	**P**	**12 26 37.5**	**-0.2**
EPF	**Esparros**	**20.44**	**303**	*e*P	**P**	**12 26 40.2**	**+1.3**
TCF	**Toulx Ste Croi**	**20.50**	**313**	*e*P	**P**	**12 26 40.6**	**+1.1**
ETSF	**Etsaut**	**21.03**	**302**	*e*P	**P**	**12 26 45.7**	**+0.7**
GIVF	**Givet**	**21.26**	**324**	*e*P	**P**	**12 26 44.7**	**-2.5**
DOU	**Dourbes**	**21.37**	**324**	P	**P**	**12 26 46.3**	**-2.0**
SJPF	**Ste Jean**	**21.56**	**302**	*e*P	**P**	**12 26 51.1**	**+0.8**
OBN	**Obninsk**	**22.75**	**19**	⇓*e*P	**P**	**12 27 02.3**	**+0.3**
OBN				*e*		12 30 55.8	
OBN				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.3						
OBN				MLR	MLR		
	comp=Z,200nm,18.0s,MS3.6						
OBN	**Obninsk**	**22.75**	**19**	⇓*e*P	**P**	**12 27 02.3**	**+0.3**
	comp=Z,7.0nm,0.5s,mb4.3						
OBN				*e*		12 30 55.8	
OBN				LR	LR		
	comp=Z,200nm,18.0s,MS3.6						
ESDC	**Sonseca Array**	**22.96**	**292**	P	**P**	**12 27 05.2**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=195,slow=29,SNR=3.0						
LDF	**La Druitiere**	**23.01**	**316**	*e*P	**P**	**12 27 04.6**	**0.0**
	comp=Z,129nm,1.3s,mb4.9						
FLN	**La Foliniere**	**23.30**	**316**	*e*P	**P**	**12 27 08.4**	**+1.0**
	comp=Z,17nm,0.8s,mb4.2						
FLN				*e*R			
	comp=Z,136nm,19.0s						
SGMF	**Saint Gilles**	**24.29**	**313**	*e*P	**P**	**12 27 18.5**	**+1.5**
	comp=Z,97nm,1.2s,mb4.8						
ROSF	**Rostrenen**	**24.75**	**313**	*e*P	**P**	**12 27 23.1**	**+1.6**
	comp=Z,144nm,1.4s,mb5.0						
HFS	**Hagfors**	**26.87**	**349**	P	**P**	**12 27 38.9**	**-2.2**
	comp=Z,4.3nm,0.6s,mb4.2,baz=157,slow=11,SNR=12						
HFS	**Hagfors**	**26.87**	**349**	P	**P**	**12 27 38.9**	**-2.2**
HFS				pmax	pmax		
	comp=Z,4.0nm,0.6s						
FINES	**FINESS Array B**	**27.36**	**2**	P	**P**	**12 27 43.8**	**-1.8**
	comp=Z,2.5nm,0.9s,mb3.7,baz=191,slow=9.7,SNR=5.4						
FINES	**FINESS Array B**	**27.36**	**2**	P	**P**	**12 27 43.8**	**-1.8**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NB2	**NORSAR Subarra**	**28.16**	**347**	P	**P**	**12 27 51.5**	**-1.3**
	comp=Z,2.3nm,0.8s,mb3.9,baz=157,slow=9.3						
NOA	**NORSAR Array B**	**28.16**	**347**	P	**P**	**12 27 51.0**	**-1.8**
	comp=Z,2.0nm,0.8s,mb3.8,baz=157,slow=9.0,SNR=5.8						
NOA	**NORSAR Array B**	**28.16**	**347**	P	**P**	**12 27 51.0**	**-1.8**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
EKA	**Eskdalemuir Ar**	**28.33**	**327**	P	**P**	**12 27 52.8**	**-1.7**
	comp=Z,2.7nm,0.6s,mb4.0,baz=124,slow=8.4,SNR=5.4						
EKA	**Eskdalemuir Ar**	**28.33**	**327**	P	**P**	**12 27 52.8**	**-1.6**
EKA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ARCES	**ARCESS Array B**	**35.47**	**1**	P	**P**	**12 28 54.1**	**-2.7**
	comp=Z,4.5nm,0.9s,mb4.4,baz=180,slow=3.6,SNR=7.4						
ARCES				LR	LR	12 44 14.4	
	comp=Z,195nm,20.9s,MS3.8,baz=194,slow=38						
ARCES	**ARCESS Array B**	**35.47**	**1**	P	**P**	**12 28 54.1**	**-2.7**
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ARCES				MLR	MLR		
	comp=Z,195nm,21.0s						
ZRNK	**Zerenda**	**36.94**	**45**	P	**P**	**12 29 08.7**	**-0.6**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
BRVK	**Borovoye**	**37.72**	**46**	*e*P	**P**	**12 29 15.6**	**-0.3**
	comp=Z,2.0nm,0.8s,mb3.9						
DBIC	**Dimbokro**	**38.15**	**231**	P	**P**	**12 29 19.0**	**-1.0**
	comp=Z,4.0nm,0.9s,mb4.1,baz=351,slow=11,SNR=3.1						
DBIC	**Dimbokro**	**38.15**	**231**	P	**P**	**12 29 19.0**	**-1.0**
DBIC				pmax	pmax		
	comp=Z,4.0nm,0.9s						
AAK	**Ala-Archa**	**40.00**	**62**	⇓*e*P	**P**	**12 29 36.0**	**+0.9**
AAK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3						
AAK	**Ala-Archa**	**40.00**	**62**	⇓*e*P	**P**	**12 29 36.0**	**+0.9**
	comp=Z,6.0nm,0.9s,mb4.3						
KURK	**Kurchatov**	**42.60**	**50**	⇑*e*P	**P**	**12 29 55.8**	**-0.4**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.0						
MKAR	**Makanchi Array**	**45.17**	**56**	P	**P**	**12 30 17.4**	**+0.3**
	comp=Z,6.0nm,0.6s,mb4.6,baz=277,slow=6.1,SNR=34						
MKAR	**Makanchi Array**	**45.17**	**56**	*i* P	**P**	**12 30 17.5**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.2s						
NVS	**Novosibirsk**	**45.51**	**44**	*e*P	**P**	**12 30 19.8**	**+0.1**
NVS				pmax	pmax		
	comp=E,4.0nm,0.8s						
NVS				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
NVS	**Novosibirsk**	**45.51**	**44**	*e*P	**P**	**12 30 19.8**	**+0.1**
	comp=Z,5.0nm,0.8s,mb4.5						
ZAL	**Zalesovo**	**46.42**	**45**	P	**P**	**12 30 25.9**	**-0.9**
	comp=Z,1.0nm,0.3s,mb4.2,baz=116,slow=6.0,SNR=4.0						
ZAL	**Zalesovo**	**46.42**	**45**	P	**P**	**12 30 25.9**	**-0.9**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KOLN	**Koldanda**	**50.92**	**80**	*e*P	**P**	**12 31 02.8**	**+0.7**
	comp=Z,14nm,0.9s,mb4.9						

GKN	**Gorkha**	**51.68**	**79**	*e*P	**P**	**12 31 08.3**	**+0.5**
	comp=Z,19nm,0.6s,mb5.2						
DMN	**Daman**	**52.21**	**80**	*e*P	**P**	**12 31 12.6**	**+0.7**
	comp=Z,27nm,0.7s,mb5.3						
KKN	**Kakani**	**52.28**	**79**	*e*P	**P**	**12 31 13.0**	**+0.6**
	comp=Z,20nm,0.7s,mb5.2						
PKI	**Pulchoki**	**52.48**	**79**	*e*P	**P**	**12 31 14.5**	**+0.7**
	comp=Z,22nm,0.8s,mb5.2						
GUN	**Gumba**	**52.73**	**79**	*e*P	**P**	**12 31 16.5**	**+0.8**
	comp=Z,23nm,0.6s,mb5.3						
ZAK	**Zakamensk**	**58.17**	**48**	*e*P	**P**	**12 32 00.2**	**+5.6**
SONM	**Songino Array**	**60.90**	**50**	P	**P**	**12 32 13.1**	**-0.5**
	comp=Z,0.8nm,0.6s,mb4.0,baz=292,slow=7.6,SNR=7.2						
TIXI	**Tiksi**	**62.47**	**20**	*e*P	**P**	**12 32 24.4**	**+0.6**
TIXI				*e*		12 34 40.6	
TIXI				*i* S	**S**	**12 40 44.6**	**-3.2**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.7						
TIXI				MLR	MLR		
	comp=Z,300nm,19.0s,MS4.5						
SCHQ	**Schefferville**	**63.33**	**320**	LR	LR	13 00 42.1	
	comp=Z,62nm,19.0s,MS3.8,baz=307,slow=37						
CMAR	**Chiang Mai Arr**	**67.68**	**82**	P	**P**	**12 32 57.9**	**-0.3**
	comp=Z,1.5nm,0.9s,mb4.0,baz=302,slow=7.9,SNR=9.7						
CMAR	**Chiang Mai Arr**	**67.68**	**82**	P	**P**	**12 32 57.9**	**-0.3**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SSE	**Sheshan**	**78.61**	**60**	P	**P**	**12 34 00.6**	**-1.4**
SSE				XP	sP	12 34 20.8	+8.2
SSE				PP	PP	12 36 57.2	-4.7
SSE				S	S	12 43 50.3	-5.6
SSE				AMB	AMB		
	comp=Z,18nm,0.7s,mb5.1						
SSE				LR	LR		
	comp=N,9.0nm,14.0s,MS3.5						
SSE				LR	LR		
	comp=E,11nm,14.3s,MS3.5						
ILAR	**Eielson Array**	**81.16**	**356**	P	**P**	**12 34 15.1**	**0.0**
	comp=E,0.4nm,0.7s,mb3.5,baz=334,slow=3.9,SNR=6.5						
BDFB	**Brasilia**	**84.40**	**247**	LR	LR	13 10 53.0	
	comp=E,90nm,19.0s,MS4.2,baz=220,slow=35						
PDAR	**Pinedale Array**	**92.45**	**328**	LR	LR	13 16 57.8	
	comp=E,67nm,20.2s,MS4.1,baz=54,slow=36						
CBIJ	**Chichi jima**	**95.55**	**52**	LR	LR	13 22 53.2	
	comp=E,59nm,21.0s,MS4.0,baz=302,slow=38						
NVAR	**Mina Array Bea**	**99.76**	**331**	LR	LR	13 21 18.4	
	comp=E,63nm,20.7s,MS4.1,baz=285,slow=36						

*NEIC **11** 12:25:27.0, 30.88S×117.10E, ML3.1(AUST), After AUST.*
*AUST **11** 12:25:27.9, 30.88S×117.10E, ML3.1*
IDC 11 12:25:24.8±3.9**, 30.86S×117.63E, mb3.0**/1**, mb1 3.4**/5**, mb1mx3.3**/12**, ML2.7**/4**, Error ellipse: s-maj=75.7km s-min=14.9km az=116.0, Western Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**2.09**	**189**	Pn	Pn	12 26 01.4	0.0
	6.4nm,0.3s,baz=359,slow=16,SNR=62						
NWAO				Pg	Pg	12 26 03.0	-3.5
	6.4nm,0.3s,baz=2.0,slow=13,SNR=62						
NWAO				Lg		12 26 30.6	
	47nm,0.3s,baz=91,slow=21,SNR=28						
FITZ	**Fitzroy Crossi**	**14.63**	**32**	Pn	P	12 28 53.1	-2.0
	0.1nm,0.3s,baz=205,slow=14,SNR=5.0						
FITZ				Sn	S	12 31 27.1	-12
	0.4nm,0.3s,baz=338,slow=23,SNR=5.5						
ASAR	**Alice Springs**	**16.14**	**68**	Pn	P	12 29 12.9	-1.7
	0.1nm,0.3s,baz=236,slow=10,SNR=8.9						
ASAR				Sn	S	12 32 05.4	-9.0
	0.2nm,0.3s,baz=245,slow=21,SNR=5.4						
WRA	**Warramunga Arr**	**18.58**	**58**	P	P	12 29 42.6	-2.7
	0.0nm,0.3s,baz=233,slow=13,SNR=3.8						
WRA				S	S	12 33 01.8	-8.4
	0.1nm,0.3s,baz=239,slow=21,SNR=4.4						
STKA	**Stephens Creek**	**20.48**	**99**	P	P	12 30 04.8	-2.0
	0.5nm,0.6s,baz=286,slow=9.4,SNR=1.8						

*JMA **11** 12:43:35.8±0.2, 24.68N×122.28E, h33^{km}, M2.7*
*TAP **11** 12:43:36.3, 24.57N×122.19E, h8^{km}±1^{km}, ML3.4*
TAP Felt II J at Nanau.
ISC 11 12:43:35.5±0.5**, 24.58N**±0.02×**122.32E**±0.02**, h8**^{km}±3^{km}**, n47, σ0^{s}89**/74**, 1C-1D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWC	**Suao**	**0.43**	**274⇑**	*i*P	**Pg**	**12 43 43.6**	**-0.6**
TWC				S	**Sg**	**12 43 48.8**	**-1.2**
TWB1	**Santiao Chiao**	**0.52**	**325**	P	**Pg**	**12 43 45.9**	**-0.1**
TWB1				S	**Sg**	**12 43 52.5**	**-0.6**
ENA	**Nanau**	**0.55**	**254⇓**	*i*P	**Pg**	**12 43 45.8**	**-0.7**
ENA				S	**Sg**	**12 43 52.6**	**-1.2**
TWE	**Neicheng**	**0.61**	**284**	P	**Pg**	**12 43 47.2**	**-0.6**
TWE				S	**Sg**	**12 43 55.1**	**-0.8**
YOJ	**Yonaguni jima**	**0.64**	**100**	P	**Pg**	**12 43 49.0**	**+0.7**
YOJ				S	**Sg**	**12 43 58.4**	**+1.5**
ENTT	**Nioudou**	**0.69**	**275**	*e*P	**Pg**	**12 43 48.6**	**-0.7**
ENTT				S	**Sg**	**12 43 57.6**	**-0.9**
NWF	**Wu-fen Shan**	**0.69**	**315**	*e*P	**Pg**	**12 43 49.9**	**+0.5**
NWF				S	**Sg**	**12 43 59.4**	**+0.7**
TWA	**Mucha**	**0.78**	**301**	*e*P	**Pb**	**12 43 50.9**	**+0.1**
TWA				S	**Sb**	**12 44 00.8**	**-0.5**
TWD	**Chiawan**	**0.83**	**233**	P	**Pb**	**12 43 51.2**	**-0.4**
TWD				S	**Sb**	**12 44 01.9**	**-0.7**
TAP1	**Taipei**	**0.86**	**303**	*e*P	**Pb**	**12 43 52.4**	**+0.2**
TAP1				S	**Sb**	**12 44 03.3**	**-0.3**
NNS	**Nan Shan**	**0.87**	**261**	*e*P	**Pb**	**12 43 52.0**	**-0.4**
NNS				S	**Sb**	**12 44 02.8**	**-1.3**
NSK	**Sanguang**	**0.88**	**277**	*e*P	**Pb**	**12 43 52.4**	**-0.1**
HWA	**Hwalien**	**0.89**	**228**	*e*P	**Pb**	**12 43 52.7**	**+0.1**
TWY	**Chenhua**	**0.95**	**317**	*e*P	**Pb**	**12 43 54.6**	**+0.8**
TWY				S	**Sb**	**12 44 06.9**	**+0.5**
TWS1	**Kuangyinshan**	**0.97**	**303**	*e*P	**Pb**	**12 43 54.6**	**+0.5**
TWS1				S	**Sb**	**12 44 06.8**	**0.0**
PCYT	**Pengchaiyu**	**1.07**	**348**	*e*P	**Pb**	**12 43 55.3**	**-0.5**
TWT	**Tachien**	**1.09**	**253**	*e*P	**Pb**	**12 43 56.3**	**+0.2**
TWT				S	**Sb**	**12 44 10.4**	**+0.1**
NCU	**National Centr**	**1.10**	**291**	*e*P	**Pb**	**12 43 57.4**	**+1.1**
ESL	**Shilin**	**1.11**	**227**	*e*P	**Pb**	**12 43 56.5**	**0.0**
ESL				S	**Sb**	**12 44 11.7**	**+0.8**
NSTT	**Nanjuang**	**1.20**	**273**	*e*P	**Pb**	**12 43 58.6**	**+0.6**
NSTT				S	**Sb**	**12 44 13.6**	**0.0**
IRIF	**Iriomote-Funau**	**1.31**	**100**	P	**Pb**	**12 43 59.0**	**-0.9**
IRIF				S	**Sb**	**12 44 17.0**	**+0.4**
EHY	**Hungye**	**1.40**	**221**	*e*P	**Pn**	**12 44 00.7**	**-0.7**
NSY	**Sanyi**	**1.43**	**264**	*e*P	**Pn**	**12 44 03.2**	**+1.4**
HATJ	**Hateruma jima**	**1.45**	**111**	S	**Sb**	**12 44 21.0**	**+0.2**
SMLT	**Sun Moon Lake**	**1.47**	**242**	*e*P	**Pn**	**12 44 03.4**	**+1.0**
TYC	**Yuchr**	**1.49**	**244**	*e*P	**Pn**	**12 44 02.8**	**0.0**
TYC				S	**Sb**	**12 44 21.7**	**-0.3**
TWF1	**Yuli**	**1.54**	**218**	*e*P	**Pn**	**12 44 02.4**	**-0.9**
TCU	**Taichung**	**1.56**	**254**	*e*P	**Pn**	**12 44 03.9**	**+0.2**
JKRS	**Kuro-shima**	**1.58**	**102**	P	**Pn**	**12 44 03.2**	**-0.7**
JKRS				S	**Sb**	**12 44 23.3**	**-1.2**
JIJ	**Ishigaki jima**	**1.68**	**97**	P	**Pn**	**12 44 04.0**	**-1.3**
JIJ				S	**Sn**	**12 44 24.2**	**-2.9**
CHKT	**Chengkung**	**1.71**	**211**	*e*P	**Pn**	**12 44 05.2**	**-0.6**
CHKT				S	**Sn**	**12 44 25.8**	**-2.3**
ALS	**Alishan**	**1.75**	**233**	*e*P	**Pn**	**12 44 07.0**	**+0.7**
CHN5	**Tsauling**	**1.79**	**237**	*e*P	**Pn**	**12 44 08.2**	**+1.3**
ELDTW	**Lidau**	**1.83**	**221**	*e*P	**Pn**	**12 44 06.7**	**-0.7**
WGK	**Gukeng**	**1.83**	**241**	*e*P	**Pn**	**12 44 08.9**	**+1.3**
CHN4	**Tsaushan**	**2.00**	**233**	*e*P	**Pn**	**12 44 11.8**	**+1.9**
STYT	**Tauyuan**	**2.01**	**226**	*e*P	**Pn**	**12 44 10.7**	**+0.7**
STYT				S	**Sn**	**12 44 35.7**	**+0.1**
WTP	**Ta-pu**	**2.05**	**230**	*e*P	**Pn**	**12 44 12.2**	**+1.5**
TWK	**Hsinying**	**2.12**	**232**	*e*P	**Pn**	**12 44 12.6**	**+0.9**
TWK				S	**Sn**	**12 44 37.9**	**-0.7**
CHN1	**Nanshi**	**2.15**	**230**	*e*P	**Pn**	**12 44 12.4**	**+0.3**
CHN1				S	**Sn**	**12 44 40.0**	**+0.8**
JTJ	**Tarama**	**2.17**	**88**	P	**Pn**	**12 44 12.1**	**-0.3**
JTJ				S	**Sn**	**12 44 38.1**	**-1.6**
SGST	**Jiashian**	**2.18**	**227**	*e*P	**Pn**	**12 44 12.3**	**-0.3**
ECL	**Taimali**	**2.34**	**213**	*e*P	**Pn**	**12 44 15.7**	**+0.9**
SSD	**Sandimen**	**2.39**	**221**	*e*P	**Pn**	**12 44 16.3**	**+0.8**
SSD				S	**Sn**	**12 44 45.4**	**0.0**
TWM1	**Shoushan**	**2.46**	**225**	*e*P	**Pn**	**12 44 18.7**	**+2.1**
EAST	**Anshuo**	**2.57**	**212**	*e*P	**Pn**	**12 44 18.9**	**+0.8**
EAST				S	**Sn**	**12 44 47.7**	**-2.1**
SCZT	**Fangliau**	**2.69**	**216**	*e*P	**Pn**	**12 44 20.6**	**+0.8**

*JMA **11** 13:06:04.9±0.5, 28.74N×128.37E, M3.3*
*IDC **11** 13:06:06.7±3.3, 28.52N×127.69E, mb3.6/4, mb1 3.7/4, mb1mx3.6/22, Error ellipse: s-maj=192.0km s-min=18.8km az=64.0*
ISC 11 13:06:05.1±0.7**, 28.78N**±0.05×**128.26E**±0.07**, h10**^{km}**, n13, σ1^{s}08**/15**, mb3.5**/4**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**1.16**	**148**	P	**Pb**	**13 06 25.7**	**-1.2**
JTK				*e*S	**Sb**	**13 06 42.0**	**+0.2**
JAM	**Amami Oshima**	**1.24**	**107**	P	**Pb**	**13 06 26.4**	**-1.7**
JZK	**Kikaishima**	**1.57**	**107**	P	**Pn**	**13 06 33.1**	**-0.2**
JZK				*e*S	**Sb**	**13 06 55.2**	**+1.5**
JNN	**Nakanoshima**	**1.76**	**53**	P	**Pn**	**13 06 37.3**	**+1.3**
JIH	**Iheya**	**1.76**	**189**	P	**Pn**	**13 06 36.9**	**+0.9**
JOW	**Kunigami**	**1.94**	**180**	Pn	**Pn**	**13 06 38.8**	**+0.2**
	baz=356,slow=15						
JOW	**Kunigami**	**1.94**	**180**	P	**Pn**	**13 06 38.6**	**0.0**
JKE	**Kume jima 2**	**2.78**	**209**	P	**Pn**	**13 06 54.0**	**+3.5**
JSJ	**Shimokoshiki**	**3.15**	**23**	P	**Pn**	**13 06 54.8**	**-1.0**
SONM	**Songino Array**	**25.47**	**324**	P	**P**	**13 11 35.7**	**+0.9**
	1.9nm,0.9s,mb3.6,baz=135,slow=10,SNR=11						
MKAR	**Makanchi Array**	**39.90**	**310**	P	**P**	**13 13 40.5**	**-0.3**
	0.4nm,0.7s,mb3.3,baz=92,slow=9.4,SNR=2.8						
WRA	**Warramunga Arr**	**48.79**	**172**	P	**P**	**13 14 51.2**	**-1.3**
	1.2nm,1.1s,mb3.9,baz=352,slow=7.9,SNR=5.3						
ASAR	**Alice Springs**	**52.43**	**173**	P	**P**	**13 15 20.1**	**-0.1**
	0.5nm,1.0s,mb3.4,baz=1.2,slow=15,SNR=8.1						

*IDC **11** 13:15:19.5±1.9, 28.31N×127.32E, mb3.7/6, mb1 3.8/6, mb1mx3.7/23, Error ellipse: s-maj=130.0km s-min=16.6km az=61.0*
*NEIC **11** 13:15:23.2±7.2, 28.42N×127.57E, h29^{km}±65^{km}, mb4.1/1, Error ellipse: s-maj=184.6km s-min=13.5km az=65.0*
ISC 11 13:15:22.6±1.2**, 28.3N**±0.3×**127.2E**±0.6**, h33**^{km}**, n10, σ0^{s}75**/10**, mb3.7**/7**, Northwest of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOW	**Kunigami**	**1.71**	**146**	Pn	**Pn**	**13 15 50.9**	**+0.2**
	8.7nm,0.3s,baz=352,slow=14,SNR=21						
SONM	**Songino Array**	**25.37**	**326**	P	**P**	**13 20 47.9**	**-0.3**
	1.8nm,0.9s,mb3.6,baz=135,slow=8.7,SNR=9.3						
MKAR	**Makanchi Array**	**39.52**	**310**	P	**P**	**13 22 52.5**	**+0.6**
	0.4nm,0.8s,mb3.2,baz=88,slow=9.7,SNR=4.2						
MKAR	**Makanchi Array**	**39.52**	**310**	P	**P**	**13 22 52.5**	**+0.6**
ZAL	**Zalesovo**	**40.10**	**322**	P	**P**	**13 22 57.0**	**+0.4**
	0.7nm,0.5s,mb3.7,baz=278,slow=8.6,SNR=3.8						
ZAL	**Zalesovo**	**40.10**	**322**	P	**P**	**13 22 57.0**	**+0.4**
BVAR	**Borovoye Array**	**48.17**	**317**	P	**P**	**13 24 01.7**	**+0.2**
	0.5nm,0.4s,mb3.9,baz=112,slow=7.8,SNR=4.2						
WRA	**Warramunga Arr**	**48.41**	**171**	P	**P**	**13 24 02.4**	**-1.4**
	1.4nm,1.0s,mb4.0,baz=351,slow=8.3,SNR=7.0						
ZRNK	**Zerenda**	**48.99**	**317**	P	**P**	**13 24 07.0**	**-0.9**
	0.8nm,0.3s,mb4.2						
ASAR	**Alice Springs**	**52.03**	**172**	P	**P**	**13 24 32.4**	**+1.0**
	0.9nm,1.2s,mb3.6,baz=9.5,slow=5.5,SNR=5.4						

*IDC **11** 13:38:44.0±2.7, 25.55N×95.54E, h102^{km}±24^{km}, mb3.6/6, mb1 3.8/7, mb1mx3.6/21, Error ellipse: s-maj=55.2km s-min=14.5km az=63.0*
*BJI **11** 13:38:44.7, 25.68N×95.43E, h122^{km}, mb4.5*
*NEIC **11** 13:38:44.7±1.6, 25.52N×95.49E, h110^{km}±20^{km}, Error ellipse: s-maj=47.4km s-min=13.8km az=64.0*
ISC 11 13:38:41.8±0.7**, 25.46N**±0.09×**94.82E**±0.05**, h138**^{km}±11^{km}**, n23, σ1^{s}42**/30**, mb3.8**/6**, 2C, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IMP	**Imphal**	**1.05**	**230**	*i* P	**P**	**13 39 08.0**	**+1.9**
SHL	**Shillong**	**2.66**	**273**	*e*P	**P**	**13 39 33.4**	**+8.4**
SHL				*e*S	**S**	**13 39 59.1**	**+1.2**
SHL				AML	AML	13 39 59.5	
	comp=E,410nm,0.3s						
SHL				AML	AML	13 39 59.7	
	comp=N,1μm,0.2s						
AGT	**Agartala**	**3.61**	**245**	*e*P	**P**	**13 39 46.0**	**+8.6**
LSA	**Lhasa**	**5.34**	**323**	P	**P**	**13 40 05.2**	**+4.7**
LSA				Smax			
	comp=N,21nm,0.8s						
LSA				Smax			
	comp=E,36nm,0.8s						
KMI	**Kunming**	**7.18**	**91⇑**	*i*P	**P**	**13 40 23.3**	**-2.0**
KMI				AMB	AMB		
	comp=Z,13nm,1.0s						
CM31	**Chiang Mai Arr**	**7.94**	**150**	*e*Pn	**P**	**13 40 34.4**	**-1.2**
	comp=Z,16nm,0.6s						
CMAR	**Chiang Mai Arr**	**7.94**	**150**	P	**P**	**13 40 34.6**	**-1.0**
	comp=Z,2.5nm,0.3s,baz=328,slow=13,SNR=145						
GUN	**Gumba**	**8.36**	**289**	*e*Pn	**P**	**13 40 42.1**	**+0.9**
GUN				*e*Sn	**S**	**13 42 13.7**	**-0.6**
	comp=Z,101nm,0.4s						
PKI	**Pulchoki**	**8.69**	**286**	*e*Pn	**P**	**13 40 46.5**	**+1.0**
PKI				*e*Sn	**S**	**13 42 21.1**	**-1.0**
KKN	**Kakani**	**8.85**	**287**	*e*Pn	**P**	**13 40 48.7**	**+1.1**
KKN				*e*Sn	**S**	**13 42 24.8**	**-1.1**
	comp=Z,67nm,0.4s						
DMN	**Daman**	**8.96**	**286**	*e*Pn	**P**	**13 40 49.0**	**-0.1**
DMN				*e*Sn	**S**	**13 42 26.7**	**-1.9**
	comp=Z,59nm,0.6s						
GKN	**Gorkha**	**9.45**	**288**	*e*Pn	**P**	**13 40 56.5**	**+0.9**
GKN				*e*Sn	**S**	**13 42 38.8**	**-1.5**
	comp=Z,120nm,0.6s						
CD2	**Chengdu**	**9.57**	**53**	*e*P	**P**	**13 40 51.0**	**-6.3**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
KOLN	**Koldanda**	**10.30**	**285**	*e*Pn	**P**	**13 41 07.8**	**+0.9**
KOLN				*e*Sn	**S**	**13 42 59.3**	**-1.2**
	comp=Z,38nm,0.4s						
GYA	**Guiyang**	**10.71**	**82⇑**	*i*P	**P**	**13 41 08.6**	**-3.6**
GYA				AMB	AMB		
	comp=Z,30nm,0.7s						
GTA	**Gaotai**	**14.54**	**16**	*e*P	**P**	**13 42 04.9**	**+3.1**
GTA				AP		13 42 13.2	
GTA				AMB	AMB		
	comp=Z,5.0nm,0.8s						
XAN	**Xi'an**	**14.93**	**52**	P	**P**	**13 42 05.5**	**-1.3**
MKAR	**Makanchi Array**	**23.52**	**338**	P	**P**	**13 43 44.5**	**+4.5**
	comp=Z,1.1nm,0.4s,mb3.7,baz=149,slow=9.8,SNR=18						
SONM	**Songino Array**	**24.14**	**19**	P	**P**	**13 43 48.0**	**+2.1**
	comp=Z,3.3nm,1.0s,mb3.8,baz=192,slow=9.1,SNR=12						
BVAR	**Borovoye Array**	**33.09**	**333**	P	**P**	**13 45 12.9**	**+6.6**
	comp=Z,1.1nm,0.7s,mb3.7,baz=141,slow=9.5,SNR=5.8						
BVAR				PcP	PcP	13 47 50.8	+4.3
	comp=Z,1.1nm,0.8s,baz=135,slow=4.1,SNR=5.3						
BVAR				ScP		13 51 26.7	
	comp=Z,1.0nm,0.8s,baz=135,slow=4.2,SNR=4.9						
ARCES	**ARCESS Array B**	**59.17**	**337**	P	**P**	**13 48 35.2**	**+5.2**
	comp=Z,2.7nm,1.0s,mb4.0,baz=90,slow=7.2,SNR=2.6						
WRA	**Warramunga Arr**	**59.26**	**136**	P	**P**	**13 48 32.0**	**+0.7**
	comp=Z,1.2nm,0.6s,mb3.9,baz=321,slow=7.5,SNR=25						
ASAR	**Alice Springs**	**61.78**	**139**	P	**P**	**13 48 49.9**	**+1.5**
	comp=Z,1.4nm,0.8s,mb3.8,baz=321,slow=6.7,SNR=29						

IDC 11 13:50:28.8±1.2**, 14.23N×145.35E, mb3.6**/7**, mb1 3.7**/7**, mb1mx3.6**/19**, Error ellipse: s-maj=50.8km s-min=19.5km az=86.0, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**35.64**	**198**	P	P	13 57 29.3	-1.4
	0.4nm,0.8s,baz=22,slow=8.9,SNR=4.6						
ASAR	**Alice Springs**	**39.29**	**197**	P	P	13 57 58.7	-2.6
	0.3nm,0.9s,baz=13,slow=12,SNR=5.6						
STKA	**Stephens Creek**	**45.98**	**184**	P	P	13 58 54.1	-1.7
	1.4nm,0.5s,baz=312,slow=12,SNR=5.6						
SONM	**Songino Array**	**46.49**	**324**	P	P	13 58 58.3	-1.2
	0.2nm,0.4s,baz=130,slow=6.4,SNR=2.8						
MKAR	**Makanchi Array**	**61.36**	**316**	P	P	14 00 47.1	-1.8
	0.9nm,0.5s,baz=93,slow=7.9,SNR=11						
ILAR	**Eielson Array**	**67.79**	**25**	P	P	14 01 28.4	-2.0
	0.2nm,0.7s,baz=241,slow=5.7,SNR=4.9						
BVAR	**Borovoye Array**	**69.72**	**322**	P	P	14 01 39.4	-3.1
	0.4nm,0.4s,baz=104,slow=6.1,SNR=4.5						

*IDC **11** 13:55:11.7±2.1, 64.23S×176.37E, mb3.9/3, mb1 4.1/3, mb1mx3.9/8, MS3.9/9, Ms1 3.9/9, ms1mx3.9/9, Error ellipse: s-maj=112.0km s-min=45.5km az=44.0*
NEIC 11 13:55:13.5±1.3**, 64.61S×175.51E, h10**^{km}**, mb4.4**/2**, Error ellipse: s-maj=47.0km s-min=13.2km az=74.0, Balleny Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SBA	**Scott Base**	**13.57**	**188**	*e*Pn	P	13 58 24.8	-3.3
	26nm,1.6s						
RPZ	**Rata Peaks**	**21.09**	**351**	LR	LR	14 06 09.2	
	comp=Z,396nm,20.6s,baz=62,slow=32						
QSPA	**South Pole Qui**	**25.48**	**180**	*e*P	P	14 00 42.7	+0.1
	9.6nm,1.0s						
URZ	**Urewera**	**26.40**	**3**	LR	LR	14 08 50.1	
	comp=Z,307nm,20.0s,baz=45,slow=32						
STKA	**Stephens Creek**	**38.87**	**311**	P	P	14 02 39.5	-0.8
	0.5nm,0.3s,baz=148,slow=13,SNR=2.7						
STKA				LR	LR	14 17 18.9	
	comp=Z,137nm,19.0s,baz=201,slow=34						
MAW	**Mawson**	**39.66**	**214**	LR	LR	14 18 07.0	
	comp=Z,63nm,21.5s,baz=83,slow=34						
ASAR	**Alice Springs**	**49.02**	**306**	P	P	14 04 00.8	-1.3
	1.9nm,0.8s,baz=155,slow=7.1,SNR=29						
ASAR				LR	LR	14 20 58.8	
	comp=Z,86nm,20.2s,baz=335,slow=32						
WRA	**Warramunga Arr**	**52.32**	**309**	P	P	14 04 24.2	-3.1
	1.6nm,0.8s,baz=156,slow=6.5,SNR=21						
WRA				LR	LR	14 23 16.6	
	comp=Z,216nm,18.9s,baz=150,slow=32						
WRAB	**Tennant Creek**	**52.32**	**309**	P	P	14 04 24.6	-2.7
	2.9nm,0.6s						
CPUP	**Villa Florida**	**80.54**	**134**	LR	LR	14 39 01.9	
	comp=Z,103nm,18.7s,baz=52,slow=33						
LPAZ	**La Paz**	**86.12**	**120**	LR	LR	14 37 13.3	
	comp=Z,64nm,19.9s,baz=218,slow=29						
BDFB	**Brasilia**	**93.41**	**138**	LR	LR	14 48 00.7	
	comp=Z,85nm,18.2s,baz=115,slow=34						
ILAR	**Eielson Array**	**131.98**	**21**	PKP	PKPdf	14 14 24.7	-4.2
	0.8nm,0.9s,baz=216,slow=1.4,SNR=4.4						
BRTR	**Keskin Array B**	**146.71**	**240**	PKPbc	PKPbc	14 14 55.0	+0.8
	0.6nm,0.5s,baz=207,slow=3.2,SNR=3.9						

MEX 11 14:06:47.0±1.2**, 16.84N×99.92W, h10**^{km}±3^{km}**, MD3.8, 1C, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.03**	**1**	*i* P	Pg	14 06 48.2	-0.6
ACX				*i* S	Sg	14 06 49.3	-0.8
CAIG	**El Cayaco**	**0.39**	**302⇑**	*i*P	Pg	14 06 53.8	-1.2
CAIG				*i* S	Sg	14 06 59.8	-0.7
PLIG	**Platanillo**	**1.59**	**14**	*e*P	Pn	14 07 11.3	-4.1
PLIG				*i* S	Sb	14 07 30.9	-5.2
ZIIG	**Zihuatanejo**	**1.66**	**297**	*e*P	Pn	14 07 14.5	-2.0
ZIIG				*e*S	Sn	14 07 33.2	-4.9
PNIG	**Pinotepa**	**1.77**	**104**	*e*P	Pn	14 07 13.8	-4.2
PNIG				*i* S	Sn	14 07 34.5	-6.4
YAIG	**Yautepec**	**2.17**	**22**	*e*P	Pn	14 07 19.8	-3.9
YAIG				*i* S	Sn	14 07 46.6	-4.2
PPM	**Popocatepetl**	**2.53**	**29**	*i* P	Pn	14 07 28.5	-0.4
PPM				*i* S	Sn	14 07 53.5	-6.6
UNM	**Universidad Na**	**2.57**	**16**	*e*P	Pn	14 07 30.0	+0.5
VHO	**Vista Hermosa**	**3.06**	**85**	*e*P	Pn	14 07 33.7	-2.6
VHO				*e*S	Sn	14 08 08.4	-5.0
OXX	**Oaxaca**	**3.07**	**85**	*e*P	Pn	14 07 34.0	-2.5

*PRU **11** 14:08:18.9, 51.54N×15.99E*
WAR 11 14:08:19.0, 51.56N×16.01E, ML2.7, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.74**	**166**	*e*PG	Pg	14 08 33.0	-0.8
KSP				*e*SG	Sg	14 08 42.0	-1.7
UPC	**Upice**	**1.06**	**180**	*e*PG	Pg	14 08 38.2	-1.9
DPC	**Dobruska-Polom**	**1.23**	**171**	*e*PG	Pg	14 08 41.0	-2.5
DPC				*e*SG	Sg	14 08 56.6	-3.3
	10.0nm,0.3s						
PVCC	**Panska Ves**	**1.38**	**222**	*e*PG	Pg	14 08 44.2	-2.3
PVCC				*e*SG	Sg	14 09 03.4	-1.5
PRU	**Pruhonice**	**1.83**	**211**	PG	Pg	14 08 52.3	-3.2
PRU				*e*SG	Sg	14 09 16.2	-3.7
	10nm,0.4s						
CLL	**Collm**	**1.90**	**263**	*e*SG	Sg	14 09 18.0	-4.2
OKC	**Ostrava-Krasne**	**2.20**	**141**	*e*SG	Sg	14 09 29.0	-3.2
NKC	**Novy Kostel**	**2.62**	**241**	*e*SG	Sg	14 09 42.6	-3.5
KHC	**Kasperske Hory**	**2.89**	**214**	*e*PN	Pn	14 09 07.5	+0.4
KHC				*e*SG	Sg	14 09 50.1	-5.1

*NEIC **11** 14:33:12.7±2.8, 23.79S×178.40W, h400^{km}, mb4.1/2, Error ellipse: s-maj=201.0km s-min=17.3km az=162.0*
IDC 11 14:32:51.2±13.0**, 25.16S×177.46W, h226**^{km}±109^{km}**, mb3.5**/5**, mb1 3.8**/5**, mb1mx3.5**/13**, Error ellipse: s-maj=184.0km s-min=38.2km az=157.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.80**	**271**	P	P	14 39 12.5	-1.5
	2.7nm,0.5s,baz=96,slow=13,SNR=5.2						
CTA	**Charters Tower**	**33.80**	**271**	P	P	14 39 12.5	-1.5
CTAO	**Charters Tower**	**33.80**	**271**	P	P	14 39 12.6	-1.4
	3.7nm,0.4s						
ASAR	**Alice Springs**	**44.12**	**261**	P	P	14 40 38.2	-1.0
	0.5nm,0.4s,baz=98,slow=7.3,SNR=16						
WRAB	**Tennant Creek**	**44.63**	**267**	*e*P	P	14 40 41.3	-1.9
	3.1nm,0.3s						
WRA	**Warramunga Arr**	**44.63**	**267**	P	P	14 40 40.7	-2.5
	1.4nm,0.4s,baz=101,slow=8.1,SNR=13						
NVAR	**Mina Array Bea**	**84.08**	**43**	P	P	14 44 57.0	-0.9
	0.5nm,0.5s,baz=211,slow=8.6,SNR=3.6						
PDAR	**Pinedale Array**	**92.01**	**43**	P	P	14 45 34.5	-1.0
	0.4nm,0.6s,baz=207,slow=3.3,SNR=4.2						
MKAR	**Makanchi Array**	**114.71**	**312**	PKP	PKPdf	14 51 04.3	-0.2
	0.4nm,0.5s,baz=175,slow=0.5,SNR=4.6						
BVAR	**Borovoye Array**	**122.91**	**318**	PKP	PKPdf	14 51 20.4	+0.1
	0.9nm,0.4s,baz=97,slow=2.6,SNR=5.2						
ARCES	**ARCESS Array B**	**133.57**	**349**	PKP	PKPdf	14 51 40.3	0.0
	5.5nm,0.9s,baz=45,slow=1.3,SNR=6.1						
FINES	**FINESS Array B**	**140.35**	**342**	PKP	PKPdf	14 51 52.0	-0.8
	2.4nm,1.0s,baz=354,slow=17,SNR=3.4						
HFS	**Hagfors**	**144.20**	**350**	PKP	PKPdf	14 51 57.5	-1.9
	1.5nm,0.5s,slow=3.0,SNR=8.3						
AKASG	**Malin Array Be**	**147.27**	**328**	PKPbc	PKPdf	14 52 07.4	+2.5
	1.2nm,0.4s,baz=38,slow=4.5,SNR=6.9						
CLL	**Collm**	**152.69**	**346**	*e*PKP1	PKPdf	14 52 16.0	+2.8

*LDG **11** 14:43:00.5±0.3, 42.89N×1.50W, h7^{km}, Md2.8/2, Ml2.8/13, Error ellipse: s-maj=6.2km s-min=3.3km az=44.0*
*NEIC **11** 14:43:00.5, 42.89N×1.50W, h7^{km}, ML2.8(LDG), ML2.6(STR), MN2.3(MDD), After LDG.*
*CSEM **11** 14:43:00.8±0.1, 42.89N×1.46W, h5^{km}, ML2.9/11, Error ellipse: s-maj=1.5km s-min=1.2km az=115.0*
*STR **11** 14:43:01.5±0.5, 42.91N×1.42W, h5^{km}±1^{km}, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 11 14:43:01.0±0.3**, 42.90N×1.43W, h8**^{km}±3^{km}**, mbLg2.2**/10**, Error ellipse: s-maj=3.1km s-min=2.1km az=35.0, PRXIMO AftershockPLICA, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.26**	**34**	*e*Pg	Pg	14 43 06.0	-0.5
SJPF				*e*Sg	Sg	14 43 08.8	-1.3
	581nm,0.4s						
EALK	**Alkurruntz**	**0.33**	**350**	Pg	Pg	14 43 07.3	-0.5
	7.5nm,0.1s,SNR=18						
EALK				Lg		14 43 13.6	
	133nm,0.2s,SNR=6.0						
LARF	**Larrau**	**0.35**	**66**	Pg	Pg	14 43 09.0	+0.8
LARF	**Larrau**	**0.35**	**66**	P	Pg	14 43 07.5	-0.8
LARF				S	Sg	14 43 13.5	+0.5
OSSF	**Osses**	**0.38**	**19**	Pg	Pg	14 43 08.5	-0.2
OSSF				Sg	Sg	14 43 14.4	+0.5
OSSF	**Osses**	**0.38**	**19**	P	Pg	14 43 08.1	-0.7
OSSF				S	Sg	14 43 12.4	-1.5
ORDF	**Ordiarp**	**0.48**	**48**	P	Pg	14 43 10.0	-0.7
ORDF				S	Sg	14 43 16.6	-0.6
ATE	**Arette**	**0.57**	**70**	P	Pg	14 43 11.2	-1.2
ATE				S	Sg	14 43 20.2	+0.2
FDAF	**Les Forges d'A**	**0.64**	**97**	Pg	Pg	14 43 13.1	-0.7
FDAF				Sg	Sg	14 43 22.7	+0.3

FDAF	**Les Forges d'A**	**0.64**	**97**	P	Pg	14 43 13.3	-0.5
FDAF				S	Sg	14 43 23.0	+0.6
ETSF	**Etsaut**	**0.64**	**89**	*e*Pg	Pg	14 43 12.0	-1.9
ETSF				*e*Sg	Sg	14 43 20.9	-1.5
	52nm,0.3s						
REYF	**Montagne du Re**	**0.78**	**77**	S	Sb	14 43 26.8	-0.2
VIEF	**Viey**	**1.07**	**90**	Pg	Pg	14 43 21.9	-0.5
VIEF	**Viey**	**1.07**	**90**	S	Sb	14 43 35.4	+0.1
LABF	**Labassere**	**1.11**	**82**	Pg	Pg	14 43 22.1	-1.2
LABF				Sg	Sg	14 43 37.3	-0.8
LABF	**Labassere**	**1.11**	**82**	P	Pb	14 43 21.2	-1.0
LABF				S	Sb	14 43 36.8	+0.2
EBIE	**Bielsa**	**1.18**	**100**	Pg	Pg	14 43 22.3	-2.2
	8.7nm,0.1s,SNR=7.9						
EBIE				Lg		14 43 39.6	
	28nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**1.18**	**100**	Pg	Pg	14 43 22.3	-2.2
	8.7nm,0.1s,SNR=7.9						
RESF	**Ens**	**1.30**	**93**	Pg	Pg	14 43 26.5	-0.6
RESF	**Ens**	**1.30**	**93**	P	Pb	14 43 24.2	-1.1
RESF				S	Sb	14 43 43.4	+1.3
ESAC	**San Caprasio**	**1.37**	**148**	Pg	Pg	14 43 25.4	-3.1
	36nm,0.2s,SNR=7.9						
ESAC				Lg		14 43 43.8	
	65nm,0.3s,SNR=7.9						
ESAC	**San Caprasio**	**1.37**	**148**	Pg	Pg	14 43 25.4	-3.1
	36nm,0.2s,SNR=7.9						
EGRA	**Graus**	**1.47**	**118**	Pn	Pn	14 43 27.3	-0.6
	0.8nm,0.2s,SNR=7.9						
EGRA				Pg	Pg	14 43 28.8	-1.6
	7.3nm,0.2s,SNR=7.9						
EGRA				Lg		14 43 48.6	
	7.2nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**1.51**	**284**	Pg	Pg	14 43 28.4	-2.8
	6.6nm,0.2s,SNR=7.9						
ELAN				Lg		14 43 50.1	
	12nm,0.4s,SNR=7.9						
ELAN	**Lanestosa**	**1.51**	**284**	Pg	Pg	14 43 28.4	-2.8
	6.6nm,0.2s,SNR=7.9						
MELF	**Melles**	**1.61**	**90**	Pg	Pg	14 43 31.2	-2.0
MELF				Sg	Sg	14 43 53.8	-0.8
MELF	**Melles**	**1.61**	**90**	S	Sb	14 43 51.0	0.0
ETOR	**Torete**	**2.13**	**193**	Pn	Pn	14 43 35.4	-2.0
	SNR=7.9						
ETOR				Pg	Pg	14 43 39.7	-3.9
	10nm,0.3s,SNR=7.9						
ETOR				Sn	Sn	14 44 03.0	-1.3
	22nm,0.3s,SNR=7.9						
ETOR	**Torete**	**2.13**	**193**	Pn	Pn	14 43 35.4	-2.0
ETOR				Pg	Pg	14 43 39.6	-3.9
ETOR				Lg		14 44 03.0	
EMIR	**Miracle**	**2.40**	**113**	Pg	Pg	14 43 45.0	-3.9
	3.2nm,0.2s,SNR=7.9						
EMIR				Lg		14 44 15.9	
	7.2nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**2.40**	**113**	Pg	Pg	14 43 45.0	-3.9
	SNR=7.9						
EPOB	**Poblet**	**2.42**	**129**	Pn	Pn	14 43 39.5	-2.1
	SNR=7.9						
EPOB				Pg	Pg	14 43 44.3	-5.1
	0.9nm,0.2s,SNR=7.9						
EPOB				Sn	Sn	14 44 07.6	-4.1
	1.3nm,0.1s,SNR=7.9						
EPOB				Lg		14 44 15.9	
	5.5nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**2.42**	**129**	Pn	Pn	14 43 39.5	-2.1
EPOB				Pg	Pg	14 43 44.3	-5.1
EPOB				Sn	Sn	14 44 07.6	-4.1
EPOB				Lg		14 44 15.2	
EPOB	**Poblet**	**2.42**	**129**	Pn	Pn	14 43 39.5	-2.1
	SNR=7.9						
EPOB	**Poblet**	**2.42**	**129**	Pg	Pg	14 43 44.3	-5.1
	SNR=7.9						
EPOB				Sn	Sn	14 44 07.6	-4.1
	SNR=7.9						
EBR	**Ebro Roquetas**	**2.52**	**145**	*e*SG	Sg	14 44 22.3	-2.7
LFF	**La Frestale**	**2.57**	**37**	*e*Pn	Pn	14 43 41.2	-2.6
LFF				*e*Sn	Sn	14 44 11.7	-3.9
LFF				*e*Sg	Sg	14 44 20.1	-6.7
	10nm,0.3s						
EMOS	**Mosqueruela**	**2.63**	**164**	Pg	Pg	14 43 50.0	-3.6
	0.4nm,0.5s,SNR=6.9						
EMOS				Lg		14 44 24.5	
	4.9nm,0.2s,SNR=7.9						
MTLF	**Montolieu**	**2.71**	**79**	*e*Pn	Pn	14 43 43.9	-1.8
MTLF				*e*Sn	Sn	14 44 16.1	-2.9
	5.2nm,0.3s						
RJF	**Les Rejaudoux**	**3.21**	**40**	*e*Pn	Pn	14 43 49.2	-3.6
RJF				*e*Sn	Sn	14 44 27.5	-4.2
	6.0nm,0.3s						
CAF	**Calviac**	**3.24**	**50**	*e*Pn	Pn	14 43 49.9	-3.3
CAF				*e*Sn	Sn	14 44 27.9	-4.6
	4.4nm,0.2s						
MFF	**Saint Martin d**	**3.82**	**13**	*e*Pn	Pn	14 43 58.1	-3.4
MFF				*e*Sn	Sn	14 44 41.5	-5.6
	1.4nm,0.2s						
LASF	**Ste Croix**	**4.02**	**71**	*e*Pn	Pn	14 44 01.4	-3.0
LASF				*e*Sn	Sn	14 44 47.7	-4.6
	10nm,0.6s						
TCF	**Toulx Ste Croi**	**4.27**	**36**	*e*Pn	Pn	14 44 03.5	-4.4
TCF				*e*Sn	Sn	14 44 52.0	-6.6
	4.6nm,0.3s						
BGF	**Bois d'Agland**	**4.76**	**38**	*e*Pn	Pn	14 44 10.9	-4.0
BGF				*e*Sn	Sn	14 45 04.4	-6.6
	19nm,0.6s						
VIVF	**Saint-Julien-l**	**4.83**	**64**	*e*Pn	Pn	14 44 12.4	-3.4
VIVF				*e*Sn	Sn	14 45 06.3	-6.3
	4.4nm,0.4s						
AVF	**Avril sur Loir**	**5.17**	**39**	*e*Pn	Pn	14 44 16.7	-3.9
AVF				*e*Sn	Sn	14 45 14.0	-7.3
	2.0nm,0.3s						
QUIF	**Quistinic**	**5.17**	**347**	*e*Pn	Pn	14 44 17.6	-3.0
GRR	**Gorron**	**5.51**	**4**	*e*Pn	Pn	14 44 21.7	-3.7
GRR				*e*Sn	Sn	14 45 21.5	-8.3
	6.9nm,0.5s						
LDF	**La Druitiere**	**5.77**	**9**	*e*Pn	Pn	14 44 24.2	-4.9

*NEIC **11** 14:56:10.5±1.5, 6.14S×154.12E, h10km, mb4.3/1, Error ellipse: s-maj=42.4km s-min=11.7km az=121.0*
*IDC **11** 14:56:12.2±1.8, 5.86S×153.56E, mb3.7/7, mb1 3.8/8, mb1mx3.8/15, ML3.1/1, MS3.1/3, Ms1 3.1/3, ms1mx2.8/15, Error ellipse: s-maj=55.7km s-min=23.3km az=116.0*
ISC 11 14:56:15.4±5.3**, 6.0S**±0.2×**153.6E**±0.3**, h37**km±40km**, n12,** σ**0§56**/11**, mb3.7**/8**, MS3.6**/1**, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.24**	**241**	Pn	**P**	**14 58 01.7**	**+0.2**
	1.7nm,0.3s,baz=83,slow=5.0,SNR=8.2						
PMG				Sn	**S**	**14 59 23.2**	**-0.2**
	2.0nm,0.3s,baz=126,slow=18,SNR=6.9						
PMG				LR	LR	15 00 36.9	
	comp=Z,45nm,18.8s,baz=60,slow=36						
CTA	**Charters Tower**	**15.75**	**206**	LR	LR	15 03 52.4	
	comp=Z,44nm,21.4s,baz=238,slow=29						
WRA	**Warramunga Arr**	**23.31**	**232**	P	**P**	**15 01 22.3**	**+1.1**
	0.8nm,1.0s,mb3.1,baz=59,slow=9.6,SNR=8.0						
WRA				PcP	PcP	15 05 11.7	+2.3
	0.2nm,0.5s,baz=56,slow=2.9,SNR=5.2						
ASAR	**Alice Springs**	**25.87**	**225**	P	**P**	**15 01 44.7**	**-1.0**
	0.8nm,0.7s,mb3.4,baz=58,slow=9.2,SNR=12						
ASAR				PcP	PcP	15 05 14.7	-0.1
	0.2nm,0.6s,baz=45,slow=2.6,SNR=3.4						
STKA	**Stephens Creek**	**28.12**	**202**	LR	LR	15 13 57.9	
	comp=Z,139nm,18.7s,MS3.6,baz=25,slow=38						
CMAR	**Chiang Mai Arr**	**59.09**	**296**	P	**P**	**15 06 15.4**	**+0.5**
	0.3nm,0.8s,mb3.4,baz=129,slow=5.8,SNR=3.7						
SONM	**Songino Array**	**67.73**	**328**	P	**P**	**15 07 10.4**	**-0.8**
	0.3nm,0.5s,mb3.6,baz=136,slow=4.7,SNR=4.5						
MKAR	**Makanchi Array**	**81.72**	**319**	P	**P**	**15 08 32.0**	**+0.3**
	0.4nm,0.4s,mb3.7,baz=107,slow=5.4,SNR=6.2						
ZAL	**Zalesovo**	**82.56**	**326**	P	**P**	**15 08 35.8**	**-0.1**
	0.8nm,0.8s,mb3.8,baz=337,slow=10.0,SNR=4.9						
KURK	**Kurchatov**	**85.17**	**322**	*e*P	**P**	**15 08 49.1**	**0.0**
BVAR	**Borovoye Array**	**90.64**	**323**	P	**P**	**15 09 15.8**	**+0.5**
	1.2nm,0.7s,mb4.3,baz=117,slow=13,SNR=5.6						
ZRNK	**Zerenda**	**91.46**	**323**	*e*P	**P**	**15 09 18.9**	**-0.3**
	0.7nm,0.5s,mb4.2						

*IDC **11** 14:56:53.6±1.0, 37.65N×75.04E, mb3.9/8, mb1 4.0/11, mb1mx3.8/23, ML3.5/3, Error ellipse: s-maj=30.9km s-min=17.1km az=47.0*
*MOS **11** 14:56:57.2±0.4, 37.71N×75.11E, h33km, mb4.4/4, Error ellipse: s-maj=48.0km s-min=23.3km az=87.9*
*NEIC **11** 14:56:58.9±6.8, 37.70N×75.04E, h35km±47km, Error ellipse: s-maj=28.2km s-min=10.2km az=216.0*
ISC 11 14:56:57.1±0.8**, 37.71N**±0.10×**75.1E**±0.2**, h33**km**, n18,** σ**0§78**/18**, mb3.8**/8**, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**4.94**	**355**	*e*Pn	**Pn**	**14 58 10.8**	**-0.2**
MKAR	**Makanchi Array**	**10.53**	**28**	Pn	**P**	**14 59 26.9**	**-1.8**
	0.1nm,0.3s,baz=204,slow=14,SNR=4.6						
BVAR	**Borovoye Array**	**15.66**	**349**	Pn	**P**	**15 00 40.3**	**+3.5**
	0.7nm,0.3s,baz=156,slow=14,SNR=13						
BRVK	**Borovoye**	**15.71**	**349**	P	**P**	**15 00 37.7**	**+0.4**
	1.4nm,0.5s						
ZAL	**Zalesovo**	**17.55**	**19**	P	**P**	**15 01 01.2**	**+0.6**
	0.3nm,0.3s,baz=246,slow=9.1,SNR=4.4						
ZAL	**Zalesovo**	**17.55**	**19**	P	**P**	**15 01 01.2**	**+0.6**
SONM	**Songino Array**	**24.96**	**56**	P	**P**	**15 02 19.8**	**+1.0**
	1.4nm,0.5s,mb3.7,baz=255,slow=10,SNR=18						
CMAR	**Chiang Mai Arr**	**28.34**	**126**	P	**P**	**15 02 50.5**	**+0.4**
	0.3nm,0.4s,mb3.3,baz=318,slow=11,SNR=3.8						
FINES	**FINESS Array B**	**38.36**	**324**	P	**P**	**15 04 16.7**	**+0.4**
	4.5nm,0.8s,mb4.3,baz=113,slow=11,SNR=8.6						
FINES	**FINESS Array B**	**38.36**	**324**	P	**P**	**15 04 16.7**	**+0.3**
FINES				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ARCES	**ARCESS Array B**	**41.32**	**336**	P	**P**	**15 04 40.9**	**0.0**
	comp=Z,4.2nm,1.1s,mb4.0,baz=120,slow=7.3,SNR=3.7						
ARCES	**ARCESS Array B**	**41.32**	**336**	P	**P**	**15 04 40.9**	**+0.1**
ARCES				pmax	pmax		
	comp=Z,4.0nm,1.1s						
HFS	**Hagfors**	**44.16**	**321**	P	**P**	**15 05 03.7**	**-0.3**
	comp=Z,1.8nm,0.7s,mb3.9,baz=108,slow=9.1,SNR=3.6						
HFS	**Hagfors**	**44.16**	**321**	P	**P**	**15 05 03.7**	**-0.3**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA	**NORSAR Array B**	**45.41**	**322**	P	**P**	**15 05 13.5**	**-0.5**
	comp=Z,3.1nm,1.2s,mb4.0,baz=98,slow=7.3,SNR=2.7						
NOA	**NORSAR Array B**	**45.41**	**322**	P	**P**	**15 05 13.5**	**-0.5**
NOA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
WRA	**Warramunga Arr**	**79.92**	**125**	P	**P**	**15 09 04.2**	**-0.3**
	comp=Z,0.4nm,0.7s,mb3.5,baz=326,slow=5.3,SNR=7.9						
ASAR	**Alice Springs**	**82.33**	**128**	P	**P**	**15 09 16.6**	**-0.5**
	comp=Z,0.3nm,0.7s,mb3.4,baz=303,slow=4.8,SNR=6.6						

*FUNV **11** 15:04:20.9, 11.15N×62.02W, h83km, MW3.6*
*TRN **11** 15:04:21.8, 11.15N×62.09W, h77km, MD3.8*
TRN Felt (II) in Port of Spain.
ISC 11 15:04:19.3±0.5**, 11.09N**±0.03×**62.12W**±0.03**, h98**km±6km**, n24,** σ**1§14**/43**, 1C, Windward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.45**	**193**	*e*P	**P**	**15 04 35.4**	**+0.7**
GUIV				*e*S	**S**	**15 04 45.3**	**-0.9**
TRN	**Trinidad (W)**	**0.83**	**122**	*i* P	**P**	**15 04 39.3**	**+1.2**
TRN				*e*S	**S**	**15 04 51.3**	**-0.7**
TPP	**Pointe-a-Pierr**	**1.01**	**139**	*e*P	**P**	**15 04 42.0**	**+2.0**
TPP				*e*S	**S**	**15 04 55.1**	**-0.4**
ITEV	**Isla Los Testi**	**1.03**	**285**	*e*P	**P**	**15 04 41.0**	**+0.8**
ITEV				*e*S	**S**	**15 04 56.0**	**+0.1**
CRUV	**Carupano**	**1.17**	**250**	*e*P	**P**	**15 04 43.4**	**+1.4**
CRUV				*e*S	**S**	**15 04 59.3**	**+0.4**
TBH	**Brigand Hill**	**1.20**	**120**	*e*P	**P**	**15 04 43.6**	**+1.3**
TBH				*e*S	**S**	**15 04 57.4**	**-2.0**
GUNV	**Guanoco**	**1.23**	**221**	*e*P	**P**	**15 04 44.7**	**+2.1**
GUNV				*e*S	**S**	**15 05 01.3**	**+1.3**
TPR	**Prospect**	**1.32**	**86**	*e*P	**P**	**15 04 44.0**	**+0.3**
TPR				*e*S	**S**	**15 05 01.8**	**-0.1**
BOT	**Bacolet**	**1.38**	**87**	*e*P	**P**	**15 04 45.1**	**+0.7**
BOT				*e*S	**S**	**15 05 02.9**	**-0.2**
IBAV	**Isla La Blanqu**	**2.52**	**287**	*e*P	**P**	**15 04 59.8**	**+0.3**
IBAV				*e*S	**S**	**15 05 28.7**	**-0.7**
PCRV	**Puerto La Cruz**	**2.64**	**250**	*e*S	**S**	**15 05 32.2**	**-0.1**
RIOV	**Rio Grande**	**3.02**	**174**	*e*P	**P**	**15 05 06.3**	**0.0**
RIOV				*e*S	**S**	**15 05 39.7**	**-1.9**
GURV	**El Guri**	**3.44**	**196**	*e*P	**P**	**15 05 12.2**	**+0.1**
GURV				*e*S	**S**	**15 05 50.1**	**-1.9**
BIM	**Bigot**	**3.56**	**17**	*e*P	**P**	**15 05 13.4**	**-0.3**
BIM				*e*S	**S**	**15 05 52.6**	**-2.3**
MVM	**Montagne Vaucl**	**3.65**	**19**	*e*P	**P**	**15 05 14.9**	**0.0**
FDF	**Fort de France**	**3.74**	**14**⇑	*e*P	**P**	**15 05 16.0**	**-0.2**
FDF				*e*S	**S**	**15 05 56.7**	**-2.7**
ORCV	**Isla La Orchil**	**4.06**	**281**	*e*P	**P**	**15 05 20.2**	**-0.3**
ORCV				*e*S	**S**	**15 06 04.1**	**-3.2**
MERV	**Las Mercedes**	**4.50**	**246**	*e*P	**P**	**15 05 26.7**	**+0.1**
MERV				*e*S	**S**	**15 06 16.5**	**-1.6**
MGG	**Marie-Galante**	**4.86**	**9**	*e*P	**P**	**15 05 33.7**	**+2.1**
DEG	**La Desirade**	**5.29**	**11**	*e*P	**P**	**15 05 38.1**	**+0.7**
DEG				*e*S	**S**	**15 06 32.9**	**-4.8**
SEG	**Port Louis**	**5.32**	**6**	*e*P	**P**	**15 05 38.4**	**+0.7**
CAOV	**Caicara del Or**	**5.58**	**228**	*e*P	**P**	**15 05 42.1**	**+0.8**
CAOV				*e*S	**S**	**15 06 40.0**	**-4.9**
BAUV	**El Baul**	**6.21**	**250**	*e*P	**P**	**15 05 49.6**	**-0.3**
BAUV				*e*S	**S**	**15 06 55.4**	**-4.8**
PAYV	**Puerto Ayacuch**	**7.86**	**225**	*e*P	**P**	**15 06 12.1**	**-0.5**

*INMG **11** 15:06:05.4±0.6, 36.37N×7.68W, h7km±5km, ML2.2, Error ellipse: s-maj=3.5km s-min=2.6km az=41.0*
*MDD **11** 15:06:05.2±1.9, 36.36N×7.70W, h9km±7km, mbLg2.3/5, Error ellipse: s-maj=15.0km s-min=10.2km az=24.0, PRXIMO*
ISC 11 15:06:03.6±1.4**, 36.39N**±0.07×**7.67W**±0.06**, h7**km**, n12,** σ**0§73**/21**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALC	**Alcoutim**	**1.09**	**8**	*e*P	**Pb**	**15 06 25.3**	**+1.0**
PALC				*e*S	**Sb**	**15 06 40.2**	**+1.7**
	24nm,0.1s						
PALC	**Alcoutim**	**1.09**	**8**	P	**Pb**	**15 06 25.3**	**+1.0**
PALC				S	**Sb**	**15 06 40.2**	**+1.7**
	12nm,0.1s						
PTEO	**Sao Teotonio**	**1.43**	**324**	*e*P	**Pn**	**15 06 30.1**	**0.0**
PTEO				S	**Sb**	**15 06 48.7**	**+0.2**
	20nm,0.2s						
PTEO	**Sao Teotonio**	**1.43**	**324**	P	**Pn**	**15 06 30.1**	**0.0**
PTEO				S	**Sb**	**15 06 48.7**	**+0.2**
	10nm,0.2s						
ESPR	**Espera**	**1.54**	**71**	P	**Pn**	**15 06 31.6**	**0.0**
	0.8nm,0.1s,SNR=7.9						
ESPR				S	**Sb**	**15 06 51.5**	**-0.1**
	15nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.59**	**30**	P	**Pn**	**15 06 32.5**	**+0.1**
	0.5nm,0.1s,SNR=7.9						
EMIN				S	**Sb**	**15 06 53.8**	**+0.6**
	7.4nm,0.2s,SNR=7.9						
PBEJ	**Beja**	**1.65**	**355**	*e*Pg	**Pg**	**15 06 36.3**	**-0.2**
PBEJ				*e*Sg	**Sg**	**15 06 58.0**	**-0.4**
	18nm,0.2s						
PBEJ	**Beja**	**1.65**	**355**	Pg	**Pg**	**15 06 36.3**	**-0.2**
PBEJ				Lg		15 06 58.0	
	9.2nm,0.2s						
MOE	**Montemor**	**2.20**	**346**	*e*Pn	**Pn**	**15 06 46.5**	**+5.4**
MOE				*e*Sg	**Sg**	**15 07 15.6**	**-1.3**
MOE	**Montemor**	**2.20**	**346**	Lg		15 07 15.6	
EBAD	**Badajoz**	**2.42**	**12**	P	**Pn**	**15 06 44.1**	**-0.1**
	1.0nm,0.1s,SNR=5.0						
EBAD				S	**Sn**	**15 07 22.0**	**+7.5**
	3.7nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**3.04**	**53**	P	**Pn**	**15 06 53.0**	**-0.1**
	0.2nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**15 07 28.9**	**-1.2**
	0.9nm,0.1s,SNR=7.9						

*IDC **11** 15:22:50.9±6.4, 19.02S×176.48W, mb3.9/4, mb1 4.0/4, mb1mx3.8/14, Error ellipse: s-maj=168.0km s-min=101.4km az=135.0*
ISC 11 15:22:54.9±4.6**, 19.0S**±1.0×**176.6W**±0.4**, h33**km**, n9,** σ**0§69**/8**, mb3.9**/4**, 3C, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.62**	**243**	P	**P**	**15 30 25.2**	**+0.1**
	0.8nm,0.5s,mb3.8,baz=83,slow=13,SNR=5.7						
WRA	**Warramunga Arr**	**46.12**	**260**	P	**P**	**15 31 18.4**	**+0.3**
	0.3nm,0.4s,mb3.6,baz=96,slow=7.7,SNR=19						
ASAR	**Alice Springs**	**46.14**	**255**	P	**P**	**15 31 18.0**	**-0.3**
	1.1nm,0.5s,mb4.0,baz=93,slow=8.1,SNR=37						
FITZ	**Fitzroy Crossi**	**54.53**	**261**	P	**P**	**15 32 22.2**	**-0.1**
	2.0nm,0.8s,mb4.2,baz=190,slow=11,SNR=3.1						
SNAA	**Sanae**	**89.46**	**178**⇑*i*		**P**	**15 35 49.0**	**-0.2**
VNA3	**Neumayer Olymp**	**89.54**	**176**⇑*i*		**P**	**15 35 50.7**	**+1.1**
VNA2	**Neumayer--Watz**	**90.00**	**176**⇑*i*		**P**	**15 35 52.3**	**+0.6**
VNA1	**Neumayer--Stat**	**90.21**	**176**		**P**	**15 35 51.3**	**-1.5**
AKASG	**Malin Array Be**	**142.31**	**333**	PKP	PKPdf	15 42 24.6	+0.7
	1.9nm,0.5s,baz=41,slow=4.1,SNR=12						

IDC 11 15:33:23.4±12.0**, 5.76S**×**128.78E, h434**km±94km**, mb3.2**/1**, mb1 2.7**/4**, mb1mx2.5**/14**, Error ellipse: s-maj=149.0km s-min=69.8km az=144.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.65**	**194**	P	P	15 36 08.7	-3.0
	0.1nm,0.3s,baz=30,slow=14,SNR=2.7						
FITZ				S	S	15 38 27.1	+0.8
	0.1nm,0.3s,baz=90,slow=19,SNR=2.1						
WRA	**Warramunga Arr**	**15.10**	**160**	P	P	15 36 35.7	-1.9
	0.1nm,0.3s,baz=338,slow=12,SNR=6.0						
ASAR	**Alice Springs**	**18.48**	**165**	P	P	15 37 12.8	+1.3
	0.1nm,0.3s,baz=346,slow=12,SNR=6.9						
STKA	**Stephens Creek**	**28.62**	**157**	P	P	15 38 42.1	-2.4
	1.9nm,0.8s,baz=333,slow=14,SNR=4.3						

IDC 11 15:37:09.1±22.0**, 19.29N**×**122.44E, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.4**/18**, MS3.0**/1**, Ms1 3.0**/1**, ms1mx2.2**/22**, Error ellipse: s-maj=424.0km s-min=243.0km az=153.0, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOW	**Kunigami**	**9.23**	**35**	LR	LR	15 43 11.6	
	comp=Z,93nm,20.0s,baz=45,slow=39						
WRA	**Warramunga Arr**	**40.70**	**163**	P	P	15 44 52.0	-1.3
	1.1nm,0.7s,baz=342,slow=8.9,SNR=12						
ASAR	**Alice Springs**	**44.13**	**165**	P	P	15 45 19.5	-1.9
	0.5nm,0.4s,baz=347,slow=7.4,SNR=23						
STKA	**Stephens Creek**	**54.09**	**160**	P	P	15 46 35.0	-3.0
	1.2nm,0.8s,baz=328,slow=9.5,SNR=4.0						

*LDG **11** 15:43:19.8±1.3, 42.85N×1.46W, h2km, Md2.2/2, Ml2.1/1, Error ellipse: s-maj=24.9km s-min=15.6km az=58.0*
*CSEM **11** 15:43:19.8±0.1, 42.87N×1.41W, h2km, ML2.1/1, Error ellipse: s-maj=2.1km s-min=2.0km az=84.0*
MDD 11 15:43:20.1±0.4**, 42.87N**×**1.42W, mbLg1.4**/7**, Error ellipse: s-maj=3.6km s-min=2.5km az=45.0, PRXIMO AftershockPLICA, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.28**	**31**	*e*Pg	Pg	15 43 25.5	-0.2
SJPF				*e*Sg	Sg	15 43 28.2	-1.3
	39nm,0.3s						
EALK	**Alkurruntz**	**0.36**	**350**	Pg	Pg	15 43 26.5	-0.7
	2.0nm,0.1s,SNR=18						
EALK				Lg		15 43 32.4	
	6.9nm,0.1s,SNR=7.9						
LARF	**Larrau**	**0.36**	**62**	P	Pg	15 43 26.8	-0.5
LARF				S	Sg	15 43 32.7	+0.6
ETSF	**Etsaut**	**0.64**	**87**	*e*Pg	Pg	15 43 31.5	-1.3
ETSF				*e*Sg	Sg	15 43 40.2	-1.0
	4.3nm,0.2s						
EBIE	**Bielsa**	**1.17**	**98**	Pg	Pg	15 43 41.8	-1.5
	0.8nm,0.1s,SNR=5.0						
EBIE				Lg		15 43 59.1	
	1.2nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**1.17**	**98**	Pg	Pg	15 43 41.8	-1.6
	0.8nm,0.1s,SNR=5.0						
ESAC	**San Caprasio**	**1.35**	**148**	Pg	Pg	15 43 44.2	-2.7
	SNR=7.9						
ESAC				Lg		15 44 02.2	
	22nm,0.4s,SNR=5.0						
ESAC	**San Caprasio**	**1.35**	**148**	Pg	Pg	15 43 44.2	-2.7
	SNR=7.9						
EGRA	**Graus**	**1.45**	**117**	Pg	Pg	15 43 46.6	-2.4
	1.6nm,0.3s,SNR=7.9						
EGRA				Lg		15 44 07.2	
	1.1nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**1.52**	**285**	Pg	Pg	15 43 47.7	-2.6
	0.6nm,0.1s,SNR=7.9						
ELAN				Lg		15 44 09.6	
	1.5nm,0.2s,SNR=4.0						
ELAN	**Lanestosa**	**1.52**	**285**	Pg	Pg	15 43 47.7	-2.6
	0.6nm,0.1s,SNR=7.9						
ETOR	**Torete**	**2.10**	**193**	Pn	Pn	15 43 55.0	-1.9
	0.5nm,0.3s,SNR=7.9						
ETOR				Pg	Pg	15 43 58.3	-3.7
	0.0nm,0.5s,SNR=7.9						
ETOR				Sn	Sn	15 44 22.4	-1.7
	2.6nm,0.3s,SNR=7.9						

OTT 11 16:00:27.5±0.2**, 52.76N**×**67.35W, MN2.7**/7**, Blast, Mount Wright, Qc Mining explosion., Northern Quebec**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**2.10**	**8**	PN	Pn	16 01 03.1	-1.3
SCHQ				SN	Sn	16 01 30.9	-0.7
SCHQ				Trac		16 01 33.0	
	comp=Z,23nm,0.2s						
MNQ	**Manicouagan**	**2.40**	**202**	PN	Pn	16 01 08.3	-0.4
MNQ				SN	Sn	16 01 35.0	-4.1
MNQ				Trac		16 01 45.7	
	comp=Z,7.6nm,0.1s						
SMQ	**Clarke City**	**2.57**	**171**	PN	Pn	16 01 09.3	-1.8
SMQ				SG	Sg	16 01 41.5	-12
SMQ				Trac		16 01 46.8	
	comp=Z,6.5nm,0.1s						
ICQ	**Pointe Anglais**	**3.24**	**179**	PN	Pn	16 01 19.9	-0.8
ICQ				Trac		16 02 14.7	
	comp=Z,7.1nm,0.2s						
CNQ	**Baie Comeau**	**3.49**	**188**	PN	Pn	16 01 22.5	-1.7
CNQ				SN	Sn	16 02 06.8	-0.1
CNQ				Trac		16 02 24.9	
	comp=Z,5.6nm,0.2s						
GSQ	**Grosses Roches**	**3.86**	**178**	PN	Pn	16 01 27.8	-1.6
GSQ				SN	Sn	16 02 11.5	-4.6
LG4Q	**La Grande 4**	**4.15**	**285**	PN	Pn	16 01 31.0	-2.5
LG4Q				PG	Pg	16 01 38.9	-11
LG4Q				SN	Sn	16 02 21.6	-1.9
LG4Q				SG	Sg	16 02 36.3	-9.4
LG4Q				Trac		16 02 41.0	
	comp=Z,4.2nm,0.2s						
DAQ	**Lac Daran**	**5.41**	**209**	PN	Pn	16 01 48.9	-2.5
DAQ				SN	Sn	16 02 54.8	-0.5
DAQ				Trac		16 03 27.6	
	comp=Z,2.0nm,0.2s						
LMQ	**La Malbaie**	**5.56**	**201**	PN	Pn	16 01 49.9	-3.6
LMQ				SN	Sn	16 02 52.5	-6.5
LMN	**Caledonia Moun**	**7.11**	**165**	PN	Pn	16 02 10.7	-4.7
LMN				SN	Sn	16 03 29.4	-8.4
DRLN	**Deer Lake**	**7.13**	**116**	PN	Pn	16 02 09.8	-5.8
DRLN				SN	Sn	16 03 27.1	-11
VLDQ	**Val d'Or**	**7.95**	**238**	PN	Pn	16 02 23.7	-3.4
VLDQ				SN	Sn	16 03 52.3	-6.6
MALO	**McAlpine Lake**	**8.23**	**256**	PN	P	16 02 26.6	-4.4
VIMO	**Victor Mine**	**9.94**	**277**	PN	P	16 02 48.4	-6.1
SILO	**Sutton Inlier**	**10.57**	**286**	PN	P	16 02 56.1	-7.2

IDC 11 16:02:33.2±1.7**, 7.19S**×**130.07E, mb3.7**/2**, mb1 4.0**/5**, mb1mx3.7**/12**, ML3.8**/3**, Error ellipse: s-maj=57.3km s-min=22.4km az=75.0, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.67**	**201**	Pn	P	16 05 23.0	-1.1
	0.9nm,0.3s,baz=18,slow=9.0,SNR=32						
FITZ				Sn	S	16 07 33.7	-2.6
	0.4nm,0.3s,baz=167,slow=19,SNR=5.0						
WRA	**Warramunga Arr**	**13.33**	**162**	Pn	P	16 05 43.0	-3.4
	0.6nm,0.3s,baz=342,slow=13,SNR=32						
WRA				Sn	S	16 08 13.4	-3.2
	0.4nm,0.3s,baz=330,slow=22,SNR=5.8						
ASAR	**Alice Springs**	**16.79**	**168**	Pn	P	16 06 29.3	-2.1
	0.5nm,0.3s,baz=347,slow=10,SNR=35						
ASAR				Sn	S	16 09 37.6	-0.4
	0.1nm,0.3s,baz=344,slow=22,SNR=5.1						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	26.81	158	P	P	16 08 15.2	-1.9
	1.1nm,0.7s,baz=329,slow=12,SNR=4.5						
MKAR	Makanchi Array	68.42	327	P	P	16 13 36.9	-2.1
	0.5nm,0.7s,baz=111,slow=8.6,SNR=4.9						

*IDC **11** 16:14:24.2±17.0, 35.42N×71.47E, mb3.5/2, mb1 3.7/3, mb1mx3.4/18, ML3.6/1, Error ellipse: s-maj=512.0km s-min=42.2km az=101.0*

ISC 11 16:14:42.7±1.7**, 36.47N**±0.09×**71.9E**±0.2**, h169**km±13km**, n18,** σ**1.33**/21**, mb3.0**/2**, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	Thein Dam	5.14	141	eP	P	16 15 58.8	-0.2
	42nm,0.3s						
THN				eS	S	16 16 57.6	-0.5
AML	Almayashu	5.83	14	P	P	16 16 05.9	-2.2
	SNR=139						
UCH	Uchtor	6.10	19	P	P	16 16 12.0	+0.3
	SNR=13						
KZA	Kyzart	6.18	24	P	P	16 16 13.3	+0.5
	SNR=9.3						
EKS2	Erkin-Say	6.36	13	P	P	16 16 12.8	-2.3
	SNR=6.7						
AAK	Ala-Archa	6.48	18	P	P	16 16 16.4	-0.4
	SNR=9.4						
KBK	Karagaybulak	6.62	20	P	P	16 16 21.1	+2.4
	SNR=6.4						
CHMS	Chumysh	6.89	18	P	P	16 16 21.6	-0.5
	SNR=9.4						
TKM2	Tokmak 2	7.05	23	P	P	16 16 26.5	+2.1
	SNR=9.6						
USP	Ospenovka	7.08	16	P	P	16 16 23.1	-1.7
	SNR=10						
MKAR	Makanchi Array	12.92	34	Pn	P	16 17 44.3	+3.4
	0.3nm,0.3s,baz=222,slow=14,SNR=13						
KOLN	Koldanda	13.19	128	eP	P	16 17 44.5	0.0
	3.3nm,0.4s						
KOLN				eS	S	16 20 06.8	-0.9
GKN	Gorkha	13.71	124	eP	P	16 17 51.8	+0.8
	19nm,0.5s						
GKN				eS	S	16 20 17.8	-1.8
KKN	Kakani	14.28	124	eP	P	16 17 59.6	+1.4
	10nm,0.6s						
DMN	Daman	14.28	124	eP	P	16 17 59.5	+1.3
	5.0nm,0.4s						
GUN	Gumba	14.61	122	eP	P	16 18 04.3	+1.9
	12nm,0.5s						
WRA	Warramunga Arr	81.39	122	P	P	16 26 41.6	-0.5
	0.3nm,1.0s,mb2.9,baz=325,slow=5.0,SNR=8.3						
ASAR	Alice Springs	83.67	125	P	P	16 26 53.2	-0.5
	0.2nm,0.5s,mb3.1,baz=315,slow=5.0,SNR=6.4						

*IDC **11** 16:14:49.7±2.9, 36.60S×179.13W, mb4.3/4, mb1 4.5/6, mb1mx4.3/12, ML4.3/2, MS3.5/1, Ms1 3.4/1, ms1mx2.7/17, Error ellipse: s-maj=74.0km s-min=31.9km az=136.0*

*NEIC **11** 16:14:51.2, 36.81S×178.79W, h99km, ML4.7(WEL), After WEL.*

*WEL **11** 16:14:51.3±0.5, 36.46S×179.03W, h33km, ML4.5/15, Error ellipse: s-maj=6.5km s-min=6.2km az=90.0*

ISC 11 16:14:49.8±0.9**, 37.38S**±0.08×**178.53W**±0.09**, h33**km**, n50,** σ**1.15**/61**, mb4.2**/4**, MS3.4**/1**, East of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.52	265	PN	Pn	16 15 27.6	-1.9
PUZ	Puketiti	2.64	254	PN	Pn	16 15 32.1	+1.1
PUZ				SN	Sn	16 16 03.2	+0.9
MWZ	Matawai	3.26	252	PN	Pn	16 15 40.3	+0.4
MWZ				SN	Sn	16 16 17.6	-0.4
KNZ	Kokohu	3.41	240	eP	P	16 15 44.4	+2.5
KNZ	Kokohu	3.41	240	PN	Pn	16 15 44.2	+2.2
KNZ				SN	Sn	16 16 23.5	+1.8
URZ	Urewera	3.56	254	Pn	Pn	16 15 44.3	+0.1
	23nm,0.3s,baz=111,slow=0.9,SNR=163						
URZ				Sn	Sn	16 16 24.8	-0.8
	127nm,0.3s,baz=142,slow=23,SNR=52						
URZ	Urewera	3.56	254	P	P	16 15 44.1	+0.1
URZ	Urewera	3.56	254	PN	Pn	16 15 43.8	-0.3
URZ				SN	Sn	16 16 22.2	-3.4
BKZ	Black Stump Fm	4.30	244	P	P	16 15 55.6	+1.0
BKZ				S	S	16 16 44.2	-0.1
BKZ	Black Stump Fm	4.30	244	PN	Pn	16 15 55.3	+0.6
BKZ				SN	Sn	16 16 44.2	-0.2
KUZ	Kuaotunu	4.64	276	PN	Pn	16 15 53.4	-6.1
KUZ				SN	Sn	16 16 39.2	-14
MOVZ	Moawhango	4.92	244	P	P	16 16 04.4	+1.0
MOVZ	Moawhango	4.92	244	PN	Pn	16 16 04.2	+0.7
TUVZ	Tukino	4.95	246	P	P	16 16 04.7	+1.0
TUVZ	Tukino	4.95	246	PN	Pn	16 16 04.5	+0.7
NGZ	Ngauruhoe	4.95	247	P	P	16 16 03.9	+0.1
NGZ	Ngauruhoe	4.95	247	PN	Pn	16 16 03.5	-0.5
CNZ	Chateau	5.00	247	PN	Pn	16 16 04.1	-0.5
TSZ	Takapari Road	5.07	236	P	P	16 16 05.4	0.0
TSZ	Takapari Road	5.07	236	PN	Pn	16 16 05.7	+0.2
TSZ				SN	Sn	16 17 03.5	-0.2
WAZ	Wanganui	5.61	243	P	P	16 16 15.1	+2.2
WAZ	Wanganui	5.61	243	PN	Pn	16 16 14.9	+1.8
MRZ	Mangatainoka R	5.63	233	P	P	16 16 13.5	+0.2
MRZ				S	S	16 17 17.7	-0.1
MRZ	Mangatainoka R	5.63	233	PN	Pn	16 16 13.2	-0.3
MRZ				SN	Sn	16 17 17.7	-0.2
MTW	Mount Morrison	5.97	229	P	P	16 16 17.9	-0.1
MTW	Mount Morrison	5.97	229	PN	Pn	16 16 17.8	-0.5
MTW				SN	Sn	16 17 26.3	0.0
PAWZ	Paruwai Farm	6.15	228	PN	Pn	16 16 20.3	-0.5
CAW	Cannon Point	6.21	231	P	P	16 16 21.5	+0.1
CAW	Cannon Point	6.21	231	PN	Pn	16 16 21.4	-0.2
TUWZ	Tuamarina	7.09	233	PN	Pn	16 16 33.6	-0.4
NNZ	Nelson	7.35	236	SN	Sn	16 17 58.4	-2.4
QRZ	Quartz Range	7.75	241	PN	Pn	16 16 41.1	-2.1
KHZ	Kahutara	7.90	228	PN	Pn	16 16 46.3	+1.0
THZ	Tophouse	7.93	234	P	P	16 16 43.6	-1.9
THZ	Tophouse	7.93	234	PN	Pn	16 16 43.4	-2.3
DSZ	Denniston Nort	8.64	237	eP	P	16 16 53.3	-2.1
DSZ	Denniston Nort	8.64	237	PN	P	16 16 53.3	-2.1
LTZ	Lake Taylor	8.87	230	eP	P	16 16 58.0	-0.6
LTZ	Lake Taylor	8.87	230	PN	P	16 16 58.0	-0.6
CRLZ	Canterbury Las	9.15	225	SN	Sn	16 18 40.8	-4.6
MQZ	McQueen's Vall	9.21	224	SN	Sn	16 18 42.3	-4.8
RPZ	Rata Peaks	10.13	228	Pn	P	16 17 18.4	+2.4
	2.6nm,0.3s,baz=112,slow=21,SNR=13						
RPZ				Sn	S	16 19 03.2	-6.4
	4.2nm,0.3s,baz=321,slow=19,SNR=14						
ODZ	Otahua Downs	11.18	223	eP	P	16 17 29.7	-0.5
ODZ	Otahua Downs	11.18	223	PN	P	16 17 28.9	-1.3
STKA	Stephens Creek	33.09	267	P	P	16 21 25.0	+0.3
	1.3nm,0.6s,mb4.1,baz=78,slow=8.9,SNR=4.7						
STKA				LR	LR	16 32 43.8	
	comp=Z,77nm,20.5s,MS3.4,baz=179,slow=33						
ASAR	Alice Springs	42.77	275	P	P	16 22 44.5	-1.4
	5.4nm,0.5s,mb4.5,baz=119,slow=7.6,SNR=134						
WRA	Warramunga Arr	44.37	280	P	P	16 22 56.6	-2.3
	3.2nm,0.7s,mb4.2,baz=120,slow=7.7,SNR=36						
QSPA	South Pole Qui	52.74	180	eP	pP	16 24 14.6	+1.7
CMAR	Chiang Mai Arr	95.27	289	P	P	16 28 12.7	+0.9
	0.8nm,1.0s,mb4.1,baz=148,slow=4.6,SNR=4.6						
FINES	FINESS Array B	151.42	335	PKPbc	PKPdf	16 34 41.9	+8.9
	1.5nm,0.7s,baz=146,slow=6.9,SNR=4.6						

*IDC **11** 16:26:05.5±3.2, 36.50S×179.31W, mb4.2/3, mb1 4.3/5, mb1mx4.2/12, ML3.7/2, MS2.9/2, Ms1 2.9/2, ms1mx2.8/13, Error ellipse: s-maj=75.6km s-min=33.7km az=131.0*

*WEL **11** 16:26:06.9±0.3, 36.59S×179.01W, h33km, ML4.3/3, Error ellipse: s-maj=3.2km s-min=2.6km az=90.0*

ISC 11 16:26:06.2±2.5**, 36.7S**±0.1×**179.2W**±0.1**, h23**km±24km**, n14,** σ**1.07**/21**, mb4.1**/3**, MS2.9**/2**, East of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.18	245	PN	Pn	16 26 42.4	+0.6
MXZ				SN	Sn	16 27 09.6	+1.3
PUZ	Puketiti	2.46	234	PN	Pn	16 26 46.5	+0.7
PUZ				SN	Sn	16 27 16.4	+1.0
MWZ	Matawai	3.08	236	PN	Pn	16 26 55.3	+0.6
MWZ				SN	Sn	16 27 30.6	-0.6
URZ	Urewera	3.33	240	Pn	Pn	16 26 59.7	+1.4
	4.7nm,0.3s,baz=74,slow=1.1,SNR=41						
URZ				Sn	Sn	16 27 39.3	+1.8
	35nm,0.3s,baz=132,slow=23,SNR=9.1						
URZ	Urewera	3.33	240	PN	Pn	16 26 58.4	+0.2
URZ				SN	Sn	16 27 37.9	+0.3
URZ				SN	Sn	16 27 38.0	+0.4
KNZ	Kokohu	3.41	225	PN	Pn	16 26 59.3	0.0
KNZ				SN	Sn	16 27 38.4	-1.0
KUZ	Kuaotunu	4.07	267	PN	Pn	16 27 08.6	-0.2
KUZ				SN	Sn	16 27 53.8	-2.5
NGZ	Ngauruhoe	4.81	237	PN	Pn	16 27 19.7	+0.5
TSZ	Takapari Road	5.09	227	PN	Pn	16 27 20.4	-2.7
RPZ	Rata Peaks	10.24	224	Pn	P	16 28 33.2	-1.8
	1.2nm,0.3s,baz=86,slow=16,SNR=6.6						
STKA	Stephens Creek	32.58	267	P	P	16 32 38.3	+0.3
	1.2nm,0.8s,mb3.9,baz=81,slow=11,SNR=3.4						
ASAR	Alice Springs	42.17	274	P	P	16 33 59.5	+0.6
	4.2nm,0.6s,mb4.2,baz=120,slow=7.6,SNR=106						
ASAR				LR	LR	16 51 13.2	
	comp=Z,5.0nm,18.3s,MS2.4,baz=14,slow=36						
WRA	Warramunga Arr	43.72	279	P	P	16 34 11.2	-0.2
	1.9nm,0.5s,mb4.1,baz=120,slow=7.6,SNR=28						
WRA				LR	LR	16 49 34.6	
	comp=Z,50nm,21.6s,MS3.4,baz=230,slow=32						
FINES	FINESS Array B	150.54	335	PKPbc	PKPdf	16 45 57.5	+3.3
	1.0nm,0.7s,baz=76,slow=5.7,SNR=3.3						

*CSEM **11** 16:28:50.8±0.2, 42.88N×1.42W, h2km, ML1.9/1, Error ellipse: s-maj=3.8km s-min=3.5km az=96.0*

*LDG **11** 16:28:51.8±0.4, 42.92N×1.38W, h2km, Md2.0/2, Ml1.9/1, Error ellipse: s-maj=7.3km s-min=3.2km az=50.0*

MDD 11 16:28:51.4±0.6**, 42.87N**×**1.41W, mbLg1.3**/5**, Error ellipse: s-maj=4.1km s-min=3.1km az=51.0, PRXIMO AftershockPLICA, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.28	29	ePg	Pg	16 28 56.5	-0.4
SJPF				eSg	Sg	16 28 59.2	-1.4
	50nm,0.3s						
LARF	Larrau	0.35	62	P	Pg	16 28 57.9	-0.5
LARF				S	Sg	16 29 03.3	+0.2
EALK	Alkurruntz	0.35	348	Pg	Pg	16 28 57.6	-0.9
	2.0nm,0.1s,SNR=8.4						
EALK				Lg		16 29 03.7	
	5.5nm,0.1s,SNR=7.9						
ETSF	Etsaut	0.62	87	ePg	Pg	16 29 02.5	-1.4
ETSF				eSg	Sg	16 29 11.4	-0.8
	4.8nm,0.3s						
EBIE	Bielsa	1.16	99	Pg	Pg	16 29 14.1	-0.4
	0.7nm,0.1s,SNR=7.9						
EBIE				Lg		16 29 29.8	
	1.5nm,0.1s,SNR=7.9						
EBIE	Bielsa	1.16	99	Pg	Pg	16 29 14.1	-0.4
	0.7nm,0.1s,SNR=7.9						
ESAC	San Caprasio	1.34	148	Pg	Pg	16 29 15.3	-3.0
	3.4nm,0.2s,SNR=5.0						
ESAC				Lg		16 29 33.5	
	2.1nm,0.1s,SNR=4.0						
ESAC	San Caprasio	1.34	148	Pg	Pg	16 29 15.3	-2.9
	SNR=5.0						
ELAN	Lanestosa	1.53	284	Pg	Pg	16 29 18.2	-3.7
	1.1nm,0.2s,SNR=4.0						
ELAN				Lg		16 29 40.6	
	0.4nm,0.2s,SNR=4.0						
ELAN	Lanestosa	1.53	284	Pg	Pg	16 29 18.2	-3.7
	SNR=4.0						
ETOR	Torete	2.11	193	Pg	Pg	16 29 29.8	-3.7
	0.4nm,0.3s,SNR=7.9						
ETOR				Sn	Sn	16 29 53.6	-2.1
	1.7nm,0.2s,SNR=7.9						

DJA 11 16:34:17.7±0.9**, 8.63S**×**116.37E, h126**km±5km**, MD4.9**/4**, ML3.6**/2**, 3C-4D, Error ellipse: s-maj=45.4km s-min=16.1km az=2.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	Kedomdong	0.29	299	ePn	P	16 34 35.2	-0.2
	120nm,0.2s						
KEDI				⇓iSn	S	16 34 48.2	-0.8
RATI	Rata	0.84	263	⇓iPn	P	16 34 39.0	+0.1
	90nm,0.2s						
RATI				⇑iSn	S	16 34 54.2	-0.9
KELI	Kelakatan	1.91	282	⇓iPn	P	16 34 50.7	0.0
	20nm,0.2s						
KELI				⇑iSn	S	16 35 14.6	-1.2
SRDI	Scrawed	2.21	274	⇓iPn	P	16 34 53.9	-0.7
	58nm,0.2s						
SRDI				⇑iSn	S	16 35 20.5	-2.2

CASC 11 16:36:55.8±1.7**, 12.82N**×**88.92W, h35**km±12km**, MD3.7, 11C-4D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNVI	San Vicente	0.79	6	⇑eP	P	16 37 10.8	+0.3
SNVI				eS	S	16 37 22.3	+1.1
LFRS	El Faro	0.81	350	⇑eP	P	16 37 10.8	0.0
LFRS				eS	S	16 37 22.6	+0.9
LCBS	La Ceiba	0.83	356	⇑eP	P	16 37 11.1	+0.1
LCBS				eS	S	16 37 22.7	+0.4
VSM	San Miguel	0.87	46	⇑eP	P	16 37 11.9	+0.3
VSM				eS	S	16 37 24.8	+1.5
BLLM	Bellamira	0.91	47	⇑eP	P	16 37 12.3	+0.2
BLLM				eS	S	16 37 24.5	+0.3
SNET	Serv Nac Est T	0.91	341	⇑eP	P	16 37 12.4	+0.3
SNET				eS	S	16 37 24.9	+0.6
LBRS	Las Brisas	0.92	353	⇓eP	P	16 37 12.8	+0.5
LBRS				eS	S	16 37 25.6	+1.1
LFU	La Fuente	0.94	349	⇑eP	P	16 37 12.8	+0.2
LFU				eS	S	16 37 24.4	-0.6
BOQS	Boqueron	0.97	339	⇑eP	P	16 37 13.5	+0.5
BOQS				eS	S	16 37 27.2	+1.4
CNCH	Conchagua	1.15	67	eP	P	16 37 15.8	+0.1
CNCH				eS	S	16 37 31.1	+0.6
CAHU	Cacacuatique	1.17	36	⇑eP	P	16 37 16.6	+0.7
CAHU				eS	S	16 37 32.3	+1.4
SBLS	San Blas	1.22	326	⇓eP	P	16 37 17.3	+0.7
SBLS				eS	S	16 37 32.7	+0.5
SNJE	San Jose	1.23	327	⇑eP	P	16 37 17.1	+0.3
SNJE				eS	S	16 37 32.8	+0.3
RTR	El Retiro	1.28	327	⇓eP	P	16 37 18.2	+0.7
RTR				eS	S	16 37 34.4	+0.8
CUSS	Cusmapa	1.47	317	eP	P	16 37 20.1	-0.1
CUSS				eS	S	16 37 38.0	-0.4
MTO2	Montecristo 2	1.62	345	⇑eP	P	16 37 22.7	+0.2
LEON	Leon	2.02	101	eP	P	16 37 26.7	-1.4
TEL3	Telica 3	2.04	97	eP	P	16 37 27.9	-0.6
TEL3				eS	S	16 37 52.6	-0.4
TELN	Telica	2.05	96	eP	P	16 37 27.9	-0.6
MIRN	Miramar	2.19	100	eP	P	16 37 29.7	-0.8
MOMJ	Momotombo	2.36	100	eP	P	16 37 32.0	-1.0
COPN	Copaltepe	2.37	105	eP	P	16 37 31.9	-1.2
APYN	Apoyeque	2.58	103	eP	P	16 37 35.1	-1.0
JCR	Jicaral	4.76	128	eP	P	16 38 06.4	-0.8
JCR				eS	S	16 38 54.8	-7.1
VPS2	Volcan Poas 2	5.29	119	eP	P	16 38 10.1	-4.4
PRS1	Puriscal	5.33	121	eP	P	16 38 15.4	+0.3
LAJ	Bijagual	5.55	121	eP	P	16 38 14.1	-4.0
BUS	Buena Vista	6.02	122	⇓eP	P	16 38 24.7	0.0
BUS				eS	S	16 39 28.3	-5.1

*MOS **11** 16:47:32.7±0.7, 15.74N×46.69W, h10km, mb4.8/13, Error ellipse: s-maj=23.5km s-min=11.1km az=55.6*

*IDC **11** 16:47:33.1±0.6, 15.72N×46.67W, mb4.3/12, mb1 4.5/13, mb1mx4.3/22, ML6.3/1, MS3.8/16, Ms1 3.8/16, ms1mx3.7/20, Error ellipse: s-maj=22.7km s-min=16.0km az=120.0*

*NEIC **11** 16:47:34.4±0.3, 15.67N×46.70W, h10km, mb4.6/12, Error ellipse: s-maj=9.6km s-min=6.4km az=147.0*

ISC 11 16:47:32.8±0.4**, 15.75N**±0.08×**46.71W**±0.07**, h10**km**, n84,** σ**0.94**/78**, mb4.6**/33**, MS3.8**/13**, 11C-1D, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	Col San Antoni	18.47	280	eP	P	16 51 50.3	-0.4
CPD	Cerro la Pandu	18.52	280	eP	P	16 51 50.9	-0.5
SJG	San Juan	18.75	280	P	P	16 51 54.0	-0.1
	1.8nm,0.3s,baz=93,slow=12,SNR=7.1						
SJG	San Juan	18.75	280	P	P	16 51 54.0	-0.1
SJG				pmax	pmax		
	comp=Z,2.0nm,0.3s						
SJG	San Juan	18.75	280	P	P	16 51 54.0	-0.1
SAML	Samuel	29.47	215	eP	P	16 53 38.4	-0.9
	comp=Z,8.2nm,1.3s,mb4.3						
BDFB	Brasilia	31.22	182	P	P	16 53 53.7	-1.1
	comp=Z,4.9nm,0.9s,mb4.3,baz=353,slow=8.1,SNR=4.4						
BDFB				LR	LR	17 05 04.2	
	comp=Z,119nm,18.4s,MS3.6,baz=203,slow=34						
BDFB	Brasilia	31.22	182	P	P	16 53 53.7	-1.1
BDFB				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BDFB				MLR	MLR		
	comp=Z,119nm,18.4s						
LPAZ	La Paz	38.21	215	P	P	16 54 55.6	+0.8
	comp=Z,3.6nm,0.8s,mb4.1,baz=22,slow=7.7,SNR=18						
LPAZ				LR	LR	17 10 06.8	
	comp=Z,80nm,19.5s,MS3.5,baz=57,slow=35						
LPAZ	La Paz	38.21	215	P	P	16 54 55.6	+0.8
LPAZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
LPAZ				MLR	MLR		
	comp=Z,80nm,19.5s						
LPAZ	La Paz	38.21	215	eP	P	16 54 55.4	+0.6
	comp=Z,4.6nm,0.9s,mb4.2						
EVO	Evora	40.82	49	eP	P	16 55 16.3	+0.1
	comp=Z,36nm,1.1s,mb4.6						
EVO				eR			
	comp=Z,139nm,18.8s						
CPUP	Villa Florida	43.08	194	P	P	16 55 35.2	+0.2
	comp=Z,8.8nm,1.1s,mb4.4,baz=39,slow=7.9,SNR=8.4						
CPUP				LR	LR	17 13 00.3	
	comp=Z,61nm,20.0s,MS3.5,baz=231,slow=36						
CPUP	Villa Florida	43.08	194	P	P	16 55 35.2	+0.3
CPUP				pmax	pmax		
	comp=Z,9.0nm,1.2s						
CPUP				MLR	MLR		
	comp=Z,61nm,20.0s						
CPUP	Villa Florida	43.08	194	eP	P	16 55 34.4	-0.5
	comp=Z,6.7nm,0.9s,mb4.4						
ESDC	Sonseca Array	44.17	49	P	P	16 55 44.1	+0.5
	comp=Z,1.7nm,0.8s,mb3.8,baz=255,slow=7.7,SNR=6.2						
ESDC				LR	LR	17 09 47.8	
	comp=Z,103nm,21.7s,MS3.7,baz=285,slow=30						
SJPF	Ste Jean	47.31	45	eP	P	16 56 02.7	-5.8
	comp=Z,108nm,1.4s,mb5.3						
ROSF	Rostrenen	48.13	38	eP	P	16 56 02.6	-12
	comp=Z,110nm,1.4s,mb5.4						
EPF	Esparros	48.35	46	eP	P	16 56 11.0	-5.7
MTLF	Montolieu	49.76	46	eP	P	16 56 21.1	-6.3
LDF	La Druitiere	50.13	39	eP	P	16 56 18.1	-12
	comp=Z,47nm,1.1s,mb5.1						
TCF	Toulx Ste Croi	50.72	42	eP	P	16 56 25.3	-9.4
	comp=Z,31nm,1.2s,mb4.8						
LASF	Ste Croix	51.11	46	eP	P	16 56 30.4	-7.3
	comp=Z,35nm,1.2s,mb4.9						
AVF	Avril sur Loir	51.63	42	eP	P	16 56 31.0	-11
	comp=Z,22nm,1.0s,mb4.7						
SSF	Saint Saulge	51.82	42	eP	P	16 56 32.5	-11
	comp=Z,45nm,1.3s,mb4.9						
LOR	Lormes	52.12	42	eP	P	16 56 34.3	-11
	comp=Z,16nm,1.0s,mb4.6						
LOR				eR			
	comp=Z,62nm,19.5s						
MEZF	Maizieres J'vi	53.29	41	eP	P	16 56 41.6	-12
	comp=Z,25nm,0.8s,mb4.9						
MBDF	Montbardon	53.30	46	eP	P	16 56 45.7	-8.5
BAIF	Baives	53.31	39	eP	P	16 56 40.2	-14
CABF	La Chapelle	53.36	43	eP	P	16 56 43.8	-11
	comp=Z,46nm,1.2s,mb5.0						
LPL	La Plagne	53.48	45	eP	P	16 56 46.0	-10
LPG	La Plagne	53.49	45	eP	P	16 56 46.1	-9.5
	comp=Z,17nm,1.2s,mb4.6						
TXAR	Lajitas Array	53.85	295	P	P	16 56 58.8	+0.4
	comp=Z,0.5nm,0.4s,mb3.8,baz=100,slow=7.6,SNR=3.7						
TXAR				LR	LR	17 20 35.8	
	comp=Z,101nm,20.9s,MS3.9,baz=110,slow=37						
MOX	Moxa	58.00	40	eP	P	16 57 28.0	0.0
NKC	Novy Kostel	58.41	40	eP	P	16 57 30.8	-0.1
KHC	Kasperske Hory	58.88	42	eP	P	16 57 33.5	-0.6
CLL	Collm	59.01	39	⇑P	P	16 57 34.9	-0.2
	comp=Z,logA/T=1.3,mb5.1						
CLL				i *PP	pP	16 57 46.3	+8.1
CLL	Collm	59.01	39	⇑iP	P	16 57 34.9	-0.2
CLL				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.1						
CLL	Collm	59.01	39	⇑iP	P	16 57 34.9	-0.2
	comp=Z,19nm,1.0s,mb5.1						
CLL				i		16 57 46.3	
BRG	Berggiesshubel	59.49	40	i P	P	16 57 34.5	-3.9
BRG				i	pP	16 57 38.1	-3.4
BRG				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
BRG	Berggiesshubel	59.49	40	i P	P	16 57 34.5	-3.9
	comp=Z,3.5nm,0.8s,mb4.4						
BRG				i	pP	16 57 38.1	-3.4
PDAR	Pinedale Array	59.60	311	P	P	16 57 41.3	+2.1
	comp=Z,1.0nm,1.0s,mb3.8,baz=108,slow=4.7,SNR=4.9						
PDAR				LR	LR	17 21 10.9	
	comp=Z,116nm,18.2s,MS4.0,baz=110,slow=34						
PRU	Pruhonice	59.67	41	eP	P	16 57 36.5	-3.1
PVCC	Panska Ves	59.80	40	eP	P	16 57 40.2	-0.3
UPC	Upice	60.70	41	eP	P	16 57 46.5	-0.1
DPC	Dobruska-Polom	60.87	41	eP	P	16 57 47.4	-0.4
HWUT	Hardware Ranch	60.97	309	eP	P	16 57 48.4	-0.3
	comp=Z,2.5nm,0.8s,mb4.4						
NOA	NORSAR Array B	61.02	28	P	P	16 57 48.7	0.0
	comp=Z,2.0nm,1.0s,mb4.2,baz=244,slow=7.0,SNR=2.8						
NOA				LR	LR	17 17 52.0	
	comp=Z,21nm,21.6s,MS3.2,baz=290,slow=30						
NOA	NORSAR Array B	61.02	28	P	P	16 57 48.7	0.0
NOA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
NOA				MLR	MLR		
	comp=Z,21nm,21.6s						
NOA	NORSAR Array B	61.02	28	P	P	16 57 48.7	0.0
NOA				LR	LR	17 17 52.0	
PKSM	Moragy	61.77	46	⇑eP	P	16 57 53.7	-0.3
OKC	Ostrava-Krasne	61.94	42	eP	P	16 57 55.0	0.0
OJC	Ojcow	63.04	41	eP	P	16 58 02.5	+0.1
OJC	Ojcow	63.04	41	eP	P	16 58 02.5	+0.1
NIE	Niedzica	63.27	42	eP	P	16 58 05.4	+1.5
YKA	Yellowknife Ar	65.98	332	LR	LR	17 25 09.6	
	comp=Z,103nm,18.5s,MS4.1,baz=105,slow=34						
NVAR	Mina Array Bea	66.06	305	LR	LR	17 26 44.7	
	comp=Z,64nm,19.6s,MS3.8,baz=225,slow=36						
FINES	FINESS Array B	68.07	30	P	P	16 58 34.1	-0.4
	comp=Z,2.0nm,0.8s,mb4.2,baz=270,slow=5.7,SNR=7.4						
FINES	FINESS Array B	68.07	30	P	P	16 58 34.1	-0.4
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KAF	Kangasniemi	68.27	29	ep	P	16 58 34.1	-1.6
	comp=Z,2.0nm,0.7s,mb4.3						
KAF	Kangasniemi	68.27	29	eP	P	16 58 34.1	-1.6
KAF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
SHW	Mount Saint He	68.83	314	eP	P	16 58 40.1	+0.6
ARCES	ARCESS Array B	69.15	21	P	P	16 58 40.5	-0.6
	comp=Z,3.4nm,0.9s,mb4.3,baz=333,slow=2.7,SNR=5.7						
ARCES				LR	LR	17 23 46.7	
	comp=Z,59nm,20.0s,MS3.8,baz=200,slow=31						
ARCES	ARCESS Array B	69.15	21	P	P	16 58 40.5	-0.6
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARCES				MLR	MLR		
	comp=Z,59nm,20.0s						
JOF	Joensuu	70.65	28	ep	P	16 58 34.1	-16
	comp=Z,1.7nm,0.8s,mb4.0						
BRTR	Keskin Array B	72.77	53	P	P	16 59 03.6	+0.2
	comp=Z,6.0nm,1.0s,mb4.5,baz=256,slow=5.1,SNR=13						
BRTR				LR	LR	17 29 19.2	
	comp=Z,26nm,20.1s,MS3.5,baz=205,slow=34						
BRTR	Keskin Array B	72.77	53	P	P	16 59 03.6	+0.2
BRTR				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BRTR				MLR	MLR		
	comp=Z,26nm,20.1s						
OBN	Obninsk	73.41	37	⇑eP	P	16 59 07.3	+0.5
OBN				i		16 59 19.2	
OBN				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
OBN	Obninsk	73.41	37	⇑eP	P	16 59 07.3	+0.5
	comp=Z,16nm,0.9s,mb5.0						
OBN				i		16 59 19.2	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KIV	**Kislovodsk**	**78.82**	**47c**	iP	**P**	**16 59 38.8**	**+1.2**
KIV				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.8						
KIV	**Kislovodsk**	**78.82**	**47⇑**	iP	**P**	**16 59 38.8**	**+1.2**
	comp=Z,16nm,1.3s,mb4.8						
ILAR	**Eielson Array**	**80.17**	**335**	P	**P**	**16 59 44.5**	**+0.1**
	comp=Z,9.0nm,0.9s,mb4.7,baz=72,slow=4.6,SNR=86						
ILAR				LR	LR	17 34 28.1	
	comp=Z,63nm,19.0s,MS4.0,baz=178,slow=35						
ILAR	**Eielson Array**	**80.17**	**335**	P	**P**	**16 59 44.5**	**+0.1**
ILAR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ILAR				MLR	MLR		
	comp=Z,63nm,19.0s						
KMBO	**Kilima Mbogo**	**84.49**	**93**	P	**P**	**17 00 10.5**	**+2.5**
	comp=Z,2.0nm,0.7s,mb4.4,baz=316,slow=4.5,SNR=9.2						
KMBO				LR	LR	17 36 04.3	
	comp=Z,116nm,18.1s,MS4.3,baz=94,slow=34						
SVE	**Sverdlovsk**	**86.13**	**32⇓**	eP	**P**	**17 00 09.0**	**-6.1**
VNA1	**Neumayer--Stat**	**90.17**	**168**		**P**	**17 00 38.0**	**+3.9**
VNA3	**Neumayer Olymp**	**90.38**	**169⇑**	i	**P**	**17 00 38.9**	**+3.8**
VNA2	**Neumayer--Watz**	**90.56**	**168**		**P**	**17 00 39.0**	**+3.0**
SNAA	**Sanae**	**92.08**	**167⇑**	i	**P**	**17 00 42.4**	**-0.5**
TIXI	**Tiksi**	**92.77**	**1⇑**	eP	**P**	**17 00 46.2**	**+0.1**
TIXI				eS		17 11 20.7	
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.7s,mb4.8						
CMAR	**Chiang Mai Arr**	**132.05**	**46**	PKP	PKPdf	17 06 48.5	-2.3
	comp=Z,0.3nm,0.7s,baz=262,slow=3.4,SNR=4.1						
ASAR	**Alice Springs**	**172.10**	**184**	PKP	PKPdf	17 07 42.9	-2.5
	comp=Z,0.4nm,0.8s,baz=149,slow=1.9,SNR=4.5						
ASAR				PKPab	PKPab	17 09 06.7	-1.0
	comp=Z,0.3nm,0.8s,baz=169,slow=3.4,SNR=5.9						
WRA	**Warramunga Arr**	**175.71**	**193**	PKP	PKPdf	17 07 44.0	-2.7
	comp=Z,1.0nm,0.9s,baz=263,slow=0.8,SNR=6.4						
WRA	**Warramunga Arr**	**175.71**	**193**	PKIKP	PKPdf	17 07 44.0	-2.7
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						

*IDC **11** 17:15:52.7±4.1, 4.86S×103.93E, mb3.3/5, mb1 3.4/5, mb1mx3.3/14, Error ellipse: s-maj=166.0km s-min=22.1km az=56.0*

ISC 11 17:15:46.6±4.4**, 5.6S**±0.7×**10 3E**± **, n5,** σ**1ˢ92**/5**, mb3.3**/5**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**24.19**	**351**	P	**P**	**17 21 08.1**	**+2.2**
	0.1nm,0.4s,mb2.7,baz=186,slow=9.1,SNR=2.8						
WRA	**Warramunga Arr**	**33.68**	**118**	P	**P**	**17 22 32.5**	**+0.9**
	0.2nm,0.7s,mb3.1,baz=306,slow=8.5,SNR=4.7						
ASAR	**Alice Springs**	**34.79**	**124**	P	**P**	**17 22 40.6**	**-0.5**
	0.3nm,0.9s,mb3.2,baz=300,slow=7.6,SNR=4.4						
SONM	**Songino Array**	**53.25**	**3**	P	**P**	**17 25 07.1**	**-2.1**
	0.5nm,0.7s,mb3.5,baz=177,slow=6.5,SNR=4.1						
MKAR	**Makanchi Array**	**55.26**	**343**	P	**P**	**17 25 23.8**	**-0.1**
	1.8nm,1.2s,mb4.0,baz=161,slow=9.7,SNR=4.2						

IDC 11 17:16:15.2±4.5**, 5.91S**×**102.47E, mb3.7**/5**, mb1 3.8**/5**, mb1mx3.7**/13**, MS2.8**/1**, Ms1 3.0**/1**, ms1mx2.4**/21**, Error ellipse: s-maj=177.0km s-min=22.0km az=55.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**24.46**	**352**	P	P	17 21 36.9	-0.2
	0.8nm,0.8s,baz=183,slow=9.4,SNR=5.8						
CMAR				LR	LR	17 32 05.0	
	comp=Z,26nm,21.7s,baz=190,slow=39						
WRA	**Warramunga Arr**	**33.96**	**117**	P	P	17 23 02.1	-0.6
	0.7nm,0.8s,baz=288,slow=10,SNR=4.9						
ASAR	**Alice Springs**	**35.01**	**124**	P	P	17 23 09.1	-2.6
	0.7nm,0.8s,baz=302,slow=7.3,SNR=4.9						
SONM	**Songino Array**	**53.62**	**3**	P	P	17 25 37.6	-2.9
	1.5nm,0.8s,baz=179,slow=8.4,SNR=12						
MKAR	**Makanchi Array**	**55.44**	**343**	P	P	17 25 52.2	-1.7
	1.1nm,0.9s,baz=157,slow=9.2,SNR=5.6						
TXAR	**Lajitas Array**	**146.06**	**44**	PKPbc	PKPbc	17 35 55.7	-2.3
	0.2nm,0.3s,baz=129,slow=3.2,SNR=3.6						

*IDC **11** 17:20:37.1±1.5, 26.33N×128.94E, mb3.6/3, mb1 3.8/3, mb1mx3.5/20, Error ellipse: s-maj=37.4km s-min=10.4km az=50.0*

*JMA **11** 17:20:39.1±0.2, 26.46N×128.90E, h39km±4km, M3.4*

ISC 11 17:20:38.0±1.0**, 26.44N**±0.04×**128.94E**±0.03**, h30**km±8km**, n17,** σ**0ˢ97**/30**, mb3.5**/3**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**0.71**	**304**	Pg	**Pb**	**17 20 52.2**	**+0.3**
	379nm,0.3s,baz=129,slow=17,SNR=1308						
JOW				Lg		17 21 02.6	
	226nm,0.3s,baz=105,slow=26,SNR=6.4						
JOW	**Kunigami**	**0.71**	**304**	P	**Pb**	**17 20 52.2**	**+0.3**
JOW				eS	**Sb**	**17 21 01.0**	**-0.4**
JIH	**Iheya**	**1.05**	**305**	P	**Pn**	**17 20 57.5**	**+0.5**
JIH				eS	**Sn**	**17 21 10.5**	**-0.2**
JJT2	**Tamagusuku 2**	**1.11**	**255**	P	**Pn**	**17 20 58.3**	**+0.6**
JJT2				eS	**Sn**	**17 21 12.4**	**+0.3**
NAH1	**Naha**	**1.15**	**259**	P	**Pn**	**17 20 58.7**	**+0.4**
NAH1				eS	**Sn**	**17 21 12.9**	**-0.1**
JTK	**Tokunoshima**	**1.34**	**0**	P	**Pn**	**17 21 01.9**	**+0.8**
JTK				eS	**Sn**	**17 21 17.4**	**-0.7**
JAGN	**Aguni-jima**	**1.53**	**276**	P	**Pn**	**17 21 03.7**	**0.0**
JAGN				S	**Sn**	**17 21 22.4**	**-0.4**
JKE	**Kume jima 2**	**1.94**	**267**	P	**Pn**	**17 21 09.1**	**-0.4**
JKE				eS	**Sn**	**17 21 32.5**	**-0.6**
JAM	**Amami Oshima**	**2.05**	**17**	P	**Pn**	**17 21 11.7**	**+0.4**
JAM				eS	**Sn**	**17 21 36.4**	**+0.3**
JZK	**Kikaishima**	**2.08**	**26**	P	**Pn**	**17 21 13.0**	**+1.3**
JZK				eS	**Sn**	**17 21 38.7**	**+1.8**
JMZ	**Minamidaito 2**	**2.14**	**106**	P	**Pn**	**17 21 12.8**	**+0.3**
JMZ				S	**Sn**	**17 21 36.6**	**-1.7**
JKC	**Kuchinoerabu**	**4.16**	**15**	P	**Pn**	**17 21 40.8**	**-0.4**
JKC				eS	**Sn**	**17 22 27.3**	**-2.2**
JTJ	**Tarama**	**4.22**	**246**	P	**Pn**	**17 21 40.3**	**-1.9**
JTJ				eS	**Sn**	**17 22 25.9**	**-5.2**
JTN	**Tanegashima 3**	**4.57**	**23**	P	**Pn**	**17 21 46.3**	**-0.7**
JTN				eS	**Sn**	**17 22 36.4**	**-3.4**
SONM	**Songino Array**	**27.73**	**326**	P	**P**	**17 26 27.8**	**+1.9**
	0.3nm,0.5s,mb3.2,baz=146,slow=11,SNR=6.4						
WRA	**Warramunga Arr**	**46.40**	**173**	P	**P**	**17 29 04.2**	**+0.3**
	0.5nm,0.5s,mb3.7,baz=351,slow=8.5,SNR=8.7						
ASAR	**Alice Springs**	**50.04**	**174**	P	**P**	**17 29 33.1**	**+0.9**
	0.5nm,0.6s,mb3.7,baz=6.3,slow=11,SNR=14						

*IDC **11** 17:22:44.3±1.0, 61.87N×133.71E, mb3.5/8, mb1 3.7/8, mb1mx3.5/23, Error ellipse: s-maj=27.3km s-min=24.2km az=105.0*

*NEIC **11** 17:22:45.8±0.6, 61.86N×133.64E, h10km, Error ellipse: s-maj=15.9km s-min=13.0km az=187.0*

*MOS **11** 17:22:47.5±3.1, 61.47N×133.16E, h33km, mb4.1/3, Error ellipse: s-maj=36.0km s-min=19.3km az=97.7*

ISC 11 17:22:44.2±0.8**, 61.9N**±0.1×**133.8E**±0.2**, h10**km**, n16,** σ**0ˢ52**/17**, mb3.6**/7**, 2D, Eastern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YAK	**Yakutsk**	**1.93**	**275d**	iP	**Pn**	**17 23 18.2**	**+0.7**
YAK	**Yakutsk**	**1.93**	**275**	i Pr	**Pn**	**17 23 18.2**	**+0.7**
YAK				eS	**Sn**	**17 23 42.1**	**0.0**
SEY	**Seymchan**	**8.69**	**75**	eP	**P**	**17 25 01.9**	**+9.0**
SEY				e		17 26 45.8	
TIXI	**Tiksi**	**9.97**	**351⇓**	eP	**P**	**17 25 20.6**	**+10**
SONM	**Songino Array**	**20.91**	**240**	P	**P**	**17 27 29.3**	**+0.3**
	0.6nm,1.0s,baz=40,slow=11,SNR=3.1						
MKAR	**Makanchi Array**	**32.59**	**266**	P	**P**	**17 29 16.3**	**-1.2**
	0.4nm,0.7s,mb3.5,baz=28,slow=10,SNR=3.0						
MKAR	**Makanchi Array**	**32.59**	**266**	P	**P**	**17 29 16.3**	**-1.1**
ILAR	**Eielson Array**	**33.55**	**50**	P	**P**	**17 29 26.1**	**+0.5**
	0.3nm,0.6s,mb3.4,baz=297,slow=5.8,SNR=7.3						
FINES	**FINESS Array B**	**45.30**	**320**	P	**P**	**17 31 02.9**	**-0.2**
	0.5nm,0.6s,mb3.6,baz=30,slow=11,SNR=4.0						
FINES	**FINESS Array B**	**45.30**	**320**	P	**P**	**17 31 02.9**	**-0.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**49.79**	**328**	P	**P**	**17 31 38.0**	**-0.2**
	comp=Z,0.7nm,0.8s,mb3.8,baz=21,slow=10,SNR=2.8						
NOA	**NORSAR Array B**	**49.79**	**328**	P	**P**	**17 31 38.0**	**-0.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
HFS	**Hagfors**	**49.92**	**326**	P	**P**	**17 31 39.2**	**0.0**
	comp=Z,3.0nm,0.9s,mb4.3,baz=45,slow=2.1,SNR=5.1						
HFS	**Hagfors**	**49.92**	**326**	P	**P**	**17 31 39.2**	**0.0**
HFS				pmax	pmax		
	comp=Z,3.0nm,0.9s						
WRA	**Warramunga Arr**	**81.57**	**179**	P	**P**	**17 35 02.7**	**-0.5**
	comp=Z,0.1nm,0.4s,mb3.1,baz=359,slow=5.8,SNR=4.7						
ASAR	**Alice Springs**	**85.28**	**180**	P	**P**	**17 35 22.4**	**+0.5**
	comp=Z,0.4nm,1.0s,mb3.5,baz=5.7,slow=6.4,SNR=5.8						

CASC 11 17:57:54.1±2.4**, 12.87N**×**88.90W, h51**km±38km**, MD4.0, ML3.7, 14C-9D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNVI	**San Vicente**	**0.74**	**4**	eP	P	17 58 08.6	+0.2
SNVI				eS	S	17 58 20.7	+1.7
LFRS	**El Faro**	**0.76**	**348⇑**	eP	P	17 58 08.4	-0.4
LFRS				eS	S	17 58 22.6	+3.0
LCBS	**La Ceiba**	**0.78**	**354⇑**	iP	P	17 58 08.7	-0.3
VSM	**San Miguel**	**0.82**	**48⇑**	eP	P	17 58 09.8	+0.3
VSM				eS	S	17 58 22.8	+1.9
BLLM	**Bellamira**	**0.86**	**48⇑**	eP	P	17 58 09.9	-0.1
BLLM				eS	S	17 58 20.5	-1.3
LBRS	**Las Brisas**	**0.87**	**351⇓**	eP	P	17 58 10.5	+0.2
LBRS				eS	S	17 58 22.6	+0.3
SNET	**Serv Nac Est T**	**0.87**	**338⇓**	eP	P	17 58 10.0	-0.2
SNET				eS	S	17 58 22.5	+0.2
LFU	**La Fuente**	**0.90**	**346⇑**	eP	P	17 58 10.5	-0.1
LFU				eS	S	17 58 23.9	+1.1
BOQS	**Boqueron**	**0.94**	**336⇑**	iP	P	17 58 11.2	+0.1
BOQS				eS	S	17 58 24.7	+0.9
CNCH	**Conchagua**	**1.11**	**69⇑**	eP	P	17 58 13.2	-0.3
CNCH				eS	S	17 58 29.4	+1.4
CAHU	**Cacacuatique**	**1.11**	**37⇑**	eP	P	17 58 14.2	+0.5
CAHU				eS	S	17 58 30.4	+2.2
SBLS	**San Blas**	**1.19**	**324⇓**	eP	P	17 58 14.7	0.0
SBLS				eS	S	17 58 31.1	+1.0
SNJE	**San Jose**	**1.21**	**325⇑**	eP	P	17 58 14.8	-0.1
SNJE				eS	S	17 58 30.4	-0.1
RTR	**El Retiro**	**1.25**	**324⇑**	eP	P	17 58 15.7	+0.1
RTR				eS	S	17 58 32.7	+1.1
CUSS	**Cusmapa**	**1.45**	**315⇓**	eP	P	17 58 17.9	-0.6
CUSS				eS	S	17 58 36.2	-0.3
RBDL	**Robledal**	**1.45**	**328**	eP	P	17 58 18.6	+0.1
MTO2	**Montecristo 2**	**1.58**	**343⇑**	eP	P	17 58 20.5	+0.2
MTO2				eS	S	17 58 40.4	+0.6
CRIN	**San Cristobal**	**1.81**	**95⇓**	eP	P	17 58 23.9	+0.5
IXG	**Ixpaco**	**1.99**	**311⇓**	eP	P	17 58 25.1	-0.9
IXG				eS	S	17 58 48.6	-1.2
IXG				AML	AML	17 58 58.9	
	comp=E,4μm,0.4s						
LEON	**Leon**	**2.01**	**103⇓**	eP	P	17 58 25.2	-1.0
TEL3	**Telica 3**	**2.02**	**98**	eP	P	17 58 26.1	-0.3
TEL3				eS	S	17 58 50.7	+0.1
TEL3				i		17 58 52.0	
	comp=Z,508nm,0.2s						
TELN	**Telica**	**2.03**	**97**	eP	P	17 58 26.1	-0.5
MIRN	**Miramar**	**2.17**	**101**	eP	P	17 58 28.2	-0.4
MOMJ	**Momotombo**	**2.34**	**101⇓**	iP	P	17 58 30.7	-0.4
MOMJ				eS	S	17 58 57.5	-1.2
COPN	**Copaltepe**	**2.35**	**107⇑**	eP	P	17 58 30.3	-0.9
COPN				eS	S	17 58 58.7	-0.3
APYN	**Apoyeque**	**2.57**	**104⇑**	eP	P	17 58 33.6	-0.6
MGAN	**Managua**	**2.69**	**105**	eS	S	17 59 04.6	-2.8
TP2	**Tecpan 2**	**2.81**	**313**	eP	P	17 58 39.3	+1.7
TP2				eS	S	17 59 12.2	+1.7
TP2				AML	AML	17 59 27.0	
	comp=E,173nm,0.4s						
JAT	**Jato**	**3.03**	**299**	eP	P	17 58 40.2	-0.6
JAT				AML	AML	17 59 18.0	
	comp=E,277nm,0.3s						
JCR	**Jicaral**	**4.77**	**129**	eP	P	17 59 04.2	-1.2
CGA2	**Cerro Gallo 2**	**5.19**	**123**	eP	P	17 59 11.9	+0.8
CGA2				eS	S	18 00 08.2	-2.2
PRS1	**Puriscal**	**5.33**	**122**	eP	P	17 59 13.7	+0.5
LCR2	**La Lucha 2**	**5.72**	**122**	eP	P	17 59 18.5	0.0
URSC	**Urasca**	**5.86**	**120⇑**	eP	P	17 59 21.9	+1.4
BUS	**Buena Vista**	**6.02**	**123⇓**	eP	P	17 59 23.6	+0.9

*CASC **11** 18:03:59.1±3.0, 13.49N×88.91W, h140km±10km, MD4.1, ML3.8*

*UCR **11** 18:04:02.1, 13.50N×88.69W, h30km, MD4.7*

ISC 11 18:03:59.2±0.6**, 13.4N**±0.1×**88.94W**±0.06**, h139**km±7km**, n41,** σ**0ˢ98**/63**, 18C-9D, El Salvador**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNVI	**San Vicente**	**0.20**	**30⇑**	eP	**P**	**18 04 18.4**	**-0.2**
LFRS	**El Faro**	**0.22**	**328⇑**	iP	**P**	**18 04 18.3**	**-0.4**
LFRS				eS	**S**	**18 04 33.7**	**+0.1**
LCBS	**La Ceiba**	**0.22**	**351⇑**	eP	**P**	**18 04 18.1**	**-0.6**
LBRS	**Las Brisas**	**0.32**	**342⇑**	eP	**P**	**18 04 18.6**	**-0.5**
LFU	**La Fuente**	**0.35**	**332⇑**	eP	**P**	**18 04 18.8**	**-0.4**
SNET	**Serv Nac Est T**	**0.38**	**312**	eP	**P**	**18 04 18.8**	**-0.5**
BOQS	**Boqueron**	**0.44**	**312⇑**	eP	**P**	**18 04 19.1**	**-0.5**
BLLM	**Bellamira**	**0.69**	**89**	eP	**P**	**18 04 18.2**	**-2.7**
SBLS	**San Blas**	**0.77**	**301⇑**	eP	**P**	**18 04 21.4**	**-0.1**
SNJE	**San Jose**	**0.77**	**304⇑**	eP	**P**	**18 04 21.3**	**-0.2**
SNJE				eS	**S**	**18 04 41.4**	**+2.8**
CAHU	**Cacacuatique**	**0.79**	**65⇑**	eP	**P**	**18 04 21.3**	**-0.3**
CAHU				eS	**S**	**18 04 39.1**	**+0.3**
RTR	**El Retiro**	**0.82**	**304**	eP	**P**	**18 04 22.0**	**+0.1**
RTR				eS	**S**	**18 04 39.4**	**+0.2**
RBDL	**Robledal**	**0.99**	**313**	eP	**P**	**18 04 23.1**	**0.0**
RBDL				eS	**S**	**18 04 41.2**	**-0.2**
MTO2	**Montecristo 2**	**1.04**	**337⇓**	eP	**P**	**18 04 23.1**	**-0.5**
MTO2				eS	**S**	**18 04 42.0**	**-0.2**
CUSS	**Cusmapa**	**1.08**	**296**	eP	**P**	**18 04 23.4**	**-0.6**
CUSS				eS	**S**	**18 04 42.6**	**-0.4**
CNCH	**Conchagua**	**1.09**	**98⇑**	eP	**P**	**18 04 24.0**	**0.0**
CNCH				eS	**S**	**18 04 44.1**	**+0.9**
IXG	**Ixpaco**	**1.64**	**297⇓**	eP	**P**	**18 04 29.2**	**-0.7**
IXG				eS	**S**	**18 04 55.2**	**+1.7**
IXG				AML	AML	18 05 00.8	
	comp=N,3μm,0.3s						
NBG	**Las Nubes**	**1.78**	**310⇓**	eP	**P**	**18 04 31.4**	**-0.1**
NBG				eS	**S**	**18 04 56.1**	**-0.1**
FUG	**Fuego 3**	**2.10**	**299**	eP	**P**	**18 04 34.9**	**-0.4**
FUG				eS	**S**	**18 05 06.6**	**+3.6**
TEL3	**Telica 3**	**2.22**	**113**	eP	**P**	**18 04 38.0**	**+1.1**
TELN	**Telica**	**2.22**	**112**	eS	**S**	**18 05 07.1**	**+1.5**
LEON	**Leon**	**2.24**	**117⇑**	eP	**P**	**18 04 37.7**	**+0.6**
LEON				eS	**S**	**18 05 06.6**	**+0.5**
CNGN	**Cerro Negro**	**2.38**	**113⇑**	eP	**P**	**18 04 39.1**	**+0.2**
CNGN				eS	**S**	**18 05 09.5**	**+0.3**
MIRN	**Miramar**	**2.39**	**114⇓**	eP	**P**	**18 04 39.5**	**+0.5**
MIRN				eS	**S**	**18 05 06.6**	**-2.9**
TP2	**Tecpan 2**	**2.42**	**304⇓**	eP	**P**	**18 04 39.4**	**0.0**
TP2				eS	**S**	**18 05 14.6**	**+4.5**
TP2				AML	AML	18 05 19.1	
	comp=E,281nm,0.3s						
MOMJ	**Momotombo**	**2.56**	**113⇑**	eP	**P**	**18 04 41.5**	**+0.3**
MOMJ				eS	**S**	**18 05 12.4**	**-0.7**
COPN	**Copaltepe**	**2.61**	**118⇑**	eP	**P**	**18 04 42.9**	**+1.0**
COPN				eS	**S**	**18 05 12.6**	**-1.8**
JAT	**Jato**	**2.76**	**289**	eP	**P**	**18 04 43.5**	**-0.3**
JAT				eS	**S**	**18 05 17.6**	**-0.2**
JAT				AML	AML	18 05 24.2	
	comp=E,549nm,0.2s						
APYN	**Apoyeque**	**2.80**	**115**	eP	**P**	**18 04 45.0**	**+0.7**
APYN				eS	**S**	**18 05 19.0**	**+0.3**
MGAN	**Managua**	**2.93**	**116**	eS	**S**	**18 05 22.1**	**+0.5**
MGAN				i		18 05 22.7	
	comp=E,290nm,0.3s						
PYTN	**Playitas**	**2.95**	**107⇓**	eP	**P**	**18 04 46.1**	**-0.2**
TICN	**Ticuantepe**	**2.99**	**117⇓**	eP	**P**	**18 04 48.4**	**+1.6**
TICN				eS	**S**	**18 05 20.2**	**-2.9**
APON	**Apoyo**	**3.19**	**118**	eP	**P**	**18 04 51.3**	**+1.9**
VCR	**Vista de Mar**	**4.62**	**135⇓**	eP	**P**	**18 05 09.1**	**+0.8**
JCR	**Jicaral**	**5.18**	**133⇑**	eP	**P**	**18 05 16.8**	**+1.0**
CGA2	**Cerro Gallo 2**	**5.55**	**127⇑**	eP	**P**	**18 05 21.3**	**+0.6**
PRS1	**Puriscal**	**5.69**	**127⇑**	eP	**P**	**18 05 23.8**	**+1.2**
PRS1				eS	**S**	**18 06 25.3**	**-2.0**
TRTC	**Tortuguero**	**5.85**	**119**	eP	**P**	**18 05 23.8**	**-1.1**
LAJ	**Bijagual**	**5.91**	**126⇑**	eP	**P**	**18 05 23.1**	**-2.4**
LCR2	**La Lucha 2**	**6.08**	**127⇓**	eP	**P**	**18 05 28.4**	**+0.6**
LCR2				eS	**S**	**18 06 34.8**	**-1.8**
URSC	**Urasca**	**6.20**	**125**	i P	**P**	**18 05 30.1**	**+0.6**

IDC 11 18:12:12.8±2.2**, 5.94N**×**127.53E, mb3.6**/4**, mb1 3.8**/4**, mb1mx3.5**/16**, Error ellipse: s-maj=171.0km s-min=24.9km az=66.0, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.57**	**166**	P	P	18 17 53.9	-0.8
	0.6nm,0.4s,baz=346,slow=10,SNR=8.4						
ASAR	**Alice Springs**	**30.07**	**168**	P	P	18 18 23.5	-2.8
	0.2nm,0.5s,baz=353,slow=7.1,SNR=6.5						
STKA	**Stephens Creek**	**39.92**	**161**	P	P	18 19 48.1	-2.4
	1.7nm,0.9s,baz=342,slow=9.7,SNR=3.5						
MKAR	**Makanchi Array**	**56.23**	**324**	P	P	18 21 54.9	-2.3
	0.3nm,0.4s,baz=125,slow=8.6,SNR=6.6						

*GUC **11** 18:12:50.5±0.9, 28.96S×68.89W, h120km, ML4.5*

*NEIC **11** 18:12:50.5±0.9, 28.99S×68.70W, h110km±32km, mb3.6/1, Error ellipse: s-maj=27.5km s-min=8.5km az=80.0*

ISC 11 18:12:49.8±0.9**, 28.96S**±0.04×**68.8W**±0.2**, h122**km±27km**, n13,** σ**0ˢ92**/20**, 1C-3D, La Rioja Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**1.75**	**282**	eP	**P**	**18 13 21.7**	**+1.0**
VACH				i S	**S**	**18 13 44.3**	**+0.1**
VACH				AMP		18 13 47.4	
	comp=N,9μm,0.1s						
CPCH	**Copiapo**	**2.09**	**319⇓**	iP	**P**	**18 13 25.6**	**+0.6**
CPCH				i S	**S**	**18 13 50.8**	**-0.8**
TLL	**Tololo Astrono**	**2.11**	**235⇓**	iP	**P**	**18 13 26.9**	**+1.7**
TLL				i S	**S**	**18 13 53.2**	**+1.1**
TLL				AMP		18 13 55.2	
	comp=E,921nm,0.2s						
LSCH	**La Serena**	**2.32**	**245**	eP	**P**	**18 13 27.6**	**-0.4**
LSCH				i S	**S**	**18 13 55.8**	**-1.2**
LSCH				AMP		18 14 01.7	
	comp=E,701nm,0.3s						
CMCH	**Combarbala**	**2.91**	**220⇑**	iP	**P**	**18 13 36.1**	**+0.2**
CMCH				i S	**S**	**18 14 09.9**	**-0.9**
CMCH				AMP		18 14 11.8	
	comp=N,2μm,0.7s						
PEL	**Peldehue**	**4.47**	**201**	eP	**P**	**18 13 56.4**	**-0.4**
FCH	**Farellones**	**4.54**	**196⇓**	iP	**P**	**18 13 58.5**	**+0.7**
FCH				i S	**S**	**18 14 50.0**	**+0.1**
FCH				AMP		18 14 55.6	
	comp=E,303nm,0.2s						
CPN1	**Cerro Paranal**	**4.54**	**341**	eP	**P**	**18 13 58.4**	**+0.6**
CPN1				i S	**S**	**18 14 48.2**	**-1.7**
CPN1				AMP		18 15 01.9	
	comp=E,193nm,0.3s						
CLCH	**Cerro Calan**	**4.67**	**198**	eP	**P**	**18 13 58.7**	**-0.7**
LMEL	**Las Melosas**	**5.02**	**193**	eP	**P**	**18 13 55.6**	**-8.5**
TRQA	**Tornquist**	**10.72**	**150**	ePn	**P**	**18 15 19.6**	**-1.3**
LPAZ	**La Paz**	**12.62**	**3**	ePn	**P**	**18 15 47.4**	**+1.4**
SAML	**Samuel**	**20.59**	**16**	eP	**P**	**18 17 20.9**	**-0.1**
	comp=E,2.8nm,0.8s						

*IDC **11** 18:14:15.7±0.5, 17.12S×167.85E, mb4.9/16, mb1 5.0/16, mb1mx5.0/19, MS5.4/18, Ms1 5.5/18, ms1mx5.5/18, Error ellipse: s-maj=13.2km s-min=10.4km az=27.0*

*LDG **11** 18:14:17.9±0.1, 17.06S×167.18E, h10km, Mb5.5/4, Ms5.4/8, Error ellipse: s-maj=16.9km s-min=4.0km az=90.0*

*BJI **11** 18:14:17.1, 17.13S×168.38E, h33km, mB5.6, mb5.1, Ms5.5, Msz5.3*

*MOS **11** 18:14:19.1±1.8, 17.23S×167.83E, h33km, mb5.4/19, MS5.4/22, Error ellipse: s-maj=16.8km s-min=12.4km az=124.7*

*SYO **11** 18:14:19.5, 17.19S×167.78E, h25km, MB5.2, MS5.5*

*NEIC **11** 18:14:19.5±0.2, 17.22S×167.80E, h25km, mb5.2/30, MS5.5/20, MW5.8, Error ellipse: s-maj=7.4km s-min=6.6km az=118.0, Moment Tensor Solution. s40 Moment tensor: Scale 10^{17}Nm; M_{rr}4.63; $M_{\theta\theta}$-1.68; $M_{\phi\phi}$-2.95; $M_{r\theta}$0.40; $M_{\theta\phi}$-2.98; $M_{\phi r}$-3.94; Best double couple: $M_0$6.4×10^{17} NP1:ϕ_s61°,δ35°,λ131°. NP2:ϕ_s194°,δ65°,λ65°. Principal axes: T 6.62, Plg62°, Azm65°; N -.44, Plg22°, Azm206°; P -6.18, Plg16°, Azm302°;*

*HRVD **11** 18:14:19.5±0.1, 17.22S×167.66E, h26km, MW5.8/78, Centroid moment Tensor Solution. LP body waves: s76,c169;Mantle waves: s78,c178; Half duration: 2ˢ0 Moment tensor: Scale 10^{17}Nm; M_{rr}5.22±.08; $M_{\theta\theta}$0.48±.06; $M_{\phi\phi}$-5.70±.06; $M_{r\theta}$1.69±.15; $M_{\theta\phi}$0.84±.05; $M_{\phi r}$-3.57±.14; Best double couple: $M_0$6.8×10^{17} NP1:ϕ_s4°,δ29°,λ110°. NP2:ϕ_s162°,δ63°,λ79°. Principal axes: T 6.6, Plg70°, Azm49°; N .39, Plg10°, Azm167°; P -6.99, Plg17°, Azm260°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 11 18:14:15.1±3.3**, 17.23S**±0.05×**167.76E**±0.05**, h6**km±20km**, h29**km±2.0km**:pP-P, n390,** σ**1ˢ03**/151**, mb5.2**/61**, MS5.4**/56**, 33C-12D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**0.64**	**133⇓**	iP	**Pb**	**18 14 29.1**	**+0.9**
BKM				S	**Sb**	**18 14 37.2**	**+0.1**
DZM	**Mont Dzumac**	**4.97**	**194**	eP	**Pn**	**18 15 31.2**	**-1.0**
DZM				eS	**Sn**	**18 16 25.5**	**-5.2**
DZM	**Mont Dzumac**	**4.97**	**194**	eP	**Pn**	**18 15 31.2**	**-1.0**
DZM				eS	**Sn**	**18 16 25.5**	**-5.2**
NOUC	**Port Laguerre**	**5.04**	**196**	eP	**Pn**	**18 15 31.9**	**-1.1**
NOUC				eS	**Sn**	**18 16 27.1**	**-5.2**
AFI	**Afiamalu**	**19.99**	**83**	eP	**P**	**18 18 50.4**	**-0.9**
AFI				pmax	pmax		
	comp=Z,40nm,0.8s						
AFI	**Afiamalu**	**19.99**	**83**	eP	**P**	**18 18 50.4**	**-0.9**
	comp=Z,40nm,0.8s						
CTA	**Charters Tower**	**20.57**	**259**	P	**P**	**18 18 58.3**	**+1.0**
	comp=Z,50nm,0.9s,baz=91,slow=12,SNR=28						
CTA				S	**S**	**18 22 51.1**	**+8.5**
	comp=Z,15nm,1.1s,baz=4.0,slow=20,SNR=3.0						
CTA				LR	LR	18 25 58.9	
	comp=Z,18μm,20.2s,MS5.4,baz=61,slow=34						
CTAO	**Charters Tower**	**20.57**	**259**	eP	**P**	**18 18 57.9**	**+0.5**
CTAO				pmax	pmax		
	comp=Z,67nm,1.0s						
CTAO	**Charters Tower**	**20.57**	**259**	eP	**P**	**18 18 57.9**	**+0.5**
	comp=Z,67nm,0.9s						
PMG	**Port Moresby**	**21.48**	**289**	P	**P**	**18 19 07.2**	**+0.4**
	comp=Z,17nm,0.9s,mb4.4						
PMG				S	**S**	**18 23 09.3**	**+9.0**
	comp=Z,9.9nm,1.0s,baz=245,slow=22,SNR=1.9						
PMG				LR	LR	18 26 17.2	
	comp=Z,14μm,19.2s,MS5.4,baz=100,slow=34						
PMG	**Port Moresby**	**21.48**	**289**	eP	**P**	**18 19 08.9**	**+2.1**
PMG				pmax	pmax		
	comp=Z,140nm,1.4s						
PMG	**Port Moresby**	**21.48**	**289**	eP	**P**	**18 19 08.9**	**+2.1**
	comp=Z,138nm,1.4s,mb5.1						
URZ	**Urewera**	**22.50**	**160**	P	**P**	**18 19 18.6**	**+1.8**
	comp=Z,42nm,0.8s,mb4.9,baz=343,slow=6.3,SNR=18						
URZ				S	**S**	**18 23 29.1**	**+10**
	comp=Z,7.3nm,0.9s,baz=317,slow=23,SNR=2.3						
URZ				LR	LR	18 26 47.8	
	comp=Z,18μm,18.9s,MS5.5,baz=357,slow=33						
WAU	**Wau**	**22.76**	**293**	eP	**P**	**18 19 22.7**	**+3.1**
RPZ	**Rata Peaks**	**26.55**	**175**	P	**P**	**18 19 55.5**	**0.0**
	comp=Z,124nm,1.5s,mb5.2,baz=278,slow=3.6,SNR=6.5						
RPZ				LR	LR	18 27 27.4	
	comp=Z,3μm,18.6s,MS4.8,baz=229,slow=30						
STKA	**Stephens Creek**	**27.81**	**234**	P	**P**	**18 20 07.3**	**+0.2**
	comp=Z,14nm,0.6s,mb4.8,baz=56,slow=8.5,SNR=41						
STKA				PcP	PcP	18 23 22.8	-1.0
	comp=Z,9.9nm,0.8s,baz=105,slow=2.6,SNR=3.0						
STKA				LR	LR	18 30 55.5	
	comp=Z,15μm,18.3s,MS5.6,baz=58,slow=36						
STKA	**Stephens Creek**	**27.81**	**234**	eP	**P**	**18 20 06.9**	**-0.2**
RAR	**Rarotonga**	**30.88**	**103**	LR	LR	18 30 02.5	
	comp=Z,5μm,21.6s,MS5.1,baz=270,slow=31						
WRAB	**Tennant Creek**	**31.75**	**260**	P	**P**	**18 20 41.4**	**-1.0**
	comp=Z,142nm,0.7s,mb5.9,SNR=14						
WRAB	**Tennant Creek**	**31.75**	**260**	eP	**P**	**18 20 40.7**	**-1.6**
	comp=Z,30nm,0.9s,mb5.1						
WRA	**Warramunga Arr**	**31.76**	**260**	P	**P**	**18 20 41.3**	**-1.1**
	comp=Z,12nm,0.7s,mb4.8,baz=90,slow=9.3,SNR=102						
WRA				PcP	PcP	18 23 32.9	-1.1
	comp=Z,5.1nm,0.8s,baz=92,slow=3.0,SNR=4.7						
WRA				PKiKP		18 30 60.0	

comp=Z,0.5nm,0.8s,baz=337,slow=0.4,SNR=7.2
WRA LR LR 18 32 55.7
comp=Z,9μm,19.7s,MS5.5,baz=85,slow=35
ASAR Alice Springs 32.31 253 P **P 18 20 45.9 -1.3**
comp=Z,32nm,0.6s,mb5.3,baz=77,slow=8.1,SNR=289
ASAR PcP PcP 18 23 35.0 -0.4
comp=Z,4.7nm,0.8s,baz=114,slow=2.2,SNR=5.4
ASAR PKiKP 18 31 00.5
comp=Z,0.5nm,0.8s,baz=78,slow=2.1,SNR=7.5
ASAR LR LR 18 33 29.6
comp=Z,14μm,18.7s,MS5.7,baz=77,slow=36
FITZ Fitzroy Crossi 40.08 262 P **P 18 21 53.4 +0.2**
comp=Z,58nm,0.8s,mb5.4,baz=145,slow=5.2,SNR=69
FITZ LR LR 18 38 10.9
comp=Z,7μm,18.8s,MS5.5,baz=98,slow=36
TBI Tubuai 40.48 106 *e*S **S 18 28 23.2 +18**
TBI *e*L 18 31 42.5
TBI *e*R 18 33 23.0
comp=Z,8μm,26.0s,baz=274
PPT Papeete 40.65 97 *e*S **S 18 28 23.8 +16**
PPT *e*L 18 31 48.6
PPT *e*R 18 33 30.1
comp=Z,9μm,23.0s,baz=262
MBWA Marble Bar 45.39 257 *e*P **P 18 22 36.8 +0.3**
comp=Z,41nm,0.7s,mb5.4
NWAO Narrogin (SRO) 47.91 241 LR LR 18 41 54.9
comp=Z,6μm,21.9s,MS5.5,baz=94,slow=34
KEDI Kedomdong 50.96 273⇑*i*P **P 18 23 19.6 -0.3**
comp=Z,32nm,0.8s,mb5.3
RATI Rata 51.46 273⇑*i*P **P 18 23 22.7 -1.0**
comp=Z,232nm,0.8s,mb6.2
KELI Kelakatan 52.58 273⇑*i*P **P 18 23 37.5 +5.3**
comp=Z,33nm,0.5s,mb5.5
DRV Dumont d'Urvil 52.63 193 P **P 18 23 37.0 +5.2**
DRV SP SP 18 31 04.0 -3.2
DRV R 18 39 00.0
SRDI Scrawed 52.85 272⇓*i*P **P 18 23 33.6 -0.6**
comp=Z,12nm,0.6s,mb5.0
RKT Rikitea 53.80 106 *e*S Sx 18 31 34.3
RKT *e*L 18 37 28.5
RKT *e*R 18 39 24.1
comp=Z,6μm,26.8s
KKM Kota Kinabalu 55.92 290 *e*P **P 18 23 58.0 +1.4**
MAJO Matsushiro 60.33 333 *e*P **P 18 24 25.6 -1.7**
MAJO pmax pmax
comp=Z,17nm,1.0s,mb5.0
MAJO Matsushiro 60.33 333 *e*P **P 18 24 25.6 -1.7**
comp=Z,17nm,0.9s,mb5.1
MAJO *e* 18 25 25.1
MAT Matsushiro 60.33 333 P **P 18 24 24.9 -2.4**
MAT S **S 18 32 37.0 -3.4**
MAT Matsushiro 60.33 333 *e*P **P 18 24 25.0 -2.3**
comp=Z,14nm,1.0s,mb5.0
MAT *e*S **S 18 32 30.0 -10**
MAT LR LR
comp=Z,1μm,20.0s,MS5.0
SBA Scott Base 60.65 180 *e*P **P 18 24 28.4 -0.6**
comp=Z,49nm,1.0s,mb5.6
SBA LR LR
comp=Z,1μm,20.0s,MS5.0
CASY Casey 61.41 203 *e*P **P 18 24 33.0 -1.2**
comp=Z,14nm,0.8s,mb5.1
CASY LR LR
comp=Z,4μm,21.0s,MS5.5
PASI Pasiripis 61.49 272 *e*P **P 18 24 34.5 -0.9**
PENI Pendagan 62.20 273⇑*i*P **P 18 24 39.5 -0.8**
comp=Z,26nm,0.7s,mb5.5
ASAJ Asahikawa 65.24 340 P **P 18 24 59.6 -0.1**
comp=Z,6.5nm,0.5s,mb4.9,baz=281,slow=5.2,SNR=2.7
KS15 Wonju Array Si 66.07 326 P **P 18 25 04.2 -1.0**
QIZ Qiongzhong 67.37 300 P **P 18 25 14.0 +0.3**
QIZ AP pP 18 25 22.2 +6.5
QIZ PP PP 18 27 44.2 +0.2
QIZ S S 18 34 08.3 +0.2
QIZ PS PS 18 34 33.8 +1.8
QIZ AMB AMB
comp=Z,355nm,8.8s
QIZ LR LR
comp=E,1μm,16.9s
QIZ LR LR
comp=Z,2μm,24.0s
YSS Yuzh-Sakhalins 67.73 342 *e*P **P 18 25 19.9 +4.3**
YSS *e* 18 25 26.9
YSS *e* 18 25 39.0
YSS *e*S S 18 34 12.0 -0.1
YSS *e*PPS PPS 18 34 42.0 -5.8
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.3
YSS smax
comp=E,1μm,13.0s
YSS MLR MLR
comp=Z,2μm,19.0s,MS5.3
YSS MLR MLR
comp=N,1μm,18.0s
YSS Yuzh-Sakhalins 67.73 342 *e*P **P 18 25 19.9 +4.3**
comp=N,30nm,1.0s,mb5.3
YSS *e* 18 25 26.9
YSS *e* 18 25 39.0
YSS *e*S S 18 34 12.0 -0.1
YSS *e*PPS PPS 18 34 42.0 -5.8
YSS LR LR
comp=Z,2μm,19.0s,MS5.3
NJ2 Nanjing 67.79 316 *e*P **P 18 25 16.9 +0.7**
NJ2 AP pP 18 25 27.2 +9.0
NJ2 XP sP 18 25 31.5 +13
NJ2 PP PP 18 27 49.4 +1.8
NJ2 S S 18 34 15.0 +2.0
NJ2 AMB AMB
comp=Z,60nm,1.0s,mb5.6
NJ2 LR LR
comp=N,2μm,20.0s,MS5.7
NJ2 LR LR
comp=E,3μm,19.1s,MS5.7
NJ2 LR LR
comp=Z,3μm,21.9s,MS5.5
MIR Mirnyy 68.26 205*k*e*P* **P 18 25 12.5 -6.0**
MIR *e* 18 25 20.0
MIR *e* 18 27 52.0
MIR *e*S S 18 34 18.0 0.0
MIR pmax pmax
comp=Z,800nm,6.5s
MIR pmax pmax
comp=Z,140nm,1.8s,mb5.7
MIR smax
comp=N,900nm,13.0s
MIR smax
comp=E,700nm,9.0s
MIR MLR MLR
comp=N,700nm,16.0s,MS5.2
MIR MLR MLR
comp=E,800nm,16.0s,MS5.2
MIR MLR MLR
comp=Z,2μm,16.0s,MS5.4
SKR Severo-Kuril's 68.39 352 *e*P **P 18 25 15.0 -4.6**
SKR *e* 18 25 32.0
SKR *e*PPP PPP 18 29 28.0 -2.0
SKR *e*S S 18 34 20.0 +0.2
SKR *e*PS PS 18 34 51.0 +5.6
SKR pmax pmax
comp=Z,2μm,8.0s
SKR pmax pmax
comp=N,2μm,6.0s
SKR pmax pmax
comp=E,2μm,6.0s
SKR smax
comp=N,2μm,14.0s
SKR smax
comp=E,3μm,14.0s
SKR MLR MLR
comp=N,2μm,18.0s
SKR MLR MLR
comp=Z,3μm,18.0s,MS5.5
VLA Vladivostok 68.49 333 *i* P **P 18 25 24.0 +3.6**
VLA *i* 18 25 44.0
VLA *i* 18 27 50.0
VLA *i* PS PS 18 34 48.0 +1.1
VLA *i* 18 35 10.0
VLA pmax pmax
comp=Z,1μm,4.0s
VLA pmax pmax
comp=N,500nm,8.0s
VLA pmax pmax
comp=E,200nm,8.0s
VLA pmax pmax
comp=Z,500nm,6.0s
IPM Ipoh 69.33 282⇓*e*P **P 18 25 26.3 +0.3**

WHN Wuhan 69.96 312 *e*P **P 18 25 29.0 -0.6**
WHN S S 18 34 39.0 +0.2
WHN AMB AMB
comp=Z,467nm,9.0s
WHN LR LR
comp=Z,3μm,24.9s,MS5.5
FX1 Attu Island--F 69.97 3 *e*P **P 18 25 28.6 -0.7**
PET Petropavlovsk 70.40 354*c i*P **P 18 25 29.2 -2.7**
PET *e* 18 25 44.8
PET *i* S S 18 34 45.2 +1.6
PET *e*PPS PPS 18 35 23.1 -1.4
PET *e*SS SS 18 39 12.2 -3.7
PET *e*SSS SSS 18 42 24.5 +3.2
PET pmax pmax
comp=Z,300nm,12.2s
PET pmax pmax
comp=Z,700nm,16.8s
PET smax
comp=N,200nm,16.5s
PET smax
comp=E,600nm,16.4s
PET MLR MLR
comp=Z,1μm,17.0s,MS5.3
PET MLR MLR
comp=Z,1μm,18.0s
PET Petropavlovsk 70.40 354⇑*i*P **P 18 25 29.2 -2.7**
PET *e* 18 25 44.8
PET *i* S S 18 34 45.2 +1.6
PET *e*PPS PPS 18 35 23.1 -1.4
PET *e*SS SS 18 39 12.2 -3.7
PET *e*SSS SSS 18 42 24.5 +3.2
PET LR LR
comp=Z,1μm,17.0s,MS5.3
DL2 Dalian 70.57 323 P **P 18 25 33.9 +0.7**
DL2 XP sP 18 25 47.2 +11
DL2 S S 18 34 46.2 +0.4
DL2 AMB AMB
comp=Z,30nm,0.8s,mb5.3
DL2 AMB AMB
comp=Z,360nm,8.8s
DL2 LR LR
comp=N,640nm,17.7s,MS5.0
DL2 LR LR
comp=E,520nm,19.2s,MS5.0
SNG Songkhla 70.62 284 P **P 18 25 34.0 +0.1**
MDJ Mudanjiang 70.69 332 P **P 18 25 32.9 -0.9**
MDJ AP pP 18 25 39.4 +3.5
MDJ PCP PcP 18 25 53.8 -1.1
MDJ PP PP 18 28 09.5 -3.0
MDJ SCS ScS 18 35 34.4 +0.2
MDJ SS SS 18 39 18.5 -2.3
MDJ AMB AMB
comp=Z,19nm,1.2s,mb4.9
MDJ AMB AMB
comp=Z,858nm,11.4s
MDJ LR LR
comp=N,954nm,23.8s,MS5.2
MDJ LR LR
comp=E,1μm,22.4s,MS5.2
MDJ LR LR
comp=Z,1μm,18.2s,MS5.2
MDJ Mudanjiang 70.69 332 *e*P **P 18 25 34.3 +0.5**
comp=Z,23nm,1.0s,mb5.0
MDJ LR LR
comp=Z,1μm,20.0s,MS5.2
SNY Shenyang 71.54 327⇑P **P 18 25 38.1 -0.9**
SNY AP pP 18 25 52.2 +11
SNY S S 18 34 59.1 +2.1
SNY AMB AMB
comp=Z,730nm,8.3s
SNY LR LR
comp=E,1μm,17.1s
SNY LR LR
comp=Z,2μm,18.4s,MS5.3
CN2 Changchun 72.02 329 *e*P **P 18 25 41.7 -0.1**
CN2 *e*S S 18 35 02.1 -0.3
CN2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
CN2 AMB AMB
comp=Z,700nm,7.0s
CN2 LR LR
comp=N,1μm,19.0s,MS5.3
CN2 LR LR
comp=E,1μm,19.0s,MS5.3
CN2 LR LR
comp=Z,1μm,21.0s,MS5.1
KKTK Khon Kaen 72.15 294 P **P 18 25 44.5 +1.5**
QSPA South Pole Qui 72.81 180 *e*P **P 18 25 45.4 -0.5**
comp=Z,70nm,1.0s,mb5.5
QSPA LR LR
comp=Z,2μm,19.0s,MS5.4
ENH Enshi 73.31 310 *e*P **P 18 25 48.9 -0.8**
comp=Z,46nm,0.8s,mb5.5
GYA Guiyang 73.52 305⇓*i*P **P 18 25 51.4 +0.4**
GYA AP pP 18 25 59.8 +6.8
GYA XP sP 18 26 03.4 +10
GYA S S 18 35 20.8 +0.9
GYA PS PS 18 35 55.6 +2.0
GYA SS SS 18 40 08.2 +3.3
GYA AMB AMB
comp=Z,510nm,8.8s
GYA LR LR
comp=N,890nm,18.9s,MS5.2
GYA LR LR
comp=E,1μm,23.1s,MS5.2
GYA LR LR
comp=Z,1μm,23.4s,MS5.1
NST Nakhon Sawan 74.25 292 P **P 18 25 55.0 -0.4**
comp=Z,67nm,1.0s,mb5.5
BJT Baijiatuau 74.49 321 *e*P **P 18 25 56.9 +0.6**
BJT *e* 18 26 08.4
BJT pmax pmax
comp=Z,66nm,1.0s
BJT Baijiatuau 74.49 321 *e*P **P 18 25 56.9 +0.6**
comp=Z,66nm,1.1s,mb5.5
BJT *e* 18 26 08.4
BJI Beijing 74.50 321 P **P 18 25 56.2 -0.2**
BJI S S 18 35 37.1 +6.6
BJI SS SS 18 40 18.9 -0.3
BJI AMB AMB
comp=Z,15nm,1.0s,mb4.9
BJI LR LR
comp=N,1μm,16.2s,MS5.3
BJI LR LR
comp=E,447nm,17.9s,MS5.3
BJI LR LR
comp=Z,1μm,23.1s
XAN Xi'an 75.72 313 P **P 18 26 03.0 -0.5**
XAN AP pP 18 26 13.1 +7.5
XAN AMB AMB
comp=Z,35nm,0.9s,mb5.3
BDT Bhumibol Dam 75.86 293 P **P 18 26 07.0 +2.3**
KMI Kunming 76.02 302 *e*P **P 18 26 06.2 +0.8**
KMI AP pP 18 26 17.7 +10
KMI XP sP 18 26 22.1 +14
KMI PP PP 18 28 58.4 +0.6
KMI S S 18 35 51.0 +3.4
KMI SKS SKS 18 36 07.5 -8.2
KMI SS SS 18 40 44.4 +1.0
KMI AMB AMB
comp=Z,20nm,1.2s,mb4.9
KMI AMB AMB
comp=Z,627nm,6.2s
KMI LR LR
comp=N,1μm,22.4s
KMI LR LR
comp=E,700nm,16.6s
KMI LR LR
comp=Z,1μm,27.8s
CM31 Chiang Mai Arr 76.40 294 P **P 18 26 09.3 +1.7**
comp=Z,2.5nm,0.3s,mb4.6
CMAR Chiang Mai Arr 76.40 294 P **P 18 26 08.7 +1.1**
comp=Z,7.7nm,0.8s,mb4.7,baz=129,slow=4.5,SNR=42
CMAR LR LR 18 59 41.5
comp=Z,477nm,18.3s,MS4.8,baz=105,slow=36
HHC Hu-ho-hao-te 77.78 320 *e*P **P 18 26 14.7 -0.2**
HHC AP pP 18 26 22.0 +5.0
HHC PCP PcP 18 26 24.9 -0.5
HHC XP sP 18 26 29.2 +12
HHC PP PP 18 29 14.0 +1.6
HHC S S 18 36 08.1 +1.6
HHC XS 18 36 21.2
HHC SKS SKS 18 36 24.6 -3.6
HHC AMB AMB
comp=Z,24nm,1.0s,mb5.1
HHC AMB AMB
comp=Z,629nm,8.9s
HHC LR LR
comp=N,472nm,18.6s,MS5.0
HHC LR LR
comp=E,414nm,17.8s,MS5.0
CD2 Chengdu 77.90 308⇑*i*P **P 18 26 17.0 +1.3**
CD2 AP pP 18 26 31.0 +13
CD2 PPP PPP 18 31 00.7 -1.9
CD2 S S 18 36 06.9 -1.0
CD2 SS SS 18 41 15.3 +3.8
CD2 AMB AMB
comp=Z,20nm,1.1s,mb5.0
CD2 AMB AMB
comp=Z,610nm,10.8s
CD2 LR LR
comp=E,790nm,21.6s
CD2 LR LR
comp=Z,990nm,24.0s,MS5.1
BTO Baotou 78.61 319 *e*P **P 18 26 18.2 -1.2**
BTO AMB AMB
comp=Z,22nm,0.9s,mb5.1
HIA Hailar 78.68 330 *e*P **P 18 26 20.4 +0.7**
comp=Z,3.9nm,0.5s,mb4.6
HIA *e* 18 26 31.8
HIA LR LR
comp=Z,1μm,19.0s,MS5.3
MAW Mawson 79.76 202 P **P 18 26 26.7 +1.5**
comp=Z,14nm,0.9s,mb4.9,baz=108,slow=6.2,SNR=38
MAW LR LR 18 57 03.4
comp=Z,4μm,20.4s,MS5.7,baz=100,slow=32
MAW Mawson 79.76 202 *e*P **P 18 26 25.6 +0.5**
MAW pmax pmax
comp=Z,21nm,1.0s
MAW Mawson 79.76 202 *e*P **P 18 26 25.6 +0.4**
comp=Z,21nm,1.0s,mb5.0
LZH Lanzhou 80.34 312⇑P **P 18 26 30.1 +1.2**
LZH AP pP 18 26 38.2 +7.2
LZH XP sP 18 26 41.2 +10
LZH PP PP 18 29 36.3 +2.8
LZH *e*S S 18 36 34.8 +1.1
LZH XS 18 36 47.5
LZH PS PS 18 37 23.5 +3.4
LZH SS SS 18 41 49.8 +1.8
LZH AMB AMB
comp=Z,89nm,1.3s,mb5.5
LZH LR LR
comp=N,1μm,15.1s
LZH LR LR
comp=Z,2μm,17.8s,MS5.5
SEY Seymchan 80.81 353 *e*P **P 18 26 31.1 +0.3**
SEY *e* 18 26 42.9
SEY *e* 18 29 36.3
SEY *e*S S 18 36 33.3 -4.6
SEY *e*PS PS 18 37 22.0 -3.6
SEY pmax pmax
comp=Z,40nm,0.9s,mb5.3
SEY smax
comp=N,1μm,18.9s
SEY smax
comp=E,4μm,21.3s
SEY Seymchan 80.81 353 *e*P **P 18 26 31.1 +0.3**
comp=E,40nm,0.9s,mb5.3
SEY *e* 18 26 42.9
SEY *e* 18 29 36.3
SEY *e*S S 18 36 33.3 -4.6
SEY *e*PS PS 18 37 22.0 -3.6
CLNS Chul'man 82.01 338 *e*P **P 18 26 36.1 -1.1**
CLNS *e**PP pP 18 26 44.5 +5.3
CLNS *e*S S 18 36 42.7 -7.7
CLNS pmax pmax
comp=N,1.0nm,1.0s
CLNS pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
CLNS pmax pmax
comp=E,6.0nm,0.9s
CLNS pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
CLNS pmax pmax
comp=N,5.0nm,0.8s
CLNS pmax pmax
comp=E,7.0nm,0.9s
CLNS smax
comp=E,256nm,13.2s
CLNS smax
comp=Z,144nm,12.4s
CLNS smax
comp=N,375nm,14.0s
CLNS pmax pmax
comp=N,900nm,15.9s
CLNS pmax pmax
comp=Z,900nm,18.5s
CLNS pmax pmax
comp=E,200nm,15.2s
CLNS MLR MLR
comp=N,700nm,15.0s,MS5.2
CLNS MLR MLR
comp=Z,1μm,15.0s,MS5.3
CLNS MLR MLR
comp=E,200nm,13.0s,MS5.2
RSO Redoubt South 83.70 18 *e*P **P 18 26 49.1 +3.3**
YAK Yakutsk 84.54 343 *e*P **P 18 26 48.7 -1.3**
YAK pmax pmax
comp=Z,8.0nm,0.6s,mb5.0
YAK Yakutsk 84.54 343 *e*P **P 18 26 48.7 -1.3**
comp=Z,8.0nm,0.6s,mb5.0
GTA Gaotai 84.73 314 P **P 18 26 52.0 +0.5**
GTA AP pP 18 27 00.6 +7.0
GTA XP sP 18 27 04.5 +10
GTA PP PP 18 30 09.5 +0.3
GTA SKS SKS 18 37 12.0 -4.7
GTA S S 18 37 18.1 -0.1
GTA XS 18 37 34.5
GTA PS PS 18 38 19.0 +4.7
GTA SS SS 18 42 52.0 -0.7
GTA AMB AMB
comp=Z,17nm,1.6s,mb4.9
GTA AMB AMB
comp=Z,687nm,8.1s
GTA LR LR
comp=N,537nm,19.8s,MS5.2
GTA LR LR
comp=E,869nm,21.3s,MS5.2
GTA LR LR
comp=Z,1μm,20.2s,MS5.2
SONM Songino Array 84.78 324 P **P 18 26 51.7 +0.2**
comp=Z,24nm,0.8s,mb5.4,baz=146,slow=4.7,SNR=95
SHL Shillong 85.16 298⇑*i*P **P 18 26 54.2 +0.2**
SHL *e* 18 27 18.0
SYO Syowa Base 86.46 196⇓P **P 18 26 59.3 -0.1**
SYO Syowa Base 86.46 196⇑PcP PcP 18 27 02.8 +0.5
SYO Syowa Base 86.46 196⇓sP sP 18 27 11.2 +9.1
YBH Yreka Blue Hor 86.85 45 P **P 18 27 01.6 -0.4**
comp=Z,1.6nm,0.8s,mb4.3,baz=141,slow=4.4,SNR=3.5
CMB Columbia Colle 86.88 49 *e*P **P 18 27 07.1 +4.9**
CMB pmax pmax
comp=Z,11nm,1.0s,mb5.0
CMB Columbia Colle 86.88 49 *e*P **P 18 27 07.1 +4.9**
comp=Z,11nm,1.0s,mb5.0
BOD Bodaibo 86.92 334 *e*P **P 18 27 00.5 -1.4**
BOD *e* 18 27 11.2
LSA Lhasa 87.28 302 P **P 18 27 05.2 +0.9**
LSA LR LR
comp=N,549nm,20.0s,MS5.2
LSA LR LR
comp=E,707nm,20.0s,MS5.2
ZAK Zakamensk 87.85 325⇑*i*P **P 18 27 06.3 -0.2**
MTUM Tungsten Hills 87.93 50 *e*P **P 18 27 07.6 +0.4**
NVAR Mina Array Bea 88.54 49 P **P 18 27 10.2 0.0**
comp=E,3.3nm,0.9s,mb4.7,baz=219,slow=5.9,SNR=7.3
NVAR LR LR 18 59 45.5
comp=E,3μm,19.8s,MS5.7,baz=300,slow=31
MOD Modoc 88.55 45 *e*P **P 18 27 09.2 -1.0**
comp=E,4.6nm,0.8s,mb4.9
MOD LR LR
comp=Z,4μm,20.0s,MS5.9
MNV Mina 88.65 49 *e*P **P 18 27 10.7 0.0**
MNV pmax pmax
comp=Z,20nm,1.5s,mb5.2
MNV Mina 88.65 49 *e*P **P 18 27 10.7 0.0**
comp=Z,20nm,1.5s,mb5.2
ILAR Eielson Array 88.75 18 P **P 18 27 07.7 -2.8**
comp=Z,1.2nm,0.6s,mb4.4,baz=236,slow=5.2,SNR=14
ILAR LR LR 19 03 38.2
comp=Z,3μm,19.2s,MS5.7,baz=244,slow=33

ILAR Eielson Array 88.75 18 P **P** **18 27 07.7 -2.8**
ILAR LR LR 19 03 38.1
MOY Mondy 89.74 325 *e*P **P** **18 27 15.8 +0.3**
BMN Battle Mountai 90.09 48 P **P** **18 27 19.6 +2.2**
BMN pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
BMN Battle Mountai 90.09 48 P **P** **18 27 19.6 +2.2**
comp=Z,9.2nm,1.0s,mb5.1
NVL N'lazarevskaya 90.65 188⇑ *e*P **P** **18 27 19.0 -0.3**
NVL *e*S S 18 38 09.0 -4.2
NVL pmax pmax
comp=Z,474nm,4.3s
NVL MLR MLR
comp=Z,2µm,18.0s,MS5.7
MAIT Maitri 90.66 188 *e*P **P** **18 27 19.3 0.0**
GUN Gumba 91.01 299 *e*P **P** **18 27 22.3 +0.4**
comp=Z,30nm,0.9s,mb5.6
SNAA Sanae 91.09 183⇑ *i*P **P** **18 27 20.3 -1.0**
SNAA Sanae 91.09 183⇑ *i* **P** **18 27 21.1 -0.2**
SNAA Sanae 91.09 183⇑ *i* **P** **18 27 30.2 +8.9**
SNAA Sanae 91.09 183⇑ *i* **P** **18 27 34.9 +14**
SNAA Sanae 91.09 183⇑ *i*S S 18 38 10.9 -6.1
SNAA Sanae 91.09 183 *e*P **P** **18 27 20.0 -1.3**
SNAA pmax pmax
comp=Z,15nm,0.8s
SNAA Sanae 91.09 183⇑ *i*P **P** **18 27 21.1 -0.2**
PKI Pulchoki 91.29 298 *e*P **P** **18 27 24.8 +1.5**
comp=Z,25nm,0.9s,mb5.5
KKN Kakani 91.47 299 *e*P **P** **18 27 24.1 0.0**
comp=Z,26nm,1.1s,mb5.5
MDRS Chennai 91.47 283 *e*P **P** **18 27 25.0 +0.7**
MDRS *i* 18 31 15.0
DMN Daman 91.56 298 *e*P **P** **18 27 24.6 +0.1**
comp=Z,49nm,1.0s,mb5.8
VNA3 Neumayer Olymp 91.74 181⇑ *i*P **P** **18 27 26.7 +2.4**
VNA3 Neumayer Olymp 91.74 181⇑ *i* **P** **18 27 27.5 +3.2**
VNA3 Neumayer Olymp 91.74 181⇑ *i* **P** **18 27 33.9 +10**
VNA3 Neumayer Olymp 91.74 181⇑ *i* **P** **18 27 37.9 +14**
VNA3 Neumayer Olymp 91.74 181⇑ *i* **P** **18 27 43.1 +19**
VNA3 Neumayer Olymp 91.74 181⇓ *i*S S 18 38 21.0 -1.8
VNA2 Neumayer--Watz 92.01 182⇑ *i*P **P** **18 27 28.4 +2.9**
VNA2 Neumayer--Watz 92.01 182⇑ *i* **P** **18 27 29.1 +3.6**
VNA2 Neumayer--Watz 92.01 182⇑ *i* **P** **18 27 34.5 +9.0**
VNA2 Neumayer--Watz 92.01 182⇑ *i* **P** **18 27 40.7 +15**
VNA2 Neumayer--Watz 92.01 182⇑ *i*S S 18 38 21.5 -3.7
GKN Gorkha 92.08 299 *e*P **P** **18 27 25.7 -1.2**
comp=Z,24nm,0.9s,mb5.5
VNA1 Neumayer--Stat 92.31 181 P **P** **18 27 28.5 +1.6**
VNA1 Neumayer--Stat 92.31 181⇑ *i* **P** **18 27 29.8 +2.9**
VNA1 Neumayer--Stat 92.31 181⇑ *i* **P** **18 27 38.6 +12**
VNA1 Neumayer--Stat 92.31 181⇓ *i* **P** **18 27 41.7 +15**
TIXI Tiksi 92.50 349⇓ *e*P **P** **18 27 37.2 +9.4**
TIXI pmax pmax
comp=Z,9.0nm,1.1s,mb5.0
TIXI MLR MLR
comp=Z,1µm,17.0s,MS5.5
TIXI Tiksi 92.50 349⇓ *e*P **P** **18 27 37.2 +9.4**
comp=Z,9.0nm,1.1s,mb5.0
TIXI LR LR
comp=Z,1µm,17.0s,MS5.5
KOLN Koldanda 92.88 298 *e*P **P** **18 27 29.4 -1.2**
comp=Z,11nm,0.8s,mb5.3
HYB Hyderabad 94.30 287 *i* P **P** **18 27 38.0 +0.7**
HYB *e* 18 27 49.0
HYB Hyderabad 94.30 287 *e*P **P** **18 27 38.0 +0.7**
WMQ Urumqi 94.80 314 *e*P **P** **18 27 39.8 +0.8**
WMQ XP sP 18 27 51.0 +9.2
WMQ PP PP 18 31 31.0 +1.1
WMQ SKS SKS 18 38 11.0 -6.7
WMQ S S 18 38 49.0 -1.0
WMQ SS SS 18 45 18.0 0.0
WMQ AMB AMB
comp=Z,15nm,1.2s,mb5.3
WMQ AMB AMB
comp=Z,167nm,8.0s
WMQ LR LR
comp=N,1µm,20.0s,MS5.4
WMQ LR LR
comp=E,786nm,22.0s,MS5.4
WMQ LR LR
comp=Z,947nm,22.0s,MS5.2
PDAR Pinedale Array 96.29 47 P **P** **18 27 45.8 -0.1**
comp=Z,0.1nm,0.5s,baz=121,slow=26,SNR=2.0
PDAR PP PP 18 31 39.4 -2.3
comp=Z,0.4nm,0.7s,baz=270,slow=3.0,SNR=4.5
PDAR PKKPbc 18 44 31.4
comp=Z,0.7nm,0.8s,baz=90,slow=5.9,SNR=6.4
PDAR LR LR 19 04 13.2
comp=Z,2µm,20.9s,baz=260,slow=31
TXAR Lajitas Array 97.05 62 LR LR 19 07 02.2
comp=Z,2µm,18.2s,MS5.6,baz=125,slow=33
MKAR Makanchi Array 99.32 316 P **P** **18 27 59.3 -0.1**
comp=Z,3.7nm,0.8s,mb5.0,baz=87,slow=5.7,SNR=12
MKAR PP PP 18 31 57.5 -7.4
comp=Z,1.4nm,0.9s,baz=117,slow=9.7,SNR=3.5
MKAR LR LR 19 09 33.2
comp=Z,739nm,21.3s,MS5.2,baz=101,slow=33
MKAR Makanchi Array 99.32 316 *i* P **P** **18 27 59.3 -0.1**
MKAR pmax pmax
comp=Z,4.0nm,0.8s
YKA Yellowknife Ar 99.54 27 LR LR 19 12 12.4
comp=Z,2µm,18.0s,MS5.6,baz=250,slow=35
NVS Novosibirsk 100.80 324 *e*P P 18 28 04.9 -1.0
NVS *e*S 18 38 43.3
NVS pmax pmax
comp=Z,20nm,1.5s
NVS pmax pmax
comp=E,10.0nm,1.3s
NVS smax
comp=E,74nm,2.3s
NVS Novosibirsk 100.80 324 *e*P P 18 28 04.9 -1.0
comp=E,20nm,1.5s
NVS *e*S 18 38 43.3
ZRNK Zerenda 108.81 321 *e*P Pdif 18 28 41.7 +0.3
ZRNK pmax pmax
comp=Z,6.0nm,1.1s
SVE Sverdlovsk 113.61 325⇑ *i*PKIKP PKPdf 18 32 44.5 -12
SVE *e* 18 36 09.0
SVE *e* 18 44 32.0
SVE *e* 18 49 56.0
SVE MLR MLR
comp=Z,700nm,18.0s,MS5.3
SVE MLR MLR
comp=N,500nm,17.0s,MS5.5
SVE MLR MLR
comp=E,1µm,18.0s,MS5.5
ARU Arti 114.79 325 *i* PKIKP PKPdf 18 33 01.1 +2.1
ARU *i* 18 33 59.2
ARU *e* 18 39 46.6
ARU *i* SP SP 18 43 35.9 +2.8
ARU *e*SS SS 18 49 53.1 +2.4
ARU MLR MLR
comp=Z,1µm,19.0s,MS5.5
ARU MLR MLR
comp=N,400nm,20.0s,MS5.3
ARU MLR MLR
comp=E,700nm,18.0s,MS5.3
DAG Danmarks Havn 120.34 2 *i* P PKPdf 18 33 08.0 -1.4
DAG Danmarks Havn 120.34 2 *e*P PKPdf 18 33 08.0 -1.4
KEV Kevo 122.25 345 *e*p PKPdf 18 33 20.2 +7.0
SUMG Summit 122.62 9 *e*PKPdf PKPdf 18 33 11.7 -2.1
SUMG *e* 18 33 25.2
ARCES ARCESS Array B 122.78 345 PKP PKPdf 18 33 12.0 -2.2
comp=E,5.0nm,0.6s,baz=48,slow=1.6,SNR=15
QRN Al-Qurain 123.94 293 *e*P PKPdf 18 33 15.5 -2.0
QRN AMb AMB 18 33 18.1
comp=Z,92nm,1.0s
UMR Umm Al-Rimmam 124.15 294 *e*P PKPdf 18 33 17.0 -1.0
UMR AMb AMB 18 33 18.6
comp=Z,41nm,0.8s
RDF Al-Radifah 124.27 294 *e*P PKPdf 18 33 16.4 -1.7
RDF AMb AMB 18 33 21.5
comp=Z,49nm,0.9s
MIB Mutribah 124.48 295 *e*P PKPdf 18 33 17.2 -1.4
MIB AMb AMB 18 33 19.6
comp=Z,47nm,0.8s
RST Umm Al-Ruwaisa 124.77 294 *e*P PKPdf 18 33 17.2 -1.9
RST AMb AMB 18 33 19.7
comp=Z,54nm,0.8s
JOF Joensuu 125.36 337 *e*p PKPdf 18 33 17.7 -1.7
MZLS Mizel 126.11 287 P PKPdf 18 33 20.3 -1.6
MOS Moscow 126.24 328 *e*PKIKP PKPdf 18 33 15.6 -5.6
MOS *e* 18 40 12.8
MOS pmax pmax
comp=Z,37nm,0.7s
MOS MLR MLR
comp=Z,1µm,21.3s,MS5.6
KAMS Al Khamasin 126.33 283 P PKPdf 18 33 20.6 -1.7
GOF Gofitskoye 126.41 314 *e*PKIKP PKPdf 18 33 19.0 -2.8
KIV Kislovodsk 126.88 312 *i* PKIKP PKPdf 18 33 22.5 -0.2
KIV *e* 18 35 21.6
KIV *e* 18 40 30.0
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV pmax pmax
comp=N,6.0nm,0.9s
KIV Kislovodsk 126.88 312 *i* PKPdf PKPdf 18 33 22.5 -0.2
KIV *i* PKPr 18 33 26.3
KIV *e* 18 35 21.6
KIV *e* 18 40 30.0
OBN Obninsk 127.05 327 *e*PKIKP PKPdf 18 33 18.3 -4.4
OBN *i* 18 33 26.8
OBN *e* 18 40 32.6
OBN pmax pmax
comp=Z,22nm,1.2s
OBN pmax pmax
comp=Z,21nm,1.3s
OBN MLR MLR
comp=Z,1µm,21.0s,MS5.6
OBN Obninsk 127.05 327 *e*PKPdf PKPdf 18 33 18.3 -4.4
OBN *e*PKP PKPdf 18 33 26.8 +4.1
OBN *e* 18 40 32.6
KAF Kangasniemi 127.68 338 *e*p PKPdf 18 33 21.7 -2.1
KMBO Kilima Mbogo 127.94 255 PKP PKPdf 18 33 24.8 -0.9
comp=Z,3.3nm,0.8s,baz=44,slow=5.2,SNR=8.2
KMBO Kilima Mbogo 127.94 255 *e*PKPdf PKPdf 18 33 25.5 -0.2
ARSS Ar Rass 128.00 290 P PKPdf 18 33 25.1 -0.4
AFFS 'Afif 128.12 287 P PKPdf 18 33 24.2 -1.6
FINES FINESS Array B 128.20 338 PKP PKPdf 18 33 23.1 -1.8
comp=Z,18nm,1.2s,baz=59,slow=2.5,SNR=11
SOC Sochi 129.06 313 *i* PKIKP PKPdf 18 33 30.4 +3.4
SOC *e* 18 35 40.9
SOC *e*PPP PPP 18 38 23.9 +1.0
SOC *e* 18 40 32.9
SOC pmax pmax
comp=Z,29nm,1.0s
SOC pmax pmax
comp=N,21nm,0.8s
SOC pmax pmax
comp=E,62nm,1.3s
SOC MLR MLR
comp=Z,740nm,23.0s,MS5.3
SOC MLR MLR
comp=N,565nm,20.0s,MS5.3
SOC MLR MLR
comp=E,115nm,17.0s,MS5.3
HILS Ha'il 129.33 292 P PKPdf 18 33 27.2 -0.8
SIM Simferopol' 132.50 316 *i* PKIKP PKPdf 18 33 34.2 +0.6
SIM *e* 18 35 55.2
SIM *e*SS SS 18 53 35.0 -0.7
AKASG Malin Array Be 133.05 325 PKP PKPdf 18 33 32.6 -1.8
comp=E,4.5nm,0.9s,baz=53,slow=2.1,SNR=3.5
NB2 NORSAR Subarra 133.15 345 PKPdf PKPdf 18 33 32.0 -2.2
comp=E,1.7nm,0.7s,baz=31,slow=1.9
NOA NORSAR Array B 133.15 345 PKP PKPdf 18 33 32.4 -1.8
comp=E,3.1nm,0.8s,baz=32,slow=1.9,SNR=8.4
NOA NORSAR Array B 133.15 345 PKP PKPdf 18 33 32.4 -1.8
AGAR Jabal al Asfar 133.33 298 PKP PKPdf 18 33 33.1 -2.2
comp=E,5.0nm,0.9s,baz=233,slow=4.7,SNR=6.3
TBKS Tabuk 133.95 293 P PKPdf 18 33 34.3 -2.3
BRTR Keskin Array B 134.47 309 PKP PKPdf 18 33 36.8 -0.5
comp=E,3.7nm,1.0s,baz=63,slow=2.8,SNR=9.1
BRTR PP PP 18 36 07.8 -3.5
comp=E,0.9nm,0.6s,slow=7.4,SNR=3.6
JMQS Jabal Moqyreh 134.50 294 P PKPdf 18 33 36.7 -1.0
KIS Kishinev 135.06 320 *e*PKHKP 18 33 28.0
KIS *e* 18 36 12.0
KIS *e* 18 40 40.0
BDAS Al Bad' 135.22 293 P PKPdf 18 33 37.3 -1.7
TAYS Tayyib Ism 135.41 293 P PKPdf 18 33 37.0 -2.4
BSD Bornholm Skovb 136.84 337 *i* P PKPdf 18 33 47.7 +6.6
comp=E,31nm,0.9s
BSD *i* 18 36 22.9
BSD *e* 18 39 27.3
comp=Z,1µm,20.0s
COP Copenhagen 137.26 340 *i* P PKPdf 18 33 30.9 -11
COP *i* 18 36 24.4
comp=Z,520nm,20.0s
MUD Monsted U'grnd 137.63 342 *i* P PKPdf 18 33 30.5 -12
MUD *i* 18 36 31.5
comp=Z,600nm,18.0s
KOLS Kolonicke sedl 137.78 326 *e*PKP PKPdf 18 33 42.9 -0.2
OKC Ostrava-Krasne 139.30 330 *e*PKIKP PKPdf 18 33 53.6 +7.7
OKC MLR MLR
comp=Z,900nm,20.2s,MS5.5
OKC Ostrava-Krasne 139.30 330 *e*pPKP 18 33 53.6
OKC AMS AMS 19 32 30.0
comp=Z,900nm,20.2s
KSP Ksiaz 139.46 332 *e*PKIKP PKPdf 18 33 44.0 -2.1
KSP *e* 18 33 52.4
KSP *e* 18 33 57.8
KSP *e* 18 36 43.0
KSP *e*PPS PPS 18 48 49.0 -8.3
KSP MLR MLR
comp=Z,4µm,21.5s,MS6.2
KSP Ksiaz 139.46 332 *e*PKP PKPdf 18 33 44.0 -2.1
KSP *e*pPKP 18 33 52.4
KSP *e* 18 33 57.8
KSP *e*PP PP 18 36 43.0 +1.1
KSP *e*PPS PPS 18 48 49.0 -8.3
KSP *e*SS SS 18 55 05.0 +7.1
KSP LR LR
comp=Z,4µm,21.5s,MS6.2
MORC Moravsky Berou 139.63 330 *e*PKIKP PKPdf 18 33 44.7 -1.8
MORC *e* 18 33 57.2
PSZ Piszkesteto 139.66 326 *e*PKIKP PKPdf 18 33 45.0 -1.6
DPC Dobruska-Polom 139.80 332 *e*PKPdf PKPdf 18 33 46.2 -0.5
DPC AMS AMS 19 36 10.0
comp=Z,2µm,20.3s
UPC Upice 139.82 332 *e*PKPdf PKPdf 18 33 49.2 +2.4
PVCC Panska Ves 140.44 333 *e*PKPdf PKPdf 18 33 47.1 -0.8
PVCC AMS AMS 19 35 00.0
comp=Z,2µm,23.1s
BRG Berggiesshubel 140.46 334 *e*PKIKP PKPdf 18 33 43.4 -4.5
BRG *e* 18 33 56.0
BRG *e* 18 36 50.0
BRG pmax pmax
comp=Z,18nm,1.2s
BRG MLR MLR
comp=N,1µm,22.7s,MS5.7
BRG MLR MLR
comp=E,750nm,22.7s,MS5.7
BRG MLR MLR
comp=Z,1µm,22.3s,MS5.6
BRG Berggiesshubel 140.46 334 *e*PKP PKPdf 18 33 43.4 -4.5
BRG *e* 18 33 56.0
BRG *e*PP PP 18 36 50.0 +2.1
BRG *e* 18 37 20.8
BRG *e*SS SS 18 55 23.0 +13
BRG LR LR
comp=Z,1µm,22.3s,MS5.6
CLL Collm 140.51 335 *e* PKPdf 18 33 41.0 -7.0
CLL *e*PKIKP PKPdf 18 33 48.0 0.0
CLL *i* 18 33 51.9
CLL *i* 18 33 59.4
CLL *e*PP PP 18 36 45.0 -3.2
CLL *e* 18 37 00.0
CLL *e*PKS PKS 18 37 23.0 +3.0
CLL *e*SS SS 18 55 19.0 +8.5
CLL Collm 140.51 335 *e*PKIKP PKPdf 18 33 41.0 -7.0
CLL *i* 18 33 51.9
CLL MLR MLR
comp=Z,2µm,22.7s,MS5.7
CLL Collm 140.51 335 *e*PKP PKPdf 18 33 41.0 -7.0
CLL *i* 18 33 51.9
CLL LR LR
comp=Z,2µm,22.7s,MS5.7
PRU Pruhonice 140.85 333 *e*PKPpre 18 33 44.1
PRU AMS AMS 19 35 20.0
comp=Z,2µm,22.0s
ZST Bratislava 140.91 329 *e*PKP PKPdf 18 33 42.4 -6.4
ZST *e*PP PP 18 36 36.7 -14
PKSM Moragy 141.39 325⇑ *e*P PKPdf 18 33 50.2 +0.5
NKC Novy Kostel 141.56 334 *e*PKPpre 18 33 44.6
NKC AMS AMS 19 36 20.0
comp=Z,1µm,21.7s
MOX Moxa 141.58 336 *e*PKHKP 18 33 42.9
MOX MLR MLR
comp=Z,800nm,20.0s,MS5.5
MOX Moxa 141.58 336 *e*PKP PKPdf 18 33 42.9 -7.0
MOX LR LR
comp=Z,800nm,20.0s,MS5.5
DIVS Divcibare 141.87 322⇑ *i*P PKPdf 18 33 42.8 -7.8
KHC Kasperske Hory 141.91 332 *e*PKIKP PKPdf 18 33 45.9 -4.6
KHC *e* 18 33 54.0
KHC MLR MLR
comp=Z,1µm,21.6s,MS5.7
KHC Kasperske Hory 141.91 332 *e*PKP PKPdf 18 33 45.9 -4.6
KHC *e* 18 33 54.0
KHC *e*PKP PKPdf 18 33 55.7 +5.2
KHC LR LR
comp=Z,1µm,21.6s,MS5.7
KHC Kasperske Hory 141.91 332 *e*PKPpre 18 33 45.9
KHC PKPdf PKPdf 18 33 54.0 +3.5
KHC AMS AMS 19 35 10.0
comp=Z,1µm,21.6s
GERES GERESS Array B 142.06 332 PKP PKPdf 18 33 48.6 -2.2
comp=Z,4.0nm,0.7s,baz=45,slow=3.8,SNR=9.1
SKO Skopje 142.11 318 *e*PKP PKPdf 18 33 45.0 -6.1
SKO *i* 18 33 58.0
IDI Anoyia 142.43 306 PKP PKPdf 18 33 48.9 -2.9
comp=Z,12nm,0.9s,baz=177,slow=7.0,SNR=10
GRA1 Grafenberg Arr 142.48 335 *e*PKPdf PKPdf 18 33 46.5 -5.0
GRA1 LR LR
comp=Z,800nm,21.0s,MS5.5
GRF Grafenberg Arr 142.48 335 *e*PKIKP PKPdf 18 33 46.5 -5.0
GRF MLR MLR
comp=Z,800nm,21.0s,MS5.5
OHR Ohrid 142.96 317 *e*PKP PKPdf 18 33 47.4 -5.1
OHR *i* 18 34 02.7
SISC Sisak 143.08 326 *i* PKP PKPdf 18 33 45.0 -7.6
SIND Sindeldorf 143.40 336 *e*P PKPbc 18 33 49.2 +0.4
TOD Tromm 143.50 337 *e*P PKPbc 18 33 49.9 +0.8
TOD Tromm 143.50 337 PKP PKPdf 18 33 50.1 -3.1
LJU Ljubljana 143.66 328 *e*PKPdf PKPdf 18 33 48.0 -5.6
LJU *e*PP PP 18 37 04.0 -3.3
LJU *e*SKKSac 18 43 38.0
LJU *e* 18 47 18.0
LJU *e* 18 48 08.0
LJU Ljubljana 143.66 328 *e*PKPdf PKPdf 18 33 48.0 -5.6
LJU *e*PP PP 18 37 04.0 -3.3
LJU *e*SKKSac 18 43 38.0
LJU *e* 18 47 18.0
LJU *e* 18 48 08.0
ABH Alteburg 143.73 338 *e*P PKPbc 18 33 50.9 +1.1
ABH Alteburg 143.73 338 PKP PKPdf 18 33 50.8 -2.8
HDH Heidenheim 143.77 335 *e*P PKPbc 18 33 50.8 +0.9
STU Stuttgart 144.02 336 *e*PKIKP PKPdf 18 33 51.8 -2.3
STU *e* 18 34 04.7
RUP Ruppelstein 144.05 339 *e*P PKPbc 18 33 51.0 +0.3
RUP Ruppelstein 144.05 339 PKP PKPdf 18 33 51.7 -2.4
LBG Lerchenberg 144.27 336 *e*P PKPbc 18 33 52.0 +0.6
LANF Langenberg 144.38 337 PKP PKPdf 18 33 52.5 -2.3
WLF Walferdange 144.39 339 *e*PKIKP PKPdf 18 33 52.7 -2.1
GIVF Givet 144.44 341 *e*PKP1 PKPbc 18 33 52.4 +0.6
GUT Gutenstein 144.62 335 *e*P PKPbc 18 33 52.7 +0.3
BAIF Baives 144.67 342 *e*PKP1 PKPbc 18 33 52.3 -0.2
comp=Z,46nm,1.2s
SPAK Spaichingen 144.72 335 *e*P PKPbc 18 33 53.3 +0.6
SPAK Spaichingen 144.72 335 PKP PKPdf 18 33 53.8 -1.6
WLS Welschbruch 145.02 337 PKP PKPdf 18 33 53.7 -2.2
CDF Champ du Feu 145.05 337 *e*PKP1 PKPbc 18 33 53.7 +0.1
comp=Z,116nm,0.7s
KIZ Kirchzarten 145.18 336 *e*P PKPbc 18 33 53.7 -0.2
FELD Feldberg 145.22 336 *e*P PKPbc 18 33 54.1 +0.1
ECH Echery 145.26 337 PKP PKPdf 18 33 53.9 -2.4
BRMO Bormio 145.33 332 *e*PKP PKPdf 18 33 55.9 -0.6
MOF Molkenrain 145.57 337 PKP PKPdf 18 33 55.6 -1.3
THEF They Montfort 145.68 338 PKP PKPdf 18 33 55.3 -1.7
HINF Hinteralfeld 145.71 337 *e*PKP1 PKPbc 18 33 55.5 +0.3
comp=Z,60nm,0.8s
BBS Basel-Blauen 145.75 336 *e*P PKPbc 18 33 56.5 +1.2
BBS Basel-Blauen 145.75 336 PKP PKPdf 18 33 56.4 -0.8
MEZF Maizieres J'vi 145.76 339 *e*PKP1 PKPbc 18 33 56.3 +0.9
comp=Z,168nm,0.8s
RGNG Rignano Grg 145.91 321 *e*PKP PKPdf 18 33 56.9 -0.8
SAL Salo 145.92 331 *e*PKP PKPdf 18 33 48.3 -9.2
LOMF Lomont 146.10 337 PKP PKPdf 18 33 57.0 -0.8
CING Cingoli 146.18 326 *e*PKP PKPdf 18 33 57.6 -0.4
FSSB Fossombrone 146.18 327 *e*PKP PKPdf 18 33 58.1 0.0
ARV Arcevia 146.23 326 *e*PKP PKPdf 18 33 59.0 +0.8
ORI Oriolo Calabro 146.32 318 *e*PKP PKPdf 18 33 59.5 +1.1
VAI Varese 146.51 333 *e*PKP PKPdf 18 33 57.2 -1.4
MRLC Muro Lucano 146.52 320 *e*PKP PKPdf 18 33 59.6 +0.9
SFI Santa Sofia 146.52 328 *e*PKP PKPdf 18 33 59.3 +0.7
NRCA Norcia 146.58 325 *e*PKP PKPdf 18 33 57.8 -1.0
MURB Monte Urbino 146.61 326 *e*PKP PKPdf 18 34 00.2 +1.4
TDS Terranova Siba 146.61 318 *e*PKP PKPdf 18 33 59.4 +0.5
ZCCA Zocca 146.63 329 *e*PKP PKPdf 18 34 00.1 +1.3
SLCN Sala Consilina 146.64 319 *e*PKP PKPdf 18 33 59.7 +0.7
SEI Scarperia 146.66 328 *e*PKP PKPdf 18 34 00.7 +1.9
CRE Caprese Michel 146.66 327 *e*PKP PKPdf 18 34 01.2 +2.4
INTR Introdacqua 146.68 323 *e*PKP PKPdf 18 34 00.1 +1.1
FNVD Fontana Vidola 146.69 329 *e*PKP PKPdf 18 33 59.7 +0.8
CSSN Cassano Irpino 146.74 321 *e*PKP PKPdf 18 34 00.0 +0.9
AQU L'Aquila 146.74 324 *e*PKP2 PKPab 18 33 59.8 -1.6
AQU L'Aquila 146.74 324 *e*PKP PKPdf 18 34 00.7 +1.6
SGO Sicignano 146.74 320 *e*PKP PKPdf 18 33 59.0 -0.1
MCGN Macugnaga 146.77 334 *e*PKP PKPdf 18 33 59.2 +0.3
SGG Gregorio Mates 146.80 322 *e*PKP PKPdf 18 34 01.8 +2.7
GSCL Gusciola 146.82 329 *e*PKP PKPdf 18 34 01.1 +2.0
MGR Morigerati 146.84 319 *e*PKP PKPdf 18 33 59.3 0.0
SDI San Donato 146.93 323 *e*PKP PKPdf 18 34 00.1 +0.7
PTQR Pietraquaria 146.96 324 *e*PKP PKPdf 18 33 59.9 +0.4
GRAM 146.97 330 P PKPbc 18 33 59.5 +1.2
GRAM 146.97 330 P PKPbc 18 33 59.5 +1.2
VALM 146.99 330 P PKPdf 18 33 59.1 -0.2
VALM 146.99 330 P PKPdf 18 33 59.2 -0.2
CABF La Chapelle 147.00 337 *e*PKP1 PKPdf 18 34 00.0 +0.7
comp=Z,104nm,1.1s
OG01 Vacheresse 147.00 336 PKP PKPdf 18 34 00.5 +1.2
GRI Girifalco 147.02 317 *e*PKP PKPdf 18 34 01.1 +1.5
BDI Bagni Di Lucca 147.03 329 *e*PKP PKPdf 18 33 58.8 -0.6
ORX Oropa 147.03 334 P PKPdf 18 33 59.0 -0.4
ORO Oropa 147.04 334 *e*PKP PKPdf 18 34 00.1 +0.6
SARO Sassorosso 147.04 329 P PKPdf 18 34 00.4 +0.9
BOB Bobbio (Coli) 147.05 331 *e*PKP PKPdf 18 34 01.4 +1.9
CSNT Castellina Chi 147.11 328 *e*PKP PKPdf 18 33 58.8 -0.8
FLN La Foliniere 147.12 346 *e*PKP1 PKPdf 18 33 59.4 -0.1
comp=Z,106nm,0.9s
FLN *e*R
comp=Z,2µm,22.5s
MNS Montasola 147.12 325 *e*PKP PKPdf 18 33 59.9 +0.2
BACM 147.13 330 P PKPdf 18 34 00.0 +0.4
CODM 147.15 330 P PKPdf 18 33 59.9 +0.2
CODM 147.15 330 P PKPdf 18 33 59.9 +0.3
MSC Monte Massico 147.16 322 *e*PKP PKPdf 18 34 00.9 +1.1
LDF La Druitiere 147.19 345 *e*PKP1 PKPdf 18 33 59.6 0.0
MAIM 147.19 329 P PKPdf 18 33 59.3 -0.5
MAIM 147.19 329 P PKPdf 18 33 59.3 -0.4
LOR Lormes 147.23 340 *e*PKP1 PKPdf 18 34 00.1 +0.4
comp=Z,58nm,0.9s
LOR *e*R
comp=Z,1µm,20.8s
CERT Cerreto 147.24 324 *e*PKP PKPdf 18 33 59.7 -0.1
PII Pisa 147.31 329 *e*PKP PKPdf 18 33 59.9 0.0
GRFL Gerfalco 147.50 328 *e*PKP PKPdf 18 34 01.9 +1.6
LSD Ceresole Reale 147.52 334 P PKPdf 18 34 01.9 +1.7
SSF Saint Saulge 147.53 340 *e*PKP1 PKPdf 18 34 01.1 +0.9
comp=Z,132nm,1.2s
RSL Roselend 147.55 335 PKP PKPdf 18 34 01.6 +1.4
GRR Gorron 147.56 346 *e*PKP1 PKPdf 18 34 00.7 +0.5
comp=Z,136nm,1.1s
HYF Humbligny 147.63 341 *e*PKP1 PKPdf 18 34 01.5 +1.2
PCP Pian Castagno 147.64 332 P PKPdf 18 34 01.2 +0.7
LPL La Plagne 147.65 335 *e*PKP1 PKPdf 18 34 01.9 +1.5
comp=Z,77nm,0.9s
LPG La Plagne 147.65 335 *e*PKP1 PKPdf 18 34 02.0 +1.6
comp=Z,83nm,0.9s
SOI Samo 147.66 316 *e*PKP PKPdf 18 34 01.9 +1.3
TOLF Tolfa 147.71 325 *e*PKP PKPdf 18 34 02.1 +1.5
OG05 Jujurieux 147.72 337 PKP PKPdf 18 34 02.9 +2.4
OG05 PKP PKPdf 18 34 04.4 +3.9
RSP Reno Superiore 147.72 334 P PKPdf 18 34 01.3 +0.7
SMF Signal de Mont 147.78 339 *e*PKP1 PKPdf 18 34 01.5 +0.9
comp=Z,69nm,1.1s
AVF Avril sur Loir 147.82 340 *e*PKP1 PKPdf 18 34 01.4 +0.8
comp=Z,54nm,1.1s
MTTG Motta San Giov 147.94 316 *e*PKP PKPdf 18 34 02.9 +1.8
BHB Bricherasio 147.97 333 P PKPdf 18 34 00.2 -0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BNI	Bardonecchia	148.05	334	ePKP2	PKPab	18 34 03.1	-3.3
FIN	Finale Ligure	148.05	332	ePKP	PKPdf	18 34 02.2	+1.1
SGMF	Saint Gilles	148.06	348	ePKP1	PKPdf	18 34 03.0	+2.0
	comp=Z,90nm,1.0s						
RRL	Cesana Torines	148.11	334	P	PKPdf	18 34 03.3	+2.1
ROSF	Rostrenen	148.12	349	ePKP1	PKPdf	18 34 02.1	+1.0
	comp=Z,59nm,1.2s						
ROB	Roburent	148.14	332	P	PKPdf	18 34 02.1	+0.9
BGF	Bois d'Agland	148.19	340	ePKP1	PKPdf	18 34 02.6	+1.4
	comp=Z,60nm,0.8s						
GRN	Grenoble	148.27	335	PKP	PKPdf	18 34 03.5	+2.1
MBDF	Montbardon	148.27	334	ePKP1	PKPdf	18 34 02.8	+1.4
	comp=Z,23nm,0.7s						
PZZ	Prazzo	148.31	333	P	PKPdf	18 34 02.9	+1.4
MONE	Monesi	148.36	332	P	PKPdf	18 34 03.1	+1.5
ENR	Entracque	148.39	333	P	PKPdf	18 34 01.9	+0.3
STV2	Anna di Valdie	148.42	333	P	PKPdf	18 34 02.1	+0.4
STV	Sta Anna Valdi	148.42	333	P	PKPdf	18 34 02.2	+0.5
IMI	Imperia	148.43	332	P	PKPdf	18 34 03.1	+1.3
IMI				ePKP	PKPdf	18 34 16.2	+14
SURF	Saint Ours	148.45	333	PKP	PKPdf	18 34 04.3	+2.6
ORIF	Oris-en-Rattie	148.48	335	ePKP1	PKPdf	18 34 03.5	+1.7
	comp=Z,72nm,0.8s						
ORIF				eR			
	comp=Z,814nm,21.8s						
SAOF	Saorge	148.52	332	PKP	PKPdf	18 34 03.5	+1.6
AGO	Saint Agoulin	148.54	339	PKP	PKPdf	18 34 05.9	+4.1
AUTN	L'Aution	148.57	332	PKP	PKPdf	18 34 04.3	+2.4
TOUF	Mont Tournerai	148.63	332	PKP	PKPdf	18 34 02.4	+0.4
TCF	Toulx Ste Croi	148.63	341	ePKP1	PKPdf	18 34 03.9	+1.9
	comp=Z,112nm,1.2s						
SBF	Sospel	148.67	332	ePKP1	PKPdf	18 34 03.8	+1.7
	comp=Z,95nm,1.0s						
AURF	Auriere	148.70	332	PKP	PKPdf	18 34 03.7	+1.6
COLF	Collangettes	148.81	338	PKP	PKPdf	18 34 01.6	-0.7
PYM	Petit Puy Mans	148.84	339	PKP	PKPdf	18 34 06.1	+3.8
PGF	Pioggiola	148.93	329	ePKP1	PKPdf	18 34 04.7	+2.1
	comp=Z,154nm,0.8s						
CALN	Calern	149.00	333	PKP	PKPdf	18 34 03.5	+0.9
VIVF	Saint-Julien-l	149.01	336	ePKP1	PKPdf	18 34 05.1	+2.5
	comp=Z,38nm,1.0s						
VERF	Verneugheol	149.02	340	PKP	PKPdf	18 34 06.6	+4.0
MFF	Saint Martin d	149.04	344	ePKP1	PKPdf	18 34 04.7	+2.1
	comp=Z,57nm,0.7s						
LBL	Lubilhac	149.21	338	PKP	PKPdf	18 34 06.9	+4.0
STOF	St-Etienne Org	149.22	334	PKP	PKPdf	18 34 06.2	+3.2
FRF	La Foret Royal	149.26	333	ePKP1	PKPdf	18 34 05.1	+2.0
	comp=Z,102nm,1.2s						
SMRF	Simiane la Rot	149.38	334	ePKP1	PKPdf	18 34 06.1	+2.9
	comp=Z,68nm,1.0s						
VILF	Villemus	149.42	334	PKP	PKPdf	18 34 06.4	+3.1
TAVF	Tavernes	149.47	333	PKP	PKPdf	18 34 06.2	+2.8
LMR	La Mourre	149.50	332	ePKP1	PKPdf	18 34 05.9	+2.4
	comp=Z,54nm,0.9s						
PRAF	Pradon	149.69	335	PKP	PKPdf	18 34 06.7	+3.0
PUYF	Puyloubier	149.69	334	PKP	PKPdf	18 34 08.3	+4.5
RJF	Les Rejaudoux	149.73	341	ePKP1	PKPdf	18 34 06.7	+2.9
	comp=Z,44nm,1.0s						
RJF				eR			
	comp=Z,1μm,21.8s						
TREF	Trevaresse	149.75	334	PKP	PKPdf	18 34 08.5	+4.7
CLTB	Caltabellotta	149.81	317	ePKP	PKPdf	18 34 07.6	+3.5
BERF	Bertagne	149.87	333	PKP	PKPdf	18 34 07.8	+3.8
CAF	Calviac	149.89	340	ePKP1	PKPdf	18 34 07.2	+3.2
	comp=Z,24nm,0.8s						
GELF	Grande-Etoile	149.93	334	PKP	PKPdf	18 34 07.8	+3.7
LASF	Ste Croix	149.98	336	ePKP1	PKPdf	18 34 07.5	+3.3
	comp=Z,111nm,1.0s						
LFF	La Frestale	150.30	341	ePKP1	PKPdf	18 34 08.1	+3.4
	comp=Z,108nm,1.0s						
VSL	Villasalto	150.92	324	ePKPbc	PKPdf	18 34 10.1	+4.3
MTLF	Montolieu	151.22	338	ePKP1	PKPdf	18 34 10.2	+4.1
	comp=Z,35nm,0.8s						
EPF	Esparros	152.14	340	ePKP1	PKPdf	18 34 12.5	+5.0
	comp=Z,22nm,0.8s						
ETSF	Etsaut	152.55	341	ePKP1	PKPdf	18 34 12.9	+4.9
	comp=Z,30nm,0.6s						
SJPF	Ste Jean	152.55	342	ePKP1	PKPdf	18 34 12.8	+4.8
EBR	Ebro Roquetas	154.05	338	ePKPpB		18 34 30.5	
ESDC	Sonseca Array	156.50	344	PKPab	PKPab	18 34 42.7	+0.6
	comp=Z,2.7nm,0.6s,baz=12,slow=4.1,SNR=14						
EVO	Evora	158.46	351	ePKIKP	PKPdf	18 34 14.5	-1.5
	comp=Z,12nm,0.9s						
EVO				eR			
	comp=Z,2μm,20.8s						
DBIC	Dimbokro	167.26	215	PKP	PKPdf	18 34 23.5	-1.8
	comp=Z,6.5nm,0.9s,baz=170,slow=3.4,SNR=4.3						

IDC 11 18:30:12.1±1.6**, 48.90S**×**116.91E, mb3.6**/4**, mb1 3.9**/4**, mb1mx3.7**/9**, Error ellipse: s-maj=81.6km s-min=26.3km az=123.0, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	28.54	34	P	P	18 36 09.5	-1.8
	0.5nm,0.8s,baz=199,slow=8.5,SNR=4.7						
WRA	Warramunga Arr	32.11	32	P	P	18 36 40.7	-2.4
	0.8nm,0.8s,baz=202,slow=8.4,SNR=4.9						
MAW	Mawson	32.59	215	P	P	18 36 44.7	-2.2
	1.8nm,0.7s,baz=87,slow=9.2,SNR=5.9						
CMAR	Chiang Mai Arr	68.94	342	P	P	18 41 18.9	-2.1
	0.2nm,0.5s,baz=189,slow=6.4,SNR=5.1						

*IDC **11** 18:30:32.4±1.6, 16.93N×38.86E, mb3.9/11, mb1 4.0/11, mb1mx4.0/16, Error ellipse: s-maj=35.8km s-min=23.7km az=1.0*

ISC 11 18:30:32.0±1.0**, 16.9N**±0.1×**38.75E**±0.08**, h10km, n20, σ1.11**/20**, mb3.9**/11**, Ethiopia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NAMS	An Nimas	4.00	55	P	Pn	18 31 35.4	+0.5
BLJS	Baljurashi	4.03	42	P	Pn	18 31 35.9	+0.6
TATS	Tathlith	5.21	59	P	Pn	18 31 52.8	+0.7
YNBS	Yanbu' al Bahr	7.46	355	P	Pn	18 32 22.0	-1.7
UMJS	Umm Lajj	8.43	351	P	P	18 32 37.7	+0.6
KBRS	Khaybar	8.88	3	P	P	18 32 44.5	+1.1
HAQS	Haql	12.62	345	P	P	18 33 30.6	-3.9
JMOS	Jabal al Moall	12.69	345	P	P	18 33 35.7	+0.2
BRTR	Keskin Array B	23.20	350	P	P	18 35 42.7	+2.6
	1.4nm,0.7s,mb3.5,baz=170,slow=14,SNR=4.0						
AKASG	Malin Array Be	34.60	349	P	P	18 37 22.3	-0.9
	0.2nm,0.2s,mb3.6,baz=174,slow=7.2,SNR=4.5						
GERES	GERESS Array B	37.85	333	P	P	18 37 51.3	+0.6
	1.5nm,0.6s,mb3.9,baz=121,slow=7.8,SNR=4.1						
ESDC	Sonseca Array	43.42	310	P	P	18 38 38.0	+1.3
	3.1nm,0.9s,mb4.0,baz=102,slow=8.3,SNR=4.4						
DBIC	Dimbokro	43.79	262	P	P	18 38 40.8	+0.7
	4.5nm,0.8s,mb4.3,baz=66,slow=10,SNR=5.0						
FINES	FINESS Array B	45.42	351	P	P	18 38 51.9	-0.7
	0.9nm,0.7s,mb3.7,baz=141,slow=12,SNR=5.0						
MKAR	Makanchi Array	46.65	41	P	P	18 39 01.7	-0.7
	0.6nm,0.6s,mb3.7,baz=232,slow=9.0,SNR=9.3						
NB2	NORSAR Subarra	48.30	342	P	P	18 39 13.9	-1.3
	4.0nm,1.0s,mb4.4,baz=146,slow=7.9						
NOA	NORSAR Array B	48.30	342	P	P	18 39 14.4	-0.8
	2.1nm,0.8s,mb4.2,baz=145,slow=7.9,SNR=5.4						
ARCES	ARCESS Array B	53.28	354	P	P	18 39 51.4	-1.7
	3.8nm,1.0s,mb4.3,baz=180,slow=7.3,SNR=4.4						
CMAR	Chiang Mai Arr	57.14	79	P	P	18 40 21.9	+0.3
	0.9nm,1.1s,mb3.7,baz=281,slow=7.2,SNR=4.1						
SONM	Songino Array	62.70	45	P	P	18 40 57.7	-1.8
	1.0nm,1.0s,mb3.9,baz=259,slow=6.3,SNR=6.0						

*NEIC **11** 18:33:18.1, 46.32N×12.55E, h5km, MD2.7(ROM), After ROM.*
*ROM **11** 18:33:18.0±0.2, 46.32N×12.55E, h5km, MD2.7/2, ML2.2/2, Error ellipse: s-maj=1.7km s-min=1.4km az=0.0*
*CSEM **11** 18:33:18.2±0.1, 46.29N×12.52E, h12km, ML2.9/9, Error ellipse: s-maj=1.9km s-min=1.3km az=175.0*
*PRU **11** 18:33:20.8, 46.32N×12.67E, h3km*

ISC 11 18:33:18.4±0.3**, 46.33N**±0.01×**12.52E**±0.02**, h5km, n56, σ0.91**/96**, 12C-9D, Northern Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MLNI	Malnisio	0.19	160⇓	iPg	Pg	18 33 22.1	-0.2
MLNI				iSg	Sg	18 33 24.9	0.0
CSMI	Casera Mimoias	0.20	27⇑	iPg	Pg	18 33 23.1	+0.6
CSMI				iSg	Sg	18 33 26.8	+1.4
FVI	Forni Avoltri	0.32	34	ePG	Pg	18 33 25.2	+0.3
FVI				SG	Sg	18 33 30.3	+1.1
FVI	Forni Avoltri	0.32	34	ePg	Pg	18 33 25.2	+0.3
FVI				eSg	Sg	18 33 30.3	+1.1
CAE	Caneva	0.33	190⇓	iPg	Pg	18 33 24.3	-0.7
CAE				eSg	Sg	18 33 28.9	-0.5
MPRI	Monte Prat	0.34	105⇓	iPg	Pg	18 33 25.2	0.0
MPRI				eSg	Sg	18 33 30.4	+0.7
ZOU	Zoufplan	0.39	54⇑	ePg	Pg	18 33 26.3	+0.1
ZOU				eSg	Sg	18 33 32.7	+1.3
BOO	Bordano	0.41	91⇓	iPg	Pg	18 33 26.0	-0.5
BOO				iSg	Sg	18 33 32.0	0.0
BUA	Buia	0.44	105⇑	iPg	Pg	18 33 26.9	-0.2
BUA				iSg	Sg	18 33 34.0	+1.0
PLRO	Paularo	0.49	63⇓	iPg	Pg	18 33 28.0	-0.1
PLRO				iSg	Sg	18 33 35.9	+1.2
GMNA	Gemona	0.50	96	ePG	Pg	18 33 27.0	-1.4
GMNA				SG	Sg	18 33 33.9	-1.3
	466nm,0.5s						
GMNA	Gemona	0.50	96	ePg	Pg	18 33 27.0	-1.5
GMNA				eSg	Sg	18 33 33.9	-1.2
GMNA	Gemona	0.50	96	ePg	Pg	18 33 27.0	-1.4
	466nm,0.5s						
GMNA				Sg	Sg	18 33 33.9	-1.3
BAD	Bernadia	0.51	100⇑	iPg	Pg	18 33 28.0	-0.7
BAD				iSg	Sg	18 33 35.9	+0.3
PTCC	Patocco-Chiusa	0.58	82	ePG	Pg	18 33 29.5	-0.6
PTCC				SG	Sg	18 33 38.8	+0.9
	38nm,0.2s						
PTCC	Patocco-Chiusa	0.58	82	ePg	Pg	18 33 29.5	-0.5
PTCC				eSg	Sg	18 33 38.8	+0.9
PTCC	Patocco-Chiusa	0.58	82	ePg	Pg	18 33 29.5	-0.6
	38nm,0.2s						
PTCC				Sg	Sg	18 33 38.8	+0.9
COLI	Coloredo	0.63	108⇓	iPg	Pg	18 33 30.3	-0.6
COLI				eSg	Sg	18 33 40.3	+0.9
CTI	Castel Tesino	0.66	245	ePG	Pg	18 33 31.4	-0.3
CTI				SG	Sg	18 33 41.6	+1.1
	83nm,0.3s						
CTI	Castel Tesino	0.66	245	ePg	Pg	18 33 31.4	-0.2
CTI				eSg	Sg	18 33 41.6	+1.1
CTI	Castel Tesino	0.66	245	ePg	Pg	18 33 31.4	-0.3
	83nm,0.3s						
CTI				Sg	Sg	18 33 41.6	+1.1
CGRP	Cima Grappa	0.67	228⇓	iPg	Pg	18 33 32.1	+0.3
CGRP				eSg	Sg	18 33 41.7	+1.0
LSR	Lussari	0.71	78⇑	iPg	Pg	18 33 31.9	-0.7
LSR				iSg	Sg	18 33 43.1	+0.9
DRE	Drenchia	0.80	101⇑	ePg	Pg	18 33 33.5	-0.9
CADS	Cadrg	0.85	96	iPg	Pg	18 33 34.3	-1.1
CADS				eSg	Sg	18 33 47.1	+0.3
	comp=Z,27nm,0.2s						
CADS	Cadrg	0.85	96	iPg	Pg	18 33 34.3	-1.1
CADS				eSg	Sg	18 33 47.1	+0.3
	comp=Z,27nm,0.2s						
KBA	Koelnbreinsper	0.94	37⇑	iPG	Pg	18 33 36.6	-0.6
KBA				iSG	Sg	18 33 49.9	+0.2
	comp=Z,14nm,0.2s						
VOY	Vojsko	1.00	107	ePg	Pg	18 33 37.0	-1.4
VOY				eSg	Sg	18 33 52.0	+0.2
TRI	Trieste	1.07	125	ePG	Pg	18 33 39.4	-0.3
TRI				SG	Sg	18 33 55.2	+1.2
	comp=Z,56nm,0.2s						
TRI	Trieste	1.07	125	ePg	Pg	18 33 39.4	-0.3
TRI				eSg	Sg	18 33 55.2	+1.2
TRI	Trieste	1.07	125	ePg	Pg	18 33 39.4	-0.3
	comp=Z,56nm,0.2s						
WTTA	Wattenberg	1.11	327⇓	iPG	Pg	18 33 40.8	+0.2
WTTA				iSG	Sg	18 33 56.1	+0.7
	comp=Z,17nm,0.3s						
TEOL	Teolo	1.14	212⇑	ePg	Pg	18 33 40.7	-0.4
TEOL				eSg	Sg	18 33 56.8	+0.6
WATA	Walderalm	1.20	328⇑	iPG	Pg	18 33 41.5	-0.7
WATA				iSG	Sg	18 33 58.4	+0.2
	comp=Z,22nm,0.3s						
SQTA	Sankt Quirin	1.27	315⇑	iPG	Pg	18 33 43.5	-0.1
SQTA				iSG	Sg	18 34 01.5	+1.0
	comp=Z,7.4nm,0.2s						
MOTA	Moosalm	1.40	317⇑	iPG	Pg	18 33 45.9	-0.5
MOTA				iSG	Sg	18 34 05.3	+0.2
	comp=Z,11nm,0.4s						
MABI	Malga Bissina	1.42	260	ePN	Pn	18 33 45.9	+1.0
MABI	Malga Bissina	1.42	260	ePg	Pg	18 33 45.9	-0.8
OBKA	Obir	1.42	82⇑	iPG	Pg	18 33 45.1	-1.6
OBKA				iSG	Sg	18 34 04.3	-1.3
	comp=Z,17nm,0.3s						
OBKA	Obir	1.42	82	iSg	Sg	18 34 04.3	-1.3
	comp=Z,17nm,0.3s						
LJU	Ljubljana	1.43	101	ePg	Pg	18 33 46.1	-0.8
LJU				eSg	Sg	18 34 05.5	-0.4
LJU	Ljubljana	1.43	101	eSg	Sg	18 34 05.5	-0.4
CEY	Cerknica	1.46	113	iPn	Pn	18 33 45.7	+0.2
BRMO	Bormio	1.49	276	ePN	Pn	18 33 46.3	+0.4
BRMO	Bormio	1.49	276	ePn	Pn	18 33 46.3	+0.4
PERS	Pernice	1.82	79	ePn	Pn	18 33 52.0	+1.4
PERS				iSn	Sn	18 34 15.7	+1.3
MOA	Molln	1.93	38⇓	iPG	Pg	18 33 55.2	-1.8
MOA				iSG	Sg	18 34 22.3	-0.5
	comp=Z,5.2nm,0.3s						
BOJS	Bojanci	2.08	112	eSn	Sn	18 34 24.4	+3.4
UBR	Uberruh	2.13	310	eP	Pn	18 33 52.1	-3.0
NVLJ	Novalja	2.42	136	iSg	Pn	18 34 00.1	+0.8
KHC	Kasperske Hory	2.89	14	ePN	Pn	18 34 07.0	+1.0
KHC				eSN	Sn	18 34 42.2	+0.6
KHC				eSG	Sg	18 34 52.3	-2.4
PRU	Pruhonice	3.90	20	eSG	Sg	18 35 24.1	-4.2
	comp=Z,4.2nm,0.6s						
NKC	Novy Kostel	3.91	359	eSN	Sn	18 35 07.6	+0.4
MOX	Moxa	4.36	352	eSn	Sn	18 35 16.6	-2.1
MOX				eSg	Sx	18 35 18.1	
CLL	Collm	4.99	4	eSG	Sg	18 35 59.0	-5.6
CLL	Collm	4.99	4	eSg	Sg	18 35 59.0	-5.6

MAN 11 19:36:45.2, 15.77N×**119.37E, h1km, mb4.5, ML3.3, MS3.2, 1D, Luzon**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BCPH	Baguio City Da	1.31	62⇓	iP	Pb	19 37 10.5	+0.1
BCPH				iS	Sb	19 37 30.0	+2.4
BALP	Baler	2.12	90	eP	Pn	19 37 22.8	+0.6
CAUP	Cauayan	2.63	63	eP	Pn	19 37 32.5	+2.9
APYP	Conner	2.75	40	eP	Pn	19 37 30.9	-0.3
APYP				eS	Sn	19 38 06.2	+0.6

WEL 11 19:44:51.1±1.2**, 35.48S**×**178.98E, h33km, ML3.7**/2**, Error ellipse: s-maj=21.6km s-min=11.4km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.15	194	P*	Pb	19 45 24.6	-4.6
MXZ				eS*	Sb	19 45 49.5	-6.1
PUZ	Puketiti	2.65	192	PN	Pn	19 45 31.6	-1.0
PUZ				SN	Sn	19 46 00.1	-3.8
MWZ	Matawai	3.08	202	P*	Pb	19 45 37.7	-7.3
URZ	Urewera	3.15	208	P*	Pb	19 45 38.7	-7.7
URZ				eS*	Sb	19 46 15.8	-8.9
KNZ	Kokohu	3.68	196	PN	Pn	19 45 43.9	-3.3
BKZ	Black Stump Fm	4.18	208	eP*	Pb	19 45 51.3	-13
KIW	Kapiti Island	6.25	210	PN	Pn	19 46 16.5	-7.2
THZ	Tophouse	7.87	215	PN	Pn	19 46 38.5	-7.8

IDC 11 19:44:54.0±6.0**, 8.11S**×**158.93E, mb3.9**/4**, mb1 4.1**/4**, mb1mx3.8**/12**, Error ellipse: s-maj=129.0km s-min=41.6km az=89.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	26.55	241	P	P	19 50 34.6	-1.1
	0.5nm,0.3s,baz=67,slow=9.2,SNR=17						
ASAR	Alice Springs	28.53	234	P	P	19 50 51.5	-2.1
	0.4nm,0.4s,baz=63,slow=9.9,SNR=17						
STKA	Stephens Creek	28.63	212	P	P	19 50 51.5	-2.9
	0.9nm,0.6s,baz=51,slow=15,SNR=5.3						
CMAR	Chiang Mai Arr	64.78	295	P	P	19 55 35.0	-2.1
	1.1nm,0.7s,baz=115,slow=5.3,SNR=6.0						

*IDC **11** 20:23:08.2±0.8, 11.37N×86.56W, mb4.3/11, mb1 4.6/11, mb1mx4.4/19, MS4.0/8, Ms1 4.0/8, ms1mx3.8/20, Error ellipse: s-maj=29.5km s-min=17.4km az=48.0*
*CASC **11** 20:23:12.9±2.1, 11.16N×86.99W, h62km±72km, MD4.6, mb4.0(NEIC)*
*BJI **11** 20:23:14.5, 11.20N×86.80W, h52km, Ms5.2, Msz5.0*
*NEIC **11** 20:23:14.6±2.1, 11.25N×86.77W, h53km±19km, mb4.5/14, Error ellipse: s-maj=14.6km s-min=6.2km az=221.0*

ISC 11 20:23:12.4±0.6**, 11.12N**±0.04×**86.97W**±0.04**, h53km**±5km**, n100, σ1.04**/87**, mb4.4**/22**, MS4.1**/9**, 11C-5D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
COPN	Copaltepe	1.12	19⇓	eP	P	20 23 32.5	+0.5
COPN				eS	S	20 23 48.5	+2.0
TICN	Ticuantepe	1.16	38⇑	eP	P	20 23 32.8	+0.2
MASN	Masaya	1.18	43	eP	P	20 23 32.9	+0.1
APON	Apoyo	1.19	48⇑	eP	P	20 23 32.8	-0.2
XAVN	Gruta Xavier	1.20	31⇑	eP	P	20 23 33.4	+0.3
MGAN	Managua	1.24	35⇑	eP	P	20 23 33.9	+0.2
MGAN				eS	S	20 23 49.3	-0.4
APYN	Apoyeque	1.26	29	eP	P	20 23 34.3	+0.2
WILN	Americas 2	1.29	36⇑	eP	P	20 23 34.4	0.0
WILN				eS	S	20 23 50.8	-0.1
LEON	Leon	1.29	3⇑	eP	P	20 23 34.5	0.0
MIRN	Miramar	1.34	11⇓	eP	P	20 23 35.2	0.0
MOMJ	Momotombo	1.35	18⇑	eP	P	20 23 35.3	-0.1
CNGN	Cerro Negro	1.40	11	eP	P	20 23 36.1	0.0
TEL3	Telica 3	1.45	5	eP	P	20 23 37.2	+0.4
TELN	Telica	1.48	5⇑	eP	P	20 23 37.5	+0.3
CRIN	San Cristobal	1.57	357⇓	eP	P	20 23 38.8	+0.3
PYTN	Playitas	1.67	32⇑	eP	P	20 23 39.6	-0.2
JCR	Jicaral	2.22	124	eP	P	20 23 45.1	-2.4
FORC	Fortuna	2.35	106	eP	P	20 23 54.0	+4.6
BLLM	Bellamira	2.62	332	eP	P	20 23 53.4	+0.1
BLLM				eS	S	20 24 21.1	-2.9
CGA2	Cerro Gallo 2	2.69	114	eP	P	20 23 53.8	-0.5
VPS2	Volcan Poas 2	2.84	109	eP	P	20 23 58.2	+1.8
PRS1	Puriscal	2.84	113	eP	P	20 23 57.1	+0.6
CAHU	Cacacuatique	2.90	335	eP	P	20 23 57.8	+0.6
LAJ	Bijagual	3.06	114⇓	eP	P	20 23 55.0	-4.6
SJS	Escuela Geolog	3.10	112	eP	P	20 24 00.3	+0.3
LCBS	La Ceiba	3.20	322	eP	P	20 24 00.4	-1.0
LCBS				eS	S	20 24 32.3	-6.3
LCR2	La Lucha 2	3.22	115	eP	P	20 24 01.3	-0.5
LFRS	El Faro	3.22	321	eP	P	20 24 00.9	-0.9
LFRS				eS	S	20 24 33.6	-5.6
TRTC	Tortuguero	3.24	99	eP	P	20 24 02.9	+0.9
ICR	Volcan Irazu	3.29	110⇓	eP	P	20 24 04.5	+1.8
URSC	Urasca	3.39	112⇑	eP	P	20 24 04.6	+0.5
BOQS	Boqueron	3.44	319	eP	P	20 24 03.8	-1.1
BUS	Buena Vista	3.52	116⇑	eP	P	20 24 05.4	-0.5
SBLS	San Blas	3.75	316	eP	P	20 24 08.4	-0.8
SNJE	San Jose	3.76	317	eP	P	20 24 08.3	-1.0
MTO2	Montecristo 2	4.01	325	eP	P	20 24 11.9	-1.0
SDV	Santo Domingo	16.24	96	eP	P	20 26 58.3	-0.3
	20nm,0.8s						
HKT	Hockley	20.48	338	eP	P	20 27 47.1	-1.2
	23nm,1.1s						
SJG	San Juan	21.30	69	P	P	20 27 53.5	-3.1
	5.8nm,0.3s,mb4.4,baz=328,slow=19,SNR=2.5						
SJG	San Juan	21.30	69	eP	P	20 27 56.1	-0.5
	13nm,0.7s,mb4.4						
JCT	Junction City	22.66	330	eP	P	20 28 08.7	-1.5
	8.7nm,0.9s,mb4.2						
LTX	Lajitas	23.90	322	eP	P	20 28 24.1	+1.8
	12nm,0.9s,mb4.3						
TXAR	Lajitas Array	23.90	322	P	P	20 28 24.5	+2.3
	9.2nm,0.8s,mb4.2,baz=140,slow=9.8,SNR=26						
TXAR				PcP	PcP	20 32 09.1	+3.7
	3.3nm,0.9s,baz=135,slow=3.5,SNR=6.8						
TXAR	Lajitas Array	23.90	322	P	P	20 28 24.5	+2.3
TXAR				PcP	PcP	20 32 09.1	+3.7
SWET	Sewanee	24.01	2	eP	P	20 28 24.1	+1.0
MIAR	Mount Ida	24.09	347	eP	P	20 28 23.7	-0.3
	11nm,0.8s,mb4.3						
WMOK	Wichita Mounta	25.86	337	eP	P	20 28 41.0	+0.1
	17nm,0.9s,mb4.6						
CLNB	Carlsbad	26.19	326	eP	P	20 28 44.6	+0.6
GDL2	Guadalupe Moun	26.41	325	eP	P	20 28 46.1	+0.1
CPRX	Cap Rock	26.77	327	eP	P	20 28 49.5	+0.1
BNM	Barren Site	29.12	325	eP	P	20 29 11.9	+1.4
ACSO	Alum Creek Sta	29.21	6	eP	P	20 29 09.9	-1.3
	31nm,0.9s,mb5.0						
ANMO	Albuquerque	29.62	326	eP	P	20 29 15.0	+0.1
SSPA	Standing Stone	30.47	14	eP	P	20 29 21.7	-0.7
	24nm,0.9s,mb4.9						
SAML	Samuel	30.94	129	eP	P	20 29 24.4	-2.4
	7.9nm,0.9s,mb4.5						
SDCO	Great Sand Dun	31.30	331	eP	P	20 29 30.3	+0.5
	6.4nm,0.9s,mb4.5						
BINY	Binghamton	32.42	15	eP	P	20 29 38.3	-1.2
	32nm,0.9s,mb5.2						
GENY	Geneseo	32.52	13	eP	P	20 29 38.9	-1.5
LPAZ	La Paz	33.00	145	LR	LR	20 41 56.4	
	comp=Z,154nm,19.9s,MS3.7,baz=74,slow=34						
SADO	Sadowa	34.20	10	P	P	20 29 52.7	-2.2
	12nm,0.8s,mb4.9,baz=205,slow=9.8,SNR=8.7						
SADO				LR	LR	20 44 50.5	
	comp=Z,188nm,21.1s,MS3.8,baz=313,slow=38						
SRU	San Rafael	34.88	327	eP	P	20 30 01.3	+0.5
DAU	Daniels Canyon	36.22	328	eP	P	20 30 12.7	+0.6
PDAR	Pinedale Array	37.16	332	P	P	20 30 21.3	+1.3
	2.9nm,0.8s,mb4.1,baz=135,slow=10,SNR=8.5						
AHID	Auburn Hatcher	37.89	331	eP	P	20 30 26.4	+0.4
	6.8nm,0.9s,mb4.4						
REDW	Red Top Meadow	38.22	331	eP	P	20 30 29.7	+0.8
SNOW	Snow King Moun	38.26	332	eP	P	20 30 30.5	+1.4
TPAW	Teton Pass	38.37	332	P	P	20 30 30.1	+0.1
MOOW	Moose Ponds	38.47	332	eP	P	20 30 31.2	+0.3
NVAR	Mina Array Bea	39.01	320	P	P	20 30 37.6	+2.1
	3.3nm,0.9s,mb4.0,baz=129,slow=8.6,SNR=13						
NVAR				PcP	PcP	20 32 47.5	+2.0
	6.5nm,1.1s,baz=128,slow=4.7,SNR=7.7						
BMN	Battle Mountai	39.56	323	eP	P	20 30 42.0	+2.0
	7.3nm,0.9s,mb4.4						
ULM	Lac du Bonnet	39.70	351	P	P	20 30 39.7	-1.3
	5.8nm,0.7s,mb4.5,baz=162,slow=6.2,SNR=4.6						
HLID	Hailey	40.12	329	eP	P	20 30 45.5	+0.9
MCMT	McKenzie Canyo	40.27	331	eP	P	20 30 47.0	+1.1
BOZ	Bozeman (W)	40.34	333	P	P	20 30 46.4	0.0
DPW	Davenport	45.03	330	eP	P	20 31 24.9	+0.3
SCHQ	Schefferville	46.41	16	P	P	20 31 33.4	-2.0
	6.6nm,0.7s,mb4.7,baz=160,slow=4.5,SNR=5.9						
SCHQ				LR	LR	20 52 49.8	
	comp=Z,280nm,18.4s,MS4.2,baz=150,slow=39						
SCHQ	Schefferville	46.41	16	P	P	20 31 33.4	-2.0
SCHQ				LR	LR	20 52 49.8	
BDFB	Brasilia	46.84	124	P	P	20 31 39.9	+0.6
	8.9nm,1.0s,mb4.7,baz=279,slow=6.3,SNR=6.4						
BDFB				LR	LR	20 52 08.5	
	comp=Z,197nm,18.4s,MS4.1,baz=151,slow=37						
CPUP	Villa Florida	47.07	143	P	P	20 31 39.9	-1.1
	1.7nm,0.9s,mb4.0,baz=30,slow=12,SNR=3.5						
CPUP	Villa Florida	47.07	143	P	P	20 31 39.9	-1.1
FRB	Frobisher Bay	54.14	10	LR	LR	20 54 48.0	
	comp=Z,184nm,18.9s,MS4.2,baz=317,slow=35						
ILAR	Eielson Array	67.42	336	P	P	20 34 04.0	-0.2
	1.1nm,0.8s,mb3.9,baz=141,slow=4.9,SNR=13						
ESDC	Sonseca Array	77.64	52	P	P	20 35 03.1	-1.9
	2.7nm,1.1s,mb4.1,baz=291,slow=5.3,SNR=4.8						
NOA	NORSAR Array B	84.30	29	LR	LR	21 10 40.2	
	comp=Z,48nm,18.5s,MS3.9,baz=290,slow=34						
ARCES	ARCESS Array B	87.28	19	LR	LR	21 19 20.9	
	comp=Z,52nm,20.4s,MS3.9,baz=201,slow=39						
FINES	FINESS Array B	90.95	26	LR	LR	21 14 10.5	
	comp=Z,67nm,20.2s,MS4.1,baz=334,slow=34						
MBAR	Mbarara	117.28	85	PKP	PKPdf	20 41 54.0	+1.2
MKAR	Makanchi Array	121.56	9	PKP	PKPdf	20 42 01.5	+1.2
	0.6nm,0.7s,baz=236,slow=4.4,SNR=4.0						
WMQ	Urumqi	125.11	5	ePKP	PKPdf	20 42 09.0	+1.7
STKA	Stephens Creek	130.79	237	PKP	PKPdf	20 42 22.0	+3.4
	1.7nm,1.0s,baz=35,slow=3.9,SNR=2.5						
LZH	Lanzhou	131.96	348	ePKP	PKPdf	20 42 21.5	+0.9
LZH				LR	LR		
	comp=N,217nm,18.0s						
LZH				LR	LR		
	comp=Z,299nm,20.1s,MS5.0						
ASAR	Alice Springs	139.20	247	PKP	PKPdf	20 42 40.3	+6.0
	comp=Z,1.1nm,0.7s,baz=118,slow=2.2,SNR=8.0						
WRA	Warramunga Arr	139.34	252	PKP	PKPdf	20 42 37.8	+3.2
	comp=Z,0.9nm,0.7s,baz=93,slow=1.7,SNR=9.2						
GKN	Gorkha	140.27	12	eP	PKPdf	20 42 39.1	+3.0
	comp=Z,6.3nm,0.8s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KOLN	Koldanda	140.28	13	eP	PKPdf	20 42 38.6	+2.5
	comp=Z,7.2nm,1.0s						
GUN	Gumba	140.59	10	eP	PKPdf	20 42 41.2	+4.4
	comp=Z,18nm,0.9s						
KKN	Kakani	140.60	11	eP	PKPdf	20 42 38.9	+2.1
DMN	Daman	140.74	11	eP	PKPdf	20 42 39.8	+2.7
	comp=Z,13nm,1.2s						
CM31	Chiang Mai Arr	150.04	349	ePKPbc	PKPdf	20 43 00.8	+7.9
CMAR	Chiang Mai Arr	150.04	349	PKP	PKPdf	20 42 56.7	+3.7
	comp=Z,5.1nm,0.9s,baz=340,slow=2.2,SNR=7.1						
CMAR				PKPbc	PKPdf	20 43 01.3	+8.4
	comp=Z,7.9nm,0.9s,baz=334,slow=3.2,SNR=33						

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*BJI **11** 20:29:50.5, 19.51N×154.87W, h45km, mB4.0, mb4.3, Ms4.4, Msz4.2*
*NEIC **11** 20:29:50.0, 19.35N×155.28W, h32km, MD4.0(HVO), After HVO.*
NEIC Felt at Hawaii Volcanoes National Park.
ISC 11 20:29:50.2±1.1**, 19.38N**±0.10×**155.6W**±0.2**, h33**km±7km**, n10, σ0^{s}90**/10**, MS4.8**/1**, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPO	Honuapo	0.29	179	eP	Pb	20 29 57.3	-0.5
POHA	Pohakuloa	0.38	4	eP	Pb	20 29 58.9	-0.1
KKH	Kailua Kona	0.52	303	eP	Pb	20 30 02.7	+1.6
HKL	Haleakala	1.48	334	eP	Pn	20 30 14.9	0.0
HON	Honolulu	3.00	311	eP	Pn	20 30 35.6	-1.1
KIP	Kipapa	3.07	312	eP	Pn	20 30 36.3	-1.4
NJ2	Nanjing	76.36	299	eP	P	20 41 38.8	+0.7
HHC	Hu-ho-hao-te	79.69	310	eP	P	20 42 02.2	+5.9
HHC				AMB	AMB		
	comp=Z,42nm,7.0s						
LZH	Lanzhou	86.97	307	eP	P	20 42 33.4	-0.1
LZH				AP	pP	20 42 44.0	0.0
LZH				XP	sP	20 42 47.9	+0.4
LZH				LR	LR		
	comp=N,265nm,15.0s						
LZH				LR	LR		
	comp=Z,341nm,17.9s,MS4.8						
WMQ	Urumqi	94.59	320	eP	P	20 43 10.0	+1.2

DJA 11 21:33:22.9±0.9**, 8.73S**×**114.64E, h127**km±7km**, MD5.2**/4**, ML3.5**/2**, 2C-5D, Error ellipse: s-maj=37.4km s-min=9.7km az=8.0, Bali region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KELI	Kelakatan	0.53	344	⇑iPn	P	21 33 41.5	-0.4
	371nm,0.2s						
KELI				⇑iSn	S	21 33 55.8	-0.5
SRDI	Scrawed	0.55	296	⇓iPn	P	21 33 41.8	-0.2
	27nm,0.2s						
SRDI				⇓iSn	S	21 33 54.8	-1.8
RATI	Rata	0.88	90	⇓ePn	P	21 33 44.4	-0.2
	166nm,0.2s						
RATI				⇓iSn	S	21 33 59.7	-1.4
KEDI	Kedomdong	1.48	81	ePn	P	21 33 49.9	-1.0
	29nm,0.2s						
KEDI				⇓iSn	S	21 34 09.9	-2.3

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*IDC **11** 22:03:44.9±0.6, 14.96S×175.03W, mb4.8/14, mb1 5.0/15, mb1mx4.9/18, ML4.8/1, MS5.0/15, Ms1 5.0/15, ms1mx5.0/15, Error ellipse: s-maj=28.3km s-min=14.4km az=142.0*
*HRVD **11** 22:03:46.9±0.1, 14.64S×174.97W, h17km, MW5.7/80, Centroid moment Tensor Solution. LP body waves: s72,c141; Mantle waves: s80,c181; Half duration: 1^{s}6 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.16±.04; $M_{\theta\theta}$-0.39±.05; $M_{\phi\phi}$0.55±.04; $M_{r\theta}$0.10±.12; $M_{\theta\phi}$3.38±.04; $M_{\phi r}$1.39±.14; Best double couple: $M_0$3.68×10^{17} NP1:ϕ_s86°, δ68°, λ1°. NP2:ϕ_s356°, δ89°, λ158°. Principal axes: T 3.81, Plg16°, Azm309°; N -.26, Plg68°, Azm173°; P -3.55, Plg15°, Azm43°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **11** 22:03:46.9, 14.80S×175.10W, h10km, mB5.6, mb5.2, Ms5.4, Msz5.2*
*NEIC **11** 22:03:46.9±0.2, 14.82S×175.08W, h10km, mb5.4/45, MS5.2/127, MW5.7, Error ellipse: s-maj=8.1km s-min=4.0km az=149.0, Moment Tensor Solution. s15 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.09; $M_{\theta\theta}$-0.90; $M_{\phi\phi}$0.99; $M_{r\theta}$0.47; $M_{\theta\phi}$4.26; $M_{\phi r}$0.91; Best double couple: $M_0$4.5×10^{17} NP1:ϕ_s84°, δ80°, λ7°. NP2:ϕ_s353°, δ83°, λ169°. Principal axes: T 4.63, Plg12°, Azm308°; N -.29, Plg78°, Azm142°; P -4.33, Plg3°, Azm39°;*
*SYO **11** 22:03:46.6, 14.84S×175.12W, h10km, MB5.5, MS5.2*
*MOS **11** 22:03:50.3±0.9, 14.48S×175.04W, h33km, mb5.6/30, MS5.2/27, Error ellipse: s-maj=19.7km s-min=9.4km az=59.0*
ISC 11 22:03:46.6±0.2**, 14.72S**±0.06×**175.16W**±0.05**, h16**km**, h16**km±1.7km**: pP-P, n460, σ0^{s}78**/202**, mb5.2**/70**, MS5.2**/148**, 26C-6D, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.38	77	eP	Pn	22 04 33.3	-6.5
RAR	Rarotonga	15.99	116	Pn	P	22 07 28.7	-4.0
	3.4nm,0.3s,baz=248,slow=6.6,SNR=9.2						
RAR				LR	LR	22 12 09.1	
	comp=Z,4μm,20.5s,baz=288,slow=32						
RAR	Rarotonga	15.99	116	eP	P	22 07 28.3	-4.4
RAR				pmax	pmax		
	comp=Z,75nm,0.8s						
RAR	Rarotonga	15.99	116	eP	P	22 07 28.3	-4.4
	comp=Z,75nm,0.8s						
BKM	Butte a Klehm	16.21	257	i P	P	22 07 40.0	+4.5
DZM	Mont Dzumac	18.92	245	eP	P	22 08 10.7	+1.5
NOUC	Port Laguerre	19.05	245	eP	P	22 08 11.8	+1.0
NOUC	Port Laguerre	19.05	245	eP	P	22 08 11.8	+1.0
URZ	Urewera	24.43	195	P	P	22 09 01.8	-3.8
	comp=Z,5.6nm,0.7s,mb4.1,baz=324,slow=8.7,SNR=2.6						
URZ				LR	LR	22 17 43.3	
	comp=Z,7μm,19.8s,MS5.2,baz=27,slow=35						
PPT	Papeete	24.73	100	eL		22 13 52.1	
PPT				eR		22 15 00.5	
	comp=Z,1μm,21.0s						
TVO	Taravao	25.05	101	eP	P	22 09 12.5	+0.6
	comp=Z,101nm,0.8s,mb5.4						
TBI	Tubuai	25.73	113	eL		22 14 17.0	
TBI				eR		22 15 38.4	
	comp=Z,5μm,23.2s,baz=289						
PMOR	Pomariorio Ree	26.35	94	eP	P	22 09 24.1	+0.1
	comp=Z,201nm,1.2s,mb5.5						
VAH	Vaihoa	26.60	95	eP	P	22 09 26.8	+0.5
	comp=Z,142nm,1.2s,mb5.4						
CTAO	Charters Tower	37.15	256	eP	P	22 10 57.7	-1.0
CTAO				pmax	pmax		
	comp=Z,120nm,1.2s,mb5.6						
CTAO				MLR	MLR		
	comp=Z,2μm,19.0s,MS5.0						
CTAO	Charters Tower	37.15	256	eP	P	22 10 57.7	-1.0
	comp=Z,119nm,1.3s,mb5.6						
CTAO				LR	LR		
	comp=Z,2μm,19.0s,MS5.0						
PMG	Port Moresby	37.19	274	P	P	22 11 00.6	+1.4
	comp=Z,5.6nm,0.5s,mb4.7						
PMG	Port Moresby	37.19	274	P	P	22 11 00.6	+1.4
PMG				LR	LR		
	comp=Z,1μm,22.0s,MS4.6						
POHA	Pohakuloa	39.33	30	PFAKE		22 11 30.0	+13
POHA				LR	LR		
	comp=Z,4μm,21.0s,MS5.2						
TAU	Tasmania Unive	42.68	221	PFAKE		22 12 00.0	+16
TAU				LR	LR		
	comp=Z,718nm,22.0s,MS4.5						
STKA	Stephens Creek	42.92	239	P	P	22 11 46.3	-0.1
	comp=Z,54nm,0.9s,mb5.3,baz=76,slow=7.7,SNR=19						
STKA				LR	LR	22 28 20.6	
	comp=Z,2μm,20.2s,MS4.9,baz=69,slow=34						
STKA	Stephens Creek	42.92	239	eP	P	22 11 45.8	-0.7
WRAB	Tennant Creek	48.34	256	P	P	22 12 28.0	-1.7
	comp=Z,206nm,1.2s,mb6.0,SNR=24						
WRAB	Tennant Creek	48.34	256	eP	P	22 12 27.6	-2.1
	comp=Z,164nm,1.5s,mb5.8						
WRAB				LR	LR		
	comp=Z,847nm,19.0s,MS4.8						
WRA	Warramunga Arr	48.35	256	P	P	22 12 27.7	-2.1
	comp=Z,17nm,1.0s,mb5.0,baz=90,slow=7.9,SNR=31						
WRA				PP	PP	22 14 24.6	+2.5
	comp=Z,12nm,1.2s,baz=92,slow=9.1,SNR=4.6						
WRA				LR	LR	22 30 43.0	
	comp=Z,2μm,18.8s,MS5.2,baz=120,slow=33						
GUMO	Guam	48.54	304	PFAKE		22 12 40.0	+8.6
GUMO				LR	LR		
	comp=Z,2μm,19.0s,MS5.1						
ASAR	Alice Springs	48.71	251	P	P	22 12 31.7	-0.9
	comp=Z,22nm,0.7s,mb5.3,baz=86,slow=8.2,SNR=121						
ASAR				LR	LR	22 32 12.3	
	comp=Z,2μm,19.1s,MS5.0,baz=87,slow=35						
DRV	Dumont d'Urvil	59.67	199	S	S	22 22 08.0	+7.6
DRV				L		22 28 00.0	
DRV				R		22 32 00.0	
MBWA	Marble Bar	61.92	254	eP	P	22 14 05.6	-2.7
	comp=Z,71nm,1.3s,mb5.6						
MBWA				LR	LR		
	comp=Z,2μm,19.0s,MS5.3						
NWAO	Narrogin (SRO)	63.47	240	PFAKE		22 14 30.0	+12
NWAO				LR	LR		
	comp=Z,2μm,21.0s,MS5.3						
SBA	Scott Base	63.79	184	eP	P	22 14 19.6	-0.2
SBA				pmax	pmax		
	comp=Z,110nm,1.6s,mb5.6						
SBA				MLR	MLR		
	comp=Z,1μm,22.0s,MS5.0						
SBA	Scott Base	63.79	184	eP	P	22 14 19.6	-0.2
	comp=Z,113nm,1.7s,mb5.6						
SBA				LR	LR		
	comp=Z,1μm,22.0s,MS5.0						
MAJO	Matsushiro	67.33	321	eP	P	22 14 42.1	-1.1
MAJO				pmax	pmax		
	comp=Z,53nm,1.4s,mb5.4						
MAJO				MLR	MLR		
	comp=Z,2μm,21.0s,MS5.3						
MAJO	Matsushiro	67.33	321	eP	P	22 14 42.1	-1.2
	comp=Z,53nm,1.4s,mb5.4						
MAJO				LR	LR		
	comp=Z,2μm,21.0s,MS5.3						
MAT	Matsushiro	67.33	321	P	P	22 14 41.4	-1.8
MAT				S	S	22 23 39.0	+2.6
MAT	Matsushiro	67.33	321	eP	P	22 14 41.0	-2.2
	comp=Z,25nm,1.2s,mb5.1						
MAT				eS	S	22 23 42.0	+5.6
MAT				LR	LR		
	comp=Z,1μm,20.0s,MS5.2						
SMY	Shemya	67.81	353	PFAKE		22 15 00.0	+14
SMY				LR	LR		
	comp=Z,2μm,20.0s,MS5.4						
FX1	Attu Island--F	68.07	352	LR	LR	22 39 07.6	
	comp=Z,55nm,19.1s,baz=181,slow=31						
ERM	Erimo	68.28	328	PFAKE		22 15 00.0	+11
ERM				LR	LR		
	comp=Z,200nm,22.0s,MS4.3						
CASY	Casey	70.32	204	eP	P	22 14 59.4	-1.7
	comp=Z,46nm,1.2s,mb5.3						
CASY				LR	LR		
	comp=Z,1μm,20.0s,MS5.1						
PET	Petropavlovsk	71.14	344	eP	P	22 15 07.6	+1.3
PET				e		22 15 28.0	
PET				i S	S	22 24 23.7	+2.7
PET				ePS	PS	22 24 51.3	-0.3
PET				e		22 25 04.8	
PET				pmax	pmax		
	comp=Z,100nm,17.0s						
PET				pmax	pmax		
	comp=Z,200nm,5.3s						
PET				smax			
	comp=E,500nm,17.6s						
PET				smax			
	comp=N,500nm,20.9s						
PET				MLR	MLR		
	comp=Z,400nm,16.0s,MS4.8						
SAO	San Andreas Ge	71.98	43	eP	P	22 15 11.2	-0.4
SAO				pmax	pmax		
	comp=Z,51nm,1.2s,mb5.3						
SAO				MLR	MLR		
	comp=Z,1μm,20.0s,MS5.2						
SAO	San Andreas Ge	71.98	43	eP	P	22 15 11.2	-0.4
	comp=Z,51nm,1.3s,mb5.3						
SAO				LR	LR		
	comp=Z,1μm,20.0s,MS5.2						
YSS	Yuzh-Sakhalins	72.06	331	⇓eP	P	22 15 12.0	0.0
YSS				e		22 15 19.5	
YSS				e		22 15 37.0	
YSS				eS	S	22 24 37.0	+5.3
YSS				ePPS	PPS	22 25 21.0	+3.4
YSS				pmax	pmax		
	comp=Z,70nm,1.1s,mb5.5						
YSS	Yuzh-Sakhalins	72.06	331	eP	P	22 15 12.0	0.0
	comp=Z,58nm,1.0s,mb5.5						
YSS				LR	LR		
	comp=Z,796nm,21.0s,MS5.0						
LRV	Little Rabbit	72.07	43	eP	P	22 15 10.9	-1.2
HOPS	Hopland	72.23	40	eP	P	22 15 12.7	-0.4
	comp=Z,144nm,1.5s,mb5.7						
HOPS				LR	LR		
	comp=Z,2μm,21.0s,MS5.2						
NSHM	Saint Helena R	72.25	41	eP	P	22 15 12.9	-0.4
MWC	Mount Wilson	72.89	47	eP	P	22 15 15.7	-1.5
TATO	Taipei	73.27	302	PFAKE		22 15 30.0	+10
TATO				LR	LR		
	comp=Z,2μm,20.0s,MS5.3						
CMB	Columbia Colle	73.39	42	eP	P	22 15 19.2	-0.8
CMB				pmax	pmax		
	comp=Z,68nm,1.5s,mb5.4						
CMB				MLR	MLR		
	comp=Z,770nm,20.0s,MS5.0						
CMB	Columbia Colle	73.39	42	eP	P	22 15 19.2	-0.8
	comp=Z,68nm,1.5s,mb5.4						
CMB				LR	LR		
	comp=Z,774nm,20.0s,MS5.0						
OHCM	Honcut	73.43	41	eP	P	22 15 20.1	-0.1
WDC	Whiskeytown Da	73.51	39	PFAKE		22 15 30.0	+9.4
WDC				LR	LR		
	comp=Z,2μm,22.0s,MS5.3						
PFO	Pinyon Flat Ob	73.72	48	PFAKE		22 15 30.0	+8.0
PFO				LR	LR		
	comp=Z,643nm,21.0s,MS4.9						
OMM	Old Mammoth Mi	74.08	43	eP	P	22 15 23.8	-0.2
YBH	Yreka Blue Hor	74.10	38	P	P	22 15 24.1	+0.1
	comp=Z,30nm,1.1s,mb5.1,baz=183,slow=5.4,SNR=16						
YBH	Yreka Blue Hor	74.10	38	eP	P	22 15 24.0	0.0
YBH				pmax	pmax		
	comp=Z,62nm,1.3s						
YBH				MLR	MLR		
	comp=Z,2μm,22.0s						
YBH	Yreka Blue Hor	74.10	38	eP	P	22 15 24.0	0.0
	comp=Z,62nm,1.4s,mb5.3						
YBH				LR	LR		
	comp=Z,2μm,22.0s,MS5.3						
MTUM	Tungsten Hills	74.22	44	eP	P	22 15 24.8	0.0
DAC	Darwin (Calif)	74.30	45	PFAKE		22 15 40.0	+15
DAC				LR	LR		
	comp=Z,2μm,20.0s,MS5.5						
LHEM	Herd Peak	74.33	38	P	P	22 15 25.8	+0.5
LBCM	Butte Creek Ri	74.39	39	P	P	22 15 26.1	+0.4
BEKR	Beckwourth	74.45	41	eP	P	22 15 26.0	-0.1
	comp=Z,87nm,1.6s,mb5.4						
HUMO	Hull Mountain	74.48	37	eP	P	22 15 26.3	+0.1
	comp=Z,54nm,1.5s,mb5.2						
HUMO				LR	LR		
	comp=Z,2μm,20.0s,MS5.3						
LTIM	Timbered Crate	74.51	39	P	P	22 15 26.8	+0.4
WCN	Washoe City	74.51	42	eP	P	22 15 26.4	-0.1
WCN				pmax	pmax		
	comp=Z,100nm,1.5s,mb5.5						
WCN	Washoe City	74.51	42	eP	P	22 15 26.4	-0.1
	comp=Z,104nm,1.5s,mb5.5						
KDAK	Kodiak Island	74.61	12	PFAKE		22 15 40.0	+13
KDAK				LR	LR		
	comp=Z,378nm,19.0s,MS4.7						
LASM	Arnica Sink	74.70	39	P	P	22 15 28.1	+0.6
NVAR	Mina Array Bea	74.98	43	P	P	22 15 29.5	+0.3
	comp=Z,12nm,0.9s,mb4.8,baz=219,slow=7.6,SNR=60						
NVAR				PP	PP	22 18 15.4	-3.8
	comp=Z,0.3nm,0.3s,baz=225,slow=15,SNR=4.5						
NVAR				LR	LR	22 42 27.9	
	comp=Z,752nm,18.7s,MS5.0,baz=270,slow=31						
PAHR	Pah Rah Range	74.98	41	eP	P	22 15 28.7	-0.5
	comp=Z,105nm,1.8s,mb5.5						
MNV	Mina	75.08	43	eP	P	22 15 29.0	-0.7
MNV				pmax	pmax		
	comp=Z,100nm,1.5s,mb5.5						
MNV				MLR	MLR		
	comp=Z,1μm,22.0s,MS5.2						
MNV	Mina	75.08	43	eP	P	22 15 29.0	-0.7
	comp=Z,102nm,1.5s,mb5.5						
MNV				LR	LR		
	comp=Z,1μm,22.0s,MS5.2						
QSPA	South Pole Qui	75.32	180	eP	P	22 15 31.6	+1.3
	comp=Z,20nm,0.9s,mb5.0						
QSPA				LR	LR		
	comp=Z,1μm,20.8s,MS5.1						
INCN	Inchon	75.37	316	PFAKE		22 15 40.0	+8.6
INCN				LR	LR		
	comp=Z,1μm,20.0s,MS5.2						
LDFC	Landfair	75.42	47	eP	P	22 15 31.3	-0.5
COR	Corvallis	75.50	35	PFAKE		22 15 40.0	+8.0
COR				LR	LR		
	comp=Z,3μm,22.0s,MS5.5						
TPH	Tonopah	75.50	44	eP	P	22 15 32.0	-0.2
TPH				pmax	pmax		
	comp=Z,110nm,1.5s,mb5.6						
TPH				MLR	MLR		
	comp=Z,1μm,21.0s,MS5.2						
TPH	Tonopah	75.50	44	eP	P	22 15 32.0	-0.1
	comp=Z,112nm,1.6s,mb5.5						
TPH				LR	LR		
	comp=Z,1μm,21.0s,MS5.2						
TPNV	Topopah Spring	75.57	45	eP	P	22 15 32.2	-0.4
TPNV				pmax	pmax		
	comp=Z,88nm,1.7s,mb5.4						
TPNV				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.5						
TPNV	Topopah Spring	75.57	45	eP	P	22 15 32.2	-0.4
	comp=Z,88nm,1.7s,mb5.4						
TPNV				LR	LR		
	comp=Z,2μm,20.0s,MS5.5						
MOD	Modoc	75.65	39	eP	P	22 15 32.7	-0.3
	comp=Z,53nm,1.4s,mb5.3						
MOD				LR	LR		
	comp=Z,2μm,21.0s,MS5.3						
NEN	Nelson	75.89	47	eP	P	22 15 33.3	-1.1
SSOR	Sweet Springs	76.14	36	P	P	22 15 36.0	+0.4
SSE	Sheshan	76.20	308	P	P	22 15 34.7	-1.5
SSE				XP	sP	22 15 47.9	+5.0
SSE				S	S	22 25 22.3	+4.0
SSE				AMB	AMB		
	comp=Z,101nm,6.4s						
SSE				LR	LR		
	comp=N,702nm,20.0s,MS5.2						
SSE				LR	LR		
	comp=E,1μm,20.0s,MS5.2						
SSE				LR	LR		
	comp=Z,1μm,20.0s,MS5.3						
PINOR	Pine Mountain	76.42	37	P	P	22 15 37.2	0.0
BMW	Boistfort Moun	76.71	34	eP	P	22 15 38.7	-0.1
BMW	Boistfort Moun	76.71	34	P	P	22 15 38.9	+0.1
TRCR	Troy Canyon	76.75	44	eP	P	22 15 39.1	0.0
BMN	Battle Mountai	76.76	42	eP	P	22 15 39.0	-0.2
BMN				pmax	pmax		
	comp=Z,29nm,1.3s,mb5.0						
BMN				MLR	MLR		
	comp=Z,950nm,22.0s,MS5.1						
BMN	Battle Mountai	76.76	42	eP	P	22 15 39.0	-0.2
	comp=Z,29nm,1.3s,mb5.0						
BMN				LR	LR		
	comp=Z,949nm,22.0s,MS5.1						
VFP	Flag Point	76.98	36	P	P	22 15 40.0	-0.3
VIPM	Ingram Point	76.98	37	P	P	22 15 40.2	-0.1
OCWA	Octopus Mounta	77.01	33	PFAKE		22 15 50.0	+10
OCWA				LR	LR		
	comp=Z,1μm,22.0s,MS5.3						
CROR	Criterion Ridg	77.05	36	P	P	22 15 40.6	-0.1
CPW	Capitol Peak	77.07	34	P	P	22 15 41.1	+0.3
TUC	Tucson	77.29	52	eP	P	22 15 42.0	-0.3
TUC				pmax	pmax		
	comp=Z,70nm,1.7s,mb5.3						
TUC				MLR	MLR		
	comp=Z,2μm,19.0s,MS5.4						
TUC	Tucson	77.29	52	eP	P	22 15 42.0	-0.3
	comp=Z,70nm,1.8s,mb5.3						
TUC				LR	LR		
	comp=Z,2μm,19.0s,MS5.5						
MIR	Mirnyy	77.35	204	⇑eP	P	22 15 44.0	+2.1
MIR				e		22 25 38.0	
MIR				pmax	pmax		
	comp=Z,90nm,1.6s,mb5.5						
VTHM	Trough	77.41	36	P	P	22 15 42.4	-0.3
MDJ	Mudanjiang	77.46	323	P	P	22 15 43.3	+0.3
MDJ				AP	pP	22 15 46.6	-1.4
MDJ				PCP	PcP	22 15 53.0	-0.8
MDJ				PP	PP	22 18 36.9	-2.5
MDJ				S	S	22 25 37.2	+5.5
MDJ				SCS	ScS	22 26 01.1	+3.9
MDJ				AMB	AMB		
	comp=Z,164nm,5.2s						
MDJ				LR	LR		
	comp=N,996nm,23.1s,MS5.2						
MDJ				LR	LR		
	comp=E,1μm,23.1s,MS5.2						
MDJ				LR	LR		
	comp=Z,2μm,23.1s,MS5.3						
MDJ	Mudanjiang	77.46	323	PFAKE		22 15 50.0	+7.0
MDJ				LR	LR		
	comp=Z,2μm,22.0s,MS5.4						
VGB	Gordon Butte	77.48	36	eP	P	22 15 43.0	-0.1
HDW	Hoodsport	77.54	33	P	P	22 15 43.9	+0.6
SLKM	Skilak Lake	77.60	12	P	P	22 15 42.1	-1.3
GNW	Green Mountain	77.60	33	eP	P	22 15 43.4	-0.3
LON	Longmire	77.65	34	eP	P	22 15 44.0	0.0
WPW	White Pass	77.76	35	P	P	22 15 45.0	+0.3
FMW	Mount Fremont	77.84	34	P	P	22 15 45.3	+0.3
SPU	Mount Spurr	77.86	11	P	P	22 15 45.3	+0.5
ARUT	Antelope Range	77.93	46	eP	P	22 15 46.3	+0.6
PGC	Sidney	77.96	32	eP	P	22 15 45.4	-0.2
	comp=Z,33nm,0.9s,mb5.3						
BBB	Bella Bella	78.05	27	LR	LR	22 42 03.3	
	comp=Z,1μm,20.9s,MS5.2,baz=192,slow=29						
RMW	Rattlesnake Mo	78.09	34	eP	P	22 15 46.4	0.0
RMW	Rattlesnake Mo	78.09	34	P	P	22 15 46.8	+0.4
FIB	Fire Island	78.21	12	PFAKE		22 16 00.0	+13
FIB				LR	LR		
	comp=Z,856nm,20.0s,MS5.1						
ELK	Elko	78.21	42	PFAKE		22 16 00.0	+13
ELK				LR	LR		
	comp=Z,837nm,19.0s,MS5.1						
HTW	Haystack Looko	78.31	34	P	P	22 15 47.1	-0.5
NJ2	Nanjing	78.40	308	eP	P	22 15 53.7	+5.3
NJ2				AMB	AMB		
	comp=Z,80nm,1.1s,mb5.6						
NJ2				AMB	AMB		
	comp=Z,580nm,5.7s						
NJ2				LR	LR		
	comp=Z,5μm,27.6s,MS5.7						
JCW	Jim Creek	78.47	33	P	P	22 15 48.7	+0.2
CMW	Cultus Mountai	78.51	33	P	P	22 15 48.7	+0.1
RSW	Rattlesnake Hi	78.67	36	P	P	22 15 50.1	+0.5
HAWA	Hanford	78.70	36	eP	P	22 15 48.7	-1.1
	comp=Z,24nm,1.1s,mb5.0						
HAWA				LR	LR		
	comp=Z,2μm,20.0s,MS5.5						
H2OWA	Water	78.77	36	P	P	22 15 50.2	+0.1
SIT	Sitka	78.78	21	PFAKE		22 16 00.0	+10
SIT				LR	LR		
	comp=Z,4μm,21.0s,MS5.7						
PMR	Palmer	78.81	12	eP	P	22 15 49.8	-0.2
PMR				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
PMR				MLR	MLR		
	comp=Z,690nm,20.0s,MS5.0						
PMR	Palmer	78.81	12	eP	P	22 15 49.8	-0.2
	comp=Z,11nm,0.8s,mb4.8						
PMR				LR	LR		
	comp=Z,691nm,20.0s,MS5.0						
TTA	Tatalina	78.83	9	eP	P	22 15 50.9	+0.8
LNOR	Lincton Mounta	79.12	37	eP	P	22 15 51.3	-0.7
MVU	Marysvale	79.12	45	PFAKE		22 16 00.0	+7.8
MVU				LR	LR		
	comp=Z,2μm,20.0s,MS5.3						
DIV	Divide	79.14	14	eP	P	22 15 51.2	-0.6
	comp=Z,32nm,0.8s,mb5.3						
DIV				LR	LR		
	comp=Z,3μm,20.0s,MS5.7						
NLW	Nelson Butte	79.25	34	eP	P	22 15 52.1	-0.6
CN2	Changchun	79.48	321	eP	P	22 15 54.8	+0.7
CN2				eXP	sP	22 16 01.8	+1.0
CN2				eS	S	22 25 55.9	+2.6
CN2				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.9						

CN2 AMB AMB
comp=Z,400nm,5.0s
CN2 LR LR
comp=N,800nm,21.0s,MS5.2
CN2 LR LR
comp=E,800nm,21.0s,MS5.2
CN2 LR LR
comp=Z,1µm,22.0s,MS5.2
DL2 Dalian 79.50 315 *eP* **P 22 15 59.8 +5.5**
DL2 *eS* S 22 26 04.2 +11
DL2 AMB AMB
comp=Z,200nm,4.2s
DL2 LR LR
comp=N,220nm,20.4s,MS4.9
DL2 LR LR
comp=E,490nm,18.8s,MS4.9
DL2 LR LR
comp=Z,640nm,23.9s
DUG Dugway 79.53 44 PFAKE 22 16 10.0 +16
DUG LR LR
comp=Z,1µm,21.0s,MS5.2
SNY Shenyang 79.63 318 ⇑P **P 22 15 55.4 +0.5**
SNY AMB AMB
comp=Z,30nm,1.3s,mb5.1
HLID Hailey 80.19 40 *eP* **P 22 15 58.0 +0.2**
comp=Z,17nm,1.0s,mb4.9
HLID LR LR
comp=Z,1µm,22.0s,MS5.1
TNA Tin City 80.23 3 PFAKE 22 16 10.0 +12
TNA LR LR
comp=Z,669nm,22.0s,MS4.9
DPW Davenport 80.30 35 *eP* **P 22 15 57.8 -0.5**
MCK McKinley 80.79 11 *eP* **P 22 16 00.3 -0.3**
MCK pmax pmax
comp=Z,11nm,1.0s,mb4.7
MCK MLR MLR
comp=Z,770nm,20.0s,MS5.0
MCK McKinley 80.79 11 *eP* **P 22 16 00.3 -0.3**
comp=Z,11nm,1.1s,mb4.7
MCK LR LR
comp=Z,769nm,20.0s,MS5.0
LAZ Ladron 80.94 51 *eP* **P 22 16 02.5 +0.5**
LENM Lemitar 80.97 51 *eP* **P 22 16 01.3 -0.9**
HWUT Hardware Ranch 81.04 43 PFAKE 22 16 10.0 +7.6
HWUT LR LR
comp=Z,1µm,21.0s,MS5.2
QIZ Qiongzhong 81.08 292 P **P 22 16 03.8 +0.8**
QIZ S S 22 26 12.3 +1.9
QIZ XS 22 26 19.8
QIZ LR LR
comp=E,702nm,24.2s
QIZ LR LR
comp=Z,1µm,26.9s,MS5.2
QIZ Qiongzhong 81.08 292 PFAKE 22 16 10.0 +7.0
QIZ LR LR
comp=Z,789nm,22.0s,MS5.0
NEW Newport 81.12 35 PFAKE 22 16 10.0 +7.3
NEW LR LR
comp=Z,2µm,21.0s,MS5.4
THY Trims Highway 81.16 13 *eP* **P 22 16 02.4 -0.1**
BNM Barren Site 81.22 51 *eP* **P 22 16 04.0 +0.5**
PV10 Paradox Valley 81.27 47 *eP* **P 22 16 05.0 +1.3**
LPM Los Pinos Moun 81.28 51 *eP* **P 22 16 04.3 +0.4**
WHN Wuhan 81.31 305 *eP* **P 22 16 04.9 +0.8**
WHN S S 22 26 21.0 +8.4
WHN AMB AMB
comp=Z,130nm,5.0s
WHN LR LR
comp=Z,2µm,26.8s,MS5.4
PV01 Paradox Valley 81.49 47 *eP* **P 22 16 05.1 +0.2**
LTX Lajitas 81.65 57 *eP* **P 22 16 06.1 +0.2**
LTX pmax pmax
comp=Z,25nm,1.2s,mb5.0
LTX MLR MLR
comp=Z,2µm,19.0s,MS5.5
LTX Lajitas 81.65 57 *eP* **P 22 16 06.1 +0.3**
comp=Z,26nm,1.3s,mb5.0
LTX LR LR
comp=Z,2µm,19.0s,MS5.5
TXAR Lajitas Array 81.65 57 P **P 22 16 06.4 +0.6**
comp=Z,3.4nm,0.9s,mb4.3,baz=236,slow=4.5,SNR=14
TXAR LR LR 22 44 52.3
comp=Z,2µm,19.9s,MS5.4,baz=235,slow=30
ANMO Albuquerque 81.68 51 *eP* **P 22 16 05.6 -0.3**
ANMO pmax pmax
comp=Z,87nm,1.8s
ANMO MLR MLR
comp=Z,2µm,20.0s
ANMO Albuquerque 81.68 51 *eP* **P 22 16 05.6 -0.3**
comp=Z,87nm,1.8s,mb5.4
ANMO LR LR
comp=Z,2µm,20.0s,MS5.4
DLBC Dease Lake 81.70 22 P **P 22 16 05.5 0.0**
comp=Z,6.3nm,1.2s,mb4.4,baz=186,slow=10,SNR=4.0
AHID Auburn Hatcher 81.90 42 PFAKE 22 16 20.0 +13
AHID LR LR
comp=Z,642nm,22.0s,MS4.9
COLA College 82.02 11 *eP* **P 22 16 06.9 -0.1**
COLA pmax pmax
comp=Z,29nm,1.0s,mb5.2
COLA MLR MLR
comp=Z,1µm,21.0s,MS5.3
COLA College 82.02 11 *eP* **P 22 16 07.5 +0.5**
ILAR Eielson Array 82.12 12 P **P 22 16 07.2 -0.3**
comp=Z,28nm,1.4s,mb5.0,baz=220,slow=4.3,SNR=20
ILAR LR LR 22 46 01.0
comp=Z,500nm,20.4s,MS4.9,baz=68,slow=31
IMA Indian Mountai 82.14 9 *eP* **P 22 16 08.7 +1.1**
IMA pmax pmax
comp=Z,77nm,1.4s,mb5.4
IMA Indian Mountai 82.14 9 *eP* **P 22 16 08.7 +1.1**
comp=Z,77nm,1.4s,mb5.4
MSO Missoula 82.17 37 PFAKE 22 16 20.0 +12
MSO LR LR
comp=Z,1µm,19.0s,MS5.3
GDL2 Guadalupe Moun 82.19 54 *eP* **P 22 16 08.9 +0.4**
TPAW Teton Pass 82.34 41 *eP* **P 22 16 09.7 +0.6**
REDW Red Top Meadow 82.34 42 *eP* **P 22 16 09.3 +0.2**
WUWY Wally Ulrich 82.50 41 *eP* **P 22 16 10.7 +0.8**
CLNB Carlsbad 82.59 54 *eP* **P 22 16 10.8 +0.2**
MOOW Moose Ponds 82.60 41 *eP* **P 22 16 10.8 +0.3**
CHMT Chamberlain Mo 82.61 38 *eP* **P 22 16 09.9 -0.5**
LOHW Long Hollow 82.62 41 *eP* **P 22 16 10.0 -0.6**
QLMT Earthquake Lak 82.68 40 *eP* **P 22 16 11.9 +1.0**
CPRX Cap Rock 82.89 53 *eP* **P 22 16 12.2 -0.1**
YMR Madison River 82.90 40 *eP* **P 22 16 12.7 +0.8**
BW06 Boulder Array 82.90 43 *eP* **P 22 16 12.7 +0.7**
BW06 LR LR
comp=Z,775nm,22.0s,MS5.0
PDAR Pinedale Array 82.90 43 P **P 22 16 12.2 +0.1**
comp=Z,3.5nm,0.8s,mb4.4,baz=135,slow=2.1,SNR=6.0
PDAR LR LR 22 45 54.0
comp=Z,574nm,20.5s,MS4.9,baz=246,slow=30
BOZ Bozeman (W) 82.96 39 *eP* **P 22 16 11.9 -0.4**
BOZ pmax pmax
comp=Z,53nm,1.6s,mb5.3
BOZ MLR MLR
comp=Z,1µm,19.0s,MS5.3
BOZ Bozeman (W) 82.96 39 *eP* **P 22 16 11.9 -0.4**
comp=Z,53nm,1.6s,mb5.3
BOZ LR LR
comp=Z,1µm,19.0s,MS5.4
YNR Norris Junctio 83.10 40 *eP* **P 22 16 14.3 +1.3**
LKWY Lake 83.20 41 *eP* **P 22 16 15.3 +1.7**
LKWY pmax pmax
comp=Z,28nm,1.2s,mb5.2
LKWY MLR MLR
comp=Z,1µm,19.0s,MS5.3
LKWY Lake 83.20 41 *eP* **P 22 16 15.3 +1.7**
comp=Z,28nm,1.3s,mb5.1
LKWY LR LR
comp=Z,1µm,19.0s,MS5.3
HRY Holter Researc 83.36 38 *eP* **P 22 16 14.2 -0.2**
SDCO Great Sand Dun 83.53 48 *eP* **P 22 16 15.0 -0.4**
comp=Z,16nm,1.1s,mb5.1
SDCO LR LR
comp=Z,2µm,22.0s,MS5.5
BJT Baijiatuau 83.77 314 *eP* **P 22 16 17.0 +0.4**
BJT pmax pmax
comp=Z,130nm,1.6s
BJT MLR MLR
comp=Z,1µm,22.0s
BJT Baijiatuau 83.77 314 *eP* **P 22 16 17.0 +0.4**
comp=Z,131nm,1.6s,mb5.8
BJT LR LR
comp=Z,1µm,22.0s,MS5.2

BJI Beijing 83.77 314 P **P 22 16 16.9 +0.3**
BJI SKS SKS 22 26 41.4 +0.4
BJI AMB AMB
comp=Z,20nm,1.2s,mb5.1
BJI AMB AMB
comp=Z,358nm,4.4s
BJI LR LR
comp=N,738nm,19.9s,MS5.2
BJI LR LR
comp=E,684nm,21.9s,MS5.2
BJI LR LR
comp=Z,1µm,24.5s,MS5.2
GCMT Greycliff 84.23 40 *eP* **P 22 16 19.6 +0.8**
ISCO Idaho Springs 84.29 47 *eP* **P 22 16 19.6 +0.4**
ISCO pmax pmax
comp=Z,14nm,1.2s,mb5.0
ISCO MLR MLR
comp=Z,1µm,19.0s,MS5.3
ISCO Idaho Springs 84.29 47 *eP* **P 22 16 19.6 +0.4**
comp=Z,14nm,1.3s,mb4.9
ISCO LR LR
comp=Z,1µm,19.0s,MS5.3
PAYG Puerto Ayora 84.87 89 PFAKE 22 16 30.0 +7.3
PAYG LR LR
comp=Z,962nm,21.0s,MS5.2
COCO West Island 85.07 259 PFAKE 22 16 40.0 +16
COCO LR LR
comp=Z,245nm,20.0s,MS4.6
ENH Enshi 85.12 303 PFAKE 22 16 40.0 +16
ENH LR LR
comp=Z,724nm,20.0s,MS5.1
JCT Junction City 85.20 57 *eP* **P 22 16 23.4 -0.6**
JCT pmax pmax
comp=Z,19nm,1.3s,mb5.1
JCT MLR MLR
comp=Z,1µm,20.0s,MS5.3
JCT Junction City 85.20 57 *eP* **P 22 16 23.4 -0.6**
comp=Z,19nm,1.3s,mb5.1
JCT LR LR
comp=Z,1µm,20.0s,MS5.3
PMSA Palmer Station 85.48 156 PFAKE 22 16 40.0 +15
PMSA LR LR
comp=Z,1µm,21.0s,MS5.2
HIA Hailar 85.64 323 *eP* **P 22 16 26.4 +0.7**
HIA pmax pmax
comp=Z,37nm,1.4s
HIA MLR MLR
comp=Z,2µm,20.0s
HIA Hailar 85.64 323 *eP* **P 22 16 26.4 +0.7**
comp=Z,37nm,1.4s,mb5.4
HIA LR LR
comp=Z,2µm,20.0s,MS5.6
EDM Edmonton 85.81 32 *eP* **P 22 16 26.0 -0.5**
GYA Guiyang 86.23 298 ⇑*iP* **P 22 16 30.2 +1.0**
GYA PP PP 22 19 49.6 -2.2
GYA S S 22 26 59.4 -2.5
GYA AMB AMB
comp=Z,270nm,5.1s
GYA LR LR
comp=N,330nm,19.1s,MS5.0
GYA LR LR
comp=E,480nm,18.5s,MS5.0
GYA LR LR
comp=Z,700nm,20.6s,MS5.0
LAO LASA Array 86.77 40 *eP* **P 22 16 31.5 +0.1**
LAO LR LR
comp=Z,857nm,19.0s,MS5.2
XAN Xi'an 86.86 306 P **P 22 16 30.7 -1.4**
XAN AP pP 22 16 37.8 +0.6
XAN LR LR
comp=N,201nm,18.7s,MS4.8
XAN LR LR
comp=E,382nm,21.1s,MS4.8
XAN LR LR
comp=Z,596nm,22.6s,MS4.9
RSSD Black Hills 87.12 43 *eP* **P 22 16 32.5 -0.6**
RSSD pmax pmax
comp=Z,11nm,1.2s,mb5.0
RSSD MLR MLR
comp=Z,1µm,20.0s,MS5.3
RSSD Black Hills 87.12 43 *eP* **P 22 16 32.5 -0.6**
comp=Z,11nm,1.3s,mb4.9
RSSD LR LR
comp=Z,1µm,20.0s,MS5.3
HHC Hu-ho-hao-te 87.32 313 *eP* **P 22 16 35.2 +1.0**
HHC AP pP 22 16 41.2 +1.9
HHC SKS SKS 22 27 03.9 -0.8
HHC S S 22 27 21.7 +10
HHC AMB AMB
comp=Z,28nm,1.2s,mb5.4
HHC AMB AMB
comp=Z,321nm,5.6s
HHC LR LR
comp=N,251nm,20.2s,MS4.7
HHC LR LR
comp=E,211nm,20.4s,MS4.7
WMOK Wichita Mounta 87.45 53 PFAKE 22 16 50.0 +15
WMOK LR LR
comp=Z,2µm,20.0s,MS5.5
YAK Yakutsk 87.83 337 PFAKE 22 16 50.0 +14
YAK LR LR
comp=Z,652nm,22.0s,MS5.0
MAW Mawson 87.89 199 P **P 22 16 36.1 -0.1**
comp=Z,17nm,1.0s,mb5.2,baz=131,slow=5.3,SNR=29
MAW LR LR 22 51 51.5
comp=Z,1µm,20.3s,MS5.4,baz=118,slow=33
MAW Mawson 87.89 199 *eP* **P 22 16 35.7 -0.6**
MAW pmax pmax
comp=Z,42nm,1.1s
MAW MLR MLR
comp=Z,2µm,21.0s
MAW Mawson 87.89 199 *eP* **P 22 16 35.6 -0.6**
comp=Z,42nm,1.1s,mb5.6
MAW LR LR
comp=Z,2µm,21.0s,MS5.6
INK Inuvik 88.03 14 P **P 22 16 36.3 -0.6**
comp=Z,1.9nm,0.8s,mb4.3,baz=270,slow=7.1,SNR=3.2
INK LR LR 22 52 36.2
comp=Z,660nm,18.5s,MS5.1,baz=220,slow=33
CBKS Cedar Bluff 88.13 49 PFAKE 22 16 50.0 +12
CBKS LR LR
comp=Z,1µm,21.0s,MS5.3
HKT Hockley 88.27 59 *eP* **P 22 16 38.7 -0.3**
HKT pmax pmax
comp=Z,180nm,2.3s,mb5.9
HKT MLR MLR
comp=Z,1µm,20.0s,MS5.4
HKT Hockley 88.27 59 *eP* **P 22 16 38.7 -0.3**
comp=Z,178nm,2.3s,mb5.9
HKT LR LR
comp=Z,1µm,20.0s,MS5.4
BTO Baotou 88.33 313 *eP* **P 22 16 38.9 -0.1**
BTO AMB AMB
comp=Z,45nm,1.8s,mb5.4
DGMT Dagmar 88.76 39 *eP* **P 22 16 40.8 -0.1**
KMI Kunming 89.20 296 ⇑*eP* **P 22 16 44.7 +1.1**
KMI AP pP 22 16 48.8 +0.2
KMI XP sP 22 16 50.7 +0.4
KMI PP PP 22 20 17.3 +0.9
KMI SKS SKS 22 27 11.7 -5.1
KMI S S 22 27 33.7 +3.8
KMI XS 22 27 40.0
KMI SS SS 22 33 29.1 +1.7
KMI AMB AMB
comp=Z,275nm,5.7s
KMI LR LR
comp=N,369nm,30.4s
KMI LR LR
comp=E,773nm,17.4s
KMI LR LR
comp=Z,1µm,38.4s
NATX Nacogdoches 89.78 57 PFAKE 22 17 00.0 +14
NATX LR LR
comp=Z,1µm,19.0s,MS5.3
YKA Yellowknife Ar 90.16 24 LR LR 22 55 09.4
comp=Z,1µm,18.0s,MS5.3,baz=240,slow=34
CMAR Chiang Mai Arr 90.79 289 P **P 22 16 51.8 +0.8**
comp=Z,1.4nm,0.8s,mb4.3,baz=93,slow=3.3,SNR=7.3
CM31 Chiang Mai Arr 90.79 289 PFAKE 22 17 00.0 +8.9
CM31 LR LR
comp=Z,794nm,20.0s,MS5.2
LZH Lanzhou 91.46 307 *eP* **P 22 16 54.1 +0.3**
LZH AP pP 22 16 57.5 -1.3
LZH PP PP 22 20 35.2 +1.0
LZH SKS SKS 22 27 24.5 -5.4
LZH *eS* S 22 27 53.1 +3.2

LZH SS SS 22 34 01.6 +2.1
LZH AMB AMB
comp=Z,53nm,1.5s,mb5.7
LZH AMB AMB
comp=Z,312nm,6.9s
LZH LR LR
comp=N,877nm,15.2s
LZH LR LR
comp=Z,2µm,17.8s,MS5.5
MIAR Mount Ida 91.47 55 PFAKE 22 17 00.0 +6.2
MIAR LR LR
comp=Z,2µm,21.0s,MS5.4
FFC Flin Flon 92.48 34 PFAKE 22 17 10.0 +12
FFC LR LR
comp=Z,314nm,20.0s,MS4.8
ULN Ulaanbaatar 92.80 319 PFAKE 22 17 10.0 +10
ULN LR LR
comp=Z,1µm,21.0s,MS5.3
SYO Syowa Base 92.92 192 ⇑P **P 22 16 58.6 -1.1**
SYO Syowa Base 92.92 192 ⇑pP pP 22 17 00.1 -4.7
SONM Songino Array 93.21 319 P **P 22 17 02.5 +1.0**
comp=Z,1.2nm,0.7s,mb4.4,baz=146,slow=4.5,SNR=4.4
SNAA Sanae 93.66 178 ⇑*i* **P 22 17 10.7 +7.6**
SNAA Sanae 93.66 178 P **P 22 17 02.9 -0.2**
SNAA pmax pmax
comp=Z,16nm,1.5s
SNAA Sanae 93.66 178 ⇑*iP* **P 22 17 05.6 +2.5**
SNAA ⇑*iP* pP 22 17 10.7 +2.6
VNA3 Neumayer Olymp 93.68 175 ⇑*i* **P 22 17 07.7 +4.6**
VNA3 Neumayer Olymp 93.68 175 ⇑*i* **P 22 17 10.1 +7.0**
VNA3 Neumayer Olymp 93.68 175 ⇑*iP* **P 22 16 59.9 -3.2**
VNA3 ⇑*iP* pP 22 17 07.7 -0.5
VNA3 ⇑*iP* sP 22 17 10.1 +0.3
TIXI Tiksi 93.90 345 *eP* **P 22 17 04.6 +0.5**
TIXI pmax pmax
comp=Z,2.0nm,1.0s,mb4.5
TIXI MLR MLR
comp=Z,400nm,20.0s,MS4.9
VNA2 Neumayer--Watz 94.16 176 ⇑*i* **P 22 17 13.6 +8.3**
VNA2 Neumayer--Watz 94.16 176 ⇑*iP* **P 22 17 08.3 +3.0**
VNA2 ⇑*iP* pP 22 17 13.6 +3.2
CCM Cathedral Cave 94.24 52 PFAKE 22 17 20.0 +13
CCM LR LR
comp=Z,2µm,20.0s,MS5.5
EFI East Falkland 94.41 146 PFAKE 22 17 20.0 +13
EFI LR LR
comp=Z,350nm,20.0s,MS4.8
ULM Lac du Bonnet 94.48 39 LR LR 22 54 10.1
comp=Z,1µm,20.1s,MS5.4,baz=223,slow=32
ULM Lac du Bonnet 94.48 39 PFAKE 22 17 20.0 +13
ULM LR LR
comp=Z,2µm,20.0s,MS5.6
OXF Oxford 94.77 56 *eP* **P 22 17 08.7 -0.3**
OXF pmax pmax
comp=Z,57nm,1.2s,mb5.9
OXF Oxford 94.77 56 *eP* **P 22 17 08.7 -0.4**
comp=Z,57nm,1.3s,mb5.8
FVM French Village 94.85 52 *eP* **P 22 17 08.3 -1.0**
FVM pmax pmax
comp=Z,18nm,1.2s,mb5.4
FVM French Village 94.85 52 *eP* **P 22 17 08.3 -1.0**
comp=Z,18nm,1.3s,mb5.3
GTA Gaotai 95.43 309 *eP* **P 22 17 12.2 +0.2**
GTA AP pP 22 17 15.9 -1.1
GTA XP sP 22 17 18.8 +0.2
GTA SKS SKS 22 27 46.1 -5.8
GTA S S 22 28 27.6 +3.4
GTA SS SS 22 34 59.6 +3.5
GTA AMB AMB
comp=Z,88nm,5.9s
GTA LR LR
comp=N,549nm,17.5s
GTA LR LR
comp=E,1µm,24.7s
GTA LR LR
comp=Z,2µm,24.7s
ZAK Zakamensk 95.91 320 *eP* **P 22 17 12.6 -1.3**
JFWS Jewell Farm 96.21 47 PFAKE 22 17 30.0 +15
JFWS LR LR
comp=Z,2µm,20.0s,MS5.5
LRAL Lakeview Retre 96.37 58 PFAKE 22 17 30.0 +14
LRAL LR LR
comp=Z,700nm,21.0s,MS5.1
WVT Waverly 96.41 54 PFAKE 22 17 30.0 +13
WVT LR LR
comp=Z,2µm,20.0s,MS5.5
OTAV Otavalo 96.55 91 PFAKE 22 17 30.0 +12
OTAV LR LR
comp=Z,185nm,20.0s,MS4.6
EYMN Ely 96.61 42 PFAKE 22 17 30.0 +13
EYMN LR LR
comp=Z,12nm,21.0s
WCI Wyandotte Cave 98.08 53 PFAKE 22 17 40.0 +16
WCI LR LR
comp=Z,839nm,20.0s,MS5.2
TRQA Tornquist 98.38 133 PFAKE 22 17 40.0 +15
TRQA LR LR
comp=Z,776nm,21.0s,MS5.2
LVC Limon Verde 98.84 116 PFAKE 22 17 40.0 +12
LVC LR LR
comp=Z,1µm,21.0s,MS5.3
AAM Ann Arbor 100.84 49 PFAKE 22 17 50.0 +14
AAM LR LR
comp=Z,1µm,22.0s,MS5.3
ACSO Alum Creek Sta 100.99 51 PFAKE 22 17 50.0 +13
ACSO LR LR
comp=Z,2µm,19.0s,MS5.7
LPAZ La Paz 101.64 110 PFAKE 22 17 50.0 +9.5
LPAZ LR LR
comp=Z,332nm,21.0s,MS4.8
NHSC New Hope 101.99 59 PFAKE 22 17 50.0 +8.2
NHSC LR LR
comp=Z,1µm,19.0s,MS5.5
BLA Blacksburg 102.47 55 PFAKE 22 18 00.0 +16
BLA LR LR
comp=Z,2µm,21.0s,MS5.5
MCWV Mont Chateau 103.28 52 PFAKE 22 18 00.0 +13
MCWV LR LR
comp=Z,2µm,20.0s,MS5.6
SSPA Standing Stone 104.89 51 PFAKE 22 18 10.0 +16
SSPA LR LR
comp=Z,2µm,19.0s,MS5.6
CBN Corbin 105.00 54 PFAKE 22 18 10.0 +15
CBN LR LR
comp=Z,3µm,21.0s,MS5.7
WMQ Urumqi 105.15 312 *e*PDIF Pdif 22 17 58.0 +2.5
WMQ PP PP 22 22 22.0 +2.6
WMQ S 22 29 49.0
WMQ SS SS 22 37 14.0 +3.0
WMQ LR LR
comp=N,427nm,24.0s,MS5.1
WMQ LR LR
comp=E,451nm,24.0s,MS5.1
WMQ LR LR
comp=Z,538nm,24.0s,MS5.0
PALK Pallekele 105.44 274 PFAKE 22 22 20.0
PALK LR LR
comp=Z,186nm,19.0s,MS4.7
SDV Santo Domingo 106.17 85 PFAKE 22 22 20.0
SDV LR LR
comp=Z,431nm,21.0s,MS5.0
BINY Binghamton 106.47 50 PFAKE 22 22 20.0
BINY LR LR
comp=Z,2µm,20.0s,MS5.7
CPUP Villa Florida 107.10 124 PFAKE 22 22 30.0
CPUP LR LR
comp=Z,462nm,19.0s,MS5.1
NCB Newcomb 107.89 48 PFAKE 22 22 30.0
NCB LR LR
comp=Z,729nm,19.0s,MS5.3
SAML Samuel 108.59 105 PFAKE 22 22 30.0
SAML LR LR
comp=Z,484nm,19.0s,MS5.1
HRV Harvard--Oak R 109.77 50 PFAKE 22 22 30.0
HRV LR LR
comp=Z,2µm,22.0s,MS5.5
WES Weston 109.94 50 PFAKE 22 22 30.0
WES LR LR
comp=Z,4µm,19.0s,MS6.0
WVL Waterville 111.19 48 PFAKE 22 22 30.0 +6.7
WVL LR LR
comp=Z,8µm,21.0s
KURK Kurchatov 111.51 319 PFAKE 22 22 30.0 +6.3
KURK LR LR
comp=Z,177nm,21.0s,MS4.6

SJG	San Juan	112.19	76	PFAKE		22 22 40.0	+14
SJG				LR	LR		
	comp=Z,529nm,19.0s,MS5.2						
PQI	Presque Isle	112.30	45	PFAKE		22 22 30.0	+4.6
PQI				LR	LR		
	comp=Z,11μm,21.0s						
SCHQ	Schefferville	112.45	36	PFAKE		22 22 30.0	+4.5
SCHQ				LR	LR		
	comp=Z,1μm,22.0s,MS5.4						
EMMW	East Machias	112.75	47	PFAKE		22 22 40.0	+14
EMMW				LR	LR		
	comp=Z,6μm,20.0s,MS6.2						
AAK	Ala-Archa	114.75	310	PFAKE		22 22 40.0	+10
AAK				LR	LR		
	comp=Z,202nm,21.0s,MS4.7						
BBSR	BB Station	114.88	61	PFAKE		22 22 40.0	+9.2
BBSR				LR	LR		
	comp=Z,704nm,21.0s,MS5.2						
BRVK	Borovoye	116.36	322	PFAKE		22 22 40.0	+6.8
BRVK				LR	LR		
	comp=Z,213nm,21.0s,MS4.7						
ZRNK	Zerenda	117.14	322	PKIKP	PKPdf	22 22 31.8	-2.9
ARU	Arti	121.87	328	PFAKE		22 22 50.0	+6.2
ARU				LR	LR		
	comp=Z,292nm,21.0s,MS4.9						
ARCES	ARCESS Array B	123.69	351	PKP	PKPdf	22 22 43.9	-3.2
	comp=Z,5.2nm,0.8s,baz=315,slow=1.7,SNR=6.4						
SUR	Sutherland	130.74	198	PFAKE		22 23 10.0	+8.5
SUR				LR	LR		
	comp=Z,216nm,20.0s,MS4.8						
FINES	FINESS Array B	130.91	347	PKP	PKPdf	22 22 56.7	-4.4
	comp=Z,0.8nm,0.5s,baz=310,slow=11,SNR=3.5						
BOSA	Boshof	132.61	205	PFAKE		22 23 10.0	+4.8
BOSA				LR	LR		
	comp=Z,778nm,21.0s,MS5.4						
OBN	Obninsk	132.81	336	PFAKE		22 23 10.0	+5.2
OBN				LR	LR		
	comp=Z,111nm,22.0s,MS4.5						
NOA	NORSAR Array B	133.52	356	PKP	PKPdf	22 23 05.3	-0.6
	comp=Z,0.7nm,0.8s,baz=325,slow=23,SNR=3.4						
KONO	Kongsberg	135.01	357	PFAKE		22 23 20.0	+11
KONO				LR	LR		
	comp=Z,366nm,22.0s,MS5.1						
KIV	Kislovodsk	136.59	320	PFAKE		22 23 20.0	+8.0
KIV				LR	LR		
	comp=Z,153nm,22.0s,MS4.7						
GNI	Garni	136.98	314	PFAKE		22 23 20.0	+7.2
GNI				LR	LR		
	comp=Z,434nm,22.0s,MS5.1						
ESK	Eskdalemuir	139.01	7	PFAKE		22 23 30.0	+14
ESK				LR	LR		
	comp=Z,174nm,19.0s,MS4.8						
LSZ	Lusaka	142.31	219	PFAKE		22 23 30.0	+6.9
LSZ				LR	LR		
	comp=Z,825nm,21.0s,MS5.5						
CLL	Collm	142.92	352	*i* PKIKP	PKPdf	22 23 17.7	-5.4
	comp=Z,logA/T=0.9						
CLL				*i* *PPKP		22 23 24.5	
CLL				*e*SS	SS	22 45 00.0	-7.4
CLL				*e*SSS	SSS	22 50 30.0	+0.4
CLL	Collm	142.92	352	*i* PKIKP	PKPdf	22 23 17.7	-5.4
CLL				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KOLS	Kolonicke sedl	143.00	341	*e*		22 23 30.5	
UPC	Upice	143.17	348	*e*PKP	PKPdf	22 23 24.0	+0.4
BRG	Berggiesshubel	143.20	350	*e*PKIKP	PKPdf	22 23 22.6	-1.0
BRG				*e*		22 23 27.5	
BRG				pmax	pmax		
	comp=Z,18nm,1.8s						
GZT	Gaziantep	143.25	314	*i* P	PKPbc	22 23 24.2	+5.5
DPC	Dobruska-Polom	143.26	348	*e*PKIKP	PKPdf	22 23 18.9	-4.8
OKC	Ostrava-Krasne	143.33	346	*e*PKP	PKPdf	22 23 27.7	+3.8
PVCC	Panska Ves	143.42	350	*e*PKP	PKPdf	22 23 26.5	+2.5
MORC	Moravsky Berou	143.53	346	PKIKP	PKPdf	22 23 23.1	-1.1
KAHT	Ahir Dag	143.59	315	*i* P	PKPdf	22 23 18.9	-5.8
MOX	Moxa	143.75	353	*e*P	PKPab	22 23 26.0	+6.0
MOX				*e*		22 23 44.0	
PRU	Pruhonice	143.95	349	*e*PKP	PKPdf	22 23 20.6	-4.3
TSUM	Tsumeb	144.03	201	PFAKE		22 23 40.0	+18
TSUM				LR	LR		
	comp=Z,720nm,19.0s,MS5.5						
NKC	Novy Kostel	144.04	352	*e*PKP	PKPdf	22 23 20.8	-4.3
ELDT	Eldivan	144.22	321	*i* P	PKPdf	22 23 22.4	-3.3
KMBO	Kilima Mbogo	144.27	247	PKP	PKPdf	22 23 23.5	-3.1
	comp=Z,16nm,1.0s,baz=67,slow=7.2,SNR=18						
KMBO	Kilima Mbogo	144.27	247	*e*PKP	PKPdf	22 23 22.9	-3.8
KMBO				LR	LR		
	comp=Z,486nm,21.0s,MS5.2						
AVNT	Avonos	144.33	318	*i* P	PKPdf	22 23 22.2	-3.8
BRTR	Keskin Array B	144.56	320	PKP	PKPdf	22 23 23.1	-3.2
	comp=Z,21nm,0.9s,baz=90,slow=1.2,SNR=43						
COBT	Iskenderun	144.57	314	*i* P	PKPdf	22 23 23.9	-2.6
BLJS	Baljurashi	144.58	284	P	PKPdf	22 23 24.8	-2.2
PSZ	Piszkesteto	144.62	342⇓	*i*PKP/p	PKPdf	22 23 23.1	-3.1
PSZ	Piszkesteto	144.62	342	*e*PKIKP	PKPdf	22 23 22.3	-3.9
GIVF	Givet	144.71	0	*e*PKP1	PKPbc	22 23 25.5	+2.9
GRA1	Grafenberg Arr	144.74	353	*e*PKP	PKPdf	22 23 23.8	-2.6
GRF	Grafenberg Arr	144.74	353	*e*PKIKP	PKPdf	22 23 23.8	-2.6
SMOL	Smolenice	144.74	345	*i* PKP	PKPdf	22 23 24.3	-2.1
BAIF	Baives	144.75	1	*e*PKP1	PKPbc	22 23 25.1	+2.4
ABH	Alteburg	144.86	357	PKP	PKPdf	22 23 24.7	-1.9
KHC	Kasperske Hory	144.94	350	*e*PKIKP	PKPdf	22 23 24.0	-2.8
KHC				*e*		22 23 30.0	
KHC	Kasperske Hory	144.94	350	*e*PKP	PKPdf	22 23 24.0	-2.8
KHC				pPKP		22 23 30.0	
SGKT	Sivrigoynuk	144.99	323	*i* P	PKPdf	22 23 22.4	-4.7
TOD	Tromm	145.06	355	PKP	PKPdf	22 23 24.9	-2.0
RUP	Ruppelstein	145.07	357	PKP	PKPdf	22 23 25.6	-1.3
ZST	Bratislava	145.11	346	*i* PKP	PKPdf	22 23 25.8	-1.3
WLF	Walferdange	145.13	359	*e*PKIKP	PKPdf	22 23 24.4	-2.7
GERES	GERESS Array B	145.20	350	PKPbc	PKPbc	22 23 24.9	+1.0
	comp=Z,3.8nm,0.8s,slow=2.7,SNR=14						
SRO1	Iza	145.23	344	*e*PKP	PKPdf	22 23 26.1	-1.2
HENT	Hendek	145.50	324	*i* P	Px	22 23 17.3	
LTHS	Al Lith	145.68	284	P		22 23 27.8	
SOP	Sopron	145.72	346⇓	*e*PKP/p	PKPdf	22 23 27.3	-0.8
LANF	Langenberg	145.75	357	PKP	PKPdf	22 23 26.9	-1.2
FLN	La Foliniere	145.77	6	*e*PKP1	PKPbc	22 23 26.4	+1.1
FLN				*e*R			
	comp=Z,748nm,21.2s						
STU	Stuttgart	145.85	355	*e*PKP2	PKPab	22 23 26.9	-0.9
LDF	La Druitiere	145.97	6	*e*PKP1	PKPbc	22 23 27.1	+1.2
KBRS	Khaybar	145.98	294	P	PKPbc	22 23 28.2	+1.6
QURS	Qurayyt al Mil	145.99	305	D	Px	22 23 36.3	
MEST	Erdemli	145.99	315	*i* P	Px	22 23 36.0	
MOA	Molln	146.05	349⇑	*i*P	PKPbc	22 23 27.2	+1.1
MEZF	Maizieres J'vi	146.31	360	*e*PKP1	PKPbc	22 23 28.8	+2.2
WLS	Welschbruch	146.34	357	PKP	PKPdf	22 23 28.1	-1.1
CDF	Champ du Feu	146.34	357	*e*PKP1	PKPbc	22 23 28.4	+1.7
	comp=Z,35nm,0.9s						
ESKT	Eskisehir	146.37	322	*i* P	PKPab	22 23 25.7	-4.4
HRI	Mount Hermon	146.46	309	P	PKPbc	22 23 29.3	+1.8
PKSM	Moragy	146.53	343⇓	*e*P	PKPbc	22 23 29.0	+1.8
ECH	Echery	146.55	357	PKP	PKPdf	22 23 29.7	+0.2
THEF	They Montfort	146.58	359	PKP	PKPdf	22 23 30.0	+0.4
GLH	Golan-Tel Qazi	146.76	308	P	PKPbc	22 23 28.7	+0.5
FELD	Feldberg	146.84	356	PKP	PKPdf	22 23 30.2	+0.2
ULDT	Uludag	146.95	325	*i* P	PKPab	22 23 29.3	-3.0
HINF	Hinteralfeld	146.96	358	*e*PKP1	PKPbc	22 23 30.6	+2.4
KBA	Koelnbreinsper	146.97	349⇑	*i*P	PKPbc	22 23 29.4	+1.2
WATA	Walderalm	147.00	352⇑	*i*P	PKPdf	22 23 30.4	+0.1
PERS	Pernice	147.04	347	*e*	PKPab	22 23 30.2	-2.3
HMDT	Nahal Hemdat	147.05	307	P	PKPdf	22 23 31.2	+0.3
MMLI	Mount Malkishu	147.05	308	P	PKPdf	22 23 31.3	+0.4
MOTA	Moosalm	147.06	352⇓	*i*P	PKPdf	22 23 30.6	+0.2
WTTA	Wattenberg	147.06	351⇑	*i*P	PKPdf	22 23 30.4	0.0
SQTA	Sankt Quirin	147.16	352⇑	*i*P	PKPdf	22 23 30.8	+0.2
DAVA	Damuels	147.26	354⇑	*i*P	PKPdf	22 23 29.7	-1.0
CSS	Prodhromos	147.41	313	PKPbc	PKPdf	22 23 32.0	+0.6
LOMF	Lomont	147.42	357	PKP	PKPdf	22 23 30.4	-0.6
LOR	Lormes	147.54	1	*e*PKP1	PKPdf	22 23 32.0	+0.8
	comp=Z,22nm,0.7s						
LOR				*e*R			
	comp=Z,2μm,20.5s						
PDKS	Podkum	147.59	347	*e*PKPbc	PKPdf	22 23 31.8	+0.5
PTCC	Patocco-Chiusa	147.62	349	*e*PKP	PKPdf	22 23 32.4	+1.1
PGB	Panagyurishte	147.66	333	*e*P	PKPdf	22 23 33.0	+1.5
LJU	Ljubljana	147.73	347	*e*PKPbc	PKPdf	22 23 32.5	+0.9
LJU				*e*		22 23 36.7	
LJU				*e*		22 23 41.4	
SSF	Saint Saulge	147.74	2	*e*PKP1	PKPdf	22 23 32.7	+1.2
	comp=Z,47nm,1.1s						
SISC	Sisak	147.84	345	*i* PKP	PKPab	22 23 35.0	-0.5
GRUS	Gruza	147.92	338⇑	*i*P	PKPab	22 23 32.9	-3.1
MFF	Saint Martin d	147.94	6	*e*PKP1	PKPdf	22 23 33.0	+1.2
DIVS	Divcibare	148.00	339⇑	*i*P	PKPab	22 23 33.0	-3.2
AVF	Avril sur Loir	148.00	2	*e*PKP1	PKPdf	22 23 33.6	+1.7
	comp=Z,61nm,1.3s						
BRMO	Bormio	148.00	353	*e*PKP	PKPdf	22 23 33.8	+1.8
ZFRI	Zfri	148.01	305	P	PKPdf	22 23 33.6	+1.1
VTS	Vitosha	148.04	334	*e*P	PKPdf	22 23 34.0	+1.9
JMQS	Jabal Moqyreh	148.04	301	P	PKPab	22 23 34.0	-2.9
SMF	Signal de Mont	148.16	1	*e*PKP1	PKPdf	22 23 33.7	+1.5
	comp=Z,52nm,1.3s						
CABF	La Chapelle	148.19	358	*e*PKP1	PKPdf	22 23 34.4	+2.2
	comp=Z,109nm,1.1s						
BGF	Bois d'Agland	148.22	3	*e*PKP1	PKPdf	22 23 33.9	+1.6
	comp=Z,33nm,0.9s						
PRNI	Paran	148.22	304	P	PKPdf	22 23 34.2	+1.4
CTI	Castel Tesino	148.25	351	*e*PKP	PKPdf	22 23 39.3	+6.9
MANT	Manisa	148.40	323	*i* P	PKPab	22 23 34.1	-4.0
BARS	Barje	148.42	336⇓	*i*P	PKPab	22 23 34.2	-3.9
TCF	Toulx Ste Croi	148.45	3	*e*PKP1	PKPdf	22 23 34.3	+1.6
DBAS	Duba	148.48	298	P	PKPab	22 23 35.0	-3.7
KZIT	Kziot	148.49	306	P	PKPdf	22 23 35.8	+2.6
MBH	Mount Berech	148.50	304	P	PKPdf	22 23 34.9	+1.6
MMB	Musomiste	148.62	332	*e*P	PKPdf	22 23 35.0	+1.9
DNZL	Cakiroluk	148.63	321	*i* P	PKPab	22 23 39.4	+0.3
KKB	Krupnik	148.68	333	*e*P	PKPdf	22 23 35.0	+1.8
AGO	Saint Agoulin	148.73	2	PKP	PKPdf	22 23 36.0	+2.9
MCGN	Macugnaga	148.75	356	*e*PKP	PKPdf	22 23 35.8	+2.7
HAQS	Haql	148.76	302	P	PKPab	22 23 36.2	-3.7
AYUS	'Aynunah	148.77	300	P	PKPab	22 23 35.6	-4.4
OG05	Jujurieux	148.77	359	PKP	PKPdf	22 23 35.7	+2.5
VAI	Varese	148.77	355	*e*PKP	PKPdf	22 23 35.1	+1.9
BDAS	Al Bad'	148.83	301	P	PKPab	22 23 35.8	-4.4
PYM	Petit Puy Mans	149.03	2	PKP	PKPdf	22 23 34.3	+0.7
ORO	Oropa	149.08	356	*e*PKP	PKPdf	22 23 36.7	+3.0
RSL	Roselend	149.09	358	PKP	PKPdf	22 23 36.8	+3.1
LPL	La Plagne	149.26	357	*e*PKP1	PKPdf	22 23 37.6	+3.6
	comp=Z,24nm,0.9s						
LPG	La Plagne	149.28	357	*e*PKP1	PKPdf	22 23 37.7	+3.7
	comp=Z,28nm,0.8s						
SKO	Skopje	149.28	335	*i* PKP	PKPdf	22 23 41.7	+7.5
AYDN	Tasoluk	149.35	322	*i* P	PKPab	22 23 37.0	-5.0
LBL	Lubilhac	149.56	2	PKP	PKPdf	22 23 36.7	+2.2
GDM	Grand'Maison	149.59	358	PKP	PKPdf	22 23 38.9	+4.3
LFF	La Frestale	149.68	6	*e*PKP1	PKPdf	22 23 37.3	+2.6
	comp=Z,112nm,1.3s						
BNI	Bardonecchia	149.73	357	*e*PKP2	PKPab	22 23 37.5	-5.8
CAF	Calviac	149.80	4	*e*PKP1	PKPdf	22 23 37.9	+3.0
	comp=Z,10nm,0.9s						
ORIF	Oris-en-Rattie	149.89	359	*e*PKP1	PKPdf	22 23 38.7	+3.7
	comp=Z,59nm,1.2s						
ORIF				*e*R			
	comp=Z,1μm,21.0s						
VIVF	Saint-Julien-l	149.96	0	*e*PKP1	PKPdf	22 23 38.8	+3.7
BDRM	Kayabasi	150.00	322	*i* P	PKPab	22 23 43.5	-1.2
ZCCA	Zocca	150.01	351	*e*PKP	PKPdf	22 23 43.8	+8.6
MBDF	Montbardon	150.05	357	*e*PKP1	PKPdf	22 23 39.0	+3.7
	comp=Z,19nm,0.9s						
FNVD	Fontana Vidola	150.16	351	*e*PKP	PKPdf	22 23 36.8	+1.3
MBAR	Mbarara	150.20	241	*e*PKPbc	PKPdf	22 23 39.2	+2.7
MBAR				LR	LR		
	comp=Z,137nm,20.0s,MS4.8						
OHR	Ohrid	150.27	335⇑	*i*PKP	PKPdf	22 23 43.6	+7.9
SURF	Saint Ours	150.29	357	PKP	PKPdf	22 23 39.1	+3.4
PGD	Poggio Sodo	150.35	350	*e*PKP	PKPdf	22 23 44.4	+8.7
LASF	Ste Croix	150.73	1	*e*PKP1	PKPdf	22 23 40.2	+3.9
	comp=Z,44nm,1.2s						
TOUF	Mont Tournerai	150.73	356	PKP	PKPdf	22 23 39.8	+3.5
AUTN	L'Aution	150.74	356	PKP	PKPdf	22 23 39.3	+3.0
SAOF	Saorge	150.74	356	PKP	PKPdf	22 23 40.6	+4.3
STOF	St-Etienne Org	150.81	358	PKP	PKPdf	22 23 41.8	+5.4
SMRF	Simiane la Rot	150.84	359	*e*PKP1	PKPdf	22 23 40.4	+3.9
	comp=Z,65nm,1.3s						
VILF	Villemus	150.96	359	PKP	PKPdf	22 23 43.9	+7.2
CALN	Calern	151.01	357	PKP	PKPdf	22 23 39.0	+2.2
PRAF	Pradon	151.01	360	PKP	PKPdf	22 23 42.5	+5.7
NRCA	Norcia	151.09	347	*e*PKP	PKPdf	22 23 42.6	+5.7
TAVF	Tavernes	151.18	358	PKP	PKPdf	22 23 39.6	+2.6
PBRG	Braganca	151.21	18	*e*PKPab	PKPab	22 23 47.1	-2.5
FRF	La Foret Royal	151.22	357	*e*PKP1	PKPdf	22 23 42.3	+5.2
PUYF	Puyloubier	151.28	359	PKP	PKPdf	22 23 44.6	+7.4
PVRL	Vila Real	151.38	20	*e*PKPbc	PKPdf	22 23 43.4	+6.0
PVRL				*e*PKPab	PKPab	22 23 51.0	+0.6
LMR	La Mourre	151.45	357	*e*PKP1	PKPdf	22 23 41.7	+4.3
	comp=Z,45nm,1.3s						
AQU	L'Aquila	151.49	347	*e*PKPbc	PKPdf	22 23 41.9	+4.4
BERF	Bertagne	151.50	359	PKP	PKPdf	22 23 40.1	+2.6
MNS	Montasola	151.61	348	*e*PKP	PKPdf	22 23 42.7	+5.0
SANT	Santorini	151.64	323	PKPab	PKPab	22 23 48.3	-3.4
INTR	Introdacqua	151.70	346	*e*PKP	PKPdf	22 23 44.2	+6.3
PTQR	Pietraquaria	151.81	346	*e*PKP	PKPdf	22 23 42.9	+4.9
PVIS	Viseu	151.82	21	*e*PKPab	PKPab	22 23 50.2	-2.0
CII	Carovilli	151.87	345	*e*PKP	PKPdf	22 23 45.4	+7.3
PGF	Pioggiola	152.04	353	*e*PKP1	PKPdf	22 23 43.1	+4.8
MTE	Manteigas	152.22	21	*e*PKPbc	PKPdf	22 23 44.7	+6.0
MTE				*e*PKPab	PKPab	22 23 53.4	-0.5
MTE				*e*LQ		23 06 21.7	
MTE				*e*LR	LR	23 14 45.7	
	comp=Z,647nm,18.0s						
MTE	Manteigas	152.22	21	PKPbc	PKPdf	22 23 43.5	+4.8
SGO	Sicignano	152.68	342	*e*PKP	PKPdf	22 23 44.8	+5.5
PCBR	Castelo Branco	152.74	21	*e*PKPbc	PKPdf	22 23 45.4	+6.0
PCBR				*e*PKPab	PKPab	22 23 54.1	-2.0
EVO	Evora	153.70	23	*e*PKP1	PKPdf	22 23 46.5	+5.7
	comp=Z,10nm,1.0s						
EVO				*e*R			
	comp=Z,1μm,21.8s						
PALC	Alcoutim	154.84	24	*e*PKPbc	PKPdf	22 23 48.2	+5.9
PALC				*e*PKPab	PKPab	22 23 58.3	-6.7
DBIC	Dimbokro	167.56	129	PFAKE		22 24 10.0	+14
DBIC				LR	LR		
	comp=Z,685nm,20.0s						

*THE **11** 22:07:25.7, 39.10N×23.21E, h10^{km}, ML2.2*
*ATH **11** 22:07:26.0, 39.12N×23.12E, h4^{km}, MD2.5/3*
*NEIC **11** 22:07:26.0, 39.12N×23.12E, h4^{km}, MD2.5(ATH), After ATH.*
*CSEM **11** 22:07:26.0$\pm$0.2, 39.11N×23.20E, h10^{km}, MD2.5, Error ellipse: s-maj=3.7km s-min=2.8km az=91.0*
ISC 11 22:07:25.3$\pm$0.6**, 39.10N**$\pm$0.03×**23.20E**$\pm$0.04**, h12**$^{km}\pm7^{km}$**, n11,** $\sigma0^{s}46$/20**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEO	Neokhori	0.21	5	*e*PG	Pg	22 07 30.5	+0.5
NEO				*e*SG	Sg	22 07 33.0	-0.2
XOR	Xorichti	0.27	359	*e*Pg	Pg	22 07 31.4	+0.3
XOR				*e*Sg	Sg	22 07 35.2	+0.3
XOR	Xorichti	0.27	359	*e*Pg	Pg	22 07 31.4	+0.3
XOR				*e*Sg	Sg	22 07 35.2	+0.2
LKR	Lokris	0.47	199	*e*PG	Pg	22 07 34.8	-0.2
LKR				*e*SG	Sg	22 07 41.9	+0.4
AOS	Alonnisos	0.53	82	*e*Pg	Pg	22 07 35.9	-0.3
AOS				*e*Sg	Sg	22 07 43.5	0.0
AGG	Agios Georgios	0.68	264	*e*Pg	Pg	22 07 38.2	-0.9
	comp=Z,2.2nm,0.2s						
AGG				*e*Sg	Sg	22 07 49.0	+0.7
MPAR	Parnis Oros	1.03	156	*e*PG	Pg	22 07 46.0	-0.1
LIT	Litokhoron	1.14	331	*e*Pg	Pg	22 07 47.1	-1.2
LIT				*e*Sg	Sg	22 08 03.5	0.0
LIT	Litokhoron	1.14	331	*e*Pg	Pg	22 07 47.1	-1.1
LIT				*e*Sg	Sg	22 08 03.5	0.0
PTL	Penteli	1.17	153	*e*PG	Pg	22 07 48.8	0.0
OUR	Ouranopolis	1.37	26	*e*Pb	Pb	22 07 50.6	+0.1
OUR				*e*Sb	Sb	22 08 08.2	+0.4

*LDG **11** 22:07:43.7$\pm$0.0, 48.50N×6.34E, h14^{km}, Md2.4/5, Ml2.4/12, Error ellipse: s-maj=0.9km s-min=0.8km az=174.0*
*STR **11** 22:07:43.7$\pm$0.2, 48.49N×6.35E, h5$^{km}\pm1^{km}$, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*BGR **11** 22:07:43.8$\pm$0.3, 48.50N×6.34E, h10^{km}, ML1.7/2, Error ellipse: s-maj=2.2km s-min=2.2km az=86.0*
ISC 11 22:07:43.9$\pm$0.3**, 48.48N**$\pm$0.03×**6.31E**$\pm$0.03**, h22**$^{km}\pm4^{km}$**, n31,** $\sigma1^{s}08$/78**, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THEF	They Montfort	0.33	221	*e*Pg	Pb	22 07 50.9	-0.3
	SNR=12						
THEF				*e*Sg	Sb	22 07 55.0	-1.2
	SNR=5.0						
THEF	They Montfort	0.33	221	Pg	Pb	22 07 50.9	-0.3
THEF				Sg	Sb	22 07 55.6	-0.6
RFYF	Reffroy	0.57	285	*e*Pg	Pb	22 07 55.7	+0.5
	baz=110						
RFYF				*e*Pn	Pn	22 07 55.9	-0.7
RFYF				*e*Sg	Sb	22 08 03.8	+0.9
	baz=101						
RFYF				*e*Sn	Sn	22 08 05.3	0.0
	33nm,0.2s,baz=108						
ECH	Echery	0.62	115	*e*Pg	Pb	22 07 55.6	-0.4
	SNR=5.7						
ECH				*e*Sg	Sb	22 08 03.7	-0.7
	SNR=4.3						
ECH	Echery	0.62	115	Pg	Pb	22 07 55.6	-0.4
ECH				Sg	Sb	22 08 03.6	-0.7
CDF	Champ du Feu	0.65	96	*e*Pg	Pb	22 07 55.8	-0.6
CDF				*e*Pn	Pn	22 07 56.2	-1.4
CDF				*e*Sg	Sb	22 08 03.9	-1.1
	18nm,0.3s						
CDF				*e*Sn	Sn	22 08 05.9	-1.3
WLS	Welschbruch	0.70	95	*e*Pg	Pb	22 07 56.8	-0.4
	SNR=13						
WLS				*e*Sg	Sb	22 08 05.4	-1.0
	SNR=6.9						
WLS	Welschbruch	0.70	95	Pg	Pb	22 07 56.8	-0.5
WLS				Sg	Sb	22 08 05.5	-0.9
HINF	Hinteralfeld	0.76	151	*e*Pg	Pb	22 07 58.3	+0.1
HINF				*e*Pn	Pn	22 07 58.7	-0.5
HINF				*e*Sg	Sb	22 08 08.1	0.0
	41nm,0.3s						
MOF	Molkenrain	0.84	138	*e*Pg	Pb	22 08 00.2	+0.6
	SNR=2.3						
MOF				*e*Sg	Sb	22 08 10.6	+0.2
	SNR=5.7						
MOF	Molkenrain	0.84	138	Pg	Pb	22 08 00.3	+0.7
MOF				Sg	Sb	22 08 11.1	+0.7
MEZF	Maizieres J'vi	0.84	272	*e*Pn	Pn	22 07 59.8	-0.5
	baz=92						
MEZF				*e*Pg	Pb	22 08 00.0	+0.4
MEZF				*e*Sg	Sb	22 08 11.3	+0.9
	11nm,0.3s,baz=95						
SFTF	Sexfontaines	0.89	253	*e*Pn	Pn	22 08 00.7	-0.4
SFTF				*e*Pg	Pb	22 08 01.1	+0.6
SFTF				*e*Sg	Sb	22 08 12.9	+0.9
	10nm,0.2s,baz=72						
LANF	Langenberg	1.11	63	*e*Pg	Pn	22 08 04.0	-0.3
	SNR=3.5						
LANF				*e*Sg	Sb	22 08 18.5	+0.2
	SNR=3.6						
LANF	Langenberg	1.11	63	Pg	Pn	22 08 03.8	-0.4
LANF				Sg	Sb	22 08 19.1	+0.8
LOMF	Lomont	1.18	163	*e*Pn	Pn	22 08 05.7	+0.5
LOMF				*e*Pg	Pn	22 08 06.6	+1.3
	SNR=2.8						
LOMF				*e*Sg	Sn	22 08 22.0	+1.2
	SNR=4.2						
LOMF	Lomont	1.18	163	Pg	Pn	22 08 06.4	+1.2
LOMF				Sg	Sn	22 08 22.2	+1.5
WLF	Walferdange	1.19	355	*e*Pg	Pn	22 08 06.3	+0.9
	SNR=2.4						
WLF				*e*Sg	Sn	22 08 21.1	+0.1
	SNR=1.8						
FELD	Feldberg	1.28	117	*e*Sg	Sn	22 08 24.8	+1.4
	SNR=2.6						
BBS	Basel-Blauen	1.30	141	*e*Sg	Sn	22 08 25.0	+1.3
	SNR=2.6						
RUP	Ruppelstein	1.32	22	*e*Pg	Pn	22 08 08.1	+0.9
	SNR=0.9						
RUP				*e*Sg	Sn	22 08 24.7	+0.5
	SNR=2.9						
BFO	Black Forest	1.35	96	*e*Pg	Pn	22 08 09.0	+1.3
	SNR=3.4						
BFO				*e*Sg	Sn	22 08 25.8	+0.7
	SNR=1.9						
CABF	La Chapelle	1.88	185	*e*Pg	Pn	22 08 19.5	+4.3
CABF				*e*Sg	Sn	22 08 43.6	+5.2
	12nm,0.6s						
GIVF	Givet	1.89	330	*e*Pg	Pn	22 08 18.8	+3.4
GIVF				*e*Sn	Sn	22 08 36.1	-2.7
GIVF				*e*Sg	Sn	22 08 43.1	+4.3
	6.1nm,0.3s						
LOR	Lormes	2.05	235	*e*Pn	Pn	22 08 16.9	-0.7
	baz=51						
LOR				*e*Pg	Pn	22 08 22.2	+4.6
	baz=55						
LOR				*e*Sn	Sn	22 08 40.4	-2.3
LOR				*e*Sg	Sn	22 08 48.1	+5.4
	4.8nm,0.2s,baz=51						
BAIF	Baives	2.10	320	*e*Pn	Pn	22 08 16.6	-1.7
BAIF				*e*Pg	Pn	22 08 23.0	+4.7
BAIF				*e*Sn	Sn	22 08 40.8	-3.2
BAIF				*e*Sg	Sn	22 08 50.0	+6.0
	3.0nm,0.3s						
SSF	Saint Saulge	2.36	234	*e*Pn	Pn	22 08 21.1	-1.1
SSF				*e*Pg	Pn	22 08 27.6	+5.4
SSF				*e*Sn	Sn	22 08 47.8	-3.0
SSF				*e*Sg	Sn	22 08 58.7	+7.9
	2.0nm,0.2s						
SMF	Signal de Mont	2.48	223	*e*Pn	Pn	22 08 22.7	-1.1
SMF				*e*Pg	Pn	22 08 30.3	+6.5
SMF				*e*Sg	Sn	22 09 02.4	+8.6
	5.3nm,0.4s						
AVF	Avril sur Loir	2.62	231	*e*Pn	Pn	22 08 24.5	-1.3
AVF				*e*Pg	Pn	22 08 32.5	+6.7
AVF				*e*Sg	Sn	22 09 06.5	+9.3
	1.4nm,0.2s						
BGF	Bois d'Agland	3.03	232	*e*Pn	Pn	22 08 29.7	-2.0
BGF				*e*Pg	Pn	22 08 40.1	+8.4
BGF				*e*Sg	Sn	22 09 19.8	+12
	4.6nm,0.3s						
TCF	Toulx Ste Croi	3.54	233	*e*Pn	Pn	22 08 36.7	-2.2
TCF				*e*Pg	Pn	22 08 49.9	+11

CASC 11 22:12:49.1$\pm$2.3**, 11.22N**×**86.95W, h27**$^{km}\pm33^{km}$**, MD3.9, ML3.3, 8C-2D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
COPN	Copaltepe	1.02	20⇓	*e*P	Pn	22 13 07.8	0.0
COPN				*e*S	Sb	22 13 22.7	+1.7
TICN	Ticuantepe	1.08	41⇑	*e*P	Pn	22 13 08.0	-0.6
XAVN	Gruta Xavier	1.11	34	*e*P	Pn	22 13 08.7	-0.3
APON	Apoyo	1.11	51⇑	*e*P	Pn	22 13 08.0	-1.1
MGAN	Managua	1.16	37⇑	*e*P	Pn	22 13 09.1	-0.6
MGAN				*e*S	Sn	22 13 24.8	+0.1
MGAN				*i*		22 13 28.5	
	comp=N,543nm,0.4s						
APYN	Apoyeque	1.17	30⇓	*e*P	Pn	22 13 09.4	-0.5
LEON	Leon	1.19	3⇑	*i*P	Pn	22 13 10.8	+0.5
WILN	Americas 2	1.20	39	*e*P	Pn	22 13 09.4	-0.9
WILN				*e*P		22 13 10.3	
MOMJ	Momotombo	1.25	19⇑	*e*P	Pn	22 13 10.8	-0.3
MOMJ				*e*S	Sn	22 13 29.0	+1.8
CNGN	Cerro Negro	1.30	11	*e*P	Pn	22 13 10.6	-1.1
CNGN				*e*S	Sn	22 13 27.5	-0.8
TEL3	Telica 3	1.35	5⇑	*e*P	Pn	22 13 12.8	+0.3
PYTN	Playitas	1.58	34⇑	*e*P	Pn	22 13 14.8	-0.9
PYTN				*e*S	Sn	22 13 35.5	0.0
VCR	Vista de Mar	1.69	130	*e*P	Pn	22 13 15.2	-2.2
JCR	Jicaral	2.26	127	*e*P	Pn	22 13 26.1	+0.6
JCR				*e*S	Sn	22 14 00.7	+7.9
PRS1	Puriscal	2.87	115	*e*P	Pn	22 13 34.6	+0.3
URSC	Urasca	3.41	113⇑	*e*P	Pn	22 13 42.0	+0.1
URSC				*e*S	Sn	22 14 21.9	0.0

*NNC **11** 22:41:35.0$\pm$15.0, 45.93N×96.43E, h2$^{km}\pm71^{km}$, Error ellipse: s-maj=70.3km s-min=37.4km az=117.0*
*LDG **11** 22:41:35.8$\pm$0.1, 45.95N×96.37E, h10^{km}, Mb5.0/28, Ms3.8/1, Error ellipse: s-maj=5.1km s-min=3.6km az=174.0*
*IDC **11** 22:41:36.5$\pm$0.5, 45.93N×96.53E, mb4.5/23, mb1 4.6/27, mb1mx4.6/30, ML3.8/4, MS4.2/3, Ms1 4.2/3, ms1mx3.4/24, Error ellipse: s-maj=15.2km s-min=10.8km az=34.0*
*MOS **11** 22:41:37.5$\pm$0.9, 45.95N×96.44E, h15^{km}, mb4.8/25, MS4.3/11, Error ellipse: s-maj=11.9km s-min=5.3km az=121.7*
*BJI **11** 22:41:37.9, 45.93N×96.44E, h24^{km}, mB5.0, mb4.6, ML5.1, Ms4.6, Msz4.6*
*HRVD **11** 22:41:40.4$\pm$0.8, 46.03N×96.50E, h23$^{km}\pm2^{km}$, MW4.9/33,*

Centroid moment Tensor Solution. LP body waves: s6,c6; Mantle waves: s33,c39; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.99±.47; $M_{\theta\theta}$-1.73±.28; $M_{\phi\phi}$-1.25±.27; $M_{r\theta}$0.80±.34; $M_{\theta\phi}$0.66±.10; $M_{\phi r}$0.17±.35; Best double couple: $M_0$2.7×10^{16} NP1:ϕ_s312°,δ39°,λ103°. NP2:ϕ_s115°, δ52°,λ79°. Principal axes: T 3.14, Plg80°, Azm340°; N -.87, Plg8°, Azm122°; P -2.26, Plg6°, Azm212°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

NEIC *11 22:41:40.4±1.7, 45.90N×96.47E, h24km±12km, mb4.9/50, MS4.6/1 Error ellipse: s-maj=6.7km s-min=3.9km az=198.0*

ISC 11 22:41:36.8±1.4**, 45.92N**±0.03×**96.47E**±0.04**, h12**km±9km**, n269, σ0.92**/256**, mb4.8**/77**, MS4.2**/7**, 32C-4D, Mongolia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZAK	Zakamensk	6.38	43	eP	Pn	22 43 14.0	+1.0
ZAK				pmax	pmax		
	comp=Z,126nm,1.1s						
MOY	Mondy	6.48	26	eP	Pn	22 43 15.4	+1.0
MOY				pmax	pmax		
	comp=Z,277nm,1.1s						
WMQ	Urumqi	6.58	255	P	Pn	22 43 16.8	+1.0
WMQ				S	Sn	22 44 31.0	-0.5
WMQ				Smax			
	comp=N,1µm,1.0s						
WMQ				Smax			
	comp=E,1µm,1.0s						
WMQ				LR	LR		
	comp=N,2µm,8.0s						
WMQ				LR	LR		
	comp=E,937nm,8.0s						
GTA	Gaotai	6.96	158	P	Pn	22 43 20.4	-0.7
GTA				PG	Pg	22 43 42.7	-13
GTA				S	Sn	22 44 36.1	-4.9
GTA				SG	Sg	22 45 10.4	-18
GTA				Smax			
	comp=N,396nm,0.9s						
GTA				Smax			
	comp=E,619nm,0.9s						
GTA				LR	LR		
	comp=N,2µm,6.8s						
GTA				LR	LR		
	comp=E,6µm,9.1s						
GTA				LR	LR		
	comp=Z,544nm,7.6s						
SONM	Songino Array	7.07	71	Pn	Pn	22 43 22.5	-0.2
	comp=Z,3.9nm,0.3s,baz=255,slow=14,SNR=51						
SONM				Pg	Pg	22 43 45.1	-13
	comp=Z,9.0nm,0.3s,baz=255,slow=17,SNR=12						
SONM				Lg		22 45 18.2	
	comp=Z,40nm,0.3s,baz=244,slow=35,SNR=8.4						
AKAR	Aktash	7.38	310	eP	Pn	22 43 27.7	+0.7
ARTR	Artybash	8.44	317	eP	P	22 43 41.7	-0.1
TASR	Tashtagol	8.84	324	eP	P	22 43 48.2	+0.8
UKR	Ust'-Kan	9.25	307	eP	P	22 43 52.5	-0.6
MK31	Makanchi Array	9.84	280	⇑Pn	P	22 43 60.0	-1.2
	comp=Z,38nm,1.0s,baz=96,slow=15,SNR=35						
MK31				⇑Lg		22 46 41.6	
	comp=Z,334nm,1.1s,baz=85,slow=35,SNR=4.5						
MKAR	Makanchi Array	9.84	280	Pn	P	22 44 00.6	-0.6
	comp=Z,0.8nm,0.3s,baz=95,slow=13,SNR=29						
MKAR				Lg		22 46 43.5	
	comp=Z,3.0nm,0.3s,baz=104,slow=25,SNR=4.2						
MKAR				LR	LR	22 47 49.8	
	comp=Z,464nm,18.7s,baz=2.0,slow=38						
MKAR	Makanchi Array	9.84	280	i P	P	22 43 59.9	-1.3
MKAR				pmax	pmax		
	comp=Z,13nm,0.7s						
MKAR	Makanchi Array	9.84	280	Pn	P	22 44 00.6	-0.6
MKAR				Lg		22 46 43.5	
MKAR				LR	LR	22 47 49.8	
ELT	Yel'tsovka	9.89	322	eP	P	22 44 01.7	-0.2
ZAL	Zalesovo	10.98	321	Pn	P	22 44 16.2	-0.5
	comp=Z,0.5nm,0.3s,baz=340,slow=12,SNR=28						
ZAL				Lg		22 47 23.8	
	comp=Z,1.8nm,0.3s,baz=199,slow=7.3,SNR=6.9						
LZH	Lanzhou	11.29	148	eP	P	22 44 19.7	-1.3
LZH				AP		22 44 27.0	
LZH				PP	PP	22 44 29.5	-0.2
LZH				XP		22 44 31.9	
LZH				eS	S	22 46 23.0	-5.1
LZH				XS		22 46 34.8	
LZH				SS	SS	22 46 38.1	-4.0
LZH				AMB	AMB		
	comp=Z,56nm,1.3s						
LZH				AMB	AMB		
	comp=Z,322nm,4.1s						
LZH				LR	LR		
	comp=N,2µm,8.2s						
LZH				LR	LR		
	comp=Z,3µm,10.5s						
NVS	Novosibirsk	12.27	321	i P	P	22 44 32.6	-1.6
KURK	Kurchatov	12.80	298	⇑Pn	P	22 44 37.2	-4.1
	comp=Z,20nm,1.0s						
KURK				⇑Lg		22 48 22.5	
	comp=Z,223nm,1.6s,baz=360,slow=17,SNR=7.4						
KURK	Kurchatov	12.80	298	i P	P	22 44 39.7	-1.6
KURK				pmax	pmax		
	comp=Z,20nm,1.0s						
KURK	Kurchatov	12.80	298	eP	P	22 44 37.1	-4.3
	comp=Z,14nm,0.8s						
ULHL	Ulahol	14.99	263	P	P	22 45 16.1	+6.1
	SNR=14						
TKM2	Tokmak 2	15.21	266	P	P	22 45 17.0	+4.1
	SNR=22						
XAN	Xi'an	15.21	137	P	P	22 45 12.2	-0.8
XAN				AP		22 45 18.7	
XAN				AMB	AMB		
	comp=Z,14nm,1.0s						
XAN				LR	LR		
	comp=N,187nm,14.7s						
XAN				LR	LR		
	comp=E,223nm,12.8s						
XAN				LR	LR		
	comp=Z,330nm,14.4s						
BJI	Beijing	15.56	105	P	P	22 45 20.7	+3.2
BJI				AMB	AMB		
	comp=Z,16nm,1.1s						
BJI				LR	LR		
	comp=N,2µm,12.9s						
BJI				LR	LR		
	comp=E,537nm,12.3s						
BJT	Baijiatuau	15.57	105	eP	P	22 45 18.5	+0.9
	comp=E,18nm,0.8s						
KBK	Karagaybulak	15.74	266	P	P	22 45 20.3	+0.5
	SNR=24						
CHMS	Chumysh	15.77	267	P	P	22 45 26.5	+6.3
	SNR=5.3						
USP	Ospenovka	15.87	268	P	P	22 45 20.8	-0.6
	SNR=16						
FRU	Bishkek	15.92	267	i P	P	22 45 28.0	+5.9
CD2	Chengdu	16.03	157	eP	P	22 45 28.0	+4.4
CD2				AMB	AMB		
	comp=Z,20nm,1.4s						
BOD	Bodaibo	16.04	36	eP	P	22 45 23.4	-0.1
HIA	Hailar	16.04	70	P	P	22 45 25.7	+2.1
	comp=Z,36nm,1.4s						
AAK	Ala-Archa	16.07	266	⇑Lg		22 50 05.6	
	comp=Z,74nm,1.4s						
AAK	Ala-Archa	16.07	266	P	P	22 45 20.6	-3.4
	SNR=12						
AAK	Ala-Archa	16.07	266c	i P	P	22 45 19.3	-4.7
AAK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AAK				MLR	MLR		
	comp=Z,300nm,8.0s						
AAK	Ala-Archa	16.07	266	eP	P	22 45 19.4	-4.6
	comp=Z,11nm,1.0s						
UCH	Uchtor	16.19	265	P	P	22 45 25.9	+0.2
	SNR=12						
EKS2	Erkin-Say	16.56	267	P	P	22 45 35.4	+5.2
	SNR=39						
LSA	Lhasa	16.72	196	P	P	22 45 37.8	+5.4
LSA				AMB	AMB		
	comp=Z,82nm,1.2s						
LSA				LR	LR		
	comp=N,1µm,12.0s						
LSA				LR	LR		
	comp=E,938nm,12.0s						
AML	Almayashu	16.80	265	P	P	22 45 36.4	+3.1
	SNR=22						
VOSK	Vostochnaya	17.89	302	⇑P	P	22 45 45.2	-1.8
	comp=E,28nm,1.4s						
VOSK				⇑Lg		22 51 02.0	
	comp=E,60nm,1.6s						
VOSK	Vostochnaya	17.89	302	P	P	22 45 45.1	-1.8
VOSK				pmax	pmax		
	comp=Z,39nm,1.4s						
TIA	Tai'an	18.30	115	eP	P	22 45 53.2	+1.0
BVA0	Borovoye Array	18.31	302	⇑P	P	22 45 51.0	-1.1
	comp=Z,8.9nm,1.1s,baz=102,slow=12,SNR=149						
BVA0				⇑Lg		22 51 17.0	
	comp=Z,12nm,1.4s,baz=112,slow=29,SNR=3.5						
BVA0	Borovoye Array	18.31	302	i P	P	22 45 51.0	-1.1
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	Borovoye Array	18.31	302	P	P	22 45 51.4	-0.7
	comp=Z,0.9nm,0.3s,baz=104,slow=12,SNR=37						
BRVK	Borovoye	18.38	302	eP	P	22 45 52.1	-0.9
	comp=Z,27nm,0.7s						
ENH	Enshi	18.64	142	eP	P	22 45 55.0	-1.4
	comp=Z,16nm,0.9s						
ZRNK	Zerenda	19.11	302	⇑P	P	22 46 00.6	-1.3
	comp=Z,30nm,1.1s						
ZRNK				⇑Lg		22 51 40.7	
	comp=Z,42nm,1.4s						
ZRNK	Zerenda	19.11	302	P	P	22 46 00.5	-1.4
ZRNK				pmax	pmax		
	comp=Z,33nm,1.1s						
ZRNK	Zerenda	19.11	302	eP	P	22 46 00.2	-1.6
	comp=Z,34nm,1.0s						
SNY	Shenyang	19.93	92	⇑P	P	22 46 11.7	+0.5
SNY				AMB	AMB		
	comp=Z,40nm,0.6s						
KLP	Kalpa	20.14	231	eP	P	22 46 13.7	+0.1
KLP				e		22 46 16.9	
	comp=Z,48nm,1.7s						
JOSI	Joshimath	20.23	227	eP	P	22 46 15.0	+0.6
CN2	Changchun	20.61	85	eP	P	22 46 18.1	-0.2
CN2				AMB	AMB		
	comp=Z,30nm,1.0s						
SHL	Shillong	20.64	192	⇓iP	P	22 46 19.0	+0.2
PTH	Pithoragarh	20.73	224	eP	P	22 46 18.2	-1.4
WHN	Wuhan	20.74	132	eP	P	22 46 17.5	-2.2
DDI	Dehra Dun	21.19	229	eP	P	22 46 25.0	+0.6
KMI	Kunming	21.36	164	eP	P	22 46 25.0	-1.1
KMI				AMB	AMB		
	comp=Z,63nm,1.2s,mb4.8						
AGT	Agartala	22.39	193	e	P	22 46 47.0	+11
NDI	New Delhi	22.93	228	eP	P	22 46 42.0	+0.2
BHGR	Bahadurgarh	23.08	229	eP	P	22 46 43.3	+0.1
RTK	Rohtak	23.08	230	eP	P	22 46 44.1	+1.0
RTK				e		22 46 48.1	
	comp=Z,89nm,2.0s						
AYAN	Aya Nagar	23.14	228	eP	P	22 46 43.9	+0.1
AYAN				e		22 46 48.1	
	comp=Z,43nm,2.0s						
SONA	Sohna	23.35	228	eP	P	22 46 46.0	+0.2
SONA				e		22 46 51.2	
	comp=Z,51nm,1.7s						
KUDL	Kundal	23.75	229	eP	P	22 46 49.7	+0.1
KUDL				e		22 46 55.3	
	comp=Z,43nm,1.4s						
KHET	Khetri	24.16	230	eP	P	22 46 54.3	+0.6
KHET				e		22 46 58.9	
	comp=Z,27nm,2.0s						
SVE	Sverdlovsk	24.60	309	⇑iP	P	22 46 57.5	-0.1
SVE				e		22 52 33.0	
SVE				eSS	ScS	22 58 00.0	-0.4
SVE				pmax	pmax		
	comp=Z,140nm,1.7s,mb5.2						
YAK	Yakutsk	24.93	38	eP	P	22 47 02.5	+1.7
YAK				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.4						
YAK				pmax	pmax		
	comp=N,4.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.2s						
YAK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.2						
YAK				pmax	pmax		
	comp=N,4.0nm,1.7s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.0s						
ARU	Arti	25.66	308c	iP	P	22 47 08.0	+0.3
ARU				pmax	pmax		
	comp=Z,51nm,0.7s,mb5.2						
ARU	Arti	25.66	308	eP	P	22 47 07.9	+0.2
	comp=Z,56nm,0.8s,mb5.1						
AJM	Ajmer	26.06	229	eP	P	22 47 11.6	-0.1
AJM				e		22 47 17.5	
	comp=Z,71nm,1.3s						
BHPL	Bhopal	27.39	221	eP	P	22 47 21.0	-3.0
BHPL				e		22 47 28.1	
	comp=Z,65nm,1.4s						
CMAR	Chiang Mai Arr	27.46	175	P	P	22 47 24.6	-0.1
	comp=Z,5.4nm,1.0s,mb4.0,baz=353,slow=9.6,SNR=12						
CMAR	Chiang Mai Arr	27.46	175	P	P	22 47 24.6	-0.1
CMAR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TIXI	Tiksi	30.02	20	⇑eP	P	22 47 47.2	0.0
TIXI				e		22 48 45.0	
TIXI				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.6						
TIXI				MLR	MLR		
	comp=Z,400nm,20.0s,MS4.0						
ASAJ	Asahikawa	32.31	76	LR	LR	23 02 36.1	
	comp=Z,368nm,18.4s,MS4.1,baz=186,slow=39						
MOS	Moscow	37.37	307	eP	P	22 48 50.6	-0.1
MOS				e		22 50 16.6	
MOS				ePPP	PPP	22 50 34.9	-4.2
MOS				e		22 51 07.5	
MOS				pmax	pmax		
	comp=Z,72nm,0.9s,mb5.5						
GNI	Garni	37.69	280	eP	P	22 48 52.5	-1.1
	comp=Z,38nm,1.3s,mb5.0						
OBN	Obninsk	38.08	306	⇓eP	P	22 48 56.7	0.0
OBN				e		22 50 26.1	
OBN				pmax	pmax		
	comp=Z,57nm,1.1s,mb5.2						
OBN				MLR	MLR		
	comp=Z,200nm,21.0s,MS3.9						
JOF	Joensuu	39.57	319	ep	P	22 49 07.2	-1.9
	comp=Z,3.5nm,0.7s,mb4.2						
JOF	Joensuu	39.57	319	eP	P	22 49 07.2	-1.9
JOF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.3						
SOC	Sochi	39.64	288	eP	P	22 49 10.4	+0.5
SOC				e		22 50 49.7	
SOC				ePPP	PPP	22 51 05.3	-4.2
SOC				eS	S	22 55 09.9	-2.6
SOC				eSS	SS	22 57 57.9	-2.7
SOC				eSSS	SSS	22 58 41.6	+5.7
SOC				pmax	pmax		
	comp=Z,42nm,1.0s,mb5.1						
SOC				pmax	pmax		
	comp=N,23nm,0.9s						
SOC				pmax	pmax		
	comp=E,22nm,0.8s						
SOC				MLR	MLR		
	comp=Z,160nm,17.0s,MS3.9						
SOC				MLR	MLR		
	comp=N,146nm,16.0s,MS4.0						
SOC				MLR	MLR		
	comp=E,137nm,18.0s,MS4.0						
KEV	Kevo	40.84	330	ep	P	22 49 17.2	-2.3
	comp=E,11nm,0.9s,mb4.5						
KEV	Kevo	40.84	330	eP	P	22 49 17.2	-2.3
KEV				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.5						
BEST	Besiri	41.14	279	i P	P	22 49 26.5	+4.3
ARCES	ARCESS Array B	41.38	330	P	P	22 49 24.2	+0.3
	comp=Z,6.4nm,0.6s,mb4.4,baz=76,slow=8.5,SNR=23						
ARCES	ARCESS Array B	41.38	330	P	P	22 49 24.2	+0.3
ARCES				pmax	pmax		
	comp=Z,6.0nm,0.6s						
ARCES	ARCESS Array B	41.38	330	P	P	22 49 24.2	+0.3
KAF	Kangasniemi	41.98	319	ep	P	22 49 28.2	-0.6
	comp=Z,4.5nm,0.8s,mb4.2,baz=79,slow=8.1						
KAF	Kangasniemi	41.98	319	eP	P	22 49 28.2	-0.6
KAF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.2						
FINES	FINESS Array B	42.22	318	P	P	22 49 30.5	-0.3
	comp=Z,6.1nm,0.8s,mb4.3,baz=70,slow=7.5,SNR=12						
FINES	FINESS Array B	42.22	318	P	P	22 49 30.5	-0.3
FINES				pmax	pmax		
	comp=Z,6.0nm,0.8s						
AKASG	Malin Array Be	43.59	302	P	P	22 49 42.1	+0.1
	comp=Z,7.1nm,0.6s,mb4.6,baz=54,slow=8.6,SNR=9.2						
AKASG	Malin Array Be	43.59	302	P	P	22 49 42.1	+0.1
AKASG				pmax	pmax		
	comp=Z,7.0nm,0.6s						
GZT	Gaziantep	43.95	281	i P	P	22 49 47.4	+2.2
KAHT	Ahir Dag	44.29	281	i P	P	22 49 49.9	+2.0
AVNT	Avonos	45.09	284	i P	P	22 49 55.4	+1.1
KIS	Kishinev	45.27	297	eP	P	22 49 50.0	-5.7
KIS				e		22 56 30.0	
KIS				MLR	MLR		
	comp=N,300nm,17.0s,MS4.5						
KIS				MLR	MLR		
	comp=Z,500nm,17.0s,MS4.5						
KIS				MLR	MLR		
	comp=E,300nm,15.0s,MS4.5						
KIS				MLR	MLR		
	comp=Z,600nm,16.0s						
BRTR	Keskin Array B	45.44	286	P	P	22 49 58.4	+1.2
	comp=Z,9.2nm,0.8s,mb4.7,baz=74,slow=8.7,SNR=24						
BRTR	Keskin Array B	45.44	286	P	P	22 49 58.4	+1.3
BRTR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
SUW	Suwalki	45.85	308	eP	P	22 50 01.1	+1.0
SUW	Suwalki	45.85	308	eP	P	22 50 01.1	+1.0
MZLS	Mizel	46.42	260	P	P	22 50 04.9	-0.1
RAYN	Ar Rayn	46.55	259	P	P	22 50 06.1	0.0
	comp=Z,56nm,0.9s,mb5.5,SNR=16						
HILS	Ha'il	46.65	266	P	P	22 50 07.6	+0.8
ASF	Jabal al Asfar	47.21	275	P	P	22 50 12.7	+1.4
	comp=Z,27nm,1.0s,mb5.1,baz=294,slow=4.8,SNR=25						
ESKT	Eskisehir	47.41	287	i P	P	22 50 14.1	+1.4
MLR	Muntele Rosu	47.73	296	P	P	22 50 16.7	+1.6
	comp=Z,3.9nm,0.8s,mb4.5,baz=25,slow=11,SNR=4.7						
MLR	Muntele Rosu	47.73	296	P	P	22 50 16.7	+1.6
MLR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KWP	Kalwaria	47.86	303	eP	P	22 50 16.9	+0.8
KWP	Kalwaria	47.86	303	eP	P	22 50 16.9	+0.8
AFFS	'Afif	48.01	262	P	P	22 50 17.5	-0.1
CSS	Prodhromos	48.12	280	eP	P	22 50 18.4	0.0
	comp=Z,10nm,0.8s,mb4.9						
HFS	Hagfors	48.41	318	P	P	22 50 19.3	-0.8
	comp=Z,7.8nm,0.7s,mb4.8,baz=90,slow=5.9,SNR=17						
HFS	Hagfors	48.41	318	P	P	22 50 19.3	-0.8
HFS				pmax	pmax		
	comp=Z,8.0nm,0.7s						
HFS	Hagfors	48.41	318	P	P	22 50 19.3	-0.8
KOLS	Kolonicke sedl	48.42	302	i P	P	22 50 20.9	+0.5
NB2	NORSAR Subarra	49.18	320	P	P	22 50 24.7	-1.4
	comp=Z,1.5nm,0.5s,mb4.3,baz=68,slow=7.4						
NOA	NORSAR Array B	49.18	320	P	P	22 50 25.2	-0.9
	comp=Z,2.1nm,0.6s,mb4.3,baz=67,slow=7.4,SNR=7.1						
NOA	NORSAR Array B	49.18	320	P	P	22 50 25.2	-0.9
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
OJC	Ojcow	49.30	304	eP	P	22 50 27.3	+0.1
OJC	Ojcow	49.30	304	eP	P	22 50 27.3	+0.1
NIE	Niedzica	49.36	303	eP	P	22 50 28.9	+1.3
KBRS	Khaybar	49.41	266	P	P	22 50 29.8	+1.4
TBKS	Tabuk	49.79	271	P	P	22 50 32.6	+1.4
JMQS	Jabal Moqyreh	49.85	272	P	P	22 50 32.9	+1.1
JMOS	Jabal al Moall	50.22	273	P	P	22 50 35.9	+1.4
HAQS	Haql	50.41	273	P	P	22 50 37.0	+0.9
OKC	Ostrava-Krasne	50.42	305	eP	P	22 50 36.6	+0.8
OKC				AMS	AMS	23 25 50.0	
	comp=Z,600nm,22.0s						
TATS	Tathlith	50.63	257	P	P	22 50 37.7	0.0
BDAS	Al Bad'	50.67	272	D		22 50 40.8	
AYUS	'Aynunah	50.70	272	P	P	22 50 39.2	+1.0
TAYS	Tayyib Ism	50.76	272	P	P	22 50 39.4	+0.7
MORC	Moravsky Berou	50.79	305	eP	P	22 50 38.8	+0.2
	comp=Z,14nm,1.0s,mb4.8						
DBAS	Duba	50.81	270	P	P	22 50 39.7	+0.7
BDRM	Kayabasi	50.98	286	i P	P	22 50 40.6	+0.4
KSP	Ksiaz	51.01	307	eP	P	22 50 40.0	-0.2
KSP	Ksiaz	51.01	307	eP	P	22 50 40.5	+0.3
DAG	Danmarks Havn	51.06	344	i P	P	22 50 40.0	-0.3
DAG	Danmarks Havn	51.06	344	eP	P	22 50 40.0	-0.3
UMJS	Umm Lajj	51.12	267	D		22 50 44.2	
DPC	Dobruska-Polom	51.22	306	eP	P	22 50 42.6	+0.8
DPC				AMS	AMS	23 24 30.0	
	comp=Z,700nm,22.9s						
UPC	Upice	51.32	306	eP	P	22 50 43.3	+0.7
SMOL	Smolenice	51.46	303	eP	P	22 50 46.2	+2.5
VRAC	Vranov	51.56	305	P	P	22 50 44.9	+0.5
	comp=Z,8.2nm,0.8s,mb4.7,baz=58,slow=8.3,SNR=14						
BLJS	Baljurashi	51.68	259	P	P	22 50 45.7	0.0
ZST	Bratislava	51.80	303	eP	P	22 50 50.0	+3.7
DJNS	Zahran al Janu	51.86	255	P	P	22 50 47.6	+0.5
PKSM	Moragy	51.87	300	⇑iP	P	22 50 46.8	0.0
PVCC	Panska Ves	52.12	307	eP	P	22 50 49.3	+0.6
PVCC				AMS	AMS	23 26 10.0	
	comp=Z,700nm,22.8s						
BRG	Berggiesshubel	52.30	307	eP	P	22 50 50.5	+0.5
BRG				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.8						
BRG				MLR	MLR		
	comp=N,440nm,23.5s,MS4.5						
BRG				MLR	MLR		
	comp=E,250nm,23.5s,MS4.5						
BRG				MLR	MLR		
	comp=Z,490nm,18.7s,MS4.6						
BRG	Berggiesshubel	52.30	307	eP	P	22 50 50.5	+0.5
	comp=Z,16nm,1.3s,mb4.8						
BRG				LR	LR		
	comp=Z,490nm,18.7s,MS4.6						
PRU	Pruhonice	52.40	306	eP	P	22 50 51.0	+0.3
PRU				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
PRU	Pruhonice	52.40	306	eP	P	22 50 51.0	+0.3
	comp=Z,13nm,1.0s,mb4.8						
PRU				AMS	AMS	23 26 40.0	
CLL	Collm	52.61	308	P	P	22 50 52.1	-0.2
	comp=Z,logA/T=1.1,mb4.8						
CLL				e*PP	pP	22 51 00.0	+4.0
CLL	Collm	52.61	308	i P	P	22 50 52.1	-0.2
CLL				e		22 51 00.0	
CLL				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
CLL	Collm	52.61	308	i P	P	22 50 52.1	-0.2
	comp=Z,14nm,1.0s,mb4.8						
CLL				e		22 51 00.0	
BSEG	Bad Segeberg	52.76	312	eP	P	22 50 53.8	+0.4
BSEG				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.9						
KHC	Kasperske Hory	53.37	306	eP	P	22 50 58.2	+0.2
KHC				AMS	AMS	23 27 20.0	
	comp=Z,800nm,23.1s						
GEC2	GERESS Array S	53.44	305	eP	P	22 50 58.7	+0.2
GEC2				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6						
GEC2	GERESS Array S	53.44	305	eP	P	22 50 58.7	+0.2
	comp=Z,10.0nm,1.2s,mb4.6						
GERES	GERESS Array B	53.44	305	P	P	22 50 58.8	+0.3
	comp=Z,2.6nm,0.9s,mb4.2,baz=53,slow=6.7,SNR=7.9						
GERES	GERESS Array B	53.44	305	P	P	22 50 58.8	+0.3
GERES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NKC	Novy Kostel	53.45	307	eP	P	22 50 58.9	+0.4
NKC				AMS	AMS	23 23 40.0	
	comp=Z,400nm,22.1s						
IDI	Anoyia	53.68	286	P	P	22 50 59.3	-1.2
	comp=Z,4.2nm,0.6s,mb4.5,baz=38,slow=11,SNR=8.8						
MOX	Moxa	53.70	308	i P	P	22 51 00.3	-0.1
MOX				SSS	tx	23 03 34.0	
MOX				L		23 43 08.0	
MOX	Moxa	53.70	308	eP	P	22 51 00.3	-0.1
WET	Wettzell	53.76	306	eP	P	22 51 01.1	+0.3
WET				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
WET	Wettzell	53.76	306	eP	P	22 51 01.1	+0.3
	comp=Z,11nm,1.0s,mb4.7						
CLZ	Clausthal	53.77	310	eP	P	22 51 00.9	+0.1
	comp=Z,17nm,1.3s,mb4.8						
GRA1	Grafenberg Arr	54.40	307	eP	P	22 51 06.0	+0.5
	comp=Z,25nm,0.9s,mb5.1						
GRF	Grafenberg Arr	54.40	307	eP	P	22 51 06.0	+0.5
GRF				pmax	pmax		
	comp=Z,25nm,0.9s,mb5.1						
GVD	Gavdhos	54.48	286	eP	P	22 51 04.8	-1.5
	comp=Z,46nm,1.1s,mb5.3						
KBA	Koelnbreinsper	54.56	304	⇑iP	P	22 51 07.2	+0.5
	comp=Z,30nm,1.3s,mb5.2						
FVI	Forni Avoltri	55.15	303	eP	P	22 51 12.3	+1.3
WTTA	Wattenberg	55.45	305	⇑iP	P	22 51 13.3	0.0
	comp=Z,32nm,1.4s,mb5.2						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MOTA	Moosalm	55.71	305	⇑iP	P	22 51 14.9	-0.2
	comp=Z,9.2nm,1.0s,mb4.8						
SQTA	Sankt Quirin	55.72	305	⇑iP	P	22 51 15.3	+0.1
	comp=Z,9.4nm,0.9s,mb4.8						
BFO	Black Forest	56.74	307	eP	P	22 51 23.5	+1.0
BFO				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
BFO	Black Forest	56.74	307	eP	P	22 51 23.5	+1.0
	comp=Z,6.0nm,0.9s,mb4.6						
TDS	Terranova Siba	56.80	295	eP	P	22 51 24.0	+0.9
CII	Carovilli	56.91	298	eP	P	22 51 26.6	+2.8
GRI	Girifalco	57.23	294	eP	P	22 51 27.1	+1.0
CDF	Champ du Feu	57.28	308	eP	P	22 51 25.8	-0.5
	comp=Z,26nm,1.0s,mb4.9						
VMG	Vicchio	57.32	301	eP	P	22 51 28.9	+2.2
GIVF	Givet	57.66	310	eP	P	22 51 28.6	-0.4
HINF	Hinteralfeld	57.85	307	eP	P	22 51 29.5	-0.8
SOI	Samo	57.90	293	eP	P	22 51 30.9	+0.2
BAIF	Baives	58.01	311	eP	P	22 51 30.6	-0.8
	comp=Z,28nm,1.1s,mb4.9						
MEZF	Maizieres J'vi	58.45	309	eP	P	22 51 34.2	-0.3
	comp=Z,20nm,0.9s,mb4.8						
COLA	College	58.78	27	eP	P	22 51 36.6	0.0
	comp=Z,24nm,1.0s,mb5.2						
CABF	La Chapelle	58.97	306	eP	P	22 51 37.5	-0.7
ILAR	Eielson Array	59.15	26	P	P	22 51 38.5	-0.6
	comp=Z,9.7nm,0.8s,mb4.9,baz=310,slow=4.9,SNR=78						
ILAR	Eielson Array	59.15	26	P	P	22 51 38.6	-0.6
ILAR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MCK	McKinley	59.21	28	eP	P	22 51 38.7	-0.8
	comp=Z,6.1nm,0.9s,mb4.6						
LPG	La Plagne	59.24	305	eP	P	22 51 40.3	+0.2
	comp=Z,39nm,0.9s,mb5.1						
LPL	La Plagne	59.24	305	eP	P	22 51 40.2	+0.1
	comp=Z,22nm,0.9s,mb4.9						
BNI	Bardonecchia	59.54	305	eP	P	22 51 41.4	-0.8
	comp=Z,15nm,1.0s,mb5.0						
PGF	Pioggiola	59.66	301	eP	P	22 51 42.3	-0.7
MBDF	Montbardon	59.68	304	eP	P	22 51 43.4	+0.3
	comp=Z,30nm,0.8s,mb5.1						
SBF	Sospel	59.80	303	eP	P	22 51 43.6	-0.4
LOR	Lormes	59.82	308	eP	P	22 51 42.9	-1.1
	comp=Z,18nm,0.8s,mb4.8						
RSO	Redoubt South	60.05	32	P	P	22 51 45.3	-0.1
ORIF	Oris-en-Rattie	60.08	305	eP	P	22 51 45.5	-0.3
	comp=Z,35nm,0.9s,mb5.1						
SSF	Saint Saulge	60.14	308	eP	P	22 51 45.2	-1.0
	comp=Z,19nm,0.9s,mb4.8						
INK	Inuvik	60.14	19	P	P	22 51 45.2	-0.8
	comp=Z,9.7nm,0.9s,mb4.8,baz=341,slow=7.8,SNR=11						
INK	Inuvik	60.14	19	P	P	22 51 45.2	-0.8
INK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
INK	Inuvik	60.14	19	P	P	22 51 45.2	-0.8
SMF	Signal de Mont	60.20	308	eP	P	22 51 46.1	-0.6
	comp=Z,13nm,0.8s,mb4.7						
AVF	Avril sur Loir	60.38	308	eP	P	22 51 47.0	-0.9
	comp=Z,7.2nm,0.7s,mb4.5						
FRF	La Foret Royal	60.44	303	eP	P	22 51 47.6	-0.8
	comp=Z,64nm,1.2s,mb5.2						
THY	Trims Highway	60.46	27	eP	P	22 51 47.5	-0.7
PMR	Palmer	60.60	30	P	P	22 51 49.0	-0.2
LMR	La Mourre	60.66	303	eP	P	22 51 49.0	-0.8
SML	Sawmill	60.73	30	eP	P	22 51 49.5	-0.5
BGF	Bois d'Agland	60.80	308	eP	P	22 51 49.9	-0.8
	comp=Z,21nm,0.8s,mb5.0						
VIVF	Saint-Julien-l	60.80	305	eP	P	22 51 50.0	-0.8
	comp=Z,14nm,0.8s,mb4.8						
SMRF	Simiane la Rot	60.82	304	eP	P	22 51 50.4	-0.5
LDF	La Druitiere	61.16	311	eP	P	22 51 52.3	-0.9
	comp=Z,41nm,0.9s,mb5.2						
FLN	La Foliniere	61.25	311	eP	P	22 51 52.8	-0.9
	comp=Z,32nm,0.8s,mb5.2						
TCF	Toulx Ste Croi	61.32	308	eP	P	22 51 53.7	-0.5
	comp=Z,60nm,1.2s,mb5.3						
GRR	Gorron	61.68	311	eP	P	22 51 55.9	-0.8
LASF	Ste Croix	61.74	305	eP	P	22 51 56.9	-0.3
	comp=Z,27nm,1.0s,mb5.0						
DIV	Divide	62.08	29	P	P	22 52 00.7	+1.5
CAF	Calviac	62.23	307	eP	P	22 51 59.8	-0.7
	comp=Z,28nm,1.1s,mb5.0						
RJF	Les Rejaudoux	62.30	307	eP	P	22 52 00.6	-0.3
	comp=Z,17nm,0.9s,mb4.9						
MFF	Saint Martin d	62.41	309	eP	P	22 52 00.5	-1.1
SGMF	Saint Gilles	62.65	312	eP	P	22 52 02.7	-0.4
LFF	La Frestale	62.96	307	eP	P	22 52 04.5	-0.7
EPF	Esparros	64.39	306	eP	P	22 52 13.8	-0.8
	comp=Z,14nm,0.9s,mb4.7						
ETSF	Etsaut	64.98	306	eP	P	22 52 17.9	-0.5
	comp=Z,12nm,1.1s,mb4.8						
FITZ	Fitzroy Crossi	68.99	150	P	P	22 52 44.7	+0.5
	comp=Z,5.9nm,0.9s,mb4.5,baz=341,slow=4.1,SNR=5.7						
ESDC	Sonseca Array	69.04	306	P	P	22 52 43.8	-0.3
	comp=Z,3.7nm,0.8s,mb4.3,baz=46,slow=6.9,SNR=12						
ESDC				LR	LR	23 28 43.9	
	comp=Z,345nm,20.3s,MS4.6,baz=330,slow=41						
YKA	Yellowknife Ar	69.11	15	P	P	22 52 43.4	-0.7
	comp=Z,1.5nm,0.8s,mb4.0,baz=338,slow=6.4,SNR=4.3						
YKA	Yellowknife Ar	69.11	15	P	P	22 52 43.4	-0.8
YKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YKA	Yellowknife Ar	69.11	15	P	P	22 52 43.4	-0.7
KMBO	Kilima Mbogo	69.93	246	P	P	22 52 50.0	0.0
	comp=Z,3.0nm,1.1s,mb4.1,baz=42,slow=11,SNR=6.2						
KMBO	Kilima Mbogo	69.93	246	eP	P	22 52 49.6	-0.4
	comp=Z,2.2nm,1.0s,mb4.0						
EVO	Evora	72.10	307	eP	P	22 53 02.3	-0.4
	comp=Z,25nm,1.1s,mb4.8						
WRAB	Tennant Creek	74.00	143	eP	P	22 53 12.2	-1.9
WRA	Warramunga Arr	74.00	143	P	P	22 53 12.8	-1.3
	comp=Z,4.2nm,1.1s,mb4.3,baz=341,slow=6.2,SNR=15						
WRA	Warramunga Arr	74.00	143	P	P	22 53 12.8	-1.3
WRA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ASAR	Alice Springs	77.15	145	P	P	22 53 31.4	-0.6
	comp=Z,4.0nm,1.1s,mb4.2,baz=327,slow=4.7,SNR=10						
NLW	Nelson Butte	81.00	24	eP	P	22 53 53.2	+0.9
RMW	Rattlesnake Mo	81.14	25	P	P	22 53 53.5	+0.5
DPW	Davenport	81.79	23	eP	P	22 53 57.5	+1.1
STKA	Stephens Creek	87.55	143	P	P	22 54 26.6	+0.9
	comp=Z,1.2nm,0.7s,mb4.3,baz=340,slow=11,SNR=3.4						
HWUT	Hardware Ranch	89.34	21	P	P	22 54 33.1	-0.9
NVAR	Mina Array Bea	90.41	27	P	P	22 54 40.5	+1.4
	comp=Z,0.7nm,0.9s,mb4.0,baz=301,slow=5.3,SNR=3.8						
DBIC	Dimbokro	93.07	283	P	P	22 54 51.5	-0.3
	comp=Z,3.8nm,0.9s,mb4.8,baz=12,slow=5.2,SNR=3.9						
DBIC	Dimbokro	93.07	283	P	P	22 54 51.5	-0.3
DBIC				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SNAA	Sanae	135.64	207	P	PKPdf	23 00 49.8	-10
SNAA	Sanae	135.64	207		PKPdf	23 01 00.8	+1.5
SNAA	Sanae	135.64	207	⇑i	PKPdf	23 01 03.8	+4.5
SNAA	Sanae	135.64	207	i PKPdf	PKPdf	23 00 49.8	-10
SNAA				P		23 01 00.8	
SNAA				⇑iP		23 01 03.8	
QSPA	South Pole Qui	135.68	180	eP	PKPdf	23 00 56.3	-2.9
VNA2	Neumayer--Watz	136.99	208	⇓i	PKPdf	23 01 15.2	+14
VNA2	Neumayer--Watz	136.99	208	⇑i	PKPdf	23 01 17.5	+16
VNA2	Neumayer--Watz	136.99	208	⇑iPKPdf	PKPdf	23 01 05.6	+3.9
VNA2				⇓iP		23 01 15.2	
VNA2				⇑iP		23 01 17.5	
VNA1	Neumayer--Stat	137.24	208	⇑iP	PKPdf	23 01 05.8	+3.6
VNA3	Neumayer Olymp	137.76	208	⇑i	PKPdf	23 01 17.5	+14
VNA3	Neumayer Olymp	137.76	208	⇑i	PKPdf	23 01 19.3	+16
VNA3	Neumayer Olymp	137.76	208	⇑iPKPdf	PKPdf	23 01 06.5	+3.3
VNA3				⇑iP		23 01 17.5	
VNA3				⇑iP		23 01 19.3	
LPAZ	La Paz	147.77	331	PKPbc	PKPdf	23 01 23.6	+1.6
	comp=Z,0.6nm,0.5s,baz=337,slow=2.3,SNR=5.6						
LPAZ	La Paz	147.77	331	PKP2	PKPab	23 01 23.7	-2.4
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CPUP	Villa Florida	151.40	304	PKPbc	PKPdf	23 01 29.9	+2.4
	comp=Z,8.2nm,0.9s,baz=56,slow=3.6,SNR=16						
CPUP	Villa Florida	151.40	304	PKIKP	PKPdf	23 01 29.9	+2.4
CPUP				pmax	pmax		
	comp=Z,8.0nm,0.9s						

*IDC **11** 22:52:12.5±1.4, 47.63N×153.61E, mb4.0/12, mb1 4.1/12, mb1mx4.0/23, Error ellipse: s-maj=33.2km s-min=26.2km az=135.0*
*MOS **11** 22:52:14.9±2.1, 47.36N×153.74E, h50km, mb4.4/7, Error ellipse: s-maj=25.9km s-min=16.4km az=82.3*
*NEIC **11** 22:52:14.3±0.9, 47.59N×153.66E, h15km, mb4.6/3, Error ellipse: s-maj=21.5km s-min=11.1km az=133.0*
ISC 11 22:52:15.6±0.9**, 47.7N**±0.1×**153.6E**±0.2**, h33km, n40, σ0s92**/41**, mb4.4**/22**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.44	27	ePN	Pn	22 53 06.9	-1.4
SKR				pmax	pmax		
	comp=N,30nm,0.4s						
SKR				pmax	pmax		
	comp=Z,70nm,0.4s						
KUR	Kuril'sk	4.67	241	PN	Pn	22 53 20.3	-5.4
KUR				S	S	22 54 19.0	-0.3
KUR				pmax	pmax		
	comp=Z,110nm,0.5s						
KUR				smax			
	comp=N,350nm,0.6s						
KUR				smax			
	comp=E,150nm,0.6s						
PET	Petropavlovsk	6.26	29	P	P	22 53 44.7	-3.3
YSS	Yuzh-Sakhalins	7.43	269	PN	Pn	22 54 13.0	+8.3
MAJO	Matsushiro	15.92	231	P	P	22 55 55.4	-3.2
SONM	Songino Array	31.38	288	P	P	22 58 34.9	-0.4
	comp=E,0.6nm,0.6s,mb3.6,baz=82,slow=10,SNR=3.4						
ILAR	Eielson Array	35.62	39	P	P	22 59 11.1	-0.7
	comp=E,0.5nm,1.0s,mb3.4,baz=260,slow=10,SNR=4.6						
ILAR	Eielson Array	35.62	39	P	P	22 59 11.1	-0.7
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ZAL	Zalesovo	42.39	305	P	P	23 00 07.5	-0.6
	comp=Z,1.2nm,0.3s,mb3.9,baz=24,slow=23,SNR=4.7						
ZAL	Zalesovo	42.39	305	P	P	23 00 07.5	-0.6
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	Makanchi Array	46.85	297	P	P	23 00 43.6	-0.3
	comp=Z,1.1nm,0.5s,mb4.0,baz=68,slow=7.7,SNR=11						
MKAR	Makanchi Array	46.85	297	P	P	23 00 43.6	-0.3
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURK	Kurchatov	47.17	303	eP	P	23 00 45.4	-0.9
	comp=Z,5.0nm,0.8s,mb4.5						
BVAR	Borovoye Array	50.56	309	P	P	23 01 12.7	+0.1
	comp=Z,0.9nm,0.4s,mb4.0,baz=60,slow=7.9,SNR=5.9						
CMAR	Chiang Mai Arr	52.93	256	P	P	23 01 29.9	-1.0
	comp=Z,0.4nm,0.5s,mb3.6,baz=35,slow=8.1,SNR=4.6						
AAK	Ala-Archa	53.76	296	eP	P	23 01 35.2	-1.5
	comp=Z,0.7nm,0.4s,mb3.9						
GUN	Gumba	55.28	275	eP	P	23 01 49.3	+1.3
KKN	Kakani	55.76	275	eP	P	23 01 51.5	+0.1
	comp=Z,12nm,0.7s,mb5.0						
PKI	Pulchoki	55.82	275	eP	P	23 01 51.8	0.0
DMN	Daman	56.00	275	eP	P	23 01 53.3	+0.2
	comp=Z,26nm,0.7s,mb5.3						
GKN	Gorkha	56.06	276	eP	P	23 01 53.3	-0.2
	comp=Z,26nm,0.8s,mb5.3						
KOLN	Koldanda	56.91	276	eP	P	23 01 59.4	-0.3
	comp=Z,17nm,0.9s,mb5.1						
ARCES	ARCESS Array B	57.12	341	P	P	23 02 00.6	0.0
	comp=Z,3.4nm,0.9s,mb4.3,baz=12,slow=8.3,SNR=3.2						
ARCES	ARCESS Array B	57.12	341	P	P	23 02 00.6	0.0
ARCES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
FINES	FINESS Array B	63.38	335	P	P	23 02 43.5	+0.1
	comp=Z,0.9nm,0.3s,mb4.3,baz=39,slow=7.4,SNR=34						
FINES	FINESS Array B	63.38	335	P	P	23 02 43.5	+0.1
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NB2	NORSAR Subarra	67.49	341	P	P	23 03 09.7	+0.1
	comp=Z,2.3nm,0.7s,mb4.3,baz=27,slow=6.2						
NOA	NORSAR Array B	67.49	341	P	P	23 03 10.1	+0.4
	comp=Z,3.5nm,0.8s,mb4.5,baz=27,slow=6.4,SNR=11						
NOA	NORSAR Array B	67.49	341	P	P	23 03 10.1	+0.5
NOA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AKASG	Malin Array Be	71.00	326	P	P	23 03 31.2	-0.2
	comp=Z,3.6nm,0.7s,mb4.4,baz=33,slow=6.2,SNR=11						
AKASG	Malin Array Be	71.00	326	P	P	23 03 31.2	-0.2
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KWP	Kalwaria	74.23	329	eP	P	23 03 51.7	+1.3
	comp=Z,6.1nm,0.8s,mb4.6						
CLL	Collm	75.79	336	P	P	23 04 01.0	+1.7
KHC	Kasperske Hory	77.58	334	eP	P	23 04 10.5	+1.0
BRTR	Keskin Array B	77.98	317	P	P	23 04 13.1	+1.2
	comp=Z,1.5nm,0.9s,mb3.9,baz=63,slow=5.5,SNR=4.0						
BRTR	Keskin Array B	77.98	317	P	P	23 04 13.1	+1.3
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
UMR	Umm Al-Rimmam	78.47	301	eP	P	23 04 15.8	+1.1
UMR				AMb	AMB	23 04 16.5	
	comp=Z,16nm,0.6s,mb5.2						
MIB	Mutribah	78.50	302	eP	P	23 04 15.7	+0.8
MIB				AMb	AMB	23 04 17.1	
	comp=Z,13nm,0.5s,mb5.1						
RST	Umm Al-Ruwaisa	78.92	302	eP	P	23 04 17.4	+0.1
RST				AMb	AMB	23 04 19.9	
	comp=Z,14nm,1.1s,mb4.8						
STKA	Stephens Creek	79.90	190	P	P	23 04 22.9	+0.5
	comp=Z,0.5nm,0.4s,mb3.8,baz=90,slow=18,SNR=3.2						

CASC 11 23:06:59.0±2.0**, 11.22N×86.90W, h18km**±16km**, MD3.7, 9C-1D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CRUN	El Crucero	0.96	38	eP	Pb	23 07 17.0	+0.2
COPN	Copaltepe	1.00	17	⇑eP	Pb	23 07 17.4	-0.1
COPN				eS	Sb	23 07 32.3	+2.0
TICN	Ticuantepe	1.04	39	eP	Pb	23 07 17.9	-0.2
MASN	Masaya	1.06	44	⇑eP	Pb	23 07 17.8	-0.7
APON	Apoyo	1.07	49	eP	Pb	23 07 17.9	-0.7
XAVN	Gruta Xavier	1.08	31	⇑eP	Pb	23 07 18.4	-0.4
MGAN	Managua	1.12	35	⇑eP	Pb	23 07 18.9	-0.7
MGAN				eS	Sb	23 07 34.1	+0.4
APYN	Apoyeque	1.14	28	eP	Pb	23 07 19.5	-0.4
APYN				eS	Sb	23 07 35.7	+1.4
WILN	Americas 2	1.17	37	⇑eP	Pb	23 07 19.3	-1.0
WILN				eS	Sb	23 07 34.7	-0.3
LEON	Leon	1.19	0	⇑eP	Pb	23 07 20.5	-0.2
LEON				eS	Sb	23 07 37.2	+1.4
MIRN	Miramar	1.23	9	⇓eP	Pb	23 07 21.0	-0.3
MIRN				eS	Sb	23 07 37.3	+0.5
MOMJ	Momotombo	1.23	16	⇑eP	Pb	23 07 20.5	-0.9
MOMJ				eS	Sb	23 07 37.5	+0.5
CNGN	Cerro Negro	1.29	9	⇑eP	Pn	23 07 21.5	-0.8
TEL3	Telica 3	1.35	2	eP	Pn	23 07 22.9	-0.2
PYTN	Playitas	1.55	32	⇑eP	Pn	23 07 24.5	-1.5

*NIED **11** 23:45:00, 33.90N×134.50E, h38km, Mw3.7 Best double couple: Mo3.87×10^14 NP1:φs76°, δ80°, λ-102°. NP2: φs309°, δ15°, λ-39°.*
JMA 11 23:45:52.0, 33.91N×134.49E, h13km±1km**, M3.6, 3C-4D Broadband fault plane solution: P waves. NP1:**φs160°, δ81°, λ1°. **NP2:**φs69°**,** δ89°**,** λ171°. **Principal axes:** T Plg7°**,** Azm24°**;** N Plg81°**,** Azm245°**;** P Plg6°**,** Azm115°**;**
Shikoku

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAI	Aioi	0.12	195	⇑P	Pg	23 45 55.1	-0.3
JAI				S	Sg	23 45 57.3	-0.3
JMN	Monobe	0.54	251	⇓P	Pb	23 46 02.7	-0.1
JMN				S	Sb	23 46 09.9	-0.3
JAJ2	Tsuna	0.60	33	⇑P	Pb	23 46 03.6	-0.3
JAJ2				eS	Sb	23 46 11.6	-0.4
JJS	Sakaide	0.66	315	⇓P	Pb	23 46 04.5	-0.3
JJS				eS	Sb	23 46 13.2	-0.3
JWM	Minabe	0.72	95	⇓P	Pb	23 46 05.7	-0.2
JWM				eS	Sb	23 46 14.8	-0.7
JWY	Kouya	0.97	71	P	Pb	23 46 10.0	-0.1
JWY				eS	Sb	23 46 22.9	+0.4
JAD	Aida	1.06	346	⇑P	Pb	23 46 11.5	-0.2
JAD				eS	Sb	23 46 25.3	0.0
JWZ	Kozaga	1.09	110	⇓P	Pb	23 46 11.0	-1.2
JWZ				eS	Sb	23 46 26.4	+0.3

*LDG **12** 00:00:40.6±0.1, 43.01N×0.30E, h15km, Md2.0/2, Ml2.0/6 Error ellipse: s-maj=1.3km s-min=0.8km az=167.0*
*STR **12** 00:00:41.0±0.2, 43.01N×0.30E, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 12 00:00:41.4±0.3**, 42.99N×0.29E, h11km, mbLg1.6**/12**, 2C, Error ellipse: s-maj=3.2km s-min=2.1km az=22.0, PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LABF	Labassere	0.17	289	Pg	Pg	00 00 45.1	-0.2
LABF				Sg	Sg	00 00 48.5	+0.6
LABF	Labassere	0.17	289	P	Pg	00 00 45.2	-0.1
LABF				S	Sg	00 00 48.6	+0.7
RESF	Ens	0.19	170	Pg	Pg	00 00 45.6	0.0
RESF				Sg	Sg	00 00 49.0	+0.6
RESF	Ens	0.19	170	P	Pg	00 00 45.5	-0.1
RESF				S	Sg	00 00 49.0	+0.6
VIEF	Viey	0.23	241	Pg	Pg	00 00 45.9	-0.4
VIEF				Sg	Sg	00 00 49.8	+0.2
VIEF	Viey	0.23	241	P	Pg	00 00 45.9	-0.4
VIEF				S	Sg	00 00 49.8	+0.1
EBIE	Bielsa	0.33	200	⇑Pg	Pg	00 00 47.6	-0.6
	1.8nm,0.1s,SNR=18						
EBIE				Lg		00 00 52.3	
	15nm,0.1s,SNR=7.9						
MELF	Melles	0.36	109	Pg	Pg	00 00 48.2	-0.7
MELF				Sg	Sg	00 00 53.4	-0.5
MELF	Melles	0.36	109	P	Pg	00 00 48.1	-0.7
MELF				S	Sg	00 00 53.3	-0.6
REYF	Montagne du Re	0.51	279	Pg	Pg	00 00 50.5	-1.2
REYF				Sg	Sg	00 00 58.2	-0.4
REYF	Montagne du Re	0.51	279	P	Pg	00 00 50.5	-1.2
REYF				S	Sg	00 00 58.0	-0.7
ETSF	Etsaut	0.63	262	ePg	Pg	00 00 52.8	-1.4
ETSF				eSg	Sg	00 01 01.2	-1.5
	60nm,0.3s						
FDAF	Les Forges d'A	0.66	255	Pg	Pg	00 00 53.3	-1.3
FDAF				Sg	Sg	00 01 02.0	-1.5
FDAF	Les Forges d'A	0.66	255	P	Pb	00 00 53.3	-1.0
FDAF				S	Sb	00 01 01.9	-1.3
SALF	Salau	0.70	109	Pg	Pg	00 00 54.1	-1.3
SALF				Sg	Sg	00 01 03.4	-1.4
SALF	Salau	0.70	109	P	Pb	00 00 54.1	-1.0
SALF				S	Sb	00 01 03.3	-1.2
SJPF	Ste Jean	1.12	277	ePg	Pg	00 01 01.5	-2.3
SJPF				eSg	Sg	00 01 16.1	-2.7
	5.4nm,0.2s						
EALK	Alkurruntz	1.34	280	Pg	Pg	00 01 06.0	-2.1
	0.5nm,0.1s,SNR=7.9						
EALK				Lg		00 01 24.0	
	13nm,0.3s,SNR=7.9						
ESAC	San Caprasio	1.39	204	Pn	Pn	00 01 06.2	-0.6
	SNR=7.9						
ESAC				Pg	Pg	00 01 07.5	-1.7
	3.7nm,0.2s,SNR=7.9						
ESAC				Lg		00 01 25.7	
	12nm,0.2s,SNR=7.9						
EMIR	Miracle	1.41	139	⇑Pg	Pg	00 01 07.7	-1.9
	1.7nm,0.2s,SNR=18						
EMIR				Lg		00 01 27.0	
	2.4nm,0.2s,SNR=5.9						
MTLF	Montolieu	1.45	75	ePg	Pg	00 01 07.5	-2.9
MTLF				eSg	Sg	00 01 26.2	-3.5
	1.4nm,0.2s						
EPOB	Poblet	1.74	160	Pg	Pg	00 01 13.1	-3.1
	0.6nm,0.1s,SNR=7.9						
EPOB				Lg		00 01 34.8	
	0.5nm,0.1s,SNR=7.9						
LFF	La Frestale	1.97	9	ePg	Pg	00 01 16.5	-4.3
LFF				eSg	Sg	00 01 42.0	-5.1
	1.2nm,0.2s						
CAF	Calviac	2.32	33	ePg	Pg	00 01 23.6	-4.1
CAF				eSn	Sn	00 01 42.3	-6.5
CAF				eSg	Sg	00 01 53.3	-5.3
	1.5nm,0.2s						
CAF	Calviac	2.32	33	Pg	Pg	00 01 23.6	-4.1
CAF				Lg		00 01 53.3	
	0.8nm,0.2s						
RJF	Les Rejaudoux	2.47	20	eSg	Sg	00 01 58.2	-5.6
	1.9nm,0.2s						
LASF	Ste Croix	2.81	66	ePg	Pg	00 01 32.4	-5.1
LASF				eSg	Sg	00 02 08.3	-6.6
	1.1nm,0.3s						

CASC 12 00:00:49.3±2.4**, 10.82N×86.82W, h35km**±30km**, MD4.1, 5C-2D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
APON	Apoyo	1.32	34	eP	P	00 01 12.4	+0.8
TICN	Ticuantepe	1.34	25	⇑eP	P	00 01 11.3	-0.6
VCR	Vista de Mar	1.36	120	eP	P	00 01 10.2	-2.0
COPN	Copaltepe	1.37	9	⇓eP	P	00 01 11.9	-0.5
XAVN	Gruta Xavier	1.41	20	eP	P	00 01 12.4	-0.4
MGAN	Managua	1.43	23	⇓eP	P	00 01 12.8	-0.4
WILN	Americas 2	1.47	25	eP	P	00 01 14.1	+0.3
APYN	Apoyeque	1.48	18	⇑eP	P	00 01 13.4	-0.5
LEON	Leon	1.59	357	⇑eP	P	00 01 14.9	-0.5
MOMJ	Momotombo	1.60	10	eP	P	00 01 15.2	-0.5
MIRN	Miramar	1.61	4	⇑eP	P	00 01 15.5	-0.3
MIRN				eS	S	00 01 35.5	-0.1
CNGN	Cerro Negro	1.68	4	eP	P	00 01 16.0	-0.6
CNGN				eS	S	00 01 36.5	-0.7
TEL3	Telica 3	1.74	359	⇑eP	P	00 01 17.0	-0.6
TEL3				eS	S	00 01 39.6	+0.7
PYTN	Playitas	1.86	24	eP	P	00 01 18.2	-1.1
JCR	Jicaral	1.94	120	eP	P	00 01 18.9	-1.4
JCR				eS	S	00 01 40.0	-3.7
FORC	Fortuna	2.14	99	eP	P	00 01 28.1	+4.7
CGA2	Cerro Gallo 2	2.45	109	eP	P	00 01 26.1	-1.6
PRS1	Puriscal	2.60	108	eP	P	00 01 31.1	+1.1
LAJ	Bijagual	2.82	109	eP	P	00 01 28.2	-4.8
LCR2	La Lucha 2	2.97	111	eP	P	00 01 36.2	+1.0
LCR2				eS	S	00 02 09.3	-0.7
ICR	Volcan Irazu	3.06	106	eP	P	00 01 35.3	-1.1
TRTC	Tortuguero	3.06	94	eP	P	00 01 34.1	-2.4
URSC	Urasca	3.15	108	eP	P	00 01 38.4	+0.7

*ISK **12** 00:20:46.9, 36.90N×27.64E, h5km, MD3.2*
*ATH **12** 00:20:49.6, 36.87N×27.64E, h37km±11km, MD3.0/4*
*NEIC **12** 00:20:49.6, 36.87N×27.64E, h37km, MD3.0(ATH), After ATH.*
*CSEM **12** 00:20:49.1±0.1, 36.94N×27.71E, h12km, MD3.2, Error ellipse: s-maj=3.5km s-min=3.3km az=122.0*
ISC 12 00:20:48.2±0.7**, 36.87N**±0.03×**27.66E**±0.04**, h3km**±5km**, n16, σ0s96**/26**, 1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.26	319	⇑iP	Pg	00 20 54.4	+1.1
BDRM				i S	Sg	00 20 56.1	-0.6
MLSB	Milas	0.43	13	ePG	Pg	00 20 56.9	+0.1
MLSB				eSG	Sg	00 21 02.7	+0.1
NISR	Nisiros	0.50	238	ePB	Pb	00 20 59.6	+0.4
NISR				eSB	Sb	00 21 09.0	+2.4
YER	Yerkesik	0.57	62	i PG	Pg	00 20 59.0	-0.5
YER				i SG	Sg	00 21 07.9	+0.8
ARG	Arkhangelos	0.76	150	ePN	Pn	00 21 04.0	-1.5
ARG				eSN	Sn	00 21 17.0	-0.6
DALT	Dalyan (Mudla)	0.80	97	ePG	Pg	00 21 03.2	-0.9
DALT				eSG	Sg	00 21 16.5	+1.8
AYDN	Tasoluk	0.81	13	i P	Pg	00 21 03.6	-0.7
AYDN				i S	Sg	00 21 14.4	-0.6
SMG	Samos	1.06	322	ePN	Pn	00 21 10.0	+0.2
DNZL	Cakiroluk	1.38	53	i P	Pb	00 21 14.2	-0.1
DNZL				i S	Sb	00 21 34.7	+2.6
KARP	Karpathos	1.38	197	ePN	Pn	00 21 14.0	-0.5
DENT	Denizli	1.41	51	PN	Pn	00 21 15.0	+0.2
IZM	Izmir	1.55	349	ePN	Pn	00 21 16.1	-0.8
KDAG	Bornova	1.56	349	i P	Pn	00 21 16.9	-0.1
KDAG				i S	Sb	00 21 38.9	+1.4
MANT	Manisa	1.77	24	i P	Pn	00 21 18.8	-1.2
MANT				i S	Sn	00 21 42.6	-0.6
ELL	Elmali	1.81	93	ePN	Pn	00 21 20.6	0.0
AKS	Akhisar	2.01	4	ePN	Pn	00 21 22.7	-0.7

*IDC **12** 00:26:29.1±0.9, 7.93S×68.15E, mb3.8/7, mb1 3.9/7, mb1mx3.7/17, MS3.5/2, Ms1 3.4/2, ms1mx2.8/19, Error ellipse: s-maj=28.7km s-min=24.3km az=77.0*

*NEIC **12** 00:26:30.5±0.6, 7.89S×68.13E, h10km, mb4.3/3, Error ellipse: s-maj=18.3km s-min=14.1km az=74.0*

ISC 12 00:26:28.3±0.8**, 7.9S**±0.1×**68.2E**±0.2**, h10km, n10, σ0ˢ57**/10**, mb4.0**/10**, MS3.4**/2**, Chagos Archipelago region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**31.50**	**281**	P	**P**	**00 32 53.3**	**+0.4**
	1.0nm,1.0s,mb3.6,baz=100,slow=6.1,SNR=3.2						
KMBO				LR	LR	00 43 11.2	
	comp=Z,36nm,18.6s,MS3.1,baz=98,slow=32						
MKAR	**Makanchi Array**	**55.86**	**12**	P	**P**	**00 36 08.2**	**-0.2**
	0.8nm,0.6s,mb3.9,baz=203,slow=9.2,SNR=6.4						
KURK	**Kurchatov**	**59.05**	**8**	*e*P	**P**	**00 36 30.4**	**-0.5**
	2.2nm,0.8s,mb4.2						
MAW	**Mawson**	**59.75**	**182**	P	**P**	**00 36 35.3**	**-0.2**
	1.1nm,1.1s,mb3.8,baz=46,slow=6.2,SNR=2.6						
MAW				LR	LR	00 58 03.4	
	comp=Z,64nm,18.5s,MS3.8,baz=232,slow=32						
ZRNK	**Zerenda**	**60.59**	**1**	*e*P	**P**	**00 36 40.6**	**-0.8**
	2.8nm,0.9s,mb4.4						
BRVK	**Borovoye**	**60.72**	**1**	*e*P	**P**	**00 36 41.8**	**-0.5**
	1.6nm,0.8s,mb4.2						
ZAL	**Zalesovo**	**63.16**	**11**	P	**P**	**00 36 59.5**	**+0.9**
	0.5nm,0.4s,mb4.0,baz=207,slow=11,SNR=3.1						
ASAR	**Alice Springs**	**64.70**	**112**	P	**P**	**00 37 09.2**	**-0.1**
	0.4nm,0.5s,mb3.7,baz=276,slow=6.3,SNR=5.1						
SONM	**Songino Array**	**64.93**	**27**	P	**P**	**00 37 11.4**	**+1.0**
	0.9nm,0.8s,mb3.9,baz=207,slow=8.3,SNR=6.9						
WRA	**Warramunga Arr**	**65.02**	**108**	P	**P**	**00 37 11.5**	**+0.1**
	0.6nm,0.7s,mb3.8,baz=278,slow=7.2,SNR=3.8						

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*IDC **12** 00:27:21.9±5.8, 3.59S×140.49E, h60km±53km, mb3.2/3, mb1 3.7/4, mb1mx3.4/11, ML3.9/1, Error ellipse: s-maj=97.4km s-min=18.7km az=110.0*

*NEIC **12** 00:27:22.0±1.2, 3.74S×140.77E, h60km, mb4.0/2, Error ellipse: s-maj=51.1km s-min=17.9km az=114.0*

ISC 12 00:27:27.1±3.7**, 4.1S**±0.2×**140.9E**±0.3**, h121**km±38km**, n6, σ0ˢ97**/9**, mb3.7**/2**, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**16.99**	**201**	*e*P	**P**	**00 31 18.7**	**-0.2**
	8.4nm,0.8s						
WRA	**Warramunga Arr**	**17.00**	**201**	P	**P**	**00 31 19.2**	**+0.1**
	0.5nm,0.3s,baz=25,slow=12,SNR=20						
WRA				S	**S**	**00 34 21.7**	**-0.8**
	0.1nm,0.3s,baz=15,slow=22,SNR=4.2						
FITZ	**Fitzroy Crossi**	**20.40**	**226**	P	**P**	**00 31 55.2**	**-1.4**
	1.6nm,0.6s,baz=341,slow=3.0,SNR=9.1						
FITZ				S	**S**	**00 35 33.5**	**+0.4**
	2.7nm,0.7s,baz=174,slow=13,SNR=3.8						
ASAR	**Alice Springs**	**20.60**	**198**	P	**P**	**00 32 00.2**	**+1.7**
	0.8nm,0.4s,baz=26,slow=9.5,SNR=5.5						
ASAR				S	**S**	**00 35 51.0**	**+14**
	0.6nm,0.7s,baz=17,slow=28,SNR=4.1						
MBWA	**Marble Bar**	**26.64**	**229**	P	**P**	**00 32 57.7**	**+1.1**
	2.6nm,0.5s,mb4.0						
ILAR	**Eielson Array**	**86.19**	**24**	P	**P**	**00 39 55.0**	**-0.7**
	0.3nm,0.7s,mb3.4,baz=269,slow=4.5,SNR=4.9						

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*IDC **12** 00:40:25.1±0.7, 45.91N×96.41E, mb4.0/10, mb1 4.1/14, mb1mx4.0/23, ML3.5/4, MS3.2/1, Ms1 3.4/1, ms1mx2.4/27, Error ellipse: s-maj=18.2km s-min=10.2km az=38.0*

*MOS **12** 00:40:26.4±1.3, 45.90N×96.35E, h15km, mb4.3/13, Error ellipse: s-maj=13.9km s-min=8.4km az=110.5*

*BJI **12** 00:40:26.1, 45.93N×96.45E, h19km, mB4.8, mb4.6, ML4.7, Ms4.1, Msz3.8*

*NEIC **12** 00:40:28.9±4.0, 45.92N×96.39E, h20km±26km, mb4.3/14, Error ellipse: s-maj=13.3km s-min=8.2km az=181.0*

*NNC **12** 00:40:29.1±3.2, 45.97N×96.15E, Error ellipse: s-maj=55.7km s-min=30.4km az=28.0*

ISC 12 00:40:26.1±1.5**, 45.91N**±0.04×**96.45E**±0.05**, h15**km±12km**, n93, σ1ˢ19**/97**, mb4.2**/23**, MS3.6**/4**, 12C-11D, Mongolia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAK	**Zakamensk**	**6.40**	**43**	*e*P	**Pn**	**00 42 02.7**	**+0.5**
ZAK				pmax	pmax		
	comp=Z,66nm,0.9s						
ZAK	**Zakamensk**	**6.40**	**43**	*e*P	**Pn**	**00 42 02.7**	**+0.5**
	comp=Z,66nm,0.9s						
MOY	**Mondy**	**6.50**	**26**	*e*P	**Pn**	**00 42 04.3**	**+0.7**
MOY				pmax	pmax		
	comp=Z,125nm,1.7s						
WMQ	**Urumqi**	**6.56**	**255**	P	**Pn**	**00 42 06.6**	**+2.1**
WMQ				S	**Sn**	**00 43 19.5**	**-0.3**
WMQ				Smax			
	comp=N,402nm,1.2s						
WMQ				Smax			
	comp=E,317nm,1.0s						
WMQ				LR	LR		
	comp=N,435nm,8.0s						
WMQ				LR	LR		
	comp=E,235nm,8.0s						
GTA	**Gaotai**	**6.95**	**158**	P	**Pn**	**00 42 09.0**	**-0.9**
GTA				PG	**Pn**	**00 42 30.6**	**+21**
GTA				S	**Sn**	**00 43 24.9**	**-4.5**
GTA				SG	**Sn**	**00 43 57.9**	**+29**
GTA				Smax			
	comp=N,150nm,0.9s						
GTA				Smax			
	comp=E,619nm,0.9s						
GTA				LR	LR		
	comp=N,596nm,8.0s						
GTA				LR	LR		
	comp=E,2μm,7.2s						
GTA				LR	LR		
	comp=Z,544nm,7.6s						
SONM	**Songino Array**	**7.09**	**71**	Pn	**Pn**	**00 42 11.8**	**0.0**
	comp=Z,2.0nm,0.3s,baz=258,slow=14,SNR=30						
SONM				Pg	**Pn**	**00 42 36.3**	**+24**
	comp=Z,7.3nm,0.3s,baz=259,slow=19,SNR=26						
SONM				Lg		00 44 08.8	
	comp=Z,22nm,0.3s,baz=251,slow=30,SNR=11						
MK31	**Makanchi Array**	**9.84**	**280**	⇑Pn	**P**	**00 42 48.7**	**-1.3**
	comp=Z,1.0nm,0.5s,baz=96,slow=15,SNR=22						
MK31				⇓Lg		00 45 25.4	
	comp=Z,44nm,0.8s,baz=89,slow=29,SNR=4.0						
MKAR	**Makanchi Array**	**9.84**	**280**	Pn	**P**	**00 42 48.6**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=97,slow=15,SNR=18						
MKAR				Pg	P	00 43 22.5	+33
	comp=Z,0.8nm,0.3s,baz=90,slow=19,SNR=6.6						
MKAR				Sn	**Sn**	**00 44 35.2**	**-5.9**
	comp=Z,0.7nm,0.3s,baz=85,slow=17,SNR=4.0						
MKAR				Lg		00 45 34.9	
	comp=Z,1.7nm,0.3s,baz=78,slow=32,SNR=6.0						
ZAL	**Zalesovo**	**10.99**	**321**	Pn	**P**	**00 43 03.5**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=341,slow=12,SNR=3.5						
ZAL				Pg	P	00 43 45.1	+39
	comp=Z,0.2nm,0.3s,baz=341,slow=20,SNR=3.8						
ZAL				Lg		00 46 13.0	
	comp=Z,0.8nm,0.3s,baz=233,slow=21,SNR=3.4						
LZH	**Lanzhou**	**11.28**	**148**	*e*P	**P**	**00 43 08.9**	**-0.9**
LZH				AP		00 43 12.3	
LZH				PP	PP	00 43 17.9	-0.6
LZH				*e*S	**S**	**00 45 10.1**	**-6.5**
LZH				AMB	AMB		
	comp=Z,24nm,1.3s						
LZH				AMB	AMB		
	comp=Z,242nm,4.1s						
LZH				LR	LR		
	comp=N,518nm,8.1s						
LZH				LR	LR		
	comp=Z,799nm,10.2s						
KURK	**Kurchatov**	**12.80**	**299**	⇓Pn	**P**	**00 43 27.6**	**-2.6**
	comp=Z,6.6nm,1.3s,baz=102,slow=7.7,SNR=4.8						
KURK				⇑Lg		00 47 08.2	
	comp=Z,71nm,1.5s,baz=7.8,slow=17,SNR=7.5						
KURK	**Kurchatov**	**12.80**	**299**	*i* P	**P**	**00 43 30.0**	**-0.2**
KURK				pmax	pmax		
	comp=Z,9.0nm,1.3s						
KURK	**Kurchatov**	**12.80**	**299**	*e*P	**P**	**00 43 26.8**	**-3.4**
	comp=Z,3.5nm,1.0s						
KURK				*e*		00 43 40.8	
ULHL	**Ulahol**	**14.97**	**263**	P	**P**	**00 44 07.0**	**+8.3**
	SNR=7.0						
TKM2	**Tokmak 2**	**15.19**	**266**	P	**P**	**00 44 09.4**	**+7.8**
	SNR=6.2						
KBK	**Karagaybulak**	**15.73**	**266**	P	**P**	**00 44 15.7**	**+7.1**
	SNR=8.9						
USP	**Ospenovka**	**15.85**	**268**	P	**P**	**00 44 14.8**	**+4.6**
	SNR=6.9						
AAK	**Ala-Archa**	**16.05**	**266**	⇑P	**P**	**00 44 16.5**	**+3.7**
	comp=Z,8.7nm,0.8s						
AAK				⇓Lg		00 48 57.5	
	comp=Z,32nm,2.1s						
AAK	**Ala-Archa**	**16.05**	**266**	P	**P**	**00 44 19.9**	**+7.1**
	SNR=7.9						
AAK	**Ala-Archa**	**16.05**	**266**	*e*P	**P**	**00 44 15.1**	**+2.4**
	comp=Z,7.3nm,0.8s						
BOD	**Bodaibo**	**16.06**	**36**	*e*P	**P**	**00 44 14.2**	**+1.5**
UCH	**Uchtor**	**16.18**	**265**	P	**P**	**00 44 22.5**	**+8.1**
	SNR=8.1						
EKS2	**Erkin-Say**	**16.55**	**267**	P	**P**	**00 44 21.9**	**+2.9**
	SNR=9.4						
VOSK	**Vostochnaya**	**17.89**	**302**	⇓P	**P**	**00 44 37.1**	**+1.3**
	comp=Z,3.9nm,0.9s						
VOSK				⇓Lg		00 49 53.6	
	comp=Z,29nm,1.8s						
VOSK	**Vostochnaya**	**17.89**	**302**	P	**P**	**00 44 36.7**	**+0.9**
VOSK				pmax	pmax		
	comp=Z,12nm,1.7s						
VOSK	**Vostochnaya**	**17.89**	**302**	P	**P**	**00 44 36.7**	**+0.9**
	comp=Z,12nm,1.7s						
BVA0	**Borovoye Array**	**18.31**	**302**	⇑P	**P**	**00 44 41.1**	**0.0**
	comp=Z,1.5nm,1.2s,baz=104,slow=17,SNR=26						
BVA0				⇑Lg		00 50 05.2	
	comp=Z,6.4nm,1.4s						
BVA0	**Borovoye Array**	**18.31**	**302**	*i* P	**P**	**00 44 40.1**	**-0.9**
BVAR	**Borovoye Array**	**18.31**	**302**	P	**P**	**00 44 40.4**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=106,slow=11,SNR=20						
BVAR				Lg		00 50 04.9	
	comp=Z,0.1nm,0.3s,baz=111,slow=25,SNR=2.4						
BRVK	**Borovoye**	**18.38**	**302**	*e*P	**P**	**00 44 41.4**	**-0.5**
	comp=Z,16nm,1.1s						
ENH	**Enshi**	**18.64**	**142**	*e*P	**P**	**00 44 45.0**	**-0.3**
	comp=Z,9.0nm,0.5s						
ZRNK	**Zerenda**	**19.11**	**302**	⇑P	**P**	**00 44 49.8**	**-0.9**
	comp=Z,5.4nm,0.7s						
ZRNK				⇑Lg		00 50 28.4	
	comp=Z,38nm,2.4s						
ZRNK	**Zerenda**	**19.11**	**302**	P	**P**	**00 44 49.2**	**-1.5**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GUN	**Gumba**	**19.82**	**209**	*e*P	**P**	**00 44 58.7**	**-0.3**
	comp=Z,26nm,0.7s						
KKN	**Kakani**	**20.13**	**210**	*e*P	**P**	**00 45 02.6**	**+0.3**
	comp=Z,18nm,0.8s						
GKN	**Gorkha**	**20.17**	**212**	*e*P	**P**	**00 45 02.9**	**+0.2**
	comp=Z,10nm,0.6s						
PKI	**Pulchoki**	**20.29**	**209**	*e*P	**P**	**00 45 04.4**	**+0.4**
	comp=Z,26nm,0.9s						
CN2	**Changchun**	**20.62**	**85**	*e*P	**P**	**00 45 08.1**	**+0.8**
CN2				AMB	AMB		
	comp=Z,20nm,0.9s						
SHL	**Shillong**	**20.62**	**192**	*i* PC		00 45 08.0	
KOLN	**Koldanda**	**20.77**	**214**	*e*P	**P**	**00 45 09.4**	**+0.5**
	comp=Z,16nm,0.8s						
DDI	**Dehra Dun**	**21.17**	**229**	*e*	**P**	**00 45 14.1**	**+1.1**
KMI	**Kunming**	**21.34**	**164**	*e*P	**P**	**00 45 14.6**	**-0.2**
KMI				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.2						
NJ2	**Nanjing**	**22.14**	**121**	*e*P	**P**	**00 45 25.8**	**+3.0**
NJ2				AP		00 45 35.0	
NJ2				PP	PP	00 45 53.1	+3.9
NJ2				S	**S**	**00 49 24.0**	**+2.8**
NJ2				AMB	AMB		
	comp=Z,30nm,0.5s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,90nm,4.8s						
NJ2				LR	LR		
	comp=N,120nm,13.7s						
NJ2				LR	LR		
	comp=E,100nm,20.6s						
NJ2				LR	LR		
	comp=Z,270nm,14.7s,MS3.8						
MDJ	**Mudanjiang**	**23.27**	**81**	P	**P**	**00 45 31.3**	**-2.4**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.7s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,62nm,4.8s						
SVE	**Sverdlovsk**	**24.60**	**309**	⇑*e*P	**P**	**00 45 47.0**	**+0.5**
SVE				pmax	pmax		
	comp=Z,40nm,1.8s,mb4.7						
SVE	**Sverdlovsk**	**24.60**	**309**	⇑*e*P	**P**	**00 45 47.0**	**+0.5**
	comp=Z,40nm,1.8s,mb4.7						
YAK	**Yakutsk**	**24.95**	**38**	⇓*e*P	**P**	**00 45 52.9**	**+3.1**
YAK				pmax	pmax		
	comp=Z,22nm,0.6s,mb4.9						
YAK				MLR	MLR		
	comp=Z,100nm,14.0s,MS3.5						
YAK	**Yakutsk**	**24.95**	**38**	⇓*e*P	**P**	**00 45 52.9**	**+3.1**
	comp=Z,22nm,0.6s,mb4.9						
ARU	**Arti**	**25.66**	**308**	⇑*i*P	**P**	**00 45 56.4**	**-0.2**
ARU				*i*		00 46 32.5	
ARU				*e*PPP	PPP	00 46 42.6	-5.6
ARU				*e*S	**S**	**00 50 23.1**	**+1.3**
ARU				*e*SSS	SSS	00 51 32.3	-10
ARU				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.4						
ARU	**Arti**	**25.66**	**308**	⇑*i*P	**P**	**00 45 56.4**	**-0.2**
	comp=Z,8.0nm,0.7s,mb4.4						
ARU				*i*		00 46 32.5	
ARU				*e*PPP	PPP	00 46 42.6	-5.6
ARU				*e*S	**S**	**00 50 23.1**	**+1.3**
ARU				*e*SSS	SSS	00 51 32.3	-10
CMAR	**Chiang Mai Arr**	**27.45**	**175**	P	**P**	**00 46 12.9**	**-0.4**
	comp=Z,0.9nm,0.8s,mb3.3,baz=350,slow=10,SNR=5.7						
CMAR				LR	LR	00 57 54.2	
	comp=Z,50nm,19.0s,MS3.1,baz=355,slow=38						
CMAR	**Chiang Mai Arr**	**27.45**	**175**	P	**P**	**00 46 13.0**	**-0.4**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CMAR				MLR	MLR		
	comp=Z,50nm,19.0s						
TIXI	**Tiksi**	**30.04**	**20**	⇓*e*P	**P**	**00 46 38.0**	**+1.8**
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.3						
TIXI	**Tiksi**	**30.04**	**20**	⇓*e*P	**P**	**00 46 38.0**	**+1.8**
	comp=Z,7.0nm,1.1s,mb4.3						
JOF	**Joensuu**	**39.57**	**319**	*e*p	**P**	**00 47 58.9**	**+1.0**
	comp=Z,0.3nm,0.4s,mb3.4						
SOC	**Sochi**	**39.64**	**288**	*e*P	**P**	**00 48 00.7**	**+2.0**
SOC				*e*		00 49 33.5	
SOC				*e*PPP	PPP	00 50 03.8	+5.4
SOC				*e*S	**S**	**00 53 58.8**	**-2.1**
SOC				*e*SS	SS	00 56 47.1	-2.1
SOC				*e*SSS	SSS	00 57 19.1	-5.4
SOC				pmax	pmax		
	comp=Z,41nm,1.3s,mb5.0						
SOC				pmax	pmax		
	comp=N,33nm,0.8s						
SOC				pmax	pmax		
	comp=E,19nm,0.7s						
SOC				MLR	MLR		
	comp=Z,207nm,20.0s,MS4.0						
SOC				MLR	MLR		
	comp=N,264nm,22.0s,MS4.1						
SOC				MLR	MLR		
	comp=E,65nm,17.0s,MS4.1						
SOC	**Sochi**	**39.64**	**288**	*e*P	**P**	**00 48 00.7**	**+2.0**
	comp=E,41nm,1.3s,mb5.0						
SOC				*e*		00 49 33.5	
SOC				*e*PPP	PPP	00 50 03.8	+5.4
SOC				*e*S	**S**	**00 53 58.8**	**-2.1**
SOC				*e*SS	SS	00 56 47.1	-2.1
SOC				*e*SSS	SSS	00 57 19.1	-5.4
KEV	**Kevo**	**40.85**	**330**	*e*p	**P**	**00 48 08.3**	**-0.1**
	comp=E,0.9nm,0.3s,mb3.9						
KEV	**Kevo**	**40.85**	**330**	*e*P	**P**	**00 48 08.3**	**-0.1**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.9						
ARCES	**ARCESS Array B**	**41.38**	**330**	P	**P**	**00 48 13.2**	**+0.4**
	comp=Z,3.6nm,0.8s,mb4.1,baz=81,slow=9.0,SNR=24						
ARCES	**ARCESS Array B**	**41.38**	**330**	P	**P**	**00 48 13.2**	**+0.4**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KAF	**Kangasniemi**	**41.99**	**319**	*e*p	**P**	**00 48 09.2**	**-8.4**
	comp=Z,1.3nm,0.7s,mb3.7						
KAF	**Kangasniemi**	**41.99**	**319**	*e*P	**P**	**00 48 09.2**	**-8.4**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.5						
FINES	**FINESS Array B**	**42.23**	**318**	P	**P**	**00 48 19.4**	**-0.2**
	comp=Z,0.9nm,0.5s,mb3.7,baz=90,slow=9.5,SNR=8.1						
FINES	**FINESS Array B**	**42.23**	**318**	P	**P**	**00 48 19.5**	**-0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**43.59**	**302**	P	**P**	**00 48 30.6**	**-0.2**
	comp=Z,3.3nm,0.5s,mb4.3,baz=57,slow=8.6,SNR=7.7						
AKASG	**Malin Array Be**	**43.59**	**302**	P	**P**	**00 48 30.6**	**-0.2**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.5s						
KIS	**Kishinev**	**45.27**	**297**	*e*P	**P**	**00 48 52.0**	**+7.5**
BRTR	**Keskin Array B**	**45.43**	**286**	P	**P**	**00 48 46.7**	**+0.8**
	comp=Z,2.0nm,0.9s,mb4.0,baz=70,slow=5.2,SNR=7.2						
BRTR	**Keskin Array B**	**45.43**	**286**	P	**P**	**00 48 46.7**	**+0.8**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KWP	**Kalwaria**	**47.86**	**303**	P	**P**	**00 49 05.7**	**+0.8**
	comp=Z,13nm,0.8s,mb5.0						
NB2	**NORSAR Subarra**	**49.19**	**320**	P	**P**	**00 49 12.1**	**-2.9**
	comp=Z,0.8nm,0.5s,mb4.0,baz=69,slow=7.4						
NOA	**NORSAR Array B**	**49.19**	**320**	P	**P**	**00 49 14.3**	**-0.7**
	comp=Z,0.9nm,0.6s,mb4.0,baz=67,slow=7.3,SNR=4.2						
NOA	**NORSAR Array B**	**49.19**	**320**	P	**P**	**00 49 14.3**	**-0.7**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**49.19**	**320**	P	**P**	**00 49 14.3**	**-0.7**
OJC	**Ojcow**	**49.30**	**304**	*e*P	**P**	**00 49 16.2**	**+0.2**
OJC	**Ojcow**	**49.30**	**304**	*e*P	**P**	**00 49 16.2**	**+0.2**
GERES	**GERESS Array B**	**53.44**	**305**	P	**P**	**00 49 48.2**	**+0.9**
	comp=Z,0.8nm,0.8s,mb3.7,baz=63,slow=2.2,SNR=3.7						
GERES	**GERESS Array B**	**53.44**	**305**	P	**P**	**00 49 48.2**	**+0.9**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
COLA	**College**	**58.80**	**27**	P	**P**	**00 50 22.7**	**-2.8**
	comp=Z,11nm,0.8s,mb4.9						
ILAR	**Eielson Array**	**59.17**	**26**	P	**P**	**00 50 27.4**	**-0.7**
	comp=Z,3.7nm,0.9s,mb4.4,baz=310,slow=5.4,SNR=29						
ILAR	**Eielson Array**	**59.17**	**26**	P	**P**	**00 50 27.4**	**-0.7**
ILAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
THY	**Trims Highway**	**60.48**	**27**	*e*P	**P**	**00 50 35.1**	**-1.9**
WRA	**Warramunga Arr**	**73.99**	**143**	P	**P**	**00 52 01.9**	**-0.9**
	comp=Z,0.5nm,0.5s,mb3.7,baz=342,slow=6.2,SNR=7.9						
WRA	**Warramunga Arr**	**73.99**	**143**	P	**P**	**00 52 01.9**	**-1.0**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**77.14**	**145**	P	**P**	**00 52 20.4**	**-0.4**
	comp=Z,0.7nm,0.6s,mb3.8,baz=338,slow=5.4,SNR=8.2						
VNA2	**Neumayer--Watz**	**136.97**	**208**	⇑*i*P	PKPdf	00 59 48.0	-2.8
VNA1	**Neumayer--Stat**	**137.22**	**208**	⇓*i*P	PKPdf	00 59 47.1	-4.2
VNA3	**Neumayer Olymp**	**137.74**	**208**	⇓*i*P	PKPdf	00 59 48.2	-4.1
LPAZ	**La Paz**	**147.78**	**331**	PKPbc	PKPdf	01 00 10.6	-0.5
	comp=Z,1.0nm,0.9s,baz=22,slow=5.4,SNR=2.0						
LPAZ	**La Paz**	**147.78**	**331**	PKP2	PKPab	01 00 10.6	-4.4
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.9s						
CPUP	**Villa Florida**	**151.40**	**304**	PKPbc	PKPdf	01 00 18.8	+2.3
	comp=Z,1.9nm,0.8s,baz=194,slow=6.4,SNR=5.2						
CPUP	**Villa Florida**	**151.40**	**304**	PKIKP	PKPdf	01 00 18.8	+2.2
CPUP				pmax	pmax		
	comp=Z,2.0nm,0.8s						

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*BJI **12** 00:53:48.9, 41.69N×125.92W, h5km, mB4.6, mb4.8, Ms4.8, Msz4.5*

*NEIC **12** 00:53:53.0±0.6, 41.55N×125.61W, h10km, mb4.6/12, Error ellipse: s-maj=8.0km s-min=3.4km az=71.0*

*IDC **12** 00:53:54.4±1.6, 41.70N×125.41W, mb4.0/9, mb1 4.3/13, mb1mx4.1/26, ML3.8/3, MS3.6/14, Ms1 3.6/14, ms1mx3.5/27, Error ellipse: s-maj=28.6km s-min=11.4km az=37.0*

ISC 12 00:53:50.9±0.5**, 41.57N**±0.03×**125.72W**±0.05**, h10km, n156, σ1ˢ05**/147**, mb4.4**/19**, MS3.8**/12**, 12C-18D, Off coast of northern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBO	**Bosley Butte**	**1.29**	**60**	⇑*e*Pn	**Pn**	**00 54 15.0**	**-0.1**
KRMB	**Red Mountain**	**1.36**	**91**	⇑*e*Pn	**Pn**	**00 54 15.8**	**-0.3**
KHMM	**Horse Mountain**	**1.65**	**114**	⇑*e*Pn	**Pn**	**00 54 19.7**	**-0.6**
KEBM	**Edson Butte**	**1.66**	**38**	⇓*i*Pn	**Pn**	**00 54 20.1**	**-0.2**
KEBM				*e*Sn	**Sn**	**00 54 39.0**	**-2.9**
YBH	**Yreka Blue Hor**	**2.26**	**85**	Pn	**Pn**	**00 54 29.9**	**+0.9**
	148nm,0.3s,baz=285,slow=11,SNR=1697						
YBH				Sn	**Sn**	**00 54 56.8**	**-0.4**
	32nm,0.3s,baz=308,slow=20,SNR=4.6						
YBH	**Yreka Blue Hor**	**2.26**	**85**	⇑*e*Pn	**Pn**	**00 54 29.6**	**+0.7**
HUMO	**Hull Mountain**	**2.31**	**62**	⇑*i*Pn	**Pn**	**00 54 29.7**	**+0.1**
HUMO				*e*Sn	**Sn**	**00 54 53.4**	**-4.8**
LAMM	**Antelope Mount**	**2.32**	**88**	⇑P	**Pn**	**00 54 30.6**	**+0.8**
DBO	**Dodson Butte**	**2.40**	**49**	P	**Pn**	**00 54 31.3**	**+0.3**
TAKO	**Tahkenitch**	**2.49**	**29**	⇓P	**Pn**	**00 54 31.6**	**-0.6**
BBOR	**Butler Butte**	**2.62**	**59**	⇓P	**Pn**	**00 54 34.7**	**+0.7**
LHEM	**Herd Peak**	**2.63**	**88**	⇑P	**Pn**	**00 54 35.4**	**+1.2**
BUOR	**Burton Butte**	**2.69**	**74**	⇓P	**Pn**	**00 54 36.4**	**+1.4**
HSO	**Harness Mounta**	**2.76**	**44**	⇓P	**Pn**	**00 54 36.4**	**+0.3**
LAB	**Little Aspen B**	**2.82**	**74**	⇓P	**Pn**	**00 54 38.5**	**+1.6**
HAMO	**Hamaker Mounta**	**2.85**	**79**	⇓P	**Pn**	**00 54 39.0**	**+1.7**
HOG	**Hogback Mounta**	**3.07**	**76**	P	**Pn**	**00 54 41.4**	**+0.9**
LASM	**Arnica Sink**	**3.11**	**88**	⇑P	**Pn**	**00 54 41.8**	**+0.7**
EUO	**Eugene**	**3.14**	**38**	P	**Pn**	**00 54 41.2**	**-0.3**
LTIM	**Timbered Crate**	**3.21**	**96**	P	**Pn**	**00 54 42.8**	**+0.3**
HOPS	**Hopland**	**3.27**	**141**	*e*Pn	**Pn**	**00 54 41.9**	**-1.5**
MPOR	**Mary's Peak**	**3.34**	**28**	P	**Pn**	**00 54 44.5**	**+0.2**
LBCM	**Butte Creek Ri**	**3.38**	**101**	⇑P	**Pn**	**00 54 45.0**	**+0.1**
HBO	**Huckleberry Mo**	**3.38**	**47**	⇓P	**Pn**	**00 54 45.9**	**+0.9**
COR	**Corvallis**	**3.50**	**30**	*e*Pn	**Pn**	**00 54 46.1**	**-0.5**
COR				*e*Sn	**Sn**	**00 55 24.0**	**-4.5**
IRO	**Indian Ridge**	**3.53**	**45**	⇓P	**Pn**	**00 54 47.7**	**+0.7**
BROR	**Big Rock Looko**	**3.61**	**41**	P	**Pn**	**00 54 48.5**	**+0.3**
FRIS	**Frissel Point**	**3.75**	**44**	⇓P	**Pn**	**00 54 50.9**	**+0.7**
HUOR	**Husband**	**3.82**	**47**	⇓P	**Pn**	**00 54 51.9**	**+0.7**
NSHM	**Saint Helena R**	**3.87**	**141**	*e*Pn	**Pn**	**00 54 50.2**	**-1.7**
OHCM	**Honcut**	**3.93**	**123**	*e*Pn	**Pn**	**00 54 51.1**	**-1.6**
OHCM				*e*Sn	**Sn**	**00 55 30.6**	**-8.8**
NCOR	**Newberry Crate**	**4.00**	**56**	⇑P	**Pn**	**00 54 54.4**	**+0.7**
BKCOR	**Black Crater**	**4.02**	**46**	⇓P	**Pn**	**00 54 54.5**	**+0.4**
SSOR	**Sweet Springs**	**4.06**	**35**	P	**Pn**	**00 54 54.7**	**+0.1**
MOD	**Modoc**	**4.07**	**84**	*e*Pn	**Pn**	**00 54 54.0**	**-0.7**
BEND	**Bend**	**4.08**	**51**	⇓P	**Pn**	**00 54 55.4**	**+0.4**
PINOR	**Pine Mountain**	**4.22**	**56**	P	**Pn**	**00 54 57.4**	**+0.5**
GT2	**Goat Mountain**	**4.38**	**34**	P	**Pn**	**00 54 58.9**	**-0.2**
BEKR	**Beckwourth**	**4.42**	**111**	*e*Pn	**Pn**	**00 54 59.8**	**+0.1**
BEKR				*e*Sn	**Sn**	**00 55 52.9**	**+1.1**
GMO	**Grizzlie Mount**	**4.52**	**49**	P	**Pn**	**00 55 01.1**	**0.0**
TDH	**Tom, Dick, Har**	**4.69**	**36**	P	**Pn**	**00 55 03.5**	**0.0**
LKC	**Lake Chabot**	**4.75**	**142**	*e*Pn	**Pn**	**00 55 01.9**	**-2.5**
VIPM	**Ingram Point**	**4.75**	**50**	⇓P	**Pn**	**00 55 04.6**	**+0.1**
HOOD	**Mount Hood Mea**	**4.78**	**37**	P	**Pn**	**00 55 05.1**	**+0.3**
VLMM	**Larch Mountain**	**4.79**	**33**	⇓P	**Pn**	**00 55 05.2**	**+0.3**
NLO	**Nicolai Mounta**	**4.81**	**19**	P	**Pn**	**00 55 06.2**	**+1.0**
CROR	**Criterion Ridg**	**4.86**	**44**	P	**Pn**	**00 55 05.6**	**-0.3**
VLL	**Laurance Lake**	**4.88**	**36**	P	**Pn**	**00 55 06.4**	**+0.2**
WCN	**Washoe City**	**5.08**	**114**	⇑*e*Pn	**Pn**	**00 55 08.6**	**-0.5**
LVP	**Lakeview Peak**	**5.10**	**27**	P	**Pn**	**00 55 09.3**	**0.0**
PAHR	**Pah Rah Range**	**5.17**	**109**	*e*Pn	**Pn**	**00 55 09.9**	**-0.4**
BMW	**Boistfort Moun**	**5.22**	**19**	*e*Pn	**Pn**	**00 55 11.0**	**-0.1**
VGB	**Gordon Butte**	**5.34**	**41**	*e*Pn	**Pn**	**00 55 12.3**	**-0.3**
CMB	**Columbia Colle**	**5.42**	**129**	*e*Pn	**Pn**	**00 55 12.4**	**-1.3**
LON	**Longmire**	**5.89**	**27**	*e*Pn	**Pn**	**00 55 19.5**	**-1.0**
OCWA	**Octopus Mounta**	**6.28**	**10**	*e*Pn	**Pn**	**00 55 26.5**	**+0.6**
GNW	**Green Mountain**	**6.34**	**18**	*e*Pn	**Pn**	**00 55 26.7**	**-0.1**
NVAR	**Mina Array Bea**	**6.50**	**116**	Pn	**Pn**	**00 55 28.6**	**-0.5**
	1.0nm,0.3s,baz=289,slow=13,SNR=7.5						
NVAR				Sn	**Sn**	**00 56 44.6**	**+0.5**
	1.0nm,0.3s,baz=42,slow=36,SNR=3.7						
NVAR				LR	LR	00 57 31.8	
	comp=Z,175nm,20.1s,baz=65,slow=34						
RMW	**Rattlesnake Mo**	**6.52**	**24**	Pn	**Pn**	**00 55 29.5**	**+0.2**
OMM	**Old Mammoth Mi**	**6.52**	**125**	*e*Pn	**Pn**	**00 55 29.3**	**-0.1**
BMN	**Battle Mountai**	**6.53**	**97**	*e*Pn	**Pn**	**00 55 29.6**	**+0.2**
HAWA	**Hanford**	**6.57**	**41**	*e*Pn	**Pn**	**00 55 27.9**	**-2.1**
MNV	**Mina**	**6.60**	**116**	Pn	**Pn**	**00 55 31.1**	**+0.6**
LNOR	**Lincton Mounta**	**6.89**	**49**	*e*Pn	**Pn**	**00 55 33.4**	**-1.2**
PGC	**Sidney**	**7.26**	**12**	*e*Pn	**Pn**	**00 55 39.5**	**-0.2**
TPH	**Tonopah**	**7.41**	**115**	P	**Pn**	**00 55 38.6**	**-3.3**
NLW	**Nelson Butte**	**7.55**	**29**	*e*Pn	**Pn**	**00 55 42.6**	**-1.2**
ELK	**Elko**	**7.95**	**92**	*e*Pn	**Pn**	**00 55 48.3**	**-1.1**
DPW	**Davenport**	**8.27**	**38**	P	**P**	**00 55 51.3**	**-2.5**
HLID	**Hailey**	**8.58**	**73**	*e*P	**P**	**00 55 56.9**	**-1.2**
BGU	**Big Grassy Mou**	**9.58**	**90**	*e*Pn	**P**	**00 56 12.6**	**+0.6**
HVU	**Hansel Valley**	**9.69**	**84**	*e*Pn	**P**	**00 56 14.4**	**+0.9**
DUG	**Dugway**	**9.87**	**94**	*e*Pn	**P**	**00 56 15.1**	**-0.9**
MCMT	**McKenzie Canyo**	**9.95**	**67**	*e*Pn	**P**	**00 56 15.4**	**-1.5**
SPUT	**South Promonto**	**9.97**	**87**	*e*Pn	**P**	**00 56 15.2**	**-2.2**
ARUT	**Antelope Range**	**10.19**	**108**	*e*Pn	**P**	**00 56 19.2**	**-1.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NOQ	North Oquirrh	10.31	91	ePn	P	00 56 21.7	-0.3
NLU	North Lily Min	10.48	94	ePn	P	00 56 23.5	-0.8
CTU	Camp Tracy	10.58	90	ePn	P	00 56 22.9	-2.8
HWUT	Hardware Ranch	10.61	85	ePn	P	00 56 26.6	+0.6
BBB	Bella Bella	10.74	352	LR	LR	00 59 57.8	
	comp=Z,193nm,20.8s,baz=159,slow=34						
TCUT	Toone Canyon	10.78	88	ePn	P	00 56 27.8	-0.5
MVU	Marysvale	10.80	102	ePn	P	00 56 28.1	-0.6
JLU	Jordanelle	10.82	90	Pn	P	00 56 27.7	-1.2
MSU	Marysvale	10.82	102	ePn	P	00 56 27.9	-1.1
AHID	Auburn Hatcher	10.92	79	ePn	P	00 56 30.4	+0.1
QLMT	Earthquake Lak	10.93	68	Pn	P	00 56 30.2	-0.2
DAU	Daniels Canyon	11.00	91	ePn	P	00 56 31.2	-0.1
BOZ	Bozeman (W)	11.00	64	ePn	P	00 56 29.8	-1.6
TPAW	Teton Pass	11.07	75	ePn	P	00 56 32.5	+0.1
REDW	Red Top Meadow	11.13	76	Pn	P	00 56 32.0	-1.2
SNOW	Snow King Moun	11.21	75	Pn	P	00 56 35.5	+1.2
HRY	Holter Researc	11.22	58	ePn	P	00 56 33.2	-1.3
WUWY	Wally Ulrich	11.23	75	ePn	P	00 56 35.8	+1.3
MOOW	Moose Ponds	11.24	74	ePn	P	00 56 34.2	-0.5
LOHW	Long Hollow	11.33	75	ePn	P	00 56 36.0	0.0
SRU	San Rafael	11.86	97	ePn	P	00 56 42.5	-0.6
PDAR	Pinedale Array	12.06	79	Pn	P	00 56 46.6	+0.8
	0.1nm,0.3s,baz=277,slow=12,SNR=23						
PDAR				LR	LR	01 01 49.5	
	comp=Z,416nm,21.6s,baz=346,slow=40						
PV10	Paradox Valley	13.19	99	ePn	P	00 57 01.2	+0.3
PV01	Paradox Valley	13.62	99	ePn	P	00 57 07.3	+0.8
EDM	Edmonton	14.33	31	P	P	00 57 23.5	+7.8
TUC	Tucson	15.08	123	Pn	P	00 57 26.0	+0.2
	7.7nm,0.9s						
SDCO	Great Sand Dun	16.03	97	eP	P	00 57 40.1	+2.1
	15nm,0.8s						
RSSD	Black Hills	16.10	74	eP	P	00 57 37.3	-1.6
	3.2nm,0.8s						
LAZ	Ladron	16.29	110	eP	P	00 57 43.9	+2.5
BNM	Barren Site	16.78	110	eP	P	00 57 48.5	+0.9
DLBC	Dease Lake	17.11	352	Pn	P	00 57 56.0	+4.5
	0.2nm,0.3s,baz=182,slow=10,SNR=13						
CPRX	Cap Rock	19.32	109	P	P	00 58 20.6	+1.7
GDL2	Guadalupe Moun	19.43	112	eP	P	00 58 22.2	+2.0
CLNB	Carlsbad	19.74	111	eP	P	00 58 24.1	+0.5
CBKS	Cedar Bluff	20.02	89	eP	P	00 58 26.8	+0.2
	16nm,0.9s						
FFC	Flin Flon	20.47	42	eP	P	00 58 29.7	-1.5
	40nm,1.3s						
LTX	Lajitas	21.65	117	eP	P	00 58 46.0	+2.5
	66nm,1.7s,mb4.8						
TXAR	Lajitas Array	21.65	117	P	P	00 58 46.4	+2.9
	7.6nm,1.1s,mb4.1,baz=304,slow=9.0,SNR=25						
TXAR				LR	LR	01 07 36.3	
	comp=Z,84nm,18.2s,MS3.2,baz=155,slow=38						
YKA	Yellowknife Ar	21.98	14	P	P	00 58 47.4	+0.8
	7.5nm,0.8s,mb4.2,baz=201,slow=11,SNR=8.3						
YKA				LR	LR	01 08 07.5	
	comp=Z,97nm,18.6s,MS3.2,baz=210,slow=39						
WMOK	Wichita Mounta	22.20	99	eP	P	00 58 48.3	-0.6
	9.7nm,0.8s,mb4.3						
ULM	Lac du Bonnet	22.39	57	P	P	00 58 51.1	+0.4
	8.7nm,0.8s,mb4.2,baz=264,slow=11,SNR=6.5						
ULM	Lac du Bonnet	22.39	57	eP	P	00 58 50.5	-0.2
	39nm,1.2s,mb4.7						
JCT	Junction City	23.62	110	eP	P	00 59 04.6	+1.7
	20nm,1.2s,mb4.4						
MIAR	Mount Ida	26.16	95	eP	P	00 59 27.9	+0.8
	12nm,1.0s,mb4.4						
ILAR	Eielson Array	26.22	339	P	P	00 59 30.3	+3.0
	1.1nm,0.9s,mb3.4,baz=150,slow=8.4,SNR=10						
ILAR				LR	LR	01 08 12.1	
	comp=Z,84nm,20.5s,MS3.3,baz=281,slow=33						
CCM	Cathedral Cave	26.61	86	eP	P	00 59 32.6	+1.5
	26nm,1.3s,mb4.6						
HKT	Hockley	26.75	106	eP	P	00 59 33.0	+0.4
	51nm,1.9s,mb4.7						
INK	Inuvik	27.12	354	P	P	00 59 37.4	+1.8
	4.5nm,0.9s,mb4.0,baz=172,slow=12,SNR=5.0						
INK				LR	LR	01 09 52.8	
	comp=Z,128nm,20.5s,MS3.5,baz=34,slow=36						
INK	Inuvik	27.12	354	eP	P	00 59 35.7	+0.1
	7.3nm,1.1s,mb4.1						
SLM	Saint Louis	27.18	84	P	P	00 59 36.0	-0.4
OXF	Oxford	29.30	92	eP	P	00 59 54.7	-0.8
	41nm,1.3s,mb5.0						
LRAL	Lakeview Retre	31.74	93	eP	P	01 00 16.3	-1.0
PWV	Princeton	34.46	82	eP	P	01 00 40.3	-0.5
JSC	Jenkinsville	35.50	87	eP	P	01 00 50.2	+0.5
SCHQ	Schefferville	40.23	50	P	P	01 01 31.9	+2.8
	3.8nm,0.8s,mb4.2,baz=284,slow=12,SNR=2.7						
SCHQ	Schefferville	40.23	50	P	P	01 01 31.9	+2.8
BORG	Borgarnes	58.86	29	LR	LR	01 30 06.8	
	comp=Z,122nm,20.4s,MS4.0,baz=234,slow=37						
ARCES	ARCESS Array B	67.20	11	LR	LR	01 32 57.9	
	comp=Z,43nm,19.2s,MS3.7,baz=359,slow=35						
MDJ	Mudanjiang	70.92	313	P	P	01 05 08.5	-1.6
MDJ				AMB	AMB		
	comp=Z,16nm,2.3s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,79nm,3.7s						
NOA	NORSAR Array B	71.90	20	LR	LR	01 36 07.0	
	comp=Z,30nm,18.3s,MS3.6,baz=310,slow=35						
CN2	Changchun	73.71	314	eP	P	01 05 26.3	-0.2
FINES	FINESS Array B	74.81	14	LR	LR	01 38 34.7	
	comp=Z,50nm,18.3s,MS3.8,baz=330,slow=36						
LPAZ	La Paz	78.35	124	P	P	01 05 59.8	+6.6
	comp=Z,0.9nm,0.7s,mb3.8,baz=304,slow=3.6,SNR=3.6						
ZAL	Zalesovo	81.32	342	LR	LR	01 47 43.4	
	comp=Z,33nm,18.9s,MS3.7,baz=291,slow=40						
BVAR	Borovoye Array	84.76	350	P	P	01 06 33.1	+7.1
	comp=Z,0.5nm,0.6s,mb3.8,baz=56,slow=5.2,SNR=2.6						
SSE	Sheshan	85.00	308	eP	P	01 06 27.0	-0.7
SSE				AMB	AMB		
	comp=Z,27nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,43nm,8.1s						
AKASG	Malin Array Be	85.53	16	P	P	01 06 33.9	+4.0
	comp=Z,0.6nm,0.6s,mb4.0,baz=332,slow=3.4,SNR=4.1						
NJ2	Nanjing	85.67	310	eP	P	01 06 30.6	-0.5
NJ2				AP	pP	01 06 35.4	+1.1
NJ2				XP	sP	01 06 37.6	+2.3
NJ2				PP	PP	01 09 50.7	-1.0
NJ2				S	S	01 17 07.0	+5.2
NJ2				XS		01 17 15.0	
NJ2				LR	LR		
	comp=N,1μm,24.4s,MS5.5						
NJ2				LR	LR		
	comp=E,2μm,21.5s,MS5.5						
NJ2				LR	LR		
	comp=Z,790nm,22.6s,MS5.0						
MKAR	Makanchi Array	88.56	341	LR	LR	01 46 14.9	
	comp=Z,33nm,21.1s,MS3.7,baz=125,slow=36						
GTA	Gaotai	89.38	326	eP	P	01 06 43.4	-5.4
GTA				AP	pP	01 06 51.5	-0.6
GTA				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.9						
WMQ	Urumqi	89.84	337	eP	P	01 06 54.0	+3.1
BDFB	Brasilia	91.33	110	LR	LR	01 56 21.7	
	comp=Z,91nm,18.4s,MS4.2,baz=321,slow=41						
VNA3	Neumayer Olymp	137.06	155	⇓iP	Pdif	01 10 22.6	+2.7
VNA3	Neumayer Olymp	137.06	155	e	PKPdf	01 13 13.6	-2.6
VNA1	Neumayer--Stat	137.61	154	⇓iP	Pdif	01 10 25.2	+2.9
VNA1	Neumayer--Stat	137.61	154	e	PKPdf	01 13 15.7	-1.6
VNA2	Neumayer--Watz	137.84	154	⇓iP	Pdif	01 10 24.3	+1.0
VNA2	Neumayer--Watz	137.84	154	e	PKPdf	01 13 14.9	-2.8
SNAA	Sanae	139.11	156	⇑iP	Pdif	01 10 38.4	+10
SNAA	Sanae	139.11	156	e	PKPdf	01 13 29.0	+9.0

NEIC ***12*** *00:55:00.5±1.4, 41.12N×51.97E, h10km, mb3.7/2, Error ellipse: s-maj=32.6km s-min=9.0km az=167.0*
CSEM ***12*** *00:55:00.5±0.4, 41.12N×51.97E, h10km±4km, mb3.8/2, Error ellipse: s-maj=12.8km s-min=4.9km az=161.0, After NEIC*
IDC ***12*** *00:55:07.6±6.7, 41.27N×52.07E, h66km±87km, mb3.2/3, mb1 3.4/5, mb1mx3.2/20, ML3.7/2, Error ellipse: s-maj=89.2km s-min=25.6km az=173.0*
ISC 12 00:55:01.6±5.0**, 41.4N**±0.2×**51.9E**±0.1**, h23**km±45km**, n10,** σ**1.52**/11**, mb3.3**/3**, Caspian Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GNI	Garni	5.60	260	ePn	Pn	00 56 23.6	-2.1
KIV	Kislovodsk	7.30	294	ePn	Pn	00 56 48.4	-1.3
BRTR	Keskin Array B	14.02	269	P	P	00 58 23.9	+2.9
	0.3nm,0.3s,baz=80,slow=8.8,SNR=6.7						
BRVK	Borovoye	17.04	40	eP	P	00 59 00.3	+0.4
	3.0nm,0.7s						
BVAR	Borovoye Array	17.07	41	P	P	00 59 02.4	+2.1
	0.3nm,0.3s,baz=225,slow=10,SNR=8.8						
BVAR				S	S	01 02 05.2	-2.8
	0.2nm,0.3s,baz=240,slow=24,SNR=4.7						
KURK	Kurchatov	20.66	54	eP	P	00 59 41.0	-1.1
	3.5nm,0.5s						
MKAR	Makanchi Array	22.39	66	P	P	00 59 59.6	0.0
	1.4nm,0.9s,mb3.4,baz=256,slow=10.0,SNR=4.4						
FINES	FINESS Array B	25.48	331	P	P	01 00 29.9	+0.6
	0.6nm,0.5s,mb3.4,baz=143,slow=9.5,SNR=8.7						
FINES	FINESS Array B	25.48	331	P	P	01 00 29.9	+0.6
GERES	GERESS Array B	27.78	299	P	P	01 00 51.9	+1.3
	0.3nm,0.5s,mb3.2,baz=125,slow=12,SNR=3.6						

CSEM ***12*** *01:11:27.1±1.5, 39.09N×28.45W, h30km, ML2.5, Error ellipse: s-maj=40.0km s-min=16.1km az=160.0*
SVSA ***12*** *01:11:29.0±0.9, 39.24N×28.56W, h15km, MD3.3, ML2.5, Error ellipse: s-maj=7.3km s-min=4.6km az=142.0*
PDA ***12*** *01:11:29.0±0.9, 39.24N×28.56W, h15km, MD3.3, ML2.5, Error ellipse: s-maj=7.3km s-min=4.6km az=142.0*
ISC 12 01:11:28.4±2.5**, 39.1N**±0.1×**28.52W**±0.09**, h11**km±7km**, n10,** σ**0.17**/14**, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STGR	Santa Cruz	0.41	96	eS	Sg	01 11 42.2	-0.1
	48nm,0.2s						
STGR	Santa Cruz	0.41	96	eS	Sg	01 11 42.2	-0.1
	48nm,0.2s						
ROSA	Rosais	0.46	151	eP	Pg	01 11 38.2	+0.4
PCED	Cedros	0.52	196	eP	Pg	01 11 38.6	-0.2
PCED				eS	Sg	01 11 45.8	0.0
	117nm,0.2s						
PCED	Cedros	0.52	196	eP	Pg	01 11 38.6	-0.2
PCED				eS	Sg	01 11 45.8	0.0
	117nm,0.2s						
CALA	Caldeira	0.56	194	eP	Pb	01 11 39.6	-0.1
CALA				eS	Sg	01 11 47.3	0.0
PMAN	Manadas	0.60	145	eS	Sb	01 11 48.4	-0.1
	119nm,0.2s						
PMAN	Manadas	0.60	145	eS	Sb	01 11 48.4	-0.1
	119nm,0.2s						
PICO	Pico	0.63	173	eP	Pb	01 11 41.0	+0.2
PICO				eS	Sb	01 11 49.4	0.0
PPNO	Prainha do Nor	0.68	163	eS	Sb	01 11 50.9	-0.1
	40nm,0.2s						

CASC 12 01:16:25.6±3.1**, 10.44N**×**86.25W, MD4.1, ML4.5, 3C-1D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VCR	Vista de Mar	0.69	117	⇑eP	Pg	01 16 39.6	+0.3
LIM	Lima	1.02	75	⇑iP	Pb	01 16 45.1	-0.7
LIM				eS	Sg	01 16 59.7	+0.2
LIM				e		01 17 03.9	
	comp=Z,12μm,0.7s						
APON	Apoyo	1.48	7	eP	Pn	01 16 53.2	-0.4
CRUN	El Crucero	1.54	358	eP	Pn	01 16 55.2	+0.8
FORC	Fortuna	1.56	89	⇑eP	Pn	01 16 54.1	-0.6
TICN	Ticuantepe	1.59	1	eP	Pn	01 16 55.1	0.0
MGAN	Managua	1.70	0	eP	Pn	01 16 54.6	-2.1
XAVN	Gruta Xavier	1.71	358	eP	Pn	01 16 57.0	+0.2
WILN	Americas 2	1.72	2	eP	Pn	01 16 55.6	-1.4
COPN	Copaltepe	1.77	349	eP	Pn	01 16 57.4	-0.3
APYN	Apoyeque	1.79	357	eP	Pn	01 16 58.0	+0.1
CGA2	Cerro Gallo 2	1.81	103	eP	Pn	01 16 57.1	-1.1
PRS1	Puriscal	1.96	103	eP	Pn	01 16 59.4	-1.1
VPS2	Volcan Poas 2	2.00	97	eP	Pn	01 17 00.6	-0.4
MIRN	Miramar	2.04	347	eP	Pn	01 17 01.1	-0.5
LEON	Leon	2.07	342	eP	Pn	01 17 01.4	-0.5
PYTN	Playitas	2.10	5	eP	Pn	01 17 02.5	+0.1
LAJ	Bijagual	2.17	105	⇓eP	Pn	01 16 59.3	-4.2
SJS	Escuela Geolog	2.22	103	eS	Sn	01 17 38.3	+5.6
LCR2	La Lucha 2	2.32	107	eP	Pn	01 17 04.7	-0.9
LCR2				eS	Sn	01 17 41.9	+6.7
ICR	Volcan Irazu	2.43	100	eP	Pn	01 17 09.3	+2.2
TRTC	Tortuguero	2.50	87	eP	Pn	01 17 06.5	-1.7
TRTC				eS	Sn	01 17 44.0	+4.1

MEX 12 01:19:42.5±1.8**, 15.41N**×**93.61W, h36**km±999km**, MD4.1, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCX	San Cristobal	1.62	35	eP	P	01 20 07.5	-1.6
SCX				eS	S	01 20 27.5	-1.5
CCIG	Comitan	1.67	58	eP	P	01 20 08.0	-1.7
CCIG				eS	S	01 20 26.0	-4.1
CMIG	Matias Romero	2.07	324	eP	P	01 20 14.1	-1.5
CMIG				eS	S	01 20 36.5	-3.9
OXX	Oaxaca	3.42	300	eP	P	01 20 37.0	+2.2
VHO	Vista Hermosa	3.42	299	eP	P	01 20 30.7	-4.1
VHO				eS	S	01 21 09.0	-5.7

IDC ***12*** *01:47:18.9±1.5, 36.82S×179.46E, mb4.0/4, mb1 4.2/6, mb1mx4.1/12, ML3.9/2, MS3.4/4, Ms1 3.4/4, ms1mx3.2/18, Error ellipse: s-maj=37.9km s-min=25.4km az=125.0*
BJI ***12*** *01:47:19.4, 37.10S×179.90W, h33km, mb4.9, Ms4.7, Msz4.5*
NEIC ***12*** *01:47:19.4, 37.14S×179.93W, h33km, mb4.5/1, ML4.5(WEL), After WEL.*
SYO ***12*** *01:47:19.4, 37.14S×179.93W, h33km, MB4.5*
WEL ***12*** *01:47:19.9±0.2, 37.31S×179.83E, h5km, ML4.5/9, Error ellipse: s-maj=2.3km s-min=2.2km az=0.0*
ISC 12 01:47:14.5±0.7**, 37.59S**±0.04×**179.84W**±0.06**, h5**km**, n78,** σ**1.42**/92**, mb4.3**/7**, MS3.9**/4**, 2C-3D, East of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.47	270	P	Pn	01 47 42.5	+0.7
MXZ	Matakaoa Point	1.47	270	P*	Pb	01 47 42.5	+0.6
MXZ				S*	Sb	01 47 59.1	-1.8
MXZ				S*	Sb	01 47 59.9	-1.0
PUZ	Puketiti	1.58	252	P	Pn	01 47 46.3	+2.9
PUZ	Puketiti	1.58	252	PN	Pn	01 47 46.3	+3.0
PUZ				SN	Sn	01 48 06.1	+1.7
PUZ				SN	Sn	01 48 06.3	+1.9
MWZ	Matawai	2.21	249	P	Pn	01 47 54.8	+2.5
MWZ				S	Sn	01 48 21.3	+0.9
MWZ	Matawai	2.21	249	PN	Pn	01 47 54.7	+2.3
MWZ				SN	Sn	01 48 21.3	+0.9
WIZ	White Island	2.36	271	P	Pn	01 47 55.5	+1.0
WIZ	White Island	2.36	271	PN	Pn	01 47 55.4	+0.9
KNZ	Kokohu	2.42	233	P	Pn	01 47 58.8	+3.4
KNZ	Kokohu	2.42	233	PN	Pn	01 47 58.8	+3.4
KNZ				SN	Sn	01 48 27.9	+2.1
URZ	Urewera	2.50	253	Pn	Pn	01 47 58.8	+2.3
	58nm,0.3s,baz=70,slow=2.5,SNR=124						
URZ				Sn	Sn	01 48 27.6	-0.2
	155nm,0.3s,baz=252,slow=20,SNR=26						
URZ				LR	LR	01 49 03.3	
	comp=Z,290nm,19.0s,baz=63,slow=44						
URZ	Urewera	2.50	253	P	Pn	01 47 58.8	+2.3
URZ	Urewera	2.50	253	PN	Pn	01 47 58.7	+2.2
URZ				SN	Sn	01 48 27.7	-0.1
EDRZ	Edgecumbe	2.76	258	PN	Pn	01 48 01.5	+1.3
MARZ	Manawahe	2.79	261	PN	Pn	01 48 01.4	+0.8
TAZ	Tarawera	2.96	256	P	Pn	01 48 06.6	+3.6
TAZ	Tarawera	2.96	256	ePN	Pn	01 48 04.8	+1.7
LIRZ	Lichensteins R	3.02	261	PN	Pn	01 48 04.7	+0.8
MYRZ	Mayor Island	3.13	274	PN	Pn	01 48 05.5	-0.1
BKZ	Black Stump Fm	3.29	240	P	Pn	01 48 10.2	+2.5
BKZ	Black Stump Fm	3.29	240	PN	Pn	01 48 10.0	+2.3
BKZ				SN	Sn	01 48 48.3	+0.6
KUZ	Kuaotunu	3.64	282	P	Pn	01 48 11.0	-1.8
KUZ	Kuaotunu	3.64	282	PN	Pn	01 48 11.0	-1.7
KUZ				SN	Sn	01 48 48.4	-8.3
MOVZ	Moawhango	3.91	241	P	Pn	01 48 19.3	+2.8
MOVZ	Moawhango	3.91	241	PN	Pn	01 48 19.3	+2.9
MKAZ	Moumakai	4.01	275	P	Pn	01 48 17.3	-0.6
MKAZ	Moumakai	4.01	275	PN	Pn	01 48 17.3	-0.6
TSZ	Takapari Road	4.11	232	eP	Pn	01 48 20.3	+1.0
TSZ				S	Sn	01 49 06.9	-1.5
TSZ	Takapari Road	4.11	232	PN	Pn	01 48 20.7	+1.4
TSZ				SN	Sn	01 49 06.9	-1.5
MTAZ	Motutapu	4.27	279	P	Pn	01 48 20.8	-0.8
MTAZ	Motutapu	4.27	279	PN	Pn	01 48 20.8	-0.8
KAAZ	Kauri Point	4.42	278	P	Pn	01 48 24.2	+0.4
KAAZ	Kauri Point	4.42	278	PN	Pn	01 48 24.2	+0.4
WTAZ	Waiatarua	4.50	277	P	Pn	01 48 25.0	0.0
WTAZ	Waiatarua	4.50	277	PN	Pn	01 48 25.0	0.0
MRZ	Mangatainoka R	4.70	228	SN	Sn	01 49 22.0	-1.5
WCZ	Waipu Caves	4.95	288	P	Pn	01 48 29.6	-1.7
WCZ	Waipu Caves	4.95	288	PN	Pn	01 48 29.6	-1.7
MTW	Mount Morrison	5.08	224	P	Pn	01 48 33.6	+0.5
MTW	Mount Morrison	5.08	224	PN	Pn	01 48 33.6	+0.6
MTW				SN	Sn	01 49 30.9	-1.9
KIW	Kapiti Island	5.23	230	PN	Pn	01 48 35.3	+0.1
PAWZ	Paruwai Farm	5.27	223	PN	Pn	01 48 35.8	0.0
PAWZ				SN	Sn	01 49 35.6	-2.2
CAW	Cannon Point	5.29	227	PN	Pn	01 48 35.6	-0.4
CAW				SN	Sn	01 49 35.0	-3.1
MSWZ	Moikau Station	5.39	223	P	Pn	01 48 37.0	-0.5
MSWZ	Moikau Station	5.39	223	PN	Pn	01 48 37.0	-0.5
MRW	Makara Radio	5.58	228	P	Pn	01 48 40.6	+0.5
MRW	Makara Radio	5.58	228	PN	Pn	01 48 40.6	+0.4
NNZ	Nelson	6.38	233	PN	Pn	01 48 50.6	-0.9
NNZ				SN	Sn	01 50 00.8	-4.8
QRZ	Quartz Range	6.75	239	SN	Sn	01 50 09.5	-5.3
THZ	Tophouse	6.98	231	eP	Pn	01 48 58.8	-1.1
THZ	Tophouse	6.98	231	PN	Pn	01 48 58.8	-1.1
THZ				SN	Sn	01 50 14.9	-5.6
KHZ	Kahutara	7.01	224	eP	Pn	01 49 01.3	+1.0
KHZ	Kahutara	7.01	224	PN	Pn	01 49 01.3	+1.0
KHZ				SN	Sn	01 50 15.0	-6.3
LTZ	Lake Taylor	7.96	227	PN	Pn	01 49 15.7	+2.0
LTZ				SN	Sn	01 50 36.9	-8.2
MQZ	McQueen's Vall	8.36	221	ePN	P	01 49 20.1	+0.9
MQZ				SN	Sn	01 50 46.6	-8.5
WVZ	Waitaha Valley	9.04	230	SN	Sn	01 51 01.3	-11
RPZ	Rata Peaks	9.24	226	Pn	P	01 49 34.0	+2.7
	0.7nm,0.3s,baz=36,slow=19,SNR=3.8						
RPZ				Sn	Sn	01 51 06.0	-11
	3.9nm,0.3s,baz=16,slow=21,SNR=14						
ODZ	Otahua Downs	10.33	221	ePN	P	01 49 44.1	-2.2
JCZ	Jackson Bay	10.79	230	ePN	P	01 49 50.9	-1.8
STKA	Stephens Creek	32.04	269	P	P	01 53 43.4	-0.8
	0.6nm,0.3s,mb3.8,baz=352,slow=18,SNR=3.1						
PMG	Port Moresby	40.88	305	LR	LR	02 08 45.8	
	comp=Z,53nm,19.0s,MS3.4,baz=151,slow=32						
ASAR	Alice Springs	41.75	276	P	P	01 55 04.8	-1.5
	3.3nm,0.8s,mb4.0,baz=122,slow=7.8,SNR=20						
WRAB	Tennant Creek	43.38	281	eP	P	01 55 17.6	-2.1
	7.5nm,0.8s,mb4.5						
WRA	Warramunga Arr	43.38	281	P	P	01 55 17.5	-2.2
	3.0nm,0.7s,mb4.1,baz=120,slow=7.8,SNR=21						
WRA				LR	LR	02 14 08.8	
	comp=Z,95nm,19.3s,MS3.7,baz=80,slow=38						
FITZ	Fitzroy Crossi	51.24	277	LR	LR	02 18 16.2	
	comp=Z,60nm,18.6s,MS3.6,baz=142,slow=37						
MAW	Mawson	65.08	202	P	P	01 58 04.5	+6.9
	0.9nm,0.9s,mb3.8,baz=341,slow=5.4,SNR=3.0						
SYO	Syowa Base	69.79	194	⇓P	P	01 58 27.5	+0.3
SYO	Syowa Base	69.79	194	⇑pP	pP	01 58 38.5	+10
SNAA	Sanae	71.03	179	⇑i	P	01 58 35.6	+0.9
VNA3	Neumayer Olymp	71.25	177	⇓i	P	01 58 42.7	+6.7
VNA2	Neumayer--Watz	71.66	177	⇓i	P	01 58 45.7	+7.2
MDJ	Mudanjiang	93.71	326	P	P	02 00 32.2	-0.9
MDJ				AMB	AMB		
	comp=Z,12nm,1.8s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,94nm,3.3s						
KMI	Kunming	95.72	297	eP	P	02 00 42.3	-0.5
KMI				S	S	02 11 53.7	-3.8
KMI				XS		02 12 11.0	
KMI				AMB	AMB		
	comp=Z,6.0nm,0.6s,mb5.2						
LZH	Lanzhou	101.77	306	eP	P	02 01 14.2	+4.3
LZH				AP		02 01 25.1	
LZH				XP		02 01 28.7	
LZH				LR	LR		
	comp=N,219nm,15.2s						
LZH				LR	LR		
	comp=Z,297nm,17.8s,MS4.8						
ARCES	ARCESS Array B	145.19	345	PKP	PKPdf	02 06 54.4	0.0
	comp=Z,3.8nm,0.8s,baz=27,slow=2.7,SNR=6.2						
JOF	Joensuu	148.34	333	ep	PKPdf	02 06 59.9	+0.1
	comp=Z,0.5nm,0.4s						
KAF	Kangasniemi	150.62	335	ep	PKPdf	02 07 04.9	+1.5
	comp=Z,0.3nm,0.3s						
FINES	FINESS Array B	151.16	334	PKPbc	PKPdf	02 07 10.1	+5.8
	comp=Z,3.3nm,0.9s,baz=39,slow=4.1,SNR=8.4						
FINES				PKPab	PKPab	02 07 16.5	-1.3
	comp=Z,1.0nm,0.5s,baz=63,slow=6.2,SNR=10						

MAN 12 01:51:44.0, 12.02N×**122.53E, h27**km**, mb4.2, ML3.1, MS2.8, 2D, Luzon**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KALP	Kalibo	0.39	210	⇓eP	Pb	01 51 58.3	+5.9
KALP						02 18 21.3	
RCP	Roxas	0.50	155	⇓eP	Pb	01 51 55.7	+1.5
RCP				eS	Sb	01 52 03.7	+2.5
OTRP	Odiongan	0.61	305	eP	Pb	01 51 55.8	-0.2
GUIM	Jordan	1.38	178	eP	Pn	01 52 08.2	+0.4
SJMP	San Jose	1.45	288	eP	Pn	01 52 09.7	+0.9
CUYO	Cuyo Island	1.88	232	eP	Pn	01 52 14.3	-0.7

IDC ***12*** *01:54:40.8±1.8, 60.12N×25.50E, mb1 3.6/2, mb1mx3.2/19, ML2.8/2, Error ellipse: s-maj=16.7km s-min=9.7km az=139.0*
BER ***12*** *01:54:40.9±4.3, 60.10N×25.46E, ML2.2(NAO)*
NAO ***12*** *01:54:41.7±3.3, 60.24N×25.21E, ML2.2*
HEL ***12*** *01:54:42.7±0.1, 60.19N×25.33E, ML1.9, ML2.2(NAO), Explosion*
ISC 12 01:54:39.6±0.6**, 60.18N**±0.03×**25.13E**±0.07**, n18,** σ**1.61**/38**, Finland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PVF	Pernaja	0.52	45	eP	Pg	01 54 50.4	+0.5
PVF				eS	Sg	01 54 56.1	-0.7
VJF	Virojoki	1.26	72	eP	Pb	01 55 03.3	-0.6
VJF				eS	Sb	01 55 19.2	-1.4
FIA0	FINESS Array S	1.35	20	eP	Pb	01 55 05.9	+0.4
FIA0				eS	Sb	01 55 23.1	-0.2
FIA0	FINESS Array S	1.35	20	Pn	Pn	01 55 06.0	+0.2
	baz=177,slow=18						
FIA0				Lg		01 55 23.1	
	baz=196,slow=37						
FINES	FINESS Array B	1.35	20	Pg	Pg	01 55 06.0	-0.6
	4.2nm,0.3s,baz=189,slow=17,SNR=190						
FINES				Pn	Pn	01 55 08.3	+2.6
	4.2nm,0.3s,baz=194,slow=12,SNR=213						
FINES				Lg		01 55 22.9	
	2.0nm,0.3s,baz=191,slow=30,SNR=21						
FINES				Sn	Sn	01 55 28.2	+3.6
	11nm,0.3s,baz=191,slow=21,SNR=43						
FINES				Rg		01 55 31.5	
	25nm,0.6s,baz=190,slow=33,SNR=21						
VSU	Vasula	1.91	154	eP	Pn	01 55 16.2	+2.5
VSU				eS	Sn	01 55 39.3	+0.5
KEF	Keuruu	2.00	357	eP	Pn	01 55 17.9	+3.0
KEF				eS	Sn	01 55 43.0	+2.0
KAF	Kangasniemi	2.02	16	eP	Pn	01 55 17.4	+2.0
KAF				eS	Sn	01 55 43.0	+1.3
SUF	Sumiainen	2.59	10	eP	Pn	01 55 26.2	+2.7
SUF				eS	Sn	01 55 57.0	+0.7
SUF				MSG		01 56 01.5	
	comp=Z,5.5nm,0.3s						
VAF	Ylistaro	3.10	339	eP	Pn	01 55 33.5	+2.7
VAF				eS	Sn	01 56 10.3	+1.2
JOF	Joensuu	4.04	44	eP	Pn	01 55 44.5	+0.4
JOF				eS	Sn	01 56 30.6	-2.1
JOF				eSG	Sg	01 56 45.3	-8.7
KJN	Kajaani	4.10	16	eP	Pn	01 55 46.2	+1.2
KJN				eS	Sn	01 56 32.1	-2.3
KJN				eSG	Sg	01 56 47.5	-8.7
KJN				MSG		01 56 51.3	
	comp=Z,1.5nm,0.3s						
HFS	Hagfors	5.71	274	Pn	Pn	01 56 07.8	+0.1
	baz=106,slow=12						
HFS				Sn	Sn	01 57 12.9	-2.1
	baz=80,slow=28						
HFS				Lg		01 57 40.8	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=82,slow=37						
HFS	Hagfors	5.71	274	eP	Pn	01 56 07.8	+0.1
HFS				eS	Sn	01 57 12.9	-2.1
HFS				eSG	Sg	01 57 40.8	-8.9
NOA	NORSAR Array B	6.90	283	Pn	Pn	01 56 22.7	-1.9
	comp=Z,0.1nm,0.3s,baz=325,slow=22,SNR=2.6						
NOA				Sn	Sn	01 57 40.0	-4.8
	comp=Z,0.2nm,0.3s,baz=124,slow=19,SNR=2.3						
ARA0	ARCESS Array S	9.40	1	eP	P	01 56 56.4	-2.9
ARA0				eSG	Sg	01 59 33.7	-19
ARA0	ARCESS Array S	9.40	1	Pn	P	01 56 56.4	-2.9
	baz=176,slow=14						
ARA0				Lg		01 59 33.7	
	baz=175,slow=37						
ARCES	ARCESS Array B	9.40	1	Pn	P	01 56 56.4	-2.9
	comp=Z,0.1nm,0.3s,baz=181,slow=12,SNR=12						
ARCES				Sn	Sn	01 58 41.0	-5.9
	comp=Z,0.1nm,0.3s,baz=189,slow=24,SNR=2.5						

GUC 12 02:12:41.5±0.6, 30.47S×71.61W, h22km±5km, MD3.8, ML3.0, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LSCH	La Serena	0.65	29	i P	Pb	02 12 53.5	-0.5
LSCH				i S	Sb	02 13 02.7	+0.1
LSCH				AMP		02 13 05.2	
	comp=N,367nm,0.3s						
TLL	Tololo Astrono	0.76	66⇓	iP	Pb	02 12 56.1	+0.1
TLL				i S	Sb	02 13 06.8	+1.0
TLL				AMP		02 13 10.1	
	comp=E,565nm,0.4s						
CMCH	Combarbala	0.87	143⇑	iP	Pb	02 12 57.2	-0.7
CMCH				i S	Sb	02 13 09.5	+0.4
CMCH				AMP		02 13 13.8	
	comp=E,2μm,0.4s						
CLCH	Cerro Calan	3.05	163	i S	Sn	02 14 06.2	+0.2
CLCH				AMP		02 14 21.0	
	comp=N,101nm,0.5s						
FCH	Farellones	3.06	159	eP	Pn	02 13 30.6	+0.9
FCH				i S	Sn	02 14 08.0	+1.9
FCH				AMP		02 14 23.5	
	comp=E,53nm,0.3s						

*BJI **12** 02:17:20.4, 24.90N×96.20E, h48km, mB4.4, mb4.5, ML4.0, Ms4.1, Msz4.0*
*NEIC **12** 02:17:20.5±1.4, 24.87N×96.20E, h48km±15km, mb4.2/5, Error ellipse: s-maj=24.5km s-min=8.6km az=61.0*
*IDC **12** 02:17:21.1±4.1, 24.90N×96.23E, h54km±40km, mb3.7/11, mb1 3.9/12, mb1mx3.7/23, ML3.8/1, MS3.0/2, Ms1 3.1/2, ms1mx2.8/23, Error ellipse: s-maj=36.9km s-min=16.2km az=59.0*
ISC 12 02:17:17.8±1.4, 24.86N±0.09×96.22E±0.09, h42km±14km, n31, σ1^{s}07/32, mb4.2/19, MS2.9/1, Myanmar

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IMP	Imphal	2.08	268	eP	P	02 17 53.0	+2.1
SHL	Shillong	3.99	281	eP	P	02 18 20.0	+1.9
SHL				eS	S	02 19 05.5	+1.3
AGT	Agartala	4.63	259	eP	P	02 18 25.0	-2.2
LSA	Lhasa	6.60	318	eP	P	02 18 59.0	+4.2
CM31	Chiang Mai Arr	6.86	158	ePn	P	02 18 58.3	-0.1
	16nm,0.6s						
CMAR	Chiang Mai Arr	6.86	158	P	P	02 18 58.9	+0.4
	0.5nm,0.3s,baz=334,slow=13,SNR=20						
CMAR				Pg	Px	02 19 24.9	
	0.7nm,0.3s,baz=328,slow=15,SNR=14						
CMAR				Lg		02 20 56.6	
	0.3nm,0.3s,baz=312,slow=17,SNR=2.8						
CMAR				LR	LR	02 22 11.1	
	comp=Z,143nm,20.6s,baz=267,slow=42						
GUN	Gumba	9.75	290	eP	P	02 19 38.3	-0.2
	44nm,0.4s						
PKI	Pulchoki	10.07	288	eP	P	02 19 42.0	-0.9
	20nm,0.5s						
KKN	Kakani	10.24	289	eP	P	02 19 44.5	-0.6
	22nm,0.4s						
DMN	Daman	10.34	288	eP	P	02 19 45.4	-1.2
	29nm,0.8s						
GKN	Gorkha	10.84	289	eP	P	02 19 52.0	-1.4
	27nm,0.4s						
KOLN	Koldanda	11.68	287	eP	P	02 20 02.8	-2.0
	5.7nm,0.3s						
SONM	Songino Array	24.30	17	P	P	02 22 33.5	+1.2
	1.2nm,1.0s,mb3.3,baz=194,slow=10,SNR=3.4						
MKAR	Makanchi Array	24.55	337	P	P	02 22 35.8	+1.0
	5.0nm,0.6s,mb4.2,baz=146,slow=8.6,SNR=23						
AAK	Ala-Archa	25.19	320	eP	P	02 22 41.2	+0.2
	4.0nm,0.8s,mb4.0						
KURK	Kurchatov	29.17	337	eP	P	02 23 16.5	-0.6
	2.3nm,0.7s,mb4.0						
ZAL	Zalesovo	30.27	347	P	P	02 23 27.2	+0.3
	1.1nm,0.3s,mb4.1,baz=223,slow=8.3,SNR=2.1						
ZAL				LR	LR	02 37 56.9	
	comp=Z,29nm,19.4s,MS2.9,baz=350,slow=41						
BVAR	Borovoye Array	34.20	332	P	P	02 24 01.0	-0.1
	1.1nm,0.5s,mb4.0,baz=158,slow=16,SNR=7.8						
BRVK	Borovoye	34.27	332	eP	P	02 24 02.5	+0.8
	3.0nm,0.7s,mb4.3						
ZRNK	Zerenda	34.74	331	eP	P	02 24 05.1	-0.8
	2.0nm,0.6s,mb4.2						
RDF	Al-Radifah	43.36	287	eP	P	02 25 18.7	+0.8
RDF				AMb	AMB	02 25 19.4	
	comp=Z,13nm,0.4s,mb5.0						
MIB	Mutribah	43.45	288	eP	P	02 25 19.9	+1.4
MIB				AMb	AMB	02 25 20.9	
	comp=Z,16nm,0.7s,mb4.9						
RST	Umm Al-Ruwaisa	43.77	287	eP	P	02 25 21.9	+0.7
RST				AMb	AMB	02 25 29.6	
	comp=Z,15nm,0.6s,mb4.9						
MBWA	Marble Bar	51.14	151	eP	P	02 26 18.7	-0.1
	comp=Z,5.2nm,0.6s,mb4.6						
ASF	Jabal al Asfar	52.08	292	P	P	02 26 27.0	+1.3
	comp=Z,2.6nm,0.6s,mb4.4,baz=192,slow=6.3,SNR=2.8						
WRA	Warramunga Arr	57.96	137	P	P	02 27 07.9	-0.7
	comp=Z,0.5nm,0.5s,mb3.8,baz=325,slow=7.5,SNR=5.1						
ARCES	ARCESS Array B	60.20	338	P	P	02 27 22.5	-1.0
	comp=Z,2.1nm,0.7s,mb4.2,baz=96,slow=9.1,SNR=2.8						
ASAR	Alice Springs	60.51	140	P	P	02 27 26.8	+0.5
	comp=Z,0.6nm,0.6s,mb3.9,baz=322,slow=6.6,SNR=5.5						
IDI	Anoyia	61.42	298	P	P	02 27 32.1	-0.1
	comp=Z,0.7nm,0.3s,mb4.2,baz=329,slow=9.7,SNR=4.7						
NOA	NORSAR Array B	66.19	328	P	P	02 28 01.4	-1.6
	comp=Z,0.4nm,0.6s,mb3.6,baz=80,slow=6.2,SNR=2.8						
GERES	GERESS Array B	66.92	315	P	P	02 28 07.3	-0.5
	comp=Z,0.9nm,0.7s,mb3.9,baz=68,slow=7.2,SNR=4.5						

*CSEM **12** 02:23:51.7±0.1, 43.90N×7.44E, h10km, ML2.6/17, Error ellipse: s-maj=1.1km s-min=1.0km az=132.0*
*LDG **12** 02:23:52.1±0.1, 43.87N×7.43E, h2km, Md2.6/2, Ml2.6/20, Error ellipse: s-maj=2.2km s-min=1.2km az=123.0*
*STR **12** 02:23:52.3±0.1, 43.89N×7.38E, h5km±1km, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*GEN **12** 02:23:52.0, 43.88N×7.39E, h14km, ML2.9*
*NEIC **12** 02:23:52.1, 43.87N×7.43E, h2km, ML2.7(STR), ML2.6(LDG), After LDG.*
ISC 12 02:23:51.7±0.2, 43.89N±0.02×7.42E±0.02, h15km±2km, n76, σ1^{s}17/124, Near south coast of France

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SBF	Sospel	0.03	162	ePg	Pb	02 23 53.9	-0.6
SBF				eSg	Sb	02 23 54.7	-1.7
	458nm,0.2s						
AURF	Auriere	0.07	265	Pg	Pb	02 23 53.9	-0.9
AURF				Sg	Sb	02 23 54.5	-2.4
AUTN	L'Aution	0.10	2	Pg	Pb	02 23 54.9	-0.3
AUTN				Sg	Sb	02 23 56.8	-0.7
SAOF	Saorge	0.13	46	Pg	Pb	02 23 55.5	-0.1
REVF	Revere	0.16	194	Pg	Pb	02 23 55.8	-0.1
REVF				Pg	Pb	02 23 55.9	0.0
REVF				Sg	Sb	02 23 58.6	-0.1
REVF	Revere	0.16	194	Pg	Pb	02 23 55.8	-0.1
REVF				Sg	Sb	02 23 58.6	-0.1
TOUF	Mont Tournerai	0.17	314	Pg	Pb	02 23 55.6	-0.6
TOUF				Sg	Sb	02 23 58.1	-1.1
MVIF	Mont Vial	0.20	271	Pg	Pb	02 23 55.9	-0.5
MVIF				Sg	Sb	02 23 58.6	-1.0
NEGI	Negi	0.21	102	P	Pb	02 23 57.1	+0.5
NEGI				S	Sb	02 24 00.4	+0.5
NEGI	Negi	0.21	102	P	Pb	02 23 57.1	+0.4
MONE	Monesi	0.30	52	P	Pb	02 23 58.7	+0.4
MONE				S	Sb	02 24 03.2	+0.5
MONE	Monesi	0.30	52	P	Pb	02 23 58.7	+0.4
ENR	Entracque	0.33	360	P	Pb	02 23 59.0	+0.2
ENR				S	Sb	02 24 03.7	+0.1
ENR	Entracque	0.33	360	P	Pb	02 23 59.0	+0.2
IMI	Imperia	0.34	87	P	Pb	02 23 59.5	+0.7
IMI				S	Sb	02 24 04.4	+0.7
IMI	Imperia	0.34	87	P	Pb	02 23 59.5	+0.6
STV	Sta Anna Valdi	0.36	349	P	Pb	02 23 59.1	-0.1
STV				S	Sb	02 24 04.2	-0.1
STV	Sta Anna Valdi	0.36	349	P	Pb	02 23 59.1	-0.1
STV2	Anna di Valdie	0.36	349	P	Pb	02 23 59.1	-0.1
STV2				S	Sb	02 24 04.2	-0.1
STV2	Anna di Valdie	0.36	349	P	Pb	02 23 59.1	-0.1
CALN	Calern	0.41	250	Pg	Pb	02 24 00.1	0.0
CALN				Sg	Sb	02 24 05.6	-0.2
ROB	Roburent	0.52	39	P	Pb	02 24 02.8	+0.9
ROB				S	Sb	02 24 09.7	+0.9
ROB	Roburent	0.52	39	P	Pb	02 24 02.8	+0.9
ROB				S	Sb	02 24 09.7	+0.8
FIN	Finale Ligure	0.65	61	P	Pb	02 24 04.8	+0.6
FIN				S	Sb	02 24 13.3	+0.6
FIN	Finale Ligure	0.65	61	S	Sb	02 24 13.3	+0.6
FIN	Finale Ligure	0.65	61	P	Pb	02 24 04.8	+0.6
FRF	La Foret Royal	0.65	240	ePg	Pb	02 24 04.0	-0.2
FRF				eSg	Sb	02 24 12.6	-0.2
	99nm,0.2s						
FRF				eSn	Sn	02 24 16.9	+0.9
	66nm,0.2s						
PZZ	Prazzo	0.65	339	P	Pb	02 24 04.3	+0.1
PZZ				S	Sb	02 24 12.5	-0.4
PZZ	Prazzo	0.65	339	P	Pb	02 24 04.3	+0.1
SURF	Saint Ours	0.73	324	Pg	Pb	02 24 06.1	+0.5
SURF				Sg	Sb	02 24 16.4	+1.3
LMR	La Mourre	0.87	230	ePg	Pb	02 24 08.0	+0.1
LMR				eSg	Sb	02 24 19.2	+0.2
	202nm,0.3s						
LMR				eSn	Sn	02 24 21.7	+0.2
	211nm,0.3s						
BHB	Bricherasio	0.95	353	P	Pb	02 24 09.3	-0.1
BHB				S	Sb	02 24 20.9	-0.6
BHB	Bricherasio	0.95	353	S	Sb	02 24 20.9	-0.7
BHB	Bricherasio	0.95	353	P	Pb	02 24 09.3	-0.1
MBDF	Montbardon	0.95	331	ePg	Pb	02 24 09.7	+0.3
MBDF				eSg	Sb	02 24 22.7	+1.1
	32nm,0.2s						
TAVF	Tavernes	1.03	255	Pg	Pb	02 24 11.6	+1.0
PCP	Pian Castagno	1.04	51	P	Pb	02 24 11.2	+0.4
PCP				S	Sb	02 24 24.5	+0.6
PCP	Pian Castagno	1.04	51	P	Pb	02 24 11.2	+0.4
PCP				S	Sb	02 24 24.5	+0.6
RRL	Cesana Torines	1.12	336	P	Pb	02 24 12.6	+0.3
RRL				S	Sb	02 24 26.9	+0.5
RRL	Cesana Torines	1.12	336	P	Pb	02 24 12.6	+0.3
RRL				S	Sb	02 24 26.9	+0.4
VILF	Villemus	1.23	269	Pg	Pb	02 24 15.6	+1.4
RSP	Reno Superiore	1.26	355	P	Pb	02 24 13.7	-0.9
RSP	Reno Superiore	1.26	355	P	Pb	02 24 13.7	-1.0
BNI	Bardonecchia	1.27	336	ePn	Pn	02 24 16.2	+1.2
PUYF	Puyloubier	1.30	254	Pg	Pb	02 24 16.1	+0.8
PUYF				Sg	Sb	02 24 33.5	+2.0
SMRF	Simiane la Rot	1.34	274	ePg	Pb	02 24 16.9	+1.0
SMRF				eSg	Sb	02 24 34.5	+1.9
	63nm,0.3s						
BERF	Bertagne	1.39	246	Pg	Pn	02 24 18.0	+1.4
BERF				Sg	Sb	02 24 36.6	+2.6
TREF	Trevaresse	1.50	260	Pg	Pn	02 24 20.3	+2.0
TREF				Sg	Sb	02 24 40.8	+3.4
ORIF	Oris-en-Rattie	1.51	313	ePg	Pn	02 24 19.7	+1.4
ORIF				eSg	Sb	02 24 40.5	+2.9
	8.0nm,0.2s						
GELF	Grande-Etoile	1.54	251	Pg	Pn	02 24 20.1	+1.4
GELF				Sg	Sb	02 24 40.8	+2.4
LSD	Ceresole Reale	1.58	353	P	Pn	02 24 20.7	+1.4
PRAF	Pradon	1.63	268	Pg	Pn	02 24 23.2	+3.1
TRAV		1.64	8	P	Pn	02 24 19.6	-0.6
TRAV		1.64	8	P	Pn	02 24 19.5	-0.7
LPG	La Plagne	1.67	344	ePg	Pn	02 24 23.5	+2.8
LPG				eSn	Sn	02 24 42.8	+0.8
	17nm,0.7s						
LPG				eSg	Sn	02 24 46.1	+4.1
	22nm,0.7s						
LPL	La Plagne	1.70	343	ePg	Pn	02 24 23.3	+2.3
LPL				eSg	Sn	02 24 46.4	+3.9
	7.9nm,0.3s						
PGF	Pioggiola	1.77	139	ePn	Pn	02 24 20.7	-1.4
PGF				eSn	Sn	02 24 42.3	-2.2
	4.1nm,0.2s						
ORX	Oropa	1.78	13	P	Pn	02 24 21.2	-1.1
ORX	Oropa	1.78	13	P	Pn	02 24 21.2	-1.1
CODM		1.82	73	P	Pn	02 24 22.4	-0.4
CODM		1.82	73	P	Pn	02 24 22.4	-0.4
BACM		1.95	78	P	Pn	02 24 24.4	-0.3
BACM		1.95	78	P	Pn	02 24 24.4	-0.3
GRAM		1.99	72	P	Pn	02 24 24.8	-0.5
GRAM		1.99	72	P	Pn	02 24 24.8	-0.5
SARO	Sassorosso	2.17	81	P	Pn	02 24 27.3	-0.5
VIVF	Saint-Julien-l	2.19	297	ePn	Pn	02 24 28.4	+0.2
VIVF				eSn	Sn	02 24 54.3	-0.9
	6.6nm,0.2s						
VIVF				eSg	Sn	02 25 01.4	+6.2
	10nm,0.3s						
LASF	Ste Croix	2.58	275	ePn	Pn	02 24 32.8	-0.9
LASF				eSn	Sn	02 25 03.2	-1.8
	2.5nm,0.2s						
SMF	Signal de Mont	3.74	319	ePn	Pn	02 24 48.7	-1.4
SMF				eSn	Sn	02 25 31.4	-2.9
	1.2nm,0.3s						
MTLF	Montolieu	3.82	263	ePn	Pn	02 24 49.0	-2.3
MTLF				eSn	Sn	02 25 32.7	-3.7
	2.0nm,0.3s						
HINF	Hinteralfeld	3.94	354	ePn	Pn	02 24 51.9	-1.2
HINF				eSn	Sn	02 25 35.1	-4.4
	1.2nm,0.3s						
CAF	Calviac	3.98	287	ePn	Pn	02 24 52.1	-1.4
CAF				eSn	Sn	02 25 37.0	-3.3
	0.5nm,0.2s						
LOR	Lormes	4.20	325	ePn	Pn	02 24 55.8	-0.9
LOR				eSn	Sn	02 25 42.7	-3.4
	1.2nm,0.3s						
TCF	Toulx Ste Croi	4.40	305	ePn	Pn	02 24 58.3	-1.3
RJF	Les Rejaudoux	4.45	291	eSn	Sn	02 25 48.1	-4.2
	1.5nm,0.3s						
FLN	La Foliniere	7.32	314	ePn	Pn	02 25 38.4	-2.4

IDC 12 03:12:29.5±3.8, 48.78N×152.82E, mb3.9/5, mb1 4.0/5, mb1mx3.7/21, Error ellipse: s-maj=119.0km s-min=36.6km az=8.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	45.86	295	P	P	03 20 52.5	-2.4
	1.7nm,1.1s,baz=63,slow=6.4,SNR=3.7						
BVAR	Borovoye Array	49.44	308	P	P	03 21 21.7	-1.0
	0.4nm,0.4s,baz=45,slow=10,SNR=3.8						
FINES	FINESS Array B	62.13	334	P	P	03 22 51.7	-2.4
	0.8nm,0.5s,baz=27,slow=6.2,SNR=7.2						
NB2	NORSAR Subarra	66.25	341	P	P	03 23 18.3	-2.5
	1.1nm,0.7s,baz=26,slow=6.2						
NOA	NORSAR Array B	66.25	341	P	P	03 23 18.6	-2.2
	1.7nm,0.7s,baz=26,slow=6.3,SNR=4.5						
TXAR	Lajitas Array	76.67	61	P	P	03 24 22.6	-1.3
	0.6nm,0.9s,baz=315,slow=5.3,SNR=4.5						

*FUNV **12** 04:14:19.5, 10.72N×61.91W, h62km, MW2.4*
*TRN **12** 04:14:21.8, 10.61N×61.73W, h59km, MD3.0*
ISC 12 04:14:17.5±0.6, 10.68N±0.04×61.99W±0.03, h80km±7km, n20, σ1^{s}20/36, Trinidad

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUIV	Guiria	0.23	263	eP	P	04 14 29.6	+0.2
GUIV				eS	S	04 14 37.6	-0.7
TRN	Trinidad (W)	0.58	93	eP	P	04 14 32.4	+0.2
TRN				eS	S	04 14 39.7	-3.2
TPP	Pointe-a-Pierr	0.64	124	eP	P	04 14 33.1	+0.3
TPP				eS	S	04 14 40.8	-3.2
SIPA	Siparia	0.71	138	eP	P	04 14 36.1	+2.6
SIPA				eS	S	04 14 48.2	+2.8
GUNV	Guanoco	1.06	241	eP	P	04 14 40.1	+2.5
GUNV				eS	S	04 14 53.5	+0.9
CRUV	Carupano	1.22	270	eP	P	04 14 40.6	+1.0
CRUV				eS	S	04 14 55.5	-0.6
TPR	Prospect	1.30	67	eP	P	04 14 41.2	+0.6
TPR				eS	S	04 14 55.9	-2.0
ITEV	Isla Los Testi	1.31	301	eP	P	04 14 41.6	+0.8
ITEV				eS	S	04 14 58.0	-0.1
BOT	Bacolet	1.34	69	eP	P	04 14 41.8	+0.5
ORIV	Oritupano	2.12	221	eS	S	04 15 17.9	+1.1
RIOV	Rio Grande	2.60	176	eP	P	04 14 59.0	+0.7
RIOV				eS	S	04 15 28.6	-0.2
PCRV	Puerto La Cruz	2.65	259	eP	P	04 14 59.0	0.0
IBAV	Isla La Blanqu	2.78	294	eP	P	04 15 01.5	+0.6
IBAV				eS	S	04 15 33.4	0.0
GURV	El Guri	3.09	200	eP	P	04 15 06.5	+1.2
GURV				eS	S	04 15 39.9	-1.3
CUPV	Cœpira	3.78	261	eS	S	04 15 56.8	-1.6
MERV	Las Mercedes	4.47	252	eP	P	04 15 24.7	+0.3
MERV				eS	S	04 16 13.0	-2.5
LUEV	Luepa	4.83	174	eP	P	04 15 27.9	-1.4
LUEV				eS	S	04 16 19.7	-4.8
CAOV	Caicara del Or	5.42	232	eP	P	04 15 37.4	0.0
CAOV				eS	S	04 16 34.9	-4.2
BAUV	El Baul	6.20	254	eP	P	04 15 48.2	-0.1
BAUV				eS	S	04 16 53.3	-5.2
PAYV	Puerto Ayacuch	7.66	227	eP	P	04 16 07.8	-0.7
PAYV				eS	S	04 17 27.0	-7.4

*DJA **12** 04:27:03.1±1.0, 7.59S×109.68E, h200km±2km, MD4.7/3, ML4.7/3, Error ellipse: s-maj=213.1km s-min=23.9km az=9.0*
*IDC **12** 04:27:24.6±1.6, 7.40S×111.52E, mb4.1/8, mb1 4.2/9, mb1mx4.1/16, ML3.2/1, MS3.0/3, Ms1 3.0/3, ms1mx2.9/12, Error ellipse: s-maj=98.0km s-min=15.1km az=53.0*
*NEIC **12** 04:27:36.7±4.0, 7.18S×111.94E, h95km±40km, mb4.1/3, Error ellipse: s-maj=47.8km s-min=14.8km az=56.0*
ISC 12 04:27:33.9±1.4, 7.6S±0.3×111.3E±0.4, h100km, n17, σ1^{s}01/18, mb4.0/10, 3C-3D, Jawa

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SRDI	Scrawed	2.93	108⇓	ePn	P	04 28 12.7	-7.0
	323nm,0.2s						
SRDI			⇓	eSn	S	04 29 03.8	+10
KELI	Kelakatan	3.20	102⇑	ePn	P	04 28 16.8	-6.6
	56nm,0.1s						
KELI			⇑	eSn	S	04 29 10.4	+10
RATI	Rata	4.32	106⇑	ePn	P	04 28 31.2	-7.5
	44nm,0.2s						
RATI			⇓	eSn	S	04 29 35.8	+7.6
MBWA	Marble Bar	15.77	150	P	P	04 31 15.6	+4.0
	5.3nm,0.8s						
FITZ	Fitzroy Crossi	17.43	128	P	P	04 31 28.4	-3.9
	0.1nm,0.3s,baz=328,slow=9.5,SNR=4.0						
FITZ				LR	LR	04 38 44.6	
	comp=Z,52nm,19.9s,baz=183,slow=39						
WRA	Warramunga Arr	25.47	121	P	P	04 32 53.3	-1.3
	3.8nm,0.9s,mb3.8,baz=297,slow=11,SNR=22						
WRA				LR	LR	04 43 10.0	
	comp=Z,50nm,20.7s,baz=340,slow=37						
WRAB	Tennant Creek	25.48	121	eP	P	04 32 54.1	-0.4
	7.8nm,0.7s,mb4.2						
ASAR	Alice Springs	26.93	129	P	P	04 33 08.1	+0.1
	1.9nm,0.6s,mb3.8,baz=304,slow=8.4,SNR=28						
ASAR				LR	LR	04 43 15.0	
	comp=Z,28nm,21.2s,baz=54,slow=35						
CMAR	Chiang Mai Arr	28.60	335	P	P	04 33 23.7	+0.7
	0.8nm,0.4s,mb3.7,baz=174,slow=9.1,SNR=3.1						
STKA	Stephens Creek	37.14	135	P	P	04 34 38.0	+1.3
	2.8nm,0.5s,mb4.4,baz=316,slow=9.5,SNR=9.9						
SONM	Songino Array	55.33	356	P	P	04 36 59.2	-0.4
	0.6nm,0.8s,mb3.7,baz=117,slow=2.8,SNR=4.5						
MKAR	Makanchi Array	59.96	337	P	P	04 37 32.0	-0.1
	1.4nm,1.0s,mb3.9,baz=141,slow=7.8,SNR=4.9						
KURK	Kurchatov	64.57	338	eP	P	04 38 02.0	-0.6
	1.8nm,0.8s,mb4.0						
ZAL	Zalesovo	65.22	343	P	P	04 38 06.4	-0.5
	1.5nm,0.3s,mb4.2,baz=198,slow=5.9,SNR=2.4						
BVAR	Borovoye Array	69.62	335	P	P	04 38 35.4	+1.0
	0.8nm,0.5s,mb3.8,baz=108,slow=9.1,SNR=3.0						
QSPA	South Pole Qui	82.43	180	eP	Px	04 40 02.2	
CPUP	Villa Florida	144.56	198	PKP	PKPdf	04 47 02.1	+2.8
	1.3nm,0.9s,baz=151,slow=1.8,SNR=4.0						

DJA 12 04:35:01.1±0.9, 9.05S×113.99E, h94km±12km, MD4.9/4, ML3.9/3, 6C-1D, Error ellipse: s-maj=38.4km s-min=14.3km az=6.0, South of Jawa

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SRDI	Scrawed	0.58	15⇓	iPn	P	04 35 16.5	-0.6
	639nm,0.2s						
SRDI			⇑	iSn	S	04 35 27.6	-1.4
KELI	Kelakatan	0.96	31⇑	iPn	P	04 35 20.4	-0.5
	236nm,0.2s						
KELI			⇑	iSn	S	04 35 35.7	0.0
RATI	Rata	1.56	78⇑	ePn	P	04 35 28.2	0.0
	200nm,0.2s						
RATI			⇑	iSn	S	04 35 47.0	-1.2
KEDI	Kedomdong	2.17	75	ePn	P	04 35 35.1	-1.2
	21nm,0.2s						
KEDI			⇑	iSn	S	04 35 59.5	-2.9

*PRU **12** 04:54:14.6, 50.08N×18.43E*
*WAR **12** 04:54:14.1, 50.05N×18.45E, ML2.5, Mining Induced*
ISC 12 04:54:13.4±0.8, 50.12N±0.04×18.40E±0.05, n13, σ1^{s}27/20, Poland

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAC	Raciborz	0.14	256	ePg	Pg	04 54 18.3	+2.2
RAC				eSg	Sg	04 54 21.7	+3.8
OKC	Ostrava-Krasne	0.32	210	ePG	Pg	04 54 20.2	+0.4
OKC				eSG	Sg	04 54 24.7	+0.6
LIKS	Likavka	1.16	156	i SG	Sg	04 54 54.5	+2.5
DPC	Dobruska-Polom	1.35	281	ePG	Pg	04 54 39.8	-0.6
DPC				eSG	Sg	04 54 58.6	+0.2
	25nm,0.4s						
NIE	Niedzica	1.42	119	ePg	Pg	04 54 40.5	-1.3
NIE				eSg	Sg	04 55 00.3	-0.5
KSP	Ksiaz	1.53	299	ePN	Pn	04 54 42.0	0.0
KSP				eSG	Sg	04 55 05.0	+0.7
UPC	Upice	1.58	285	ePG	Pg	04 54 44.2	-0.7
UPC				eSG	Sg	04 55 06.1	+0.2
SMOL	Smolenice	1.72	202	eSG	Sg	04 55 08.4	-2.4
PRU	Pruhonice	2.49	269	eSG	Sg	04 55 35.3	-0.9
	16nm,0.6s						
KHC	Kasperske Hory	3.29	254	ePG	Pg	04 55 15.1	-3.8
KHC				eSG	Sg	04 55 59.1	-3.6
MOA	Molln	3.54	232	i	Pn	04 55 12.5	+1.7
MOA	Molln	3.54	232	i SG	Sg	04 56 07.3	-4.0
	7.8nm,0.6s						
CLL	Collm	3.63	291	eSG	Sg	04 56 14.0	-0.3

*NEIC **12** 05:04:11.4, 30.46S×71.64W, h33km, ML3.3(GUC), After GUC.*
GUC 12 05:04:11.4±0.7, 30.46S×71.64W, h33km±4km, MD3.9, ML3.3, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LSCH	La Serena	0.65	32	eP	P	05 04 23.9	-0.1
LSCH				i S	S	05 04 33.0	-0.2
TLL	Tololo Astrono	0.78	69⇓	iP	P	05 04 26.9	+1.0
TLL				i S	S	05 04 37.9	+1.3
TLL				AMP		05 04 41.0	
	comp=E,761nm,0.4s						
CMCH	Combarbala	0.91	142⇑	iP	P	05 04 28.0	+0.4
CMCH				i S	S	05 04 40.6	+0.9
CMCH				AMP		05 04 44.6	
	comp=E,3μm,0.5s						
JACH	Jahuel	2.39	158	eP	P	05 04 50.1	+1.0
CLCH	Cerro Calan	3.08	162	eP	P	05 04 59.1	+0.3
CLCH				i S	S	05 05 35.5	+0.6
CLCH				AMP		05 05 50.1	
	comp=E,132nm,0.4s						
FCH	Farellones	3.09	158	eP	P	05 05 00.4	+1.5
FCH				i S	S	05 05 36.9	+1.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
FCH				AMP		05 06 00.1	
	comp=N,68nm,0.4s						
TACH	**Talagante**	**3.25**	**170**	eP	P	05 05 01.2	0.0

*NEIC **12** 05:10:35.5, 18.37N×68.65W, h156^{km}, MD3.7(RSPR), After RSPR.*

RSPR 12 05:10:35.5, 18.37N×68.65W, h156^{km}±3^{km}, MD3.7/7, MD3.7/7, 7C-1D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LSP	**Las Mesas**	**1.50**	**97**⇑	eP	P	05 11 05.9	+0.1
LSP				eS	S	05 11 29.0	-0.3
MGP	**Maguayo**	**1.53**	**103**⇓	eP	P	05 11 05.3	-0.8
MGP				eS	S	05 11 29.1	-0.7
LRS	**Lares**	**1.72**	**92**⇑	eP	P	05 11 07.5	-0.6
LRS				eS	S	05 11 33.1	-0.2
PORP	**Portuguez**	**1.94**	**99**⇑	eP	P	05 11 10.7	+0.1
PORP				eS	S	05 11 37.4	-0.2
CSB	**Colonia Sabana**	**2.37**	**92**⇑	eP	P	05 11 15.9	0.0
CSB				eS	S	05 11 46.8	-0.1
SJG	**San Juan**	**2.39**	**96**⇑	eP	P	05 11 15.5	-0.6
CPD	**Cerro la Pandu**	**2.62**	**97**⇑	eP	P	05 11 18.9	-0.1
CPD				eS	S	05 11 52.6	+0.3
CBYP	**Canovanas**	**2.66**	**92**⇑	eP	P	05 11 18.6	-0.8
CBYP				eS	S	05 11 52.7	-0.4

*IDC **12** 05:17:10.3±1.1, 5.84S×153.36E, mb4.2/9, mb1 4.4/11, mb1mx4.3/16, ML3.6/2, MS3.5/5, Ms1 3.6/5, ms1mx3.3/14, Error ellipse: s-maj=35.7km s-min=19.2km az=110.0*
*BJI **12** 05:17:17.2, 5.90S×153.20E, h58^{km}, mB4.9, mb4.7*
*NEIC **12** 05:17:18.3±3.5, 5.88S×153.23E, h58^{km}±28^{km}, mb4.6/5, Error ellipse: s-maj=29.3km s-min=16.5km az=86.0*

ISC 12 05:17:15.4±3.9**, 5.9S**±0.1×**153.3E**±0.2**, h51^{km}**±32^{km}**, n19, σ0^{s}75**/18**, mb4.3**/15**, MS3.7**/4**, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.05**	**240**	Pn	**P**	**05 18 58.7**	**+0.3**
	3.6nm,0.3s,baz=55,slow=7.5,SNR=9.4						
PMG				Sn	**S**	**05 20 17.9**	**-0.1**
	3.8nm,0.3s,baz=2.6,slow=22,SNR=7.1						
PMG				LR	LR	05 21 29.0	
	comp=Z,146nm,21.0s,baz=54,slow=36						
CTA	**Charters Tower**	**15.70**	**205**	Pn	**P**	**05 20 54.6**	**-0.2**
	0.2nm,0.3s,baz=11,slow=16,SNR=2.0						
WRAB	**Tennant Creek**	**23.14**	**231**	P	**P**	**05 22 18.4**	**+0.2**
	9.3nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**23.15**	**231**	P	**P**	**05 22 18.3**	**0.0**
	2.8nm,0.9s,mb3.7,baz=54,slow=10,SNR=6.1						
ASAR	**Alice Springs**	**25.73**	**225**	P	**P**	**05 22 43.1**	**+0.1**
	3.9nm,0.9s,mb4.0,baz=57,slow=8.7,SNR=27						
STKA	**Stephens Creek**	**28.09**	**202**	P	**P**	**05 23 04.0**	**-0.5**
	4.2nm,0.8s,mb4.1,baz=55,slow=7.2,SNR=5.2						
STKA				LR	LR	05 32 16.7	
	comp=Z,127nm,21.3s,MS3.5,baz=205,slow=32						
FITZ	**Fitzroy Crossi**	**29.63**	**243**	P	**P**	**05 23 17.4**	**-1.0**
	4.1nm,0.6s,mb4.4,baz=77,slow=5.6,SNR=21						
FITZ				LR	LR	05 35 38.9	
	comp=Z,54nm,19.7s,MS3.2,baz=349,slow=37						
CMAR	**Chiang Mai Arr**	**58.83**	**296**	P	**P**	**05 27 11.6**	**+0.1**
	2.8nm,1.0s,mb4.3,baz=110,slow=5.1,SNR=10						
GTA	**Gaotai**	**66.82**	**317**	eP	**P**	**05 28 05.0**	**+0.8**
GTA				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.7						
SONM	**Songino Array**	**67.53**	**328**	P	**P**	**05 28 09.1**	**+0.7**
	comp=Z,1.9nm,0.6s,mb4.3,baz=141,slow=7.0,SNR=12						
MKAR	**Makanchi Array**	**81.50**	**319**	P	**P**	**05 29 29.9**	**+1.0**
	comp=Z,1.1nm,0.7s,mb3.9,baz=101,slow=5.4,SNR=6.4						
ZAL	**Zalesovo**	**82.36**	**326**	P	**P**	**05 29 33.1**	**-0.2**
	comp=Z,1.8nm,0.5s,mb4.3,baz=46,slow=7.2,SNR=4.2						
ILAR	**Eielson Array**	**82.97**	**22**	P	**P**	**05 29 35.1**	**-1.0**
	comp=Z,0.4nm,0.6s,mb3.6,baz=242,slow=4.8,SNR=8.7						
ILAR				LR	LR	06 02 47.8	
	comp=Z,49nm,18.4s,MS3.9,baz=181,slow=33						
QSPA	**South Pole Qui**	**84.07**	**180**	eP	**P**	**05 29 44.2**	**+2.8**
	comp=Z,5.2nm,0.8s,mb4.7						
KURK	**Kurchatov**	**84.96**	**322**	eP	**P**	**05 29 45.5**	**-1.0**
	comp=Z,9.1nm,1.2s,mb4.8						
BRVK	**Borovoye**	**90.50**	**323**	eP	**P**	**05 30 12.9**	**-0.1**
	comp=Z,6.8nm,1.1s,mb4.9						
ZRNK	**Zerenda**	**91.25**	**323**	eP	**P**	**05 30 16.0**	**-0.5**
	comp=Z,2.6nm,1.0s,mb4.5						
PDAR	**Pinedale Array**	**99.19**	**48**	LR	LR	06 10 50.5	
	comp=Z,56nm,19.1s,MS4.1,baz=71,slow=32						
BDFB	**Brasilia**	**149.92**	**136**	PKPbc	PKPdf	05 37 05.0	+8.8
	comp=Z,4.2nm,0.8s,baz=257,slow=4.0,SNR=7.1						

MAN 12 06:08:25.1, 9.22N×126.37E, h4^{km}, mb4.6, ML3.5, MS3.5, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.79**	**251**	eP	Pg	06 08 40.4	-0.4
BIPH	**Bislig**	**1.03**	**181**⇑	eP	Pb	06 08 44.0	-1.1
BIPH				eS	Sb	06 08 56.5	-2.4
SCPH	**Surigao**	**1.03**	**302**	eP	Pb	06 08 45.0	-0.2
SCPH				eS	Sb	06 08 58.5	-0.4
MSLP	**Maasin**	**1.75**	**301**	eP	Pn	06 08 56.6	+0.2
CGP	**Cagayan de Oro**	**1.83**	**245**	eP	Pn	06 08 59.9	+2.4
CGP				eS	Sn	06 09 18.2	-3.2
BUKP	**Musuan**	**1.86**	**224**	eP	Pn	06 08 58.6	+0.5
TBP	**Tagbilaran**	**2.52**	**281**	eP	Pn	06 09 06.0	-1.5
TBP				eS	Sn	06 09 35.5	-3.5
BESP	**Borongan**	**2.54**	**339**	eP	Pn	06 09 07.5	-0.2
DCPH	**Dipolog City**	**3.05**	**258**	eP	Pn	06 09 14.0	-1.1
SNPH	**Sibulan**	**3.10**	**272**	eP	Pn	06 09 16.0	+0.3
PAGZ	**Pagadian**	**3.26**	**245**	eP	Pn	06 09 18.3	+0.3

*IDC **12** 06:16:22.4±0.9, 49.09S×121.74E, mb4.1/6, mb1 4.3/7, mb1mx4.2/10, ML3.1/1, MS3.8/10, Ms1 3.8/10, ms1mx3.7/11, Error ellipse: s-maj=46.4km s-min=18.7km az=116.0*
*NEIC **12** 06:16:23.9±0.5, 49.14S×121.81E, h10^{km}, mb4.3/4, Error ellipse: s-maj=21.3km s-min=8.6km az=103.0*

ISC 12 06:16:21.9±0.6**, 49.15S**±0.08×**121.8E**±0.3**, h10^{km}, n24, σ0^{s}98**/15**, mb4.1**/8**, MS3.7**/9**, 1C-3D, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**16.56**	**346**	Pn	**P**	**06 20 17.0**	**+1.3**
	3.4nm,0.3s,baz=185,slow=13,SNR=15						
NWAO				LR	LR	06 25 09.0	
	comp=Z,266nm,19.1s,baz=140,slow=32						
CASY	**Casey**	**18.15**	**195**	eP	**P**	**06 20 34.9**	**-0.4**
	4.7nm,0.8s						
STKA	**Stephens Creek**	**22.77**	**48**	P	**P**	**06 21 26.2**	**+0.8**
	14nm,0.9s,mb4.4,baz=197,slow=10,SNR=6.3						
STKA				LR	LR	06 28 45.0	
	comp=Z,364nm,20.3s,MS3.8,baz=206,slow=33						
ASAR	**Alice Springs**	**27.16**	**25**	P	**P**	**06 22 06.7**	**-0.4**
	5.6nm,1.0s,mb4.0,baz=192,slow=8.9,SNR=23						
ASAR				LR	LR	06 31 37.0	
	comp=Z,161nm,19.6s,MS3.6,baz=193,slow=34						
WRA	**Warramunga Arr**	**30.82**	**23**	P	**P**	**06 22 38.3**	**-1.7**
	2.5nm,1.0s,mb4.0,baz=200,slow=8.7,SNR=4.6						
WRA				PcP	PcP	06 25 37.0	-0.2
	0.6nm,0.9s,baz=218,slow=2.7,SNR=4.6						
WRA				LR	LR	06 33 51.4	
	comp=Z,124nm,18.5s,MS3.6,baz=185,slow=34						
FITZ	**Fitzroy Crossi**	**31.12**	**7**	LR	LR	06 33 09.1	
	comp=Z,63nm,18.2s,MS3.3,baz=322,slow=32						
SBA	**Scott Base**	**33.33**	**164**	P	**P**	**06 23 01.2**	**-0.2**
	11nm,1.4s,mb4.6						
RPZ	**Rata Peaks**	**33.87**	**100**	LR	LR	06 33 42.0	
	comp=Z,166nm,19.9s,MS3.8,baz=278,slow=31						
MAW	**Mawson**	**34.27**	**216**	P	**P**	**06 23 09.1**	**-0.6**
	0.9nm,0.6s,mb3.9,baz=87,slow=16,SNR=2.9						
MAW				LR	LR	06 34 03.1	
	comp=Z,100nm,19.5s,MS3.6,baz=74,slow=31						
MAW	**Mawson**	**34.27**	**216**	eP	**P**	**06 23 08.8**	**-0.8**
	3.7nm,0.9s,mb4.3						
CTA	**Charters Tower**	**34.97**	**43**	LR	LR	06 37 11.6	
	comp=Z,270nm,18.4s,MS4.0,baz=225,slow=36						
QSPA	**South Pole Qui**	**40.98**	**180**	eP	**P**	**06 24 07.5**	**+1.7**
	5.2nm,0.8s,mb4.2						
PMG	**Port Moresby**	**44.92**	**37**	LR	LR	06 42 26.8	
	comp=Z,115nm,19.5s,MS3.8,baz=196,slow=35						
SNAA	**Sanae**	**53.32**	**199**⇓	i	**P**	**06 25 50.2**	**+7.5**
SNAA	**Sanae**	**53.32**	**199**	P	**P**	**06 25 43.0**	**+0.3**
	0.5nm,0.8s,mb3.5,baz=149,slow=13,SNR=5.9						
VNA2	**Neumayer--Watz**	**54.84**	**198**⇑	i	**P**	**06 26 03.9**	**+10**
VNA3	**Neumayer Olymp**	**55.05**	**197**⇓	i	**P**	**06 26 04.4**	**+9.1**
VNA1	**Neumayer--Stat**	**55.24**	**198**⇓	i	**P**	**06 26 02.2**	**+5.5**
CMAR	**Chiang Mai Arr**	**70.31**	**337**	P	**P**	**06 27 37.0**	**-0.5**
	1.0nm,0.4s,mb4.1,baz=180,slow=4.5,SNR=4.0						
CMAR				LR	LR	06 56 23.1	
	comp=Z,48nm,18.6s,MS3.8,baz=352,slow=34						
PDAR	**Pinedale Array**	**144.30**	**80**	PKP	PKPdf	06 35 59.5	-1.0
	0.8nm,0.9s,baz=270,slow=1.5,SNR=5.0						
HRY	**Holter Researc**	**144.59**	**73**	ePKPdf	PKPdf	06 36 01.0	+0.2
YKA	**Yellowknife Ar**	**146.78**	**45**	PKPbc	PKPbc	06 36 05.7	+3.2
	0.9nm,0.7s,baz=269,slow=3.1,SNR=6.4						
YKA	**Yellowknife Ar**	**146.78**	**45**	PKPbc	PKPbc	06 36 05.7	+3.2
RSSD	**Black Hills**	**148.50**	**82**	ePKPbc	PKPdf	06 36 11.6	+4.1

MAN 12 06:26:31.0, 10.16N×126.13E, h16^{km}, mb4.7, ML3.6, MS3.5, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.73**	**239**	iP	Pb	06 26 45.1	+0.2
SCPH				iS	Sb	06 26 56.5	+2.0
MSLP	**Maasin**	**1.25**	**269**	eP	Pb	06 26 53.1	-0.6
MSLP				eS	Sb	06 27 10.5	+1.1
PLP	**Palo**	**1.50**	**312**	eP	Pn	06 26 56.6	-1.0
PLP				eS	Sb	06 27 16.4	-0.4
BESP	**Borongan**	**1.58**	**335**	eP	Pn	06 26 57.6	-1.0
BESP				eS	Sn	06 27 19.8	+1.0
BIPH	**Bislig**	**1.98**	**173**⇑	eP	Pn	06 27 03.0	-1.4
BIPH				eS	Sn	06 27 30.9	+1.9
TBP	**Tagbilaran**	**2.28**	**258**	eP	Pn	06 27 09.3	+0.6
TBP				eS	Sn	06 27 39.1	+2.5
SNPH	**Sibulan**	**2.96**	**254**	eP	Pn	06 27 18.0	-0.4

*NEIC **12** 06:49:26.2±3.2, 8.34S×112.46E, h133^{km}±30^{km}, mb3.9/3, Error ellipse: s-maj=34.0km s-min=12.6km az=61.0*
*IDC **12** 06:49:33.7±9.7, 8.04S×112.85E, h199^{km}±94^{km}, mb3.3/6, mb1 3.4/7, mb1mx3.3/15, Error ellipse: s-maj=104.0km s-min=16.8km az=56.0*

ISC 12 06:49:23.5±3.9**, 8.2S**±0.2×**112.5E**±0.2**, h121^{km}**±39^{km}**, n15, σ1^{s}06**/14**, mb3.8**/9**, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**14.63**	**152**	ePn	**P**	**06 52 44.2**	**-1.5**
FITZ	**Fitzroy Crossi**	**16.12**	**129**	P	**P**	**06 53 06.5**	**+2.0**
	0.2nm,0.3s,baz=342,slow=6.4,SNR=5.7						
FITZ				S	**S**	**06 55 52.5**	**-6.6**
	0.2nm,0.3s,baz=174,slow=10,SNR=4.9						
WRA	**Warramunga Arr**	**24.15**	**121**	P	**P**	**06 54 29.7**	**+0.1**
	0.5nm,0.5s,mb3.1,baz=295,slow=12,SNR=3.8						
WRAB	**Tennant Creek**	**24.15**	**121**	eP	**P**	**06 54 29.4**	**-0.3**
	1.4nm,0.6s,mb3.5						
ASAR	**Alice Springs**	**25.62**	**129**	P	**P**	**06 54 43.6**	**0.0**
	1.5nm,0.9s,mb3.4,baz=302,slow=8.4,SNR=15						
CMAR	**Chiang Mai Arr**	**29.70**	**333**	P	**P**	**06 55 21.7**	**+1.1**
	0.9nm,0.4s,mb3.8,baz=135,slow=7.7,SNR=3.7						
STKA	**Stephens Creek**	**35.85**	**135**	P	**P**	**06 56 13.9**	**+0.4**
	2.0nm,0.4s,mb4.4,baz=308,slow=8.7,SNR=4.8						
STKA	**Stephens Creek**	**35.85**	**135**	eP	**P**	**06 56 12.4**	**-1.1**
ENH	**Enshi**	**38.40**	**356**	P	**P**	**06 56 35.4**	**+0.6**
	4.5nm,0.4s,mb4.7						
SONM	**Songino Array**	**56.09**	**355**	P	**P**	**06 58 51.2**	**-1.3**
	0.3nm,0.4s,mb3.7,baz=184,slow=8.4,SNR=3.4						
MKAR	**Makanchi Array**	**61.03**	**337**	P	**P**	**06 59 25.5**	**-1.2**
	0.6nm,0.5s,mb3.9,baz=145,slow=7.8,SNR=11						
MKAR	**Makanchi Array**	**61.03**	**337**	P	**P**	**06 59 25.5**	**-1.2**
SNAA	**Sanae**	**89.93**	**197**	eP	**P**	**07 02 10.9**	**+1.1**
	0.6nm,0.5s,mb4.0						
CPUP	**Villa Florida**	**144.24**	**196**	PKP	PKPdf	07 08 46.4	+0.6
	0.5nm,0.5s,baz=104,slow=1.8,SNR=3.1						
CPUP	**Villa Florida**	**144.24**	**196**	PKP	PKPdf	07 08 46.4	+0.6

*GUC **12** 07:13:33.9±0.8, 30.47S×71.64W, h29^{km}±3^{km}, MD4.2, ML4.1*
*NEIC **12** 07:13:33.9, 30.47S×71.64W, h29^{km}, ML4.1(GUC), After GUC.*

ISC 12 07:13:34.4±0.7**, 30.46S**±0.03×**71.64W**±0.08**, h33^{km}, n20, σ0^{s}86**/32**, 2C-4D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.41**	**112**	iP	**P**	**07 13 42.6**	**-1.0**
OVCH				iS	**S**	**07 13 49.3**	**-0.7**
OVCH				AMP		07 13 50.3	
	comp=N,13μm,0.4s						
LSCH	**La Serena**	**0.64**	**32**⇓	iP	**P**	**07 13 46.3**	**-0.7**
LSCH				iS	**S**	**07 13 55.4**	**-0.6**
TLL	**Tololo Astrono**	**0.78**	**68**⇓	iP	**P**	**07 13 49.2**	**+0.3**
TLL				iS	**S**	**07 13 60.0**	**+0.5**
TLL				AMP		07 14 01.2	
	comp=N,5μm,0.3s						
CMCH	**Combarbala**	**0.90**	**143**⇑	iP	**P**	**07 13 50.4**	**-0.3**
CMCH				iS	**S**	**07 14 02.7**	**0.0**
CMCH				AMP		07 14 06.6	
	comp=E,22μm,0.6s						
VACH	**Vallenar**	**2.02**	**22**⇓	iP	**P**	**07 14 07.5**	**+0.8**
VACH				iS	**S**	**07 14 33.5**	**+2.4**
VACH				AMP		07 14 41.9	
	comp=E,2μm,0.5s						
PACH	**Papudo**	**2.08**	**175**	eP	**P**	**07 14 08.0**	**+0.4**
JACH	**Jahuel**	**2.39**	**158**	eP	**P**	**07 14 12.9**	**+0.9**
PEL	**Peldehue**	**2.80**	**163**	eP	**P**	**07 14 17.9**	**0.0**
PEL				AMP		07 15 00.1	
	comp=N,1μm,0.5s						
DSCH	**Colegio Aleman**	**3.07**	**163**⇑	iP	**P**	**07 14 21.5**	**-0.2**
DSCH				iS	**S**	**07 14 58.2**	**+0.4**
DSCH				AMP		07 15 11.3	
	comp=N,2μm,0.6s						
CLCH	**Cerro Calan**	**3.08**	**163**	eP	**P**	**07 14 22.0**	**+0.2**
CLCH				iS	**S**	**07 14 57.9**	**+0.1**
CLCH				AMP		07 15 22.5	
	comp=E,702nm,0.4s						
FCH	**Farellones**	**3.08**	**159**	eP	**P**	**07 14 22.9**	**+1.0**
FCH				iS	**S**	**07 14 59.4**	**+1.3**
FCH				AMP		07 15 22.5	
	comp=N,346nm,0.3s						
STL	**Santa Lucia**	**3.09**	**164**⇓	iP	**P**	**07 14 21.4**	**-0.6**
STL				iS	**S**	**07 14 58.0**	**-0.3**
STL				AMP		07 15 11.7	
	comp=N,208nm,0.8s						
ANTU	**Antumapu**	**3.22**	**165**	eP	**P**	**07 14 22.3**	**-1.5**
ANTU				iS	**S**	**07 15 01.4**	**-0.1**
ANTU				AMP		07 15 15.2	
	comp=E,642nm,0.3s						
TACH	**Talagante**	**3.24**	**170**	eP	**P**	**07 14 23.7**	**-0.4**
CPCH	**Copiapo**	**3.29**	**20**	eP	**P**	**07 14 22.5**	**-2.3**
PCH	**Pirque**	**3.30**	**163**	eP	**P**	**07 14 25.0**	**+0.1**
CHCH	**Chadas Angostu**	**3.57**	**167**	eP	**P**	**07 14 28.0**	**-0.8**
CHCH				iS	**S**	**07 15 09.4**	**-0.9**
LMEL	**Las Melosas**	**3.59**	**161**	eP	**P**	**07 14 29.2**	**+0.1**
LMEL				iS	**S**	**07 15 11.4**	**+0.4**
LMEL				AMP		07 15 25.1	
	comp=N,358nm,0.3s						
CACH	**El Canelo**	**3.75**	**167**	eP	**P**	**07 14 32.9**	**+1.5**
LVC	**Limon Verde**	**8.18**	**18**	ePn	**P**	**07 15 44.2**	**+11**

*BJI **12** 07:18:22.3, 29.48N×97.11E, h49^{km}, mB5.0, mb4.4, ML4.2, Ms4.2, Msz3.8*
*NEIC **12** 07:18:24.6±1.5, 29.53N×97.27E, h50^{km}±15^{km}, mb4.5/4, Error ellipse: s-maj=15.1km s-min=10.2km az=67.0*
*IDC **12** 07:18:25.2±4.2, 29.51N×97.19E, h54^{km}±39^{km}, mb3.8/7, mb1 4.0/9, mb1mx3.8/21, ML4.0/2, MS3.6/2, Ms1 3.7/2, ms1mx2.7/26, Error ellipse: s-maj=29.9km s-min=16.4km az=48.0*

ISC 12 07:18:21.3±1.1**, 29.46N**±0.07×**97.07E**±0.05**, h38^{km}**±12^{km}**, n32, σ1^{s}32**/30**, mb4.3**/12**, MS4.0**/1**, 1C-1D, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LSA	**Lhasa**	**5.16**	**274**	P	**P**	**07 19 41.0**	**+2.8**
LSA				S	**S**	**07 20 44.0**	**+6.7**
IMP	**Imphal**	**5.43**	**212**	eP	**P**	**07 19 42.0**	**0.0**
CD2	**Chengdu**	**5.97**	**74**	eP	**P**	**07 19 51.6**	**+2.1**
SHL	**Shillong**	**6.02**	**231**	eP	**P**	**07 19 49.7**	**-0.5**
SHL				eS	**S**	**07 20 59.0**	**+0.2**
AGT	**Agartala**	**7.61**	**224**	eP	**P**	**07 20 15.0**	**+2.5**
GYA	**Guiyang**	**8.99**	**107**⇑	iP	**P**	**07 20 31.0**	**-0.7**
GYA				PP	PP	07 20 40.6	+1.3
GYA				PPP	PPP	07 20 47.8	+1.4
GYA				AMB	AMB		
	comp=Z,20nm,0.7s						
GYA				LR	LR		
	comp=N,930nm,9.9s						
GYA				LR	LR		
	comp=E,290nm,9.0s						
GYA				LR	LR		
	comp=Z,270nm,7.8s						
PKI	**Pulchoki**	**10.43**	**262**	eP	**P**	**07 20 49.5**	**-1.9**
	comp=Z,171nm,0.5s						
KKN	**Kakani**	**10.49**	**264**	eP	**P**	**07 20 50.7**	**-1.6**
	comp=Z,77nm,0.5s						
DMN	**Daman**	**10.68**	**263**	eP	**P**	**07 20 53.3**	**-1.6**
	comp=Z,92nm,0.6s						
ENH	**Enshi**	**10.81**	**83**	eP	**P**	**07 20 53.4**	**-3.3**
GKN	**Gorkha**	**11.01**	**265**	eP	**P**	**07 20 56.4**	**-3.0**
	comp=Z,44nm,0.5s						
CMAR	**Chiang Mai Arr**	**11.09**	**171**	P	**P**	**07 21 01.6**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=347,slow=12,SNR=18						
CMAR				Lg		07 24 20.4	
	comp=Z,0.1nm,0.3s,baz=6.1,slow=25,SNR=3.2						
CMAR				LR	LR	07 25 23.6	
	comp=Z,161nm,18.1s,baz=340,slow=38						
CMAR	**Chiang Mai Arr**	**11.09**	**171**	P	**P**	**07 21 01.6**	**+1.1**
CMAR				Lg		07 24 20.4	
KOLN	**Koldanda**	**11.95**	**265**	eP	**P**	**07 21 07.8**	**-4.3**
	comp=Z,22nm,0.5s						
SONM	**Songino Array**	**19.71**	**19**	P	**P**	**07 22 49.7**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=209,slow=13,SNR=13						
HYB	**Hyderabad**	**20.76**	**239**	iP	**P**	**07 23 02.0**	**+0.5**
KURK	**Kurchatov**	**25.36**	**332**	P	**P**	**07 23 45.1**	**-1.2**
	comp=Z,26nm,1.1s,mb4.7						
CN2	**Changchun**	**26.74**	**50**	eP	**P**	**07 24 00.2**	**+1.0**
CN2				AMB	AMB		
	comp=Z,20nm,1.5s,mb4.4						
BRVK	**Borovoye**	**30.68**	**328**	eP	**P**	**07 24 36.3**	**+1.8**
	comp=Z,7.8nm,0.8s,mb4.6						
ASF	**Jabal al Asfar**	**51.16**	**289**	P	**P**	**07 27 24.6**	**+1.7**
	comp=Z,2.1nm,0.4s,mb4.4,baz=45,slow=11,SNR=2.8						
BRTR	**Keskin Array B**	**52.24**	**299**	P	**P**	**07 27 31.3**	**+0.5**
	comp=Z,1.3nm,0.9s,mb3.9,baz=112,slow=7.8,SNR=2.6						
AKASG	**Malin Array Be**	**54.07**	**313**	P	**P**	**07 27 43.6**	**-0.7**
	comp=Z,1.9nm,0.7s,mb4.2,baz=74,slow=4.8,SNR=4.2						
MBWA	**Marble Bar**	**54.86**	**154**	P	**P**	**07 27 49.9**	**-0.5**
	comp=Z,2.4nm,0.6s,mb4.4						
WRAB	**Tennant Creek**	**60.85**	**139**	eP	**P**	**07 28 31.9**	**-0.7**
	comp=Z,2.8nm,0.6s,mb4.6						
WRA	**Warramunga Arr**	**60.86**	**139**	P	**P**	**07 28 32.0**	**-0.6**
	comp=Z,2.4nm,0.7s,mb4.5,baz=327,slow=7.8,SNR=14						
ASAR	**Alice Springs**	**63.60**	**142**	P	**P**	**07 28 50.4**	**-0.5**
	comp=Z,0.9nm,0.7s,mb3.9,baz=325,slow=6.7,SNR=11						
GERES	**GERESS Array B**	**64.29**	**313**	P	**P**	**07 28 55.3**	**+0.4**
	comp=Z,0.5nm,0.3s,mb4.0,baz=66,slow=12,SNR=2.5						
KMBO	**Kilima Mbogo**	**64.61**	**253**	P	**P**	**07 28 58.4**	**+0.8**
	comp=Z,0.7nm,0.7s,mb3.8,baz=312,slow=13,SNR=2.9						
DLBC	**Dease Lake**	**84.04**	**23**	LR	LR	08 11 46.8	
	comp=Z,59nm,18.9s,MS4.0,baz=317,slow=38						
SNAA	**Sanae**	**120.77**	**201**⇓	iPdif	Pdif	07 33 40.4	+5.7
SNAA				e		07 37 04.9	
ROSC	**El Rosal**	**144.90**	**345**	PKP	PKPdf	07 37 57.2	+2.0
	comp=Z,7.4nm,0.5s,baz=198,slow=20,SNR=5.4						
BDFB	**Brasilia**	**145.09**	**285**	PKPbc	PKPbc	07 37 57.0	+1.4
	comp=Z,1.1nm,0.6s,baz=80,slow=13,SNR=3.6						

*LDG **12** 07:18:26.7±1.2, 39.40N×75.72E, h10^{km}, Mb4.7/19, Ms3.4/6, Error ellipse: s-maj=57.3km s-min=6.5km az=156.0*
*IDC **12** 07:18:31.5±0.6, 39.68N×75.65E, h18^{km}±2^{km}, mb4.3/19, mb1 4.4/22, mb1mx4.4/27, ML3.9/3, Error ellipse: s-maj=13.3km s-min=11.3km az=2.0*
*MOS **12** 07:18:32.0±1.4, 39.60N×75.66E, h33^{km}, mb4.8/25, Error ellipse: s-maj=12.3km s-min=6.7km az=101.9*
*BJI **12** 07:18:33.3, 39.75N×75.70E, h51^{km}, mB4.8, mb4.6, ML4.7, Ms4.2, Msz4.3*
*NEIC **12** 07:18:35.8±1.2, 39.73N×75.65E, h49^{km}±10^{km}, mb4.7/34, MS4.4/1, Error ellipse: s-maj=11.2km s-min=6.2km az=180.0*
*NNC **12** 07:18:37.8±3.2, 40.22N×76.06E, mpv4.9, Error ellipse: s-maj=34.4km s-min=18.9km az=26.0*

ISC 12 07:18:33.6±0.2**, 39.65N**±0.02×**75.79E**±0.04**, h51^{km}, (h12^{km}**±2.5^{km}**:pP-P), n160, σ1^{s}18**/170**, mb4.5**/54**, MS3.9**/8**, 13C-13D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH	**Kashi**	**0.20**	**133**⇓	iP	**P**	**07 18 39.9**	**-2.1**
KSH				S	**S**	**07 18 46.6**	**-1.4**
KSH				Smax			
	comp=N,40μm,0.4s						
KSH				Smax			
	comp=E,88μm,0.5s						
KZA	**Kyzart**	**2.46**	**351**	P	**P**	**07 19 13.8**	**+1.6**
	SNR=138						
ULHL	**Ulahol**	**2.62**	**7**	P	**P**	**07 19 16.7**	**+2.3**
	SNR=355						
UCH	**Uchtor**	**2.75**	**340**	P	**P**	**07 19 17.6**	**+1.3**
	SNR=1878						
AML	**Almayashu**	**2.94**	**328**	P	**P**	**07 19 19.8**	**+0.8**
	SNR=424						
KBK	**Karagaybulak**	**3.07**	**348**	P	**P**	**07 19 22.6**	**+1.8**
	SNR=208						
AAK	**Ala-Archa**	**3.13**	**342**	⇑Pn	**P**	**07 19 23.5**	**+1.7**
	comp=E,1μm,1.6s						
AAK				⇓Lg		07 20 03.1	
	comp=E,2μm,0.8s						
AAK	**Ala-Archa**	**3.13**	**342**	P	**P**	**07 19 23.6**	**+1.8**
	SNR=336						
AAK	**Ala-Archa**	**3.13**	**342**c	iPN	**P**	**07 19 22.4**	**+0.6**
TKM2	**Tokmak 2**	**3.27**	**358**	P	**P**	**07 19 25.8**	**+2.1**
	SNR=445						
FRU	**Bishkek**	**3.30**	**345**	ePN	**P**	**07 19 26.0**	**+1.9**
FRU				eS	**S**	**07 20 13.0**	**+11**
FRU				smax			
	comp=Z,1μm,1.6s						
EKS2	**Erkin-Say**	**3.37**	**334**	P	**P**	**07 19 26.3**	**+1.3**
	SNR=67						
CHMS	**Chumysh**	**3.43**	**347**	P	**P**	**07 19 27.6**	**+1.6**
	SNR=166						
AAA	**Alma-Ata**	**3.72**	**13**	ePN	**P**	**07 19 31.0**	**+1.0**
AAA				e		07 19 38.0	
AAA				e		07 20 24.0	
AAA				pmax	pmax		
	comp=Z,500nm,1.6s						
AAA				smax			
	comp=N,2μm,1.7s						
AAA				MLR	MLR		
	comp=Z,4μm,10.0s						
USP	**Ospenovka**	**3.74**	**345**	P	**P**	**07 19 31.3**	**+1.0**
	SNR=282						
CHCP	**Chirah Chowk**	**6.32**	**199**	⇓P	**P**	**07 20 09.6**	**+3.2**
CEP	**Cherat**	**6.60**	**209**	⇑P	**P**	**07 20 12.5**	**+2.2**
CEP				S	**S**	**07 21 27.0**	**+2.0**
THN	**Thein Dam**	**7.20**	**180**	eP	**P**	**07 20 18.5**	**-0.3**
THN				e		07 21 46.0	
THW	**Thamme Wali**	**7.58**	**207**	P	**P**	**07 20 25.0**	**+1.0**
MK31	**Makanchi Array**	**8.57**	**31**	⇑Pn	**P**	**07 20 37.7**	**0.0**
	comp=Z,33nm,0.7s,baz=213,slow=15,SNR=276						
MK31				⇓Lg		07 22 49.2	
	comp=Z,52nm,1.2s,baz=211,slow=25,SNR=3.9						
MKAR	**Makanchi Array**	**8.57**	**31**	Pn	**P**	**07 20 37.3**	**-0.4**
	comp=Z,2.3nm,0.3s,baz=204,slow=13,SNR=86						
MKAR				Lg		07 23 03.9	
	comp=Z,1.0nm,0.3s,baz=215,slow=42,SNR=3.5						
DDI	**Dehra Dun**	**9.49**	**168**	e	**P**	**07 20 55.4**	**+5.1**
DDI				e		07 22 38.2	
JOSI	**Joshimath**	**9.59**	**160**	eP	**P**	**07 20 52.5**	**+0.9**
JOSI				AML	AML	07 22 58.1	
	comp=E,294nm,3.4s						
JOSI				AML	AML	07 22 58.5	
	comp=N,251nm,0.8s						
WMQ	**Urumqi**	**9.83**	**61**	eP	**P**	**07 20 57.5**	**+2.6**
WMQ				S	**S**	**07 22 42.5**	**-2.4**
WMQ				Smax			
	comp=N,49nm,1.0s						
WMQ				Smax			
	comp=E,38nm,1.0s						
WMQ				LR	LR		
	comp=N,198nm,8.0s						
WMQ				LR	LR		
	comp=E,203nm,8.0s						
LGTI	**Lohaghat**	**10.82**	**159**	e	**P**	**07 21 21.5**	**+13**

ASOR Ausora 10.99 171 eP P 07 21 11.1 +0.3
ASOR eS S 07 23 04.9 -8.3
NDI New Delhi 11.00 173 eP P 07 21 13.0 +2.0
NDI e 07 23 09.5
AYAN Aya Nagar 11.20 174 eP P 07 21 13.0 -0.6
AYAN eS S 07 23 09.4 -8.7
KURK Kurchatov 11.24 9 ⇑Pn P 07 21 11.6 -2.6
comp=E,4.5nm,0.9s,baz=182,slow=9.1,SNR=8.9
KURK ⇑Lg 07 24 20.8
comp=E,82nm,1.3s,baz=105,slow=8.4,SNR=8.5
KURK Kurchatov 11.24 9d iP P 07 21 11.5 -2.6
KURK pmax pmax
comp=Z,7.0nm,1.1s
SONA Sohna 11.42 174 eP P 07 21 16.9 +0.3
SONA eS S 07 23 15.5 -8.2
SONA e 07 23 24.4
comp=E,64nm,0.6s
SONA e 07 23 24.5
comp=N,30nm,0.5s
KUDL Kundal 11.49 177 eP P 07 21 14.9 -2.7
KUDL eS S 07 23 13.8 -12
KHET Khetri 11.55 180 eP P 07 21 17.6 -0.7
KHET eS S 07 23 17.1 -10
AJM Ajmer 13.17 184 eP P 07 21 41.0 +1.0
JASL Jaisalmer 13.33 199 eP P 07 21 39.2 -2.8
VOSK Vostochnaya 13.49 347 ⇑Pn P 07 21 40.2 -3.8
comp=N,7.1nm,0.8s
VOSK ⇑Lg 07 25 34.6
comp=N,154nm,1.9s
KOLN Koldanda 13.51 149 eP P 07 21 43.8 -0.6
comp=N,34nm,0.5s
GKN Gorkha 13.74 145 eP P 07 21 47.0 -0.4
comp=N,62nm,0.5s
BVA0 Borovoye Array 13.88 346 ⇓Pn P 07 21 46.0 -3.1
comp=N,2.4nm,0.8s,baz=222,slow=39,SNR=11
BVA0 ⇓Lg 07 25 40.1
comp=N,3.5nm,0.8s,baz=151,slow=28,SNR=6.1
BVA0 Borovoye Array 13.88 346 P P 07 21 46.0 -3.1
BVAR Borovoye Array 13.88 346 Pn P 07 21 45.5 -3.6
comp=N,1.1nm,0.3s,baz=152,slow=14,SNR=18
BVAR Lg 07 25 42.1
comp=N,0.8nm,0.3s,baz=152,slow=25,SNR=4.0
BRVK Borovoye 13.93 346 eP P 07 21 45.8 -3.9
comp=N,8.0nm,0.9s
ZRNK Zerenda 14.09 343 ⇓Pn P 07 21 49.0 -2.9
comp=N,12nm,1.3s
ZRNK ⇓Lg 07 25 45.5
comp=N,54nm,1.1s
KKN Kakani 14.21 143 eP P 07 21 52.9 -0.7
comp=N,66nm,0.7s
DMN Daman 14.29 144 eP P 07 21 53.6 -1.0
comp=N,60nm,0.7s
PKI Pulchoki 14.46 144 eP P 07 21 56.6 -0.2
comp=N,42nm,0.6s
ZAL Zalesovo 15.55 20 Pn P 07 22 09.1 -1.6
comp=N,0.8nm,0.3s,baz=268,slow=11,SNR=17
ZAL Lg 07 26 40.0
comp=N,0.3nm,0.3s,baz=42,slow=13,SNR=2.0
ZAL Zalesovo 15.55 20 i P P 07 22 10.7 0.0
ZAL pmax pmax
comp=Z,4.0nm,0.5s
NVS Novosibirsk 16.00 16 eP P 07 22 16.4 -0.1
NVS pmax pmax
comp=N,13nm,0.7s
NVS pmax pmax
comp=Z,10.0nm,0.7s
NVS Novosibirsk 16.00 16 eP P 07 22 16.4 -0.1
comp=Z,10.0nm,0.7s
BHPL Bhopal 16.42 175 eP P 07 22 23.9 +2.0
BHPL AML AML 07 22 39.3
comp=N,9.1nm,2.6s
BHPL AML AML 07 22 40.6
comp=E,8.2nm,0.8s
BHPL e 07 25 11.9
GTA Gaotai 18.53 83 eP P 07 22 47.4 -0.7
GTA AP 07 22 56.4
GTA XP 07 23 02.7
GTA S S 07 26 08.4 -1.2
GTA LG2 07 28 30.3
GTA AMB AMB
comp=Z,4.0nm,0.7s
GTA LR LR
comp=N,114nm,8.4s
GTA LR LR
comp=E,195nm,11.0s
GTA LR LR
comp=Z,253nm,12.2s
ARU Arti 20.26 332 eP P 07 23 05.7 -1.4
ARU pmax pmax
comp=Z,25nm,1.7s
ARU Arti 20.26 332 eP P 07 23 05.7 -1.4
comp=Z,25nm,1.7s
POO Poona 21.11 185 e P 07 23 21.0 +4.9
MOY Mondy 21.20 47 eP P 07 23 19.1 +2.3
LZH Lanzhou 22.40 90 eP P 07 23 28.5 -0.2
LZH AP 07 23 39.6
LZH XP 07 23 44.5
LZH AMB AMB
comp=Z,24nm,1.4s,mb4.4
LZH LR LR
comp=N,648nm,10.1s
LZH LR LR
comp=Z,859nm,12.8s,MS4.4
SONM Songino Array 23.46 60 P P 07 23 41.7 +2.8
comp=Z,2.2nm,0.6s,mb3.8,baz=255,slow=9.7,SNR=9.2
GNI Garni 23.76 281 deP P 07 23 43.4 +1.4
GNI pmax pmax
comp=Z,40nm,1.8s
GNI Garni 23.76 281 ePr P 07 23 43.4 +1.4
comp=Z,40nm,1.8s,mb4.5
KIV Kislovodsk 24.95 291 c iP P 07 23 54.1 +0.7
KIV pmax pmax
comp=Z,8.0nm,0.5s,mb4.5
KIV Kislovodsk 24.95 291 ⇑iP P 07 23 54.1 +0.7
comp=Z,8.0nm,0.5s,mb4.5
KMI Kunming 26.85 115 eP P 07 24 13.6 +2.3
KMI AP pP 07 24 24.5 +0.3
KMI XP sP 07 24 28.5 -1.9
KMI S S 07 28 47.8 +5.5
KMI XS 07 29 06.0
KMI AMB AMB
comp=Z,7.0nm,0.7s,mb4.3
KMI AMB AMB
comp=Z,146nm,6.0s
KMI LR LR
comp=N,109nm,10.1s,MS3.8
KMI LR LR
comp=E,112nm,13.5s,MS3.8
SOC Sochi 27.11 290 eP P 07 24 10.1 -3.5
SOC e 07 24 51.7
SOC ePPP PPP 07 25 05.7 -7.6
SOC e 07 27 33.4
SOC eSS SS 07 29 55.5 -8.4
SOC eSSS SSS 07 30 17.0 -6.0
SOC pmax pmax
comp=Z,23nm,0.9s,mb4.7
SOC pmax pmax
comp=N,16nm,0.7s
SOC pmax pmax
comp=E,16nm,0.7s
SOC MLR MLR
comp=N,119nm,14.0s,MS3.7
SOC MLR MLR
comp=Z,104nm,14.0s,MS3.5
SOC MLR MLR
comp=E,84nm,15.0s,MS3.7
SOC Sochi 27.11 290 eP P 07 24 10.1 -3.5
comp=E,23nm,0.9s,mb4.7
SOC e 07 24 51.7
SOC ePPP PPP 07 25 05.7 -7.6
SOC e 07 27 33.4
SOC eSS SS 07 29 55.5 -8.4
SOC eSSS SSS 07 30 17.0 -6.0
SOC LR LR
comp=Z,100nm,14.0s,MS3.5
OBN Obninsk 30.25 314 eP P 07 24 40.6 -0.9
OBN pmax pmax
comp=Z,4.0nm,0.5s,mb4.4
OBN MLR MLR
comp=Z,100nm,15.0s,MS3.6
OBN Obninsk 30.25 314 eP P 07 24 40.6 -0.9
comp=Z,4.0nm,0.5s,mb4.4
OBN LR LR
comp=Z,100nm,15.0s,MS3.6
BRTR Keskin Array B 32.22 284 P P 07 24 58.4 -0.6
comp=Z,5.6nm,0.6s,mb4.6,baz=95,slow=7.7,SNR=19
BRTR pP pP 07 25 03.4 -8.8
comp=Z,5.6nm,0.6s,baz=87,slow=8.1,SNR=12
BRTR Keskin Array B 32.22 284 P P 07 24 58.4 -0.6
BRTR pmax pmax
comp=Z,6.0nm,0.6s
BRTR pmax pmax
comp=N,6.0nm,0.6s
AKASG Malin Array Be 34.10 305 P P 07 25 13.2 -2.0
comp=N,2.3nm,0.7s,mb4.2,baz=77,slow=8.0,SNR=11
AKASG pP pP 07 25 19.0 -9.5
comp=N,4.9nm,0.8s,baz=78,slow=7.9,SNR=6.2
AKASG Malin Array Be 34.10 305 P P 07 25 13.2 -1.9
AKASG *PP pP 07 25 19.0 -9.5
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKASG pmax pmax
comp=N,5.0nm,0.8s
JOF Joensuu 35.19 326 ep P 07 25 23.4 -0.9
comp=N,3.0nm,0.5s,mb4.5
JOF Joensuu 35.19 326 eP P 07 25 23.4 -0.9
JOF pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
NJ2 Nanjing 35.45 89 eP P 07 25 30.5 +3.6
NJ2 PP PP 07 26 52.2 +4.3
NJ2 S S 07 30 58.0 +0.5
NJ2 AMB AMB
comp=Z,40nm,1.0s,mb5.3
NJ2 LR LR
comp=N,1μm,16.2s,MS4.8
NJ2 LR LR
comp=E,600nm,14.5s,MS4.8
CN2 Changchun 36.85 67 eP P 07 25 39.3 +0.7
FINES FINESS Array B 37.13 323 P P 07 25 39.3 -1.4
comp=E,2.0nm,0.5s,mb4.2,baz=108,slow=8.6,SNR=17
FINES pP pP 07 25 44.9 -9.3
comp=E,3.5nm,0.7s,baz=110,slow=9.5,SNR=4.3
FINES FINESS Array B 37.13 323 P P 07 25 39.3 -1.4
FINES *PP pP 07 25 44.9 -9.2
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES pmax pmax
comp=N,4.0nm,0.7s
SSE Sheshan 37.66 89 P P 07 25 44.9 -0.6
SSE XP sP 07 26 08.5 +3.3
SSE S S 07 31 30.4 -0.9
SSE XS 07 31 59.8
SSE AMB AMB
comp=Z,21nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,56nm,5.8s
SSE LR LR
comp=N,29nm,17.7s,MS3.2
SSE LR LR
comp=E,25nm,17.7s,MS3.2
YAK Yakutsk 39.20 37d iP P 07 25 59.2 +1.3
YAK pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
YAK Yakutsk 39.20 37 i Pr P 07 25 59.2 +1.3
comp=Z,10.0nm,0.6s,mb4.7
MDJ Mudanjiang 39.60 65 P P 07 26 01.1 -0.4
MDJ AMB AMB
comp=Z,107nm,4.5s
MDJ LR LR
comp=N,30nm,19.4s,MS3.5
MDJ LR LR
comp=E,49nm,16.5s,MS3.5
ARCES ARCESS Array B 39.78 335 P P 07 26 02.8 0.0
comp=E,5.0nm,0.7s,mb4.4,baz=108,slow=7.2,SNR=19
ARCES pP pP 07 26 07.7 -8.5
comp=E,7.0nm,0.6s,baz=97,slow=9.8,SNR=6.1
ARCES ARCESS Array B 39.78 335 P P 07 26 02.8 +0.1
ARCES pmax pmax
comp=Z,5.0nm,0.7s
ARCES pmax pmax
comp=N,7.0nm,0.6s
ARCES ARCESS Array B 39.78 335 P P 07 26 02.8 0.0
ARCES pP pP 07 26 07.7 -8.5
IDI Anoyia 40.19 280 P P 07 26 06.4 -0.1
comp=N,3.1nm,0.5s,mb4.3,baz=50,slow=12,SNR=5.3
IDI pP pP 07 26 12.4 -7.6
comp=N,4.1nm,0.6s,baz=94,slow=23,SNR=3.3
TIXI Tiksi 41.43 22c iP P 07 26 17.1 +0.8
TIXI pmax pmax
comp=Z,11nm,0.7s,mb4.6
TIXI MLR MLR
comp=Z,500nm,18.0s,MS4.4
TIXI Tiksi 41.43 22⇑iP P 07 26 17.1 +0.8
comp=Z,11nm,0.7s,mb4.6
TIXI LR LR
comp=Z,500nm,18.0s,MS4.4
MORC Moravsky Berou 41.64 304 P P 07 26 14.4 -3.8
comp=Z,7.9nm,0.8s,mb4.4
HFS Hagfors 43.02 320 P P 07 26 28.7 -0.7
comp=Z,1.9nm,0.5s,mb4.1,baz=90,slow=10,SNR=9.3
HFS pP pP 07 26 34.5 -8.5
comp=Z,1.7nm,0.5s,baz=98,slow=10,SNR=5.3
HFS Hagfors 43.02 320 P P 07 26 28.7 -0.7
HFS *PP pP 07 26 34.5 -8.4
HFS pmax pmax
comp=Z,2.0nm,0.5s
HFS pmax pmax
comp=N,2.0nm,0.5s
PRU Pruhonice 43.52 305 eP P 07 26 34.2 +0.7
PRU ex x 07 26 39.0
BRG Berggiesshubel 43.73 306 eP P 07 26 35.9 +0.6
BRG i 07 26 40.9
BRG pmax pmax
comp=Z,9.0nm,1.1s,mb4.4
BRG Berggiesshubel 43.73 306 eP P 07 26 35.9 +0.6
comp=Z,9.4nm,1.1s,mb4.4
BRG i 07 26 40.9
NB2 NORSAR Subarra 44.23 321 P P 07 26 38.3 -0.8
comp=Z,1.5nm,0.6s,mb3.9,baz=89,slow=7.9
NOA NORSAR Array B 44.23 321 P P 07 26 38.6 -0.5
comp=Z,1.9nm,0.6s,mb4.0,baz=90,slow=8.0,SNR=6.3
NOA pP pP 07 26 44.1 -8.6
comp=Z,1.8nm,0.8s,baz=90,slow=7.9,SNR=3.6
NOA NORSAR Array B 44.23 321 P P 07 26 38.6 -0.5
NOA *PP pP 07 26 44.1 -8.6
NOA pmax pmax
comp=Z,2.0nm,0.6s
NOA pmax pmax
comp=N,2.0nm,0.8s
CLL Collm 44.24 307 P P 07 26 39.2 -0.1
comp=N,logA/T=1.0,mb4.5
CLL i *PP pP 07 26 44.4 -8.6
CLL Collm 44.24 307 i P P 07 26 39.2 -0.1
CLL i 07 26 44.4
CLL pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
CLL Collm 44.24 307 i P P 07 26 39.2 -0.1
comp=Z,8.0nm,0.8s,mb4.5
CLL i 07 26 44.4
GEC2 GERESS Array S 44.28 303 eP P 07 26 40.6 +0.9
GEC2 pmax pmax
comp=Z,15nm,1.1s,mb4.6
GEC2 GERESS Array S 44.28 303 eP P 07 26 40.6 +0.9
comp=Z,15nm,1.1s,mb4.6
GEC2 epP pP 07 26 45.6 -7.7
GERES GERESS Array B 44.28 303 P P 07 26 40.3 +0.6
comp=Z,3.9nm,0.6s,mb4.3,baz=79,slow=6.8,SNR=20
GERES pP pP 07 26 45.2 -8.1
comp=Z,6.6nm,0.7s,baz=68,slow=7.2,SNR=13
GERES GERESS Array B 44.28 303 P P 07 26 40.3 +0.6
GERES pmax pmax
comp=Z,4.0nm,0.6s
GERES pmax pmax
comp=N,7.0nm,0.7s
KHC Kasperske Hory 44.30 304 eP P 07 26 40.0 +0.1
WET Wettzell 44.75 304 eP P 07 26 44.2 +0.8
WET pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
WET Wettzell 44.75 304 eP P 07 26 44.2 +0.8
comp=Z,6.0nm,0.7s,mb4.5
WET epP pP 07 26 48.9 -8.1
MOX Moxa 45.23 306 eP P 07 26 48.0 +0.7
MOX pP pP 07 26 53.0 -7.9
GRA1 Grafenberg Arr 45.68 305 eP P 07 26 52.0 +1.1
comp=Z,19nm,0.8s,mb5.1
GRA1 epP pP 07 26 57.3 -7.2
GRF Grafenberg Arr 45.68 305 eP P 07 26 52.0 +1.1
GRF e*PP pP 07 26 57.3 -7.2
GRF pmax pmax
comp=Z,19nm,0.8s,mb5.1
FUR Furstenfeldbru 46.01 303 eP P 07 26 54.5 +1.0
FUR e*PP pP 07 27 00.0 -7.1
FUR pmax pmax
comp=Z,19nm,0.7s,mb5.1
FUR Furstenfeldbru 46.01 303 eP P 07 26 54.5 +1.0
comp=Z,19nm,0.7s,mb5.1
FUR epP pP 07 27 00.0 -7.1
CDF Champ du Feu 48.52 304 eP P 07 27 12.5 -0.6
comp=Z,8.4nm,0.7s,mb4.6
HINF Hinteralfeld 48.96 304 eP P 07 27 16.0 -0.5
comp=Z,34nm,1.1s,mb5.0
LPG La Plagne 49.75 301 eP P 07 27 22.8 +0.1
comp=Z,17nm,0.7s,mb4.9
LPL La Plagne 49.76 301 eP P 07 27 22.8 +0.1
comp=Z,14nm,0.7s,mb4.8
CABF La Chapelle 49.83 302 eP P 07 27 23.4 +0.1
comp=Z,15nm,0.7s,mb4.8
SBF Sospel 49.84 298 eP P 07 27 23.1 -0.3
comp=Z,38nm,0.8s,mb5.2
MBDF Montbardon 50.00 300 eP P 07 27 23.6 -1.0
comp=Z,13nm,0.8s,mb4.7
FRF La Foret Royal 50.48 298 eP P 07 27 27.6 -0.7
ORIF Oris-en-Rattie 50.53 300 eP P 07 27 28.2 -0.4
comp=Z,13nm,0.8s,mb4.6
ORIF eR
comp=Z,133nm,21.2s
LOR Lormes 51.06 304 eP P 07 27 31.2 -1.4
comp=Z,10nm,0.7s,mb4.6
LOR eR
comp=Z,74nm,19.8s
SMRF Simiane la Rot 51.06 299 eP P 07 27 32.3 -0.4
comp=Z,13nm,0.7s,mb4.7
SMF Signal de Mont 51.28 303 eP P 07 27 33.1 -1.2
VIVF Saint-Julien-l 51.35 300 eP P 07 27 34.3 -0.6
comp=Z,11nm,0.6s,mb4.7
SSF Saint Saulge 51.36 304 eP P 07 27 33.6 -1.2
comp=Z,5.6nm,0.7s,mb4.3
AVF Avril sur Loir 51.55 303 eP P 07 27 35.3 -1.0
comp=Z,23nm,0.7s,mb4.9
LASF Ste Croix 52.18 300 eP P 07 27 40.7 -0.4
comp=Z,22nm,1.0s,mb4.8
TCF Toulx Ste Croi 52.46 303 eP P 07 27 42.4 -0.7
CAF Calviac 53.05 301 eP P 07 27 47.3 -0.3
RJF Les Rejaudoux 53.27 302 eP P 07 27 48.8 -0.4
RJF eR
comp=Z,51nm,20.2s
MTLF Montolieu 53.56 300 eP P 07 27 50.8 -0.6
comp=Z,14nm,0.7s,mb4.7
GRR Gorron 53.66 306 eP P 07 27 50.6 -1.4
KMBO Kilima Mbogo 53.74 231 P P 07 27 53.5 +0.4
comp=Z,1.0nm,0.7s,mb3.8,baz=27,slow=12,SNR=3.1
MFF Saint Martin d 53.86 304 eP P 07 27 52.8 -0.7
LFF La Frestale 53.92 302 eP P 07 27 53.5 -0.5
SGMF Saint Gilles 54.76 307 eP P 07 27 59.0 -1.0
ETSF Etsaut 55.60 300 eP P 07 28 05.8 -0.4
comp=Z,8.6nm,0.6s,mb4.6
SJPF Ste Jean 55.95 301 eP P 07 28 08.3 -0.4
ESDC Sonseca Array 59.32 298 P P 07 28 31.2 -1.3
comp=Z,3.7nm,0.7s,mb4.5,baz=54,slow=7.4,SNR=15
ESDC pP pP 07 28 36.3 -10
comp=Z,4.0nm,0.6s,baz=57,slow=6.8,SNR=17
FX1 Attu Island--F 63.55 42 P P 07 29 00.6 -0.1
comp=Z,14nm,0.9s,mb5.0,baz=287,slow=19,SNR=2.4
FX1 Attu Island--F 63.55 42 P P 07 29 00.6 -0.1
FX1 pmax pmax
comp=Z,14nm,0.9s
INK Inuvik 70.14 11 P P 07 29 42.0 0.0
comp=Z,4.5nm,0.6s,mb4.5,baz=336,slow=4.0,SNR=6.5
INK Inuvik 70.14 11 P P 07 29 42.0 0.0
INK pmax pmax
comp=Z,5.0nm,0.6s
INK Inuvik 70.14 11 eP P 07 29 42.5 +0.5
comp=Z,7.9nm,0.6s,mb4.8
LSZ Lusaka 70.36 229 eP P 07 29 43.6 -0.6
comp=Z,9.8nm,1.0s,mb4.7
ILAR Eielson Array 70.67 18 P P 07 29 44.9 -0.4
comp=Z,1.9nm,0.8s,mb4.1,baz=337,slow=7.1,SNR=13
ILAR pP pP 07 29 50.9 -8.9
comp=Z,1.3nm,0.9s,baz=329,slow=8.3,SNR=8.0
ILAR Eielson Array 70.67 18 P P 07 29 44.9 -0.4
ILAR *PP pP 07 29 50.9 -8.9
ILAR pmax pmax
comp=Z,2.0nm,0.8s
ILAR pmax pmax
comp=N,1.0nm,0.9s
YKA Yellowknife Ar 77.86 5 P P 07 30 27.3 +0.5
comp=N,11nm,0.8s,mb4.8,baz=348,slow=5.7,SNR=34
YKA pP pP 07 30 32.4 -9.0
comp=N,8.4nm,0.8s,baz=347,slow=5.6,SNR=11
YKA Yellowknife Ar 77.86 5 P P 07 30 27.3 +0.6
YKA *PP pP 07 30 32.4 -9.0
YKA pmax pmax
comp=Z,11nm,0.8s
YKA pmax pmax
comp=N,8.0nm,0.9s
DBIC Dimbokro 78.58 269 P P 07 30 31.6 -0.1
comp=N,4.2nm,0.8s,mb4.4,baz=49,slow=14,SNR=4.4
DBIC pP pP 07 30 37.5 -8.9
comp=N,4.5nm,0.8s,baz=8.0,slow=5.0,SNR=2.9
DBIC Dimbokro 78.58 269 P P 07 30 31.6 -0.1
DBIC *PP pP 07 30 37.5 -8.8
DBIC pmax pmax
comp=Z,4.0nm,0.8s
DBIC pmax pmax
comp=N,5.0nm,0.8s
DBIC Dimbokro 78.58 269 P P 07 30 31.6 -0.1
DBIC pP pP 07 30 37.5 -8.9
DLBC Dease Lake 79.92 13 P P 07 30 37.5 -0.6
comp=N,1.4nm,0.8s,mb4.0,baz=285,slow=7.0,SNR=4.0
DLBC pP pP 07 30 42.6 -10
comp=N,1.5nm,0.8s,baz=124,slow=14,SNR=3.1
WRA Warramunga Arr 80.59 126 P P 07 30 43.8 +1.3
comp=N,2.0nm,0.7s,mb4.2,baz=325,slow=4.9,SNR=9.7
WRA pP pP 07 30 49.6 -7.5
comp=N,1.2nm,0.7s,baz=326,slow=5.1,SNR=4.2
WRA Warramunga Arr 80.59 126 P P 07 30 43.8 +1.4
WRA *PP pP 07 30 49.6 -7.5
WRA pmax pmax
comp=Z,2.0nm,0.7s
WRA pmax pmax
comp=N,1.0nm,0.7s
WRAB Tennant Creek 80.59 126 eP P 07 30 43.3 +0.9
comp=N,7.4nm,0.8s,mb4.7
ASAR Alice Springs 83.10 128 P P 07 30 56.6 +1.3
comp=N,1.8nm,0.6s,mb4.3,baz=315,slow=4.9,SNR=17
ASAR pP pP 07 31 04.3 -5.8
comp=N,1.5nm,0.7s,baz=314,slow=4.8,SNR=6.4
VNA2 Neumayer--Watz 124.75 203 ⇓iPdif Pdif 07 34 04.5 +1.9
VNA2 e PKPdf 07 37 27.7 +0.9
VNA1 Neumayer--Stat 124.93 204 ⇑iPdif Pdif 07 34 05.2 +1.9
VNA1 e PKPdf 07 37 28.4 +1.3
VNA3 Neumayer Olymp 125.56 203 ⇓iPdif Pdif 07 34 08.0 +1.9
VNA3 e PKPdf 07 37 29.3 +1.0

TAP 12 07:27:07.9, 24.11N×121.78E, h32km, ML4.1
TAP Felt I J at Hualien, II J at Nanau, I J at Nanshan, I J at Suao.
JMA 12 07:27:08.6±0.2, 24.29N×121.87E, h74km±5km, M3.1
ISC 12 07:27:07.9±0.3**, 24.07N**±0.02×**121.87E**±0.02**, h24**km±3km**, n55, σ0.79**/98**, 3C-7D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	Chiawan	0.25	272	⇓iP	Pb	07 27 14.4	+0.2
TWD				S	Sb	07 27 19.2	+0.7
HWA	Hwalien	0.26	249	⇓iP	Pb	07 27 15.0	+0.7
HWA				S	Sb	07 27 20.9	+2.2
ENA	Nanau	0.38	341	⇓iP	Pb	07 27 16.2	+0.2
ENA				S	Sb	07 27 22.2	+0.7
ESL	Shilin	0.48	238	⇓iP	Pb	07 27 17.2	-0.4
ESL				S	Sb	07 27 24.6	+0.3
TWC	Suao	0.54	358	⇓iP	Pb	07 27 19.0	+0.4
TWC				S	Sb	07 27 27.0	+1.1
NNS	Nan Shan	0.59	309	⇑iP	Pb	07 27 18.8	-0.7
NNS				S	Sb	07 27 26.9	-0.4
ENTT	Nioudou	0.63	334	i P	Pb	07 27 19.9	-0.3
ENTT				S	Sb	07 27 28.7	0.0
TWT	Tachien	0.66	286	⇑iP	Pb	07 27 20.4	-0.4
TWT				S	Sb	07 27 28.8	-0.8
TWE	Neicheng	0.67	344	⇓iP	Pb	07 27 20.8	-0.1
TWE				S	Sb	07 27 29.6	-0.2
ILA	Ilan	0.70	351	S	Sb	07 27 31.9	+1.2
EHY	Hungye	0.76	222	⇓P	Pb	07 27 21.1	-1.2
EHY				S	Sb	07 27 31.3	-0.9
NSK	Sanguang	0.77	322	S	Sb	07 27 31.3	-1.1
TWF1	Yuli	0.89	217	eP	Pb	07 27 23.1	-1.4

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWF1				S	Sb	07 27 35.2	-0.8
SMLT	Sun Moon Lake	0.91	258	P	Pb	07 27 23.8	-1.2
SMLT				S	Sb	07 27 35.4	-1.2
TWB1	Santiao Chiao	0.94	6	eP	Pb	07 27 25.8	+0.4
TWB1				S	Sb	07 27 38.9	+1.4
TWA	Mucha	0.94	344	eP	Pb	07 27 25.8	+0.4
TWA				S	Sb	07 27 37.9	+0.3
TYC	Yuchr	0.94	260	⇑P	Pb	07 27 24.4	-1.0
NSTT	Nanjuang	0.97	305	eP	Pb	07 27 25.4	-0.5
NSTT				S	Sb	07 27 37.3	-1.1
NWF	Wu-fen Shan	1.00	355	eP	Pb	07 27 26.8	+0.4
NWF				S	Sb	07 27 39.6	+0.5
TAP1	Taipei	1.02	342	eP	Pb	07 27 25.9	-0.7
TAP1				S	Sb	07 27 39.5	-0.1
TAP	Taipei	1.02	341	eP	Pb	07 27 26.3	-0.5
TAP				S	Sb	07 27 39.8	0.0
NSY	Sanyi	1.07	289	eP	Pn	07 27 27.5	0.0
NSY				S	Sb	07 27 41.9	+0.6
CHKT	Chengkung	1.07	206	eP	Pn	07 27 23.4	-4.2
NCU	National Centr	1.09	325	eP	Pn	07 27 27.5	-0.3
NCU				S	Sb	07 27 42.0	+0.2
TCU	Taichung	1.10	274	eP	Pn	07 27 27.9	0.0
TCU				S	Sb	07 27 42.5	+0.6
HSN	Hsinchu	1.10	312	eP	Pn	07 27 27.6	-0.3
HSN				S	Sb	07 27 42.1	+0.1
WNT	Mingjian	1.10	260	eP	Pn	07 27 28.2	+0.2
WNT				S	Sb	07 27 42.4	+0.2
TWS1	Kuangyinshan	1.11	338	eP	Pn	07 27 27.5	-0.6
TWS1				S	Sb	07 27 42.3	+0.1
YOJ	Yonaguni jima	1.11	69	P	Pn	07 27 28.1	+0.1
YOJ				S	Sb	07 27 42.6	+0.3
ALS	Alishan	1.13	241	eP	Pn	07 27 28.0	-0.3
ALS				S	Sb	07 27 42.1	-0.7
ELDTW	Lidau	1.18	222	eP	Pn	07 27 27.5	-1.6
CHN5	Tsauling	1.19	247	eP	Pn	07 27 29.3	+0.1
CHN5				S	Sb	07 27 44.8	0.0
TWY	Chenhua	1.23	348	eP	Pn	07 27 29.6	-0.1
STYT	Tauyuan	1.37	229	eP	Pn	07 27 31.4	-0.3
STYT				S	Sn	07 27 48.9	-0.3
CHN4	Tsaushan	1.38	239	eP	Pn	07 27 32.3	+0.4
CHN4				S	Sn	07 27 50.5	+1.1
WTP	Ta-pu	1.42	235	eP	Pn	07 27 32.7	+0.2
WTP				S	Sn	07 27 51.1	+0.7
CHY	Chiayi	1.45	247	eP	Pn	07 27 33.8	+0.9
CHY				S	Sn	07 27 51.8	+0.6
WTCT	Ta-ch’eng	1.47	262	eP	Pn	07 27 32.9	-0.3
WTCT				S	Sn	07 27 51.7	-0.1
TWK	Hsinying	1.50	238	eP	Pn	07 27 33.8	+0.1
TWK				S	Sn	07 27 53.3	+0.7
CHN1	Nanshi	1.52	235	eP	Pn	07 27 34.0	+0.1
CHN1				S	Sn	07 27 53.6	+0.6
SGST	Jiashian	1.54	231	eP	Pn	07 27 34.6	+0.4
SGST				S	Sn	07 27 54.6	+1.0
PCYT	Pengchaiyu	1.56	7	eP	Pn	07 27 34.4	-0.2
CHN8	Yiju	1.69	245	S	Sn	07 27 58.1	+0.8
IRIF	Iriomote-Funau	1.71	81	P	Pn	07 27 36.8	+0.1
IRIF				eS	Sn	07 27 57.6	-0.4
SSD	Sandimen	1.74	221	eP	Pn	07 27 37.0	-0.1
SSD				S	Sn	07 28 00.1	+1.3
HATJ	Hateruma jima	1.77	90	P	Pn	07 27 37.7	+0.3
HATJ				S	Sn	07 27 59.8	+0.5
SCLT	Jiali	1.78	240	S	Sn	07 28 00.6	+0.9
TWM1	Shoushan	1.82	227	eP	Pn	07 27 40.1	+1.9
EAST	Anshuo	1.93	210	eP	Pn	07 27 40.9	+1.1
JKRS	Kuro-shima	1.96	85	P	Pn	07 27 40.5	+0.3
JKRS				S	Sn	07 28 04.5	+0.3
SCZT	Fangliau	2.05	215	eP	Pn	07 27 42.1	+0.6
SCZT				S	Sn	07 28 07.9	+1.4
JIJ	Ishigaki jima	2.09	82	P	Pn	07 27 41.6	-0.5
JIJ				S	Sn	07 28 06.5	-1.1
PNG	Penghu	2.18	257	eP	Pn	07 27 41.8	-1.6
PNG				S	Sn	07 28 07.2	-2.7
WDGT	Dungji	2.19	249	eP	Pn	07 27 42.6	-0.9
WDGT				S	Sn	07 28 07.7	-2.3
JTJ	Tarama	2.64	77	eS	Sn	07 28 20.2	-1.4

CASC 12 07:30:06.9±2.8**, 10.83N**×**86.67W, MD4.0, 8C-2D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRUN	El Crucero	1.20	17	⇑eP	Pb	07 30 30.6	+0.3
APON	Apoyo	1.23	29	eP	Pb	07 30 30.1	-0.7
APON				eS	Sb	07 30 49.6	+2.5
VCR	Vista de Mar	1.23	124	eP	Pb	07 30 29.7	-1.1
TICN	Ticuantepe	1.27	20	eP	Pb	07 30 31.0	-0.5
COPN	Copaltepe	1.35	3	⇓eP	Pb	07 30 31.2	-1.5
COPN				eS	Sb	07 30 52.0	+1.6
XAVN	Gruta Xavier	1.36	14	⇑eP	Pb	07 30 31.7	-1.2
MGAN	Managua	1.38	17	⇑eP	Pb	07 30 31.6	-1.6
MGAN				eS	Sb	07 30 53.4	+2.2
LIM	Lima	1.40	95	⇑eP	Pb	07 30 32.6	-1.0
LIM				eS	Sb	07 30 51.2	-0.6
WILN	Americas 2	1.41	20	⇓eP	Pb	07 30 32.2	-1.5
APYN	Apoyeque	1.43	13	⇑eP	Pb	07 30 32.7	-1.5
APYN				eS	Sb	07 30 54.8	+1.9
LEON	Leon	1.59	352	⇑eP	Pn	07 30 34.6	-1.9
LEON				eS	Sb	07 30 59.0	+1.5
MIRN	Miramar	1.60	358	eP	Pn	07 30 34.3	-2.4
PYTN	Playitas	1.80	19	⇑eP	Pn	07 30 39.7	+0.2
JCR	Jicaral	1.81	122	eP	Pn	07 30 38.7	-0.9
CGA2	Cerro Gallo 2	2.31	110	eP	Pn	07 30 47.2	+0.4
PRS1	Puriscal	2.46	110	eP	Pn	07 30 49.3	+0.3
LCR2	La Lucha 2	2.84	112	eP	Pn	07 30 54.9	+0.7
ICR	Volcan Irazu	2.92	107	eP	Pn	07 30 57.3	+1.9
URSC	Urasca	3.01	109	⇑eP	Pn	07 30 58.6	+1.9
BUS	Buena Vista	3.13	114	eP	Pn	07 30 59.4	+1.0

*NEIC **12** 07:38:42.3±3.2, 20.56S×178.78W, h458^{km}±37^{km}, mb3.6/4, Error ellipse: s-maj=21.8km s-min=17.8km az=129.0*
*IDC **12** 07:38:58.6±7.7, 21.30S×178.88W, h679^{km}±113^{km}, mb2.7/6, mb1 3.2/7, mb1mx3.0/13, Error ellipse: s-maj=72.0km s-min=26.3km az=1.0*
ISC 12 07:38:44.2±5.3**, 20.6S**±0.2×**178.9W**±0.2**, h489**^{km}±60^{km}**, n14, σ0^{s}51**/13**, mb3.4**/10**, 1C-1D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	17.95	190	P	P	07 42 24.1	-0.3
	1.4nm,0.3s,baz=336,slow=19,SNR=7.3						
ASAR	Alice Springs	43.70	257	P	P	07 46 06.6	0.0
	0.3nm,0.7s,mb2.8,baz=86,slow=9.3,SNR=2.8						
WRA	Warramunga Arr	43.77	262	P	P	07 46 07.5	+0.4
	0.2nm,0.3s,mb3.0,baz=96,slow=7.5,SNR=4.6						
SBA	Scott Base	57.74	184	P	P	07 47 49.0	+0.1
	0.7nm,0.4s,mb3.3						
NVAR	Mina Array Bea	81.65	44	P	P	07 50 11.6	0.0
	1.1nm,0.7s,mb3.5,baz=226,slow=9.7,SNR=7.5						
TPNV	Topopah Spring	82.19	46	eP	P	07 50 14.9	+0.6
	1.5nm,0.8s,mb3.6						
TUC	Tucson	83.68	52	P	P	07 50 22.6	+0.6
	0.9nm,0.8s,mb3.4						
HLID	Hailey	86.93	41	eP	P	07 50 37.9	+0.5
	1.5nm,1.0s,mb3.7						
TXAR	Lajitas Array	87.80	58	P	P	07 50 41.8	-0.1
	0.4nm,0.7s,mb3.3,baz=191,slow=6.4,SNR=5.2						
VNA3	Neumayer Olymp	88.11	177	⇑i	P	07 50 41.9	-0.4
VNA2	Neumayer--Watz	88.54	177	⇓i	P	07 50 44.7	+0.3
ILAR	Eielson Array	88.58	13	P	P	07 50 43.4	-1.2
	0.4nm,0.5s,mb3.5,baz=217,slow=4.9,SNR=7.5						
PDAR	Pinedale Array	89.59	44	P	P	07 50 49.3	-0.6
	0.5nm,0.5s,mb3.6,baz=218,slow=3.4,SNR=5.3						
AKASG	Malin Array Be	142.68	330	PKP	PKPdf	07 57 16.6	-4.0
	1.2nm,0.3s,baz=40,slow=4.2,SNR=10						

*IDC **12** 07:52:49.6±2.6, 65.49N×168.31W, mb3.7/2, mb1 3.6/4, mb1mx3.4/22, ML3.0/2, MS3.5/1, Ms1 3.5/1, ms1mx2.3/26, Error ellipse: s-maj=68.7km s-min=17.4km az=6.0*
*NEIC **12** 07:52:49.2, 65.22N×167.97W, h22^{km}, ML3.6(AEIC), After AEIC.*
ISC 12 07:52:48.9±1.2**, 65.23N**±0.09×**167.8W**±0.2**, h22**^{km}**, n10, σ0^{s}94**/12**, mb3.8**/2**, MS3.5**/1**, Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TNA	Tin City	0.34	350	P	Pb	07 52 56.6	+0.3
TNA				S	Sb	07 53 02.4	+1.1
ANM	Nome	1.23	122	P	Pn	07 53 11.3	+0.4
ANM				S	Sb	07 53 27.9	+1.2
TT01	Tatalina	5.66	109	P	Pn	07 54 14.2	+0.2
IMA	Indian Mountai	5.89	75	P	Pn	07 54 15.7	-1.6
ILAR	Eielson Array	8.85	83	Pn	P	07 54 57.1	-1.5
	0.0nm,0.3s,baz=286,slow=13,SNR=3.3						
ILAR				Sn	Sn	07 56 32.1	-6.6
	0.2nm,0.3s,baz=284,slow=19,SNR=4.5						
ILAR				Lg		07 57 34.8	
	0.1nm,0.3s,baz=279,slow=28,SNR=4.3						
INK	Inuvik	13.74	62	Pn	P	07 56 05.2	+0.7
	0.1nm,0.3s,baz=271,slow=14,SNR=2.0						
SONM	Songino Array	46.30	292	P	P	08 01 14.2	0.0
	0.6nm,0.7s,mb3.6,baz=34,slow=7.2,SNR=3.9						
TXAR	Lajitas Array	52.94	100	LR	LR	08 27 38.6	
	comp=Z,50nm,21.8s,MS3.5,baz=350,slow=39						
FINES	FINESS Array B	53.22	352	P	P	08 02 06.1	-1.0
	0.7nm,0.5s,mb3.9,baz=27,slow=8.5,SNR=5.1						
FINES	FINESS Array B	53.22	352	P	P	08 02 06.1	-1.0

MEX 12 08:06:04.1±1.1**, 14.99N**×**97.36W, h25**^{km}±88^{km}**, MD3.9, Off coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUIG	Huatulco	1.44	57	eP	Pn	08 06 25.4	-3.5
HUIG				i S	Sn	08 06 43.4	-3.8
VHO	Vista Hermosa	2.16	16	eP	Pn	08 06 36.4	-2.9
VHO				i S	Sn	08 07 03.1	-2.4
OXX	Oaxaca	2.17	16	eP	Pn	08 06 37.0	-2.4
OXX				eS	Sn	08 07 04.5	-1.3
CMIG	Matias Romero	3.17	48	eP	Pn	08 06 49.4	-4.3
CMIG				i S	Sn	08 07 27.9	-3.2
IISM	Ciudad Serdan	3.98	360	eS	Sn	08 07 42.5	-9.1

*CSEM **12** 08:08:19.2, 37.50N×22.24E, h10^{km}, MD3.5/3, After ATH*
ATH 12 08:08:19.2, 37.50N×**22.24E, h10**^{km}**, MD3.5**/3**, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ITM	Ithomi	0.41	218	ePB	Pb	08 08 27.2	-0.8
VLI	Veliai	0.96	144	ePB	Pb	08 08 37.5	0.0
EVR	Evrytania	1.46	347	ePB	Pb	08 08 46.5	+0.6

*PRU **12** 08:26:31.4, 51.42N×16.11E*
*WAR **12** 08:26:31.4, 51.45N×16.08E, ML2.9, Mining Induced*
*NEIC **12** 08:26:33.0±1.5, 51.31N×15.91E, h5^{km}, ML2.5(CLL), ML2.3(BRG), Error ellipse: s-maj=18.5km s-min=7.8km az=196.0*
ISC 12 08:26:29.1±0.7**, 51.44N**±0.04×**16.06E**±0.03**, n19, σ1^{s}18**/43**, 1D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.62	166	i PG	Pg	08 26 42.8	+1.4
KSP				eSG	Sg	08 26 51.8	+2.2
KSP	Ksiaz	0.62	166	⇓iPg	Pg	08 26 42.8	+1.4
KSP				eSg	Sg	08 26 51.3	+1.7
KSP	Ksiaz	0.62	166	ePg	Pg	08 26 42.9	+1.5
KSP				eSg	Sg	08 26 51.5	+1.9
UPC	Upice	0.94	182	ePG	Pg	08 26 48.8	+1.0
UPC				eSG	Sg	08 27 01.0	+0.8
DPC	Dobruska-Polom	1.10	171	ePG	Pg	08 26 51.5	+0.3
DPC				eSG	Sg	08 27 05.7	-0.2
	15nm,0.2s						
PVCC	Panska Ves	1.31	227	ePG	Pg	08 26 56.3	+1.0
PVCC				eSG	Sg	08 27 14.4	+1.5
BRG	Berggiesshubel	1.45	248	ePn	Pn	08 26 57.2	+0.5
BRG				i Pg	Pg	08 26 58.6	+0.5
BRG				i Sg	Sg	08 27 18.3	+0.9
PRU	Pruhonice	1.75	214	ePN	Pn	08 27 01.4	+0.5
PRU				PG	Pg	08 27 03.0	-1.0
PRU				i x	x	08 27 06.9	
PRU				i x	x	08 27 20.1	
PRU				SG	Sg	08 27 26.7	-0.6
	19nm,0.4s						
MORC	Moravsky Berou	1.91	150	ePn	Pn	08 27 03.1	-0.2
CLL	Collm	1.92	267	i PN	Pn	08 27 03.7	+0.3
CLL				ePG	Pg	08 27 07.0	-0.5
CLL				e		08 27 11.0	
CLL				i SG	Sg	08 27 33.1	0.0
CLL	Collm	1.92	267	i Pn	Pn	08 27 03.7	+0.3
CLL				ePg	Pg	08 27 07.0	-0.5
CLL				i Sg	Sg	08 27 33.1	0.0
OKC	Ostrava-Krasne	2.08	140	ePN	Pn	08 27 07.1	+1.4
OKC				ePG	Pg	08 27 09.4	-1.3
OKC				eSG	Sg	08 27 36.5	-1.9
NKC	Novy Kostel	2.59	244	ePG	Pg	08 27 20.7	-0.1
NKC				eSG	Sg	08 27 55.2	-0.2
OJC	Ojcow	2.67	116	ePg	Pg	08 27 20.1	-2.2
OJC				eSg	Sg	08 27 56.2	-1.6
KHC	Kasperske Hory	2.81	216	ePN	Pn	08 27 16.8	+0.7
KHC				ePG	Pg	08 27 22.8	-2.4
KHC				eSN	Sn	08 27 51.3	+0.1
KHC				eSG	Sg	08 28 00.7	-1.9
MOX	Moxa	2.92	256	ePg	Pg	08 27 26.4	-1.0
MOX				eSg	Sg	08 28 05.6	-0.7
NIE	Niedzica	3.39	125	eP	Pg	08 27 38.5	+1.8
NIE				eS	Sg	08 28 24.0	+2.1
ARSA	Arzberg	4.21	185	i SG	Sg	08 28 47.8	-1.4
	6.0nm,0.5s						
ARSA	Arzberg	4.21	185	i P	Pg	08 27 49.3	-3.8
ARSA				i Sg	Sg	08 28 47.8	-1.4

*THR **12** 08:41:25.5±0.6, 28.29N×57.28E, h14^{km}±7^{km}, ML3.3*
*KISR **12** 08:41:26.3±1.0, 28.12N×56.86E, h5^{km}±999^{km}, ML3.4*
ISC 12 08:41:28.2±1.3**, 28.49N**±0.05×**56.68E**±0.09**, h10**^{km}**, n8, σ1^{s}06**/12**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNDS	Bandar-Abbas	1.17	202	ePG	Pg	08 41 49.8	-1.9
BNDS				eSG	Sg	08 42 08.0	+0.6
BNDS				AMP		08 42 08.9	
	comp=E,372nm,0.2s						
BNDS				AMP		08 42 09.0	
	comp=N,525nm,0.5s						
KRBR	Kerman	1.49	3	ePG	Pg	08 41 57.5	-0.5
KRBR				AMP		08 42 30.1	
	comp=N,306nm,0.4s						
KRBR				AMP		08 42 30.2	
	comp=E,279nm,0.3s						
GHIR	Ghir-Karzin	3.25	267	ePN	Pn	08 42 25.9	+5.5
ZHSF	Zahedan	3.76	72	ePN	Pn	08 42 19.6	-8.0
QRN	Al-Qurain	7.70	274	eP	Pn	08 43 24.3	+1.1
QRN				eS	Sn	08 44 51.2	-0.2
UMR	Umm Al-Rimmam	7.92	280	eP	Pn	08 43 28.1	+1.9
MIB	Mutribah	8.27	281	eP	P	08 43 31.3	+0.2
MIB				eS	Sn	08 45 05.5	0.0
MIB				AML	AML	08 45 09.5	
	comp=Z,2.7nm,0.3s						
RST	Umm Al-Ruwaisa	8.54	279	eP	P	08 43 35.0	+0.2
RST				eS	Sn	08 45 10.5	-1.6
RST				AML	AML	08 45 12.6	
	comp=Z,1.9nm,0.3s						

*THR **12** 08:47:00.9±1.2, 28.35N×57.11E, h15^{km}±10^{km}, ML3.6*
*KISR **12** 08:47:00.9±0.7, 28.02N×56.85E, h8^{km}±999^{km}, ML3.9*
*CSEM **12** 08:47:01.5±0.4, 28.24N×56.98E, h80^{km}, ML4.6/1, Error ellipse: s-maj=11.4km s-min=9.1km az=22.0*
ISC 12 08:47:01.0±0.9**, 28.49N**±0.04×**56.75E**±0.06**, h10**^{km}**, n15, σ1^{s}18**/23**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNDS	Bandar-Abbas	1.20	206	ePG	Pn	08 47 23.7	-0.2
BNDS				eSG	Sg	08 47 41.9	+0.7
BNDS				AMP		08 47 43.0	
	comp=N,1μm,0.5s						
BNDS				AMP		08 47 49.3	
	comp=E,1μm,0.3s						
BNDS	Bandar-Abbas	1.20	206	i Pn	Pn	08 47 23.8	-0.1
BNDS				Sn	Sn	08 47 39.6	-0.8
	comp=E,1μm,0.4s						
KRBR	Kerman	1.49	0	ePG	Pg	08 47 31.3	+0.6
KRBR				AMP		08 48 04.1	
	comp=N,786nm,0.4s						
KRBR				AMP		08 48 04.2	
	comp=E,610nm,0.3s						
KRBR	Kerman	1.49	0	ePn	Pg	08 47 31.3	+0.5
	comp=E,893nm,0.4s						
GHIR	Ghir-Karzin	3.33	267	ePN	Pn	08 47 59.1	+4.9
GHIR	Ghir-Karzin	3.33	267	ePn	Pn	08 47 58.5	+4.3
ZHSF	Zahedan	3.69	71	ePN	Pn	08 47 56.5	-3.0
ZHSF	Zahedan	3.69	71	ePn	Pn	08 47 57.1	-2.4
QRN	Al-Qurain	7.77	274	eP	Pn	08 48 58.7	+1.7
QRN				eS	Sn	08 50 24.5	-1.4
QRN				AML	AML	08 50 26.6	
	comp=Z,11nm,0.2s						
UMR	Umm Al-Rimmam	7.98	280	eP	Pn	08 49 01.6	+1.6
UMR				eS	Sn	08 50 30.6	-0.6
UMR	Umm Al-Rimmam	7.98	280	eP	Pn	08 49 01.5	+1.5
UMR				eS	Sn	08 50 30.6	-0.7
RDF	Al-Radifah	8.10	275	eP	P	08 49 02.4	+0.9
RDF				AML	AML	08 50 29.9	
	comp=Z,5.9nm,0.4s						
RDF				eS	Sn	08 50 32.5	-1.5
RDF	Al-Radifah	8.10	275	eP	P	08 49 02.4	+0.9
RDF				eS	Sn	08 50 32.5	-1.5
MIB	Mutribah	8.34	281	eP	P	08 49 05.8	+1.0
MIB				eS	Sn	08 50 39.4	-0.7
MIB				AML	AML	08 50 43.5	
	comp=Z,11nm,0.3s						
RST	Umm Al-Ruwaisa	8.60	279	eP	P	08 49 09.3	+0.7
RST				AML	AML	08 50 46.1	
	comp=Z,6.3nm,0.6s						

*THR **12** 09:04:34.6±0.5, 28.04N×57.19E, h14^{km}±6^{km}, ML3.1*
*CSEM **12** 09:04:41.9±0.8, 28.47N×56.62E, h2^{km}, ML4.1/2, Error ellipse: s-maj=20.4km s-min=12.4km az=103.0*
*KISR **12** 09:04:42.1±0.6, 28.05N×56.68E, h4^{km}±999^{km}, ML3.4*
ISC 12 09:04:37.1±1.1**, 28.38N**±0.07×**57.17E**±0.10**, h10**^{km}**, n10, σ0^{s}62**/16**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNDS	Bandar-Abbas	1.31	222	ePG	Pn	09 04 55.2	-6.3
BNDS				AMP		09 05 22.3	
	comp=E,295nm,0.4s						
BNDS				AMP		09 05 22.5	
	comp=N,357nm,0.5s						
BNDS	Bandar-Abbas	1.31	222	ePg	Pg	09 05 03.5	+0.2
BNDS				eSg	Sg	09 05 21.4	+0.5
	comp=N,366nm,0.5s						
KRBR	Kerman	1.64	348	ePG	Pg	09 05 10.7	+0.8
KRBR				AMP		09 05 43.3	
	comp=N,247nm,0.4s						
KRBR				AMP		09 05 43.6	
	comp=E,169nm,0.3s						
KRBR	Kerman	1.64	348	ePn	Pg	09 05 10.9	+1.1
KRBR				Sn	Sn	09 05 36.5	+9.1
	comp=E,259nm,0.4s						
ZHSF	Zahedan	3.39	68	ePN	Pn	09 05 31.0	-0.2
GHIR	Ghir-Karzin	3.68	270	ePN	Pn	09 05 34.0	-1.4
QRN	Al-Qurain	8.14	275	eP	P	09 06 38.2	+0.1
QRN				eS	Sn	09 08 04.6	-6.6
RDF	Al-Radifah	8.47	276	eP	P	09 06 42.5	-0.2
RDF				eS	Sn	09 08 11.3	-8.0
RDF				AML	AML	09 08 12.0	
	comp=Z,2.7nm,0.3s						
RST	Umm Al-Ruwaisa	8.98	280	eP	P	09 06 49.9	0.0
RST				eS	Sn	09 08 24.1	-7.9
RST				AML	AML	09 08 26.4	
	comp=Z,2.9nm,0.4s						
RST	Umm Al-Ruwaisa	8.98	280	eP	P	09 06 49.8	0.0
RST				eS	Sn	09 08 24.1	-8.0

*BJI **12** 09:40:40.3, 13.60N×120.98E, h123^{km}, mB5.0, mb4.6*
*NEIC **12** 09:40:40.9±0.4, 13.76N×120.86E, h100^{km}, mb4.6/10, Error ellipse: s-maj=19.9km s-min=8.6km az=65.0*
*IDC **12** 09:40:42.2±1.0, 13.73N×120.84E, h113^{km}±10^{km}, mb3.9/13, mb1 4.1/13, mb1mx4.0/17, Error ellipse: s-maj=29.5km s-min=14.2km az=54.0*
*MAN **12** 09:40:43.0, 13.78N×120.47E, h92^{km}, mb5.0, ML4.0, MS4.0*
*MOS **12** 09:40:48.1±0.9, 13.70N×120.68E, h184^{km}, mb4.5/4, Error ellipse: s-maj=34.8km s-min=12.7km az=121.6*
ISC 12 09:40:42.2±0.2**, 13.78N**±0.03×**120.50E**±0.04**, h113**^{km}±3^{km}**, n76, σ1^{s}11**/84**, mb4.5**/32**, 8C-5D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LUBP	Lubang	0.25	260	eP	P	09 40 57.6	-0.6
LUBP				eS	S	09 41 08.4	-1.8
LUBP	Lubang	0.25	260	⇑eP	P	09 40 58.1	-0.1
TGY	Tagaytay City	0.53	53	⇑iP	P	09 41 00.1	+0.4
TGY				i S	S	09 41 12.3	-0.6
LQP	Lukban	1.06	72	⇓iP	P	09 41 09.0	+4.4
BOAC	Boac	1.35	103	eP	P	09 41 07.5	-0.3
BOAC				eS	S	09 41 26.4	-0.8
SJMP	San Jose	1.44	155	eP	P	09 41 08.8	-0.1
SJMP				eS	S	09 41 27.6	-1.5
POLP	Polilio Island	1.69	56	eP	P	09 41 12.6	+0.7
BUSP	Coron	1.79	189	eP	P	09 41 13.2	0.0
BUSP				eS	S	09 41 36.4	0.0
PCPH	Palayan	1.87	18	⇑eP	P	09 41 13.1	-1.0
PCPH				eS	S	09 41 38.2	+0.2
GQP	Guinayangan	1.90	86	⇓iP	P	09 41 15.2	+0.8
OTRP	Odiongan	2.04	133	eP	P	09 41 16.8	+0.4
OTRP				eS	S	09 41 42.2	+0.2
SCZP	Santa Cruz	2.07	344	eP	P	09 41 16.8	+0.1
AUQP	San Andres	2.16	102	eP	P	09 41 20.6	+2.6
BALP	Baler	2.21	28	eP	P	09 41 19.3	+0.7
BCPH	Baguio City Da	2.59	2	⇓iP	P	09 41 23.3	-0.5
BCPH				i S	S	09 41 54.9	-0.1
BOLP	Bolinao	2.65	348	eP	P	09 41 24.0	-0.5
CUYO	Cuyo Island	2.95	170	eP	P	09 41 28.3	-0.3
RCP	Roxas	3.11	135	⇓eP	P	09 41 31.6	+0.9
CAUP	Cauayan	3.40	22	eP	P	09 41 36.0	+1.3
PVCP	Virac	3.56	92	eP	P	09 41 37.6	+0.8
GUIM	Jordan	3.74	147	eP	P	09 41 41.5	+2.3
CVP	Callao Caves	4.11	18	eP	P	09 41 44.0	-0.2
PPR	Puerto Princes	4.34	204	⇑iP	P	09 41 47.7	+0.3
PPR				i S	S	09 42 37.1	-0.2
SNPH	Sibulan	5.16	148	eP	P	09 42 01.0	+2.5
WHN	Wuhan	17.62	342	eP	P	09 44 40.5	-1.6
ENH	Enshi	19.31	330	eP	P	09 45 00.8	-0.1
	17nm,0.8s						
CMAR	Chiang Mai Arr	21.22	286	P	P	09 45 23.6	+3.1
	4.4nm,0.9s,mb3.8,baz=94,slow=8.8,SNR=21						
CMAR				pP		09 45 43.9	
	0.5nm,0.4s,baz=97,slow=7.3,SNR=1.8						
XAN	Xi’an	22.74	334	P	P	09 45 35.0	-0.4
CD2	Chengdu	22.98	321	⇑iP	P	09 45 39.8	+2.1
CD2				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.6						
CD2				LR	LR		
	comp=E,290nm,22.8s						
CD2				LR	LR		
	comp=Z,350nm,20.4s						
HHC	Hu-ho-hao-te	28.08	346	eP	P	09 46 25.2	-0.1
HHC				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.3						
HHC				AMB	AMB		
	comp=Z,57nm,4.1s						
SHL	Shillong	29.32	298	eP	P	09 46 36.5	0.0
CN2	Changchun	30.22	7	eP	P	09 46 45.0	+0.6
GTA	Gaotai	31.37	328	eP	P	09 46 55.4	+0.9
GTA				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.6						
MBWA	Marble Bar	34.73	181	eP	P	09 47 22.8	-0.8
	comp=Z,3.4nm,0.5s,mb4.4						
GUN	Gumba	35.14	299	eP	P	09 47 28.4	+1.4
	comp=Z,38nm,0.7s,mb5.3						
PKI	Pulchoki	35.44	298	eP	P	09 47 30.3	+0.7
	comp=Z,6.2nm,0.2s,mb5.0						
KKN	Kakani	35.61	299	eP	P	09 47 31.7	+0.7
	comp=Z,22nm,0.9s,mb5.1						
DMN	Daman	35.71	298	eP	P	09 47 32.8	+0.9
	comp=Z,18nm,0.6s,mb5.2						
SONM	Songino Array	35.93	344	P	P	09 47 33.4	-0.1
	comp=Z,9.2nm,0.5s,mb5.0,baz=164,slow=9.8,SNR=91						
WRAB	Tennant Creek	36.16	158	P	P	09 47 32.4	-3.4
	comp=Z,1.5nm,0.4s,mb4.3						
WRA	Warramunga Arr	36.17	158	P	P	09 47 33.2	-2.6
	comp=Z,0.7nm,0.5s,mb3.8,baz=341,slow=9.0,SNR=17						
WRA				pP	pP	09 47 57.4	-4.0
	comp=Z,3.1nm,0.8s,baz=336,slow=9.5,SNR=11						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GKN	Gorkha	36.22	299	eP	P	09 47 36.2	+0.1
	comp=Z,8.2nm,0.5s,mb4.9						
ZAK	Zakamensk	39.11	343	⇑iP	P	09 47 59.5	-0.5
ZAK				e		09 49 37.9	
MKAR	Makanchi Array	45.85	324	P	P	09 48 55.7	+0.9
	comp=Z,10nm,0.8s,mb4.6,baz=129,slow=8.9,SNR=66						
MKAR	Makanchi Array	45.85	324	P	P	09 48 55.7	+0.9
ULHL	Ulahol	47.53	315	P	P	09 49 09.9	+1.8
	SNR=6.3						
TKM2	Tokmak 2	48.23	316	P	P	09 49 14.9	+1.5
	SNR=7.9						
KBK	Karagaybulak	48.57	315	P	P	09 49 17.7	+1.6
	SNR=5.5						
UCH	Uchtor	48.71	315	P	P	09 49 19.4	+2.2
	SNR=16						
AAK	Ala-Archa	48.87	315	eP	P	09 49 17.9	-0.5
	comp=Z,5.6nm,0.8s,mb4.5						
ZAL	Zalesovo	48.90	333	P	P	09 49 17.7	-0.8
	comp=Z,4.0nm,0.4s,mb4.7,baz=350,slow=6.4,SNR=7.6						
USP	Ospenovka	49.11	316	P	P	09 49 21.2	+1.0
	SNR=8.1						
AML	Almayashu	49.24	314	P	P	09 49 23.0	+1.7
	SNR=7.4						
EKS2	Erkin-Say	49.38	315	P	P	09 49 23.8	+1.5
	SNR=6.1						
STKA	Stephens Creek	49.70	156	P	P	09 49 20.8	-4.1
	comp=Z,1.4nm,1.1s,mb3.8,baz=339,slow=14,SNR=2.6						
STKA				pP	pP	09 49 48.0	-3.6
	comp=Z,1.4nm,0.7s,baz=358,slow=13,SNR=2.5						
KURK	Kurchatov	50.02	326	iP	P	09 49 27.4	+0.3
KURK				pmax	pmax		
	comp=Z,26nm,1.0s,mb5.1						
BVA0	Borovoye Array	55.60	326	P	P	09 50 08.1	-0.3
BRVK	Borovoye	55.67	326	⇑iP	P	09 50 08.7	-0.3
	comp=Z,21nm,0.8s,mb5.2						
ZRNK	Zerenda	56.33	325	⇑eP	P	09 50 13.1	-0.6
	comp=Z,15nm,0.6s,mb5.2						
SVE	Sverdlovsk	62.23	328	⇓eP	P	09 50 52.9	-1.3
ARU	Arti	63.21	327	eP	P	09 50 59.4	-1.3
	comp=Z,7.4nm,0.4s,mb5.0						
KIV	Kislovodsk	71.83	312	eP	P	09 51 52.2	-2.5
KIV				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.7						
KIV				pmax	pmax		
	comp=N,2.0nm,0.6s						
KIV	Kislovodsk	71.83	312	eP	P	09 51 52.2	-2.5
	comp=N,12nm,1.0s,mb4.7						
JOF	Joensuu	77.48	332	ep	P	09 52 25.2	-1.4
	comp=N,2.5nm,0.4s,mb4.3						
JOF	Joensuu	77.48	332	eP	P	09 52 25.2	-1.4
JOF				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.4						
KEV	Kevo	78.39	339	ep	P	09 52 30.2	-1.3
	comp=Z,0.7nm,0.4s,mb3.7						
KEV	Kevo	78.39	339	eP	P	09 52 30.2	-1.3
KEV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
ILAR	Eielson Array	78.77	26	P	P	09 52 31.5	-2.1
	comp=Z,1.1nm,0.8s,mb3.7,baz=282,slow=4.0,SNR=12						
ARCES	ARCESS Array B	78.94	339	P	P	09 52 33.6	-0.9
	comp=Z,4.6nm,0.7s,mb4.4,baz=73,slow=7.1,SNR=15						
BRTR	Keskin Array B	78.95	308	P	P	09 52 34.4	-0.8
	comp=Z,2.0nm,0.8s,mb4.0,baz=108,slow=3.9,SNR=4.3						
FINES	FINESS Array B	80.12	331	P	P	09 52 39.6	-1.4
	comp=Z,1.3nm,0.6s,mb3.9,baz=63,slow=4.3,SNR=5.9						
AKASG	Malin Array Be	80.28	320	P	P	09 52 41.3	-0.8
	comp=Z,0.6nm,0.3s,mb3.8,baz=67,slow=5.4,SNR=4.2						
INK	Inuvik	83.09	21	eP	P	09 52 55.3	-1.0
	comp=Z,5.9nm,0.7s,mb4.5						
NB2	NORSAR Subarra	87.10	333	PKP		09 53 15.3	
	comp=Z,0.3nm,0.5s,baz=16,slow=3.1						
NOA	NORSAR Array B	87.10	333	P	P	09 53 15.2	-1.0
	comp=Z,3.0nm,1.0s,mb4.2,baz=68,slow=4.8,SNR=3.6						
YKA	Yellowknife Ar	92.78	22	P	P	09 53 42.4	-0.4
	comp=Z,0.7nm,0.5s,mb4.3,baz=308,slow=4.7,SNR=6.7						

ISC 12 09:43:12.6±0.4, 46.45N±0.02×13.10E±0.04, h10^{km}, n14, σ0^{s}51/27, 5C-9D, Austria

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PLRO	Paularo	0.10	19	⇓iPg	Pg	09 43 15.7	+0.4
PLRO				i Sg	Sg	09 43 18.0	+0.8
BOO	Bordano	0.13	179	⇓iPg	Pg	09 43 15.8	0.0
BOO				i Sg	Sg	09 43 18.5	+0.7
BOO	Bordano	0.13	179	⇓ePg	Pg	09 43 15.9	+0.1
BOO				eSg	Sg	09 43 18.5	+0.7
ZOU	Zoufplan	0.14	321	⇓iPg	Pg	09 43 16.0	+0.1
ZOU				i Sg	Sg	09 43 18.6	+0.6
MPRI	Monte Prat	0.22	200	⇓ePg	Pg	09 43 17.0	-0.4
MPRI				eSg	Sg	09 43 20.8	+0.2
BUA	Buia	0.23	176	⇑iPg	Pg	09 43 17.3	-0.2
BAD	Bernadia	0.24	155	⇑iPg	Pg	09 43 17.4	-0.2
BAD				i Sg	Sg	09 43 21.5	+0.5
LSR	Lussari	0.30	85	⇑iPg	Pg	09 43 18.6	-0.2
LSR				i Sg	Sg	09 43 23.8	+0.8
CSMI	Casera Mimoias	0.31	281	⇓iPg	Pg	09 43 18.9	-0.2
CSMI				i Sg	Sg	09 43 23.7	+0.2
ROBS	Robic	0.35	126	⇓iPg	Pg	09 43 19.1	-0.7
ROBS				i Sg	Sg	09 43 24.8	+0.1
	comp=Z,8.0nm,0.1s						
COLI	Coloredo	0.37	148	⇑iPg	Pg	09 43 19.7	-0.5
COLI				i Sg	Sg	09 43 25.7	+0.4
DRE	Drenchia	0.47	126	⇑iPg	Pg	09 43 21.1	-1.0
DRE				i Sg	Sg	09 43 28.9	+0.4
CADS	Cadrg	0.50	116	⇓iPg	Pg	09 43 21.7	-1.0
CADS				i Sg	Sg	09 43 29.7	+0.3
	comp=Z,17nm,0.2s						
KBA	Koelnbreinsper	0.65	15	⇓iPG	Pg	09 43 25.3	-0.4
KBA				i SG	Sg	09 43 33.9	-0.6
	comp=Z,14nm,0.2s						

*ATH **12** 10:08:32.3, 36.92N×27.87E, h27^{km}, MD3.0/4*
*NEIC **12** 10:08:32.3, 36.92N×27.87E, h27^{km}, MD3.0(ATH), After ATH.*
*CSEM **12** 10:08:32.5±0.1, 36.95N×27.90E, h12^{km}, MD3.1, Error ellipse: s-maj=2.4km s-min=2.3km az=81.0*
*ISK **12** 10:08:33.8, 37.01N×27.95E, h16^{km}, MD3.1*
ISC 12 10:08:32.2±0.7, 36.89N±0.03×27.83E±0.04, h10^{km}±4^{km}, n18, σ0^{s}99/26, 1C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.36	300	i P	Pg	10 08 39.8	+0.2
BDRM				i S	Sg	10 08 45.7	+1.2
MLSB	Milas	0.41	354	i PG	Pg	10 08 40.7	+0.2
MLSB				i SG	Sg	10 08 46.3	+0.2
YER	Yerkesik	0.44	56	PG	Pg	10 08 40.4	-0.7
YER				SG	Sg	10 08 45.4	-1.6
NISR	Nisiros	0.63	244	ePN	Pn	10 08 45.8	-1.1
DALT	Dalyan (Mudla)	0.66	100	i PG	Pg	10 08 45.1	-0.3
DALT				i SG	Sg	10 08 55.8	+1.5
ARG	Arkhangelos	0.71	160	ePN	Pn	10 08 47.0	-1.1
AYDN	Tasoluk	0.77	3	⇑iP	Pb	10 08 46.9	-0.4
AYDN				i S	Sb	10 08 56.6	-1.0
SMG	Samos	1.14	316	ePN	Pn	10 08 54.0	-0.2
DNZL	Cakiroluk	1.26	50	i P	Pb	10 08 55.5	-0.1
DNZL				i S	Sb	10 09 13.3	+1.7
DENT	Denizli	1.29	48	ePN	Pn	10 08 55.7	-0.7
KARP	Karpathos	1.44	202	ePN	Pn	10 08 59.3	+0.7
IZM	Izmir	1.57	343	ePN	Pn	10 09 01.1	+0.7
KDAG	Bornova	1.58	344	i P	Pn	10 08 58.7	-1.8
KDAG				i S	Sb	10 09 20.9	-0.1
BLCB	Balcova	1.62	337	ePN	Pn	10 09 01.0	-0.1
ELL	Elmali	1.67	94	ePN	Pn	10 09 02.3	+0.5
MANT	Manisa	1.70	20	i P	Pn	10 09 03.2	+1.0
MANT				i S	Sn	10 09 25.7	+1.4
APE	Apeiranthos	1.85	276	ePN	Pn	10 09 07.8	+3.4
AKS	Akhisar	1.99	360	PN	Pn	10 09 05.4	-0.9

*CSEM **12** 10:29:44.7±0.1, 38.72N×23.91E, h20^{km}, ML3.0, Error ellipse: s-maj=3.6km s-min=1.6km az=87.0*
*ATH **12** 10:29:45.5, 38.68N×23.66E, h12^{km}±3^{km}, MD3.4/10, ML3.5*
*NEIC **12** 10:29:45.5, 38.68N×23.66E, h12^{km}, ML3.5(ATH), After ATH.*
*THE **12** 10:29:46.7, 38.81N×23.79E, h13^{km}, ML3.0*
ISC 12 10:29:43.4±0.8, 38.72N±0.03×23.86E±0.06, h10^{km}±5^{km}, n24, σ0^{s}95/30, 1C-1D, Greece

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AOS	Alonnisos	0.45	2	ePg	Pg	10 29 53.7	+1.2
AOS				eSg	Sg	10 30 00.2	+1.6
AOS	Alonnisos	0.45	2	ePg	Pg	10 29 53.7	+1.2
AOS				eSg	Sg	10 30 00.2	+1.6
MPAR	Parnis Oros	0.58	190	ePB	Pb	10 29 55.8	+0.6
ATH	Athens Observa	0.76	189	ePB	Pb	10 29 59.3	+1.1
NEO	Neokhori	0.77	320	ePG	Pg	10 29 59.1	+0.3
NEO				eSB	Sb	10 30 09.2	+0.6
XOR	Xorichti	0.83	321	ePg	Pg	10 29 60.0	-0.1
XOR				eSg	Sg	10 30 11.0	-0.1
NSAL	Nisos Salamina	0.87	201	⇓iPG	Pg	10 30 00.4	-0.6
NAIG	Nisos Aigina	1.01	197	⇑iPB	Pb	10 30 02.4	-0.1
PAIG	Paliouri	1.21	353	ePg	Pg	10 30 06.7	-0.9
AGG	Agios Georgios	1.23	285	ePg	Pg	10 30 06.7	-1.4
	comp=Z,7.0nm,0.3s						
AGG				eSg	Sg	10 30 24.4	-0.2
OUR	Ouranopolis	1.61	3	ePb	Pb	10 30 12.7	-0.1
EVR	Evrytania	1.61	278	ePB	Pb	10 30 13.5	+0.6
PLG	Polygyros	1.68	349	ePN	Pn	10 30 13.4	+0.3
LIT	Litokhoron	1.74	323	ePb	Pb	10 30 14.1	-0.9
PRK	Paraskevi	1.95	74	ePN	Pn	10 30 23.0	+6.0
SOH	Sokhos	2.13	350	ePn	Pn	10 30 21.2	+1.6
VLI	Veliai	2.13	200	ePG	Pg	10 30 23.0	-3.0
ITM	Ithomi	2.17	225	ePN	Pn	10 30 21.4	+1.3
SRS	Serrai	2.40	355	ePn	Pn	10 30 23.8	+0.3
SRS				eSn	Sn	10 30 52.0	-1.2
FNA	Florina	2.81	318	ePn	Pn	10 30 30.3	+1.0
MMB	Musomiste	2.87	358	i P	Pn	10 30 29.0	-1.1
RZN	Rozhen	3.03	12	i P	Pn	10 30 32.0	-0.4
KDZ	Kurdzhali	3.16	22	i P	Pn	10 30 33.0	-1.2
KKB	Krupnik	3.20	350	i P	Pn	10 30 34.0	-0.8

*CSEM **12** 10:38:23.0±0.6, 38.64N×29.14W, h4^{km}±2^{km}, ML2.0, Error ellipse: s-maj=8.3km s-min=4.5km az=13.0, After PDA*
*PDA **12** 10:38:23.0±0.6, 38.64N×29.14W, h4^{km}±2^{km}, MD3.2, ML2.0, Error ellipse: s-maj=8.3km s-min=4.5km az=13.0*
SVSA 12 10:38:23.0±0.6, 38.64N×29.14W, h4^{km}±2^{km}, MD3.2, ML2.0, Error ellipse: s-maj=8.3km s-min=4.5km az=13.0, Azores Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCED	Cedros	0.34	92	i P	Pg	10 38 29.4	-0.5
PCED				eS	Sg	10 38 34.1	-0.4
	46nm,0.2s						
PCED	Cedros	0.34	92	eS	Sg	10 38 34.1	-0.4
	46nm,0.2s						
CALA	Caldeira	0.35	100	eP	Pg	10 38 29.4	-0.6
CALA				eS	Sg	10 38 34.0	-0.7
PICO	Pico	0.58	104	eP	Pg	10 38 33.0	-1.6
PICO				eS	Sg	10 38 40.7	-1.6
ROSA	Rosais	0.71	84	eP	Pg	10 38 34.9	-2.3
ROSA				eS	Sg	10 38 43.5	-3.1
PMAN	Manadas	0.82	90	eS	Sg	10 38 46.7	-3.8
	23nm,0.3s						

*IDC **12** 11:07:56.6±1.1, 33.60N×137.26E, mb4.0/9, mb1 4.2/9, mb1mx4.0/22, ML3.1/1, MS3.1/1, Ms1 3.1/1, ms1mx2.2/30, Error ellipse: s-maj=32.4km s-min=23.8km az=91.0*
*NIED **12** 11:08:00, 33.50N×136.80E, h5^{km}, Mw4.0 Best double couple: M$_0$1.01×10^{15} NP1:φ$_s$145°, δ57°, λ-122°. NP2: φ$_s$14°, δ44°, λ-50°.*
*NEIC **12** 11:08:00.9±1.9, 33.16N×137.45E, h52^{km}±17^{km}, mb4.4/2, Error ellipse: s-maj=21.7km s-min=17.2km az=105.0*
*JMA **12** 11:08:00.6, 33.46N×136.78E, h43^{km}±2^{km}, M3.6*
ISC 12 11:08:00.6±1.1, 33.46N±0.04×136.80E±0.03, h32^{km}±9^{km}, n26, σ0^{s}60/38, mb4.0/11, 4D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TK01	Tokai 1	0.73	65	P	Pn	11 08 14.8	+0.1
TK01				eS	Sb	11 08 24.3	-0.2
JWZ	Kozaga	0.91	275	⇓P	Pn	11 08 16.8	-0.5
JWZ				eS	Sn	11 08 28.4	-1.0
JIE	Ise	0.93	355	⇓P	Pn	11 08 17.6	0.0
JIE				eS	Sn	11 08 29.8	-0.1
TK02	Tokai 2	0.93	59	P	Pn	11 08 17.3	-0.3
TK02				eS	Sn	11 08 29.8	-0.2
TK03	Tokai 3	1.20	54	eS	Sn	11 08 36.4	-0.3
JAA	Atsumi	1.20	14	⇓P	Pn	11 08 21.3	-0.2
JAA				eS	Sn	11 08 36.4	-0.4
JWY	Kouya	1.26	307	P	Pn	11 08 22.5	+0.3
JWY				eS	Sn	11 08 38.1	-0.1
JWM	Minabe	1.27	288	P	Pn	11 08 22.3	-0.1
JWM				eS	Sn	11 08 37.8	-0.6
TK04	Tokai 4	1.28	44	eS	Sn	11 08 39.1	+0.2
TSUJ	Tsu 2	1.28	346	⇓P	Pn	11 08 22.7	+0.1
TSUJ				eS	Sn	11 08 38.6	-0.3
JHE	Heguri	1.51	322	P	Pn	11 08 25.9	+0.1
JHE				eS	Sn	11 08 44.3	-0.2
JHJ	Hachijo jima 2	2.52	97	Pn	Pn	11 08 28.9	-11
	12nm,0.3s,baz=61,slow=21,SNR=4.7						
JHJ				LR	LR	11 09 01.2	
	comp=Z,384nm,20.1s,baz=248,slow=30						
JHJ				Sn	Sn	11 09 09.6	-0.8
	13nm,0.3s,baz=76,slow=23,SNR=5.2						
MAJO	Matsushiro	3.28	20	ePn	Pn	11 08 52.0	+0.8
MAT	Matsushiro	3.28	20	P	Pn	11 08 51.7	+0.5
MAT				S	Sn	11 09 29.9	+0.3
MAT	Matsushiro	3.28	20	eP	Pn	11 08 52.0	+0.8
MAT				eS	Sn	11 09 30.0	+0.4
SONM	Songino Array	26.96	311	P	P	11 13 42.0	+0.9
	0.5nm,0.7s,mb3.2,baz=117,slow=9.7,SNR=3.5						
CMAR	Chiang Mai Arr	36.95	256	P	P	11 15 09.9	+1.1
	1.0nm,0.9s,mb3.6,baz=46,slow=5.8,SNR=5.8						
MKAR	Makanchi Array	42.93	305	P	P	11 15 59.1	+1.2
	1.3nm,0.8s,mb3.7,baz=91,slow=10,SNR=5.1						
KURK	Kurchatov	45.27	310	P	P	11 16 17.4	+0.6
	0.9nm,0.5s,mb3.9						
WRAB	Tennant Creek	53.15	183	eP	P	11 17 11.1	-6.8
	4.9nm,0.5s,mb4.7						
WRA	Warramunga Arr	53.16	183	P	P	11 17 17.8	-0.2
	4.7nm,0.8s,mb4.5,baz=0.7,slow=7.8,SNR=27						
ILAR	Eielson Array	54.51	31	P	P	11 17 22.9	-4.4
	0.3nm,0.9s,mb3.3,baz=270,slow=9.9,SNR=2.8						
ARCES	ARCESS Array B	65.99	339	P	P	11 18 43.5	-2.0
	7.1nm,0.9s,mb4.7,baz=53,slow=6.1,SNR=3.6						
FINES	FINESS Array B	70.17	331	P	P	11 19 12.2	+0.4
	4.8nm,1.0s,mb4.4,baz=45,slow=2.7,SNR=3.6						
AKASG	Malin Array Be	74.75	321	P	P	11 19 39.3	+0.3
	1.3nm,0.6s,mb4.0,baz=49,slow=5.7,SNR=5.6						
NOA	NORSAR Array B	75.96	336	P	P	11 19 45.6	0.0
	0.8nm,0.7s,mb3.8,baz=43,slow=11,SNR=3.2						

*ISK **12** 11:08:41.7, 37.10N×35.59E, h26^{km}, MD3.7*
*CSEM **12** 11:08:41.7, 37.10N×35.59E, h26^{km}, MD3.7, After ISK*
*NSSC **12** 11:08:45.5, 36.97N×35.79E, h18^{km}±5^{km}*
ISC 12 11:08:42.1±0.6, 37.12N±0.03×35.59E±0.04, h25^{km}±4^{km}, n22, σ0^{s}90/36, 6D, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CEYT	Ceyhan	0.17	130	i PG	Pb	11 08 47.2	-0.1
CEYT				i SG	Sb	11 08 51.5	+0.7
COBT	Iskenderun	0.80	138	i P	Pb	11 08 56.0	-1.3
COBT				i S	Sb	11 09 07.7	-0.1
DRWC	Darouich	1.00	120	⇑P	Pb	11 09 00.6	+0.1
DRWC				⇑S	Sb	11 09 12.2	-1.1
HTY	Hatay	1.09	156	PG	Pn	11 09 01.7	-0.2
HTY				SG	Sb	11 09 16.8	+0.8
KAHT	Ahir Dag	1.15	63	i P	Pn	11 09 00.8	-2.0
KAHT				i S	Sb	11 09 18.0	+0.5
NIG	Nigde	1.26	322	i PN	Pn	11 09 04.9	+0.6
MEST	Erdemli	1.27	246	i P	Pn	11 09 04.7	+0.1
MEST				i S	Sn	11 09 24.7	+3.7
BTCH	Batrach	1.29	147	⇓P	Pn	11 09 05.1	+0.3
BTCH				⇓S	Sn	11 09 21.0	-0.3
ARNB	Al Arnab	1.29	166	⇑P	Pn	11 09 05.8	+1.0
ARNB				⇑S	Sn	11 09 22.8	+1.4
GAZ	Gaziantep	1.30	87	i PN	Pn	11 09 04.6	-0.3
GAZ				i SN	Sn	11 09 21.1	-0.5
GZT	Gaziantep	1.59	81	i P	Pn	11 09 07.9	-1.2
GZT				i S	Sn	11 09 31.7	+2.6
SLNF	Slenfeh	1.60	161	⇓P	Pn	11 09 10.2	+0.9
SLNF				⇓S	Sn	11 09 28.9	-0.4
WRDH	Warideh	1.74	157	⇓P	Pn	11 09 12.0	+0.7
WRDH				⇓S	Sn	11 09 32.2	-0.7
BNN	Bunyan	1.74	7	PN	Pn	11 09 12.3	+1.0
AVNT	Avonos	1.76	341	i P	Pn	11 09 11.3	-0.2
AVNT				i S	Sn	11 09 39.0	+5.8
IKL	Isikli	1.76	241	PN	Pn	11 09 10.4	-1.2
HDMB	Hadim	2.49	267	ePN	Pn	11 09 22.0	+0.1
YOZ	Yozgat	2.53	355	PN	Pn	11 09 22.7	+0.2
MYA	Malataya	2.55	61	PN	Pn	11 09 22.2	-0.7
KAMT	Kaman	2.69	327	PN	Pn	11 09 24.5	-0.3
LEF	Lefka	2.96	228	PN	Pn	11 09 27.3	-1.3
ELZG	Elazig	3.02	62	i P	Pn	11 09 30.5	+1.0
ELZG				i S	Sn	11 10 17.8	+12

*DJA **12** 11:26:14.8±0.8, 0.58N×101.80E, h415^{km}±21^{km}, MD4.5/2, ML5.2/2, Error ellipse: s-maj=93.1km s-min=20.8km az=56.0*
*IDC **12** 11:26:23.0±1.5, 1.67S×99.78E, mb4.2/9, mb1 4.3/9, mb1mx4.1/16, MS3.0/1, Ms1 3.2/1, ms1mx2.6/16, Error ellipse: s-maj=73.2km s-min=17.8km az=55.0*
*NEIC **12** 11:26:28.1±1.9, 1.81S×99.61E, h42^{km}±13^{km}, mb4.5/3, Error ellipse: s-maj=29.4km s-min=9.2km az=58.0*
ISC 12 11:26:26.2±2.1, 1.8S±0.1×99.6E±0.2, h44^{km}±15^{km}, n23, σ0^{s}94/24, mb4.3/11, MS2.8/1, 6C-2D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MRPI	Mariponipon	3.44	355	⇑ePn	P	11 27 19.0	+0.3
	552nm,0.2s						
MRPI				eSn	S	11 28 04.7	+6.1
AEKI	Aeknabara	4.08	344	⇑ePn	P	11 27 27.2	-0.5
AEKI				eSn	S	11 28 20.5	+5.8
SIMI	Simarbalatuk	4.54	352	⇑ePn	P	11 27 26.1	-8.2
SIMI	Simarbalatuk	4.54	352	⇑ePn	P	11 27 24.5	-10
KGM	Kluang	5.34	44	⇑eP	P	11 27 46.0	+0.5
IPM	Ipoh	6.53	13	⇑eP	P	11 28 02.9	+0.7
PASI	Pasiripis	7.68	129	⇓ePn	P	11 28 17.5	-0.7
	136nm,0.2s						
PASI				eSn	S	11 29 45.2	+0.4
PASI	Pasiripis	7.68	129	⇓ePn	P	11 28 17.2	-1.0
PASI				eSn	S	11 29 45.2	+0.4
CMAR	Chiang Mai Arr	20.18	358	P	P	11 30 56.4	-3.5
	0.8nm,0.5s,baz=180,slow=6.3,SNR=7.6						
CMAR				LR	LR	11 38 12.1	
	comp=Z,38nm,18.9s,MS2.8,baz=180,slow=35						
FITZ	Fitzroy Crossi	30.24	124	P	P	11 32 35.1	-0.3
	1.5nm,0.9s,mb3.7,baz=168,slow=10.0,SNR=2.5						
ENH	Enshi	33.30	16	P	P	11 32 59.7	-2.3
	5.6nm,0.4s,mb4.8						
WRA	Warramunga Arr	38.43	120	P	P	11 33 45.9	+0.3
	1.1nm,0.5s,mb3.9,baz=306,slow=9.2,SNR=20						
WRA				PcP	PcP	11 36 00.3	+1.5
	0.4nm,0.7s,baz=316,slow=2.5,SNR=5.7						
WRAB	Tennant Creek	38.43	120	eP	P	11 33 45.4	-0.2
	6.3nm,0.8s,mb4.4						
SONM	Songino Array	49.83	6	P	P	11 35 16.7	-0.1
	1.6nm,0.5s,mb4.3,baz=184,slow=9.7,SNR=15						
SONM				PcP	PcP	11 36 37.9	+0.6
	0.6nm,0.4s,baz=176,slow=3.5,SNR=4.1						
MKAR	Makanchi Array	50.76	345	P	P	11 35 24.6	+0.6
	3.3nm,0.5s,mb4.5,baz=148,slow=8.2,SNR=38						
ZAL	Zalesovo	56.93	350	P	P	11 36 09.2	-0.1
	5.4nm,0.4s,mb4.9,baz=319,slow=3.8,SNR=14						
BVAR	Borovoye Array	59.89	340	P	P	11 36 29.2	-0.7
	1.0nm,0.4s,mb4.2,baz=148,slow=14,SNR=4.7						
ZRNK	Zerenda	60.31	339	eP	P	11 36 31.9	-0.9
	1.3nm,0.5s,mb4.2						
FINES	FINESS Array B	83.78	332	P	P	11 38 53.2	+1.3
	1.6nm,0.6s,mb4.3,baz=108,slow=6.0,SNR=7.1						
ARCES	ARCESS Array B	86.18	340	P	P	11 39 05.7	+2.0
	3.2nm,0.9s,mb4.5,baz=90,slow=11,SNR=4.0						
TXAR	Lajitas Array	144.82	37	PKP	PKPdf	11 46 01.7	+2.6
	1.5nm,0.5s,baz=241,slow=0.7,SNR=31						
TXAR	Lajitas Array	144.82	37	PKP	PKPdf	11 46 01.7	+2.6
JCT	Junction City	146.10	31	ePKP	PKPdf	11 46 05.0	+3.8

MAN 12 11:57:27.6, 8.13N×124.44E, h1^{km}, mb4.4, ML3.3, MS3.1, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BUKP	Musuan	0.67	112	eP	Pg	11 57 40.3	-0.6
PAGZ	Pagadian	1.08	255	eP	Pb	11 57 49.0	+0.2
DCPH	Dipolog City	1.16	293	eP	Pb	11 57 50.0	-0.2
SNPH	Sibulan	1.69	316	eP	Pn	11 57 58.5	0.0
IPIL	Ipil	1.88	260	eP	Pn	11 58 02.3	+1.2
IPIL				eS	Sn	11 58 26.4	+0.6

IDC 12 12:12:09.6±2.3, 15.85S×173.68W, mb3.5/5, mb1 4.0/5, mb1mx3.8/13, Error ellipse: s-maj=132.0km s-min=30.2km az=153.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	49.48	257	P	P	12 21 01.9	-2.1
	0.1nm,0.3s,baz=97,slow=6.2,SNR=9.3						
NVAR	Mina Array Bea	74.84	42	P	P	12 23 52.3	-1.7
	0.5nm,0.6s,baz=237,slow=12,SNR=4.3						
TXAR	Lajitas Array	81.09	56	P	P	12 24 27.5	-1.0
	0.5nm,1.1s,baz=219,slow=5.8,SNR=3.8						
PDAR	Pinedale Array	82.78	42	P	P	12 24 35.7	-1.3
	0.6nm,0.9s,baz=259,slow=4.6,SNR=4.1						
ILAR	Eielson Array	82.93	11	P	P	12 24 36.0	-1.4
	0.2nm,0.6s,baz=238,slow=6.3,SNR=6.3						
GERES	GERESS Array B	146.54	351	PKPbc	PKPbc	12 31 52.8	+0.1
	0.2nm,0.3s,baz=342,slow=3.1,SNR=2.0						

*NAO **12** 12:17:45.9±5.3, 59.26N×25.82E, ML2.4*
*BER **12** 12:17:45.7±4.1, 59.26N×27.08E, ML2.4(NAO), Suspected explosion*
*HEL **12** 12:17:46.4±0.2, 59.31N×27.20E, ML1.9, ML2.4(NAO), Explosion*
ISC 12 12:17:44.4±1.2, 59.32N±0.04×27.3E±0.3, n9, σ0^{s}87/14, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VSU	Vasula	0.90	198	eS	Sg	12 18 13.8	-0.5
VJF	Virojoki	1.23	7	eP	Pb	12 18 08.4	+0.2
VJF				eS	Sb	12 18 23.0	-1.6
PVF	Pernaja	1.42	331	eP	Pb	12 18 11.6	+0.2
PVF				eS	Sb	12 18 29.2	-0.8
FIA0	FINESS Array S	2.21	345	eP	Pn	12 18 23.6	+0.7
FIA0				eS	Sn	12 18 52.0	+0.7
FIA0	FINESS Array S	2.21	345	Pn	Pn	12 18 23.5	+0.7
	baz=164,slow=18						
FIA0				Lg		12 18 55.0	
	baz=170,slow=37						
KAF	Kangasniemi	2.84	351	eP	Pn	12 18 33.2	+1.4
KAF				eS	Sn	12 19 07.3	0.0
SUF	Sumiainen	3.46	351	eS	Sn	12 19 22.9	+0.1
SUF				eSG	Sg	12 19 33.6	-5.9
SUF				MSG		12 19 36.1	
	comp=Z,2.3nm,0.4s						
ARA0	ARCESS Array S	10.29	357	Pn	P	12 20 12.3	-3.8
	baz=198,slow=16						
ARA0	ARCESS Array S	10.29	357	eP	P	12 20 12.3	-3.8

*NAO **12** 12:35:56.8±2.8, 60.95N×28.97E, ML2.9*
*CSEM **12** 12:35:56.3±0.5, 60.87N×29.01E, h2^{km}, ML2.0, Error ellipse: s-maj=12.8km s-min=6.7km az=141.0, Mining explosion.*
*HEL **12** 12:35:57.6±0.2, 60.93N×29.02E, ML2.0, ML2.9(NAO), Explosion*
*BER **12** 12:35:57.5±2.2, 60.92N×29.03E, ML2.9(NAO), Suspected explosion*
ISC 12 12:35:56.6±1.1, 60.94N±0.05×29.0E±0.1, n15, σ0^{s}73/26, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VJF	Virojoki	0.80	241	eP	Pg	12 36 11.9	-0.7
VJF				eS	Sg	12 36 23.5	+0.2
VJF	Virojoki	0.80	241	P	Pg	12 36 11.8	-0.8
FIA0	FINESS Array S	1.49	291	eP	Pn	12 36 24.1	-0.6
FIA0				eS	Sb	12 36 43.7	-0.5
FIA0	FINESS Array S	1.49	291	Pn	Pn	12 36 24.1	-0.6
	baz=114,slow=16						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FIA0				Lg		12 36 44.9	
	baz=107,slow=28						
FIA0				Rg		12 36 52.1	
	baz=116,slow=37						
FIA0	FINESS Array S	1.49	291	P	Pn	12 36 24.0	-0.7
FIA0				S	Sb	12 36 43.6	-0.6
PVF	Pernaja	1.58	257	eP	Pn	12 36 26.2	+0.2
PVF				eS	Sb	12 36 46.8	0.0
PVF	Pernaja	1.58	257	P	Pn	12 36 26.1	+0.2
PVF				S	Sb	12 36 46.7	0.0
KAF	Kangasniemi	1.74	314	eP	Pn	12 36 28.8	+0.6
KAF				eS	Sn	12 36 51.6	+0.2
SUF	Sumiainen	2.23	324	eP	Pn	12 36 36.8	+1.5
SUF				eS	Sn	12 37 03.8	-0.2
SUF				MSG		12 37 08.5	
	comp=Z,6.7nm,0.4s						
SUF	Sumiainen	2.23	324	P	Pn	12 36 36.7	+1.4
SUF				S	Sn	12 37 03.8	-0.2
	comp=Z,6.7nm,0.4s						
JOF	Joensuu	2.27	28	eP	Pn	12 36 36.2	+0.3
JOF				eS	Sn	12 37 04.3	-0.8
KEF	Keuruu	2.32	304	eP	Pn	12 36 37.3	+0.8
KEF				eSB	Sb	12 37 08.0	-0.2
HFS	Hagfors	7.58	271	eP	Pn	12 37 47.1	-3.9
HFS				eS	Sn	12 39 10.3	-8.3
HFS				eSG		12 39 53.5	
ARA0	ARCESS Array S	8.75	352	eP	P	12 38 03.6	-3.8
ARA0				eSG		12 40 28.4	
ARA0	ARCESS Array S	8.75	352	Pn	P	12 38 03.6	-3.8
	baz=164,slow=14						
ARA0				Lg		12 40 28.4	
	baz=162,slow=28						

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*NEIC **12** 12:40:40.3±7.7, 6.76S×129.62E, h11km±48km, mb4.3/4, Error ellipse: s-maj=27.9km s-min=16.0km az=67.0*
*IDC **12** 12:40:46.6±3.9, 7.00S×129.61E, h49km±35km, mb3.9/8, mb1 4.1/10, mb1mx4.0/14, ML4.4/2, Error ellipse: s-maj=46.8km s-min=16.9km az=72.0*
ISC 12 12:40:57.0±3.5, **7.6S**±0.2×**129.7E**±0.2, **h200**km±36km, **n22**, σ**0.97**/23, **mb4.0**/13, **Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.16	200	P	P	12 43 30.6	-1.6
	2.9nm,0.3s,baz=20,slow=11,SNR=73						
FITZ				S	S	12 45 27.9	-6.0
	3.5nm,0.3s,baz=19,slow=10,SNR=5.1						
WRAB	Tennant Creek	13.08	160	eP	P	12 43 57.1	+0.7
	5.8nm,0.5s						
WRAB				eS	S	12 46 17.3	-0.6
WRA	Warramunga Arr	13.08	160	P	P	12 43 57.0	+0.6
	1.5nm,0.3s,baz=328,slow=13,SNR=81						
WRA				S	S	12 46 18.0	+0.1
	5.3nm,0.3s,baz=335,slow=22,SNR=18						
MBWA	Marble Bar	16.56	214	eP	P	12 44 40.7	+1.2
	5.9nm,0.6s						
STKA	Stephens Creek	26.59	157	P	P	12 46 26.0	+7.2
	1.7nm,0.6s,mb3.9,baz=332,slow=7.8,SNR=4.9						
NWAO	Narrogin (SRO)	27.73	203	P	P	12 46 35.1	+6.1
	33nm,1.2s,mb4.8,baz=245,slow=13,SNR=3.8						
CMAR	Chiang Mai Arr	39.87	311	P	P	12 48 12.8	-0.3
	0.6nm,0.5s,mb3.2,baz=136,slow=6.8,SNR=6.3						
ENH	Enshi	42.35	334	P	P	12 48 26.4	-6.8
	11nm,0.9s,mb4.3						
GUN	Gumba	55.10	312	eP	P	12 50 11.1	+0.3
	28nm,0.5s						
PKI	Pulchoki	55.27	311	eP	P	12 50 11.7	-0.3
	9.0nm,0.5s,mb4.6						
KKN	Kakani	55.48	311	eP	P	12 50 13.6	+0.1
	12nm,0.5s,mb4.7						
DMN	Daman	55.52	311	eP	P	12 50 14.3	+0.6
GKN	Gorkha	56.08	311	eP	P	12 50 17.9	+0.2
	25nm,0.4s						
SONM	Songino Array	58.90	342	P	P	12 50 37.5	+0.3
	0.8nm,0.5s,mb3.6,baz=154,slow=6.2,SNR=7.9						
MKAR	Makanchi Array	68.54	327	P	P	12 51 40.8	+0.9
	2.5nm,0.4s,mb4.2,baz=118,slow=8.0,SNR=19						
ZAL	Zalesovo	71.97	334	P	P	12 51 59.8	-0.7
	1.2nm,0.3s,mb4.0,baz=6.2,slow=1.8,SNR=3.6						
KURK	Kurchatov	72.85	329	eP	P	12 52 03.4	-2.3
	2.1nm,0.7s,mb3.9						
MAW	Mawson	74.29	201	P	P	12 52 21.4	+7.6
	1.0nm,0.6s,mb3.6,baz=89,slow=6.9,SNR=7.4						
BVAR	Borovoye Array	78.39	328	P	P	12 52 38.7	+1.9
	0.4nm,0.4s,mb3.4,baz=127,slow=7.2,SNR=3.4						
BRVK	Borovoye	78.46	328	eP	P	12 52 35.6	-1.6
	1.8nm,0.7s,mb3.8						
CPUP	Villa Florida	145.60	169	PKPbc	PKPbc	13 00 21.4	+8.4
	0.7nm,0.7s,baz=39,slow=6.6,SNR=2.3						
LPAZ	La Paz	150.44	143	PKPbc	PKPab	13 00 35.5	+0.4
	0.5nm,0.4s,baz=214,slow=11,SNR=3.7						

DJA 12 12:45:54.3±1.3, **2.06N**×**98.99E**, **h127**km±10km, **MD4.5**/1, **1C-2D, Error ellipse: s-maj=30.2km s-min=16.4km az=43.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AEKI	Aeknabara	0.54	275	⇑ePn	P	12 46 13.0	-0.4
	625nm,0.2s						
AEKI				eSn	S	12 46 27.4	-0.5
MRPI	Mariponipon	0.55	144	⇓ePn	P	12 46 13.5	0.0
MRPI				eSn	S	12 46 26.7	-1.4
SIMI	Simarbalatuk	0.63	356	⇓ePn	P	12 46 13.9	-0.1

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*NEIC **12** 13:14:08.3±0.3, 30.66S×178.12W, mb4.9/9, Error ellipse: s-maj=13.0km s-min=9.7km az=152.0*
*IDC **12** 13:14:09.1±0.7, 30.64S×178.08W, h66km±6km, mb4.4/11, mb1 4.5/14, mb1mx4.5/16, MS3.8/10, Ms1 3.8/10, ms1mx3.7/14, Error ellipse: s-maj=22.8km s-min=15.1km az=160.0*
*SYO **12** 13:14:29.4, 30.74S×178.51W, h251km, MB4.6*
ISC 12 13:14:06.7±0.5, **31.11S**±0.06×**178.2W**±0.1, **h60**km, **h60**km±2.9km**:pP-P, n71,** σ**1.55**/51, **mb4.7**/17, **8C-1D, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	7.05	203	P	P	13 15 49.2	-0.5
MXZ				S	S	13 17 13.0	+3.8
PUZ	Puketiti	7.53	202	P	P	13 15 54.4	-1.9
PUZ				S	S	13 17 20.2	-0.9
WCZ	Waipu Caves	7.87	230	P	P	13 16 08.7	+7.8
OUZ	Omahuta	8.00	237	P	P	13 16 09.7	+6.9
MWZ	Matawai	8.02	205	P	P	13 15 59.2	-3.8
MWZ				S	S	13 17 36.3	+3.2
URZ	Urewera	8.11	207	P	P	13 16 02.6	-1.7
	1.3nm,0.3s,baz=252,slow=4.7,SNR=23						
URZ				S	S	13 17 36.7	+1.3
	17nm,0.3s,baz=237,slow=21,SNR=10						
URZ				LR	LR	13 19 20.9	
	comp=Z,180nm,19.5s,baz=172,slow=36						
URZ	Urewera	8.11	207	P	P	13 16 02.5	-1.7
KNZ	Kokohu	8.58	202	P	P	13 16 08.3	-2.4
BKZ	Black Stump Fm	9.13	207	P	P	13 16 15.8	-2.5
MRZ	Mangatainoka R	10.78	206	S	S	13 18 36.3	-4.4
NNZ	Nelson	12.16	212	S	S	13 19 10.2	-3.7
THZ	Tophouse	12.81	211	P	P	13 17 06.3	-1.6
THZ				S	S	13 19 24.1	-5.4
KHZ	Kahutara	13.07	208	P	P	13 17 09.3	-2.1
RPZ	Rata Peaks	15.19	211	P	P	13 17 40.2	+1.4
	0.8nm,0.3s,baz=35,slow=17,SNR=4.0						
RPZ				S	S	13 20 17.2	-8.6
	1.8nm,0.3s,baz=323,slow=15,SNR=7.5						
RPZ				LR	LR	13 23 11.0	
	comp=Z,327nm,20.1s,baz=262,slow=35						
AFI	Afiamalu	18.11	20	P	P	13 18 10.4	-5.3
	46nm,1.0s						
RAR	Rarotonga	19.23	64	P	P	13 18 25.1	-3.7
	1.9nm,0.3s,baz=74,slow=4.1,SNR=10						
CTA	Charters Tower	33.75	280	P	P	13 20 45.9	+1.1
	16nm,0.6s,mb5.2,baz=105,slow=11,SNR=34						
CTA				LR	LR	13 30 27.6	
	comp=Z,92nm,21.0s,baz=305,slow=29						
CTAO	Charters Tower	33.75	280	eP	P	13 20 45.2	+0.4
	15nm,0.6s,mb5.1						
STKA	Stephens Creek	34.15	258	P	P	13 20 50.5	+2.4
	37nm,0.7s,mb5.4,baz=93,slow=9.4,SNR=74						
STKA				LR	LR	13 33 29.9	
	comp=Z,208nm,20.7s,baz=154,slow=34						
STKA	Stephens Creek	34.15	258	⇑eP	P	13 20 50.2	+2.1
PMG	Port Moresby	38.76	296	P	P	13 21 26.9	-0.2
	16nm,0.9s,mb4.7,baz=359,slow=23,SNR=2.2						
WRAB	Tennant Creek	43.95	273	P	P	13 22 09.0	-0.7
	244nm,0.8s,mb6.0,SNR=21						
WRAB	Tennant Creek	43.95	273	eP	P	13 22 09.4	-0.4
	54nm,0.7s,mb5.4						
WRA	Warramunga Arr	43.95	273	P	P	13 22 09.5	-0.3
	32nm,0.8s,mb5.1,baz=111,slow=8.0,SNR=190						
WRA				LR	LR	13 39 00.6	
	comp=Z,127nm,19.3s,baz=105,slow=34						
SBA	Scott Base	47.32	184	eP	P	13 22 41.3	+5.5
	9.5nm,1.0s,mb4.7						
SBA				ePcP	PcP	13 24 08.2	+1.9
FITZ	Fitzroy Crossi	52.19	271	LR	LR	13 43 36.2	
	comp=Z,79nm,20.2s,baz=120,slow=34						
CASY	Casey	54.43	208	eP	P	13 23 30.6	+0.8
	17nm,0.7s,mb5.1						
MAW	Mawson	71.58	201	P	P	13 25 24.9	+2.0
	4.2nm,0.7s,mb4.5,baz=135,slow=7.6,SNR=16						
MAW				pP	pP	13 25 44.1	+4.6
	2.7nm,0.6s,baz=129,slow=6.0,SNR=4.3						
MAW				LR	LR	13 55 36.5	
	comp=Z,58nm,18.1s,baz=242,slow=34						
MAW	Mawson	71.58	201	eP	P	13 25 24.5	+1.5
	4.6nm,0.7s,mb4.5						
MAW				e	pP	13 25 44.1	+4.6
PMSA	Palmer Station	71.69	156	P	P	13 25 25.7	+2.0
	7.5nm,0.9s,mb4.6						
PMSA				e	pP	13 25 39.8	-0.5
SYO	Syowa Base	76.39	193	⇓P	P	13 25 52.5	+1.8
SYO	Syowa Base	76.39	193	⇑PcP	PcP	13 26 02.2	-0.4
SYO	Syowa Base	76.39	193	⇑pP	Px	13 26 47.3	
SNAA	Sanae	77.45	178	e	P	13 26 04.0	+7.4
SNAA	Sanae	77.45	178	⇑iP	P	13 25 58.9	+2.3
SNAA				e		13 26 04.0	
VNA3	Neumayer Olymp	77.61	176	e	pP	13 26 09.3	-5.0
VNA3	Neumayer Olymp	77.61	176	⇑iP	P	13 26 01.8	+4.3
VNA3				e		13 26 09.3	
VNA2	Neumayer--Watz	78.04	177	e	pP	13 26 11.8	-4.8
VNA2	Neumayer--Watz	78.04	177	⇑iP	P	13 26 04.6	+4.7
VNA2				e		13 26 11.8	
VNA1	Neumayer--Stat	78.27	177	e	pP	13 26 13.7	-4.2
VNA1	Neumayer--Stat	78.27	177	⇑iP	P	13 26 06.1	+5.0
VNA1				e		13 26 13.7	
NVAR	Mina Array Bea	88.88	43	P	P	13 26 55.1	-0.5
	2.1nm,0.7s,mb4.6,baz=211,slow=6.8,SNR=20						
NVAR				pP	pP	13 27 12.2	-0.6
	0.9nm,0.7s,baz=221,slow=8.3,SNR=15						
NVAR				LR	LR	13 57 18.3	
	comp=Z,46nm,20.6s,baz=250,slow=29						
TPH	Tonopah	89.28	44	eP	P	13 26 57.0	-0.5
	6.4nm,0.8s,mb5.0						
TPH				e	pP	13 27 13.5	-1.2
TUC	Tucson	89.69	51	eP	P	13 26 59.2	-0.4
	6.8nm,1.0s,mb4.9						
TUC				e	pP	13 27 17.1	+0.2
TXAR	Lajitas Array	92.92	57	P	P	13 27 14.6	0.0
	0.3nm,0.3s,mb4.1,baz=211,slow=5.3,SNR=2.5						
TXAR				pP	pP	13 27 31.9	0.0
	1.6nm,1.0s,baz=209,slow=9.3,SNR=2.3						
TXAR				LR	LR	14 03 07.6	
	comp=Z,40nm,18.7s,baz=165,slow=32						
TXAR	Lajitas Array	92.92	57	P	P	13 27 14.6	0.0
TXAR				pP	pP	13 27 31.9	0.0
CMAR	Chiang Mai Arr	93.47	289	P	P	13 27 18.1	+0.8
	0.8nm,1.0s,mb4.1,baz=117,slow=6.0,SNR=4.0						
PDAR	Pinedale Array	96.77	44	P	P	13 27 31.2	-0.6
	0.6nm,0.9s,mb4.0,baz=333,slow=3.3,SNR=3.7						
PDAR				pP	pP	13 27 48.5	-0.6
	0.3nm,0.6s,baz=198,slow=4.7,SNR=2.6						
PDAR				LR	LR	14 04 04.7	
	comp=Z,81nm,19.4s,baz=81,slow=31						
LPAZ	La Paz	98.01	114	P	P	13 27 41.0	+3.0
	0.6nm,0.4s,mb4.5,baz=244,slow=13,SNR=2.9						
LPAZ	La Paz	98.01	114	P	P	13 27 41.0	+2.9
ILAR	Eielson Array	98.66	13	P	P	13 27 37.6	-2.2
	0.5nm,0.7s,mb4.2,baz=220,slow=5.6,SNR=5.2						
MKAR	Makanchi Array	118.09	310	PKP	PKPdf	13 32 46.1	-0.6
	1.5nm,0.5s,baz=90,slow=2.9,SNR=4.5						
BVAR	Borovoye Array	126.79	315	PKP	PKPdf	13 33 03.6	+0.2
	4.6nm,0.6s,baz=135,slow=2.1,SNR=18						
BRVK	Borovoye	126.85	315	ePKPdf	PKPdf	13 33 02.9	-0.6
SCHQ	Schefferville	126.88	42	PKP	PKPdf	13 33 03.2	-0.3
	2.7nm,0.8s,baz=270,slow=6.1,SNR=2.9						
SCHQ	Schefferville	126.88	42	PKP	PKPdf	13 33 03.2	-0.3
ZRNK	Zerenda	127.62	315	ePKPdf	PKPdf	13 33 04.1	-0.9
ARCES	ARCESS Array B	139.24	347	PKhKP		13 33 19.2	
	1.0nm,0.5s,baz=72,slow=2.9,SNR=6.9						
ARCES				PKP	PKPdf	13 33 27.4	+1.1
	1.9nm,0.5s,baz=45,slow=2.6,SNR=6.6						
JOF	Joensuu	143.01	338	epkp	PKPdf	13 33 28.5	-4.4
KAF	Kangasniemi	145.16	340	epkp	PKPdf	13 33 34.1	-2.5
FINES	FINESS Array B	145.75	339	PKPbc	PKPbc	13 33 37.4	-1.1
	24nm,0.6s,baz=67,slow=3.5,SNR=140						
FINES	FINESS Array B	145.75	339	PKPbc	PKPbc	13 33 37.4	-1.1
NB2	NORSAR Subarra	149.43	351	PKP		13 33 47.7	
	7.1nm,0.7s,baz=20,slow=4.1						
NOA	NORSAR Array B	149.43	351	PKPbc	PKPdf	13 33 48.1	+4.4
	5.8nm,0.8s,baz=16,slow=4.2,SNR=12						
HFS	Hagfors	149.90	348	PKPbc	PKPdf	13 33 49.0	+4.5
	11nm,0.6s,baz=90,slow=3.0,SNR=13						
HFS				PKPab	PKPab	13 33 54.5	-2.8
	7.0nm,0.5s,baz=56,slow=5.3,SNR=16						
ASF	Jabal al Asfar	150.18	281	PKPbc	PKPdf	13 33 52.3	+6.5
	3.2nm,0.7s,baz=44,slow=3.9,SNR=4.1						
AKASG	Malin Array Be	151.75	322	PKPbc	PKPdf	13 33 54.1	+6.5
	14nm,0.6s,baz=46,slow=2.7,SNR=26						
BRTR	Keskin Array B	152.78	297	PKPbc	PKPdf	13 33 57.4	+8.0
	4.4nm,0.5s,baz=136,slow=4.6,SNR=13						
DBIC	Dimbokro	154.90	164	PKP	PKPdf	13 33 54.9	+1.8
	1.7nm,0.5s,baz=251,slow=9.3,SNR=5.9						
DBIC				PKPab	PKPab	13 34 21.1	+1.3
	3.1nm,0.8s,baz=183,slow=8.4,SNR=4.3						
CLL	Collm	158.18	341	⇑iPKP2	PKPab	13 34 33.1	+0.4
GERES	GERESS Array B	160.12	336	PKPab	PKPab	13 34 38.4	-2.7
	0.9nm,0.7s,slow=2.9,SNR=3.1						

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*NEIC **12** 13:33:36.1, 18.94N×63.82W, h75km, MD3.7(RSPR), After RSPR.*
RSPR 12 13:33:36.1, 18.94N×**63.82W, h75**km±24km, **1C-3D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBYP	Canovanas	2.04	251	⇓eP	P	13 34 08.4	-0.7
CBYP				eS	S	13 34 33.4	0.0
HUMP	Col San Antoni	2.09	248	⇓eP	P	13 34 08.4	-1.2
HUMP				eS	S	13 34 33.5	-1.0
CPD	Cerro la Pandu	2.18	246	⇓eP	P	13 34 09.3	-1.7
CPD				eS	S	13 34 36.0	-0.9
SJG	San Juan	2.36	250	ePn	P	13 34 11.9	-1.6
SJG				eS	S	13 34 41.2	-0.2
AOPR	Arecibo Observ	2.84	258	⇑eP	P	13 34 19.0	-1.3
AOPR				eS	S	13 34 52.0	-1.5

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*IDC **12** 13:46:20.1±3.1, 29.88N×89.52E, mb3.4/2, mb1 3.5/3, mb1mx3.4/18, ML3.1/1, Error ellipse: s-maj=90.7km s-min=32.1km az=80.0*
ISC 12 13:46:25.1±2.1, **30.0N**±0.1×**89.5E**±0.2, **h52**km±33km, **n9,** σ**1.03**/10, **mb3.4**/2, **Xizang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUN	Gumba	3.80	238	eP	P	13 47 24.8	+2.2
	63nm,1.0s						
KKN	Kakani	4.32	241	eP	P	13 47 29.7	-0.2
	58nm,1.3s						
PKI	Pulchoki	4.34	238	eP	P	13 47 30.5	+0.3
	10nm,0.5s						
DMN	Daman	4.54	240	eP	P	13 47 32.5	-0.6
	32nm,0.8s						
GKN	Gorkha	4.72	247	eP	P	13 47 32.1	-3.4
	16nm,0.6s						
SHL	Shillong	4.85	154	ePN	P	13 47 37.0	-0.3
SHL				eSN	S	13 48 14.0	-19
MKAR	Makanchi Array	17.73	343	P	P	13 50 28.9	-0.7
	0.1nm,0.3s,baz=158,slow=16,SNR=3.6						
SONM	Songino Array	22.07	31	P	P	13 51 17.8	+0.9
	1.0nm,0.7s,mb3.4,baz=215,slow=12,SNR=11						
WRA	Warramunga Arr	65.75	133	P	P	13 57 06.7	-0.3
	0.4nm,0.9s,mb3.4,baz=326,slow=6.7,SNR=6.5						

CASC 12 14:10:46.0±3.1, **10.33N**×**86.35W, MD4.2, 5C-5D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VCR	Vista de Mar	0.73	106	⇑iP	Pg	14 11 01.2	+0.5
VCR				eS	Sg	14 11 09.8	-0.6
JCR	Jicaral	1.31	111	⇓eP	Pb	14 11 09.7	-1.4
JCR				eS	Sb	14 11 31.0	+2.6
APON	Apoyo	1.60	10	eP	Pn	14 11 15.7	+0.1
APON				eS	Sb	14 11 36.0	-0.8
MASN	Masaya	1.66	7	⇓eP	Pn	14 11 17.2	+0.7
TICN	Ticuantepe	1.69	4	eP	Pn	14 11 16.4	-0.7
TICN				eS	Sb	14 11 42.1	+2.5
XAVN	Gruta Xavier	1.80	1	⇓eP	Pn	14 11 19.3	+0.7
MGAN	Managua	1.81	3	eP	Pn	14 11 17.9	-0.7
MGAN				⇑eP		14 11 18.8	
MGAN				eS	Sn	14 11 43.3	+0.7
WILN	Americas 2	1.82	5	eP	Pn	14 11 16.6	-2.3
WILN				eS	Sn	14 11 42.7	-0.3
COPN	Copaltepe	1.85	353	⇑eP	Pn	14 11 18.6	-0.7
COPN				eS	Sn	14 11 45.6	+1.9
CGA2	Cerro Gallo 2	1.88	99	⇓eP	Pn	14 11 18.4	-1.2
APYN	Apoyeque	1.89	360	eP	Pn	14 11 19.1	-0.7
APYN				eS	Sn	14 11 45.5	+0.8
PRS1	Puriscal	2.03	100	eP	Pn	14 11 20.2	-1.6
PRS1				eS	Sn	14 11 49.2	+0.9
MOMJ	Momotombo	2.07	355	eP	Pn	14 11 21.7	-0.7
MOMJ				eS	Sn	14 11 49.9	+0.5
VPS2	Volcan Poas 2	2.08	94	eP	Pn	14 11 21.6	-1.0
VPS2				eS	Sn	14 11 52.4	+2.8
MIRN	Miramar	2.12	350	⇑eP	Pn	14 11 23.3	+0.1
LEON	Leon	2.14	346	eP	Pn	14 11 23.0	-0.4
CNGN	Cerro Negro	2.18	351	eP	Pn	14 11 25.0	+1.0
PYTN	Playitas	2.21	7	eP	Pn	14 11 23.7	-0.7
PYTN				eS	Sn	14 11 52.2	-0.6
LAJ	Bijagual	2.24	102	eP	Pn	14 11 17.9	-7.0
TEL3	Telica 3	2.28	348	⇓eP	Pn	14 11 27.4	+2.0
SJS	Escuela Geolog	2.29	100	eS	Sn	14 11 57.5	+2.6
TELN	Telica	2.31	348	eP	Pn	14 11 27.2	+1.4
LCR2	La Lucha 2	2.38	104	eP	Pn	14 11 26.0	-0.9
LCR2				eS	Sn	14 12 02.5	+5.3
ICR	Volcan Irazu	2.50	98	eP	Pn	14 11 29.3	+0.7
TRTC	Tortuguero	2.60	84	⇑eP	Pn	14 11 27.7	-2.3
TRTC				eS	Sn	14 12 04.7	+1.9
BUS	Buena Vista	2.66	107	eP	Pn	14 11 30.1	-0.8

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*HRVD **12** 14:17:17.8±1.2, 13.39S×166.59E, h43km±3km, MW4.8/21, Centroid moment Tensor Solution. LP body waves: s17,c19;Mantle waves: s21,c24; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.14±.28; $M_{\theta\theta}$-1.58±.23; $M_{\phi\phi}$-0.55±.20; $M_{r\theta}$-1.15±.17; $M_{\theta\phi}$-0.30±.22; $M_{\phi r}$0.28±.16; Best double couple: $M_0$2.22×10^{16} NP1:ϕ_s68°,δ31°,λ73°. NP2:ϕ_s268°,δ61°,λ100°. Principal axes: T 2.51, Plg73°, Azm202°; N -.56, Plg9°, Azm83°; P -1.94, Plg15°, Azm351°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **12** 14:17:17.8±2.4, 13.20S×166.70E, h54km±20km, mb5.1/8 Error ellipse: s-maj=16.9km s-min=13.3km az=202.0*
*IDC **12** 14:17:20.5±5.3, 13.34S×166.65E, h71km±47km, mb4.3/17, mb1 4.4/18, mb1mx4.3/21, ML3.3/1, MS3.9/14, Ms1 3.9/14, ms1mx3.7/25, Error ellipse: s-maj=18.8km s-min=17.0km az=172.0*
*BJI **12** 14:17:22.8, 12.22S×166.27E, h53km, mB5.0, mb4.9*
ISC 12 14:17:16.7±1.9, **13.31S**±0.08×**166.55E**±0.08, **h47**km±17km, **n67,** σ**0.95**/52, **mb4.9**/32, **MS4.0**/13, **5C-1D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BKM	Butte a Klehm	4.63	160	i P	P	14 18 27.3	+1.3
BKM				S	S	14 19 23.0	+3.9
DZM	Mont Dzumac	8.71	181	eP	P	14 19 21.9	-0.9
DZM	Mont Dzumac	8.71	181	eP	P	14 19 21.9	-0.9
NOUC	Port Laguerre	8.75	182	eP	P	14 19 22.7	-0.6
NOUC				eS	S	14 20 56.5	-5.0
NOUC	Port Laguerre	8.75	182	eP	P	14 19 22.7	-0.6
NOUC				eS	S	14 20 56.5	-5.0
PMG	Port Moresby	19.40	280	P	P	14 21 42.3	+0.6
	0.3nm,0.3s,baz=267,slow=16,SNR=3.1						
PMG				LR	LR	14 27 52.6	
	comp=Z,160nm,19.4s,baz=82,slow=32						
CTA	Charters Tower	20.57	248	P	P	14 21 55.2	+1.2
	12nm,0.6s,baz=80,slow=12,SNR=15						
CTA				LR	LR	14 28 53.6	
	comp=Z,388nm,20.2s,MS3.8,baz=49,slow=34						
CTA	Charters Tower	20.57	248	P	P	14 21 55.2	+1.2
CTAO	Charters Tower	20.57	248	eP	P	14 21 54.9	+0.9
	17nm,0.7s						
STKA	Stephens Creek	29.41	227	P	P	14 23 18.7	+0.7
	3.9nm,0.5s,mb4.4,baz=40,slow=10.0,SNR=7.1						
STKA				PcP	PcP	14 26 21.8	-1.4
	3.2nm,0.6s,baz=351,slow=3.0,SNR=4.5						
STKA	Stephens Creek	29.41	227	P	P	14 23 18.7	+0.7
STKA				PcP	PcP	14 26 21.8	-1.4
RPZ	Rata Peaks	30.55	174	P	P	14 23 27.4	-0.5
	6.9nm,0.5s,mb4.7,baz=5.7,slow=16,SNR=5.8						
RPZ				LR	LR	14 33 48.4	
	comp=Z,402nm,20.5s,MS4.1,baz=233,slow=32						
WRAB	Tennant Creek	31.51	254	⇑eP	P	14 23 35.3	-1.4
	11nm,0.6s,mb4.9						
WRA	Warramunga Arr	31.52	254	P	P	14 23 35.6	-1.2
	9.8nm,0.6s,mb4.8,baz=86,slow=9.2,SNR=167						
WRA				PcP	PcP	14 26 27.9	-0.9
	2.7nm,0.8s,baz=72,slow=2.2,SNR=9.6						
WRA				LR	LR	14 35 58.6	
	comp=Z,213nm,19.1s,MS3.8,baz=85,slow=35						
FITZ	Fitzroy Crossi	39.61	258	P	P	14 24 45.5	0.0
	8.2nm,0.9s,mb4.5,baz=127,slow=4.2,SNR=19						
PPT	Papeete	42.43	102	P	P	14 25 06.8	-2.0
	15nm,0.6s,mb4.8,baz=262,slow=7.1,SNR=4.7						
MBWA	Marble Bar	45.26	253	eP	P	14 25 32.0	+0.4
	26nm,0.8s,mb5.1						
NWAO	Narrogin (SRO)	48.89	238	P	P	14 25 59.7	-0.3
	38nm,1.1s,mb5.3,baz=76,slow=3.4,SNR=13						
NWAO	Narrogin (SRO)	48.89	238	P	P	14 25 59.7	-0.3
JHJ	Hachijo jima 2	52.77	332	LR	LR	14 47 44.2	
	comp=Z,53nm,18.7s,MS3.6,baz=351,slow=34						
ASAJ	Asahikawa	61.18	341	P	P	14 27 28.2	-0.6
	4.4nm,0.8s,mb4.6,baz=86,slow=29,SNR=3.1						
ASAJ				LR	LR	14 49 24.1	
	comp=Z,125nm,20.3s,MS4.0,baz=162,slow=31						
SBA	Scott Base	64.55	180	eP	P	14 27 50.7	+0.1
	12nm,0.8s,mb5.0						
CASY	Casey	64.57	202	⇑eP	P	14 27 49.6	-1.4
	15nm,0.6s,mb5.2						
CN2	Changchun	68.08	329	eP	P	14 28 13.3	-0.3
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
ENH	Enshi	69.93	309	eP	P	14 28 23.4	-1.8
	comp=Z,21nm,0.8s,mb5.1						
XAN	Xi'an	72.22	313	P	P	14 28 39.0	+0.1
XAN				AMB	AMB		
	comp=Z,17nm,0.8s,mb5.0						
CMAR	Chiang Mai Arr	73.74	294	P	P	14 28 49.1	+0.9
	comp=Z,5.3nm,0.8s,mb4.5,baz=125,slow=4.9,SNR=35						
CMAR				LR	LR	15 02 08.9	
	comp=Z,26nm,18.1s,MS3.5,baz=175,slow=36						
HHC	Hu-ho-hao-te	74.06	320	eP	P	14 28 50.2	+0.6
HHC				AMB	AMB		
	comp=Z,11nm,1.3s,mb4.6						
HHC				AMB	AMB		
	comp=Z,80nm,4.5s						
QSPA	South Pole Qui	76.71	180	eP	P	14 29 03.5	-0.5
	comp=Z,11nm,0.6s,mb5.0						
SONM	Songino Array	80.95	324	P	P	14 29 27.9	+0.2
	comp=Z,1.6nm,0.6s,mb4.1,baz=147,slow=6.3,SNR=15						
GTA	Gaotai	81.19	314	eP	P	14 29 30.3	+1.1
GTA				AP	pP	14 29 42.0	-1.0
GTA				XP	sP	14 29 47.8	-0.4
GTA				AMB	AMB		
	comp=Z,16nm,1.1s,mb4.9						
MAW	Mawson	82.93	202	P	P	14 29 37.3	-0.2
	comp=Z,2.4nm,0.5s,mb4.5,baz=114,slow=6.5,SNR=20						
YBH	Yreka Blue Hor	84.91	45	P	P	14 29 48.8	+0.7
	comp=Z,2.3nm,0.9s,mb4.3,baz=94,slow=5.9,SNR=3.9						
ILAR	Eielson Array	85.40	18	P	P	14 29 48.0	-1.9
	comp=Z,1.1nm,0.6s,mb4.2,baz=244,slow=5.4,SNR=12						
ILAR				LR	LR	15 01 32.1	
	comp=Z,81nm,21.4s,MS4.1,baz=79,slow=31						
BBB	Bella Bella	85.99	34	LR	LR	15 02 05.1	
	comp=Z,77nm,19.0s,MS4.1,baz=214,slow=31						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
NVAR	Mina Array Bea	86.88	49	P	P	14 29 58.4	+0.6
	comp=Z,1.2nm,0.8s,mb4.2,baz=226,slow=6.2,SNR=6.4						
NVAR				LR	LR	14 59 50.5	
	comp=Z,99nm,20.8s,MS4.2,baz=355,slow=29						
NVAR	Mina Array Bea	86.88	49	P	P	14 29 58.4	+0.6
DLBC	Dease Lake	88.02	28	P	P	14 30 04.5	+1.7
	comp=Z,1.2nm,0.8s,mb4.2,baz=146,slow=16,SNR=2.6						
DLBC				LR	LR	15 03 13.0	
	comp=Z,59nm,20.9s,MS4.0,baz=139,slow=31						
DLBC	Dease Lake	88.02	28	P	P	14 30 04.5	+1.7
GUN	Gumba	88.10	299	eP	P	14 30 04.5	+0.5
	comp=Z,21nm,0.8s,mb5.4						
PKI	Pulchoki	88.41	299	eP	P	14 30 05.6	+0.2
	comp=Z,21nm,0.6s,mb5.5						
KKN	Kakani	88.58	299	eP	P	14 30 06.4	+0.2
	comp=Z,23nm,0.8s,mb5.6						
DMN	Daman	88.68	299	eP	P	14 30 07.0	+0.3
	comp=Z,39nm,0.7s,mb5.8						
GKN	Gorkha	89.19	299	eP	P	14 30 08.6	-0.5
	comp=Z,27nm,0.8s,mb5.6						
INK	Inuvik	91.78	19	LR	LR	15 08 15.1	
	comp=Z,94nm,18.2s,MS4.3,baz=219,slow=33						
PDAR	Pinedale Array	94.50	47	LR	LR	15 09 42.1	
	comp=Z,48nm,18.4s,MS4.0,baz=153,slow=33						
SNAA	Sanae	94.92	183	⇓i	P	14 30 34.0	-0.5
SNAA	Sanae	94.92	183	eP	P	14 30 33.8	-0.7
	comp=Z,12nm,1.2s,mb5.2						
VNA3	Neumayer Olymp	95.61	181	⇑i	P	14 30 38.8	+1.1
MKAR	Makanchi Array	95.70	317	P	P	14 30 38.5	-0.1
	comp=Z,3.9nm,0.7s,mb5.0,baz=96,slow=6.3,SNR=25						
ZAL	Zalesovo	95.85	324	P	P	14 30 38.0	-1.1
	comp=Z,1.6nm,0.6s,mb4.7,baz=7.8,slow=3.4,SNR=7.7						
VNA2	Neumayer--Watz	95.87	182	⇑i	P	14 30 40.3	+1.5
VNA1	Neumayer--Stat	96.17	182	⇑i	P	14 30 41.8	+1.6
YKA	Yellowknife Ar	96.61	27	LR	LR	15 09 05.5	
	comp=Z,39nm,19.9s,MS3.9,baz=230,slow=32						
ARCES	ARCESS Array B	118.71	345	PKP	PKPdf	14 35 58.5	-0.8
	comp=Z,4.2nm,0.8s,baz=63,slow=2.0,SNR=8.9						
ARCES	ARCESS Array B	118.71	345	PKP	PKPdf	14 35 58.5	-0.8
FINES	FINESS Array B	124.16	338	PKP	PKPdf	14 36 10.4	+0.4
	comp=Z,0.8nm,0.7s,baz=297,slow=4.3,SNR=3.7						
NOA	NORSAR Array B	129.08	345	PKP	PKPdf	14 36 21.1	+1.7
	comp=Z,0.7nm,0.8s,baz=54,slow=2.0,SNR=2.9						
SMF	Signal de Mont	143.72	340	ePKP1	PKPbc	14 36 44.1	-1.3
SGMF	Saint Gilles	144.00	348	ePKP1	PKPbc	14 36 45.1	-1.1
MBDF	Montbardon	144.25	335	ePKP1	PKPbc	14 36 45.2	-1.8
	comp=Z,5.8nm,0.7s						
ORIF	Oris-en-Rattie	144.45	336	ePKP1	PKPbc	14 36 45.6	-2.0
	comp=Z,12nm,0.7s						
SBF	Sospel	144.67	334	ePKP1	PKPbc	14 36 45.5	-2.7
	comp=Z,79nm,1.1s						
VIVF	Saint-Julien-l	144.97	337	ePKP1	PKPbc	14 36 46.4	-2.6
FRF	La Foret Royal	145.25	334	ePKP1	PKPbc	14 36 45.9	-3.9
RJF	Les Rejaudoux	145.67	341	ePKP1	PKPbc	14 36 47.0	-3.8
ESDC	Sonseca Array	152.44	344	PKPbc	PKPdf	14 37 07.9	+7.0
	comp=Z,0.7nm,0.7s,baz=346,slow=5.0,SNR=4.1						
ESDC				PKPab	PKPab	14 37 19.4	-1.1
	comp=Z,1.0nm,0.7s,baz=27,slow=3.4,SNR=4.9						

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*MOS **12** 14:53:42.4±1.0, 53.83N×167.94E, h20km, mb4.2/1, Error ellipse: s-maj=33.0km s-min=17.6km az=23.5*

KRSC 12 14:53:40.6±1.4**, 53.69N×168.29E, h18**km±13km**, ML4.1, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	2.03	319	i P	Pn	14 54 12.8	-1.7
BKI				eS	Sn	14 54 37.8	-1.9
BKI				Smax			
	490nm,0.5s						
MKZ	Mys Kozlova	3.96	285	P	Pn	14 54 40.8	-1.1
MKZ				S	Sn	14 55 23.3	-5.1
MKZ	Mys Kozlova	3.96	285	eP	Pn	14 54 40.8	-1.1
MKZ				eS	Sn	14 55 25.6	-2.8
KBTR	Krutoberegovo	4.04	311	P	Pn	14 54 40.7	-2.4
KBTR				S	Sn	14 55 23.7	-6.8
KBTR	Krutoberegovo	4.04	311	eP	Pn	14 54 40.7	-2.4
KBTR				eS	Sn	14 55 27.7	-2.8
KBG	Krutoberegovo	4.12	311	P	Pn	14 54 43.5	-0.7
KBG				Smax			
	160nm,1.2s						
ZLN	Zelenaya	4.91	301	eP	Pn	14 54 55.9	+0.4
ZLN				eS	Sn	14 55 48.6	-4.0
CIRR	Tsirk	4.98	302	P	Pn	14 54 56.6	+0.1
CIRR				eS	Sn	14 55 52.2	-2.2
SPN	Mys Shipunski	4.98	266	P	Pn	14 54 56.0	-0.5
SPN				S	Sn	14 55 50.1	-4.3
SPN	Mys Shipunski	4.98	266	i P	Pn	14 54 56.1	-0.4
SPN				i S	Sn	14 55 50.7	-3.7
LGNR	Loginova	5.00	302	eP	Pn	14 54 57.2	+0.5
LGNR				eS	Sn	14 55 52.3	-2.5
TUMR	Tumrok	5.01	292	eP	Pn	14 54 56.6	-0.2
TUMR				eS	Sn	14 55 52.0	-3.0
KMNR	Kamenistaya	5.11	297	eP	Pn	14 54 57.5	-0.7
KMNR				eS	Sn	14 55 54.2	-3.2
KRSR	Krestovskiy	5.12	303	eP	Pn	14 54 57.8	-0.6
KRSR				eS	Sn	14 55 56.5	-1.3
KLY	Klyuchi	5.12	304	P	Pn	14 54 56.5	-1.9
KLY				S	Sn	14 55 50.7	-7.1
KLY	Klyuchi	5.12	304	eP	Pn	14 54 56.4	-2.0
KLY				eS	Sn	14 55 51.1	-6.7
KPT	Kopyto	5.19	299	P	Pn	14 54 58.5	-0.9
KPT				eS	Sn	14 55 56.5	-3.1
NLC	Nalytchevo	5.37	268	P	Pn	14 55 01.4	-0.6
NLC				S	Sn	14 55 58.6	-5.6
NLC	Nalytchevo	5.37	268	i P	Pn	14 55 01.3	-0.7
NLC				eS	Sn	14 55 59.8	-4.4
KOZR	Kozyr	5.40	300	PN	Pn	14 55 02.5	+0.2
KOZ	Kozyrevsk	5.41	299	P	Pn	14 55 02.5	0.0
KOZ				S	Sn	14 56 00.3	-4.7
KOZ	Kozyrevsk	5.41	299	eP	Pn	14 55 02.7	+0.2
KOZ				eS	Sn	14 56 01.5	-3.5
SRDR	Sredinnyy	5.59	302	eP	Pn	14 55 05.4	+0.3
SRDR				eS	Sn	14 56 06.5	-3.1
SDLR	Sedlovina	5.63	270	eP	Pn	14 55 05.3	-0.3
SDLR				eS	Sn	14 56 07.3	-3.3
UGLR	Uglovaya	5.68	269	eP	Pn	14 55 06.2	-0.1
UGLR				eS	Sn	14 56 08.0	-3.8
SMAR	Somma	5.68	270	eP	Pn	14 55 05.8	-0.6
SMAR				eS	Sn	14 56 07.1	-4.8
AVH	Avacha	5.72	270	eP	Pn	14 55 06.8	-0.1
AVH				eS	Sn	14 56 08.8	-4.1
KOK	Koryaka	5.78	270	eP	Pn	14 55 07.3	-0.4
KOK				eS	Sn	14 56 10.4	-3.9
PET	Petropavlovsk	5.81	267	P	Pn	14 55 08.3	+0.2
PET				S	Sn	14 56 10.8	-4.3
PET	Petropavlovsk	5.81	267	eP	Pn	14 55 08.5	+0.4
PET				eS	Sn	14 56 12.1	-3.0
PET	Petropavlovsk	5.81	267	ePN	Pn	14 55 08.0	-0.1
PET				eS	Sn	14 56 12.7	-2.4
PET				pmax	pmax		
	comp=Z,12nm,0.3s						
PET				smax			
	comp=N,23nm,0.4s						
PET				smax			
	comp=E,27nm,0.5s						
RUS	Russkaya	6.03	262	P	Pn	14 55 10.8	-0.4
RUS				S	Sn	14 56 15.1	-5.4
RUS	Russkaya	6.03	262	eP	Pn	14 55 10.4	-0.8
RUS				eS	Sn	14 56 16.3	-4.2
GNL	Ganaly	6.15	274	eP	Pn	14 55 13.1	+0.2
GNL				eS	Sn	14 56 19.8	-3.7
GRL	Gorelyy	6.26	264	eP	Pn	14 55 15.0	+0.6
APC	Apacha	6.72	268	eP	Pn	14 55 21.4	+0.5
APC				eS	Sn	14 56 34.0	-3.8
MIPR	Malaya Ipel'ka	7.11	263	P	Pn	14 55 26.9	+0.5
KAMR	Kamenskoye	8.86	354	eP	P	14 55 47.1	-3.7
KAMR				eS	Sn	14 57 22.2	-9.0
KAMR				Smax			
	comp=E,10.0nm,0.9s						

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*BJI **12** 14:59:08.2, 28.90S×12.70W, h10km, mB5.2, Ms5.3, Msz5.1*
*IDC **12** 14:59:09.9±0.5, 28.78S×12.89W, mb4.6/21, mb1 4.7/21, mb1mx4.6/23, MS4.5/12, Ms1 4.5/12, ms1mx4.4/14, Error ellipse: s-maj=20.0km s-min=15.6km az=122.0*
*SYO **12** 14:59:09.7, 28.91S×12.67W, h10km, MB4.9, MS4.6*
*HRVD **12** 14:59:10.2±0.3, 28.93S×12.44W, h12km±1km, MW5.2/64, Centroid moment Tensor Solution. LP body waves: s38,c51; Mantle waves: s64,c112; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.17±.19; $M_{\theta\theta}$-2.61±.21; $M_{\phi\phi}$3.78±.20; $M_{r\theta}$0.81±.50; $M_{\theta\phi}$5.79±.20; $M_{\phi r}$0.09±.48; Best double couple: $M_0$6.67×10^{16} NP1: ϕ_s346°, δ82°, λ-177°. NP2: ϕ_s255°, δ87°, λ-8°. Principal axes: T 7.23, Plg3°, Azm301°; N -1.11, Plg82°, Azm55°; P -6.11, Plg8°, Azm210°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **12** 14:59:10.2±0.3, 28.86S×12.70W, h10km, mb4.9/60, MS4.6/13 Error ellipse: s-maj=10.6km s-min=8.3km az=121.0*

ISC 12 14:59:08.9±0.3**, 28.74S**±0.05×**12.85W**±0.07**, h10**km**, (h4**km±.3km**:pP-P), n144,** σ1s**18**/125**, mb4.8**/76**, MS4.6**/22**, 12C-7D, Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	Sutherland	29.14	106	P	P	15 05 03.9	-8.4
	6.3nm,0.8s,mb4.4,baz=76,slow=4.6,SNR=3.1						
SUR				LR	LR	15 14 03.9	
	comp=Z,2μm,20.6s,MS4.8,baz=175,slow=31						
SUR	Sutherland	29.14	106	P	P	15 05 12.2	-0.1
	8.6nm,0.8s,mb4.5						
TSUM	Tsumeb	29.31	78	P	P	15 05 09.3	-4.6
	2.6nm,0.7s,mb4.1,baz=230,slow=18,SNR=6.3						
TSUM	Tsumeb	29.31	78	eP	P	15 05 09.3	-4.6
	20nm,1.3s,mb4.7						
TSUM				LR	LR		
	comp=Z,743nm,19.0s,MS4.3						
BOSA	Boshof	33.34	99	eP	P	15 05 44.2	-5.0
	comp=Z,8.9nm,0.7s,mb4.8						
BOSA				LR	LR		
	comp=Z,2μm,19.0s,MS4.8						
BAO	Brasilia Array	34.92	284	eP	P	15 06 02.7	-0.3
BAO				i		15 06 13.5	
BDFB	Brasilia	34.94	284	P	P	15 06 02.8	-0.4
	comp=Z,41nm,1.0s,mb5.3,baz=121,slow=6.5,SNR=32						
BDFB				LR	LR	15 17 48.3	
	comp=Z,2μm,20.2s,MS4.8,baz=120,slow=32						
LIC	Lamto	35.57	13	eP	P	15 06 08.0	-0.6
	comp=Z,93nm,1.1s,mb5.3						
LIC	Lamto	35.57	13	eP	P	15 06 07.9	-0.7
	comp=Z,110nm,1.1s,mb5.7						
KIC	Kosan Boka	35.76	14	eP	P	15 06 09.5	-0.7
	comp=Z,124nm,1.0s,mb5.8						
TIC	Toumodi	35.98	13	eP	P	15 06 10.7	-1.3
	comp=Z,144nm,1.1s,mb5.8						
DBIC	Dimbokro	36.03	14	P	P	15 06 11.9	-0.6
	comp=Z,10nm,0.7s,mb4.9,baz=185,slow=9.0,SNR=15						
DBIC				LR	LR	15 17 17.8	
	comp=Z,406nm,18.6s,MS4.2,baz=175,slow=30						
DBIC	Dimbokro	36.03	14	eP	P	15 06 11.2	-1.3
	comp=Z,18nm,0.8s,mb5.0						
DBIC				LR	LR		
	comp=Z,493nm,20.0s,MS4.3						
LSZ	Lusaka	40.13	79	eP	P	15 06 44.4	-2.3
	comp=Z,12nm,0.9s,mb4.6						
TRQA	Tornquist	41.65	244	eP	P	15 06 58.7	-0.3
	comp=Z,20nm,0.9s,mb4.7						
TRQA				LR	LR		
	comp=Z,347nm,20.0s,MS4.2						
VNA1	Neumayer--Stat	42.03	178	⇑i	P	15 07 05.6	+3.9
VNA1	Neumayer--Stat	42.03	178	⇓i	pP	15 07 13.8	+9.1
VNA1	Neumayer--Stat	42.03	178	⇓iP	P	15 07 04.3	+2.6
VNA1				⇑iP	pP	15 07 05.6	+0.9
VNA2	Neumayer--Watz	42.34	177	⇑i	P	15 07 06.0	+1.7
VNA2	Neumayer--Watz	42.34	177	⇑i	pP	15 07 15.3	+8.0
VNA2	Neumayer--Watz	42.34	177	⇑iP	P	15 07 05.0	+0.7
VNA2				⇑iP	pP	15 07 06.0	-1.3
VNA3	Neumayer Olymp	42.59	178	⇑i	P	15 07 07.5	+1.2
VNA3	Neumayer Olymp	42.59	178	⇑i	pP	15 07 16.0	+6.7
VNA3	Neumayer Olymp	42.59	178	⇓iP	P	15 07 06.3	0.0
VNA3				⇑iP	pP	15 07 07.5	-1.8
SNAA	Sanae	43.33	175	⇓i	P	15 07 11.5	-0.9
SNAA	Sanae	43.33	175	⇑i	P	15 07 18.9	+6.5
SNAA	Sanae	43.33	175	P	P	15 07 11.2	-1.2
	comp=Z,5.6nm,1.0s,mb4.2,baz=340,slow=7.6,SNR=16						
SNAA	Sanae	43.33	175	⇑iP	P	15 07 10.7	-1.7
SNAA				⇓iP		15 07 11.5	
USHA	Ushuaia	47.37	220	P	P	15 07 45.1	+0.3
	comp=Z,15nm,1.2s,mb4.8,baz=65,slow=10,SNR=3.1						
PMSA	Palmer Station	48.09	207	P	P	15 07 48.2	-2.1
	comp=Z,15nm,0.8s,mb5.1						
MBAR	Mbarara	50.13	64	eP	P	15 08 05.0	-1.7
	comp=Z,18nm,1.0s,mb5.0						
SYO	Syowa Base	50.27	158	⇓P	P	15 08 00.0	-7.1
SYO	Syowa Base	50.27	158	⇑pP	pP	15 08 06.1	-4.0
SYO	Syowa Base	50.27	158	⇓PcP	PcP	15 09 19.6	-6.6
SAML	Samuel	51.12	282	eP	P	15 08 14.6	+0.4
	comp=Z,15nm,0.9s,mb4.9						
SAML				LR	LR		
	comp=Z,627nm,19.0s,MS4.7						
LPAZ	La Paz	52.15	271	P	P	15 08 22.4	+0.5
	comp=Z,5.9nm,0.8s,mb4.5,baz=105,slow=8.3,SNR=19						
LPAZ				LR	LR	15 27 55.1	
	comp=Z,353nm,19.5s,MS4.4,baz=271,slow=33						
LPAZ	La Paz	52.15	271	eP	P	15 08 21.7	-0.3
	comp=Z,11nm,1.0s,mb4.7						
LPAZ				LR	LR		
	comp=Z,421nm,20.0s,MS4.5						
KMBO	Kilima Mbogo	55.07	69	P	P	15 08 44.1	+0.5
	comp=Z,1.6nm,0.9s,mb4.0,baz=222,slow=15,SNR=6.8						
KMBO				LR	LR	15 29 38.0	
	comp=Z,269nm,19.1s,MS4.3,baz=107,slow=33						
KMBO	Kilima Mbogo	55.07	69	eP	P	15 08 43.5	-0.1
	comp=Z,8.1nm,1.2s,mb4.6						
KMBO				LR	LR		
	comp=Z,307nm,19.0s,MS4.4						
MAW	Mawson	58.34	154	P	P	15 09 08.0	+1.9
	comp=Z,3.2nm,1.0s,mb4.3,baz=267,slow=11,SNR=7.1						
MAW				LR	LR	15 29 24.1	
	comp=Z,672nm,18.6s,MS4.8,baz=258,slow=31						
MAW	Mawson	58.34	154	P	P	15 09 04.2	-1.9
	comp=Z,9.0nm,1.1s,mb4.7						
MAW				LR	LR	15 29 24.1	
QSPA	South Pole Qui	61.49	180	eP	P	15 09 26.6	-1.1
	comp=Z,38nm,1.2s,mb5.4						
QSPA				LR	LR		
	comp=Z,220nm,20.9s,MS4.3						
EJIF	Jimena Fronter	65.21	7	P	P	15 09 53.9	+1.1
EMIJ	Mijas	65.40	7	P	P	15 09 54.8	+0.8
	comp=Z,8.1nm,0.7s,mb4.9						
ESPR	Espera	65.59	6	P	P	15 09 56.2	+1.0
	comp=Z,9.1nm,1.3s,mb4.7						
ERON	Agron	65.96	8	P	P	15 09 58.4	+0.9
	comp=Z,5.3nm,0.7s,mb4.7						
ELOJ	Sierra Loja	66.04	8	P	P	15 09 57.6	-0.4
	comp=Z,7.5nm,1.0s,mb4.7						
ENIJ	Nijar	66.12	9	P	P	15 09 57.8	-0.8
EMIN	Mina Concepcio	66.41	5	P	P	15 10 00.9	+0.5
	comp=Z,9.9nm,1.0s,mb4.8						
ELUQ	Luque	66.44	7	P	P	15 10 01.7	+1.1
	comp=Z,5.2nm,0.7s,mb4.7						
EQES	Quesada	66.82	8	P	P	15 10 02.8	-0.2
	comp=Z,5.8nm,1.0s,mb4.6						
EADA	Adamuz	67.00	7	P	P	15 10 04.0	-0.2
	comp=Z,5.9nm,1.1s,mb4.5						
EVO	Evora	67.07	4	eP	P	15 10 04.3	-0.3
	comp=Z,54nm,1.1s,mb5.2						
EVO				eR			
	comp=Z,464nm,22.2s						
SDV	Santo Domingo	67.10	295	eP	P	15 10 05.3	+0.1
	comp=Z,73nm,1.1s,mb5.6						
SDV				LR	LR		
	comp=Z,910nm,21.0s,MS5.0						
EMUR	La Murta	67.12	10	P	P	15 10 04.6	-0.3
EBAD	Badajoz	67.36	5	P	P	15 10 06.7	+0.2
	comp=Z,5.4nm,0.9s,mb4.6						
EVIA	Vianos	67.72	9	P	P	15 10 08.4	-0.2
	comp=Z,8.3nm,0.8s,mb4.8						
ROSC	El Rosal	67.82	289	P	P	15 10 11.7	+2.0
	comp=Z,10.0nm,0.8s,mb4.9,baz=253,slow=23,SNR=3.3						
ROSC				LR	LR	15 39 00.1	
	comp=Z,981nm,18.7s,MS5.1,baz=310,slow=35						
ESDC	Sonseca Array	68.56	7	P	P	15 10 14.5	+0.6
	comp=Z,3.1nm,0.9s,mb4.2,baz=180,slow=6.8,SNR=10						
ESDC				LR	LR	15 38 25.0	
	comp=Z,243nm,19.8s,MS4.4,baz=185,slow=34						
ESDC	Sonseca Array	68.56	7	P	P	15 10 13.6	-0.4
	comp=Z,4.0nm,1.4s,mb4.2						
CPD	Cerro la Pandu	69.22	306	P	P	15 10 15.9	-2.4
HUMP	Col San Antoni	69.24	306	eP	P	15 10 19.1	+0.7
CBYP	Canovanas	69.33	306	eP	P	15 10 19.1	+0.1
EMOS	Mosqueruela	69.70	10	P	P	15 10 19.1	-1.8
	comp=Z,19nm,1.0s,mb5.0						
ETOR	Torete	69.92	9	P	P	15 10 20.5	-1.8
	comp=Z,4.2nm,1.0s,mb4.3						
ELOB	Lobios	70.39	4	P	P	15 10 24.4	-0.6
	comp=Z,11nm,1.5s,mb4.5						
ECAL	Calabor	70.55	5	P	P	15 10 25.5	-0.6
	comp=Z,9.9nm,0.8s,mb4.8						
EPOB	Poblet	70.92	11	P	P	15 10 25.8	-2.5
	comp=Z,9.0nm,0.9s,mb4.7						
ERUA	La Rua	70.97	4	P	P	15 10 26.6	-2.0
	comp=Z,5.9nm,0.8s,mb4.6						
ESAC	San Caprasio	71.03	10	P	P	15 10 27.6	-1.4
	comp=Z,22nm,0.9s,mb5.1						
STS	Santiago	71.38	3	P	P	15 10 29.3	-1.7
	comp=Z,10.0nm,0.9s,mb4.8						
EMAZ	Mazaricos	71.42	3	P	P	15 10 29.6	-1.7
EMIR	Miracle	71.54	11	P	P	15 10 30.2	-1.8
	comp=Z,12nm,0.9s,mb4.8						
EGRA	Graus	71.62	10	P	P	15 10 31.0	-1.5
	comp=Z,10nm,0.8s,mb4.8						
EBIE	Bielsa	72.07	10	P	P	15 10 33.6	-1.6
	comp=Z,5.2nm,0.7s,mb4.6						
ETSF	Etsaut	72.17	9	eP	P	15 10 35.8	0.0
	comp=Z,38nm,1.1s,mb4.9						
SJPF	Ste Jean	72.29	9	eP	P	15 10 36.2	-0.3
	comp=Z,129nm,1.6s,mb5.3						
EJON	La Jonquera	72.30	12	P	P	15 10 32.9	-3.6
	comp=Z,7.3nm,0.8s,mb4.7						
EPF	Esparros	72.44	10	eP	P	15 10 37.4	+0.1
TATS	Tathlith	72.53	55	P	P	15 10 38.1	-0.2
IDI	Anoyia	72.96	32	P	P	15 10 41.0	+0.4
	comp=Z,22nm,1.2s,mb5.0,baz=145,slow=1.0,SNR=5.9						
TAYS	Tayyib Ism	73.00	43	P	P	15 10 42.0	+1.0
MTLF	Montolieu	73.05	11	eP	P	15 10 40.3	-0.6
	comp=Z,22nm,1.0s,mb4.8						
BDAS	Al Bad'	73.05	43	P	P	15 10 39.4	-1.8
HAQS	Haql	73.41	43	P	P	15 10 45.9	+2.6
JMOS	Jabal al Moall	73.59	43	P	P	15 10 45.9	+1.5
TBKS	Tabuk	73.78	44	P	P	15 10 38.3	-7.2
KBRS	Khaybar	73.78	48	D	P	15 10 47.1	+1.6
JMQS	Jabal Moqyreh	73.85	43	P	P	15 10 43.5	-2.4
LASF	Ste Croix	74.06	12	eP	P	15 10 46.7	0.0
	comp=Z,40nm,1.2s,mb4.9						
SMRF	Simiane la Rot	74.30	14	eP	P	15 10 48.3	+0.1
LFF	La Frestale	74.36	10	eP	P	15 10 48.6	+0.1
CAF	Calviac	74.56	11	eP	P	15 10 49.5	-0.2
	comp=Z,20nm,1.0s,mb4.7						
RJF	Les Rejaudoux	74.84	10	eP	P	15 10 51.3	0.0
	comp=Z,29nm,1.0s,mb4.9						
RJF				eR			
	comp=Z,373nm,21.2s						
VIVF	Saint-Julien-l	74.97	13	eP	P	15 10 52.0	0.0
	comp=Z,33nm,1.1s,mb4.9						
ORIF	Oris-en-Rattie	75.27	14	eP	P	15 10 54.1	+0.4
	comp=Z,28nm,1.0s,mb4.8						
ORIF				eR			
	comp=Z,254nm,21.8s						
MBDF	Montbardon	75.27	14	eP	P	15 10 54.2	+0.4
MFF	Saint Martin d	75.86	9	eP	P	15 10 56.9	-0.2
	comp=Z,45nm,1.1s,mb5.0						
TCF	Toulx Ste Croi	75.91	11	eP	P	15 10 57.6	+0.2
CASY	Casey	76.00	160	P	P	15 10 56.1	-1.4
	comp=Z,14nm,1.4s,mb4.7						
CASY				LR	LR		
	comp=Z,499nm,20.0s,MS4.8						
LPG	La Plagne	76.00	14	eP	P	15 10 58.5	+0.6
	comp=Z,27nm,0.9s,mb4.9						
LPL	La Plagne	76.02	14	eP	P	15 10 58.4	+0.4
	comp=Z,28nm,0.9s,mb4.9						
SMF	Signal de Mont	76.53	12	eP	P	15 11 00.9	0.0
	comp=Z,22nm,0.9s,mb4.8						
AVF	Avril sur Loir	76.59	11	eP	P	15 11 01.3	+0.1
	comp=Z,16nm,0.9s,mb4.7						
ASF	Jabal al Asfar	76.83	42	P	P	15 11 04.6	+1.8
	comp=Z,4.7nm,0.7s,mb4.5,baz=356,slow=2.1,SNR=3.8						
SSF	Saint Saulge	76.88	11	eP	P	15 11 02.7	-0.1
	comp=Z,19nm,0.9s,mb4.7						
CABF	La Chapelle	76.93	13	eP	P	15 11 02.8	-0.3
	comp=Z,17nm,0.9s,mb4.7						
LOR	Lormes	77.14	12	eP	P	15 11 04.1	-0.1
LOR				eR			
	comp=Z,346nm,20.2s						
LDF	La Druitiere	77.82	9	eP	P	15 11 07.6	-0.3
	comp=Z,128nm,1.4s,mb5.3						
DAVOX	Davos	77.92	16	P	P	15 11 10.2	+1.7
	comp=Z,19nm,1.1s,mb4.9,baz=34,slow=5.1,SNR=6.8						
PKSM	Moragy	79.87	22	eP	P	15 11 20.7	+1.5
BAIF	Baives	79.90	11	eP	P	15 11 19.3	+0.1
BRTR	Keskin Array B	80.69	35	P	P	15 11 25.3	+1.7
	comp=Z,13nm,1.1s,mb4.8,baz=202,slow=6.7,SNR=12						
GERES	GERESS Array B	80.80	17	P	P	15 11 25.2	+1.2
	comp=Z,1.2nm,0.7s,mb4.0,baz=252,slow=4.2,SNR=6.3						
GRA1	Grafenberg Arr	80.97	16	eP	P	15 11 26.7	+1.8
	comp=Z,40nm,1.9s,mb5.0						
GRA1				ePP	PP	15 14 30.8	-1.1
KHC	Kasperske Hory	81.03	17	eP	P	15 11 20.0	-5.2
PSZ	Piszkesteto	81.78	22	ePcP	PcP	15 11 31.0	-4.5
PSZ	Piszkesteto	81.78	22	eP	P	15 11 27.7	-1.5
	comp=Z,12nm,0.8s,mb4.9						
MLR	Muntele Rosu	81.86	26	P	P	15 11 31.3	+1.6
	comp=Z,29nm,1.2s,mb5.1,baz=196,slow=6.9,SNR=7.8						
VRAC	Vranov	82.01	19	P	P	15 11 32.0	+1.6
	comp=Z,1.2nm,0.3s,mb4.3,baz=304,slow=16,SNR=3.5						
PRU	Pruhonice	82.07	17	ex	P	15 11 32.2	+1.6
MORC	Moravsky Berou	82.71	19	eP	P	15 11 34.9	+1.0
	comp=Z,15nm,1.3s,mb4.9						
CLL	Collm	82.89	16	P	P	15 11 37.0	+2.1
CLL				ePP	PP	15 14 47.0	-0.3
CLL	Collm	82.89	16	eP	P	15 11 37.0	+2.1
EKA	Eskdalemuir Ar	84.14	6	P	P	15 11 42.8	+1.7
	comp=Z,6.1nm,0.9s,mb4.7,baz=190,slow=5.1,SNR=6.2						
EKA	Eskdalemuir Ar	84.14	6	P	P	15 11 42.8	+1.7
EKA				LR	LR	15 50 42.5	
AKASG	Malin Array Be	87.40	25	P	P	15 11 58.3	+0.9
	comp=Z,2.5nm,0.7s,mb4.5,baz=222,slow=4.9,SNR=9.5						
AKASG				LR	LR	15 50 42.5	
	comp=Z,74nm,19.2s,MS4.1,baz=25,slow=35						
HFS	Hagfors	91.20	13	P	P	15 12 18.0	+3.0
	comp=Z,8.5nm,0.9s,mb5.1,baz=180,slow=1.5,SNR=6.9						
NB2	NORSAR Subarra	91.58	11	P	P	15 12 19.8	+3.1
	comp=Z,9.6nm,1.1s,mb5.0,baz=203,slow=5.0						
NOA	NORSAR Array B	91.58	11	P	P	15 12 19.2	+2.5
	comp=Z,3.0nm,0.9s,mb4.6,baz=187,slow=7.2,SNR=7.2						
NOA				LR	LR	15 53 13.1	
	comp=Z,95nm,20.2s,MS4.2,baz=200,slow=35						
NOA	NORSAR Array B	91.58	11	P	P	15 12 19.2	+2.5
NOA				LR	LR	15 53 13.1	
FINES	FINESS Array B	95.23	18	LR	LR	15 53 53.6	
	comp=Z,149nm,19.6s,MS4.5,baz=335,slow=34						
SCHQ	Schefferville	95.24	332	LR	LR	15 49 39.1	
	comp=Z,215nm,20.1s,MS4.6,baz=106,slow=32						
PDAR	Pinedale Array	113.53	307	PP	PP	15 18 49.7	+5.7
	comp=Z,1.1nm,1.1s,baz=85,slow=10.0,SNR=5.0						
CMAR	Chiang Mai Arr	117.38	83	PKP	PKPdf	15 17 58.9	+0.6
	comp=Z,0.8nm,0.8s,baz=242,slow=2.9,SNR=4.9						
CMAR				PP	PP	15 19 13.2	+1.6
	comp=Z,0.6nm,0.9s,baz=251,slow=6.0,SNR=4.9						
WRA	Warramunga Arr	122.15	143	PKP	PKPdf	15 18 06.0	-1.6
	comp=Z,1.5nm,0.9s,baz=244,slow=1.7,SNR=13						
WRAB	Tennant Creek	122.17	143	PFAKE		15 18 20.0	+12
WRAB				LR	LR		
	comp=Z,230nm,19.0s,MS4.8						
KMI	Kunming	123.08	77	ePKP	PKPdf	15 18 04.8	-4.4
KMI				XPKP		15 18 10.2	
KMI				SS	SS	15 36 35.1	+3.3
KMI				PP	PP		
	comp=Z,76nm,11.2s						
KMI				LR	LR		
	comp=N,343nm,19.7s,MS5.2						
KMI				LR	LR		
	comp=E,354nm,20.7s,MS5.2						
KMI				LR	LR		
	comp=Z,432nm,19.7s,MS5.1						
GTA	Gaotai	124.37	60	ePKP	PKPdf	15 18 12.5	+1.0
GTA				XPKP		15 18 17.5	
LZH	Lanzhou	126.87	65	ePKP	PKPdf	15 18 13.2	-3.0
LZH				XPKP		15 18 17.6	
LZH				LR	LR		
	comp=N,278nm,18.0s						
LZH				LR	LR		
	comp=Z,345nm,20.1s,MS5.0						
DLBC	Dease Lake	128.16	323	PKP	PKPdf	15 18 18.1	-0.2
	comp=Z,1.8nm,0.9s,baz=176,slow=5.6,SNR=3.6						
SONM	Songino Array	129.98	50	PKP	PKPdf	15 18 21.8	-0.2
	comp=Z,7.7nm,1.4s,baz=225,slow=3.5,SNR=11						
ILAR	Eielson Array	133.93	335	PKP	PKPdf	15 18 29.5	+0.7
	comp=Z,0.9nm,0.9s,baz=325,slow=0.7,SNR=5.1						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CN2	**Changchun**	**143.57**	**54**	*e*PKP	PKPdf	15 18 41.3	-5.5

LDG ***12*** *15:07:00.9±0.4, 42.84N×1.50W, h7^{km}, Md2.6/2, Ml2.7/10, Error ellipse: s-maj=6.6km s-min=3.7km az=47.0*
STR ***12*** *15:07:00.4±0.3, 42.85N×1.49W, h10^{km}±1^{km}, Ml2.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
NEIC ***12*** *15:07:00.9, 42.84N×1.50W, h7^{km}, ML2.8(STR), ML2.7(LDG), MN2.3(MDD), After LDG.*
CSEM ***12*** *15:07:01.7±0.1, 42.86N×1.44W, h8^{km}, ML2.7/9, Error ellipse: s-maj=1.8km s-min=1.4km az=145.0*
MDD ***12*** *15:07:01.7±0.3, 42.87N×1.43W, h6^{km}±3^{km}, mbLg2.2/13, Error ellipse: s-maj=2.7km s-min=2.0km az=34.0, PRXIMO AftershockPLICA*
ISC 12 15:06:59.5±0.4**, 42.84N**±0.02×**1.48W**±0.02**, h13**^{km}±2^{km}**, n74,** σ**1^{s}19**/115**, 2C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.33**	**34**	*e*Pg	**Pg**	**15 07 07.2**	**+0.7**
SJPF				*e*Sg	**Sg**	**15 07 10.2**	**-1.0**
	305nm,0.3s						
EALK	**Alkurruntz**	**0.38**	**357**	⇑Pg	**Pg**	**15 07 08.4**	**+1.0**
	18nm,0.2s,SNR=18						
EALK				Lg		15 07 14.0	
	91nm,0.3s						
LARF	**Larrau**	**0.41**	**61**	Pg	**Pg**	**15 07 08.5**	**+0.4**
LARF				Sg	**Sg**	**15 07 14.9**	**+1.1**
LARF	**Larrau**	**0.41**	**61**	P	**Pg**	**15 07 08.5**	**+0.4**
LARF				S	**Sg**	**15 07 14.0**	**+0.2**
OSSF	**Osses**	**0.45**	**21**	Pg	**Pg**	**15 07 09.3**	**+0.6**
OSSF				Sg	**Sg**	**15 07 15.3**	**+0.5**
OSSF	**Osses**	**0.45**	**21**	P	**Pg**	**15 07 09.3**	**+0.6**
OSSF				S	**Sg**	**15 07 14.4**	**-0.4**
ORDF	**Ordiarp**	**0.55**	**47**	Pg	**Pg**	**15 07 11.2**	**+0.5**
ORDF				Sg	**Sg**	**15 07 19.0**	**+0.9**
ORDF	**Ordiarp**	**0.55**	**47**	P	**Pb**	**15 07 11.2**	**+0.7**
ORDF				S	**Sb**	**15 07 17.8**	**-0.1**
ATE	**Arette**	**0.62**	**66**	P	**Pb**	**15 07 12.2**	**+0.5**
ATE				S	**Sb**	**15 07 20.8**	**+0.7**
FDAF	**Les Forges d'A**	**0.67**	**91**	Pg	**Pg**	**15 07 13.7**	**+0.6**
FDAF				Sg	**Sg**	**15 07 23.1**	**+0.9**
FDAF	**Les Forges d'A**	**0.67**	**91**	P	**Pb**	**15 07 13.1**	**+0.5**
FDAF				S	**Sb**	**15 07 23.1**	**+1.5**
ETSF	**Etsaut**	**0.68**	**85**	*e*Pg	**Pg**	**15 07 12.7**	**-0.6**
ETSF				*e*Sg	**Sg**	**15 07 21.8**	**-0.7**
	31nm,0.3s						
REYF	**Montagne du Re**	**0.83**	**74**	S	**Sb**	**15 07 27.3**	**+1.1**
VIEF	**Viey**	**1.11**	**87**	Pg	**Pg**	**15 07 21.5**	**-0.2**
VIEF	**Viey**	**1.11**	**87**	P	**Pb**	**15 07 20.6**	**+0.5**
VIEF				S	**Sb**	**15 07 35.5**	**+1.3**
LABF	**Labassere**	**1.16**	**79**	Pg	**Pg**	**15 07 22.5**	**-0.3**
LABF	**Labassere**	**1.16**	**79**	P	**Pb**	**15 07 22.2**	**+1.3**
LABF				S	**Sb**	**15 07 37.7**	**+2.0**
EBIE	**Bielsa**	**1.21**	**97**	Pn	**Pn**	**15 07 22.3**	**+0.1**
	0.5nm,0.2s,SNR=7.9						
EBIE				Pg	**Pg**	**15 07 24.0**	**+0.3**
	10nm,0.2s,SNR=7.9						
EBIE				Lg		15 07 39.8	
	20nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**1.21**	**97**	Pn	**Pn**	**15 07 22.3**	**+0.1**
EBIE				Pg	**Pg**	**15 07 24.0**	**+0.3**
EBIE				Lg		15 07 39.8	
EBIE	**Bielsa**	**1.21**	**97**	Pn	**Pn**	**15 07 22.3**	**+0.2**
	0.5nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**1.21**	**97**	Pg	**Pg**	**15 07 24.0**	**+0.3**
	10nm,0.2s,SNR=7.9						
RESF	**Ens**	**1.34**	**91**	Pg	**Pg**	**15 07 26.0**	**-0.3**
RESF				Sg	**Sg**	**15 07 45.2**	**+1.0**
RESF	**Ens**	**1.34**	**91**	P	**Pb**	**15 07 26.4**	**+2.4**
RESF				S	**Sb**	**15 07 43.6**	**+2.7**
ESAC	**San Caprasio**	**1.35**	**146**	⇑Pg	**Pg**	**15 07 25.8**	**-0.7**
	31nm,0.2s,SNR=18						
ESAC				Lg		15 07 43.6	
	83nm,0.2s						
ESAC	**San Caprasio**	**1.35**	**146**	Pg	**Pg**	**15 07 25.8**	**-0.7**
	31nm,0.2s,SNR=18						
EGRA	**Graus**	**1.48**	**115**	Pg	**Pg**	**15 07 28.6**	**-0.5**
	9.0nm,0.3s,SNR=7.9						
EGRA				Lg		15 07 49.3	
	SNR=7.9						
ELAN	**Lanestosa**	**1.48**	**286**	Pg	**Pg**	**15 07 29.0**	**-0.2**
	3.9nm,0.2s,SNR=22						
ELAN				Lg		15 07 50.6	
	9.5nm,0.2s						
ELAN	**Lanestosa**	**1.48**	**286**	Pg	**Pg**	**15 07 29.0**	**-0.2**
	3.9nm,0.2s,SNR=22						
MELF	**Melles**	**1.65**	**88**	Pg	**Pg**	**15 07 31.8**	**-0.7**
MELF				Sg	**Sg**	**15 07 54.3**	**-0.2**
SALF	**Salau**	**1.97**	**91**	Pg	**Pg**	**15 07 37.0**	**-1.8**
SALF				Sg	**Sg**	**15 08 04.6**	**-0.5**
ETOR	**Torete**	**2.06**	**192**	Pn	**Pn**	**15 07 36.6**	**+2.2**
	0.5nm,0.2s,SNR=11						
ETOR				Pg	**Pg**	**15 07 40.5**	**-0.3**
	4.4nm,0.3s,SNR=9.3						
ETOR				Lg		15 08 08.7	
	20nm,0.4s						
ETOR	**Torete**	**2.06**	**192**	Pn	**Pn**	**15 07 36.6**	**+2.2**
ETOR				Pg	**Pg**	**15 07 40.5**	**-0.3**
ETOR				Lg		15 08 04.2	
EMIR	**Miracle**	**2.41**	**112**	Pg	**Pg**	**15 07 44.0**	**-3.7**
	1.6nm,0.1s,SNR=4.9						
EMIR				Lg		15 08 17.0	
	5.3nm,0.2s						
EMIR	**Miracle**	**2.41**	**112**	Pg	**Pg**	**15 07 44.0**	**-3.7**
	1.6nm,0.1s,SNR=4.9						
EPOB	**Poblet**	**2.42**	**127**	Pn	**Pn**	**15 07 39.7**	**+0.3**
	0.4nm,0.1s,SNR=7.9						
EPOB				Pg	**Pg**	**15 07 44.7**	**-3.1**
	0.8nm,0.1s,SNR=5.5						
EPOB				Sn	**Sn**	**15 08 08.0**	**-1.1**
	1.4nm,0.2s,SNR=7.9						
EPOB				Lg		15 08 18.3	
	3.7nm,0.2s						
EPOB	**Poblet**	**2.42**	**127**	Pn	**Pn**	**15 07 39.7**	**+0.3**
EPOB				Pg	**Pg**	**15 07 44.7**	**-3.1**
EPOB				Sn	**Sn**	**15 08 08.0**	**-1.1**
EPOB				Lg		15 08 14.7	
EPOB	**Poblet**	**2.42**	**127**	Pn	**Pn**	**15 07 39.7**	**+0.3**
	0.4nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**2.42**	**127**	Pg	**Pg**	**15 07 44.7**	**-3.1**
	0.8nm,0.1s,SNR=5.5						
EPOB				Sn	**Sn**	**15 08 08.0**	**-1.1**
	1.4nm,0.2s,SNR=7.9						
EBR	**Ebro Roquetas**	**2.50**	**143**	*e*SN	**Sn**	**15 08 15.0**	**+3.7**
EMOS	**Mosqueruela**	**2.59**	**163**	Pn	**Pn**	**15 07 42.3**	**+0.4**
	0.3nm,0.2s,SNR=4.0						
EMOS				Pg	**Pg**	**15 07 50.3**	**-0.9**
	3.4nm,0.4s,SNR=6.8						
EMOS				Lg		15 08 23.6	
	7.4nm,0.4s						
EMOS	**Mosqueruela**	**2.59**	**163**	Pn	**Pn**	**15 07 42.3**	**+0.4**
EMOS				Pg	**Pg**	**15 07 50.3**	**-0.9**
EMOS				Lg		15 08 20.2	
EMOS	**Mosqueruela**	**2.59**	**163**	Pn	**Pn**	**15 07 42.3**	**+0.4**
	0.3nm,0.2s,SNR=4.0						
EMOS	**Mosqueruela**	**2.59**	**163**	Pg	**Pg**	**15 07 50.3**	**-0.9**
	3.4nm,0.4s,SNR=6.8						
LFF	**La Frestale**	**2.64**	**37**	*e*Pn	**Pn**	**15 07 42.3**	**-0.4**
LFF				*e*Sg	**Sg**	**15 08 21.0**	**-6.6**
	2.7nm,0.2s						
MTLF	**Montolieu**	**2.75**	**78**	*e*Pn	**Pn**	**15 07 45.3**	**+1.0**
MTLF				*e*Pg	**Pg**	**15 07 52.3**	**-2.2**
MTLF				*e*Sn	**Sn**	**15 08 17.2**	**-0.6**
	3.7nm,0.3s						
EARI	**Arriondas**	**2.77**	**281**	Pn	**Pn**	**15 07 46.9**	**+2.4**
	0.8nm,0.3s,SNR=7.9						
EARI				Sn	**Sn**	**15 08 19.7**	**+1.5**
	1.2nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**2.77**	**281**	Pn	**Pn**	**15 07 46.9**	**+2.4**
	0.8nm,0.3s,SNR=7.9						
EARI				Sn	**Sn**	**15 08 19.7**	**+1.5**
	1.2nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**3.25**	**95**	Lg		15 08 43.7	
	2.9nm,0.3s,SNR=7.9						
RJF	**Les Rejaudoux**	**3.28**	**40**	*e*Pn	**Pn**	**15 07 50.3**	**-1.4**
RJF				*e*Sn	**Sn**	**15 08 28.6**	**-2.4**
	4.3nm,0.3s						
CAF	**Calviac**	**3.30**	**50**	*e*Pn	**Pn**	**15 07 51.0**	**-1.1**
CAF				*e*Sn	**Sn**	**15 08 29.0**	**-2.6**
	2.4nm,0.2s						
ESDC	**Sonseca Array**	**3.67**	**211**	Pn	**Pn**	**15 07 56.8**	**-0.6**
	1.0nm,0.2s,baz=37,slow=13,SNR=4.6						
ESDC				Pg	**Pg**	**15 08 09.5**	**-3.4**
	1.1nm,0.4s,baz=30,slow=18,SNR=4.7						
ESDC				Lg		15 08 57.0	
	1.4nm,0.6s,baz=29,slow=29,SNR=5.9						
ESDC	**Sonseca Array**	**3.67**	**211**	Pn	**Pn**	**15 07 56.8**	**-0.5**
	1.0nm,0.2s,slow=13,SNR=4.6						
ESDC	**Sonseca Array**	**3.67**	**211**	Pg	**Pg**	**15 08 09.5**	**-3.4**
	1.1nm,0.4s,baz=30,slow=18,SNR=4.7						
MFF	**Saint Martin d**	**3.88**	**14**	*e*Pn	**Pn**	**15 07 59.7**	**-0.6**
MFF				*e*Sn	**Sn**	**15 08 42.8**	**-3.4**
	2.3nm,0.3s						
ECAL	**Calabor**	**4.00**	**259**	Pn	**Pn**	**15 07 59.8**	**-2.1**
	0.9nm,0.1s,SNR=4.0						
ECAL				Lg		15 09 09.7	
	6.4nm,0.5s,SNR=4.0						
ECAL	**Calabor**	**4.00**	**259**	Pn	**Pn**	**15 07 59.8**	**-2.1**
ECAL				Lg		15 09 08.3	
ECAL	**Calabor**	**4.00**	**259**	Pn	**Pn**	**15 07 59.8**	**-2.1**
	0.9nm,0.1s,SNR=4.0						
LASF	**Ste Croix**	**4.08**	**71**	*e*Pn	**Pn**	**15 08 02.5**	**-0.6**
LASF				*e*Sn	**Sn**	**15 08 48.9**	**-2.3**
	3.8nm,0.3s						
EPON	**Pontenova**	**4.18**	**279**	Pn	**Pn**	**15 08 06.5**	**+1.9**
	1.1nm,0.3s,SNR=4.0						
EPON				Lg		15 09 14.1	
	1.9nm,0.5s,SNR=4.0						
EPON	**Pontenova**	**4.18**	**279**	Pn	**Pn**	**15 08 06.5**	**+1.9**
EPON				Lg		15 09 13.7	
EPON	**Pontenova**	**4.18**	**279**	Pn	**Pn**	**15 08 06.5**	**+2.0**
	1.1nm,0.3s,SNR=4.0						
ERUA	**La Rua**	**4.20**	**266**	Pn	**Pn**	**15 08 05.7**	**+0.9**
	SNR=7.9						
TCF	**Toulx Ste Croi**	**4.34**	**36**	*e*Sn	**Sn**	**15 08 53.3**	**-4.6**
	2.8nm,0.3s						
BGF	**Bois d'Agland**	**4.83**	**38**	*e*Pn	**Pn**	**15 08 12.2**	**-1.6**
BGF				*e*Sn	**Sn**	**15 09 05.7**	**-4.6**
	8.1nm,0.3s						
VIVF	**Saint-Julien-l**	**4.89**	**64**	*e*Pn	**Pn**	**15 08 13.7**	**-0.8**
EQES	**Quesada**	**5.18**	**194**	Pn	**Pn**	**15 08 18.7**	**+0.1**
	0.3nm,0.1s,SNR=4.0						
EQES				Pg	**Pg**	**15 08 37.7**	**-5.2**
	SNR=7.9						
EQES	**Quesada**	**5.18**	**194**	Pn	**Pn**	**15 08 18.7**	**+0.1**
EQES	**Quesada**	**5.18**	**194**	Pg	**Pg**	**15 08 37.7**	**-5.1**
EADA	**Adamuz**	**5.23**	**208**	Pn	**Pn**	**15 08 18.9**	**-0.5**
	0.6nm,0.2s,SNR=12						
EADA				Sn	**Sn**	**15 09 17.1**	**-3.2**
	0.3nm,0.2s,SNR=4.0						
EADA	**Adamuz**	**5.23**	**208**	Pn	**Pn**	**15 08 18.9**	**-0.5**
EADA				Sn	**Sn**	**15 09 17.1**	**-3.2**
EMAZ	**Mazaricos**	**5.51**	**274**	Pn	**Pn**	**15 08 23.7**	**+0.4**
	0.5nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**5.51**	**274**	Pn	**Pn**	**15 08 23.7**	**+0.4**
EBER	**Berja**	**6.03**	**191**	Pn	**Pn**	**15 08 31.3**	**+0.6**
	0.5nm,0.2s,SNR=4.0						
EBER	**Berja**	**6.03**	**191**	Pn	**Pn**	**15 08 31.3**	**+0.6**

IDC ***12*** *15:17:57.4±4.5, 23.54N×93.92E, h73^{km}±40^{km}, mb3.2/3, mb1 3.4/4, mb1mx3.2/18, ML3.7/1, Error ellipse: s-maj=61.6km s-min=20.0km az=65.0*
ISC 12 15:17:53.9±1.0**, 23.1N**±0.1×**93.3E**±0.1**, h86**^{km}±17^{km}**, n11,** σ**1^{s}56**/17**, mb3.3**/3**, 1D, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IMP	**Imphal**	**1.74**	**20**	⇓*i*P	**P**	**15 18 17.0**	**-6.1**
SHL	**Shillong**	**2.72**	**333**	*e*PN	**P**	**15 18 37.2**	**+0.6**
CMAR	**Chiang Mai Arr**	**7.06**	**130**	P	**P**	**15 19 35.6**	**-0.9**
	0.3nm,0.3s,baz=310,slow=13,SNR=12						
CMAR				S	**S**	**15 20 54.0**	**-1.9**
	0.4nm,0.3s,baz=323,slow=14,SNR=3.7						
GUN	**Gumba**	**8.19**	**307**	*e*Pn	**P**	**15 19 53.8**	**+1.9**
GUN				*e*Sn	**S**	**15 21 21.6**	**-2.0**
	79nm,0.3s						
PKI	**Pulchoki**	**8.36**	**303**	*e*Pn	**P**	**15 19 56.1**	**+1.8**
PKI				*e*Sn	**S**	**15 21 26.3**	**-1.6**
	37nm,0.4s						
KKN	**Kakani**	**8.57**	**304**	*e*Pn	**P**	**15 19 58.8**	**+1.7**
KKN				*e*Sn	**S**	**15 21 31.9**	**-1.1**
	77nm,0.5s						
DMN	**Daman**	**8.62**	**303**	*e*Pn	**P**	**15 19 58.9**	**+1.2**
DMN				*e*Sn	**S**	**15 21 33.1**	**-1.0**
	37nm,0.5s						
GKN	**Gorkha**	**9.17**	**304**	*e*Pn	**P**	**15 20 06.7**	**+1.5**
GKN				*e*Sn	**S**	**15 21 44.6**	**-3.0**
	106nm,0.3s						
MKAR	**Makanchi Array**	**25.20**	**342**	P	**P**	**15 23 14.3**	**+1.4**
	0.4nm,0.5s,mb3.1,baz=159,slow=10,SNR=5.5						
SONM	**Songino Array**	**26.78**	**20**	P	**P**	**15 23 25.7**	**-1.8**
	0.3nm,0.5s,mb3.1,baz=202,slow=9.6,SNR=4.9						
WRA	**Warramunga Arr**	**58.64**	**134**	P	**P**	**15 27 46.2**	**+1.5**
	0.6nm,0.8s,mb3.7,baz=321,slow=7.4,SNR=14						

NIED ***12*** *15:20:00, 33.10N×137.20E, h14^{km}, Mw3.9 Best double couple: Mo9.37×10^{14} NP1:φs102°, δ60°, λ124°. NP2: φs228°, δ44°, λ46°.*
NEIC ***12*** *15:20:53.1±0.6, 33.01N×137.28E, h10^{km}, mb4.3/2, Error ellipse: s-maj=14.6km s-min=11.3km az=131.0*
JMA ***12*** *15:20:53.8±0.1, 33.07N×137.19E, h43^{km}±2^{km}, M4.2*
IDC ***12*** *15:20:57.1±0.9, 32.94N×137.29E, h39^{km}±8^{km}, mb3.6/11, mb1 3.8/13, mb1mx3.7/26, ML3.7/2, MS2.6/1, Ms1 2.6/1, ms1mx2.0/31, Error ellipse: s-maj=23.0km s-min=16.5km az=36.0*
ISC 12 15:20:53.9±0.9**, 33.09N**±0.03×**137.21E**±0.03**, h29**^{km}±6^{km}**, h38**^{km}±2.0^{km}**: pP-P, n39,** σ**1^{s}00**/54**, mb3.8**/11**, 2C-9D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.74**	**25**	P	**Pb**	**15 21 08.2**	**0.0**
TK01				S	**Sb**	**15 21 18.8**	**+0.8**
TK02	**Tokai 2**	**0.97**	**28**	⇓P	**Pn**	**15 21 11.5**	**-0.1**
TK02				S	**Sb**	**15 21 24.9**	**+0.6**
TK03	**Tokai 3**	**1.24**	**30**	P	**Pn**	**15 21 15.5**	**0.0**
TK03				S	**Sn**	**15 21 31.6**	**+0.2**
JWZ	**Kozaga**	**1.33**	**290**	⇑P	**Pn**	**15 21 16.1**	**-0.7**
JWZ				*e*S	**Sn**	**15 21 31.8**	**-1.8**
JIE	**Ise**	**1.36**	**342**	⇓P	**Pn**	**15 21 17.4**	**+0.1**
JIE				S	**Sn**	**15 21 35.2**	**+0.7**
TK04	**Tokai 4**	**1.40**	**23**	⇓P	**Pn**	**15 21 17.9**	**+0.1**
TK04				S	**Sn**	**15 21 35.6**	**+0.1**
JWM	**Minabe**	**1.73**	**296**	⇑P	**Pn**	**15 21 22.0**	**-0.5**
JWM				*e*S	**Sn**	**15 21 42.6**	**-1.1**
TSUJ	**Tsu 2**	**1.74**	**338**	⇓P	**Pn**	**15 21 22.7**	**0.0**
TSUJ				S	**Sn**	**15 21 43.8**	**-0.3**
JWY	**Kouya**	**1.76**	**310**	⇓P	**Pn**	**15 21 23.2**	**+0.3**
JWY				*e*S	**Sn**	**15 21 43.6**	**-0.9**
JHE	**Heguri**	**2.01**	**321**	⇓P	**Pn**	**15 21 26.6**	**+0.1**
JHE				*e*S	**Sn**	**15 21 50.1**	**-0.8**
JIZS	**Izushimoda**	**2.13**	**40**	P	**Pn**	**15 21 27.9**	**-0.4**
SHZ3	**Shizuoka 3**	**2.14**	**23**	⇓P	**Pn**	**15 21 27.8**	**-0.5**
JHJ	**Hachijo jima 2**	**2.16**	**89**	Pn	**Pn**	**15 21 28.8**	**+0.2**
	38nm,0.3s,baz=79,slow=5.6,SNR=20						
JHJ				Sn	**Sn**	**15 21 53.0**	**-1.7**
	52nm,0.3s,baz=74,slow=23,SNR=13						
JHJ2	**Mitsune**	**2.19**	**89**	P	**Pn**	**15 21 28.6**	**-0.4**
JHJ2				*e*S	**Sn**	**15 21 53.2**	**-2.2**
JAI	**Aioi**	**2.41**	**288**	P	**Pn**	**15 21 31.9**	**-0.4**
JIM2	**Oshima 3**	**2.46**	**48**	P	**Pn**	**15 21 33.4**	**+0.5**
JGM	**Miyama**	**2.63**	**351**	⇓P	**Pn**	**15 21 35.4**	**0.0**
JGM				S	**Sn**	**15 22 06.1**	**-0.6**
JYN	**Shimob**	**2.64**	**24**	S	**Sn**	**15 22 06.5**	**-0.4**
JWT	**Wachi**	**2.65**	**326**	⇓P	**Pn**	**15 21 35.7**	**0.0**
JWT				*e*S	**Sn**	**15 22 07.1**	**-0.1**
MAJO	**Matsushiro**	**3.54**	**13**	*e*Pn	**Pn**	**15 21 48.7**	**+0.4**
MAT	**Matsushiro**	**3.54**	**13**	P	**Pn**	**15 21 48.6**	**+0.3**
MAT				S	**Sn**	**15 22 28.4**	**-1.2**
MAT	**Matsushiro**	**3.54**	**13**	*e*P	**Pn**	**15 21 49.0**	**+0.7**
MAT				*e*S	**Sn**	**15 22 28.0**	**-1.6**
CBIJ	**Chichi jima**	**7.37**	**143**	Pn	**Pn**	**15 22 40.0**	**-2.3**
	4.2nm,0.3s,baz=300,slow=20,SNR=3.3						
ASAJ	**Asahikawa**	**11.78**	**19**	LR	LR	15 28 16.6	
	comp=Z,28nm,21.7s,baz=160,slow=37						
ENH	**Enshi**	**23.74**	**271**	*e*P	**P**	**15 26 06.4**	**+2.0**
	14nm,0.9s,mb4.4						
SONM	**Songino Array**	**27.47**	**312**	P	**P**	**15 26 40.6**	**+1.3**
	0.4nm,1.0s,baz=121,slow=8.4,SNR=3.1						
SONM				pP	pP	15 26 52.7	+4.9
	1.3nm,0.9s,baz=108,slow=7.8,SNR=5.9						
SONM				PcP	PcP	15 29 57.2	-0.4
	0.4nm,0.9s,baz=117,slow=3.2,SNR=2.2						
MKAR	**Makanchi Array**	**43.42**	**305**	P	**P**	**15 28 56.9**	**+1.3**
	0.9nm,0.8s,mb3.6,baz=74,slow=8.8,SNR=5.6						
MKAR				pP	pP	15 29 08.2	+3.8
	0.7nm,0.7s,baz=78,slow=8.8,SNR=3.1						
KURK	**Kurchatov**	**45.77**	**311**	P	**P**	**15 29 14.2**	**-0.2**
	1.8nm,0.8s,mb4.0						
BVAR	**Borovoye Array**	**50.76**	**314**	P	**P**	**15 29 54.7**	**+1.6**
	0.5nm,0.7s,mb3.5,baz=56,slow=5.2,SNR=2.7						
WRA	**Warramunga Arr**	**52.81**	**183**	P	**P**	**15 30 07.5**	**-1.5**
	0.6nm,0.9s,mb3.5,baz=2.8,slow=7.7,SNR=5.1						
WRA				pP	pP	15 30 18.5	+0.5
	0.7nm,0.8s,baz=2.6,slow=8.0,SNR=4.2						
ILAR	**Eielson Array**	**54.65**	**31**	P	**P**	**15 30 22.7**	**+0.8**
	0.3nm,0.6s,mb3.5,baz=288,slow=7.0,SNR=5.6						
INK	**Inuvik**	**59.44**	**26**	P	**P**	**15 30 54.6**	**-1.3**
	2.5nm,0.8s,mb4.3,baz=333,slow=6.8,SNR=3.7						
NOUC	**Port Laguerre**	**61.51**	**149**	*e*P	**P**	**15 31 13.9**	**+3.3**
NOUC	**Port Laguerre**	**61.51**	**149**	*e*P	**P**	**15 31 13.9**	**+3.3**
AKASG	**Malin Array Be**	**75.26**	**321**	P	**P**	**15 32 35.9**	**+0.4**
	1.1nm,0.6s,mb4.0,baz=49,slow=6.0,SNR=4.7						
NOA	**NORSAR Array B**	**76.44**	**336**	P	**P**	**15 32 42.5**	**+0.5**
	1.5nm,1.1s,mb3.9,baz=65,slow=6.5,SNR=2.4						
NVAR	**Mina Array Bea**	**80.13**	**51**	P	**P**	**15 33 04.5**	**+1.8**
	0.7nm,0.8s,mb3.7,baz=303,slow=3.8,SNR=4.0						
PDAR	**Pinedale Array**	**82.89**	**43**	P	**P**	**15 33 19.1**	**+2.1**
	0.4nm,0.8s,mb3.5,baz=315,slow=3.8,SNR=3.0						
TXAR	**Lajitas Array**	**95.27**	**50**	P	**P**	**15 34 18.2**	**+1.8**
	8.1nm,0.5s,baz=288,slow=2.9,SNR=3.6						

IDC ***12*** *15:28:58.6±0.5, 16.99S×174.41E, mb4.9/15, mb1 5.0/15, mb1mx5.0/17, MS4.8/15, Ms1 4.8/15, ms1mx4.7/22, Error ellipse: s-maj=21.1km s-min=16.0km az=154.0*
BJI ***12*** *15:29:00.6, 16.73S×174.92E, h24^{km}, mB5.4, mb5.1, Ms5.2, Msz5.0*
LDG ***12*** *15:29:01.2±0.2, 16.58S×173.81E, h10^{km}, Mb5.1/2, Ms4.8/8, Error ellipse: s-maj=27.7km s-min=4.9km az=130.0*
MOS ***12*** *15:29:02.9±1.2, 17.13S×174.28E, h33^{km}, mb5.2/5, MS4.9/8, Error ellipse: s-maj=21.2km s-min=17.2km az=29.6*
NEIC ***12*** *15:29:02.2±3.1, 17.08S×174.47E, h24^{km}±21^{km}, mb5.3/36, MS5.0/25, MW5.5, Error ellipse: s-maj=10.1km s-min=6.4km az=155.0, Moment Tensor Solution. s6 Moment tensor: Scale 10^{17}Nm; M_{rr}0.24; $M_{\theta\theta}$-0.39; $M_{\phi\phi}$0.15; $M_{r\theta}$-0.11; $M_{\theta\phi}$2.04; $M_{\phi r}$0.59; Best double couple: Mo2.1×10^{17} NP1:φs86°, δ74°, λ1°. NP2:φs356°, δ89°, λ164°. Principal axes: T 2.01, Plg12°, Azm310°; N .25, Plg74°, Azm172°; P -2.27, Plg11°, Azm42°;*
HRVD ***12*** *15:29:02.2±0.1, 16.90S×174.51E, h13^{km}, MW5.4/74, Centroid moment Tensor Solution. LP body waves: s68,c126;Mantle waves: s74,c159; Half duration: 1^{s}3 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.21±.02; $M_{\theta\theta}$0.52±.03; $M_{\phi\phi}$-0.31±.02; $M_{r\theta}$-0.28±.06; $M_{\theta\phi}$1.69±.03; $M_{\phi r}$-0.37±.06; Best double couple: Mo1.79×10^{17} NP1: φs278°, δ78°, λ5°. NP2:φs186°, δ85°, λ168°. Principal axes: T 1.94, Plg12°, Azm141°; N -.29, Plg77°, Azm345°; P -1.65, Plg5°, Azm233°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
SYO ***12*** *15:29:03.4, 17.08S×174.44E, h33^{km}, MB5.3, MS4.9*
ISC 12 15:29:03.0±1.6**, 17.17S**±0.05×**174.45E**±0.05**, h41**^{km}±14^{km}**, h28**^{km}±4.7^{km}**: pP-P, n278,** σ**1^{s}14**/145**, mb5.1**/57**, MS4.9**/54**, 31C-17D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**5.94**	**264**	⇑*i*P	**P**	**15 30 31.6**	**+0.9**
DZM	**Mont Dzumac**	**8.98**	**236**	⇓*i*P	**P**	**15 31 13.4**	**+0.4**
AFI	**Afiamalu**	**13.66**	**78**	*e*P	**P**	**15 32 14.3**	**-2.2**
	148nm,1.1s						
KUZ	**Kuaotunu**	**19.53**	**177**	P	**P**	**15 33 31.0**	**+1.1**
PUZ	**Puketiti**	**21.09**	**172**	P	**P**	**15 33 44.9**	**-1.3**
URZ	**Urewera**	**21.14**	**174**	P	**P**	**15 33 47.5**	**+0.8**
	142nm,1.0s,mb5.2,baz=28,slow=5.9,SNR=28						
URZ				LR	LR	15 40 42.8	
	comp=Z,4µm,18.2s,MS4.8,baz=190,slow=33						
URZ	**Urewera**	**21.14**	**174**	P	**P**	**15 33 48.3**	**+1.6**
MWZ	**Matawai**	**21.26**	**173**	P	**P**	**15 33 48.4**	**+0.5**
HIZ	**Hauiti**	**21.27**	**179**	P	**P**	**15 33 55.3**	**+7.3**
QRZ	**Quartz Range**	**23.63**	**184**	P	**P**	**15 34 17.4**	**+6.1**
NNZ	**Nelson**	**23.98**	**182**	P	**P**	**15 34 14.5**	**-0.2**
THZ	**Tophouse**	**24.55**	**183**	P	**P**	**15 34 20.8**	**+0.6**
RAR	**Rarotonga**	**24.67**	**103**	P	**P**	**15 34 22.5**	**+0.9**
	64nm,1.1s,mb5.1,baz=243,slow=2.8,SNR=4.1						
RAR				LR	LR	15 42 26.3	
	comp=Z,880nm,18.2s,MS4.3,baz=281,slow=33						
KHZ	**Kahutara**	**25.18**	**182**	P	**P**	**15 34 25.5**	**-0.7**
RPZ	**Rata Peaks**	**26.62**	**185**	P	**P**	**15 34 40.8**	**+1.2**
	11nm,0.9s,mb4.4,baz=12,slow=18,SNR=3.0						
RPZ				LR	LR	15 44 08.1	
	comp=Z,5µm,18.6s,MS5.1,baz=4.2,slow=34						
CTA	**Charters Tower**	**26.86**	**259**	P	**P**	**15 34 42.0**	**-0.1**
	42nm,0.8s,mb5.0,baz=83,slow=10,SNR=24						
CTA				LR	LR	15 43 55.3	
	comp=Z,2µm,19.2s,MS4.7,baz=84,slow=33						
CTAO	**Charters Tower**	**26.86**	**259**	*e*P	**P**	**15 34 41.8**	**-0.3**
	72nm,0.9s,mb5.2						
CTAO				LR	LR		
	comp=Z,2µm,19.0s,MS4.7						
PMG	**Port Moresby**	**27.63**	**283**	P	**P**	**15 34 47.9**	**-1.2**
	comp=Z,36nm,1.1s,mb4.9,baz=138,slow=6.6,SNR=4.3						
PMG				LR	LR	15 42 58.2	
	comp=Z,3µm,18.8s,MS4.9,baz=88,slow=30						
WAU	**Wau**	**28.77**	**286**	*e*P	**P**	**15 34 57.9**	**-1.4**
STKA	**Stephens Creek**	**33.13**	**238**	P	**P**	**15 35 37.7**	**+0.1**
	comp=Z,44nm,0.8s,mb5.4,baz=68,slow=7.9,SNR=62						
STKA				LR	LR	15 48 26.3	
	comp=Z,3µm,18.4s,MS5.0,baz=54,slow=35						
STKA	**Stephens Creek**	**33.13**	**238**	⇓*e*P	**P**	**15 35 37.2**	**-0.4**
STKA				*e*		15 35 43.2	
PPT	**Papeete**	**34.31**	**96**	*e*L		15 43 44.3	
PPT				*e*R		15 44 52.5	
	comp=Z,2µm,23.0s,baz=257						
TBI	**Tubuai**	**34.35**	**106**	*e*L		15 43 27.2	
TBI				*e*R		15 45 06.0	
	comp=Z,3µm,30.8s,baz=270						
ADE	**Adelaide**	**36.42**	**234**	*e*P	**P**	**15 36 06.6**	**+0.9**
WRAB	**Tennant Creek**	**38.05**	**259**	⇓*e*P	**P**	**15 36 17.1**	**-2.4**
	comp=Z,21nm,0.8s,mb4.9						
WRAB				LR	LR		
	comp=Z,502nm,21.0s,MS4.3						
WRA	**Warramunga Arr**	**38.06**	**259**	P	**P**	**15 36 17.4**	**-2.2**
	comp=Z,14nm,0.7s,mb4.8,baz=91,slow=9.2,SNR=30						
WRA				PP	PP	15 37 47.3	-3.0
	comp=Z,2.9nm,0.9s,baz=96,slow=9.4,SNR=2.3						
WRA				LR	LR	15 50 42.6	
	comp=Z,1µm,18.4s,MS4.8,baz=90,slow=34						
MBWA	**Marble Bar**	**51.63**	**256**	*e*P	**P**	**15 38 06.3**	**-1.7**
	comp=Z,48nm,1.2s,mb5.3						
MBWA				LR	LR		
	comp=Z,1µm,22.0s,MS4.8						
NWAO	**Narrogin (SRO)**	**53.55**	**242**	*e*P	**P**	**15 38 20.8**	**-1.4**
	comp=Z,134nm,1.1s,mb5.8						
JHJ	**Hachijo jima 2**	**59.98**	**327**	LR	LR	16 01 16.5	
	comp=Z,1µm,18.4s,MS5.1,baz=160,slow=32						
SBA	**Scott Base**	**60.83**	**182**	*e*P	**P**	**15 39 12.8**	**-0.4**
	comp=Z,46nm,0.9s,mb5.6						
KKM	**Kota Kinabalu**	**61.98**	**287**	⇓*e*P	**P**	**15 39 21.2**	**-0.4**
JOW	**Kunigami**	**62.62**	**313**	LR	LR	16 01 11.3	
	comp=Z,822nm,20.8s,MS4.9,baz=89,slow=31						
MAJO	**Matsushiro**	**63.45**	**328**	*e*P	**P**	**15 39 27.7**	**-3.4**
	comp=Z,82nm,1.5s,mb5.6						
MAT	**Matsushiro**	**63.45**	**328**	P	**P**	**15 39 27.6**	**-3.6**
MAT				S	**S**	**15 47 56.0**	**-3.4**
MAT	**Matsushiro**	**63.45**	**328**	*e*P	**P**	**15 39 28.0**	**-3.2**
	comp=Z,42nm,1.5s,mb5.3						
MAT				*e*S	**S**	**15 47 56.0**	**-3.4**
MAT				LR	LR		
	comp=Z,710nm,20.0s,MS4.8						
CASY	**Casey**	**64.00**	**204**	*e*P	**P**	**15 39 33.0**	**-1.2**
	comp=Z,37nm,1.0s,mb5.4						
ASAJ	**Asahikawa**	**67.58**	**336**	LR	LR	16 04 20.6	
	comp=Z,1µm,21.3s,MS5.2,baz=172,slow=32						
FX1	**Attu Island--F**	**69.77**	**359**	LR	LR	16 03 47.3	
	comp=Z,26nm,19.8s,baz=98,slow=30						
YSS	**Yuzh-Sakhalins**	**69.91**	**337**	⇑*e*P	**P**	**15 40 19.3**	**+7.5**
SSE	**Sheshan**	**70.14**	**313**	P	**P**	**15 40 13.3**	**-0.2**
SSE				S	S	15 49 24.9	+4.6
SSE				AMB	AMB		
	comp=Z,25nm,0.8s,mb5.2						
SSE				LR	LR		
	comp=N,515nm,37.8s,MS4.7						

SSE LR LR
comp=E,591nm,37.6s,MS4.7
SSE LR LR
comp=Z,878nm,35.0s,MS4.8
MIR Mirnyy 70.98 205⇑ *eP* **P 15 40 19.0 +1.0**
MIR pmax pmax
comp=Z,45nm,2.0s,mb5.0
PET Petropavlovsk 71.22 350 *eP* **P 15 40 20.5 +0.8**
PET *e*PPP PPP 15 44 38.1 -3.1
PET *e*S S 15 49 36.9 +4.4
PET *e*PS PS 15 50 06.2 -0.5
PET *e* 15 50 26.1
PET *e*SS SS 15 54 13.5 +4.6
PET pmax pmax
comp=Z,100nm,10.3s
PET pmax pmax
comp=Z,22nm,1.3s,mb4.9
PET smax
comp=N,300nm,20.4s
PET smax
comp=E,300nm,20.3s
PET MLR MLR
comp=Z,400nm,16.0s,MS4.8
PET Petropavlovsk 71.22 350 *eP* **P 15 40 20.5 +0.8**
comp=Z,22nm,1.3s,mb4.9
PET *e*PPP PPP 15 44 38.1 -3.1
PET *e*S S 15 49 36.9 +4.4
PET *e*PS PS 15 50 06.2 -0.5
PET *e* 15 50 26.1
PET *e*SS SS 15 54 13.5 +4.6
PET LR LR
comp=Z,400nm,16.0s,MS4.8
NJ2 Nanjing 72.32 313 *eP* **P 15 40 27.4 +0.9**
NJ2 AP pP 15 40 37.7 -1.0
NJ2 XP sP 15 40 41.7 -1.5
NJ2 PP PP 15 43 10.4 +1.0
NJ2 S S 15 49 48.0 +2.5
NJ2 XS 15 50 06.0
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
NJ2 LR LR
comp=N,1µm,19.8s,MS5.3
NJ2 LR LR
comp=E,1µm,19.1s,MS5.3
NJ2 LR LR
comp=Z,2µm,18.8s,MS5.5
QSPA South Pole Qui 72.88 180 *eP* **P 15 40 28.5 -0.5**
comp=Z,36nm,1.0s,mb5.3
QSPA LR LR
comp=Z,230nm,18.8s,MS4.5
QIZ Qiongzhong 72.98 297 P **P 15 40 30.2 -0.5**
QIZ S S 15 49 56.2 +2.9
QIZ PS PS 15 50 28.7 -2.2
QIZ LR LR
comp=E,314nm,21.3s
QIZ LR LR
comp=Z,521nm,24.6s,MS4.7
MDJ Mudanjiang 73.82 328 P **P 15 40 35.4 +0.2**
MDJ S S 15 50 09.5 +7.2
MDJ AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
MDJ AMB AMB
comp=Z,131nm,7.9s
MDJ LR LR
comp=N,269nm,37.8s,MS4.5
MDJ LR LR
comp=E,358nm,32.9s,MS4.5
MDJ LR LR
comp=Z,548nm,34.1s,MS4.6
WHN Wuhan 74.76 309 *eP* **P 15 40 41.0 +0.1**
SNY Shenyang 75.17 323 ⇑P **P 15 40 44.1 +1.1**
SNY LR LR
comp=N,770nm,14.5s
SNY LR LR
comp=Z,720nm,14.1s,MS5.1
CN2 Changchun 75.42 326 *eP* **P 15 40 43.2 -1.2**
CN2 *e*S S 15 50 23.3 +3.2
CN2 AMB AMB
comp=Z,20nm,1.1s,mb5.0
CN2 AMB AMB
comp=Z,300nm,3.0s
CN2 LR LR
comp=N,900nm,16.0s,MS5.3
CN2 LR LR
comp=E,700nm,16.0s,MS5.3
CN2 LR LR
comp=Z,1µm,17.0s,MS5.2
IPM Ipoh 75.60 279⇑ *eP* **P 15 40 47.8 +1.7**
TIA Tai'an 75.83 315 *eP* **P 15 40 45.7 -1.2**
KKTK Khon Kaen 78.03 291 P **P 15 41 00.0 +0.4**
BJI Beijing 78.58 318 P **P 15 41 03.2 +1.0**
BJI LR LR
comp=N,485nm,15.2s,MS5.0
BJI LR LR
comp=E,200nm,16.2s,MS5.0
BJI LR LR
comp=Z,888nm,32.6s
GYA Guiyang 78.81 302⇑ *iP* **P 15 41 05.7 +2.0**
GYA AP pP 15 41 12.2 -3.8
GYA PP PP 15 44 08.1 +4.0
GYA S S 15 51 04.5 +7.3
GYA SKS SKS 15 51 16.2 +5.7
GYA AMB AMB
comp=Z,200nm,4.8s
GYA LR LR
comp=N,360nm,19.2s,MS4.9
GYA LR LR
comp=E,430nm,18.3s,MS4.9
GYA LR LR
comp=Z,760nm,19.8s,MS5.0
XAN Xi'an 80.48 310 P **P 15 41 12.0 -0.6**
XAN AP pP 15 41 22.3 -2.6
KMI Kunming 81.48 300⇑ *eP* **P 15 41 20.0 +2.0**
KMI PP PP 15 44 27.0 +0.5
KMI S S 15 51 31.4 +6.4
KMI SKS SKS 15 51 34.0 +4.5
KMI AMB AMB
comp=Z,74nm,3.1s
KMI LR LR
comp=N,343nm,18.9s,MS4.9
KMI LR LR
comp=E,400nm,18.9s,MS4.9
KMI LR LR
comp=Z,432nm,21.0s,MS4.8
RSO Redoubt South 81.76 16 P **P 15 41 19.7 +1.0**
HHC Hu-ho-hao-te 81.99 317 *eP* **P 15 41 22.6 +2.3**
HHC S S 15 51 37.4 +7.5
HHC SS SS 15 56 57.3 +4.8
HHC AMB AMB
comp=Z,18nm,1.6s,mb4.8
HHC AMB AMB
comp=Z,113nm,5.8s
HHC LR LR
comp=N,227nm,15.5s,MS4.9
HHC LR LR
comp=E,270nm,13.7s,MS4.9
HHC LR LR
comp=Z,333nm,14.5s,MS4.8
OHCM Honcut 82.01 45 *eP* **P 15 41 20.7 +0.2**
MWC Mount Wilson 82.01 51 *eP* **P 15 41 19.1 -1.4**
CMB Columbia Colle 82.12 46 *eP* **P 15 41 20.5 -0.6**
comp=Z,19nm,1.0s,mb5.0
MAW Mawson 82.17 201 P **P 15 41 20.7 0.0**
comp=Z,4.8nm,0.6s,mb4.6,baz=110,slow=5.1,SNR=20
MAW Mawson 82.17 201 *eP* **P 15 41 20.4 -0.3**
comp=Z,47nm,1.2s,mb5.3
MAW LR LR
comp=Z,429nm,22.0s,MS4.8
CM31 Chiang Mai Arr 82.25 292 *eP* **P 15 41 22.4 +0.3**
comp=Z,18nm,1.0s,mb5.0
CMAR Chiang Mai Arr 82.25 292 P **P 15 41 22.3 +0.2**
comp=Z,8.2nm,1.0s,mb4.6,baz=126,slow=3.9,SNR=41
CMAR LR LR 16 13 44.9
comp=Z,206nm,20.6s,MS4.5,baz=105,slow=33
YBH Yreka Blue Hor 82.41 42 P **P 15 41 22.6 +0.2**
comp=Z,5.2nm,0.8s,mb4.5,baz=23,slow=2.4,SNR=8.3
YBH Yreka Blue Hor 82.41 42 *eP* **P 15 41 23.1 +0.7**
comp=Z,27nm,1.1s,mb5.1
SPU Mount Spurr 82.55 16 *eP* **P 15 41 22.6 -0.2**
HUMO Hull Mountain 82.71 41 *eP* **P 15 41 25.8 +1.8**
comp=Z,18nm,0.9s,mb5.1
BTO Baotou 82.88 316 *eP* **P 15 41 28.0 +3.1**
OMM Old Mammoth Mi 82.90 47 P **P 15 41 23.4 -1.7**
CD2 Chengdu 83.01 305 S S 15 51 42.3 +1.9
BEKR Beckwourth 83.03 45 *eP* **P 15 41 27.1 +1.4**
comp=Z,17nm,1.0s,mb5.0
MTUM Tungsten Hills 83.08 48 *eP* **P 15 41 25.9 -0.1**
WCN Washoe City 83.17 45 P **P 15 41 26.5 +0.1**
comp=Z,32nm,1.2s,mb5.2
DAC Darwin (Calif) 83.28 49 *eP* **P 15 41 26.4 -0.6**
comp=Z,16nm,1.0s,mb5.0
NVAR Mina Array Bea 83.76 47 P **P 15 41 29.2 -0.2**
comp=Z,7.0nm,0.8s,mb4.8,baz=217,slow=7.0,SNR=12
MNV Mina 83.86 47 *eP* **P 15 41 29.5 -0.4**
comp=Z,27nm,1.1s,mb5.3
MOD Modoc 84.06 43 *eP* **P 15 41 30.4 -0.4**
comp=Z,13nm,0.8s,mb5.1
DIV Divide 84.26 18 PFAKE 15 41 40.0 +8.6
DIV LR LR
comp=Z,2µm,20.0s,MS5.4
TPH Tonopah 84.35 47 *eP* **P 15 41 32.7 +0.2**
comp=Z,20nm,0.9s,mb5.2
CLNS Chul'man 84.51 335 *eP* **P 15 41 34.9 +2.2**
CLNS *e* 15 44 45.2
CLNS *e*PPP PPP 15 46 38.4 -7.2
CLNS *e*S S 15 51 54.7 -0.1
CLNS *e*SS SS 15 57 29.7 +0.8
CLNS pmax pmax
comp=Z,2.0nm,1.3s,mb4.1
CLNS pmax pmax
comp=N,4.0nm,0.8s
CLNS pmax pmax
comp=E,4.0nm,0.8s
CLNS pmax pmax
comp=N,6.0nm,0.8s
CLNS pmax pmax
comp=E,7.0nm,0.8s
CLNS pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
CLNS smax
comp=N,5.0nm,1.0s
CLNS smax
comp=E,6.0nm,0.9s
CLNS smax
comp=Z,7.0nm,0.9s
CLNS MLR MLR
comp=Z,500nm,20.0s,MS4.9
CLNS MLR MLR
comp=N,400nm,15.0s,MS5.0
CLNS MLR MLR
comp=E,100nm,13.0s,MS5.0
TPNV Topopah Spring 84.55 49 *eP* **P 15 41 33.1 -0.3**
comp=E,40nm,1.0s,mb5.5
TPNV LR LR
comp=Z,882nm,20.0s,MS5.1
BMW Boistfort Moun 84.56 38 *eP* **P 15 41 33.2 -0.1**
NEN Nelson 85.01 51 P **P 15 41 38.8 +3.1**
BBB Bella Bella 85.09 31 LR LR 16 11 26.1
comp=Z,291nm,21.0s,MS4.6,baz=184,slow=30
LZH Lanzhou 85.12 310 *eP* **P 15 41 37.0 +0.7**
LZH PP PP 15 44 56.1 +0.7
LZH SKS SKS 15 51 57.2 +3.0
LZH *e*S S 15 52 05.3 +4.0
LZH SS SS 15 57 42.2 +3.6
LZH AMB AMB
comp=Z,42nm,1.5s,mb5.3
LZH AMB AMB
comp=Z,237nm,5.3s
LZH LR LR
comp=N,879nm,15.1s
LZH LR LR
comp=Z,1µm,17.9s,MS5.4
GNW Green Mountain 85.37 37 P **P 15 41 40.1 +2.8**
BMN Battle Mountai 85.42 45 *eP* **P 15 41 37.1 -0.5**
comp=Z,34nm,1.0s,mb5.4
MCK McKinley 85.49 15 PFAKE 15 41 50.0 +13
MCK LR LR
comp=Z,321nm,20.0s,MS4.7
PGC Sidney 85.58 36 *eP* **P 15 41 39.8 +1.5**
comp=Z,67nm,1.3s,mb5.7
RMW Rattlesnake Mo 85.90 38 *eP* **P 15 41 41.5 +1.6**
YAK Yakutsk 86.49 341 *eP* **P 15 41 40.9 -1.5**
YAK pmax pmax
comp=Z,7.0nm,1.1s,mb4.8
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK Yakutsk 86.49 341 *eP* **P 15 41 40.9 -1.5**
comp=E,7.0nm,1.1s,mb4.8
COLA College 86.70 15 PFAKE 15 41 50.0 +6.7
COLA LR LR
comp=Z,418nm,19.0s,MS4.9
TUC Tucson 86.75 55 PFAKE 15 42 00.0 +16
TUC LR LR
comp=Z,427nm,20.0s,MS4.8
ILAR Eielson Array 86.86 16 P **P 15 41 41.4 -2.7**
comp=Z,0.8nm,0.6s,mb4.1,baz=236,slow=5.2,SNR=14
ELK Elko 86.91 46 *eP* **P 15 41 44.5 -0.5**
comp=Z,18nm,1.1s,mb5.2
ELK LR LR
comp=Z,663nm,20.0s,MS5.0
ARUT Antelope Range 86.93 49 *eP* **P 15 41 45.1 -0.1**
NLW Nelson Butte 87.07 38 P **P 15 41 49.0 +3.5**
PMSA Palmer Station 87.08 159 P **P 15 41 44.4 -0.8**
comp=Z,29nm,1.0s,mb5.5
MVU Marysvale 88.10 49 *eP* **P 15 41 50.7 0.0**
comp=Z,65nm,1.8s,mb5.6
MSU Marysvale 88.13 49 *eP* **P 15 41 51.3 +0.4**
DPW Davenport 88.23 38 *eP* **P 15 41 52.3 +1.2**
SYO Syowa Base 88.24 195 ⇑P **P 15 41 48.6 -2.1**
SYO Syowa Base 88.24 195 ⇓PcP PcP 15 41 51.2 -1.6
SYO Syowa Base 88.24 195 ⇓pP pP 15 42 01.6 -1.6
DUG Dugway 88.36 47 *eP* **P 15 41 52.1 +0.2**
comp=Z,23nm,1.2s,mb5.3
DUG LR LR
comp=Z,695nm,21.0s,MS5.0
BGU Big Grassy Mou 88.50 46 *eP* **P 15 41 52.1 -0.5**
SONM Songino Array 88.63 321 P **P 15 41 51.6 -1.4**
comp=Z,4.9nm,1.1s,mb4.7,baz=135,slow=2.4,SNR=14
HLID Hailey 88.67 43 *eP* **P 15 41 53.3 -0.1**
comp=Z,17nm,0.9s,mb5.4
HLID LR LR
comp=Z,665nm,22.0s,MS5.0
NLU North Lily Min 88.78 47 *eP* **P 15 41 55.1 +1.1**
HVU Hansel Valley 89.03 46 *eP* **P 15 41 54.8 -0.3**
NEW Newport 89.05 38 *eP* **P 15 41 56.2 +1.2**
comp=Z,18nm,1.1s,mb5.3
TMUT Trail Mountain 89.14 48 P **P 15 41 55.7 0.0**
CTU Camp Tracy 89.30 47 *eP* **P 15 41 56.1 -0.3**
GTA Gaotai 89.38 312 P **P 15 41 57.3 +0.5**
GTA PP PP 15 45 31.3 +0.8
GTA SKS SKS 15 52 24.6 +3.1
GTA S S 15 52 49.0 +7.4
GTA PS PS 15 53 57.4 +2.5
GTA SS SS 15 58 45.6 +5.1
GTA AMB AMB
comp=Z,19nm,1.7s,mb5.2
GTA AMB AMB
comp=Z,168nm,4.7s
GTA LR LR
comp=N,337nm,17.5s,MS5.0
GTA LR LR
comp=E,476nm,19.0s,MS5.0
GTA LR LR
comp=Z,644nm,44.9s
JLU Jordanelle 89.47 47 *eP* **P 15 41 56.4 -0.8**
DAU Daniels Canyon 89.54 47 *eP* **P 15 41 58.4 +0.8**
TCUT Toone Canyon 89.71 47 *eP* **P 15 41 56.3 -2.0**
HWUT Hardware Ranch 89.79 46 *eP* **P 15 41 57.5 -1.1**
comp=Z,12nm,1.0s,mb5.2
HWUT LR LR
comp=Z,641nm,19.0s,MS5.1
MCMT McKenzie Canyo 90.22 43 *eP* **P 15 42 00.9 +0.3**
PV10 Paradox Valley 90.35 50 *eP* **P 15 41 59.1 -2.3**
PV01 Paradox Valley 90.61 50 *eP* **P 15 42 02.5 -0.1**
BNM Barren Site 90.67 54 *eP* **P 15 42 02.6 -0.3**
LPM Los Pinos Moun 90.72 54 *eP* **P 15 42 02.6 -0.7**
SHL Shillong 90.81 296 *e* **P 15 42 06.0 +2.1**
CHMT Chamberlain Mo 90.82 41 *eP* **P 15 42 01.0 -2.4**
TPAW Teton Pass 90.94 45 P **P 15 41 58.9 -5.1**
REDW Red Top Meadow 90.96 45 P **P 15 42 03.6 -0.6**
ANMO Albuquerque 91.07 54 *eP* **P 15 42 04.6 -0.3**
ANMO Albuquerque 91.07 54 *eP* **P 15 42 04.0 -0.9**
comp=Z,14nm,1.0s,mb5.2
ANMO LR LR
comp=Z,617nm,21.0s,MS5.0
QLMT Earthquake Lak 91.15 43 *eP* **P 15 42 04.5 -0.5**
LOHW Long Hollow 91.22 45 *eP* **P 15 42 06.3 +1.0**
SNAA Sanae 91.36 181 ⇑*iP* **P 15 42 03.5 -1.8**
SNAA Sanae 91.36 181 ⇓*i* **P 15 42 04.6 -0.7**
SNAA Sanae 91.36 181 ⇓*i* **P 15 42 11.9 +6.6**
SNAA Sanae 91.36 181 ⇓*i* pP 15 42 15.5 -2.4
SNAA Sanae 91.36 181 ⇑*i* 15 46 55.9
SNAA Sanae 91.36 181 ⇓*i* Px 15 47 03.9
SNAA Sanae 91.36 181 ⇑*i* Px 15 47 07.0
SNAA Sanae 91.36 181 ⇓*iS* S 15 53 02.1 +3.5
LTX Lajitas 91.44 60 *eP* **P 15 42 07.0 +0.3**
comp=Z,48nm,1.4s,mb5.6
LTX *e* 15 42 14.2
LTX LR LR
comp=Z,832nm,21.0s,MS5.2
TXAR Lajitas Array 91.44 60 P **P 15 42 07.1 +0.4**
comp=Z,2.3nm,0.7s,mb4.7,baz=214,slow=4.5,SNR=5.2
TXAR LR LR 16 14 43.6
comp=Z,627nm,19.8s,MS5.1,baz=270,slow=30
TXAR Lajitas Array 91.44 60 P **P 15 42 07.1 +0.4**
TXAR LR LR 16 14 43.6
ZAK Zakamensk 91.59 323⇑ *eP* **P 15 42 04.8 -2.1**
ZAK *e* 15 45 44.1
PDAR Pinedale Array 91.61 46 P **P 15 42 06.8 -0.4**
comp=Z,1.5nm,1.0s,mb4.3,slow=1.5,SNR=6.7
PDAR LR LR 16 12 59.4
comp=Z,263nm,20.6s,MS4.7,baz=237,slow=29
HRY Holter Researc 91.63 41 *eP* **P 15 42 08.3 +1.2**
VNA3 Neumayer Olymp 91.77 179⇑ *iP* **P 15 42 08.5 +1.3**
VNA3 Neumayer Olymp 91.77 179⇓ *i* **P 15 42 15.0 +7.8**
VNA3 Neumayer Olymp 91.77 179⇑ *i* pP 15 42 20.1 +0.3
VNA3 Neumayer Olymp 91.77 179⇑ *i* 15 46 58.4
VNA3 Neumayer Olymp 91.77 179⇑ *i* Px 15 47 05.2
VNA3 Neumayer Olymp 91.77 179⇑ *i* Px 15 47 07.9
GDL2 Guadalupe Moun 91.80 57 *eP* **P 15 42 07.4 -0.9**
VNA2 Neumayer--Watz 92.12 179⇑ *iP* **P 15 42 10.1 +1.3**
VNA2 Neumayer--Watz 92.12 179⇑ *i* **P 15 42 17.3 +8.5**
VNA2 Neumayer--Watz 92.12 179⇑ *i* pP 15 42 18.9 -2.5
VNA2 Neumayer--Watz 92.12 179⇑ *i* 15 47 00.0
VNA2 Neumayer--Watz 92.12 179⇑ *i* Px 15 47 08.1
VNA2 Neumayer--Watz 92.12 179⇑ *i* Px 15 47 10.5
VNA1 Neumayer--Stat 92.39 179⇑ *iP* **P 15 42 11.7 +1.6**
VNA1 Neumayer--Stat 92.39 179 **P 15 42 18.4 +8.3**
VNA1 Neumayer--Stat 92.39 179⇑ *i* pP 15 42 20.1 -2.6
CPRX Cap Rock 92.47 56 *eP* **P 15 42 10.9 -0.4**
ISCO Idaho Springs 93.35 49 PFAKE 15 42 30.0 +15
ISCO LR LR
comp=Z,393nm,19.0s,MS4.9
MOY Mondy 93.44 323 *eP* **P 15 42 15.4 +0.1**
TIXI Tiksi 93.81 347 *eP* **P 15 42 17.0 +0.5**
TIXI pmax pmax
comp=Z,11nm,1.8s,mb5.0
TIXI MLR MLR
comp=Z,400nm,19.0s,MS4.9
TIXI Tiksi 93.81 347 *eP* **P 15 42 17.0 +0.5**
comp=Z,11nm,1.8s,mb5.0
TIXI LR LR
comp=Z,400nm,19.0s,MS4.9
RSSD Black Hills 95.85 46 *eP* **P 15 42 28.3 +1.9**
comp=Z,6.0nm,0.9s,mb5.0
YKA Yellowknife Ar 96.60 26 LR LR 16 24 25.2
comp=Z,292nm,18.3s,MS4.8,baz=260,slow=34
WMQ Urumqi 99.39 313 P **P 15 42 43.0 +0.5**
WMQ PP PP 15 46 49.0 +0.6
WMQ SKS SKS 15 53 19.0 +2.7
WMQ S S 15 54 11.0 +3.2
WMQ SS SS 16 01 04.0 +1.8
WMQ LR LR
comp=N,342nm,25.0s,MS5.0
WMQ LR LR
comp=E,471nm,25.0s,MS5.0
WMQ LR LR
comp=Z,598nm,26.0s,MS5.0
ZAL Zalesovo 103.48 323 Pdiff Pdiff 15 43 01.8 +1.2
comp=Z,0.8nm,0.3s,baz=191,slow=9.2,SNR=1.6
MKAR Makanchi Array 103.76 315 Pdiff Pdiff 15 43 03.5 +1.5
comp=Z,1.5nm,1.0s,baz=101,slow=6.2,SNR=5.8
MKAR PP PP 15 47 19.2 -2.3
comp=Z,0.4nm,0.9s,baz=90,slow=2.9,SNR=2.3
MKAR Makanchi Array 103.76 315 P Pdif 15 43 03.5 +1.5
MKAR PP PP 15 47 19.2 -2.3
LPA La Plata 108.21 137*ce*P Pdif 15 43 21.0 -0.8
BVAR Borovoye Array 111.97 321 PKiKP 15 47 36.7
comp=Z,0.4nm,0.5s,baz=63,slow=3.3,SNR=4.1
SVE Sverdlovsk 117.21 326⇑*e*PKiKP PKPdf 15 47 38.8 -4.9
ARU Arti 118.41 325 *i* PKiKP PKPdf 15 47 48.2 +2.1
ARU *e* 15 54 39.7
ARU *e*SP SP 15 58 45.3 +0.4
ARU *e*PS PS 15 58 55.0 +5.2
ARU *e*SS SS 16 05 23.3 +5.7
ARU MLR MLR
comp=N,300nm,19.0s,MS5.1
ARU MLR MLR
comp=E,300nm,19.0s,MS5.1
ARU MLR MLR
comp=Z,400nm,19.0s,MS5.1
SCHQ Schefferville 120.34 36 PKP PKPdf 15 47 52.4 +2.5
comp=Z,2.6nm,0.8s,baz=42,slow=16,SNR=2.5
ARCES ARCESS Array B 124.24 347 PKP PKPdf 15 47 59.4 +2.3
comp=Z,4.3nm,0.8s,baz=27,slow=5.4,SNR=6.2
ARCES ARCESS Array B 124.24 347 PKP PKPdf 15 47 59.4 +2.3
BDFB Brasilia 126.93 126 PKP PKPdf 15 48 04.0 +0.4
comp=Z,2.6nm,0.7s,baz=123,slow=9.1,SNR=2.9
OBN Obninsk 130.36 330 ⇓*i*PKiKP PKPdf 15 48 12.2 +3.1
OBN *e*SSS SSS 16 12 32.8 -6.9
OBN pmax pmax
comp=Z,11nm,1.0s
OBN MLR MLR
comp=Z,300nm,19.0s,MS5.0
FINES FINESS Array B 130.42 341 PKP PKPdf 15 48 10.0 +1.0
comp=Z,1.9nm,0.8s,baz=50,slow=15,SNR=2.2
KIV Kislovodsk 131.51 314 *i* PKiKP PKPdf 15 48 16.2 +4.6
SOC Sochi 133.67 314 *i* PKiKP PKPdf 15 48 17.2 +1.5
SOC *e* 15 50 47.1
SOC *e*SS Sx 16 08 57.9
SOC pmax pmax
comp=Z,31nm,0.8s
SOC pmax pmax
comp=N,52nm,1.0s
SOC pmax pmax
comp=E,25nm,0.8s
KMBO Kilima Mbogo 134.07 251 PKP PKPdf 15 48 20.8 +3.5
comp=E,1.3nm,0.9s,baz=357,slow=9.0,SNR=4.1
ANN Anapa 134.74 317 *e*PKHKP 15 48 07.9
ANN pmax pmax
comp=Z,67nm,1.0s
ANN MLR MLR
comp=N,565nm,19.0s,MS5.3
ANN MLR MLR
comp=Z,269nm,19.0s,MS5.0
ANN MLR MLR
comp=E,385nm,23.0s,MS5.3
AKASG Malin Array Be 136.53 328 PKP PKPdf 15 48 20.7 -0.1
comp=E,0.1nm,0.2s,baz=40,slow=2.9,SNR=3.6
ASF Jabal al Asfar 138.91 299 PKP PKPdf 15 48 28.8 +3.1
comp=E,1.7nm,0.4s,baz=11,slow=3.3,SNR=3.0
BRTR Keskin Array B 139.31 312 PKP PKPdf 15 48 29.9 +3.8
comp=E,1.1nm,0.8s,baz=68,slow=6.7,SNR=3.6
KOLS Kolonicke sedl 141.09 331 *e*PKP PKPdf 15 48 28.7 -0.4
MLR Muntele Rosu 141.44 324 PKP PKPdf 15 48 34.9 +5.1
comp=E,2.9nm,0.8s,baz=140,slow=21,SNR=2.7
OKC Ostrava-Krasne 142.22 335 *ex* x 16 15 51.3
OKC AMS AMS 16 49 30.0
comp=E,400nm,24.2s
DPC Dobruska-Polom 142.53 337 *e*PKPDF PKPdf 15 48 40.8 +9.3
DPC *ex* x 16 15 37.7
DPC AMS AMS 16 49 10.0
comp=E,400nm,22.5s
CLL Collm 142.87 341 *e**PPKP 15 48 41.0
CLL *e* 15 48 55.0
PVCC Panska Ves 143.01 339 AMS AMS 16 49 20.0
comp=E,500nm,22.2s
VRAC Vranov 143.26 336 PKP PKPdf 15 48 38.8 +6.0
comp=E,1.6nm,0.6s,baz=98,slow=14,SNR=2.8
PRU Pruhonice 143.48 338 *e*PKPDF PKPdf 15 48 37.6 +4.5
PRU *ex* x 16 15 58.3
PRU AMS AMS 16 49 30.0
comp=E,200nm,23.2s
MOX Moxa 143.88 341 *i* P PKPbc 15 48 37.6 +4.8
comp=E,logA/T=1.1
MOX L 15 51 43.0
MOX Moxa 143.88 341 *e*PKP PKPdf 15 48 37.6 +3.8
MOX LR LR
comp=Z,200nm,22.0s,MS4.8
NKC Novy Kostel 143.98 340 *e*PKPDF PKPdf 15 48 41.5 +7.6
NKC AMS AMS 16 48 50.0
comp=Z,300nm,19.5s
PGB Panagyurishte 144.21 321 *e*P PKPbc 15 48 36.0 +1.9
RZN Rozhen 144.37 320 *e*P PKPbc 15 48 35.0 +0.5
KHC Kasperske Hory 144.54 338 *e*PKIKP PKPdf 15 48 36.8 +1.8

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KHC				MLR	MLR		
	comp=Z,500nm,21.6s,MS5.2						
KHC	**Kasperske Hory**	**144.54**	**338**	*e*PKPDF	PKPdf	15 48 36.8	+1.8
KHC				*e*x	x	16 16 12.7	
KHC				AMS	AMS	16 50 20.0	
	comp=Z,500nm,21.6s						
GERES	**GERESS Array B**	**144.73**	**338**	PKP	PKPdf	15 48 35.4	0.0
	comp=Z,2.9nm,0.7s,baz=45,slow=5.7,SNR=8.1						
PKSM	**Moragy**	**144.75**	**330**	*e*P	PKPbc	15 48 38.2	+2.8
VTS	**Vitosha**	**144.76**	**322**	*e*P	PKPbc	15 48 36.0	+0.4
GRA1	**Grafenberg Arr**	**144.84**	**341**	*e*PKP	PKPdf	15 48 36.2	+0.7
GRA1				LR	LR		
	comp=Z,300nm,20.8s,MS5.0						
GRF	**Grafenberg Arr**	**144.84**	**341**	*e*PKIKP	PKPdf	15 48 36.2	+0.7
GRF				MLR	MLR		
	comp=Z,300nm,20.8s,MS5.0						
BEO	**Belgrade**	**144.84**	**327**⇑	*i*P		15 48 37.2	
MMB	**Musomiste**	**145.04**	**320**	*e*P	PKPdf	15 48 36.0	-0.1
HGN	**Heimansgroeve**	**145.25**	**347**	*e*PKP	PKPdf	15 48 38.6	+2.4
	comp=Z,13nm,1.8s						
KKB	**Krupnik**	**145.26**	**321**	*e*P	PKPdf	15 48 39.0	+2.5
ARSA	**Arzberg**	**145.34**	**334**⇓	*i*P	PKPbc	15 48 30.9	-6.0
MOA	**Molln**	**145.35**	**336**⇓	*i*P	PKPdf	15 48 37.5	+1.1
BARS	**Barje**	**145.42**	**323**⇑	*i*P	PKPdf	15 48 39.4	+2.6
DIVS	**Divcibare**	**145.58**	**327**⇓	*i*P	PKPdf	15 48 40.3	+3.4
TOD	**Tromm**	**145.62**	**343**	PKP	PKPdf	15 48 37.7	+0.8
ABH	**Alteburg**	**145.70**	**345**	PKP	PKPdf	15 48 38.1	+1.1
RUP	**Ruppelstein**	**145.99**	**345**	PKP	PKPdf	15 48 39.1	+1.6
PERS	**Pernice**	**145.99**	**334**	*e*PKPdf	PKPdf	15 48 41.5	+3.9
KTD	**Kalmit**	**146.08**	**344**	PKP	PKPdf	15 48 39.8	+2.2
GIVF	**Givet**	**146.10**	**348**	*e*PKP1	PKPbc	15 48 39.1	+0.4
SKO	**Skopje**	**146.17**	**323**	*i* PKP	PKPdf	15 48 44.4	+6.3
WLF	**Walferdange**	**146.23**	**346**	*e*PKPdf	PKPdf	15 48 40.1	+2.2
BAIF	**Baives**	**146.26**	**349**	*e*PKP1	PKPbc	15 48 39.7	+0.6
LANF	**Langenberg**	**146.46**	**344**	PKP	PKPdf	15 48 43.6	+5.3
SANT	**Santorini**	**146.57**	**311**	*e*PKPbc	PKPbc	15 48 42.5	+2.2
LJU	**Ljubljana**	**146.71**	**334**	*e*PKPdf	PKPdf	15 48 42.6	+3.8
LJU				*e*		15 48 48.8	
LJU				*e*		15 48 54.9	
BOJS	**Bojanci**	**146.83**	**333**	*i* PKPdf	PKPdf	15 48 44.2	+5.2
BOJS				*e*		15 48 50.7	
BOJS				*e*		15 48 55.3	
BOJS				*e*		15 49 08.9	
MOTA	**Moosalm**	**146.93**	**339**⇑	*i*P	PKPdf	15 48 42.2	+3.0
ROBS	**Robic**	**146.96**	**335**	*e*PKPdf	PKPdf	15 48 40.4	+1.1
ROBS				*e*		15 49 07.6	
SQTA	**Sankt Quirin**	**147.00**	**339**⇑	*i*P	PKPdf	15 48 43.8	+4.5
OHR	**Ohrid**	**147.09**	**322**	*i* PKP	PKPdf	15 48 45.0	+5.4
WLS	**Welschbruch**	**147.10**	**344**	PKP	PKPdf	15 48 42.1	+2.7
CDF	**Champ du Feu**	**147.12**	**344**	*e*PKP1	PKPdf	15 48 42.2	+2.8
	comp=Z,55nm,1.0s						
ECH	**Echery**	**147.34**	**344**	PKP	PKPdf	15 48 45.7	+5.9
DAVA	**Damuels**	**147.38**	**340**⇓	*i*P	PKPdf	15 48 45.8	+5.9
FELD	**Feldberg**	**147.42**	**343**	PKP	PKPdf	15 48 44.3	+4.4
IDI	**Anoyia**	**147.46**	**310**	PKPbc	PKPdf	15 48 46.3	+5.9
	comp=Z,21nm,1.1s,baz=157,slow=6.8,SNR=6.3						
MEZF	**Maizieres J'vi**	**147.57**	**347**	*e*PKP1	PKPdf	15 48 43.8	+3.6
THEF	**They Montfort**	**147.62**	**346**	PKP	PKPdf	15 48 45.9	+5.7
MOF	**Molkenrain**	**147.68**	**344**	PKP	PKPdf	15 48 44.7	+4.4
HINF	**Hinteralfeld**	**147.78**	**344**	*e*PKP1	PKPdf	15 48 43.8	+3.3
DAVOX	**Davos**	**147.83**	**340**	PKPbc	PKPdf	15 48 45.0	+4.3
	comp=Z,25nm,1.0s,baz=197,slow=5.0,SNR=8.1						
LOMF	**Lomont**	**148.22**	**344**	PKP	PKPdf	15 48 44.7	+3.5
FLN	**La Foliniere**	**148.22**	**354**	*e*PKP1	PKPdf	15 48 44.8	+3.6
	comp=Z,30nm,0.9s						
FLN				*e*R			
	comp=Z,370nm,22.5s						
GRR	**Gorron**	**148.63**	**354**	*e*PKP1	PKPdf	15 48 46.0	+4.2
ROSF	**Rostrenen**	**148.86**	**357**	*e*PKP1	PKPdf	15 48 46.3	+4.1
	comp=Z,28nm,0.9s						
SGMF	**Saint Gilles**	**148.90**	**356**	*e*PKP1	PKPdf	15 48 46.4	+4.1
	comp=Z,35nm,0.9s						
VAI	**Varese**	**149.00**	**340**	*e*PKP	PKPdf	15 48 47.6	+5.1
LOR	**Lormes**	**149.00**	**348**	*e*PKP1	PKPdf	15 48 47.1	+4.6
	comp=Z,42nm,1.0s						
LOR				*e*R			
	comp=Z,268nm,21.0s						
CABF	**La Chapelle**	**149.10**	**344**	*e*PKP1	PKPdf	15 48 48.0	+5.3
	comp=Z,36nm,0.8s						
SSF	**Saint Saulge**	**149.27**	**348**	*e*PKP1	PKPdf	15 48 47.9	+5.0
	comp=Z,32nm,0.8s						
AVF	**Avril sur Loir**	**149.56**	**348**	*e*PKP1	PKPdf	15 48 48.2	+4.8
SMF	**Signal de Mont**	**149.59**	**347**	*e*PKP1	PKPdf	15 48 48.5	+5.0
BGF	**Bois d'Agland**	**149.88**	**348**	*e*PKP1	PKPdf	15 48 49.3	+5.4
LPL	**La Plagne**	**149.93**	**343**	*e*PKP1	PKPdf	15 48 50.1	+6.1
	comp=Z,25nm,0.9s						
LPG	**La Plagne**	**149.94**	**343**	*e*PKP1	PKPdf	15 48 50.2	+6.2
	comp=Z,23nm,0.8s						
TCF	**Toulx Ste Croi**	**150.26**	**349**	*e*PKP1	PKPdf	15 48 50.1	+5.6
	comp=Z,28nm,0.9s						
AGO	**Saint Agoulin**	**150.31**	**348**	PKP	PKPdf	15 48 55.6	+11
MFF	**Saint Martin d**	**150.31**	**352**	*e*PKP1	PKPdf	15 48 50.2	+5.6
	comp=Z,38nm,1.0s						
BNI	**Bardonecchia**	**150.37**	**342**	*e*PKPbc	PKPdf	15 48 54.0	+9.3
CSSN	**Cassano Irpino**	**150.46**	**327**	*e*PKP	PKPdf	15 48 49.4	+4.4
PYM	**Petit Puy Mans**	**150.62**	**348**	PKP	PKPdf	15 48 55.1	+10
MBDF	**Montbardon**	**150.64**	**342**	*e*PKP1	PKPdf	15 48 51.3	+6.2
ORIF	**Oris-en-Rattie**	**150.72**	**343**	*e*PKP1	PKPdf	15 48 52.2	+7.0
	comp=Z,28nm,0.7s						
ORIF				*e*R			
	comp=Z,364nm,23.0s						
LBL	**Lubilhac**	**151.07**	**347**	PKP	PKPdf	15 48 56.8	+11
VIVF	**Saint-Julien-l**	**151.09**	**345**	*e*PKP1	PKPdf	15 48 52.4	+6.6
	comp=Z,40nm,1.3s						
RJF	**Les Rejaudoux**	**151.33**	**350**	*e*PKP1	PKPdf	15 48 52.8	+6.7
RJF				*e*R			
	comp=Z,212nm,22.2s						
CAF	**Calviac**	**151.60**	**349**	*e*PKP1	PKPdf	15 48 53.4	+6.8
SMRF	**Simiane la Rot**	**151.67**	**343**	*e*PKP1	PKPdf	15 48 54.0	+7.3
	comp=Z,34nm,1.0s						
PGF	**Pioggiola**	**151.82**	**337**	*e*PKP1	PKPdf	15 48 54.4	+7.4
	comp=Z,57nm,0.8s						
ESDC	**Sonseca Array**	**157.53**	**357**	PKPab	PKPab	15 49 25.7	-3.5
	comp=Z,0.3nm,0.5s,baz=14,slow=2.5,SNR=4.3						

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*IDC **12** 15:31:34.5±0.9, 29.68S×66.75W, h34km±5km, mb4.0/4, mb1 4.2/5, mb1mx4.0/13, ML4.2/1, MS4.1/4, Ms1 4.0/4, ms1mx3.7/16, Error ellipse: s-maj=42.6km s-min=26.9km az=99.0*
*GUC **12** 15:31:34.3±0.6, 29.96S×67.08W, h230km, ML5.3*
*NEIC **12** 15:31:35.3±1.3, 29.80S×66.53W, h39km±15km, mb4.3/2, Error ellipse: s-maj=19.0km s-min=10.7km az=92.0*
NEIC Felt [III] at La Rioja.

ISC 12 15:31:31.3±2.1**, 29.86S**±0.06×**66.56W**±0.06**, h21**km±17km**, n41, σ1ˢ10**/32**, mb4.1**/6**, MS4.1**/4**, 8C-2D, La Rioja Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MDZ	**Mendoza**	**3.59**	**212**	*e*P	**Pn**	**15 32 32.4**	**+5.2**
MDZ				*i*		15 33 16.4	
MDZ				S	Sx	15 33 32.3	
TLL	**Tololo Astrono**	**3.69**	**264**⇑	*i*P	**Pn**	**15 32 30.1**	**+1.4**
TLL				*i* S	**Sn**	**15 33 12.8**	**+0.8**
TLL				AMP		15 33 24.4	
	comp=N,1μm,0.9s						
CMCH	**Combarbala**	**4.05**	**250**	*e*P	**Pn**	**15 32 33.7**	**0.0**
CMCH				*i* S	**Sn**	**15 33 19.0**	**-2.0**
CMCH				AMP		15 33 52.5	
	comp=N,3μm,0.6s						
JACH	**Jahuel**	**4.45**	**230**	*e*P	**Pn**	**15 32 39.7**	**+0.3**
FCH	**Farellones**	**4.70**	**222**⇓	*e*P	**Pn**	**15 32 44.0**	**+1.2**
PEL	**Peldehue**	**4.81**	**226**	*e*P	**Pn**	**15 32 43.7**	**-0.7**
CLCH	**Cerro Calan**	**4.89**	**223**	*e*P	**Pn**	**15 32 45.3**	**-0.3**
CLCH				*i* S	**Sn**	**15 33 42.5**	**+0.2**
PACH	**Papudo**	**4.96**	**236**	*e*P	**Pn**	**15 32 45.1**	**-1.5**
PACH	**Papudo**	**4.96**	**236**	*e*P	**Pn**	**15 32 46.4**	**-0.2**
PCH	**Pirque**	**5.04**	**221**	*e*P	**Pn**	**15 32 47.3**	**-0.4**
PCH	**Pirque**	**5.04**	**221**	*e*P	**Pn**	**15 32 48.8**	**+1.1**
LMEL	**Las Melosas**	**5.04**	**217**	*e*P	**Pn**	**15 32 48.2**	**+0.5**
TACH	**Talagante**	**5.31**	**223**	*e*P	**Pn**	**15 32 50.6**	**-0.9**
CHCH	**Chadas Angostu**	**5.35**	**220**	*e*P	**Pn**	**15 32 51.7**	**-0.3**
LVC	**Limon Verde**	**7.52**	**343**	*e*Pn	**Pn**	**15 33 22.6**	**0.0**
	comp=N,5.7nm,0.6s						
TRQA	**Tornquist**	**9.02**	**156**	*e*P	**P**	**15 33 41.0**	**-2.4**
	comp=N,4.2nm,0.6s						
LPAZ	**La Paz**	**13.59**	**354**	Pn	**P**	**15 34 54.9**	**+9.5**
	comp=N,0.5nm,0.3s,baz=166,slow=7.3,SNR=19						
LPAZ	**La Paz**	**13.59**	**354**	P	**P**	**15 34 46.8**	**+1.3**
	comp=N,4.2nm,0.6s						
BDFB	**Brasilia**	**22.15**	**54**	P	**P**	**15 36 27.1**	**-0.4**
	comp=N,1.6nm,0.4s,mb3.8,baz=207,slow=14,SNR=3.4						
BDFB				LR	LR	15 45 55.3	
	comp=N,147nm,18.8s,MS3.4,baz=289,slow=39						
USHA	**Ushuaia**	**24.99**	**183**	P	**P**	**15 36 56.0**	**+1.2**
	comp=N,5.6nm,0.7s,mb4.2,baz=150,slow=20,SNR=2.9						
SDV	**Santo Domingo**	**38.72**	**354**	P	**P**	**15 39 03.0**	**+7.1**
	comp=N,6.8nm,0.9s,mb4.4						
SJG	**San Juan**	**47.69**	**1**	LR	LR	15 59 32.5	
	comp=N,77nm,19.9s,MS3.7,baz=114,slow=35						
VNA3	**Neumayer Olymp**	**51.52**	**160**⇑	*i*P	**P**	**15 40 38.9**	**+1.6**
VNA3	**Neumayer Olymp**	**51.52**	**160**⇑	*i*	pP	15 40 47.9	+4.2
VNA1	**Neumayer--Stat**	**51.74**	**159**⇑	*i*P	**P**	**15 40 39.4**	**+0.5**
VNA1	**Neumayer--Stat**	**51.74**	**159**⇑	*i*	pP	15 40 51.2	+5.8
VNA2	**Neumayer--Watz**	**52.11**	**159**⇑	*i*P	**P**	**15 40 43.2**	**+1.5**
VNA2	**Neumayer--Watz**	**52.11**	**159**⇑	*i*	pP	15 40 53.5	+5.4
SNAA	**Sanae**	**53.73**	**159**⇑	*i*	**P**	**15 40 52.4**	**-1.3**
SNAA	**Sanae**	**53.73**	**159**⇓	*i*	**P**	**15 40 58.4**	**+4.7**
SNAA	**Sanae**	**53.73**	**159**		pP	15 41 02.7	+2.5
SNAA	**Sanae**	**53.73**	**159**	*e*P	**P**	**15 40 52.3**	**-1.4**
	comp=N,1.2nm,0.6s,mb4.0						
SNAA				*e*		15 42 03.6	
MAW	**Mawson**	**75.75**	**162**	LR	LR	16 15 54.5	
	comp=N,469nm,18.5s,MS4.8,baz=277,slow=35						
PDAR	**Pinedale Array**	**82.37**	**330**	P	**P**	**15 43 52.4**	**-0.6**
	comp=N,1.3nm,1.0s,mb3.8,baz=131,slow=8.3,SNR=3.4						
PDAR				pP	pP	15 44 02.1	+2.3
	comp=N,0.5nm,0.5s,baz=143,slow=9.0,SNR=2.0						
ULM	**Lac du Bonnet**	**83.89**	**342**	LR	LR	16 21 30.3	
	comp=N,203nm,21.8s,MS4.5,baz=249,slow=36						
SCHQ	**Schefferville**	**84.34**	**360**	P	**P**	**15 44 00.3**	**-2.4**
	comp=N,4.8nm,0.9s,mb4.6,baz=354,slow=7.2,SNR=3.5						
ESDC	**Sonseca Array**	**90.37**	**43**	pP	pP	15 44 42.9	+3.8
	comp=N,0.6nm,0.7s,baz=243,slow=4.0,SNR=2.7						
ZAL	**Zalesovo**	**148.24**	**33**	PKPbc	PKPdf	15 51 16.6	+0.4
	comp=N,1.1nm,0.7s,baz=206,slow=4.2,SNR=4.4						
ZAL				pPKPbc		15 51 27.5	
	comp=N,2.4nm,0.6s,baz=179,slow=2.3,SNR=5.1						
MKAR	**Makanchi Array**	**150.54**	**46**	PKPbc	PKPdf	15 51 22.1	+2.1
	comp=N,2.7nm,0.7s,baz=304,slow=2.0,SNR=19						
MKAR				PKPab	PKPab	15 51 29.4	-0.7
	comp=N,4.3nm,0.7s,baz=300,slow=3.4,SNR=12						
MKAR				pPKPbc		15 51 33.1	
	comp=N,4.3nm,0.7s,baz=300,slow=3.3,SNR=18						
MKAR				pPKPab		15 51 39.4	
	comp=N,2.7nm,0.6s,baz=270,slow=3.5,SNR=7.8						
MKAR	**Makanchi Array**	**150.54**	**46**	PKPbc	PKPdf	15 51 22.1	+2.1
MKAR				PKPab	PKPab	15 51 29.4	-0.7
MKAR				pPKPbc		15 51 33.1	
MKAR				pPKPab		15 51 39.4	
SONM	**Songino Array**	**161.25**	**15**	PKPab	PKPab	15 52 15.3	-0.5
	comp=N,0.5nm,0.8s,baz=324,slow=11,SNR=3.8						
SONM				pPKPab		15 52 25.7	
	comp=N,0.2nm,0.4s,baz=312,slow=42,SNR=1.9						

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*NAO **12** 15:33:57.6±2.4, 67.06N×20.76E, ML2.1*
*BER **12** 15:34:00.8±3.3, 67.04N×20.84E, ML1.8, ML2.1(NAO), Suspected explosion*

HEL 12 15:33:58.3±0.1**, 67.07N**×**20.96E, ML2.0, ML2.4**(UPP)**, ML2.1**(BER)**, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.16**	**289**	*i* P	Pg	15 34 00.9	-0.6
MASU	**Masugnsbyn**	**0.56**	**46**	*i* P	Pg	15 34 08.6	-0.9
ERTU	**Ertsjaerv**	**0.71**	**136**	*i* P	Pg	15 34 10.7	-1.8
PAJU	**Pajala**	**0.85**	**92**	*i* P	Pg	15 34 13.6	-1.6
KUA	**Kurravaara**	**0.92**	**345**	*e*P	Pg	15 34 14.5	-2.1
NIKU	**Nikkaluokta**	**1.09**	**318**	*e*P	Pb	15 34 17.6	-2.1
SJUU	**Sjulsmark**	**1.59**	**170**	*e*P	Pn	15 34 27.2	-0.6
LILU	**Lilltraesk**	**1.85**	**195**	*e*P	Pn	15 34 31.1	-0.5
LILU				*e*S	Sn	15 34 56.5	+0.5
KIF	**Kilpisjarvi**	**1.94**	**358**	*e*P	Pn	15 34 33.1	+0.2
KIF				*e*S	Sn	15 34 59.4	+1.0
KTK1	**Kautokeino**	**2.13**	**23**	*e*P	Pn	15 34 35.6	0.0
KTK1				*e*S	Sn	15 35 02.6	-0.5
SGF	**Sodankyl**	**2.20**	**78**	*e*P	Pn	15 34 36.3	-0.2
SGF				*e*SG	Sg	15 35 05.6	-5.8
BURU	**Burvik**	**2.50**	**176**	*e*P	Pn	15 34 40.6	-0.3
SVAU	**Svanoeiden**	**2.65**	**193**	*e*P	Pn	15 34 42.3	-0.7
TRO	**Tromso**	**2.68**	**345**	*e*	Sn	15 35 07.9	-9.2
TRO	**Tromso**	**2.68**	**345**	*e*	Sn	15 35 07.9	-9.2
MOR8	**Moi Rana**	**2.75**	**254**	*e*P	Pn	15 34 43.4	-1.1
MOR8				*e*SG	Sn	15 35 18.4	-0.5
MOR8				AML	AML	15 35 23.3	
	comp=Z,8.8nm,0.5s						
OUL	**Oulu**	**2.83**	**132**	*e*P	Pn	15 34 45.2	-0.4
OUL				*e*S	Sn	15 35 17.7	-3.3
OUL				*e*SG	Sg	15 35 25.9	-6.6
MELS	**Mels**	**2.85**	**269**	*e*Sg	Sg	15 35 28.7	-4.6
ARA0	**ARCESS Array S**	**3.00**	**32**	Pn	Pn	15 34 46.7	-1.3
	baz=207,slow=16						
ARA0				Sn	Sn	15 35 23.6	-1.5
	baz=205,slow=28						
ARA0	**ARCESS Array S**	**3.00**	**32**	*e*P	Pn	15 34 46.7	-1.3
ARA0				*e*S	Sn	15 35 23.6	-1.5
LOF	**Lofoten**	**3.03**	**294**	*e*	Pn	15 35 35.8	+47
LOF				AML	AML	15 35 43.2	
	comp=Z,9.4nm,0.5s						
LOF	**Lofoten**	**3.03**	**294**	*e*Sg	Sg	15 35 35.8	-3.5
LOF				AML	AML	15 35 43.2	
	comp=Z,9.4nm,0.5s						
BREU	**Bredtraesk**	**3.34**	**198**	*e*P	Pn	15 34 51.1	-1.8
MSF	**Maaselka**	**3.44**	**106**	*e*P	Pn	15 34 52.9	-1.4
MSF				*e*SB	Sb	15 35 38.0	-4.6
KEV	**Kevo**	**3.50**	**37**	*e*P	Pn	15 34 52.9	-2.3
KEV				*e*S	Sn	15 35 33.6	-4.3
KJN	**Kajaani**	**4.10**	**134**	*e*P	Pn	15 35 02.4	-1.3
KJN				*e*S	Sn	15 35 48.2	-4.9
KJN				*e*SG	Sg	15 36 02.8	-12
KJN				MSG		15 36 07.3	
	comp=Z,2.7nm,0.4s						
VAF	**Ylistaro**	**4.11**	**169**	*e*P	Pn	15 35 01.1	-2.6
VAF				*e*S	Sn	15 35 49.5	-3.8
VAF				*e*SG	Sg	15 36 04.1	-11
SUF	**Sumiainen**	**4.89**	**151**	*e*P	Pn	15 35 13.2	-1.7
SUF				*e*S	Sn	15 36 09.2	-4.0
KEF	**Keuruu**	**5.20**	**159**	*e*P	Pn	15 35 17.7	-1.6
KEF				*e*S	Sn	15 36 16.2	-4.7
KAF	**Kangasniemi**	**5.48**	**153**	*e*P	Pn	15 35 21.5	-1.7
KAF				*e*S	Sn	15 36 22.5	-5.4
JOF	**Joensuu**	**6.05**	**129**	*e*P	Pn	15 35 27.8	-3.3
JOF				*e*S	Sn	15 36 34.0	-8.1
JOF				*e*SG	Sg	15 37 03.9	-16
FIA0	**FINESS Array S**	**6.07**	**156**	Pn	Pn	15 35 29.7	-1.8
	baz=345,slow=16						
FIA0				Sn	Sn	15 36 36.5	-6.1
	baz=344,slow=28						
FIA0				Lg		15 37 09.3	
	baz=343,slow=37						
FIA0	**FINESS Array S**	**6.07**	**156**	*e*P	Pn	15 35 29.7	-1.8
FIA0				*e*S	Sn	15 36 36.5	-6.1
FIA0				*e*		15 37 09.3	
HFS	**Hagfors**	**7.67**	**208**	*e*P	Pn	15 35 49.6	-4.4
HFS				*e*SG		15 37 55.4	
HFS	**Hagfors**	**7.67**	**208**	Pn	Pn	15 35 49.6	-4.4
	baz=29,slow=12						
HFS				Lg		15 37 55.4	
	baz=26,slow=37						

NDI 12 15:34:27.6±5.7**, 27.28N**×**88.84E, h10**km**, MD3.2, ML3.4, Sikkim**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GTK	**Gangtok**	**0.21**	**284**	*e*P	Pg	15 34 30.0	-2.1
SHL	**Shillong**	**3.22**	**121**	*e*PG	Pg	15 35 32.0	+0.1
SHL				*e*SG	Sg	15 36 12.2	-2.6
CAL	**Calcutta**	**4.75**	**186**	*e*	Pn	15 35 34.3	-6.6
SONA	**Sohna**	**10.46**	**278**	*e*S	S	15 38 45.9	-13
SONA				AML	AML	15 40 13.0	
	comp=N,8.5nm,0.4s						
SONA				AML	AML	15 40 13.8	
	comp=E,14nm,0.2s						
RTK	**Rohtak**	**11.11**	**282**	*e*S	S	15 39 01.0	-14
KHET	**Khetri**	**11.58**	**277**	*e*S	S	15 39 13.2	-13
KHET				AML	AML	15 39 20.4	
	comp=N,9.8nm,0.2s						
KHET				AML	AML	15 39 20.8	
	comp=E,5.1nm,0.2s						

GUC 12 15:46:57.9±0.5**, 34.41S**×**70.10W, h6**km±1km**, MD3.5, ML2.0, 1C-1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CICH	**Cipreses**	**0.28**	**288**⇓	*i*P	Pg	15 47 04.1	+0.4
CICH				*i* S	Sg	15 47 08.7	+1.1
CACH	**El Canelo**	**0.51**	**305**	*i* P	Pg	15 47 07.9	-0.2
CACH				*i* S	Sg	15 47 15.4	+0.4
LMEL	**Las Melosas**	**0.57**	**351**	*e*P	Pg	15 47 09.6	+0.3
LMEL				*i* S	Sg	15 47 18.7	+1.8
LMEL				AMP		15 47 20.5	
	comp=E,82nm,0.1s						
CHCH	**Chadas Angostu**	**0.66**	**316**⇑	*i*P	Pg	15 47 10.9	-0.2
CHCH				*i* S	Sg	15 47 21.2	+1.2
RCDM	**Rinconada Maip**	**1.09**	**327**	*e*P	Pb	15 47 18.3	-0.4
RCDM				*i* S	Sb	15 47 33.7	+0.6
RCDM				AMP		15 47 35.5	
	comp=E,148nm,0.1s						
LNV	**Longovilo**	**1.18**	**292**	*e*P	Pb	15 47 19.3	-1.0
LNV				*i* S	Sb	15 47 35.7	0.0

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*BJI **12** 15:57:08.4, 51.78N×175.11W, h63km, mB4.7, mb4.8, Msz4.8*
*MOS **12** 15:57:10.7±1.2, 51.85N×175.94W, h33km, mb4.5/9, Error ellipse: s-maj=27.4km s-min=16.1km az=99.9*
*NEIC **12** 15:57:11.5±0.8, 51.34N×175.93W, h50km±5km, mb4.5/8, ML4.3(AEIC), Error ellipse: s-maj=12.5km s-min=4.0km az=183.0*
*IDC **12** 15:57:13.1±3.4, 51.45N×175.86W, h57km±28km, mb3.9/16, mb1 4.1/17, mb1mx4.0/27, ML3.8/1, MS4.4/2, Ms1 4.3/2, ms1mx3.4/23, Error ellipse: s-maj=30.9km s-min=13.3km az=178.0*

ISC 12 15:57:10.7±0.9**, 51.37N**±0.10×**175.87W**±0.04**, h54**km±5km**, n84, σ0ˢ91**/86**, mb4.3**/23**, MS4.4**/2**, 2D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GSIG	**Igitkin Island**	**0.62**	**357**	P	**P**	**15 57 23.8**	**+0.2**
GSIG				S	**S**	**15 57 32.7**	**-0.4**
GSCK	**Great Sitkin C**	**0.67**	**344**	P	**P**	**15 57 24.8**	**+0.6**
GSMY	**Great Sitkin M**	**0.68**	**350**	P	**P**	**15 57 25.0**	**+0.6**
GSTD	**Great Sitkin T**	**0.71**	**346**	P	**P**	**15 57 25.6**	**+0.9**
GSTR	**Great Sitkin T**	**0.73**	**351**	P	**P**	**15 57 26.0**	**+0.9**
GSSP	**Great Sitkin S**	**0.75**	**345**	P	**P**	**15 57 26.3**	**+1.0**
ADAG	**Mount Adagdak**	**0.76**	**323**	P	**P**	**15 57 26.3**	**+0.8**
KIRH	**Kanaga Island**	**0.93**	**305**	P	**P**	**15 57 28.1**	**+0.4**
KIRH				S	**S**	**15 57 40.0**	**-0.4**
KIWB	**Kanaga Island**	**0.94**	**302**	P	**P**	**15 57 27.9**	**+0.1**
KIWB				S	**S**	**15 57 38.8**	**-1.8**
KIMD	**Kanaga Island**	**0.94**	**295**	P	**P**	**15 57 27.6**	**-0.3**
KIMD				S	**S**	**15 57 38.5**	**-2.2**
KIKV	**Kanaga Island**	**0.96**	**303**	P	**P**	**15 57 28.3**	**+0.2**
KINC	**Kanaga Island**	**0.97**	**306**	P	**P**	**15 57 28.6**	**+0.4**
NIKO	**Nikolski**	**4.60**	**67**	P	**P**	**15 58 19.2**	**-0.4**
OKCE	**Okmok Cone E**	**5.14**	**63**	P	**P**	**15 58 27.6**	**+0.6**
OKCD	**Okmok Cone D**	**5.17**	**63**	P	**P**	**15 58 28.9**	**+1.4**
OKER	**East Rim**	**5.22**	**63**	P	**P**	**15 58 29.7**	**+1.7**
MCIR	**Makushin Cirqu**	**6.04**	**61**	P	**P**	**15 58 39.0**	**-0.5**
MSW	**Makushin Switc**	**6.09**	**62**	P	**P**	**15 58 38.5**	**-1.7**
MTBL	**Makushin Table**	**6.16**	**61**	P	**P**	**15 58 40.3**	**-1.0**
UNV	**Unalaska Valle**	**6.22**	**63**	P	**P**	**15 58 42.0**	**-0.1**
FX1	**Attu Island--F**	**6.92**	**287**	P	**P**	**15 58 51.9**	**0.0**
	6.1nm,0.3s,baz=88,slow=22,SNR=18						
FX1				S	**S**	**16 00 10.1**	**0.0**
FX1	**Attu Island--F**	**6.92**	**287**	P	**P**	**15 58 51.9**	**0.0**
FX1				S	**S**	**16 00 10.1**	**0.0**
FX1				pmax	pmax		
	comp=Z,6.0nm,0.3s						
PET	**Petropavlovsk**	**15.69**	**286**	*e*P	**P**	**16 00 53.7**	**+4.4**
CNPM	**China Poot**	**16.10**	**50**	P	**P**	**16 00 53.2**	**-1.3**
SLKM	**Skilak Lake**	**16.92**	**47**	P	**P**	**16 01 09.3**	**+4.5**
IM3	**Indian Mountai**	**18.45**	**29**	P	**P**	**16 01 23.8**	**+0.1**
IMA	**Indian Mountai**	**18.53**	**29**	*e*P	**P**	**16 01 25.6**	**+0.9**
	comp=Z,106nm,1.4s						
MCK	**McKinley**	**18.84**	**39**	*e*P	**P**	**16 01 27.2**	**-1.1**
	comp=Z,2.0nm,0.5s						
ILAR	**Eielson Array**	**20.12**	**37**	P	**P**	**16 01 39.7**	**-2.5**
	comp=Z,2.0nm,0.5s,baz=236,slow=10,SNR=31						
ILAR	**Eielson Array**	**20.12**	**37**	P	**P**	**16 01 39.7**	**-2.5**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
INK	**Inuvik**	**26.42**	**34**	P	**P**	**16 02 43.1**	**-0.5**
	comp=Z,1.4nm,0.3s,mb4.0,baz=265,slow=6.5,SNR=17						
INK	**Inuvik**	**26.42**	**34**	P	**P**	**16 02 43.1**	**-0.4**
INK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
INK	**Inuvik**	**26.42**	**34**	*e*P	**P**	**16 02 42.7**	**-0.9**
DLBC	**Dease Lake**	**26.83**	**57**	P	**P**	**16 02 48.4**	**+1.0**
	comp=Z,0.8nm,0.5s,mb3.5,baz=309,slow=7.9,SNR=4.4						
NEW	**Newport**	**37.16**	**71**	*e*P	**P**	**16 04 17.6**	**0.0**
CN2	**Changchun**	**39.35**	**283**	*e*P	**P**	**16 04 39.7**	**+3.7**
MSO	**Missoula**	**39.73**	**71**	P	**P**	**16 04 39.7**	**+0.5**
HIA	**Hailar**	**39.99**	**293**	*e*P	**P**	**16 04 40.8**	**-0.4**
	comp=Z,5.1nm,0.4s,mb4.6						
HIA				*e*pP	pP	16 04 51.6	-3.8
HLID	**Hailey**	**41.17**	**76**	*e*P	**P**	**16 04 49.7**	**-1.3**
	comp=Z,5.3nm,1.3s,mb4.0						
MCMT	**McKenzie Canyo**	**41.43**	**73**	*e*P	**P**	**16 04 53.6**	**+0.5**
NVAR	**Mina Array Bea**	**41.72**	**85**	P	**P**	**16 04 56.5**	**+1.0**
	comp=Z,0.9nm,0.9s,mb3.4,baz=291,slow=13,SNR=3.6						
DUG	**Dugway**	**44.07**	**79**	P	**P**	**16 05 12.9**	**-1.7**
BW06	**Boulder Array**	**44.55**	**74**	*e*P	**P**	**16 05 18.1**	**-0.4**
	comp=Z,3.1nm,0.9s,mb4.1						
PDAR	**Pinedale Array**	**44.55**	**74**	P	**P**	**16 05 18.7**	**+0.2**
	comp=Z,2.2nm,0.8s,mb4.0,baz=311,slow=4.2,SNR=17						
SONM	**Songino Array**	**48.28**	**298**	P	**P**	**16 05 47.5**	**-0.3**
	comp=Z,1.4nm,0.8s,mb4.0,baz=45,slow=8.7,SNR=9.7						
ZAK	**Zakamensk**	**48.52**	**302**	*e*P	**P**	**16 05 49.1**	**-0.5**
ZAK				*e*	pP	16 06 03.8	-0.2
HHC	**Hu-ho-hao-te**	**49.45**	**288**	⇓P	**P**	**16 05 57.8**	**+0.8**
HHC				AMB	AMB		
	comp=Z,15nm,1.0s,mb5.0						
HHC				AMB	AMB		
	comp=Z,89nm,6.1s						
SDCO	**Great Sand Dun**	**50.06**	**77**	*e*P	**P**	**16 06 01.6**	**-0.2**
	comp=Z,1.9nm,0.8s,mb4.2						
ZAL	**Zalesovo**	**55.37**	**315**	P	**P**	**16 06 40.5**	**-0.4**
	comp=Z,0.6nm,0.3s,mb4.1,baz=95,slow=1.9,SNR=3.1						
ZAL	**Zalesovo**	**55.37**	**315**	P	**P**	**16 06 40.5**	**-0.4**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
WMOK	**Wichita Mounta**	**56.13**	**75**	*e*P	**P**	**16 06 45.3**	**-1.4**
WMOK				*e*		16 06 53.9	
ARCES	**ARCESS Array B**	**58.40**	**351**	P	**P**	**16 07 01.8**	**-0.4**
	comp=Z,9.5nm,1.0s,mb4.8,baz=7.5,slow=7.8,SNR=5.8						
ARCES				PcP	PcP	16 07 52.2	-0.1
	comp=Z,4.7nm,1.0s,slow=4.9,SNR=5.6						
ARCES	**ARCESS Array B**	**58.40**	**351**	P	**P**	**16 07 01.8**	**-0.4**
ARCES						16 07 52.2	
ARCES				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ARCES				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ARCES	**ARCESS Array B**	**58.40**	**351**	P	**P**	**16 07 01.8**	**-0.4**
ARCES				PcP	PcP	16 07 52.2	-0.1
SCHQ	**Schefferville**	**58.85**	**40**	LR	LR	16 31 48.1	
	comp=Z,369nm,19.7s,MS4.5,baz=111,slow=35						
KURK	**Kurchatov**	**60.34**	**315**	*de*P	**P**	**16 07 15.3**	**-0.5**
KURK	**Kurchatov**	**60.34**	**315**	*e*P	**P**	**16 07 14.8**	**-1.1**
	comp=Z,10nm,0.9s,mb4.9						
MKAR	**Makanchi Array**	**61.46**	**310**	P	**P**	**16 07 22.1**	**-1.3**
	comp=Z,1.7nm,0.3s,mb4.6,baz=47,slow=6.7,SNR=61						
MKAR	**Makanchi Array**	**61.46**	**310**	P	**P**	**16 07 22.2**	**-1.3**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BVAR	**Borovoye Array**	**62.07**	**321**	P	**P**	**16 07 27.4**	**0.0**
	comp=Z,1.7nm,0.4s,mb4.5,baz=59,slow=7.0,SNR=21						
KMI	**Kunming**	**65.54**	**280**	*e*P	**P**	**16 07 49.6**	**-1.0**
KMI				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.8						
FINES	**FINESS Array B**	**66.18**	**349**	P	**P**	**16 07 53.9**	**0.0**
	comp=Z,7.6nm,1.2s,mb4.6,baz=346,slow=12,SNR=3.2						
FINES	**FINESS Array B**	**66.18**	**349**	P	**P**	**16 07 53.9**	**0.0**
FINES				pmax	pmax		
	comp=Z,8.0nm,1.2s						
TKM2	**Tokmak 2**	**67.53**	**311**	P	**P**	**16 08 03.6**	**+0.8**
	SNR=7.5						
USP	**Ospenovka**	**67.78**	**312**	P	**P**	**16 08 04.9**	**+0.6**
	SNR=17						
NOA	**NORSAR Array B**	**67.80**	**356**	P	**P**	**16 08 04.1**	**0.0**
	comp=Z,1.2nm,0.8s,mb4.0,baz=41,slow=18,SNR=2.9						
NOA	**NORSAR Array B**	**67.80**	**356**	P	**P**	**16 08 04.1**	**0.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KBK	Karagaybulak	68.03	311	P	P	16 08 06.7	+0.7
	SNR=10						
AAK	Ala-Archa	68.27	312	P	P	16 08 08.1	+0.7
	SNR=12						
AAK	Ala-Archa	68.27	312	eP	P	16 08 06.5	-0.9
	comp=Z,14nm,0.9s,mb5.0						
UCH	Uchtor	68.57	311	P	P	16 08 10.8	+1.5
	SNR=5.2						
EKS2	Erkin-Say	68.58	312	P	P	16 08 10.2	+0.8
	SNR=9.7						
AML	Almayashu	69.03	312	P	P	16 08 13.1	+1.0
	SNR=11						
SHL	Shillong	71.81	288	eP	P	16 08 30.0	+0.8
CMAR	Chiang Mai Arr	72.84	278	P	P	16 08 35.1	-0.3
	comp=Z,1.6nm,0.9s,mb4.0,baz=26,slow=6.7,SNR=6.6						
CMAR	Chiang Mai Arr	72.84	278	P	P	16 08 35.1	-0.3
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
EKA	Eskdalemuir Ar	73.49	4	P	P	16 08 39.2	+0.7
	comp=Z,5.9nm,1.1s,mb4.4,baz=1.3,slow=3.9,SNR=3.9						
EKA	Eskdalemuir Ar	73.49	4	P	P	16 08 39.2	+0.7
EKA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
AKASG	Malin Array Be	76.10	344	P	P	16 08 53.0	-0.5
	comp=Z,0.4nm,0.3s,mb3.8,baz=18,slow=6.1,SNR=3.1						
BRTR	Keskin Array B	85.69	338	P	P	16 09 46.1	+1.9
	comp=Z,2.0nm,0.9s,mb4.3,baz=59,slow=7.2,SNR=4.1						
BRTR				LR	LR	16 53 52.4	
	comp=Z,146nm,21.3s,MS4.3,baz=320,slow=40						
BRTR	Keskin Array B	85.69	338	P	P	16 09 46.2	+1.9
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BRTR				MLR	MLR		
	comp=Z,146nm,21.3s						
TSUM	Tsumeb	146.19	337	ePKPbc	PKPbc	16 16 46.5	+1.6
MAW	Mawson	147.60	218	PKPbc	PKPdf	16 16 49.3	+4.7
	comp=Z,1.7nm,0.7s,baz=98,slow=3.3,SNR=6.1						
MAW	Mawson	147.60	218	PKIKP	PKPdf	16 16 49.3	+4.7
MAW				pmax	pmax		
	comp=Z,2.0nm,0.7s						

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*NIED **12** 15:59:00, 31.80N×141.90E, h5^{km}, Mw4.4 Best double couple: M$_0$4.97×10^{15} NP1:φ$_s$222°, δ57°, λ125°. NP2: φ$_s$349°, δ47°, λ48°.*
*BJI **12** 15:59:33.8, 31.91N×142.48E, h38^{km}, mB5.0, mb4.3, Ms4.4, Msz4.2*
*JMA **12** 15:59:37.2±0.4, 31.76N×141.93E, h80^{km}, M4.0*
*IDC **12** 15:59:40.4±2.6, 31.66N×141.77E, h38^{km}±21^{km}, mb3.8/15, mb1 4.0/17, mb1mx4.0/24, ML3.9/2, MS3.8/1, Ms1 3.8/1, ms1mx3.4/19, Error ellipse: s-maj=19.0km s-min=13.9km az=90.0*
*NEIC **12** 15:59:40.6±1.5, 31.75N×141.75E, h39^{km}±12^{km}, mb4.7/8, MW4.4(NIED), Error ellipse: s-maj=12.6km s-min=9.4km az=98.0*
*MOS **12** 15:59:41.8±1.9, 32.37N×141.26E, h33^{km}, mb4.2/8, Error ellipse: s-maj=31.0km s-min=17.8km az=105.3*
ISC 12 15:59:36.6±1.6**, 31.67N**±0.04×**141.77E**±0.07**, h27**^{km}±11^{km}**, n68, σ0^{s}91**/80**, mb4.3**/27**, MS4.2**/1**, 1D, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	2.19	312	P	Pn	16 00 12.8	+0.7
JHJ	Hachijo jima 2	2.21	311	Pn	Pn	16 00 12.9	+0.5
	baz=174,slow=19						
JHJ				Sn	Sn	16 00 40.7	+1.5
	130nm,0.3s,baz=74,slow=21,SNR=7.6						
BSO1	Boso 1	3.05	348	P	Pn	16 00 23.3	-1.0
BSO1				eS	Sn	16 00 59.5	-0.9
BSO3	Boso 3	3.30	342	P	Pn	16 00 28.5	+0.7
JKO	Kozu shima	3.35	319	P	Pn	16 00 28.9	+0.4
JKO				eS	Sn	16 01 07.4	-0.5
JIM2	Oshima 3	3.62	328	P	Pn	16 00 31.2	-1.2
JIM2				eS	Sn	16 01 14.5	-0.2
CBIJ	Chichi jima	4.57	175	Pn	Pn	16 00 45.8	-0.2
	26nm,0.3s,baz=296,slow=18,SNR=37						
CBIJ				Sn	Sn	16 01 35.0	-4.0
	21nm,0.3s,baz=238,slow=20,SNR=3.8						
CBIJ				LR	LR	16 02 21.3	
	comp=Z,910nm,18.5s,baz=325,slow=35						
CBIJ	Chichi jima	4.57	175	P	Pn	16 00 46.3	+0.3
CBIJ				eS	Sn	16 01 36.7	-2.2
JYN	Shimob	4.67	326	P	Pn	16 00 49.0	+1.6
JYN				eS	Sn	16 01 45.7	+4.3
JRY	Ryogami san	4.95	332	P	Pn	16 00 51.0	-0.3
JRY				eS	Sn	16 01 48.7	+0.3
MAJO	Matsushiro	5.69	330	ePn	Pn	16 01 01.7	0.0
	18nm,0.5s						
MAJO				eS	Sn	16 02 00.3	-6.6
MAT	Matsushiro	5.69	330	P	Pn	16 01 01.2	-0.5
MAT				S	Sn	16 02 02.3	-4.6
MAT	Matsushiro	5.69	330	eP	Pn	16 01 01.0	-0.7
	13nm,0.6s						
MAT				eS	Sn	16 02 02.0	-4.9
JMK	Ichinoseki	7.28	357	P	Pn	16 01 20.5	-3.6
JMK				eS	Sn	16 02 37.1	-10
ASAJ	Asahikawa	12.44	3	Pn	P	16 02 30.6	-4.4
	0.5nm,0.3s,baz=253,slow=14,SNR=3.7						
ASAJ				Sn	S	16 04 42.8	-11
	0.5nm,0.3s,baz=300,slow=18,SNR=4.1						
ASAJ	Asahikawa	12.44	3	P	P	16 02 30.6	-4.4
ASAJ						16 04 42.8	
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
JOW	Kunigami	12.73	251	Pn	P	16 02 40.0	+1.3
MDJ	Mudanjiang	16.06	327	P	P	16 03 22.5	+0.2
	comp=N,10nm,0.8s						
CN2	Changchun	17.66	318	eP	P	16 03 41.9	-0.5
CN2				AMB	AMB		
	comp=Z,10.0nm,1.1s						
SNY	Shenyang	17.72	310	⇓P	P	16 03 43.9	+0.7
SNY				eS	S	16 07 02.3	+4.8
SNY				AMB	AMB		
	comp=Z,20nm,1.0s						
SNY				LR	LR		
	comp=E,530nm,12.5s						
SNY				LR	LR		
	comp=Z,720nm,14.1s						
BJT	Baijiatuau	22.31	299	P	P	16 04 33.4	-0.2
	comp=Z,7.5nm,0.4s,mb4.5						
BTO	Baotou	27.03	298	eP	P	16 05 17.9	-0.6
BTO				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
BTO				LR	LR		
	comp=N,304nm,11.2s,MS4.2						
BTO				LR	LR		
	comp=E,297nm,12.9s,MS4.2						
XAN	Xi'an	27.63	284	P	P	16 05 22.5	-1.6
XAN				AMB	AMB		
	comp=Z,8.0nm,1.3s,mb4.2						
SONM	Songino Array	31.29	311	P	P	16 05 58.5	+1.9
	comp=Z,3.4nm,0.9s,mb4.2,baz=112,slow=6.7,SNR=23						
YAK	Yakutsk	31.37	349	eP	P	16 05 59.5	+2.4
YAK	Yakutsk	31.37	349	eP	P	16 05 55.6	-1.5
	comp=Z,14nm,1.0s,mb4.8						
ZAK	Zakamensk	34.04	315	eP	P	16 06 19.7	-0.8
GTA	Gaotai	34.75	295	eP	P	16 06 26.1	-0.7
GTA				AMB	AMB		
	comp=Z,3.0nm,1.2s,mb4.1						
CMAR	Chiang Mai Arr	40.71	262	P	P	16 07 16.3	-0.6
	comp=Z,0.6nm,0.7s,mb3.4,baz=56,slow=5.6,SNR=5.4						
CMAR	Chiang Mai Arr	40.71	262	P	P	16 07 16.3	-0.6
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
LSA	Lhasa	43.26	281	eP	P	16 07 38.4	+0.7
WMQ	Urumqi	43.73	302	eP	P	16 07 40.0	-1.3
ZAL	Zalesovo	45.88	316	P	P	16 07 59.1	+0.8
	comp=Z,1.4nm,0.7s,mb4.0,baz=28,slow=8.6,SNR=4.7						
ZAL	Zalesovo	45.88	316	P	P	16 07 59.2	+0.8
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NVS	Novosibirsk	46.87	317	eP	P	16 08 00.6	-5.6
MKAR	Makanchi Array	47.38	306	P	P	16 08 10.2	-0.1
	comp=Z,3.1nm,0.7s,mb4.3,baz=90,slow=9.7,SNR=11						
MKAR	Makanchi Array	47.38	306	P	P	16 08 10.2	-0.1
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GUN	Gumba	48.21	281	eP	P	16 08 17.4	+0.4
	comp=Z,14nm,0.5s,mb5.3						
PKI	Pulchoki	48.71	280	eP	P	16 08 20.9	0.0
	comp=Z,3.7nm,0.5s,mb4.7						
KKN	Kakani	48.75	281	eP	P	16 08 21.1	-0.1
DMN	Daman	48.95	281	eP	P	16 08 22.4	-0.4
GKN	Gorkha	49.22	281	eP	P	16 08 23.8	-1.0
KURK	Kurchatov	49.60	312	eP	P	16 08 27.1	-0.3
	comp=Z,43nm,1.3s,mb5.3						
WRAB	Tennant Creek	51.80	189	eP	P	16 08 44.6	0.0
	comp=Z,34nm,1.2s,mb5.2						
WRA	Warramunga Arr	51.81	189	P	P	16 08 44.0	-0.6
	comp=Z,7.1nm,1.0s,mb4.5,baz=6.1,slow=7.6,SNR=54						
WRA				S	S	16 16 03.6	-0.1
	comp=Z,1.2nm,1.0s,baz=6.8,slow=14,SNR=3.5						
ILAR	Eielson Array	53.92	30	P	P	16 08 59.0	-0.7
	comp=Z,1.0nm,0.8s,mb3.8,baz=269,slow=6.3,SNR=7.2						
ILAR	Eielson Array	53.92	30	P	P	16 08 59.0	-0.7
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BVAR	Borovoye Array	54.49	315	P	P	16 09 04.2	+0.1
	comp=Z,2.1nm,0.8s,mb4.1,baz=104,slow=5.9,SNR=3.5						
BRVK	Borovoye	54.55	315	eP	P	16 09 04.9	+0.4
	comp=Z,15nm,1.5s,mb4.8						
NDI	New Delhi	55.15	285	e	PcP	16 10 08.0	-2.1
ZRNK	Zerenda	55.33	315	eP	P	16 09 08.4	-1.8
	comp=Z,2.2nm,0.5s,mb4.4						
INK	Inuvik	59.05	26	P	P	16 09 36.4	0.0
	comp=Z,4.8nm,1.1s,mb4.4,baz=338,slow=5.4,SNR=3.3						
INK	Inuvik	59.05	26	P	P	16 09 36.4	0.0
INK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ARU	Arti	60.63	321	eP	P	16 09 43.3	-4.0
	comp=Z,4.2nm,0.6s,mb4.8						
STKA	Stephens Creek	63.20	180	P	P	16 10 06.3	+1.4
	comp=Z,2.0nm,1.0s,mb4.2,baz=315,slow=14,SNR=2.1						
FINES	FINESS Array B	73.71	333	P	P	16 11 09.8	+0.3
	comp=Z,0.7nm,0.4s,mb3.9,baz=63,slow=4.3,SNR=5.2						
FINES	FINESS Array B	73.71	333	P	P	16 11 09.8	+0.3
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	FINESS Array B	73.71	333	P	P	16 11 09.8	+0.3
NVAR	Mina Array Bea	78.00	52	P	P	16 11 34.6	+0.3
	comp=Z,0.3nm,0.4s,mb3.6,baz=286,slow=6.6,SNR=3.2						
AKASG	Malin Array Be	78.74	323	P	P	16 11 38.3	+0.2
	comp=Z,0.8nm,0.5s,mb3.9,baz=51,slow=5.2,SNR=7.3						
AKASG	Malin Array Be	78.74	323	P	P	16 11 38.3	+0.2
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA	NORSAR Array B	79.25	338	P	P	16 11 40.9	+0.2
	comp=Z,0.5nm,0.8s,mb3.5,baz=50,slow=3.5,SNR=2.8						
NOA	NORSAR Array B	79.25	338	P	P	16 11 40.9	+0.3
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
PDAR	Pinedale Array	81.23	45	P	P	16 11 52.0	+0.5
	comp=Z,0.4nm,0.6s,mb3.5,baz=180,slow=1.5,SNR=3.5						
PV10	Paradox Valley	84.11	48	eP	P	16 12 08.1	+1.6
TXAR	Lajitas Array	93.15	53	P	P	16 12 51.4	+1.5
	comp=Z,1.3nm,0.8s,mb4.4,baz=303,slow=2.2,SNR=6.4						
LPAZ	La Paz	148.82	68	PKPbc	PKPdf	16 19 26.5	+3.3
	comp=Z,0.9nm,0.7s,baz=262,slow=3.3,SNR=2.2						
LPAZ	La Paz	148.82	68	PKIKP	PKPdf	16 19 26.5	+3.3
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.7s						

CASC 12 16:08:14.6±4.2**, 13.18N**×**90.07W, h105**^{km}±88^{km}**, MD3.5, ML4.2, 3C-2D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOQS	Boqueron	0.95	54	eP	P	16 08 36.5	+1.4
BOQS				eS	S	16 08 50.2	-0.3
IXG	Ixpaco	1.06	340	eS	S	16 08 53.9	+1.3
IXG				AML	AML	16 08 59.2	
	comp=E,6μm,0.3s						
LFRS	El Faro	1.08	66	eP	P	16 08 36.7	+0.2
LFU	La Fuente	1.09	59⇑	iP	P	16 08 38.9	+2.2
LCBS	La Ceiba	1.17	66⇑	eP	P	16 08 37.2	-0.4
SNVI	San Vicente	1.28	70	eP	P	16 08 37.1	-1.8
PCG	Pacaya	1.31	337	eP	P	16 08 42.2	+2.9
PCG				eS	S	16 08 54.9	-2.9
NBG	Las Nubes	1.43	349⇓	eP	P	16 08 44.7	+4.1
NBG	Las Nubes	1.43	349	AML	AML	16 09 04.4	
	comp=E,2μm,0.3s						
FUG	Fuego 3	1.47	329⇓	eP	P	16 08 41.6	+0.5
JAT	Jato	1.89	307⇑	eP	P	16 08 45.6	-0.8
JAT				AML	AML	16 09 01.6	
	comp=E,4μm,0.2s						

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*IDC **12** 16:28:25.4±5.5, 35.32N×138.03E, mb3.7/5, mb1 3.9/5, mb1mx3.6/23, Error ellipse: s-maj=219.0km s-min=25.1km az=65.0*
*JMA **12** 16:28:33.6±0.1, 36.13N×139.82E, h110^{km}±1^{km}, M3.5*
JMA Felt I J1.
*NEIC **12** 16:28:37.0±1.4, 35.55N×138.50E, h115^{km}±13^{km}, mb4.3/3, Error ellipse: s-maj=50.2km s-min=20.6km az=69.0*
ISC 12 16:28:32.1±0.5**, 36.11N**±0.03×**139.83E**±0.07**, h121**^{km}±3^{km}**, n25, σ0^{s}62**/40**, mb3.9**/8**, 1C, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	Yasato	0.32	67	P	P	16 28 49.5	+0.3
JYT				eS	S	16 29 01.9	-0.4
JAG	Ashikaga	0.44	316	P	P	16 28 49.9	0.0
JAG				eS	S	16 29 02.6	-0.8
JRY	Ryogami san	0.76	263	P	P	16 28 52.6	+0.5
JRY				eS	S	16 29 07.3	-0.1
JKT	Katashina	0.81	325	P	P	16 28 53.0	+0.4
JKT				eS	S	16 29 08.7	+0.6
JOD2	Odawara 2	1.04	216	P	P	16 28 54.8	-0.1
JOD2				eS	S	16 29 11.3	-0.6
JYN	Shimob	1.21	240	P	P	16 28 57.0	+0.3
JYN				eS	S	16 29 16.1	+0.9
JFY	Yanaizu	1.30	355	P	P	16 28 58.0	+0.3
JFY				eS	S	16 29 16.5	-0.7
JHK	Hiroka	1.31	330	P	P	16 28 58.1	+0.2
JHK				eS	S	16 29 17.1	-0.4
MAJO	Matsushiro	1.38	289⇑	ePn	P	16 28 58.8	+0.1
MAT	Matsushiro	1.38	289	P	P	16 28 58.7	0.0
MAT				S	S	16 29 18.2	-0.6
MAT	Matsushiro	1.38	289	P	P	16 28 58.8	+0.1
MAT				eS	S	16 29 18.6	-0.2
MAT	Matsushiro	1.38	289	eP	P	16 28 59.0	+0.3
MAT				eS	S	16 29 18.0	-0.8
JIM2	Oshima 3	1.43	193	P	P	16 28 59.0	-0.1
JIM2				eS	S	16 29 19.7	+0.1
JFT	Otama	1.47	16	P	P	16 29 00.1	+0.5
JFT				eS	S	16 29 20.8	+0.3
BSO1	Boso 1	1.73	147	P	P	16 29 03.0	+0.4
JNS	Sasagawa	1.76	347	P	P	16 29 03.4	+0.4
JNS				eS	S	16 29 26.2	-0.3
JMM	Marumori	1.92	23	P	P	16 29 05.4	+0.4
JMM				eS	S	16 29 29.4	-0.4
ENH	Enshi	25.99	266	P	P	16 33 49.0	-6.3
	14nm,1.1s,mb4.3						
SONM	Songino Array	27.27	306	P	P	16 34 05.8	-1.0
	0.3nm,0.6s,mb3.0,baz=94,slow=9.1,SNR=3.7						
ZAL	Zalesovo	41.62	313	P	P	16 36 08.7	-0.7
	0.6nm,0.3s,mb3.7,baz=119,slow=4.3,SNR=4.4						
MKAR	Makanchi Array	43.54	303	P	P	16 36 25.1	0.0
	2.4nm,1.0s,mb3.9,baz=90,slow=8.6,SNR=8.6						
KURK	Kurchatov	45.51	309	eP	P	16 36 39.9	-0.9
	3.8nm,0.6s,mb4.3						
BVAR	Borovoye Array	50.26	313	P	P	16 37 19.1	+1.5
	0.4nm,0.4s,mb3.7,baz=100,slow=8.8,SNR=3.6						
ZRNK	Zerenda	51.10	313	eP	P	16 37 25.2	+1.3
	4.4nm,0.9s,mb4.5						
WRA	Warramunga Arr	55.98	186	P	P	16 37 58.9	-1.5
	1.0nm,0.8s,mb3.9,baz=0.5,slow=7.6,SNR=17						

IDC 12 16:57:47.1±8.4**, 17.17S**×**178.68W, mb3.8**/3**, mb1 4.1**/3**, mb1mx3.8**/12**, Error ellipse: s-maj=224.0km s-min=79.0km az=120.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.76	240	P	P	17 05 14.3	-0.7
	2.7nm,1.0s,slow=7.1,SNR=3.3						
WRA	Warramunga Arr	44.51	259	P	P	17 05 60.0	-2.5
	0.3nm,0.3s,baz=97,slow=7.5,SNR=37						
CMAR	Chiang Mai Arr	88.39	290	P	P	17 10 41.5	-1.3
	0.5nm,0.8s,baz=120,slow=2.4,SNR=4.4						

OTT 12 17:04:34.5±0.3**, 53.02N**×**66.96W, MN2.8**/6**, Blast, Labrador City, Nl Mining explosion., Labrador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	Schefferville	1.82	2	PN	Pn	17 05 06.8	-0.5
SCHQ				SN	Sn	17 05 30.3	-1.1
SCHQ				Trac		17 05 34.2	
	comp=Z,39nm,0.2s						
MNQ	Manicouagan	2.73	205	PN	Pn	17 05 19.3	-1.0
MNQ				SN	Sn	17 05 52.9	-1.6
MNQ				Trac		17 06 01.9	
	comp=Z,5.5nm,0.1s						
SMQ	Clarke City	2.80	177	PN	Pn	17 05 19.4	-2.0
SMQ				SN	Sn	17 05 54.6	-1.7
SMQ				Trac		17 05 58.7	
	comp=Z,6.7nm,0.1s						
ICQ	Pointe Anglais	3.50	183	PN	Pn	17 05 26.1	-5.2
ICQ				SN	Sn	17 06 09.8	-4.4
CNQ	Baie Comeau	3.79	191	PN	Pn	17 05 34.0	-1.3
CNQ				SN	Sn	17 06 16.5	-4.7
CNQ				Trac		17 06 25.2	
	comp=Z,2.0nm,0.1s						
GSQ	Grosses Roches	4.11	181	PN	Pn	17 05 38.0	-2.0
GSQ				SN	Sn	17 06 27.8	-1.7
GSQ				Trac		17 06 46.8	
	comp=Z,5.3nm,0.2s						
LG4Q	La Grande 4	4.33	281	PN	Pn	17 05 39.1	-3.9
LG4Q				PG	Pg	17 05 49.0	-12
LG4Q				SN	Sn	17 06 28.8	-6.1
LG4Q				SG	Sg	17 06 45.9	-13
LG4Q				Trac		17 06 50.9	
	comp=Z,11nm,0.3s						
LMQ	La Malbaie	5.88	203	PN	Pn	17 06 01.9	-3.1
DRLN	Deer Lake	7.04	119	PN	Pn	17 06 16.3	-5.0
DRLN				SN	Sn	17 07 34.9	-8.1
DRLN				SG	Sg	17 08 08.6	-20
LMN	Caledonia Moun	7.31	168	PN	Pn	17 06 19.7	-5.3
MALO	McAlpine Lake	8.53	255	PN	P	17 06 35.0	-7.1
MALO				SN	Sn	17 08 04.0	-16
MALO				LG		17 08 55.6	
VIMO	Victor Mine	10.14	276	PN	P	17 06 55.7	-8.6
VIMO				SN	S	17 08 44.9	-15
VIMO				LG		17 09 41.8	
SILO	Sutton Inlier	10.73	285	PN	P	17 07 05.0	-7.4
SILO				SN	S	17 08 58.6	-16

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*IDC **12** 17:15:25.0±1.1, 14.65N×147.07E, mb3.7/7, mb1 4.0/7, mb1mx3.9/18, Error ellipse: s-maj=29.9km s-min=29.2km az=26.0*
*NEIC **12** 17:15:30.1±0.6, 14.60N×147.02E, h35^{km}, mb4.3/2, Error ellipse: s-maj=17.1km s-min=12.6km az=135.0*
ISC 12 17:15:29.1±3.8**, 14.6N**±0.2×**147.0E**±0.2**, h41**^{km}±33^{km}**, n11, σ0^{s}45**/10**, mb3.9**/9**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	2.31	244	ePn	P	17 16 05.4	0.0
WRA	Warramunga Arr	36.54	200	P	P	17 22 32.9	0.0
	0.5nm,0.8s,mb3.4,baz=20,slow=8.8,SNR=3.9						
CMAR	Chiang Mai Arr	46.12	282	P	P	17 23 51.4	-0.1
	0.7nm,0.5s,mb3.8,baz=79,slow=6.7,SNR=7.9						
SONM	Songino Array	47.10	323	P	P	17 23 58.9	0.0
	0.4nm,0.5s,mb3.6,baz=138,slow=6.2,SNR=3.7						
ZAL	Zalesovo	62.01	324	P	P	17 25 47.6	+0.3
	0.5nm,0.3s,mb4.1,baz=307,slow=5.1,SNR=3.2						
MKAR	Makanchi Array	62.19	315	P	P	17 25 48.8	+0.2
	1.2nm,0.5s,mb4.3,baz=92,slow=8.3,SNR=28						
KURK	Kurchatov	65.13	319	eP	P	17 26 08.6	+0.7
	2.5nm,0.7s,mb4.3						
ILAR	Eielson Array	66.75	25	P	P	17 26 17.6	-0.3
	0.3nm,0.7s,mb3.4,baz=259,slow=4.6,SNR=3.2						
ZRNK	Zerenda	71.23	321	P	P	17 26 44.7	-1.1
	2.3nm,1.0s,mb4.1						
NVAR	Mina Array Bea	84.66	52	P	P	17 28 00.3	+0.3
	0.4nm,0.8s,mb3.6,baz=297,slow=6.0,SNR=2.8						
LPAZ	La Paz	146.13	97	PKPbc	PKPbc	17 35 08.5	+2.7
	0.9nm,0.6s,baz=258,slow=3.2,SNR=4.1						

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*LDG **12** 17:40:54.1±0.1, 44.57N×6.98E, h10^{km}, Md1.7/1, Ml1.3/3, Error ellipse: s-maj=1.5km s-min=0.8km az=78.0*
*STR **12** 17:40:54.7±0.2, 44.59N×6.91E, h5^{km}±1^{km}, Ml1.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 12 17:40:53.4±0.7**, 44.58N**±0.03×**7.01E**±0.07**, h10**^{km}**, n7, σ0^{s}68**/14**, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SURF	Saint Ours	0.17	236	Pg	Pg	17 40 57.8	+0.6
SURF				Sg	Sg	17 41 00.2	+0.5
MBDF	Montbardon	0.23	312	ePg	Pg	17 40 58.9	+0.6
MBDF				eSg	Sg	17 41 02.2	+0.7
	9.5nm,0.2s						
OG22	Abries	0.25	350	Pg	Pg	17 40 59.8	+1.0
OG22				Sg	Sg	17 41 03.3	+1.0
SBF	Sospel	0.78	156	ePg	Pg	17 41 08.9	-0.1
SBF				eSg	Sg	17 41 19.0	-0.5
	2.2nm,0.2s						
ORIF	Oris-en-Rattie	0.87	294	ePg	Pg	17 41 10.3	-0.6
ORIF				eSg	Sg	17 41 21.4	-1.2
	1.9nm,0.4s						
LPG	La Plagne	0.94	349	ePg	Pg	17 41 11.9	-0.4
LPG				eSg	Sg	17 41 24.3	-0.6
	0.9nm,0.3s						
LPL	La Plagne	0.96	348	ePg	Pg	17 41 12.5	-0.2
LPL				eSg	Sg	17 41 24.9	-0.7
	0.9nm,0.3s						

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*IDC **12** 18:11:14.8±1.5, 14.68N×147.14E, mb3.9/6, mb1 4.1/6, mb1mx3.9/19, Error ellipse: s-maj=46.1km s-min=23.4km az=83.0*
*NEIC **12** 18:11:19.7±1.0, 14.68N×147.11E, h35^{km}, mb4.4/2, Error ellipse: s-maj=25.5km s-min=16.6km az=103.0*
ISC 12 18:11:16.9±1.5**, 14.7N**±0.1×**147.2E**±0.3**, h33**^{km}**, n12, σ0^{s}97**/9**, mb4.0**/8**, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	2.56	245	ePn	Pn	18 11 56.6	-0.5
WRA	Warramunga Arr	36.70	201	P	P	18 18 22.5	-0.4
	1.0nm,1.2s,mb3.5,baz=24,slow=9.4,SNR=5.4						
FITZ	Fitzroy Crossi	38.94	214	P	P	18 18 42.3	+0.6
	1.3nm,0.8s,mb3.7,baz=50,slow=0.8,SNR=3.1						
CMAR	Chiang Mai Arr	46.34	282	P	P	18 19 43.0	+1.0
	0.9nm,0.6s,mb3.9,baz=80,slow=6.1,SNR=9.0						
SONM	Songino Array	47.19	323	P	P	18 19 48.1	-0.1
	0.8nm,0.6s,mb3.9,baz=113,slow=6.6,SNR=7.5						
ZAL	Zalesovo	62.09	324	P	P	18 21 38.3	+1.6
	0.9nm,0.3s,mb4.3,baz=128,slow=7.5,SNR=4.2						
MKAR	Makanchi Array	62.31	315	P	P	18 21 38.4	+0.2
	1.9nm,0.7s,mb4.3,baz=91,slow=9.2,SNR=18						
KURK	Kurchatov	65.23	319	eP	P	18 21 55.3	-2.0
	6.9nm,1.0s,mb4.6						
ZRNK	Zerenda	71.33	321	P	P	18 22 34.4	-0.7
	1.4nm,0.7s,mb4.0						
DBIC	Dimbokro	145.12	306	PKPbc	PKPbc	18 30 52.7	+0.4
	4.0nm,0.7s,baz=225,slow=1.9,SNR=4.9						
DBIC	Dimbokro	145.12	306	PKPbc	PKPbc	18 30 52.7	+0.4
LPAZ	La Paz	145.90	97	PKPbc	PKPbc	18 30 58.2	+4.1
	0.7nm,0.7s,baz=201,slow=4.8,SNR=4.3						

KRSC 12 18:12:28.1±0.8**, 54.51N**×**161.62E, h36**^{km}±2^{km}**, ML3.9, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	0.08	54	iP	P	18 12 34.2	+0.2
MKZ				iS	S	18 12 38.8	+0.5
TUMR	Tumrok	1.15	313	iP	P	18 12 48.2	+0.3
TUMR				eS	S	18 13 03.1	+0.4
KII	Karymskiy	1.36	250	eP	P	18 12 51.1	+0.1
KII				eS	S	18 13 07.3	-0.7
KMNR	Kamenistaya	1.48	328	iP	P	18 12 53.4	+0.7
KMNR				eS	S	18 13 10.8	-0.2
ZLN	Zelenaya	1.58	343	iP	P	18 12 54.8	+0.7
ZLN				eS	S	18 13 13.7	+0.1
LGNR	Loginova	1.66	342	iP	P	18 12 56.3	+1.0
LGNR				eS	S	18 13 17.5	+1.8
KPT	Kopyto	1.67	332	eP	P	18 12 56.2	+0.9

KPT				eS	S	18 13 16.8	+1.1
CIRR	Tsirk	1.68	343	eP	P	18 12 56.2	+0.6
CIRR				eS	S	18 13 16.9	+0.7
SPN	Mys Shipunski	1.70	214	i P	P	18 12 54.6	-1.3
SPN				i S	S	18 13 13.8	-2.8
KRSR	Krestovskiy	1.81	341	eP	P	18 12 57.4	0.0
KRSR				eS	S	18 13 18.8	-0.6
KBTR	Krutoberegovo	1.83	21	eP	P	18 12 57.7	0.0
KBTR				eS	S	18 13 19.8	-0.2
KOZ	Kozyrevsk	1.84	328	i P	P	18 12 58.7	+0.8
KOZ				eS	S	18 13 21.8	+1.6
KBG	Krutoberegovo	1.85	19	eP	P	18 12 58.8	+0.8
KBG				eS	S	18 13 20.8	+0.3
KBG				Smax			
	540nm,0.6s						
KLY	Klyuchi	1.89	343	i P	P	18 12 58.3	-0.2
KLY				eS	S	18 13 20.6	-0.7
NLC	Nalytchevo	1.90	226	i P	P	18 12 58.3	-0.4
NLC				eS	S	18 13 20.4	-1.2
SDLR	Sedlovina	2.04	234	i P	P	18 13 01.3	+0.7
SDLR				eS	S	18 13 25.9	+0.9
SMAR	Somma	2.08	234	eP	P	18 13 02.1	+0.8
SMAR				eS	S	18 13 27.2	+0.9
SVLR	Shiveluch	2.08	354	eP	P	18 13 01.8	+0.5
UGLR	Uglovaya	2.11	233	i P	P	18 13 02.5	+0.9
UGLR				eS	S	18 13 27.8	+0.9
SRDR	Sredinnyy	2.11	330	i P	P	18 13 01.8	+0.1
AVH	Avacha	2.11	235	eP	P	18 13 02.7	+1.0
AVH				eS	S	18 13 28.7	+1.7
KOK	Koryaka	2.15	237	eP	P	18 13 02.8	+0.6
KOK				eS	S	18 13 30.0	+2.2
PET	Petropavlovsk	2.31	231	eP	P	18 13 05.3	+0.8
PET				eS	S	18 13 31.9	0.0
GNL	Ganaly	2.31	251	i P	P	18 13 05.4	+0.8
GNL				eS	S	18 13 33.6	+1.5
BKI	Bering	2.61	73	i P	P	18 13 07.6	-1.2
BKI				eS	S	18 13 35.7	-3.9
BKI				Smax			
	40nm,0.3s						
RUS	Russkaya	2.79	223	eP	P	18 13 10.9	-0.5
RUS				eS	S	18 13 42.2	-2.0
GRL	Gorelyy	2.89	229	eP	P	18 13 13.4	+0.6
GRL				eS	S	18 13 46.8	+0.2
APC	Apacha	3.09	241	eP	P	18 13 16.5	+0.8

SKHL 12 18:18:46.5±0.4, 56.01N×128.77E, h21km±2km, mb3.6/6, 1D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BMKR	Bomnak	1.30	178	⇓iPg	Pn	18 19 11.0	+1.3
BMKR				AMB	AMB	18 19 12.4	
	18nm,0.5s						
BMKR				erx	rx	18 19 15.0	
BMKR				pPg		18 19 17.1	
BMKR				eSg	Sb	18 19 28.7	+2.2
BMKR				A		18 19 31.5	
	184nm,0.4s						
BMKR				A		18 19 31.5	
	175nm,0.4s						
KROS	Kirovskiy	1.89	214	i Pn	Pn	18 19 16.2	-1.9
KROS				i Pg	Pn	18 19 18.9	+0.8
KROS				AMB	AMB	18 19 19.5	
	26nm,0.6s						
KROS				AMB	AMB	18 19 19.5	
	19nm,0.6s						
KROS				AMB	AMB	18 19 19.5	
	23nm,0.6s						
KROS				pP		18 19 21.6	
KROS				eSn	Sn	18 19 40.5	-1.0
KROS				erx	rx	18 19 41.5	
KROS				eSg	Sn	18 19 43.5	+2.0
KROS				A		18 19 45.6	
	170nm,0.3s						
KROS				A		18 19 45.6	
	120nm,0.3s						
KROS				A		18 19 45.6	
	160nm,0.3s						
ZEA	Zeya	2.44	202	ePg	Pn	18 19 30.8	+4.8
ZEA				AMB	AMB	18 19 32.4	
	25nm,0.3s						
ZEA				erx	rx	18 19 35.0	
ZEA				sPg		18 19 41.0	
ZEA				eSn	Sn	18 19 55.5	0.0
ZEA				eSg	Sn	18 20 03.2	+7.7
ZEA				A		18 20 03.7	
	58nm,0.4s						
ZEA				A		18 20 03.7	
	39nm,0.4s						
ZEA				A		18 20 03.7	
	24nm,0.4s						
YASR	Yasnyy	2.76	190	ePn	Pn	18 19 31.0	+0.4
YASR				ePg	Pn	18 19 36.5	+5.9
YASR				AMB	AMB	18 19 36.9	
	6.0nm,0.4s						
YASR				AMB	AMB	18 19 36.9	
	2.0nm,0.4s						
YASR				AMB	AMB	18 19 36.9	
	10.0nm,0.4s						
YASR				erx	rx	18 19 41.6	
YASR				pPg		18 19 44.6	
YASR				eSn	Sn	18 20 03.5	-0.2
YASR				eSg	Sn	18 20 13.8	+10
YASR				A		18 20 15.6	
	35nm,0.6s						
YASR				A		18 20 15.6	
	15nm,0.6s						
YASR				A		18 20 15.6	
	12nm,0.6s						
EKMR	Ekimchan	3.82	139	ePn	Pn	18 19 46.6	+1.0
EKMR				ePg	Pn	18 19 54.7	+9.1
EKMR				AMB	AMB	18 19 58.1	
	4.0nm,0.5s						
EKMR				eSg	Sn	18 20 45.0	+15
EKMR				A		18 20 49.3	
	12nm,0.5s						
EKMR				A		18 20 49.3	
	6.0nm,0.5s						
TUP	Tupik	5.29	256	ePn	Pn	18 20 07.7	+1.2
TUP				ePg	Pn	18 20 23.4	+17
TUP				AMB	AMB	18 20 33.5	
	3.0nm,0.3s						
TUP				eSg	Sn	18 21 32.9	+25
TUP				A		18 21 35.8	
	25nm,0.7s						

*IDC **12** 19:52:42.6±0.6, 32.24S×71.29W, h49km±5km, mb4.2/11, mb1 4.2/13, mb1mx4.2/16, MS3.7/7, Ms1 3.6/7, ms1mx3.4/19, Error ellipse: s-maj=21.6km s-min=14.1km az=81.0*

*GUC **12** 19:52:43.3±0.7, 32.37S×71.32W, h44km±3km, MD4.5, ML4.6*

*NEIC **12** 19:52:43.3, 32.37S×71.32W, h44km, mb4.4/5, MD4.5(GUC), After GUC.*

NEIC Felt [IV] at La Ligua, Quillota and Puchuncavi; [III] at Illapel, Salamanca, Valparaiso and Vina del Mar; [II] at Santiago.

*SYO **12** 19:52:43.3, 32.37S×71.32W, h44km, MB4.3*

ISC 12 19:52:41.9±0.5, 32.29S±0.03×71.41W±0.07, h58km±4km, h54km±5.5km:pP-P, n71, σ1§00/61, mb4.4/15, MS3.9/7, 16C-12D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	Papudo	0.25	186	eP	P	19 52 51.4	0.0
IHA	Instituto Hidr	0.76	195	⇓iP	P	19 52 57.1	+0.2
IHA				i S	S	19 53 07.5	-0.5
JACH	Jahuel	0.79	120	⇓iP	P	19 52 57.2	0.0
RCDM	Rinconada Maip	1.30	157	eP	P	19 53 04.3	-0.1
RCDM				i S	S	19 53 20.8	-0.3
RCDM				AMP		19 53 22.0	
	comp=E,15µm,0.4s						
DSCH	Colegio Aleman	1.31	148	⇓iP	P	19 53 04.8	+0.2
DSCH				i S	S	19 53 21.1	-0.3
DSCH				AMP		19 53 22.2	
	comp=E,46µm,0.3s						
SAN	Santiago	1.32	152	eP	P	19 53 04.8	+0.1
SAN				i S	S	19 53 21.0	-0.5
CLCH	Cerro Calan	1.33	147	⇓iP	P	19 53 05.0	+0.3
CLCH				i S	S	19 53 21.3	-0.4
CLCH				AMP		19 53 23.3	
	comp=E,29µm,0.8s						
FCH	Farellones	1.40	138	⇓iP	P	19 53 06.0	+0.2
FCH				i S	S	19 53 23.8	+0.4
FCH				AMP		19 53 24.8	
	comp=E,10µm,0.3s						
TACH	Talagante	1.42	164	⇑iP	P	19 53 06.1	+0.1
ANTU	Antumapu	1.44	153	⇑iP	P	19 53 06.4	+0.2
ANTU				i S	S	19 53 23.7	-0.5
ANTU				AMP		19 53 31.1	
	comp=E,13µm,0.3s						
PCH	Pirque	1.53	151	⇑iP	P	19 53 07.7	+0.2
LNV	Longovilo	1.67	180	⇑iP	P	19 53 08.9	-0.4
CHCH	Chadas Angostu	1.76	159	⇓iP	P	19 53 11.2	+0.5
CACH	El Canelo	1.95	160	⇑iP	P	19 53 14.3	+1.1
CACH				i S	S	19 53 37.4	+0.9
TLL	Tololo Astrono	2.17	14	⇓eP	P	19 53 17.4	+0.9
TLL				i S	S	19 53 45.1	+2.9
TLL				AMP		19 53 49.9	
	comp=N,13µm,0.7s						
CICH	Cipreses	2.19	158	⇓iP	P	19 53 17.5	+0.8
MDZ	Mendoza	2.24	106	⇓iP	P	19 53 21.2	+3.8
MDZ				i		19 53 36.0	
MDZ				S	S	19 53 53.3	+9.5
SFDO	San Fernando	2.34	172	⇓iP	P	19 53 18.8	-0.1
LSCH	La Serena	2.38	3	eP	P	19 53 19.3	0.0
TALC	Talca	3.11	183	eP	P	19 53 29.3	-0.5
VACH	Vallenar	3.74	9	eP	P	19 53 37.5	-1.1
CCHI	Chillan	4.34	187	eP	P	19 53 45.0	-2.1
TRQA	Tornquist	9.62	129	eP	P	19 54 58.5	-1.7
	comp=N,49nm,1.0s						
LVC	Limon Verde	9.89	14	eP	P	19 54 58.9	-5.0
	comp=N,3.8nm,0.5s						
CPUP	Villa Florida	13.64	68	P	P	19 55 51.7	-2.4
	comp=N,0.5nm,0.3s,baz=259,slow=10,SNR=5.9						
CPUP				LR	LR	20 02 03.8	
	comp=N,77nm,21.8s,baz=268,slow=42						
CPUP	Villa Florida	13.64	68	eP	P	19 55 50.0	-4.0
	comp=N,15nm,1.3s						
LPAZ	La Paz	16.20	11	P	P	19 56 27.6	+0.4
	comp=N,0.2nm,0.3s,baz=196,slow=7.0,SNR=12						
LPAZ	La Paz	16.20	11	eP	P	19 56 26.9	-0.4
	comp=N,7.9nm,0.7s						
USHA	Ushuaia	22.64	176	P	P	19 57 40.1	+1.5
	comp=N,15nm,1.0s,mb4.4,baz=339,slow=8.6,SNR=4.1						
USHA				pP		19 57 53.1	
	comp=N,9.0nm,0.7s,baz=355,slow=11,SNR=2.8						
USHA				LR	LR	20 07 25.3	
	comp=N,179nm,19.3s,MS3.5,baz=50,slow=39						
SAML	Samuel	24.44	20	eP	P	19 57 55.8	-0.8
	comp=N,6.9nm,0.9s,mb4.1						
BDFB	Brasilia	26.95	58	P	P	19 58 18.0	-2.0
	comp=N,6.6nm,0.9s,mb4.2,baz=248,slow=5.7,SNR=6.5						
BDFB				pP	pP	19 58 31.7	-2.5
	comp=N,4.8nm,0.6s,baz=218,slow=7.8,SNR=5.4						
BDFB				LR	LR	20 09 58.3	
	comp=N,226nm,20.9s,MS3.7,baz=254,slow=39						
ROSC	El Rosal	37.04	355	P	P	19 59 49.8	+1.7
	comp=N,7.2nm,0.3s,mb4.9,baz=122,slow=22,SNR=2.6						
ROSC				LR	LR	20 15 56.2	
	comp=N,80nm,18.6s,MS3.5,baz=346,slow=38						
SJG	San Juan	50.36	6	pP	pP	20 01 46.8	-3.8
	comp=N,9.0nm,0.3s,baz=324,slow=8.4,SNR=2.4						
VNA3	Neumayer Olymp	50.75	158	⇑i	P	20 01 39.5	+1.9
VNA3	Neumayer Olymp	50.75	158		pP	20 01 52.8	0.0
VNA3	Neumayer Olymp	50.75	158	⇑i	sP	20 01 58.4	-1.1
VNA1	Neumayer--Stat	51.04	158	⇑i	P	20 01 42.1	+2.2
VNA1	Neumayer--Stat	51.04	158	⇑i	pP	20 01 55.3	+0.2
VNA1	Neumayer--Stat	51.04	158		sP	20 02 01.4	-0.3
VNA2	Neumayer--Watz	51.39	158	⇑i	P	20 01 44.4	+2.0
VNA2	Neumayer--Watz	51.39	158	⇑i	pP	20 01 57.5	-0.2
VNA2	Neumayer--Watz	51.39	158	⇑i	sP	20 02 03.1	-1.2
SNAA	Sanae	52.97	158	⇑i	P	20 01 53.4	-0.9
SNAA	Sanae	52.97	158	⇑i	pP	20 02 06.6	-3.1
SNAA	Sanae	52.97	158	⇑i	sP	20 02 13.3	-3.0
SNAA	Sanae	52.97	158	P	P	20 01 53.9	-0.4
	comp=N,4.3nm,1.0s,mb4.3,baz=283,slow=5.5,SNR=29						
QSPA	South Pole Qui	57.95	180	eP	P	20 02 30.1	0.0
	comp=N,20nm,1.0s,mb5.1						
QSPA				e	pP	20 02 49.5	+3.8
SYO	Syowa Base	67.26	159	⇓P	P	20 03 29.6	-2.3
SYO	Syowa Base	67.26	159	⇓sP	pP	20 03 44.5	-3.3
SYO	Syowa Base	67.26	159	⇑PcP	PcP	20 03 56.7	-2.7
TXAR	Lajitas Array	68.51	330	P	P	20 03 40.6	+0.3
	comp=N,2.6nm,0.8s,mb4.2,baz=147,slow=11,SNR=7.4						
TXAR				pP	pP	20 03 53.8	-2.5
	comp=N,0.9nm,0.6s,baz=193,slow=12,SNR=2.1						
TXAR				LR	LR	20 30 10.7	
	comp=N,52nm,19.5s,MS3.8,baz=180,slow=33						
LPM	Los Pinos Moun	74.07	330	P	P	20 04 12.2	-1.4
DBIC	Dimbokro	74.13	71	P	P	20 04 13.1	-1.2
	comp=N,2.9nm,0.5s,mb4.4,baz=211,slow=7.1,SNR=7.4						
DBIC				pP	pP	20 04 27.8	-2.7
	comp=N,3.5nm,0.8s,baz=197,slow=4.7,SNR=2.3						
DBIC				LR	LR	20 32 51.4	
	comp=N,64nm,19.9s,MS3.9,baz=123,slow=32						
DBIC	Dimbokro	74.13	71	P	P	20 04 13.1	-1.2
DBIC				pP	pP	20 04 27.8	-2.7
MAW	Mawson	74.67	163	P	P	20 04 16.6	+0.2
	comp=N,3.4nm,0.6s,mb4.5,baz=232,slow=6.9,SNR=12						
MAW				LR	LR	20 36 36.9	
	comp=N,71nm,19.2s,MS4.0,baz=74,slow=35						
SUR	Sutherland	75.19	119	P	P	20 04 20.9	+0.8
	comp=N,8.0nm,0.9s,mb4.6,baz=60,slow=6.0,SNR=4.6						
RAR	Rarotonga	77.66	253	LR	LR	20 33 12.0	
	comp=N,591nm,18.0s,MS5.0,baz=265,slow=31						
CASY	Casey	81.74	181	eP	P	20 04 55.3	+0.2
	comp=N,9.6nm,1.0s,mb4.7						
HWUT	Hardware Ranch	82.31	331	eP	P	20 04 57.7	-0.9
	comp=N,2.2nm,0.6s,mb4.3						
PDAR	Pinedale Array	82.48	333	P	P	20 04 59.7	+0.2
	comp=N,0.4nm,0.6s,mb3.5,baz=153,slow=3.3,SNR=3.7						
NVAR	Mina Array Bea	82.79	325	P	P	20 05 01.5	+0.4
	comp=N,0.7nm,0.5s,mb3.9,baz=142,slow=6.4,SNR=4.5						
SCHQ	Schefferville	86.85	3	P	P	20 05 20.0	-0.9
	comp=N,3.0nm,0.7s,mb4.7,baz=185,slow=11,SNR=3.4						
SCHQ	Schefferville	86.85	3	P	P	20 05 20.0	-0.9
WRA	Warramunga Arr	122.51	209	PKP	PKPdf	20 11 31.5	+0.2
	comp=N,1.2nm,0.5s,baz=159,slow=1.7,SNR=42						
WRA				pPKP		20 11 47.0	
	comp=N,0.8nm,0.6s,baz=160,slow=1.6,SNR=4.1						
ZRNK	Zerenda	144.90	42	ePKPdf	PKPdf	20 12 12.4	+0.5
ZRNK				e		20 12 27.5	
BRVK	Borovoye	145.59	41	ePKPdf	PKPdf	20 12 15.2	+2.2
BRVK				e		20 12 30.0	
BVAR	Borovoye Array	145.66	41	PKPbc	PKPbc	20 12 15.4	+1.5
	comp=N,2.3nm,0.4s,baz=297,slow=5.1,SNR=10						
BVAR				pPKPbc		20 12 29.9	
	comp=N,3.6nm,0.5s,baz=300,slow=2.8,SNR=7.5						
YAK	Yakutsk	147.29	342	PKPdf	PKPdf	20 12 18.3	+2.6
AAK	Ala-Archa	151.20	59	ePKPdf	PKPdf	20 12 29.4	+7.0
AAK				e		20 12 44.4	
ZAL	Zalesovo	152.49	31	PKPbc	PKPdf	20 12 32.0	+8.1
	comp=N,3.3nm,0.4s,baz=128,slow=0.6,SNR=15						
ZAL				pPKPbc		20 12 46.6	
	comp=N,6.3nm,0.4s,baz=130,slow=3.3,SNR=12						
MKAR	Makanchi Array	155.22	47	PKPbc	PKPdf	20 12 36.4	+8.5
	comp=N,0.9nm,0.9s,baz=135,slow=2.0,SNR=3.7						
MKAR				PKPab	PKPab	20 12 54.0	-1.5
	comp=N,0.9nm,0.5s,baz=284,slow=3.1,SNR=9.6						
MKAR				pPKPab		20 13 08.7	
	comp=N,2.0nm,0.6s,baz=304,slow=3.9,SNR=9.8						

IDC 12 20:01:51.4±2.1, 4.18N×126.64E, mb4.0/3, mb1 4.1/3, mb1mx3.7/16, Error ellipse: s-maj=201.0km s-min=25.9km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.14	163	P	P	20 07 18.0	-1.9
	4.1nm,1.1s,baz=342,slow=10,SNR=22						
STKA	Stephens Creek	38.58	159	P	P	20 09 16.5	-1.5
	3.0nm,1.0s,baz=338,slow=8.4,SNR=5.0						
MKAR	Makanchi Array	57.13	325	P	P	20 11 39.9	-2.3
	0.5nm,0.6s,baz=131,slow=6.0,SNR=6.7						

*JMA **12** 20:04:35.2±0.3, 24.47N×121.85E, h83km, M2.7*

TAP 12 20:04:34.9, 24.17N×121.78E, h51km, ML3.5, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	1.16	75	P	P	20 04 55.3	+0.3
YOJ				S	S	20 05 10.4	+0.4
IRIF	Iriomote-Funau	1.79	84	P	P	20 05 03.6	-0.3
IRIF				S	S	20 05 24.9	-0.6
HATJ	Hateruma jima	1.85	93	P	P	20 05 05.3	+0.4
HATJ				eS	S	20 05 28.8	+1.7
JKRS	Kuro-shima	2.04	88	P	P	20 05 07.7	+0.3
JKRS				S	S	20 05 32.3	+0.6
JIJ	Ishigaki jima	2.17	84	P	P	20 05 08.6	-0.7
JIJ				S	S	20 05 33.6	-1.3
JTJ	Tarama	2.71	79	P	P	20 05 16.6	-0.4
JTJ				S	S	20 05 47.0	-1.6

DJA 12 20:11:24.8±1.0, 9.62S×113.91E, h33km, ML3.8/2, 1C-2D, Error ellipse: s-maj=21.8km s-min=13.9km az=35.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	Scrawed	1.15	12	⇓ePn	Pn	20 11 43.6	-1.3
	56nm,0.2s						
SRDI	Scrawed	1.15	12	eP	P	20 11 44.0	-0.6
SRDI				eSn	Sn	20 11 56.9	-2.7
KELI	Kelakatan	1.50	23	⇑ePn	Pn	20 11 49.3	-0.6
KELI				eSn	Sn	20 12 06.9	-1.6
RATI	Rata	1.83	61	⇓ePn	Pn	20 11 53.4	-1.2
	141nm,0.2s						
RATI				eSn	Sn	20 12 12.6	-4.3

*IDC **12** 20:23:45.2±8.0, 21.86S×175.18W, h39km±67km, mb4.0/13, mb1 4.3/15, mb1mx4.2/19, ML4.4/2, MS4.1/6, Ms1 4.1/6, ms1mx4.0/14, Error ellipse: s-maj=36.1km s-min=25.7km az=162.0*

*BJI **12** 20:23:57.9, 22.00S×175.70W, h135km, mB5.2, mb4.8*

*NEIC **12** 20:23:57.9±6.2, 22.02S×175.74W, h135km±53km, mb4.7/8, Error ellipse: s-maj=21.7km s-min=19.4km az=52.0*

*SYO **12** 20:24:15.8, 22.19S×176.15W, h293km, MB4.5*

ISC 12 20:23:53.7±0.4, 22.15S±0.09×175.9W±0.1, h100km, n78, σ1§26/35, mb4.3/21, 4C-5D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	Rarotonga	15.01	89	Pn	Px	20 26 52.2	
	1.3nm,0.3s,baz=270,slow=11,SNR=3.7						
RAR				Sn	Sx	20 29 14.6	
	1.5nm,0.3s,baz=334,slow=16,SNR=2.5						
URZ	Urewera	17.15	199	P	P	20 27 48.3	-0.1
	1.4nm,0.3s,baz=26,slow=1.9,SNR=5.3						
RPZ	Rata Peaks	24.08	204	P	P	20 29 06.1	+5.3
	2.5nm,0.4s,mb3.9,baz=51,slow=14,SNR=2.5						
TBI	Tubuai	24.39	98	eL		20 33 01.8	
TBI				eR		20 34 09.9	
	1µm,28.8s,baz=274						
PPT	Papeete	25.14	84	eL		20 33 31.2	
PPT				eR		20 34 26.0	
	1µm,26.8s,baz=250						
CTA	Charters Tower	35.32	266	P	P	20 30 43.6	+2.3
	6.2nm,0.5s,mb4.7,baz=92,slow=9.1,SNR=13						
CTAO	Charters Tower	35.32	266	eP	P	20 30 42.2	+0.9
	5.3nm,0.4s,mb4.7						
PMG	Port Moresby	37.64	284	P	P	20 31 02.6	+1.8
	10nm,0.7s,mb4.8,baz=111,slow=7.5,SNR=2.9						
STKA	Stephens Creek	38.90	246	P	P	20 31 11.2	+0.2
	7.1nm,1.2s,mb4.4,baz=125,slow=9.3,SNR=3.5						
STKA				LR	LR	20 44 36.6	
	comp=Z,235nm,18.2s,baz=209,slow=32						
STKA	Stephens Creek	38.90	246	P	P	20 31 11.3	+0.2
WRAB	Tennant Creek	46.34	263	eP	P	20 32 11.2	-0.5
	20nm,0.9s,mb4.8						
WRA	Warramunga Arr	46.35	263	P	P	20 32 11.3	-0.5
	4.9nm,0.8s,mb4.3,baz=96,slow=8.3,SNR=25						
WRA				PcP	PcP	20 33 46.7	+1.0
	1.8nm,0.8s,baz=98,slow=3.1,SNR=3.4						
WRA				LR	LR	20 50 52.0	
	comp=Z,442nm,18.6s,baz=105,slow=35						
MBWA	Marble Bar	59.43	258	eP	P	20 33 46.9	-1.6
	7.0nm,0.7s,mb4.8						
CASY	Casey	63.33	206	eP	P	20 34 13.6	-0.6
	5.7nm,0.8s,mb4.5						
QSPA	South Pole Qui	67.93	180	eP	P	20 34 42.5	-0.7
	11nm,0.9s,mb4.7						
MTUM	Tungsten Hills	80.07	43	P	P	20 35 55.6	+1.5
YBH	Yreka Blue Hor	80.36	37	P	P	20 35 52.9	-2.7
	1.1nm,0.6s,mb3.9,baz=157,slow=12,SNR=3.0						
MAW	Mawson	80.68	199	P	P	20 35 56.5	-0.2
	1.5nm,0.8s,mb3.9,baz=99,slow=12,SNR=4.8						
MAW				LR	LR	21 13 05.8	
	comp=Z,117nm,19.3s,baz=252,slow=36						
MAW	Mawson	80.68	199	eP	P	20 35 56.4	-0.3
	4.4nm,0.7s,mb4.4						
NVAR	Mina Array Bea	80.89	42	P	P	20 35 50.7	-7.7
	0.6nm,0.7s,mb3.5,baz=210,slow=7.3,SNR=3.0						
NVAR	Mina Array Bea	80.89	42	P	P	20 35 50.7	-7.7
CN2	Changchun	84.81	322	eP	P	20 36 17.8	-0.4
CN2				AMB	AMB		
	comp=Z,20nm,1.5s,mb4.8						
CN2				AMB	AMB		
	comp=Z,300nm,3.0s						
MSU	Marysvale	84.85	45	P	P	20 36 18.4	-0.2
SYO	Syowa Base	85.55	192	⇑P	P	20 36 18.6	-2.7
SYO	Syowa Base	85.55	192	⇓PcP	PcP	20 36 20.6	-3.9
LTX	Lajitas	86.30	56	P	P	20 36 26.3	+0.4
	comp=Z,13nm,1.3s,mb4.7						
TXAR	Lajitas Array	86.30	56	P	P	20 36 20.4	-5.5
	comp=Z,0.2nm,0.3s,mb3.5,baz=209,slow=46,SNR=2.1						
SNAA	Sanae	86.31	178	⇑i	P	20 36 26.0	+1.0
SNAA	Sanae	86.31	178		Px	20 36 40.0	
VNA3	Neumayer Olymp	86.37	176	⇓i	P	20 36 26.1	+0.8
VNA3	Neumayer Olymp	86.37	176	⇓i	Px	20 36 39.3	
LPM	Los Pinos Moun	86.47	51	P	P	20 36 26.4	-0.2
VNA2	Neumayer--Watz	86.83	176	⇓i	P	20 36 28.9	+1.4
VNA2	Neumayer--Watz	86.83	176	⇑i	Px	20 36 41.9	
VNA1	Neumayer--Stat	87.05	176	⇑i	P	20 36 28.8	+0.2
VNA1	Neumayer--Stat	87.05	176	⇓i	Px	20 36 40.5	
GDL2	Guadalupe Moun	87.11	54	eP	P	20 36 32.2	+2.4
ENH	Enshi	88.59	303	P	P	20 36 36.4	-0.5
	comp=Z,22nm,1.1s,mb5.1						
DLBC	Dease Lake	88.80	22	LR	LR	21 07 36.5	
	comp=Z,70nm,21.8s,baz=206,slow=30						
PDAR	Pinedale Array	88.82	42	P	P	20 36 34.0	-3.7
	comp=Z,0.3nm,0.7s,mb3.4,baz=233,slow=14,SNR=2.5						
ILAR	Eielson Array	89.49	12	P	P	20 36 35.5	-4.8
	comp=Z,1.5nm,1.1s,mb3.9,baz=208,slow=6.4,SNR=5.4						
XAN	Xi'an	90.69	307	P	P	20 36 47.0	+0.3
XAN				AMB	AMB		
	comp=Z,12nm,1.5s,mb4.8						
CMAR	Chiang Mai Arr	92.52	289	P	P	20 36 57.4	+2.0
	comp=Z,4.3nm,1.0s,mb4.7,baz=120,slow=3.0,SNR=25						
CMAR				LR	LR	21 17 46.9	
	comp=Z,58nm,20.1s,baz=175,slow=35						
SONM	Songino Array	98.29	318	P	P	20 37 19.1	-1.9
	comp=Z,0.3nm,0.7s,mb3.9,baz=225,slow=1.7,SNR=4.0						
LPAZ	La Paz	99.61	112	LR	LR	21 17 03.5	
	comp=Z,93nm,18.6s,baz=295,slow=32						
MKAR	Makanchi Array	113.76	313	PKP	PKPdf	20 42 19.3	-1.2
	comp=Z,0.3nm,0.5s,baz=106,slow=1.3,SNR=7.8						
ZRNK	Zerenda	122.44	320	ePKPdf	PKPdf	20 42 34.5	-2.7
KMBO	Kilima Mbogo	140.25	239	PKP	PKPdf	20 43 14.2	+2.4
	comp=Z,0.7nm,0.5s,baz=222,slow=23,SNR=3.6						
TATS	Tathlith	143.19	273	P	PKPbc	20 43 16.6	+1.6
AFFS	‘Afif	144.25	281	P	PKPbc	20 43 18.5	+0.5
NAMS	An Nimas	144.30	272	P	PKPbc	20 43 20.4	+2.1
BLJS	Baljurashi	144.99	273	P	PKPdf	20 43 22.7	+2.9
SUW	Suwalki	145.06	340	ePKPdf	PKPdf	20 43 16.6	-2.4
AKASG	Malin Array Be	145.40	332	PKPbc	PKPbc	20 43 17.6	-2.7
	comp=Z,5.5nm,0.7s,baz=38,slow=4.2,SNR=30						
HILS	Ha’il	145.49	286	P	PKPdf	20 43 22.7	+2.1
MBAR	Mbarara	145.57	232	ePKPdf	PKPdf	20 43 22.0	+0.9
ELZG	Elazig	146.02	307	i P	PKPdf	20 43 23.2	+2.1
LTHS	Al Lith	146.16	274	P	PKPdf	20 43 25.0	+3.2
GZT	Gaziantep	147.44	305	i P	PKPdf	20 43 28.1	+4.6
KBRS	Khaybar	147.74	284	P	PKPdf	20 43 29.8	+5.5
BOYT	Boyabat	147.78	314	i P	PKPdf	20 43 20.0	-4.0
COBT	Iskenderun	148.70	304	i P	PKPdf	20 43 28.1	+2.5
AVNT	Avonos	148.94	309	i P	PKPdf	20 43 29.9	+4.0
QURS	Qurayyt al Mil	149.05	294	P	PKPdf	20 43 34.7	+8.4
ELDT	Eldivan	149.20	313	i P	PKPdf	20 43 30.4	+4.2
ASF	Jabal al Asfar	149.28	296	PKPbc	PKPdf	20 43 31.7	+5.1
	comp=Z,4.4nm,0.9s,baz=205,slow=0.8,SNR=7.1						
BRTR	Keskin Array B	149.40	312	PKPbc	PKPdf	20 43 30.4	+3.8
	comp=Z,4.0nm,0.9s,baz=68,slow=1.7,SNR=10.0						
KOLS	Kolonicke sedl	149.62	336	ePKP	PKPdf	20 43 37.9	+11
KSP	Ksiaz	149.82	345	eP	PKPdf	20 43 31.0	+4.1
CLL	Collm	150.08	349	i PKP1	PKPdf	20 43 30.6	+3.3
CLL				i *PPKP		20 43 43.3	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BRG	**Berggiesshubel**	**150.32**	**347**	eP	PKPdf	20 43 32.0	+4.4
BRG				e		20 43 44.3	
BRG				e		20 43 54.1	
MORC	**Moravsky Berou**	**150.46**	**342**	ePKPbc	PKPdf	20 43 32.1	+4.2
MOX	**Moxa**	**150.96**	**350**	eP	PKPdf	20 43 30.0	+1.4
MOX				PKP2	PKPab	20 43 40.0	-4.5
PRU	**Pruhonice**	**151.02**	**346**	eP	PKPdf	20 43 34.0	+5.3
JMOS	**Jabal al Moall**	**151.26**	**291**	P	PKPab	20 43 47.4	+0.9
HAQS	**Haql**	**151.43**	**290**	P	PKPdf	20 43 36.9	+6.9
KHC	**Kasperske Hory**	**152.04**	**347**	eP	PKPdf	20 43 35.5	+5.2
GERES	**GERESS Array B**	**152.29**	**346**	PKPbc	PKPdf	20 43 34.8	+4.2
	comp=Z,1.2nm,0.9s,baz=45,slow=1.9,SNR=4.5						

*PRU **12** 20:41:08.7,51.46N×16.16E*
*WAR **12** 20:41:09.4,51.46N×16.11E,ML2.6,Mining Induced*
ISC 12 20:41:07.2±1.1**,51.43N**±0.05×**16.10E**±0.06**,n10,**σ**1s10**/23**,1C,Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.60**	**168**	i PG	**Pg**	**20 41 20.9**	**+1.7**
KSP				eSG	**Sg**	**20 41 30.9**	**+3.7**
UPC	**Upice**	**0.92**	**184**	ePG	**Pg**	**20 41 27.1**	**+1.4**
UPC				eSG	**Sg**	**20 41 38.5**	**+0.5**
DPC	**Dobruska-Polom**	**1.09**	**173**	ePG	**Pg**	**20 41 29.7**	**+0.7**
DPC				eSG	**Sg**	**20 41 43.5**	**0.0**
	9.2nm,0.2s						
PVCC	**Panska Ves**	**1.32**	**228**	ePG	**Pg**	**20 41 34.4**	**+0.7**
PVCC				eSG	**Sg**	**20 41 52.5**	**+1.2**
PRU	**Pruhonice**	**1.75**	**215**	PG	**Pg**	**20 41 43.2**	**+1.0**
PRU				i x	x	20 41 46.3	
PRU				SG	**Sg**	**20 42 05.8**	**+0.3**
	13nm,0.4s						
CLL	**Collm**	**1.95**	**268**	ePN	**Pn**	**20 41 42.0**	**+0.1**
CLL				ePG	**Pg**	**20 41 45.0**	**-1.1**
CLL				eSG	**Sg**	**20 42 12.0**	**0.0**
OKC	**Ostrava-Krasne**	**2.06**	**140**	ePG	**Pg**	**20 41 47.3**	**-1.0**
OKC				eSG	**Sg**	**20 42 14.1**	**-1.7**
NKC	**Novy Kostel**	**2.61**	**244**	ePG	**Pg**	**20 41 58.8**	**-0.5**
NKC				eSG	**Sg**	**20 42 34.2**	**+0.1**
KHC	**Kasperske Hory**	**2.81**	**216**	ePN	**Pn**	**20 41 54.7**	**+0.4**
KHC				ePG	**Pg**	**20 42 00.8**	**-2.6**
KHC				eSN	**Sn**	**20 42 28.0**	**-1.4**
KHC				eSG	**Sg**	**20 42 39.0**	**-1.9**
MOA	**Molln**	**3.78**	**199**	⇑iPN	**Pn**	**20 42 09.0**	**+1.0**
MOA				i SG	**Sg**	**20 43 12.4**	**-0.6**

*NEIC **12** 20:44:08.2,32.29S×71.88W,h15km,ML2.8(GUC),After GUC.*
GUC 12 20:44:08.2±0.6**,32.29S**×**71.88W,h15**km±9km**,MD3.7, ML2.8,2D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.45**	**124**	⇓iP	Pb	20 44 17.3	0.0
PACH				i S	Sb	20 44 24.0	+0.5
JACH	**Jahuel**	**1.16**	**110**	i P	Pb	20 44 28.6	-0.8
JACH				i S	Sb	20 44 44.4	+0.5
PEL	**Peldehue**	**1.32**	**131**	eP	Pb	20 44 31.3	-0.8
PEL				i S	Sb	20 44 48.9	+0.2
PEL				AMP		20 44 53.6	
	comp=N,336nm,0.3s						
CMCH	**Combarbala**	**1.34**	**34**	⇓eP	Pb	20 44 31.5	-0.9
CMCH				i S	Sb	20 44 48.9	-0.3
CMCH				AMP		20 44 50.1	
	comp=E,925nm,0.6s						
RCDM	**Rinconada Maip**	**1.50**	**143**	eP	Pn	20 44 34.1	-0.6
RCDM				AMP		20 44 56.1	
	comp=E,154nm,0.1s						
CLCH	**Cerro Calan**	**1.58**	**135**	eP	Pn	20 44 35.4	-0.5
CLCH				i S	Sn	20 44 55.6	-0.5
CLCH				AMP		20 45 07.5	
	comp=E,129nm,0.7s						
FCH	**Farellones**	**1.69**	**128**	eP	Pn	20 44 37.4	-0.1
FCH				i S	Sn	20 44 59.8	+0.9
FCH				AMP		20 45 03.8	
	comp=E,122nm,0.2s						
LNV	**Longovilo**	**1.71**	**167**	eP	Pn	20 44 37.0	-0.7
PCH	**Pirque**	**1.76**	**140**	eP	Pn	20 44 38.1	-0.3
CHCH	**Chadas Angostu**	**1.94**	**148**	eP	Pn	20 44 40.9	-0.1
CHCH				i S	Sn	20 45 06.1	+0.9
LMEL	**Las Melosas**	**2.10**	**138**	eP	Pn	20 44 43.4	+0.1
LMEL				i S	Sn	20 45 10.4	+1.1
LMEL				AMP		20 45 19.3	
	comp=N,119nm,0.1s						
TLL	**Tololo Astrono**	**2.30**	**24**	eP	Pn	20 44 47.1	+0.9
TLL				AMP		20 45 22.5	
	comp=E,85nm,0.6s						

*CSEM **12** 21:11:06.6±0.1,37.07N×3.08E,h20km,ML2.9/1,Error ellipse: s-maj=6.0km s-min=3.0km az=61.0*
*MDD **12** 21:11:07.8±0.6,37.05N×2.96E,h26km±10km,mb3.8/4, Error ellipse: s-maj=12.2km s-min=9.1km az=77.0, PRXIMO*
*NEIC **12** 21:11:10.9,37.30N×2.71E,h11km,MG3.7(MDD),After MDD.*
ISC 12 21:11:06.2±0.9**,37.19N**±0.06×**3.0E**±0.1**,h28**km±17km**,n24,** σ**1s45**/34**,Western Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ABA	**Alger-Bouzarea**	**0.39**	**170**	P	**Pb**	**21 11 14.0**	**-0.8**
ABMS	**Boumerdes**	**0.61**	**136**	P	**Pb**	**21 11 17.2**	**-1.0**
EMHD	**Djebel Mahouad**	**0.99**	**180**	P	**Pn**	**21 11 24.0**	**-0.2**
EANR	**'Ain N'Sour**	**1.94**	**231**	P	**Pn**	**21 11 35.0**	**-2.9**
EIBI	**Ibiza**	**2.23**	**326**	Pn	**Pn**	**21 11 44.1**	**+2.0**
	11nm,0.7s,SNR=9.3						
EIBI				Sn	**Sn**	**21 12 08.8**	**-0.1**
	8.6nm,0.2s,SNR=13						
EIBI	**Ibiza**	**2.23**	**326**	Pn	**Pn**	**21 11 44.1**	**+2.0**
EIBI				Sn	**Sn**	**21 12 08.3**	**-0.7**
EIBI	**Ibiza**	**2.23**	**326**	Pn	**Pn**	**21 11 44.1**	**+2.0**
	11nm,0.7s,SNR=9.3						
EBEN	**Beniarda**	**2.93**	**302**	Pn	**Pn**	**21 11 53.0**	**+0.9**
	0.2nm,0.2s,SNR=7.9						
EBEN				Sn	**Sn**	**21 12 24.5**	**-2.2**
	0.5nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**2.93**	**302**	Pn	**Pn**	**21 11 53.0**	**+0.9**
	0.2nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**3.40**	**282**	Pn	**Pn**	**21 11 59.7**	**+1.1**
	1.3nm,0.4s,SNR=7.9						
EMUR	**La Murta**	**3.40**	**282**	Pn	**Pn**	**21 11 59.7**	**+1.0**
	1.3nm,0.4s,SNR=7.9						
EMOS	**Mosqueruela**	**4.15**	**321**	Pn	**Pn**	**21 12 10.6**	**+1.2**
	0.2nm,0.2s,SNR=7.9						
EMOS				Sn	**Sn**	**21 12 55.4**	**-2.1**
	0.6nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**4.15**	**321**	Pn	**Pn**	**21 12 10.6**	**+1.3**
	0.2nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**4.41**	**341**	Sn	**Sn**	**21 13 01.0**	**-3.0**
	0.4nm,0.2s,SNR=5.0						
EVIA	**Vianos**	**4.55**	**290**	Pn	**Pn**	**21 12 16.0**	**+0.9**
	1.5nm,0.3s,SNR=5.0						
EQES	**Quesada**	**4.83**	**279**	Pn	**Pn**	**21 12 20.1**	**+1.1**
	0.4nm,0.3s,SNR=7.9						
EQES				Sn	**Sn**	**21 13 13.8**	**-0.9**
	0.4nm,0.3s,SNR=5.0						
EQES	**Quesada**	**4.83**	**279**	Pn	**Pn**	**21 12 20.1**	**+1.1**
EQES				Sn	**Sn**	**21 13 15.5**	**+0.8**
EQES	**Quesada**	**4.83**	**279**	Pn	**Pn**	**21 12 20.1**	**+1.1**
	0.4nm,0.3s,SNR=7.9						
EQES				Sn	**Sn**	**21 13 15.5**	**+0.8**
	0.4nm,0.3s,SNR=5.0						
EMIR	**Miracle**	**4.85**	**347**	Pn	**Pn**	**21 12 21.4**	**+2.2**
	6.2nm,0.2s,SNR=17						
EMIR				Sn	**Sn**	**21 13 13.2**	**-1.9**
	1.5nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**4.85**	**347**	Pn	**Pn**	**21 12 21.4**	**+2.2**
	6.2nm,0.2s,SNR=17						
EMIR				Sn	**Sn**	**21 13 13.2**	**-1.9**
	1.5nm,0.3s,SNR=7.9						
EJON	**La Jonquera**	**5.25**	**359**	Pn	**Pn**	**21 12 26.1**	**+1.2**
	0.4nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**5.25**	**359**	Pn	**Pn**	**21 12 26.1**	**+1.1**
	0.4nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**5.97**	**297**	Pn	**Pn**	**21 12 35.2**	**+0.2**
	0.5nm,0.2s,baz=113,slow=13,SNR=7.9						
ESDC				Sn	**Sn**	**21 13 37.3**	**-6.0**
	0.1nm,0.1s,baz=6.6,slow=30,SNR=7.9						
ESDC	**Sonseca Array**	**5.97**	**297**	Pn	**Pn**	**21 12 35.2**	**+0.2**
	0.5nm,0.2s,SNR=7.9						

*CASC **12** 21:12:51.5±2.2,13.22N×89.82W,h43km±16km,MD4.3, ML4.6,mb4.4(NEIC)*
*BJI **12** 21:12:51.6,13.20N×89.80W,h44km,mB4.5,Ms4.6, Msz4.2*
*NEIC **12** 21:12:51.6,13.23N×89.79W,h44km,mb4.4/10, MD4.5(SNET),After SNET.*
NEIC Felt [III] at San Salvador.
*IDC **12** 21:12:54.1±4.2,13.32N×89.29W,h81km±34km,mb3.9/10, mb1 4.0/10,mb1mx3.9/17,MS3.7/9,Ms1 3.8/9, ms1mx3.6/18,Error ellipse: s-maj=30.7km s-min=20.6km az=46.0*
*MEX **12** 21:12:58.7±0.4,13.62N×90.33W,h200km±239km,MD4.7*
ISC 12 21:12:50.9±0.5**,13.18N**±0.05×**89.81W**±0.03**,h65**km±4km**, n96,**σ**1s23**/105**,mb4.3**/17**,6C-19D,El Salvador**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.68**	**15**	⇓iP	**P**	**21 13 04.7**	**-0.5**
SNJE	**San Jose**	**0.71**	**16**	eP	**P**	**21 13 05.1**	**-0.5**
SNJE	**San Jose**	**0.71**	**16**	⇓iP	**P**	**21 13 05.1**	**-0.5**
RTR	**El Retiro**	**0.73**	**12**	eP	**P**	**21 13 05.5**	**-0.3**
RTR	**El Retiro**	**0.73**	**12**	⇓iP	**P**	**21 13 05.5**	**-0.3**
CUSS	**Cusmapa**	**0.74**	**349**	eP	**P**	**21 13 05.1**	**-0.8**
CUSS	**Cusmapa**	**0.74**	**349**	⇓eP	**P**	**21 13 04.9**	**-1.0**
CUSS				eS	**S**	**21 13 16.4**	**-0.8**
BOQS	**Boqueron**	**0.75**	**43**	eP	**P**	**21 13 05.6**	**-0.5**
BOQS	**Boqueron**	**0.75**	**43**	⇓eP	**P**	**21 13 05.5**	**-0.6**
BOQS				eS	**S**	**21 13 20.2**	**+2.7**
SNET	**Serv Nac Est T**	**0.75**	**48**	eP	**P**	**21 13 05.3**	**-0.8**
SNET				eS	**S**	**21 13 16.4**	**-1.1**
SNET				i		21 13 18.7	
SNET	**Serv Nac Est T**	**0.75**	**48**	⇑eP	**P**	**21 13 05.3**	**-0.8**
SNET				i		21 13 18.7	
	comp=Z,17µm,0.4s						
LFRS	**El Faro**	**0.85**	**59**	eP	**P**	**21 13 06.7**	**-0.6**
LFRS	**El Faro**	**0.85**	**59**	⇓eP	**P**	**21 13 06.7**	**-0.6**
LFU	**La Fuente**	**0.88**	**50**	eP	**P**	**21 13 07.5**	**-0.2**
LFU	**La Fuente**	**0.88**	**50**	⇓eP	**P**	**21 13 07.5**	**-0.2**
LBRS	**Las Brisas**	**0.93**	**53**	eP	**P**	**21 13 08.2**	**-0.1**
LBRS	**Las Brisas**	**0.93**	**53**	⇓eP	**P**	**21 13 08.1**	**-0.2**
LBRS				eS	**S**	**21 13 21.0**	**-0.4**
LCBS	**La Ceiba**	**0.93**	**60**	eP	**P**	**21 13 07.9**	**-0.5**
LCBS	**La Ceiba**	**0.93**	**60**	⇓iP	**P**	**21 13 07.8**	**-0.6**
RBDL	**Robledal**	**0.93**	**7**	⇓eP	**P**	**21 13 08.5**	**+0.1**
SNVI	**San Vicente**	**1.03**	**65**	eP	**P**	**21 13 09.6**	**-0.2**
SNVI	**San Vicente**	**1.03**	**65**	⇓eP	**P**	**21 13 09.5**	**-0.3**
SNVI				eS	**S**	**21 13 23.8**	**0.0**
IXG	**Ixpaco**	**1.17**	**327**	⇓eP	**P**	**21 13 10.6**	**-1.0**
IXG				eS	**S**	**21 13 25.0**	**-2.1**
IXG				AML	AML	21 13 29.0	
	comp=E,116µm,0.5s						
MTO2	**Montecristo 2**	**1.28**	**20**	eP	**P**	**21 13 13.7**	**+0.4**
PCG	**Pacaya**	**1.44**	**327**	⇑eP	**P**	**21 13 15.0**	**-0.4**
PCG				⇓eS	**S**	**21 13 34.6**	**+1.1**
VSM	**San Miguel**	**1.51**	**81**	eP	**P**	**21 13 16.6**	**+0.2**
VSM	**San Miguel**	**1.51**	**81**	⇓eP	**P**	**21 13 16.6**	**+0.2**
VSM				eS	**S**	**21 13 36.7**	**+1.5**
BLLM	**Bellamira**	**1.55**	**80**	eP	**P**	**21 13 16.9**	**0.0**
BLLM				eS	**S**	**21 13 36.6**	**+0.5**
BLLM				eS	**S**	**21 13 37.0**	**+1.0**
BLLM	**Bellamira**	**1.55**	**80**	⇑eP	**P**	**21 13 16.9**	**0.0**
BLLM				eS	**S**	**21 13 36.8**	**+0.8**
GCG	**Guatemala City**	**1.56**	**333**	eP	**P**	**21 13 17.2**	**+0.1**
GCG				eS	**S**	**21 13 38.5**	**+2.1**
GCG				AML	AML	21 13 46.8	
	comp=N,4µm,0.4s						
FUG	**Fuego 3**	**1.61**	**321**	⇑eP	**P**	**21 13 17.0**	**-0.7**
CAHU	**Cacacuatique**	**1.66**	**69**	⇓eP	**P**	**21 13 18.5**	**+0.1**
CNCH	**Conchagua**	**1.92**	**87**	eP	**P**	**21 13 21.9**	**-0.1**
CNCH				eS	**S**	**21 13 46.1**	**+1.2**
CNCH	**Conchagua**	**1.92**	**87**	⇓eP	**P**	**21 13 21.7**	**-0.2**
CNCH				eS	**S**	**21 13 46.1**	**+1.2**
TP2	**Tecpan 2**	**1.98**	**324**	⇓eP	**P**	**21 13 23.5**	**+0.7**
TP2				eS	**S**	**21 13 48.8**	**+2.4**
TP2				AML	AML	21 13 51.7	
	comp=E,9µm,0.4s						
JAT	**Jato**	**2.11**	**303**	eS	**S**	**21 13 48.9**	**-0.7**
JAT				AML	AML	21 13 55.0	
	comp=N,11µm,0.3s						
LEON	**Leon**	**2.94**	**105**	⇑eP	**P**	**21 13 35.6**	**-0.8**
LEON				eS	**S**	**21 14 07.0**	**-3.6**
TEL3	**Telica 3**	**2.95**	**102**	⇑eP	**P**	**21 13 35.7**	**-0.8**
CNGN	**Cerro Negro**	**3.10**	**102**	eP	**P**	**21 13 38.8**	**+0.1**
MIRN	**Miramar**	**3.11**	**103**	⇓eP	**P**	**21 13 38.4**	**-0.3**
MOMJ	**Momotombo**	**3.28**	**103**	eP	**P**	**21 13 41.4**	**+0.3**
MOMJ				eS	**S**	**21 14 19.6**	**+0.6**
COPN	**Copaltepe**	**3.29**	**107**	eP	**P**	**21 13 41.2**	**-0.1**
APYN	**Apoyeque**	**3.50**	**105**	eP	**P**	**21 13 43.4**	**-0.8**
APYN				eS	**S**	**21 14 21.3**	**-3.4**
XAVN	**Gruta Xavier**	**3.55**	**106**	eP	**P**	**21 13 45.5**	**+0.7**
TICN	**Ticuantepe**	**3.67**	**108**	eP	**P**	**21 13 47.0**	**+0.4**
WILN	**Americas 2**	**3.67**	**106**	eS	**S**	**21 14 30.7**	**+1.7**
PYTN	**Playitas**	**3.71**	**100**	eP	**P**	**21 13 46.9**	**-0.3**
CCIG	**Comitan**	**3.82**	**324**	⇓eP	**P**	**21 13 49.5**	**+0.8**
CCIG				i S	**S**	**21 14 28.8**	**-3.9**
SCX	**San Cristobal**	**4.47**	**323**	eP	**P**	**21 13 57.0**	**-0.7**
CGA2	**Cerro Gallo 2**	**6.11**	**120**	eP	**P**	**21 14 21.3**	**+0.9**
PRS1	**Puriscal**	**6.25**	**120**	eP	**P**	**21 14 23.9**	**+1.4**
CMIG	**Matias Romero**	**6.26**	**309**	eP	**P**	**21 14 21.3**	**-1.3**
CMIG				i S	**S**	**21 15 26.6**	**-6.8**
LAJ	**Bijagual**	**6.47**	**120**	eP	**P**	**21 14 23.8**	**-1.9**
LCR2	**La Lucha 2**	**6.64**	**120**	eP	**P**	**21 14 28.5**	**+0.6**
LCR2				eS	**S**	**21 15 42.3**	**-0.5**
ICR	**Volcan Irazu**	**6.66**	**118**	eP	**P**	**21 14 30.3**	**+2.0**
URSC	**Urasca**	**6.78**	**119**	eP	**P**	**21 14 30.5**	**+0.6**
BUS	**Buena Vista**	**6.94**	**121**	eP	**P**	**21 14 33.4**	**+1.3**
TEIG	**Tepich**	**7.16**	**12**	P	**P**	**21 14 34.5**	**-0.6**
	comp=N,0.0nm,0.3s,baz=193,slow=24,SNR=21						
TEIG				Lg		21 16 22.6	
	comp=N,0.0nm,0.3s,baz=248,slow=24,SNR=2.9						
EVV	**El Vigia**	**7.48**	**315**	eS	**S**	**21 15 59.0**	**-4.7**
OXX	**Oaxaca**	**7.72**	**301**	eP	**P**	**21 14 45.0**	**+2.1**
VHO	**Vista Hermosa**	**7.73**	**301**	eP	**P**	**21 14 36.8**	**-6.2**
VHO				i S	**S**	**21 15 58.9**	**-11**
SDV	**Santo Domingo**	**19.29**	**101**	P	**P**	**21 17 10.7**	**-2.6**
	comp=N,4.2nm,0.5s						
LRAL	**Lakeview Retre**	**19.93**	**7**	eP	**P**	**21 17 21.0**	**+1.0**
	comp=N,21nm,0.8s						
LTX	**Lajitas**	**20.59**	**323**	eP	**P**	**21 17 29.1**	**+2.2**
	comp=N,7.3nm,0.6s						
TXAR	**Lajitas Array**	**20.59**	**323**	P	**P**	**21 17 29.1**	**+2.2**
	comp=N,4.2nm,0.5s,baz=148,slow=11,SNR=22						
OXF	**Oxford**	**21.24**	**1**	eP	**P**	**21 17 34.9**	**+1.5**
	comp=N,118nm,1.3s,mb5.1						
OXF				e		21 17 49.1	
MIAR	**Mount Ida**	**21.54**	**352**	eP	**P**	**21 17 37.5**	**+1.1**
	comp=N,14nm,0.9s,mb4.3						
WMOK	**Wichita Mounta**	**22.95**	**341**	eP	**P**	**21 17 50.5**	**+0.2**
	comp=N,12nm,0.9s,mb4.2						
WMOK				e		21 18 01.6	
SADO	**Sadowa**	**32.77**	**14**	P	**P**	**21 19 18.1**	**-1.8**
	comp=N,2.0nm,0.5s,mb4.2,baz=228,slow=12,SNR=3.8						
TPNV	**Topopah Spring**	**33.46**	**320**	eP	**P**	**21 19 28.4**	**+2.5**
	comp=N,4.0nm,0.6s,mb4.4						
PDAR	**Pinedale Array**	**34.07**	**334**	PcP	PcP	21 22 07.4	-0.2
	comp=N,2.3nm,1.1s,baz=114,slow=5.2,SNR=5.5						
PDAR				LR	LR	21 34 45.9	
	comp=N,122nm,21.2s,baz=146,slow=38						
SAML	**Samuel**	**34.39**	**128**	eP	**P**	**21 19 32.8**	**-1.3**
	comp=N,7.1nm,0.8s,mb4.5						
SAML				e	pP	21 19 44.8	-5.3
MNV	**Mina**	**35.56**	**320**	eP	**P**	**21 19 45.5**	**+1.6**
	comp=N,11nm,0.8s,mb4.8						
NVAR	**Mina Array Bea**	**35.66**	**320**	P	**P**	**21 19 47.0**	**+2.3**
	comp=N,29nm,1.1s,mb5.1,baz=125,slow=9.7,SNR=45						
NVAR				PcP	PcP	21 22 13.4	+1.2
	comp=N,2.7nm,0.8s,baz=121,slow=4.9,SNR=10						
NVAR				LR	LR	21 35 50.7	
	comp=N,111nm,20.7s,baz=165,slow=38						
LPAZ	**La Paz**	**36.28**	**143**	P	**P**	**21 19 47.2**	**-2.9**
	comp=N,0.8nm,0.6s,mb3.9,baz=178,slow=6.7,SNR=2.9						
LPAZ				LR	LR	21 34 48.3	
	comp=N,96nm,21.6s,baz=102,slow=36						
HLID	**Hailey**	**36.93**	**330**	P	**P**	**21 19 58.6**	**+3.3**
	comp=N,2.1nm,0.7s,mb4.2						
ULM	**Lac du Bonnet**	**37.30**	**354**	LR	LR	21 37 41.2	
	comp=N,118nm,19.4s,baz=41,slow=40						
SCHQ	**Schefferville**	**45.28**	**19**	P	**P**	**21 21 00.9**	**-2.8**
	comp=N,6.5nm,0.6s,mb4.6,baz=200,slow=5.3,SNR=11						
SCHQ				LR	LR	21 41 26.1	
	comp=N,97nm,18.5s,baz=302,slow=38						
BDFB	**Brasilia**	**50.29**	**123**	LR	LR	21 44 55.7	
	comp=N,116nm,20.0s,baz=298,slow=38						
YKA	**Yellowknife Ar**	**52.32**	**346**	P	**P**	**21 21 55.9**	**-2.0**
	comp=N,2.8nm,0.8s,mb4.3,baz=148,slow=7.4,SNR=6.4						
YKA	**Yellowknife Ar**	**52.32**	**346**	P	**P**	**21 21 55.9**	**-2.0**
INK	**Inuvik**	**61.83**	**343**	P	**P**	**21 23 03.7**	**-1.5**
	comp=N,1.5nm,0.6s,mb4.2,baz=214,slow=9.2,SNR=4.3						
ILAR	**Eielson Array**	**64.43**	**336**	P	**P**	**21 23 20.6**	**-1.7**
	comp=N,0.7nm,0.7s,mb3.6,baz=161,slow=5.7,SNR=6.7						
ILAR				LR	LR	21 53 07.8	
	comp=N,59nm,20.8s,baz=175,slow=37						
ESDC	**Sonseca Array**	**78.55**	**52**	LR	LR	21 53 54.5	
	comp=N,55nm,19.9s,baz=310,slow=32						
DBIC	**Dimbokro**	**83.61**	**85**	P	**P**	**21 25 13.1**	**-1.2**
	comp=N,1.1nm,0.7s,mb3.8,baz=260,slow=6.1,SNR=2.8						
NOA	**NORSAR Array B**	**83.84**	**29**	LR	LR	22 00 27.8	
	comp=N,51nm,18.9s,baz=35,slow=34						
ARCES	**ARCESS Array B**	**86.23**	**19**	P	**P**	**21 25 25.0**	**-1.0**
	comp=N,9.5nm,1.2s,mb4.6,baz=288,slow=5.3,SNR=8.8						
GERES	**GERESS Array B**	**88.86**	**40**	P	**P**	**21 25 36.5**	**-2.6**
	comp=N,0.2nm,0.3s,mb3.6,slow=9.3,SNR=3.5						
SONM	**Songino Array**	**117.56**	**348**	PKP	PKPdf	21 31 31.8	+2.3
	comp=N,0.2nm,0.4s,baz=333,slow=3.2,SNR=3.9						
MKAR	**Makanchi Array**	**119.88**	**6**	PKP	PKPdf	21 31 33.9	-0.2
	comp=N,1.6nm,1.1s,baz=18,slow=3.8,SNR=3.8						
WMQ	**Urumqi**	**123.23**	**2**	ePKP	PKPdf	21 31 45.5	+4.9
NJ2	**Nanjing**	**127.31**	**329**	ePKP	PKPdf	21 31 52.6	+3.8
LZH	**Lanzhou**	**129.33**	**346**	ePKP	PKPdf	21 31 54.5	+1.9
LZH				XPKP		21 32 13.4	
LZH				LR	LR		
	comp=N,147nm,18.2s						
LZH				LR	LR		
	comp=Z,219nm,20.1s						
WRA	**Warramunga Arr**	**137.25**	**255**	PKP	PKPdf	21 32 10.6	+2.8
	comp=Z,1.2nm,0.5s,baz=88,slow=2.3,SNR=21						
FITZ	**Fitzroy Crossi**	**145.56**	**257**	PKPbc	PKPbc	21 32 25.3	+2.0
	comp=Z,5.1nm,0.7s,baz=176,slow=2.9,SNR=10						
CMAR	**Chiang Mai Arr**	**147.40**	**344**	PKPbc	PKPdf	21 32 29.7	+4.0
	comp=Z,4.4nm,0.7s,baz=341,slow=3.3,SNR=41						

*JMA **12** 21:16:24.1±0.2,37.64N×135.89E,h49km±4km,M3.5*
ISC 12 21:16:24.6±2.4**,37.6N**±0.1×**135.9E**±0.2**,h49**km**,n6,** σ**0s43**/7**,Sea of Japan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHG	**Hegura jima**	**0.83**	**74**	P	**P**	**21 16 39.8**	**-0.4**
JJH	**Hakui**	**0.98**	**135**	P	**P**	**21 16 42.2**	**-0.1**
JSZ	**Suzu**	**1.17**	**98**	P	**P**	**21 16 44.9**	**+0.1**
JKG	**Kaga**	**1.38**	**166**	P	**P**	**21 16 47.8**	**-0.2**
JTT	**Ttatey**	**1.52**	**131**	P	**P**	**21 16 49.8**	**-0.2**
MAT	**Matsushiro**	**2.13**	**120**	P	**P**	**21 16 59.5**	**+1.0**
MAT				eS	**S**	**21 17 23.5**	**-0.3**

*CSEM **12** 21:33:08.0,12.50N×46.23E,h48km,ML3.2,After DHMR*
DHMR 12 21:33:06.2±1.6**,12.36N**×**46.20E,h36**km±9km**,ML3.7, 2C-4D,Western Gulf of Aden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BDHA	**Al Bayda'**	**1.72**	**339**	i P	P	21 33 36.3	+2.1
BDHA				AML	AML	21 33 50.2	
	comp=N,2µm,0.6s						
BDHA				i S	S	21 33 58.9	+3.8
BDHA	**Al Bayda'**	**1.72**	**339**	i P	P	21 33 36.0	+1.8
BDHA				i S	S	21 33 57.6	+2.5
LBOS		**1.76**	**328**	⇑iP	P	21 33 36.6	+1.8
LBOS				i S	S	21 33 59.5	+3.3
UDYN	**Al 'Udayn**	**2.68**	**307**	⇓iP	P	21 33 50.1	+2.2
UDYN				i S	S	21 34 22.9	+3.4
UDYN				AML	AML	21 34 37.5	
	comp=N,171nm,0.3s						
UDYN	**Al 'Udayn**	**2.68**	**307**	⇓iP	P	21 33 50.4	+2.5
UDYN				i S	S	21 34 22.3	+2.9
MUKL	**Al Mukalla**	**3.34**	**55**	⇓iP	P	21 33 59.7	+2.3
MUKL				i S	S	21 34 42.5	+6.1
MUKL	**Al Mukalla**	**3.34**	**55**	⇑iP	P	21 33 59.5	+2.1
MUKL				i S	S	21 34 40.2	+3.8
HAJJ	**Hajjah**	**4.17**	**323**	⇓iP	P	21 34 10.0	+1.0
HAJJ				i S	S	21 35 00.5	+3.2

*IDC **12** 21:35:02.2±1.6,26.19N×99.11E,mb3.2/3,mb1 3.4/4, mb1mx3.3/19,ML3.2/1,Error ellipse: s-maj=64.3km s-min=23.4km az=76.0*
*DMN **12** 21:37:02.4±1.0,27.72N×85.84E,h25km,Error ellipse: s-maj=41.8km s-min=9.9km az=134.0*
ISC 12 21:35:03.4±2.1**,25.8N**±0.2×**95.5E**±0.2**,h149**km±32km**,n10,** σ**0s70**/10**,mb3.2**/2**,Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**3.23**	**267**	ePN	**P**	**21 35 56.0**	**+1.5**
SHL				eSN	**S**	**21 36 33.0**	**-0.6**
CMAR	**Chiang Mai Arr**	**7.97**	**155**	Pn	**P**	**21 36 56.9**	**-0.5**
	0.1nm,0.3s,baz=337,slow=12,SNR=4.6						
GUN	**Gumba**	**8.81**	**286**	eP	**P**	**21 37 09.7**	**+1.1**
	11nm,0.3s						
PKI	**Pulchoki**	**9.16**	**283**	eP	**P**	**21 37 12.8**	**-0.4**
	9.1nm,0.4s						
KKN	**Kakani**	**9.31**	**285**	eP	**P**	**21 37 15.0**	**-0.2**
	6.7nm,0.2s						
DMN	**Daman**	**9.44**	**283**	eP	**P**	**21 37 16.4**	**-0.4**
	2.7nm,0.2s						
GKN	**Gorkha**	**9.91**	**285**	eP	**P**	**21 37 22.6**	**-0.5**
	7.9nm,0.3s						
MKAR	**Makanchi Array**	**23.44**	**337**	P		21 40 23.5	
	0.5nm,0.7s,baz=139,slow=13,SNR=4.2						
SONM	**Songino Array**	**23.64**	**19**	P	**P**	**21 40 01.6**	**-0.3**
	0.2nm,0.6s,mb2.9,baz=187,slow=8.2,SNR=2.6						
WRA	**Warramunga Arr**	**59.09**	**137**	P	**P**	**21 44 51.1**	**+0.5**
	0.6nm,0.6s,mb3.6,baz=321,slow=7.5,SNR=14						

*NEIC **12** 21:37:06.6,45.04S×167.87E,h8km,ML4.1(WEL),After WEL.*
WEL 12 21:37:06.8±0.1**,45.05S**×**167.86E,h12**km**,ML4.1**/7**,1C-2D, Error ellipse: s-maj=1.6km s-min=1.1km az=90.0,South Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MLZ	**Mavora Lakes**	**0.37**	**143**	P	Pg	21 37 14.1	-0.4
MLZ				S	Sg	21 37 19.4	-0.2
MLZ	**Mavora Lakes**	**0.37**	**143**	⇑P*	Pb	21 37 14.1	-0.7
MLZ				S*	Sb	21 37 19.6	-0.6
DCZ	**Deep Cove**	**0.65**	**229**	⇓P*	Pb	21 37 19.1	-0.6
DCZ				S*	Sb	21 37 27.7	-0.7
WHZ	**Wether Hill Ro**	**0.84**	**176**	eP	Pb	21 37 21.9	-1.0
WHZ	**Wether Hill Ro**	**0.84**	**176**	P*	Pb	21 37 21.9	-1.1
WHZ				S*	Sb	21 37 33.4	-0.6
WKZ	**Wanaka**	**0.85**	**75**	P	Pb	21 37 23.0	-0.1
WKZ				S	Sb	21 37 34.2	-0.1
WKZ	**Wanaka**	**0.85**	**75**	⇓P*	Pb	21 37 23.0	-0.1
WKZ				S*	Sb	21 37 34.2	-0.1
JCZ	**Jackson Bay**	**1.17**	**34**	P	Pb	21 37 27.9	-0.6
JCZ	**Jackson Bay**	**1.17**	**34**	P*	Pb	21 37 27.9	-0.6
TUZ	**Tuapeka**	**1.54**	**127**	P	Pn	21 37 34.1	-0.2
TUZ	**Tuapeka**	**1.54**	**127**	PN	Pn	21 37 34.1	-0.3
TUZ				SN	Sn	21 37 53.3	-1.0
LBZ	**Lake Benmore**	**1.79**	**69**	P	Pn	21 37 37.5	-0.3
LBZ	**Lake Benmore**	**1.79**	**69**	PN	Pn	21 37 37.5	-0.3
ODZ	**Otahua Downs**	**1.98**	**91**	P	Pn	21 37 40.0	-0.5
ODZ	**Otahua Downs**	**1.98**	**91**	PN	Pn	21 37 40.0	-0.5
RPZ	**Rata Peaks**	**2.65**	**61**	eP	Pn	21 37 48.7	-1.5
RPZ	**Rata Peaks**	**2.65**	**61**	PN	Pn	21 37 48.7	-1.5
WVZ	**Waitaha Valley**	**2.87**	**47**	ePN	Pn	21 37 52.2	-1.1
MQZ	**McQueen's Vall**	**3.69**	**70**	eP	Pn	21 38 02.4	-2.6
MQZ	**McQueen's Vall**	**3.69**	**70**	ePN	Pn	21 38 02.3	-2.6
LTZ	**Lake Taylor**	**3.91**	**56**	PN	Pn	21 38 04.6	-3.5
LTZ				SN	Sn	21 38 51.0	-3.5
DSZ	**Denniston Nort**	**4.38**	**42**	eP	Pn	21 38 11.8	-3.0
DSZ	**Denniston Nort**	**4.38**	**42**	PN	Pn	21 38 11.3	-3.4
DSZ				SN	Sn	21 39 03.1	-3.3
THZ	**Tophouse**	**4.93**	**50**	eP	Pn	21 38 19.3	-3.3
THZ	**Tophouse**	**4.93**	**50**	PN	Pn	21 38 19.3	-3.3
THZ				SN	Sn	21 39 15.6	-4.7

*LDG **12** 21:49:07.3±0.1,44.55N×7.06E,h2km,Md1.8/1,Ml1.3/3, Error ellipse: s-maj=3.7km s-min=2.1km az=77.0*

*STR **12** 21:49:08.3±0.1, 44.62N×6.75E, h5km±1km, Ml1.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 12 21:49:06.5±0.8**, 44.55N**±0.03×**7.09E**±0.07**, h2**km**, n7, σ0ˢ90**/14**, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SURF	**Saint Ours**	**0.21**	**251**	Pg	**Pg**	**21 49 11.7**	**+1.0**
SURF				Sg	**Sg**	**21 49 14.2**	**+0.7**
MBDF	**Montbardon**	**0.29**	**308**	*e*Pg	**Pg**	**21 49 12.7**	**+0.5**
MBDF				*e*Sg	**Sg**	**21 49 16.2**	**+0.1**
	9.9nm,0.2s						
OG22	**Abries**	**0.29**	**339**	Pg	**Pg**	**21 49 13.5**	**+1.2**
OG22				Sg	**Sg**	**21 49 17.3**	**+1.1**
SBF	**Sospel**	**0.73**	**160**	*e*Pg	**Pg**	**21 49 21.3**	**+0.2**
SBF				*e*Sg	**Sg**	**21 49 30.0**	**-0.8**
	0.8nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.94**	**294**	*e*Pg	**Pg**	**21 49 24.1**	**-1.1**
ORIF				*e*Sg	**Sg**	**21 49 35.2**	**-2.5**
	1.6nm,0.4s						
LPG	**La Plagne**	**0.98**	**346**	*e*Pg	**Pg**	**21 49 25.9**	**-0.1**
LPG				*e*Sg	**Sg**	**21 49 38.9**	**-0.1**
	0.4nm,0.3s						
LPL	**La Plagne**	**1.00**	**345**	*e*Pg	**Pg**	**21 49 26.2**	**-0.2**
LPL				*e*Sg	**Sg**	**21 49 38.9**	**-0.8**
	1.5nm,0.4s						

MEX 12 22:51:52.9±0.4**, 15.54N**×**95.62W, h16**km±44km**, MD3.7, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.52**	**296**	*e*P	Pb	21 52 01.3	-1.8
HUIG				*i* S	Sb	21 52 08.0	-2.2
CMIG	**Matias Romero**	**1.70**	**25**	*e*P	Pn	21 52 18.2	-3.9
CMIG				*i* S	Sn	21 52 38.1	-5.5
VHO	**Vista Hermosa**	**1.86**	**325**	*e*P	Pn	21 52 21.4	-3.1
VHO				*i* S	Sn	21 52 44.1	-3.7

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*IDC **12** 21:56:36.7±2.2, 39.39N×75.61E, mb3.9/7, mb1 4.0/10, mb1mx3.8/21, ML3.2/3, Error ellipse: s-maj=42.0km s-min=19.3km az=152.0*
*NNC **12** 21:56:41.3±6.6, 39.84N×76.48E, mpv4.2, Error ellipse: s-maj=78.6km s-min=50.3km az=62.0*
*BJI **12** 21:56:42.3, 39.74N×75.59E, h21km, ML3.8*
*NEIC **12** 21:56:44.5±1.2, 39.75N×75.57E, h45km, mb3.8/1, Error ellipse: s-maj=19.7km s-min=12.3km az=145.0*

ISC 12 21:56:41.7±0.6**, 39.48N**±0.05×**75.8E**±0.1**, h52**km±6km**, n38, σ1ˢ03**/37**, mb3.7**/8**, 4C-3D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**0.17**	**79**	⇓*i*PG	**P**	**21 56 49.1**	**-0.9**
KSH				SG	**S**	**21 56 55.6**	**-0.5**
KSH				Smax			
	comp=N,12μm,1.0s						
KSH				Smax			
	comp=E,11μm,0.4s						
KZA	**Kyzart**	**2.62**	**352**	P	**P**	**21 57 22.9**	**+0.3**
	SNR=58						
ULHL	**Ulahol**	**2.78**	**8**	P	**P**	**21 57 25.8**	**+1.0**
	SNR=41						
UCH	**Uchtor**	**2.90**	**341**	P	**P**	**21 57 26.7**	**+0.2**
	SNR=223						
AML	**Almayashu**	**3.07**	**330**	P	**P**	**21 57 29.1**	**+0.2**
	SNR=55						
KBK	**Karagaybulak**	**3.23**	**349**	P	**P**	**21 57 31.7**	**+0.6**
	SNR=88						
AAK	**Ala-Archa**	**3.29**	**344**	⇑Pn	**P**	**21 57 32.5**	**+0.5**
	comp=E,82nm,0.7s						
AAK				⇓Sn	**S**	**21 58 12.1**	**+2.0**
	comp=E,234nm,0.7s						
AAK	**Ala-Archa**	**3.29**	**344**	P	**P**	**21 57 32.5**	**+0.5**
	SNR=122						
AAK	**Ala-Archa**	**3.29**	**344**	⇑*e*Pn	**P**	**21 57 31.6**	**-0.4**
TKM2	**Tokmak 2**	**3.44**	**358**	P	**P**	**21 57 34.9**	**+0.8**
	SNR=58						
EKS2	**Erkin-Say**	**3.51**	**335**	P	**P**	**21 57 35.5**	**+0.4**
	SNR=24						
CHMS	**Chumysh**	**3.59**	**348**	P	**P**	**21 57 36.6**	**+0.3**
	SNR=22						
USP	**Ospenovka**	**3.90**	**346**	P	**P**	**21 57 40.4**	**-0.2**
	SNR=50						
MK31	**Makanchi Array**	**8.73**	**31**	Pn	**P**	**21 58 47.1**	**-0.7**
	comp=E,5.4nm,0.7s,baz=196,slow=15,SNR=43						
MK31				⇓Lg		22 00 59.1	
	comp=E,6.6nm,0.9s,baz=202,slow=29,SNR=4.1						
MKAR	**Makanchi Array**	**8.73**	**31**	Pn	**P**	**21 58 46.6**	**-1.2**
	comp=E,0.2nm,0.3s,baz=208,slow=14,SNR=18						
MKAR				Lg		22 01 08.2	
	comp=E,0.1nm,0.3s,baz=231,slow=20,SNR=3.9						
KURK	**Kurchatov**	**11.41**	**9**	Lg		22 02 29.7	
	comp=E,13nm,1.2s,baz=104,slow=10,SNR=9.3						
KURK	**Kurchatov**	**11.41**	**9**	P	**P**	**21 59 20.5**	**-3.9**
KOLN	**Koldanda**	**13.38**	**148**	*e*P	**P**	**21 59 49.7**	**-1.0**
	comp=E,12nm,0.6s						
GKN	**Gorkha**	**13.62**	**145**	*e*P	**P**	**21 59 54.8**	**+1.0**
	comp=E,6.0nm,0.3s						
VOSK	**Vostochnaya**	**13.64**	**348**	⇑Lg		22 03 42.6	
	comp=E,11nm,1.1s						
BVA0	**Borovoye Array**	**14.04**	**347**	Pn	**P**	**21 59 55.2**	**-3.9**
	comp=E,0.3nm,0.6s,baz=150,slow=13,SNR=6.3						
BVA0				Lg		22 03 49.2	
	comp=E,0.5nm,0.8s,baz=152,slow=30,SNR=5.2						
BVAR	**Borovoye Array**	**14.04**	**347**	Pn	**P**	**21 59 55.5**	**-3.6**
	comp=E,0.2nm,0.3s,baz=149,slow=14,SNR=8.2						
BVAR				Lg		22 03 49.6	
	comp=E,0.1nm,0.3s,baz=152,slow=24,SNR=3.9						
BRVK	**Borovoye**	**14.09**	**346**	P	**P**	**21 59 56.2**	**-3.5**
	comp=E,3.6nm,0.7s						
BRVK				*e*		22 00 06.2	
KKN	**Kakani**	**14.10**	**143**	*e*P	**P**	**22 00 00.5**	**+0.4**
	comp=E,8.2nm,0.7s						
DMN	**Daman**	**14.17**	**144**	*e*P	**P**	**22 00 01.9**	**+0.9**
	comp=E,14nm,0.9s						
ZRNK	**Zerenda**	**14.25**	**343**	⇑Lg		22 03 59.0	
	comp=E,10nm,1.1s						
ZRNK	**Zerenda**	**14.25**	**343**	*e*P	**P**	**21 59 58.2**	**-3.7**
PKI	**Pulchoki**	**14.34**	**143**	*e*P	**P**	**22 00 04.0**	**+0.7**
	comp=E,7.2nm,0.6s						
ZAL	**Zalesovo**	**15.71**	**20**	Pn	**P**	**22 00 19.6**	**-1.1**
	comp=E,0.2nm,0.3s,baz=163,slow=14,SNR=2.9						
ZAL				Lg		22 04 49.9	
	baz=165,slow=19,SNR=2.3						
ARU	**Arti**	**20.39**	**332**	*e*P	**P**	**22 01 16.0**	**-0.4**
	comp=E,2.2nm,0.4s						
SONM	**Songino Array**	**23.57**	**59**	P	**P**	**22 01 50.6**	**+2.7**
	comp=E,0.2nm,0.7s,mb2.6,baz=264,slow=10,SNR=4.2						
BRTR	**Keskin Array B**	**32.23**	**284**	P	**P**	**22 03 05.2**	**-1.9**
	comp=E,2.2nm,0.9s,mb4.0,baz=82,slow=8.7,SNR=4.6						
FINES	**FINESS Array B**	**37.24**	**323**	P	**P**	**22 03 48.9**	**-0.8**
	comp=E,1.0nm,0.7s,mb3.8,baz=117,slow=8.5,SNR=6.3						
ARCES	**ARCESS Array B**	**39.92**	**335**	P	**P**	**22 04 11.7**	**-0.2**
	comp=E,3.4nm,0.8s,mb4.1,baz=90,slow=8.5,SNR=3.7						
IDI	**Anoyia**	**40.20**	**281**	P	**P**	**22 04 14.9**	**+0.4**
	comp=E,2.4nm,0.8s,mb4.0,baz=143,slow=15,SNR=4.2						
NOA	**NORSAR Array B**	**44.34**	**321**	P	**P**	**22 04 48.1**	**+0.1**
	comp=E,0.9nm,0.8s,mb3.5,baz=312,slow=7.3,SNR=3.5						
GERES	**GERESS Array B**	**44.35**	**303**	P	**P**	**22 04 49.0**	**+0.8**
	comp=E,0.9nm,0.6s,mb3.7,baz=68,slow=7.2,SNR=11						
ESDC	**Sonseca Array**	**59.38**	**298**	P	**P**	**22 06 40.6**	**-0.2**
	comp=E,0.5nm,0.6s,mb3.7,baz=52,slow=6.7,SNR=5.4						

MAN 12 22:11:43.6, 9.23N×**125.57E, h6**km**, mb4.8, ML3.7, MS3.7, 3D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.26**	**168**	*e*P	Pg	22 11 49.4	+0.5
MSLP	**Maasin**	**1.14**	**322**	*e*P	Pb	22 12 03.8	-1.5
CGP	**Cagayan de Oro**	**1.15**	**228**	*e*P	Pb	22 12 05.4	-0.2
CGP				*e*S	Sb	22 12 22.3	+1.7
BIPH	**Bislig**	**1.30**	**143**	⇓*e*P	Pb	22 12 06.6	-1.5
BIPH				*e*S	Sb	22 12 22.9	-1.9
BUKP	**Musuan**	**1.43**	**200**	*e*P	Pn	22 12 08.4	-1.7
TBP	**Tagbilaran**	**1.74**	**286**	*e*P	Pn	22 12 15.4	+0.8
TBP				*e*S	Sn	22 12 37.8	+0.4
LLP	**Lapu-Lapu**	**1.91**	**305**	⇓*e*P	Pn	22 12 15.6	-1.5
LLP				*e*S	Sn	22 12 39.2	-2.5
PLP	**Palo**	**2.01**	**343**	*e*P	Pn	22 12 18.9	+0.3
PLP				*i* S	Sn	22 12 47.6	+3.4
OCLP	**Ormoc**	**2.04**	**333**	*e*P	Pn	22 12 19.1	+0.1
KCP	**Kidapawan**	**2.25**	**192**	⇓*e*P	Pn	22 12 23.2	+1.3
DCPH	**Dipolog City**	**2.28**	**254**	*e*P	Sn	22 12 51.0	0.0
SNPH	**Sibulan**	**2.30**	**273**	*e*P	Pn	22 12 23.0	+0.3
BESP	**Borongan**	**2.36**	**357**	*e*P	Pn	22 12 23.3	-0.3
BESP				*e*S	Sn	22 12 53.0	-0.2
MATI	**Mati**	**2.37**	**163**	*e*P	Pn	22 12 24.5	+1.0
MATI				*e*S	Sn	22 12 53.0	-0.3
CTBH	**Cotabato--PC H**	**2.38**	**213**	*e*P	Pn	22 12 23.9	+0.1
CTBH				*i* S	Sn	22 12 57.9	+4.2
PAGZ	**Pagadian**	**2.56**	**238**	*e*P	Pn	22 12 25.8	-0.5
GUIM	**Jordan**	**3.25**	**296**	*e*P	Pn	22 12 34.3	-1.8
IPIL	**Ipil**	**3.29**	**244**	*e*P	Pn	22 12 36.2	-0.6
CNP	**Catarman**	**3.38**	**345**	*e*P	Pn	22 12 37.2	-0.9

GUC 12 22:13:04.5±0.7**, 27.61S**×**70.96W, h65**km±28km**, ML3.8, 1D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**0.60**	**65**	⇓*i*P	P	22 13 19.8	+1.7
CPCH				*i* S	S	22 13 30.2	+2.3
CPCH				AMP		22 13 33.4	
	comp=E,11μm,0.1s						
VACH	**Vallenar**	**0.97**	**169**	*e*P	P	22 13 23.0	+0.4
VACH				*i* S	S	22 13 36.3	+0.2
VACH				AMP		22 13 37.4	
	comp=E,7μm,0.2s						
TLL	**Tololo Astrono**	**2.55**	**177**	*e*P	P	22 13 44.5	+0.1
TLL				*i* S	S	22 14 15.1	+0.8
TLL				AMP		22 14 32.1	
	comp=E,161nm,0.5s						
CPN1	**Cerro Paranal**	**3.02**	**10**	*e*P	P	22 13 51.5	+0.4
CPN1				*i* S	S	22 14 26.3	+0.2

CASC 12 22:53:05.7±2.5**, 10.89N**×**86.79W, h36**km±999km**, MD3.9, 5C-2D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APON	**Apoyo**	**1.24**	**35**	*e*P	P	22 53 27.8	+1.0
MASN	**Masaya**	**1.25**	**30**	*e*P	P	22 53 32.9	+5.9
TICN	**Ticuantepe**	**1.26**	**26**	⇑*e*P	P	22 53 27.1	0.0
COPN	**Copaltepe**	**1.29**	**9**	⇓*e*P	P	22 53 27.5	-0.1
COPN				*e*S	S	22 53 45.9	+1.9
MGAN	**Managua**	**1.35**	**23**	*e*P	P	22 53 28.1	-0.4
MGAN				*e*S	S	22 53 45.2	-0.3
WILN	**Americas 2**	**1.39**	**25**	*e*P	P	22 53 27.4	-1.7
APYN	**Apoyeque**	**1.40**	**18**	⇑*e*P	P	22 53 29.1	0.0
APYN				*e*S	S	22 53 45.5	-1.2
LEON	**Leon**	**1.52**	**356**	⇑*i*P	P	22 53 30.5	-0.3
LEON				*e*S	S	22 53 49.5	0.0
MOMJ	**Momotombo**	**1.52**	**9**	⇑*e*P	P	22 53 30.4	-0.6
MOMJ				*e*S	S	22 53 48.8	-0.9
MIRN	**Miramar**	**1.54**	**3**	*e*P	P	22 53 31.1	-0.1
TEL3	**Telica 3**	**1.67**	**358**	*e*P	P	22 53 32.6	-0.4
PYTN	**Playitas**	**1.79**	**24**	*e*P	P	22 53 33.9	-0.7
JCR	**Jicaral**	**1.95**	**122**	*e*P	P	22 53 34.2	-2.8
CGA2	**Cerro Gallo 2**	**2.45**	**111**	*e*P	P	22 53 42.2	-1.9
PRS1	**Puriscal**	**2.60**	**110**	*e*P	P	22 53 45.6	-0.7
LAJ	**Bijagual**	**2.82**	**111**	⇓*e*P	P	22 53 44.1	-5.3
LCR2	**La Lucha 2**	**2.97**	**112**	*e*P	P	22 53 51.0	-0.6
TRTC	**Tortuguero**	**3.04**	**96**	*e*P	P	22 53 52.4	-0.2
ICR	**Volcan Irazu**	**3.05**	**107**	⇑*e*P	P	22 53 53.9	+1.1
URSC	**Urasca**	**3.15**	**109**	*e*P	P	22 53 54.3	+0.3

KRSC 12 23:17:51.2±1.2**, 55.18N**×**162.73E, h22**km±5km**, ML4.0, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.85**	**223**	*i* P	Pb	23 18 07.3	+0.1
MKZ				*e*S	Sb	23 18 19.0	+0.8
KBTR	**Krutoberegovo**	**1.03**	**3**	*i* P	Pb	23 18 10.2	0.0
KBTR				*e*S	Sb	23 18 23.8	+0.4
KBG	**Krutoberegovo**	**1.08**	**359**	*i* P	Pb	23 18 10.9	-0.1
KBG				*e*S	Sb	23 18 24.9	+0.2
KBG				Smax			
	2μm,0.9s						
ZLN	**Zelenaya**	**1.38**	**308**	*i* P	Pn	23 18 15.7	+0.3
ZLN				*e*S	Sn	23 18 32.5	-0.6
CIRR	**Tsirk**	**1.46**	**311**	*e*P	Pn	23 18 16.8	+0.2
CIRR				*e*S	Sn	23 18 37.1	+1.8
LGNR	**Loginova**	**1.47**	**309**	*e*P	Pn	23 18 17.3	+0.6
LGNR				*e*S	Sn	23 18 37.5	+2.1
TUMR	**Tumrok**	**1.48**	**275**	*i* P	Pn	23 18 17.2	+0.3
TUMR				*i* S	Sn	23 18 36.7	+0.9
KMNR	**Kamenistaya**	**1.53**	**293**	*i* P	Pn	23 18 17.8	+0.2
KMNR				*e*S	Sn	23 18 37.4	+0.4
KRSR	**Krestovskiy**	**1.61**	**311**	*e*P	Pn	23 18 18.6	-0.1
KRSR				*e*S	Sn	23 18 38.9	0.0
KPT	**Kopyto**	**1.63**	**300**	*e*P	Pn	23 18 19.4	+0.4
KPT				*e*S	Sn	23 18 40.4	+1.0
KLY	**Klyuchi**	**1.63**	**315**	*i* P	Pn	23 18 18.0	-1.1
KLY				*e*S	Sn	23 18 37.9	-1.7
SVLR	**Shiveluch**	**1.64**	**329**	*e*P	Pn	23 18 19.7	+0.6
SVLR				*e*S	Sn	23 18 39.7	0.0
KOZ	**Kozyrevsk**	**1.84**	**300**	*e*P	Pn	23 18 22.7	+0.6
KOZ				*e*S	Sn	23 18 45.6	+0.7
BKI	**Bering**	**1.86**	**88**	*e*P	Pn	23 18 22.0	-0.3
BKI				*i* S	Sn	23 18 43.1	-2.2
BKI				Smax			
	360nm,0.2s						
SRDR	**Sredinnyy**	**2.05**	**305**	*e*P	Pn	23 18 25.4	+0.4
KII	**Karymskiy**	**2.23**	**240**	P	Pn	23 18 28.6	+1.0
KII				*e*S	Sn	23 18 56.2	+1.5
SPN	**Mys Shipunski**	**2.62**	**218**	*e*P	Pn	23 18 31.8	-1.5
SPN				*i* S	Sn	23 19 01.9	-2.9
NLC	**Nalytchevo**	**2.83**	**226**	*e*P	Pn	23 18 35.7	-0.5
NLC				*e*S	Sn	23 19 09.0	-1.0
SDLR	**Sedlovina**	**2.95**	**231**	*e*P	Pn	23 18 38.4	+0.4
SDLR				*e*S	Sn	23 19 12.7	-0.4
SMAR	**Somma**	**3.00**	**232**	*e*P	Pn	23 18 38.9	+0.3
SMAR				*e*S	Sn	23 19 14.2	-0.1
UGLR	**Uglovaya**	**3.03**	**231**	*e*P	Pn	23 18 39.4	+0.4
UGLR				*e*S	Sn	23 19 14.9	-0.1
AVH	**Avacha**	**3.03**	**232**	*e*P	Pn	23 18 39.6	+0.6
AVH				*e*S	Sn	23 19 13.8	-1.2
KOK	**Koryaka**	**3.06**	**233**	*e*P	Pn	23 18 39.9	+0.5
GNL	**Ganaly**	**3.17**	**244**	*e*P	Pn	23 18 41.5	+0.5
PET	**Petropavlovsk**	**3.23**	**230**	*e*P	Pn	23 18 42.2	+0.4
PET				*e*S	Sn	23 19 19.0	-1.1
RUS	**Russkaya**	**3.72**	**224**	*e*P	Pn	23 18 48.3	-0.5
RUS				*e*S	Sn	23 19 30.1	-2.3
GRL	**Gorelyy**	**3.81**	**228**	*e*P	Pn	23 18 51.4	+1.3
GRL				*e*S	Sn	23 19 36.0	+1.2
APC	**Apacha**	**3.99**	**238**	P	Pn	23 18 54.4	+1.8

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*IDC **12** 23:17:58.9±3.3, 19.71N×155.17W, mb3.9/5, mb1 4.2/5, mb1mx4.0/19, MS3.3/1, Ms1 3.2/1, ms1mx2.8/19, Error ellipse: s-maj=86.8km s-min=33.1km az=4.0*
*BJI **12** 23:17:58.5, 19.52N×155.74W, h5km, mB4.7, mb4.8, Ms4.5, Msz4.4*
*NEIC **12** 23:17:58.0, 19.34N×155.12W, h9km, MD4.5(HVO), After HVO.*
NEIC Felt at Hilo, Kamuela, Keaau, Naalehu, Ookala, Paauilo and Papaikou.

ISC 12 23:17:57.7±0.5**, 19.32N**±0.04×**155.13W**±0.03**, h14**km±2km**, n51, σ0ˢ63**/61**, mb4.2**/8**, MS4.1**/2**, 10C-23D, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STCH	**Steam Cracks**	**0.06**	**357**	⇓*i*P	**Pb**	**23 18 00.2**	**0.0**
KNHH	**Kane Nui o Ham**	**0.07**	**323**	⇓*i*P	**Pb**	**23 18 00.5**	**+0.2**
KNHH				*e*S	**Sb**	**23 18 01.9**	**-0.1**
KLCH	**Kalalua Cone**	**0.10**	**33**	⇓*i*P	**Pb**	**23 18 00.6**	**-0.2**
PUH	**Pauahi**	**0.10**	**301**	⇑*i*P	**Pb**	**23 18 00.9**	**0.0**
PUH				*e*S	**Sb**	**23 18 03.0**	**+0.1**
PWH	**Poliokeawe Pal**	**0.10**	**247**	⇓*i*P	**Pb**	**23 18 01.2**	**+0.4**
AHA	**Ahua**	**0.14**	**290**	⇑*i*P	**Pg**	**23 18 01.6**	**+0.1**
AHA				*e*S	**Sg**	**23 18 04.5**	**+0.5**
KNH	**Kipuka Nene**	**0.16**	**274**	⇓*i*P	**Pg**	**23 18 01.9**	**+0.2**
OUT	**Outlet**	**0.16**	**294**	⇓*i*P	**Pg**	**23 18 01.9**	**+0.1**
OUT				*e*S	**Sg**	**23 18 04.7**	**+0.1**
RIM	**Rim**	**0.16**	**297**	⇓*i*P	**Pg**	**23 18 01.8**	**0.0**
HUL	**Heiheiahulu**	**0.17**	**56**	⇓*i*P	**Pg**	**23 18 01.8**	**-0.1**
HUL				*e*S	**Sg**	**23 18 04.2**	**-0.5**
NPH	**North Pit**	**0.17**	**301**	⇓*i*P	**Pg**	**23 18 01.9**	**-0.1**
NPH				*e*S	**Sg**	**23 18 04.8**	**-0.1**
HLP	**Hilina Pali**	**0.18**	**262**	⇓*i*P	**Pg**	**23 18 02.5**	**+0.4**
UWE	**Uwekahuna**	**0.19**	**302**	⇓*i*P	**Pg**	**23 18 02.3**	**+0.1**
RSD	**Rainshed**	**0.20**	**314**	⇓*i*P	**Pg**	**23 18 02.5**	**+0.1**
CPK	**Cone Peak**	**0.20**	**290**	⇓*i*P	**Pg**	**23 18 02.5**	**0.0**
PKL	**Puu Kaliu**	**0.23**	**55**	⇓*e*P	**Pg**	**23 18 02.8**	**-0.2**
DES	**Desert**	**0.25**	**273**	⇑*i*P	**Pg**	**23 18 03.2**	**0.0**
MLH	**Mauna Loa**	**0.30**	**305**	⇓*i*P	**Pg**	**23 18 04.2**	**0.0**
MLH				*e*S	**Sg**	**23 18 09.1**	**+0.5**
PPL	**Puu Pili**	**0.36**	**243**	⇑*i*P	**Pb**	**23 18 05.6**	**+0.3**
WOH	**Wood Valley**	**0.36**	**259**	⇑*i*P	**Pb**	**23 18 05.6**	**+0.3**
PLL	**Puu Ulaula**	**0.38**	**303**	⇓*i*P	**Pb**	**23 18 05.4**	**-0.2**
NGH	**National Guard**	**0.39**	**13**	⇓*i*P	**Pb**	**23 18 06.2**	**+0.5**
NGH				*e*S	**Sb**	**23 18 12.2**	**+1.0**
HMH	**Humuula**	**0.44**	**309**	⇑*i*P	**Pb**	**23 18 06.7**	**0.0**
HMH				*e*S	**Sb**	**23 18 13.4**	**+0.6**
WIH	**Wilkes Camp**	**0.46**	**288**	⇓*e*P	**Pb**	**23 18 07.0**	**+0.1**
WIH				*e*S	**Sb**	**23 18 13.9**	**+0.7**
HPO	**Honuapo**	**0.47**	**240**	*e*P	**Pb**	**23 18 06.9**	**-0.2**
SWH	**Southwest Rift**	**0.47**	**286**	⇓*e*P	**Pb**	**23 18 07.0**	**-0.1**
MWH	**Mokuaweoweo**	**0.48**	**290**	⇓*e*P	**Pb**	**23 18 07.2**	**0.0**
DAH	**Dandelion**	**0.51**	**274**	⇓*e*P	**Pb**	**23 18 07.5**	**-0.4**
HPU	**Hale Pohaku**	**0.55**	**325**	⇑*e*P	**Pb**	**23 18 08.6**	**0.0**
POHA	**Pohakuloa**	**0.58**	**318**	*e*P	**Pb**	**23 18 08.5**	**-0.5**
KKU	**Keanakolu**	**0.60**	**340**	⇑*i*P	**Pb**	**23 18 09.6**	**+0.3**
OVEH	**Oceanview Est**	**0.63**	**254**	⇑*e*P	**Pb**	**23 18 09.2**	**-0.6**
KIH	**Kanekii**	**0.63**	**287**	⇓*e*P	**Pb**	**23 18 09.4**	**-0.5**
KIH				*e*S	**Sb**	**23 18 18.2**	**0.0**
HUH	**Hualalai**	**0.77**	**298**	⇓*e*P	**Pb**	**23 18 11.8**	**-0.4**
KKH	**Kailua Kona**	**0.91**	**292**	*e*P	**Pb**	**23 18 12.9**	**-1.6**
KOH	**Kohala**	**1.01**	**322**	⇑*e*P	**Pb**	**23 18 14.4**	**-2.0**
HKL	**Haleakala**	**1.74**	**322**	*e*P	**Pn**	**23 18 25.0**	**-2.7**
HON	**Honolulu**	**3.35**	**307**	*e*P	**Pn**	**23 18 42.2**	**-8.5**
KIP	**Kipapa**	**3.42**	**308**	*e*P	**Pn**	**23 18 43.5**	**-8.3**
NVAR	**Mina Array Bea**	**37.12**	**51**	P	**P**	**23 25 09.8**	**+0.2**
	0.3nm,0.4s,mb3.5,baz=240,slow=7.3,SNR=2.6						
PDAR	**Pinedale Array**	**44.81**	**48**	P	**P**	**23 26 12.7**	**-0.2**
	0.8nm,0.9s,mb3.6,baz=256,slow=3.7,SNR=5.4						
ILAR	**Eielson Array**	**45.75**	**5**	P	**P**	**23 26 18.9**	**-1.1**
	2.8nm,1.1s,mb4.1,baz=199,slow=7.7,SNR=9.1						
TXAR	**Lajitas Array**	**47.61**	**68**	P	**P**	**23 26 36.4**	**+1.1**
	1.1nm,0.7s,mb4.0,baz=249,slow=8.9,SNR=14						
YKA	**Yellowknife Ar**	**51.34**	**23**	LR	LR	23 47 58.5	
	comp=Z,26nm,18.1s,MS3.3,baz=240,slow=35						
MDJ	**Mudanjiang**	**66.32**	**311**	P	**P**	**23 28 47.7**	**-0.2**
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,47nm,5.2s						
CN2	**Changchun**	**69.37**	**310**	*e*P	**P**	**23 29 06.2**	**-0.8**
NJ2	**Nanjing**	**76.74**	**300**	*e*P	**P**	**23 29 50.3**	**-0.2**
SONM	**Songino Array**	**81.42**	**318**	P	**P**	**23 30 16.4**	**+0.9**
	comp=Z,1.8nm,0.9s,mb4.0,baz=63,slow=3.4,SNR=12						
LZH	**Lanzhou**	**87.33**	**307**	*e*P	**P**	**23 30 45.8**	**+0.2**
LZH				AP	pP	23 30 49.2	-1.0
LZH				XP	sP	23 30 50.5	-1.2
LZH				PP	PP	23 34 12.3	-0.2
LZH				AMB	AMB		
	comp=Z,23nm,1.5s,mb5.2						
LZH				AMB	AMB		
	comp=Z,124nm,4.5s						
LZH				LR	LR		
	comp=N,352nm,15.2s						
LZH				LR	LR		
	comp=Z,433nm,17.7s,MS4.9						
KMI	**Kunming**	**92.35**	**298**	*e*P	**P**	**23 31 10.0**	**+0.6**
KMI				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.8						
WMQ	**Urumqi**	**94.89**	**320**	*e*P	**P**	**23 31 22.6**	**+2.0**

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*IDC **12** 23:35:04.5±0.8, 6.76N×73.02W, h165km±7km, mb3.8/11, mb1 4.0/13, mb1mx3.8/21, Error ellipse: s-maj=15.5km s-min=10.9km az=86.0*
*NEIC **12** 23:35:04.5±0.6, 6.77N×73.04W, h167km±7km, mb4.2/9, Error ellipse: s-maj=9.1km s-min=7.5km az=84.0*

ISC 12 23:35:03.8±0.7**, 6.78N**±0.06×**73.03W**±0.08**, h176**km±8km**, n32, σ0ˢ94**/31**, mb4.1**/18**, 1C, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.31**	**214**	P	**P**	**23 35 45.2**	**+0.7**
	217nm,0.3s,baz=314,slow=18,SNR=263						
ROSC				S	**S**	**23 36 15.6**	**-0.3**
	157nm,0.3s,baz=126,slow=18,SNR=9.2						
SDV	**Santo Domingo**	**3.17**	**48**	⇑*e*Pn	**P**	**23 35 55.0**	**+0.1**
OTAV	**Otavalo**	**8.46**	**220**	P	**P**	**23 37 03.8**	**-0.1**
SJG	**San Juan**	**13.11**	**30**	P	**P**	**23 38 03.8**	**-0.5**
	1.9nm,0.3s,baz=317,slow=16,SNR=2.9						
SJG				S	**S**	**23 40 19.9**	**-6.6**
	1.9nm,0.3s,baz=353,slow=20,SNR=3.7						
SJG	**San Juan**	**13.11**	**30**	P	**P**	**23 38 03.8**	**-0.5**
SJG				S	**S**	**23 40 19.9**	**-6.6**
SAML	**Samuel**	**18.45**	**148**	*e*P	**P**	**23 39 07.5**	**-1.1**
	15nm,0.7s						
SAML				*e*		23 39 33.4	
LPAZ	**La Paz**	**23.43**	**168**	P	**P**	**23 39 59.7**	**+1.4**
	2.8nm,0.8s,mb3.7,baz=341,slow=10,SNR=9.5						
LPAZ				pP		23 40 32.5	
	3.4nm,0.6s,baz=335,slow=12,SNR=6.1						
LPAZ	**La Paz**	**23.43**	**168**	*e*P	**P**	**23 39 58.6**	**+0.4**
	6.6nm,0.8s,mb4.1						
LPAZ				*e*		23 40 31.9	
LRAL	**Lakeview Retre**	**29.17**	**335**	*e*P	**P**	**23 40 49.6**	**-1.2**
	4.0nm,0.6s,mb4.3						
BDFB	**Brasilia**	**33.32**	**132**	P	**P**	**23 41 26.7**	**-0.3**
	5.1nm,0.5s,mb4.5,baz=298,slow=8.9,SNR=10						
CCM	**Cathedral Cave**	**35.25**	**335**	*e*P	**P**	**23 41 43.4**	**+0.1**
	18nm,0.6s,mb4.9						
LTX	**Lajitas**	**36.56**	**312**	*e*P	**P**	**23 41 54.5**	**+0.1**
	3.2nm,0.6s,mb4.1						
TXAR	**Lajitas Array**	**36.56**	**312**	P	**P**	**23 41 55.3**	**+0.9**
	1.7nm,0.5s,mb3.9,baz=127,slow=8.9,SNR=38						
WMOK	**Wichita Mounta**	**36.57**	**323**	*e*P	**P**	**23 41 54.0**	**-0.4**
	3.6nm,0.6s,mb4.2						
SDCO	**Great Sand Dun**	**42.64**	**321**	*e*P	**P**	**23 42 45.7**	**+1.2**
	4.0nm,0.6s,mb4.2						
TUC	**Tucson**	**43.34**	**311**	P	**P**	**23 42 48.2**	**-2.0**
	2.0nm,0.8s,mb3.8						
ISCO	**Idaho Springs**	**43.99**	**323**	*e*P	**P**	**23 42 57.0**	**+1.7**
	6.5nm,1.0s,mb4.2						
ULM	**Lac du Bonnet**	**47.36**	**340**	P	**P**	**23 43 21.3**	**-0.4**
	4.6nm,0.4s,mb4.4,baz=141,slow=9.0,SNR=5.4						
ULM	**Lac du Bonnet**	**47.36**	**340**	P	**P**	**23 43 21.3**	**-0.4**
PDAR	**Pinedale Array**	**48.16**	**324**	P	**P**	**23 43 28.6**	**+0.6**
	1.2nm,0.5s,mb3.8,baz=123,slow=8.9,SNR=10						
SCHQ	**Schefferville**	**48.17**	**5**	P	**P**	**23 43 28.6**	**+0.7**
	2.1nm,0.5s,mb4.1,baz=203,slow=15,SNR=5.5						
TCUT	**Toone Canyon**	**48.32**	**321**	P	**P**	**23 43 27.4**	**-1.8**
RRI2	**Red Ridge**	**49.55**	**324**	*e*P	**P**	**23 43 35.2**	**-3.4**
NVAR	**Mina Array Bea**	**51.58**	**315**	P	**P**	**23 43 53.9**	**-0.1**
	1.1nm,0.5s,mb3.7,baz=114,slow=8.3,SNR=4.0						
YKA	**Yellowknife Ar**	**63.33**	**340**	P	**P**	**23 45 15.8**	**-0.2**
	3.6nm,0.6s,mb4.4,baz=132,slow=6.6,SNR=31						
YKA				pP	pP	23 45 55.2	-2.4
	0.5nm,0.5s,baz=132,slow=6.6,SNR=2.2						
DBIC	**Dimbokro**	**67.65**	**86**	P	**P**	**23 45 44.1**	**-0.2**
	3.1nm,0.9s,mb4.0,baz=15,slow=7.9,SNR=4.0						
ILAR	**Eielson Array**	**77.04**	**335**	P	**P**	**23 46 39.0**	**+0.4**
	0.5nm,0.5s,mb3.4,baz=98,slow=6.4,SNR=4.4						
NOA	**NORSAR Array B**	**81.32**	**29**	P	**P**	**23 47 03.2**	**+1.5**
	0.7nm,0.7s,mb3.4,baz=270,slow=6.2,SNR=2.6						
MKAR	**Makanchi Array**	**122.33**	**20**	PKP	PKPdf	23 53 39.7	+1.8
	0.3nm,0.4s,baz=326,slow=3.9,SNR=6.1						
MKAR	**Makanchi Array**	**122.33**	**20**	PKP	PKPdf	23 53 39.7	+1.8
SONM	**Songino Array**	**125.62**	**0**	PKP	PKPdf	23 53 47.3	+2.9
	0.2nm,0.5s,baz=322,slow=0.5,SNR=4.8						
WRA	**Warramunga Arr**	**150.40**	**241**	PKPbc	PKPdf	23 54 36.7	+7.2
	2.7nm,0.7s,baz=109,slow=2.5,SNR=28						
WRA				pPKPbc		23 55 19.1	
	0.5nm,0.4s,baz=107,slow=2.6,SNR=1.6						

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*BJI **13** 00:04:39.2, 8.49N×126.36E, h96km, mB4.9, mb4.7*
*IDC **13** 00:04:43.0±0.7, 8.83N×126.18E, h95km±6km, mb4.2/21, mb1 4.3/22, mb1mx4.3/24, MS3.6/7, Ms1 3.6/7, ms1mx3.2/21, Error ellipse: s-maj=21.8km s-min=9.2km az=68.0*
*MAN **13** 00:04:42.6, 8.70N×126.31E, h106km, mb4.9, ML3.8, MS4.4*
*NEIC **13** 00:04:43.3±0.2, 8.80N×126.14E, mb4.8/20, Error ellipse: s-maj=13.2km s-min=5.6km az=73.0*

ISC 13 00:04:43.6±0.4**, 8.82N**±0.03×**126.23E**±0.05**, h113**km±2km**,**

h95^{km}±1.9^{km}:pP-P,n135,σ1^{s}10/133,mb4.7/49,6C-5D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	Butuan	0.62	284	eP	P	00 05 01.3	-0.4
BUTP				eS	Sx	00 05 27.6	
BIPH	Bislig	0.64	168	⇓eP	P	00 05 01.1	-0.8
BIPH				eS	S	00 05 14.1	-1.6
SCPH	Surigao	1.21	323	eP	P	00 05 08.0	+0.4
SCPH				iS	S	00 05 26.9	+1.3
BUKP	Musuan	1.48	231	eP	P	00 05 10.2	-0.6
MATI	Mati	1.86	179	eP	P	00 05 15.6	+0.2
MSLP	Maasin	1.88	314	eP	P	00 05 16.6	+1.0
KCP	Kidapawan	2.12	212	⇑eP	P	00 05 20.9	+2.2
KCP				iS	S	00 05 47.1	+1.9
TBP	Tagbilaran	2.49	291	⇑eP	P	00 05 23.5	-0.2
TBP				iS	S	00 05 56.3	+2.3
CTBH	Cotabato--PC H	2.52	231	⇓iP	P	00 05 23.1	-1.1
CTBH				iS	S	00 05 53.2	-1.6
PLP	Palo	2.64	332	iP	P	00 05 26.6	+0.9
PLP				iS	S	00 05 55.4	-2.1
OCLP	Ormoc	2.73	324	eP	P	00 05 28.6	+1.6
DCPH	Dipolog City	2.85	266	eP	P	00 05 28.5	-0.2
BESP	Borongan	2.88	344	eP	P	00 05 29.2	+0.2
PAGZ	Pagadian	2.98	251	eP	P	00 05 29.7	-0.6
GSPH	General Santos	3.00	205	iP	P	00 05 32.0	+1.5
SNPH	Sibulan	3.00	280	⇑eP	P	00 05 30.0	-0.7
CNP	Catarman	3.98	337	eP	P	00 05 43.5	-0.4
CNP				eS	S	00 06 28.8	-1.1
GUIM	Jordan	4.01	297	eP	P	00 05 44.6	+0.3
RCP	Roxas	4.38	309	⇑eP	P	00 05 49.9	+0.6
PVCP	Virac	5.17	337	eP	P	00 05 59.1	-0.9
SJMP	San Jose	6.19	306	eP	P	00 06 16.0	+2.1
BUSP	Coron	6.72	299	eP	P	00 06 22.2	+1.0
CAUP	Cauayan	9.15	332	eP	P	00 06 52.6	-1.3
JOW	Kunigami	18.02	6	P	P	00 08 49.6	+1.4
	5.1nm,0.3s,baz=239,slow=28,SNR=4.7						
KAKA	Kakadu	22.24	164	eP	P	00 09 37.2	+5.3
	49nm,0.8s,mb4.9						
FITZ	Fitzroy Crossi	26.75	181	eP	P	00 10 14.5	-0.3
	7.0nm,1.1s,mb4.1						
FITZ	Fitzroy Crossi	26.75	181	P	P	00 10 14.1	-0.8
	5.5nm,0.7s,mb4.2,baz=5.7,slow=11,SNR=17						
FITZ				PcP	PcP	00 13 35.2	-0.3
	2.3nm,0.5s,baz=234,slow=2.7,SNR=5.7						
JHJ	Hachijo jima 2	27.23	25	LR	LR	00 19 47.2	
	comp=Z,65nm,19.6s,baz=142,slow=33						
KMI	Kunming	27.63	309	eP	P	00 10 23.6	+0.8
KMI				S	S	00 14 58.9	+4.3
KMI				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.3						
KMI				LR	LR		
	comp=Z,176nm,37.1s						
CMAR	Chiang Mai Arr	28.16	293	P	P	00 10 27.9	+0.3
	comp=Z,1.3nm,0.4s,mb3.8,baz=114,slow=7.1,SNR=18						
CMAR				PcP	PcP	00 13 39.3	+0.4
	comp=Z,2.0nm,0.9s,baz=95,slow=1.1,SNR=7.1						
CMAR				ScP		00 17 08.6	
	comp=Z,1.5nm,0.8s,baz=53,slow=1.9,SNR=6.0						
WRAB	Tennant Creek	29.67	164	eP	P	00 10 39.1	-1.9
	comp=Z,12nm,0.8s,mb4.6						
WRA	Warramunga Arr	29.67	164	P	P	00 10 38.8	-2.3
	comp=Z,6.5nm,0.7s,mb4.4,baz=346,slow=9.5,SNR=48						
WRA				PcP	PcP	00 13 42.6	-0.1
	comp=Z,3.0nm,0.7s,baz=336,slow=3.0,SNR=9.3						
WRA				S	S	00 15 30.1	+3.0
	comp=Z,1.2nm,0.8s,baz=340,slow=14,SNR=4.0						
WB2	Warramunga Arr	29.68	164	eP	P	00 10 39.3	-1.8
WB2				eS	S	00 15 21.6	-5.5
ASPA	Alice Springs	33.14	167	eP	P	00 11 10.3	-1.1
ASPA				eS	S	00 16 17.4	-3.9
CTA	Charters Tower	34.83	146	eP	P	00 11 26.5	+0.7
	comp=Z,9.1nm,0.7s,mb4.7						
CTA	Charters Tower	34.83	146	P	P	00 11 26.1	+0.2
	comp=Z,10nm,0.7s,mb4.8,baz=328,slow=13,SNR=12						
CTA				LR	LR	00 24 19.7	
	comp=Z,82nm,21.9s,baz=223,slow=34						
CTAO	Charters Tower	34.83	146	eP	P	00 11 26.2	+0.4
	comp=Z,18nm,0.9s,mb4.9						
CN2	Changchun	34.86	359	eP	P	00 11 28.6	+2.8
MDJ	Mudanjiang	35.78	4	P	P	00 11 33.4	-0.2
MDJ				S	S	00 17 09.5	+7.7
MDJ				AMB	AMB		
	comp=Z,13nm,1.6s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,67nm,4.6s						
MDJ				LR	LR		
	comp=N,67nm,38.8s						
MDJ				LR	LR		
	comp=E,33nm,32.5s						
MDJ				LR	LR		
	comp=Z,89nm,39.5s						
MDJ	Mudanjiang	35.78	4	P	P	00 11 33.0	-0.6
SHL	Shillong	36.64	301	eP	P	00 11 41.5	+0.4
ASAJ	Asahikawa	37.94	19	LR	LR	00 25 55.7	
	comp=Z,62nm,20.2s,baz=166,slow=34						
GTA	Gaotai	38.55	326	eP	P	00 11 56.6	-0.3
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.3						
FORT	Forrest	39.41	178	eP	P	00 12 04.2	+0.2
	comp=Z,109nm,0.7s,mb5.8						
SONM	Songino Array	42.36	340	P	P	00 12 27.3	-0.8
	comp=Z,0.9nm,0.6s,mb3.7,baz=161,slow=9.6,SNR=7.6						
SONM				pP	pP	00 12 50.0	-4.2
	comp=Z,1.9nm,1.1s,baz=162,slow=9.7,SNR=4.1						
SONM				PcP	PcP	00 14 19.3	-0.8
	comp=Z,1.1nm,0.8s,baz=153,slow=2.8,SNR=3.7						
SONM				ScP		00 18 00.2	
	comp=Z,1.0nm,0.8s,baz=158,slow=3.9,SNR=6.9						
NWAO	Narrogin (SRO)	42.39	191	P	P	00 12 27.6	-1.0
	comp=Z,20nm,1.0s,mb4.8,baz=14,slow=6.9,SNR=3.5						
GUN	Gumba	42.48	302	eP	P	00 12 30.5	+1.1
	comp=Z,39nm,0.5s,mb5.4						
PKI	Pulchoki	42.77	301	eP	P	00 12 32.1	+0.3
	comp=Z,32nm,0.7s,mb5.1						
KKN	Kakani	42.95	302	eP	P	00 12 33.8	+0.6
	comp=Z,45nm,1.1s,mb5.1						
DMN	Daman	43.04	301	eP	P	00 12 34.7	+0.8
	comp=Z,38nm,1.0s,mb5.1						
STKA	Stephens Creek	43.05	161	eP	P	00 12 33.7	-0.3
	comp=Z,16nm,0.6s,mb4.9						
STKA	Stephens Creek	43.05	161	P	P	00 12 33.5	-0.5
	comp=Z,16nm,0.5s,mb5.0,baz=334,slow=8.8,SNR=31						
GKN	Gorkha	43.56	302	eP	P	00 12 38.2	+0.1
	comp=Z,24nm,0.7s,mb5.1						
KOLN	Koldanda	44.36	301	eP	P	00 12 44.8	+0.2
	comp=Z,84nm,0.7s,mb5.6						
ADE	Adelaide	45.12	165	⇑iP	P	00 12 51.9	+1.4
HYB	Hyderabad	47.11	286	iP	P	00 13 06.5	+0.1
HYB				e	pP	00 13 33.5	+0.7
HYB	Hyderabad	47.11	286	eP	P	00 13 06.5	+0.1
BHPL	Bhopal	48.82	293	eP	P	00 13 20.1	+0.4
BHPL				e		00 13 21.1	
	comp=Z,24nm,1.2s						
CNB	Canberra Magne	49.03	155	eP	P	00 13 22.1	+1.0
	comp=Z,42nm,1.3s,mb5.2						
AGRA	Agra	49.09	298	eP	P	00 13 20.3	-1.4
AGRA				e		00 13 23.6	
	comp=Z,47nm,0.3s						
TOO	Toolangi	49.54	160	eP	P	00 13 25.7	+0.7
	comp=Z,19nm,0.8s,mb5.1						
ASOR	Ausora	49.58	300	eP	P	00 13 24.2	-1.2
ASOR				e		00 13 29.1	
	comp=Z,79nm,0.2s						
NDI	New Delhi	50.04	300	eP	P	00 13 27.0	-1.9
SONA	Sohna	50.06	299	eP	P	00 13 27.2	-1.9
SONA				e		00 13 29.7	
	comp=Z,62nm,0.6s						
AYAN	Aya Nagar	50.07	300	eP	P	00 13 27.3	-1.9
AYAN				e		00 13 29.9	
	comp=Z,21nm,1.0s						
BHGR	Bahadurgarh	50.28	300	eP	P	00 13 29.6	-1.2
BHGR				e		00 13 31.5	
	comp=Z,128nm,0.2s						
KUDL	Kundal	50.55	299	eP	P	00 13 32.0	-0.7
KUDL				e		00 13 33.2	
	comp=Z,35nm,0.7s						
KKR	Kurukshetra	50.67	302	eP	P	00 13 33.0	-0.8
RTK	Rohtak	50.80	300	eP	P	00 13 33.3	-1.4
KHET	Khetri	51.12	299	eP	P	00 13 35.8	-1.4
KHET				e		00 13 37.9	
	comp=Z,17nm,0.5s						
AJM	Ajmer	51.84	297	eP	P	00 13 42.0	-0.5
AJM				e		00 13 43.6	
	comp=Z,19nm,0.8s						
MKAR	Makanchi Array	53.16	323	P	P	00 13 50.5	-1.6
	comp=Z,2.3nm,0.5s,mb4.5,baz=126,slow=7.8,SNR=17						
MKAR				PcP	PcP	00 14 57.6	-1.1
	comp=Z,3.3nm,0.7s,baz=117,slow=5.4,SNR=5.4						
JASL	Jaisalmer	55.21	297	eP	P	00 14 05.9	-1.5
ZAL	Zalesovo	55.88	332	P	P	00 14 09.7	-2.1
	comp=Z,0.7nm,0.5s,mb4.0,baz=185,slow=7.1,SNR=3.8						
ZAL				LR	LR	00 38 06.7	
	comp=Z,39nm,19.8s,baz=214,slow=36						
KURK	Kurchatov	57.24	326	eP	P	00 14 21.2	-0.3
	comp=Z,4.0nm,0.6s,mb4.6						
KURK				e	pP	00 14 44.7	-4.0
BVAR	Borovoye Array	62.84	326	P	P	00 14 59.4	-0.2
	comp=Z,2.8nm,0.6s,mb4.4,baz=135,slow=8.2,SNR=5.9						
BVAR				pP	pP	00 15 21.9	-5.5
	comp=Z,2.8nm,0.7s,baz=141,slow=6.9,SNR=4.3						
BRVK	Borovoye	62.91	326	eP	P	00 14 59.7	-0.4
	comp=Z,3.5nm,0.7s,mb4.4						
BRVK				e	pP	00 15 23.6	-4.3
BRVK				e		00 15 41.6	
ZRNK	Zerenda	63.58	325	eP	P	00 15 03.3	-1.2
	comp=Z,8.1nm,0.6s,mb4.7						
ZRNK				e	pP	00 15 26.6	-5.8
ARU	Arti	70.41	327	eP	P	00 15 46.4	-0.9
	comp=Z,5.1nm,0.6s,mb4.5						
ARU				e	pP	00 16 11.0	-4.7
ARU				e		00 16 28.1	
QRN	Al-Qurain	75.60	297	eP	P	00 16 17.3	-0.9
QRN				AMb	AMB	00 16 17.9	
	comp=Z,45nm,0.6s,mb5.4						
UMR	Umm Al-Rimmam	75.75	298	eP	P	00 16 18.3	-0.7
UMR				AMb	AMB	00 16 19.0	
	comp=Z,38nm,0.5s,mb5.3						
CASY	Casey	75.78	186	eP	P	00 16 18.5	+0.1
	comp=Z,15nm,0.8s,mb4.8						
KBD	Kabd	75.78	298	eP	P	00 16 18.9	-0.3
RDF	Al-Radifah	75.92	298	eP	P	00 16 19.0	-1.0
RDF				AMb	AMB	00 16 19.9	
	comp=Z,38nm,0.4s,mb5.5						
MIB	Mutribah	76.07	299	eP	P	00 16 20.3	-0.5
MIB				AMb	AMB	00 16 21.8	
	comp=Z,73nm,0.6s,mb5.6						
RST	Umm Al-Ruwaisa	76.38	298	eP	P	00 16 21.1	-1.4
RST				AMb	AMB	00 16 23.3	
	comp=Z,45nm,1.1s,mb5.1						
MZLS	Mizel	78.31	293	P	P	00 16 33.1	-0.2
KAMS	Al Khamasin	79.21	289	P	P	00 16 37.3	-0.9
MCK	McKinley	79.86	27	eP	P	00 16 41.9	+0.9
	comp=Z,4.1nm,0.7s,mb4.4						
ARSS	Ar Rass	79.94	295	P	P	00 16 42.3	+0.1
SML	Sawmill	80.13	29	eP	P	00 16 43.9	+1.5
TATS	Tathlith	80.32	288	P	P	00 16 44.8	+0.5
AFFS	‘Afif	80.33	293	P	P	00 16 44.7	+0.5
DJNS	Zahran al Janu	80.45	287	P	P	00 16 46.2	+1.2
ILAR	Eielson Array	80.76	26	P	P	00 16 45.8	+0.1
	comp=Z,2.4nm,1.0s,mb4.0,baz=244,slow=6.1,SNR=17						
ILAR				pP	pP	00 17 09.9	-4.8
	comp=Z,0.9nm,0.7s,baz=247,slow=5.3,SNR=4.0						
ILAR				PKKPbc		00 35 23.6	
	comp=Z,0.2nm,0.4s,baz=110,slow=1.8,SNR=6.7						
HILS	Ha’il	81.09	296	P	P	00 16 49.1	+0.8
NAMS	An Nimas	81.55	288	P	P	00 16 52.2	+1.4
BLJS	Baljurashi	82.04	289	P	P	00 16 54.6	+1.3
LTHS	Al Lith	83.10	289	P	P	00 16 59.9	+1.2
KBRS	Khaybar	83.51	295	P	P	00 17 02.2	+1.5
QURS	Qurayyt al Mil	84.55	301	D		00 17 08.9	
ASF	Jabal al Asfar	84.81	302	P	P	00 17 08.0	+0.9
	comp=Z,4.2nm,0.8s,mb4.4,baz=330,slow=1.6,SNR=8.2						
UMJS	Umm Lajj	85.33	295	P	P	00 17 11.4	+1.6
ARCES	ARCESS Array B	85.53	340	P	P	00 17 09.8	0.0
	comp=Z,2.7nm,0.7s,mb4.3,baz=76,slow=6.4,SNR=5.6						
ARCES	ARCESS Array B	85.53	340	P	P	00 17 09.8	0.0
TBKS	Tabuk	85.61	298	P	P	00 17 12.7	+1.6
INK	Inuvik	85.64	22	P	P	00 17 10.3	0.0
	comp=Z,4.9nm,1.1s,mb4.4,baz=236,slow=12,SNR=3.3						
INK	Inuvik	85.64	22	eP	P	00 17 10.3	-0.1
	comp=Z,5.2nm,1.0s,mb4.4						
INK				e	pP	00 17 36.4	-3.4
JMQS	Jabal Moqyreh	86.11	298	P	P	00 17 14.9	+1.3
BRTR	Keskin Array B	86.42	309	P	P	00 17 14.7	-0.1
	comp=Z,1.3nm,0.8s,mb3.9,baz=66,slow=4.5,SNR=4.6						
JMOS	Jabal al Moall	86.74	299	P	P	00 17 17.9	+1.3
AYUS	‘Aynunah	86.74	298	P	P	00 17 17.7	+1.0
HAQS	Haql	86.91	299	P	P	00 17 18.5	+1.1
FINES	FINESS Array B	87.14	332	P	P	00 17 16.4	-1.3
	comp=Z,0.8nm,0.3s,mb4.1,baz=80,slow=4.9,SNR=15						
FINES				LR	LR	00 58 21.7	
	comp=Z,49nm,21.2s,baz=347,slow=37						
AKASG	Malin Array Be	87.66	321	P	P	00 17 19.7	-0.8
	comp=Z,0.9nm,0.5s,mb4.1,baz=63,slow=5.7,SNR=8.2						
MAW	Mawson	88.33	200	eP	P	00 17 23.9	+0.6
	comp=Z,7.4nm,0.9s,mb4.7						
MAW	Mawson	88.33	200	P	P	00 17 22.2	-1.1
	comp=Z,9.8nm,1.0s,mb4.8,baz=52,slow=6.2,SNR=17						
MAW				LR	LR	00 55 51.8	
	comp=Z,45nm,18.1s,baz=65,slow=35						
KMBO	Kilima Mbogo	89.16	269	P	P	00 17 28.4	-0.1
	comp=Z,5.0nm,1.0s,mb4.5,baz=53,slow=7.3,SNR=11						
SBA	Scott Base	89.41	172	eP	P	00 17 30.3	+2.1
	comp=Z,8.5nm,0.9s,mb4.8						
RES	Resolute Bay	92.93	10	P	P	00 17 45.6	+1.0
	comp=Z,3.9nm,0.8s,mb4.8						
NOA	NORSAR Array B	94.04	334	LR	LR	01 04 35.6	
	comp=Z,23nm,18.9s,baz=355,slow=38						
YKA	Yellowknife Ar	95.09	24	P	P	00 17 55.6	+0.9
	comp=Z,2.8nm,0.9s,mb4.7,baz=303,slow=4.2,SNR=9.2						
YKA				pP	pP	00 18 20.7	-3.8
	comp=Z,1.3nm,0.9s,baz=297,slow=4.3,SNR=3.8						
YKA	Yellowknife Ar	95.09	24	P	P	00 17 55.6	+0.9
YKA				pP	pP	00 18 20.7	-3.8
GERES	GERESS Array B	97.81	322	P	P	00 18 07.4	+0.1
	comp=Z,0.5nm,0.9s,mb4.0,baz=180,slow=4.0,SNR=4.4						
QSPA	South Pole Qui	98.69	180	eP	P	00 18 12.0	+1.3
	comp=Z,4.0nm,0.9s,mb5.0						
PDAR	Pinedale Array	107.83	40	PKKPbc		00 34 11.7	
	comp=Z,0.2nm,0.5s,baz=104,slow=6.1,SNR=3.7						
SNAA	Sanae	109.97	195	⇓i		00 23 12.0	
VNA2	Neumayer--Watz	111.59	195	⇓i	PKPdf	00 23 09.0	+4.9
VNA3	Neumayer Olymp	111.94	194	⇑i	PKPdf	00 23 08.5	+3.7
VNA1	Neumayer--Stat	111.99	195	⇓i	PKPdf	00 23 10.2	+5.3
TXAR	Lajitas Array	118.80	50	PKP	PKPdf	00 23 21.5	+2.3
	comp=Z,0.6nm,0.7s,baz=266,slow=0.3,SNR=8.5						
JCT	Junction City	121.03	46	ePKPdf	PKPdf	00 23 26.0	+2.5
DBIC	Dimbokro	128.88	286	PKP	PKPdf	00 23 41.1	+2.0
	comp=Z,6.4nm,1.1s,baz=299,slow=20,SNR=4.4						
CPUP	Villa Florida	162.26	169	PKPab	PKPab	00 25 21.9	-0.2
	comp=Z,7.2nm,0.8s,baz=203,slow=4.5,SNR=10						
LPAZ	La Paz	164.14	119	PKP	PKPdf	00 24 38.2	+4.1
	comp=Z,1.3nm,0.7s,baz=355,slow=2.9,SNR=5.3						
LPAZ				PKPab	PKPab	00 25 32.3	+1.8
	comp=Z,1.7nm,0.8s,baz=287,slow=3.6,SNR=5.0						

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*CSEM **13** 00:06:28.4±0.6, 36.90N×9.45W, h2^{km}, ML2.7/5, Error ellipse: s-maj=11.8km s-min=10.8km az=21.0*

*MDD **13** 00:06:28.4±2.1, 36.82N×9.66W, h25^{km}±52^{km}, mb3.1/2, Error ellipse: s-maj=52.8km s-min=13.5km az=48.0, PRXIMO*

INMG 13 00:06:28.7±0.8**, 36.86N**×**9.63W, h16**^{km}±19^{km}**, ML1.6, Error ellipse: s-maj=18.7km s-min=4.1km az=55.0, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	0.99	46	eP	Pb	00 06 46.7	-0.4
PTEO				eS	Sb	00 07 00.1	+0.4
	5.5nm,0.1s						
PTEO	Sao Teotonio	0.99	46	eP	Pb	00 06 46.7	-0.4
PTEO				eS	Sb	00 07 00.1	+0.4
	5.5nm,0.1s						
PALC	Alcoutim	1.82	70	ePn	Pn	00 06 58.0	-1.8
PALC				eSn	Sn	00 07 19.4	-3.2
	3.3nm,0.2s						
PALC	Alcoutim	1.82	70	ePn	Pn	00 06 58.0	-1.8
PALC				eSn	Sn	00 07 19.4	-3.2
	3.3nm,0.2s						
PBEJ	Beja	1.82	50	ePn	Pn	00 06 57.7	-2.1
PBEJ				eSn	Sn	00 07 19.6	-3.0
	2.1nm,0.1s						
PBEJ	Beja	1.82	50	ePn	Pn	00 06 57.7	-2.1
PBEJ				eSn	Sn	00 07 19.6	-3.0
	2.1nm,0.1s						
MOE	Montemor	1.94	31	eSn	Sn	00 07 22.3	-3.5
PLOU	Loures	2.06	10	ePn	Pn	00 07 01.0	-2.2
PLOU				eSn	Sn	00 07 25.4	-3.2
	4.5nm,0.2s						
PLOU	Loures	2.06	10	Pn	Pn	00 07 01.0	-2.2
PLOU				Sn	Sn	00 07 25.4	-3.2
	2.2nm,0.2s						
EMIN	Mina Concepcio	2.52	68	Pn	Pn	00 07 07.2	-2.6
	0.2nm,0.1s,SNR=10						
EMIN				Sn	Sn	00 07 35.5	-4.9
	0.7nm,0.1s						
EMIN	Mina Concepcio	2.52	68	Pn	Pn	00 07 07.2	-2.6
	0.2nm,0.1s,SNR=10						
EMIN				Sn	Sn	00 07 35.5	-5.0
	0.7nm,0.1s						
EBAD	Badajoz	2.81	47	Pn	Pn	00 07 10.9	-2.9
	1.0nm,0.4s,SNR=5.0						
EBAD				Sn	Sn	00 07 43.3	-4.3
	2.1nm,0.2s,SNR=7.9						
EBAD	Badajoz	2.81	47	Pn	Pn	00 07 10.9	-2.9
	1.0nm,0.4s,SNR=5.0						
EBAD				Sn	Sn	00 07 43.3	-4.3
	2.1nm,0.2s,SNR=7.9						
ESPR	Espera	3.02	89	Pn	Pn	00 07 13.8	-3.2
	0.5nm,0.1s,SNR=4.0						
ESPR				Sn	Sn	00 07 48.3	-4.8
	8.2nm,0.4s						
ESPR	Espera	3.02	89	Sn	Sn	00 07 48.3	-4.8
	8.2nm,0.4s						
ESPR	Espera	3.02	89	Pn	Pn	00 07 10.4	-6.5
	0.5nm,0.1s,SNR=4.0						
EADA	Adamuz	4.22	70	Pn	Pn	00 07 30.4	-3.6
	0.2nm,0.2s,SNR=7.9						
EADA				Sn	Sn	00 08 16.6	-6.9
	0.9nm,0.1s,SNR=7.9						
EADA	Adamuz	4.22	70	Pn	Pn	00 07 30.4	-3.6
	0.2nm,0.2s,SNR=7.9						
EQES	Quesada	5.31	78	Sn	Sn	00 08 43.9	-6.9
	0.3nm,0.1s,SNR=7.9						

IDC 13 00:41:02.9±2.0**, 5.59N**×**126.47E, mb3.7**/3**, mb1 3.9**/3**, mb1mx3.6**/16**, Error ellipse: s-maj=165.0km s-min=27.0km az=64.0, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	26.53	163	P	P	00 46 42.9	-1.5
	0.5nm,0.6s,baz=343,slow=10,SNR=5.6						
STKA	Stephens Creek	39.95	160	P	P	00 48 38.7	-2.2
	0.9nm,0.4s,baz=348,slow=9.3,SNR=4.0						
MKAR	Makanchi Array	55.89	325	P	P	00 50 42.5	-2.3
	0.5nm,0.7s,baz=124,slow=8.9,SNR=6.5						

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*IDC **13** 01:21:49.0±2.1, 6.67S×130.73E, mb4.0/3, mb1 4.3/5, mb1mx4.1/12, ML4.3/2, Error ellipse: s-maj=87.0km s-min=29.8km az=86.0*

ISC 13 01:22:05.6±4.0**, 7.4S**±0.1×**130.4E**±0.2**, h187**^{km}±43^{km}**, n10, σ0^{s}44**/12**, mb4.2**/5**, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.59	203	Pn	P	01 24 46.7	+0.1
	1.2nm,0.3s,baz=21,slow=8.7,SNR=27						
FITZ				Sn	S	01 26 52.6	-0.3
	2.5nm,0.3s,baz=173,slow=20,SNR=9.4						
WRA	Warramunga Arr	13.00	163	Pn	P	01 25 04.5	+0.1
	1.5nm,0.3s,baz=349,slow=13,SNR=43						
WRA				Sn	S	01 27 25.5	+0.1
	3.1nm,0.3s,baz=346,slow=23,SNR=11						
PKI	Pulchoki	55.73	311	eP	P	01 31 25.3	+0.1
KKN	Kakani	55.95	311	eP	P	01 31 26.7	0.0
DMN	Daman	55.98	310	eP	P	01 31 27.2	+0.2
GKN	Gorkha	56.54	311	eP	P	01 31 31.1	+0.2
	11nm,0.4s,mb5.1						
KOLN	Koldanda	57.21	310	eP	P	01 31 35.8	+0.2
	5.9nm,0.5s,mb4.7						
SONM	Songino Array	58.98	341	P	P	01 31 46.9	-0.9
	0.6nm,0.5s,mb3.6,baz=159,slow=7.2,SNR=5.8						
MKAR	Makanchi Array	68.82	327	P	P	01 32 52.6	+0.9
	1.9nm,0.4s,mb4.2,baz=120,slow=8.0,SNR=24						
ZAL	Zalesovo	72.16	334	P	P	01 33 10.9	-0.7
	0.8nm,0.6s,mb3.7,baz=153,slow=19,SNR=3.1						

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*LDG **13** 01:38:26.7±0.1, 44.35N×7.33E, h2^{km}, Md2.7/2, Ml2.6/12, Error ellipse: s-maj=1.7km s-min=0.9km az=80.0*

*CSEM **13** 01:38:26.7±0.1, 44.35N×7.32E, h8^{km}, ML2.6/12, Error ellipse: s-maj=1.6km s-min=1.1km az=63.0*

*GEN **13** 01:38:26.8, 44.35N×7.29E, h15^{km}, ML2.7*

*STR **13** 01:38:27.4±0.1, 44.31N×7.27E, h5^{km}±1^{km}, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*NEIC **13** 01:38:27.4, 44.31N×7.27E, h5^{km}, ML2.7(GEN), ML2.6(STR), ML2.6(LDG), After STR.*

ISC 13 01:38:26.6±0.2**, 44.36N**±0.01×**7.36E**±0.02**, h18**^{km}±3^{km}**, n65, σ1^{s}04**/117**, 7C-6D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STV2	Anna di Valdie	0.12	193	⇓P	Pb	01 38 30.1	-0.5
STV2				S	Sb	01 38 32.1	-1.0
STV2	Anna di Valdie	0.12	193	⇓P	Pb	01 38 30.1	-0.4
STV	Sta Anna Valdi	0.12	193	P	Pb	01 38 30.2	-0.4
STV				S	Sb	01 38 32.2	-1.0
STV	Sta Anna Valdi	0.12	193	P	Pb	01 38 30.2	-0.3
STV				S	Sb	01 38 41.0	+7.8
ENR	Entracque	0.14	164	⇓P	Pb	01 38 30.7	-0.1
ENR				S	Sb	01 38 33.2	-0.4
ENR	Entracque	0.14	164	⇓P	Pb	01 38 30.7	-0.1
PZZ	Prazzo	0.23	307	P	Pb	01 38 31.9	-0.3
PZZ				S	Sb	01 38 35.0	-0.8
PZZ	Prazzo	0.23	307	P	Pb	01 38 31.9	-0.2
PZZ				S	Sb	01 38 41.4	+5.5
TOUF	Mont Tournerai	0.36	193	Pg	Pb	01 38 33.5	-0.7
TOUF				Sg	Sb	01 38 37.6	-1.7
ROB	Roburent	0.37	101	⇑P	Pb	01 38 35.4	+1.0
ROB				S	Sb	01 38 41.4	+1.8
ROB	Roburent	0.37	101	⇑P	Pb	01 38 35.3	+0.9
AUTN	L’Aution	0.37	173	Pg	Pb	01 38 34.3	-0.1
AUTN				Sg	Sb	01 38 39.2	-0.5
MONE	Monesi	0.40	135	⇑P	Pb	01 38 35.2	+0.4
MONE				S	Sb	01 38 41.0	+0.6
MONE	Monesi	0.40	135	⇑P	Pb	01 38 35.2	+0.3
SAOF	Saorge	0.40	160	Pg	Pb	01 38 34.9	0.0
SAOF				Sg	Sb	01 38 40.3	-0.2
SURF	Saint Ours	0.41	287	Pg	Pb	01 38 34.6	-0.5
SURF				Sg	Sb	01 38 39.8	-1.0
AURF	Auriere	0.48	183	Pg	Pb	01 38 35.8	-0.4
AURF				Sg	Sb	01 38 42.0	-0.7
BHB	Bricherasio	0.48	351	⇑P	Pb	01 38 35.7	-0.6
BHB				S	Sb	01 38 42.1	-0.7
BHB	Bricherasio	0.48	351	⇑P	Pb	01 38 35.7	-0.6
MVIF	Mont Vial	0.49	198	Pg	Pb	01 38 35.8	-0.6
MVIF				Sg	Sb	01 38 42.3	-0.8
SBF	Sospel	0.50	174	ePg	Pb	01 38 36.2	-0.4
SBF				eSg	Sb	01 38 42.6	-0.8
	103nm,0.3s						
MBDF	Montbardon	0.56	311	ePg	Pb	01 38 37.3	-0.2
MBDF				eSg	Sb	01 38 45.0	0.0
	75nm,0.4s						
NEGI	Negi	0.57	155	⇑P	Pb	01 38 38.0	+0.2
NEGI				S	Sb	01 38 45.6	+0.2
IMI	Imperia	0.59	140	ePg	Pb	01 38 38.6	+0.5
IMI				eSg	Sb	01 38 46.7	+0.8
IMI	Imperia	0.59	140	ePg	Pb	01 38 38.6	+0.5
IMI				eSg	Sb	01 38 46.7	+0.7
REVF	Revere	0.62	180	Pg	Pb	01 38 38.6	-0.1
REVF				Sg	Sb	01 38 47.0	+0.1
FIN	Finale Ligure	0.63	104	ePg	Pb	01 38 39.7	+1.0
FIN				eSg	Sb	01 38 48.4	+1.4
FIN	Finale Ligure	0.63	104	ePg	Pb	01 38 39.7	+1.0
FIN				eSg	Sb	01 38 48.4	+1.4
RRL	Cesana Torines	0.69	324	P	Pb	01 38 39.9	+0.1
RRL				S	Sb	01 38 48.4	-0.5
RRL	Cesana Torines	0.69	324	P	Pb	01 38 39.9	0.0
RSP	Reno Superiore	0.79	354	P	Pb	01 38 40.5	-1.0
RSP	Reno Superiore	0.79	354	P	Pb	01 38 40.5	-1.0
PCP	Pian Castagno	0.86	78	⇓P	Pb	01 38 44.0	+1.2
PCP	Pian Castagno	0.86	78	⇓P	Pb	01 38 44.0	+1.2
FRF	La Foret Royal	0.96	213	ePg	Pb	01 38 43.7	-0.6
FRF				eSg	Sb	01 38 55.3	-1.2
	69nm,0.2s						
LSD	Ceresole Reale	1.10	352	P	Pb	01 38 47.5	+0.6
LSD	Ceresole Reale	1.10	352	P	Pb	01 38 47.5	+0.7
STOF	St-Etienne Org	1.11	251	Pg	Pb	01 38 48.2	+1.2

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STOF				Sg	Sb	01 39 03.5	+2.6
ORIF	Oris-en-Rattie	1.20	298	*e*Pn	Pn	01 38 48.7	+0.1
ORIF				*e*Pg	Pb	01 38 49.1	+0.7
ORIF				*e*Sg	Sb	01 39 04.2	+0.8
	14nm,0.4s						
LMR	La Mourre	1.20	211	*e*Pn	Pn	01 38 48.0	-0.7
LMR				*e*Pg	Pb	01 38 48.5	0.0
LMR				*e*Sg	Sb	01 39 03.3	-0.3
	85nm,0.3s						
LMR	La Mourre	1.20	211	*e*Pg	Pb	01 38 48.5	0.0
TAVF	Tavernes	1.20	232	Pg	Pb	01 38 48.5	-0.1
TAVF				Sg	Sb	01 39 04.2	+0.5
LPG	La Plagne	1.21	339	*e*Pn	Pn	01 38 48.7	-0.1
LPG				*e*Pg	Pb	01 38 49.4	+0.6
LPG				*e*Sg	Sb	01 39 05.8	+1.8
	12nm,0.3s						
LPL	La Plagne	1.24	339	*e*Pn	Pn	01 38 49.2	0.0
LPL				*e*Pg	Pb	01 38 49.9	+0.8
LPL				*e*Sg	Sb	01 39 06.3	+1.6
	10nm,0.3s						
LPL	La Plagne	1.24	339	*e*Pg	Pb	01 38 49.9	+0.8
LPL				*e*Sg	Sb	01 39 06.3	+1.6
	5.2nm,0.3s						
VILF	Villemus	1.29	247	Pg	Pn	01 38 50.9	+0.9
VILF				Sg	Sb	01 39 07.1	+0.8
ORX	Oropa	1.34	19	P	Pn	01 38 49.2	-1.5
ORX	Oropa	1.34	19	P	Pn	01 38 49.2	-1.5
SMRF	Simiane la Rot	1.34	254	*e*Pg	Pn	01 38 51.3	+0.6
SMRF				*e*Sn	Sn	01 39 07.4	-0.8
SMRF				*e*Sg	Sb	01 39 08.7	+0.9
	36nm,0.4s						
PUYF	Puyloubier	1.46	236	Pg	Pn	01 38 53.3	+0.9
PUYF				Sg	Sb	01 39 12.4	+1.2
BERF	Bertagne	1.60	230	Pg	Pn	01 38 55.6	+1.2
BERF				Sg	Sn	01 39 16.8	+2.0
TREF	Trevaresse	1.61	243	Pg	Pn	01 38 57.0	+2.5
TREF				Sg	Sn	01 39 17.0	+2.1
GELF	Grande-Etoile	1.71	236	Pg	Pn	01 38 57.5	+1.6
GELF				Sg	Sn	01 39 20.4	+2.9
VIVF	Saint-Julien-l	1.98	285	*e*Pn	Pn	01 38 59.8	-0.1
VIVF				*e*Sn	Sn	01 39 23.0	-1.5
	6.3nm,0.4s						
PGF	Pioggiola	2.17	146	*e*Pn	Pn	01 38 59.4	-3.1
PGF				*e*Sn	Sn	01 39 27.0	-2.2
CABF	La Chapelle	2.42	339	*e*Pn	Pn	01 39 05.7	-0.4
CABF				*e*Pg	Pn	01 39 11.6	+5.5
LASF	Ste Croix	2.54	265	*e*Pn	Pn	01 39 06.6	-1.2
LASF				*e*Sn	Sn	01 39 35.6	-2.9
	6.5nm,0.6s						
SMF	Signal de Mont	3.37	314	*e*Pn	Pn	01 39 19.4	-0.2
SMF				*e*Sn	Sn	01 39 56.4	-3.1
	3.2nm,0.3s						
HINF	Hinteralfeld	3.47	354	*e*Pn	Pn	01 39 19.9	-1.2
HINF				*e*Sn	Sn	01 39 59.2	-3.0
	2.4nm,0.3s						
AVF	Avril sur Loir	3.72	312	*e*Pn	Pn	01 39 24.6	0.0
LOR	Lormes	3.80	321	*e*Pn	Pn	01 39 26.0	+0.3
LOR				*e*Sn	Sn	01 40 06.8	-3.7
LOR				*e*Sg	Sn	01 40 25.6	+15
	4.3nm,0.7s						
SSF	Saint Saulge	3.82	316	*e*Pn	Pn	01 39 26.0	0.0
CAF	Calviac	3.82	280	*e*Pn	Pn	01 39 25.1	-1.0
BGF	Bois d'Agland	3.86	306	*e*Pn	Pn	01 39 26.5	-0.1
CDF	Champ du Feu	4.05	359	*e*Pn	Pn	01 39 28.1	-1.2
CDF				*e*Sn	Sn	01 40 13.3	-3.5
	0.7nm,0.3s						

*INET **13** 02:13:05.4, 11.48N×86.92W, h14^{km}, MD3.3*

CASC 13 02:13:04.7±2.6**, 11.56N×87.01W, h4**^{km}±9^{km}**, MD3.9, 7C-5D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
COPN	Copaltepe	0.74	34⇑	*i*P	Pg	02 13 20.4	+1.0
COPN				*e*S	Sg	02 13 31.5	+2.2
CRUN	El Crucero	0.81	59	*e*P	Pg	02 13 20.5	-0.4
LEON	Leon	0.85	8⇓	*e*P	Pb	02 13 22.4	+0.7
LEON				*e*S	Sg	02 13 34.3	+1.2
XAVN	Gruta Xavier	0.89	49⇓	*e*P	Pb	02 13 21.9	-0.4
TICN	Ticuantepe	0.89	58⇑	*e*P	Pb	02 13 21.8	-0.6
MIRN	Miramar	0.92	19⇑	*e*P	Pb	02 13 23.1	+0.3
APYN	Apoyeque	0.93	44⇑	*e*P	Pb	02 13 22.6	-0.4
MASN	Masaya	0.94	63	*e*P	Pb	02 13 19.7	-3.5
MGAN	Managua	0.95	52⇑	*e*P	Pb	02 13 21.8	-1.5
MGAN				*e*S	Sb	02 13 36.0	0.0
MOMJ	Momotombo	0.96	29⇓	*i*P	Pb	02 13 23.4	-0.1
MOMJ				*e*S	Sb	02 13 37.2	+0.9
CNGN	Cerro Negro	0.98	18⇑	*e*P	Pb	02 13 22.6	-1.2
CNGN				*e*S	Sb	02 13 38.4	+1.4
APON	Apoyo	0.99	69⇑	*e*P	Pb	02 13 22.5	-1.5
WILN	Americas 2	1.00	54⇓	*e*P	Pb	02 13 23.0	-1.2
WILN				*e*S	Sb	02 13 36.8	-0.8
TELN	Telica	1.05	10	*e*P	Pb	02 13 25.3	+0.2
CRIN	San Cristobal	1.13	358	*e*P	Pb	02 13 26.6	+0.1
CRIN				*e*S	Sb	02 13 43.0	+1.7
PYTN	Playitas	1.34	44⇓	*e*P	Pb	02 13 28.2	-1.9
PYTN				*e*S	Sb	02 13 46.8	-0.7
CNCH	Conchagua	1.88	335	*e*P	Pn	02 13 37.2	-0.8
JCR	Jicaral	2.53	132	*e*P	Pn	02 13 46.8	-0.5
JCR				*e*S	Sn	02 14 23.5	+4.7
LCBS	La Ceiba	2.83	317	*e*P	Pn	02 13 49.5	-2.1
LCBS				*e*S	Sn	02 14 26.7	+0.2
LFRS	El Faro	2.86	316	*e*P	Pn	02 13 51.0	-1.0
LFRS				*e*S	Sn	02 14 25.4	-2.0
RTR	El Retiro	3.46	312	*e*P	Pn	02 13 54.6	-6.0
LCR2	La Lucha 2	3.47	121	*e*P	Pn	02 13 59.7	-0.9
LCR2				*e*S	Sn	02 14 44.5	+1.8

*NEIC **13** 02:36:01.4±4.8, 23.92S×179.49W, h442^{km}±38^{km}, mb4.5/9, Error ellipse: s-maj=54.3km s-min=14.6km az=224.0*

*IDC **13** 02:36:05.7±2.1, 24.03S×179.67W, h481^{km}±23^{km}, mb3.8/9, mb1 4.0/10, mb1mx3.9/13, Error ellipse: s-maj=20.9km s-min=14.7km az=165.0*

ISC 13 02:36:02.9±2.2**, 24.05S**±0.09×**179.7W**±0.1**, h461**^{km}±24^{km}**, n38, σ0^{s}95**/37**, mb4.5**/15**, 1C-2D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	12.54	38	*e*P	P	02 38 38.4	-11
	62nm,0.6s						
MXZ	Matakaoa Point	13.58	187	P	P	02 38 59.4	-0.6
PUZ	Puketiti	14.09	187	*e*P	P	02 39 04.5	-0.8
URZ	Urewera	14.43	190	P	P	02 39 06.9	-1.9
	8.2nm,0.3s,baz=323,slow=2.4,SNR=18						
URZ				S	S	02 41 39.1	+0.4
	2.1nm,0.3s,baz=206,slow=22,SNR=7.3						
URZ	Urewera	14.43	190	*e*P	P	02 39 07.1	-1.7
KNZ	Kokohu	15.09	188	*e*P	P	02 39 15.6	0.0
THZ	Tophouse	18.72	198	*e*P	P	02 39 51.9	+0.2
RPZ	Rata Peaks	21.04	199	P	P	02 40 14.7	+0.9
	23nm,0.5s,mb5.0,baz=354,slow=0.3,SNR=9.1						
CNB	Canberra Magne	29.04	240	*e*P	P	02 41 27.1	+1.4
	14nm,0.6s,mb4.6						
CTA	Charters Tower	31.78	270	*e*P	P	02 41 50.7	+1.3
	35nm,0.3s,mb5.3						
CTAO	Charters Tower	31.78	270	*e*P	P	02 41 50.4	+1.1
	51nm,0.5s,mb5.2						
TOO	Toolangi	32.62	237	*e*P	P	02 41 57.7	+1.4
	7.2nm,0.6s,mb4.3						
PMG	Port Moresby	34.83	289	P	P	02 42 15.8	+0.7
	52nm,0.8s,mb5.0,baz=105,slow=5.0,SNR=17						
STKA	Stephens Creek	34.95	248	*e*P	P	02 42 17.0	+1.1
	9.1nm,0.8s,mb4.3						
STKA	Stephens Creek	34.95	248	P	P	02 42 16.6	+0.7
	5.8nm,0.3s,mb4.4,baz=84,slow=8.6,SNR=38						
STKA				PcP	PcP	02 44 35.9	-0.8
	1.5nm,0.4s,baz=63,slow=1.9,SNR=3.1						
ASPA	Alice Springs	42.31	261	*e*P	P	02 43 16.5	+0.2
WB2	Warramunga Arr	42.69	266	*e*P	P	02 43 19.0	-0.3
WRAB	Tennant Creek	42.69	266	P	P	02 43 19.0	-0.3
	254nm,0.4s,SNR=73						
WRAB	Tennant Creek	42.69	266	*e*P	P	02 43 18.8	-0.6
	32nm,0.4s,mb5.1						
WRA	Warramunga Arr	42.70	266	P	P	02 43 18.9	-0.5
	19nm,0.4s,mb4.9,baz=97,slow=8.3,SNR=267						
WRA				ScP		02 48 06.5	
	1.3nm,0.8s,baz=98,slow=3.9,SNR=5.4						
WRA				S	S	02 49 07.1	-1.9
	0.4nm,0.7s,baz=105,slow=14,SNR=2.5						
FORT	Forrest	46.54	250	*e*P	P	02 43 48.2	-1.1
	186nm,0.6s						
KAKA	Kakadu	46.66	275	*e*P	P	02 43 54.4	+4.0
	16nm,0.3s,mb4.9						
FITZ	Fitzroy Crossi	51.12	266	*e*P	P	02 44 23.3	-0.5
	12nm,0.7s,mb4.3						
KLBR	Kellerberrin	55.21	247	*e*P	P	02 44 51.7	-1.3
	16nm,0.7s,mb4.5						
MBWA	Marble Bar	55.65	260	*e*P	P	02 44 53.8	-2.4
QSPA	South Pole Qui	66.03	180	P	P	02 46 04.9	+1.2
MAW	Mawson	77.71	200	P	P	02 47 11.7	0.0
	1.3nm,0.6s,mb3.6,baz=130,slow=7.1,SNR=7.9						
MAW	Mawson	77.71	200	*e*P	P	02 47 11.9	+0.3
	1.7nm,0.6s,mb3.6						
SNAA	Sanae	84.51	179⇑	*i*	P	02 47 46.0	-0.4
NVAR	Mina Array Bea	84.65	44	P	P	02 47 47.5	-0.4
	0.3nm,0.4s,baz=227,slow=7.4,SNR=4.7						
VNA2	Neumayer--Watz	85.13	177⇓	*i*	P	02 47 50.3	+0.9
VNA1	Neumayer--Stat	85.36	177⇓	*i*	P	02 47 44.5	-6.0
CMAR	Chiang Mai Arr	89.86	290	P	P	02 48 13.7	+0.7
	2.6nm,0.9s,mb4.1,baz=132,slow=3.5,SNR=9.0						
TXAR	Lajitas Array	90.25	58	P	P	02 48 15.1	+0.5
	1.1nm,0.7s,mb3.8,baz=216,slow=6.3,SNR=16						
PDAR	Pinedale Array	92.59	44	P	P	02 48 24.2	-0.7
	0.5nm,0.8s,mb3.6,baz=225,slow=2.1,SNR=4.7						
FINES	FINESS Array B	138.69	342	SKPbc		02 57 22.8	
	0.5nm,0.5s,baz=27,slow=4.3,SNR=7.3						
AKASG	Malin Array Be	145.26	327	PKPbc	PKPbc	02 54 47.4	-0.1
	0.6nm,0.5s,baz=41,slow=3.6,SNR=4.4						
BRTR	Keskin Array B	147.91	307	PKPbc	PKPdf	02 54 55.4	+4.1
	0.7nm,0.5s,baz=98,slow=4.0,SNR=2.9						

*MOS **13** 02:41:24.3±0.9, 49.81N×156.29E, h74^{km}, mb4.4/5, Error ellipse: s-maj=29.3km s-min=9.1km az=64.7*

*BJI **13** 02:41:25.4, 49.63N×156.19E, h109^{km}, mB4.3, mb4.2*

*KRSC **13** 02:41:25.4±1.5, 50.05N×156.61E, ML4.7*

*NEIC **13** 02:41:26.8±1.2, 50.08N×155.77E, h80^{km}±8^{km}, mb4.3/7, Error ellipse: s-maj=22.6km s-min=9.3km az=153.0*

*IDC **13** 02:41:27.6±1.1, 50.10N×155.88E, h84^{km}±7^{km}, mb4.1/8, mb1 4.5/10, mb1mx4.0/22, MS2.8/2, Ms1 2.8/2, ms1mx2.4/25, Error ellipse: s-maj=42.7km s-min=15.1km az=155.0*

ISC 13 02:41:26.4±0.8**, 49.93N**±0.07×**156.1E**±0.1**, h96**^{km}±7^{km}**, h82**^{km}±5.0^{km}**:pP-P, n69, σ1^{s}27**/91**, mb4.2**/14**, 1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.76	3	*e*PN	P	02 41 40.0	-4.2
SKR				*i* S	S	02 41 52.1	-5.3
SKR				pmax	pmax		
	comp=Z,800nm,0.5s						
SKR				pmax	pmax		
	comp=N,410nm,0.3s						
SKR				pmax	pmax		
	comp=E,550nm,0.3s						
SKR				smax			
	comp=N,4μm,0.5s						
SKR				smax			
	comp=E,7μm,0.4s						
SKR				smax			
	comp=N,10μm,1.0s						
SKR				smax			
	comp=E,10.0nm,1.0s						
PAU	Pauzhetka	1.61	17	*i* P	P	02 41 54.3	0.0
PAU				*i* S	S	02 42 14.8	-0.1
PAU				Smax			
	comp=E,4μm,0.2s						
MIPR	Malaya Ipel'ka	2.39	10	*i* P	P	02 42 05.3	+0.6
MIPR				*e*S	S	02 42 34.1	+0.9
GRL	Gorelyy	2.92	25	*e*P	P	02 42 12.5	+0.6
GRL				*e*S	S	02 42 46.6	+0.5
RUS	Russkaya	2.95	31	P	P	02 42 11.0	-1.3
RUS				S	S	02 42 43.9	-2.9
RUS	Russkaya	2.95	31	*i* P	P	02 42 11.1	-1.2
RUS				*e*S	S	02 42 43.9	-2.9
APC	Apacha	3.08	13	*e*P	P	02 42 15.1	+0.9
APC				*e*S	S	02 42 48.5	-1.6
APC				Smax			
	comp=E,190nm,0.7s						
PET	Petropavlovsk	3.50	27	P	P	02 42 20.0	+0.1
PET				S	S	02 42 59.2	-1.2
PET	Petropavlovsk	3.50	27	*e*P	P	02 42 19.9	0.0
PET				*e*S	S	02 42 59.5	-0.9
PET	Petropavlovsk	3.50	27⇓	*i*PN	P	02 42 19.7	-0.2
PET				*e*S	S	02 43 00.1	-0.3
PET				pmax	pmax		
	comp=Z,73nm,0.7s						
PET				smax			
	comp=N,336nm,0.8s						
PET				MLR	MLR		
	comp=Z,200nm,30.0s						
UGLR	Uglovaya	3.71	27	*e*P	P	02 42 23.3	+0.5
KOK	Koryaka	3.73	25	*e*P	P	02 42 24.6	+1.5
KOK				*e*S	S	02 43 07.6	+1.4
AVH	Avacha	3.74	26	*e*P	P	02 42 24.1	+0.9
AVH				*e*S	S	02 43 08.3	+2.0
SMAR	Somma	3.75	26	*e*P	P	02 42 24.4	+1.0
SDLR	Sedlovina	3.79	27	*e*P	P	02 42 24.0	+0.1
SDLR				*e*S	S	02 43 06.6	-1.0
NLC	Nalytchevo	3.84	31	*i* P	P	02 42 22.6	-2.0
NLC				*e*S	S	02 43 04.9	-4.0
GNL	Ganaly	3.95	17	*e*P	P	02 42 27.3	+1.2
GNL				*e*S	S	02 43 11.8	+0.3
SPN	Mys Shipunski	4.03	36	P	P	02 42 25.9	-1.2
SPN				S	S	02 43 09.3	-4.1
SPN	Mys Shipunski	4.03	36	*e*P	P	02 42 25.9	-1.2
SPN				*e*S	S	02 43 09.7	-3.7
KII	Karymskiy	4.62	26	P	P	02 42 35.7	+0.4
KII				S	S	02 43 26.7	-1.3
KII	Karymskiy	4.62	26	*e*P	P	02 42 35.6	+0.3
KII				*e*S	S	02 43 27.6	-0.4
MKZ	Mys Kozlova	5.80	35	P	P	02 42 48.9	-2.4
MKZ				S	S	02 43 50.2	-6.9
MKZ	Mys Kozlova	5.80	35	*i* P	P	02 42 49.0	-2.3
MKZ				*e*S	S	02 43 50.3	-6.8
TUMR	Tumrok	5.91	23	*e*P	P	02 42 53.9	+1.0
KMNR	Kamenistaya	6.36	22	P	P	02 43 01.5	+2.3
ZLN	Zelenaya	6.74	23	*e*P	P	02 43 05.0	+0.6
SRDR	Sredinnyy	6.77	18	P	P	02 43 05.1	+0.3
LGNR	Loginova	6.77	23	*e*P	P	02 43 05.8	+1.0
CIRR	Tsirk	6.81	23	*e*P	P	02 43 06.5	+1.1
KRSR	Krestovskiy	6.86	22	*e*P	P	02 43 06.4	+0.3
KBTR	Krutoberegovo	7.49	30	P	P	02 43 12.4	-2.3
KBTR				S	S	02 44 32.4	-6.2
KBTR	Krutoberegovo	7.49	30	*e*P	P	02 43 12.2	-2.5
KBTR				*e*S	S	02 44 32.3	-6.3
BKI	Bering	8.02	45	*e*P	P	02 43 18.8	-3.1
BKI				*e*S	S	02 44 39.2	-12
BKI				Smax			
	comp=Z,70nm,0.9s						
YSS	Yuzh-Sakhalins	9.33	256	PN	P	02 43 41.4	+1.8
ASAJ	Asahikawa	10.87	243	P	P	02 44 00.4	+0.3
	comp=Z,3.6nm,0.3s,baz=87,slow=11,SNR=14						
ASAJ				LR	LR	02 48 05.8	
	comp=Z,21nm,19.7s,baz=237,slow=37						
ASAJ	Asahikawa	10.87	243	PN	P	02 44 00.4	+0.3
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,21nm,19.7s						
FX1	Attu Island--F	11.09	68	P	P	02 44 01.2	-1.9
	comp=Z,25nm,0.3s,baz=225,slow=5.2,SNR=69						
FX1				S	S	02 45 53.6	-12
	comp=Z,31nm,0.3s,baz=83,slow=18,SNR=13						
FX1	Attu Island--F	11.09	68	*e*P	P	02 44 00.9	-2.1
MAJO	Matsushiro	18.59	231	*e*P	P	02 45 37.6	-0.7
	comp=Z,11nm,0.8s						
MDJ	Mudanjiang	18.68	264	P	P	02 45 36.5	-2.7
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,62nm,4.2s						
MDJ				LR	LR		
	comp=N,18nm,32.0s						
MDJ				LR	LR		
	comp=E,35nm,32.0s						
MDJ				LR	LR		
	comp=Z,34nm,33.9s						
CN2	Changchun	21.71	265	*e*P	P	02 46 10.1	-0.5
MCK	McKinley	31.97	44	*e*P	P	02 47 43.2	-1.6
	comp=Z,5.3nm,1.0s,mb4.2						
MCK				P		02 47 44.1	
COLA	College	32.44	41	*e*P	P	02 47 49.0	+0.1
	comp=Z,8.1nm,0.9s,mb4.5						
ILAR	Eielson Array	32.85	42	P	P	02 47 52.2	-0.2
	comp=Z,2.3nm,0.7s,mb4.1,baz=257,slow=6.0,SNR=34						
ILAR				pP	pP	02 48 13.6	-1.0
	comp=Z,0.6nm,0.8s,baz=268,slow=6.9,SNR=2.2						
ILAR	Eielson Array	32.85	42	P	P	02 47 52.3	-0.2
ILAR				*PP	pP	02 48 13.6	-0.9
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ILAR				pmax	pmax		
	comp=N,1.0nm,0.8s						
INK	Inuvik	37.92	35	P	P	02 48 35.2	-0.1
	comp=N,1.9nm,0.5s,mb4.2,baz=279,slow=5.0,SNR=11						
INK				PcP	PcP	02 50 49.6	-0.5
	comp=N,1.1nm,0.5s,baz=304,slow=3.6,SNR=4.5						
INK	Inuvik	37.92	35	P	P	02 48 35.2	-0.2
INK						02 50 49.6	
INK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	Inuvik	37.92	35	*e*P	P	02 48 36.2	+0.8
	comp=Z,2.0nm,0.6s,mb4.1						
YKA	Yellowknife Ar	47.21	39	P	P	02 49 50.8	+0.1
	comp=Z,5.4nm,1.1s,mb4.2,baz=299,slow=8.2,SNR=7.1						
YKA	Yellowknife Ar	47.21	39	P	P	02 49 50.8	+0.1
YKA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
YKA	Yellowknife Ar	47.21	39	P	P	02 49 50.8	+0.1
MKAR	Makanchi Array	47.27	296	P	P	02 49 49.6	-1.8
	comp=Z,0.5nm,0.4s,mb3.6,baz=34,slow=3.4,SNR=4.1						
MKAR				LR	LR	03 09 37.9	
	comp=Z,24nm,18.9s,baz=21,slow=36						
MKAR	Makanchi Array	47.27	296	P	P	02 49 49.6	-1.8
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR				MLR	MLR		
	comp=Z,24nm,18.9s						
KURK	Kurchatov	47.28	302	P	P	02 49 48.9	-2.5
	comp=Z,3.5nm,1.1s,mb4.0						
ZRNK	Zerenda	51.12	309	*e*P	P	02 50 18.8	-2.1
	comp=Z,1.0nm,0.6s,mb4.0						
CMAR	Chiang Mai Arr	55.02	257	P	P	02 50 50.3	+0.1
	comp=Z,3.8nm,0.5s,mb4.7,baz=27,slow=7.0,SNR=14						
CMAR	Chiang Mai Arr	55.02	257	P	P	02 50 50.3	+0.1
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
MCMT	McKenzie Canyo	58.17	57	*e*P	P	02 51 12.7	+0.5
QLMT	Earthquake Lak	58.94	56	*e*P	P	02 51 18.5	+1.0
NVAR	Mina Array Bea	59.27	66	P	P	02 51 20.3	+0.4
	comp=Z,1.4nm,0.5s,mb4.2,baz=300,slow=7.2,SNR=12						
DUG	Dugway	61.26	61	*e*P	P	02 51 34.5	+1.1
	comp=Z,4.6nm,1.1s,mb4.4						
PDAR	Pinedale Array	61.32	57	P	P	02 51 34.8	+1.0
	comp=Z,3.1nm,0.8s,mb4.4,baz=322,slow=3.5,SNR=25						
PDAR				pP	pP	02 51 55.2	-2.6
	comp=Z,1.6nm,0.9s,baz=315,slow=4.2,SNR=5.1						
PV10	Paradox Valley	64.64	60	*e*P	P	02 51 57.3	+1.6
SCHQ	Schefferville	69.61	25	P	P	02 52 26.7	+0.2
	comp=Z,2.7nm,0.5s,mb4.4,baz=238,slow=5.9,SNR=11						
WRA	Warramunga Arr	72.17	201	pP	pP	02 53 02.0	-5.4
	comp=Z,1.4nm,0.9s,baz=19,slow=6.7,SNR=5.2						
TXAR	Lajitas Array	74.26	63	P	P	02 52 55.9	+1.4
	comp=Z,4.1nm,0.6s,mb4.4,baz=297,slow=4.7,SNR=66						
TXAR				pP	pP	02 53 16.9	-2.6
	comp=Z,0.7nm,0.6s,baz=298,slow=4.9,SNR=3.3						
TXAR	Lajitas Array	74.26	63	P	P	02 52 55.9	+1.4
TXAR				pP	pP	02 53 16.9	-2.6
CPUP	Villa Florida	145.18	60	PKPbc	PKPbc	03 00 52.6	-0.2
	comp=Z,2.2nm,0.7s,baz=52,slow=4.7,SNR=4.3						
CPUP	Villa Florida	145.18	60	PKP2	PKPab	03 00 52.6	-1.8
CPUP				pmax	pmax		
	comp=Z,2.0nm,0.7s						

CASC 13 02:45:03.0±2.5**, 11.52N×86.94W, MD4.0, ML3.2, 6C-3D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
COPN	Copaltepe	0.74	27⇑	*e*P	Pg	02 45 18.9	+1.1
COPN				*e*S	Sg	02 45 31.3	+3.7
CRUN	El Crucero	0.78	53	*e*P	Pg	02 45 18.8	+0.3
TICN	Ticuantepe	0.86	53⇑	*e*P	Pg	02 45 19.9	-0.3
TICN				*e*S	Sg	02 45 34.8	+3.2
XAVN	Gruta Xavier	0.87	43	*e*P	Pg	02 45 20.1	-0.2
LEON	Leon	0.90	3⇓	*e*P	Pg	02 45 21.0	+0.1
LEON				*e*S	Sg	02 45 34.7	+1.9
MASN	Masaya	0.90	59	*e*P	Pg	02 45 20.2	-0.7
APYN	Apoyeque	0.92	39⇑	*e*P	Pg	02 45 20.8	-0.5
APYN				*e*S	Sg	02 45 35.5	+2.1
MGAN	Managua	0.92	47⇑	*e*P	Pg	02 45 20.8	-0.6
MGAN				*e*S	Sg	02 45 34.5	+0.9
MGAN				*i*		02 45 37.4	
	comp=E,698nm,0.3s						
APON	Apoyo	0.94	65⇓	*e*P	Pg	02 45 20.5	-1.2
MIRN	Miramar	0.94	13⇑	*e*P	Pg	02 45 21.6	-0.2
MIRN				*e*S	Sg	02 45 36.9	+2.5
MOMJ	Momotombo	0.97	24	*e*P	Pg	02 45 22.1	-0.3
WILN	Americas 2	0.97	49	*e*P	Pb	02 45 21.6	-0.8
WILN				*e*S	Sg	02 45 35.2	-0.2
TELN	Telica	1.09	5	*e*P	Pb	02 45 24.3	0.0
CRIN	San Cristobal	1.18	355	*e*P	Pb	02 45 25.9	-0.1
PYTN	Playitas	1.33	40⇓	*e*P	Pb	02 45 26.6	-2.0
VCR	Vista de Mar	1.88	137	*e*P	Pn	02 45 35.9	-0.9
VCR				*e*S	Sn	02 46 04.4	+2.8
JCR	Jicaral	2.44	133	*e*P	Pn	02 45 43.7	-1.1
JCR				*e*S	Sn	02 46 17.0	+1.3
CGA2	Cerro Gallo 2	2.85	121	*e*P	Pn	02 45 51.3	+0.7
VPS2	Volcan Poas 2	2.96	116	*e*P	Pn	02 45 50.5	-1.6
PRS1	Puriscal	3.00	120	*e*P	Pn	02 45 52.4	-0.2
LAJ	Bijagual	3.22	120	*e*P	Pn	02 45 49.6	-6.2
TRTC	Tortuguero	3.30	106	*e*P	Pn	02 45 56.3	-0.6
LCR2	La Lucha 2	3.38	121	*e*P	Pn	02 45 57.8	-0.3
LCR2				*e*S	Sn	02 46 41.0	+1.5
URSC	Urasca	3.52	118⇑	*e*P	Pn	02 45 58.6	-1.6
BUS	Buena Vista	3.68	122	*e*P	Pn	02 46 05.2	+2.8

*MAN **13** 02:52:00.2, 13.81N×120.55E, h104^{km}, mb4.4, ML3.3, MS3.1*

*IDC **13** 02:52:04.6±21.0, 13.63N×120.74E, h164^{km}±226^{km}, mb3.2/4, mb1 3.4/4, mb1mx3.2/17, MS2.9/1, Ms1 3.1/1, ms1mx2.5/9, Error ellipse: s-maj=80.4km s-min=19.3km az=63.0*

ISC 13 02:52:00.1±0.6**, 13.80N**±0.05×**120.61E**±0.08**, h113**^{km}±6^{km}**, n16, σ0^{s}83**/22**, mb3.7**/4**, 2C-2D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LUBP	Lubang	0.36	259	*e*P	P	02 52 19.5	+2.9
LUBP	Lubang	0.36	259⇑	*e*P	P	02 52 16.6	0.0
LUBP	Lubang	0.36	259	*e*P	P	02 52 14.9	-1.7
LUBP				*e*S	S	02 52 28.1	-0.8
TGY	Tagaytay City	0.44	47⇑	*i*P	P	02 52 18.0	+1.0
TGY				*i* S	S	02 52 30.7	+1.0
ARP	Angono	0.90	36	*e*P	P	02 52 20.4	-0.5
NBP	Mount Natib	0.95	349	*e*P	P	02 52 21.3	-0.1
LQP	Lukban	0.95	71⇓	*i*P	P	02 52 22.5	+1.2
LQP				*i* S	S	02 52 35.8	-1.5
BOAC	Boac	1.25	106	*e*P	P	02 52 24.5	-0.1
SJMP	San Jose	1.42	160	*e*P	P	02 52 27.1	+0.5
SJMP				*e*S	S	02 52 47.0	+0.4
PCPH	Palayan	1.81	15⇓	*e*P	P	02 52 30.9	-0.4
PCPH				*e*S	S	02 52 54.9	+0.1
BUSP	Coron	1.83	193	*e*P	P	02 52 31.2	-0.3
BUSP				*e*S	S	02 52 54.8	-0.5
BALP	Baler	2.14	26	*e*P	P	02 52 35.5	-0.1
CMAR	Chiang Mai Arr	21.32	285	P	P	02 56 40.7	+1.4
	1.1nm,0.3s,mb3.6,baz=97,slow=7.3,SNR=6.1						
CMAR				LR	LR	03 06 36.6	
	comp=Z,31nm,18.2s,baz=88,slow=41						
SONM	Songino Array	35.93	344	P	P	02 58 50.7	-0.7
	0.7nm,0.4s,mb3.9,baz=161,slow=9.0,SNR=8.0						
WRA	Warramunga Arr	36.15	158	P	P	02 58 49.5	-4.0
	0.3nm,0.6s,mb3.4,baz=330,slow=10,SNR=7.7						
MKAR	Makanchi Array	45.90	324	P	P	03 00 12.6	-0.4
	1.3nm,0.8s,mb3.7,baz=131,slow=9.0,SNR=6.5						

*NEIC **13** 03:14:02.8, 30.47S×71.63W, h34^{km}, ML3.2(GUC), After GUC.*

GUC 13 03:14:02.8±0.6**, 30.47S×71.63W, h34**^{km}±2^{km}**, MD3.8,**

ML3.2,1C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.39**	**111**	*i* P	P	03 14 11.6	-0.3
OVCH				*i* S	S	03 14 18.4	+0.2
OVCH				AMP		03 14 18.8	
	comp=N,3μm,0.1s						
LSCH	**La Serena**	**0.65**	**31**	*e*P	P	03 14 15.3	-0.2
LSCH				*i* S	S	03 14 24.6	-0.1
LSCH				AMP		03 14 29.6	
	comp=N,636nm,0.2s						
TLL	**Tololo Astrono**	**0.77**	**67**	⇓*i*P	P	03 14 18.1	+0.9
TLL				*i* S	S	03 14 29.1	+1.3
TLL				AMP		03 14 30.1	
	comp=N,1μm,0.3s						
CMCH	**Combarbala**	**0.89**	**143**	⇑*i*P	P	03 14 19.2	+0.4
CMCH				*i* S	S	03 14 31.3	+0.7
CMCH				AMP		03 14 35.3	
	comp=E,3μm,0.5s						
VACH	**Vallenar**	**2.03**	**22**	*e*P	P	03 14 36.3	+1.0
VACH				*i* S	S	03 15 01.3	+1.5
PEL	**Peldehue**	**2.78**	**163**	*e*P	P	03 14 46.3	+0.2
PEL				AMP		03 15 28.9	
	comp=N,185nm,0.4s						
CLCH	**Cerro Calan**	**3.06**	**163**	*e*P	P	03 14 50.2	+0.3
CLCH				*i* S	S	03 15 26.7	+0.9
CLCH				AMP		03 15 41.2	
	comp=E,126nm,0.4s						

IDC 13 03:15:06.8±4.5**,6.81N**×**73.22W,h168**km±34km**,mb2.9**/2**, mb1 3.4**/3**,mb1mx3.0**/20**,Error ellipse: s-maj=79.9km s-min=36.7km az=81.0,Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.23**	**210**	P	P	03 15 46.3	+0.2
	31nm,0.3s,baz=33,slow=3.5,SNR=111						
ROSC				S	S	03 16 17.0	+0.6
	48nm,0.3s,baz=82,slow=19,SNR=6.4						
TXAR	**Lajitas Array**	**36.40**	**312**	P	P	03 21 55.2	-1.5
	0.2nm,0.5s,baz=126,slow=7.8,SNR=3.3						
YKA	**Yellowknife Ar**	**63.24**	**340**	P	P	03 25 16.8	-2.4
	0.4nm,0.5s,baz=132,slow=6.5,SNR=5.7						
WRA	**Warramunga Arr**	**150.24**	**241**	PKPbc	PKPdf	03 34 38.5	+5.3
	0.5nm,0.8s,baz=105,slow=3.0,SNR=5.2						

JMA 13 03:15:12.5±0.2**,43.63N**×**147.23E,h34**km**,M3.8,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.11**	**257**	P	P	03 15 32.3	+0.5
NEM2				*e*S	S	03 15 46.9	+0.7
JRA	**Rausu**	**1.56**	**282**	P	P	03 15 38.7	+0.5
JRA				*e*S	S	03 15 58.2	+0.8
JNK	**Nakash**	**1.82**	**269**	*e*S	S	03 16 03.6	-0.5
JAK	**Akkeshi**	**1.96**	**252**	P	P	03 15 44.2	+0.3
JAK				*e*S	S	03 16 07.7	+0.3
JTKR	**Abashiri--Toko**	**2.43**	**279**	P	P	03 15 51.4	+0.8
JAR	**Ashorobuto**	**2.54**	**264**	P	P	03 15 53.0	+0.7
JAR				*e*S	S	03 16 23.5	+1.2
JOB	**Onbets**	**2.58**	**255**	P	P	03 15 53.5	+0.6
JOB				*e*S	S	03 16 23.7	+0.3
JCH	**Churui**	**3.01**	**252**	P	P	03 15 59.7	+0.8
JCH				*e*S	S	03 16 34.0	-0.2

CASC 13 03:20:53.2±1.6**,11.20N**×**87.79W,h32**km±35km**,MD4.2, ML3.3,5C-2D,Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LEON	**Leon**	**1.50**	**36**	⇑*i*P	Pn	03 21 18.2	-0.1
LEON				*e*S	Sn	03 21 36.5	-0.4
COPN	**Copaltepe**	**1.53**	**50**	⇓*e*P	Pn	03 21 18.4	-0.4
COPN				*e*S	Sn	03 21 37.1	-0.6
MIRN	**Miramar**	**1.63**	**40**	⇓*e*P	Pn	03 21 19.6	-0.6
MIRN				*e*S	Sn	03 21 40.9	+0.7
CNGN	**Cerro Negro**	**1.68**	**39**	⇑*e*P	Pn	03 21 20.3	-0.6
CNGN				*e*S	Sn	03 21 43.2	+1.7
MOMJ	**Momotombo**	**1.72**	**45**	*e*P	Pn	03 21 20.7	-0.7
MOMJ				*e*S	Sn	03 21 42.5	0.0
XAVN	**Gruta Xavier**	**1.72**	**56**	*e*P	Pn	03 21 21.1	-0.3
XAVN				*e*S	Sn	03 21 43.2	+0.7
TICN	**Ticuantepe**	**1.74**	**61**	*e*P	Pn	03 21 21.8	0.0
TICN				*e*S	Sn	03 21 43.4	+0.4
APYN	**Apoyeque**	**1.75**	**54**	⇑*e*P	Pn	03 21 21.3	-0.6
APYN				*e*S	Sn	03 21 42.5	-0.8
MGAN	**Managua**	**1.78**	**58**	*e*P	Pn	03 21 21.9	-0.5
MGAN				*e*S	Sn	03 21 43.7	-0.4
MGAN				*i*		03 21 45.5	
	comp=E,320nm,0.6s						
APON	**Apoyo**	**1.83**	**67**	*e*P	Pn	03 21 22.2	-0.9
WILN	**Americas 2**	**1.84**	**58**	*e*S	Sn	03 21 45.6	0.0
PYTN	**Playitas**	**2.16**	**52**	⇑*e*P	Pn	03 21 26.6	-1.2
PYTN				*e*S	Sn	03 21 53.7	0.0
PRS1	**Puriscal**	**3.62**	**109**	*e*S	Sn	03 22 28.9	-1.9
LAJ	**Bijagual**	**3.84**	**110**	*e*P	Pn	03 21 50.1	-1.6
LAJ				*e*S	Sn	03 22 26.9	-9.4
LCR2	**La Lucha 2**	**3.99**	**111**	*e*P	Pn	03 21 57.2	+3.3
ICR	**Volcan Irazu**	**4.08**	**107**	*e*P	Pn	03 22 00.9	+5.9
ICR				*e*S	Sn	03 22 43.1	+0.8
URSC	**Urasca**	**4.17**	**109**	⇑*e*P	Pn	03 22 00.1	+3.7
URSC				*e*S	Sn	03 22 43.9	-0.8

*NIED **13** 03:56:00,39.60N×142.10E,h53km,Mw3.8 Best double couple: $M_0$4.73×10^14 NP1:φs16°,δ69°,λ88°. NP2:φs201°, δ21°,λ94°.*
*NEIC **13** 03:56:47.0±1.1,40.07N×141.97E,h10km,mb4.3/1,Error ellipse: s-maj=25.1km s-min=11.0km az=115.0*
*JMA **13** 03:56:49.7±0.1,39.64N×142.11E,h48km±1km,M3.7*
JMA Felt I J1.
*IDC **13** 03:56:51.8±3.9,39.57N×142.03E,h73km±34km,mb3.5/8, mb1 3.6/9,mb1mx3.5/23,ML3.6/1,Error ellipse: s-maj=29.3km s-min=23.4km az=87.0*
ISC 13 03:56:49.2±0.8**,39.63N**±0.04×**142.1E**±0.1**,h59**km±4km**, n20,**σ**1**s**01**/27**,mb3.8**/9**,1C-5D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.19**	**254**	P	**P**	**03 56 58.1**	**-0.3**
JTH	**Tanohata**	**0.34**	**335**	⇓P	**P**	**03 56 59.2**	**-0.4**
JTH				S	**S**	**03 57 05.7**	**-1.6**
JOM	**Ohasama**	**0.61**	**255**	⇓P	**P**	**03 57 02.9**	**+0.6**
JOM				S	**S**	**03 57 12.2**	**+0.1**
OFUJ	**Ofunato**	**0.62**	**209**	⇑P	**P**	**03 57 02.5**	**0.0**
OFUJ				S	**S**	**03 57 11.5**	**-0.9**
JKZ	**Kuzumaki**	**0.66**	**303**	⇓P	**P**	**03 57 03.4**	**+0.5**
JKZ				S	**S**	**03 57 12.9**	**-0.3**
JANG	**Nango**	**0.85**	**331**	⇓P	**P**	**03 57 05.3**	**0.0**
JANG				S	**S**	**03 57 16.9**	**-0.5**
JMK	**Ichinoseki**	**0.94**	**224**	⇓P	**P**	**03 57 06.9**	**+0.4**
JMK				S	**S**	**03 57 19.8**	**+0.3**
MAJO	**Matsushiro**	**4.33**	**226**	*e*P	**P**	**03 57 56.1**	**+2.1**
MAT	**Matsushiro**	**4.33**	**226**	P	**P**	**03 57 56.5**	**+2.4**
MAT	**Matsushiro**	**4.33**	**226**	*e*P	**P**	**03 57 57.0**	**+2.9**
ASAJ	**Asahikawa**	**4.50**	**5**	P	**P**	**03 57 58.2**	**+1.7**
	2.3nm,0.3s,baz=208,slow=15,SNR=5.2						
ASAJ				S	**S**	**03 58 50.5**	**+2.3**
	1.2nm,0.3s,baz=242,slow=33,SNR=2.9						
SONM	**Songino Array**	**26.85**	**300**	P	**P**	**04 02 26.5**	**+0.7**
	0.3nm,0.6s,mb3.0,baz=80,slow=9.2,SNR=4.0						
ZAL	**Zalesovo**	**40.59**	**310**	P	**P**	**04 04 23.5**	**-0.8**
	1.9nm,0.4s,mb4.1,baz=117,slow=2.6,SNR=3.4						
MKAR	**Makanchi Array**	**43.22**	**300**	P	**P**	**04 04 45.6**	**-0.2**
	2.5nm,0.9s,mb4.0,baz=83,slow=9.9,SNR=8.4						
KURK	**Kurchatov**	**44.77**	**306**	*e*P	**P**	**04 04 57.8**	**-0.5**
	3.2nm,0.8s,mb4.2						
KURK				*e*	pP	04 05 15.3	+1.7
ILAR	**Eielson Array**	**47.05**	**34**	P	**P**	**04 05 16.3**	**+0.2**
	0.5nm,0.9s,mb3.4,baz=259,slow=5.8,SNR=6.5						
BVAR	**Borovoye Array**	**49.23**	**311**	P	**P**	**04 05 32.6**	**-0.6**
	0.9nm,0.6s,mb4.0,baz=38,slow=10,SNR=4.1						
WRA	**Warramunga Arr**	**59.70**	**188**	P	**P**	**04 06 48.0**	**-2.0**
	0.5nm,0.7s,mb3.7,baz=7.5,slow=7.0,SNR=4.0						
FINES	**FINESS Array B**	**66.76**	**332**	P	**P**	**04 07 34.8**	**-1.0**
	1.5nm,0.7s,mb4.1,baz=22,slow=10,SNR=3.9						
NOA	**NORSAR Array B**	**71.99**	**337**	P	**P**	**04 08 07.4**	**-0.5**
	0.7nm,0.8s,mb3.6,baz=55,slow=4.8,SNR=3.3						

*NEIC **13** 03:59:28.9,38.62S×175.82E,h170km,After WEL.*
WEL 13 03:59:28.9±0.3**,38.59S**×**175.87E,h167**km±2km**,ML4.0**/8**, 9C,Error ellipse: s-maj=2.4km s-min=1.9km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MGZ	**Maungaku**	**0.49**	**212**	P	P	03 59 52.4	-0.1
MGZ	**Maungaku**	**0.49**	**212**	⇑PN	P	03 59 52.4	-0.1
MGZ				SN	S	04 00 10.1	-0.6
WTVZ	**West Tongariro**	**0.57**	**203**	P	P	03 59 52.6	-0.3
WTVZ				S	S	04 00 10.5	-0.8
WTVZ	**West Tongariro**	**0.57**	**203**	PN	P	03 59 52.7	-0.1
WTVZ				SN	S	04 00 10.4	-0.9
TWVZ	**Taurewa**	**0.59**	**215**	P	P	03 59 52.7	-0.3
TWVZ	**Taurewa**	**0.59**	**215**	⇑*i*PN	P	03 59 52.7	-0.2
TWVZ				SN	S	04 00 11.5	0.0
NGZ	**Ngauruhoe**	**0.62**	**200**	P	P	03 59 53.0	-0.1
NGZ	**Ngauruhoe**	**0.62**	**200**	PN	P	03 59 53.2	+0.1
NGZ				SN	S	04 00 11.5	-0.3
CNZ	**Chateau**	**0.66**	**202**	P	P	03 59 53.3	0.0
CNZ	**Chateau**	**0.66**	**202**	PN	P	03 59 53.3	-0.1
WPVZ	**Whakapapa**	**0.67**	**202**	P	P	03 59 53.3	0.0
WPVZ	**Whakapapa**	**0.67**	**202**	PN	P	03 59 53.3	0.0
TUVZ	**Tukino**	**0.70**	**194**	P	P	03 59 53.6	+0.1
TUVZ				S	S	04 00 11.7	-0.8
TUVZ	**Tukino**	**0.70**	**194**	⇑PN	P	03 59 53.6	+0.1
TUVZ				SN	S	04 00 11.9	-0.6
DRZ	**Dome Shelter**	**0.73**	**199**	P	P	03 59 53.9	+0.2
DRZ	**Dome Shelter**	**0.73**	**199**	PN	P	03 59 53.8	+0.2
BKZ	**Black Stump Fm**	**0.76**	**140**	P	P	03 59 53.8	0.0
BKZ				S	S	04 00 12.3	-0.7
BKZ	**Black Stump Fm**	**0.76**	**140**	⇑PN	P	03 59 53.8	0.0
BKZ				SN	S	04 00 12.1	-1.0
WNVZ	**Wahianoa**	**0.77**	**196**	P	P	03 59 54.0	+0.1
WNVZ	**Wahianoa**	**0.77**	**196**	PN	P	03 59 54.0	+0.1
MOVZ	**Moawhango**	**0.82**	**186**	P	P	03 59 54.0	-0.2
MOVZ	**Moawhango**	**0.82**	**186**	⇑PN	P	03 59 54.0	-0.3
MOVZ				SN	S	04 00 12.0	-1.8
VRZ	**Vera Road**	**1.02**	**238**	P	P	03 59 55.2	-0.4
VRZ	**Vera Road**	**1.02**	**238**	⇑PN	P	03 59 55.2	-0.4
VRZ				SN	S	04 00 14.9	-1.3
URZ	**Urewera**	**1.03**	**72**	*e*P	P	03 59 55.1	-0.5
URZ	**Urewera**	**1.03**	**72**	PN	P	03 59 55.0	-0.6
URZ				SN	S	04 00 15.3	-1.0
MWZ	**Matawai**	**1.32**	**80**	P	P	03 59 58.5	+0.1
MWZ	**Matawai**	**1.32**	**80**	PN	P	03 59 58.5	+0.1
MWZ				SN	S	04 00 19.6	-1.6
WAZ	**Wanganui**	**1.35**	**210**	P	P	03 59 58.1	-0.6
WAZ	**Wanganui**	**1.35**	**210**	⇑PN	P	03 59 58.0	-0.6
WAZ				SN	S	04 00 20.9	-0.7
TSZ	**Takapari Road**	**1.47**	**177**	P	P	03 59 59.4	-0.4
TSZ	**Takapari Road**	**1.47**	**177**	PN	P	03 59 59.3	-0.5
TSZ				SN	S	04 00 21.5	-2.2
KNZ	**Kokohu**	**1.47**	**108**	*e*P	P	03 59 59.9	+0.1
KNZ	**Kokohu**	**1.47**	**108**	PN	P	03 59 59.9	0.0
KNZ				SN	S	04 00 21.8	-1.9
NEZ	**North Egmont**	**1.54**	**243**	P	P	04 00 00.2	-0.3
NEZ	**North Egmont**	**1.54**	**243**	PN	P	04 00 00.2	-0.3
PWZ	**Pawanui**	**1.63**	**152**	P	P	04 00 01.0	-0.4
PWZ	**Pawanui**	**1.63**	**152**	PN	P	04 00 01.2	-0.2
PWZ				SN	S	04 00 25.5	-1.0
NRZ	**Ngariki Road**	**1.69**	**243**	P	P	04 00 01.0	-1.0
NRZ	**Ngariki Road**	**1.69**	**243**	PN	P	04 00 01.0	-0.9
NWEZ	**Newall Road**	**1.71**	**246**	P	P	04 00 01.3	-0.9
NWEZ	**Newall Road**	**1.71**	**246**	PN	P	04 00 01.2	-1.0
MRZ	**Mangatainoka R**	**2.08**	**186**	P	P	04 00 04.8	-1.6
MRZ	**Mangatainoka R**	**2.08**	**186**	⇑PN	P	04 00 04.8	-1.5
MRZ				SN	S	04 00 32.5	-2.7
KIW	**Kapiti Island**	**2.39**	**198**	P	P	04 00 07.8	-2.2
KIW	**Kapiti Island**	**2.39**	**198**	PN	P	04 00 07.7	-2.3
KIW				SN	S	04 00 37.6	-4.1
MTW	**Mount Morrison**	**2.58**	**186**	P	P	04 00 09.9	-2.5
MTW	**Mount Morrison**	**2.58**	**186**	⇑PN	P	04 00 09.8	-2.5
MTW				SN	S	04 00 41.3	-4.5
CAW	**Cannon Point**	**2.59**	**194**	P	P	04 00 10.2	-2.3
CAW	**Cannon Point**	**2.59**	**194**	PN	P	04 00 10.1	-2.4
MRW	**Makara Radio**	**2.79**	**198**	PN	P	04 00 12.3	-2.6
MRW				*e*SN	S	04 00 45.7	-4.6
PAWZ	**Paruwai Farm**	**2.81**	**187**	PN	P	04 00 12.4	-2.8
PAWZ				SN	S	04 00 46.4	-4.4
MSWZ	**Moikau Station**	**2.86**	**189**	P	P	04 00 12.9	-3.0
MSWZ	**Moikau Station**	**2.86**	**189**	PN	P	04 00 12.9	-2.9
MSWZ				SN	S	04 00 47.2	-4.7
BHW	**Baring Head**	**2.92**	**195**	P	P	04 00 13.5	-3.1
BHW	**Baring Head**	**2.92**	**195**	PN	P	04 00 13.5	-3.0
TUWZ	**Tuamarina**	**3.20**	**207**	PN	P	04 00 16.6	-3.5
TUWZ				SN	S	04 00 54.7	-4.7
NNZ	**Nelson**	**3.25**	**215**	P	P	04 00 17.2	-3.5
NNZ	**Nelson**	**3.25**	**215**	PN	P	04 00 17.1	-3.7
NNZ				SN	S	04 00 56.2	-4.4
QRZ	**Quartz Range**	**3.41**	**228**	PN	P	04 00 19.0	-3.8
QRZ				SN	S	04 00 58.7	-5.6
BSWZ	**Blackbirch Sta**	**3.48**	**205**	P	P	04 00 20.4	-3.2
BSWZ	**Blackbirch Sta**	**3.48**	**205**	PN	P	04 00 20.4	-3.3
THZ	**Tophouse**	**3.90**	**215**	*e*P	P	04 00 25.2	-3.9
THZ	**Tophouse**	**3.90**	**215**	PN	P	04 00 24.7	-4.4
THZ				SN	S	04 01 11.3	-4.1
KHZ	**Kahutara**	**4.22**	**204**	P	P	04 00 29.5	-3.7
KHZ	**Kahutara**	**4.22**	**204**	PN	P	04 00 29.7	-3.5
KHZ				SN	S	04 01 17.1	-5.6
DSZ	**Denniston Nort**	**4.43**	**223**	*e*P	P	04 00 31.4	-4.6
DSZ	**Denniston Nort**	**4.43**	**223**	PN	P	04 00 31.2	-4.8
DSZ				SN	S	04 01 21.2	-6.6
LTZ	**Lake Taylor**	**5.00**	**212**	*e*P	P	04 00 38.7	-4.7
LTZ	**Lake Taylor**	**5.00**	**212**	PN	P	04 00 38.7	-4.7
LTZ				*e*SN	S	04 01 32.5	-8.6
MQZ	**McQueen's Vall**	**5.66**	**204**	*e*P	P	04 00 46.3	-5.8
MQZ	**McQueen's Vall**	**5.66**	**204**	PN	P	04 00 46.3	-5.8
MQZ				SN	S	04 01 46.8	-10
WVZ	**Waitaha Valley**	**5.94**	**219**	*e*PN	P	04 00 49.4	-6.3
ODZ	**Otahua Downs**	**7.54**	**209**	*e*P	P	04 01 11.8	-5.2
ODZ	**Otahua Downs**	**7.54**	**209**	PN	P	04 01 11.8	-5.2

NEIC 13 04:02:48.4,54.71N×**160.71W,h1**km**,ML3.5**(AEIC)**,After AEIC.,Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**0.66**	**12**	P	Pg	04 03 01.4	-0.2
SDPT				S	Sg	04 03 11.8	+1.4
DOL	**Dolgoi Island**	**0.80**	**304**	P	Pg	04 03 03.1	-1.3
PVV	**Pavlof Volcano**	**0.91**	**318**	P	Pg	04 03 05.4	-1.2
HAG	**Hague Volcano**	**0.92**	**312**	P	Pg	04 03 05.7	-1.1
HAG				S	Sg	04 03 19.7	+0.7
PS1A	**Pavlof South-1**	**0.93**	**321**	P	Pg	04 03 06.0	-1.0
DT1	**Dutton Round H**	**0.99**	**295**	P	Pb	04 03 06.6	-1.5
DTNA	**Dutton South F**	**0.99**	**297**	P	Pb	04 03 05.9	-2.2
DTNA				S	Sg	04 03 21.1	-0.4
PN6	**Pavlof North-6**	**1.02**	**318**	P	Pb	04 03 08.1	-0.5
PN6				S	Sb	04 03 23.6	+1.3
PN7A	**Pavlof North-7**	**1.04**	**315**	P	Pb	04 03 08.0	-0.9
BLHA	**Black Hill**	**1.27**	**323**	P	Pb	04 03 11.4	-1.4
BLHA				S	Sb	04 03 29.6	+0.2
BALA	**Baldy Mountain**	**1.29**	**293**	P	Pb	04 03 11.4	-1.9
FALS	**False Pass**	**1.57**	**277**	P	Pn	04 03 14.2	-3.4
FALS				S	Sb	04 03 35.6	-2.8
SSLN	**Shishaldin Nor**	**1.91**	**275**	P	Pn	04 03 20.8	-1.5
WTUG	**Tugumak**	**2.13**	**275**	P	Pn	04 03 24.1	-1.5
WESN	**West Dahl Nort**	**2.25**	**268**	P	Pn	04 03 25.8	-1.6
WESN				S	Sn	04 03 55.6	-0.5
WESE	**West Dahl East**	**2.27**	**266**	P	Pn	04 03 26.0	-1.5
WESE				S	Sn	04 03 56.5	0.0
WPOG	**Pogromni**	**2.34**	**269**	P	Pn	04 03 27.5	-1.2
WFAR	**Faris Peak**	**2.37**	**268**	P	Pn	04 03 27.7	-1.3
ANPB	**Aniakchak Plen**	**2.51**	**32**	P	Pn	04 03 29.3	-1.7
ANPK	**Aniakchak Peak**	**2.59**	**33**	P	Pn	04 03 30.7	-1.6

WEL 13 04:40:46.4±0.3**,37.27S**×**177.52E,h134**km±3km**,ML3.8**/2**, 1C,Error ellipse: s-maj=3.6km s-min=3.2km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.69**	**116**	PN	P	04 41 06.9	-0.3
MXZ				SN	S	04 41 23.5	+0.3
PUZ	**Puketiti**	**0.99**	**144**	PN	P	04 41 09.6	-0.2
PUZ				SN	S	04 41 26.5	-1.1
URZ	**Urewera**	**1.05**	**198**	⇑PN	P	04 41 10.1	-0.2
URZ				SN	S	04 41 28.2	-0.3
MWZ	**Matawai**	**1.07**	**180**	PN	P	04 41 10.6	0.0
MWZ				SN	S	04 41 28.2	-0.6
KNZ	**Kokohu**	**1.76**	**176**	PN	P	04 41 17.6	-0.5
KNZ				SN	S	04 41 41.2	-1.1
KIW	**Kapiti Island**	**4.13**	**209**	*e*PN	P	04 41 45.6	-3.3
KIW				*e*SN	S	04 42 32.1	-4.8
MQZ	**McQueen's Vall**	**7.43**	**208**	*e*SN	S	04 43 43.3	-13

*IDC **13** 05:15:24.1±3.9,7.25S×106.35E,mb3.5/3,mb1 3.7/3, mb1mx3.5/15,Error ellipse: s-maj=191.0km s-min=27.5km az=47.0*
*DJA **13** 05:15:28.2±0.8,7.64S×106.08E,h89km±13km,MD4.5/5, ML4.5/2,Error ellipse: s-maj=38.9km s-min=11.4km az=24.0*
ISC 13 05:15:29.9±2.0**,7.5S**±0.3×**106.1E**±0.2**,h75**km±18km**,n9, **σ**0**s**44**/9**,mb3.4**/3**,2C-3D,Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PASI	**Pasiripis**	**0.96**	**327**	⇑*e*Pn	**P**	**05 15 48.6**	**+0.2**
	1μm,0.2s						
PASI				*e*Sn	**S**	**05 16 02.3**	**+0.1**
PACI	**Pancar Gunung**	**1.20**	**41**	⇓*i*Pn	**P**	**05 15 51.7**	**+0.3**
PENI	**Pendagan**	**2.14**	**334**	⇑*i*Pn	**P**	**05 16 03.5**	**-0.7**
	117nm,0.2s						
KELI	**Kelakatan**	**8.33**	**95**	⇓*i*Pn	**P**	**05 17 30.2**	**+0.1**
RATI	**Rata**	**9.40**	**98**	⇓*i*Pn	**P**	**05 17 44.2**	**-0.5**
FITZ	**Fitzroy Crossi**	**21.73**	**121**	P	**P**	**05 20 17.4**	**+0.7**
	1.4nm,0.9s,mb3.3,baz=309,slow=12,SNR=4.3						
WRA	**Warramunga Arr**	**30.02**	**117**	P	**P**	**05 21 33.5**	**-0.6**
	0.3nm,0.4s,mb3.3,baz=290,slow=10,SNR=9.6						
MKAR	**Makanchi Array**	**58.06**	**341**	P	**P**	**05 25 18.0**	**+0.3**
	0.3nm,0.5s,mb3.6,baz=145,slow=8.1,SNR=5.5						
TXAR	**Lajitas Array**	**144.55**	**48**	PKP	PKPdf	05 35 02.2	+3.7
	0.3nm,0.6s,baz=243,slow=2.0,SNR=3.9						

*NEIC **13** 05:21:28.8,35.01S×70.46W,h1km,ML2.5(GUC),After GUC.*
GUC 13 05:21:28.8±0.6**,35.01S**×**70.46W,h1**km±2km**,MD3.7, ML2.5,2D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.60**	**311**	⇓*i*P	Pg	05 21 40.9	0.0
SFDO				*i* S	Sg	05 21 50.5	+1.6
CICH	**Cipreses**	**0.69**	**3**	⇓*i*P	Pg	05 21 42.8	+0.2
CICH				*i* S	Sg	05 21 54.1	+2.4
CACH	**El Canelo**	**0.90**	**352**	*i* P	Pg	05 21 46.4	-0.3
CACH				*i* S	Sg	05 21 59.5	+0.8
CHCH	**Chadas Angostu**	**1.08**	**351**	*e*P	Pb	05 21 49.3	-0.7
LMEL	**Las Melosas**	**1.18**	**10**	*e*P	Pb	05 21 51.0	-0.6
LMEL				*i* S	Sb	05 22 08.9	+1.7
LNV	**Longovilo**	**1.31**	**323**	*i* P	Pb	05 21 53.2	-0.7
LNV				*i* S	Sb	05 22 11.6	+0.4
PCH	**Pirque**	**1.39**	**358**	*e*P	Pb	05 21 54.5	-0.7
TACH	**Talagante**	**1.41**	**343**	*e*P	Pb	05 21 54.9	-0.7
TACH				*i* S	Sb	05 22 14.0	+0.1
ANTU	**Antumapu**	**1.44**	**354**	*e*P	Pn	05 21 55.6	-0.5
ANTU				AMP		05 22 22.5	
	comp=E,98nm,0.3s						
RCDM	**Rinconada Maip**	**1.54**	**349**	*e*P	Pn	05 21 57.6	0.0
RCDM				*i* S	Sb	05 22 18.7	+0.8
RCDM				AMP		05 22 26.0	
	comp=E,188nm,0.1s						
CLCH	**Cerro Calan**	**1.61**	**358**	*e*P	Pn	05 21 58.6	+0.1
FCH	**Farellones**	**1.68**	**5**	*e*P	Pn	05 22 00.5	+0.9
FCH				*i* S	Sb	05 22 23.8	+1.9
FCH				AMP		05 22 26.7	
	comp=N,73nm,0.2s						

*ATH **13** 05:36:22.7,38.74N×23.84E,h23km±1km,MD3.4/12, ML3.7*
*NEIC **13** 05:36:22.7,38.74N×23.84E,h23km,ML3.7(ATH),After ATH.*
*CSEM **13** 05:36:23.2±0.1,38.72N×23.87E,h8km,ML3.3,Error ellipse: s-maj=2.7km s-min=1.3km az=81.0*
*THE **13** 05:36:25.2,38.80N×23.81E,h15km,ML3.3*
ISC 13 05:36:22.8±0.6**,38.71N**±0.02×**23.89E**±0.06**,h19**km±6km**, n28,σ**0**s**90**/39,4C-1D,Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.46**	**359**	*e*Pg	**Pb**	**05 36 32.6**	**+0.4**
AOS				*e*Sg	**Sb**	**05 36 38.8**	**+0.2**
MPAR	**Parnis Oros**	**0.56**	**192**	*e*PN	**Pn**	**05 36 34.5**	**-1.1**
MPAR				*e*SN	**Sn**	**05 36 44.5**	**+0.1**
PTL	**Penteli**	**0.66**	**181**	⇑*i*PN	**Pn**	**05 36 36.5**	**-0.4**
LKR	**Lokris**	**0.70**	**266**	⇓*i*PB	**Pb**	**05 36 34.8**	**-1.3**
ATH	**Athens Observa**	**0.74**	**190**	*e*PN	**Pn**	**05 36 37.6**	**-0.6**
NEO	**Neokhori**	**0.79**	**320**	⇑*i*PN	**Pn**	**05 36 37.6**	**-1.3**
NEO				*e*SN	**Sn**	**05 36 47.8**	**-2.4**
XOR	**Xorichti**	**0.85**	**321**	*e*Pg	**Pb**	**05 36 39.1**	**+0.3**
XOR				*e*Sg	**Sb**	**05 36 49.8**	**0.0**
NSAL	**Nisos Salamina**	**0.86**	**203**	*e*PN	**Pn**	**05 36 39.6**	**-0.3**
NAIG	**Nisos Aigina**	**1.00**	**198**	*e*PN	**Pn**	**05 36 41.7**	**-0.1**
NAIG				*e*SN	**Sn**	**05 36 57.1**	**+1.8**
PAIG	**Paliouri**	**1.23**	**353**	*e*Pg	**Pn**	**05 36 45.4**	**+0.3**
PAIG				*e*Sg	**Sb**	**05 37 01.5**	**+0.9**
AGG	**Agios Georgios**	**1.25**	**285**	*e*Pb	**Pb**	**05 36 45.4**	**-0.2**
	comp=Z,14nm,0.3s						
AGG				*e*Sb	**Sb**	**05 37 03.1**	**+1.7**
OUR	**Ouranopolis**	**1.63**	**3**	*e*Pb	**Pb**	**05 36 51.5**	**-0.5**
EVR	**Evrytania**	**1.64**	**278**	*e*PN	**Pn**	**05 36 51.8**	**+0.8**
PLG	**Polygyros**	**1.70**	**349**	⇑*i*PN	**Pn**	**05 36 52.1**	**+0.2**
LIT	**Litokhoron**	**1.76**	**323**	*e*Pb	**Pb**	**05 36 52.8**	**-1.5**
APE	**Apeiranthos**	**2.09**	**141**	⇑*i*PB	**Pb**	**05 36 59.3**	**-0.5**
VLI	**Veliai**	**2.12**	**201**	*e*PB	**Pb**	**05 37 00.0**	**-0.4**
ITM	**Ithomi**	**2.17**	**226**	*e*PN	**Pn**	**05 36 59.7**	**+1.1**
MEV	**Metsovon**	**2.33**	**298**	*e*Pn	**Pn**	**05 37 01.3**	**+0.4**
MEV				*e*Sn	**Sn**	**05 37 29.4**	**+0.2**
SRS	**Serrai**	**2.42**	**355**	*e*Pn	**Pn**	**05 37 02.6**	**+0.5**
SRS				*e*Sn	**Sn**	**05 37 30.6**	**-1.0**
SRS	**Serrai**	**2.42**	**355**	*e*Pn	**Pn**	**05 37 02.6**	**+0.4**
SRS				*e*Sn	**Sn**	**05 37 30.5**	**-1.0**
GRG	**Griva**	**2.52**	**334**	*e*Pn	**Pn**	**05 37 03.6**	**-0.1**
GRG				*e*Sn	**Sn**	**05 37 33.4**	**-0.7**
LKD	**Levkas**	**2.53**	**271**	*e*Pg	**Pn**	**05 37 08.4**	**+4.6**
	comp=Z,3.2nm,0.3s						
FNA	**Florina**	**2.84**	**318**	*e*Pn	**Pn**	**05 37 07.9**	**-0.3**
MMB	**Musomiste**	**2.88**	**358**	*i* P	**Pn**	**05 37 09.0**	**+0.2**
RZN	**Rozhen**	**3.05**	**12**	*i* P	**Pn**	**05 37 13.0**	**+1.9**
KKB	**Krupnik**	**3.22**	**349**	*i* P	**Pn**	**05 37 13.5**	**0.0**
VTS	**Vitosha**	**3.92**	**353**	*i* P	**Pn**	**05 37 25.0**	**+1.6**

*IDC **13** 06:11:16.7±4.0,41.00N×141.44E,h82km±40km,mb3.2/3, mb1 3.4/4,mb1mx3.2/22,Error ellipse: s-maj=36.6km s-min=29.4km az=99.0*
*JMA **13** 06:11:17.9±0.1,41.20N×141.33E,h87km±1km,M3.3 Broadband fault plane solution: P waves. NP1:φs216°, δ67°,λ167°. NP2:φs311°,δ78°,λ24°. Principal axes: T Plg25°, Azm176°; N Plg64°, Azm336°; P Plg8°, Azm82°;*
JMA Felt I J1.
ISC 13 06:11:17.6±0.6**,41.17N**±0.04×**141.27E**±0.09**,h92**km±5km**, n16,σ**0**s**55**/24,mb3.5**/3**,5C-4D,Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOT	**Ohata**	**0.27**	**322**	⇑P	**P**	**06 11 30.8**	**-0.3**
JOT				S	**S**	**06 11 41.2**	**-0.1**
JTM	**Tenmabayashi**	**0.41**	**202**	⇓P	**P**	**06 11 32.0**	**+0.1**
JTM				S	**S**	**06 11 42.3**	**-0.4**
JSR	**Shiriuchi**	**0.74**	**300**	⇓P	**P**	**06 11 34.9**	**+0.1**
JSR				S	**S**	**06 11 47.1**	**-0.5**
JKB	**Kayabe**	**0.74**	**346**	⇑P	**P**	**06 11 34.6**	**-0.3**
JANG	**Nango**	**0.81**	**167**	⇑P	**P**	**06 11 35.3**	**-0.3**
JANG				*e*S	**S**	**06 11 48.5**	**-0.5**
JAH	**Hinai**	**1.09**	**206**	⇓P	**P**	**06 11 39.3**	**+0.6**
JAH				*e*S	**S**	**06 11 55.4**	**+0.8**
JIW	**Iwasaki**	**1.12**	**239**	⇓P	**P**	**06 11 39.4**	**+0.4**
JYM2	**Yakumo 2**	**1.16**	**325**	⇑P	**P**	**06 11 39.9**	**+0.2**
JYM2				S	**S**	**06 11 56.4**	**+0.3**
JNB	**Noboribetsu**	**1.31**	**352**	P	**P**	**06 11 41.2**	**-0.3**

JOSM	**Okushiri--Mats**	**1.63**	**305**	P	**P**	**06 11 45.0**	**-0.5**
JOSM				*e*S	**S**	**06 12 05.9**	**-0.1**
JEW	**Eniwo**	**1.68**	**5**	*e*S	**S**	**06 12 06.9**	**-0.2**
JOM	**Ohasama**	**1.69**	**179**	⇑P	**P**	**06 11 46.8**	**+0.5**
ASAJ	**Asahikawa**	**3.10**	**18**	P	**P**	**06 12 06.6**	**+1.0**
	5.5nm,0.3s,baz=215,slow=16,SNR=9.0						
ASAJ				S	**S**	**06 12 42.5**	**+0.7**
	6.5nm,0.3s,baz=217,slow=20,SNR=3.4						
MKAR	**Makanchi Array**	**41.95**	**298**	P	**P**	**06 19 00.7**	**+0.2**
	0.6nm,0.5s,mb3.6,baz=86,slow=9.5,SNR=9.7						
ILAR	**Eielson Array**	**46.11**	**34**	P	**P**	**06 19 33.1**	**-0.6**
	0.3nm,0.7s,mb3.2,baz=276,slow=9.6,SNR=4.2						
WRA	**Warramunga Arr**	**61.13**	**187**	P	**P**	**06 21 21.1**	**-3.5**
	0.3nm,0.5s,mb3.6,baz=6.2,slow=7.0,SNR=7.4						

*IDC **13** 06:17:49.2±2.0, 19.44S×169.13E, mb4.2/7, mb1 4.3/7, mb1mx4.2/12, MS3.7/5, Ms1 3.7/5, ms1mx3.4/12, Error ellipse: s-maj=48.9km s-min=29.9km az=63.0*

*NEIC **13** 06:18:00.4±4.3, 19.70S×169.00E, h84^{km}±27^{km}, mb4.3/1, Error ellipse: s-maj=46.8km s-min=22.7km az=49.0*

ISC 13 06:17:48.9±3.8**, 19.14S**±0.08×**169.5E**±0.1**, h31**^{km}±26^{km}**, n20, σ0**^{s}**74**/22**, mb4.1**/7**, MS3.7**/5**, 3D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**1.88**	**321**	*i* P	**Pn**	**06 18 19.6**	**+0.2**
DZM	**Mont Dzumac**	**4.08**	**224**	*e*P	**Pn**	**06 18 50.6**	**-0.1**
DZM				*e*S	**Sn**	**06 19 38.7**	**+0.7**
DZM	**Mont Dzumac**	**4.08**	**224**	*e*P	**Pn**	**06 18 50.6**	**-0.1**
DZM				*e*S	**Sn**	**06 19 38.7**	**+0.7**
NOUC	**Port Laguerre**	**4.19**	**225**	*e*P	**Pn**	**06 18 52.2**	**-0.1**
NOUC				*e*S	**Sn**	**06 19 40.6**	**-0.3**
NOUC	**Port Laguerre**	**4.19**	**225**	*e*P	**Pn**	**06 18 52.2**	**-0.1**
NOUC				*e*S	**Sn**	**06 19 40.6**	**-0.3**
RPZ	**Rata Peaks**	**24.54**	**177**	P	**P**	**06 23 08.1**	**+1.1**
	15nm,1.0s,mb4.5,baz=237,slow=10,SNR=2.6						
STKA	**Stephens Creek**	**28.09**	**238**	P	**P**	**06 23 39.8**	**-0.2**
	2.5nm,0.8s,mb3.9,baz=31,slow=12,SNR=3.3						
STKA				LR	LR	06 34 45.8	
	comp=Z,149nm,18.5s,MS3.6,baz=35,slow=37						
WRA	**Warramunga Arr**	**33.09**	**263**	P	**P**	**06 24 22.9**	**-1.4**
	0.6nm,0.7s,mb3.7,baz=87,slow=8.3,SNR=5.9						
WRA				LR	LR	06 37 29.8	
	comp=Z,80nm,19.1s,MS3.4,baz=100,slow=36						
ASPA	**Alice Springs**	**33.38**	**256**	*e*P	**P**	**06 24 26.0**	**-0.7**
FITZ	**Fitzroy Crossi**	**41.48**	**264**	*e*P	**P**	**06 25 35.5**	**+0.6**
	3.3nm,0.6s,mb4.1						
FITZ	**Fitzroy Crossi**	**41.48**	**264**	P	**P**	**06 25 35.9**	**+1.0**
	4.9nm,0.7s,mb4.2,baz=120,slow=7.0,SNR=14						
QSPA	**South Pole Qui**	**70.92**	**180**	*e*P	**P**	**06 29 03.2**	**-1.3**
MAW	**Mawson**	**78.61**	**202**	P	**P**	**06 29 49.3**	**+0.5**
	1.1nm,0.3s,mb4.3,baz=100,slow=3.1,SNR=4.7						
MAW				LR	LR	07 01 09.0	
	comp=Z,59nm,18.3s,MS4.0,baz=146,slow=33						
CMAR	**Chiang Mai Arr**	**78.67**	**294**	P	**P**	**06 29 51.4**	**+1.3**
	0.6nm,0.3s,mb4.0,baz=90,slow=4.3,SNR=4.1						
SONM	**Songino Array**	**87.28**	**323**	P	**P**	**06 30 39.9**	**+6.2**
	0.8nm,0.7s,mb4.1,baz=135,slow=3.5,SNR=5.6						
VNA3	**Neumayer Olymp**	**89.85**	**180**	⇓*i*	**P**	**06 30 45.4**	**0.0**
ILAR	**Eielson Array**	**90.07**	**17**	LR	LR	07 10 35.0	
	comp=Z,31nm,18.3s,MS3.8,baz=356,slow=35						
VNA2	**Neumayer--Watz**	**90.15**	**181**	⇓*i*	**P**	**06 30 46.5**	**-0.3**
VNA1	**Neumayer--Stat**	**90.44**	**181**	⇓*i*	**P**	**06 30 48.1**	**-0.1**
PDAR	**Pinedale Array**	**96.38**	**47**	LR	LR	07 10 25.7	
	comp=Z,31nm,18.5s,MS3.8,baz=248,slow=33						

*STR **13** 06:42:09.5±0.3, 42.91N×1.44W, h5^{km}±1^{km}, Ml2.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **13** 06:42:09.8±0.2, 42.90N×1.45W, h7^{km}, Md2.8/2, Ml2.9/10, Error ellipse: s-maj=3.9km s-min=2.7km az=179.0*

*NEIC **13** 06:42:09.5, 42.91N×1.44W, h5^{km}, ML2.9(LDG), ML2.8(STR), MN2.3(MDD), After STR.*

*MDD **13** 06:42:09.2±0.3, 42.87N×1.44W, h7^{km}±3^{km}, mbLg2.3/13, Error ellipse: s-maj=2.8km s-min=2.0km az=35.0, PRXIMO AftershockPLICA*

*CSEM **13** 06:42:09.9±0.1, 42.90N×1.38W, h12^{km}, ML2.9/12, Error ellipse: s-maj=1.6km s-min=1.2km az=144.0*

ISC 13 06:42:07.1±0.4**, 42.91N**±0.02×**1.51W**±0.02**, h13**^{km}±2^{km}**, n78, σ1**^{s}**22**/127**, 2C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.29**	**45**	*e*Pg	**Pg**	**06 42 14.8**	**+1.4**
SJPF				*e*Sg	**Sg**	**06 42 17.7**	**+0.1**
	399nm,0.3s						
EALK	**Alkurruntz**	**0.31**	**360**	⇑Pg	**Pg**	**06 42 15.8**	**+2.0**
	SNR=18						
EALK				Lg		06 42 21.2	
	150nm,0.3s,SNR=7.9						
EALK	**Alkurruntz**	**0.31**	**360**	⇑Pg	**Pg**	**06 42 15.8**	**+2.0**
EALK				Lg		06 42 21.2	
OSSF	**Osses**	**0.39**	**27**	Pg	**Pg**	**06 42 16.7**	**+1.4**
OSSF				Sg	**Sg**	**06 42 22.2**	**+1.5**
OSSF	**Osses**	**0.39**	**27**	P	**Pg**	**06 42 16.8**	**+1.5**
OSSF				S	**Sg**	**06 42 22.2**	**+1.5**
LARF	**Larrau**	**0.40**	**71**	Pg	**Pg**	**06 42 16.2**	**+0.7**
LARF				Sg	**Sg**	**06 42 21.9**	**+0.8**
LARF	**Larrau**	**0.40**	**71**	P	**Pg**	**06 42 16.0**	**+0.5**
LARF				S	**Sg**	**06 42 21.5**	**+0.4**
ORDF	**Ordiarp**	**0.52**	**54**	Pg	**Pg**	**06 42 18.7**	**+1.0**
ORDF				Sg	**Sg**	**06 42 24.7**	**-0.1**
ORDF	**Ordiarp**	**0.52**	**54**	P	**Pb**	**06 42 18.8**	**+1.3**
ORDF				S	**Sb**	**06 42 25.6**	**+1.0**
ATE	**Arette**	**0.62**	**73**	P	**Pb**	**06 42 19.8**	**+0.6**
ATE				S	**Sb**	**06 42 28.4**	**+0.9**
ETSF	**Etsaut**	**0.70**	**91**	*e*Pg	**Pg**	**06 42 20.2**	**-1.0**
ETSF				*e*Sg	**Sg**	**06 42 29.9**	**-0.8**
	60nm,0.3s						
FDAF	**Les Forges d'A**	**0.70**	**97**	Pg	**Pg**	**06 42 21.1**	**-0.2**
FDAF				Sg	**Sg**	**06 42 31.1**	**+0.4**
FDAF	**Les Forges d'A**	**0.70**	**97**	P	**Pb**	**06 42 21.0**	**+0.4**
FDAF				S	**Sb**	**06 42 30.8**	**+0.9**
REYF	**Montagne du Re**	**0.83**	**79**	Pg	**Pg**	**06 42 23.5**	**-0.4**
REYF				Sg	**Sg**	**06 42 35.6**	**+0.5**
REYF	**Montagne du Re**	**0.83**	**79**	P	**Pb**	**06 42 23.6**	**+0.7**
REYF				S	**Sb**	**06 42 35.2**	**+1.4**
VIEF	**Viey**	**1.12**	**91**	Pg	**Pg**	**06 42 29.8**	**+0.1**
VIEF				Sg	**Sg**	**06 42 45.1**	**+0.3**
VIEF	**Viey**	**1.12**	**91**	P	**Pb**	**06 42 28.2**	**+0.3**
VIEF				S	**Sb**	**06 42 44.2**	**+2.0**
LABF	**Labassere**	**1.17**	**83**	P	**Pb**	**06 42 29.5**	**+0.8**
LABF				S	**Sb**	**06 42 45.0**	**+1.5**
EBIE	**Bielsa**	**1.23**	**100**	Pg	**Pg**	**06 42 30.4**	**-1.5**
	8.0nm,0.1s,SNR=7.9						
EBIE				Lg		06 42 47.9	
	26nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**1.23**	**100**	Pg	**Pg**	**06 42 30.4**	**-1.5**
	8.0nm,0.1s,SNR=7.9						
EPF	**Esparros**	**1.36**	**84**	*e*Pn	**Pn**	**06 42 32.4**	**+0.5**
EPF				*e*Pg	**Pg**	**06 42 34.9**	**+0.5**
EPF				*e*Sg	**Sg**	**06 42 51.0**	**-1.6**
	54nm,0.5s						
RESF	**Ens**	**1.36**	**94**	Pg	**Pg**	**06 42 34.0**	**-0.4**
RESF				Sg	**Sg**	**06 42 52.4**	**-0.2**
RESF	**Ens**	**1.36**	**94**	P	**Pn**	**06 42 32.1**	**+0.2**
RESF				S	**Sb**	**06 42 51.5**	**+2.4**
ESAC	**San Caprasio**	**1.42**	**147**	Pg	**Pg**	**06 42 33.1**	**-2.4**
	22nm,0.3s,SNR=24						
ESAC				Lg		06 42 51.1	
	123nm,0.3s,SNR=5.0						
ESAC	**San Caprasio**	**1.42**	**147**	Pg	**Pg**	**06 42 33.1**	**-2.4**
	22nm,0.3s,SNR=24						
MELF	**Melles**	**1.67**	**91**	Pn	**Pn**	**06 42 38.0**	**+1.7**
MELF				Sg	**Sg**	**06 43 01.8**	**-0.9**
SALF	**Salau**	**1.99**	**93**	Pn	**Pn**	**06 42 42.0**	**+1.1**
SALF				Sg	**Sg**	**06 43 12.6**	**-0.9**
ETOR	**Torete**	**2.13**	**191**	Pn	**Pn**	**06 42 43.9**	**+1.0**
	1.9nm,0.2s,SNR=7.9						
ETOR				Pg	**Pg**	**06 42 47.8**	**-2.0**
	8.6nm,0.3s,SNR=22						
ETOR				Sn	**Sn**	**06 43 10.5**	**+1.1**
	13nm,0.3s,SNR=5.0						
ETOR				Lg		06 43 15.2	
	SNR=7.9						
ETOR	**Torete**	**2.13**	**191**	Pn	**Pn**	**06 42 43.9**	**+1.0**
ETOR				Pg	**Pg**	**06 42 47.8**	**-2.0**
ETOR				Lg		06 43 11.6	
EMIR	**Miracle**	**2.46**	**113**	Pg	**Pg**	**06 42 53.1**	**-3.2**
	3.8nm,0.2s,SNR=5.6						
EMIR				Lg		06 43 23.9	
	5.7nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**2.46**	**113**	Pg	**Pg**	**06 42 53.1**	**-3.1**
	3.8nm,0.2s,SNR=5.6						
EPOB	**Poblet**	**2.47**	**128**	Pn	**Pn**	**06 42 47.5**	**-0.3**
	0.7nm,0.1s,SNR=7.9						
EPOB				Pg	**Pg**	**06 42 52.6**	**-4.0**
	1.0nm,0.1s,SNR=6.7						
EPOB				Sn	**Sn**	**06 43 15.6**	**-2.5**
	1.1nm,0.1s,SNR=5.0						
EPOB				Lg		06 43 24.7	
	3.8nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**2.47**	**128**	Pn	**Pn**	**06 42 47.5**	**-0.3**
	0.7nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**2.47**	**128**	Pg	**Pg**	**06 42 52.5**	**-4.1**
EPOB				Sn	**Sn**	**06 43 15.6**	**-2.5**
	1.1nm,0.1s,SNR=5.0						
EBR	**Ebro Roquetas**	**2.57**	**144**	*e*PNPN		06 42 58.0	
EBR				*e*S*	**Sb**	**06 43 27.5**	**+3.4**
LFF	**La Frestale**	**2.60**	**38**	*e*Pn	**Pn**	**06 42 50.2**	**+0.6**
LFF				*e*Pg	**Pg**	**06 42 57.4**	**-1.7**
LFF				*e*Sg	**Sg**	**06 43 28.3**	**-5.4**
	9.9nm,0.3s						
EMOS	**Mosqueruela**	**2.66**	**163**	Pn	**Pn**	**06 42 51.7**	**+1.2**
	SNR=7.9						
EMOS				Pg	**Pg**	**06 42 56.0**	**-4.3**
	0.6nm,0.2s,SNR=4.0						
EMOS				Lg		06 43 32.7	
	5.3nm,0.4s,SNR=5.0						
EMOS	**Mosqueruela**	**2.66**	**163**	Pn	**Pn**	**06 42 51.7**	**+1.2**
	SNR=7.9						
EMOS	**Mosqueruela**	**2.66**	**163**	Pg	**Pg**	**06 42 56.0**	**-4.3**
	0.6nm,0.2s,SNR=4.0						
EARI	**Arriondas**	**2.74**	**279**	Pn	**Pn**	**06 42 54.4**	**+2.7**
	0.3nm,0.2s,SNR=4.6						
EARI				Sn	**Sn**	**06 43 27.5**	**+2.7**
	2.1nm,0.4s,SNR=5.0						
EARI				Lg		06 43 38.2	
	2.5nm,0.5s,SNR=5.0						
EARI	**Arriondas**	**2.74**	**279**	Pn	**Pn**	**06 42 54.4**	**+2.7**
EARI				Sn	**Sn**	**06 43 27.5**	**+2.7**
EARI				Lg		06 43 38.2	
EARI	**Arriondas**	**2.74**	**279**	Pn	**Pn**	**06 42 54.3**	**+2.7**
EARI				Sn	**Sn**	**06 43 27.5**	**+2.6**
	2.1nm,0.4s,SNR=5.0						
MTLF	**Montolieu**	**2.76**	**80**	*e*Pn	**Pn**	**06 42 52.7**	**+0.8**
MTLF				*e*Pg	**Pg**	**06 42 59.9**	**-2.4**
MTLF				*e*Sn	**Sn**	**06 43 24.7**	**-0.7**
	7.1nm,0.3s						
RJF	**Les Rejaudoux**	**3.23**	**41**	*e*Pn	**Pn**	**06 42 57.7**	**-1.0**
RJF				*e*Sn	**Sn**	**06 43 35.5**	**-1.9**
	7.9nm,0.3s						
CAF	**Calviac**	**3.27**	**51**	*e*Pn	**Pn**	**06 42 58.8**	**-0.4**
CAF				*e*Sn	**Sn**	**06 43 36.7**	**-1.6**
	5.6nm,0.2s						
EJON	**La Jonquera**	**3.27**	**97**	Pg	**Pg**	**06 43 08.5**	**-4.1**
	1.1nm,0.2s,SNR=5.0						
EJON				Lg		06 43 51.9	
	5.2nm,0.3s,SNR=7.9						
EJON	**La Jonquera**	**3.27**	**97**	Pg	**Pg**	**06 43 08.4**	**-4.1**
ESDC	**Sonseca Array**	**3.73**	**211**	Lg		06 44 05.6	
	2.6nm,0.4s,baz=34,slow=28,SNR=5.7						
MFF	**Saint Martin d**	**3.82**	**14**	*e*Pn	**Pn**	**06 43 07.1**	**+0.2**
MFF				*e*Sn	**Sn**	**06 43 50.4**	**-1.7**
	2.4nm,0.2s						
ECAL	**Calabor**	**3.99**	**258**	Pn	**Pn**	**06 43 09.9**	**+0.5**
	1.3nm,0.2s,SNR=7.7						
ECAL				Sn	**Sn**	**06 43 54.4**	**-2.1**
	2.0nm,0.2s,SNR=4.0						
ECAL				Lg		06 44 17.5	
	5.3nm,0.3s,SNR=5.0						
ECAL	**Calabor**	**3.99**	**258**	Pn	**Pn**	**06 43 09.9**	**+0.5**
ECAL				Sn	**Sn**	**06 43 54.4**	**-2.1**
ECAL				Lg		06 44 15.2	
ECAL	**Calabor**	**3.99**	**258**	Sn	**Sn**	**06 43 54.4**	**-2.1**
	2.0nm,0.2s,SNR=4.0						
ECAL	**Calabor**	**3.99**	**258**	Pn	**Pn**	**06 43 09.9**	**+0.5**
	1.3nm,0.2s,SNR=7.7						
PBRG	**Braganca**	**4.03**	**256**	*e*Pn	**Pn**	**06 43 10.6**	**+0.6**
PBRG				*e*Sg	**Sg**	**06 44 14.3**	**-7.2**
	4.5nm,0.5s						
PBRG	**Braganca**	**4.03**	**256**	Pn	**Pn**	**06 43 10.6**	**+0.5**
PBRG				Pn	**Pn**	**06 43 10.6**	**+0.6**
PBRG				Sn	**Sn**	**06 43 56.8**	**-0.8**
PBRG	**Braganca**	**4.03**	**256**	Pn	**Pn**	**06 43 10.6**	**+0.5**
PBRG				Sn	**Sn**	**06 43 56.8**	**-0.8**
PBRG				Lg		06 44 15.8	
PBRG	**Braganca**	**4.03**	**256**	Pn	**Pn**	**06 43 10.6**	**+0.6**
PBRG				Sn	**Sn**	**06 43 56.8**	**-0.8**
PBRG				*e*Sg	**Sg**	**06 44 14.3**	**-7.2**
	4.5nm,0.5s						
LASF	**Ste Croix**	**4.07**	**72**	*e*Pn	**Pn**	**06 43 10.6**	**0.0**
EPON	**Pontenova**	**4.15**	**278**	Pn	**Pn**	**06 43 13.4**	**+1.7**
	1.2nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**4.15**	**278**	Pn	**Pn**	**06 43 13.4**	**+1.7**
TCF	**Toulx Ste Croi**	**4.29**	**37**	*e*Pn	**Pn**	**06 43 12.2**	**-1.5**
TCF				*e*Sn	**Sn**	**06 44 00.7**	**-3.5**
	3.9nm,0.2s						
EVIA	**Vianos**	**4.33**	**190**	Pn	**Pn**	**06 43 14.3**	**0.0**
	2.9nm,0.2s,SNR=5.0						
BGF	**Bois d'Agland**	**4.79**	**39**	*e*Pn	**Pn**	**06 43 19.3**	**-1.4**
BGF				*e*Sn	**Sn**	**06 44 13.1**	**-3.5**
	9.4nm,0.3s						
VIVF	**Saint-Julien-l**	**4.87**	**64**	*e*Pn	**Pn**	**06 43 21.1**	**-0.8**
PVRL	**Vila Real**	**4.90**	**253**	*e*Sg	**Sg**	**06 44 41.7**	**-8.6**
	4.9nm,0.4s						
PVRL	**Vila Real**	**4.90**	**253**	*e*Sg	**Sg**	**06 44 41.7**	**-8.6**
	4.9nm,0.4s						
ELOB	**Lobios**	**4.96**	**260**	Pn	**Pn**	**06 43 22.4**	**-0.9**
	0.4nm,0.1s,SNR=5.0						
ELOB				Lg		06 44 46.7	
	2.1nm,0.3s,SNR=4.0						
ELOB	**Lobios**	**4.96**	**260**	Pn	**Pn**	**06 43 22.4**	**-0.8**
QUIF	**Quistinic**	**5.14**	**347**	*e*Pn	**Pn**	**06 43 26.2**	**+0.5**
AVF	**Avril sur Loir**	**5.19**	**40**	*e*Pn	**Pn**	**06 43 25.8**	**-0.6**
SMRF	**Simiane la Rot**	**5.26**	**76**	*e*Pn	**Pn**	**06 43 27.2**	**-0.2**
SMF	**Signal de Mont**	**5.33**	**44**	*e*Pn	**Pn**	**06 43 26.5**	**-1.9**
SGMF	**Saint Gilles**	**5.39**	**353**	*e*Pn	**Pn**	**06 43 29.4**	**+0.1**
SSF	**Saint Saulge**	**5.46**	**39**	*e*Pn	**Pn**	**06 43 27.7**	**-2.5**
SSF				*e*Sn	**Sn**	**06 44 28.7**	**-5.0**
	3.4nm,0.3s						
GRR	**Gorron**	**5.50**	**5**	*e*Pn	**Pn**	**06 43 30.3**	**-0.4**
ORIF	**Oris-en-Rattie**	**5.70**	**67**	*e*Pn	**Pn**	**06 43 33.3**	**-0.3**
FLN	**La Foliniere**	**5.90**	**7**	*e*Pn	**Pn**	**06 43 36.3**	**0.0**
MBDF	**Montbardon**	**6.26**	**70**	*e*Pn	**Pn**	**06 43 41.7**	**+0.2**

KRSC 13 06:47:27.7±0.5**, 53.66N**×**160.39E, h103**^{km}±3^{km}**, ML3.8, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.60**	**201**	*i* P	P	06 47 45.4	+0.7
SPN				*e*S	S	06 47 57.9	+0.3
KII	**Karymskiy**	**0.67**	**304**	*e*P	P	06 47 45.9	+0.6
KII				*e*S	S	06 47 58.7	+0.1
NLC	**Nalytchevo**	**0.79**	**232**	*i* P	P	06 47 47.0	+0.5
NLC				*i* S	S	06 48 01.2	+0.7
SDLR	**Sedlovina**	**0.98**	**248**	*i* P	P	06 47 49.2	+0.8
SDLR				*i* S	S	06 48 05.1	+1.2
SMAR	**Somma**	**1.03**	**248**	*e*P	P	06 47 49.7	+0.8
SMAR				*e*S	S	06 48 05.6	+0.7
UGLR	**Uglovaya**	**1.04**	**245**	*i* P	P	06 47 50.0	+0.9
UGLR				*i* S	S	06 48 06.4	+1.3
AVH	**Avacha**	**1.06**	**249**	*i* P	P	06 47 50.4	+1.1
AVH				*e*S	S	06 48 07.0	+1.4
KOK	**Koryaka**	**1.11**	**251**	*e*P	P	06 47 50.8	+0.9
KOK				*e*S	S	06 48 07.5	+0.9
MKZ	**Mys Kozlova**	**1.20**	**41**	*i* P	P	06 47 51.3	+0.3
MKZ				*e*S	S	06 48 08.3	-0.1
PET	**Petropavlovsk**	**1.22**	**239**	*i* P	P	06 47 51.7	+0.5
PET				*e*S	S	06 48 08.7	-0.2
GNL	**Ganaly**	**1.46**	**272**	*i* P	P	06 47 54.4	+0.4
GNL				*e*S	S	06 48 14.4	+0.7
TUMR	**Tumrok**	**1.63**	**355**	*e*P	P	06 47 57.0	+0.8
TUMR				*e*S	S	06 48 18.7	+1.3
RUS	**Russkaya**	**1.67**	**223**	*i* P	P	06 47 56.3	-0.4
RUS				*i* S	S	06 48 17.4	-0.8
GRL	**Gorelyy**	**1.78**	**232**	*i* P	P	06 47 59.1	+1.0
GRL				*e*S	S	06 48 22.3	+1.6
APC	**Apacha**	**2.08**	**251**	*i* P	P	06 48 02.5	+0.6
APC				*e*S	S	06 48 28.2	+0.9
APC				Smax			
	50nm,1.1s						
KMNR	**Kamenistaya**	**2.10**	**358**	P	P	06 48 02.2	-0.1
KMNR				*e*S	S	06 48 28.0	0.0
KPT	**Kopyto**	**2.31**	**358**	*e*P	P	06 48 07.6	+2.5
KPT				*e*S	S	06 48 35.1	+2.0
ZLN	**Zelenaya**	**2.37**	**6**	*i* P	P	06 48 06.7	+0.7
ZLN				*e*S	S	06 48 35.1	+0.5
KOZ	**Kozyrevsk**	**2.42**	**353**	P	P	06 48 07.3	+0.7
KOZ				*e*S	S	06 48 37.3	+1.6
LGNR	**Loginova**	**2.43**	**4**	*e*P	P	06 48 08.1	+1.3
LGNR				*e*S	S	06 48 37.0	+1.0
CIRR	**Tsirk**	**2.47**	**5**	*e*P	P	06 48 08.1	+0.8
CIRR				*e*S	S	06 48 37.7	+0.8
KRSR	**Krestovskiy**	**2.56**	**2**	P	P	06 48 08.5	-0.1
KRSR				*e*S	S	06 48 38.8	-0.4
MIPR	**Malaya Ipel'ka**	**2.60**	**239**	*i* P	P	06 48 09.3	+0.3
SRDR	**Sredinnyy**	**2.69**	**352**	*e*S	S	06 48 42.9	+0.6
KBTR	**Krutoberegovo**	**2.91**	**28**	*e*P	P	06 48 13.1	-0.2
KBTR				*e*S	S	06 48 46.7	-1.0
BKI	**Bering**	**3.61**	**62**	*e*S	S	06 49 02.9	-1.8

*NEIC **13** 06:55:51.9, 19.47N×67.83W, h56^{km}, MD3.6(RSPR), After RSPR.*

RSPR 13 06:55:51.9, 19.47N×**67.83W, h56**^{km}±27^{km}**, MD3.5**/8**, MD3.5**/8**, 5C-5D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MPR	**Mayaguez**	**1.41**	**152**	⇓*e*P	P	06 56 14.4	-1.5
MPR				*e*S	S	06 56 31.6	-2.0
LSP	**Las Mesas**	**1.47**	**151**	⇑*e*P	P	06 56 15.2	-1.5
LSP				*e*S	S	06 56 33.6	-1.3
LRS	**Lares**	**1.50**	**141**	⇓*e*P	P	06 56 15.1	-2.0
AOPR	**Arecibo Observ**	**1.52**	**137**	*e*P	P	06 56 14.8	-2.5
MGP	**Maguayo**	**1.62**	**154**	⇓*e*P	P	06 56 17.5	-1.1
MGP				*e*S	S	06 56 37.6	-0.8
PORP	**Portuguez**	**1.81**	**141**	⇑*e*P	P	06 56 20.0	-1.3
CELP	**Cerrillos**	**1.83**	**139**	⇑*e*P	P	06 56 20.1	-1.5
CSB	**Colonia Sabana**	**1.97**	**126**	⇓*e*P	P	06 56 21.9	-1.7
SJG	**San Juan**	**2.09**	**130**	⇓*e*P	P	06 56 24.6	-0.6
SJG				*e*S	S	06 56 48.6	-1.5
CBYP	**Canovanas**	**2.22**	**122**	⇑*e*P	P	06 56 25.1	-2.0
CBYP				*e*S	S	06 56 52.6	-0.8
HUMP	**Col San Antoni**	**2.30**	**125**	*e*P	P	06 56 25.3	-2.9
CPD	**Cerro la Pandu**	**2.31**	**128**	⇑*e*P	P	06 56 27.4	-1.0
CPD				*e*S	S	06 56 53.5	-2.1

*STR **13** 07:03:30.0±0.2, 42.85N×1.48W, h5^{km}±1^{km}, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **13** 07:03:30.7±0.5, 42.89N×1.49W, h3^{km}, Md2.4/2, Ml2.4/5, Error ellipse: s-maj=7.5km s-min=5.9km az=61.0*

*CSEM **13** 07:03:30.5±0.1, 42.85N×1.45W, h2^{km}, ML2.5/4, Error ellipse: s-maj=1.8km s-min=1.4km az=113.0*

*MDD **13** 07:03:31.0±0.3, 42.88N×1.44W, h6^{km}±4^{km}, mbLg2.0/9, Error ellipse: s-maj=3.3km s-min=2.2km az=30.0, PRXIMO AftershockPLICA*

ISC 13 07:03:29.0±0.5**, 42.83N**±0.03×**1.46W**±0.03**, h10**^{km}±3^{km}**, n33, σ1**^{s}**11**/54**, 1C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.33**	**31**	*e*Pg	**Pg**	**07 03 36.5**	**+0.7**
SJPF				*e*Sg	**Sg**	**07 03 39.4**	**-0.9**
	101nm,0.2s						
EALK	**Alkurruntz**	**0.39**	**354**	⇑Pg	**Pg**	**07 03 37.5**	**+0.5**
	5.0nm,0.1s,SNR=18						
EALK				Lg		07 03 42.6	
	49nm,0.1s,SNR=5.0						
LARF	**Larrau**	**0.40**	**59**	Pg	**Pg**	**07 03 37.9**	**+0.7**
LARF				Sg	**Sg**	**07 03 43.8**	**+1.2**
LARF	**Larrau**	**0.40**	**59**	P	**Pg**	**07 03 37.7**	**+0.5**
LARF				S	**Sg**	**07 03 42.9**	**+0.2**
OSSF	**Osses**	**0.45**	**18**	Pg	**Pg**	**07 03 38.4**	**+0.3**
OSSF				Sg	**Sg**	**07 03 44.6**	**+0.5**
OSSF	**Osses**	**0.45**	**18**	P	**Pg**	**07 03 38.5**	**+0.4**
OSSF				S	**Sg**	**07 03 43.2**	**-0.9**
ORDF	**Ordiarp**	**0.54**	**45**	Pg	**Pg**	**07 03 40.5**	**+0.6**
ORDF				Sg	**Sg**	**07 03 48.0**	**+0.8**
ORDF	**Ordiarp**	**0.54**	**45**	P	**Pg**	**07 03 40.4**	**+0.5**
ORDF				S	**Sg**	**07 03 48.0**	**+0.9**
ATE	**Arette**	**0.61**	**65**	P	**Pb**	**07 03 41.4**	**+0.1**
ATE				S	**Sg**	**07 03 50.1**	**+0.6**
FDAF	**Les Forges d'A**	**0.65**	**91**	P	**Pb**	**07 03 43.1**	**+1.0**
FDAF				S	**Sb**	**07 03 52.7**	**+1.7**
ETSF	**Etsaut**	**0.66**	**84**	*e*Pg	**Pg**	**07 03 42.3**	**0.0**
ETSF				*e*Sg	**Sg**	**07 03 51.7**	**+0.5**
	18nm,0.2s						
VIEF	**Viey**	**1.09**	**87**	S	**Sb**	**07 04 05.7**	**+2.1**
EBIE	**Bielsa**	**1.19**	**97**	Pg	**Pg**	**07 03 52.1**	**-0.6**
	2.2nm,0.1s,SNR=7.9						
EBIE				Lg		07 04 09.5	
	11nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**1.19**	**97**	Pg	**Pg**	**07 03 52.1**	**-0.6**
	2.2nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**1.33**	**146**	Pg	**Pg**	**07 03 55.0**	**-0.6**
	20nm,0.2s,SNR=9.2						
ESAC				Lg		07 04 12.8	
	40nm,0.2s,SNR=5.0						
ESAC	**San Caprasio**	**1.33**	**146**	Pg	**Pg**	**07 03 55.0**	**-0.6**
	20nm,0.2s,SNR=9.2						
EPF	**Esparros**	**1.33**	**81**	*e*Pn	**Pn**	**07 03 54.1**	**+0.3**
EPF				*e*Pg	**Pg**	**07 03 56.5**	**+0.8**
EPF				*e*Sg	**Sg**	**07 04 12.7**	**-0.8**
	17nm,0.3s						
ELAN	**Lanestosa**	**1.50**	**286**	Pg	**Pg**	**07 03 58.1**	**-1.0**
	3.3nm,0.1s,SNR=11						
ELAN				Lg		07 04 20.1	
	4.7nm,0.1s,SNR=5.0						
ELAN	**Lanestosa**	**1.50**	**286**	Pg	**Pg**	**07 03 58.1**	**-1.0**
	3.3nm,0.1s,SNR=11						
ETOR	**Torete**	**2.06**	**193**	Pn	**Pn**	**07 04 05.4**	**+1.2**
	0.7nm,0.2s,SNR=6.4						
ETOR				Pg	**Pg**	**07 04 09.4**	**-0.8**
	7.0nm,0.4s,SNR=14						
ETOR				Sn	**Sn**	**07 04 33.0**	**+2.9**
	7.3nm,0.3s,SNR=5.0						
EMIR	**Miracle**	**2.39**	**112**	Pg	**Pg**	**07 04 15.0**	**-1.8**
	0.9nm,0.1s,SNR=7.9						
EMIR				Sn	**Sn**	**07 04 38.7**	**+0.1**
	2.9nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**2.39**	**112**	Pg	**Pg**	**07 04 15.0**	**-1.8**
	0.9nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**2.40**	**127**	Pn	**Pn**	**07 04 08.9**	**-0.1**
	6.1nm,0.7s,SNR=7.9						
EPOB				Sn	**Sn**	**07 04 37.6**	**-1.1**
	SNR=7.9						
EPOB				Lg		07 04 49.2	
	2.0nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**2.40**	**127**	Pn	**Pn**	**07 04 08.9**	**-0.1**
	6.1nm,0.7s,SNR=7.9						
EPOB				Sn	**Sn**	**07 04 37.6**	**-1.1**
	SNR=7.9						
EMOS	**Mosqueruela**	**2.57**	**163**	Pg	**Pg**	**07 04 18.0**	**-2.4**
	SNR=4.0						
EMOS				Lg		07 04 53.3	
	1.7nm,0.2s,SNR=4.0						
EMOS	**Mosqueruela**	**2.57**	**163**	Pg	**Pg**	**07 04 18.0**	**-2.4**
	SNR=4.0						
LFF	**La Frestale**	**2.64**	**36**	*e*Pn	**Pn**	**07 04 11.6**	**-0.8**
LFF				*e*Sg	**Sg**	**07 04 49.8**	**-7.1**
	3.3nm,0.2s						
MTLF	**Montolieu**	**2.74**	**78**	*e*Pn	**Pn**	**07 04 14.5**	**+0.6**
MTLF				*e*Sn	**Sn**	**07 04 46.4**	**-1.0**
	1.9nm,0.3s						
EARI	**Arriondas**	**2.79**	**281**	Pn	**Pn**	**07 04 16.1**	**+1.5**
	0.6nm,0.2s,SNR=5.0						
EARI				Sn	**Sn**	**07 04 49.0**	**+0.2**
	SNR=7.9						
RJF	**Les Rejaudoux**	**3.27**	**40**	*e*Sn	**Sn**	**07 04 57.1**	**-3.8**
	4.8nm,0.3s						
CAF	**Calviac**	**3.29**	**49**	*e*Pn	**Pn**	**07 04 20.1**	**-1.7**
CAF				*e*Sn	**Sn**	**07 04 58.1**	**-3.4**
	2.5nm,0.2s						
LASF	**Ste Croix**	**4.06**	**70**	*e*Pn	**Pn**	**07 04 32.3**	**-0.4**
VIVF	**Saint-Julien-l**	**4.87**	**63**	*e*Pn	**Pn**	**07 04 42.9**	**-1.3**

*LDG **13** 07:23:22.5±0.1, 42.34N×2.20E, h4^{km}, Md1.9/1, Ml2.0/4, Error ellipse: s-maj=2.8km s-min=1.8km az=143.0*

*STR **13** 07:23:23.2±0.0, 42.80N×2.59E, h5^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 13 07:23:23.5±0.3**, 42.34N**×**2.16E, mbLg1.4**/9**, Error**

ellipse: s-maj=2.9km s-min=2.3km az=152.0,PRXIMO AftershockPLICA,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBRU	Bruguera	0.06	163	Pg	Pg	07 23 24.3	-0.4
VALF	Valcebollere	0.12	300	P	Pg	07 23 25.5	-0.4
VALF				S	Sg	07 23 27.2	-0.3
CLLI	Llivia	0.19	315	Pg	Pg	07 23 26.9	-0.5
FILF	Fillols	0.37	54	Pg	Pg	07 23 28.9	-2.0
FILF				Sg	Sg	07 23 33.0	-2.8
FILF	Fillols	0.37	54	P	Pg	07 23 28.9	-2.0
FILF				S	Sg	07 23 33.1	-2.8
CARF	Carcanieres	0.38	354	Pg	Pg	07 23 30.5	-0.5
CARF				Sg	Sg	07 23 35.8	-0.2
CARF	Carcanieres	0.38	354	P	Pg	07 23 30.4	-0.6
CARF				S	Sg	07 23 35.9	-0.1
EJON	La Jonquera	0.55	79	Pg	Pg	07 23 33.9	-0.7
	0.4nm,0.1s,SNR=4.0						
EJON				Lg		07 23 41.4	
	2.2nm,0.1s,SNR=7.9						
CORG	Organya	0.63	260	Pg	Pg	07 23 35.6	-0.6
EMIR	Miracle	0.64	228	Pg	Pg	07 23 35.0	-1.2
	1.6nm,0.2s,SNR=7.9						
EMIR				Lg		07 23 44.4	
	2.8nm,0.1s,SNR=7.9						
MTLF	Montolieu	1.00	3	ePg	Pg	07 23 42.0	-1.5
MTLF				eSg	Sg	07 23 54.7	-2.1
	5.7nm,0.3s						
EPOB	Poblet	1.28	220	Pg	Pg	07 23 46.7	-2.3
	0.8nm,0.1s,SNR=7.9						
EPOB				Lg		07 24 03.8	
	7.0nm,0.1s,SNR=7.9						
EPF	Esparros	1.51	298	ePg	Pg	07 23 51.3	-2.3
EPF				eSg	Sg	07 24 10.8	-2.9
	2.5nm,0.2s						
EBIE	Bielsa	1.53	284	Pg	Pg	07 23 52.7	-1.3
	0.3nm,0.2s,SNR=5.0						
EBIE				Lg		07 24 13.7	
	1.1nm,0.2s,SNR=7.9						
ESAC	San Caprasio	2.05	253	Lg		07 24 28.2	
	6.1nm,0.2s,SNR=4.0						
ETSF	Etsaut	2.08	286	ePg	Pg	07 24 01.6	-3.4
ETSF				eSg	Sg	07 24 28.9	-3.9
	1.5nm,0.2s						
LASF	Ste Croix	2.13	35	ePg	Pg	07 24 02.1	-4.0
LASF				eSg	Sg	07 24 29.7	-4.8
	1.2nm,0.3s						

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*STR **13** 07:37:48.3±0.2, 42.86N×1.50W, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **13** 07:37:48.3, 42.86N×1.50W, h5km, ML2.6(LDG), ML2.3(STR), MN2.2(MDD), After STR.*
*LDG **13** 07:37:49.4±0.3, 42.89N×1.46W, h5km, Md2.4/2, Ml2.6/7, Error ellipse: s-maj=4.8km s-min=3.3km az=49.0*
*MDD **13** 07:37:49.4±0.3, 42.88N×1.43W, h6km±4km, mbLg2.1/11, Error ellipse: s-maj=3.2km s-min=2.2km az=30.0, PRXIMO AftershockPLICA*
*CSEM **13** 07:37:49.3±0.1, 42.88N×1.43W, h4km, ML2.6/8, Error ellipse: s-maj=1.9km s-min=1.1km az=109.0*
ISC 13 07:37:47.9±0.5, **42.91N**±0.02×**1.47W**±0.03, **h14**km±3km, **n43**, σ1§**22**/69, **1C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.27	41	ePg	Pg	07 37 54.8	+0.9
SJPF				eSg	Sg	07 37 57.7	-0.2
	166nm,0.3s						
EALK	Alkurruntz	0.31	355	⇑Pg	Pg	07 37 55.8	+1.2
	19nm,0.2s,SNR=18						
EALK				Lg		07 38 01.5	
	58nm,0.2s,SNR=5.0						
LARF	Larrau	0.38	70	Pg	Pg	07 37 56.3	+0.4
LARF				Sg	Sg	07 38 02.2	+1.0
LARF	Larrau	0.38	70	P	Pb	07 37 56.1	+0.2
LARF				S	Sg	07 38 01.5	+0.3
OSSF	Osses	0.38	24	Pg	Pg	07 37 56.8	+0.9
OSSF	Osses	0.38	24	P	Pb	07 37 56.8	+0.9
OSSF				S	Sg	07 38 02.2	+1.0
ORDF	Ordiarp	0.49	52	Pg	Pg	07 37 58.8	+0.7
ORDF				Sg	Sg	07 38 06.4	+1.4
ORDF	Ordiarp	0.49	52	P	Pb	07 37 58.8	+0.9
ORDF				S	Sb	07 38 06.5	+1.8
ATE	Arette	0.59	72	P	Pb	07 37 59.9	+0.3
ATE				S	Sb	07 38 08.0	+0.5
ETSF	Etsaut	0.67	91	ePg	Pg	07 38 00.6	-0.9
ETSF				eSg	Sg	07 38 10.1	-0.5
	20nm,0.2s						
FDAF	Les Forges d'A	0.67	98	Pg	Pg	07 38 01.2	-0.4
FDAF				Sg	Sg	07 38 11.1	+0.5
FDAF	Les Forges d'A	0.67	98	P	Pb	07 38 01.2	+0.3
FDAF				S	Sb	07 38 10.7	+0.9
VIEF	Viey	1.10	91	S	Sb	07 38 24.8	+2.6
LABF	Labassere	1.14	83	S	Sb	07 38 24.1	+0.7
EBIE	Bielsa	1.21	100	Pg	Pg	07 38 10.5	-1.7
	4.7nm,0.1s,SNR=7.9						
EBIE				Lg		07 38 27.3	
	7.0nm,0.2s,SNR=7.9						
EBIE	Bielsa	1.21	100	Pg	Pg	07 38 10.5	-1.7
	4.7nm,0.1s,SNR=7.9						
EPF	Esparros	1.33	84	ePn	Pn	07 38 12.7	+0.4
EPF				ePg	Pg	07 38 15.4	+0.7
EPF				eSg	Sg	07 38 31.2	-1.4
	12nm,0.2s						
RESF	Ens	1.33	94	S	Sb	07 38 31.6	+2.5
ESAC	San Caprasio	1.40	148	Pg	Pg	07 38 13.7	-2.3
	24nm,0.2s,SNR=13						
ESAC				Lg		07 38 31.9	
	45nm,0.3s,SNR=7.6						
ESAC	San Caprasio	1.40	148	Pg	Pg	07 38 13.7	-2.3
	24nm,0.2s,SNR=13						
ELAN	Lanestosa	1.48	283	Pg	Pg	07 38 16.2	-1.3
	4.1nm,0.1s,SNR=22						
ELAN				Lg		07 38 37.9	
	9.0nm,0.2s,SNR=5.6						
ELAN	Lanestosa	1.48	283	Pg	Pg	07 38 16.2	-1.3
ELAN				Lg		07 38 37.9	
ELAN	Lanestosa	1.48	283	Pg	Pg	07 38 16.2	-1.3
	4.1nm,0.1s,SNR=22						
ETOR	Torete	2.13	192	Pn	Pn	07 38 24.2	+0.5
	0.8nm,0.1s,SNR=14						
ETOR				Pg	Pg	07 38 27.9	-2.7
	4.1nm,0.2s,SNR=7.9						
ETOR				Sn	Sn	07 38 51.9	+1.7
	17nm,0.4s,SNR=7.9						
ETOR	Torete	2.13	192	Pn	Pn	07 38 24.2	+0.5
ETOR				Pg	Pg	07 38 27.9	-2.7
ETOR				Lg		07 38 51.9	
ETOR	Torete	2.13	192	Pg	Pg	07 38 28.0	-2.6
EMIR	Miracle	2.43	113	Pg	Pg	07 38 32.8	-3.8
	1.2nm,0.1s,SNR=7.9						
EMIR				Lg		07 39 04.6	
	4.4nm,0.0s,SNR=7.9						
EMIR	Miracle	2.43	113	Pg	Pg	07 38 32.8	-3.8
	1.2nm,0.1s,SNR=7.9						
EPOB	Poblet	2.45	129	Pn	Pn	07 38 27.5	-0.7
	0.4nm,0.1s,SNR=4.0						
EPOB				Sn	Sn	07 38 56.6	-1.6
	0.5nm,0.0s,SNR=4.0						
EPOB				Lg		07 39 04.7	
	2.4nm,0.2s,SNR=4.0						
EPOB	Poblet	2.45	129	Pn	Pn	07 38 27.5	-0.8
	0.4nm,0.1s,SNR=4.0						
EPOB				Sn	Sn	07 38 56.6	-1.7
	0.5nm,0.0s,SNR=4.0						
EBR	Ebro Roquetas	2.55	144	eS*	Sb	07 39 05.5	+1.1
LFF	La Frestale	2.58	37	ePn	Pn	07 38 30.0	-0.1
LFF				ePg	Pg	07 38 37.4	-2.1
LFF				eSg	Sg	07 39 10.6	-3.4
	5.9nm,0.3s						
EMOS	Mosqueruela	2.65	163	Pn	Pn	07 38 31.4	+0.3
	1.9nm,0.4s,SNR=4.0						
EMOS				Lg		07 39 13.6	
	1.3nm,0.2s,SNR=4.0						
EMOS	Mosqueruela	2.65	163	Pn	Pn	07 38 31.4	+0.3
	1.9nm,0.4s,SNR=4.0						
MTLF	Montolieu	2.73	80	ePn	Pn	07 38 32.7	+0.4
MTLF				eSn	Sn	07 39 04.6	-0.8
	4.3nm,0.3s						
EARI	Arriondas	2.77	279	Pn	Pn	07 38 34.3	+1.6
	0.3nm,0.1s,SNR=4.0						
EARI				Sn	Sn	07 39 07.4	+1.1
	3.6nm,0.6s,SNR=4.0						
EARI	Arriondas	2.77	279	Pn	Pn	07 38 34.3	+1.6
	0.3nm,0.1s,SNR=4.0						
EARI				Sn	Sn	07 39 07.3	+1.1
RJF	Les Rejaudoux	3.22	41	ePn	Pn	07 38 38.9	-0.3
RJF				eSn	Sn	07 39 15.5	-2.2
	2.4nm,0.2s						
CAF	Calviac	3.25	51	ePn	Pn	07 38 38.9	-0.8
CAF				eSn	Sn	07 39 16.6	-1.9
	2.6nm,0.2s						
MFF	Saint Martin d	3.81	14	ePn	Pn	07 38 47.1	-0.5
MFF				eSn	Sn	07 39 29.2	-3.4
	3.5nm,0.4s						
LASF	Ste Croix	4.05	71	ePn	Pn	07 38 50.5	-0.5
TCF	Toulx Ste Croi	4.28	37	ePn	Pn	07 38 53.3	-0.9
TCF				eSn	Sn	07 39 40.9	-3.6
	2.7nm,0.3s						
VIVF	Saint-Julien-l	4.85	64	ePn	Pn	07 39 01.0	-1.3

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*LDG **13** 07:43:20.0±0.6, 42.94N×1.39W, h2km, Md2.0/2, Ml2.2/1, Error ellipse: s-maj=9.9km s-min=3.7km az=42.0*
MDD 13 07:43:19.1±0.5, **42.87N**×**1.42W**, **h3**km±14km, **mbLg1.4**/7, **Error ellipse: s-maj=4.5km s-min=3.1km az=41.0, PRXIMO AftershockPLICA, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.28	31	ePg	Pg	07 43 24.3	-0.4
SJPF				eSg	Sg	07 43 27.2	-1.3
	26nm,0.2s						
EALK	Alkurruntz	0.35	349	Pg	Pg	07 43 25.5	-0.7
	1.9nm,0.1s,SNR=7.9						
EALK				Lg		07 43 31.2	
	16nm,0.3s,SNR=7.9						
LARF	Larrau	0.36	62	P	Pg	07 43 25.7	-0.6
LARF				S	Sg	07 43 31.3	+0.2
OSSF	Osses	0.40	17	P	Pg	07 43 26.5	-0.7
OSSF				S	Sg	07 43 31.8	-0.7
ETSF	Etsaut	0.63	87	ePg	Pg	07 43 29.7	-2.0
ETSF				eSg	Sg	07 43 39.4	-0.8
	5.7nm,0.2s						
EBIE	Bielsa	1.17	99	Pg	Pg	07 43 41.1	-1.2
	0.7nm,0.1s,SNR=7.9						
EBIE				Lg		07 43 57.5	
	2.2nm,0.1s,SNR=7.9						
EPF	Esparros	1.30	82	ePg	Pg	07 43 44.5	-0.6
EPF				eSg	Sg	07 44 00.5	-1.9
	5.8nm,0.3s						
ESAC	San Caprasio	1.35	148	Pg	Pg	07 43 44.0	-2.0
	6.7nm,0.2s,SNR=7.9						
ESAC				Lg		07 44 01.0	
	14nm,0.2s,SNR=7.9						
ELAN	Lanestosa	1.52	284	Pg	Pg	07 43 45.9	-3.5
	1.1nm,0.1s,SNR=7.9						
ELAN				Lg		07 44 07.9	
	2.8nm,0.2s,SNR=7.9						
ETOR	Torete	2.11	193	Pn	Pn	07 43 52.8	-2.9
	SNR=4.0						
ETOR				Pg	Pg	07 43 57.9	-3.3
	1.6nm,0.3s,SNR=7.9						
ETOR				Sn	Sn	07 44 21.1	-1.6
	1.2nm,0.3s,SNR=7.9						

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*IDC **13** 07:50:54.7±0.8, 55.42N×166.45E, mb4.0/9, mb1 4.3/10, mb1mx4.1/24, ML3.8/1, MS3.2/3, Ms1 3.3/3, ms1mx2.8/24, Error ellipse: s-maj=25.4km s-min=11.2km az=25.0*
*KRSC **13** 07:50:55.0±1.1, 55.38N×166.67E, h27km±2km, ML4.9*
*MOS **13** 07:50:57.3±1.0, 55.29N×166.48E, h45km, mb4.3/4, Error ellipse: s-maj=17.1km s-min=13.2km az=161.6*
*NEIC **13** 07:50:59.2±0.4, 55.55N×166.28E, h30km, mb4.3/6, Error ellipse: s-maj=13.2km s-min=5.5km az=157.0*
ISC 13 07:50:56.5±0.4, **55.30N**±0.03×**166.48E**±0.04, **h30**km, **n72**, σ1§**15**/110, **mb4.1**/14, **MS3.1**/2, **Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	0.30	253	i P	Pb	07 51 04.1	+0.1
BKI				i S	Sb	07 51 09.5	+0.4
BKI				Smax			
	44µm,0.3s						
KBTR	Krutoberegovo	2.26	295	P	Pn	07 51 30.7	-2.0
KBTR				S	Sn	07 51 56.3	-3.5
KBTR	Krutoberegovo	2.26	295	eP	Pn	07 51 30.8	-1.9
KBTR				eS	Sn	07 51 57.6	-2.2
MKZ	Mys Kozlova	2.84	257	P	Pn	07 51 41.2	+0.3
MKZ				S	Sn	07 52 14.2	-0.2
MKZ	Mys Kozlova	2.84	257	i P	Pn	07 51 41.2	+0.3
MKZ				eS	Sn	07 52 14.3	-0.1
SVLR	Shiveluch	3.22	296	i P	Pn	07 51 46.3	-0.1
SVLR				eS	Sn	07 52 24.4	+0.2
ZLN	Zelenaya	3.29	285	eP	Pn	07 51 48.1	+0.7
ZLN				eS	Sn	07 52 25.4	-0.6
CIRR	Tsirk	3.34	287	eP	Pn	07 51 48.8	+0.7
CIRR				eS	Sn	07 52 29.1	+1.9
LGNR	Loginova	3.37	286	eP	Pn	07 51 49.1	+0.7
LGNR				eS	Sn	07 52 29.5	+1.6
KLY	Klyuchi	3.44	290	P	Pn	07 51 48.0	-1.5
KLY				S	Sn	07 52 26.2	-3.5
KLY	Klyuchi	3.44	290	i P	Pn	07 51 48.2	-1.3
KLY				eS	Sn	07 52 27.1	-2.6
KRSR	Krestovskiy	3.46	288	i P	Pn	07 51 49.6	-0.2
KRSR				eS	Sn	07 52 30.1	-0.2
KMNR	Kamenistaya	3.58	280	eP	Pn	07 51 52.2	+0.8
KMNR				eS	Sn	07 52 35.7	+2.6
KPT	Kopyto	3.61	283	i P	Pn	07 51 52.3	+0.5
KPT				eS	Sn	07 52 33.5	-0.4
TUMR	Tumrok	3.62	272	eP	Pn	07 51 53.2	+1.2
TUMR				i S	Sn	07 52 36.6	+2.4
KOZR	Kozyr	3.80	284	PN	Pn	07 51 55.7	+1.1
KOZR				S	Sn	07 52 39.0	+0.1
KOZ	Kozyrevsk	3.82	284	P	Pn	07 51 55.7	+0.9
KOZ				S	Sn	07 52 39.0	-0.2
KOZ	Kozyrevsk	3.82	284	i P	Pn	07 51 55.8	+1.0
KOZ				eS	Sn	07 52 42.9	+3.7
SRDR	Sredinnyy	3.95	288	eP	Pn	07 51 56.8	+0.1
SRDR				eS	Sn	07 52 42.5	0.0
KII	Karymskiy	4.27	256	P	Pn	07 52 02.2	+1.0
KII				S	Sn	07 52 49.5	-1.2
OSSR	Ossora	4.38	336	eP	Pn	07 52 00.5	-2.3
OSSR				eS	Sn	07 52 47.5	-5.9
OSSR				Smax			
	200nm,0.3s						
SPN	Mys Shipunski	4.38	242	P	Pn	07 52 02.6	-0.2
SPN				S	Sn	07 52 50.2	-3.3
SPN	Mys Shipunski	4.38	242	i P	Pn	07 52 02.6	-0.2
SPN				eS	Sn	07 52 51.1	-2.4
FX1	Attu Island--F	4.62	119	Pn	Pn	07 52 04.9	-1.3
	14nm,0.3s,baz=6.6,slow=2.0,SNR=21						
FX1				Sn	Sn	07 52 56.3	-3.2
	13nm,0.3s,baz=82,slow=22,SNR=13						
FX1	Attu Island--F	4.62	119	eP	Pn	07 52 04.8	-1.4
NLC	Nalytchevo	4.69	246	P	Pn	07 52 07.2	0.0
NLC				S	Sn	07 52 58.9	-2.5
NLC	Nalytchevo	4.69	246	i P	Pn	07 52 06.9	-0.3
NLC				eS	Sn	07 52 59.4	-2.0
SDLR	Sedlovina	4.88	249	eP	Pn	07 52 10.6	+0.7
SDLR				eS	Sn	07 53 06.4	+0.2
SMAR	Somma	4.94	249	eP	Pn	07 52 11.4	+0.7
SMAR				eS	Sn	07 53 06.4	-1.1
UGLR	Uglovaya	4.95	248	eP	Pn	07 52 11.6	+0.7
UGLR				eS	Sn	07 53 07.2	-0.6
AVH	Avacha	4.97	249	eP	Pn	07 52 12.0	+0.9
AVH				eS	Sn	07 53 07.6	-0.7
KOK	Koryaka	5.01	250	eP	Pn	07 52 12.6	+0.9
KOK				eS	Sn	07 53 08.3	-1.1
PET	Petropavlovsk	5.13	247	P	Pn	07 52 14.0	+0.6
PET				S	Sn	07 53 10.2	-2.1
PET	Petropavlovsk	5.13	247	eP	Pn	07 52 13.9	+0.5
PET				eS	Sn	07 53 10.4	-1.9
PET	Petropavlovsk	5.13	247	ePN	Pn	07 52 14.5	+1.1
PET				pmax	pmax		
	comp=Z,88nm,0.7s						
PET				MLR	MLR		
	comp=Z,200nm,24.0s						
PET	Petropavlovsk	5.13	247	ePn	Pn	07 52 14.5	+1.1
	comp=Z,88nm,0.7s						
GNL	Ganaly	5.23	256	eP	Pn	07 52 15.8	+1.1
GNL				eS	Sn	07 53 14.6	-0.1
RUS	Russkaya	5.51	242	P	Pn	07 52 18.9	+0.1
RUS				S	Sn	07 53 18.5	-3.5
RUS	Russkaya	5.51	242	eP	Pn	07 52 18.5	-0.3
RUS				eS	Sn	07 53 19.1	-2.9
GRL	Gorelyy	5.67	244	eP	Pn	07 52 21.9	+0.8
GRL				eS	Sn	07 53 25.0	-1.0
APC	Apacha	5.97	250	eP	Pn	07 52 26.6	+1.3
APC				eS	Sn	07 53 34.1	+0.7
APC				Smax			
	comp=Z,50nm,0.9s						
MIPR	Malaya Ipel'ka	6.50	246	eP	Pn	07 52 33.9	+1.1
PAU	Pauzhetka	6.94	240	P	Pn	07 52 38.3	-0.5
KAMR	Kamenskoye	7.18	359	i P	Pn	07 52 39.7	-2.6
KAMR				eS	Sn	07 53 56.2	-7.6
SKR	Severo-Kuril's	7.77	238	eP	Pn	07 52 49.5	-1.0
SKR				eS	Sn	07 54 13.5	-4.8
SKR	Severo-Kuril's	7.77	238	ePN	Pn	07 52 45.1	-5.4
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR	Severo-Kuril's	7.77	238	ePn	Pn	07 52 45.1	-5.4
	comp=Z,80nm,0.5s						
ASAJ	Asahikawa	18.96	244	LR	LR	08 01 57.4	
	comp=Z,59nm,20.3s,baz=45,slow=35						
YAK	Yakutsk	20.06	305	eP	P	07 55 29.7	-0.1
YAK				pmax	pmax		
	comp=E,7.0nm,1.2s						
YAK				pmax	pmax		
	comp=N,12nm,0.9s						
IMA	Indian Mountai	21.86	45	eP	P	07 55 47.8	-0.4
	comp=N,32nm,0.8s,mb4.8						
COLA	College	24.16	48	eP	P	07 56 11.4	+0.9
	comp=N,3.1nm,0.7s,mb3.9						
ILAR	Eielson Array	24.57	49	P	P	07 56 14.8	+0.3
	comp=N,6.3nm,0.8s,mb4.2,baz=254,slow=7.8,SNR=47						
ILAR				LR	LR	08 05 24.3	
	comp=N,32nm,20.5s,MS2.8,baz=170,slow=36						
ILAR	Eielson Array	24.57	49	P	P	07 56 14.8	+0.3
ILAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ILAR				MLR	MLR		
	comp=Z,33nm,20.5s						
MAJO	Matsushiro	26.88	238	P	P	07 56 38.2	+1.9
INK	Inuvik	29.80	40	P	P	07 57 02.4	0.0
	comp=Z,1.6nm,0.4s,mb4.1,baz=264,slow=4.8,SNR=8.1						
INK	Inuvik	29.80	40	P	P	07 57 02.4	0.0
INK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
INK	Inuvik	29.80	40	eP	P	07 57 01.5	-0.9
	comp=Z,2.0nm,0.6s,mb4.0						
SONM	Songino Array	37.03	284	P	P	07 58 06.5	+1.5
	comp=Z,1.8nm,0.6s,mb4.1,baz=58,slow=8.8,SNR=7.7						
KURK	Kurchatov	49.70	304	eP	P	07 59 45.3	-1.9
	comp=Z,2.3nm,0.7s,mb4.3						
MKAR	Makanchi Array	50.52	298	P	P	07 59 52.3	-1.3
	comp=Z,0.8nm,0.5s,mb3.9,baz=59,slow=7.1,SNR=7.3						
MKAR	Makanchi Array	50.52	298	P	P	07 59 52.3	-1.3
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NVAR	Mina Array Bea	51.51	76	P	P	08 00 02.0	+0.7
	comp=Z,0.3nm,0.6s,mb3.4,baz=304,slow=9.8,SNR=3.5						
BVAR	Borovoye Array	51.90	310	P	P	08 00 02.4	-1.5
	comp=Z,2.0nm,0.7s,mb4.2,baz=59,slow=8.6,SNR=4.1						
BRVK	Borovoye	51.92	310	eP	P	08 00 02.6	-1.4
	comp=Z,3.1nm,0.6s,mb4.4						
ZRNK	Zerenda	52.55	311	eP	P	08 00 08.2	-0.6
	comp=Z,3.0nm,0.6s,mb4.4						
PDAR	Pinedale Array	53.19	66	P	P	08 00 14.5	+0.8
	comp=Z,0.4nm,0.7s,mb3.4,baz=315,slow=4.2,SNR=4.2						
TUC	Tucson	60.16	76	P	P	08 01 02.9	-0.6
CMAR	Chiang Mai Arr	62.25	262	P	P	08 01 18.9	+1.1
	comp=Z,1.1nm,0.4s,mb4.4,baz=201,slow=38,SNR=3.8						
CMAR				LR	LR	08 31 58.2	
	comp=Z,31nm,19.1s,MS3.5,baz=238,slow=40						
CMAR	Chiang Mai Arr	62.25	262	P	P	08 01 18.9	+1.1
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CMAR				MLR	MLR		
	comp=Z,31nm,19.1s						
TXAR	Lajitas Array	66.36	72	P	P	08 01 45.7	+1.4
	comp=Z,1.3nm,0.5s,mb4.2,baz=299,slow=4.7,SNR=28						
TXAR	Lajitas Array	66.36	72	P	P	08 01 45.7	+1.4
QSPA	South Pole Qui	145.05	180	PKPdf	PKPdf	08 10 34.2	+0.2

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*TAP **13** 07:56:28.2, 24.34N×121.73E, h12km±1km, ML2.2*
JMA 13 07:56:48.7±0.2, **23.86N**×**123.26E**, **h17**km±4km, **M2.8**, **Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	Hateruma jima	0.54	68	P	Pb	07 56 59.1	-0.1
HATJ				S	Sb	07 57 06.5	+0.1
IRIF	Iriomote-Funau	0.64	42	P	Pb	07 57 01.3	+0.3
IRIF				S	Sb	07 57 09.5	+0.1
YOJ	Yonaguni jima	0.64	339	P	Pb	07 57 01.1	+0.1
YOJ				S	Sb	07 57 10.4	+0.9
JKRS	Kuro-shima	0.78	61	P	Pb	07 57 03.7	+0.3
JKRS				S	Sb	07 57 13.8	+0.2
JIJ	Ishigaki jima	0.95	58	P	Pb	07 57 06.1	-0.2
JIJ				S	Sb	07 57 17.6	-0.8
JTJ	Tarama	1.53	59	P	Pn	07 57 16.3	+0.8
JTJ				S	Sn	07 57 36.0	+0.9

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*LDG **13** 07:58:51.9±0.7, 42.94N×1.39W, h2km, Md2.0/2, Ml2.4/1, Error ellipse: s-maj=11.3km s-min=4.3km az=42.0*
MDD 13 07:58:51.0±0.5, **42.88N**×**1.42W**, **h5**km±17km, **mbLg1.5**/7, **Error ellipse: s-maj=5.2km s-min=3.1km az=33.0, PRXIMO AftershockPLICA, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.27	31	ePg	Pg	07 58 56.2	-0.3
SJPF				eSg	Sg	07 58 59.1	-1.0
	36nm,0.2s						
EALK	Alkurruntz	0.34	349	Pg	Pg	07 58 57.3	-0.7
	1.8nm,0.1s,SNR=7.9						
EALK				Lg		07 59 03.0	
	32nm,0.3s,SNR=7.9						
LARF	Larrau	0.35	64	P	Pg	07 58 57.6	-0.5
LARF				S	Sg	07 59 03.1	+0.3
OSSF	Osses	0.39	17	P	Pg	07 58 58.3	-0.5
OSSF				S	Sg	07 59 02.5	-1.6
ETSF	Etsaut	0.63	88	ePg	Pg	07 59 01.6	-2.0
ETSF				eSg	Sg	07 59 11.3	-0.7
	5.7nm,0.2s						
EBIE	Bielsa	1.16	99	Pg	Pg	07 59 12.6	-1.7
	1.1nm,0.1s,SNR=7.9						
EBIE				Lg		07 59 29.3	
	2.9nm,0.2s,SNR=7.9						
EPF	Esparros	1.30	83	ePg	Pg	07 59 16.3	-0.6
EPF				eSg	Sg	07 59 32.5	-1.7
	5.2nm,0.2s						
ESAC	San Caprasio	1.36	149	Pg	Pg	07 59 16.0	-2.1
	7.6nm,0.2s,SNR=7.9						
ESAC				Lg		07 59 34.2	
	17nm,0.3s,SNR=7.9						
ELAN	Lanestosa	1.52	284	Pg	Pg	07 59 18.1	-3.3
	1.1nm,0.1s,SNR=7.9						
ELAN				Lg		07 59 39.7	
	2.4nm,0.2s,SNR=7.9						
ETOR	Torete	2.12	193	Pg	Pg	07 59 29.4	-3.9
	1.7nm,0.4s,SNR=7.9						
ETOR				Sn	Sn	07 59 51.7	-2.8
	SNR=7.9						

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*IDC **13** 08:01:57.6±10.0, 10.70N×86.17W, mb3.8/4, mb1 4.2/4, mb1mx3.9/16, Error ellipse: s-maj=216.0km s-min=58.8km az=176.0*
*NEIC **13** 08:02:08.8±1.0, 11.99N×86.25W, h10km, mb3.9/3, Error ellipse: s-maj=50.9km s-min=14.9km az=56.0*
*CASC **13** 08:02:11.3±2.9, 11.36N×86.66W, h30km±7km, MD4.3, ML4.0, mb3.9(NEIC)*
ISC 13 08:02:11.1±0.5, **11.37N**±0.04×**86.64W**±0.05, **h64**km±7km, **n45**, σ1§**09**/59, **mb3.8**/6, **5C-14D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	El Crucero	0.70	29	⇑i P	P	08 02 25.7	0.0
TICN	Ticuantepe	0.78	31	⇓eP	P	08 02 26.3	-0.4
MASN	Masaya	0.79	38	⇓eP	P	08 02 25.8	-1.0
MASN				eP		08 02 25.9	
APON	Apoyo	0.79	46	⇓eP	P	08 02 26.2	-0.6
COPN	Copaltepe	0.81	4	eP	P	08 02 25.8	-1.3
XAVN	Gruta Xavier	0.84	22	⇓eP	P	08 02 27.3	-0.2

XAVN				eS	S	08 02 40.5	+0.9
MGAN	Managua	0.87	27	⇓iP	P	08 02 27.6	-0.3
MGAN				i		08 02 40.3	
	comp=E,5µm,0.5s						
MGAN				eS	S	08 02 40.4	+0.1
WILN	Americas 2	0.91	29	⇓eP	P	08 02 28.0	-0.4
WILN				eS	S	08 02 40.5	-0.7
APYN	Apoyeque	0.91	18	⇑eP	P	08 02 28.1	-0.2
APYN				eS	S	08 02 42.0	+0.8
MOMJ	Momotombo	1.04	6	⇓eP	P	08 02 29.8	-0.4
MIRN	Miramar	1.07	356	⇑iP	P	08 02 30.6	0.0
MIRN				eS	S	08 02 43.6	-1.3
LEON	Leon	1.07	347	⇓eP	P	08 02 30.5	-0.1
LEON				eS	S	08 02 44.1	-0.8
CNGN	Cerro Negro	1.13	357	⇑eP	P	08 02 31.3	0.0
CNGN				eS	S	08 02 48.6	+2.3
TELN	Telica	1.25	352	⇓eP	P	08 02 33.0	+0.1
TELN				eS	S	08 02 50.0	+1.0
PYTN	Playitas	1.30	26	⇓eP	P	08 02 33.2	-0.5
PYTN				eS	S	08 02 51.0	+0.6
CRIN	San Cristobal	1.39	343	⇓eP	P	08 02 35.1	+0.2
CRIN				eS	S	08 02 54.3	+1.8
VCR	Vista de Mar	1.58	141	eP	P	08 02 35.4	-2.2
QUIN	Quiabu	1.76	7	⇓eP	P	08 02 40.0	0.0
QUIN				eS	S	08 03 00.4	-1.0
SOMN	Somoto	2.04	1	⇓eP	P	08 02 45.7	+1.8
JCR	Jicaral	2.13	135	eP	P	08 02 43.9	-1.2
FORC	Fortuna	2.13	114	eP	P	08 02 44.7	-0.5
CNCH	Conchagua	2.23	329	⇑eP	P	08 02 45.7	-0.8
CNCH				eS	S	08 03 10.9	-1.9
CGA2	Cerro Gallo 2	2.53	122	eP	P	08 02 51.3	+0.5
VPS2	Volcan Poas 2	2.64	116	eP	P	08 02 53.2	+0.8
PRS1	Puriscal	2.67	121	eP	P	08 02 53.9	+1.1
CAHU	Cacacuatique	2.84	328	eP	P	08 02 56.7	+1.5
LAJ	Bijagual	2.89	121	eP	P	08 02 51.9	-4.1
SJS	Escuela Geolog	2.91	119	eP	P	08 02 56.5	+0.2
TRTC	Tortuguero	2.98	105	⇓eP	P	08 02 55.5	-1.8
LCR2	La Lucha 2	3.06	122	eP	P	08 02 58.7	+0.5
ICR	Volcan Irazu	3.09	116	eP	P	08 03 01.4	+2.7
SNVI	San Vicente	3.10	316	eP	P	08 02 59.6	+0.8
SNVI				eS	S	08 03 36.0	+1.2
URSC	Urasca	3.20	118	eP	P	08 03 01.2	+1.0
LCBS	La Ceiba	3.22	315	eP	P	08 02 59.8	-0.7
LFRS	El Faro	3.26	314	eP	P	08 03 00.7	-0.4
LFRS				eS	S	08 03 36.9	-1.9
BUS	Buena Vista	3.36	122	eP	P	08 03 03.7	+1.2
BOQS	Boqueron	3.49	313	eS	S	08 03 47.6	+3.0
OTAV	Otavalo	13.73	143	eP	P	08 05 28.2	+3.9
HKT	Hockley	20.37	337	eP	P	08 06 44.9	-0.1
	comp=E,2.8nm,0.9s						
LTX	Lajitas	23.91	321	eP	P	08 07 21.0	+1.0
	comp=E,1.7nm,0.6s,mb3.6						
TXAR	Lajitas Array	23.91	321	P	P	08 07 21.1	+1.2
	comp=E,1.3nm,0.6s,mb3.5,baz=137,slow=9.5,SNR=23						
WMOK	Wichita Mounta	25.76	337	eP	P	08 07 38.0	+0.4
	comp=E,6.8nm,0.8s,mb4.2						
PDAR	Pinedale Array	37.10	332	P	P	08 09 16.4	-0.6
	comp=E,0.5nm,0.7s,mb3.4,baz=123,slow=8.7,SNR=5.7						
SCHQ	Schefferville	46.09	16	P	P	08 10 27.4	-3.1
	comp=E,5.6nm,1.0s,mb4.4,baz=204,slow=10.0,SNR=3.3						
ILAR	Eielson Array	67.33	336	P	P	08 12 59.1	-2.0
	comp=E,0.5nm,0.6s,mb3.7,baz=137,slow=5.4,SNR=9.3						

*NEIC **13** 08:11:14.8, 34.61S×71.49W, h58km, MD3.8(GUC), After GUC.*
GUC 13 08:11:14.8±0.7**, 34.61S×71.49W, h58**km±8km**, MD3.8, ML3.4, 4C-7D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	San Fernando	0.39	91	⇓iP	P	08 11 26.3	+0.7
LNV	Longovilo	0.66	6	⇓iP	P	08 11 29.4	+1.0
LNV				iS	S	08 11 39.7	+1.2
TALC	Talca	0.80	189	eP	P	08 11 30.4	+0.2
TALC				iS	S	08 11 42.0	+0.4
TALC				AMP		08 11 44.6	
	comp=E,15µm,0.1s						
CACH	El Canelo	0.89	57	⇑iP	P	08 11 31.8	+0.5
CACH				iS	S	08 11 45.1	+1.3
CICH	Cipreses	0.93	72	⇓iP	P	08 11 32.4	+0.4
CICH				iS	S	08 11 45.2	+0.4
CHCH	Chadas Angostu	0.97	46	⇓iP	P	08 11 32.9	+0.3
CHCH				iS	S	08 11 46.2	+0.5
TACH	Talagante	1.06	26	⇑iP	P	08 11 34.1	+0.3
TACH				iS	S	08 11 47.9	+0.1
RCDM	Rinconada Maip	1.25	27	iP	P	08 11 36.4	-0.1
RCDM				iS	S	08 11 52.5	-0.1
RCDM				AMP		08 11 54.5	
	comp=E,2µm,0.1s						
ANTU	Antumapu	1.26	35	eP	P	08 11 36.9	+0.4
ANTU				iS	S	08 11 53.6	+0.8
ANTU				AMP		08 11 54.8	
	comp=E,2µm,0.2s						
PCH	Pirque	1.28	40	⇓iP	P	08 11 37.2	+0.3
PCH				iS	S	08 11 53.9	+0.8
LMEL	Las Melosas	1.31	55	⇑iP	P	08 11 37.7	+0.3
LMEL				iS	S	08 11 55.2	+1.1
LMEL				AMP		08 11 56.6	
	comp=N,2µm,0.1s						
PUEX	Pudahuel	1.31	28	eP	P	08 11 37.5	0.0
PUEX				iS	S	08 11 54.2	0.0
PUEX				AMP		08 11 59.7	
	comp=N,1µm,0.4s						
SJCH	San Jose de Ma	1.35	45	⇓iP	P	08 11 37.4	-0.6
SJCH				iS	S	08 11 55.3	+0.2
SJCH				AMP		08 11 55.9	
	comp=E,671nm,0.4s						
STL	Santa Lucia	1.37	31	eP	P	08 11 38.3	+0.1
STL				iS	S	08 11 56.3	+0.8
STL				AMP		08 12 00.2	
	comp=E,223nm,0.2s						
FSR	Penalolen	1.38	36	eP	P	08 11 38.5	+0.2
FSR				iS	S	08 11 56.4	+0.5
FSR				AMP		08 12 04.5	
	comp=E,640nm,0.2s						
DSCH	Colegio Aleman	1.43	33	eP	P	08 11 39.1	+0.1
DSCH				iS	S	08 11 57.2	+0.3
DSCH				AMP		08 11 59.9	
	comp=N,1µm,0.6s						
CLCH	Cerro Calan	1.45	33	⇑iP	P	08 11 39.5	+0.2
CLCH				eS	S	08 11 58.1	+0.7
CLCH				AMP		08 12 00.1	
	comp=E,1µm,0.3s						
IHA	Instituto Hidr	1.58	355	⇓iP	P	08 11 41.2	0.0
PEL	Peldehue	1.61	25	eP	P	08 11 41.8	+0.3
PEL				iS	S	08 12 02.1	+0.9
PEL				AMP		08 12 08.6	
	comp=N,833nm,0.2s						
FCH	Farellones	1.62	38	eP	P	08 11 42.1	+0.5
FCH				iS	S	08 12 02.9	+1.4
FCH				AMP		08 12 09.0	
	comp=N,756nm,0.3s						
COCH	Cobquecura	1.85	215	eP	P	08 11 44.2	-0.6
JACH	Jahuel	2.06	22	eP	P	08 11 47.7	-0.1
PACH	Papudo	2.07	1	iP	P	08 11 47.4	-0.4
CMCH	Combarbala	3.45	7	eP	P	08 12 06.0	-1.5

*PRU **13** 08:12:06.1, 51.40N×16.12E*
WAR 13 08:12:05.6, 51.45N×16.08E, ML2.7, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.62	168	ePG	Pg	08 12 17.0	-1.0
KSP				iSG	Sg	08 12 25.2	-1.1
UPC	Upice	0.94	183	ePG	Pg	08 12 23.9	-0.5
UPC				eSG	Sg	08 12 35.2	-1.8
DPC	Dobruska-Polom	1.11	172	ePG	Pg	08 12 25.7	-2.1
DPC				eSG	Sg	08 12 40.3	-2.3
	15nm,0.3s						
PVCC	Panska Ves	1.33	227	ePG	Pg	08 12 31.4	-0.7
PVCC				eSG	Sg	08 12 48.3	-1.5
PRU	Pruhonice	1.76	214	eSG	Sg	08 13 01.0	-3.2
	18nm,0.6s						
OKC	Ostrava-Krasne	2.08	140	eSG	Sg	08 13 10.0	-4.9
NKC	Novy Kostel	2.61	244	ePG	Pg	08 12 54.7	-2.9
NKC				eSG	Sg	08 13 29.7	-2.7
KHC	Kasperske Hory	2.82	216	eSN	Sn	08 13 25.0	-3.0
KHC				eSG	Sg	08 13 34.8	-4.8

*IDC **13** 08:15:27.6±1.1, 12.31N×144.03E, mb3.8/5, mb1 4.1/5, mb1mx4.0/17, Error ellipse: s-maj=50.9km s-min=24.0km az=101.0*
*NEIC **13** 08:15:30.5±8.2, 12.16N×144.13E, h19km±52km, mb4.4/2, Error ellipse: s-maj=31.1km s-min=13.1km az=99.0*
ISC 13 08:15:29.9±6.1**, 12.16N**±0.10×**144.0E**±0.2**, h26**km±45km**, n12, σ1**§**17**/12**, mb4.0**/7**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	1.66	31	eP	Pn	08 15 57.4	-0.3
MAJO	Matsushiro	24.83	349	P	P	08 20 53.4	+1.7
WRAB	Tennant Creek	33.28	197	eP	P	08 22 07.5	-0.2
	2.8nm,0.7s,mb4.3						
WRA	Warramunga Arr	33.29	197	P	P	08 22 07.7	-0.1
	0.9nm,0.6s,mb3.9,baz=20,slow=9.6,SNR=12						
STKA	Stephens Creek	43.85	183	P	P	08 23 37.4	+1.5
	3.2nm,0.9s,mb4.0,baz=348,slow=2.2,SNR=3.7						
STKA	Stephens Creek	43.85	183	P	P	08 23 35.4	-0.6
MKAR	Makanchi Array	61.93	317	P	P	08 25 49.1	-0.7
	0.3nm,0.6s,mb3.6,baz=110,slow=6.7,SNR=4.4						
ILAR	Eielson Array	70.22	25	P	P	08 26 40.1	-2.2
	0.5nm,0.6s,mb3.6,baz=255,slow=5.7,SNR=9.4						
BRVK	Borovoye	70.58	322	P	P	08 26 45.8	+1.0
ZRNK	Zerenda	71.34	322	P	P	08 26 48.5	-1.0
RES	Resolute Bay	86.13	13	eP	P	08 28 09.0	-0.5
	3.3nm,0.9s,mb4.6						
NVAR	Mina Array Bea	88.47	51	P	P	08 28 23.7	+2.1
	0.6nm,0.7s,mb4.0,baz=260,slow=3.9,SNR=3.8						

DJA 13 08:20:16.0±1.0**, 9.91S×116.56E, h33**km**, MD4.5**/3**, ML4.3**/4**, 6C-1D, Error ellipse: s-maj=21.7km s-min=17.8km az=138.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	Kedomdong	1.48	343	⇑ePn	Pn	08 20 39.7	-1.1
	245nm,0.2s						
KEDI				⇑eSn	Sn	08 20 57.3	-1.8
RATI	Rata	1.56	319	⇑ePn	Pn	08 20 39.8	-2.0
	257nm,0.2s						
RATI				⇑eSn	Sn	08 20 58.4	-2.6
KELI	Kelakatan	2.65	309	⇑ePn	Pn	08 20 56.9	-0.5
	107nm,0.2s						
SRDI	Scrawed	2.78	301	⇑ePn	Pn	08 20 57.6	-1.7
	172nm,0.1s						
SRDI				⇓eSn	Sn	08 21 28.1	-3.9

NEIC 13 08:34:17.0, 38.07N×118.70W, h6km**, ML3.5**(REN)**, After REN., California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OMM	Old Mammoth Mi	0.50	208	eP	Pg	08 34 26.7	-0.4
MNV	Mina	0.56	49	eP	Pg	08 34 27.8	-0.5
MNV				eS	Sg	08 34 35.8	+0.1
MTUM	Tungsten Hills	0.72	172	eP	Pg	08 34 30.5	-0.8
TPH	Tonopah	1.16	89	eP	Pb	08 34 38.6	-0.5
CMB	Columbia Colle	1.33	269	eP	Pb	08 34 41.2	-0.8
WCN	Washoe City	1.49	326	eP	Pn	08 34 44.8	+0.4
PAHR	Pah Rah Range	1.73	342	eP	Pn	08 34 47.8	0.0
BEKR	Beckwourth	2.22	325	ePn	Pn	08 34 55.3	+0.5
TPNV	Topopah Spring	2.24	119	ePn	Pn	08 34 54.9	-0.4
TRCR	Troy Canyon	2.47	82	ePn	Pn	08 34 57.3	-1.1
LRV	Little Rabbit	2.47	229	Pn	Pn	08 34 56.7	-1.8
OHCM	Honcut	2.52	301	ePn	Pn	08 34 58.0	-1.2
SAO	San Andreas Ge	2.55	240	ePn	Pn	08 34 59.7	+0.2
BMN	Battle Mountai	2.63	25	ePn	Pn	08 34 59.6	-1.1
LKC	Lake Chabot	2.68	264	Pn	Pn	08 35 00.8	-0.7
SAC	San Andreas	2.98	262	Pn	Pn	08 35 04.4	-1.4
NSHM	Saint Helena R	3.11	280	ePn	Pn	08 35 06.0	-1.6
HOPS	Hopland	3.55	286	Pn	Pn	08 35 13.7	-0.2
ELK	Elko	3.79	44	ePn	Pn	08 35 15.6	-1.6
MWC	Mount Wilson	3.87	172	ePn	Pn	08 35 17.1	-1.2
WDC	Whiskeytown Da	3.90	311	Pn	Pn	08 35 16.3	-2.4
NEN	Nelson	3.92	127	Pn	Pn	08 35 18.9	-0.2
MOD	Modoc	4.03	343	ePn	Pn	08 35 19.4	-1.3
LDFC	Landfair	4.15	135	Pn	Pn	08 35 19.2	-3.1
ARUT	Antelope Range	4.17	92	ePn	Pn	08 35 21.6	-1.0
DUG	Dugway	5.04	63	ePn	Pn	08 35 33.5	-1.6
MVU	Marysvale	5.12	83	ePn	Pn	08 35 35.3	-0.8
MSU	Marysvale	5.15	83	Pn	Pn	08 35 35.9	-0.7
BGU	Big Grassy Mou	5.23	55	ePn	Pn	08 35 36.5	-1.2
NLU	North Lily Min	5.49	68	ePn	Pn	08 35 39.3	-2.0
TMUT	Trail Mountain	5.99	76	ePn	Pn	08 35 44.7	-3.6
HLID	Hailey	6.38	29	ePn	Pn	08 35 51.9	-2.0
PV01	Paradox Valley	7.99	86	Pn	Pn	08 36 13.6	-2.9
MCMT	McKenzie Canyo	8.06	31	Pn	P	08 36 16.0	-1.4

*NEIC **13** 08:49:50.1±1.8, 1.15S×145.74E, h54km±18km, mb4.4/5, Error ellipse: s-maj=23.9km s-min=12.2km az=95.0*
*IDC **13** 08:49:57.1±5.0, 1.31S×146.18E, h136km±51km, mb3.7/7, mb1 3.9/9, mb1mx3.9/14, MS3.4/8, Ms1 3.4/8, ms1mx3.2/15, Error ellipse: s-maj=36.0km s-min=26.2km az=106.0*
ISC 13 08:49:48.0±3.2**, 1.1S**±0.1×**146.1E**±0.2**, h61**km±31km**, n24, σ0**§**90**/20**, mb4.2**/11**, Admiralty Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WAU	Wau	6.20	174	eP	P	08 51 18.8	-0.2
PMG	Port Moresby	8.29	172	P	P	08 51 53.9	+6.1
	0.6nm,0.3s,baz=58,slow=1.6,SNR=3.9						
PMG				LR	LR	08 54 05.0	
	comp=Z,191nm,19.9s,baz=342,slow=31						
PMG	Port Moresby	8.29	172	P	P	08 51 49.4	+1.5
CTA	Charters Tower	18.83	179	P	P	08 54 05.2	-0.4
	0.2nm,0.3s,baz=5.7,slow=10,SNR=3.0						
CTAO	Charters Tower	18.83	179	P	P	08 54 05.2	-0.4
WRAB	Tennant Creek	21.91	211	eP	P	08 54 36.9	-0.8
	27nm,0.9s,mb4.7						
WB2	Warramunga Arr	21.92	211	eP	P	08 54 37.1	-0.7
WRA	Warramunga Arr	21.92	211	P	P	08 54 37.3	-0.6
	13nm,0.8s,mb4.4,baz=33,slow=11,SNR=41						
WRA				LR	LR	09 03 39.0	
	comp=Z,127nm,20.4s,baz=35,slow=38						
ASPA	Alice Springs	25.30	207	eP	P	08 55 11.9	+1.2
FITZ	Fitzroy Crossi	26.19	229	eP	P	08 55 17.8	-1.2
	5.8nm,1.1s,mb4.0						
FITZ	Fitzroy Crossi	26.19	229	P	P	08 55 18.6	-0.5
	3.1nm,0.7s,mb3.9,baz=58,slow=4.1,SNR=5.4						
FITZ				LR	LR	09 07 12.8	
	comp=Z,70nm,20.0s,baz=72,slow=40						
STKA	Stephens Creek	30.86	187	LR	LR	09 10 02.7	
	comp=Z,157nm,20.8s,baz=24,slow=39						
MBWA	Marble Bar	32.48	230	eP	P	08 56 08.2	-7.0
	32nm,1.5s,mb4.9						
CMAR	Chiang Mai Arr	50.23	295	P	P	08 58 42.0	+1.6
	1.2nm,0.4s,mb4.2,baz=96,slow=3.8,SNR=7.7						
FX1	Attu Island--F	58.42	19	LR	LR	09 24 45.6	
	comp=Z,3.4nm,18.3s,baz=60,slow=36						
SONM	Songino Array	59.74	330	P	P	08 59 48.9	0.0
	1.0nm,0.8s,mb3.9,baz=143,slow=6.2,SNR=8.5						
MKAR	Makanchi Array	73.18	320	P	P	09 01 14.5	+0.2
	1.1nm,0.8s,mb3.8,baz=101,slow=6.2,SNR=8.1						
ZAL	Zalesovo	74.43	327	P	P	09 01 21.3	-0.1
	1.0nm,0.3s,mb4.2,baz=9.6,slow=9.8,SNR=3.2						
ZAL				LR	LR	09 35 47.9	
	comp=Z,42nm,18.8s,baz=270,slow=37						
KURK	Kurchatov	76.78	323	P	P	09 01 34.2	-0.6
SBA	Scott Base	77.44	176	eP	P	09 01 39.7	+1.7
	1.0nm,0.8s,mb3.8						
ILAR	Eielson Array	81.42	24	P	P	09 01 58.2	-1.4
	0.7nm,0.9s,mb3.6,baz=254,slow=6.2,SNR=5.0						
ILAR				LR	LR	09 36 13.6	
	comp=Z,30nm,19.4s,baz=359,slow=34						
ZRNK	Zerenda	83.12	324	eP	P	09 02 08.9	+0.3
	3.1nm,0.7s,mb4.5						
MAW	Mawson	86.35	202	LR	LR	09 40 04.8	
	comp=Z,48nm,21.3s,baz=248,slow=35						
DBIC	Dimbokro	150.47	281	PKPbc	PKPdf	09 09 36.0	+7.5
	6.2nm,1.1s,baz=53,slow=6.6,SNR=6.1						

*HEL **13** 08:59:22.6±0.3, 64.77N×30.74E, ML1.9, ML1.9(BER), ML2.0(NAO), Explosion*
*NAO **13** 08:59:24.4±1.8, 64.86N×30.11E, ML2.0*
*IDC **13** 08:59:24.3±2.0, 64.75N×30.87E, mb1 3.3/3, mb1mx3.1/20, ML2.6/3, Error ellipse: s-maj=26.6km s-min=9.5km az=101.0*
*BER **13** 08:59:25.6±2.6, 64.82N×30.22E, ML1.9, ML2.0(NAO), Suspected explosion*
ISC 13 08:59:21.3±0.7**, 64.77N**±0.03×**30.7E**±0.1**, n17, σ1**§**13**/27**, Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSF	Maaselka	1.34	330	eP	Pb	08 59 47.8	+0.8
MSF				eS	Sb	09 00 05.2	+0.6
KJN	Kajaani	1.46	243	eP	Pn	08 59 49.2	+0.3
KJN				eS	Sb	09 00 07.9	-0.1
JOF	Joensuu	1.88	171	eP	Pn	08 59 55.4	+0.5
JOF				eS	Sn	09 00 18.8	-0.8
OUL	Oulu	2.06	281	eP	Pn	08 59 58.1	+0.5
OUL				eS	Sn	09 00 24.9	+0.5
SUF	Sumiainen	2.88	226	MSG		09 00 52.1	
	comp=Z,3.1nm,0.1s						
APA0	Apatity Array	3.00	17	Pn	Pn	09 00 12.5	+1.5
	baz=197,slow=14						
APA0				Lg		09 00 58.7	
	baz=194,slow=37						
APA0	Apatity Array	3.00	17	eP	Pn	09 00 12.5	+1.5
APA0				e		09 00 58.7	
FIA0	FINESS Array S	3.94	214	eP	Pn	09 00 25.3	+1.0
FIA0				eSG	Sg	09 01 25.0	-7.3
FIA0	FINESS Array S	3.94	214	Pn	Pn	09 00 25.3	+1.0
	baz=29,slow=14						
FIA0				Lg		09 01 25.0	
	baz=21,slow=37						
FINES	FINESS Array B	3.94	214	Pn	Pn	09 00 25.2	+1.0
	comp=Z,0.1nm,0.3s,baz=33,slow=14,SNR=5.5						
FINES				Pg	Pg	09 00 33.0	-6.9
	comp=Z,0.3nm,0.3s,baz=34,slow=15,SNR=7.1						
FINES				Sn	Sn	09 01 12.9	+1.0
	comp=Z,0.3nm,0.3s,baz=27,slow=25,SNR=3.9						
FINES				Lg		09 01 23.1	
	comp=Z,1.1nm,0.3s,baz=34,slow=28,SNR=12						
KTK1	Kautokeino	5.17	329	eP	Pn	09 00 40.6	-1.2
KTK1				AML	AML	09 02 08.5	
	comp=Z,3.6nm,0.5s						
ARA0	ARCESS Array S	5.20	339	Pn	Pn	09 00 40.7	-1.4
	baz=154,slow=14						
ARA0				Sn	Sn	09 01 38.6	-5.1
	baz=149,slow=28						
ARA0				Lg		09 02 00.5	
	baz=153,slow=37						
ARA0	ARCESS Array S	5.20	339	eP	Pn	09 00 40.7	-1.4
ARA0				eS	Sn	09 01 38.6	-5.1
ARA0				eSG		09 02 00.5	
ARCES	ARCESS Array B	5.20	339	Pn	Pn	09 00 41.9	-0.3
	comp=Z,0.4nm,0.3s,baz=155,slow=13,SNR=40						
ARCES				Sn	Sn	09 01 39.3	-4.4
	comp=Z,0.4nm,0.3s,baz=153,slow=22,SNR=5.1						
ARCES				Lg		09 02 01.0	
	comp=Z,0.7nm,0.3s,baz=157,slow=28,SNR=7.9						
HFS	Hagfors	9.12	247	Pn	P	09 01 33.9	-3.3
	baz=43,slow=8.6						
HFS	Hagfors	9.12	247	eP	P	09 01 33.9	-3.3
NOA	NORSAR Array B	9.62	256	Pn	P	09 01 40.9	-2.9
	comp=Z,0.1nm,0.3s,baz=324,slow=3.6,SNR=2.8						
NOA				Sn	Sn	09 03 25.2	-8.7
	comp=Z,0.1nm,0.3s,baz=31,slow=12,SNR=3.0						

*IDC **13** 09:06:25.2±1.1, 34.36N×136.60E, mb3.8/6, mb1 4.0/6, mb1mx3.8/21, Error ellipse: s-maj=38.3km s-min=26.0km az=83.0*
*JMA **13** 09:07:01.3±0.3, 34.35N×137.06E, h351km±3km, M3.1*
*NEIC **13** 09:07:02.1±1.0, 34.27N×136.97E, h334km±9km, mb3.9/1, Error ellipse: s-maj=39.1km s-min=16.5km az=94.0*
ISC 13 09:07:01.5±0.6**, 34.28N**±0.10×**137.1E**±0.1**, h344**km±4km**, n23, σ0**§**65**/30**, mb3.4**/7**, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIE	Ise	0.35	289	P	P	09 07 45.4	+0.4
JIE				S	S	09 08 18.9	-0.1
JAA	Atsumi	0.35	6	P	P	09 07 45.6	+0.6
JWY	Kouya	1.25	268	P	P	09 07 48.3	+0.3
JWZ	Kozaga	1.37	237	P	P	09 07 48.3	-0.3
JGM	Miyama	1.45	348	P	P	09 07 49.3	+0.2
JGM				S	S	09 08 27.0	+0.7
JWT	Wachi	1.72	306	P	P	09 07 50.7	0.0
JWT				S	S	09 08 28.5	-0.6
JOD2	Odawara 2	1.91	58	P	P	09 07 52.4	+0.5
JKG	Kaga	2.09	343	P	P	09 07 53.0	-0.2
JAI	Aioi	2.25	258	P	P	09 07 54.4	-0.1
JRY	Ryogami san	2.28	40	P	P	09 07 55.1	+0.5
JRY				eS	S	09 08 36.5	+0.3
MAJO	Matsushiro	2.43	21	eP	P	09 07 55.3	-0.6
MAT	Matsushiro	2.43	21	P	P	09 07 55.7	-0.2
MAT				S	S	09 08 37.5	-1.0
MAT	Matsushiro	2.43	21	P	P	09 07 55.8	-0.1
MAT				S	S	09 08 37.6	-0.9
MAT	Matsushiro	2.43	21	eP	P	09 07 56.0	+0.1
MAT				eS	S	09 08 38.0	-0.5
JAG	Ashikaga	2.88	41	P	P	09 07 58.4	-1.3
JHS	Saijyo	3.36	283	P	P	09 08 04.6	+0.4
MKAR	Makanchi Array	42.67	304	P	P	09 14 18.7	-8.0
	0.3nm,0.8s,mb2.5,baz=100,slow=8.8,SNR=2.6						
ILAR	Eielson Array	53.68	31	P	P	09 15 49.7	-0.6
	0.5nm,1.1s,mb2.8,baz=280,slow=5.5,SNR=4.9						
WRAB	Tennant Creek	53.97	183	eP	P	09 15 53.2	+0.2
	3.9nm,0.7s,mb3.9						
WRA	Warramunga Arr	53.98	183	P	P	09 15 51.7	-1.3
	0.6nm,0.3s,mb3.4,baz=0.3,slow=7.6,SNR=44						
ARCES	ARCESS Array B	65.32	339	P	P	09 17 08.4	-0.2
	5.1nm,0.9s,mb4.1,baz=45,slow=10,SNR=4.4						
FINES	FINESS Array B	69.58	331	P	P	09 17 35.0	0.0
	1.3nm,0.8s,mb3.7,baz=53,slow=6.9,SNR=3.9						
PDAR	Pinedale Array	82.09	43	P	P	09 18 47.1	+2.0
	0.3nm,0.6s,mb3.3,baz=315,slow=4.2,SNR=3.4						

JMA 13 09:30:56.3, 35.41N×133.25E, h9km±1km**, M2.6, Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNM	Ikuma	0.20	296	P	Pg	09 31 00.8	+0.2
JNM				eS	Sg	09 31 03.9	+0.4
JHS	Saijyo	0.42	195	P	Pg	09 31 04.7	-0.2
JHS				eS	Sg	09 31 10.6	-0.1
JJG	Jouge	0.77	186	P	Pb	09 31 11.1	-0.3

*NIED **13** 09:31:00, 35.40N×133.30E, h5km, Mw3.4 Best double couple: M0 1.19×10^14 NP1: φs163°, δ82°, λ-25°. NP2: φs257°, δ65°, λ-171°.*
JMA 13 09:31:12.9, 35.41N×133.25E, h9km±1km**, M3.3, 2C-1D Broadband fault plane solution: P waves. NP1:**φs75°, δ53°, λ-149°. **NP2:**φs325°, δ66°, λ-42°. **Principal axes:** T Plg8°, Azm23°; N Plg43°, Azm121°; P Plg46°, Azm285°; **Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNM	Ikuma	0.20	296	⇓P	Pg	09 31 17.3	+0.1
JNM				eS	Sg	09 31 20.3	+0.2
JHS	Saijyo	0.42	195	⇑P	Pg	09 31 21.3	-0.2
JHS				eS	Sg	09 31 27.2	-0.1
JJG	Jouge	0.77	186	P	Pb	09 31 27.6	-0.4
JJG				eS	Sb	09 31 37.7	-0.7
SAI	Saigo	0.79	5	eS	Sb	09 31 38.9	-0.1
JGT	Gotsu	0.84	243	⇑P	Pb	09 31 28.7	-0.5
JGT				S	Sb	09 31 39.9	-0.5
JAD	Aida	0.89	122	eS	Sb	09 31 41.2	-0.5

*ATH **13** 10:11:05.0, 39.62N×20.82E, h33km±3km, MD3.1/4*
*NEIC **13** 10:11:05.0, 39.62N×20.82E, h33km, MD3.1(ATH), After ATH.*
*THE **13** 10:11:06.7, 39.43N×20.76E, h10km*
*CSEM **13** 10:11:06.3±0.1, 39.43N×20.76E, h1km, MD3.1, Error ellipse: s-maj=3.1km s-min=2.9km az=9.0*
ISC 13 10:11:06.7±0.6**, 39.51N**±0.05×**20.70E**±0.05**, h23**km±6km**, n11, σ1**§**10**/17**, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAN	Janina	0.18	39	ePB	Pb	10 11 10.8	-1.1
JAN				eSB	Sb	10 11 14.5	-1.0

IGT	Igoumenitsa	0.29	274	*e*Pg	Pb	10 11 13.2	-0.2
IGT				*e*Sg	Sb	10 11 19.3	+1.4
IGT	Igoumenitsa	0.29	274	*e*Pg	Pb	10 11 13.1	-0.3
IGT				*e*Sg	Sb	10 11 19.3	+1.4
MEV	Metsovon	0.49	56	*e*Pg	Pb	10 11 15.9	-0.7
	comp=Z,11nm,0.3s						
MEV				*e*Sg	Sb	10 11 24.6	+1.2
LSK	Leskovik	0.64	353	*i* Sn	Sn	10 11 30.9	+1.2
LSK	Leskovik	0.64	353	*e*Pn	Pn	10 11 19.1	-1.1
KEK	Kerkira	0.73	286	*e*PN	Pn	10 11 20.5	-1.0
EVR	Evrytania	1.05	124	*e*PN	Pn	10 11 24.5	-1.5
VLS	Valsamata	1.34	184	*e*PN	Pn	10 11 31.2	+1.0
AGG	Agios Georgios	1.35	111	*e*Pb	Pb	10 11 30.6	-0.6
AGG				*e*Sb	Sb	10 11 49.8	+1.6
FNA	Florina	1.37	22	*e*Pb	Pb	10 11 32.4	+1.0
FNA				*e*Sb	Sb	10 11 53.8	+5.2

*BJI **13** 10:31:20.7, 43.30N×126.90W, h10km, mB4.8, mb4.8, Ms4.5, Msz4.3*
*NEIC **13** 10:31:23.8±0.5, 43.27N×126.86W, h10km, mb4.5/5, Error ellipse: s-maj=6.2km s-min=2.6km az=74.0*
*IDC **13** 10:31:24.8±1.9, 43.48N×126.54W, mb3.9/4, mb1 4.3/9, mb1mx4.0/24, ML3.8/5, MS3.7/10, Ms1 3.7/10, ms1mx3.4/23, Error ellipse: s-maj=37.9km s-min=12.4km az=53.0*
ISC 13 10:31:21.1±2.2**, 43.30N**±0.03×**126.95W**±0.07**, h7**km±15km**, n147,** σ**0^{s}90**/134**, mb4.4**/7**, MS3.8**/8**, 2C-1D, Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	Edson Butte	1.96	102	*e*P	Pn	10 31 54.3	-0.9
KBO	Bosley Butte	2.28	118	*e*P	Pn	10 31 58.9	-0.9
MPOR	Mary's Peak	2.73	63	P	Pn	10 32 05.9	-0.3
HSO	Harness Mounta	2.82	84	⇑P	Pn	10 32 07.2	-0.3
COR	Corvallis	2.93	63	*e*P	Pn	10 32 08.4	-0.6
HUMO	Hull Mountain	3.01	102	*e*P	Pn	10 32 09.1	-1.1
BBOR	Butler Butte	3.15	96	⇓P	Pn	10 32 12.4	+0.2
BROR	Big Rock Looko	3.40	72	P	Pn	10 32 15.9	+0.2
HBO	Huckleberry Mo	3.41	79	P	Pn	10 32 16.3	+0.5
KHMM	Horse Mountain	3.41	134	*e*P	Pn	10 32 14.4	-1.4
IRO	Indian Ridge	3.48	77	P	Pn	10 32 17.1	+0.3
YBH	Yreka Blue Hor	3.50	115	Pn	Pn	10 32 17.9	+0.7
	3.1nm,0.3s,baz=310,slow=11,SNR=51						
YBH				Sn	Sn	10 33 00.2	+0.7
	1.6nm,0.3s,baz=255,slow=21,SNR=6.8						
YBH	Yreka Blue Hor	3.50	115	*e*P	Pn	10 32 17.2	+0.1
SSOR	Sweet Springs	3.59	63	P	Pn	10 32 19.0	+0.6
FRIS	Frissel Point	3.63	74	⇑P	Pn	10 32 19.3	+0.4
NLO	Nicolai Mounta	3.74	41	P	Pn	10 32 20.7	+0.2
HUOR	Husband	3.79	76	P	Pn	10 32 21.9	+0.7
GT2	Goat Mountain	3.84	60	P	Pn	10 32 22.8	+0.9
BKCOR	Black Crater	3.93	74	P	Pn	10 32 23.8	+0.5
BMW	Boistfort Moun	4.13	39	P	Pn	10 32 25.4	-0.6
TDH	Tom, Dick, Har	4.20	60	P	Pn	10 32 28.1	+1.0
ON2	Olympics--Nort	4.22	31	P	Pn	10 32 27.3	-0.1
LVP	Lakeview Peak	4.26	48	P	Pn	10 32 28.6	+0.7
WDC	Whiskeytown Da	4.27	128	*e*P	Pn	10 32 28.5	+0.5
HOOD	Mount Hood Mea	4.30	60	P	Pn	10 32 29.3	+0.7
MTMW	Mount Mitchell	4.34	50	P	Pn	10 32 28.7	-0.3
VLL	Laurance Lake	4.35	58	P	Pn	10 32 30.2	+1.0
FL2	Flat Top 2	4.37	47	P	Pn	10 32 30.4	+1.0
VFP	Flag Point	4.42	61	P	Pn	10 32 30.6	+0.4
ERK	Elk Rock	4.45	46	P	Pn	10 32 31.1	+0.6
JLK	June Lake	4.45	49	P	Pn	10 32 31.2	+0.6
CDFW	Cedar Flats	4.49	49	P	Pn	10 32 31.5	+0.4
LCW	Lucas Creek	4.52	40	P	Pn	10 32 31.9	+0.4
TDL	Tradedollar La	4.54	46	P	Pn	10 32 32.5	+0.6
CPW	Capitol Peak	4.55	35	P	Pn	10 32 32.1	0.0
CROR	Criterion Ridg	4.61	67	P	Pn	10 32 32.6	-0.2
KOSW	Kosmos	4.62	45	P	Pn	10 32 34.0	+0.9
LMW	Ladd Mountain	4.71	43	P	Pn	10 32 34.9	+0.5
VIPM	Ingram Point	4.73	73	P	Pn	10 32 34.4	-0.1
ASR	Mount Adams--S	4.76	51	P	Pn	10 32 35.8	+0.8
OOW	Octopus West	4.84	23	P	Pn	10 32 36.2	+0.1
OCWA	Octopus Mounta	4.85	23	*e*P	Pn	10 32 36.2	-0.1
GHW	Garrison Hill	4.99	40	P	Pn	10 32 38.6	+0.4
GLK	Glacier Lake	5.00	47	P	Pn	10 32 39.2	+0.8
LON	Longmire	5.01	45	P	Pn	10 32 39.2	+0.6
REMR	Mount Rainier-	5.04	44	P	Pn	10 32 39.7	+0.7
MOD	Modoc	5.10	104	*e*P	Pn	10 32 39.5	-0.4
RCM	Mount Rainier-	5.11	44	P	Pn	10 32 40.8	+0.9
WPW	White Pass	5.12	47	P	Pn	10 32 40.7	+0.7
HDW	Hoodsport	5.13	31	P	Pn	10 32 40.1	-0.2
RCS	Mount Rainier-	5.13	44	P	Pn	10 32 41.0	+0.7
GNW	Green Mountain	5.15	33	*e*P	Pn	10 32 39.8	-0.7
FMW	Mount Fremont	5.21	44	P	Pn	10 32 42.0	+0.7
GSM	Grass Mountain	5.33	41	P	Pn	10 32 43.5	+0.4
STW	Striped Peak	5.36	24	P	Pn	10 32 43.6	+0.1
BLN	Blyn Mountain	5.47	29	P	Pn	10 32 45.2	+0.2
RMW	Rattlesnake Mo	5.51	39	P	Pn	10 32 45.7	+0.1
OHCM	Honcut	5.71	132	*e*P	Pn	10 32 50.0	+1.5
TTW	Tolt Reservoir	5.74	38	P	Pn	10 32 48.7	-0.1
EBG	Ellensburg	5.78	49	P	Pn	10 32 50.1	+0.7
HTW	Haystack Looko	5.79	37	P	Pn	10 32 49.4	-0.1
NSHM	Saint Helena R	5.80	144	*e*P	Pn	10 32 50.7	+1.0
PGC	Sidney	5.88	23	*e*P	Pn	10 32 49.9	-0.8
TBM	Table Mountain	5.92	47	P	Pn	10 32 52.1	+0.7
LTY	Liberty	5.94	46	P	Pn	10 32 51.8	+0.2
BEKR	Beckwourth	6.02	123	*e*P	Pn	10 32 52.4	-0.4
JCW	Jim Creek	6.02	34	P	Pn	10 32 53.0	+0.2
RSW	Rattlesnake Hi	6.08	57	P	Pn	10 32 53.6	0.0
HAWA	Hanford	6.11	57	*e*P	Pn	10 32 53.4	-0.7
GBB	Gable Butte	6.16	55	P	Pn	10 32 54.8	+0.1
GBL	Gable Mountain	6.25	56	P	Pn	10 32 56.2	+0.1
YPT	Yellepit	6.32	62	P	Pn	10 32 56.2	-0.8
ETW	Entiat	6.34	45	P	Pn	10 32 57.7	+0.4
RPW	Rockport	6.39	35	P	Pn	10 32 58.1	+0.1
CRF	Corfu	6.41	54	P	Pn	10 32 58.3	0.0
MBW	Mount Baker	6.51	31	P	Pn	10 32 59.6	0.0
EPH	Ephrata	6.58	49	P	Pn	10 33 00.9	+0.2
VDB	Vedder Mountai	6.64	29	P	Pn	10 33 01.4	-0.1
NLW	Nelson Butte	6.65	42	*e*P	Pn	10 33 00.8	-0.8
LKC	Lake Chabot	6.69	145	*e*P	Pn	10 33 01.6	-0.7
LNOR	Lincton Mounta	6.70	64	*e*P	Pn	10 33 00.8	-1.6
WCN	Washoe City	6.73	124	*e*P	Pn	10 33 02.5	-0.4
CMB	Columbia Colle	7.25	134	*e*P	Pn	10 33 09.4	-0.7
DPW	Davenport	7.65	50	*e*P	Pn	10 33 14.5	-1.1
NVAR	Mina Array Bea	8.16	124	Pn	P	10 33 24.7	+1.9
	0.3nm,0.3s,baz=294,slow=14,SNR=15						
OMM	Old Mammoth Mi	8.31	130	P	P	10 33 23.4	-1.5
NEW	Newport	8.47	51	*e*P	P	10 33 25.6	-1.5
MTUM	Tungsten Hills	8.73	130	P	P	10 33 32.7	+1.9
BBB	Bella Bella	8.92	355	Pn	P	10 33 33.8	+0.4
	1.2nm,0.3s,baz=45,slow=3.3,SNR=7.2						
BBB				LR	LR	10 36 20.3	
	comp=Z,278nm,18.5s,baz=170,slow=34						
HLID	Hailey	9.13	84	*e*P	P	10 33 35.8	-0.4
MSO	Missoula	9.86	65	*e*P	P	10 33 44.2	-2.0
MCMT	McKenzie Canyo	10.27	77	*e*P	P	10 33 51.4	-0.4
CHMT	Chamberlain Mo	10.33	65	*e*P	P	10 33 51.0	-1.8
WALA	Waterton Lakes	10.71	53	*e*P	P	10 33 56.6	-1.3
DUG	Dugway	11.01	102	*e*P	P	10 34 01.8	-0.3
HRY	Holter Researc	11.23	67	*e*P	P	10 34 03.3	-1.7
QLMT	Earthquake Lak	11.27	77	*e*P	P	10 34 04.8	-0.8
RRI2	Red Ridge	11.39	84	*e*P	P	10 34 07.2	0.0
YMR	Madison River	11.60	78	*e*P	P	10 34 09.1	-1.0
TPAW	Teton Pass	11.64	84	*e*P	P	10 34 10.8	+0.1
ARUT	Antelope Range	11.66	114	*e*P	P	10 34 10.4	-0.5
YFT	Old Faithful	11.69	79	*e*P	P	10 34 09.8	-1.5
REDW	Red Top Meadow	11.73	84	*e*P	P	10 34 10.4	-1.4
SNOW	Snow King Moun	11.79	84	*e*P	P	10 34 12.3	-0.4
YNR	Norris Junctio	11.80	78	*e*P	P	10 34 11.9	-1.0
LOHW	Long Hollow	11.89	83	*e*P	P	10 34 12.1	-1.8
DAU	Daniels Canyon	12.05	99	P	P	10 34 15.6	-0.6
NEN	Nelson	12.07	125	*e*P	P	10 34 16.7	+0.3
MVU	Marysvale	12.13	108	*e*P	P	10 34 18.4	+1.1
MSU	Marysvale	12.15	108	*e*P	P	10 34 18.3	+0.7
LDFC	Landfair	12.31	128	*e*P	P	10 34 22.8	+3.0
GCMT	Greycliff	12.58	73	*e*P	P	10 34 23.1	-0.2
PDAR	Pinedale Array	12.74	86	Pn	P	10 34 26.4	+1.0
	0.1nm,0.3s,baz=280,slow=11,SNR=29						
PDAR				LR	LR	10 39 41.1	
	comp=Z,416nm,19.0s,baz=321,slow=40						
SRU	San Rafael	13.06	103	*e*P	P	10 34 29.0	-0.6
EDM	Edmonton	13.41	38	*e*P	P	10 34 32.3	-2.0
PV01	Paradox Valley	14.86	104	*e*P	P	10 34 54.0	+0.8
DLBC	Dease Lake	15.27	354	Pn	P	10 35 07.2	+8.6
	0.2nm,0.3s,baz=175,slow=12,SNR=9.3						
DLBC				LR	LR	10 40 02.6	
	comp=Z,122nm,18.9s,baz=331,slow=34						
DGMT	Dagmar	16.64	64	*e*P	P	10 35 15.4	-0.8
	24nm,0.9s						
SDCO	Great Sand Dun	17.21	102	*e*P	P	10 35 23.6	+0.1
	16nm,1.1s						
FFC	Flin Flon	19.85	46	*e*P	P	10 35 53.2	-2.0
	26nm,1.1s						
YKA	Yellowknife Ar	20.54	16	P	P	10 36 02.5	0.0
	2.8nm,0.7s,baz=201,slow=10,SNR=3.8						
ULM	Lac du Bonnet	22.27	61	P	P	10 36 20.6	+0.5
	15nm,0.9s,mb4.4,baz=261,slow=10,SNR=7.7						
ULM				LR	LR	10 45 17.6	
	comp=Z,171nm,18.1s,MS3.5,baz=9.4,slow=38						
KSU1	Kansas State U	23.14	90	*e*P	P	10 36 29.9	+1.1
TXAR	Lajitas Array	23.27	119	P	P	10 36 33.7	+3.6
	1.3nm,0.8s,mb3.4,baz=296,slow=8.2,SNR=14						
TXAR	Lajitas Array	23.27	119	P	P	10 36 33.7	+3.6
WMOK	Wichita Mounta	23.41	102	*e*P	P	10 36 33.1	+1.7
	19nm,0.9s,mb4.5						
ILAR	Eielson Array	24.27	339	P	P	10 36 41.9	+2.4
	2.9nm,0.8s,mb3.8,baz=158,slow=7.4,SNR=25						
ILAR				LR	LR	10 44 33.7	
	comp=Z,94nm,20.8s,MS3.3,baz=181,slow=33						
INK	Inuvik	25.30	354	LR	LR	10 46 27.7	
	comp=Z,157nm,18.6s,MS3.6,baz=31,slow=36						
MIAR	Mount Ida	27.25	97	P	P	10 37 08.2	+0.5
SCHQ	Schefferville	39.84	52	LR	LR	10 55 33.7	
	comp=Z,197nm,19.2s,MS4.0,baz=263,slow=37						
MDJ	Mudanjiang	69.08	312	P	P	10 42 27.1	-2.4
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.9s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,52nm,5.0s						
ZAL	Zalesovo	79.39	342	LR	LR	11 19 16.4	
	comp=Z,39nm,18.9s,MS3.8,baz=183,slow=36						
ESDC	Sonseca Array	82.66	41	LR	LR	11 17 27.2	
	comp=Z,33nm,18.2s,MS3.7,baz=320,slow=34						
NJ2	Nanjing	83.87	309	*e*P	P	10 43 51.1	-1.5
WMQ	Urumqi	87.89	336	*e*P	P	10 44 14.3	+2.1
LZH	Lanzhou	88.45	321	*e*P	P	10 44 13.9	-1.2
LZH				AP	pP	10 44 17.3	-0.1
LZH				AMB	AMB		
	comp=Z,22nm,1.3s,mb5.2						
LZH				LR	LR		
	comp=N,219nm,15.0s						
LZH				LR	LR		
	comp=Z,294nm,18.2s,MS4.7						
BDFB	Brasilia	92.76	109	LR	LR	11 28 49.4	
	comp=Z,77nm,20.0s,MS4.2,baz=289,slow=37						
KMI	Kunming	98.02	316	*e*P	P	10 44 59.1	-0.3
KMI				AP	pP	10 45 01.8	+0.1
KMI				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb5.0						
VNA3	Neumayer Olymp	139.02	154	*e*	PKPdf	10 50 46.1	-4.0
VNA3	Neumayer Olymp	139.02	154	*e*	PKPdf	10 50 49.4	-0.7
VNA1	Neumayer--Stat	139.56	153	*e*	PKPdf	10 50 46.2	-4.9
VNA1	Neumayer--Stat	139.56	153	*e*	PKPdf	10 50 49.3	-1.8
VNA2	Neumayer--Watz	139.80	154	*e*	PKPdf	10 50 48.6	-2.9
VNA2	Neumayer--Watz	139.80	154	*e*	PKPdf	10 50 51.4	-0.1
SNAA	Sanae	141.06	155	*e*	PKPdf	10 50 46.0	-7.6
SNAA	Sanae	141.06	155	*e*	PKPdf	10 50 49.2	-4.4
LSZ	Lusaka	144.91	45	*e*PKP	PKPdf	10 51 01.3	-0.6

MEX 13 10:31:22.9±1.0**, 17.03N**×**93.72W, h188**km±13km**, MD3.9, 1C, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	1.12	273	⇑*i*P	P	10 31 51.2	-1.3
CMIG				*i* S	S	10 32 12.6	-2.9
HUIG	Huatulco	2.61	242	*i* P	P	10 32 05.0	-2.9
HUIG				*i* S	S	10 32 40.4	-2.2
OXX	Oaxaca	2.87	271	*i* P	P	10 32 10.0	-1.0
OXX				*i* S	S	10 32 46.0	-2.1
VHO	Vista Hermosa	2.88	271	*i* P	P	10 32 09.7	-1.4
VHO				*i* S	S	10 32 45.3	-2.9

MAN 13 10:32:36.1, 6.49N×**124.71E, h42**km**, mb4.6, ML3.5, MS3.4, 1C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	General Santos	0.47	149	*i* P	P	10 32 50.0	+3.5
KCP	Kidapawan	0.64	36	⇓*e*P	P	10 32 41.6	-7.3
KCP				*i* S	S	10 33 04.2	+6.1
CTBH	Cotabato--PC H	0.86	328	⇑*i*P	P	10 32 52.6	+0.7
CTBH				*i* S	S	10 33 07.2	+3.7
BUKP	Musuan	1.43	14	*e*P	P	10 33 00.1	+0.1
PAGZ	Pagadian	1.89	316	*e*P	P	10 33 07.3	+0.8
IPIL	Ipil	2.48	301	*e*P	P	10 33 14.9	-0.1
IPIL				*e*S	S	10 33 47.7	+3.4

TAP 13 10:35:43.6, 23.62N×**121.26E, h4**km±1km**, ML3.7, Taiwan**

*IDC **13** 10:35:52.8±9.4, 18.76S×178.06W, h400km±99km, mb3.3/7, mb1 3.6/7, mb1mx3.5/14, Error ellipse: s-maj=123.0km s-min=28.2km az=159.0*
*NEIC **13** 10:35:56.8±4.7, 18.81S×178.13W, h445km±51km, mb4.0/3, Error ellipse: s-maj=27.0km s-min=19.3km az=149.0*
ISC 13 10:35:49.5±0.6**, 19.7S**±0.2×**177.7W**±0.1**, h400**km**, n19,** σ**0^{s}97**/16**, mb3.6**/9**, 2C-3D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	33.88	263	P	P	10 41 58.6	+0.5
	7.2nm,0.5s,mb4.2,baz=101,slow=8.4,SNR=7.5						
CTAO	Charters Tower	33.88	263	*e*P	P	10 41 58.9	+0.8
	12nm,0.8s,mb4.3						
ASPA	Alice Springs	45.00	256	*e*P	P	10 43 29.8	+0.9
WRAB	Tennant Creek	45.00	261	*e*P	P	10 43 28.4	-0.6
	1.5nm,0.6s,mb3.5						
WRA	Warramunga Arr	45.01	261	P	P	10 43 28.5	-0.5
	1.3nm,0.8s,mb3.3,baz=97,slow=7.2,SNR=46						
FITZ	Fitzroy Crossi	53.44	262	P	P	10 44 32.5	+0.1
	0.6nm,0.3s,mb3.2,baz=183,slow=9.7,SNR=5.6						
QSPA	South Pole Qui	70.37	180	*e*P	P	10 46 29.7	+7.4
	3.7nm,0.9s,mb3.9						
NVAR	Mina Array Bea	80.24	43	P	P	10 47 18.1	-0.1
	1.4nm,0.7s,mb3.7,baz=222,slow=9.0,SNR=9.7						
TXAR	Lajitas Array	86.37	57	P	P	10 47 51.1	+2.0
	1.4nm,0.8s,mb3.8,baz=219,slow=6.0,SNR=21						
ILAR	Eielson Array	87.47	13	P	P	10 47 52.0	-1.4
	0.3nm,0.5s,mb3.3,baz=250,slow=4.5,SNR=4.7						
PDAR	Pinedale Array	88.17	43	P	P	10 47 57.2	-0.1
	0.4nm,0.7s,mb3.3,baz=180,slow=1.5,SNR=4.4						
SNAA	Sanae	88.80	178	⇑*i*P	P	10 47 59.4	-0.1
VNA3	Neumayer Olymp	88.92	176	⇓*i*P	P	10 48 00.3	+0.2
VNA2	Neumayer--Watz	89.36	177	⇓*i*P	P	10 48 02.7	+0.5
VNA2	Neumayer--Watz	89.36	177	⇑*i*Pdif	P	10 48 02.7	+0.5
VNA1	Neumayer--Stat	89.59	176	⇓*i*P	P	10 48 00.5	-2.7
ZRNK	Zerenda	119.50	320	P	PKPdf	10 53 52.2	+0.1
ARCES	ARCESS Array B	128.19	350	PKP	PKPdf	10 54 09.2	+0.8
	4.6nm,0.9s,slow=1.2,SNR=7.7						
GERES	GERESS Array B	149.51	345	PKPbc	PKPdf	10 54 53.1	+6.2
	0.2nm,0.3s,baz=270,slow=4.0,SNR=3.8						

MAN 13 10:37:43.1, 14.16N×**120.36E, h74**km**, mb3.9, ML2.7, MS2.4, 1C-1D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.44	195	⇑*e*P	P	10 37 57.7	+1.9
TGY	Tagaytay City	0.56	96	*e*P	P	10 37 58.9	+1.9
TGY				*e*S	S	10 38 10.1	+2.8
NBP	Mount Natib	0.58	5	*e*P	P	10 37 58.4	+1.2
ARP	Angono	0.85	64	*e*P	P	10 38 02.0	+1.8
LQP	Lukban	1.14	92	⇓*i*P	P	10 38 04.2	+0.3

*CSEM **13** 10:38:15.7±0.8, 37.99N×15.89W, h2km, ML3.9/6, Error ellipse: s-maj=16.7km s-min=12.8km az=94.0*
*INMG **13** 10:38:18.9±0.7, 37.20N×16.05W, h10km, ML3.2, Error ellipse: s-maj=18.3km s-min=7.4km az=163.0*
MDD 13 10:38:15.8±3.1**, 37.78N**×**15.85W, mb4.4**/6**, Error ellipse: s-maj=27.2km s-min=25.6km az=35.0, PRXIMO, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOU	Loures	5.38	76	*e*Pn	Pn	10 39 37.4	-1.9
PLOU				*e*Sn	Sn	10 40 36.6	-6.2
	34nm,0.3s						
PLOU	Loures	5.38	76	*e*Pn	Pn	10 39 37.4	-1.9
PLOU				*e*Sn	Sn	10 40 36.6	-6.2
	34nm,0.3s						
PTEO	Sao Teotonio	5.66	90	*e*Pn	Pn	10 39 39.0	-4.2
PTEO				*e*Sn	Sn	10 40 39.9	-10
	16nm,0.2s						
PTEO	Sao Teotonio	5.66	90	*e*Pn	Pn	10 39 39.0	-4.2
PTEO				*e*Sn	Sn	10 40 39.9	-10
	16nm,0.2s						
MOE	Montemor	5.95	81	*e*Pn	Pn	10 39 44.8	-2.6
MOE				*e*Sn	Sn	10 40 48.8	-8.5
PBEJ	Beja	6.32	85	*e*Sn	Sn	10 40 57.7	-8.6
	13nm,0.3s						
PBEJ	Beja	6.32	85	*e*Sn	Sn	10 40 57.7	-8.6
	13nm,0.3s						
PALC	Alcoutim	6.65	90	*e*Pn	Pn	10 39 53.0	-4.2
PALC				*e*Sn	Sn	10 41 04.8	-10
	18nm,0.2s						
PALC	Alcoutim	6.65	90	Pn	Pn	10 39 53.0	-4.2
PALC				Sn	Sn	10 41 04.8	-10
	9.1nm,0.2s						
PCBR	Castelo Branco	6.85	70	*e*Sn	Sn	10 41 11.2	-8.5
	3.5nm,0.1s						
PCBR	Castelo Branco	6.85	70	Sn	Sn	10 41 11.2	-8.5
	1.8nm,0.1s						
EZAM	Zamans	7.02	49	Sn	Sn	10 41 13.0	-11
	2.0nm,0.3s,SNR=7.9						
EBAD	Badajoz	7.02	79	Pn	Pn	10 39 59.1	-3.3
	1.2nm,0.1s,SNR=7.6						
EBAD				Sn	Sn	10 41 14.5	-9.3
	15nm,0.2s,SNR=5.0						
EBAD	Badajoz	7.02	79	Pn	Pn	10 39 59.1	-3.3
	1.2nm,0.1s,SNR=7.6						
EBAD				Sn	Sn	10 41 14.5	-9.4
	15nm,0.2s,SNR=5.0						
ELOB	Lobios	7.25	53	Pn	Pn	10 40 01.0	-4.7
	6.0nm,0.9s,SNR=5.7						
ELOB				Sn	Sn	10 41 20.0	-10
	2.4nm,0.1s,SNR=4.5						
ELOB	Lobios	7.25	53	Pn	Pn	10 40 01.0	-4.7
	6.0nm,0.9s,SNR=5.7						
ELOB				Sn	Sn	10 41 20.0	-10
	2.4nm,0.1s,SNR=4.5						
EMIN	Mina Concepcio	7.27	87	Pn	Pn	10 40 02.1	-3.7
	2.2nm,0.2s,SNR=9.7						
EMIN				Sn	Sn	10 41 18.7	-11
	4.1nm,0.3s,SNR=6.7						
EMIN	Mina Concepcio	7.27	87	Pn	Pn	10 40 02.1	-3.8
	2.2nm,0.2s,SNR=9.7						
EMAZ	Mazaricos	7.36	43	Pn	Pn	10 40 03.2	-4.0
	3.4nm,0.2s,SNR=4.8						
EMAZ				Sn	Sn	10 41 21.8	-11
	1.8nm,0.2s						
PBRG	Braganca	8.08	57	*e*Sn	Sn	10 41 41.8	-8.6
ECAL	Calabor	8.15	56	Pn	P	10 40 13.3	-4.9
	4.5nm,0.6s,SNR=5.4						
ECAL				Sn	Sn	10 41 41.3	-11
	9.3nm,0.5s,SNR=7.9						
ECAL	Calabor	8.15	56	Pn	P	10 40 13.3	-4.9
	4.5nm,0.6s,SNR=5.4						
EADA	Adamuz	8.91	84	Pn	P	10 40 24.7	-4.0
	1.3nm,0.1s,SNR=5.0						
EADA				Sn	Sn	10 41 58.4	-13
	1.6nm,0.5s						
EADA	Adamuz	8.91	84	Pn	P	10 40 24.7	-4.1
	1.3nm,0.1s,SNR=5.0						
ESDC	Sonseca Array	9.48	75	Pn	P	10 40 32.9	-3.7
	0.4nm,0.2s,baz=260,slow=13,SNR=4.5						

*NEIC **13** 10:40:30.2, 33.51S×68.79W, h20km, ML3.1(GUC), After GUC.*
GUC 13 10:40:30.2±0.7**, 33.51S**×**68.79W, h20**km±8km**, MD3.8, ML3.1, 1C-1D, Mendoza Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMEL	Las Melosas	1.22	254	⇓*i*P	Pn	10 40 51.6	-0.8
LMEL				*i* S	Sb	10 41 08.3	+0.4
LMEL				AMP		10 41 10.2	
	comp=N,449nm,0.2s						
FCH	Farellones	1.27	278	⇑*i*P	Pn	10 40 52.5	-0.5
FCH				*i* S	Sb	10 41 09.6	+0.5
FCH				AMP		10 41 10.4	
	comp=N,358nm,0.3s						
PCH	Pirque	1.44	265	*e*P	Pn	10 40 55.1	-0.4
PCH				*e*S	Sn	10 41 14.0	0.0
CLCH	Cerro Calan	1.46	274	*e*P	Pn	10 40 55.5	-0.3
CLCH				*i* S	Sn	10 41 16.0	+1.5
CLCH				AMP		10 41 18.5	
	comp=N,683nm,0.8s						
CICH	Cipreses	1.58	239	*e*P	Pn	10 40 57.2	-0.2
CICH				*i* S	Sn	10 41 18.9	+1.6
CHCH	Chadas Angostu	1.61	254	*i* P	Pn	10 40 57.7	-0.1
CACH	El Canelo	1.62	248	*e*P	Pn	10 40 58.0	0.0
CACH				*e*S	Sn	10 41 18.9	+0.4
PEL	Peldehue	1.63	283	*e*P	Pn	10 40 57.7	-0.4
PEL				*e*S	Sn	10 41 19.5	+0.8
PEL				AMP		10 41 22.9	
	comp=N,442nm,0.7s						
RCDM	Rinconada Maip	1.68	270	*e*P	Pn	10 40 58.8	-0.2
RCDM				*i* S	Sn	10 41 22.6	+2.5
RCDM				AMP		10 41 23.1	
	comp=E,440nm,0.3s						
JACH	Jahuel	1.73	298	*i* P	Pn	10 40 59.8	+0.3
JACH				*i* S	Sn	10 41 22.0	+0.9
TACH	Talagante	1.80	265	*e*P	Pn	10 41 00.7	+0.2
SFDO	San Fernando	2.15	239	*e*P	Pn	10 41 06.3	+0.8
LNV	Longovilo	2.23	258	*e*P	Pn	10 41 07.9	+1.2
PACH	Papudo	2.43	293	*e*P	Pn	10 41 09.7	+0.2

*ATH **13** 10:45:18.3, 38.76N×23.87E, h22km±2km, MD3.2/8, ML3.5*
*NEIC **13** 10:45:18.3, 38.76N×23.87E, h22km, ML3.5(ATH), After ATH.*
*THE **13** 10:45:19.9, 38.74N×23.75E, h10km, ML3.0*
*CSEM **13** 10:45:19.1±0.1, 38.72N×23.82E, h8km, ML3.0, Error ellipse: s-maj=3.1km s-min=1.4km az=73.0*
ISC 13 10:45:19.3±0.6**, 38.74N**±0.03×**23.81E**±0.06**, h24**km±7km**, n19,** σ**1^{s}06**/28**, 2C, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	Alonnisos	0.43	7	*e*Pg	Pb	10 45 28.3	-0.1
AOS				*e*Sg	Sb	10 45 35.3	+0.9
MPAR	Parnis Oros	0.59	186	*e*PB	Pb	10 45 30.1	-0.9
LKR	Lokris	0.64	262	*e*PB	Pb	10 45 30.8	-1.0
LKR				*e*SN	Sn	10 45 41.5	-0.8
PTL	Penteli	0.69	177	*e*PN	Pn	10 45 32.1	-1.5
NEO	Neokhori	0.73	321	⇑*i*PN	Pn	10 45 33.3	-0.8
NEO				*e*SN	Sn	10 45 43.4	-1.1
ATH	Athens Observa	0.77	186	*e*PN	Pn	10 45 33.5	-1.2
ATH				*e*SN	Sn	10 45 46.8	+1.2
XOR	Xorichti	0.79	323	*e*Pg	Pb	10 45 34.5	+0.2
XOR				*e*Sg	Sb	10 45 45.4	+0.8
NSAL	Nisos Salamina	0.88	198	*e*PN	Pn	10 45 35.6	-0.6
NSAL				*e*SN	Sn	10 45 49.0	+0.7
NAIG	Nisos Aigina	1.01	195	*e*PN	Pn	10 45 38.0	-0.2
PAIG	Paliouri	1.19	355	*e*Pb	Pb	10 45 41.1	0.0
PAIG				*e*Sb	Sb	10 45 59.4	+3.4
AGG	Agios Georgios	1.19	284	*e*Pg	Pn	10 45 41.1	+0.3
	comp=Z,4.8nm,0.3s						
AGG				*e*Sg	Sb	10 45 58.1	+2.0
OUR	Ouranopolis	1.60	5	*e*Pb	Pb	10 45 47.1	-1.0
PLG	Polygyros	1.66	350	⇑*i*PN	Pn	10 45 47.6	+0.2
LIT	Litokhoron	1.70	323	*e*Pb	Pb	10 45 48.6	-1.2
LIT				*e*Sb	Sb	10 46 09.7	-1.2
SOH	Sokhos	2.11	351	*e*Pn	Pn	10 45 54.8	+0.9
VLI	Veliai	2.13	199	*e*PN	Pn	10 45 57.5	+3.2
APE	Apeiranthos	2.15	140	*e*PN	Pn	10 45 55.0	+0.5
ITM	Ithomi	2.16	224	*e*PN	Pn	10 45 56.6	+2.0
SRS	Serrai	2.38	356	*e*Pn	Pn	10 45 58.2	+0.5

*IDC **13** 11:12:03.2±3.4, 37.18N×22.15E, mb4.0/7, mb1 4.0/8, mb1mx3.8/23, ML3.2/1, Error ellipse: s-maj=75.2km s-min=16.3km az=49.0*
*ATH **13** 11:12:03.3, 36.70N×21.82E, h25km±1km, MD3.6/11,*

ML3.7
*NEIC **13** 11:12:03.3,36.70N×21.82E,h25^{km},ML3.7(ATH),After ATH.*
*CSEM **13** 11:12:05.0±0.1,36.70N×21.84E,h25^{km},ML3.7,Error ellipse: s-maj=4.2km s-min=2.7km az=9.0*
ISC 13 11:12:04.1±0.6,**36.75N**±0.05×**21.79E**±0.05,**h33**^{km},**n33,** σ**1^{s}40**/36,**mb3.9**/7,**1D,Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ITM	Ithomi	0.44	14	⇓iPB	Pb	11 12 13.2	-0.6
ITM				eSB	Sb	11 12 21.0	+0.6
VLI	Veliai	0.92	92	ePN	Pn	11 12 20.7	-0.1
KYTH	Kithira	1.11	115	ePN	Pn	11 12 23.4	-0.1
KYTH				eSN	Sn	11 12 39.0	+1.3
RLS	Riolos of Patr	1.33	349	ePN	Pn	11 12 29.9	+3.2
NAIG	Nisos Aigina	1.69	53	ePN	Pn	11 12 34.0	+2.2
VLS	Valsamata	1.71	326	ePN	Pn	11 12 34.6	+2.4
NSAL	Nisos Salamina	1.76	49	ePB	Pb	11 12 34.0	-1.7
ATH	Athens Observa	1.96	51	ePB	Pb	11 12 37.2	-1.8
MPAR	Parnis Oros	2.08	47	ePN	Pn	11 12 39.0	+1.5
PTL	Penteli	2.10	51	ePN	Pn	11 12 38.6	+0.9
LKR	Lokris	2.12	26	ePN	Pn	11 12 39.9	+1.8
LKD	Levkas	2.15	335	eP	P	11 12 42.9	+4.6
LKD	Levkas	2.15	335	eP	P	11 12 42.8	+4.5
AGG	Agios Georgios	2.31	10	eP	P	11 12 44.2	+3.8
AGG	Agios Georgios	2.31	10	eP	P	11 12 44.2	+3.7
VAM	Vamos	2.37	124	ePN	Pn	11 12 42.4	+0.9
IDI	Anoyia	2.91	119	Pn	Pn	11 12 49.4	+0.2
	3.1nm,0.3s,baz=10,slow=14,SNR=13						
IDI				Lg		11 13 37.7	
	14nm,0.3s,baz=294,slow=16,SNR=4.8						
SOI	Samo	4.75	288	ePn	Pn	11 13 15.4	0.0
SOI				eSn	Sn	11 14 02.7	-7.4
SOI	Samo	4.75	288	eSn	Sn	11 14 02.7	-7.4
SOI	Samo	4.75	288	ePn	Pn	11 13 15.4	0.0
PZI	Palazzolo	5.49	275	ePn	Pn	11 13 25.4	-0.4
MGR	Morigerati	5.95	307	ePn	Pn	11 13 33.9	+1.7
MGR	Morigerati	5.95	307	ePn	Pn	11 13 33.9	+1.6
SGO	Sicignano	6.34	309	ePn	Pn	11 13 37.8	0.0
SGO	Sicignano	6.34	309	ePn	Pn	11 13 37.8	0.0
HFS	Hagfors	23.97	350	P	P	11 17 15.7	-0.3
	1.6nm,0.4s,mb3.8,baz=153,slow=13,SNR=12						
FINES	FINESS Array B	24.86	5	P	P	11 17 23.6	-1.1
	1.0nm,0.4s,mb3.7,baz=166,slow=12,SNR=9.6						
NB2	NORSAR Subarra	25.22	348	P	P	11 17 26.3	-1.8
	1.0nm,0.5s,mb3.6,baz=149,slow=10						
NOA	NORSAR Array B	25.22	348	P	P	11 17 27.1	-0.9
	1.1nm,0.6s,mb3.6,baz=157,slow=9.0,SNR=4.3						
ARCES	ARCESS Array B	32.90	2	P	P	11 18 35.5	-1.5
	5.9nm,0.9s,mb4.5,baz=198,slow=8.6,SNR=4.5						
BVAR	Borovoye Array	37.28	48	P	P	11 19 12.8	-1.7
	1.3nm,0.7s,mb3.9,baz=270,slow=2.9,SNR=6.0						
MKAR	Makanchi Array	45.20	57	P	P	11 20 17.1	-2.4
	0.7nm,0.6s,mb3.7,baz=278,slow=6.0,SNR=6.2						
ZAL	Zalesovo	45.89	47	P	P	11 20 22.3	-2.6
	1.2nm,0.3s,mb4.3,baz=193,slow=9.2,SNR=3.5						

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*TAP **13** 11:21:04.8,24.49N×121.84E,h18^{km}±1^{km},ML2.0*
JMA 13 11:21:26.2±0.2,**23.84N**×**123.35E,h38**^{km}±3^{km},**M1.7, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HATJ	Hateruma jima	0.47	63	P	P	11 21 36.2	-0.2
HATJ				eS	S	11 21 43.8	+0.2
IRIF	Iriomote-Funau	0.60	35	P	P	11 21 38.0	-0.3
IRIF				eS	S	11 21 46.6	-0.4
YOJ	Yonaguni jima	0.69	333	P	P	11 21 39.6	+0.1
YOJ				S	S	11 21 48.8	-0.4
JKRS	Kuro-shima	0.72	57	P	P	11 21 40.1	+0.2
JKRS				eS	S	11 21 50.5	+0.6
JIJ	Ishigaki jima	0.89	54	P	P	11 21 42.3	0.0
JIJ				eS	S	11 21 53.8	-0.5

CASC 13 11:28:18.9±1.8,**11.19N**×**87.01W,h91**^{km}±53^{km},**MD3.6, 2C-3D,Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRUN	El Crucero	1.05	41	eP	P	11 28 38.3	-1.2
COPN	Copaltepe	1.06	23	⇓eP	P	11 28 39.4	-0.2
TICN	Ticuantepe	1.13	42	eP	P	11 28 41.8	+1.3
MGAN	Managua	1.21	38	⇑eP	P	11 28 41.0	-0.6
MGAN				eS	S	11 28 58.5	+0.2
APYN	Apoyeque	1.22	32	⇓eP	P	11 28 41.3	-0.4
LEON	Leon	1.22	5	eP	P	11 28 41.8	+0.1
MIRN	Miramar	1.27	13	eP	P	11 28 42.3	0.0
MOMJ	Momotombo	1.29	21	⇓eP	P	11 28 42.5	-0.1
CNGN	Cerro Negro	1.34	13	eP	P	11 28 43.2	+0.1
TELN	Telica	1.42	7	eP	P	11 28 43.2	-0.9
PYTN	Playitas	1.63	35	eP	P	11 28 46.7	-0.1
LCR2	La Lucha 2	3.29	116	eP	P	11 29 12.8	+3.3
URSC	Urasca	3.45	113	iP	P	11 29 14.5	+2.8
URSC				⇑eP		11 29 14.5	

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*IDC **13** 11:29:15.8±2.8,53.42S×160.91E,mb4.3/5,mb1 4.5/5, mb1mx4.4/7,MS4.0/2,Ms1 3.9/2,ms1mx3.6/7,Error ellipse: s-maj=98.0km s-min=31.1km az=79.0*
*NEIC **13** 11:29:17.7±2.5,53.50S×160.51E,h10^{km},mb4.3/5,Error ellipse: s-maj=92.7km s-min=15.6km az=72.0*
ISC 13 11:29:20.4±0.6,**53.58S**±0.07×**159.1E**±0.1,**h10**^{km},**n21,** σ**0^{s}95**/20,**mb4.3**/9,**MS3.9**/2,**2C-2D,Macquarie Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MLZ	Mavora Lakes	10.12	39	eP	P	11 31 49.1	+0.3
TUZ	Tuapeka	10.21	46	P	P	11 31 50.1	+0.1
ODZ	Otahua Downs	11.37	46	P	P	11 32 05.3	-0.6
STKA	Stephens Creek	25.09	323	eP	P	11 34 48.3	+1.9
	3.9nm,0.8s,mb4.0						
STKA	Stephens Creek	25.09	323	P	P	11 34 48.1	+1.8
	4.9nm,0.8s,mb4.1,baz=141,slow=12,SNR=6.1						
STKA				LR	LR	11 44 13.2	
	comp=Z,198nm,20.2s,MS3.6,baz=204,slow=35						
CTA	Charters Tower	34.86	339	eP	P	11 36 15.4	+1.6
	11nm,1.2s,mb4.7						
ASPA	Alice Springs	35.40	318	eP	P	11 36 18.3	-0.1
QSPA	South Pole Qui	36.54	180	eP	P	11 36 21.7	-5.7
	4.0nm,0.9s,mb4.2						
WB2	Warramunga Arr	38.59	321	eP	P	11 36 44.3	-0.9
WRA	Warramunga Arr	38.60	321	P	P	11 36 44.7	-0.6
	5.1nm,0.8s,mb4.3,baz=155,slow=7.3,SNR=18						
WRA				PcP	PcP	11 38 55.0	-3.3
	2.3nm,1.2s,baz=167,slow=2.9,SNR=5.1						
WRA				LR	LR	11 52 35.9	
	comp=Z,304nm,18.7s,MS4.1,baz=170,slow=36						
WRAB	Tennant Creek	38.60	321	eP	P	11 36 44.7	-0.6
	6.6nm,0.8s,mb4.4						
FITZ	Fitzroy Crossi	43.86	311	eP	P	11 37 28.4	-0.1
	4.2nm,0.9s,mb4.2						
FITZ	Fitzroy Crossi	43.86	311	P	P	11 37 28.3	-0.2
	5.3nm,0.8s,mb4.3,baz=181,slow=13,SNR=6.6						
MBWA	Marble Bar	44.09	302	eP	P	11 37 29.2	-1.1
	24nm,1.3s,mb4.8						
MAW	Mawson	44.23	213	P	P	11 37 31.9	+1.1
	3.9nm,1.1s,mb4.0,baz=112,slow=8.1,SNR=4.6						
SNAA	Sanae	54.40	187	⇓i	P	11 38 46.8	-2.3
VNA3	Neumayer Olymp	55.23	184	⇑i	P	11 38 55.1	0.0
VNA2	Neumayer--Watz	55.43	185	⇑i	P	11 38 56.9	+0.3
VNA1	Neumayer--Stat	55.75	185	⇓i	P	11 38 59.9	+1.0
CMAR	Chiang Mai Arr	88.34	305	P	P	11 42 13.4	-0.1
	2.0nm,1.0s,mb4.3,baz=176,slow=2.4,SNR=8.8						
AKASG	Malin Array Be	149.62	285	PKPbc	PKPdf	11 49 07.6	+0.2
	2.1nm,0.7s,baz=81,slow=2.5,SNR=9.1						

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*ISK **13** 12:07:44.1,38.87N×26.90E,h16^{km},MD3.3*
*CSEM **13** 12:07:44.3±0.1,38.86N×26.90E,h20^{km},MD3.3,Error ellipse: s-maj=2.6km s-min=1.6km az=84.0*
*ATH **13** 12:07:45.5,38.80N×26.62E,h35^{km},MD3.4/3*
*NEIC **13** 12:07:45.5,38.80N×26.62E,h35^{km},MD3.4(ATH),After ATH.*
ISC 13 12:07:43.6±0.9,**38.91N**±0.03×**26.85E**±0.06,**h6**^{km}±8^{km}, **n24,** σ**0^{s}69**/27,**1C,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BLCB	Balcova	0.54	164	iPG	Pg	12 07 54.7	+0.3
BLCB				iSG	Sg	12 08 01.8	+0.1
PRK	Paraskevi	0.56	307	ePN	Pn	12 07 56.9	-0.8
IZM	Izmir	0.60	147	iPG	Pg	12 07 55.9	+0.3
IZM				iSG	Sg	12 08 03.9	+0.3
AKS	Akhisar	0.75	92	PG	Pg	12 07 58.5	-0.1
BALB	Balikesir	1.08	47	PN	Pn	12 08 04.5	-0.7
SMG	Samos	1.19	181	⇑iPn	Pn	12 08 06.1	-0.6
SMG				eSn	Sn	12 08 24.6	+1.2
DST	Dursunbey	1.55	63	PN	Pn	12 08 11.6	-0.2
KGT	Karabiga	1.58	13	PN	Pn	12 08 12.6	+0.3
LIA	Limnos Island	1.63	308	ePB	Pb	12 08 12.5	-1.1
EDC	Edincik	1.64	28	PN	Pn	12 08 12.3	-0.8
BNT	Bandirma	1.67	29	ePN	Pn	12 08 13.3	-0.2
MLSB	Milas	1.77	155	ePN	Pn	12 08 14.2	-0.7
KCT	Karacabey	1.79	40	ePN	Pn	12 08 15.0	-0.2
MFT	Murefte	1.91	10	ePN	Pn	12 08 17.5	+0.5
ORLT	Orhaneli	1.95	54	ePN	Pn	12 08 18.0	+0.4
APE	Apeiranthos	2.11	210	ePN	Pn	12 08 18.3	-1.5
ISK	Istanbul-Kandi	2.75	37	ePN	Pn	12 08 29.5	+0.6
HRT	Hereke	2.89	48	ePN	Pn	12 08 30.7	-0.3
KDZ	Kurdzhali	2.95	339	iP	Pn	12 08 32.5	+0.6
ESKT	Eskisehir	3.17	78	ePN	Pn	12 08 34.8	-0.1
RZN	Rozhen	3.22	330	iP	Pn	12 08 36.0	+0.3
MMB	Musomiste	3.59	319	iP	Pn	12 08 41.0	0.0
KKB	Krupnik	4.13	317	iP	Pn	12 08 50.0	+1.4
VTS	Vitosha	4.61	324	iP	Pn	12 08 56.5	+1.1

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*ATH **13** 12:19:01.6,36.77N×27.37E,h5^{km},MD3.4/4*
*ISK **13** 12:19:01.9,36.88N×27.69E,h9^{km},MD3.4*
*NEIC **13** 12:19:01.6,36.77N×27.37E,h5^{km},MD3.4(ATH),After ATH.*
*CSEM **13** 12:19:01.2±0.2,36.84N×27.70E,h7^{km}±2^{km},MD3.4/1, Error ellipse: s-maj=4.3km s-min=3.4km az=75.0*
ISC 13 12:19:01.2±0.6,**36.84N**±0.04×**27.64E**±0.05,**h7**^{km},**n20,** σ**0^{s}88**/29,**3C,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.27	325	⇑iP	Pg	12 19 06.5	-0.2
BDRM				iS	Sg	12 19 10.6	+0.2
MLSB	Milas	0.47	14	PG	Pg	12 19 10.4	-0.2
MLSB				SG	Sg	12 19 17.0	+0.1
YER	Yerkesik	0.59	60	ePG	Pg	12 19 12.8	-0.3
ARG	Arkhangelos	0.74	148	ePB	Pb	12 19 16.2	+0.2
ARG				eSB	Sb	12 19 29.6	+3.5
DALT	Dalyan (Mudla)	0.81	95	PG	Pg	12 19 16.6	-0.8
DALT				SG	Sg	12 19 29.3	+1.1
AYDN	Tasoluk	0.84	13	⇑iP	Pb	12 19 16.9	-0.8
AYDN				iS	Sb	12 19 28.6	-0.3
SMG	Samos	1.07	324	ePG	Pg	12 19 21.0	-1.7
SMG				eSB	Sb	12 19 36.6	+0.8
KARP	Karpathos	1.35	197	ePB	Pb	12 19 26.5	+0.1
DNZL	Cakiroluk	1.41	53	iP	Pn	12 19 27.4	+0.1
DNZL				iS	Sb	12 19 49.7	+4.2
DENT	Denizli	1.44	50	PN	Pn	12 19 27.4	-0.4
IZM	Izmir	1.58	349	PN	Pn	12 19 31.0	+1.2
KDAG	Bornova	1.58	349	⇑iP	Pn	12 19 28.4	-1.5
KDAG				iS	Sb	12 19 51.7	+1.1
BLCB	Balcova	1.61	343	ePN	Pn	12 19 31.6	+1.3
APE	Apeiranthos	1.70	278	ePG	Pg	12 19 30.0	-5.2
KSL	Kastellorizon	1.71	113	ePN	Pn	12 19 37.3	+5.5
MANT	Manisa	1.80	24	iP	Pn	12 19 32.0	-1.0
MANT				iS	Sn	12 20 00.1	+3.8
ELL	Elmali	1.83	92	ePN	Pn	12 19 33.3	-0.1
AKS	Akhisar	2.04	4	ePN	Pn	12 19 37.3	+0.9
HDMB	Hadim	3.89	87	ePN	Pn	12 20 02.3	-0.5
KIZT	Kizilcal	3.93	58	ePN	Pn	12 20 02.9	-0.4

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*GRAL **13** 12:20:53.8±0.7,32.87N×35.21E,h15^{km}±999^{km},MD3.0*
*GII **13** 12:20:55.2±0.4,33.06N×35.34E,h2^{km}±1^{km},ML2.5/6, Mw2.5/4*
*CSEM **13** 12:20:55.1±0.1,33.05N×35.32E,h2^{km},Mw2.5,Error ellipse: s-maj=1.7km s-min=1.1km az=136.0*
ISC 13 12:20:55.5±0.5,**33.07N**±0.03×**35.31E**±0.04,**h8**^{km}±5^{km}, **n14,** σ**0^{s}70**/28,**2D,Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNTI	Hanita	0.11	275	Pg	Pg	12 20 58.1	-0.1
HNTI				Sg	Sg	12 21 00.5	+0.5
HNTI	Hanita	0.11	275	⇓Pg	Pg	12 20 58.1	-0.1
HNTI				Sg	Sg	12 21 00.5	+0.5
KSDI	Kefar Szold	0.32	68	Pg	Pg	12 21 02.0	-0.1
KSDI				Sg	Sg	12 21 07.0	+0.6
HAF	Haifa	0.38	219	Pg	Pg	12 21 02.8	-0.4
HAF				Sg	Sg	12 21 08.8	+0.5
HRI	Mount Hermon	0.41	62	Pg	Pg	12 21 03.2	-0.6
HRI				Sg	Sg	12 21 09.5	+0.3
KSHT	Keshet	0.43	102	Pg	Pg	12 21 03.9	-0.4
KSHT				Sg	Sg	12 21 11.0	+0.9
OFRI	‘Ofer	0.53	211	Pg	Pg	12 21 05.9	-0.3
OFRI				Sg	Sg	12 21 14.4	+1.2
OFRI	‘Ofer	0.53	211	⇓Pg	Pg	12 21 05.9	-0.2
OFRI				Sg	Sg	12 21 14.4	+1.2
MMLI	Mount Malkishu	0.64	171	Pg	Pg	12 21 07.5	-0.9
MMLI				Sg	Sg	12 21 16.4	-0.5
SLTI	Sal’it	0.86	195	Pg	Pg	12 21 11.8	-0.9
SLTI				Sg	Sg	12 21 24.5	+0.2
BHL	Bhannes	0.88	19	iPG	Pg	12 21 12.5	-0.6
	baz=199,slow=3.1						
BHL				iSG	Sg	12 21 26.3	+1.5
HWQ	Hawqa	1.31	24	iPG	Pg	12 21 20.1	-1.7
HWQ				iSG	Sg	12 21 39.5	+0.1
DRGI	Dragot	1.48	177	Pn	Pn	12 21 22.2	-0.3
DRGI				Sn	Sn	12 21 42.7	+0.5
MZDA	Masada	1.76	178	Pn	Pn	12 21 26.7	+0.2
MZDA				Sn	Sn	12 21 49.8	+0.4

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*NAO **13** 12:39:16.9±4.2,56.56N×22.82E,ML2.4*
*BER **13** 12:39:16.8±2.5,56.41N×22.89E,ML2.4(NAO), Suspected explosion*
HEL 13 12:39:12.1±0.3,**56.25N**×**23.15E,ML2.3,ML2.4**(NAO), **Explosion,Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PVF	Pernaja	4.54	17	eSG	Sg	12 41 31.1	-12
PVF				MSG		12 41 39.2	
	comp=Z,3.4nm,0.3s						
VJF	Virojoki	4.88	27	eSG	Sg	12 41 42.1	-13
FIA0	FINESS Array S	5.42	15	eP	Pn	12 40 34.6	-1.6
FIA0				eS	Sn	12 41 34.9	-5.3
FIA0				eSG	Sg	12 41 58.3	-14
FIA0				MSG		12 42 04.6	
	comp=Z,2.6nm,0.4s						
FIA0	FINESS Array S	5.42	15	Pn	Pn	12 40 34.9	-1.3
	baz=204,slow=12						
FIA0				Sn	Sn	12 41 35.2	-5.0
	baz=189,slow=28						
FIA0				Lg		12 41 59.7	
	baz=202,slow=37						
KEF	Keuruu	6.00	8	eP	Pn	12 40 41.6	-2.7
KEF				eS	Sn	12 41 48.3	-6.4
KEF				eSG	Sg	12 42 16.1	-16
KEF				MSG		12 42 23.8	
	comp=Z,2.6nm,0.5s						
KAF	Kangasniemi	6.10	14	eS	Sn	12 41 50.7	-6.4
KAF				eSG	Sg	12 42 19.7	-15
KAF				MSG		12 42 26.9	
	comp=Z,1.9nm,0.4s						
HFS	Hagfors	6.33	312	Pn	Pn	12 40 46.0	-3.0
	baz=126,slow=16						
HFS				Sn	Sn	12 41 55.1	-7.8
	baz=124,slow=28						
HFS				Lg		12 42 24.3	
	baz=124,slow=28						
HFS	Hagfors	6.33	312	eP	Pn	12 40 46.0	-3.0
HFS				eS	Sn	12 41 55.1	-7.8
HFS				eSG	Sg	12 42 24.3	-19
SUF	Sumiainen	6.66	12	eS	Sn	12 42 04.1	-7.2
SUF				eSG	Sg	12 42 37.4	-17
SUF				MSG		12 42 45.3	
	comp=Z,2.0nm,0.5s						
VAF	Ylistaro	6.82	358	eSG	Sg	12 42 41.8	-17
JOF	Joensuu	7.86	28	eSG	Sg	12 43 12.7	-21

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*IDC **13** 12:49:29.6±3.4,34.32N×24.62E,mb3.9/3,mb1 3.9/5, mb1mx3.6/20,ML3.7/2,Error ellipse: s-maj=92.8km s-min=28.2km az=99.0*
*ATH **13** 12:49:38.5,34.66N×24.83E,h34^{km}±7^{km},MD3.5/8*
*NEIC **13** 12:49:38.5,34.66N×24.83E,h34^{km},MD3.5(ATH),After ATH.*
*CSEM **13** 12:49:38.5,34.66N×24.83E,h34^{km},MD3.5/8,After ATH*
ISC 13 12:49:36.5±1.1,**34.5N**±0.1×**24.77E**±0.09,**h65**^{km}±10^{km}, **n13,** σ**0^{s}94**/15,**mb3.9**/3,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GVD	Gavdhos	0.68	304	ePN	P	12 49 51.0	+0.1
GVD				eSN	S	12 50 02.0	+0.3
XRY	Khrisi	0.86	61	ePN	P	12 49 53.3	+0.1
VAM	Vamos	1.05	334	ePB	P	12 49 55.0	-0.7
VAM				eSN	S	12 50 09.2	-0.8
NPS	Neapolis	1.05	41	ePN	P	12 49 55.8	0.0
KARP	Karpathos	2.24	60	ePN	P	12 50 13.3	+1.2
KYTH	Kithira	2.30	322	ePB	P	12 50 17.4	+4.4
APE	Apeiranthos	2.67	13	ePN	P	12 50 18.5	+0.3
VLI	Veliai	2.70	327	ePN	P	12 50 20.0	+1.4
BRTR	Keskin Array B	8.81	51	Pn	P	12 51 41.1	-2.4
	0.1nm,0.3s,baz=218,slow=14,SNR=2.4						
AKASG	Malin Array Be	16.55	10	Pn	P	12 53 24.8	-0.7
	1.4nm,0.3s,baz=201,slow=11,SNR=11						
KMBO	Kilima Mbogo	37.29	159	P	P	12 56 43.0	-1.1
	1.0nm,0.3s,mb4.3,baz=51,slow=12,SNR=4.3						
MKAR	Makanchi Array	44.43	56	P	P	12 57 43.4	+1.1
	2.7nm,0.7s,mb4.1,baz=270,slow=7.8,SNR=26						
SONM	Songino Array	60.17	50	P	P	12 59 40.4	+0.7
	0.2nm,0.5s,mb3.4,baz=306,slow=9.4,SNR=3.4						

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*IDC **13** 12:50:35.7±1.2,38.48S×92.43W,mb4.1/5,mb1 4.4/5, mb1mx4.3/12,MS3.5/2,Ms1 3.5/2,ms1mx3.1/15,Error ellipse: s-maj=51.3km s-min=31.0km az=83.0*
*NEIC **13** 12:50:37.4±0.7,38.46S×92.36W,h10^{km},mb4.1/2,Error ellipse: s-maj=32.7km s-min=16.6km az=92.0*
ISC 13 12:50:34.9±0.8,**38.7S**±0.1×**92.1W**±0.3,**h10**^{km},**n12,** σ**1^{s}53**/11,**mb4.0**/6,**MS3.4**/2,**1C-2D,West Chile Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	30.66	50	P	P	12 56 53.2	+1.4
	6.4nm,1.3s,mb4.3,baz=257,slow=2.4,SNR=5.0						
LPAZ				LR	LR	13 07 04.6	
	comp=Z,48nm,19.8s,MS3.1,baz=264,slow=32						
LPAZ	La Paz	30.66	50	eP	P	12 56 52.8	+1.1
	3.6nm,1.2s,mb4.1						
BDFB	Brasilia	44.91	72	LR	LR	13 17 09.6	
	comp=Z,75nm,18.7s,MS3.6,baz=288,slow=35						
VNA3	Neumayer Olymp	51.55	156	⇓i	P	12 59 40.3	-2.2
QSPA	South Pole Qui	51.57	180	eP	P	12 59 45.0	+2.4
	2.3nm,0.8s,mb4.2						
VNA1	Neumayer--Stat	52.09	155	⇑i	P	12 59 45.9	-0.8
VNA2	Neumayer--Watz	52.33	156	⇓i	P	12 59 45.8	-2.7
TXAR	Lajitas Array	68.49	349	P	P	13 01 38.7	-0.8
	0.7nm,0.7s,mb3.8,baz=172,slow=8.8,SNR=7.1						
MAW	Mawson	72.38	170	P	P	13 02 04.4	+2.0
	2.1nm,0.8s,mb4.1,baz=218,slow=13,SNR=5.5						
NVAR	Mina Array Bea	80.40	339	P	P	13 02 48.0	+0.1
	1.6nm,1.1s,mb3.9,baz=180,slow=6.3,SNR=8.2						
NVAR	Mina Array Bea	80.40	339	P	P	13 02 48.0	+0.1
PDAR	Pinedale Array	82.58	347	P	P	13 02 58.6	-0.5
	0.8nm,0.8s,mb3.8,baz=146,slow=3.3,SNR=6.6						

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*NIED **13** 13:05:00,46.40N×153.10E,h35^{km},Mw4.5 Best double couple: $M_0$6.11×10^{15} NP1:ϕ_s327°,δ64°,λ40°. NP2:ϕ_s217°, δ55°,λ147°.*
*SKHL **13** 13:05:08.5±0.7,46.50N×152.90E,h64^{km}±23^{km},mb5.0/6, ms4.0/1*
*MOS **13** 13:05:09.2±1.2,46.68N×152.68E,h42^{km},mb4.7/17,Error ellipse: s-maj=11.6km s-min=7.7km az=106.7*
*BJI **13** 13:05:09.8,46.68N×152.82E,h64^{km},mB4.5,mb4.8, Ms4.1,Msz3.7*
*IDC **13** 13:05:12.0±0.7,46.67N×152.61E,h51^{km}±5^{km},mb4.1/19, mb1 4.4/20,mb1mx4.3/24,MS3.7/11,Ms1 3.8/11, ms1mx3.5/23,Error ellipse: s-maj=19.7km s-min=12.0km az=162.0*
*NEIC **13** 13:05:11.4±0.9,46.61N×152.64E,h48^{km}±8^{km},mb4.8/34, MS4.2/4,Error ellipse: s-maj=8.3km s-min=5.8km az=165.0*
ISC 13 13:05:10.0±0.3,**46.53N**±0.06×**152.68E**±0.05,**h53**^{km}, **h53**^{km}±3.6^{km}**:pP-P,n186,** σ**1^{s}05**/177,**mb4.8**/67,**MS3.8**/18, **16C-17D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	Kuril’sk	3.60	251	⇑iP	P	13 06 03.8	-1.0
KUR				AMB	AMB	13 06 04.0	
	152nm,0.5s						
KUR				AMB	AMB	13 06 04.0	
	76nm,0.5s						
KUR				AMB	AMB	13 06 04.0	
	456nm,0.5s						
KUR				eS	S	13 06 45.8	-0.6
KUR				A		13 07 03.5	
	1μm,0.8s						
KUR				A		13 07 03.5	
	2μm,0.8s						
KUR	Kuril’sk	3.60	251	⇑iPN	P	13 06 03.8	-1.0
KUR				eS	S	13 06 45.8	-0.6
KUR				pmax	pmax		
	comp=N,150nm,0.5s						
KUR				pmax	pmax		
	comp=E,80nm,0.5s						
KUR				pmax	pmax		
	comp=Z,460nm,0.5s						
KUR				smax			
	comp=N,1μm,0.9s						
KUR				smax			
	comp=E,2μm,0.9s						
SKR	Severo-Kuril’s	4.74	28	eP	P	13 06 16.2	-4.6
SKR				AMB	AMB	13 06 18.3	
	comp=E,80nm,0.4s						
SKR				iS	S	13 07 06.4	-8.7
SKR				A		13 07 14.0	
	comp=E,180nm,0.5s						
SKR				A		13 07 14.0	
	comp=E,390nm,0.5s						
SKR				A		13 07 14.0	
	comp=E,120nm,0.5s						
SKR	Severo-Kuril’s	4.74	28	ePN	P	13 06 16.2	-4.6
SKR				pmax	pmax		
	comp=N,80nm,0.4s						
SKR				pmax	pmax		
	comp=Z,80nm,0.4s						
YUK	Yuzh-Kuril’sk	5.42	245	eP	P	13 06 29.0	-1.2
YUK				AMB	AMB	13 06 30.2	
	comp=Z,190nm,0.5s						
YUK				AMB	AMB	13 06 30.2	
	comp=Z,230nm,0.5s						
YUK				eS	S	13 07 31.5	-0.6
YUK				A		13 07 49.5	
	comp=Z,380nm,0.5s						
YUK				A		13 07 49.5	
	comp=Z,980nm,0.5s						
YUK				A		13 07 51.2	
	comp=Z,3μm,0.9s						
YUK				A		13 07 51.2	
	comp=Z,3μm,0.9s						
YUK	Yuzh-Kuril’sk	5.42	245	ePn	P	13 06 29.0	-1.2
	comp=Z,230nm,0.5s						
YSS	Yuzh-Sakhalins	6.83	277	⇑eP	P	13 06 51.1	+1.1
YSS				AMB	AMB	13 06 53.4	
	comp=Z,80nm,1.1s						
YSS				AMB	AMB	13 06 53.4	
	comp=Z,70nm,1.1s						
YSS				eS	S	13 08 08.0	+0.8
YSS				eLQ		13 08 39.0	
YSS				eLR	LR	13 08 55.0	
YSS				AMS	AMS	13 09 21.0	
	comp=Z,900nm,16.0s						
YSS				AMS	AMS	13 09 21.0	
	comp=Z,700nm,15.0s						
YSS	Yuzh-Sakhalins	6.83	277	⇑ePN	P	13 06 51.1	+1.1
YSS				S	S	13 08 08.0	+0.8
YSS				pmax	pmax		
	comp=E,70nm,1.0s						

YSS pmax pmax
comp=Z,70nm,1.0s
YSS pmax pmax
comp=N,80nm,1.3s
YSS MLR MLR
comp=Z,900nm,16.0s
YSS MLR MLR
comp=E,700nm,15.0s
YSS Yuzh-Sakhalins 6.83 277⇑ *e*Pn **P 13 06 51.1 +1.1**
comp=E,70nm,1.0s
YSS S **S 13 08 08.0 +0.8**
ASAJ Asahikawa 7.50 255 P **P 13 07 01.8 +2.4**
comp=E,4.1nm,0.3s,baz=88,slow=15,SNR=32
ASAJ LR LR 13 09 45.1
comp=E,499nm,20.1s,baz=77,slow=36
ASAJ Asahikawa 7.50 255 PN **P 13 07 01.8 +2.4**
ASAJ pmax pmax
comp=Z,4.0nm,0.3s
ASAJ MLR MLR
comp=Z,499nm,20.1s
PET Petropavlovsk 7.56 29 *e*PN **P 13 07 04.4 +4.3**
PET MLR MLR
comp=Z,200nm,21.0s
TYV Tymovskoe 7.92 307 *e*P **P 13 07 03.9 -1.2**
TYV AMB AMB 13 07 05.8
comp=Z,48nm,1.0s
ERM Erimo 8.19 240 Pn **P 13 07 09.9 +1.1**
comp=Z,467nm,0.6s,SNR=25
TEY Ternei 11.33 268 *e*P **P 13 07 58.5 +6.9**
TEY AMB AMB 13 07 59.5
comp=Z,40nm,1.0s
FX1 Attu Island--F 14.67 57 *e*P **P 13 08 32.1 -3.7**
MAJO Matsushiro 14.71 232 *e*P **P 13 08 34.5 -1.8**
comp=Z,22nm,0.5s
MAJO *e* 13 08 43.7
MAT Matsushiro 14.71 232 P **P 13 08 34.4 -1.9**
MAT Matsushiro 14.71 232 *e*P **P 13 08 34.0 -2.3**
MDJ Mudanjiang 16.27 272 P **P 13 08 55.9 -0.3**
MDJ PP PP 13 09 12.6 +2.7
MDJ AP 13 09 14.6
MDJ SS SS 13 12 16.9 +1.6
MDJ AMB AMB
comp=Z,5.0nm,1.1s
MDJ AMB AMB
comp=Z,42nm,6.0s
MDJ LR LR
comp=N,126nm,14.3s
MDJ LR LR
comp=E,209nm,17.9s
MDJ LR LR
comp=Z,287nm,19.7s
MDJ Mudanjiang 16.27 272 *e*P **P 13 08 55.5 -0.7**
comp=Z,7.2nm,0.5s
ZEA Zeya 17.76 303 *e*P **P 13 09 18.3 +3.5**
ZEA AMB AMB 13 09 18.9
comp=Z,15nm,0.8s
CN2 Changchun 19.36 272 *e*P **P 13 09 33.3 -0.5**
CN2 AMB AMB
comp=Z,10.0nm,0.7s
YAK Yakutsk 20.35 328 *e*P **P 13 09 43.3 -0.9**
YAK pmax pmax
comp=Z,14nm,0.7s
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=E,7.0nm,1.0s
YAK Yakutsk 20.35 328 *c i*P **P 13 09 43.8 -0.4**
YAK pmax pmax
comp=Z,23nm,0.6s
YAK MLR MLR
comp=Z,200nm,17.0s,MS3.5
YAK Yakutsk 20.35 328⇑ *i*P **P 13 09 43.8 -0.4**
comp=Z,23nm,0.6s
YAK LR LR
comp=Z,200nm,17.0s,MS3.5
KS15 Wonju Array Si 20.48 253 *e*P **P 13 09 48.9 +3.2**
SNY Shenyang 21.33 268⇓ *i*P **P 13 09 57.3 +3.0**
SNY S **S 13 13 51.8 +8.7**
SNY AMB AMB
comp=Z,30nm,0.6s,mb4.8
SNY LR LR
comp=E,330nm,13.3s
SNY LR LR
comp=Z,350nm,19.2s
HIA Hailar 22.15 289 *e*P **P 13 10 01.4 -1.1**
comp=Z,3.1nm,0.5s,mb4.0
BOD Bodaibo 25.90 310 *e*P **P 13 10 36.4 -2.0**
BJI Beijing 27.17 269 P **P 13 10 48.3 -2.1**
BJI AMB AMB
comp=Z,4.0nm,0.9s,mb4.0
BJI LR LR
comp=N,159nm,18.3s,MS4.0
BJI LR LR
comp=E,323nm,18.9s,MS4.0
BJI LR LR
comp=Z,206nm,20.5s,MS3.7
BJT Baijiatuan 27.19 269 P **P 13 10 48.5 -2.0**
BJT LR LR
comp=Z,360nm,19.0s,MS4.0
TIXI Tiksi 27.59 344 *e*P **P 13 10 53.3 -0.6**
SSE Sheshan 28.74 249 P **P 13 11 02.1 -2.4**
SSE S **S 13 15 50.6 +1.9**
SSE AMB AMB
comp=Z,20nm,0.8s,mb4.9
SSE AMB AMB
comp=Z,42nm,9.9s
SSE LR LR
comp=N,66nm,29.5s,MS3.2
SSE LR LR
comp=E,49nm,29.4s,MS3.2
SSE LR LR
comp=Z,83nm,27.2s,MS3.2
NJ2 Nanjing 29.64 253 *e*P **P 13 11 12.0 -0.6**
NJ2 PP PP 13 12 09.4 -1.0
NJ2 S **S 13 16 04.0 +0.9**
NJ2 AMB AMB
comp=Z,30nm,0.6s,mb5.2
NJ2 LR LR
comp=N,490nm,13.9s,MS4.4
NJ2 LR LR
comp=E,260nm,11.6s,MS4.4
NJ2 LR LR
comp=Z,90nm,11.4s,MS3.6
HHC Hu-ho-hao-te 30.01 274 *e*P **P 13 11 11.9 -3.8**
HHC AMB AMB
comp=Z,14nm,1.1s,mb4.6
HHC AMB AMB
comp=Z,122nm,4.8s
SONM Songino Array 31.12 290 P **P 13 11 24.5 -1.0**
comp=Z,4.3nm,1.1s,mb4.2,baz=75,slow=7.8,SNR=8.4
SONM PcP PcP 13 14 19.7 -0.2
comp=Z,1.3nm,0.9s,baz=120,slow=2.0,SNR=5.4
ZAK Zakamensk 32.50 295 *e*P **P 13 11 35.1 -2.4**
ZAK *e* 13 14 21.3
IMA Indian Mountai 34.16 36 *e*P **P 13 11 51.3 -0.4**
comp=Z,26nm,0.8s,mb5.2
XAN Xi'an 35.20 265 P **P 13 12 01.3 +0.4**
XAN AMB AMB
comp=Z,13nm,0.9s,mb4.9
MCK McKinley 36.01 40 *e*P **P 13 12 07.2 -0.3**
comp=Z,4.6nm,1.0s,mb4.4
COLA College 36.49 38 *d i*P **P 13 12 11.9 +0.3**
COLA College 36.49 38 *e*P **P 13 12 11.4 -0.1**
comp=Z,8.0nm,0.8s,mb4.7
ILAR Eielson Array 36.91 38 P **P 13 12 14.4 -0.6**
comp=Z,2.1nm,0.8s,mb4.0,baz=258,slow=6.5,SNR=18
ILAR LR LR 13 25 09.6
comp=Z,42nm,21.6s,MS3.2,baz=360,slow=32
ENH Enshi 37.03 259 *e*P **P 13 12 16.6 +0.2**
comp=Z,3.5nm,0.5s,mb4.5
GTA Gaotai 38.71 279 *e*P **P 13 12 31.6 +1.3**
GTA AMB AMB
comp=Z,5.0nm,1.2s,mb4.1
GTA LR LR
comp=N,51nm,11.0s,MS4.0
GTA LR LR
comp=E,125nm,14.4s,MS4.0
GTA LR LR
comp=Z,90nm,14.1s,MS3.7
CD2 Chengdu 40.56 265⇓ *i*P **P 13 12 46.8 +1.0**
CD2 AMB AMB
comp=Z,20nm,0.7s,mb4.9
INK Inuvik 42.00 32 P **P 13 12 57.8 +0.8**
comp=Z,4.6nm,0.7s,mb4.2,baz=260,slow=7.4,SNR=12
INK Inuvik 42.00 32 P **P 13 12 57.8 +0.8**
INK pmax pmax
comp=Z,5.0nm,0.7s
INK Inuvik 42.00 32 *e*P **P 13 12 57.4 +0.3**
comp=Z,4.1nm,0.7s,mb4.2
ZAL Zalesovo 42.51 306 P **P 13 12 59.6 -1.8**
comp=Z,2.4nm,0.4s,mb4.3,baz=43,slow=8.4,SNR=6.8
ZAL PcP PcP 13 14 53.4 -0.5
comp=Z,5.0nm,1.1s,baz=46,slow=3.7,SNR=11
ZAL LR LR 13 32 21.4
comp=Z,398nm,19.8s,MS4.3,baz=30,slow=38
ZAL Zalesovo 42.51 306 P **P 13 12 59.7 -1.7**
ZAL 13 14 53.4
ZAL pmax pmax
comp=Z,2.0nm,0.4s
ZAL pmax pmax
comp=Z,5.0nm,1.1s
ZAL MLR MLR
comp=Z,399nm,19.8s
ZAL Zalesovo 42.51 306 P **P 13 12 59.7 -1.7**
ZAL *e* 13 14 53.4
WMQ Urumqi 44.73 291 *e*P **P 13 13 19.3 -0.2**
KMI Kunming 44.91 259 *e*P **P 13 13 20.6 -0.6**
KMI AMB AMB
comp=Z,8.0nm,0.6s,mb4.7
DLBC Dease Lake 45.96 46 P **P 13 13 29.3 +0.2**
comp=Z,4.8nm,0.9s,mb4.4,baz=290,slow=11,SNR=6.3
MKAR Makanchi Array 46.78 297 P **P 13 13 34.7 -1.0**
comp=Z,2.7nm,0.6s,mb4.4,baz=66,slow=6.9,SNR=26
MKAR PcP PcP 13 15 07.8 -0.9
comp=Z,1.9nm,0.4s,baz=65,slow=4.9,SNR=7.9
MKAR LR LR 13 34 22.4
comp=Z,284nm,19.3s,MS4.2,baz=74,slow=38
MKAR Makanchi Array 46.78 297 P **P 13 13 34.7 -1.0**
MKAR 13 15 07.8
MKAR pmax pmax
comp=Z,3.0nm,0.6s
MKAR pmax pmax
comp=Z,2.0nm,0.4s
MKAR MLR MLR
comp=Z,284nm,19.3s
MKAR Makanchi Array 46.78 297 P **P 13 13 34.7 -1.0**
MKAR *e* 13 15 07.8
KURK Kurchatov 47.24 304 *e*P **P 13 13 38.3 -1.0**
BRVK Borovoye 50.81 309 *e*P **P 13 14 05.1 -1.7**
comp=Z,4.2nm,0.8s,mb4.4
BRVK *e*PcP PcP 13 15 22.7 -0.5
RES Resolute Bay 51.14 18 P **P 13 14 08.3 -0.7**
ZRNK Zerenda 51.54 310 *e*P **P 13 14 10.3 -1.9**
comp=Z,2.8nm,0.5s,mb4.5
ZRNK *e* 13 15 25.4
CM31 Chiang Mai Arr 52.03 256 *e*P **P 13 14 17.6 +1.2**
comp=Z,10nm,0.8s,mb4.8
CMAR Chiang Mai Arr 52.03 256 P **P 13 14 17.9 +1.5**
comp=Z,5.1nm,0.8s,mb4.5,baz=28,slow=7.6,SNR=30
CMAR pP pP 13 14 30.5 0.0
comp=Z,2.5nm,0.7s,baz=35,slow=6.3,SNR=6.8
CMAR LR LR 13 39 19.8
comp=Z,57nm,18.2s,MS3.6,baz=225,slow=39
CMAR Chiang Mai Arr 52.03 256 P **P 13 14 17.9 +1.5**
CMAR *PP pP 13 14 30.5 0.0
CMAR pmax pmax
comp=Z,5.0nm,0.8s
CMAR pmax pmax
comp=N,3.0nm,0.7s
CMAR MLR MLR
comp=Z,57nm,18.2s
AAK Ala-Archa 53.66 296 *ce*P **P 13 14 27.1 -1.2**
AAK Ala-Archa 53.66 296⇑ *e*P **P 13 14 27.1 -1.2**
GUN Gumba 54.72 275 *e*P **P 13 14 36.8 +0.6**
comp=Z,28nm,0.6s,mb5.5
ARU Arti 54.97 317 *e*P **P 13 14 35.6 -2.0**
KKN Kakani 55.21 275 *e*P **P 13 14 40.4 +0.6**
comp=Z,54nm,0.6s,mb5.7
PKI Pulchoki 55.26 275 *e*P **P 13 14 40.4 +0.3**
comp=Z,37nm,0.7s,mb5.5
DMN Daman 55.44 275 *e*P **P 13 14 42.1 +0.6**
comp=Z,83nm,0.8s,mb5.8
GKN Gorkha 55.52 276 *e*P **P 13 14 42.5 +0.5**
comp=Z,87nm,0.7s
KOLN Koldanda 56.38 276 *e*P **P 13 14 48.6 +0.5**
comp=Z,62nm,0.8s,mb5.7
EDM Edmonton 56.68 46 *e*P **P 13 14 49.3 -0.7**
ARCES ARCESS Array B 57.96 341 P **P 13 14 57.8 -1.0**
comp=Z,3.7nm,0.9s,mb4.4,baz=31,slow=7.1,SNR=5.2
ARCES LR LR 13 46 32.5
comp=Z,58nm,18.8s,MS3.7,baz=20,slow=43
SUMG Summit 60.94 4 *e*P **P 13 15 18.4 -0.9**
comp=Z,10nm,0.8s,mb5.0
JOF Joensuu 61.40 334 *ep* **P 13 15 19.7 -2.8**
comp=Z,4.3nm,0.7s,mb4.7
JOF Joensuu 61.40 334 *e*P **P 13 15 19.7 -2.8**
JOF pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
NVAR Mina Array Bea 62.80 62 P **P 13 15 32.8 +0.6**
comp=Z,1.3nm,0.7s,mb4.2,baz=288,slow=8.9,SNR=9.8
NVAR pP pP 13 15 46.6 -0.2
comp=Z,0.8nm,0.5s,baz=230,slow=33,SNR=11
NVAR LR LR 13 38 17.9
comp=Z,26nm,19.6s,MS3.4,baz=235,slow=32
KAF Kangasniemi 63.52 335 *ep* **P 13 15 34.8 -1.7**
comp=Z,2.5nm,0.6s,mb4.4,baz=38,slow=6.2
KAF Kangasniemi 63.52 335 *e*P **P 13 15 34.8 -1.7**
KAF pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
RRI2 Red Ridge 63.76 54 *e*P **P 13 15 39.4 +1.0**
TPAW Teton Pass 63.87 54 *e*P **P 13 15 39.2 +0.1**
FINES FINESS Array B 64.11 335 P **P 13 15 39.0 -1.3**
comp=Z,5.8nm,0.5s,mb4.9,baz=38,slow=8.5,SNR=39
FINES LR LR 13 44 44.9
comp=Z,67nm,19.0s,MS3.9,baz=355,slow=37
FINES FINESS Array B 64.11 335 P **P 13 15 39.0 -1.3**
FINES pmax pmax
comp=Z,6.0nm,0.5s
FINES MLR MLR
comp=Z,67nm,19.0s
FINES FINESS Array B 64.11 335 P **P 13 15 39.0 -1.3**
FINES LR LR 13 44 44.9
TPNV Topopah Spring 65.00 62 *e*P **P 13 15 44.4 -2.1**
comp=Z,2.3nm,0.6s,mb4.4
PDAR Pinedale Array 65.12 54 P **P 13 15 47.2 0.0**
comp=Z,1.3nm,0.8s,mb4.0,baz=301,slow=2.2,SNR=11
PDAR pP pP 13 16 01.3 -0.6
comp=Z,3.0nm,0.8s,baz=315,slow=2.1,SNR=12
ARUT Antelope Range 66.15 60 *e*P **P 13 15 53.2 -0.7**
ARUT *e* pP 13 16 08.2 -0.4
HYB Hyderabad 66.70 271 *i*P **P 13 15 57.5 -0.1**
ULM Lac du Bonnet 66.89 41 P **P 13 15 56.8 -1.5**
comp=Z,3.8nm,0.7s,mb4.6,baz=0.8,slow=4.8,SNR=3.1
SRU San Rafael 66.99 57 *e*P **P 13 15 58.7 -0.4**
RSSD Black Hills 67.19 49 *e*P **P 13 15 59.3 -1.0**
comp=Z,2.7nm,0.5s,mb4.5
WRA Warramunga Arr 68.21 199 P **P 13 16 06.7 -0.3**
comp=Z,1.8nm,0.8s,mb4.2,baz=19,slow=6.7,SNR=14
WRA Warramunga Arr 68.21 199 P **P 13 16 06.7 -0.3**
WRA pmax pmax
comp=Z,2.0nm,0.8s
NB2 NORSAR Subarra 68.34 341 P **P 13 16 06.1 -1.1**
comp=Z,10nm,0.7s,mb5.0,baz=27,slow=6.2
NOA NORSAR Array B 68.34 341 P **P 13 16 06.4 -0.8**
comp=Z,9.0nm,0.7s,mb4.9,baz=28,slow=6.3,SNR=25
NOA LR LR 13 48 48.0
comp=Z,43nm,18.5s,MS3.7,baz=30,slow=38
NOA NORSAR Array B 68.34 341 P **P 13 16 06.4 -0.8**
NOA pmax pmax
comp=Z,9.0nm,0.7s
NOA MLR MLR
comp=Z,43nm,18.5s
PV01 Paradox Valley 68.78 57 *e*P **P 13 16 11.2 +0.9**
KIV Kislovodsk 70.74 314 *de*P **P 13 16 23.5 +1.4**
KIV pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
KIV MLR MLR
comp=Z,200nm,19.0s,MS4.4
KIV Kislovodsk 70.74 314 *e*Pr 13 16 23.5
comp=Z,9.0nm,0.7s
KIV LR LR
comp=Z,200nm,19.0s,MS4.4
SOC Sochi 72.47 315 *e*P **P 13 16 33.6 +1.1**
SOC *e* pP 13 16 51.4 +4.1
SOC *e* 13 19 13.4
SOC *e*PPP PPP 13 21 01.7 +3.2
SOC *e*S S 13 25 53.2 +2.0
SOC *e* 13 26 37.2
SOC *e*SSS SSS 13 33 42.1 -0.4
SOC LR LR
comp=Z,49nm,1.4s,mb5.2
SOC pmax pmax
comp=N,77nm,1.1s
SOC pmax pmax
comp=E,18nm,1.1s
SOC MLR MLR
comp=Z,171nm,20.0s,MS4.3
SOC MLR MLR
comp=N,168nm,23.0s,MS4.4
SOC MLR MLR
comp=E,137nm,21.0s,MS4.4
SOC Sochi 72.47 315 *e*P **P 13 16 33.6 +1.1**
comp=E,49nm,1.4s,mb5.2
SOC *e* pP 13 16 51.4 +4.1
SOC *e* 13 19 13.4
SOC *e*PPP PPP 13 21 01.7 +3.2
SOC *e*S S 13 25 53.2 +2.0
SOC *e* 13 26 37.2
SOC *e*SSS SSS 13 33 42.1 -0.4
SOC LR LR
comp=Z,170nm,20.0s,MS4.3
SCHQ Schefferville 73.63 23 LR LR 13 50 13.9
comp=Z,54nm,21.7s,MS3.8,baz=49,slow=37
OJC Ojcow 75.37 331 *e*P **P 13 16 48.5 -0.6**
OJC Ojcow 75.37 331 *e*P **P 13 16 48.5 -0.6**
KOLS Kolonicke sedl 75.60 329 *i*P **P 13 16 50.9 +0.5**
NIE Niedzica 75.88 330 *e*P **P 13 16 52.6 +0.6**
OKC Ostrava-Krasne 76.24 332⇓ *e*P **P 13 16 53.8 -0.3**
OKC AMS AMS 13 54 50.0
UPC Upice 76.34 333⇓ *e*P **P 13 16 55.0 +0.4**
DPC Dobruska-Polom 76.38 333 *e*P **P 13 16 55.5 +0.6**
CLL Collm 76.54 335 ⇓P **P 13 16 55.3 -0.4**
comp=Z,logA/T=1.4,mb5.1
CLL *i* *SP sP 13 17 15.9 -0.6
CLL Collm 76.54 335 ⇓*i*P **P 13 16 55.3 -0.4**
CLL *i* 13 17 15.9
CLL pmax pmax
comp=Z,20nm,0.8s,mb5.1
CLL Collm 76.54 335 ⇓*i*P **P 13 16 55.3 -0.4**
comp=Z,20nm,0.8s,mb5.1
CLL *i* 13 17 15.9
BRG Berggiesshubel 76.65 335 *e*P **P 13 16 56.2 -0.2**
BRG pmax pmax
comp=Z,10.0nm,0.3s,mb5.2
BRG Berggiesshubel 76.65 335 P **P 13 16 56.2 -0.2**
comp=Z,10nm,0.3s,mb5.2
PVCC Panska Ves 76.77 334 ⇓*e*P **P 13 16 57.4 +0.4**
PVCC AMS AMS 13 59 00.0
PRU Pruhonice 77.25 334 ⇓*e*P **P 13 16 59.2 -0.6**
PRU AMS AMS 13 54 00.0
MOX Moxa 77.53 336 *e*P **P 13 17 00.0 -1.3**
NKC Novy Kostel 77.66 335 ⇓*e*P **P 13 17 02.3 +0.3**
NKC AMS AMS 13 58 50.0
TXAR Lajitas Array 77.86 60 P **P 13 17 03.5 -0.1**
comp=Z,1.8nm,0.8s,mb4.0,baz=297,slow=4.7,SNR=8.2
TXAR pP pP 13 17 18.4 -0.1
comp=Z,4.7nm,0.5s,baz=303,slow=5.0,SNR=10
ZST Bratislava 78.01 331 *e*P **P 13 17 05.2 +1.2**
KHC Kasperske Hory 78.31 334 ⇓*i*P **P 13 17 06.1 +0.5**
KHC AMS AMS 13 55 20.0
comp=Z,100nm,13.7s
BRTR Keskin Array B 78.34 316 P **P 13 17 06.8 +0.8**
comp=Z,5.5nm,0.8s,mb4.5,baz=76,slow=5.1,SNR=12
BRTR Keskin Array B 78.34 316 P **P 13 17 06.8 +0.8**
BRTR pmax pmax
comp=Z,6.0nm,0.8s
UMR Umm Al-Rimmam 78.48 301 *e*P **P 13 17 07.7 +0.7**
UMR AMb AMB 13 17 08.6
comp=Z,63nm,0.6s,mb5.8
GRA1 Grafenberg Arr 78.50 336 *e*P **P 13 17 06.8 +0.2**
comp=Z,29nm,0.8s,mb5.3
GRF Grafenberg Arr 78.50 336 *e*P **P 13 17 06.8 +0.2**
GRF pmax pmax
comp=Z,29nm,0.8s,mb5.3
GERES GERESS Array B 78.52 334 P **P 13 17 06.7 0.0**
comp=Z,3.7nm,0.6s,mb4.5,baz=45,slow=5.7,SNR=17
GERES GERESS Array B 78.52 334 P **P 13 17 06.7 -0.1**
GERES pmax pmax
comp=Z,4.0nm,0.6s
KBD Kabd 78.77 301 *e*P **P 13 17 09.9 +1.3**
RST Umm Al-Ruwaisa 78.94 301 *e*P **P 13 17 10.3 +0.8**
RST AMb AMB 13 17 11.1
comp=Z,54nm,0.7s,mb5.6
QRN Al-Qurain 78.95 300 *e*P **P 13 17 10.3 +0.7**
RDF Al-Radifah 79.04 300 *e*P **P 13 17 11.0 +0.9**
RDF AMb AMB 13 17 12.8
comp=Z,72nm,1.1s,mb5.5
MOA Molln 79.23 333⇑ *i*P **P 13 17 11.5 +0.8**
comp=Z,7.5nm,0.8s,mb4.7
ARSA Arzberg 79.36 332⇑ *i*P **P 13 17 11.5 +0.1**
comp=Z,11nm,1.2s,mb4.7
RHK1 Bakonya 79.50 330⇑ *i*P **P 13 17 12.2 0.0**
PERS Pernice 80.03 332 *e*P **P 13 17 15.5 +0.5**
GROS Grobnik 80.06 332 *e*P **P 13 17 15.4 +0.3**
KBA Koelnbreinsper 80.20 333⇑ *i*P **P 13 17 16.6 +0.7**
comp=Z,17nm,0.6s,mb5.2
WTTA Wattenberg 80.56 334 ⇓*i*P **P 13 17 19.1 +1.3**
comp=Z,17nm,0.6s,mb5.2
CRES Cresnjev 80.63 331 *i*P **P 13 17 18.4 +0.2**
MOTA Moosalm 80.64 335 ⇓*i*P **P 13 17 19.0 +0.7**
comp=Z,19nm,1.1s,mb4.9
SQTA Sankt Quirin 80.72 335 ⇓*i*P **P 13 17 19.8 +1.1**
comp=Z,19nm,1.0s,mb5.0
CDF Champ du Feu 80.75 337 *e*P **P 13 17 19.1 +0.3**
comp=Z,27nm,1.1s,mb4.8
MEZF Maizieres J'vi 81.23 339 *e*P **P 13 17 21.8 +0.5**
HINF Hinteralfeld 81.41 337 *e*P **P 13 17 22.2 0.0**
CSS Prodhromos 82.25 314 *e*P **P 13 17 27.2 +0.3**
comp=Z,13nm,0.7s,mb5.0
LDF La Druitiere 82.34 342 *e*P **P 13 17 28.5 +1.5**
ASF Jabal al Asfar 82.61 310 P **P 13 17 29.4 +0.6**
comp=Z,6.7nm,0.9s,mb4.7,baz=325,slow=3.1,SNR=5.9
LOR Lormes 82.68 339 *e*P **P 13 17 29.2 +0.4**
comp=Z,8.8nm,0.7s,mb4.6
LOR *e*R
comp=Z,102nm,22.0s
GRR Gorron 82.69 343 *e*P **P 13 17 29.3 +0.5**
CABF La Chapelle 82.72 338 *e*P **P 13 17 29.6 +0.6**
comp=Z,18nm,0.9s,mb4.8
SWET Sewanee 83.06 45 *e*P **P 13 17 28.9 -2.1**
SGMF Saint Gilles 83.16 344 *e*P **P 13 17 31.6 +0.4**
AVF Avril sur Loir 83.25 339 *e*P **P 13 17 32.3 +0.6**
SMF Signal de Mont 83.26 339 *e*P **P 13 17 32.6 +0.8**
comp=Z,49nm,1.1s,mb5.1
LPL La Plagne 83.56 337 *e*P **P 13 17 34.6 +1.4**
LPG La Plagne 83.57 337 *e*P **P 13 17 34.9 +1.6**
comp=Z,4.9nm,0.6s,mb4.5
BGF Bois d'Agland 83.59 340 *e*P **P 13 17 34.1 +0.8**
TCF Toulx Ste Croi 83.99 340 *e*P **P 13 17 36.1 +0.7**
MBDF Montbardon 84.27 336 *e*P **P 13 17 38.2 +1.4**
ORIF Oris-en-Rattie 84.34 337 *e*P **P 13 17 37.8 +0.6**
comp=Z,11nm,0.6s,mb4.8
ORIF *e*R
comp=Z,90nm,21.2s
VIVF Saint-Julien-l 84.72 338 *e*P **P 13 17 39.6 +0.5**
CAF Calviac 85.31 340 *e*P **P 13 17 42.8 +0.8**
MTLF Montolieu 86.76 339 *e*P **P 13 17 49.2 +0.1**
ESDC Sonseca Array 91.67 342 P **P 13 18 11.8 -0.7**
comp=Z,0.3nm,0.3s,mb4.1,baz=34,slow=5.3,SNR=4.1
ESDC LR LR 14 05 25.6
comp=Z,46nm,18.4s,MS4.0,baz=185,slow=40
MAW Mawson 131.86 211 PKP PKPdf 13 24 17.8 +1.4
comp=Z,1.1nm,0.5s,baz=273,slow=17,SNR=4.3
MAW Mawson 131.86 211 PKIKP PKPdf 13 24 17.8 +1.3
MAW pmax pmax
comp=Z,1.0nm,0.5s
LPAZ La Paz 134.71 62 PKP PKPdf 13 24 27.7 +4.6
comp=Z,0.8nm,0.6s,baz=64,slow=2.9,SNR=4.3
LPAZ La Paz 134.71 62 PKIKP PKPdf 13 24 27.7 +4.6
LPAZ pmax pmax
comp=Z,1.0nm,0.6s
LPAZ La Paz 134.71 62 PKP PKPdf 13 24 27.7 +4.6
QSPA South Pole Qui 136.27 180 *e*PKP PKPdf 13 24 27.6 +3.2
BDFB Brasilia 144.69 36 PKP PKPdf 13 24 40.9 0.0
comp=Z,1.5nm,0.5s,baz=214,slow=4.3,SNR=6.0
BDFB Brasilia 144.69 36 PKIKP PKPdf 13 24 40.9 0.0
BDFB pmax pmax
comp=Z,2.0nm,0.5s
CPUP Villa Florida 148.84 60 PKPbc PKPdf 13 24 53.6 +6.0
comp=Z,5.5nm,0.9s,baz=360,slow=4.2,SNR=9.1
SNAA Sanae 152.26 196 *e* PKPdf 13 25 00.0 +8.5
SNAA Sanae 152.26 196⇑ *i*PKPdf PKPdf 13 24 51.3 -0.2
SNAA *e* 13 25 00.0
VNA2 Neumayer--Watz 153.72 195 *e* PKPdf 13 25 06.0 +13
VNA2 Neumayer--Watz 153.72 195 ⇓*i*PKPdf PKPdf 13 24 57.5 +4.0
VNA2 *e* 13 25 06.0
VNA3 Neumayer Olymp 153.81 193 *e* PKPdf 13 25 05.8 +12

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
VNA3	**Neumayer Olymp**	**153.81**	**193**	⇑*i*PKPdf	PKPdf	13 24 57.3	+3.7
VNA3				*e*		13 25 05.8	
VNA1	**Neumayer--Stat**	**154.10**	**194**	*e*	PKPdf	13 25 04.3	+10
VNA1	**Neumayer--Stat**	**154.10**	**194**	⇑*i*PKPdf	PKPdf	13 24 56.2	+2.2
VNA1				*e*		13 25 04.3	

*ISK **13** 13:19:35.3, 34.78N×33.96E, h23km, MD3.7*
*CSEM **13** 13:19:35.7±0.1, 34.72N×33.99E, h38km±2km, Mw3.5, Error ellipse: s-maj=1.9km s-min=1.3km az=52.0*
*NIC **13** 13:19:37.5±0.2, 34.75N×33.87E, h38km, ML3.7, MW3.5*
*GRAL **13** 13:19:37.0±2.2, 34.67N×33.96E, h42km±50km, MD3.7*
*GII **13** 13:19:37.1±0.2, 34.68N×33.97E, h25km±30km, mb4.1/2, ML3.7/7, Mw3.5/6*
*NSSC **13** 13:19:40.0, 34.71N×34.46E, h22km±4km*
ISC 13 13:19:35.4±0.3**, 34.70N**±0.02×**34.02E**±0.03**, h52**km±13km**, n77,** σ1^s**05**/105**, 1C-27D, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PHNC	**Paralimni**	**0.30**	**2**	⇑*i*P	**P**	**13 19 45.5**	**+0.7**
CSS	**Prodhromos**	**0.62**	**295**	⇓P	**P**	**13 19 48.1**	**-0.3**
	32nm,0.3s						
CSS				S	**S**	**13 19 56.3**	**-1.6**
CSS	**Prodhromos**	**0.62**	**295**	*i* Pg	**P**	**13 19 48.1**	**-0.3**
CSS				S	**S**	**13 19 56.3**	**-1.6**
MAMC	**Mammari**	**0.81**	**305**	*i* PG	**P**	**13 19 51.0**	**+0.2**
MAMC	**Mammari**	**0.81**	**305**	⇓*e*P	**P**	**13 19 51.0**	**+0.2**
SZAC	**Souni-Zanaja**	**0.94**	**274**	⇓*i*P	**P**	**13 19 52.6**	**0.0**
LEF	**Lefka**	**1.02**	**294**	*i* PG	**P**	**13 19 54.0**	**+0.3**
LEF				*i* SG	**S**	**13 20 06.9**	**-0.3**
ALFC	**Alevga**	**1.25**	**292**	*i* PG	**P**	**13 19 56.6**	**-0.4**
ALFC	**Alevga**	**1.25**	**292**	⇓*e*P	**P**	**13 19 56.6**	**-0.4**
	35nm,0.2s						
ALFC				S	**S**	**13 20 11.7**	**-1.3**
PPCY	**Paphos**	**1.39**	**278**	*i* PG	**P**	**13 19 58.7**	**-0.3**
PPCY	**Paphos**	**1.39**	**278**	⇓*e*P	**P**	**13 19 58.7**	**-0.3**
AKMC	**Akamas**	**1.43**	**284**	*i* PG	**P**	**13 19 59.6**	**+0.1**
IKL	**Isikli**	**1.56**	**350**	PN	**P**	**13 20 01.3**	**0.0**
IKL				SN	**S**	**13 20 20.0**	**-0.5**
IKL	**Isikli**	**1.56**	**350**	Pn	**P**	**13 20 01.4**	**+0.1**
IKL				*e*Sn	**S**	**13 20 20.0**	**-0.5**
BHL	**Bhannes**	**1.57**	**120**	*i* PG	**P**	**13 20 00.1**	**-1.4**
BHL				*i* SG	**S**	**13 20 19.4**	**-1.3**
MATL	**Matirih**	**1.63**	**138**	*i* PG	**P**	**13 20 03.5**	**+1.2**
HWQ	**Hawqa**	**1.65**	**104**	*i* PG	**P**	**13 20 03.9**	**+1.4**
HWQ				*i* SG	**S**	**13 20 24.2**	**+1.6**
HNTI	**Hanita**	**1.88**	**149**	Pn	**P**	**13 20 06.3**	**+0.5**
HNTI				Sn	**S**	**13 20 28.6**	**+0.2**
HNTI	**Hanita**	**1.88**	**149**	⇑Pn	**P**	**13 20 06.3**	**+0.5**
HNTI				Sn	**S**	**13 20 28.6**	**+0.3**
BIDA	**Albida**	**1.92**	**80**	⇑P	**P**	**13 20 06.6**	**+0.3**
BIDA				⇑S	**S**	**13 20 24.9**	**-4.3**
BIDA	**Albida**	**1.92**	**80**	⇑*i*P	**P**	**13 20 06.6**	**+0.3**
ARNB	**Al Arnab**	**1.97**	**54**	⇓P	**P**	**13 20 08.0**	**+1.0**
ARNB				⇓S	**S**	**13 20 29.1**	**-1.4**
HAWK	**Haweek**	**1.97**	**95**	⇑P	**P**	**13 20 07.2**	**+0.1**
HAWK				⇑S	**S**	**13 20 27.1**	**-3.5**
HAWK	**Haweek**	**1.97**	**95**	⇑*i*P	**P**	**13 20 07.2**	**+0.1**
SLNF	**Slenfeh**	**2.01**	**63**	⇓P	**P**	**13 20 08.4**	**+0.8**
SLNF	**Slenfeh**	**2.01**	**63**	⇓*i*P	**P**	**13 20 08.4**	**+0.8**
HRI	**Mount Hermon**	**2.02**	**135**	Pn	**P**	**13 20 08.6**	**+0.9**
HRI	**Mount Hermon**	**2.02**	**135**	⇓Pn	**P**	**13 20 08.6**	**+0.8**
KSDI	**Kefar Szold**	**2.03**	**137**	Pn	**P**	**13 20 09.0**	**+1.0**
KSDI				Sn	**S**	**13 20 32.2**	**+0.1**
KSDI	**Kefar Szold**	**2.03**	**137**	⇓Pn	**P**	**13 20 09.0**	**+1.1**
KSDI				Sn	**S**	**13 20 32.2**	**+0.1**
BRBR	**Barbar**	**2.06**	**128**	⇓P	**P**	**13 20 09.7**	**+1.4**
BRBR				⇓S	**S**	**13 20 30.9**	**-1.9**
BRBR	**Barbar**	**2.06**	**128**	⇓*i*P	**P**	**13 20 09.7**	**+1.4**
HAF	**Haifa**	**2.09**	**156**	Pn	**P**	**13 20 08.8**	**0.0**
HAF	**Haifa**	**2.09**	**156**	⇓Pn	**P**	**13 20 08.8**	**0.0**
WRDH	**Warideh**	**2.12**	**67**	⇓P	**P**	**13 20 09.8**	**+0.7**
WRDH				⇓S	**S**	**13 20 30.7**	**-3.6**
WRDH	**Warideh**	**2.12**	**67**	⇓*i*P	**P**	**13 20 09.8**	**+0.6**
MARH	**Ras Al Marh**	**2.14**	**108**	⇑P	**P**	**13 20 09.9**	**+0.4**
MARH				⇑S	**S**	**13 20 31.6**	**-3.4**
MARH	**Ras Al Marh**	**2.14**	**108**	⇑*i*P	**P**	**13 20 09.9**	**+0.4**
QASN	**Qassioun**	**2.21**	**121**	⇑P	**P**	**13 20 11.5**	**+1.1**
QASN				⇑S	**S**	**13 20 34.4**	**-2.1**
QASN	**Qassioun**	**2.21**	**121**	⇑*i*P	**P**	**13 20 11.5**	**+1.1**
OFRI	**'Ofer**	**2.23**	**159**	Pn	**P**	**13 20 10.9**	**+0.1**
OFRI	**'Ofer**	**2.23**	**159**	⇓Pn	**P**	**13 20 10.9**	**+0.2**
HTY	**Hatay**	**2.23**	**50**	PN	**P**	**13 20 12.0**	**+1.2**
KSHT	**Keshet**	**2.27**	**139**	Pn	**P**	**13 20 12.8**	**+1.4**
KSHT	**Keshet**	**2.27**	**139**	⇓Pn	**P**	**13 20 12.8**	**+1.4**
KFRA	**Kufra**	**2.34**	**77**	⇑P	**P**	**13 20 11.5**	**-0.8**
KFRA	**Kufra**	**2.34**	**77**	⇑*i*P	**P**	**13 20 11.5**	**-0.8**
BTCH	**Batrach**	**2.40**	**56**	⇓P	**P**	**13 20 14.2**	**+1.1**
BTCH				⇓S	**S**	**13 20 38.5**	**-2.9**
BTCH	**Batrach**	**2.40**	**56**	⇓*i*P	**P**	**13 20 14.2**	**+1.1**
GLH	**Golan-Tel Qazi**	**2.40**	**145**	Pn	**P**	**13 20 14.5**	**+1.3**
TOTH	**TOTAH**	**2.41**	**123**	⇑P	**P**	**13 20 14.0**	**+0.7**
TOTH				⇑S	**S**	**13 20 39.3**	**-2.3**
TOTH	**TOTAH**	**2.41**	**123**	⇑*i*P	**P**	**13 20 14.0**	**+0.7**
MMLI	**Mount Malkishu**	**2.54**	**152**	Pn	**P**	**13 20 15.9**	**+0.6**
HDMB	**Hadim**	**2.58**	**331**	PN	**P**	**13 20 15.3**	**-0.4**
TCHB	**Talchebab**	**2.60**	**141**	⇓P	**P**	**13 20 17.4**	**+1.4**
TCHB				⇓S	**S**	**13 20 45.8**	**-0.7**
TCHB	**Talchebab**	**2.60**	**141**	⇓*i*P	**P**	**13 20 17.4**	**+1.4**
TCHB				⇓*i*S	**S**	**13 20 45.8**	**-0.7**
SLTI	**Sal'it**	**2.60**	**161**	Pn	**P**	**13 20 15.9**	**-0.1**
CEYT	**Ceyhan**	**2.69**	**31**	PN	**P**	**13 20 18.4**	**+1.0**
HMDT	**Nahal Hemdat**	**2.75**	**152**	Pn	**P**	**13 20 19.2**	**+1.0**
DRWC	**Darouich**	**2.88**	**48**	⇑P	**P**	**13 20 20.6**	**+0.6**
DRWC				⇑S	**S**	**13 20 51.2**	**-2.5**
DRWC	**Darouich**	**2.88**	**48**	⇑*i*P	**P**	**13 20 20.6**	**+0.6**
DRWC				⇑*i*S	**S**	**13 20 51.2**	**-2.5**
SALA	**Sala**	**3.01**	**131**	⇑P	**P**	**13 20 22.7**	**+0.8**
SALA				⇑S	**S**	**13 20 54.5**	**-2.4**
SALA	**Sala**	**3.01**	**131**	⇑*i*P	**P**	**13 20 22.7**	**+0.8**
SALA				⇑*i*S	**S**	**13 20 54.5**	**-2.4**
DRGI	**Dragot**	**3.31**	**159**	Pn	**P**	**13 20 26.6**	**+0.5**
AMZI	**Amatzia**	**3.32**	**167**	Pn	**P**	**13 20 25.9**	**-0.3**
AMZI				Sn	**S**	**13 21 02.0**	**-2.8**
NIG	**Nigde**	**3.43**	**8**	PN	**P**	**13 20 28.2**	**+0.4**
KONT	**Konya--Tatoy**	**3.50**	**338**	PN	**P**	**13 20 28.1**	**-0.7**
GAZ	**Gaziantep**	**3.57**	**45**	PN	**P**	**13 20 30.1**	**+0.3**
BCK	**Bucak**	**3.91**	**316**	*e*PN	**P**	**13 20 35.3**	**+0.7**
ELL	**Elmali**	**3.92**	**303**	PN	**P**	**13 20 34.0**	**-0.7**
PRNI	**Paran**	**4.42**	**169**	Pn	**P**	**13 20 41.4**	**-0.3**
KIZT	**Kizilcal**	**4.51**	**338**	*e*PN	**P**	**13 20 44.0**	**+1.0**
KMTI	**Karmit**	**4.62**	**172**	Pn	**P**	**13 20 44.1**	**-0.5**
HRFI	**Mount Harif**	**4.73**	**169**	Pn	**P**	**13 20 45.4**	**-0.7**
MBH	**Mount Berech**	**4.96**	**171**	Pn	**P**	**13 20 49.0**	**-0.3**
DENT	**Denizli**	**5.05**	**308**	*e*PN	**P**	**13 20 50.1**	**-0.5**
MYA	**Malataya**	**5.06**	**43**	*e*PN	**P**	**13 20 51.2**	**+0.5**

CASC 13 13:23:32.9±3.4**, 11.21N×87.04W, MD4.2, ML3.2, 9C-2D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRUN	**El Crucero**	**1.06**	**43**	⇓*e*P	Pb	13 23 54.0	+0.3
COPN	**Copaltepe**	**1.06**	**24**	⇓*e*P	Pb	13 23 54.1	+0.3
TICN	**Ticuantepe**	**1.14**	**44**	*e*P	Pb	13 23 54.8	-0.3
XAVN	**Gruta Xavier**	**1.17**	**37**	⇑*e*P	Pb	13 23 55.4	-0.3
LEON	**Leon**	**1.21**	**7**	⇑*e*P	Pb	13 23 55.9	-0.4
MGAN	**Managua**	**1.21**	**40**	⇑*e*P	Pb	13 23 55.9	-0.5
MGAN				*i*		13 24 18.7	
	comp=E,472nm,0.5s						
APYN	**Apoyeque**	**1.22**	**34**	⇑*e*P	Pb	13 23 56.1	-0.5
WILN	**Americas 2**	**1.26**	**41**	*e*P	Pb	13 23 56.2	-1.0
WILN				*e*S	Sb	13 24 14.3	+0.4
MIRN	**Miramar**	**1.26**	**15**	*e*P	Pb	13 23 56.8	-0.5
MOMJ	**Momotombo**	**1.29**	**22**	⇑*e*P	Pb	13 23 57.0	-0.7
CNGN	**Cerro Negro**	**1.32**	**15**	*e*P	Pb	13 23 57.7	-0.6
TEL3	**Telica 3**	**1.37**	**8**	*e*P	Pb	13 23 58.2	-0.9
TELN	**Telica**	**1.40**	**8**	*e*P	Pb	13 23 57.7	-1.9
PYTN	**Playitas**	**1.63**	**36**	⇑*e*P	Pn	13 24 01.4	-1.6
VCR	**Vista de Mar**	**1.75**	**128**	*e*P	Pn	13 24 06.5	+1.7
QUIN	**Quiabu**	**2.00**	**18**	*e*P	Pn	13 24 06.7	-1.6
JCR	**Jicaral**	**2.33**	**125**	⇑*e*P	Pn	13 24 10.3	-2.7
PRS1	**Puriscal**	**2.95**	**114**	⇑*e*P	Pn	13 24 24.7	+2.8
LAJ	**Bijagual**	**3.17**	**115**	*e*P	Pn	13 24 20.3	-4.7
LCR2	**La Lucha 2**	**3.33**	**116**	*e*P	Pn	13 24 25.2	-2.0
TRTC	**Tortuguero**	**3.33**	**101**	*e*P	Pn	13 24 24.4	-2.8
ICR	**Volcan Irazu**	**3.38**	**111**	*e*P	Pn	13 24 27.6	-0.4
URSC	**Urasca**	**3.49**	**113**	⇑*e*P	Pn	13 24 29.9	+0.4
BUS	**Buena Vista**	**3.62**	**117**	*e*P	Pn	13 24 35.1	+3.6

*STR **13** 13:35:29.9±0.7, 42.35N×2.15E, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **13** 13:35:29.0±0.1, 42.33N×2.22E, h10km, Md2.2/1, Ml2.2/6, Error ellipse: s-maj=2.5km s-min=2.0km az=139.0*
*MDD **13** 13:35:30.1±0.3, 42.34N×2.15E, h9km±3km, mbLg1.5/8, Error ellipse: s-maj=2.7km s-min=1.8km az=165.0, PRXIMO AftershockPLICA*
ISC 13 13:35:28.3±0.5**, 42.36N**±0.03×**2.16E**±0.03**, h9**km**, n24,** σ1^s**44**/40**, 2C-1D, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBRU	**Bruguera**	**0.07**	**171**	Pg	**Pg**	**13 35 31.1**	**+0.7**
VALF	**Valcebollere**	**0.12**	**291**	P	**Pg**	**13 35 32.6**	**+1.5**
VALF				S	**Sg**	**13 35 34.5**	**+1.6**
CLLI	**Llivia**	**0.18**	**310**	Pg	**Pg**	**13 35 34.0**	**+1.7**
FILF	**Fillols**	**0.35**	**56**	Pg	**Pg**	**13 35 35.7**	**+0.2**
FILF				Sg	**Sg**	**13 35 39.9**	**-0.5**
FILF	**Fillols**	**0.35**	**56**	P	**Pg**	**13 35 35.8**	**+0.3**
FILF				S	**Sg**	**13 35 39.9**	**-0.4**
CARF	**Carcanieres**	**0.36**	**353**	Pg	**Pg**	**13 35 37.5**	**+1.9**
CARF				Sg	**Sg**	**13 35 42.9**	**+2.4**
CARF	**Carcanieres**	**0.36**	**353**	P	**Pg**	**13 35 37.7**	**+2.1**
CARF				S	**Sg**	**13 35 42.9**	**+2.4**
EJON	**La Jonquera**	**0.54**	**80**	⇑Pg	**Pg**	**13 35 40.6**	**+1.4**
	0.7nm,0.1s,SNR=18						
EJON				Lg		13 35 48.1	
	1.4nm,0.1s,SNR=20						
CFON	**Fontmartina**	**0.63**	**161**	Pg	**Pg**	**13 35 41.2**	**+0.3**
CORG	**Organya**	**0.64**	**259**	Pg	**Pg**	**13 35 41.5**	**+0.3**
EMIR	**Miracle**	**0.65**	**227**	⇓Pg	**Pg**	**13 35 42.0**	**+0.6**
	1.5nm,0.1s,SNR=18						
EMIR				Lg		13 35 51.4	
	SNR=7.9						
SALF	**Salau**	**0.82**	**299**	Pg	**Pg**	**13 35 46.0**	**+1.2**
SALF				Sg	**Sg**	**13 35 56.4**	**+0.6**
SALF	**Salau**	**0.82**	**299**	P	**Pb**	**13 35 46.0**	**+1.7**
SALF				S	**Sb**	**13 35 56.5**	**+1.2**
MTLF	**Montolieu**	**0.98**	**2**	*e*P	**Pb**	**13 35 49.5**	**+2.5**
MTLF				*e*Sg	**Sg**	**13 36 02.5**	**+1.5**
	5.2nm,0.3s						
CAVN	**Les Avellanes**	**1.15**	**246**	Pg	**Pg**	**13 35 51.3**	**0.0**
EPOB	**Poblet**	**1.29**	**219**	⇑Pg	**Pg**	**13 35 53.7**	**-0.4**
	3.1nm,0.6s,SNR=18						
EPOB				Lg		13 36 10.9	
	0.9nm,0.1s,SNR=11						
EPF	**Esparros**	**1.50**	**297**	*e*Pn	**Pn**	**13 35 55.0**	**-0.5**
EPF				*e*Sn	**Sn**	**13 36 14.3**	**-1.1**
EPF				*e*Sg	**Sg**	**13 36 18.4**	**+0.1**
	4.8nm,0.3s						
EBIE	**Bielsa**	**1.53**	**283**	Pg	**Pg**	**13 35 59.6**	**+0.8**
	0.3nm,0.1s,SNR=7.9						
EBIE				Lg		13 36 19.1	
	0.2nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**2.06**	**253**	Pg	**Pg**	**13 36 07.9**	**-1.6**
	1.8nm,0.1s,SNR=4.0						
ESAC				Lg		13 36 35.7	
	8.5nm,0.2s,SNR=4.0						
ETSF	**Etsaut**	**2.08**	**286**	*e*Pn	**Pn**	**13 36 02.7**	**-1.1**
ETSF				*e*Sn	**Sn**	**13 36 28.1**	**-2.0**
ETSF				*e*Sg	**Sg**	**13 36 36.3**	**-1.3**
	4.4nm,0.3s						
LASF	**Ste Croix**	**2.12**	**35**	*e*Pn	**Pn**	**13 36 01.7**	**-2.6**
LASF				*e*Sn	**Sn**	**13 36 27.2**	**-3.8**
LASF				*e*Sg	**Sg**	**13 36 36.0**	**-2.7**
	1.4nm,0.3s						
CAF	**Calviac**	**2.57**	**358**	*e*Pn	**Pn**	**13 36 09.3**	**-1.5**
CAF				*e*Sg	**Sg**	**13 36 51.3**	**-2.4**
	4.9nm,0.4s						
SJPF	**Ste Jean**	**2.61**	**288**	*e*Pn	**Pn**	**13 36 09.5**	**-1.9**
SJPF				*e*Sg	**Sg**	**13 36 53.2**	**-1.9**
	2.7nm,0.4s						
RJF	**Les Rejaudoux**	**2.98**	**351**	*e*Pn	**Pn**	**13 36 14.9**	**-1.8**

*CSEM **13** 13:53:47.0, 26.48N×32.29E, h5km, ML3.0, After HLW*
HLW 13 13:53:47.0, 26.48N×32.29E, h5km, Mb3.0, 5C-4D, Egypt

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
QEN		**0.56**	**117**	⇓P	Pg	13 53 58.0	-0.2
ASUT		**1.12**	**325**	⇓P	Pb	13 54 08.7	+0.2
HHRG	**Al Ghardaqah**	**1.36**	**57**	⇑P	Pb	13 54 11.6	-1.0
HHRG				S	Sb	13 54 29.9	-0.3
HSFG		**1.47**	**86**	⇑P	Pn	13 54 13.7	-0.6
ZEIT		**1.78**	**39**	⇓P	Pn	13 54 17.6	-1.1
GTR	**Jabal at Tayr**	**1.83**	**239**	⇓P	Pn	13 54 18.5	-0.9
GRB	**Gharib**	**1.84**	**14**	⇑P	Pn	13 54 18.6	-1.0
AKRG	**Al Kharijah**	**1.88**	**239**	⇑P	Pn	13 54 18.9	-1.3
HQSR		**2.02**	**110**	⇑P	Pn	13 54 20.9	-1.2

*PRU **13** 14:28:43.4, 51.52N×16.07E*
WAR 13 14:28:45, 51.47N×16.04E, ML2.6, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.65**	**166**	*e*PG	Pg	14 28 57.0	-0.9
KSP				*e*SG	Sg	14 29 05.0	-1.6
UPC	**Upice**	**0.96**	**181**	*e*PG	Pg	14 29 02.3	-1.9
UPC				*e*SG	Sg	14 29 15.0	-2.1
DPC	**Dobruska-Polom**	**1.14**	**171**	*e*PG	Pg	14 29 05.2	-2.5
DPC				*e*SG	Sg	14 29 21.6	-1.2
PVCC	**Panska Ves**	**1.32**	**225**	*e*PG	Pg	14 29 09.5	-1.9
PVCC				*e*SG	Sg	14 29 27.1	-2.0
PRU	**Pruhonice**	**1.76**	**213**	*e*PG	Pg	14 29 19.1	-1.1
PRU				*e*SG	Sg	14 29 41.0	-2.7
	5.4nm,0.4s						
NKC	**Novy Kostel**	**2.59**	**243**	*e*PG	Pg	14 29 31.2	-5.5
NKC				*e*SG	Sg	14 30 06.8	-4.5
KHC	**Kasperske Hory**	**2.82**	**215**	*e*SG	Sg	14 30 15.2	-3.8

*IDC **13** 15:03:10.9±2.8, 53.75N×165.32W, mb3.8/4, mb1 4.0/5, mb1mx3.6/23, ML3.6/1, MS2.7/1, Ms1 2.8/1, ms1mx2.3/25, Error ellipse: s-maj=48.7km s-min=41.1km az=65.0*
*NEIC **13** 15:03:21.0, 53.73N×164.80W, h38km, ML3.6(AEIC), After AEIC.*
ISC 13 15:03:20.0±0.6**, 53.9N**±0.1×**164.94W**±0.10**, h77**km±8km**, n39,** σ0^s**71**/50**, mb3.8**/3**, 3C, Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKA	**Akutan**	**0.55**	**298**	P	**P**	**15 03 33.7**	**-0.5**
AKA				S	**S**	**15 03 44.0**	**-0.6**
AHB	**Akutan Harbor**	**0.57**	**295**	P	**P**	**15 03 33.9**	**-0.4**
AHB				S	**S**	**15 03 44.7**	**-0.1**
WESS	**West Dahl Sout**	**0.61**	**12**	P	**P**	**15 03 34.4**	**-0.4**
WESE	**West Dahl East**	**0.63**	**19**	P	**P**	**15 03 34.5**	**-0.4**
AKLV	**Akutan Long Va**	**0.66**	**296**	P	**P**	**15 03 34.9**	**-0.3**
AKLV				S	**S**	**15 03 46.0**	**-0.6**
WFAR	**Faris Peak**	**0.66**	**8**	P	**P**	**15 03 35.2**	**0.0**
WFAR				S	**S**	**15 03 46.1**	**-0.4**
AKGG	**Akutan Green G**	**0.70**	**298**	P	**P**	**15 03 35.5**	**-0.1**
AKGG				S	**S**	**15 03 47.8**	**+0.6**
LVA	**Lava Point**	**0.70**	**294**	P	**P**	**15 03 35.6**	**-0.1**
LVA				S	**S**	**15 03 47.7**	**+0.4**
WESN	**West Dahl Nort**	**0.72**	**17**	P	**P**	**15 03 36.2**	**+0.4**
WPOG	**Pogromni**	**0.73**	**9**	P	**P**	**15 03 36.1**	**+0.2**
UNV	**Unalaska Valle**	**0.93**	**268**	P	**P**	**15 03 37.7**	**-0.5**
UNV				S	**S**	**15 03 50.8**	**-1.0**
SSLW	**Shishaldin Wes**	**1.01**	**28**	P	**P**	**15 03 39.4**	**+0.2**
WTUG	**Tugumak**	**1.02**	**18**	P	**P**	**15 03 39.5**	**+0.1**
WTUG				S	**S**	**15 03 54.6**	**+0.7**
MTBL	**Makushin Table**	**1.03**	**276**	P	**P**	**15 03 39.8**	**+0.2**
MNAT	**Makushin Natee**	**1.03**	**271**	P	**P**	**15 03 39.5**	**0.0**
MNAT				S	**S**	**15 03 54.4**	**+0.2**
SSLN	**Shishaldin Nor**	**1.08**	**30**	P	**P**	**15 03 40.5**	**+0.4**
MSW	**Makushin Switc**	**1.09**	**273**	P	**P**	**15 03 40.3**	**+0.1**
MGOD	**Makushin Gods**	**1.15**	**266**	P	**P**	**15 03 41.1**	**+0.2**
MGOD				S	**S**	**15 03 57.4**	**+0.7**
MCIR	**Makushin Cirqu**	**1.16**	**274**	P	**P**	**15 03 41.5**	**+0.4**
FALS	**False Pass**	**1.32**	**42**	P	**P**	**15 03 43.3**	**-0.2**
FALS				S	**S**	**15 04 01.2**	**+0.4**
BALA	**Baldy Mountain**	**1.82**	**43**	P	**P**	**15 03 50.9**	**+1.0**
DRIA	**Deer Island**	**1.90**	**54**	P	**P**	**15 03 51.0**	**-0.1**
DRIA				S	**S**	**15 04 14.1**	**+0.1**
OKCD	**Okmok Cone D**	**1.94**	**258**	P	**P**	**15 03 52.4**	**+0.8**
DT1	**Dutton Round H**	**1.98**	**51**	P	**P**	**15 03 51.8**	**-0.3**
DTNA	**Dutton South F**	**2.02**	**50**	P	**P**	**15 03 52.5**	**-0.2**
DOL	**Dolgoi Island**	**2.20**	**53**	P	**P**	**15 03 54.9**	**-0.2**
HAG	**Hague Volcano**	**2.28**	**50**	P	**P**	**15 03 56.5**	**+0.2**
PN7A	**Pavlof North-7**	**2.31**	**46**	P	**P**	**15 03 57.1**	**+0.4**
PVV	**Pavlof Volcano**	**2.36**	**49**	P	**P**	**15 03 58.0**	**+0.4**
PVV				S	**S**	**15 04 27.6**	**+2.2**
NIKO	**Nikolski**	**2.51**	**250**	P	**P**	**15 04 00.3**	**+0.7**
SDPT	**Sand Point**	**2.98**	**59**	P	**P**	**15 04 05.1**	**-1.1**
SDPT				S	**S**	**15 04 38.5**	**-2.4**
ILAR	**Eielson Array**	**14.21**	**33**	Pn	**P**	**15 06 34.8**	**-3.6**
	0.1nm,0.3s,baz=224,slow=13,SNR=5.9						
ILAR				LR	LR	15 11 57.1	
	comp=Z,29nm,19.1s,baz=345,slow=36						
INK	**Inuvik**	**20.61**	**33**	P	**P**	**15 07 51.8**	**-2.9**
	1.2nm,0.5s,baz=220,slow=8.9,SNR=7.6						
YKA	**Yellowknife Ar**	**27.22**	**51**	P	**P**	**15 08 59.0**	**+0.9**
	1.0nm,0.6s,mb3.5,baz=274,slow=7.0,SNR=4.6						
TXAR	**Lajitas Array**	**50.11**	**94**	P	**P**	**15 12 09.4**	**+0.3**
	1.0nm,0.5s,mb4.0,baz=321,slow=5.8,SNR=4.4						
FINES	**FINESS Array B**	**64.69**	**354**	P	**P**	**15 13 50.6**	**-0.6**
	0.5nm,0.3s,mb3.8,baz=9.4,slow=7.7,SNR=5.3						
VNA3	**Neumayer Olymp**	**159.48**	**157**	⇑*i*	PKPab	15 23 51.0	+2.8
VNA2	**Neumayer--Watz**	**160.22**	**158**	⇑*i*	PKPab	15 23 53.5	+2.1
SNAA	**Sanae**	**160.52**	**163**	⇑*i*	PKPab	15 23 53.3	+0.7

*IDC **13** 15:15:44.7±5.9, 7.44S×128.44E, h79km±55km, mb3.8/5, mb1 4.2/7, mb1mx4.0/12, ML4.7/2, Error ellipse: s-maj=86.3km s-min=18.4km az=60.0*
*NEIC **13** 15:15:44.5±3.0, 7.44S×128.48E, h81km±30km, mb4.2/4, Error ellipse: s-maj=30.1km s-min=15.6km az=47.0*
ISC 13 15:15:44.5±0.6**, 7.58S**±0.07×**128.2E**±0.1**, h100**km**, n20,** σ1^s**09**/21**, mb4.2**/9**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.76**	**193**	P	**P**	**15 18 18.1**	**+1.2**
	6.3nm,0.3s,baz=23,slow=12,SNR=173						
FITZ				S	**S**	**15 20 12.8**	**-3.1**
	5.2nm,0.3s,baz=346,slow=21,SNR=4.2						
WRAB	**Tennant Creek**	**13.64**	**155**	Pn	**P**	**15 18 55.2**	**+0.3**
	133nm,0.5s,SNR=13						
WRAB	**Tennant Creek**	**13.64**	**155**	*e*P	**P**	**15 18 54.6**	**-0.3**
	19nm,0.6s						
WRA	**Warramunga Arr**	**13.64**	**155**	P	**P**	**15 18 54.5**	**-0.5**
	3.5nm,0.3s,baz=324,slow=14,SNR=140						
WRA				S	**S**	**15 21 18.5**	**-5.9**
	4.2nm,0.3s,baz=326,slow=21,SNR=9.3						
MBWA	**Marble Bar**	**15.80**	**210**	*e*P	**P**	**15 19 25.2**	**+2.6**
	4.8nm,0.6s						
STKA	**Stephens Creek**	**27.19**	**155**	P	**P**	**15 21 21.9**	**+1.0**
	1.2nm,0.4s,mb3.8,baz=326,slow=14,SNR=5.0						
STKA	**Stephens Creek**	**27.19**	**155**	*e*P	**P**	**15 21 21.9**	**+1.0**
CMAR	**Chiang Mai Arr**	**38.79**	**312**	P	**P**	**15 23 03.8**	**+2.6**
	0.3nm,0.6s,mb3.3,baz=140,slow=6.5,SNR=4.6						
GUN	**Gumba**	**54.03**	**313**	*e*P	**P**	**15 25 01.2**	**+0.2**
	11nm,0.5s,mb5.2						
PKI	**Pulchoki**	**54.19**	**312**	*e*P	**P**	**15 25 02.3**	**+0.1**
KKN	**Kakani**	**54.40**	**312**	*e*P	**P**	**15 25 03.1**	**-0.7**
DMN	**Daman**	**54.43**	**312**	*e*P	**P**	**15 25 03.5**	**-0.5**
GKN	**Gorkha**	**54.99**	**312**	*e*P	**P**	**15 25 07.5**	**-0.6**
SONM	**Songino Array**	**58.45**	**343**	P	**P**	**15 25 33.0**	**+0.7**
	1.4nm,0.7s,mb4.1,baz=167,slow=6.6,SNR=12						
MKAR	**Makanchi Array**	**67.76**	**328**	P	**P**	**15 26 33.3**	**-0.3**
	1.4nm,0.4s,mb4.2,baz=120,slow=8.1,SNR=42						
ZAL	**Zalesovo**	**71.34**	**335**	P	**P**	**15 26 54.1**	**-1.2**
	2.0nm,0.3s,mb4.4,baz=305,slow=1.7,SNR=4.7						
KURK	**Kurchatov**	**72.11**	**329**	*e*P	**P**	**15 26 59.2**	**-0.7**
	4.0nm,0.8s,mb4.3						
BRVK	**Borovoye**	**77.70**	**328**	*e*P	**P**	**15 27 31.8**	**0.0**
	1.4nm,0.6s,mb3.9						
ZRNK	**Zerenda**	**78.31**	**328**	*e*P	**P**	**15 27 34.8**	**-0.3**
	4.1nm,0.7s,mb4.3						
LPAZ	**La Paz**	**151.28**	**146**	PKPbc	PKPdf	15 35 30.3	+9.2
	0.5nm,0.4s,baz=31,slow=2.9,SNR=3.1						
LPAZ				PKPab	PKPab	15 35 39.6	+1.7
	1.4nm,0.6s,baz=224,slow=3.8,SNR=6.0						

*ISK **13** 15:22:58.5, 40.55N×35.39E, h5km, MD3.6*
*NEIC **13** 15:22:58.9, 40.55N×35.37E, h5km, MD3.6(ISK), After ISK.*
*CSEM **13** 15:22:58.5, 40.55N×35.39E, h5km, MD3.6, After ISK*
ISC 13 15:22:59.0±0.6**, 40.55N**±0.03×**35.39E**±0.03**, h1**km±6km**, n33,** σ0^s**81**/46**, 5C, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTKT	**Corum**	**0.46**	**280**	⇑*i*P	**Pg**	**15 23 08.8**	**+0.5**
CTKT				*i* S	**Sg**	**15 23 16.0**	**+1.6**
KVT	**Kavak**	**0.73**	**43**	PG	**Pg**	**15 23 13.4**	**-0.2**
KVT				SG	**Sg**	**15 23 22.9**	**-0.4**
KVT	**Kavak**	**0.73**	**43**	Pg	**Pg**	**15 23 13.5**	**-0.1**
KVT				Sg	**Sg**	**15 23 24.5**	**+1.2**
YOZ	**Yozgat**	**0.91**	**183**	PG	**Pg**	**15 23 15.8**	**-1.3**
YOZ				SG	**Sg**	**15 23 29.1**	**-0.1**
YOZ	**Yozgat**	**0.91**	**183**	Pg	**Pg**	**15 23 17.3**	**+0.2**
YOZ				Sg	**Sg**	**15 23 29.3**	**+0.1**
TOKT	**Tokat**	**0.91**	**104**	*e*PG	**Pg**	**15 23 16.1**	**-1.1**
TOKT				*e*SG	**Sg**	**15 23 29.4**	**0.0**
TOKT	**Tokat**	**0.91**	**104**	Pg	**Pg**	**15 23 16.6**	**-0.6**
TOKT				Sg	**Sg**	**15 23 29.6**	**+0.2**
BOYT	**Boyabat**	**0.95**	**337**	⇑*i*P	**Pb**	**15 23 17.5**	**-0.4**
BOYT				*i* S	**Sg**	**15 23 31.2**	**+0.7**
BYBT	**Boyabat**	**1.03**	**333**	*i* PG	**Pg**	**15 23 18.9**	**-0.8**
BYBT				*i* SG	**Sg**	**15 23 33.2**	**-0.2**
BYBT	**Boyabat**	**1.03**	**333**	Pg	**Pg**	**15 23 18.9**	**-0.8**
BYBT				Sg	**Sg**	**15 23 33.9**	**+0.5**
TOS	**Tosya**	**1.15**	**296**	*e*PN	**Pn**	**15 23 20.2**	**-1.9**
CANT	**Cankiri**	**1.35**	**273**	*i* PN	**Pn**	**15 23 24.7**	**-0.3**
CANT	**Cankiri**	**1.35**	**273**	Pn	**Pn**	**15 23 24.8**	**-0.2**
SVST	**Sivas**	**1.43**	**122**	⇑*i*P	**Pb**	**15 23 26.8**	**+0.7**
SVST				*i* S	**Sb**	**15 23 46.5**	**+1.8**
ELDT	**Eldivan**	**1.50**	**268**	⇑*i*P	**Pn**	**15 23 26.8**	**-0.3**
ELDT				*i* S	**Sb**	**15 23 48.0**	**+1.3**
BNN	**Bunyan**	**1.73**	**168**	*e*PN	**Pn**	**15 23 30.6**	**+0.1**
BNN	**Bunyan**	**1.73**	**168**	Pn	**Pn**	**15 23 31.2**	**+0.7**
KAMT	**Kaman**	**1.74**	**228**	*i* PN	**Pn**	**15 23 30.7**	**0.0**
KAMT	**Kaman**	**1.74**	**228**	Pn	**Pn**	**15 23 30.9**	**+0.2**
BZK	**Bozkurt**	**1.75**	**324**	PN	**Pn**	**15 23 31.1**	**+0.3**
BZK	**Bozkurt**	**1.75**	**324**	Pn	**Pn**	**15 23 31.4**	**+0.6**
AVNT	**Avonos**	**1.81**	**193**	⇑*i*P	**Pn**	**15 23 32.1**	**+0.5**
AVNT				*i* S	**Sn**	**15 23 55.8**	**+0.2**
ANTO	**Ankara**	**2.10**	**252**	*e*PN	**Pn**	**15 23 34.4**	**-1.4**
ANTO	**Ankara**	**2.10**	**252**	Pn	**Pn**	**15 23 35.8**	**0.0**
LOD	**Lodumlu**	**2.11**	**253**	Pn	**Pn**	**15 23 35.2**	**-0.8**
SAFT	**Safranbolu**	**2.16**	**290**	*e*PN	**Pn**	**15 23 36.9**	**+0.3**
SAFT	**Safranbolu**	**2.16**	**290**	Pn	**Pn**	**15 23 35.8**	**-0.8**
NIG	**Nigde**	**2.51**	**194**	*e*PN	**Pn**	**15 23 40.9**	**-0.7**
KIZT	**Kizilcal**	**3.18**	**240**	*i* PN	**Pn**	**15 23 50.5**	**-0.6**
KIZT	**Kizilcal**	**3.18**	**240**	Pn	**Pn**	**15 23 50.7**	**-0.4**
EZC	**Erzincan**	**3.49**	**102**	*e*PN	**Pn**	**15 23 50.9**	**-4.6**
EZC	**Erzincan**	**3.49**	**102**	Pn	**Pn**	**15 23 51.3**	**-4.2**
PTK	**Pertek**	**3.50**	**117**	*e*PN	**Pn**	**15 23 55.4**	**-0.4**

*PRU **13** 15:33:24.5, 51.47N×16.10E*
*WAR **13** 15:33:24, 51.50N×16.09E, ML2.7, Mining Induced*
ISC 13 15:33:22.1±1.2**, 51.50N**±0.05×**16.04E**±0.06**, n9,** σ1^s**09**/20**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.68**	**166**	*e*PG	**Pg**	**15 33 37.0**	**+1.5**
KSP				*e*SG	**Sg**	**15 33 46.0**	**+1.4**
UPC	**Upice**	**0.99**	**181**	*e*PG	**Pg**	**15 33 42.8**	**+0.9**
UPC				*e*SG	**Sg**	**15 33 55.9**	**+0.8**
DPC	**Dobruska-Polom**	**1.16**	**171**	*e*PG	**Pg**	**15 33 45.6**	**+0.3**
DPC				*e*SG	**Sg**	**15 34 00.2**	**-0.6**
PVCC	**Panska Ves**	**1.34**	**224**	*e*PG	**Pg**	**15 33 50.0**	**+1.1**
PVCC				*e*SG	**Sg**	**15 34 07.6**	**+0.8**
PRU	**Pruhonice**	**1.79**	**213**	PG	**Pg**	**15 33 56.8**	**-0.9**
PRU				*i* x	x	15 34 00.1	
PRU				*e*SG	**Sg**	**15 34 20.8**	**-0.7**
	9.7nm,0.4s						
CLL	**Collm**	**1.91**	**265**	*e*PG	**Pg**	**15 34 00.0**	**-0.2**
CLL				*e*SG	**Sg**	**15 34 26.0**	**+0.3**
OKC	**Ostrava-Krasne**	**2.14**	**140**	*e*PG	**Pg**	**15 34 03.6**	**-1.1**
OKC				*e*SG	**Sg**	**15 34 32.1**	**-1.1**
NKC	**Novy Kostel**	**2.60**	**242**	*e*PG	**Pg**	**15 34 13.1**	**-0.9**
NKC				*e*SG	**Sg**	**15 34 49.1**	**+0.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KHC	**Kasperske Hory**	**2.85**	**215**	*e*PN	**Pn**	**15 34 11.0**	**+1.4**
KHC				*e*PG	**Pg**	**15 34 16.2**	**-2.7**
KHC				*e*SN	**Sn**	**15 34 45.1**	**0.0**
KHC				*e*SG	**Sg**	**15 34 54.7**	**-2.1**

*IDC **13** 15:36:48.9±1.2, 30.41N×107.26E, mb4.1/3, mb1 4.0/5, mb1mx3.8/20, ML3.8/2, MS2.9/1, Ms1 2.9/1, ms1mx2.0/25, Error ellipse: s-maj=55.8km s-min=23.1km az=61.0*
*BJI **13** 15:36:51.1, 30.22N×106.86E, h16km, ML3.7, Ms3.9, Msz3.7*
ISC 13 15:36:49.3±0.7**, 30.24N**±0.05×**106.88E**±0.08**, h16km, n16, σ1§33**/23**, mb4.0**/3**, MS2.8**/1**, 2D, Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.77**	**285**	⇓*i*P	**Pn**	**15 37 34.6**	**+0.6**
CD2				PG	**Pn**	**15 37 38.6**	**+4.6**
CD2				SG	**Sn**	**15 38 09.0**	**+1.6**
CD2				Smax			
	comp=N,239nm,0.6s						
CD2				Smax			
	comp=E,352nm,0.6s						
GYA	**Guiyang**	**3.77**	**183**	P	**Pn**	**15 37 49.0**	**+0.8**
GYA				PG	**Pn**	**15 37 59.8**	**+12**
GYA				S	**Sn**	**15 38 33.4**	**+0.8**
GYA				Smax			
	comp=N,90nm,0.5s						
GYA				Smax			
	comp=E,110nm,0.8s						
XAN	**Xi'an**	**4.17**	**24**	P	**Pn**	**15 37 54.5**	**+0.6**
XAN				PG	**Pn**	**15 38 05.0**	**+11**
XAN				S	**Sn**	**15 38 52.0**	**+9.2**
XAN				SG	**Sn**	**15 39 03.0**	**+20**
XAN				Smax			
	comp=N,217nm,0.9s						
XAN				Smax			
	comp=E,161nm,0.9s						
LZH	**Lanzhou**	**6.36**	**337**	⇓P	**Pn**	**15 38 26.5**	**+1.6**
LZH				S	**Sn**	**15 39 36.9**	**-1.0**
LZH				SG	Sn	15 40 09.5	+32
LZH				Smax			
	comp=N,241nm,1.2s						
LZH				Smax			
	comp=E,417nm,1.2s						
LZH				LR	LR		
	comp=N,1μm,6.1s						
LZH				LR	LR		
	comp=Z,2μm,7.9s						
CMAR	**Chiang Mai Arr**	**13.77**	**213**	Pn	**P**	**15 40 11.7**	**+5.3**
	comp=Z,0.1nm,0.3s,baz=26,slow=9.9,SNR=6.1						
SONM	**Songino Array**	**17.58**	**359**	P	**P**	**15 40 55.3**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=166,slow=12,SNR=5.2						
GUN	**Gumba**	**18.50**	**268**	*e*P	**P**	**15 41 05.2**	**-1.6**
	comp=Z,7.9nm,0.4s						
PKI	**Pulchoki**	**18.98**	**267**	*e*P	**P**	**15 41 09.0**	**-3.6**
KKN	**Kakani**	**19.04**	**268**	*e*P	**P**	**15 41 10.2**	**-3.1**
	comp=Z,13nm,0.9s						
DMN	**Daman**	**19.23**	**268**	*e*P	**P**	**15 41 12.1**	**-3.5**
GKN	**Gorkha**	**19.55**	**269**	*e*P	**P**	**15 41 16.5**	**-2.8**
	comp=Z,3.2nm,0.3s						
KOLN	**Koldanda**	**20.50**	**269**	*e*P	**P**	**15 41 25.2**	**-4.2**
	comp=Z,8.9nm,1.0s						
MKAR	**Makanchi Array**	**25.21**	**318**	P	**P**	**15 42 16.5**	**+0.8**
	comp=Z,0.7nm,0.4s,mb3.6,baz=113,slow=10,SNR=17						
ZAL	**Zalesovo**	**28.57**	**332**	LR	LR	15 55 24.2	
	comp=Z,26nm,19.9s,MS2.8,baz=208,slow=39						
WRA	**Warramunga Arr**	**56.46**	**149**	P	**P**	**15 46 32.1**	**-0.9**
	comp=Z,0.7nm,0.4s,mb4.1,baz=339,slow=7.9,SNR=28						
STKA	**Stephens Creek**	**70.01**	**149**	P	**P**	**15 48 02.5**	**+0.2**
	comp=Z,4.0nm,1.1s,mb4.3,baz=14,slow=4.2,SNR=3.7						

*IDC **13** 15:43:53.3±1.3, 52.42N×170.23W, mb3.8/7, mb1 4.0/8, mb1mx3.8/24, ML3.3/1, MS3.1/4, Ms1 3.2/4, ms1mx2.6/26, Error ellipse: s-maj=44.7km s-min=20.7km az=6.0*
*NEIC **13** 15:44:00.4±1.3, 52.45N×170.20W, h53km±10km, mb3.8/1, ML3.8(AEIC), Error ellipse: s-maj=26.3km s-min=10.0km az=168.0*
ISC 13 15:43:59.4±1.2**, 52.5N**±0.2×**170.2W**±0.1**, h57km**±9km**, n25, σ1§09**/23**, mb3.8**/8**, MS3.1**/3**, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**0.96**	**58**	P	**P**	**15 44 14.7**	**-2.3**
NIKO				S	**S**	**15 44 27.7**	**-2.4**
OKCE	**Okmok Cone E**	**1.56**	**52**	P	**P**	**15 44 26.6**	**+1.3**
OKCD	**Okmok Cone D**	**1.58**	**52**	P	**P**	**15 44 26.7**	**+1.0**
OKER	**East Rim**	**1.63**	**52**	P	**P**	**15 44 26.7**	**+0.3**
ATKA	**Atka Island**	**2.46**	**265**	P	**P**	**15 44 37.9**	**-0.2**
MCIR	**Makushin Cirqu**	**2.48**	**52**	P	**P**	**15 44 39.0**	**+0.7**
MNAT	**Makushin Natee**	**2.54**	**55**	P	**P**	**15 44 39.7**	**+0.5**
UNV	**Unalaska Valle**	**2.62**	**57**	P	**P**	**15 44 39.5**	**-0.8**
AKGG	**Akutan Green G**	**3.06**	**54**	P	**P**	**15 44 48.3**	**+1.8**
FALS	**False Pass**	**4.69**	**57**	P	**P**	**15 45 10.3**	**+0.9**
ILAR	**Eielson Array**	**17.15**	**35**	P	**P**	**15 47 55.0**	**-1.2**
	0.0nm,0.3s,baz=230,slow=13,SNR=3.7						
ILAR				LR	LR	15 55 30.7	
	comp=Z,46nm,19.5s,baz=357,slow=40						
INK	**Inuvik**	**23.54**	**34**	P	**P**	**15 49 05.1**	**+0.5**
	1.1nm,0.4s,mb3.6,baz=271,slow=2.0,SNR=5.6						
INK	**Inuvik**	**23.54**	**34**	P	**P**	**15 49 05.1**	**+0.5**
BBB	**Bella Bella**	**25.46**	**74**	LR	LR	15 57 10.5	
	comp=Z,57nm,21.7s,MS3.0,baz=169,slow=31						
YKA	**Yellowknife Ar**	**30.56**	**49**	LR	LR	16 01 29.4	
	comp=Z,29nm,19.9s,MS2.9,baz=180,slow=34						
NVAR	**Mina Array Bea**	**38.18**	**90**	P	**P**	**15 51 15.3**	**+0.5**
	0.7nm,0.9s,mb3.4,baz=300,slow=6.6,SNR=3.8						
NVAR	**Mina Array Bea**	**38.18**	**90**	P	**P**	**15 51 15.3**	**+0.5**
BW06	**Boulder Array**	**40.89**	**79**	*e*P	**P**	**15 51 37.0**	**-0.1**
	1.1nm,0.5s,mb3.7						
PDAR	**Pinedale Array**	**40.89**	**79**	P	**P**	**15 51 37.8**	**+0.6**
	0.8nm,0.5s,mb3.6,baz=314,slow=4.0,SNR=6.9						
TXAR	**Lajitas Array**	**53.26**	**88**	P	**P**	**15 53 12.5**	**-1.8**
	0.4nm,0.3s,mb3.8,baz=288,slow=4.0,SNR=4.3						
TXAR	**Lajitas Array**	**53.26**	**88**	P	**P**	**15 53 12.5**	**-1.8**
ARCES	**ARCESS Array B**	**57.76**	**354**	LR	LR	16 20 31.9	
	comp=Z,31nm,19.2s,MS3.4,baz=169,slow=38						
BVAR	**Borovoye Array**	**63.31**	**324**	P	**P**	**15 54 24.4**	**+0.2**
	1.3nm,0.8s,mb4.1,baz=27,slow=6.6,SNR=6.4						
MKAR	**Makanchi Array**	**63.35**	**313**	P	**P**	**15 54 23.2**	**-1.3**
	0.8nm,1.0s,mb3.8,baz=79,slow=7.3,SNR=3.3						
CMAR	**Chiang Mai Arr**	**76.09**	**282**	P	**P**	**15 55 43.1**	**+0.6**
	1.5nm,0.9s,mb3.9,baz=28,slow=6.8,SNR=8.8						

DJA 13 16:20:38.5±1.5**, 3.88S**×**101.99E, h137km**±353km**, mb4.5**/2**, MD4.3**/2**, ML4.6**/2**, 2C-2D, Error ellipse: s-maj=677.2km s-min=30.8km az=63.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PENI	**Pendagan**	**3.58**	**118**	*e*Pn	P	16 21 33.7	-0.1
	136nm,0.2s						
PASI	**Pasiripis**	**4.54**	**128**	⇑*e*Pn	P	16 21 46.5	0.0
	103nm,0.2s						
PASI				⇑*e*Sn	S	16 22 36.1	-2.7
MRPI	**Mariponipon**	**6.08**	**334**	⇓*e*P	P	16 22 07.3	+0.2
	43nm,0.2s						
AEKI	**Aeknabara**	**6.92**	**329**	⇓*e*P	P	16 22 18.9	+0.4
	115nm,0.2s						

GUC 13 16:20:38.3±0.7**, 33.18S**×**70.20W, h7km**±1km**, MD3.5, ML1.9, 2C-1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.17**	**206**	⇑*i*P	Pg	16 20 42.7	+0.8
FCH				*i* S	Sg	16 20 45.5	+1.2
FCH				AMP		16 20 46.2	
	comp=E,523nm,0.2s						
CLCH	**Cerro Calan**	**0.36**	**232**	*i* P	Pg	16 20 46.1	+0.6
CLCH				*i* S	Sg	16 20 51.8	+1.5
CLCH				AMP		16 20 53.6	
	comp=N,306nm,0.4s						
PEL	**Peldehue**	**0.41**	**274**	*e*P	Pg	16 20 46.4	-0.1
PEL				AMP		16 20 52.4	
	comp=N,181nm,0.2s						
PCH	**Pirque**	**0.51**	**210**	⇓*i*P	Pg	16 20 48.9	+0.3
LMEL	**Las Melosas**	**0.67**	**180**	⇑*i*P	Pg	16 20 52.0	+0.3
LMEL				*i* S	Sg	16 21 02.1	+1.4
LMEL				AMP		16 21 04.1	
	comp=N,90nm,0.1s						
TACH	**Talagante**	**0.78**	**232**	*e*P	Pb	16 20 53.3	-0.4
CHCH	**Chadas Angostu**	**0.84**	**206**	*e*P	Pb	16 20 54.7	-0.2
CHCH				*i* S	Sb	16 21 06.5	+0.4
PACH	**Papudo**	**1.22**	**301**	*i* P	Pb	16 21 00.5	-0.8
PACH				*i* S	Sb	16 21 16.9	-0.1
LNV	**Longovilo**	**1.27**	**232**	*e*P	Pb	16 21 01.3	-0.9
LNV				*i* S	Sb	16 21 18.4	-0.2

KRSC 13 16:21:15.0±1.6**, 48.90N**×**154.92E, h20km**±99km**, ML3.8, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.95**	**23**	*e*P	Pn	16 21 46.9	-0.6
SKR				*e*S	Sn	16 22 11.0	-0.6
PAU	**Pauzhetka**	**2.84**	**25**	*i* S	Sn	16 22 34.2	-0.2
PAU				Smax			
	100nm,0.2s						
GRL	**Gorelyy**	**4.17**	**28**	*e*P	Pn	16 22 21.1	+1.9
RUS	**Russkaya**	**4.21**	**32**	*e*P	Pn	16 22 19.9	+0.1
RUS				*e*S	Sn	16 23 06.4	-2.6
KOK	**Koryaka**	**4.98**	**27**	*e*P	Pn	16 22 34.2	+3.5
AVH	**Avacha**	**4.99**	**27**	*e*P	Pn	16 22 34.1	+3.3
GNL	**Ganaly**	**5.16**	**20**	*e*P	Pn	16 22 35.9	+2.7

*IDC **13** 17:05:43.6±5.3, 19.51S×178.23W, h404km±49km, mb3.3/4, mb1 3.5/5, mb1mx3.2/13, Error ellipse: s-maj=66.2km s-min=20.8km az=73.0*
*NEIC **13** 17:06:03.3±2.4, 20.46S×178.95W, h600km, mb4.0/3, Error ellipse: s-maj=52.2km s-min=23.9km az=57.0*
ISC 13 17:05:38.6±5.6**, 19.3S**±0.2×**178.5W**±0.5**, h353km**±55km**, n10, σ1§10**/10**, mb3.6**/6**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**19.27**	**190**	P	**P**	**17 09 39.5**	**+0.2**
	0.5nm,0.3s,baz=348,slow=19,SNR=3.0						
URZ				S	**S**	**17 12 53.8**	**+0.1**
	0.4nm,0.3s,baz=289,slow=18,SNR=2.6						
CTA	**Charters Tower**	**33.14**	**263**	P	**P**	**17 11 47.9**	**+3.1**
	1.6nm,0.4s,mb3.6,baz=89,slow=12,SNR=6.9						
CTAO	**Charters Tower**	**33.14**	**263**	P	**P**	**17 11 48.1**	**+3.3**
	1.6nm,0.3s,mb3.7						
STKA	**Stephens Creek**	**37.89**	**243**	P	**P**	**17 12 23.9**	**-0.6**
	2.0nm,0.9s,mb3.3,baz=68,slow=5.8,SNR=3.0						
STKA	**Stephens Creek**	**37.89**	**243**	*e*P	**P**	**17 12 23.6**	**-0.8**
WRAB	**Tennant Creek**	**44.29**	**261**	*e*P	**P**	**17 13 16.7**	**+0.3**
	2.7nm,0.5s,mb3.6						
WRA	**Warramunga Arr**	**44.30**	**261**	P	**P**	**17 13 16.8**	**+0.3**
	1.2nm,0.3s,mb3.5,baz=97,slow=7.4,SNR=50						
MBWA	**Marble Bar**	**57.65**	**257**	*e*P	**P**	**17 14 52.7**	**-2.5**
	4.3nm,0.7s,mb3.9						
CMAR	**Chiang Mai Arr**	**89.26**	**290**	P	**P**	**17 17 57.2**	**+0.3**
	0.6nm,0.7s,mb3.5,baz=105,slow=2.7,SNR=4.5						
AKASG	**Malin Array Be**	**141.74**	**331**	PKhKP		17 24 20.6	
	0.4nm,0.3s,baz=38,slow=4.4,SNR=5.5						

*JMA **13** 18:01:59.2±0.3, 33.67N×127.51E, h8km, M3.0*
*KMA **13** 18:02:02.5, 33.74N×127.31E, ML2.7*
ISC 13 18:02:00.1±0.5**, 33.64N**±0.04×**127.52E**±0.04**, h10km, n13, σ0§75**/20**, South Korea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSJJU	**Jeju**	**0.84**	**256**	P	**Pb**	**18 02 16.2**	**-0.1**
KSJJU				S	**Sb**	**18 02 27.3**	**-0.1**
KSSGP	**Seogwipo**	**0.94**	**247**	P	**Pb**	**18 02 17.7**	**-0.2**
KSSGP				S	**Sb**	**18 02 29.9**	**-0.3**
KSWAN	**Wando**	**1.01**	**318**	P	**Pb**	**18 02 18.8**	**-0.5**
KSWAN				S	**Sb**	**18 02 31.7**	**-0.8**
JFU	**Fukue jima 2**	**1.42**	**133**	P	**Pn**	**18 02 25.5**	**-0.6**
JFU				*e*S	**Sb**	**18 02 45.1**	**+0.9**
KSMOP	**Mokpo**	**1.51**	**321**	P	**Pn**	**18 02 27.1**	**-0.2**
KSMOP				S	**Sb**	**18 02 46.7**	**-0.1**
KSKWJ	**Gwangju**	**1.58**	**344**	P	**Pn**	**18 02 28.2**	**-0.2**
KSKWJ				S	**Sb**	**18 02 48.9**	**-0.1**
JTU	**Tsushima**	**1.79**	**60**	P	**Pn**	**18 02 31.2**	**-0.2**
JTU				*e*S	**Sn**	**18 02 53.0**	**-1.3**
JII	**Iki**	**1.85**	**84**	P	**Pn**	**18 02 31.4**	**-0.8**
KSJEU	**Jeongeup**	**1.92**	**345**	P	**Pn**	**18 02 33.8**	**+0.6**
KSHUK	**Heuksando**	**2.01**	**302**	P	**Pn**	**18 02 35.0**	**+0.5**
JUR	**Ureshino**	**2.10**	**104**	P	**Pn**	**18 02 36.0**	**+0.2**
KSCHO	**Jeonju**	**2.20**	**352**	P	**Pn**	**18 02 38.7**	**+1.5**
KSKUS	**Gunsan**	**2.44**	**347**	P	**Pn**	**18 02 42.8**	**+2.1**

*LDG **13** 18:05:52.2±0.1, 45.98N×2.72E, h10km, Md2.6/3, Ml2.5/21, Error ellipse: s-maj=1.2km s-min=0.9km az=113.0*
*CSEM **13** 18:05:52.2±0.1, 45.98N×2.72E, h10km, ML2.5/19, Error ellipse: s-maj=1.2km s-min=0.9km az=112.0*
*STR **13** 18:05:53.0±0.5, 45.95N×2.74E, h5km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **13** 18:05:53.0, 45.95N×2.74E, h5km, ML2.5(STR), ML2.5(LDG), After STR.*
ISC 13 18:05:49.9±0.2**, 45.95N**±0.01×**2.75E**±0.02**, h10km, n31, σ1§30**/78**, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PYM	**Petit Puy Mans**	**0.27**	**138**	Pg	**Pg**	**18 05 58.9**	**+3.3**
PYM				Sg	**Sg**	**18 06 03.3**	**+3.8**
AGO	**Saint Agoulin**	**0.29**	**70**	Pg	**Pg**	**18 05 59.1**	**+3.2**
AGO				Sg	**Sg**	**18 06 03.1**	**+3.2**
TCF	**Toulx Ste Croi**	**0.50**	**312**	*e*Pg	**Pg**	**18 06 01.6**	**+1.6**
TCF				*e*Sg	**Sg**	**18 06 07.9**	**+1.1**
	28nm,0.2s						
FRNF	**Fournols**	**0.58**	**193**	Pg	**Pg**	**18 06 04.0**	**+2.4**
FRNF				Sg	**Sg**	**18 06 11.6**	**+2.1**
BGF	**Bois d'Agland**	**0.61**	**7**	*e*Pg	**Pg**	**18 06 03.5**	**+1.3**
BGF				*e*Sg	**Sg**	**18 06 11.3**	**+1.0**
	56nm,0.2s						
COLF	**Collangettes**	**0.80**	**123**	Pg	**Pg**	**18 06 07.8**	**+1.9**
COLF				Sg	**Sg**	**18 06 18.3**	**+1.8**
LBL	**Lubilhac**	**0.80**	**154**	Pg	**Pg**	**18 06 08.7**	**+2.7**
LBL				Sg	**Sg**	**18 06 20.0**	**+3.2**
AVF	**Avril sur Loir**	**0.94**	**26**	*e*Pg	**Pg**	**18 06 09.4**	**+0.7**
AVF				*e*Pn	**Pn**	**18 06 09.9**	**+0.9**
AVF				*e*Sg	**Sg**	**18 06 21.3**	**+0.1**
	18nm,0.2s						
AVF	**Avril sur Loir**	**0.94**	**26**	*e*Pn	**Pn**	**18 06 09.9**	**+0.9**
AVF				*e*Sg	**Sg**	**18 06 21.3**	**+0.1**
	9.1nm,0.2s						
SMF	**Signal de Mont**	**1.03**	**47**	*e*Pn	**Pn**	**18 06 10.8**	**+0.6**
SMF				*e*Pg	**Pg**	**18 06 11.3**	**+0.8**
SMF				*e*Sg	**Sg**	**18 06 24.6**	**+0.4**
	7.5nm,0.2s						
RJF	**Les Rejaudoux**	**1.08**	**233**	*e*Pn	**Pn**	**18 06 11.9**	**+0.9**
RJF				*e*Pg	**Pg**	**18 06 12.4**	**+0.9**
RJF				*e*Sg	**Sg**	**18 06 26.2**	**+0.2**
	6.6nm,0.2s						
CAF	**Calviac**	**1.13**	**205**	*e*Pn	**Pn**	**18 06 12.4**	**+0.6**
CAF				*e*Pg	**Pg**	**18 06 13.8**	**+1.2**
CAF				*e*Sn	**Sn**	**18 06 27.7**	**+0.2**
CAF				*e*Sg	**Sg**	**18 06 28.7**	**+0.9**
	28nm,0.2s						
SSF	**Saint Saulge**	**1.23**	**25**	*e*Pn	**Pn**	**18 06 13.8**	**+0.7**
SSF				*e*Pg	**Pg**	**18 06 14.6**	**+0.2**
SSF				*e*Sn	**Sn**	**18 06 29.1**	**-0.7**
SSF				*e*Sg	**Sg**	**18 06 30.6**	**-0.2**
	15nm,0.2s						
SSF	**Saint Saulge**	**1.23**	**25**	*e*Pg	**Pg**	**18 06 14.6**	**+0.2**
SSF				*e*Sn	**Sn**	**18 06 29.1**	**-0.7**
SSF				*e*Sg	**Sg**	**18 06 30.6**	**-0.2**
	7.3nm,0.2s						
HYF	**Humbligny**	**1.32**	**357**	*e*Pn	**Pn**	**18 06 14.7**	**+0.3**
HYF				*e*Sg	**Sg**	**18 06 33.2**	**-0.6**
LOR	**Lormes**	**1.52**	**30**	*e*Pn	**Pn**	**18 06 17.8**	**+0.5**
	baz=217						
LOR				*e*Pg	**Pg**	**18 06 19.9**	**-0.4**
	baz=206						
LOR				*e*Sn	**Sn**	**18 06 36.2**	**-1.1**
	baz=202						
LOR				*e*Sg	**Sg**	**18 06 39.1**	**-1.6**
	8.3nm,0.2s,baz=204						
LFF	**La Frestale**	**1.74**	**235**	*e*Pn	**Pn**	**18 06 20.8**	**+0.4**
LFF				*e*Pg	**Pg**	**18 06 24.3**	**-0.3**
LFF				*e*Sn	**Sn**	**18 06 41.6**	**-1.2**
LFF				*e*Sg	**Sg**	**18 06 47.0**	**-0.8**
	9.1nm,0.3s						
VIVF	**Saint-Julien-l**	**1.75**	**128**	*e*Pn	**Pn**	**18 06 21.1**	**+0.6**
VIVF				*e*Pg	**Pg**	**18 06 25.2**	**+0.4**
VIVF				*e*Sn	**Sn**	**18 06 42.6**	**-0.4**
VIVF				*e*Sg	**Sg**	**18 06 46.6**	**-1.5**
	3.9nm,0.2s						
LASF	**Ste Croix**	**2.04**	**157**	*e*Pn	**Pn**	**18 06 25.3**	**+0.6**
LASF				*e*Pg	**Pg**	**18 06 29.9**	**-0.7**
LASF				*e*Sn	**Sn**	**18 06 49.6**	**-0.8**
LASF				*e*Sg	**Sg**	**18 06 57.0**	**-0.8**
	3.4nm,0.4s						
MFF	**Saint Martin d**	**2.11**	**289**	*e*Pn	**Pn**	**18 06 25.5**	**-0.2**
MFF				*e*Pg	**Pg**	**18 06 31.0**	**-1.0**
MFF				*e*Sn	**Sn**	**18 06 50.0**	**-2.2**
MFF				*e*Sg	**Sg**	**18 06 57.6**	**-2.5**
	8.3nm,0.2s						
CABF	**La Chapelle**	**2.41**	**73**	*e*Pn	**Pn**	**18 06 30.4**	**+0.4**
CABF				*e*Pg	**Pg**	**18 06 38.1**	**+0.1**
CABF				*e*Sn	**Sn**	**18 06 58.0**	**-1.9**
CABF	**La Chapelle**	**2.41**	**73**	*e*Pg	**Pg**	**18 06 38.1**	**+0.1**
CABF				*e*Sn	**Sn**	**18 06 58.0**	**-1.9**
ORIF	**Oris-en-Rattie**	**2.44**	**114**	*e*Sg	**Sg**	**18 07 09.6**	**-1.5**
	2.4nm,0.3s						
MTLF	**Montolieu**	**2.64**	**188**	*e*Pn	**Pn**	**18 06 33.3**	**0.0**
MTLF				*e*Pg	**Pg**	**18 06 41.4**	**-1.2**
MTLF				*e*Sn	**Sn**	**18 07 03.8**	**-1.9**
MTLF				*e*Sg	**Sg**	**18 07 15.5**	**-2.3**
	3.4nm,0.3s						
SMRF	**Simiane la Rot**	**2.82**	**134**	*e*Sg	**Sg**	**18 07 20.9**	**-2.9**
	1.2nm,0.3s						
LPL	**La Plagne**	**2.83**	**97**	*e*Sg	**Sg**	**18 07 21.3**	**-2.7**
	1.2nm,0.3s						
LPG	**La Plagne**	**2.84**	**98**	*e*Sg	**Sg**	**18 07 20.8**	**-3.8**
	3.9nm,0.8s						
MEZF	**Maizieres J'vi**	**3.00**	**31**	*e*Pg	**Pg**	**18 06 47.5**	**-2.2**
	baz=221						
MEZF				*e*Sg	**Sg**	**18 07 25.7**	**-3.9**
	3.2nm,0.2s,baz=211						
HINF	**Hinteralfeld**	**3.38**	**55**	*e*Sg	**Sg**	**18 07 37.9**	**-4.5**
	1.3nm,0.2s						
EPF	**Esparros**	**3.39**	**211**	*e*Pn	**Pn**	**18 06 43.6**	**-0.4**
EPF				*e*Sn	**Sn**	**18 07 21.5**	**-3.2**
EPF				*e*Sg	**Sg**	**18 07 38.8**	**-4.0**
	2.2nm,0.2s						
BAIF	**Baives**	**4.22**	**13**	*e*Sn	**Sn**	**18 07 40.9**	**-4.9**
	4.6nm,0.8s						

*CSEM **13** 18:33:38.9±0.4, 38.65N×29.15W, h5km, ML2.1, Error ellipse: s-maj=5.3km s-min=3.5km az=8.0, After PDA*
*PDA **13** 18:33:38.9±0.4, 38.65N×29.15W, h5km, MD3.1, ML2.1, Error ellipse: s-maj=5.3km s-min=3.5km az=8.0*
SVSA 13 18:33:38.9±0.4**, 38.65N**×**29.15W, h5km, MD3.1, ML2.1, Error ellipse: s-maj=5.3km s-min=3.5km az=8.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.35**	**94**	*i* P	Pg	18 33 45.2	-0.7
PCED				*e*S	Sg	18 33 49.9	-0.7
	43nm,0.2s						
PCED	**Cedros**	**0.35**	**94**	*e*S	Sg	18 33 49.9	-0.7
	43nm,0.2s						
CALA	**Caldeira**	**0.35**	**101**	*e*P	Pg	18 33 45.2	-0.8
PICO	**Pico**	**0.58**	**105**	*e*P	Pg	18 33 48.9	-1.7
PICO				*e*S	Sg	18 33 56.5	-1.9
ROSA	**Rosais**	**0.71**	**84**	*e*P	Pg	18 33 50.7	-2.4
ROSA				*e*S	Sg	18 33 59.4	-3.2
PMAN	**Manadas**	**0.83**	**91**	*e*S	Sg	18 34 02.2	-4.3
	36nm,0.1s						

*IDC **13** 19:09:05.4±2.1, 14.64S×167.53E, mb4.1/5, mb1 4.2/5, mb1mx4.1/13, Error ellipse: s-maj=87.3km s-min=29.1km az=131.0*
*LDG **13** 19:09:05.1±1.2, 15.30S×168.40E, h10km, Error ellipse: s-maj=150.5km s-min=45.3km az=123.0*
*NEIC **13** 19:09:21.4±2.6, 14.84S×167.26E, h120km±22km, mb4.3/1, Error ellipse: s-maj=26.3km s-min=20.2km az=86.0*
ISC 13 19:09:19.6±3.5**, 14.8S**±0.1×**167.2E**±0.2**, h117km**±29km**, n32, σ1§06**/15**, mb3.9**/6**, 3C, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.25**	**185**	*e*P	**P**	**19 11 04.9**	**+0.5**
DZM				*e*S	**S**	**19 12 25.3**	**-0.3**
DZM	**Mont Dzumac**	**7.25**	**185**	*e*P	**P**	**19 11 04.9**	**+0.5**
DZM				*e*S	**S**	**19 12 25.3**	**-0.3**
STKA	**Stephens Creek**	**28.86**	**230**	P	**P**	**19 15 10.2**	**+0.8**
	8.8nm,0.6s,mb4.6,baz=48,slow=8.2,SNR=32						
STKA	**Stephens Creek**	**28.86**	**230**	*e*P	**P**	**19 15 10.1**	**+0.7**
WRA	**Warramunga Arr**	**31.71**	**256**	P	**P**	**19 15 33.0**	**-1.5**
	0.6nm,0.9s,mb3.3,baz=86,slow=9.1,SNR=5.3						
QSPA	**South Pole Qui**	**75.22**	**180**	*e*P	**P**	**19 20 49.7**	**-0.8**
	4.4nm,0.8s,mb4.2						
SONM	**Songino Array**	**82.50**	**324**	P	**P**	**19 21 31.7**	**+1.1**
	0.3nm,0.6s,mb3.3,baz=132,slow=3.0,SNR=4.1						
ILAR	**Eielson Array**	**86.64**	**18**	P	**P**	**19 21 49.3**	**-1.4**
	0.5nm,0.6s,mb3.6,baz=241,slow=4.5,SNR=7.9						
SNAA	**Sanae**	**93.46**	**183**	⇑*i*	**P**	**19 22 21.1**	**-1.4**
VNA3	**Neumayer Olymp**	**94.13**	**181**	⇑*i*	**P**	**19 22 26.9**	**+1.4**
VNA2	**Neumayer--Watz**	**94.39**	**182**	⇑*i*	**P**	**19 22 27.8**	**+1.0**
MKAR	**Makanchi Array**	**97.19**	**316**	P	**P**	**19 22 40.7**	**+0.6**
	0.4nm,0.6s,mb4.1,baz=86,slow=6.2,SNR=6.5						
MKAR	**Makanchi Array**	**97.19**	**316**	P	**P**	**19 22 40.7**	**+0.6**
ARCES	**ARCESS Array B**	**120.31**	**345**	PKP	PKPdf	19 27 56.6	0.0
	8.5nm,1.1s,baz=58,slow=1.7,SNR=13						
SSF	**Saint Saulge**	**145.08**	**340**	*e*PKP1	PKPbc	19 28 44.4	+0.9
	26nm,1.0s						
LPL	**La Plagne**	**145.23**	**336**	*e*PKP1	PKPbc	19 28 45.4	+1.5
LPG	**La Plagne**	**145.24**	**336**	*e*PKP1	PKPbc	19 28 45.5	+1.5
	4.4nm,0.5s						
BGF	**Bois d'Agland**	**145.74**	**341**	*e*PKP1	PKPbc	19 28 45.3	+0.1
	26nm,0.9s						
MBDF	**Montbardon**	**145.86**	**335**	*e*PKP1	PKPbc	19 28 47.4	+1.9
ORIF	**Oris-en-Rattie**	**146.06**	**336**	*e*PKP1	PKPbc	19 28 47.5	+1.5
	12nm,0.8s						
TCF	**Toulx Ste Croi**	**146.18**	**341**	*e*PKP1	PKPbc	19 28 47.5	+1.2
	67nm,1.6s						
SBF	**Sospel**	**146.27**	**333**	*e*PKP1	PKPbc	19 28 47.7	+1.1
PGF	**Pioggiola**	**146.58**	**330**	*e*PKP1	PKPbc	19 28 48.7	+1.4
	57nm,1.1s						
VIVF	**Saint-Julien-l**	**146.58**	**337**	*e*PKP1	PKPbc	19 28 48.0	+0.8
	18nm,1.1s						
SMRF	**Simiane la Rot**	**146.96**	**335**	*e*PKP1	PKPbc	19 28 49.8	+1.7
RJF	**Les Rejaudoux**	**147.28**	**341**	*e*PKP1	PKPdf	19 28 50.3	+3.4
LASF	**Ste Croix**	**147.55**	**337**	*e*PKP1	PKPdf	19 28 52.1	+4.7
	60nm,1.5s						
LFF	**La Frestale**	**147.84**	**342**	*e*PKP1	PKPdf	19 28 52.0	+4.2
	11nm,0.7s						
MTLF	**Montolieu**	**148.78**	**339**	*e*PKP1	PKPdf	19 28 53.9	+4.5
	8.8nm,0.8s						
EPF	**Esparros**	**149.69**	**341**	*e*PKP1	PKPdf	19 28 56.6	+5.8
ETSF	**Etsaut**	**150.09**	**342**	*e*PKP1	PKPdf	19 28 58.5	+7.1
	5.0nm,0.7s						
SJPF	**Ste Jean**	**150.09**	**343**	*e*PKP1	PKPdf	19 28 57.9	+6.5

*NIED **13** 19:22:00, 25.20N×141.20E, h155km, Mw5.2 Best double couple: $M_0$7.16×10^16 NP1:ϕ_s17°, δ61°, λ72°. NP2:ϕ_s231°, δ33°, λ120°.*
*MOS **13** 19:22:48.1±0.9, 25.18N×140.93E, h185km, mb4.8/9, Error ellipse: s-maj=27.4km s-min=11.0km az=109.1*
*HRVD **13** 19:22:48.4±0.2, 24.98N×141.14E, h183km±1km, MW5.2/66, Centroid moment Tensor Solution. LP body waves: s42,c67; Mantle waves: s66,c117; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.07±.15; $M_{\theta\theta}$-2.37±.19; $M_{\phi\phi}$-1.70±.20; $M_{r\theta}$-2.30±.15; $M_{\theta\phi}$-5.29±.15; $M_{\phi r}$2.60±.15; Best double couple: $M_0$7.25×10^16 NP1: ϕ_s260°, δ58°, λ142°. NP2:ϕ_s13°, δ59°, λ39°. Principal axes: T 7.16, Plg48°, Azm227°; N .18, Plg42°, Azm46°; P -7.34, Plg1°, Azm137°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **13** 19:22:48.3, 25.14N×141.27E, h187km, mB4.9, mb5.0*
*NEIC **13** 19:22:48.4±0.2, 24.99N×141.02E, mb4.9/53, MW5.2(NIED), Error ellipse: s-maj=5.6km s-min=4.5km az=111.0*
*IDC **13** 19:22:49.6±0.7, 24.95N×141.07E, h193km±5km, mb4.5/18, mb1 4.7/22, mb1mx4.7/25, MS3.8/10, Ms1 3.8/10, ms1mx3.5/25, Error ellipse: s-maj=11.7km s-min=6.8km az=83.0*
*JMA **13** 19:22:51.4±0.2, 25.22N×141.24E, h181km, M5.6*

JMA Felt I J1.

ISC 13 19:22:47.3±0.5**,24.99N**±0.03×**141.10E**±0.03**,h174**km±3km**,**
h178km±1.5km**:pP-P,n319,**σ**1**s**16**/334**,mb4.9**/91**,25C-18D,**
Volcano Islands region

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

JHHJ Haha-jima-NKT 1.90 31 ⇑P **P 19 23 24.9 +1.7**
JHHJ S **S 19 23 50.6 -0.2**
CBIJ Chichi jima 2.31 25 P **P 19 23 29.5 +1.6**
3μm,0.3s,baz=179,slow=3.5,SNR=1199
CBIJ S **S 19 23 57.9 -1.3**
3μm,0.3s,baz=280,slow=22,SNR=9.8
CBIJ LR LR 19 24 12.5
comp=Z,5μm,18.4s,baz=174,slow=35
CBIJ Chichi jima 2.31 25 ⇑P **P 19 23 29.5 +1.6**
CBIJ S **S 19 23 58.9 -0.3**
JHJ2 Mitsune 8.17 352 P **P 19 24 43.8 +0.1**
JHJ2 *e*S **S 19 26 12.0 -2.6**
JHJ Hachijo jima 2 8.18 352 P **P 19 24 44.0 +0.1**
253nm,0.3s,baz=86,slow=17,SNR=20
JHJ S **S 19 26 12.2 -2.7**
158nm,0.3s,baz=67,slow=22,SNR=4.6
JHJ LR LR 19 27 50.8
comp=Z,272nm,19.0s,baz=76,slow=37
JMY Miyakejima3 9.16 352 P **P 19 24 57.0 +0.4**
JKO Kozu shima 9.32 350 P **P 19 24 58.6 -0.2**
TK02 Tokai 2 9.39 343 P **P 19 25 02.1 +2.4**
NJJJ Nii jima 2 9.51 351 P **P 19 25 01.1 -0.2**
BSO1 Boso 1 9.63 359 P **P 19 25 01.0 -1.9**
BSO1 *e*S **S 19 26 43.6 -5.4**
JWZ Kozaga 9.72 332 ⇓P **P 19 25 06.9 +2.9**
JIZS Izushimoda 9.88 349 P **P 19 25 05.7 -0.5**
JIE Ise 10.12 339 P **P 19 25 11.0 +1.8**
JWM Minabe 10.15 332 P **P 19 25 13.3 +3.7**
HMMJ Hamamatsu 2 10.26 344 P **P 19 25 12.0 +0.9**
MRT2 Murotomisaki 2 10.34 326 ⇓P **P 19 25 16.4 +4.3**
JOD2 Odawara 2 10.39 351 P **P 19 25 11.3 -1.4**
JOD2 *e*S **S 19 27 01.6 -5.1**
TSUJ Tsu 2 10.50 338 P **P 19 25 16.3 +2.1**
JAI Aioi 10.51 328 ⇓P **P 19 25 18.4 +4.0**
JTO Tosashimizu 10.69 319 P **P 19 25 20.8 +4.1**
JYN Shimob 10.70 349 ⇓P **P 19 25 16.3 -0.6**
JNY Yasuok 10.71 346 ⇓P **P 19 25 16.6 -0.3**
JMN Monobe 10.74 326 ⇓P **P 19 25 21.9 +4.5**
JAO Obara 10.77 343 P **P 19 25 18.5 +0.8**
JAM Amami Oshima 10.83 291 P **P 19 25 24.1 +5.6**
JKU Kubokawa 10.86 322 ⇓P **P 19 25 23.5 +4.6**
JRY Ryogami san 11.15 351 P **P 19 25 20.3 -2.4**
JRY *e*S **S 19 27 18.7 -6.0**
JAG Ashikaga 11.49 353 P **P 19 25 23.9 -3.1**
JHO Hitachi 11.59 358 P **P 19 25 25.8 -2.6**
JOW Kunigami 11.69 282 P **P 19 25 32.9 +3.2**
3.0nm,0.3s,baz=133,slow=11,SNR=4.7
MAJO Matsushiro 11.78 349 *e*P **P 19 25 30.5 -0.2**
24nm,0.4s
MAT Matsushiro 11.78 349 P **P 19 25 29.8 -1.0**
MAT S **S 19 27 37.5 -1.8**
MAT Matsushiro 11.78 349 P **P 19 25 30.0 -0.8**
MAT Matsushiro 11.78 349 *e*P **P 19 25 30.0 -0.8**
17nm,0.4s
MAT *e*S **S 19 27 32.0 -7.3**
JJG Jouge 11.83 326 P **P 19 25 35.0 +3.6**
GUMO Guam 11.88 162 *e*P **P 19 25 33.1 +0.9**
286nm,0.8s
JSB Shiboa 11.98 355 P **P 19 25 31.6 -1.8**
JNU Nakatsue 12.06 315 P **P 19 25 39.4 +5.0**
JHS Saijyo 12.13 327 P **P 19 25 38.4 +3.1**
JJN Nakama 12.33 349 P **P 19 25 37.0 -0.9**
JSD Sado 13.23 350 P **P 19 25 46.4 -2.9**
JTU Tsushima 13.90 316 P **P 19 26 02.0 +4.1**
JMK Ichinoseki 13.92 0 P **P 19 25 56.3 -1.8**
JMK *e*S **S 19 28 21.0 -7.6**
JOT Ohata 16.35 360 P **P 19 26 27.4 -0.9**
KS15 Wonju Array Si 16.77 321 *e*P **P 19 26 34.4 +1.0**
SSE Sheshan 18.59 294 P **P 19 26 55.0 +1.4**
SSE XP 19 27 48.4
SSE S **S 19 30 16.5 +5.0**
SSE AMB AMB
comp=Z,58nm,0.7s
SSE AMB AMB
comp=Z,77nm,4.9s
SSE LR LR
comp=N,273nm,26.0s
SSE LR LR
comp=E,199nm,26.0s
SSE LR LR
comp=Z,409nm,23.9s
JMP Maruseppu 19.06 5 P **P 19 26 58.9 +0.5**
ASAJ Asahikawa 19.12 3 P **P 19 26 59.5 +0.5**
comp=Z,9.1nm,0.3s,baz=234,slow=13,SNR=57
ASAJ S **S 19 30 23.6 +2.0**
comp=Z,1.6nm,0.3s,baz=251,slow=14,SNR=3.1
YUK Yuzh-Kuril'sk 19.39 10 *e*P **P 19 26 58.0 -3.8**
YUK *e*S **S 19 30 30.8 +4.0**
YUK pmax pmax
comp=E,80nm,0.5s
YUK pmax pmax
comp=Z,190nm,0.5s
YUK smax
comp=E,520nm,0.8s
YUK smax
comp=N,190nm,0.5s
YUK smax
comp=E,2μm,1.0s
YUK Yuzh-Kuril'sk 19.39 10 *e*P **P 19 26 58.0 -3.8**
comp=E,190nm,0.5s
YUK *e*S **S 19 30 30.8 +4.0**
LQP Lukban 21.34 243⇑*e*P **P 19 27 23.3 +1.8**
MDJ Mudanjiang 21.70 337 P **P 19 27 25.6 +0.8**
MDJ AP 19 27 58.8
MDJ PP PP 19 28 02.8 +6.9
MDJ S **S 19 31 12.5 +3.5**
MDJ PCP PcP 19 31 21.0 +0.4
MDJ AMB AMB
comp=Z,34nm,1.6s,mb4.5
MDJ AMB AMB
comp=Z,118nm,5.4s
YSS Yuzh-Sakhalins 21.96 3⇓*i*P **P 19 27 27.0 -0.4**
YSS *e* 19 31 20.0
YSS pmax pmax
comp=Z,50nm,0.6s,mb5.1
YSS Yuzh-Sakhalins 21.96 3⇓*i*P **P 19 27 27.0 -0.4**
comp=Z,50nm,0.6s,mb5.1
YSS *e* 19 31 20.0
SNY Shenyang 22.20 323 ⇓P **P 19 27 30.0 +0.3**
SNY S **S 19 31 18.3 +0.6**
SNY SS SS 19 32 16.6 +1.8
SNY AMB AMB
comp=Z,60nm,0.5s,mb5.3
CN2 Changchun 22.71 330 *e*P **P 19 27 34.1 -0.6**
CN2 *e*S **S 19 31 28.8 +2.3**
CN2 AMB AMB
comp=Z,10.0nm,1.2s,mb4.1
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,500nm,21.0s
CN2 LR LR
comp=E,800nm,21.0s
CN2 LR LR
comp=Z,500nm,22.0s
WHN Wuhan 24.28 289 *e*P **P 19 27 49.3 -0.5**
WHN AP 19 28 26.3
WHN XP 19 28 45.3
WHN S **S 19 31 54.0 +0.9**
WHN XS 19 33 03.0
WHN LR LR
comp=Z,400nm,8.8s
BJT Baijiatuau 25.70 312 *e*P **P 19 28 02.4 -0.6**
comp=Z,15nm,0.6s,mb4.8
BJI Beijing 25.71 312 P **P 19 28 02.8 -0.3**
BJI AP pP 19 28 37.6 -0.5
BJI S **S 19 32 16.4 -0.4**
BJI XS 19 33 24.0
BJI AMB AMB
comp=Z,9.0nm,0.7s,mb4.5
BJI AMB AMB
comp=Z,76nm,3.8s
ENH Enshi 28.44 288 *e*P **P 19 28 27.7 -0.3**
comp=Z,14nm,0.5s,mb4.9
HHC Hu-ho-hao-te 29.23 310 *e*P **P 19 28 36.3 +1.4**
HHC AMB AMB
comp=Z,23nm,1.2s,mb4.8
HHC AMB AMB
comp=Z,132nm,5.7s
XAN Xi'an 29.32 295 P **P 19 28 36.0 +0.2**
XAN AMB AMB
comp=Z,20nm,0.6s,mb5.0
KKM Kota Kinabalu 30.39 236⇑*e*P **P 19 28 46.3 +1.0**
GYA Guiyang 31.01 280⇑*i*P **P 19 28 51.8 +1.1**
GYA AP pP 19 29 28.4 +1.4
GYA XP sP 19 29 48.3 +1.2
GYA PP PP 19 30 04.6 +5.3
GYA S **S 19 33 40.9 -0.4**
GYA XS 19 34 56.0
GYA SCP 19 35 03.4
GYA AMB AMB
comp=Z,40nm,0.6s,mb5.3
GYA AMB AMB
comp=Z,50nm,3.6s
GYA LR LR
comp=N,630nm,15.9s
GYA LR LR
comp=E,140nm,15.0s
GYA LR LR
comp=Z,150nm,14.4s
CD2 Chengdu 33.40 289 *e*P **P 19 29 11.3 0.0**
CD2 S **S 19 34 15.1 -3.4**
CD2 SCS ScS 19 39 14.1 -1.3
CD2 AMB AMB
comp=Z,20nm,0.6s,mb5.0
CD2 LR LR
comp=N,330nm,16.8s
CD2 LR LR
comp=Z,200nm,15.6s
LZH Lanzhou 33.76 298 ⇓P **P 19 29 14.8 +0.6**
LZH AP pP 19 29 52.1 +1.0
LZH XP sP 19 30 12.3 +1.0
LZH PP PP 19 30 35.0 +1.3
LZH S **S 19 34 23.5 -0.4**
LZH XS 19 35 29.6
LZH SS SS 19 36 43.8 +0.9
LZH AMB AMB
comp=Z,39nm,1.3s,mb5.0
LZH AMB AMB
comp=Z,213nm,6.2s
LZH LR LR
comp=N,512nm,13.1s
LZH LR LR
comp=Z,727nm,17.0s
KMI Kunming 34.67 279 *e*P **P 19 29 23.9 +1.7**
KMI S **S 19 34 39.4 +1.2**
KMI AMB AMB
comp=Z,27nm,0.9s,mb4.9
KMI AMB AMB
comp=Z,165nm,4.4s
KMI LR LR
comp=N,516nm,27.1s
KMI LR LR
comp=E,188nm,17.0s
KMI LR LR
comp=Z,436nm,17.0s
PMG Port Moresby 34.69 169 P **P 19 29 20.4 -2.0**
comp=Z,9.5nm,0.4s,mb4.8,baz=286,slow=2.5,SNR=10
SONM Songino Array 35.60 319 P **P 19 29 29.3 -0.4**
comp=Z,1.9nm,0.5s,mb4.0,baz=128,slow=7.4,SNR=22
SONM pP pP 19 30 08.6 +1.6
comp=Z,3.4nm,0.6s,baz=123,slow=7.8,SNR=3.2
SONM PP PP 19 30 46.5 -9.1
comp=Z,2.8nm,0.6s,baz=119,slow=7.2,SNR=4.2
SONM PcP PcP 19 31 51.1 -3.8
comp=Z,2.5nm,0.6s,baz=122,slow=5.6,SNR=2.5
SONM ScP 19 35 20.5
comp=Z,1.0nm,0.6s,baz=139,slow=4.1,SNR=5.3
KKTK Khon Kaen 36.73 264 ⇓P **P 19 29 40.5 +0.9**
comp=Z,617nm,0.8s
FX1 Attu Island--F 36.85 32 *e*P **P 19 29 41.2 +1.1**
GTA Gaotai 37.45 303 *e*P **P 19 29 46.6 +1.3**
GTA PCP PcP 19 32 05.3 +4.7
GTA S **S 19 35 17.4 -2.9**
GTA AMB AMB
comp=Z,13nm,0.9s,mb4.6
GTA AMB AMB
comp=Z,100nm,5.3s
GTA LR LR
comp=N,422nm,21.7s
GTA LR LR
comp=E,271nm,11.8s
GTA LR LR
comp=Z,288nm,13.7s
YAK Yakutsk 37.83 351*c i*P **P 19 29 46.1 -2.2**
YAK pmax pmax
comp=Z,19nm,0.9s,mb4.7
YAK Yakutsk 37.83 351⇑*i*P **P 19 29 46.1 -2.2**
comp=Z,19nm,0.9s,mb4.7
NANT Nan 37.89 269 P **P 19 29 49.5 +0.3**
BOD Bodaibo 38.07 337 *e*P **P 19 29 48.0 -2.4**
KAKA Kakadu 38.41 194 *e*P **P 19 29 57.6 +4.0**
comp=Z,13nm,0.5s,mb4.8
KAKA *e*PCP PcP 19 32 07.3 +3.5
NST Nakhon Sawan 39.39 264 P **P 19 30 02.0 +0.3**
comp=Z,50nm,0.7s,mb5.2
CM31 Chiang Mai Arr 39.58 269 *e*P **P 19 30 04.3 +1.1**
comp=Z,28nm,0.7s,mb5.0
CMAR Chiang Mai Arr 39.58 269 P **P 19 30 03.8 +0.5**
comp=Z,19nm,0.7s,mb4.8,baz=61,slow=7.9,SNR=144
CMAR ScP 19 35 36.7
comp=Z,0.8nm,0.4s,baz=117,slow=2.0,SNR=5.0
BDT Bhumibol Dam 39.89 267 ⇑P **P 19 30 09.0 +3.2**
comp=Z,27nm,0.8s,mb4.9
NNT Nongplab 40.90 260 P **P 19 30 16.0 +1.9**
SNG Songkhla 42.52 252 P **P 19 30 28.0 +0.6**
comp=Z,180nm,0.8s,mb5.8
IPM Ipoh 43.49 249⇑*e*P **P 19 30 36.2 +1.0**
comp=Z,60nm,0.8s,mb5.3
SHL Shillong 44.30 282⇓*i*P **P 19 30 43.0 +1.5**
LSA Lhasa 44.35 288 P **P 19 30 44.3 +2.4**
CTA Charters Tower 45.09 173 *e*P **P 19 30 46.9 -0.9**
comp=Z,32nm,0.6s,mb5.1
CTA *e*PCP PcP 19 32 24.2 -1.7
CTA Charters Tower 45.09 173 P **P 19 30 47.0 -0.9**
comp=Z,34nm,0.6s,mb5.2,baz=4.1,slow=7.4,SNR=56
CTA PcP PcP 19 32 24.6 -1.3
comp=Z,13nm,1.0s,baz=349,slow=8.6,SNR=2.8
CTAO Charters Tower 45.09 173 *e*P **P 19 30 46.9 -1.0**
comp=Z,40nm,0.7s,mb5.2
WRAB Tennant Creek 45.13 189 P **P 19 30 47.9 -0.3**
comp=Z,5μm,0.5s
WRAB Tennant Creek 45.13 189⇑*i*P **P 19 30 46.9 -1.4**
comp=Z,759nm,0.7s
WB2 Warramunga Arr 45.14 189⇑*i*P **P 19 30 47.0 -1.3**
WB2 *e*S **S 19 37 08.8 -4.8**
WRA Warramunga Arr 45.14 189 P **P 19 30 47.2 -1.1**
comp=Z,525nm,0.8s,baz=8.8,slow=8.7,SNR=697
WRA PcP PcP 19 32 24.5 -1.6
comp=Z,16nm,0.5s,baz=1.9,slow=3.6,SNR=6.1
WRA S **S 19 37 09.1 -4.6**
comp=Z,6.7nm,0.8s,baz=5.0,slow=14,SNR=13
FITZ Fitzroy Crossi 45.40 201 *e*P **P 19 30 49.3 -1.1**
comp=Z,31nm,0.5s,mb5.2
WMQ Urumqi 47.04 307 P **P 19 31 04.0 +1.1**
WMQ AP pP 19 31 43.0 +1.4
WMQ XP sP 19 32 03.0 +1.7
WMQ PP PP 19 32 57.0 +2.1
WMQ S **S 19 37 41.0 +0.7**
WMQ SCS ScS 19 40 37.0 +1.0
WMQ SS SS 19 41 06.0 +1.3
WMQ AMB AMB
comp=Z,12nm,1.0s,mb4.5
WMQ LR LR
comp=N,178nm,16.0s
WMQ LR LR
comp=E,144nm,14.0s
WMQ LR LR
comp=Z,117nm,15.0s
TIXI Tiksi 47.20 355⇓*e*P **P 19 31 03.0 -0.8**
TIXI pmax pmax
comp=Z,2.0nm,0.5s,mb4.0
TIXI Tiksi 47.20 355⇓*e*P **P 19 31 03.0 -0.8**
comp=Z,2.0nm,0.5s,mb4.0
ASPA Alice Springs 48.87 189 *e*P **P 19 31 15.3 -2.0**
ASPA *e*S **S 19 38 02.5 -3.6**
GUN Gumba 49.18 286 *e*P **P 19 31 21.3 +1.7**
comp=Z,134nm,0.4s,mb5.9
PKI Pulchoki 49.65 286 *e*P **P 19 31 23.9 +0.7**
comp=Z,44nm,0.5s,mb5.3
KKN Kakani 49.72 286 *e*P **P 19 31 24.7 +1.0**
comp=Z,50nm,0.5s,mb5.4
DMN Daman 49.91 286 *e*P **P 19 31 25.0 -0.1**
comp=Z,51nm,0.5s,mb5.4
GKN Gorkha 50.24 287 *e*P **P 19 31 28.4 +0.7**
comp=Z,34nm,0.3s,mb5.5
ZAL Zalesovo 50.47 320 P **P 19 31 27.3 -1.7**
comp=Z,2.3nm,0.5s,mb4.1,baz=6.6,slow=7.3,SNR=14
ZAL PcP PcP 19 32 42.8 -2.0
comp=Z,2.8nm,0.6s,baz=259,slow=1.1,SNR=5.2
MKAR Makanchi Array 51.09 311 P **P 19 31 33.3 -0.5**
comp=Z,8.4nm,0.5s,mb4.6,baz=92,slow=9.0,SNR=92
MKAR ScP 19 36 24.9
comp=Z,1.3nm,0.5s,baz=83,slow=6.2,SNR=4.2
MKAR S **S 19 38 35.9 -0.5**
comp=Z,1.6nm,0.8s,baz=94,slow=18,SNR=6.8
MKAR Makanchi Array 51.09 311 *i* P **P 19 31 33.2 -0.6**
MKAR pmax pmax
comp=Z,1.0nm,0.3s
KOLN Koldanda 51.19 286 *e*P **P 19 31 35.8 +1.0**
comp=Z,137nm,0.7s,mb5.7
LGTI Lohaghat 53.77 289⇓*i*P **P 19 31 55.5 +1.6**
PTH Pithoragarh 53.78 289 *e*P **P 19 31 52.8 -1.2**
KURK Kurchatov 53.78 316*c i*P **P 19 31 52.2 -1.5**
KURK *e**PP pP 19 32 36.4 +3.0
KURK Kurchatov 53.78 316⇑*i*P **P 19 31 52.2 -1.5**
KURK *e*pP pP 19 32 36.4 +3.0
JOSI Joshimath 54.16 291 *e*P **P 19 31 56.4 -0.3**
JOSI *e*S **S 19 39 19.5 +1.3**
ULHL Ulahol 55.41 305 P **P 19 32 06.5 +0.9**
SNR=11
TTA Tatalina 55.75 30 *e*P **P 19 32 07.5 -0.3**
comp=Z,5.4nm,0.6s,mb4.5
KSH Kashi 55.84 302 *e*P **P 19 32 11.0 +2.2**
KSH *e*AP pP 19 32 52.8 +4.1
KSH *e*PCP PcP 19 33 06.0 +0.7
KSH *e*XP sP 19 33 11.1 +3.3
KSH *e*PP PP 19 34 20.4 +3.8
KSH *e*SCP 19 36 47.4
KSH PCS 19 37 06.6
KSH *e*S **S 19 39 44.8 +4.4**
KSH *e*XS 19 40 54.4
KSH *e*SCS ScS 19 41 40.6 +4.1
KSH *e*SS SS 19 43 32.0 +3.0
KSH AMB AMB
comp=Z,160nm,4.7s
TKM2 Tokmak 2 55.84 306 P **P 19 32 09.1 +0.4**
SNR=37
KZA Kyzart 56.16 305 P **P 19 32 12.6 +1.6**
SNR=10
KBK Karagaybulak 56.34 306 P **P 19 32 12.8 +0.5**
SNR=45
CHMS Chumysh 56.46 306 P **P 19 32 13.1 0.0**
SNR=7.5
NDI New Delhi 56.52 289 *e*P **P 19 32 12.5 -1.2**
STKA Stephens Creek 56.55 179 *e*P **P 19 32 12.0 -1.9**
comp=Z,84nm,0.6s,mb5.8
STKA *e*S **S 19 39 46.2 -3.6**
STKA Stephens Creek 56.55 179 P **P 19 32 12.0 -1.9**
comp=Z,87nm,0.6s,mb5.8,baz=347,slow=7.3,SNR=266
STKA S **S 19 39 46.1 -3.7**
comp=Z,2.6nm,0.8s,baz=141,slow=20,SNR=5.5
KKR Kurukshetra 56.60 291 *e*P **P 19 32 14.4 +0.2**
USP Ospenovka 56.62 307 P **P 19 32 14.4 +0.2**
SNR=18
AYAN Aya Nagar 56.65 289 *e*P **P 19 32 14.0 -0.6**
AYAN *e* 19 32 15.4
comp=Z,59nm,0.6s
AAK Ala-Archa 56.67 306 P **P 19 32 14.4 -0.2**
SNR=24
AAK Ala-Archa 56.67 306*c i*P **P 19 32 13.3 -1.3**
AAK Ala-Archa 56.67 306⇑*i*P **P 19 32 13.3 -1.3**
UCH Uchtor 56.69 305 P **P 19 32 15.9 +1.1**
SNR=57
SONA Sohna 56.73 288 *e*P **P 19 32 14.3 -0.9**
SONA *e* 19 32 16.1
comp=Z,80nm,0.5s
SONA *e*S **S 19 39 49.9 -2.5**
BHGR Bahadurgarh 56.76 289 *e*P **P 19 32 15.8 +0.4**
FORT Forrest 56.84 193 *e*P **P 19 32 13.6 -2.3**
comp=Z,703nm,0.7s
FORT *e*PP PcP 19 33 07.8 -1.6
THN Thein Dam 57.05 294 *e*P **P 19 32 16.0 -1.4**
comp=Z,20nm,0.6s,mb5.1
RTK Rohtak 57.14 290 *e*P **P 19 32 18.5 +0.5**
RTK *e* 19 32 19.0
EKS2 Erkin-Say 57.20 306 P **P 19 32 18.5 +0.2**
SNR=16
KUDL Kundal 57.27 288 *e*P **P 19 32 18.1 -0.9**
KUDL *e* 19 32 19.5
comp=Z,49nm,0.6s
AML Almayashu 57.31 305 P **P 19 32 20.2 +1.2**
SNR=27
IMA Indian Mountai 57.40 26 *e*P **P 19 32 19.9 +0.5**
comp=Z,3.5nm,0.6s,mb4.4
BHPL Bhopal 57.66 283 *e*P **P 19 32 21.9 +0.2**
BHPL *e* 19 32 22.3
comp=Z,40nm,0.5s
HYB Hyderabad 58.37 276 *i* P **P 19 32 26.5 -0.3**
HYB Hyderabad 58.37 276 *e*P **P 19 32 26.5 -0.3**
VOSK Vostochnaya 58.59 318 P **P 19 32 26.1 -1.7**
VOSK pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
VOSK Vostochnaya 58.59 318 P **P 19 32 26.1 -1.7**
comp=Z,2.0nm,0.6s,mb4.1
PMR Palmer 58.73 32 *e*P **P 19 32 27.9 -0.8**
comp=Z,16nm,0.4s,mb5.2
BVA0 Borovoye Array 58.94 318 *i* P **P 19 32 28.6 -1.7**
BRVK Borovoye 59.01 318 *e*P **P 19 32 29.3 -1.4**
comp=Z,14nm,0.6s,mb5.0
MCK McKinley 59.03 29 *e*P **P 19 32 29.5 -1.2**
comp=Z,8.3nm,0.7s,mb4.7
SML Sawmill 59.13 31 *e*P **P 19 32 30.6 -0.9**
COLA College 59.62 28*c i*P **P 19 32 34.8 0.0**
COLA College 59.62 28 *e*P **P 19 32 34.8 0.0**
comp=Z,11nm,0.7s,mb4.8
ADE Adelaide 59.67 182 *e*P **P 19 32 34.1 -1.4**
ZRNK Zerenda 59.78 318 P **P 19 32 34.2 -1.8**
ZRNK pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
ILAR Eielson Array 60.02 28 P **P 19 32 35.8 -1.7**
comp=Z,8.0nm,0.7s,mb4.7,baz=257,slow=5.8,SNR=25
ILAR pP pP 19 33 16.4 -1.7
comp=Z,5.4nm,0.6s,baz=260,slow=5.5,SNR=3.0
THY Trims Highway 60.43 30 *e*P **P 19 32 39.8 -0.5**
CNB Canberra Magne 60.48 172 *e*P **P 19 32 40.0 -1.0**
comp=Z,25nm,1.0s,mb5.0
KLBR Kellerberrin 60.53 203 *e*P **P 19 32 39.1 -2.3**
comp=Z,41nm,0.7s,mb5.4
KLBR *e*pP pP 19 33 21.4 -0.6
MUN Mundaring 61.43 204 *e*P **P 19 32 45.9 -1.6**
comp=Z,82nm,0.7s,mb5.7
NWAO Narrogin (SRO) 61.92 203 *e*P **P 19 32 48.9 -1.9**
comp=Z,79nm,0.8s,mb5.6
POO Poona 62.25 279 *e*P **P 19 32 53.3 +0.2**
POO *e* 19 32 53.7
comp=Z,65nm,0.5s
KAD Karad 62.35 277⇓*i*P **P 19 32 53.0 -0.8**
TOO Toolangi 62.36 176 *e*P **P 19 32 52.7 -0.9**
comp=Z,32nm,0.6s,mb5.3
JASL Jaisalmer 62.37 289 *e*P **P 19 32 53.1 -0.8**
SVE Sverdlovsk 64.31 323⇓*e*P **P 19 33 07.0 +1.0**
BHJ Bhuj 64.50 285 *e*P **P 19 33 08.5 +0.7**
BHJ *e* 19 33 09.0
comp=Z,71nm,0.5s
INK Inuvik 65.34 24 *e*P **P 19 33 10.9 -1.6**
comp=Z,21nm,0.6s,mb5.1
INK *e* pP 19 33 56.9 +3.2
ARU Arti 65.49 323⇑*i*P **P 19 33 11.3 -2.3**
ARU *e* 19 33 44.8
ARU *i* 19 35 37.5
ARU *e*S S 19 41 44.9 +2.2
ARU *e*SS SS 19 46 02.9 +1.7
ARU pmax pmax
comp=Z,6.0nm,0.6s,mb4.6
ARU Arti 65.49 323⇑*i*P **P 19 33 11.3 -2.3**
comp=Z,6.0nm,0.6s,mb4.6
ARU *e* 19 33 44.8
ARU *i* 19 35 37.5
ARU *e*S S 19 41 44.9 +2.2
ARU *e*SS SS 19 46 02.9 +1.7
DLBC Dease Lake 68.49 34 LR LR 20 03 27.7
comp=Z,68nm,19.2s,baz=107,slow=36
DLBC Dease Lake 68.49 34 *e*P **P 19 33 32.6 +0.3**
URZ Urewera 71.41 151 P **P 19 33 47.0 -3.3**
comp=Z,9.4nm,0.7s,mb4.6,baz=342,slow=3.2,SNR=4.1
APA Apatity 73.62 338⇑*i*P **P 19 34 01.0 -1.7**
APA *i* 19 34 10.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
APA				i		19 36 48.3	
APA				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.8						
APA	Apatity	73.62	338⇑	iP	P	19 34 01.0	-1.7
	comp=Z,11nm,0.6s,mb4.8						
APA				i		19 34 10.2	
APA				i		19 36 48.3	
RES	Resolute Bay	74.33	13	eP	P	19 34 03.3	-3.4
	comp=Z,3.9nm,0.6s,mb4.3						
RES				epP	pP	19 34 53.6	+4.6
YKA	Yellowknife Ar	74.45	28	P	P	19 34 06.9	-0.7
	comp=Z,21nm,0.6s,mb5.1,baz=294,slow=5.8,SNR=39						
YKA				pP	pP	19 34 52.9	+3.1
	comp=Z,3.0nm,0.6s,baz=294,slow=6.0,SNR=2.4						
KEV	Kevo	74.64	341	ep	P	19 34 06.1	-2.5
	comp=Z,11nm,0.6s,mb4.7						
KEV	Kevo	74.64	341	eP	P	19 34 06.1	-2.5
KEV				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.7						
PGC	Sidney	75.09	43	eP	P	19 34 11.6	+0.1
	comp=Z,30nm,0.6s,mb5.1						
ARCES	ARCESS Array B	75.20	341	P	P	19 34 10.7	-1.1
	comp=Z,12nm,0.5s,mb4.8,baz=70,slow=8.3,SNR=77						
ARE0	ARCESS Array S	75.20	341	eP	P	19 34 10.6	-1.2
HDW	Hoodsport	75.70	44	P	P	19 34 16.7	+1.8
VDB	Vedder Mountai	75.78	42	P	P	19 34 15.4	-0.1
GNW	Green Mountain	75.87	44	eP	P	19 34 16.6	+0.7
GNW				epP	pP	19 34 58.9	+0.6
CMW	Cultus Mountai	76.00	43	P	P	19 34 17.9	+1.3
JCW	Jim Creek	76.20	43	P	P	19 34 18.4	+0.7
JOF	Joensuu	76.53	334	ep	P	19 34 17.1	-2.2
	comp=Z,11nm,0.5s,mb4.8						
JOF	Joensuu	76.53	334	eP	P	19 34 17.1	-2.2
JOF				pmax	pmax		
	comp=Z,11nm,0.5s,mb4.7						
WRW	Wenatchee Ridg	76.98	43	P	P	19 34 22.9	+0.8
SSOR	Sweet Springs	77.12	46	eP	P	19 34 23.6	+0.6
HSO	Harness Mounta	77.20	48	P	P	19 34 24.9	+1.4
NLW	Nelson Butte	77.23	43	P	P	19 34 23.8	+0.3
SLFW	Sugar Loaf	77.24	43	P	P	19 34 24.1	+0.5
ETW	Entiat	77.42	43	P	P	19 34 24.7	+0.2
CBSW	Chelan Butte S	77.52	43	P	P	19 34 25.3	+0.2
EBG	Ellensburg	77.55	44	P	P	19 34 25.9	+0.6
IRO	Indian Ridge	77.58	47	P	P	19 34 26.3	+0.8
WTV	Waterville	77.62	43	P	P	19 34 25.8	+0.2
HUMO	Hull Mountain	77.64	49	eP	P	19 34 26.5	+0.6
	comp=Z,8.6nm,0.6s,mb4.6						
HUMO				epP	pP	19 35 06.3	-2.2
KHMM	Horse Mountain	77.77	51	eP	P	19 34 27.6	+1.0
WIFE	Three Sisters-	77.85	47	P	P	19 34 27.8	+0.8
SAW	Saint Andrews	77.96	43	P	P	19 34 27.8	+0.3
VGB	Gordon Butte	77.96	45	eP	P	19 34 27.9	+0.4
VGB				epP	pP	19 35 12.3	+2.2
YBH	Yreka Blue Hor	78.15	49	P	P	19 34 29.5	+0.9
	comp=Z,9.5nm,0.6s,mb4.6,baz=328,slow=3.0,SNR=22						
YBH				pP	pP	19 35 15.8	+4.6
	comp=Z,6.3nm,0.9s,baz=14,slow=1.9,SNR=2.5						
YBH	Yreka Blue Hor	78.15	49	eP	P	19 34 29.1	+0.4
	comp=Z,11nm,0.7s,mb4.6						
YBH				epP	pP	19 35 15.7	+4.4
MDW	Midway	78.17	44	P	P	19 34 29.3	+0.6
WAH2	Wahluke Slope	78.24	44	P	P	19 34 29.6	+0.6
SNIWA	Snively Ranch	78.30	44	P	P	19 34 30.5	+1.1
GBL	Gable Mountain	78.37	44	P	P	19 34 30.3	+0.5
RSW	Rattlesnake Hi	78.37	44	P	P	19 34 30.5	+0.8
MJ2	May Junction 2	78.45	44	P	P	19 34 30.9	+0.8
PATW	Paterson	78.47	45	P	P	19 34 31.7	+1.4
LHEM	Herd Peak	78.53	49	P	P	19 34 31.2	+0.5
WIW	Wooded Island	78.55	44	P	P	19 34 31.3	+0.6
PINOR	Pine Mountain	78.58	47	P	P	19 34 31.8	+0.9
DPW	Davenport	78.63	42	eP	P	19 34 31.4	+0.3
DPW				epP	pP	19 35 13.8	0.0
WDC	Whiskeytown Da	78.72	51	eP	P	19 34 31.1	-0.6
	comp=Z,12nm,1.0s,mb4.5						
WDC				epP	pP	19 35 14.3	-0.1
KIV	Kislovodsk	78.77	313	eP	P	19 34 33.7	+1.7
KIV				eS	S	19 44 12.4	-1.1
KIV				eSS	SS	19 49 24.7	-0.1
KIV				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.3						
KIV				pmax	pmax		
	comp=N,5.0nm,0.7s						
KIV				MLR	MLR		
	comp=Z,98nm,20.0s						
KIV				MLR	MLR		
	comp=N,37nm,18.0s						
KIV				MLR	MLR		
	comp=E,87nm,20.0s						
KIV	Kislovodsk	78.77	313	eP	P	19 34 33.7	+1.7
	comp=E,7.0nm,0.8s,mb4.3						
KIV				eS	S	19 44 12.4	-1.1
KIV				eSS	SS	19 49 24.7	-0.1
KAF	Kangasniemi	78.94	334	ep	P	19 34 30.2	-2.3
	comp=E,7.4nm,0.5s,mb4.6,baz=54,slow=5.0						
KAF	Kangasniemi	78.94	334	eP	P	19 34 30.2	-2.3
KAF				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.5						
LASM	Arnica Sink	78.98	49	P	P	19 34 33.8	+0.6
EDM	Edmonton	79.08	36	eP	P	19 34 26.5	-6.9
LTIM	Timbered Crate	79.21	50	P	P	19 34 34.7	+0.3
FINES	FINESS Array B	79.40	334	P	P	19 34 33.2	-1.8
	comp=Z,3.6nm,0.4s,mb4.3,baz=60,slow=5.3,SNR=57						
FINES				pP	pP	19 35 16.6	-1.1
	comp=Z,3.0nm,0.5s,baz=76,slow=5.7,SNR=1.9						
FINES				LR	LR	20 15 13.0	
	comp=Z,44nm,18.5s,baz=107,slow=40						
FINES	FINESS Array B	79.40	334	i P	P	19 34 33.2	-1.8
FINES				pmax	pmax		
	comp=Z,4.0nm,0.4s						
LNOR	Lincton Mounta	79.41	44	eP	P	19 34 35.6	+0.2
LBCM	Butte Creek Ri	79.44	50	P	P	19 34 35.9	+0.2
NSHM	Saint Helena R	79.48	52	eP	P	19 34 36.2	+0.3
MOD	Modoc	79.73	49	eP	P	19 34 37.2	0.0
	comp=Z,17nm,0.7s,mb4.8						
BEKR	Beckwourth	80.53	51	eP	P	19 34 41.6	+0.1
	comp=Z,32nm,0.7s,mb5.1						
BEKR				epP	pP	19 35 25.6	+1.3
WALA	Waterton Lakes	80.67	40	eP	P	19 34 42.6	+0.5
	comp=Z,49nm,0.7s,mb5.2						
WALA				epP	pP	19 35 25.9	+1.0
UMR	Umm Al-Rimmam	80.82	298	eP	P	19 34 42.9	-0.3
UMR				AMb	AMB	19 34 44.2	
	comp=Z,35nm,0.5s,mb5.2						
SOC	Sochi	80.88	314	eP	P	19 34 41.5	-1.8
SOC				ePPP	PPP	19 39 35.9	-8.0
SOC				eS	S	19 44 33.7	-1.8
SOC				ePS	Sx	19 45 23.0	
SOC				eSS	SS	19 49 50.1	-6.2
SOC				eSSS	SSS	19 53 13.6	-6.5
SOC				pmax	pmax		
	comp=Z,28nm,0.7s,mb5.0						
SOC				pmax	pmax		
	comp=N,51nm,1.2s						
SOC				pmax	pmax		
	comp=E,72nm,1.2s						
SOC	Sochi	80.88	314	eP	P	19 34 41.5	-1.8
	comp=E,28nm,0.7s,mb5.0						
SOC				ePPP	PPP	19 39 35.9	-8.0
SOC				eS	S	19 44 33.7	-1.8
SOC				ePS	Sx	19 45 23.0	
SOC				eSS	SS	19 49 50.1	-6.2
SOC				eSSS	SSS	19 53 13.6	-6.5
QRN	Al-Qurain	80.98	297	eP	P	19 34 44.5	+0.3
KBD	Kabd	80.99	298	eP	P	19 34 44.1	0.0
RDF	Al-Radifah	81.21	298	eP	P	19 34 45.1	-0.2
RDF				AMb	AMB	19 34 46.8	
	comp=Z,63nm,0.5s,mb5.5						
CMB	Columbia Colle	81.28	52	eP	P	19 34 45.1	-0.3
	comp=Z,15nm,0.7s,mb4.7						
PAHR	Pah Rah Range	81.28	50	eP	P	19 34 45.5	0.0
	comp=Z,11nm,0.7s,mb4.6						
PAHR				epP	pP	19 35 27.4	-0.9
RST	Umm Al-Ruwaisa	81.42	298	eP	P	19 34 45.9	-0.5
RST				AMb	AMB	19 34 48.4	
	comp=Z,46nm,0.6s,mb5.3						
CHMT	Chamberlain Mo	82.06	42	eP	P	19 34 49.0	-0.3
OMM	Old Mammoth Mi	82.45	52	eP	P	19 34 51.5	0.0
OMM				epP	pP	19 35 35.6	+1.0
BMN	Battle Mountai	82.46	49	eP	P	19 34 52.0	+0.4
	comp=Z,10nm,0.7s,mb4.6						
BMN				epP	pP	19 35 35.0	+0.4
NVAR	Mina Array Bea	82.59	51	P	P	19 34 52.7	+0.5
	comp=Z,20nm,0.6s,mb5.0,baz=305,slow=4.3,SNR=150						
NVAR				LR	LR	20 06 55.5	
	comp=Z,49nm,20.6s,baz=270,slow=32						
NVAR	Mina Array Bea	82.59	51	P	P	19 34 52.7	+0.5
MTUM	Tungsten Hills	82.87	52	eP	P	19 34 54.0	+0.3
HRY	Holter Researc	83.02	42	eP	P	19 34 54.5	+0.2
TPH	Tonopah	83.51	51	eP	P	19 34 57.2	+0.3
	comp=Z,16nm,1.0s,mb4.7						
TPH				epP	pP	19 35 44.0	+4.0
AKASG	Malin Array Be	83.73	324	P	P	19 34 55.4	-2.3
	comp=Z,5.8nm,0.6s,mb4.5,baz=52,slow=5.0						
FFC	Flin Flon	84.04	31	eP	P	19 34 58.6	-0.5
	comp=Z,12nm,0.8s,mb4.7						
DAC	Darwin (Calif)	84.05	53	eP	P	19 34 59.6	0.0
	comp=Z,15nm,0.6s,mb4.9						
QLMT	Earthquake Lak	84.19	43	eP	P	19 35 01.2	+1.1
QLMT				epP	pP	19 35 45.3	+2.0
TRCR	Troy Canyon	84.53	50	eP	P	19 35 02.0	0.0
TRCR				epP	pP	19 35 43.9	-1.4
YMR	Madison River	84.55	43	eP	P	19 35 03.6	+1.7
YNR	Norris Junctio	84.71	43	eP	P	19 35 04.7	+2.0
YNR				epP	pP	19 35 49.4	+3.5
YFT	Old Faithful	84.74	43	eP	P	19 35 05.5	+2.6
YFT				epP	pP	19 35 48.5	+2.4
GCMT	Greycliff	84.78	42	eP	P	19 35 03.6	+0.6
HVU	Hansel Valley	84.82	46	eP	P	19 35 04.2	+0.9
HVU				epP	pP	19 35 48.0	+1.4
RRI2	Red Ridge	84.99	44	eP	P	19 35 05.0	+0.8
RRI2				epP	pP	19 35 46.3	-1.1
BGU	Big Grassy Mou	85.06	47	eP	P	19 35 05.0	+0.4
BGU				epP	pP	19 35 47.3	-0.5
MZLS	Mizel	85.13	294	P	P	19 35 06.3	+1.0
TPAW	Teton Pass	85.15	44	eP	P	19 35 06.1	+1.2
MOOW	Moose Ponds	85.15	44	eP	P	19 35 05.6	+0.6
NB2	NORSAR Subarra	85.19	338	P	P	19 35 02.4	-2.3
	comp=Z,4.2nm,0.6s,mb4.3,baz=46,slow=4.8						
NOA	NORSAR Array B	85.19	338	P	P	19 35 02.7	-2.0
	comp=Z,5.1nm,0.6s,mb4.4,baz=47,slow=4.7,SNR=19						
NOA				pP	pP	19 35 50.1	+2.1
	comp=Z,1.9nm,0.5s,baz=45,slow=4.9,SNR=2.8						
NOA				LR	LR	20 11 50.1	
	comp=Z,34nm,19.3s,baz=20,slow=34						
WUWY	Wally Ulrich	85.26	44	eP	P	19 35 06.0	+0.5
SPUT	South Promonto	85.26	46	eP	P	19 35 06.0	+0.5
REDW	Red Top Meadow	85.28	44	eP	P	19 35 06.3	+0.8
LOHW	Long Hollow	85.31	44	eP	P	19 35 06.3	+0.6
CTU	Camp Tracy	86.02	47	eP	P	19 35 09.7	+0.4
TCUT	Toone Canyon	86.04	46	eP	P	19 35 08.1	-1.3
PFO	Pinyon Flat Ob	86.09	55	P	P	19 35 09.0	-0.8
	comp=Z,174nm,0.6s,SNR=9.2						
PFO	Pinyon Flat Ob	86.09	55	eP	P	19 35 09.6	-0.1
	comp=Z,20nm,0.7s,mb4.9						
NLU	North Lily Min	86.17	48	eP	P	19 35 10.6	+0.5
NLU				epP	pP	19 35 53.3	-0.1
JLU	Jordanelle	86.27	47	eP	P	19 35 11.3	+0.8
ARUT	Antelope Range	86.29	50	eP	P	19 35 11.0	+0.3
NEN	Nelson	86.32	52	eP	P	19 35 10.7	-0.1
NEN				epP	pP	19 35 54.1	-0.1
BAR	Barrett	86.35	56	eP	P	19 35 10.8	-0.3
BAR				epP	pP	19 35 55.0	+0.5
PDAR	Pinedale Array	86.39	44	P	P	19 35 11.2	+0.2
	comp=Z,7.0nm,0.6s,mb4.6,baz=355,slow=1.6,SNR=57						
PDAR				LR	LR	20 06 24.2	
	comp=Z,98nm,21.4s,baz=253,slow=30						
MPU	Maple Canyon	86.44	47	eP	P	19 35 10.0	-1.3
HILS	Ha'il	86.46	298	P	P	19 35 11.8	0.0
DAU	Daniels Canyon	86.49	47	eP	P	19 35 11.8	+0.3
BRTR	Keskin Array B	86.71	313	P	P	19 35 11.8	-0.9
	comp=Z,2.5nm,0.6s,mb4.2,baz=95,slow=2.8,SNR=8.9						
MSU	Marysvale	86.81	49	eP	P	19 35 12.9	-0.2
MSU				epP	pP	19 36 00.7	+4.2
AFFS	‘Afif	87.00	295	P	P	19 35 14.5	+0.2
KAMS	Al Khamasin	87.23	291	P	P	19 35 14.7	-0.8
SRU	San Rafael	87.63	48	eP	P	19 35 16.9	-0.1
SRU				epP	pP	19 36 00.1	-0.4
TATS	Tathlith	88.50	291	P	P	19 35 21.6	+0.1
PV10	Paradox Valley	89.00	48	eP	P	19 35 23.8	+0.3
KBRS	Khaybar	89.20	298	P	P	19 35 25.2	+0.4
DJNS	Zahran al Janu	89.24	289	P	P	19 35 25.6	+0.5
PV01	Paradox Valley	89.44	48	eP	P	19 35 24.0	-1.6
ULM	Lac du Bonnet	89.74	33	LR	LR	20 15 55.3	
	comp=Z,39nm,19.5s,baz=286,slow=36						
BLJS	Baljurashi	89.94	292	P	P	19 35 28.9	+0.6
KSP	Ksiaz	90.20	329	eP	P	19 35 26.3	-2.5
TUC	Tucson	90.89	54	eP	P	19 35 32.8	+0.3
	comp=Z,2.4nm,0.7s,mb4.3						
BDAS	Al Bad‘	91.22	302	P	P	19 35 32.5	-1.7
ANMO	Albuquerque	92.58	49c	iP	P	19 35 40.4	+0.2
ANMO	Albuquerque	92.58	49	eP	P	19 35 40.6	+0.4
	comp=Z,4.6nm,0.7s,mb4.7						
KHC	Kasperske Hory	92.65	329	eP	P	19 35 37.5	-2.7
GERES	GERESS Array B	92.79	328	P	P	19 35 39.2	-1.7
	comp=Z,1.7nm,0.6s,mb4.3,baz=45,slow=3.8,SNR=17						
GERES				PKKPbc		19 52 50.1	
	comp=Z,0.8nm,0.7s,baz=225,slow=2.8,SNR=7.6						
SCHQ	Schefferville	96.96	16	LR	LR	20 29 01.9	
	comp=Z,51nm,18.2s,baz=300,slow=41						
TXAR	Lajitas Array	97.65	53	P	P	19 36 05.7	+2.2
	comp=Z,2.4nm,0.5s,mb4.9,baz=305,slow=2.5,SNR=12						
TXAR				LR	LR	20 17 06.1	
	comp=Z,63nm,18.1s,baz=285,slow=33						
ESDC	Sonseca Array	107.88	332	PKKPbc		19 52 08.1	
	comp=Z,1.1nm,0.6s,baz=208,slow=3.7,SNR=4.7						
MAW	Mawson	108.49	203	ePKiKP		19 40 55.4	
QSPA	South Pole Qui	114.77	180	ePKP	PKPdf	19 41 05.9	-0.3
SNAA	Sanae	129.10	194⇑	iP	PKPdf	19 41 33.3	-0.6
VNA2	Neumayer--Watz	130.63	193⇑	iP	PKPdf	19 41 38.8	+1.9
VNA3	Neumayer Olymp	130.82	192⇑	iP	PKPdf	19 41 39.7	+2.5
VNA1	Neumayer--Stat	131.02	193⇑	iP	PKPdf	19 41 40.4	+2.8
SDV	Santo Domingo	134.28	47	ePKPdf	PKPdf	19 41 45.1	-0.1
DBIC	Dimbokro	134.30	309	PKP	PKPdf	19 41 46.6	+1.4
	comp=Z,4.0nm,0.7s,baz=334,slow=2.5,SNR=5.3						
DBIC				SKPbc		19 44 56.5	
	comp=Z,4.5nm,0.6s,baz=35,slow=3.1,SNR=7.0						
TIC	Toumodi	134.44	309	ePKP2	PKPdf	19 41 46.4	+0.9
	comp=Z,9.5nm,0.2s						
KIC	Kosan Boka	134.44	309	ePKP2	PKPdf	19 41 46.4	+0.9
	comp=Z,24nm,0.8s						
LIC	Lamto	134.74	309	ePKP2	PKPdf	19 41 47.5	+1.4
	comp=Z,87nm,1.6s						
LPAZ	La Paz	151.36	78	PKP	PKPdf	19 42 16.4	+1.9
	comp=Z,1.3nm,0.6s,baz=246,slow=4.6,SNR=7.2						
LPAZ				PKPbc	PKPdf	19 42 22.2	+7.7
	comp=Z,17nm,0.6s,baz=232,slow=5.8,SNR=11						
LPAZ				pPKPab		19 43 13.3	
	comp=Z,3.4nm,0.5s,baz=262,slow=5.8,SNR=4.1						
LPAZ	La Paz	151.36	78	ePKPdf	PKPdf	19 42 16.1	+1.6
LPAZ				ePKPbc	PKPdf	19 42 22.0	+7.5
SAML	Samuel	151.91	60	ePKPdf	PKPdf	19 42 15.4	0.0
SAML				ePKPbc	PKPdf	19 42 21.7	+6.3
LVC	Limon Verde	152.46	91	ePKPbc	PKPdf	19 42 24.0	+8.0
BDFB	Brasilia	167.37	44	PKPab	PKPab	19 43 40.0	-0.8
	comp=Z,0.9nm,0.4s,baz=309,slow=6.5,SNR=3.1						

*IDC **13** 19:45:32.7±1.1, 21.14N×120.35E, mb3.6/7, mb1 3.9/7, mb1mx3.8/18, MS3.1/3, Ms1 3.2/3, ms1mx3.0/26, Error ellipse: s-maj=36.2km s-min=23.1km az=65.0*
*TAP **13** 19:45:35.5, 21.17N×120.10E, h61km±2km, ML3.8*
*NEIC **13** 19:45:37.8±0.6, 21.11N×120.34E, h35km, mb4.3/1, Error ellipse: s-maj=21.9km s-min=10.6km az=63.0*
ISC 13 19:45:35.7±0.6**, 21.09N**±0.10×**120.3E**±0.2**, h33km, n13, σ0§81**/12**, mb3.7**/7**, MS3.0**/3**, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CVP	Callao Caves	3.67	156	eP	P	19 46 32.0	+0.5
CVP				eS	S	19 47 14.0	-0.3
CMAR	Chiang Mai Arr	20.25	266	P	P	19 50 11.0	-0.1
	0.8nm,1.0s,baz=84,slow=8.2,SNR=3.7						
CMAR				LR	LR	19 59 27.6	
	comp=Z,86nm,18.2s,MS3.1,baz=85,slow=41						
CBIJ	Chichi jima	20.86	69	LR	LR	19 57 44.9	
	comp=Z,50nm,18.8s,MS2.9,baz=305,slow=35						
SONM	Songino Array	28.94	340	P	P	19 51 32.8	-1.2
	0.5nm,0.8s,mb3.3,baz=154,slow=7.3,SNR=5.2						
ASAJ	Asahikawa	29.50	34	LR	LR	20 02 54.9	
	comp=Z,29nm,21.4s,MS2.9,baz=162,slow=35						
MKAR	Makanchi Array	40.04	319	P	P	19 53 10.0	+0.7
	0.5nm,0.6s,mb3.5,baz=117,slow=11,SNR=3.7						
ZAL	Zalesovo	42.43	329	P	P	19 53 27.6	-1.3
	0.6nm,0.4s,mb3.6,baz=35,slow=1.9,SNR=4.2						
WRAB	Tennant Creek	43.03	160	eP	P	19 53 33.8	-0.5
	4.6nm,0.8s,mb4.3						
WRA	Warramunga Arr	43.04	160	P	P	19 53 34.0	-0.3
	2.9nm,0.9s,mb4.0,baz=342,slow=9.1,SNR=16						
WB2	Warramunga Arr	43.04	160	eP	P	19 53 34.1	-0.2
ASPA	Alice Springs	46.42	163	eP	P	19 54 01.7	+0.4
ILAR	Eielson Array	72.34	27	P	P	19 57 00.2	+0.6
	0.4nm,0.9s,mb3.3,baz=292,slow=6.9,SNR=8.5						
GERES	GERESS Array B	84.69	321	P	P	19 58 09.3	+1.9
	1.0nm,0.9s,mb4.0,baz=97,slow=11,SNR=5.4						

*JMA **13** 20:03:06.8±0.5, 23.60N×121.96E, h4km, M3.3*
TAP 13 20:03:06.7, 23.71N×121.75E, h33km±1km, ML3.5, Taiwan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	1.37	57	P	P	20 03 31.2	+1.5
YOJ				S	S	20 03 47.9	+1.0
HATJ	Hateruma jima	1.91	79	P	P	20 03 38.0	+0.6
HATJ				eS	S	20 04 01.8	+1.3
IRIF	Iriomote-Funau	1.91	71	P	P	20 03 38.9	+1.5
IRIF				S	S	20 04 02.5	+1.9
JKRS	Kuro-shima	2.13	75	P	P	20 03 42.3	+1.8
JKRS				eS	S	20 04 08.4	+2.3
JIJ	Ishigaki jima	2.28	73	P	P	20 03 43.5	+0.8
JIJ				S	S	20 04 10.7	+0.8
JTJ	Tarama	2.85	70	P	P	20 03 51.4	+0.6
JTJ				eS	S	20 04 24.9	+0.5

*NEIC **13** 20:12:36.7, 39.56N×15.17E, h10km, MD2.6(ROM), After ROM.*
*CSEM **13** 20:12:37.2±0.4, 39.58N×15.20E, h12km, ML3.7/1, Error ellipse: s-maj=7.0km s-min=5.3km az=31.0*
ROM 13 20:12:36.6±0.6**, 39.56N×15.17E, h10km, MD2.6**/2**, ML1.8**/2**, Error ellipse: s-maj=3.8km s-min=2.6km az=90.0, Southern Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MGR	Morigerati	0.65	27	ePG	Pg	20 12 49.6	-0.1
MGR				SG	Sg	20 12 59.2	+0.8
	33nm,0.3s						
MGR	Morigerati	0.65	27	ePg	Pg	20 12 49.6	-0.1
MGR				eSg	Sg	20 12 59.2	+0.8
MGR	Morigerati	0.65	27	ePg	Pg	20 12 49.6	-0.1
	33nm,0.3s						
MGR				Sg	Sg	20 12 59.2	+0.8
SLCN	Sala Consilina	0.90	23	ePG	Pg	20 12 54.7	0.0
SLCN				SG	Sg	20 13 08.3	+1.5
	46nm,0.4s						
SLCN	Sala Consilina	0.90	23	ePg	Pg	20 12 54.7	0.0
SLCN				eSg	Sg	20 13 08.3	+1.5
SLCN	Sala Consilina	0.90	23	ePg	Pg	20 12 54.7	0.0
	46nm,0.4s						
SLCN				Sg	Sg	20 13 08.3	+1.5
TDS	Terranova Siba	0.91	83	ePG	Pg	20 12 55.1	+0.3
TDS				SG	Sg	20 13 06.7	-0.2
	37nm,0.5s						
TDS	Terranova Siba	0.91	83	ePg	Pg	20 12 55.1	+0.3
TDS				eSg	Sg	20 13 06.7	-0.2
TDS	Terranova Siba	0.91	83	ePg	Pg	20 12 55.1	+0.3
	37nm,0.5s						
TDS				Sg	Sg	20 13 06.7	-0.2
SGO	Sicignano	1.01	6	ePG	Pg	20 12 56.0	-0.8
SGO				SG	Sg	20 13 11.1	+0.9
	20nm,0.3s						
SGO	Sicignano	1.01	6	ePg	Pg	20 12 56.0	-0.8
SGO				eSg	Sg	20 13 11.1	+0.8
SGO	Sicignano	1.01	6	ePg	Pg	20 12 56.0	-0.8
	20nm,0.3s						
SGO				Sg	Sg	20 13 11.1	+0.9

*CSEM **13** 20:16:40.5±0.6, 37.02N×9.11W, h40km, ML2.6/6, Error ellipse: s-maj=10.8km s-min=5.4km az=60.0*
*MDD **13** 20:16:40.0±1.9, 36.92N×9.13W, h26km±7km, mb3.2/1, Error ellipse: s-maj=16.0km s-min=9.2km az=67.0, PRXIMO*
INMG 13 20:16:40.2±0.8**, 36.90N×9.09W, h22km±2km, ML1.8, Error ellipse: s-maj=6.0km s-min=3.0km az=64.0, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	0.71	24	ePg	Pb	20 16 53.2	-0.6
PTEO				eSg	Sb	20 17 03.0	0.0
	27nm,0.2s						
PTEO	Sao Teotonio	0.71	24	eP	Pb	20 16 53.2	-0.6
PTEO				eS	Sb	20 17 03.0	0.0
	27nm,0.2s						
PALC	Alcoutim	1.41	66	eP	Pn	20 17 03.4	-1.4
PALC				eS	Sn	20 17 19.9	-2.9
	5.1nm,0.1s						
PALC	Alcoutim	1.41	66	eP	Pn	20 17 03.4	-1.4
PALC				eS	Sn	20 17 19.9	-2.9
	5.1nm,0.1s						
PBEJ	Beja	1.49	40	eP	Pn	20 17 04.2	-1.8
PBEJ				eS	Sn	20 17 22.2	-2.7
	2.4nm,0.1s						
PBEJ	Beja	1.49	40	eP	Pn	20 17 04.2	-1.8
PBEJ				eS	Sn	20 17 22.2	-2.7
	2.4nm,0.1s						
MOE	Montemor	1.72	20	eS	Sn	20 17 27.9	-3.0
PLOU	Loures	1.99	358	eS	Sn	20 17 34.0	-3.6
EMIN	Mina Concepcio	2.11	65	Pn	Pn	20 17 12.6	-2.4
	0.2nm,0.0s,SNR=7.9						
EMIN				Sn	Sn	20 17 36.9	-3.9
	0.8nm,0.1s,SNR=12						
EMIN	Mina Concepcio	2.11	65	Pn	Pn	20 17 12.6	-2.3
	0.2nm,0.0s,SNR=7.9						
EMIN				Sn	Sn	20 17 36.9	-3.9
	0.8nm,0.1s,SNR=12						
EBAD	Badajoz	2.48	41	Pn	Pn	20 17 17.2	-2.9
	0.3nm,0.1s,SNR=5.0						
EBAD				Sn	Sn	20 17 46.0	-4.1
	2.2nm,0.2s,SNR=6.6						
EBAD	Badajoz	2.48	41	Pn	Pn	20 17 17.2	-3.0
	0.3nm,0.1s,SNR=5.0						
EBAD				Sn	Sn	20 17 46.0	-4.1
	2.2nm,0.2s,SNR=6.6						
ESPR	Espera	2.59	90	Pn	Pn	20 17 20.3	-1.5
	0.8nm,0.1s,SNR=5.0						
ESPR				Sn	Sn	20 17 49.5	-3.4
	5.1nm,0.3s,SNR=7.9						
ESPR	Espera	2.59	90	Pn	Pn	20 17 20.3	-1.5
	0.8nm,0.1s,SNR=5.0						
ESPR				Sn	Sn	20 17 49.5	-3.4
	5.1nm,0.3s,SNR=7.9						
PTOM	Tomar	2.77	11	eS	Sn	20 17 52.5	-4.9
PCBR	Castelo Branco	3.20	23	eS	Sn	20 18 02.6	-5.7
	2.1nm,0.2s						
PCBR	Castelo Branco	3.20	23	eS	Sn	20 18 02.6	-5.7
	2.1nm,0.2s						
MTE	Manteigas	3.70	19	eP	Pn	20 17 34.2	-3.3
MTE				eS	Sn	20 18 15.0	-6.0
	2.2nm,0.2s						
MTE	Manteigas	3.70	19	P	Pn	20 17 34.2	-3.3
MTE				S	Sn	20 18 15.0	-6.0
	1.1nm,0.2s						
EADA	Adamuz	3.80	69	Pn	Pn	20 17 36.7	-2.3
	0.2nm,0.1s,SNR=7.9						
EADA				Sn	Sn	20 18 18.3	-5.3
	0.6nm,0.1s,SNR=6.1						
EADA	Adamuz	3.80	69	Pn	Pn	20 17 36.7	-2.3
	0.2nm,0.1s,SNR=7.9						
EADA				Sn	Sn	20 18 18.3	-5.3
	0.6nm,0.1s,SNR=6.1						
PVIS	Viseu	3.92	13	eS	Sn	20 18 19.9	-6.8
PVRL	Vila Real	4.50	13	eS	Sn	20 18 33.8	-7.5
	2.9nm,0.1s						
PVRL	Vila Real	4.50	13	S	Sn	20 18 33.8	-7.5
	1.4nm,0.1s						
EQES	Quesada	4.88	78	Sn	Sn	20 18 44.7	-6.0
	0.6nm,0.2s,SNR=7.9						
EQES	Quesada	4.88	78	Sn	Sn	20 18 44.7	-6.1
	0.6nm,0.2s,SNR=7.9						
ESDC	Sonseca Array	4.89	54	Sn	Sn	20 18 45.1	-6.0
	0.5nm,0.2s,SNR=7.9						
ESDC	Sonseca Array	4.89	54	Sn	Sn	20 18 45.1	-6.0
	0.5nm,0.2s,SNR=7.9						
ELOB	Lobios	5.03	9	Sn	Sn	20 18 46.7	-7.9
	1.2nm,0.4s,SNR=7.9						
ELOB	Lobios	5.03	9	Sn	Sn	20 18 46.7	-7.8
	1.2nm,0.4s,SNR=7.9						

*NEIC **13** 20:24:40.7±1.7, 9.13S×120.24E, h45km±17km, mb4.2/5, Error ellipse: s-maj=16.8km s-min=10.7km az=61.0*
*IDC **13** 20:24:41.4±3.6, 9.05S×120.37E, h50km±34km, mb3.9/7, mb1 4.0/9, mb1mx3.9/15, ML4.1/2, Error ellipse: s-maj=46.9km s-min=12.4km az=74.0*
*DJA **13** 20:24:44.1±0.8, 9.29S×119.92E, h240km, ML4.9/4, Error ellipse: s-maj=21.9km s-min=6.5km az=144.0*
ISC 13 20:24:40.9±0.6**, 9.46S**±0.06×**120.27E**±0.05**, h33**km**, n31, σ1s35**/44**, mb4.1**/11**, 5C-4D, Sumba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	Kedomdong	4.22	283	ePn	Pn	20 25 47.6	+2.9
	196nm,0.2s						
KEDI				⇓eSn	Sn	20 26 33.8	+0.3
RATI	Rata	4.74	279	⇓ePn	Pn	20 25 53.2	+1.2
	110nm,0.2s						
RATI				⇑eSn	Sn	20 26 44.1	-2.5
NINI	Niniconang	5.03	354	⇑ePn	Pn	20 25 59.7	+3.5
	565nm,0.3s						
NINI				⇓eSn	Sn	20 26 54.8	+0.9
BUNI	Buntu Taipa	5.76	1	Pn	Pn	20 26 09.3	+2.8
	75nm,0.3s						
KELI	Kelakatan	5.84	282	⇑ePn	Pn	20 26 08.5	+0.9
KELI				⇑eSn	Sn	20 27 08.8	-5.5
SRDI	Scrawed	6.13	279	⇓ePn	Pn	20 26 10.9	-0.8
SRDI				⇑eSn	Sn	20 27 15.0	-6.5
FITZ	Fitzroy Crossi	10.05	149	eP	P	20 27 06.4	+0.3
	1.9nm,0.3s						
FITZ				eS	S	20 28 53.0	-5.8
FITZ	Fitzroy Crossi	10.05	149	P	P	20 27 06.5	+0.5
	1.4nm,0.3s,baz=352,slow=7.7,SNR=40						
FITZ				S	S	20 28 52.7	-6.1
	3.2nm,0.3s,baz=192,slow=20,SNR=10						
MBWA	Marble Bar	11.64	183	eP	P	20 27 27.6	-0.2
	12nm,0.9s						
KAKA	Kakadu	12.33	106	eP	P	20 27 42.0	+4.9
	6.2nm,0.6s						
KAKA				eS	S	20 29 51.6	-2.7
WRA	Warramunga Arr	17.12	129	P	P	20 28 40.4	+0.9
	0.6nm,0.3s,baz=302,slow=12,SNR=31						
WRA				S	S	20 31 39.7	-7.5
	0.8nm,0.3s,baz=299,slow=20,SNR=8.2						
WRAB	Tennant Creek	17.13	129	eP	P	20 28 40.5	+1.1
	4.7nm,0.8s						
WB2	Warramunga Arr	17.13	129	eP	P	20 28 39.7	+0.2
WB2				eS	S	20 31 38.0	-9.5
ASPA	Alice Springs	19.22	139	eP	P	20 29 05.2	+0.1
ASPA				e		20 29 10.4	
ASPA				eS	S	20 32 33.5	-1.1
KLBR	Kellerberrin	22.15	186	eP	P	20 29 36.7	+1.3
	51nm,1.7s,mb4.7						
KLBR				eS	S	20 33 33.5	+1.0
NWAO	Narrogin (SRO)	23.52	186	P	P	20 29 50.6	+1.6
	11nm,1.2s,mb4.2,baz=22,slow=11,SNR=2.7						
NWAO				pP		20 30 05.3	
	2.3nm,0.5s,baz=9.7,slow=11,SNR=2.8						
NWAO				S	S	20 34 05.3	+8.2
	22nm,1.3s,baz=207,slow=22,SNR=3.9						
NWAO	Narrogin (SRO)	23.52	186	P	P	20 29 50.6	+1.6
NWAO				pP		20 30 05.3	
NWAO				S	S	20 34 05.3	+8.2
STKA	Stephens Creek	29.81	142	eP	P	20 30 46.6	-0.5
	2.3nm,0.4s,mb4.3						
STKA	Stephens Creek	29.81	142	P	P	20 30 46.6	-0.5
	3.4nm,0.5s,mb4.4,baz=341,slow=8.2,SNR=10						
STKA	Stephens Creek	29.81	142	eP	P	20 30 44.8	-2.3
CMAR	Chiang Mai Arr	34.82	323	P	P	20 31 26.4	-4.6
	0.3nm,0.5s,mb3.5,baz=159,slow=6.9,SNR=4.8						
SONM	Songino Array	58.35	349	P	P	20 34 29.5	-5.8
	1.1nm,0.8s,mb3.9,baz=164,slow=8.5,SNR=8.1						
SONM				sP	sP	20 34 52.5	+3.2
	0.6nm,0.6s,baz=165,slow=7.3,SNR=3.1						
MKAR	Makanchi Array	65.44	332	P	P	20 35 17.2	-5.5
	1.7nm,0.5s,mb4.3,baz=148,slow=7.5,SNR=28						
ZAL	Zalesovo	69.92	339	P	P	20 35 44.4	-6.2
	3.4nm,1.0s,mb4.2,baz=333,slow=5.0,SNR=11						
ZAL	Zalesovo	69.92	339	P	P	20 35 44.4	-6.2
KURK	Kurchatov	69.96	333	eP	P	20 35 45.3	-5.7
	1.9nm,0.9s,mb4.0						
BVAR	Borovoye Array	75.29	331	P	P	20 36 16.7	-5.7
	1.4nm,0.9s,mb3.9,baz=108,slow=4.7,SNR=5.7						
ZRNK	Zerenda	75.91	331	eP	P	20 36 19.4	-6.5
QSPA	South Pole Qui	80.54	180	eP	P	20 36 50.3	-0.6
	2.0nm,0.6s,mb4.2						
SNAA	Sanae	90.89	195	eP	P	20 37 41.0	-1.2
	0.6nm,0.6s,mb4.1						
TXAR	Lajitas Array	134.42	58	PKP	PKPdf	20 43 52.8	-3.8
	0.3nm,0.3s,baz=217,slow=4.5,SNR=4.2						

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*IDC **13** 20:30:06.2±0.6, 17.92S×178.73W, h571km±7km, mb4.3/21, mb1 4.4/22, mb1mx4.4/23, Error ellipse: s-maj=12.4km s-min=8.1km az=142.0*
*HRVD **13** 20:30:06.4±1.5, 17.72S×178.75W, h570km±6km, MW5.4/19, Centroid moment Tensor Solution. LP body waves: s19,c26; Half duration: 1s3 Moment tensor: Scale 10^{17}Nm; M_{rr}0.18±.10; $M_{\theta\theta}$1.06±.16; $M_{\phi\phi}$-1.24±.14; $M_{r\theta}$1.06±.16; $M_{\theta\phi}$0.76±.12; $M_{\phi r}$-0.20±.17; Best double couple: $M_0$1.75×10^{17} NP1:ϕ_s24°,δ54°,λ170°. NP2:ϕ_s120°, δ82°,λ36°. Principal axes: T 1.86, Plg31°, Azm348°; N -.22, Plg53°, Azm131°; P -1.64, Plg18°, Azm247°; nsta1 refers to body waves, cutoff=40s.*
*BJI **13** 20:30:06.4, 17.60S×178.90W, h566km, mB4.9, mb4.5*
*SYO **13** 20:30:06.3, 17.55S×178.97W, h566km, MB4.8*
*NEIC **13** 20:30:06.4±0.2, 17.60S×178.92W, mb4.9/42, Error ellipse: s-maj=9.0km s-min=3.9km az=145.0*
ISC 13 20:30:01.7±0.9**, 17.67S**±0.06×**178.80W**±0.04**, h522**km±11km**, h564**km±2.8km**:pP-P, n284, σ0s98**/157**, mb4.8**/69**, 19C-6D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	7.73	62	eP	P	20 31 56.4	-0.4
	1µm,0.6s						
BKM	Butte a Klehm	12.35	268	⇑iP	P	20 32 48.4	+3.9
DZM	Mont Dzumac	14.55	250	eP	P	20 33 09.0	+1.9
NOUC	Port Laguerre	14.69	250	⇑iP	P	20 33 11.0	+2.6
RAR	Rarotonga	18.28	104	P	P	20 33 45.0	+1.3
	2.1nm,0.3s,baz=216,slow=23,SNR=5.9						
URZ	Urewera	20.82	189	P	P	20 34 05.0	-2.5
	32nm,0.3s,baz=3.9,slow=3.1,SNR=23						
URZ				S	S	20 37 20.3	-5.0
	10nm,0.6s,baz=261,slow=22,SNR=4.7						
PAE	Paea	27.83	94	eP	P	20 35 09.5	-1.0
	86nm,1.0s,mb5.3						
PPT	Papeete	27.84	94	P	P	20 35 10.4	-0.3
	34nm,0.5s,mb5.2,baz=353,slow=1.6,SNR=5.0						
PPT	Papeete	27.84	94	eP	P	20 35 09.9	-0.7
	38nm,0.9s,mb5.0						
TBI	Tubuai	28.02	107	eP	P	20 35 12.3	+0.1
	293nm,1.2s,mb5.8						
TIAR	Tiarei	28.06	94	eP	P	20 35 11.8	-0.7
	118nm,1.0s,mb5.5						
TVO	Taravao	28.13	95	eP	P	20 35 12.7	-0.5
	59nm,0.7s,mb5.3						
PMOR	Pomariorio Ree	29.76	89	eP	P	20 35 26.1	-1.1
	98nm,1.2s,mb5.2						
PMOR				epP		20 36 57.7	
	84nm,1.4s						
PMOR				eScP		20 40 56.4	
	34nm,1.0s						
VAH	Vaihoa	29.98	90	eP	P	20 35 27.7	-1.4
	47nm,0.9s,mb5.0						
CTA	Charters Tower	33.12	260	eP	P	20 35 55.8	+0.1
	45nm,1.0s,mb5.0						
CTA				ePP	PP	20 37 28.2	+3.1
CTA	Charters Tower	33.12	260	P	P	20 35 55.9	+0.2
	90nm,1.1s,mb5.2,baz=86,slow=10,SNR=29						
CTAO	Charters Tower	33.12	260	eP	P	20 35 56.0	+0.3
	89nm,1.0s,mb5.2						
CNB	Canberra Magne	33.28	232	eP	P	20 35 58.0	+1.1
	115nm,0.9s,mb5.4						
PMG	Port Moresby	34.05	279	P	P	20 36 04.7	+1.1
	138nm,1.1s,mb5.4,baz=96,slow=5.0,SNR=26						
PMG	Port Moresby	34.05	279	eP	P	20 36 05.2	+1.6
WAU	Wau	35.13	283	eP	P	20 36 14.8	+2.2
TOO	Toolangi	37.03	230	eP	P	20 36 29.3	+1.3
	97nm,0.9s,mb5.3						
STKA	Stephens Creek	38.42	241	eP	P	20 36 40.2	+0.9
	91nm,1.1s,mb5.2						
STKA	Stephens Creek	38.42	241	P	P	20 36 40.6	+1.2
	124nm,0.9s,mb5.4,baz=82,slow=8.9,SNR=230						
RKT	Rikitea	41.32	105	eP	P	20 37 02.1	-0.7
	185nm,1.2s,mb5.5						
WB2	Warramunga Arr	44.30	259	eP	P	20 37 25.4	-1.1
WRAB	Tennant Creek	44.30	259	P	P	20 37 25.0	-1.5
	327nm,0.5s,mb6.1,SNR=34						
WRAB	Tennant Creek	44.30	259	eP	P	20 37 25.4	-1.0
	46nm,0.6s,mb5.2						
WRA	Warramunga Arr	44.31	259	P	P	20 37 25.5	-1.1
	24nm,0.6s,mb4.9,baz=96,slow=7.0,SNR=312						
ASPA	Alice Springs	44.50	254	eP	P	20 37 27.5	-0.5
FORT	Forrest	49.77	244	eP	P	20 38 07.0	-1.0
	326nm,0.8s,mb5.8						
FITZ	Fitzroy Crossi	52.70	260	eP	P	20 38 28.5	-1.0
	2µm,0.7s						
FITZ	Fitzroy Crossi	52.70	260	P	P	20 38 28.8	-0.6
	7.5nm,0.3s,mb4.5,baz=72,slow=2.0,SNR=96						
MBWA	Marble Bar	57.77	256	eP	P	20 39 03.2	-1.5
	111nm,1.3s,mb4.9						
KLBR	Kellerberrin	58.60	243	eP	P	20 39 08.6	-1.6
	78nm,0.9s,mb4.9						
NWAO	Narrogin (SRO)	58.99	242	P	P	20 39 12.1	-0.7
	24nm,1.1s,mb4.3,baz=89,slow=13,SNR=5.6						
MUN	Mundaring	59.90	243	eP	P	20 39 17.9	-0.9
	106nm,0.8s,mb5.2						
SBA	Scott Base	60.63	183	eP	P	20 39 23.4	+0.4
	47nm,1.0s,mb4.8						
SCPH	Surigao	61.41	292	eP	P	20 39 29.1	+0.1
MSLP	Maasin	62.13	292	eP	P	20 39 31.5	-2.1
BESP	Borongan	62.27	294	eP	P	20 39 34.3	-0.2
CASY	Casey	66.19	205	eP	P	20 39 57.5	-1.1
	47nm,1.0s,mb5.0						
CASY				e		20 42 48.2	
PPR	Puerto Princes	67.45	289	eP	P	20 40 05.9	-1.4
MAJO	Matsushiro	67.50	324	eP	P	20 40 04.8	-2.3
MAT	Matsushiro	67.50	324	P	P	20 40 06.1	-1.1
MAT	Matsushiro	67.50	324	eP	P	20 40 06.0	-1.2
	7.5nm,0.7s,mb4.3						
FX1	Attu Island--F	70.60	355	eP	P	20 40 23.3	-2.1
ASAJ	Asahikawa	70.89	332	P	P	20 40 27.9	+0.6
	14nm,0.6s,mb4.7,baz=25,slow=29,SNR=16						
UNV	Unalaska Valle	72.01	8	eP	P	20 40 31.7	-1.9
	79nm,0.8s,mb5.2						
QSPA	South Pole Qui	72.38	180	eP	P	20 40 35.1	-0.2
	110nm,1.1s,mb5.2						
QSPA				e		20 42 32.0	
SAO	San Andreas Ge	76.51	44	eP	P	20 40 59.7	+0.5
	42nm,0.9s,mb4.9						
LRV	Little Rabbit	76.61	45	eP	P	20 41 00.5	+0.9
NSHM	Saint Helena R	76.76	42	eP	P	20 41 00.7	+0.3
MWC	Mount Wilson	77.46	48	eP	P	20 41 04.1	-0.2
MDJ	Mudanjiang	77.78	325	P	P	20 41 06.4	+0.6
MDJ				PCP	PcP	20 41 13.8	-0.2
MDJ				PP	PP	20 44 14.5	+3.3
MDJ				AMB	AMB		
	comp=Z,22nm,0.9s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,153nm,4.6s						
CMB	Columbia Colle	77.92	43	eP	P	20 41 06.4	-0.4
	comp=Z,39nm,1.1s,mb4.7						
WDC	Whiskeytown Da	78.00	40	eP	P	20 41 06.9	-0.2
	comp=Z,46nm,1.4s,mb4.6						
YBH	Yreka Blue Hor	78.58	39	P	P	20 41 10.8	+0.7
	comp=Z,21nm,0.8s,mb4.5,baz=186,slow=2.6,SNR=43						
YBH				pP	pP	20 43 11.2	+8.0
	comp=Z,5.7nm,1.0s,baz=211,slow=3.2,SNR=4.6						
YBH	Yreka Blue Hor	78.58	39	eP	P	20 41 10.4	+0.2
	comp=Z,29nm,0.9s,mb4.6						
OMM	Old Mammoth Mi	78.62	44	eP	P	20 41 10.7	+0.2
LHEM	Herd Peak	78.82	40	P	P	20 41 12.3	+0.9
DAC	Darwin (Calif)	78.85	46	eP	P	20 41 11.9	+0.2
	comp=Z,11nm,0.8s,mb4.2						
LBCM	Butte Creek Ri	78.89	41	P	P	20 41 12.6	+0.8
HUMO	Hull Mountain	78.95	38	eP	P	20 41 13.0	+0.9
	comp=Z,31nm,1.1s,mb4.5						
BEKR	Beckwourth	78.97	42	eP	P	20 41 11.6	-0.6
	comp=Z,28nm,0.9s,mb4.6						
LTIM	Timbered Crate	79.00	40	P	P	20 41 13.2	+0.8
WCN	Washoe City	79.04	43	eP	P	20 41 13.4	+0.8
	comp=Z,32nm,0.8s,mb4.7						
LASM	Arnica Sink	79.19	40	P	P	20 41 14.3	+0.9
PAHR	Pah Rah Range	79.50	42	eP	P	20 41 15.6	+0.6
	comp=Z,38nm,1.0s,mb4.7						
NVAR	Mina Array Bea	79.51	44	P	P	20 41 15.4	+0.3
	comp=Z,22nm,0.8s,mb4.6,baz=216,slow=7.3,SNR=146						
NVAR				pP	pP	20 43 16.7	+8.2
	comp=Z,6.1nm,1.1s,baz=220,slow=7.7,SNR=7.8						
NVAR	Mina Array Bea	79.51	44	P	P	20 41 15.4	+0.3
NVAR				pP	pP	20 43 16.7	+8.1
CN2	Changchun	79.61	323	eP	P	20 41 15.8	+0.3
CN2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.3						
TPH	Tonopah	80.05	45	eP	P	20 41 18.0	+0.1
	comp=Z,38nm,1.1s,mb4.6						
MOD	Modoc	80.15	40	eP	P	20 41 18.0	-0.4
	comp=Z,38nm,0.8s,mb4.8						
NEN	Nelson	80.45	48	eP	P	20 41 20.3	+0.3
NEN				epP	pP	20 43 18.1	+4.3
SSOR	Sweet Springs	80.58	37	eP	P	20 41 20.8	+0.3
BMW	Boistfort Moun	81.11	35	eP	P	20 41 23.3	0.0
VBEM	Beaver Butte	81.20	37	P	P	20 41 23.9	+0.2
BMN	Battle Mountai	81.29	43	eP	P	20 41 24.0	-0.2
	comp=Z,37nm,0.9s,mb4.8						
VIPM	Ingram Point	81.44	38	P	P	20 41 25.1	+0.2
SPU	Mount Spurr	81.46	13	eP	P	20 41 22.8	-1.9
CROR	Criterion Ridg	81.50	37	P	P	20 41 25.6	+0.4
ASR	Mount Adams--S	81.83	36	P	P	20 41 27.0	+0.2
TUC	Tucson	81.85	52	eP	P	20 41 28.0	+0.7
	comp=Z,44nm,1.2s,mb4.8						
TUC				e		20 43 28.6	
STW	Striped Peak	81.90	34	P	P	20 41 27.7	+0.6
VGB	Gordon Butte	81.93	37	eP	P	20 41 27.7	+0.3
GNW	Green Mountain	81.99	35	eP	P	20 41 28.2	+0.6
WPW	White Pass	82.18	36	P	P	20 41 29.1	+0.5
FMW	Mount Fremont	82.25	36	P	P	20 41 29.6	+0.7
BBB	Bella Bella	82.29	29	P	P	20 41 29.1	+0.1
	comp=Z,15nm,0.8s,mb4.5,baz=243,slow=11,SNR=6.2						
PGC	Sidney	82.32	33	eP	P	20 41 28.4	-0.8
	comp=Z,68nm,1.1s,mb5.0						
PWA	Palmer West	82.35	13	eP	P	20 41 28.3	-0.8
	comp=Z,15nm,0.7s,mb4.5						
JBO	Jordan Butte	82.44	37	P	P	20 41 30.4	+0.5
PMR	Palmer	82.46	14	eP	P	20 41 28.8	-0.9
	comp=Z,25nm,0.7s,mb4.8						
RMW	Rattlesnake Mo	82.49	35	eP	P	20 41 30.1	0.0
HTW	Haystack Looko	82.71	35	P	P	20 41 31.2	0.0
DIV	Divide	82.87	15	eP	P	20 41 30.0	-1.8
	comp=Z,98nm,0.8s,mb5.4						
RSW	Rattlesnake Hi	83.11	37	P	P	20 41 33.9	+0.6
SNIWA	Snively Ranch	83.11	37	P	P	20 41 34.0	+0.7
MDW	Midway	83.14	37	P	P	20 41 33.9	+0.5
BJI	Beijing	83.36	316	P	P	20 41 35.0	+0.3
BJI				AP	pP	20 43 34.0	+4.7
BJI				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
BJI				AMB	AMB		
	comp=Z,207nm,4.5s						
ETW	Entiat	83.38	35	P	P	20 41 35.0	+0.3
LNOR	Lincton Mounta	83.57	38	eP	P	20 41 34.9	-0.7
NLW	Nelson Butte	83.65	35	P	P	20 41 36.1	+0.1
MVU	Marysvale	83.67	46	eP	P	20 41 37.5	+1.2
	comp=Z,32nm,1.2s,mb4.7						
MSU	Marysvale	83.70	46	eP	P	20 41 37.7	+1.2
MAW	Mawson	83.95	200	eP	P	20 41 36.8	-0.2
	comp=Z,8.7nm,0.6s,mb4.5						
MAW	Mawson	83.95	200	P	P	20 41 36.6	-0.4
	comp=Z,10nm,0.5s,mb4.6,baz=118,slow=6.4,SNR=39						
SAW	Saint Andrews	83.95	36	P	P	20 41 37.5	+0.1
MCK	McKinley	84.39	13	eP	P	20 41 37.6	-1.6
	comp=Z,10nm,0.8s,mb4.4						
GYA	Guiyang	84.60	300	⇓iP	P	20 41 42.8	+1.7
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.3						
DPW	Davenport	84.72	36	eP	P	20 41 40.7	-0.5
THY	Trims Highway	84.83	14	eP	P	20 41 40.2	-1.1
HVU	Hansel Valley	84.87	43	eP	P	20 41 42.6	+0.6
HVU				epP	pP	20 43 44.6	+7.4
DAU	Daniels Canyon	85.23	45	eP	P	20 41 42.6	-1.2
TCUT	Toone Canyon	85.45	44	eP	P	20 41 43.9	-1.0
TCUT				epP	pP	20 43 47.6	+7.4
HWUT	Hardware Ranch	85.58	44	eP	P	20 41 45.6	+0.1
	comp=Z,9.2nm,0.9s,mb4.4						
IMA	Indian Mountai	85.60	10	eP	P	20 41 44.4	-0.6
IMA				epP	pP	20 43 51.5	+11
COLA	College	85.63	13	eP	P	20 41 44.2	-1.0
	comp=Z,69nm,1.4s,mb5.1						
ILAR	Eielson Array	85.74	13	P	P	20 41 44.1	-1.6
	comp=Z,6.1nm,0.5s,mb4.5,baz=223,slow=5.2,SNR=103						
ILAR				pP	pP	20 43 50.0	+8.9
	comp=Z,3.6nm,1.1s,baz=234,slow=6.1,SNR=4.8						
DLBC	Dease Lake	85.76	23	P	P	20 41 45.9	-0.1
	comp=Z,9.2nm,0.9s,mb4.4,baz=205,slow=10,SNR=9.2						
DLBC	Dease Lake	85.76	23	eP	P	20 41 46.2	+0.2
PV10	Paradox Valley	85.83	48	P	P	20 41 46.6	-0.2
TXAR	Lajitas Array	86.19	58	P	P	20 41 49.4	+0.7
	comp=Z,23nm,0.7s,mb4.9,baz=220,slow=5.9,SNR=122						
ANMO	Albuquerque	86.24	52	eP	P	20 41 49.0	+0.1
	comp=Z,13nm,1.0s,mb4.5						
ANMO				epP	pP	20 43 51.8	+7.5
AHID	Auburn Hatcher	86.43	43	eP	P	20 41 50.0	+0.5
	comp=Z,34nm,1.4s,mb4.8						
RRI2	Red Ridge	86.56	42	eP	P	20 41 50.5	+0.4
RRI2				epP	pP	20 43 54.0	+8.3
RRI2				ePP	PP	20 45 20.1	-2.3
TPAW	Teton Pass	86.86	42	eP	P	20 41 52.4	+0.9
REDW	Red Top Meadow	86.87	43	eP	P	20 41 51.9	+0.3
DAWY	Dawson	86.97	16	eP	P	20 41 50.6	-1.0
SNOW	Snow King Moun	86.98	43	eP	P	20 41 53.2	+1.1
CHMT	Chamberlain Mo	87.08	39	eP	P	20 41 52.5	-0.1
MOOW	Moose Ponds	87.12	42	eP	P	20 41 52.8	0.0
MOOW				epP	pP	20 43 55.6	+7.2
MOOW				ePP	PP	20 45 24.4	-2.8
LOHW	Long Hollow	87.14	42	eP	P	20 41 53.0	+0.1
QLMT	Earthquake Lak	87.19	41	eP	P	20 41 53.9	+0.9
QLMT				epP	pP	20 43 57.5	+8.7
YFT	Old Faithful	87.39	42	eP	P	20 41 55.7	+1.7
KMI	Kunming	87.39	297	eP	P	20 41 55.8	+1.3
KMI				AMB	AMB		
	comp=Z,10.0nm,1.5s,mb4.2						
YMR	Madison River	87.41	41	eP	P	20 41 55.5	+1.4
YMR				epP	pP	20 43 59.2	+9.4
PDAR	Pinedale Array	87.44	44	P	P	20 41 53.7	-0.6
	comp=Z,12nm,0.6s,mb4.7,baz=218,slow=3.6,SNR=126						
PDAR				pP	pP	20 43 57.1	+7.1
	comp=Z,1.5nm,1.0s,baz=243,slow=3.3,SNR=5.2						
PDAR				PP	PP	20 45 27.4	-2.4
	comp=Z,1.9nm,0.9s,baz=247,slow=6.9,SNR=9.4						
YNR	Norris Junctio	87.61	41	eP	P	20 41 56.5	+1.5
WALA	Waterton Lakes	87.77	37	eP	P	20 41 55.4	-0.3
	comp=Z,14nm,0.8s,mb4.7						
HRY	Holter Researc	87.84	39	eP	P	20 41 56.5	+0.4
CM31	Chiang Mai Arr	88.45	290	eP	P	20 42 00.8	+1.2
	comp=Z,2.1nm,0.6s,mb4.0						
CMAR	Chiang Mai Arr	88.45	290	P	P	20 42 00.3	+0.7
	comp=Z,4.7nm,0.8s,mb4.3,baz=100,slow=3.3,SNR=21						
SYO	Syowa Base	89.30	193	⇑P	P	20 42 01.0	-1.4
SYO	Syowa Base	89.30	193	⇑PcP	PcP	20 42 03.9	+0.3
EDM	Edmonton	90.17	33	eP	P	20 42 06.2	-0.5
LZH	Lanzhou	90.45	308	⇑P	P	20 42 09.5	+1.0
LZH				AMB	AMB		
	comp=Z,27nm,1.5s,mb4.9						
SNAA	Sanae	90.84	179	⇑iP	P	20 42 08.1	-1.3
SNAA	Sanae	90.84	179			20 46 57.6	
VNA3	Neumayer Olymp	91.00	177	⇓iP	P	20 42 11.7	+1.6
VNA3	Neumayer Olymp	91.00	177	⇑i		20 46 59.3	
VNA2	Neumayer--Watz	91.43	177	⇑iP	P	20 42 13.6	+1.5
VNA2	Neumayer--Watz	91.43	177	⇓i	P	20 42 14.1	+2.0
VNA2	Neumayer--Watz	91.43	177			20 47 00.4	
VNA1	Neumayer--Stat	91.66	177	⇓iP	P	20 42 15.1	+1.9
INK	Inuvik	91.76	15	P	P	20 42 12.6	-1.2
	comp=Z,11nm,0.8s,mb4.9,baz=208,slow=3.8,SNR=16						
INK	Inuvik	91.76	15	eP	P	20 42 12.0	-1.7
	comp=Z,24nm,1.1s,mb5.1						
SONM	Songino Array	93.13	319	P	P	20 42 19.8	-0.7
	comp=Z,0.7nm,0.5s,mb4.0,baz=121,slow=4.1,SNR=16						
YKA	Yellowknife Ar	94.28	25	P	P	20 42 24.7	-0.6
	comp=Z,7.3nm,1.0s,mb4.8,baz=241,slow=4.2,SNR=5.6						
BRVK	Borovoye	116.49	321	ePKPpre		20 47 27.7	
ARCES	ARCESS Array B	126.02	350	PKP	PKPdf	20 48 03.0	-0.6
	comp=Z,12nm,1.1s,baz=90,slow=0.9,SNR=15						
FINES	FINESS Array B	132.86	344	PKhKP		20 48 04.3	
	comp=Z,1.1nm,0.8s,baz=108,slow=6.0,SNR=3.9						
FINES				PKP	PKPdf	20 48 16.6	-0.2
	comp=Z,2.5nm,0.5s,baz=64,slow=3.4,SNR=14						
FINES	FINESS Array B	132.86	344	PKP	PKPdf	20 48 16.6	-0.2
NB2	NORSAR Subarra	136.10	353	PKP		20 48 12.5	
	comp=Z,0.5nm,0.5s,baz=17,slow=2.6						
NOA	NORSAR Array B	136.10	353	PKP	PKPdf	20 48 23.5	+0.8
	comp=Z,1.5nm,0.7s,baz=14,slow=4.1,SNR=4.8						
KMBO	Kilima Mbogo	139.89	246	PKP	PKPdf	20 48 31.4	+0.4
	comp=Z,0.8nm,0.5s,baz=56,slow=7.3,SNR=3.0						
KMBO				SKPbc		20 51 16.8	
	comp=Z,5.7nm,1.1s,baz=80,slow=2.3,SNR=3.9						
TSUM	Tsumeb	139.97	204	PKhKP		20 48 26.2	
	comp=Z,1.7nm,0.6s,baz=145,slow=4.2,SNR=5.6						
TSUM				PKP	PKPdf	20 48 31.6	+0.6
	comp=Z,1.9nm,0.5s,baz=123,slow=3.9,SNR=4.3						
AKASG	Malin Array Be	140.18	332	PKhKP		20 48 23.5	
	comp=Z,1.5nm,0.4s,baz=43,slow=4.0,SNR=11						
AKASG				PKP	PKPdf	20 48 32.5	+2.0
	comp=Z,2.4nm,0.4s,baz=35,slow=2.2,SNR=12						
KAHT	Ahir Dag	142.97	310	i P	PKPdf	20 48 34.7	-1.0
DMUB	Kingscourt	143.30	8	eP	PKPbc	20 48 34.0	-0.6
KWP	Kalwaria	143.71	336	ePKP	PKPdf	20 48 36.5	0.0
KWP	Kalwaria	143.71	336	ePKP	PKPdf	20 48 36.5	0.0
DCN	Croghan	143.79	9	eP	PKPbc	20 48 35.2	-0.9
KBRS	Khaybar	143.83	290	D		20 48 38.0	
RUE	Ruedersdorf	143.88	347	ePKPdf	PKPdf	20 48 36.3	-0.4
AVNT	Avonos	143.95	313	i P	PKPbc	20 48 36.6	-0.4
ELDT	Eldivan	144.12	316	i P	PKPbc	20 48 37.6	+0.1
OJC	Ojcow	144.26	339	ePKP	PKPdf	20 48 37.9	+0.4
BRTR	Keskin Array B	144.35	315	PKP	PKPdf	20 48 38.8	+0.8
	comp=Z,11nm,0.8s,baz=106,slow=3.1,SNR=35						
KOLS	Kolonicke sedl	144.44	336	i PKP	PKPdf	20 48 39.4	+1.6
SBD	Saint Breward	144.67	5	⇑eP	PKPdf	20 48 38.6	+0.5
WIT	Witteveen	144.67	354	ePdif	PKPdf	20 48 39.6	+1.4
ASF	Jabal al Asfar	144.74	301	PKP	PKPdf	20 48 39.7	+0.8
	comp=Z,5.4nm,0.6s,baz=22,slow=1.9,SNR=13						
NIE	Niedzica	144.77	338	ePKP	PKPdf	20 48 39.9	+1.5
KSP	Ksiaz	144.78	343	ePKP	PKPdf	20 48 40.0	+1.6
SGKT	Sivrigoynuk	144.98	317	i P	PKPdf	20 48 37.5	-1.5
YNBS	Yanbu‘ al Bahr	145.09	287	P	PKPdf	20 48 43.7	+3.9
OKC	Ostrava-Krasne	145.13	341	ePKP	PKPdf	20 48 40.9	+1.9
OKC				ex	x	20 48 43.8	
CLL	Collm	145.15	347	i PKIKP	PKPdf	20 48 40.2	+1.2
CLL				i PKP1	PKPbc	20 48 41.1	+1.1
CLL				i PKP2	PKPab	20 48 42.0	-1.5
CLL				i		20 48 44.2	
UPC	Upice	145.16	343	ePKP	PKPdf	20 48 40.9	+1.8
UPC				ex	x	20 48 42.8	
SSP1	Stoney Pound	145.16	5	⇑eP	PKPdf	20 48 40.1	+1.1
DPC	Dobruska-Polom	145.22	343	ePKP	PKPdf	20 48 41.3	+2.1
DPC				ex	x	20 48 43.2	
HRI	Mount Hermon	145.36	303	P	PKPdf	20 48 42.2	+2.2
HRI	Mount Hermon	145.36	303	⇑P	PKPdf	20 48 42.2	+2.2
MORC	Moravsky Berou	145.37	341	ePKPdf	PKPdf	20 48 41.4	+1.9
MLR	Muntele Rosu	145.44	329	PKPbc	PKPbc	20 48 40.3	-0.5
	comp=Z,8.1nm,0.6s,baz=321,slow=12,SNR=9.6						
KECS	Kecovo	145.49	337	i PKP	PKPdf	20 48 42.3	+2.6
HTR	Trewern Hill	145.49	5	⇑eP	PKPdf	20 48 40.8	+1.3
HTR				AMb	AMB	20 48 42.3	
	comp=Z,50nm,1.7s						
WTSB	Winterswijk	145.50	354	ePdif	PKPdf	20 48 41.4	+1.8
	comp=Z,35nm,1.0s						
PVCC	Panska Ves	145.52	345	ePKP	PKPdf	20 48 42.3	+2.6
PVCC				ex	x	20 48 45.0	
HAE	Alders End	145.58	4	⇑eP	PKPdf	20 48 41.2	+1.5
HAE				AMb	AMB	20 48 42.8	
	comp=Z,164nm,1.3s						
GLH	Golan-Tel Qazi	145.60	302	P	PKPdf	20 48 42.9	+2.5
UMJS	Umm Lajj	145.64	289	P	PKPdf	20 48 43.9	+3.2
HMDT	Nahal Hemdat	145.83	302	P	PKPdf	20 48 43.4	+2.6
MMLI	Mount Malkishu	145.86	302	P	PKPdf	20 48 44.1	+3.2
MMLI	Mount Malkishu	145.86	302	⇑P	PKPdf	20 48 44.1	+3.2
HNTI	Hanita	145.87	303	P	PKPdf	20 48 43.5	+2.7
TBKS	Tabuk	145.91	294	P	PKPdf	20 48 43.9	+2.9
HGH	Gray Hill	145.96	4	eP	PKPdf	20 48 42.1	+1.7
HGH				AMb	AMB	20 48 45.8	
	comp=Z,105nm,1.5s						
PRU	Pruhonice	146.02	345	ePKP	PKPdf	20 48 43.0	+2.5
PRU				ex	x	20 48 45.7	
MOX	Moxa	146.07	348	i P	PKPdf	20 48 43.4	+2.8
	comp=Z,logA/T=1.4						
OFRI	‘Ofer	146.16	303	P	PKPdf	20 48 44.5	+3.2
PSZ	Piszkesteto	146.18	337	⇑ePKP/p		20 48 44.0	
SLTI	Sal'it	146.23	302	P	PKPdf	20 48 44.9	+3.4
NKC	Novy Kostel	146.28	347	ePKP	PKPdf	20 48 43.9	+2.9
NKC				ex	x	20 48 47.6	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
JMQS	Jabal Moqyreh	146.36	296	P	PKPdf	20 48 45.7	+3.9
ZFRI	Zfri	146.58	299	P	PKPdf	20 48 45.4	+3.3
DBAS	Duba	146.58	293	P	PKPdf	20 48 45.5	+3.3
HGN	Heimansgroeve	146.77	355	ePdif	PKPdf	20 48 45.4	+3.7
	comp=Z,18nm,1.6s						
PRNI	Paran	146.77	299	P	PKPdf	20 48 45.9	+3.5
ZST	Bratislava	146.90	340	i PKP	PKPdf	20 48 46.8	+4.8
SRO1	Iza	146.90	339	ePKP	PKPdf	20 48 45.8	+3.8
JMOS	Jabal al Moall	146.96	296	P	PKPdf	20 48 46.6	+3.8
AYUS	‘Aynunah	147.03	295	P	PKPdf	20 48 47.1	+4.2
KHC	Kasperske Hory	147.06	345	ePKP	PKPdf	20 48 43.2	+1.0
KHC				ex	x	20 48 46.0	
KHC				ex	x	20 48 49.9	
KMTI	Karmit	147.07	298	P	PKPdf	20 48 47.0	+4.1
ULDT	Uludag	147.08	319	i P	PKPdf	20 48 43.4	+0.8
BDAS	Al Bad‘	147.12	295	P	PKPdf	20 48 46.7	+3.7
HAQS	Haql	147.14	296	P	PKPdf	20 48 46.8	+3.8
GERES	GERESS Array B	147.29	345	PKPbc	PKPdf	20 48 46.6	+4.0
	comp=Z,12nm,0.5s,baz=22,slow=3.1,SNR=126						
GIVF	Givet	147.52	356	ePKP1	PKPdf	20 48 46.9	+4.0
	comp=Z,75nm,0.8s						
BAIF	Baives	147.60	356	ePKP1	PKPdf	20 48 47.4	+4.3
	comp=Z,34nm,0.6s						
MOA	Molln	148.06	343	⇓iP	PKPdf	20 48 48.7	+4.8
ARSA	Arzberg	148.23	341	⇑iP	PKPdf	20 48 48.5	+4.3
LANF	Langenberg	148.31	352	PKP	PKPdf	20 48 49.0	+4.8
FUR	Furstenfeldbru	148.49	347	ePKPbc	PKPdf	20 48 49.7	+5.1
FUR				ePKPab	PKPab	20 48 55.6	-1.1
STR	Strasbourg	148.71	352	PKP	PKPdf	20 48 50.8	+5.9
WLS	Welschbruch	148.93	352	PKP	PKPdf	20 48 50.6	+5.3
CDF	Champ du Feu	148.94	352	ePKP1	PKPdf	20 48 50.6	+5.3
	comp=Z,34nm,0.6s						
GROS	Grobnik	148.94	341	i PKPbc	PKPdf	20 48 50.3	+5.0
FLN	La Foliniere	148.96	2	ePKP1	PKPdf	20 48 50.1	+4.8
	comp=Z,32nm,0.5s						
MEZF	Maizieres J’vi	149.09	355	ePKP1	PKPdf	20 48 51.1	+5.6
	comp=Z,42nm,0.7s						
LDF	La Druitiere	149.14	2	ePKP1	PKPdf	20 48 50.5	+4.9
	comp=Z,29nm,0.5s						
ECH	Echery	149.15	352	PKP	PKPdf	20 48 50.9	+5.3
OBKA	Obir	149.19	342	⇑iP	PKPdf	20 48 52.2	+6.5
DIVS	Divcibare	149.26	333	⇑iP	PKPdf	20 48 52.1	+6.2
WTTA	Wattenberg	149.26	346	⇓iP	PKPdf	20 48 51.4	+5.6
THEF	They Montfort	149.28	354	PKP	PKPdf	20 48 51.6	+5.8
MOTA	Moosalm	149.31	347	⇑iP	PKPdf	20 48 51.3	+5.4
GRR	Gorron	149.32	3	ePKP1	PKPdf	20 48 51.2	+5.3
	comp=Z,62nm,0.6s						
SGMF	Saint Gilles	149.35	5	ePKP1	PKPdf	20 48 50.9	+5.0
	comp=Z,32nm,0.7s						
LEGS	Legarje	149.46	340	i PKPbc	PKPdf	20 48 52.0	+5.8
MOF	Molkenrain	149.51	352	PKP	PKPdf	20 48 51.8	+5.6
HINF	Hinteralfeld	149.58	352	ePKP1	PKPdf	20 48 52.1	+5.8
	comp=Z,20nm,0.8s						
DAVA	Damuels	149.62	348	⇑iP	PKPdf	20 48 52.5	+6.1
LJU	Ljubljana	149.62	341	ePKPbc	PKPdf	20 48 52.1	+5.7
LOMF	Lomont	150.04	352	PKP	PKPdf	20 48 52.0	+4.9
LOR	Lormes	150.41	356	ePKP1	PKPdf	20 48 54.0	+6.4
	comp=Z,46nm,0.5s						
HYF	Humbligny	150.46	358	ePKP1	PKPdf	20 48 54.4	+6.7
SSF	Saint Saulge	150.63	357	ePKP1	PKPdf	20 48 54.5	+6.5
	comp=Z,32nm,0.4s						
CABF	La Chapelle	150.86	353	ePKP1	PKPdf	20 48 55.5	+7.2
	comp=Z,39nm,0.8s						
AVF	Avril sur Loir	150.91	357	ePKP1	PKPdf	20 48 54.8	+6.4
	comp=Z,12nm,0.6s						
SMF	Signal de Mont	151.03	356	ePKP1	PKPdf	20 48 55.2	+6.6
MFF	Saint Martin d	151.13	2	ePKP1	PKPdf	20 48 55.4	+6.7
	comp=Z,42nm,0.7s						
BGF	Bois d’Agland	151.16	358	ePKP1	PKPdf	20 48 55.6	+6.8
	comp=Z,32nm,0.7s						
TCF	Toulx Ste Croi	151.46	359	ePKP1	PKPdf	20 48 56.1	+6.9
	comp=Z,19nm,0.8s						
AGO	Saint Agoulin	151.66	357	PKP	PKPdf	20 48 57.5	+8.0
LPL	La Plagne	151.86	352	ePKP1	PKPdf	20 48 58.1	+8.3
	comp=Z,18nm,0.9s						
LPG	La Plagne	151.87	352	ePKP1	PKPdf	20 48 58.3	+8.5
	comp=Z,20nm,0.9s						
PYM	Petit Puy Mans	151.96	357	PKP	PKPdf	20 48 58.2	+8.3
RJF	Les Rejaudoux	152.45	360	ePKP1	PKPdf	20 48 58.7	+8.1
	comp=Z,13nm,0.6s						
LBL	Lubilhac	152.47	357	PKP	PKPdf	20 49 00.3	+10
ORIF	Oris-en-Rattie	152.56	353	ePKP1	PKPdf	20 48 59.1	+8.3
	comp=Z,14nm,0.7s						
IDI	Anoyia	152.59	314	PKPbc	PKPdf	20 49 00.4	+9.3
	comp=Z,16nm,1.0s,baz=51,slow=11,SNR=8.3						
MBDF	Montbardon	152.63	351	ePKP1	PKPdf	20 48 59.8	+8.9
	comp=Z,22nm,0.7s						
VIVF	Saint-Julien-l	152.74	355	ePKP1	PKPdf	20 48 59.4	+8.4
LFF	La Frestale	152.81	1	ePKP1	PKPdf	20 48 59.1	+8.0
CAF	Calviac	152.82	359	ePKP1	PKPdf	20 48 59.4	+8.3
	comp=Z,5.9nm,0.5s						
PRAF	Pradon	153.74	353	PKP	PKPdf	20 49 01.2	+8.8
TREF	Trevaresse	153.89	353	PKP	PKPdf	20 49 00.5	+7.9
BERF	Bertagne	154.16	352	PKP	PKPdf	20 48 58.9	+5.9
ETSF	Etsaut	154.81	3	ePKP1	PKPdf	20 49 05.2	+11
ESDC	Sonseca Array	157.62	11	PKPab	PKPab	20 49 33.6	-1.8
	comp=Z,1.2nm,0.5s,baz=345,slow=5.4,SNR=9.5						

*MOS **13** 20:35:38.5±1.3, 6.00S×130.54E, h77km, mb6.2/38, Error ellipse: s-maj=10.0km s-min=6.3km az=109.0*

*BJI **13** 20:35:38.8, 6.19S×130.91E, h101km, mB5.9, mb5.9*

*HRVD **13** 20:35:41.0±0.1, 6.06S×130.68E, h91km, MW5.8/80, Centroid moment Tensor Solution. LP body waves: s76,c163;Mantle waves: s80,c178; Half duration: 2.0s Moment tensor: Scale 10^{17}Nm; M_{rr}4.27±.07; $M_{\theta\theta}$-7.68±.07; $M_{\phi\phi}$3.41±.08; $M_{r\theta}$0.45±.06; $M_{\theta\phi}$-0.62±.08; $M_{\phi r}$1.17±.06; Best double couple: $M_0$6.41×10^{17} NP1: ϕ_s297°,δ52°,λ136°. NP2:ϕ_s58°,δ57°,λ47°. Principal axes: T 5.09, Plg55°, Azm270°; N 2.65, Plg35°, Azm85°; P -7.74, Plg2°, Azm177°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **13** 20:35:41.0±0.1, 6.07S×130.53E, mb5.9/65, MW5.8 Error ellipse: s-maj=4.2km s-min=3.6km az=58.0, Moment Tensor Solution. s18 Moment tensor: Scale 10^{17}Nm; M_{rr}4.35; $M_{\theta\theta}$-5.26; $M_{\phi\phi}$0.91; $M_{r\theta}$0.50; $M_{\theta\phi}$0.74; $M_{\phi r}$1.96; Best double couple: $M_0$5.3×10^{17} NP1:ϕ_s300°,δ49°,λ124°. NP2:ϕ_s74°,δ52°,λ57°. Principal axes: T 5.29, Plg65°, Azm280°; N .06, Plg25°, Azm95°; P -5.35, Plg2°, Azm186°;*

*DJA **13** 20:35:43.1±0.8, 6.36S×131.00E, h254km±16km, mb5.2/5, MD5.4/5 Error ellipse: s-maj=45.9km s-min=5.1km az=174.0*

*IDC **13** 20:35:44.4±0.5, 6.02S×130.66E, h116km±3km, mb5.5/21, mb1 5.5/24, mb1mx5.5/24, MS4.9/14, Ms1 5.0/14, ms1mx4.9/19, Error ellipse: s-maj=13.9km s-min=7.7km az=71.0*

*SYO **13** 20:35:44.4, 6.03S×130.55E, h118km, MB5.9*

ISC 13 20:35:42.1±0.1**, 6.09S**±0.02×**130.54E**±0.02**, h114**km**, h114**km±1.9km**:pP-P, n689,** σ1.19/411**, mb6.0**/111**, 89C-37D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	6.82	165	eP	P	20 37 20.7	-0.3
BUNI	Buntu Taipa	10.46	283	⇓eP	P	20 38 14.6	+4.5
	88nm,0.3s						
BUNI	Buntu Taipa	10.46	283	⇓eP	P	20 38 14.8	+4.7
	44nm,0.3s						
MENI	Mendum Tagoi	10.47	71	eP	P	20 38 04.0	-6.2
MENI				⇑eS	S	20 39 55.1	-11
MENI	Mendum Tagoi	10.47	71	eP	P	20 38 03.8	-6.5
MENI				eS	S	20 39 57.6	-8.4
YOMI	Yo Moklole	10.56	71	⇓eP	P	20 38 05.3	-6.1
	2µm,0.7s						
YOMI				⇑eS	S	20 39 57.6	-11
YOMI	Yo Moklole	10.56	71	⇓eP	P	20 38 05.4	-6.0
NINI	Niniconang	10.87	278	⇓eP	P	20 38 19.5	+4.0
TANI	Tanete Lipujan	11.43	283	⇑eP	P	20 38 26.8	+3.9
	292nm,0.9s						
TANI	Tanete Lipujan	11.43	283	⇑eP	P	20 38 26.9	+4.0
FITZ	Fitzroy Crossi	12.86	201	eP	P	20 38 35.4	-6.3
	2µm,0.7s						
FITZ	Fitzroy Crossi	12.86	201	P	P	20 38 35.3	-6.5
	99nm,0.3s,baz=23,slow=8.7,SNR=286						
FITZ				S	S	20 40 48.0	-15
	66nm,0.3s,baz=24,slow=19,SNR=6.5						
FITZ				LR	LR	20 44 28.0	
	comp=Z,6µm,19.1s,baz=50,slow=40						
FITZ	Fitzroy Crossi	12.86	201	eP	P	20 38 35.4	-6.3
	2µm,0.7s						
FITZ	Fitzroy Crossi	12.86	201	eS	S	20 40 49.2	-13
DAV	Davao City (W)	13.98	339	⇓eP	P	20 38 55.0	-1.4
KCP	Kidapawan	14.11	337	⇑eP	P	20 39 03.0	+5.1
WRAB	Tennant Creek	14.25	165	Pn	P	20 38 51.0	-8.8
	18µm,0.6s						
WRAB	Tennant Creek	14.25	165	eP	P	20 38 51.3	-8.5
WRA	Warramunga Arr	14.25	165	P	P	20 38 51.4	-8.4
	59nm,0.3s,baz=351,slow=13,SNR=144						
WRA				S	S	20 41 20.4	-15
	156nm,0.3s,baz=349,slow=22,SNR=12						
WRA				P3KPbc		21 14 30.4	
	0.1nm,0.3s,baz=161,slow=3.0,SNR=6.7						
WB2	Warramunga Arr	14.26	165	eP	P	20 38 51.5	-8.4
WB2				eS	S	20 41 21.1	-14
KEDI	Kedomdong	14.51	260	⇑eP	P	20 39 03.0	-0.1
KEDI				⇑eS	S	20 41 42.2	+0.9
KEDI	Kedomdong	14.51	260	⇓eP	P	20 39 02.9	-0.2
CTBH	Cotabato--PC H	14.64	335	⇓eP	P	20 39 02.6	-2.3
CTBH				i S	tx	20 39 48.1	
BUKP	Musuan	14.92	338	eP	P	20 39 05.5	-2.8
RATI	Rata	15.11	259	⇓eP	P	20 39 10.5	-0.3
RATI				⇑eS	S	20 41 54.6	-0.6
RATI	Rata	15.11	259	⇑eP	P	20 39 08.1	-2.7
PAGZ	Pagadian	15.58	333	eP	P	20 39 13.2	-3.5
CGP	Cagayan de Oro	15.58	338	⇓eP	P	20 39 16.1	-0.7
BUTP	Butuan	15.74	342	eP	P	20 39 17.3	-1.5
IPIL	Ipil	15.91	330	eP	P	20 39 18.5	-2.4
KELI	Kelakatan	16.06	262	⇑eP	P	20 39 22.1	-0.6
	255nm,0.5s						
KELI				eS	S	20 42 15.6	-1.3
KELI	Kelakatan	16.06	262	⇑eP	P	20 39 23.1	+0.4
	255nm,0.5s						
WAU	Wau	16.11	95	eP	P	20 39 20.6	-2.8
DCPH	Dipolog City	16.25	334	eP	P	20 39 26.5	+1.5
SRDI	Scrawed	16.44	261	⇑eP	P	20 39 24.9	-2.5
	587nm,0.3s						
SRDI				⇓eS	S	20 42 22.9	-2.5
SRDI	Scrawed	16.44	261	⇑eP	P	20 39 25.2	-2.2
	293nm,0.3s						
SCPH	Surigao	16.55	342	eP	S	20 42 35.2	+7.1
SCPH				eS	Sx	20 42 54.6	
PMG	Port Moresby	16.79	102	P	P	20 39 28.4	-3.4
	27nm,0.3s,baz=297,slow=7.6,SNR=115						
PMG				S	S	20 42 22.5	-11
	23nm,0.3s,baz=174,slow=21,SNR=9.1						
PMG	Port Moresby	16.79	102	eP	P	20 39 29.2	-2.6
SNPH	Sibulan	16.97	335	⇓eP	P	20 39 34.0	0.0
TBP	Tagbilaran	17.03	337	eP	P	20 39 33.3	-1.4
TBP	Tagbilaran	17.03	337	eP	S	20 42 47.5	+8.7
LLP	Lapu-Lapu	17.57	338	⇓iP	P	20 39 40.9	-0.5
ASPA	Alice Springs	17.77	170	eP	P	20 39 38.9	-4.8
ASPA				eS	S	20 43 14.0	+19
ASPA				eSCS	ScS	20 51 19.1	+0.9
PLP	Palo	18.02	342	i P	P	20 39 46.9	+0.2
PLP	Palo	18.02	342	i P	S	20 43 02.7	+2.1
OCLP	Ormoc	18.02	341	eP	P	20 39 45.9	-0.8
MBWA	Marble Bar	18.27	214	eP	P	20 39 47.3	-2.3
	691nm,0.6s						
KKM	Kota Kinabalu	18.70	310	⇑eP	P	20 39 54.3	0.0
RCP	Roxas	19.18	336	⇓eP	P	20 39 59.9	+0.5
RCP	Roxas	19.18	336	⇑eP	S	20 43 39.1	+14
CUYO	Cuyo Island	19.32	331	eP	P	20 40 00.6	-0.3
CNP	Catarman	19.38	342	eP	P	20 40 00.6	-1.0
KALP	Kalibo	19.45	335	⇑eP	P	20 40 06.6	+4.3
OTRP	Odiongan	20.20	335	eP	P	20 40 09.2	-0.9
PVCP	Virac	20.56	342	eP	P	20 40 11.9	-1.8
CTA	Charters Tower	20.65	134	eP	P	20 40 13.4	-1.2
	566nm,0.9s						
CTA				eS	S	20 43 52.5	-1.3
CTA	Charters Tower	20.65	134	P	P	20 40 13.2	-1.4
	772nm,1.0s,baz=312,slow=12,SNR=167						
CTA				S	S	20 43 56.5	+2.6
	165nm,0.8s,baz=26,slow=20,SNR=4.4						
CTA				LR	LR	20 48 56.3	
	comp=Z,5µm,18.7s,baz=319,slow=38						
CTA	Charters Tower	20.65	134	P	P	20 40 13.2	-1.4
CTA				S	S	20 43 56.5	+2.7
CTA				pmax	pmax		
	comp=Z,772nm,1.0s						
CTA				smax			
	comp=N,165nm,0.8s						
CTA				MLR	MLR		
	comp=Z,5µm,18.7s						
CTAO	Charters Tower	20.65	134	eP	P	20 40 13.2	-1.4
CTAO				pmax	pmax		
	comp=Z,750nm,1.0s						
CTAO	Charters Tower	20.65	134	eP	P	20 40 13.2	-1.4
	comp=Z,748nm,0.9s						
SJMP	San Jose	20.68	333	eP	P	20 40 16.3	+1.4
BUSP	Coron	20.71	330	eP	P	20 40 15.3	0.0
AUQP	San Andres	20.81	338	eP	P	20 40 19.2	+2.9
BOAC	Boac	21.26	336	eP	P	20 40 22.3	+1.6
GQP	Guinayangan	21.43	338	⇓eP	P	20 40 23.3	+0.9
GQP	Guinayangan	21.43	338	eP	S	20 44 12.2	+4.1
RAB	Rabaul	21.62	86	eP	P	20 40 22.7	-1.6
LQP	Lukban	21.97	336	⇓eP	P	20 40 29.4	+1.7
LQP	Lukban	21.97	336	⇓eP	S	20 44 22.3	+4.5
LUBP	Lubang	22.19	333	⇑eP	P	20 40 31.6	+1.7
LUBP	Lubang	22.19	333	eP	P	20 40 31.9	+2.0
TGY	Tagaytay City	22.21	335	⇓eP	P	20 40 32.1	+2.1
TGY				eS		20 40 51.8	
POLP	Polilio Island	22.38	338	eP	P	20 40 32.5	+0.9
NBP	Mount Natib	23.00	334	eP	P	20 40 36.1	-1.8
BALP	Baler	23.44	338	eP	P	20 40 42.0	-0.1
PCPH	Palayan	23.46	337	⇑eP	P	20 40 43.8	+1.5
SCZP	Santa Cruz	24.14	334	eP	P	20 40 47.7	-1.2
GUMO	Guam	24.18	36	eP	P	20 40 48.5	-0.7
GUMO				pmax	pmax		
	comp=Z,670nm,1.0s,mb5.9						
GUMO	Guam	24.18	36	eP	P	20 40 48.5	-0.7
	comp=Z,675nm,1.0s,mb5.9						
BCPH	Baguio City Da	24.41	336	⇑iP	P	20 40 52.5	+1.1
FORT	Forrest	24.67	185	eP	P	20 40 53.2	-0.6
	comp=Z,3µm,0.7s,mb6.9						
FORT				eS	S	20 45 06.7	+2.5
BOLP	Bolinao	24.68	335	eP	P	20 40 53.3	-0.7
PASI	Pasiripis	24.80	267	⇓eP	P	20 40 46.9	-8.3
PASI	Pasiripis	24.80	267	⇓eP	P	20 40 54.9	-0.3
CVP	Callao Caves	25.16	340	eP	P	20 40 57.5	-1.1
PENI	Pendagan	25.24	270	⇑eP	P	20 40 51.1	-8.3
PENI	Pendagan	25.24	270	⇓eP	P	20 40 59.0	-0.4
ABRA	Dolores	25.51	338	eP	P	20 41 00.4	-1.4
APYP	Conner	25.51	339	eP	P	20 40 58.9	-2.9
STKA	Stephens Creek	27.66	159	eP	P	20 41 19.7	-1.7
	comp=Z,202nm,0.6s,mb5.8						
STKA				eS		20 46 31.7	
STKA	Stephens Creek	27.66	159	P	P	20 41 19.7	-1.7
	comp=Z,193nm,0.5s,mb5.9,baz=334,slow=8.4,SNR=219						
STKA				pP	pP	20 41 47.0	+0.9
	comp=Z,633nm,1.1s,baz=334,slow=12,SNR=7.1						
STKA				S	S	20 45 49.0	-4.3
	comp=Z,142nm,1.0s,baz=12,slow=8.5,SNR=3.3						
STKA				LR	LR	20 53 32.8	
	comp=Z,20µm,19.2s,baz=334,slow=39						
KLBR	Kellerberrin	28.05	204	eP	P	20 41 24.4	-0.5
	comp=Z,96nm,0.6s,mb5.5						
KLBR				eS	S	20 46 00.5	+0.9
KGM	Kluang	28.35	286	⇓eP	P	20 41 27.8	0.0
MUN	Mundaring	29.03	206	eP	P	20 41 32.9	-0.8
	comp=Z,468nm,1.0s,mb6.1						
NWAO	Narrogin (SRO)	29.43	203	P	P	20 41 36.2	-1.0
	comp=Z,61nm,0.7s,mb5.4,baz=37,slow=7.9,SNR=66						
NWAO				pP	pP	20 42 04.0	+1.8
	comp=Z,70nm,0.7s,baz=19,slow=14,SNR=4.9						
NWAO				S	S	20 46 18.8	-2.7
	comp=Z,42nm,0.6s,baz=79,slow=11,SNR=1.9						
NWAO				LR	LR	20 54 08.2	
	comp=Z,6µm,20.9s,baz=184,slow=37						
NWAO	Narrogin (SRO)	29.43	203	P	P	20 41 36.2	-1.1
NWAO				*PP	pP	20 42 04.0	+1.8
NWAO				S	S	20 46 18.8	-2.7
NWAO				pmax	pmax		
	comp=Z,61nm,0.7s						
NWAO				pmax	pmax		
	comp=N,70nm,0.7s						
NWAO				smax			
	comp=N,42nm,0.6s						
NWAO				MLR	MLR		
	comp=Z,6µm,20.9s						
NWAO	Narrogin (SRO)	29.43	203	eP	P	20 41 37.4	+0.1
	comp=Z,38nm,0.8s,mb5.1						
ADE	Adelaide	29.71	166	⇓iP	P	20 41 39.0	-0.7
IPM	Ipoh	31.32	289	⇓eP	P	20 41 53.5	-0.6
MRPI	Mariponipon	32.10	283	⇓eP	P	20 41 59.7	-1.2
QIZ	Qiongzhong	32.23	321	P	P	20 42 01.8	-0.2
QIZ				S	S	20 47 04.0	-1.6
QIZ				XS		20 47 50.8	
QIZ				SS	SS	20 49 09.3	+1.6
QIZ				AMB	AMB		
	comp=Z,96nm,1.4s,mb5.3						
QIZ				AMB	AMB		
	comp=Z,591nm,6.3s						
QIZ	Qiongzhong	32.23	321	eP	P	20 42 01.0	-1.0
	comp=Z,181nm,1.3s,mb5.6						
SNG	Songkhla	32.63	293	P	P	20 42 04.0	-1.5
	comp=Z,160nm,1.0s,mb5.8						
JOW	Kunigami	32.80	356	P	P	20 42 06.9	+0.1
	comp=Z,205nm,0.8s,mb6.0,baz=185,slow=8.0,SNR=13						
JOW				LR	LR	20 53 42.1	
	comp=Z,3µm,21.8s,baz=145,slow=33						
QZH	Quanzhou	32.97	340	⇑iP	P	20 42 04.6	-3.7
QZH				XP	sP	20 42 43.3	-3.9
QZH				S	S	20 47 15.9	-1.0
QZH				AMB	AMB		
	comp=Z,510nm,1.5s,mb6.1						
QZH				LR	LR		
	comp=N,1µm,11.2s						
QZH				LR	LR		
	comp=E,830nm,6.7s						
QZH				LR	LR		
	comp=Z,3µm,21.4s						
AEKI	Aeknabara	33.06	283	⇑eP	P	20 42 07.1	-2.0
GZH	Guangzhou	33.52	330	P	P	20 42 14.3	+1.3
GZH				LR	LR		
	comp=N,2µm,26.2s						
GZH				LR	LR		
	comp=E,1µm,22.5s						
GZH				LR	LR		
	comp=Z,4µm,41.3s						
RIV	Riverview	33.57	148	eP	P	20 42 13.7	+0.3
RIV				eS	Sx	20 49 20.5	
CNB	Canberra Magne	33.86	152	eP	P	20 42 15.0	-0.8
	comp=Z,254nm,0.7s,mb6.2						
CNB				eS	Sx	20 49 15.5	
TOO	Toolangi	34.17	159	eP	P	20 42 18.7	+0.3
	comp=Z,93nm,0.5s,mb5.9						
TOO				eS	Sx	20 49 08.9	
CBIJ	Chichi jima	34.87	18	P	P	20 42 22.2	-2.2
	comp=Z,56nm,0.4s,mb5.8,baz=257,slow=19,SNR=13						
CBIJ				S	S	20 47 41.5	-4.7
	comp=Z,505nm,1.2s,baz=85,slow=24,SNR=9.6						
KKTK	Khon Kaen	35.34	309	P	P	20 42 29.0	+0.5
NNT	Nongplab	35.80	301	P	P	20 42 32.8	+0.3
NST	Nakhon Sawan	37.07	306	P	P	20 42 34.9	-8.3
	comp=Z,238nm,1.2s,mb6.0						
NOUC	Port Laguerre	38.02	118	⇑iP	P	20 42 49.9	-1.2
NOUC	Port Laguerre	38.02	118	⇑iP	P	20 42 49.9	-1.2
SSE	Sheshan	38.05	347	P	P	20 42 51.3	+0.2
SSE				AP	pP	20 43 14.3	-2.9
SSE				S	S	20 48 38.1	+3.4
SSE				AMB	AMB		
	comp=Z,84nm,1.2s,mb5.5						
SSE				AMB	AMB		
	comp=Z,376nm,6.2s						
SSE				LR	LR		
	comp=N,1µm,38.0s						
SSE				LR	LR		
	comp=E,791nm,37.9s						
SSE				LR	LR		
	comp=Z,1µm,36.4s						
DZM	Mont Dzumac	38.14	118	⇑eP	P	20 42 51.3	-0.6
NANT	Nan	38.43	311	PG	P	20 42 55.5	+1.1
NANT				SG	Px	20 42 56.0	
BDT	Bhumibol Dam	38.84	307	⇑P	P	20 42 59.0	+1.1
	comp=Z,160nm,0.8s,mb5.9						
NJ2	Nanjing	39.53	344	eP	P	20 43 04.3	+0.8
NJ2				PP	PP	20 44 43.0	+3.4
NJ2				PPP	PPP	20 45 11.5	+5.0
NJ2				S	S	20 48 59.0	+1.9
NJ2				AMB	AMB		
	comp=Z,260nm,1.0s,mb6.0						
NJ2				AMB	AMB		
	comp=Z,2µm,4.6s						
NJ2				LR	LR		
	comp=N,2µm,15.9s						
NJ2				LR	LR		
	comp=E,2µm,18.8s						
NJ2				LR	LR		
	comp=Z,3µm,16.7s						
TAU	Tasmania Unive	39.55	161	eP	P	20 43 04.4	+0.9
TAU				e		20 44 34.6	
TAU				pmax	pmax		
	comp=Z,68nm,0.8s,mb5.5						
TAU	Tasmania Unive	39.55	161	eP	P	20 43 04.3	+0.8
	comp=Z,68nm,0.8s,mb5.5						
TAU				ePP	PP	20 44 34.6	-5.1
CM31	Chiang Mai Arr	39.57	309	eP	P	20 43 04.9	+1.0
	comp=Z,253nm,0.8s,mb6.1						
CM31				ePcP	PcP	20 45 08.9	-0.7
CM31				eScP		20 48 49.7	
CMAR	Chiang Mai Arr	39.57	309	P	P	20 43 05.1	+1.2
	comp=Z,148nm,0.6s,mb6.0,baz=138,slow=7.4,SNR=513						
CMAR				PcP	PcP	20 45 11.7	+2.0
	comp=Z,34nm,0.9s,baz=146,slow=2.3,SNR=6.5						
CMAR				S	S	20 48 51.1	-6.6
	comp=Z,14nm,1.0s,baz=136,slow=2.5,SNR=7.8						
CMAR				LR	LR	20 59 18.0	
	comp=Z,1µm,19.5s,baz=7.9,slow=36						
CMAR	Chiang Mai Arr	39.57	309	P	P	20 43 05.1	+1.2
CMAR						20 45 11.7	
CMAR				S	S	20 48 51.2	-6.6
CMAR				pmax	pmax		
	comp=Z,149nm,0.6s						
CMAR				pmax	pmax		
	comp=Z,34nm,0.9s						
CMAR				smax			
	comp=N,14nm,1.0s						
CMAR				MLR	MLR		
	comp=Z,1µm,19.5s						
WHN	Wuhan	39.59	338	⇑P	P	20 43 04.9	+0.9
WHN				AP	pP	20 43 28.3	-1.8
WHN				XP	sP	20 43 43.3	-0.3
WHN				PPP	PPP	20 45 04.0	-3.3
WHN				S	S	20 48 59.3	+1.3
WHN				AMB	AMB		
	comp=Z,349nm,1.3s,mb6.0						
WHN				AMB	AMB		
	comp=Z,2µm,5.0s						
WHN				LR	LR		
	comp=Z,2µm,18.2s						
GYA	Guiyang	39.78	325	⇑iP	P	20 43 06.1	+0.5
GYA				AP	pP	20 43 32.4	+0.6
GYA				XP	sP	20 43 45.6	+0.4
GYA				PP	PP	20 44 48.0	+5.6
GYA				PCP	PcP	20 45 11.3	+1.0
GYA				SCP		20 48 50.9	
GYA				S	S	20 49 00.3	-0.6
GYA				XS		20 49 44.3	
GYA				AMB	AMB		
	comp=Z,150nm,1.7s,mb5.5						
GYA				AMB	AMB		
	comp=Z,540nm,4.8s						
GYA				LR	LR		
	comp=N,2µm,14.2s						
GYA				LR	LR		
	comp=E,2µm,17.6s						
GYA				LR	LR		
	comp=Z,2µm,17.3s						
KMI	Kunming	41.16	320	eP	P	20 43 18.5	+1.6
KMI				AP	pP	20 43 46.5	+3.4
KMI				PP	PP	20 44 59.4	+2.9
KMI				PCP	PcP	20 45 16.3	+1.6
KMI				SCP		20 48 57.8	
KMI				PCS		20 49 06.1	
KMI				S	S	20 49 22.9	+1.6
KMI				SS	SS	20 52 31.3	+7.7
KMI				AMB	AMB		
	comp=Z,162nm,1.3s,mb5.7						
KMI				AMB	AMB		
	comp=Z,1µm,6.0s						
KMI				LR	LR		
	comp=N,1µm,15.5s						
KMI				LR	LR		
	comp=E,2µm,16.4s						
KMI				LR	LR		
	comp=Z,2µm,41.0s						
ENH	Enshi	41.41	332	eP	P	20 43 18.9	-0.1
	comp=Z,111nm,0.7s,mb5.8						

MAJO Matsushiro 43.02 9 *e*P **P** **20 43 30.4 -1.6**
MAJO pmax pmax
comp=Z,110nm,1.0s,mb5.5
MAJO Matsushiro 43.02 9 *e*P **P** **20 43 30.4 -1.6**
comp=Z,112nm,1.0s,mb5.5
MAT Matsushiro 43.02 9 P **P** **20 43 30.4 -1.6**
MAT S **S** **20 49 43.0 -5.4**
MAT Matsushiro 43.02 9 *e*P **P** **20 43 30.0 -2.0**
comp=Z,133nm,1.1s,mb5.6
MAT *e*S **S** **20 49 44.0 -4.4**
KS15 Wonju Array Si 43.38 357 *e*P **P** **20 43 35.0 0.0**
INCN Inchon 43.50 355 *e*P **P** **20 43 35.7 -0.3**
comp=Z,74nm,0.9s,mb5.4
CD2 Chengdu 44.84 327⇑ *i*P **P** **20 43 46.3 -0.5**
CD2 AP pP 20 44 11.3 -1.9
CD2 XP sP 20 44 23.8 -2.6
CD2 PP PP 20 45 35.9 +1.8
CD2 PPP PPP 20 46 07.1 -9.4
CD2 S **S** **20 50 12.3 -2.5**
CD2 XS 20 51 00.6
CD2 SS SS 20 53 33.8 +3.6
CD2 AMB AMB
comp=Z,90nm,1.1s,mb5.4
CD2 AMB AMB
comp=Z,430nm,6.9s
CD2 LR LR
comp=N,930nm,19.2s
CD2 LR LR
comp=Z,950nm,16.8s
XAN Xi'an 44.85 334 P **P** **20 43 44.5 -2.3**
XAN AP pP 20 44 09.3 -4.0
XAN SS SS 20 53 30.5 +0.1
XAN AMB AMB
comp=Z,524nm,6.2s
XAN LR LR
comp=N,627nm,16.6s
XAN LR LR
comp=E,580nm,19.3s
XAN LR LR
comp=Z,1μm,18.4s
DL2 Dalian 45.53 350 P **P** **20 43 52.3 +0.2**
DL2 AP pP 20 44 15.3 -3.3
DL2 XP sP 20 44 27.3 -4.4
DL2 S **S** **20 50 24.4 -0.2**
DL2 LR LR
comp=N,490nm,20.1s
DL2 LR LR
comp=Z,820nm,30.4s
IMP Imphal 47.03 312 *e*P **P** **20 44 02.0 -2.1**
BJT Baijiatuau 47.76 345 *e*P **P** **20 44 09.2 -0.4**
comp=Z,190nm,1.0s,mb5.9
BJI Beijing 47.78 345 P **P** **20 44 09.4 -0.4**
BJI AP pP 20 44 33.9 -2.6
BJI XP sP 20 44 46.0 -3.3
BJI PCP PcP 20 45 38.3 +0.9
BJI PP PP 20 46 01.1 -1.0
BJI SCP 20 49 22.0
BJI S **S** **20 50 50.1 -6.3**
BJI XS 20 51 39.8
BJI SCS ScS 20 53 50.3 +1.7
BJI AMB AMB
comp=Z,216nm,1.2s,mb5.9
BJI LR LR
comp=N,589nm,15.0s
BJI LR LR
comp=E,1μm,15.0s
BJI LR LR
comp=Z,1μm,32.7s
SNY Shenyang 48.11 353⇑ *i*P **P** **20 44 11.5 -0.8**
SNY S **S** **20 50 57.1 -3.9**
SNY AMB AMB
comp=Z,90nm,1.1s,mb5.5
SNY LR LR
comp=E,1μm,19.8s
SNY LR LR
comp=Z,2μm,20.4s
AGT Agartala 48.54 309⇓ *i* **P** **20 44 24.0 +8.1**
AGT *i* 20 45 09.0
LZH Lanzhou 48.87 331⇑ *i*P **P** **20 44 19.0 +0.8**
LZH AP pP 20 44 43.5 -1.6
LZH XP sP 20 44 55.1 -2.7
LZH PCP PcP 20 45 41.3 -0.1
LZH PP PP 20 46 13.8 +1.2
LZH SCP 20 49 27.0
LZH PCS 20 49 37.8
LZH S **S** **20 51 13.1 +1.4**
LZH XS 20 51 57.5
LZH SCS ScS 20 53 59.3 +3.5
LZH SS SS 20 54 43.3 +3.6
LZH AMB AMB
comp=Z,445nm,1.5s,mb6.2
LZH AMB AMB
comp=Z,1μm,5.2s
LZH LR LR
comp=N,2μm,13.0s
LZH LR LR
comp=Z,4μm,17.3s
SHL Shillong 48.99 312 *e* PcP 20 45 33.0 -9.0
SHL *e*S **S** **20 51 14.0 +0.4**
SHL *e* 20 54 20.0
VLA Vladivostok 48.99 1⇓ *i*P **P** **20 44 21.0 +1.9**
VLA *e* 20 46 08.0
VLA *e*PPP PPP 20 47 06.0 -4.4
VLA *i*S **S** **20 51 15.0 +1.6**
VLA *i*PS PS 20 51 35.0 -7.4
VLA *i*SS SS 20 54 40.0 -1.7
VLA pmax pmax
comp=Z,700nm,6.0s
VLA pmax pmax
comp=N,700nm,5.0s
VLA pmax pmax
comp=E,500nm,4.0s
VLA pmax pmax
comp=Z,500nm,8.0s
VLA smax
comp=E,1μm,6.0s
VLA smax
comp=N,2μm,7.0s
HHC Hu-ho-hao-te 49.86 341⇑ *i*P **P** **20 44 25.8 0.0**
HHC AP pP 20 44 49.4 -3.3
HHC XP sP 20 45 03.8 -1.5
HHC PCP PcP 20 45 43.1 -1.8
HHC PP PP 20 46 26.0 +3.7
HHC SCP 20 49 24.5
HHC PCS 20 49 33.8
HHC S **S** **20 51 26.6 +1.2**
HHC SCS ScS 20 54 01.9 -0.5
HHC AMB AMB
comp=Z,140nm,1.4s,mb5.7
HHC AMB AMB
comp=Z,880nm,4.5s
CN2 Changchun 49.87 355 *e*P **P** **20 44 25.1 -0.8**
CN2 AMB AMB
comp=Z,60nm,1.2s,mb5.4
CAL Calcutta 50.15 306 *e* **P** **20 44 33.7 +5.5**
CAL *e*S **S** **20 51 34.0 +4.4**
BTO Baotou 50.15 340 *e*P **P** **20 44 27.5 -0.5**
BTO S **S** **20 51 23.8 -5.7**
BTO AMB AMB
comp=Z,87nm,1.3s,mb5.5
MDJ Mudanjiang 50.48 359 P **P** **20 44 30.3 -0.2**
MDJ AP pP 20 44 56.9 -0.6
MDJ XP sP 20 45 09.6 -0.5
MDJ PCP PcP 20 45 47.3 +0.2
MDJ SCP 20 49 33.3
MDJ PCS 20 49 45.3
MDJ S **S** **20 51 33.8 -0.2**
MDJ SCS ScS 20 54 11.8 +5.2
MDJ AMB AMB
comp=Z,133nm,1.1s,mb5.8
MDJ AMB AMB
comp=Z,553nm,7.8s
MDJ LR LR
comp=N,1μm,44.3s
MDJ LR LR
comp=E,495nm,37.0s
MDJ LR LR
comp=Z,1μm,42.5s
MDJ Mudanjiang 50.48 359 *e*P **P** **20 44 29.7 -0.8**
comp=Z,155nm,1.1s,mb5.8
ASAJ Asahikawa 51.15 11 P **P** **20 44 34.3 -1.2**
comp=Z,40nm,0.6s,mb5.6,baz=234,slow=11,SNR=22
ASAJ pP pP 20 45 02.8 +0.2
comp=Z,24nm,0.6s,baz=198,slow=6.4,SNR=2.9
ASAJ LR LR 21 05 02.9
comp=Z,1μm,21.9s,baz=195,slow=34
ASAJ Asahikawa 51.15 11 P **P** **20 44 34.3 -1.2**
ASAJ *PP pP 20 45 02.8 +0.2
ASAJ pmax pmax
comp=Z,40nm,0.6s
ASAJ pmax pmax
comp=N,24nm,0.6s
ASAJ MLR MLR
comp=Z,1μm,21.9s
PALK Pallekele 51.46 284 *e*P **P** **20 44 37.3 -1.0**
comp=Z,52nm,0.8s,mb5.6
PALK *e*PcP PcP 20 45 51.9 +0.7
LSA Lhasa 51.92 315 P **P** **20 44 42.8 +1.2**
LSA PP PP 20 46 45.0 +3.9
LSA PCS 20 49 43.0
LSA S **S** **20 51 56.0 +2.1**
LSA SS SS 20 55 28.0 -2.4
LSA AMB AMB
comp=Z,108nm,1.0s,mb5.8
LSA LR LR
comp=N,1μm,20.0s
LSA LR LR
comp=E,1μm,20.0s
VIS Vishakhapatnam 52.27 298 *e*P **P** **20 44 44.0 -0.3**
URZ Urewera 52.90 134 P **P** **20 44 47.1 -1.7**
comp=E,105nm,1.0s,mb5.8,baz=326,slow=4.0,SNR=18
URZ pP pP 20 45 16.8 +0.9
comp=E,54nm,0.8s,baz=331,slow=9.8,SNR=2.6
GTA Gaotai 53.45 330⇑ *i*P **P** **20 44 53.0 +0.3**
GTA AP pP 20 45 19.8 -0.2
GTA XP sP 20 45 32.6 0.0
GTA PCP PcP 20 45 59.4 +1.2
GTA PP PP 20 47 00.3 +4.6
GTA PPP PPP 20 48 06.5 +0.4
GTA SCP 20 49 48.0
GTA PCS 20 49 56.0
GTA S **S** **20 52 15.0 +0.5**
GTA XS 20 53 00.0
GTA SCS ScS 20 54 30.6 +3.4
GTA SS SS 20 55 56.4 +0.8
GTA AMB AMB
comp=Z,224nm,1.4s,mb6.0
GTA AMB AMB
comp=Z,2μm,6.5s
GTA LR LR
comp=N,660nm,15.2s
GTA LR LR
comp=E,905nm,16.0s
GTA LR LR
comp=Z,2μm,28.5s
MDRS Chennai 53.46 291⇑ *i*P **P** **20 44 52.0 -1.1**
MDRS *i* 20 46 51.0
YSS Yuzh-Sakhalins 53.91 10*j* *i*P **P** **20 44 54.2 -1.8**
YSS *i* *PP pP 20 45 24.0 +0.7
YSS *i*S **S** **20 52 20.0 -0.7**
YSS *e*SS SS 20 56 09.0 +6.0
YSS pmax pmax
comp=N,50nm,0.5s
YSS pmax pmax
comp=Z,80nm,0.5s,mb6.0
YSS pmax pmax
comp=Z,600nm,5.0s
YSS smax
comp=N,1μm,7.0s
YSS MLR MLR
comp=E,500nm,16.0s
YSS MLR MLR
comp=Z,800nm,16.0s
YSS Yuzh-Sakhalins 53.91 10 *i* Pdu 20 44 54.2
comp=Z,80nm,0.5s
YSS *i* pP pP 20 45 24.0 +0.7
YSS *i*S **S** **20 52 20.0 -0.7**
YSS *e*SS SS 20 56 09.0 +6.0
GUN Gumba 54.77 310 *e*P **P** **20 45 02.8 +0.3**
comp=Z,1μm,0.7s,mb7.0
PKI Pulchoki 54.95 310 *e*P **P** **20 45 03.7 -0.2**
BLSP Biaspur 55.07 302 *i*P **P** **20 45 04.5 -0.3**
KKN Kakani 55.16 310 *e*P **P** **20 45 05.3 -0.1**
comp=Z,475nm,0.7s,mb6.6
DMN Daman 55.20 310 *e*P **P** **20 45 05.7 0.0**
comp=Z,1μm,1.0s,mb6.8
TRD Trivandrum 55.36 285 *e*P **P** **20 45 06.8 -0.2**
TRD *e* 20 45 09.5
comp=Z,191nm,1.5s
GKN Gorkha 55.76 310 *e*P **P** **20 45 09.7 0.0**
comp=Z,292nm,0.3s,mb6.8
HIA Hailar 55.93 351 *e*P **P** **20 45 09.7 -0.9**
comp=Z,42nm,1.1s,mb5.4
HYB Hyderabad 56.40 295⇑ *i*P **P** **20 45 13.5 -0.9**
comp=Z,576nm,1.2s,mb6.5
HYB *e* 20 45 33.5
HYB *e* 20 45 49.0
HYB *e*PcP PcP 20 46 18.0 +8.1
HYB *e*PPP PPP 20 48 42.0 +0.7
HYB *e*S **S** **20 52 52.0 -2.2**
HYB *e*SS SS 20 53 34.0
HYB Hyderabad 56.40 295⇑ *i*P **P** **20 45 13.5 -0.9**
comp=Z,576nm,1.2s,mb6.5
HYB *e* 20 46 18.0
HYB *e*S **S** **20 52 52.0 -2.2**
KOLN Koldanda 56.44 309 *e*P **P** **20 45 14.8 +0.2**
comp=Z,2μm,1.1s,mb6.9
AFI Afiamalu 57.22 103 *e*P **P** **20 45 19.6 -0.6**
AFI pmax pmax
comp=Z,430nm,1.0s,mb6.4
AFI Afiamalu 57.22 103 *e*P **P** **20 45 19.6 -0.6**
comp=Z,428nm,1.0s,mb6.4
SONM Songino Array 57.76 341 P **P** **20 45 23.8 +0.2**
comp=Z,50nm,0.7s,mb5.7,baz=162,slow=6.2,SNR=286
SONM S **S** **20 53 12.8 +1.2**
comp=Z,11nm,1.3s,baz=162,slow=3.9,SNR=7.2
SONM PKPPKP 21 15 10.1
comp=Z,6.1nm,1.1s,baz=270,slow=1.2,SNR=8.7
MNGI Mangalore 58.49 289 *i*P **P** **20 45 28.7 -0.4**
LATR Latur 58.53 296 *e*P **P** **20 45 28.3 -1.0**
AKL Akola 58.91 298 *i* **P** **20 45 37.7 +5.8**
comp=Z,669nm,1.2s,mb6.5
AKL *i* 20 45 45.1
BHPL Bhopal 59.49 301 *e*P **P** **20 45 35.4 -0.5**
BHPL *e* 20 45 37.8
comp=Z,494nm,1.4s
LGTI Lohaghat 59.83 309⇓ *i*P **P** **20 45 38.0 -0.1**
PTH Pithoragarh 59.90 309 *e*P **P** **20 45 35.2 -3.4**
PTH *e* 20 47 50.6
GOA Goa 60.12 292 *e*P **P** **20 45 41.6 +1.4**
GOA *e* 20 53 41.8
KAD Karad 60.32 294⇑ *i*P **P** **20 45 40.0 -1.6**
AGRA Agra 60.67 306 *e*P **P** **20 45 43.4 -0.5**
AGRA *e* 20 53 45.5
DRV Dumont d'Urvil 60.83 176 P **P** **20 45 50.0 +5.6**
DRV S **S** **20 53 54.0 +3.1**
DRV L 21 00 00.0
DRV R 21 05 00.0
JOSI Joshimath 60.87 310 *e*P **P** **20 45 44.0 -1.2**
ZAK Zakamensk 60.99 340⇓ *i*P **P** **20 45 45.5 -0.2**
ZAK *e* 20 46 28.2
POO Poona 61.00 295 *e*P **P** **20 45 45.5 -0.7**
POO *e* 20 45 46.4
comp=Z,304nm,1.0s
ASOR Ausora 61.45 307 *e*P **P** **20 45 49.0 -0.2**
CASY Casey 61.67 189 *e*P **P** **20 45 49.6 -0.6**
comp=Z,3μm,1.4s
SONA Sohna 61.79 306 *e*P **P** **20 45 50.7 -0.7**
SONA *e* 20 45 51.8
comp=Z,471nm,0.7s
SONA *e* 20 54 00.4
AYAN Aya Nagar 61.85 307 *e*P **P** **20 45 51.2 -0.6**
AYAN *e* 20 45 52.6
comp=Z,477nm,1.3s
NDI New Delhi 61.87 307 *i*P **P** **20 45 49.0 -2.9**
NDI *i* 20 54 01.0
DDI Dehra Dun 61.92 309 *e*P **P** **20 45 50.2 -2.1**
DDI *e*S **S** **20 54 11.6 +6.3**
BHGR Bahadurgarh 62.09 307 *e*P **P** **20 45 53.0 -0.4**
KUDL Kundal 62.22 306 *e*P **P** **20 45 53.9 -0.4**
KUDL *e* 20 45 56.0
comp=Z,430nm,1.5s
IRK Irkutsk 62.28 342 *e*P **P** **20 45 53.9 -0.4**
IRK *e* 20 46 33.2
IRK *e* 20 54 14.4
RTK Rohtak 62.65 307 *e*P **P** **20 45 57.3 +0.1**
RTK *e* 20 45 58.4
comp=Z,944nm,0.9s
KKR Kurukshetra 62.72 308 *e*P **P** **20 45 58.3 +0.7**
KHET Khetri 62.74 306 *e*P **P** **20 45 57.4 -0.3**
KHET *e* 20 45 59.0
comp=Z,444nm,1.3s
KHET *e* 20 54 11.6
MOY Mondy 62.85 340 *e*P **P** **20 45 58.7 +0.6**
CLNS Chul'man 62.88 357*c* *i*P **P** **20 45 58.0 -0.3**
CLNS *e**PP pP 20 46 19.9 -6.5
CLNS *e* 20 46 34.4
CLNS *e**SS 20 54 47.3
CLNS *e* 20 55 41.1
CLNS pmax pmax
comp=N,102nm,1.3s
CLNS pmax pmax
comp=Z,162nm,1.3s,mb5.8
CLNS pmax pmax
comp=E,36nm,1.1s
CLNS pmax pmax
comp=Z,16nm,0.9s,mb5.0
CLNS pmax pmax
comp=N,8.0nm,1.1s
CLNS pmax pmax
comp=E,11nm,0.9s
CLNS MLR MLR
comp=Z,600nm,20.0s
CLNS MLR MLR
comp=N,500nm,17.0s
CLNS MLR MLR
comp=E,700nm,20.0s
CLNS Chul'man 62.88 357⇑ *i*P **P** **20 45 58.0 -0.3**
CLNS *e*pP pP 20 46 19.9 -6.5
CLNS *e* 20 46 34.4
CLNS *e*sS 20 54 47.3
CLNS *e* 20 55 41.1
WMQ Urumqi 62.93 326⇑ *i*P **P** **20 45 59.5 +0.7**
WMQ PP PP 20 48 21.0 +1.0
WMQ S **S** **20 54 18.0 +0.2**
WMQ SCS ScS 20 55 36.0 -0.5
WMQ SS SS 20 58 28.0 +0.8
WMQ AMB AMB
comp=Z,495nm,1.2s,mb6.3
WMQ LR LR
comp=N,1μm,18.0s
WMQ LR LR
comp=E,889nm,16.0s
WMQ LR LR
comp=Z,1μm,17.0s
AJM Ajmer 63.06 304⇑ *i*P **P** **20 45 59.0 -0.9**
PET Petropavlovsk 63.53 19α *i*P **P** **20 46 01.8 -0.8**
PET *e* pP 20 46 29.9 -0.8
PET *e*S **S** **20 54 29.3 +4.3**
PET pmax pmax
comp=Z,308nm,1.1s,mb6.0
PET pmax pmax
comp=N,125nm,1.0s
PET pmax pmax
comp=E,46nm,0.9s
PET pmax pmax
comp=Z,200nm,14.4s
PET pmax pmax
comp=Z,300nm,15.6s
PET smax
comp=N,800nm,15.5s
PET smax
comp=E,500nm,14.0s
PET Petropavlovsk 63.53 19 *i* Pcu 20 46 01.8
comp=E,308nm,1.1s
PET *e* 20 46 29.9
PET *e*S **S** **20 54 29.3 +4.3**
BHK Bhakra 63.67 309 *e* **P** **20 46 07.0 +3.1**
BHK *e* 20 54 31.2
THN Thein Dam 64.65 310 *e*P **P** **20 46 09.1 -1.1**
comp=E,63nm,0.9s,mb5.5
BOD Bodaibo 65.09 350⇓ *i*P **P** **20 46 10.8 -1.9**
BOD *e* 20 54 44.3
MIR Mirnyy 65.65 196α *i*P **P** **20 46 16.6 +0.5**
MIR *e* pP 20 46 43.5 -0.9
MIR *e*PPP PPP 20 50 18.0 -1.2
MIR *e*S S 20 54 54.0 +3.0
MIR *e*SS SS 20 59 09.0 +0.3
MIR pmax pmax
comp=Z,360nm,1.3s,mb6.0
MIR pmax pmax
comp=Z,1μm,6.0s
MIR smax
comp=E,1μm,5.0s
MIR smax
comp=N,700nm,8.0s
MIR MLR MLR
comp=Z,2μm,15.0s
JASL Jaisalmer 66.34 303 *e*P **P** **20 46 20.4 -0.7**
MA2 Magadan 67.41 11*d* *i*P **P** **20 46 27.5 +0.2**
MA2 *e**PP pP 20 46 56.0 +0.3
MA2 pmax pmax
comp=Z,400nm,18.0s
MA2 Magadan 67.41 11 *i* Pr 20 46 27.5
MA2 *e*pP pP 20 46 56.0 +0.3
KSH Kashi 67.72 317⇑ *i*P **P** **20 46 31.3 +1.7**
KSH PCP PcP 20 46 56.4 +0.9
KSH *e*XP sP 20 47 11.6 +1.2
KSH *e*PP PP 20 49 04.3 +2.3
KSH *e*PPP PPP 20 50 43.4 +4.0
KSH SCP 20 50 48.0
KSH *e*PCS 20 50 59.0
KSH S S 20 55 22.4 +6.1
KSH *e*PS PS 20 56 02.3 +4.9
KSH *e*XS 20 56 09.0
KSH SCS ScS 20 56 16.5 +3.1
KSH *e*SS SS 20 59 47.0 +5.9
KSH AMB AMB
comp=Z,2μm,2.7s,mb6.4
KSH LR LR
comp=N,1μm,19.2s
KSH LR LR
comp=E,1μm,14.9s
MKAR Makanchi Array 67.77 326 P **P** **20 46 30.3 +0.6**
comp=E,202nm,0.5s,mb6.2,baz=115,slow=8.2,SNR=1322
MKAR S S 20 55 19.3 +2.5
comp=E,10nm,1.1s,baz=128,slow=1.4,SNR=7.8
MKAR PKPPKP 21 14 45.9
comp=E,4.4nm,1.1s,slow=1.2,SNR=8.5
MKAR Makanchi Array 67.77 326 P **P** **20 46 30.3 +0.6**
MKAR S S 20 55 19.3 +2.5
MKAR pmax pmax
comp=Z,202nm,0.5s
MKAR smax
comp=N,10.0nm,1.1s
MKAR pmax pmax
comp=Z,4.0nm,1.1s
YAK Yakutsk 67.93 360*c* *i*P **P** **20 46 29.8 -0.6**
YAK *e**PP pP 20 46 54.9 -4.0
YAK *e* pP 20 46 57.9 -1.0
YAK *i*S S 20 55 18.0 -0.4
YAK *e**SS 20 56 02.2
YAK *e* 20 56 16.8
YAK pmax pmax
comp=Z,205nm,0.9s,mb6.0
YAK pmax pmax
comp=N,99nm,1.1s
YAK smax
comp=N,37nm,1.2s
YAK smax
comp=E,32nm,1.2s
YAK Yakutsk 67.93 360⇑ *i*P **P** **20 46 29.8 -0.6**
comp=E,205nm,0.9s,mb6.0
YAK *e*pP pP 20 46 54.9 -4.0
YAK *e* pP 20 46 57.9 -1.0
YAK *i*S S 20 55 18.0 -0.4
YAK *e*sS 20 56 02.2
YAK *e* 20 56 16.8
ULHL Ulahol 68.88 320 P **P** **20 46 38.0 +1.3**
SNR=30
RAR Rarotonga 68.90 110 P **P** **20 46 36.8 -0.3**
comp=E,89nm,1.2s,mb5.5,baz=249,slow=7.0,SNR=5.4
RAR Rarotonga 68.90 110 P **P** **20 46 36.8 -0.3**
RAR pmax pmax
comp=Z,89nm,1.2s
FX1 Attu Island--F 68.93 26 *e*P **P** **20 46 36.1 -0.7**
AAA Alma-Ata 68.96 321 *i*P **P** **20 46 38.0 +0.9**
AAA *e* 20 55 30.0
AAA pmax pmax
comp=Z,2μm,5.0s
AAA pmax pmax
comp=E,1μm,12.0s

SMY	Shemya	69.23	27	eP	P	20 46 38.6	0.0
SMY				pmax	pmax		
	comp=Z,610nm,1.1s,mb6.3						
SMY	Shemya	69.23	27	eP	P	20 46 38.6	0.0
	comp=Z,593nm,1.0s,mb6.4						
KZA	Kyzart	69.44	319	P	P	20 46 42.0	+2.0
	SNR=70						
TKM2	Tokmak 2	69.63	320	P	P	20 46 42.5	+1.2
	SNR=214						
KBK	Karagaybulak	69.92	320	P	P	20 46 44.4	+1.4
	SNR=180						
UCH	Uchtor	69.99	319	P	P	20 46 45.4	+2.0
	SNR=402						
AAK	Ala-Archa	70.20	319	P	P	20 46 46.2	+1.5
	SNR=248						
AAK	Ala-Archa	70.20	319	c iP	P	20 46 45.1	+0.4
AAK	Ala-Archa	70.20	319	⇑iP	P	20 46 45.1	+0.4
CHMS	Chumysh	70.21	320	P	P	20 46 45.1	+0.3
	SNR=80						
FRU	Bishkek	70.22	320	eP	P	20 46 46.0	+1.2
FRU				e	pP	20 47 10.0	-3.4
FRU				e		20 55 49.0	
FRU				pmax	pmax		
	comp=Z,2µm,4.0s						
AML	Almayashu	70.48	319	P	P	20 46 48.4	+2.0
	SNR=450						
USP	Ospenovka	70.50	320	P	P	20 46 47.5	+1.0
	SNR=403						
EKS2	Erkin-Say	70.68	319	P	P	20 46 49.2	+1.7
	SNR=15						
SEY	Seymchan	70.82	10	eP	P	20 46 49.7	+1.6
SEY						20 47 05.8	
SEY				*PP	pP	20 47 19.5	+2.7
SEY						20 49 23.8	
SEY				ePPP	PPP	20 51 10.7	+1.2
SEY				eS	S	20 55 57.3	+5.0
SEY						20 56 41.5	
SEY				*SS		20 56 45.8	
SEY				pmax	pmax		
	comp=Z,400nm,0.8s,mb6.3						
SEY				smax			
	comp=N,3µm,21.5s						
SEY				smax			
	comp=E,1µm,22.4s						
SEY	Seymchan	70.82	10	eP	P	20 46 49.7	+1.6
	comp=E,400nm,0.8s,mb6.3						
SEY				e		20 47 05.8	
SEY				pP	pP	20 47 19.5	+2.7
SEY				e		20 49 23.8	
SEY				ePPP	PPP	20 51 10.7	+1.2
SEY				eS	S	20 55 57.3	+5.0
SEY				e		20 56 41.5	
SEY				sS		20 56 45.8	
ZAL	Zalesovo	71.02	333	P	P	20 46 48.6	-0.8
	comp=E,63nm,1.0s,mb5.4,baz=354,slow=5.6,SNR=239						
ZAL				S	S	20 55 54.8	+0.2
	comp=E,2.1nm,0.8s,baz=88,slow=24,SNR=24						
ZAL				PKPPKP		21 14 40.5	
	comp=E,1.9nm,1.0s,baz=165,slow=4.3,SNR=7.5						
ZAL				LR	LR	21 20 21.1	
	comp=E,689nm,21.2s,baz=327,slow=38						
ZAL	Zalesovo	71.02	333	P	P	20 46 48.6	-0.8
ZAL				S	S	20 55 54.8	+0.1
ZAL				pmax	pmax		
	comp=Z,63nm,1.0s						
ZAL				smax			
	comp=N,2.0nm,0.8s						
ZAL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ZAL				MLR	MLR		
	comp=Z,689nm,21.2s						
KURK	Kurchatov	72.03	328	c iP	P	20 46 55.7	+0.2
KURK				pmax	pmax		
	comp=Z,309nm,1.4s,mb5.9						
KURK	Kurchatov	72.03	328	⇑iP	P	20 46 55.7	+0.2
NVS	Novosibirsk	72.30	333	i P	P	20 46 55.7	-1.3
NVS				e		20 47 13.8	
NVS				i S	S	20 56 04.1	-5.2
NVS				e		20 56 43.4	
NVS				pmax	pmax		
	comp=N,547nm,1.9s						
NVS				pmax	pmax		
	comp=E,629nm,1.9s						
NVS				pmax	pmax		
	comp=Z,970nm,1.9s,mb6.3						
NVS				smax			
	comp=N,327nm,1.8s						
NVS				smax			
	comp=E,1µm,1.8s						
NVS	Novosibirsk	72.30	333	i P	P	20 46 55.7	-1.3
	comp=E,970nm,1.9s,mb6.3						
NVS				e		20 47 13.8	
NVS				i S	S	20 56 04.1	-5.2
NVS				e		20 56 43.4	
KIWB	Kanaga Island	72.88	31	eP	P	20 47 00.4	0.0
SBA	Scott Base	74.16	173	eP	P	20 47 08.8	+1.4
SBA				pmax	pmax		
	comp=Z,160nm,1.0s,mb5.7						
SBA	Scott Base	74.16	173	eP	P	20 47 08.8	+1.3
	comp=Z,160nm,1.1s,mb5.7						
HON	Honolulu	75.13	66	eP	P	20 47 15.2	+1.2
HON				e*PP	pP	20 47 44.7	+1.6
HON	Honolulu	75.13	66	eP	P	20 47 15.2	+1.2
HON				esP	sP	20 47 44.6	-11
KIP	Kipapa	75.14	66	eP	P	20 47 14.6	+0.5
KIP				e*PP	pP	20 47 45.2	+2.1
KIP				pmax	pmax		
	comp=Z,390nm,1.2s,mb6.0						
KIP	Kipapa	75.14	66	eP	P	20 47 14.6	+0.6
	comp=Z,394nm,1.3s,mb6.0						
KIP				pP	pP	20 47 36.4	-6.7
KIP				esP	sP	20 47 45.3	-10
MAW	Mawson	75.98	201	eP	P	20 47 19.1	+1.2
	comp=Z,89nm,0.9s,mb5.5						
MAW				eS	S	20 56 52.8	+2.8
MAW	Mawson	75.98	201	P	P	20 47 19.2	+1.2
	comp=Z,132nm,0.9s,mb5.6,baz=70,slow=7.2,SNR=148						
MAW				S	S	20 56 53.1	+3.1
	comp=Z,7.6nm,1.1s,baz=266,slow=20,SNR=7.3						
MAW				LR	LR	21 16 58.7	
	comp=Z,2µm,21.8s,baz=62,slow=32						
MAW	Mawson	75.98	201	P	P	20 47 19.2	+1.3
MAW				S	S	20 56 53.1	+3.1
MAW				pmax	pmax		
	comp=Z,132nm,1.0s						
MAW				smax			
	comp=N,8.0nm,1.1s						
MAW				MLR	MLR		
	comp=Z,2µm,21.8s						
HKL	Haleakala	76.59	67	eP	P	20 47 23.8	+1.5
POHA	Pohakuloa	77.06	68	eP	P	20 47 26.1	+1.2
	comp=Z,438nm,1.1s,mb6.1						
VOSK	Vostochnaya	77.13	327	P	P	20 47 24.7	+0.1
VOSK				pmax	pmax		
	comp=Z,99nm,0.9s,mb5.5						
VOSK	Vostochnaya	77.13	327	P	P	20 47 24.7	+0.1
	comp=Z,99nm,0.9s,mb5.5						
BVA0	Borovoye Array	77.59	328	i P	P	20 47 27.4	+0.2
BVA0				pmax	pmax		
	comp=Z,15nm,1.1s						
BVA0	Borovoye Array	77.59	328	i P	P	20 47 27.4	+0.2
	comp=Z,15nm,1.1s						
BVAR	Borovoye Array	77.59	328	P	P	20 47 27.3	+0.2
	comp=Z,322nm,1.2s,mb5.9,baz=124,slow=5.3,SNR=281						
BVAR				pP	pP	20 47 57.7	+1.3
	comp=Z,35nm,0.9s,baz=124,slow=5.3,SNR=2.0						
BVAR				S	S	20 57 09.0	+1.3
	comp=Z,2.5nm,1.0s,baz=166,slow=6.1,SNR=4.3						
BVAR				PKKPbc		21 06 30.0	
	comp=Z,0.8nm,0.8s,baz=256,slow=5.9,SNR=3.5						
TIXI	Tiksi	77.59	359	c iP	P	20 47 25.7	-1.2
TIXI				e*PP	pP	20 47 57.7	+1.6
TIXI				MLR	MLR		
	comp=Z,900nm,21.0s						
TIXI	Tiksi	77.59	359	⇑iP	P	20 47 25.7	-1.2
TIXI				epP	pP	20 47 57.7	+1.6
ZRNK	Zerenda	78.30	327	P	P	20 47 31.4	+0.3
ZRNK				pmax	pmax		
	comp=Z,370nm,1.3s,mb6.0						
TBI	Tubuai	78.45	113	eP	P	20 47 33.4	+0.9
	comp=Z,254nm,1.0s,mb5.9						
TBI				eL		21 08 52.9	
TBI				eR		21 12 23.0	
	comp=Z,1µm,37.8s						
PAE	Paea	78.56	107	eP	P	20 47 34.5	+1.3
	comp=Z,538nm,1.2s,mb6.3						
PPT	Papeete	78.57	107	P	P	20 47 33.8	+0.6
	comp=Z,127nm,0.8s,mb5.8,baz=263,slow=3.1,SNR=14						
PPT	Papeete	78.57	107	eP	P	20 47 34.7	+1.5
	comp=Z,225nm,1.2s,mb5.9						
PPT	Papeete	78.57	107	eL		21 08 58.6	
PPT				eR		21 12 19.3	
	comp=Z,3µm,39.2s						
PPT	Papeete	78.57	107	P	P	20 47 33.8	+0.6
PPT				pmax	pmax		
	comp=Z,127nm,0.8s						
TIAR	Tiarei	78.79	107	eP	P	20 47 35.9	+1.5
	comp=Z,912nm,1.4s,mb6.4						
TVO	Taravao	78.86	107	eP	P	20 47 36.5	+1.6
	comp=Z,338nm,1.1s,mb6.1						
UNV	Unalaska Valle	79.46	32	eP	P	20 47 37.3	0.0
	comp=Z,438nm,0.9s,mb6.3						
UNV				epP	pP	20 48 06.3	-0.3
MEH	Mehetia	79.99	107	eP	P	20 47 42.0	+1.1
MEH				epP	pP	20 48 11.9	+1.7
PMOR	Pomariorio Ree	80.33	104	eP	P	20 47 44.2	+1.4
	comp=Z,359nm,1.1s,mb6.1						
PMOR				epP	pP	20 48 14.1	+2.0
VAH	Vaihoa	80.57	104	eP	P	20 47 44.8	+0.7
	comp=Z,268nm,1.1s,mb6.0						
SDPT	Sand Point	83.27	32	eP	P	20 47 56.7	-0.5
	comp=Z,981nm,1.3s,mb6.5						
QSPA	South Pole Qui	83.88	180	eP	P	20 48 00.4	+0.7
	comp=Z,170nm,0.8s,mb5.9						
SVE	Sverdlovsk	84.27	329	⇑iP	P	20 48 02.1	-0.1
SVE				pmax	pmax		
	comp=Z,980nm,1.3s,mb6.5						
SVE	Sverdlovsk	84.27	329	⇑iP	P	20 48 02.1	-0.1
	comp=Z,980nm,1.3s,mb6.5						
ANM	Nome	84.69	23	eP	P	20 48 05.8	+1.7
SYO	Syowa Base	84.70	201	⇓P	P	20 48 05.2	+1.2
SYO	Syowa Base	84.70	201	⇑PcP	PcP	20 48 07.9	+0.2
SYO	Syowa Base	84.70	201	⇓pP	pP	20 48 34.8	+1.1
ARU	Arti	85.22	328	⇑iP	P	20 48 06.7	-0.2
ARU				i	pP	20 48 38.2	+1.6
ARU				e		20 51 28.3	
ARU				i S	S	20 58 18.4	-7.4
ARU				eSS	SS	21 04 06.1	+0.7
ARU				eSSS	SSS	21 07 36.9	+2.2
ARU				pmax	pmax		
	comp=Z,206nm,1.4s,mb5.9						
ARU	Arti	85.22	328	⇑iP	P	20 48 06.7	-0.2
	comp=Z,206nm,1.4s,mb5.9						
ARU				i	pP	20 48 38.2	+1.6
ARU				e		20 51 28.3	
ARU				i S	S	20 58 18.4	-7.4
ARU				eSS	SS	21 04 06.1	+0.7
ARU				eSSS	SSS	21 07 36.9	+2.2
QRN	Al-Qurain	86.46	299	eP	P	20 48 14.5	+0.8
QRN				AMb	AMB	20 48 17.7	
	comp=Z,608nm,1.7s,mb6.3						
KBD	Kabd	86.72	300	i P	P	20 48 16.3	+1.4
KBD	Kabd	86.72	300	eP	PP	20 51 41.6	+1.0
UMR	Umm Al-Rimmam	86.76	300	eP	P	20 48 16.0	+0.9
UMR				AMb	AMB	20 48 17.6	
	comp=Z,350nm,1.5s,mb6.1						
RYDS	Riyadh	86.93	295	P	P	20 48 17.9	+1.9
MIB	Mutribah	87.12	300	eP	P	20 48 17.8	+1.0
MIB				AMb	AMB	20 48 21.1	
	comp=Z,631nm,1.2s,mb6.4						
MIB	Mutribah	87.12	300	eP	PP	20 51 46.4	+2.4
MIB				AMb	AMB	20 51 49.8	
	comp=Z,160nm,1.3s,mb5.8						
RST	Umm Al-Ruwaisa	87.37	300	eP	P	20 48 18.6	+0.6
RST				AMb	AMB	20 48 21.8	
	comp=Z,423nm,1.3s,mb6.2						
RST	Umm Al-Ruwaisa	87.37	300	eP	PP	20 51 48.2	+2.2
RST				AMb	AMB	20 51 50.1	
	comp=Z,165nm,1.1s,mb5.9						
KDAK	Kodiak Island	88.17	31	eP	P	20 48 21.6	+0.5
	comp=Z,310nm,1.2s,mb6.2						
KDAK				epP	pP	20 48 47.2	-3.9
MZLS	Mizel	88.21	294	P	P	20 48 23.4	+1.3
KAMS	Al Khamasin	88.31	291	P	P	20 48 23.1	+0.3
RSO	Redoubt South	88.76	29	eP	P	20 48 23.9	+0.1
DJNS	Zahran al Janu	88.98	288	P	P	20 48 28.1	+2.3
MAK	Makhachkala	89.03	313	eP	P	20 48 25.0	-0.6
MAK				e		20 48 45.0	
MAK				e		20 51 57.8	
MAK				ePPP	PPP	20 53 54.0	-5.0
MAK				eS	S	20 59 06.0	+3.9
MAK				i PS	PS	21 00 10.0	-15
MAK				e		21 00 34.0	
MAK				eSS	SS	21 05 02.0	+1.2
MAK				pmax	pmax		
	comp=Z,2µm,4.0s						
MAK				smax			
	comp=N,2µm,8.0s						
MAK				smax			
	comp=E,2µm,8.0s						
TATS	Tathlith	89.25	290	P	P	20 48 29.6	+2.4
SPU	Mount Spurr	89.27	28	eP	P	20 48 26.4	+0.1
SPU				esP	sP	20 48 57.2	-11
IMA	Indian Mountai	89.81	23	eP	P	20 48 28.9	+0.2
IMA				e*PP	pP	20 48 58.5	-0.1
IMA				pmax	pmax		
	comp=Z,410nm,1.3s,mb6.4						
IMA	Indian Mountai	89.81	23	eP	P	20 48 29.4	+0.7
	comp=Z,78nm,1.4s,mb5.6						
SLKM	Skilak Lake	89.99	29	eP	P	20 48 29.5	-0.1
SLKM				e*PP	pP	20 49 00.0	+0.4
SLKM	Skilak Lake	89.99	29	eP	P	20 48 29.5	-0.1
SLKM				e	pP	20 49 00.1	+0.5
AFFS	‘Afif	90.20	294	P	P	20 48 32.8	+1.3
FRSS	Farasan al Kab	90.23	287	P	P	20 48 34.0	+2.2
NAMS	An Nimas	90.40	289	P	P	20 48 34.6	+2.1
PMR	Palmer	90.73	28	eP	P	20 48 32.5	-0.6
PMR				pmax	pmax		
	comp=Z,39nm,0.9s,mb5.5						
PMR	Palmer	90.73	28	eP	P	20 48 32.4	-0.7
	comp=Z,60nm,1.3s,mb5.6						
TI2	Plekhanov	90.88	312	i P	P	20 48 36.0	+1.7
TI2				eS		20 59 00.0	
TI2				e		20 59 26.0	
BLJS	Baljurashi	91.05	290	P	P	20 48 38.3	+2.7
SML	Sawmill	91.14	28	eP	P	20 48 35.0	0.0
MCK	McKinley	91.24	26	eP	P	20 48 34.9	-0.5
MCK				pmax	pmax		
	comp=Z,61nm,1.3s,mb5.6						
MCK	McKinley	91.24	26	eP	P	20 48 34.9	-0.6
	comp=Z,61nm,1.3s,mb5.6						
HILS	Ha’il	91.66	297	P	P	20 48 30.2	-8.0
COLA	College	91.91	25	eP	P	20 48 37.5	-1.0
COLA				e*PP	pP	20 49 08.5	-0.1
COLA				pmax	pmax		
	comp=Z,45nm,1.0s,mb5.7						
COLA	College	91.91	25	eP	P	20 48 37.3	-1.2
	comp=Z,136nm,1.8s,mb5.9						
LTHS	Al Lith	92.20	290	D		20 48 35.6	
DIV	Divide	92.24	29	eP	P	20 48 40.0	-0.1
	comp=Z,270nm,1.1s,mb6.4						
DIV				epP	pP	20 49 03.9	-6.3
DIV				esP	sP	20 49 11.5	-11
ILAR	Eielson Array	92.30	25	P	P	20 48 38.8	-1.5
	comp=Z,28nm,0.8s,mb5.5,baz=272,slow=4.2,SNR=185						
ILAR				pP	pP	20 49 09.3	-1.0
	comp=Z,14nm,0.9s,baz=268,slow=4.3,SNR=3.5						
ILAR				PKKPbc		21 05 55.8	
	comp=Z,3.5nm,0.9s,baz=54,slow=1.8,SNR=11						
ILAR				PKPPKP		21 14 01.2	
	comp=Z,0.4nm,0.8s,baz=333,slow=2.0,SNR=4.1						
ILAR				LR	LR	21 27 14.9	
	comp=Z,313nm,21.7s,baz=274,slow=34						
ILAR	Eielson Array	92.30	25	P	P	20 48 38.8	-1.5
ILAR				*PP	pP	20 49 09.4	-1.0
ILAR						21 05 55.8	
ILAR				pmax	pmax		
	comp=Z,28nm,0.8s						
ILAR				pmax	pmax		
	comp=N,14nm,0.9s						
ILAR				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ILAR				MLR	MLR		
	comp=Z,313nm,21.7s						
GOF	Gofitskoye	92.50	315	⇑iP	P	20 48 42.0	+0.3
GOF				pmax	pmax		
	comp=Z,70nm,1.5s,mb5.8						
GOF				pmax	pmax		
	comp=Z,110nm,1.4s,mb6.0						
GOF	Gofitskoye	92.50	315	⇑iP	P	20 48 42.0	+0.3
	comp=Z,70nm,1.5s,mb5.8						
KIV	Kislovodsk	92.64	314	c iP	P	20 48 42.7	+0.4
KIV				e		20 52 26.3	
KIV				ePPP	PPP	20 54 24.4	-6.1
KIV				e		20 59 05.5	
KIV				eSS	SS	21 06 00.5	+7.7
KIV				pmax	pmax		
	comp=Z,33nm,1.3s,mb5.5						
KIV				pmax	pmax		
	comp=N,10.0nm,1.1s						
KIV	Kislovodsk	92.64	314	⇑iP	P	20 48 42.7	+0.4
	comp=N,33nm,1.3s,mb5.5						
KIV				e		20 52 26.3	
KIV				ePPP	PPP	20 54 24.4	-6.1
KIV				e		20 59 05.5	
KIV				eSS	SS	21 06 00.5	+7.7
BEST	Besiri	93.12	308	i P	P	20 48 45.2	+0.5
KMBO	Kilima Mbogo	93.15	269	P	P	20 48 47.4	+2.0
	comp=N,24nm,1.0s,mb5.5,baz=68,slow=5.7,SNR=59						
KMBO				PP	PP	20 52 35.2	+2.7
	comp=N,19nm,1.4s,baz=81,slow=8.9,SNR=7.8						
KMBO				LR	LR	21 32 55.7	
	comp=N,426nm,18.8s,baz=96,slow=37						
KMBO	Kilima Mbogo	93.15	269	eP	P	20 48 47.1	+1.7
	comp=N,91nm,1.4s,mb5.9						
ERZM	Erzurum	93.23	310	i P	P	20 48 48.1	+3.0
NVL	N’lazarevskaya	93.37	197	⇑eP	P	20 48 45.0	-0.1
NVL				eS	SP	21 00 59.0	+0.3
NVL				pmax	pmax		
	comp=Z,292nm,1.6s,mb6.4						
NVL				MLR	MLR		
	comp=Z,3µm,19.0s						
MAIT	Maitri	93.39	197	⇑iP	P	20 48 47.1	+1.9
SOC	Sochi	94.75	313	eP	P	20 48 50.0	-2.0
SOC				e		20 52 41.0	
SOC				e		20 59 12.7	
SOC				eS	S	20 59 51.2	-1.1
SOC				eSS	SS	21 06 24.7	+2.0
SOC				eSSS	SSS	21 10 07.2	+1.6
SOC				pmax	pmax		
	comp=Z,29nm,0.8s,mb5.8						
SOC				pmax	pmax		
	comp=N,41nm,1.3s						
SOC				pmax	pmax		
	comp=E,43nm,1.1s						
SOC	Sochi	94.75	313	eP	P	20 48 50.0	-2.0
	comp=E,29nm,0.8s,mb5.8						
SOC				e		20 52 41.0	
SOC				e		20 59 12.7	
SOC				eS	S	20 59 51.2	-1.1
SOC				eSS	SS	21 06 24.7	+2.0
SOC				eSSS	SSS	21 10 07.2	+1.6
DAWY	Dawson	95.47	26	eP	P	20 48 55.0	+0.3
VOR	Voronezh	95.57	321	eP	P	20 48 55.0	-0.5
VOR				e		20 52 47.0	
VOR				S	S	21 00 00.0	+1.0
VOR				pmax	pmax		
	comp=Z,150nm,1.6s,mb6.2						
VOR				smax			
	comp=N,80nm,1.7s						
QURS	Qurayyt al Mil	95.87	301	P	P	20 49 01.3	+4.0
ASF	Jabal al Asfar	96.28	302	P	P	20 49 00.8	+1.6
	comp=N,33nm,1.1s,mb5.7,baz=347,slow=1.9,SNR=36						
ASF				PP	PP	20 52 55.9	-0.2
	comp=N,13nm,1.2s,baz=334,slow=5.4,SNR=3.2						
ASF				PKKPbc		21 05 46.5	
	comp=N,5.4nm,0.9s,baz=26,slow=2.0,SNR=7.4						
ANN	Anapa	96.45	314	eP	P	20 48 57.4	-2.3
ANN				e		20 49 16.4	
ANN				pmax	pmax		
	comp=Z,84nm,1.4s,mb6.0						
ANN				MLR	MLR		
	comp=Z,775nm,27.0s						
ANN				MLR	MLR		
	comp=N,443nm,18.0s						
ANN	Anapa	96.45	314	eP	P	20 48 57.4	-2.3
	comp=N,84nm,1.4s,mb6.0						
ANN				e		20 49 16.4	
MOS	Moscow	96.64	325	⇑iP	P	20 48 59.2	-1.0
MOS				e*PP	pP	20 49 32.7	+2.4
MOS				e		20 52 57.5	
MOS				ePPP	PPP	20 55 03.9	-1.2
MOS				e		21 00 02.3	
MOS				pmax	pmax		
	comp=Z,163nm,1.3s,mb6.3						
MOS	Moscow	96.64	325	⇑iP	P	20 48 59.2	-1.0
	comp=Z,163nm,1.3s,mb6.3						
MOS				epP	pP	20 49 32.7	+2.4
MOS				e		20 52 57.5	
MOS				ePPP	PPP	20 55 03.9	-1.2
MOS				e		21 00 02.3	
SNAA	Sanae	96.67	193	⇑iP	P	20 49 00.6	+0.6
SNAA	Sanae	96.67	193	⇑i	sP	20 49 32.4	-10
SNAA	Sanae	96.67	193	⇑iS	S	21 00 14.1	+6.2
SNAA	Sanae	96.67	193	eP	P	20 49 01.2	+1.2
SNAA				pmax	pmax		
	comp=Z,78nm,1.1s						
OBN	Obninsk	97.23	325	c iP	P	20 49 01.9	-1.1
OBN				e		20 53 01.5	
OBN				eS		20 59 32.2	
OBN				ePS	SP	21 01 44.6	+3.5
OBN				eSS	SS	21 07 04.9	+7.8
OBN				pmax	pmax		
	comp=Z,178nm,1.4s,mb6.3						
OBN	Obninsk	97.23	325	⇑iP	P	20 49 01.9	-1.1
	comp=Z,178nm,1.4s,mb6.3						
OBN				e		20 53 01.5	
OBN				eS		20 59 32.2	
OBN				ePS	SP	21 01 44.6	+3.5
OBN				eSS	SS	21 07 04.9	+7.8
INK	Inuvik	97.83	22	P	P	20 49 04.5	-0.9
	comp=Z,44nm,1.0s,mb6.0,baz=269,slow=4.2,SNR=42						
INK				pP	pP	20 49 36.1	+0.7
	comp=Z,28nm,1.1s,baz=306,slow=4.9,SNR=3.3						
INK				PP	PP	20 53 00.9	-6.7
	comp=Z,15nm,1.2s,baz=272,slow=6.8,SNR=4.3						
INK				LR	LR	21 30 16.4	
	comp=Z,207nm,21.8s,baz=260,slow=34						
INK	Inuvik	97.83	22	eP	P	20 49 04.4	-1.0
INK				e*PP	pP	20 49 34.6	-0.8
INK				pmax	pmax		
	comp=Z,110nm,1.2s						
INK	Inuvik	97.83	22	eP	P	20 49 04.4	-1.0
	comp=Z,106nm,1.2s,mb6.2						
INK				esP	sP	20 49 36.5	-11
INK				ePP	PP	20 52 59.6	-7.9
LVZ	Lovozero	97.83	338	⇓eP	P	20 49 01.5	-3.9
LVZ				e		20 59 27.8	
LVZ				eSP	SP	21 01 48.8	+2.0
LVZ				eSS	SS	21 07 00.8	-4.3
LVZ				pmax	pmax		
	comp=Z,71nm,1.2s,mb6.1						
LVZ				pmax	pmax		
	comp=N,17nm,1.4s						
LVZ				pmax	pmax		
	comp=E,7.0nm,1.2s						
VNA2	Neumayer--Watz	98.23	193	⇑iP	P	20 49 10.6	+3.5
VNA2	Neumayer--Watz	98.23	193		sP	20 49 39.6	-10
VNA2	Neumayer--Watz	98.23	193	⇑i		20 53 42.7	
VNA2	Neumayer--Watz	98.23	193	⇑i	Px	20 54 13.9	
VNA2	Neumayer--Watz	98.23	193	⇑iS	S	21 00 24.6	+3.5
APA	Apatity	98.32	337	⇑iP	P	20 49 07.3	-0.3
APA				i		20 53 06.8	
APA				e		20 59 36.0	
APA				ePS	PS	21 01 55.0	-11
VNA3	Neumayer Olymp	98.48	192	⇑iP	P	20 49 11.6	+3.3
VNA3	Neumayer Olymp	98.48	192	⇑i	sP	20 49 41.0	-10
VNA3	Neumayer Olymp	98.48	192	⇑i	PP	20 53 10.7	-1.5
VNA3	Neumayer Olymp	98.48	192	⇑iS	S	21 00 24.8	+1.6
VNA1	Neumayer--Stat	98.63	193	⇑iP	P	20 49 12.4	+3.4
VNA1	Neumayer--Stat	98.63	193	⇑i	Px	20 49 43.7	
SIM	Simferopol’	98.81	314	eP	P	20 49 09.0	-1.4
SIM				e		20 53 17.0	
SIM				eS	S	21 00 32.0	+5.4
SIM				ePS	PS	21 01 59.0	-13
SIM				pmax	pmax		
	comp=Z,19nm,1.2s,mb5.5						
SIM	Simferopol’	98.81	314	eP	P	20 49 09.0	-1.4
	comp=Z,19nm,1.2s,mb5.5						
SIM				e		20 53 17.0	
SIM				eS	S	21 00 32.0	+5.4
SIM				ePS	PS	21 01 59.0	-13

BRTR Keskin Array B 99.16 309 P **P** 20 49 11.8 -0.4
comp=Z,11nm,1.0s,mb5.3,baz=117,slow=5.5,SNR=12
BRTR PP PP 20 53 15.4 -2.5
comp=Z,9.2nm,1.1s,baz=135,slow=5.2,SNR=5.6
BRTR PKKPbc 21 05 38.1
comp=Z,4.7nm,1.1s,slow=1.2,SNR=8.8
BRTR LR LR 21 42 54.9
comp=Z,213nm,20.9s,baz=130,slow=41
BRTR Keskin Array B 99.16 309 P **P** 20 49 11.8 -0.4
BRTR 20 53 15.4
BRTR pmax pmax
comp=Z,11nm,1.0s
BRTR pmax pmax
comp=Z,9.0nm,1.1s
BRTR pmax pmax
comp=Z,5.0nm,1.1s
BRTR MLR MLR
comp=Z,213nm,21.0s
JOF Joensuu 99.60 333 *ep* **P** 20 49 11.4 -2.1
comp=Z,34nm,1.1s,mb5.9
JOF Joensuu 99.60 333 *eP* **P** 20 49 11.4 -2.1
JOF pmax pmax
comp=Z,34nm,1.1s,mb5.9
DLBC Dease Lake 100.10 32 P P 20 49 15.5 -0.4
comp=Z,5.1nm,0.9s,baz=282,slow=8.2,SNR=5.4
DLBC PP PP 20 53 22.3 -2.6
comp=Z,5.6nm,1.0s,baz=320,slow=11,SNR=3.0
DLBC LR LR 21 31 15.1
comp=Z,273nm,18.5s,baz=296,slow=33
LSZ Lusaka 100.23 253 *eP* P 20 49 17.5 0.0
LSZ pmax pmax
comp=Z,20nm,1.0s
LSZ Lusaka 100.23 253 *eP* P 20 49 17.5 0.0
comp=Z,20nm,1.0s
BOSA Boshof 100.38 240 *eP* P 20 49 17.3 -0.6
BOSA pmax pmax
comp=Z,39nm,1.3s
BOSA Boshof 100.38 240 *eP* P 20 49 17.3 -0.6
comp=Z,40nm,1.4s
ARCES ARCESS Array B 100.92 340 P P 20 49 18.8 -0.6
comp=Z,41nm,1.1s,baz=45,slow=3.4,SNR=19
ARCES PKiKP 20 53 45.2
comp=Z,4.9nm,0.8s,baz=116,slow=1.6,SNR=19
ARCES PKKPbc 21 05 31.7
comp=Z,7.0nm,1.1s,baz=270,slow=3.0,SNR=5.1
ARCES ARCESS Array B 100.92 340 P P 20 49 18.8 -0.5
ARCES pmax pmax
comp=Z,41nm,1.1s
ARCES pmax pmax
comp=Z,5.0nm,0.9s
ARCES pmax pmax
comp=Z,7.0nm,1.1s
ARCES ARCESS Array B 100.92 340 P P 20 49 18.8 -0.6
AKASG Malin Array Be 101.86 320 P P 20 49 22.9 -1.0
comp=Z,2.0nm,0.6s,baz=62,slow=4.7,SNR=8.4
AKASG PKPPKP 21 13 48.0
comp=Z,0.3nm,0.2s,baz=225,slow=1.3,SNR=5.1
KAF Kangasniemi 102.01 332 *ep* Pdif 20 49 22.9 -1.4
comp=Z,25nm,1.3s,baz=78,slow=4.2
KAF Kangasniemi 102.01 332 *eP* Pdif 20 49 22.9 -1.4
KAF pmax pmax
comp=Z,25nm,1.3s
FINES FINESS Array B 102.23 332 P Pdif 20 49 23.9 -1.4
comp=Z,7.2nm,0.8s,baz=59,slow=11,SNR=11
FINES pP 20 49 56.6
comp=Z,2.5nm,0.8s,baz=90,slow=3.8,SNR=1.5
FINES PP PP 20 53 39.4 -1.4
comp=Z,5.0nm,0.9s,baz=90,slow=9.5,SNR=4.1
FINES PKiKP 20 53 48.3
comp=Z,5.9nm,1.0s,baz=40,slow=1.9,SNR=9.1
FINES PKKPbc 21 05 28.3
comp=Z,7.2nm,1.0s,baz=14,slow=7.9,SNR=7.0
FINES FINESS Array B 102.23 332 P Pdif 20 49 23.9 -1.4
FINES PP 20 53 39.4
FINES pmax pmax
comp=Z,7.0nm,0.9s
FINES pmax pmax
comp=N,3.0nm,0.8s
FINES pmax pmax
comp=Z,5.0nm,0.9s
FINES pmax pmax
comp=Z,6.0nm,1.0s
FINES pmax pmax
comp=Z,7.0nm,1.0s
KIS Kishinev 102.42 317 *eP* Pdif 20 49 25.0 -1.5
KIS *e* 20 53 42.0
KIS MLR MLR
comp=Z,600nm,20.0s
KIS MLR MLR
comp=Z,400nm,20.0s
CFR Carcaliu 103.04 315 ⇑ *iP* 20 53 48.5
VRI Vrincioaia 103.96 316 ⇓ *iP* 20 53 50.7
MLR Muntele Rosu 104.55 315 Pdiff Pdif 20 49 35.3 -0.6
comp=Z,5.0nm,0.9s,baz=224,slow=4.0,SNR=3.2
MLR PKiKP 20 53 54.2
comp=Z,9.7nm,0.8s,baz=182,slow=5.9,SNR=4.5
MLR Muntele Rosu 104.55 315 P Pdif 20 49 35.3 -0.6
MLR *i* 20 53 54.2
MLR pmax pmax
comp=Z,5.0nm,0.9s
MLR pmax pmax
comp=Z,10.0nm,0.8s
SUW Suwalki 105.08 324 *eP* Pdif 20 49 37.5 -0.5
SUW Suwalki 105.08 324 *ePdiff* Pdif 20 49 37.5 -0.5
HDW Hoodsport 105.52 42 P Pdif 20 49 42.1 +2.0
CMW Cultus Mountai 106.03 41 P Pdif 20 49 44.1 +1.8
JCW Jim Creek 106.19 42 P Pdif 20 49 44.7 +1.6
HUMO Hull Mountain 106.24 48 *ePdif* Pdif 20 49 42.2 -1.2
comp=Z,21nm,1.1s
HTW Haystack Looko 106.36 42 P Pdif 20 49 45.2 +1.4
YBH Yreka Blue Hor 106.53 48 Pdiff Pdif 20 49 45.4 +0.7
comp=Z,8.9nm,1.1s,baz=228,slow=2.3,SNR=3.6
YBH PKKPbc 21 05 16.6
comp=Z,0.8nm,0.3s,baz=241,slow=3.3,SNR=4.2
YBH Yreka Blue Hor 106.53 48 P Pdif 20 49 45.4 +0.7
YBH pmax pmax
comp=Z,9.0nm,1.1s
YBH pmax pmax
comp=Z,1.0nm,0.3s
YBH Yreka Blue Hor 106.53 48 *eP* Pdif 20 49 46.5 +1.8
comp=Z,15nm,1.2s
KOLS Kolonicke sedl 106.55 319 *ePKP* 20 53 56.6
YKA Yellowknife Ar 106.71 26 Pdiff Pdif 20 49 44.5 -0.5
comp=Z,5.5nm,1.0s,baz=304,slow=5.1,SNR=4.9
YKA PKiKP 20 53 55.3
comp=Z,3.1nm,0.4s,baz=292,slow=1.9,SNR=18
YKA PKKPbc 21 05 14.3
comp=Z,4.3nm,0.8s,baz=108,slow=3.4,SNR=5.2
YKA PKKPab 21 05 29.3
comp=Z,5.0nm,1.1s,baz=100,slow=5.2,SNR=4.3
YKA Yellowknife Ar 106.71 26 P Pdif 20 49 44.5 -0.5
YKA pmax pmax
comp=Z,6.0nm,1.0s
YKA pmax pmax
comp=Z,3.0nm,0.4s
YKA pmax pmax
comp=Z,4.0nm,0.8s
YKA pmax pmax
comp=Z,5.0nm,1.1s
YKA Yellowknife Ar 106.71 26 Pdif Pdif 20 49 44.5 -0.5
YKA PKPdif 20 53 55.3
YKA PKKPbc 21 05 14.3
YKA PKKPab 21 05 29.3
LHEM Herd Peak 106.90 48 P Pdif 20 49 52.9 +6.5
WRW Wenatchee Ridg 106.94 42 P Pdif 20 49 47.5 +1.2
NSHM Saint Helena R 106.95 52 *ePdif* Pdif 20 49 47.7 +1.0
TWW Teanaway 107.07 43 P Pdif 20 49 49.1 +2.2
NLW Nelson Butte 107.26 42 *ePdif* Pdif 20 49 48.2 +0.4
ETW Entiat 107.35 42 P Pdif 20 49 49.4 +1.3
WTV Waterville 107.58 42 P Pdif 20 49 50.5 +1.4
NIE Niedzica 107.72 320 *ePdiff* Pdif 20 49 50.5 +0.7
NIE *ePP* PP 20 53 59.9 -22
OJC Ojcow 107.88 321 *eP* Pdif 20 49 51.4 +1.0
OJC *e* 20 54 17.1
OJC Ojcow 107.88 321 *ePdiff* Pdif 20 49 51.4 +1.0
OJC *ePP* PP 20 54 17.1 -6.3
MOD Modoc 108.29 48 *ePdif* Pdif 20 49 54.3 +1.9
comp=Z,14nm,1.1s
HFS Hagfors 108.42 332 Pdiff Pdif 20 49 52.5 -0.1
comp=Z,27nm,1.2s,baz=304,slow=5.2,SNR=5.0
HFS PKiKP 20 53 59.3
comp=Z,2.6nm,0.8s,baz=83,slow=3.6,SNR=5.3
HFS PP PP 20 54 25.1 -2.3
comp=Z,9.5nm,1.1s,baz=101,slow=7.6,SNR=4.2
HFS PKKPbc 21 05 09.3
comp=Z,3.4nm,0.8s,baz=180,slow=4.4,SNR=8.3
HFS Hagfors 108.42 332 P Pdif 20 49 52.5 -0.1
HFS 20 54 25.1
HFS pmax pmax
comp=Z,27nm,1.2s
HFS pmax pmax
comp=Z,3.0nm,0.8s
HFS pmax pmax
comp=Z,10.0nm,1.1s
HFS pmax pmax
comp=Z,3.0nm,0.8s
BEKR Beckwourth 108.53 50 Pdif Pdif 20 49 53.8 +0.2
comp=Z,6.2nm,1.0s
BEKR *ePKiKP* 20 53 58.2
DPW Davenport 108.71 41 *eP* Pdif 20 49 55.8 +1.7
CMB Columbia Colle 108.74 52 *eP* Pdif 20 49 55.9 +1.4
CMB pmax pmax
comp=Z,9.0nm,1.2s
CMB Columbia Colle 108.74 52 *ePdif* Pdif 20 49 55.9 +1.4
comp=Z,8.6nm,1.2s
OKC Ostrava-Krasne 109.00 321 *ePKP* 20 54 00.3
OKC *ePP* PP 20 54 34.8 +2.5
OKC *eSP* SP 21 03 42.9 +2.2
OKC AMS AMS 21 40 10.0
comp=Z,500nm,18.0s
LNOR Lincton Mounta 109.05 44 *ePKiKP* 20 54 01.2
NB2 NORSAR Subarra 109.22 333 P Pdif 20 49 55.4 -0.7
comp=Z,26nm,1.2s,baz=70,slow=4.3
NB2 NORSAR Subarra 109.22 333 P Pdif 20 49 55.4 -0.7
baz=70,slow=4.4
NOA NORSAR Array B 109.22 333 Pdiff Pdif 20 49 55.2 -0.9
comp=Z,18nm,1.2s,baz=72,slow=4.2,SNR=6.1
NOA PKiKP 20 54 00.2
comp=Z,6.8nm,1.0s,baz=258,slow=3.2,SNR=6.5
NOA PP PP 20 54 30.9 -2.7
comp=Z,2.7nm,0.9s,baz=74,slow=7.5,SNR=3.5
NOA PKKPbc 21 05 07.8
comp=Z,9.8nm,1.0s,baz=64,slow=2.8,SNR=12
NOA PKKPab 21 05 20.2
comp=Z,4.2nm,0.9s,baz=245,slow=4.0,SNR=4.9
NOA NORSAR Array B 109.22 333 P Pdif 20 49 55.2 -0.9
NOA 20 54 30.9
NOA 21 05 07.8
NOA pmax pmax
comp=Z,18nm,1.2s
NOA pmax pmax
comp=Z,7.0nm,1.0s
NOA pmax pmax
comp=Z,3.0nm,0.9s
NOA pmax pmax
comp=Z,10.0nm,1.0s
NOA pmax pmax
comp=Z,4.0nm,0.9s
NOA NORSAR Array B 109.22 333 Pdif Pdif 20 49 55.2 -0.9
NOA PKPdf 20 54 00.2
NOA PP PP 20 54 30.9 -2.7
NOA PKKPbc 21 05 07.8
NOA PKKPab 21 05 20.2
SRO Srobarova 109.36 319 *ePP* PP 20 54 35.7 +0.9
TSUM Tsumeb 109.39 247 PKiKP 20 54 02.0
comp=Z,3.3nm,1.0s,baz=222,slow=4.1,SNR=3.6
TSUM PP PP 20 54 33.3 -2.4
comp=Z,0.7nm,0.3s,baz=88,slow=3.7,SNR=3.5
TSUM PKKPbc 21 05 06.6
comp=Z,2.6nm,1.0s,baz=318,slow=7.1,SNR=5.6
TSUM PKKPab 21 05 19.1
comp=Z,8.5nm,1.1s,baz=199,slow=5.7,SNR=7.4
SRO1 Iza 109.42 319 *ePP* PP 20 54 36.0 +0.7
PKSM Moragy 109.48 317 ⇓ *iP* 20 54 01.4
PKSM *i* 20 54 35.0
OMM Old Mammoth Mi 109.89 52 *ePdif* Pdif 20 50 02.8 +3.2
KSP Ksiaz 109.90 322 *ePdif* Pdif 20 50 00.5 +1.2
KSP *ePKPdf* 20 54 02.5
KSP *ePP* PP 20 54 30.5 -8.1
KSP *eSP* SP 21 03 45.5 -4.1
DPC Dobruska-Polom 110.02 322 *ePKP* PKPdf 20 54 02.8 +2.9
DPC *ePP* PP 20 54 37.9 -1.5
DPC *ex* x 21 00 40.9
DPC *ePS* PS 21 03 52.6 -11
DPC AMS AMS 21 43 30.0
comp=Z,500nm,17.9s
ZST Bratislava 110.06 319 *ePKP* PKPdf 20 54 02.5 +2.5
ZST *ePP* PP 20 54 45.1 +5.4
VRAC Vranov 110.11 320 PKiKP 20 54 03.0
comp=Z,7.7nm,1.1s,baz=104,slow=2.8,SNR=6.6
VRAC PP PP 20 54 32.7 -7.4
comp=Z,3.9nm,0.9s,baz=106,slow=8.5,SNR=4.9
UPC Upice 110.17 322 *ePKP* PKPdf 20 54 03.2 +3.0
UPC *ePP* PP 20 54 37.4 -3.0
MTUM Tungsten Hills 110.27 53 *ePdif* Pdif 20 50 05.5 +4.2
MTUM *ePKPdf* PKPdf 20 54 02.4 +1.6
NVAR Mina Array Bea 110.31 51 Pdiff Pdif 20 50 03.2 +1.8
comp=Z,3.1nm,1.0s,baz=188,slow=6.4,SNR=5.2
NVAR PKiKP 20 54 04.4
comp=Z,2.8nm,0.8s,baz=246,slow=1.0,SNR=12
NVAR PP PP 20 54 37.7 -4.1
comp=Z,2.4nm,0.8s,baz=276,slow=6.4,SNR=4.3
NVAR PKKPbc 21 05 05.3
comp=Z,2.7nm,0.8s,baz=104,slow=4.6,SNR=11
NVAR PKKPab 21 05 16.1
comp=Z,4.9nm,1.0s,baz=108,slow=6.0,SNR=12
EDM Edmonton 110.33 35 *ePKIKP* PKPdf 20 54 02.7 +2.3
PVCC Panska Ves 111.05 322 *ePKP* PKPdf 20 54 04.7 +2.8
PVCC *ePP* PP 20 54 40.3 -6.3
PVCC AMS AMS 21 44 20.0
comp=Z,400nm,21.8s
DAC Darwin (Calif) 111.19 54 *eP* Pdif 20 50 07.9 +2.5
DAC *e* 20 54 06.0
PRU Pruhonice 111.22 322 *ePKP* PKPdf 20 54 04.9 +2.7
PRU *ePP* PP 20 54 47.6 -0.2
PRU *eSKS* SKS 21 00 36.4 +4.2
PRU *ePS* PS 21 04 12.2 -3.5
PRU AMS AMS 21 44 30.0
ARSA Arzberg 111.33 318 ⇑ *iP* PKPdf 20 54 05.5 +3.0
CLL Collm 111.76 323 *ePDIF* Pdif 20 50 09.0 +1.5
CLL *i* PKIKP PKPdf 20 54 05.7 +2.5
CLL *i* PP PP 20 54 47.5 -4.0
CLL *e* 20 55 01.0
CLL *eSP* SP 21 04 09.0 +1.6
CLL Collm 111.76 323 *i* PKIKP PKPdf 20 54 05.7 +2.5
CLL *i* 20 54 47.5
CLL pmax pmax
comp=Z,22nm,1.1s
MOA Molln 111.99 319 ⇑ *iP* PKPdf 20 54 05.4 +1.6
KHC Kasperske Hory 112.06 321 *ePKP* PKPdf 20 54 06.4 +2.5
KHC *ePP* PP 20 54 50.1 -3.7
KHC *eSKS* SKS 21 00 40.5 +4.9
KHC *ePS* PS 21 04 21.1 -2.3
KHC AMS AMS 21 46 50.0
comp=Z,400nm,22.5s
GEC2 GERESS Array S 112.07 321 *ePKIKP* PKPdf 20 54 05.7 +1.8
GERES GERESS Array B 112.07 321 PKiKP 20 54 06.4
comp=Z,7.1nm,0.7s,baz=72,slow=1.8,SNR=44
GERES PKKPbc 21 04 57.8
comp=Z,0.9nm,0.9s,baz=180,slow=7.8,SNR=3.2
GERES PKKPab 21 05 08.3
comp=Z,1.8nm,0.9s,baz=288,slow=4.2,SNR=5.3
GERES GERESS Array B 112.07 321 *i* PKIKP PKPdf 20 54 06.4 +2.5
GERES pmax pmax
comp=Z,7.0nm,0.7s
GERES pmax pmax
comp=Z,1.0nm,0.9s
GERES pmax pmax
comp=Z,2.0nm,0.9s
VISS Visnje 112.15 317 *ePKiKP* 20 54 06.3
CHMT Chamberlain Mo 112.20 42 *eP* PKPdf 20 54 06.4 +2.2
LJU Ljubljana 112.30 317 *ePKiKP* 20 54 07.2
LJU *ePP* PP 20 54 55.4 -0.4
NKC Novy Kostel 112.43 322 *ePKIKP* PKPdf 20 54 03.2 -1.4
NKC MLR MLR
comp=Z,400nm,19.2s
NKC Novy Kostel 112.43 322 *ePKP* PKPdf 20 54 03.2 -1.4
NKC *ex* x 20 54 42.8
NKC AMS AMS 21 47 50.0
comp=Z,400nm,19.2s
CEY Cerknica 112.44 317 *ePKiKP* 20 54 06.7
CEY *ePP* PP 20 54 56.6 -0.3
WET Wettzell 112.50 321 *ePKIKP* PKPdf 20 54 06.6 +1.8
JAVS Javornik 112.65 317 *ePKiKP* 20 54 07.0
MOX Moxa 112.80 323 *i* PKPdf 20 54 01.0 -4.3
MOX *e* 21 04 21.0
MOX L 21 48 25.0
MOX Moxa 112.80 323 *eP* PKPdf 20 54 01.1 -4.2
KBA Koelnbreinsper 112.80 319 ⇑ *iP* PKPdf 20 54 06.5 +1.1
SOI Samo 112.96 309 *ePKP* PKPdf 20 54 08.6 +2.6
CLZ Clausthal 113.12 324 *ePKPdf* PKPdf 20 54 08.5 +2.6
SUMG Summit 113.24 356 *ePKPdf* PKPdf 20 54 09.0 +3.2
FVI Forni Avoltri 113.31 318 *ePKP* PKPdf 20 54 08.6 +2.2
GRA1 Grafenberg Arr 113.35 322 *ePKPdf* PKPdf 20 54 08.4 +1.9
GRF Grafenberg Arr 113.35 322 *ePKIKP* PKPdf 20 54 08.4 +1.9
NEN Nelson 113.49 54 *ePKPdf* PKPdf 20 54 10.2 +3.2
FUR Furstenfeldbru 113.81 320 *ePKIKP* PKPdf 20 54 09.1 +1.7
HVU Hansel Valley 113.83 47 *ePKIKP* PKPdf 20 54 10.7 +3.1
BGU Big Grassy Mou 113.84 48 *ePKPdf* PKPdf 20 54 10.7 +3.0
WTTA Wattenberg 113.86 319 ⇑ *iP* PKPdf 20 54 09.5 +2.0
QLMT Earthquake Lak 113.99 43 *ePKPdf* PKPdf 20 54 11.1 +3.2
SQTA Sankt Quirin 114.15 319 ⇑ *iP* PKPdf 20 54 10.4 +2.3
MOTA Moosalm 114.18 320 ⇑ *iP* PKPdf 20 54 10.1 +1.9
YMR Madison River 114.36 44 *ePKPdf* PKPdf 20 54 11.8 +3.2
RRI2 Red Ridge 114.47 45 *ePKiKP* PKPdf 20 54 11.2 +2.3
YFT Old Faithful 114.51 44 *ePKiKP* PKPdf 20 54 13.5 +4.6
TPAW Teton Pass 114.69 45 *ePKiKP* PKPdf 20 54 12.4 +3.1
SFI Santa Sofia 114.71 316 *ePKP* PKPdf 20 54 12.2 +2.9
MOOW Moose Ponds 114.77 44 *ePKPdf* PKPdf 20 54 11.8 +2.4
NLU North Lily Min 114.78 49 *ePKPdf* PKPdf 20 54 12.2 +2.6
REDW Red Top Meadow 114.80 45 *ePKiKP* PKPdf 20 54 12.6 +3.1
WUWY Wally Ulrich 114.83 45 *ePKiKP* PKPdf 20 54 12.6 +3.0
SNOW Snow King Moun 114.84 45 *ePKiKP* PKPdf 20 54 13.1 +3.5
TOD Tromm 114.86 322 PKP PKPdf 20 54 11.1 +1.6
LOHW Long Hollow 114.90 45 *ePKiKP* PKPdf 20 54 12.7 +3.0
BRMO Bormio 114.93 319 *ePKP* PKPdf 20 54 11.9 +2.2
TCUT Toone Canyon 114.99 47 *ePKPdf* PKPdf 20 54 10.8 +0.9
DAVA Damuels 114.99 320 ⇑ *iP* PKPdf 20 54 11.8 +2.0
MSU Marysvale 115.03 50 *ePKIKP* PKPdf 20 54 13.8 +3.7
MPU Maple Canyon 115.09 49 *ePKiKP* PKPdf 20 54 13.3 +3.1
WTSB Winterswijk 115.12 325 *ePKP* PKPdf 20 54 12.5 +2.5
comp=Z,11nm,1.2s
ZCCA Zocca 115.18 316 *ePKP* PKPdf 20 54 13.6 +3.4
DAU Daniels Canyon 115.28 48 *ePKIKP* PKPdf 20 54 12.7 +2.2
ABH Alteburg 115.51 323 PKP PKPdf 20 54 12.8 +2.1
TMUT Trail Mountain 115.58 49 *ePKiKP* 20 54 14.5
LANF Langenberg 115.70 322 PKP PKPdf 20 54 13.0 +1.9
RUP Ruppelstein 115.87 323 PKP PKPdf 20 54 13.5 +2.1
PDAR Pinedale Array 115.88 45 PKP PKPdf 20 54 13.3 +1.7
comp=Z,6.9nm,0.8s,baz=230,slow=1.0,SNR=32
PDAR PKKPbc 21 04 46.0
comp=Z,7.2nm,1.1s,baz=117,slow=3.3,SNR=18
FELD Feldberg 115.98 321 PKP PKPdf 20 54 13.0 +1.3
HGN Heimansgroeve 116.11 324 *ePKP* PKPdf 20 54 14.1 +2.2
comp=Z,16nm,1.3s
SRU San Rafael 116.14 49 *ePKIKP* PKPdf 20 54 14.8 +2.6
VAI Varese 116.19 319 *ePKP* PKPdf 20 54 13.7 +1.6
WLS Welschbruch 116.19 322 PKP PKPdf 20 54 13.5 +1.5
CDF Champ du Feu 116.23 322 *ePKIKP* PKPdf 20 54 13.1 +1.0
comp=Z,16nm,0.9s
ECH Echery 116.38 321 PKP PKPdf 20 54 13.2 +0.8
WLF Walferdange 116.43 323 *ePKIKP* PKPdf 20 54 14.3 +1.8
BBS Basel-Blauen 116.44 321 PKP PKPdf 20 54 13.5 +1.0
MOF Molkenrain 116.53 321 PKP PKPdf 20 54 14.0 +1.3
MCGN Macugnaga 116.67 319 *ePKP* PKPdf 20 54 15.3 +2.3
HINF Hinteralfeld 116.72 321 *ePKIKP* PKPdf 20 54 14.1 +1.0
comp=Z,31nm,0.7s
LOMF Lomont 116.91 321 PKP PKPdf 20 54 14.9 +1.5
GIVF Givet 117.03 324 *ePKIKP* PKPdf 20 54 15.4 +1.8
comp=Z,104nm,1.2s
PGF Pioggiola 117.09 315 *ePKIKP* PKPdf 20 54 15.4 +1.5
comp=Z,126nm,1.2s
THEF They Montfort 117.10 322 PKP PKPdf 20 54 15.4 +1.6
TUC Tucson 117.40 57 *ePKIKP* PKPdf 20 54 17.5 +2.8
BAIF Baives 117.41 324 *ePKIKP* PKPdf 20 54 16.2 +1.9
comp=Z,81nm,1.2s
PV10 Paradox Valley 117.45 50 *ePKPdf* PKPdf 20 54 17.8 +3.1
MEZF Maizieres J'vi 117.56 322 *ePKIKP* PKPdf 20 54 16.3 +1.7
SAOF Saorge 117.63 317 PKP PKPdf 20 54 16.4 +1.5
LPG La Plagne 117.64 319 *ePKIKP* PKPdf 20 54 16.9 +2.0
comp=Z,37nm,0.8s
LPL La Plagne 117.64 319 *ePKIKP* PKPdf 20 54 17.0 +2.1
comp=Z,42nm,0.7s
CABF La Chapelle 117.66 320 *ePKIKP* PKPdf 20 54 16.6 +1.7
comp=Z,64nm,0.8s
SBF Sospel 117.75 317 *ePKIKP* PKPdf 20 54 16.4 +1.3
comp=Z,84nm,1.0s
AURF Auriere 117.82 317 PKP PKPdf 20 54 16.3 +1.1
TOUF Mont Tournerai 117.83 317 PKP PKPdf 20 54 16.5 +1.2
REVF Revere 117.84 317 PKP PKPdf 20 54 16.6 +1.3
BNI Bardonecchia 117.85 318 *ePKIKP* PKPdf 20 54 17.0 +1.7
PV01 Paradox Valley 117.87 50 *ePKPdf* PKPdf 20 54 18.6 +3.1
MBDF Montbardon 117.90 318 *ePKIKP* PKPdf 20 54 16.7 +1.3
comp=Z,23nm,0.6s
SURF Saint Ours 117.96 318 PKP PKPdf 20 54 18.0 +2.5
FRF La Foret Royal 118.39 317 *ePKIKP* PKPdf 20 54 17.9 +1.5
comp=Z,94nm,1.2s
GRN Grenoble 118.39 319 PKP PKPdf 20 54 18.4 +2.0
ORIF Oris-en-Rattie 118.42 318 *ePKIKP* PKPdf 20 54 17.9 +1.5
comp=Z,40nm,0.9s
ORIF *eR* 20 54 50.0
comp=Z,596nm,22.0s
LMR La Mourre 118.57 316 *ePKIKP* PKPdf 20 54 18.2 +1.4
comp=Z,72nm,1.1s
EKA Eskdalemuir Ar 118.63 332 PKP PKPdf 20 54 18.1 +1.5
comp=Z,8.3nm,0.5s,baz=28,slow=2.8,SNR=36
EKA pPKP 20 54 50.0
comp=Z,1.8nm,0.5s,baz=34,slow=3.6,SNR=1.6
EKA PKKPbc 21 04 36.2
comp=Z,9.2nm,0.8s,baz=242,slow=3.6,SNR=13
EKA Eskdalemuir Ar 118.63 332 PKIKP PKPdf 20 54 18.1 +1.5
EKA 20 54 50.0
EKA pmax pmax
comp=Z,8.0nm,0.5s
EKA pmax pmax
comp=N,2.0nm,0.5s
EKA pmax pmax
comp=Z,9.0nm,0.8s
STOF St-Etienne Org 118.74 317 PKP PKPdf 20 54 19.6 +2.5
TAVF Tavernes 118.77 317 PKP PKPdf 20 54 19.1 +1.9
LOR Lormes 118.80 321 *ePKIKP* PKPdf 20 54 18.6 +1.5
comp=Z,116nm,1.3s
LOR *eR* 20 54 50.0
comp=Z,508nm,22.0s
VILF Villemus 118.92 317 PKP PKPdf 20 54 18.4 +1.0
SMRF Simiane la Rot 118.97 317 *ePKIKP* PKPdf 20 54 19.2 +1.7
comp=Z,98nm,1.2s
PUYF Puyloubier 119.05 317 PKP PKPdf 20 54 18.9 +1.2
SMF Signal de Mont 119.07 321 *ePKIKP* PKPdf 20 54 19.1 +1.4
SSF Saint Saulge 119.11 321 *ePKIKP* PKPdf 20 54 19.5 +1.8
comp=Z,51nm,0.7s
BERF Bertagne 119.13 317 PKP PKPdf 20 54 20.1 +2.2
TREF Trevaresse 119.23 317 PKP PKPdf 20 54 19.4 +1.4
VIVF Saint-Julien-l 119.24 319 *ePKIKP* PKPdf 20 54 19.5 +1.5
comp=Z,90nm,1.2s
GELF Grande-Etoile 119.29 317 PKP PKPdf 20 54 19.8 +1.7
PRAF Pradon 119.31 317 PKP PKPdf 20 54 20.6 +2.4
AVF Avril sur Loir 119.31 321 *ePKIKP* PKPdf 20 54 19.3 +1.2
comp=Z,19nm,0.6s
HYF Humbligny 119.55 322 *ePKIKP* PKPdf 20 54 20.3 +1.8
BGF Bois d'Agland 119.73 321 *ePKIKP* PKPdf 20 54 20.8 +1.9
comp=Z,94nm,0.8s
AGO Saint Agoulin 119.76 320 PKP PKPdf 20 54 21.4 +2.4
PYM Petit Puy Mans 119.96 320 PKP PKPdf 20 54 20.0 +0.6
LBL Lubilhac 120.02 320 PKP PKPdf 20 54 22.6 +3.1
LASF Ste Croix 120.08 318 *ePKIKP* PKPdf 20 54 21.2 +1.5
comp=Z,97nm,1.2s
TCF Toulx Ste Croi 120.24 321 *ePKIKP* PKPdf 20 54 21.5 +1.6
comp=Z,192nm,1.4s
ANMO Albuquerque 120.33 53 *ePKIKP* PKPdf 20 54 23.4 +3.0
LDF La Druitiere 120.60 324 *ePKIKP* PKPdf 20 54 22.0 +1.4
FLN La Foliniere 120.73 324 *ePKIKP* PKPdf 20 54 22.2 +1.4
comp=Z,147nm,1.4s
FLN *eR* 20 54 50.0
comp=Z,554nm,20.8s
FRB Frobisher Bay 120.82 10 PKP PKPdf 20 54 22.0 +1.4
comp=Z,6.7nm,0.5s,baz=25,slow=9.5,SNR=4.7
FRB Frobisher Bay 120.82 10 PKIKP PKPdf 20 54 22.0 +1.3
FRB pmax pmax
comp=Z,7.0nm,0.5s
FRB Frobisher Bay 120.82 10 PKP PKPdf 20 54 22.0 +1.4
CAF Calviac 120.91 320 *ePKIKP* PKPdf 20 54 23.2 +1.9
comp=Z,132nm,1.2s
RJF Les Rejaudoux 121.10 320 *ePKIKP* PKPdf 20 54 23.5 +1.8
comp=Z,126nm,1.3s
RJF *eR* 20 54 50.0
comp=Z,390nm,21.0s
GRR Gorron 121.13 324 *ePKIKP* PKPdf 20 54 23.1 +1.5
comp=Z,204nm,1.5s
ULM Lac du Bonnet 121.40 33 PKP PKPdf 20 54 23.3 +1.2
comp=Z,12nm,0.6s,baz=322,slow=3.3,SNR=9.3
ULM PKKPbc 21 04 25.1
comp=Z,9.5nm,1.0s,baz=124,slow=3.5,SNR=4.0
MTLF Montolieu 121.47 318 *ePKIKP* PKPdf 20 54 23.7 +1.3

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,131nm,1.2s						
MFF	**Saint Martin d**	**121.56**	**322**	ePKIKP	PKPdf	20 54 23.9	+1.4
	comp=Z,111nm,1.0s						
LFF	**La Frestale**	**121.76**	**320**	ePKIKP	PKPdf	20 54 24.6	+1.7
	comp=Z,276nm,1.5s						
SGMF	**Saint Gilles**	**122.17**	**325**	ePKIKP	PKPdf	20 54 24.7	+1.1
	comp=Z,236nm,1.3s						
EMIR	**Miracle**	**122.51**	**317**	PKP	PKPdf	20 54 26.0	+1.6
ROSF	**Rostrenen**	**122.54**	**325**	ePKIKP	PKPdf	20 54 25.5	+1.2
	comp=Z,222nm,1.5s						
QUIF	**Quistinic**	**122.70**	**325**	ePKIKP	PKPdf	20 54 25.9	+1.3
	comp=Z,200nm,1.2s						
EPF	**Esparros**	**122.84**	**318**	ePKIKP	PKPdf	20 54 26.7	+1.7
	comp=Z,57nm,1.0s						
RESF	**Ens**	**122.94**	**318**	PKP	PKPdf	20 54 28.0	+2.8
EPOB	**Poblet**	**123.04**	**316**	PKP	PKPdf	20 54 26.9	+1.5
VIEF	**Viey**	**123.12**	**318**	PKP	PKPdf	20 54 28.1	+2.5
EBIE	**Bielsa**	**123.12**	**318**	PKP	PKPdf	20 54 27.8	+2.2
REYF	**Montagne du Re**	**123.31**	**319**	PKP	PKPdf	20 54 28.5	+2.5
ETSF	**Etsaut**	**123.50**	**318**	ePKIKP	PKPdf	20 54 28.4	+2.1
	comp=Z,128nm,1.3s						
FDAF	**Les Forges d'A**	**123.54**	**318**	PKP	PKPdf	20 54 28.9	+2.5
EBR	**Ebro Roquetas**	**123.66**	**316**	ePKPDF	PKPdf	20 54 28.0	+1.3
LARF	**Larrau**	**123.72**	**319**	PKP	PKPdf	20 54 29.5	+2.7
EIBI	**Ibiza**	**123.75**	**313**	PKP	PKPdf	20 54 28.9	+1.9
SJPF	**Ste Jean**	**123.84**	**319**	ePKIKP	PKPdf	20 54 29.1	+2.1
	comp=Z,87nm,1.3s						
ESAC	**San Caprasio**	**123.94**	**317**	PKP	PKPdf	20 54 28.9	+1.7
EALK	**Alkurruntz**	**123.97**	**319**	PKP	PKPdf	20 54 29.3	+2.0
TXAR	**Lajitas Array**	**124.00**	**59**	PKP	PKPdf	20 54 29.6	+1.9
	comp=Z,18nm,1.0s,baz=270,slow=1.3,SNR=43						
TXAR				PKKPbc		21 04 16.3	
	comp=Z,1.4nm,0.7s,baz=117,slow=5.6,SNR=6.7						
EMOS	**Mosqueruela**	**124.52**	**316**	PKP	PKPdf	20 54 30.9	+2.5
EBEN	**Beniarda**	**125.01**	**314**	PKP	PKPdf	20 54 30.9	+1.5
ELAN	**Lanestosa**	**125.21**	**320**	PKP	PKPdf	20 54 31.5	+1.8
ETOR	**Torete**	**125.41**	**317**	PKP	PKPdf	20 54 32.4	+2.3
EMUR	**La Murta**	**126.08**	**313**	PKP	PKPdf	20 54 32.9	+1.4
EARI	**Arriondas**	**126.30**	**321**	PKP	PKPdf	20 54 33.5	+1.7
KSU1	**Kansas State U**	**126.33**	**45**	ePKPdf	PKPdf	20 54 33.3	+1.4
EVIA	**Vianos**	**126.66**	**314**	PKP	PKPdf	20 54 34.6	+2.0
ESDC	**Sonseca Array**	**127.23**	**316**	PKP	PKPdf	20 54 35.7	+2.1
	comp=Z,12nm,1.1s,baz=31,slow=2.6,SNR=30						
ESDC				PP	PP	20 56 36.4	-1.8
	comp=Z,13nm,1.1s,baz=60,slow=6.9,SNR=9.8						
ESDC	**Sonseca Array**	**127.23**	**316**	PKP	PKPdf	20 54 35.5	+1.9
ESLA	**Sonseca Array**	**127.23**	**316**	ePKPdf	PKPdf	20 54 35.8	+2.2
EQES	**Quesada**	**127.42**	**314**	PKP	PKPdf	20 54 34.2	+0.1
EPON	**Pontenova**	**127.50**	**322**	PKP	PKPdf	20 54 37.0	+2.9
EBER	**Berja**	**127.67**	**313**	PKP	PKPdf	20 54 36.2	+1.7
ECAL	**Calabor**	**127.97**	**320**	PKP	PKPdf	20 54 36.6	+1.6
ERUA	**La Rua**	**127.99**	**321**	PKP	PKPdf	20 54 38.3	+3.2
PBRG	**Braganca**	**128.04**	**320**	ePKP	PKPdf	20 54 37.7	+2.5
ERON	**Agron**	**128.28**	**313**	PKP	PKPdf	20 54 37.2	+1.4
EADA	**Adamuz**	**128.34**	**315**	PKP	PKPdf	20 54 37.9	+2.0
ELUQ	**Luque**	**128.38**	**314**	PKP	PKPdf	20 54 37.2	+1.2
ELOJ	**Sierra Loja**	**128.48**	**313**	PKP	PKPdf	20 54 36.9	+0.8
STS	**Santiago**	**128.60**	**322**	PKP	PKPdf	20 54 39.4	+3.2
EMAZ	**Mazaricos**	**128.82**	**322**	PKP	PKPdf	20 54 38.4	+1.8
ELOB	**Lobios**	**128.85**	**321**	PKP	PKPdf	20 54 39.0	+2.3
PVRL	**Vila Real**	**128.94**	**320**	ePKP	PKPdf	20 54 40.0	+3.1
PVRL				i -		20 57 51.7	
EMIJ	**Mijas**	**129.18**	**313**	PKP	PKPdf	20 54 37.9	+0.4
MTE	**Manteigas**	**129.28**	**319**	ePKP	PKPdf	20 54 39.6	+2.0
MTE				i -		20 57 52.8	
MTE	**Manteigas**	**129.28**	**319**	ePKPdf	PKPdf	20 54 41.1	+3.5
PVIS	**Viseu**	**129.35**	**319**	ePKP	PKPdf	20 54 39.7	+2.0
PVIS				i -		20 57 52.8	
SCHQ	**Schefferville**	**129.43**	**13**	PKP	PKPdf	20 54 40.0	+2.6
	comp=Z,12nm,0.8s,baz=313,slow=0.7,SNR=13						
PCBR	**Castelo Branco**	**129.53**	**318**	ePKP	PKPdf	20 54 41.0	+2.9
PCBR				i -		20 57 53.1	
EBAD	**Badajoz**	**129.75**	**317**	PKP	PKPdf	20 54 39.9	+1.4
ESPR	**Espera**	**129.83**	**314**	PKP	PKPdf	20 54 40.2	+1.5
EMIN	**Mina Concepcio**	**129.99**	**315**	PKP	PKPdf	20 54 40.1	+1.1
PTOM	**Tomar**	**130.26**	**318**	ePKP	PKPdf	20 54 42.2	+2.7
PTOM				i -		20 57 56.1	
EVO	**Evora**	**130.54**	**317**⇑	iPKIKP	PKPdf	20 54 42.2	+2.2
	comp=Z,253nm,1.5s						
EVO				eR			
	comp=Z,473nm,22.0s						
PBEJ	**Beja**	**130.69**	**316**	ePKP	PKPdf	20 54 43.2	+2.9
PBEJ				i -		20 57 58.0	
PALC	**Alcoutim**	**130.69**	**315**	ePKP	PKPdf	20 54 43.5	+3.2
PALC				i -		20 57 58.0	
NATX	**Nacogdoches**	**130.70**	**53**	ePKPdf	PKPdf	20 54 44.0	+3.5
NATX				eSKP		20 57 59.0	
PLOU	**Loures**	**131.13**	**318**	ePKP	PKPdf	20 54 44.1	+3.0
PLOU				i -		20 57 59.9	
FVM	**French Village**	**131.15**	**43**	ePKIKP	PKPdf	20 54 42.3	+1.1
UALR	**University of**	**131.28**	**48**	ePKPdf	PKPdf	20 54 40.7	-0.8
PTEO	**Sao Teotonio**	**131.52**	**316**	ePKP	PKPdf	20 54 44.9	+3.0
PTEO				i -		20 58 00.7	
USIN	**University of**	**133.02**	**42**	ePKPdf	PKPdf	20 54 47.2	+2.4
USIN				ePP	PP	20 57 06.8	-8.7
USIN				eSKP		20 58 05.1	
BLO	**Bloomington**	**133.09**	**40**	ePKPdf	PKPdf	20 54 47.2	+2.4
BLO				eSKP		20 58 05.7	
SADO	**Sadowa**	**133.58**	**29**	SKPbc		20 58 06.8	
	comp=Z,23nm,0.8s,baz=339,slow=6.1,SNR=11						
KIC	**Kosan Boka**	**135.55**	**273**	eP		20 54 39.1	
	comp=Z,460nm,1.5s						
KIC	**Kosan Boka**	**135.55**	**273**	eP	PP	20 57 28.7	-3.3
	comp=Z,505nm,1.6s						
KIC				epP	Px	20 58 14.6	
DBIC	**Dimbokro**	**135.68**	**273**	PKhKP		20 54 39.4	
	comp=Z,4.9nm,0.8s,baz=2.7,slow=2.0,SNR=6.0						
DBIC				PKP	PKPdf	20 54 52.2	+1.9
	comp=Z,52nm,1.3s,baz=54,slow=5.9,SNR=6.7						
DBIC				PP	PP	20 57 30.5	-2.3
	comp=Z,5.6nm,0.8s,baz=62,slow=10,SNR=5.5						
DBIC				SKPbc		20 58 14.8	
	comp=Z,14nm,0.8s,baz=87,slow=4.9,SNR=7.6						
DBIC	**Dimbokro**	**135.68**	**273**	i PKHKP		20 54 39.4	
DBIC						20 54 52.2	
DBIC						20 57 30.5	
DBIC				pmax	pmax		
	comp=Z,5.0nm,0.8s						
DBIC				pmax	pmax		
	comp=Z,52nm,1.3s						
DBIC				pmax	pmax		
	comp=Z,6.0nm,0.8s						
DBIC				pmax	pmax		
	comp=N,14nm,0.8s						
DBIC	**Dimbokro**	**135.68**	**273**	PKP		20 54 39.4	
DBIC				ePKPdf	PKPdf	20 54 53.1	+2.8
GENY	**Geneseo**	**135.71**	**30**	ePKPdf	PKPdf	20 54 50.5	+0.9
LIC	**Lamto**	**135.83**	**273**	eP		20 54 41.2	
	comp=N,163nm,1.5s						
LIC	**Lamto**	**135.83**	**273**	eP	PP	20 57 31.4	-2.3
	comp=N,321nm,2.4s						
LIC				epP	Px	20 58 15.4	
LIC	**Lamto**	**135.83**	**273**	ePKIKP	PKPdf	20 54 53.0	+2.5
	comp=N,31nm,0.6s						
TIC	**Toumodi**	**135.84**	**273**	eP		20 54 41.6	
	comp=N,180nm,1.1s						
TIC	**Toumodi**	**135.84**	**273**	eP	PP	20 57 31.5	-2.2
	comp=N,506nm,1.8s						
TIC				epP	Px	20 58 14.8	
CPCT	**Cooper Cave**	**136.51**	**43**	ePKPdf	PKPdf	20 54 53.6	+2.4
CPCT				eSKP		20 58 18.3	
MIV	**Mineville/With**	**136.68**	**25**	ePKPdf	PKPdf	20 54 53.3	+2.1
MDV	**Middlebury**	**136.89**	**25**	ePKPdf	PKPdf	20 54 53.6	+2.0
MDV				eSKP		20 58 16.9	
BINY	**Binghamton**	**137.03**	**29**	ePKPdf	PKPdf	20 54 53.5	+1.5
JSC	**Jenkinsville**	**139.37**	**42**	ePKHKP		20 54 49.2	
JSC				e		20 54 59.6	
JSC				e		20 57 50.5	
TEIG	**Tepich**	**139.81**	**66**	PKP	PKPdf	20 54 59.7	+2.1
	comp=N,0.0nm,0.4s,baz=303,slow=24,SNR=2.3						
CCAN	**Las Canadas**	**141.88**	**309**	PKP	PKPdf	20 54 59.4	-1.8
EGOM	**La Gomera**	**142.38**	**309**	PKP	PKPdf	20 55 00.0	-2.0
CHIE	**El Hierro**	**143.17**	**309**	PKP	PKPdf	20 55 04.5	+1.1
LVC	**Limon Verde**	**145.70**	**147**	ePKPdf	PKPdf	20 55 11.9	+4.0
LVC				epPKPdf		20 55 43.3	
CPUP	**Villa Florida**	**146.88**	**167**	PKPbc	PKPbc	20 55 12.5	+1.0
	comp=N,217nm,1.0s,baz=227,slow=2.4,SNR=100						
CPUP				pPKPbc		20 55 43.7	
	comp=N,52nm,1.0s,baz=234,slow=5.6,SNR=2.3						
CPUP				SKPbc		20 58 43.7	
	comp=N,21nm,1.1s,baz=300,slow=1.8,SNR=3.1						
CPUP	**Villa Florida**	**146.88**	**167**	PKPdf	PKPdf	20 55 12.3	+2.5
CPUP	**Villa Florida**	**146.88**	**167**	PKIKP	PKPdf	20 55 12.5	+2.7
CPUP						20 55 43.7	
CPUP						20 58 43.7	
CPUP				pmax	pmax		
	comp=Z,217nm,1.0s						
CPUP				pmax	pmax		
	comp=N,52nm,1.0s						
CPUP				pmax	pmax		
	comp=N,21nm,1.1s						
CPUP	**Villa Florida**	**146.88**	**167**	PKPbc	PKPbc	20 55 12.5	+1.0
CPUP				pPKPbc		20 55 43.7	
CPUP				SKPbc		20 58 43.7	
NNA	**Nana**	**147.38**	**123**	ePKPdf	PKPdf	20 55 14.0	+3.1
ARE	**Arequipa**	**148.74**	**136**	eP	PKPdf	20 55 17.0	+4.0
ARE				i		20 55 20.8	
BBSR	**BB Station**	**150.24**	**27**	ePKPbc	PKPdf	20 55 21.9	+6.9
OTAV	**Otavalo**	**150.49**	**100**	ePKPdf	PKPdf	20 55 20.7	+4.8
CAM4	**Nova Friburgo**	**150.93**	**193**	eP	PKPdf	20 55 20.2	+3.9
CAM4				i		20 55 25.9	
CAM4				i		20 55 27.7	
CAM4				i		20 55 37.0	
LPAZ	**La Paz**	**151.09**	**141**	PKP	PKPdf	20 55 20.7	+4.1
	comp=N,22nm,1.1s,baz=353,slow=0.5,SNR=39						
LPAZ				PKPbc	PKPdf	20 55 26.5	+10
	comp=N,151nm,0.8s,baz=44,slow=1.0,SNR=131						
LPAZ				pPKPbc		20 55 56.6	
	comp=N,132nm,1.0s,baz=59,slow=1.4,SNR=4.0						
LPAZ	**La Paz**	**151.09**	**141**	PKPdf	PKPdf	20 55 20.3	+3.7
LPAZ				PKiKP		20 55 26.5	
LPAZ	**La Paz**	**151.09**	**141**	ePKPdf	PKPdf	20 55 20.4	+3.8
LPAZ				ePKPbc	PKPdf	20 55 26.4	+10
ROSC	**El Rosal**	**155.22**	**92**	PKP	PKPdf	20 55 25.4	+2.9
	comp=N,76nm,1.2s,baz=170,slow=6.0,SNR=11						
ROSC				PKPab	PKPab	20 55 51.8	+1.3
	comp=N,166nm,0.9s,baz=126,slow=13,SNR=13						
BDFB	**Brasilia**	**158.36**	**184**	PKP	PKPdf	20 55 29.7	+3.2
	comp=N,33nm,1.1s,baz=76,slow=1.7,SNR=17						
BDFB				PKPab	PKPab	20 56 04.5	+0.6
	comp=N,34nm,1.1s,baz=223,slow=1.3,SNR=7.7						
BDFB	**Brasilia**	**158.36**	**184**	PKIKP	PKPdf	20 55 29.7	+3.2
BDFB						20 56 04.5	
BDFB				pmax	pmax		
	comp=Z,33nm,1.1s						
BDFB				pmax	pmax		
	comp=Z,34nm,1.1s						
SDV	**Santo Domingo**	**158.83**	**81**	ePKPdf	PKPdf	20 55 29.1	+1.9
SDV				ePKPab	PKPab	20 56 06.0	0.0
MGP	**Maguayo**	**159.11**	**54**	ePKIKP	PKPdf	20 55 28.9	+1.5
SAML	**Samuel**	**159.74**	**137**	ePKPdf	PKPdf	20 55 30.5	+2.3
SAML				ePKPab	PKPab	20 56 08.3	-1.6
SJG	**San Juan**	**159.80**	**52**	PKP	PKPdf	20 55 29.6	+1.5
	comp=Z,34nm,1.0s,baz=329,slow=17,SNR=28						
SJG				PKPab	PKPab	20 56 09.1	-0.9
	comp=Z,97nm,1.0s,baz=334,slow=4.4,SNR=18						
SJG				pPKPab		20 56 40.1	
	comp=Z,14nm,0.3s,baz=45,slow=19,SNR=6.2						
SJG				PP	PP	20 59 49.2	-3.1
	comp=Z,6.1nm,0.3s,baz=346,slow=20,SNR=4.6						
SJG	**San Juan**	**159.80**	**52**	PKIKP	PKPdf	20 55 29.6	+1.5
SJG						20 56 09.1	
SJG						20 59 49.2	
SJG				pmax	pmax		
	comp=Z,34nm,1.0s						
SJG				pmax	pmax		
	comp=Z,97nm,1.0s						
SJG				pmax	pmax		
	comp=N,14nm,0.3s						
SJG				pmax	pmax		
	comp=Z,6.0nm,0.3s						
SJG	**San Juan**	**159.80**	**52**	ePKPdf	PKPdf	20 55 29.8	+1.7
SJG				ePKPab	PKPab	20 56 08.7	-1.4
CBYP	**Canovanas**	**159.94**	**51**	ePKPdf	PKPdf	20 55 29.8	+1.5
CBYP				ePKPab	PKPab	20 56 09.0	-1.7
HUMP	**Col San Antoni**	**160.02**	**52**	ePKPdf	PKPdf	20 55 29.9	+1.5
HUMP				ePKPab	PKPab	20 56 10.8	-0.2
CPD	**Cerro la Pandu**	**160.03**	**52**	ePKIKP	PKPdf	20 55 29.8	+1.4
CPD				e		20 56 10.9	

MAN 13 21:14:10.6, 9.40N×125.51E, h3^{km}, mb4.6, ML3.5, MS3.4, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.38**	**357**	eP	Pg	21 14 18.9	+0.7
SCPH				i S	Sg	21 14 54.6	+31
BUTP	**Butuan**	**0.45**	**165**	eP	Pg	21 14 19.5	0.0
MSLP	**Maasin**	**0.97**	**319**	eP	Pb	21 14 28.7	-0.9
MSLP	**Maasin**	**0.97**	**319**	eP	Pb	21 14 28.8	-0.8
CGP	**Cagayan de Oro**	**1.24**	**221**	eP	Pb	21 14 34.2	0.0
CGP				eS	Sb	21 14 52.2	+1.7
BUKP	**Musuan**	**1.58**	**196**	eP	Pn	21 14 39.0	-0.6
BUKP	**Musuan**	**1.58**	**196**	eP	Pn	21 14 38.8	-0.8
TBP	**Tagbilaran**	**1.65**	**280**	i P	Pn	21 14 40.1	-0.6
TBP				i S	Sb	21 14 59.5	-2.9
PLP	**Palo**	**1.83**	**344**	i P	Pn	21 14 43.2	0.0
PLP				i S	Sn	21 15 09.5	+2.4
BESP	**Borongan**	**2.19**	**358**	eP	Pn	21 14 47.6	-0.7
BESP				eS	Sn	21 15 19.7	+3.4

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*IDC **13** 21:26:24.5±15.0, 19.01S×169.74E, h172^{km}±132^{km}, mb3.6/5, mb1 3.8/5, mb1mx3.7/10, Error ellipse: s-maj=69.1km s-min=50.3km az=117.0*

ISC 13 21:26:32.4±2.2**, 19.1S**±0.1×**169.3E**±0.3**, h244**^{km}±9^{km}**, n10,** $\sigma 1^{s}00$/10**, mb3.6**/5**, 1C, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**1.72**	**323**⇑	iP	**P**	**21 27 12.3**	**+0.1**
BKM				S	**S**	**21 27 43.0**	**-0.1**
NOUC	**Port Laguerre**	**4.14**	**223**	eP	**P**	**21 27 40.0**	**+1.9**
NOUC				eS	**S**	**21 28 27.9**	**-1.3**
STKA	**Stephens Creek**	**28.00**	**237**	P	**P**	**21 32 03.5**	**+0.6**
	4.9nm,1.1s,mb4.1,baz=79,slow=12,SNR=5.4						
WRA	**Warramunga Arr**	**32.95**	**263**	P	**P**	**21 32 45.4**	**-0.8**
	0.2nm,0.3s,mb3.2,baz=85,slow=8.2,SNR=14						
WRA				PcP	PcP	21 35 23.9	-0.6
	0.3nm,0.7s,baz=88,slow=3.4,SNR=3.4						
ASPA	**Alice Springs**	**33.24**	**256**	eP	**P**	**21 32 48.7**	**0.0**
CMAR	**Chiang Mai Arr**	**78.50**	**294**	P	**P**	**21 38 09.5**	**+1.0**
	3.1nm,1.2s,mb3.8,baz=136,slow=4.9,SNR=9.0						
SONM	**Songino Array**	**87.12**	**323**	P	**P**	**21 38 52.2**	**+0.5**
	1.1nm,0.7s,mb3.7,baz=150,slow=6.2,SNR=10						
ILAR	**Eielson Array**	**90.04**	**17**	P	**P**	**21 39 03.3**	**-1.7**
	0.4nm,0.4s,mb3.6,baz=238,slow=5.2,SNR=4.6						
ARCES	**ARCESS Array B**	**124.91**	**345**	PKP	PKPdf	21 45 02.6	-0.2
	4.5nm,1.0s,baz=67,slow=2.5,SNR=9.1						
GERES	**GERESS Array B**	**144.37**	**332**	PKP	PKPdf	21 45 39.2	+0.1
	0.7nm,0.5s,baz=34,slow=4.8,SNR=7.6						

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*DJA **13** 22:22:24.9±0.9, 7.29S×120.08E, h453^{km}±12^{km}, MD4.8/2, ML4.9/2, Error ellipse: s-maj=45.9km s-min=8.1km az=139.0*

*IDC **13** 22:22:28.6±7.8, 7.11S×120.54E, h372^{km}±95^{km}, mb3.2/5, mb1 3.4/7, mb1mx3.2/16, Error ellipse: s-maj=94.8km s-min=31.6km az=61.0*

*NEIC **13** 22:22:29.5±4.5, 7.21S×120.45E, h386^{km}±56^{km}, mb4.0/2, Error ellipse: s-maj=53.3km s-min=23.9km az=56.0*

ISC 13 22:22:29.2±0.6**, 7.42S**±0.08×**120.13E**±0.07**, h407**^{km}±8^{km}**, n17,** σ**0^{s}72**/21**, mb3.5**/6**, 9C-2D, Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NINI	**Niniconang**	**3.00**	**353**⇑	ePn	**P**	**22 23 34.0**	**+0.7**
BUNI	**Buntu Taipa**	**3.74**	**3**⇑	ePn	**P**	**22 23 38.7**	**-1.1**
KEDI	**Kedomdong**	**4.12**	**255**⇑	ePn	**P**	**22 23 44.4**	**+1.0**
	130nm,0.3s						
KEDI			⇑	eSn	**S**	**22 24 42.5**	**+0.8**
RATI	**Rata**	**4.74**	**254**⇑	ePn	**P**	**22 23 49.8**	**+0.3**
	275nm,0.2s						
RATI			⇑	eSn	**S**	**22 24 51.8**	**-0.7**
KELI	**Kelakatan**	**5.64**	**262**⇓	ePn	**P**	**22 24 00.1**	**+1.2**
KELI			⇑	eSn	**S**	**22 25 08.5**	**-0.8**
SRDI	**Scrawed**	**6.03**	**260**⇓	ePn	**P**	**22 24 03.3**	**+0.3**
SRDI			⇑	eSn	**S**	**22 25 15.7**	**-1.0**
FITZ	**Fitzroy Crossi**	**11.90**	**154**	P	**P**	**22 25 09.1**	**-1.0**
	0.3nm,0.3s,baz=260,slow=2.7,SNR=9.6						
WRA	**Warramunga Arr**	**18.57**	**134**	P	**P**	**22 26 19.8**	**+0.1**
	0.7nm,0.3s,baz=317,slow=11,SNR=48						
WRAB	**Tennant Creek**	**18.57**	**133**	eP	**P**	**22 26 19.9**	**+0.1**
	5.8nm,0.7s						
WB2	**Warramunga Arr**	**18.58**	**133**⇑	iP	**P**	**22 26 19.7**	**-0.1**
STKA	**Stephens Creek**	**31.50**	**143**	P	**P**	**22 28 17.3**	**+0.3**
	1.2nm,0.3s,mb3.6,baz=323,slow=10,SNR=4.5						
SONM	**Songino Array**	**56.34**	**349**	P	**P**	**22 31 30.9**	**-0.9**
	0.3nm,0.6s,mb2.8,baz=162,slow=9.1,SNR=3.9						
MKAR	**Makanchi Array**	**63.58**	**332**	P	**P**	**22 32 20.5**	**+0.5**
	1.3nm,0.6s,mb3.7,baz=136,slow=6.4,SNR=19						
MKAR	**Makanchi Array**	**63.58**	**332**	P	**P**	**22 32 20.5**	**+0.5**
ZAL	**Zalesovo**	**67.98**	**338**	P	**P**	**22 32 46.9**	**-0.6**
	0.9nm,0.3s,mb3.8,baz=350,slow=3.9,SNR=3.8						
BVAR	**Borovoye Array**	**73.45**	**331**	P	**P**	**22 33 20.6**	**+0.7**
	0.6nm,0.4s,mb3.4,baz=100,slow=8.8,SNR=4.1						
ZRNK	**Zerenda**	**74.07**	**331**	eP	**P**	**22 33 23.7**	**+0.3**
	1.4nm,0.5s,mb3.9						

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*NEIC **13** 22:39:39.0, 18.17N×68.22W, h120^{km}, MD3.5(RSPR), After RSPR.*

RSPR 13 22:39:39.0, 18.17N×68.22W, h120^{km}±2^{km}**, MD3.5**/11**, MD3.5**/11**, 8C-6D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LSP	**Las Mesas**	**1.07**	**89**⇓	eP	P	22 40 01.4	-0.7
LSP				eS	S	22 40 18.9	-0.5
MGP	**Maguayo**	**1.08**	**98**⇑	eP	P	22 40 01.5	-0.8
MGP				eS	S	22 40 19.3	-0.3
LRS	**Lares**	**1.31**	**84**⇑	eP	P	22 40 04.1	-0.6
LRS				eS	S	22 40 23.3	-0.9
AOPR	**Arecibo Observ**	**1.40**	**83**⇑	eP	P	22 40 05.3	-0.5
AOPR				eS	S	22 40 25.8	-0.3
PORP	**Portuguez**	**1.51**	**94**⇓	iP	P	22 40 06.4	-0.5
PORP				eS	S	22 40 27.0	-1.1
OBIP	**Obispado Ponce**	**1.54**	**95**⇓	eP	P	22 40 06.7	-0.6
OBIP				eS	S	22 40 28.6	-0.1
CELP	**Cerrillos**	**1.56**	**93**⇑	eP	P	22 40 06.8	-0.8
CELP				eS	S	22 40 28.2	-1.0
CSB	**Colonia Sabana**	**1.96**	**86**⇑	eP	P	22 40 11.2	-1.2
CSB				eS	S	22 40 36.8	-0.8
SJG	**San Juan**	**1.96**	**91**⇑	eP	P	22 40 11.6	-0.9
SJG	**San Juan**	**1.96**	**91**⇑	eP	P	22 40 12.1	-0.4
SJG	**San Juan**	**1.96**	**91**	eS	S	22 40 37.2	-0.6
SJG	**San Juan**	**1.96**	**91**⇑	eP	P	22 40 12.1	-0.4
SJG				eS	S	22 40 37.2	-0.6
CPD	**Cerro la Pandu**	**2.19**	**93**⇓	eP	P	22 40 14.9	-0.6
CPD				eS	S	22 40 42.7	-0.3
CBYP	**Canovanas**	**2.25**	**87**⇓	eP	P	22 40 14.9	-1.3
CBYP				eS	S	22 40 44.4	+0.1
HUMP	**Col San Antoni**	**2.25**	**90**⇓	eP	P	22 40 15.7	-0.5
HUMP				eS	S	22 40 44.2	-0.1

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*NEIC **13** 22:54:12.8, 58.72N×155.04W, h130^{km}, After AEIC.*

*IDC **13** 22:54:18.9±9.2, 59.36N×154.46W, h193^{km}±88^{km}, mb3.0/2, mb1 3.2/3, mb1mx2.9/19, MS3.5/1, Ms1 3.5/1, ms1mx2.9/8, Error ellipse: s-maj=87.4km s-min=84.1km az=118.0*

ISC 13 22:54:10.6±0.4**, 58.70N**±0.04×**154.92W**±0.08**, h138**^{km}±3^{km}**, n66,** σ**0^{s}80**/82**, mb3.3**/2**, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAHC	**Katmai Hardscr**	**0.07**	**226**	P	**P**	**22 54 29.4**	**0.0**
KAHC				S	**S**	**22 54 43.0**	**-0.9**
KAIC	**Katmai Ikaglui**	**0.22**	**198**	P	**P**	**22 54 29.9**	**0.0**
KARR	**Katmai Rainbow**	**0.23**	**151**	P	**P**	**22 54 30.5**	**+0.5**
KAHG	**Katmai Hook Gl**	**0.28**	**136**	P	**P**	**22 54 30.5**	**+0.3**
KAHG				S	**S**	**22 54 44.9**	**-0.1**
KAPH	**Katmai Pasha**	**0.31**	**108**	P	**P**	**22 54 30.6**	**+0.3**
KAPH				S	**S**	**22 54 45.1**	**-0.2**
KAWH	**Katmai**	**0.32**	**169**	P	**P**	**22 54 30.2**	**-0.1**
KAWH				S	**S**	**22 54 44.8**	**-0.6**
ACHA	**Angle Creek He**	**0.53**	**204**	P	**P**	**22 54 31.3**	**0.0**
MGLS	**Mageik LS**	**0.53**	**204**	P	**P**	**22 54 31.8**	**+0.5**
KABR	**Katmai Barrier**	**0.57**	**183**	P	**P**	**22 54 31.5**	**0.0**
MCNL	**McNeil River**	**0.58**	**31**	P	**P**	**22 54 31.4**	**-0.2**
MCNL				S	**S**	**22 54 46.0**	**-1.7**
ANCK	**Angle Creek**	**0.58**	**212**	P	**P**	**22 54 31.8**	**+0.2**
CNTC	**Contact Creek**	**0.67**	**230**	P	**P**	**22 54 31.9**	**-0.1**
CNTC				S	**S**	**22 54 46.7**	**-1.9**
CAHL	**Cahill**	**0.68**	**198**	P	**P**	**22 54 32.5**	**+0.3**
KJL	**Kejulik**	**0.73**	**209**	P	**P**	**22 54 32.8**	**+0.3**
AUI	**Augustine Isla**	**1.00**	**50**	P	**P**	**22 54 35.2**	**+0.8**
AUI				S	**S**	**22 54 53.0**	**+0.2**
AUW	**Augustine West**	**1.01**	**47**	P	**P**	**22 54 35.4**	**+0.9**
AGU	**Augustine-Summ**	**1.02**	**48**	P	**P**	**22 54 35.6**	**+1.0**
OPT	**Oil Point**	**1.29**	**41**	P	**P**	**22 54 38.1**	**+0.7**
KDAK	**Kodiak Island**	**1.54**	**126**	P	**P**	**22 54 40.4**	**+0.3**
KDAK				S	**S**	**22 55 01.6**	**-1.0**
IVS	**Iliamna South**	**1.62**	**35**	P	**P**	**22 54 41.6**	**+0.7**
IVS				S	**S**	**22 55 04.5**	**+0.3**
INE	**Iliamna NE**	**1.67**	**34**	P	**P**	**22 54 42.0**	**+0.5**
ILIM	**Iliamna**	**1.71**	**35**	P	**P**	**22 54 42.9**	**+0.9**
CNPM	**China Poot**	**2.07**	**65**	P	**P**	**22 54 46.8**	**+0.5**
CNPM				S	**S**	**22 55 13.6**	**0.0**
RSO	**Redoubt South**	**2.09**	**31**	P	**P**	**22 54 47.2**	**+0.8**
RSO				S	**S**	**22 55 14.7**	**+0.8**
REF	**Redoubt East F**	**2.12**	**31**	P	**P**	**22 54 47.3**	**+0.4**
NCT	**North Crescent**	**2.13**	**27**	P	**P**	**22 54 47.4**	**+0.4**
NCT				S	**S**	**22 55 15.3**	**+0.5**
RDN	**Redoubt North**	**2.13**	**30**	P	**P**	**22 54 47.8**	**+0.7**
RDN				S	**S**	**22 55 14.7**	**-0.1**
BRLK	**Bradley Lake**	**2.33**	**61**	P	**P**	**22 54 50.6**	**+0.9**
BRLK				S	**S**	**22 55 18.9**	**-0.5**
BKG	**Blockade Glaci**	**2.73**	**28**	P	**P**	**22 54 55.6**	**+0.8**
SPU	**Mount Spurr**	**2.88**	**29**	P	**P**	**22 54 57.0**	**+0.3**
SLKM	**Skilak Lake**	**3.00**	**51**	P	**P**	**22 54 59.0**	**+0.7**
SEW	**Seward**	**3.13**	**61**	P	**P**	**22 55 00.6**	**+0.6**
SEW				S	**S**	**22 55 35.7**	**-2.0**
STLK	**Strandline Lak**	**3.21**	**27**	P	**P**	**22 55 01.6**	**+0.6**
MPA	**Moose Pass**	**3.35**	**55**	P	**P**	**22 55 03.2**	**+0.3**
MPA				S	**S**	**22 55 40.2**	**-2.6**
RC01	**Rabbit Creek A**	**3.55**	**45**	P	**P**	**22 55 05.4**	**0.0**
LTI	**Latouche**	**3.86**	**67**	P	**P**	**22 55 09.8**	**+0.3**
PWL	**Port Wells**	**3.97**	**54**	P	**P**	**22 55 10.6**	**-0.5**
PMR	**Palmer**	**4.10**	**42**	P	**P**	**22 55 13.0**	**+0.2**
KNK	**Knik Glacier**	**4.23**	**47**	P	**P**	**22 55 13.5**	**-1.1**
TT01	**Tatalina**	**4.26**	**353**	P	**P**	**22 55 14.3**	**-0.7**
GHO	**Glory Hole Cre**	**4.29**	**42**	P	**P**	**22 55 14.6**	**-0.8**
CUT	**Chulitna**	**4.37**	**30**	P	**P**	**22 55 16.6**	**+0.1**
CFI	**College Fiord**	**4.38**	**52**	P	**P**	**22 55 16.9**	**+0.4**
GLI	**Glacier Island**	**4.52**	**58**	P	**P**	**22 55 18.4**	**0.0**
SML	**Sawmill**	**4.53**	**44**	P	**P**	**22 55 19.6**	**+1.1**
FID	**Port Fidalgo**	**4.74**	**61**	P	**P**	**22 55 20.7**	**-0.7**
JPK	**Jack Peak**	**4.81**	**57**	P	**P**	**22 55 22.6**	**+0.3**
SCM	**Sheep Creek Mo**	**4.92**	**47**	P	**P**	**22 55 22.5**	**-1.2**
VLZ	**Valdez**	**4.96**	**57**	P	**P**	**22 55 24.4**	**+0.2**
CVA	**Cordova**	**5.01**	**64**	P	**P**	**22 55 24.8**	**-0.2**
EYAK	**Cordova Ski Ar**	**5.01**	**64**	P	**P**	**22 55 25.0**	**+0.1**
DIV	**Divide**	**5.21**	**58**	P	**P**	**22 55 27.6**	**0.0**
SGAM	**Sherman Glacie**	**5.25**	**66**	P	**P**	**22 55 28.2**	**0.0**
TRF	**Thorofare Moun**	**5.27**	**23**	P	**P**	**22 55 28.1**	**-0.3**
DTNA	**Dutton South F**	**5.36**	**232**	P	**P**	**22 55 31.2**	**+1.6**
DHY	**Denali Highway**	**5.73**	**37**	P	**P**	**22 55 33.2**	**-1.3**
GLB	**Gilahina Butte**	**6.20**	**59**	P	**P**	**22 55 40.9**	**0.0**
TGL	**Tana Glacier**	**6.45**	**66**	P	**P**	**22 55 44.6**	**+0.3**
BALM	**Baldy**	**6.75**	**64**	P	**P**	**22 55 49.1**	**+0.7**
YAH	**Yahtse**	**6.91**	**70**	P	**P**	**22 55 51.5**	**+1.1**
IL1	**Eielson Array**	**7.19**	**29**	P	**P**	**22 55 51.9**	**-2.3**
ILAR	**Eielson Array**	**7.19**	**29**	P	**P**	**22 55 52.0**	**-2.2**
	1.0nm,0.3s,baz=217,slow=14,SNR=46						
ILAR				S	**S**	**22 57 06.9**	**-7.9**
	1.5nm,0.3s,baz=216,slow=28,SNR=14						
BCA3	**Beaver Creek A**	**7.75**	**50**	P	**P**	**22 56 02.0**	**+0.1**
DLBC	**Dease Lake**	**12.97**	**80**	LR	LR	23 02 40.0	
	comp=Z,218nm,18.0s,baz=115,slow=40						
SONM	**Songino Array**	**54.76**	**305**	P	**P**	**23 03 27.0**	**-0.5**
	0.4nm,0.5s,mb3.4,baz=33,slow=6.8,SNR=5.6						
MKAR	**Makanchi Array**	**64.83**	**320**	P	**P**	**23 04 34.1**	**-2.1**
	0.2nm,0.5s,mb3.2,baz=27,slow=8.1,SNR=5.0						

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*STR **13** 22:56:53.3±0.3, 42.98N×0.16E, h5^{km}±1^{km}, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 13 22:56:53.0±0.1**, 42.99N×0.13E, h10**^{km}**, Md2.2**/2**, Ml1.8**/1**, Error ellipse: s-maj=3.4km s-min=1.5km az=169.0, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VIEF	**Viey**	**0.13**	**218**	Pg	Pg	22 56 56.5	+0.3
VIEF				Sg	Sg	22 56 58.8	+0.5
EPF	**Esparros**	**0.16**	**74**	ePg	Pg	22 56 56.9	+0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
EPF				eSg	Sg	22 56 59.6	+0.6
	37nm,0.2s						
RESF	**Ens**	**0.23**	**140**	Pg	Pg	22 56 58.0	0.0
RESF				Sg	Sg	22 57 01.4	0.0
MELF	**Melles**	**0.47**	**104**	Pg	Pg	22 57 02.0	-0.6
MELF				Sg	Sg	22 57 08.4	-0.6
ETSF	**Etsaut**	**0.52**	**260**	ePg	Pg	22 57 03.2	-0.3
ETSF				eSg	Sg	22 57 09.0	-1.5
	16nm,0.3s						
SALF	**Salau**	**0.81**	**106**	Pg	Pg	22 57 08.6	-0.6
SALF				Sg	Sg	22 57 18.7	-1.4
MTLF	**Montolieu**	**1.56**	**76**	ePg	Pg	22 57 22.0	-2.3
MTLF				eSg	Sg	22 57 42.7	-2.5
	1.3nm,0.2s						

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*IDC **13** 23:08:04.9±4.4, 34.48N×22.45E, mb4.0/6, mb1 3.9/11, mb1mx3.8/26, ML4.2/4, Error ellipse: s-maj=77.4km s-min=25.3km az=26.0*
*CSEM **13** 23:08:14.2±0.7, 34.85N×23.03E, h80km, MD3.6, Error ellipse: s-maj=24.9km s-min=7.2km az=35.0*
*ATH **13** 23:08:16.2, 35.04N×23.07E, h25km±10km, MD3.6/8*
*NEIC **13** 23:08:16.2, 35.04N×23.07E, h25km, MD3.6(ATH), After ATH.*
ISC 13 23:08:05.5±1.9, **34.3N**±0.2×**22.5E**±0.1, **h25**km, **n22**, σ**1.24**/23, **mb3.9**/6, **1D, Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**1.45**	**67**	ePN	**Pn**	**23 08 33.0**	**+2.4**
VAM	**Vamos**	**1.82**	**52**	⇓iPN	**Pn**	**23 08 35.5**	**-0.3**
KYTH	**Kithira**	**2.04**	**13**	ePN	**Pn**	**23 08 40.0**	**+0.9**
IDI	**Anoyia**	**2.24**	**63**	Pn	**Pn**	**23 08 42.7**	**+0.8**
	14nm,0.3s,baz=271,slow=10,SNR=329						
VLI	**Veliai**	**2.46**	**9**	ePN	**Pn**	**23 08 46.5**	**+1.5**
NSAL	**Nisos Salamina**	**3.70**	**12**	ePN	**Pn**	**23 09 02.6**	**-0.1**
PTL	**Penteli**	**3.92**	**16**	ePN	**Pn**	**23 09 04.2**	**-1.6**
VLS	**Valsamata**	**4.17**	**339**	ePN	**Pn**	**23 09 12.5**	**+3.3**
EVR	**Evrytania**	**4.65**	**354**	ePN	**Pn**	**23 09 19.5**	**+3.4**
SRN	**Sarande**	**5.92**	**341**	ePn	**Pn**	**23 09 35.2**	**+1.2**
SRN				i Sn	**Sn**	**23 10 29.8**	**-12**
LSK	**Leskovik**	**6.04**	**346**	ePn	**Pn**	**23 09 36.5**	**+0.8**
BCI	**Bajram Curri**	**8.28**	**348**	ep	**P**	**23 10 06.2**	**-0.9**
BRTR	**Keskin Array B**	**10.46**	**55**	Pn	**P**	**23 10 34.9**	**-2.2**
	0.1nm,0.3s,baz=226,slow=16,SNR=2.9						
VRAC	**Vranov**	**15.62**	**346**	Pn	**P**	**23 11 44.8**	**-0.9**
	1.5nm,0.3s,baz=135,slow=16,SNR=4.0						
GERES	**GERESS Array B**	**15.94**	**339**	Pn	**P**	**23 11 50.8**	**+1.1**
	0.1nm,0.3s,baz=160,slow=12,SNR=3.5						
AKASG	**Malin Array Be**	**17.13**	**15**	Pn	**P**	**23 12 03.0**	**-1.8**
	1.9nm,0.3s,baz=210,slow=9.7,SNR=7.3						
HFS	**Hagfors**	**26.49**	**350**	P	**P**	**23 13 41.6**	**-0.8**
	3.1nm,0.8s,mb3.9,baz=149,slow=8.6,SNR=9.5						
FINES	**FINESS Array B**	**27.27**	**4**	P	**P**	**23 13 48.2**	**-1.4**
	6.6nm,1.1s,mb4.1,baz=180,slow=11,SNR=3.4						
NOA	**NORSAR Array B**	**27.74**	**348**	P	**P**	**23 13 53.1**	**-0.7**
	0.9nm,0.8s,mb3.5,baz=157,slow=11,SNR=2.6						
ARCES	**ARCESS Array B**	**35.34**	**2**	P	**P**	**23 15 00.3**	**-0.3**
	1.6nm,0.7s,mb4.0,baz=186,slow=9.1,SNR=3.7						
MKAR	**Makanchi Array**	**46.11**	**56**	P	**P**	**23 16 29.6**	**+0.3**
	0.7nm,0.4s,mb3.9,baz=270,slow=8.2,SNR=24						
SONM	**Songino Array**	**61.75**	**50**	P	**P**	**23 18 24.7**	**+0.6**
	0.3nm,0.4s,mb3.8,baz=283,slow=7.2,SNR=4.2						

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*IDC **13** 23:16:45.9±2.3, 5.34S×130.97E, mb3.9/4, mb1 4.0/6, mb1mx3.9/13, ML3.7/2, Error ellipse: s-maj=87.4km s-min=32.1km az=83.0*
ISC 13 23:17:01.3±4.0, **5.9S**±0.1×**130.7E**±0.2, **h171**km±41km, **n11**, σ**0.43**/13, **mb4.2**/8, **Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.08**	**202**	Pn	**P**	**23 20 02.2**	**+0.6**
	0.4nm,0.3s,baz=22,slow=11,SNR=15						
FITZ				Sn	**S**	**23 22 23.5**	**-0.2**
	1.2nm,0.3s,baz=177,slow=20,SNR=7.8						
WRA	**Warramunga Arr**	**14.36**	**166**	Pn	**P**	**23 20 17.5**	**-0.4**
	0.3nm,0.3s,baz=355,slow=13,SNR=28						
WRA				Sn	**S**	**23 22 53.0**	**+0.1**
	1.4nm,0.3s,baz=347,slow=22,SNR=8.1						
CMAR	**Chiang Mai Arr**	**39.64**	**308**	P	**P**	**23 24 18.1**	**0.0**
	0.9nm,0.5s,mb3.7,baz=140,slow=6.7,SNR=4.5						
PKI	**Pulchoki**	**55.01**	**310**	eP	**P**	**23 26 17.1**	**-0.4**
KKN	**Kakani**	**55.22**	**310**	eP	**P**	**23 26 18.6**	**-0.4**
	4.4nm,0.4s,mb4.6						
DMN	**Daman**	**55.26**	**309**	eP	**P**	**23 26 19.2**	**-0.1**
	7.6nm,0.4s,mb4.8						
GKN	**Gorkha**	**55.82**	**310**	eP	**P**	**23 26 23.2**	**-0.1**
	7.3nm,0.4s,mb4.8						
KOLN	**Koldanda**	**56.50**	**309**	eP	**P**	**23 26 28.3**	**+0.1**
	4.8nm,0.4s,mb4.7						
SONM	**Songino Array**	**57.68**	**341**	P	**P**	**23 26 35.5**	**-0.6**
	0.4nm,0.6s,mb3.5,baz=164,slow=7.1,SNR=5.1						
MKAR	**Makanchi Array**	**67.75**	**326**	P	**P**	**23 27 43.2**	**+0.6**
	1.5nm,0.4s,mb4.1,baz=120,slow=8.1,SNR=33						
BVAR	**Borovoye Array**	**77.56**	**327**	P	**P**	**23 28 40.8**	**+0.9**
	0.3nm,0.5s,mb3.2,baz=127,slow=7.2,SNR=3.8						

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*BER **13** 23:17:41.1±3.4, 67.85N×20.24E, ML1.5, Suspected explosion*
HEL 13 23:17:40.5±0.1, **67.84N**×**20.17E**, **ML1.7**, **ML2.2**(UPP), **ML1.7**(BER), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**28**	i P	Pg	23 17 42.5	-0.6
KUA				i S	Sg	23 17 44.2	-0.6
NIKU	**Nikkaluokta**	**0.43**	**274**	i P	Pg	23 17 48.3	-0.8
DUNU	**Dundret**	**0.74**	**168**	i P	Pg	23 17 53.6	-1.7
MASU	**Masugnsbyn**	**0.80**	**118**	i P	Pg	23 17 54.8	-1.7
KIF	**Kilpisjarvi**	**1.19**	**11**	eP	Pb	23 18 02.6	-1.1
KIF				eS	Sb	23 18 18.3	-1.2
KTK1	**Kautokeino**	**1.63**	**42**	eP	Pn	23 18 10.0	-0.7
KTK1				eS	Sb	23 18 30.6	-1.7
KTK1				AML	AML	23 18 34.6	
	comp=Z,4.6nm,0.3s						
TRO	**Tromso**	**1.86**	**346**	eP	Pn	23 18 13.3	-0.5
TRO				eS	Sn	23 18 37.0	-1.4
TRO				AML	AML	23 18 44.2	
	comp=Z,6.9nm,0.4s						
SGF	**Sodankyl**	**2.46**	**96**	eP	Pn	23 18 21.9	-0.6
SGF				eSG	Sg	23 18 56.1	-6.4
SGF				MSG		23 19 06.3	
	comp=Z,1.7nm,0.3s						
LOF	**Lofoten**	**2.52**	**280**	e	Pn	23 19 02.3	+39
LOF				AML	AML	23 19 10.6	
	comp=Z,11nm,0.6s						
LOF	**Lofoten**	**2.52**	**280**	eSg	Sg	23 19 02.3	-2.0
LOF				AML	AML	23 19 10.6	
	comp=Z,11nm,0.6s						
MELS	**Mels**	**2.68**	**252**	eSg	Sg	23 19 04.7	-5.1
MOR8	**Moi Rana**	**2.81**	**236**	eSG	Sg	23 19 03.7	-10
MOR8				AML	AML	23 19 10.1	
	comp=Z,6.0nm,0.5s						
KEV	**Kevo**	**3.14**	**49**	eP	Pn	23 18 31.7	-0.5
KEV				eS	Sn	23 19 08.8	-2.1
KEV				eSG	Sg	23 19 17.5	-7.6
KEV				MSG		23 19 19.4	
	comp=Z,2.5nm,0.3s						
OUL	**Oulu**	**3.59**	**138**	eSG	Sg	23 19 30.2	-10
OUL				MSG		23 19 33.6	
	comp=Z,2.0nm,0.3s						
MSF	**Maaselka**	**4.00**	**115**	eSG	Sg	23 19 43.4	-10
MSF				MSG		23 19 52.8	
	comp=Z,1.1nm,0.4s						
NSS	**Namsos**	**4.70**	**229**	eSG	Sg	23 20 07.7	-9.3
KJN	**Kajaani**	**4.87**	**137**	eSG	Sg	23 20 10.3	-12
VAF	**Ylistaro**	**4.93**	**167**	eSG	Sg	23 20 13.4	-11

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*CSEM **13** 23:37:39.5, 32.45N×0.79W, h30km, MD3.5, After CNRM*
CNRM 13 23:37:39.5, 32.45N×**0.79W, h30**km, **MD3.5, Northern Algeria**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZAI	**Zaio**	**3.00**	**328**	i P	Pn	23 38 23.0	-3.2
ZAI				i S	Sn	23 38 57.0	-4.5
ZFT	**Errachidia**	**3.05**	**263**	i P	Pn	23 38 25.0	-1.9
ZFT				i S	Sn	23 38 57.5	-5.2
TZK	**Tazeka**	**3.28**	**301**	i P	Pn	23 38 28.0	-2.2
TZK				i S	Sn	23 39 03.0	-5.6
MIF	**Mishlifen**	**3.85**	**286**	i P	Pn	23 38 36.0	-2.3
MIF				i S	Sn	23 39 17.0	-6.1
TGT	**Taghat**	**3.92**	**295**	i P	Pn	23 38 37.0	-2.3
TGT				i S	Sn	23 39 20.0	-4.9

TAP 13 23:50:41.5, 24.27N×**120.79E, h27**km, **ML4.1, 13C-4D, Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NSY	**Sanyi**	**0.15**	**350**	⇓iP	Pb	23 50 47.3	+0.5
NSY				S	Sb	23 50 51.7	+1.3
TCU	**Taichung**	**0.16**	**221**	⇓iP	Pb	23 50 47.2	+0.2
TCU				S	Sb	23 50 51.5	+0.9
TWT	**Tachien**	**0.35**	**93**	⇑iP	Pb	23 50 49.9	+0.4
TWT				S	Sb	23 50 55.3	+0.5
TYC	**Yuchr**	**0.37**	**170**	⇑iP	Pb	23 50 50.1	+0.4
TYC				S	Sb	23 50 56.6	+1.3
SMLT	**Sun Moon Lake**	**0.40**	**165**	⇑iP	Pb	23 50 50.6	+0.5
SMLT				S	Sb	23 50 57.5	+1.5
WNT	**Mingjian**	**0.40**	**194**	⇑iP	Pb	23 50 50.7	+0.5
WNT				S	Sb	23 50 57.5	+1.4
NSTT	**Nanjuang**	**0.41**	**28**	⇑iP	Pb	23 50 50.6	+0.4
NSTT				S	Sb	23 50 57.0	+0.8
HSN	**Hsinchu**	**0.56**	**17**	P	Pb	23 50 53.7	+1.1
HSN				S	Sb	23 51 03.0	+2.7
NNS	**Nan Shan**	**0.56**	**72**	i P	Pb	23 50 53.2	+0.5
NNS				S	Sb	23 51 00.9	+0.6
WGK	**Gukeng**	**0.62**	**200**	⇑iP	Pb	23 50 54.0	+0.4
WGK				S	Sb	23 51 03.8	+1.8
NSK	**Sanguang**	**0.66**	**52**	eP	Pb	23 50 54.8	+0.5
NSK				S	Sb	23 51 03.9	+0.8
CHN5	**Tsauling**	**0.68**	**189**	⇑iP	Pb	23 50 54.8	+0.1
CHN5				S	Sb	23 51 05.0	+1.3
ESL	**Shilin**	**0.74**	**128**	P	Pb	23 50 56.4	+0.6
ESL				S	Sb	23 51 06.9	+1.4
ALS	**Alishan**	**0.76**	**179**	⇑iP	Pb	23 50 56.4	+0.5
ALS				S	Sb	23 51 07.7	+1.8
TWD	**Chiawan**	**0.76**	**104**	eP	Pb	23 50 56.1	+0.1
TWD				S	Sb	23 51 06.8	+0.8
NCU	**National Centr**	**0.79**	**27**	eP	Pb	23 50 56.7	+0.2
NCU				S	Sb	23 51 07.8	+1.1
ENTT	**Nioudou**	**0.80**	**62**	⇓P	Pb	23 50 57.0	+0.3
ENTT				S	Sb	23 51 07.8	+0.8
HWA	**Hwalien**	**0.80**	**111**	eP	Pb	23 50 57.5	+0.8
HWA				S	Sb	23 51 08.9	+1.8
WSF	**Szhu**	**0.82**	**220**	eP	Pb	23 50 56.7	-0.2
WSF				S	Sb	23 51 08.6	+1.0
CHY	**Chiayi**	**0.84**	**204**	⇑P	Pb	23 50 57.2	-0.1
CHY				S	Sb	23 51 09.4	+1.1
ENA	**Nanau**	**0.88**	**80**	eP	Pb	23 50 58.0	0.0
ENA				S	Sb	23 51 10.6	+1.2
EHY	**Hungye**	**0.90**	**147**	⇑P	Pb	23 50 59.0	+0.6
EHY				S	Sb	23 51 11.4	+1.3
TWE	**Neicheng**	**0.92**	**60**	eP	Pn	23 50 59.2	+0.5
TWE				S	Sb	23 51 11.7	+1.2
CHN4	**Tsaushan**	**0.93**	**191**	⇑P	Pn	23 50 59.0	+0.1
CHN4				S	Sb	23 51 12.4	+1.5
TWS1	**Kuangyinshan**	**1.00**	**34**	eP	Pn	23 50 59.8	-0.1
TAP	**Taipei**	**1.01**	**40**	eP	Pn	23 51 00.6	+0.6
TWA	**Mucha**	**1.01**	**45**	eP	Pn	23 50 60.0	0.0
TWA				S	Sb	23 51 14.5	+1.3
TAP1	**Taipei**	**1.01**	**41**	eP	Pn	23 51 00.1	+0.1
TWC	**Suao**	**1.02**	**70**	⇓P	Pn	23 51 00.8	+0.7
TWC				S	Sb	23 51 14.3	+0.8
TWF1	**Yuli**	**1.02**	**153**	eP	Pn	23 51 00.9	+0.7
TWF1				S	Sb	23 51 15.0	+1.5
WTP	**Ta-pu**	**1.03**	**189**	⇑P	Pn	23 51 00.3	0.0
WTP				S	Sb	23 51 15.3	+1.5
TWK	**Hsinying**	**1.04**	**196**	eP	Pn	23 51 00.3	0.0
TWK				S	Sb	23 51 14.8	+0.9
CHN8	**Yiju**	**1.06**	**210**	P	Pn	23 51 00.7	0.0
CHN8				S	Sb	23 51 16.1	+1.5
ELDTW	**Lidau**	**1.10**	**169**	⇑P	Pn	23 51 01.6	+0.4
ELDTW				S	Sn	23 51 16.3	+0.7
STYT	**Tauyuan**	**1.10**	**182**	eP	Pn	23 51 01.8	+0.5
STYT				S	Sn	23 51 17.7	+2.0
CHN1	**Nanshi**	**1.11**	**193**	eP	Pn	23 51 01.4	0.0
CHN1				S	Sn	23 51 17.3	+1.5
SGST	**Jiashian**	**1.20**	**189**	eP	Pn	23 51 03.0	+0.4
SGST				S	Sn	23 51 20.4	+2.3
NWF	**Wu-fen Shan**	**1.20**	**48**	eP	Pn	23 51 03.3	+0.6
NWF				S	Sn	23 51 20.5	+2.2
SCLT	**Jiali**	**1.22**	**207**	S	Sn	23 51 21.1	+2.5
TWY	**Chenhua**	**1.24**	**36**	eP	Pn	23 51 03.2	-0.1
TWY				S	Sn	23 51 20.2	+0.9
CHN3	**Shinhua**	**1.25**	**198**	eP	Pn	23 51 04.2	+0.8
CHN3				S	Sn	23 51 22.8	+3.3
CHKT	**Chengkung**	**1.28**	**156**	eP	Pn	23 51 05.0	+1.2
CHKT				S	Sn	23 51 23.0	+2.8
TWB1	**Santiao Chiao**	**1.31**	**56**	eP	Pn	23 51 04.3	0.0
PNG	**Penghu**	**1.33**	**238**	eP	Pn	23 51 04.6	+0.1
PNG				S	Sn	23 51 22.2	+0.7
WDGT	**Dungji**	**1.44**	**226**	eP	Pn	23 51 06.7	+0.5
TWG	**Pinlang**	**1.47**	**170**	eP	Pn	23 51 07.8	+1.3
TWG				S	Sn	23 51 27.7	+2.8
TWM1	**Shoushan**	**1.48**	**193**	eP	Pn	23 51 08.8	+2.2
SSD	**Sandimen**	**1.52**	**185**	eP	Pn	23 51 08.3	+1.0
SSD				S	Sn	23 51 29.7	+3.3
ECL	**Taimali**	**1.67**	**175**	eP	Pn	23 51 11.3	+1.8
SCZT	**Fangliau**	**1.90**	**185**	eP	Pn	23 51 13.7	+1.1

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*IDC **13** 23:56:16.3±0.7, 6.53S×103.90E, mb4.1/11, mb1 4.3/11, mb1mx4.1/16, MS3.0/1, Ms1 3.2/1, ms1mx2.9/15, Error ellipse: s-maj=31.9km s-min=12.6km az=50.0*
*NEIC **13** 23:56:17.6±0.5, 6.54S×104.06E, h10km, mb4.5/1, Error ellipse: s-maj=22.6km s-min=8.6km az=52.0*
ISC 13 23:56:16.0±0.6, **6.5S**±0.1×**104.1E**±0.2, **h10**km, **n25**, σ**0.83**/24, **mb4.3**/15, **MS2.9**/1, **Sunda Strait**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**20.99**	**135**	P	**P**	**00 01 07.6**	**+5.5**
FITZ	**Fitzroy Crossi**	**23.94**	**121**	P	**P**	**00 01 33.2**	**+1.8**
	2.7nm,0.8s,mb3.8,baz=326,slow=3.6,SNR=3.5						
FITZ				S	**S**	**00 05 55.8**	**+11**
	1.8nm,0.8s,baz=180,slow=20,SNR=2.7						
CMAR	**Chiang Mai Arr**	**25.32**	**348**	P	**P**	**00 01 45.2**	**+0.5**
	1.8nm,0.5s,mb3.9,baz=180,slow=9.0,SNR=0.4						
CMAR				LR	LR	00 11 43.1	
	comp=Z,40nm,21.2s,MS2.9,baz=12,slow=37						
WRA	**Warramunga Arr**	**32.23**	**117**	P	**P**	**00 02 46.6**	**-0.3**
	0.8nm,0.4s,mb3.9,baz=302,slow=10.0,SNR=17						
WRA				PcP	PcP	00 05 35.1	-0.4
	0.7nm,0.6s,baz=311,slow=2.1,SNR=5.7						
WRAB	**Tennant Creek**	**32.23**	**117**	eP	**P**	**00 02 45.7**	**-1.3**
WB2	**Warramunga Arr**	**32.24**	**117**	eP	**P**	**00 02 46.6**	**-0.4**
PKI	**Pulchoki**	**38.40**	**333**	eP	**P**	**00 03 40.9**	**+1.3**
	7.4nm,0.6s,mb4.6						
GUN	**Gumba**	**38.48**	**334**	eP	**P**	**00 03 40.8**	**+0.6**
	11nm,0.4s,mb4.9						
KKN	**Kakani**	**38.65**	**333**	eP	**P**	**00 03 41.8**	**+0.2**
GKN	**Gorkha**	**39.13**	**332**	eP	**P**	**00 03 45.9**	**+0.3**
	6.0nm,0.2s,mb4.9						
KOLN	**Koldanda**	**39.42**	**331**	eP	**P**	**00 03 48.4**	**+0.3**
	13nm,0.7s,mb4.8						
STKA	**Stephens Creek**	**43.11**	**131**	P	**P**	**00 04 19.1**	**+0.7**
	7.9nm,0.6s,mb4.6,baz=297,slow=8.9,SNR=22						
STKA	**Stephens Creek**	**43.11**	**131**	eP	**P**	**00 04 19.0**	**+0.6**
SONM	**Songino Array**	**54.14**	**2**	P	**P**	**00 05 43.8**	**+0.3**
	2.6nm,0.9s,mb4.2,baz=176,slow=7.3,SNR=15						
MKAR	**Makanchi Array**	**56.49**	**342**	P	**P**	**00 05 60.0**	**-0.8**
	1.4nm,0.6s,mb4.2,baz=153,slow=8.9,SNR=26						
KURK	**Kurchatov**	**61.10**	**342**	eP	**P**	**00 06 29.9**	**-2.8**
ZAL	**Zalesovo**	**62.37**	**347**	P	**P**	**00 06 40.6**	**-0.6**
	1.1nm,0.3s,mb4.5,baz=294,slow=5.5,SNR=6.4						
BVAR	**Borovoye Array**	**65.83**	**338**	P	**P**	**00 07 03.1**	**-0.7**
	0.4nm,0.3s,mb3.9,baz=125,slow=7.7,SNR=5.3						
ZRNK	**Zerenda**	**66.28**	**338**	P	**P**	**00 07 06.7**	**0.0**
MAW	**Mawson**	**67.04**	**196**	P	**P**	**00 07 11.3**	**0.0**
	0.6nm,0.3s,mb4.1,baz=310,slow=5.6,SNR=6.4						
MAW	**Mawson**	**67.04**	**196**	eP	**P**	**00 07 11.1**	**-0.1**
	1.9nm,0.6s,mb4.3						
BRTR	**Keskin Array B**	**79.38**	**312**	P	**P**	**00 08 23.6**	**-0.5**
	1.0nm,0.8s,mb3.8,baz=79,slow=6.3,SNR=4.1						
FINES	**FINESS Array B**	**89.99**	**332**	P	**P**	**00 09 17.1**	**+0.3**
	2.3nm,1.1s,mb4.4,baz=108,slow=6.0,SNR=3.7						
BDFB	**Brasilia**	**144.71**	**231**	PKP	PKPdf	00 15 54.9	-2.3
	2.6nm,0.6s,baz=125,slow=4.5,SNR=4.4						
TXAR	**Lajitas Array**	**145.32**	**46**	PKPbc	PKPbc	00 15 57.0	+1.7
	1.1nm,0.6s,baz=296,slow=1.0,SNR=21						

DJA 14 00:44:21.1±0.7, **9.07S**×**116.19E, h2**km, **MD5.1**/4, **ML4.1**/1, **4C-3D, Error ellipse: s-maj=10.6km s-min=7.2km az=118.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**0.59**	**352**	⇑ePg	Pg	00 44 36.8	+3.9
	622nm,0.1s						
KEDI				⇑eSg	Sg	00 44 46.4	+5.7
RATI	**Rata**	**0.74**	**298**	⇑ePg	Pg	00 44 39.9	+4.0
	318nm,0.2s						
RATI				⇑eSg	Sg	00 44 53.6	+7.9
KELI	**Kelakatan**	**1.89**	**297**	⇓ePn	Pn	00 44 51.3	-3.3
SRDI	**Scrawed**	**2.11**	**286**	⇓ePn	Pn	00 44 54.7	-3.2
	96nm,0.2s						
SRDI				⇓eSn	Sn	00 45 20.1	-4.9

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*SKHL **14** 01:00:15.8±5.1, 52.10N×153.80E, h450km±50km, mb4.9/4, mbv6.5/1, msh6.2/1, msha5.5/2*
*KRSC **14** 01:00:17.6±1.3, 51.41N×152.72E, h497km±10km, ML4.8*
*BJI **14** 01:00:21.8, 51.93N×152.92E, h462km, mB4.8, mb4.7*
*MOS **14** 01:00:22.2±0.8, 52.10N×152.82E, h456km, mb4.0/15, Error ellipse: s-maj=14.3km s-min=10.2km az=86.4*
*NEIC **14** 01:00:23.2±0.3, 52.11N×152.69E, h444km±4km, mb4.3/31, Error ellipse: s-maj=7.1km s-min=3.7km az=165.0*
*SYO **14** 01:00:23.5, 52.14N×152.63E, h449km, MB4.3*
*IDC **14** 01:00:24.4±2.3, 52.15N×152.62E, h458km±29km, mb3.6/17, mb1 3.8/19, mb1mx3.7/24, Error ellipse: s-maj=14.9km s-min=9.4km az=160.0*
ISC 14 01:00:22.4±0.2, **52.01N**±0.04×**152.72E**±0.06, **h453**km±3km, **h444**km±6.6km**:pP-P, n166**, σ**1.00**/190, **mb4.3**/56, **13C-10D, Northwest of Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MIPR	**Malaya Ipel'ka**	**2.50**	**82**	eP	**P**	**01 01 26.6**	**-0.2**
PAU	**Pauzhetka**	**2.60**	**100**	i P	**P**	**01 01 27.2**	**-0.2**
PAU				eS	**S**	**01 02 18.3**	**-0.5**
PAU				Smax			
	320nm,1.2s						
APC	**Apacha**	**2.87**	**70**	i P	**P**	**01 01 29.0**	**-0.3**
APC				eS	**S**	**01 02 20.0**	**-2.1**
APC				Smax			
	110nm,1.4s						
GRL	**Gorelyy**	**3.33**	**79**	i P	**P**	**01 01 33.4**	**+0.6**
GNL	**Ganaly**	**3.59**	**60**	eP	**P**	**01 01 34.7**	**-0.2**
RUS	**Russkaya**	**3.59**	**81**	P	**P**	**01 01 34.2**	**-0.7**
RUS				S	**S**	**01 02 29.0**	**-3.1**
RUS	**Russkaya**	**3.59**	**81**	eP	**P**	**01 01 34.1**	**-0.8**
RUS				eS	**S**	**01 02 29.2**	**-2.9**
PET	**Petropavlovsk**	**3.77**	**72**	P	**P**	**01 01 35.8**	**-0.6**
PET				S	**S**	**01 02 31.6**	**-3.2**
PET	**Petropavlovsk**	**3.77**	**72**	eP	**P**	**01 01 36.1**	**-0.3**
PET				eS	**S**	**01 02 33.0**	**-1.8**
PET	**Petropavlovsk**	**3.77**	**72**	⇓iPN	**P**	**01 01 36.0**	**-0.4**
PET				eS	**S**	**01 02 33.0**	**-1.8**
PET				pmax	pmax		
	comp=Z,800nm,1.1s						
PET				pmax	pmax		
	comp=N,204nm,0.9s						
PET				pmax	pmax		
	comp=Z,582nm,0.9s						
PET				pmax	pmax		
	comp=E,215nm,0.8s						
PET				smax			
	comp=E,195nm,1.4s						
PET				smax			
	comp=N,263nm,1.1s						
KOK	**Koryaka**	**3.83**	**68**	eP	**P**	**01 01 37.2**	**+0.3**
AVH	**Avacha**	**3.88**	**69**	i P	**P**	**01 01 37.8**	**+0.5**
AVH				eS	**S**	**01 02 37.1**	**+0.6**
UGLR	**Uglovaya**	**3.91**	**70**	i P	**P**	**01 01 38.0**	**+0.4**
UGLR				eS	**S**	**01 02 37.2**	**+0.2**
SMAR	**Somma**	**3.91**	**69**	eP	**P**	**01 01 38.0**	**+0.4**
SMAR				eS	**S**	**01 02 36.6**	**-0.4**
SDLR	**Sedlovina**	**3.96**	**69**	i P	**P**	**01 01 38.3**	**+0.2**
SDLR				eS	**S**	**01 02 38.4**	**+0.6**
NLC	**Nalytchevo**	**4.21**	**71**	eP	**P**	**01 01 39.3**	**-0.9**
NLC				eS	**S**	**01 02 39.1**	**-2.6**
KII	**Karymskiy**	**4.54**	**61**	eP	**P**	**01 01 43.9**	**+0.6**
SPN	**Mys Shipunski**	**4.59**	**73**	P	**P**	**01 01 41.8**	**-2.0**
SPN				S	**S**	**01 02 41.5**	**-6.5**
SPN	**Mys Shipunski**	**4.59**	**73**	i P	**P**	**01 01 41.8**	**-2.0**
SPN				eS	**S**	**01 02 42.3**	**-5.7**
TUMR	**Tumrok**	**5.50**	**50**	i P	**P**	**01 01 54.8**	**+2.1**
TUMR				i S	**S**	**01 03 05.1**	**+1.2**
KMNR	**Kamenistaya**	**5.82**	**47**	eP	**P**	**01 01 56.9**	**+1.0**
KMNR				eS	**S**	**01 03 08.3**	**-1.3**
KOZ	**Kozyrevsk**	**5.85**	**43**	eP	**P**	**01 01 57.9**	**+1.7**
KPT	**Kopyto**	**5.94**	**45**	eP	**P**	**01 01 58.3**	**+1.2**
KPT				eS	**S**	**01 03 12.9**	**+1.0**
SRDR	**Sredinnyy**	**5.96**	**41**	eP	**P**	**01 01 57.3**	**0.0**
MKZ	**Mys Kozlova**	**5.98**	**61**	P	**P**	**01 01 55.7**	**-1.8**
MKZ				S	**S**	**01 03 06.3**	**-6.2**
MKZ	**Mys Kozlova**	**5.98**	**61**	eP	**P**	**01 01 56.1**	**-1.4**
MKZ				eS	**S**	**01 03 06.5**	**-6.0**
LGNR	**Loginova**	**6.22**	**46**	eP	**P**	**01 02 01.4**	**+1.4**
LGNR				eS	**S**	**01 03 19.1**	**+2.0**
ZLN	**Zelenaya**	**6.23**	**47**	eP	**P**	**01 02 01.2**	**+1.1**
ZLN				eS	**S**	**01 03 18.1**	**+0.8**
KRSR	**Krestovskiy**	**6.25**	**44**	i P	**P**	**01 02 01.2**	**+0.9**
KRSR				eS	**S**	**01 03 15.7**	**-1.9**
CIRR	**Tsirk**	**6.26**	**46**	eP	**P**	**01 02 01.8**	**+1.3**
CIRR				eS	**S**	**01 03 19.6**	**+1.6**
KLY	**Klyuchi**	**6.35**	**44**	eS	**S**	**01 03 21.9**	**+2.4**
TYV	**Tymovskoe**	**6.40**	**264**	eP	**P**	**01 01 59.8**	**-2.1**
TYV				AMB	AMB	01 02 01.9	
	comp=N,35nm,0.8s						
KBTR	**Krutoberegovo**	**7.27**	**51**	P	**P**	**01 02 08.6**	**-2.6**
KBTR				S	**S**	**01 03 28.2**	**-9.1**
KBTR	**Krutoberegovo**	**7.27**	**51**	eP	**P**	**01 02 08.7**	**-2.5**
KUR	**Kuril'sk**	**7.50**	**207**	eP	**P**	**01 02 12.0**	**-1.7**
KUR				AMB	AMB	01 02 12.5	
	comp=N,70nm,0.5s						
KUR				A		01 03 50.5	
	comp=N,140nm,0.9s						
KUR				A		01 03 50.5	
	comp=N,170nm,0.9s						
MA2	**Magadan**	**7.66**	**353**	⇑ePN	**P**	**01 02 14.6**	**-0.8**
YSS	**Yuzh-Sakhalins**	**8.22**	**236**	⇑iP	**P**	**01 02 22.9**	**+1.3**
YSS				AMB	AMB	01 02 23.9	
	comp=N,80nm,0.9s						
YSS				AMB	AMB	01 02 23.9	
	comp=N,50nm,0.9s						
YSS				AMB	AMB	01 02 23.9	
	comp=N,30nm,0.9s						
YSS				eS	**S**	**01 03 58.0**	**+2.0**
YSS				A		01 04 02.1	
	comp=N,70nm,1.1s						
YSS				A		01 04 02.1	
	comp=N,60nm,1.1s						
YSS				esP		01 04 03.0	
YSS	**Yuzh-Sakhalins**	**8.22**	**236**	⇑iPN	**P**	**01 02 22.9**	**+1.3**
YSS				eS	**S**	**01 03 58.0**	**+2.0**
YSS				pmax	pmax		
	comp=N,50nm,0.9s						
YSS				pmax	pmax		
	comp=E,30nm,0.9s						
YSS				pmax	pmax		
	comp=Z,80nm,0.9s						
YSS				smax			
	comp=N,70nm,1.1s						
YSS				smax			
	comp=E,60nm,1.1s						
YSS	**Yuzh-Sakhalins**	**8.22**	**236**	⇑iPn	**P**	**01 02 22.9**	**+1.3**
	comp=E,80nm,0.9s						
YSS				eS	**S**	**01 03 58.0**	**+2.0**
YUK	**Yuzh-Kuril'sk**	**9.20**	**213**	eP	**P**	**01 02 28.0**	**-4.4**
YUK				AMB	AMB	01 02 34.8	
	comp=E,2μm,1.0s						
YUK				AMB	AMB	01 02 34.8	
	comp=E,2μm,1.0s						
YUK				AMB	AMB	01 02 34.8	
	comp=E,2μm,1.0s						
YUK				AMB	AMB	01 02 38.6	
	comp=E,230nm,0.5s						
YUK				AMB	AMB	01 02 38.6	
	comp=E,170nm,0.5s						

YUK				AMB	AMB	01 02 38.6	
	comp=E,190nm,0.5s						
YUK				eS	S	01 04 15.1	-0.3
YUK				A		01 04 19.0	
	comp=E,270nm,0.5s						
YUK				A		01 04 19.0	
	comp=E,1μm,0.9s						
YUK				A		01 04 22.4	
	comp=E,2μm,2.0s						
YUK				A		01 04 22.4	
	comp=E,2μm,1.0s						
YUK	Yuzh-Kuril'sk	9.20	213	PN	P	01 02 28.0	-4.4
YUK				eS	S	01 04 15.1	-0.3
YUK				pmax	pmax		
	comp=N,15μm,1.0s						
YUK				pmax	pmax		
	comp=E,2μm,1.0s						
YUK				pmax	pmax		
	comp=Z,2μm,1.0s						
YUK				pmax	pmax		
	comp=N,230nm,0.5s						
YUK				pmax	pmax		
	comp=E,170nm,0.5s						
YUK				pmax	pmax		
	comp=Z,190nm,0.5s						
YUK				smax			
	comp=N,270nm,0.5s						
YUK				smax			
	comp=E,1μm,1.0s						
YUK				pmax	pmax		
	comp=N,2μm,2.0s						
YUK				pmax	pmax		
	comp=E,2μm,1.0s						
YUK	Yuzh-Kuril'sk	9.20	213	Pn	P	01 02 28.0	-4.4
	comp=E,190nm,0.5s						
YUK				eS	S	01 04 15.1	-0.3
ASAJ	Asahikawa	10.40	225	P	P	01 02 45.4	0.0
	comp=E,1.6nm,0.3s,baz=133,slow=29,SNR=5.5						
ASAJ	Asahikawa	10.40	225	PN	P	01 02 45.4	0.0
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
FX1	Attu Island--F	12.50	78	P	P	01 03 07.3	-0.9
	comp=Z,3.0nm,0.3s,baz=150,slow=5.0,SNR=39						
FX1				S	S	01 05 39.1	+18
	comp=Z,1.1nm,0.3s,baz=42,slow=18,SNR=5.2						
FX1	Attu Island--F	12.50	78	eP	P	01 03 07.5	-0.7
KAMR	Kamenskoye	12.73	29	eP	P	01 03 10.5	-0.2
ZEA	Zeya	15.45	286	eP	P	01 03 38.6	-0.2
ZEA				AMB	AMB	01 03 39.6	
	comp=Z,43nm,1.2s						
YAK	Yakutsk	15.97	318	c eP	P	01 03 43.8	-0.1
YAK				pmax	pmax		
	comp=Z,15nm,0.6s						
YAK	Yakutsk	15.97	318	⇑eP	P	01 03 43.8	-0.1
	comp=Z,15nm,0.6s						
MDJ	Mudanjiang	17.02	253	P	P	01 03 55.5	+0.8
MDJ				AMB	AMB		
	comp=Z,12nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,84nm,4.5s						
MDJ	Mudanjiang	17.02	253	P	P	01 03 55.3	+0.7
	comp=Z,9.4nm,0.9s						
MAJO	Matsushiro	18.57	219	eP	P	01 04 11.1	+1.0
	comp=Z,8.3nm,0.6s						
CN2	Changchun	19.95	257	eP	P	01 04 23.1	-0.1
CN2				eS	S	01 07 36.9	-0.8
CN2				AMB	AMB		
	comp=Z,20nm,0.9s						
CN2				AMB	AMB		
	comp=Z,300nm,3.0s						
HIA	Hailar	20.99	276	eP	P	01 04 33.3	+0.2
	comp=Z,49nm,0.8s						
TIXI	Tiksi	22.38	340	⇓eP	P	01 04 45.8	-0.1
TIXI				pmax	pmax		
	comp=Z,11nm,1.7s,mb4.1						
TIXI	Tiksi	22.38	340	⇓eP	P	01 04 45.8	-0.1
	comp=Z,11nm,1.7s,mb4.1						
SONM	Songino Array	29.72	281	P	P	01 05 51.6	+0.5
	comp=Z,1.0nm,0.4s,mb3.6,baz=68,slow=8.2,SNR=16						
IMA	Indian Mountai	29.85	41	eP	P	01 05 52.0	-0.1
	comp=Z,94nm,0.8s,mb5.3						
ZAK	Zakamensk	30.55	287	eP	P	01 05 59.0	+0.7
SPU	Mount Spurr	30.86	51	eP	P	01 06 01.0	+0.2
SSE	Sheshan	31.14	240	eP	P	01 06 01.0	-2.5
SSE				AMB	AMB		
	comp=Z,42nm,0.8s,mb4.9						
SSE				AMB	AMB		
	comp=Z,122nm,3.6s						
MOY	Mondy	31.41	290	eP	P	01 06 06.9	+1.3
NJ2	Nanjing	31.68	244	eP	P	01 06 09.1	+0.9
NJ2				AP	pP	01 07 31.3	+1.5
NJ2				PP	PP	01 07 37.3	+5.4
NJ2				S	S	01 10 45.0	-0.1
NJ2				XS		01 13 12.0	
NJ2				AMB	AMB		
	comp=Z,40nm,0.8s,mb4.9						
MCK	McKinley	31.97	46	eP	P	01 06 10.4	+0.1
	comp=Z,10nm,0.9s,mb4.3						
PMR	Palmer	32.18	50	P	P	01 06 11.8	-0.3
	comp=Z,5.7nm,0.5s,mb4.3						
PMR				e		01 06 31.9	
COLA	College	32.32	43	c iP	P	01 06 13.5	+0.3
COLA	College	32.32	43	eP	P	01 06 13.2	0.0
	comp=Z,22nm,0.7s,mb4.7						
SML	Sawmill	32.52	49	eP	P	01 06 14.7	-0.3
ILAR	Eielson Array	32.74	44	P	P	01 06 16.5	-0.3
	comp=Z,12nm,0.8s,mb4.4,baz=276,slow=9.9,SNR=117						
ILAR	Eielson Array	32.74	44	P	P	01 06 16.5	-0.3
ILAR				pmax	pmax		
	comp=Z,12nm,0.8s						
THY	Trims Highway	33.42	46	eP	P	01 06 22.6	0.0
DAWY	Dawson	36.07	44	eP	P	01 06 44.5	-0.2
INK	Inuvik	37.44	36	P	P	01 06 55.9	-0.1
	comp=Z,4.2nm,0.3s,mb4.3,baz=300,slow=8.0,SNR=40						
INK	Inuvik	37.44	36	P	P	01 06 55.9	-0.1
INK				pmax	pmax		
	comp=Z,4.0nm,0.3s						
INK	Inuvik	37.44	36	eP	P	01 06 56.1	+0.1
	comp=Z,8.9nm,0.6s,mb4.4						
LZH	Lanzhou	37.79	265	⇑P	P	01 06 59.1	-0.1
LZH				AP	pP	01 08 22.3	-1.5
LZH				PP	PP	01 08 39.3	+2.2
LZH				AMB	AMB		
	comp=Z,39nm,1.3s,mb4.7						
GTA	Gaotai	38.20	272	eP	P	01 07 04.0	+1.5
GTA				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.2						
ENH	Enshi	38.38	253	eP	P	01 07 04.3	+0.2
	comp=Z,40nm,0.8s,mb4.9						
NVS	Novosibirsk	39.96	302	i P	P	01 07 16.2	-0.5
NVS				pmax	pmax		
	comp=N,4.0nm,0.8s						
NVS				pmax	pmax		
	comp=E,7.0nm,0.8s						
NVS				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.3						
NVS	Novosibirsk	39.96	302	i P	P	01 07 16.2	-0.5
	comp=Z,10.0nm,0.8s,mb4.3						
DLBC	Dease Lake	42.24	50	eP	P	01 07 36.5	+1.6
GYA	Guiyang	42.87	252	⇑iP	P	01 07 41.0	+0.6
GYA				AP	pP	01 09 07.4	+0.6
GYA				S	S	01 13 34.8	+3.3
GYA				SS	SS	01 16 55.8	+4.0
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.5						
GYA				AMB	AMB		
	comp=Z,190nm,4.5s						
WMQ	Urumqi	43.00	286	P	P	01 07 42.6	+1.4
WMQ				AP	pP	01 09 08.0	+0.3
WMQ				XP	sP	01 09 57.0	-1.2
WMQ				S	S	01 13 35.0	+1.8
WMQ				AMB	AMB		
	comp=Z,21nm,1.0s,mb4.5						
KURK	Kurchatov	44.40	299	d iP	P	01 07 52.2	+0.1
KURK	Kurchatov	44.40	299	i Pr		01 07 52.2	
RES	Resolute Bay	45.95	20	eP	P	01 08 02.2	-1.7
	comp=Z,5.1nm,0.9s,mb4.0						
KMI	Kunming	46.19	254	eP	P	01 08 07.0	+0.6
KMI				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.2						
YKW3	Yellowknife Ar	46.90	39	eP	P	01 08 11.0	-0.3
YKA	Yellowknife Ar	46.94	39	P	P	01 08 11.2	-0.3
	comp=Z,3.4nm,0.4s,mb4.1,baz=303,slow=6.6,SNR=15						
YKA	Yellowknife Ar	46.94	39	P	P	01 08 11.2	-0.4
YKA				pmax	pmax		
	comp=Z,3.0nm,0.4s						
YKA	Yellowknife Ar	46.94	39	P	P	01 08 11.2	-0.3
BVAR	Borovoye Array	47.44	306	P	P	01 08 15.4	-0.1
	comp=Z,6.6nm,0.6s,mb4.2,baz=63,slow=8.9,SNR=45						
BRVK	Borovoye	47.48	306	eP	P	01 08 15.2	-0.6
	comp=Z,10.0nm,0.7s,mb4.3						
ZRNK	Zerenda	48.18	306	eP	P	01 08 20.6	-0.5
	comp=Z,12nm,0.7s,mb4.3						
ARU	Arti	51.04	315	⇑iP	P	01 08 41.6	-0.9
ARU				e		01 09 48.4	
ARU				i		01 10 43.5	
ARU				eS	S	01 15 24.8	+0.4
ARU				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.2						
ARU	Arti	51.04	315	⇑iP	P	01 08 41.6	-0.9
	comp=Z,11nm,0.8s,mb4.2						
ARU				e		01 09 48.4	
ARU				i		01 10 43.5	
ARU				eS	S	01 15 24.8	+0.4
AAK	Ala-Archa	51.42	292	d iP	P	01 08 44.7	-0.8
AAK	Ala-Archa	51.42	292	i Pr		01 08 44.7	
NLW	Nelson Butte	52.75	57	eP	P	01 08 55.2	+0.1
NLW				e		01 09 09.6	
NLW				e		01 09 21.8	
ARCES	ARCESS Array B	52.81	339	P	P	01 08 53.6	-1.6
	comp=Z,3.3nm,0.8s,mb3.7,baz=30,slow=10.0,SNR=5.8						
ARCES	ARCESS Array B	52.81	339	P	P	01 08 53.7	-1.5
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CM31	Chiang Mai Arr	53.55	252	eP	P	01 09 01.5	+0.3
	comp=Z,5.5nm,0.9s,mb3.9						
CMAR	Chiang Mai Arr	53.55	252	P	P	01 09 01.8	+0.6
	comp=Z,3.2nm,0.8s,mb3.7,baz=24,slow=6.7,SNR=15						
CMAR	Chiang Mai Arr	53.55	252	P	P	01 09 01.8	+0.6
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GUN	Gumba	54.47	271	eP	P	01 09 07.5	-0.1
	comp=Z,31nm,0.5s,mb4.9						
KKN	Kakani	54.92	271	eP	P	01 09 11.1	+0.3
	comp=Z,58nm,0.5s,mb5.2						
PKI	Pulchoki	55.00	271	eP	P	01 09 11.6	+0.2
	comp=Z,39nm,0.5s,mb5.0						
DMN	Daman	55.16	271	eP	P	01 09 13.0	+0.5
	comp=Z,100nm,0.7s,mb5.2						
GKN	Gorkha	55.17	272	eP	P	01 09 12.5	-0.1
	comp=Z,91nm,0.7s,mb5.2						
WALA	Waterton Lakes	55.38	53	eP	P	01 09 13.2	-0.5
	comp=Z,13nm,0.8s,mb4.3						
SUMG	Summit	55.47	4	eP	P	01 09 12.8	-1.3
	comp=Z,4.9nm,0.8s,mb3.9						
YBH	Yreka Blue Hor	55.59	65	P	P	01 09 16.4	+1.0
	comp=Z,0.5nm,0.3s,mb3.3,baz=219,slow=4.0,SNR=3.7						
YBH	Yreka Blue Hor	55.59	65	P	P	01 09 16.4	+1.0
YBH				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KOLN	Koldanda	55.98	273	eP	P	01 09 18.0	-0.2
	comp=Z,30nm,0.3s,mb5.1						
FCC	Fort Churchill	57.04	35	eP	P	01 09 23.3	-1.8
	comp=Z,7.7nm,0.6s,mb4.2						
HRY	Holter Researc	58.00	54	eP	P	01 09 31.7	0.0
HLID	Hailey	58.85	58	eP	P	01 09 37.2	-0.3
	comp=Z,2.8nm,0.9s,mb3.6						
FINES	FINESS Array B	59.19	333	P	P	01 09 38.3	-1.2
	comp=Z,1.2nm,0.5s,mb3.5,baz=42,slow=8.8,SNR=18						
FINES	FINESS Array B	59.19	333	P	P	01 09 38.3	-1.2
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CMB	Columbia Colle	59.42	66	eP	P	01 09 41.7	+0.4
	comp=Z,6.4nm,1.2s,mb3.8						
QLMT	Earthquake Lak	59.50	55	eP	P	01 09 42.0	+0.2
NVAR	Mina Array Bea	60.31	65	P	P	01 09 48.0	+0.7
	comp=Z,3.7nm,0.8s,mb3.9,baz=307,slow=5.3,SNR=16						
TPAW	Teton Pass	60.69	56	eP	P	01 09 51.2	+1.4
LOHW	Long Hollow	60.78	56	eP	P	01 09 51.8	+1.4
OBN	Obninsk	60.86	324	eP	P	01 09 49.2	-1.5
OBN				e	pP	01 11 19.5	-6.1
OBN				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.0						
OBN	Obninsk	60.86	324	eP	P	01 09 49.2	-1.5
	comp=Z,6.0nm,0.9s,mb4.0						
OBN				e	pP	01 11 19.5	-6.1
HWUT	Hardware Ranch	61.72	58	eP	P	01 09 56.9	+0.3
	comp=Z,7.5nm,0.8s,mb4.2						
TRCR	Troy Canyon	61.88	63	eP	P	01 10 03.0	+5.3
PDAR	Pinedale Array	61.92	56	P	P	01 09 58.2	+0.3
	comp=Z,6.4nm,0.7s,mb4.2,baz=321,slow=2.8,SNR=15						
DUG	Dugway	62.07	60	eP	P	01 09 59.4	+0.5
	comp=Z,17nm,1.1s,mb4.4						
NLU	North Lily Min	62.63	60	eP	P	01 10 03.2	+0.6
NB2	NORSAR Subarra	63.18	340	P	P	01 10 04.6	-1.2
	comp=Z,0.2nm,0.7s,baz=29,slow=6.5						
NOA	NORSAR Array B	63.18	340	P	P	01 10 04.7	-1.1
	comp=Z,2.1nm,0.8s,mb3.7,baz=26,slow=6.3,SNR=5.5						
NOA	NORSAR Array B	63.18	340	P	P	01 10 04.7	-1.1
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA	NORSAR Array B	63.18	340	P	P	01 10 04.7	-1.1
KIV	Kislovodsk	67.00	313	i P	P	01 10 30.7	+0.8
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.3						
KIV	Kislovodsk	67.00	313	i P	P	01 10 30.7	+0.8
	comp=Z,8.0nm,1.1s,mb4.3						
AKASG	Malin Array Be	67.06	325	P	P	01 10 28.7	-1.5
	comp=Z,1.7nm,0.5s,mb4.0,baz=33,slow=6.4,SNR=7.3						
AKASG	Malin Array Be	67.06	325	P	P	01 10 28.7	-1.5
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
SCHQ	Schefferville	68.57	23	eP	P	01 10 38.0	-1.3
	comp=Z,0.8nm,0.3s,mb3.7						
ANN	Anapa	68.65	316	eP	P	01 10 51.6	+12
ANN				pmax	pmax		
	comp=Z,56nm,0.9s,mb5.1						
CLL	Collm	71.58	335	P	P	01 10 56.4	-0.9
MORC	Moravsky Berou	71.68	331	eP	P	01 10 57.0	-0.9
	comp=Z,3.7nm,0.8s,mb4.0						
PALK	Pallekele	73.25	260	P	P	01 11 04.1	-3.5
	comp=Z,14nm,1.0s,mb4.4						
KHC	Kasperske Hory	73.40	333	eP	P	01 11 07.5	-0.2
WB2	Warramunga Arr	73.42	198	eP	P	01 11 08.6	+0.2
WRA	Warramunga Arr	73.42	198	P	P	01 11 08.8	+0.4
	comp=Z,3.0nm,0.5s,mb4.1,baz=14,slow=6.0,SNR=32						
WRA	Warramunga Arr	73.42	198	P	P	01 11 08.8	+0.4
WRA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
WMOK	Wichita Mounta	73.48	55	eP	P	01 11 08.0	-0.5
	comp=Z,16nm,1.0s,mb4.5						
GERES	GERESS Array B	73.63	333	P	P	01 11 08.5	-0.5
	comp=Z,0.5nm,0.3s,mb3.5,baz=34,slow=4.8,SNR=9.6						
GERES	GERESS Array B	73.63	333	P	P	01 11 08.5	-0.5
GERES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BRTR	Keskin Array B	74.41	316	P	P	01 11 13.5	-0.2
	comp=Z,2.0nm,0.8s,mb3.7,baz=36,slow=3.5,SNR=5.8						
BRTR	Keskin Array B	74.41	316	P	P	01 11 13.5	-0.2
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TXAR	Lajitas Array	75.16	61	P	P	01 11 19.1	+1.0
	comp=Z,1.8nm,0.4s,mb3.9,baz=308,slow=5.3,SNR=6.2						
SYO	Syowa Base	145.16	215	⇓PKPdf	PKPdf	01 19 07.1	+1.8
SYO	Syowa Base	145.16	215	⇓PKPbc	PKPbc	01 19 09.4	+3.2
SYO	Syowa Base	145.16	215	⇑PKiKP		01 19 13.7	
SNAA	Sanae	157.48	200	⇓iP	PKPab	01 19 57.6	-2.6
SNAA	Sanae	157.48	200	e	PP	01 23 40.9	-0.5
VNA2	Neumayer--Watz	158.99	198	⇑iP	PKPab	01 20 06.1	-0.6
VNA2	Neumayer--Watz	158.99	198	e	PP	01 23 49.6	+0.3
VNA3	Neumayer Olymp	159.13	196	⇓iP	PKPab	01 20 06.2	-1.1
VNA3	Neumayer Olymp	159.13	196	e	PP	01 23 49.6	-0.4
VNA1	Neumayer--Stat	159.38	198	⇓iP	PKPab	01 20 06.1	-2.3
VNA1	Neumayer--Stat	159.38	198	e	PP	01 23 49.3	-2.0

*IDC **14** 01:04:21.1±3.0, 27.74N×111.89W, mb3.9/1, mb1 4.4/4, mb1mx4.0/18, ML4.4/3, MS3.8/8, Ms1 3.8/8, ms1mx3.6/15, Error ellipse: s-maj=42.6km s-min=14.2km az=16.0*

*NEIC **14** 01:04:21.8±1.4, 27.71N×111.99W, h10km, mb4.1/7, Error ellipse: s-maj=19.1km s-min=9.3km az=209.0*

ISC 14 01:04:21.0±1.2**, 27.8N**±0.1×**111.82W**±0.07**, h10km, n53, σ1s12**/49**, mb3.9**/2**, MS3.7**/6**, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUC	Tucson	4.59	11	eP	Pn	01 05 28.6	-3.5
BAR	Barrett	6.42	320	P	Pn	01 05 52.9	-5.1
PFO	Pinyon Flat Ob	7.03	327	eP	Pn	01 06 01.7	-4.9
LTX	Lajitas	7.33	76	eP	Pn	01 06 08.3	-2.6
TXAR	Lajitas Array	7.33	76	Pn	Pn	01 06 11.1	+0.3
	0.7nm,0.3s,baz=248,slow=13,SNR=36						
TXAR				Sn	Sn	01 07 35.2	+0.2
	0.4nm,0.3s,baz=248,slow=14,SNR=4.8						
TXAR				Lg		01 08 13.7	
	0.7nm,0.3s,baz=260,slow=31,SNR=3.6						
TXAR				LR	LR	01 09 12.7	
	comp=Z,1μm,20.5s,baz=270,slow=39						
NEN	Nelson	8.24	343	eP	P	01 06 18.9	-4.6
ANMO	Albuquerque	8.47	31	eP	P	01 06 25.2	-1.6
TPNV	Topopah Spring	9.86	339	eP	P	01 06 42.4	-3.5
ARUT	Antelope Range	10.05	353	eP	P	01 06 48.5	-0.1
PV01	Paradox Valley	10.66	14	P	P	01 06 56.1	-0.8
MVU	Marysvale	10.68	358	eP	P	01 06 55.5	-1.7
MSU	Marysvale	10.69	359	eP	P	01 06 56.6	-0.7
PV10	Paradox Valley	10.80	12	eP	P	01 06 57.0	-1.8
JCT	Junction City	10.85	73	eP	P	01 07 01.1	+1.6
MTUM	Tungsten Hills	11.09	331	P	P	01 07 01.3	-1.5
SRU	San Rafael	11.34	5	eP	P	01 07 05.4	-0.7
TMUT	Trail Mountain	11.48	2	eP	P	01 07 07.7	-0.4
NVAR	Mina Array Bea	11.91	335	Pn	P	01 07 14.1	+0.3
	0.1nm,0.3s,baz=153,slow=12,SNR=11						
NVAR				Lg		01 10 45.7	
	baz=143,slow=27,SNR=2.4						
NVAR				LR	LR	01 11 46.9	
	comp=Z,220nm,19.3s,baz=195,slow=37						
NVAR	Mina Array Bea	11.91	335	Pn	P	01 07 14.1	+0.3
NVAR				Lg		01 10 45.7	
NVAR				LR	LR	01 11 46.9	
DUG	Dugway	12.39	356	eP	P	01 07 19.2	-1.2
CTU	Camp Tracy	12.86	0	P	P	01 07 25.3	-1.3
ELK	Elko	13.22	349	eP	P	01 07 30.8	-0.6
TCUT	Toone Canyon	13.29	1	P	P	01 07 33.7	+1.4
HWUT	Hardware Ranch	13.78	1	eP	P	01 07 39.4	+0.7
BEKR	Beckwourth	13.96	332	eP	P	01 07 41.8	+0.7
BW06	Boulder Array	15.05	6	P	P	01 07 55.5	+0.1
	6.0nm,1.2s						
PDAR	Pinedale Array	15.05	6	Pn	P	01 08 01.4	+6.0
	0.9nm,0.3s,baz=175,slow=10.0,SNR=17						
PDAR				Lg		01 12 15.2	
	baz=172,slow=22,SNR=6.2						
RRI2	Red Ridge	15.52	1	eP	P	01 08 02.1	+0.6
SNOW	Snow King Moun	15.65	3	eP	P	01 08 03.5	+0.2
TPAW	Teton Pass	15.67	2	eP	P	01 08 04.8	+1.2
MOD	Modoc	15.68	336	eP	P	01 08 04.4	+0.7
	19nm,1.0s						
LOHW	Long Hollow	15.81	3	eP	P	01 08 06.6	+1.3
HLID	Hailey	15.87	353	eP	P	01 08 08.3	+2.2
	6.6nm,1.4s						
MOOW	Moose Ponds	15.94	3	eP	P	01 08 07.3	+0.3
YMR	Madison River	16.85	2	P	P	01 08 20.2	+1.7
MCMT	McKenzie Canyo	17.02	358	eP	P	01 08 22.1	+1.5
BOZ	Bozeman (W)	17.82	0	eP	P	01 08 32.4	+1.8
	12nm,1.4s						
LNOR	Lincton Mounta	18.75	346	eP	P	01 08 42.3	+0.1
MSO	Missoula	19.07	356	eP	P	01 08 45.6	-0.3
CHMT	Chamberlain Mo	19.11	357	eP	P	01 08 46.6	0.0
LAO	LASA Array	19.37	12	eP	P	01 08 49.2	-0.3
	20nm,1.0s						
LON	Longmire	20.49	340	eP	P	01 09 01.2	-0.4
DPW	Davenport	20.65	348	eP	P	01 09 02.9	-0.4
NEW	Newport	20.84	350	eP	P	01 09 03.9	-1.4
	11nm,0.9s						
WALA	Waterton Lakes	21.29	356	eP	P	01 09 10.1	+0.2
	4.9nm,0.6s,mb4.0						
ULM	Lac du Bonnet	25.51	24	LR	LR	01 20 07.6	
	comp=Z,122nm,18.1s,MS3.5,baz=317,slow=37						
EYMN	Ely	25.59	33	P	P	01 09 54.0	+2.2
BBB	Bella Bella	27.24	338	LR	LR	01 22 17.7	
	comp=Z,136nm,18.1s,MS3.6,baz=157,slow=40						
YKA	Yellowknife Ar	34.74	358	LR	LR	01 26 19.2	
	comp=Z,152nm,18.9s,MS3.8,baz=205,slow=38						
ILAR	Eielson Array	43.12	339	P	P	01 12 23.1	+0.3
	1.8nm,0.9s,mb3.8,baz=146,slow=6.4,SNR=13						
ILAR				LR	LR	01 31 24.6	
	comp=Z,59nm,19.9s,MS3.5,baz=168,slow=38						
SAML	Samuel	59.56	121	eP	P	01 14 26.8	-0.7
ARCES	ARCESS Array B	78.16	14	LR	LR	01 54 49.6	
	comp=Z,76nm,18.1s,MS4.1,baz=354,slow=39						
FINES	FINESS Array B	84.78	19	LR	LR	01 54 38.3	
	comp=Z,62nm,19.4s,MS4.0,baz=18,slow=36						

*KISR **14** 01:21:14.8±0.9, 31.11N×57.30E, h57km±999km, ML4.2*

*IDC **14** 01:21:17.1±1.1, 30.69N×56.67E, mb3.8/11, mb1 4.0/12, mb1mx3.9/20, ML4.1/1, MS3.0/1, Ms1 3.0/1, ms1mx2.3/19, Error ellipse: s-maj=31.8km s-min=18.6km az=17.0*

*THR **14** 01:21:18.1±1.3, 30.80N×56.78E, h7km±17km, ML4.1*

*NEIC **14** 01:21:18.5±2.7, 30.77N×56.76E, h4km±16km, mb4.2/5, MN4.2(TEH), Error ellipse: s-maj=12.4km s-min=9.6km az=143.0*

*CSEM **14** 01:21:20.6±0.1, 30.71N×56.67E, h40km, mb3.9/2, ML4.9/1, Error ellipse: s-maj=3.3km s-min=2.2km az=50.0*

ISC 14 01:21:18.1±0.4**, 30.79N**±0.03×**56.67E**±0.04**, h10km, n51, σ1s31**/56**, mb3.9**/13**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	Kerman	0.81	174	ePG	Pg	01 21 34.2	-0.2
KRBR				eSG	Sg	01 21 45.6	+0.3
KRBR				AMP		01 21 50.6	
	comp=N,8μm,0.5s						
KRBR				AMP		01 21 52.5	
	comp=E,8μm,0.5s						
KRBR	Kerman	0.81	174	i Pg	Pg	01 21 34.2	-0.2
KRBR				i Sg	Sg	01 21 45.6	+0.4
	comp=E,8μm,0.5s						
IBAF	Bafgh	1.23	311	Pg	Pg	01 21 41.6	-1.2
IMEH	Mehriz	1.86	289	Pn	Pn	01 21 52.7	+2.3
ICHK	Chekchek	2.41	307	Pn	Pn	01 22 00.8	+2.5
ISAD	Sadrabad	2.79	294	Pn	Pn	01 22 05.9	+2.3
IPAR	Pars	3.27	254	Pn	Pn	01 22 13.6	+3.1
ISRV	Sarvestan	3.38	246	Pn	Pn	01 22 13.9	+1.8
BNDS	Bandar-Abbas	3.41	187	ePN	Pn	01 22 14.9	+2.4
BNDS				AMP		01 23 11.7	
	comp=N,480nm,0.4s						
BNDS				AMP		01 23 14.5	
	comp=E,564nm,0.6s						
BNDS	Bandar-Abbas	3.41	187	ePn	Pn	01 22 13.4	+0.9
ZHSF	Zahedan	3.75	107	ePN	Pn	01 22 17.1	-0.2
ZHSF				AMP		01 23 20.7	
	comp=N,286nm,0.6s						
ZHSF				AMP		01 23 22.4	
	comp=E,178nm,0.5s						
IMOK	Mook	3.85	244	Pn	Pn	01 22 20.3	+1.6
NASN	Na'in	3.85	302	ePN	Pn	01 22 20.9	+2.2
NASN				AMP		01 23 31.1	
	comp=N,331nm,0.6s						
NASN				AMP		01 23 35.6	
	comp=E,348nm,0.7s						
NASN	Na'in	3.85	302	ePn	Pn	01 22 21.2	+2.5
GHIR	Ghir-Karzin	4.06	233	ePN	Pn	01 22 23.8	+2.0
GHIR				AMP		01 23 54.4	
	comp=N,119nm,0.7s						
IFIR	Firoozkooh	5.84	327	Pn	Pn	01 22 48.4	+1.4
IVRN	Varamin	5.90	317	Pn	Pn	01 22 49.2	+1.4
IVRN				Sn	Sn	01 23 55.5	-0.8
IDMV	Damavand	6.15	322	Pn	Pn	01 22 52.8	+1.5
IAFJ	Afjeh	6.53	322	Pn	Pn	01 22 57.8	+1.1
UMR	Umm Al-Rimmam	7.85	263	eP	Pn	01 23 14.1	-1.0
UMR				AML	AML	01 24 16.1	
	comp=Z,16nm,0.4s						
QRN	Al-Qurain	7.87	257	eP	Pn	01 23 14.8	-0.7
QRN				eS	Sn	01 24 44.7	-0.9
KBD	Kabd	7.95	261	eP	Pn	01 23 17.1	+0.6
RDF	Al-Radifah	8.13	259	eP	P	01 23 18.9	-0.2
RDF				eS	Sn	01 24 50.2	-1.8
RDF				AML	AML	01 24 53.6	
	comp=Z,14nm,0.5s						
RST	Umm Al-Ruwaisa	8.47	264	eP	P	01 23 23.0	-0.8
MZLS	Mizel	12.20	239	P	P	01 24 10.2	-4.8
HILS	Ha'il	13.44	259	P	P	01 24 27.9	-3.6
AFFS	'Afif	13.93	244	P	P	01 24 33.5	-4.4
KAMS	Al Khamasin	15.08	229	P	P	01 24 47.8	-5.3
TATS	Tathlith	16.35	230	P	P	01 25 04.5	-5.0
QURS	Qurayyt al Mil	16.58	277	P	P	01 25 19.0	+6.7
ASF	Jabal al Asfar	16.92	280	Pn	P	01 25 15.4	-1.2
	comp=Z,0.6nm,0.3s,baz=331,slow=8.0,SNR=5.6						
ASF				LR	LR	01 33 18.6	
	comp=Z,49nm,21.0s,baz=178,slow=43						
TBKS	Tabuk	17.70	267	P	P	01 25 24.4	-1.9
AAK	Ala-Archa	18.50	45	eP	P	01 25 36.0	-0.3
	comp=Z,2.1nm,0.8s						
AAK	Ala-Archa	18.50	45	eP	P	01 25 36.0	-0.3

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,2.0nm,0.8s						
CSS	Prodhromos	20.02	288	eP	P	01 25 52.1	-1.8
	comp=Z,25nm,1.2s						
CSS	Prodhromos	20.02	288	eP	P	01 25 52.2	-1.8
	comp=Z,25nm,1.2s						
BRTR	Keskin Array B	20.77	302	P	P	01 26 01.2	-0.5
	comp=Z,1.9nm,0.7s,baz=117,slow=13,SNR=9.4						
BVAR	Borovoye Array	24.37	20	P	P	01 26 37.9	+0.7
	comp=Z,3.2nm,0.7s,mb3.9,baz=180,slow=10,SNR=8.5						
AKASG	Malin Array Be	28.51	322	P	P	01 27 15.0	-0.5
	comp=Z,1.2nm,0.7s,mb3.7,baz=127,slow=8.9,SNR=4.5						
FINES	FINESS Array B	36.62	336	P	P	01 28 25.9	-0.2
	comp=Z,1.5nm,0.6s,mb4.0,baz=135,slow=8.1,SNR=8.3						
KMBO	Kilima Mbogo	36.73	214	P	P	01 28 28.1	+0.5
	comp=Z,2.6nm,1.0s,mb4.0						
GERES	GERESS Array B	37.02	312	P	P	01 28 28.8	-0.8
	comp=Z,1.0nm,0.7s,mb3.8,baz=98,slow=9.4,SNR=10						
KHC	Kasperske Hory	37.17	312	eP	P	01 28 30.0	-0.9
CMAR	Chiang Mai Arr	40.12	98	P	P	01 28 56.1	+0.2
	comp=Z,0.8nm,0.8s,mb3.5,baz=295,slow=7.2,SNR=4.8						
SONM	Songino Array	41.31	51	P	P	01 29 05.3	+0.1
	comp=Z,0.4nm,0.4s,mb3.4,baz=223,slow=9.3,SNR=4.0						
NOA	NORSAR Array B	42.37	329	P	P	01 29 13.1	-0.7
	comp=Z,0.5nm,0.7s,mb3.3,baz=108,slow=6.9,SNR=3.0						
ESLA	Sonseca Array	49.49	298	P	P	01 30 06.6	-4.0
	comp=Z,3.2nm,1.3s,mb4.2						
DBIC	Dimbokro	62.20	261	P	P	01 31 41.4	-1.1
	comp=Z,2.1nm,0.7s,mb4.4,baz=18,slow=3.2,SNR=3.4						
SUR	Sutherland	71.42	212	eP	P	01 32 33.6	-7.0
	comp=Z,17nm,1.2s,mb4.9						
ILAR	Eielson Array	82.99	10	P	P	01 33 42.8	-1.5
	comp=Z,0.6nm,0.7s,mb3.7,baz=3.1,slow=5.3,SNR=5.2						
WRA	Warramunga Arr	89.99	113	P	P	01 34 17.4	-2.1
	comp=Z,1.0nm,1.0s,mb4.1,baz=315,slow=4.0,SNR=8.0						

*NEIC **14** 01:35:46.6, 34.38S×70.96W, h86km, MD3.1(GUC), After GUC.*

GUC 14 01:35:46.6±0.6, 34.38S×70.96W, h86km±3km, MD3.1, ML2.6, 2C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	San Fernando	0.24	190⇑	iP	P	01 35 59.4	+0.1
SFDO				iS	S	01 36 09.3	+0.5
CACH	El Canelo	0.40	49⇓	iP	P	01 36 00.6	+0.4
CACH				iS	S	01 36 11.4	+0.9
CICH	Cipreses	0.45	83⇓	iP	P	01 36 01.2	+0.5
CICH				iS	S	01 36 12.2	+1.0
CHCH	Chadas Angostu	0.51	30	iP	P	01 36 01.4	+0.3
CHCH				iS	S	01 36 12.5	+0.5
LNV	Longovilo	0.56	318⇓	iP	P	01 36 01.9	+0.3
LNV				iS	S	01 36 13.0	+0.2
TACH	Talagante	0.72	2	iP	P	01 36 03.0	-0.2
TACH				iS	S	01 36 15.7	+0.1
LMEL	Las Melosas	0.82	50⇑	iP	P	01 36 04.7	+0.5
LMEL				iS	S	01 36 18.4	+1.0
LMEL				AMP		01 36 20.5	
	comp=E,333nm,0.1s						
PCH	Pirque	0.84	26	eP	P	01 36 04.5	0.0
PCH				iS	S	01 36 18.5	+0.7
RCDM	Rinconada Maip	0.90	8	eP	P	01 36 05.0	0.0
RCDM				iS	S	01 36 19.0	+0.1
RCDM				AMP		01 36 20.4	
	comp=E,397nm,0.1s						
CLCH	Cerro Calan	1.04	20	eP	P	01 36 07.3	+0.6
CLCH				iS	S	01 36 22.7	+0.8
CLCH				AMP		01 36 23.8	
	comp=N,98nm,0.7s						
FCH	Farellones	1.19	28	eP	P	01 36 09.1	+0.5
FCH				iS	S	01 36 26.4	+1.3

*IDC **14** 02:15:49.7±1.4, 6.03S×150.04E, mb4.0/4, mb1 4.3/4, mb1mx4.0/9, Error ellipse: s-maj=82.7km s-min=27.6km az=122.0*

*NEIC **14** 02:15:56.0±3.3, 6.84S×150.81E, h50km±30km, mb4.4/3, Error ellipse: s-maj=45.3km s-min=23.4km az=146.0*

ISC 14 02:15:56.6±4.3, 7.0S±0.2×150.8E±0.2, h66km±37km, n10, σ1s18/13, mb3.8/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	4.33	237	ePn	P	02 17 01.2	-0.3
PMG				ePb	P	02 17 13.0	+11
PMG				eSn	S	02 17 38.3	-13
PMG				eSb	S	02 17 50.9	-0.2
CTAO	Charters Tower	13.73	198	eP	P	02 19 09.8	+0.1
	20nm,1.3s						
KAKA	Kakadu	19.00	251	eP	P	02 20 17.7	+2.0
	49nm,2.0s						
WRAB	Tennant Creek	20.50	230	eP	P	02 20 31.7	+0.1
	28nm,0.9s						
WRAB				e		02 20 43.2	
WRAB				e		02 20 47.6	
WB2	Warramunga Arr	20.50	230	eP	P	02 20 31.8	+0.1
WRA	Warramunga Arr	20.51	230	P	P	02 20 30.9	-0.8
	6.5nm,0.7s,baz=52,slow=11,SNR=46						
STKA	Stephens Creek	26.19	198	P	P	02 21 32.3	+5.4
	4.6nm,1.0s,mb3.9,baz=7.4,slow=6.5,SNR=4.8						
FITZ	Fitzroy Crossi	26.89	243	eP	P	02 21 32.8	-0.7
	2.1nm,0.5s,mb3.9						
ILAR	Eielson Array	84.94	22	P	P	02 28 23.1	-2.3
	0.3nm,0.7s,mb3.3,baz=242,slow=5.3,SNR=5.2						
NVAR	Mina Array Bea	95.00	52	P	P	02 29 15.2	+1.8
	0.2nm,0.4s,mb3.9,baz=270,slow=6.3,SNR=2.8						

CASC 14 02:23:46.3±1.5, 12.89N×87.25W, h11km±6km, MD3.5, 6C-6D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRIN	San Cristobal	0.27	134⇓	eP	Pg	02 23 52.6	+0.5
TELN	Telica	0.50	125⇓	eP	Pg	02 23 55.9	-0.6
TELN				eS	Sg	02 24 03.2	-0.1
LEON	Leon	0.59	143⇓	eP	Pb	02 23 56.8	-1.3
LEON				eS	Sb	02 24 06.6	+0.4
CNGN	Cerro Negro	0.67	126⇓	eP	Pb	02 23 58.7	-0.7
CNCH	Conchagua	0.68	304⇓	eP	Pb	02 23 58.8	-0.9
CNCH				eS	Sb	02 24 09.4	+0.5
MIRN	Miramar	0.69	130⇑	eP	Pb	02 23 59.0	-0.9
MOMJ	Momotombo	0.84	124⇓	eP	Pb	02 24 01.7	-0.8
MOMJ				eS	Sb	02 24 13.1	-0.5
COPN	Copaltepe	0.96	137⇑	eP	Pb	02 24 03.3	-1.1
COPN				eS	Sb	02 24 16.3	-0.6
APYN	Apoyeque	1.10	126⇑	eP	Pb	02 24 06.4	-0.4
APYN				eS	Sb	02 24 21.6	+0.7
BLLM	Bellamira	1.10	300	eP	Pb	02 24 05.7	-1.3
BLLM				eS	Sb	02 24 22.0	+0.8
PYTN	Playitas	1.22	107⇑	eP	Pb	02 24 08.1	-0.8
PYTN				eS	Sb	02 24 25.5	+1.1
MGAN	Managua	1.23	127	eP	Pb	02 24 03.6	-5.4
MGAN				eS	Sb	02 24 24.7	-0.1
CRUN	El Crucero	1.30	134⇑	eP	Pb	02 24 09.9	-0.3
CRUN				eS	Sb	02 24 28.4	+1.7
TICN	Ticuantepe	1.31	130⇑	eP	Pb	02 24 09.4	-1.1
SNVI	San Vicente	1.70	295	eP	Pn	02 24 16.3	+0.1
SNVI				eS	Sn	02 24 38.5	+0.4
LCBS	La Ceiba	1.84	295	eP	Pn	02 24 18.0	-0.2
LCBS				eS	Sn	02 24 42.1	+0.4
LFRS	El Faro	1.91	293	eP	Pn	02 24 19.4	+0.2
LFRS				eS	Sn	02 24 43.5	+0.2

*IDC **14** 02:28:42.1±0.8, 31.85N×57.14E, mb4.2/17, mb1 4.4/18, mb1mx4.4/22, ML4.6/1, MS3.8/8, Ms1 3.9/8, ms1mx3.7/17, Error ellipse: s-maj=21.0km s-min=16.5km az=5.0*

*THR **14** 02:28:42.9±0.8, 31.73N×57.05E, h18km±10km, ML5.1*

*CSEM **14** 02:28:42.8±0.1, 31.78N×57.08E, h21km, mb4.5/22, ML6.7/1, Ms3.8, Error ellipse: s-maj=2.9km s-min=1.7km az=65.0*

*MOS **14** 02:28:45.1±1.4, 31.69N×57.10E, h33km, mb4.6/13, Error ellipse: s-maj=12.7km s-min=7.4km az=114.3*

*NEIC **14** 02:28:46.7±0.6, 31.70N×57.02E, h36km±5km, mb4.5/35, MS4.0/1, Error ellipse: s-maj=6.9km s-min=4.8km az=157.0*

*BJI **14** 02:28:47.9, 32.17N×56.63E, h75km, mB5.0, mb4.7, Ms4.6, Msz4.4*

ISC 14 02:28:45.3±0.5, 31.72N±0.03×57.01E±0.03, h35km±5km, n171, σ1s10/183, mb4.5/58, MS4.2/16, 2C-8D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IBAF	Bafgh	1.23	264	Pg	P	02 29 05.9	-0.3
KRBR	Kerman	1.75	187	ePG	P	02 29 15.4	+1.7
KRBR				eSG	S	02 29 39.1	+4.2
KRBR				AMP		02 29 40.1	
	comp=N,79μm,0.3s						
KRBR				AMP		02 29 42.5	
	comp=E,68μm,0.3s						
KRBR	Kerman	1.75	187	iPg	P	02 29 15.4	+1.7
KRBR				iSg	S	02 29 39.2	+4.2
	comp=E,68μm,0.4s						
IMEH	Mehriz	2.07	261	Pn	P	02 29 19.8	+1.6
ICHK	Chekchek	2.27	284	Pn	P	02 29 22.1	+1.0
ISAD	Sadrabad	2.83	275	Pn	P	02 29 29.9	+0.7
NASN	Na'in	3.71	288	AMP		02 30 48.7	
	comp=N,2μm,0.3s						
NASN				AMP		02 30 55.6	
	comp=E,1μm,0.4s						
NASN	Na'in	3.71	288	ePn	P	02 29 42.9	+1.2
	comp=E,2μm,0.6s						
ZHSF	Zahedan	3.87	122	ePN	P	02 29 42.8	-1.1
ZHSF				eSG	S	02 30 42.8	+14
ZHSF	Zahedan	3.87	122	ePn	P	02 29 42.7	-1.2
ZHSF				Sn	S	02 30 26.2	-2.6
ISRV	Sarvestan	4.09	236	Pn	P	02 29 46.2	-0.8
BNDS	Bandar-Abbas	4.37	190	ePN	P	02 29 50.9	-0.2
BNDS				AMP		02 31 06.0	
	comp=E,1μm,0.3s						
BNDS				AMP		02 31 11.0	
	comp=N,2μm,0.7s						
SHI	Shiraz	4.39	243	Pn	P	02 29 51.0	-0.3
IANJ	Anjiloo	4.54	326	Pn	P	02 29 52.5	-0.9
GHIR	Ghir-Karzin	4.89	227	ePN	P	02 29 58.3	0.0
GHIR				AMP		02 31 27.0	
	comp=N,507nm,0.6s						
GHIR				AMP		02 31 35.4	
	comp=Z,539nm,0.6s						
MHI	Mashhad	5.01	23	Pn	P	02 30 01.0	+0.9
IVRN	Varamin	5.49	308	Pn	P	02 30 06.7	-0.1
IVRN				Sn	S	02 31 06.6	-3.0
IDMV	Damavand	5.65	314	Pn	P	02 30 09.1	0.0
DAMV	Damavand	5.73	314	ePN	P	02 30 09.8	-0.3
DAMV	Damavand	5.73	314	ePn	P	02 30 09.9	-0.2
VAN	Vannovskaya	6.28	8	eP	P	02 30 17.2	-0.6
ASAO	Ashtian	6.50	298	ePN	P	02 30 20.8	-0.1
ASAO	Ashtian	6.50	298	ePn	P	02 30 21.1	+0.2
THKV	Tehran--Karaj	6.59	311	ePN	P	02 30 22.1	-0.2
THKV	Tehran--Karaj	6.59	311	ePn	P	02 30 21.9	-0.4
SHGR	Shooshtar-Gavs	6.99	275	ePN	P	02 30 27.5	-0.3
SHGR	Shooshtar-Gavs	6.99	275	ePn	P	02 30 28.6	+0.8
SNGE	Sanandaj	8.74	295	ePN	P	02 30 51.8	-0.4
SNGE	Sanandaj	8.74	295	ePn	P	02 30 52.5	+0.3
MAKU	Maku	12.59	311	ePn	P	02 31 45.6	+0.9
MZLS	Mizel	12.94	237	P	P	02 31 43.7	-5.7
GNI	Garni	13.01	314	eP	P	02 31 54.5	+4.3
HILS	Ha'il	13.93	256	P	P	02 31 57.9	-4.5
AFFS	'Afif	14.61	241	P	P	02 32 06.1	-5.3
KAMS	Al Khamasin	15.92	227	P	P	02 32 23.5	-4.8
KIV	Kislovodsk	16.61	321	eP	P	02 32 39.7	+2.8
KIV				eS	S	02 35 44.4	+5.0
KIV				pmax	pmax		
	comp=Z,62nm,0.9s						
KIV				pmax	pmax		
	comp=N,31nm,1.0s						
KIV				MLR	MLR		
	comp=Z,208nm,19.0s						
KIV				MLR	MLR		
	comp=N,178nm,18.0s						
KIV				MLR	MLR		
	comp=E,159nm,20.0s						
KIV	Kislovodsk	16.61	321	eP	P	02 32 39.7	+2.8
	comp=E,62nm,0.9s						
KIV				eS	S	02 35 44.4	+5.0
KBRS	Khaybar	16.64	254	P	P	02 32 35.6	-1.7
QURS	Qurayyt al Mil	16.78	274	P	P	02 32 44.7	+5.6
ASF	Jabal al Asfar	17.07	277	P	P	02 32 41.9	-1.0
	comp=E,1.9nm,0.3s,baz=237,slow=1.6,SNR=14						
ASF				LR	LR	02 40 57.7	
	comp=E,449nm,18.4s,baz=318,slow=43						
TATS	Tathlith	17.18	228	P	P	02 32 40.7	-3.5
GOF	Gofitskoye	17.20	325⇓	iP	P	02 32 44.0	-0.4
GOF				pmax	pmax		
	comp=Z,30nm,1.3s						
GOF				MLR	MLR		
	comp=N,2μm,12.0s						
GOF	Gofitskoye	17.20	325⇓	iP	P	02 32 44.0	-0.4
	comp=N,30nm,1.3s						
KSH	Kashi	17.25	58	eP	P	02 32 44.0	-1.0
KSH				ePP	PP	02 32 58.8	-0.7
KSH				eS	S	02 35 53.5	-0.6
KSH				eSS	SS	02 36 15.3	-0.5
KSH				ePCP	PcP	02 37 27.3	-0.6
KSH				AMB	AMB		
	comp=Z,60nm,1.3s						
AAK	Ala-Archa	17.65	47d	iP	P	02 32 48.7	-1.3
AAK	Ala-Archa	17.65	47	iPr		02 32 48.7	
FRU	Bishkek	17.84	47	eP	P	02 32 51.5	-0.8
SOC	Sochi	18.06	316	eP	P	02 32 55.4	+0.4
SOC				eS	S	02 36 11.0	-1.3
SOC				pmax	pmax		
	comp=Z,28nm,0.8s						
SOC				pmax	pmax		
	comp=N,19nm,0.7s						
SOC				pmax	pmax		
	comp=E,31nm,0.8s						
SOC				MLR	MLR		
	comp=Z,588nm,15.0s						
SOC				MLR	MLR		
	comp=N,544nm,14.0s						
SOC				MLR	MLR		
	comp=E,302nm,13.0s						
SOC	Sochi	18.06	316	eP	P	02 32 55.4	+0.4
	comp=E,28nm,0.8s						
SOC				eS	S	02 36 11.0	-1.3
DDI	Dehra Dun	18.10	89	e	P	02 32 56.0	+0.4
BLJS	Baljurashi	18.18	233	P	P	02 32 54.5	-2.2
NAMS	An Nimas	18.27	230	P	P	02 32 55.6	-2.3
MUKL	Al Mukalla	18.84	205	eP		02 33 18.9	
CSS	Prodhromos	20.03	286	eP	P	02 33 18.1	+0.1
	comp=E,56nm,1.3s						
CSS	Prodhromos	20.03	286	eP	P	02 33 18.1	+0.2
	comp=E,56nm,1.3s						
POO	Poona	20.09	127	e	P	02 33 21.0	+2.3
	comp=E,86nm,0.5s						
ANN	Anapa	20.10	316	eP	P	02 33 19.2	+0.6
ANN				eS	S	02 37 05.9	+8.4
ANN				pmax	pmax		
	comp=Z,55nm,0.8s						
ANN	Anapa	20.10	316	eP	P	02 33 19.2	+0.6
	comp=Z,55nm,0.8s						
ANN				eS	S	02 37 05.9	+8.4
BRTR	Keskin Array B	20.54	299	P	P	02 33 22.8	-0.5
	comp=Z,14nm,0.7s,baz=118,slow=13,SNR=51						
BRTR	Keskin Array B	20.54	299	P	P	02 33 22.8	-0.5
BRTR				pmax	pmax		
	comp=Z,14nm,0.7s						
LBOS		20.78	214	eP	P	02 33 25.3	-0.6
SIM	Simferopol'	22.19	313	eP	P	02 33 42.8	+2.9
SIM				eS	S	02 37 41.1	+4.0
SIM				pmax	pmax		
	comp=Z,30nm,0.7s,mb4.8						
ISP	Isparta	22.56	293	eP	P	02 33 44.5	+0.9
	comp=Z,18nm,0.9s,mb4.5						
ISP	Isparta	22.56	293	eP	P	02 33 44.5	+0.9
	comp=Z,18nm,0.9s,mb4.5						
ZRNK	Zerenda	22.93	19	eP	P	02 33 47.6	+0.5
	comp=Z,15nm,1.0s,mb4.4						
ZRNK				e		02 33 55.3	
ZRNK	Zerenda	22.93	19	eP	P	02 33 47.6	+0.6
BRVK	Borovoye	23.39	20	eP	P	02 33 51.4	-0.1
	comp=Z,11nm,0.9s,mb4.3						
BRVK	Borovoye	23.39	20	eP	P	02 33 51.4	-0.1
	comp=Z,11nm,0.9s,mb4.3						
BVAR	Borovoye Array	23.40	21	P	P	02 33 52.5	+1.0
	comp=Z,5.9nm,0.8s,mb4.1,baz=207,slow=9.9,SNR=21						
BVAR				LR	LR	02 44 56.7	
	comp=Z,12nm,18.3s,baz=155,slow=42						
KOLN	Koldanda	23.40	93	eP	P	02 33 51.8	-0.1
	comp=Z,57nm,1.3s,mb4.8						
HYB	Hyderabad	24.16	121	iP	P	02 34 01.5	+2.2
HYB	Hyderabad	24.16	121	eP	P	02 34 01.5	+2.2
GKN	Gorkha	24.22	92	eP	P	02 34 00.1	+0.3
	comp=Z,24nm,0.6s,mb4.8						
ARU	Arti	24.73	2	eP	P	02 34 11.5	+7.1
ARU				e		02 34 43.8	
ARU				ePPP	PPP	02 34 53.3	+1.1
ARU				eSSS	SSS	02 39 43.5	+7.8
ARU				MLR	MLR		
	comp=N,400nm,17.0s						
ARU				MLR	MLR		
	comp=Z,400nm,17.0s,MS4.0						
DMN	Daman	24.73	92	eP	P	02 34 04.0	-0.8
	comp=Z,29nm,0.9s,mb4.8						
KKN	Kakani	24.83	92	eP	P	02 34 06.3	+0.6
	comp=Z,41nm,0.9s,mb4.9						
KURK	Kurchatov	24.83	34d	iP	P	02 34 06.0	+0.5
KURK	Kurchatov	24.83	34	iPr		02 34 06.0	
PKI	Pulchoki	25.00	92	eP	P	02 34 07.0	-0.4
	comp=Z,78nm,1.2s,mb5.1						
SVE	Sverdlovsk	25.23	5⇓	eP	P	02 34 11.9	+2.7
GUN	Gumba	25.30	91	eP	P	02 34 10.3	0.0
	comp=Z,78nm,1.1s,mb5.2						
KIS	Kishinev	26.41	313	eP	P	02 34 20.0	-0.4
KIS				MLR	MLR		
	comp=Z,300nm,15.0s,MS4.0						
SANT	Santorini	26.48	289	eP	P	02 34 19.9	-1.2
	comp=Z,55nm,0.9s,mb5.1						
SANT	Santorini	26.48	289	eP	P	02 34 19.9	-1.2
	comp=Z,55nm,0.9s,mb5.1						
WMQ	Urumqi	26.94	55	eP	P	02 34 26.4	+1.1
WMQ				PP	PP	02 35 11.0	-0.3
WMQ				S	S	02 39 00.0	+1.9
WMQ				SS	SS	02 40 13.0	+0.4
WMQ				LR	LR		
	comp=Z,498nm,12.0s,MS4.3						
IDI	Anoyia	26.95	286	P	P	02 34 25.3	-0.1
	comp=Z,12nm,0.8s,mb4.5,baz=9.9,slow=6.7,SNR=6.5						
OBN	Obninsk	27.49	334	iP	P	02 34 33.8	+3.6
OBN						02 35 17.0	
OBN				e		02 37 47.7	
OBN				pmax	pmax		
	comp=Z,27nm,1.4s,mb4.6						
OBN				MLR	MLR		
	comp=Z,400nm,18.0s,MS4.0						
OBN	Obninsk	27.49	334	iP	P	02 34 33.8	+3.6
	comp=Z,27nm,1.4s,mb4.6						
OBN				e		02 35 17.0	
OBN				e		02 37 47.7	
OBN				LR	LR		
	comp=Z,400nm,18.0s,MS4.0						
MLR	Muntele Rosu	27.70	309	P	P	02 34 34.5	+2.4
	comp=Z,7.2nm,0.9s,mb4.3,baz=240,slow=9.2,SNR=5.3						
MLR	Muntele Rosu	27.70	309	P	P	02 34 34.5	+2.4
MLR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
AKASG	Malin Array Be	27.96	321	P	P	02 34 35.8	+1.3
	comp=Z,2.2nm,0.6s,mb4.0,baz=125,slow=8.5,SNR=7.0						
AKASG	Malin Array Be	27.96	321	P	P	02 34 35.8	+1.3
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KWP	Kalwaria	31.21	315	eP	P	02 35 04.1	+0.7
	comp=Z,14nm,0.9s,mb4.8						
KWP	Kalwaria	31.21	315	eP	P	02 35 04.1	+0.7
	comp=Z,14nm,0.9s,mb4.8						
SUW	Suwalki	32.84	323	eP	P	02 35 21.2	+3.6
	comp=Z,49nm,1.3s,mb5.3						
OJC	Ojcow	33.17	315	eP	P	02 35 21.4	+0.9
MORC	Moravsky Berou	34.42	313	eP	P	02 35 31.1	-0.1
	comp=Z,2.9nm,0.8s,mb4.3						
MORC	Moravsky Berou	34.42	313	eP	P	02 35 31.1	-0.1
	comp=Z,2.9nm,0.8s,mb4.3						
GTA	Gaotai	35.39	65	eP	P	02 35 40.5	+0.8
GTA				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.7						
GTA				LR	LR		
	comp=N,526nm,14.8s,MS4.5						
GTA				LR	LR		
	comp=E,380nm,15.2s,MS4.5						
GTA				LR	LR		
	comp=Z,465nm,14.1s,MS4.4						
FINES	FINESS Array B	35.89	335	P	P	02 35 43.1	-0.6
	comp=Z,0.9nm,0.6s,mb3.9,baz=135,slow=8.1,SNR=4.6						
FINES				LR	LR	02 52 25.3	
	comp=Z,194nm,18.6s,MS3.9,baz=308,slow=40						
FINES	FINESS Array B	35.89	335	P	P	02 35 43.1	-0.6
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES				MLR	MLR		
	comp=Z,194nm,18.6s						
GERES	GERESS Array B	36.63	311	P	P	02 35 49.8	-0.2
	comp=Z,2.8nm,0.7s,mb4.2,baz=108,slow=8.4,SNR=16						
GERES	GERESS Array B	36.63	311	P	P	02 35 49.8	-0.2
GERES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KHC	Kasperske Hory	36.77	311	eP	P	02 35 51.5	+0.3
KHC				e		02 35 58.0	
KHC				e		02 36 09.5	
KHC	Kasperske Hory	36.77	311	eP	P	02 35 51.5	+0.3
KHC				pP	pP	02 35 58.0	-3.4
KHC				sP	sP	02 36 09.5	+3.6
BRG	Berggiesshubel	36.94	314	eP	P	02 35 54.7	+2.1
BRG				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
BRG	Berggiesshubel	36.94	314	eP	P	02 35 54.7	+2.1
	comp=Z,14nm,1.0s,mb4.7						
CLL	Collm	37.62	314	P	P	02 35 59.6	+1.3
	comp=Z,logA/T=1.1,mb4.6						
CLL				i*PP	pP	02 36 06.1	-2.4
CLL				e*PPP		02 37 31.0	
CLL	Collm	37.62	314	iP	P	02 35 59.6	+1.3
CLL				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.6						
CLL	Collm	37.62	314	iPKP	P	02 35 59.6	+1.3
CLL				epPKP		02 36 32.0	
KMBO	Kilima Mbogo	37.66	214	eP	P	02 35 59.2	+0.2
	comp=Z,4.1nm,1.1s,mb4.1						
KMBO	Kilima Mbogo	37.66	214	eP	P	02 35 59.2	+0.2
	comp=Z,4.1nm,1.1s,mb4.1						
WTTA	Wattenberg	37.73	308⇑	iP	P	02 35 59.8	+0.5
SQTA	Sankt Quirin	38.01	307⇑	iP	P	02 36 01.1	-0.6
MOTA	Moosalm	38.10	308⇓	iP	P	02 36 02.3	-0.1
LZH	Lanzhou	38.83	70	⇓P	P	02 36 08.9	+0.4
LZH				PP	PP	02 37 41.3	-0.3
LZH				AMB	AMB		
	comp=Z,25nm,1.5s,mb4.7						
LZH				LR	LR		
	comp=N,256nm,13.2s						
LZH				LR	LR		
	comp=Z,343nm,17.0s,MS4.2						
DAVA	Damuels	38.92	307⇓	iP	P	02 36 08.7	-0.5
VSL	Villasalto	39.12	295	eP	P	02 36 08.8	-2.1
	comp=Z,17nm,1.2s,mb4.7						
VSL	Villasalto	39.12	295	eP	P	02 36 08.8	-2.1
	comp=Z,17nm,1.2s,mb4.7						
PGF	Pioggiola	39.30	300	eP	P	02 36 11.9	-0.5
CMAR	Chiang Mai Arr	39.97	99	P	P	02 36 17.5	-0.7
	comp=Z,0.9nm,0.4s,mb3.9,baz=304,slow=9.8,SNR=4.7						
CMAR				LR	LR	02 54 49.5	
	comp=Z,169nm,18.9s,MS3.9,baz=290,slow=39						
CMAR	Chiang Mai Arr	39.97	99	P	P	02 36 17.5	-0.7
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CMAR				MLR	MLR		
	comp=Z,169nm,18.9s						
SONM	Songino Array	40.50	52	P	P	02 36 21.4	-0.9
	comp=Z,2.4nm,1.2s,mb3.7,baz=297,slow=11,SNR=5.3						
KMI	Kunming	40.53	87	eP	P	02 36 23.4	+0.7
KMI				AMB	AMB		
	comp=Z,8.0nm,0.6s,mb4.5						
KMI				LR	LR		
	comp=N,537nm,19.3s,MS4.5						
KMI				LR	LR		
	comp=E,281nm,16.6s,MS4.5						
KMI				LR	LR		
	comp=Z,269nm,16.0s,MS4.2						
MBAR	Mbarara	40.65	223	eP	P	02 36 26.1	+2.2
	comp=Z,6.4nm,0.9s,mb4.2						
MBAR				e		02 36 43.8	
MBAR				e		02 37 01.9	
MBAR	Mbarara	40.65	223	eP	P	02 36 26.1	+2.2
MBDF	Montbardon	40.93	303	eP	P	02 36 25.9	0.0
	comp=Z,9.9nm,0.7s,mb4.2						
LPG	La Plagne	40.96	304	eP	P	02 36 26.5	+0.4
	comp=Z,2.6nm,0.5s,mb3.8						
LPL	La Plagne	40.97	304	eP	P	02 36 26.1	-0.1
	comp=Z,3.9nm,0.7s,mb3.9						
LMR	La Mourre	41.12	301	eP	P	02 36 27.1	-0.3
	comp=Z,71nm,1.3s,mb4.8						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CABF	**La Chapelle**	**41.46**	**306**	eP	**P**	**02 36 29.8**	**-0.4**
	comp=Z,9.1nm,0.7s,mb4.2						
ORIF	**Oris-en-Rattie**	**41.56**	**304**	eP	**P**	**02 36 31.3**	**+0.2**
	comp=Z,11nm,1.0s,mb4.2						
ORIF				eR			
	comp=Z,121nm,19.0s						
NB2	**NORSAR Subarra**	**41.73**	**328**	P	**P**	**02 36 31.3**	**-0.9**
	comp=Z,2.1nm,1.0s,mb3.7,baz=111,slow=7.9						
NOA	**NORSAR Array B**	**41.73**	**328**	P	**P**	**02 36 31.1**	**-1.1**
	comp=Z,1.1nm,0.8s,mb3.5,baz=227,slow=9.2,SNR=2.4						
NOA	**NORSAR Array B**	**41.73**	**328**	P	**P**	**02 36 31.1**	**-1.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARCES	**ARCESS Array B**	**41.81**	**344**	P	**P**	**02 36 32.1**	**-0.7**
	comp=Z,5.7nm,0.9s,mb4.2,baz=141,slow=7.8,SNR=9.7						
ARCES				LR	LR	02 56 42.3	
	comp=Z,221nm,20.0s,MS4.0,baz=331,slow=40						
ARCES	**ARCESS Array B**	**41.81**	**344**	P	**P**	**02 36 32.1**	**-0.6**
ARCES				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ARCES				MLR	MLR		
	comp=Z,221nm,20.0s						
VIVF	**Saint-Julien-l**	**42.42**	**303**	eP	**P**	**02 36 37.6**	**-0.5**
SMF	**Signal de Mont**	**43.01**	**306**	eP	**P**	**02 36 42.3**	**-0.6**
SSF	**Saint Saulge**	**43.25**	**307**	eP	**P**	**02 36 43.9**	**-0.9**
	comp=Z,3.6nm,0.7s,mb4.2						
GYA	**Guiyang**	**43.41**	**84**	P	**P**	**02 36 50.9**	**+4.4**
GYA				PP	PP	02 38 30.6	+1.2
GYA				PPP	PPP	02 39 04.3	-1.4
GYA				S	**S**	**02 43 12.1**	**+0.3**
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
GYA				AMB	AMB		
	comp=Z,190nm,3.2s						
GYA				LR	LR		
	comp=N,460nm,20.6s,MS4.5						
GYA				LR	LR		
	comp=E,260nm,17.9s,MS4.5						
GYA				LR	LR		
	comp=Z,360nm,17.9s,MS4.3						
BGF	**Bois d'Agland**	**43.69**	**306**	eP	**P**	**02 36 48.5**	**0.0**
	comp=Z,8.2nm,0.6s,mb4.3						
MTLF	**Montolieu**	**44.25**	**301**	eP	**P**	**02 36 52.8**	**-0.1**
	comp=Z,21nm,1.1s,mb4.5						
CAF	**Calviac**	**44.27**	**304**	eP	**P**	**02 36 53.1**	**0.0**
HHC	**Hu-ho-hao-te**	**44.29**	**62**	eP	**P**	**02 36 51.0**	**-2.3**
HHC				PP	PP	02 38 34.3	-3.7
HHC				PCP	PcP	02 38 39.3	+1.5
HHC				SCP		02 42 22.4	
HHC				PCS		02 42 30.8	
HHC				S	**S**	**02 43 19.8**	**-4.5**
HHC				SS	SS	02 46 29.4	-5.3
HHC				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.4						
HHC				AMB	AMB		
	comp=Z,127nm,5.1s						
HHC				LR	LR		
	comp=N,296nm,18.8s,MS4.2						
HHC				LR	LR		
	comp=E,143nm,20.8s,MS4.2						
HHC				LR	LR		
	comp=Z,156nm,16.8s,MS4.0						
LFF	**La Frestale**	**45.21**	**304**	eP	**P**	**02 36 59.8**	**-0.9**
	comp=Z,22nm,0.9s,mb4.7						
MFF	**Saint Martin d**	**45.76**	**306**	eP	**P**	**02 37 04.5**	**-0.5**
FLN	**La Foliniere**	**45.94**	**309**	eP	**P**	**02 37 05.8**	**-0.6**
FLN				eR			
	comp=Z,183nm,20.2s						
GRR	**Gorron**	**46.19**	**309**	eP	**P**	**02 37 08.0**	**-0.4**
ETSF	**Etsaut**	**46.31**	**301**	eP	**P**	**02 37 08.5**	**-0.9**
	comp=Z,22nm,1.0s,mb4.8						
ESDC	**Sonseca Array**	**49.31**	**297**	P	**P**	**02 37 32.1**	**-0.8**
	comp=Z,2.5nm,0.7s,mb4.4,baz=58,slow=8.1,SNR=8.1						
NJ2	**Nanjing**	**51.85**	**72**	eP	**P**	**02 37 52.5**	**+0.3**
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.4						
CN2	**Changchun**	**54.01**	**56**	eP	**P**	**02 38 08.3**	**+0.2**
SSE	**Sheshan**	**54.04**	**73**	eP	**P**	**02 38 06.3**	**-2.2**
SSE				S	**S**	**02 45 38.3**	**-2.2**
SSE				AMB	AMB		
	comp=Z,36nm,0.8s,mb5.3						
SSE				AMB	AMB		
	comp=Z,109nm,4.4s						
SSE				LR	LR		
	comp=N,470nm,32.4s,MS4.4						
SSE				LR	LR		
	comp=E,219nm,32.3s,MS4.4						
SSE				LR	LR		
	comp=Z,136nm,24.2s						
LSZ	**Lusaka**	**54.30**	**215**	eP	**P**	**02 38 13.4**	**+2.8**
	comp=Z,3.9nm,1.0s,mb4.3						
YAK	**Yakutsk**	**54.47**	**34**	i P	**P**	**02 38 10.9**	**-0.4**
TIXI	**Tiksi**	**54.52**	**22**	i P	**P**	**02 38 13.8**	**+2.3**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.1						
TIXI	**Tiksi**	**54.52**	**22**	i P	**P**	**02 38 13.8**	**+2.3**
	comp=Z,2.0nm,1.1s,mb4.1						
MDJ	**Mudanjiang**	**56.74**	**55**	P	**P**	**02 38 24.9**	**-3.0**
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,94nm,5.0s						
DBIC	**Dimbokro**	**62.64**	**260**	P	**P**	**02 39 10.2**	**+1.4**
	comp=Z,3.4nm,0.9s,mb4.5,baz=3.9,slow=4.4,SNR=4.9						
DBIC	**Dimbokro**	**62.64**	**260**	P	**P**	**02 39 10.2**	**+1.4**
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.9s						
DBIC	**Dimbokro**	**62.64**	**260**	eP	**P**	**02 39 06.5**	**-2.3**
	comp=Z,20nm,1.3s,mb5.1						
TSUM	**Tsumeb**	**63.19**	**222**	P	**P**	**02 39 15.0**	**+2.6**
	comp=Z,2.3nm,0.8s,mb4.3,baz=10,slow=6.0,SNR=7.4						
TSUM	**Tsumeb**	**63.19**	**222**	eP	**P**	**02 39 15.4**	**+3.0**
	comp=Z,3.9nm,0.9s,mb4.5						
TSUM				e		02 39 34.5	
SUR	**Sutherland**	**72.36**	**212**	eP	**P**	**02 40 13.1**	**+3.6**
	comp=Z,19nm,1.3s,mb4.9						
INK	**Inuvik**	**79.97**	**4**	P	**P**	**02 40 52.1**	**+0.3**
	comp=Z,3.9nm,1.2s,mb4.2,baz=39,slow=7.9,SNR=3.2						
INK	**Inuvik**	**79.97**	**4**	P	**P**	**02 40 52.1**	**+0.3**
INK				pmax	pmax		
	comp=Z,4.0nm,1.2s						
INK	**Inuvik**	**79.97**	**4**	eP	**P**	**02 40 52.4**	**+0.6**
	comp=Z,7.8nm,1.2s,mb4.5						
ILAR	**Eielson Array**	**82.02**	**10**	P	**P**	**02 41 02.4**	**-0.3**
	comp=Z,0.3nm,0.6s,mb3.4,baz=323,slow=4.5,SNR=4.7						
ILAR				LR	LR	03 26 08.6	
	comp=Z,78nm,18.4s,MS4.1,baz=354,slow=42						
YKA	**Yellowknife Ar**	**85.87**	**356**	LR	LR	03 22 06.6	
	comp=Z,80nm,19.6s,MS4.1,baz=350,slow=37						
WRA	**Warramunga Arr**	**90.09**	**113**	P	**P**	**02 41 42.6**	**-0.7**
	comp=Z,0.6nm,0.6s,mb4.1,baz=316,slow=3.9,SNR=9.3						
WRA				LR	LR	03 28 28.9	
	comp=Z,67nm,18.0s,MS4.1,baz=295,slow=40						

*CSEM **14** 02:47:08.5, 31.52N×57.43E, ML3.9, After THR*
THR 14 02:47:04.5±1.3**, 31.73N×57.13E, h15**km±24km**, ML3.9, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**1.77**	**190**	ePG	Pg	02 47 36.9	-3.1
KRBR				AMP		02 48 03.2	
	comp=E,4μm,0.4s						
KRBR				AMP		02 48 03.4	
	comp=N,5μm,0.5s						
KRBR	**Kerman**	**1.77**	**190**	ePg	Pg	02 47 36.9	-3.1
KRBR				eSg	Sg	02 47 59.7	-4.0
	comp=N,5μm,0.4s						
ZHSF	**Zahedan**	**3.79**	**123**	ePN	Pn	02 48 04.7	+1.0
NASN	**Na'in**	**3.81**	**287**	ePN	Pn	02 48 05.6	+1.6
NASN				AMP		02 49 12.9	
	comp=N,143nm,0.5s						
NASN				AMP		02 49 16.3	
	comp=E,119nm,0.6s						
NASN	**Na'in**	**3.81**	**287**	ePn	Pn	02 48 11.1	+7.1
	comp=E,133nm,0.6s						
BNDS	**Bandar-Abbas**	**4.40**	**191**	ePN	Pn	02 48 12.9	+0.6
BNDS	**Bandar-Abbas**	**4.40**	**191**	ePn	Pn	02 48 13.4	+1.0
BNDS				Sn	Sn	02 49 00.0	-3.9
GHIR	**Ghir-Karzin**	**4.97**	**227**	AMP		02 49 48.5	
	comp=N,33nm,0.7s						
GHIR				AMP		02 50 01.2	
	comp=E,37nm,0.6s						
GHIR	**Ghir-Karzin**	**4.97**	**227**	ePn	Pn	02 48 23.6	+3.1
DAMV	**Damavand**	**5.79**	**314**	ePN	Pn	02 48 31.5	-0.5
DAMV	**Damavand**	**5.79**	**314**	ePn	Pn	02 48 38.8	+6.7

*NEIC **14** 03:40:02.7±1.4, 51.53N×16.16E, h5km, ML3.0(VIE), Error ellipse: s-maj=15.0km s-min=8.0km az=199.0*
*PRU **14** 03:40:04.0, 51.48N×16.12E*
*WAR **14** 03:40:04, 51.50N×16.09E, ML2.8, Mining Induced*
ISC 14 03:40:01.8±0.8**, 51.48N**±0.04×**16.12E**±0.04**, n16,** σ1§**21**/37, **1C, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.64**	**170**	ePg	**Pg**	**03 40 16.5**	**+1.8**
KSP				eSg	**Sg**	**03 40 25.1**	**+1.9**
UPC	**Upice**	**0.97**	**184**	ePG	**Pg**	**03 40 22.5**	**+1.3**
DPC	**Dobruska-Polom**	**1.14**	**174**	ePG	**Pg**	**03 40 25.2**	**+0.7**
DPC				eSG	**Sg**	**03 40 40.4**	**+0.8**
	14nm,0.2s						
PVCC	**Panska Ves**	**1.37**	**227**	ePG	**Pg**	**03 40 29.9**	**+0.8**
BRG	**Berggiesshubel**	**1.50**	**247**	ePn	**Pn**	**03 40 31.6**	**+1.6**
BRG				i Pg	**Pg**	**03 40 32.1**	**+0.4**
BRG				i Sg	**Sg**	**03 40 52.1**	**+0.4**
PRU	**Pruhonice**	**1.80**	**215**	PG	**Pg**	**03 40 36.5**	**-1.2**
PRU				i x	x	03 40 40.8	
PRU				i x	x	03 40 53.9	
PRU				SG	**Sg**	**03 41 00.2**	**-1.4**
	19nm,0.5s						
MORC	**Moravsky Berou**	**1.93**	**151**	ePn	**Pn**	**03 40 37.1**	**+0.9**
MORC				eSn	**Sn**	**03 41 01.1**	**-0.3**
CLL	**Collm**	**1.96**	**266**	i PG	**Pg**	**03 40 39.8**	**-1.2**
CLL				e		03 40 44.0	
CLL				i SG	**Sg**	**03 41 05.9**	**-1.2**
CLL	**Collm**	**1.96**	**266**	i Pg	**Pg**	**03 40 39.8**	**-1.2**
CLL				i Sg	**Sg**	**03 41 05.9**	**-1.2**
OKC	**Ostrava-Krasne**	**2.09**	**141**	ePG	**Pg**	**03 40 44.0**	**+0.5**
OKC				eSG	**Sg**	**03 41 10.3**	**-1.0**
NKC	**Novy Kostel**	**2.64**	**243**	ePN	**Pn**	**03 40 47.6**	**+1.2**
NKC				ePG	**Pg**	**03 40 54.4**	**-0.1**
OJC	**Ojcow**	**2.65**	**117**	ePn	**Pn**	**03 40 45.1**	**-1.4**
OJC				ePg	**Pg**	**03 40 54.5**	**-0.2**
OJC				eSn	**Sn**	**03 41 17.7**	**-2.1**
OJC				eSg	**Sg**	**03 41 29.4**	**-0.6**
OJC	**Ojcow**	**2.65**	**117**	ePn	**Pn**	**03 40 45.1**	**-1.4**
OJC				ePg	**Pg**	**03 40 54.5**	**-0.2**
OJC				eSn	**Sn**	**03 41 17.7**	**-2.1**
OJC				eSg	**Sg**	**03 41 29.4**	**-0.6**
KHC	**Kasperske Hory**	**2.86**	**216**	ePN	**Pn**	**03 40 50.2**	**+0.7**
KHC				ePG	**Pg**	**03 40 55.9**	**-3.0**
KHC				eSN	**Sn**	**03 41 25.1**	**0.0**
KHC				eSG	**Sg**	**03 41 34.0**	**-3.0**
NIE	**Niedzica**	**3.38**	**126**	eP	**Pg**	**03 41 12.5**	**+3.2**
NIE				eS	**Sg**	**03 41 53.6**	**-0.7**
MOA	**Molln**	**3.83**	**199⇑**	iPN	**Pn**	**03 41 04.3**	**+1.1**
MOA				i SG	**Sg**	**03 42 08.2**	**-1.0**
	3.4nm,0.3s						

GUC 14 04:08:37.6±0.7**, 34.25S×70.09W, h5**km±1km**, MD3.7, ML2.2, 3C-2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CICH	**Cipreses**	**0.28**	**255⇑**	iP	Pg	04 08 43.4	+0.1
CICH				i S	Sg	04 08 48.1	+1.0
LMEL	**Las Melosas**	**0.41**	**347⇑**	iP	Pg	04 08 46.3	+0.4
LMEL				i S	Sg	04 08 53.1	+1.7
LMEL				AMP		04 08 54.4	
	comp=N,519nm,0.1s						
CACH	**El Canelo**	**0.44**	**287**	eP	Pg	04 08 46.4	-0.1
CACH				i S	Sg	04 08 53.3	+0.9
CHCH	**Chadas Angostu**	**0.56**	**304**	i P	Pg	04 08 49.0	+0.2
CHCH				i S	Sg	04 08 57.7	+1.4
SJCH	**San Jose de Ma**	**0.64**	**340⇓**	iP	Pg	04 08 49.8	-0.7
SJCH				i S	Sg	04 08 59.5	+0.4
SJCH				AMP		04 09 00.1	
	comp=N,245nm,0.1s						
PCH	**Pirque**	**0.72**	**331**	i P	Pg	04 08 51.8	-0.1
PCH				i S	Sg	04 09 02.5	+1.0
ANTU	**Antumapu**	**0.81**	**326**	eP	Pb	04 08 53.8	0.0
ANTU				i S	Sg	04 09 05.6	+0.9
ANTU				AMP		04 09 06.1	
	comp=E,175nm,0.1s						
SFDO	**San Fernando**	**0.84**	**244**	i P	Pb	04 08 53.1	-1.2
SFDO				i S	Sb	04 09 05.8	+0.1
TACH	**Talagante**	**0.92**	**310⇑**	iP	Pb	04 08 55.4	-0.2
TACH				i S	Sb	04 09 08.6	+0.7
CLCH	**Cerro Calan**	**0.93**	**336**	eP	Pb	04 08 55.6	-0.1
CLCH				i S	Sb	04 09 08.9	+0.8
CLCH				AMP		04 09 16.6	
	comp=N,95nm,0.5s						
FCH	**Farellones**	**0.93**	**350⇓**	iP	Pb	04 08 55.9	+0.1
FCH				i S	Sb	04 09 09.7	+1.4
FCH				AMP		04 09 11.2	
	comp=E,124nm,0.2s						
RCDM	**Rinconada Maip**	**0.96**	**322**	eP	Pb	04 08 56.2	-0.2
RCDM				i S	Sb	04 09 10.1	+1.0
RCDM				AMP		04 09 10.9	
	comp=E,303nm,0.1s						
LNV	**Longovilo**	**1.13**	**285**	i P	Pb	04 08 58.3	-1.0
LNV				i S	Sb	04 09 14.4	+0.3
JACH	**Jahuel**	**1.62**	**345**	eP	Pn	04 09 06.9	0.0

*BJI **14** 04:08:55.7, 10.45S×114.17E, h61km, mB5.2, mb5.1, Ms4.8, Msz4.4*
*MOS **14** 04:08:59.2±1.0, 9.42S×114.33E, h38km, mb5.5/11, Error ellipse: s-maj=21.7km s-min=11.9km az=116.9*
*DJA **14** 04:09:02.3±0.6, 9.69S×114.22E, h74km±5km, mb6.3/1, MD4.9/4, Error ellipse: s-maj=21.8km s-min=6.2km az=178.0*
*IDC **14** 04:09:04.2±0.5, 9.45S×114.41E, h60km±4km, mb4.7/15, mb1 4.7/16, mb1mx4.7/17, MS4.3/10, Ms1 4.3/10, ms1mx4.3/10, Error ellipse: s-maj=19.3km s-min=11.0km az=56.0*
*NEIC **14** 04:09:04.4±0.2, 9.50S×114.30E, mb5.1/43, MD4.9(DJA), Error ellipse: s-maj=7.5km s-min=5.3km az=58.0*
NEIC Felt [III] at Sawahan and Surabaya, Java.
*SYO **14** 04:09:04.8, 9.44S×114.27E, h63km, MB5.1*
*HRVD **14** 04:09:04.4±0.3, 9.66S×114.19E, h52km±1km, MW5.0/64, Centroid moment Tensor Solution. LP body waves: s38,c54; Mantle waves: s64,c95; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.65±.20; $M_{\theta\theta}$2.46±.15; $M_{\phi\phi}$1.19±.18; $M_{r\theta}$2.05±.09; $M_{\theta\phi}$2.19±.09; $M_{\phi r}$-0.85±.11; Best double couple: $M_0$4.47×10^{16} NP1:ϕ_s31°, δ41°, λ-127°. NP2:ϕ_s256°, δ58°, λ-62°. Principal axes: T 4.28, Plg9°, Azm327°; N .38, Plg23°, Azm61°; P -4.66, Plg65°, Azm217°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 14 04:09:03.7±0.6**, 9.50S**±0.03×**114.33E**±0.04**, h75**km±4km**, h58**km±1.8km**:pP-P, n273,** σ1§**38**/206**, mb5.1**/73**, 29C-28D, South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.03**	**350**	ePn	**P**	**04 09 22.7**	**-0.4**
SRDI				⇑eSn	**S**	**04 09 38.5**	**+0.9**
KELI	**Kelakatan**	**1.28**	**7⇑**	ePn	**P**	**04 09 27.2**	**+0.8**
RATI	**Rata**	**1.42**	**57⇑**	ePn	**P**	**04 09 28.1**	**-0.1**
KEDI	**Kedomdong**	**2.03**	**60⇓**	ePn	**P**	**04 09 37.1**	**+0.7**
NINI	**Niniconang**	**7.38**	**47⇓**	eP	**P**	**04 10 52.3**	**+1.5**
NINI				⇓eS	**S**	**04 12 10.9**	**-2.8**
NINI	**Niniconang**	**7.38**	**47⇓**	eP	**P**	**04 10 52.3**	**+1.5**
	180nm,0.3s						
NINI				eS	**S**	**04 12 10.9**	**-2.8**
BUNI	**Buntu Taipa**	**8.31**	**46⇑**	eP	**P**	**04 11 05.2**	**+1.6**
	43nm,0.2s						
PASI	**Pasiripis**	**9.09**	**287⇓**	eP	**P**	**04 11 12.0**	**-2.2**
	889nm,0.2s						
PENI	**Pendagan**	**9.88**	**293⇓**	eP	**P**	**04 11 23.9**	**-1.2**
MBWA	**Marble Bar**	**12.71**	**156**	eP	**P**	**04 11 53.8**	**-9.1**
MBWA				eS	Sx	04 13 58.0	
FITZ	**Fitzroy Crossi**	**13.91**	**129**	eP	**P**	**04 12 13.1**	**-5.7**
	23nm,0.4s						
FITZ				eS	Sx	04 14 35.8	
FITZ	**Fitzroy Crossi**	**13.91**	**129**	P	**P**	**04 12 12.2**	**-6.5**
	1.2nm,0.3s,baz=349,slow=4.3,SNR=40						
FITZ				S	Sx	04 14 38.2	
	7.9nm,0.3s,baz=174,slow=20,SNR=6.2						
FITZ				LR	LR	04 17 54.4	
	comp=Z,952nm,20.4s,baz=288,slow=38						
KKM	**Kota Kinabalu**	**15.55**	**7⇑**	eP	**P**	**04 12 42.5**	**+2.5**
KGM	**Kluang**	**15.85**	**316⇓**	eP	**P**	**04 12 47.0**	**+3.3**
KAKA	**Kakadu**	**18.01**	**102**	eP	**P**	**04 13 14.1**	**+3.5**
	107nm,1.1s						
KAKA				eS	**S**	**04 16 23.9**	**-1.8**
IPM	**Ipoh**	**19.27**	**316**	eP	**P**	**04 13 26.5**	**+1.4**
DAV	**Davao City (W)**	**19.91**	**35**	eP		04 13 48.6	
SNG	**Songkhla**	**21.47**	**320**	P	**P**	**04 13 48.0**	**+0.2**
WRA	**Warramunga Arr**	**21.93**	**120**	P	**P**	**04 13 51.8**	**-0.5**
	43nm,0.8s,mb4.8,baz=295,slow=11,SNR=115						
WRA				LR	LR	04 22 51.4	
	comp=Z,1μm,19.1s,baz=290,slow=38						
WRAB	**Tennant Creek**	**21.94**	**120**	P	**P**	**04 13 51.0**	**-1.4**
	439nm,0.9s,mb5.8,SNR=35						
WRAB	**Tennant Creek**	**21.94**	**120**	eP	**P**	**04 13 52.0**	**-0.3**
	134nm,0.9s,mb5.3						
WRAB				eS	**S**	**04 17 42.6**	**-2.2**
WB2	**Warramunga Arr**	**21.95**	**120**	eP	**P**	**04 13 51.6**	**-0.8**
WB2				eS	**S**	**04 17 46.7**	**+1.8**
KLBR	**Kellerberrin**	**22.21**	**172**	eP	**P**	**04 13 54.3**	**-0.7**
	109nm,1.5s,mb5.0						
KLBR				eS	**S**	**04 17 46.6**	**-3.0**
MUN	**Mundaring**	**22.44**	**176**	eP	**P**	**04 13 56.6**	**-0.6**
	21nm,0.8s,mb4.5						
MUN				e		04 14 07.7	
MUN				eS	**S**	**04 17 53.2**	**-0.4**
ASPA	**Alice Springs**	**23.41**	**129⇓**	iP	**P**	**04 14 07.4**	**+0.6**
ASPA				eS	**S**	**04 18 14.3**	**+3.4**
NWAO	**Narrogin (SRO)**	**23.47**	**174**	P	**P**	**04 14 07.8**	**+0.6**
	17nm,0.8s,mb4.4,baz=351,slow=11,SNR=11						
NWAO				LR	LR	04 23 17.4	
	comp=Z,2μm,19.9s,baz=342,slow=36						
NWAO	**Narrogin (SRO)**	**23.47**	**174**	eP	**P**	**04 14 06.9**	**-0.3**
	150nm,1.5s,mb5.1						
NWAO				ePcP	PcP	04 17 52.0	-1.0
NWAO				eS	**S**	**04 18 12.2**	**+0.5**
FORT	**Forrest**	**24.74**	**151**	eP	**P**	**04 14 19.2**	**-0.4**
	216nm,0.6s,mb5.8						
FORT				eS	Sx	04 18 51.4	
NNT	**Nongplab**	**26.30**	**326**	P	**P**	**04 14 38.0**	**+3.7**
KKTK	**Khon Kaen**	**28.08**	**336**	P	**P**	**04 14 49.0**	**-1.6**
	247nm,1.0s,mb5.7						
QIZ	**Qiongzhong**	**28.69**	**351**	eP	**P**	**04 14 58.3**	**+2.4**
	14nm,0.8s,mb4.7						
NST	**Nakhon Sawan**	**28.69**	**331**	P	**P**	**04 14 59.0**	**+3.0**
BDT	**Bhumibol Dam**	**30.59**	**330**	P	**P**	**04 15 12.0**	**-0.8**
NANT	**Nan**	**31.17**	**334**	P	**P**	**04 15 18.0**	**+0.1**
CM31	**Chiang Mai Arr**	**31.66**	**331**	eP	**P**	**04 15 20.7**	**-1.5**
	8.9nm,0.5s,mb4.8						
CMAR	**Chiang Mai Arr**	**31.66**	**331**	P	**P**	**04 15 21.9**	**-0.3**
	6.6nm,0.6s,mb4.5,baz=161,slow=7.8,SNR=24						
CMAR				pPcP		04 18 30.4	
	2.9nm,0.5s,baz=182,slow=3.4,SNR=5.5						
CMAR				ScP		04 21 52.5	
	2.8nm,0.7s,baz=177,slow=3.4,SNR=12						
CMAR				LR	LR	04 31 36.7	
	comp=Z,235nm,18.1s,baz=160,slow=43						
CHG	**Chiang Mai**	**31.96**	**332**	⇓P	**P**	**04 15 28.0**	**+3.1**
	10nm,1.0s,mb4.5						
PMG	**Port Moresby**	**32.38**	**93**	P	**P**	**04 15 28.5**	**0.0**
	46nm,1.0s,mb5.2,baz=265,slow=4.7,SNR=12						
PMG	**Port Moresby**	**32.38**	**93**	eP	**P**	**04 15 29.4**	**+0.9**
	58nm,1.0s,mb5.3						
PMG				e		04 15 40.7	
CTA	**Charters Tower**	**32.55**	**113**	eP	**P**	**04 15 30.5**	**+0.6**
	18nm,0.6s,mb5.1						
CTA	**Charters Tower**	**32.55**	**113**	P	**P**	**04 15 29.5**	**-0.5**
	7.6nm,0.6s,mb4.7,baz=278,slow=12,SNR=16						
CTAO	**Charters Tower**	**32.55**	**113**	eP	**P**	**04 15 30.7**	**+0.7**
	44nm,0.9s,mb5.3						
CTAO				epP	pP	04 15 46.1	-1.9
STKA	**Stephens Creek**	**33.68**	**135⇓**	iP	**P**	**04 15 39.5**	**-0.1**
	78nm,0.9s,mb5.5						
STKA	**Stephens Creek**	**33.68**	**135**	P	**P**	**04 15 39.4**	**-0.2**
	83nm,0.9s,mb5.6,baz=309,slow=8.3,SNR=79						
STKA				PcP	PcP	04 18 18.6	+0.5
	4.3nm,0.4s,baz=348,slow=6.0,SNR=4.9						
STKA				LR	LR	04 30 33.6	
	comp=Z,2μm,19.5s,baz=318,slow=38						
ADE	**Adelaide**	**33.75**	**142**	P	**P**	**04 15 39.5**	**-0.7**
TATO	**Taipei**	**34.97**	**11**	eP	**P**	**04 15 49.7**	**-1.0**
	360nm,1.6s,mb6.0						
KMI	**Kunming**	**36.22**	**342**	eP	**P**	**04 16 04.3**	**+3.0**
KMI				XP	sP	04 16 21.0	-7.8
KMI				PPP	PPP	04 17 49.9	+3.5
KMI				S	**S**	**04 21 41.4**	**+6.1**
KMI				PCS		04 22 13.6	
KMI				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.8						
KMI				AMB	AMB		
	comp=Z,97nm,3.7s						
KMI				LR	LR		
	comp=N,423nm,20.8s						
KMI				LR	LR		
	comp=E,399nm,18.6s						
KMI				LR	LR		
	comp=Z,623nm,26.3s						
GYA	**Guiyang**	**36.51**	**348**	P	**P**	**04 16 06.3**	**+2.6**
GYA				AP	pP	04 16 18.8	-3.3
GYA				XP	sP	04 16 23.3	-7.9
GYA				S	**S**	**04 21 43.1**	**+3.4**
GYA				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.2						
GYA				AMB	AMB		
	comp=Z,190nm,4.2s						
GYA				LR	LR		
	comp=N,390nm,21.8s						
GYA				LR	LR		
	comp=E,240nm,20.6s						
GYA				LR	LR		
	comp=Z,600nm,22.1s						
PALK	**Pallekele**	**37.42**	**295**	eP	**P**	**04 16 11.2**	**-0.2**
	comp=Z,22nm,1.0s,mb5.0						
GUMO	**Guam**	**38.01**	**53**	eP	**P**	**04 16 14.3**	**-2.1**
	comp=Z,307nm,1.4s,mb5.9						
TOO	**Toolangi**	**39.62**	**140**	eP	**P**	**04 16 31.8**	**+2.3**
	comp=Z,22nm,1.1s,mb4.9						
ENH	**Enshi**	**39.81**	**353**	eP	**P**	**04 16 30.8**	**-0.4**
	comp=Z,17nm,0.6s,mb5.0						
ENH				e		04 17 01.5	
ARMA	**Armidale**	**40.49**	**126**	eP	**P**	**04 16 39.3**	**+2.5**
SSE	**Sheshan**	**40.89**	**9**	eP	**P**	**04 16 43.5**	**+3.4**
SSE				AP	pP	04 16 56.8	-1.8
SSE				S	**S**	**04 22 50.0**	**+4.3**
SSE				SS	SS	04 25 56.4	+11
SSE				AMB	AMB		
	comp=Z,21nm,0.8s,mb5.0						
SSE				AMB	AMB		
	comp=Z,81nm,5.0s						
SSE				LR	LR		
	comp=N,323nm,23.9s						
SSE				LR	LR		
	comp=E,152nm,23.9s						
SSE				LR	LR		
	comp=Z,389nm,23.3s						
SHL	**Shillong**	**41.14**	**328⇑**	iP	**P**	**04 16 42.3**	**+0.1**
SHL				e		04 22 46.7	
CD2	**Chengdu**	**41.44**	**346⇑**	iP	**P**	**04 16 44.5**	**-0.1**
CD2				S	**S**	**04 22 55.8**	**+2.0**
CD2				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.2						
CD2				LR	LR		
	comp=E,250nm,15.6s						
CD2				LR	LR		
	comp=Z,250nm,31.8s						
NJ2	**Nanjing**	**41.54**	**6**	eP	**P**	**04 16 44.5**	**-1.0**
NJ2				S	**S**	**04 22 56.0**	**+0.6**
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,290nm,4.7s						
NJ2				LR	LR		
	comp=N,2μm,27.0s						
NJ2				LR	LR		
	comp=E,1μm,16.8s						
NJ2				LR	LR		
	comp=Z,1μm,26.0s						
XAN	**Xi'an**	**43.60**	**353**	P	**P**	**04 17 01.8**	**-0.5**
XAN				AP	pP	04 17 15.3	-5.6
HYB	**Hyderabad**	**44.33**	**307**	i P	**P**	**04 17 07.0**	**-1.4**
HYB	**Hyderabad**	**44.33**	**307**	eP	**P**	**04 17 07.0**	**-1.4**
LSA	**Lhasa**	**44.91**	**331**	P	**P**	**04 17 14.3**	**+1.4**
LSA				S	**S**	**04 23 44.0**	**-0.5**
JNU	**Nakatsue**	**45.22**	**20**	P	**P**	**04 17 14.4**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=189,slow=13						

GUN Gumba 46.27 324 *e*P P **04 17 23.7 0.0**
comp=Z,193nm,0.5s,mb6.1
PKI Pulchoki 46.29 324 *e*P P **04 17 22.0 -1.8**
comp=Z,74nm,0.8s,mb5.4
LZH Lanzhou 46.40 348 ⇑P P **04 17 26.0 +1.4**
LZH AP pP 04 17 37.3 -6.0
LZH PP PP 04 19 15.4 +1.0
LZH *e*S **S 04 24 10.3 +4.5**
LZH SS SS 04 27 30.3 +5.4
LZH AMB AMB
comp=Z,48nm,1.3s,mb5.1
LZH AMB AMB
comp=Z,192nm,5.2s
LZH LR LR
comp=N,768nm,13.3s
LZH LR LR
comp=Z,2µm,17.2s
DMN Daman 46.50 323 *e*P P **04 17 25.1 -0.4**
comp=Z,154nm,0.6s,mb5.9
KKN Kakani 46.53 324 *e*P P **04 17 25.1 -0.6**
comp=Z,119nm,0.8s,mb5.7
GKN Gorkha 47.07 323 *e*P P **04 17 28.9 -1.0**
comp=Z,118nm,0.5s,mb5.9
KOLN Koldanda 47.52 322 *e*P P **04 17 32.5 -1.0**
comp=Z,160nm,0.5s,mb6.1
BHPL Bhopal 48.61 313 *e*P P **04 17 40.3 -1.7**
BHPL *e* 04 17 41.5
comp=Z,27nm,0.7s
POO Poona 48.69 305 ⇑*i*P P **04 17 41.0 -1.7**
BJT Baijiatuan 49.29 2 *e*P P **04 17 47.8 +0.7**
comp=Z,50nm,1.7s,mb5.2
BJT *e*pP pP 04 18 03.2 -2.7
BJI Beijing 49.32 2 P P **04 17 47.9 +0.7**
BJI S **S 04 24 44.4 -2.2**
BJI SS SS 04 28 26.3 +11
BJI AMB AMB
comp=Z,9.0nm,1.2s,mb4.6
BJI LR LR
comp=N,328nm,22.7s
BJI LR LR
comp=E,172nm,23.2s
BJI LR LR
comp=Z,500nm,24.9s
BTO Baotou 50.01 356 *e*P P **04 17 53.1 +0.6**
BTO AMB AMB
comp=Z,11nm,0.6s,mb5.0
HHC Hu-ho-hao-te 50.16 357 *e*P P **04 17 51.6 -2.1**
HHC AMB AMB
comp=Z,14nm,1.5s,mb4.7
HHC AMB AMB
comp=Z,167nm,5.2s
GTA Gaotai 50.49 345 *e*P P **04 17 56.9 +0.6**
GTA AP pP 04 18 07.6 -7.6
GTA S **S 04 25 03.6 +0.7**
GTA AMB AMB
comp=Z,50nm,6.8s
GTA LR LR
comp=N,221nm,23.2s
GTA LR LR
comp=E,308nm,15.6s
GTA LR LR
comp=Z,291nm,24.3s
AGRA Agra 50.77 317 *e*P P **04 17 55.7 -2.7**
LGTI Lohaghat 50.77 321 ⇓*i*P P **04 17 57.3 -1.2**
MAJO Matsushiro 51.01 25 P P **04 18 03.0 +2.8**
comp=Z,13nm,0.7s,mb5.1
MAT Matsushiro 51.01 25 P P **04 18 04.3 +4.1**
MAT S **S 04 25 06.0 -4.0**
MAT Matsushiro 51.01 25 *e*P P **04 18 04.0 +3.8**
comp=Z,11nm,0.8s,mb5.0
ASOR Ausora 51.88 318 *e*P P **04 18 04.6 -2.3**
JOSI Joshimath 51.97 321 *e*P P **04 18 05.1 -2.4**
SONA Sohna 52.01 317 *e*P P **04 18 05.7 -2.1**
SONA *e* 04 18 06.7
comp=Z,22nm,0.6s
AYAN Aya Nagar 52.13 318 *e*P P **04 18 06.3 -2.4**
AYAN *e* 04 18 10.9
comp=Z,36nm,1.0s
NDI New Delhi 52.20 318 *e* P **04 18 05.2 -4.0**
NDI *e* 04 25 22.0
BHGR Bahadurgarh 52.39 318 *e*P P **04 18 07.9 -2.7**
BHGR AMb AMB 04 18 08.8
comp=Z,156nm,0.3s
DDI Dehra Dun 52.75 320 *e* S **04 25 36.0 +2.0**
KHET Khetri 52.76 316 *e*P P **04 18 11.2 -2.2**
KHET *e* 04 18 11.8
comp=Z,10nm,0.7s
CN2 Changchun 54.00 10 *e*P P **04 18 25.3 +2.9**
CN2 *e*XP sP 04 18 43.8 -6.2
CN2 *e*S **S 04 25 57.5 +6.8**
CN2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.1
CN2 AMB AMB
comp=Z,300nm,3.0s
CN2 LR LR
comp=N,800nm,17.0s
CN2 LR LR
comp=E,600nm,17.0s
CN2 LR LR
comp=Z,900nm,19.0s
JASL Jaisalmer 55.54 312 *e*P P **04 18 31.5 -2.3**
MDJ Mudanjiang 55.60 13 P P **04 18 38.8 +4.8**
MDJ AP pP 04 18 53.1 -0.2
MDJ XP sP 04 18 55.3 -6.5
MDJ S **S 04 26 19.8 +7.7**
MDJ SS SS 04 30 03.1 +5.0
MDJ AMB AMB
comp=Z,9.0nm,0.8s,mb4.8
MDJ AMB AMB
comp=Z,71nm,4.1s
MDJ LR LR
comp=N,243nm,26.4s
MDJ LR LR
comp=E,114nm,29.9s
MDJ LR LR
comp=Z,323nm,28.1s
MDJ Mudanjiang 55.60 13 *e*P P **04 18 32.5 -1.5**
comp=Z,14nm,0.8s,mb5.0
THN Thein Dam 55.65 320 *e*P P **04 18 31.6 -2.9**
comp=Z,23nm,0.6s,mb5.4
SONM Songino Array 57.51 354 P P **04 18 46.9 -0.6**
comp=Z,3.9nm,0.4s,mb4.8,baz=173,slow=9.2,SNR=38
SONM pP pP 04 19 02.4 -4.5
comp=Z,3.8nm,0.5s,baz=170,slow=7.5,SNR=5.3
SONM PcP PcP 04 19 40.2 +0.2
comp=Z,2.5nm,0.6s,baz=179,slow=3.8,SNR=4.4
WMQ Urumqi 58.32 338 SP P **04 18 53.0 -0.2**
WMQ XP sP 04 19 11.0 -10
WMQ PP PP 04 21 03.0 -1.7
WMQ S **S 04 26 49.0 +1.1**
WMQ SCS ScS 04 28 35.0 +3.0
WMQ AMB AMB
comp=Z,25nm,1.0s,mb5.2
WMQ LR LR
comp=N,277nm,18.0s
WMQ LR LR
comp=E,228nm,18.0s
WMQ LR LR
comp=Z,298nm,18.0s
HIA Hailar 58.70 4 P P **04 18 54.2 -1.5**
comp=Z,12nm,1.3s,mb4.8
MIR Mirnyy 58.80 190 ⇓*e*P P **04 18 55.3 -0.9**
MIR pmax pmax
comp=Z,45nm,1.6s,mb5.2
RPZ Rata Peaks 59.64 135 P P **04 19 01.8 -0.5**
comp=Z,26nm,1.0s,mb5.2,baz=48,slow=9.6,SNR=3.6
RPZ pP pP 04 19 17.9 -4.0
comp=Z,84nm,1.0s,baz=243,slow=5.7,SNR=7.7
KSH Kashi 60.37 326 ⇑*i*P P **04 19 07.1 -0.3**
KSH *e*AP pP 04 19 19.1 -7.8
KSH *e*XP sP 04 19 24.5 -11
KSH PCP PcP 04 19 53.0 +1.6
KSH PP PP 04 21 22.0 -1.2
KSH PPP PPP 04 22 50.3 -0.2
KSH PCS 04 23 53.6
KSH S **S 04 27 13.8 -0.6**
KSH SCS ScS 04 28 50.8 +3.6
KSH *e*SS SS 04 31 16.0 +1.6
KSH AMB AMB
comp=Z,120nm,1.9s,mb5.6
KSH LR LR
comp=N,360nm,6.1s
KSH LR LR
comp=E,250nm,4.8s
ZAK Zakamensk 60.40 352 ⇑*e*P P **04 19 06.4 -1.1**
ZAK *e* 04 19 51.2
YSS Yuzh-Sakhalins 61.65 22 *i*P P **04 19 14.2 -1.7**
YSS pmax pmax
comp=Z,47nm,1.3s,mb5.4
YSS Yuzh-Sakhalins 61.65 22 *i*P P **04 19 14.2 -1.7**
comp=Z,47nm,1.3s,mb5.4
URZ Urewera 62.85 128 P P **04 19 23.1 -1.0**
comp=Z,7.2nm,0.8s,mb4.6,baz=250,slow=12,SNR=2.3
URZ pP pP 04 19 39.0 -4.8
comp=Z,20nm,1.0s,baz=336,slow=7.2,SNR=4.2
TKM2 Tokmak 2 63.00 329 P P **04 19 24.6 -0.4**
SNR=15
AAK Ala-Archa 63.36 328 P P **04 19 26.8 -0.6**
SNR=11
AAK Ala-Archa 63.36 328 *e*P P **04 19 26.3 -1.1**
AAK Ala-Archa 63.36 328 ⇑*i*P P **04 19 26.3 -1.1**
AML Almayashu 63.43 327 P P **04 19 27.9 0.0**
SNR=12
EKS2 Erkin-Say 63.76 328 P P **04 19 29.5 -0.6**
SNR=15
USP Ospenovka 63.81 329 P P **04 19 29.1 -1.2**
SNR=6.4
MAW Mawson 67.23 199 *e*P P **04 19 51.4 -0.4**
comp=Z,11nm,1.1s,mb4.6
MAW Mawson 67.23 199 P P **04 19 51.5 -0.4**
comp=Z,6.7nm,0.7s,mb4.6,baz=58,slow=8.4,SNR=17
MAW LR LR 04 44 24.0
comp=Z,288nm,20.6s,baz=63,slow=32
KURK Kurchatov 67.50 336 *d*P P **04 19 52.4 -1.4**
KURK Kurchatov 67.50 336 *i*Pr 04 19 52.4
YAK Yakutsk 72.31 8 *e*P P **04 20 20.7 -2.1**
YAK pmax pmax
comp=Z,13nm,1.1s,mb4.7
YAK pmax pmax
comp=N,10.0nm,1.2s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK Yakutsk 72.31 8 *e*P P **04 20 20.7 -2.1**
comp=E,13nm,1.1s,mb4.7
BRVK Borovoye 72.71 334 *e*P P **04 20 24.2 -1.1**
comp=E,16nm,1.1s,mb4.8
BRVK *e*pP pP 04 20 39.4 -6.1
ZRNK Zerenda 73.19 333 *e*P P **04 20 27.2 -0.9**
comp=E,14nm,0.6s,mb5.0
SBA Scott Base 73.28 170 *e*P P **04 20 29.6 +1.4**
comp=E,24nm,1.6s,mb4.8
SBA *e*pP pP 04 20 47.2 -1.2
KAMS Al Khamasin 74.70 294 P P **04 20 36.7 -0.9**
DJNS Zahran al Janu 74.94 291 P P **04 20 39.9 +1.0**
MZLS Mizel 75.22 298 P P **04 20 40.5 0.0**
TATS Tathlith 75.48 293 P P **04 20 42.8 +0.7**
SYO Syowa Base 75.73 201 ⇑P P **04 20 42.3 -0.1**
SYO Syowa Base 75.73 201 ⇓PcP PcP 04 20 57.1 +1.9
SYO Syowa Base 75.73 201 ⇑pP pP 04 21 03.3 +0.5
SYO Syowa Base 75.73 201 ⇓sP sP 04 21 08.9 -2.1
NAMS An Nimas 76.54 292 P P **04 20 49.3 +1.3**
KMBO Kilima Mbogo 77.07 271 *e*P P **04 20 52.3 +1.2**
comp=E,14nm,0.9s,mb4.7
KMBO *e*pP pP 04 21 10.2 -1.3
AFFS 'Afif 77.12 297 P P **04 20 51.5 +0.3**
BLJS Baljurashi 77.28 293 P P **04 20 53.5 +1.4**
ARSS Ar Rass 77.48 299 P P **04 20 53.1 -0.1**
HILS Ha'il 79.15 300 P P **04 21 03.5 +1.2**
SVE Sverdlovsk 79.39 333 ⇑*e*P P **04 21 03.0 +0.1**
SVE pmax pmax
comp=E,60nm,2.0s,mb5.1
SVE Sverdlovsk 79.39 333 ⇑*e*P P **04 21 03.0 +0.1**
comp=E,60nm,2.0s,mb5.1
ARU Arti 80.10 332 ⇓*i*P P **04 21 06.6 -0.2**
ARU *e* 04 24 08.9
ARU *e*PPP PPP 04 25 56.9 -5.6
ARU *e*S S 04 31 08.1 +4.5
ARU pmax pmax
comp=Z,19nm,1.2s,mb4.8
ARU MLR MLR
comp=Z,300nm,24.0s
ARU MLR MLR
comp=N,200nm,22.0s
ARU MLR MLR
comp=E,200nm,20.0s
ARU Arti 80.10 332 ⇓*i*P P **04 21 06.6 -0.2**
comp=E,19nm,1.2s,mb4.8
ARU *e* 04 24 08.9
ARU *e*PPP PPP 04 25 56.9 -5.6
ARU *e*S S 04 31 08.1 +4.5
ARU LR LR
comp=Z,300nm,24.0s
KBRS Khaybar 80.90 298 P P **04 21 12.6 +0.9**
TIXI Tiksi 81.55 5 ⇓*i*P P **04 21 12.8 -1.3**
TIXI *e* pP 04 21 28.6 -6.1
TIXI pmax pmax
comp=Z,31nm,1.1s,mb5.0
TIXI Tiksi 81.55 5 ⇓*i*P P **04 21 12.8 -1.3**
comp=Z,31nm,1.1s,mb5.0
TIXI *e* pP 04 21 28.6 -6.1
YNBS Yanbu' al Bahr 81.64 296 P P **04 21 17.0 +1.4**
UMJS Umm Lajj 82.46 297 P P **04 21 22.0 +2.2**
MBAR Mbarara 83.58 270 P P **04 21 26.7 +0.9**
comp=Z,108nm,1.3s,mb5.5,SNR=16
MBAR Mbarara 83.58 270 *e*P P **04 21 26.3 +0.5**
comp=Z,13nm,0.8s,mb4.8
MBAR *e*pP pP 04 21 44.3 -2.1
KIV Kislovodsk 83.63 316 *e*P P **04 21 25.5 +0.2**
KIV *e* 04 24 37.2
KIV *e*S S 04 31 43.7 +3.7
KIV pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
KIV MLR MLR
comp=Z,90nm,22.0s
KIV MLR MLR
comp=N,57nm,21.0s
KIV Kislovodsk 83.63 316 *e*P P **04 21 21.9 -3.4**
comp=N,19nm,0.9s,mb4.9
KIV *e*P 04 21 25.5
KIV *e* 04 24 37.2
KIV *e*S S 04 31 43.7 +3.7
KIV LR LR
comp=Z,90nm,22.0s
GOF Gofitskoye 83.77 318 ⇓*i*P P **04 21 27.0 +1.0**
GOF pmax pmax
comp=Z,33nm,1.3s,mb5.0
GOF Gofitskoye 83.77 318 ⇓*i*P P **04 21 27.0 +1.0**
comp=Z,33nm,1.3s,mb5.0
LSZ Lusaka 83.86 256 *e*P P **04 21 28.2 +1.1**
comp=Z,18nm,0.6s,mb5.1
LSZ *e*pP pP 04 21 45.3 -2.4
ASF Jabal al Asfar 84.54 304 P P **04 21 32.8 +2.6**
comp=Z,7.8nm,0.8s,mb4.7,baz=312,slow=1.2,SNR=23
JMQS Jabal Moqyreh 84.58 300 P P **04 21 32.2 +1.8**
AYUS 'Aynunah 84.94 300 P P **04 21 33.8 +1.5**
HAQS Haql 85.43 300 P P **04 21 36.4 +1.8**
SOC Sochi 85.55 315 *e*P P **04 21 32.1 -2.8**
SOC *e* 04 21 45.9
SOC *e*S S 04 31 57.2 -1.7
SOC *e*SS SS 04 37 38.4 -0.8
SOC *e*SSS SSS 04 41 06.6 -1.8
SOC pmax pmax
comp=Z,32nm,0.9s,mb5.2
SOC pmax pmax
comp=N,38nm,1.2s
SOC pmax pmax
comp=E,26nm,1.3s
SOC MLR MLR
comp=Z,121nm,20.0s
SOC MLR MLR
comp=N,114nm,18.0s
SOC MLR MLR
comp=E,45nm,19.0s
SOC Sochi 85.55 315 *e*P P **04 21 32.1 -2.8**
comp=E,32nm,0.9s,mb5.2
SOC *e* 04 21 45.9
SOC *e*S S 04 31 57.2 -1.7
SOC *e*SS SS 04 37 38.4 -0.8
SOC *e*SSS SSS 04 41 06.6 -1.8
SOC LR LR
comp=Z,120nm,20.0s
KAHT Ahir Dag 85.96 309 *i*P P **04 21 38.3 +1.2**
KAHT *i*S pP 04 21 57.3 -0.5
COBT Iskenderun 86.16 308 *i*P P **04 21 40.9 +2.9**
ANN Anapa 87.47 316 *e*P P **04 21 48.9 +4.6**
ANN pmax pmax
comp=Z,44nm,1.0s,mb5.3
ANN Anapa 87.47 316 *e*P P **04 21 48.9 +4.6**
comp=Z,44nm,1.0s,mb5.3
AVNT Avonos 87.79 310 *i*P P **04 21 47.4 +1.4**
MEST Erdemli 87.82 307 *i*P P **04 21 46.8 +0.7**
SUR Sutherland 87.93 238 *e*P P **04 21 48.3 +1.5**
comp=Z,8.1nm,0.8s,mb4.8
CSS Prodhromos 88.10 306 *e*P P **04 21 48.4 +1.0**
comp=Z,30nm,1.1s,mb5.2
CSS *e*pP pP 04 22 06.1 -2.2
BRTR Keskin Array B 88.93 310 P P **04 21 52.0 +0.7**
comp=Z,5.6nm,0.8s,mb4.7,baz=140,slow=6.3,SNR=20
BRTR pP pP 04 22 10.2 -2.0
comp=Z,12nm,0.9s,baz=135,slow=5.2,SNR=8.3
BRTR LR LR 05 05 03.7
comp=Z,75nm,21.9s,baz=40,slow=38
SNAA Sanae 89.25 196 ⇑*i*P P **04 21 51.3 -0.8**
SNAA Sanae 89.25 196 ⇓*i* P **04 21 53.4 +1.3**
SNAA Sanae 89.25 196 ⇓*i* P **04 22 03.5 +11**
SNAA Sanae 89.25 196 ⇑*i* pP 04 22 08.1 -4.9
SNAA Sanae 89.25 196 ⇓*i* 04 26 57.6
SNAA Sanae 89.25 196 ⇓*i*P P **04 21 53.4 +1.3**
OBN Obninsk 90.81 326 *α*P P **04 22 00.7 +1.0**
OBN *e* 04 32 30.5
OBN *e*PS PS 04 34 07.6 -1.3
OBN pmax pmax
comp=Z,73nm,1.8s,mb5.5
OBN MLR MLR
comp=Z,200nm,20.0s
OBN Obninsk 90.81 326 *i*Pcu 04 22 00.7
comp=Z,73nm,1.8s
OBN *e* 04 32 30.5
OBN *e*PS PS 04 34 07.6 -1.3
OBN LR LR
comp=Z,200nm,20.0s
VNA2 Neumayer--Watz 90.90 196 ⇓*i*P P **04 22 02.9 +3.1**
VNA2 Neumayer--Watz 90.90 196 P P **04 22 04.0 +4.2**
VNA2 Neumayer--Watz 90.90 196 ⇑*i* P **04 22 13.6 +14**
VNA2 Neumayer--Watz 90.90 196 ⇑*i* pP 04 22 17.9 -2.9
VNA2 Neumayer--Watz 90.90 196 PP 04 25 39.7 +0.9
VNA1 Neumayer--Stat 91.29 196 ⇑*i*P P **04 22 05.1 +3.5**
VNA1 Neumayer--Stat 91.29 196 ⇑*i* P **04 22 06.0 +4.4**
VNA1 Neumayer--Stat 91.29 196 ⇑*i* P **04 22 17.1 +15**
VNA3 Neumayer Olymp 91.34 196 ⇑*i*P P **04 22 04.8 +3.0**
VNA3 Neumayer Olymp 91.34 196 ⇓*i* P **04 22 05.9 +4.1**
VNA3 Neumayer Olymp 91.34 196 ⇑*i* P **04 22 14.7 +13**
VNA3 Neumayer Olymp 91.34 196 pP 04 22 21.1 -1.7
VNA3 Neumayer Olymp 91.34 196 ⇓*i* PP 04 25 41.4 -0.9
VNA3 Neumayer Olymp 91.34 196 ⇓*i* 04 26 54.2
AKASG Malin Array Be 94.19 321 P P **04 22 14.8 -0.5**
comp=Z,2.1nm,0.6s,mb4.7,baz=79,slow=4.7,SNR=18
AKASG LR LR 05 11 23.9
comp=Z,96nm,21.7s,baz=90,slow=40
SANT Santorini 94.65 306 *e*P P **04 22 20.8 +3.0**
comp=Z,35nm,0.9s,mb5.8
SANT *e* 04 22 29.0
FINES FINESS Array B 97.43 331 P P **04 22 29.8 -0.1**
comp=Z,3.2nm,0.6s,mb5.0,baz=104,slow=5.1,SNR=19
FINES pP pP 04 22 47.0 -3.9
comp=Z,5.5nm,0.9s,baz=108,slow=6.0,SNR=3.3
FINES LR LR 05 13 16.9
comp=Z,127nm,20.3s,baz=254,slow=40
FINES FINESS Array B 97.43 331 *i*P P **04 22 30.3 +0.5**
FINES pmax pmax
comp=Z,3.0nm,0.6s
FINES FINESS Array B 97.43 331 P P **04 22 29.8 -0.1**
FINES pP pP 04 22 47.0 -3.9
FINES LR LR 05 13 16.9
SUW Suwalki 98.28 323 *e*P P **04 22 33.4 -0.4**
comp=Z,40nm,1.3s,mb5.8
SUW *e*pP pP 04 22 53.2 -1.6
ARCES ARCESS Array B 98.42 339 P P **04 22 33.5 -0.6**
comp=Z,2.5nm,0.8s,mb4.8,baz=72,slow=3.8,SNR=6.8
ARCES LR LR 05 17 16.9
comp=Z,87nm,18.2s,baz=2.3,slow=42
ARCES ARCESS Array B 98.42 339 P P **04 22 33.5 -0.6**
ARCES LR LR 05 17 16.9
ILAR Eielson Array 102.28 26 P Pdif 04 22 51.1 -0.4
comp=Z,0.4nm,0.9s,baz=251,slow=4.1,SNR=5.1
ILAR pP 04 23 08.2
comp=Z,0.4nm,0.6s,baz=260,slow=4.2,SNR=3.9
ILAR PKKPbc 04 38 55.0
comp=Z,0.5nm,0.6s,baz=83,slow=1.3,SNR=5.3
NOA NORSAR Array B 104.61 331 PKKPbc 04 38 46.1
comp=Z,1.3nm,0.8s,baz=317,slow=6.6,SNR=3.7
YKA Yellowknife Ar 116.49 23 PKP PKPdf 04 27 40.6 +2.0
comp=Z,1.6nm,0.5s,baz=314,slow=1.7,SNR=10
YKA pPKP 04 27 58.0
comp=Z,1.7nm,0.5s,baz=310,slow=1.8,SNR=3.7
YKA Yellowknife Ar 116.49 23 PKP PKPdf 04 27 40.6 +2.0
YKA pPKP 04 27 58.0
KIC Kosan Boka 119.63 272 *e*PKIKP PKPdf 04 27 48.1 +2.2
comp=Z,168nm,1.7s
DBIC Dimbokro 119.79 272 PKP PKPdf 04 27 48.4 +2.3
comp=Z,1.8nm,0.4s,baz=43,slow=3.8,SNR=13
DBIC Dimbokro 119.79 272 PKP PKPdf 04 27 48.4 +2.3
LIC Lamto 119.90 272 *e*PKIKP PKPdf 04 27 48.6 +2.2
comp=Z,82nm,1.6s
TIC Toumodi 119.94 272 *e*PKIKP PKPdf 04 27 48.1 +1.6
comp=Z,12nm,0.2s
MOD Modoc 122.37 46 *e*PKPdf PKPdf 04 27 53.3 +2.8
MOD *e* 04 28 04.7
MOD *e* 04 28 11.3
LNOR Lincton Mounta 122.40 41 *e*PKPdf PKPdf 04 27 53.4 +2.9
LNOR *e* 04 28 10.8
OMM Old Mammoth Mi 124.58 51 *e*PKPdf PKPdf 04 27 58.8 +3.8
MSO Missoula 124.75 39 *e*PKPdf PKPdf 04 27 57.1 +2.0
MSO *e* 04 28 14.6
NVAR Mina Array Bea 124.87 50 PKP PKPdf 04 27 59.1 +3.6
comp=Z,5.2nm,1.1s,baz=54,slow=0.2,SNR=19
NVAR pPKP 04 28 16.4
comp=Z,2.1nm,0.6s,baz=280,slow=3.2,SNR=8.4
MTUM Tungsten Hills 124.98 51 *e*PKPdf PKPdf 04 27 59.6 +3.9
CHMT Chamberlain Mo 125.14 38 *e*PKPdf PKPdf 04 27 58.5 +2.7
CHMT *e* 04 28 15.5
HLID Hailey 125.83 42 *e*PKPdf PKPdf 04 28 01.2 +4.0
HLID *e* 04 28 18.7
ELK Elko 126.35 46 *e*PKPdf PKPdf 04 28 01.8 +3.6
ELK *e* 04 28 19.3
BOZ Bozeman (W) 126.72 39 *e*PKPdf PKPdf 04 28 02.2 +3.4
BOZ *e* 04 28 18.4
QLMT Earthquake Lak 127.22 40 *e*PKPdf PKPdf 04 28 03.8 +4.0
QLMT *e* 04 28 21.1
RRI2 Red Ridge 127.97 41 *e*PKPdf PKPdf 04 28 05.0 +3.6
RRI2 *e* 04 28 22.2
TPAW Teton Pass 128.14 41 *e*PKPdf PKPdf 04 28 05.4 +3.7
REDW Red Top Meadow 128.26 41 *e*PKPdf PKPdf 04 28 05.5 +3.6
REDW *e* 04 28 22.8
DUG Dugway 128.27 46 *e*PKPdf PKPdf 04 28 05.5 +3.5
DUG *e* 04 28 23.4
SNOW Snow King Moun 128.28 41 *e*PKPdf PKPdf 04 28 05.7 +3.8
SNOW *e* 04 28 23.3
LDFC Landfair 128.31 53 *e*PKPdf PKPdf 04 28 06.3 +4.0
LDFC *e* 04 28 23.7
NEN Nelson 128.34 52 *e*PKPdf PKPdf 04 28 06.2 +3.9
NEN *e* 04 28 23.5
NEN *e* 04 28 28.9
HWUT Hardware Ranch 128.56 44 *e*PKPdf PKPdf 04 28 05.8 +3.3
HWUT *e* 04 28 22.9
MSU Marysvale 129.37 47 *e*PKPdf PKPdf 04 28 08.8 +4.7
MSU *e* 04 28 26.1
PDAR Pinedale Array 129.38 41 PKP PKPdf 04 28 06.9 +2.9
comp=Z,2.2nm,1.0s,SNR=15
PDAR pPKP 04 28 23.9
comp=Z,1.3nm,0.5s,baz=153,slow=2.3,SNR=7.2
PDAR SKPbc 04 31 22.4
comp=Z,0.5nm,0.7s,SNR=3.6
LAO LASA Array 129.41 35 *e*PKPdf PKPdf 04 28 07.5 +3.6
LAO *e* 04 28 24.2
PV10 Paradox Valley 131.68 46 *e*PKPdf PKPdf 04 28 11.7 +3.2
PV10 *e* 04 28 29.9
PV10 *e*SKP 04 31 32.0
PV01 Paradox Valley 132.12 46 *e*PKPdf PKPdf 04 28 13.9 +4.6
PV01 *e* 04 28 30.6
SCHQ Schefferville 134.78 1 PKP PKPdf 04 28 16.9 +3.1
comp=Z,9.5nm,1.3s,baz=214,slow=12,SNR=7.5
ANMO Albuquerque 134.99 49 ⇑*i*PKIKP PKPdf 04 28 18.8 +4.0
ANMO Albuquerque 134.99 49 *e*PKPdf PKPdf 04 28 18.6 +3.8
ANMO *e* 04 28 36.3
TXAR Lajitas Array 139.35 56 PKhKP 04 28 17.6
comp=Z,0.8nm,0.7s,baz=191,slow=1.9,SNR=4.0
TXAR SKPbc 04 31 55.2
comp=Z,1.4nm,0.9s,baz=180,slow=2.7,SNR=3.4
WMOK Wichita Mounta 140.67 45 *e*PKPdf PKPdf 04 28 21.1 -4.1
WMOK *e* 04 28 38.5
JCT Junction City 141.97 52 *e*PKPdf PKPdf 04 28 24.8 -2.8
CPUP Villa Florida 143.47 193 PKP PKPdf 04 28 30.6 +0.3

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,3.2nm,0.5s,baz=193,slow=1.2,SNR=9.7						
FVM	French Village	143.93	34	ePKPdf	PKPdf	04 28 29.5	-1.2
FVM				e		04 28 46.4	
MIAR	Mount Ida	144.31	41	ePKPdf	PKPdf	04 28 32.5	+1.0
MIAR				e		04 28 49.9	
MIV	Mineville/With	144.88	10	ePKPdf	PKPdf	04 28 33.9	+1.7
MIV				e		04 28 49.9	
EMMW	East Machias	144.88	2	ePKPdf	PKPdf	04 28 33.9	+1.7
EMMW				e		04 28 50.6	
UALR	University of	144.96	40	ePKPdf	PKPdf	04 28 34.5	+1.9
UALR				e		04 28 50.2	
MDV	Middlebury	145.01	9	ePKPdf	PKPdf	04 28 34.4	+2.0
MDV				e		04 28 50.2	
BLO	Bloomington	145.06	29	ePKPdf	PKPdf	04 28 34.3	+1.6
NATX	Nacogdoches	145.17	46	ePKPdf	PKPdf	04 28 36.3	+3.2
NATX				e		04 28 53.2	
GENY	Geneseo	145.19	16	ePKPdf	PKPdf	04 28 34.6	+1.8
USIN	University of	145.42	31	ePKPdf	PKPdf	04 28 35.0	+1.7
USIN				e		04 28 52.6	
HNH	Hanover	145.44	8	ePKPdf	PKPdf	04 28 36.1	+3.0
HNH				e		04 28 52.3	
PVMO	Portageville	145.45	35	ePKPdf	PKPdf	04 28 35.8	+2.4
HBAR	Harrisburg	145.49	37	ePKPdf	PKPdf	04 28 36.6	+3.1
HBAR				e		04 28 52.9	
ALLY	Alegheny Colle	145.53	19	ePKPdf	PKPdf	04 28 36.3	+2.9
ALLY				e		04 28 52.8	
ACCN	Adirondack Com	145.53	10	ePKPdf	PKPdf	04 28 36.2	+2.9
ACCN				e		04 28 52.0	
ACSO	Alum Creek Sta	145.74	24	ePKPdf	PKPdf	04 28 36.6	+2.8
ACSO				e		04 28 53.6	
FFD	Franklin Falls	145.76	8	ePKPdf	PKPdf	04 28 37.3	+3.6
FFD				e		04 28 52.7	
GLAT	Glass	145.79	35	ePKPdf	PKPdf	04 28 37.3	+3.3
GLAT				e		04 28 49.1	
GLAT				e		04 28 53.3	
UTMT	University of	145.98	35	ePKPdf	PKPdf	04 28 37.9	+3.6
UTMT				e		04 28 54.8	
HALT	Halls	146.01	36	ePKP	PKPdf	04 28 38.6	+4.2
BINY	Binghamton	146.19	14	ePKPdf	PKPdf	04 28 36.6	+2.1
BINY				e		04 28 54.7	
HRV	Harvard--Oak R	146.72	8	ePKPdf	PKPdf	04 28 38.3	+2.9
HRV				e		04 28 55.9	
OXF	Oxford	146.94	38	ePKPdf	PKPdf	04 28 40.6	+4.5
OXF				e		04 28 58.1	
BRYW	Bryant College	147.30	8	ePKPdf	PKPdf	04 28 38.1	+1.7
BRYW				e		04 28 57.6	
MCWV	Mont Chateau	147.41	21	ePKPdf	PKPdf	04 28 41.8	+5.2
MCWV				e		04 28 58.0	
PAL	Palisades	147.78	12	ePKPdf	PKPdf	04 28 42.8	+5.6
PAL				e		04 28 59.1	
LVC	Limon Verde	147.93	174	ePKPdf	PKPdf	04 28 43.0	+5.0
LVC				ePKPbc	PKPdf	04 28 45.7	+7.8
LVC				e		04 29 03.8	
SWET	Sewanee	148.41	33	ePKPdf	PKPdf	04 28 40.3	+1.9
SWET				ePKPbc	PKPdf	04 28 43.9	+5.5
FWV	Forest Hill	148.88	24	ePKPbc	PKPdf	04 28 45.4	+6.4
FWV				e		04 29 02.6	
CPCT	Cooper Cave	148.97	31	ePKPbc	PKPdf	04 28 48.7	+10
CPCT				ePKPab	PKPab	04 28 52.9	+3.1
CPCT				e		04 29 05.8	
BLA	Blacksburg	149.35	24	ePKPdf	PKPdf	04 28 43.7	+3.9
BLA				e		04 29 03.6	
LRAL	Lakeview Retre	149.41	37	ePKPdf	PKPdf	04 28 43.1	+3.1
LRAL				ePKPbc	PKPdf	04 28 47.2	+7.1
BAO	Brasilia Array	149.50	215	PKP	PKPdf	04 28 48.7	+8.0
BAO				i		04 29 07.0	
BAO				e		04 29 16.1	
BDFB	Brasilia	149.51	215	PKP	PKPdf	04 28 44.4	+3.8
	comp=Z,27nm,0.9s,baz=90,slow=1.0,SNR=4.0						
BDFB				PKPbc	PKPdf	04 28 48.8	+8.1
	comp=Z,31nm,1.0s,baz=156,slow=2.3,SNR=37						
BDFB				pPKPbc		04 29 06.7	
	comp=Z,20nm,0.6s,baz=10,slow=0.8,SNR=7.0						
JSC	Jenkinsville	151.49	28	ePKPdf	PKPdf	04 28 46.4	+3.2
JSC				ePKPbc	PKPdf	04 28 52.4	+9.3
LPAZ	La Paz	154.26	175	PKP	PKPdf	04 28 51.8	+4.3
	comp=Z,0.8nm,0.8s,baz=317,slow=4.3,SNR=4.5						
LPAZ				PKPbc	PKPdf	04 28 59.4	+12
	comp=Z,1.7nm,0.4s,baz=317,slow=1.5,SNR=7.5						
LPAZ				pPKPbc		04 29 14.3	
	comp=Z,24nm,1.1s,baz=177,slow=2.2,SNR=16						
LPAZ	La Paz	154.26	175	ePKPdf	PKPdf	04 28 50.1	+2.7
LPAZ				ePKPbc	PKPdf	04 29 00.3	+13
LPAZ				ePKPab	PKPab	04 29 12.9	+0.4
SDV	Santo Domingo	175.06	97	ePKPdf	PKPdf	04 29 06.8	+1.3
SDV				e		04 29 24.9	
SDV				ePKPab	PKPab	04 30 44.9	+1.7
SDV				eSKP		04 32 33.4	

FUNV 14 04:13:49.6, 6.76N×73.22W, h167km, MD3.7, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAPV	Capacho	1.42	39	⇓iP	P	04 14 19.5	-0.5
CAPV				eS	S	04 14 40.8	-2.7
VIGV	El Vigia	2.77	42	eP	P	04 14 34.1	-1.3
VIGV				eS	S	04 15 07.0	-3.6
SOCV	Socops	2.79	57	eP	P	04 14 34.5	-1.2
SOCV				eS	S	04 15 06.7	-4.4
VIRV	Villa del Rosa	3.80	12	eP	P	04 14 46.1	-2.4
VIRV				eS	S	04 15 28.4	-5.5
CURV	Curarigua	4.57	45	eP	P	04 14 56.4	-2.0
CURV				eS	S	04 15 45.9	-5.7
BAUV	El Baul	5.57	67	eP	P	04 15 08.7	-3.0
BAUV				eS	S	04 16 07.6	-7.6
PAYV	Puerto Ayacuch	5.70	103	eP	P	04 15 10.6	-2.6

DJA 14 04:23:02.4±1.0**, 9.78S×114.21E, h33km, MD4.9**/4**, ML4.3**/4**, 4C-2D, Error ellipse: s-maj=22.7km s-min=11.5km az=33.0, South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SRDI	Scrawed	1.29	357	ePn	Pn	04 23 22.7	-1.8
	805nm,0.1s						
SRDI				⇓eSn	Sn	04 23 37.8	-2.9
KELI	Kelakatan	1.58	10	⇑ePn	Pn	04 23 27.5	-1.0
	309nm,0.2s						
KELI				⇑eSn	Sn	04 23 45.8	-2.2
RATI	Rata	1.68	51	⇑ePn	Pn	04 23 28.5	-1.4
	209nm,0.2s						
RATI				⇓eSn	Sn	04 23 47.1	-3.4
KEDI	Kedomdong	2.28	56	⇑ePn	Pn	04 23 36.8	-1.8
	63nm,0.2s						

*THE **14** 04:28:08.5, 37.83N×20.92E, h10km, ML3.9*
*ATH **14** 04:28:08.3, 37.89N×21.08E, h5km, MD3.7/12, ML3.7*
*NEIC **14** 04:28:08.3, 37.89N×21.08E, h5km, ML3.7(ATH), After ATH.*
NEIC Felt at Zakinthos.
*CSEM **14** 04:28:11.2±0.1, 37.89N×20.83E, h40km, ML3.7, Error ellipse: s-maj=3.1km s-min=2.1km az=32.0*
ISC 14 04:28:09.6±0.8**, 37.85N**±0.04×**20.84E**±0.05**, h25km**±6km**, n42, σ1.15**/53**, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VLS	Valsamata	0.38	330	ePB	Pb	04 28 17.7	-0.2
VLS				eSB	Sb	04 28 25.3	+1.8
LKD	Levkas	0.87	350	ePg	Pb	04 28 25.1	-0.8
LKD				eSg	Sb	04 28 38.0	+0.7
LKD	Levkas	0.87	350	ePg	Pb	04 28 25.1	-0.9
LKD				eSg	Sb	04 28 38.0	+0.7
EVR	Evrytania	1.31	35	ePB	Pb	04 28 31.0	-2.5
AGG	Agios Georgios	1.66	45	ePb	Pb	04 28 37.8	-1.5
	comp=Z,20nm,0.3s						
AGG				eSb	Sb	04 28 59.1	-0.9
IGT	Igoumenitsa	1.73	347	ePb	Pb	04 28 39.4	-1.1
IGT				eSb	Sb	04 29 03.5	+1.6
JAN	Janina	1.81	0	ePG	Pn	04 28 41.3	+1.5
LKR	Lokris	1.88	64	ePG	Pn	04 28 39.7	-1.1
VLI	Veliai	2.02	123	ePN	Pn	04 28 46.5	+3.7
KEK	Kerkira	2.03	337	ePG	Pn	04 28 48.1	+5.1
NSAL	Nisos Salamina	2.08	88	ePN	Pn	04 28 43.8	+0.1
NAIG	Nisos Aigina	2.10	92	ePN	Pn	04 28 44.2	+0.2
SRN	Sarande	2.13	342	ePn	Pn	04 28 47.8	+3.4
ATH	Athens Observa	2.28	86	ePG	Pn	04 28 47.4	+0.9
MPAR	Parnis Oros	2.31	82	ePG	Pn	04 28 48.0	+1.0
KYTH	Kithira	2.35	131	ePG	Pn	04 28 49.5	+1.9
NEO	Neokhori	2.37	51	ePN	Pn	04 28 47.8	0.0
XOR	Xorichti	2.39	50	ePn	Pn	04 28 48.1	0.0
XOR				eSn	Sn	04 29 17.8	+0.9
PTL	Penteli	2.40	84	ePN	Pn	04 28 48.0	-0.3
KZN	Kozani	2.56	16	ePN	Pn	04 28 52.0	+1.4
LIT	Litokhoron	2.59	29	ePn	Pn	04 28 51.1	+0.1
	comp=Z,9.6nm,0.3s						
LIT				eSn	Sn	04 29 23.2	+1.1
AOS	Alonnisos	2.73	60	ePn	Pn	04 28 52.5	-0.5
AOS				eSn	Sn	04 29 25.2	-0.3
FNA	Florina	2.96	8	ePn	Pn	04 28 56.7	+0.4
OHR	Ohrid	3.26	360	ePn	Pn	04 29 10.3	+10
GRG	Griva	3.33	21	ePn	Pn	04 29 01.2	-0.4
SOH	Sokhos	3.56	33	ePn	Pn	04 29 04.9	+0.2
VAM	Vamos	3.64	131	ePN	Pn	04 29 05.6	-0.2
SKO	Skopje	4.15	6	ePn	Pn	04 29 12.0	-1.1
MMB	Musomiste	4.35	30	eP	Pn	04 29 16.0	0.0
KKB	Krupnik	4.37	23	eP	Pn	04 29 16.0	-0.3
MGR	Morigerati	4.71	301	ePn	Pn	04 29 24.9	+3.9
PZI	Palazzolo	4.75	262	ePn	Pn	04 29 20.9	-0.8
RZN	Rozhen	4.86	37	eP	Pn	04 29 23.0	-0.2
VTS	Vitosha	5.08	20	eP	Pn	04 29 25.0	-1.2
SGO	Sicignano	5.08	304	ePn	Pn	04 29 30.6	+4.3
SDI	San Donato	6.64	308	ePn	Pn	04 29 51.9	+3.5
NRCA	Norcia	7.72	313	ePn	Pn	04 30 04.2	+0.9
BOJS	Bojanci	8.72	333	ePn	P	04 30 15.8	-1.4
BOJS				eSn	Sn	04 31 50.0	-5.7
CEY	Cerknica	9.22	331	ePn	P	04 30 22.3	-1.9
LJU	Ljubljana	9.44	332	ePn	P	04 30 29.2	+2.0
VOY	Vojsko	9.67	330	ePn	P	04 30 30.0	-0.4
VOY				eSn	Sn	04 32 14.8	-4.6
PERS	Pernice	9.75	336	ePn	P	04 30 27.9	-3.6
PERS				eSn	Sn	04 32 15.7	-5.5

*BER **14** 04:38:10.8±4.2, 78.38N×7.55E, ML2.4(NAO)*
*NAO **14** 04:38:12.0±8.4, 78.44N×8.68E, ML2.4*
ISC 14 04:38:09.6±3.2**, 78.3N**±0.2×**7.8E**±0.8**, h10km, n4, σ0.32**/7**, 1C, Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPA0	Spitsbergen Ar	1.77	89	Pn	Pn	04 38 40.2	-0.4
	baz=268,slow=12						
SPA0				Sn	Sn	04 39 03.5	+0.2
	baz=272,slow=22						
HSP	Hornsund	2.11	124	eP	Pn	04 38 46.0	+0.5
HSP				eS	Sn	04 39 11.8	-0.2
DAG	Danmarks Havn	5.88	268	⇑iP	Pn	04 39 27.3	-12
	4.0nm,0.6s						
DAG				i		04 40 28.3	
ARA0	ARCESS Array S	10.00	142	Pn	P	04 40 36.1	-0.1
	baz=336,slow=11						
ARA0				Sn	Sn	04 42 23.6	-6.0
	baz=354,slow=22						

*NEIC **14** 05:04:33.4±1.8, 6.71N×77.14W, h56km±19km, mb4.2/5, Error ellipse: s-maj=16.5km s-min=11.4km az=85.0*
*IDC **14** 05:04:41.6±6.4, 6.89N×76.95W, h136km±62km, mb3.3/8, mb1 3.6/9, mb1mx3.6/19, Error ellipse: s-maj=33.5km s-min=15.7km az=60.0*
ISC 14 05:04:30.6±1.9**, 6.73N**±0.06×**77.15W**±0.08**, h38km**±20km**, n22, σ1.23**/24**, mb3.8**/12**, Near west coast of Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OTAV	Otavalo	6.58	191	ePn	P	05 06 06.4	-1.0
	6.5nm,0.6s						
OTAV				eSn	S	05 07 18.4	-3.7
SDV	Santo Domingo	6.80	71	ePn	P	05 06 16.3	+5.9
SDV				eSn	S	05 07 35.4	+8.0
AOPR	Arecibo Observ	15.36	40	eP	P	05 08 06.5	+0.2
AOPR				eS	S	05 10 45.6	-10
SJG	San Juan	15.58	42	P	P	05 08 10.1	+0.8
	5.1nm,0.3s,baz=215,slow=9.1,SNR=14						
SJG				S	S	05 11 00.4	-0.4
	0.6nm,0.3s,baz=48,slow=19,SNR=3.4						
CPD	Cerro la Pandu	15.69	43	eP	P	05 08 10.3	-0.3
SAML	Samuel	20.89	138	eP	P	05 09 12.6	+0.4
	6.1nm,0.6s						
LPAZ	La Paz	24.55	159	P	P	05 09 50.2	+1.9
	0.5nm,0.5s,mb3.3,baz=341,slow=12,SNR=3.2						
LPAZ	La Paz	24.55	159	P	P	05 09 50.2	+1.9
TXAR	Lajitas Array	33.62	315	P	P	05 11 10.2	+0.4
	1.3nm,1.1s,mb3.8,baz=180,slow=3.8,SNR=3.8						
WMOK	Wichita Mounta	34.27	327	P	P	05 11 16.2	+0.9
	6.3nm,1.5s,mb4.3						
BDFB	Brasilia	36.42	128	P	P	05 11 34.5	+0.7
	6.4nm,1.1s,mb4.5,baz=331,slow=7.3,SNR=4.3						
CPUP	Villa Florida	38.08	150	P	P	05 11 46.9	-0.7
	2.7nm,0.8s,mb4.0,baz=349,slow=4.3,SNR=7.2						
ANMO	Albuquerque	38.94	320	eP	P	05 11 56.8	+2.2
	1.7nm,1.0s,mb3.7						
PV01	Paradox Valley	42.27	322	eP	P	05 12 25.0	+2.9
PDAR	Pinedale Array	45.87	327	P	P	05 12 50.4	-0.8
	0.3nm,0.9s,mb3.2,baz=143,slow=9.0,SNR=3.0						
NVAR	Mina Array Bea	48.75	317	P	P	05 13 13.4	-0.2
	0.4nm,0.8s,mb3.5,baz=120,slow=7.3,SNR=3.2						
HLID	Hailey	49.11	324	P	P	05 13 15.2	-1.2
	1.6nm,0.9s,mb4.0						
SUMG	Summit	69.84	12	eP	P	05 15 39.2	+0.3
	5.7nm,0.7s,mb4.6						
ESDC	Sonseca Array	72.79	51	P	P	05 15 54.3	-2.9
	0.3nm,0.4s,mb3.6,baz=2.3,slow=37,SNR=2.8						
ILAR	Eielson Array	75.37	335	P	P	05 16 09.3	-2.3
	0.1nm,0.5s,mb3.0,baz=116,slow=4.3,SNR=4.0						
CASY	Casey	120.31	184	ePKPdf	PKPdf	05 23 16.1	-1.5
WRA	Warramunga Arr	146.75	244	PKPbc	PKPbc	05 24 08.0	-1.2
	0.6nm,0.7s,baz=102,slow=2.8,SNR=4.6						

*IDC **14** 05:18:60.0±1.2, 33.62S×179.02W, mb4.3/5, mb1 4.5/6, mb1mx4.3/13, ML4.7/1, MS3.9/6, Ms1 3.8/6, ms1mx3.7/13, Error ellipse: s-maj=34.2km s-min=25.8km az=132.0*
*NEIC **14** 05:19:07.0±3.6, 33.62S×179.23W, h41km±30km, mb4.6/7, Error ellipse: s-maj=26.6km s-min=19.0km az=49.0*
ISC 14 05:19:05.6±1.9**, 33.68S**±0.08×**179.2W**±0.1**, h44km**±15km**, n36, σ1.31**/34**, mb4.5**/11**, MS3.8**/6**, 8C, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	4.38	207	P	P	05 20 11.2	-0.3
MXZ				S	S	05 21 02.7	+0.8
PUZ	Puketiti	4.85	205	P	P	05 20 17.7	-0.4
KUZ	Kuaotunu	5.17	232	P	P	05 20 24.6	+2.1
MWZ	Matawai	5.36	209	P	P	05 20 24.9	-0.2
MWZ				S	S	05 21 26.4	0.0
URZ	Urewera	5.47	212	Pn	P	05 20 25.7	-1.0
	20nm,0.3s,baz=54,slow=3.3,SNR=56						
URZ				Sn	S	05 21 30.3	+1.1
	21nm,0.3s,baz=108,slow=22,SNR=6.4						
WCZ	Waipu Caves	5.78	245	P	P	05 20 33.4	+2.4
KNZ	Kokohu	5.90	204	P	P	05 20 30.8	-2.0
OUZ	Omahuta	6.16	253	P	P	05 20 38.1	+1.8
BKZ	Black Stump Fm	6.49	211	P	P	05 20 39.5	-1.6
BKZ				S	S	05 21 53.8	-0.9
RPZ	Rata Peaks	12.58	214	Sn	S	05 24 10.6	-13
	0.8nm,0.3s,baz=57,slow=15,SNR=3.4						
RAR	Rarotonga	21.19	59	LR	LR	05 29 38.5	
	comp=Z,230nm,18.3s,MS3.6,baz=138,slow=30						
STKA	Stephens Creek	32.89	262	LR	LR	05 38 13.2	
	comp=Z,300nm,18.3s,MS4.0,baz=290,slow=35						
CTA	Charters Tower	33.49	285	P	P	05 25 43.8	+0.8
	3.3nm,0.5s,mb4.5,baz=102,slow=9.5,SNR=6.4						
CTA				LR	LR	05 36 26.7	
	comp=Z,115nm,20.4s,MS3.6,baz=47,slow=31						
CTAO	Charters Tower	33.49	285	eP	P	05 25 44.2	+1.2
	7.3nm,0.8s,mb4.7						
WRAB	Tennant Creek	43.32	276	eP	P	05 27 03.7	-1.5
	6.0nm,0.6s,mb4.5						
WRA	Warramunga Arr	43.33	276	P	P	05 27 04.3	-0.9
	3.3nm,0.6s,mb4.3,baz=119,slow=7.4,SNR=33						
WRA				LR	LR	05 43 35.5	
	comp=Z,84nm,20.4s,MS3.6,baz=135,slow=34						
FITZ	Fitzroy Crossi	51.43	273	P	P	05 28 07.5	-1.2
	2.6nm,0.7s,mb4.3,baz=176,slow=14,SNR=13						
CASY	Casey	51.79	209	eP	P	05 28 09.3	-1.3
	11nm,1.2s,mb4.7						
QSPA	South Pole Qui	56.44	180	eP	P	05 28 46.9	+2.2
	8.6nm,1.1s,mb4.7						
MAW	Mawson	68.90	201	P	P	05 30 06.7	-0.6
	5.2nm,1.1s,mb4.4,baz=102,slow=6.2,SNR=6.1						
MAW				LR	LR	05 58 56.3	
	comp=Z,93nm,18.2s,MS4.1,baz=228,slow=35						
SNAA	Sanae	74.92	179	⇑i	P	05 30 44.5	+1.6
SNAA	Sanae	74.92	179	⇑i	P	05 30 49.4	+6.5
SNAA	Sanae	74.92	179	eP	P	05 30 43.8	+0.9
	2.8nm,0.8s,mb4.2						
VNA3	Neumayer Olymp	75.11	177	⇑i	P	05 30 48.2	+4.1
VNA3	Neumayer Olymp	75.11	177	⇑i	P	05 30 54.1	+10
VNA2	Neumayer--Watz	75.53	177	⇑i	P	05 30 50.5	+4.0
VNA2	Neumayer--Watz	75.53	177	⇑i	P	05 30 56.2	+10
VNA1	Neumayer--Stat	75.77	177	⇑i	P	05 30 52.1	+4.3
VNA1	Neumayer--Stat	75.77	177	⇑i	P	05 30 58.2	+10
CMB	Columbia Colle	89.86	42	P	P	05 32 02.5	+1.5
	1.4nm,0.8s,mb4.3						
MDJ	Mudanjiang	90.76	326	P	P	05 32 04.2	-0.8
	12nm,1.0s,mb5.2						
NVAR	Mina Array Bea	91.31	43	P	P	05 32 07.5	-0.2
	0.3nm,0.6s,mb3.8,baz=200,slow=7.0,SNR=4.2						
NVAR				LR	LR	06 02 47.9	
	comp=Z,64nm,20.8s,MS4.0,baz=345,slow=29						
FINES	FINESS Array B	147.82	337	PKPbc	PKPdf	05 38 45.1	+3.2
	2.7nm,0.8s,baz=45,slow=5.4,SNR=8.2						
NB2	NORSAR Subarra	151.80	349	PKP		05 38 55.2	
	1.7nm,0.6s,baz=16,slow=2.5						
NOA	NORSAR Array B	151.80	349	PKP	PKPdf	05 38 49.2	+1.1
	0.8nm,0.7s,baz=75,slow=17,SNR=2.1						
NOA				PKPbc	PKPdf	05 38 55.2	+7.1
	1.9nm,0.7s,baz=11,slow=4.0,SNR=4.4						
NOA	NORSAR Array B	151.80	349	PKP	PKPdf	05 38 49.2	+1.1
NOA				PKPbc	PKPdf	05 38 55.2	+7.1

*NEIC **14** 05:24:34.8, 19.49N×67.90W, h43km, MD3.6(RSPR), After RSPR.*
RSPR 14 05:24:34.8, 19.49N×67.90W, h43km±19km**, MD3.6**/12**, MD3.6**/12**, 8C-6D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MPR	Mayaguez	1.46	150	⇑eP	P	05 24 58.1	-1.0
MPR				eS	S	05 25 15.3	-2.0
LSP	Las Mesas	1.52	149	⇑eP	P	05 24 58.8	-1.1
LSP				eS	S	05 25 16.6	-2.1
LRS	Lares	1.56	140	⇓eP	P	05 24 58.3	-2.2
LRS				eS	S	05 25 17.7	-1.9
AOPR	Arecibo Observ	1.58	136	⇑eP	P	05 24 58.8	-2.0
AOPR				eS	S	05 25 18.3	-1.8
MGP	Maguayo	1.67	152	⇓eP	P	05 25 00.8	-1.2
MGP				eS	S	05 25 20.4	-1.9
PORP	Portuguez	1.87	140	⇑eP	P	05 25 03.2	-1.6
CELP	Cerrillos	1.89	138	⇑eP	P	05 25 03.6	-1.5
CELP				eS	S	05 25 26.4	-1.4
OBIP	Obispado Ponce	1.89	139	⇑eP	P	05 25 03.8	-1.5
OBIP				eS	S	05 25 26.2	-1.8
CSB	Colonia Sabana	2.04	126	⇓eP	P	05 25 05.4	-1.9
CSB				eS	S	05 25 30.2	-1.5
SJG	San Juan	2.15	129	⇓eP	P	05 25 07.8	-1.1
SJG	San Juan	2.15	129	⇓eP	P	05 25 07.4	-1.6
SJG				eS	S	05 25 32.9	-1.7
CBYP	Canovanas	2.29	122	⇑eP	P	05 25 08.5	-2.3
CBYP				eS	S	05 25 36.9	-1.0
HUMP	Col San Antoni	2.36	124	⇓eP	P	05 25 10.1	-1.8
CPD	Cerro la Pandu	2.37	127	⇑eP	P	05 25 10.5	-1.6
CPD				eS	S	05 25 38.0	-2.2

*THR **14** 06:18:38.3±1.2, 31.71N×57.18E, h18km±11km, ML4.2*
*CSEM **14** 06:18:42.1, 31.56N×57.28E, ML4.2, After THR*
ISC 14 06:18:39.6±0.7**, 31.52N**±0.04×**57.25E**±0.06**, h10km, n18, σ1.18**/25**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRBR	Kerman	1.59	196	ePG	Pg	06 19 10.6	-0.8
KRBR				eSG	Sg	06 19 34.3	+1.6
KRBR				AMP		06 19 35.3	
	comp=N,4μm,0.4s						
KRBR				AMP		06 19 42.1	
	comp=E,3μm,0.5s						
KRBR	Kerman	1.59	196	i Pg	Pg	06 19 10.7	-0.7
KRBR				eSg	Sg	06 19 33.2	+0.5
	comp=E,4μm,0.5s						
ZHSF	Zahedan	3.59	121	ePN	Pn	06 19 37.8	+1.4
ZHSF	Zahedan	3.59	121	ePn	Pn	06 19 37.8	+1.3
ZHSF				Sn	Sn	06 20 18.4	-0.9
NASN	Na'in	3.98	290	ePN	Pn	06 19 39.1	-3.0
NASN				AMP		06 20 41.5	
	comp=E,274nm,0.5s						
NASN				AMP		06 20 42.0	
	comp=N,271nm,0.6s						
NASN	Na'in	3.98	290	ePn	Pn	06 19 43.4	+1.4
NASN				Sn	Sn	06 20 27.9	-1.4
BNDS	Bandar-Abbas	4.22	193	ePn	Pn	06 19 46.7	+1.3
BNDS				Sn	Sn	06 20 34.5	-0.8
GHIR	Ghir-Karzin	4.91	230	ePN	Pn	06 19 54.4	-0.9
GHIR	Ghir-Karzin	4.91	230	ePn	Pn	06 19 56.1	+0.8
DAMV	Damavand	6.02	314	ePN	Pn	06 20 05.7	-5.1
DAMV				eSG	Sb	06 21 39.6	+2.4
DAMV	Damavand	6.02	314	ePn	Pn	06 20 10.7	-0.2
ASAO	Ashtian	6.78	298	ePN	Pn	06 20 16.4	-5.2
ASAO	Ashtian	6.78	298	ePn	Pn	06 20 20.8	-0.8
ASAO				Sn	Sn	06 21 35.2	-4.4
THKV	Tehran--Karaj	6.88	311	eSG	Sb	06 22 05.8	+3.4
THKV	Tehran--Karaj	6.88	311	ePn	Pn	06 20 22.3	-0.8
SHGR	Shooshtar-Gavs	7.22	277	ePn	Pn	06 20 27.8	0.0
GRMI	Germi	10.56	316	ePn	P	06 21 13.3	-0.7
MAKU	Maku	12.88	311	ePn	P	06 21 45.8	+0.4

*DJA **14** 06:20:04.5±1.3, 8.24S×105.77E, h30km±27km, mb5.4/2, ML5.2/2, Error ellipse: s-maj=44.0km s-min=23.7km az=40.0*
ISC 14 06:20:04.5±4.1**, 7.8S**±0.2×**106.1E**±0.2**, h2km**±27km**, n8, σ1.09**/10**, mb3.7**/1**, 4C-4D, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PASI	Pasiripis	1.25	336	⇑ePn	Pn	06 20 28.8	-0.3
	3μm,0.2s						
PASI				⇓eSn	Sn	06 20 47.7	+1.0
PENI	Pendagan	2.44	338	⇓ePn	Pn	06 20 46.2	+0.1
	457nm,0.2s						
PENI				⇓eSn	Sn	06 21 16.1	-0.8
SRDI	Scrawed	7.99	95	⇑eP	Pn	06 22 05.1	+0.7
	94nm,0.2s						
KELI	Kelakatan	8.32	93	⇑eP	P	06 22 10.1	+1.1
RATI	Rata	9.38	96	⇑eP	P	06 22 23.6	-0.1
	131nm,0.2s						
KEDI	Kedomdong	9.93	94	⇓eP	P	06 22 29.6	-1.9
FITZ	Fitzroy Crossi	21.57	120	eP	P	06 24 59.4	+1.7
	2.3nm,0.7s,mb3.7						
WB2	Warramunga Arr	29.89	117	eP	P	06 26 14.5	-1.6

*NEIC **14** 06:31:06.0, 38.40N×20.65E, h5km, MD3.5(ATH), After ATH.*
*CSEM **14** 06:31:06.0, 38.40N×20.65E, h5km, MD3.5/6, After ATH*
ATH 14 06:31:06.0, 38.40N×20.65E, h5km, MD3.5/6**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VLS	Valsamata	0.23	192	ePG	Pg	06 31 10.5	-0.1
VLS				eSG	Sg	06 31 14.5	+0.8
EVR	Evrytania	1.04	60	ePB	Pb	06 31 24.6	-1.6
JAN	Janina	1.27	7	ePB	Pb	06 31 30.5	+0.6
KEK	Kerkira	1.47	333	ePB	Pb	06 31 34.0	+0.6
ITM	Ithomi	1.58	140	ePB	Pb	06 31 36.6	+1.2
VLI	Veliai	2.47	132	ePG	Pg	06 31 53.2	-2.2

IDC 14 06:53:54.1±38.0**, 17.82N×107.96W, mb3.2**/2**, mb1 3.8**/3**, mb1mx3.6**/16**, ML3.7**/1**, MS3.7**/3**, Ms1 3.7**/3**, ms1mx3.3**/12**, Error ellipse: s-maj=818.0km s-min=80.0km az=138.0, Off coast of Jalisco**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TXAR	Lajitas Array	12.12	18	Pn	P	06 56 49.5	-1.6
	0.1nm,0.3s,baz=200,slow=13,SNR=6.2						
PDAR	Pinedale Array	24.91	357	P	P	06 59 18.9	-1.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	0.2nm,0.7s,baz=164,slow=6.6,SNR=2.7						
ULM	**Lac du Bonnet**	**33.78**	**14**	LR	LR	07 15 41.5	
	comp=Z,100nm,19.1s,baz=49,slow=39						
YKA	**Yellowknife Ar**	**44.87**	**356**	LR	LR	07 21 19.4	
	comp=Z,89nm,19.3s,baz=95,slow=37						
FRB	**Frobisher Bay**	**53.15**	**21**	LR	LR	07 25 36.0	
	comp=Z,82nm,19.7s,slow=36						
ILAR	**Eielson Array**	**53.68**	**340**	P	P	07 03 17.3	-2.2
	0.7nm,0.9s,baz=152,slow=4.6,SNR=7.4						

GUC 14 07:05:40.8±0.6**,31.55S**×**66.92W,h47**^{km}±999^{km}**,MD3.8, ML3.9,1D,La Rioja Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**3.35**	**237**	eP	P	07 06 31.9	-0.1
FCH				i S	S	07 07 11.1	+0.1
FCH				AMP		07 07 16.3	
	comp=N,83nm,0.4s						
CMCH	**Combarbala**	**3.51**	**275**	⇓i P	P	07 06 34.0	-0.3
CMCH				i S	S	07 07 13.7	-1.2
CMCH				AMP		07 07 16.7	
	comp=E,523nm,0.7s						
PEL	**Peldehue**	**3.56**	**242**	i S	S	07 07 14.9	-1.4
PEL				AMP		07 07 17.7	
	comp=N,150nm,0.5s						
CLCH	**Cerro Calan**	**3.57**	**238**	eP	P	07 06 34.2	-0.9
CLCH				i S	S	07 07 15.0	-1.4
CLCH				AMP		07 07 22.2	
	comp=E,163nm,0.6s						
DSCH	**Colegio Aleman**	**3.59**	**238**	i S	S	07 07 15.8	-1.2
TLL	**Tololo Astrono**	**3.61**	**291**	eP	P	07 06 35.5	-0.2
TLL				i S	S	07 07 16.6	-0.9
TLL				AMP		07 07 24.6	
	comp=E,117nm,0.5s						
RCDM	**Rinconada Maip**	**3.81**	**238**	i S	S	07 07 20.9	-1.6
RCDM				AMP		07 07 22.6	
	comp=N,130nm,0.2s						
CHCH	**Chadas Angostu**	**3.94**	**232**	eP	P	07 06 39.4	-0.9
CICH	**Cipreses**	**4.04**	**226**	eP	P	07 06 40.8	-0.9

*NIED **14** 07:37:00,42.10N×142.60E,h56^{km},Mw3.7 Best double couple: $M_0$4.19×10^{14} NP1:ϕ_s19°,δ71°,λ83°. NP2:ϕ_s220°, δ20°,λ111°.*

JMA 14 07:37:17.3±0.2**,42.14N**×**142.61E,h60**^{km}±2^{km}**,M3.5, 2C-3D,Hokkaido region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.18**	**37**	⇑P	P	07 37 26.5	-0.1
JNBK				eS	S	07 37 33.9	+0.5
JEM	**Erimo**	**0.43**	**107**	⇑P	P	07 37 28.7	+0.1
JEM				eS	S	07 37 37.5	+0.6
JBT2	**Biratori 2**	**0.66**	**344**	⇓P	P	07 37 31.0	-0.2
JBT2				eS	S	07 37 41.2	-0.3
JFR	**Furan**	**1.02**	**359**	P	P	07 37 35.8	-0.1
JFR				eS	S	07 37 50.4	+0.7
JEW	**Eniwo**	**1.11**	**310**	⇓P	P	07 37 36.8	-0.2
JEW				eS	S	07 37 51.3	-0.4
JOB	**Onbets**	**1.18**	**49**	P	P	07 37 38.8	+0.8
JOB				eS	S	07 37 54.8	+1.3
JKB	**Kayabe**	**1.20**	**258**	⇓P	P	07 37 37.2	-1.1
JKB				eS	S	07 37 52.4	-1.6
JOT	**Ohata**	**1.39**	**238**	P	P	07 37 39.8	-1.3
JOT				eS	S	07 37 57.4	-1.3
JAB	**Ashibetsu**	**1.39**	**348**	P	P	07 37 40.9	-0.2
JAR	**Ashorobuto**	**1.44**	**36**	P	P	07 37 41.4	-0.3
JAR				eS	S	07 37 58.8	-0.9

*WAR **14** 08:42:16.5,51.45N×16.16E,ML2.8,Mining Induced*
*PRU **14** 08:42:17.2,51.38N×16.16E*
*NEIC **14** 08:42:21.8±1.2,51.08N×15.85E,h5^{km},ML2.7(VIE),Error ellipse: s-maj=14.6km s-min=5.7km az=192.0*

ISC 14 08:42:14.3±1.0**,51.40N**±0.05×**16.13E**±0.04**,n16,**σ1§**30**/30**, 1C-1D,Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.57**	**170**	⇓i Pg	**Pg**	**08 42 27.7**	**+2.1**
KSP				eSg	**Sg**	**08 42 35.9**	**+2.7**
KSP	**Ksiaz**	**0.57**	**170**	ePg	**Pg**	**08 42 27.7**	**+2.1**
KSP				eSg	**Sg**	**08 42 35.7**	**+2.5**
UPC	**Upice**	**0.90**	**185**	ePG	**Pg**	**08 42 33.9**	**+1.7**
DPC	**Dobruska-Polom**	**1.06**	**173**	ePG	**Pg**	**08 42 36.4**	**+1.0**
DPC				eSG	**Sg**	**08 42 51.1**	**+1.5**
PVCC	**Panska Ves**	**1.32**	**229**	ePG	**Pg**	**08 42 41.5**	**+0.9**
BRG	**Berggiesshubel**	**1.48**	**250**	ePg	**Pg**	**08 42 44.4**	**+0.6**
BRG				eSg	**Sg**	**08 43 04.8**	**+1.3**
PRU	**Pruhonice**	**1.74**	**216**	PG	**Pg**	**08 42 48.3**	**-0.7**
PRU				i x	x	08 42 52.4	
PRU				ex	x	08 43 05.4	
PRU				SG	**Sg**	**08 43 12.3**	**+0.1**
	26nm,0.4s						
MORC	**Moravsky Berou**	**1.86**	**151**	ePg	**Pg**	**08 42 47.9**	**-3.5**
MORC				eSg	**Sg**	**08 43 10.1**	**-6.1**
CLL	**Collm**	**1.96**	**268**	eSG	**Sg**	**08 43 19.0**	**-0.7**
OKC	**Ostrava-Krasne**	**2.02**	**140**	eSG	**Sg**	**08 43 19.5**	**-2.2**
OJC	**Ojcow**	**2.61**	**116**	ePg	**Pg**	**08 43 06.4**	**0.0**
OJC				eSg	**Sg**	**08 43 39.6**	**-1.5**
OJC	**Ojcow**	**2.61**	**116**	ePg	**Pg**	**08 43 06.4**	**0.0**
OJC				eSg	**Sg**	**08 43 39.6**	**-1.5**
NKC	**Novy Kostel**	**2.61**	**245**	ePG	**Pg**	**08 43 06.1**	**-0.4**
NKC				eSG	**Sg**	**08 43 39.7**	**-1.6**
KHC	**Kasperske Hory**	**2.80**	**217**	ePN	**Pn**	**08 43 02.4**	**+1.2**
KHC				ePG	**Pg**	**08 43 08.0**	**-2.2**
KHC				eSN	**Sn**	**08 43 36.0**	**-0.2**
KHC				eSG	**Sg**	**08 43 46.1**	**-1.5**
MOX	**Moxa**	**2.95**	**257**	ePg	**Pg**	**08 43 14.0**	**+0.8**
MOX				eSg	**Sg**	**08 43 52.1**	**-0.4**
MOA	**Molln**	**3.76**	**200**	⇑i PN	**Pn**	**08 43 15.2**	**+0.5**
MOA				i SG	**Sg**	**08 44 18.1**	**-1.3**
	2.2nm,0.3s						

WEL 14 08:44:13.3±0.6**,35.86S**×**178.17E,h33**^{km}**,ML3.6**/1**,Error ellipse: s-maj=8.5km s-min=4.0km az=90.0,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.71**	**176**	P*	Pb	08 44 40.1	-3.8
MXZ				eS*	Sb	08 45 01.8	-3.4
MXZ				S*	Sb	08 45 01.9	-3.2
PUZ	**Puketiti**	**2.21**	**178**	PN	Pn	08 44 47.0	-1.5
PUZ				SN	Sn	08 45 11.7	-3.4
PUZ				SN	Sn	08 45 11.8	-3.3
MWZ	**Matawai**	**2.53**	**192**	P*	Pb	08 44 52.3	-5.6
MWZ				S*	Sb	08 45 20.5	-8.2
URZ	**Urewera**	**2.54**	**199**	P*	Pb	08 44 52.7	-5.5
URZ				S*	Sb	08 45 22.3	-7.0
BKZ	**Black Stump Fm**	**3.56**	**201**	P*	Pb	08 45 05.0	-11

*BJI **14** 09:02:17.9,17.40N×62.20W,h93^{km},mB4.6*
*NEIC **14** 09:02:18.9±1.7,17.41N×62.19W,h94^{km}±12^{km},mb4.2/8, Error ellipse: s-maj=20.2km s-min=8.2km az=83.0*
*IDC **14** 09:02:21.7±0.8,17.34N×62.54W,h106^{km}±9^{km},mb3.6/9, mb1 3.9/10,mb1mx3.7/22,Error ellipse: s-maj=19.2km s-min=7.5km az=32.0*
*TRN **14** 09:02:21.9,17.44N×62.33W,h111^{km},MD4.1, Md4.1(FDF)*

ISC 14 09:02:21.7±0.3**,17.34N**±0.05×**62.57W**±0.05**,h123**^{km}±3^{km}**, n59,**σ1§**19**/71**,mb4.0**/14**,9C-2D,Leeward Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MBGB		**0.68**	**152**	eP	**P**	**09 02 41.6**	**+0.3**
MBGB				eS	**S**	**09 02 55.6**	**-0.7**
MBWH		**0.69**	**149**	eP	**P**	**09 02 41.4**	**0.0**
MGH	**Saint George's**	**0.70**	**151**	eP	**P**	**09 02 41.7**	**+0.3**
SABT	**Saba**	**0.70**	**294**	⇓i P	**P**	**09 02 44.1**	**+2.6**
SABT				eS	**S**	**09 02 59.2**	**+2.6**
MLYT		**0.71**	**150**	eS	**S**	**09 02 57.6**	**+0.9**
BPA	**Boggy Peak**	**0.74**	**113**	eP	**P**	**09 02 41.1**	**-0.7**
MBRY		**0.74**	**148**	eP	**P**	**09 02 42.1**	**+0.3**
MBSS		**0.75**	**149**	eP	**P**	**09 02 42.2**	**+0.3**
STMA	**St. Maarten, A**	**0.87**	**324**	⇑i P	**P**	**09 02 44.2**	**+1.2**
STMA				eS	**S**	**09 02 58.5**	**-0.6**
SEG	**Port Louis**	**1.38**	**132**	⇓eP	**P**	**09 02 48.0**	**-0.4**
DOG	**Dongo Capester**	**1.58**	**145**	eP	**P**	**09 02 50.6**	**-0.1**
MGG	**Marie-Galante**	**1.85**	**139**	⇑i P	**P**	**09 02 54.3**	**+0.4**
BBL	**Barber's Block**	**2.08**	**150**	⇑i P	**P**	**09 02 57.2**	**+0.4**
BBL	**Barber's Block**	**2.08**	**150**	⇑i P	**P**	**09 02 58.2**	**+1.4**
BBL				eS	**S**	**09 03 22.0**	**-1.5**
DWS	**Wesley**	**2.13**	**145**	eP	**P**	**09 02 57.5**	**+0.1**
DWS				eS	**S**	**09 03 22.6**	**-1.8**
DLVT	**Layou Valley**	**2.20**	**149**	eP	**P**	**09 02 59.6**	**+1.3**
DLVT				eS	**S**	**09 03 24.7**	**-1.4**
MDN	**Morne-Daniel**	**2.30**	**151**	eP	**P**	**09 03 01.0**	**+1.3**
MDN				eS	**S**	**09 03 29.1**	**+0.6**
DFBT	**Forest Bistro**	**2.39**	**151**	eP	**P**	**09 03 02.1**	**+1.3**
FDF	**Fort de France**	**2.92**	**152**	⇑eP	**P**	**09 03 07.6**	**-0.3**
FDF				eS	**S**	**09 03 41.6**	**-1.4**
CRM	**Caravelle**	**3.02**	**148**	⇑eP	**P**	**09 03 08.3**	**-0.8**
BIM	**Bigot**	**3.15**	**153**	⇑i P	**P**	**09 03 10.9**	**0.0**
BIM				eS	**S**	**09 03 48.0**	**-0.3**
MVM	**Montagne Vaucl**	**3.20**	**150**	⇑eP	**P**	**09 03 11.1**	**-0.5**
MVM				eS	**S**	**09 03 48.0**	**-1.5**
HUMP	**Col San Antoni**	**3.23**	**285**	ePn	**P**	**09 03 12.2**	**+0.2**
HUMP				eSn	**S**	**09 03 47.9**	**-2.4**
CBYP	**Canovanas**	**3.27**	**287**	ePn	**P**	**09 03 13.1**	**+0.5**
CBYP				eSn	**S**	**09 03 51.0**	**-0.2**
CPD	**Cerro la Pandu**	**3.27**	**283**	ePn	**P**	**09 03 12.7**	**+0.2**
CPD				eSn	**S**	**09 03 48.3**	**-2.9**
SJG	**San Juan**	**3.50**	**283**	P	**P**	**09 03 14.1**	**-1.6**
	8.6nm,0.3s,baz=295,slow=21,SNR=10.0						
SJG				S	**S**	**09 03 56.1**	**-0.7**
	25nm,0.3s,baz=308,slow=17,SNR=18						
SJG	**San Juan**	**3.50**	**283**	ePn	**P**	**09 03 14.0**	**-1.7**
SJG				eSn	**S**	**09 03 56.0**	**-0.8**
SLW	**Petit Monier**	**3.65**	**154**	⇑eP	**P**	**09 03 17.3**	**-0.3**
AOPR	**Arecibo Observ**	**4.11**	**285**	ePn	**P**	**09 03 24.6**	**+0.8**
AOPR				eSn	**S**	**09 04 07.9**	**-3.5**
SVV	**Soufriere Volc**	**4.20**	**162**	eP	**P**	**09 03 25.9**	**+0.8**
SVV				eS	**S**	**09 04 15.7**	**+2.1**
SVB	**Belmont**	**4.23**	**162**	eP	**P**	**09 03 26.7**	**+1.2**
SDV	**Santo Domingo**	**11.50**	**224**	eP	**P**	**09 05 05.5**	**+2.5**
BBSR	**BB Station**	**15.09**	**353**	eP	**P**	**09 05 46.9**	**-2.7**
	12nm,0.8s						
OTAV	**Otavalo**	**23.09**	**224**	eP	**P**	**09 07 20.3**	**+2.9**
	3.3nm,0.7s,mb3.8						
SAML	**Samuel**	**26.12**	**181**	eP	**P**	**09 07 45.5**	**-0.6**
	0.7nm,0.7s,mb3.2						
OXF	**Oxford**	**29.45**	**311**	eP	**P**	**09 08 15.5**	**-0.5**
	6.7nm,0.7s,mb4.4						
LPAZ	**La Paz**	**33.86**	**190**	P	**P**	**09 08 56.2**	**+1.7**
	0.6nm,0.7s,mb3.5,baz=17,slow=4.6,SNR=3.5						
LPAZ	**La Paz**	**33.86**	**190**	eP	**P**	**09 08 53.7**	**-0.8**
	1.2nm,0.9s,mb3.7						
TXAR	**Lajitas Array**	**39.39**	**295**	P	**P**	**09 09 41.4**	**+0.5**
	0.5nm,0.5s,mb3.6,baz=121,slow=8.3,SNR=8.7						
TXAR				PcP	PcP	09 11 47.7	+0.4
	0.5nm,0.7s,baz=104,slow=3.7,SNR=3.7						
LVC	**Limon Verde**	**40.19**	**189**	eP	**P**	**09 09 45.7**	**-1.8**
ULM	**Lac du Bonnet**	**42.31**	**328**	P	**P**	**09 10 04.8**	**+0.2**
	1.6nm,0.4s,mb4.1,baz=133,slow=11,SNR=4.1						
CPUP	**Villa Florida**	**43.70**	**173**	P	**P**	**09 10 15.8**	**-0.4**
	0.6nm,0.4s,mb3.7,baz=56,slow=8.7,SNR=3.1						
CPUP	**Villa Florida**	**43.70**	**173**	P	**P**	**09 10 15.8**	**-0.4**
PDAR	**Pinedale Array**	**47.15**	**313**	P	**P**	**09 10 44.1**	**+0.8**
	3.4nm,0.6s,mb4.2,baz=116,slow=9.2,SNR=40						
LOHW	**Long Hollow**	**48.13**	**314**	eP	**P**	**09 10 51.5**	**+0.5**
QLMT	**Earthquake Lak**	**49.07**	**315**	eP	**P**	**09 11 00.4**	**+2.3**
BGU	**Big Grassy Mou**	**49.16**	**309**	eP	**P**	**09 10 59.7**	**+0.8**
NVAR	**Mina Array Bea**	**52.73**	**305**	P	**P**	**09 11 26.4**	**+0.5**
	1.2nm,0.7s,mb4.0,baz=89,slow=10,SNR=12						
NEW	**Newport**	**53.81**	**318**	eP	**P**	**09 11 33.4**	**-0.3**
	6.8nm,0.7s,mb4.8						
YBH	**Yreka Blue Hor**	**56.48**	**309**	P	**P**	**09 11 51.1**	**-2.0**
	2.0nm,0.7s,mb4.3,baz=130,slow=4.9,SNR=6.5						
SUMG	**Summit**	**56.97**	**8**	P	**P**	**09 11 53.3**	**-2.9**
	9.0nm,1.1s,mb4.7						
INK	**Inuvik**	**67.00**	**338**	P	**P**	**09 13 03.5**	**+0.6**
	2.0nm,0.8s,mb4.0,baz=110,slow=6.3,SNR=6.8						
INK	**Inuvik**	**67.00**	**338**	eP	**P**	**09 13 01.4**	**-1.6**
	3.2nm,0.8s,mb4.2						
ILAR	**Eielson Array**	**72.06**	**333**	P	**P**	**09 13 34.2**	**+0.4**
	0.9nm,0.6s,mb3.8,baz=96,slow=4.0,SNR=18						
WMQ	**Urumqi**	**113.33**	**23**	ePKP	PKPdf	09 20 44.3	-0.5
LZH	**Lanzhou**	**125.33**	**13**	ePKP	PKPdf	09 21 06.5	-1.8
LZH				XPKP		09 21 41.3	
LZH				LR	LR		
	comp=N,187nm,18.2s						
LZH				LR	LR		
	comp=Z,249nm,20.0s						
SSE	**Sheshan**	**131.71**	**356**	ePKP	PKPdf	09 21 21.0	+0.3
ASAR	**Alice Springs**	**163.34**	**245**	PKPab	PKPab	09 23 03.8	+0.2
	comp=Z,0.2nm,0.7s,baz=104,slow=4.0,SNR=4.3						
WRA	**Warramunga Arr**	**163.77**	**258**	PKPab	PKPab	09 23 05.2	-0.4
	comp=Z,0.4nm,0.6s,baz=93,slow=3.9,SNR=7.6						

*GRAL **14** 09:33:41.6±23.0,33.36N×35.22E,h8^{km}±999^{km},MD3.1*
*CSEM **14** 09:33:43.9±0.6,33.43N×35.62E,h2^{km},Mc1.5,Error ellipse: s-maj=19.0km s-min=8.5km az=82.0*
*NSSC **14** 09:33:46.1,33.42N×35.73E,h10^{km}±6^{km}*

ISC 14 09:33:45.0±1.3**,33.41N**±0.05×**35.64E**±0.07**,h10**^{km}**,n10,** σ1§**13**/16**,3D,Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BRBR	**Barbar**	**0.26**	**90**	⇑P	**Pg**	**09 33 49.8**	**-0.6**
BRBR				⇓S	**Sg**	**09 33 54.4**	**+0.3**
BRBR	**Barbar**	**0.26**	**90**	⇑i P	**Pg**	**09 33 49.8**	**-0.6**
BHL	**Bhannes**	**0.49**	**1**	i PG	**Pg**	**09 33 53.3**	**-1.6**
	baz=109,slow=2.9						
BHL				i SG	**Sg**	**09 34 00.8**	**-0.9**
QASN	**Qassioun**	**0.54**	**77**	⇑P	**Pg**	**09 33 55.6**	**-0.3**
QASN				⇑S	**Sg**	**09 34 02.4**	**-0.9**
QASN	**Qassioun**	**0.54**	**77**	⇑i P	**Pg**	**09 33 55.6**	**-0.3**
TCHB	**Talchebab**	**0.79**	**160**	⇑P	**Pb**	**09 34 01.4**	**+1.2**
TCHB	**Talchebab**	**0.79**	**160**	⇑i P	**Pb**	**09 34 01.4**	**+1.1**
HWQ	**Hawqa**	**0.90**	**16**	i PG	**Pg**	**09 34 02.1**	**-1.0**
HWQ				i SG	**Sg**	**09 34 17.0**	**+1.9**
BIDA	**Albida**	**1.70**	**19**	⇑P	**Pn**	**09 34 15.1**	**+0.2**
BIDA				⇓S	**Sn**	**09 34 38.9**	**+2.1**
BIDA	**Albida**	**1.70**	**19**	⇑i P	**Pn**	**09 34 15.1**	**+0.2**
BIDA				⇓i S	**Sn**	**09 34 38.9**	**+2.1**

*PRU **14** 09:44:50.8,47.54N×17.88E*
*CSEM **14** 09:44:51.3±0.2,47.52N×17.90E,h1^{km},ML3.1/6,Error ellipse: s-maj=3.0km s-min=2.0km az=6.0*
*IPEC **14** 09:44:51.7±0.1,47.54N×17.91E,h17^{km}±1^{km},ML2.4/4, Error ellipse: s-maj=1.0km s-min=0.9km az=10.0*
*NEIC **14** 09:44:52.1±0.8,47.55N×17.86E,h8^{km}±8^{km},ML3.0(VIE), ML2.7(BRA),Error ellipse: s-maj=8.0km s-min=6.8km az=55.0*

ISC 14 09:44:50.9±0.4**,47.58N**±0.02×**17.85E**±0.03**,h4**^{km}±3^{km}**, n36,**σ1§**30**/64**,11C-2D,Hungary**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SRO1	**Iza**	**0.32**	**54**	i PG	**Pg**	**09 44 57.4**	**+0.2**
SRO1				eSG	**Sg**	**09 45 02.8**	**+1.4**
SRO	**Srobarova**	**0.39**	**52**	i PG	**Pg**	**09 44 59.6**	**+0.9**
SRO				i SG	**Sg**	**09 45 04.9**	**+1.0**
SRO	**Srobarova**	**0.39**	**52**	ePg	**Pg**	**09 44 59.3**	**+0.6**
SRO				i Sg	**Sg**	**09 45 04.9**	**+1.0**
PKSG		**0.41**	**117**	⇓ePg	**Pg**	**09 44 58.6**	**-0.4**
PKSG				eSg	**Sg**	**09 45 04.2**	**-0.3**
SRO2	**Moca**	**0.41**	**63**	i PG	**Pg**	**09 44 58.7**	**-0.4**
BUD	**Budapest**	**0.80**	**96**	⇑ePn	**Pn**	**09 45 06.8**	**-1.8**
BUD				eSg	**Sg**	**09 45 16.7**	**-0.7**
ZST	**Bratislava**	**0.80**	**321**	i PG	**Pg**	**09 45 08.3**	**+1.5**
ZST				eSG	**Sg**	**09 45 19.8**	**+2.3**
ZST	**Bratislava**	**0.80**	**321**	ePg	**Pg**	**09 45 08.2**	**+1.4**
ZST				eSg	**Sg**	**09 45 18.6**	**+1.1**
SOP	**Sopron**	**0.88**	**277**	⇑i Pg	**Pg**	**09 45 10.3**	**+1.8**
SOP				eSB	**Sb**	**09 45 22.4**	**+2.1**
PKS8	**Sarbogard**	**0.90**	**141**	⇑ePg	**Pg**	**09 45 09.3**	**+0.6**
PKS8				eSg	**Sg**	**09 45 20.6**	**-0.1**
SMOL	**Smolenice**	**0.98**	**343**	i PN	**Pn**	**09 45 11.3**	**+0.1**
SMOL				eSN	**Sn**	**09 45 25.4**	**-0.3**
PKS9	**Tamasi**	**1.03**	**164**	⇑eP	**Pb**	**09 45 12.0**	**+1.1**
PKS9				eS	**Sb**	**09 45 26.2**	**+1.6**
	17nm,0.6s						
KOLL	**Kolacno**	**1.07**	**20**	i PN	**Pn**	**09 45 11.8**	**-0.7**
KOLL				eSN	**Sn**	**09 45 26.2**	**-1.7**
PSZ	**Piszkesteto**	**1.42**	**75**	⇑ePn	**Pn**	**09 45 17.0**	**-0.5**
PSZ				eSn	**Sn**	**09 45 35.4**	**-1.4**
PSZ	**Piszkesteto**	**1.42**	**75**	⇑ePn	**Pn**	**09 45 17.0**	**-0.5**
PSZ				eSg	**Sg**	**09 45 35.6**	**-2.5**
PKSM	**Moragy**	**1.47**	**158**	eSg	**Sg**	**09 45 36.6**	**-3.1**
PKSM	**Moragy**	**1.47**	**158**	⇑ePn	**Pn**	**09 45 17.1**	**-1.1**
PKSM				eSn	**Sn**	**09 45 37.4**	**-0.7**
RHK1	**Bakonya**	**1.49**	**174**	⇓eP	**Pn**	**09 45 20.2**	**+1.7**
RHK1				eS	**Sb**	**09 45 39.7**	**+1.8**
	11nm,0.6s						
ARSA	**Arzberg**	**1.62**	**259**	⇑i PG	**Pn**	**09 45 20.0**	**-0.3**
ARSA				i SG	**Sg**	**09 45 42.6**	**-2.1**
	37nm,0.4s						
ARSA	**Arzberg**	**1.62**	**259**	⇑i Pn	**Pn**	**09 45 20.0**	**-0.3**
ARSA				eSg	**Sg**	**09 45 43.4**	**-1.3**
RHK3	**Tenkes**	**1.71**	**171**	eP	**Pn**	**09 45 24.0**	**+2.3**
RHK3				eS	**Sn**	**09 45 45.2**	**+1.0**
	0.8nm,0.4s						
KRUC	**Moravsky**	**1.78**	**327**	ePn	**Pn**	**09 45 22.3**	**-0.3**
KRUC				eSn	**Sn**	**09 45 45.5**	**-0.4**
	16nm,0.5s						
VRAC	**Vranov**	**1.93**	**335**	ePn	**Pn**	**09 45 24.6**	**-0.1**
VRAC				eSn	**Sn**	**09 45 49.1**	**-0.6**
	12nm,0.4s						
KECS	**Kecovo**	**1.98**	**62**	ePN	**Pn**	**09 45 26.6**	**+1.0**
MORC	**Moravsky Berou**	**2.21**	**355**	eP	**Pn**	**09 45 31.2**	**+2.3**
MORC	**Moravsky Berou**	**2.21**	**355**	ePn	**Pn**	**09 45 28.5**	**-0.3**
MORC	**Moravsky Berou**	**2.21**	**355**	eP	**Pn**	**09 45 31.2**	**+2.4**
MORC				eSn	**Sn**	**09 45 56.5**	**-0.5**
	25nm,0.5s						
OKC	**Ostrava-Krasne**	**2.27**	**5**	eSG	**Sg**	**09 45 57.1**	**-9.4**
MOA	**Molln**	**2.44**	**278**	⇑i PG	**Pg**	**09 45 36.5**	**-3.0**
MOA				i SG	**Sg**	**09 46 11.1**	**-0.9**
	19nm,0.6s						
OBKA	**Obir**	**2.50**	**246**	⇑i PN	**Pn**	**09 45 29.4**	**-3.6**
OBKA				i SN	**Sn**	**09 46 00.1**	**-4.2**
OBKA				i SG	**Sg**	**09 46 11.4**	**-2.7**
	9.6nm,0.4s						
DPC	**Dobruska-Polom**	**2.95**	**341**	ePN	**Pn**	**09 45 40.0**	**+0.6**
UPC	**Upice**	**3.17**	**338**	ePN	**Pn**	**09 45 43.3**	**+0.7**
KHC	**Kasperske Hory**	**3.25**	**300**	ePN	**Pn**	**09 45 43.6**	**0.0**
KHC				ePG	**Pg**	**09 45 51.4**	**-4.3**
KHC				ex	x	09 46 15.5	
KHC				eSG	**Sg**	**09 46 35.2**	**-3.8**
KHC	**Kasperske Hory**	**3.25**	**300**	ePg	**Pg**	**09 45 51.4**	**-4.3**
KHC				eSg	**Sg**	**09 46 35.2**	**-3.8**
PRU	**Pruhonice**	**3.26**	**319**	eSG	**Sg**	**09 46 34.0**	**-5.4**
	14nm,0.6s						
CLL	**Collm**	**4.89**	**322**	eSG	**Sg**	**09 47 35.0**	**+1.2**

*PDA **14** 09:57:31.5±0.4,38.66N×29.13W,h4^{km}±3^{km},MD3.3, ML2.0,Error ellipse: s-maj=7.5km s-min=4.4km az=53.0*
*CSEM **14** 09:57:31.5±0.4,38.66N×29.13W,h4^{km}±3^{km},ML2.0,Error ellipse: s-maj=7.5km s-min=4.4km az=53.0*

SVSA 14 09:57:31.5±0.4**,38.66N**×**29.13W,h4**^{km}±3^{km}**,MD3.3, ML2.0,Error ellipse: s-maj=7.5km s-min=4.4km az=53.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.34**	**96**	i P	Pg	09 57 37.6	-0.7
	48nm,0.4s						
CALA	**Caldeira**	**0.34**	**104**	eP	Pg	09 57 37.7	-0.7
PICO	**Pico**	**0.58**	**106**	eP	Pg	09 57 41.4	-1.6
PICO				eS	Sg	09 57 49.0	-1.7
ROSA	**Rosais**	**0.70**	**85**	eP	Pg	09 57 43.2	-2.2
ROSA				eS	Sg	09 57 51.8	-2.9

*BJI **14** 10:17:43.1,81.70N×4.20W,h10^{km},mB4.9,mb4.9,Ms4.2, Msz4.2*
*IDC **14** 10:17:44.5±0.6,81.76N×3.27W,mb3.9/13,mb1 4.1/14, mb1mx4.1/21,ML4.0/1,MS3.7/12,Ms1 3.7/12, ms1mx3.5/23,Error ellipse: s-maj=24.1km s-min=12.0km az=44.0*
*MOS **14** 10:17:44.9±1.3,81.61N×3.58W,h10^{km},mb4.2/9,Error ellipse: s-maj=99.9km s-min=13.5km az=92.9*
*NAO **14** 10:17:46.4±13.0,81.62N×1.93W,ML3.9*
*ZUR_RM **14** 10:17:46,81.66N×4.15W,h9^{km},Mw4.6/6,Moment Tensor Solution. s6 Moment tensor: Scale 10^{15}Nm; M_{rr}-8.13; $M_{\theta\theta}$1.37; $M_{\phi\phi}$6.76; $M_{r\theta}$-2.23; $M_{\theta\phi}$2.53; $M_{\phi r}$3.64; Best double couple: $M_0$8.94×10^{15} NP1:ϕ_s182°,δ57°, λ-111°. NP2:ϕ_s38°,δ38°,λ-61°. Principal axes: T 8.212, Plg10°, Azm287°; N 1.457, Plg18°, Azm194°; P -9.669, Plg70°, Azm45°;*
*NEIC **14** 10:17:46.1±0.3,81.66N×4.15W,h10^{km},mb4.6/20, MS4.0/2 Error ellipse: s-maj=11.0km s-min=6.9km az=218.0*

ISC 14 10:17:44.2±0.3**,81.63N**±0.05×**4.6W**±0.3**,h10**^{km}**,n79,** σ1§**20**/76**,mb4.4**/36**,MS3.8**/17**,4C-6D,North of Svalbard**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**5.01**	**123**	Pn	**Pn**	**10 18 57.8**	**-3.6**
	baz=339,slow=10						
DAG	**Danmarks Havn**	**5.53**	**216**	⇓i P	**Pn**	**10 19 06.0**	**-2.6**
	5.6nm,0.5s						
DAG				i		10 20 04.7	
HSP	**Hornsund**	**5.91**	**131**	eP	**Pn**	**10 19 10.6**	**-3.3**
SUMG	**Summit**	**11.51**	**237**	eP	**P**	**10 20 26.8**	**-4.6**
	29nm,0.8s						
SUMG				eS	Sx	10 22 16.8	
ARA0	**ARCESS Array S**	**13.92**	**133**	Pn	**P**	**10 20 57.9**	**-5.4**
	baz=359,slow=14						
ARA0				Sn	**S**	**10 23 23.5**	**-15**
	baz=356,slow=22						
ARCES	**ARCESS Array B**	**13.92**	**133**	Pn	**P**	**10 20 58.4**	**-4.9**
	1.0nm,0.3s,baz=350,slow=12,SNR=29						
ARCES				Sn	**S**	**10 23 31.0**	**-8.0**
	0.7nm,0.3s,baz=350,slow=22,SNR=6.5						
ARCES				LR	LR	10 26 17.1	
	comp=Z,245nm,21.2s,baz=355,slow=37						
ARCES	**ARCESS Array B**	**13.92**	**133**	P	**P**	**10 20 58.4**	**-4.9**
ARCES						10 23 31.0	
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ARCES				smax			
	comp=N,1.0nm,0.3s						
ARCES				MLR	MLR		
	comp=Z,245nm,21.2s						
RES	**Resolute Bay**	**17.56**	**298**	eP	**P**	**10 21 44.7**	**-5.4**
	comp=Z,31nm,1.2s						
NB2	**NORSAR Subarra**	**21.13**	**158**	P	**P**	**10 22 30.4**	**-0.6**
	comp=Z,8.0nm,0.9s,mb4.0,baz=351,slow=11						
NOA	**NORSAR Array B**	**21.13**	**158**	P	**P**	**10 22 31.7**	**+0.7**
	comp=Z,9.4nm,1.1s,mb4.0,baz=359,slow=8.1,SNR=6.5						
NOA				LR	LR	10 29 06.8	
	comp=Z,75nm,21.4s,MS3.0,baz=355,slow=32						
NOA	**NORSAR Array B**	**21.13**	**158**	P	**P**	**10 22 31.7**	**+0.7**
NOA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
NOA				MLR	MLR		
	comp=Z,75nm,21.4s						
NC6	**NORSAR Subarra**	**21.43**	**158**	P	**P**	**10 22 33.7**	**-0.3**
	baz=347,slow=10						
FIA0	**FINESS Array S**	**21.86**	**139**	P	**P**	**10 22 38.1**	**-0.2**
	baz=332,slow=11						
FINES	**FINESS Array B**	**21.86**	**139**	P	**P**	**10 22 37.8**	**-0.6**
	comp=Z,3.9nm,0.8s,mb3.9,baz=342,slow=12,SNR=7.0						
FINES				LR	LR	10 30 08.9	
	comp=Z,235nm,21.3s,MS3.6,baz=180,slow=34						
FINES	**FINESS Array B**	**21.86**	**139**	P	**P**	**10 22 37.8**	**-0.5**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
FINES				MLR	MLR		
	comp=Z,235nm,21.3s						
HFS	**Hagfors**	**22.17**	**155**	P	**P**	**10 22 42.0**	**+0.5**
	baz=3.2,slow=7.4						
HFS	**Hagfors**	**22.17**	**155**	P	**P**	**10 22 42.0**	**+0.5**
	comp=Z,5.0nm,0.7s,mb4.0,baz=329,slow=8.6,SNR=7.7						
HFS	**Hagfors**	**22.17**	**155**	P	**P**	**10 22 42.0**	**+0.5**
HFS				pmax	pmax		
	comp=Z,5.0nm,0.7s						
FRB	**Frobisher Bay**	**23.86**	**261**	P	**P**	**10 23 02.1**	**+4.4**
	comp=Z,50nm,1.0s,mb4.9,baz=67,slow=1.6,SNR=4.0						
FRB				LR	LR	10 32 45.4	
	comp=Z,225nm,19.4s,MS3.6,baz=324,slow=37						
FRB	**Frobisher Bay**	**23.86**	**261**	P	**P**	**10 23 02.1**	**+4.4**
FRB				pmax	pmax		
	comp=Z,50nm,1.0s						
FRB				MLR	MLR		
	comp=Z,225nm,19.4s						
TIXI	**Tiksi**	**24.99**	**33**	⇓i P	**P**	**10 23 09.8**	**+1.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TIXI				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.3						
TIXI				MLR	MLR		
	comp=Z,500nm,19.0s,MS4.0						
TIXI	Tiksi	24.99	33⇓	iP	P	10 23 09.8	+1.1
	comp=Z,11nm,1.2s,mb4.3						
TIXI				LR	LR		
	comp=Z,500nm,19.0s,MS4.0						
INK	Inuvik	27.87	322	P	P	10 23 34.5	-0.7
	comp=Z,1.0nm,0.6s,mb3.6,baz=4.8,slow=5.9,SNR=6.8						
INK				LR	LR	10 36 56.9	
	comp=Z,93nm,18.4s,MS3.4,baz=25,slow=41						
INK	Inuvik	27.87	322	P	P	10 23 34.5	-0.7
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK				MLR	MLR		
	comp=Z,93nm,18.4s						
INK	Inuvik	27.87	322	eP	P	10 23 35.0	-0.3
	comp=Z,5.9nm,1.1s,mb4.1						
SUW	Suwalki	28.94	145	P	P	10 23 45.8	+0.8
	comp=Z,25nm,0.8s,mb5.0						
OBN	Obninsk	29.18	129⇑	eP	P	10 23 48.8	+1.6
OBN				e		10 23 54.7	
OBN						10 24 44.0	
OBN				e		10 24 49.9	
OBN				eS	S	10 28 45.8	+7.7
OBN				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.7						
OBN				MLR	MLR		
	comp=Z,300nm,20.0s,MS3.9						
OBN	Obninsk	29.18	129⇑	eP	P	10 23 48.8	+1.6
	comp=Z,10.0nm,0.6s,mb4.7						
OBN				e		10 23 54.7	
OBN				e		10 24 44.0	
OBN				e		10 24 49.9	
OBN				eS	S	10 28 45.8	+7.7
OBN				LR	LR		
	comp=Z,300nm,20.0s,MS3.9						
YKW3	Yellowknife Ar	31.42	303	eP	P	10 24 02.0	-5.0
YKA	Yellowknife Ar	31.49	303	LR	LR	10 36 46.8	
	comp=Z,286nm,20.5s,MS3.9,slow=36						
MOX	Moxa	31.52	160	eP	P	10 24 12.0	+4.0
SCHQ	Schefferville	32.19	254	P	P	10 24 12.5	-1.3
	comp=Z,66nm,1.6s,mb5.2						
ILAR	Eielson Array	32.43	331	P	P	10 24 17.2	+1.4
	comp=Z,0.6nm,0.7s,mb3.5,baz=2.1,slow=7.6,SNR=8.4						
ILAR				PcP	PcP	10 27 01.9	-1.3
	comp=Z,0.5nm,0.6s,baz=336,slow=3.6,SNR=7.5						
ILAR				LR	LR	10 36 31.1	
	comp=Z,44nm,19.4s,MS3.2,baz=6.3,slow=35						
ILAR	Eielson Array	32.43	331	P	P	10 24 17.2	+1.4
ILAR						10 27 01.9	
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ILAR				MLR	MLR		
	comp=Z,44nm,19.4s						
MORC	Moravsky Berou	32.73	153	eP	P	10 24 17.1	-1.4
	comp=Z,4.3nm,0.9s,mb4.4						
AKASG	Malin Array Be	32.77	139	P	P	10 24 18.1	-0.7
	comp=Z,1.5nm,0.6s,mb4.1,baz=350,slow=9.2,SNR=6.0						
AKASG	Malin Array Be	32.77	139	P	P	10 24 18.1	-0.7
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GERES	GERESS Array B	33.43	158	P	P	10 24 25.7	+1.0
	comp=Z,2.4nm,0.8s,mb4.2,baz=9.5,slow=8.1,SNR=11						
GERES	GERESS Array B	33.43	158	P	P	10 24 25.7	+1.1
GERES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
YAK	Yakutsk	34.50	37	i P	P	10 24 32.7	-1.1
YAK				pmax	pmax		
	comp=Z,14nm,0.7s,mb5.0						
YAK	Yakutsk	34.50	37	i P	P	10 24 32.7	-1.1
	comp=Z,14nm,0.7s,mb5.0						
PSZ	Piszkesteto	34.74	151	eP	P	10 24 37.1	+1.1
	comp=Z,3.8nm,0.7s,mb4.4						
ZRNK	Zerenda	35.64	95	eP	P	10 24 43.7	0.0
	comp=Z,3.4nm,1.0s,mb4.2						
ZRNK				e		10 24 52.2	
BRVK	Borovoye	35.73	94	eP	P	10 24 44.3	0.0
	comp=Z,2.0nm,0.8s,mb4.1						
PMR	Palmer	35.74	332	eP	P	10 24 42.3	-2.1
NVS	Novosibirsk	35.89	80	eP	P	10 24 56.5	+11
ZAL	Zalesovo	36.99	79	LR	LR	10 44 13.3	
	comp=Z,143nm,19.8s,MS3.8,baz=118,slow=43						
KURK	Kurchatov	39.23	87 d	iP	P	10 25 14.1	+0.3
KURK	Kurchatov	39.23	87	i Pr		10 25 14.1	
ULM	Lac du Bonnet	40.87	281	P	P	10 25 27.0	-0.3
	comp=Z,2.0nm,0.5s,mb4.0,baz=308,slow=7.6,SNR=2.9						
SOC	Sochi	40.90	129	eP	P	10 25 35.1	+7.5
SOC				e		10 27 02.3	
SOC				ePPP	PPP	10 27 34.2	+0.1
SOC				eS	S	10 31 40.8	+1.8
SOC				eSS	SS	10 34 36.2	+0.6
SOC				eSSS	SSS	10 35 27.2	+14
SOC				pmax	pmax		
	comp=Z,8.0nm,0.4s,mb4.7						
SOC				pmax	pmax		
	comp=N,9.0nm,0.6s						
SOC				pmax	pmax		
	comp=E,31nm,1.3s						
SOC				MLR	MLR		
	comp=N,168nm,21.0s,MS4.0						
SOC				MLR	MLR		
	comp=Z,210nm,21.0s,MS4.0						
SOC				MLR	MLR		
	comp=E,205nm,25.0s,MS4.0						
BRTR	Keskin Array B	44.07	137	P	P	10 25 54.4	+1.0
	comp=E,1.7nm,0.8s,mb3.8,baz=333,slow=5.5,SNR=4.2						
BRTR				LR	LR	10 45 15.6	
	comp=E,62nm,20.8s,MS3.5,baz=20,slow=38						
BRTR	Keskin Array B	44.07	137	P	P	10 25 54.4	+1.0
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRTR				MLR	MLR		
	comp=Z,62nm,20.8s						
SONM	Songino Array	45.92	61	P	P	10 26 06.4	-1.7
	comp=Z,1.3nm,0.6s,mb4.0,baz=345,slow=8.0,SNR=9.7						
HIA	Hailar	46.11	49	P	P	10 26 10.5	+1.0
	comp=Z,11nm,1.4s,mb4.6						
AAK	Ala-Archa	46.52	93⇓	iP	P	10 26 13.2	+0.3
AAK				pmax	pmax		
	comp=Z,8.0nm,1.6s,mb4.4						
AAK				MLR	MLR		
	comp=Z,200nm,14.0s,MS4.2						
AAK	Ala-Archa	46.52	93⇓	iP	P	10 26 13.2	+0.3
	comp=Z,8.0nm,1.6s,mb4.4						
AAK				LR	LR		
	comp=Z,200nm,14.0s,MS4.2						
WMQ	Urumqi	47.28	80	eP	P	10 26 20.5	+1.6
WMQ				PP	PP	10 28 11.0	+1.4
WMQ				SS	SS	10 36 32.0	-0.2
WMQ				AMB	AMB		
	comp=Z,21nm,8.0s						
WMQ				LR	LR		
	comp=N,134nm,18.0s,MS4.1						
WMQ				LR	LR		
	comp=E,117nm,18.0s,MS4.1						
WMQ				LR	LR		
	comp=Z,111nm,18.0s,MS3.9						
ACSO	Alum Creek Sta	48.78	266	P	P	10 26 32.6	+2.0
	comp=Z,14nm,1.0s,mb5.0						
PDAR	Pinedale Array	50.11	292	P	P	10 26 41.7	+0.9
	comp=Z,0.4nm,0.9s,mb3.5,baz=90,slow=5.9,SNR=3.4						
PDAR				LR	LR	10 49 09.2	
	comp=Z,172nm,18.4s,MS4.1,baz=26,slow=38						
MDJ	Mudanjiang	51.72	41	P	P	10 26 51.5	-1.5
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,74nm,3.9s						
CN2	Changchun	52.12	45	eP	P	10 26 55.4	-0.6
PV10	Paradox Valley	54.36	291	eP	P	10 27 12.0	-0.6
PV01	Paradox Valley	54.53	290	eP	P	10 27 15.2	+1.3
OXF	Oxford	55.34	271	eP	P	10 27 21.4	+1.4
	comp=Z,10nm,0.8s,mb4.9						
MIAR	Mount Ida	55.91	275	eP	P	10 27 22.1	-2.0
	comp=Z,12nm,1.3s,mb4.8						
WMOK	Wichita Mounta	56.48	280	P	P	10 27 29.1	+1.0
	comp=Z,2.6nm,1.1s,mb4.2						
LZH	Lanzhou	57.14	66	eP	P	10 27 32.9	+0.1
LZH				AP	pP	10 27 36.3	+0.4
LZH				XP	sP	10 27 37.8	+0.7
LZH				PP	PP	10 29 41.3	-0.1
LZH				AMB	AMB		
	comp=Z,24nm,1.5s,mb5.0						
LZH				LR	LR		
	comp=Z,353nm,17.8s,MS4.5						
LTX	Lajitas	62.49	284	eP	P	10 28 10.8	+1.1
	comp=Z,2.8nm,0.8s,mb4.4						
TXAR	Lajitas Array	62.49	284	P	P	10 28 09.3	-0.3
	comp=Z,0.7nm,0.8s,mb3.9,baz=21,slow=4.8,SNR=4.5						
TXAR				LR	LR	10 55 52.2	
	comp=Z,108nm,19.5s,MS4.0,baz=70,slow=36						
SSE	Sheshan	64.22	51	eP	P	10 28 15.8	-5.1
SSE				AMB	AMB		
	comp=Z,41nm,0.7s,mb5.6						
SSE				AMB	AMB		
	comp=Z,148nm,9.1s						
GYA	Guiyang	67.00	65	P	P	10 28 38.9	+0.1
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
CMAR	Chiang Mai Arr	73.81	74	P	P	10 29 19.0	-1.1
	comp=Z,0.4nm,0.4s,mb3.7,baz=360,slow=7.0,SNR=4.5						
CMAR				LR	LR	11 07 45.9	
	comp=Z,48nm,19.0s,MS3.8,baz=330,slow=41						
MBAR	Mbarara	83.72	144	eP	P	10 30 12.7	-1.4
	comp=Z,17nm,1.4s,mb5.0						
VNA2	Neumayer--Watz	152.38	182	P	PKPdf	10 37 42.4	+8.3
VNA3	Neumayer Olymp	152.72	184⇑	iP	PKPdf	10 37 39.8	+5.2
SNAA	Sanae	153.13	179⇑	iP	PKPdf	10 37 41.2	+6.1
MAW	Mawson	153.14	128	PKPbc	PKPdf	10 37 41.8	+6.6
	comp=Z,1.7nm,0.7s,baz=320,slow=8.0,SNR=3.5						
MAW	Mawson	153.14	128	PKIKP	PKPdf	10 37 41.8	+6.5
MAW				pmax	pmax		
	comp=Z,2.0nm,0.7s						

DJA 14 10:30:37.5±1.0**, 9.85S**×**114.20E, h33**km**, MD5.0**/3**, ML4.1**/3**, 4C-2D, Error ellipse: s-maj=23.9km s-min=14.6km az=28.0, South of Bali**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SRDI	Scrawed	1.36	357⇓	ePn	Pn	10 30 58.8	-1.7
	202nm,0.1s						
SRDI				⇑eSn	Sn	10 31 14.9	-2.6
KELI	Kelakatan	1.64	10⇓	ePn	Pn	10 31 03.6	-1.0
	154nm,0.2s						
KELI				⇑eSn	Sn	10 31 22.2	-2.5
RATI	Rata	1.72	50⇑	ePn	Pn	10 31 04.2	-1.5
	126nm,0.2s						
RATI				⇑eSn	Sn	10 31 23.3	-3.4

ISC 14 10:38:05.5±2.4**, 36.3N**±0.1×**71.7E**±0.3**, h161**km±25km**, n14, σ0.68**/17**, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
THN	Thein Dam	5.13	138	eP	P	10 39 22.5	+0.8
	144nm,0.2s						
THN				eS	S	10 40 21.2	+0.6
AML	Almayashu	6.00	15	P	P	10 39 32.5	-0.7
	SNR=15						
UCH	Uchtor	6.29	20	P	P	10 39 37.2	+0.2
	SNR=15						
EKS2	Erkin-Say	6.53	14	P	P	10 39 39.5	-0.7
	SNR=9.9						
AAK	Ala-Archa	6.67	18	P	P	10 39 41.9	-0.2
	SNR=18						
CHMS	Chumysh	7.07	19	P	P	10 39 48.0	+0.5
	SNR=8.9						
TKM2	Tokmak 2	7.25	24	P	P	10 39 50.8	+0.9
	SNR=8.6						
USP	Ospenovka	7.26	17	P	P	10 39 49.9	-0.2
	SNR=6.8						
DDI	Dehra Dun	8.03	136	e	S	10 41 28.0	-1.7
KOLN	Koldanda	13.23	127	eP	P	10 41 08.2	+0.1
KOLN				eS	S	10 43 31.4	-0.5
	15nm,0.7s						
GKN	Gorkha	13.76	123	eP	P	10 41 14.8	0.0
GKN				eS	S	10 43 43.4	-0.7
	35nm,0.6s						
DMN	Daman	14.34	124	eS	S	10 43 58.1	+0.9
	7.6nm,0.3s						
PKI	Pulchoki	14.56	123	eS	S	10 44 03.0	+0.6
	18nm,0.7s						
GUN	Gumba	14.67	121	eP	P	10 41 26.3	0.0

IDC 14 10:42:51.2±11.0**, 5.56S**×**129.19E, h279**km±135km**, mb3.3**/2**, mb1 3.7**/4**, mb1mx3.5**/11**, Error ellipse: s-maj=142.0km s-min=33.6km az=66.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	15.15	161	P	P	10 46 12.9	-0.7
	3.0nm,0.3s,baz=341,slow=9.2,SNR=200						
ASAR	Alice Springs	18.57	166	P	P	10 46 47.4	-2.5
	1.7nm,0.3s,baz=349,slow=12,SNR=82						
STKA	Stephens Creek	28.65	158	P	P	10 48 22.5	-2.0
	1.9nm,0.3s,baz=323,slow=8.4,SNR=16						
SONM	Songino Array	56.83	342	P	P	10 52 06.9	-1.7
	0.8nm,1.1s,baz=124,slow=5.2,SNR=3.7						

*NEIC **14** 10:46:18.5, 31.27S×68.76W, h148km, MD3.9(GUC), After GUC.*
GUC 14 10:46:18.5±0.7**, 31.27S**×**68.76W, h148**km±25km**, MD3.9, ML3.5, 2D, San Juan Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TLL	Tololo Astrono	2.08	302	eP	P	10 46 55.6	+0.8
TLL				i S	S	10 47 23.3	+0.7
TLL				AMP		10 47 27.1	
	comp=N,216nm,0.5s						
JACH	Jahuel	2.10	227	eP	P	10 46 55.5	+0.4
JACH				i S	S	10 47 23.3	+0.2
FCH	Farellones	2.42	212⇓	iP	P	10 46 59.7	+0.5
FCH				i S	S	10 47 31.0	+0.7
FCH				AMP		10 47 35.4	
	comp=E,74nm,0.2s						
PEL	Peldehue	2.48	221	i S	S	10 47 30.7	-0.8
PEL				AMP		10 47 33.0	
	comp=N,198nm,0.3s						
PACH	Papudo	2.60	240	eP	P	10 47 00.0	-1.4
PCH	Pirque	2.77	212	eP	P	10 47 03.9	+0.3
PCH				i S	S	10 47 38.1	+0.1
RCDM	Rinconada Maip	2.81	217	eP	P	10 47 04.0	-0.1
RCDM				i S	S	10 47 38.9	+0.1
RCDM				AMP		10 47 39.5	
	comp=E,205nm,0.1s						
LMEL	Las Melosas	2.84	205	eP	P	10 47 04.7	+0.2
LMEL				AMP		10 47 51.5	
	comp=N,105nm,0.1s						
TACH	Talagante	3.00	217⇓	iP	P	10 47 06.0	-0.6
TACH				i S	S	10 47 42.7	-0.6
CHCH	Chadas Angostu	3.10	211	i P	P	10 47 07.6	-0.2
CHCH				i S	S	10 47 45.6	+0.1
CACH	El Canelo	3.23	208	i P	P	10 47 10.0	+0.5
CICH	Cipreses	3.35	204	i P	P	10 47 11.2	+0.2
LNV	Longovilo	3.49	219	i P	P	10 47 10.9	-2.0
SFDO	San Fernando	3.83	209	eP	P	10 47 15.6	-1.8

*KISR **14** 10:48:05.6±0.7, 30.95N×50.42E, h33km, ML3.6*
*IDC **14** 10:48:06.7±2.1, 31.15N×50.04E, mb3.9/5, mb1 3.9/7, mb1mx3.7/21, ML3.7/2, Error ellipse: s-maj=51.3km s-min=24.9km az=11.0*
*THR **14** 10:48:07.2±1.1, 30.85N×50.00E, h36km±18km, ML3.9*
*SNSN **14** 10:48:15.8, 30.55N×49.50E, h265km*
ISC 14 10:48:09.2±0.7**, 30.98N**±0.05×**50.17E**±0.06**, h40**km±12km**, n21, σ1.11**/25**, mb3.8**/5**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SHGR	Shooshtar-Gavs	1.62	314	ePG	P	10 48 36.4	+0.5
SHGR				AMP		10 49 02.2	
	comp=N,2μm,0.7s						
SHGR				AMP		10 49 08.5	
	comp=E,1μm,0.7s						
UMR	Umm Al-Rimmam	2.56	237	eP	P	10 48 49.3	+0.1
UMR				AML	AML	10 49 30.3	
	comp=Z,312nm,0.4s						
KBD	Kabd	2.80	231	eP	P	10 48 52.6	-0.1
KBD				eS	S	10 49 27.0	+1.5
QRN	Al-Qurain	2.97	222	eP	P	10 48 54.1	-0.9
QRN				eS	S	10 49 29.9	+0.2
RDF	Al-Radifah	3.06	229	eP	P	10 48 55.7	-0.6
RDF				eS	S	10 49 32.8	+0.6
RDF				AML	AML	10 49 40.7	
	comp=Z,156nm,0.4s						
RST	Umm Al-Ruwaisa	3.12	243	eP	P	10 48 56.5	-0.6
RST				AML	AML	10 49 46.2	
	comp=Z,103nm,0.4s						
ASAO	Ashtian	3.56	358	ePN	P	10 49 04.7	+1.3
GHIR	Ghir-Karzin	3.64	137	ePN	P	10 49 03.3	-1.1
SNGE	Sanandaj	4.74	331	ePN	P	10 49 18.9	-1.2
DAMV	Damavand	4.87	18	ePN	P	10 49 22.0	0.0
DAMV				AMP		10 50 22.1	
	comp=E,60nm,0.3s						
KRBR	Kerman	5.77	98	ePN	P	10 49 35.0	+0.5
HILS	Ha'il	8.15	246	P	P	10 50 02.3	-5.5
HILS				S	S	10 51 28.6	-11
MZLS	Mizel	8.21	214	P	P	10 50 03.6	-5.0
AFFS	'Afif	9.48	224	P	P	10 50 19.0	-7.1
ASF	Jabal al Asfar	11.38	279	Pn	P	10 50 48.5	-3.7
	comp=E,0.7nm,0.3s,baz=310,slow=10,SNR=3.4						
BRTR	Keskin Array B	16.05	307	Pn	P	10 51 55.5	+2.1
	comp=E,0.2nm,0.3s,baz=139,slow=11,SNR=3.0						
IDI	Anoyia	21.58	288	P	P	10 52 55.9	-1.5
	comp=E,5.7nm,0.5s,mb4.2,baz=100,slow=12,SNR=3.8						
AKASG	Malin Array Be	25.13	328	P	P	10 53 32.2	+0.4
	comp=E,0.5nm,0.3s,mb3.5,baz=133,slow=9.3,SNR=4.2						
BVAR	Borovoye Array	26.49	28	P	P	10 53 44.4	-0.1
	comp=E,0.7nm,0.4s,mb3.6,baz=225,slow=8.4,SNR=4.9						
FINES	FINESS Array B	34.32	340	P	P	10 54 52.1	-1.5
	comp=E,3.5nm,1.1s,mb4.2,baz=149,slow=8.1,SNR=2.3						
CMAR	Chiang Mai Arr	45.70	94	P	P	10 56 30.6	+2.3
	comp=E,0.8nm,0.9s,mb3.6,baz=291,slow=8.9,SNR=4.4						

*NIED **14** 10:58:00, 33.10N×137.20E, h380km, Mw4.2 Best double couple: M₀2.34×10^15 NP1:φs159°, δ83°, λ37°. NP2:φs63°, δ53°, λ171°.*
*BJI **14** 10:58:02.6, 33.05N×136.87E, h385km, mb4.4*
*JMA **14** 10:58:03.7±0.3, 33.06N×137.16E, h403km±3km, M3.6*
*IDC **14** 10:58:04.4±0.8, 33.12N×137.02E, h405km±8km, mb3.4/14, mb1 3.6/17, mb1mx3.5/26, Error ellipse: s-maj=14.5km s-min=11.7km az=113.0*
*NEIC **14** 10:58:04.4±0.7, 33.12N×137.04E, h406km±6km, mb4.0/20, Error ellipse: s-maj=9.9km s-min=7.3km az=157.0*
ISC 14 10:58:03.3±0.3**, 33.13N**±0.05×**137.07E**±0.04**, h409**km±2km**, n82, σ0.94**/98**, mb3.9**/37**, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JWZ	Kozaga	1.21	290	P	P	10 58 56.1	-0.3
JWZ				S	S	10 59 37.6	-0.5
JIE	Ise	1.30	346	P	P	10 58 57.2	+0.4
JWY	Kouya	1.65	312	P	P	10 58 58.9	+0.4
JWY				S	S	10 59 42.1	+0.3
JHMK	Hamakita	1.78	18	P	P	10 58 59.3	+0.1
JHJ	Hachijo jima 2	2.27	89	P	P	10 59 02.9	+0.7
	30nm,0.3s,baz=244,slow=23,SNR=22						
JHJ				S	S	10 59 50.9	+2.4
	32nm,0.3s,baz=59,slow=23,SNR=3.9						
JAI	Aioi	2.29	288	P	P	10 59 02.6	+0.3
JAI				S	S	10 59 48.4	-0.4
JHJ2	Mitsune	2.30	90	P	P	10 59 02.6	+0.2
JNY	Yasuok	2.32	16	P	P	10 59 03.0	+0.5
JIM2	Oshima 3	2.52	50	P	P	10 59 03.5	-0.4
JWT	Wachi	2.56	328	P	P	10 59 04.7	+0.5
JWT				S	S	10 59 52.5	+0.4
JOD2	Odawara 2	2.71	37	P	P	10 59 05.2	-0.1
JMN	Monobe	2.74	284	P	P	10 59 06.0	+0.5
JMN				S	S	10 59 55.3	+0.8
JRY	Ryogami san	3.25	27	P	P	10 59 09.9	+0.2
JRY				S	S	11 00 02.5	+0.5
JHU	Hanno	3.27	33	P	P	10 59 09.2	-0.7
JHU				S	S	10 59 59.2	-3.1
MAJO	Matsushiro	3.53	15	eP	P	10 59 12.4	+0.2
MAJO				eS	S	11 00 06.2	-0.1
MAT	Matsushiro	3.53	15	P	P	10 59 12.1	0.0
MAT				S	S	11 00 06.1	-0.2
MAT	Matsushiro	3.53	15	P	P	10 59 12.6	+0.5
MAT				S	S	11 00 06.2	-0.1
MAT	Matsushiro	3.53	15	eP	P	10 59 12.0	-0.1
MAT				eS	S	11 00 06.0	-0.3
BSO1	Boso 1	3.59	64	P	P	10 59 09.7	-2.9
BSO1				S	S	11 00 04.2	-2.9
JTO	Tosashimizu	3.60	267	P	P	10 59 12.9	+0.2
CBIJ	Chichi jima	7.46	142	P	P	10 59 48.6	-4.5
	32nm,0.3s,baz=115,slow=19,SNR=18						
CBIJ				S	S	11 01 11.4	-8.4
	69nm,0.3s,baz=331,slow=22,SNR=22						
KS15	Wonju Array Si	8.66	302	eP	P	11 00 07.1	+0.3
INCN	Inchon	9.57	300	eP	P	11 00 17.5	+0.1
ERM	Erimo	10.10	27	P	P	11 00 22.1	-1.3
	536nm,0.5s,SNR=28						
ASAJ	Asahikawa	11.79	20	P	P	11 00 41.9	-0.9
	3.4nm,0.3s,baz=233,slow=14,SNR=24						
ASAJ				S	S	11 02 49.4	-0.5
	0.6nm,0.3s,baz=330,slow=29,SNR=4.5						
SSE	Sheshan	13.62	266	eP	P	11 00 59.5	-3.6
SSE				AMB	AMB		
	comp=Z,22nm,0.7s						
SSE				AMB	AMB		
	comp=Z,74nm,3.4s						
CN2	Changchun	14.01	323	eP	P	11 01 08.3	+1.2
CN2				eS	S	11 03 35.3	+0.9
CN2				AMB	AMB		
	comp=Z,10.0nm,1.1s						
YSS	Yuzh-Sakhalins	14.47	16	eP	P	11 01 11.6	-0.3
	comp=Z,69nm,0.5s						
BJT	Baijiatuau	18.13	298	eP	P	11 01 49.8	+0.7
	comp=Z,16nm,0.8s						
BJT				e		11 01 59.7	
BJI	Beijing	18.13	298	P	P	11 01 49.3	+0.2
BJI				AMB	AMB		
	comp=Z,18nm,0.7s						
WHN	Wuhan	19.47	269	P	P	11 02 02.5	+0.2
HIA	Hailar	20.66	326	eP	P	11 02 15.1	+1.4
	comp=Z,9.1nm,1.2s						
XAN	Xi'an	23.45	280	P	P	11 02 39.0	-0.7
ENH	Enshi	23.62	271	eP	P	11 02 40.2	-1.1
	comp=Z,16nm,0.6s,mb4.6						
GYA	Guiyang	27.15	264	P	P	11 03 11.9	-1.2
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
SONM	Songino Array	27.36	312	P	P	11 03 15.3	+0.7
	comp=Z,1.5nm,0.6s,mb3.6,baz=116,slow=7.7,SNR=12						
LZH	Lanzhou	27.44	286	eP	P	11 03 15.8	+0.3
LZH				AP		11 04 27.5	
LZH				AMB	AMB		
	comp=Z,22nm,1.4s,mb4.4						
MA2	Magadan	27.98	15	eP	P	11 03 20.0	+0.1
	comp=Z,26nm,0.8s,mb4.6						
YAK	Yakutsk	29.31	353	eP	P	11 03 30.9	-0.6
	comp=Z,12nm,0.9s,mb4.2						
CM31	Chiang Mai Arr	37.09	256	eP	P	11 04 37.6	-0.4
	comp=Z,3.8nm,0.6s,mb3.9						
CMAR	Chiang Mai Arr	37.09	256	P	P	11 04 37.8	-0.2
	comp=Z,1.0nm,0.5s,mb3.4,baz=54,slow=7.4,SNR=8.4						
WMQ	Urumqi	39.58	300	eP	P	11 04 59.4	+1.2
GUN	Gumba	44.06	277	eP	P	11 05 34.3	0.0
	comp=Z,23nm,0.6s,mb4.7						
PKI	Pulchoki	44.56	277	eP	P	11 05 37.7	-0.6
	comp=Z,11nm,0.6s,mb4.3						
KKN	Kakani	44.60	277	eP	P	11 05 38.3	-0.3
	comp=Z,21nm,0.7s,mb4.5						
DMN	Daman	44.80	277	eP	P	11 05 40.2	0.0
GKN	Gorkha	45.06	278	eP	P	11 05 41.6	-0.6
	comp=Z,21nm,0.8s,mb4.5						
KURK	Kurchatov	45.66	311	eP	P	11 05 45.9	-0.7
	comp=Z,4.4nm,0.8s,mb3.8						
KOLN	Koldanda	46.00	278	eP	P	11 05 49.0	-0.6
	comp=Z,12nm,0.8s,mb4.3						
AAK	Ala-Archa	49.29	300	P	P	11 06 11.0	-3.5
	comp=Z,3.0nm,1.1s,mb3.5						
BVAR	Borovoye Array	50.65	314	P	P	11 06 23.1	-1.3
	comp=Z,1.6nm,0.8s,mb3.3,baz=101,slow=7.6,SNR=7.0						
ZRNK	Zerenda	51.49	314	eP	P	11 06 29.3	-1.3
	comp=Z,1.4nm,0.6s,mb3.4						
WRAB	Tennant Creek	52.82	183	eP	P	11 06 40.4	-0.5
WRA	Warramunga Arr	52.83	183	P	P	11 06 39.4	-1.6
	comp=Z,0.7nm,0.4s,mb3.3,baz=360,slow=7.6,SNR=18						
MCK	McKinley	53.84	32	eP	P	11 06 47.1	-0.5
	comp=Z,2.0nm,0.6s,mb3.5						
PMR	Palmer	53.87	35	eP	P	11 06 47.2	-0.6

	comp=Z,10nm,0.9s,mb4.1						
ILAR	**Eielson Array**	**54.68**	**31**	P	**P**	**11 06 52.9**	**-0.7**
	comp=Z,1.2nm,0.6s,mb3.3,baz=256,slow=5.4,SNR=25						
ILAR				PcP	PcP	11 07 49.3	-1.0
	comp=Z,0.2nm,0.6s,baz=269,slow=3.5,SNR=4.4						
ASAR	**Alice Springs**	**56.55**	**183**	P	**P**	**11 07 08.3**	**+1.1**
	comp=Z,0.6nm,0.9s,mb2.9,baz=192,slow=28,SNR=4.1						
INK	**Inuvik**	**59.46**	**26**	P	**P**	**11 07 26.5**	**+0.2**
	comp=Z,3.1nm,0.5s,mb3.9,baz=295,slow=7.7,SNR=25						
INK	**Inuvik**	**59.46**	**26**	*e*P	**P**	**11 07 26.1**	**-0.2**
	comp=Z,4.2nm,0.7s,mb3.9						
ARCES	**ARCESS Array B**	**66.38**	**339**	P	**P**	**11 08 10.8**	**-0.2**
	comp=Z,1.4nm,0.5s,mb3.9,baz=56,slow=8.7,SNR=12						
ARCES	**ARCESS Array B**	**66.38**	**339**	P	**P**	**11 08 10.8**	**-0.2**
RES	**Resolute Bay**	**67.23**	**13**	*e*P	**P**	**11 08 16.4**	**+0.2**
	comp=Z,9.8nm,1.0s,mb4.4						
YKA	**Yellowknife Ar**	**68.95**	**28**	P	**P**	**11 08 26.8**	**0.0**
	comp=Z,1.4nm,0.5s,mb3.9,baz=299,slow=6.3,SNR=4.2						
KAF	**Kangasniemi**	**70.12**	**332**	*e*p	**P**	**11 08 32.3**	**-1.5**
FINES	**FINESS Array B**	**70.58**	**332**	P	**P**	**11 08 36.4**	**-0.2**
	comp=Z,1.4nm,0.5s,mb3.8,baz=66,slow=7.3,SNR=11						
FINES	**FINESS Array B**	**70.58**	**332**	P	**P**	**11 08 36.4**	**-0.2**
SUMG	**Summit**	**74.54**	**359**	*e*P	**P**	**11 09 00.5**	**+1.2**
	comp=Z,11nm,0.9s,mb4.5						
DPW	**Davenport**	**75.02**	**42**	*e*P	**P**	**11 09 03.2**	**+0.9**
NEW	**Newport**	**75.41**	**42**	*e*P	**P**	**11 09 02.0**	**-2.5**
	comp=Z,2.8nm,1.0s,mb3.9						
NB2	**NORSAR Subarra**	**76.36**	**336**	P	**P**	**11 09 09.6**	**0.0**
	comp=Z,0.6nm,0.5s,mb3.5,baz=88,slow=4.6						
NOA	**NORSAR Array B**	**76.36**	**336**	P	**P**	**11 09 09.7**	**+0.1**
	comp=Z,1.4nm,0.6s,mb3.8,baz=44,slow=5.6,SNR=4.6						
WALA	**Waterton Lakes**	**76.71**	**40**	*e*P	**P**	**11 09 12.9**	**+1.1**
	comp=Z,4.0nm,0.7s,mb4.2						
CMB	**Columbia Colle**	**79.06**	**52**	*e*P	**P**	**11 09 25.4**	**+0.8**
	comp=Z,1.9nm,0.6s,mb3.9						
HLID	**Hailey**	**79.64**	**44**	*e*P	**P**	**11 09 29.0**	**+1.5**
	comp=Z,1.5nm,0.7s,mb3.7						
NVAR	**Mina Array Bea**	**80.20**	**50**	P	**P**	**11 09 32.4**	**+1.8**
	comp=Z,1.0nm,0.5s,mb3.7,baz=290,slow=6.7,SNR=12						
GCMT	**Greycliff**	**80.98**	**41**	*e*P	**P**	**11 09 35.5**	**+0.9**
TPH	**Tonopah**	**81.10**	**50**	*e*P	**P**	**11 09 36.6**	**+1.3**
	comp=Z,2.7nm,0.8s,mb4.0						
PDAR	**Pinedale Array**	**82.94**	**43**	P	**P**	**11 09 45.5**	**+0.9**
	comp=Z,1.2nm,0.8s,mb3.7,baz=326,slow=1.6,SNR=11						
MSU	**Marysvale**	**84.03**	**48**	*e*P	**P**	**11 09 48.7**	**-1.4**
PV10	**Paradox Valley**	**86.03**	**46**	*e*P	**P**	**11 10 01.8**	**+2.0**
TXAR	**Lajitas Array**	**95.34**	**50**	P	**P**	**11 10 44.8**	**+1.5**
	comp=Z,0.5nm,0.6s,mb3.8,baz=300,slow=3.1,SNR=7.6						

*NAO **14** 11:45:55.4±2.3, 67.98N×32.45E, ML2.2*
ISC 14 11:45:50.2±1.9**, 68.26N**±0.09×**33.5E**±0.4**, n4,** σ**1^{s}28**/5**,**
Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.69**	**197**	Pg	**Pg**	**11 46 03.5**	**-0.4**
	baz=351,slow=16						
APA0				Lg		11 46 09.2	
	baz=360,slow=37						
APA0				Rg		11 46 11.0	
	baz=2.8,slow=37						
ARA0	**ARCESS Array S**	**3.17**	**298**	Pn	**Pn**	**11 46 43.9**	**+1.6**
	baz=120,slow=16						
ARA0				Sn	**Sn**	**11 47 20.4**	**-0.9**
	baz=114,slow=37						
ARA0				Lg		11 47 27.6	
	baz=114,slow=37						
KTK1	**Kautokeino**	**3.84**	**286**	*e*P	**Pn**	**11 46 52.3**	**+0.5**
KTK1				AML	AML	11 47 50.0	
	comp=Z,7.1nm,0.6s						
SPA0	**Spitsbergen Ar**	**11.04**	**341**	Pn	**P**	**11 48 31.6**	**-0.6**
	baz=150,slow=16						

*ISK **14** 11:47:14.5, 35.28N×31.70E, h5km, MD3.3*
*NIC **14** 11:47:15.8±0.3, 35.37N×31.47E, h25km, ML3.5, MW3.2*
*CSEM **14** 11:47:15.9±0.1, 35.31N×31.70E, h10km, ML3.5, Error ellipse: s-maj=5.9km s-min=1.9km az=26.0*
ISC 14 11:47:18.4±1.0**, 35.16N**±0.07×**31.69E**±0.05**, h32**km±9km**, n14,** σ**1^{s}25**/24**, 3C, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PPCY	**Paphos**	**0.60**	**117**	P	**Pb**	**11 47 30.4**	**-0.1**
ALFC	**Alevga**	**0.74**	**90**	⇑*i*P	**Pb**	**11 47 31.3**	**-1.5**
	21nm,0.4s						
ALFC				S	**Sb**	**11 47 44.1**	**+1.4**
LEF	**Lefka**	**0.98**	**92**	*i* PG	**Pn**	**11 47 34.9**	**-1.1**
LEF				*i* SG	**Sb**	**11 47 49.2**	**-0.2**
SZAC	**Souni-Zanaja**	**1.06**	**112**	P	**Pn**	**11 47 36.9**	**-0.2**
	7.2nm,0.3s						
SZAC				S	**Sb**	**11 47 53.4**	**+1.8**
CSS	**Prodhromos**	**1.36**	**98**	*i* P	**Pn**	**11 47 41.0**	**-0.5**
CSS				*i* S	**Sn**	**11 47 59.4**	**+0.9**
CSS	**Prodhromos**	**1.36**	**98**	P	**Pn**	**11 47 41.2**	**-0.2**
	3.3nm,0.4s						
CSS				S	**Sn**	**11 48 00.1**	**+1.7**
HDMB	**Hadim**	**1.91**	**19**	PN	**Pn**	**11 47 47.8**	**-1.5**
HDMB				SN	**Sn**	**11 48 12.7**	**+0.2**
IKL	**Isikli**	**1.94**	**56**	PN	**Pn**	**11 47 48.6**	**-1.2**
ELL	**Elmali**	**2.15**	**318**	*e*PN	**Pn**	**11 47 51.2**	**-1.5**
MEST	**Erdemli**	**2.45**	**54**	⇑*i*P	**Pn**	**11 47 56.1**	**-0.9**
MEST				*i* S	**Sn**	**11 48 26.7**	**+0.6**
DALT	**Dalyan (Mudla)**	**2.95**	**304**	PN	**Pn**	**11 48 03.6**	**-0.6**
DNZL	**Cakiroluk**	**3.31**	**321**	P	**Pn**	**11 48 11.8**	**+2.6**
DNZL				S	**Sn**	**11 48 50.1**	**+2.2**
COBT	**Iskenderun**	**3.95**	**69**	⇑*i*P	**Pn**	**11 48 18.2**	**-0.1**
COBT				*i* S	**Sn**	**11 49 03.9**	**-0.2**
MANT	**Manisa**	**4.17**	**324**	P	**Pn**	**11 48 25.1**	**+3.6**
MANT				S	**Sn**	**11 49 18.7**	**+9.0**

*CSEM **14** 12:32:32.5±0.4, 38.07N×26.26W, h30km, ML2.2, Error ellipse: s-maj=46.8km s-min=5.2km az=33.0*
*SVSA **14** 12:32:34.5±1.4, 38.11N×26.31W, MD2.4, ML2.2, Error ellipse: s-maj=31.2km s-min=1.5km az=41.0*
*PDA **14** 12:32:34.5±1.4, 38.11N×26.31W, MD2.4, ML2.2, Error ellipse: s-maj=31.2km s-min=1.5km az=41.0*
ISC 14 12:32:32.7±0.5**, 38.2N**±0.2×**26.3W**±0.2**, h32**km±8km**, n22,** σ**0^{s}34**/27**, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SET4	**Mosteiros**	**0.47**	**127**	*e*P	**Pb**	**12 32 43.2**	**+0.4**
SET4				*e*S	**Sb**	**12 32 49.7**	**0.0**
SET2	**Ginetes**	**0.49**	**131**	*e*S	**Sb**	**12 32 49.8**	**-0.3**
PFET	**Feteiras**	**0.51**	**132**	*e*P	**Pb**	**12 32 43.6**	**+0.2**
PFET				*e*S	**Sb**	**12 32 50.5**	**-0.3**
PSAN	**Santo Antonio**	**0.53**	**126**	*e*P	**Pb**	**12 32 44.6**	**+0.9**
PSAN				*e*S	**Sb**	**12 32 51.1**	**-0.2**
FAC	**Faja de Cima**	**0.63**	**128**	*e*S	**Sb**	**12 32 53.7**	**-0.1**
PMAT	**Coroa da Mata**	**0.72**	**118**	*e*S	**Sb**	**12 32 56.3**	**-0.1**
	62nm,0.2s						
PMAT	**Coroa da Mata**	**0.72**	**118**	*e*S	**Sb**	**12 32 56.3**	**-0.1**
	62nm,0.2s						
LFA	**Lagoa do Fogo**	**0.73**	**122**	*e*P	**Pn**	**12 32 46.8**	**-0.1**
MESC	**Monte Escuro**	**0.75**	**119**	*e*P	**Pn**	**12 32 47.2**	**+0.1**
MESC				*e*S	**Sb**	**12 32 56.8**	**-0.4**
PRCH	**Ribeira Ch**	**0.76**	**125**	*e*S	**Sb**	**12 32 57.1**	**-0.4**
	219nm,0.2s						
PRCH	**Ribeira Ch**	**0.76**	**125**	*e*S	**Sb**	**12 32 57.1**	**-0.4**
	219nm,0.2s						
VIF	**Vila Franca**	**0.78**	**122**	*e*S	**Sb**	**12 32 58.5**	**+0.5**
	23nm,0.3s						
VIF	**Vila Franca**	**0.78**	**122**	*e*S	**Sb**	**12 32 58.5**	**+0.5**
	23nm,0.3s						
PCNG	**Congro**	**0.80**	**119**	*e*S	**Sn**	**12 32 58.6**	**0.0**
	24nm,0.2s						
PCNG	**Congro**	**0.80**	**119**	*e*S	**Sn**	**12 32 58.6**	**0.0**
	24nm,0.2s						
PFAV	**Pico das Favas**	**0.84**	**311**	*e*S	**Sn**	**12 32 59.7**	**0.0**
	18nm,0.1s						
PSCM	**Serra do Cume**	**0.85**	**309**	*e*P	**Pn**	**12 32 49.0**	**+0.4**
PSCM				*e*S	**Sn**	**12 32 59.9**	**-0.1**
	57nm,0.1s						
RIB2	**Ribeirinha**	**0.87**	**306**	*e*S	**Sn**	**12 33 00.6**	**+0.2**
	45nm,0.1s						
PVNV	**Vila Nova**	**0.92**	**311**	*e*S	**Sn**	**12 33 01.6**	**0.0**
	26nm,0.1s						
PPAD	**Pico dos Padre**	**0.96**	**304**	*e*S	**Sn**	**12 33 02.9**	**+0.2**
	15nm,0.2s						
PBIS	**Biscoitos**	**0.97**	**308**	*e*S	**Sn**	**12 33 02.4**	**-0.7**
	5.4nm,0.1s						
ASBA	**Santa Barbara**	**1.00**	**304**	*e*S	**Sn**	**12 33 03.3**	**-0.3**

	19nm,0.1s						

*NEIC **14** 12:52:53.9±4.7, 4.54S×154.02E, h86km±25km, mb4.2/5, Error ellipse: s-maj=59.9km s-min=15.3km az=94.0*
*IDC **14** 12:52:57.0±7.6, 4.63S×153.86E, h100km±55km, mb3.7/6, mb1 3.9/7, mb1mx3.8/14, Error ellipse: s-maj=58.4km s-min=28.4km az=87.0*
ISC 14 12:52:55.5±3.1**, 4.5S**±0.1×**153.8E**±0.3**, h103**km±18km**, n16,** σ**1^{s}03**/18**, mb4.0**/11**, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAB	**Rabaul**	**1.65**	**282**	*e*P	**P**	**12 53 23.8**	**-0.3**
PMG	**Port Moresby**	**8.15**	**233**	P	**P**	**12 54 53.9**	**+1.3**
	4.6nm,0.3s,baz=46,slow=10,SNR=22						
PMG				S	**S**	**12 56 23.7**	**+0.1**
	1.7nm,0.3s,baz=132,slow=17,SNR=15						
PMG	**Port Moresby**	**8.15**	**233**	*e*Pn	**P**	**12 54 53.0**	**+0.5**
PMG				*e*		12 55 03.0	
PMG				*e*Sn	**S**	**12 56 22.2**	**-1.5**
KAKA	**Kakadu**	**22.62**	**248**	*e*P	**P**	**12 57 53.4**	**+5.0**
	8.9nm,0.6s,mb4.3						
WRAB	**Tennant Creek**	**24.33**	**229**	*e*P	**P**	**12 58 06.0**	**+1.1**
	6.4nm,0.6s,mb4.1						
WB2	**Warramunga Arr**	**24.34**	**229**	*e*P	**P**	**12 58 05.8**	**+0.8**
WRA	**Warramunga Arr**	**24.34**	**229**	P	**P**	**12 58 06.1**	**+1.0**
	4.5nm,0.5s,mb4.1,baz=54,slow=9.9,SNR=65						
ASAR	**Alice Springs**	**27.00**	**223**	P	**P**	**12 58 30.1**	**+0.4**
	1.0nm,0.9s,mb3.3,baz=57,slow=8.8,SNR=11						
ASAR				PcP	PcP	13 01 50.1	+1.0
	0.5nm,0.9s,baz=57,slow=2.5,SNR=5.0						
STKA	**Stephens Creek**	**29.49**	**201**	P	**P**	**12 58 49.8**	**-2.3**
	3.7nm,0.8s,mb4.0,baz=40,slow=14,SNR=6.6						
STKA	**Stephens Creek**	**29.49**	**201**	P	**P**	**12 58 49.8**	**-2.3**
STKA				*e*P		12 58 50.2	
FITZ	**Fitzroy Crossi**	**30.64**	**242**	P	**P**	**12 59 01.7**	**-0.7**
	1.8nm,0.5s,mb4.1,baz=55,slow=4.4,SNR=6.8						
CMAR	**Chiang Mai Arr**	**58.65**	**295**	P	**P**	**13 02 45.2**	**+0.6**
	1.8nm,1.1s,mb4.0,baz=113,slow=5.8,SNR=4.5						
SONM	**Songino Array**	**66.63**	**327**	P	**P**	**13 03 36.9**	**-0.2**
	0.3nm,0.6s,mb3.3,baz=153,slow=6.4,SNR=2.5						
PALK	**Pallekele**	**73.86**	**279**	P	**P**	**13 04 19.5**	**-2.0**
	17nm,1.1s,mb4.7						
KURK	**Kurchatov**	**84.17**	**322**	*e*P	**P**	**13 05 17.2**	**+0.8**
	2.3nm,1.1s,mb3.9						
AAK	**Ala-Archa**	**85.20**	**313**	P	**P**	**13 05 21.5**	**-0.2**
	2.0nm,0.9s,mb4.0						

*NIED **14** 13:09:00, 33.20N×140.60E, h56km, Mw3.7 Best double couple: M₀4.55×10^{14} NP1:φs300°, δ56°, λ82°. NP2:φs135°, δ35°, λ102°.*
*JMA **14** 13:09:00.9±0.1, 33.22N×140.57E, h56km±3km, M3.6*
ISC 14 13:09:02.0±1.7**, 33.29N**±0.08×**140.55E**±0.07**, h43**km±35km**, n13,** σ**0^{s}58**/24**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.64**	**254**	P	**P**	**13 09 14.4**	**-0.3**
JHJ2				S	**S**	**13 09 23.7**	**-0.3**
JMY	**Miyakejima3**	**1.17**	**312**	P	**P**	**13 09 22.5**	**+0.4**
JMY				S	**S**	**13 09 37.5**	**+0.4**
BSO1	**Boso 1**	**1.41**	**14**	P	**P**	**13 09 24.9**	**-0.8**
BSO1				S	**S**	**13 09 43.7**	**+0.4**
JKO	**Kozu shima**	**1.48**	**308**	P	**P**	**13 09 26.7**	**0.0**
JKO				S	**S**	**13 09 45.2**	**+0.1**
BSO3	**Boso 3**	**1.51**	**359**	P	**P**	**13 09 27.0**	**-0.1**
BSO3				S	**S**	**13 09 46.7**	**+0.9**
NJJJ	**Nii jima 2**	**1.54**	**317**	P	**P**	**13 09 27.7**	**+0.3**
NJJJ				S	**S**	**13 09 46.3**	**-0.1**
JIM2	**Oshima 3**	**1.71**	**327**	P	**P**	**13 09 29.6**	**-0.2**
JIM2				S	**S**	**13 09 50.0**	**-0.6**
BSO4	**Boso 4**	**1.71**	**354**	P	**P**	**13 09 30.1**	**+0.2**
JIZS	**Izushimoda**	**1.99**	**316**	P	**P**	**13 09 34.1**	**+0.2**
JIZS				S	**S**	**13 09 57.6**	**-0.2**
KTJJ	**Kamata 2**	**2.05**	**323**	P	**P**	**13 09 34.5**	**-0.2**
KTJJ				S	**S**	**13 09 58.6**	**-0.6**
JOD2	**Odawara 2**	**2.31**	**329**	P	**P**	**13 09 38.3**	**-0.2**
JOD2				S	**S**	**13 10 04.5**	**-1.4**
TK04	**Tokai 4**	**2.48**	**297**	S	**S**	**13 10 11.8**	**+1.6**
MAT	**Matsushiro**	**3.78**	**330**	P	**P**	**13 10 00.0**	**+0.7**
MAT				S	**S**	**13 10 42.8**	**-0.2**

*NAO **14** 13:12:37.0±5.6, 67.17N×20.56E, ML2.4*
*BER **14** 13:12:40.1±4.2, 67.17N×20.65E, ML2.0, ML2.4(NAO), Suspected explosion*
HEL 14 13:12:31.8±1.4**, 67.08N**×**20.36E, ML2.1, ML1.2**(UPP)**,**
ML2.1(BER)**, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.10**	**61**	*i* P	Pg	13 12 32.9	-0.8
MASU	**Masugnsbyn**	**0.74**	**58**	*i* P	Pg	13 12 42.4	-4.3
KUA	**Kurravaara**	**0.88**	**360**	*i* P	Pg	13 12 46.5	-2.9
ERTU	**Ertsjaerv**	**0.90**	**125**	*i* P	Pg	13 12 47.2	-2.5
NIKU	**Nikkaluokta**	**0.94**	**328**	*e*P	Pg	13 12 49.0	-1.6
PAJU	**Pajala**	**1.08**	**91**	*e*P	Pb	13 12 49.5	-3.5
KIF	**Kilpisjarvi**	**1.94**	**5**	*e*SG	Sg	13 13 36.5	0.0
KTK1	**Kautokeino**	**2.23**	**28**	*e*P	Pn	13 13 14.3	+3.8
KTK1				*e*SG	Sg	13 13 42.2	-3.8
KTK1				AML	AML	13 13 43.1	
	comp=Z,30nm,0.4s						
SGF	**Sodankyl**	**2.43**	**78**	*e*P	Pn	13 13 16.8	+3.5
SGF				*e*S	Sn	13 13 43.5	-0.6
MOR8	**Moi Rana**	**2.53**	**252**	AML	AML	13 13 58.1	
	comp=Z,19nm,0.4s						
MOR8	**Moi Rana**	**2.53**	**252**	*e*Sg	Sg	13 13 56.1	+0.2
MOR8				AML	AML	13 13 58.1	
	comp=Z,19nm,0.4s						
MELS	**Mels**	**2.62**	**268**	*e*Sg	Sg	13 14 04.6	+5.6
TRO	**Tromso**	**2.62**	**349**	AML	AML	13 13 57.6	
	comp=Z,14nm,0.4s						
TRO	**Tromso**	**2.62**	**349**	*e*S	Sn	13 13 52.5	+3.4
TRO				AML	AML	13 13 57.6	
	comp=Z,14nm,0.4s						
LOF	**Lofoten**	**2.82**	**295**	*e*	Pn	13 14 12.6	+54
LOF				AML	AML	13 14 13.3	
	comp=Z,7.3nm,0.4s						
LOF	**Lofoten**	**2.82**	**295**	*e*Sg	Sg	13 14 12.6	+7.1
LOF				AML	AML	13 14 13.3	
	comp=Z,7.3nm,0.4s						
OUL	**Oulu**	**3.02**	**129**	*e*SG	Sg	13 14 08.3	-3.8
ARA0	**ARCESS Array S**	**3.12**	**35**	Pn	Pn	13 13 25.7	+2.5
	baz=210,slow=16						
ARA0				Sn	Sn	13 14 02.1	+0.3
	baz=213,slow=28						
ARA0	**ARCESS Array S**	**3.12**	**35**	*e*PB	Pb	13 13 25.7	-2.3
ARA0				*e*SB	Sb	13 14 02.1	-4.7
KEV	**Kevo**	**3.64**	**39**	*e*S	Sn	13 14 14.1	-0.9
KEV				MSG		13 14 31.2	
	comp=Z,6.6nm,0.4s						
MSF	**Maaselka**	**3.67**	**105**	*e*SG	Sg	13 14 27.8	-6.3
VAF	**Ylistaro**	**4.17**	**165**	*e*	Sn	13 14 50.1	+22
KJN	**Kajaani**	**4.28**	**131**	MSG		13 14 50.2	
	comp=Z,2.4nm,0.4s						
NSS	**Namsos**	**4.29**	**237**	*e*	Pb	13 14 57.4	+69
NSS				AML	AML	13 14 57.7	
	comp=Z,8.1nm,0.6s						
NSS	**Namsos**	**4.29**	**237**	*e*Sg	Sg	13 14 57.4	+2.6
NSS				AML	AML	13 14 57.7	
	comp=Z,8.1nm,0.6s						
FIA0	**FINESS Array S**	**6.18**	**154**	*e*	Pb	13 15 20.5	+60
FIA0				*e*		13 15 52.1	
FIA0	**FINESS Array S**	**6.18**	**154**	Sn	Sn	13 15 20.5	+1.6
	baz=346,slow=28						
FIA0				Lg		13 15 52.1	
	baz=343,slow=28						

*NAO **14** 13:54:31.9±3.3, 67.17N×20.56E, ML2.3*
*CSEM **14** 13:54:31.7±0.1, 67.21N×20.66E, h2km, ML2.5, Error ellipse: s-maj=6.4km s-min=2.3km az=103.0, Mining explosion.*
*UPP **14** 13:54:32.3, 67.19N×20.70E, h0km, ML2.5, Suspected Mining explosion.*
*BER **14** 13:54:34.7±3.3, 67.20N×20.60E, ML1.9, ML2.3(NAO), Suspected explosion*
HEL 14 13:54:32.7±0.1**, 67.17N**×**20.70E, ML2.3, ML2.4**(UPP)**,**
ML2.1(BER)**, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**230**	*i* P	Pg	13 54 33.9	-0.1
DUNU				*i* S	Sg	13 54 35.1	+0.2
MASU	**Masugnsbyn**	**0.58**	**59**	*i* P	Pg	13 54 43.0	-1.3
KUA	**Kurravaara**	**0.81**	**350**	*i* P	Pg	13 54 46.5	-2.3
KUA				*i* S	Sg	13 54 57.9	-1.6
ERTU	**Ertsjaerv**	**0.85**	**136**	*i* P	Pg	13 54 47.6	-2.1
NIKU	**Nikkaluokta**	**0.95**	**319**	*e*P	Pg	13 54 49.3	-2.4
PAJU	**Pajala**	**0.95**	**97**	*e*P	Pg	13 54 49.8	-2.0
SJUU	**Sjulsmark**	**1.70**	**167**	*e*P	Pn	13 55 03.3	-0.6
SJUU	**Sjulsmark**	**1.70**	**167**	P	Pn	13 55 03.2	-0.7
KIF	**Kilpisjarvi**	**1.85**	**1**	*e*SG	Sg	13 55 32.1	-2.2
KIF	**Kilpisjarvi**	**1.85**	**1**	Sg	Sg	13 55 32.0	-2.2
LILU	**Lilltraesk**	**1.92**	**191**	*e*P	Pn	13 55 06.4	-0.5
KTK1	**Kautokeino**	**2.08**	**26**	*e*P	Pn	13 55 09.3	0.0
KTK1				*e*SG	Sg	13 55 37.0	-5.1
KTK1				AML	AML	13 55 38.0	
	comp=Z,42nm,0.3s						
SGF	**Sodankyl**	**2.28**	**80**	*e*P	Pn	13 55 12.2	+0.2
SGF				*e*SG	Sg	13 55 43.5	-5.0
SGF				MSG		13 55 44.4	
	comp=Z,19nm,0.3s						
TRO	**Tromso**	**2.56**	**346**	*e*SB	Sb	13 55 49.9	-1.7
TRO				AML	AML	13 55 53.2	
	comp=Z,10nm,0.4s						
MOR8	**Moi Rana**	**2.68**	**251**	*e*SG	Sg	13 55 51.1	-11
MOR8				AML	AML	13 55 53.8	
	comp=Z,15nm,0.4s						
MOR8	**Moi Rana**	**2.68**	**251**	Sg	Sg	13 55 51.1	-11
	comp=Z,15nm,0.4s						
MELS	**Mels**	**2.75**	**267**	*e*Sg	Sg	13 55 59.5	-4.9
LOF	**Lofoten**	**2.90**	**293**	*e*SG	Sg	13 56 05.6	-3.7
LOF				AML	AML	13 56 09.7	
	comp=Z,6.4nm,0.5s						
LOF	**Lofoten**	**2.90**	**293**	Sg	Sg	13 56 05.6	-3.7
	comp=Z,6.4nm,0.5s						
OUL	**Oulu**	**2.97**	**132**	*e*SG	Sg	13 56 03.4	-8.2
OUL	**Oulu**	**2.97**	**132**	Sg	Sg	13 56 03.3	-8.3
ARA0	**ARCESS Array S**	**2.97**	**35**	Pn	Pn	13 55 20.9	-1.2
	baz=213,slow=14						
ARA0				Sn	Sn	13 55 56.6	-2.3
	baz=213,slow=28						
ARA0	**ARCESS Array S**	**2.97**	**35**	*e*P	Pn	13 55 20.9	-1.2
ARA0				*e*S	Sn	13 55 56.6	-2.3
ARA0	**ARCESS Array S**	**2.97**	**35**	S	Sn	13 55 56.6	-2.3
ARA0	**ARCESS Array S**	**2.97**	**35**	P	Pn	13 55 20.8	-1.2
KEV	**Kevo**	**3.49**	**39**	*e*P	Pn	13 55 27.6	-1.7
KEV				*e*SB	Sb	13 56 17.6	-0.8
KEV				MSG		13 56 26.2	
	comp=Z,4.7nm,0.3s						
KEV	**Kevo**	**3.49**	**39**	P	Pn	13 55 27.6	-1.8
MSF	**Maaselka**	**3.57**	**107**	*e*SG	Sg	13 56 23.9	-7.5
NSS	**Namsos**	**4.46**	**238**	*e*S	Sn	13 56 29.4	-7.0
NSS				AML	AML	13 56 58.1	
	comp=Z,4.4nm,0.4s						
FIA0	**FINESS Array S**	**6.20**	**155**	*e*S	Sn	13 57 14.4	-5.8
FIA0				*e*		13 57 48.2	
FIA0	**FINESS Array S**	**6.20**	**155**	Sn	Sn	13 57 14.4	-5.8
	baz=347,slow=28						
FIA0				Lg		13 57 48.2	
	baz=347,slow=28						
HFS	**Hagfors**	**7.71**	**207**	*e*S	Sn	13 57 49.3	-8.7
HFS	**Hagfors**	**7.71**	**207**	Sn	Sn	13 57 49.3	-8.7
	baz=25,slow=22						

*NEIC **14** 14:31:58.2, 40.53S×174.69E, h81km, ML4.1(WEL), After WEL.*
NEIC Felt at Paekakariki on the North Island.
*WEL **14** 14:31:58.2±0.1, 40.53S×174.68E, h80km±2km, ML4.1/9, Error ellipse: s-maj=1.1km s-min=0.6km az=90.0*
WEL Felt from Manawatu to Wellington, maximum reported intensity MM 4.
ISC 14 14:31:55.5±0.4**, 40.58S**±0.02×**174.71E**±0.04**, h99**km±4km**, n100,** σ**1^{s}16**/145**, 5C-6D, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KIW	**Kapiti Island**	**0.32**	**152**	P	**P**	**14 32 10.9**	**+0.7**
KIW				S	**S**	**14 32 20.0**	**-1.3**
KIW	**Kapiti Island**	**0.32**	**152**	⇑PN	**P**	**14 32 10.9**	**+0.6**
KIW				SN	**S**	**14 32 20.0**	**-1.4**
CAW	**Cannon Point**	**0.60**	**153**	⇑P	**P**	**14 32 13.5**	**+1.3**
CAW				S	**S**	**14 32 25.0**	**+0.4**
CAW	**Cannon Point**	**0.60**	**153**	⇑PN	**P**	**14 32 13.5**	**+1.3**
CAW				SN	**S**	**14 32 24.3**	**-0.3**
MRW	**Makara Radio**	**0.65**	**181**	P	**P**	**14 32 13.9**	**+1.3**
MRW				S	**S**	**14 32 24.8**	**-0.7**
MRW	**Makara Radio**	**0.65**	**181**	⇑PN	**P**	**14 32 13.9**	**+1.3**
MRW				SN	**S**	**14 32 24.4**	**-1.1**
MRZ	**Mangatainoka R**	**0.67**	**98**	P	**P**	**14 32 13.6**	**+0.8**
MRZ				S	**S**	**14 32 24.4**	**-1.3**
MRZ	**Mangatainoka R**	**0.67**	**98**	PN	**P**	**14 32 13.6**	**+0.8**
MRZ				SN	**S**	**14 32 24.1**	**-1.7**
WEL	**Wellington**	**0.71**	**176**	P	**P**	**14 32 14.4**	**+1.2**
WEL				S	**S**	**14 32 26.6**	**+0.3**
WEL	**Wellington**	**0.71**	**176**	⇑PN	**P**	**14 32 14.4**	**+1.3**
WEL				SN	**S**	**14 32 25.3**	**-1.1**
MTW	**Mount Morrison**	**0.84**	**134**	P	**P**	**14 32 15.7**	**+1.2**
MTW				S	**S**	**14 32 28.5**	**0.0**
MTW	**Mount Morrison**	**0.84**	**134**	PN	**P**	**14 32 15.7**	**+1.3**
MTW				SN	**S**	**14 32 28.0**	**-0.6**
BHW	**Baring Head**	**0.84**	**172**	P	**P**	**14 32 15.8**	**+1.3**
BHW	**Baring Head**	**0.84**	**172**	PN	**P**	**14 32 15.8**	**+1.3**
BHW				SN	**S**	**14 32 28.9**	**+0.3**
WAZ	**Wanganui**	**0.85**	**15**	P	**P**	**14 32 15.3**	**+0.7**
WAZ	**Wanganui**	**0.85**	**15**	PN	**P**	**14 32 15.3**	**+0.8**
WAZ				SN	**S**	**14 32 27.7**	**-1.1**
MSWZ	**Moikau Station**	**0.93**	**154**	P	**P**	**14 32 17.0**	**+1.6**
MSWZ				S	**S**	**14 32 30.2**	**-0.1**
MSWZ	**Moikau Station**	**0.93**	**154**	PN	**P**	**14 32 16.9**	**+1.5**
MSWZ				SN	**S**	**14 32 29.9**	**-0.5**
PAWZ	**Paruwai Farm**	**0.97**	**146**	PN	**P**	**14 32 17.4**	**+1.6**
PAWZ				SN	**S**	**14 32 30.5**	**-0.6**
TUWZ	**Tuamarina**	**1.03**	**214**	⇓PN	**P**	**14 32 17.9**	**+1.4**
TUWZ				SN	**S**	**14 32 31.7**	**-0.6**
TSZ	**Takapari Road**	**1.09**	**62**	P	**P**	**14 32 17.7**	**+0.5**
TSZ	**Takapari Road**	**1.09**	**62**	⇓PN	**P**	**14 32 17.7**	**+0.5**
BFZ	**Birch Farm**	**1.18**	**96**	P	**P**	**14 32 19.2**	**+0.9**
BFZ	**Birch Farm**	**1.18**	**96**	PN	**P**	**14 32 19.2**	**+0.9**
BFZ				SN	**S**	**14 32 34.2**	**-1.1**
NNZ	**Nelson**	**1.19**	**237**	P	**P**	**14 32 19.0**	**+0.5**
NNZ	**Nelson**	**1.19**	**237**	⇓PN	**P**	**14 32 19.0**	**+0.4**
NNZ				SN	**S**	**14 32 35.2**	**-0.5**
CMWZ	**Cape Campbell**	**1.23**	**198**	PN	**P**	**14 32 21.0**	**+2.1**
CMWZ				SN	**S**	**14 32 37.7**	**+1.3**
BSWZ	**Blackbirch Sta**	**1.30**	**209**	P	**P**	**14 32 21.1**	**+1.3**
BSWZ	**Blackbirch Sta**	**1.30**	**209**	PN	**P**	**14 32 21.0**	**+1.3**
BSWZ				SN	**S**	**14 32 37.4**	**-0.5**
MOVZ	**Moawhango**	**1.42**	**35**	P	**P**	**14 32 21.5**	**+0.3**
MOVZ				S	**S**	**14 32 40.2**	**0.0**
MOVZ	**Moawhango**	**1.42**	**35**	PN	**P**	**14 32 21.5**	**+0.3**
MOVZ				SN	**S**	**14 32 39.6**	**-0.6**
WNVZ	**Wahianoa**	**1.42**	**29**	P	**P**	**14 32 22.2**	**+1.0**
WNVZ	**Wahianoa**	**1.42**	**29**	PN	**P**	**14 32 22.2**	**+0.9**
WNVZ				SN	**S**	**14 32 40.6**	**+0.3**
VRZ	**Vera Road**	**1.45**	**2**	P	**P**	**14 32 22.5**	**+0.9**
VRZ	**Vera Road**	**1.45**	**2**	PN	**P**	**14 32 22.4**	**+0.8**
VRZ				SN	**S**	**14 32 40.9**	**0.0**
DRZ	**Dome Shelter**	**1.46**	**27**	P	**P**	**14 32 22.8**	**+1.1**
DRZ	**Dome Shelter**	**1.46**	**27**	PN	**P**	**14 32 22.5**	**+0.9**
DRZ				SN	**S**	**14 32 40.9**	**-0.2**
PKE	**Pukeiti**	**1.49**	**338**	P	**P**	**14 32 22.8**	**+0.8**
PKE	**Pukeiti**	**1.49**	**338**	PN	**P**	**14 32 22.7**	**+0.7**
PKE				SN	**S**	**14 32 40.6**	**-1.1**
TUVZ	**Tukino**	**1.50**	**29**	P	**P**	**14 32 23.1**	**+1.0**
TUVZ	**Tukino**	**1.50**	**29**	PN	**P**	**14 32 23.1**	**+1.0**
TUVZ				SN	**S**	**14 32 41.1**	**-0.8**
WPVZ	**Whakapapa**	**1.51**	**25**	PN	**P**	**14 32 23.1**	**+0.7**
WPVZ				SN	**S**	**14 32 42.0**	**-0.3**
CNZ	**Chateau**	**1.52**	**25**	P	**P**	**14 32 23.4**	**+1.0**
CNZ	**Chateau**	**1.52**	**25**	PN	**P**	**14 32 23.1**	**+0.7**
NGZ	**Ngauruhoe**	**1.56**	**26**	P	**P**	**14 32 23.8**	**+0.9**
NGZ	**Ngauruhoe**	**1.56**	**26**	PN	**P**	**14 32 23.8**	**+0.9**
NGZ				SN	**S**	**14 32 43.2**	**0.0**
TWVZ	**Taurewa**	**1.60**	**21**	P	**P**	**14 32 23.9**	**+0.4**
TWVZ	**Taurewa**	**1.60**	**21**	PN	**P**	**14 32 23.9**	**+0.4**
TWVZ				SN	**S**	**14 32 43.4**	**-0.9**
WTVZ	**West Tongariro**	**1.61**	**25**	P	**P**	**14 32 24.2**	**+0.7**

WTVZ	**West Tongariro**	**1.61**	**25**	PN	**P**	**14 32 24.2**	**+0.6**
KAVZ	**Karewarewa**	**1.65**	**26**	P	**P**	**14 32 24.7**	**+0.7**
KAVZ	**Karewarewa**	**1.65**	**26**	PN	**P**	**14 32 24.6**	**+0.7**
QRZ	**Quartz Range**	**1.68**	**261**	P	**P**	**14 32 24.5**	**+0.1**
QRZ	**Quartz Range**	**1.68**	**261**	⇓PN	**P**	**14 32 24.5**	**+0.1**
MGZ	**Maungaku**	**1.70**	**22**	P	**P**	**14 32 25.2**	**+0.5**
MGZ	**Maungaku**	**1.70**	**22**	PN	**P**	**14 32 25.2**	**+0.5**
PWZ	**Pawanui**	**1.74**	**72**	P	**P**	**14 32 25.4**	**+0.3**
PWZ	**Pawanui**	**1.74**	**72**	PN	**P**	**14 32 25.4**	**+0.2**
PWZ				SN	**S**	**14 32 47.3**	**+0.2**
KATZ	**Kakaramea**	**1.77**	**26**	P	**P**	**14 32 26.3**	**+0.7**
KATZ	**Kakaramea**	**1.77**	**26**	PN	**P**	**14 32 26.2**	**+0.7**
THZ	**Tophouse**	**1.81**	**228**	P	**P**	**14 32 27.3**	**+1.3**
THZ	**Tophouse**	**1.81**	**228**	PN	**P**	**14 32 27.3**	**+1.2**
THZ				SN	**S**	**14 32 50.0**	**+1.3**
RATZ	**Rangitukua**	**1.89**	**26**	P	**P**	**14 32 27.8**	**+0.6**
RATZ	**Rangitukua**	**1.89**	**26**	PN	**P**	**14 32 27.7**	**+0.6**
BKZ	**Black Stump Fm**	**1.97**	**45**	P	**P**	**14 32 28.2**	**+0.1**
BKZ	**Black Stump Fm**	**1.97**	**45**	PN	**P**	**14 32 28.2**	**0.0**
WATZ	**Wairara**	**2.03**	**23**	P	**P**	**14 32 29.4**	**+0.5**
WATZ	**Wairara**	**2.03**	**23**	PN	**P**	**14 32 29.3**	**+0.4**
KHZ	**Kahutara**	**2.04**	**205**	P	**P**	**14 32 30.5**	**+1.4**
KHZ	**Kahutara**	**2.04**	**205**	⇓PN	**P**	**14 32 30.5**	**+1.4**
KHZ				SN	**S**	**14 32 52.8**	**-1.2**
HIZ	**Hauiti**	**2.06**	**3**	*e*P	**P**	**14 32 30.6**	**+1.2**
HIZ	**Hauiti**	**2.06**	**3**	PN	**P**	**14 32 30.4**	**+1.0**
DSZ	**Denniston Nort**	**2.48**	**241**	P	**P**	**14 32 35.5**	**+0.3**
DSZ	**Denniston Nort**	**2.48**	**241**	PN	**P**	**14 32 35.3**	**0.0**
DSZ				SN	**S**	**14 33 03.6**	**-1.2**
KNZ	**Kokohu**	**2.76**	**57**	P	**P**	**14 32 37.5**	**-1.5**
KNZ	**Kokohu**	**2.76**	**57**	PN	**P**	**14 32 37.6**	**-1.4**
LTZ	**Lake Taylor**	**2.86**	**219**	P	**P**	**14 32 40.5**	**+0.1**
LTZ	**Lake Taylor**	**2.86**	**219**	⇓PN	**P**	**14 32 40.5**	**+0.1**
LTZ				SN	**S**	**14 33 11.3**	**-2.7**
URZ	**Urewera**	**2.97**	**40**	P	**P**	**14 32 39.9**	**-2.0**
URZ	**Urewera**	**2.97**	**40**	PN	**P**	**14 32 39.9**	**-2.0**
URZ				SN	**S**	**14 33 14.2**	**-2.5**
MWZ	**Matawai**	**3.13**	**45**	P	**P**	**14 32 42.1**	**-1.9**
MWZ	**Matawai**	**3.13**	**45**	PN	**P**	**14 32 42.0**	**-2.0**
MWZ				SN	**S**	**14 33 17.4**	**-3.2**
CRLZ	**Canterbury Las**	**3.38**	**207**	P	**P**	**14 32 46.6**	**-0.8**
CRLZ	**Canterbury Las**	**3.38**	**207**	PN	**P**	**14 32 46.0**	**-1.4**
CRLZ				SN	**S**	**14 33 22.6**	**-4.1**
MKAZ	**Moumakai**	**3.48**	**6**	PN	**P**	**14 32 49.1**	**+0.2**
MQZ	**McQueen's Vall**	**3.48**	**205**	*e*P	**P**	**14 32 47.5**	**-1.4**
MQZ	**McQueen's Vall**	**3.48**	**205**	PN	**P**	**14 32 47.5**	**-1.4**
MQZ				SN	**S**	**14 33 24.2**	**-5.1**
PUZ	**Puketiti**	**3.72**	**49**	P	**P**	**14 32 49.7**	**-2.4**
PUZ	**Puketiti**	**3.72**	**49**	PN	**P**	**14 32 49.7**	**-2.4**
PUZ				SN	**S**	**14 33 31.6**	**-3.5**
WVZ	**Waitaha Valley**	**3.88**	**229**	*e*P	**P**	**14 32 53.9**	**-0.4**
WVZ	**Waitaha Valley**	**3.88**	**229**	PN	**P**	**14 32 53.0**	**-1.3**
WVZ				SN	**S**	**14 33 34.9**	**-4.1**
MXZ	**Matakaoa Point**	**4.11**	**44**	P	**P**	**14 32 55.4**	**-2.1**
MXZ	**Matakaoa Point**	**4.11**	**44**	PN	**P**	**14 32 55.2**	**-2.2**
RPZ	**Rata Peaks**	**4.15**	**220**	PN	**P**	**14 32 56.5**	**-1.5**
FOZ	**Fox Glacier**	**4.78**	**230**	PN	**P**	**14 33 03.9**	**-2.7**
FOZ				SN	**S**	**14 33 53.8**	**-7.4**
LBZ	**Lake Benmore**	**5.07**	**220**	*e*P	**P**	**14 33 08.5**	**-2.0**
LBZ	**Lake Benmore**	**5.07**	**220**	PN	**P**	**14 33 08.2**	**-2.3**
LBZ				SN	**S**	**14 34 02.2**	**-6.1**
JCZ	**Jackson Bay**	**5.63**	**230**	PN	**P**	**14 33 15.9**	**-2.2**
WKZ	**Wanaka**	**5.97**	**223**	SN	**S**	**14 34 24.7**	**-5.7**
WB2	**Warramunga Arr**	**40.03**	**289**	*e*P	**P**	**14 39 24.4**	**+2.1**

*IDC **14** 14:39:21.0±5.0, 5.13S×146.26E, h146^{km}±57^{km}, mb3.2/3, mb1 3.3/5, mb1mx3.3/12, Error ellipse: s-maj=56.0km s-min=27.1km az=131.0*

*NEIC **14** 14:39:22.3±1.6, 5.16S×146.38E, h169^{km}±18^{km}, mb4.2/3, Error ellipse: s-maj=29.2km s-min=16.4km az=119.0*

ISC 14 14:39:22.7±1.5**, 5.3S**±0.1×**146.4E**±0.2**, h185**^{km}±14^{km}**, n13, σ1^{s}15**/17**, mb3.7**/5**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WAU	**Wau**	**2.09**	**171**	*e*P	**P**	**14 40 01.8**	**+0.3**
WAU				*e*S	**S**	**14 40 31.7**	**+0.4**
PMG	**Port Moresby**	**4.18**	**170**	P	**P**	**14 40 26.8**	**-0.1**
	1.2nm,0.3s,baz=35,slow=10,SNR=7.6						
PMG				S	**S**	**14 41 16.0**	**-0.6**
	7.4nm,0.3s,baz=119,slow=20,SNR=19						
PMG	**Port Moresby**	**4.18**	**170**	*e*Pn	**P**	**14 40 25.7**	**-1.3**
PMG				*e*Sn	**S**	**14 41 15.6**	**-0.9**
PMG				S	**S**	**14 41 16.0**	**-0.6**
KAKA	**Kakadu**	**15.67**	**241**	*e*P	**P**	**14 42 56.0**	**+0.9**
	4.0nm,0.3s						
WB2	**Warramunga Arr**	**18.71**	**218**	*e*P	**P**	**14 43 28.8**	**-0.8**
WRA	**Warramunga Arr**	**18.72**	**218**	P	**P**	**14 43 28.2**	**-1.4**
	0.2nm,0.3s,baz=38,slow=11,SNR=26						
ASAR	**Alice Springs**	**21.90**	**212**	P	**P**	**14 44 03.1**	**+1.6**
	0.6nm,0.4s,mb3.4,baz=39,slow=7.5,SNR=25						
ASPA	**Alice Springs**	**21.90**	**212**	*e*P	**P**	**14 44 03.7**	**+2.2**
FITZ	**Fitzroy Crossi**	**23.96**	**236**	*e*P	**P**	**14 44 20.3**	**-1.2**
	5.1nm,0.6s,mb4.2						
KS15	**Wonju Array Si**	**45.86**	**339**	P	**P**	**14 47 24.6**	**-3.7**
SONM	**Songino Array**	**63.48**	**331**	P	**P**	**14 49 34.4**	**-0.8**
	0.2nm,0.4s,mb3.3,baz=153,slow=3.2,SNR=4.0						
CASY	**Casey**	**65.80**	**195**	P	**P**	**14 49 49.7**	**-0.1**
	1.1nm,0.6s,mb3.9						
ILAR	**Eielson Array**	**85.05**	**23**	P	**P**	**14 51 39.6**	**+1.2**
	0.9nm,0.6s,mb3.7,baz=253,slow=5.3,SNR=16						

KRSC 14 15:11:51.9±2.0**, 50.62N**×**157.09E, h40**^{km}±14^{km}**, ML4.0, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.62**	**276**	*i* P	P	15 12 03.5	-0.8
SKR				*i* S	S	15 12 14.5	+1.2
PAU	**Pauzhetka**	**0.87**	**348**	*e*P	P	15 12 09.0	+1.3
PAU				*i* S	S	15 12 20.5	+1.2
PAU				Smax			
	1μm,0.4s						
MIPR	**Malaya Ipel'ka**	**1.67**	**353**	*i* P	P	15 12 19.9	+0.7
MIPR				*e*S	S	15 12 39.7	+0.1
RUS	**Russkaya**	**2.02**	**26**	*e*P	P	15 12 22.8	-1.4
GRL	**Gorelyy**	**2.03**	**17**	*e*P	P	15 12 24.2	-0.1
GRL				*e*S	S	15 12 46.9	-1.7
APC	**Apacha**	**2.31**	**1**	*i* P	P	15 12 28.4	+0.1
PET	**Petropavlovsk**	**2.60**	**21**	*e*P	P	15 12 31.5	-0.9
PET				*e*S	S	15 12 59.8	-3.2
UGLR	**Uglovaya**	**2.81**	**22**	*e*P	P	15 12 35.5	+0.1
UGLR				*e*S	S	15 13 06.6	-1.8
AVH	**Avacha**	**2.84**	**20**	*e*P	P	15 12 36.7	+0.8
AVH				*e*S	S	15 13 08.6	-0.6
KOK	**Koryaka**	**2.84**	**19**	*e*P	P	15 12 36.7	+0.8
KOK				*e*S	S	15 13 08.9	-0.4
SMAR	**Somma**	**2.85**	**21**	*e*P	P	15 12 36.9	+0.8
SMAR				*e*S	S	15 13 09.0	-0.5
SDLR	**Sedlovina**	**2.88**	**22**	*e*P	P	15 12 35.7	-0.8
SDLR				*e*S	S	15 13 07.1	-3.2
NLC	**Nalytchevo**	**2.91**	**28**	*e*P	P	15 12 34.4	-2.5
SPN	**Mys Shipunski**	**3.08**	**35**	*e*P	P	15 12 37.8	-1.5
GNL	**Ganaly**	**3.12**	**9**	*e*P	P	15 12 40.1	+0.2
KII	**Karymskiy**	**3.71**	**22**	P	P	15 12 49.1	+0.8
KBTR	**Krutoberegovo**	**6.56**	**29**	*e*P	P	15 13 25.4	-3.0

WEL 14 15:21:11.0±0.5**, 45.15S**×**167.35E, h110**^{km}±4^{km}**, ML3.7**/5**, 1C, Error ellipse: s-maj=4.2km s-min=2.8km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.35**	**203**	PN	P	15 21 26.7	-0.4
DCZ				SN	S	15 21 38.5	-0.7
MLZ	**Mavora Lakes**	**0.61**	**109**	PN	P	15 21 28.4	-0.4
MLZ				SN	S	15 21 41.7	-0.5
WHZ	**Wether Hill Ro**	**0.85**	**151**	PN	P	15 21 30.6	-0.4
WHZ				SN	S	15 21 44.5	-1.5
WKZ	**Wanaka**	**1.23**	**75**	PN	P	15 21 34.7	-0.3
WKZ				SN	S	15 21 51.5	-1.5
JCZ	**Jackson Bay**	**1.47**	**44**	PN	P	15 21 37.2	-0.7
TUZ	**Tuapeka**	**1.79**	**117**	⇑PN	P	15 21 41.0	-0.9
TUZ				SN	S	15 22 01.5	-3.5
LBZ	**Lake Benmore**	**2.16**	**70**	PN	P	15 21 44.3	-2.3
LBZ				SN	S	15 22 08.8	-4.4
FOZ	**Fox Glacier**	**2.31**	**47**	PN	P	15 21 47.6	-0.9
FOZ				SN	S	15 22 14.9	-1.9
ODZ	**Otahua Downs**	**2.34**	**89**	PN	P	15 21 46.9	-2.1
ODZ				SN	S	15 22 12.6	-4.8

MEX 14 15:42:14.1±0.5**, 16.47N**×**95.93W, h59**^{km}±11^{km}**, MD3.8, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.71**	**194**	*i* P	P	15 42 26.8	-1.7
HUIG				*i* S	S	15 42 37.2	-2.0
OXX	**Oaxaca**	**0.97**	**309**	*i* P	P	15 42 31.0	-1.0
OXX				*i* S	S	15 42 42.5	-2.8
VHO	**Vista Hermosa**	**0.98**	**308**	*i* P	P	15 42 30.5	-1.5
VHO				*i* S	S	15 42 43.3	-2.1
CMIG	**Matias Romero**	**1.18**	**58**	*i* P	P	15 42 33.0	-1.7
CMIG				*i* S	S	15 42 47.8	-2.4

GUC 14 15:50:51.3±0.4**, 34.94S**×**70.49W, h1**^{km}±3^{km}**, MD3.5, ML2.0, 1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CICH	**Cipreses**	**0.62**	**5**	*e*P	Pg	15 51 04.2	+0.4
CICH				*i* S	Sg	15 51 13.8	+1.7
CACH	**El Canelo**	**0.83**	**354**	⇓*i*P	Pg	15 51 07.7	-0.1
CACH				*i* S	Sg	15 51 20.1	+1.2
CHCH	**Chadas Angostu**	**1.01**	**352**	*e*P	Pb	15 51 10.6	-0.7
LNV	**Longovilo**	**1.24**	**322**	*e*P	Pb	15 51 14.2	-1.1
LNV				*i* S	Sb	15 51 32.0	+0.4
FCH	**Farellones**	**1.62**	**6**	*e*P	Pn	15 51 21.2	+0.1
FCH				*i* S	Sb	15 51 45.4	+2.9
FCH				AMP		15 51 56.8	
	comp=N,35nm,0.4s						

*IDC **14** 15:57:59.3±4.2, 11.84N×86.06W, mb3.4/3, mb1 3.9/3, mb1mx3.6/18, MS3.6/2, Ms1 3.6/2, ms1mx3.1/16, Error ellipse: s-maj=245.0km s-min=57.8km az=41.0*

*CASC **14** 15:58:01.3±1.7, 11.12N×87.02W, h20^{km}±14^{km}, MD4.7, ML3.1*

ISC 14 15:57:59.9±1.9**, 11.09N**±0.07×**87.05W**±0.08**, h15**^{km}±14^{km}**, n32, σ0^{s}83**/30**, mb3.3**/3**, MS3.5**/2**, 10C-3D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRUN	**El Crucero**	**1.16**	**40**	*e*P	**Pb**	**15 58 20.9**	**-0.1**
COPN	**Copaltepe**	**1.18**	**23**	⇓*e*P	**Pb**	**15 58 21.9**	**+0.5**
TICN	**Ticuantepe**	**1.24**	**40**	⇑*e*P	**Pb**	**15 58 22.3**	**-0.1**
APON	**Apoyo**	**1.27**	**49**	⇑*e*P	**Pb**	**15 58 22.1**	**-0.9**
XAVN	**Gruta Xavier**	**1.27**	**34**	⇑*e*P	**Pb**	**15 58 22.9**	**-0.1**
MGAN	**Managua**	**1.32**	**37**	*e*P	**Pb**	**15 58 23.6**	**-0.2**
MGAN				*e*S	**Sb**	**15 58 41.7**	**+1.4**
	comp=N,308nm,0.4s						
LEON	**Leon**	**1.33**	**7**	⇑*e*P	**Pn**	**15 58 24.1**	**0.0**
APYN	**Apoyeque**	**1.33**	**31**	⇑*e*P	**Pn**	**15 58 24.0**	**0.0**
WILN	**Americas 2**	**1.36**	**38**	⇑*e*P	**Pn**	**15 58 24.1**	**-0.4**
MIRN	**Miramar**	**1.39**	**14**	⇓*e*P	**Pn**	**15 58 24.7**	**-0.1**
MOMJ	**Momotombo**	**1.41**	**21**	⇑*e*P	**Pn**	**15 58 24.7**	**-0.4**
CNGN	**Cerro Negro**	**1.45**	**14**	⇑*e*P	**Pn**	**15 58 25.7**	**0.0**
TEL3	**Telica 3**	**1.49**	**8**	*e*P	**Pn**	**15 58 26.6**	**+0.3**
PYTN	**Playitas**	**1.74**	**34**	⇑*e*P	**Pn**	**15 58 28.8**	**-1.1**
JCR	**Jicaral**	**2.27**	**123**	*e*P	**Pn**	**15 58 36.2**	**-1.3**
CNCH	**Conchagua**	**2.31**	**341**	⇓*i*P	**Pn**	**15 58 38.5**	**+0.5**
CGA2	**Cerro Gallo 2**	**2.76**	**112**	*e*P	**Pn**	**15 58 44.9**	**+0.4**
VPS2	**Volcan Poas 2**	**2.91**	**108**	*e*P	**Pn**	**15 58 50.8**	**+4.2**
PRS1	**Puriscal**	**2.91**	**112**	*e*P	**Pn**	**15 58 48.0**	**+1.4**
LAJ	**Bijagual**	**3.13**	**113**	*e*P	**Pn**	**15 58 45.0**	**-4.7**
LCBS	**La Ceiba**	**3.17**	**324**	*e*P	**Pn**	**15 58 49.9**	**-0.4**
LFRS	**El Faro**	**3.20**	**322**	*e*P	**Pn**	**15 58 50.6**	**-0.1**
LCR2	**La Lucha 2**	**3.29**	**114**	*e*P	**Pn**	**15 58 52.1**	**+0.2**
TRTC	**Tortuguero**	**3.32**	**98**	*e*P	**Pn**	**15 58 50.6**	**-1.8**
URSC	**Urasca**	**3.45**	**111**	⇑*e*P	**Pn**	**15 58 55.6**	**+1.3**
BUS	**Buena Vista**	**3.58**	**115**	*e*P	**Pn**	**15 58 56.3**	**+0.2**
TXAR	**Lajitas Array**	**23.88**	**322**	P	**P**	**16 03 13.9**	**+0.2**
	comp=N,1.4nm,0.8s,mb3.4,baz=138,slow=10,SNR=13						
LPAZ	**La Paz**	**33.02**	**145**	LR	LR	16 18 43.4	
	comp=N,108nm,19.4s,MS3.6,baz=67,slow=38						
PDAR	**Pinedale Array**	**37.15**	**332**	P	**P**	**16 05 10.6**	**-1.3**
	comp=N,0.5nm,0.8s,mb3.4,baz=119,slow=9.3,SNR=3.6						
NVAR	**Mina Array Bea**	**38.98**	**320**	P	**P**	**16 05 29.4**	**+2.1**
	comp=N,0.3nm,0.8s,mb3.1,baz=124,slow=8.2,SNR=3.8						
BDFB	**Brasilia**	**46.89**	**124**	LR	LR	16 28 56.3	
	comp=N,46nm,18.9s,MS3.5,baz=120,slow=40						
CMAR	**Chiang Mai Arr**	**150.06**	**349**	PKPbc	PKPdf	16 17 51.0	+1.6
	comp=N,1.1nm,0.8s,baz=338,slow=2.7,SNR=8.6						

OTT 14 15:59:23.6±0.3**, 52.78N**×**67.16W, MN2.5**/6**, Blast, Mount Wright, Qc Mining explosion., Northern Quebec**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**2.06**	**5**	PN	Pn	15 59 59.2	-0.7
SCHQ				SG	Sg	16 00 27.4	-4.8
SCHQ				Trac		16 00 29.3	
	comp=Z,9.9nm,0.1s						
MNQ	**Manicouagan**	**2.46**	**205**	PN	Pn	16 00 04.4	-1.2
MNQ				SN	Sn	16 00 35.5	-1.4
MNQ				Trac		16 00 42.9	
	comp=Z,6.3nm,0.1s						
SMQ	**Clarke City**	**2.58**	**173**	PN	Pn	16 00 06.0	-1.2
SMQ				SN	Sn	16 00 36.9	-2.9
SMQ				SG	Sg	16 00 42.0	-7.4
SMQ				Trac		16 00 44.6	
	comp=Z,4.3nm,0.1s						
ICQ	**Pointe Anglais**	**3.27**	**181**	PN	Pn	16 00 13.6	-3.4
ICQ				SN	Sn	16 00 53.7	-3.4
ICQ				Trac		16 01 00.5	
	comp=Z,7.7nm,0.3s						
CNQ	**Baie Comeau**	**3.53**	**190**	PN	Pn	16 00 19.2	-1.6
CNQ				SN	Sn	16 01 00.0	-3.9
CNQ				Trac		16 01 17.5	
	comp=Z,2.3nm,0.2s						
GSQ	**Grosses Roches**	**3.88**	**179**	PN	Pn	16 00 23.9	-1.8
GSQ				SN	Sn	16 01 09.3	-3.3
GSQ				Trac		16 01 26.1	
	comp=Z,2.9nm,0.2s						
LG4Q	**La Grande 4**	**4.25**	**284**	PN	Pn	16 00 27.4	-3.7
LG4Q				PG	Pg	16 00 35.7	-13
LG4Q				SN	Sn	16 01 16.3	-5.9
LG4Q				SG	Sg	16 01 34.2	-11
LMQ	**La Malbaie**	**5.62**	**202**	PN	Pn	16 00 47.3	-3.1
DRLN	**Deer Lake**	**7.04**	**116**	PN	Pn	16 01 05.2	-5.2
DRLN				SN	Sn	16 02 22.2	-10
DRLN				SG	Sg	16 03 00.5	-17
LMN	**Caledonia Moun**	**7.10**	**167**	PN	Pn	16 01 08.5	-2.9
MALO	**McAlpine Lake**	**8.35**	**256**	PN	P	16 01 23.9	-4.8
MALO				SN	Sn	16 02 50.3	-15
MALO				LG		16 03 37.2	
VIMO	**Victor Mine**	**10.05**	**277**	PN	P	16 01 45.3	-6.8
VIMO				SN	S	16 03 30.5	-16
VIMO				LG		16 04 33.8	
SILO	**Sutton Inlier**	**10.68**	**286**	PN	P	16 01 51.6	-9.1
SILO				SN	S	16 03 47.4	-15

*ISK **14** 16:11:14.0, 36.89N×27.64E, h5^{km}, MD3.2*

*CSEM **14** 16:11:15.4±0.1, 36.94N×27.71E, h10^{km}, MD3.2, Error ellipse: s-maj=2.7km s-min=2.2km az=70.0*

*ATH **14** 16:11:16.2, 36.92N×27.63E, h29^{km}±4^{km}, MD3.2/4*

*NEIC **14** 16:11:16.2, 36.92N×27.63E, h29^{km}, MD3.2(ATH), After ATH.*

ISC 14 16:11:15.3±0.6**, 36.89N**±0.03×**27.69E**±0.04**, h10**^{km}±5^{km}**, n17, σ0^{s}90**/26**, 2C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.26**	**313**	*i* P	**Pg**	**16 11 21.5**	**+0.7**
BDRM				*i* S	**Sg**	**16 11 25.9**	**+1.4**
MLSB	**Milas**	**0.41**	**10**	PG	**Pg**	**16 11 23.0**	**-0.7**
MLSB				SG	**Sg**	**16 11 29.7**	**+0.3**
NISR	**Nisiros**	**0.53**	**239**	*e*PN	**Pn**	**16 11 27.0**	**-1.5**
YER	**Yerkesik**	**0.54**	**62**	PG	**Pg**	**16 11 25.1**	**-1.1**
YER				SG	**Sg**	**16 11 33.2**	**-0.2**
ARG	**Arkhangelos**	**0.76**	**152**	*e*PN	**Pn**	**16 11 30.0**	**-1.8**
ARG				*e*SN	**Sn**	**16 11 44.5**	**+1.1**
DALT	**Dalyan (Mudla)**	**0.77**	**98**	*e*PG	**Pg**	**16 11 30.3**	**-0.5**
DALT				*e*SG	**Sg**	**16 11 42.2**	**+1.0**
AYDN	**Tasoluk**	**0.79**	**11**	⇑*i*P	**Pb**	**16 11 30.3**	**-0.3**
AYDN				*i* S	**Sb**	**16 11 40.6**	**-0.5**
SMG	**Samos**	**1.06**	**321**	*e*PN	**Pn**	**16 11 35.8**	**-0.4**
DNZL	**Cakiroluk**	**1.35**	**53**	*i* P	**Pb**	**16 11 40.3**	**+0.1**
DNZL				*i* S	**Sb**	**16 11 57.8**	**+0.4**
DENT	**Denizli**	**1.38**	**51**	PN	**Pn**	**16 11 40.9**	**+0.2**
KARP	**Karpathos**	**1.40**	**198**	*e*PB	**Pb**	**16 11 41.5**	**+0.3**
KARP				*e*SN	**Sn**	**16 12 01.0**	**+1.3**
IZM	**Izmir**	**1.54**	**348**	PN	**Pn**	**16 11 42.2**	**-0.9**
KDAG	**Bornova**	**1.55**	**348**	⇑*i*P	**Pn**	**16 11 43.0**	**-0.1**
KDAG				*i* S	**Sb**	**16 12 05.3**	**+2.0**
BLCB	**Balcova**	**1.58**	**341**	*e*PN	**Pn**	**16 11 43.7**	**+0.1**
APE	**Apeiranthos**	**1.73**	**277**	*e*PN	**Pn**	**16 11 44.7**	**-1.1**
ELL	**Elmali**	**1.79**	**94**	PN	**Pn**	**16 11 47.5**	**+0.9**
AKS	**Akhisar**	**1.99**	**3**	*e*PN	**Pn**	**16 11 49.0**	**-0.5**

MEX 14 16:28:21.0±0.3**, 15.92N**×**97.44W, h27**^{km}±32^{km}**, MD3.8, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.81**	**306**	*i* P	Pb	16 28 34.0	-2.4
PNIG				*i* S	Sb	16 28 44.0	-2.8
VHO	**Vista Hermosa**	**1.33**	**31**	*i* P	Pn	16 28 41.7	-2.5
VHO				*i* S	Sn	16 29 00.6	-0.6
CMIG	**Matias Romero**	**2.72**	**64**	*e*P	Pn	16 29 00.8	-3.2
CMIG				*i* S	Sn	16 29 32.1	-4.2

GUC 14 16:49:23.7±0.7**, 33.13S**×**70.21W, h10**^{km}±2^{km}**, MD3.6, ML2.1, 1C-1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.21**	**199**	⇑*i*P	Pg	16 49 29.1	+0.9
FCH				*i* S	Sg	16 49 32.6	+1.5
FCH				AMP		16 49 34.3	
	comp=E,766nm,0.1s						
CLCH	**Cerro Calan**	**0.38**	**226**	*e*P	Pg	16 49 31.9	+0.5
CLCH				*i* S	Sg	16 49 37.8	+1.1
CLCH				AMP		16 49 41.2	
	comp=N,252nm,0.4s						
PCH	**Pirque**	**0.55**	**207**	⇓*i*P	Pg	16 49 35.1	+0.3
RCDM	**Rinconada Maip**	**0.61**	**234**	*e*P	Pb	16 49 36.2	+0.2
TACH	**Talagante**	**0.80**	**229**	*e*P	Pb	16 49 38.6	-0.7
CHCH	**Chadas Angostu**	**0.88**	**205**	*e*P	Pb	16 49 40.3	-0.4
CICH	**Cipreses**	**1.20**	**188**	*e*P	Pb	16 49 46.4	+0.3
CICH				*i* S	Sb	16 50 03.5	+2.1
LNV	**Longovilo**	**1.30**	**230**	*e*P	Pb	16 49 46.4	-1.3
LNV				*i* S	Sb	16 50 04.2	-0.1

*MOS **14** 17:02:05.0±1.9, 22.70S×172.76E, h33^{km}, mb5.6/4, Error ellipse: s-maj=23.1km s-min=17.9km az=40.6*

*BJI **14** 17:02:05.2, 22.59S×173.29E, h69^{km}, mB5.3, mb4.9, Ms4.9, Msz4.6*

*HRVD **14** 17:02:06.9±0.3, 22.62S×173.32E, h33^{km}, MW5.2/63, Centroid moment Tensor Solution. LP body waves: s63,c106;Mantle waves: s57,c104; Half duration: 1^{s}0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.72±.02; $M_{\theta\theta}$-0.81±.02; $M_{\phi\phi}$0.09±.02; $M_{r\theta}$-0.02±.03; $M_{\theta\phi}$-0.20±.02; $M_{\phi r}$0.06±.03; Best double couple: M_0.79×10^{17} NP1:ϕ_s72°, δ45°, λ82°. NP2:ϕ_s264°, δ45°, λ98°. Principal axes: T .72, Plg84°, Azm257°; N .13, Plg6°, Azm78°; P -.85, Plg0°, Azm348°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **14** 17:02:06.9±1.1, 22.49S×173.16E, h63^{km}±9^{km}, mb5.1/37 Error ellipse: s-maj=8.4km s-min=6.6km az=156.0*

*SYO **14** 17:02:07.8, 22.47S×173.14E, h73^{km}, MB5.1*

*IDC **14** 17:02:08.6±6.1, 22.49S×173.18E, h79^{km}±54^{km}, mb4.3/15, mb1 4.5/16, mb1mx4.5/17, ML4.3/1, MS4.7/9, Ms1 4.7/9, ms1mx4.6/13, Error ellipse: s-maj=25.2km s-min=18.0km az=12.0*

ISC 14 17:02:06.8±1.2**, 22.50S**±0.05×**173.08E**±0.05**, h75**^{km}±10^{km}**, n168, σ0^{s}93**/109**, mb4.9**/55**, 18C-7D, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.16**	**273**	⇑*i*P	**P**	**17 03 36.2**	**-0.8**
DZM				*e*S	**S**	**17 04 45.7**	**-1.0**
DZM	**Mont Dzumac**	**6.16**	**273**	⇑*i*P	**P**	**17 03 36.2**	**-0.8**
DZM				*e*S	**S**	**17 04 45.7**	**-1.0**
NOUC	**Port Laguerre**	**6.29**	**272**	*e*P	**P**	**17 03 37.6**	**-1.2**
NOUC				*e*S	**S**	**17 04 50.2**	**+0.4**
NOUC	**Port Laguerre**	**6.29**	**272**	*e*P	**P**	**17 03 37.6**	**-1.2**
NOUC				*e*S	**S**	**17 04 50.2**	**+0.4**
BKM	**Butte a Klehm**	**6.62**	**316**	⇑*i*P	**P**	**17 03 45.3**	**+2.0**
URZ	**Urewera**	**16.08**	**168**	P	**P**	**17 05 49.7**	**+0.1**
	1.2nm,0.3s,baz=0.2,slow=8.6,SNR=25						
URZ				S	**S**	**17 08 46.6**	**+1.4**
	0.7nm,0.3s,baz=297,slow=9.7,SNR=6.8						
URZ				LR	LR	17 10 39.4	
	comp=Z,4μm,18.1s,baz=209,slow=32						
AFI	**Afiamalu**	**16.72**	**62**	P	**P**	**17 05 58.0**	**+0.4**
	69nm,0.9s						
RPZ	**Rata Peaks**	**21.22**	**184**	P	**P**	**17 06 48.2**	**0.0**
	40nm,0.8s,mb4.8,baz=262,slow=4.5,SNR=11						
RPZ				LR	LR	17 14 27.4	
	comp=Z,5μm,18.5s,baz=288,slow=35						
CTA	**Charters Tower**	**25.10**	**270**	P	**P**	**17 07 28.6**	**+2.5**
	3.1nm,0.4s,mb4.0,baz=96,slow=11,SNR=18						
CTAO	**Charters Tower**	**25.10**	**270**	*e*P	**P**	**17 07 27.9**	**+1.8**
	12nm,1.0s,mb4.3						
PMG	**Port Moresby**	**28.05**	**294**	P	**P**	**17 07 53.9**	**+0.5**
	12nm,1.0s,mb4.4,baz=93,slow=9.1,SNR=3.0						
PMG	**Port Moresby**	**28.05**	**294**	*e*P	**P**	**17 07 53.7**	**+0.3**
	25nm,1.1s,mb4.7						
STKA	**Stephens Creek**	**29.43**	**245**	*e*P	**P**	**17 08 06.1**	**+0.6**
	8.7nm,1.2s,mb4.3						
STKA	**Stephens Creek**	**29.43**	**245**	P	**P**	**17 08 06.7**	**+1.2**
	6.0nm,0.7s,mb4.3,baz=76,slow=9.4,SNR=8.1						
STKA				LR	LR	17 19 03.6	
	comp=Z,2μm,19.6s,baz=66,slow=34						
TBI	**Tubuai**	**34.45**	**99**	*e*S	**S**	**17 14 04.1**	**-7.1**
TBI				*e*L		17 16 13.3	
TBI				*e*R		17 17 37.5	
	1μm,26.2s,baz=264						
PPT	**Papeete**	**35.37**	**89**	*e*S	**S**	**17 14 17.6**	**-7.7**
PPT				*e*L		17 16 37.4	
PPT				*e*R		17 18 05.7	
	1μm,25.2s,baz=252						
ASAR	**Alice Springs**	**35.98**	**260**	P	**P**	**17 09 02.2**	**-0.2**
	12nm,1.1s,mb4.7,baz=88,slow=8.5,SNR=36						
ASAR				LR	LR	17 23 31.6	
	comp=Z,736nm,21.1s,baz=98,slow=36						
ASPA	**Alice Springs**	**35.98**	**260**	*e*P	**P**	**17 09 01.7**	**-0.7**
WB2	**Warramunga Arr**	**36.12**	**267**	*e*P	**P**	**17 09 02.5**	**-1.1**
WRAB	**Tennant Creek**	**36.13**	**267**	*e*P	**P**	**17 09 02.8**	**-0.8**
	46nm,1.5s,mb5.2						
WRAB				*e*PP	PP	17 10 32.1	+4.2
WRA	**Warramunga Arr**	**36.14**	**267**	P	**P**	**17 09 02.5**	**-1.2**
	1.6nm,0.4s,mb4.3,baz=96,slow=8.5,SNR=61						
WRA				LR	LR	17 24 29.8	
	comp=Z,1μm,19.0s,baz=100,slow=37						
FORT	**Forrest**	**40.85**	**249**	*e*P	**P**	**17 09 42.2**	**-0.6**
	83nm,0.7s,mb5.7						
FITZ	**Fitzroy Crossi**	**44.57**	**267**	*e*P	**P**	**17 10 14.2**	**+0.9**
	18nm,1.2s,mb4.7						
RKT	**Rikitea**	**47.68**	**101**	*e*S	**S**	**17 17 20.6**	**-6.3**
RKT				*e*L		17 21 33.3	
RKT				*e*R		17 23 51.9	
	684nm,27.2s						
DRV	**Dumont d'Urvil**	**48.87**	**197**	P	**P**	**17 10 47.0**	**+0.6**
DRV				S	Sx	17 18 01.0	
DRV				R		17 25 00.0	
MBWA	**Marble Bar**	**49.32**	**261**	*e*P	**P**	**17 10 50.3**	**-0.2**
	14nm,0.8s,mb4.9						
NWAO	**Narrogin (SRO)**	**50.02**	**245**	*e*P	**P**	**17 10 55.4**	**-0.3**
	23nm,1.1s,mb5.0						
SBA	**Scott Base**	**55.49**	**182**	*e*P	**P**	**17 11 35.4**	**-0.3**
	120nm,1.0s,mb5.9						
CASY	**Casey**	**58.63**	**205**	*e*P	**P**	**17 11 53.4**	**-4.7**
	72nm,1.3s,mb5.5						
MIR	**Mirnyy**	**65.63**	**206**	⇑*e*P	**P**	**17 12 43.5**	**-1.2**
MIR				pmax	pmax		
	comp=Z,90nm,1.6s,mb5.3						
MAJO	**Matsushiro**	**67.33**	**330**	*e*P	**P**	**17 12 55.9**	**-0.1**
	comp=Z,186nm,1.9s,mb5.6						
MAT	**Matsushiro**	**67.33**	**330**	P	**P**	**17 12 55.2**	**-0.7**
MAT	**Matsushiro**	**67.33**	**330**	*e*P	**P**	**17 12 55.0**	**-0.9**
	comp=Z,83nm,1.6s,mb5.3						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
QSPA	South Pole Qui	67.57	180	eP	P	17 12 56.3	-0.4
	comp=Z,98nm,1.2s,mb5.5						
SSE	Sheshan	72.90	315	eP	P	17 13 29.3	-0.5
SSE				AMB	AMB		
	comp=Z,29nm,0.8s,mb5.2						
SSE				AMB	AMB		
	comp=Z,193nm,4.2s						
SSE				LR	LR		
	comp=N,124nm,21.2s						
SSE				LR	LR		
	comp=E,53nm,21.3s						
SSE				LR	LR		
	comp=Z,144nm,20.5s						
YSS	Yuzh-Sakhalins	74.36	339	eP	P	17 13 40.0	+2.0
YSS				MLR	MLR		
	comp=N,500nm,18.0s						
YSS				MLR	MLR		
	comp=Z,500nm,18.0s						
NJ2	Nanjing	75.04	315	eP	P	17 13 44.3	+2.1
NJ2				PCP	PcP	17 13 57.0	+1.1
NJ2				S	S	17 23 22.0	+9.3
NJ2				XS		17 23 47.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,420nm,5.8s						
NJ2				LR	LR		
	comp=N,550nm,24.8s						
NJ2				LR	LR		
	comp=E,540nm,22.1s						
NJ2				LR	LR		
	comp=Z,590nm,17.4s						
PET	Petropavlovsk	76.25	351	eP	P	17 13 51.2	+2.6
PET				eS	S	17 23 30.9	+5.4
PET				e		17 23 58.9	
PET				ePS	PS	17 24 29.5	+15
PET				eSS	SS	17 28 27.4	+3.8
PET				pmax	pmax		
	comp=Z,100nm,14.9s						
PET				MLR	MLR		
	comp=Z,300nm,17.0s						
MAW	Mawson	76.76	202	⇑iP	P	17 13 51.6	+0.4
	comp=Z,14nm,1.1s,mb4.6						
MAW	Mawson	76.76	202	P	P	17 13 51.7	+0.4
	comp=Z,11nm,0.9s,mb4.6,baz=105,slow=7.3,SNR=20						
MAW				LR	LR	17 44 41.8	
	comp=Z,353nm,18.8s,baz=75,slow=33						
MDJ	Mudanjiang	77.71	330	P	P	17 13 58.1	+1.1
MDJ				S	S	17 23 43.9	+2.3
MDJ				SS	SS	17 28 49.3	+3.7
MDJ				AMB	AMB		
	comp=Z,13nm,1.2s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,84nm,4.5s						
MDJ				LR	LR		
	comp=N,131nm,20.2s						
MDJ				LR	LR		
	comp=E,98nm,20.2s						
MDJ				LR	LR		
	comp=Z,170nm,21.1s						
CN2	Changchun	79.12	327	eP	P	17 14 05.6	+0.9
CN2				eS	S	17 23 57.0	+0.4
CN2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.5						
CN2				AMB	AMB		
	comp=Z,500nm,5.0s						
GYA	Guiyang	80.61	304	P	P	17 14 15.3	+2.2
GYA				SKS	SKS	17 24 23.3	+3.7
GYA				PS		17 24 48.4	
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
GYA				AMB	AMB		
	comp=Z,260nm,3.6s						
GYA				LR	LR		
	comp=N,140nm,18.4s						
GYA				LR	LR		
	comp=E,230nm,17.6s						
GYA				LR	LR		
	comp=Z,160nm,19.0s						
BJI	Beijing	81.73	319	P	P	17 14 19.3	+0.6
BJI				SS	SS	17 29 46.3	+0.4
BJI				AMB	AMB		
	comp=Z,179nm,6.3s						
BJI				LR	LR		
	comp=N,222nm,29.4s						
BJI				LR	LR		
	comp=E,290nm,28.3s						
BJI				LR	LR		
	comp=Z,498nm,27.9s						
PMSA	Palmer Station	82.61	159	eP	P	17 14 22.0	-0.7
	comp=Z,164nm,1.5s,mb5.6						
SYO	Syowa Base	82.78	195	⇓P	P	17 14 22.5	-1.0
SYO	Syowa Base	82.78	195	⇓PcP	PcP	17 14 25.4	-3.2
SYO	Syowa Base	82.78	195	⇑pP	pP	17 14 40.8	-3.2
KMI	Kunming	83.03	301	eP	P	17 14 26.3	+0.7
KMI				S	S	17 24 37.9	+0.6
KMI				SSS	SSS	17 33 30.3	-1.0
KMI				LR	LR		
	comp=N,202nm,10.7s						
KMI				LR	LR		
	comp=E,178nm,15.2s						
KMI				LR	LR		
	comp=Z,246nm,23.4s						
CM31	Chiang Mai Arr	83.09	293	P	P	17 14 24.3	-1.8
	comp=Z,2.8nm,0.9s,mb4.1						
CMAR	Chiang Mai Arr	83.09	293	P	P	17 14 26.5	+0.4
	comp=Z,1.5nm,0.8s,mb3.9,baz=105,slow=4.8,SNR=7.5						
MA2	Magadan	83.81	349	eP	P	17 14 34.0	+5.2
MA2				e		17 17 44.8	
MA2				eS	ScS	17 24 59.6	+4.5
MA2				ePS	PS	17 25 42.1	-6.4
MA2				pmax	pmax		
	comp=Z,60nm,2.3s,mb5.0						
MA2				MLR	MLR		
	comp=Z,410nm,20.0s						
MA2	Magadan	83.81	349	eP	P	17 14 30.2	+1.4
	comp=Z,30nm,0.7s,mb5.2						
MA2				e		17 17 44.8	
MA2				eS	ScS	17 24 59.6	+4.5
MA2				ePS	PS	17 25 42.1	-6.4
MA2				LR	LR		
	comp=Z,410nm,20.0s						
HHC	Hu-ho-hao-te	85.03	318	eP	P	17 14 35.3	0.0
HHC				AMB	AMB		
	comp=Z,13nm,1.2s,mb4.7						
HHC				AMB	AMB		
	comp=Z,148nm,7.6s						
SNAA	Sanae	86.04	181	⇑iP	P	17 14 38.6	-1.0
SNAA	Sanae	86.04	181	⇑i	P	17 14 41.5	+1.9
SNAA	Sanae	86.04	181	⇑i	P	17 14 49.8	+10
SNAA	Sanae	86.04	181	⇓i	P	17 14 53.5	+14
VNA3	Neumayer Olymp	86.49	179	P	P	17 14 42.6	+0.8
VNA3	Neumayer Olymp	86.49	179	⇑i	P	17 14 43.5	+1.7
VNA3	Neumayer Olymp	86.49	179	⇑i	P	17 14 54.4	+13
VNA3	Neumayer Olymp	86.49	179	⇑i	pP	17 14 59.8	-2.7
WDC	Whiskeytown Da	86.68	43	eP	P	17 14 43.1	-0.3
	comp=Z,10nm,1.2s,mb4.6						
CMB	Columbia Colle	86.72	47	eP	P	17 14 43.2	-0.4
	comp=Z,13nm,1.0s,mb4.8						
VNA2	Neumayer--Watz	86.83	180	⇑iP	P	17 14 45.5	+2.0
VNA2	Neumayer--Watz	86.83	180		P	17 14 47.4	+3.9
VNA2	Neumayer--Watz	86.83	180		P	17 14 56.6	+13
VNA2	Neumayer--Watz	86.83	180		pP	17 15 00.0	-4.2
VNA1	Neumayer--Stat	87.10	180	⇑iP	P	17 14 45.4	+0.6
VNA1	Neumayer--Stat	87.10	180	⇑i	P	17 14 46.7	+1.9
VNA1	Neumayer--Stat	87.10	180		P	17 14 56.6	+12
VNA1	Neumayer--Stat	87.10	180	⇑i	pP	17 15 00.4	-5.1
YBH	Yreka Blue Hor	87.20	42	P	P	17 14 46.5	+0.5
	comp=Z,3.7nm,0.8s,mb4.3,baz=185,slow=2.1,SNR=7.2						
YBH	Yreka Blue Hor	87.20	42	eP	P	17 14 45.7	-0.3
	comp=Z,14nm,1.2s,mb4.8						
YBH				e		17 14 51.4	
YBH				e		17 14 57.7	
OMM	Old Mammoth Mi	87.44	47	eP	P	17 14 46.9	-0.4
OMM				e		17 15 00.7	
HUMO	Hull Mountain	87.53	42	eP	P	17 14 47.4	-0.1
	comp=Z,15nm,1.0s,mb5.0						
LZH	Lanzhou	87.57	311	eP	P	17 14 48.6	+0.7
LZH				PP	PP	17 18 17.5	+1.6
LZH				AMB	AMB		
	comp=Z,36nm,1.5s,mb5.2						
LZH				AMB	AMB		
	comp=Z,127nm,5.9s						
LZH				LR	LR		
	comp=N,263nm,15.0s						
LZH				LR	LR		
	comp=Z,295nm,17.8s						
MTUM	Tungsten Hills	87.60	48	eP	P	17 14 48.0	0.0
BEKR	Beckwourth	87.70	45	eP	P	17 14 47.8	-0.6
	comp=Z,12nm,1.3s,mb4.8						
NVAR	Mina Array Bea	88.32	47	P	P	17 14 51.9	+0.5
	comp=Z,5.2nm,1.0s,mb4.5,baz=210,slow=6.0,SNR=26						
NVAR				LR	LR	17 45 51.1	
	comp=Z,392nm,21.8s,baz=285,slow=30						
MNV	Mina	88.43	47	eP	P	17 14 52.1	+0.2
	comp=Z,8.0nm,1.0s,mb4.7						
MNV				e		17 14 56.3	
TPH	Tonopah	88.88	48	eP	P	17 14 53.4	-0.6
	comp=Z,19nm,1.3s,mb5.0						
TPNV	Topopah Spring	89.00	49	eP	P	17 14 53.8	-0.9
	comp=Z,8.2nm,0.9s,mb4.8						
TPNV				e		17 15 05.7	
PMR	Palmer	89.12	17	eP	P	17 14 55.1	+0.5
	comp=Z,16nm,1.0s,mb5.0						
BMN	Battle Mountai	90.05	46	eP	P	17 14 59.9	+0.4
	comp=Z,21nm,1.1s,mb5.2						
BBB	Bella Bella	90.28	32	P	P	17 15 00.9	+0.7
	comp=Z,8.2nm,0.8s,mb4.9,baz=176,slow=15,SNR=2.2						
PGC	Sidney	90.62	36	eP	P	17 15 01.4	-0.5
	comp=Z,34nm,1.1s,mb5.4						
TUC	Tucson	90.85	55	eP	P	17 15 02.8	-0.7
	comp=Z,12nm,1.4s,mb4.8						
RMW	Rattlesnake Mo	90.89	38	eP	P	17 15 03.2	0.0
MCK	McKinley	90.94	16	P	P	17 15 02.1	-1.0
YAK	Yakutsk	91.08	341	d iP	P	17 15 03.7	-0.1
YAK				pmax	pmax		
	comp=Z,46nm,2.5s,mb5.2						
YAK				MLR	MLR		
	comp=Z,300nm,18.0s						
YAK	Yakutsk	91.08	341	i Pr		17 15 03.7	
	comp=Z,46nm,2.5s						
YAK				LR	LR		
	comp=Z,300nm,18.0s						
ELK	Elko	91.52	46	eP	P	17 15 06.2	-0.2
	comp=Z,8.9nm,1.1s,mb4.9						
THY	Trims Highway	91.53	17	eP	P	17 15 05.1	-0.7
THY				e		17 15 18.7	
GTA	Gaotai	91.97	312	eP	P	17 15 09.5	+1.1
GTA				AMB	AMB		
	comp=Z,6.0nm,1.4s,mb4.6						
GTA				AMB	AMB		
	comp=Z,130nm,7.6s						
GTA				LR	LR		
	comp=N,83nm,21.3s						
GTA				LR	LR		
	comp=E,188nm,24.7s						
GTA				LR	LR		
	comp=Z,249nm,21.3s						
SONM	Songino Array	91.98	322	P	P	17 15 08.5	+0.2
	comp=Z,6.0nm,1.3s,mb4.7,baz=135,slow=5.2,SNR=8.2						
NLW	Nelson Butte	92.05	38	eP	P	17 15 08.1	-0.5
COLA	College	92.15	16	i P	P	17 15 06.5	-2.1
COLA	College	92.15	16	eP	P	17 15 07.7	-0.9
	comp=Z,23nm,1.1s,mb5.3						
ILAR	Eielson Array	92.31	16	P	P	17 15 07.8	-1.5
	comp=Z,12nm,1.1s,mb5.0,baz=239,slow=6.5,SNR=24						
MVU	Marysvale	92.56	49	eP	P	17 15 11.8	+0.6
	comp=Z,10nm,1.4s,mb5.0						
MSU	Marysvale	92.58	49	eP	P	17 15 11.8	+0.6
DUG	Dugway	92.90	48	P	P	17 15 12.8	+0.1
	comp=Z,2.6nm,0.7s,mb4.7						
DPW	Davenport	93.17	39	eP	P	17 15 12.9	-0.9
HLID	Hailey	93.40	44	P	P	17 15 14.7	-0.2
	comp=Z,2.2nm,0.9s,mb4.5						
ZAK	Zakamensk	95.04	323	eP	P	17 15 19.1	-3.1
TXAR	Lajitas Array	95.20	61	P	P	17 15 22.7	-0.7
	comp=Z,1.4nm,0.9s,mb4.4,baz=225,slow=3.5,SNR=6.9						
TXAR				LR	LR	17 50 25.1	
	comp=Z,275nm,18.8s,baz=295,slow=30						
ANMO	Albuquerque	95.23	54	i P	P	17 15 22.1	-1.3
ANMO	Albuquerque	95.23	54	eP	P	17 15 23.2	-0.2
	comp=Z,3.1nm,0.9s,mb4.7						
PDAR	Pinedale Array	96.23	46	P	P	17 15 27.4	-0.3
	comp=Z,0.4nm,0.9s,mb3.9,baz=158,slow=4.9,SNR=3.2						
PDAR				LR	LR	17 51 34.1	
	comp=Z,262nm,19.9s,baz=243,slow=31						
WMQ	Urumqi	102.04	312	eP	Pdif	17 15 53.8	-0.2
ARCES	ARCESS Array B	129.10	346	PKP	PKPdf	17 21 05.7	0.0
	comp=Z,3.3nm,0.9s,baz=117,slow=2.7,SNR=9.7						
ARCES	ARCESS Array B	129.10	346	PKP	PKPdf	17 21 05.7	0.0
OBN	Obninsk	134.18	327	i PKIKP	PKPdf	17 21 23.0	+7.4
OBN				PS	PS	17 34 04.0	-3.1
OBN				ePPS	PPS	17 36 00.3	+10
OBN				SS	tx	17 42 10.0	
FINES	FINESS Array B	134.94	338	PKP	PKPdf	17 21 17.9	+1.0
	comp=Z,13nm,1.2s,baz=180,slow=1.9,SNR=4.7						
SOC	Sochi	136.29	310	i PKIKP	PKPdf	17 21 23.0	+3.2
SOC				e		17 24 08.1	
SOC				eSS	SS	17 42 04.6	+7.2
SOC				pmax	pmax		
	comp=Z,20nm,1.2s						
SOC				pmax	pmax		
	comp=N,14nm,1.1s						
SOC				pmax	pmax		
	comp=E,22nm,1.2s						
NOA	NORSAR Array B	139.48	347	PKP	PKPdf	17 21 28.0	+2.9
	comp=E,0.9nm,0.8s,baz=94,slow=8.1,SNR=2.6						
NOA	NORSAR Array B	139.48	347	PKP	PKPdf	17 21 28.0	+2.9
AKASG	Malin Array Be	140.22	324	PKP	PKPdf	17 21 27.6	+0.8
	comp=E,0.7nm,0.6s,baz=50,slow=3.3,SNR=2.7						
KOLS	Kolonicke sedl	144.93	326	ePKP	PKPdf	17 21 36.1	+1.1
OJC	Ojcow	145.31	330	ePKHKP		17 21 36.5	
OJC	Ojcow	145.31	330	ePKP	PKPdf	17 21 36.5	+0.9
NIE	Niedzica	145.60	328	ePKP	PKPdf	17 21 39.0	+2.9
BSEG	Bad Segeberg	146.01	342	ePKIKP	PKPdf	17 21 38.9	+2.2
KECS	Kecovo	146.13	327	ePKP	PKPdf	17 21 40.0	+2.9
OKC	Ostrava-Krasne	146.34	330	ePKP	PKPdf	17 21 41.9	+4.5
KSP	Ksiaz	146.42	333	ePKIKP	PKPdf	17 21 39.8	+2.3
KSP				e		17 21 50.8	
MORC	Moravsky Berou	146.66	331	ePKPdf	PKPdf	17 21 39.5	+1.6
DPC	Dobruska-Polom	146.78	333	ePKP	PKPdf	17 21 41.3	+3.2
DPC				ex	x	17 21 45.3	
UPC	Upice	146.79	333	ePKP	PKPdf	17 21 41.7	+3.6
PSZ	Piszkesteto	146.80	326	ePKP/p		17 21 41.0	
BRG	Berggiesshubel	147.34	335	ePKIKP	PKPdf	17 21 43.3	+4.3
BRG				i		17 21 53.5	
BRG				pmax	pmax		
	comp=Z,21nm,1.0s						
BRG	Berggiesshubel	147.34	335	i P	PKPdf	17 21 42.5	+3.5
BRG				i		17 21 53.5	
CLL	Collm	147.35	337	i PKP1	PKPdf	17 21 42.1	+3.1
CLL				i		17 21 54.1	
CLL				e		17 22 03.0	
CLL	Collm	147.35	337	i PKIKP	PKPdf	17 21 42.1	+3.1
CLL				i		17 21 54.1	
CLL				pmax	pmax		
	comp=Z,29nm,1.0s						
PVCC	Panska Ves	147.37	334	ePKP	PKPdf	17 21 43.1	+4.0
VRAC	Vranov	147.43	331	PKPbc	PKPdf	17 21 43.9	+4.7
	comp=Z,13nm,1.1s,baz=108,slow=4.9,SNR=7.0						
PRU	Pruhonice	147.80	334	ePKP	PKPdf	17 21 43.2	+3.4
CLZ	Clausthal	147.80	340	ePKPbc	PKPdf	17 21 43.9	+4.2
ZST	Bratislava	147.99	329	ePKP	PKPdf	17 21 44.5	+4.4
MOX	Moxa	148.39	337	i P	PKPdf	17 21 45.5	+4.8
	comp=Z,logA/T=1.2						
MOX	Moxa	148.39	337	ePKIKP	PKPdf	17 21 45.5	+4.8
MOX				pmax	pmax		
	comp=Z,19nm,1.3s						
NKC	Novy Kostel	148.43	336	ePKP	PKPdf	17 21 46.0	+5.2
NKC				epPKP		17 21 57.2	
PKSM	Moragy	148.55	325	⇑eP	PKPdf	17 21 45.4	+4.3
KHC	Kasperske Hory	148.86	334	ePKP	PKPdf	17 21 46.9	+5.4
GEC2	GERESS Array S	149.03	333	ePKIKP	PKPdf	17 21 47.2	+5.4
GERES	GERESS Array B	149.03	333	PKPbc	PKPdf	17 21 47.4	+5.6
	comp=Z,11nm,1.1s,baz=45,slow=1.9,SNR=22						
WET	Wettzell	149.13	334	ePKHKP		17 21 47.6	
GRA1	Grafenberg Arr	149.32	337	ePKPbc	PKPdf	17 21 48.5	+6.3
GRF	Grafenberg Arr	149.32	337	ePKHKP		17 21 48.5	
GRF				MLR	MLR		
	comp=Z,200nm,20.7s						
SKO	Skopje	149.36	316	ePKP	PKPdf	17 21 45.5	+2.9
ARSA	Arzberg	149.41	329	⇓iP	PKPab	17 21 55.2	+1.0
KBA	Koelnbreinsper	150.54	331	⇓iP	PKPdf	17 21 50.3	+6.1
LJU	Ljubljana	150.76	329	i PKPdf	PKPdf	17 21 53.1	+8.5
BOJS	Bojanci	150.78	327	i PKPdf	PKPdf	17 21 53.1	+8.5
GIVF	Givet	150.95	344	ePKIKP	PKPdf	17 21 50.7	+6.0
	comp=Z,49nm,0.9s						
WLF	Walferdange	150.99	342	ePKPbc	PKPdf	17 21 52.1	+7.3
ROBS	Robic	151.09	330	i PKPdf	PKPdf	17 21 52.8	+7.7
WTTA	Wattenberg	151.13	333	⇑iP	PKPdf	17 21 53.1	+8.0
BAIF	Baives	151.14	345	ePKIKP	PKPdf	17 21 51.3	+6.3
	comp=Z,61nm,1.3s						
MOTA	Moosalm	151.28	334	⇑iP	PKPdf	17 21 51.7	+6.4
SQTA	Sankt Quirin	151.34	334	⇓iP	PKPdf	17 21 52.8	+7.4
BFO	Black Forest	151.50	338	ePKIKP	PKPdf	17 21 53.1	+7.5
CDF	Champ du Feu	151.77	340	ePKIKP	PKPdf	17 21 52.5	+6.5
	comp=Z,46nm,1.1s						
DAVOX	Davos	152.23	335	PKPbc	PKPdf	17 21 54.8	+8.0
	comp=Z,14nm,0.8s,baz=266,slow=5.9,SNR=4.9						
MEZF	Maizieres J'vi	152.35	343	ePKIKP	PKPdf	17 21 53.3	+6.4
	comp=Z,52nm,1.1s						
HINF	Hinteralfeld	152.43	340	ePKIKP	PKPdf	17 21 53.8	+6.8
	comp=Z,36nm,1.2s						
ESDC	Sonseca Array	162.70	352	PKPab	PKPab	17 22 51.2	+0.2
	comp=Z,0.2nm,0.3s,slow=3.0,SNR=4.4						

STR ***14*** *17:18:19.5±0.1, 44.48N×6.78E, h5^{km}±1^{km}, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***14*** *17:18:19.4±0.0, 44.48N×6.76E, h3^{km}, Md1.9/1, Ml1.9/6, Error ellipse: s-maj=1.2km s-min=0.8km az=76.0*
ISC 14 17:18:18.4±0.4**, 44.47N**±0.02×**6.72E**±0.04**, h8^{km}**±5^{km}**, n14,** σ**0^{s}52**/30**, France**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SURF	Saint Ours	0.07	83	Pg	Pg	17 18 20.7	+0.3
SURF				Sg	Sg	17 18 21.7	0.0
MBDF	Montbardon	0.26	9	ePg	Pg	17 18 24.4	+0.7
MBDF				eSg	Sg	17 18 27.5	+0.2
	29nm,0.3s						
OG22	Abries	0.39	25	Pg	Pg	17 18 26.6	+0.4
OG22				Sg	Sg	17 18 32.0	+0.5
TOUF	Mont Tournerai	0.60	140	Pg	Pg	17 18 30.2	-0.2
AUTN	L'Aution	0.70	133	Pg	Pg	17 18 32.5	+0.1
AUTN				Sg	Sg	17 18 41.9	+0.1
AURF	Auriere	0.73	143	Pg	Pg	17 18 33.1	0.0
ORIF	Oris-en-Rattie	0.74	307	ePg	Pg	17 18 33.9	+0.6
ORIF				eSg	Sg	17 18 43.3	0.0
	3.7nm,0.2s						
SBF	Sospel	0.80	139	ePg	Pg	17 18 33.5	-0.9
SBF				eSg	Sg	17 18 44.6	-0.5
	3.9nm,0.2s						
FRF	La Foret Royal	0.91	183	ePg	Pg	17 18 36.7	0.0
FRF				ePn	Pn	17 18 38.0	+0.6
FRF				eSg	Sg	17 18 48.8	-0.1
	3.7nm,0.2s						
SMRF	Simiane la Rot	0.96	239	eP	Pb	17 18 40.2	+3.4
SMRF				eSg	Sg	17 18 50.9	+0.5
	3.1nm,0.2s						
LPG	La Plagne	1.03	1	ePg	Pg	17 18 39.1	+0.2
LPG				eSg	Sg	17 18 51.9	-0.7
	2.2nm,0.2s						
LPL	La Plagne	1.04	1	ePg	Pg	17 18 39.3	0.0
LPL				eSg	Sg	17 18 52.4	-0.8
	2.3nm,0.3s						
LMR	La Mourre	1.15	188	ePn	Pn	17 18 40.6	-0.1
LMR				ePg	Pg	17 18 41.6	+0.2
LMR				eSg	Sg	17 18 56.2	-0.5
	4.0nm,0.2s						
VIVF	Saint-Julien-l	1.51	285	ePn	Pn	17 18 46.1	+0.2
VIVF				ePg	Pg	17 18 48.1	-0.4
VIVF				eSn	Sn	17 19 05.4	-0.5
VIVF				eSg	Sg	17 19 08.1	-0.6
	1.5nm,0.3s						

MEX 14 17:36:11.0±0.8**, 16.73N**×**99.66W, h4^{km}**±6^{km}**, MD4.4, 1D, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.28	299	⇓iP	Pg	17 36 16.1	-0.5
ACX				i S	Sg	17 36 20.4	+0.1
CAIG	El Cayaco	0.66	298	i P	Pg	17 36 23.1	-1.1
CAIG				i S	Sg	17 36 32.6	-0.4
PNIG	Pinotepa	1.51	103	eP	Pn	17 36 35.6	-3.4
PNIG				i S	Sb	17 36 54.5	-4.1
PLIG	Platanillo	1.66	5	i P	Pn	17 36 37.6	-3.5
PLIG				i S	Sb	17 36 57.2	-5.8
ZIIG	Zihuatanejo	1.93	297	eP	Pn	17 36 39.7	-5.3
ZIIG				eS	Sn	17 37 03.6	-6.4
YAIG	Yautepec	2.19	15	eP	Pn	17 36 44.5	-4.3
YAIG				i S	Sn	17 37 13.1	-3.5
PPM	Popocatepetl	2.52	23	eP	Pn	17 36 49.5	-3.9
PPM				i S	Sn	17 37 20.1	-5.0
UNM	Universidad Na	2.62	10	eP	Pn	17 36 50.0	-4.9
UNM				i P		17 36 50.1	
UNM				i S	Sn	17 37 24.7	-2.9
VHO	Vista Hermosa	2.82	83	eP	Pn	17 36 53.5	-4.3
VHO				i S	Sn	17 37 30.0	-2.7
OXX	Oaxaca	2.83	83	eP	Pn	17 36 57.5	-0.4
MOIG	Morelia	3.27	334	i P	Pn	17 36 59.4	-4.7
MOIG				i S	Sn	17 37 38.4	-5.6
HUIG	Huatulco	3.54	105	eP	Pn	17 37 04.5	-3.5
HUIG				i S	Sn	17 37 43.8	-7.1
LVIG	Laguna Verde	4.28	46	i P	Pn	17 37 18.8	+0.3
LVIG				i S	Sn	17 38 07.2	-2.5
CMIG	Matias Romero	4.59	85	i P	Pn	17 37 17.7	-5.1
CCIG	Comitan	7.23	92	i S	Sn	17 39 17.2	-6.4

DJA 14 18:15:24.3±1.0**, 9.71S**×**112.74E, h2^{km}, MD5.2**/3**, ML4.0**/3**, 7D, Error ellipse: s-maj=27.2km s-min=20.5km az=130.0, South of Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SRDI	Scrawed	1.85	49	⇓ePn	Pn	18 15 54.3	-3.0
	114nm,0.2s						
SRDI				⇓eSn	Sn	18 16 15.4	-6.2
KELI	Kelakatan	2.28	50	⇓ePn	Pn	18 16 00.6	-2.9
	65nm,0.2s						
KELI				⇓eSn	Sn	18 16 27.5	-5.1
RATI	Rata	2.93	71	⇓ePn	Pn	18 16 09.4	-3.4
	80nm,0.2s						
RATI				⇓eSn	Sn	18 16 43.0	-6.0
KEDI	Kedomdong	3.55	70	⇓ePn	Pn	18 16 18.2	-3.4

JMA ***14*** *18:29:58.4±0.4, 23.77N×121.77E, h66^{km}, M2.8*
TAP 14 18:29:56.6, 23.72N×121.80E, h31^{km}, ML3.3, Taiwan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	1.33	56	P	Pn	18 30 21.3	+2.0
YOJ				eS	Sn	18 30 38.3	+2.2
HATJ	Hateruma jima	1.87	79	eS	Sn	18 30 51.2	+1.5
IRIF	Iriomote-Funau	1.87	70	eS	Sn	18 30 52.4	+2.7
JKRS	Kuro-shima	2.08	75	P	Pn	18 30 32.4	+2.3
JKRS				eS	Sn	18 30 58.0	+2.7
JIJ	Ishigaki jima	2.24	73	P	Pn	18 30 33.7	+1.4
JIJ				eS	Sn	18 31 00.0	+0.9
JTJ	Tarama	2.80	70	eS	Sn	18 31 15.1	+1.6

IDC 14 18:30:57.5±9.8**, 5.90S**×**155.00E, h77^{km}**±69^{km}**, mb3.6**/3**, mb1 4.0**/4**, mb1mx3.6**/13**, ML4.0**/1**, MS2.5**/1**, Ms1 2.5**/1**, ms1mx2.1**/20**, Error ellipse: s-maj=143.0km s-min=67.8km az=162.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.51	245	P	P	18 32 58.4	-1.7
	8.7nm,0.3s,baz=49,slow=11,SNR=47						
PMG				S	S	18 34 33.7	-1.8
	2.2nm,0.3s,baz=152,slow=22,SNR=3.0						
PMG				LR	LR	18 35 11.6	
	comp=Z,32nm,19.0s,baz=101,slow=30						
WRA	Warramunga Arr	24.45	233	P	P	18 36 09.5	-1.1
	2.0nm,0.7s,baz=60,slow=9.8,SNR=21						
ASAR	Alice Springs	26.91	227	P	P	18 36 31.0	-2.5
	0.9nm,0.6s,baz=57,slow=8.9,SNR=18						
MAW	Mawson	85.40	203	P	P	18 43 26.6	-0.7
	0.7nm,0.6s,baz=88,slow=7.6,SNR=6.2						

IDC ***14*** *18:32:36.6±1.9, 5.82S×142.51E, mb3.7/1, mb1 4.1/4, mb1mx3.9/10, ML3.3/3, Error ellipse: s-maj=39.0km s-min=19.0km az=119.0*
ISC 14 18:32:39.7±6.9**, 6.0S**±0.2×**142.45E**±0.10**, h33^{km}**±53^{km}**, n5,**

$\sigma 0^s 33$/8, mb3.8/1, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.75	126	Pn	Pn	18 34 05.1	-0.1
	0.5nm,0.3s,baz=330,slow=14,SNR=2.1						
PMG				Sn	Sn	18 35 11.1	+0.1
	0.8nm,0.3s,baz=216,slow=22,SNR=2.9						
KAKA	Kakadu	11.93	235	eP	P	18 35 31.1	+0.4
	6.5nm,0.5s						
WRA	Warramunga Arr	15.93	209	Pn	P	18 36 23.0	-0.4
	0.3nm,0.3s,baz=28,slow=13,SNR=8.2						
WRA				Sn	S	18 39 10.4	-8.3
	0.2nm,0.3s,baz=26,slow=22,SNR=4.1						
ASAR	Alice Springs	19.38	204	P	P	18 37 05.8	-0.1
	0.5nm,0.3s,baz=33,slow=11,SNR=27						
ASAR				S	S	18 40 49.5	+12
	0.1nm,0.3s,baz=32,slow=17,SNR=3.5						
ILAR	Eielson Array	87.31	24	P	P	18 45 24.2	0.0
	0.5nm,0.8s,mb3.8,baz=266,slow=4.7,SNR=4.3						

*IDC **14** 18:35:46.7±0.6, 13.79N×120.65E, h108km±5km, mb4.3/20, mb1 4.4/21, mb1mx4.4/23, MS3.4/2, Ms1 3.4/2, ms1mx2.9/20, Error ellipse: s-maj=17.3km s-min=8.3km az=62.0*

*BJI **14** 18:35:47.7, 13.87N×120.96E, h135km, mB5.1, mb5.0*

*MAN **14** 18:35:47.4, 13.78N×120.49E, h94km, mb5.4, ML4.4, MS4.6*

*HRVD **14** 18:35:49.3±0.6, 14.02N×120.49E, h97km±5km, MW4.9/56, Centroid moment Tensor Solution. LP body waves: s10,c12;Mantle waves: s56,c85; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.49±.13; $M_{\theta\theta}$1.64±.12; $M_{\phi\phi}$-2.13±.13; $M_{r\theta}$1.33±.06; $M_{\theta\phi}$0.58±.11; $M_{\phi r}$-0.65±.08; Best double couple: $M_0$2.5×10^{16} NP1:ϕ_s33°, δ53°, λ168°. NP2:ϕ_s130°, δ80°, λ37°. Principal axes: T 2.52, Plg33°, Azm358°; N -.03, Plg52°, Azm143°; P -2.48, Plg18°, Azm256°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **14** 18:35:49.3±1.2, 13.84N×120.71E, h132km±11km, mb4.9/29 Error ellipse: s-maj=7.8km s-min=5.2km az=77.0*

*MOS **14** 18:35:50.0±0.9, 13.86N×120.86E, h159km, mb4.9/10, Error ellipse: s-maj=27.5km s-min=10.2km az=117.6*

ISC 14 18:35:46.8±0.2, **13.79N**±0.02×**120.68E**±0.04, **h119**km±2km, **h107**km±1.8km**:pP-P, n171,** $\sigma 1^s 11$/184, **mb4.9**/63, **17C-7D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	Tagaytay City	0.40	38	⇓iP	P	18 36 04.2	0.0
TGY				iS	S	18 36 17.0	-0.4
LUBP	Lubang	0.43	263	⇑eP	P	18 36 02.8	-1.6
LUBP	Lubang	0.43	263	eP	P	18 36 01.2	-3.3
LUBP				eS	S	18 36 12.9	-4.8
ARP	Angono	0.88	31	⇑eP	P	18 36 07.3	-0.6
QVPH	Quezon City--P	0.94	23	⇓eP	P	18 36 08.2	-0.3
NBP	Mount Natib	0.98	345	eP	P	18 36 07.9	-1.1
BOAC	Boac	1.18	106	eP	P	18 36 10.8	-0.2
BOAC				eS	S	18 36 31.7	+2.7
SJMP	San Jose	1.38	162	eP	P	18 36 12.1	-1.2
SJMP				eS	S	18 36 31.8	-1.6
POLP	Polilio Island	1.54	52	eP	P	18 36 16.8	+1.7
GQP	Guinayangan	1.72	86	⇓iP	P	18 36 19.7	+2.5
GQP				iS	S	18 36 51.0	+11
BUSP	Coron	1.83	195	eP	P	18 36 17.4	-1.2
BUSP				eS	S	18 36 40.4	-2.2
OTRP	Odiongan	1.92	137	eP	P	18 36 20.9	+1.2
AUQP	San Andres	1.99	103	eP	P	18 36 23.6	+3.0
SCZP	Santa Cruz	2.12	339	eP	P	18 36 20.9	-1.3
BALP	Baler	2.13	24	eP	P	18 36 23.8	+1.4
BALP				eS	S	18 36 53.6	+4.4
BCPH	Baguio City Da	2.58	358	⇑iP	P	18 36 27.6	-0.8
BCPH				iS	S	18 36 58.5	-1.4
BOLP	Bolinao	2.69	344	eP	P	18 36 29.9	+0.1
CUYO	Cuyo Island	2.94	174	eP	P	18 36 32.6	-0.6
CAUP	Cauayan	3.33	19	eP	P	18 36 40.2	+1.8
PVCP	Virac	3.38	93	eP	P	18 36 42.1	+3.0
GUIM	Jordan	3.65	149	eP	P	18 36 44.9	+2.1
PALP	Palanan	3.67	27	eP	P	18 36 44.5	+1.6
ABRA	Dolores	3.84	0	eP	P	18 36 44.6	-0.7
CVP	Callao Caves	4.05	16	⇓iP	P	18 36 48.5	+0.4
APYP	Conner	4.09	8	eP	P	18 36 49.7	+1.0
PIP	Pasuquin	4.51	359	⇓iP	P	18 36 54.5	+0.1
OCLP	Ormoc	4.70	125	eP	P	18 37 03.4	+6.5
BATP	Bataraza	5.71	210	eP	P	18 37 09.3	-1.1
IPIL	Ipil	6.24	163	eP	P	18 37 20.0	+2.2
PAGZ	Pagadian	6.47	156	eP	P	18 37 24.5	+3.6
BBP	Basco	6.73	10	eP	P	18 37 23.9	-0.6
KKM	Kota Kinabalu	8.86	210	⇓eP	P	18 38 06.6	+13
QIZ	Qiongzhong	11.63	298	eP	P	18 38 30.2	+0.1
JOW	Kunigami	14.80	28	P	P	18 39 11.5	+0.3
	0.6nm,0.3s,baz=198,slow=16,SNR=3.1						
SSE	Sheshan	17.23	1	eP	P	18 39 37.6	-4.0
SSE				PCP	PcP	18 44 19.3	+0.3
SSE				AMB	AMB		
	comp=Z,23nm,0.7s						
SSE				AMB	AMB		
	comp=Z,72nm,3.6s						
SSE				LR	LR		
	comp=N,156nm,32.7s						
SSE				LR	LR		
	comp=E,39nm,32.6s						
SSE				LR	LR		
	comp=Z,205nm,35.3s						
KKTK	Khon Kaen	17.43	281	P	P	18 39 45.5	+1.4
WHN	Wuhan	17.67	342	eP	P	18 39 47.5	+0.6
GYA	Guiyang	18.20	316	⇑iP	P	18 39 54.3	+1.2
GYA				S	S	18 43 17.8	+8.8
GYA				AMB	AMB		
	comp=Z,20nm,1.1s						
GYA				AMB	AMB		
	comp=Z,70nm,6.6s						
GYA				LR	LR		
	comp=N,440nm,10.8s						
GYA				LR	LR		
	comp=E,400nm,11.7s						
GYA				LR	LR		
	comp=Z,320nm,10.5s						
NJ2	Nanjing	18.26	355	eP	P	18 39 53.4	-0.2
NJ2				PCP	PcP	18 44 24.0	+3.3
NJ2				AMB	AMB		
	comp=Z,60nm,1.0s						
NJ2				AMB	AMB		
	comp=Z,560nm,5.0s						
NJ2				LR	LR		
	comp=N,450nm,15.6s						
NJ2				LR	LR		
	comp=E,450nm,15.6s						
NJ2				LR	LR		
	comp=Z,690nm,14.7s						
ENH	Enshi	19.39	330	eP	P	18 40 04.2	-1.7
	comp=Z,44nm,0.9s						
NANT	Nan	19.81	287	P	P	18 40 10.8	+0.5
KMI	Kunming	20.30	306	eP	P	18 40 16.5	+1.2
KMI				LR	LR		
	comp=N,259nm,15.3s						
KMI				LR	LR		
	comp=E,138nm,17.0s						
KMI				LR	LR		
	comp=Z,166nm,16.4s						
KGM	Kluang	20.77	237	⇑eP	P	18 40 21.0	+0.9
CM31	Chiang Mai Arr	21.39	285	eP	P	18 40 27.9	+1.7
	comp=Z,14nm,0.8s,mb4.3						
CMAR	Chiang Mai Arr	21.39	285	P	P	18 40 27.1	+0.9
	comp=Z,9.0nm,0.8s,mb4.1,baz=94,slow=8.5,SNR=53						
CMAR				S	S	18 44 17.2	+5.9
	comp=Z,0.5nm,1.0s,baz=101,slow=15,SNR=3.3						
CMAR				pPcP		18 44 54.9	
	comp=Z,0.9nm,0.9s,baz=86,slow=1.0,SNR=4.6						
CMAR				ScP		18 47 51.7	
	comp=Z,1.5nm,1.0s,baz=132,slow=0.1,SNR=7.7						
CHG	Chiang Mai	21.45	286	P	P	18 40 28.3	+1.5
XAN	Xi'an	22.81	334	P	P	18 40 40.0	-0.1
XAN				AMB	AMB		
	comp=Z,38nm,0.9s,mb4.7						
CD2	Chengdu	23.09	320	P	P	18 40 42.6	-0.2
CD2				AMB	AMB		
	comp=Z,80nm,0.8s,mb5.1						
BJT	Baijiatuau	26.43	352	eP	P	18 41 13.7	-0.6
	comp=Z,25nm,0.9s,mb4.7						
BJI	Beijing	26.45	352	P	P	18 41 14.4	-0.1
BJI				AMB	AMB		
	comp=Z,38nm,1.7s,mb4.5						
BJI				LR	LR		
	comp=Z,51nm,22.9s						
LZH	Lanzhou	26.86	329	⇑P	P	18 41 18.0	-0.3
LZH				AP	pP	18 41 42.4	-1.4
LZH				PP	PP	18 42 09.3	+1.3
LZH				S	S	18 45 45.0	+0.8
LZH				SS	SS	18 47 08.5	+1.3
LZH				AMB	AMB		
	comp=Z,66nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,316nm,5.0s						
LZH				LR	LR		
	comp=N,559nm,12.3s						
LZH				LR	LR		
	comp=Z,932nm,15.2s						
SNY	Shenyang	28.05	5	eP	P	18 41 27.8	-1.3
HHC	Hu-ho-hao-te	28.12	345	eP	P	18 41 29.0	-0.6
HHC				AMB	AMB		
	comp=Z,32nm,1.3s,mb4.7						
HHC				AMB	AMB		
	comp=Z,97nm,6.7s						
SHL	Shillong	29.47	298	⇑iP	P	18 41 41.0	-0.8
SHL				eS	S	18 46 25.5	-0.4
GTA	Gaotai	31.46	328	P	P	18 41 59.1	-0.1
GTA				AP	pP	18 42 23.9	-1.6
GTA				S	S	18 46 56.1	-0.9
GTA				SCP		18 48 22.3	
GTA				AMB	AMB		
	comp=Z,33nm,1.0s,mb5.0						
GTA				AMB	AMB		
	comp=Z,168nm,4.6s						
GTA				LR	LR		
	comp=N,82nm,7.2s						
GTA				LR	LR		
	comp=E,173nm,5.3s						
GTA				LR	LR		
	comp=Z,85nm,7.6s						
LSA	Lhasa	31.55	305	P	P	18 42 01.0	+0.9
MDJ	Mudanjiang	31.65	12	P	P	18 41 59.1	-1.7
	comp=Z,6.7nm,0.7s,mb4.5						
FITZ	Fitzroy Crossi	32.06	171	P	P	18 42 04.0	-0.6
	comp=Z,5.9nm,0.9s,mb4.3,baz=13,slow=4.5,SNR=3.7						
MBWA	Marble Bar	34.74	182	eP	P	18 42 26.2	-1.4
	comp=Z,16nm,0.7s,mb5.0						
PMG	Port Moresby	34.95	130	LR	LR	18 57 18.9	
	comp=Z,42nm,18.1s,baz=105,slow=37						
GUN	Gumba	35.29	299	eP	P	18 42 32.7	+0.5
	comp=Z,130nm,0.8s,mb5.8						
HIA	Hailar	35.39	359	eP	P	18 42 31.8	-1.0
	comp=Z,6.4nm,0.8s,mb4.5						
PKI	Pulchoki	35.60	298	eP	P	18 42 34.8	0.0
	comp=Z,37nm,0.5s,mb5.6						
KKN	Kakani	35.77	299	eP	P	18 42 36.1	-0.1
	comp=Z,53nm,0.8s,mb5.5						
DMN	Daman	35.87	298	eP	P	18 42 37.1	0.0
	comp=Z,92nm,0.9s,mb5.7						
SONM	Songino Array	35.97	344	P	P	18 42 37.8	0.0
	comp=Z,22nm,0.5s,mb5.3,baz=162,slow=9.6,SNR=120						
WRA	Warramunga Arr	36.11	158	P	P	18 42 39.3	+0.1
	comp=Z,2.5nm,0.7s,mb4.2,baz=325,slow=11,SNR=15						
WRA				pP	pP	18 43 02.9	-3.3
	comp=Z,11nm,0.8s,baz=336,slow=9.6,SNR=11						
KOLN	Koldanda	37.20	298	eP	P	18 42 48.5	+0.2
	comp=Z,26nm,0.8s,mb5.2						
YSS	Yuzh-Sakhalins	37.88	25	eP	P	18 42 51.8	-2.0
	comp=Z,31nm,1.2s,mb5.0						
ZAK	Zakamensk	39.16	342	⇑iP	P	18 43 03.8	-0.5
ASAR	Alice Springs	39.40	161	P	P	18 43 07.0	+0.4
	comp=Z,2.2nm,0.5s,mb4.2,baz=338,slow=6.9,SNR=15						
ASAR				pP	pP	18 43 31.1	-2.7
	comp=Z,7.5nm,0.8s,baz=333,slow=7.0,SNR=12						
ASAR				S	S	18 48 57.2	-1.7
	comp=Z,0.5nm,0.8s,baz=355,slow=20,SNR=3.5						
ASAR				LR	LR	19 01 51.9	
	comp=Z,71nm,19.9s,baz=109,slow=40						
MOY	Mondy	40.98	341	eP	P	18 43 19.8	+0.5
WMQ	Urumqi	41.13	323	P	P	18 43 21.5	+0.9
WMQ				AP	pP	18 43 47.0	-0.9
WMQ				PP	PP	18 45 01.0	+0.9
WMQ				S	S	18 49 26.0	+1.7
WMQ				SCS	ScS	18 53 12.0	+1.9
WMQ				AMB	AMB		
	comp=Z,21nm,1.0s,mb4.9						
WMQ				LR	LR		
	comp=N,176nm,18.0s						
WMQ				LR	LR		
	comp=E,52nm,16.0s						
WMQ				LR	LR		
	comp=Z,55nm,16.0s						
BOD	Bodaibo	44.24	355	eP	P	18 43 44.1	-1.6
FORT	Forrest	44.87	171	eP	P	18 43 50.9	-0.3
	comp=Z,62nm,0.7s,mb5.5						
NWAO	Narrogin (SRO)	46.56	184	P	P	18 44 03.6	-0.9
	comp=Z,4.1nm,0.6s,mb4.4,baz=8.5,slow=8.3,SNR=5.9						
NWAO	Narrogin (SRO)	46.56	184	P	P	18 44 04.3	-0.2
	comp=Z,16nm,1.1s,mb4.7						
KSH	Kashi	46.83	312	P	P	18 44 10.8	+4.3
KSH				AP	pP	18 44 36.5	+2.3
KSH				XP	sP	18 44 49.0	+1.3
KSH				ePCP	PcP	18 45 39.0	+1.0
KSH				ePP	PP	18 46 02.1	+4.3
KSH				eSCP		18 49 22.0	
KSH				ePCS		18 49 34.3	
KSH				eS	S	18 50 50.3	+3.5
KSH				XS		18 51 39.8	
KSH				AMB	AMB		
	comp=Z,180nm,5.0s						
ULHL	Ulahol	47.65	315	P	P	18 44 14.3	+1.5
	SNR=13						
TKM2	Tokmak 2	48.35	316	P	P	18 44 19.2	+0.9
	SNR=20						
YAK	Yakutsk	48.61	6	eP	P	18 44 17.8	-2.2
YAK				pmax	pmax		
	comp=Z,24nm,0.9s,mb5.1						
YAK				MLR	MLR		
	comp=Z,100nm,17.0s						
YAK	Yakutsk	48.61	6	eP	P	18 44 17.8	-2.2
	comp=Z,24nm,0.9s,mb5.1						
YAK				LR	LR		
	comp=Z,100nm,17.0s						
KBK	Karagaybulak	48.69	315	P	P	18 44 22.3	+1.4
	SNR=31						
UCH	Uchtor	48.83	315	P	P	18 44 23.8	+1.8
	SNR=45						
CHMS	Chumysh	48.95	316	P	P	18 44 23.4	+0.4
	SNR=18						
ZAL	Zalesovo	48.98	333	P	P	18 44 22.8	-0.2
	comp=Z,9.2nm,0.3s,mb5.1,baz=349,slow=5.8,SNR=27						
ZAL	Zalesovo	48.98	333	P	P	18 44 22.8	-0.1
AAK	Ala-Archa	48.99	315	P	P	18 44 24.3	+1.0
	SNR=13						
AAK	Ala-Archa	48.99	315	d iP	P	18 44 22.8	-0.4
USP	Ospenovka	49.23	316	P	P	18 44 25.6	+0.6
	SNR=14						
AML	Almayashu	49.37	314	P	P	18 44 27.7	+1.6
	SNR=13						
EKS2	Erkin-Say	49.50	315	P	P	18 44 28.2	+1.1
	SNR=28						
STKA	Stephens Creek	49.63	157	P	P	18 44 27.1	-1.1
	comp=Z,1.0nm,0.4s,mb4.1,baz=25,slow=21,SNR=3.9						
STKA				pP	pP	18 44 52.9	-3.4
	comp=Z,5.8nm,1.0s,baz=324,slow=11,SNR=3.4						
STKA	Stephens Creek	49.63	157	P	P	18 44 27.1	-1.1
STKA				pP	pP	18 44 52.9	-3.4
KURK	Kurchatov	50.11	326	c iP	P	18 44 31.7	0.0
KURK				i *PP	PcP	18 45 53.6	+3.9
KURK	Kurchatov	50.11	326	⇑iP	P	18 44 31.7	0.0
KURK				i pP	PcP	18 45 53.6	+3.9
NVS	Novosibirsk	50.26	333	⇑iP	P	18 44 31.1	-1.6
NVS				e	pP	18 45 02.8	+2.0
NVS				pmax	pmax		
	comp=N,14nm,1.0s						
NVS				pmax	pmax		
	comp=E,12nm,1.0s						
NVS				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.9						
BVAR	Borovoye Array	55.69	326	P	P	18 45 12.3	-0.7
	comp=Z,14nm,0.5s,mb5.2,baz=117,slow=9.9,SNR=87						
BRVK	Borovoye	55.77	326	eP	P	18 45 13.0	-0.5
	comp=Z,69nm,0.9s,mb5.7						
ZRNK	Zerenda	56.42	325	eP	P	18 45 17.3	-0.9
	comp=Z,48nm,0.8s,mb5.6						
TIXI	Tiksi	58.05	3	⇑iP	P	18 45 27.3	-2.1
TIXI				pmax	pmax		
	comp=Z,22nm,1.3s,mb5.0						
TIXI	Tiksi	58.05	3	⇑iP	P	18 45 27.3	-2.1
	comp=Z,22nm,1.3s,mb5.0						
SVE	Sverdlovsk	62.32	327	⇑iP	P	18 45 57.9	-0.8
SVE				e		18 46 40.6	
SVE				pmax	pmax		
	comp=Z,70nm,1.7s,mb5.4						
SVE	Sverdlovsk	62.32	327	⇑iP	P	18 45 57.9	-0.8
	comp=Z,70nm,1.7s,mb5.4						
SVE				e		18 46 40.6	
UMR	Umm Al-Rimmam	68.64	297	eP	P	18 46 38.8	-0.7
RDF	Al-Radifah	68.83	296	eP	P	18 46 40.0	-0.7
RDF				AMb	AMB	18 46 42.0	
	comp=Z,52nm,1.2s,mb5.2						
MIB	Mutribah	68.95	297	eP	P	18 46 41.0	-0.4
MIB				AMb	AMB	18 46 41.9	
	comp=Z,35nm,0.6s,mb5.3						
RST	Umm Al-Ruwaisa	69.27	297	eP	P	18 46 42.4	-0.9
RST				AMb	AMB	18 46 44.6	
	comp=Z,24nm,1.0s,mb5.0						
GNI	Garni	70.55	308	eP	P	18 46 51.0	+0.1
GNI				pmax	pmax		
	comp=Z,26nm,1.6s						
GNI	Garni	70.55	308	eP	P	18 46 51.0	+0.1
	comp=Z,26nm,1.6s,mb4.8						
MZLS	Mizel	71.42	291	P	P	18 46 56.7	+0.3
KIV	Kislovodsk	71.96	312	eP	P	18 46 59.3	+0.1
KIV				pmax	pmax		
	comp=Z,22nm,0.7s,mb5.1						
KIV	Kislovodsk	71.96	312	eP	P	18 46 59.3	+0.1
	comp=Z,22nm,0.7s,mb5.1						
ARSS	Ar Rass	72.96	293	P	P	18 47 05.5	0.0
RPZ	Rata Peaks	73.37	144	P	P	18 47 07.2	-0.3
	comp=Z,43nm,1.2s,mb5.1,baz=297,slow=2.3,SNR=2.6						
AFFS	'Afif	73.43	291	P	P	18 47 08.6	+0.3
DJNS	Zahran al Janu	73.88	285	P	P	18 47 13.0	+2.0
URZ	Urewera	73.92	137	P	P	18 47 11.3	+0.4
	comp=Z,8.3nm,0.3s,mb5.0,baz=268,slow=3.1,SNR=26						
URZ	Urewera	73.92	137	P	P	18 47 06.8	-4.1
HILS	Ha'il	74.05	295	P	P	18 47 12.6	+0.7
SOC	Sochi	74.13	312	i P	P	18 47 09.9	-2.0
SOC				e		18 47 25.3	
SOC				e		18 49 59.1	
SOC				ePPP	PPP	18 51 40.2	-5.8
SOC				pmax	pmax		
	comp=Z,34nm,0.8s,mb5.1						
SOC				pmax	pmax		
	comp=N,16nm,1.2s						
SOC				pmax	pmax		
	comp=E,9.0nm,0.5s						
SOC	Sochi	74.13	312	i P	P	18 47 09.9	-2.0
	comp=E,34nm,0.8s,mb5.1						
SOC				e		18 47 25.3	
SOC				e		18 49 59.1	
SOC				ePPP	PPP	18 51 40.2	-5.8
NAMS	An Nimas	74.88	286	P	P	18 47 18.2	+1.5
BLJS	Baljurashi	75.33	287	P	P	18 47 20.5	+1.2
OBN	Obninsk	75.46	324	α iP	P	18 47 18.2	-1.1
OBN				e		18 57 47.0	
OBN				pmax	pmax		
	comp=Z,21nm,0.7s,mb5.0						
OBN	Obninsk	75.46	324	i Pcu		18 47 18.2	
	comp=Z,21nm,0.7s						
OBN				e		18 57 47.0	
IMA	Indian Mountai	75.74	25	eP	P	18 47 21.8	+1.2
	comp=Z,85nm,0.9s,mb5.5						
KBRS	Khaybar	76.52	294	P	P	18 47 27.3	+1.4
YNBS	Yanbu' al Bahr	77.89	292	P	P	18 47 34.6	+1.1
MCK	McKinley	77.93	27	eP	P	18 47 32.7	-0.2
	comp=Z,14nm,0.9s,mb4.7						
SIM	Simferopol'	77.99	314	eP	P	18 47 33.0	-0.6
SIM				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.9						
COLA	College	78.26	26	P	P	18 47 34.3	-0.3
	comp=Z,7.6nm,0.8s,mb4.5						
UMJS	Umm Lajj	78.35	293	P	P	18 47 37.6	+1.6
KEV	Kevo	78.45	339	ep	P	18 47 33.6	-2.0
	comp=Z,6.0nm,0.6s,mb4.5						
KEV	Kevo	78.45	339	eP	P	18 47 33.6	-2.0
KEV				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.5						
TBKS	Tabuk	78.52	296	P	P	18 47 38.1	+1.3
ILAR	Eielson Array	78.68	26	P	P	18 47 36.0	-1.0
	comp=Z,2.1nm,0.7s,mb4.1,baz=273,slow=3.8,SNR=18						
JMQS	Jabal Moqyreh	78.99	297	P	P	18 47 40.4	+1.0
ARCES	ARCESS Array B	79.00	339	P	P	18 47 38.4	-0.2
	comp=Z,3.8nm,0.5s,mb4.5,baz=85,slow=6.7,SNR=46						
BRTR	Keskin Array B	79.08	308	P	P	18 47 39.3	-0.4
	comp=Z,5.2nm,0.8s,mb4.4,baz=114,slow=4.4,SNR=20						
THY	Trims Highway	79.38	27	eP	P	18 47 39.8	-1.0
JMOS	Jabal al Moall	79.61	298	P	P	18 47 43.9	+1.2
AYUS	'Aynunah	79.64	297	P	P	18 47 43.9	+0.9
BDAS	Al Bad'	79.74	297	P	P	18 47 44.3	+0.8
HAQS	Haql	79.78	297	P	P	18 47 44.8	+1.1
TAYS	Tayyib Ism	79.92	297	P	P	18 47 45.3	+0.9
KAF	Kangasniemi	79.97	332	ep	P	18 47 41.9	-2.1
	comp=Z,5.8nm,0.8s,mb4.5						
KAF	Kangasniemi	79.97	332	eP	P	18 47 41.9	-2.1
KAF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.5						
CSS	Prodhromos	80.10	304	eP	P	18 47 45.4	+0.1
	comp=Z,22nm,0.8s,mb5.0						
FINES	FINESS Array B	80.20	331	P	P	18 47 44.5	-0.7
	comp=Z,3.8nm,0.8s,mb4.3,baz=68,slow=6.2,SNR=12						
FINES				pP	pP	18 48 10.9	-4.8
	comp=Z,1.3nm,0.7s,baz=90,slow=5.6,SNR=1.6						
AKASG	Malin Array Be	80.39	320	P	P	18 47 44.7	-1.7
	comp=Z,7.7nm,0.9s,mb4.5,baz=67,slow=5.3,SNR=8.3						
KIS	Kishinev	81.32	316	eP	P	18 47 49.0	-2.4
INK	Inuvik	83.02	21	P	P	18 48 00.3	+0.6
	comp=Z,10nm,0.8s,mb4.7,baz=299,slow=6.0,SNR=19						
INK	Inuvik	83.02	21	eP	P	18 47 59.9	+0.1
	comp=Z,16nm,0.9s,mb4.8						
KWP	Kalwaria	84.71	320	eP	P	18 48 08.5	-0.1
	comp=Z,27nm,0.9s,mb5.2						
SANT	Santorini	86.08	306	eP	P	18 48 14.6	-1.0
	comp=Z,35nm,1.1s,mb5.2						
NIE	Niedzica	86.27	320	eP	P	18 48 17.0	+0.8
OJC	Ojcow	86.35	321	eP	P	18 48 16.8	+0.2
OJC	Ojcow	86.35	321	eP	P	18 48 16.8	+0.2
PSZ	Piszkesteto	86.97	319	P	P	18 48 18.6	-1.1
NB2	NORSAR Subarra	87.18	333	P	P	18 48 19.1	-1.2
	comp=Z,6.2nm,0.9s,mb4.5,baz=71,slow=4.5						
NB2	NORSAR Subarra	87.18	333	P	P	18 48 19.1	-1.2
	baz=71,slow=4.6						
NOA	NORSAR Array B	87.18	333	P	P	18 48 19.7	-0.7
	comp=Z,4.8nm,0.9s,mb4.4,baz=69,slow=4.6,SNR=6.9						
NOA				pP	pP	18 48 47.8	-3.6
	comp=Z,2.6nm,0.7s,baz=69,slow=4.6,SNR=4.3						
NOA	NORSAR Array B	87.18	333	P	P	18 48 19.7	-0.7
NOA				pP	pP	18 48 47.8	-3.6
RES	Resolute Bay	88.95	9	P	P	18 48 27.7	-0.8
	comp=Z,8.6nm,0.8s,mb4.8						
BRG	Berggiesshubel	89.66	323	eP	P	18 48 33.2	+0.8
BRG				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.7						
BRG	Berggiesshubel	89.66	323	eP	P	18 48 33.2	+0.8
	comp=Z,6.8nm,1.1s,mb4.7						
GERES	GERESS Array B	90.56	321	P	P	18 48 35.8	-0.8
	comp=Z,1.4nm,0.9s,mb4.1,baz=68,slow=7.2,SNR=8.6						
GERES				sP	sP	18 49 13.5	-7.3
	comp=Z,1.0nm,0.8s,baz=34,slow=4.8,SNR=2.7						
YKA	Yellowknife Ar	92.70	22	P	P	18 48 46.4	+0.2
	comp=Z,1.2nm,0.6s,mb4.4,baz=306,slow=4.4,SNR=5.0						
YKA	Yellowknife Ar	92.70	22	P	P	18 48 46.4	+0.2
TXAR	Lajitas Array	119.42	44	PKP	PKPdf	18 54 24.6	+1.8
	comp=Z,0.2nm,0.5s,SNR=4.2						

IDC 14 18:47:44.0±13.0, **12.25S**×**166.85E, h239**km±125km, **mb3.4**/6, **mb1 3.5**/6, **mb1mx3.3**/15, **Error ellipse: s-maj=79.4km s-min=44.9km az=130.0, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	21.25	246	P	P	18 52 12.0	-0.2
	4.2nm,0.9s,baz=102,slow=15,SNR=2.6						
STKA	Stephens Creek	30.35	226	P	P	18 53 34.0	-1.8
	2.3nm,1.0s,baz=40,slow=7.3,SNR=5.8						
WRA	Warramunga Arr	32.12	252	P	P	18 53 48.9	-2.4
	0.6nm,0.4s,baz=84,slow=9.0,SNR=8.3						
ASAR	Alice Springs	33.25	245	P	P	18 53 58.5	-2.4
	0.8nm,0.7s,baz=70,slow=9.5,SNR=9.3						
FITZ	Fitzroy Crossi	40.14	256	P	P	18 54 58.1	-0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	1.3nm,0.4s,baz=53,slow=5.1,SNR=5.7						
ILAR	Eielson Array	84.31	18	P	P	18 59 48.8	-1.1
	0.9nm,0.7s,baz=231,slow=5.4,SNR=20						
ARCES	ARCESS Array B	117.77	346	PKP	PKPdf	19 06 00.9	-0.4
	2.7nm,0.8s,baz=27,slow=2.7,SNR=5.0						

MEX 14 18:55:48.4±0.8, 16.09N×97.26W, h20km±10km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.89	290	*i* P	Pb	18 56 02.4	-2.6
PNIG				*i* S	Sb	18 56 13.3	-3.1
VHO	Vista Hermosa	1.10	27	*i* P	Pb	18 56 05.2	-3.3
VHO				*i* S	Sb	18 56 19.1	-3.4
OXX	Oaxaca	1.11	27	*e*P	Pb	18 56 05.5	-3.3
OXX				*i* S	Sb	18 56 19.0	-3.8
HUIG	Huatulco	1.15	106	*i* P	Pb	18 56 06.9	-2.6
HUIG				*i* S	Sb	18 56 24.1	+0.1
CMIG	Matias Romero	2.48	66	*e*P	Pn	18 56 24.7	-3.9
CMIG				*i* S	Sn	18 56 54.1	-4.6
PPM	Popocatepetl	3.23	336	*e*P	Pn	18 56 35.0	-4.3

*KNET **14** 18:56:42.5±0.7, 43.48N×77.22E, h19km±5km, ml3.2, Error ellipse: s-maj=5.7km s-min=3.5km az=148.0*
*NNC **14** 18:56:45.1±0.8, 43.85N×77.00E, h9km±5km, mpv3.7, Error ellipse: s-maj=8.5km s-min=2.0km az=114.0*
ISC 14 18:56:39.5±1.2, 43.67N±0.07×77.5E±0.1, h10km, n12, σ1^{s}12/22, 14C-9D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	Tokmak 2	1.58	242	P	Pn	18 57 07.2	-0.5
	63nm,0.2s,SNR=364						
TKM2				⇓S	Sb	18 57 25.9	-2.3
	923nm,0.3s						
ULHL	Ulahol	1.70	213	⇑P	Pn	18 57 09.0	-0.4
	20nm,0.2s,SNR=144						
ULHL				⇓S	Sn	18 57 28.6	-2.8
	117nm,0.2s						
CHMS	Chumysh	2.12	252	⇑P	Pn	18 57 15.8	+0.4
	38nm,0.2s,SNR=45						
CHMS				⇑S	Sn	18 57 41.9	-0.1
	342nm,0.2s						
KBK	Karagaybulak	2.13	242	⇓P	Pn	18 57 16.7	+1.1
	98nm,0.2s,SNR=91						
KBK				⇑S	Sn	18 57 42.2	0.0
	375nm,0.2s						
USP	Ospenovka	2.22	261	⇑P	Pn	18 57 17.7	+0.8
	62nm,0.3s,SNR=21						
USP				⇓S	Sn	18 57 45.6	+0.9
	150nm,0.2s						
AAK	Ala-Archa	2.43	246	⇑Pn	Pn	18 57 21.7	+1.8
	46nm,0.3s						
AAK				⇓Sn	Sn	18 57 50.3	+0.3
	36nm,0.5s						
AAK	Ala-Archa	2.43	246	⇓P	Pn	18 57 21.5	+1.5
	107nm,0.3s,SNR=46						
AAK				⇑S	Sn	18 57 51.0	+1.0
	97nm,0.3s						
EKS2	Erkin-Say	2.91	251	⇓P	Pn	18 57 27.2	+0.6
	24nm,0.3s,SNR=20						
KURK	Kurchatov	7.09	6	⇑Pn	Pn	18 58 27.1	+1.3
	5.9nm,2.4s,baz=145,slow=6.7,SNR=3.5						
KURK				⇑Sn	Sn	18 59 47.6	+0.3
	2.1nm,0.6s,baz=280,slow=15,SNR=4.5						
KURK				Lg		19 00 26.9	
	6.8nm,0.7s,baz=94,slow=10,SNR=7.0						
VOSK	Vostochnaya	10.04	337	⇑Pn	P	18 59 06.1	-0.7
	5.0nm,2.2s						
VOSK				⇓Sn	S	19 00 55.3	-5.3
	1.0nm,0.8s						
VOSK				⇓Lg		19 01 54.7	
	6.0nm,1.1s						
BVA0	Borovoye Array	10.48	336	Pn	P	18 59 11.0	-1.8
	0.2nm,0.7s,baz=142,slow=12,SNR=7.1						
BVA0				⇑Lg		19 02 08.5	
	0.6nm,0.7s,baz=156,slow=29,SNR=4.9						
ZRNK	Zerenda	10.86	332	⇑Pn	P	18 59 16.6	-1.4
	3.4nm,1.4s						
ZRNK				⇑Sn	S	19 01 15.0	-5.7
	5.3nm,1.8s						
ZRNK				⇑Lg		19 02 20.3	
	6.6nm,1.6s						

MEX 14 19:02:46.2±1.1, 16.51N×98.40W, h20km±51km, MD3.9, 1C-1D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.29	115	⇑*i*P	Pb	19 02 50.9	-1.7
PNIG				*i* S	Sb	19 02 56.4	-0.6
ACX	Acapulco	1.50	284	*i* P	Pn	19 03 13.5	+1.2
VHO	Vista Hermosa	1.69	71	⇓*e*P	Pn	19 03 12.3	-2.7
VHO				*e*S	Sn	19 03 32.9	-3.4
OXX	Oaxaca	1.70	70	*i* P	Pn	19 03 13.0	-2.2
OXX				*i* S	Sn	19 03 33.0	-3.6
CAIG	El Cayaco	1.87	287	*e*P	Pn	19 03 16.8	-0.8
CAIG				*i* S	Sn	19 03 38.5	-2.4
PPM	Popocatepetl	2.55	355	*e*P	Pn	19 03 25.0	-2.4
CMIG	Matias Romero	3.42	80	*i* P	Pn	19 03 34.9	-4.7
CMIG				*i* S	Sn	19 04 14.4	-5.6

*ISK **14** 19:04:55.2, 36.94N×27.72E, h8km, MD3.4*
*CSEM **14** 19:04:56.4±0.1, 36.99N×27.79E, h15km, MD3.5/1, Error ellipse: s-maj=2.8km s-min=2.4km az=69.0*
*ATH **14** 19:04:57.0, 36.87N×27.68E, h5km, MD3.4/8*
*NEIC **14** 19:04:57.1, 36.87N×27.69E, h5km, MD3.4(ATH), After ATH.*
ISC 14 19:04:55.6±0.5, 36.92N±0.03×27.73E±0.03, h8km±5km, n22, σ0^{s}94/29, 3C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.27	304	*i* P	Pg	19 05 02.7	+1.5
BDRM				*i* S	Sg	19 05 07.5	+2.7
MLSB	Milas	0.38	6	PG	Pg	19 05 03.3	-0.1
MLSB				SG	Sg	19 05 08.5	0.0
YER	Yerkesik	0.50	64	*i* PG	Pg	19 05 05.1	-0.5
YER				*i* SG	Sg	19 05 12.2	-0.1
NISR	Nisiros	0.57	238	*e*PB	Pb	19 05 08.5	+1.1
NISR	Nisiros	0.57	238	*e*Pb	Pb	19 05 09.0	+1.6
DALT	Dalyan (Mudla)	0.75	101	PG	Pg	19 05 10.0	-0.6
DALT				SG	Sg	19 05 21.6	+1.0
AYDN	Tasoluk	0.75	9	⇑*i*P	Pb	19 05 10.4	-0.2
AYDN				*i* S	Sg	19 05 20.3	-0.5
ARG	Arkhangelos	0.77	155	*e*PG	Pg	19 05 11.0	0.0
SMG	Samos	1.06	318	*e*PB	Pb	19 05 16.4	+0.5
DNZL	Cakiroluk	1.31	53	⇑*i*P	Pb	19 05 19.9	-0.1
DNZL				*i* S	Sb	19 05 36.8	0.0
DENT	Denizli	1.34	51	*e*PN	Pn	19 05 20.7	0.0
KARP	Karpathos	1.44	199	*e*PG	Pg	19 05 23.0	-1.4
IZM	Izmir	1.52	346	PN	Pn	19 05 23.1	-0.3
KDAG	Bornova	1.53	346	⇑*i*P	Pn	19 05 23.2	-0.2
KDAG				*i* S	Sb	19 05 47.9	+4.6
BLCB	Balcova	1.56	340	PN	Pn	19 05 23.4	-0.5
KSL	Kastellorizon	1.68	116	*e*PB	Pb	19 05 29.0	+2.6
ELL	Elmali	1.76	95	PN	Pn	19 05 27.2	+0.5
APE	Apeiranthos	1.76	276	PN	Pn	19 05 26.5	-0.3
APE	Apeiranthos	1.76	276	*e*Pb	Pb	19 05 27.5	-0.4
AKS	Akhisar	1.96	2	PN	Pn	19 05 29.3	-0.3
NPS	Neapolis	2.38	227	*e*PG	Pg	19 05 40.5	-2.6
PRK	Paraskevi	2.59	334	*e*PG	Pg	19 05 46.6	-0.8

*NEIC **14** 19:31:53.2±0.9, 3.34S×151.88E, h402km±9km, mb4.2/3, Error ellipse: s-maj=31.3km s-min=12.2km az=107.0*
*IDC **14** 19:31:54.5±3.8, 3.45S×151.88E, h414km±45km, mb2.9/4, mb1 3.2/6, mb1mx3.1/14, Error ellipse: s-maj=50.8km s-min=25.5km az=113.0*
ISC 14 19:31:52.6±1.1, 3.4S±0.1×151.9E±0.2, h409km±11km, n12, σ0^{s}83/12, mb3.4/5, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAB	Rabaul	0.85	159	*e*P	P	19 32 44.3	-0.1
WAU	Wau	6.45	232	*e*P	P	19 33 31.1	-0.1
PMG	Port Moresby	7.58	218	P	P	19 33 43.9	0.0
	1.4nm,0.3s,baz=32,slow=14,SNR=5.8						
CTA	Charters Tower	17.47	198	P	P	19 35 33.5	+1.5
	0.6nm,0.3s,baz=29,slow=10,SNR=7.0						
CTAO	Charters Tower	17.47	198	*e*P	P	19 35 33.5	+1.4
	8.9nm,0.9s						
GUMO	Guam	18.25	338	P	P	19 35 40.3	+0.4
	502nm,1.5s						
WRAB	Tennant Creek	23.71	225	*e*P	P	19 36 31.4	-0.3
	2.0nm,0.5s,mb3.8						
WRA	Warramunga Arr	23.72	225	P	P	19 36 31.4	-0.5
	0.5nm,0.3s,mb3.4,baz=48,slow=9.5,SNR=12						
ASAR	Alice Springs	26.59	219	P	P	19 36 57.0	-0.6
	0.3nm,0.4s,mb3.1,baz=50,slow=8.6,SNR=15						
MA2	Magadan	62.78	359	*e*P	P	19 41 34.8	-3.2
	55nm,1.1s						
SONM	Songino Array	64.64	328	P	P	19 41 51.1	+1.0
	0.3nm,0.6s,mb3.1,baz=148,slow=5.3,SNR=6.0						
ILAR	Eielson Array	81.22	22	P	P	19 43 24.9	-0.2
	0.7nm,0.5s,mb3.6,baz=250,slow=5.4,SNR=7.9						

*IDC **14** 19:35:56.6±2.9, 8.16S×112.41E, mb3.7/4, mb1 3.8/4, mb1mx3.7/12, Error ellipse: s-maj=131.0km s-min=23.5km az=57.0*
*DJA **14** 19:35:58.4±1.0, 9.36S×111.38E, h80km, MD4.7/3, ML5.2/3, Error ellipse: s-maj=57.4km s-min=20.7km az=162.0*
*NEIC **14** 19:36:01.2±3.2, 8.90S×111.47E, h61km±25km, mb4.2/2, Error ellipse: s-maj=36.1km s-min=16.3km az=71.0*
ISC 14 19:36:00.2±2.5, 8.9S±0.1×111.5E±0.1, h70km±22km, n11, σ0^{s}79/14, mb3.8/6, 2C-5D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	Scrawed	2.67	82	⇑*e*Pn	P	19 36 42.0	+0.1
	828nm,0.2s						
SRDI				⇓*e*Sn	S	19 37 12.9	-0.2
KELI	Kelakatan	3.05	78	⇑*e*Pn	P	19 36 47.9	+0.5
	528nm,0.2s						
KELI				⇓*e*Sn	S	19 37 24.8	+2.0
RATI	Rata	4.01	88	⇓*e*Pn	P	19 37 00.8	0.0
	573nm,0.1s						
RATI				⇓*e*Sn	S	19 37 45.2	-1.7
KEDI	Kedomdong	4.60	86	⇓*e*P	P	19 37 08.0	-1.0
MBWA	Marble Bar	14.59	148	*e*P	P	19 39 16.5	-7.8
NWAO	Narrogin (SRO)	24.53	168	*e*P	P	19 41 14.6	0.0
	20nm,1.3s,mb4.4						
WRA	Warramunga Arr	24.70	119	P	P	19 41 16.9	+0.6
	0.7nm,0.8s,mb3.1,baz=299,slow=11,SNR=7.7						
WRAB	Tennant Creek	24.70	119	*e*P	P	19 41 16.1	-0.3
	4.4nm,1.0s,mb3.8						
ASAR	Alice Springs	26.02	127	P	P	19 41 29.0	+0.3
	0.8nm,0.4s,mb3.5,baz=305,slow=9.1,SNR=17						
STKA	Stephens Creek	36.13	134	P	P	19 42 57.9	+0.3
	0.9nm,0.6s,mb3.9,baz=326,slow=15,SNR=2.8						
SONM	Songino Array	56.63	356	P	P	19 45 38.0	-0.5
	0.8nm,0.7s,mb3.9,baz=178,slow=8.3,SNR=8.3						
SONM				PcP	PcP	19 46 33.6	-0.2
	0.4nm,0.5s,baz=162,slow=2.9,SNR=3.8						

CASC 14 20:04:01.7±2.4, 11.16N×86.90W, h20km±10km, MD4.2, 8C-2D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	Copaltepe	1.06	17	⇑*e*P	Pb	20 04 20.8	-0.4
COPN				*e*S	Sb	20 04 34.5	0.0
TICN	Ticuantepe	1.09	37	⇓*e*P	Pb	20 04 21.6	-0.1
APON	Apoyo	1.11	47	*e*P	Pb	20 04 22.0	-0.1
XAVN	Gruta Xavier	1.13	30	⇑*e*P	Pb	20 04 22.0	-0.4
MGAN	Managua	1.17	33	*e*P	Pb	20 04 21.9	-1.2
MGAN				*e*S	Sb	20 04 37.8	0.0
APYN	Apoyeque	1.19	27	⇑*e*P	Pb	20 04 23.5	0.0
APYN				*e*S	Sb	20 04 41.6	+3.1
WILN	Americas 2	1.21	35	⇑*e*P	Pn	20 04 23.5	-0.3
WILN				*e*S	Sb	20 04 39.1	0.0
LEON	Leon	1.25	0	⇑*e*P	Pn	20 04 23.5	-0.7
MIRN	Miramar	1.28	8	⇑*e*P	Pn	20 04 24.4	-0.3
MOMJ	Momotombo	1.29	16	⇑*e*P	Pn	20 04 24.1	-0.7
MOMJ				*e*S	Sb	20 04 41.4	+0.2
CNGN	Cerro Negro	1.34	9	*e*P	Pn	20 04 24.8	-0.8
CNGN				*e*S	Sb	20 04 46.0	+3.1
TEL3	Telica 3	1.40	2	*e*P	Pn	20 04 25.8	-0.6
TELN	Telica	1.43	3	⇑*e*P	Pn	20 04 26.8	-0.1
TELN				*e*S	Sn	20 04 44.4	-0.9
CRIN	San Cristobal	1.53	355	*e*P	Pn	20 04 27.6	-0.8
CRIN				*e*S	Sn	20 04 49.2	+1.3
PYTN	Playitas	1.60	31	⇓*e*P	Pn	20 04 28.5	-0.8
PYTN				*e*S	Sn	20 04 48.9	-0.6

*PLV **14** 20:15:31.0±3.3, 24.35N×102.63E, h0km±999km, MD3.0*
BJI 14 20:15:35.0, 24.27N×102.85E, h9km, mb3.6, ML3.2, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	Kunming	0.85	353	*e*PG	Pg	20 15 51.3	-0.9
KMI				SG	Sg	20 16 02.6	-1.0
KMI				Smax			
	comp=N,346nm,0.7s						
KMI				Smax			
	comp=E,521nm,0.9s						
DHV	Doan Hung	3.40	140	*e*SG	Sg	20 17 25.8	-2.4
BVV	Ba Vi	3.92	143	*e*SG	Sg	20 17 43.6	-1.9
GYA	Guiyang	4.08	57	PG	Pg	20 16 42.8	-14
GYA				S	Sn	20 17 31.0	+3.5
GYA				Smax			
	comp=N,20nm,0.9s						
GYA				Smax			
	comp=E,20nm,1.0s						
HNV	Hanoi	4.21	139	*e*SG	Sg	20 17 54.1	-0.9
MTZV	Met	4.21	129	*e*SG	Sg	20 17 55.6	+0.5
YTV	Yen Tu	4.73	130	*e*PG	Pg	20 17 04.4	-4.9
YTV				*e*SG	Sg	20 18 08.4	-4.0
PLV	Phu-Lien	4.91	134	*e*PG	Pg	20 17 10.6	-2.4
PLV				*e*SG	Sg	20 18 16.2	-2.2

KRSC 14 20:25:13.4±1.2, 55.36N×162.44E, h19km±2km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.88	14	*e*P	Pb	20 25 29.8	0.0
KBTR				*e*S	Sb	20 25 43.2	+2.2
KBG	Krutoberegovo	0.91	9	*e*P	Pb	20 25 31.0	+0.7
KBG				*e*S	Sb	20 25 44.0	+2.0
KBG				Smax			
	2μm,1.0s						
ZLN	Zelenaya	1.14	306	*e*P	Pb	20 25 34.1	-0.1
ZLN				*e*S	Sb	20 25 50.4	+1.9
CIRR	Tsirk	1.22	309	*e*P	Pn	20 25 34.8	-0.8
CIRR				*e*S	Sb	20 25 51.0	0.0
LGNR	Loginova	1.23	307	*e*P	Pn	20 25 36.8	+1.1
LGNR				*e*S	Sb	20 25 52.9	+1.7
KMNR	Kamenistaya	1.31	288	*e*P	Pn	20 25 37.1	+0.2
KMNR				*e*S	Sb	20 25 54.6	+1.0
TUMR	Tumrok	1.31	268	*e*P	Pn	20 25 37.0	+0.1
TUMR				*e*S	Sb	20 25 54.1	+0.4
KRSR	Krestovskiy	1.36	310	*e*P	Pn	20 25 37.4	-0.3
KRSR				*e*S	Sb	20 25 54.9	-0.2
KLY	Klyuchi	1.39	314	*e*P	Pn	20 25 36.7	-1.3
KLY				*e*S	Sb	20 25 53.9	-2.0
KPT	Kopyto	1.40	297	*e*P	Pn	20 25 38.7	+0.6
KPT				*e*S	Sb	20 25 57.1	+1.1
SVLR	Shiveluch	1.40	331	*i* P	Pn	20 25 38.4	+0.2
SVLR				*e*S	Sb	20 25 57.0	+0.8
KOZ	Kozyrevsk	1.61	297	*e*P	Pn	20 25 42.1	+0.9
KOZ				*e*S	Sn	20 26 03.0	+1.4
SRDR	Sredinnyy	1.81	303	*e*P	Pn	20 25 44.6	+0.5
SRDR				*e*S	Sn	20 26 08.9	+2.2
BKI	Bering	2.03	93	*e*S	Sn	20 26 09.6	-2.6
BKI				Smax			
	100nm,0.2s						
KII	Karymskiy	2.19	234	*e*P	Pn	20 25 49.8	+0.4
ESO	Esso	2.19	286	*e*P	Pn	20 25 49.5	-0.1
ESO				*e*S	Sn	20 26 16.0	-0.4
ESO				Smax			
	60nm,0.5s						
SPN	Mys Shipunski	2.67	213	*e*P	Pn	20 25 54.8	-1.6
SPN				*e*S	Sn	20 26 26.2	-2.4
NLC	Nalytchevo	2.85	221	*e*P	Pn	20 25 59.2	+0.3
NLC				*e*S	Sn	20 26 31.4	-1.6
SDLR	Sedlovina	2.95	226	*e*P	Pn	20 26 00.0	-0.3
SDLR				*e*S	Sn	20 26 34.8	-0.7
SMAR	Somma	2.99	227	*e*P	Pn	20 26 01.5	+0.5
SMAR				*e*S	Sn	20 26 36.1	-0.6
AVH	Avacha	3.02	227	*e*P	Pn	20 26 02.1	+0.8
AVH				*e*S	Sn	20 26 37.6	+0.3
UGLR	Uglovaya	3.02	226	*e*P	Pn	20 26 02.3	+0.9
KOK	Koryaka	3.04	229	*e*P	Pn	20 26 04.6	+3.0
KOK				*e*S	Sn	20 26 40.4	+2.5
GNL	Ganaly	3.11	239	*e*P	Pn	20 26 02.0	-0.6
PET	Petropavlovsk	3.23	225	P	Pn	20 26 06.2	+1.9
PET				*e*S	Sn	20 26 43.3	+0.6
RUS	Russkaya	3.74	220	*e*P	Pn	20 26 12.1	+0.5
RUS				*e*S	Sn	20 26 54.6	-1.0
GRL	Gorelyy	3.82	224	P	Pn	20 26 13.6	+1.0
GRL				*e*S	Sn	20 26 54.9	-2.6

*IDC **14** 20:36:48.6±1.6, 58.61N×30.28W, mb3.9/7, mb1 4.1/9, mb1mx3.8/22, ML3.4/2, MS3.4/10, Ms1 3.4/10, ms1mx3.2/25, Error ellipse: s-maj=38.7km s-min=23.4km az=22.0*
*NEIC **14** 20:36:50.1±1.0, 58.61N×30.21W, h10km, Error ellipse: s-maj=20.4km s-min=13.5km az=208.0*
ISC 14 20:36:49.6±0.9, 58.83N±0.09×30.0W±0.2, h10km, n19, σ1^{s}13/12, mb3.8/7, MS3.3/9, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	7.22	31	Pn	Pn	20 38 38.7	+0.9
	2.7nm,0.3s,baz=315,slow=11,SNR=8.1						
BORG				Sn	Sn	20 39 59.5	-1.3
	1.3nm,0.3s,baz=59,slow=5.4,SNR=8.0						
SUMG	Summit	14.21	350	P	P	20 40 08.5	-4.0
EKA	Eskdalemuir Ar	14.97	92	Pn	P	20 40 21.7	-1.0
	0.0nm,0.3s,baz=287,slow=9.7,SNR=3.2						
FRB	Frobisher Bay	18.92	301	LR	LR	20 47 11.1	
	comp=Z,194nm,18.2s,baz=327,slow=33						
NOA	NORSAR Array B	20.54	66	LR	LR	20 48 35.1	
	comp=Z,39nm,18.9s,MS2.8,baz=300,slow=34						
ESDC	Sonseca Array	25.35	128	P	P	20 42 17.0	-1.0
	0.7nm,0.8s,mb3.2,baz=304,slow=4.6,SNR=2.6						
ESDC				LR	LR	20 49 59.8	
	comp=Z,72nm,19.5s,MS3.2,baz=190,slow=31						
ARCES	ARCESS Array B	25.44	42	P	P	20 42 19.9	+1.4
	3.1nm,0.8s,mb3.9,baz=270,slow=7.3,SNR=13						
ARCES				LR	LR	20 50 41.8	
	comp=Z,37nm,18.7s,MS2.9,baz=16,slow=32						
FINES	FINESS Array B	27.32	60	P	P	20 42 37.5	+1.6
	3.3nm,0.8s,mb3.9,baz=288,slow=6.0,SNR=3.6						
ULM	Lac du Bonnet	37.68	287	LR	LR	20 57 49.7	
	comp=Z,73nm,21.4s,MS3.5,baz=62,slow=34						
YKA	Yellowknife Ar	38.81	312	P	P	20 44 14.2	-1.5
	1.7nm,0.7s,mb3.9,baz=55,slow=9.8,SNR=4.1						
YKA				LR	LR	20 58 45.0	
	comp=Z,67nm,20.6s,MS3.5,slow=34						
YKA	Yellowknife Ar	38.81	312	P	P	20 44 14.2	-1.5
YKA				LR	LR	20 58 45.0	
BRTR	Keskin Array B	43.81	87	LR	LR	21 03 24.7	
	comp=Z,39nm,19.5s,MS3.3,baz=335,slow=36						
DLBC	Dease Lake	47.24	315	LR	LR	21 02 57.3	
	comp=Z,89nm,19.9s,MS3.7,baz=78,slow=33						
ILAR	Eielson Array	47.86	329	P	P	20 45 29.4	+0.6
	1.0nm,0.9s,mb3.9,baz=26,slow=6.5,SNR=9.4						
PDAR	Pinedale Array	49.65	288	LR	LR	21 05 33.4	
	comp=Z,50nm,18.8s,MS3.5,baz=257,slow=35						
NVAR	Mina Array Bea	57.25	291	LR	LR	21 10 20.1	
	comp=Z,48nm,21.3s,MS3.6,baz=5.0,slow=35						
SONM	Songino Array	67.83	30	P	P	20 47 49.0	-0.4
	0.7nm,1.0s,mb3.7,baz=330,slow=10.0,SNR=5.3						
CMAR	Chiang Mai Arr	92.39	48	P	P	20 50 02.1	+0.8
	0.5nm,0.8s,mb3.9,baz=308,slow=5.6,SNR=4.9						
QSPA	South Pole Qui	148.73	180	*e*P	PKPdf	20 56 37.1	+2.9

IDC 14 20:41:01.2±2.8, 14.09S×168.32E, mb3.8/5, mb1 4.0/5, mb1mx3.8/14, Error ellipse: s-maj=128.0km s-min=30.9km az=137.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	21.91	251	P	P	20 46 00.2	+2.2
	5.8nm,1.0s,baz=67,slow=15,SNR=4.5						
STKA	Stephens Creek	30.18	230	P	P	20 47 12.4	-3.1
	2.9nm,1.0s,baz=33,slow=6.4,SNR=3.6						
WRA	Warramunga Arr	32.97	255	P	P	20 47 38.3	-1.8
	0.7nm,0.8s,baz=85,slow=9.2,SNR=6.2						
ASAR	Alice Springs	33.85	248	P	P	20 47 46.1	-1.6
	0.7nm,0.7s,baz=75,slow=8.8,SNR=6.0						
ILAR	Eielson Array	85.61	18	P	P	20 53 41.2	-1.2
	0.5nm,0.6s,baz=233,slow=5.9,SNR=8.5						

DJA 14 20:52:24.8±1.0, 9.78S×114.22E, h15km, MD5.1/3, ML4.4/3, 5C-2D, Error ellipse: s-maj=22.5km s-min=11.3km az=33.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	Scrawed	1.29	357	⇓*e*Pn	Pn	20 52 45.3	-3.1
	740nm,0.2s						
SRDI				⇑*e*Sn	Sn	20 53 00.6	-4.8
KELI	Kelakatan	1.57	10	⇓*e*Pn	Pn	20 52 50.3	-2.1
	265nm,0.1s						
KELI				⇑*e*Sn	Sn	20 53 08.7	-3.8
RATI	Rata	1.67	51	⇑*e*Pn	Pn	20 52 50.8	-3.0
	214nm,0.2s						
RATI				⇑*e*Sn	Sn	20 53 09.9	-5.1
KEDI	Kedomdong	2.27	56	⇑*e*Pn	Pn	20 52 59.7	-2.7

CASC 14 21:09:14.6±2.7, 11.49N×86.75W, h24km±10km, MD3.9, 8C-2D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	Copaltepe	0.70	12	⇑*e*P	Pb	21 09 28.4	+0.4
COPN				*e*S	Sb	21 09 38.0	+0.8
TICN	Ticuantepe	0.73	43	*e*P	Pb	21 09 28.5	-0.1
TICN				*e*S	Sb	21 09 38.7	+0.4
XAVN	Gruta Xavier	0.77	32	⇓*e*P	Pb	21 09 29.4	+0.2
XAVN				*e*S	Sb	21 09 40.9	+1.6
APON	Apoyo	0.79	58	⇑*e*P	Pb	21 09 28.8	-0.7
APON				*e*S	Sb	21 09 39.3	-0.4
MGAN	Managua	0.81	37	⇑*e*P	Pb	21 09 29.5	-0.5
MGAN				*e*S	Sb	21 09 40.9	+0.4
APYN	Apoyeque	0.83	28	⇑*e*P	Pb	21 09 30.1	-0.2
APYN				*e*S	Sb	21 09 42.5	+1.5
WILN	Americas 2	0.86	39	*e*P	Pb	21 09 30.2	-0.6
WILN				*e*S	Sb	21 09 42.4	+0.6
LEON	Leon	0.93	351	⇓*e*P	Pb	21 09 31.6	-0.3
MOMJ	Momotombo	0.93	12	*e*P	Pb	21 09 32.5	+0.6
MOMJ				*e*S	Sb	21 09 45.2	+1.3
MIRN	Miramar	0.94	2	⇑*e*P	Pb	21 09 31.9	-0.3
MIRN				*e*S	Sb	21 09 45.0	+0.8
CNGN	Cerro Negro	1.00	3	*e*P	Pb	21 09 32.6	-0.5
CNGN				*e*S	Sb	21 09 46.1	+0.2
TEL3	Telica 3	1.08	355	⇑*e*P	Pn	21 09 34.0	-0.3
TEL3				*e*S	Sb	21 09 48.4	+0.3
TELN	Telica	1.11	356	*e*P	Pn	21 09 35.5	+0.7
CRIN	San Cristobal	1.23	346	*e*P	Pn	21 09 36.2	-0.4
CRIN				*e*S	Sn	21 09 53.6	+0.9
PYTN	Playitas	1.24	33	⇑*i*P	Pn	21 09 35.4	-1.2
JCR	Jicaral	2.29	135	⇑*e*P	Pn	21 09 49.0	-2.7
JCR				*e*S	Sn	21 10 21.6	+2.1
CGA2	Cerro Gallo 2	2.68	123	*e*P	Pn	21 10 00.5	+3.3
CGA2				*e*S	Sn	21 10 32.2	+2.8
PRS1	Puriscal	2.82	122	*e*P	Pn	21 09 57.3	-2.0
PRS1				*e*S	Sn	21 10 37.3	+4.3
LAJ	Bijagual	3.04	122	*e*P	Pn	21 09 56.7	-5.8
TRTC	Tortuguero	3.11	107	*e*P	Pn	21 10 03.5	0.0
LCR2	La Lucha 2	3.21	123	*e*P	Pn	21 10 02.0	-2.8
LCR2				*e*S	Sn	21 10 46.2	+3.5
URSC	Urasca	3.35	119	*e*P	Pn	21 10 06.2	-0.6

*IDC **14** 21:20:07.6±2.1, 51.29N×178.22E, mb3.5/5, mb1 3.9/5, mb1mx3.6/21, ML4.2/1, Error ellipse: s-maj=61.1km s-min=13.3km az=12.0*
*NEIC **14** 21:20:08.2±2.2, 51.02N×177.78E, h10km, ML3.6(AEIC), Error ellipse: s-maj=61.6km s-min=9.7km az=189.0*
ISC 14 21:20:10.2±1.6, 51.2N±0.3×177.9E±0.1, h33km, n11, σ1^{s}18/13, mb3.6/5, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SMY	Shemya	2.82	305	P	P	21 20 53.5	-0.4
SMY				S	S	21 21 27.1	+0.1
KIMD	Kanaga Island	3.11	77	P	P	21 20 58.9	+0.9
KIKV	Kanaga Island	3.17	75	P	P	21 20 59.8	+0.9
FX1	Attu Island--F	3.38	302	Pn	Pn	21 21 00.9	-1.1
	77nm,0.3s,baz=90,slow=24,SNR=9423						
FX1				Sn	Sn	21 21 43.8	+2.2
	42nm,0.3s,baz=263,slow=22,SNR=10						
FX1	Attu Island--F	3.38	302	P	P	21 21 00.8	-1.1
ATKA	Atka Island	5.04	75	P	P	21 21 26.2	+0.9
ILAR	Eielson Array	22.73	40	P	P	21 25 07.5	-2.3
	0.5nm,0.6s,mb3.1,baz=244,slow=7.7,SNR=9.9						
SONM	Songino Array	44.87	295	P	P	21 28 24.0	+1.3
	0.2nm,0.6s,mb3.1,baz=63,slow=6.4,SNR=2.6						
NVAR	Mina Array Bea	45.64	80	P	P	21 28 28.8	-0.3
	0.5nm,0.7s,mb3.6,baz=293,slow=6.4,SNR=4.5						
PDAR	Pinedale Array	48.35	70	P	P	21 28 49.4	-0.8
	0.5nm,0.7s,mb3.7,baz=344,slow=4.1,SNR=4.4						
ARCES	ARCESS Array B	57.92	349	P	P	21 29 56.5	-4.2
	2.2nm,0.7s,mb4.3,baz=31,slow=8.8,SNR=5.3						

*IDC **14** 21:24:15.9±4.5, 41.10N×70.51E, mb3.8/2, mb1 4.0/3, mb1mx3.5/16, ML3.5/1, Error ellipse: s-maj=84.8km s-min=37.5km az=1.0*

ISC 14 21:24:23.7±4.3**, 41.7N**±0.4×**70.7E**±0.3**, h49**km±31km**, n9, σ1§00**/9**, mb3.7**/2**, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	2.30	79	P	P	21 24 59.7	-0.3
	SNR=32						
EKS2	Erkin-Say	2.50	67	P	P	21 25 07.0	+4.1
	SNR=13						
UCH	Uchtor	2.92	79	P	P	21 25 03.3	-5.5
	SNR=24						
AAK	Ala-Archa	3.00	71	P	P	21 25 08.9	-1.0
	SNR=15						
USP	Ospenovka	3.24	60	P	P	21 25 16.0	+2.7
	SNR=7.1						
CHMS	Chumysh	3.29	66	P	P	21 25 14.0	-0.1
	SNR=6.7						
ZAL	Zalesovo	15.44	33	Pn	P	21 27 58.8	-0.7
	0.5nm,0.3s,baz=275,slow=9.4,SNR=4.9						
SONM	Songino Array	25.93	64	P	P	21 29 53.2	+0.3
	0.6nm,0.8s,mb3.2,baz=270,slow=9.6,SNR=4.7						
FINES	FINESS Array B	33.11	322	P	P	21 30 56.8	0.0
	3.5nm,1.1s,mb4.2,baz=121,slow=11,SNR=4.7						

*IDC **14** 22:04:15.8±1.2, 21.97N×121.44E, mb3.6/7, mb1 3.9/7, mb1mx3.8/17, MS3.1/2, Ms1 3.2/2, ms1mx2.7/26, Error ellipse: s-maj=48.9km s-min=20.9km az=66.0*
*TAP **14** 22:04:19.0, 22.01N×121.23E, h1km±1km, ML3.8*
*NEIC **14** 22:04:22.2±2.3, 21.84N×121.44E, h51km±24km, mb4.0/2, Error ellipse: s-maj=23.3km s-min=16.0km az=70.0*

ISC 14 22:04:16.1±5.5**, 21.72N**±0.07×**121.3E**±0.2**, h6**km±35km**, n13, σ1§34**/11**, mb3.6**/9**, MS2.8**/1**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TATO	Taipei	3.25	3	*e*Pn	Pn	22 05 08.9	+0.3
TATO				*e*Sn	Sn	22 05 49.0	+1.0
JOW	Kunigami	8.17	50	LR	LR	22 09 40.7	
	comp=Z,187nm,20.0s,baz=114,slow=41						
CM31	Chiang Mai Arr	21.22	265	*e*P	P	22 09 05.9	+0.9
	7.4nm,1.3s,mb3.9						
CMAR	Chiang Mai Arr	21.22	265	P	P	22 09 05.2	+0.3
	1.5nm,0.9s,mb3.3,baz=78,slow=9.1,SNR=9.7						
CMAR				LR	LR	22 18 32.5	
	comp=Z,39nm,19.5s,MS2.8,baz=100,slow=40						
SONM	Songino Array	28.68	339	P	P	22 10 13.0	-2.7
	0.5nm,0.6s,mb3.5,baz=158,slow=8.9,SNR=6.4						
ZAL	Zalesovo	42.38	329	P	P	22 12 11.9	-0.7
	0.6nm,0.5s,mb3.5,baz=106,slow=11,SNR=3.1						
MA2	Magadan	43.23	21	P	Px	22 12 12.9	
	149nm,1.5s						
WRA	Warramunga Arr	43.33	162	P	P	22 12 22.1	+1.3
	1.1nm,0.8s,mb3.6,baz=345,slow=8.6,SNR=7.7						
WB2	Warramunga Arr	43.33	162	*e*P	Px	22 12 17.4	
ASAR	Alice Springs	46.75	164	P	P	22 12 47.8	-0.4
	0.4nm,0.5s,mb3.6,baz=348,slow=7.4,SNR=4.1						
ZRNK	Zerenda	50.42	322	P	P	22 13 19.0	+2.9
	2.1nm,0.9s,mb4.2						
NOA	NORSAR Array B	80.44	332	P	P	22 16 27.3	-2.4
	0.6nm,0.8s,mb3.5,baz=61,slow=3.3,SNR=2.7						
GERES	GERESS Array B	84.80	321	P	P	22 16 51.6	-0.8
	0.6nm,0.8s,mb3.8,baz=79,slow=6.8,SNR=5.2						

*LDG **14** 22:08:03.4±0.8, 42.94N×1.38W, h2km, Md2.0/2, Ml2.1/1, Error ellipse: s-maj=12.9km s-min=4.7km az=42.0*

MDD 14 22:08:03.0±0.5**, 42.88N**×**1.39W, mbLg1.1**/8**, Error ellipse: s-maj=4.2km s-min=2.8km az=54.0, PRXIMO AftershockPLICA, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.26	26	*e*Pg	Pg	22 08 07.7	-0.5
SJPF				*e*Sg	Sg	22 08 10.6	-1.1
	12nm,0.3s						
EALK	Alkurruntz	0.35	345	Pg	Pg	22 08 09.3	-0.8
	SNR=8.5						
EALK				Lg		22 08 14.9	
	6.2nm,0.2s,SNR=10						
ETSF	Etsaut	0.61	88	*e*Pg	Pg	22 08 13.3	-1.8
ETSF				*e*Sg	Sg	22 08 22.7	-0.5
	3.6nm,0.4s						
EBIE	Bielsa	1.14	99	Pg	Pg	22 08 24.4	-1.3
	1.8nm,0.1s,SNR=7.9						
EBIE				Lg		22 08 41.2	
	1.0nm,0.1s,SNR=7.9						
EPF	Esparros	1.27	83	*e*Pg	Pg	22 08 27.9	-0.6
EPF				*e*Sg	Sg	22 08 43.9	-1.6
	5.0nm,0.4s						
ESAC	San Caprasio	1.34	149	Pg	Pg	22 08 27.3	-2.5
	5.4nm,0.2s,SNR=7.9						
ESAC				Lg		22 08 44.9	
	4.3nm,0.2s,SNR=4.0						
ELAN	Lanestosa	1.54	284	Pg	Pg	22 08 30.8	-3.0
	0.8nm,0.2s,SNR=4.0						
ELAN				Lg		22 08 51.0	
	1.3nm,0.3s,SNR=4.0						
ETOR	Torete	2.12	194	Pg	Pg	22 08 41.1	-4.2
	0.5nm,0.3s,SNR=4.0						
ETOR				Sn	Sn	22 09 05.6	-1.9
	SNR=7.9						
ETOR				Lg		22 09 11.2	
	0.4nm,0.2s,SNR=4.0						

*NIED **14** 22:14:00, 33.70N×141.20E, h53km, Mw4.0 Best double couple: Mo1.24×10^15 NP1:φs324°, δ55°, λ49°. NP2:φs201°, δ52°, λ133°.*
*JMA **14** 22:14:32.3±0.2, 33.71N×141.21E, h68km±4km, M3.6*
*NEIC **14** 22:14:34.5±0.9, 33.01N×139.07E, h10km, mb4.6/5, MW4.0(NIED), Error ellipse: s-maj=60.8km s-min=8.1km az=83.0*
*IDC **14** 22:14:35.9±1.0, 32.58N×138.75E, mb4.0/5, mb1 4.2/6, mb1mx3.8/21, ML4.4/1, MS4.8/1, Ms1 4.7/1, ms1mx2.8/27, Error ellipse: s-maj=23.7km s-min=10.8km az=139.0*

ISC 14 22:14:32.4±0.8**, 33.67N**±0.04×**141.18E**±0.08**, h61**km±8km**, n27, σ0§89**/37**, mb4.3**/9**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSO1	Boso 1	1.00	350	P	P	22 14 50.0	-0.7
BSO1				*e*S	S	22 15 04.2	0.0
BSO2	Boso 2	1.14	342	*e*S	S	22 15 08.6	+1.1
BSO3	Boso 3	1.26	334	P	P	22 14 54.1	-0.2
BSO3				*e*S	S	22 15 11.1	+0.6
JHJ2	Mitsune	1.27	245	P	P	22 14 55.2	+0.8
JHJ2				*e*S	S	22 15 11.6	+0.9
JHJ	Hachijo jima 2	1.29	245	Pg	P	22 14 54.8	+0.1
	559nm,0.3s,baz=60,slow=22,SNR=122						
JHJ				Lg		22 15 11.9	
	555nm,0.3s,baz=257,slow=23,SNR=21						
JHJ				LR	LR	22 15 14.4	
	comp=Z,2µm,19.7s,baz=11,slow=37						
BSO4	Boso 4	1.49	332	P	P	22 14 57.9	+0.4
BSO4				*e*S	S	22 15 17.9	+1.8
KTR	Katsuura	1.64	334	*e*S	S	22 15 18.1	-1.5
JKO	Kozu shima	1.78	288	P	P	22 15 01.7	+0.3
JIM2	Oshima 3	1.79	306	P	P	22 15 01.2	-0.4
JIM2				*e*S	S	22 15 22.1	-1.1
KTJJ	Kamata 2	2.16	306	P	P	22 15 06.2	-0.5
KTJJ				*e*S	S	22 15 31.0	-1.2
JIZS	Izushimoda	2.18	299	P	P	22 15 07.3	+0.3
JIZS				*e*S	S	22 15 33.1	+0.3
JOD2	Odawara 2	2.35	313	P	P	22 15 09.1	-0.4
JOD2				*e*S	S	22 15 36.1	-1.1
MAJO	Matsushiro	3.77	320	*e*Pn	P	22 15 30.4	+1.0
MAT	Matsushiro	3.77	320	P	P	22 15 30.0	+0.6
MAT				S	S	22 16 12.0	-0.8
MAT	Matsushiro	3.77	320	*e*P	P	22 15 30.0	+0.6
MAT				*e*S	S	22 16 12.0	-0.8
CBIJ	Chichi jima	6.61	172	Pn	P	22 16 07.0	-2.1
	22nm,0.3s,baz=284,slow=20,SNR=14						
CBIJ				Sn	S	22 17 15.8	-8.0
	19nm,0.3s,baz=266,slow=22,SNR=6.2						
SONM	Songino Array	29.63	309	P	P	22 20 35.1	+1.2
	1.4nm,0.8s,mb3.7,baz=116,slow=8.1,SNR=10						
KAKA	Kakadu	46.86	192	*e*P	P	22 23 04.2	+5.8
	9.4nm,0.7s,mb4.8						
ILAR	Eielson Array	52.46	31	P	sP	22 24 04.7	+1.1
	0.7nm,1.1s,baz=282,slow=6.9,SNR=4.1						
FITZ	Fitzroy Crossi	53.57	198	*e*P	P	22 23 50.2	+0.7
	2.5nm,0.6s,mb4.3						
ZRNK	Zerenda	53.58	314	*e*P	P	22 23 49.8	+0.7
	2.8nm,1.1s,mb4.1						
WRAB	Tennant Creek	53.70	188	*e*P	P	22 23 49.8	-0.7
	3.6nm,0.6s,mb4.5						
WB2	Warramunga Arr	53.70	188	*e*P	P	22 23 50.3	-0.2
WRA	Warramunga Arr	53.70	188	P	P	22 23 50.2	-0.3
	2.4nm,0.4s,mb4.5,baz=4.7,slow=7.5,SNR=37						
ASAR	Alice Springs	57.43	188	P	P	22 24 17.3	0.0
	0.9nm,0.6s,mb4.0,baz=4.0,slow=7.1,SNR=13						
STKA	Stephens Creek	65.19	180	P	P	22 25 12.7	+3.2
	1.0nm,0.5s,mb4.2,baz=44,slow=16,SNR=3.0						
NWAO	Narrogin (SRO)	69.97	201	*e*P	P	22 25 38.4	-0.9
	25nm,1.3s,mb5.0						

MAN 14 22:21:24.6, 17.15N×**120.68E, h64**km**, mb4.4, ML3.3, MS3.1, 1C-2D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ABRA	Dolores	0.49	3	*e*P	P	22 21 38.3	+1.3
BCPH	Baguio City Da	0.78	187	⇑*i*P	P	22 21 42.0	+1.9
BCPH				*i* S	S	22 21 53.0	+1.3
APYP	Conner	0.88	37	*e*P	P	22 21 40.4	-1.1
APYP				*e*S	S	22 21 56.0	+1.9
BOLP	Bolinao	1.06	224	*e*P	P	22 21 45.4	+1.5
CAUP	Cauayan	1.11	101	*e*P	P	22 21 46.2	+1.7
PIP	Pasuquin	1.17	357	⇓*i*P	P	22 21 45.1	-0.2
PIP				*i* S	S	22 22 02.2	+1.5
CVP	Callao Caves	1.22	63	*e*P	P	22 21 46.0	0.0
CVP				*i* S	S	22 22 04.5	+2.6
POLP	Polilio Island	2.70	153	*e*P	P	22 22 05.8	-0.9
LQP	Lukban	3.13	165	⇓*i*P	P	22 22 12.5	-0.3

*LDG **14** 22:35:45.9±0.4, 17.18S×167.12E, h10km, Mb4.9/2, Ms4.2/8, Error ellipse: s-maj=53.3km s-min=33.1km az=45.0*
*HRVD **14** 22:35:48.4±0.4, 17.27S×167.64E, h28km±1km, MW4.9/45, Centroid moment Tensor Solution. LP body waves: s27,c35;Mantle waves: s45,c62; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.44±.22; Mθθ0.32±.16; Mφφ-2.75±.15; Mrθ0.79±.33; Mθφ0.44±.11; Mφr-1.48±.22; Best double couple: Mo3.12×10^16 NP1:φs5°, δ31°, λ112°. NP2:φs160°, δ62°, λ78°. Principal axes: T 2.99, Plg71°, Azm43°; N .27, Plg11°, Azm166°; P -3.25, Plg16°, Azm260°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **14** 22:35:48.4±0.6, 17.33S×167.58E, h30km, mb4.8/9, MS4.7/1 Error ellipse: s-maj=13.8km s-min=11.0km az=89.0*
*IDC **14** 22:35:50.6±1.6, 16.30S×166.53E, mb4.2/9, mb1 4.3/10, mb1mx4.2/15, ML3.9/1, MS4.1/12, Ms1 4.1/12, ms1mx3.9/22, Error ellipse: s-maj=47.8km s-min=25.9km az=131.0*

ISC 14 22:35:47.4±0.6**, 17.47S**±0.06×**167.58E**±0.09**, h33**km**, n50, σ1§14**/31**, mb4.4**/15**, MS4.1**/12**, 1D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKM	Butte a Klehm	0.66	108	⇓*i*P	P	22 35 57.6	-2.6
DZM	Mont Dzumac	4.71	193	*e*P	P	22 36 58.9	+1.0
DZM				*e*S	S	22 37 51.6	-0.5
DZM	Mont Dzumac	4.71	193	*e*P	P	22 36 58.9	+1.0
DZM				*e*S	S	22 37 51.5	-0.5
NOUC	Port Laguerre	4.77	194	*e*P	P	22 36 59.1	+0.4
NOUC	Port Laguerre	4.77	194	*e*P	P	22 36 59.1	+0.4
CTA	Charters Tower	20.36	259	P	P	22 40 21.2	-2.7
	0.2nm,0.3s,baz=59,slow=19,SNR=2.1						
CTAO	Charters Tower	20.36	259	*e*P	P	22 40 22.6	-1.3
	49nm,1.4s						
RPZ	Rata Peaks	26.33	174	LR	LR	22 50 03.1	
	comp=Z,301nm,20.7s,MS3.8,baz=102,slow=31						
STKA	Stephens Creek	27.54	234	P	P	22 41 38.0	+4.7
	3.8nm,1.0s,mb4.0,baz=23,slow=5.9,SNR=5.1						
STKA				LR	LR	22 52 20.2	
	comp=Z,721nm,18.4s,MS4.3,baz=26,slow=36						
STKA	Stephens Creek	27.54	234	*e*P	P	22 41 35.6	+2.3
STKA				LR	LR	22 52 20.2	
WB2	Warramunga Arr	31.55	260	*e*P	P	22 42 09.0	-0.1
WRAB	Tennant Creek	31.55	260	*e*P	P	22 42 08.3	-0.8
	22nm,1.4s,mb4.8						
WRA	Warramunga Arr	31.56	260	P	P	22 42 08.3	-0.9
	0.9nm,0.5s,mb3.9,baz=81,slow=6.0,SNR=11						
WRA				LR	LR	22 53 47.7	
	comp=Z,336nm,20.4s,MS4.0,baz=80,slow=35						
ASAR	Alice Springs	32.08	253	P	P	22 42 12.9	-0.8
	2.2nm,0.5s,mb4.3,baz=78,slow=8.6,SNR=31						
ASAR				LR	LR	22 55 03.3	
	comp=Z,654nm,18.6s,MS4.3,baz=82,slow=37						
ASPA	Alice Springs	32.08	253	*e*P	P	22 42 13.8	0.0
FITZ	Fitzroy Crossi	39.88	262	*e*P	P	22 43 20.9	+1.0
	9.4nm,1.1s,mb4.4						
FITZ	Fitzroy Crossi	39.88	262	P	P	22 43 20.0	+0.1
	7.8nm,0.9s,mb4.5,baz=106,slow=6.9,SNR=8.9						
FITZ				LR	LR	22 59 26.0	
	comp=Z,305nm,19.6s,MS4.2,baz=93,slow=36						
TBI	Tubuai	40.57	106	*e*S	S	22 49 24.2	-8.4
TBI				*e*L		22 52 59.9	
TBI				*e*R		22 54 48.7	
	388nm,25.8s,baz=281						
PPT	Papeete	40.79	97	*e*S	S	22 49 21.9	-14
PPT				*e*L		22 53 04.1	
PPT				*e*R		22 54 57.7	
	574nm,24.8s,baz=265						
MBWA	Marble Bar	45.18	257	*e*P	P	22 44 03.6	+0.4
	16nm,1.1s,mb4.8						
JHJ	Hachijo jima 2	56.88	332	LR	LR	23 05 16.1	
	comp=Z,43nm,20.5s,MS3.5,baz=151,slow=32						
SBA	Scott Base	60.42	180	*e*P	P	22 45 56.9	+1.3
	32nm,1.5s,mb5.1						
CASY	Casey	61.13	203	P	P	22 45 59.0	-1.5
	9.0nm,1.2s,mb4.8						
QSPA	South Pole Qui	72.58	180	*e*P	P	22 47 13.5	+1.0
	5.7nm,1.0s,mb4.5						
QSPA				*e*P		22 47 13.6	
QSPA				*e*		22 53 35.9	
CMAR	Chiang Mai Arr	76.34	295	P	P	22 47 35.1	-0.4
	0.9nm,0.9s,mb3.7,baz=125,slow=5.2,SNR=5.5						
CMAR				LR	LR	23 19 48.0	
	comp=Z,38nm,18.2s,MS3.8,baz=130,slow=35						
MAW	Mawson	79.48	202	P	P	22 48 03.4	+12
	2.6nm,1.0s,mb4.1,baz=123,slow=3.4,SNR=4.2						
MAW				LR	LR	23 18 27.4	
	comp=Z,136nm,19.2s,MS4.3,baz=242,slow=32						
MAW	Mawson	79.48	202	P	P	22 47 54.5	+2.7
	13nm,1.4s,mb4.7						
MAW				LR	LR	23 18 27.4	
SONM	Songino Array	84.87	324	P	P	22 48 19.5	-0.5
	1.5nm,0.8s,mb4.2,baz=148,slow=3.8,SNR=13						
NVAR	Mina Array Bea	88.82	49	LR	LR	23 21 53.4	
	comp=Z,173nm,21.1s,MS4.5,baz=90,slow=31						
ILAR	Eielson Array	89.02	18	P	P	22 48 42.3	+2.4
	0.2nm,0.5s,mb3.7,baz=239,slow=5.3,SNR=3.9						
SNAA	Sanae	90.85	183	*e*P	P	22 48 48.6	+0.3
	34nm,1.6s,mb5.4						
SNAA				*e*	pP	22 48 58.0	-0.9
INK	Inuvik	95.37	19	LR	LR	23 25 09.1	
	comp=Z,93nm,21.1s,MS4.2,baz=241,slow=31						
PDAR	Pinedale Array	96.57	47	LR	LR	23 26 01.4	
	comp=Z,96nm,19.4s,MS4.3,baz=140,slow=31						
TXAR	Lajitas Array	97.31	62	LR	LR	23 27 38.5	
	comp=Z,110nm,18.3s,MS4.4,baz=205,slow=32						
ZAL	Zalesovo	99.77	323	P	P	22 49 29.8	+0.5
	0.5nm,0.3s,mb4.3,baz=138,slow=15,SNR=3.1						
ARCES	ARCESS Array B	122.96	345	PKhKP		22 54 38.4	
	1.6nm,0.8s,baz=63,slow=2.7,SNR=7.3						
FINES	FINESS Array B	128.36	338	PKhKP		22 54 50.7	
	1.1nm,0.7s,baz=342,slow=6.0,SNR=5.3						
FINES	FINESS Array B	128.36	338	PKP	PKPdf	22 54 50.7	+0.2
CDF	Champ du Feu	145.20	337	*e*PKP1	PKPbc	22 55 21.6	-0.3
	37nm,1.1s						
BRMO	Bormio	145.46	332	*e*P	PKPdf	22 55 23.5	+1.4
HINF	Hinteralfeld	145.86	337	*e*PKP1	PKPbc	22 55 23.3	-0.3
MEZF	Maizieres J'vi	145.92	339	*e*PKP1	PKPbc	22 55 24.2	+0.5
LOR	Lormes	147.40	339	*e*PKP1	PKPdf	22 55 28.1	+2.8
LOR				*e*R			
	107nm,18.8s						
SSF	Saint Saulge	147.69	339	*e*PKP1	PKPdf	22 55 28.9	+3.1
	6.0nm,0.7s						
LPL	La Plagne	147.79	334	*e*PKP1	PKPdf	22 55 29.8	+3.8
LPG	La Plagne	147.79	334	*e*PKP1	PKPdf	22 55 29.9	+3.9
SMF	Signal de Mont	147.94	339	*e*PKP1	PKPdf	22 55 29.4	+3.2
BGF	Bois d'Agland	148.35	340	*e*PKP1	PKPdf	22 55 30.6	+3.7
ORIF	Oris-en-Rattie	148.62	335	*e*PKP1	PKPdf	22 55 31.7	+4.4
ORIF				*e*R			
	73nm,17.0s						
PGF	Pioggiola	149.05	328	*e*PKP1	PKPdf	22 55 32.8	+4.7

*LDG **14** 22:40:10.9±0.1, 45.94N×7.56E, h2km, Md2.4/3, Ml2.4/10, Error ellipse: s-maj=2.0km s-min=1.3km az=97.0*
*ZUR **14** 22:40:10.9, 45.99N×7.52E, h5km, ML1.5/10*
*STR **14** 22:40:12.0±1.7, 45.97N×7.53E, h2km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **14** 22:40:12.0, 45.97N×7.53E, h2km, ML2.5(GEN), ML2.4(LDG), ML2.3(STR), After STR.*

ISC 14 22:40:10.5±0.3**, 45.99N**±0.01×**7.49E**±0.02**, h10**km±3km**, n43, σ1§09**/76**, 4C-6D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DIX	Grande Dixence	0.11	329	⇑*i*Pg	Pg	22 40 13.8	+0.6
	15nm,0.2s						
DIX				*i* Sg	Sg	22 40 15.2	+0.1
	15nm,0.2s						
MMK	Mattmark	0.34	79	⇑*i*Pg	Pg	22 40 17.8	+0.4
	1.6nm,0.2s						
MMK				⇓*i*Sg	Sg	22 40 21.9	-0.2
	1.6nm,0.2s						
MCGN	Macugnaga	0.35	95	*e*Pg	Pg	22 40 17.9	+0.3
MCGN				*e*Sg	Sg	22 40 22.8	+0.4
SALAN	Lac Salanfe	0.39	294	⇓*i*Pg	Pg	22 40 19.5	+1.0
	2.5nm,0.4s						
SALAN				*i* Sg	Sg	22 40 24.8	+1.0
	2.5nm,0.4s						
SENIN	Lac Senin	0.40	341	⇓*i*Pg	Pg	22 40 19.3	+0.7
	3.6nm,0.1s						
LKBD	Leukerbad	0.41	13	⇓*i*Pg	Pg	22 40 19.4	+0.6
	2.3nm,0.4s						
LKBD				*e*Sg	Sg	22 40 24.9	+0.5
	2.3nm,0.4s						
EMV	Vieux Emosson	0.42	281	⇓*i*Pg	Pg	22 40 19.9	+0.9
	2.3nm,0.4s						
EMV				*i* Sg	Sg	22 40 25.6	+0.9
	2.3nm,0.4s						
ORX	Oropa	0.49	136	P	Pg	22 40 21.2	+0.7
ORX				S	Sg	22 40 27.4	+0.2
ORO	Oropa	0.50	136	*e*Pg	Pg	22 40 21.0	+0.4
ORO				*e*Sg	Sg	22 40 27.6	+0.3
TRAV		0.51	159	P	Pg	22 40 21.0	+0.2
TRAV				S	Sg	22 40 27.5	-0.1
LSD	Ceresole Reale	0.58	204	P	Pg	22 40 22.7	+0.5
LSD				S	Sg	22 40 30.2	+0.2
OG01	Vacheresse	0.66	302	Pg	Pg	22 40 24.7	+1.0
OG01				Sg	Sg	22 40 33.7	+1.2
RSL	Roselend	0.68	244	Pg	Pg	22 40 24.5	+0.5
RSL				Sg	Sg	22 40 33.9	+0.8
LPL	La Plagne	0.71	229	*e*Pg	Pg	22 40 24.8	+0.1
LPL				*e*Sg	Sg	22 40 34.8	+0.5
	7.7nm,0.2s						
LPG	La Plagne	0.71	227	*e*Pg	Pg	22 40 24.8	0.0
LPG				*e*Sg	Sg	22 40 34.3	-0.1
	9.6nm,0.2s						
RSP	Reno Superiore	0.85	191	P	Pb	22 40 27.6	+0.7
RSP				S	Sb	22 40 38.1	-0.1
FENE	Fenestrelle	1.00	198	P	Pb	22 40 30.3	+0.8
FENE				S	Sb	22 40 42.5	0.0
GIMEL	Gimel	1.01	303	⇑*i*P*P		23 40 32.0	
	3.3nm,0.1s						
MUGIO	Muggio	1.08	93	⇓*i*Pg	Pg	22 40 31.5	-0.7
	3.2nm,0.1s						
BNALP	Bannalp	1.09	36	⇑*i*Pg	Pg	22 40 32.2	-0.2
	10nm,2.0s						
CABF	La Chapelle	1.16	303	*e*Pg	Pg	22 40 34.4	+0.8
CABF				*e*Sg	Sg	22 40 50.5	+1.5
	7.9nm,0.2s						
BHB	Bricherasio	1.16	188	P	Pb	22 40 32.9	+0.8
BHB				S	Sb	22 40 47.1	+0.1
RRL	Cesana Torines	1.18	205	P	Pb	22 40 33.6	+1.1
RRL				S	Sb	22 40 48.2	+0.6
MBDF	Montbardon	1.36	202	*e*Pn	Pn	22 40 35.0	-0.6
MBDF				*e*Pg	Pg	22 40 36.2	-1.5
MBDF				*e*Sg	Sg	22 40 53.4	-2.4
	8.0nm,0.3s						
OG05	Jujurieux	1.42	273	Pg	Pg	22 40 40.4	+1.6
OG05				Sg	Sg	22 41 00.1	+2.4
PZZ	Prazzo	1.51	191	P	Pn	22 40 38.2	+0.5
ORIF	Oris-en-Rattie	1.56	227	*e*Pg	Pg	22 40 40.8	-0.8
ORIF				*e*Sg	Sg	22 41 01.1	-1.3
	6.1nm,0.4s						
ROB	Roburent	1.71	171	P	Pn	22 40 41.2	+0.6
ENR	Entracque	1.76	182	P	Pn	22 40 41.4	+0.1
FIN	Finale Ligure	1.85	164	P	Pn	22 40 42.3	-0.3
HINF	Hinteralfeld	1.88	347	*e*Pn	Pn	22 40 44.6	+1.6
HINF				*e*Pg	Pg	22 40 47.2	-0.8
HINF				*e*Sn	Sn	22 41 06.7	-0.3
HINF				*e*Sg	Sg	22 41 12.0	-1.1
	3.6nm,0.3s						
MONE	Monesi	1.92	174	P	Pn	22 40 43.7	+0.1
RORO		1.92	168	P	Pn	22 40 42.9	-0.7
IMI	Imperia	2.10	172	P	Pn	22 40 46.0	-0.2
SBF	Sospel	2.13	181	*e*Pg	Pg	22 40 49.2	-3.7
SBF				*e*Sg	Sg	22 41 16.4	-4.9
	5.3nm,0.3s						
VIVF	Saint-Julien-l	2.28	241	*e*Pg	Pg	22 40 54.0	-2.1
VIVF				*e*Sg	Sg	22 41 24.0	-2.6
	3.8nm,0.2s						
SMRF	Simiane la Rot	2.43	215	*e*Pg	Pg	22 40 56.0	-3.0
CDF	Champ du Feu	2.43	357	*e*Pn	Pn	22 40 51.7	+0.8
CDF				*e*Pg	Pg	22 40 57.0	-2.0
CDF				*e*Sn	Sn	22 41 19.5	-1.5
CDF				*e*Sg	Sg	22 41 29.7	-1.7
	1.4nm,0.3s						
FRF	La Foret Royal	2.50	194	*e*Pg	Pg	22 40 56.2	-4.2
FRF				*e*Sg	Sg	22 41 28.2	-5.6
	3.6nm,0.4s						
SMF	Signal de Mont	2.61	286	*e*Pg	Pg	22 41 00.9	-1.7
SMF				*e*Sg	Sg	22 41 34.8	-2.7
	2.3nm,0.2s						
LOR	Lormes	2.81	298	*e*Pg	Pg	22 41 04.5	-2.1
LOR				*e*Sg	Sg	22 41 40.8	-3.3
	3.5nm,0.3s						
SSF	Saint Saulge	2.95	293	*e*Pg	Pg	22 41 06.7	-2.7
AVF	Avril sur Loir	2.97	287	*e*P	Pn	22 41 00.5	+1.8

KRSC 14 22:40:18.8±0.5**, 57.11N**×**160.42E, h11**km±5km**, ML3.8, Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SVLR	Shiveluch	0.69	140	*e*P	Pb	22 40 33.1	+0.7
SVLR				*e*S	Sb	22 40 43.1	+1.4
KLY	Klyuchi	0.81	171	*e*P	Pb	22 40 35.3	+0.9
KLY				*e*S	Sb	22 40 47.7	+2.6
SRDR	Sredinnyy	0.89	206	*i* P	Pb	22 40 36.2	+0.5
SRDR				*e*S	Sb	22 40 48.9	+1.6
KRSR	Krestovskiy	0.90	175	*i* P	Pb	22 40 36.9	+1.0
KRSR				*e*S	Sb	22 40 50.2	+2.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CIRR	Tsirk	1.01	170	eP	Pb	22 40 38.7	+0.8
CIRR				eS	Sb	22 40 53.1	+2.1
LGNR	Loginova	1.04	172	iP	Pb	22 40 39.4	+1.0
LGNR				eS	Sb	22 40 54.7	+2.9
KOZ	Kozyrevsk	1.10	196	eP	Pb	22 40 40.7	+1.4
KOZ				eS	Sb	22 40 57.2	+3.8
ZLN	Zelenaya	1.12	169	iP	Pb	22 40 40.4	+0.7
ZLN				eS	Sb	22 40 55.3	+1.3
KPT	Kopyto	1.15	186	eP	Pb	22 40 41.4	+1.1
KPT				eS	Sb	22 40 58.1	+3.1
KMNR	Kamenistaya	1.36	184	eP	Pn	22 40 44.4	+0.6
KMNR				eS	Sb	22 41 03.3	+2.2
ESO	Esso	1.52	219	iP	Pn	22 40 46.6	+0.5
ESO				eS	Sb	22 41 06.6	+0.8
ESO				Smax			
	350nm,0.4s						
KBTR	Krutoberegovo	1.60	123	eP	Pn	22 40 47.8	+0.5
KBTR				eS	Sn	22 41 09.3	+1.2
TUMR	Tumrok	1.84	185	eP	Pn	22 40 50.0	-0.6
GNL	Ganaly	3.70	203	eP	Pn	22 41 18.4	+1.2
AVH	Avacha	3.97	195	P	Pn	22 41 23.8	+2.7

*IDC **14** 22:41:07.0±1.4, 6.31S×152.65E, mb4.1/6, mb1 4.4/7, mb1mx4.3/12, ML4.3/1, Error ellipse: s-maj=40.9km s-min=21.5km az=122.0*

*NEIC **14** 22:41:11.8±2.3, 6.33S×152.68E, h36^{km}±18^{km}, mb4.5/7, Error ellipse: s-maj=21.5km s-min=11.4km az=99.0*

ISC 14 22:41:07.9±4.8**, 6.3S**±0.1×**152.7E**±0.1**, h19**^{km}±32^{km}**, n24, σ0^{s}60**/26**, mb4.4**/18**, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WAU	Wau	5.98	259	eP	Pn	22 42 37.9	+0.2
PMG	Port Moresby	6.26	240	Pn	Pn	22 42 41.1	-0.6
	40nm,0.3s,baz=51,slow=8.0,SNR=46						
PMG				Sn	Sn	22 43 53.0	-0.5
	1.9nm,0.3s,baz=339,slow=11,SNR=4.2						
PMG	Port Moresby	6.26	240	ePn	Pn	22 42 41.6	-0.1
PMG				eP		22 42 41.9	
PMG				eSn	Sn	22 43 54.5	+1.0
WRAB	Tennant Creek	22.37	231	eP	P	22 46 07.2	+0.6
	12nm,1.0s,mb4.3						
WRA	Warramunga Arr	22.38	231	P	P	22 46 07.7	+1.0
	2.7nm,0.5s,mb3.9,baz=54,slow=12,SNR=12						
ASAR	Alice Springs	24.98	224	P	P	22 46 32.5	+0.4
	1.5nm,0.6s,mb3.7,baz=56,slow=9.1,SNR=11						
STKA	Stephens Creek	27.49	201	P	P	22 46 54.3	-0.8
	2.5nm,0.7s,mb3.9,baz=302,slow=22,SNR=3.4						
STKA	Stephens Creek	27.49	201	P	P	22 46 54.3	-0.8
STKA				eP		22 46 54.6	
FITZ	Fitzroy Crossi	28.85	244	eP	P	22 47 06.5	-1.0
	3.2nm,0.5s,mb4.3						
FITZ	Fitzroy Crossi	28.85	244	P	P	22 47 06.4	-1.2
	7.8nm,0.9s,mb4.4,baz=118,slow=4.8,SNR=7.8						
CMAR	Chiang Mai Arr	58.37	296	P	P	22 51 04.9	+0.1
	0.3nm,0.4s,mb3.7,baz=121,slow=5.3,SNR=4.2						
HIA	Hailar	62.31	336	eP	P	22 51 31.0	-0.3
	11nm,1.3s,mb4.8						
SONM	Songino Array	67.48	328	P	P	22 52 05.1	+0.2
	0.1nm,0.3s,mb3.3,baz=146,slow=4.5,SNR=9.7						
GUN	Gumba	72.75	302	eP	P	22 52 37.7	+0.4
	14nm,0.6s,mb5.1						
PKI	Pulchoki	73.05	301	eP	P	22 52 38.7	-0.4
	8.1nm,0.6s,mb4.9						
KKN	Kakani	73.23	301	eP	P	22 52 40.0	-0.1
	6.6nm,0.5s,mb4.8						
DMN	Daman	73.32	301	eP	P	22 52 40.8	+0.1
	13nm,0.9s,mb4.9						
GKN	Gorkha	73.83	301	eP	P	22 52 43.2	-0.4
	18nm,0.8s,mb5.0						
MCK	McKinley	82.27	22	eP	P	22 53 28.7	-0.5
	4.4nm,1.0s,mb4.3						
QSPA	South Pole Qui	83.70	180	eP	P	22 53 36.1	-0.1
	14nm,1.4s,mb4.9						
MAW	Mawson	84.16	203	P	P	22 53 38.3	-0.5
	3.6nm,0.9s,mb4.5						
AAK	Ala-Archa	85.56	314	eP	P	22 53 46.3	-0.1
	2.7nm,1.0s,mb4.4						
NVAR	Mina Array Bea	93.11	52	P	P	22 54 23.7	+1.5
	0.8nm,0.8s,mb4.2,baz=243,slow=5.0,SNR=6.2						
NVAR	Mina Array Bea	93.11	52	P	P	22 54 23.7	+1.5

*NEIC **14** 22:46:45.2±0.6, 46.68N×149.75E, h35^{km}, mb4.5/2, Error ellipse: s-maj=25.1km s-min=16.3km az=85.0*

*IDC **14** 22:47:07.1±3.6, 46.67N×149.75E, h234^{km}±34^{km}, mb3.4/8, mb1 3.5/9, mb1mx3.3/22, Error ellipse: s-maj=28.4km s-min=16.8km az=87.0*

ISC 14 22:47:07.0±2.8**, 46.7N**±0.1×**149.7E**±0.3**, h250**^{km}±26^{km}**, n12, σ1^{s}02**/12**, mb3.6**/9**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAJ	Asahikawa	5.59	245	P	P	22 48 30.8	+0.1
	0.4nm,0.3s,baz=78,slow=14,SNR=2.6						
ARCES	ARCESS Array B	57.13	340	P	P	22 56 27.9	-1.0
	1.3nm,0.8s,mb3.6,baz=41,slow=8.3,SNR=3.1						
KAF	Kangasniemi	62.49	334	ep	P	22 57 05.6	+0.2
FINES	FINESS Array B	63.08	333	P	P	22 57 08.9	-0.3
	0.9nm,0.5s,mb3.7,baz=36,slow=7.5,SNR=14						
NVAR	Mina Array Bea	64.56	60	P	P	22 57 18.2	-0.9
	0.4nm,0.8s,mb3.1,baz=297,slow=8.1,SNR=3.1						
CTAO	Charters Tower	66.51	183	P	P	22 57 27.9	-3.8
	14nm,1.2s,mb4.5						
NB2	NORSAR Subarra	67.51	340	P	P	22 57 36.4	-0.9
	0.9nm,0.6s,mb3.6,baz=27,slow=6.2						
NOA	NORSAR Array B	67.51	340	P	P	22 57 36.6	-0.7
	1.1nm,0.6s,mb3.7,baz=27,slow=6.2,SNR=5.1						
WRA	Warramunga Arr	67.73	196	P	P	22 57 38.6	-0.8
	0.3nm,0.7s,mb3.0,baz=24,slow=7.4,SNR=3.8						
AKASG	Malin Array Be	70.26	324	P	P	22 57 56.1	+1.8
	1.1nm,0.4s,mb3.9,baz=35,slow=6.0,SNR=8.5						
ASAR	Alice Springs	71.44	195	P	P	22 58 02.6	+0.8
	0.6nm,0.6s,mb3.4,baz=12,slow=5.2,SNR=7.2						
TXAR	Lajitas Array	79.58	58	P	P	22 58 49.0	+1.5
	0.6nm,0.5s,mb3.5,baz=290,slow=4.2,SNR=8.4						

ISC 14 23:25:39.7±1.8**, 37.18N**±0.08×**72.8E**±0.3**, h166**^{km}±29^{km}**, n14, σ1^{s}02**/18**, Tajikistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	Almayashu	4.99	8	P	P	23 26 53.1	-1.0
	SNR=22						
UCH	Uchtor	5.21	14	P	P	23 26 57.1	0.0
	SNR=17						
THN	Thein Dam	5.31	152	eP	P	23 26 57.2	-1.1
	37nm,0.4s						
THN				eS	S	23 27 59.0	-0.3
EKS2	Erkin-Say	5.53	8	P	P	23 27 00.6	-0.6
	SNR=11						
AAK	Ala-Archa	5.60	13	P	P	23 27 02.5	+0.3
	SNR=14						
ULHL	Ulahol	5.72	27	P	P	23 27 04.8	+1.2
	SNR=7.7						
CHMS	Chumysh	6.00	14	P	P	23 27 07.5	0.0
	SNR=5.9						
DDI	Dehra Dun	8.12	146	e	S	23 29 08.1	+2.0
KOLN	Koldanda	13.08	133	eP	P	23 28 39.6	-0.6
	8.0nm,0.4s						
GKN	Gorkha	13.54	129	eP	P	23 28 46.8	+0.8
	16nm,0.4s						
GKN				eS	S	23 31 10.4	-2.4
KKN	Kakani	14.09	128	eP	P	23 28 53.3	+0.3
	13nm,0.7s						
KKN				eS	S	23 31 25.3	-0.1
DMN	Daman	14.11	129	eP	P	23 28 52.0	-1.2
	5.3nm,0.4s						
DMN				eS	S	23 31 25.7	-0.2
PKI	Pulchoki	14.32	128	eP	P	23 28 56.6	+0.7
	13nm,0.6s						
GUN	Gumba	14.39	126	eP	P	23 28 58.8	+2.1
	13nm,0.6s						

*IDC **15** 00:17:00.1±3.0, 17.15S×167.72E, mb3.9/4, mb1 4.0/4, mb1mx3.8/14, MS3.3/3, Ms1 3.3/3, ms1mx3.1/17, Error ellipse: s-maj=100.0km s-min=37.2km az=134.0*

*NEIC **15** 00:17:04.6±0.9, 17.35S×167.78E, h30^{km}, mb4.1/1, Error ellipse: s-maj=26.7km s-min=13.6km az=95.0*

ISC 15 00:17:03.4±2.5**, 17.48S**±0.09×**167.7E**±0.2**, h26**^{km}±25^{km}**, n21, σ0^{s}92**/15**, mb3.8**/5**, MS3.2**/3**, 1D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BKM	Butte a Klehm	0.58	109⇓	iP	Pb	00 17 14.4	-0.4
DZM	Mont Dzumac	4.71	194	eP	Pn	00 18 15.3	+0.6
DZM				eS	Sn	00 19 05.7	-3.5
DZM	Mont Dzumac	4.71	194	eP	Pn	00 18 15.3	+0.6
DZM				eS	Sn	00 19 05.7	-3.5
NOUC	Port Laguerre	4.77	195	eP	Pn	00 18 16.7	+1.1
NOUC				eS	Sn	00 19 10.2	-0.5
NOUC	Port Laguerre	4.77	195	eP	Pn	00 18 16.7	+1.1
NOUC				eS	Sn	00 19 10.2	-0.5
CTA	Charters Tower	20.44	259	LR	LR	00 28 29.2	
	comp=Z,56nm,21.0s,MS2.9,baz=226,slow=34						
STKA	Stephens Creek	27.60	234	P	P	00 22 52.0	+1.3
	1.1nm,0.6s,mb3.7,baz=68,slow=11,SNR=3.3						
STKA	Stephens Creek	27.60	234	P	P	00 22 52.0	+1.3
WRA	Warramunga Arr	31.64	260	P	P	00 23 26.0	-0.8
	0.2nm,0.4s,mb3.3,baz=87,slow=8.9,SNR=8.1						
WRA				LR	LR	00 35 36.2	
	comp=Z,68nm,18.1s,MS3.4,baz=110,slow=35						
ASAR	Alice Springs	32.16	253	P	P	00 23 30.5	-0.8
	0.7nm,0.4s,mb3.8,baz=78,slow=8.7,SNR=12						
ASAR				LR	LR	00 35 41.4	
	comp=Z,75nm,19.1s,MS3.4,baz=264,slow=35						
QSPA	South Pole Qui	72.56	180	eP	P	00 28 30.1	+0.5
	1.2nm,0.6s,mb4.0						
SONM	Songino Array	84.93	324	P	P	00 29 37.1	-0.3
	1.3nm,0.9s,mb4.1,baz=135,slow=4.1,SNR=6.7						
ARCES	ARCESS Array B	123.00	345	PKP	PKPdf	00 35 56.0	-5.8
	2.4nm,0.9s,baz=108,slow=2.9,SNR=4.2						
ARCES	ARCESS Array B	123.00	345	PKP	PKPdf	00 35 56.0	-5.8
CDF	Champ du Feu	145.25	337	ePKP1	PKPbc	00 36 39.2	+0.1
	17nm,0.9s						
MEZF	Maizieres J'vi	145.97	339	ePKP1	PKPbc	00 36 41.7	+0.8
LOR	Lormes	147.44	339	ePKP1	PKPdf	00 36 45.6	-1.6
SSF	Saint Saulge	147.74	340	ePKP1	PKPdf	00 36 46.4	-1.2
LPL	La Plagne	147.84	334	ePKP1	PKPdf	00 36 47.9	0.0
LPG	La Plagne	147.84	334	ePKP1	PKPdf	00 36 47.4	-0.5
ORIF	Oris-en-Rattie	148.67	335	ePKP1	PKPdf	00 36 49.7	+0.5

*CSEM **15** 00:18:03.6±0.3, 67.16N×20.83E, h2^{km}, ML2.9/2, Error ellipse: s-maj=9.6km s-min=7.2km az=125.0, Suspected Mining explosion.*

*BER **15** 00:18:07.1±3.5, 67.33N×20.23E, ML1.6, Suspected explosion*

UPP 15 00:18:04.3, 67.17N×20.67E, h0^{km}, ML2.5, Suspected Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DUNU	Dundret	0.06	219	P	Pg	00 18 05.5	-0.1
MASU	Masugnsbyn	0.59	60	P	Pg	00 18 15.3	-0.8
ERTU	Ertsjaerv	0.86	135	P	Pg	00 18 19.7	-1.8
NIKU	Nikkaluokta	0.94	319	P	Pg	00 18 21.2	-1.9
PAJU	Pajala	0.97	98	P	Pb	00 18 22.0	-1.6
SJUU	Sjulsmark	1.71	167	P	Pn	00 18 35.0	-0.5
LILU	Lilltraesk	1.92	190	P	Pn	00 18 38.5	0.0
KTK1	Kautokeino	2.09	26	eP	Pn	00 18 41.5	+0.6
KTK1				eSg	Sg	00 19 09.5	-4.2
KTK1				AML	AML	00 19 10.5	
	comp=Z,9.7nm,0.4s						
KTK1	Kautokeino	2.09	26	eP	Pn	00 18 41.5	+0.6
	SNR=50						
KTK1				eSg	Sg	00 19 09.5	-4.3
	comp=Z,9.7nm,0.4s,SNR=90						
TRO	Tromso	2.56	346	eSg	Sg	00 19 23.8	-5.6
MOR8	Moi Rana	2.67	251	eSg	Sg	00 19 21.9	-11
MOR8				AML	AML	00 19 23.9	
	comp=Z,5.9nm,0.4s						
MELS	Mels	2.74	267	eSg	Sg	00 19 30.0	-5.7
LOF	Lofoten	2.89	293	eSg	Sg	00 19 29.3	-11
LOF				AML	AML	00 19 32.3	
	comp=Z,4.9nm,0.8s						
NSS	Namsos	4.45	237	eSg	Sg	00 20 23.0	-9.4
NSS				AML	AML	00 20 28.4	
	comp=Z,2.6nm,0.4s						
NSS	Namsos	4.45	237	eSg	Sg	00 20 23.0	-9.4
	comp=Z,2.6nm,0.4s,SNR=90						

*NEIC **15** 00:26:23.1±5.2, 20.59S×178.32W, h571^{km}±66^{km}, mb4.4/8, Error ellipse: s-maj=30.5km s-min=16.1km az=190.0*

*IDC **15** 00:26:25.5±12.0, 20.67S×178.36W, h602^{km}±170^{km}, mb3.4/8, mb1 3.7/8, mb1mx3.4/15, Error ellipse: s-maj=70.5km s-min=27.4km az=20.0*

ISC 15 00:26:24.2±0.8**, 20.7S**±0.2×**178.4W**±0.2**, h600**^{km}**, n18, σ0^{s}35**/18**, mb4.2**/13**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RPZ	Rata Peaks	24.56	199	P	P	00 31 00.2	0.0
	13nm,0.3s,mb5.0,baz=50,slow=16,SNR=5.6						
CTA	Charters Tower	33.11	265	eP	P	00 32 13.9	+0.2
	2.5nm,0.3s,mb4.3						
CTA	Charters Tower	33.11	265	P	P	00 32 13.9	+0.3
	3.8nm,0.4s,mb4.4,baz=88,slow=9.1,SNR=8.5						
CTAO	Charters Tower	33.11	265	eP	P	00 32 13.7	0.0
	5.5nm,0.7s,mb4.3						
STKA	Stephens Creek	37.37	244	eP	P	00 32 49.0	+0.3
	2.3nm,0.6s,mb3.9						
STKA	Stephens Creek	37.37	244	P	P	00 32 48.9	+0.2
	2.9nm,0.5s,mb4.0,baz=91,slow=12,SNR=9.2						
ASAR	Alice Springs	44.12	257	P	P	00 33 42.6	+0.1
	7.6nm,0.5s,mb4.5,baz=95,slow=7.9,SNR=21						
ASPA	Alice Springs	44.12	257	eP	P	00 33 42.8	+0.2
WB2	Warramunga Arr	44.20	262	eP	P	00 33 42.9	-0.3
WRAB	Tennant Creek	44.20	262	eP	P	00 33 42.6	-0.6
	6.3nm,0.5s,mb4.4						
WRA	Warramunga Arr	44.21	262	P	P	00 33 43.1	-0.2
	4.1nm,0.3s,mb4.5,baz=97,slow=7.2,SNR=86						
KAKA	Kakadu	47.66	272	eP	P	00 34 14.0	+4.4
	5.8nm,0.3s,mb4.6						
FORT	Forrest	48.88	247	eP	P	00 34 18.2	-0.3
	16nm,0.5s,mb4.7						
FITZ	Fitzroy Crossi	52.64	263	eP	P	00 34 46.6	+0.7
	1.3nm,0.4s,mb3.6						
MBWA	Marble Bar	57.45	258	eP	P	00 35 19.2	0.0
	32nm,1.3s,mb4.4						
NVAR	Mina Array Bea	81.43	44	P	P	00 37 41.0	+0.2
	0.9nm,0.9s,mb3.2,baz=218,slow=6.2,SNR=5.2						
TXAR	Lajitas Array	87.48	57	P	P	00 38 10.5	0.0
	0.4nm,0.6s,mb3.3,baz=220,slow=7.4,SNR=5.7						
PDAR	Pinedale Array	89.37	43	P	P	00 38 18.9	-0.2
	0.5nm,0.6s,mb3.5,baz=230,slow=4.6,SNR=5.3						

*NEIC **15** 00:32:03.9±8.8, 17.42S×167.78E, h29^{km}±58^{km}, mb4.3/2, Error ellipse: s-maj=32.3km s-min=17.8km az=222.0*

*IDC **15** 00:32:21.9±26.0, 17.43S×167.14E, h169^{km}±217^{km}, mb3.6/6, mb1 3.7/7, mb1mx3.5/16, ML4.1/1, MS3.4/3, Ms1 3.4/3, ms1mx3.2/18, Error ellipse: s-maj=118.0km s-min=38.0km az=77.0*

ISC 15 00:32:02.0±2.2**, 17.48S**±0.08×**167.6E**±0.1**, h22**^{km}±20^{km}**, n21, σ0^{s}67**/14**, mb4.0**/8**, MS3.3**/3**, 1D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BKM	Butte a Klehm	0.60	109⇓	iP	Pb	00 32 13.3	-0.5
BKM				S	Sb	00 32 22.1	+0.3
DZM	Mont Dzumac	4.71	194	eP	Pn	00 33 14.1	+0.4
DZM				eS	Sn	00 34 08.0	-0.3
CTA	Charters Tower	20.42	259	P	P	00 36 41.2	+0.6
	0.4nm,0.3s,baz=71,slow=13,SNR=2.9						
CTA				LR	LR	00 43 38.8	
	comp=Z,120nm,18.7s,MS3.3,baz=198,slow=34						
CTA	Charters Tower	20.42	259	P	P	00 36 41.2	+0.6
CTA				LR	LR	00 43 38.8	
STKA	Stephens Creek	27.58	234	P	P	00 37 50.9	+1.1
	1.6nm,0.7s,mb3.8,baz=68,slow=10,SNR=5.0						
WRA	Warramunga Arr	31.61	260	P	P	00 38 24.6	-1.2
	1.2nm,0.9s,mb3.7,baz=88,slow=9.0,SNR=7.9						
WRA				LR	LR	00 50 36.3	
	comp=Z,71nm,18.9s,MS3.4,baz=115,slow=35						
ASAR	Alice Springs	32.13	253	P	P	00 38 29.4	-0.8
	1.9nm,0.5s,mb4.2,baz=78,slow=8.6,SNR=19						
ASAR				LR	LR	00 51 19.9	
	comp=Z,75nm,21.2s,MS3.4,baz=52,slow=36						
FITZ	Fitzroy Crossi	39.94	262	eP	P	00 39 37.0	+0.4
	5.0nm,0.7s,mb4.3						
QSPA	South Pole Qui	72.57	180	eP	P	00 43 28.0	-0.8
	2.3nm,1.0s,mb4.1						
SONM	Songino Array	84.91	324	P	P	00 44 36.4	-0.2
	0.9nm,0.8s,mb4.0,baz=124,slow=5.2,SNR=4.8						
SNAA	Sanae	90.84	183	P	P	00 45 05.3	+0.7
	0.2nm,0.9s,mb3.5,baz=309,slow=9.3,SNR=3.0						
ZAL	Zalesovo	99.81	323	P	P	00 45 46.1	+0.3
	0.7nm,0.5s,mb4.4,baz=179,slow=0.7,SNR=3.2						
CDF	Champ du Feu	145.24	337	ePKP1	PKPbc	00 51 37.7	-0.7
	15nm,0.7s						
MEZF	Maizieres J'vi	145.95	339	ePKP1	PKPbc	00 51 40.3	+0.1
LOR	Lormes	147.42	339	ePKP1	PKPdf	00 51 44.1	-1.9
SSF	Saint Saulge	147.72	340	ePKP1	PKPdf	00 51 45.0	-1.5
LPL	La Plagne	147.82	334	ePKP1	PKPdf	00 51 45.9	-0.8
LPG	La Plagne	147.83	334	ePKP1	PKPdf	00 51 45.9	-0.8
MBDF	Montbardon	148.44	333	ePKP1	PKPdf	00 51 47.4	-0.3
ORIF	Oris-en-Rattie	148.66	335	ePKP1	PKPdf	00 51 47.6	-0.5
SBF	Sospel	148.83	332	ePKP1	PKPdf	00 51 48.5	+0.1

*IDC **15** 01:24:42.2±0.8, 51.80N×178.14E, h66^{km}±7^{km}, mb3.5/12, mb1 3.8/12, mb1mx3.7/21, Error ellipse: s-maj=22.2km s-min=9.3km az=9.0*

*NEIC **15** 01:24:42.6±0.5, 51.82N×178.13E, mb3.9/1, Error ellipse: s-maj=15.6km s-min=4.7km az=189.0*

ISC 15 01:24:41.6±0.8**, 51.8N**±0.1×**178.11E**±0.06**, h79**^{km}±6^{km}**, n29, σ0^{s}64**/37**, mb3.7**/14**, Rat Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SMY	Shemya	2.65	293	P	P	01 25 23.7	+0.6
SMY				S	S	01 25 54.9	+0.7
KIMD	Kanaga Island	2.89	88	P	P	01 25 26.0	-0.6
KIMD				S	S	01 26 00.6	+0.4
KIKV	Kanaga Island	2.93	86	P	P	01 25 26.7	-0.4
KIWB	Kanaga Island	2.94	87	P	P	01 25 26.8	-0.5
KIWB				S	S	01 26 02.1	+0.6
KINC	Kanaga Island	2.96	85	P	P	01 25 27.0	-0.4
FX1	Attu Island--F	3.23	292	P	P	01 25 29.7	-1.5
	51nm,0.3s,baz=140,slow=5.3,SNR=132						
FX1				S	S	01 26 08.8	+0.1
	102nm,0.3s,baz=63,slow=23,SNR=16						
FX1	Attu Island--F	3.23	292	P	P	01 25 31.5	+0.2
FX1				S	S	01 26 08.5	-0.3
ADAG	Mount Adagdak	3.28	84	P	P	01 25 31.4	-0.5
GSTD	Great Sitkin T	3.57	83	P	P	01 25 36.2	+0.3
GSTD				S	S	01 26 17.3	+0.2
GSMY	Great Sitkin M	3.62	83	P	P	01 25 36.6	-0.1
GSMY				S	S	01 26 19.2	+0.8
GSTR	Great Sitkin T	3.62	83	P	P	01 25 36.1	-0.6
GSIG	Igitkin Island	3.70	84	P	P	01 25 37.7	-0.1
GSIG				S	S	01 26 20.8	+0.4
ATKA	Atka Island	4.77	82	P	P	01 25 52.2	-0.4
ILAR	Eielson Array	22.17	41	P	P	01 29 32.7	+1.0
	0.4nm,0.5s,mb3.0,baz=230,slow=8.6,SNR=13						
INK	Inuvik	28.25	36	P	P	01 30 29.1	+0.2
	0.9nm,0.7s,mb3.4,baz=264,slow=10,SNR=3.3						
YKA	Yellowknife Ar	36.35	46	P	P	01 31 39.4	+0.1
	0.8nm,0.6s,mb3.8,baz=281,slow=7.1,SNR=6.0						
SONM	Songino Array	44.74	295	P	P	01 32 48.9	+0.6
	1.1nm,0.6s,mb3.8,baz=64,slow=8.8,SNR=8.3						
SONM				ScP		01 38 10.2	
	0.5nm,0.8s,baz=45,slow=4.1,SNR=3.6						
NVAR	Mina Array Bea	45.40	81	P	P	01 32 54.4	+0.7
	3.5nm,1.1s,mb4.0,baz=303,slow=6.2,SNR=14						
NVAR				pP	pP	01 33 11.4	-1.7
	0.6nm,0.8s,baz=316,slow=6.7,SNR=2.8						
NVAR				sP	sP	01 33 17.9	-4.2
	0.8nm,0.8s,baz=312,slow=6.7,SNR=3.2						
NVAR	Mina Array Bea	45.40	81	P	P	01 32 54.4	+0.7
NVAR				pP	pP	01 33 11.4	-1.7
NVAR				sP	sP	01 33 17.9	-4.2
BW06	Boulder Array	48.01	71	P	P	01 33 14.6	+0.4
	0.7nm,0.5s,mb3.8						
PDAR	Pinedale Array	48.01	71	P	P	01 33 13.2	-1.0
	0.8nm,0.6s,mb3.7,baz=322,slow=4.3,SNR=7.7						
ARCES	ARCESS Array B	57.35	349	P	P	01 34 22.3	-0.9
	3.7nm,0.9s,mb4.4,baz=34,slow=7.7,SNR=9.9						
TXAR	Lajitas Array	60.48	79	P	P	01 34 44.7	-0.7
	0.6nm,0.8s,mb3.6,baz=292,slow=5.2,SNR=6.2						
SCHQ	Schefferville	60.86	37	P	P	01 34 48.1	+0.5
	2.5nm,0.8s,mb4.3,baz=346,slow=8.3						
FINES	FINESS Array B	64.94	346	P	P	01 35 12.8	-1.5
	1.2nm,0.7s,mb3.9,baz=18,slow=6.0,SNR=4.2						
FINES	FINESS Array B	64.94	346	P	P	01 35 12.8	-1.5
NOA	NORSAR Array B	67.05	353	P	P	01 35 28.0	+0.3
	1.4nm,1.0s,mb3.7,baz=48,slow=10,SNR=2.3						
AKASG	Malin Array Be	74.55	340	P	P	01 36 12.3	-0.5
	0.4nm,0.5s,mb3.4,baz=20,slow=6.5,SNR=4.0						
WRA	Warramunga Arr	81.00	221	P	P	01 36 50.2	+1.1
	0.3nm,0.8s,mb3.2,baz=32,slow=5.8,SNR=3.1						
WRA				pP	pP	01 37 07.8	-2.5
	0.3nm,0.5s,baz=30,slow=6.3,SNR=3.2						

*IDC **15** 01:37:07.0±3.5, 30.11S×177.61W, mb4.2/5, mb1 4.3/5, mb1mx4.0/15, MS3.9/1, Ms1 3.9/1, ms1mx2.7/24, Error ellipse: s-maj=140.0km s-min=58.5km az=164.0*

*NEIC **15** 01:37:18.8±1.6, 29.55S×178.00W, h75^{km}, mb4.6/3, Error ellipse: s-maj=47.5km s-min=25.6km az=209.0*

ISC 15 01:37:22.2±5.8**, 29.9S**±0.8×**178.4W**±0.8**, h100**^{km}**, n12, σ0^{s}69**/10**, mb4.2**/7**, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	33.38	279	P	P	01 43 55.1	+2.0
	4.2nm,0.8s,mb4.3,baz=108,slow=9.3,SNR=4.6						
CTAO	Charters Tower	33.38	279	eP	P	01 43 53.0	-0.1
	9.9nm,1.1s,mb4.5						
STKA	Stephens Creek	34.27	256	P	P	01 44 00.8	+0.1
	4.7nm,0.8s,mb4.4,baz=104,slow=11,SNR=6.8						
STKA	Stephens Creek	34.27	256	P	P	01 44 00.8	+0.1
PMG	Port Moresby	38.07	295	LR	LR	01 55 52.4	
	comp=Z,180nm,20.4s,baz=211,slow=29						
ASAR	Alice Springs	42.80	267	P	P	01 45 11.9	+0.2
	0.3nm,0.5s,mb3.3,baz=102,slow=7.4,SNR=4.2						
WB2	Warramunga Arr	43.73	272	eP	P	01 45 19.5	+0.2
WRAB	Tennant Creek	43.74	272	eP	P	01 45 19.4	+0.1
	4.6nm,0.8s,mb4.3						
WRA	Warramunga Arr	43.74	272	P	P	01 45 17.9	-1.4
	0.8nm,0.3s,mb3.9,baz=111,slow=8.1,SNR=27						
FITZ	Fitzroy Crossi	52.02	270	P	P	01 46 23.6	-0.2
	15nm,1.4s,mb4.8,baz=2.0,slow=19,SNR=2.2						
QSPA	South Pole Qui	60.24	180	eP	P	01 47 21.7	+0.1
	4.0nm,0.8s,mb4.5						
QSPA				LR	LR		
	comp=Z,100nm,19.7s						
FINES	FINESS Array B	144.53	340	PKP	PKPdf	01 56 45.1	-0.9
	comp=Z,2.2nm,0.6s,baz=43,slow=4.8,SNR=17						

*IDC **15** 01:41:10.1±1.4, 18.68N×63.41W, mb3.8/8, mb1 4.1/9, mb1mx3.9/20, ML6.1/1, Error ellipse: s-maj=41.5km s-min=20.9km az=74.0*

*NEIC **15** 01:41:13.4±0.5, 18.66N×63.48W, h20^{km}, ML4.2(RSPR), Error ellipse: s-maj=8.9km s-min=6.4km az=148.0*

*TRN **15** 01:41:19.1, 19.03N×63.50W, h86^{km}, MD4.1, M4.2(FDF)*

*RSPR **15** 01:41:22.3, 18.94N×64.08W, h25^{km}±17^{km}, MD3.7/12, MD3.7/12*

ISC 15 01:41:20.6±0.6**, 18.60N**±0.08×**64.03W**±0.03**, h85**^{km}±7^{km}**, n41, σ0^{s}94**/63**, mb3.7**/8**, 8C-12D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STMA	St. Maarten, A	1.03	122⇓	iP	P	01 41 41.8	+1.2
STMA				eS	S	01 41 56.0	+0.3
SABT	Saba	1.23	142⇓	iP	P	01 41 43.6	+0.5
SABT				eS	S	01 41 59.5	-0.4
MTP	Monte Pirata	1.54	251⇑	eP	P	01 41 47.3	+0.1
MTP				eS	S	01 42 06.7	+0.1
CBYP	Canovanas	1.77	260⇑	eP	P	01 41 49.8	-0.3
CBYP				eS	S	01 42 11.3	-0.6
HUMP	Col San Antoni	1.79	256⇓	eP	P	01 41 50.5	+0.1
HUMP				eS	S	01 42 12.4	0.0
CPD	Cerro la Pandu	1.88	253⇑	eP	P	01 41 52.3	+0.7
CPD				eS	S	01 42 15.2	+0.8
CSB	Colonia Sabana	2.04	262⇓	eP	P	01 41 53.3	-0.6
SJG	San Juan	2.07	257⇓	eP	P	01 41 54.2	0.0
SJG				eS	S	01 42 19.7	+0.7
SJG	San Juan	2.07	257	Pn	P	01 41 54.2	-0.1
	64nm,0.3s,baz=153,slow=1.6,SNR=46						
SJG				Sn	S	01 42 19.8	+0.8
	54nm,0.3s,baz=340,slow=16,SNR=6.3						
SJG	San Juan	2.07	257⇓	eP	P	01 41 54.0	-0.2
SJG				eS	S	01 42 19.6	+0.6
CELP	Cerrillos	2.48	258⇑	eP	P	01 41 59.9	0.0
CELP				eS	S	01 42 30.2	+1.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
OBIP	**Obispado Ponce**	**2.51**	**258**	⇓eP	**P**	**01 42 00.3**	**-0.1**
OBIP				eS	**S**	**01 42 30.2**	**+0.2**
MBGB		**2.53**	**137**	eP	**P**	**01 42 00.6**	**0.0**
MBGB				eS	**S**	**01 42 30.6**	**+0.2**
PORP	**Portuguez**	**2.54**	**258**	⇑eP	**P**	**01 42 01.0**	**+0.3**
PORP				eS	**S**	**01 42 30.5**	**-0.1**
MBWH		**2.55**	**136**	eP	**P**	**01 42 00.3**	**-0.6**
MGH	**Saint George's**	**2.55**	**137**	eP	**P**	**01 42 00.9**	**0.0**
AOPR	**Arecibo Observ**	**2.60**	**265**	⇑eP	**P**	**01 42 01.2**	**-0.4**
AOPR				eS	**S**	**01 42 31.6**	**-0.5**
MBRY		**2.60**	**136**	eP	**P**	**01 42 01.2**	**-0.4**
MBSS		**2.61**	**137**	eP	**P**	**01 42 01.3**	**-0.4**
LRS	**Lares**	**2.69**	**264**	⇓eP	**P**	**01 42 02.5**	**-0.4**
LRS				eS	**S**	**01 42 33.5**	**-1.0**
LSP	**Las Mesas**	**2.94**	**262**	⇑eP	**P**	**01 42 06.1**	**-0.2**
LSP				eS	**S**	**01 42 40.1**	**-0.4**
MGP	**Maguayo**	**2.97**	**259**	⇓eP	**P**	**01 42 06.9**	**+0.1**
MGP				eS	**S**	**01 42 41.0**	**-0.3**
MPR	**Mayaguez**	**2.98**	**263**	⇑eP	**P**	**01 42 06.8**	**-0.1**
MPR				eS	**S**	**01 42 41.0**	**-0.6**
SEG	**Port Louis**	**3.25**	**132**	⇓iP	**P**	**01 42 09.4**	**-1.3**
SEG				eS	**S**	**01 42 45.9**	**-2.5**
DEG	**La Desirade**	**3.63**	**128**	⇓eP	**P**	**01 42 13.8**	**-2.1**
DEG				eS	**S**	**01 42 52.9**	**-5.0**
MGG	**Marie-Galante**	**3.72**	**135**	eP	**P**	**01 42 16.4**	**-0.6**
BBL	**Barber's Block**	**3.92**	**141**	eP	**P**	**01 42 19.7**	**-0.1**
BBL	**Barber's Block**	**3.92**	**141**	eP	**P**	**01 42 21.6**	**+1.8**
BBL				eS	**S**	**01 43 05.2**	**+0.4**
DLVT	**Layou Valley**	**4.03**	**141**	eP	**P**	**01 42 23.7**	**+2.3**
MDN	**Morne-Daniel**	**4.12**	**142**	eP	**P**	**01 42 24.8**	**+2.1**
MDN				eS	**S**	**01 43 12.9**	**+2.9**
FDF	**Fort de France**	**4.73**	**144**	⇓eP	**P**	**01 42 30.8**	**-0.3**
SADO	**Sadowa**	**28.99**	**337**	P	**P**	**01 47 13.1**	**-1.3**
	3.5nm,0.9s,mb4.0,baz=146,slow=3.6,SNR=1.8						
LPAZ	**La Paz**	**34.90**	**187**	P	**P**	**01 48 05.8**	**-0.4**
	0.8nm,0.7s,mb3.7,baz=23,slow=4.9,SNR=4.3						
TXAR	**Lajitas Array**	**37.60**	**294**	P	**P**	**01 48 31.3**	**+2.5**
	0.5nm,0.5s,mb3.6,baz=114,slow=8.6,SNR=8.9						
TXAR	**Lajitas Array**	**37.60**	**294**	P	**P**	**01 48 31.3**	**+2.5**
ULM	**Lac du Bonnet**	**40.51**	**329**	P	**P**	**01 48 52.0**	**-0.7**
	3.1nm,0.8s,mb4.2,baz=145,slow=6.7,SNR=3.1						
CPUP	**Villa Florida**	**45.13**	**172**	P	**P**	**01 49 28.0**	**-2.6**
	1.0nm,0.8s,mb3.6,baz=36,slow=8.4,SNR=3.7						
CPUP	**Villa Florida**	**45.13**	**172**	P	**P**	**01 49 28.0**	**-2.6**
PDAR	**Pinedale Array**	**45.27**	**312**	P	**P**	**01 49 32.8**	**+1.3**
	1.1nm,0.6s,mb3.8,baz=101,slow=7.6,SNR=3.5						
NVAR	**Mina Array Bea**	**50.86**	**305**	P	**P**	**01 50 16.6**	**+1.6**
	0.4nm,0.9s,mb3.5,baz=77,slow=12,SNR=2.7						
ILAR	**Eielson Array**	**70.31**	**333**	P	**P**	**01 52 26.8**	**+0.2**
	0.2nm,0.4s,mb3.3,baz=102,slow=4.3,SNR=5.0						

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*IDC **15** 01:58:23.6±1.1, 57.77S×25.00W, mb3.9/4, mb1 4.0/5, mb1mx3.9/10, ML3.6/1, Error ellipse: s-maj=58.1km s-min=21.5km az=54.0*

*NEIC **15** 01:58:25.3±7.9, 57.75S×25.01W, h12^{km}±49^{km}, mb3.9/3, Error ellipse: s-maj=47.3km s-min=13.0km az=49.0*

ISC 15 01:58:22.7±1.4**, 57.6S**±0.3×**24.7W**±0.8**, h10^{km}, n13, σ0^{s}60**/12**, mb3.9**/5**, 2C-1D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**14.82**	**158**	⇓i	**P**	**02 01 52.7**	**-1.1**
VNA3	**Neumayer Olymp**	**15.05**	**161**	⇑i	**P**	**02 01 57.0**	**+0.2**
VNA2	**Neumayer--Watz**	**15.22**	**158**		**P**	**02 02 00.0**	**+1.1**
SNAA	**Sanae**	**16.75**	**156**	⇑i	**P**	**02 02 18.7**	**+0.2**
SNAA	**Sanae**	**16.75**	**156**	Pn	**P**	**02 02 18.4**	**-0.1**
	0.2nm,0.3s,baz=321,slow=15,SNR=61						
SNAA				Sn	**S**	**02 05 10.2**	**-14**
	0.0nm,0.3s,baz=150,slow=21,SNR=6.1						
MAW	**Mawson**	**38.07**	**142**	P	**P**	**02 05 42.6**	**0.0**
	1.0nm,0.8s,mb3.6,baz=238,slow=19,SNR=2.2						
CPUP	**Villa Florida**	**38.87**	**310**	P	**P**	**02 05 50.3**	**+0.5**
	1.9nm,1.1s,mb3.7,baz=197,slow=14,SNR=3.3						
VNDA	**Vanda**	**45.05**	**182**	P	**P**	**02 06 39.3**	**-0.4**
	1.4nm,0.6s,mb4.0,baz=190,slow=6.0,SNR=17						
LPAZ	**La Paz**	**52.40**	**304**	P	**P**	**02 07 37.6**	**+0.4**
	0.6nm,0.5s,mb3.8,baz=159,slow=5.7,SNR=4.6						
LPAZ	**La Paz**	**52.40**	**304**	eP	**P**	**02 07 37.3**	**+0.1**
	0.8nm,0.5s,mb3.9						
SAML	**Samuel**	**56.88**	**313**	eP	**P**	**02 08 09.3**	**-0.7**
	1.7nm,0.6s,mb4.2						
SONM	**Songino Array**	**149.45**	**87**	PKPbc	PKPdf	02 18 14.2	+4.8
	1.4nm,0.8s,baz=230,slow=2.5,SNR=8.8						
ILAR	**Eielson Array**	**152.18**	**309**	PKPbc	PKPdf	02 18 18.7	+5.7
	2.4nm,1.0s,baz=129,slow=2.3,SNR=18						

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*IDC **15** 02:24:39.5±4.4, 6.34S×147.83E, mb3.9/3, mb1 4.0/5, mb1mx3.8/14, ML3.3/2, MS3.6/1, Ms1 3.6/1, ms1mx2.7/14, Error ellipse: s-maj=67.8km s-min=44.1km az=66.0*

*NEIC **15** 02:24:42.7±2.9, 6.19S×147.97E, h43^{km}±18^{km}, mb4.0/2, Error ellipse: s-maj=27.9km s-min=27.3km az=178.0*

ISC 15 02:24:43.5±4.3**, 6.3S**±0.2×**147.9E**±0.3**, h59^{km}**±20^{km}**, n12, σ0^{s}88**/12**, mb3.8**/3**, MS3.6**/1**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAU	**Wau**	**1.56**	**227**	eP	**P**	**02 25 10.2**	**+0.7**
PMG	**Port Moresby**	**3.19**	**193**	Pn	**P**	**02 25 31.7**	**-0.7**
	3.9nm,0.3s,baz=31,slow=12,SNR=8.3						
PMG				Sn	**S**	**02 26 09.9**	**+0.5**
	10nm,0.3s,baz=348,slow=19,SNR=9.3						
KAKA	**Kakadu**	**16.53**	**246**	eP	**P**	**02 28 38.3**	**+5.4**
	7.5nm,0.9s						
WRAB	**Tennant Creek**	**18.89**	**223**	eP	**P**	**02 29 00.8**	**-1.0**
	3.1nm,0.5s						
WB2	**Warramunga Arr**	**18.89**	**223**	eP	**P**	**02 29 00.6**	**-1.3**
WRA	**Warramunga Arr**	**18.90**	**223**	P	**P**	**02 29 01.0**	**-1.0**
	0.3nm,0.3s,baz=49,slow=11,SNR=13						
ASAR	**Alice Springs**	**21.89**	**216**	P	**P**	**02 29 33.6**	**+0.5**
	1.5nm,0.5s,mb3.7,baz=52,slow=9.4,SNR=23						
ASPA	**Alice Springs**	**21.90**	**216**	eP	**P**	**02 29 33.9**	**+0.7**
FITZ	**Fitzroy Crossi**	**24.67**	**240**	eP	**P**	**02 30 01.6**	**+1.3**
	1.9nm,0.3s,mb4.1						
FITZ	**Fitzroy Crossi**	**24.67**	**240**	P	**P**	**02 30 01.6**	**+1.3**
	4.4nm,0.6s,mb4.1,baz=56,slow=6.8,SNR=23						
STKA	**Stephens Creek**	**26.14**	**192**	P	**P**	**02 30 14.4**	**+0.4**
	0.9nm,0.5s,mb3.6,baz=25,slow=7.6,SNR=2.7						
RPZ	**Rata Peaks**	**42.49**	**155**	LR	LR	02 45 58.5	
	comp=Z,78nm,19.6s,MS3.6,baz=22,slow=30						

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*NEIC **15** 02:32:21.2±0.2, 58.33N×155.99W, h150^{km}±2^{km}, mb3.6/2, Error ellipse: s-maj=5.1km s-min=2.6km az=140.0*

*IDC **15** 02:32:24.1±3.9, 58.85N×156.25W, h149^{km}±28^{km}, mb3.6/8, mb1 3.8/11, mb1mx3.6/21, Error ellipse: s-maj=49.3km s-min=21.5km az=156.0*

ISC 15 02:32:20.1±0.2**, 58.30N**±0.03×**155.97W**±0.06**, h150^{km}**±2^{km}**, n115, σ0^{s}97**/142**, mb3.7**/9**, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNTC	**Contact Creek**	**0.06**	**128**	P	**P**	**02 32 40.8**	**+0.4**
CNTC				S	**S**	**02 32 54.9**	**-1.0**
ANCK	**Angle Creek**	**0.27**	**112**	P	**P**	**02 32 41.3**	**+0.3**
ANCK				S	**S**	**02 32 56.0**	**-1.0**
KJL	**Kejulik**	**0.33**	**139**	P	**P**	**02 32 41.5**	**+0.3**
KJL				S	**S**	**02 32 56.6**	**-0.7**
ACHA	**Angle Creek He**	**0.35**	**105**	P	**P**	**02 32 41.3**	**0.0**
ACHA				S	**S**	**02 32 56.3**	**-1.2**
MGLS	**Mageik LS**	**0.35**	**105**	P	**P**	**02 32 42.0**	**+0.7**
MGLS				S	**S**	**02 32 57.9**	**+0.4**
CAHL	**Cahill**	**0.43**	**125**	P	**P**	**02 32 41.7**	**0.0**
KAIC	**Katmai Ikaglui**	**0.52**	**69**	P	**P**	**02 32 42.2**	**+0.1**
KAIC				S	**S**	**02 32 57.1**	**-1.7**
KABR	**Katmai Barrier**	**0.56**	**107**	P	**P**	**02 32 42.2**	**0.0**
KAHC	**Katmai Hardscr**	**0.62**	**55**	P	**P**	**02 32 42.7**	**+0.1**
KAHC				S	**S**	**02 32 58.8**	**-0.9**
KAWH	**Katmai**	**0.62**	**82**	P	**P**	**02 32 42.6**	**0.0**
KARR	**Katmai Rainbow**	**0.70**	**73**	P	**P**	**02 32 43.4**	**+0.4**
KAPH	**Katmai Pasha**	**0.90**	**70**	P	**P**	**02 32 45.1**	**+0.8**
MCNL	**McNeil River**	**1.23**	**43**	P	**P**	**02 32 47.7**	**+0.5**
MCNL				S	**S**	**02 33 07.6**	**-0.6**
AUI	**Augustine Isla**	**1.68**	**51**	P	**P**	**02 32 52.7**	**+0.7**
AUI				S	**S**	**02 33 16.4**	**-0.1**
AUW	**Augustine West**	**1.69**	**49**	P	**P**	**02 32 52.9**	**+0.9**
AGU	**Augustine-Summ**	**1.69**	**50**	P	**P**	**02 32 53.1**	**+1.0**
KDAK	**Kodiak Island**	**1.88**	**105**	P	**P**	**02 32 53.9**	**-0.3**
KDAK				S	**S**	**02 33 18.1**	**-2.1**
SYI	**Shuyak Island**	**1.91**	**79**	P	**P**	**02 32 55.4**	**+0.9**
OPT	**Oil Point**	**1.96**	**45**	P	**P**	**02 32 56.1**	**+1.0**
OPT				S	**S**	**02 33 22.1**	**+0.1**
IVS	**Iliamna South**	**2.27**	**40**	P	**P**	**02 32 59.8**	**+0.9**
IVS				S	**S**	**02 33 28.7**	**+0.1**
ILW	**Iliamna West**	**2.29**	**38**	P	**P**	**02 32 59.9**	**+0.7**
ILW				S	**S**	**02 33 28.7**	**-0.4**
INE	**Iliamna NE**	**2.31**	**39**	P	**P**	**02 33 00.1**	**+0.6**
RSO	**Redoubt South**	**2.72**	**36**	P	**P**	**02 33 05.3**	**+0.7**
CNPM	**China Poot**	**2.75**	**61**	P	**P**	**02 33 05.4**	**+0.4**
NCT	**North Crescent**	**2.75**	**33**	P	**P**	**02 33 05.8**	**+0.9**
RDN	**Redoubt North**	**2.76**	**35**	P	**P**	**02 33 06.4**	**+1.3**
RDN				S	**S**	**02 33 40.2**	**+0.7**
BRLK	**Bradley Lake**	**3.01**	**59**	P	**P**	**02 33 09.1**	**+0.8**
BRLK				S	**S**	**02 33 42.7**	**-2.4**
NKA	**Nikishka**	**3.44**	**43**	P	**P**	**02 33 17.3**	**+3.4**
SPU	**Mount Spurr**	**3.50**	**33**	P	**P**	**02 33 15.7**	**+1.0**
SLKM	**Skilak Lake**	**3.68**	**51**	P	**P**	**02 33 18.6**	**+1.6**
SEW	**Seward**	**3.81**	**59**	P	**P**	**02 33 19.4**	**+0.6**
STLK	**Strandline Lak**	**3.83**	**31**	P	**P**	**02 33 19.9**	**+1.0**
SDPT	**Sand Point**	**3.86**	**222**	P	**P**	**02 33 18.7**	**-0.7**
SDPT				S	**S**	**02 34 02.1**	**-2.8**
MPA	**Moose Pass**	**4.03**	**54**	P	**P**	**02 33 22.2**	**+0.6**
FIB	**Fire Island**	**4.11**	**43**	P	**P**	**02 33 23.7**	**+1.1**
RC01	**Rabbit Creek A**	**4.22**	**46**	P	**P**	**02 33 24.2**	**+0.2**
PN7A	**Pavlof North-7**	**4.38**	**232**	P	**P**	**02 33 26.9**	**+0.7**
LTI	**Latouche**	**4.53**	**64**	P	**P**	**02 33 28.0**	**-0.1**
PWA	**Palmer West**	**4.54**	**40**	P	**P**	**02 33 28.4**	**0.0**
TT01	**Tatalina**	**4.62**	**360**	P	**P**	**02 33 30.1**	**+0.7**
PWL	**Port Wells**	**4.65**	**53**	P	**P**	**02 33 29.8**	**0.0**
DTNA	**Dutton South F**	**4.68**	**230**	P	**P**	**02 33 30.9**	**+0.7**
PMR	**Palmer**	**4.77**	**43**	P	**P**	**02 33 31.1**	**-0.2**
DRIA	**Deer Island**	**4.82**	**229**	P	**P**	**02 33 32.8**	**+0.8**
DRIA				S	**S**	**02 34 25.7**	**-1.8**
GHO	**Glory Hole Cre**	**4.96**	**42**	P	**P**	**02 33 33.2**	**-0.7**
CUT	**Chulitna**	**5.00**	**32**	P	**P**	**02 33 34.5**	**+0.2**
CFI	**College Fiord**	**5.06**	**52**	P	**P**	**02 33 35.2**	**0.0**
MID	**Middleton Isla**	**5.13**	**73**	P	**P**	**02 33 36.1**	**0.0**
SML	**Sawmill**	**5.20**	**44**	P	**P**	**02 33 36.5**	**-0.4**
GLI	**Glacier Island**	**5.20**	**56**	P	**P**	**02 33 36.1**	**-0.9**
GLI				S	**S**	**02 34 32.0**	**-4.5**
FALS	**False Pass**	**5.37**	**233**	P	**P**	**02 33 40.2**	**+0.9**
FALS				S	**S**	**02 34 40.0**	**-0.6**
FID	**Port Fidalgo**	**5.42**	**59**	P	**P**	**02 33 39.4**	**-0.6**
JPK	**Jack Peak**	**5.49**	**56**	P	**P**	**02 33 41.0**	**+0.1**
SCM	**Sheep Creek Mo**	**5.59**	**47**	P	**P**	**02 33 42.5**	**+0.3**
VLZ	**Valdez**	**5.64**	**56**	P	**P**	**02 33 43.0**	**+0.1**
CVA	**Cordova**	**5.68**	**62**	P	**P**	**02 33 43.3**	**-0.2**
EYAK	**Cordova Ski Ar**	**5.69**	**62**	P	**P**	**02 33 43.1**	**-0.4**
KTH	**Kantishna Hill**	**5.81**	**23**	P	**P**	**02 33 45.2**	**0.0**
TRF	**Thorofare Moun**	**5.86**	**26**	P	**P**	**02 33 46.0**	**+0.2**
TRF				S	**S**	**02 34 49.2**	**-3.2**
DIV	**Divide**	**5.89**	**57**	P	**P**	**02 33 46.1**	**0.0**
DIV				S	**S**	**02 34 48.6**	**-4.4**
SGAM	**Sherman Glacie**	**5.92**	**64**	P	**P**	**02 33 46.5**	**-0.1**
SGAM				S	**S**	**02 34 50.7**	**-3.2**
WESE	**West Dahl East**	**6.13**	**235**	P	**P**	**02 33 50.9**	**+1.4**
RAGM	**Ragged Mountai**	**6.15**	**65**	P	**P**	**02 33 49.7**	**+0.1**
KAIM	**Kayak Island**	**6.17**	**70**	P	**P**	**02 33 50.9**	**+0.9**
RND	**Reindeer**	**6.19**	**31**	P	**P**	**02 33 49.8**	**-0.4**
DHY	**Denali Highway**	**6.38**	**38**	P	**P**	**02 33 51.8**	**-1.1**
MCK	**McKinley**	**6.43**	**29**	P	**P**	**02 33 52.6**	**-0.9**
TZL	**Tazlina**	**6.46**	**50**	P	**P**	**02 33 54.2**	**+0.3**
GCSA	**Galena City Sc**	**6.48**	**357**	P	**P**	**02 33 54.9**	**+0.7**
BWN	**Browne**	**6.67**	**25**	P	**P**	**02 33 56.2**	**-0.5**
SDG	**Sourdough**	**6.68**	**46**	P	**P**	**02 33 57.0**	**+0.2**
GLB	**Gilahina Butte**	**6.88**	**58**	P	**P**	**02 33 59.4**	**-0.2**
GLB				S	**S**	**02 35 12.2**	**-4.7**
AHB	**Akutan Harbor**	**6.91**	**237**	P	**P**	**02 34 00.7**	**+0.8**
PAX	**Paxson**	**6.97**	**43**	P	**P**	**02 34 00.5**	**-0.2**
SNH	**Sunshine Point**	**7.00**	**69**	P	**P**	**02 34 01.9**	**+0.8**
WAX	**Waxell Ridge**	**7.04**	**67**	P	**P**	**02 34 01.9**	**+0.2**
TGL	**Tana Glacier**	**7.12**	**64**	P	**P**	**02 34 02.9**	**+0.2**
THY	**Trims Highway**	**7.15**	**40**	P	**P**	**02 34 03.8**	**+0.6**
DDM	**Donnelly Dome**	**7.37**	**37**	P	**P**	**02 34 06.6**	**+0.5**
DDM				S	**S**	**02 35 25.1**	**-3.5**
MTBL	**Makushin Table**	**7.39**	**239**	P	**P**	**02 34 07.4**	**+1.1**
UNV	**Unalaska Valle**	**7.39**	**237**	P	**P**	**02 34 06.5**	**+0.2**
BALM	**Baldy**	**7.42**	**63**	P	**P**	**02 34 06.9**	**+0.1**
BALM				S	**S**	**02 35 24.8**	**-5.1**
MSW	**Makushin Switc**	**7.47**	**239**	P	**P**	**02 34 07.2**	**-0.2**
HDA	**Harding Lake**	**7.50**	**31**	P	**P**	**02 34 05.9**	**-1.9**
YAH	**Yahtse**	**7.56**	**68**	P	**P**	**02 34 09.5**	**+0.8**
COLA	**College**	**7.64**	**27**	P	**P**	**02 34 07.8**	**-2.0**
IM3	**Indian Mountai**	**7.78**	**7**	P	**P**	**02 34 12.3**	**+0.7**
ILAR	**Eielson Array**	**7.80**	**30**	P	**P**	**02 34 09.6**	**-2.3**
	8.5nm,0.3s,baz=217,slow=13,SNR=408						
ILAR				S	**S**	**02 35 32.6**	**-6.4**
	4.0nm,0.3s,baz=194,slow=27,SNR=12						
IL1	**Eielson Array**	**7.80**	**30**	P	**P**	**02 34 09.4**	**-2.4**
IMA	**Indian Mountai**	**7.87**	**7**	eP	**P**	**02 34 14.1**	**+1.3**
CTGM	**Chitina Glacie**	**7.88**	**64**	P	**P**	**02 34 13.5**	**+0.6**
DOT	**Dot Lake**	**7.89**	**42**	P	**P**	**02 34 12.3**	**-0.7**
PCA	**Pinnacle**	**8.26**	**71**	P	**P**	**02 34 18.8**	**+0.8**
BCA3	**Beaver Creek A**	**8.43**	**50**	P	**P**	**02 34 20.4**	**+0.2**
PNL	**Peninsula**	**8.67**	**74**	P	**P**	**02 34 23.8**	**+0.5**
COLD	**Coldfoot**	**9.34**	**14**	P	**P**	**02 34 30.8**	**-1.3**
DAWY	**Dawson**	**9.85**	**47**	P	**P**	**02 34 39.2**	**+0.5**
BESE	**Bessie Mountai**	**11.06**	**80**	P	**P**	**02 34 57.4**	**+2.7**
SIT	**Sitka**	**11.12**	**88**	P	**P**	**02 34 55.5**	**+0.1**
INK	**Inuvik**	**14.12**	**36**	P	**P**	**02 35 32.5**	**-1.4**
	0.6nm,0.3s,baz=223,slow=10,SNR=17						
INK				S	**S**	**02 38 16.1**	**+9.0**
	0.1nm,0.3s,baz=196,slow=31,SNR=3.5						
INK	**Inuvik**	**14.12**	**36**	eP	**P**	**02 35 31.7**	**-2.2**
FX1	**Attu Island--F**	**18.16**	**266**	P	**P**	**02 36 22.6**	**-0.6**
	3.3nm,0.3s,baz=342,slow=19,SNR=12						
YKA	**Yellowknife Ar**	**20.59**	**61**	P	**P**	**02 36 49.4**	**+1.1**
	5.3nm,0.4s,baz=276,slow=9.9,SNR=44						
YKA	**Yellowknife Ar**	**20.59**	**61**	P	**P**	**02 36 49.4**	**+1.1**
NEW	**Newport**	**24.96**	**97**	P	**P**	**02 37 31.9**	**+1.3**
BW06	**Boulder Array**	**32.58**	**98**	P	**P**	**02 38 36.6**	**-2.3**
	0.7nm,0.7s,mb3.5						
TPNV	**Topopah Spring**	**33.53**	**112**	P	**P**	**02 38 46.4**	**-0.6**
	1.5nm,1.0s,mb3.7						
ARCES	**ARCESS Array B**	**52.46**	**359**	P	**P**	**02 41 15.5**	**-3.1**
	6.7nm,1.0s,mb4.2,baz=5.2,slow=13,SNR=3.7						
ARCES	**ARCESS Array B**	**52.46**	**359**	P	**P**	**02 41 15.5**	**-3.1**
SONM	**Songino Array**	**54.53**	**305**	P	**P**	**02 41 34.7**	**+0.7**
	0.5nm,0.4s,mb3.6,baz=44,slow=6.1,SNR=5.5						
NOA	**NORSAR Array B**	**60.58**	**7**	P	**P**	**02 42 14.0**	**-2.3**
	0.9nm,0.8s,mb3.6,baz=353,slow=11,SNR=3.5						
FINES	**FINESS Array B**	**60.58**	**359**	P	**P**	**02 42 14.8**	**-1.4**
	2.0nm,1.0s,mb3.9,slow=9.5,SNR=7.1						
BVAR	**Borovoye Array**	**62.83**	**331**	P	**P**	**02 42 28.2**	**-3.2**
	0.5nm,0.4s,mb3.7,baz=22,slow=8.0,SNR=4.5						
AKASG	**Malin Array Be**	**71.28**	**357**	P	**P**	**02 43 23.1**	**-1.1**
	0.8nm,0.4s,mb3.8,baz=6.0,slow=6.0,SNR=9.0						
GERES	**GERESS Array B**	**72.88**	**7**	P	**P**	**02 43 33.7**	**+0.2**
	0.4nm,0.6s,mb3.4,baz=326,slow=4.8,SNR=4.4						

CASC 15 02:33:41.2±1.7**, 13.32N**×**89.75W, h43^{km}**±22^{km}**, MD3.7, ML3.8, 6C-12D, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.54**	**13**	⇓iP	P	02 33 53.1	+0.6
SBLS				eS	S	02 34 02.0	+1.4
SNJE	**San Jose**	**0.57**	**14**	⇓iP	P	02 33 53.5	+0.5
RTR	**El Retiro**	**0.59**	**10**	⇓eP	P	02 33 53.9	+0.6
BOQS	**Boqueron**	**0.62**	**47**	⇓eP	P	02 33 54.0	+0.4
BOQS				eS	S	02 34 03.1	+0.5
CUSS	**Cusmapa**	**0.62**	**342**	⇓eP	P	02 33 53.6	-0.1
CUSS				eS	S	02 34 03.4	+0.7
SNET	**Serv Nac Est T**	**0.62**	**54**	⇑eP	P	02 33 53.8	+0.1
SNET				eS	S	02 34 04.6	+1.8
SNET				i		02 34 07.3	
	comp=Z,3μm,0.3s						
LFRS	**El Faro**	**0.73**	**65**	⇓iP	P	02 33 55.3	+0.1
LFRS				eS	S	02 34 05.7	+0.3
LFU	**La Fuente**	**0.75**	**55**	⇓eP	P	02 33 55.8	+0.4
LFU				eS	S	02 34 06.1	+0.2
RBDL	**Robledal**	**0.80**	**4**	⇑eP	P	02 33 56.0	-0.1
LBRS	**Las Brisas**	**0.80**	**58**	⇓eP	P	02 33 56.6	+0.5
LBRS				eS	S	02 34 08.8	+1.6
LCBS	**La Ceiba**	**0.82**	**66**	⇓iP	P	02 33 56.5	+0.1
LCBS				eS	S	02 34 08.1	+0.5
SNVI	**San Vicente**	**0.93**	**71**	⇑eP	P	02 33 58.3	+0.3
SNVI				eS	S	02 34 11.3	+1.0
IXG	**Ixpaco**	**1.10**	**321**	⇑eP	P	02 33 59.6	-0.7
IXG				eS	S	02 34 13.8	-0.7
IXG				AML	AML	02 34 18.7	
	comp=E,9μm,0.3s						
MTO2	**Montecristo 2**	**1.14**	**19**	⇓iP	P	02 34 01.0	+0.1
MTO2				eS	S	02 34 16.2	+0.6
VSM	**San Miguel**	**1.44**	**85**	⇑eP	P	02 34 05.3	0.0
BLLM	**Bellamira**	**1.47**	**85**	eP	P	02 34 05.5	-0.3
BLLM				eP		02 34 05.9	
BLLM				eS	S	02 34 25.4	+1.4
CAHU	**Cacacuatique**	**1.56**	**73**	eP	P	02 34 06.6	-0.4
CNCH	**Conchagua**	**1.86**	**91**	⇓eP	P	02 34 10.8	-0.5
CNCH				eS	S	02 34 34.5	+0.8
TP2	**Tecpan 2**	**1.91**	**320**	eP	P	02 34 12.2	+0.3
TP2				eS	S	02 34 37.0	+2.1
TP2				AML	AML	02 34 43.5	
	comp=E,434nm,0.4s						
JAT	**Jato**	**2.09**	**299**	eP	P	02 34 13.8	-0.6
JAT				eS	S	02 34 40.3	+0.9
JAT				AML	AML	02 34 43.5	
	comp=E,1μm,0.3s						
LEON	**Leon**	**2.92**	**107**	⇑eP	P	02 34 26.4	+0.1
LEON				eS	S	02 34 58.2	-2.4
MIRN	**Miramar**	**3.08**	**106**	eP	P	02 34 28.0	-0.7
MIRN				eS	S	02 35 03.6	-1.1
MOMJ	**Momotombo**	**3.25**	**106**	eP	P	02 34 30.5	-0.6
MOMJ				eS	S	02 35 07.2	-1.7
COPN	**Copaltepe**	**3.28**	**110**	⇓eP	P	02 34 30.5	-1.0
APYN	**Apoyeque**	**3.48**	**108**	eP	P	02 34 33.3	-1.0
APYN				eS	S	02 35 12.7	-2.1

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*CNRM **15** 02:45:27.5, 35.70N×4.58W, h30^{km}, MD3.0*

*CSEM **15** 02:45:30.1±0.3, 35.37N×4.80W, h20^{km}, MD3.0, Error ellipse: s-maj=7.0km s-min=6.1km az=125.0*

*MDD **15** 02:45:32.6±1.9, 35.29N×4.73W, h27^{km}±23^{km}, mb3.7/5, Error ellipse: s-maj=17.9km s-min=7.1km az=18.0, PRXIMO*

ISC 15 02:45:30.1±0.7**, 35.41N**±0.04×**4.73W**±0.04**, h15^{km}**±9^{km}**, n26, σ1^{s}16**/47**, 1C, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DKH	**Dar Kharkhour**	**0.52**	**279**	i P	**Pb**	**02 45 40.0**	**-0.3**
RSA	**Sarsar**	**1.04**	**240**	eP	**Pb**	**02 45 49.0**	**-0.3**
RSA				i S	**Sb**	**02 46 04.0**	**+1.5**
EMIJ	**Mijas**	**1.16**	**358**	⇑P	**Pb**	**02 45 50.2**	**-1.0**
	2.8nm,0.1s,SNR=18						
EMIJ				S	**Sb**	**02 46 03.0**	**-2.8**
	18nm,0.1s,SNR=7.9						
EJIF	**Jimena Fronter**	**1.20**	**330**	P	**Pb**	**02 45 51.9**	**-0.1**
	0.3nm,0.2s,SNR=4.0						
EJIF				S	**Sb**	**02 46 09.5**	**+2.3**
	1.2nm,0.4s,SNR=4.0						
EJIF	**Jimena Fronter**	**1.20**	**330**	P	**Pb**	**02 45 51.9**	**-0.1**
	0.3nm,0.2s,SNR=4.0						
EJIF				S	**Sb**	**02 46 06.4**	**-0.8**
	1.2nm,0.4s,SNR=4.0						
TZK	**Tazeka**	**1.39**	**161**	i S	**Sb**	**02 46 11.0**	**-1.6**
EMEL	**Melilla**	**1.46**	**94**	P	**Pn**	**02 45 56.5**	**+0.6**
	13nm,0.1s,SNR=7.9						
EMEL				S	**Sb**	**02 46 13.3**	**-1.2**
	SNR=7.9						
EMLI	**Melilla**	**1.46**	**94**	P	**Pn**	**02 45 56.5**	**+0.5**
	13nm,0.1s,SNR=7.9						
ELOJ	**Sierra Loja**	**1.80**	**15**	P	**Pn**	**02 46 03.4**	**+2.5**
	1.1nm,0.2s,SNR=4.0						
ELOJ				S	**Sn**	**02 46 24.4**	**+0.8**
	1.5nm,0.2s,SNR=4.0						
EBER	**Berja**	**2.11**	**45**	P	**Pn**	**02 46 06.0**	**+0.7**
	1.2nm,0.2s,SNR=8.4						
EBER				S	**Sn**	**02 46 31.0**	**-0.4**
	8.8nm,0.2s,SNR=7.0						
EBER	**Berja**	**2.11**	**45**	P	**Pn**	**02 46 06.0**	**+0.7**
	1.2nm,0.2s,SNR=8.4						
EBER				S	**Sn**	**02 46 31.0**	**-0.4**
	8.8nm,0.2s,SNR=7.0						
ELUQ	**Luque**	**2.18**	**10**	P	**Pn**	**02 46 08.1**	**+1.7**
	1.0nm,0.1s,SNR=4.0						
ELUQ				S	**Sn**	**02 46 33.3**	**0.0**
	3.2nm,0.2s,SNR=4.0						
EQES	**Quesada**	**2.74**	**29**	P	**Pn**	**02 46 16.2**	**+1.8**
	0.5nm,0.1s,SNR=9.3						
EQES				S	**Sn**	**02 46 48.9**	**+1.4**
	5.0nm,0.4s,SNR=6.1						
EQES	**Quesada**	**2.74**	**29**	P	**Pn**	**02 46 17.4**	**+3.1**
	0.5nm,0.1s,SNR=9.3						
EQES				S	**Sn**	**02 46 48.9**	**+1.5**
	5.0nm,0.4s,SNR=6.1						
EADA	**Adamuz**	**2.76**	**3**	P	**Pn**	**02 46 16.1**	**+1.5**
	0.5nm,0.1s,SNR=5.9						
EADA				S	**Sn**	**02 46 49.4**	**+1.5**
	2.7nm,0.2s,SNR=4.0						
EADA	**Adamuz**	**2.76**	**3**	P	**Pn**	**02 46 16.1**	**+1.5**
	0.5nm,0.1s,SNR=5.9						
EADA	**Adamuz**	**2.76**	**3**	S	**Sn**	**02 46 49.4**	**+1.5**
	2.7nm,0.2s,SNR=4.0						
EMIN	**Mina Concepcio**	**2.83**	**327**	P	**Pn**	**02 46 15.9**	**+0.3**
	0.5nm,0.1s,SNR=9.2						
EMIN				S	**Sn**	**02 46 48.4**	**-1.3**
	0.2nm,0.1s						
EMIN	**Mina Concepcio**	**2.83**	**327**	P	**Pn**	**02 46 15.9**	**+0.3**
	0.5nm,0.1s,SNR=9.2						
EMIN				S	**Sn**	**02 46 48.4**	**-1.3**
	0.2nm,0.1s						
PALC	**Alcoutim**	**3.02**	**314**	ePn	**Pn**	**02 46 18.9**	**+0.6**
PALC				eSn	**Sn**	**02 46 53.8**	**-0.7**
	2.4nm,0.4s						
PALC	**Alcoutim**	**3.02**	**314**	Pn	**Pn**	**02 46 18.9**	**+0.6**
PALC				Sn	**Sn**	**02 46 53.8**	**-0.7**
	1.2nm,0.4s						
PBEJ	**Beja**	**3.63**	**317**	ePn	**Pn**	**02 46 28.8**	**+1.8**
PBEJ				eSn	**Sn**	**02 47 06.8**	**-3.2**
EBAD	**Badajoz**	**3.81**	**332**	P	**Pn**	**02 46 30.0**	**+0.4**
	0.2nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**02 47 13.4**	**-1.0**
	2.1nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**3.81**	**332**	P	**Pn**	**02 46 30.0**	**+0.5**
	0.2nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**02 47 13.4**	**-1.1**
	2.1nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**4.30**	**8**	P	**Pn**	**02 46 36.8**	**+0.3**
	0.6nm,0.2s,baz=188,slow=14,SNR=4.0						
ESDC				S	**Sn**	**02 47 23.7**	**-3.3**
	0.6nm,0.2s,baz=184,slow=23,SNR=4.0						
ETOR	**Torete**	**5.80**	**21**	P	**Pn**	**02 46 57.8**	**+0.1**
	0.2nm,0.2s,SNR=7.9						
ETOR				S	**Sn**	**02 48 00.3**	**-4.4**
	0.5nm,0.3s,SNR=7.9						

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*CSEM **15** 02:46:41.4±0.1, 33.68N×27.88E, h40^{km}, Mw3.5, Error ellipse: s-maj=4.5km s-min=1.3km az=28.0*

*ATH **15** 02:46:58.1, 34.93N×26.80E, h37^{km}, MD3.4/4*

*NEIC **15** 02:46:58.1, 34.93N×26.80E, h37^{km}, MD3.4(ATH), After ATH.*

ISC 15 02:46:39.6±0.6**, 33.72N**±0.06×**28.06E**±0.05**, h33^{km}, n35, σ1^{s}38**/42**, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**1.97**	**338**	ePN	**Pn**	**02 47 12.0**	**+0.6**
XRY	**Khrisi**	**2.27**	**301**	ePB	**P**	**02 47 14.9**	**-0.6**
NPS	**Neapolis**	**2.54**	**308**	ePN	**Pn**	**02 47 19.0**	**-0.6**
BDRM	**Kayabasi**	**3.38**	**352**	i P	**P**	**02 47 29.9**	**-1.4**
GVD	**Gavdhos**	**3.47**	**290**	ePn	**Pn**	**02 47 30.9**	**-1.9**
GVD				eSn	**Sn**	**02 48 06.0**	**-7.3**
GVD	**Gavdhos**	**3.47**	**290**	ePn	**Pn**	**02 47 30.9**	**-1.9**
GVD				eSn	**Sn**	**02 48 05.9**	**-7.4**
VAM	**Vamos**	**3.60**	**299**	ePN	**Pn**	**02 47 33.5**	**-1.1**
AYDN	**Tasoluk**	**3.94**	**358**	i P	**P**	**02 47 39.5**	**+0.2**
DNZL	**Cakiroluk**	**4.05**	**11**	i P	**P**	**02 47 41.6**	**+0.8**
MANT	**Manisa**	**4.78**	**5**	i P	**P**	**02 47 51.0**	**-0.2**
MEST	**Erdemli**	**5.75**	**58**	i P	**P**	**02 48 09.1**	**+4.2**
SLTI	**Sal'it**	**6.05**	**102**	Sn	**Sn**	**02 49 18.0**	**-0.1**
KZIT	**Kziot**	**6.05**	**116**	Pn	**Pn**	**02 48 11.2**	**+1.9**
KZIT				Sn	**Sn**	**02 49 17.5**	**-0.7**
RTMM	**Retamin**	**6.20**	**114**	Sn	**Sn**	**02 49 20.6**	**-1.3**
AMZI	**Amatzia**	**6.21**	**109**	Pn	**Pn**	**02 48 14.7**	**+3.3**
AMZI				Sn	**Sn**	**02 49 20.8**	**-1.2**
MASH	**Mash'abbe Sade**	**6.30**	**114**	Sn	**Sn**	**02 49 23.3**	**-1.1**
MMLI	**Mount Malkishu**	**6.31**	**100**	Pn	**Pn**	**02 48 16.0**	**+3.1**
MMLI				Sn	**Sn**	**02 49 23.8**	**-0.8**
KSDI	**Kefar Szold**	**6.37**	**93**	Sn	**Sn**	**02 49 25.9**	**-0.3**
HRI	**Mount Hermon**	**6.43**	**92**	Sn	**Sn**	**02 49 29.5**	**+1.9**
HMDT	**Nahal Hemdat**	**6.44**	**101**	Sn	**Sn**	**02 49 27.8**	**-0.1**

KSHT	**Keshet**	**6.53**	**94**	Sn	**Sn**	**02 49 30.2**	**+0.1**
DRGI	**Dragot**	**6.54**	**107**	Sn	**Sn**	**02 49 29.9**	**-0.4**
MZDA	**Masada**	**6.62**	**109**	Sn	**Sn**	**02 49 32.1**	**-0.2**
KMTI	**Karmit**	**6.71**	**121**	Sn	**Sn**	**02 49 32.9**	**-1.8**
PRNI	**Paran**	**6.78**	**118**	Sn	**Sn**	**02 49 35.1**	**-1.3**
HRFI	**Mount Harif**	**6.98**	**120**	Pn	**Pn**	**02 48 25.1**	**+2.8**
HRFI				Sn	**Sn**	**02 49 40.8**	**-0.4**
MBH	**Mount Berech**	**7.03**	**122**	Sn	**Sn**	**02 49 41.5**	**-1.0**
EIL	**Elat**	**7.12**	**123**	Sn	**Sn**	**02 49 44.4**	**-0.6**
COBT	**Iskenderun**	**7.28**	**65**	*i* P	**P**	**02 48 30.1**	**+3.9**
HAQS	**Haql**	**7.49**	**127**	P	**P**	**02 48 32.3**	**+3.1**
HAQS				S	**S**	**02 49 53.4**	**-0.5**
JMOS	**Jabal al Moall**	**7.54**	**125**	P	**P**	**02 48 32.2**	**+2.3**
TAYS	**Tayyib Ism**	**7.78**	**130**	P	**P**	**02 48 36.1**	**+2.8**
BDAS	**Al Bad‘**	**8.01**	**129**	P	**P**	**02 48 39.2**	**+2.7**
JMQS	**Jabal Moqyreh**	**8.24**	**124**	P	**P**	**02 48 42.4**	**+2.7**
AYUS	**‘Aynunah**	**8.29**	**130**	P	**P**	**02 48 43.0**	**+2.7**

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*CSEM **15** 03:35:26.8±0.9, 38.04N×10.93W, h154^{km}±7^{km}, ML2.4/3, Error ellipse: s-maj=39.5km s-min=21.1km az=170.0*

MDD 15 03:35:27.1±4.2**, 38.00N**×**10.99W, mb2.8**/1**, Error ellipse: s-maj=52.4km s-min=34.4km az=176.0, PRXIMO SIN SOLUCIN, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALC	**Alcoutim**	**2.84**	**100**	*e*Pn	Pn	03 36 12.5	-1.9
PALC				*e*Sn	Sn	03 36 45.9	-4.0
	1.5nm,0.3s						
PALC	**Alcoutim**	**2.84**	**100**	*e*Pn	Pn	03 36 12.5	-1.9
PALC				*e*Sn	Sn	03 36 45.9	-4.0
	1.5nm,0.3s						
EBAD	**Badajoz**	**3.22**	**75**	Pn	Pn	03 36 17.6	-2.2
	0.2nm,0.1s,SNR=4.0						
EBAD				Sn	Sn	03 36 55.0	-4.5
	1.4nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**3.22**	**75**	Pn	Pn	03 36 17.6	-2.2
	0.2nm,0.1s,SNR=4.0						
EBAD				Sn	Sn	03 36 55.0	-4.4
	1.4nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.42**	**93**	Pn	Pn	03 36 20.2	-2.6
	0.1nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	03 36 59.9	-4.8
	0.5nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.42**	**93**	Pn	Pn	03 36 20.2	-2.6
	0.1nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	03 36 59.9	-4.8
	0.5nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**5.06**	**86**	Sn	Sn	03 37 39.1	-7.0
	0.2nm,0.1s,SNR=4.0						
EADA	**Adamuz**	**5.06**	**86**	Sn	Sn	03 37 39.1	-7.1
	0.2nm,0.1s,SNR=4.0						

NEIC 15 03:35:58.7, 52.97N×**158.12W, h18**^{km}**, mb4.0**/1**, ML3.7**(AEIC)**, After AEIC., South of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**2.75**	**331**	P	Pn	03 36 39.9	-3.0
SDPT				S	Sn	03 37 14.1	-1.9
DRIA	**Deer Island**	**3.16**	**311**	P	Pn	03 36 45.5	-3.1
DRIA				S	Sn	03 37 22.6	-3.6
DT1	**Dutton Round H**	**3.25**	**313**	P	Pn	03 36 46.9	-3.1
DT1				S	Sn	03 37 24.9	-3.7
DTNA	**Dutton South F**	**3.27**	**314**	P	Pn	03 36 47.4	-2.8
DTNA				S	Sn	03 37 25.9	-3.0
PN6	**Pavlof North-6**	**3.34**	**320**	P	Pn	03 36 49.9	-1.3
PN7A	**Pavlof North-7**	**3.35**	**319**	P	Pn	03 36 49.7	-1.7
PN7A				S	Sn	03 37 29.9	-1.3
BALA	**Baldy Mountain**	**3.54**	**311**	P	Pn	03 36 52.9	-1.1
BLHA	**Black Hill**	**3.58**	**321**	P	Pn	03 36 52.6	-2.0
BLHA				S	Sn	03 37 35.4	-1.4
FALS	**False Pass**	**3.66**	**303**	P	Pn	03 36 52.9	-2.8
FALS				S	Sn	03 37 36.1	-2.7
SSLS	**Shishaldin Sou**	**3.89**	**299**	P	Pn	03 36 56.8	-2.3
SSLW	**Shishaldin Wes**	**3.98**	**299**	P	Pn	03 36 57.6	-2.7
WESE	**West Dahl East**	**4.12**	**294**	P	Pn	03 36 59.2	-3.1
WESE				S	Sn	03 37 45.9	-4.8
WESN	**West Dahl Nort**	**4.15**	**295**	P	Pn	03 37 00.1	-2.7
WESN				S	Sn	03 37 47.5	-3.9
WTUG	**Tugumak**	**4.15**	**299**	P	Pn	03 37 01.1	-1.7
WTUG				S	Sn	03 37 48.9	-2.5
WPOG	**Pogromni**	**4.25**	**295**	P	Pn	03 37 01.3	-2.8
AHB	**Akutan Harbor**	**4.73**	**287**	P	Pn	03 37 08.3	-2.7
AKLV	**Akutan Long Va**	**4.82**	**287**	P	Pn	03 37 09.9	-2.3
AKGG	**Akutan Green G**	**4.85**	**288**	P	Pn	03 37 10.4	-2.1
UNV	**Unalaska Valle**	**5.09**	**283**	P	Pn	03 37 12.1	-3.9
UNV				S	Sn	03 38 07.8	-7.2
MNAT	**Makushin Natee**	**5.20**	**284**	P	Pn	03 37 13.5	-4.1
MNAT				S	Sn	03 38 11.5	-6.3
MTBL	**Makushin Table**	**5.21**	**284**	P	Pn	03 37 14.3	-3.4
MTBL				S	Sn	03 38 12.1	-5.9
KJL	**Kejulik**	**5.30**	**15**	P	Pn	03 37 14.9	-4.0
MCIR	**Makushin Cirqu**	**5.33**	**284**	P	Pn	03 37 16.2	-3.3
CAHL	**Cahill**	**5.34**	**16**	P	Pn	03 37 15.8	-3.7
ANCK	**Angle Creek**	**5.45**	**15**	P	Pn	03 37 16.8	-4.3
KABR	**Katmai Barrier**	**5.47**	**18**	P	Pn	03 37 17.1	-4.3
KABR				S	Sn	03 38 18.8	-5.9
KDAK	**Kodiak Island**	**5.76**	**31**	P	Pn	03 37 21.8	-3.7
KAHC	**Katmai Hardscr**	**5.96**	**16**	P	Pn	03 37 23.7	-4.5
OKER	**East Rim**	**5.99**	**279**	P	Pn	03 37 25.7	-3.0
RSO	**Redoubt South**	**8.07**	**19**	*e*P	P	03 37 54.0	-3.8
THY	**Trims Highway**	**12.31**	**27**	P	P	03 38 52.7	-3.1
INK	**Inuvik**	**19.31**	**28**	*e*P	P	03 40 22.0	-3.1
	11nm,1.2s						

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*CSEM **15** 03:40:02.8, 35.33N×23.13E, h10^{km}, MD3.5/3, After ATH*

ATH 15 03:40:02.8, 35.33N×**23.13E, h10**^{km}**, MD3.5**/3**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAM	**Vamos**	**0.88**	**85**	*e*PB	Pb	03 40 19.7	0.0
VLI	**Veliai**	**1.39**	**354**	*e*PB	Pb	03 40 29.0	+0.5
ITM	**Ithomi**	**2.09**	**333**	*e*PN	Pn	03 40 40.0	+1.7

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*WAR **15** 03:42:54.8, 51.54N×16.13E, ML2.7, Mining Induced*
*PRU **15** 03:42:55.3, 51.48N×16.11E*

ISC 15 03:42:52.1±1.0**, 51.53N**±0.05×**16.10E**±0.05**, n11, σ1^{s}24**/21**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.70**	**170**	*e*Pg	**Pg**	**03 43 07.7**	**+1.7**
KSP				*e*Sg	**Sg**	**03 43 16.9**	**+1.6**
UPC	**Upice**	**1.02**	**183**	*e*PG	**Pg**	**03 43 13.7**	**+1.2**
DPC	**Dobruska-Polom**	**1.19**	**173**	*e*PG	**Pg**	**03 43 16.4**	**+0.6**
DPC				*e*SG	**Sg**	**03 43 32.0**	**+0.4**
PVCC	**Panska Ves**	**1.39**	**225**	*e*PG	**Pg**	**03 43 21.0**	**+1.2**
PRU	**Pruhonice**	**1.83**	**213**	PG	**Pg**	**03 43 27.9**	**-0.7**
PRU				*i* x	x	03 43 32.2	
PRU				*i* x	x	03 43 45.0	
PRU				SG	**Sg**	**03 43 52.2**	**-0.8**
	4.8nm,0.4s						
PRU	**Pruhonice**	**1.83**	**213**	Sg	**Sg**	**03 43 52.2**	**-0.8**
	4.8nm,0.4s						
CLL	**Collm**	**1.95**	**265**	*e*PG	**Pg**	**03 43 30.0**	**-1.0**
CLL				*e*SG	**Sg**	**03 43 57.0**	**0.0**
OKC	**Ostrava-Krasne**	**2.14**	**142**	*e*PG	**Pg**	**03 43 33.4**	**-1.3**
OKC				*e*SG	**Sg**	**03 44 00.9**	**-2.3**
NKC	**Novy Kostel**	**2.65**	**242**	*e*PN	**Pn**	**03 43 37.9**	**+1.1**
NKC				*e*PG	**Pg**	**03 43 44.3**	**-0.7**
NKC				*e*SG	**Sg**	**03 44 21.4**	**+1.1**
OJC	**Ojcow**	**2.69**	**118**	*e*Pg	**Pg**	**03 43 45.4**	**-0.3**
OJC				*e*Sg	**Sg**	**03 44 21.8**	**+0.3**
KHC	**Kasperske Hory**	**2.89**	**215**	*e*PN	**Pn**	**03 43 41.2**	**+1.0**
KHC				*e*PG	**Pg**	**03 43 47.3**	**-2.5**
KHC				*e*SG	**Sg**	**03 44 25.8**	**-2.5**

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*CSEM **15** 03:43:21.1, 37.08N×21.65E, h23^{km}, MD3.5/4, After ATH*

ATH 15 03:43:21.1, 37.08N×**21.65E, h23**^{km}**, MD3.5**/4**, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.24**	**66**	*e*PB	Pb	03 43 26.6	-0.5
VLI	**Veliai**	**1.09**	**109**	*e*PN	Pn	03 43 43.5	+2.3
KYTH	**Kithira**	**1.37**	**125**	*e*PB	Pb	03 43 46.0	+0.1
EVR	**Evrytania**	**1.84**	**4**	*e*PN	Pn	03 43 53.6	+1.8

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*NEIC **15** 03:54:26.9±1.0, 17.61S×178.92W, h518^{km}±12^{km}, mb4.4/20, Error ellipse: s-maj=13.5km s-min=7.7km az=147.0*
*IDC **15** 03:54:29.4±2.0, 17.73S×178.97W, h545^{km}±22^{km}, mb3.6/10, mb1 3.8/10, mb1mx3.7/15, Error ellipse: s-maj=15.6km s-min=11.1km az=132.0*

ISC 15 03:54:26.0±1.3**, 17.68S**±0.09×**178.97W**±0.08**, h517**^{km}±15^{km}**, n42, σ1^{s}01**/42**, mb4.1**/23**, 1C-2D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.87**	**63**	*e*Pn	**P**	**03 56 21.6**	**-0.9**
	148nm,0.7s						
URZ	**Urewera**	**20.79**	**189**	P	**P**	**03 58 30.9**	**-0.8**
	5.3nm,0.3s,baz=256,slow=3.1,SNR=9.9						
URZ				S	**S**	**04 01 47.7**	**-1.7**
	12nm,0.8s,baz=347,slow=19,SNR=3.4						
RPZ	**Rata Peaks**	**27.29**	**196**	S	**S**	**04 03 31.6**	**-1.7**
	8.6nm,0.4s,baz=32,slow=16,SNR=6.3						
CTA	**Charters Tower**	**32.96**	**260**	*e*P	**P**	**04 00 20.1**	**+1.2**
	12nm,0.8s,mb4.5						
CTA	**Charters Tower**	**32.96**	**260**	P	**P**	**04 00 20.0**	**+1.1**
	18nm,0.9s,mb4.6,baz=92,slow=10,SNR=14						
CTAO	**Charters Tower**	**32.96**	**260**	*e*P	**P**	**04 00 19.8**	**+0.9**
	18nm,0.8s,mb4.7						
CNB	**Canberra Magne**	**33.15**	**232**	*e*P	**P**	**04 00 22.1**	**+1.8**
	43nm,0.6s,mb5.2						
TOO	**Toolangi**	**36.90**	**230**	*e*P	**P**	**04 00 52.8**	**+1.3**
	20nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**38.27**	**241**	*e*P	**P**	**04 01 04.6**	**+1.9**
	15nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**38.27**	**241**	P	**P**	**04 01 04.6**	**+1.9**
	18nm,0.6s,mb4.8,baz=87,slow=9.2,SNR=62						
WB2	**Warramunga Arr**	**44.14**	**259**	*e*P	**P**	**04 01 49.5**	**-0.3**
WRAB	**Tennant Creek**	**44.14**	**259**	*e*P	**P**	**04 01 49.1**	**-0.7**
	49nm,1.5s,mb4.8						
WRA	**Warramunga Arr**	**44.15**	**259**	P	**P**	**04 01 49.3**	**-0.6**
	6.9nm,0.8s,mb4.3,baz=94,slow=7.1,SNR=59						
ASAR	**Alice Springs**	**44.34**	**254**	P	**P**	**04 01 50.9**	**-0.5**
	64nm,0.6s,baz=89,slow=8.1,SNR=551						
ASAR				PcP	PcP	04 03 23.9	-0.9
	1.7nm,0.5s,baz=105,slow=4.0,SNR=3.8						
ASAR				ScP		04 06 26.2	
	0.2nm,0.4s,baz=100,slow=3.5,SNR=3.9						
ASAR				S	**S**	**04 07 45.2**	**-2.8**
	1.5nm,0.9s,baz=86,slow=16,SNR=5.4						
ASPA	**Alice Springs**	**44.34**	**254**	*e*P	**P**	**04 01 51.8**	**+0.4**
KAKA	**Kakadu**	**47.09**	**269**	*e*P	**P**	**04 02 17.9**	**+5.3**
	19nm,0.5s,mb4.9						
FORT	**Forrest**	**49.62**	**244**	*e*P	**P**	**04 02 31.1**	**-0.4**
	135nm,0.6s						
FITZ	**Fitzroy Crossi**	**52.54**	**260**	*e*P	**P**	**04 02 53.0**	**+0.1**
	3.8nm,0.6s,mb3.9						
MBWA	**Marble Bar**	**57.61**	**256**	*e*P	**P**	**04 03 27.4**	**-0.9**
	17nm,1.0s,mb4.2						
KLBR	**Kellerberrin**	**58.45**	**243**	*e*P	**P**	**04 03 33.0**	**-0.8**
	21nm,0.7s,mb4.5						
SBA	**Scott Base**	**60.61**	**183**	*e*P	**P**	**04 03 48.5**	**+1.0**
	1.9nm,0.4s,mb3.8						
VNDA	**Vanda**	**60.63**	**185**	P	**P**	**04 03 47.8**	**+0.1**
	1.5nm,0.7s,mb3.4,baz=351,slow=7.3,SNR=19						
VNDA	**Vanda**	**60.63**	**185**	*e*P	**P**	**04 03 47.6**	**-0.1**
	0.9nm,0.6s,mb3.3						
CASY	**Casey**	**66.12**	**205**	*e*P	**P**	**04 04 22.2**	**-0.6**
	5.0nm,0.8s,mb4.1						
QSPA	**South Pole Qui**	**72.37**	**180**	*e*P	**P**	**04 05 00.5**	**+0.5**
	7.7nm,0.7s,mb4.2						
QSPA				*e*		04 06 58.2	
NVAR	**Mina Array Bea**	**79.63**	**44**	P	**P**	**04 05 40.7**	**+0.3**
	2.7nm,0.9s,mb3.6,baz=214,slow=6.5,SNR=18						
NVAR	**Mina Array Bea**	**79.63**	**44**	P	**P**	**04 05 40.7**	**+0.3**
MNV	**Mina**	**79.73**	**44**	*e*P	**P**	**04 05 40.8**	**-0.1**
	1.4nm,0.7s,mb3.4						
TPNV	**Topopah Spring**	**80.25**	**46**	P	**P**	**04 05 44.0**	**+0.4**
	0.9nm,0.6s,mb3.3						
ELK	**Elko**	**82.86**	**43**	*e*P	**P**	**04 05 56.8**	**-0.1**
	0.8nm,0.4s,mb3.6						
MAW	**Mawson**	**83.89**	**200**	P	**P**	**04 06 02.1**	**+0.7**
	0.8nm,0.5s,mb3.5,baz=113,slow=6.4,SNR=7.5						
MAW	**Mawson**	**83.89**	**200**	*e*P	**P**	**04 06 01.6**	**+0.2**
	3.9nm,0.8s,mb4.0						
ILAR	**Eielson Array**	**85.79**	**13**	P	**P**	**04 06 09.2**	**-1.4**
	1.3nm,0.4s,mb3.9,baz=227,slow=5.1,SNR=41						
TXAR	**Lajitas Array**	**86.33**	**58**	P	**P**	**04 06 15.4**	**+1.3**
	1.1nm,0.7s,mb3.6,baz=225,slow=6.1,SNR=17						
BW06	**Boulder Array**	**87.55**	**44**	*e*P	**P**	**04 06 19.5**	**-0.1**
	1.0nm,0.4s,mb3.9						
PDAR	**Pinedale Array**	**87.55**	**44**	P	**P**	**04 06 19.1**	**-0.4**
	0.9nm,0.5s,mb3.7,baz=233,slow=3.3,SNR=12						
SNAA	**Sanae**	**90.84**	**179**	⇓*i*P	**P**	**04 06 33.3**	**-0.8**
	0.1nm,0.5s						
VNA3	**Neumayer Olymp**	**91.00**	**177**	⇑*i*	**P**	**04 06 36.9**	**+2.0**
VNA2	**Neumayer--Watz**	**91.43**	**177**		**P**	**04 06 38.6**	**+1.7**
VNA1	**Neumayer--Stat**	**91.66**	**177**	⇓*i*	**P**	**04 06 36.2**	**-1.7**
CLL	**Collm**	**145.12**	**347**	*i* PKP1	PKPbc	04 13 05.5	+0.9
GERES	**GERESS Array B**	**147.25**	**344**	PKPbc	PKPdf	04 13 11.7	+4.4
	1.0nm,0.5s,baz=18,slow=4.2,SNR=11						

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*MOS **15** 04:08:43.0±0.9, 24.55N×122.68E, h42^{km}, mb6.7/65, MS6.0/41, Error ellipse: s-maj=7.6km s-min=4.7km az=110.6*
*BGS **15** 04:08:47.7, 23.97N×122.83E, h100^{km}, mb6.4*
*BJI **15** 04:08:49.3, 24.51N×122.83E, h106^{km}, mB6.5, mb6.2*
*HRVD **15** 04:08:50.2±0.1, 24.48N×122.74E, h102^{km}, MW6.6/78, Centroid moment Tensor Solution. LP body waves: s78,c199;Mantle waves: s73,c148; Half duration: 4^{s}7 Moment tensor: Scale 10^{18}Nm; M_{rr}0.47±.05; $M_{\theta\theta}$-1.73±.05; $M_{\phi\phi}$1.27±.05; $M_{r\theta}$8.01±.04; $M_{\theta\phi}$-2.00±.04; $M_{\phi r}$-2.08±.04; Best double couple: $M_0$8.65×10^{18} NP1: ϕ_s200°,δ17°,λ6°. NP2:ϕ_s104°,δ88°,λ107°. Principal axes: T 8.59, Plg44°, Azm31°; N .14, Plg17°, Azm284°; P -8.72, Plg41°, Azm179°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to mantle waves, cutoff=125s.*
*NEIC **15** 04:08:50.2±0.5, 24.53N×122.69E, h94^{km}±4^{km}, mb6.4/209, ME6.3, MW6.7 Error ellipse: s-maj=2.7km s-min=2.3km az=200.0 Broadband fault plane solution: P waves. NP1: ϕ_s105°,δ85°,λ105°. NP2:ϕ_s213°,δ16°,λ19°. Principal axes: T Plg48°, Azm31°; N Plg0°, Azm0°; P Plg38°, Azm182°; Moment Tensor Solution. s43 Moment tensor: Scale 10^{19} Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{\theta\phi}$0.00; $M_{\phi r}$0.00; Best double couple: $M_0$1.1×10^{19} NP1: ϕ_s204°,δ22°,λ16°. NP2:ϕ_s99°,δ84°,λ111°. Principal axes: T 1.17, Plg47°, Azm31°; N -.14, Plg21°, Azm277°; P -1.03, Plg36°, Azm171°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Several people injured and buildings damaged in T'ao-yuan County. Felt throughout Taiwan. Also felt in much of the Ryukyu Islands, Japan. Recorded [5 TAP] in Hua-lien and I-lan; [4 TAP] in T'ai-chung, T'ai-pei, T'ai-tung, T'ao-yuan and Yun-lin; [3 TAP] in Chang-hua, Chia-i, Hsin-chu, Miao-li, Nan-t'ou and T'ai-nan; [2 TAP] in Kao-hsiung and P'ing-tung Counties. Also recorded [5L JMA] on Yonaguni-jima; [4 JMA] on Iriomote-jima and Ishigaki-jima; [3 JMA] on Miyako-jima; [2 JMA] on Tarama-shima; [1 JMA] on Amami-oshima and Kume-jima, Ryukyu Islands, Japan.
*TAP **15** 04:08:50.2, 24.46N×122.85E, h91^{km}, ML7.1*
TAP Felt III J at Sanyi, II J at Taichung, III J at Mingjian, III J at Alishan, III J at Lidau, III J at Gukeng, II J at Pinlang, II J at Tauyuan, III J at Tsaushan, III J at Chiayi, III J at Dacheng, II J at Dungshan, II J at Nanshi, II J at Jiashian, II J at Taimali, IV J at Szhu, II J at Sandimen, II J at Shinhua, III J at Jiali, II J at Shoushan, II J at Jiouru, II J at Yungkang, II J at Fangliau, II J at Kaohsiung, II J at Hengchun, I J at Hengchun, II J at Penghu, IV J at Chenggung, IV J at Suao, II J at Santiao Chiao, V J at Nanau, IV J at Ilan, IV J at Neicheng, IV J, IV J at Nioudou, IV J at Chiawan, IV J at Hualien, III J at Mucha, IV J at Taipai, IV J at Nanshan, III J at Sanguang, IV J at Shilin, III J at Kuangyinshan, IV J at Tachien, IV J at Jungli (National Central University), III J at Hungye, III J at Nanjuang, III J at Hsinchu, II J at Yuli, III J at Ryuetan, II J at Yuchr.
*IDC **15** 04:08:51.1±0.4, 24.46N×122.60E, h104^{km}±2^{km}, mb6.0/26, mb1 6.1/29, mb1mx6.1/29, MS5.8/21, Ms1 5.8/21, ms1mx5.7/27, Error ellipse: s-maj=10.4km s-min=5.1km az=69.0*
*JMA **15** 04:08:51.5±0.3, 24.60N×122.83E, h83^{km}±2^{km}, M6.6*
*IGIL **15** 04:08:54.9, 24.80N×122.70E, h90^{km}, MS6.3*
*NIED **15** 04:09:00, 24.60N×122.80E, h98^{km}, Mw6.4 Best double couple: $M_0$4.12×10^{18} NP1:ϕ_s138°,δ84°,λ103°. NP2: ϕ_s252°,δ15°,λ25°.*

ISC 15 04:08:49.6±0.1**, 24.53N**±0.01×**122.77E**±0.01**, h100**^{km}±1^{km}**, h112**^{km}±2.1^{km}**:pP-P, n1483, σ0^{s}98**/1434**, mb6.4**/303**, 292C-91D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.23**	**108**	⇓P	**P**	**04 09 03.8**	**-0.2**
YOJ				S	**S**	**04 09 12.3**	**-2.5**
TWC	**Suao**	**0.84**	**275**	⇓*i*P	**P**	**04 09 08.6**	**0.0**
TWB1	**Santiao Chiao**	**0.85**	**304**	⇓*i*P	**P**	**04 09 09.3**	**+0.5**
IRIF	**Iriomote-Funau**	**0.90**	**103**	⇓P	**P**	**04 09 09.2**	**0.0**
IRIF				S	**S**	**04 09 23.9**	**+0.1**
ENA	**Nanau**	**0.94**	**264**	⇓*i*P	**P**	**04 09 09.6**	**-0.1**
ILA	**Ilan**	**0.96**	**284**	⇓*i*P	**P**	**04 09 10.4**	**+0.5**
ILA				S	**S**	**04 09 25.6**	**+0.6**
TWE	**Neicheng**	**1.02**	**281**	⇓*i*P	**P**	**04 09 11.0**	**+0.5**
NWF	**Wu-fen Shan**	**1.05**	**301**	P	**P**	**04 09 11.6**	**+0.8**
HATJ	**Hateruma jima**	**1.06**	**117**	⇑P	**P**	**04 09 11.2**	**+0.3**
HATJ				*e*S	**S**	**04 09 26.3**	**-0.7**
ENTT	**Nioudou**	**1.10**	**276**	⇓*i*P	**P**	**04 09 12.2**	**+0.7**
TWD	**Chiawan**	**1.16**	**247**	⇓*i*P	**P**	**04 09 11.7**	**-0.6**
TWD				S	**S**	**04 09 28.0**	**-1.2**
JKRS	**Kuro-shima**	**1.17**	**104**	⇑P	**P**	**04 09 12.5**	**+0.2**
JKRS				*e*S	**S**	**04 09 29.3**	**0.0**
TWA	**Mucha**	**1.17**	**293**	⇓*i*P	**P**	**04 09 13.0**	**+0.7**
TWA				S	**S**	**04 09 29.3**	**0.0**
HWA	**Hwalien**	**1.20**	**243**	⇓*i*P	**P**	**04 09 12.3**	**-0.4**
TAP1	**Taipei**	**1.24**	**294**	⇓P	**P**	**04 09 13.8**	**+0.6**
TATO	**Taipei**	**1.25**	**291**	*e*P	**P**	**04 09 13.2**	**-0.1**
TAP	**Taipei**	**1.25**	**294**	⇓P	**P**	**04 09 13.8**	**+0.5**
TAP				S	**S**	**04 09 29.5**	**-1.6**
JIJ	**Ishigaki jima**	**1.26**	**97**	⇑P	**P**	**04 09 13.2**	**-0.2**
JIJ				S	**S**	**04 09 30.0**	**-1.3**
PCYT	**Pengchaiyu**	**1.26**	**330**	⇑*i*P	**P**	**04 09 14.9**	**+1.4**
NNS	**Nan Shan**	**1.28**	**266**	⇓P	**P**	**04 09 13.8**	**+0.2**
NSK	**Sanguang**	**1.29**	**277**	⇓*i*P	**P**	**04 09 14.5**	**+0.7**
TWY	**Chenhua**	**1.29**	**305**	⇓P	**P**	**04 09 14.9**	**+1.0**
TWS1	**Kuangyinshan**	**1.35**	**295**	⇓P	**P**	**04 09 15.1**	**+0.6**
ESL	**Shilin**	**1.42**	**240**	⇓*i*P	**P**	**04 09 14.4**	**-0.8**
TWT	**Tachien**	**1.48**	**259**	⇓*i*P	**P**	**04 09 16.9**	**+0.9**
NCU	**National Centr**	**1.50**	**287**	⇓P	**P**	**04 09 17.0**	**+0.7**
NSTT	**Nanjuang**	**1.61**	**274**	⇓P	**P**	**04 09 18.3**	**+0.6**
HSN	**Hsinchu**	**1.66**	**280**	*e*P	**P**	**04 09 18.7**	**+0.4**
HSN				S	**S**	**04 09 39.9**	**+0.3**
EHY	**Hungye**	**1.67**	**233**	⇓*i*P	**P**	**04 09 17.6**	**-0.8**
JTJ	**Tarama**	**1.76**	**86**	⇑P	**P**	**04 09 19.7**	**+0.1**
JTJ				S	**S**	**04 09 41.8**	**0.0**
TWF1	**Yuli**	**1.79**	**229**	⇓*i*P	**P**	**04 09 19.5**	**-0.5**
TWF1				S	**S**	**04 09 40.5**	**-1.9**
SMLT	**Sun Moon Lake**	**1.83**	**250**	⇓*i*P	**P**	**04 09 21.0**	**+0.6**
SMLT				S	**S**	**04 09 44.4**	**+1.2**
NSY	**Sanyi**	**1.83**	**267**	⇓*i*P	**P**	**04 09 21.6**	**+1.1**
TYC	**Yuchr**	**1.86**	**251**	⇓P	**P**	**04 09 21.4**	**+0.6**
CHKT	**Chengkung**	**1.92**	**222**	⇓*i*P	**P**	**04 09 20.4**	**-1.2**
TCU	**Taichung**	**1.95**	**259**	*e*P	**P**	**04 09 22.9**	**+0.9**
WNT	**Mingjian**	**2.01**	**252**	⇓P	**P**	**04 09 24.1**	**+1.3**
ALS	**Alishan**	**2.07**	**241**	⇓P	**P**	**04 09 24.6**	**+1.0**
ALS				S	**S**	**04 09 50.0**	**+1.3**
ELDTW	**Lidau**	**2.09**	**231**	P	**P**	**04 09 23.3**	**-0.6**
ELDTW				S	**S**	**04 09 47.8**	**-1.5**
CHN5	**Tsauling**	**2.13**	**244**	⇓P	**P**	**04 09 25.4**	**+0.9**
WGK	**Gukeng**	**2.19**	**248**	*e*P	**P**	**04 09 26.4**	**+1.2**
STYT	**Tauyuan**	**2.29**	**234**	⇓P	**P**	**04 09 27.3**	**+0.6**
TWG	**Pinlang**	**2.31**	**223**	⇓P	**P**	**04 09 25.7**	**-1.2**
TWG				S	**S**	**04 09 52.2**	**-2.5**
JMJ	**Miyako jima 2**	**2.31**	**83**	P	**P**	**04 09 27.1**	**+0.2**
JMJ				*e*S	**S**	**04 09 54.3**	**-0.5**
CHN4	**Tsaushan**	**2.31**	**240**	⇓P	**P**	**04 09 27.9**	**+0.9**
WTP	**Ta-pu**	**2.35**	**237**	⇓P	**P**	**04 09 28.2**	**+0.7**
WTCT	**Ta-ch'eng**	**2.37**	**254**	*e*P	**P**	**04 09 27.9**	**+0.2**
CHY	**Chiayi**	**2.38**	**245**	⇓*i*P	**P**	**04 09 29.0**	**+1.1**
JOGS	**Gusukube**	**2.41**	**84**	⇑P	**P**	**04 09 28.8**	**+0.5**
JOGS				S	**S**	**04 09 58.1**	**+1.0**
TWK	**Hsinying**	**2.44**	**239**	⇓*i*P	**P**	**04 09 29.5**	**+0.8**
TWK				S	**S**	**04 09 59.3**	**+1.4**
CHN1	**Nanshi**	**2.45**	**237**	⇓P	**P**	**04 09 29.8**	**+0.9**
SGST	**Jiashian**	**2.47**	**235**	*e*P	**P**	**04 09 30.4**	**+1.2**
SGST				S	**S**	**04 09 59.8**	**+1.1**
WSF	**Szhu**	**2.49**	**250**	⇑P	**P**	**04 09 30.0**	**+0.6**
WSF				S	**S**	**04 09 59.8**	**+0.6**
ECL	**Taimali**	**2.55**	**221**	*e*P	**P**	**04 09 28.6**	**-1.6**
CHN8	**Yiju**	**2.62**	**244**	⇓P	**P**	**04 09 31.7**	**+0.5**
CHN3	**Shinhua**	**2.64**	**237**	*e*P	**P**	**04 09 32.8**	**+1.4**
SSD	**Sandimen**	**2.65**	**228**	*e*P	**P**	**04 09 31.6**	**+0.1**
SSD				S	**S**	**04 10 03.0**	**0.0**
SCLT	**Jiali**	**2.72**	**241**	*e*P	**P**	**04 09 33.1**	**+0.6**
TWM1	**Shoushan**	**2.75**	**232**	⇓*i*P	**P**	**04 09 34.5**	**+1.6**
SGLT	**Jiouru**	**2.76**	**230**	*e*P	**P**	**04 09 34.7**	**+1.6**
TAI1	**Yung-k'ang**	**2.76**	**238**	*e*P	**P**	**04 09 34.1**	**+0.9**
TAW	**Tawu**	**2.77**	**219**	*e*P	**P**	**04 09 32.0**	**-1.2**
TAW				S	**S**	**04 10 02.1**	**-3.8**
EAST	**Anshuo**	**2.77**	**220**	⇓*i*P	**P**	**04 09 32.0**	**-1.3**
EAST				S	**S**	**04 10 05.8**	**-0.3**
SCZT	**Fangliau**	**2.92**	**223**	*e*P	**P**	**04 09 35.4**	**+0.1**
SCZT				S	**S**	**04 10 09.2**	**-0.4**
KAU	**Kaohsiung**	**2.99**	**230**	*e*P	**P**	**04 09 37.0**	**+0.7**
PNG	**Penghu**	**3.09**	**253**	⇓*i*P	**P**	**04 09 36.5**	**-1.1**
WDGT	**Dungji**	**3.12**	**247**	⇓P	**P**	**04 09 37.3**	**-0.7**
HEN	**Hengchun**	**3.13**	**217**	⇓P	**P**	**04 09 38.3**	**0.0**
TWK1	**Hengchun**	**3.15**	**215**	P	**P**	**04 09 37.7**	**-0.7**
QZH	**Quanzhou**	**3.82**	**277**	⇑P	**P**	**04 09 46.5**	**-1.1**
QZH				S	**S**	**04 10 25.3**	**-6.4**
QZH				Smax			
	comp=N,116µm,0.8s						
QZH				Smax			
	comp=E,58µm,0.8s						
QZH				LR	LR		
	comp=N,432µm,11.3s						
QZH				LR	LR		
	comp=E,248µm,9.2s						
QZH				LR	LR		
	comp=Z,424µm,11.7s						
KNM	**Kinmen**	**3.95**	**269**	*e*P	**P**	**04 09 49.8**	**+0.3**
JKE	**Kume jima 2**	**4.04**	**63**	⇑P	**P**	**04 09 50.1**	**-0.6**
JKE				S	**S**	**04 10 38.0**	**+0.8**
BBP	**Basco**	**4.14**	**191**	*e*P	**P**	**04 09 50.6**	**-1.4**
JAGN	**Aguni-jima**	**4.53**	**62**	⇑P	**P**	**04 09 56.3**	**-1.0**
JAGN				*e*S	**S**	**04 10 50.1**	**+1.0**
NAH1	**Naha**	**4.75**	**68**	P	**P**	**04 09 59.1**	**-1.2**
NAH1				S	**S**	**04 10 54.6**	**0.0**
JJT2	**Tamagusuku 2**	**4.78**	**69**	P	**P**	**04 09 59.5**	**-1.2**
JJT2				*e*S	**S**	**04 10 56.6**	**+1.3**
JIH	**Iheya**	**5.30**	**61**	P	**P**	**04 10 06.1**	**-1.7**
JIH				S	**S**	**04 11 07.4**	**-0.8**
JOW	**Kunigami**	**5.47**	**64**	P	**P**	**04 10 08.0**	**-2.0**
	comp=Z,970nm,0.3s,baz=234,slow=8.2,SNR=350						
JOW				S	**S**	**04 11 10.4**	**-1.8**
	comp=Z,3µm,0.3s,baz=111,slow=24,SNR=12						
JOW	**Kunigami**	**5.47**	**64**	⇑P	**P**	**04 10 07.9**	**-2.1**
JOW				S	**S**	**04 11 11.4**	**-0.8**
SGCP	**Mt. Cagua**	**6.30**	**186**	*e*P	**P**	**04 10 20.7**	**-0.8**
JTK	**Tokunoshima**	**6.43**	**58**	P	**P**	**04 10 20.2**	**-3.1**
JTK				*e*S	**S**	**04 11 33.3**	**-2.5**
PIP	**Pasuquin**	**6.50**	**198**	⇓*i*P	**P**	**04 10 25.9**	**+1.7**
PIP				*e*S	**S**	**04 11 36.3**	**-1.1**
SSE	**Sheshan**	**6.69**	**348**	⇑P	**P**	**04 10 26.8**	**0.0**
SSE				S	**S**	**04 11 44.3**	**+2.2**
SSE				AMB	AMB		
	comp=Z,5µm,1.1s						
SSE				AMB	AMB		
	comp=Z,12µm,10.8s						
SSE				Smax			
	comp=N,4µm,1.3s						
SSE				Smax			
	comp=E,8µm,1.4s						
SSE				LR	LR		
	comp=N,159µm,38.0s						
SSE				LR	LR		
	comp=E,116µm,37.9s						
SSE				LR	LR		
	comp=Z,214µm,36.6s						
APYP	**Conner**	**6.79**	**192**	*e*P	**P**	**04 10 28.8**	**+0.5**

CVP Callao Caves 6.85 188⇓ *e*P **P** **04 10 28.0 -1.2**
CVP *e*S **S** **04 11 34.0 -12**
ABRA Dolores 7.12 196 *e*P **P** **04 10 32.6 -0.1**
JAM Amami Oshima 7.24 56 P **P** **04 10 30.7 -3.7**
JAM *e*S **S** **04 11 52.2 -3.4**
JZK Kikaishima 7.47 58 P **P** **04 10 35.1 -2.5**
JZK S **S** **04 11 59.8 -1.5**
CAUP Cauayan 7.60 187 *e*P **P** **04 10 40.5 +1.2**
JMZ Minamidaito 2 7.76 79 P **P** **04 10 36.7 -4.8**
JMZ *e*S **S** **04 11 59.7 -8.7**
HKC Hong Kong 8.20 256⇑ *i*P **P** **04 10 47.5 0.0**
HKC *i*S **S** **04 12 18.0 -1.2**
JNN Nakanoshima 8.24 49 P **P** **04 10 45.9 -2.1**
NJ2 Nanjing 8.25 336 *e*P **P** **04 10 47.3 -0.8**
NJ2 XP 04 11 13.5
NJ2 S **S** **04 12 27.3 +7.0**
NJ2 Smax
comp=N,56µm,1.0s
NJ2 Smax
comp=E,65µm,1.0s
NJ2 LR LR
comp=N,279µm,13.0s
NJ2 LR LR
comp=E,351µm,12.2s
NJ2 LR LR
comp=Z,420µm,14.1s
BCPH Baguio City Da 8.37 195⇑ *i*P **P** **04 10 49.5 -0.2**
BCPH *i*S **S** **04 12 23.1 -0.2**
BOLP Bolinao 8.54 199 *e*P **P** **04 10 52.2 +0.1**
BALP Baler 8.82 188 *e*P **P** **04 10 55.2 -0.6**
JKC Kuchinoerabu 8.85 47 P **P** **04 10 54.1 -2.1**
SCZP Santa Cruz 9.12 198 *e*P **P** **04 10 59.8 0.0**
WHN Wuhan 9.57 311 ⇓P **P** **04 11 06.0 0.0**
WHN S **S** **04 13 02.5 +10**
WHN AMB AMB
comp=Z,6µm,5.0s
POLP Polillo Island 9.79 185 *e*P **P** **04 11 08.5 -0.4**
JZO Okuchi 10.24 41 P **P** **04 11 14.8 -0.2**
LQP Lukban 10.43 187⇑ *e*P **P** **04 11 17.8 +0.2**
TGY Tagaytay City 10.52 190⇑ *e*P **P** **04 11 20.6 +1.8**
GQP Guinayangan 10.58 182⇑ *e*P **P** **04 11 20.7 +1.2**
PVCP Virac 10.96 173 *e*P **P** **04 11 25.5 +0.9**
LUBP Lubang 11.00 193 *e*P **P** **04 11 23.6 -1.6**
BOAC Boac 11.05 185 *e*P **P** **04 11 28.1 +2.2**
JNU Nakatsue 11.12 38 P **P** **04 11 27.1 +0.4**
AUQP San Andres 11.15 180 *e*P **P** **04 11 31.4 +4.2**
CNP Catarman 12.09 171 *e*P **P** **04 11 43.6 +3.9**
SJMP San Jose 12.11 188 *e*P **P** **04 11 40.5 +0.6**
OTRP Odiongan 12.13 183 *e*P **P** **04 11 42.1 +1.9**
MMPH Masbate 12.14 176 *i*P **P** **04 11 45.4 +5.1**
TIA Tai'an 12.61 339 P **P** **04 11 49.8 +3.2**
TIA AP 04 11 54.8
TIA AMB AMB
comp=Z,400nm,1.4s
TIA AMB AMB
comp=Z,3µm,6.0s
TIA LR LR
comp=N,32µm,10.0s
TIA LR LR
comp=E,71µm,7.0s
BUSP Coron 12.70 192 *e*P **P** **04 11 45.9 -1.8**
KALP Kalibo 12.79 182 *e*P **P** **04 11 44.6 -4.4**
RCP Roxas 12.90 180 *e*P **P** **04 11 51.7 +1.3**
ENH Enshi 13.11 299 *e*Pn **P** **04 11 53.5 +0.5**
comp=E,72nm,0.5s
BESP Borongan 13.11 168 *e*P **P** **04 11 55.3 +2.2**
QIZ Qiongzhong 13.20 248⇓ *i*P **P** **04 11 55.6 +1.4**
QIZ AP 04 12 08.1
QIZ XP 04 12 23.1
QIZ S **S** **04 14 20.6 +1.7**
QIZ XS 04 14 39.4
QIZ AMB AMB
comp=Z,270nm,1.5s
QIZ LR LR
comp=N,112µm,18.7s
QIZ LR LR
comp=E,75µm,18.9s
QIZ LR LR
comp=Z,100µm,19.0s
QIZ Qiongzhong 13.20 248 *e*Pn **P** **04 11 53.6 -0.6**
comp=Z,201nm,0.9s
QIZ *e*Sn **S** **04 14 17.0 -1.9**
INCN Inchon 13.32 13 Pn **P** **04 11 57.6 +1.8**
INCN Sn **S** **04 14 28.1 +6.3**
INCN Inchon 13.32 13 *e*Pn **P** **04 11 57.6 +1.8**
comp=Z,10µm,1.1s
OCLP Ormoc 13.52 172 *e*P **P** **04 12 00.9 +2.4**
KS15 Wonju Array Si 13.59 18 *e*Pn **P** **04 12 01.1 +1.9**
ENPP El Nido 13.63 194 *e*P **P** **04 11 58.6 -1.3**
CUYO Cuyo Island 13.71 187 *e*P **P** **04 12 01.3 +0.3**
GUIM Jordan 13.83 181 *e*P **P** **04 12 04.0 +1.5**
LLP Lapu-Lapu 14.19 175 *e*P **P** **04 12 07.3 +0.2**
DL2 Dalian 14.36 356⇑ *i*P **P** **04 12 12.0 +2.8**
DL2 XP 04 12 39.3
DL2 SCS ScS 04 24 18.5 -0.9
DL2 AMB AMB
comp=Z,1µm,0.9s
DL2 LR LR
comp=N,44µm,12.8s
DL2 LR LR
comp=Z,47µm,11.6s
MSLP Maasin 14.46 172 *e*P **P** **04 12 11.9 +1.3**
GYA Guiyang 14.67 281⇑ *i*P **P** **04 12 13.6 +0.3**
GYA AP 04 12 28.8
GYA XP 04 12 41.8
GYA S **S** **04 14 54.5 +0.8**
GYA XS 04 15 14.3
GYA AMB AMB
comp=Z,9µm,12.6s
GYA LR LR
comp=N,67µm,9.6s
GYA LR LR
comp=E,45µm,11.1s
GYA LR LR
comp=Z,68µm,11.4s
SNPH Sibulan 15.11 178 *i*P **P** **04 12 20.0 +1.0**
comp=Z,10µm,1.5s
PPR Puerto Princes 15.17 195 *e*P **P** **04 12 18.7 -1.0**
XAN Xi'an 15.34 311 P **P** **04 12 21.5 -0.2**
XAN LR LR
comp=N,36µm,10.0s
XAN LR LR
comp=E,23µm,9.7s
XAN LR LR
comp=Z,55µm,10.0s
BUTP Butuan 15.72 170 *e*P **P** **04 12 29.0 +2.4**
TIY Taiyuan 15.82 329⇑ *i*P **P** **04 12 25.0 -2.8**
TIY XP 04 12 57.0
TIY AMB AMB
comp=Z,14µm,10.0s
TIY LR LR
comp=N,77µm,13.0s
JAA Atsumi 16.03 48 P **P** **04 12 28.8 -1.6**
BATP Bataraza 16.35 198 *e*P **P** **04 12 35.2 +0.7**
BJT Baijiatuau 16.41 342 *e*P **P** **04 12 37.0 +2.0**
comp=N,962nm,0.9s
BJI Beijing 16.43 342 P **P** **04 12 37.3 +2.0**
BJI XP 04 13 09.8
BJI AMB AMB
comp=Z,1µm,0.9s
PAGZ Pagadian 16.60 178 *e*P **P** **04 12 38.1 +0.4**
IPIL Ipil 16.65 181 *e*P **P** **04 12 37.7 -0.5**
BUKP Musuan 16.71 172 *e*P **P** **04 12 39.6 +0.7**
JHJ Hachijo jima 2 17.17 56 P **P** **04 12 44.7 +0.1**
comp=Z,55nm,0.3s,baz=62,slow=16,SNR=7.1
JHJ S **S** **04 16 05.3 +15**
comp=Z,12nm,0.3s,baz=84,slow=23,SNR=2.0
JHJ LR LR 04 18 45.5
comp=Z,24µm,19.9s,baz=250,slow=34
SNY Shenyang 17.26 2⇑ *i*P **P** **04 12 45.0 -0.7**
SNY AMB AMB
comp=Z,23µm,11.0s
SNY LR LR
comp=N,50µm,10.0s
SNY LR LR
comp=E,47µm,10.0s
NJJJ Nii jima 2 17.40 52 P **P** **04 12 50.0 +2.6**
DAV Davao City (W) 17.57 171 P **P** **04 12 50.0 +0.3**
CBIJ Chichi jima 17.66 78 P **P** **04 12 50.5 -0.2**
comp=E,90nm,0.3s,baz=274,slow=1.7,SNR=42
CBIJ S **S** **04 16 10.6 +9.1**
comp=E,11nm,0.3s,baz=298,slow=22,SNR=2.3
CBIJ LR LR 04 18 46.8
comp=E,17µm,21.0s,baz=346,slow=33

MAJO Matsushiro 17.86 44 *e*P **P** **04 12 49.8 -3.2**
MAJO pmax pmax
comp=Z,400nm,0.9s
MAJO Matsushiro 17.86 44 *e*P **P** **04 12 49.8 -3.2**
comp=Z,403nm,0.8s
MAT Matsushiro 17.86 44 P **P** **04 12 50.1 -2.9**
MAT S **S** **04 16 11.0 +5.2**
MAT Matsushiro 17.86 44 *e*P **P** **04 12 50.0 -3.0**
comp=Z,410nm,1.0s
MAT *e*S **S** **04 16 22.0 +16**
CD2 Chengdu 17.98 295⇑ *i*P **P** **04 12 54.0 -0.5**
CD2 XP 04 13 23.1
CD2 S **S** **04 16 14.3 +5.9**
CD2 AMB AMB
comp=Z,550nm,1.0s
CD2 LR LR
comp=E,54µm,7.1s
CD2 LR LR
comp=Z,54µm,7.8s
KMI Kunming 18.19 276 *e*P **P** **04 12 58.3 +1.3**
KMI PP PP 04 13 13.8 +0.1
KMI PPP PPP 04 13 21.3 -3.4
KMI S **S** **04 16 17.3 +4.0**
KMI SS SS 04 16 39.8 -1.4
KMI SSS SSS 04 16 54.3 -3.7
KMI LR LR
comp=N,77µm,10.5s
KMI LR LR
comp=E,62µm,9.3s
KMI LR LR
comp=Z,95µm,15.6s
HHC Hu-ho-hao-te 18.78 333 ⇑P **P** **04 13 05.3 +1.9**
HHC AP 04 13 21.8
HHC PP PP 04 13 26.1 +4.5
HHC XP 04 13 38.8
HHC S **S** **04 16 31.4 +5.4**
HHC PCP PcP 04 17 29.9 +3.2
HHC AMB AMB
comp=Z,2µm,1.4s
HHC LR LR
comp=N,31µm,10.7s
HHC LR LR
comp=E,30µm,16.1s
HHC LR LR
comp=Z,23µm,12.3s
UBT Ubonrachathani 19.06 244 P **P** **04 13 02.0 -4.7**
BTO Baotou 19.26 329 *e*P **P** **04 13 09.5 +0.8**
BTO S **S** **04 16 45.5 +9.5**
BTO AMB AMB
comp=Z,1µm,1.0s
BTO LR LR
comp=N,47µm,9.1s
BTO LR LR
comp=E,86µm,17.7s
CN2 Changchun 19.34 6 ⇑P **P** **04 13 09.0 -0.6**
CN2 *e*AP 04 13 27.6
CN2 PP PP 04 13 31.1 +1.7
CN2 *e*S **S** **04 16 37.8 +0.1**
CN2 *e*SS SS 04 17 09.8 +0.4
CN2 AMB AMB
comp=Z,37µm,10.0s
CN2 LR LR
comp=N,53µm,17.0s
CN2 LR LR
comp=E,86µm,17.0s
CN2 LR LR
comp=Z,63µm,20.0s
KKM Kota Kinabalu 19.43 200⇓ *e*P **P** **04 13 10.1 -0.6**
comp=Z,904nm,1.0s
LZH Lanzhou 19.95 310⇑ *i*P **P** **04 13 16.6 +0.6**
LZH AP 04 13 35.3
LZH PP PP 04 13 40.5 +2.6
LZH XP 04 13 48.1
LZH S **S** **04 16 51.5 +1.7**
LZH XS 04 17 19.3
LZH SS SS 04 17 21.5 -2.9
LZH AMB AMB
comp=Z,4µm,1.5s
LZH AMB AMB
comp=Z,24µm,9.2s
LZH LR LR
comp=N,43µm,9.3s
LZH LR LR
comp=Z,109µm,11.2s
VLA Vladivostok 20.00 20⇓ *i*P **P** **04 13 16.0 -0.5**
VLA *i* 04 13 42.0
VLA pmax pmax
comp=Z,18µm,14.0s
VLA pmax pmax
comp=N,20µm,12.0s
KKTK Khon Kaen 20.38 250 P **P** **04 13 21.0 +0.5**
MDJ Mudanjiang 20.79 14 P **P** **04 13 23.0 -1.5**
MDJ AP 04 13 43.5
MDJ PP PP 04 13 52.1 +2.6
MDJ XP 04 13 54.3
MDJ S **S** **04 17 09.9 +4.2**
MDJ AMB AMB
comp=Z,18µm,7.8s
MDJ LR LR
comp=N,47µm,20.2s
MDJ LR LR
comp=E,85µm,19.0s
MDJ LR LR
comp=Z,117µm,15.7s
MDJ Mudanjiang 20.79 14 *e*P **P** **04 13 23.4 -1.2**
comp=Z,364nm,0.7s
MDJ *e*PcP PcP 04 17 30.5 +0.2
NANT Nan 21.28 259 ⇓P **P** **04 13 28.5 -1.1**
comp=Z,619nm,1.0s,mb5.9
CM31 Chiang Mai Arr 22.96 259 *e*P **P** **04 13 47.4 +1.3**
comp=Z,198nm,0.8s,mb5.5
CM31 LR LR
comp=Z,91nm,19.0s
CMAR Chiang Mai Arr 22.96 259 P **P** **04 13 47.4 +1.3**
comp=Z,149nm,0.9s,mb5.3,baz=58,slow=8.1,SNR=167
CMAR PcP PcP 04 17 36.4 +1.5
comp=Z,48nm,0.8s,baz=57,slow=0.8,SNR=13
CMAR S **S** **04 18 00.2 +15**
comp=Z,6.8nm,1.0s,baz=308,slow=30,SNR=2.3
CMAR sPcP 04 18 06.6
comp=Z,58nm,1.0s,baz=44,slow=1.1,SNR=5.9
CMAR ScP 04 21 04.1
comp=Z,16nm,0.9s,baz=44,slow=1.2,SNR=5.3
CMAR LR LR 04 23 41.7
comp=Z,31µm,20.5s,baz=75,slow=39
CMAR PKiKP 04 25 18.6
comp=Z,9.6nm,0.9s,baz=301,slow=1.3,SNR=8.3
CMAR SKKS 04 47 21.0
comp=Z,3.1nm,0.7s,baz=257,slow=4.7,SNR=14
NST Nakhon Sawan 22.99 252 ⇑P **P** **04 13 48.1 +1.7**
comp=Z,167nm,0.8s,mb5.4
GUMO Guam 23.52 114 *e*P **P** **04 13 51.7 +0.2**
GUMO pmax pmax
comp=Z,3µm,1.2s,mb6.5
GUMO Guam 23.52 114 *e*P **P** **04 13 51.7 +0.2**
comp=Z,3µm,1.2s,mb6.4
ERM Erimo 24.28 39 P **P** **04 13 55.7 -2.9**
comp=Z,4µm,0.6s,mb7.0,SNR=37
GTA Gaotai 24.38 313 ⇓P **P** **04 13 59.5 -0.2**
GTA AP 04 14 18.8
GTA XP 04 14 30.6
GTA PP PP 04 14 38.3 -0.2
GTA PPP PPP 04 14 50.0 -0.1
GTA PCP PcP 04 17 40.1 +2.5
GTA S **S** **04 18 07.8 -1.3**
GTA XS 04 18 47.3
GTA SCP 04 21 06.3
GTA SCS ScS 04 24 47.5 -4.5
GTA AMB AMB
comp=Z,15µm,9.1s
GTA LR LR
comp=N,43µm,15.2s
GTA LR LR
comp=E,38µm,17.1s
GTA LR LR
comp=Z,37µm,20.5s
HIA Hailar 24.80 355 P **P** **04 14 01.2 -2.4**
HIA S **S** **04 18 23.7 +7.7**
HIA Hailar 24.80 355 *e*P **P** **04 14 02.1 -1.5**
comp=Z,1µm,1.0s,mb6.3
NNT Nongplab 24.82 246 P **P** **04 14 05.0 +1.0**
ASAJ Asahikawa 25.37 35 P **P** **04 14 06.9 -2.1**
comp=Z,356nm,0.3s,mb6.2,baz=234,slow=9.0,SNR=93
ASAJ PcP PcP 04 17 40.1 +0.5
comp=Z,37nm,0.5s,baz=243,slow=2.3,SNR=6.1

ASAJ ScP 04 21 12.8
comp=Z,22nm,0.9s,baz=232,slow=15,SNR=2.7
ASAJ LR LR 04 24 56.7
comp=Z,23µm,21.0s,baz=243,slow=38
SONM Songino Array 26.64 335 P **P** **04 14 19.1 -1.5**
comp=Z,994nm,0.7s,mb6.4,baz=148,slow=8.4,SNR=582
SONM PcP PcP 04 17 44.7 +2.2
comp=Z,62nm,1.0s,baz=90,slow=4.3,SNR=4.5
SONM S **S** **04 18 48.3 +2.0**
comp=Z,16nm,1.0s,baz=236,slow=33,SNR=2.1
SONM ScP 04 21 12.3
comp=Z,21nm,0.8s,baz=166,slow=5.1,SNR=218
SONM PKiKP 04 25 20.4
comp=Z,4.3nm,0.7s,baz=207,slow=2.7,SNR=4.1
SONM SKKS 04 47 17.4
comp=Z,1.2nm,0.9s,baz=252,slow=0.8,SNR=4.1
SONM Songino Array 26.64 335 P **P** **04 14 19.1 -1.5**
SONM PcP PcP 04 17 44.7 +2.2
SONM S **S** **04 18 48.3 +2.0**
SONM ScP 04 21 12.3
YUK Yuzh-Kuril'sk 27.09 38⇑ *i*P **P** **04 14 19.0 -5.8**
YUK *e*SP 04 14 34.0
YUK *e* 04 20 34.0
YUK pmax pmax
comp=N,570nm,0.5s
YUK pmax pmax
comp=E,570nm,0.5s
YUK pmax pmax
comp=Z,920nm,0.5s,mb6.6
YUK pmax pmax
comp=N,11µm,13.0s
YUK pmax pmax
comp=Z,19µm,13.0s
YUK pmax pmax
comp=E,13µm,12.0s
YUK MLR MLR
comp=N,45µm,19.0s
YUK MLR MLR
comp=E,36µm,19.0s
YUK MLR MLR
comp=Z,24µm,19.0s
YSS Yuzh-Sakhalins 27.48 30o*e*P **P** **04 14 23.5 -4.9**
YSS *e* 04 15 28.0
YSS *i* 04 17 43.0
YSS *e*S **S** **04 19 05.0 +4.9**
YSS *e*SS SS 04 20 22.0 -3.5
YSS pmax pmax
comp=Z,120nm,1.2s,mb5.3
YSS pmax pmax
comp=Z,510nm,1.2s,mb5.9
YSS pmax pmax
comp=N,8µm,12.0s
YSS pmax pmax
comp=Z,14µm,12.0s
YSS pmax pmax
comp=E,5µm,14.0s
YSS MLR MLR
comp=Z,22µm,15.0s
YSS MLR MLR
comp=N,22µm,16.0s
YSS Yuzh-Sakhalins 27.48 30 *e*Pcu 04 14 23.5
comp=N,120nm,1.2s
YSS *e* 04 15 28.0
YSS *i* 04 17 43.0
YSS *e*S **S** **04 19 05.0 +4.9**
YSS *e*SS SS 04 20 22.0 -3.5
YSS LR LR
comp=Z,22µm,15.0s
SHL Shillong 27.97 279 *e*P **P** **04 14 33.0 -0.1**
SHL *e*S **S** **04 19 08.0 -0.2**
LSA Lhasa 28.56 287 P **P** **04 14 39.0 +0.8**
LSA AP pP 04 15 03.0 +2.5
LSA XP sP 04 15 12.0 -0.1
LSA PP PP 04 15 35.0 +1.1
LSA S **S** **04 19 20.0 +2.5**
LSA XS 04 19 58.0
LSA LR LR
comp=N,57µm,15.0s
AGT Agartala 28.73 275 *i*P **P** **04 14 40.0 +0.2**
AGT *i* 04 15 32.0
IPM Ipoh 28.83 230⇓ *e*P **P** **04 14 41.5 +0.7**
comp=N,103nm,0.5s,mb5.7
NINI Niniconang 28.93 186⇑ *e*P **P** **04 14 41.1 -0.6**
KGM Kluang 29.23 223⇓ *e*P **P** **04 14 43.3 -1.1**
comp=N,512nm,1.2s,mb6.0
ZAK Zakamensk 29.90 335⇓ *i*P **P** **04 14 48.3 -1.7**
ZAK *e* 04 21 21.7
IRK Irkutsk 31.05 338 *e*P **P** **04 14 58.4 -1.7**
IRK *e* pP 04 15 18.2 -4.5
IRK *e* 04 25 25.7
CAL Calcutta 31.59 274 *e* **P** **04 15 10.4 +5.3**
CAL *e* 04 20 11.9
MOY Mondy 31.81 334 *e*P **P** **04 15 05.4 -1.3**
MENI Mendum Tagoi 31.88 145⇓ *e*P **P** **04 15 07.2 -0.5**
comp=N,161nm,0.6s,mb5.9
YOMI Yo Moklole 32.07 145⇓ *e*P **P** **04 15 09.2 -0.1**
comp=N,165nm,0.6s,mb5.9
MRPI Mariponipon 32.14 228⇓ *e*P **P** **04 15 09.0 -1.0**
CLNS Chul'man 32.31 2 ⇓ *e*P **P** **04 15 09.8 -1.2**
CLNS *e* 04 16 23.3
CLNS pmax pmax
comp=Z,172nm,1.0s,mb5.7
CLNS pmax pmax
comp=N,87nm,0.9s
CLNS pmax pmax
comp=E,67nm,0.9s
CLNS pmax pmax
comp=N,195nm,1.0s
CLNS pmax pmax
comp=Z,103nm,1.0s,mb5.5
CLNS pmax pmax
comp=E,120nm,1.1s
CLNS MLR MLR
comp=N,24µm,14.0s
CLNS MLR MLR
comp=Z,29µm,14.0s
CLNS MLR MLR
comp=E,7µm,12.0s
AEKI Aeknabara 32.39 230⇓ *e*P **P** **04 15 09.7 -2.4**
GUN Gumba 33.19 284 *e*P **P** **04 15 19.2 +0.3**
comp=E,911nm,0.7s,mb6.7
KEDI Kedomdong 33.46 192⇓ *e*P **P** **04 15 20.2 -1.1**
comp=E,223nm,0.6s,mb6.2
KELI Kelakatan 33.54 195⇓ *e*P **P** **04 15 19.5 -2.5**
comp=E,117nm,0.9s,mb5.7
PKI Pulchoki 33.62 283 *e*P **P** **04 15 22.5 -0.1**
comp=E,685nm,1.0s,mb6.4
KKN Kakani 33.72 284 *e*P **P** **04 15 23.5 0.0**
comp=E,870nm,0.9s,mb6.6
RATI Rata 33.80 193⇓ *e*P **P** **04 15 21.6 -2.7**
comp=E,865nm,1.1s,mb6.5
BOD Bodaibo 33.85 352 *e*P **P** **04 15 21.4 -2.8**
SRDI Scrawed 33.88 195⇑ *e*P **P** **04 15 23.0 -1.9**
comp=E,62nm,0.4s,mb5.8
DMN Daman 33.89 283 *e*P **P** **04 15 25.0 +0.1**
comp=E,1µm,1.1s,mb6.7
GKN Gorkha 34.28 284 *e*P **P** **04 15 27.9 -0.3**
comp=E,1µm,1.0s,mb6.8
BWNR Bhubaneshwar 34.37 270 *e* PP 04 16 50.0 +2.6
WMQ Urumqi 34.47 313⇑ *i*P **P** **04 15 29.6 -0.1**
WMQ AP pP 04 15 52.0 -0.7
WMQ XP sP 04 16 03.0 -1.7
WMQ PP PP 04 16 48.0 -0.6
WMQ PCP PcP 04 18 04.0 +1.0
WMQ S **S** **04 20 49.0 -0.8**
WMQ XS 04 21 28.0
WMQ SS SS 04 23 05.0 -1.9
WMQ SCS ScS 04 25 40.0 +0.7
WMQ AMB AMB
comp=Z,314nm,1.0s,mb6.1
WMQ AMB AMB
comp=Z,5µm,8.0s
WMQ LR LR
comp=N,30µm,18.0s
WMQ LR LR
comp=E,22µm,18.0s
WMQ LR LR
comp=Z,23µm,19.0s
PENI Pendagan 34.48 212⇓ *e*P **P** **04 15 30.0 -0.1**
comp=Z,884nm,0.5s,mb6.8
KOLN Koldanda 35.21 284 *e*P **P** **04 15 36.0 -0.2**
comp=Z,818nm,1.0s,mb6.5
PASI Pasiripis 35.27 211⇓ *e*P **P** **04 15 34.4 -2.4**
SKR Severo-Kuril's 36.62 36 *e*P **P** **04 15 41.0 -6.8**
SKR *e* 04 15 52.0

SKR *e*PPP PP 04 17 08.0 -6.8
SKR *e*S **S** **04 21 23.0 +0.3**
SKR *e*SS SS 04 24 00.0 +5.1
SKR *e* 04 25 50.0
SKR pmax pmax
comp=N,450nm,1.0s
SKR pmax pmax
comp=E,400nm,1.0s
SKR pmax pmax
comp=Z,1µm,1.0s,mb6.8
SKR smax
comp=E,8µm,14.0s
SKR MLR MLR
comp=Z,13µm,14.0s
SKR MLR MLR
comp=N,13µm,18.0s
SKR MLR MLR
comp=E,11µm,18.0s
BLSP Bilaspur 37.30 275 *i* P **P** **04 15 55.0 +1.2**
VIS Vishakhapatnam 37.31 267 *i* P **P** **04 15 55.0 +1.0**
YAK Yakutsk 37.77 5⇑ *i*P **P** **04 15 57.1 -0.2**
YAK *e* 04 17 51.2
YAK *e*S **S** **04 21 34.3 -5.8**
YAK *e* 04 26 03.4
YAK pmax pmax
comp=Z,1µm,0.9s,mb6.8
YAK pmax pmax
comp=N,509nm,1.0s
YAK pmax pmax
comp=E,109nm,1.1s
YAK smax
comp=N,34nm,1.1s
YAK smax
comp=E,41nm,1.2s
YAK MLR MLR
comp=N,10µm,13.0s
YAK MLR MLR
comp=Z,11µm,13.0s
YAK MLR MLR
comp=E,11µm,5.0s
YAK Yakutsk 37.77 5⇑ *i*P **P** **04 15 57.1 -0.2**
comp=E,1µm,0.9s,mb6.8
YAK *e* 04 17 51.2
YAK *e*S **S** **04 21 34.3 -5.8**
YAK *e* 04 26 03.4
YAK LR LR
comp=Z,11µm,13.0s
LGTI Lohaghat 38.05 287⇑ *i*P **P** **04 16 02.0 +2.0**
LGTI *e* 04 18 16.0
PTH Pithoragarh 38.08 287 *e*P **P** **04 16 00.0 -0.2**
PTH *e*S **S** **04 21 49.0 +4.0**
KAKA Kakadu 38.18 165 *e*P **P** **04 16 04.7 +3.5**
comp=Z,322nm,0.7s,mb6.3
KAKA *e* 04 46 16.9
KAKA *e*PKPPKP 04 48 08.9
KAKA *e* 04 50 13.1
JOSI Joshimath 38.60 289 *e*P **P** **04 16 05.8 +1.3**
JOSI AMb AMB 04 16 10.5
comp=Z,3µm,1.1s,mb7.0
JBP Jabalpur 39.05 277 *e* pP 04 16 34.4 +2.8
JBP *e* 04 22 26.7
PET Petropavlovsk 39.21 34*c**e*P **P** **04 16 07.8 -1.6**
PET *e**P*PP pP 04 16 28.1 -4.6
PET *e* 04 17 43.6
PET *e* 04 18 18.6
PET *e*S **S** **04 22 07.5 +5.6**
PET pmax pmax
comp=Z,8µm,6.0s
PET pmax pmax
comp=Z,785nm,1.4s,mb6.3
PET pmax pmax
comp=Z,8µm,15.0s
PET pmax pmax
comp=Z,4µm,12.4s
PET pmax pmax
comp=Z,4µm,11.9s
PET smax
comp=E,6µm,30.4s
PET MLR MLR
comp=Z,20µm,21.0s
PET Petropavlovsk 39.21 34⇑ *e*P **P** **04 16 07.8 -1.6**
comp=Z,785nm,1.4s,mb6.3
PET *e*pP pP 04 16 28.1 -4.6
PET *e* 04 17 43.6
PET *e* 04 18 18.6
PET *e*S **S** **04 22 07.5 +5.6**
PET LR LR
comp=Z,20µm,21.0s
WAU Wau 39.36 141 *e*P **P** **04 16 11.2 +0.2**
DDI Dehra Dun 39.91 289 *e*P **P** **04 16 15.2 -0.2**
DDI *e* 04 21 55.4
JHNI Jhansi 39.96 281⇑ *i*P **P** **04 16 15.0 -0.9**
JHNI *e* 04 16 54.0
MA2 Magadan 40.12 22 *e*P **P** **04 16 14.6 -2.2**
MA2 pmax pmax
comp=Z,100nm,0.7s,mb5.8
MA2 Magadan 40.12 22 *e*P **P** **04 16 14.6 -2.2**
comp=Z,100nm,0.7s,mb5.8
AGRA Agra 40.26 284 *e*P **P** **04 16 14.9 -3.4**
AGRA *e*P 04 16 17.6
AGRA AMb AMB 04 16 21.7
comp=Z,347nm,0.3s,mb6.7
ASOR Ausora 40.26 286 *e*P **P** **04 16 18.6 +0.3**
ASOR AMb AMB 04 16 22.8
comp=Z,971nm,0.7s,mb6.8
NGP Nagpur 40.31 274 *e*P **P** **04 16 18.3 -0.5**
NGP *e*S **S** **04 22 17.8 -0.9**
NDI New Delhi 40.75 286 *e*P **P** **04 16 20.4 -1.9**
NDI *e*S **S** **04 22 22.5 -2.7**
ZAL Zalesovo 40.75 326 P **P** **04 16 21.3 -0.8**
comp=Z,251nm,0.6s,mb6.2,baz=2.3,slow=8.5,SNR=157
ZAL PcP PcP 04 18 22.8 +0.5
comp=Z,40nm,0.6s,baz=323,slow=1.4,SNR=3.6
ZAL ScP 04 22 00.4
comp=Z,9.1nm,0.9s,baz=301,slow=16,SNR=2.4
ZAL PKiKP 04 25 30.8
comp=Z,3.3nm,0.7s,baz=76,slow=5.8,SNR=2.6
ZAL LR LR 04 35 31.1
comp=Z,22µm,20.1s,baz=346,slow=39
ZAL Zalesovo 40.75 326 P **P** **04 16 21.3 -0.8**
ZAL 04 18 22.8
ZAL *i* 04 25 30.8
ZAL pmax pmax
comp=Z,251nm,0.6s
ZAL MLR MLR
comp=Z,22µm,20.1s
ZAL Zalesovo 40.75 326 P **P** **04 16 21.3 -0.8**
ZAL *e* 04 18 22.8
ZAL *i* 04 25 30.8
AYAN Aya Nagar 40.85 286 *e*P **P** **04 16 22.5 -0.7**
AYAN AMb AMB 04 16 30.0
comp=Z,522nm,1.0s,mb6.3
SONA Sohna 40.91 285 *e*P **P** **04 16 22.5 -1.2**
SONA *e*P 04 16 23.8
SONA AMb AMB 04 16 27.2
comp=Z,1µm,0.7s,mb6.8
SONA *e* 04 22 21.9
BHGR Bahadurgarh 41.00 286 *e*P **P** **04 16 24.9 +0.6**
BHGR AMb AMB 04 16 28.2
comp=Z,2µm,0.9s,mb6.9
KKR Kurukshetra 41.00 288 *e*P **P** **04 16 25.1 +0.7**
KKR AMb AMB 04 16 31.7
comp=Z,1µm,1.9s,mb6.3
BHK Bhakra 41.27 290 *e* **P** **04 16 31.4 +4.9**
BHK *e*S **S** **04 22 33.8 +1.0**
PMG Port Moresby 41.28 142 P **P** **04 16 26.3 -0.5**
comp=Z,386nm,0.8s,mb6.3,baz=358,slow=6.5,SNR=58
PMG pP pP 04 16 51.5 +1.3
comp=Z,375nm,1.1s,baz=236,slow=3.7,SNR=3.7
PMG ScP 04 22 07.1
comp=Z,53nm,1.3s,baz=24,slow=7.9,SNR=4.3
PMG S **S** **04 22 34.2 +1.1**
comp=Z,4.7nm,0.5s,baz=251,slow=22,SNR=6.6
PMG Port Moresby 41.28 142 P **P** **04 16 26.3 -0.5**
PMG S **S** **04 22 34.2 +1.1**
PMG pmax pmax
comp=Z,386nm,0.8s
PMG Port Moresby 41.28 142 *e*P **P** **04 16 27.0 +0.2**
BHPL Bhopal 41.34 278 *e*P **P** **04 16 26.2 -1.0**
BHPL *e* 04 16 28.9
comp=Z,165nm,1.1s
MDRS Chennai 41.68 262 *e*P **P** **04 16 30.0 -0.2**
MDRS *e* 04 22 42.0
MDRS *e* 04 28 39.0
HYB Hyderabad 41.75 269⇓ *i*P **P** **04 16 30.5 -0.2**
comp=Z,100nm,1.0s,mb5.5
HYB *e*pP pP 04 17 00.5 +6.4
HYB *e* 04 17 10.5
HYB *e*PP PP 04 18 20.0 +8.1
HYB *e*PcP PcP 04 18 26.0 0.0
HYB *e*ScP 04 22 07.5
HYB *e*S **S** **04 22 42.0 +1.9**
HYB *e* 04 26 08.0
HYB Hyderabad 41.75 269⇓ *e*P **P** **04 16 30.5 -0.2**
comp=Z,100nm,1.0s,mb5.5
HYB *e*PP sP 04 17 00.5 -5.3
HYB *e*PcP PcP 04 18 26.0 0.0
HYB *e*S **S** **04 22 40.0 -0.1**
HYB *e*SS 04 23 16.0
AAA Alma-Ata 41.79 308*c* *i*P **P** **04 16 32.0 +1.3**
AAA *i* PPP PPP 04 18 39.0 -5.7
AAA *i* S **S** **04 22 41.0 +0.7**
AAA *e*SS SS 04 25 47.0 +3.0
AAA pmax pmax
comp=Z,6µm,9.0s
AAA smax
comp=N,6µm,12.0s
AAA smax
comp=E,8µm,12.0s
AAA MLR MLR
comp=N,12µm,13.0s
AAA MLR MLR
comp=E,13µm,13.0s
AAA MLR MLR
comp=Z,12µm,13.0s
AAA Alma-Ata 41.79 308⇑ *i*P **P** **04 16 32.0 +1.3**
AAA *i* PPP PPP 04 18 39.0 -5.7
AAA *i* S **S** **04 22 41.0 +0.7**
AAA *e*SS SS 04 25 47.0 +3.0
AAA LR LR
comp=Z,12µm,13.0s
THN Thein Dam 41.83 292 *e*P **P** **04 16 29.9 -1.3**
THN *e* 04 18 25.8
KSH Kashi 41.93 302⇑ *i*P **P** **04 16 34.3 +2.4**
KSH AP pP 04 16 57.0 +1.7
KSH XP sP 04 17 06.3 -0.7
KSH PP PP 04 18 17.6 +4.0
KSH PCP PcP 04 18 28.5 +2.2
KSH PPP PPP 04 18 52.1 +5.5
KSH SCP 04 22 08.3
KSH PCS 04 22 19.0
KSH S **S** **04 22 47.3 +4.9**
KSH XS 04 23 28.3
KSH SS SS 04 25 52.0 +5.4
KSH SCS ScS 04 26 23.3 +1.3
KSH AMB AMB
comp=Z,4µm,7.5s
KSH LR LR
comp=N,12µm,10.5s
KSH LR LR
comp=E,11µm,10.9s
NVS Novosibirsk 42.00 327⇑ *i*P **P** **04 16 31.6 -0.7**
NVS *i* 04 18 14.4
NVS *i*S **S** **04 22 45.0 +1.7**
NVS *i* 04 26 21.1
NVS pmax pmax
comp=Z,744nm,1.8s,mb6.1
NVS pmax pmax
comp=N,773nm,1.6s
NVS pmax pmax
comp=E,439nm,1.6s
NVS pmax pmax
comp=Z,186nm,1.6s,mb5.6
NVS pmax pmax
comp=N,228nm,1.9s
NVS pmax pmax
comp=E,174nm,1.5s
NVS smax
comp=N,101nm,1.7s
NVS smax
comp=E,205nm,1.7s
NVS Novosibirsk 42.00 327⇑ *i*P **P** **04 16 31.6 -0.7**
comp=E,744nm,1.8s,mb6.1
NVS *i* 04 18 14.4
NVS *i*S **S** **04 22 45.0 +1.7**
NVS *i* 04 26 21.1
KHET Khetri 42.05 285 *e*P **P** **04 16 32.2 -0.9**
KHET AMb AMB 04 16 38.7
comp=Z,208nm,1.6s,mb5.6
KHET *e*S **S** **04 22 42.4 -2.0**
ULHL Ulahol 42.11 307 P **P** **04 16 34.6 +1.3**
SNR=114
AKL Akola 42.27 274 *i* **S** **04 22 58.7 +11**
FITZ Fitzroy Crossi 42.47 176 *e*P **P** **04 16 34.9 -1.7**
comp=Z,1µm,1.2s,mb6.6
FITZ *e*PP PP 04 18 14.6 -4.7
FITZ *e*S **S** **04 22 47.9 -2.7**
FITZ *e*SCS ScS 04 26 25.9 +0.4
FITZ *e*PKPPKP 04 48 22.2
FITZ Fitzroy Crossi 42.47 176 P **P** **04 16 34.9 -1.7**
comp=Z,3µm,1.3s,mb6.9,baz=2.4,slow=7.6,SNR=761
FITZ S **S** **04 22 46.1 -4.5**
comp=Z,13nm,0.9s,baz=199,slow=14,SNR=3.1
TKM2 Tokmak 2 42.70 307 P **P** **04 16 38.2 0.0**
SNR=844
KURK Kurchatov 42.76 319 *e*P **P** **04 16 36.7 -1.9**
KURK pmax pmax
comp=Z,30nm,1.1s
KZA Kyzart 42.81 306 P **P** **04 16 41.0 +1.9**
SNR=20
KBK Karagaybulak 43.12 307 P **P** **04 16 42.2 +0.6**
SNR=380
SEY Seymchan 43.16 19 *e*P **P** **04 16 41.5 -0.2**
SEY 04 18 25.2
SEY 04 18 30.6
SEY *e*S **S** **04 23 01.9 +1.8**
SEY 04 26 33.8
SEY *e*SSS SSS 04 27 05.1 +0.8
SEY pmax pmax
comp=N,200nm,0.9s
SEY pmax pmax
comp=Z,400nm,0.9s,mb6.2
SEY MLR MLR
comp=Z,31µm,18.0s
SEY MLR MLR
comp=N,11µm,14.0s
SEY MLR MLR
comp=E,9µm,16.0s
SEY Seymchan 43.16 19 *e*P **P** **04 16 41.5 -0.2**
comp=E,400nm,0.9s,mb6.2
SEY *e* 04 18 25.2
SEY *e* 04 18 30.6
SEY *e*S **S** **04 23 01.9 +1.8**
SEY *e* 04 26 33.8
SEY *e*SSS SSS 04 27 05.1 +0.8
SEY LR LR
comp=Z,31µm,18.0s
LATR Latur 43.28 271 *i* P **P** **04 16 43.0 -0.2**
AJM Ajmer 43.28 283 *e*P **P** **04 16 43.0 -0.1**
CHMS Chumysh 43.32 307 P **P** **04 16 43.7 +0.5**
SNR=193
UCH Uchtor 43.38 306 P **P** **04 16 45.2 +1.5**
SNR=928
FRU Bishkek 43.39 307 *i* P **P** **04 16 44.0 +0.2**
FRU *i* 04 23 04.0
FRU *i* 04 26 34.0
FRU pmax pmax
comp=Z,5µm,8.0s
AAK Ala-Archa 43.45 307 P **P** **04 16 45.1 +0.8**
SNR=136
AAK Ala-Archa 43.45 307*c* *i*P **P** **04 16 43.7 -0.6**
AAK pmax pmax
comp=Z,172nm,0.8s,mb5.8
AAK MLR MLR
comp=Z,16µm,18.0s
AAK Ala-Archa 43.45 307⇑ *i*P **P** **04 16 43.7 -0.6**
comp=Z,172nm,0.8s,mb5.8
AAK LR LR
comp=Z,16µm,18.0s
USP Ospenovka 43.55 308 P **P** **04 16 45.4 +0.3**
SNR=145
PALK Pallekele 43.73 254 *e*P **P** **04 16 46.1 -0.8**
comp=Z,101nm,1.1s,mb5.5
PALK LR LR
comp=Z,3µm,20.0s
AML Almayashu 43.97 306 P **P** **04 16 50.0 +1.6**
SNR=157
EKS2 Erkin-Say 43.98 307 P **P** **04 16 49.2 +0.7**
SNR=183
MBWA Marble Bar 45.51 184 *e*P **P** **04 16 58.7 -2.4**
comp=Z,775nm,1.3s,mb6.3
MBWA LR LR
comp=Z,12µm,22.0s
WRAB Tennant Creek 45.61 165 P **P** **04 17 00.0 -1.9**
comp=Z,8µm,0.9s
WRAB Tennant Creek 45.61 165 *e*P **P** **04 17 00.7 -1.2**
comp=Z,126nm,1.3s,mb5.5
WRAB LR LR
comp=Z,4µm,19.0s
WRA Warramunga Arr 45.62 165 P **P** **04 17 00.9 -1.0**
comp=Z,1µm,0.9s,mb6.5,baz=347,slow=8.8,SNR=2280
WRA pP pP 04 17 25.7 +0.1
comp=Z,143nm,0.6s,baz=346,slow=8.6,SNR=1.9
WRA sP sP 04 17 38.0 +1.1
comp=Z,169nm,0.9s,baz=346,slow=8.4,SNR=1.2
WRA ScP 04 22 24.0
comp=Z,23nm,1.1s,baz=328,slow=4.2,SNR=5.5
WRA S **S** **04 23 34.2 -1.9**
comp=Z,31nm,1.2s,baz=341,slow=14,SNR=10
WRA PKPPKP 04 48 12.5
comp=Z,9.3nm,0.8s,baz=114,slow=2.1,SNR=7.4
WRA PKP2ab 04 49 34.4
comp=Z,11nm,0.9s,baz=164,slow=3.5,SNR=8.7
WRA P4KPbc 04 54 51.3
comp=Z,0.7nm,0.7s,baz=342,slow=3.8,SNR=6.7
WRA Warramunga Arr 45.62 165 P **P** **04 17 00.9 -1.0**
WRA S **S** **04 23 34.2 -1.9**
WB2 Warramunga Arr 45.62 165 *e*P **P** **04 17 00.8 -1.1**
WB2 *e*pP pP 04 17 28.6 +3.0
WB2 *e*PCP PcP 04 18 47.3 +8.2
WB2 *e*S **S** **04 23 35.4 -0.7**
WB2 *e*SCS ScS 04 26 43.1 -2.2
WB2 *e*PKPPKP 04 48 05.8
WB2 *e* 04 49 21.9
POO Poona 45.71 272 *e*P **P** **04 17 02.5 -0.2**
POO *e*S **S** **04 23 38.0 +0.5**
KAD Karad 45.77 271 *e*P **P** **04 17 03.0 -0.1**
BHV Bhavnagar 46.43 277 *e*P **P** **04 17 09.2 +0.9**
TRD Trivandrum 46.48 258 *e*P **P** **04 17 09.4 +0.6**
JASL Jaisalmer 46.52 285 *e*P **P** **04 17 08.9 0.0**
BOM Bombay 46.55 273 *e*P **P** **04 17 05.2 -4.1**
BOM *e* 04 23 38.9
MNGI Mangalore 46.64 265 *i* P **P** **04 17 09.5 -0.5**
MNGI *i* S **S** **04 23 51.7 +1.0**
GOA Goa 46.66 268 *i* P **P** **04 17 11.9 +1.8**
GOA *e*S **S** **04 23 52.0 +1.1**
FX1 Attu Island--F 47.13 40 *e*P **P** **04 17 12.3 -1.1**
TIXI Tiksi 47.27 3*c* *i*P **P** **04 17 12.4 -1.9**
TIXI *e* 04 18 43.8
TIXI *e* 04 19 03.2
TIXI *e*S **S** **04 23 57.8 -1.1**
TIXI pmax pmax
comp=Z,1µm,1.1s,mb6.5
TIXI MLR MLR
comp=Z,36µm,18.0s
TIXI Tiksi 47.27 3⇑ *i*P **P** **04 17 12.4 -1.9**
comp=Z,1µm,1.1s,mb6.5
TIXI *e* 04 18 43.8
TIXI *e* 04 19 03.2
TIXI *e*S **S** **04 23 57.8 -1.1**
TIXI LR LR
comp=Z,36µm,18.0s
SMY Shemya 47.63 40 *e*P **P** **04 17 16.3 -1.0**
SMY pmax pmax
comp=Z,1µm,1.2s,mb6.6
SMY Shemya 47.63 40 *e*P **P** **04 17 19.2 +1.9**
comp=Z,1µm,1.0s,mb6.6
BVAR Borovoye Array 48.33 320 P4KPbc 04 54 59.1
comp=Z,7.0nm,0.7s,baz=106,slow=3.2,SNR=26
BHJ Bhuj 48.33 280 *e*P **P** **04 17 21.4 -1.7**
BHJ *e*S **S** **04 24 16.8 +2.5**
BRVK Borovoye 48.40 320 *e*P **P** **04 17 21.4 -1.8**
BRVK pmax pmax
comp=Z,120nm,1.3s,mb5.6
BRVK Borovoye 48.40 320 *e*P **P** **04 17 21.4 -1.8**
comp=Z,120nm,1.3s,mb5.6
ASAR Alice Springs 49.12 166 P **P** **04 17 28.2 -0.9**
comp=Z,314nm,0.9s,mb6.2,baz=342,slow=8.9,SNR=588
ASAR ScP 04 22 37.1
comp=Z,28nm,1.0s,baz=351,slow=3.7,SNR=5.9
ASAR S **S** **04 24 26.1 +0.9**
comp=Z,8.9nm,1.0s,baz=8.1,slow=20,SNR=3.1
ASAR PKPPKP 04 48 23.2
comp=Z,7.3nm,0.9s,baz=135,slow=2.8,SNR=5.1
ASAR PKP2ab 04 49 13.7
comp=Z,12nm,0.8s,baz=151,slow=2.3,SNR=6.2
ASAR P4KPbc 04 55 03.9
comp=Z,1.8nm,0.7s,baz=352,slow=4.2,SNR=14
ASAR Alice Springs 49.12 166 P **P** **04 17 28.2 -1.0**
ASAR ScP 04 22 37.1
ASAR S **S** **04 24 26.1 +0.9**
ASAR P'P' 04 48 23.2
ASAR P'P'ab 04 49 13.7
ASPA Alice Springs 49.12 166 *e*P **P** **04 17 28.7 -0.5**
ASPA *e* 04 18 02.4
ASPA *e*SCP 04 22 37.7
ASPA *e*S **S** **04 24 26.0 +0.7**
ASPA *e*SCS ScS 04 27 06.1 -2.0
ASPA *e*PKPPKP 04 47 58.9
ASPA *e* 04 49 08.6
ZRNK Zerenda 49.12 320 *e*P **P** **04 17 26.8 -2.0**
comp=Z,436nm,0.8s,mb6.4
CTA Charters Tower 49.90 151 *e*P **P** **04 17 35.0 -0.2**
comp=Z,282nm,0.8s,mb6.2
CTA *e*pP pP 04 18 04.2 +5.0
CTA *e*S **S** **04 24 39.8 +3.6**
CTA *e*PKPPKP 04 49 13.4
CTA Charters Tower 49.90 151 P **P** **04 17 34.7 -0.5**
comp=Z,366nm,0.8s,mb6.3,baz=330,slow=9.2,SNR=90
CTA pP pP 04 18 00.8 +1.6
comp=Z,161nm,0.9s,baz=346,slow=6.7,SNR=3.1
CTA sP sP 04 18 10.7 +0.4
comp=Z,131nm,0.9s,baz=305,slow=10.0,SNR=2.2
CTA S **S** **04 24 38.9 +2.7**
comp=Z,8.0nm,0.9s,baz=161,slow=23,SNR=4.8
CTA Charters Tower 49.90 151 P **P** **04 17 34.7 -0.5**
CTA S **S** **04 24 38.9 +2.7**
CTA pmax pmax
comp=Z,366nm,0.8s
CTAO Charters Tower 49.90 151 P **P** **04 17 34.9 -0.3**
CTAO S **S** **04 24 38.7 +2.5**
CTAO Charters Tower 49.90 151 *e*P **P** **04 17 34.7 -0.5**
comp=Z,50nm,1.1s,mb5.4
CTAO LR LR
comp=Z,9µm,19.0s
KIWB Kanaga Island 52.72 43 *e*P **P** **04 17 53.7 -2.4**
MIDW Midway 53.29 72 *e*P **P** **04 17 58.3 -2.4**
comp=Z,873nm,1.0s,mb6.7
MIDW LR LR
comp=Z,6µm,20.0s
GSTR Great Sitkin T 53.42 42 *e*P **P** **04 17 59.5 -1.7**
SVE Sverdlovsk 54.62 323*c* *i*P **P** **04 18 08.0 -1.9**
SVE *e*S **S** **04 25 35.0 -5.1**
SVE *e*PS PS 04 26 08.0 +0.7
SVE *e* 04 27 45.0
SVE pmax pmax
comp=Z,820nm,1.8s,mb6.5
SVE pmax pmax
comp=Z,8µm,11.0s
SVE smax
comp=N,6µm,15.0s
SVE smax
comp=E,4µm,15.0s
SVE Sverdlovsk 54.62 323⇑ *i*P **P** **04 18 08.0 -1.9**
comp=E,820nm,1.8s,mb6.5
SVE *e*S **S** **04 25 35.0 -5.1**
SVE *e*PS PS 04 26 08.0 +0.7
SVE *e* 04 27 45.0
FORT Forrest 55.23 174 *e*P **P** **04 18 13.3 -1.4**
comp=E,4µm,0.7s
FORT *e*S **S** **04 25 48.0 -0.6**
FORT *e*SCS ScS 04 27 51.5 +1.2
FORT *e*PKPPKP 04 48 45.1
FORT *e* 04 48 57.9
ARU Arti 55.70 323⇑ *i*P **P** **04 18 15.2 -2.6**
ARU *i* pP 04 18 35.1 -7.1
ARU *i* 04 19 12.3
ARU *i* 04 20 18.0
ARU *e*PPP PPP 04 21 34.4 -6.4
ARU *i* S **S** **04 25 56.4 +1.9**
ARU *i* SS SS 04 29 47.3 +6.2
ARU pmax pmax
comp=Z,533nm,0.9s,mb6.6
ARU MLR MLR

ARU MLR MLR
comp=N,4μm,16.0s
ARU MLR MLR
comp=E,4μm,20.0s
ARU Arti 55.70 323 ⇑ *i* P **P 04 18 15.2 -2.6**
comp=E,533nm,0.9s,mb6.6
ARU *i* pP 04 18 35.1 -7.1
ARU *i* 04 19 12.3
ARU *i* 04 20 18.0
ARU *e* PPP PPP 04 21 34.4 -6.4
ARU *i* S **S 04 25 56.4 +1.9**
ARU *i* SS SS 04 29 47.3 +6.2
ARU LR LR
comp=Z,10μm,21.0s
KLBR Kellerberrin 56.01 185 *e* P **P 04 18 18.1 -2.3**
comp=Z,673nm,1.2s,mb6.5
KLBR *e* S **S 04 26 03.5 +4.5**
KLBR *e* PKPPKP 04 48 14.9
MUN Mundaring 56.54 187 *e* P **P 04 18 21.8 -2.3**
comp=Z,754nm,1.2s,mb6.6
MUN *e* S **S 04 26 07.0 +1.1**
MUN *e* PKPPKP 04 48 15.2
NWAO Narrogin (SRO) 57.38 186 P **P 04 18 27.9 -2.2**
comp=Z,1μm,1.3s,mb6.7,baz=8.6,slow=7.8,SNR=43
NWAO pP pP 04 18 53.9 -0.7
comp=Z,173nm,1.1s,baz=354,slow=6.2,SNR=2.2
NWAO S **S 04 26 17.2 +0.2**
comp=Z,6.9nm,0.8s,baz=8.9,slow=23,SNR=1.7
NWAO Narrogin (SRO) 57.38 186 P **P 04 18 27.9 -2.1**
NWAO S **S 04 26 17.2 +0.2**
NWAO Narrogin (SRO) 57.38 186 *e* P **P 04 18 27.0 -3.0**
comp=Z,204nm,1.3s,mb6.0
NWAO LR LR
comp=Z,6μm,22.0s
NIKO Nikolski 57.87 42 *e* P **P 04 18 30.8 -2.3**
STKA Stephens Creek 58.91 161 *e* P **P 04 18 38.9 -1.7**
comp=Z,70nm,0.6s,mb5.9
STKA *e* pP pP 04 19 05.1 -0.3
STKA *e* S **S 04 26 36.5 -0.4**
STKA Stephens Creek 58.91 161 P **P 04 18 39.0 -1.6**
comp=Z,104nm,0.7s,mb6.0,baz=349,slow=5.7,SNR=110
STKA pP pP 04 19 04.4 -1.0
comp=Z,100nm,0.8s,baz=333,slow=10,SNR=5.4
STKA sP sP 04 19 15.0 -1.6
comp=Z,67nm,0.6s,baz=279,slow=3.0,SNR=2.5
STKA S **S 04 26 36.5 -0.4**
comp=Z,14nm,1.2s,baz=11,slow=17,SNR=1.3
STKA PKP2bc 04 48 23.7
comp=Z,10nm,0.9s,baz=73,slow=0.5,SNR=4.2
UNV Unalaska Valle 59.29 41 *e* P **P 04 18 40.1 -2.8**
comp=Z,774nm,0.9s,mb6.7
UNV LR LR
comp=Z,14μm,21.0s
TNA Tin City 59.38 27 *e* P **P 04 18 42.3 -1.0**
comp=Z,583nm,1.6s,mb6.4
TNA LR LR
comp=Z,5μm,20.0s
ADE Adelaide 61.07 165 *e* P **P 04 18 54.2 -1.2**
SDPT Sand Point 62.73 39 *e* P **P 04 19 04.3 -1.9**
comp=Z,475nm,0.6s,mb6.6
NOUC Port Laguerre 62.75 134 *e* P **P 04 19 06.3 -0.5**
NOUC Port Laguerre 62.75 134 *e* P **P 04 19 06.3 -0.5**
DZM Mont Dzumac 62.82 134 *e* P **P 04 19 05.1 -2.1**
MAK Makhachkala 63.23 307 *d* i P **P 04 19 09.0 -0.7**
MAK *i* 04 19 50.0
MAK *i* 04 21 26.0
MAK *i* S **S 04 27 30.0 -1.6**
MAK *e* PS PS 04 27 52.0 -13
MAK *e* 04 28 10.0
MAK *e* 04 28 52.0
MAK pmax pmax
comp=N,2μm,10.0s
MAK pmax pmax
comp=E,2μm,10.0s
MAK pmax pmax
comp=Z,8μm,10.0s
MAK pmax pmax
comp=Z,5μm,10.0s
MAK pmax pmax
comp=N,3μm,8.0s
MAK pmax pmax
comp=E,2μm,8.0s
MAK smax
comp=N,10μm,10.0s
MAK smax
comp=E,11μm,10.0s
MAK smax
comp=Z,6μm,10.0s
MAK Makhachkala 63.23 307 *i* Pr 04 19 09.0
MAK *i* 04 19 50.0
MAK *i* 04 21 26.0
MAK *i* S **S 04 27 30.0 -1.6**
MAK *e* PS PS 04 27 52.0 -13
MAK *e* 04 28 10.0
MAK *e* 04 28 52.0
PECR Pechory 63.74 322 *c* i P **P 04 19 11.0 -1.8**
PECR *e* 04 19 44.0
PECR *e* 04 21 35.0
PECR *e* PPP PPP 04 23 02.0 -6.1
PECR *e* S **S 04 27 33.0 -4.8**
PECR *e* PS PS 04 28 03.0 -9.0
PECR *i* SS 04 28 16.7
PECR pmax pmax
comp=Z,5μm,12.0s
PECR smax
comp=N,8μm,14.0s
PECR MLR MLR
comp=Z,15μm,20.0s
PECR MLR MLR
comp=N,7μm,16.0s
PECR Pechory 63.74 322 ⇑ *i* P **P 04 19 11.0 -1.8**
PECR *e* 04 19 44.0
PECR *e* 04 21 35.0
PECR *e* PPP PPP 04 23 02.0 -6.1
PECR *e* S **S 04 27 33.0 -4.8**
PECR *e* PS PS 04 28 03.0 -9.0
PECR *i* SS 04 28 16.7
RIV Riverview 64.01 154 *e* P **P 04 19 15.2 +0.3**
RIV *e* PCP PcP 04 19 43.7 -5.5
CNB Canberra Magne 64.63 156 *e* P **P 04 19 18.4 -0.5**
comp=N,134nm,0.9s,mb5.8
CNB *e* PCP PcP 04 19 45.9 -5.8
IMA Indian Mountai 65.25 27 *e* P **P 04 19 22.7 +0.3**
comp=N,306nm,1.0s,mb6.1
TOO Toolangi 65.37 160 *e* P **P 04 19 22.8 -0.9**
comp=N,85nm,1.5s,mb5.3
TOO *e* PCP PcP 04 19 52.4 -2.3
TOO *e* S S 04 27 57.5 -0.6
TOO *e* PKPPKP 04 48 10.2
TI2 Plekhanov 65.46 306 ⇑ *i* P **P 04 19 23.6 -0.6**
TI2 *i* pP 04 19 53.0 +3.7
TI2 *i* S S 04 28 00.0 +0.8
TI2 pmax pmax
comp=Z,6μm,6.5s
TI2 smax
comp=E,6μm,9.0s
TI2 MLR MLR
comp=N,3μm,16.0s
TI2 MLR MLR
comp=E,6μm,16.0s
TI2 MLR MLR
comp=Z,8μm,16.0s
HASS Wahat al Ahsa' 65.48 288 P **P 04 19 23.2 -1.4**
GNI Garni 65.80 305 P **P 04 19 25.2 -1.2**
GNI Garni 65.80 305 *e* P **P 04 19 25.8 -0.5**
GNI pmax pmax
comp=Z,590nm,1.6s
GNI Garni 65.80 305 *e* P **P 04 19 25.8 -0.5**
comp=Z,590nm,1.6s,mb6.2
UMR Umm Al-Rimmam 65.97 293 *e* P **P 04 19 26.5 -1.1**
UMR AMb AMB 04 19 29.3
comp=Z,387nm,0.8s,mb6.3
QRN Al-Qurain 66.01 292 *e* P **P 04 19 26.6 -1.4**
QRN AMb AMB 04 19 30.3
comp=Z,848nm,0.9s,mb6.6
GOF Gofitskoye 66.03 310 *e* P **P 04 19 28.0 +0.3**
GOF *e* S S 04 28 06.0 0.0
KBD Kabd 66.09 292 *e* P **P 04 19 27.5 -0.9**
MIB Mutribah 66.22 293 *e* P **P 04 19 28.3 -0.9**
MIB AMb AMB 04 19 32.0
comp=Z,893nm,0.8s,mb6.7
RDF Al-Radifah 66.28 292 *e* P **P 04 19 28.5 -1.1**
RDF AMb AMB 04 19 32.2
comp=Z,1μm,1.0s,mb6.8
RSO Redoubt South 66.29 33 *e* P **P 04 19 28.6 -0.5**
KIV Kislovodsk 66.49 309 *c* i P **P 04 19 30.6 -0.1**
KIV *e* PP pP 04 19 51.4 -4.5
KIV *e* SP sP 04 20 00.3 -6.5
KIV *e* 04 21 57.2
KIV *e* S S 04 28 14.9 +3.2
KIV *e* SS SS 04 32 32.2 +0.3
KIV pmax pmax
comp=Z,597nm,1.0s,mb6.4
KIV MLR MLR
comp=Z,12μm,19.0s
KIV Kislovodsk 66.49 309 ⇑ *i* P **P 04 19 30.6 -0.1**
comp=Z,597nm,1.0s,mb6.4
KIV *e* pP pP 04 19 51.4 -4.5
KIV *e* sP sP 04 20 00.3 -6.5
KIV *e* 04 21 57.2
KIV *e* S S 04 28 14.9 +3.2
KIV *e* SS SS 04 32 32.2 +0.3
KIV LR LR
comp=Z,12μm,19.0s
SPU Mount Spurr 66.53 32 *e* P **P 04 19 29.7 -0.9**
SPU *e* pP 04 19 59.6 +3.8
RST Umm Al-Ruwaisa 66.58 293 *e* P **P 04 19 30.3 -1.2**
RST AMb AMB 04 19 33.9
comp=Z,464nm,0.9s,mb6.3
KDAK Kodiak Island 66.78 35 P **P 04 19 30.0 -2.3**
KDAK Kodiak Island 66.78 35 P **P 04 19 31.0 -1.3**
SNR=63
KDAK Kodiak Island 66.78 35 *e* P **P 04 19 31.3 -1.0**
comp=Z,2μm,1.3s,mb6.8
KDAK LR LR
comp=Z,2μm,22.0s
LVZ Lovozero 66.83 336 *e* P **P 04 19 30.9 -1.5**
LVZ *e* PP pP 04 20 02.4 +4.7
LVZ *e* S S 04 28 09.8 -5.5
LVZ *e* SS 04 28 52.7
LVZ *e* SS SS 04 32 46.2 +9.3
LVZ pmax pmax
comp=Z,3μm,2.6s,mb6.6
LVZ pmax pmax
comp=N,484nm,1.7s
LVZ pmax pmax
comp=E,366nm,1.2s
LVZ pmax pmax
comp=Z,438nm,0.9s,mb6.3
LVZ pmax pmax
comp=N,102nm,0.6s
LVZ pmax pmax
comp=E,68nm,0.6s
LVZ smax
comp=N,3μm,6.4s
LVZ smax
comp=Z,1μm,6.2s
LVZ smax
comp=E,1μm,4.4s
LVZ MLR MLR
comp=Z,10μm,17.0s
LVZ MLR MLR
comp=N,1μm,11.0s
LVZ MLR MLR
comp=E,9μm,21.0s
KARS Kars 66.92 305 *e* P **P 04 19 33.0 -0.4**
HKR Hakkari 67.14 302 P **P 04 19 34.9 0.0**
VANB Van 67.17 303 P **P 04 19 33.4 -1.6**
TVAN Van 67.17 303 *i* P **P 04 19 37.0 +2.0**
VOR Voronezh 67.25 318 *e* P **P 04 19 34.0 -1.3**
VOR *e* PP pP 04 19 55.0 -5.6
VOR *e* SP sP 04 20 05.0 -6.4
VOR *e* 04 22 05.0
VOR *e* S S 04 28 20.0 -0.6
VOR pmax pmax
comp=Z,1μm,1.8s,mb6.3
VOR pmax pmax
comp=N,110nm,1.6s
VOR pmax pmax
comp=E,650nm,1.6s
VOR smax
comp=N,350nm,1.7s
VOR smax
comp=E,330nm,1.7s
VOR smax
comp=Z,160nm,1.8s
VOR Voronezh 67.25 318 *e* P **P 04 19 34.0 -1.3**
VOR *e* pP pP 04 19 55.0 -5.6
VOR *e* sP sP 04 20 05.0 -6.4
VOR *e* 04 22 05.0
VOR *e* S S 04 28 20.0 -0.6
APA Apatity 67.35 335 ⇑ *i* P **P 04 19 34.0 -1.6**
APA *i* * PP pP 04 20 04.2 +3.3
APA *i* S S 04 28 19.0 -2.5
APA *i* sS 04 28 59.0
APA *i* SS SS 04 32 54.0 +9.2
APA *i* SSS SSS 04 35 39.0 -5.3
APA pmax pmax
comp=Z,690nm,1.0s,mb6.4
APA pmax pmax
comp=Z,8μm,8.0s
APA MLR MLR
comp=Z,12μm,9.0s
APA Apatity 67.35 335 ⇑ *i* P **P 04 19 34.0 -1.6**
comp=Z,690nm,1.0s,mb6.4
APA *i* pP pP 04 20 04.2 +3.3
APA *i* S S 04 28 19.0 -2.5
APA *i* sS 04 28 59.0
APA *i* SS SS 04 32 54.0 +9.2
APA *i* SSS SSS 04 35 39.0 -5.3
MOS Moscow 67.41 322 *α* i P **P 04 19 34.7 -1.5**
MOS *e* * PP pP 04 19 56.4 -5.1
MOS *e* pP 04 20 03.5 +2.0
MOS *e* 04 22 03.0
MOS *e* PPP PPP 04 23 41.2 -3.9
MOS *e* S S 04 28 17.7 -4.8
MOS *e* * SS 04 28 53.5
MOS *e* SSS SSS 04 35 49.9 +4.3
MOS pmax pmax
comp=Z,3μm,2.0s,mb6.7
MOS pmax pmax
comp=Z,1μm,1.8s,mb6.5
MOS pmax pmax
comp=N,360nm,1.6s
MOS pmax pmax
comp=E,330nm,1.6s
MOS MLR MLR
comp=Z,14μm,24.2s
MOS MLR MLR
comp=E,11μm,22.1s
MOS Moscow 67.41 322 *i* Pcu 04 19 34.7
comp=E,1μm,1.8s
MOS *e* pP pP 04 19 56.4 -5.1
MOS *e* 04 20 03.5
MOS *e* 04 22 03.0
MOS *e* PPP PPP 04 23 41.2 -3.9
MOS *e* S S 04 28 17.7 -4.8
MOS *e* SS 04 28 53.5
MOS *e* SSS SSS 04 35 49.9 +4.3
MOS LR LR
comp=Z,14μm,24.2s
FIB Fire Island 67.43 32 P **P 04 19 36.4 +0.2**
FIB Fire Island 67.43 32 *e* P **P 04 19 36.2 0.0**
FIB LR LR
comp=Z,5μm,21.0s
PWA Palmer West 67.48 31 *e* P **P 04 19 35.3 -1.3**
comp=Z,299nm,0.5s,mb6.4
SLKM Skilak Lake 67.52 32 P **P 04 19 36.0 -0.8**
SLKM Skilak Lake 67.52 32 *e* P **P 04 19 35.8 -1.0**
MCK McKinley 67.55 29 *e* P **P 04 19 36.2 -0.8**
MCK LR LR
comp=Z,4μm,22.0s
COLA College 67.81 27 *e* P **P 04 19 37.8 -0.8**
COLA pmax pmax
comp=Z,472nm,0.8s,mb6.4
COLA College 67.81 27 *e* P **P 04 19 37.8 -0.8**
comp=Z,472nm,0.8s,mb6.4
PMR Palmer 67.85 31 P **P 04 19 37.9 -0.9**
PMR pmax pmax
comp=Z,1μm,1.2s,mb6.6
PMR Palmer 67.85 31 *e* P **P 04 19 37.4 -1.4**
comp=Z,1μm,1.2s,mb6.6
OBN Obninsk 68.12 322 *c* i P **P 04 19 39.4 -1.2**
OBN *e* 04 19 57.7
OBN *i* pP 04 20 05.2 -0.8
OBN *e* 04 22 07.4
OBN *i* S S 04 28 33.1 +2.1
OBN *e* SS SS 04 32 56.0 -0.8
OBN pmax pmax
comp=Z,868nm,1.7s,mb6.3
OBN Obninsk 68.12 322 ⇑ *i* P **P 04 19 39.4 -1.2**
comp=Z,868nm,1.7s,mb6.3
OBN *e* 04 19 57.7
OBN *i* pP 04 20 05.2 -0.8
OBN *e* 04 22 07.4
OBN *i* S S 04 28 33.1 +2.1
OBN *e* SS SS 04 32 56.0 -0.8
SML Sawmill 68.18 31 *e* P **P 04 19 40.6 -0.3**
SML Sawmill 68.18 31 *e* P **P 04 19 40.5 -0.4**
ILAR Eielson Array 68.24 27 P **P 04 19 40.0 -1.2**
comp=Z,35nm,0.5s,mb5.5,baz=281,slow=4.4,SNR=183
ILAR S S 04 28 37.5 +5.2
comp=Z,1.3nm,1.0s,baz=315,slow=4.0,SNR=2.7
ILAR PKP2bc 04 47 53.5
comp=Z,4.1nm,1.1s,baz=90,slow=0.8,SNR=4.9
ILAR LR LR 04 50 06.8
comp=Z,5μm,20.0s,baz=300,slow=36
ILAR P4KPbc 04 56 28.4
comp=Z,1.3nm,0.9s,baz=275,slow=4.6,SNR=9.6
ILAR Eielson Array 68.24 27 P **P 04 19 40.0 -1.2**
ILAR S S 04 28 37.5 +5.2
ILAR ⇑ *e* 04 47 53.5
ILAR LR LR 04 50 06.8
ERZM Erzurum 68.37 305 *i* P **P 04 19 43.0 +0.5**
EZM Erzurum 68.38 305 P **P 04 19 42.0 -0.4**
RYDS Riyadh 68.43 288 P **P 04 19 41.1 -1.9**
VRT Varto 68.44 304 P **P 04 19 42.7 -0.2**
SOC Sochi 68.67 309 *i* P **P 04 19 42.0 -2.2**
SOC *e* pP 04 20 06.7 -3.0
SOC *e* 04 22 13.6
SOC *e* PPP PPP 04 23 50.2 -7.0
SOC *e* S S 04 28 36.0 -1.8
SOC *e* PS 04 29 02.2
SOC *e* 04 29 28.4
SOC *e* SSS SSS 04 36 03.3 -5.0
SOC pmax pmax
comp=Z,116nm,0.6s,mb5.9
SOC pmax pmax
comp=N,107nm,1.1s
SOC pmax pmax
comp=E,152nm,1.1s
SOC pmax pmax
comp=Z,803nm,1.7s,mb6.3
SOC pmax pmax
comp=N,310nm,2.0s
SOC pmax pmax
comp=E,373nm,1.6s
SOC MLR MLR
comp=N,10μm,18.0s
SOC MLR MLR
comp=Z,7μm,18.0s
SOC MLR MLR
comp=E,8μm,19.0s
SOC Sochi 68.67 309 *i* P **P 04 19 42.0 -2.2**
comp=E,116nm,0.6s,mb5.9
SOC *e* pP 04 20 06.7 -3.0
SOC *e* 04 22 13.6
SOC *e* PPP PPP 04 23 50.2 -7.0
SOC *e* S S 04 28 36.0 -1.8
SOC *e* PS 04 29 02.2
SOC *e* 04 29 28.4
SOC *e* SSS SSS 04 36 03.3 -5.0
SOC LR LR
comp=Z,7μm,18.0s
BTMT Batman 68.71 303 *e* P **P 04 19 44.2 -0.4**
BEST Besiri 68.96 303 *i* P **P 04 19 46.1 0.0**
THY Trims Highway 69.01 29 *e* P **P 04 19 45.6 -0.4**
BINT Bingol 69.29 304 P **P 04 19 48.0 -0.1**
DIV Divide 69.53 31 *e* P **P 04 19 49.2 0.0**
comp=Z,7μm,1.2s,mb7.4
DIV LR LR
comp=Z,11μm,20.0s
EZC Erzincan 69.57 305 P **P 04 19 52.4 +2.6**
MUKL Al Mukalla 69.62 277 *e* P **P 04 19 52.7 +2.2**
GUMT Gumushane 69.63 306 P **P 04 19 50.0 -0.1**
MID Middleton Isla 69.66 33 *e* P **P 04 19 52.8 +2.8**
EYAK Cordova Ski Ar 69.67 32 *e* P **P 04 19 50.2 +0.1**
MZLS Mizel 69.72 288 P **P 04 19 50.8 -0.2**
DIY Diyarbakir 69.75 303 P **P 04 19 51.3 +0.3**
ARCES ARCESS Array B 69.75 338 P **P 04 19 48.4 -2.1**
comp=Z,294nm,0.8s,mb6.2,baz=54,slow=4.9,SNR=144
ARCES PcP PcP 04 20 11.1 -1.5
comp=Z,237nm,0.8s,baz=76,slow=5.0,SNR=12
ARCES S S 04 28 53.6 +3.5
comp=Z,5.0nm,1.0s,baz=131,slow=11,SNR=3.7
ARCES LR LR 04 54 48.4
comp=Z,7μm,18.9s,baz=65,slow=40
ARCES P4KPbc 04 56 35.4
comp=Z,7.9nm,1.0s,baz=63,slow=2.7,SNR=6.8
ARE0 ARCESS Array S 69.75 338 *e* P **P 04 19 48.8 -1.7**
ARE0 *e* pP 04 20 10.8 -5.2
KELT Kelkit 69.88 306 *i* P **P 04 19 54.3 +2.6**
ANN Anapa 69.96 311 *c* i P **P 04 19 51.0 -1.1**
ANN *e* * PP pP 04 20 10.5 -7.1
ANN *e* S S 04 28 51.1 -1.8
ANN *e* * SS 04 29 28.7
ANN *e* SSS SSS 04 36 34.1 +2.7
ANN pmax pmax
comp=N,180nm,1.0s
ANN pmax pmax
comp=Z,661nm,1.0s,mb6.4
ANN pmax pmax
comp=E,103nm,0.9s
ANN pmax pmax
comp=Z,2μm,10.7s
ANN smax
comp=N,10μm,14.4s
ANN smax
comp=E,5μm,10.8s
ANN MLR MLR
comp=N,5μm,15.0s
ANN MLR MLR
comp=Z,5μm,15.0s
ANN MLR MLR
comp=E,2μm,13.0s
ANN Anapa 69.96 311 ⇑ *i* P **P 04 19 51.0 -1.1**
comp=E,661nm,1.0s,mb6.4
ANN *e* pP pP 04 20 10.5 -7.1
ANN *e* S S 04 28 51.1 -1.8
ANN *e* sS 04 29 28.7
ANN *e* SSS SSS 04 36 34.1 +2.7
ANN LR LR
comp=Z,5μm,15.0s
HSP Hornsund 70.05 347 *e* P **P 04 19 51.3 -0.9**
BJO Bjornoya 70.11 344 *e* P **P 04 19 53.9 +1.3**
BJO AMb AMB 04 19 56.9
comp=Z,145nm,0.9s,mb5.8
BJO *e* S S 04 28 56.3 +2.2
BJO AMS AMS 04 52 12.1
comp=Z,6μm,22.5s
PTK Pertek 70.11 304 P **P 04 19 53.4 +0.2**
BJO1 Bjornoya 70.16 344 *e* P **P 04 19 53.9 +1.0**
comp=Z,145nm,0.9s,mb5.8
PUL Pulkovo 70.34 328 *e* P **P 04 19 51.9 -2.2**
PUL *e* * PP Px 04 20 04.3
PUL *e* SS SS 04 33 33.8 +2.6
PUL *e* 04 36 44.0
PUL pmax pmax
comp=Z,667nm,0.8s,mb6.5
PUL pmax pmax
comp=N,162nm,1.1s
PUL pmax pmax
comp=E,208nm,0.9s
PUL MLR MLR
comp=Z,21μm,23.0s
PUL MLR MLR
comp=N,7μm,15.0s
PUL MLR MLR
comp=E,13μm,19.0s
PUL Pulkovo 70.34 328 *e* P **P 04 19 51.9 -2.2**
comp=E,667nm,0.8s,mb6.5
PUL *e* pP Px 04 20 04.3
PUL *e* SS SS 04 33 33.8 +2.6
PUL *e* 04 36 44.0
PUL LR LR
comp=Z,21μm,23.0s
ELZG Elazig 70.53 304 *i* P **P 04 19 56.5 +0.8**
KTK1 Kautokeino 70.68 338 *e* P **P 04 19 54.9 -1.2**
KTK1 AMb AMB 04 20 01.3
comp=Z,1μm,1.6s,mb6.4
KTK1 Kautokeino 70.68 338 *e* P **P 04 19 54.9 -1.2**
comp=Z,1μm,1.6s,mb6.4
TAU Tasmania Unive 70.82 161 *e* P **P 04 19 57.0 -0.3**

comp=Z,377nm,1.4s,mb6.0
ARSS Ar Rass 70.83 290 P **P** 04 19 57.2 -0.5
MYA Malataya 71.00 304 P **P** 04 19 59.1 +0.6
KAMS Al Khamasin 71.49 284 P **P** 04 20 01.4 -0.3
HILS Ha'il 71.58 292 P **P** 04 20 02.5 +0.3
AFFS 'Afif 71.67 288 P **P** 04 20 02.8 +0.1
TOKT Tokat 71.82 307 P **P** 04 20 02.9 -0.4
FINES FINESS Array B 71.87 330 P **P** 04 20 01.7 -1.6
comp=Z,354nm,0.7s,mb6.3,baz=54,slow=5.6,SNR=398
FINES PcP PcP 04 20 20.9 -0.8
comp=Z,77nm,0.7s,baz=90,slow=3.8,SNR=5.0
FINES S S 04 29 14.6 0.0
comp=Z,8.6nm,1.0s,baz=82,slow=14,SNR=4.4
FINES LR LR 04 54 36.7
comp=Z,10μm,20.2s,baz=75,slow=38
FINES P4KPbc 04 56 45.4
comp=Z,3.0nm,0.8s,baz=90,slow=5.7,SNR=6.7
FINES FINESS Array B 71.87 330 P **P** 04 20 01.7 -1.6
FINES PcP PcP 04 20 20.9 -0.8
FINES S S 04 29 14.6 0.0
FINES LR LR 04 54 36.7
TRO Tromso 71.91 339 *eP* **P** 04 20 00.8 -2.6
TRO AMb AMB 04 20 07.4
comp=Z,520nm,1.5s,mb6.1
TRO *eS* S 04 29 15.2 +0.3
TRO *eSKSa* 04 29 53.5
TRO AMS AMS 04 52 52.9
comp=Z,6μm,25.9s
TRO Tromso 71.91 339 *eP* **P** 04 20 00.8 -2.6
comp=Z,520nm,1.5s,mb6.1
GZT Gaziantep 71.93 303 *i* P **P** 04 20 04.7 +0.6
KIP Kipapa 72.02 74 P **P** 04 20 06.1 +1.3
KIP pmax pmax
comp=Z,480nm,1.1s,mb6.2
KIP Kipapa 72.02 74 *eP* **P** 04 20 05.5 +0.7
comp=Z,484nm,1.1s,mb6.2
KIP LR LR
comp=Z,10μm,22.0s
HON Honolulu 72.06 74 *eP* **P** 04 20 04.9 -0.2
SIM Simferopol' 72.19 312 *c iP* **P** 04 20 04.8 -0.6
SIM *eS* S 04 29 16.0 -2.5
SIM *e*SS 04 29 58.0
SIM pmax pmax
comp=Z,2μm,11.0s
SIM MLR MLR
comp=Z,4μm,15.0s
SIM Simferopol' 72.19 312 ⇑ *iP* **P** 04 20 04.8 -0.6
SIM *eS* S 04 29 16.0 -2.5
SIM *es*S 04 29 58.0
SIM LR LR
comp=Z,4μm,15.0s
GAZ Gaziantep 72.26 303 P **P** 04 20 06.1 +0.1
INK Inuvik 72.36 22 LR LR 04 54 05.7
comp=Z,12μm,21.7s,baz=305,slow=37
INK P4KPbc 04 56 46.4
comp=Z,5.3nm,1.1s,baz=328,slow=5.7,SNR=6.2
INK Inuvik 72.36 22 P **P** 04 20 05.0 -1.0
INK Inuvik 72.36 22 *eP* **P** 04 20 05.2 -0.8
comp=Z,6μm,1.0s,mb7.4
KAHT Ahir Dag 72.38 304 *i* P **P** 04 20 07.2 +0.5
VSU Vasula 72.49 327 P **P** 04 20 06.5 -0.4
BOYT Boyabat 72.69 308 *i* P **P** 04 20 08.3 -0.1
TATS Tathlith 72.73 284 P **P** 04 20 08.7 -0.4
BYBT Boyabat 72.77 308 *eP* **P** 04 20 07.7 -1.2
CTKT Corum 73.01 307 *i* P **P** 04 20 10.6 +0.3
BZK Bozkurt 73.16 309 P **P** 04 20 11.8 +0.6
MNK Minsk 73.16 323 ⇓ *iP* **P** 04 20 08.0 -2.9
MNK *e* 04 20 24.0
MNK *eS* S 04 29 24.0 -5.2
MNK *ePS* 04 30 03.0
MNK pmax pmax
comp=E,2μm,1.4s
MNK pmax pmax
comp=Z,1μm,1.4s,mb6.6
MNK pmax pmax
comp=N,810nm,1.2s
MNK Minsk 73.16 323 ⇓ *iP* **P** 04 20 08.0 -2.9
comp=N,1μm,1.4s,mb6.6
MNK *e* 04 20 24.0
MNK *eS* S 04 29 24.0 -5.2
MNK *ePS* 04 30 03.0
LBOS 73.17 278 ⇑ *eP* **P** 04 20 12.8 +1.0
COBT Iskenderun 73.19 303 *i* P **P** 04 20 11.1 -0.4
DJNS Zahran al Janu 73.32 282 P **P** 04 20 13.0 +0.4
CEYT Ceyhan 73.42 303 P **P** 04 20 12.8 0.0
IDID Didziasalis 73.50 324 *eP* **P** 04 20 12.0 -0.8
IDID AMPb AMB 04 20 19.1
comp=Z,206nm,1.2s,mb5.8
IDID *es*P sP 04 20 44.0 -5.3
AVNT Avonos 73.53 305 *i* P **P** 04 20 13.3 -0.1
AKASG Malin Array Be 73.57 319 P **P** 04 20 12.0 -1.3
comp=Z,138nm,0.6s,mb5.9,baz=57,slow=6.3,SNR=178
AKASG PP PP 04 22 57.9 -2.5
comp=Z,26nm,0.8s,baz=56,slow=8.7,SNR=4.1
AKASG S S 04 29 29.9 -4.0
comp=Z,1.7nm,0.8s,baz=66,slow=9.4,SNR=3.6
AKASG LR LR 04 58 18.7
comp=Z,5μm,18.5s,baz=60,slow=40
AKASG Malin Array Be 73.57 319 P **P** 04 20 12.0 -1.4
AKASG 04 22 57.9
AKASG S S 04 29 29.9 -4.0
AKASG pmax pmax
comp=Z,138nm,0.6s
AKASG pmax pmax
comp=Z,26nm,0.9s
IZAR Zarasai 73.62 324 *eP* **P** 04 20 12.7 -0.9
IZAR AMPb AMB 04 20 19.2
comp=Z,182nm,1.2s,mb5.7
IZAR *es*P sP 04 20 45.1 -4.9
BALT Daday 73.73 309 *i* P **P** 04 20 14.7 +0.1
ISAL Salakas 73.74 324 *eP* **P** 04 20 13.7 -0.6
ISAL AMPb AMB 04 20 19.3
comp=Z,152nm,1.4s,mb5.5
ISAL *es*P sP 04 20 45.6 -5.2
IIGN Ignalina 73.76 324 *eP* **P** 04 20 13.6 -0.8
IIGN AMPb AMB 04 20 19.9
comp=Z,141nm,0.9s,mb5.7
IIGN *es*P sP 04 20 46.0 -4.8
CANT Cankiri 73.86 308 P **P** 04 20 15.4 +0.1
NIG Nigde 73.93 305 P **P** 04 20 16.3 +0.6
NAMS An Nimas 73.98 284 P **P** 04 20 16.8 +0.4
QURS Qurayyt al Mil 73.99 298 D 04 20 19.1
ELDT Eldivan 74.04 308 *i* P **P** 04 20 16.1 -0.2
BRTR Keskin Array B 74.13 307 P **P** 04 20 15.9 -0.9
comp=Z,162nm,0.9s,mb5.8,baz=104,slow=5.1,SNR=154
BRTR S S 04 29 40.1 -0.2
comp=Z,1.1nm,0.9s,baz=270,slow=1.2,SNR=2.5
BRTR Keskin Array B 74.13 307 P **P** 04 20 16.0 -0.9
BRTR S S 04 29 40.1 -0.2
BRTR pmax pmax
comp=Z,162nm,0.9s
KAMT Kaman 74.19 306 P **P** 04 20 16.6 -0.6
KBRS Khaybar 74.25 291 P **P** 04 20 18.1 +0.3
BLJS Baljurashi 74.27 285 P **P** 04 20 18.4 +0.3
SAFT Safranbolu 74.33 308 P **P** 04 20 17.6 -0.4
AFI Afiamalu 74.41 114 *eP* **P** 04 20 18.8 -0.2
AFI LR LR
comp=Z,5μm,22.0s
HRI Mount Hermon 74.64 300 P **P** 04 20 19.9 -0.1
KIH Kanekii 74.66 75 ⇑ *eP* **P** 04 20 21.9 +1.6
KSHT Keshet 74.67 300 P **P** 04 20 20.3 +0.1
KSHT Keshet 74.67 300 ⇑ P **P** 04 20 20.3 +0.1
ANTO Ankara 74.70 307 P **P** 04 20 19.8 -0.4
ANTO Ankara 74.70 307 P **P** 04 20 20.2 +0.1
LOD Lodumlu 74.71 307 P **P** 04 20 19.9 -0.3
MEST Erdemli 74.77 303 *i* P **P** 04 20 20.1 -0.6
POHA Pohakuloa 74.77 75 *eP* **P** 04 20 21.2 +0.2
comp=Z,446nm,0.9s,mb6.2
POHA LR LR
comp=Z,5μm,21.0s
DAH Dandelion 74.80 75 ⇑ *eP* **P** 04 20 22.7 +1.6
MWH Mokuaweoweo 74.81 75 ⇑ *eP* **P** 04 20 22.9 +1.7
RCO Red Cone 74.81 75 ⇑ *eP* **P** 04 20 22.8 +1.6
MELS Mels 74.82 337 *eP* **P** 04 20 18.9 -1.4
WIH Wilkes Camp 74.83 75 ⇑ *eP* **P** 04 20 23.1 +1.8
HMH Humuula 74.87 75 ⇑ *eP* **P** 04 20 23.1 +1.6
MOR8 Moi Rana 74.88 336 *eP* **P** 04 20 18.1 -2.5
MOR8 AMb AMB 04 20 22.9
comp=Z,704nm,1.6s,mb6.1
MOR8 Moi Rana 74.88 336 *eP* **P** 04 20 18.1 -2.5
comp=Z,704nm,1.6s,mb6.1
GLH Golan-Tel Qazi 74.89 299 P **P** 04 20 21.5 +0.1
GLH Golan-Tel Qazi 74.89 299 ⇑ P **P** 04 20 21.5 +0.1
KKU Keanakolu 74.89 75 ⇑ *eP* **P** 04 20 23.4 +1.7
PLL Puu Ulaula 74.92 75 ⇑ *eP* **P** 04 20 23.5 +1.7
FRSS Farasan al Kab 74.94 282 P **P** 04 20 22.5 +0.6
WOH Wood Valley 74.98 75 ⇑ *eP* **P** 04 20 23.4 +1.3
HPO Honuapo 74.99 76 P **P** 04 20 22.1 -0.1
MLH Mauna Loa 74.99 75 ⇑ *eP* **P** 04 20 23.8 +1.6
SGKT Sivrigoynuk 75.00 308 *i* P **P** 04 20 21.2 -0.6
KIS Kishinev 75.05 315 *i* P **P** 04 20 20.0 -2.0
KIS *i* S S 04 29 45.0 -5.3
KIS pmax pmax
comp=Z,4μm,13.0s
HLP Hilina Pali 75.13 75 ⇑ *eP* **P** 04 20 24.7 +1.7
HMDT Nahal Hemdat 75.14 299 P **P** 04 20 23.0 +0.2
HMDT Nahal Hemdat 75.14 299 ⇑ P **P** 04 20 23.0 +0.2
HNTI Hanita 75.14 300 P **P** 04 20 22.8 0.0
MMLI Mount Malkishu 75.17 299 P **P** 04 20 23.3 +0.3
MMLI Mount Malkishu 75.17 299 ⇑ P **P** 04 20 23.3 +0.3
LTHS Al Lith 75.17 286 P **P** 04 20 23.7 +0.5
PUH Pauahi 75.19 75 ⇑ *eP* **P** 04 20 25.2 +1.9
PWH Poliokeawe Pal 75.21 75 ⇑ *eP* **P** 04 20 25.1 +1.7
KNHH Kane Nui o Ham 75.23 75 ⇑ *eP* **P** 04 20 25.1 +1.5
NGH National Guard 75.24 75 ⇑ *eP* **P** 04 20 25.1 +1.5
IKL Isikli 75.24 303 P **P** 04 20 22.4 -0.9
STOK Stokkvaagen 75.31 337 *eP* **P** 04 20 22.0 -1.1
STOK AMb AMB 04 20 25.7
comp=Z,997nm,1.2s,mb6.4
STOK Stokkvaagen 75.31 337 *eP* **P** 04 20 22.3 -0.8
comp=Z,997nm,1.2s,mb6.4
HAF Haifa 75.37 300 P **P** 04 20 23.8 -0.3
HUL Heiheiahulu 75.38 75 ⇑ *eP* **P** 04 20 25.3 +0.9
OFRI 'Ofer 75.45 299 P **P** 04 20 24.5 -0.1
DRGI Dragot 75.47 298 P **P** 04 20 24.8 +0.1
DRGI Dragot 75.47 298 ⇑ P **P** 04 20 24.8 +0.1
SLTI Sal'it 75.53 299 P **P** 04 20 25.2 +0.1
SLTI Sal'it 75.53 299 ⇑ P **P** 04 20 25.2 +0.1
MZDA Masada 75.59 298 P **P** 04 20 25.6 +0.2
MZDA Masada 75.59 298 ⇑ P **P** 04 20 25.6 +0.2
MDU Mudurnu 75.64 308 P **P** 04 20 24.9 -0.6
TBKS Tabuk 75.69 295 P **P** 04 20 26.5 +0.5
KIZT Kizilcal 75.70 306 P **P** 04 20 25.3 -0.5
HENT Hendek 75.74 308 *i* P **P** 04 20 25.2 -0.9
SUW Suwalki 75.89 323 *eP* **P** 04 20 26.0 -0.6
SUW *e* 04 20 40.2
SUW *eS* S 04 29 56.6 -2.8
SUW *e* 04 30 26.8
SUW *e*SS 04 30 42.3
SUW Suwalki 75.89 323 *eP* **P** 04 20 26.0 -0.6
SUW *ePcP* PcP 04 20 40.2 +1.2
SUW *epP* pP 04 20 49.0 -3.5
SUW *esP* sP 04 20 58.1 -5.2
SUW *eS* S 04 29 56.6 -2.8
SUW *ePS* 04 30 26.8
SUW *esS* 04 30 42.3
SUW Suwalki 75.89 323 *eP* **P** 04 20 26.0 -0.6
SUW *ePcP* PcP 04 20 40.2 +1.2
SUW *epP* pP 04 20 49.0 -3.5
SUW *esP* sP 04 20 58.1 -5.2
SUW *eS* S 04 29 56.6 -2.8
SUW *epS* 04 30 26.8
SUW *esS* 04 30 42.3
SUW MLR MLR 04 49 02.4
comp=Z,16μm,44.0s
HDMB Hadim 75.90 304 P **P** 04 20 26.8 -0.3
SIT Sitka 75.92 33 *eP* **P** 04 20 27.5 +0.8
SIT pmax pmax
comp=Z,4μm,1.1s,mb7.1
SIT Sitka 75.92 33 *eP* **P** 04 20 27.5 +0.8
comp=Z,5μm,1.1s,mb7.1
CSS Prodhromos 75.94 302 ⇑ P **P** 04 20 27.0 -0.3
comp=Z,5.5nm,1.1s
ZFRI Zfri 76.00 297 P **P** 04 20 27.8 0.0
ZFRI Zfri 76.00 297 ⇑ P **P** 04 20 27.8 0.0
JMQS Jabal Moqyreh 76.01 296 P **P** 04 20 28.1 +0.2
UMJS Umm Lajj 76.09 292 P **P** 04 20 29.0 +0.7
CFR Carcaliu 76.12 313 ⇓ *iP* **P** 04 20 27.6 -0.5
CFR Carcaliu 76.12 313 ⇓ P **P** 04 20 27.6 -0.5
MASH Mash'abbe Sade 76.17 298 P **P** 04 20 28.5 -0.2
MASH Mash'abbe Sade 76.17 298 ⇑ P **P** 04 20 28.5 -0.2
TIRR Tirgusor 76.19 313 P **P** 04 20 28.7 +0.2
PRNI Paran 76.21 297 P **P** 04 20 29.0 0.0
PRNI Paran 76.21 297 ⇑ P **P** 04 20 29.0 0.0
ESKT Eskisehir 76.23 307 P **P** 04 20 27.1 -1.8
ESKT Eskisehir 76.23 307 *i* P **P** 04 20 28.1 -0.8
RTMM Retamin 76.23 298 P **P** 04 20 28.6 -0.4
LEF Lefka 76.23 302 P **P** 04 20 26.9 -2.0
DAG Danmarks Havn 76.24 351 *c iP* **P** 04 20 26.7 -1.5
comp=Z,210nm,0.9s,mb5.9
DAG Danmarks Havn 76.24 351 *i* Pcu 04 20 26.7
comp=Z,210nm,0.9s
SZAC Souni-Zanaja 76.36 302 ⇑ P **P** 04 20 29.2 -0.5
ALFC Alevga 76.44 303 ⇑ P **P** 04 20 29.2 -0.9
comp=Z,4.8nm,0.9s
MBH Mount Berech 76.48 297 P **P** 04 20 30.4 -0.1
MBH Mount Berech 76.48 297 ⇑ P **P** 04 20 30.4 -0.1
EIL Elat 76.50 297 P **P** 04 20 30.5 -0.1
EIL Elat 76.50 297 ⇑ P **P** 04 20 30.5 -0.1
KZIT Kziot 76.51 298 P **P** 04 20 30.2 -0.4
KZIT Kziot 76.51 298 ⇑ P **P** 04 20 30.2 -0.4
KMTI Karmit 76.53 297 P **P** 04 20 30.4 -0.3
JMOS Jabal al Moall 76.54 296 P **P** 04 20 31.1 +0.3
NSS Namsos 76.56 335 *eP* **P** 04 20 27.5 -2.6
NSS AMb AMB 04 20 34.4
comp=Z,419nm,1.3s,mb6.0
NSS *eS* S 04 30 05.8 -0.7
NSS AMS AMS 04 58 17.6
comp=Z,7μm,21.4s
NSS Namsos 76.56 335 *eP* **P** 04 20 27.5 -2.6
comp=Z,419nm,1.3s,mb6.0
HRT Hereke 76.62 309 P **P** 04 20 28.2 -2.8
PSN Preselentsi 76.62 312 P **P** 04 20 31.0 0.0
BRD Bordesti 76.72 314 ⇑ *iP* **P** 04 20 33.0 +1.5
BRD Bordesti 76.72 314 ⇑ *iP* **P** 04 20 33.0 +1.6
HAQS Haql 76.73 296 P **P** 04 20 32.2 +0.3
PPCY Paphos 76.73 302 ⇑ P **P** 04 20 31.2 -0.6
AYUS 'Ayunuah 76.76 295 P **P** 04 20 31.9 -0.2
VRI Vrinciqaia 76.80 314 ⇑ *iP* **P** 04 20 32.2 +0.3
VRI Vrinciqaia 76.80 314 ⇑ P **P** 04 20 32.2 +0.3
BDAS Al Bad' 76.81 295 P **P** 04 20 32.3 0.0
ALT Altintas 76.93 307 P **P** 04 20 32.3 -0.5
TAYS Tayyib Ism 76.96 296 P **P** 04 20 33.3 +0.2
BADT Buyukada 77.00 309 P **P** 04 20 32.1 -1.0
LVV L'vov 77.00 319 *eP* **P** 04 20 31.0 -1.9
LVV *eS* S 04 30 11.0 -0.6
ISP Isparta 77.07 306 P **P** 04 20 32.0 -1.6
ISP Isparta 77.07 306 *eP* **P** 04 20 32.3 -1.3
ISP pmax pmax
comp=Z,830nm,1.5s,mb6.2
ISP Isparta 77.07 306 *eP* **P** 04 20 32.3 -1.2
comp=Z,831nm,1.5s,mb6.2
ULDT Uludag 77.24 308 *i* P **P** 04 20 34.2 -0.2
PRD Provadia 77.33 312 P **P** 04 20 35.0 +0.1
CTT Catalca 77.37 309 P **P** 04 20 35.2 0.0
ORLT Orhaneli 77.44 308 P **P** 04 20 34.0 -1.6
MLR Muntele Rosu 77.45 314 ⇑ *iP* **P** 04 20 36.7 +1.2
MLR Muntele Rosu 77.45 314 ⇑ *iP* **P** 04 20 36.7 +1.2
KHL Karahalli 77.62 306 *eP* **P** 04 20 36.1 -0.5
TRON Trondheim 77.68 335 *eP* **P** 04 20 36.6 +0.2
WAR Warsaw 77.78 322 *eP* **P** 04 20 37.5 +0.3
WAR *e* 04 20 45.4
WAR *eS* S 04 30 21.0 +1.0
WAR *eS* 04 30 50.6
WAR *e*SS 04 31 06.4
WAR Warsaw 77.78 322 *eP* **P** 04 20 37.5 +0.3
WAR *ePcP* PcP 04 20 45.4 -1.7
WAR *epP* pP 04 21 05.3 +2.1
WAR *esP* sP 04 21 07.9 -6.2
WAR *eS* S 04 30 21.0 +1.0
WAR *ePS* 04 30 50.6
WAR *eSS* 04 31 06.4
WAR LR LR 04 53 17.8
comp=Z,11μm,28.1s
WAR Warsaw 77.78 322 *eP* **P** 04 20 37.5 +0.3
WAR *ePcP* PcP 04 20 45.4 -1.7
WAR *epP* pP 04 21 05.3 +2.1
WAR *esP* sP 04 21 07.9 -6.2
WAR *eS* S 04 30 21.0 +1.0
WAR *epS* 04 30 50.6
WAR *esS* 04 31 06.4
WAR MLR MLR 04 53 17.8
comp=Z,11μm,28.1s
BUC1 Bucharest 77.82 313 ⇑ *iP* **P** 04 20 38.2 +0.7
BUC1 Bucharest 77.82 313 ⇑ P **P** 04 20 38.2 +0.6
KWP Kalwaria 77.86 319 *eP* **P** 04 20 37.9 +0.2
KWP *e* 04 20 46.3
KWP *eS* S 04 30 19.4 -1.5
KWP *e*SS 04 31 03.4
KWP MLR MLR
comp=Z,10μm,25.0s
KWP Kalwaria 77.86 319 *eP* **P** 04 20 37.9 +0.2
KWP *ePcP* PcP 04 20 46.3 -1.2
KWP *epP* pP 04 21 01.6 -2.1
KWP *esP* sP 04 21 09.7 -4.9
KWP *eS* S 04 30 19.4 -1.5
KWP *esS* 04 31 03.4
KWP Kalwaria 77.86 319 *eP* **P** 04 20 37.9 +0.2
KWP *ePcP* PcP 04 20 46.3 -1.2
KWP *epP* pP 04 21 01.6 -2.1
KWP *esP* sP 04 21 09.7 -4.9
KWP *eS* S 04 30 19.4 -1.5
KWP *esS* 04 31 03.4
KWP MLR MLR 04 55 57.1
comp=Z,10μm,25.0s
DLBC Dease Lake 77.91 31 LR LR 04 57 01.3
comp=Z,5μm,18.6s,baz=302,slow=37
ELL Elmali 77.91 305 *eP* **P** 04 20 37.5 -0.7
RES Resolute Bay 78.08 10 *eP* **P** 04 20 37.4 -1.0
RES pmax pmax
comp=Z,390nm,0.9s,mb6.1
RES Resolute Bay 78.08 10 *eP* **P** 04 20 37.4 -1.0
comp=Z,393nm,0.9s,mb6.1
MTUR Matau 78.12 314 ⇓ *iP* **P** 04 20 41.9 +2.7
MTUR Matau 78.12 314 ⇓ P **P** 04 20 41.9 +2.7
RAO Raoul Island 78.14 130 PFAKE 04 20 50.0 +10
RAO LR LR
comp=Z,5μm,21.0s
JMB Yambol 78.16 311 P **P** 04 20 40.0 +0.5
DENT Denizli 78.19 306 *eP* **P** 04 20 39.0 -0.7
DNZL Cakiroluk 78.20 306 *i* P **P** 04 20 39.5 -0.3
MANT Manisa 78.26 307 *i* P **P** 04 20 39.4 -0.7
EDRB Edirne 78.29 311 *eP* **P** 04 20 35.0 -5.1
SZH Strazhica 78.30 312 P **P** 04 20 40.0 -0.2
MFT Murefte 78.31 309 *eP* **P** 04 20 36.4 -4.0
BALB Balikesir 78.32 308 *eP* **P** 04 20 40.1 -0.3
KSL Kastellorizon 78.37 304 *eP* **P** 04 20 40.0 -0.8
KOLS Kolonicke sedl 78.41 319 *i* P **P** 04 20 40.4 -0.3
KOLS *eS* 04 30 45.7
UZH Uzhgorod 78.52 318 *i* P **P** 04 20 42.0 +0.7
UZH *eS* S 04 30 25.0 -2.9
NB2 NORSAR Subarra 78.59 332 P **P** 04 20 40.4 -1.0
comp=Z,466nm,0.8s,mb6.4,baz=58,slow=5.3
NB2 NORSAR Subarra 78.59 332 P **P** 04 20 40.4 -1.0
baz=58,slow=5.3
NOA NORSAR Array B 78.59 332 P **P** 04 20 39.9 -1.6
comp=Z,289nm,0.7s,mb6.2,baz=57,slow=5.6,SNR=268
NOA S S 04 30 27.4 -1.0
comp=Z,1.8nm,0.8s,baz=17,slow=11,SNR=2.8
NOA PKKPbc 04 39 35.7
comp=Z,2.3nm,0.8s,baz=237,slow=2.2,SNR=6.2
NOA P4KPbc 04 57 13.5
comp=Z,2.2nm,0.9s,baz=61,slow=4.6,SNR=3.4
NOA LR LR 04 58 32.3
comp=Z,11μm,19.0s,baz=60,slow=38
AKS Akhisar 78.66 308 *eP* **P** 04 20 40.1 -2.2
PVL Pavlikeni 78.72 312 *i* P **P** 04 20 43.5 +1.0
JNW Jan Mayen West 78.81 345 *eP* **P** 04 20 43.0 +0.5
NAO01 NORSAR Array S 78.83 332 *eP* **P** 04 20 41.0 -1.7
comp=Z,385nm,0.9s,mb6.2
NAO01 LR LR
comp=Z,14μm,21.0s
DALT Dalyan (Mudla) 78.85 305 *eP* **P** 04 20 42.5 -0.8
JMIC Jan Mayen 78.86 345 LR LR 05 01 10.3
comp=Z,6μm,18.1s,baz=49,slow=40
JMIC Jan Mayen 78.86 345 *eP* **P** 04 20 44.7 +1.9
JMIC *eS* S 04 30 37.0 +5.8
JMIC AMS AMS 04 55 40.8
comp=Z,7μm,26.6s
DOMB Dombas 78.95 334 *eP* **P** 04 20 42.1 -1.3
DOMB AMb AMB 04 20 46.5
comp=Z,1μm,1.3s,mb6.6
DOMB Dombas 78.95 334 *eP* **P** 04 20 42.1 -1.3
comp=Z,1μm,1.3s,mb6.5
YER Yerkesik 78.97 306 *eP* **P** 04 20 43.0 -1.1
DIM Dimitrovgrad 79.04 311 P **P** 04 20 45.0 +0.7
AYDN Tasoluk 79.07 306 *i* P **P** 04 20 44.9 +0.3
ALN Alexandroupoli 79.14 310 *eP* **P** 04 20 43.7 -1.2
KDAG Bornova 79.23 307 *i* P **P** 04 20 45.1 -0.3
IZM Izmir 79.24 307 *eP* **P** 04 20 44.9 -0.6
MOL Molde 79.27 335 *eP* **P** 04 20 45.8 +0.7
MOL AMb AMB 04 20 50.8
comp=Z,1μm,1.5s,mb6.6
MOL Molde 79.27 335 *eP* **P** 04 20 45.8 +0.7
comp=Z,1μm,1.5s,mb6.6
KDZ Kurdzhali 79.28 311 P **P** 04 20 45.0 -0.6
MLSB Milas 79.29 306 *eP* **P** 04 20 46.0 +0.3
AYVA Ayvalik 79.30 308 *i* P **P** 04 20 45.1 -0.7
OJC Ojcow 79.33 320 ⇑ *iP* **P** 04 20 45.8 +0.1
OJC *e* 04 23 47.6
OJC *i* S S 04 30 34.4 -2.1
OJC MLR MLR
comp=Z,6μm,19.7s
OJC Ojcow 79.33 320 ⇑ *iP* **P** 04 20 45.8 +0.1
OJC *epP* pP 04 21 17.5 +5.7
OJC *ePP* PP 04 23 47.6 -0.3
OJC *i* S S 04 30 34.4 -2.1
OJC LR LR
comp=Z,6μm,19.7s
OJC Ojcow 79.33 320 ⇑ *iP* **P** 04 20 45.8 +0.1
OJC *epP* pP 04 21 17.5 +5.7
OJC *ePP* PP 04 23 47.6 -0.3
OJC *i* S S 04 30 34.4 -2.1
OJC MLR MLR 04 58 06.3
comp=Z,6μm,19.7s
OSL Oslo 79.36 332 *eP* **P** 04 20 44.6 -1.1
OSL AMb AMB 04 20 50.9
comp=Z,631nm,1.0s,mb6.4
OSL Oslo 79.36 332 *eP* **P** 04 20 44.6 -1.1
comp=Z,131nm,1.2s,mb5.6
NIE Niedzica 79.37 320 ⇑ *iP* **P** 04 20 46.4 +0.4
RDO Rodhopi 79.39 310 *eP* **P** 04 20 46.5 +0.2
RDO Rodhopi 79.39 310 P **P** 04 20 46.1 -0.2
BLCB Balcova 79.40 307 *eP* **P** 04 20 45.5 -0.8
GKP Gorka Klasztor 79.42 324 *eP* **P** 04 20 46.1 0.0
GKP *e* 04 20 52.8
GKP *e*PP pP 04 21 06.3 -5.9
GKP *eS* S 04 30 36.3 -1.1
GKP *e*SS 04 31 22.0
GKP MLR MLR
comp=Z,10μm,21.6s
GKP Gorka Klasztor 79.42 324 *eP* **P** 04 20 46.1 0.0
GKP *ePcP* PcP 04 20 52.8 -1.3
GKP *epP* pP 04 21 06.3 -5.9
GKP *esP* sP 04 21 17.8 -5.4
GKP *eS* S 04 30 36.3 -1.1
GKP *esS* 04 31 22.0
GKP LR LR
comp=Z,10μm,21.6s
GKP Gorka Klasztor 79.42 324 *eP* **P** 04 20 46.1 0.0
GKP *ePcP* PcP 04 20 52.8 -1.3
GKP *epP* pP 04 21 06.3 -5.9
GKP *esP* sP 04 21 17.8 -5.4
GKP *eS* S 04 30 36.3 -1.1
GKP *esS* 04 31 22.0
GKP MLR MLR 04 56 10.9
comp=Z,10μm,21.6s
ARG Arkhangelos 79.44 305 P **P** 04 20 46.4 -0.2
HIZ Hauiti 79.46 141 P **P** 04 20 46.8 +0.2
HIZ pP pP 04 21 14.8 +2.1
BOZC Bozcaada 79.55 309 *i* P **P** 04 20 46.5 -0.6
PLD Plovdiv 79.59 311 P **P** 04 20 47.0 -0.3
BDRM Kayabasi 79.62 306 *i* P **P** 04 20 47.0 -0.6
PRK Paraskevi 79.62 308 *eP* **P** 04 20 46.0 -1.5
KECS Kecovo 79.67 319 *i* P **P** 04 20 47.6 0.0
KECS *e* 04 20 55.6
KECS *esP* sP 04 21 21.9 -2.8
RZN Rozhen 79.75 311 *i* P **P** 04 20 48.0 -0.1
BSD Bornholm Skovb 79.78 326 ⇑ *iP* **P** 04 20 47.4 -0.6
comp=Z,410nm,0.8s,mb6.3
BSD *i* pP 04 21 18.2 +4.1
BSD *i* S S 04 30 38.0 -3.1
BSD *i* 04 31 23.1
comp=Z,7μm,17.0s
PGB Panagyurishte 79.78 312 *i* P **P** 04 20 48.5 +0.2
SMG Samos 79.82 307 *eP* **P** 04 20 49.0 +0.4
KONO Kongsberg 80.00 332 *eP* Px 04 21 49.9
KONO *e* 04 31 43.7

KONO AMS AMS 04 59 06.1
comp=Z,7μm,22.0s
KONO Kongsberg 80.00 332 PFAKE 04 21 00.0 +11
KONO LR LR
comp=Z,7μm,22.0s
DJES Djerdap 80.01 314⇑ *iP* **P 04 20 49.1 -0.4**
NISR Nisiros 80.03 306 *eP* P **04 20 46.0 -3.8**
LIKS Likavka 80.25 320 *eP* P **04 20 51.2 +0.5**
LIKS *es*P sP 04 21 24.4 -3.4
PSZ Piszkesteto 80.27 318⇑ *eP* P **04 20 51.4 +0.6**
PSZ Piszkesteto 80.27 318 *eP* P **04 20 50.7 -0.1**
PSZ pmax pmax
comp=Z,580nm,1.4s,mb6.2
PSZ Piszkesteto 80.27 318⇑ *eP* P **04 20 51.2 +0.4**
RAC Raciborz 80.32 321 *eP* P **04 20 51.5 +0.5**
RAC *es*S S 04 30 44.9 -1.9
RAC MLR MLR
comp=Z,9μm,22.4s
RAC Raciborz 80.32 321 *eP* P **04 20 51.5 +0.5**
RAC *es*S S 04 30 44.9 -1.9
RAC LME 04 53 13.1
comp=Z,13μm,23.5s
RAC LMN 04 53 26.3
comp=Z,19μm,20.0s
RAC MLR MLR 04 57 33.6
comp=Z,9μm,22.4s
VTS Vitosha 80.40 312 *i* P P **04 20 52.0 +0.4**
VTS Vitosha 80.40 312⇑ *iP* P **04 20 52.0 +0.4**
VTS Vitosha 80.40 312 P P **04 20 51.9 +0.3**
KARP Karpathos 80.42 305 *eP* P **04 20 51.5 -0.4**
WVZ Waitaha Valley 80.45 147 P P **04 20 50.9 -1.0**
WVZ pP pP 04 21 18.7 +0.7
OKC Ostrava-Krasne 80.46 321⇑ *iP* P **04 20 51.8 0.0**
OKC *e* 04 23 56.3
OKC *e* 04 30 45.3
OKC MLR MLR
comp=Z,6μm,17.8s
OKC Ostrava-Krasne 80.46 321⇑ *iP* P **04 20 51.8 0.0**
OKC *ep*P pP 04 21 23.9 +6.0
OKC *eP*P PP 04 23 56.3 -1.0
OKC *es*S S 04 30 45.3 -3.0
OKC *ex* x 04 31 26.5
OKC AMS AMS 04 56 40.0
comp=Z,6μm,17.8s
MMB Musomiste 80.46 311 *i* P P **04 20 52.0 0.0**
MMB Musomiste 80.46 311⇑ *iP* P **04 20 52.0 0.0**
NNZ Nelson 80.50 144 pP pP 04 21 15.8 -2.5
URZ Urewera 80.60 140 P P **04 20 51.3 -1.5**
comp=Z,57nm,0.5s,mb5.6,baz=314,slow=7.0,SNR=38
URZ pP pP 04 21 19.1 +0.2
comp=Z,29nm,0.6s,baz=42,slow=9.4,SNR=2.2
URZ *s*P sP 04 21 30.3 +0.4
comp=Z,44nm,0.7s,baz=313,slow=20,SNR=1.7
URZ S S 04 30 51.7 +1.7
comp=Z,11nm,1.1s,baz=41,slow=20,SNR=3.4
URZ LR LR 04 53 01.9
comp=Z,5μm,21.1s,baz=128,slow=33
THZ Tophouse 80.63 144 P P **04 20 51.5 -1.4**
THZ pP pP 04 21 22.1 +3.1
BOLS Boljevac 80.72 314⇑ *iP* P **04 20 52.9 -0.4**
COP Copenhagen 80.73 327⇑ *iP* P **04 20 53.3 +0.2**
comp=Z,489nm,1.0s,mb6.3
COP *e* 04 21 25.4
COP *i* 04 24 01.8
COP *i* S S 04 30 50.6 -0.4
COP *i* 04 31 32.5
comp=Z,5μm,17.0s
PKSN Nyarlorinc 80.73 317⇑ *eP* P **04 20 53.8 +0.5**
SRS Serrai 80.75 311 *eP* P **04 20 52.6 -0.9**
KKB Krupnik 80.79 312 *i* P P **04 20 54.0 +0.3**
KKB Krupnik 80.79 312⇑ *iP* P **04 20 54.0 +0.3**
FOO Floro 80.79 335 *eP* P **04 20 52.3 -0.9**
FOO AMb AMB 04 20 56.4
comp=Z,583nm,1.2s,mb6.3
FOO Floro 80.79 335 *eP* P **04 20 52.3 -0.9**
comp=Z,583nm,1.2s,mb6.3
OUR Ouranopolis 80.80 310 *eP* P **04 20 53.3 -0.5**
MORC Moravsky Berou 80.83 321 *eP* P **04 20 53.6 -0.1**
MORC pmax pmax
comp=Z,260nm,1.0s,mb6.0
MORC Moravsky Berou 80.83 321 *eP* P **04 20 53.5 -0.2**
comp=Z,261nm,1.0s,mb6.0
MORC *e* 04 21 25.7
RGN Rugen 80.86 326 P P **04 20 54.2 +0.4**
KOLL Kolacno 80.87 319 *i* P P **04 20 54.5 +0.5**
KOLL *e* 04 21 01.1
KOLL *es*P sP 04 21 26.6 -4.6
BUD Budapest 80.99 318⇑ *eP* P **04 20 55.7 +1.1**
SVIS Svilajnac 81.00 315 *eP* P **04 20 53.7 -1.0**
APE Apeiranthos 81.02 307 *eP* P **04 20 52.9 -2.1**
APE Apeiranthos 81.02 307 *eP* P **04 20 53.5 -1.5**
SOH Sokhos 81.04 311 *eP* P **04 20 54.0 -1.0**
KSP Ksiaz 81.05 322⇑ *iP* P **04 20 55.2 +0.3**
KSP *e* 04 23 55.5
KSP *es*S S 04 30 49.5 -4.9
KSP Ksiaz 81.05 322⇑ *iP* P **04 20 55.2 +0.3**
KSP *ep*P pP 04 21 26.9 +5.9
KSP *eP*P PP 04 23 55.5 -7.1
KSP *es*S S 04 30 49.5 -4.9
KSP *es*SP SP 04 31 34.0 -8.5
KSP *es*SS SS 04 36 04.0 -10
KSP LR LR
comp=Z,24μm,30.3s
KSP Ksiaz 81.05 322 *eP* P **04 20 55.2 +0.3**
KSP *eP*cP PcP 04 20 59.4 -1.8
KSP *es*P sP 04 21 26.9 -5.2
KSP *es*S S 04 30 49.0 -5.4
KSP *es*S 04 31 35.0
KSP MLR MLR 04 55 06.7
comp=Z,21μm,30.3s
RPZ Rata Peaks 81.08 147 P P **04 20 54.5 -0.6**
comp=Z,161nm,0.6s,mb6.0,baz=306,slow=1.0,SNR=37
RPZ S S 04 30 58.2 +3.4
comp=Z,4.7nm,0.3s,baz=221,slow=4.7,SNR=2.4
RPZ LR LR 04 53 12.8
comp=Z,6μm,20.0s,baz=322,slow=33
RPZ Rata Peaks 81.08 147 P P **04 20 54.5 -0.6**
RPZ S S 04 30 58.2 +3.4
RPZ LR LR 04 53 12.8
JAVC Velka Javorina 81.18 320 P P **04 20 57.2 +1.6**
PAIG Paliouri 81.18 310 *eP* P **04 20 55.0 -0.8**
KNT Kendrikon 81.21 311 *eP* P **04 20 55.2 -0.8**
SUE Sulen 81.22 334 *eP* P **04 20 55.0 -0.5**
SUE AMb AMB 04 21 01.7
comp=Z,1μm,1.4s,mb6.5
SUE Sulen 81.22 334 *eP* P **04 20 55.0 -0.5**
comp=Z,1μm,1.4s,mb6.5
BARS Barje 81.23 313⇑ *iP* P **04 20 56.0 0.0**
SRO2 Moca 81.25 319 *eP* P **04 20 56.6 +0.6**
SRO2 *es*P sP 04 21 29.6 -3.6
DPC Dobruska-Polom 81.27 322⇑ *iP* P **04 20 56.5 +0.5**
DPC *e* 04 24 02.2
DPC *e* 04 30 52.6
DPC MLR MLR
comp=Z,9μm,23.3s
DPC Dobruska-Polom 81.27 322⇑ *iP* P **04 20 56.5 +0.5**
DPC *ep*P pP 04 21 26.1 +4.0
DPC *eP*P PP 04 24 02.2 -2.1
DPC *es*S S 04 30 52.6 -4.0
DPC *ex* x 04 31 36.9
DPC AMS AMS 04 56 00.0
comp=Z,9μm,23.3s
BEO Belgrade 81.27 315⇓ *iP* P **04 20 55.8 -0.4**
SRO Srobarova 81.27 319 *eP* P **04 20 56.5 +0.4**
SRO *e* 04 21 15.3
ARNS Arna 81.28 334 *eP* P **04 20 55.3 -0.6**
SRO1 Iza 81.34 319 *eP* P **04 20 57.5 +1.0**
SRO1 *e* 04 21 05.6
SRO1 *e* pP 04 21 27.4 +4.8
RUND Rundenannen 81.35 334 *eP* P **04 20 55.7 -0.6**
RUND AMb AMB 04 21 02.5
comp=Z,1μm,1.4s,mb6.6
SANT Santorini 81.36 306 *eP* P **04 20 54.1 -2.7**
comp=Z,1μm,1.4s,mb6.6
THR1 Thera Island 81.36 306 *eP* P **04 20 55.4 -1.4**
VAY Valandovo 81.37 311⇑ *iP* P **04 20 56.2 -0.5**
VAY *i* pP 04 21 24.0 +1.1
UPC Upice 81.37 322⇑ *iP* P **04 20 56.9 +0.4**
UPC *ep*P pP 04 21 28.6 +5.9
THE Thessaloniki 81.39 311 *eP* P **04 20 55.5 -1.4**
THR3 Thira Island, 81.39 306 *eP* P **04 20 58.0 +1.0**
THR6 Thira Island, 81.41 306 *eP* P **04 20 55.5 -1.6**
PKSG 81.42 318⇑ *eP* P **04 20 56.7 -0.1**

THR5 Thira Island, 81.42 306 *eP* P **04 20 56.5 -0.6**
BLS5 Blasjo 81.46 332 *eP* P **04 20 57.0 +0.1**
BLS5 AMb AMB 04 21 05.3
comp=Z,394nm,1.1s,mb6.2
BLS5 Blasjo 81.46 332 *eP* P **04 20 57.0 +0.1**
comp=Z,394nm,1.1s,mb6.2
PKS8 Sarbogard 81.47 318⇑ *eP* P **04 20 56.9 -0.3**
SMOL Smolenice 81.48 320 *eP* P **04 20 58.0 +0.8**
SMOL *es*P sP 04 21 30.2 -4.2
EGD Espegrend 81.49 333 *eP* P **04 20 57.0 +0.1**
GRUS Gruza 81.50 314⇓ *iP* P **04 20 56.2 -1.2**
HOPOS Hopovo Monaste 81.53 316⇑ *iP* P **04 20 58.1 +0.6**
VRAC Vranov 81.60 321 P P **04 20 58.4 +0.6**
GRG Griva 81.64 311 *eP* P **04 20 57.2 -1.0**
RUE Ruedersdorf 81.64 324 P P **04 20 58.4 +0.5**
XOR Xorichti 81.76 309 *eP* P **04 20 58.1 -0.7**
XRY Khrisi 81.79 304 *eP* P **04 20 58.5 -0.6**
PKSM Moragy 81.79 317⇑ *eP* P **04 20 58.9 +0.1**
ZST Bratislava 81.82 319 *i* P P **04 20 59.4 +0.5**
ZST *e* pP 04 21 28.6 +3.5
ZST *e* 04 21 45.8
ZST *es*S S 04 30 59.2 -3.1
ZST Bratislava 81.82 319 *i* P P **04 20 59.4 +0.5**
ZST *es*S S 04 30 59.2 -3.1
KRUC Moravsky 81.83 320 P P **04 20 59.3 +0.3**
PKS9 Tamasi 81.85 318⇑ *eP* P **04 20 59.1 0.0**
BBB Bella Bella 81.85 36 LR LR 04 55 14.8
comp=Z,4μm,21.6s,baz=319,slow=34
SKO Skopje 81.86 312⇑ *iP* P **04 20 59.3 0.0**
SKO *i* 04 21 01.1
comp=Z,0.7nm,1.0s
SKO ⇑ *i* pP 04 21 28.1 +2.7
comp=Z,0.2nm,1.1s
SKO Skopje 81.86 312⇑ *iP* P **04 20 59.3 0.0**
comp=Z,714nm,1.0s,mb6.5
SKO *i* 04 21 01.1
SKO *i* pP 04 21 28.1 +2.7
DIVS Divcibare 81.88 315⇓ *iP* P **04 20 59.0 -0.4**
MUD Monsted U'grnd 81.89 329 *iP* P **04 21 00.0 +0.9**
MUD *i* 04 21 32.1
MUD *e* 04 22 28.5
MUD *i* S S 04 31 01.9 -1.0
MUD *i* 04 31 48.4
comp=Z,7μm,16.0s
LIT Litokhoron 81.94 310 *eP* P **04 20 58.5 -1.3**
SCO Scoresbysund 82.01 349 *iP* P **04 21 00.4 +0.9**
comp=Z,169nm,0.8s,mb5.9
SCO *i* S S 04 31 12.3 +8.5
STAV Stavanger 82.06 332 *eP* P **04 20 60.0 0.0**
STAV AMb AMB 04 21 06.6
comp=Z,541nm,2.3s,mb6.0
STAV Stavanger 82.06 332 *eP* P **04 20 60.0 0.0**
comp=Z,541nm,2.3s,mb6.0
YKA Yellowknife Ar 82.08 23 P P **04 20 59.1 -0.9**
comp=Z,546nm,0.7s,mb6.5,baz=314,slow=4.9,SNR=262
YKA S S 04 31 06.1 +1.4
comp=Z,1.3nm,0.8s,baz=51,slow=10.0,SNR=3.4
YKA PKKPbc 04 39 27.2
comp=Z,3.5nm,0.8s,baz=136,slow=2.3,SNR=9.7
YKA LR LR 05 03 19.3
comp=Z,4μm,18.1s,baz=300,slow=40
PVCC Panska Ves 82.17 322⇑ *iP* P **04 21 01.1 +0.4**
PVCC *e* 04 31 04.8
PVCC MLR MLR
comp=Z,11μm,24.8s
PVCC Panska Ves 82.17 322⇑ *iP* P **04 21 01.1 +0.4**
PVCC *ep*P pP 04 21 32.7 +5.8
PVCC *es*S S 04 31 04.8 -1.0
PVCC *ex* x 04 31 43.2
PVCC AMS AMS 04 57 00.0
comp=Z,11μm,24.8s
RHK1 Bakonya 82.20 317⇑ *eP* P **04 21 01.2 +0.3**
IDI Anoyia 82.22 305 P P **04 21 00.7 -0.6**
VKA Vienna 82.25 320⇑ *iP* P **04 21 02.0 +0.9**
comp=Z,2μm,2.0s,mb6.5
VKA *i* pP pP 04 21 34.6 +7.3
SUMG Summit 82.30 354 *eP* P **04 21 01.0 0.0**
comp=Z,1μm,1.0s,mb6.6
SUMG *e* pP 04 21 31.5 +4.4
NVSS Nova Varos 2 82.33 314⇑ *iP* P **04 20 50.4 -11**
BRG Berggiesshubel 82.34 323 *iP* P **04 21 01.9 +0.3**
BRG *e* 04 24 11.0
BRG *es*S S 04 31 09.0 +1.4
BRG *i* SS SS 04 36 30.0 -3.1
BRG pmax pmax
comp=Z,492nm,1.0s,mb6.3
BRG MLR MLR
comp=N,9μm,18.9s
BRG MLR MLR
comp=E,11μm,18.9s
BRG Berggiesshubel 82.34 323 *iP* P **04 21 01.9 +0.3**
comp=E,492nm,1.0s,mb6.3
BRG *i* 04 21 06.0
BRG *i* pP pP 04 21 24.0 -3.8
BRG *i* sP sP 04 21 35.5 -3.3
BRG *eP*P PP 04 24 11.0 -1.9
BRG *es*S S 04 31 09.0 +1.4
BRG *i* SS SS 04 36 30.0 -3.1
BRG *eP*KKP PKKP 04 39 30.8 +27
BRG *eP*'P' 04 47 32.3
BRG LR LR
comp=Z,11μm,30.0s
SOP Sopron 82.38 319⇑ *iP* P **04 21 02.2 +0.4**
FNA Florina 82.41 311 *eP* P **04 21 00.9 -1.2**
PRU Pruhonice 82.44 322⇑ *iP* P **04 21 02.3 +0.2**
PRU *e* 04 24 09.1
PRU *e* 04 31 07.0
PRU pmax pmax
comp=Z,1μm,1.8s,mb6.3
PRU MLR MLR
comp=Z,8μm,15.0s
PRU Pruhonice 82.44 322⇑ *iP* P **04 21 02.3 +0.2**
comp=Z,1μm,1.8s,mb6.3
PRU *ep*P pP 04 21 33.6 +5.3
PRU *eP*P PP 04 24 09.1 -4.7
PRU *es*S S 04 31 07.0 -1.6
PRU *ex* x 04 31 43.4
PRU AMS AMS 04 59 50.0
comp=Z,8μm,15.0s
IVA Berane 82.49 314⇑ *iP* P **04 21 03.4 +0.9**
AGG Agios Georgios 82.51 309 *eP* P **04 21 00.7 -1.9**
PVY Plav 82.56 313⇑ *iP* P **04 21 03.0 +0.1**
PLE Pljevlja 82.61 314⇑ *iP* P **04 21 03.8 +0.7**
CLL Collm 82.64 323 P P **04 21 03.0 -0.1**
comp=Z,logA/T=2.7,mb6.3
CLL *i* 04 21 17.2
CLL *i* *SP sP 04 21 36.4 -3.9
CLL *eP*P PP 04 24 15.0 -0.3
CLL *e**SPP 04 24 43.0
CLL *e* 04 26 24.0
CLL *e* 04 28 00.0
CLL *es*S S 04 31 11.0 +0.4
CLL *e**SS 04 31 52.0
CLL *es*S SS 04 36 30.0 -7.5
CLL *eP*KKP PKKP 04 39 30.0 +27
CLL *e* 04 42 42.0
CLL *es*KPPKP 04 50 50.0
CLL Collm 82.64 323 *iP* P **04 21 03.0 -0.1**
CLL *es*S S 04 31 11.0 +0.4
CLL pmax pmax
comp=Z,588nm,1.2s,mb6.3
CLL MLR MLR
comp=Z,13μm,15.4s
CLL Collm 82.64 323 *iP* P **04 21 03.0 -0.1**
comp=Z,588nm,1.2s,mb6.3
CLL *i* sP sP 04 21 36.4 -3.9
CLL *es*S S 04 31 11.0 +0.4
CLL *es*S 04 31 52.0
CLL *eP*KKP PKKP 04 39 30.0 +27
CLL LR LR
comp=Z,13μm,15.4s
OHR Ohrid 82.66 312⇑ *iP* P **04 21 02.1 -1.3**
OHR *i* pP 04 21 27.4 -2.2
BSEG Bad Segeberg 82.69 327 *eP* P **04 21 03.4 +0.2**
BSEG pmax pmax
comp=Z,600nm,1.2s,mb6.3
VAM Vamos 82.69 305 *eP* P **04 21 04.0 +0.3**
MEV Metsovon 82.95 310 *eP* P **04 21 05.0 +0.1**
UPM Unac-Piva 82.99 314⇑ *iP* P **04 21 04.6 -0.4**
GVD Gavdhos 83.01 305 *eP* P **04 21 05.0 -0.3**
VLI Veliai 83.06 307 *eP* P **04 21 03.1 -2.4**
QSH Qafa e Shtames 83.08 312 *ep* P **04 21 05.2 -0.3**
NKY Niksic 83.11 314⇑ *iP* P **04 21 04.9 -0.7**

TTG Podgorica 83.11 314⇑ *iP* P **04 21 05.2 -0.4**
TIR Tirane 83.19 312 *ep* P **04 21 06.5 +0.4**
TIR Tirane 83.19 312 P P **04 21 06.2 +0.1**
ARSA Arzberg 83.21 319⇑ *iP* P **04 21 06.2 +0.2**
ARSA *i* 04 21 39.5
PRZA Preza 83.28 312 *ep* P **04 21 02.0 -4.5**
ULC Ulcinj 83.32 313⇑ *iP* P **04 21 06.6 -0.1**
BRY Bratogost 83.36 314⇑ *iP* P **04 21 06.1 -0.8**
BUM Brajici-Budva 83.40 314⇑ *iP* P **04 21 07.2 +0.1**
KHC Kasperske Hory 83.42 321⇑ *iP* P **04 21 07.2 +0.2**
KHC *e* 04 24 18.6
KHC *e* 04 31 17.0
KHC *e* 04 31 17.4
KHC MLR MLR
comp=Z,12μm,26.7s
KHC Kasperske Hory 83.42 321⇑ *iP* P **04 21 07.2 +0.2**
KHC *ep*P pP 04 21 38.2 +4.9
KHC *eP*P PP 04 24 18.6 -2.9
KHC *es*KS SKS 04 31 17.0 +1.0
KHC *es*KS SKS 04 31 17.4 +1.4
KHC *e* 04 31 58.7
KHC LR LR
comp=Z,12μm,26.7s
KHC Kasperske Hory 83.42 321⇑ *iP* P **04 21 07.2 +0.2**
KHC *ep*P pP 04 21 38.2 +4.9
KHC *eP*P PP 04 24 18.6 -2.9
KHC *es*KS SKS 04 31 17.0 +1.0
KHC *ex* x 04 31 58.7
KHC AMS AMS 04 56 10.0
comp=Z,12μm,26.7s
GERES GERESS Array B 83.49 321 P P **04 21 07.4 0.0**
comp=Z,263nm,0.8s,mb6.1,baz=56,slow=4.8,SNR=244
GERES pP pP 04 21 35.1 +1.4
comp=Z,21nm,0.8s,baz=45,slow=3.8,SNR=1.2
GERES *s*P sP 04 21 46.8 +2.2
comp=Z,22nm,0.8s,baz=45,slow=7.5,SNR=1.2
GERES S S 04 31 19.2 +0.1
comp=Z,1.7nm,1.1s,baz=51,slow=8.5,SNR=2.2
GERES PKKPbc 04 39 25.7
comp=Z,3.0nm,0.8s,baz=220,slow=10,SNR=6.1
GERES PKPPKP 04 47 24.2
comp=Z,0.4nm,0.4s,baz=256,slow=4.0,SNR=3.8
GERES GERESS Array B 83.49 321 P P **04 21 07.4 0.0**
GERES S S 04 31 19.2 +0.1
GERES pmax pmax
comp=Z,263nm,0.8s
GERES GERESS Array B 83.49 321 P P **04 21 07.4 0.0**
GERES pP pP 04 21 35.1 +1.4
GERES *s*P *s*P 04 21 46.8 +2.2
GERES S S 04 31 19.2 +0.1
GERES PKKPbc 04 39 25.7
GERES P'P' 04 47 24.2
NKC Novy Kostel 83.49 323 P P **04 21 07.7 +0.3**
NKC Novy Kostel 83.49 323⇑ *ep*P pP 04 21 39.5 +5.8
NKC *eP*P PP 04 24 20.9 -1.2
NKC *es*KS SKS 04 31 14.8 -1.7
NKC *ex* x 04 31 56.2
NKC AMS AMS 04 57 40.0
comp=Z,6μm,19.3s
SISC Sisak 83.54 317 *i* P P **04 21 08.7 +0.9**
HCY Herceg Novi 83.60 314⇑ *iP* P **04 21 08.2 +0.1**
MOA Molln 83.66 320⇑ *iP* P **04 21 08.8 +0.6**
MOA *i* 04 21 41.5
IGT Igoumenitsa 83.68 311 *eP* P **04 21 07.2 -1.4**
MOX Moxa 83.73 323⇑ *iP* P **04 21 08.6 0.0**
comp=Z,logA/T=2.8,mb6.4
MOX pP pP 04 21 41.0 +6.1
MOX PP PP 04 24 27.0 +3.0
MOX S S 04 31 20.0 -1.5
MOX PS PS 04 32 10.0 -19
MOX SS SS 04 37 00.0 +6.8
MOX LQ 04 42 57.0
MOX L 05 05 01.0
MOX Moxa 83.73 323 *eP* P **04 21 08.6 0.0**
MOX *e* 04 31 20.9
MOX pmax pmax
comp=Z,1μm,2.2s,mb6.4
MOX MLR MLR
comp=Z,8μm,18.0s
MOX Moxa 83.73 323 *eP* P **04 21 08.6 0.0**
comp=Z,1μm,2.2s,mb6.4
MOX *e* 04 21 40.6
MOX *e* 04 31 20.9
MOX LR LR
comp=Z,8μm,18.0s
PERS Pernice 83.75 319 *i* P P **04 21 08.9 +0.2**
PERS *es*S S 04 31 19.6 -2.1
PERS *e* 04 32 03.5
PERS *e* 04 43 17.0
HLG Helgoland 83.75 328 P P **04 21 09.6 +1.0**
YEL1 Yell 83.78 336⇑ *iP* P **04 21 08.4 -0.1**
WET Wettzell 83.81 322 *eP* P **04 21 09.5 +0.5**
WET pmax pmax
comp=Z,436nm,1.4s,mb6.1
WET Wettzell 83.81 322 *eP* P **04 21 09.5 +0.5**
comp=Z,436nm,1.4s,mb6.1
LKD Levkas 83.83 310 *eP* P **04 21 09.1 -0.3**
STON Ston 83.93 314⇑ *iP* P **04 21 08.9 -0.8**
CRES Cresnjev 83.94 318 P P **04 21 10.0 +0.3**
KEK Kerkira 83.97 311 P P **04 21 10.4 +0.4**
LRW Lerwick 84.09 335⇑ *iP* P **04 21 09.8 -0.4**
LRW Lerwick 84.09 335 P P **04 21 11.3 +1.2**
OBKA Obir 84.15 319⇑ *iP* P **04 21 10.9 +0.2**
OBKA *i* 04 21 42.8
WAL1 Wales 84.18 336⇑ *iP* P **04 21 10.2 -0.4**
SAN1 Sandwick 84.19 335⇑ *iP* P **04 21 10.1 -0.5**
BOJS Bojanci 84.22 318 *eP* P **04 21 11.6 +0.5**
BOJS *ep*P pP 04 21 40.8 +3.3
BOJS *eP*P PP 04 24 24.9 -3.1
BOJS *es*S S 04 31 25.0 -1.4
LJU Ljubljana 84.39 318 *iP* P **04 21 12.1 +0.2**
LJU *i* PcP PcP 04 21 14.0 -1.8
LJU *e* 04 21 16.8
LJU *ep*P pP 04 21 41.7 +3.4
LJU *e* 04 22 09.6
LJU *eP*P PP 04 24 30.0 +0.5
LJU *e* 04 24 53.3
LJU *es*S S 04 31 26.0 -2.2
LJU *ep*S 04 32 08.0
LJU *e* 04 32 09.1
LJU *es*S SS 04 37 04.0 +1.1
LJU *e* 04 43 31.1
LJU Ljubljana 84.39 318 *iP* P **04 21 12.1 +0.2**
LJU *ep*P pP 04 21 41.7 +3.4
LJU *e* 04 22 09.6
LJU *eP*P PP 04 24 30.0 +0.5
LJU *e* 04 24 53.3
LJU *es*S S 04 31 26.0 -2.2
LJU *e* 04 32 09.1
LJU *e* 04 43 31.1
GRA1 Grafenberg Arr 84.45 323 *eP* P **04 21 12.7 +0.6**
comp=Z,2μm,1.6s,mb6.6
GRA1 *es*P sP 04 21 44.8 -4.6
GRA1 *eP*P PP 04 24 27.2 -2.6
GRA1 *es*S S 04 31 26.9 -1.7
GRA1 *es*S SS 04 36 58.1 -5.5
GRA1 LR LR
comp=Z,9μm,22.0s
GRF Grafenberg Arr 84.45 323 *eP* P **04 21 12.7 +0.6**
GRF *e* 04 24 27.2
GRF *es*S S 04 31 26.9 -1.7
GRF pmax pmax
comp=Z,2μm,1.6s,mb6.6
GRF MLR MLR
comp=Z,9μm,22.0s
GRFO Grafenberg 84.45 323 P P **04 21 12.9 +0.7**
KBA Koelnbreinsper 84.58 320⇑ *iP* P **04 21 12.9 0.0**
KBA *i* 04 21 45.7
CEY Cerknica 84.61 318 *iP* P **04 21 13.1 0.0**
CEY *e* 04 44 12.2
VOY Vojsko 84.78 319 *eP* P **04 21 13.2 -0.7**
FTO Torshavn 84.82 339⇑ *eP* P **04 21 14.6 +0.9**
LCI Lecce 84.83 312 *eP* P **04 21 14.8 +0.5**
DRE Drenchia 84.86 319⇑ *iP* P **04 21 13.0 -1.3**
IBBN Ibbenburen 84.87 326 P P **04 21 14.5 +0.3**
NVLJ Novalja 84.91 317⇑ *iP* P **04 21 13.5 -1.1**
PTCC Patocco-Chiusa 84.92 319 *eP* P **04 21 13.9 -0.6**
TRI Trieste 85.02 318 *eP* P **04 21 14.6 -0.5**
GMNA Gemona 85.05 319 *eP* P **04 21 14.8 -0.5**
ZOU Zoufplan 85.07 319⇑ *eP* P **04 21 14.0 -1.3**
BAD Bernadia 85.07 319⇓ *iP* P **04 21 14.0 -1.3**
BOO Bordano 85.11 319⇓ *eP* P **04 21 15.0 -0.6**

FSD Sut uroy 85.13 338 eP P 04 21 15.5 +0.3
WIT Witteveen 85.13 327 eP P 04 21 16.6 +1.2
WIT Witteveen 85.13 327 P P 04 21 16.9 +1.4
BUA Buia 85.15 319⇓eP P 04 21 15.0 -0.7
OPO Ambohidratompo 85.16 247 P P 04 21 13.5 -2.9
FVI Forni Avoltri 85.16 319 eP P 04 21 15.1 -0.7
BRT Bari-Castellan 85.19 313 P P 04 21 16.5 +0.4
MPRI Monte Prat 85.22 319⇑eP P 04 21 15.0 -1.1
FUR Furstenfeldbru 85.22 321 eP P 04 21 17.0 +1.0
FUR pmax pmax
comp=Z,2µm,0.9s,mb7.0
FUR Furstenfeldbru 85.22 321 eP P 04 21 17.0 +1.0
comp=Z,2µm,0.9s,mb7.0
OST Stronsay 85.31 335 eP P 04 21 15.8 -0.4
TLI Talmassons 85.31 319⇓eP P 04 21 16.0 -0.6
OWE Westray 85.34 335 eP P 04 21 17.2 +0.8
SEST Monte Rota 85.42 320 P P 04 21 16.6 -0.4
WATA Walderalm 85.48 320⇑iP P 04 21 17.2 -0.2
WTTA Wattenberg 85.49 320⇑iP P 04 21 17.6 +0.2
WTTA i 04 21 50.3
SIND Sindeldorf 85.52 323 eP P 04 21 17.6 +0.1
SIND Sindeldorf 85.52 323 P P 04 21 17.4 -0.1
WTSB Winterswijk 85.55 326 eP P 04 21 17.8 +0.3
comp=Z,413nm,0.8s,mb6.4
WTSB ePP PP 04 24 42.7 +4.2
WTSB eS S 04 31 30.4 -8.9
WTSB eSS tx 04 37 48.8
WTSB Winterswijk 85.55 326 P P 04 21 18.3 +0.8
LTRZ Laterza 85.58 313 eP P 04 21 18.0 0.0
HDH Heidenheim 85.60 322⇑eP P 04 21 18.1 +0.2
FGMS Monte Sant'Ang 85.62 314 eP P 04 21 18.7 +0.5
BRES Bressanone 85.73 320 P P 04 21 20.0 +1.4
OHO Hoy 85.75 335⇑eP P 04 21 18.3 -0.1
MOTA Moosalm 85.75 321⇑iP P 04 21 18.6 -0.1
SQTA Sankt Quirin 85.76 321⇓iP P 04 21 18.7 0.0
TOD Tromm 85.82 323⇑eP P 04 21 19.4 +0.5
TOD Tromm 85.82 323 eP P 04 21 19.0 +0.1
RGNG Rignano Grg 85.88 314 P P 04 21 19.6 +0.2
SWS Schriesheim 85.94 323 eP P 04 21 19.7 +0.2
SWS Schriesheim 85.94 323 P P 04 21 19.8 +0.3
STU Stuttgart 86.06 323 eP P 04 21 19.9 -0.2
STU pmax pmax
comp=Z,760nm,1.5s,mb6.4
STU Stuttgart 86.06 323 eP P 04 21 19.9 -0.2
comp=Z,762nm,1.5s,mb6.4
ORI Oriolo Calabro 86.08 312 P P 04 21 20.5 0.0
CTI Castel Tesino 86.12 319 P P 04 21 19.7 -0.8
APPI Appiano 86.14 320 P P 04 21 22.3 +1.7
ORE Reay 86.14 335 eP P 04 21 21.0 +0.8
UBR Uberruh 86.14 321⇑eP P 04 21 20.9 +0.3
UBR Uberruh 86.14 321 P P 04 21 21.1 +0.5
BUCH Bad Urach 86.15 322⇑eP P 04 21 21.1 +0.5
FG4 Candela 86.19 314 P P 04 21 21.4 +0.5
AOI Ancona 86.21 317 P P 04 21 21.7 +0.7
PGC Sidney 86.24 37 eP P 04 21 22.1 +1.1
comp=Z,1.7nm,0.8s
FG5 Orsara di Pugl 86.28 314 P P 04 21 22.1 +0.7
OCWA Octopus Mounta 86.33 38 eP P 04 21 23.1 +1.6
comp=Z,2µm,1.3s,mb6.8
OCWA LR LR
comp=Z,4µm,20.0s
CIGN Sant'Elia a Pi 86.33 314 P P 04 21 22.2 +0.6
ABH Alteburg 86.34 324⇑eP P 04 21 22.2 +0.7
ABH Alteburg 86.34 324⇑eP P 04 21 22.4 +0.9
LBG Lerchenberg 86.34 323⇑eP P 04 21 21.8 +0.3
LBG Lerchenberg 86.34 323 P P 04 21 21.9 +0.4
TDS Terranova Siba 86.36 312 eP P 04 21 22.8 +1.0
KTD Kalmit 86.37 323 eP P 04 21 22.3 +0.7
KTD Kalmit 86.37 323 eP P 04 21 22.0 +0.4
KMBO Kilima Mbogo 86.38 267 eP P 04 21 23.6 +1.1
comp=Z,132nm,1.1s,mb5.8
KMBO LR LR
comp=Z,3µm,21.0s
MRLC Muro Lucano 86.39 313 P P 04 21 21.9 0.0
SLCN Sala Consilina 86.47 313 eP P 04 21 22.7 +0.3
DAVA Damuels 86.49 321⇑iP P 04 21 22.5 +0.2
DAVA i 04 21 55.1
PESA Pesaro 86.49 317 P P 04 21 23.3 +1.0
GUT Gutenstein 86.49 322 eP P 04 21 22.3 0.0
GUT Gutenstein 86.49 322 P P 04 21 22.8 +0.5
CUC Castrocucco 86.54 313 P P 04 21 23.0 +0.3
CING Cingoli 86.56 317 eP P 04 21 23.3 +0.6
MCD Coleburn Disti 86.60 334 eP P 04 21 22.5 0.0
PSB1 Pescosannita 86.61 314 P P 04 21 23.0 0.0
SGO Sicignano 86.61 313 eP P 04 21 22.7 -0.3
FUORN Ofenpass 86.63 320⇑iP P 04 21 23.5 +0.5
comp=Z,2µm,1.5s,mb6.8
BRMO Bormio 86.64 320 eP P 04 21 23.4 +0.4
MGR Morigerati 86.65 313 eP P 04 21 22.3 -0.9
ARV Arcevia 86.65 317 eP P 04 21 23.8 +0.7
FSSB Fossombrone 86.66 317 eP P 04 21 23.9 +0.7
SPAK Spaichingen 86.66 322 eP P 04 21 23.4 +0.3
MME1 Meikle Cairn 86.66 334⇑eP P 04 21 23.3 +0.5
TERO Teramo 86.68 316 P P 04 21 23.8 +0.5
CII Carovilli 86.69 315 eP P 04 21 23.9 +0.6
HGN Heimansgroeve 86.69 325 eP P 04 21 23.4 +0.2
comp=Z,380nm,1.0s,mb6.3
HGN ePP PP 04 24 44.6 -3.7
HGN eS S 04 31 38.1
HGN eSS SS 04 37 42.6 +6.1
HGN eSSS tx 04 44 41.9
HGN Heimansgroeve 86.69 325 P P 04 21 23.7 +0.6
GRI Girifalco 86.70 311 P P 04 21 24.5 +1.0
RUP Ruppelstein 86.70 324⇑eP P 04 21 24.0 +0.7
KAMOR Kamor 86.71 321⇑iP P 04 21 23.6 +0.3
comp=Z,1µm,2.0s,mb6.5
LANF Langenberg 86.71 323⇑eP P 04 21 23.8 +0.5
MVH1 Achvaich 86.73 335⇑eP P 04 21 22.6 -0.6
RSM Repubblica di 86.74 317 eP P 04 21 24.6 +1.0
VTB1 Vitulano 86.74 314 P P 04 21 23.3 -0.4
BORG Borgarnes 86.76 345 eP P 04 21 22.8 -0.4
comp=Z,221nm,1.3s,mb5.9
BORG LR LR
comp=Z,2µm,20.0s
MIDA Miranda 86.76 315 P P 04 21 24.1 +0.4
DAVOX Davos 86.76 321⇑iP P 04 21 24.0 +0.4
comp=Z,805nm,1.4s,mb6.5
VDB Vedder Mountai 86.77 37 P P 04 21 24.6 +1.0
MABI Malga Bissina 86.78 320 P P 04 21 23.0 -0.7
BFO Black Forest 86.79 323 eP P 04 21 23.6 -0.1
BFO pmax pmax
comp=Z,565nm,1.2s,mb6.4
BFO Black Forest 86.79 323 eP P 04 21 23.6 -0.1
comp=Z,565nm,1.2s,mb6.4
SISB Singen-Sch Ber 86.79 322 P P 04 21 24.3 +0.6
RNI2 Rionero Sannit 86.79 315 P P 04 21 24.8 +0.9
INTR Introdacqua 86.80 315 eP P 04 21 24.1 +0.1
STEIN Stein am Rhein 86.85 322⇑iP P 04 21 23.9 -0.1
comp=Z,1µm,2.0s,mb6.4
WEIN Weingarten 86.86 322⇑iP P 04 21 24.0 -0.1
comp=Z,967nm,1.6s,mb6.5
BERNI Berninapass 86.88 320⇑iP P 04 21 24.7 +0.5
comp=Z,2µm,1.9s,mb6.6
NRCA Norcia 86.89 316 eP P 04 21 24.9 +0.6
PLONS Plons 86.90 321⇑iP P 04 21 24.4 +0.1
comp=Z,1µm,1.9s,mb6.5
WISH Wishkah 86.91 39 ⇓P P 04 21 26.6 +2.3
AQU L'Aquila 86.95 316 P P 04 21 25.6 +1.0
AQU pmax pmax
comp=Z,2µm,1.1s,mb6.9
AQU L'Aquila 86.95 316 eP P 04 21 25.6 +1.0
TRULL Truellikon 86.97 322⇑iP P 04 21 24.5 -0.1
comp=Z,1µm,1.8s,mb6.5
WILA Wila 86.97 322⇑iP P 04 21 24.6 0.0
comp=Z,946nm,1.4s,mb6.5
SLE Schleitheim 87.01 322⇑iP P 04 21 24.5 -0.3
comp=Z,766nm,1.6s,mb6.4
SDI San Donato 87.01 315 eP P 04 21 24.8 -0.1
SAL Salo 87.02 319 eP P 04 21 24.8 0.0
MBW Mount Baker 87.02 37 P P 04 21 25.8 +1.0
MURB Monte Urbino 87.03 317 P P 04 21 26.0 +1.0
VVLD Villa Vallelon 87.05 315 P P 04 21 25.2 0.0
RFI Roccamonfina 87.11 314 eP P 04 21 28.7 +3.3
PTQR Pietraquaria 87.12 315 P P 04 21 25.9 +0.4
SFI Santa Sofia 87.12 317 eP P 04 21 26.8 +1.3
MDO Dochfour 87.13 334 eP P 04 21 24.6 -0.5
VDL Val di Lei 87.16 321⇑iP P 04 21 26.1 +0.5
comp=Z,666nm,1.1s,mb6.5
VDL Val di Lei 87.16 321 ⇑P P 04 21 26.0 +0.4
MSC Monte Massico 87.17 314 eP P 04 21 25.4 -0.4
FIAM Fiamignano 87.17 316 P P 04 21 26.1 +0.4
ZUR Zurich 87.18 322⇑iP P 04 21 25.6 0.0
comp=Z,1µm,1.9s,mb6.5
ZUR Zurich 87.18 322 P P 04 21 25.4 -0.2
GNW Green Mountain 87.19 38 eP P 04 21 27.3 +1.6
EDU Dundee 87.20 333⇑eP P 04 21 25.4 -0.1
CRE Caprese Michel 87.21 317 eP P 04 21 26.6 +0.7
WLF Walferdange 87.21 324 P P 04 21 25.6 -0.1
WLF pmax pmax
comp=Z,1µm,1.0s,mb6.8
WLF Walferdange 87.21 324 eP P 04 21 26.2 +0.5
comp=Z,1µm,0.9s,mb6.8
PGD Poggio Sodo 87.21 317 P P 04 21 27.6 +1.7
FELD Feldberg 87.22 322⇑eP P 04 21 25.7 -0.1
KIZ Kirchzarten 87.22 322⇑eP P 04 21 25.7 -0.1
KIZ Kirchzarten 87.22 322 P P 04 21 26.1 +0.3
LLS Linth-Limmern 87.23 321⇑iP P 04 21 26.1 +0.2
comp=Z,671nm,1.9s,mb6.2
TUE Stuetta 87.24 321 P P 04 21 26.3 +0.4
VMG Vicchio 87.28 318 eP P 04 21 27.9 +1.7
WLS Welschbruch 87.28 323⇑eP P 04 21 26.5 +0.4
LIBD Limburg 87.29 323⇑eP P 04 21 26.5 +0.4
LIBD Limburg 87.29 323⇑eP P 04 21 26.6 +0.5
SOI Samo 87.32 311 eP P 04 21 27.2 +0.7
CDF Champ du Feu 87.32 323 eP P 04 21 26.1 -0.2
comp=Z,2µm,1.1s,mb6.7
CEL Celeste 87.34 311 P P 04 21 27.5 +0.9
SEI Scarperia 87.34 318 eP P 04 21 28.0 +1.5
SULZ Sulz-Cheisache 87.36 322⇑iP P 04 21 26.2 -0.3
comp=Z,846nm,1.5s,mb6.5
SULZ Sulz-Cheisache 87.36 322 ⇑P P 04 21 26.4 -0.1
MUO Muotathal 87.37 321⇑iP P 04 21 26.9 +0.3
comp=Z,927nm,1.3s,mb6.5
MUO Muotathal 87.37 321 ⇑P P 04 21 27.0 +0.4
MNS Montasola 87.39 316 P P 04 21 26.5 -0.3
ZCCA Zocca 87.42 318 eP P 04 21 28.8 +2.0
CERT Cerreto 87.42 315 eP P 04 21 26.6 -0.4
FNVD Fontana Vidola 87.43 318 eP P 04 21 28.3 +1.4
GMB Gambarie 87.43 311 P P 04 21 28.7 +1.6
ESY Stoneypath 87.46 333⇑eP P 04 21 26.2 -0.5
ESY AMb AMb 04 21 32.3
comp=Z,494nm,1.6s,mb6.2
SCLL Scilla 87.46 311 eP P 04 21 26.8 -0.4
ECH Echery 87.50 323⇑eP P 04 21 27.3 +0.2
BNALP Bannalp 87.55 321⇑iP P 04 21 27.5 +0.1
comp=Z,837nm,1.9s,mb6.4
BMW Boistfort Moun 87.57 39 eP P 04 21 28.4 +0.9
MSI Messina ING 87.60 311 P P 04 21 29.4 +1.5
MTTG Motta San Giov 87.60 311 eP P 04 21 28.5 +0.6
FUSIO Fusio 87.64 321⇑iP P 04 21 28.2 +0.3
comp=Z,2µm,2.0s,mb6.8
GIVF Givet 87.65 325 eP P 04 21 27.4 -0.4
comp=Z,755nm,1.0s,mb6.4
AWI1 Witton 87.65 329 eP P 04 21 28.0 +0.2
GSCL Gusciola 87.65 318 P P 04 21 29.3 +1.3
LWH Whinny Nab 87.67 331 eP P 04 21 27.5 -0.3
CSNT Castellina Chi 87.69 317 P P 04 21 27.8 -0.4
EDI Edinburgh 87.69 333⇑eP P 04 21 27.4 -0.5
EDI AMb AMb 04 21 34.4
comp=Z,473nm,1.8s,mb6.2
EDI Edinburgh 87.69 333 P P 04 21 29.5 +1.6
BALST Balsthal 87.70 322⇑iP P 04 21 27.9 -0.2
comp=Z,928nm,1.8s,mb6.5
MUGIO Muggio 87.72 320⇑iP P 04 21 27.3 -1.0
comp=Z,176nm,0.7s,mb6.2
MOF Molkenrain 87.72 323⇑eP P 04 21 28.4 +0.2
MA9 Marino 87.72 315 P P 04 21 28.9 +0.5
ERBM Eremo 87.72 318 eP P 04 21 29.8 +1.5
BBS Basel-Blauen 87.73 322⇑eP P 04 21 28.2 -0.1
EBL Broad Law 87.73 333⇑eP P 04 21 27.2 -0.9
LCP Cassop 87.75 331⇑eP P 04 21 27.9 -0.3
ABA1 Baconsthorpe 87.76 329⇑eP P 04 21 28.6 +0.3
HASLI Hasliberg 87.77 321⇑iP P 04 21 28.4 -0.1
comp=Z,865nm,1.8s,mb6.5
BDI Bagni Di Lucca 87.80 318 eP P 04 21 28.4 -0.3
RMW Rattlesnake Mo 87.82 38 eP P 04 21 29.3 +0.6
RMW Rattlesnake Mo 87.82 38 P P 04 21 30.0 +1.3
EAU Auchinoon 87.85 333⇑eP P 04 21 28.3 -0.3
EAU AMb AMb 04 21 33.5
comp=Z,610nm,1.6s,mb6.4
SARO Sassorosso 87.86 318 P P 04 21 29.4 +0.4
VALM 87.86 318 P P 04 21 29.7 +0.7
VLC Villacollemand 87.88 318 eP P 04 21 27.8 -1.3
comp=Z,196nm,0.9s,mb6.1
AEU East Anglia Un 87.89 329⇑eP P 04 21 28.6 -0.3
GRAM 87.89 319 P P 04 21 29.7 +0.6
HINF Hinteralfeld 87.89 323 eP P 04 21 28.3 -0.7
comp=Z,536nm,1.0s,mb6.2
VAI Varese 87.91 320 eP P 04 21 28.4 -0.8
SLNA Salina 87.91 312 eP P 04 21 30.2 +0.8
BOURR Bourrignon 87.93 322⇑iP P 04 21 29.0 -0.2
comp=Z,2µm,2.0s,mb6.7
MAIM 87.95 318 P P 04 21 28.9 -0.5
EAB Aberfoyle 87.99 334⇑eP P 04 21 28.6 -0.6
EAB AMb AMb 04 21 35.0
comp=Z,431nm,1.6s,mb6.2
BAIF Baives 87.99 325 eP P 04 21 29.1 -0.4
comp=Z,902nm,1.2s,mb6.4
BACM 88.00 318 P P 04 21 29.8 +0.1
AWH Whinburgh 88.02 329⇑eP P 04 21 29.1 -0.4
PII Pisa 88.03 318 eP P 04 21 28.9 -0.9
VINC Vinca 88.03 318 P P 04 21 29.1 -0.7
GRFL Gerfalco 88.06 317 eP P 04 21 29.7 -0.2
CODM 88.08 319 P P 04 21 30.2 +0.2
LMK Market Rasen 88.08 330⇑eP P 04 21 29.5 -0.3
EKA Eskdalemuir Ar 88.08 332 PKKPbc 04 39 14.7
comp=Z,5.5nm,0.8s,baz=297,slow=1.9,SNR=7.3
WRW Wenatchee Ridg 88.11 37 P P 04 21 30.9 +0.8
ESK Eskdalemuir 88.11 332 P P 04 21 28.4 -1.5
comp=Z,2µm,1.0s,mb7.2,SNR=72
ESK Eskdalemuir 88.11 332⇑iP P 04 21 29.5 -0.4
ESK AMb AMb 04 21 33.3
comp=Z,530nm,1.1s,mb6.5
ESK Eskdalemuir 88.11 332 eP P 04 21 29.3 -0.6
comp=Z,534nm,1.1s,mb6.5
ESK LR LR
comp=Z,918nm,20.0s
BOB Bobbio (Coli) 88.11 319 eP P 04 21 30.8 +0.6
WIMIS Wimmis 88.12 321⇑iP P 04 21 30.0 -0.1
comp=Z,568nm,1.1s,mb6.5
THEF They Montfort 88.13 323⇑eP P 04 21 30.2 0.0
LOMF Lomont 88.18 322⇑eP P 04 21 30.6 +0.2
RCS Mount Rainier- 88.20 38 P P 04 21 33.0 +2.5
LON Longmire 88.22 38 eP P 04 21 31.1 +0.5
MMK Mattmark 88.27 321⇓iP P 04 21 31.6 +0.7
comp=Z,1µm,1.2s,mb6.9
MMK Mattmark 88.27 321 ⇓P P 04 21 31.4 +0.5
LKBD Leukerbad 88.27 321⇑iP P 04 21 31.0 +0.1
comp=Z,570nm,1.0s,mb6.6
NLW Nelson Butte 88.28 37 eP P 04 21 31.3 +0.4
AGST Augusta-Monte 88.29 310 eP P 04 21 33.0 +1.8
SHW Mount Saint He 88.30 39 eP P 04 21 32.3 +1.3
MCGN Macugnaga 88.31 321 eP P 04 21 31.1 0.0
MNO Monte Soro 88.32 311 eP P 04 21 33.7 +2.4
HPK Haverah Park 88.33 331⇑iP P 04 21 30.8 -0.2
MAON Monte Argentar 88.34 316 P P 04 21 30.9 -0.4
LDU Leeds Universi 88.41 331⇑eP P 04 21 31.1 -0.2
TORNY Torny 88.43 322⇑eP P 04 21 31.4 -0.2
comp=Z,1µm,1.9s,mb6.6
SENIN Lac Senin 88.47 321⇑eP P 04 21 31.3 -0.5
comp=Z,866nm,2.2s,mb6.4
MEZF Maizieres J'vi 88.48 324 eP P 04 21 31.6 -0.2
comp=Z,949nm,0.9s,mb6.5
ORX Oropa 88.50 320 P P 04 21 31.1 -0.9
ORO Oropa 88.50 320 eP P 04 21 31.1 -0.8
KSY Syston 88.52 330⇑eP P 04 21 31.3 -0.6
CKE Keswick 88.56 332 eP P 04 21 31.8 -0.2
DIX Grande Dixence 88.57 321⇑iP P 04 21 32.9 +0.6
comp=Z,860nm,1.4s,mb6.6
DIX Grande Dixence 88.57 321 ⇓P P 04 21 32.7 +0.4
COR Corvallis 88.57 41 P P 04 21 34.6 +2.3
COR SKSac 04 31 53.6
COR Corvallis 88.57 41 eP P 04 21 34.0 +1.6
comp=Z,2µm,1.2s,mb7.0
COR LR LR
comp=Z,743nm,20.0s
LTY Liberty 88.57 38 P P 04 21 32.9 +0.6
PZI Palazzolo 88.58 310 eP P 04 21 34.5 +1.9
EDM Edmonton 88.59 30 eP P 04 21 32.8 +0.6
GENL Genova Univers 88.60 319 P P 04 21 32.2 -0.2
BRANT Les Verrieres 88.61 322⇑iP P 04 21 32.6 +0.1
comp=Z,653nm,1.1s,mb6.6
TRAV 88.70 320 P P 04 21 31.9 -1.0
LHO Holmfirth 88.71 331⇑iP P 04 21 32.5 -0.2
CSF Scaffel 88.72 332⇑eP P 04 21 32.5 -0.3
MENF Mencas 88.73 327 eP P 04 21 32.9 0.0
CSLB Castelbuono 88.75 311 eP P 04 21 33.6 +0.2
KBI1 Birley Grange 88.76 330⇑iP P 04 21 32.6 -0.4
CDU1 Dunnerdale 88.77 332⇑eP P 04 21 32.7 -0.3
PCP Pian Castagno 88.77 319 P P 04 21 32.9 -0.4
SALAN Lac Salanfe 88.78 321⇑iP P 04 21 33.5 +0.2
comp=Z,525nm,1.1s,mb6.5
EMV Vieux Emosson 88.87 321⇑iP P 04 21 34.0 +0.3
comp=Z,647nm,1.0s,mb6.6
EMV Vieux Emosson 88.87 321 ⇑P P 04 21 34.1 +0.4
KEBM Edson Butte 88.89 43 eP P 04 21 34.9 +1.0
SSOR Sweet Springs 88.92 40 P P 04 21 35.2 +1.2
GIMEL Gimel 88.96 322⇑iP P 04 21 34.1 0.0
comp=Z,704nm,1.8s,mb6.4
CABF La Chapelle 89.02 322 eP P 04 21 34.0 -0.4
comp=Z,962nm,1.4s,mb6.3
GAL1 Galloway 89.05 333⇑iP P 04 21 34.0 -0.3
KWE Weaver Farm 89.06 330⇑iP P 04 21 34.1 -0.3
LSD Ceresole Reale 89.07 321 P P 04 21 35.8 +1.2
GMK Mull of Kintyr 89.08 333⇑eP P 04 21 33.9 -0.6
HOOD Mount Hood Mea 89.13 40 P P 04 21 36.3 +1.4
FIN Finale Ligure 89.16 319 eP P 04 21 34.3 -0.8
RSP Reno Superiore 89.19 320 P P 04 21 34.0 -1.2
LPG La Plagne 89.28 321 eP P 04 21 35.8 +0.2
comp=Z,1µm,0.8s,mb6.8
LPL La Plagne 89.28 321 eP P 04 21 35.8 +0.2
comp=Z,1µm,0.8s,mb6.7
RORO 89.30 319 P P 04 21 35.7 -0.1
KBO Bosley Butte 89.31 43 eP P 04 21 37.3 +1.4
ROB Roburent 89.31 319 P P 04 21 35.5 -0.3
BHB Bricherasio 89.36 320 P P 04 21 34.7 -1.3
FENE Fenestrelle 89.37 320 P P 04 21 36.1 0.0
SKP1 Kophill 89.43 329⇑iP P 04 21 35.4 -0.8
WDD Wield Dalam 89.47 310 P P 04 21 38.1 +1.3
GCL Cushendall 89.49 333⇑iP P 04 21 36.0 -0.3
MONE Monesi 89.50 319 P P 04 21 36.8 +0.1
CLTB Caltabellotta 89.51 312 P P 04 21 38.3 +1.4
IMI Imperia 89.52 319 eP P 04 21 36.4 -0.4
WIM Isle of Man 89.53 332⇑iP P 04 21 36.4 -0.2
WIM AMb AMb 04 21 42.5
comp=Z,540nm,1.4s,mb6.5
DPW Davenport 89.56 36 eP P 04 21 37.6 +0.7
DOI San Damiano 89.56 320 eP P 04 21 35.0 -2.0
BNI Bardonecchia 89.58 320 eP P 04 21 36.4 -0.7
BNI pmax pmax
comp=Z,330nm,0.8s,mb6.5
BNI Bardonecchia 89.58 320 eP P 04 21 36.4 -0.7
comp=Z,332nm,0.8s,mb6.5
RRL Cesana Torines 89.59 320 P P 04 21 37.5 +0.4
SNIWA Snively Ranch 89.60 38 P P 04 21 38.8 +1.7
PGF Pioggiola 89.60 317 eP P 04 21 37.1 -0.1
comp=Z,2µm,0.9s,mb6.8
ENR Entracque 89.62 319 P P 04 21 36.3 -0.9
PZZ Prazzo 89.65 320 P P 04 21 36.0 -1.4
NEGI Negi 89.66 319 P P 04 21 37.0 -0.5
STV Sta Anna Valdi 89.67 320 P P 04 21 36.0 -1.5
SAOF Saorge 89.67 319⇑eP P 04 21 37.6 +0.1
RSW Rattlesnake Hi 89.68 38 P P 04 21 38.9 +1.5
BKCOR Black Crater 89.69 40 P P 04 21 39.3 +1.8
HAWA Hanford 89.71 38 eP P 04 21 38.6 +1.0
comp=Z,2µm,1.2s,mb7.2
HAWA LR LR
comp=Z,4µm,20.0s
MBDF Montbardon 89.71 320 eP P 04 21 36.8 -0.9
comp=Z,434nm,0.7s,mb6.4
AUTN L'Aution 89.75 319⇑eP P 04 21 38.1 +0.2
WPM1 Penmaenmawr 89.81 331⇑iP P 04 21 37.8 -0.2
WPM1 AMb AMb 04 21 41.4
comp=Z,759nm,1.2s,mb6.7
SBF Sospel 89.82 319 eP P 04 21 37.4 -0.8
comp=Z,2µm,0.8s,mb6.9
GDM Grand'Maison 89.82 321 eP P 04 21 38.8 +0.6
SURF Saint Ours 89.83 320 eP P 04 21 38.4 +0.2
TOUF Mont Tournerai 89.84 319⇑eP P 04 21 38.6 +0.3
LOR Lormes 89.86 323 eP P 04 21 37.6 -0.7
comp=Z,1µm,1.1s,mb6.5
LOR eR
comp=Z,8µm,21.2s
AURF Auriere 89.87 319⇑eP P 04 21 38.5 +0.1
HUMO Hull Mountain 89.88 42 eP P 04 21 39.1 +0.5
comp=Z,250nm,0.9s,mb6.3
HUMO LR LR
comp=Z,3µm,20.0s
PATW Paterson 89.89 38 P P 04 21 40.6 +2.2
KRMB Red Mountain 89.89 44 eP P 04 21 40.4 +1.8
KRMB ePP PP 04 25 12.0 -2.5
NEW Newport 89.89 35 eP P 04 21 39.0 +0.6
NEW pmax pmax
comp=Z,2µm,1.0s
NEW Newport 89.89 35 eP P 04 21 39.0 +0.6
comp=Z,2µm,1.0s,mb7.2
NEW e pP 04 22 07.5 +2.4
NEW LR LR
comp=Z,5µm,19.0s
WME Myndd Eilian 89.89 331⇑eP P 04 21 38.2 -0.1
WME AMb AMb 04 21 42.4
comp=Z,933nm,1.2s,mb6.8
REVF Revere 89.93 319⇑eP P 04 21 38.7 0.0
MVIF Mont Vial 89.97 319⇑eP P 04 21 39.0 +0.1
WLF1 Llynfaes 90.01 331⇑iP P 04 21 38.6 -0.2
WLF1 AMb AMb 04 21 42.4
comp=Z,971nm,1.3s,mb6.8
GMM Mts of Mourne 90.01 333⇑iP P 04 21 38.3 -0.5
GRN Grenoble 90.01 321 eP P 04 21 39.3 +0.2
WCB1 Church Bay 90.01 332⇑eP P 04 21 38.6 -0.3
WCB1 AMb AMb 04 21 42.2
comp=Z,684nm,1.4s,mb6.6
YLL Llanberis 90.01 331⇑eP P 04 21 38.7 -0.2
YLL AMb AMb 04 21 42.3
comp=Z,781nm,1.3s,mb6.7
SWN1 Swindon 90.03 329 eP P 04 21 38.8 -0.2
YRC Rhoscolyn 90.11 331⇑iP P 04 21 39.1 -0.2
YRC AMb AMb 04 21 42.8
comp=Z,747nm,1.3s,mb6.7
ORIF Oris-en-Rattie 90.12 321 eP P 04 21 39.4 -0.2
comp=Z,763nm,0.8s,mb6.6
ORIF eR
comp=Z,7µm,20.0s
SSF Saint Saulge 90.17 323 eP P 04 21 39.1 -0.7
comp=Z,755nm,1.1s,mb6.4
YRE Yr Eifl 90.23 331⇑eP P 04 21 39.6 -0.3
YRE AMb AMb 04 21 46.7
comp=Z,637nm,1.6s,mb6.5
SMF Signal de Mont 90.24 323 eP P 04 21 39.5 -0.6
comp=Z,2µm,1.0s,mb7.0
KHMM Horse Mountain 90.36 44 eP P 04 21 42.0 +1.2
AVF Avril sur Loir 90.42 323 eP P 04 21 40.4 -0.6
comp=Z,1µm,1.1s,mb6.7
DGI Dorgali Grotta 90.45 315 P P 04 21 41.7 +0.5
FRF La Foret Royal 90.46 319 eP P 04 21 40.5 -0.7
comp=Z,754nm,0.9s,mb6.5
HYF Humbligny 90.52 324 eP P 04 21 41.4 0.0
YBH Yreka Blue Hor 90.52 43 P P 04 21 42.9 +1.3
YBH pmax pmax
comp=Z,520nm,1.2s
YBH Yreka Blue Hor 90.52 43 eP P 04 21 42.8 +1.2
comp=Z,522nm,1.3s,mb6.5
YBH LR LR
comp=Z,3µm,20.0s
SMD Mendips 90.60 329⇑iP P 04 21 41.1 -0.5
STOF St-Etienne Org 90.64 320 eP P 04 21 42.8 +0.7
DMUB Kingscourt 90.65 333 eP P 04 21 41.0 -0.8
LMR La Mourre 90.67 319 eP P 04 21 41.7 -0.5
comp=Z,1µm,1.2s,mb6.6
PTS Pantelleria 90.74 311 P P 04 21 43.4 +0.7
TAVF Tavernes 90.77 320⇑eP P 04 21 43.3 +0.6
VILF Villemus 90.84 320⇑eP P 04 21 43.7 +0.7
BGF Bois d'Agland 90.84 323 eP P 04 21 42.3 -0.6
comp=Z,1µm,1.5s,mb6.5
SMRF Simiane la Rot 90.85 320 eP P 04 21 42.9 -0.1
comp=Z,436nm,1.0s,mb6.2
VIVF Saint-Julien-l 90.85 321 eP P 04 21 42.6 -0.4
comp=Z,1µm,0.9s,mb6.7
DLF Lyons Farm 90.92 332 eP P 04 21 42.1 -1.0
HSA Swansea 90.96 330⇑eP P 04 21 43.1 -0.2
CASY Casey 91.00 185 eP P 04 21 42.9 -0.3
comp=Z,165nm,1.2s,mb6.0
CASY LR LR
comp=Z,3µm,20.0s
PUYF Puyloubier 91.03 320⇑eP P 04 21 44.3 +0.4
VSL Villasalto 91.05 315 eP P 04 21 43.9 -0.2
comp=Z,622nm,1.0s,mb6.7
HPE Pembroke 91.11 331 eP P 04 21 42.7 -1.4
LDF La Druitiere 91.12 326 eP P 04 21 43.0 -1.2

TREF **Trevaresse** 91.17 320 ⇑ *e*P P 04 21 45.1 +0.6
comp=Z,466nm,1.2s,mb6.2
BERF **Bertagne** 91.17 319 ⇑ *e*P P 04 21 45.2 +0.6
CFF **Clermont-Ferra** 91.18 323 P P 04 21 45.9 +1.3
PRAF **Pradon** 91.19 320 ⇑ *e*P P 04 21 45.5 +0.9
FLN **La Foliniere** 91.19 326 *e*P P 04 21 43.2 -1.3
comp=Z,188nm,0.9s,mb5.9
FLN *e*R
comp=Z,18µm,23.0s
DCN **Croghan** 91.20 333 *e*P P 04 21 43.5 -0.9
HEX **Exmoor** 91.27 330 ⇑ *i*P P 04 21 44.2 -0.6
WDC **Whiskeytown Da** 91.27 44 *e*P P 04 21 45.5 +0.4
comp=Z,364nm,1.3s,mb6.3
WDC LR LR
comp=Z,3µm,19.0s
GELF **Grande-Etoile** 91.28 320 ⇑ *e*P P 04 21 45.4 +0.3
TCF **Toulx Ste Croi** 91.35 323 *e*P P 04 21 45.1 -0.2
comp=Z,1µm,1.1s,mb6.5
LTIM **Timbered Crate** 91.59 43 P P 04 21 47.1 +0.6
BURN **Burns** 91.61 40 P P 04 21 48.9 +2.3
GRR **Gorron** 91.63 326 *e*P P 04 21 45.5 -1.0
comp=Z,541nm,1.3s,mb6.3
HTL **Hartland** 91.63 330 *e*P P 04 21 46.5 0.0
LASF **Ste Croix** 91.78 321 *e*P P 04 21 47.4 0.0
comp=Z,1µm,1.2s,mb6.8
HOPS **Hopland** 91.82 45 *e*P P 04 21 48.3 +0.6
comp=Z,306nm,1.3s,mb6.4
HOPS LR LR
comp=Z,3µm,20.0s
DRV **Dumont d'Urvil** 91.85 173 P P 04 21 36.0 -11
MOD **Modoc** 91.90 42 *e*P P 04 21 48.7 +0.8
comp=Z,659nm,0.9s,mb6.9
MOD LR LR
comp=Z,3µm,22.0s
MBAR **Mbarara** 92.10 270 *e*P P 04 21 47.9 -1.6
comp=Z,44nm,1.1s,mb5.6
MBAR LR LR
comp=Z,1µm,21.0s
FFC **Flin Flon** 92.23 24 *e*P P 04 21 49.0 -0.1
comp=Z,1µm,0.9s,mb7.2
FFC LR LR
comp=Z,1µm,22.0s
CAF **Calviac** 92.28 322 *e*P P 04 21 49.9 +0.3
comp=Z,3µm,1.1s,mb7.1
RJF **Les Rejaudoux** 92.35 323 *e*P P 04 21 50.2 +0.3
comp=Z,2µm,1.0s,mb7.1
RJF *e*R
comp=Z,7µm,20.5s
NSHM **Saint Helena R** 92.38 46 *e*P P 04 21 51.0 +0.8
MFF **Saint Martin d** 92.42 325 *e*P P 04 21 49.4 -0.8
comp=Z,145nm,0.8s,mb6.0
MSO **Missoula** 92.47 35 *e*P P 04 21 51.1 +0.7
comp=Z,642nm,1.2s,mb6.7
MSO LR LR
comp=Z,4µm,21.0s
CRQ2 **Rosemanowes 2** 92.52 329 ⇑ *e*P P 04 21 49.9 -0.7
CCA1 **Carnmenellis** 92.53 330 *e*P P 04 21 50.0 -0.7
SGMF **Saint Gilles** 92.57 327 *e*P P 04 21 49.9 -1.0
comp=Z,516nm,0.9s,mb6.6
CGW **Gweek** 92.59 329 *e*P P 04 21 50.2 -0.7
OHCM **Honcut** 92.64 44 *e*P P 04 21 51.6 +0.1
CPZ **Penzance** 92.72 330 *e*P P 04 21 50.4 -1.1
CPZ AMb AMB 04 21 55.8
comp=Z,407nm,2.0s,mb6.4
ROSF **Rostrenen** 92.87 327 *e*P P 04 21 51.3 -0.9
comp=Z,685nm,1.0s,mb6.6
LFF **La Frestale** 93.00 323 *e*P P 04 21 53.2 +0.3
comp=Z,2µm,1.6s,mb6.9
SAC **San Andreas** 93.03 46 P P 04 21 54.2 +0.9
SAC **San Andreas** 93.03 46 *e*P P 04 21 53.6 +0.4
QUIF **Quistinic** 93.10 327 *e*P P 04 21 52.0 -1.3
comp=Z,262nm,0.8s,mb6.3
LKC **Lake Chabot** 93.17 46 *e*P P 04 21 54.7 +0.8
LKC *e*PP PP 04 25 37.8 -3.0
MTLF **Montolieu** 93.17 321 *e*P P 04 21 53.7 -0.1
comp=Z,1µm,1.2s,mb6.8
LRDF **Laroque-de-Fa** 93.24 321 ⇑ *e*P P 04 21 54.5 +0.4
BST **Brest** 93.28 328 *e*P P 04 21 53.9 -0.2
SJAF **Saint Jean de** 93.32 320 *e*P P 04 21 54.3 -0.1
EJON **La Jonquera** 93.34 320 P P 04 21 55.0 +0.5
comp=Z,315nm,2.0s,mb6.3
FILF **Fillols** 93.46 320 *e*P P 04 21 55.5 +0.4
MIR **Mirnyy** 93.55 191 k*e*P P 04 21 53.6 -1.3
MIR *e* 04 25 42.0
MIR *e*SS 04 34 11.0
MIR pmax pmax
comp=Z,1µm,9.0s
LPEF **Le Peyrat** 93.60 321 *e*P P 04 21 56.1 +0.4
VALF **Valcebollere** 93.87 320 *e*P P 04 21 57.6 +0.7
MLS **Moulis** 94.06 321 *e*P P 04 21 57.9 +0.2
NRS **Narsarsuaq** 94.08 354 *i*P P 04 22 01.4 +4.0
NRS *i*S 04 32 22.3
CMB **Columbia Colle** 94.09 45 P P 04 21 59.1 +1.1
CMB SKSac 04 32 24.1
CMB **Columbia Colle** 94.09 45 *e*P P 04 21 58.1 +0.1
comp=Z,277nm,0.9s,mb6.6
CMB LR LR
comp=Z,3µm,21.0s
SALF **Salau** 94.13 321 *e*P P 04 21 59.1 +1.0
SAO **San Andreas Ge** 94.13 46 *e*P P 04 21 58.0 -0.2
comp=Z,199nm,1.4s,mb6.2
SAO LR LR
comp=Z,4µm,20.0s
MELF **Melles** 94.30 321 ⇑ *e*P P 04 21 58.8 -0.1
HLID **Hailey** 94.31 38 *e*P P 04 22 00.1 +1.2
comp=Z,13nm,0.6s,mb5.4
HLID LR LR
comp=Z,5µm,20.0s
MCMT **McKenzie Canyo** 94.35 36 P P 04 22 00.3 +1.3
EPF **Esparros** 94.44 322 *e*P P 04 21 58.7 -0.8
comp=Z,594nm,1.3s,mb6.5
BOZ **Bozeman (W)** 94.45 35 *e*P P 04 21 59.7 +0.2
comp=Z,316nm,1.2s,mb6.5
BOZ LR LR
comp=Z,4µm,19.0s
EMIR **Miracle** 94.46 320 P P 04 21 59.0 -0.7
LRV **Little Rabbit** 94.61 47 *e*P P 04 22 01.7 +1.3
BMN **Battle Mountai** 94.64 42 P P 04 22 02.1 +1.6
BMN pmax pmax
comp=Z,470nm,1.3s,mb6.8
BMN **Battle Mountai** 94.64 42 *e*P P 04 22 01.7 +1.2
comp=Z,468nm,1.3s,mb6.8
BMN *e*PP PP 04 25 49.8 -2.1
BMN LR LR
comp=Z,4µm,22.0s
VIEF **Viey** 94.71 322 *e*P P 04 22 01.8 +1.1
EBIE **Bielsa** 94.77 321 P P 04 22 01.6 +0.6
comp=Z,453nm,1.7s,mb6.6
ETSF **Etsaut** 95.03 322 *e*P P 04 22 02.5 +0.3
comp=Z,487nm,0.9s,mb6.6
ORDF **Ordiarp** 95.04 322 *e*P P 04 22 02.5 +0.3
PPT **Papeete** 95.06 107 P P 04 22 04.2 +1.3
comp=Z,46nm,0.9s,mb5.9,baz=76,slow=3.2,SNR=6.3
PPT **Papeete** 95.06 107 *e*P P 04 22 06.3 +3.4
comp=Z,47nm,1.0s,mb5.8
PPT **Papeete** 95.06 107 *e*PP PP 04 26 06.5 +11
PPT *e*PS PS 04 34 47.8 +6.1
PPT *e*SS SS 04 39 38.5 +1.0
PPT *e*L 04 48 56.1
PPT *e*R 04 52 05.3
comp=Z,12µm,28.8s,baz=302
PPT **Papeete** 95.06 107 P P 04 22 04.2 +1.3
PPT pmax pmax
comp=Z,46nm,0.9s
EPOB **Poblet** 95.08 320 P P 04 22 02.1 -0.3
comp=Z,217nm,1.2s,mb6.5
FDAF **Les Forges d'A** 95.09 322 *e*P P 04 22 03.5 +1.0
PAE **Paea** 95.10 107 *e*P P 04 22 06.5 +3.4
comp=Z,112nm,1.1s,mb6.2
NVAR **Mina Array Bea** 95.19 44 P P 04 22 03.7 +0.7
comp=Z,156nm,0.7s,mb6.5,baz=304,slow=3.2,SNR=307
NVAR PKiKP 04 26 46.2
comp=Z,8.7nm,0.8s,baz=7.3,slow=2.5,SNR=5.2
NVAR S 04 32 33.5
comp=Z,0.9nm,1.1s,baz=200,slow=43,SNR=2.1
NVAR PKPPKP 04 47 11.2
comp=Z,0.8nm,0.8s,baz=139,slow=4.1,SNR=3.8
NVAR LR LR 05 00 08.1
comp=Z,2µm,20.9s,baz=335,slow=32
TIAR **Tiarei** 95.26 107 *e*P P 04 22 07.2 +3.4
comp=Z,138nm,1.0s,mb6.3
SJPF **Ste Jean** 95.26 322 *e*P P 04 22 03.7 +0.4
comp=Z,748nm,1.2s,mb6.7
MNV **Mina** 95.28 44 P P 04 22 04.6 +1.1
MNV pmax pmax
comp=Z,200nm,1.2s,mb6.4

MNV **Mina** 95.28 44 *e*P P 04 22 04.4 +0.9
comp=Z,204nm,1.2s,mb6.4
MNV LR LR
comp=Z,3µm,20.0s
EALK **Alkurruntz** 95.35 323 P P 04 22 04.4 +0.8
comp=Z,310nm,1.2s,mb6.6
TVO **Taravao** 95.44 107 *e*P P 04 22 07.9 +3.3
comp=Z,78nm,0.9s,mb6.1
YMR **Madison River** 95.46 35 *e*P P 04 22 06.0 +1.9
PMOR **Pomariorio Ree** 95.51 104 *e*P P 04 22 07.8 +2.8
comp=Z,127nm,1.1s,mb6.3
ELK **Elko** 95.63 40 P P 04 22 06.8 +1.8
ELK pmax pmax
comp=Z,410nm,1.6s
ELK **Elko** 95.63 40 *e*P P 04 22 06.7 +1.7
comp=Z,407nm,1.6s,mb6.6
ELK LR LR
comp=Z,4µm,20.0s
MTUM **Tungsten Hills** 95.66 45 *e*P P 04 22 06.2 +0.9
ESAC **San Caprasio** 95.74 321 P P 04 22 05.5 0.0
comp=Z,430nm,1.9s,mb6.5
EBR **Ebro Roquetas** 95.75 320 *e*PCP PcP 04 22 05.5 -0.4
EBR **Ebro Roquetas** 95.75 320 P P 04 22 06.0 +0.5
LKWY **Lake** 95.83 35 P P 04 22 09.4 +3.6
LKWY pmax pmax
comp=Z,300nm,1.0s,mb6.7
LKWY **Lake** 95.83 35 *e*P P 04 22 08.6 +2.8
comp=Z,301nm,1.0s,mb6.7
LKWY LR LR
comp=Z,8µm,22.0s
VAH **Vaihoa** 95.84 104 *e*P P 04 22 09.7 +3.3
comp=Z,98nm,1.5s,mb6.0
DGMT **Dagmar** 96.05 29 *e*P P 04 22 07.2 +0.5
comp=Z,1µm,1.0s,mb7.3
DGMT LR LR
comp=Z,6µm,21.0s
TPH **Tonopah** 96.08 43 P P 04 22 08.0 +0.9
TPH pmax pmax
comp=Z,290nm,0.9s,mb6.7
TPH **Tonopah** 96.08 43 *e*P P 04 22 08.4 +1.3
comp=Z,286nm,0.9s,mb6.7
TPH *e*PP PP 04 25 58.5 -4.5
TPH LR LR
comp=Z,3µm,21.0s
RRI2 **Red Ridge** 96.16 36 *e*P P 04 22 09.2 +2.0
MOOW **Moose Ponds** 96.20 36 *e*P P 04 22 09.0 +1.5
TPAW **Teton Pass** 96.26 36 *e*P P 04 22 09.3 +1.5
WUWY **Wally Ulrich** 96.34 36 *e*P P 04 22 09.3 +1.2
LOHW **Long Hollow** 96.36 36 *e*P P 04 22 09.7 +1.4
EIBI **Ibiza** 96.37 318 P P 04 22 09.0 +0.6
comp=Z,160nm,1.3s,mb6.3
SNOW **Snow King Moun** 96.38 36 *e*P P 04 22 10.0 +1.7
HVU **Hansel Valley** 96.39 38 P P 04 22 09.9 +1.5
HVU **Hansel Valley** 96.39 38 *e*P P 04 22 09.7 +1.3
REDW **Red Top Meadow** 96.40 36 *e*P P 04 22 09.7 +1.3
LAO **LASA Array** 96.42 32 *e*P P 04 22 09.5 +1.1
comp=Z,467nm,1.1s,mb6.8
LAO LR LR
comp=Z,5µm,21.0s
EMOS **Mosqueruela** 96.61 320 P P 04 22 08.9 -0.6
comp=Z,246nm,1.6s,mb6.4
AHID **Auburn Hatcher** 96.67 37 *e*P P 04 22 10.6 +0.9
comp=Z,73nm,0.9s,mb6.1
AHID LR LR
comp=Z,4µm,21.0s
BGU **Big Grassy Mou** 96.80 39 *e*P P 04 22 11.4 +1.1
SPUT **South Promonto** 96.88 39 *e*P P 04 22 12.0 +1.3
DAC **Darwin (Calif)** 96.93 45 P P 04 22 11.8 +0.8
DAC pmax pmax
comp=Z,140nm,1.0s,mb6.3
DAC **Darwin (Calif)** 96.93 45 *e*P P 04 22 11.7 +0.6
comp=Z,139nm,0.9s,mb6.4
DAC *e*PP PP 04 26 05.9 -4.0
DAC LR LR
comp=Z,2µm,20.0s
HWUT **Hardware Ranch** 97.19 38 *e*P P 04 22 13.3 +1.3
comp=Z,161nm,1.0s,mb6.4
HWUT LR LR
comp=Z,5µm,22.0s
ETOR **Torete** 97.23 321 P P 04 22 12.4 +0.2
comp=Z,204nm,1.2s,mb6.4
EARI **Arriondas** 97.30 325 P P 04 22 12.7 +0.2
comp=Z,138nm,1.2s,mb6.3
TPNV **Topopah Spring** 97.38 44 P P 04 22 13.9 +0.9
TPNV pmax pmax
comp=Z,140nm,1.0s,mb6.3
TPNV **Topopah Spring** 97.38 44 *e*P P 04 22 13.7 +0.6
comp=Z,140nm,1.0s,mb6.3
TPNV *e*PP PP 04 26 09.5 -4.0
TPNV LR LR
comp=Z,3µm,21.0s
DUG **Dugway** 97.40 40 P P 04 22 14.3 +1.2
DUG pmax pmax
comp=Z,4µm,1.6s
DUG **Dugway** 97.40 40 *e*P P 04 22 14.0 +1.0
comp=Z,291nm,1.6s,mb6.5
DUG LR LR
comp=Z,3µm,22.0s
TBI **Tubuai** 97.48 112 *e*PP PP 04 26 27.0 +12
TBI *e*PS PS 04 35 09.3 +2.2
TBI *e*SS SS 04 40 19.6 +8.4
TBI *e*L 04 49 42.4
TBI *e*R 04 53 32.6
comp=Z,6µm,36.2s
BW06 **Boulder Array** 97.50 36 *e*P P 04 22 13.6 +0.1
comp=Z,41nm,1.0s,mb5.8
BW06 *e*PP PP 04 26 12.9 -1.4
BW06 LR LR
comp=Z,3µm,21.0s
PDAR **Pinedale Array** 97.50 36 P P 04 22 13.4 -0.1
comp=Z,21nm,0.9s,mb5.6,baz=311,slow=0.7,SNR=66
PDAR PP PP 04 26 11.1 -3.2
comp=Z,15nm,1.1s,baz=326,slow=5.3,SNR=5.2
PDAR PKiKP 04 26 49.8
comp=Z,5.2nm,0.9s,baz=275,slow=1.2,SNR=3.9
PDAR S 04 32 41.0
comp=Z,0.3nm,0.7s,baz=217,slow=22,SNR=1.7
PDAR PKKPbc 04 38 52.0
comp=Z,0.7nm,0.7s,baz=104,slow=5.5,SNR=5.0
PDAR PKKPab 04 39 22.1
comp=Z,11nm,1.2s,baz=135,slow=2.1,SNR=8.3
PDAR LR LR 05 09 52.3
comp=Z,2µm,20.3s,baz=344,slow=38
EBEN **Beniarda** 97.52 319 P P 04 22 14.5 +0.8
comp=Z,148nm,1.6s,mb6.3
TCUT **Toone Canyon** 97.60 38 *e*P P 04 22 13.0 -0.9
CTU **Camp Tracy** 97.69 39 *e*P P 04 22 15.4 +1.1
MWC **Mount Wilson** 97.86 47 P P 04 22 16.2 +0.9
MWC **Mount Wilson** 97.86 47 *e*P P 04 22 15.9 +0.6
JLU **Jordanelle** 97.92 39 *e*P P 04 22 16.2 +0.8
NLU **North Lily Min** 97.99 39 *e*P P 04 22 16.7 +1.0
ULM **Lac du Bonnet** 98.05 24 P P 04 22 15.2 -0.6
comp=Z,100nm,0.8s,mb6.4,baz=324,slow=4.9,SNR=48
ULM S 04 32 42.0
ULM LR LR 05 14 19.6
comp=Z,4µm,18.4s,baz=339,slow=40
ULM **Lac du Bonnet** 98.05 24 *e*P P 04 22 14.9 -0.8
comp=Z,310nm,1.1s,mb6.8
ULM LR LR
comp=Z,7µm,21.0s
DAU **Daniels Canyon** 98.16 39 P P 04 22 17.9 +1.5
DAU **Daniels Canyon** 98.16 39 *e*P P 04 22 17.8 +1.4
MPU **Maple Canyon** 98.20 39 *e*P P 04 22 17.1 +0.4
EPON **Pontenova** 98.29 326 P P 04 22 17.1 +0.1
comp=Z,189nm,1.1s,mb6.5
ARUT **Antelope Range** 98.59 42 P P 04 22 20.0 +1.5
ARUT **Antelope Range** 98.59 42 *e*P P 04 22 19.4 +0.9
EMUR **La Murta** 98.69 318 P P 04 22 19.2 +0.2
comp=Z,99nm,1.7s,mb6.1
MVU **Marysvale** 98.86 41 *e*P P 04 22 21.3 +1.5
comp=Z,1µm,0.9s,mb7.4
MVU LR LR
comp=Z,4µm,21.0s
MSU **Marysvale** 98.88 41 *e*P P 04 22 21.5 +1.7
EVIA **Vianos** 98.92 320 P P 04 22 20.5 +0.5
comp=Z,43nm,1.0s,mb5.9
ERUA **La Rua** 98.95 325 P P 04 22 20.7 +0.7
comp=Z,96nm,1.4s,mb6.1
ECAL **Calabor** 99.05 324 P P 04 22 20.0 -0.5
comp=Z,224nm,1.0s,mb6.7
NEN **Nelson** 99.08 44 *e*Pdif P 04 22 21.5 +0.7
NEN *e*PP PP 04 26 23.4 -2.7
ESDC **Sonseca Array** 99.08 321 P P 04 22 20.6 -0.1
comp=Z,21nm,0.9s,mb5.7,baz=35,slow=4.3,SNR=35
ESDC PP PP 04 26 23.3 -2.8
comp=Z,14nm,1.0s,baz=52,slow=7.5,SNR=6.9

ESDC S 04 32 51.6
comp=Z,0.2nm,0.3s,baz=142,slow=16,SNR=3.2
ESDC PKKPbc 04 38 47.0
comp=Z,3.4nm,0.9s,baz=254,slow=2.6,SNR=7.4
ESDC PKKPab 04 39 16.2
comp=Z,2.1nm,0.8s,baz=261,slow=1.7,SNR=4.8
ESDC LR LR 05 10 10.3
comp=Z,4µm,18.6s,baz=60,slow=37
ESDC **Sonseca Array** 99.08 321 P P 04 22 19.5 -1.2
comp=Z,89nm,1.4s,mb6.1
ESLA **Sonseca Array** 99.08 321 *e*P P 04 22 20.6 -0.2
comp=Z,11nm,1.0s,mb5.3
ESLA *e*PP PP 04 26 22.9 -3.2
ESLA LR LR
comp=Z,26µm,19.0s
PBRG **Braganca** 99.15 324 *e*P P 04 22 20.9 -0.1
LDFC **Landfair** 99.26 45 *e*Pdif P 04 22 22.2 +0.6
PFO **Pinyon Flat Ob** 99.29 47 PFAKE 04 22 30.0 +8.2
PFO LR LR
comp=Z,1µm,21.0s
STS **Santiago** 99.32 326 P P 04 22 20.7 -1.1
comp=Z,43nm,0.8s,mb6.0
RSSD **Black Hills** 99.35 32 *e*Pdif P 04 22 22.2 +0.4
comp=Z,202nm,1.3s,mb6.5
RSSD LR LR
comp=Z,1µm,20.0s
SRU **San Rafael** 99.44 39 P P 04 22 23.7 +1.3
SRU **San Rafael** 99.44 39 *e*Pdif P 04 22 23.4 +1.0
EMAZ **Mazaricos** 99.49 326 P P 04 22 21.3 -1.2
comp=Z,221nm,1.2s,mb6.6
ELOB **Lobios** 99.80 325 P P 04 22 23.4 -0.5
comp=Z,113nm,1.2s,mb6.4
EQES **Quesada** 99.81 319 P P 04 22 23.5 -0.6
comp=Z,78nm,1.2s,mb6.2
EZAM **Zamans** 99.93 326 P P 04 22 25.1 +0.6
comp=Z,60nm,1.2s,mb6.1
PVRL **Vila Real** 100.04 324 *e*P P 04 22 25.4 +0.4
LSZ **Lusaka** 100.27 258 *e*Pdif P 04 22 24.8 -1.8
LSZ LR LR
comp=Z,9µm,20.0s
EBER **Berja** 100.30 319 P P 04 22 26.3 0.0
EADA **Adamuz** 100.45 320 P P 04 22 26.6 -0.4
comp=Z,74nm,1.9s
SCHQ **Schefferville** 100.53 6 P P 04 22 26.5 -0.3
comp=Z,96nm,1.0s,baz=355,slow=4.5,SNR=30
SCHQ PP PP 04 26 30.4 -6.8
comp=Z,32nm,0.8s,baz=1.1,slow=7.7,SNR=5.4
SCHQ PKiKP 04 26 54.7
comp=Z,17nm,1.0s,baz=27,slow=13,SNR=1.5
SCHQ S 04 32 55.8
SCHQ PKKPbc 04 38 40.9
comp=Z,5.4nm,0.5s,baz=247,slow=3.9,SNR=7.6
SCHQ **Schefferville** 100.53 6 *e*Pdif P 04 22 26.5 -0.4
comp=Z,164nm,1.1s
SCHQ LR LR
comp=Z,18µm,20.0s
PVIS **Viseu** 100.53 324 *e*P P 04 22 27.3 +0.1
ELUQ **Luque** 100.68 320 P P 04 22 28.3 +0.4
comp=Z,52nm,1.2s
ERON **Agron** 100.77 319 P P 04 22 27.4 -1.0
ELOJ **Sierra Loja** 100.89 319 P P 04 22 28.8 -0.1
PCBR **Castelo Branco** 100.93 323 *e*P P 04 22 29.5 +0.5
EBAD **Badajoz** 101.44 322 P P 04 22 30.6 -0.8
comp=Z,79nm,2.1s
PTOM **Tomar** 101.59 324 *e*P P 04 22 32.8 +0.8
EMIJ **Mijas** 101.65 319 P P 04 22 31.9 -0.4
comp=Z,23nm,0.9s
ISCO **Idaho Springs** 101.70 36 P P 04 22 33.9 +1.5
ISCO pmax pmax
comp=Z,30nm,0.9s
ISCO **Idaho Springs** 101.70 36 *e*Pdif P 04 22 33.5 +1.0
comp=Z,30nm,0.9s
ISCO *e*PP PP 04 26 45.6 -0.7
ISCO LR LR
comp=Z,5µm,21.0s
MAW **Mawson** 101.91 200 *e*PDIF P 04 22 31.5 -1.2
comp=Z,2.7nm,0.6s
MAW *e*PP Px 04 26 10.8
MAW *e*SKS SKS 04 33 01.0 -0.4
MAW *e*SP SP 04 35 30.8 -8.7
MAW *e*PKKP PKKP 04 38 35.9 +6.1
MAW *e*pPKKP 04 39 00.5
MAW *e*SKKP 04 42 48.0
MAW *e*SKKS 04 45 32.1
MAW **Mawson** 101.91 200 P P 04 22 31.6 -1.1
comp=Z,4.0nm,0.7s,baz=50,slow=5.3,SNR=11
MAW pP 04 22 59.4
comp=Z,5.7nm,1.0s,baz=6.0,slow=7.4,SNR=2.5
MAW S 04 32 59.9
comp=Z,2.1nm,1.0s,baz=316,slow=15,SNR=1.6
MAW PKKPbc 04 38 38.4
comp=Z,17nm,0.8s,baz=278,slow=5.7,SNR=14
MAW PKKPab 04 38 59.1
comp=Z,54nm,1.0s,baz=256,slow=6.9,SNR=16
EMIN **Mina Concepcio** 101.93 321 P P 04 22 33.0 -0.6
comp=Z,72nm,1.4s
ESPR **Espera** 102.08 320 P Pdif 04 22 35.3 +1.1
comp=Z,66nm,1.1s
EVO **Evora** 102.15 323 *e*P Pdif 04 22 35.9 +1.5
comp=Z,120nm,1.2s
EVO *e*R 04 53 32.6
comp=Z,13µm,22.2s
PLOU **Loures** 102.52 323 *e*P Pdif 04 22 38.8 +2.7
PLOU **Loures** 102.52 323 *e*P Pdif 04 22 36.9 +0.8
PALC **Alcoutim** 102.60 322 *e*P Pdif 04 22 39.3 +2.8
LIS **Lisbon** 102.64 323 *e*P Pdif 04 22 40.9 +4.3
LIS *e*PP PP 04 26 50.0 -3.5
LIS *e*S Sx 04 33 14.4
LIS *e*S Sx 04 33 14.4
LIS AMS AMS 05 07 01.8
comp=E,11µm,22.6s
SDCO **Great Sand Dun** 103.23 37 *e*Pdif Pdif 04 22 40.2 +1.0
comp=E,24nm,1.0s
SDCO LR LR
comp=Z,6µm,21.0s
TUC **Tucson** 103.80 45 *e*Pdif Pdif 04 22 42.4 +0.5
TUC LR LR
comp=Z,3µm,20.0s
VNDA **Vanda** 104.43 172 Pdiff Pdif 04 22 42.1 -1.5
comp=Z,0.6nm,0.5s,baz=337,slow=6.9,SNR=9.5
VNDA PP PP 04 27 02.1 -3.9
comp=Z,17nm,1.0s,baz=329,slow=7.5,SNR=5.1
VNDA S 04 33 13.2
comp=Z,5.3nm,1.3s,baz=192,slow=4.5,SNR=4.1
VNDA PKKPbc 04 38 32.3
comp=Z,6.1nm,0.8s,baz=264,slow=2.5,SNR=8.3
VNDA PKKPab 04 38 49.1
comp=Z,13nm,0.9s,baz=152,slow=4.3,SNR=12
VNDA **Vanda** 104.43 172 *e*Pdif Pdif 04 22 44.3 +0.7
comp=Z,1.1nm,0.6s
VNDA *e*PKP 04 26 58.1
VNDA LR LR
comp=Z,4µm,20.0s
ANMO **Albuquerque** 104.66 40 Pdiff Pdif 04 22 47.7 +2.1
ANMO PP PP 04 27 05.6 -3.2
ANMO SKSac 04 33 20.9
ANMO SP SP 04 36 15.1 +6.4
ANMO **Albuquerque** 104.66 40 P Pdif 04 22 47.4 +1.8
ANMO pmax pmax
comp=Z,26nm,1.2s
ANMO **Albuquerque** 104.66 40 *e*Pdif Pdif 04 22 46.9 +1.3
comp=Z,26nm,1.3s
ANMO *e*PKP 04 27 01.6
ANMO LR LR
comp=Z,4µm,21.0s
SBA **Scott Base** 105.35 171 PFAKE 04 27 10.0
SBA LR LR
comp=Z,2µm,19.0s
CBKS **Cedar Bluff** 105.47 33 PFAKE 04 27 10.0
CBKS LR LR
comp=Z,5µm,20.0s
JFWS **Jewell Farm** 106.31 25 P Pdif 04 22 54.9 +2.2
JFWS pmax pmax
comp=Z,22nm,0.8s
JFWS **Jewell Farm** 106.31 25 *e*Pdif Pdif 04 22 53.0 +0.3
comp=Z,22nm,0.8s
JFWS *e*PKP 04 27 04.0
JFWS LR LR
comp=Z,5µm,20.0s
KSU1 **Kansas State U** 106.76 31 *e*Pdif Pdif 04 22 54.7 0.0
AMTX **Amarillo** 107.42 37 *e*Pdif Pdif 04 22 59.5 +1.7
comp=Z,19nm,0.8s
AMTX *e*PKP 04 27 06.4
BOSA **Boshof** 107.55 246 *e*PKP 04 27 06.6
BOSA LR LR
comp=Z,4µm,19.0s

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PQI	**Presque Isle**	**108.46**	**8**	PFAKE		04 27 20.0	
PQI				LR	LR		
	comp=Z,36µm,19.0s						
WMOK	**Wichita Mounta**	**109.09**	**35**	P	Pdif	04 23 06.6	+1.5
WMOK	**Wichita Mounta**	**109.09**	**35**	*e*Pdif	Pdif	04 23 06.3	+1.2
WMOK				*e*PKP		04 27 09.8	
WMOK				*e*PP	PP	04 27 38.5	-3.6
WMOK				LR	LR		
	comp=Z,5µm,19.0s						
AAM	**Ann Arbor**	**109.16**	**20**	PFAKE		04 27 20.0	
AAM				LR	LR		
	comp=Z,6µm,20.0s						
LOZ	**Lake Ozonia**	**109.38**	**13**	Pdif	Pdif	04 23 08.5	+2.4
RKT	**Rikitea**	**109.83**	**107**	*e*PS	PS	04 37 15.3	+4.1
RKT				*e*SS	SS	04 43 00.8	-0.3
CCM	**Cathedral Cave**	**110.03**	**28**	P	Pdif	04 23 09.9	+0.8
CCM	**Cathedral Cave**	**110.03**	**28**	*e*Pdif	Pdif	04 23 09.6	+0.4
CCM				LR	LR		
	comp=Z,1µm,20.0s						
NCB	**Newcomb**	**110.07**	**13**	*e*Pdif	Pdif	04 23 11.4	+2.3
NCB				LR	LR		
	comp=Z,4µm,20.0s						
MDV	**Middlebury**	**110.25**	**12**	*e*PKP	PKPdf	04 27 11.1	+1.6
LTX	**Lajitas**	**110.29**	**42**	P	Pdif	04 23 15.2	+4.7
LTX				*e*		04 27 12.5	
LTX	**Lajitas**	**110.29**	**42**	*e*Pdif	Pdif	04 23 11.4	+0.9
LTX				*e*PKP	PKPdf	04 27 12.1	+2.2
LTX				LR	LR		
	comp=Z,5µm,22.0s						
TXAR	**Lajitas Array**	**110.29**	**42**	Pdiff	Pdif	04 23 11.8	+1.3
	comp=Z,10nm,0.9s,baz=290,slow=3.3,SNR=22						
TXAR				PKiKP		04 27 13.0	
	comp=Z,31nm,0.8s,baz=233,slow=0.5,SNR=29						
TXAR				PP	PP	04 27 47.1	-3.5
	comp=Z,17nm,0.9s,baz=307,slow=6.3,SNR=7.4						
TXAR				PKKPab		04 38 27.0	
	comp=Z,1.4nm,0.7s,baz=131,slow=6.1,SNR=6.1						
TXAR	**Lajitas Array**	**110.29**	**42**	Pdif	Pdif	04 23 11.8	+1.3
TXAR				PKPdf	PKPdf	04 27 13.0	+3.0
TXAR				PP	PP	04 27 47.1	-3.5
TXAR				PKKPab		04 38 27.0	
WVL	**Waterville**	**110.31**	**9**	PFAKE		04 27 20.0	+10
WVL				LR	LR		
	comp=Z,20µm,19.0s						
EMMW	**East Machias**	**110.46**	**8**	PFAKE		04 27 20.0	+10
EMMW				LR	LR		
	comp=Z,39µm,22.0s						
ALLY	**Alegheny Colle**	**110.81**	**18**	*e*Pdif	Pdif	04 23 12.0	-0.5
TSUM	**Tsumeb**	**111.13**	**258**	PKKPbc		04 38 11.2	
	comp=Z,18nm,0.9s,baz=233,slow=3.1,SNR=21						
TSUM	**Tsumeb**	**111.13**	**258**	*e*PKP	PKPdf	04 27 13.8	+2.0
TSUM				LR	LR		
	comp=Z,6µm,19.0s						
ADH	**Angra Heroismo**	**111.15**	**335**	*e*PP	Px	04 28 35.0	
ADH				*i* -		04 37 42.5	
ADH				*i* SS	Sx	04 44 00.0	
ADH	**Angra Heroismo**	**111.15**	**335**	*i* LR	LR	05 01 00.0	
ACSO	**Alum Creek Sta**	**111.25**	**21**	*e*Pdif	Pdif	04 23 14.6	+0.2
ACSO				*e*PKP	PKPdf	04 27 12.9	+1.3
ACSO				LR	LR		
	comp=Z,6µm,20.0s						
PDA	**Ponta Delgada**	**111.31**	**334**	*e*-		04 24 50.4	
PDA	**Ponta Delgada**	**111.31**	**334**	*e*PP	PP	04 28 03.8	+6.2
PDA				*e*-		04 37 28.4	
PDA				*e*SS	Sx	04 44 14.4	
BINY	**Binghamton**	**111.38**	**15**	*e*PKP	PKPdf	04 27 13.0	+1.2
BINY				LR	LR		
	comp=Z,7µm,19.0s						
JCT	**Junction City**	**111.75**	**39**	P	Pdif	04 23 20.4	+3.5
JCT				*e*		04 27 14.8	
JCT	**Junction City**	**111.75**	**39**	Pdif	Pdif	04 23 17.6	+0.7
JCT				*e*PKP	PKPdf	04 27 14.5	+1.7
JCT				LR	LR		
	comp=Z,4µm,21.0s						
MIAR	**Mount Ida**	**111.87**	**32**	P	Pdif	04 23 18.9	+1.6
MIAR	**Mount Ida**	**111.87**	**32**	*e*Pdif	Pdif	04 23 18.1	+0.8
MIAR				*e*PKP	PKPdf	04 27 15.0	+2.0
MIAR				LR	LR		
	comp=Z,5µm,19.0s						
WCI	**Wyandotte Cave**	**111.87**	**24**	PFAKE		04 27 30.0	+17
WCI				LR	LR		
	comp=Z,2µm,21.0s						
HRV	**Harvard--Oak R**	**112.00**	**11**	PFAKE		04 27 30.0	+17
HRV				LR	LR		
	comp=Z,7µm,20.0s						
WES	**Weston**	**112.16**	**11**	PFAKE		04 27 30.0	+17
WES				LR	LR		
	comp=Z,6µm,20.0s						
SUR	**Sutherland**	**112.32**	**243**	PKKPbc		04 38 07.8	
	comp=Z,11nm,0.7s,baz=264,slow=7.0,SNR=14						
SUR	**Sutherland**	**112.32**	**243**	PFAKE		04 27 30.0	+16
SUR				LR	LR		
	comp=Z,1µm,20.0s						
SSPA	**Standing Stone**	**112.38**	**17**	*e*Pdif	Pdif	04 23 20.7	+1.3
SSPA				*e*PKP	PKPdf	04 27 14.8	+1.1
SSPA				LR	LR		
	comp=Z,1µm,20.0s						
HBAR	**Harrisburg**	**112.38**	**29**	*e*PKP	PKPdf	04 27 15.6	+1.7
MCWV	**Mont Chateau**	**112.74**	**19**	*e*Pdif	Pdif	04 23 22.4	+1.4
MCWV				LR	LR		
	comp=Z,7µm,20.0s						
WVT	**Waverly**	**113.09**	**27**	P	Pdif	04 23 25.3	+2.6
WVT	**Waverly**	**113.09**	**27**	*e*Pdif	Pdif	04 23 23.6	+1.0
WVT				*e*PKP	PKPdf	04 27 15.9	+0.6
WVT				LR	LR		
	comp=Z,5µm,19.0s						
NATX	**Nacogdoches**	**113.56**	**34**	*e*Pdif	Pdif	04 23 25.5	+0.6
NATX				*e*PKP	PKPdf	04 27 18.4	+2.0
NATX				LR	LR		
	comp=Z,6µm,19.0s						
OXF	**Oxford**	**113.81**	**29**	*e*PKIKP	PKPdf	04 27 18.1	+1.3
OXF	**Oxford**	**113.81**	**29**	*e*PKP	PKPdf	04 27 17.8	+1.1
OXF				LR	LR		
	comp=Z,6µm,20.0s						
QSPA	**South Pole Qui**	**114.32**	**180**	*e*P	Pdif	04 23 33.4	+6.3
QSPA				*e*PKP	PKPdf	04 27 17.4	+0.6
QSPA				*e*		04 28 18.5	
QSPA				LR	LR		
	comp=Z,4µm,21.7s						
FWV	**Forest Hill**	**114.35**	**20**	*e*PKP	PKPdf	04 27 18.5	+0.7
HKT	**Hockley**	**114.37**	**36**	PKIKP	PKPdf	04 27 19.9	+1.9
HKT	**Hockley**	**114.37**	**36**	*e*PKP	PKPdf	04 27 19.4	+1.4
HKT				*e*PP	PP	04 28 16.8	-3.4
HKT				LR	LR		
	comp=Z,847nm,20.0s						
PWV	**Princeton**	**114.50**	**21**	*e*PKP	PKPdf	04 27 18.6	+0.5
PTCN	**Pitcairn Islan**	**114.67**	**108**	PFAKE		04 27 30.0	+11
PTCN				LR	LR		
	comp=Z,3µm,20.0s						
CBN	**Corbin**	**114.79**	**17**	*e*PKP	PKPdf	04 27 19.4	+0.7
CBN				LR	LR		
	comp=Z,9µm,20.0s						
BLA	**Blacksburg**	**114.82**	**20**	*e*PKP	PKPdf	04 27 20.0	+1.2
BLA				LR	LR		
	comp=Z,6µm,20.0s						
CPCT	**Cooper Cave**	**114.99**	**24**	*e*PKP	PKPdf	04 27 22.1	+3.0
LRAL	**Lakeview Retre**	**116.11**	**28**	PFAKE		04 27 30.0	+8.7
LRAL				LR	LR		
	comp=Z,5µm,22.0s						
NHSC	**New Hope**	**118.65**	**22**	*e*PKPdf	PKPdf	04 27 28.1	+1.9
NHSC				LR	LR		
	comp=Z,6µm,22.0s						
NVL	**N'lazarevskaya**	**119.83**	**201**	⇑ *e*PKIKP	PKPdf	04 27 29.0	+1.4
NVL				*e*		04 28 50.0	
NVL				pmax	pmax		
	comp=Z,55nm,0.9s						
KIC	**Kosan Boka**	**120.38**	**294**	*e*PKIKP	PKPdf	04 27 31.0	+1.0
	comp=Z,409nm,0.7s						
TIC	**Toumodi**	**120.46**	**294**	*e*PKIKP	PKPdf	04 27 30.9	+0.7
	comp=Z,279nm,0.7s						
LIC	**Lamto**	**120.70**	**294**	*e*PKIKP	PKPdf	04 27 31.1	+0.5
	comp=Z,218nm,0.8s						
LIC	**Lamto**	**120.70**	**294**	*e*PKIKP	PKPdf	04 27 30.9	+0.3
	comp=Z,332nm,0.8s						
DWPF	**Disney**	**122.70**	**25**	*e*PKPdf	PKPdf	04 27 35.0	+0.8
DWPF				LR	LR		
	comp=Z,1µm,19.0s						
BBSR	**BB Station**	**122.97**	**8**	*e*PKPdf	PKPdf	04 27 35.6	+1.0
BBSR				LR	LR		
	comp=Z,3µm,21.0s						
SNAA	**Sanae**	**124.02**	**198**	⇓ *i*P	PKPdf	04 27 29.5	-6.2
SNAA	**Sanae**	**124.02**	**198**	*e*	PKPdf	04 27 52.8	+17
SNAA	**Sanae**	**124.02**	**198**	⇓ *i*		04 37 21.2	
SNAA	**Sanae**	**124.02**	**198**	⇓ *i*		04 37 21.2	
SNAA	**Sanae**	**124.02**	**198**	PKKPab		04 37 21.8	
	comp=Z,21nm,1.0s,baz=305,slow=3.7,SNR=30						
VNA2	**Neumayer--Watz**	**125.67**	**198**	⇑ *i*PKPdf	PKPdf	04 27 40.9	+2.1
VNA2				*e*		04 28 04.2	
VNA2				*e*		04 29 31.9	
VNA2				*e*		04 31 04.5	
VNA1	**Neumayer--Stat**	**126.06**	**198**	⇑ *i*PKPdf	PKPdf	04 27 42.3	+2.8
VNA1				*e*		04 28 05.6	
VNA1				*e*		04 29 33.1	
VNA1				*e*		04 31 05.4	
VNA3	**Neumayer Olymp**	**126.12**	**197**	⇓ *i*PKPdf	PKPdf	04 27 41.4	+1.8
VNA3				*e*		04 28 04.9	
VNA3				*e*		04 29 32.4	
VNA3				*e*		04 31 05.1	
RPN	**Rapa Nui**	**133.30**	**105**	PFAKE		04 28 10.0	+15
RPN				LR	LR		
	comp=Z,883nm,19.0s						
MGP	**Maguayo**	**136.64**	**14**	PKIKP	PKPdf	04 27 55.4	-5.4
SJG	**San Juan**	**136.73**	**12**	PKhKP		04 27 53.1	
	comp=Z,13nm,0.5s,baz=80,slow=22,SNR=5.9						
SJG				PKP	PKPdf	04 28 03.5	+2.5
	comp=Z,92nm,0.8s,baz=21,slow=8.5,SNR=10						
SJG				pPKP		04 28 31.2	
	comp=Z,21nm,0.7s,baz=297,slow=14,SNR=1.2						
SJG	**San Juan**	**136.73**	**12**	*i* PKHKP		04 27 53.1	
SJG						04 28 03.5	
SJG				pmax	pmax		
	comp=Z,13nm,0.5s						
SJG	**San Juan**	**136.73**	**12**	PKP	PKPdf	04 28 03.5	+2.5
SJG				pPKP		04 28 31.2	
SJG				LR	LR		
	comp=Z,3µm,20.0s						
PMSA	**Palmer Station**	**139.52**	**176**	PFAKE		04 28 20.0	+15
PMSA				LR	LR		
	comp=Z,5µm,21.0s						
BBL	**Barber's Block**	**139.97**	**6**	*e*P	PKPdf	04 28 05.7	-1.2
MDN	**Morne-Daniel**	**140.18**	**6**	*e*P	PKPdf	04 28 06.7	-0.7
PAYG	**Puerto Ayora**	**140.19**	**58**	PFAKE		04 28 20.0	+13
PAYG				LR	LR		
	comp=Z,2µm,20.0s						
SVV	**Soufriere Volc**	**142.18**	**6**	*e*P	PKPdf	04 28 11.4	+0.4
SVB	**Belmont**	**142.22**	**6**	*e*P	PKPdf	04 28 12.5	+1.4
SDV	**Santo Domingo**	**144.30**	**23**	*e*PKPdf	PKPdf	04 28 14.6	-0.1
SDV				LR	LR		
	comp=Z,4µm,21.0s						
TPR	**Prospect**	**144.33**	**6**	*e*P	PKPbc	04 28 16.1	+1.8
TRN	**Trinidad (W)**	**144.80**	**7**	*e*P	PKPdf	04 28 17.6	+2.1
TBH	**Brigand Hill**	**145.00**	**7**	*e*P	PKPdf	04 28 19.0	+3.1
TPP	**Pointe-a-Pierr**	**145.12**	**7**	*e*P	PKPdf	04 28 18.6	+2.4
ALNG	**Atlantic LNG**	**145.22**	**8**	*e*P	PKPdf	04 28 20.3	+4.0
SIPA	**Siparia**	**145.28**	**7**	*e*P	PKPdf	04 28 17.7	+1.3
BUAY	**Buenos Aires**	**145.30**	**8**	*e*P	PKPdf	04 28 19.7	+3.3
OTAV	**Otavalo**	**147.92**	**43**	PKPdf	PKPdf	04 28 23.7	+2.8
OTAV	**Otavalo**	**147.92**	**43**	*e*PKPbc	PKPdf	04 28 25.7	+4.8
OTAV				LR	LR		
	comp=Z,1µm,21.0s						
USHA	**Ushuaia**	**148.62**	**168**	PKPbc	PKPdf	04 28 24.6	+4.0
	comp=Z,173nm,0.8s,baz=186,slow=2.1,SNR=29						
USHA				pPKPbc		04 28 51.9	
	comp=Z,110nm,0.9s,baz=170,slow=4.6,SNR=2.8						
RCBR	**Riachuelo**	**152.34**	**309**	*e*PKPdf	PKPdf	04 28 30.1	+2.5
RCBR				*e*PKPbc	PKPdf	04 28 37.5	+10
RCBR				LR	LR		
	comp=Z,3µm,19.0s						
EFI	**East Falkland**	**152.89**	**179**	*e*PKPdf	PKPdf	04 28 29.1	+1.9
EFI				*e*PKPbc	PKPdf	04 28 35.9	+8.6
EFI				*e*PKPab	PKPab	04 28 47.3	-1.1
EFI				LR	LR		
	comp=Z,3µm,21.0s						
NNA	**Nana**	**157.62**	**60**	*e*PKPdf	PKPdf	04 28 37.2	+2.6
NNA				*e*PKPdif		04 28 46.4	
NNA				*e*PP	PP	04 32 48.1	-1.8
NNA				LR	LR		
	comp=Z,508nm,22.0s						
SAML	**Samuel**	**163.49**	**21**	*e*PKPdf	PKPdf	04 28 42.6	+1.7
SAML				*e*PKPab	PKPab	04 29 33.0	-2.1
SAML				*e*PP	PP	04 33 17.4	-3.8
SAML				LR	LR		
	comp=Z,3µm,21.0s						
ARE	**Arequipa**	**164.42**	**62**	*e*P	PKPdf	04 28 46.0	+4.3
ARE				*e*		04 28 48.0	
ARE				*i*		04 29 42.6	
ARE				*i*		04 33 27.2	
TRQA	**Tornquist**	**165.93**	**164**	*e*PKPdf	PKPdf	04 28 44.3	+1.8
TRQA				LR	LR		
	comp=Z,4µm,20.0s						
CAM4	**Nova Friburgo**	**166.37**	**276**	*e*P	PKPdf	04 28 45.5	+2.2
CAM4				*i*		04 28 47.5	
CAM4				*i*		04 29 10.4	
CAM4	**Nova Friburgo**	**166.37**	**276**	*e*P	PKPdf	04 28 45.5	+2.2
CAM4				*i*		04 28 47.5	
CAM4				*i*		04 29 10.4	
LPAZ	**La Paz**	**166.90**	**53**	PKP	PKPdf	04 28 47.6	+3.7
	comp=Z,87nm,1.0s,baz=10,slow=3.0,SNR=108						
LPAZ				pPKP		04 29 15.9	
	comp=Z,62nm,1.2s,baz=4.5,slow=6.0,SNR=2.2						
LPAZ				PKPab	PKPab	04 29 50.6	+0.8
	comp=Z,144nm,0.9s,baz=346,slow=6.0,SNR=16						
LPAZ				PP	PP	04 33 41.3	+2.8
	comp=Z,32nm,1.1s,baz=333,slow=2.3,SNR=5.0						
LPAZ	**La Paz**	**166.90**	**53**	PKPdf	PKPdf	04 28 47.0	+3.2
LPAZ	**La Paz**	**166.90**	**53**	PKIKP	PKPdf	04 28 47.6	+3.8
LPAZ						04 29 50.7	
LPAZ						04 33 41.3	
LPAZ				pmax	pmax		
	comp=Z,87nm,1.0s						
LPAZ	**La Paz**	**166.90**	**53**	*e*PKPdf	PKPdf	04 28 47.2	+3.4
LPAZ				*e*PKPab	PKPab	04 29 50.1	+0.3
LPAZ				LR	LR		
	comp=Z,3µm,21.0s						
BAO	**Brasilia Array**	**167.61**	**314**	PKPdf	PKPdf	04 28 46.0	+1.7
BAO				*i*		04 28 48.0	
BAO				*e*		04 29 19.6	
BAO				PKPab	PKPab	04 29 53.1	+0.2
BAO				PP	PP	04 33 28.4	-14
BAO				*i*		04 33 46.7	
BAO				*e*		04 33 53.1	
BDFB	**Brasilia**	**167.63**	**314**	PKP	PKPdf	04 28 46.2	+1.9
	comp=Z,124nm,0.8s,baz=356,slow=0.4,SNR=95						
BDFB				PKPab	PKPab	04 29 53.1	+0.1
	comp=Z,132nm,0.8s,baz=52,slow=3.0,SNR=25						
BDFB	**Brasilia**	**167.63**	**314**	PKIKP	PKPdf	04 28 46.2	+1.9
BDFB						04 29 53.1	
BDFB				pmax	pmax		
	comp=Z,124nm,0.8s						
LVC	**Limon Verde**	**169.12**	**82**	*e*PKPdf	PKPdf	04 28 48.5	+3.5
LVC				*e*PKPab	PKPab	04 30 01.4	+2.0
LVC				LR	LR		
	comp=Z,2µm,22.0s						
LPA	**La Plata**	**169.64**	**177**	*de*PKP	PKPdf	04 28 46.0	+1.0
LPA				*e*pPKP		04 29 14.0	
LPA				*e*pPKP		04 30 23.0	
LPA				*e*SKP		04 32 10.0	
LPA				*e*SKKS		04 40 30.0	
CPUP	**Villa Florida**	**178.21**	**177**	PKP	PKPdf	04 28 49.6	+1.2
	comp=Z,5.4nm,0.9s,baz=36,slow=2.6,SNR=4.5						
CPUP				PKPab	PKPab	04 30 38.9	-0.7
	comp=Z,24nm,0.9s,baz=170,slow=4.2,SNR=6.3						
CPUP	**Villa Florida**	**178.21**	**177**	PKPdf	PKPdf	04 28 50.2	+1.8
CPUP				sPKPdf		04 30 37.8	
CPUP				SKPdf		04 30 52.8	
CPUP	**Villa Florida**	**178.21**	**177**	PKIKP	PKPdf	04 28 49.6	+1.2
CPUP						04 30 38.9	
CPUP				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CPUP				pmax	pmax		
	comp=Z,25nm,0.9s						
CPUP	**Villa Florida**	**178.21**	**177**	*e*PKPdf	PKPdf	04 28 50.1	+1.7
CPUP				LR	LR		
	comp=Z,4µm,21.0s						

MEX 15 04:34:06.8±1.2**, 15.37N**×**93.63W, h32**km±97km**, MD4.1,**
Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCX	**San Cristobal**	**1.66**	**35**	*i* P	Pn	04 34 32.0	-2.2
SCX				*i* S	Sn	04 34 51.0	-3.6
CCIG	**Comitan**	**1.70**	**58**	*i* P	Pn	04 34 38.9	+4.1
CCIG				*i* S	Sn	04 34 58.6	+3.0
CMIG	**Matias Romero**	**2.09**	**325**	*i* P	Pn	04 34 38.7	-1.7
CMIG				*i* S	Sn	04 35 02.0	-3.5
HUIG	**Huatulco**	**2.42**	**280**	*i* P	Pn	04 34 42.0	-3.0
HUIG				*i* S	Sn	04 35 09.1	-4.8
OXX	**Oaxaca**	**3.42**	**300**	*e*P	Pn	04 34 55.0	-4.3

*GUC **15** 04:57:34.6±1.1, 35.09S×70.51W, h1km±4km, ML4.7*
*NEIC **15** 04:57:34.6, 35.09S×70.51W, h1km, mb4.5/19, ML4.7(GUC), After GUC.*
NEIC Felt [III] at Curico, Hualane and Romeral; [II] at Linares and Talca.
*SYO **15** 04:57:34.6, 35.09S×70.51W, h1km, MB4.5*
*IDC **15** 04:57:43.1±5.2, 35.06S×70.19W, h66km±46km, mb3.9/10, mb1 4.1/13, mb1mx4.0/17, ML4.0/3, Error ellipse: s-maj=28.2km s-min=15.1km az=77.0*
ISC 15 04:57:33.2±0.3**, 35.14S**±0.02×**70.40W**±0.05**, h1**km**, n72, σ0.97**/87**, mb4.5**/27**, 12C-11D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.73**	**316**	⇓ *i*P	**Pg**	**04 57 46.7**	**-1.0**
SFDO				*i* S	**Sg**	**04 57 57.0**	**-0.4**
CICH	**Cipreses**	**0.82**	**359**	⇓ *i*P	**Pg**	**04 57 49.5**	**0.0**
CICH				*i* S	**Sg**	**04 58 02.2**	**+1.8**
CACH	**El Canelo**	**1.03**	**351**	⇑ *i*P	**Pb**	**04 57 52.7**	**-0.8**
CACH				*i* S	**Sb**	**04 58 07.3**	**-0.1**
CHCH	**Chadas Angostu**	**1.22**	**350**	*i* P	**Pb**	**04 57 56.1**	**-0.6**
CHCH				*i* S	**Sb**	**04 58 12.8**	**-0.1**
LMEL	**Las Melosas**	**1.30**	**7**	⇑ *i*P	**Pb**	**04 57 58.2**	**+0.1**
LMEL				*i* S	**Sb**	**04 58 16.2**	**+1.0**
LMEL				AMP		04 58 17.3	
	comp=N,6µm,0.1s						
LNV	**Longovilo**	**1.45**	**324**	⇑ *i*P	**Pn**	**04 57 59.0**	**-1.5**
LNV				*i* S	**Sb**	**04 58 18.4**	**-1.0**
PCH	**Pirque**	**1.52**	**356**	⇓ *i*P	**Pn**	**04 58 01.6**	**0.0**
PCH				*i* S	**Sb**	**04 58 21.7**	**+0.2**
TACH	**Talagante**	**1.55**	**343**	⇓ *i*P	**Pn**	**04 58 01.4**	**-0.6**
TACH				*i* S	**Sb**	**04 58 21.6**	**-0.8**
ANTU	**Antumapu**	**1.58**	**353**	*i* P	**Pn**	**04 58 02.3**	**-0.1**
ANTU				*i* S	**Sb**	**04 58 23.4**	**+0.2**
ANTU				AMP		04 58 26.0	
	comp=E,26µm,0.8s						
FSR	**Penalolen**	**1.66**	**356**	⇑ *i*P	**Pn**	**04 58 04.0**	**+0.5**
FSR				*i* S	**Sb**	**04 58 26.0**	**+0.3**
FSR				AMP		04 58 27.9	
	comp=E,13µm,0.7s						
RCDM	**Rinconada Maip**	**1.68**	**348**	⇑ *i*P	**Pn**	**04 58 03.5**	**-0.4**
RCDM				*i* S	**Sb**	**04 58 25.5**	**-0.7**
RCDM				AMP		04 58 28.1	
	comp=E,7µm,0.6s						
SAN	**Santiago**	**1.70**	**353**	⇑ *i*P	**Pn**	**04 58 04.6**	**+0.5**
SAN				*i* S	**Sb**	**04 58 26.5**	**-0.1**
SAN				AMP		04 58 29.0	
	comp=E,21µm,0.6s						
STL	**Santa Lucia**	**1.71**	**353**	⇓ *i*P	**Pn**	**04 58 04.7**	**+0.4**
STL				*i* S	**Sb**	**04 58 27.1**	**0.0**
STL				AMP		04 58 29.3	
	comp=E,8µm,0.5s						
PUEX	**Pudahuel**	**1.72**	**350**	AMP		04 58 42.2	
	comp=E,17µm,0.6s						
DSCH	**Colegio Aleman**	**1.74**	**355**	⇓ *i*P	**Pn**	**04 58 05.2**	**+0.5**
DSCH				*i* S	**Sn**	**04 58 28.2**	**+0.2**
DSCH				AMP		04 58 35.6	
	comp=N,27µm,0.7s						
CLCH	**Cerro Calan**	**1.74**	**356**	⇑ *i*P	**Pn**	**04 58 05.3**	**+0.6**
CLCH				*i* S	**Sn**	**04 58 28.3**	**+0.3**
CLCH				AMP		04 58 35.6	
	comp=E,18µm,0.6s						
CLCH				AMP		04 58 36.0	
	comp=E,22µm,0.6s						
FCH	**Farellones**	**1.81**	**3**	⇑ *i*P	**Pn**	**04 58 07.0**	**+1.3**
FCH				*e*S	**Sn**	**04 58 30.6**	**+0.9**
FCH				AMP		04 58 33.3	
	comp=E,11µm,0.7s						
CCHI	**Chillan**	**2.00**	**223**	⇓ *i*P	**Pn**	**04 58 09.0**	**+0.6**
CCHI				*i* S	**Sn**	**04 58 35.8**	**+1.4**
CCHI				AMP		04 58 44.8	
	comp=N,10µm,0.7s						
CCHI				AMP		04 58 45.1	
	comp=N,16µm,0.8s						
PEL	**Peldehue**	**2.01**	**353**	⇓ *i*P	**Pn**	**04 58 09.4**	**+0.9**
PEL				*i* S	**Sn**	**04 58 35.5**	**+0.9**
PEL				AMP		04 58 38.5	
	comp=N,17µm,0.3s						
PACH	**Papudo**	**2.74**	**341**	⇑ *i*P	**Pn**	**04 58 19.7**	**+0.7**
PACH				*i* S	**Sn**	**04 58 54.2**	**+1.0**
CMCH	**Combarbala**	**3.99**	**353**	⇑ *i*P	**Pn**	**04 58 37.6**	**+0.8**
CMCH				*i* S	**Sn**	**04 59 24.8**	**-0.1**
TRQA	**Tornquist**	**7.37**	**116**	*e*Pn	**Pn**	**04 59 24.2**	**-0.3**
	comp=N,16nm,0.6s						
TRQA				*e*Sn	**Sn**	**05 00 48.5**	**-1.3**
TRQA				*e*Sg	**Sg**	**05 01 25.8**	**-13**
LVC	**Limon Verde**	**12.55**	**6**	*e*Pn	**P**	**05 00 33.7**	**-2.1**
	comp=N,3.8nm,0.7s						
CPUP	**Villa Florida**	**14.25**	**56**	P	**P**	**05 00 58.1**	**-0.2**
	comp=N,0.2nm,0.3s,baz=234,slow=13,SNR=5.0						
CPUP				Lg		05 05 04.7	
	comp=N,0.1nm,0.3s,baz=339,slow=18,SNR=3.5						
CPUP	**Villa Florida**	**14.25**	**56**	*e*Pn	**P**	**05 00 58.1**	**-0.2**
	comp=N,16nm,1.4s						
ARE	**Arequipa**	**18.63**	**357**	*e*P	**P**	**05 01 56.0**	**+1.9**
LPAZ	**La Paz**	**18.88**	**7**	P	**P**	**05 01 57.6**	**+0.3**
	comp=N,0.2nm,0.3s,baz=162,slow=10,SNR=29						
LPAZ	**La Paz**	**18.88**	**7**	*e*P	**P**	**05 01 57.1**	**-0.2**
	comp=N,18nm,0.9s						
USHA	**Ushuaia**	**19.74**	**177**	P	**P**	**05 02 08.9**	**+1.9**
	comp=N,0.5nm,0.3s,baz=360,slow=9.1,SNR=3.2						
NNA	**Nana**	**23.78**	**344**	*e*P	**P**	**05 02 48.1**	**-0.1**
	comp=N,12nm,0.7s,mb4.5						
SAML	**Samuel**	**26.89**	**16**	*e*P	**P**	**05 03 17.7**	**+0.1**
	comp=N,8.0nm,1.3s,mb4.3						
BDFB	**Brasilia**	**27.92**	**52**	P	**P**	**05 03 26.5**	**-0.4**
	comp=N,6.9nm,1.0s,mb4.4,baz=212,slow=7.9,SNR=5.1						
BAO	**Brasilia Array**	**27.94**	**52**	P	**P**	**05 03 26.7**	**-0.4**
VNA3	**Neumayer Olymp**	**47.79**	**158**	⇓ *i*	**P**	**05 06 14.5**	**+1.0**
VNA1	**Neumayer--Stat**	**48.09**	**157**	⇑ *i*	**P**	**05 06 19.3**	**+3.4**
VNA2	**Neumayer--Watz**	**48.44**	**157**	⇓ *i*	**P**	**05 06 20.3**	**+1.8**
SNAA	**Sanae**	**50.02**	**158**	⇓ *i*	**P**	**05 06 30.8**	**+0.1**
SNAA	**Sanae**	**50.02**	**158**	P	**P**	**05 06 30.1**	**-0.5**
	comp=N,1.5nm,0.7s,mb4.0,baz=275,slow=8.3,SNR=16						
QSPA	**South Pole Qui**	**55.10**	**180**	*e*P	**P**	**05 07 07.6**	**-1.0**
	comp=N,9.1nm,0.9s,mb4.8						
QSPA				*e*		05 07 43.8	
VNDA	**Vanda**	**63.25**	**191**	P	**P**	**05 08 06.3**	**+1.3**
	comp=N,1.4nm,1.1s,mb4.0,baz=202,slow=4.4,SNR=5.9						
VNDA	**Vanda**	**63.25**	**191**	*e*P	**P**	**05 08 07.1**	**+2.1**
	comp=N,1.8nm,1.0s,mb4.2						
SYO	**Syowa Base**	**64.31**	**158**	⇑pP	pP	05 08 11.8	-0.4
JCT	**Junction City**	**70.90**	**333**	*e*P	**P**	**05 08 52.8**	**-1.2**
	comp=N,11nm,1.1s,mb4.9						
LTX	**Lajitas**	**71.39**	**330**	P	**P**	**05 08 54.9**	**-2.1**
	comp=N,1.9nm,0.6s,mb4.4						
TXAR	**Lajitas Array**	**71.39**	**330**	P	**P**	**05 08 55.3**	**-1.7**
	comp=N,1.0nm,0.5s,mb4.2,baz=156,slow=8.5,SNR=16						
SWET	**Sewanee**	**71.48**	**347**	*e*P	**P**	**05 08 55.6**	**-1.8**
MAW	**Mawson**	**71.70**	**163**	P	**P**	**05 08 56.2**	**-2.0**
	comp=N,1.4nm,0.6s,mb4.3,baz=18,slow=7.0,SNR=3.5						
MAW	**Mawson**	**71.70**	**163**	*e*P	**P**	**05 08 59.3**	**+1.1**
WVT	**Waverly**	**72.74**	**345**	*e*P	**P**	**05 09 02.7**	**-2.2**
	comp=N,10nm,0.8s,mb5.0						
SUR	**Sutherland**	**73.10**	**118**	P	**P**	**05 09 04.8**	**-2.2**
	comp=N,12nm,1.2s,mb4.9,baz=185,slow=18,SNR=2.5						
WMOK	**Wichita Mounta**	**74.41**	**336**	*e*P	**P**	**05 09 13.2**	**-1.4**
	comp=N,1.9nm,0.8s,mb4.2						
CCM	**Cathedral Cave**	**75.35**	**343**	*e*P	**P**	**05 09 18.5**	**-1.4**
	comp=N,7.6nm,0.9s,mb4.7						
ANMO	**Albuquerque**	**77.44**	**330**	*e*P	**P**	**05 09 31.5**	**-0.3**
	comp=N,3.5nm,1.0s,mb4.4						
ANMO				*e*		05 09 45.0	
TSUM	**Tsumeb**	**77.61**	**105**	P	**P**	**05 09 33.2**	**+0.2**
	comp=N,1.1nm,0.3s,mb4.5,baz=150,slow=6.8,SNR=3.3						
CASY	**Casey**	**78.90**	**180**	*e*P	**P**	**05 09 40.6**	**+1.5**
	comp=N,11nm,1.1s,mb4.8						
SDCO	**Great Sand Dun**	**79.50**	**332**	*e*P	**P**	**05 09 42.9**	**-0.1**
	comp=N,2.7nm,1.0s,mb4.2						
PV10	**Paradox Valley**	**81.44**	**330**	*e*P	**P**	**05 09 53.5**	**+0.2**
TPNV	**Topopah Spring**	**83.43**	**325**	*e*P	**P**	**05 10 03.8**	**+0.2**
	comp=N,2.6nm,0.9s,mb4.5						
DUG	**Dugway**	**84.54**	**329**	*e*P	**P**	**05 10 09.5**	**+0.4**
	comp=N,12nm,1.6s,mb4.9						
HWUT	**Hardware Ranch**	**85.20**	**330**	*e*P	**P**	**05 10 12.4**	**0.0**
	comp=N,2.7nm,0.7s,mb4.6						
BW06	**Boulder Array**	**85.39**	**332**	*e*P	**P**	**05 10 12.6**	**-0.7**
	comp=N,2.9nm,1.0s,mb4.5						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PDAR	Pinedale Array	85.39	332	P	P	05 10 13.1	-0.2
	comp=N,1.0nm,0.8s,mb4.1,baz=146,slow=6.5,SNR=8.6						
NVAR	Mina Array Bea	85.59	324	P	P	05 10 14.1	-0.3
	comp=N,1.0nm,0.7s,mb4.0,baz=147,slow=5.6,SNR=8.8						
ELK	Elko	86.04	328	eP	P	05 10 16.6	+0.1
	comp=N,2.9nm,0.9s,mb4.4						
HLID	Hailey	88.00	330	eP	P	05 10 26.4	+0.4
	comp=N,3.2nm,1.1s,mb4.6						
MCMT	McKenzie Canyo	88.41	331	eP	P	05 10 28.6	+0.6
YBH	Yreka Blue Hor	90.28	324	P	P	05 10 38.4	+1.5
	comp=N,1.6nm,0.8s,mb4.3,baz=135,slow=4.3,SNR=2.7						
WRA	Warramunga Arr	120.40	207	PKP	PKPdf	05 16 26.9	-1.8
	comp=N,0.6nm,0.7s,baz=163,slow=1.5,SNR=7.7						
ZRNK	Zerenda	146.38	45	ePKPbc	PKPbc	05 17 16.0	+0.9
BRVK	Borovoye	147.09	45	ePKPbc	PKPdf	05 17 18.1	+1.0
ZAL	Zalesovo	154.42	35	PKPbc	PKPdf	05 17 36.1	+8.1
	comp=N,1.5nm,0.4s,baz=194,slow=12,SNR=3.7						
SONM	Songino Array	167.09	10	PKPab	PKPab	05 18 45.7	-0.4
	comp=N,0.4nm,0.7s,baz=326,slow=5.2,SNR=3.1						

*IDC **15** 04:58:57.0±4.9, 4.41S×144.51E, h95km±41km, mb3.8/6, mb1 4.0/9, mb1mx3.8/15, MS4.1/1, Ms1 4.1/1, ms1mx3.5/17, Error ellipse: s-maj=35.4km s-min=25.5km az=139.0*
*NEIC **15** 04:58:56.8±2.5, 4.30S×144.32E, h97km±19km, mb4.3/5, Error ellipse: s-maj=28.3km s-min=13.3km az=145.0*
ISC 15 04:59:00.1±2.4, 4.6S±0.2×144.5E±0.1, h131km±19km, n19, σ0s98/21, mb4.1/8, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAU	Wau	3.48	141	eP	P	04 59 54.9	+1.0
PMG	Port Moresby	5.43	151	P	P	05 00 19.9	-0.1
	11nm,0.3s,baz=339,slow=8.6,SNR=25						
PMG				S	S	05 01 20.4	-1.3
	3.6nm,0.3s,baz=153,slow=19,SNR=6.6						
PMG				LR	LR	05 02 19.6	
	comp=Z,2μm,18.4s,baz=24,slow=36						
PMG	Port Moresby	5.43	151	ePn	P	05 00 19.4	-0.6
PMG				eSn	S	05 01 16.9	-4.9
PMG				LR	LR	05 02 19.6	
KAKA	Kakadu	14.41	235	eP	P	05 02 21.0	+1.9
	8.0nm,0.3s						
CTA	Charters Tower	15.47	174	P	P	05 02 36.5	+4.1
	0.2nm,0.3s,baz=345,slow=13,SNR=4.8						
WRAB	Tennant Creek	18.16	212	eP	P	05 03 04.2	-0.9
	9.8nm,0.5s						
WB2	Warramunga Arr	18.17	212	eP	P	05 03 03.7	-1.5
WRA	Warramunga Arr	18.17	212	P	P	05 03 04.6	-0.7
	1.3nm,0.3s,baz=33,slow=11,SNR=52						
ASAR	Alice Springs	21.53	207	P	P	05 03 40.0	+0.2
	5.7nm,0.6s,mb4.2,baz=37,slow=7.4,SNR=49						
ASPA	Alice Springs	21.53	207	eP	P	05 03 40.1	+0.3
FITZ	Fitzroy Crossi	22.82	233	eP	P	05 03 51.0	-1.5
	6.1nm,0.6s,mb4.2						
FITZ	Fitzroy Crossi	22.82	233	P	P	05 03 52.9	+0.4
	8.9nm,0.8s,mb4.3,baz=27,slow=7.6,SNR=19						
STKA	Stephens Creek	27.25	185	eP	P	05 04 34.4	+0.3
	3.8nm,0.6s,mb4.2						
STKA	Stephens Creek	27.25	185	P	P	05 04 34.4	+0.3
	4.4nm,0.6s,mb4.3,baz=353,slow=8.1,SNR=16						
FORT	Forrest	30.29	209	eP	P	05 05 00.9	-0.4
	37nm,0.6s,mb5.3						
VNDA	Vanda	73.44	176	P	P	05 10 20.4	+1.1
	0.6nm,0.7s,mb3.4,baz=321,slow=8.4,SNR=4.6						
MAW	Mawson	82.57	202	P	P	05 11 10.1	+0.6
	0.8nm,0.7s,mb3.6,baz=88,slow=1.2,SNR=3.1						
ILAR	Eielson Array	85.20	24	P	P	05 11 21.2	-1.4
	0.4nm,0.7s,mb3.3,baz=256,slow=5.2,SNR=8.0						
QSPA	South Pole Qui	85.34	180	eP	P	05 11 23.9	+0.9
	3.3nm,0.6s,mb4.2						

IDC 15 05:23:23.8±1.4, 34.94S×108.61W, mb3.7/4, mb1 4.1/4, mb1mx3.8/15, Error ellipse: s-maj=48.6km s-min=42.5km az=10.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	40.62	73	P	P	05 31 05.9	-1.2
	1.1nm,0.7s,baz=218,slow=6.8,SNR=4.4						
TXAR	Lajitas Array	64.10	5	P	P	05 33 59.4	-2.6
	0.2nm,0.8s,baz=197,slow=9.4,SNR=3.4						
NVAR	Mina Array Bea	73.55	352	P	P	05 34 59.5	-0.8
	1.4nm,0.9s,baz=165,slow=6.6,SNR=8.8						
PDAR	Pinedale Array	77.34	359	P	P	05 35 19.9	-1.9
	0.5nm,0.9s,baz=180,slow=7.4,SNR=3.6						
BRTR	Keskin Array B	149.75	70	PKPbc	PKPdf	05 43 15.7	+3.3
	0.4nm,0.3s,baz=34,slow=22,SNR=3.0						
CMAR	Chiang Mai Arr	150.55	243	PKPbc	PKPdf	05 43 18.4	+4.1
	0.7nm,0.4s,baz=79,slow=4.6,SNR=3.7						
SONM	Songino Array	151.01	307	PKPbc	PKPdf	05 43 16.6	+2.5
	0.6nm,0.8s,baz=90,slow=1.2,SNR=3.7						

*NEIC **15** 05:37:28.6, 62.03N×150.49W, h1km, ML4.0(PMR), ML3.8(AEIC), After AEIC.*
NEIC Felt [IV] at Willow; [III] at Palmer, Sunshine and Talkeetna; [II] at Wasilla.
*IDC **15** 05:37:30.2±0.9, 61.92N×150.54W, h22km±4km, mb3.5/5, mb1 3.8/9, mb1mx3.7/20, ML3.4/4, Error ellipse: s-maj=17.2km s-min=12.8km az=28.0*
ISC 15 05:37:27.4±0.6, 62.05N±0.02×150.47W±0.04, h4km±4km, n87, σ0s85/102, mb3.6/5, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUT	Chulitna	0.37	15	P	Pg	05 37 36.7	+2.0
PWA	Palmer West	0.49	145	P	Pg	05 37 37.7	+0.5
GHO	Glory Hole Cre	0.78	110	P	Pg	05 37 42.4	-0.6
PMR	Palmer	0.78	125	P	Pg	05 37 42.4	-0.6
STLK	Strandline Lak	0.85	230	P	Pb	05 37 44.3	-0.1
FIB	Fire Island	0.90	171	P	Pb	05 37 45.6	+0.5
FIB				S	Sb	05 37 59.1	+1.8
HUR	Hurricane	1.01	22	P	Pb	05 37 47.4	+0.4
RC01	Rabbit Creek A	1.03	160	P	Pb	05 37 46.5	-0.8
SML	Sawmill	1.04	103	P	Pb	05 37 46.8	-0.7
CGLM	Capps Glacier	1.05	225	P	Pb	05 37 47.6	-0.1
CRP	Crater Peak	1.13	226	P	Pb	05 37 49.0	0.0
KNK	Knik Glacier	1.15	123	P	Pb	05 37 49.0	-0.5
SPU	Mount Spurr	1.16	222	P	Pb	05 37 49.3	-0.2
BGL	Barrier Glacie	1.21	230	P	Pb	05 37 50.3	-0.2
TRF	Thorofare Moun	1.41	3	P	Pn	05 37 53.9	0.0
TRF				S	Sb	05 38 13.4	+1.3
SCM	Sheep Creek Mo	1.50	97	P	Pn	05 37 53.8	-1.4
KTH	Kantishna Hill	1.52	352	P	Pn	05 37 56.1	+0.6
SLKM	Skilak Lake	1.55	176	P	Pn	05 37 55.4	-0.5
CFI	College Fiord	1.56	123	P	Pn	05 37 54.8	-1.2
PWL	Port Wells	1.57	139	P	Pn	05 37 56.4	+0.1
MPA	Moose Pass	1.66	161	P	Pn	05 37 56.7	-0.6
DHY	Denali Highway	1.76	53	P	Pn	05 37 58.4	-0.5
DHY				S	Sn	05 38 22.4	+0.3
MCK	McKinley	1.83	22	P	Pn	05 37 59.8	-0.1
RDN	Redoubt North	1.90	217	P	Pn	05 38 00.5	-0.4
NCT	North Crescent	1.91	220	P	Pn	05 38 00.8	-0.2
NCT				S	Sn	05 38 26.1	+0.3
RSO	Redoubt South	1.94	216	P	Pn	05 38 01.4	-0.1
RED	Redoubt Volcan	1.98	215	P	Pn	05 38 02.2	+0.2
RED				S	Sn	05 38 27.6	0.0
GLI	Glacier Island	2.00	124	P	Pn	05 38 02.3	0.0
GLI				S	Sn	05 38 29.3	+1.2
SEW	Seward	2.02	165	P	Pn	05 38 02.9	+0.3
JPK	Jack Peak	2.10	117	P	Pn	05 38 04.1	+0.3
JPK				S	Sn	05 38 31.6	+0.9
BWN	Browne	2.18	12	P	Pn	05 38 06.5	+1.6
VLZ	Valdez	2.18	113	P	Pn	05 38 05.1	+0.2
BRLK	Bradley Lake	2.30	185	P	Pn	05 38 07.5	+0.9
BRLK				S	Sn	05 38 34.8	-1.0
FID	Port Fidalgo	2.32	122	P	Pn	05 38 06.4	-0.5
FID				S	Sn	05 38 36.1	-0.1
ILIM	Iliamna	2.32	213	P	Pn	05 38 07.2	+0.3
SDG	Sourdough	2.35	76	P	Pn	05 38 07.5	+0.2
TZL	Tazlina	2.38	88	P	Pn	05 38 08.8	+1.1
ILW	Iliamna West	2.38	214	P	Pn	05 38 08.4	+0.6
ILW				S	Sn	05 38 38.3	+0.5
LTI	Latouche	2.38	147	P	Pn	05 38 06.7	-1.1
IVS	Iliamna South	2.41	213	P	Pn	05 38 08.7	+0.5
IVS				S	Sn	05 38 39.0	+0.4
DIV	Divide	2.43	110	P	Pn	05 38 08.6	+0.2
DIV				S	Sn	05 38 39.5	+0.5
PAX	Paxson	2.50	66	P	Pn	05 38 09.3	0.0
PAX				S	Sn	05 38 41.7	+1.1
HIN	Hinchinbrook I	2.54	129	P	Pn	05 38 09.6	-0.4
CNPM	China Poot	2.56	189	P	Pn	05 38 10.5	+0.1
THY	Trims Highway	2.57	56	P	Pn	05 38 12.2	+1.8
TT01	Tatalina	2.72	291	P	Pn	05 38 12.7	+0.2
EYAK	Cordova Ski Ar	2.73	121	P	Pn	05 38 13.3	+0.5
CVA	Cordova	2.73	121	P	Pn	05 38 12.1	-0.6
DDM	Donnelly Dome	2.73	48	P	Pn	05 38 13.2	+0.4
OPT	Oil Point	2.76	211	P	Pn	05 38 14.5	+1.3
HDA	Harding Lake	2.85	32	P	Pn	05 38 13.9	-0.6
SGAM	Sherman Glacie	2.98	119	P	Pn	05 38 16.9	+0.6
COLA	College	3.07	21	P	Pn	05 38 18.8	+1.2
AUW	Augustine West	3.07	210	P	Pn	05 38 18.8	+1.2
IL1	Eielson Array	3.17	29	P	Pn	05 38 19.4	+0.4
ILAR	Eielson Array	3.17	29	Pn	Pn	05 38 18.1	-1.0
	3.6nm,0.3s,baz=210,slow=13,SNR=70						
ILAR				Sn	Sn	05 38 59.4	+1.6
	11nm,0.3s,baz=213,slow=24,SNR=5.5						
GLB	Gilahina Butte	3.23	98	P	Pn	05 38 19.6	-0.1
RAGM	Ragged Mountai	3.26	118	P	Pn	05 38 20.3	0.0
DOT	Dot Lake	3.34	59	P	Pn	05 38 22.3	+0.8
HMT	Hamilton	3.46	117	P	Pn	05 38 22.8	-0.4
TMW	Tok Microwave	3.67	66	P	Pn	05 38 27.7	+1.5
GCSA	Galena City Sc	3.95	316	P	Pn	05 38 29.0	-1.1
BALM	Baldy	4.02	101	P	Pn	05 38 30.3	-0.7
BCA3	Beaver Creek A	4.14	72	P	Pn	05 38 33.6	+0.7
IM3	Indian Mountai	4.20	341	P	Pn	05 38 32.4	-1.3
IMA	Indian Mountai	4.27	342	eP	Pn	05 38 34.0	-0.7
KDAK	Kodiak Island	4.41	195	P	Pn	05 38 37.3	+0.6
CTGM	Chitina Glacie	4.51	100	P	Pn	05 38 37.7	-0.3
KABR	Katmai Barrier	4.53	212	P	Pn	05 38 38.4	0.0
YAH	Yahtse	4.54	108	P	Pn	05 38 38.3	-0.2
ANCK	Angle Creek	4.61	215	P	Pn	05 38 39.4	0.0
COLD	Coldfoot	5.20	1	P	Pn	05 38 47.4	-0.4
PCA	Pinnacle	5.33	107	P	Pn	05 38 50.3	+0.7
DAWY	Dawson	5.43	63	P	Pn	05 38 50.7	-0.3
PNL	Peninsula	5.91	109	P	Pn	05 38 57.9	+0.1
BM3	Burnt Mountain	5.94	22	P	Pn	05 38 56.4	-1.9
INK	Inuvik	9.46	41	Pn	P	05 39 46.5	-1.0
	0.2nm,0.3s,baz=238,slow=13,SNR=10						
INK				Sn	Sn	05 41 33.9	-1.7
	0.2nm,0.3s,baz=240,slow=5.1,SNR=3.1						
INK				Lg		05 42 35.9	
	baz=132,slow=32,SNR=5.4						
INK	Inuvik	9.46	41	eP	P	05 39 44.1	-3.4
DLBC	Dease Lake	10.77	100	Pn	P	05 40 02.9	-2.4
	0.2nm,0.3s,baz=278,slow=11,SNR=4.2						
DLBC				Lg		05 43 12.8	
	0.2nm,0.3s,baz=3.6,slow=21,SNR=3.1						
DLBC	Dease Lake	10.77	100	eP	P	05 40 01.2	-4.0
YKA	Yellowknife Ar	16.56	73	Pn	P	05 41 20.7	-1.0
	0.1nm,0.3s,baz=280,slow=9.5,SNR=3.3						
YKA				sP		05 41 30.1	
	0.2nm,0.3s,baz=283,slow=10,SNR=8.7						
NVAR	Mina Array Bea	30.77	125	P	P	05 43 44.3	-1.4
	0.7nm,0.8s,mb3.6,baz=325,slow=7.5,SNR=6.1						
NVAR				sP	sP	05 43 52.8	+5.3
	0.7nm,0.6s,baz=317,slow=5.7,SNR=4.7						
PDAR	Pinedale Array	30.80	110	P	P	05 43 44.5	-1.4
	0.3nm,0.7s,mb3.2,baz=304,slow=5.3,SNR=3.0						
PDAR				sP	sP	05 43 54.8	+7.1
	0.5nm,0.9s,baz=270,slow=4.4,SNR=2.5						
PDAR	Pinedale Array	30.80	110	P	P	05 43 44.5	-1.4
PDAR				sP	sP	05 43 54.8	+7.1
TXAR	Lajitas Array	44.64	115	P	P	05 45 41.1	-1.3
	0.3nm,0.8s,mb3.2,baz=337,slow=6.7,SNR=4.5						
SONM	Songino Array	54.58	306	P	P	05 46 55.7	-2.7
	1.1nm,0.8s,mb3.9,baz=31,slow=7.2,SNR=7.4						
SONM				pP	pP	05 47 03.3	+3.6
	2.0nm,0.9s,baz=27,slow=8.3,SNR=10						
ZAL	Zalesovo	56.45	324	P	P	05 47 11.5	-0.5
	0.9nm,0.3s,mb4.3,baz=14,slow=9.3,SNR=2.9						
ZAL				pP	pP	05 47 16.6	+3.5
	0.7nm,0.7s,baz=111,slow=8.5,SNR=1.8						

IDC 15 05:55:53.0±14.0, 3.09S×134.51E, mb3.8/2, mb1 4.0/3, mb1mx3.6/11, ML3.3/1, Error ellipse: s-maj=210.0km s-min=103.8km az=166.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	16.76	181	Pn	P	05 59 50.3	-0.6
	0.1nm,0.3s,baz=360,slow=12,SNR=13						
ASAR	Alice Springs	20.47	182	P	P	06 00 31.8	-3.4
	1.1nm,0.7s,baz=8.0,slow=11,SNR=10						
STKA	Stephens Creek	29.41	168	P	P	06 01 58.5	-2.0
	4.3nm,1.2s,baz=331,slow=10,SNR=3.4						

*NIC **15** 06:13:02.9±0.3, 36.19N×31.59E, h46km, mb4.2, ML3.9, MW3.5*
*ISK **15** 06:13:06.0, 35.65N×31.68E, h18km, MD3.6*
*CSEM **15** 06:13:06.7±0.1, 35.71N×31.69E, h63km±1km, MD3.6, Error ellipse: s-maj=3.2km s-min=2.0km az=31.0*
*IDC **15** 06:13:10.8±1.4, 35.78N×31.48E, h72km±17km, mb3.6/3, mb1 3.6/10, mb1mx3.5/20, Error ellipse: s-maj=14.7km s-min=12.2km az=178.0*
*NEIC **15** 06:13:11.6±0.9, 35.80N×31.56E, h80km±11km, Error ellipse: s-maj=14.2km s-min=10.5km az=214.0*
ISC 15 06:13:08.6±0.4, 35.73N±0.04×31.61E±0.04, h71km±7km, n46, σ1s13/56, mb3.8/3, 3C, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKMC	Akamas	0.91	140	P	P	06 13 24.5	-1.8
ALFC	Alevga	0.99	125	⇑P	P	06 13 24.6	-2.7
	28nm,0.2s						
ALFC				S	S	06 13 42.2	+1.1
ALFC	Alevga	0.99	125	⇑iP	P	06 13 24.6	-2.7
	28nm,0.2s						
PPCY	Paphos	1.03	144	P	P	06 13 27.3	-0.6
LEF	Lefka	1.21	120	i PN	P	06 13 27.2	-2.9
SZAC	Souni-Zanaja	1.42	133	P	P	06 13 32.7	-0.4
	13nm,0.4s						
SZAC				S	S	06 13 54.1	+2.9
HDMB	Hadim	1.42	30	i PN	P	06 13 32.1	-1.0
HDMB				i SN	S	06 13 51.3	+0.1
CSS	Prodhromos	1.60	118	⇑P	P	06 13 32.8	-2.7
	7.2nm,0.4s						
CSS				S	S	06 13 56.0	+0.7
CSS	Prodhromos	1.60	118	i P	P	06 13 32.8	-2.7
CSS	Prodhromos	1.60	118	ePn	P	06 13 32.7	-2.8
CSS	Prodhromos	1.60	118	ePn	P	06 13 32.7	-2.8
IKL	Isikli	1.76	73	i PN	P	06 13 36.5	-1.1
IKL				i SN	S	06 13 57.8	-1.2
BCK	Bucak	1.92	335	PN	P	06 13 39.8	+0.1
PHNC	Paralimni	2.11	109	P	P	06 13 44.2	+1.8
PHNC				S	S	06 14 13.9	+6.5
MEST	Erdemli	2.23	67	i P	P	06 13 44.1	0.0
ISP	Isparta	2.29	338	PN	P	06 13 45.1	+0.1
ISP	Isparta	2.29	338	ePn	P	06 13 47.3	+2.3
ISP				eSn	S	06 14 07.4	-4.6
KONT	Konya--Tatoy	2.29	15	PN	P	06 13 45.4	+0.3
DNZL	Cakiroluk	2.84	314	i P	P	06 13 54.0	+1.2
YER	Yerkesik	3.03	299	PN	P	06 13 55.9	+0.5
KHL	Karahalli	3.08	328	ePN	P	06 13 56.4	+0.2
KIZT	Kizilcal	3.15	4	ePN	P	06 13 57.4	+0.2
NIG	Nigde	3.38	44	ePN	P	06 13 59.9	-0.4
MLSB	Milas	3.46	298	ePN	P	06 14 01.8	+0.4
ALT	Altintas	3.53	341	ePN	P	06 14 03.2	+0.8
AYDN	Tasoluk	3.56	304	i P	P	06 14 02.9	0.0
BDRM	Kayabasi	3.62	293	i P	P	06 14 03.5	-0.1
HTY	Hatay	3.70	83	ePN	P	06 14 03.4	-1.3
ESKT	Eskisehir	3.83	351	ePN	P	06 14 06.4	-0.2
ESKT	Eskisehir	3.83	351	i P	P	06 14 06.3	-0.3
COBT	Iskenderun	3.84	77	i P	P	06 14 07.3	+0.5
KAMT	Kaman	4.00	24	ePN	P	06 14 08.7	-0.3
BRTR	Keskin Array B	4.30	21	P	P	06 14 14.4	+1.2
	0.8nm,0.3s,baz=191,slow=16,SNR=9.2						
BRTR				S	S	06 15 03.2	+0.7
	0.8nm,0.3s,baz=205,slow=24,SNR=6.2						
BRTR	Keskin Array B	4.30	21	S	S	06 15 03.2	+0.7
AKS	Akhisar	4.37	317	ePN	P	06 14 14.7	+0.7
IZM	Izmir	4.38	309	ePN	P	06 14 14.1	-0.2
KAHT	Ahir Dag	4.64	64	i P	P	06 14 18.3	+0.4
IDI	Anoyia	5.50	267	P	P	06 14 30.4	+0.8
	1.4nm,0.3s,baz=119,slow=10,SNR=5.7						
IDI				S	S	06 15 29.0	-3.3
	4.9nm,0.3s,baz=285,slow=19,SNR=13						
ASF	Jabal al Asfar	5.64	127	P	P	06 14 33.6	+1.9
	0.7nm,0.3s,baz=8.1,slow=14,SNR=3.2						
ASF				S	S	06 15 38.9	+3.0
	1.0nm,0.3s,baz=17,slow=19,SNR=2.8						
MLR	Muntele Rosu	10.66	338	P	P	06 15 38.8	-1.7
	0.2nm,0.3s,baz=163,slow=17,SNR=2.4						
AKASG	Malin Array Be	15.07	354	P	P	06 16 39.8	+1.2
	1.0nm,0.3s,baz=176,slow=8.7,SNR=8.1						
GERES	GERESS Array B	18.58	320	P	P	06 17 21.6	-0.5
	0.1nm,0.3s,baz=135,slow=6.9,SNR=2.4						
DAVOX	Davos	19.65	311	P	P	06 17 33.9	-0.2
	0.4nm,0.3s,baz=144,slow=21,SNR=4.0						
FINES	FINESS Array B	25.98	354	P	P	06 18 35.1	-0.9
	1.2nm,0.5s,mb3.6,baz=157,slow=12,SNR=11						
ARCES	ARCESS Array B	34.03	356	P	P	06 19 46.2	-1.2
	6.1nm,1.2s,mb4.3,baz=172,slow=8.2,SNR=5.2						
SONM	Songino Array	55.01	53	P	P	06 22 35.5	+0.7
	0.2nm,0.4s,mb3.5,baz=288,slow=9.1,SNR=3.2						

WEL 15 06:20:25.5±0.4, 35.49S×178.59E, h212km±5km, ML3.6/1, Error ellipse: s-maj=8.8km s-min=5.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.08	186	PN	P	06 21 06.3	+0.1
MXZ				SN	S	06 21 37.0	-0.6
URZ	Urewera	3.01	203	PN	P	06 21 16.0	-0.4
URZ				SN	S	06 21 55.4	-0.4
URZ				SN	S	06 21 55.6	-0.2
KNZ	Kokohu	3.60	191	PN	P	06 21 22.7	-0.8
KNZ				SN	S	06 22 07.5	-0.9
BKZ	Black Stump Fm	4.04	204	PN	P	06 21 28.7	-0.1

*MOS **15** 06:40:38.3±1.8, 36.37N×69.72E, h33km, mb4.4/12, Error ellipse: s-maj=17.3km s-min=8.2km az=85.1*
*BJI **15** 06:40:40.2, 36.54N×69.65E, h49km, mB5.0, mb4.6, ML4.3, Ms4.4, Msz4.1*
*NEIC **15** 06:40:41.2±2.7, 36.39N×69.67E, h48km±24km, mb4.5/8, Error ellipse: s-maj=23.5km s-min=13.9km az=51.0*
*IDC **15** 06:40:51.8±7.3, 36.25N×69.66E, h152km±68km, mb3.6/13, mb1 3.8/14, mb1mx3.7/18, Error ellipse: s-maj=30.9km s-min=14.3km az=35.0*
ISC 15 06:40:43.3±0.6, 36.34N±0.03×70.26E±0.06, h75km±6km, n96, σ1s19/110, mb4.2/21, 9C-12D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.86	151	⇓P	P	06 41 31.7	+4.0
CHCP	Chirah Chowk	3.64	136	P	P	06 41 43.1	+4.5
THW	Thamme Wali	3.75	160	⇑P	P	06 41 41.6	+1.5
SBDP	Sheikh Budin	4.06	173	⇓P	P	06 41 44.5	+0.1
DRP	Derazinda	4.59	181	⇓P	P	06 41 52.5	+0.7
SARP	Sargodha	4.84	155	⇓P	P	06 41 56.4	+1.1
KSH	Kashi	5.52	53	eP	P	06 42 09.1	+4.5
KSH				eS	S	06 43 17.8	+10
KSH				Smax			
	comp=N,260nm,1.2s						
KSH				Smax			
	comp=E,230nm,1.2s						
THN	Thein Dam	5.97	129	e	S	06 43 25.7	+7.2
AML	Almayashu	6.37	24	P	P	06 42 16.0	-0.4
	SNR=41						
UCH	Uchtor	6.74	28	P	P	06 42 21.4	-0.2
	SNR=16						
EKS2	Erkin-Say	6.87	22	P	P	06 42 23.1	-0.4
	SNR=7.2						
AAK	Ala-Archa	7.08	26	⇑Pn	P	06 42 26.4	0.0
	comp=E,35nm,0.8s						
AAK				⇓Lg		06 43 47.1	
	comp=E,28nm,0.7s						
AAK	Ala-Archa	7.08	26	P	P	06 42 26.5	+0.1
	SNR=11						
AAK	Ala-Archa	7.08	26	d iP	P	06 42 25.3	-1.1
BHK	Bhakra	7.10	132	ePB	Px	06 42 46.3	
BHK				e		06 44 19.9	
KBK	Karagaybulak	7.27	28	P	P	06 42 29.5	+0.5
	SNR=9.5						
FRU	Bishkek	7.30	26	eP	P	06 42 29.0	-0.4
FRU				e		06 43 52.0	
CHMS	Chumysh	7.50	26	P	P	06 42 31.3	-0.7
	SNR=8.1						
ULHL	Ulahol	7.50	36	P	P	06 42 32.6	+0.6
	SNR=13						
USP	Ospenovka	7.65	24	P	P	06 42 33.0	-1.1
	SNR=18						
TKM2	Tokmak 2	7.75	30	P	P	06 42 35.6	+0.1
	SNR=9.3						
DDI	Dehra Dun	8.87	130	e	Px	06 43 32.8	
DDI				e		06 44 37.5	
JASL	Jaisalmer	9.41	176	eP	P	06 42 54.2	-3.9
JASL				eS	S	06 44 37.7	-5.4
BHGR	Bahadurgarh	9.49	142	eP	P	06 42 58.0	-1.2
BHGR				eS	S	06 44 43.3	-1.8
NDI	New Delhi	9.63	140	eP	P	06 43 02.0	+0.8
	comp=E,133nm,0.6s						
NDI				eS	S	06 44 47.0	-1.6
JOSI	Joshimath	9.68	124	eP	P	06 43 03.6	+1.8
JOSI				eS	S	06 44 49.5	-0.2
SONA	Sohna	9.92	142	eP	P	06 43 05.7	+0.6
SONA				eS	S	06 44 50.8	-4.8
AJM	Ajmer	10.52	158	e	S	06 45 07.0	-3.1
LGTI	Lohaghat	10.85	126	⇑iP	P	06 43 18.0	+0.4
LGTI				e		06 45 21.0	
AGRA	Agra	11.19	142	eP	P	06 43 22.0	-0.2
AGRA				eS	S	06 45 21.2	-5.0
MK02	Makanchi Array	13.77	37	⇓P	P	06 44 02.5	+6.4
	comp=E,6.7nm,0.8s,baz=214,slow=9.2						
MK02	Makanchi Array	13.77	37	P	P	06 44 01.5	+5.4
MK02				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KOLN	Koldanda	14.17	123	eP	P	06 44 01.2	-0.3
	comp=Z,12nm,0.3s						
KOLN				eS	S	06 46 36.9	-0.4
GKN	Gorkha	14.73	120	eP	P	06 44 08.5	-0.4
	comp=Z,55nm,0.5s						
GKN				eS	S	06 46 49.8	-0.8
WMQ	Urumqi	15.28	55	eP	P	06 44 22.3	+6.6
DMN	Daman	15.30	120	eP	P	06 44 15.8	-0.4
	comp=Z,47nm,0.8s						
DMN				eS	S	06 47 03.5	-0.3
KKN	Kakani	15.31	120	eP	P	06 44 16.9	+0.6
	comp=Z,12nm,0.2s						
KKN				eS	S	06 47 03.3	-0.7
PKI	Pulchoki	15.54	120	eP	P	06 44 19.2	+0.1
	comp=Z,65nm,0.8s						
PKI				eS	S	06 47 08.9	-0.3
KURK	Kurchatov	15.58	20	⇓P	P	06 44 19.1	-0.4
	comp=Z,5.3nm,1.3s,baz=201,slow=8.3,SNR=3.5						
KURK	Kurchatov	15.58	20	i P	P	06 44 21.6	+2.1
KURK				pmax	pmax		
	comp=Z,7.0nm,1.3s						
GUN	Gumba	15.67	118	eP	P	06 44 21.6	+0.8
	comp=Z,24nm,0.4s						
VOSK	Vostochnaya	16.39	2	P	P	06 44 24.1	-5.5
VOSK						06 47 30.9	
VOSK				pmax	pmax		
	comp=Z,14nm,1.0s						
VOSK	Vostochnaya	16.39	2	P	P	06 44 24.1	-5.5
	comp=Z,14nm,1.0s						
VOSK				e		06 47 30.9	
ZRNK	Zerenda	16.63	357	P	P	06 44 28.2	-4.4
ZRNK						06 47 22.0	
ZRNK				pmax	pmax		
	comp=Z,25nm,1.3s						
ZRNK	Zerenda	16.63	357	P	P	06 44 28.2	-4.4
ZRNK				e		06 47 22.0	
BVA0	Borovoye Array	16.68	0	⇑P	P	06 44 29.2	-4.0
	comp=Z,2.0nm,0.9s,baz=166,slow=18,SNR=9.8						
BVA0	Borovoye Array	16.68	0	eP	P	06 44 28.7	-4.6
BVAR	Borovoye Array	16.68	0	P	P	06 44 29.5	-3.7
	comp=Z,0.3nm,0.3s,baz=174,slow=13,SNR=12						
BRVK	Borovoye	16.71	0	eP	P	06 44 29.8	-3.9
	comp=Z,15nm,1.3s						
LSA	Lhasa	18.71	105	P	P	06 45 03.0	+4.8
HYB	Hyderabad	20.23	157	i P	P	06 45 16.0	+1.3
HYB	Hyderabad	20.23	157	eP	P	06 45 16.0	+1.3
ZAL	Zalesovo	20.29	25	P	P	06 45 14.3	-0.7
	comp=Z,3.9nm,0.3s,baz=256,slow=6.8,SNR=12						
ZAL	Zalesovo	20.29	25	P	P	06 45 14.4	-0.7
ZAL				pmax	pmax		
	comp=Z,4.0nm,0.4s						
GNI	Garni	20.37	288	⇑eP	P	06 45 23.7	+7.8
GNI				pmax	pmax		
	comp=Z,24nm,1.4s						
SHL	Shillong	21.39	114	eP	P	06 45 30.2	+3.9

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHL				e		06 49 23.2	
SVE	Sverdlovsk	21.49	345⇓	eP	P	06 45 27.2	+0.1
SVE				pmax	pmax		
	comp=Z,60nm,1.3s,mb4.8						
SVE	Sverdlovsk	21.49	345⇓	eP	P	06 45 27.2	+0.1
	comp=Z,60nm,1.3s,mb4.8						
ARU	Arti	21.59	342⇑	iP	P	06 45 33.3	+5.1
ARU				e		06 46 02.6	
ARU				eS	S	06 49 31.9	+14
ARU				eSS	SS	06 50 01.3	+2.6
ARU				pmax	pmax		
	comp=Z,19nm,0.6s,mb4.6						
ARU	Arti	21.59	342⇑	iP	P	06 45 33.3	+5.1
	comp=Z,19nm,0.6s,mb4.6						
ARU				e		06 46 02.6	
ARU				eS	S	06 49 31.9	+14
ARU				eSS	SS	06 50 01.3	+2.6
KIV	Kislovodsk	22.33	298c	iP	P	06 45 37.1	+1.6
KIV				e		06 46 02.7	
KIV				pmax	pmax		
	comp=Z,23nm,1.0s,mb4.5						
KIV				MLR	MLR		
	comp=Z,300nm,21.0s						
KIV	Kislovodsk	22.33	298⇑	iP	P	06 45 37.1	+1.6
	comp=Z,23nm,1.0s,mb4.5						
KIV				e		06 46 02.7	
KIV				LR	LR		
	comp=Z,300nm,21.0s						
GTA	Gaotai	23.49	74	eP	P	06 45 52.3	+5.6
GTA				AP		06 46 00.8	
GTA				XP		06 46 04.9	
GTA				AMB	AMB		
	comp=Z,10.0nm,1.5s,mb3.9						
GTA				LR	LR		
	comp=N,212nm,16.4s						
GTA				LR	LR		
	comp=E,183nm,21.3s						
GTA				LR	LR		
	comp=Z,168nm,12.6s						
ANN	Anapa	26.18	299	eP	P	06 46 07.1	-5.3
ANN				pmax	pmax		
	comp=Z,67nm,1.7s,mb4.8						
ANN	Anapa	26.18	299	eP	P	06 46 07.1	-5.3
	comp=Z,67nm,1.7s,mb4.8						
ZAK	Zakamensk	27.55	49	eP	P	06 46 28.3	+3.5
BRTR	Keskin Array B	28.91	288	P	P	06 46 36.1	-1.0
	comp=Z,0.5nm,0.4s,mb3.5,baz=158,slow=7.5,SNR=2.7						
BRTR	Keskin Array B	28.91	288	P	P	06 46 36.1	-1.0
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SONM	Songino Array	28.92	55	P	P	06 46 40.3	+3.2
	comp=Z,2.8nm,0.8s,mb3.9,baz=258,slow=8.9,SNR=18						
OBN	Obninsk	29.67	320	eP	P	06 46 48.4	+4.7
OBN				e		06 47 39.7	
OBN				eS	S	06 51 35.4	+2.8
OBN				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.2						
OBN				MLR	MLR		
	comp=Z,200nm,20.0s						
CMAR	Chiang Mai Arr	30.91	118	P	P	06 46 58.0	+2.9
	comp=Z,4.6nm,1.1s,mb4.1,baz=298,slow=8.9,SNR=12						
CMAR	Chiang Mai Arr	30.91	118	P	P	06 46 58.0	+2.9
CMAR				pmax	pmax		
	comp=Z,5.0nm,1.1s						
AKASG	Malin Array Be	32.58	309	P	P	06 47 06.0	-3.2
	comp=Z,0.5nm,0.5s,mb3.6,baz=83,slow=7.5,SNR=7.4						
AKASG	Malin Array Be	32.58	309	P	P	06 47 06.0	-3.3
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BOD	Bodaibo	35.85	39	eP	P	06 47 38.3	+1.0
WHN	Wuhan	37.00	86	eP	P	06 47 54.5	+7.3
FINES	FINESS Array B	37.28	326	P	P	06 47 46.8	-2.4
	comp=Z,1.2nm,0.8s,mb3.9,baz=155,slow=27,SNR=3.7						
FINES	FINESS Array B	37.28	326	P	P	06 47 46.8	-2.4
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NJ2	Nanjing	40.09	82	eP	P	06 48 15.3	+2.4
NJ2				AP	pP	06 48 33.3	+2.0
NJ2				S	S	06 54 14.0	+0.7
NJ2				XS		06 54 47.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.2						
NJ2				LR	LR		
	comp=N,560nm,23.6s						
NJ2				LR	LR		
	comp=E,590nm,22.0s						
NJ2				LR	LR		
	comp=Z,580nm,20.0s						
ARCES	ARCESS Array B	41.06	338	P	P	06 48 19.0	-1.5
	comp=Z,2.0nm,0.8s,mb4.0,baz=117,slow=8.1,SNR=7.2						
ARCES	ARCESS Array B	41.06	338	P	P	06 48 19.0	-1.5
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SSE	Sheshan	42.29	82	eP	P	06 48 31.3	+0.3
SSE				AMB	AMB		
	comp=Z,26nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,116nm,4.6s						
NB2	NORSAR Subarra	44.15	323	P	P	06 48 42.9	-2.7
	comp=Z,1.3nm,0.7s,mb3.8,baz=96,slow=7.9						
NOA	NORSAR Array B	44.15	323	P	P	06 48 42.5	-3.1
	comp=Z,1.7nm,0.8s,mb3.8,baz=99,slow=8.0,SNR=4.6						
NOA	NORSAR Array B	44.15	323	P	P	06 48 42.5	-3.1
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TIXI	Tiksi	46.14	22⇓	eP	P	06 49 02.6	+1.2
TIXI				e		06 50 50.1	
TIXI				pmax	pmax		
	comp=Z,15nm,2.1s,mb4.3						
TIXI				MLR	MLR		
	comp=Z,400nm,21.0s						
TIXI	Tiksi	46.14	22⇓	eP	P	06 49 02.6	+1.2
	comp=Z,15nm,2.1s,mb4.3						
TIXI				e		06 50 50.1	
TIXI				LR	LR		
	comp=Z,400nm,21.0s						
ESDC	Sonseca Array	57.00	298	P	P	06 50 19.4	-4.0
	comp=Z,0.4nm,0.4s,mb3.8,baz=326,slow=4.6,SNR=3.6						
ILAR	Eielson Array	75.09	16	P	P	06 52 18.8	+0.7
	comp=Z,1.9nm,0.9s,mb3.8,baz=315,slow=5.3,SNR=17						
ILAR	Eielson Array	75.09	16	P	P	06 52 18.8	+0.7
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
YKA	Yellowknife Ar	81.43	2	P	P	06 52 51.0	-1.9
	comp=Z,1.7nm,0.9s,mb3.9,baz=346,slow=5.1,SNR=4.1						
YKA	Yellowknife Ar	81.43	2	P	P	06 52 51.0	-1.9
YKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WRA	Warramunga Arr	82.42	121	P	P	06 52 58.8	-0.1
	comp=Z,1.2nm,1.0s,mb3.7,baz=325,slow=4.9,SNR=8.6						
WRA	Warramunga Arr	82.42	121	P	P	06 52 58.8	0.0
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
WB2	Warramunga Arr	82.43	121	eP	P	06 52 59.1	+0.2
ASAR	Alice Springs	84.66	124	P	P	06 53 10.2	+0.1
	comp=Z,0.9nm,0.8s,mb3.8,baz=318,slow=5.5,SNR=6.1						

*IDC **15** 06:55:03.0±1.6, 14.54N×54.43E, mb3.9/10, mb1 4.1/10, mb1mx4.0/18, Error ellipse: s-maj=47.3km s-min=21.6km az=46.0*

ISC 15 06:55:03.2±1.5**, 14.6N**±0.2×**54.4E**±0.2**, h10**km**, n10, σ0.93**/10**, mb3.9**/10**, Owen Fracture Zone region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASF	Jabal al Asfar	23.69	321	P	P	07 00 18.9	+2.9
	1.1nm,0.3s,mb3.7,baz=115,slow=19,SNR=2.8						
BVAR	Borovoye Array	40.35	15	P	P	07 02 42.6	0.0
	1.4nm,0.7s,mb3.8,baz=191,slow=7.6,SNR=4.6						
AKASG	Malin Array Be	41.36	336	P	P	07 02 50.8	-0.1
	0.1nm,0.2s,mb3.0,baz=137,slow=7.4,SNR=2.8						
CMAR	Chiang Mai Arr	42.76	79	P	P	07 03 02.7	-0.1
	0.5nm,0.3s,mb3.7,baz=270,slow=9.0,SNR=3.3						
ZAL	Zalesovo	45.88	25	P	P	07 03 27.9	+0.4
	1.4nm,0.3s,mb4.4,baz=302,slow=8.8,SNR=2.4						
FINES	FINESS Array B	51.00	343	P	P	07 04 06.5	-0.6
	0.8nm,0.6s,mb3.9,baz=135,slow=9.8,SNR=3.3						
SONM	Songino Array	54.04	41	P	P	07 04 30.7	+0.8
	0.3nm,0.7s,mb3.3,baz=68,slow=7.8,SNR=3.8						
ARCES	ARCESS Array B	57.81	348	P	P	07 04 54.9	-1.9
	6.1nm,1.3s,mb4.5,baz=153,slow=8.1,SNR=7.0						
WRA	Warramunga Arr	85.73	112	P	P	07 07 44.6	+0.2
	1.2nm,0.7s,mb4.2,baz=298,slow=3.8,SNR=13						
ASAR	Alice Springs	86.44	115	P	P	07 07 47.8	-0.1
	1.4nm,0.8s,mb4.3,baz=288,slow=4.5,SNR=14						

*IDC **15** 06:59:14.6±5.8, 5.95S×111.32E, h254km±63km, mb3.3/5, mb1 3.3/6, mb1mx3.2/16, Error ellipse: s-maj=44.3km s-min=27.2km az=28.0*

*DJA **15** 06:59:15.4±0.2, 7.84S×111.22E, h320km, MD4.5/6, ML5.3/6, Error ellipse: s-maj=84.0km s-min=4.9km az=12.0*

*NEIC **15** 06:59:18.9±1.3, 6.46S×111.53E, h259km±9km, mb3.9/2, Error ellipse: s-maj=50.9km s-min=10.8km az=195.0*

ISC 15 06:59:17.5±1.3**, 6.5S**±0.3×**111.5E**±0.1**, h260**km±7km**, n18, σ1.08**/27**, mb3.6**/6**, 5C-8D, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SRDI	Scrawed	3.26	128⇓	iPn	P	07 00 13.2	-0.6
	638nm,0.2s						
SRDI				⇓iSn	S	07 00 55.6	-2.0
SRDI	Scrawed	3.26	128⇓	iPn	P	07 00 13.2	-0.6
SRDI				i Sn	S	07 00 58.9	+1.3
KELI	Kelakatan	3.40	121⇓	iPn	P	07 00 17.3	+1.9
	251nm,0.3s						
RATI	Rata	4.54	120⇑	iPn	P	07 00 28.9	+0.3
	2µm,0.2s						
RATI				⇑iSn	S	07 01 23.5	-0.6
RATI	Rata	4.54	120⇓	iP	P	07 00 29.1	+0.5
RATI				i Sn	S	07 01 24.3	+0.2
KEDI	Kedomdong	4.95	114⇓	iPn	P	07 00 33.5	0.0
	415nm,0.2s						
KEDI				⇓iSn	S	07 01 32.1	-0.8
PASI	Pasiripis	5.92	268⇑	iPn	P	07 00 44.8	-0.6
	875nm,0.2s						
PASI				⇑iSn	S	07 01 49.7	-4.4
PASI	Pasiripis	5.92	268⇑	iP	P	07 00 44.8	-0.6
PASI				i Sn	S	07 01 44.8	-9.3
PENI	Pendagan	6.40	278⇓	iPn	P	07 00 53.8	+2.4
	151nm,0.3s						
FITZ	Fitzroy Crossi	17.96	131	eP	P	07 03 11.5	+0.2
	3.4nm,1.2s						
FITZ				eS	S	07 06 30.2	+11
FITZ	Fitzroy Crossi	17.96	131	P	P	07 03 11.7	+0.4
	0.2nm,0.3s,slow=11,SNR=4.4						
FITZ				S	S	07 06 30.3	+11
	0.1nm,0.3s,baz=173,slow=18,SNR=3.6						
KAKA	Kakadu	21.47	108	eP	P	07 03 54.6	+8.3
	3.5nm,0.5s,mb4.0						
WRA	Warramunga Arr	25.87	123	P	P	07 04 28.1	+0.6
	0.2nm,0.4s,mb2.9,baz=297,slow=11,SNR=16						
WB2	Warramunga Arr	25.88	123	eP	P	07 04 28.2	+0.6
ASAR	Alice Springs	27.46	131	P	P	07 04 42.0	0.0
	0.9nm,0.9s,mb3.2,baz=315,slow=8.9,SNR=5.9						
PMG	Port Moresby	35.38	97	P	P	07 05 48.8	-1.8
	3.0nm,0.3s,mb4.2,baz=136,slow=18,SNR=2.9						
STKA	Stephens Creek	37.75	136	P	P	07 06 11.1	+0.8
	2.3nm,0.3s,mb4.1,baz=330,slow=6.9,SNR=25						
VNDA	Vanda	75.67	170	P	P	07 10 34.6	-0.8
	0.3nm,0.7s,mb3.0,baz=310,slow=5.1,SNR=4.5						

CASC 15 07:31:02.2±1.4**, 11.47N**×**86.65W, h54**km±18km**, MD3.7, 3C-4D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRUN	El Crucero	0.62	34⇓	eP	P	07 31 15.2	0.0
CRUN				eS	S	07 31 24.8	0.0
TICN	Ticuantepe	0.70	36	eP	P	07 31 16.7	+0.6
TICN				eS	S	07 31 30.9	+4.4
COPN	Copaltepe	0.71	5⇑	eP	P	07 31 15.9	-0.4
COPN				eS	S	07 31 28.6	+1.7
APON	Apoyo	0.73	52⇑	eP	P	07 31 17.1	+0.6
XAVN	Gruta Xavier	0.75	25	eP	P	07 31 17.0	+0.2
XAVN				eS	S	07 31 33.0	+5.3
MGAN	Managua	0.79	30⇓	eP	P	07 31 17.2	-0.1
MGAN				eS	S	07 31 28.4	-0.1
APYN	Apoyeque	0.82	21	eP	P	07 31 17.7	-0.1
WILN	Americas 2	0.83	33	eP	P	07 31 18.1	+0.2
WILN				eS	S	07 31 29.7	+0.2
MOMJ	Momotombo	0.94	7	eP	P	07 31 19.2	-0.3
MOMJ				eS	S	07 31 33.2	+0.9
MIRN	Miramar	0.97	357⇑	eP	P	07 31 19.4	-0.4
LEON	Leon	0.97	346⇓	eP	P	07 31 19.2	-0.7
LEON				eS	S	07 31 33.2	+0.2
CNGN	Cerro Negro	1.03	358⇓	eP	P	07 31 19.7	-1.0
CNGN				eS	S	07 31 34.3	0.0
TELN	Telica	1.15	351	eP	P	07 31 22.5	+0.2
TELN				eS	S	07 31 37.5	+0.3
PYTN	Playitas	1.22	29	eP	P	07 31 22.6	-0.6
PYTN				eS	S	07 31 39.0	+0.1
QUIN	Quiabu	1.67	8	eP	P	07 31 29.8	+0.2

MOS 15 07:32:23.4±1.9**, 51.55N**×**98.85E, h15**km**, mb4.0**/1**, Error ellipse: s-maj=42.9km s-min=29.9km az=155.1, Tuva-Buryatia-Mongolia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ORL	Orlik	1.15	31	ePG	Pg	07 32 44.5	-2.1
MOY	Mondy	1.34	84	ePG	Pg	07 32 46.3	-4.0
MOY				e		07 33 11.6	
MOY				pmax	pmax		
	comp=Z,66nm,0.6s						
MOY				smax			
	comp=N,319nm,0.6s						
ARS	Arshan	2.25	79	ePN	Pn	07 33 00.7	-0.1
ARS				e		07 33 40.3	
ARS				pmax	pmax		
	comp=Z,34nm,0.2s						
ARS				smax			
	comp=N,260nm,0.5s						
TLY	Talaya	2.99	86	ePN	Pn	07 33 14.7	+3.4
TLY				eS	Sn	07 34 01.0	+14
ZAK	Zakamensk	3.04	111	ePN	Pn	07 33 11.8	-0.1
ZAK				e		07 33 55.6	
ZAK				pmax	pmax		
	comp=Z,20nm,0.5s						
ZAK				smax			
	comp=N,102nm,1.2s						

*NEIC **15** 07:42:48.2, 19.38N×68.46W, h129km, MD3.8(RSPR), After RSPR.*

RSPR 15 07:42:48.2, 19.38N×**68.46W, h129**km±12km**, MD3.8**/11**, 12C, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LSP	Las Mesas	1.76	132⇑	eP	P	07 43 18.6	-1.0
LSP				eS	S	07 43 43.1	-0.5
LRS	Lares	1.87	125⇑	eP	P	07 43 20.2	-0.7
LRS				eS	S	07 43 45.7	-0.2
MGP	Maguayo	1.88	136⇑	eP	P	07 43 18.4	-2.7
MGP				eS	S	07 43 45.4	-0.7
AOPR	Arecibo Observ	1.92	122⇑	eP	P	07 43 21.0	-0.4
AOPR				eS	S	07 43 46.7	-0.1
PORP	Portuguez	2.17	127⇑	eP	P	07 43 23.6	-1.1
PORP				eS	S	07 43 52.4	0.0
OBIP	Obispado Ponce	2.20	127⇑	eP	P	07 43 23.9	-1.1
OBIP				eS	S	07 43 53.0	-0.2
CELP	Cerrillos	2.20	126⇑	eP	P	07 43 24.1	-1.0
CELP				eS	S	07 43 53.4	+0.2
CSB	Colonia Sabana	2.43	116⇑	eP	P	07 43 27.9	-0.2
CSB				eS	S	07 43 57.2	-1.2
SJG	San Juan	2.52	119⇑	eP	P	07 43 29.2	-0.1
SJG				eS	S	07 44 00.8	+0.2
SJG	San Juan	2.52	119⇑	eP	P	07 43 29.0	-0.3
SJG				eS	S	07 43 59.4	-1.2
CPD	Cerro la Pandu	2.75	118⇑	eP	P	07 43 32.1	-0.3
CPD				eS	S	07 44 05.7	-0.2
HUMP	Col San Antoni	2.76	116⇑	eP	P	07 43 31.7	-0.7
HUMP				eS	S	07 44 05.0	-1.1

*IDC **15** 07:55:06.4±1.3, 11.19N×125.91E, mb3.9/6, mb1 4.0/6, mb1mx3.9/18, Error ellipse: s-maj=139.0km s-min=21.2km az=75.0*

*MAN **15** 07:55:12.2, 11.16N×125.44E, h14km, mb4.1, ML2.9, MS2.7*

ISC 15 07:55:09.1±1.4**, 11.07N**±0.06×**125.7E**±0.1**, h26**km±10km**, n13, σ1.10**/16**, mb3.9**/7**, Samar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BESP	Borongan	0.57	338	eP	Pb	07 55 20.9	+0.4
BESP				eS	Sb	07 55 27.8	-0.5
PLP	Palo	0.67	279	i P	Pb	07 55 20.9	-1.1
PLP				i S	Sb	07 55 26.4	-4.5
OCLP	Ormoc	1.02	269	eP	Pb	07 55 28.7	+0.7
MSLP	Maasin	1.21	220	eP	Pn	07 55 33.4	+2.9
MSLP						07 55 50.2	
CNP	Catarman	1.73	326	eP	Pn	07 55 38.7	+0.7
CNP				eS	Sn	07 55 58.8	-0.7
PVCP	Virac	2.91	330	eP	Pn	07 55 57.7	+2.8
KAKA	Kakadu	24.54	164	eP	P	08 00 34.8	+6.6
	9.3nm,0.6s,mb4.5						
FITZ	Fitzroy Crossi	28.98	180	P	P	08 01 09.1	0.0
	2.2nm,1.0s,mb3.8,baz=151,slow=12,SNR=2.6						
WRA	Warramunga Arr	31.98	164	P	P	08 01 33.9	-1.6
	0.3nm,0.6s,mb3.3,baz=345,slow=9.3,SNR=6.8						
ASAR	Alice Springs	35.45	167	P	P	08 02 05.2	-0.3
	0.4nm,0.3s,mb3.8,baz=349,slow=6.8,SNR=9.8						
SONM	Songino Array	40.07	340	P	P	08 02 44.0	0.0
	0.4nm,0.4s,mb3.5,baz=157,slow=7.9,SNR=3.6						
STKA	Stephens Creek	45.35	161	P	P	08 03 27.6	+0.4
	2.4nm,0.9s,mb4.0,baz=350,slow=12,SNR=3.7						
ARCES	ARCESS Array B	83.24	340	P	P	08 07 33.7	-0.6
	3.4nm,1.1s,mb4.3,baz=90,slow=4.5,SNR=3.6						

IDC 15 08:33:47.2±14.0**, 0.54N**×**126.23E, mb3.9**/4**, mb1 4.0**/4**, mb1mx3.7**/15**, Error ellipse: s-maj=238.0km s-min=95.9km az=146.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.86	159	P	P	08 38 41.3	-2.2
	1.8nm,0.5s,baz=337,slow=12,SNR=14						
ASAR	Alice Springs	25.20	163	P	P	08 39 15.7	-0.5
	0.7nm,0.4s,baz=346,slow=11,SNR=11						
CTA	Charters Tower	28.38	137	P	P	08 39 43.6	-1.9
	3.0nm,1.1s,baz=297,slow=11,SNR=2.0						
STKA	Stephens Creek	35.38	157	P	P	08 40 43.8	-3.0
	1.5nm,1.0s,baz=326,slow=11,SNR=4.4						

DJA 15 08:40:56.6±1.0**, 9.67S**×**113.73E, h99**km±35km**, MD4.9**/3**, ML3.8**/2**, 3C-3D, Error ellipse: s-maj=61.2km s-min=20.3km az=11.0, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SRDI	Scrawed	1.25	19⇑	iPn	P	08 41 19.4	-0.8
	43nm,0.2s						
SRDI				⇓iSn	S	08 41 36.9	-1.0
KELI	Kelakatan	1.63	28⇓	iPn	P	08 41 24.5	-0.3
KELI				⇓eSn	S	08 41 44.2	-1.6
RATI	Rata	2.01	62⇑	iPn	P	08 41 29.2	-0.6
	170nm,0.3s						
RATI				⇑iSn	S	08 41 53.0	-1.3

*IDC **15** 08:50:36.9±0.7, 55.51S×1.72W, mb4.4/9, mb1 4.5/10, mb1mx4.4/13, ML4.3/1, MS4.0/12, Ms1 4.0/12, ms1mx4.0/16, Error ellipse: s-maj=26.3km s-min=17.9km az=56.0*

*NEIC **15** 08:50:38.5±0.4, 55.38S×1.60W, h10km, mb4.7/8, Error ellipse: s-maj=11.9km s-min=7.2km az=82.0*

ISC 15 08:50:36.8±0.5**, 55.37S**±0.06×**1.6W**±0.2**, h10**km**, n36, σ0.88**/27**, mb4.5**/15**, MS4.1**/11**, 2C-4D, Bouvet Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	15.62	188⇓	i	P	08 54 19.5	+1.3
VNA2	Neumayer--Watz	15.82	187⇑	i	P	08 54 22.2	+1.3
VNA3	Neumayer Olymp	16.31	189⇓	i	P	08 54 28.0	+0.8
SNAA	Sanae	16.38	181⇓	i	P	08 54 27.2	-0.8
SNAA	Sanae	16.38	181	Pn	P	08 54 25.7	-2.3
	1.0nm,0.3s,baz=1.7,slow=15,SNR=174						
SNAA				Sn	S	08 57 11.4	-18
	0.1nm,0.3s,baz=253,slow=8.3,SNR=4.1						
SNAA				LR	LR	08 59 12.1	
	comp=Z,136nm,19.8s,baz=354,slow=32						
SNAA	Sanae	16.38	181	eP	P	08 54 27.6	-0.4
SYO	Syowa Base	22.99	143	⇓P	P	08 55 40.9	-1.2
SYO	Syowa Base	22.99	143	⇑P	P	08 55 45.0	+2.9
SUR	Sutherland	27.87	44	LR	LR	09 04 41.7	
	comp=Z,523nm,21.6s,MS4.1,baz=245,slow=30						
MAW	Mawson	31.52	139	P	P	08 57 00.6	0.0
	2.9nm,0.8s,mb4.2,baz=251,slow=8.1,SNR=5.8						
MAW				LR	LR	09 07 12.8	
	comp=Z,247nm,19.4s,MS3.9,baz=270,slow=32						
QSPA	South Pole Qui	34.88	180	eP	P	08 57 29.1	-0.6
	16nm,1.3s,mb4.8						
USHA	Ushuaia	36.89	242	LR	LR	09 08 16.6	
	comp=Z,577nm,21.4s,MS4.3,baz=147,slow=29						
TSUM	Tsumeb	38.93	30	P	P	08 58 05.6	+1.1
	4.2nm,0.9s,mb4.2,baz=198,slow=9.6,SNR=8.0						
TRQA	Tornquist	43.36	268	eP	P	08 58 41.1	+0.5
	11nm,1.0s,mb4.5						
LSZ	Lusaka	46.13	42	eP	P	08 59 03.7	+0.6
	7.4nm,1.0s,mb4.6						
SBA	Scott Base	46.85	177	eP	P	08 59 07.7	-0.3
	7.7nm,1.3s,mb4.5						
VNDA	Vanda	46.98	175	P	P	08 59 08.0	-1.0
	4.4nm,1.1s,mb4.3,baz=223,slow=8.2,SNR=16						
VNDA				LR	LR	09 18 29.5	
	comp=Z,211nm,19.1s,MS4.1,baz=205,slow=36						
VNDA	Vanda	46.98	175	eP	P	08 59 08.0	-1.0
	3.2nm,0.7s,mb4.4						
VNDA				LR	LR	09 18 29.5	
CPUP	Villa Florida	49.38	282	P	P	08 59 27.5	-0.8
	4.9nm,1.0s,mb4.5,baz=153,slow=6.1,SNR=8.5						
CPUP				LR	LR	09 16 23.5	
	comp=Z,259nm,21.0s,MS4.2,baz=163,slow=31						
CPUP	Villa Florida	49.38	282	eP	P	08 59 28.2	-0.1
BDFB	Brasilia	53.17	299	P	P	08 59 56.5	-0.6
	8.5nm,1.1s,mb4.6,baz=76,slow=7.0,SNR=5.9						
BDFB				LR	LR	09 17 38.3	
	comp=Z,270nm,21.8s,MS4.3,baz=282,slow=30						
LVC	Limon Verde	58.82	275	eP	P	09 00 37.8	+0.2
	14nm,1.4s,mb4.8						
DBIC	Dimbokro	61.87	356	P	P	09 00 58.7	+0.1
	7.1nm,1.0s,mb4.8,baz=193,slow=8.4,SNR=4.4						
DBIC				LR	LR	09 20 55.5	
	comp=Z,83nm,19.6s,MS3.9,baz=174,slow=29						
LPAZ	La Paz	63.41	280	P	P	09 01 09.4	+0.6
	5.6nm,0.9s,mb4.7,baz=121,slow=7.3,SNR=20						
LPAZ				LR	LR	09 25 08.7	
	comp=Z,190nm,21.7s,MS4.2,baz=277,slow=33						
LPAZ	La Paz	63.41	280	eP	P	09 01 09.1	+0.4
	21nm,1.3s,mb5.1						
LPAZ				LR	LR	09 25 08.7	
SAML	Samuel	66.69	289	eP	P	09 01 29.3	-0.7
	13nm,1.6s,mb4.7						
STKA	Stephens Creek	87.58	149	P	P	09 03 25.7	-0.2
	2.0nm,0.8s,mb4.4,baz=131,slow=10,SNR=3.2						
ASAR	Alice Springs	92.64	140	P	P	09 03 48.2	-1.5
	1.1nm,0.9s,mb4.3,baz=197,slow=4.6,SNR=8.2						
ASAR				LR	LR	09 43 36.4	
	comp=Z,37nm,18.3s,MS3.9,baz=238,slow=34						
WRA	Warramunga Arr	96.19	139	LR	LR	09 42 43.2	
	comp=Z,48nm,18.6s,MS4.0,baz=110,slow=32						
BRTR	Keskin Array B	99.39	27	LR	LR	09 50 53.4	
	comp=Z,56nm,18.8s,MS4.1,baz=270,slow=36						
NVAR	Mina Array Bea	135.19	275	PKP	PKPdf	09 09 58.0	-1.3
	0.1nm,0.4s,baz=132,slow=3.5,SNR=3.5						
SONM	Songino Array	136.53	69	PKP	PKPdf	09 10 01.9	+0.6
	0.1nm,0.4s,baz=83,slow=22,SNR=2.5						
YKA	Yellowknife Ar	146.16	310	PKPbc	PKPbc	09 10 16.7	+0.8
	3.8nm,1.1s,baz=107,slow=3.9,SNR=6.0						
YKA	Yellowknife Ar	146.16	310	PKPbc	PKPbc	09 10 16.7	+0.8
INK	Inuvik	154.67	320	PKPbc	PKPdf	09 10 38.0	+7.5
ILAR	Eielson Array	160.53	313	PKPab	PKPab	09 11 18.5	-0.1
	1.1nm,1.0s,baz=87,slow=2.7,SNR=7.2						

*PRU **15** 08:55:25.9, 48.07N×15.56E*

*CSEM **15** 08:55:25.6±0.1, 48.05N×15.54E, h25km, ML2.6/5, Error ellipse: s-maj=2.5km s-min=1.6km az=109.0*

*IPEC **15** 08:55:26.4±0.2, 48.02N×15.62E, ML1.6/2, Error ellipse: s-maj=2.1km s-min=0.8km az=133.0*

ISC 15 08:55:27.9±0.6**, 48.00N**±0.03×**15.66E**±0.07**, h25**km**, n12, σ1.50**/21**, 3C-1D, Austria**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARSA	Arzberg	0.75	187⇓	iPG	Pb	08 55 41.4	-0.9

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
ARSA				i SG	Sb	08 55 50.3	-1.8
	12nm,0.4s						
ARSA	Arzberg	0.75	187	ePg	Pb	08 55 41.5	-0.8
	baz=4.8						
ARSA				i Sg	Sb	08 55 50.3	-1.8
	12nm,0.4s						
MOA	Molln	0.95	262	⇑iPG	Pb	08 55 43.2	-2.4
MOA				i SG	Sb	08 55 55.9	-1.9
	8.7nm,0.2s						
MOA	Molln	0.95	262	ePg	Pb	08 55 43.6	-2.0
	baz=79						
MOA				eSg	Sb	08 55 55.8	-2.0
	9.8nm,0.3s,baz=79						
KRUC	Moravsky	1.17	24	ePg	Pn	08 55 48.0	-0.9
	baz=206						
KRUC				eSg	Sb	08 56 04.1	-0.1
	8.7nm,0.3s,baz=206						
VRAC	Vranov	1.45	25	ePg	Pn	08 55 52.8	-0.1
	baz=207						
VRAC				eSg	Sn	08 56 11.5	+0.2
	baz=207						
OBKA	Obir	1.67	207	⇑iPG	Pn	08 55 58.1	+2.0
OBKA				i SG	Sn	08 56 19.8	+2.9
	4.2nm,0.3s						
KHC	Kasperske Hory	1.79	310	ePG	Pn	08 55 57.1	-0.7
KHC				eSG	Sn	08 56 19.4	-0.5
KBA	Koelnbreinsper	1.82	241	⇑iPG	Pn	08 55 59.6	+1.4
KBA				i SG	Sn	08 56 23.5	+2.8
	6.3nm,0.3s						
PRU	Pruhonice	2.13	340	eSG	Sn	08 56 30.3	+1.8
DPC	Dobruska-Polom	2.40	10	eSG	Sn	08 56 40.3	+5.0
NKC	Novy Kostel	3.08	318	eSG	Sn	08 56 59.6	+7.0

*IDC **15** 09:00:03.9±3.9,64.62N×32.32E,mb1 3.1/4, mb1mx3.0/18,ML2.4/4,Error ellipse: s-maj=51.5km s-min=12.5km az=102.0*
*HEL **15** 09:00:08.3±0.3,64.76N×30.65E,ML1.6,ML1.8(UPP), Explosion*
ISC 15 09:00:06.1±0.7,**64.76N**±0.02×**30.7E**±0.1,**n21**,σ**1s18**/34, **Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
MSF	Maaselka	1.34	330	eP	Pb	09 00 32.3	+0.5
MSF				eS	Sb	09 00 49.5	+0.1
KJN	Kajaani	1.45	243	eP	Pn	09 00 32.6	-1.0
KJN				eS	Sb	09 00 52.5	-0.1
JOF	Joensuu	1.87	171	eP	Pn	09 00 38.9	-0.8
JOF				eS	Sn	09 01 05.5	+1.2
OUL	Oulu	2.06	281	eP	Pn	09 00 44.4	+2.1
OUL				eS	Sn	09 01 11.2	+2.1
SUF	Sumiainen	2.87	226	eP	Pn	09 00 55.5	+1.6
SUF				eS	Sn	09 01 29.6	-0.1
SUF				eSB	Sb	09 01 34.8	+1.0
SUF				MSG		09 01 39.2	
	comp=Z,1.6nm,0.2s						
SGF	Sodankyl	3.17	330	eP	Pn	09 00 59.6	+1.4
SGF				eS	Sn	09 01 37.5	+0.1
KAF	Kangasniemi	3.30	218	eP	Pn	09 01 02.0	+2.0
KAF				eS	Sn	09 01 39.5	-1.1
KEF	Keuruu	3.68	228	eP	Pn	09 01 06.2	+0.7
KEF				eS	Sn	09 01 48.6	-1.6
SJUU	Sjulsmark	3.90	285	eP	Pn	09 01 09.5	+0.9
FIA0	FINESS Array S	3.93	214	eP	Pn	09 01 09.8	+0.8
FINES	FINESS Array B	3.93	214	Pn	Pn	09 01 08.4	-0.6
	comp=Z,0.1nm,0.3s,baz=41,slow=13,SNR=2.9						
FINES				Sn	Sn	09 02 00.4	+3.9
	comp=Z,0.1nm,0.3s,baz=38,slow=23,SNR=2.5						
FINES				Lg		09 02 09.6	
	comp=Z,0.5nm,0.3s,baz=40,slow=28,SNR=6.2						
ERTU	Ertsjaerv	3.94	301	eP	Pn	09 01 10.8	+1.6
BURU	Burvik	4.00	272	eP	Pn	09 01 09.6	-0.4
UMAU	Umeaa	4.43	263	eP	Pn	09 01 15.0	-1.2
PVF	Pernaja	4.78	210	eP	Pn	09 01 21.8	+0.8
PVF				eS	Sn	09 02 15.5	-2.4
SVAU	Svanoeiden	4.78	272	eP	Pn	09 01 19.8	-1.3
ARCES	ARCESS Array B	5.20	340	Pn	Pn	09 01 26.4	-0.5
	comp=Z,0.1nm,0.3s,baz=153,slow=14,SNR=6.4						
ARCES				Sn	Sn	09 02 27.9	-0.7
	comp=Z,0.1nm,0.3s,baz=151,slow=23,SNR=2.6						
ARCES				Lg		09 02 52.5	
	comp=Z,0.4nm,0.3s,baz=151,slow=30,SNR=8.0						
KEV	Kevo	5.21	346	eP	Pn	09 01 26.9	-0.3
KEV				eS	Sn	09 02 27.0	-1.9
BREU	Bredtraesk	5.33	266	eP	Pn	09 01 28.2	-0.6
HFS	Hagfors	9.12	247	Pn	P	09 02 20.9	-1.0
	comp=Z,0.0nm,0.3s,baz=49,slow=9.8,SNR=3.1						
NOA	NORSAR Array B	9.61	256	Pn	P	09 02 27.1	-1.4
	comp=Z,0.1nm,0.3s,baz=52,slow=13,SNR=2.3						

*STR **15** 09:01:58.2±0.2,49.37N×6.86E,h1km±1km,Ml2.9,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **15** 09:01:58.9±0.1,49.37N×6.91E,h1km,Md3.1/2,Ml3.5/26, Error ellipse: s-maj=1.0km s-min=1.0km az=154.0, Suspected Mining induced.*
*NEIC **15** 09:01:58.2,49.37N×6.86E,h1km,ML3.5(LDG), ML2.9(STR),ML2.8(LEDBW),After STR.*
*CSEM **15** 09:01:58.7±0.0,49.37N×6.93E,h2km,ML3.5/21,Error ellipse: s-maj=0.8km s-min=0.8km az=176.0*
*BGR **15** 09:01:58.8±0.2,49.38N×6.92E,h1km,ML2.6/2,Error ellipse: s-maj=2.2km s-min=1.1km az=88.0*
*LEDBW **15** 09:01:59.2±0.6,49.39N×6.96E,h1km,ML2.8,Error ellipse: s-maj=16.0km s-min=10.0km az=100.0*
*BNS **15** 09:01:59.8±1.2,49.41N×6.95E,h1km,ML2.8*
ISC 15 09:01:56.7±0.2,**49.34N**±0.01×**6.84E**±0.02,**n114**, σ**1s23**/215,**3C-1D,Germany**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
RUP	Ruppelstein	0.39	22	ePg	Pg	09 02 05.6	+1.2
RUP	Ruppelstein	0.39	22	Pg	Pg	09 02 05.4	+1.0
RUP				Sg	Sg	09 02 10.2	+0.6
WLF	Walferdange	0.55	306	ePg	Pg	09 02 10.0	+2.4
WLF				eSg	Sg	09 02 17.1	+2.1
	SNR=3.6						
WLF	Walferdange	0.55	306	ePg	Pg	09 02 09.7	+2.0
ABH	Alteburg	0.71	40	ePg	Pg	09 02 10.8	0.0
ABH				eSg	Sg	09 02 19.6	-0.7
	SNR=6.9						
ABH	Alteburg	0.71	40	Pg	Pg	09 02 10.8	0.0
ABH				Sg	Sg	09 02 19.4	-0.9
LANF	Langenberg	0.73	119	eP	Pg	09 02 12.0	+0.8
LANF	Langenberg	0.73	119	Pg	Pg	09 02 11.9	+0.6
LANF				Sg	Sg	09 02 22.7	+1.7
KTD	Kalmit	0.81	91	Pg	Pg	09 02 12.6	-0.3
KTD	Kalmit	0.81	91	Pg	Pg	09 02 12.9	0.0
KTD				Sg	Sg	09 02 25.3	+1.5
BGG	Burgeitz	0.92	20	ePg	Pg	09 02 15.5	+0.4
CDF	Champ du Feu	0.98	163	ePg	Pg	09 02 16.9	+0.8
CDF				ePn	Pn	09 02 18.0	+0.6
CDF				eSg	Sg	09 02 30.0	+0.9
	149nm,0.2s						
CDF				eSn	Sn	09 02 31.9	-0.2
WLS	Welschbruch	0.99	160	ePg	Pg	09 02 17.5	+1.0
WLS				eSg	Sg	09 02 31.9	+2.2
	SNR=3.9						
WLS	Welschbruch	0.99	160	Pg	Pg	09 02 17.3	+0.8
WLS				Sg	Sg	09 02 30.4	+0.7
WLS	Welschbruch	0.99	160	Pg	Pg	09 02 17.5	+1.0
WLS				Sg	Sg	09 02 30.4	+0.7
ECH	Echery	1.15	169	ePn	Pn	09 02 20.4	+0.5
ECH				ePg	Pg	09 02 21.1	+1.5
ECH				eSg	Sg	09 02 36.2	+1.3
	SNR=5.7						
ECH	Echery	1.15	169	Pg	Pg	09 02 21.0	+1.4
ECH				Sg	Sg	09 02 35.9	+1.0
ECH	Echery	1.15	169	Pg	Pg	09 02 21.0	+1.4
ECH				Sg	Sg	09 02 35.9	+1.0
RFYF	Reffroy	1.15	232	ePg	Pg	09 02 21.7	+2.1
	baz=50						
RFYF				eSn	Sn	09 02 37.1	+0.6
	320nm,0.3s,baz=53						
SWS	Schriesheim	1.23	83	ePg	Pg	09 02 20.2	-0.9
SWS				eSg	Sg	09 02 36.8	-0.7
SWS	Schriesheim	1.23	83	eP	Pb	09 02 20.2	-0.2
SWS				eSg	Sg	09 02 36.8	-0.6
THEF	They Montfort	1.25	207	ePn	Pn	09 02 22.9	+1.5
THEF				eSg	Sg	09 02 40.0	+1.7
	SNR=10						
THEF	They Montfort	1.25	207	Pg	Pg	09 02 22.5	+0.8
THEF	They Montfort	1.25	207	Pn	Pn	09 02 22.9	+1.5
THEF	They Montfort	1.25	207	Sg	Sg	09 02 40.0	+1.7
	SNR=10						
STB	Steinbach	1.25	0	ePg	Pg	09 02 22.8	+1.1
STB				eSg	Sg	09 02 38.5	+0.1
	120nm,0.9s						
LIBD	Limburg	1.30	157	ePn	Pn	09 02 24.1	+2.1
LIBD				eSg	Sg	09 02 40.8	+1.0
	SNR=4.0						
LIBD	Limburg	1.30	157	Pg	Pg	09 02 23.7	+1.1
LIBD	Limburg	1.30	157	eP	Pn	09 02 24.1	+2.1
TOD	Tromm	1.31	78	ePn	Pb	09 02 21.4	-0.5
TOD				ePg	Pg	09 02 21.4	-1.4
TOD				Sg	Sg	09 02 39.5	-0.7
TOD	Tromm	1.31	78	eP	Pb	09 02 21.4	-0.5
TOD				S	Sg	09 02 39.5	-0.7
TOD	Tromm	1.31	78	eP	Pb	09 02 21.4	-0.4
TOD				Sg	Sg	09 02 39.5	-0.7
TOD	Tromm	1.31	78	Pg	Pg	09 02 22.1	-0.7
TOD				Sg	Sg	09 02 39.5	-0.7
KLL	Kalltalsperre	1.35	346	ePg	Pg	09 02 23.2	-0.3
KLL				eSg	Sg	09 02 40.5	-1.0
	68nm,0.9s						
MEM	Membach	1.38	337	P	Pb	09 02 23.8	+0.8
BFO	Black Forest	1.41	135	ePn	Pn	09 02 23.6	-0.1
BFO				ePg	Pg	09 02 25.1	+0.3
BFO				Sn	Sn	09 02 42.0	-1.2
BFO				eSg	Sg	09 02 43.9	+0.2
BFO	Black Forest	1.41	135	eP	Pn	09 02 23.6	-0.1
BFO				eP		09 02 25.1	
BFO				eS	Sg	09 02 43.9	+0.2
BFO	Black Forest	1.41	135	ePn	Pn	09 02 24.1	+0.4
BFO				ePg	Pg	09 02 25.4	+0.5
BFO				eSg	Sg	09 02 43.7	0.0
MEZF	Maizieres J'vi	1.45	235	ePn	Pn	09 02 25.2	+1.0
	baz=59						
MEZF				ePg	Pg	09 02 27.0	+1.4
	baz=52						
MEZF				eSn	Sn	09 02 44.3	+0.1
MEZF				eSg	Sg	09 02 46.3	+1.4
	159nm,0.4s						
MEZF	Maizieres J'vi	1.45	235	ePg	Pg	09 02 27.0	+1.4
MEZF				eSn	Sn	09 02 44.3	+0.1
MEZF				eSg	Sg	09 02 46.3	+1.4
	79nm,0.4s						
LBG	Lerchenberg	1.46	117	Pn	Pn	09 02 25.2	+0.9
LBG				ePg	Pg	09 02 25.8	0.0
LBG	Lerchenberg	1.46	117	ePG	Pg	09 02 25.8	+0.1
LBG	Lerchenberg	1.46	117	P	Pn	09 02 25.2	+0.9
LBG				ePg	Pg	09 02 25.8	+0.1
LBG	Lerchenberg	1.46	117	Pg	Pg	09 02 25.8	+0.1
MOF	Molkenrain	1.50	172	ePn	Pn	09 02 27.5	+2.5
MOF				Sn	Sn	09 02 44.7	-0.9
MOF				Sg	Sg	09 02 47.9	+1.1
MOF	Molkenrain	1.50	172	eP	Pn	09 02 27.5	+2.5
MOF				S	Sg	09 02 47.9	+1.1
MOF	Molkenrain	1.50	172	Pg	Pg	09 02 27.2	+0.5
GIVF	Givet	1.51	301	ePn	Pn	09 02 26.2	+1.1
GIVF				eSn	Sn	09 02 45.3	-0.5
GIVF				eSg	Sg	09 02 47.7	+0.7
	206nm,0.6s						
HINF	Hinteralfeld	1.53	180	ePn	Pn	09 02 26.2	+0.9
HINF				ePg	Pg	09 02 27.9	+0.7
HINF				eSn	Sn	09 02 45.4	-0.8
HINF				eSg	Sg	09 02 48.2	+0.7
	254nm,0.3s						
HGN	Heimansgroeve	1.54	338	ePn	Pn	09 02 25.9	+0.5
	SNR=2.5						
HGN				ePg	Pg	09 02 27.7	+0.3
HGN				eSg	Sg	09 02 47.2	-0.7
	SNR=2.3						
HGN	Heimansgroeve	1.54	338	ePg	Pg	09 02 25.7	-1.7
	35nm,0.3s						
HGN				eSg	Sg	09 02 46.4	-1.5
HGN				eRg		09 03 11.9	
HGN	Heimansgroeve	1.54	338	eSg	Sg	09 02 46.4	-1.5
HGN	Heimansgroeve	1.54	338	ePg	Pg	09 02 25.7	-1.7
	35nm,0.3s						
KIZ	Kirchzarten	1.56	152	ePn	Pn	09 02 27.8	+2.0
KIZ				ePg	Pg	09 02 28.3	+0.4
KIZ				Sn	Sn	09 02 45.3	-1.8
KIZ				eSg	Sg	09 02 48.5	-0.2
KIZ	Kirchzarten	1.56	152	S	Sb	09 02 45.3	-1.1
KIZ	Kirchzarten	1.56	152	eP	Pn	09 02 27.8	+2.0
KIZ				ePg	Pg	09 02 28.3	+0.4
KIZ				S	Sb	09 02 45.3	-1.1
KIZ				eSg	Sg	09 02 48.5	-0.2
DOU	Dourbes	1.64	298	P	Pn	09 02 28.0	+1.1
SFTF	Sexfontaines	1.65	227	ePn	Pn	09 02 28.2	+1.2
SFTF				ePg	Pg	09 02 30.6	+1.0
SFTF				eSn	Sn	09 02 49.0	-0.2
SFTF				eSg	Sg	09 02 51.9	+0.4
	83nm,0.2s						
FELD	Feldberg	1.66	152	Pn	Pn	09 02 29.1	+1.9
FELD				Sg	Sg	09 02 51.6	-0.3
FELD	Feldberg	1.66	152	P	Pn	09 02 29.1	+1.9
FELD				Sg	Sg	09 02 51.7	-0.2
FELD	Feldberg	1.66	152	Pg	Pg	09 02 29.7	-0.1
FELD				Sg	Sg	09 02 51.7	-0.2
SPAK	Spaichingen	1.79	133	Pg	Pg	09 02 32.3	-0.1
SPAK	Spaichingen	1.79	133	Pg	Pg	09 02 32.1	-0.3
SIND	Sindeldorf	1.81	89	Pn	Pn	09 02 28.5	-0.9
BAIF	Baives	1.85	294	ePn	Pn	09 02 31.1	+1.1
BAIF				ePg	Pg	09 02 34.0	+0.4
BAIF				eSg	Sg	09 02 58.4	+0.1
	37nm,0.3s						
BUCH	Bad Urach	1.89	117	Pn	Pn	09 02 30.9	+0.4
BUCH				i Pg	Pg	09 02 34.0	-0.3
BUCH	Bad Urach	1.89	117	i PG	Pg	09 02 34.0	-0.3
BUCH	Bad Urach	1.89	117	P	Pn	09 02 30.9	+0.5
BUCH				i Pg	Pg	09 02 34.0	-0.3
BUCH	Bad Urach	1.89	117	i Pg	Pg	09 02 34.0	-0.3
GUT	Gutenstein	1.97	129	Pn	Pn	09 02 34.4	+2.7
GUT				Pg	Pg	09 02 35.8	-0.3
GUT				Sg	Sg	09 03 01.3	-1.1
GUT	Gutenstein	1.97	129	SG	Sg	09 03 01.3	-1.1
GUT	Gutenstein	1.97	129	P	Pn	09 02 34.4	+2.7
GUT				S	Sg	09 03 01.3	-1.1
LOMF	Lomont	1.99	180	ePn	Pn	09 02 33.3	+1.4
	SNR=5.3						
LOMF				Sg	Sg	09 03 03.1	+0.1
LOMF	Lomont	1.99	180	S	Sg	09 03 03.1	+0.1
SNF	Seneffe	2.02	306	P	Pn	09 02 34.0	+1.6
SISB	Singen-Sch Ber	2.18	139	P*	Pb	09 02 40.0	+3.3
SISB				eS*	Sb	09 03 09.2	+4.9
UBBA	Unterbreizbach	2.52	53	eSg	Sg	09 03 16.9	-3.6
	SNR=3.6						
WTSB	Winterswijk	2.63	359	eSn	Sn	09 03 17.4	+3.3
	68nm,0.3s						
UBR	Uberruh	2.74	126	Pn	Pn	09 02 42.6	0.0
CABF	La Chapelle	2.78	191	ePn	Pn	09 02 43.6	+0.4
CABF				ePg	Pg	09 02 51.3	-0.9
CABF				eSg	Sg	09 03 26.6	-2.6
	83nm,0.6s						
LOR	Lormes	2.88	225	ePn	Pn	09 02 44.4	-0.2
	baz=43						
LOR				eSn	Sn	09 03 19.1	-1.3
LOR				eSg	Sg	09 03 30.5	-1.9
	50nm,0.3s,baz=37						
SSF	Saint Saulge	3.19	226	ePn	Pn	09 02 48.6	-0.5
SSF				eSn	Sn	09 03 25.1	-3.3
SSF				eSg	Sg	09 03 40.4	-2.5
	24nm,0.5s						
CLZ	Clausthal	3.37	41	ePg	Pg	09 03 00.8	-3.1
SMF	Signal de Mont	3.37	218	ePn	Pn	09 02 50.8	-0.8
SMF				eSn	Sn	09 03 30.7	-2.2
SMF				eSg	Sg	09 03 46.4	-2.4
	31nm,0.3s						
AVF	Avril sur Loir	3.46	224	ePn	Pn	09 02 52.4	-0.5
AVF				eSn	Sn	09 03 33.5	-1.8
AVF				eSg	Sg	09 03 49.2	-2.7
	21nm,0.4s						
MOTA	Moosalm	3.48	123	⇑iPN	Pn	09 02 54.0	+0.8
MOTA				i SN	Sn	09 03 34.5	-1.1
HYF	Humbligny	3.49	235	ePn	Pn	09 02 53.2	-0.1
HYF				eSg	Sg	09 03 52.2	-0.6
WERD	Werda	3.70	71	eSg	Sg	09 03 54.6	-5.4
	SNR=4.0						
NKC	Novy Kostel	3.74	74	ePG	Pg	09 03 08.0	-3.4
NKC				eSG	Sg	09 03 53.2	-8.1
TANN	Tannenbergstha	3.79	71	ePg	Pg	09 03 09.0	-3.3
TANN				eSg	Sg	09 03 57.1	-5.8
	SNR=2.4						
WTTA	Wattenberg	3.82	121	⇑iPN	Pn	09 02 58.5	+0.5
WTTA				i SN	Sn	09 03 42.0	-2.3
LPL	La Plagne	3.83	181	eSg	Sg	09 04 00.0	-4.2
	7.8nm,0.3s						
LPG	La Plagne	3.85	181	ePn	Pn	09 02 58.1	-0.3
LPG				eSg	Sg	09 04 00.0	-4.8
	6.4nm,0.3s						
BGF	Bois d'Agland	3.87	225	ePn	Pn	09 02 57.7	-1.0
BGF				eSg	Sg	09 04 02.6	-2.8
	99nm,0.5s						
TCF	Toulx Ste Croi	4.37	227	eSn	Sn	09 03 52.0	-6.2
TCF				eSg	Sg	09 04 17.6	-4.4
	24nm,0.6s						
CLL	Collm	4.41	61	eSg	Sg	09 04 18.0	-5.6
KHC	Kasperske Hory	4.42	90	ePn	Pn	09 03 05.5	-1.1
KHC				e		09 03 19.5	
KHC				eSn	Sn	09 03 55.0	-4.6
KHC				e		09 04 17.5	
KHC	Kasperske Hory	4.42	90	ePN	Pn	09 03 05.5	-1.1
KHC				PG	Pg	09 03 19.5	-5.4
KHC				eSN	Sn	09 03 55.0	-4.6
KHC				ex	x	09 04 17.5	
ORIF	Oris-en-Rattie	4.47	189	ePn	Pn	09 03 06.4	-0.9
ORIF				eSg	Sg	09 04 20.0	-5.6
	16nm,0.5s						
LDF	La Druitiere	4.65	263	ePn	Pn	09 03 09.4	-0.4
LDF				ePg	Pg	09 03 26.2	-3.2
LDF				eSg	Sg	09 04 26.4	-4.9
	8.2nm,0.3s						
BRG	Berggiesshubel	4.82	69	ePg	Pg	09 03 25.2	-7.7
BRG				eSg	Sg	09 04 31.7	-5.5
FLN	La Foliniere	4.85	266	ePn	Pn	09 03 11.9	-0.7
FLN				eSg	Sg	09 04 32.3	-5.8
	14nm,0.4s						
KBA	Koelnbreinsper	4.91	115	⇑iPN	Pn	09 03 13.5	+0.1
KBA				i SN	Sn	09 04 08.8	-3.0
PRU	Pruhonice	5.04	80	eSG	Sg	09 04 38.2	-6.4
	21nm,1.2s						
MOA	Molln	5.15	104	⇓iPN	Pn	09 03 15.7	-1.2
MOA				i SN	Sn	09 04 13.6	-4.3
GRR	Gorron	5.17	262	eSn	Sn	09 04 13.4	-5.0
	8.3nm,0.3s						
RJF	Les Rejaudoux	5.42	224	eSg	Sg	09 04 49.6	-7.6
	10nm,0.3s						
MFF	Saint Martin d	5.43	242	ePn	Pn	09 03 19.4	-1.5
CAF	Calviac	5.49	218	eSg	Sg	09 04 52.3	-7.1
	5.3nm,0.3s						
LASF	Ste Croix	5.65	202	eSg	Sg	09 04 56.5	-8.4
	13nm,0.6s						
DPC	Dobruska-Polom	6.22	77	eSG	Sg	09 05 17.8	-5.9
SGMF	Saint Gilles	6.30	264	ePn	Pn	09 03 31.5	-1.7
ROSF	Rostrenen	6.75	265	ePn	Pn	09 03 37.3	-2.2
QUIF	Quistinic	6.78	262	ePn	Pn	09 03 37.8	-2.1

CASC 15 09:03:23.2±3.0,**10.66N**×**86.55W,h20**km±14km,**MD3.9, 4C-4D,Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
VCR	Vista de Mar	1.04	120	⇑eP	Pb	09 03 42.0	-0.5
VCR				eS	Sb	09 03 55.5	-0.2
LIM	Lima	1.27	88	⇑iP	Pn	09 03 45.1	-1.0
APON	Apoyo	1.34	21	eP	Pn	09 03 48.9	+1.9
CRUN	El Crucero	1.34	10	eP	Pn	09 03 46.3	-0.7
TICN	Ticuantepe	1.40	13	eP	Pn	09 03 47.6	-0.3
MGAN	Managua	1.51	11	⇓eP	Pn	09 03 48.3	-1.2
MGAN				eS	Sn	09 04 10.1	+1.4
COPN	Copaltepe	1.51	358	⇓eP	Pn	09 03 48.1	-1.5
COPN				eS	Sn	09 04 08.3	-0.6
WILN	Americas 2	1.54	13	eP	Pn	09 03 49.6	-0.2
APYN	Apoyeque	1.58	7	⇑eP	Pn	09 03 49.3	-1.2
APYN				eS	Sn	09 04 12.4	+1.9
JCR	Jicaral	1.63	119	eP	Pn	09 03 50.2	-0.9
JCR				eS	Sn	09 04 10.1	-1.6
MOMJ	Momotombo	1.74	0	eP	Pn	09 03 51.0	-1.8
MIRN	Miramar	1.78	355	⇓eP	Pn	09 03 51.7	-1.6
MIRN				eS	Sn	09 04 15.7	+0.2
LEON	Leon	1.78	349	⇑eP	Pn	09 03 51.4	-2.0
LEON				eS	Sn	09 04 15.0	-0.6
FORC	Fortuna	1.86	96	eP	Pn	09 03 55.3	+0.9
PYTN	Playitas	1.93	14	eP	Pn	09 03 56.3	+0.8
CGA2	Cerro Gallo 2	2.15	107	⇓eP	Pn	09 03 58.9	+0.3
LAJ	Bijagual	2.52	108	eP	Pn	09 03 59.9	-4.0
LCR2	La Lucha 2	2.67	110	eP	Pn	09 04 07.7	+1.7
ICR	Volcan Irazu	2.76	104	eP	Pn	09 04 06.9	-0.5
TRTC	Tortuguero	2.79	91	eP	Pn	09 04 08.0	+0.2
URSC	Urasca	2.85	106	eP	Pn	09 04 09.8	+1.2
URSC				eS	Sn	09 04 46.0	+3.4
BUS	Buena Vista	2.96	111	eP	Pn	09 04 09.7	-0.5

IDC 15 09:07:28.3±18.0,**22.88S**×**178.20W,h605**km±154km, **mb2.9**/5,**mb1 3.1**/6,**mb1mx3.0**/15,**Error ellipse: s-maj=201.0km s-min=23.6km az=44.0,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
URZ	Urewera	15.85	194	P	P	09 10 42.5	-1.9
	0.5nm,0.3s,baz=184,slow=23,SNR=2.7						
URZ				S	S	09 13 10.8	-11
	0.3nm,0.3s,baz=7.3,slow=19,SNR=3.4						
RPZ	Rata Peaks	22.60	201	P	P	09 11 45.8	-0.7
	2.2nm,0.4s,baz=11,slow=16,SNR=3.7						
CTA	Charters Tower	33.14	268	eP	P	09 13 17.4	-0.4
	1.4nm,0.3s						
STKA	Stephens Creek	36.64	247	P	P	09 13 43.7	-2.8
	1.4nm,0.4s,baz=90,slow=9.4,SNR=7.3						
ASAR	Alice Springs	43.84	259	P	P	09 14 42.6	-1.5
	0.6nm,0.5s,baz=92,slow=6.7,SNR=8.8						
WB2	Warramunga Arr	44.12	265	eP	P	09 14 45.7	-0.7
WRA	Warramunga Arr	44.14	264	P	P	09 14 45.8	-0.7
	1.0nm,0.3s,baz=96,slow=8.4,SNR=123						
VNDA	Vanda	55.53	185	P	P	09 16 06.8	-2.3
	0.3nm,0.6s,baz=37,slow=5.1,SNR=5.3						

*ISK **15** 09:23:37.8,41.50N×41.40E,h27km,MD3.9*
*CSEM **15** 09:23:37.8,41.50N×41.40E,h27km,MD2.9,After ISK*
ISC 15 09:23:36.4±2.5,**41.7N**±0.2×**41.4E**±0.1,**h29**km±11km,**n6,** σ**0s90**/10,**1C,Turkey-Georgia-Armenia border region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
BCA	Borcka	0.28	149	i PG	Pb	09 23 44.3	+0.8
BCA				i SG	Sb	09 23 47.8	-0.5
ERZM	Erzurum	1.78	182	i P	Pn	09 24 05.6	-0.1
ERZM				i S	Sn	09 24 28.3	+0.7
EZM	Erzurum	1.78	182	PG	Pn	09 24 05.2	-0.6
GUMT	Gumushane	1.92	231	PG	Pn	09 24 07.3	-0.4
GUMT				SG	Sn	09 24 29.4	-1.7
KELT	Kelkit	2.25	228	⇑iP	Pn	09 24 13.9	+1.4
KELT				i S	Sn	09 24 40.7	+1.1
VRT	Varto	2.55	178	ePN	Pn	09 24 16.1	-0.7

DJA 15 09:59:06.1±1.0,**9.71S**×**113.64E,h84**km±22km,**MD5.0**/2, **ML3.9**/2,**2C-5D,Error ellipse: s-maj=44.1km s-min=19.8km az=9.0,South of Jawa**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
SRDI	Scrawed	1.31	22	⇓iPn	P	09 59 28.3	-1.4
	52nm,0.2s						
SRDI				⇓iSn	S	09 59 46.8	-0.3
KELI	Kelakatan	1.70	30	⇑iPn	P	09 59 34.4	-0.2
KELI				⇓iSn	S	09 59 54.0	-1.7
RATI	Rata	2.10	63	⇑iPn	P	09 59 39.8	-0.3
	170nm,0.2s						
RATI	Rata	2.10	63	⇓iP	P	09 59 40.1	0.0
RATI				⇓iSn	S	10 00 02.9	-2.3

*NAO **15** 09:59:19.9±2.8,67.66N×34.08E,ML2.3*
HEL 15 09:59:20.2±0.7,**67.66N**×**34.15E,ML1.7,ML2.3**(NAO), **Explosion,Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
APA0	Apatity Array	0.45	264	i P	Pg	09 59 27.6	-1.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
APA0				*i* S	Sg	09 59 33.4	-1.6
APA0				*e*RG		09 59 35.6	
APA0	**Apatity Array**	**0.45**	**264**	Pg	Pg	09 59 27.6	-1.5
	baz=83,slow=16						
APA0				Lg		09 59 33.4	
	baz=83,slow=37						
APA0				Rg		09 59 35.6	
	baz=87,slow=37						
MSF	**Maaselka**	**2.68**	**231**	*e*P	Pn	10 00 05.1	-0.2
MSF				*e*S	Sn	10 00 38.9	0.0
SGF	**Sodankyl**	**2.93**	**269**	*e*P	Pn	10 00 08.8	-0.1
SGF				*e*S	Sn	10 00 44.7	-0.7
SGF				*e*SG	Sg	10 00 50.3	-7.6
SGF				MSG		10 00 51.0	
	comp=Z,1.9nm,0.2s						
KEV	**Kevo**	**3.35**	**312**	*e*P	Pn	10 00 14.0	-0.8
KEV				*e*S	Sn	10 00 54.0	-1.9
ARA0	**ARCESS Array S**	**3.68**	**305**	*e*P	Pn	10 00 18.1	-1.6
ARA0				*e*PG	Pg	10 00 27.1	-6.7
ARA0				*e*S	Sn	10 00 60.0	-4.4
ARA0				*e*SG	Sg	10 01 12.3	-11
ARA0	**ARCESS Array S**	**3.68**	**305**	Pn	Pn	10 00 18.1	-1.6
	baz=124,slow=16						
ARA0				Pg	Pg	10 00 27.1	-6.7
	baz=116,slow=16						
ARA0				Sn	Sn	10 00 60.0	-4.4
	baz=118,slow=28						
ARA0				Lg		10 01 12.3	
	baz=108,slow=37						
OUL	**Oulu**	**4.21**	**236**	*e*S	Sn	10 01 15.4	-2.2
JOF	**Joensuu**	**4.91**	**195**	*e*P	Pn	10 00 32.9	-4.1
JOF				*e*S	Sn	10 01 29.0	-6.4
FIA0	**FINESS Array S**	**7.14**	**213**	Lg		10 02 59.5	
	baz=29,slow=28						
FIA0	**FINESS Array S**	**7.14**	**213**	*e*SG	Sg	10 02 59.5	-18
FIA0	**FINESS Array S**	**7.14**	**213**	Lg		10 02 59.5	
	baz=29,slow=28						

PGC 15 10:53:16.2, 58.19N×133.65W, h1^{km}, ML3.2/3, Near Mt. Ogden, British Columbia - Alaska border., Southeastern Alaska

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DLBC	**Dease Lake**	**1.93**	**81**	Pn	Pn	10 53 48.8	-1.6
DLBC				Pg	Pg	10 53 50.6	-4.0
DLBC				Sn	Sn	10 54 14.9	-0.7
DLBC				Sg	Sg	10 54 16.6	-3.7
DLBC				Trac		10 54 20.9	
	comp=Z,215nm,0.7s						
WHY	**Whitehorse**	**2.56**	**346**	Pn	Pn	10 53 57.1	-2.4
WHY				Pg	Pg	10 54 02.1	-5.2
WHY				Sg	Sg	10 54 34.1	-7.3
WHY				Trac		10 54 41.8	
	comp=Z,69nm,0.8s						
HYT	**Haines Junctio**	**3.30**	**325**	Pn	Pn	10 54 09.7	-0.3
HYT				Pg	Pg	10 54 15.7	-6.3
HYT				Sg	Sg	10 54 58.6	-7.3
HYT				Trac		10 55 01.9	
	comp=Z,34nm,0.6s						
FNBB	**Fort Nelson**	**5.62**	**78**	Pn	Pn	10 54 41.0	-1.8
FNBB				Sg	Sg	10 56 13.1	-10
FNBB				Trac		10 56 23.3	
	comp=Z,23nm,0.9s						
FSB	**Fort Saint Jam**	**6.38**	**122**	Sg	Sg	10 56 37.4	-11
FSB				Trac		10 56 54.2	
	comp=Z,9.0nm,0.7s						
DAWY	**Dawson**	**6.52**	**337**	Pn	Pn	10 54 52.4	-3.2
DAWY				Sg	Sg	10 56 35.1	-18
DAWY				Trac		10 56 41.5	
	comp=Z,22nm,0.7s						
BMBC	**Bull Mountain**	**6.63**	**104**	Sg	Sg	10 56 41.9	-15
INK	**Inuvik**	**10.16**	**0**	Pn	P	10 55 42.1	-3.9

IDC 15 11:02:40.9±1.6**, 1.26N×124.78E, mb3.6**/4**, mb1 3.8**/5**, mb1mx3.7**/15**, ML3.4**/1**, MS3.1**/1**, Ms1 3.1**/1**, ms1mx2.4**/19**, Error ellipse: s-maj=125.0km s-min=24.3km az=72.0, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.26**	**178**	P	P	11 07 06.9	-2.8
	0.1nm,0.3s,baz=211,slow=5.6,SNR=2.0						
WRA	**Warramunga Arr**	**23.06**	**157**	P	P	11 07 48.9	-0.3
	1.6nm,0.4s,baz=336,slow=10,SNR=36						
WB2	**Warramunga Arr**	**23.07**	**156**	*e*P	P	11 07 49.2	-0.1
ASAR	**Alice Springs**	**26.32**	**161**	P	P	11 08 18.1	-2.3
	0.2nm,0.6s,baz=340,slow=8.2,SNR=4.5						
ASAR				LR	LR	11 19 58.1	
	comp=Z,46nm,19.9s,baz=277,slow=39						
STKA	**Stephens Creek**	**36.61**	**156**	P	P	11 09 48.6	-2.3
	1.5nm,1.0s,baz=323,slow=11,SNR=4.1						
SONM	**Songino Array**	**49.05**	**344**	P	P	11 11 30.1	-1.6
	0.2nm,0.3s,baz=146,slow=5.2,SNR=4.6						

*NEIC **15** 11:13:00.8, 38.90S×175.33E, h193^{km}, After WEL.*
WEL 15 11:13:01.0±0.3**, 38.91S×175.33E, h192^{km}**±2^{km}**, ML4.0**/10**, 3C-1D, Error ellipse: s-maj=3.7km s-min=2.8km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	**0.19**	**152**	P	P	11 13 26.3	-0.3
TWVZ				S	S	11 13 46.1	-0.2
TWVZ	**Taurewa**	**0.19**	**152**	PN	P	11 13 26.3	-0.3
TWVZ				SN	S	11 13 46.1	-0.1
MGZ	**Maungaku**	**0.19**	**120**	P	P	11 13 26.5	-0.1
MGZ	**Maungaku**	**0.19**	**120**	PN	P	11 13 26.5	-0.1
WTVZ	**West Tongariro**	**0.29**	**136**	P	P	11 13 26.7	-0.1
WTVZ				S	S	11 13 46.9	+0.2
WTVZ	**West Tongariro**	**0.29**	**136**	PN	P	11 13 26.7	-0.1
WTVZ				SN	S	11 13 46.8	+0.1
CNZ	**Chateau**	**0.34**	**149**	P	P	11 13 26.9	-0.1
CNZ	**Chateau**	**0.34**	**149**	PN	P	11 13 26.9	-0.1
NGZ	**Ngauruhoe**	**0.34**	**142**	P	P	11 13 26.9	-0.1
NGZ	**Ngauruhoe**	**0.34**	**142**	PN	P	11 13 26.9	0.0
WPVZ	**Whakapapa**	**0.34**	**150**	P	P	11 13 26.9	-0.1
WPVZ				S	S	11 13 45.5	-1.5
WPVZ	**Whakapapa**	**0.34**	**150**	PN	P	11 13 26.9	-0.1
WPVZ				SN	S	11 13 45.5	-1.4
VRZ	**Vera Road**	**0.49**	**244**	P	P	11 13 26.6	-0.9
VRZ				S	S	11 13 46.8	-1.1
VRZ	**Vera Road**	**0.49**	**244**	PN	P	11 13 26.6	-0.9
VRZ				SN	S	11 13 46.8	-1.1
HIZ	**Hauiti**	**0.54**	**317**	*e*P	P	11 13 26.6	-1.0
HIZ				S	S	11 13 47.1	-1.1
HIZ	**Hauiti**	**0.54**	**317**	PN	P	11 13 26.6	-1.0
HIZ				SN	S	11 13 47.1	-1.1
MOVZ	**Moawhango**	**0.60**	**147**	P	P	11 13 27.4	-0.5
MOVZ				S	S	11 13 47.1	-1.6
MOVZ	**Moawhango**	**0.60**	**147**	PN	P	11 13 27.4	-0.4
MOVZ				SN	S	11 13 47.1	-1.6
WAZ	**Wanganui**	**0.89**	**197**	P	P	11 13 29.1	-0.2
WAZ				S	S	11 13 50.7	-0.6
WAZ	**Wanganui**	**0.89**	**197**	PN	P	11 13 29.1	-0.2
WAZ				SN	S	11 13 50.7	-0.6
BKZ	**Black Stump Fm**	**0.94**	**106**	*e*P	P	11 13 29.5	-0.2
BKZ				S	S	11 13 51.1	-0.8
BKZ	**Black Stump Fm**	**0.94**	**106**	PN	P	11 13 29.5	-0.1
BKZ				SN	S	11 13 51.1	-0.8
TSZ	**Takapari Road**	**1.25**	**157**	P	P	11 13 31.9	-0.2
TSZ				S	S	11 13 55.4	-0.8
TSZ	**Takapari Road**	**1.25**	**157**	PN	P	11 13 31.8	-0.3
TSZ				SN	S	11 13 55.0	-1.1
TSZ				SN	S	11 13 55.4	-0.8
URZ	**Urewera**	**1.54**	**66**	P	P	11 13 33.2	-1.5
URZ	**Urewera**	**1.54**	**66**	⇓PN	P	11 13 33.2	-1.5
URZ				SN	S	11 13 58.8	-1.9
PWZ	**Pawanui**	**1.63**	**134**	P	P	11 13 35.3	-0.3
PWZ	**Pawanui**	**1.63**	**134**	PN	P	11 13 35.3	-0.3
MRZ	**Mangatainoka R**	**1.76**	**174**	P	P	11 13 35.7	-1.2
MRZ	**Mangatainoka R**	**1.76**	**174**	PN	P	11 13 35.7	-1.2
MRZ				SN	S	11 14 02.0	-2.4
MWZ	**Matawai**	**1.82**	**72**	P	P	11 13 36.2	-1.2
MWZ	**Matawai**	**1.82**	**72**	PN	P	11 13 36.2	-1.1
KNZ	**Kokohu**	**1.83**	**94**	*e*P	P	11 13 37.0	-0.5
KNZ	**Kokohu**	**1.83**	**94**	PN	P	11 13 37.0	-0.5
BFZ	**Birch Farm**	**1.91**	**158**	P	P	11 13 37.2	-1.1
BFZ	**Birch Farm**	**1.91**	**158**	PN	P	11 13 37.2	-1.1
BFZ				SN	S	11 14 05.2	-1.8
KIW	**Kapiti Island**	**1.98**	**189**	P	P	11 13 37.3	-1.7
KIW	**Kapiti Island**	**1.98**	**189**	PN	P	11 13 37.3	-1.7
CAW	**Cannon Point**	**2.21**	**185**	⇑PN	P	11 13 39.8	-1.7
CAW				SN	S	11 14 10.0	-2.8
MTW	**Mount Morrison**	**2.25**	**177**	P	P	11 13 40.0	-2.1
MTW	**Mount Morrison**	**2.25**	**177**	PN	P	11 13 40.0	-2.0
MRW	**Makara Radio**	**2.37**	**192**	P	P	11 13 41.2	-2.2
MRW	**Makara Radio**	**2.37**	**192**	PN	P	11 13 41.2	-2.1
MRW				SN	S	11 14 12.1	-3.9
WEL	**Wellington**	**2.41**	**190**	P	P	11 13 41.7	-2.2
WEL	**Wellington**	**2.41**	**190**	PN	P	11 13 41.7	-2.2
PUZ	**Puketiti**	**2.45**	**71**	*e*P	P	11 13 42.5	-1.8
PUZ	**Puketiti**	**2.45**	**71**	PN	P	11 13 42.3	-1.9
PUZ				SN	S	11 14 14.0	-3.6
PAWZ	**Paruwai Farm**	**2.47**	**178**	⇑PN	P	11 13 42.4	-2.2
PAWZ				SN	S	11 14 14.4	-3.8
MSWZ	**Moikau Station**	**2.51**	**181**	P	P	11 13 42.6	-2.3
MSWZ	**Moikau Station**	**2.51**	**181**	⇑PN	P	11 13 42.6	-2.3
MSWZ				SN	S	11 14 14.7	-4.1
BHW	**Baring Head**	**2.52**	**188**	P	P	11 13 42.6	-2.5
BHW	**Baring Head**	**2.52**	**188**	PN	P	11 13 42.6	-2.5
MXZ	**Matakaoa Point**	**2.70**	**61**	P	P	11 13 45.7	-1.5
MXZ	**Matakaoa Point**	**2.70**	**61**	PN	P	11 13 45.3	-1.9
TUWZ	**Tuamarina**	**2.73**	**202**	PN	P	11 13 44.8	-2.8
TUWZ				SN	S	11 14 19.3	-4.2
NNZ	**Nelson**	**2.75**	**212**	P	P	11 13 44.6	-3.2
NNZ	**Nelson**	**2.75**	**212**	PN	P	11 13 44.5	-3.2
NNZ				SN	S	11 14 20.1	-3.8
QRZ	**Quartz Range**	**2.88**	**227**	P	P	11 13 45.3	-4.0
QRZ	**Quartz Range**	**2.88**	**227**	PN	P	11 13 45.3	-4.1
BSWZ	**Blackbirch Sta**	**3.02**	**201**	P	P	11 13 48.5	-2.4
BSWZ	**Blackbirch Sta**	**3.02**	**201**	PN	P	11 13 48.5	-2.5
BSWZ				SN	S	11 14 25.9	-3.6
THZ	**Tophouse**	**3.40**	**212**	*e*P	P	11 13 51.9	-3.8
THZ	**Tophouse**	**3.40**	**212**	PN	P	11 13 51.5	-4.2
THZ				SN	S	11 14 33.7	-4.2
KHZ	**Kahutara**	**3.76**	**201**	P	P	11 13 56.9	-3.2
KHZ	**Kahutara**	**3.76**	**201**	PN	P	11 13 56.8	-3.3
DSZ	**Denniston Nort**	**3.91**	**222**	P	P	11 13 57.3	-4.7
DSZ	**Denniston Nort**	**3.91**	**222**	PN	P	11 13 57.3	-4.7
DSZ				SN	S	11 14 42.0	-7.2
LTZ	**Lake Taylor**	**4.51**	**210**	*e*P	P	11 14 05.0	-4.7
LTZ				S	S	11 14 55.3	-7.5
LTZ	**Lake Taylor**	**4.51**	**210**	PN	P	11 14 04.7	-4.9
LTZ				SN	S	11 14 55.3	-7.5
CRLZ	**Canterbury Las**	**5.09**	**203**	SN	S	11 15 08.1	-8.0
MQZ	**McQueen's Vall**	**5.20**	**202**	P	P	11 14 13.2	-5.3
MQZ	**McQueen's Vall**	**5.20**	**202**	PN	P	11 14 13.2	-5.3
MQZ				SN	S	11 15 09.9	-8.7
WVZ	**Waitaha Valley**	**5.42**	**218**	*e*P	P	11 14 16.2	-5.2
RPZ	**Rata Peaks**	**5.78**	**212**	P	P	11 14 20.8	-5.2
RPZ	**Rata Peaks**	**5.78**	**212**	PN	P	11 14 20.2	-5.8
FOZ	**Fox Glacier**	**6.30**	**221**	PN	P	11 14 26.3	-6.5
FOZ				SN	S	11 15 30.7	-14
LBZ	**Lake Benmore**	**6.69**	**213**	*e*P	P	11 14 32.0	-5.9
LBZ	**Lake Benmore**	**6.69**	**213**	PN	P	11 14 32.0	-5.9
ODZ	**Otahua Downs**	**7.05**	**208**	*e*P	P	11 14 37.0	-5.7
ODZ	**Otahua Downs**	**7.05**	**208**	PN	P	11 14 37.0	-5.7

*MAN **15** 11:44:49.1, 18.68N×122.42E, h6^{km}, mb5.5, ML4.5, MS4.8*
*MOS **15** 11:44:52.3±0.9, 18.61N×122.57E, h33^{km}, mb5.2/19, MS4.6/9, Error ellipse: s-maj=20.1km s-min=7.4km az=120.7*
*HRVD **15** 11:44:52.4±0.3, 18.63N×122.24E, h19^{km}±1^{km}, MW5.1/61, Centroid moment Tensor Solution. LP body waves: s28,c37;Mantle waves: s61,c96; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.26±.23; $M_{\theta\theta}$5.66±.22; $M_{\phi\phi}$-5.39±.22; $M_{r\theta}$-0.43±.42; $M_{\theta\phi}$-0.62±.17; $M_{\phi r}$1.01±.44; Best double couple: $M_0$5.67×10^{16} NP1:ϕ_s229°, δ79°, λ-176°. NP2:ϕ_s138°, δ86°, λ-11°. Principal axes: T 5.74, Plg5°, Azm184°; N -.12, Plg78°, Azm297°; P -5.61, Plg10°, Azm93°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **15** 11:44:52.4±1.9, 18.50N×122.34E, h21^{km}±13^{km}, mb5.0/51, MS4.4/6 Error ellipse: s-maj=6.5km s-min=4.7km az=78.0*
*IDC **15** 11:44:53.8±2.2, 18.45N×122.34E, h30^{km}±15^{km}, mb4.5/24, mb1 4.6/25, mb1mx4.6/26, ML4.7/1, MS4.3/15, Ms1 4.4/15, ms1mx4.1/29, Error ellipse: s-maj=19.5km s-min=9.3km az=69.0*
*CSEM **15** 11:44:57.2, 19.45N×122.43E, h33^{km}, mb5.5*
*BJI **15** 11:44:57.9, 19.15N×122.25E, h33^{km}, mB4.9, mb4.8, ML4.5, Ms4.8, Msz4.6*
ISC 15 11:44:51.8±0.9**, 18.58N**±0.02×**122.41E**±0.04**, h27^{km}**±6^{km}**, h26^{km}**±2.0^{km}**: pP-P, n231, σ1^{s}08**/237**, mb4.9**/86**, MS4.5**/35**, 21C-8D, Luzon**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**0.48**	**226**	*e*P	**Pb**	**11 45 00.2**	**-1.7**
CVP	**Callao Caves**	**1.04**	**213**	*e*P	**Pn**	**11 45 10.0**	**-0.8**
CVP				*e*S	Sx	11 45 46.0	
APYP	**Conner**	**1.32**	**237**	*e*P	**Pn**	**11 45 13.6**	**-1.2**
CAUP	**Cauayan**	**1.72**	**199**	*e*P	**Pn**	**11 45 21.9**	**+1.4**
ABRA	**Dolores**	**1.86**	**240**	*e*P	**Pn**	**11 45 22.2**	**-0.4**
BBP	**Basco**	**1.90**	**347**	*e*P	**Pn**	**11 45 20.7**	**-2.4**
BCPH	**Baguio City Da**	**2.80**	**219**	⇑*i*P	**Pn**	**11 45 36.7**	**+0.7**
BCPH				*i* S	**Sn**	**11 46 15.8**	**+6.6**
BALP	**Baler**	**2.94**	**196**	*e*P	**Pn**	**11 45 38.2**	**+0.4**
BOLP	**Bolinao**	**3.24**	**228**	*e*P	**Pn**	**11 45 42.8**	**+0.6**
SCZP	**Santa Cruz**	**3.67**	**221**	*e*P	**Pn**	**11 45 48.2**	**-0.2**
POLP	**Polilio Island**	**3.86**	**187**	*e*P	**Pn**	**11 45 51.2**	**+0.2**
LQP	**Lukban**	**4.52**	**191**	⇑*e*P	**Pn**	**11 46 01.0**	**+0.6**
GQP	**Guinayangan**	**4.65**	**180**	*e*P	**Pn**	**11 46 03.2**	**+1.0**
GQP				*e*S	**Sn**	**11 46 56.1**	**+0.1**
TGY	**Tagaytay City**	**4.67**	**198**	⇑*i*P	**Pn**	**11 46 04.5**	**+1.9**
TGY				*i* S	Px	11 46 27.8	
BOAC	**Boac**	**5.12**	**186**	*e*P	**Pn**	**11 46 09.4**	**+0.5**
PVCP	**Virac**	**5.23**	**161**	*e*P	**Pn**	**11 46 10.5**	**+0.1**
AUQP	**San Andres**	**5.23**	**177**	*e*P	**Pn**	**11 46 12.5**	**+2.0**
LUBP	**Lubang**	**5.25**	**204**	*e*P	**Pn**	**11 46 11.0**	**+0.3**
OTRP	**Odiongan**	**6.19**	**184**	*e*P	**Pn**	**11 46 23.7**	**-0.3**
SJMP	**San Jose**	**6.21**	**192**	*e*P	**Pn**	**11 46 25.0**	**+0.7**
TATO	**Taipei**	**6.42**	**352**	*e*Pn	**Pn**	**11 46 27.5**	**+0.2**
	103nm,0.7s						
TATO				*e*Sn	**Sn**	**11 47 38.6**	**-1.8**
BUSP	**Coron**	**6.88**	**198**	*e*P	**Pn**	**11 46 33.2**	**-0.5**
GUIM	**Jordan**	**7.91**	**179**	*e*P	**Pn**	**11 46 49.7**	**+1.6**
GZH	**Guangzhou**	**9.59**	**299**	P	**P**	**11 47 06.6**	**-4.8**
GZH				Smax			
	comp=N,81nm,0.8s						
GZH				Smax			
	comp=E,78nm,0.8s						
GZH				LR	LR		
	comp=N,4µm,23.0s						
GZH				LR	LR		
	comp=E,3µm,23.3s						
GZH				LR	LR		
	comp=Z,4µm,13.5s						
JOW	**Kunigami**	**9.83**	**32**	Pn	**P**	**11 47 13.4**	**-1.3**
	comp=Z,15nm,0.3s,baz=198,slow=14,SNR=10						
JOW				Sn	**Sn**	**11 48 55.0**	**-10**
	comp=Z,4.1nm,0.3s,baz=90,slow=20,SNR=4.3						
QIZ	**Qiongzhong**	**11.91**	**274**	*e*Pn	**P**	**11 47 38.6**	**-4.5**
	comp=Z,34nm,0.8s						
SSE	**Sheshan**	**12.51**	**355**	*e*P	**P**	**11 47 45.6**	**-5.5**
SSE				AMB	AMB		
	comp=Z,37nm,0.7s						
SSE				AMB	AMB		
	comp=Z,33nm,3.1s						
SSE				LR	LR		
	comp=N,806nm,18.0s						
SSE				LR	LR		
	comp=E,3µm,18.0s						
SSE				LR	LR		
	comp=Z,2µm,19.5s						
NJ2	**Nanjing**	**13.79**	**347**	*e*P	**P**	**11 48 02.3**	**-5.8**
NJ2				AP		11 48 09.8	
NJ2				PP	PP	11 48 12.8	-6.0
NJ2				XP		11 48 14.5	
NJ2				XS		11 50 39.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s						
NJ2				LR	LR		
	comp=N,3µm,14.0s						
NJ2				LR	LR		
	comp=E,6µm,12.9s						
NJ2				LR	LR		
	comp=Z,4µm,15.2s						
GYA	**Guiyang**	**16.52**	**301**	P	**P**	**11 48 42.8**	**-0.6**
GYA				XP		11 48 51.0	
GYA				AMB	AMB		
	comp=Z,270nm,5.1s						
GYA				LR	LR		
	comp=N,3µm,15.3s						
GYA				LR	LR		
	comp=E,1µm,15.3s						
GYA				LR	LR		
	comp=Z,2µm,15.0s						
ENH	**Enshi**	**16.54**	**317**	*e*P	**P**	**11 48 45.0**	**+1.3**
	comp=Z,19nm,0.9s						
KKTK	**Khon Kaen**	**18.82**	**266**	P	**P**	**11 49 18.0**	**+5.9**
	comp=Z,370nm,1.0s						
INCN	**Inchon**	**19.19**	**10**	*e*P	**P**	**11 49 16.6**	**+0.3**
	comp=Z,36nm,0.8s						
KMI	**Kunming**	**19.38**	**293**	*e*P	**P**	**11 49 20.3**	**+1.7**
KMI				AMB	AMB		
	comp=Z,35nm,0.9s						
KMI				LR	LR		
	comp=N,2µm,12.9s						
KMI				LR	LR		
	comp=E,3µm,14.5s						
KMI				LR	LR		
	comp=Z,3µm,15.7s						
KS15	**Wonju Array Si**	**19.39**	**13**	*e*P	**P**	**11 49 19.2**	**+0.6**
XAN	**Xi'an**	**19.55**	**325**	P	**P**	**11 49 20.3**	**-0.1**
XAN				AP		11 49 26.3	
XAN				LR	LR		
	comp=N,1µm,14.4s						
XAN				LR	LR		
	comp=E,2µm,14.4s						
XAN				LR	LR		
	comp=Z,3µm,15.2s						
NANT	**Nan**	**20.57**	**274**	P	**P**	**11 49 29.0**	**-2.4**
CD2	**Chengdu**	**20.88**	**310**	⇓*i*P	**P**	**11 49 34.5**	**0.0**
CD2				PP	PP	11 49 58.8	+1.7
CD2				S	**S**	**11 53 24.8**	**+3.7**
CD2				AMB	AMB		
	comp=Z,350nm,10.2s						
CD2				LR	LR		
	comp=N,1µm,12.0s						
CD2				LR	LR		
	comp=Z,910nm,15.0s,MS4.3						
BJT	**Baijiatuau**	**22.03**	**347**	*e*P	**P**	**11 49 44.8**	**-1.2**
	comp=Z,24nm,0.8s,mb4.7						
BJI	**Beijing**	**22.05**	**347**	P	**P**	**11 49 44.9**	**-1.3**
BJI				S	**S**	**11 53 41.0**	**-1.9**
BJI				AMB	AMB		
	comp=Z,27nm,0.9s,mb4.7						
BJI				AMB	AMB		
	comp=Z,190nm,3.3s						
BJI				LR	LR		
	comp=N,812nm,22.6s						
BJI				LR	LR		
	comp=E,2µm,17.1s						
BJI				LR	LR		
	comp=Z,1µm,22.5s,MS4.2						
CHG	**Chiang Mai**	**22.23**	**274**	⇑P	**P**	**11 49 48.9**	**+0.8**
	comp=Z,20nm,1.0s,mb4.5						
CM31	**Chiang Mai Arr**	**22.25**	**273**	*e*P	**P**	**11 49 49.4**	**+1.0**
	comp=Z,29nm,1.1s,mb4.6						
CMAR	**Chiang Mai Arr**	**22.25**	**273**	P	**P**	**11 49 48.6**	**+0.2**
	comp=Z,3.4nm,0.8s,mb3.8,baz=78,slow=10.0,SNR=23						
CMAR				PcP	PcP	11 53 45.4	+0.4
	comp=Z,1.4nm,0.8s,baz=75,slow=0.5,SNR=5.6						
CMAR				ScP		11 57 19.6	
	comp=Z,4.8nm,1.1s,baz=60,slow=1.5,SNR=11						
CMAR				LR	LR	11 59 16.3	
	comp=Z,715nm,18.2s,MS4.1,baz=90,slow=39						
BDT	**Bhumibol Dam**	**22.31**	**270**	P	**P**	**11 49 47.0**	**-2.0**
NNT	**Nongplab**	**22.63**	**258**	P	**P**	**11 49 54.5**	**+2.3**
MAJO	**Matsushiro**	**22.66**	**35**	*e*P	**P**	**11 49 54.0**	**+1.7**
	comp=Z,24nm,0.9s,mb4.6						
MAT	**Matsushiro**	**22.66**	**35**	P	**P**	**11 49 53.5**	**+1.1**
MAT				S	**S**	**11 54 04.0**	**+10**
MAT	**Matsushiro**	**22.66**	**35**	*e*P	**P**	**11 49 54.0**	**+1.6**
	comp=Z,21nm,0.9s,mb4.6						
MAT				*e*S	**S**	**11 54 04.0**	**+10**
SNY	**Shenyang**	**23.19**	**2**	⇓P	**P**	**11 49 57.8**	**+0.3**
SNY				S	**S**	**11 54 06.3**	**+2.9**
SNY				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.5						
SNY				AMB	AMB		
	comp=Z,200nm,6.7s						
SNY				LR	LR		
	comp=E,4µm,14.9s						
SNY				LR	LR		
	comp=Z,2µm,20.0s						
LZH	**Lanzhou**	**23.93**	**321**	⇑P	**P**	**11 50 06.8**	**+2.1**
LZH				AP		11 50 13.3	
LZH				XP		11 50 17.0	
LZH				PP	PP	11 50 41.1	+2.4
LZH				S	**S**	**11 54 19.5**	**+3.2**
LZH				AMB	AMB		
	comp=Z,54nm,1.5s,mb4.8						
LZH				AMB	AMB		
	comp=Z,241nm,4.1s						
LZH				LR	LR		
	comp=N,1µm,12.1s						
LZH				LR	LR		
	comp=Z,2µm,15.0s,MS4.7						
HHC	**Hu-ho-hao-te**	**24.07**	**340**	⇑P	**P**	**11 50 07.3**	**+1.3**
HHC				AMB	AMB		
	comp=Z,44nm,1.1s,mb4.8						
HHC				AMB	AMB		
	comp=Z,404nm,5.2s						
HHC				LR	LR		
	comp=N,971nm,18.6s,MS4.5						
HHC				LR	LR		
	comp=E,1µm,15.7s,MS4.5						
HHC				LR	LR		
	comp=Z,1µm,18.7s,MS4.4						
BTO	**Baotou**	**24.40**	**337**	*e*P	**P**	**11 50 10.0**	**+0.8**
BTO				AMB	AMB		
	comp=Z,38nm,1.7s,mb4.5						
BTO				LR	LR		
	comp=N,2µm,14.4s,MS4.8						
BTO				LR	LR		
	comp=E,2µm,13.3s,MS4.8						
IPM	**Ipoh**	**25.10**	**239**	*e*P	**P**	**11 50 16.0**	**-0.2**
CN2	**Changchun**	**25.27**	**5**	*e*P	**P**	**11 50 18.3**	**+0.8**
CN2				*e*XP	sP	11 50 29.0	+0.1
CN2				*e*S	**S**	**11 54 41.0**	**+2.1**
CN2				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.8						
CN2				AMB	AMB		
	comp=Z,160nm,4.0s						
CN2				LR	LR		
	comp=N,2µm,18.0s,MS4.9						
CN2				LR	LR		
	comp=E,2µm,18.0s,MS4.9						
CN2				LR	LR		
	comp=Z,2µm,19.0s,MS4.5						
MDJ	**Mudanjiang**	**26.65**	**11**	P	**P**	**11 50 31.0**	**+0.8**
MDJ				AP	pP	11 50 38.8	+0.7
MDJ				XP	sP	11 50 42.1	+0.4
MDJ				AMB	AMB		
	comp=Z,25nm,0.7s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,127nm,3.6s						
MDJ				LR	LR		
	comp=N,674nm,16.0s,MS4.6						
MDJ				LR	LR		
	comp=E,1µm,17.7s,MS4.6						
MDJ				LR	LR		
	comp=Z,904nm,16.0s,MS4.4						
MDJ	**Mudanjiang**	**26.65**	**11**	*e*P	**P**	**11 50 29.8**	**-0.4**
	comp=Z,18nm,0.8s,mb4.7						
MDJ				LR	LR		
	comp=Z,1µm,19.0s,MS4.5						
GTA	**Gaotai**	**28.52**	**321**	*e*P	**P**	**11 50 49.1**	**+1.8**
GTA				AP	pP	11 50 57.3	+2.1
GTA				PCP	PcP	11 53 58.8	0.0
GTA				AMB	AMB		
	comp=Z,109nm,6.8s						
GTA				LR	LR		
	comp=N,1µm,14.1s,MS4.7						
GTA				LR	LR		
	comp=E,909nm,17.1s,MS4.7						
GTA				LR	LR		
	comp=Z,2µm,14.8s,MS4.7						
SHL	**Shillong**	**29.09**	**289**	*e*P	**P**	**11 50 53.0**	**+0.5**
LSA	**Lhasa**	**30.51**	**297**	P	**P**	**11 51 06.3**	**+1.2**
ASAJ	**Asahikawa**	**30.58**	**29**	P	**P**	**11 51 05.0**	**-0.6**
	comp=Z,15nm,1.0s,mb4.8,baz=262,slow=16,SNR=4.2						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
HIA	Hailar	30.69	357	eP	P	11 51 07.4	+0.9
	comp=Z,9.4nm,0.9s,mb4.6						
SONM	Songino Array	31.97	339	P	P	11 51 17.1	-0.7
	comp=Z,20nm,1.1s,mb4.9,baz=156,slow=8.5,SNR=59						
SONM				PcP	PcP	11 54 07.1	-0.6
	comp=Z,2.1nm,0.9s,baz=153,slow=2.8,SNR=4.6						
SONM				ScP		11 57 48.2	
	comp=Z,1.1nm,0.9s,baz=151,slow=4.3,SNR=5.2						
KAKA	Kakadu	32.60	162	eP	P	11 51 26.7	+3.0
	comp=Z,6.1nm,0.6s,mb4.7						
YSS	Yuzh-Sakhalins	32.86	26	eP	P	11 51 16.0	-10
YSS				MLR	MLR		
	comp=Z,1μm,15.0s,MS4.6						
YSS				MLR	MLR		
	comp=E,1μm,16.0s						
GUN	Gumba	34.72	292	eP	P	11 51 41.9	0.0
	comp=E,72nm,0.7s,mb5.7						
PKI	Pulchoki	35.09	292	eP	P	11 51 45.0	0.0
	comp=E,18nm,0.8s,mb5.1						
ZAK	Zakamensk	35.21	339	eP	P	11 51 44.4	-1.4
ZAK				e		11 54 11.0	
KKN	Kakani	35.23	292	eP	P	11 51 45.8	-0.4
	comp=E,30nm,0.8s,mb5.2						
DMN	Daman	35.36	292	eP	P	11 51 47.1	-0.2
GKN	Gorkha	35.82	292	eP	P	11 51 50.4	-0.8
	comp=E,55nm,1.0s,mb5.4						
FITZ	Fitzroy Crossi	36.59	175	eP	P	11 51 55.9	-1.9
	comp=E,10.0nm,1.1s,mb4.6						
FITZ				e		11 54 20.7	
FITZ	Fitzroy Crossi	36.59	175	P	P	11 51 56.0	-1.8
	comp=E,10nm,1.0s,mb4.6,baz=1.8,slow=10,SNR=5.9						
FITZ				PcP	PcP	11 54 20.5	-0.6
	comp=E,3.5nm,0.7s,baz=206,slow=4.6,SNR=3.8						
KOLN	Koldanda	36.71	292	eP	P	11 51 58.3	-0.4
	comp=E,28nm,0.9s,mb5.1						
PMG	Port Moresby	37.01	137	P	P	11 52 00.5	-0.9
	comp=E,19nm,1.2s,mb4.8,baz=322,slow=8.8,SNR=4.2						
PMG	Port Moresby	37.01	137	eP	P	11 52 01.0	-0.4
	comp=E,6.8nm,0.6s,mb4.7						
MOY	Mondy	37.09	338	eP	P	11 52 02.6	+1.0
WMQ	Urumqi	38.48	319	P	P	11 52 15.5	+2.1
WMQ				XP	sP	11 52 26.0	+1.2
WMQ				PP	PP	11 53 48.0	+2.9
WMQ				S	S	11 58 10.0	+3.3
WMQ				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.7						
WMQ				LR	LR		
	comp=N,622nm,18.0s,MS4.6						
WMQ				LR	LR		
	comp=E,557nm,17.0s,MS4.6						
WMQ				LR	LR		
	comp=Z,524nm,18.0s,MS4.4						
MBWA	Marble Bar	39.58	184	eP	P	11 52 20.0	-2.8
	comp=Z,109nm,1.4s,mb5.4						
WRAB	Tennant Creek	40.03	162	P	P	11 52 24.8	-1.7
	comp=Z,127nm,1.0s,mb5.6,SNR=11						
WRAB	Tennant Creek	40.03	162	eP	P	11 52 25.1	-1.4
	comp=Z,30nm,1.0s,mb5.0						
WRA	Warramunga Arr	40.03	162	P	P	11 52 24.1	-2.5
	comp=Z,13nm,0.8s,mb4.7,baz=343,slow=9.3,SNR=58						
WRA				PcP	PcP	11 54 30.8	-1.0
	comp=Z,1.4nm,0.8s,baz=342,slow=3.4,SNR=5.6						
WRA				S	S	11 58 26.7	-3.6
	comp=Z,1.0nm,0.9s,baz=339,slow=15,SNR=3.4						
WB2	Warramunga Arr	40.03	162	eP	P	11 52 24.6	-2.0
WB2				eS	S	11 58 28.1	-2.3
DDI	Dehra Dun	41.80	295	e	P	11 52 38.7	-2.3
MK02	Makanchi Array	43.22	320	P	P	11 52 53.1	+0.7
MK02				pmax	pmax		
	comp=Z,18nm,0.7s,mb4.9						
ASAR	Alice Springs	43.46	165	P	P	11 52 52.8	-1.9
	comp=Z,2.4nm,0.4s,mb4.3,baz=340,slow=6.7,SNR=61						
ASAR				PP	PP	11 54 39.5	+1.8
	comp=Z,2.4nm,0.9s,baz=336,slow=8.9,SNR=3.1						
ASPA	Alice Springs	43.46	165	eP	P	11 52 54.0	-0.7
YAK	Yakutsk	43.70	5	eP	P	11 52 54.8	-1.3
YAK				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.6						
YAK				pmax	pmax		
	comp=N,6.0nm,1.1s						
YAK	Yakutsk	43.70	5	eP	P	11 52 54.8	-1.3
	comp=N,10.0nm,0.8s,mb4.6						
PET	Petropavlovsk	44.40	31	eP	P	11 53 07.4	+5.5
PET				eS	S	11 59 41.1	+6.9
PET				eSS	SS	12 02 49.2	+4.2
PET				pmax	pmax		
	comp=Z,33nm,1.2s,mb4.9						
PET				smax			
	comp=E,200nm,24.4s						
PET				MLR	MLR		
	comp=Z,600nm,17.0s,MS4.6						
PET	Petropavlovsk	44.40	31	P	P	11 53 02.3	+0.5
	comp=Z,24nm,1.0s,mb4.9						
PET				eS	S	11 59 41.1	+6.9
PET				eSS	SS	12 02 49.2	+4.2
PET				LR	LR		
	comp=Z,600nm,17.0s,MS4.6						
CTA	Charters Tower	44.98	147	eP	P	11 53 07.6	+0.6
	comp=Z,22nm,1.1s,mb4.9						
CTA	Charters Tower	44.98	147	P	P	11 53 06.4	-0.6
	comp=Z,24nm,1.0s,mb5.0,baz=334,slow=8.9,SNR=11						
CTAO	Charters Tower	44.98	147	eP	P	11 53 07.1	+0.1
	comp=Z,75nm,1.4s,mb5.3						
CTAO				LR	LR		
	comp=Z,473nm,20.0s,MS4.4						
ZAL	Zalesovo	45.60	330	P	P	11 53 11.5	+0.1
	comp=Z,5.6nm,0.7s,mb4.6,baz=1.6,slow=5.6,SNR=19						
ZAL				LR	LR	12 15 00.2	
	comp=Z,539nm,19.1s,MS4.5,baz=343,slow=40						
NVS	Novosibirsk	46.87	330	eP	P	11 53 19.7	-1.7
NVS				pmax	pmax		
	comp=Z,24nm,1.7s,mb4.8						
NVS	Novosibirsk	46.87	330	eP	P	11 53 19.7	-1.7
	comp=Z,24nm,1.7s,mb4.8						
AAK	Ala-Archa	46.93	311	⇓eP	P	11 53 23.4	+1.3
AAK				MLR	MLR		
	comp=Z,900nm,15.0s,MS4.8						
KURK	Kurchatov	47.17	323	i P	P	11 53 24.2	+0.3
KURK				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.8						
FORT	Forrest	49.37	174	eP	P	11 53 47.5	+6.2
	comp=Z,78nm,0.7s,mb5.8						
FORT				e		11 55 03.4	
KLBR	Kellerberrin	50.08	185	eP	P	11 53 43.4	-3.3
	comp=Z,83nm,1.9s,mb5.4						
NWAO	Narrogin (SRO)	51.45	186	P	P	11 53 54.4	-2.7
	comp=Z,6.2nm,0.6s,mb4.8,baz=352,slow=8.1,SNR=8.4						
NWAO				LR	LR	12 19 19.8	
	comp=Z,253nm,19.7s,MS4.2,baz=294,slow=40						
NWAO	Narrogin (SRO)	51.45	186	eP	P	11 53 54.2	-2.9
	comp=Z,16nm,0.9s,mb5.0						
NWAO				LR	LR		
	comp=Z,177nm,19.0s,MS4.1						
VOSK	Vostochnaya	52.33	323	P	P	11 54 02.6	-0.9
VOSK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
VOSK	Vostochnaya	52.33	323	P	P	11 54 02.6	-0.9
	comp=Z,4.0nm,0.8s,mb4.4						
BVA0	Borovoye Array	52.77	323	P	P	11 54 06.2	-0.6
BVAR	Borovoye Array	52.77	323	P	P	11 54 06.6	-0.2
	comp=Z,5.6nm,0.8s,mb4.6,baz=113,slow=11,SNR=23						
BVAR				PcP	PcP	11 55 15.1	-0.9
	comp=Z,6.1nm,0.7s,baz=108,slow=4.7,SNR=8.3						
BVAR				ScP		11 59 11.1	
	comp=Z,1.7nm,0.9s,SNR=4.8						
BRVK	Borovoye	52.84	323	eP	P	11 54 07.0	-0.3
	comp=Z,12nm,0.8s,mb4.9						
BRVK				ePcP	PcP	11 55 14.0	-2.3
TIXI	Tiksi	53.20	3	⇑eP	P	11 54 07.9	-1.8
TIXI				i	pP	11 54 14.4	-3.6
TIXI				eS	S	12 01 36.0	-1.3
TIXI				pmax	pmax		
	comp=Z,27nm,0.8s,mb5.2						
TIXI				MLR	MLR		
	comp=Z,1μm,16.0s,MS5.0						
TIXI	Tiksi	53.20	3	⇑eP	P	11 54 07.9	-1.8
	comp=Z,27nm,0.8s,mb5.2						
TIXI				i	pP	11 54 14.4	-3.6
TIXI				eS	S	12 01 36.0	-1.3
TIXI				LR	LR		
	comp=Z,1μm,16.0s,MS5.0						
STKA	Stephens Creek	53.44	160	eP	P	11 54 11.3	-0.6
	comp=Z,4.4nm,0.8s,mb4.4						
STKA	Stephens Creek	53.44	160	P	P	11 54 10.2	-1.8
	comp=Z,2.6nm,0.7s,mb4.3,baz=10,slow=5.5,SNR=7.0						
ZRNK	Zerenda	53.54	323	P	P	11 54 11.9	-0.5
ZRNK				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.9						
SVE	Sverdlovsk	59.26	326	⇑eP	P	11 54 51.6	-1.6
SVE				pmax	pmax		
	comp=Z,40nm,1.9s,mb5.1						
SVE	Sverdlovsk	59.26	326	⇑eP	P	11 54 51.6	-1.6
	comp=Z,40nm,1.9s,mb5.1						
ARU	Arti	60.29	325	⇑iP	P	11 54 58.7	-1.6
ARU				e		11 55 41.9	
ARU				eS	S	12 03 10.4	-0.7
ARU				eSS	SS	12 07 11.0	+1.1
ARU				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
ARU				MLR	MLR		
	comp=N,200nm,17.0s,MS4.7						
ARU				MLR	MLR		
	comp=Z,400nm,17.0s,MS4.6						
ARU				MLR	MLR		
	comp=E,400nm,15.0s,MS4.7						
ARU	Arti	60.29	325	⇑iP	P	11 54 58.7	-1.6
	comp=E,10.0nm,0.7s,mb5.0						
ARU				e		11 55 41.9	
ARU				eS	S	12 03 10.4	-0.7
ARU				eSS	SS	12 07 11.0	+1.1
ARU				LR	LR		
	comp=Z,400nm,17.0s,MS4.6						
QRN	Al-Qurain	68.03	294	eP	P	11 55 49.9	-1.4
KBD	Kabd	68.15	295	eP	P	11 55 51.2	-0.8
RDF	Al-Radifah	68.31	294	eP	P	11 55 51.9	-1.2
RDF				AMb	AMB	11 55 53.0	
	comp=Z,68nm,0.6s,mb5.8						
RST	Umm Al-Ruwaisa	68.69	295	eP	P	11 55 53.2	-2.2
RST				AMb	AMB	11 55 56.4	
	comp=Z,16nm,0.7s,mb5.0						
GNI	Garni	68.98	307	⇑eP	P	11 56 01.3	+4.3
KIV	Kislovodsk	70.05	311	⇓eP	P	11 56 03.7	+0.2
KIV				i		11 56 09.6	
KIV				e		11 56 24.2	
KIV				e		11 58 37.2	
KIV				pmax	pmax		
	comp=Z,33nm,0.9s,mb5.3						
KIV				MLR	MLR		
	comp=Z,200nm,13.0s,MS4.5						
KIV	Kislovodsk	70.05	311	⇓eP	P	11 56 03.7	+0.2
	comp=Z,33nm,0.9s,mb5.3						
KIV				i		11 56 09.6	
KIV				e		11 56 24.2	
KIV				e		11 58 37.2	
KIV				LR	LR		
	comp=Z,200nm,13.0s,MS4.5						
IMA	Indian Mountai	70.72	25	eP	P	11 56 09.0	+1.8
	comp=Z,12nm,1.4s,mb4.6						
MZLS	Mizel	71.32	290	P	P	11 56 11.7	+0.2
RSO	Redoubt South	71.49	31	eP	P	11 56 12.6	+0.7
SOC	Sochi	72.23	311	eP	P	11 56 17.1	+0.5
SOC				e		11 56 37.0	
SOC				e		11 58 58.8	
SOC				ePPP	PPP	12 00 38.6	-2.5
SOC				eS	S	12 05 33.0	-3.2
SOC				e		12 06 12.9	
SOC				eSSS	SSS	12 13 22.9	-2.4
SOC				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.1						
SOC				pmax	pmax		
	comp=N,14nm,0.8s						
SOC				pmax	pmax		
	comp=E,14nm,1.0s						
SOC				MLR	MLR		
	comp=Z,276nm,19.0s,MS4.5						
SOC				MLR	MLR		
	comp=N,172nm,16.0s,MS4.5						
SOC				MLR	MLR		
	comp=E,152nm,21.0s,MS4.5						
SOC	Sochi	72.23	311	eP	P	11 56 17.1	+0.5
	comp=E,14nm,0.6s,mb5.1						
SOC				e		11 56 37.0	
SOC				e		11 58 58.8	
SOC				ePPP	PPP	12 00 38.6	-2.5
SOC				eS	S	12 05 33.0	-3.2
SOC				e		12 06 12.9	
SOC				eSSS	SSS	12 13 22.9	-2.4
SOC				LR	LR		
	comp=Z,280nm,19.0s,MS4.5						
APA	Apatity	72.62	336	⇑iP	P	11 56 17.5	-0.9
APA				i	pP	11 56 26.2	-0.7
APA				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.0						
APA	Apatity	72.62	336	⇑iP	P	11 56 17.5	-0.9
	comp=Z,18nm,0.9s,mb5.0						
APA				i	pP	11 56 26.2	-0.7
OBN	Obninsk	72.62	323	⇑eP	P	11 56 19.3	+0.6
OBN				eS	S	12 05 41.6	+1.1
OBN				eSS	SS	12 10 21.2	-0.9
OBN				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.0						
OBN				MLR	MLR		
	comp=Z,400nm,19.0s,MS4.7						
OBN	Obninsk	72.62	323	⇑eP	P	11 56 19.3	+0.6
	comp=Z,16nm,0.8s,mb5.0						
OBN				eS	S	12 05 41.6	+1.1
OBN				eSS	SS	12 10 21.2	-0.9
OBN				LR	LR		
	comp=Z,400nm,19.0s,MS4.7						
KAMS	Al Khamasin	72.73	286	P	P	11 56 19.1	-1.0
PWA	Palmer West	72.76	30	eP	P	11 56 19.5	+0.1
	comp=Z,23nm,1.0s,mb5.1						
MCK	McKinley	72.93	28	eP	P	11 56 20.4	+0.1
	comp=Z,14nm,1.1s,mb4.8						
MCK				LR	LR		
	comp=Z,133nm,19.0s,MS4.2						
COLA	College	73.25	26	⇓eP	P	11 56 22.1	-0.1
COLA	College	73.25	26	eP	P	11 56 22.6	+0.4
COLA				e		11 56 37.9	
AFFS	‘Afif	73.31	290	P	P	11 56 23.2	-0.2
SML	Sawmill	73.47	30	eP	P	11 56 24.2	+0.7
SML				e		11 56 39.9	
ANN	Anapa	73.65	312	eP	P	11 56 20.6	-4.3
ANN				eS	S	12 05 50.8	-1.5
ANN				pmax	pmax		
	comp=Z,42nm,1.2s,mb5.2						
ANN				MLR	MLR		
	comp=N,203nm,16.0s						
ANN				MLR	MLR		
	comp=Z,302nm,16.0s,MS4.7						
ANN	Anapa	73.65	312	eP	P	11 56 20.6	-4.3
	comp=Z,42nm,1.2s,mb5.2						
ANN				eS	S	12 05 50.8	-1.5
ANN				LR	LR		
	comp=Z,300nm,16.0s,MS4.7						
ILAR	Eielson Array	73.67	27	P	P	11 56 26.7	+2.1
	comp=Z,1.6nm,0.7s,mb4.0,baz=284,slow=3.7,SNR=9.9						
TATS	Tathlith	73.92	286	P	P	11 56 27.0	0.0
JOF	Joensuu	74.14	332	ep	P	11 56 24.9	-2.5
	comp=Z,9.2nm,0.8s,mb4.8						
JOF	Joensuu	74.14	332	eP	P	11 56 24.9	-2.5
JOF				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
DJNS	Zahran al Janu	74.32	284	P	P	11 56 29.8	+0.5
KEV	Kevo	74.58	339	ep	P	11 56 29.4	-0.4
DIV	Divide	74.79	30	eP	P	11 56 31.8	+0.6
	comp=Z,69nm,1.2s,mb5.5						
ARCES	ARCESS Array B	75.14	339	P	P	11 56 32.3	-0.8
	comp=Z,11nm,0.9s,mb4.8,baz=63,slow=5.4,SNR=14						
ARCES				LR	LR	12 31 36.0	
	comp=Z,233nm,20.8s,MS4.5,baz=33,slow=37						
ARE0	ARCESS Array S	75.15	339	eP	P	11 56 32.3	-0.8
NAMS	An Nimas	75.17	286	P	P	11 56 34.9	+0.7
SIM	Simferopol’	75.94	313	P	P	11 56 38.3	+0.2
KBRS	Khaybar	76.17	293	P	P	11 56 40.9	+1.1
LTHS	Al Lith	76.53	287	P	P	11 56 42.5	+0.6
KAF	Kangasniemi	76.58	331	ep	P	11 56 40.6	-0.7
	comp=Z,3.9nm,0.7s,mb4.5,baz=73,slow=5.2						
KAF	Kangasniemi	76.58	331	eP	P	11 56 40.6	-0.7
KAF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
ASF	Jabal al Asfar	76.66	300	P	P	11 56 43.9	+1.5
	comp=Z,5.6nm,0.8s,mb4.5,baz=348,slow=6.6,SNR=5.9						
FINES	FINESS Array B	76.85	331	P	P	11 56 42.1	-0.8
	comp=Z,7.3nm,0.8s,mb4.7,baz=90,slow=5.7,SNR=19						
FINES				LR	LR	12 33 40.7	
	comp=Z,403nm,19.3s,MS4.8,baz=66,slow=38						
FINES	FINESS Array B	76.85	331	i P	P	11 56 42.7	-0.1
FINES				pmax	pmax		
	comp=Z,7.0nm,0.8s						
DAWY	Dawson	77.00	27	eP	P	11 56 43.9	+0.2
BRTR	Keskin Array B	77.45	308	P	P	11 56 46.5	-0.1
	comp=Z,2.5nm,0.9s,mb4.2,baz=72,slow=7.8,SNR=7.4						
BRTR				LR	LR	12 38 13.7	
	comp=Z,119nm,18.3s,MS4.2,baz=330,slow=41						
AKASG	Malin Array Be	77.83	319	P	P	11 56 47.8	-0.6
	comp=Z,7.0nm,0.8s,mb4.6,baz=60,slow=5.3,SNR=16						
AKASG				LR	LR	12 31 33.1	
	comp=Z,157nm,18.2s,MS4.4,baz=80,slow=36						
INK	Inuvik	77.98	22	LR	LR	12 35 50.9	
	comp=Z,171nm,19.9s,MS4.4,baz=128,slow=39						
INK	Inuvik	77.98	22	eP	P	11 56 48.2	-0.8
	comp=Z,18nm,1.2s,mb4.9						
CSS	Prodhromos	78.86	303	eP	P	11 56 54.6	+0.1
	comp=Z,20nm,0.6s,mb5.2						
SUW	Suwalki	80.45	324	eP	P	11 57 02.5	-0.1
SUW	Suwalki	80.45	324	eP	P	11 57 02.5	-0.1
DAG	Danmarks Havn	82.05	352	⇑iP	P	11 57 10.0	-0.6
	comp=Z,4.9nm,0.5s,mb4.7						
KWP	Kalwaria	82.15	320	eP	P	11 57 12.3	+0.8
KWP	Kalwaria	82.15	320	eP	P	11 57 12.3	+0.8
KOLS	Kolonicke sedl	82.65	319	eP	P	11 57 14.1	-0.1
KOLS				e		11 57 19.4	
DLBC	Dease Lake	83.18	30	LR	LR	12 32 57.5	
	comp=Z,159nm,21.3s,MS4.4,baz=114,slow=35						
PGB	Panagyurishte	83.52	313	eP	P	11 57 20.0	+1.2
NIE	Niedzica	83.68	320	eP	P	11 57 20.9	+1.4
NB2	NORSAR Subarra	83.70	333	P	P	11 57 18.3	-1.0
	comp=Z,11nm,1.0s,mb4.9,baz=63,slow=5.3						
NOA	NORSAR Array B	83.70	333	P	P	11 57 18.8	-0.5
	comp=Z,6.8nm,0.9s,mb4.8,baz=63,slow=5.1,SNR=14						
NOA				LR	LR	12 38 13.7	
	comp=Z,740nm,18.1s,MS5.1,baz=60,slow=38						
OJC	Ojcow	83.70	321	eP	P	11 57 19.7	+0.1
OJC	Ojcow	83.70	321	eP	P	11 57 19.7	+0.1
NAO01	NORSAR Array S	83.93	333	eP	P	11 57 19.6	-0.9
	comp=Z,6.6nm,0.8s,mb4.8						
MMB	Musomiste	84.14	312	eP	P	11 57 22.5	+0.5
VTS	Vitosha	84.17	313	eP	P	11 57 24.0	+1.9
OKC	Ostrava-Krasne	84.83	321	eP	P	11 57 25.7	+0.5
CASY	Casey	85.07	185	eP	P	11 57 25.9	-0.1
	comp=Z,31nm,1.4s,mb5.2						
MORC	Moravsky Berou	85.22	321	eP	P	11 57 27.6	+0.4
	comp=Z,6.4nm,0.8s,mb4.8						
KSP	Ksiaz	85.53	322	eP	P	11 57 29.1	+0.4
KSP	Ksiaz	85.53	322	eP	P	11 57 29.3	+0.6
SKO	Skopje	85.62	313	i P	P	11 57 30.2	+0.8
DPC	Dobruska-Polom	85.71	322	eP	P	11 57 30.4	+0.8
KMBO	Kilima Mbogo	85.77	267	eP	P	11 57 31.4	+0.7
	comp=Z,5.0nm,0.8s,mb4.8						
RAR	Rarotonga	85.82	114	LR	LR	12 27 31.4	
	comp=Z,126nm,21.9s,MS4.3,baz=84,slow=30						
UPC	Upice	85.83	322	eP	P	11 57 32.7	+2.5
PRU	Pruhonice	86.90	322	eP	P	11 57 35.9	+0.4
CLL	Collm	87.21	324	P	P	11 57 37.5	+0.6
	comp=Z,logA/T=1.0,mb5.0						
CLL	Collm	87.21	324	i P	P	11 57 37.5	+0.6
CLL				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb5.0						
CLL	Collm	87.21	324	i P	P	11 57 37.5	+0.6
	comp=Z,9.0nm,1.0s,mb5.0						
YKW3	Yellowknife Ar	87.62	23	eP	P	11 57 39.0	+0.3
YKA	Yellowknife Ar	87.66	23	P	P	11 57 39.7	+0.8
	comp=Z,12nm,0.6s,mb5.3,baz=308,slow=4.6,SNR=45						
YKA				LR	LR	12 39 49.0	
	comp=Z,169nm,21.6s,MS4.4,baz=290,slow=38						
YKA	Yellowknife Ar	87.66	23	P	P	11 57 39.7	+0.8
YKA				LR	LR	12 39 49.0	
MIR	Mirnyy	87.68	191	⇑eP	P	11 57 38.3	-0.5
MIR				pmax	pmax		
	comp=Z,35nm,1.2s,mb5.5						
KHC	Kasperske Hory	87.84	322	eP	P	11 57 40.5	+0.5
GERES	GERESS Array B	87.89	321	P	P	11 57 40.1	-0.1
	comp=Z,4.7nm,0.8s,mb4.8,baz=56,slow=4.8,SNR=27						
GERES	GERESS Array B	87.89	321	P	P	11 57 40.1	-0.1
VISS	Visnje	88.51	318	eP	P	11 57 43.7	+0.4
JAVS	Javornik	88.96	318	eP	P	11 57 45.5	+0.1
ROBS	Robic	89.15	319	eP	P	11 57 46.0	-0.4
LPG	La Plagne	93.66	321	eP	P	11 58 07.5	+0.3
	comp=Z,19nm,0.8s,mb5.3						
LPL	La Plagne	93.66	321	eP	P	11 58 07.5	+0.3
	comp=Z,24nm,1.0s,mb5.3						
PGF	Pioggiola	93.73	317	eP	P	11 58 07.6	0.0
	comp=Z,16nm,0.8s,mb5.2						
MBDF	Montbardon	94.04	320	eP	P	11 58 08.1	-0.9
	comp=Z,16nm,0.9s,mb5.1						
LOR	Lormes	94.41	323	eP	P	11 58 10.6	0.0
LOR				eR			
	comp=Z,365nm,17.8s						
ORIF	Oris-en-Rattie	94.48	320	eP	P	11 58 10.9	-0.1
ORIF				eR			
	comp=Z,324nm,19.2s						
FRF	La Foret Royal	94.72	319	eP	P	11 58 11.6	-0.5
SMF	Signal de Mont	94.76	323	eP	P	11 58 12.4	+0.2
AVF	Avril sur Loir	94.96	323	eP	P	11 58 12.5	-0.6
	comp=Z,14nm,0.9s,mb5.1						
VIVF	Saint-Julien-l	95.24	321	eP	P	11 58 14.1	-0.4
TCF	Toulx Ste Croi	95.89	323	eP	P	11 58 17.2	-0.2
MAW	Mawson	96.22	199	P	P	11 58 18.4	0.0
	comp=Z,2.0nm,1.1s,mb4.5,baz=212,slow=2.9,SNR=2.8						
MAW				LR	LR	12 42 32.7	
	comp=Z,76nm,18.2s,MS4.2,baz=58,slow=36						
MTLF	Montolieu	97.55	320	eP	P	11 58 24.7	-0.3
VNDA	Vanda	98.61	172	P	P	11 58 29.7	+0.7
	comp=Z,3.2nm,1.0s,mb4.8,baz=317,slow=5.4,SNR=12						
VNDA				LR	LR	12 46 46.7	
	comp=Z,188nm,19.9s,MS4.6,baz=336,slow=38						
VNDA	Vanda	98.61	172	eP	P	11 58 29.3	+0.2
	comp=Z,4.5nm,1.2s,mb4.9						
NVAR	Mina Array Bea	99.69	44	P	P	11 58 36.8	+2.0
	comp=Z,0.4nm,0.6s,mb4.0,baz=293,slow=3.7,SNR=4.8						
NVAR				LR	LR	12 43 59.2	
	comp=Z,70nm,18.8s,MS4.2,baz=25,slow=36						
WMOK	Wichita Mounta	114.09	36	ePKPdf	PKPdf	12 03 31.0	-2.8
TXAR	Lajitas Array	114.84	44	PKP	PKPdf	12 03 33.3	-2.1
	comp=Z,0.9nm,0.8s,baz=208,slow=0.7,SNR=11						
SNAA	Sanae	118.27	197	⇓iP	PKPdf	12 03 36.7	-4.4
VNA2	Neumayer--Watz	119.92	197	⇓iP	PKPdf	12 03 42.0	-2.2
VNA1	Neumayer--Stat	120.31	197	⇑iP	PKPdf	12 03 44.0	-1.1
VNA3	Neumayer Olymp	120.35	196	⇑iP	PKPdf	12 03 42.8	-2.3
DBIC	Dimbokro	122.28	291	PKP	PKPdf	12 03 47.1	-3.0
	comp=Z,2.1nm,0.8s,baz=166,slow=2.7,SNR=2.2						
SDV	Santo Domingo	149.82	26	ePKPdf	PKPdf	12 04 38.3	-2.1
SDV				ePKPbc	PKPdf	12 04 43.6	+3.2
TRQA	Tornquist	160.22	170	ePKPab	PKPab	12 05 30.9	-0.6
LPAZ	La Paz	169.68	79	PKP	PKPdf	12 05 01.3	-0.8
	comp=Z,4.0nm,1.0s,baz=359,slow=1.8,SNR=12						
LPAZ				PKPab	PKPab	12 06 15.4	+2.1
	comp=Z,2.0nm,1.1s,baz=271,slow=4.2,SNR=3.5						
CPUP	Villa Florida	172.28	182	PKPab	PKPab	12 06 24.6	-0.1
	comp=Z,3.6nm,1.1s,baz=195,slow=6.3,SNR=6.0						

MAN 15 11:49:07.2, 18.30N×122.12E, h12km, mb4.3, ML3.1, MS2.9, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	Mt. Cagua	0.09	227	eP	Pg	11 49 11.0	+1.0
SGCP				eS	Sg	11 49 16.6	+4.7
APYP	Conner	0.94	242	eP	Pb	11 49 24.2	-0.7
APYP				eS	Sb	11 49 39.8	+2.7
PALP	Palanan	1.27	167	eP	Pb	11 49 29.7	-0.8
PIP	Pasuquin	1.42	271	⇓eP	Pn	11 49 32.1	-0.9
PIP				eS	Sb	11 49 52.5	+1.3
ABRA	Dolores	1.49	244	eP	Pn	11 49 33.2	-0.7

DJA 15 11:52:22.0±0.8, 7.44S×116.24E, h240km, MD4.6/4, ML3.9/4, 4C-4D, Error ellipse: s-maj=35.6km s-min=16.8km az=8.0, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	Kedomdong	1.04	187	⇓iPn	P	11 52 56.5	+0.1
	69nm,0.2s						
KEDI				⇓iSn	S	11 53 21.4	-1.8
RATI	Rata	1.45	209	⇓iPn	P	11 52 59.0	-0.3
	263nm,0.2s						
RATI				⇓iSn	S	11 53 27.6	-0.7
KELI	Kelakatan	1.89	246	⇑iPn	P	11 53 04.4	+1.4
	75nm,0.2s						
KELI				⇑iSn	S	11 53 33.4	-1.3
SRDI	Scrawed	2.32	243	⇑iPn	P	11 53 06.3	-0.8
	98nm,0.2s						
SRDI				⇑iSn	S	11 53 40.3	-1.7

*NEIC **15** 12:04:41.0±0.7, 23.60S×179.33W, h480^{km}, mb4.2/6, Error ellipse: s-maj=45.1km s-min=13.6km az=176.0*
*IDC **15** 12:04:41.4±2.5, 23.47S×179.32W, h483^{km}±31^{km}, mb3.5/7, mb1 3.6/8, mb1mx3.3/18, Error ellipse: s-maj=49.6km s-min=22.7km az=178.0*
ISC 15 12:04:41.6±0.9**, 23.6S**±0.4×**179.4W**±0.1**, h500^{km}, n17,** σ**0^{s}65**/17**, mb4.0**/9**, 1C-1D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**18.29**	**86**	P	**P**	**12 08 24.6**	**0.0**
	0.8nm,0.3s,baz=61,slow=2.0,SNR=3.3						
CTA	**Charters Tower**	**32.04**	**270**	⇑*i*P	**P**	**12 10 28.5**	**+0.7**
	7.6nm,0.4s,mb4.5						
CTA	**Charters Tower**	**32.04**	**270**	P	**P**	**12 10 28.5**	**+0.7**
	10nm,0.5s,mb4.5,baz=89,slow=12,SNR=11						
CTAO	**Charters Tower**	**32.04**	**270**	*e*P	**P**	**12 10 28.0**	**+0.1**
	8.9nm,0.4s,mb4.5						
PMG	**Port Moresby**	**34.94**	**288**	P	**P**	**12 10 52.9**	**+0.7**
	3.9nm,0.6s,mb4.0,baz=215,slow=23,SNR=3.4						
STKA	**Stephens Creek**	**35.35**	**248**	*e*P	**P**	**12 10 56.1**	**+0.7**
	1.6nm,0.5s,mb3.7						
STKA	**Stephens Creek**	**35.35**	**248**	P	**P**	**12 10 56.2**	**+0.8**
	1.5nm,0.5s,mb3.7,baz=84,slow=11,SNR=4.2						
ASAR	**Alice Springs**	**42.64**	**260**	P	**P**	**12 11 54.8**	**0.0**
	2.7nm,0.5s,mb3.9,baz=97,slow=7.2,SNR=45						
ASAR				ScP		12 16 40.6	
	0.2nm,0.6s,baz=113,slow=4.3,SNR=4.5						
ASPA	**Alice Springs**	**42.64**	**260**	*e*P	**P**	**12 11 54.7**	**-0.1**
WB2	**Warramunga Arr**	**42.98**	**266**	⇓*i*P	**P**	**12 11 56.8**	**-0.7**
WRAB	**Tennant Creek**	**42.98**	**266**	*e*P	**P**	**12 11 56.4**	**-1.1**
	4.5nm,0.4s,mb4.2						
WRA	**Warramunga Arr**	**42.99**	**266**	P	**P**	**12 11 56.8**	**-0.8**
	2.8nm,0.4s,mb4.1,baz=93,slow=8.5,SNR=102						
KAKA	**Kakadu**	**46.89**	**275**	*e*P	**P**	**12 12 31.8**	**+3.9**
	8.8nm,1.2s,mb4.1						
FITZ	**Fitzroy Crossi**	**51.41**	**265**	*e*P	**P**	**12 13 01.8**	**+0.1**
	1.6nm,0.7s,mb3.5						
FITZ	**Fitzroy Crossi**	**51.41**	**265**	P	**P**	**12 13 01.8**	**+0.2**
	2.6nm,0.9s,mb3.6,baz=186,slow=14,SNR=6.4						
NWAO	**Narrogin (SRO)**	**55.86**	**245**	P	**P**	**12 13 33.5**	**+0.4**
	4.9nm,0.9s,mb3.8,baz=103,slow=17,SNR=2.2						
NWAO	**Narrogin (SRO)**	**55.86**	**245**	P	**P**	**12 13 33.5**	**+0.4**

*IDC **15** 12:16:53.4±0.8, 39.21S×175.31E, h207^{km}±14^{km}, mb3.0/2, mb1 3.4/3, mb1mx3.1/11, Error ellipse: s-maj=40.9km s-min=12.2km az=131.0*
*NEIC **15** 12:16:56.0, 38.90S×175.06E, h213^{km}, After WEL.*
*WEL **15** 12:16:57.2±0.3, 38.92S×175.09E, h203^{km}±2^{km}, ML4.6/11, Error ellipse: s-maj=3.1km s-min=2.5km az=90.0*
ISC 15 12:16:54.8±0.4**, 39.03S**±0.03×**174.98E**±0.06**, h213^{km}**±4^{km}**, n107,** σ**1^{s}01**/141**, mb3.2**/2**, 4C-7D, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.19**	**240**	P	**P**	**12 17 23.6**	**+0.6**
VRZ				S	**S**	**12 17 45.9**	**+1.2**
VRZ	**Vera Road**	**0.19**	**240**	PN	**P**	**12 17 23.5**	**+0.5**
VRZ				SN	**S**	**12 17 44.6**	**-0.2**
TWVZ	**Taurewa**	**0.36**	**97**	PN	**P**	**12 17 24.0**	**+0.6**
MGZ	**Maungaku**	**0.44**	**86**	PN	**P**	**12 17 24.3**	**+0.7**
CNZ	**Chateau**	**0.48**	**111**	P	**P**	**12 17 24.6**	**+0.9**
CNZ	**Chateau**	**0.48**	**111**	⇓PN	**P**	**12 17 24.6**	**+0.9**
WPVZ	**Whakapapa**	**0.48**	**112**	P	**P**	**12 17 24.7**	**+1.0**
WPVZ	**Whakapapa**	**0.48**	**112**	⇑PN	**P**	**12 17 24.7**	**+1.0**
WPVZ				SN	**S**	**12 17 45.6**	**-0.5**
WTVZ	**West Tongariro**	**0.49**	**100**	P	**P**	**12 17 24.4**	**+0.7**
WTVZ				S	**S**	**12 17 45.8**	**-0.3**
WTVZ	**West Tongariro**	**0.49**	**100**	PN	**P**	**12 17 24.4**	**+0.7**
WTVZ				SN	**S**	**12 17 45.8**	**-0.3**
NGZ	**Ngauruhoe**	**0.51**	**107**	P	**P**	**12 17 24.7**	**+0.9**
NGZ				S	**S**	**12 17 45.5**	**-0.8**
NGZ	**Ngauruhoe**	**0.51**	**107**	PN	**P**	**12 17 24.8**	**+1.0**
NGZ				SN	**S**	**12 17 45.5**	**-0.8**
DRZ	**Dome Shelter**	**0.52**	**118**	P	**P**	**12 17 25.2**	**+1.3**
DRZ	**Dome Shelter**	**0.52**	**118**	PN	**P**	**12 17 25.2**	**+1.3**
HIZ	**Hauiti**	**0.52**	**350**	P	**P**	**12 17 24.0**	**+0.1**
HIZ	**Hauiti**	**0.52**	**350**	⇑PN	**P**	**12 17 24.0**	**+0.2**
HIZ				SN	**S**	**12 17 45.5**	**-0.9**
KAVZ	**Karewarewa**	**0.53**	**98**	P	**P**	**12 17 24.5**	**+0.6**
KAVZ	**Karewarewa**	**0.53**	**98**	PN	**P**	**12 17 24.5**	**+0.6**
TUVZ	**Tukino**	**0.58**	**115**	P	**P**	**12 17 25.2**	**+1.1**
TUVZ	**Tukino**	**0.58**	**115**	PN	**P**	**12 17 25.2**	**+1.1**
RATZ	**Rangitukua**	**0.64**	**76**	P	**P**	**12 17 24.6**	**+0.3**
RATZ	**Rangitukua**	**0.64**	**76**	PN	**P**	**12 17 24.6**	**+0.3**
WATZ	**Wairara**	**0.67**	**62**	P	**P**	**12 17 24.9**	**+0.5**
WATZ	**Wairara**	**0.67**	**62**	⇑PN	**P**	**12 17 24.9**	**+0.4**
WATZ				SN	**S**	**12 17 45.7**	**-1.7**
MOVZ	**Moawhango**	**0.71**	**122**	PN	**P**	**12 17 25.3**	**+0.7**
MOVZ				SN	**S**	**12 17 46.1**	**-1.6**
MOVZ				SN	**S**	**12 17 46.1**	**-1.6**
NEZ	**North Egmont**	**0.72**	**250**	P	**P**	**12 17 26.4**	**+1.7**
NEZ	**North Egmont**	**0.72**	**250**	⇓PN	**P**	**12 17 26.4**	**+1.7**
WAZ	**Wanganui**	**0.72**	**179**	⇑PN	**P**	**12 17 26.4**	**+1.7**
WAZ				SN	**S**	**12 17 48.5**	**+0.7**
NRZ	**Ngariki Road**	**0.87**	**249**	P	**P**	**12 17 26.9**	**+1.5**
NRZ	**Ngariki Road**	**0.87**	**249**	PN	**P**	**12 17 26.9**	**+1.5**
NWEZ	**Newall Road**	**0.90**	**254**	P	**P**	**12 17 26.4**	**+0.9**
NWEZ	**Newall Road**	**0.90**	**254**	PN	**P**	**12 17 26.2**	**+0.6**
BKZ	**Black Stump Fm**	**1.19**	**97**	P	**P**	**12 17 27.8**	**+0.2**
BKZ				S	**S**	**12 17 50.8**	**-2.1**
BKZ	**Black Stump Fm**	**1.19**	**97**	PN	**P**	**12 17 27.8**	**+0.2**
BKZ				SN	**S**	**12 17 50.3**	**-2.6**
TSZ	**Takapari Road**	**1.28**	**144**	P	**P**	**12 17 29.6**	**+1.3**
TSZ	**Takapari Road**	**1.28**	**144**	PN	**P**	**12 17 29.6**	**+1.3**
TSZ				SN	**S**	**12 17 53.5**	**-0.7**
MRZ	**Mangatainoka R**	**1.69**	**164**	P	**P**	**12 17 33.0**	**+1.2**
MRZ	**Mangatainoka R**	**1.69**	**164**	PN	**P**	**12 17 33.0**	**+1.2**
PWZ	**Pawanui**	**1.77**	**125**	P	**P**	**12 17 33.3**	**+0.8**
PWZ	**Pawanui**	**1.77**	**125**	⇓PN	**P**	**12 17 33.3**	**+0.8**
KIW	**Kapiti Island**	**1.83**	**182**	PN	**P**	**12 17 34.3**	**+1.2**
KIW				SN	**S**	**12 18 02.1**	**-0.4**
URZ	**Urewera**	**1.84**	**66**	P	**P**	**12 17 31.3**	**-1.9**
	20nm,0.3s,baz=256,slow=10,SNR=201						
URZ				S	**S**	**12 17 57.5**	**-5.2**
	67nm,0.3s,baz=135,slow=23,SNR=14						
URZ	**Urewera**	**1.84**	**66**	P	**P**	**12 17 31.6**	**-1.6**
URZ	**Urewera**	**1.84**	**66**	PN	**P**	**12 17 31.5**	**-1.6**
URZ				SN	**S**	**12 17 57.2**	**-5.5**
BFZ	**Birch Farm**	**1.92**	**150**	P	**P**	**12 17 34.8**	**+0.9**
BFZ	**Birch Farm**	**1.92**	**150**	PN	**P**	**12 17 34.8**	**+0.9**
MKAZ	**Moumakai**	**1.92**	**5**	⇓PN	**P**	**12 17 33.3**	**-0.6**
OTAZ	**Otara**	**2.08**	**359**	P	**P**	**12 17 35.0**	**-0.5**
OTAZ	**Otara**	**2.08**	**359**	⇓PN	**P**	**12 17 35.0**	**-0.5**
CAW	**Cannon Point**	**2.08**	**178**	⇓PN	**P**	**12 17 36.7**	**+1.2**
CAW				SN	**S**	**12 18 06.8**	**0.0**
KNZ	**Kokohu**	**2.10**	**91**	P	**P**	**12 17 35.4**	**-0.4**
KNZ	**Kokohu**	**2.10**	**91**	PN	**P**	**12 17 35.4**	**-0.4**
MWZ	**Matawai**	**2.12**	**72**	P	**P**	**12 17 34.7**	**-1.2**
MWZ	**Matawai**	**2.12**	**72**	PN	**P**	**12 17 34.6**	**-1.2**
MWZ				SN	**S**	**12 18 02.2**	**-5.4**
WTAZ	**Waiatarua**	**2.12**	**351**	P	**P**	**12 17 35.7**	**-0.2**
WTAZ	**Waiatarua**	**2.12**	**351**	⇓PN	**P**	**12 17 35.7**	**-0.3**
MTW	**Mount Morrison**	**2.17**	**169**	P	**P**	**12 17 37.2**	**+0.8**
MTW	**Mount Morrison**	**2.17**	**169**	PN	**P**	**12 17 37.2**	**+0.7**
MRW	**Makara Radio**	**2.21**	**185**	P	**P**	**12 17 38.0**	**+1.1**
MRW	**Makara Radio**	**2.21**	**185**	PN	**P**	**12 17 37.9**	**+1.1**
MRW				SN	**S**	**12 18 09.1**	**-0.2**
KAAZ	**Kauri Point**	**2.21**	**354**	P	**P**	**12 17 35.9**	**-1.0**
KAAZ	**Kauri Point**	**2.21**	**354**	PN	**P**	**12 17 35.9**	**-1.1**
MTAZ	**Motutapu**	**2.24**	**359**	P	**P**	**12 17 36.5**	**-0.7**
MTAZ	**Motutapu**	**2.24**	**359**	PN	**P**	**12 17 36.5**	**-0.7**
WEL	**Wellington**	**2.26**	**184**	P	**P**	**12 17 38.5**	**+1.1**
WEL	**Wellington**	**2.26**	**184**	PN	**P**	**12 17 38.4**	**+1.0**
PAWZ	**Paruwai Farm**	**2.38**	**172**	PN	**P**	**12 17 39.4**	**+0.7**
PAWZ				SN	**S**	**12 18 11.6**	**-0.9**
BHW	**Baring Head**	**2.38**	**182**	P	**P**	**12 17 39.4**	**+0.7**
BHW				S	**S**	**12 18 11.9**	**-0.7**
BHW	**Baring Head**	**2.38**	**182**	PN	**P**	**12 17 39.4**	**+0.7**
BHW				SN	**S**	**12 18 11.9**	**-0.7**
MSWZ	**Moikau Station**	**2.39**	**175**	P	**P**	**12 17 39.5**	**+0.7**
MSWZ	**Moikau Station**	**2.39**	**175**	PN	**P**	**12 17 39.5**	**+0.7**
MSWZ				SN	**S**	**12 18 12.0**	**-0.8**
NNZ	**Nelson**	**2.50**	**209**	P	**P**	**12 17 40.8**	**+0.7**
NNZ	**Nelson**	**2.50**	**209**	PN	**P**	**12 17 40.8**	**+0.7**
NNZ				SN	**S**	**12 18 14.9**	**-0.1**
TUWZ	**Tuamarina**	**2.52**	**198**	PN	**P**	**12 17 41.4**	**+1.1**
TUWZ				SN	**S**	**12 18 14.8**	**-0.7**
QRZ	**Quartz Range**	**2.60**	**226**	*e*P	**P**	**12 17 41.3**	**+0.2**
QRZ	**Quartz Range**	**2.60**	**226**	PN	**P**	**12 17 41.3**	**+0.2**
QRZ				SN	**S**	**12 18 15.8**	**-1.2**
PUZ	**Puketiti**	**2.75**	**71**	PN	**P**	**12 17 40.9**	**-1.8**
PUZ				SN	**S**	**12 18 13.8**	**-6.0**
CMWZ	**Cape Campbell**	**2.78**	**192**	SN	**S**	**12 18 22.2**	**+1.7**
BSWZ	**Blackbirch Sta**	**2.81**	**197**	P	**P**	**12 17 44.8**	**+1.3**
BSWZ	**Blackbirch Sta**	**2.81**	**197**	PN	**P**	**12 17 44.7**	**+1.3**
MXZ	**Matakaoa Point**	**3.00**	**62**	P	**P**	**12 17 43.9**	**-1.7**
MXZ	**Matakaoa Point**	**3.00**	**62**	PN	**P**	**12 17 43.9**	**-1.8**
THZ	**Tophouse**	**3.15**	**209**	P	**P**	**12 17 48.0**	**+0.5**
THZ	**Tophouse**	**3.15**	**209**	PN	**P**	**12 17 47.7**	**+0.2**
THZ				SN	**S**	**12 18 28.4**	**+0.2**
KHZ	**Kahutara**	**3.56**	**197**	P	**P**	**12 17 52.9**	**+0.6**
KHZ	**Kahutara**	**3.56**	**197**	PN	**P**	**12 17 52.8**	**+0.5**
KHZ				SN	**S**	**12 18 35.8**	**-1.0**
DSZ	**Denniston Nort**	**3.64**	**221**	*e*P	**P**	**12 17 53.1**	**-0.2**
DSZ	**Denniston Nort**	**3.64**	**221**	PN	**P**	**12 17 53.0**	**-0.2**
DSZ				SN	**S**	**12 18 36.6**	**-1.9**
LTZ	**Lake Taylor**	**4.27**	**208**	P	**P**	**12 18 01.1**	**0.0**
LTZ	**Lake Taylor**	**4.27**	**208**	PN	**P**	**12 18 00.9**	**-0.1**
LTZ				SN	**S**	**12 18 50.6**	**-1.8**
CRLZ	**Canterbury Las**	**4.88**	**201**	*e*P	**P**	**12 18 07.9**	**-0.7**
CRLZ	**Canterbury Las**	**4.88**	**201**	PN	**P**	**12 18 07.5**	**-1.2**
MQZ	**McQueen's Vall**	**4.99**	**200**	*e*P	**P**	**12 18 09.0**	**-1.1**
MQZ	**McQueen's Vall**	**4.99**	**200**	PN	**P**	**12 18 08.9**	**-1.2**
MQZ				SN	**S**	**12 19 04.8**	**-3.7**
WVZ	**Waitaha Valley**	**5.16**	**217**	*e*P	**P**	**12 18 11.6**	**-0.6**
WVZ	**Waitaha Valley**	**5.16**	**217**	PN	**P**	**12 18 11.6**	**-0.6**
RPZ	**Rata Peaks**	**5.53**	**211**	P	**P**	**12 18 16.2**	**-0.8**
	5.5nm,0.3s,baz=26,slow=1.9,SNR=32						
RPZ				S	**S**	**12 19 18.0**	**-2.9**
	22nm,0.3s,baz=15,slow=22,SNR=34						
RPZ	**Rata Peaks**	**5.53**	**211**	*e*P	**P**	**12 18 16.0**	**-1.0**
RPZ	**Rata Peaks**	**5.53**	**211**	PN	**P**	**12 18 15.6**	**-1.4**
LBZ	**Lake Benmore**	**6.44**	**212**	*e*P	**P**	**12 18 27.2**	**-1.5**
LBZ	**Lake Benmore**	**6.44**	**212**	PN	**P**	**12 18 26.8**	**-1.8**
ODZ	**Otahua Downs**	**6.82**	**207**	*e*P	**P**	**12 18 33.1**	**-0.4**
ODZ	**Otahua Downs**	**6.82**	**207**	PN	**P**	**12 18 32.5**	**-1.1**
ASAR	**Alice Springs**	**37.93**	**282**	P	**P**	**12 23 53.5**	**+0.3**
	0.4nm,0.4s,mb3.3,baz=118,slow=6.4,SNR=11						
ASAR				PcP	PcP	12 26 01.9	-3.1
	0.3nm,0.7s,baz=126,slow=3.5,SNR=4.6						
WRA	**Warramunga Arr**	**39.76**	**287**	P	**P**	**12 24 08.1**	**-0.3**
	0.4nm,0.5s,mb3.1,baz=124,slow=8.0,SNR=18						
FITZ	**Fitzroy Crossi**	**47.44**	**282**	P	**P**	**12 25 09.9**	**+0.2**
ARCES	**ARCESS Array B**	**145.39**	**342**	PKPbc	PKPbc	12 36 05.9	-0.7
	1.5nm,0.7s,baz=63,slow=4.0,SNR=6.7						

*IDC **15** 12:24:60.0±0.7, 27.36N×141.41E, h105^{km}±8^{km}, mb3.6/10, mb1 3.8/12, mb1mx3.7/24, Error ellipse: s-maj=23.0km s-min=10.4km az=80.0*
*NEIC **15** 12:24:59.5±1.4, 27.29N×141.45E, h98^{km}±13^{km}, mb4.6/5, MW4.4(NIED), Error ellipse: s-maj=19.0km s-min=8.1km az=92.0*
*NIED **15** 12:25:00, 27.40N×141.40E, h5^{km}, Mw4.4 Best double couple: $M_0$4.26×10^{15} NP1:ϕ_s117°, δ90°, λ89°. NP2:ϕ_s5°, δ1°, λ158°.*
*JMA **15** 12:25:01.5±0.1, 27.40N×141.38E, h97^{km}, M4.4*
ISC 15 12:24:59.3±0.4**, 27.39N**±0.04×**141.5E**±0.1**, h117^{km}**±6^{km}**, n45,** σ**1^{s}02**/50**, mb4.4**/16**, 2C-2D, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.71**	**114**	P	**P**	**12 25 19.2**	**+0.7**
	308nm,0.3s,baz=29,slow=1.2,SNR=110						
CBIJ				S	**S**	**12 25 32.9**	**-0.3**
	2µm,0.3s,baz=147,slow=20,SNR=64						
CBIJ	**Chichi jima**	**0.71**	**114**	P	**P**	**12 25 19.6**	**+1.1**
CBIJ				S	**S**	**12 25 32.4**	**-0.7**
JHHJ	**Haha-jima-NKT**	**0.99**	**139**	P	**P**	**12 25 22.2**	**+0.9**
JHHJ				S	**S**	**12 25 38.0**	**+0.3**
JHJ2	**Mitsune**	**5.88**	**346**	P	**P**	**12 26 26.0**	**+0.8**
JHJ2				*e*S	**S**	**12 27 29.5**	**-2.3**
JHJ	**Hachijo jima 2**	**5.89**	**346**	P	**P**	**12 26 25.0**	**-0.4**
	18nm,0.3s,baz=78,slow=18,SNR=6.1						
JHJ				S	**S**	**12 27 29.9**	**-2.2**
	38nm,0.3s,baz=77,slow=21,SNR=4.8						
JKO	**Kozu shima**	**7.06**	**344**	P	**P**	**12 26 43.5**	**+2.0**
BSO1	**Boso 1**	**7.25**	**357**	P	**P**	**12 26 43.3**	**-0.8**
BSO1				S	**S**	**12 28 01.6**	**-3.8**
BSO3	**Boso 3**	**7.43**	**354**	P	**P**	**12 26 46.3**	**-0.2**
BSO4	**Boso 4**	**7.64**	**353**	P	**P**	**12 26 48.9**	**-0.4**
HMMJ	**Hamamatsu 2**	**8.10**	**338**	P	**P**	**12 26 58.6**	**+3.1**
JOD2	**Odawara 2**	**8.11**	**346**	P	**P**	**12 26 56.1**	**+0.5**
JRY	**Ryogami san**	**8.87**	**346**	P	**P**	**12 27 04.6**	**-1.2**
MAJO	**Matsushiro**	**9.53**	**344**	*e*Pn	**P**	**12 27 15.7**	**+1.0**
	11nm,0.6s						
MAT	**Matsushiro**	**9.53**	**344**	P	**P**	**12 27 13.9**	**-0.8**
MAT				*e*S	**S**	**12 29 01.5**	**+1.0**
MAT	**Matsushiro**	**9.53**	**344**	P	**P**	**12 27 14.0**	**-0.7**
	9.6nm,0.7s						
MAT				S	**S**	**12 28 51.0**	**-9.5**
JMK	**Ichinoseki**	**11.53**	**359**	P	**P**	**12 27 39.4**	**-1.9**
ERM	**Erimo**	**14.66**	**5**	Pn	**P**	**12 28 04.5**	**-17**
	2µm,0.3s,SNR=8.7						
ASAJ	**Asahikawa**	**16.72**	**3**	P	**P**	**12 28 48.1**	**+0.5**
	0.9nm,0.3s,baz=160,slow=8.3,SNR=4.3						
ASAJ				S	**S**	**12 31 49.2**	**+0.8**
	0.4nm,0.3s,baz=326,slow=26,SNR=2.6						
YSS	**Yuzh-Sakhalins**	**19.56**	**3**	P	**P**	**12 29 21.5**	**+1.4**
	24nm,0.8s						
SONM	**Songino Array**	**34.05**	**316**	P	**P**	**12 31 35.9**	**+1.7**
	0.2nm,0.5s,baz=122,slow=6.8,SNR=1.9						
SONM				PP	PP	12 32 42.5	-9.4
	0.4nm,0.4s,baz=119,slow=6.3,SNR=4.0						
CMAR	**Chiang Mai Arr**	**39.99**	**266**	P	**P**	**12 32 24.4**	**+0.2**
	1.0nm,0.5s,mb3.9,baz=68,slow=6.7,SNR=8.9						
WRAB	**Tennant Creek**	**47.54**	**189**	P	**P**	**12 33 24.0**	**-0.9**
	86nm,0.4s,SNR=21						
WRAB	**Tennant Creek**	**47.54**	**189**	*e*P	**P**	**12 33 24.1**	**-0.8**
	8.9nm,0.6s,mb4.8						
WB2	**Warramunga Arr**	**47.55**	**189**	*e*P	**P**	**12 33 24.3**	**-0.7**
WRA	**Warramunga Arr**	**47.55**	**189**	P	**P**	**12 33 24.3**	**-0.7**
	5.8nm,0.5s,mb4.7,baz=7.1,slow=8.2,SNR=100						
WRA				pP	pP	12 33 50.0	-2.2
	2.7nm,0.6s,baz=11,slow=8.6,SNR=3.3						
FITZ	**Fitzroy Crossi**	**47.75**	**200**	*e*P	**P**	**12 33 26.7**	**+0.1**
	2.7nm,0.7s,mb4.2						
GUN	**Gumba**	**48.86**	**284**	*e*P	**P**	**12 33 35.7**	**+0.7**
	32nm,0.7s,mb5.4						
KKN	**Kakani**	**49.40**	**284**	*e*P	**P**	**12 33 38.9**	**-0.3**
DMN	**Daman**	**49.59**	**284**	*e*P	**P**	**12 33 40.8**	**+0.1**
	6.9nm,0.6s,mb4.8						
GKN	**Gorkha**	**49.91**	**285**	*e*P	**P**	**12 33 44.3**	**+1.2**
	3.1nm,0.2s,mb4.8						
KOLN	**Koldanda**	**50.85**	**285**	*e*P	**P**	**12 33 50.5**	**+0.2**
	2.7nm,0.4s,mb4.6						
ASAR	**Alice Springs**	**51.28**	**189**	P	**P**	**12 33 52.4**	**-1.1**
	0.4nm,0.4s,mb3.8,baz=13,slow=6.4,SNR=17						
ASAR				PcP	PcP	12 35 07.0	0.0
	1.0nm,0.8s,baz=17,slow=5.8,SNR=6.3						
ASPA	**Alice Springs**	**51.28**	**189**	*e*P	**P**	**12 33 53.2**	**-0.3**
BVAR	**Borovoye Array**	**57.39**	**317**	P	**P**	**12 34 37.0**	**-0.6**
	0.3nm,0.4s,mb3.7,baz=126,slow=12,SNR=2.5						
ILAR	**Eielson Array**	**57.77**	**29**	P	**P**	**12 34 40.2**	**+0.1**
	0.8nm,0.7s,mb3.8,baz=276,slow=5.6,SNR=9.3						
STKA	**Stephens Creek**	**58.94**	**180**	*e*P	**P**	**12 34 47.4**	**-1.3**
	1.6nm,0.4s,mb4.4						
STKA	**Stephens Creek**	**58.94**	**180**	P	**P**	**12 34 47.4**	**-1.2**
	1.8nm,0.4s,mb4.5,baz=338,slow=6.1,SNR=13						
FORT	**Forrest**	**59.24**	**193**	*e*P	**P**	**12 34 50.0**	**-0.8**
	18nm,0.4s,mb5.5						
INK	**Inuvik**	**63.04**	**25**	P	**P**	**12 35 16.1**	**+0.2**
	2.3nm,1.1s,mb4.0,baz=293,slow=2.5,SNR=4.1						
ARCES	**ARCESS Array B**	**73.05**	**341**	P	**P**	**12 36 18.8**	**+1.1**
	2.1nm,0.7s,mb4.1,baz=74,slow=8.8,SNR=4.4						
FINES	**FINESS Array B**	**77.40**	**334**	P	**P**	**12 36 43.1**	**+0.5**
	1.2nm,0.6s,mb3.8,baz=72,slow=4.4,SNR=5.6						
FINES				pP	pP	12 37 08.2	-4.1
	0.5nm,0.4s,baz=72,slow=6.0,SNR=0.9						
SNAA	**Sanae**	**131.49**	**194**	⇑*i*	PKPdf	12 43 56.2	-1.3
VNA2	**Neumayer--Watz**	**133.02**	**193**	⇓*i*	PKPdf	12 44 03.2	+2.8
VNA3	**Neumayer Olymp**	**133.22**	**192**	⇓*i*	PKPdf	12 43 58.4	-2.3
VNA1	**Neumayer--Stat**	**133.42**	**193**	⇑*i*	PKPdf	12 43 56.9	-4.2

*GUC **15** 12:26:31.3±0.7, 29.12S×67.97W, h150^{km}, ML4.4*
*NEIC **15** 12:26:31.1±0.7, 29.16S×67.76W, h127^{km}±17^{km}, mb4.1/3, Error ellipse: s-maj=13.0km s-min=11.7km az=221.0*
*SYO **15** 12:26:31, 29.16S×67.76W, h127^{km}, MB4.1*
ISC 15 12:26:30.1±0.8**, 29.08S**±0.05×**67.81W**±0.09**, h127^{km}**±18^{km}**, n12,** σ**1^{s}12**/18**, mb4.3**/1**, 1C-1D, La Rioja Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**2.64**	**280**	*e*P	**P**	**12 27 13.6**	**+0.8**
VACH				*i* S	**S**	**12 27 44.5**	**-0.6**
VACH				AMP		12 27 48.1	
	comp=N,3µm,0.1s						
TLL	**Tololo Astrono**	**2.83**	**247**	⇑*i*P	**P**	**12 27 16.7**	**+1.5**
TLL				*i* S	**S**	**12 27 50.5**	**+1.0**
TLL				AMP		12 27 53.7	
	comp=N,596nm,0.5s						
LSCH	**La Serena**	**3.11**	**254**	*e*P	**P**	**12 27 18.6**	**-0.4**
LSCH				*i* S	**S**	**12 27 54.4**	**-1.7**
LSCH				AMP		12 27 55.9	
	comp=E,373nm,0.4s						
CMCH	**Combarbala**	**3.46**	**232**	*e*P	**P**	**12 27 23.7**	**0.0**
CMCH				*i* S	**S**	**12 28 03.6**	**-1.0**
CMCH				AMP		12 28 05.6	
	comp=N,556nm,0.6s						
FCH	**Farellones**	**4.74**	**206**	*e*P	**P**	**12 27 41.4**	**+0.7**
FCH				*i* S	**S**	**12 28 35.3**	**+0.3**
CPN1	**Cerro Paranal**	**5.01**	**332**	*e*P	**P**	**12 27 45.9**	**+1.6**
LVC	**Limon Verde**	**6.52**	**351**	*e*Pn	**P**	**12 28 05.8**	**+1.0**
	comp=N,4.1nm,0.3s						
LVC				*e*Sn	**S**	**12 29 15.9**	**-2.3**
CPUP	**Villa Florida**	**9.68**	**76**	*e*Pn	**P**	**12 28 46.5**	**-0.8**
TRQA	**Tornquist**	**10.18**	**153**	*e*Pn	**P**	**12 28 52.7**	**-1.1**
SAML	**Samuel**	**20.50**	**13**	*e*P	**P**	**12 31 01.4**	**+1.5**
	comp=N,1.3nm,0.5s						
OTAV	**Otavalo**	**30.88**	**339**	*e*P	**P**	**12 32 35.8**	**-1.1**
	comp=N,2.3nm,0.4s,mb4.3						
SYO	**Syowa Base**	**69.10**	**158**	⇓P	**P**	**12 37 17.6**	**-6.2**

*MOS **15** 12:35:24.2±2.4, 56.63N×113.73E, h9^{km}, mb4.3/1, Error ellipse: s-maj=29.0km s-min=16.5km az=76.0*
BYKL 15 12:35:24.9±0.4**, 56.62N**×**113.76E, h10^{km}**±11^{km}**, 4C-3D, FELT I=II-III at Mamakan and II at Bodaybo, East of Lake Baykal**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVKR	**Severomuysk**	**0.52**	**193**	⇑*i*Pg	Pg	12 35 32.5	-2.9
SVKR				*e*Sg	Sg	12 35 38.8	-3.6
SVKR				Pmax			
	334nm,0.4s						
SVKR				Smax			
	3µm,1.1s						
SVKR	**Severomuysk**	**0.52**	**193**	*e*PG	Pg	12 35 32.4	-3.0
SVKR				*e*		12 35 37.7	
SVKR				pmax	pmax		
	comp=Z,443nm,0.7s						
SVKR				smax			
	comp=E,2µm,1.1s						
UKT	**Uakit**	**1.14**	**184**	*e*Pg	Pg	12 35 45.4	-2.3
UKT				*e*Sg	Sg	12 36 01.8	-1.1
UKT				*e*Sb	Sb	12 36 05.0	+4.2
UKT				Pmax			
	comp=E,147nm,0.8s						
UKT				max			
	comp=E,402nm,0.8s						
BOD	**Bodaibo**	**1.21**	**6**	⇑*i*Pg	Pg	12 35 46.0	-3.1
BOD				*e*Sg	Sg	12 36 01.7	-3.6
BOD				*e*Sb	Sb	12 36 05.8	+2.9
BOD				Pmax			
	comp=E,218nm,0.4s						
BOD				max			
	comp=E,4µm,0.5s						
BOD	**Bodaibo**	**1.21**	**6**	⇑*i*PG	Pg	12 35 45.7	-3.4
BOD				*e*		12 36 01.0	
BOD				pmax	pmax		
	comp=Z,220nm,0.4s						
BOD				smax			
	comp=E,4µm,0.2s						
YOA	**Uoyan**	**1.23**	**248**	*e*Pg	Pg	12 35 48.6	-1.0
YOA				*e*Sg	Sg	12 36 03.2	-2.9
YOA				Pmax			
	comp=E,276nm,0.3s						
YOA				Smax			
	comp=E,3µm,0.9s						
KMO	**Kumora**	**1.61**	**244**	*e*Pn	Pn	12 35 52.9	-0.6
KMO				*e*Pg	Pg	12 35 54.2	-2.8
KMO				*e*Sg	Sg	12 36 15.5	-3.0
KMO				Pmax			
	comp=E,87nm,0.8s						
KMO				Smax			
	comp=E,466nm,1.4s						
YLYR	**Ulyunkhan**	**2.28**	**221**	⇓*i*Pn	Pn	12 36 03.1	-0.1
YLYR				*e*Pg	Pg	12 36 05.7	-4.8
YLYR				*e*Sg	Sg	12 36 35.6	-5.4
YLYR				Pmax			
	comp=E,37nm,0.7s						
YLYR				Smax			
	comp=E,369nm,2.1s						
CRS	**Chara**	**2.50**	**82**	⇓*i*Pn	Pn	12 36 07.0	+0.7
CRS				⇓*i*Pg	Pg	12 36 09.8	-5.0
CRS				*e*Sg	Sg	12 36 42.8	-5.3
CRS				Pmax			
	comp=E,496nm,1.0s						
CRS				Smax			
	comp=E,1µm,1.6s						
CRS	**Chara**	**2.50**	**82**	*e*PN	Pn	12 36 09.7	+3.4
CRS				*e*		12 36 42.4	
CRS				pmax	pmax		
	comp=Z,50nm,1.0s						
CRS				smax			
	comp=E,1µm,1.0s						
NIZ	**Nizh Angarsk**	**2.50**	**252**	*e*Pn	Pn	12 36 06.8	+0.4
NIZ				*e*Pg	Pg	12 36 09.5	-5.4
NIZ				*e*Sn	Sn	12 36 36.6	-0.7
NIZ				*e*Sg	Sg	12 36 42.0	-6.4
NIZ				Pmax			
	comp=E,98nm,1.3s						
NIZ				Smax			
	comp=E,465nm,0.9s						
NIZ	**Nizh Angarsk**	**2.50**	**252**	*e*PN	Pn	12 36 09.5	+3.1
NIZ				*e*		12 36 42.0	
NIZ				pmax	pmax		
	comp=Z,60nm,1.0s						
NIZ				smax			
	comp=N,331nm,0.9s						
SYVR	**Suvo**	**3.67**	**218**	*e*Pn	Pn	12 36 21.8	-1.2
SYVR				*e*Pg	Pg	12 36 32.1	-6.1
SYVR				*e*		12 36 58.6	
SYVR				*e*Sg	Sg	12 37 17.6	-10
SYVR				Pmax			
	comp=N,27nm,1.1s						
SYVR				Smax			
	comp=N,217nm,1.9s						
TUP	**Tupik**	**4.15**	**119**	*e*Pn	Pn	12 36 28.5	-1.3
TUP				*e*Pg	Pg	12 36 39.6	-8.2
TUP				*e*Sn	Sn	12 37 16.1	-2.9
TUP				*e*Sg	Sg	12 37 33.5	-10
TUP				Pmax			
	comp=N,25nm,0.7s						
TUP				Smax			
	comp=N,408nm,1.1s						
TUP	**Tupik**	**4.15**	**119**	*e*PN	Pn	12 36 28.5	-1.3
TUP				*e*		12 36 39.4	
TUP				*e*S	Sn	12 37 15.9	-3.1
TUP				*e*		12 37 33.2	
TUP				pmax	pmax		
	comp=Z,23nm,0.6s						
TUP				smax			
	comp=N,359nm,1.2s						
CIT	**Chita**	**4.61**	**182**	*e*Pg	Pg	12 36 46.7	-10
CIT				*e*Sn	Sn	12 37 26.7	-3.9
CIT				*e*Sg	Sg	12 37 47.9	-11
CIT				Pmax			
	comp=N,3.0nm,0.1s						
CIT				Smax			
	comp=N,132nm,0.6s						
OGRR	**Ongureny**	**4.63**	**232**	*e*Pn	Pn	12 36 35.4	-1.2
OGRR				*e*Pg	Pg	12 36 47.9	-9.4
OGRR				*e*		12 37 23.6	
OGRR				*e*Sg	Sg	12 37 46.5	-12
OGRR				Pmax			
	comp=N,12nm,1.2s						
OGRR				Smax			
	comp=N,71nm,2.0s						
TRTB	**Turuntaevo**	**5.67**	**222**	*e*Pg	Pg	12 37 05.6	-12
TRTB				*e*Sg	Sg	12 38 20.2	-13
TRTB				Pmax			

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=N,4.0nm,0.5s						
TRTB				Smax			
	comp=N,66nm,2.4s						
TRG	**Tyrgan**	**5.78**	**231**	ePg	Pg	12 37 08.8	-12
TRG				e		12 37 51.6	
TRG				eSg	Sg	12 38 22.2	-15
TRG				Pmax			
	comp=N,1.0nm,1.4s						
TRG				Smax			
	comp=N,52nm,1.5s						
CLNS	**Chul'man**	**6.13**	**83**	ePN	Pn	12 37 00.3	+2.5
CLNS				e		12 38 32.0	
CLNS				pmax	pmax		
	comp=Z,25nm,0.9s						
CLNS				pmax	pmax		
	comp=N,22nm,1.0s						
CLNS				pmax	pmax		
	comp=E,40nm,1.0s						
CLNS				smax			
	comp=E,111nm,1.1s						
CLNS				smax			
	comp=Z,52nm,1.0s						
CLNS				smax			
	comp=N,69nm,0.8s						
CLNS				MLR	MLR		
	comp=Z,100nm,12.0s						
FFNB	**Fofonovo**	**6.14**	**225**	eSg	Sg	12 38 33.7	-16
FFNB				Smax			
	comp=Z,133nm,3.3s						
HRMR	**Khuramsha**	**6.40**	**221**	ePg	Pg	12 37 20.9	-12
HRMR				eSg	Sg	12 38 44.6	-13
HRMR				Pmax			
	comp=Z,24nm,2.2s						
HRMR				Smax			
	comp=Z,152nm,2.0s						
KPC	**Khapcheranga**	**6.98**	**187**	ePn	Pn	12 37 07.7	-2.0
KPC				ePg	Pg	12 37 29.9	-14
KPC				eSn	Sn	12 38 25.8	-4.2
KPC				eSg	Sg	12 39 00.2	-17
KPC				Smax			
	comp=Z,100nm,1.8s						
ARS	**Arshan**	**8.13**	**239**	ePg	P	12 37 53.0	+27
ARS				eSg	Sg	12 39 38.2	-17
ARS				Pmax			
	comp=Z,4.0nm,0.4s						
ARS				Smax			
	comp=Z,109nm,1.6s						
MOY	**Mondy**	**8.98**	**242**	ePn	P	12 37 35.8	-1.9
MOY				eSg	Sg	12 40 02.5	-21
MOY				Smax			
	comp=Z,41nm,1.8s						
ORL	**Orlik**	**9.07**	**249**	ePn	P	12 37 36.7	-2.2
ORL				eSn	Sn	12 39 12.9	-9.2
ORL				eSg	Sg	12 40 05.1	-22
ORL				Smax			
	comp=Z,41nm,1.4s						
YAK	**Yakutsk**	**9.76**	**50**	⇑ePn	P	12 37 46.8	-1.5

WEL 15 12:50:32.7±0.6, 36.75S×177.94E, h138km±6km, ML3.7/6, Error ellipse: s-maj=11.2km s-min=5.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.86**	**160**	PN	P	12 50 55.2	-0.3
MXZ				SN	S	12 51 12.0	-1.0
PUZ	**Puketiti**	**1.35**	**169**	PN	P	12 50 59.8	-0.3
PUZ				SN	S	12 51 19.8	-1.3
MWZ	**Matawai**	**1.62**	**192**	PN	P	12 51 03.7	+0.6
MWZ				SN	S	12 51 25.7	-0.7
URZ	**Urewera**	**1.65**	**203**	PN	P	12 51 02.7	-0.8
KNZ	**Kokohu**	**2.28**	**185**	PN	P	12 51 10.1	-1.0
KNZ				SN	S	12 51 39.3	-1.1
BFZ	**Birch Farm**	**4.15**	**198**	PN	P	12 51 32.0	-3.6
BFZ				SN	S	12 52 19.3	-4.5
MTW	**Mount Morrison**	**4.80**	**203**	PN	P	12 51 39.4	-4.9
MTW				SN	S	12 52 33.5	-5.8
CAW	**Cannon Point**	**4.90**	**206**	PN	P	12 51 41.0	-4.6
TUWZ	**Tuamarina**	**5.62**	**212**	PN	P	12 51 50.0	-5.1
NNZ	**Nelson**	**5.71**	**217**	PN	P	12 51 52.0	-4.4
THZ	**Tophouse**	**6.35**	**216**	PN	P	12 52 00.3	-4.8
KHZ	**Kahutara**	**6.60**	**210**	PN	P	12 52 02.8	-5.7
LTZ	**Lake Taylor**	**7.44**	**214**	PN	P	12 52 13.5	-6.3
MQZ	**McQueen's Vall**	**8.04**	**209**	PN	P	12 52 20.5	-7.3
MQZ				SN	S	12 53 45.4	-12
ODZ	**Otahua Downs**	**9.96**	**211**	PN	P	12 52 46.9	-6.3
ODZ				SN	S	12 54 30.9	-12

JMA ***15*** *13:01:31.7±0.2, 32.98N×137.88E, h360km, M3.2*
IDC ***15*** *13:01:33.4±6.0, 32.47N×136.62E, h249km±99km, mb3.0/4, mb1 3.2/5, mb1mx3.0/22, Error ellipse: s-maj=144.0km s-min=15.9km az=63.0*
ISC 15 13:01:34.7±0.7, 33.0N±0.1×137.9E±0.1, h328km±9km, n14, $\sigma 0^{s}73$/19, mb3.0/4, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**1.56**	**86**	P	**P**	**13 02 22.6**	**+1.4**
	9.0nm,0.3s,baz=66,slow=20,SNR=3.4						
JHJ				S	**S**	**13 03 03.5**	**+5.7**
	13nm,0.3s,baz=237,slow=20,SNR=3.7						
JIE	**Ise**	**1.71**	**324**	P	**P**	**13 02 22.2**	**-0.1**
JWZ	**Kozaga**	**1.93**	**286**	P	**P**	**13 02 23.4**	**-0.3**
JAO	**Obara**	**2.32**	**346**	P	**P**	**13 02 26.6**	**-0.2**
JNY	**Yasuok**	**2.34**	**359**	P	**P**	**13 02 27.1**	**+0.1**
JOD2	**Odawara 2**	**2.44**	**23**	P	**P**	**13 02 28.0**	**+0.2**
JOD2				eS	**S**	**13 03 12.9**	**+3.5**
BSO3	**Boso 3**	**2.79**	**50**	P	**P**	**13 02 30.2**	**-0.6**
BSO3				eS	**S**	**13 03 14.8**	**0.0**
BSO4	**Boso 4**	**2.81**	**45**	P	**P**	**13 02 30.5**	**-0.5**
BSO4				eS	**S**	**13 03 15.3**	**+0.2**
BSO1	**Boso 1**	**3.02**	**56**	eS	**S**	**13 03 18.0**	**-0.5**
MAT	**Matsushiro**	**3.53**	**4**	P	**P**	**13 02 36.4**	**-1.6**
MAT				S	**S**	**13 03 28.2**	**+0.6**
SONM	**Songino Array**	**27.97**	**311**	P	**P**	**13 06 57.5**	**-0.3**
	1.2nm,0.8s,mb3.2,baz=120,slow=9.7,SNR=9.0						
ZAL	**Zalesovo**	**42.66**	**316**	P	**P**	**13 09 01.9**	**+0.9**
	0.7nm,0.6s,mb3.0,baz=56,slow=7.9,SNR=2.4						
WRA	**Warramunga Arr**	**52.77**	**184**	P	**P**	**13 10 18.4**	**-0.5**
	0.3nm,0.3s,mb3.1,baz=360,slow=7.6,SNR=19						
ASAR	**Alice Springs**	**56.49**	**184**	P	**P**	**13 10 45.8**	**+0.5**
	0.3nm,0.8s,mb2.7,baz=14,slow=12,SNR=5.8						

INMG ***15*** *13:11:44.2±0.9, 36.56N×7.22W, h21km±5km, ML2.1, Error ellipse: s-maj=9.7km s-min=5.0km az=98.0*
NEIC ***15*** *13:11:44.1, 36.53N×7.11W, h35km, MN2.8(MDD), After MDD.*
MDD 15 13:11:43.6±1.4, 36.51N×7.15W, h35km±4km, mbLg2.4/6, 3C, Error ellipse: s-maj=15.7km s-min=7.4km az=28.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ERIP	**Rio Piedras**	**0.86**	**354**	⇑Pg	P	13 11 58.9	-0.4
	18nm,0.1s,SNR=18						
ERIP				Lg		13 12 10.2	
	144nm,0.1s,SNR=7.9						
PALC	**Alcoutim**	**0.99**	**345**	eP	P	13 12 00.7	-0.4
PALC				eS	S	13 12 13.3	-0.8
	72nm,0.3s						
PALC	**Alcoutim**	**0.99**	**345**	P	P	13 12 00.7	-0.4
PALC				S	S	13 12 13.3	-0.8
	36nm,0.3s						
ESPR	**Espera**	**1.09**	**71**	⇑Pg	P	13 12 01.9	-0.8
	18nm,0.1s,SNR=18						
ESPR				Lg		13 12 15.6	
	56nm,0.2s,SNR=6.6						
EMIN	**Mina Concepcio**	**1.31**	**17**	⇑Pg	P	13 12 04.7	-1.0
	4.0nm,0.1s,SNR=18						
EMIN				Lg		13 12 20.2	
	10.0nm,0.1s,SNR=8.4						
PBEJ	**Beja**	**1.62**	**339**	eS	S	13 12 27.8	-2.2
	8.0nm,0.2s						
PBEJ	**Beja**	**1.62**	**339**	S	S	13 12 27.8	-2.2
	4.0nm,0.2s						
PTEO	**Sao Teotonio**	**1.63**	**310**	eP	P	13 12 09.0	-1.3
PTEO				eS	S	13 12 27.9	-2.5
	7.3nm,0.2s						
PTEO	**Sao Teotonio**	**1.63**	**310**	P	P	13 12 09.0	-1.3
PTEO				S	S	13 12 27.9	-2.5
	3.7nm,0.2s						
MOE	**Montemor**	**2.22**	**335**	ePn	P	13 12 17.7	-1.1
MOE				eSn	S	13 12 42.1	-3.3
EBAD	**Badajoz**	**2.24**	**3**	Pn	P	13 12 17.7	-1.4
	2.5nm,0.1s,SNR=7.2						
EBAD				Sn	S	13 12 42.7	-3.2
	5.1nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**2.63**	**50**	Pn	P	13 12 23.2	-1.4
	0.9nm,0.0s,SNR=9.2						
EADA				Sn	S	13 12 51.4	-4.3
	4.6nm,0.1s						
PTOM	**Tomar**	**3.26**	**343**	ePn	P	13 12 32.0	-1.6
PCBR	**Castelo Branco**	**3.33**	**356**	ePn	P	13 12 30.9	-3.7
EQES	**Quesada**	**3.50**	**67**	Pn	P	13 12 35.0	-2.0
	0.4nm,0.1s,SNR=4.0						
EQES				Sn	S	13 13 13.3	-4.5
	2.0nm,0.1s,SNR=6.5						
EQES	**Quesada**	**3.50**	**67**	Pn	P	13 12 35.0	-2.0
EQES				Sn	S	13 13 13.3	-4.5

GUC ***15*** *13:13:02.6±0.7, 33.78S×72.04W, h37km±2km, MD4.2, ML3.9*
NEIC ***15*** *13:13:02.6, 33.78S×72.04W, h37km, mb4.1/2, MD4.2(GUC), After GUC.*
ISC 15 13:13:01.3±1.1, 33.78S±0.04×72.13W±0.06, h19km±7km, n26, $\sigma 0^{s}65$/40, mb4.6/1, 15C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.62**	**106**	⇓iP	**Pb**	**13 13 14.0**	**+0.7**
IHA	**Instituto Hidr**	**0.86**	**28**	⇑iP	**Pb**	**13 13 17.8**	**+0.5**
IHA				iS	**Sb**	**13 13 29.1**	**+0.7**
TACH	**Talagante**	**1.00**	**83**	⇑iP	**Pb**	**13 13 19.2**	**-0.5**
RCDM	**Rinconada Maip**	**1.14**	**75**	eP	**Pb**	**13 13 21.2**	**-1.0**
RCDM				iS	**Sb**	**13 13 35.9**	**-0.6**
RCDM				AMP		13 13 37.3	
	comp=N,4μm,0.2s						
PUEX	**Pudahuel**	**1.19**	**74**	iP	**Pb**	**13 13 23.4**	**+0.3**
PUEX				iS	**Sb**	**13 13 38.7**	**+0.6**
PUEX				AMP		13 13 45.4	
	comp=E,7μm,0.6s						
CHCH	**Chadas Angostu**	**1.23**	**97**	⇑iP	**Pn**	**13 13 23.4**	**-0.4**
SFDO	**San Fernando**	**1.24**	**132**	⇑iP	**Pn**	**13 13 23.5**	**-0.2**
ANTU	**Antumapu**	**1.26**	**81**	eP	**Pn**	**13 13 24.0**	**-0.1**
ANTU				iS	**Sb**	**13 13 39.8**	**-0.3**
ANTU				AMP		13 13 42.6	
	comp=N,4μm,0.5s						
SAN	**Santiago**	**1.26**	**75**	⇑iP	**Pn**	**13 13 24.0**	**-0.1**
SAN				iS	**Sb**	**13 13 39.6**	**-0.6**
SAN				AMP		13 13 47.4	
	comp=N,3μm,0.9s						
STL	**Santa Lucia**	**1.29**	**75**	⇑iP	**Pn**	**13 13 24.3**	**-0.2**
STL				iS	**Sb**	**13 13 40.4**	**-0.4**
CACH	**El Canelo**	**1.31**	**105**	⇑iP	**Pn**	**13 13 25.6**	**+0.8**
CACH				iS	**Sb**	**13 13 42.5**	**+1.0**
PCH	**Pirque**	**1.35**	**84**	⇑iP	**Pn**	**13 13 25.0**	**-0.4**
PCH				iS	**Sb**	**13 13 42.3**	**-0.4**
DSCH	**Colegio Aleman**	**1.35**	**74**	⇑iP	**Pn**	**13 13 25.5**	**+0.1**
DSCH				iS	**Sb**	**13 13 42.6**	**-0.1**
DSCH				AMP		13 13 58.4	
	comp=E,5μm,0.9s						
PEL	**Peldehue**	**1.36**	**62**	⇑iP	**Pn**	**13 13 25.7**	**+0.2**
PACH	**Papudo**	**1.37**	**25**	eP	**Pn**	**13 13 25.0**	**-0.7**
PACH				iS	**Sb**	**13 13 44.0**	**+0.8**
CLCH	**Cerro Calan**	**1.38**	**74**	⇓iP	**Pn**	**13 13 25.5**	**-0.3**
CLCH				iS	**Sb**	**13 13 43.1**	**-0.4**
CLCH				AMP		13 13 55.2	
	comp=N,3μm,0.6s						
CICH	**Cipreses**	**1.51**	**111**	⇑iP	**Pn**	**13 13 27.9**	**+0.2**
FCH	**Farellones**	**1.60**	**74**	⇓iP	**Pn**	**13 13 29.1**	**+0.2**
FCH				iS	**Sn**	**13 13 49.7**	**+0.6**
FCH				AMP		13 13 56.0	
	comp=N,3μm,0.4s						
LMEL	**Las Melosas**	**1.60**	**93**	iP	**Pn**	**13 13 28.9**	**0.0**
LMEL				iS	**Sn**	**13 13 49.5**	**+0.3**
LMEL				AMP		13 13 54.6	
	comp=N,3μm,0.2s						
JACH	**Jahuel**	**1.69**	**50**	⇑iP	**Pn**	**13 13 30.5**	**+0.3**
JACH				iS	**Sn**	**13 13 51.7**	**+0.2**
LPAZ	**La Paz**	**17.79**	**13**	eP	**P**	**13 17 08.5**	**-1.2**
	comp=N,3.2nm,0.7s						
VNA3	**Neumayer Olymp**	**49.59**	**158**	⇑i	**P**	**13 21 53.6**	**+0.9**
VNA1	**Neumayer--Stat**	**49.90**	**157**	⇑i	**P**	**13 21 55.2**	**0.0**
VNA2	**Neumayer--Watz**	**50.24**	**157**	⇑i	**P**	**13 21 59.2**	**+1.5**
SNAA	**Sanae**	**51.81**	**158**	⇓i	**P**	**13 22 07.0**	**-2.7**
QSPA	**South Pole Qui**	**56.45**	**180**	eP	**P**	**13 22 43.4**	**-0.2**
	comp=N,6.7nm,1.1s,mb4.6						

IDC 15 13:31:05.7±1.9, 17.39S×173.05W, mb4.0/4, mb1 4.2/4, mb1mx3.9/16, Error ellipse: s-maj=61.0km s-min=31.4km az=121.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**22.52**	**201**	P	P	13 36 07.2	-1.2
	7.4nm,0.8s,baz=355,slow=11,SNR=6.7						
WB2	**Warramunga Arr**	**49.73**	**258**	eP	P	13 40 00.2	-1.8
WRA	**Warramunga Arr**	**49.75**	**258**	P	P	13 39 59.9	-2.2
	0.8nm,0.5s,baz=98,slow=6.9,SNR=31						
ASAR	**Alice Springs**	**49.84**	**253**	P	P	13 40 01.1	-1.8
	2.5nm,0.5s,baz=90,slow=8.5,SNR=95						
ASPA	**Alice Springs**	**49.85**	**253**	eP	P	13 40 01.1	-1.7
ILAR	**Eielson Array**	**84.32**	**11**	P	P	13 43 39.0	-1.3
	0.4nm,0.8s,baz=224,slow=5.6,SNR=7.8						

MAN ***15*** *13:34:23.4, 13.75N×120.48E, h81km, mb4.7, ML3.5, MS3.4*
IDC ***15*** *13:34:45.1±13.0, 14.95N×119.69E, h211km±143km, mb3.2/5, mb1 3.4/5, mb1mx3.2/18, Error ellipse: s-maj=60.2km s-min=14.9km az=66.0*
ISC 15 13:34:22.5±0.7, 13.79N±0.07×120.45E±0.07, h101km±6km, n15, $\sigma 0^{s}69$/16, mb4.0/3, 2C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.21**	**255**	eP	**P**	**13 34 37.3**	**+0.5**
LUBP				eS	**S**	**13 34 47.0**	**-0.8**
TGY	**Tagaytay City**	**0.56**	**56**	⇑eP	**P**	**13 34 39.2**	**+0.2**
TGY				eS	**S**	**13 34 51.6**	**+0.2**
LQP	**Lukban**	**1.10**	**73**	⇑eP	**P**	**13 34 44.6**	**+0.1**
LQP				eS	**S**	**13 35 00.6**	**-0.3**
BOAC	**Boac**	**1.39**	**103**	eP	**P**	**13 34 47.7**	**-0.2**
SJMP	**San Jose**	**1.47**	**154**	eP	**P**	**13 34 49.3**	**+0.4**
SJMP						13 35 07.4	
POLP	**Polilio Island**	**1.72**	**57**	eP	**P**	**13 34 52.0**	**+0.1**
BUSP	**Coron**	**1.79**	**188**	eP	**P**	**13 34 52.8**	**-0.1**
GQP	**Guinayangan**	**1.94**	**86**	⇓eP	**P**	**13 34 55.3**	**+0.5**
OTRP	**Odiongan**	**2.08**	**133**	eP	**P**	**13 34 56.8**	**+0.1**
CUYO	**Cuyo Island**	**2.97**	**169**	eP	**P**	**13 35 08.3**	**-0.6**
CMAR	**Chiang Mai Arr**	**21.17**	**286**	P	**P**	**13 39 03.8**	**+2.4**
	1.4nm,0.6s,mb3.5,baz=101,slow=7.8,SNR=10						
SONM	**Songino Array**	**35.91**	**344**	P	**P**	**13 41 14.0**	**-0.7**
	1.3nm,0.4s,mb4.2,baz=166,slow=9.7,SNR=16						
WRA	**Warramunga Arr**	**36.20**	**158**	P	pP	13 41 38.3	-2.5
	0.6nm,0.8s,baz=334,slow=9.7,SNR=7.0						
ASAR	**Alice Springs**	**39.48**	**160**	P	pP	13 42 07.2	-1.0
	0.5nm,0.6s,baz=338,slow=7.2,SNR=5.7						
BVAR	**Borovoye Array**	**55.57**	**326**	P	**P**	**13 43 48.6**	**-1.1**
	1.7nm,0.5s,mb4.3,baz=124,slow=11,SNR=4.8						

IDC ***15*** *13:45:54.6±1.0, 40.75N×74.46E, mb3.8/9, mb1 4.0/11, mb1mx3.9/20, ML3.2/2, Error ellipse: s-maj=23.8km s-min=17.3km az=54.0*
NNC ***15*** *13:45:57.7±2.5, 41.03N×74.34E, mpv4.5, Error ellipse: s-maj=25.5km s-min=16.6km az=121.0*
KNET ***15*** *13:45:58.2±0.6, 41.12N×74.58E, h2km±2km, ml3.9, Error ellipse: s-maj=3.5km s-min=2.2km az=1.0*
NEIC ***15*** *13:45:59.8±6.6, 41.03N×74.67E, h27km±46km, mb4.4/7, Error ellipse: s-maj=25.5km s-min=12.2km az=183.0*
MOS ***15*** *13:46:03.9±1.5, 41.49N×74.39E, h33km, mb4.2/9, Error ellipse: s-maj=16.6km s-min=7.9km az=99.4*
BJI ***15*** *13:46:08.4, 40.87N×75.65E, h27km, ML4.1*
ISC 15 13:45:54.6±1.2, 40.83N±0.02×74.60E±0.05, h3km±7km, n78, $\sigma 1^{s}58$/101, mb4.1/16, MS3.4/2, 20C-11D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KZA	**Kyzart**	**1.34**	**21**	⇓P	**Pb**	**13 46 19.6**	**-0.3**
	252nm,0.1s,SNR=74						
KZA				⇑S	**Sb**	**13 46 35.2**	**-2.1**
	2μm,0.3s						
UCH	**Uchtor**	**1.40**	**357**	P	**Pb**	**13 46 20.1**	**-0.9**
	254nm,0.2s,SNR=706						
UCH				⇑S	**Sb**	**13 46 37.3**	**-1.7**
	1μm,0.2s						
AML	**Almayashu**	**1.47**	**333**	P	**Pn**	**13 46 21.0**	**-1.0**
	539nm,0.2s,SNR=624						
AML				⇓S	**Sb**	**13 46 39.0**	**-2.1**
	3μm,0.6s						
KSH	**Kashi**	**1.68**	**141**	PG	**Pg**	**13 46 31.4**	**+3.2**
KSH				SG	**Sg**	**13 46 58.6**	**+8.0**
KSH				Smax			
	comp=N,5μm,0.6s						
KSH				Smax			
	comp=E,7μm,0.6s						
AAK	**Ala-Archa**	**1.80**	**357**	⇓P	**Pn**	**13 46 27.5**	**+0.7**
	comp=E,318nm,0.3s						
AAK				⇑S	**Sn**	**13 46 49.5**	**-1.0**
	comp=E,918nm,0.7s						
AAK	**Ala-Archa**	**1.80**	**357**	⇓P	**Pn**	**13 46 27.5**	**+0.7**
	comp=E,846nm,0.2s,SNR=685						
AAK				⇓S	**Sn**	**13 46 50.0**	**-0.4**
	comp=E,484nm,0.2s						
AAK	**Ala-Archa**	**1.80**	**357**	d iPG	**Pg**	**13 46 26.4**	**-4.1**
KBK	**Karagaybulak**	**1.84**	**8**	P	**Pn**	**13 46 28.4**	**+1.0**
	comp=E,1μm,0.3s,SNR=666						
KBK				⇑S	**Sn**	**13 46 51.8**	**+0.3**
	comp=E,2μm,0.2s						
ULHL	**Ulahol**	**1.87**	**41**	⇓P	**Pn**	**13 46 29.9**	**+2.0**
	comp=E,273nm,0.2s,SNR=20						
ULHL				⇑S	**Sn**	**13 46 54.0**	**+1.7**
	comp=E,1μm,0.3s						
EKS2	**Erkin-Say**	**1.93**	**342**	P	**Pn**	**13 46 29.4**	**+0.8**
	comp=E,379nm,0.4s,SNR=484						
EKS2				⇑S	**Sn**	**13 46 53.5**	**-0.2**
	comp=E,806nm,0.6s						
CHMS	**Chumysh**	**2.17**	**3**	⇓P	**Pn**	**13 46 34.1**	**+2.0**
	comp=E,227nm,0.2s,SNR=269						
CHMS				⇑S	**Sn**	**13 47 00.9**	**+1.1**
	comp=E,419nm,0.2s						
TKM2	**Tokmak 2**	**2.21**	**19**	⇓P	**Pn**	**13 46 35.2**	**+2.5**
	comp=E,178nm,0.2s,SNR=441						
TKM2				⇑S	**Sn**	**13 47 03.1**	**+2.2**
	comp=E,691nm,0.1s						
USP	**Ospenovka**	**2.43**	**358**	⇑P	**Pn**	**13 46 37.9**	**+2.1**
	comp=E,692nm,0.4s,SNR=484						
USP				⇑S	**Sn**	**13 47 08.9**	**+2.3**
	comp=E,592nm,0.2s						
CHCP	**Chirah Chowk**	**7.24**	**189**	P	**Pn**	**13 47 48.3**	**+4.4**
CEP	**Cherat**	**7.32**	**198**	P	**Pn**	**13 47 48.4**	**+3.4**
CEP				S	**Sn**	**13 49 11.0**	**+1.5**
MK02	**Makanchi Array**	**8.14**	**41**	⇑Pn	**P**	**13 48 00.3**	**+3.8**
	comp=E,6.8nm,0.6s,baz=226,slow=15						
MK02				⇑Lg		13 50 14.6	
	comp=E,14nm,0.7s,baz=218,slow=27						
MK02	**Makanchi Array**	**8.14**	**41**	P	**P**	**13 48 04.2**	**+7.7**
MK02				pmax	pmax		
	comp=Z,5.0nm,0.6s						
THW	**Thamme Wali**	**8.34**	**197**	P	**P**	**13 48 03.3**	**+4.0**
THN	**Thein Dam**	**8.43**	**174**	eP	**P**	**13 48 02.0**	**+1.5**
THN				eS	**Sn**	**13 49 40.1**	**+2.8**
SBDP	**Sheikh Budin**	**9.04**	**201**	P	**P**	**13 48 10.0**	**+0.9**
BHK	**Bhakra**	**9.51**	**171**	eS	**Sn**	**13 50 04.2**	**+0.1**
KURK	**Kurchatov**	**10.27**	**14**	⇑Lg		13 51 18.8	
	comp=Z,63nm,1.0s						
KURK	**Kurchatov**	**10.27**	**14**	eP	**P**	**13 48 24.5**	**-1.4**
DDI	**Dehra Dun**	**10.86**	**164**	eP	**P**	**13 48 33.0**	**-1.0**
VOSK	**Vostochnaya**	**12.15**	**349**	⇑Pn	**P**	**13 48 48.0**	**-3.5**
	comp=Z,6.2nm,0.8s						
VOSK				⇑Lg		13 52 18.1	
	comp=Z,32nm,1.4s						
VOSK	**Vostochnaya**	**12.15**	**349**	P	**P**	**13 48 47.9**	**-3.5**
VOSK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
VOSK	**Vostochnaya**	**12.15**	**349**	P	**P**	**13 48 47.9**	**-3.5**
	comp=Z,5.0nm,0.9s						
BVA0	**Borovoye Array**	**12.53**	**348**	⇓Pn	**P**	**13 48 52.5**	**-4.0**
	comp=Z,1.3nm,0.8s						
BVA0				⇓Lg		13 52 30.9	
	comp=Z,3.8nm,0.8s						
BVA0	**Borovoye Array**	**12.53**	**348**	P	**P**	**13 48 52.5**	**-4.0**
BVAR	**Borovoye Array**	**12.53**	**348**	Pn	**P**	**13 48 52.5**	**-4.1**
	comp=Z,0.6nm,0.3s,baz=157,slow=11,SNR=11						
BVAR				Lg		13 52 32.4	
	comp=Z,1.0nm,0.3s,baz=149,slow=26,SNR=5.9						
BRVK	**Borovoye**	**12.58**	**348**	ePn	**P**	**13 48 53.7**	**-3.5**
	comp=Z,9.0nm,0.9s						
ZRNK	**Zerenda**	**12.71**	**344**	⇑Pn	**P**	**13 48 54.7**	**-4.2**
	comp=Z,9.0nm,0.7s						
ZRNK				⇑Lg		13 52 33.5	
	comp=Z,36nm,1.4s						
ZAL	**Zalesovo**	**14.79**	**24**	Pn	**P**	**13 49 25.6**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=166,slow=5.3,SNR=2.2						
ZAL				Lg		13 53 41.1	
	comp=Z,0.3nm,0.3s,baz=38,slow=11,SNR=3.9						
ZAL	**Zalesovo**	**14.79**	**24**	P	**P**	**13 49 25.7**	**-0.6**
KOLN	**Koldanda**	**14.99**	**148**	eP	**P**	**13 49 26.2**	**-2.9**
	comp=Z,24nm,1.0s						
KOLN				eS	**S**	**13 52 10.6**	**-6.0**
NVS	**Novosibirsk**	**15.15**	**19**	eP	**P**	**13 49 37.4**	**+6.4**
NVS				eS	**S**	**13 52 10.3**	**-10**
NVS				pmax	pmax		
	comp=Z,11nm,1.4s						
NVS				smax			
	comp=E,38nm,1.7s						
NVS	**Novosibirsk**	**15.15**	**19**	eP	**P**	**13 49 37.4**	**+6.4**
	comp=E,11nm,1.4s						
NVS				eS	**S**	**13 52 10.3**	**-10**
GKN	**Gorkha**	**15.23**	**144**	eP	**P**	**13 49 30.5**	**-1.7**
	comp=E,22nm,0.5s						
GKN				eS	**S**	**13 52 18.0**	**-4.3**
KKN	**Kakani**	**15.70**	**143**	eP	**P**	**13 49 36.6**	**-1.8**
	comp=E,15nm,0.5s						
DMN	**Daman**	**15.78**	**143**	eP	**P**	**13 49 37.9**	**-1.4**
	comp=E,15nm,0.7s						
GUN	**Gumba**	**15.88**	**141**	eP	**P**	**13 49 39.6**	**-1.1**
	comp=E,26nm,0.8s						
GUN				eS	**S**	**13 52 35.5**	**-2.1**
PKI	**Pulchoki**	**15.95**	**143**	eP	**P**	**13 49 40.4**	**-1.1**
	comp=E,13nm,0.5s						
SVE	**Sverdlovsk**	**18.40**	**335**	eP	**P**	**13 50 11.8**	**-0.4**
SVE				e		13 53 30.3	
ARU	**Arti**	**18.79**	**332**	eP	**P**	**13 50 14.2**	**-2.8**
ARU				eS	**S**	**13 53 38.9**	**-5.0**
GTA	**Gaotai**	**19.32**	**86**	eP	**P**	**13 50 24.6**	**+1.2**
GTA				AP		13 50 29.8	
ZAK	**Zakamensk**	**22.10**	**55**	eP	**P**	**13 50 55.6**	**+3.1**
GNI	**Garni**	**22.67**	**278**	c iP	**P**	**13 51 03.5**	**+5.3**
GNI				pmax	pmax		
	comp=Z,26nm,1.0s						
GNI	**Garni**	**22.67**	**278**	eP	**P**	**13 51 00.2**	**+2.0**
	comp=Z,63nm,1.5s,mb4.8						
SONM	**Songino Array**	**23.68**	**62**	P	**P**	**13 51 08.4**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=284,slow=12,SNR=2.5						
KIV	**Kislovodsk**	**23.70**	**288**	eP	**P**	**13 51 10.9**	**+2.7**
KIV				e		13 51 38.5	
KIV				e		13 54 56.5	
KIV				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.1						
KIV	**Kislovodsk**	**23.70**	**288**	eP	**P**	**13 51 10.9**	**+2.7**
	comp=Z,7.0nm,0.9s,mb4.1						
KIV				e		13 51 38.5	
KIV				e		13 54 56.5	
KBD	**Kabd**	**24.82**	**251**	eP	**P**	**13 51 20.4**	**+1.1**
RDF	**Al-Radifah**	**25.07**	**250**	eP	**P**	**13 51 21.6**	**0.0**
RDF				AMb	AMB	13 51 24.0	
	comp=Z,31nm,0.8s,mb4.9						
RST	**Umm Al-Ruwaisa**	**25.14**	**252**	eP	**P**	**13 51 22.2**	**0.0**
RST				AMb	AMB	13 51 23.3	
	comp=Z,17nm,0.6s,mb4.7						
SOC	**Sochi**	**25.87**	**288**	eP	**P**	**13 51 31.7**	**+2.7**
SOC				e		13 55 06.3	
SOC				eS	**S**	**13 55 46.6**	**-11**
SOC				eSSS	Sx	13 57 00.3	
SOC				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.5						
SOC				pmax	pmax		
	comp=N,8.0nm,0.7s						
SOC				pmax	pmax		
	comp=E,8.0nm,0.9s						
SOC				MLR	MLR		

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,58nm,20.0s,MS3.1						
SOC				MLR	MLR		
	comp=N,49nm,16.0s,MS3.3						
SOC				MLR	MLR		
	comp=E,54nm,16.0s,MS3.3						
SOC	**Sochi**	**25.87**	**288**	*e*P	**P**	**13 51 31.7**	**+2.7**
	comp=E,7.0nm,0.5s,mb4.5						
SOC				*e*		13 55 06.3	
SOC				*e*S	**S**	**13 55 46.6**	**-11**
SOC				*e*SSS	Sx	13 57 00.3	
SOC				LR	LR		
	comp=Z,60nm,20.0s,MS3.1						
OBN	**Obninsk**	**28.78**	**313**	*e*P	**P**	**13 51 54.8**	**-0.6**
OBN				S	**S**	**13 56 38.0**	**-6.3**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.0						
OBN				MLR	MLR		
	comp=Z,100nm,15.0s,MS3.5						
OBN	**Obninsk**	**28.78**	**313**	*e*P	**P**	**13 51 54.8**	**-0.6**
	comp=Z,3.0nm,0.9s,mb4.0						
OBN				S	**S**	**13 56 38.0**	**-6.3**
OBN				LR	LR		
	comp=Z,100nm,15.0s,MS3.5						
BRTR	**Keskin Array B**	**31.07**	**282**	P	**P**	**13 52 13.1**	**-2.9**
	comp=Z,1.7nm,0.8s,mb3.9,baz=80,slow=7.5,SNR=5.0						
BRTR	**Keskin Array B**	**31.07**	**282**	P	**P**	**13 52 13.1**	**-2.9**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KIS	**Kishinev**	**33.17**	**296**	*e*P	**P**	**13 52 37.0**	**+2.8**
FINES	**FINESS Array B**	**35.64**	**322**	P	**P**	**13 52 53.6**	**-1.7**
	comp=Z,0.5nm,0.6s,mb3.6,baz=104,slow=12,SNR=4.5						
FINES	**FINESS Array B**	**35.64**	**322**	P	**P**	**13 52 53.6**	**-1.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARCES	**ARCESS Array B**	**38.33**	**335**	P	**P**	**13 53 16.7**	**-1.2**
	comp=Z,1.2nm,0.6s,mb3.8,baz=120,slow=9.8,SNR=9.3						
ARCES	**ARCESS Array B**	**38.33**	**335**	P	**P**	**13 53 16.7**	**-1.2**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YAK	**Yakutsk**	**38.81**	**38**⇑	*e*P	**P**	**13 53 24.8**	**+2.8**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.6						
YAK	**Yakutsk**	**38.81**	**38**⇑	*e*P	**P**	**13 53 24.8**	**+2.8**
	comp=Z,10.0nm,0.8s,mb4.6						
NB2	**NORSAR Subarra**	**42.74**	**320**	P	**P**	**13 53 49.0**	**-5.3**
	comp=Z,1.8nm,0.8s,mb3.9,baz=90,slow=7.9						
NOA	**NORSAR Array B**	**42.74**	**320**	P	**P**	**13 53 53.4**	**-0.9**
	comp=Z,1.5nm,0.8s,mb3.8,baz=90,slow=8.2,SNR=4.2						
NOA	**NORSAR Array B**	**42.74**	**320**	P	**P**	**13 53 53.4**	**-0.9**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GERES	**GERESS Array B**	**42.88**	**302**	P	**P**	**13 53 55.2**	**-0.4**
	comp=Z,0.6nm,0.6s,mb3.5,baz=82,slow=9.4,SNR=4.8						
GERES	**GERESS Array B**	**42.88**	**302**	P	**P**	**13 53 55.2**	**-0.4**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ILAR	**Eielson Array**	**69.83**	**18**	P	**P**	**13 57 06.0**	**-1.8**
	comp=Z,0.9nm,1.0s,mb3.6,baz=313,slow=5.5,SNR=8.5						
ILAR	**Eielson Array**	**69.83**	**18**	P	**P**	**13 57 06.1**	**-1.7**
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
WRA	**Warramunga Arr**	**82.02**	**125**	P	**P**	**13 58 17.4**	**-0.1**
	comp=Z,1.0nm,0.8s,mb3.8,baz=328,slow=5.1,SNR=7.8						
WRA	**Warramunga Arr**	**82.02**	**125**	P	**P**	**13 58 17.4**	**-0.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRAB	**Tennant Creek**	**82.02**	**125**	P	**P**	**13 58 17.4**	**-0.1**
	comp=Z,2.8nm,0.6s,mb4.4						
ASAR	**Alice Springs**	**84.54**	**128**	P	**P**	**13 58 29.9**	**-0.6**
	comp=Z,1.2nm,0.9s,mb4.0,baz=329,slow=5.1,SNR=8.0						

*NEIC **15** 14:05:52.7±1.2, 18.28S×177.91W, h599^{km}±16^{km}, mb4.2/3, Error ellipse: s-maj=60.5km s-min=13.3km az=151.0*

*IDC **15** 14:05:56.1±2.6, 18.27S×178.04W, h635^{km}±31^{km}, mb3.2/7, mb1 3.4/7, mb1mx3.2/15, Error ellipse: s-maj=53.0km s-min=14.0km az=154.0*

ISC 15 14:05:52.1±1.4**, 18.3S**±0.4×**178.0W**±0.3**, h600**^{km}±22^{km}**, n15,** σ**0^{s}89**/15**, mb3.9**/9**, 2C, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.41**	**55**	*e*Pn	**P**	**14 07 45.6**	**-0.6**
PMG	**Port Moresby**	**34.86**	**280**	P	**P**	**14 11 58.0**	**+1.8**
	12nm,0.8s,mb4.6,baz=98,slow=6.1,SNR=7.2						
PMG	**Port Moresby**	**34.86**	**280**	*e*P	**P**	**14 11 57.8**	**+1.6**
	16nm,1.0s,mb4.6						
STKA	**Stephens Creek**	**38.77**	**242**	P	**P**	**14 12 29.1**	**+1.0**
	2.4nm,0.7s,mb3.8,baz=96,slow=5.5,SNR=4.1						
WB2	**Warramunga Arr**	**44.91**	**260**⇑	*i*P	**P**	**14 13 16.4**	**-0.2**
WRAB	**Tennant Creek**	**44.91**	**260**	*e*P	**P**	**14 13 16.0**	**-0.6**
	2.7nm,0.5s,mb4.0						
WRA	**Warramunga Arr**	**44.92**	**260**	P	**P**	**14 13 16.3**	**-0.4**
	1.0nm,0.3s,mb3.8,baz=97,slow=7.3,SNR=80						
WRA				PcP	PcP	14 14 44.4	-0.8
	0.4nm,0.3s,baz=90,slow=3.8,SNR=5.3						
WRA				S	**S**	**14 19 10.7**	**-1.8**
	0.4nm,1.1s,baz=54,slow=32,SNR=5.2						
ASAR	**Alice Springs**	**45.04**	**255**	P	**P**	**14 13 17.2**	**-0.3**
	5.5nm,0.7s,mb4.2,baz=101,slow=7.3,SNR=88						
ASAR				PcP	PcP	14 14 44.8	-0.8
	0.6nm,0.5s,baz=104,slow=3.5,SNR=5.2						
ASAR				S	**S**	**14 19 13.3**	**-0.7**
	1.5nm,1.0s,baz=88,slow=15,SNR=6.0						
ASPA	**Alice Springs**	**45.04**	**255**	*e*P	**P**	**14 13 17.6**	**0.0**
KAKA	**Kakadu**	**47.97**	**269**⇑	*i*P	**P**	**14 13 44.2**	**+4.4**
	5.0nm,0.8s,mb4.1						
NVAR	**Mina Array Bea**	**79.43**	**44**	P	**P**	**14 16 59.4**	**+0.9**
	0.3nm,0.7s,mb2.8,baz=238,slow=8.5,SNR=3.3						
ILAR	**Eielson Array**	**86.14**	**13**	P	**P**	**14 17 30.1**	**-1.2**
	1.0nm,0.8s,mb3.5,baz=224,slow=5.1,SNR=8.6						
CMAR	**Chiang Mai Arr**	**89.33**	**290**	P	**P**	**14 17 48.2**	**+0.9**
	1.9nm,1.0s,mb3.9,baz=107,slow=2.8,SNR=9.6						
CLL	**Collm**	**145.87**	**348**	*i* PKP1	PKPbc	14 24 26.1	+1.5
GERES	**GERESS Array B**	**148.03**	**345**	PKPbc	PKPdf	14 24 30.9	+4.3
	0.7nm,0.7s,baz=27,slow=2.2,SNR=4.6						

*IDC **15** 14:41:13.5±4.6, 24.07S×66.85W, h183^{km}±39^{km}, mb3.1/1, mb1 3.3/4, mb1mx3.2/14, Error ellipse: s-maj=58.7km s-min=21.4km az=46.0*

*NEIC **15** 14:41:14.4±0.8, 24.02S×66.79W, h188^{km}±10^{km}, mb3.8/3, Error ellipse: s-maj=15.5km s-min=10.6km az=66.0*

ISC 15 14:41:13.5±0.8**, 24.05S**±0.07×**66.8W**±0.1**, h193**^{km}±11^{km}**, n12,** σ**0^{s}67**/14**, mb3.4**/2**, 2C, Salta Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.43**	**305**	*e*Pn	**P**	**14 41 56.8**	**+0.2**
LVC				*e*Sn	**S**	**14 42 29.5**	**-0.4**
LPAZ	**La Paz**	**7.82**	**350**	P	**P**	**14 43 06.3**	**+1.0**
	0.8nm,0.3s,baz=160,slow=12,SNR=17						
LPAZ				S	**S**	**14 44 32.6**	**+0.1**
	0.2nm,0.3s,baz=318,slow=16,SNR=3.8						
LPAZ	**La Paz**	**7.82**	**350**	*e*Pn	**P**	**14 43 05.9**	**+0.6**
LPAZ				S	**S**	**14 44 32.6**	**+0.1**
CPUP	**Villa Florida**	**8.85**	**107**	P	**P**	**14 43 18.4**	**-0.3**
	0.1nm,0.3s,baz=162,slow=10,SNR=2.0						
TRQA	**Tornquist**	**14.55**	**165**	*e*P	**P**	**14 44 31.8**	**+0.3**
	4.4nm,0.6s						
SAML	**Samuel**	**15.40**	**13**	*e*P	**P**	**14 44 41.6**	**-0.6**
	1.6nm,0.8s						
BDFB	**Brasilia**	**19.51**	**68**	P	**P**	**14 45 28.1**	**+0.2**
	0.6nm,0.3s,baz=236,slow=7.3,SNR=3.4						
VNA3	**Neumayer Olymp**	**57.04**	**161**⇑	*i*	**P**	**14 50 42.0**	**+0.9**
VNA2	**Neumayer--Watz**	**57.60**	**160**⇑	*i*	**P**	**14 50 45.6**	**+0.6**
SNAA	**Sanae**	**59.24**	**161**	*e*P	**P**	**14 50 54.6**	**-1.7**
	1.0nm,0.6s,mb3.6						
PDAR	**Pinedale Array**	**77.29**	**329**	P	**P**	**14 52 48.0**	**-0.1**
	0.3nm,0.5s,mb3.2,baz=135,slow=7.7,SNR=3.4						
WRA	**Warramunga Arr**	**131.68**	**207**	PKP	PKPdf	15 00 04.4	+0.1
	0.4nm,1.0s,baz=164,slow=1.7,SNR=5.1						

*TAP **15** 14:58:24.7, 24.83N×122.01E, h5^{km}±1^{km}, ML1.9*

JMA 15 14:59:02.8±0.3**, 24.72N×123.24E, h46**^{km}**, M1.5, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.33**	**219**	P	P	14 59 11.7	-0.2
YOJ				*e*S	S	14 59 18.2	-0.1
IRIF	**Iriomote-Funau**	**0.59**	**131**	P	P	14 59 14.8	-0.2
IRIF				*e*S	S	14 59 24.1	+0.3
JKRS	**Kuro-shima**	**0.85**	**124**	P	P	14 59 18.4	-0.1
JKRS				*e*S	S	14 59 30.6	+0.5
JIJ	**Ishigaki jima**	**0.90**	**113**	P	P	14 59 18.9	-0.2

*IDC **15** 15:05:42.7±3.9, 27.82S×67.04W, h129^{km}±32^{km}, mb3.7/5, mb1 3.8/7, mb1mx3.6/15, Error ellipse: s-maj=31.3km s-min=19.4km az=71.0*

*GUC **15** 15:05:43.4±0.8, 27.89S×67.38W, h175^{km}±42^{km}, ML5.4*

*NEIC **15** 15:05:43.0±0.7, 27.88S×67.10W, h133^{km}±8^{km}, mb4.4/9, Error ellipse: s-maj=12.0km s-min=8.1km az=102.0*

*SYO **15** 15:05:43.5, 27.87S×67.15W, h134^{km}, MB4.2*

ISC 15 15:05:42.3±0.7**, 27.84S**±0.04×**67.19W**±0.07**, h145**^{km}±9^{km}**, n43,** σ**1^{s}13**/42**, mb4.2**/9**, 3C-7D, Catamarca Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**2.85**	**279**⇓	*i*P	**P**	**15 06 29.1**	**+0.8**
CPCH				*i* S	**S**	**15 07 02.9**	**-0.5**
CPCH				AMP		15 07 07.3	
	comp=E,20μm,0.1s						
VACH	**Vallenar**	**3.24**	**256**	*e*P	**P**	**15 06 33.8**	**+0.5**
VACH				*i* S	**S**	**15 07 11.2**	**-1.1**
VACH				AMP		15 07 13.6	
	comp=E,11μm,0.1s						
TLL	**Tololo Astrono**	**3.93**	**233**	*e*P	**P**	**15 06 43.1**	**+0.7**
TLL				*i* S	**S**	**15 07 28.5**	**-0.1**
LSCH	**La Serena**	**4.12**	**239**	*e*P	**P**	**15 06 44.4**	**-0.4**
LSCH				*i* S	**S**	**15 07 30.6**	**-2.3**
CPN1	**Cerro Paranal**	**4.31**	**317**	*e*P	**P**	**15 06 48.9**	**+1.5**
CPN1				AMP		15 07 45.8	
	comp=E,396nm,0.6s						
MDZ	**Mendoza**	**5.23**	**196**	*e*P	**P**	**15 06 55.0**	**-4.6**
LVC	**Limon Verde**	**5.43**	**343**	*e*Pn	**P**	**15 07 04.3**	**+2.0**
	comp=E,14nm,0.3s						
JACH	**Jahuel**	**5.66**	**211**	*e*P	**P**	**15 07 06.0**	**+0.7**
PACH	**Papudo**	**5.96**	**217**	*e*P	**P**	**15 07 07.7**	**-1.6**
PACH				*i* S	**S**	**15 08 13.0**	**-3.9**
FCH	**Farellones**	**6.09**	**205**⇓	*i*P	**P**	**15 07 12.4**	**+1.2**
FCH				*i* S	**S**	**15 08 19.6**	**-0.5**
CLCH	**Cerro Calan**	**6.25**	**207**	*e*P	**P**	**15 07 13.2**	**0.0**
PCH	**Pirque**	**6.44**	**206**⇓	*i*P	**P**	**15 07 16.4**	**+0.6**
LMEL	**Las Melosas**	**6.53**	**203**	*e*P	**P**	**15 07 17.7**	**+0.7**
CPUP	**Villa Florida**	**8.91**	**83**	P	**P**	**15 07 48.2**	**-0.7**
	comp=E,1.0nm,0.3s,baz=271,slow=14,SNR=18						
CPUP	**Villa Florida**	**8.91**	**83**	*e*Pn	**P**	**15 07 48.6**	**-0.3**
	comp=E,2.5nm,0.4s						
TRQA	**Tornquist**	**11.09**	**158**	*e*Pn	**P**	**15 08 16.8**	**-0.8**
LPAZ	**La Paz**	**11.53**	**355**	P	**P**	**15 08 24.8**	**+1.5**
	comp=E,1.0nm,0.3s,baz=179,slow=1.9,SNR=3.8						
LPAZ				S	**S**	**15 10 28.2**	**-1.5**
	comp=E,0.0nm,0.3s,baz=295,slow=16,SNR=2.5						
LPAZ	**La Paz**	**11.53**	**355**	Pn	**P**	**15 08 26.1**	**+2.7**
	comp=E,2.5nm,0.3s						
SAML	**Samuel**	**19.16**	**12**	*e*P	**P**	**15 09 56.3**	**-0.6**
	comp=E,3.2nm,0.6s						
BDFB	**Brasilia**	**21.51**	**60**	P	**P**	**15 10 18.8**	**-1.8**
	comp=E,2.0nm,0.4s,mb3.9,baz=212,slow=12,SNR=3.3						
VNA3	**Neumayer Olymp**	**53.60**	**160**⇑	*i*	**P**	**15 14 52.1**	**+1.9**
VNA1	**Neumayer--Stat**	**53.82**	**159**⇑	*i*	**P**	**15 15 01.4**	**+10**
VNA2	**Neumayer--Watz**	**54.19**	**159**⇑	*i*	**P**	**15 14 56.1**	**+1.7**
SNAA	**Sanae**	**55.81**	**160**⇓	*i*	**P**	**15 15 05.4**	**-0.8**
SNAA	**Sanae**	**55.81**	**160**	P	**P**	**15 15 06.1**	**-0.1**
	comp=E,0.5nm,0.7s,mb3.5,baz=270,slow=11,SNR=6.7						
QSPA	**South Pole Qui**	**62.39**	**180**	*e*P	**P**	**15 15 51.8**	**+0.5**
	comp=E,1.8nm,0.6s,mb4.1						
QSPA				*e*	pP	15 16 27.9	+1.8
LUPA	**Lehigh Univers**	**68.51**	**353**	*e*P	**P**	**15 16 29.4**	**-1.5**
LIC	**Lamto**	**68.83**	**71**	*e*P	**P**	**15 16 32.7**	**-0.6**
	comp=E,56nm,1.6s,mb5.0						
TIC	**Toumodi**	**69.06**	**70**	*e*P	**P**	**15 16 34.4**	**-0.4**
	comp=E,7.3nm,0.2s,mb5.1						
KIC	**Kosan Boka**	**69.14**	**71**	*e*P	**P**	**15 16 34.0**	**-1.2**
	comp=E,19nm,0.7s,mb4.9						
DBIC	**Dimbokro**	**69.21**	**70**	P	**P**	**15 16 34.9**	**-0.8**
	comp=E,2.8nm,0.4s,mb4.4,baz=201,slow=6.6,SNR=11						
SYO	**Syowa Base**	**70.05**	**158**	⇓P	**P**	**15 16 39.9**	**0.0**
SYO	**Syowa Base**	**70.05**	**158**	⇓PcP	PcP	15 17 00.0	-1.1
MAW	**Mawson**	**77.84**	**163**	P	**P**	**15 17 25.5**	**+0.9**
	comp=E,1.7nm,0.8s,mb3.7,baz=229,slow=9.3,SNR=5.6						
MAW	**Mawson**	**77.84**	**163**	*e*P	**P**	**15 17 25.6**	**+1.0**
	comp=E,1.5nm,0.6s,mb3.8						
PDAR	**Pinedale Array**	**80.35**	**330**	P	**P**	**15 17 40.5**	**+1.7**
	comp=E,0.7nm,0.6s,mb3.5,baz=135,slow=4.2,SNR=5.9						
ASAR	**Alice Springs**	**124.90**	**204**	PKP	PKPdf	15 24 26.8	+1.2
	comp=E,0.9nm,0.4s,baz=135,slow=1.8,SNR=36						
ASPA	**Alice Springs**	**124.91**	**204**	*e*P	PKPdf	15 24 26.8	+1.2
WB2	**Warramunga Arr**	**128.13**	**206**⇓	*i*P	PKPdf	15 24 33.4	+1.5
WRA	**Warramunga Arr**	**128.14**	**206**	PKP	PKPdf	15 24 33.4	+1.5
	comp=E,0.8nm,0.3s,baz=155,slow=2.0,SNR=68						
ZAL	**Zalesovo**	**146.81**	**30**	PKPbc	PKPbc	15 25 09.5	+3.1
	comp=E,8.2nm,0.4s,baz=164,slow=2.9,SNR=18						
ZAL				pPKPbc		15 25 50.4	
	comp=E,1.2nm,0.4s,baz=122,slow=6.6,SNR=2.0						
ZAL	**Zalesovo**	**146.81**	**30**	PKPbc	PKPbc	15 25 09.5	+3.1
ZAL				pPKPbc		15 25 50.4	
SONM	**Songino Array**	**159.41**	**12**	PKP	PKPdf	15 25 26.2	+3.4
	comp=E,0.8nm,1.0s,baz=45,slow=2.0,SNR=3.2						
SONM				PKPab	PKPab	15 26 04.6	+1.0
	comp=E,0.3nm,0.5s,baz=333,slow=3.2,SNR=3.0						

*IDC **15** 15:07:42.8±17.0, 17.56S×175.44W, h355^{km}±176^{km}, mb3.1/8, mb1 3.4/8, mb1mx3.3/15, Error ellipse: s-maj=38.2km s-min=25.4km az=99.0*

*NEIC **15** 15:07:43.9±0.8, 17.50S×175.51W, h370^{km}, mb3.8/1, Error ellipse: s-maj=30.5km s-min=18.3km az=149.0*

ISC 15 15:07:42.7±0.9**, 17.5S**±0.2×**175.6W**±0.2**, h370**^{km}**, n12,** σ**0^{s}86**/12**, mb3.4**/9**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.21**	**241**	P	**P**	**15 14 54.9**	**+0.8**
	0.7nm,0.4s,mb3.3,baz=91,slow=7.8,SNR=5.2						
STKA	**Stephens Creek**	**41.21**	**241**	P	**P**	**15 14 54.9**	**+0.8**
WB2	**Warramunga Arr**	**47.37**	**259**	*e*P	**P**	**15 15 42.4**	**-0.6**
WRAB	**Tennant Creek**	**47.37**	**259**	*e*P	**P**	**15 15 42.3**	**-0.7**
	2.9nm,0.5s,mb3.8						
WRA	**Warramunga Arr**	**47.38**	**259**	P	**P**	**15 15 42.6**	**-0.5**
	1.1nm,0.3s,mb3.5,baz=97,slow=7.0,SNR=73						
ASAR	**Alice Springs**	**47.52**	**254**	P	**P**	**15 15 44.0**	**-0.1**
	6.9nm,0.6s,mb4.1,baz=89,slow=9.8,SNR=172						
ASPA	**Alice Springs**	**47.52**	**254**	*e*P	**P**	**15 15 43.9**	**-0.2**
FITZ	**Fitzroy Crossi**	**55.78**	**260**	P	**P**	**15 16 46.8**	**+1.9**
	1.8nm,0.9s,mb3.4,baz=99,slow=13,SNR=2.7						
VNDA	**Vanda**	**61.08**	**185**	P	**P**	**15 17 19.2**	**-0.8**
	0.3nm,0.7s,mb2.9,baz=19,slow=4.2,SNR=3.4						
NVAR	**Mina Array Bea**	**77.27**	**43**	P	**P**	**15 18 59.6**	**+1.0**
	0.1nm,0.3s,mb3.0,baz=236,slow=6.5,SNR=0.7						
ILAR	**Eielson Array**	**84.92**	**12**	P	**P**	**15 19 36.4**	**-1.1**
	0.1nm,0.6s,mb2.8,baz=242,slow=4.9,SNR=4.8						
MAW	**Mawson**	**85.14**	**199**	P	**P**	**15 19 39.0**	**+0.5**
	0.6nm,0.6s,mb3.6,baz=64,slow=23,SNR=2.6						

IDC 15 15:43:08.4±6.8**, 0.41S×100.33E, mb3.2**/2**, mb1 3.7**/3**, mb1mx3.4**/15**, ML3.6**/1**, Error ellipse: s-maj=231.0km s-min=33.5km az=65.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.80**	**356**	P	P	15 47 29.9	-1.8
	0.1nm,0.3s,baz=190,slow=11,SNR=7.3						
WRA	**Warramunga Arr**	**38.53**	**122**	P	P	15 50 33.5	-1.1
	0.3nm,0.9s,baz=306,slow=9.1,SNR=3.6						
ASAR	**Alice Springs**	**39.94**	**128**	P	P	15 50 44.0	-2.3
	0.5nm,1.0s,baz=302,slow=8.0,SNR=5.2						

*BER **15** 15:51:05.9±3.3, 67.02N×20.99E, ML1.7, Suspected explosion*

*HEL **15** 15:51:06.2±0.1, 67.08N×20.92E, ML1.9, ML2.6(UPP), ML1.9(BER), Explosion*

*IDC **15** 15:51:06.3±1.0, 67.10N×21.04E, mb1 3.0/4, mb1mx3.0/18, ML2.4/4, Error ellipse: s-maj=16.0km s-min=7.6km az=114.0*

ISC 15 15:51:03.8±0.3**, 67.01N**±0.02×**20.69E**±0.06**, n30,** σ**1^{s}36**/48**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.12**	**336**	*i* P	**Pg**	**15 51 08.5**	**+2.3**
MASU	**Masugnsbyn**	**0.68**	**48**	*i* P	**Pg**	**15 51 16.2**	**-1.2**
ERTU	**Ertsjaerv**	**0.75**	**127**	*i* P	**Pg**	**15 51 18.4**	**-0.5**
PAJU	**Pajala**	**0.95**	**88**	*i* P	**Pg**	**15 51 21.2**	**-1.6**
KUA	**Kurravaara**	**0.95**	**352**	*e*P	**Pg**	**15 51 22.1**	**-0.8**
NIKU	**Nikkaluokta**	**1.07**	**324**	*e*P	**Pb**	**15 51 25.2**	**+0.4**
SJUU	**Sjulsmark**	**1.56**	**166**	*e*P	**Pn**	**15 51 34.6**	**+1.7**
KIF	**Kilpisjarvi**	**2.00**	**1**	*e*P	**Pn**	**15 51 40.8**	**+1.6**
KIF				*e*S	**Sn**	**15 52 06.5**	**+1.2**
KTK1	**Kautokeino**	**2.22**	**24**	*e*P	**Pn**	**15 51 43.5**	**+1.1**
KTK1				*e*SG	**Sg**	**15 52 12.1**	**-5.8**
KTK1				AML	AML	15 52 17.5	
	comp=Z,9.3nm,0.2s						
SGF	**Sodankyl**	**2.31**	**77**	*e*P	**Pn**	**15 51 44.1**	**+0.4**
SGF				*e*SG	**Sg**	**15 52 14.8**	**-6.0**
SGF				MSG		15 52 15.8	
	comp=Z,9.3nm,0.2s						
BURU	**Burvik**	**2.46**	**173**	*e*P	**Pn**	**15 51 48.3**	**+2.5**
MOR8	**Moi Rana**	**2.63**	**254**	*e*SG	**Sg**	**15 52 26.6**	**-4.9**
MOR8				AML	AML	15 52 29.8	
	comp=Z,6.8nm,0.2s						
TRO	**Tromso**	**2.71**	**347**	*e*P	**Pn**	**15 51 45.2**	**-4.2**
TRO				*e*Sg	**Sg**	**15 52 28.1**	**-6.0**
TRO				AML	AML	15 52 32.6	
	comp=Z,5.7nm,0.3s						
MELS	**Mels**	**2.75**	**270**	*e*Sg	**Sg**	**15 52 35.7**	**+0.4**
OUL	**Oulu**	**2.88**	**130**	*e*P	**Pn**	**15 51 53.1**	**+1.4**
OUL				*e*SB	**Sb**	**15 52 32.2**	**+0.5**
OUL				MSG		15 52 37.4	
	comp=Z,2.2nm,0.2s						
LOF	**Lofoten**	**2.96**	**296**	*e*SG	**Sg**	**15 52 41.7**	**-0.7**
LOF				AML	AML	15 52 47.4	
	comp=Z,5.7nm,0.3s						
ARCES	**ARCESS Array B**	**3.10**	**33**	Pn	**Pn**	**15 51 54.4**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=214,slow=14,SNR=82						
ARCES				Sn	**Sn**	**15 52 32.4**	**-0.9**
	comp=Z,0.9nm,0.3s,baz=217,slow=24,SNR=7.4						
STOK	**Stokkvaagen**	**3.13**	**261**	*e*SG	**Sg**	**15 52 46.0**	**-1.9**
STOK				AML	AML	15 52 51.1	
	comp=Z,9.5nm,0.7s						
MSF	**Maaselka**	**3.53**	**104**	*e*P	**Pn**	**15 52 00.9**	**-0.1**
MSF				*e*S	**Sn**	**15 52 44.6**	**+0.5**
KEV	**Kevo**	**3.61**	**37**	*e*P	**Pn**	**15 52 00.8**	**-1.4**
KEV				*e*S	**Sn**	**15 52 43.4**	**-2.8**
VAF	**Ylistaro**	**4.08**	**167**	*e*P	**Pn**	**15 52 10.7**	**+1.9**
VAF				*e*S	**Sn**	**15 52 57.2**	**-0.8**
KJN	**Kajaani**	**4.14**	**132**	*e*P	**Pn**	**15 52 10.8**	**+1.1**
KJN				*e*S	**Sn**	**15 52 57.3**	**-2.3**
SUF	**Sumiainen**	**4.90**	**149**	*e*P	**Pn**	**15 52 21.8**	**+1.3**
SUF				*e*S	**Sn**	**15 53 18.2**	**-0.6**
KEF	**Keuruu**	**5.19**	**158**	*e*P	**Pn**	**15 52 25.7**	**+1.1**
KEF				*e*S	**Sn**	**15 53 21.0**	**-5.0**
KAF	**Kangasniemi**	**5.48**	**151**	*e*P	**Pn**	**15 52 29.7**	**+1.0**
KAF				*e*S	**Sn**	**15 53 30.0**	**-3.4**
FIA0	**FINESS Array S**	**6.06**	**155**	*e*P	**Pn**	**15 52 37.8**	**+0.8**
FIA0				*e*S	**Sn**	**15 53 44.8**	**-3.2**
FINES	**FINESS Array B**	**6.06**	**155**	Pn	**Pn**	**15 52 37.7**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=343,slow=13,SNR=6.1						
FINES				Sn	**Sn**	**15 53 46.3**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=345,slow=22,SNR=6.5						
FINES				Lg		15 54 19.0	
	comp=Z,0.2nm,0.3s,baz=344,slow=30,SNR=2.6						
JOF	**Joensuu**	**6.10**	**127**	*e*P	**Pn**	**15 52 37.0**	**-0.4**
JOF				*e*S	**Sn**	**15 53 44.0**	**-4.9**
NOA	**NORSAR Array B**	**7.29**	**219**	Pn	**Pn**	**15 52 55.4**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=30,slow=14,SNR=2.8						
NOA				Sn	**Sn**	**15 54 16.1**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=286,slow=3.2,SNR=2.6						
HFS	**Hagfors**	**7.57**	**208**	Pn	**Pn**	**15 52 57.8**	**-0.4**
	comp=Z,0.0nm,0.3s,baz=24,slow=14,SNR=3.4						
HFS				Sn	**Sn**	**15 54 22.5**	**-3.3**
	comp=Z,0.0nm,0.3s,baz=28,slow=25,SNR=2.7						
HFS				Lg		15 55 10.5	
	comp=Z,0.0nm,0.3s,baz=27,slow=29,SNR=2.3						

*NEIC **15** 16:15:48.5±2.4, 5.73S×146.63E, h68^{km}±21^{km}, mb3.9/1, Error ellipse: s-maj=28.0km s-min=22.0km az=127.0*

*IDC **15** 16:15:49.4±3.7, 5.81S×146.75E, h70^{km}±34^{km}, mb3.3/7, mb1 3.6/10, mb1mx3.5/15, ML3.4/3, Error ellipse: s-maj=32.1km s-min=22.7km az=83.0*

ISC 15 16:15:48.7±2.1**, 5.8S**±0.1×**146.6E**±0.2**, h80**^{km}±19^{km}**, n13,** σ**1^{s}08**/14**, mb3.4**/7**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WAU	**Wau**	**1.51**	**177**	*e*P	**P**	**16 16 15.5**	**+0.8**
PMG	**Port Moresby**	**3.59**	**172**	P	**P**	**16 16 42.6**	**-0.8**
	8.5nm,0.3s,baz=8.9,slow=5.2,SNR=62						
PMG				S	**S**	**16 17 24.7**	**-0.1**
	1.7nm,0.3s,baz=190,slow=20,SNR=3.7						
CTA	**Charters Tower**	**14.18**	**181**	P	**P**	**16 19 10.7**	**+3.6**
	0.3nm,0.3s,baz=12,slow=14,SNR=4.5						
WRAB	**Tennant Creek**	**18.41**	**219**	P	**P**	**16 19 57.1**	**-3.0**
	10.0nm,1.2s						
WRA	**Warramunga Arr**	**18.43**	**219**	P	**P**	**16 19 59.4**	**-0.9**
	0.1nm,0.3s,baz=41,slow=12,SNR=4.4						
ASAR	**Alice Springs**	**21.55**	**213**	P	**P**	**16 20 34.6**	**+1.3**
	0.7nm,0.7s,mb3.1,baz=48,slow=8.3,SNR=12						
FITZ	**Fitzroy Crossi**	**23.84**	**237**	P	**P**	**16 20 55.9**	**+0.3**
	1.4nm,0.5s,mb3.6,baz=35,slow=2.3,SNR=6.7						
STKA	**Stephens Creek**	**26.34**	**190**	P	**P**	**16 21 19.4**	**+0.3**
	1.7nm,0.9s,mb3.5,baz=4.1,slow=14,SNR=2.3						
STKA	**Stephens Creek**	**26.34**	**190**	P	**P**	**16 21 19.4**	**+0.3**
CMAR	**Chiang Mai Arr**	**52.84**	**298**	P	**P**	**16 24 58.5**	**-0.3**
	0.4nm,0.7s,mb3.6,baz=124,slow=4.5,SNR=4.4						
SONM	**Songino Array**	**64.08**	**331**	P	**P**	**16 26 17.9**	**+1.3**
	0.4nm,0.5s,mb3.5,baz=143,slow=7.2,SNR=3.4						
VNDA	**Vanda**	**72.10**	**177**	P	**P**	**16 27 06.3**	**+0.4**
	0.5nm,0.6s,mb3.5,baz=325,slow=9.5,SNR=2.4						
ILAR	**Eielson Array**	**85.47**	**23**	P	**P**	**16 28 17.1**	**-1.4**
	0.2nm,0.5s,mb3.3,baz=253,slow=4.9,SNR=6.4						

IDC 15 16:18:59.8±8.1**, 1.25S×134.51E, mb4.0**/3**, mb1 3.9**/5**, mb1mx3.6**/15**, ML3.3**/2**, Error ellipse: s-maj=123.0km s-min=65.0km az=8.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.58**	**181**	P	P	16 23 18.8	-1.7
	0.1nm,0.3s,baz=359,slow=11,SNR=7.9						
FITZ	**Fitzroy Crossi**	**18.88**	**207**	P	P	16 23 22.4	-1.7
	0.1nm,0.3s,baz=17,slow=19,SNR=2.0						
ASAR	**Alice Springs**	**22.30**	**181**	P	P	16 23 59.1	-1.3
	0.5nm,0.6s,baz=8.7,slow=11,SNR=9.4						
STKA	**Stephens Creek**	**31.19**	**168**	P	P	16 25 20.6	-2.4
	3.2nm,1.1s,baz=342,slow=16,SNR=2.5						
NWAO	**Narrogin (SRO)**	**35.45**	**206**	P	P	16 25 57.6	-2.4
	5.4nm,0.9s,baz=343,slow=11,SNR=2.2						

MEX 15 16:57:15.5±1.3**, 17.11N×101.34W, h16**^{km}±227^{km}**, MD3.7, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.51**	**347**	*i* P	Pb	16 57 24.7	-0.8
ZIIG				*i* S	Sb	16 57 30.2	-2.2
CAIG	**El Cayaco**	**1.03**	**93**	*i* P	Pb	16 57 30.6	-3.9
CAIG				*i* S	Sb	16 57 44.4	-3.2
ACX	**Acapulco**	**1.39**	**100**	*i* P	Pn	16 57 40.0	-0.3
ACX				*i* S	Sb	16 57 55.5	-2.3
PLIG	**Platanillo**	**2.17**	**54**	*i* P	Pn	16 57 48.9	-2.7
PLIG				*i* S	Sn	16 58 13.4	-4.7
PPM	**Popocatepetl**	**3.23**	**53**	*e*P	Pn	16 58 03.5	-3.2

*IDC **15** 17:07:32.0±10.0, 6.98S×127.67E, h394^{km}±107^{km}, mb3.0/1, mb1 3.0/4, mb1mx2.8/12, Error ellipse: s-maj=122.0km s-min=94.0km az=37.0*

ISC 15 17:07:31.4±3.0**, 6.9S**±0.3×**127.0E**±0.3**, h464**^{km}±32^{km}**, n7,** σ**1^{s}64**/8**, mb3.3**/1**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**7.79**	**138**	*e*P	**P**	**17 09 26.7**	**+0.6**
	6.9nm,0.6s						
FITZ	**Fitzroy Crossi**	**11.18**	**187**	P	**P**	**17 10 02.8**	**-0.2**
	0.0nm,0.3s,baz=183,slow=14,SNR=4.3						
WRA	**Warramunga Arr**	**14.75**	**152**	P	**P**	**17 10 38.5**	**-2.1**
	0.6nm,0.3s,baz=334,slow=12,SNR=45						
WRA				S	**S**	**17 13 13.5**	**+0.2**
	0.0nm,0.3s,baz=332,slow=21,SNR=4.6						
WB2	**Warramunga Arr**	**14.75**	**152**	*e*P	**P**	**17 10 38.8**	**-1.9**
ASPA	**Alice Springs**	**17.90**	**159**	*e*P	**P**	**17 11 13.5**	**+1.2**
ASAR	**Alice Springs**	**17.90**	**159**	P	**P**	**17 11 13.4**	**+1.1**
	0.3nm,0.3s,baz=352,slow=12,SNR=33						

STKA	Stephens Creek	28.29	153	P	P	17 12 48.2	+0.6
	0.8nm,0.7s,mb3.3,baz=248,slow=7.4,SNR=3.5						

*IDC **15** 17:33:37.6±1.2,23.02N×121.62E,mb3.2/5,mb1 3.5/6, mb1mx3.4/20,ML3.3/1,MS3.0/1,Ms1 3.2/1,ms1mx2.4/16, Error ellipse: s-maj=28.5km s-min=24.3km az=79.0*
*TAP **15** 17:33:37.6,22.62N×121.64E,h4km±1km,ML4.2*
TAP Felt II J at Chenggung.
*JMA **15** 17:33:41.9±0.2,22.58N×121.92E,h63km,M3.9*
ISC 15 17:33:37.0±0.4**,22.64N**±0.02×**121.76E**±0.02**,h4**km**,n69,** σ**1s14**/107**,mb3.4**/6**,MS2.8**/1**,9C-1D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	Chengkung	0.59	322⇑	iP	Pg	17 33 49.6	+0.9
CHKT				S	Sg	17 33 57.0	+0.4
TWG	Pinlang	0.66	286⇑	iP	Pg	17 33 50.0	-0.2
TWG				S	Sg	17 33 59.0	0.0
ECL	Taimali	0.75	267⇑	iP	Pg	17 33 51.2	-0.7
ECL				S	Sg	17 33 59.5	-2.4
TWF1	Yuli	0.83	329⇓	iP	Pb	17 33 53.8	+0.3
TWF1				S	Sg	17 34 04.6	-0.1
TAW	Tawu	0.85	251	P	Pb	17 33 52.9	-0.9
TAW				S	Sg	17 34 00.8	-4.4
EAST	Anshuo	0.88	254⇑	iP	Pb	17 33 53.5	-0.8
EAST				S	Sb	17 34 02.3	-4.0
ELDTW	Lidau	0.88	309⇑	iP	Pb	17 33 53.7	-0.6
EHY	Hungye	0.96	335	P	Pb	17 33 56.1	+0.4
EHY				S	Sb	17 34 07.9	-0.6
SSD	Sandimen	1.05	276⇑	iP	Pb	17 33 56.0	-1.2
STYT	Tauyuan	1.06	300⇑	iP	Pb	17 33 57.0	-0.5
STYT				S	Sb	17 34 09.4	-2.2
SCZT	Fangliau	1.09	256	P	Pb	17 33 56.9	-1.1
TWK1	Hengchun	1.12	232	eP	Pb	17 33 57.6	-0.9
HEN	Hengchun	1.14	237	eP	Pb	17 33 58.1	-0.6
HEN				S	Sb	17 34 10.4	-3.2
SGST	Jiashian	1.17	293	i P	Pb	17 33 59.6	+0.2
SGST				S	Sb	17 34 14.3	-0.5
SGLT	Jiouru	1.18	275	eP	Pb	17 34 00.7	+1.3
ESL	Shilin	1.21	346	P	Pb	17 33 59.8	-0.2
ESL				S	Sb	17 34 14.9	-1.0
WTP	Ta-pu	1.22	300⇑	iP	Pb	17 34 00.2	+0.1
WTP				S	Sb	17 34 15.5	-0.6
ALS	Alishan	1.24	315	eP	Pb	17 34 00.7	+0.2
TWM1	Shoushan	1.25	279	P	Pb	17 34 01.4	+0.7
CHN1	Nanshi	1.26	296⇑	iP	Pb	17 34 01.3	+0.4
CHN1				S	Sb	17 34 17.1	-0.2
CHN4	Tsaushan	1.29	304	eP	Pb	17 34 01.7	+0.3
CHN4				S	Sb	17 34 18.2	0.0
TWK	Hsinying	1.33	298	i P	Pb	17 34 02.3	+0.2
TWK				S	Sb	17 34 19.9	+0.6
HWA	Hwalien	1.34	354	eP	Pb	17 34 02.2	-0.1
KAU	Kaohsiung	1.34	267	eP	Pb	17 34 04.1	+1.8
CHN3	Shinhua	1.36	289	eP	Pb	17 34 04.1	+1.6
CHN3				S	Sb	17 34 21.8	+1.6
CHN5	Tsauling	1.38	314	P	Pb	17 34 03.4	+0.4
CHN5				S	Sb	17 34 20.4	-0.4
TWD	Chiawan	1.45	354	eP	Pn	17 34 03.3	-0.6
TWD				S	Sb	17 34 21.4	-1.3
SMLT	Sun Moon Lake	1.47	328	P	Pn	17 34 04.7	+0.4
CHY	Chiayi	1.50	305	eP	Pn	17 34 05.4	+0.7
CHY				S	Sb	17 34 23.7	-0.6
TYC	Yuchr	1.51	327	P	Pn	17 34 05.5	+0.6
WGK	Gukeng	1.52	314	P	Pn	17 34 06.5	+1.5
WGK				S	Sb	17 34 25.8	+1.0
SCLT	Jiali	1.54	291	eP	Pn	17 34 05.9	+0.6
SCLT				S	Sb	17 34 25.2	-0.2
WNT	Mingjian	1.58	322	eP	Pn	17 34 07.2	+1.3
WNT				S	Sb	17 34 26.7	0.0
CHN8	Yiju	1.59	297	eP	Pn	17 34 06.3	+0.2
CHN8				S	Sb	17 34 26.6	-0.3
TWT	Tachien	1.70	342	eP	Pn	17 34 08.1	+0.6
TWT				S	Sn	17 34 27.9	-2.0
WSF	Szhu	1.73	305	eP	Pn	17 34 08.3	+0.3
WSF				S	Sn	17 34 29.4	-1.4
ENA	Nanau	1.79	359	eP	Pn	17 34 08.5	-0.3
TCU	Taichung	1.81	327	eP	Pn	17 34 11.2	+2.2
TCU				S	Sn	17 34 33.5	+0.8
WTCT	Ta-ch'eng	1.83	312	eP	Pn	17 34 10.1	+0.7
WTCT				S	Sn	17 34 32.0	-1.2
NNS	Nan Shan	1.83	349	eP	Pn	17 34 10.0	+0.6
TWQ1	Liyutan	1.93	332	P	Pn	17 34 12.7	+1.8
TWQ1				S	Sn	17 34 36.5	+0.6
TWC	Suao	1.97	2	P	Pn	17 34 11.7	+0.3
TWC				S	Sn	17 34 34.8	-2.0
NSY	Sanyi	2.00	333	eP	Pn	17 34 13.7	+1.9
NSY				S	Sn	17 34 39.2	+1.7
ENTT	Nioudou	2.00	355	P	Pn	17 34 12.0	+0.1
WDGT	Dungji	2.03	288	eP	Pn	17 34 11.4	-0.9
NSK	Sanguang	2.06	350	eP	Pn	17 34 13.2	+0.4
TWE	Neicheng	2.08	358	eP	Pn	17 34 13.2	+0.2
NSTT	Nanjuang	2.10	341	P	Pn	17 34 14.6	+1.3
NSTT				S	Sn	17 34 39.4	-0.9
YOJ	Yonaguni jima	2.15	32	P	Pn	17 34 16.0	+2.0
YOJ				eS	Sn	17 34 40.5	-0.9
PNG	Penghu	2.23	295	eP	Pn	17 34 14.2	-0.9
TWA	Mucha	2.34	356	eP	Pn	17 34 17.6	+0.9
HATJ	Hateruma jima	2.35	53	P	Pn	17 34 17.9	+1.0
HATJ				eS	Sn	17 34 45.0	-1.6
TWB1	Santiao Chiao	2.37	5	P	Pn	17 34 18.4	+1.2
NWF	Wu-fen Shan	2.42	0	eP	Pn	17 34 19.3	+1.3
TWS1	Kuangyinshan	2.47	353	eP	Pn	17 34 19.8	+1.2
IRIF	Iriomote-Funau	2.48	47	P	Pn	17 34 19.8	+1.1
IRIF				eS	Sn	17 34 49.2	-0.5
JKRS	Kuro-shima	2.61	52	P	Pn	17 34 21.8	+1.2
JKRS				eS	Sn	17 34 51.3	-1.8
JIJ	Ishigaki jima	2.78	51	P	Pn	17 34 24.0	+0.9
JIJ				S	Sn	17 34 56.0	-1.5
JTJ	Tarama	3.36	53	P	Pn	17 34 31.8	+0.6
JTJ				eS	Sn	17 35 10.1	-1.9
KNM	Kinmen	3.53	301	eP	Pn	17 34 33.6	-0.1
JMJ	Miyako jima 2	3.90	55	eS	Sn	17 35 23.6	-2.1
JOGS	Gusukube	3.96	57	eS	Sn	17 35 26.0	-1.1
JOW	Kunigami	7.25	53	Pn	Pn	17 35 23.2	-3.0
	1.1nm,0.3s,baz=313,slow=26,SNR=2.0						
JOW				Sn	Sn	17 36 44.0	-5.9
	2.0nm,0.3s,baz=73,slow=27,SNR=2.7						
CMAR	Chiang Mai Arr	21.76	263	P	P	17 38 29.4	-2.2
	0.2nm,0.5s,mb2.8,baz=99,slow=12,SNR=3.5						
CMAR				LR	LR	17 46 60.0	
	comp=Z,36nm,18.3s,MS2.8,baz=318,slow=37						
ASAJ	Asahikawa	27.45	34	P	P	17 39 27.2	+1.3
	16nm,1.0s,mb4.5,baz=207,slow=17,SNR=4.7						
SONM	Songino Array	28.00	338	P	P	17 39 28.1	-2.7
	0.4nm,0.9s,mb3.1,baz=153,slow=6.4,SNR=2.4						
WRA	Warramunga Arr	44.06	163	P	P	17 41 51.1	+3.2
	0.2nm,0.6s,mb3.0,baz=343,slow=8.5,SNR=2.8						
ASAR	Alice Springs	47.51	165	P	P	17 42 17.7	+2.3
	0.1nm,0.4s,mb3.2,baz=342,slow=6.9,SNR=5.1						
FINES	FINESS Array B	73.05	330	P	P	17 45 06.3	-3.3
	0.7nm,0.8s,mb3.6,baz=40,slow=15,SNR=4.7						

TAP 15 17:34:53.0,22.63N×121.62E,h7km±1km,ML3.7,Taiwan region

*IDC **15** 18:46:26.0±0.9,55.61S×1.59W,mb4.2/8,mb1 4.3/9, mb1mx4.2/13,ML3.7/1,Error ellipse: s-maj=30.6km s-min=20.9km az=65.0*
*NEIC **15** 18:46:27.5±0.6,55.50S×1.69W,h10km,mb4.7/4,Error ellipse: s-maj=19.3km s-min=12.9km az=84.0*
ISC 15 18:46:26.0±0.6**,55.48S**±0.09×**1.6W**±0.2**,h10**km**,n29,** σ**1s15**/30**,mb4.3**/11**,10C-3D,Bouvet Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	15.51	188⇑	i	P	18 50 10.9	+4.9
VNA1	Neumayer--Stat	15.51	188⇑	i	P	18 50 17.1	+11
VNA1	Neumayer--Stat	15.51	188⇑	i	P	18 50 24.1	+18
VNA2	Neumayer--Watz	15.71	187⇑	i	P	18 50 11.6	+3.0
VNA2	Neumayer--Watz	15.71	187⇑	i	P	18 50 20.3	+12
VNA2	Neumayer--Watz	15.71	187⇑	i	P	18 50 28.4	+20
VNA3	Neumayer Olymp	16.20	189⇓	i	P	18 50 18.8	+3.8
VNA3	Neumayer Olymp	16.20	189⇑	i	P	18 50 26.5	+12
VNA3	Neumayer Olymp	16.20	189⇑	i	P	18 50 33.8	+19
SNAA	Sanae	16.26	181⇓	i	P	18 50 14.6	-1.1
SNAA	Sanae	16.26	181⇑	i	P	18 50 22.1	+6.4
SNAA	Sanae	16.26	181⇑	i	P	18 50 30.4	+15
SNAA	Sanae	16.26	181	Pn	P	18 50 13.9	-1.8
	0.3nm,0.3s,baz=356,slow=10,SNR=23						
SNAA				Sn	S	18 52 58.9	-17
	0.0nm,0.3s,baz=164,slow=21,SNR=1.7						
SNAA				T		19 05 59.6	
	0.1nm,0.3s,baz=326,slow=18,SNR=4.4						
SNAA	Sanae	16.26	181	eP	P	18 50 16.3	+0.6
MAW	Mawson	31.42	138	P	P	18 52 47.3	-1.6
	2.7nm,1.1s,mb4.0,baz=262,slow=14,SNR=5.7						
QSPA	South Pole Qui	34.76	180	eP	P	18 53 18.1	+0.2
	4.6nm,0.8s,mb4.5						
TSUM	Tsumeb	39.02	30	P	P	18 53 55.6	+1.1
	0.8nm,0.3s,mb4.0,baz=186,slow=11,SNR=3.6						
LSZ	Lusaka	46.21	42	eP	P	18 54 53.0	+0.2
	4.0nm,0.9s,mb4.3						
LSZ				e		18 55 00.2	
SBA	Scott Base	46.73	177	eP	P	18 54 57.5	+1.3
	14nm,1.3s,mb4.7						
VNDA	Vanda	46.86	175	P	P	18 54 56.6	-0.7
	3.2nm,0.7s,mb4.3,baz=221,slow=8.0,SNR=26						
VNDA	Vanda	46.86	175	eP	P	18 54 57.1	-0.2
CPUP	Villa Florida	49.43	282	P	P	18 55 17.2	-0.7
	4.8nm,1.3s,mb4.4,baz=164,slow=7.4,SNR=2.5						
CPUP	Villa Florida	49.43	282	eP	P	18 55 17.5	-0.4
DBIC	Dimbokro	61.99	356	P	P	18 56 48.6	0.0
	2.4nm,0.9s,mb4.3,baz=162,slow=9.6,SNR=3.9						
LPAZ	La Paz	63.45	280	P	P	18 56 58.6	+0.4
	1.7nm,0.7s,mb4.3,baz=104,slow=10.0,SNR=7.1						
LPAZ	La Paz	63.45	280	eP	P	18 56 58.5	+0.3
	11nm,1.3s,mb4.8						
ARE	Arequipa	65.20	277⇓	iP	P	18 57 06.6	-3.1
STKA	Stephens Creek	87.46	149	P	P	18 59 14.8	+0.2
	2.8nm,0.9s,mb4.5,baz=274,slow=1.1,SNR=3.9						
ASAR	Alice Springs	92.53	140	P	P	18 59 37.5	-1.0
	0.7nm,0.8s,mb4.2,baz=202,slow=5.5,SNR=7.5						

*IDC **15** 18:52:28.0±0.6,55.57S×1.59W,mb4.8/10,mb1 4.9/11, mb1mx4.8/13,ML4.6/1,MS4.4/17,Ms1 4.4/17, ms1mx4.4/18,Error ellipse: s-maj=24.6km s-min=16.5km az=57.0*
*HRVD **15** 18:52:29.8±0.2,55.71S×1.41W,h12km,MW5.3/71, Centroid moment Tensor Solution. LP body waves: s54,c88;Mantle waves: s71,c132; Half duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.77±.02; $M_{\theta\theta}$0.00±.02; $M_{\phi\phi}$0.77±.02; $M_{r\theta}$-0.12±.06; $M_{\theta\phi}$-0.22±.02; $M_{\phi r}$-0.65±.05; Best double couple: $M_0$1.04×10^{17} NP1: ϕ_s150°,δ28°,λ-118°. NP2:ϕ_s1°,δ65°,λ-76°. Principal axes: T 1.04, Plg19°, Azm80°; N .01, Plg13°, Azm175°; P -1.04, Plg67°, Azm296°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **15** 18:52:29.7,55.50S×1.60W,h10km*
*NEIC **15** 18:52:29.8±0.2,55.54S×1.56W,h10km,mb5.3/19, MS4.7/10,Error ellipse: s-maj=9.0km s-min=6.6km az=70.0*
ISC 15 18:52:28.0±0.4**,55.47S**±0.06×**1.6W**±0.1**,h10**km**,n66,** σ**0s70**/46**,mb5.2**/22**,MS4.6**/21**,11C-2D,Bouvet Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	15.53	188⇑	i	P	18 56 11.7	+3.5
VNA1	Neumayer--Stat	15.53	188⇑	i	P	18 56 20.6	+12
VNA1	Neumayer--Stat	15.53	188⇑	i	P	18 56 26.4	+18
VNA2	Neumayer--Watz	15.73	187⇑	i	P	18 56 13.9	+3.1
VNA2	Neumayer--Watz	15.73	187⇑	i	P	18 56 24.1	+13
VNA3	Neumayer Olymp	16.22	189⇑	i	P	18 56 20.4	+3.3
VNA3	Neumayer Olymp	16.22	189⇑	i	P	18 56 30.4	+13
SNAA	Sanae	16.28	181⇓	i	P	18 56 18.6	+0.7
SNAA	Sanae	16.28	181⇑	i	P	18 56 28.8	+11
SNAA	Sanae	16.28	181⇑	i	P	18 56 35.6	+18
SNAA	Sanae	16.28	181	Pn	P	18 56 16.4	-1.5
	2.4nm,0.3s,baz=357,slow=14,SNR=144						
SNAA				Sn	S	18 59 00.2	-18
	0.2nm,0.3s,baz=239,slow=22,SNR=6.5						
SNAA				LR	LR	19 01 04.6	
	comp=Z,416nm,20.9s,baz=359,slow=32						
SNAA				T		19 11 52.4	
	0.5nm,0.3s,baz=351,slow=18,SNR=3.9						
SNAA	Sanae	16.28	181	eP	P	18 56 16.4	-1.5
	96nm,0.6s						
SYO	Syowa Base	22.89	142	⇓P	P	18 57 31.9	-0.3
SYO	Syowa Base	22.89	142	⇑P	Px	18 57 55.0	
SUR	Sutherland	27.91	43	LR	LR	19 06 32.7	
	comp=Z,2μm,21.4s,MS4.6,baz=27,slow=30						
MAW	Mawson	31.41	138⇑	iP	P	18 58 50.6	-0.3
	12nm,0.9s,mb4.7						
MAW	Mawson	31.41	138	P	P	18 58 49.9	-0.9
	14nm,0.9s,mb4.8,baz=270,slow=13,SNR=28						
MAW				LR	LR	19 09 03.5	
	comp=Z,996nm,20.1s,MS4.5,baz=267,slow=32						
MAW	Mawson	31.41	138	eP	P	18 58 50.2	-0.6
	19nm,0.9s,mb4.9						
MAW				LR	LR		
	comp=Z,1μm,20.0s,MS4.6						
BOSA	Boshof	33.02	47	eP	P	18 59 05.6	+0.3
	comp=Z,17nm,1.0s,mb4.9						
QSPA	South Pole Qui	34.78	180	eP	P	18 59 19.5	-0.4
	comp=Z,24nm,0.6s,mb5.3						
QSPA				LR	LR		
	comp=Z,626nm,20.0s,MS4.3						
TSUM	Tsumeb	39.00	30	P	P	18 59 57.1	+0.9
	comp=Z,17nm,1.1s,mb4.7,baz=190,slow=8.3,SNR=15						
TRQA	Tornquist	43.40	268	eP	P	19 00 32.8	+0.7
	comp=Z,41nm,1.1s,mb5.1						
LSZ	Lusaka	46.18	42	eP	P	19 00 55.1	+0.5
	comp=Z,18nm,1.0s,mb5.0						
LSZ				LR	LR		
	comp=Z,2μm,21.0s,MS5.1						
SBA	Scott Base	46.75	177	eP	P	19 00 58.8	+0.5
	comp=Z,25nm,1.0s,mb5.1						
SBA				LR	LR		
	comp=Z,471nm,20.0s,MS4.4						
VNDA	Vanda	46.88	175	P	P	19 00 58.8	-0.5
	comp=Z,11nm,0.8s,mb4.9,baz=212,slow=7.6,SNR=84						
VNDA				LR	LR	19 20 21.1	
	comp=Z,752nm,19.2s,MS4.7,baz=191,slow=36						
VNDA	Vanda	46.88	175	eP	P	19 00 59.4	0.0
	comp=Z,24nm,0.9s,mb5.1						
VNDA				LR	LR		
	comp=Z,710nm,20.0s,MS4.6						
CASY	Casey	48.31	150	eP	P	19 01 10.8	+0.1
CPUP	Villa Florida	49.45	282	P	P	19 01 19.3	-0.7
	comp=Z,13nm,1.0s,mb4.9,baz=161,slow=6.4,SNR=15						
CPUP				LR	LR	19 18 49.9	
	comp=Z,878nm,21.4s,MS4.7,baz=178,slow=32						
CPUP	Villa Florida	49.45	282	eP	P	19 01 19.9	-0.1
	comp=Z,40nm,1.3s,mb5.3						
CPUP				LR	LR		
	comp=Z,2μm,19.0s,MS5.0						
BAO	Brasilia Array	53.25	299	P	P	19 01 49.1	+0.2
BDFB	Brasilia	53.25	299	P	P	19 01 48.4	-0.5
	comp=Z,4.2nm,0.7s,mb4.5,baz=126,slow=4.6,SNR=4.9						
BDFB				LR	LR	19 20 02.9	
	comp=Z,834nm,19.6s,MS4.8,baz=147,slow=31						
LVC	Limon Verde	58.87	275	eP	P	19 02 29.4	+0.3
	comp=Z,27nm,1.2s,mb5.2						
LVC				LR	LR		
	comp=Z,892nm,20.0s,MS4.9						
LIC	Lamto	61.53	356	eP	P	19 02 47.4	-0.1
	comp=Z,194nm,1.8s,mb5.9						
KIC	Kosan Boka	61.66	356	eP	P	19 02 47.3	-1.0
	comp=Z,261nm,1.7s,mb6.1						
TIC	Toumodi	61.95	356	eP	P	19 02 50.7	+0.4
	comp=Z,217nm,1.4s,mb6.1						
DBIC	Dimbokro	61.97	356	P	P	19 02 49.8	-0.6
	comp=Z,12nm,0.7s,mb5.1,baz=146,slow=7.3,SNR=19						
DBIC				LR	LR	19 23 18.2	
	comp=Z,152nm,19.3s,MS4.2,baz=151,slow=30						
DBIC	Dimbokro	61.97	356	eP	P	19 02 50.6	+0.2
	comp=Z,13nm,0.7s,mb5.2						
DBIC				LR	LR		
	comp=Z,188nm,20.0s,MS4.2						
LPAZ	La Paz	63.47	280	P	P	19 03 00.5	+0.2
	comp=Z,22nm,1.2s,mb5.2,baz=147,slow=6.6,SNR=34						
LPAZ				LR	LR	19 28 46.8	
	comp=Z,660nm,21.1s,MS4.8,baz=276,slow=34						
LPAZ	La Paz	63.47	280	eP	P	19 03 00.6	+0.3
	comp=Z,64nm,1.4s,mb5.6						
LPAZ				LR	LR		
	comp=Z,766nm,20.0s,MS4.9						
SAML	Samuel	66.77	289	eP	P	19 03 20.8	-0.8
	comp=Z,30nm,1.4s,mb5.1						
SAML				LR	LR		
	comp=Z,638nm,20.0s,MS4.8						
NWAO	Narrogin (SRO)	77.65	131	LR	LR	19 31 05.9	
	comp=Z,366nm,21.9s,MS4.7,baz=251,slow=30						
MUN	Mundaring	78.01	130	ePKP	P	19 04 28.4	+0.6
	comp=Z,183nm,1.2s,mb5.9						
RPZ	Rata Peaks	80.99	175	LR	LR	19 36 46.3	
	comp=Z,205nm,21.1s,MS4.5,baz=324,slow=33						
URZ	Urewera	86.64	179	LR	LR	19 39 42.5	
	comp=Z,178nm,20.0s,MS4.5,baz=217,slow=33						
STKA	Stephens Creek	87.47	149	ePKP	P	19 05 16.8	+0.3
	comp=Z,9.1nm,1.1s,mb4.9						
STKA	Stephens Creek	87.47	149	P	P	19 05 16.1	-0.5
	comp=Z,7.7nm,0.8s,mb5.0,baz=145,slow=5.3,SNR=8.2						
STKA				LR	LR	19 41 49.1	
	comp=Z,170nm,19.9s,MS4.5,baz=207,slow=34						
MBWA	Marble Bar	88.92	127	P	P	19 05 23.6	-0.1
	comp=Z,40nm,1.4s,mb5.5						
ASPA	Alice Springs	92.53	140	ePKP	P	19 05 40.7	+0.3
ASAR	Alice Springs	92.53	140	P	P	19 05 40.4	0.0
	comp=Z,4.4nm,0.9s,mb4.9,baz=201,slow=4.2,SNR=19						
ASAR				PKKPbc		19 22 51.4	
	comp=Z,0.3nm,0.9s,baz=36,slow=2.4,SNR=4.1						
ASAR				LR	LR	19 42 34.4	
	comp=Z,162nm,18.4s,MS4.5,baz=221,slow=32						
FITZ	Fitzroy Crossi	94.22	131	LR	LR	19 42 49.2	
	comp=Z,192nm,19.3s,MS4.6,baz=262,slow=32						
ESDC	Sonseca Array	94.79	358	LR	LR	19 43 39.3	
	comp=Z,74nm,18.2s,MS4.2,baz=170,slow=32						
WRA	Warramunga Arr	96.09	139	P	P	19 05 55.5	-1.4
	comp=Z,1.0nm,1.1s,mb4.2,baz=205,slow=4.4,SNR=5.8						
BRTR	Keskin Array B	99.46	27	LR	LR	19 52 54.3	
	comp=Z,152nm,19.2s,MS4.5,baz=325,slow=36						
CTA	Charters Tower	99.93	149	LR	LR	19 47 40.2	
	comp=Z,178nm,20.6s,MS4.5,baz=198,slow=33						
CMAR	Chiang Mai Arr	110.93	88	PP	PP	19 11 41.2	-2.6
	comp=Z,0.5nm,0.8s,baz=108,slow=9.0,SNR=4.1						
NVAR	Mina Array Bea	135.24	275	PKP	PKPdf	19 11 49.1	-1.3
	comp=Z,0.4nm,0.7s,baz=207,slow=4.0,SNR=3.2						
SONM	Songino Array	136.53	69	PKP	PKPdf	19 11 53.1	+0.7
	comp=Z,0.7nm,1.0s,baz=351,slow=1.9,SNR=4.0						
HIA	Hailar	144.58	75	ePKPdf	PKPdf	19 12 04.3	-2.3
CN2	Changchun	144.60	87	ePKP	PKPdf	19 12 05.1	-1.7
YKA	Yellowknife Ar	146.25	310	PKPbc	PKPbc	19 12 08.3	+1.1
	comp=Z,2.5nm,0.6s,baz=113,slow=2.9,SNR=7.1						
MAT	Matsushiro	146.87	108	P	PKPbc	19 12 11.7	+2.2
DLBC	Dease Lake	152.30	298	PKPbc	PKPdf	19 12 25.0	+6.3
	comp=Z,3.5nm,1.0s,baz=257,slow=3.4,SNR=5.0						
DLBC	Dease Lake	152.30	298	ePKPbc	PKPdf	19 12 25.1	+6.4
INK	Inuvik	154.77	320	PKPbc	PKPdf	19 12 29.7	+7.9
	comp=Z,5.0nm,1.2s,baz=155,slow=4.0,SNR=5.8						
INK	Inuvik	154.77	320	PKPbc	PKPdf	19 12 29.7	+7.9
ILAR	Eielson Array	160.63	313	PKP	PKPdf	19 12 29.1	0.0
	comp=Z,0.2nm,0.8s,baz=225,slow=1.3,SNR=2.6						
ILAR				PKPab	PKPab	19 13 10.0	-0.2
	comp=Z,1.4nm,0.9s,baz=110,slow=2.6,SNR=8.3						

*JMA **15** 18:59:10.3±0.1,24.59N×122.74E,h93km±1km,M3.2*
TAP 15 18:59:09.5,24.42N×122.73E,h83km±1km**,ML4.0, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.26	81	P	P	18 59 24.0	+2.1
YOJ				S	S	18 59 34.5	+3.3
IRIF	Iriomote-Funau	0.92	95	P	P	18 59 29.7	+1.8
IRIF				S	S	18 59 44.1	+2.3
HATJ	Hateruma jima	1.05	110	P	P	18 59 31.7	+2.3
HATJ				S	S	18 59 47.4	+2.9
JKRS	Kuro-shima	1.18	99	P	P	18 59 33.0	+1.8
JKRS				S	S	18 59 49.9	+2.5
JIJ	Ishigaki jima	1.29	92	P	P	18 59 33.7	+1.1
JIJ				S	S	18 59 50.7	+0.8
JTJ	Tarama	1.81	83	P	P	18 59 40.5	+1.1
JTJ				S	S	19 00 03.0	+1.5
JMJ	Miyako jima 2	2.37	80	S	S	19 00 15.2	+0.1
JOGS	Gusukube	2.46	82	eS	S	19 00 18.1	+0.7
JKE	Kume jima 2	4.13	62	P	P	19 00 10.3	-1.3
JKE				eS	S	19 00 57.1	-1.9

JMA 15 19:11:40.7±0.2**,23.59N×123.63E,h33**km±2km**,M4.2, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	Hateruma jima	0.49	19	P	P	19 11 50.8	-0.3
HATJ				S	S	19 11 58.3	-0.2
JKRS	Kuro-shima	0.73	28	P	P	19 11 54.9	+0.4
JKRS				eS	S	19 12 04.3	-0.3
IRIF	Iriomote-Funau	0.75	7	P	P	19 11 54.7	-0.1
IRIF				eS	S	19 12 05.3	+0.3
JIJ	Ishigaki jima	0.90	31	P	P	19 11 56.9	0.0
JIJ				S	S	19 12 08.3	-0.6
YOJ	Yonaguni jima	1.04	327	P	P	19 11 59.4	+0.5
YOJ				S	S	19 12 12.4	0.0
JTJ	Tarama	1.43	43	P	P	19 12 05.3	+0.7
JTJ				eS	S	19 12 22.7	+0.3

*IDC **15** 19:15:44.1±1.1,14.74N×147.29E,h55km±6km,mb3.5/6, mb1 3.7/7,mb1mx3.6/20,Error ellipse: s-maj=35.8km s-min=16.1km az=88.0*
*NEIC **15** 19:15:44.3±0.6,14.72N×147.22E,mb4.2/4,Error ellipse: s-maj=15.1km s-min=8.1km az=135.0*
ISC 15 19:15:42.0±0.9**,14.7N**±0.1×**147.3E**±0.1**,h54**km**, h54**km±1.0km**:pP-P,n17,**σ**0s32**/13**,mb4.0**/11**,Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	2.59	244	eSn	S	19 16 52.5	-0.3
WRA	Warramunga Arr	36.73	201	P	P	19 22 46.3	+0.3
	0.7nm,0.9s,mb3.5,baz=29,slow=9.2,SNR=8.4						
WRA				pP	pP	19 23 00.2	+0.1
	1.7nm,1.1s,baz=23,slow=9.4,SNR=6.9						
ASAR	Alice Springs	40.34	199	P	P	19 23 15.9	-0.1
	0.3nm,0.7s,mb3.1,baz=14,slow=12,SNR=6.6						
ASAR				pP	pP	19 23 30.7	+0.5
	0.3nm,0.5s,baz=26,slow=7.2,SNR=2.9						
CM31	Chiang Mai Arr	46.36	282	eP	P	19 24 05.7	+0.7
	2.8nm,0.7s,mb4.3						
CMAR	Chiang Mai Arr	46.36	282	P	P	19 24 05.5	+0.4
	1.7nm,0.6s,mb4.2,baz=82,slow=6.1,SNR=12						
CMAR				pP	pP	19 24 19.8	+0.5
	1.5nm,0.6s,baz=82,slow=6.0,SNR=7.4						
SONM	Songino Array	47.18	323	P	P	19 24 11.2	+0.1
	1.9nm,0.6s,mb4.2,baz=137,slow=6.1,SNR=13						
SONM				pP	pP	19 24 25.7	+0.4
	0.7nm,0.5s,baz=138,slow=7.5,SNR=3.6						
KURK	Kurchatov	65.23	319	eP	P	19 26 19.6	-0.4
	3.5nm,0.6s,mb4.6						
ILAR	Eielson Array	66.55	25	P	P	19 26 27.9	-0.3
	0.2nm,0.5s,mb3.4,baz=252,slow=4.6,SNR=4.2						
BVAR	Borovoye Array	70.49	321	P	P	19 26 52.6	-0.1
	1.3nm,0.5s,mb4.1,baz=90,slow=7.4,SNR=14						
BVAR				pP	pP	19 27 07.0	-0.9
	0.7nm,0.5s,baz=79,slow=7.6,SNR=4.7						
BRVK	Borovoye	70.55	321	P	P	19 26 53.3	+0.1
	1.6nm,0.7s,mb4.1						
ZRNK	Zerenda	71.32	321	eP	P	19 26 57.6	-0.2
	1.8nm,0.9s,mb4.0						
FINES	FINESS Array B	91.10	336	P	P	19 28 41.7	-0.1
	1.7nm,1.0s,mb4.3,baz=90,slow=7.6,SNR=6.3						
FINES	FINESS Array B	91.10	336	P	P	19 28 41.7	-0.1
DBIC	Dimbokro	145.13	306	PKPbc	PKPbc	19 35 17.3	+2.5
	1.7nm,0.4s,baz=113,slow=7.1,SNR=9.7						
DBIC				pPKPbc		19 35 33.0	
	40nm,1.6s,baz=156,slow=2.1,SNR=2.6						
KIC	Kosan Boka	145.22	305	ePKP1	PKPbc	19 35 17.3	+2.2
	119nm,1.6s						
TIC	Toumodi	145.27	306	ePKP1	PKPbc	19 35 17.5	+2.3
	10nm,0.3s						
LIC	Lamto	145.53	305	ePKP1	PKPbc	19 35 18.2	+2.3
	12nm,0.2s						

IDC 15 19:19:01.0±3.9**,28.67S×177.73W,mb3.7**/4**,mb1 3.8**/4**, mb1mx3.6**/13**,Error ellipse: s-maj=140.0km s-min=50.3km az=154.0,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	33.80	276	P	P	19 25 46.6	-0.3
	0.8nm,0.5s,baz=70,slow=15,SNR=3.5						
STKA	Stephens Creek	35.13	254	P	P	19 25 56.7	-1.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	2.1nm,1.0s,baz=111,slow=14,SNR=2.7						
ASAR	Alice Springs	43.47	265	P	P	19 27 05.2	-2.4
	0.3nm,0.6s,baz=104,slow=7.0,SNR=5.2						
WRA	Warramunga Arr	44.30	270	P	P	19 27 11.2	-3.3
	0.4nm,0.5s,baz=108,slow=7.6,SNR=7.9						
NOA	NORSAR Array B	147.08	352	PKPbc	PKPdf	19 38 44.8	-0.1
	0.8nm,0.7s,baz=21,slow=3.9,SNR=3.4						

IDC 15 19:20:12.6±34.0, 5.63S×103.60E, mb3.6/3, mb1 3.8/3, mb1mx3.5/14, Error ellipse: s-maj=593.0km s-min=170.3km az=130.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	33.09	118	P	P	19 26 49.9	-2.7
	0.4nm,0.8s,baz=287,slow=10,SNR=4.8						
ASAR	Alice Springs	34.23	125	P	P	19 27 00.6	-1.9
	0.3nm,0.5s,baz=304,slow=8.1,SNR=7.9						
STKA	Stephens Creek	44.07	131	P	P	19 28 22.9	-1.4
	1.3nm,0.5s,baz=278,slow=8.3,SNR=6.5						

PGC 15 19:26:23.9, 58.39N×133.48W, h1km, ML2.8/3, Near Mt. Ogden, British Columbia - Alaska border., Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DLBC	Dease Lake	1.82	87	Pn	Pn	19 26 54.8	-1.7
DLBC				Pg	Pg	19 26 56.2	-3.9
DLBC				Sn	Sn	19 27 19.4	-1.1
DLBC				Sg	Sg	19 27 21.4	-2.9
DLBC				Trac		19 27 26.2	
	comp=Z,74nm,0.4s						
WHY	Whitehorse	2.39	343	Pn	Pn	19 27 03.1	-1.6
WHY				Sn	Sn	19 27 33.4	-1.7
WHY				Sg	Sg	19 27 38.2	-5.2
WHY				Trac		19 27 46.7	
	comp=Z,30nm,0.4s						
HYT	Haines Junctio	3.19	322	Pn	Pn	19 27 15.8	-0.3
HYT				Pg	Pg	19 27 21.6	-5.9
HYT				Sg	Sg	19 28 02.6	-7.5
HYT				Trac		19 28 07.7	
	comp=Z,14nm,0.4s						
FNBB	Fort Nelson	5.49	80	Pg	Pg	19 28 06.4	-7.1
FNBB				Sg	Sg	19 29 17.5	-9.2
FNBB				Trac		19 29 35.2	
	comp=Z,11nm,0.9s						
DAWY	Dawson	6.37	336	Pg	Pg	19 28 19.1	-12
DAWY				Sg	Sg	19 29 42.6	-13
DAWY				Trac		19 29 47.8	
	comp=Z,16nm,0.7s						
INK	Inuvik	9.96	360	Pn	P	19 28 44.2	-6.8
INK				Trac		19 31 48.4	
	comp=Z,1.0nm,0.8s						

IDC 15 19:34:53.8±2.0, 12.45S×172.25E, mb3.7/5, mb1 3.9/5, mb1mx3.7/15, Error ellipse: s-maj=51.8km s-min=38.2km az=7.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	34.16	231	P	P	19 41 40.7	-2.2
	0.5nm,0.3s,baz=41,slow=9.3,SNR=2.7						
WRA	Warramunga Arr	37.09	253	P	P	19 42 06.2	-1.7
	0.4nm,0.3s,baz=85,slow=8.5,SNR=14						
ASAR	Alice Springs	38.01	247	P	P	19 42 13.5	-2.1
	0.5nm,0.4s,baz=75,slow=9.3,SNR=16						
FITZ	Fitzroy Crossi	45.22	257	P	P	19 43 13.5	-1.4
	1.9nm,0.8s,baz=25,slow=18,SNR=3.4						
VNDA	Vanda	65.29	182	P	P	19 45 37.1	-2.2
	0.3nm,0.6s,baz=351,slow=5.4,SNR=4.8						
ARCES	ARCESS Array B	119.19	347	PKP	PKPdf	19 53 44.0	-2.3
	1.6nm,0.8s,baz=48,slow=1.5,SNR=7.0						

TAP 15 19:47:25.8, 24.42N×122.74E, h81km±1km, ML3.1
JMA 15 19:47:25.9±0.1, 24.60N×122.77E, h93km±1km, M2.2, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.26	122	P	P	19 47 39.5	0.0
YOJ				eS	S	19 47 49.8	0.0
IRIF	Iriomote-Funau	0.91	107	P	P	19 47 44.9	-0.2
IRIF				eS	S	19 47 59.3	-0.1
HATJ	Hateruma jima	1.09	120	eS	S	19 48 02.5	-0.5
JKRS	Kuro-shima	1.19	107	P	P	19 47 48.4	0.0
JKRS				S	S	19 48 05.0	-0.1
JIJ	Ishigaki jima	1.27	100	P	P	19 47 49.1	-0.4
JIJ				S	S	19 48 06.0	-1.0
JTJ	Tarama	1.76	88	eS	S	19 48 18.1	+0.7

IDC 15 20:12:08.2±0.9, 2.19S×125.24E, mb4.0/6, mb1 4.2/8, mb1mx4.0/17, ML4.2/2, Error ellipse: s-maj=45.1km s-min=16.5km az=58.0
NEIC 15 20:12:12.0±0.4, 2.24S×125.21E, mb4.5/6, Error ellipse: s-maj=9.8km s-min=6.3km az=48.0
SYO 15 20:12:12, 2.22S×125.20E, h26km, MB4.5
DJA 15 20:12:14.2±1.0, 2.49S×125.01E, h2km, MD4.8/3, ML5.2/2, Error ellipse: s-maj=71.9km s-min=22.1km az=165.0
ISC 15 20:12:09.8±0.4, 2.32S±0.06×125.04E±0.05, h26km, h26km±.5km:pP-P, n27, σ1s11/30, mb4.4/15, 5C-2D, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUNI	Buntu Taipa	4.89	254	⇑iPn	Pn	20 13 25.6	+1.9
BUNI				⇑iSn	Sn	20 14 19.2	-1.0
NINI	Niniconang	5.67	248	⇑iPn	Pn	20 13 38.6	+3.9
	638nm,0.3s						
NINI				⇓iSn	Sn	20 14 37.1	-2.6
TANI	Tanete Lipujan	5.75	259	⇓iPn	Pn	20 13 38.8	+3.0
	97nm,0.3s						
TANI				⇑iSn	Sn	20 14 42.6	+0.8
KAKA	Kakadu	12.63	145	eP	P	20 15 19.8	+9.0
	14nm,0.6s						
FITZ	Fitzroy Crossi	15.69	178	eP	P	20 15 56.8	+5.7
	4.1nm,0.6s						
FITZ	Fitzroy Crossi	15.69	178	Pn	P	20 15 53.3	+2.2
	0.4nm,0.3s,baz=15,slow=8.2,SNR=14						
WRAB	Tennant Creek	19.73	153	eP	P	20 16 38.9	-1.7
	17nm,0.8s						
WRA	Warramunga Arr	19.73	153	P	P	20 16 39.4	-1.3
	1.1nm,0.3s,baz=335,slow=12,SNR=80						
WB2	Warramunga Arr	19.74	153	eP	P	20 16 39.2	-1.5
ASPA	Alice Springs	22.89	159	eP	P	20 17 13.8	+1.0
ASAR	Alice Springs	22.89	159	P	P	20 17 13.8	+1.0
	4.4nm,0.8s,mb4.0,baz=350,slow=15,SNR=46						
PMG	Port Moresby	23.09	109	P	P	20 17 15.5	+0.6
	10nm,0.8s,mb4.3,baz=300,slow=10,SNR=5.8						
PMG	Port Moresby	23.09	109	eP	P	20 17 16.1	+1.2
	25nm,1.3s,mb4.5						
CMAR	Chiang Mai Arr	32.96	310	P	P	20 18 45.2	+0.4
	1.4nm,0.7s,mb4.0,baz=138,slow=6.9,SNR=10						
STKA	Stephens Creek	33.28	154	P	P	20 18 47.3	-0.3
	0.8nm,0.5s,mb3.9,baz=334,slow=17,SNR=3.6						
GUN	Gumba	48.17	311	eP	P	20 20 49.7	-0.5
	18nm,1.0s,mb5.1						
KKN	Kakani	48.56	311	eP	P	20 20 52.7	-0.5
	8.0nm,0.9s,mb4.7						
DMN	Daman	48.60	311	eP	P	20 20 53.2	-0.3
	8.6nm,1.0s,mb4.7						
GKN	Gorkha	49.15	311	eP	P	20 20 57.0	-0.8
	4.1nm,0.6s,mb4.6						
KOLN	Koldanda	49.83	310	eP	P	20 21 02.5	-0.5
	14nm,0.9s,mb5.0						
SONM	Songino Array	52.54	344	P	P	20 21 22.9	-0.4
	0.7nm,0.8s,mb3.6,baz=153,slow=9.7,SNR=3.5						
AAK	Ala-Archa	63.80	321	P	P	20 22 41.4	-0.8
	1.8nm,0.7s,mb4.2						
KURK	Kurchatov	65.99	330	eP	P	20 22 56.0	-0.2
	5.7nm,0.7s,mb4.7						
KURK				epP	pP	20 23 04.6	+0.2
BVAR	Borovoye Array	71.51	329	P	P	20 23 31.0	+0.6
	1.4nm,0.7s,mb4.0,baz=141,slow=9.5,SNR=8.6						
BRVK	Borovoye	71.58	329	eP	P	20 23 31.2	+0.4
	2.8nm,0.8s,mb4.2						
BRVK				epP	pP	20 23 39.3	+0.3
ZRNK	Zerenda	72.20	328	eP	P	20 23 34.8	+0.4
	3.6nm,0.7s,mb4.4						
ZRNK				epP	pP	20 23 42.8	+0.1
SYO	Syowa Base	86.21	201	⇑P	P	20 24 51.1	+1.2

STR 15 20:38:20.7±0.1, 42.86N×0.27W, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0
LDG 15 20:38:21.0±0.1, 42.85N×0.27W, h2km, Md2.5/2, Ml2.4/8, Error ellipse: s-maj=1.4km s-min=0.7km az=177.0
CSEM 15 20:38:21.1±0.1, 42.86N×0.27W, h2km, ML2.5/9, Error ellipse: s-maj=1.2km s-min=0.8km az=2.0
MDD 15 20:38:21.3±0.2, 42.87N×0.26W, h4km±4km, mbLg2.0/14, Error ellipse: s-maj=2.3km s-min=1.3km az=17.0, PRXIMO
ISC 15 20:38:20.0±0.3, 42.91N±0.02×0.24W±0.02, h11km±2km, n53, σ1s11/93, 1C, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
REYF	Montagne du Re	0.20	327	Pg	Pg	20 38 25.5	+1.1
REYF				Sg	Sg	20 38 28.9	+1.6
REYF	Montagne du Re	0.20	327	P	Pg	20 38 25.5	+1.2
REYF				S	Sg	20 38 29.0	+1.7
VIEF	Viey	0.20	96	Pg	Pg	20 38 25.2	+0.8
VIEF				Sg	Sg	20 38 28.3	+1.0
VIEF	Viey	0.20	96	P	Pg	20 38 25.3	+0.9
VIEF				S	Sg	20 38 28.3	+0.9
ETSF	Etsaut	0.23	269	ePg	Pg	20 38 25.2	+0.2
ETSF				eSg	Sg	20 38 28.1	-0.2
	98nm,0.2s						
FDAF	Les Forges d'A	0.25	250	Pg	Pg	20 38 25.2	-0.2
FDAF				Sg	Sg	20 38 28.5	-0.5
FDAF	Les Forges d'A	0.25	250	P	Pg	20 38 25.3	-0.1
FDAF				S	Sg	20 38 28.5	-0.5
LABF	Labassere	0.27	58	Pg	Pg	20 38 27.1	+1.3
LABF				Sg	Sg	20 38 31.4	+1.8
LABF	Labassere	0.27	58	P	Pg	20 38 27.2	+1.4
LABF				S	Sg	20 38 31.7	+2.0
EBIE	Bielsa	0.36	127	⇑Pg	Pg	20 38 27.7	+0.3
	SNR=18						
EBIE				Lg		20 38 32.2	
	40nm,0.1s,SNR=7.9						
EBIE	Bielsa	0.36	127	Pg	Pg	20 38 27.7	+0.3
	SNR=18						
EBIE				Lg		20 38 32.2	
	40nm,0.1s,SNR=7.9						
ATE	Arette	0.38	299	P	Pg	20 38 28.2	+0.4
ATE				S	Sg	20 38 33.7	+0.6
RESF	Ens	0.44	103	Pg	Pg	20 38 29.4	+0.5
RESF	Ens	0.44	103	P	Pg	20 38 29.5	+0.5
RESF				S	Sg	20 38 35.4	+0.5
EPF	Esparros	0.45	73	ePg	Pg	20 38 30.3	+1.2
EPF				eSg	Sg	20 38 36.3	+1.1
	49nm,0.2s						
LARF	Larrau	0.56	284	Pg	Pg	20 38 31.7	+0.4
LARF	Larrau	0.56	284	P	Pb	20 38 31.8	+0.4
LARF				S	Sg	20 38 39.0	0.0
ORDF	Ordiarp	0.59	302	Pg	Pg	20 38 32.8	+0.8
ORDF	Ordiarp	0.59	302	P	Pb	20 38 32.5	+0.6
ORDF				S	Sb	20 38 40.9	+0.9
MELF	Melles	0.74	92	P	Pb	20 38 35.0	+0.6
MELF				S	Sb	20 38 45.8	+1.6
SJPF	Ste Jean	0.75	286	ePg	Pg	20 38 35.1	+0.1
SJPF				ePn	Pn	20 38 37.1	+0.8
SJPF				eSg	Sg	20 38 44.7	-0.4
	27nm,0.2s						
SJPF	Ste Jean	0.75	286	Pg	Pg	20 38 35.1	+0.1
SJPF				Lg		20 38 44.7	
	14nm,0.2s						
EALK	Alkurruntz	0.98	289	Pg	Pg	20 38 39.0	-0.6
	2.4nm,0.1s,SNR=10						
EALK				Lg		20 38 52.6	
	12nm,0.2s,SNR=5.0						
SALF	Salau	1.06	97	Pg	Pg	20 38 41.4	+0.1
SALF	Salau	1.06	97	P	Pb	20 38 41.5	+1.5
SALF				S	Sb	20 38 55.6	+2.0
CSOR	Sort	1.15	117	Pg	Pg	20 38 42.3	-0.6
ESAC	San Caprasio	1.19	188	Pg	Pg	20 38 43.8	0.0
	18nm,0.1s,SNR=13						
ESAC				Lg		20 38 59.9	
	180nm,0.2s,SNR=20						
ESAC	San Caprasio	1.19	188	Pg	Pg	20 38 43.8	-0.1
	18nm,0.1s,SNR=13						
CAVN	Les Avellanes	1.26	144	Pg	Pg	20 38 44.9	-0.3
CORG	Organya	1.34	120	Pg	Pg	20 38 46.3	-0.4
EMIR	Miracle	1.64	126	Pg	Pg	20 38 51.6	-1.2
	6.5nm,0.2s,SNR=5.9						
EMIR				Lg		20 39 14.4	
	9.8nm,0.2s,SNR=5.0						
EMIR	Miracle	1.64	126	Pg	Pg	20 38 51.6	-1.2
	6.5nm,0.2s,SNR=5.9						
EPOB	Poblet	1.84	147	Pg	Pg	20 38 54.7	-2.0
	1.4nm,0.2s,SNR=7.9						
EPOB				Lg		20 39 18.5	
	12nm,0.3s,SNR=9.4						
EPOB	Poblet	1.84	147	Pg	Pg	20 38 54.7	-2.0
	1.4nm,0.2s,SNR=7.9						
MTLF	Montolieu	1.85	76	ePn	Pn	20 38 52.4	+0.3
MTLF				ePg	Pg	20 38 56.5	-0.5
MTLF				eSg	Sg	20 39 20.2	-1.6
	5.2nm,0.2s						
LFF	La Frestale	2.15	19	ePn	Pn	20 38 56.8	+0.4
LFF				ePg	Pg	20 39 01.5	-1.5
LFF				eSg	Sg	20 39 30.6	-1.2
	6.8nm,0.4s						
EJON	La Jonquera	2.35	100	Pg	Pg	20 39 04.8	-2.2
	0.5nm,0.2s,SNR=4.0						
EJON				Lg		20 39 36.2	
	2.6nm,0.2s,SNR=7.9						
EJON	La Jonquera	2.35	100	Pg	Pg	20 39 04.8	-2.2
	0.5nm,0.2s,SNR=4.0						
ELAN	Lanestosa	2.36	279	Pg	Pg	20 39 05.6	-1.5
	1.5nm,0.3s,SNR=4.0						
ELAN				Sn	Sn	20 39 31.4	+2.9
	2.3nm,0.3s,SNR=7.9						
ELAN	Lanestosa	2.36	279	Sn	Sn	20 39 31.4	+2.9
	2.3nm,0.3s,SNR=7.9						
ELAN	Lanestosa	2.36	279	Pg	Pg	20 39 05.6	-1.5
	1.5nm,0.3s,SNR=4.0						
ETOR	Torete	2.48	214	Pn	Pn	20 39 02.4	+1.3
	0.2nm,0.1s,SNR=8.2						
ETOR				Pg	Pg	20 39 09.4	-0.2
	1.4nm,0.3s,SNR=4.0						
ETOR				Sn	Sn	20 39 30.8	-0.9
	1.5nm,0.2s,SNR=5.0						
ETOR	Torete	2.48	214	Pg	Pg	20 39 09.4	-0.2
	1.4nm,0.3s,SNR=4.0						
ETOR				Sn	Sn	20 39 30.8	-0.9
	1.5nm,0.2s,SNR=5.0						
EMOS	Mosqueruela	2.54	184	Pn	Pn	20 39 05.1	+3.1
	0.2nm,0.1s,SNR=7.9						
EMOS				Pg	Pg	20 39 08.1	-2.7
	0.7nm,0.2s,SNR=7.9						
EMOS				Sn	Sn	20 39 31.7	-1.5
	0.6nm,0.1s,SNR=7.9						
EMOS				Lg		20 39 42.1	
	1.6nm,0.3s,SNR=7.9						
EMOS	Mosqueruela	2.54	184	Pn	Pn	20 39 05.1	+3.2
	0.2nm,0.1s,SNR=7.9						
EMOS	Mosqueruela	2.54	184	Pg	Pg	20 39 10.3	-0.5
	0.7nm,0.2s,SNR=7.9						
EMOS				Sn	Sn	20 39 34.7	+1.5
	0.6nm,0.1s,SNR=7.9						
CAF	Calviac	2.62	39	ePn	Pn	20 39 02.9	-0.1
CAF				ePg	Pg	20 39 10.8	-1.5
CAF				eSn	Sn	20 39 34.3	-0.8
	4.5nm,0.3s						
RJF	Les Rejaudoux	2.71	27	ePn	Pn	20 39 04.3	-0.1
RJF				ePg	Pg	20 39 12.5	-1.7
RJF				eSn	Sn	20 39 36.5	-1.0
	4.6nm,0.3s						
LASF	Ste Croix	3.21	67	ePn	Pn	20 39 11.1	-0.3
LASF				eSg	Sg	20 40 02.5	-4.2
	7.8nm,0.4s						
MFF	Saint Martin d	3.70	1	ePn	Pn	20 39 17.8	-0.5
MFF				ePg	Pg	20 39 30.3	-3.5
MFF				eSg	Sg	20 40 18.6	-4.5
	0.7nm,0.2s						
TCF	Toulx Ste Croi	3.81	27	ePg	Pg	20 39 33.1	-2.9
TCF				eSg	Sg	20 40 22.4	-4.4
	0.8nm,0.2s						
VIVF	Saint-Julien-l	4.05	60	ePn	Pn	20 39 22.9	-0.5
VIVF				ePg	Pg	20 39 36.7	-4.2
VIVF				eSg	Sg	20 40 29.2	-5.8
	1.4nm,0.3s						
ESDC	Sonseca Array	4.27	222	Pn	Pn	20 39 25.3	-1.2
	1.3nm,0.1s,baz=43,slow=14,SNR=4.9						
ESDC				Sn	Sn	20 40 12.4	-4.6
	1.4nm,0.2s,baz=42,slow=24,SNR=4.0						

HEL 15 20:58:37.3±0.1, 67.84N×20.17E, ML1.5, ML1.7(BER), Explosion
BER 15 20:58:37.4±4.2, 67.76N×20.23E, ML1.5, Suspected explosion
ISC 15 20:58:34.3±0.7, 67.79N±0.04×20.04E±0.08, n10, σ1s25/15, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KIF	Kilpisjarvi	1.25	13	eP	Pb	20 58 58.2	-0.4
KIF				eS	Sb	20 59 15.0	-0.1
KTK1	Kautokeino	1.71	42	eP	Pn	20 59 07.0	+1.5
KTK1				eSN	Sn	20 59 29.2	+0.9
KTK1				AML	AML	20 59 31.9	
	comp=Z,8.2nm,0.3s						
TRO	Tromso	1.90	348	eP	Pn	20 59 09.3	+1.0
TRO				eSG	Sg	20 59 34.6	-2.9
TRO				AML	AML	20 59 36.6	
	comp=Z,3.9nm,0.5s						
LOF	Lofoten	2.48	281	eSG	Sg	20 59 58.5	+1.7
LOF				AML	AML	21 00 01.5	
	comp=Z,3.6nm,0.4s						
SGF	Sodankyl	2.51	95	eP	Pn	20 59 18.3	+1.3
SGF				eS	Sn	20 59 49.1	+0.4
SGF				eSB	Sb	20 59 51.3	-0.2
SGF				MSG		20 59 53.6	
	comp=Z,1.8nm,0.3s						
MELS	Mels	2.62	252	eSg	Sg	20 59 59.9	-1.5
MOR8	Moi Rana	2.73	236	eSG	Sg	20 59 58.9	-6.4
MOR8				AML	AML	21 00 02.8	
	comp=Z,8.6nm,0.3s						
KEV	Kevo	3.21	49	eS	Sn	21 00 04.9	-1.7
MSF	Maaselka	4.02	114	eS	Sn	21 00 25.9	-1.1
NSS	Namsos	4.63	229	eSG	Sg	21 01 01.5	-6.9
NSS				AML	AML	21 01 04.5	
	comp=Z,2.3nm,0.4s						

JMA 15 21:00:55.1±0.4, 23.79N×122.51E, h44km, M2.7
TAP 15 21:00:53.9, 23.73N×122.36E, h17km±1km, ML3.3, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.94	39	P	Pb	21 01 10.4	-1.0
YOJ				S	Sb	21 01 20.9	-2.5
HATJ	Hateruma jima	1.36	76	P	Pn	21 01 16.0	-2.3
HATJ				eS	Sb	21 01 31.7	-3.9
IRIF	Iriomote-Funau	1.39	64	P	Pn	21 01 16.6	-2.1
IRIF				eS	Sb	21 01 33.6	-2.8
JKRS	Kuro-shima	1.59	71	P	Pn	21 01 19.4	-2.2
JKRS				eS	Sn	21 01 37.9	-3.9
JIJ	Ishigaki jima	1.75	68	P	Pn	21 01 21.0	-2.8
JIJ				S	Sn	21 01 40.4	-5.4
JTJ	Tarama	2.32	67	P	Pn	21 01 30.1	-2.0

PGC 15 21:14:04.0, 58.28N×133.56W, h1km, ML3.2/3, Near Mt. Ogden, British Columbia - Alaska border., Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DLBC	Dease Lake	1.87	84	Pn	Pn	21 14 35.9	-1.5
DLBC				Pg	Pg	21 14 37.6	-3.7
DLBC				Sn	Sn	21 15 01.0	-1.0
DLBC				Sg	Sg	21 15 02.6	-3.5
DLBC				Trac		21 15 07.9	
	comp=Z,269nm,0.8s						
WHY	Whitehorse	2.48	345	Pn	Pn	21 14 44.3	-1.9
WHY				Pg	Pg	21 14 49.0	-4.5
WHY				Sn	Sn	21 15 12.4	-5.0
WHY				Sg	Sg	21 15 18.5	-8.0
WHY				Trac		21 15 27.4	
	comp=Z,72nm,0.8s						
HYT	Haines Junctio	3.25	323	Pn	Pn	21 14 56.6	-0.5
HYT				Pg	Pg	21 15 02.5	-6.4
HYT				Sg	Sg	21 15 44.6	-7.5
HYT				Trac		21 15 50.3	
	comp=Z,37nm,0.6s						
FNBB	Fort Nelson	5.55	79	Trac		21 17 10.3	
	comp=Z,20nm,0.8s						
FNBB	Fort Nelson	5.55	79	Sg	Sg	21 16 58.7	-10
FSB	Fort Saint Jam	6.39	123	Pg	Pg	21 16 00.1	-11
FSB				Sg	Sg	21 17 25.1	-12
FSB				Trac		21 17 33.6	
	comp=Z,9.1nm,0.9s						
DAWY	Dawson	6.45	337	Pg	Pg	21 16 01.9	-11
DAWY				Sg	Sg	21 17 27.2	-11
DAWY				Trac		21 17 28.4	
	comp=Z,27nm,0.8s						
BMBC	Bull Mountain	6.61	105	Trac		21 17 41.7	
	comp=Z,24nm,0.8s						
BMBC	Bull Mountain	6.61	105	Sg	Sg	21 17 33.5	-11
INK	Inuvik	10.06	0	Pn	P	21 16 29.0	-3.6
INK				Sg	Sx	21 19 17.7	
INK				Trac		21 19 38.1	
	comp=Z,3.0nm,0.9s						

BJI 15 21:26:14.9, 45.97N×96.48E, h9km, ML4.2, Ms3.9, Msz3.4
IDC 15 21:26:16.5±0.8, 46.03N×96.40E, mb3.8/9, mb1 3.9/11, mb1mx3.8/21, ML4.1/1, Error ellipse: s-maj=23.6km s-min=16.2km az=19.0
MOS 15 21:26:16.8±1.3, 46.01N×96.34E, h15km, mb4.2/6, Error ellipse: s-maj=29.5km s-min=16.5km az=83.3
NEIC 15 21:26:18.6±0.8, 46.06N×96.45E, h10km, mb3.5/2, Error ellipse: s-maj=19.4km s-min=11.2km az=179.0
NNC 15 21:26:19.1±2.6, 46.36N×96.11E, Error ellipse: s-maj=48.1km s-min=21.8km az=22.0
ISC 15 21:26:15.5±0.4, 45.89N±0.05×96.40E±0.08, h10km, n38, σ1s04/39, mb3.7/9, 2C-2D, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZAK	Zakamensk	6.43	43	eP	Pn	21 27 52.7	0.0
ZAK				e		21 29 09.1	
ZAK				pmax	pmax		
	comp=Z,27nm,0.8s						
ZAK				smax			
	comp=N,297nm,1.1s						
ZAK	Zakamensk	6.43	43	eP	Pn	21 27 52.7	0.0
	comp=N,27nm,0.8s						
ZAK				e		21 29 09.1	
WMQ	Urumqi	6.52	255	eP	Pn	21 27 55.0	+1.0
WMQ				S	Sn	21 29 02.0	-7.3
WMQ				Smax			
	comp=N,115nm,1.2s						
WMQ				Smax			
	comp=E,102nm,1.0s						
MOY	Mondy	6.53	26	eP	Pn	21 27 54.1	+0.1
MOY				pmax	pmax		
	comp=Z,47nm,1.7s						
GTA	Gaotai	6.95	158	P	Pn	21 27 59.0	-1.0
GTA				PG	Pg	21 28 19.9	-14
GTA				S	Sn	21 29 14.8	-5.1
GTA				SG	Sg	21 29 50.0	-17
GTA				Smax			
	comp=N,46nm,1.0s						
GTA				Smax			
	comp=E,101nm,1.2s						
GTA				LR	LR		
	comp=N,234nm,5.0s						
GTA				LR	LR		
	comp=E,471nm,5.7s						
GTA				LR	LR		
	comp=Z,107nm,5.7s						
SONM	Songino Array	7.12	71	Pn	Pn	21 28 02.2	-0.3
	comp=Z,0.8nm,0.3s,baz=258,slow=14,SNR=12						
SONM				Pg	Pg	21 28 27.4	-10
	comp=Z,4.3nm,0.3s,baz=259,slow=18,SNR=28						
SONM				Lg		21 29 57.7	
	comp=Z,4.1nm,0.3s,baz=263,slow=21,SNR=4.3						
MK02	Makanchi Array	9.79	280	⇓Pn	P	21 28 37.6	-1.8
	comp=Z,1.7nm,0.8s,baz=90,slow=15						
MK02				⇑Lg		21 31 21.8	
	comp=Z,13nm,0.7s,baz=92,slow=26						
ZAL	Zalesovo	10.98	321	Lg		21 31 55.4	
	comp=Z,0.3nm,0.3s,baz=113,slow=15,SNR=2.9						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KURK	Kurchatov	12.77	299	⇓Lg		21 32 52.0	
	comp=Z,24nm,1.5s,baz=350,slow=16,SNR=3.5						
AAK	Ala-Archa	16.02	266	P	P	21 30 07.3	+4.9
	comp=Z,2.2nm,0.7s						
LSA	Lhasa	16.68	196	P	P	21 30 16.3	+5.4
BVA0	Borovoye Array	18.28	302	⇑P	P	21 30 28.6	-2.2
	comp=Z,0.4nm,0.7s,baz=101,slow=6.1,SNR=14						
BVAR	Borovoye Array	18.28	302	P	P	21 30 30.5	-0.3
	comp=Z,0.2nm,0.3s,baz=100,slow=9.0,SNR=11						
BRVK	Borovoye	18.35	302	eP	P	21 30 33.3	+1.6
	comp=Z,3.8nm,0.8s						
GUN	Gumba	19.79	209	eP	P	21 30 48.3	-0.5
	comp=Z,25nm,0.9s						
KKN	Kakani	20.11	210	eP	P	21 30 51.8	-0.4
	comp=Z,9.1nm,0.9s						
GKN	Gorkha	20.14	212	eP	P	21 30 53.2	+0.6
	comp=Z,7.0nm,0.8s						
PKI	Pulchoki	20.26	209	eP	P	21 30 52.9	-0.9
	comp=Z,9.1nm,0.7s						
DMN	Daman	20.33	210	eP	P	21 30 54.5	-0.1
	comp=Z,5.2nm,0.5s						
KOLN	Koldanda	20.74	214	eP	P	21 30 59.6	+0.8
	comp=Z,4.4nm,0.7s						
GYA	Guiyang	21.06	154	P	P	21 31 01.8	-0.3
ARCES	ARCESS Array B	41.38	330	P	P	21 34 03.5	+0.6
	comp=Z,1.7nm,0.5s,mb3.9,baz=79,slow=8.7,SNR=10.0						
ARCES	ARCESS Array B	41.38	330	P	P	21 34 03.5	+0.6
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FINES	FINESS Array B	42.21	318	P	P	21 34 09.3	-0.4
	comp=Z,1.9nm,0.8s,mb3.8,baz=102,slow=13,SNR=3.5						
FINES	FINESS Array B	42.21	318	P	P	21 34 09.3	-0.4
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKASG	Malin Array Be	43.56	302	P	P	21 34 21.0	+0.1
	comp=Z,1.7nm,0.6s,mb4.0,baz=56,slow=8.3,SNR=6.8						
AKASG	Malin Array Be	43.56	302	P	P	21 34 21.0	+0.1
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRTR	Keskin Array B	45.40	286	P	P	21 34 37.4	+1.6
	comp=Z,0.8nm,0.6s,mb3.7,baz=45,slow=5.2,SNR=4.2						
BRTR	Keskin Array B	45.40	286	P	P	21 34 37.4	+1.6
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	NORSAR Array B	49.17	320	P	P	21 35 04.0	-1.1
	comp=Z,0.4nm,0.8s,mb3.5,baz=70,slow=6.6,SNR=2.4						
ILAR	Eielson Array	59.20	26	P	P	21 36 17.3	-1.3
	comp=Z,1.0nm,0.5s,mb4.1,baz=310,slow=5.0,SNR=9.7						
ILAR	Eielson Array	59.20	26	P	P	21 36 17.3	-1.3
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	Inuvik	60.19	19	P	P	21 36 26.0	+0.7
	comp=Z,0.7nm,0.7s,mb3.8,baz=307,slow=5.1,SNR=2.3						
INK	Inuvik	60.19	19	P	P	21 36 26.0	+0.7
INK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	Warramunga Arr	74.01	143	P	P	21 37 54.4	+1.2
	comp=Z,0.2nm,0.7s,mb3.2,baz=338,slow=5.4,SNR=2.8						
ASAR	Alice Springs	77.15	145	P	P	21 38 13.1	+2.0
	comp=Z,0.2nm,0.6s,mb3.2,baz=348,slow=6.4,SNR=3.3						
CPUP	Villa Florida	151.37	304	PKPbc	PKPdf	21 46 10.4	+4.1
	comp=Z,0.5nm,0.4s,baz=229,slow=18,SNR=2.7						
CPUP	Villa Florida	151.37	304	PKIKP	PKPdf	21 46 10.4	+4.2
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.4s						

IDC ***15*** *21:56:53.0±0.6, 52.96N×169.42W, h67km±5km, mb4.3/20, mb1 4.5/22, mb1mx4.4/25, MS3.5/11, Ms1 3.5/11, ms1mx3.2/28, Error ellipse: s-maj=15.5km s-min=10.4km az=161.0*

BJI ***15*** *21:56:54.0, 53.00N×169.40W, h80km, mB5.2, mb4.7, Ms4.4, Msz4.2*

NEIC ***15*** *21:56:54.1±0.4, 53.00N×169.44W, h80km±2km, mb4.7/53, Error ellipse: s-maj=5.4km s-min=3.5km az=189.0*

NEIC Felt at Nikolski.

ISC 15 21:56:53.7±0.3**, 53.01N**±0.04×**169.41W**±0.04**, h89**km±2km**, h69**km±1.6km**:pP-P, n192,** σ**0§83**/185**, mb4.6**/78**, 12C-5D, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	Nikolski	0.34	95	P	P	21 57 04.1	-3.2
NIKO				S	S	21 57 12.1	-5.5
OKCE	Okmok Cone E	0.86	60	P	P	21 57 11.3	-0.7
OKCE				S	S	21 57 25.2	-0.4
OKCD	Okmok Cone D	0.89	61	P	P	21 57 11.8	-0.5
OKCD				S	S	21 57 26.1	-0.1
OKER	East Rim	0.93	61	P	P	21 57 12.3	-0.5
MGOD	Makushin Gods	1.71	61	P	P	21 57 22.0	-0.7
MGOD				S	S	21 57 43.6	-0.4
MCIR	Makushin Cirqu	1.78	57	P	P	21 57 23.4	-0.1
MSW	Makushin Switc	1.82	59	P	P	21 57 23.7	-0.3
MNAT	Makushin Natee	1.85	61	P	P	21 57 24.0	-0.5
MNAT				S	S	21 57 47.2	0.0
MTBL	Makushin Table	1.90	58	P	P	21 57 24.9	-0.1
UNV	Unalaska Valle	1.93	63	P	P	21 57 24.9	-0.7
UNV				S	S	21 57 48.6	-0.4
LVA	Lava Point	2.32	59	P	P	21 57 31.3	+0.4
LVA				S	S	21 58 00.2	+1.7
AKGG	Akutan Green G	2.36	58	P	P	21 57 31.8	+0.3
AKGG				S	S	21 57 59.6	0.0
AKLV	Akutan Long Va	2.36	59	P	P	21 57 31.4	-0.1
AKLV				S	S	21 58 01.4	+1.8
AKA	Akutan	2.45	61	P	P	21 57 33.7	+1.0
ATKA	Atka Island	3.03	257	P	P	21 57 40.5	-0.2
ATKA				S	S	21 58 16.4	+0.5
WFAR	Faris Peak	3.15	59	P	P	21 57 42.2	-0.2
WFAR				S	S	21 58 19.4	+0.3
WESS	West Dahl Sout	3.15	60	P	P	21 57 42.2	-0.2
WESS				S	S	21 58 20.6	+1.6
WESN	West Dahl Nort	3.26	59	P	P	21 57 43.5	-0.4
WTUG	Tugumak	3.50	56	P	P	21 57 47.1	-0.1
FALS	False Pass	4.00	60	P	P	21 57 54.1	-0.1
GSIG	Igitkin Island	4.11	258	P	P	21 57 56.5	+0.9
GSMY	Great Sitkin M	4.17	259	P	P	21 57 57.5	+1.0
SPIA	Saint Paul Isl	4.21	354	P	P	21 57 59.5	+2.5
ADAG	Mount Adagdak	4.51	260	P	P	21 58 01.7	+0.5
KIWB	Kanaga Island	4.88	259	eP	P	21 58 06.3	+0.2
SDPT	Sand Point	5.75	62	eP	P	21 58 17.1	-1.0
FX1	Attu Island--F	10.52	276	P	P	21 59 22.6	-0.4
	1.9nm,0.3s,baz=150,slow=17,SNR=17						
FX1				S	S	22 01 25.9	+6.3
	0.6nm,0.3s,baz=282,slow=23,SNR=2.6						
KDAK	Kodiak Island	10.69	57	eP	P	21 59 21.5	-3.8
RSO	Redoubt South	11.78	44	eP	P	21 59 41.5	+1.6
SPU	Mount Spurr	12.46	42	eP	P	21 59 49.7	+0.8
SLKM	Skilak Lake	12.90	47	eP	P	21 59 52.9	-1.8
PWA	Palmer West	13.60	43	eP	P	22 00 05.9	+2.3
	5.5nm,0.4s						
PMR	Palmer	13.88	44	eP	P	22 00 08.4	+1.2
SML	Sawmill	14.31	44	eP	P	22 00 11.5	-1.3
EYAK	Cordova Ski Ar	14.94	50	P	P	22 00 20.0	-0.9
MCK	McKinley	15.11	37	eP	P	22 00 24.0	+1.0
	9.5nm,0.8s						
DIV	Divide	15.14	48	eP	P	22 00 20.0	-3.5
	52nm,0.7s						
IMA	Indian Mountai	15.27	25	eP	P	22 00 30.8	+5.8
	8.1nm,0.6s						
THY	Trims Highway	16.14	41	eP	P	22 00 35.8	-0.3
COLA	College	16.17	34	eP	P	22 00 36.1	-0.3
	24nm,0.8s						
ILAR	Eielson Array	16.44	35	P	P	22 00 37.9	-2.0
	0.6nm,0.3s,baz=233,slow=10,SNR=33						
ILAR				S	S	22 03 45.3	+6.5
	0.1nm,0.3s,baz=284,slow=17,SNR=2.9						
ILAR				LR	LR	22 07 34.5	
	comp=Z,108nm,19.1s,baz=272,slow=39						
ILAR				ScP		22 08 54.4	
	0.1nm,0.3s,baz=286,slow=3.3,SNR=18						
DLBC	Dease Lake	22.59	60	P	P	22 01 48.9	+2.0
	60nm,0.8s,mb5.0,baz=264,slow=9.3,SNR=82						
DLBC				PcP	PcP	22 05 39.2	+0.4
	4.4nm,0.7s,baz=166,slow=15,SNR=6.4						
DLBC	Dease Lake	22.59	60	eP	P	22 01 48.7	+1.8
INK	Inuvik	22.83	34	P	P	22 01 48.0	-1.2
	13nm,0.6s,mb4.5,baz=254,slow=10,SNR=22						
INK				PcP	PcP	22 05 39.3	+0.1
	1.8nm,0.5s,baz=351,slow=0.7,SNR=4.6						
INK				ScP		22 09 08.8	
	2.2nm,0.7s,baz=344,slow=3.5,SNR=5.1						
INK				LR	LR	22 11 56.9	
	comp=Z,159nm,18.3s,baz=115,slow=40						
INK	Inuvik	22.83	34	eP	P	22 01 47.1	-2.1
	17nm,0.7s,mb4.5						
BBB	Bella Bella	24.86	75	P	P	22 02 07.1	-1.8
	14nm,0.9s,mb4.4,baz=288,slow=8.3,SNR=4.5						
YKA	Yellowknife Ar	29.85	50	P	P	22 02 53.2	-1.0
	3.1nm,0.4s,mb4.2,baz=272,slow=7.6,SNR=14						
YKA				LR	LR	22 15 43.6	
	comp=Z,93nm,19.2s,baz=275,slow=38						
LON	Longmire	30.83	82	eP	P	22 03 05.0	+1.9
SSOR	Sweet Springs	31.41	86	eP	P	22 03 08.2	0.0
ASAJ	Asahikawa	32.44	274	LR	LR	22 13 41.6	
	comp=Z,300nm,22.0s,baz=164,slow=31						
NEW	Newport	32.89	77	eP	P	22 03 20.0	-0.9
	15nm,0.9s,mb4.8						
EDM	Edmonton	32.91	67	eP	P	22 03 20.9	-0.2
YBH	Yreka Blue Hor	33.01	91	eP	P	22 03 20.8	-1.3
	12nm,1.0s,mb4.7						
WDC	Whiskeytown Da	33.80	92	eP	P	22 03 27.9	-1.1
MOD	Modoc	34.37	89	eP	P	22 03 34.5	+0.8
	14nm,0.6s,mb5.0						
CHMT	Chamberlain Mo	35.83	77	eP	P	22 03 45.8	-0.3
PAHR	Pah Rah Range	36.25	91	eP	P	22 03 50.2	+0.5
	26nm,1.0s,mb5.1						
CMB	Columbia Colle	36.70	94	eP	P	22 03 53.7	+0.2
HRY	Holter Researc	36.77	76	eP	P	22 03 54.1	+0.1
HLID	Hailey	36.95	82	eP	P	22 03 55.8	+0.1
	3.3nm,0.7s,mb4.4						
BMN	Battle Mountai	37.11	88	eP	P	22 03 57.3	+0.3
	11nm,0.8s,mb4.8						
MCMT	McKenzie Canyo	37.18	79	eP	P	22 03 57.5	0.0
BOZ	Bozeman (W)	37.45	77	eP	P	22 04 00.1	+0.4
	7.2nm,0.6s,mb4.8						
NVAR	Mina Array Bea	37.70	92	P	P	22 04 02.9	+1.0
	15nm,0.7s,mb4.9,baz=306,slow=7.0,SNR=105						
NVAR				PcP	PcP	22 06 18.4	+0.5
	4.9nm,1.0s,baz=327,slow=1.6,SNR=6.5						
NVAR				pPcP		22 06 36.6	
	0.8nm,0.5s,baz=282,slow=3.3,SNR=4.9						
NVAR				ScP		22 09 58.6	
	0.7nm,0.7s,baz=332,slow=3.6,SNR=4.6						
NVAR	Mina Array Bea	37.70	92	P	P	22 04 02.9	+1.0
NVAR				PcP	PcP	22 06 18.4	+0.5
NVAR				pPcP		22 06 36.6	
NVAR				ScP		22 09 58.6	
MNV	Mina	37.79	92	eP	P	22 04 03.1	+0.4
	8.3nm,0.9s,mb4.6						
QLMT	Earthquake Lak	38.02	78	eP	P	22 04 05.6	+1.1
ELK	Elko	38.11	86	eP	P	22 04 05.6	+0.4
	11nm,0.8s,mb4.8						
MTUM	Tungsten Hills	38.24	93	eP	P	22 04 07.4	+1.0
GCMT	Greycliff	38.53	76	eP	P	22 04 08.5	-0.2
TPH	Tonopah	38.59	91	eP	P	22 04 09.9	+0.7
	18nm,0.9s,mb4.9						
RRI2	Red Ridge	38.92	80	eP	P	22 04 13.3	+1.3
HVU	Hansel Valley	38.98	83	eP	P	22 04 12.9	+0.5
BGU	Big Grassy Mou	39.34	85	eP	P	22 04 15.8	+0.4
TRCR	Troy Canyon	39.40	90	eP	P	22 04 16.6	+0.6
DAC	Darwin (Calif)	39.54	94	eP	P	22 04 17.5	+0.4
	5.8nm,1.0s,mb4.4						
TPNV	Topopah Spring	39.90	92	eP	P	22 04 20.5	+0.3
	22nm,0.8s,mb5.0						
DUG	Dugway	39.91	85	eP	P	22 04 20.3	+0.1
	9.0nm,0.9s,mb4.6						
MDJ	Mudanjiang	39.92	283	P	P	22 04 24.6	+4.4
MDJ				S	S	22 10 28.0	+10
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.5						
MDJ				LR	LR		
	comp=N,83nm,26.9s						
MDJ				LR	LR		
	comp=E,42nm,28.1s						
MDJ				LR	LR		
	comp=Z,47nm,24.4s						
BW06	Boulder Array	40.31	80	eP	P	22 04 23.5	0.0
PDAR	Pinedale Array	40.31	80	P	P	22 04 24.1	+0.6
	comp=Z,6.3nm,0.5s,mb4.7,baz=298,slow=4.6,SNR=78						
PDAR				ScP		22 10 08.5	
	comp=Z,0.7nm,0.9s,baz=342,slow=4.7,SNR=4.2						
MWC	Mount Wilson	40.64	97	eP	P	22 04 25.6	-0.7
ARUT	Antelope Range	41.05	89	eP	P	22 04 30.1	+0.5
MVU	Marysvale	41.34	87	eP	P	22 04 32.5	+0.6
	comp=Z,9.0nm,1.0s,mb4.5						
MSU	Marysvale	41.35	87	eP	P	22 04 32.5	+0.5
NEN	Nelson	41.61	92	eP	P	22 04 34.4	+0.2
LDFC	Landfair	41.84	93	eP	P	22 04 36.2	+0.2
SRU	San Rafael	41.97	85	eP	P	22 04 37.5	+0.5
PFO	Pinyon Flat Ob	42.03	96	eP	P	22 04 37.9	+0.3
	comp=Z,9.0nm,0.9s,mb4.5						
RWWY	Rawlins	42.35	80	eP	P	22 04 39.9	-0.2
BAR	Barrett	42.55	97	eP	P	22 04 41.6	-0.3
RSSD	Black Hills	42.77	75	eP	P	22 04 43.9	+0.3
	comp=Z,4.9nm,0.8s,mb4.3						
ULM	Lac du Bonnet	43.88	63	P	P	22 04 52.1	-0.3
	comp=Z,3.6nm,0.5s,mb4.3,baz=302,slow=9.0,SNR=4.3						
ISCO	Idaho Springs	44.48	81	eP	P	22 04 55.0	-2.5
	comp=Z,3.9nm,0.6s,mb4.3						
SDCO	Great Sand Dun	45.87	83	eP	P	22 05 08.3	-0.1
	comp=Z,9.3nm,0.8s,mb4.6						
TUC	Tucson	46.35	92	eP	P	22 05 11.9	-0.5
	comp=Z,11nm,0.8s,mb4.6						
TUC				epP	pP	22 05 29.0	-4.9
ANMO	Albuquerque	47.15	86	eP	P	22 05 18.3	-0.3
	comp=Z,5.3nm,1.1s,mb4.2						
SUMG	Summit	50.18	17	eP	P	22 05 42.4	+0.8
	comp=Z,12nm,0.9s,mb4.8						
SONM	Songino Array	50.95	300	P	P	22 05 48.2	+0.5
	comp=Z,1.0nm,0.6s,mb4.0,baz=79,slow=4.6,SNR=5.9						
SONM				pP	pP	22 06 07.4	-2.2
	comp=Z,2.7nm,1.0s,baz=59,slow=7.2,SNR=5.4						
SONM				PcP	PcP	22 07 03.4	+0.5
	comp=Z,9.0nm,1.1s,baz=83,slow=1.7,SNR=13						
SONM				pPcP		22 07 22.2	
	comp=Z,2.2nm,0.8s,baz=50,slow=2.5,SNR=5.0						
SONM				ScP		22 10 52.9	
	comp=Z,1.7nm,0.8s,baz=45,slow=4.0,SNR=7.1						
WMOK	Wichita Mounta	51.90	81	eP	P	22 05 53.9	-1.2
	comp=Z,8.9nm,0.8s,mb4.8						
LTX	Lajitas	52.76	89	eP	P	22 06 00.7	-0.9
TXAR	Lajitas Array	52.76	89	P	P	22 06 01.2	-0.3
	comp=Z,19nm,0.7s,mb5.2,baz=298,slow=5.6,SNR=48						
TXAR				pP	pP	22 06 18.2	-5.3
	comp=Z,6.1nm,0.8s,baz=292,slow=6.7,SNR=4.2						
TXAR				LR	LR	22 28 24.4	
	comp=Z,34nm,18.1s,baz=320,slow=36						
SSE	Sheshan	53.71	275	P	P	22 06 12.5	+3.9
SSE				AMB	AMB		
	comp=Z,22nm,0.7s,mb5.3						
JCT	Junction City	54.28	85	eP	P	22 06 11.0	-1.7
	comp=Z,13nm,0.6s,mb5.1						
SCHQ	Schefferville	54.99	44	P	P	22 06 17.0	-0.5
	comp=Z,7.7nm,0.8s,mb4.8						
SCHQ	Schefferville	54.99	44	P	P	22 06 15.9	-1.6
ZAL	Zalesovo	56.95	317	LR	LR	22 32 51.3	
	comp=Z,76nm,18.8s,baz=270,slow=38						
ARCES	ARCESS Array B	57.29	354	P	P	22 06 33.2	-0.5
	comp=Z,3.6nm,1.0s,mb4.4,baz=4.2,slow=6.0,SNR=6.0						
ARCES				PcP	PcP	22 07 26.5	-0.3
	comp=Z,5.5nm,0.8s,baz=4.9,slow=4.1,SNR=7.8						
ARCES				LR	LR	22 32 32.0	
	comp=Z,42nm,20.9s,baz=9.4,slow=37						
ARCES	ARCESS Array B	57.29	354	P	P	22 06 33.2	-0.5
ARCES				PcP	PcP	22 07 26.5	-0.3
ARCES				LR	LR	22 32 32.0	
SSPA	Standing Stone	59.69	62	eP	P	22 06 49.4	-1.5
	comp=Z,9.8nm,1.0s,mb4.8						
BRVK	Borovoye	63.18	324	eP	P	22 07 13.0	-1.1
JOF	Joensuu	63.28	350	ep	P	22 07 13.4	-1.2
	comp=Z,2.4nm,0.7s,mb4.2						
KAF	Kangasniemi	64.56	352	ep	P	22 07 21.0	-1.8
	comp=Z,2.4nm,0.5s,mb4.3,baz=29,slow=5.0						
FINES	FINESS Array B	65.24	352	P	P	22 07 26.8	-0.4
	comp=Z,2.0nm,0.6s,mb4.1,baz=24,slow=6.6,SNR=25						
FINES				LR	LR	22 35 20.0	
	comp=Z,44nm,21.2s,baz=185,slow=35						
GYA	Guiyang	65.77	282	P	P	22 07 30.8	-0.4
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
GYA				AMB	AMB		
	comp=Z,210nm,4.8s						
GYA				LR	LR		
	comp=N,250nm,18.7s						
GYA				LR	LR		
	comp=E,190nm,17.8s						
GYA				LR	LR		
	comp=Z,230nm,16.1s						
NB2	NORSAR Subarra	66.30	360	P	P	22 07 33.6	-0.4
	comp=Z,1.3nm,0.5s,mb4.0,baz=359,slow=6.2						
NOA	NORSAR Array B	66.30	360	P	P	22 07 33.5	-0.5
	comp=Z,1.4nm,0.7s,mb3.9,baz=0.4,slow=6.3,SNR=8.0						
NOA				LR	LR	22 33 43.9	
	comp=Z,20nm,20.0s,baz=345,slow=33						
LSA	Lhasa	72.15	296	P	P	22 08 09.0	-1.3
AKASG	Malin Array Be	75.48	348	P	P	22 08 28.6	-0.5
	comp=Z,3.0nm,0.6s,mb4.2,baz=13,slow=5.6,SNR=13						
AKASG				LR	LR	22 43 35.6	
	comp=Z,34nm,21.7s,baz=290,slow=37						
CLL	Collm	76.04	358	P	P	22 08 32.0	-0.3
CLL				e*PP	pP	22 08 52.0	-3.7
GUN	Gumba	76.40	298	eP	P	22 08 35.2	+0.4
	comp=Z,16nm,0.8s,mb4.8						
CM31	Chiang Mai Arr	76.45	283	eP	P	22 08 35.0	-0.3
	comp=Z,1.0nm,0.4s,mb3.9						
CMAR	Chiang Mai Arr	76.45	283	P	P	22 08 35.8	+0.5
	comp=Z,5.3nm,0.8s,mb4.3,baz=26,slow=6.5,SNR=32						
CMAR				PcP	PcP	22 08 47.8	+0.8
	comp=Z,1.6nm,0.8s,baz=31,slow=4.1,SNR=5.6						
CMAR				pP	pP	22 08 53.8	-4.9
	comp=Z,5.2nm,1.2s,baz=32,slow=6.4,SNR=3.3						
KKN	Kakani	76.81	299	eP	P	22 08 37.2	+0.1
	comp=Z,8.8nm,0.8s,mb4.5						
PKI	Pulchoki	76.92	298	eP	P	22 08 37.6	-0.1
GKN	Gorkha	76.98	299	eP	P	22 08 37.8	-0.3
	comp=Z,9.6nm,0.8s,mb4.6						
DMN	Daman	77.05	299	eP	P	22 08 38.7	+0.3
	comp=Z,8.1nm,0.8s,mb4.5						
BAIF	Baives	77.17	4	eP	P	22 08 38.7	+0.1
	comp=Z,11nm,0.8s,mb4.3						
KWP	Kalwaria	77.23	352	eP	P	22 08 39.5	+0.6
KOLN	Koldanda	77.71	300	eP	P	22 08 41.9	-0.2
	comp=Z,7.6nm,0.9s,mb4.4						
FLN	La Foliniere	78.17	7	eP	P	22 08 43.7	-0.5
	comp=Z,73nm,1.2s,mb5.0						
FLN				eR			
	comp=Z,64nm,19.9s						
KHC	Kasperske Hory	78.21	358	eP	P	22 08 45.0	+0.6
LDF	La Druitiere	78.37	7	eP	P	22 08 44.8	-0.5
GERES	GERESS Array B	78.49	358	P	P	22 08 46.7	+0.8
	comp=Z,1.0nm,0.8s,mb3.6,slow=4.0,SNR=6.6						
GRR	Gorron	78.52	8	eP	P	22 08 45.9	-0.2
	comp=Z,103nm,1.3s,mb5.2						
CDF	Champ du Feu	78.92	2	eP	P	22 08 48.4	+0.1
	comp=Z,10nm,0.9s,mb4.4						
HINF	Hinteralfeld	79.51	3	eP	P	22 08 51.3	-0.2
LOR	Lormes	79.94	5	eP	P	22 08 54.0	+0.2
	comp=Z,16nm,1.0s,mb4.5						
LOR				eR			
	comp=Z,46nm,22.0s						
SSF	Saint Saulge	80.13	5	eP	P	22 08 55.0	+0.1
	comp=Z,9.6nm,0.6s,mb4.5						
KBA	Koelnbreinsper	80.27	358	⇑iP	P	22 08 57.0	+1.4
	comp=Z,16nm,1.0s,mb4.8						
MFF	Saint Martin d	80.35	7	eP	P	22 08 56.2	+0.2
AVF	Avril sur Loir	80.39	5	eP	P	22 08 56.3	0.0
	comp=Z,9.1nm,0.8s,mb4.4						
SMF	Signal de Mont	80.56	5	eP	P	22 08 57.3	+0.1
	comp=Z,12nm,0.8s,mb4.5						
BGF	Bois d'Agland	80.60	5	eP	P	22 08 57.6	+0.3
	comp=Z,8.8nm,0.8s,mb4.3						
CABF	La Chapelle	80.69	3	eP	P	22 08 58.6	+0.8
	comp=Z,20nm,1.0s,mb4.6						
TCF	Toulx Ste Croi	80.83	6	eP	P	22 08 58.6	0.0
	comp=Z,17nm,0.9s,mb4.6						
RJF	Les Rejaudoux	81.76	6	eP	P	22 09 03.2	-0.3
RJF				eR			
	comp=Z,71nm,21.7s						
LFF	La Frestale	82.07	7	eP	P	22 09 04.8	-0.3
	comp=Z,73nm,1.2s,mb5.1						
KAKA	Kakadu	82.14	237	eP	P	22 09 11.1	+5.1
	comp=Z,9.4nm,0.9s,mb4.6						
CAF	Calviac	82.17	6	eP	P	22 09 05.9	+0.3
	comp=Z,59nm,1.3s,mb4.9						
CTA	Charters Tower	82.28	222	eP	P	22 09 06.5	-0.2
	comp=Z,6.7nm,0.9s,mb4.5						
CTA	Charters Tower	82.28	222	P	P	22 09 06.7	0.0
	comp=Z,6.8nm,0.7s,mb4.6,baz=60,slow=7.3,SNR=9.3						
ORIF	Oris-en-Rattie	82.37	3	eP	P	22 09 06.5	-0.1
VIVF	Saint-Julien-l	82.39	4	eP	P	22 09 06.3	-0.4
LASF	Ste Croix	83.12	5	eP	P	22 09 10.3	-0.2
	comp=Z,72nm,1.6s,mb4.9						
SBF	Sospel	83.47	2	eP	P	22 09 12.4	+0.2
	comp=Z,39nm,1.0s,mb4.9						
FRF	La Foret Royal	83.75	3	eP	P	22 09 13.7	+0.2
MTLF	Montolieu	83.76	6	eP	P	22 09 13.6	0.0
EPF	Esparros	83.94	8	eP	P	22 09 14.4	0.0
	comp=Z,11nm,0.8s,mb4.4						
LMR	La Mourre	83.98	3	eP	P	22 09 14.6	0.0
ETSF	Etsaut	83.99	8	eP	P	22 09 14.9	+0.2
	comp=Z,19nm,0.9s,mb4.6						
BRTR	Keskin Array B	85.51	342	P	P	22 09 24.4	+2.0
	comp=Z,0.7nm,0.4s,mb3.9,baz=18,slow=3.9,SNR=4.3						
ESDC	Sonseca Array	86.84	11	P	P	22 09 30.0	+1.2
	comp=Z,4.0nm,0.7s,mb4.5,baz=348,slow=4.6,SNR=12						
WB2	Warramunga Arr	87.37	232	eP	P	22 09 31.6	-0.3
WRA	Warramunga Arr	87.38	232	P	P	22 09 31.4	-0.5
	comp=Z,3.2nm,0.6s,mb4.5,baz=36,slow=5.8,SNR=24						
WRA				pP	pP	22 09 50.4	-5.5
	comp=Z,2.1nm,0.7s,baz=32,slow=5.7,SNR=5.1						
EVO	Evora	87.42	15	eP	P	22 09 30.0	-1.7
	comp=Z,21nm,1.1s,mb4.7						
EVO				eR			
	comp=Z,61nm,20.2s						
HYB	Hyderabad	88.82	298	i P	P	22 09 38.5	-0.3
HYB	Hyderabad	88.82	298	eP	P	22 09 38.5	-0.3
FITZ	Fitzroy Crossi	90.15	240	eP	P	22 09 45.2	+0.1
	comp=Z,2.5nm,0.7s,mb4.5						
OTAV	Otavalo	90.39	89	P	P	22 09 48.5	+2.2
	comp=Z,3.9nm,0.8s,mb4.6						
ASAR	Alice Springs	90.78	230	P	P	22 09 48.1	+0.2
	comp=Z,5.9nm,0.8s,mb4.8,baz=32,slow=4.5,SNR=43						
ASAR				pP	pP	22 10 06.8	-5.3
	comp=Z,6.4nm,0.9s,baz=26,slow=4.7,SNR=11						
ASPA	Alice Springs	90.78	230	eP	P	22 09 48.1	+0.2
ASF	Jabal al Asfar	92.14	338	LR	LR	22 55 29.0	
	comp=Z,11nm,21.3s,baz=97,slow=38						
DBIC	Dimbokro	119.12	18	PKP	PKPdf	22 15 34.3	+1.9
	comp=Z,1.7nm,0.4s,baz=239,slow=2.1,SNR=8.2						
VNDA	Vanda	131.48	188	PKP	PKPdf	22 15 56.0	+1.5
	comp=Z,0.5nm,0.5s,baz=314,slow=1.9,SNR=4.7						
VNDA				SKPbc		22 19 12.0	
	comp=Z,1.5nm,1.1s,baz=348,slow=3.7,SNR=6.0						
QSPA	South Pole Qui	142.77	180	ePKP	PKPdf	22 16 11.8	-2.9
QSPA				e		22 19 46.9	
TSUM	Tsumeb	145.83	348	ePKP	PKPdf	22 16 23.9	+2.2
MAW	Mawson	151.35	219	eP	PKPdf	22 16 37.1	+8.0
	comp=Z,7.7nm,1.1s						
MAW				e		22 16 45.9	
MAW	Mawson	151.35	219	PKPbc	PKPdf	22 16 37.2	+8.1
	comp=Z,6.2nm,0.7s,baz=91,slow=1.3,SNR=16						
MAW				PKPab	PKPab	22 16 45.5	-0.5
	comp=Z,18nm,0.9s,baz=100,slow=5.3,SNR=19						
VNA3	Neumayer Olymp	159.60	161	⇓i	PKPdf	22 16 56.4	+17
VNA3	Neumayer Olymp	159.60	161	⇓i	PKPdf	22 17 02.1	+22
VNA3	Neumayer Olymp	159.60	161	⇑i	PKPab	22 17 21.0	-0.1
VNA3	Neumayer Olymp	159.60	161	⇑iP	PKPdf	22 16 42.3	+2.4
VNA3				⇓iP		22 16 56.4	
VNA3				⇓iP		22 17 02.1	
VNA2	Neumayer--Watz	160.29	162	⇑i	PKPdf	22 16 58.6	+18
VNA2	Neumayer--Watz	160.29	162	⇑i	PKPdf	22 17 03.8	+23
VNA2	Neumayer--Watz	160.29	162	⇑i	PKPab	22 17 25.3	+1.3
VNA2	Neumayer--Watz	160.29	162	⇑iP	PKPdf	22 16 43.4	+2.8
VNA2				⇑iP		22 16 58.6	
VNA2				⇑iP		22 17 03.8	
SNAA	Sanae	160.35	167		PKPdf	22 16 39.9	-0.8
SNAA	Sanae	160.35	167	⇑i	PKPab	22 17 18.6	-5.7
SNAA	Sanae	160.35	167		PKPab	22 17 33.4	+9.1
VNA1	Neumayer--Stat	160.36	161	⇑i	PKPdf	22 17 02.8	+22
VNA1	Neumayer--Stat	160.36	161	⇓iP	PKPdf	22 16 42.1	+1.4
VNA1				⇑iP		22 17 02.8	

IDC ***15*** *22:19:37.9±1.5, 55.25N×165.76E, mb4.0/9, mb1 4.3/11, mb1mx4.0/24, ML3.4/1, MS2.8/1, Ms1 2.8/1, ms1mx2.2/29, Error ellipse: s-maj=41.6km s-min=14.0km az=35.0*

MOS ***15*** *22:19:42.4±3.2, 54.81N×165.43E, h41km, mb4.4/5, Error ellipse: s-maj=19.6km s-min=15.8km az=64.8*

NEIC ***15*** *22:19:42.4±1.1, 55.04N×165.68E, h42km±13km, mb4.3/6, Error ellipse: s-maj=14.3km s-min=9.7km az=182.0*

KRSC ***15*** *22:19:42.1±1.3, 54.94N×165.60E, h30km±4km, ML4.4*

ISC 15 22:19:40.7±0.5**, 54.89N**±0.04×**165.73E**±0.05**, h47**km±5km**, n55,** σ**1§24**/81**, mb4.0**/15**, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKI	**Bering**	**0.34**	**24**	*i* P	**P**	**22 19 48.6**	**-1.4**
BKI				*e*S	**S**	**22 19 54.1**	**-2.5**
BKI				Smax			
	4μm,0.3s						
KBTR	**Krutoberegovo**	**2.12**	**310**	P	**P**	**22 20 14.1**	**-0.3**
KBTR				S	**S**	**22 20 37.7**	**-1.8**
KBTR	**Krutoberegovo**	**2.12**	**310**	*e*P	**P**	**22 20 14.2**	**-0.2**
KBTR				*e*S	**S**	**22 20 37.8**	**-1.7**
MKZ	**Mys Kozlova**	**2.35**	**263**	P	**P**	**22 20 18.1**	**+0.5**
MKZ				S	**S**	**22 20 44.7**	**-0.6**
MKZ	**Mys Kozlova**	**2.35**	**263**	*e*P	**P**	**22 20 18.0**	**+0.4**
MKZ				*e*S	**S**	**22 20 44.8**	**-0.5**
ZLN	**Zelenaya**	**3.03**	**294**	*e*P	**P**	**22 20 28.6**	**+1.3**
ZLN				*e*S	**S**	**22 21 02.1**	**-0.5**
CIRR	**Tsirk**	**3.09**	**295**	*e*P	**P**	**22 20 29.8**	**+1.6**
CIRR				*e*S	**S**	**22 21 04.3**	**+0.1**
LGNR	**Loginova**	**3.11**	**295**	*e*P	**P**	**22 20 30.3**	**+1.8**
LGNR				*e*S	**S**	**22 21 06.7**	**+2.0**
KLY	**Klyuchi**	**3.22**	**298**	*e*S	**S**	**22 21 06.2**	**-1.2**
KRSR	**Krestovskiy**	**3.22**	**296**	*e*P	**P**	**22 20 31.4**	**+1.3**
KRSR				*e*S	**S**	**22 21 06.7**	**-0.9**
TUMR	**Tumrok**	**3.23**	**279**	*e*P	**P**	**22 20 31.6**	**+1.3**
TUMR				*e*S	**S**	**22 21 07.5**	**-0.4**
KMNR	**Kamenistaya**	**3.26**	**288**	*e*P	**P**	**22 20 32.7**	**+2.1**
KMNR				*e*S	**S**	**22 21 09.0**	**+0.5**
KOZ	**Kozyrevsk**	**3.53**	**292**	*e*P	**P**	**22 20 36.8**	**+2.3**
KOZ				*e*S	**S**	**22 21 17.0**	**+1.5**
SRDR	**Sredinnyy**	**3.70**	**295**	*e*P	**P**	**22 20 37.4**	**+0.6**
SPN	**Mys Shipunski**	**3.82**	**244**	P	**P**	**22 20 38.3**	**-0.2**
SPN				S	**S**	**22 21 18.8**	**-3.8**
SPN	**Mys Shipunski**	**3.82**	**244**	*e*P	**P**	**22 20 38.6**	**+0.1**
SPN				*i* S	**S**	**22 21 19.3**	**-3.3**
ESO	**Esso**	**4.14**	**287**	*e*P	**P**	**22 20 44.5**	**+1.5**
NLC	**Nalytchevo**	**4.14**	**248**	P	**P**	**22 20 43.7**	**+0.6**
NLC				S	**S**	**22 21 27.7**	**-3.1**
SDLR	**Sedlovina**	**4.34**	**251**	*e*P	**P**	**22 20 46.6**	**+0.7**
SDLR				*e*S	**S**	**22 21 34.5**	**-1.4**
SMAR	**Somma**	**4.40**	**251**	*e*P	**P**	**22 20 47.6**	**+1.0**
SMAR				*e*S	**S**	**22 21 36.3**	**-0.9**
UGLR	**Uglovaya**	**4.41**	**250**	*e*P	**P**	**22 20 47.6**	**+0.8**
UGLR				*e*S	**S**	**22 21 35.8**	**-1.7**
AVH	**Avacha**	**4.43**	**251**	*e*P	**P**	**22 20 48.1**	**+1.0**
AVH				*e*S	**S**	**22 21 35.2**	**-2.8**
KOK	**Koryaka**	**4.47**	**252**	*e*P	**P**	**22 20 48.6**	**+0.8**
KOK				*e*S	**S**	**22 21 36.3**	**-2.9**
PET	**Petropavlovsk**	**4.58**	**249**	P	**P**	**22 20 49.8**	**+0.6**
PET				*e*S	**S**	**22 21 38.1**	**-3.7**
PET	**Petropavlovsk**	**4.58**	**249**	Pn	**P**	**22 20 50.0**	**+0.7**
GNL	**Ganaly**	**4.72**	**258**	*e*P	**P**	**22 20 52.7**	**+1.5**
GNL				*e*S	**S**	**22 21 44.5**	**-0.8**
FX1	**Attu Island--F**	**4.83**	**112**	Pn	**P**	**22 20 51.7**	**-1.1**
	5.3nm,0.3s,baz=106,slow=21,SNR=24						
FX1				Sn	**S**	**22 21 41.4**	**-6.8**
	6.6nm,0.3s,baz=188,slow=19,SNR=14						
RUS	**Russkaya**	**4.95**	**243**	P	**P**	**22 20 54.5**	**+0.1**
RUS				S	**S**	**22 21 45.9**	**-5.2**
RUS	**Russkaya**	**4.95**	**243**	*e*P	**P**	**22 20 54.3**	**-0.1**
RUS				*e*S	**S**	**22 21 47.2**	**-3.9**
GRL	**Gorelyy**	**5.12**	**246**	*e*P	**P**	**22 20 57.9**	**+1.2**
GRL				*e*S	**S**	**22 21 52.2**	**-3.1**
APC	**Apacha**	**5.44**	**252**	*e*S	**S**	**22 22 03.5**	**+0.1**
KAMR	**Kamenskoye**	**7.59**	**2**	*e*P	**P**	**22 21 31.2**	**-0.2**
KAMR				*e*S	**S**	**22 22 54.3**	**-2.7**
ASAJ	**Asahikawa**	**18.40**	**244**	LR	LR	22 30 08.1	
	comp=Z,34nm,21.4s,baz=351,slow=34						
MCK	**McKinley**	**24.26**	**50**	*e*P	**P**	**22 24 54.0**	**+0.1**
	2.2nm,0.9s,mb3.6						
ILAR	**Eielson Array**	**25.16**	**48**	P	**P**	**22 25 01.9**	**-0.7**
	3.9nm,0.6s,mb4.1,baz=258,slow=8.5,SNR=41						
ILAR	**Eielson Array**	**25.16**	**48**	P	**P**	**22 25 01.9**	**-0.6**
ILAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
INK	**Inuvik**	**30.38**	**40**	P	**P**	**22 25 49.1**	**-0.7**
	comp=Z,1.6nm,0.4s,mb4.1,baz=309,slow=7.4,SNR=11						
INK	**Inuvik**	**30.38**	**40**	P	**P**	**22 25 49.2**	**-0.6**
INK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
INK	**Inuvik**	**30.38**	**40**	*e*P	**P**	**22 25 49.0**	**-0.8**
	comp=Z,2.0nm,0.5s,mb4.1						
KURK	**Kurchatov**	**49.57**	**303**	*e*P	**P**	**22 28 28.2**	**-0.2**
	comp=Z,1.3nm,0.4s,mb4.3						
BVAR	**Borovoye Array**	**51.83**	**310**	P	**P**	**22 28 45.5**	**0.0**
	comp=Z,0.6nm,0.7s,mb3.7,baz=37,slow=7.4,SNR=5.2						
NVAR	**Mina Array Bea**	**52.03**	**75**	P	**P**	**22 28 48.2**	**+1.0**
	comp=Z,0.8nm,0.5s,mb3.9,baz=313,slow=6.4,SNR=9.3						
ZRNK	**Zerenda**	**52.49**	**311**	*e*P	**P**	**22 28 50.1**	**-0.4**
	comp=Z,2.0nm,0.5s,mb4.3						
ARCES	**ARCESS Array B**	**52.56**	**344**	P	**P**	**22 28 50.0**	**-0.8**
	comp=Z,6.8nm,1.1s,mb4.5,baz=37,slow=6.1,SNR=3.6						
ARCES	**ARCESS Array B**	**52.56**	**344**	P	**P**	**22 28 50.0**	**-0.8**
ARCES				pmax	pmax		
	comp=Z,7.0nm,1.1s						
PDAR	**Pinedale Array**	**53.74**	**65**	P	**P**	**22 29 00.3**	**+0.4**
	comp=Z,1.0nm,0.9s,mb3.8,baz=333,slow=3.3,SNR=6.4						
TPNV	**Topopah Spring**	**54.23**	**75**	*e*P	**P**	**22 29 04.0**	**+0.4**
	comp=Z,3.3nm,1.1s,mb4.2						
ARU	**Arti**	**54.27**	**319**	*e*P	**P**	**22 29 00.1**	**-3.5**
	comp=Z,5.9nm,0.6s,mb4.7						
FINES	**FINESS Array B**	**59.72**	**339**	P	**P**	**22 29 41.2**	**-1.0**
	comp=Z,1.6nm,0.8s,mb4.1,baz=14,slow=7.9,SNR=8.5						
FINES	**FINESS Array B**	**59.72**	**339**	P	**P**	**22 29 41.2**	**-1.0**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	**FINESS Array B**	**59.72**	**339**	P	**P**	**22 29 41.2**	**-1.0**
NOA	**NORSAR Array B**	**62.67**	**346**	P	**P**	**22 30 01.1**	**-1.0**
	comp=Z,0.9nm,0.6s,mb4.1,baz=17,slow=6.5,SNR=5.1						
NOA	**NORSAR Array B**	**62.67**	**346**	P	**P**	**22 30 01.1**	**-1.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**66.89**	**72**	P	**P**	**22 30 30.1**	**+0.3**
	comp=Z,0.7nm,0.5s,mb4.0,baz=304,slow=4.5,SNR=4.8						
GERES	**GERESS Array B**	**74.00**	**341**	P	**P**	**22 31 13.3**	**+1.0**
	comp=Z,0.4nm,0.7s,mb3.5,baz=23,slow=7.5,SNR=3.1						

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*GUC **15** 22:26:16.5±0.9, 33.76S×72.07W, h36km±2km, MD3.9, ML4.0*
*NEIC **15** 22:26:16.5, 33.76S×72.07W, h36km, MD3.9(GUC), After GUC.*
ISC 15 22:26:15.9±1.0**, 33.75S**±0.03×**72.11W**±0.05**, h20**km±6km**, n32, σ0ˢ68**/49**, 18C-4D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.62**	**110**	⇓*i*P	**Pb**	**22 26 28.3**	**+0.3**
LNV				*i* S	**Sb**	**22 26 37.0**	**+0.9**
IHA	**Instituto Hidr**	**0.82**	**29**	*i* P	**Pb**	**22 26 31.9**	**+0.5**
IHA				*i* S	**Sb**	**22 26 42.6**	**+0.7**
TACH	**Talagante**	**0.98**	**85**	⇑*i*P	**Pb**	**22 26 33.4**	**-0.8**
TACH				*i* S	**Sb**	**22 26 46.9**	**+0.2**
RCDM	**Rinconada Maip**	**1.12**	**77**	⇑*i*P	**Pb**	**22 26 35.3**	**-1.1**
RCDM				*i* S	**Sb**	**22 26 50.2**	**-0.3**
RCDM				AMP		22 26 52.4	
	comp=E,5μm,0.1s						
PUEX	**Pudahuel**	**1.17**	**75**	⇑*i*P	**Pb**	**22 26 36.8**	**-0.6**
PUEX				*i* S	**Sb**	**22 26 52.3**	**+0.2**
PUEX				AMP		22 27 01.0	
	comp=N,5μm,0.5s						
CHCH	**Chadas Angostu**	**1.23**	**99**	⇑*i*P	**Pn**	**22 26 37.5**	**-0.6**
CHCH				*i* S	**Sb**	**22 26 53.3**	**-0.4**
ANTU	**Antumapu**	**1.25**	**82**	⇑*i*P	**Pn**	**22 26 37.8**	**-0.7**
ANTU				*i* S	**Sb**	**22 26 54.2**	**-0.1**
ANTU				AMP		22 26 56.0	
	comp=N,4μm,0.5s						
SAN	**Santiago**	**1.25**	**77**	*i* P	**Pn**	**22 26 38.1**	**-0.3**
SAN				*i* S	**Sb**	**22 26 54.3**	**+0.1**
SAN				AMP		22 26 58.2	
	comp=E,3μm,0.3s						
SFDO	**San Fernando**	**1.25**	**134**	*i* P	**Pn**	**22 26 38.1**	**-0.4**
STL	**Santa Lucia**	**1.27**	**76**	⇑*i*P	**Pn**	**22 26 38.0**	**-0.7**
STL				*i* S	**Sb**	**22 26 54.4**	**-0.4**
CACH	**El Canelo**	**1.31**	**107**	⇑*i*P	**Pn**	**22 26 39.6**	**+0.3**
CACH				*i* S	**Sb**	**22 26 56.9**	**+0.8**
PACH	**Papudo**	**1.33**	**25**	*i* P	**Pn**	**22 26 40.4**	**+0.7**
PACH				*i* S	**Sb**	**22 26 57.8**	**+1.1**
DSCH	**Colegio Aleman**	**1.33**	**75**	*i* P	**Pn**	**22 26 39.5**	**-0.2**
DSCH				*i* S	**Sb**	**22 26 57.1**	**+0.3**
DSCH				AMP		22 27 07.3	
	comp=N,4μm,0.3s						
PEL	**Peldehue**	**1.34**	**64**	⇑*i*P	**Pn**	**22 26 39.8**	**+0.1**
PEL				*i* S	**Sb**	**22 26 56.9**	**+0.1**
PEL				AMP		22 27 02.7	
	comp=N,7μm,0.6s						
PCH	**Pirque**	**1.34**	**85**	⇑*i*P	**Pn**	**22 26 39.1**	**-0.6**
PCH				*i* S	**Sb**	**22 26 56.5**	**-0.4**
FSR	**Penalolen**	**1.35**	**79**	⇑*i*P	**Pn**	**22 26 39.8**	**-0.1**
FSR				*i* S	**Sb**	**22 26 56.8**	**-0.4**
FSR				AMP		22 27 04.1	
	comp=E,3μm,0.5s						
CLCH	**Cerro Calan**	**1.36**	**76**	*i* P	**Pn**	**22 26 39.8**	**-0.3**
CLCH				*i* S	**Sb**	**22 26 58.0**	**+0.5**
CLCH				AMP		22 27 01.9	
	comp=E,3μm,0.4s						
CLCH				AMP		22 27 11.0	
	comp=E,3μm,0.6s						
SJCH	**San Jose de Ma**	**1.47**	**86**	⇑*i*P	**Pn**	**22 26 40.4**	**-1.2**
SJCH				*i* S	**Sn**	**22 26 59.4**	**-1.0**
SJCH				AMP		22 27 00.2	
	comp=E,2μm,0.4s						
CICH	**Cipreses**	**1.52**	**113**	⇑*i*P	**Pn**	**22 26 42.1**	**-0.2**
CICH				*i* S	**Sn**	**22 27 02.2**	**+0.6**
FCH	**Farellones**	**1.58**	**75**	⇓*i*P	**Pn**	**22 26 43.2**	**+0.1**
FCH				*i* S	**Sn**	**22 27 04.1**	**+1.0**
FCH				AMP		22 27 08.5	
	comp=N,3μm,0.2s						
LMEL	**Las Melosas**	**1.59**	**94**	*i* P	**Pn**	**22 26 43.2**	**-0.1**
LMEL				*i* S	**Sn**	**22 27 04.4**	**+0.9**
LMEL				AMP		22 27 06.5	
	comp=N,4μm,0.3s						
JACH	**Jahuel**	**1.66**	**51**	⇓*i*P	**Pn**	**22 26 44.7**	**+0.4**
JACH				*i* S	**Sn**	**22 27 05.7**	**+0.5**
CMCH	**Combarbala**	**2.73**	**20**	⇑*i*P	**Pn**	**22 26 59.2**	**-0.5**
CMCH				*i* S	**Sn**	**22 27 31.4**	**-1.1**
CMCH				AMP		22 27 48.0	
	comp=N,3μm,0.4s						
CCHI	**Chillan**	**2.85**	**179**	AMP		22 27 59.1	
	comp=N,1μm,0.7s						
TLL	**Tololo Astrono**	**3.74**	**18**	AMP		22 28 24.9	
	comp=N,489nm,0.7s						
VNA3	**Neumayer Olymp**	**49.62**	**158**	⇑*i*	**P**	**22 35 08.7**	**+1.2**
VNA3	**Neumayer Olymp**	**49.62**	**158**	⇑*i*	pP	22 35 14.7	+1.1
VNA1	**Neumayer--Stat**	**49.93**	**157**	⇓*i*	**P**	**22 35 11.0**	**+1.1**
VNA2	**Neumayer--Watz**	**50.27**	**157**		**P**	**22 35 13.8**	**+1.3**
VNA2	**Neumayer--Watz**	**50.27**	**157**	⇑*i*	pP	22 35 18.8	+0.2
SNAA	**Sanae**	**51.84**	**158**	⇑*i*	**P**	**22 35 22.8**	**-1.6**
SNAA	**Sanae**	**51.84**	**158**	⇑*i*	pP	22 35 28.9	-1.7

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*IDC **15** 22:40:23.1±0.6, 8.08S×67.98E, mb4.0/11, mb1 4.2/12, mb1mx4.1/17, MS4.0/13, Ms1 4.0/13, ms1mx3.8/23, Error ellipse: s-maj=25.5km s-min=17.5km az=77.0*
*BJI **15** 22:40:24.0, 8.10S×68.10E, h10km, mb5.2, Ms4.6, Msz4.3*
*HRVD **15** 22:40:25.1±0.4, 8.41S×68.26E, h12km, MW5.0/60, Centroid moment Tensor Solution. LP body waves: s22,c34;Mantle waves: s60,c92; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.60±.09; Mθθ1.38±.10; Mφφ1.23±.10; Mrθ-0.83±.34; Mθφ-1.42±.08; Mφr-1.89±.34; Best double couple: Mo3.28×10^16 NP1:φs111°, δ43°, λ-132°. NP2:φs342°, δ60°, λ-58°. Principal axes: T 2.84, Plg9°, Azm50°; N .89, Plg27°, Azm145°; P -3.72, Plg61°, Azm302°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **15** 22:40:25.1±0.3, 8.05S×68.08E, h10km, mb4.9/7 Error ellipse: s-maj=11.9km s-min=9.4km az=89.0*
ISC 15 22:40:23.3±0.4**, 8.07S**±0.07×**68.08E**±0.09**, h10**km**, n52, σ1ˢ05**/40**, mb4.6**/26**, MS4.1**/14**, 5C-2D, Chagos Archipelago region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRD	**Trivandrum**	**18.69**	**28**	*i* P	Px	22 44 55.4	
TRD				*i*	Sx	22 48 31.4	
KMBO	**Kilima Mbogo**	**31.47**	**281**	*e*P	**P**	**22 46 48.2**	**+0.6**
KOLN	**Koldanda**	**38.66**	**22**	*e*P	**P**	**22 47 48.9**	**0.0**
	60nm,1.3s,mb5.2						
DMN	**Daman**	**39.10**	**24**	*e*P	**P**	**22 47 54.3**	**+1.6**
	64nm,1.1s,mb5.3						
PKI	**Pulchoki**	**39.20**	**25**	*e*P	**P**	**22 47 55.5**	**+2.1**
	17nm,1.0s,mb4.8						
GKN	**Gorkha**	**39.27**	**23**	*e*P	**P**	**22 47 54.2**	**+0.2**
	71nm,1.2s,mb5.3						
KKN	**Kakani**	**39.34**	**24**	*e*P	**P**	**22 47 55.7**	**+1.1**
	37nm,1.1s,mb5.0						
LSZ	**Lusaka**	**39.67**	**256**	*e*P	**P**	**22 47 57.2**	**-0.3**
	29nm,1.6s,mb4.8						
GUN	**Gumba**	**39.69**	**25**	*e*P	**P**	**22 47 58.3**	**+0.8**
	94nm,1.4s,mb5.3						
CMAR	**Chiang Mai Arr**	**40.27**	**49**	P	**P**	**22 48 03.0**	**+0.6**
	209nm,0.3s,baz=244,slow=8.4,SNR=27						
CMAR				LR	LR	23 02 03.5	
	comp=Z,164nm,20.6s,baz=245,slow=32						
KMI	**Kunming**	**47.19**	**45**	*e*P	**P**	**22 48 58.9**	**+0.5**
KMI				S	**S**	**22 55 48.3**	**-1.9**
GYA	**Guiyang**	**50.79**	**46**	P	**P**	**22 49 25.0**	**-1.1**
CD2	**Chengdu**	**51.67**	**40**	*e*P	**P**	**22 49 32.0**	**-0.7**
CD2				AMB	AMB		
	comp=Z,33nm,1.2s,mb5.1						
WMQ	**Urumqi**	**54.62**	**17**	*e*P	**P**	**22 49 55.8**	**+1.4**
GTA	**Gaotai**	**55.64**	**30**	*e*P	**P**	**22 50 01.8**	**-0.1**
GTA				AP	pP	22 50 07.3	+2.3
GTA				XP	sP	22 50 10.8	+4.6
GTA				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb4.3						
GTA				LR	LR		
	comp=N,172nm,17.9s,MS4.4						
GTA				LR	LR		
	comp=E,277nm,20.5s,MS4.4						
GTA				LR	LR		
	comp=Z,279nm,20.2s,MS4.3						
BRTR	**Keskin Array B**	**57.24**	**329**	P	**P**	**22 50 11.8**	**-1.6**
	comp=Z,2.2nm,0.9s,mb4.2,baz=148,slow=12,SNR=11						
BRTR				LR	LR	23 15 10.8	
	comp=Z,53nm,19.7s,MS3.6,baz=170,slow=36						
KURK	**Kurchatov**	**59.25**	**8**	*e*P	**P**	**22 50 26.8**	**-0.4**
MAW	**Mawson**	**59.56**	**182**	P	**P**	**22 50 27.8**	**-1.4**
	comp=Z,4.0nm,1.0s,mb4.4,baz=344,slow=7.3,SNR=6.8						
MAW				LR	LR	23 10 21.2	
	comp=Z,87nm,19.0s,MS3.9,baz=54,slow=30						
MAW	**Mawson**	**59.56**	**182**	*e*P	**P**	**22 50 28.0**	**-1.1**
BVAR	**Borovoye Array**	**60.88**	**2**	P	**P**	**22 50 37.1**	**-1.3**
	comp=Z,2.6nm,1.1s,mb4.3,baz=315,slow=2.1,SNR=3.6						
BRVK	**Borovoye**	**60.91**	**2**	*e*P	**P**	**22 50 38.6**	**+0.1**
	comp=Z,13nm,1.1s,mb5.0						
ZAL	**Zalesovo**	**63.36**	**11**	P	**P**	**22 50 54.0**	**-1.0**
	comp=Z,1.0nm,0.4s,mb4.3,baz=47,slow=20,SNR=1.9						
ZAL				LR	LR	23 19 46.3	
	comp=Z,240nm,19.0s,MS4.4,baz=270,slow=37						
ZAL	**Zalesovo**	**63.36**	**11**	P	**P**	**22 50 54.0**	**-1.0**
ZAL				LR	LR	23 19 46.3	
ASAR	**Alice Springs**	**64.69**	**112**	P	**P**	**22 51 03.5**	**-0.7**
	comp=Z,0.6nm,0.7s,mb3.7,baz=278,slow=6.4,SNR=4.2						
ASAR				LR	LR	23 13 35.3	
	comp=Z,110nm,21.1s,MS4.0,baz=12,slow=31						
ARU	**Arti**	**64.74**	**354**	P	**P**	**22 51 03.5**	**-0.4**
	comp=Z,24nm,1.1s,mb5.2						
WRA	**Warramunga Arr**	**65.02**	**108**	P	**P**	**22 51 05.5**	**-0.9**
	comp=Z,2.5nm,1.1s,mb4.1,baz=273,slow=5.3,SNR=6.1						
WRA				LR	LR	23 16 05.5	
	comp=Z,169nm,19.8s,MS4.2,baz=290,slow=33						
WRAB	**Tennant Creek**	**65.03**	**108**	*e*P	**P**	**22 51 05.6**	**-0.8**
	comp=Z,8.4nm,0.9s,mb4.8						
SONM	**Songino Array**	**65.13**	**27**	P	**P**	**22 51 06.9**	**+0.3**
	comp=Z,1.6nm,0.7s,mb4.1,baz=225,slow=5.2,SNR=10						
AKASG	**Malin Array Be**	**67.49**	**334**	P	**P**	**22 51 18.9**	**-2.7**
	comp=Z,0.6nm,0.6s,mb3.8,baz=135,slow=5.1,SNR=7.1						
STKA	**Stephens Creek**	**71.80**	**121**	LR	LR	23 17 41.9	
	comp=Z,98nm,20.9s,MS4.0,baz=205,slow=31						
DBIC	**Dimbokro**	**74.19**	**279**	LR	LR	23 24 20.1	
	comp=Z,108nm,18.7s,MS4.2,baz=110,slow=36						
CLL	**Collm**	**75.68**	**328**	*i* P	**P**	**22 52 16.6**	**+6.0**
	comp=Z,32nm,1.7s,mb5.0						
GRA1	**Grafenberg Arr**	**75.78**	**326**	*e*P	**P**	**22 52 10.4**	**-0.8**
	comp=Z,11nm,1.2s,mb4.7						
CTA	**Charters Tower**	**76.21**	**109**	LR	LR	23 21 45.2	
	comp=Z,178nm,21.9s,MS4.3,baz=227,slow=32						
SNAA	**Sanae**	**76.43**	**198**	⇑*i*	**P**	**22 52 14.4**	**0.0**
SNAA	**Sanae**	**76.43**	**198**		PcP	22 52 25.0	-1.6
SNAA	**Sanae**	**76.43**	**198**	P	**P**	**22 52 14.2**	**-0.2**
	comp=Z,0.6nm,1.0s,baz=90,slow=9.9,SNR=5.0						
FINES	**FINESS Array B**	**76.62**	**341**	LR	LR	23 26 26.4	
	comp=Z,68nm,18.9s,MS4.0,baz=340,slow=36						
VNA2	**Neumayer--Watz**	**77.69**	**199**	⇓*i*	**P**	**22 52 24.3**	**+2.9**
VNA2	**Neumayer--Watz**	**77.69**	**199**	⇓*i*	PcP	22 52 34.2	+2.2
VNA2	**Neumayer--Watz**	**77.69**	**199**	⇑*i*	Px	22 52 58.7	
VNA3	**Neumayer Olymp**	**78.47**	**199**	⇑*i*	**P**	**22 52 26.5**	**+0.8**
VNA3	**Neumayer Olymp**	**78.47**	**199**	⇑*i*	**P**	**22 52 28.0**	**+2.3**
VNA3	**Neumayer Olymp**	**78.47**	**199**		PcP	22 52 37.8	+2.4
VNA3	**Neumayer Olymp**	**78.47**	**199**	⇑*i*	Px	22 53 01.7	
ESDC	**Sonseca Array**	**81.55**	**312**	P	**P**	**22 52 42.7**	**0.0**
	comp=Z,4.2nm,1.0s,mb4.3,baz=92,slow=5.2,SNR=6.8						
QSPA	**South Pole Qui**	**81.97**	**180**	*e*P	**P**	**22 52 44.3**	**+0.1**
	comp=Z,5.2nm,1.0s,mb4.4						
QSPA				LR	LR		
	comp=Z,80nm,21.8s,MS4.0						
ARCES	**ARCESS Array B**	**82.76**	**346**	P	**P**	**22 52 49.8**	**+1.3**
	comp=Z,3.7nm,0.9s,mb4.4,baz=166,slow=5.0,SNR=10						
ARCES				LR	LR	23 27 29.4	
	comp=Z,80nm,20.1s,MS4.1,baz=192,slow=34						
VNDA	**Vanda**	**83.00**	**167**	P	**P**	**22 52 50.6**	**+1.0**
	comp=Z,0.5nm,0.7s,mb3.6,baz=285,slow=4.1,SNR=4.9						
VNDA				LR	LR	23 24 25.4	
	comp=Z,65nm,19.4s,MS4.0,baz=264,slow=32						
ASAJ	**Asahikawa**	**84.62**	**44**	LR	LR	23 34 32.8	
	comp=Z,64nm,18.1s,MS4.0,baz=166,slow=38						
PDAR	**Pinedale Array**	**145.37**	**357**	PKPbc	PKPbc	23 00 03.2	+1.0
	comp=Z,12nm,1.4s,slow=3.0,SNR=9.0						
NVAR	**Mina Array Bea**	**149.22**	**10**	PKPbc	PKPdf	23 00 14.9	+3.7
	comp=Z,0.9nm,0.8s,baz=26,slow=1.8,SNR=7.3						

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*IDC **15** 22:40:32.4±0.7, 18.31N×146.55E, mb4.1/12, mb1 4.3/13, mb1mx4.2/22, MS3.2/1, Ms1 3.2/1, ms1mx2.3/23, Error ellipse: s-maj=30.1km s-min=15.1km az=97.0*
*NEIC **15** 22:40:43.0±4.4, 18.24N×146.52E, h83km±40km, mb4.3/5, Error ellipse: s-maj=20.2km s-min=7.8km az=90.0*
ISC 15 22:40:36.1±0.6**, 18.25N**±0.07×**146.4E**±0.2**, h33**km**, n25, σ0ˢ73**/23**, mb4.1**/16**, MS3.0**/1**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MAJO	**Matsushiro**	**19.62**	**340**	P	**P**	**22 45 05.7**	**+1.1**
	8.8nm,0.8s						
ASAJ	**Asahikawa**	**26.00**	**354**	LR	LR	22 55 53.1	
	comp=Z,52nm,21.1s,MS3.0,baz=159,slow=36						
WRAB	**Tennant Creek**	**39.75**	**198**	*e*P	**P**	**22 48 07.7**	**+0.1**
	4.1nm,0.5s,mb4.4						
WB2	**Warramunga Arr**	**39.76**	**198**	*e*P	**P**	**22 48 07.5**	**-0.1**
WRA	**Warramunga Arr**	**39.77**	**198**	P	**P**	**22 48 07.9**	**+0.3**
	1.0nm,0.3s,mb4.0,baz=27,slow=8.6,SNR=9.0						
FITZ	**Fitzroy Crossi**	**41.51**	**211**	*e*P	**P**	**22 48 22.8**	**+0.7**
	3.9nm,0.9s,mb4.0						
FITZ	**Fitzroy Crossi**	**41.51**	**211**	P	**P**	**22 48 22.2**	**+0.1**
	1.3nm,0.4s,mb3.9,baz=8.5,slow=13,SNR=7.5						
ASAR	**Alice Springs**	**43.42**	**197**	P	**P**	**22 48 37.3**	**-0.4**
	1.4nm,0.9s,mb3.7,baz=19,slow=7.0,SNR=12						
ASPA	**Alice Springs**	**43.42**	**197**	*e*P	**P**	**22 48 38.5**	**+0.8**
SONM	**Songino Array**	**43.94**	**321**	P	**P**	**22 48 41.2**	**-0.4**
	0.7nm,0.4s,mb3.8,baz=140,slow=8.4,SNR=4.9						
STKA	**Stephens Creek**	**50.05**	**185**	P	**P**	**22 49 29.8**	**0.0**
	3.0nm,0.8s,mb4.4,baz=17,slow=8.2,SNR=7.2						
NWAO	**Narrogin (SRO)**	**58.04**	**209**	P	**P**	**22 50 27.4**	**-1.0**
	6.0nm,0.8s,mb4.7,baz=194,slow=12,SNR=2.6						
NWAO	**Narrogin (SRO)**	**58.04**	**209**	P	**P**	**22 50 27.4**	**-1.0**
ZAL	**Zalesovo**	**58.81**	**323**	P	**P**	**22 50 33.8**	**+0.3**
	1.4nm,0.8s,mb4.1,baz=16,slow=5.3,SNR=3.5						
KURK	**Kurchatov**	**62.08**	**318**	*e*P	**P**	**22 50 55.4**	**-0.4**
	1.8nm,0.5s,mb4.5						
ILAR	**Eielson Array**	**63.74**	**26**	P	**P**	**22 51 03.7**	**-2.8**
	0.5nm,0.9s,mb3.5,baz=227,slow=5.7,SNR=5.3						
BVAR	**Borovoye Array**	**67.27**	**321**	P	**P**	**22 51 29.1**	**-0.3**
	3.6nm,0.5s,mb4.6,baz=99,slow=7.2,SNR=18						
BRVK	**Borovoye**	**67.34**	**321**	*e*P	**P**	**22 51 29.5**	**-0.2**
	2.9nm,0.7s,mb4.4						
NVAR	**Mina Array Bea**	**82.86**	**52**	P	**P**	**22 52 58.9**	**+0.1**
	0.3nm,0.5s,mb3.5,baz=245,slow=5.5,SNR=3.9						
NVAR	**Mina Array Bea**	**82.86**	**52**	P	**P**	**22 52 58.9**	**+0.1**
ARCES	**ARCESS Array B**	**83.14**	**342**	P	**P**	**22 53 00.5**	**+0.9**
	5.3nm,0.8s,mb4.7,baz=63,slow=8.1,SNR=10.0						
FINES	**FINESS Array B**	**87.59**	**335**	P	**P**	**22 53 20.9**	**-0.8**
	1.1nm,0.5s,mb4.3,baz=74,slow=4.8,SNR=17						
FINES	**FINESS Array B**	**87.59**	**335**	P	**P**	**22 53 20.9**	**-0.8**
PDAR	**Pinedale Array**	**87.64**	**46**	P	**P**	**22 53 23.3**	**+0.9**
	0.2nm,0.3s,mb3.8,baz=67,slow=31,SNR=5.8						
LPAZ	**La Paz**	**146.95**	**92**	PKPbc	PKPbc	23 00 18.3	+2.6
	0.9nm,0.6s,baz=252,slow=6.1,SNR=2.4						

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*NIED **15** 22:45:00, 40.30N×141.00E, h8km, Mw3.8 Best double couple: Mo4.73×10^14 NP1:φs132°, δ47°, λ85°. NP2:φs320°, δ43°, λ96°.*
*JMA **15** 22:45:03.5, 40.31N×140.98E, h8km±1km, M3.9 Broadband fault plane solution: P waves. NP1:φs352°, δ41°, λ136°. NP2:φs119°, δ63°, λ58°. Principal axes: T Plg59°, Azm342°; N Plg28°, Azm134°; P Plg12°, Azm231°;*
JMA Felt III J1.
*IDC **15** 22:45:07.9±3.3, 40.29N×140.86E, h44km±33km, mb3.8/8, mb1 4.0/10, mb1mx3.7/25, ML3.7/1, MS2.9/1, Ms1 2.9/1, ms1mx2.3/25 Error ellipse: s-maj=35.4km s-min=15.9km az=91.0*
*NEIC **15** 22:45:08.7±1.3, 40.28N×140.81E, h51km±12km, mb4.4/4, Error ellipse: s-maj=13.9km s-min=8.7km az=88.0*
NEIC Recorded [3 JMA] in Iwate and [2 JMA] in Akita and Aomori Prefectures.
ISC 15 22:45:03.1±0.5**, 40.29N**±0.03×**141.00E**±0.04**, h20**km±4km**, n29, σ0ˢ92**/32**, mb4.1**/13**, 2C-5D, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAH	**Hinai**	**0.29**	**249**	⇓P	**Pb**	**22 45 09.4**	**-0.2**
JAH				*e*S	**Sb**	**22 45 13.4**	**-0.7**
JKZ	**Kuzumaki**	**0.40**	**140**	⇑P	**Pb**	**22 45 11.4**	**0.0**
JKZ				S	**Sb**	**22 45 16.7**	**-0.3**
JANG	**Nango**	**0.40**	**78**	⇓P	**Pb**	**22 45 11.3**	**-0.1**
JANG				*e*S	**Sb**	**22 45 16.8**	**-0.3**
JTM	**Tenmabayashi**	**0.50**	**6**	⇓P	**Pb**	**22 45 12.7**	**-0.3**
JTM				S	**Sb**	**22 45 19.1**	**-0.7**
JIW	**Iwasaki**	**0.81**	**292**	⇓P	**Pb**	**22 45 18.8**	**+0.5**
JIW				S	**Sb**	**22 45 29.3**	**+0.5**
JOM	**Ohasama**	**0.85**	**164**	⇓P	**Pb**	**22 45 19.3**	**+0.3**
JOM				S	**Sb**	**22 45 30.3**	**+0.3**
ASAJ	**Asahikawa**	**4.00**	**17**	P	**Pn**	**22 46 07.2**	**+2.2**
	3.9nm,0.3s,baz=206,slow=11,SNR=11						
ASAJ				S	**Sn**	**22 46 53.5**	**+1.7**
	2.4nm,0.3s,baz=305,slow=24,SNR=2.3						
MAJO	**Matsushiro**	**4.34**	**211**	*e*Pn	**Pn**	**22 46 11.0**	**+1.3**
MAT	**Matsushiro**	**4.34**	**211**	P	**Pn**	**22 46 11.0**	**+1.3**
MAT				S	**Sn**	**22 47 01.7**	**+1.4**
MAT	**Matsushiro**	**4.34**	**211**	*e*P	**Pn**	**22 46 11.0**	**+1.3**
MAT				*e*S	**Sn**	**22 47 02.0**	**+1.7**
JHJ	**Hachijo jima 2**	**7.23**	**188**	LR	LR	22 49 42.3	
	comp=Z,93nm,20.2s,baz=315,slow=38						
KURK	**Kurchatov**	**43.72**	**305**	*e*P	**P**	**22 53 07.5**	**-0.9**
	6.9nm,0.7s,mb4.5						
ILAR	**Eielson Array**	**46.95**	**34**	P	**P**	**22 53 34.4**	**+0.4**
	0.5nm,0.8s,mb3.5,baz=262,slow=5.7,SNR=6.3						
BVAR	**Borovoye Array**	**48.18**	**310**	P	**P**	**22 53 43.2**	**-0.6**
	1.5nm,0.4s,mb4.3,baz=83,slow=8.6,SNR=8.2						
BRVK	**Borovoye**	**48.23**	**310**	*e*P	**P**	**22 53 43.1**	**-1.0**
	1.3nm,0.5s,mb4.2						
INK	**Inuvik**	**51.66**	**28**	P	**P**	**22 54 10.5**	**+0.3**
	0.9nm,0.4s,mb4.0,baz=269,slow=8.5,SNR=5.0						
FITZ	**Fitzroy Crossi**	**59.83**	**197**	P	**P**	**22 55 08.9**	**-0.8**
	3.4nm,1.1s,mb4.3,baz=38,slow=14,SNR=2.4						
WRAB	**Tennant Creek**	**60.23**	**187**	P	**P**	**22 55 10.9**	**-1.5**
	2.6nm,0.7s,mb4.4						
WRA	**Warramunga Arr**	**60.24**	**187**	P	**P**	**22 55 11.2**	**-1.3**
	1.7nm,0.6s,mb4.3,baz=7.1,slow=7.1,SNR=10						
ASAR	**Alice Springs**	**63.97**	**187**	P	**P**	**22 55 36.6**	**-0.8**
	2.6nm,0.9s,mb4.3,baz=8.3,slow=6.4,SNR=18						
FINES	**FINESS Array B**	**65.79**	**331**	P	**P**	**22 55 47.3**	**-1.2**
	2.2nm,0.6s,mb4.4,baz=37,slow=9.5,SNR=13						
NOA	**NORSAR Array B**	**71.06**	**337**	P	**P**	**22 56 20.8**	**-0.6**
	1.3nm,0.9s,mb3.9,baz=42,slow=5.9,SNR=3.0						
TPNV	**Topopah Spring**	**75.51**	**54**	*e*P	**P**	**22 56 48.8**	**+1.1**
	2.1nm,0.8s,mb4.1						
GERES	**GERESS Array B**	**79.78**	**328**	P	**P**	**22 57 11.6**	**+0.5**
	0.2nm,0.4s,mb3.4,baz=30,slow=7.9,SNR=3.4						
SNAA	**Sanae**	**143.75**	**198**		PKPbc	23 04 34.2	-0.2
SNAA	**Sanae**	**143.75**	**198**	PKP	PKPdf	23 04 34.4	-5.2
	0.6nm,0.7s,baz=226,slow=3.7,SNR=12						
SNAA	**Sanae**	**143.75**	**198**	P	PKPbc	23 04 34.2	-0.2
VNA2	**Neumayer--Watz**	**145.34**	**198**	⇑*i*	PKPbc	23 04 42.6	+3.8
VNA3	**Neumayer Olymp**	**145.61**	**196**		PKPbc	23 04 42.9	+3.4

IDC 15 23:16:52.0±2.1**, 3.50N×128.98E, mb3.7**/5**, mb1 3.9**/5**, mb1mx3.7**/17**, Error ellipse: s-maj=103.0km**

s-min=26.4km az=94.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.71**	**189**	P	P	23 21 46.0	-0.9
	2.8nm,0.9s,baz=7.1,slow=8.1,SNR=3.0						
WRA	**Warramunga Arr**	**23.88**	**167**	P	P	23 22 08.3	-0.1
	2.0nm,0.7s,baz=346,slow=10,SNR=6.0						
ASAR	**Alice Springs**	**27.42**	**170**	P	P	23 22 39.0	-2.6
	0.2nm,0.3s,baz=354,slow=7.0,SNR=5.7						
STKA	**Stephens Creek**	**37.17**	**162**	P	P	23 24 03.6	-3.1
	3.9nm,1.1s,baz=345,slow=7.7,SNR=4.5						
ILAR	**Eielson Array**	**84.35**	**25**	P	P	23 29 26.2	-0.9
	0.3nm,1.0s,baz=270,slow=3.6,SNR=2.6						

*BER **15** 23:18:56.5±3.7, 67.80N×20.28E, ML1.5, Suspected explosion*

HEL 15 23:18:56.7±0.1**, 67.85N×20.18E, ML1.4, ML2.0**(UPP)**, ML1.6**(BER)**, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**30**	*i* P	Pg	23 18 58.5	-0.5
NIKU	**Nikkaluokta**	**0.43**	**272**	*i* P	Pg	23 19 04.4	-1.0
DUNU	**Dundret**	**0.75**	**168**	*i* P	Pg	23 19 10.1	-1.6
KIF	**Kilpisjarvi**	**1.18**	**11**	*e*P	Pb	23 19 18.5	-1.1
KIF				*e*S	Sb	23 19 34.8	-0.6
PAJU	**Pajala**	**1.40**	**125**	*e*P	Pb	23 19 21.6	-1.9
KTK1	**Kautokeino**	**1.62**	**43**	*e*P	Pn	23 19 26.0	-0.7
KTK1				*e*SG	Sg	23 19 46.9	-3.8
KTK1				AML	AML	23 19 51.4	
	comp=Z,5.8nm,0.2s						
TRO	**Tromso**	**1.85**	**346**	*e*P	Pn	23 19 28.4	-1.5
TRO				*e*SN	Sn	23 19 53.7	-0.6
TRO				AML	AML	23 19 56.2	
	comp=Z,7.1nm,0.4s						
SGF	**Sodankyl**	**2.46**	**97**	*e*P	Pn	23 19 37.5	-1.2
SGF				*e*S	Sn	23 20 07.9	-2.0
SGF				*e*SG	Sg	23 20 12.1	-6.5
SGF				MSG		23 20 12.8	
	comp=Z,1.3nm,0.2s						
LOF	**Lofoten**	**2.52**	**279**	*e*SG	Sg	23 20 17.0	-3.5
LOF				AML	AML	23 20 21.6	
	comp=Z,5.5nm,0.5s						
MELS	**Mels**	**2.69**	**251**	*e*Sg	Sg	23 20 21.0	-5.2
MOR8	**Moi Rana**	**2.82**	**236**	*e*SG	Sg	23 20 19.3	-11
MOR8				AML	AML	23 20 22.3	
	comp=Z,6.8nm,0.3s						
KEV	**Kevo**	**3.13**	**49**	*e*P	Pn	23 19 48.5	+0.2
KEV				*e*S	Sn	23 20 26.2	-0.7
OUL	**Oulu**	**3.60**	**138**	*e*SB	Sb	23 20 44.6	-1.1
NSS	**Namsos**	**4.71**	**229**	*e*SG	Sg	23 21 21.5	-12
NSS				AML	AML	23 21 25.4	
	comp=Z,2.3nm,0.4s						

*IDC **15** 23:25:17.7±0.7, 26.94S×65.11W, mb3.7/6, mb1 3.9/9, mb1mx3.9/16, ML3.7/3, MS4.0/1, Ms1 3.9/1, ms1mx3.2/14, Error ellipse: s-maj=28.1km s-min=21.6km az=56.0*

*NEIC **15** 23:25:26.6±0.5, 26.90S×65.16W, h65^{km}, mb4.3/4, MD4.5(SJA), Error ellipse: s-maj=15.0km s-min=11.1km az=100.0*

NEIC Felt [IV] at San Miguel de Tucuman.

ISC 15 23:25:22.7±1.4**, 26.86S**±0.07×**65.0W**±0.1**, h46**^{km}±15^{km}**, n24,** σ**1**^{s}**23**/21**, mb3.9**/9**, Tucuman Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**5.51**	**319**	*e*Pn	**P**	**23 26 47.4**	**+3.1**
	47nm,0.9s						
MDZ	**Mendoza**	**6.87**	**208**	*e*P	**P**	**23 27 04.1**	**+0.8**
CPUP	**Villa Florida**	**6.90**	**87**	Pn	**P**	**23 27 02.5**	**-1.3**
	1.7nm,0.3s,baz=289,slow=12,SNR=50						
LPAZ	**La Paz**	**10.91**	**344**	Pn	**P**	**23 27 58.4**	**-0.7**
	0.0nm,0.3s,baz=261,slow=9.1,SNR=3.2						
LPAZ	**La Paz**	**10.91**	**344**	*e*Pn	**P**	**23 27 58.0**	**-1.1**
TRQA	**Tornquist**	**11.46**	**168**	*e*Pn	**P**	**23 28 01.4**	**-5.0**
	4.6nm,1.0s						
SAML	**Samuel**	**17.89**	**6**	*e*P	**P**	**23 29 29.5**	**-0.4**
	2.5nm,1.0s						
BDFB	**Brasilia**	**19.35**	**58**	P	**P**	**23 29 50.4**	**+3.2**
	0.1nm,0.3s,baz=205,slow=7.6,SNR=5.6						
BDFB				LR	LR	23 38 19.6	
	comp=Z,394nm,19.7s,baz=184,slow=40						
BAO	**Brasilia Array**	**19.37**	**58**	*e*P	**P**	**23 29 50.3**	**+2.8**
BAO				*i*		23 30 03.5	
BAO				*e*		23 30 20.5	
BAO				*e*		23 32 57.2	
SDV	**Santo Domingo**	**35.94**	**351**	*e*P	**P**	**23 32 19.9**	**-1.1**
	3.1nm,0.6s,mb4.4						
SNAA	**Sanae**	**56.07**	**160**	P	**P**	**23 34 58.2**	**-0.8**
	0.6nm,1.2s,mb3.5,baz=351,slow=11,SNR=2.2						
QSPA	**South Pole Qui**	**63.36**	**180**	*e*P	**P**	**23 35 48.3**	**-0.7**
	0.7nm,0.4s,mb4.1						
TXAR	**Lajitas Array**	**67.03**	**324**	P	**P**	**23 36 12.6**	**-0.7**
	0.6nm,0.8s,mb3.7,baz=149,slow=7.3,SNR=6.9						
TXAR	**Lajitas Array**	**67.03**	**324**	P	**P**	**23 36 12.6**	**-0.7**
DBIC	**Dimbokro**	**67.06**	**69**	P	**P**	**23 36 13.3**	**-0.4**
	4.1nm,0.9s,mb4.4,baz=39,slow=0.9,SNR=2.6						
DBIC	**Dimbokro**	**67.06**	**69**	P	**P**	**23 36 13.3**	**-0.4**
VNDA	**Vanda**	**72.20**	**190**	P	**P**	**23 36 43.7**	**-0.4**
	0.2nm,0.6s,mb3.3,baz=218,slow=3.8,SNR=2.5						
VNDA	**Vanda**	**72.20**	**190**	P	**P**	**23 36 43.7**	**-0.4**
TSUM	**Tsumeb**	**75.19**	**104**	P	**P**	**23 37 03.6**	**+1.1**
	1.4nm,0.8s,mb3.9,baz=254,slow=17,SNR=3.1						
ISCO	**Idaho Springs**	**76.34**	**329**	*e*P	**P**	**23 37 02.0**	**-6.7**
	6.0nm,1.1s,mb4.4						
NVAR	**Mina Array Bea**	**81.88**	**321**	P	**P**	**23 37 40.1**	**+1.4**
	0.3nm,0.6s,mb3.4,baz=117,slow=8.1,SNR=2.7						
ASAR	**Alice Springs**	**126.55**	**202**	PKP	PKPdf	23 44 22.4	+0.8
	1.3nm,0.9s,baz=139,slow=1.8,SNR=10						
WRA	**Warramunga Arr**	**129.84**	**204**	PKP	PKPdf	23 44 28.8	+0.9
	0.5nm,0.6s,baz=174,slow=1.5,SNR=3.3						
ZAL	**Zalesovo**	**144.98**	**31**	PKPbc	PKPbc	23 44 54.7	+0.1
	0.8nm,0.4s,baz=189,slow=9.7,SNR=2.3						

*IDC **15** 23:25:29.3±0.7, 27.04S×64.92W, mb4.0/8, mb1 4.2/11, mb1mx4.1/17, ML3.9/3, MS3.4/1, Ms1 3.6/1, ms1mx3.1/12, Error ellipse: s-maj=23.5km s-min=18.1km az=24.0*

*NEIC **15** 23:25:37.8±0.6, 26.82S×64.77W, h65^{km}, Error ellipse: s-maj=19.4km s-min=12.8km az=219.0*

ISC 15 23:25:33.0±0.7**, 26.9S**±0.1×**64.8W**±0.1**, h33**^{km}**, n18,** σ**0**^{s}**99**/14**, mb4.0**/8**, Tucuman Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**5.71**	**318**	*e*Pn	**Pn**	**23 26 58.9**	**+1.0**
CPUP	**Villa Florida**	**6.68**	**87**	Pn	**Pn**	**23 27 10.9**	**-0.6**
	3.1nm,0.3s,baz=284,slow=11,SNR=25						
CPUP				Lg		23 29 04.9	
	16nm,0.3s,baz=196,slow=20,SNR=7.6						
CPUP	**Villa Florida**	**6.68**	**87**	Pn	**Pn**	**23 27 10.9**	**-0.6**
CPUP				Lg		23 29 04.9	
LPAZ	**La Paz**	**11.04**	**343**	Pn	**P**	**23 28 09.8**	**-1.8**
	0.0nm,0.3s,baz=153,slow=12,SNR=5.1						
LPAZ				LR	LR	23 33 08.9	
	comp=Z,203nm,19.5s,baz=324,slow=41						
BDFB	**Brasilia**	**19.20**	**58**	P	**P**	**23 29 57.4**	**+0.4**
	0.2nm,0.3s,baz=226,slow=12,SNR=7.3						
BDFB	**Brasilia**	**19.20**	**58**	P	**P**	**23 29 57.4**	**+0.4**
SNAA	**Sanae**	**55.93**	**160**	P	**P**	**23 35 09.1**	**-0.6**
	0.4nm,0.8s,mb3.5,baz=265,slow=11,SNR=3.5						
DBIC	**Dimbokro**	**66.88**	**69**	P	**P**	**23 36 24.1**	**-0.2**
	3.5nm,0.6s,mb4.5,baz=253,slow=8.9,SNR=9.8						
TXAR	**Lajitas Array**	**67.22**	**324**	P	**P**	**23 36 25.3**	**-0.9**
	0.3nm,0.5s,mb3.6,baz=153,slow=5.6,SNR=4.5						
VNDA	**Vanda**	**72.17**	**190**	P	**P**	**23 36 54.4**	**-1.3**
	1.4nm,1.1s,mb3.8,baz=18,slow=2.6,SNR=4.1						
SUR	**Sutherland**	**72.64**	**118**	P	**P**	**23 37 00.5**	**+1.3**
	3.3nm,0.7s,mb4.4,baz=276,slow=8.0,SNR=4.7						
TSUM	**Tsumeb**	**74.95**	**104**	P	**P**	**23 37 13.8**	**+0.8**
	1.5nm,0.7s,mb4.0,baz=224,slow=4.7,SNR=5.1						
PDAR	**Pinedale Array**	**80.69**	**328**	P	**P**	**23 37 44.7**	**+0.4**
	0.4nm,0.4s,mb3.7,baz=135,slow=12,SNR=2.2						
NVAR	**Mina Array Bea**	**82.07**	**320**	P	**P**	**23 37 52.9**	**+1.4**
	3.0nm,1.3s,mb4.1,baz=158,slow=8.0,SNR=3.7						
ASAR	**Alice Springs**	**126.56**	**201**	PKP	PKPdf	23 44 33.4	-0.2
	0.9nm,0.7s,baz=138,slow=1.9,SNR=11						
WRA	**Warramunga Arr**	**129.86**	**204**	PKP	PKPdf	23 44 40.4	+0.5
	1.4nm,0.9s,baz=170,slow=1.5,SNR=2.8						
ZAL	**Zalesovo**	**144.93**	**31**	PKPbc	PKPbc	23 45 07.1	+0.7
	1.7nm,0.8s,baz=187,slow=3.0,SNR=7.4						
ZAL	**Zalesovo**	**144.93**	**31**	PKPbc	PKPbc	23 45 07.1	+0.7

GUC 15 23:32:59.4±0.8**, 35.06S×70.13W, h10**^{km}**, MD3.5, ML2.6, 2C-2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CICH	**Cipreses**	**0.77**	**342**	⇓*i*P	Pb	23 33 14.0	-0.5
CICH				*i* S	Sb	23 33 25.1	+0.3
CACH	**El Canelo**	**1.01**	**337**	⇑*i*P	Pb	23 33 17.8	-0.8
CACH				*i* S	Sb	23 33 31.5	-0.3
CHCH	**Chadas Angostu**	**1.20**	**339**	⇓*i*P	Pb	23 33 21.3	-0.5
CHCH				*i* S	Sb	23 33 37.4	+0.2
RCDM	**Rinconada Maip**	**1.66**	**340**	*i* S	Sn	23 33 50.2	-0.2
RCDM				AMP		23 33 57.2	
	comp=E,152nm,0.2s						
FCH	**Farellones**	**1.73**	**356**	⇑*i*P	Pn	23 33 32.3	+2.5
FCH				*i* S	Sn	23 33 55.8	+3.7
FCH				AMP		23 33 56.6	
	comp=N,96nm,0.2s						

*IDC **15** 23:52:26.1±1.1, 46.35S×33.93E, mb4.1/7, mb1 4.3/8, mb1mx4.1/17, ML4.4/1, MS3.7/6, Ms1 3.7/6, ms1mx3.5/15, Error ellipse: s-maj=39.0km s-min=21.0km az=56.0*

*NEIC **15** 23:52:27.9±0.7, 46.41S×33.66E, h10^{km}, mb4.3/5, Error ellipse: s-maj=28.1km s-min=11.3km az=71.0*

ISC 15 23:52:25.9±0.7**, 46.42S**±0.09×**33.6E**±0.3**, h10**^{km}**, n21,** σ**0**^{s}**85**/19**, mb4.1**/10**, MS3.7**/5**, 3C, Prince Edward Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SUR	**Sutherland**	**17.11**	**321**	P	**P**	**23 56 26.3**	**-0.4**
	1.4nm,0.3s,baz=140,slow=14,SNR=18						
SUR				S	**S**	**23 59 28.6**	**-7.1**
	0.3nm,0.3s,baz=197,slow=9.9,SNR=2.4						
SUR				LR	LR	00 01 21.7	
	comp=Z,302nm,21.5s,baz=146,slow=31						
BOSA	**Boshof**	**18.94**	**337**	*e*P	**P**	**23 56 49.4**	**+0.1**
	11nm,1.0s						
MAW	**Mawson**	**26.08**	**155**	*e*P	**P**	**23 58 01.0**	**+0.1**
	7.0nm,0.9s,mb4.2						
MAW	**Mawson**	**26.08**	**155**	P	**P**	**23 57 59.9**	**-0.9**
	7.3nm,0.8s,mb4.3,baz=282,slow=18,SNR=15						
MAW				LR	LR	00 05 58.3	
	comp=Z,88nm,18.7s,MS3.3,baz=144,slow=31						
TSUM	**Tsumeb**	**30.17**	**329**	P	**P**	**23 58 37.7**	**-0.7**
	4.3nm,1.0s,mb4.2,baz=138,slow=8.6,SNR=4.9						
SNAA	**Sanae**	**30.55**	**202**	P	**P**	**23 58 41.0**	**-0.2**
	0.8nm,0.9s,mb3.5,baz=44,slow=6.3,SNR=8.0						
SNAA	**Sanae**	**30.55**	**202**	*e*P	**P**	**23 58 41.2**	**0.0**
LSZ	**Lusaka**	**31.38**	**350**	*e*P	**P**	**23 58 49.2**	**+0.2**
	3.0nm,0.8s,mb4.2						
VNA2	**Neumayer--Watz**	**31.38**	**204**	⇑*i*	**P**	**23 58 41.5**	**-7.1**
VNA2	**Neumayer--Watz**	**31.38**	**204**	⇑*i*	**P**	**23 58 46.3**	**-2.3**
VNA2	**Neumayer--Watz**	**31.38**	**204**	⇑*i*P	**P**	**23 58 46.3**	**-2.3**
QSPA	**South Pole Qui**	**43.80**	**180**	*e*P	**P**	**00 00 32.9**	**+0.2**
	2.5nm,0.4s,mb4.3						
QSPA				*e*		00 02 11.1	
VNDA	**Vanda**	**52.30**	**168**	P	**P**	**00 01 38.8**	**-0.3**
	3.1nm,0.8s,mb4.3,baz=248,slow=7.7,SNR=25						
VNDA				LR	LR	00 21 47.1	
	comp=Z,93nm,21.9s,MS3.8,baz=213,slow=34						
SBA	**Scott Base**	**52.74**	**169**	*e*P	**P**	**00 01 43.0**	**+0.7**
	9.0nm,1.1s,mb4.6						
DBIC	**Dimbokro**	**62.94**	**316**	LR	LR	00 26 52.0	
	comp=Z,40nm,21.4s,MS3.6,baz=132,slow=33						
CPUP	**Villa Florida**	**72.02**	**251**	P	**P**	**00 03 53.9**	**+2.1**
	2.0nm,0.7s,mb4.1,baz=170,slow=11,SNR=3.5						
CPUP				LR	LR	00 28 33.1	
	comp=Z,75nm,19.6s,MS4.0,baz=333,slow=30						
CPUP	**Villa Florida**	**72.02**	**251**	P	**P**	**00 03 53.9**	**+2.1**
CPUP				LR	LR	00 28 33.1	
ASAR	**Alice Springs**	**79.95**	**114**	P	**P**	**00 04 36.8**	**+0.2**
	0.6nm,0.8s,mb3.6,baz=211,slow=5.9,SNR=5.0						
LPAZ	**La Paz**	**86.19**	**250**	P	**P**	**00 05 13.3**	**+4.6**
	1.1nm,1.1s,mb4.0,baz=212,slow=18,SNR=2.2						
ESDC	**Sonseca Array**	**92.05**	**332**	LR	LR	00 46 55.2	
	comp=Z,39nm,18.0s,MS3.9,baz=310,slow=36						
TXAR	**Lajitas Array**	**142.70**	**258**	PKP	PKPdf	00 12 01.9	-0.2
	0.3nm,0.9s,baz=158,slow=4.9,SNR=2.9						

*STR **16** 00:12:39.4±0.1, 42.85N×0.27W, h5^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **16** 00:12:39.7±0.1, 42.85N×0.27W, h2^{km}, Md2.2/2, Ml1.8/2, Error ellipse: s-maj=1.7km s-min=0.7km az=174.0*

MDD 16 00:12:40.2±0.2**, 42.86N×0.27W, mbLg1.4**/9**, 1D, Error ellipse: s-maj=2.7km s-min=1.4km az=17.0, PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VIEF	**Viey**	**0.21**	**84**	Pg	Pg	00 12 44.2	-0.3
VIEF				Sg	Sg	00 12 47.3	-0.1
VIEF	**Viey**	**0.21**	**84**	P	Pg	00 12 44.2	-0.3
VIEF				S	Sg	00 12 47.3	-0.1
ETSF	**Etsaut**	**0.22**	**280**	*e*Pg	Pg	00 12 44.0	-0.6
ETSF				*e*Sg	Sg	00 12 47.1	-0.4
	37nm,0.3s						
FDAF	**Les Forges d'A**	**0.22**	**259**	Pg	Pg	00 12 44.2	-0.5
FDAF				Sg	Sg	00 12 47.4	-0.3
FDAF	**Les Forges d'A**	**0.22**	**259**	P	Pg	00 12 44.2	-0.5
FDAF				S	Sg	00 12 47.4	-0.3
REYF	**Montagne du Re**	**0.23**	**336**	Pg	Pg	00 12 44.5	-0.3
REYF				Sg	Sg	00 12 47.9	+0.1
REYF	**Montagne du Re**	**0.23**	**336**	P	Pg	00 12 44.5	-0.3
REYF				S	Sg	00 12 48.0	+0.2
LABF	**Labassere**	**0.31**	**53**	Pg	Pg	00 12 46.1	-0.4
LABF				Sg	Sg	00 12 50.7	+0.1
LABF	**Labassere**	**0.31**	**53**	P	Pg	00 12 46.2	-0.3
LABF				S	Sg	00 12 50.7	+0.1
EBIE	**Bielsa**	**0.35**	**120**	⇓Pg	Pg	00 12 46.6	-0.6
	SNR=18						
EBIE				Lg		00 12 51.3	
	4.4nm,0.1s,SNR=7.9						
ATE	**Arette**	**0.39**	**305**	P	Pg	00 12 47.3	-0.7
ATE				S	Sg	00 12 52.5	-0.7
EPF	**Esparros**	**0.48**	**69**	*e*Pg	Pg	00 12 49.2	-0.6
EPF				*e*Sg	Sg	00 12 55.1	-1.0
	12nm,0.2s						
SJPF	**Ste Jean**	**0.75**	**290**	*e*Pg	Pg	00 12 54.5	-0.6
SJPF				*e*Sg	Sg	00 13 03.2	-1.9
	9.0nm,0.3s						
EALK	**Alkurruntz**	**0.98**	**292**	Pg	Pg	00 12 58.4	-1.4
	0.1nm,0.0s,SNR=4.0						
EALK				Lg		00 13 11.9	
	46nm,1.2s,SNR=4.0						
ESAC	**San Caprasio**	**1.15**	**188**	Pg	Pg	00 13 03.1	-0.1
	7.1nm,0.3s,SNR=7.3						
ESAC				Lg		00 13 18.0	
	4.9nm,0.1s,SNR=16						
EMIR	**Miracle**	**1.63**	**125**	Pg	Pg	00 13 11.9	-0.9
	0.7nm,0.1s,SNR=4.0						
EMIR				Lg		00 13 33.8	
	1.5nm,0.1s,SNR=4.0						
EPOB	**Poblet**	**1.81**	**146**	Pg	Pg	00 13 14.0	-2.4
	SNR=4.0						
EPOB				Lg		00 13 37.6	
	0.1nm,0.0s,SNR=7.9						
MTLF	**Montolieu**	**1.88**	**74**	*e*Pg	Pg	00 13 14.8	-3.0
MTLF				*e*Sg	Sg	00 13 38.6	-4.3
	2.0nm,0.2s						
LFF	**La Frestale**	**2.20**	**19**	*e*Pg	Pg	00 13 20.9	-3.3
LFF				*e*Sg	Sg	00 13 49.3	-4.2
	0.7nm,0.2s						

*INMG **16** 00:22:56.0±0.6, 36.43N×9.92W, h31^{km}, ML1.8, Error ellipse: s-maj=5.4km s-min=4.5km az=82.0*

*CSEM **16** 00:22:56.1±0.3, 36.56N×9.67W, h2^{km}, ML2.5/7, Error ellipse: s-maj=6.8km s-min=6.5km az=64.0*

MDD 16 00:22:55.9±2.2**, 36.53N×9.82W, h16**^{km}±59^{km}**, mb3.4**/2**, Error ellipse: s-maj=66.3km s-min=15.4km az=47.0, PRXIMO, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**1.34**	**40**	*e*Pn	Pn	00 23 19.1	-0.9
PTEO				*e*Sn	Sn	00 23 36.0	-1.5
	6.1nm,0.5s						
PTEO	**Sao Teotonio**	**1.34**	**40**	*e*Pn	Pn	00 23 19.1	-0.9
PTEO				*e*Sn	Sn	00 23 36.0	-1.5
	6.1nm,0.5s						
PALC	**Alcoutim**	**2.09**	**63**	*e*Pn	Pn	00 23 28.7	-2.1
PALC				*e*Sn	Sn	00 23 53.7	-3.0
	5.8nm,0.3s						
PALC	**Alcoutim**	**2.09**	**63**	*e*Pn	Pn	00 23 28.7	-2.1
PALC				*e*Sn	Sn	00 23 53.7	-3.0
	5.8nm,0.3s						
PBEJ	**Beja**	**2.16**	**46**	*e*Pn	Pn	00 23 30.0	-1.7
PBEJ				*e*Sn	Sn	00 23 55.3	-3.0
	2.2nm,0.2s						
PBEJ	**Beja**	**2.16**	**46**	*e*Pn	Pn	00 23 30.0	-1.7
PBEJ				*e*Sn	Sn	00 23 55.3	-3.0
	2.2nm,0.2s						
MOE	**Montemor**	**2.31**	**30**	*e*Sn	Sn	00 23 59.6	-2.5
PLOU	**Loures**	**2.41**	**12**	*e*Pn	Pn	00 23 33.5	-1.9
PLOU				*e*Sn	Sn	00 24 01.3	-3.5
EMIN	**Mina Concepcio**	**2.80**	**63**	Pn	Pn	00 23 38.7	-2.1
	0.1nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	00 24 10.9	-3.6
	3.4nm,0.8s,SNR=7.8						
EMIN	**Mina Concepcio**	**2.80**	**63**	Pn	Pn	00 23 38.7	-2.2
	0.1nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	00 24 10.9	-3.7
	3.4nm,0.8s,SNR=7.8						
EBAD	**Badajoz**	**3.15**	**44**	Pn	Pn	00 23 43.5	-2.4
	0.2nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	00 24 19.2	-4.1
	2.1nm,0.8s,SNR=5.6						
EBAD	**Badajoz**	**3.15**	**44**	Pn	Pn	00 23 43.5	-2.3
	0.2nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	00 24 19.2	-4.1
	2.1nm,0.8s,SNR=5.6						
ESPR	**Espera**	**3.20**	**83**	Pn	Pn	00 23 44.6	-2.0
	0.6nm,0.1s,SNR=7.9						
ESPR				Sn	Sn	00 24 20.8	-3.9
	1.9nm,0.3s,SNR=6.4						
ESPR	**Espera**	**3.20**	**83**	Pn	Pn	00 23 44.6	-2.0
	0.6nm,0.1s,SNR=7.9						
ESPR				Sn	Sn	00 24 20.8	-3.9
	1.9nm,0.3s,SNR=6.4						
EADA	**Adamuz**	**4.48**	**67**	Pn	Pn	00 24 02.5	-2.4
	1.0nm,0.3s,SNR=7.9						
EADA				Sn	Sn	00 24 50.6	-6.7
	0.7nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**4.48**	**67**	Pn	Pn	00 24 02.5	-2.3
	1.0nm,0.3s,SNR=7.9						
EADA				Sn	Sn	00 24 52.4	-4.8
	0.7nm,0.1s,SNR=7.9						

*NNC **16** 00:37:57.5±8.4, 45.24N×96.12E, Error ellipse: s-maj=141.1km s-min=55.7km az=29.0*

*IDC **16** 00:37:57.8±0.9, 45.79N×96.52E, mb3.9/9, mb1 4.0/11, mb1mx3.9/21, ML4.1/1, Error ellipse: s-maj=25.0km s-min=16.8km az=13.0*

*MOS **16** 00:37:57.5±1.2, 45.70N×96.54E, h15^{km}, mb4.1/8, Error ellipse: s-maj=23.4km s-min=12.9km az=100.5*

*BJI **16** 00:37:58.8, 45.76N×96.43E, h9^{km}, Ms4.0, Msz3.4*

*NEIC **16** 00:37:59.5±0.6, 45.77N×96.42E, h10^{km}, mb3.5/1, Error ellipse: s-maj=13.0km s-min=9.0km az=14.0*

ISC 16 00:37:58.1±0.4**, 45.84N**±0.04×**96.55E**±0.06**, h10**^{km}**, n45,** σ**1**^{s}**26**/49**, mb3.8**/9**, 2C-4D, Mongolia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZAK	**Zakamensk**	**6.40**	**42**	*e*P	**Pn**	**00 39 36.2**	**+1.3**
ZAK				pmax	pmax		
	comp=Z,32nm,0.8s						
ZAK	**Zakamensk**	**6.40**	**42**	*e*P	**Pn**	**00 39 36.2**	**+1.3**
	comp=Z,32nm,0.8s						
MOY	**Mondy**	**6.53**	**25**	*e*P	**Pn**	**00 39 37.4**	**+0.7**
MOY				pmax	pmax		
	comp=Z,43nm,0.8s						
MOY	**Mondy**	**6.53**	**25**	*e*P	**Pn**	**00 39 37.4**	**+0.7**
	comp=Z,43nm,0.8s						
WMQ	**Urumqi**	**6.61**	**255**	P	**Pn**	**00 39 38.8**	**+1.0**
WMQ				S	**Sn**	**00 40 49.0**	**-5.0**
WMQ				LR	LR		
	comp=Z,95nm,5.0s						
GTA	**Gaotai**	**6.86**	**158**	P	**Pn**	**00 39 40.4**	**-0.9**
GTA				PG	**Pg**	**00 40 03.8**	**-11**
GTA				S	**Sn**	**00 40 57.8**	**-2.4**
GTA				SG	**Sg**	**00 41 37.3**	**-9.2**
GTA				LR	LR		
	comp=N,300nm,8.4s						
GTA				LR	LR		
	comp=E,610nm,9.1s						
GTA				LR	LR		
	comp=Z,244nm,8.8s						
SONM	**Songino Array**	**7.04**	**70**	Pn	**Pn**	**00 39 44.3**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=250,slow=14,SNR=10						
SONM				Pg	**Pg**	**00 40 08.1**	**-11**
	comp=Z,1.3nm,0.3s,baz=250,slow=14,SNR=4.3						
SONM				Lg		00 41 43.3	
	comp=Z,4.0nm,0.3s,baz=253,slow=26,SNR=4.1						
AKAR	**Aktash**	**7.47**	**310**	*e*P	**Pn**	**00 39 48.9**	**-1.0**
TASR	**Tashtagol**	**8.94**	**324**	*e*P	**P**	**00 40 10.8**	**+0.4**
MK02	**Makanchi Array**	**9.90**	**281**	⇓Pn	**P**	**00 40 19.0**	**-4.6**
	comp=Z,7.1nm,1.1s,baz=87,slow=14						
MK02				⇓Sn	**Sn**	**00 42 17.0**	**+1.2**
	comp=Z,6.2nm,0.8s,baz=62,slow=25						
MK02				⇓Lg		00 43 06.7	
	comp=Z,17nm,0.7s,baz=90,slow=28						
KURK	**Kurchatov**	**12.89**	**299**	Pn	**P**	**00 41 13.3**	**+9.3**
	comp=Z,4.3nm,1.5s,baz=114,slow=7.7,SNR=5.7						
KURK				Lg		00 44 43.7	
	comp=Z,33nm,1.7s,baz=25,slow=15,SNR=6.8						
KURK	**Kurchatov**	**12.89**	**299**	*e*P	**P**	**00 41 00.1**	**-4.0**
	comp=Z,2.7nm,0.6s						
AAK	**Ala-Archa**	**16.12**	**266**	P	**P**	**00 41 46.5**	**+0.2**
BVA0	**Borovoye Array**	**18.40**	**302**	⇓Pn	**P**	**00 42 13.1**	**-1.8**
	comp=Z,0.5nm,0.8s,baz=114,slow=12,SNR=7.6						
BVA0				⇑Lg		00 47 47.7	
	comp=Z,1.2nm,1.4s,baz=118,slow=26,SNR=4.3						
BVAR	**Borovoye Array**	**18.40**	**302**	P	**P**	**00 42 12.4**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=111,slow=13,SNR=6.9						
BRVK	**Borovoye**	**18.47**	**303**	*e*P	**P**	**00 42 14.9**	**-0.8**
	comp=Z,2.4nm,0.6s						
ENH	**Enshi**	**18.54**	**142**	P	**P**	**00 42 16.8**	**+0.1**
GUN	**Gumba**	**19.79**	**209**	*e*P	**P**	**00 42 32.2**	**+0.8**
	comp=Z,26nm,0.8s						
SNY	**Shenyang**	**19.87**	**92**	⇑P	**P**	**00 42 34.8**	**+2.6**
KKN	**Kakani**	**20.11**	**210**	*e*P	**P**	**00 42 35.9**	**+1.1**
GKN	**Gorkha**	**20.15**	**212**	*e*P	**P**	**00 42 37.7**	**+2.5**
	comp=Z,4.0nm,0.2s						
PKI	**Pulchoki**	**20.26**	**210**	*e*P	**P**	**00 42 35.4**	**-1.0**
DMN	**Daman**	**20.33**	**210**	*e*P	**P**	**00 42 37.2**	**0.0**
	comp=Z,8.1nm,0.4s						
KOLN	**Koldanda**	**20.75**	**214**	*e*P	**P**	**00 42 42.3**	**+0.8**
	comp=Z,6.3nm,0.7s						
GYA	**Guiyang**	**20.96**	**154**	P	**P**	**00 42 44.8**	**+1.1**
ARCES	**ARCESS Array B**	**41.48**	**330**	P	**P**	**00 45 45.1**	**-1.2**
	comp=Z,3.2nm,0.8s,mb4.0,baz=78,slow=8.6,SNR=7.9						
ARCES	**ARCESS Array B**	**41.48**	**330**	P	**P**	**00 45 45.2**	**-1.1**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FINES	**FINESS Array B**	**42.32**	**318**	P	**P**	**00 45 54.9**	**+1.7**
	comp=Z,2.7nm,1.0s,mb3.8,baz=84,slow=13,SNR=3.3						
FINES	**FINESS Array B**	**42.32**	**318**	P	**P**	**00 45 54.9**	**+1.7**
FINES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
AKASG	**Malin Array Be**	**43.68**	**302**	P	**P**	**00 46 04.0**	**-0.4**
	comp=Z,1.7nm,0.5s,mb4.0,baz=57,slow=8.5,SNR=11						
AKASG	**Malin Array Be**	**43.68**	**302**	P	**P**	**00 46 04.0**	**-0.4**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BRTR	**Keskin Array B**	**45.52**	**286**	P	**P**	**00 46 20.3**	**+0.9**
	comp=Z,1.2nm,1.0s,mb3.8,baz=63,slow=8.3,SNR=4.2						
BRTR	**Keskin Array B**	**45.52**	**286**	P	**P**	**00 46 20.3**	**+0.9**
BRTR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
NOA	**NORSAR Array B**	**49.29**	**320**	P	**P**	**00 46 47.7**	**-0.9**
	comp=Z,0.6nm,0.7s,mb3.7,baz=72,slow=7.1,SNR=2.9						
NOA	**NORSAR Array B**	**49.29**	**320**	P	**P**	**00 46 47.7**	**-0.9**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ILAR	**Eielson Array**	**59.20**	**27**	P	**P**	**00 47 59.8**	**-1.4**
	comp=Z,1.1nm,0.7s,mb4.0,baz=304,slow=4.9,SNR=14						
ILAR	**Eielson Array**	**59.20**	**27**	P	**P**	**00 47 59.8**	**-1.4**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
INK	**Inuvik**	**60.20**	**19**	P	**P**	**00 48 07.5**	**-0.5**
	comp=Z,0.9nm,0.7s,mb3.9,baz=308,slow=7.4,SNR=3.7						
INK	**Inuvik**	**60.20**	**19**	P	**P**	**00 48 07.5**	**-0.5**
INK				pmax	pmax		
	comp=Z,1.0nm,0.7s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
INK	**Inuvik**	**60.20**	**19**	P	**P**	**00 48 07.5**	**-0.6**
WRA	**Warramunga Arr**	**73.90**	**143**	P	**P**	**00 49 32.7**	**-2.5**
	comp=Z,0.7nm,0.7s,mb3.7,baz=342,slow=6.2,SNR=3.6						
WRA	**Warramunga Arr**	**73.90**	**143**	P	**P**	**00 49 32.7**	**-2.5**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**77.05**	**145**	P	**P**	**00 49 53.7**	**+0.6**
	comp=Z,0.4nm,0.6s,mb3.5,baz=337,slow=5.3,SNR=5.7						
CPUP	**Villa Florida**	**151.49**	**304**	PKPbc	PKPdf	00 57 52.8	+3.8
	comp=Z,1.1nm,0.7s,baz=74,slow=6.6,SNR=4.7						
CPUP	**Villa Florida**	**151.49**	**304**	PKIKP	PKPdf	00 57 52.8	+3.8
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.7s						

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*IDC **16** 01:00:02.0±13.0, 17.34S×178.65W, h490km±132km, mb3.2/6, mb1 3.4/6, mb1mx3.1/16, Error ellipse: s-maj=123.0km s-min=54.8km az=133.0*

ISC 16 01:00:01.8±3.2**, 17.3S**±0.7×**178.7W**±0.6**, h500**km**, n12, σ0s41**/10**, mb3.7**/7**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
CTA	**Charters Tower**	**33.25**	**260**	P	**P**	**01 05 58.9**	**+0.7**
	3.3nm,0.8s,mb3.8,baz=98,slow=10,SNR=5.0						
STKA	**Stephens Creek**	**38.66**	**240**	P	**P**	**01 06 43.1**	**+0.2**
	1.4nm,0.5s,mb3.7,baz=81,slow=9.6,SNR=4.7						
WB2	**Warramunga Arr**	**44.43**	**259**	*e*P	**P**	**01 07 24.9**	**-4.3**
WRA	**Warramunga Arr**	**44.44**	**259**	P	**P**	**01 07 29.0**	**-0.2**
	0.6nm,0.7s,mb3.1,baz=95,slow=7.2,SNR=4.8						
ASAR	**Alice Springs**	**44.66**	**254**	P	**P**	**01 07 30.9**	**-0.1**
	14nm,0.5s,mb4.6,baz=89,slow=8.1,SNR=243						
ASPA	**Alice Springs**	**44.67**	**254**	*e*P	**P**	**01 07 30.7**	**-0.3**
KAKA	**Kakadu**	**47.33**	**269**	*e*P	**P**	**01 07 56.6**	**+5.1**
	2.3nm,0.3s,mb4.1						
FITZ	**Fitzroy Crossi**	**52.83**	**260**	*e*P	**P**	**01 08 32.0**	**-0.2**
	2.1nm,0.9s,mb3.5						
FITZ	**Fitzroy Crossi**	**52.83**	**260**	P	**P**	**01 08 31.7**	**-0.5**
	1.0nm,0.6s,mb3.4,baz=161,slow=20,SNR=7.0						
ILAR	**Eielson Array**	**85.35**	**13**	P	**P**	**01 11 46.0**	**+0.1**
	0.2nm,0.4s,mb3.1,baz=223,slow=5.1,SNR=4.6						
BRTR	**Keskin Array B**	**144.12**	**315**	PKP	PKPdf	01 18 41.0	+1.1
	2.0nm,1.0s,baz=104,slow=3.2,SNR=6.6						
GERES	**GERESS Array B**	**146.93**	**345**	PKPbc	PKPbc	01 18 48.9	+2.2
	0.8nm,0.5s,baz=18,slow=2.8,SNR=12						

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*IDC **16** 01:07:41.3±0.7, 16.33S×173.90W, mb4.1/12, mb1 4.3/13, mb1mx4.3/19, ML4.7/1, MS3.6/1, Ms1 3.6/1, ms1mx3.1/18, Error ellipse: s-maj=32.2km s-min=15.7km az=147.0*

*NEIC **16** 01:07:43.6±3.8, 16.41S×173.91W, h16km±24km, mb4.5/7, Error ellipse: s-maj=11.9km s-min=6.4km az=144.0*

ISC 16 01:07:44.4±3.5**, 16.5S**±0.1×**173.86W**±0.08**, h32**km±25km**, n31, σ0s82**/31**, mb4.3**/18**, MS3.6**/1**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
AFI	**Afiamalu**	**3.24**	**39**	*e*P	**Pn**	**01 08 33.9**	**-0.4**
AFI				*e*S	**Sn**	**01 09 04.6**	**-7.6**
RAR	**Rarotonga**	**14.14**	**112**	Pn	**P**	**01 11 04.2**	**-0.5**
	3.3nm,0.3s,baz=305,slow=16,SNR=5.2						
DZM	**Mont Dzumac**	**19.41**	**250**	*e*P	**P**	**01 12 12.1**	**+1.2**
DZM	**Mont Dzumac**	**19.41**	**250**	*e*P	**P**	**01 12 12.1**	**+1.2**
NOUC	**Port Laguerre**	**19.54**	**250**	*e*P	**P**	**01 12 15.2**	**+2.9**
CNB	**Canberra Magne**	**37.76**	**233**	*e*P	**P**	**01 14 59.1**	**-0.1**
	6.0nm,0.6s,mb4.5						
CTA	**Charters Tower**	**37.99**	**258**	P	**P**	**01 15 00.8**	**-0.5**
	1.3nm,0.5s,mb4.0,baz=104,slow=12,SNR=4.9						
CTA	**Charters Tower**	**37.99**	**258**	P	**P**	**01 15 00.8**	**-0.5**
STKA	**Stephens Creek**	**43.13**	**241**	*e*P	**P**	**01 15 43.9**	**+0.2**
	6.7nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**43.13**	**241**	P	**P**	**01 15 44.0**	**+0.3**
	11nm,1.0s,mb4.5,baz=90,slow=10,SNR=12						
WRA	**Warramunga Arr**	**49.18**	**258**	P	**P**	**01 16 29.9**	**-1.8**
	0.9nm,0.6s,mb4.0,baz=92,slow=7.4,SNR=7.8						
ASAR	**Alice Springs**	**49.37**	**253**	P	**P**	**01 16 32.9**	**-0.3**
	11nm,0.6s,mb5.0,baz=88,slow=8.4,SNR=105						
ASAR				LR	LR	01 34 23.4	
	comp=Z,57nm,18.7s,MS3.6,baz=282,slow=32						
ASPA	**Alice Springs**	**49.37**	**253**	*e*P	**P**	**01 16 32.6**	**-0.5**
ASPA				*e*		01 16 53.3	
KAKA	**Kakadu**	**52.03**	**267**	*e*P	**P**	**01 16 58.1**	**+4.6**
	3.5nm,0.5s,mb4.5						
FORT	**Forrest**	**54.55**	**244**	*e*P	**P**	**01 17 10.2**	**-1.7**
	32nm,0.8s,mb5.4						
FITZ	**Fitzroy Crossi**	**57.56**	**259**	P	**P**	**01 17 34.6**	**+0.9**
	1.3nm,0.7s,mb4.1,baz=22,slow=11,SNR=3.1						
SBA	**Scott Base**	**62.15**	**185**	P	**P**	**01 18 04.1**	**-0.4**
	1.6nm,0.6s,mb4.3						
VNDA	**Vanda**	**62.27**	**186**	P	**P**	**01 18 06.0**	**+0.8**
	0.9nm,0.7s,mb4.0,baz=349,slow=3.2,SNR=7.3						
KLBR	**Kellerberrin**	**63.35**	**243**	*e*P	**P**	**01 18 11.9**	**-1.1**
	9.5nm,0.7s,mb5.0						
QSPA	**South Pole Qui**	**73.58**	**180**	*e*P	**P**	**01 19 15.7**	**+0.1**
	1.8nm,0.7s,mb4.1						
YBH	**Yreka Blue Hor**	**74.71**	**37**	P	**P**	**01 19 22.7**	**-0.2**
	3.1nm,0.8s,mb4.3,baz=220,slow=3.2,SNR=4.5						
NVAR	**Mina Array Bea**	**75.41**	**42**	P	**P**	**01 19 27.2**	**+0.2**
	1.0nm,0.9s,mb3.8,baz=223,slow=8.8,SNR=5.7						
TPNV	**Topopah Spring**	**75.93**	**44**	*e*P	**P**	**01 19 30.4**	**+0.5**
MSU	**Marysvale**	**79.49**	**45**	*e*P	**P**	**01 19 50.3**	**+0.7**
PV10	**Paradox Valley**	**81.57**	**46**	*e*P	**P**	**01 20 00.7**	**+0.2**
LTX	**Lajitas**	**81.57**	**56**	P	**P**	**01 20 01.1**	**+0.4**
TXAR	**Lajitas Array**	**81.57**	**56**	P	**P**	**01 20 01.3**	**+0.5**
	0.4nm,0.7s,mb3.4,baz=219,slow=8.0,SNR=6.1						
PDAR	**Pinedale Array**	**83.35**	**42**	P	**P**	**01 20 09.7**	**0.0**
	1.2nm,0.8s,mb4.0,baz=234,slow=2.5,SNR=13						
ILAR	**Eielson Array**	**83.58**	**11**	P	**P**	**01 20 09.8**	**-0.5**
	0.4nm,0.6s,mb3.8,baz=232,slow=5.1,SNR=7.0						
MAW	**Mawson**	**86.64**	**199**	P	**P**	**01 20 26.0**	**+0.4**
	0.7nm,0.7s,mb4.0,baz=98,slow=8.1,SNR=3.8						
BRTR	**Keskin Array B**	**146.69**	**320**	PKPbc	PKPbc	01 27 25.6	+2.7
	0.7nm,0.6s,baz=180,slow=1.2,SNR=5.4						

JMA 16 01:20:12.5±0.2**, 29.94N**×**131.86E, h54**km±5km**, M3.5, Southeast of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
JTN	**Tanegashima 3**	**1.04**	**313**	P	P	01 20 31.0	-0.1
JTN				S	S	01 20 45.4	+0.4
JTSR	**Tashiro 2**	**1.47**	**327**	P	P	01 20 37.0	-0.1
JTSR				S	S	01 20 55.6	+0.2
JKC	**Kuchinoerabu**	**1.53**	**290**	P	P	01 20 38.5	+0.4
JKC				S	S	01 20 57.5	+0.5
JNAR	**Kushima--Naru**	**1.66**	**342**	P	P	01 20 40.3	+0.5
JNAR				S	S	01 21 00.5	+0.4
JNN	**Nakanoshima**	**1.73**	**267**	P	P	01 20 41.2	+0.5
JNN				S	S	01 21 02.2	+0.5
JTZ	**Takazaki**	**2.06**	**341**	P	P	01 20 45.7	+0.2
JTZ				S	S	01 21 10.7	+0.7
JAM	**Amami Oshima**	**2.49**	**233**	P	P	01 20 49.9	-1.7
JAM				S	S	01 21 17.6	-3.2
JSJ	**Shimokoshiki**	**2.53**	**314**	P	P	01 20 51.2	-0.9
JSJ				S	S	01 21 20.4	-1.4
JIU2	**Izumi 2**	**2.75**	**341**	P	P	01 20 55.7	+0.5
JIU2				*e*S	S	01 21 27.6	+0.3

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*NEIC **16** 01:24:10.5±0.4, 20.30S×178.21W, h500km, mb4.1/7, Error ellipse: s-maj=21.2km s-min=10.0km az=151.0*

*IDC **16** 01:24:15.0±4.8, 20.36S×178.32W, h546km±54km, mb3.4/10, mb1 3.7/10, mb1mx3.7/13, Error ellipse: s-maj=25.9km s-min=19.9km az=156.0*

ISC 16 01:24:15.7±2.6**, 20.5S**±0.2×**178.4W**±0.1**, h570**km±32km**, n38, σ0s81**/24**, mb4.0**/17**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
CTA	**Charters Tower**	**33.13**	**264**	*e*P	**P**	**01 30 07.8**	**+0.9**
	4.4nm,0.5s,mb4.2						
STKA	**Stephens Creek**	**37.48**	**244**	P	**P**	**01 30 43.1**	**+0.4**
	1.7nm,0.6s,mb3.7,baz=79,slow=6.8,SNR=3.9						
STKA				PcP	PcP	01 32 46.0	-0.4
	1.1nm,0.5s,baz=160,slow=3.6,SNR=2.9						
ASAR	**Alice Springs**	**44.17**	**257**	P	**P**	**01 31 36.4**	**+0.1**
	10nm,0.5s,mb4.6,baz=97,slow=7.5,SNR=158						
ASAR				PcP	PcP	01 33 08.7	-0.1
	2.0nm,0.6s,baz=108,slow=3.6,SNR=11						
ASPA	**Alice Springs**	**44.18**	**257**	*e*P	**P**	**01 31 36.4**	**+0.1**
ASPA				*e*S	**S**	**01 37 29.3**	**+0.3**
WB2	**Warramunga Arr**	**44.23**	**262**	*e*P	**P**	**01 31 36.2**	**-0.6**
WB2				*e*S	**S**	**01 37 28.8**	**-1.1**
WRAB	**Tennant Creek**	**44.24**	**262**	*e*P	**P**	**01 31 35.8**	**-1.0**
	6.2nm,0.3s,mb4.6						
WRA	**Warramunga Arr**	**44.24**	**262**	P	**P**	**01 31 36.4**	**-0.4**
	4.3nm,0.3s,mb4.4,baz=97,slow=7.6,SNR=57						
KAKA	**Kakadu**	**47.65**	**271**	*e*P	**P**	**01 32 07.5**	**+4.6**
	7.4nm,0.4s,mb4.6						
FITZ	**Fitzroy Crossi**	**52.67**	**262**	*e*P	**P**	**01 32 39.5**	**-0.2**
	3.5nm,0.5s,mb4.0						
KLBR	**Kellerberrin**	**57.74**	**245**	*e*P	**P**	**01 33 14.2**	**-0.5**
	13nm,1.1s,mb4.1						
VNDA	**Vanda**	**57.92**	**185**	P	**P**	**01 33 15.4**	**0.0**
	0.4nm,0.6s,mb2.8,baz=350,slow=8.4,SNR=4.5						
QSPA	**South Pole Qui**	**69.61**	**180**	*e*P	**P**	**01 34 29.4**	**+0.2**
	2.2nm,0.8s,mb3.7						
NVAR	**Mina Array Bea**	**81.24**	**44**	P	**P**	**01 35 34.4**	**+0.6**
	1.8nm,0.8s,mb3.6,baz=217,slow=7.6,SNR=14						
NVAR	**Mina Array Bea**	**81.24**	**44**	P	**P**	**01 35 34.4**	**+0.6**
TXAR	**Lajitas Array**	**87.34**	**57**	P	**P**	**01 36 04.2**	**+0.3**
	0.2nm,0.6s,mb2.9,baz=219,slow=8.0,SNR=4.1						
MCMT	**McKenzie Canyo**	**88.15**	**40**	*e*P	**P**	**01 36 07.9**	**+0.6**
ILAR	**Eielson Array**	**88.35**	**13**	P	**P**	**01 36 07.0**	**-0.7**
	2.6nm,0.7s,mb4.1,baz=214,slow=5.3,SNR=40						
BW06	**Boulder Array**	**89.18**	**43**	*e*P	**P**	**01 36 11.5**	**-0.6**
	1.2nm,0.6s,mb3.9						
PDAR	**Pinedale Array**	**89.18**	**43**	P	**P**	**01 36 12.1**	**-0.1**
	1.2nm,0.6s,mb3.9,baz=226,slow=2.7,SNR=14						
CMAR	**Chiang Mai Arr**	**89.75**	**290**	P	**P**	**01 36 17.5**	**+2.1**
	5.1nm,1.0s,mb4.3,baz=125,slow=3.5,SNR=14						
EDM	**Edmonton**	**92.27**	**33**	P	**P**	**01 36 24.2**	**-1.9**
SONM	**Songino Array**	**95.48**	**319**	P	**P**	**01 36 42.0**	**+1.2**
	0.4nm,0.5s,mb3.8,baz=135,slow=4.1,SNR=2.9						
ARCES	**ARCESS Array B**	**128.81**	**349**	PKP	PKPdf	01 42 18.9	+0.7
	5.0nm,1.0s,baz=45,slow=1.7,SNR=7.1						
JOF	**Joensuu**	**132.97**	**342**	*e*p	PKPdf	01 42 26.0	-0.1
	3.2nm,0.8s						
KAF	**Kangasniemi**	**135.00**	**344**	*e*p	PKPdf	01 42 30.9	+1.0
FINES	**FINESS Array B**	**135.62**	**343**	PKP	PKPdf	01 42 31.6	+0.6
	3.3nm,1.0s,baz=90,slow=5.7,SNR=6.0						
AKASG	**Malin Array Be**	**142.79**	**331**	PKhKP		01 42 41.6	
	12nm,0.6s,baz=41,slow=4.3,SNR=81						
KWP	**Kalwaria**	**146.38**	**335**	*e*PKP	PKPdf	01 42 53.8	+3.5
BRTR	**Keskin Array B**	**146.54**	**312**	PKPbc	PKPbc	01 42 54.9	+1.9
	2.7nm,0.5s,baz=132,slow=4.6,SNR=11						
KOLS	**Kolonicke sedl**	**147.11**	**335**	*e*PKP	PKPdf	01 43 00.2	+8.7
KOLS				*e*		01 43 14.7	
UPC	**Upice**	**147.92**	**343**	*e*PKPbc	PKPdf	01 42 58.2	+5.4
UPC				*e*PKPab	PKPab	01 43 03.4	-0.5
DPC	**Dobruska-Polom**	**147.97**	**342**	*e*PKPbc	PKPdf	01 42 58.8	+5.9
DPC				*e*PKPab	PKPab	01 43 03.7	-0.4
PVCC	**Panska Ves**	**148.28**	**344**	*e*PKPbc	PKPdf	01 42 59.7	+6.4
PVCC				*e*PKPab	PKPab	01 43 04.5	-0.9
PRU	**Pruhonice**	**148.79**	**344**	PKPbc	PKPdf	01 43 00.3	+6.2
	9.7nm,0.9s						
PRU				*i* PKPab	PKPab	01 43 06.6	-0.8
NKC	**Novy Kostel**	**149.06**	**346**	*e*PKPbc	PKPdf	01 43 01.4	+6.9
NKC				*e*PKPab	PKPab	01 43 07.7	-0.9
SMOL	**Smolenice**	**149.25**	**339**	*e*PKP	PKPdf	01 43 01.0	+6.1
SMOL				*e*		01 43 08.6	
KHC	**Kasperske Hory**	**149.82**	**344**	*e*PKPbc	PKPdf	01 43 03.1	+7.3
KHC				*e*PKPab	PKPab	01 43 11.3	-0.4
GERES	**GERESS Array B**	**150.06**	**344**	PKPbc	PKPdf	01 43 03.3	+7.2
	1.6nm,0.6s,baz=29,slow=2.5,SNR=15						
GERES				PKPab	PKPab	01 43 11.8	-0.9
	1.1nm,0.6s,baz=18,slow=4.2,SNR=8.2						

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*BJI **16** 01:29:12.9, 45.57S×32.93E, h6km, mB4.9, mb5.3, Ms4.6, Msz4.4*

*IDC **16** 01:29:13.9±0.5, 46.43S×33.87E, mb4.7/12, mb1 4.9/13, mb1mx4.8/16, ML5.1/1, MS4.3/15, Ms1 4.3/15, ms1mx4.3/16, Error ellipse: s-maj=23.6km s-min=16.3km az=42.0*

*SYO **16** 01:29:14.9, 46.36S×33.69E, h10km, MB5.0, MS4.5*

*HRVD **16** 01:29:15.1±0.2, 46.39S×33.80E, h12km, MW5.2/57, Centroid moment Tensor Solution. LP body waves: s40,c59;Mantle waves: s57,c109; Half duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.70±.19; $M_{\theta\theta}$4.43±.19; $M_{\phi\phi}$-3.73±.19; $M_{r\theta}$2.50±.48; $M_{\theta\phi}$5.35±.15; $M_{\phi r}$-1.04±.46; Best double couple: $M_0$7.27×10^{16} NP1: ϕ_s19°,δ68°,λ-176°. NP2:ϕ_s288°,δ86°,λ-22°. Principal axes: T 7.48, Plg13°, Azm336°; N -.42, Plg67°, Azm98°; P -7.06, Plg18°, Azm241°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **16** 01:29:15.1±0.2, 46.37S×33.68E, h10km, mb5.0/21, MS4.5/7 Error ellipse: s-maj=9.9km s-min=6.9km az=71.0*

ISC 16 01:29:13.1±3.8**, 46.56S**±0.04×**33.8E**±0.1**, h1**km±23km**, n131, σ0s82**/76**, mb5.0**/30**, MS4.3**/21**, 5C-4D, Prince Edward Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
SUR	**Sutherland**	**17.31**	**320**	P	**P**	**01 33 13.9**	**-3.6**
	7.4nm,0.3s,baz=137,slow=14,SNR=62						
SUR				LR	LR	01 38 35.5	
	comp=Z,2μm,20.5s,baz=133,slow=33						
SUR	**Sutherland**	**17.31**	**320**	Pn	**P**	**01 33 13.1**	**-4.4**
	424nm,1.0s						
SUR	**Sutherland**	**17.31**	**320**	*e*P	**P**	**01 33 13.4**	**-4.1**
	100nm,1.0s						
BOSA	**Boshof**	**19.13**	**337**	*e*P	**P**	**01 33 34.2**	**-5.7**
	71nm,1.2s						
SYO	**Syowa Base**	**22.70**	**175**	⇓P	**P**	**01 34 17.1**	**+0.2**
SYO	**Syowa Base**	**22.70**	**175**	⇑pP		01 34 19.2	
SYO	**Syowa Base**	**22.70**	**175**	⇑pP		01 34 21.3	
SYO	**Syowa Base**	**22.70**	**175**	⇑PcP	PcP	01 38 08.8	-1.8
SYO	**Syowa Base**	**22.70**	**175**	SH		01 38 24.4	
MAW	**Mawson**	**25.89**	**155**	P	**P**	**01 34 48.2**	**+0.6**
	31nm,1.0s,mb4.9,baz=309,slow=9.5,SNR=22						
MAW				LR	LR	01 42 12.7	
	comp=Z,926nm,21.5s,MS4.3,baz=320,slow=30						
MAW	**Mawson**	**25.89**	**155**	*e*P	**P**	**01 34 47.6**	**0.0**
	50nm,0.9s,mb5.2						
MAIT	**Maitri**	**26.52**	**196**	*e*P	**P**	**01 34 53.4**	**0.0**
TSUM	**Tsumeb**	**30.36**	**329**	P	**P**	**01 35 26.5**	**-2.2**
	17nm,0.6s,mb5.0,baz=148,slow=9.1,SNR=34						
TSUM				LR	LR	01 46 31.1	
	comp=Z,2μm,19.7s,MS4.6,baz=156,slow=34						
TSUM	**Tsumeb**	**30.36**	**329**	*e*P	**P**	**01 35 25.8**	**-2.9**
	44nm,1.1s,mb5.2						
TSUM				LR	LR		
	comp=Z,1μm,20.0s,MS4.6						
SNAA	**Sanae**	**30.48**	**202**	*e*	pP	01 35 32.9	+3.4
SNAA	**Sanae**	**30.48**	**202**	*e*	Px	01 36 32.0	
SNAA	**Sanae**	**30.48**	**202**	*e*	PP	01 36 36.9	+8.3
SNAA	**Sanae**	**30.48**	**202**	*e*S	**S**	**01 40 29.7**	**-0.3**
SNAA	**Sanae**	**30.48**	**202**	LR	LR	01 44 23.5	
	comp=Z,158nm,20.9s,MS3.6,baz=7.5,slow=30						
SNAA	**Sanae**	**30.48**	**202**	⇓*i*P	**P**	**01 35 29.1**	**0.0**
SNAA				*e*		01 35 32.9	
SNAA				*e*		01 36 32.0	
SNAA				*e*		01 36 36.9	
SNAA				*e*		01 38 19.0	
SNAA				*e*		01 40 29.7	
VNA2	**Neumayer--Watz**	**31.32**	**205**	*e*	pP	01 35 41.7	+4.8
VNA2	**Neumayer--Watz**	**31.32**	**205**	*e*	Px	01 36 40.2	
VNA2	**Neumayer--Watz**	**31.32**	**205**	*e*	PP	01 36 45.1	+5.5
VNA2	**Neumayer--Watz**	**31.32**	**205**	*e*S	**S**	**01 40 37.8**	**-5.4**
VNA2	**Neumayer--Watz**	**31.32**	**205**	⇑*i*P	**P**	**01 35 37.6**	**+1.1**
VNA2				*e*		01 35 41.7	
VNA2				*e*		01 36 40.2	
VNA2				*e*		01 36 45.1	
VNA2				*e*		01 38 26.8	
VNA2				*e*S	**S**	**01 40 37.8**	**-5.4**
VNA1	**Neumayer--Stat**	**31.44**	**205**	*e*	pP	01 35 43.2	+5.3
VNA1	**Neumayer--Stat**	**31.44**	**205**	*e*	Px	01 36 41.6	
VNA1	**Neumayer--Stat**	**31.44**	**205**	*e*	PP	01 36 46.4	+5.2
VNA1	**Neumayer--Stat**	**31.44**	**205**	*e*S	**S**	**01 40 38.3**	**-6.8**
VNA1	**Neumayer--Stat**	**31.44**	**205**	⇑*i*P	**P**	**01 35 39.5**	**+1.9**
VNA1				*e*		01 35 43.2	
VNA1				*e*		01 36 41.6	
VNA1				*e*		01 36 46.4	
VNA1				*e*		01 38 26.5	
VNA1				*e*S	**S**	**01 40 38.3**	**-6.8**
LSZ	**Lusaka**	**31.54**	**350**	*e*P	**P**	**01 35 35.8**	**-3.2**
	comp=Z,14nm,0.8s,mb5.0						
VNA3	**Neumayer Olymp**	**32.12**	**205**	*e*	pP	01 35 46.7	+2.8
VNA3	**Neumayer Olymp**	**32.12**	**205**	*e*	Px	01 36 45.6	
VNA3	**Neumayer Olymp**	**32.12**	**205**	*e*	PP	01 36 50.4	+0.4
VNA3	**Neumayer Olymp**	**32.12**	**205**	*e*S	**S**	**01 40 42.9**	**-13**
VNA3	**Neumayer Olymp**	**32.12**	**205**	⇓*i*P	**P**	**01 35 42.9**	**-0.7**
VNA3				*e*		01 35 46.7	
VNA3				*e*		01 36 45.6	
VNA3				*e*		01 36 50.4	
VNA3				*e*		01 38 31.6	
VNA3				*e*S	**S**	**01 40 42.9**	**-13**
CASY	**Casey**	**43.46**	**145**	*e*P	**P**	**01 37 18.0**	**-0.7**
	comp=Z,24nm,1.2s,mb4.8						
CASY				LR	LR		
	comp=Z,357nm,19.0s,MS4.3						
QSPA	**South Pole Qui**	**43.66**	**180**	*e*P	**P**	**01 37 19.6**	**-0.6**
	comp=Z,18nm,1.0s,mb4.8						
QSPA				*e*		01 38 57.3	
QSPA				*e*		01 39 12.6	
QSPA				LR	LR		
	comp=Z,360nm,20.9s,MS4.3						
KMBO	**Kilima Mbogo**	**45.35**	**5**	*e*P	**P**	**01 37 34.5**	**-0.2**
	comp=Z,6.6nm,1.1s,mb4.5						
KMBO				LR	LR		
	comp=Z,261nm,20.0s,MS4.2						
VNDA	**Vanda**	**52.13**	**167**	P	**P**	**01 38 25.8**	**-0.6**
	comp=Z,12nm,0.8s,mb4.9,baz=246,slow=7.9,SNR=58						
VNDA				LR	LR	01 58 43.4	
	comp=Z,602nm,21.1s,MS4.6,baz=219,slow=34						
VNDA	**Vanda**	**52.13**	**167**	*e*P	**P**	**01 38 25.6**	**-0.8**
	comp=Z,15nm,0.9s,mb4.9						
VNDA				LR	LR		
	comp=Z,576nm,21.0s,MS4.6						
PMSA	**Palmer Station**	**52.14**	**213**	*e*P	**P**	**01 38 27.1**	**+0.5**
	comp=Z,18nm,0.8s,mb5.0						
SBA	**Scott Base**	**52.57**	**169**	*e*P	**P**	**01 38 29.7**	**0.0**
	comp=Z,19nm,0.9s,mb5.0						
SBA				LR	LR		
	comp=Z,661nm,20.0s,MS4.7						
DBIC	**Dimbokro**	**63.14**	**316**	LR	LR	02 05 27.7	
	comp=Z,142nm,18.9s,MS4.2,baz=140,slow=34						
KLBR	**Kellerberrin**	**63.95**	**109**	*e*P	**P**	**01 39 51.3**	**+1.4**
	comp=Z,41nm,1.5s,mb5.4						
DJNS	**Zahran al Janu**	**64.57**	**10**	P	**P**	**01 39 55.0**	**+0.8**
NAMS	**An Nimas**	**65.86**	**9**	P	**P**	**01 40 02.9**	**+0.4**
TATS	**Tathlith**	**66.37**	**10**	P	**P**	**01 40 05.6**	**-0.1**
BLJS	**Baljurashi**	**66.50**	**8**	P	**P**	**01 40 07.4**	**+0.8**
LTHS	**Al Lith**	**66.79**	**7**	P	**P**	**01 40 08.0**	**-0.3**
TRQA	**Tornquist**	**67.07**	**239**	*e*P	**P**	**01 40 08.4**	**-1.5**
	comp=Z,27nm,1.1s,mb5.4						
AFFS	**‘Afif**	**70.65**	**9**	P	**P**	**01 40 31.9**	**-0.3**
UMJS	**Umm Lajj**	**71.53**	**3**	P	**P**	**01 40 37.5**	**0.0**
CPUP	**Villa Florida**	**72.11**	**251**	P	**P**	**01 40 40.2**	**-0.7**
	comp=Z,18nm,0.9s,mb5.2,baz=154,slow=5.2,SNR=19						
CPUP				LR	LR	02 04 43.5	
	comp=Z,170nm,21.3s,MS4.3,baz=157,slow=30						
CPUP	**Villa Florida**	**72.11**	**251**	*e*P	**P**	**01 40 39.8**	**-1.2**
	comp=Z,26nm,1.0s,mb5.3						
KBRS	**Khaybar**	**72.18**	**5**	P	**P**	**01 40 41.0**	**-0.4**
ARSS	**Ar Rass**	**72.61**	**9**	P	**P**	**01 40 43.6**	**-0.3**
BAO	**Brasilia Array**	**73.20**	**265**	P	**P**	**01 40 50.0**	**+2.4**
BDFB	**Brasilia**	**73.22**	**265**	P	**P**	**01 40 46.8**	**-0.8**
	comp=Z,3.7nm,1.1s,mb4.4,baz=139,slow=9.3,SNR=2.5						
BDFB				LR	LR	02 05 48.4	
	comp=Z,236nm,18.9s,MS4.5,baz=134,slow=30						
HILS	**Ha’il**	**73.95**	**7**	P	**P**	**01 40 52.1**	**+0.4**
AYUS	**‘Aynunah**	**74.41**	**1**	P	**P**	**01 40 54.7**	**+0.3**
TBKS	**Tabuk**	**74.48**	**3**	P	**P**	**01 40 55.2**	**+0.4**
BDAS	**Al Bad‘**	**74.65**	**1**	P	**P**	**01 40 56.0**	**+0.2**
TAYS	**Tayyib Ism**	**74.77**	**1**	P	**P**	**01 40 56.7**	**+0.3**
JMQS	**Jabal Moqyreh**	**75.12**	**2**	P	**P**	**01 40 58.9**	**+0.4**
HAQS	**Haql**	**75.27**	**1**	P	**P**	**01 40 59.7**	**+0.3**
JMOS	**Jabal al Moall**	**75.38**	**1**	P	**P**	**01 41 00.1**	**+0.1**
RDF	**Al-Radifah**	**76.16**	**12**	*e*P	**P**	**01 41 04.3**	**-0.1**
RDF				AMb	AMB	01 41 05.3	
	comp=Z,65nm,1.0s,mb5.7						
RST	**Umm Al-Ruwaisa**	**76.64**	**12**	*e*P	**P**	**01 41 07.0**	**-0.1**
RST				AMb	AMB	01 41 08.2	
	comp=Z,37nm,1.1s,mb5.4						
UMR	**Umm Al-Rimmam**	**76.80**	**12**	*e*P	**P**	**01 41 07.7**	**-0.2**
UMR				AMb	AMB	01 41 09.8	
	comp=Z,61nm,1.0s,mb5.7						
MIB	**Mutribah**	**76.99**	**12**	*e*P	**P**	**01 41 09.0**	**0.0**
MIB				AMb	AMB	01 41 11.2	
	comp=Z,41nm,1.2s,mb5.4						
FITZ	**Fitzroy Crossi**	**78.33**	**104**	*e*P	**P**	**01 41 16.7**	**+0.1**
	comp=Z,8.8nm,0.9s,mb4.9						
STKA	**Stephens Creek**	**78.42**	**124**	*e*P	**P**	**01 41 17.9**	**+1.1**
	comp=Z,7.8nm,0.8s,mb4.9						
STKA	**Stephens Creek**	**78.42**	**124**	P	**P**	**01 41 16.3**	**-0.5**
	comp=Z,8.4nm,0.8s,mb4.9,baz=226,slow=3.1,SNR=15						
STKA				LR	LR	02 10 09.7	
	comp=Z,145nm,18.9s,MS4.3,baz=209,slow=31						
ASPA	**Alice Springs**	**79.76**	**113**	*e*P	**P**	**01 41 23.2**	**-1.1**
ASAR	**Alice Springs**	**79.76**	**113**	P	**P**	**01 41 23.6**	**-0.6**
	comp=Z,5.9nm,0.7s,mb4.7,baz=225,slow=5.5,SNR=21						
ASAR				LR	LR	02 09 44.3	
	comp=Z,135nm,19.0s,MS4.3,baz=200,slow=30						
LVC	**Limon Verde**	**82.15**	**246**	*e*P	**P**	**01 41 37.3**	**+0.4**
	comp=Z,17nm,1.1s,mb5.1						
WRA	**Warramunga Arr**	**82.73**	**111**	P	**P**	**01 41 39.2**	**-0.8**
	comp=Z,3.3nm,0.8s,mb4.6,baz=219,slow=4.7,SNR=17						
WRA				LR	LR	02 12 45.6	
	comp=Z,237nm,20.1s,MS4.5,baz=250,slow=32						
WB2	**Warramunga Arr**	**82.74**	**111**	*e*P	**P**	**01 41 39.2**	**-0.8**
BRTR	**Keskin Array B**	**85.91**	**360**	P	**P**	**01 41 54.8**	**-0.7**
	comp=Z,2.7nm,0.9s,mb4.4,baz=180,slow=6.2,SNR=15						
LPAZ	**La Paz**	**86.28**	**250**	P	**P**	**01 41 59.4**	**+1.5**
	comp=Z,4.7nm,0.8s,mb4.7,baz=135,slow=5.4,SNR=11						
LPAZ				LR	LR	02 18 36.4	
	comp=Z,136nm,18.2s,MS4.4,baz=292,slow=34						
LPAZ	**La Paz**	**86.28**	**250**	*e*P	**P**	**01 41 58.4**	**+0.6**
	comp=Z,6.7nm,0.9s,mb4.8						
CMAR	**Chiang Mai Arr**	**87.28**	**60**	P	**P**	**01 42 03.1**	**+0.4**
	comp=Z,0.8nm,0.5s,mb4.2,baz=241,slow=5.1,SNR=5.6						
CMAR				LR	LR	02 17 34.8	
	comp=Z,83nm,18.5s,MS4.2,baz=220,slow=33						
SAML	**Samuel**	**88.33**	**259**	*e*P	**P**	**01 42 06.8**	**-1.0**
	comp=Z,5.9nm,0.5s,mb5.2						
ESDC	**Sonseca Array**	**92.24**	**332**	P	**P**	**01 42 25.3**	**-0.3**
	comp=Z,3.5nm,0.9s,mb4.7,baz=160,slow=4.4,SNR=10						
ESDC				LR	LR	02 26 06.7	
	comp=Z,163nm,18.4s,MS4.5,baz=135,slow=37						
KMI	**Kunming**	**94.65**	**58**	*e*P	**P**	**01 42 37.0**	**+0.1**
KMI				S	S	01 53 48.3	+0.4
KMI				SS	SS	02 00 17.8	+3.0
KMI				SSS	SSS	02 03 57.5	+1.1
KMI				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb5.3						
KMI				LR	LR		
	comp=Z,170nm,38.6s,MS4.2						
NIE	**Niedzica**	**96.31**	**351**	*e*P	**P**	**01 42 45.0**	**+1.0**
NIE				*e*		01 42 58.0	
AKASG	**Malin Array Be**	**96.96**	**357**	LR	LR	02 30 19.6	
	comp=Z,89nm,19.4s,MS4.3,baz=200,slow=38						
OJC	**Ojcow**	**97.16**	**351**	*e*P	pP	01 42 58.7	+11
OJC	**Ojcow**	**97.16**	**351**	*e*P	**P**	**01 42 58.7**	**+11**
KSP	**Ksiaz**	**98.19**	**349**	*e*P	**P**	**01 42 57.2**	**+4.8**
KSP				*e*pP	pP	01 43 01.4	+8.6
BRG	**Berggiesshubel**	**98.56**	**347**	*e*P	**P**	**01 42 58.9**	**+4.9**
	comp=Z,7.8nm,1.0s,mb5.4						
BRG				*i*		01 43 03.8	
BRG				LR	LR		
	comp=Z,360nm,20.4s,MS4.9						
CLL	**Collm**	**99.12**	**347**	⇓*i*P	**P**	**01 42 58.2**	**+1.7**
	comp=Z,20nm,1.0s,mb5.8						
CLL				*i*		01 43 02.7	
NJ2	**Nanjing**	**109.38**	**64**	*e*PDIF	Pdif	01 43 44.8	+2.2
NJ2				PP	PP	01 48 22.0	+2.6
SSE	**Sheshan**	**110.19**	**66**	PDIF	Pdif	01 43 45.3	-0.9
SSE				PP	PP	01 48 22.3	-2.8
SSE				S		01 55 59.3	
SSE				LR	LR		
	comp=N,41nm,20.7s,MS4.1						
SSE				LR	LR		
	comp=E,39nm,20.7s,MS4.1						
SSE				LR	LR		
	comp=Z,44nm,19.4s,MS4.0						
LTX	**Lajitas**	**142.81**	**258**	*e*PKP	PKPdf	01 48 47.6	-2.4
TXAR	**Lajitas Array**	**142.81**	**258**	PKP	PKPdf	01 48 48.6	-1.4
	comp=Z,2.1nm,0.7s,baz=145,slow=5.8,SNR=16						
TXAR	**Lajitas Array**	**142.81**	**258**	PKP	PKPdf	01 48 48.6	-1.4
CLNB	**Carlsbad**	**144.75**	**261**	*e*PKP	PKPdf	01 48 51.1	-2.2
GDL2	**Guadalupe Moun**	**145.04**	**261**	*e*PKP	PKPdf	01 48 51.8	-2.1
CPRX	**Cap Rock**	**145.19**	**262**	*e*PKP	PKPdf	01 48 52.2	-1.9
BNM	**Barren Site**	**147.72**	**262**	PKPdf	PKPdf	01 48 56.2	-2.0
LPM	**Los Pinos Moun**	**147.81**	**262**	*e*PKPbc	PKPdf	01 49 00.6	+2.3
ANMO	**Albuquerque**	**148.05**	**263**	PKPdf	PKPdf	01 48 58.1	-0.7
LAZ	**Ladron**	**148.21**	**262**	*e*PKPdf	PKPdf	01 48 57.1	-1.9
SDCO	**Great Sand Dun**	**148.85**	**268**	*e*PKPdf	PKPdf	01 48 58.5	-1.4
TUC	**Tucson**	**149.44**	**255**	*e*PKPbc	PKPdf	01 49 03.5	+2.4
ISCO	**Idaho Springs**	**149.89**	**272**	PKPdf	PKPdf	01 48 59.8	-1.8
PHWY	**Pilot Hill**	**150.42**	**275**	*e*PKPbc	PKPdf	01 49 05.7	+3.4

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**150.50**	**281**	*e*PKPdf	PKPdf	01 49 01.0	-1.3
PV01	**Paradox Valley**	**151.16**	**267**	*e*PKPdf	PKPdf	01 49 01.9	-1.6
PV10	**Paradox Valley**	**151.59**	**267**	*e*PKPdf	PKPdf	01 49 03.0	-1.1
RWWY	**Rawlins**	**151.78**	**274**	*e*PKP	PKPdf	01 49 03.7	-0.6
LAO	**LASA Array**	**152.74**	**285**	PKP	PKPdf	01 49 04.6	-1.0
SRU	**San Rafael**	**152.97**	**267**	*e*PKP	PKPdf	01 49 03.7	-2.3
TMUT	**Trail Mountain**	**153.52**	**267**	PKP	PKPdf	01 49 05.7	-1.1
BAR	**Barrett**	**153.53**	**249**	PKP	PKPdf	01 49 06.3	-0.8
PDAR	**Pinedale Array**	**153.81**	**275**	PKP	PKPdf	01 49 07.8	+0.7
	comp=Z,0.6nm,0.7s,baz=90,slow=4.4,SNR=7.0						
PDAR				PKPbc	PKPdf	01 49 16.6	+9.5
	comp=Z,2.1nm,0.9s,baz=135,slow=2.1,SNR=10						
PDAR				PKPab	PKPab	01 49 29.6	+1.1
	comp=Z,3.2nm,0.9s,baz=87,slow=3.6,SNR=9.0						
MSU	**Marysvale**	**153.82**	**264**	*e*PKP	PKPdf	01 49 06.6	-0.7
LDFC	**Landfair**	**153.98**	**255**	PKPbc	PKPdf	01 49 15.6	+8.0
NEN	**Nelson**	**154.13**	**256**	PKP	PKPdf	01 49 05.7	-2.1
JLU	**Jordanelle**	**154.26**	**269**	PKP	PKPdf	01 49 08.0	+0.2
NLU	**North Lily Min**	**154.42**	**267**	*e*PKP	PKPdf	01 49 06.0	-2.0
TCUT	**Toone Canyon**	**154.45**	**270**	PKPbc	PKPdf	01 49 15.5	+7.5
HWUT	**Hardware Ranch**	**154.75**	**271**	PKP	PKPdf	01 49 07.7	-0.7
TPAW	**Teton Pass**	**155.01**	**276**	*e*PKP	PKPdf	01 49 08.3	-0.4
DUG	**Dugway**	**155.03**	**267**	*e*PKP	PKPdf	01 49 08.4	-0.4
YKA	**Yellowknife Ar**	**156.05**	**323**	PKPab	PKPab	01 49 33.5	-3.9
	comp=Z,3.2nm,0.9s,baz=59,slow=4.2,SNR=5.0						
YKA	**Yellowknife Ar**	**156.05**	**323**	PKPab	PKPab	01 49 33.5	-3.9
NVAR	**Mina Array Bea**	**157.96**	**258**	PKPab	PKPab	01 49 45.0	-1.4
	comp=Z,1.2nm,0.7s,baz=127,slow=5.7,SNR=5.8						
ILAR	**Eielson Array**	**161.74**	**1**	PKPab	PKPab	01 49 59.6	-2.3
	comp=Z,1.1nm,0.8s,baz=342,slow=3.1,SNR=7.1						

DJA 16 01:29:21.2±0.9**, 9.84S**×**113.88E, h33**^{km}**, MD4.8**/3, **ML4.3**/3**, 3C-5D, Error ellipse: s-maj=20.6km s-min=14.7km az=30.0, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.38**	**11**	⇓*i*Pn	Pn	01 29 43.0	-1.5
	316nm,0.2s						
SRDI	**Scrawed**	**1.38**	**11**	⇑*i*P	P	01 29 43.6	-0.7
SRDI				⇓*i*Sn	Sn	01 30 01.4	-0.3
KELI	**Kelakatan**	**1.73**	**21**	⇑*i*Pn	Pn	01 29 48.5	-0.9
	186nm,0.2s						
KELI	**Kelakatan**	**1.73**	**21**	⇑*i*P	P	01 29 48.9	-0.4
KELI				⇓*i*Sn	Sn	01 30 07.7	-2.8
RATI	**Rata**	**1.98**	**56**	⇓*i*Pn	Pn	01 29 52.6	-0.4
	178nm,0.2s						
RATI				⇓*i*Sn	Sn	01 30 11.3	-5.6

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*IDC **16** 01:35:52.9±0.6, 0.05S×17.58W, mb4.1/11, mb1 4.3/12, mb1mx4.2/20, ML4.5/1, MS3.7/2, Ms1 3.7/2, ms1mx3.1/20, Error ellipse: s-maj=25.9km s-min=16.3km az=134.0*

*NEIC **16** 01:35:54.5±0.5, 0.03S×17.43W, h10^{km}, mb4.5/1, Error ellipse: s-maj=19.7km s-min=8.3km az=147.0*

ISC 16 01:35:53.0±0.4**, 0.2N**±0.1×**17.49W**±0.08**, h10**^{km}**, n27,** σ**1**^{s}**14**/25**, mb4.2**/14**, MS3.6**/1**, 1C-2D, North of Ascension Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LIC	**Lamto**	**13.82**	**64**	*e*P	**P**	**01 39 10.6**	**-0.9**
	91nm,1.6s						
TIC	**Toumodi**	**14.01**	**62**	*e*P	**P**	**01 39 12.7**	**-1.4**
	27nm,0.2s						
KIC	**Kosan Boka**	**14.13**	**64**	*e*P	**P**	**01 39 14.8**	**-0.9**
	57nm,0.8s						
DBIC	**Dimbokro**	**14.17**	**63**	Pn	**P**	**01 39 15.9**	**-0.2**
	2.2nm,0.3s,baz=227,slow=14,SNR=37						
DBIC				LR	LR	01 43 36.1	
	comp=Z,276nm,18.7s,baz=229,slow=32						
DBIC	**Dimbokro**	**14.17**	**63**	*e*P	**P**	**01 39 14.4**	**-1.7**
	13nm,0.6s						
BDFB	**Brasilia**	**33.99**	**241**	P	**P**	**01 42 37.6**	**-1.7**
	6.6nm,0.9s,mb4.6,baz=39,slow=6.9,SNR=4.5						
TSUM	**Tsumeb**	**39.41**	**121**	P	**P**	**01 43 25.3**	**+0.2**
	3.4nm,0.9s,mb4.1,baz=265,slow=7.7,SNR=4.0						
TSUM				LR	LR	01 56 08.2	
	comp=Z,108nm,21.6s,MS3.6,baz=219,slow=31						
TSUM	**Tsumeb**	**39.41**	**121**	P	**P**	**01 43 25.2**	**+0.2**
TSUM				LR	LR	01 56 08.2	
SAML	**Samuel**	**46.40**	**258**	*e*P	**P**	**01 44 21.6**	**-0.3**
CPUP	**Villa Florida**	**46.54**	**232**	P	**P**	**01 44 21.6**	**-1.3**
	3.1nm,1.0s,mb4.2,baz=66,slow=11,SNR=2.8						
LPAZ	**La Paz**	**52.54**	**249**	P	**P**	**01 45 08.6**	**-0.6**
	1.3nm,0.7s,mb4.0,baz=72,slow=2.5,SNR=5.6						
GERES	**GERESS Array B**	**55.45**	**25**	P	**P**	**01 45 31.3**	**+1.1**
	1.3nm,0.7s,mb4.1,baz=211,slow=7.8,SNR=8.9						
ASF	**Jabal al Asfar**	**60.31**	**53**	P	**P**	**01 46 06.2**	**+1.6**
	3.5nm,0.8s,mb4.5,baz=65,slow=4.2,SNR=7.8						
BRTR	**Keskin Array B**	**60.94**	**43**	P	**P**	**01 46 10.6**	**+1.9**
	1.0nm,0.6s,mb4.2,baz=225,slow=6.3,SNR=6.0						
AKASG	**Malin Array Be**	**64.02**	**31**	P	**P**	**01 46 28.7**	**-0.4**
	0.4nm,0.4s,mb3.8,baz=233,slow=6.1,SNR=5.6						
FINES	**FINESS Array B**	**69.48**	**21**	P	**P**	**01 47 04.0**	**+0.5**
	1.5nm,0.6s,mb4.1,baz=166,slow=7.9,SNR=9.6						
FINES	**FINESS Array B**	**69.48**	**21**	P	**P**	**01 47 04.0**	**+0.5**
VNA1	**Neumayer--Stat**	**70.94**	**177**	⇓*i*	**P**	**01 47 13.5**	**+1.2**
VNA2	**Neumayer--Watz**	**71.27**	**177**	⇓*i*	**P**	**01 47 15.5**	**+1.3**
VNA3	**Neumayer Olymp**	**71.46**	**177**	⇑*i*	**P**	**01 47 16.6**	**+1.2**
JOF	**Joensuu**	**72.31**	**21**	*e*p	**P**	**01 47 21.1**	**+0.5**
	3.6nm,0.9s,mb4.3						
SNAA	**Sanae**	**72.33**	**175**	P	**P**	**01 47 18.3**	**-2.3**
	0.7nm,0.9s,mb3.6						
MAW	**Mawson**	**86.46**	**158**	P	**P**	**01 48 36.2**	**-0.6**
	1.2nm,0.7s,mb4.2,baz=272,slow=6.0,SNR=4.1						
TXAR	**Lajitas Array**	**86.59**	**299**	P	**P**	**01 48 38.3**	**-0.1**
	1.6nm,0.7s,mb4.4,baz=108,slow=5.7,SNR=22						
QSPA	**South Pole Qui**	**90.22**	**180**	*e*P	**P**	**01 48 56.0**	**+1.4**
	2.3nm,0.8s,mb4.6						
ASAR	**Alice Springs**	**143.71**	**132**	PKhKP		01 55 27.6	
	0.9nm,0.8s,baz=206,slow=5.1,SNR=5.3						
WRA	**Warramunga Arr**	**146.12**	**127**	PKPbc	PKPbc	01 55 35.0	+0.5
	1.1nm,0.7s,baz=244,slow=2.8,SNR=5.6						

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*BER **16** 02:13:13.2±4.8, 67.76N×20.27E, ML1.6, Suspected explosion*

HEL 16 02:13:13.3±0.1**, 67.83N**×**20.17E, ML1.6, ML2.4**(UPP)**, ML1.8**(BER)**, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**26**	*i* P	Pg	02 13 15.4	-0.7
KUA				*i* S	Sg	02 13 17.5	-0.5
NIKU	**Nikkaluokta**	**0.43**	**276**	*i* P	Pg	02 13 21.0	-1.0
NIKU				*i* S	Sg	02 13 27.2	-0.6
DUNU	**Dundret**	**0.73**	**168**	*i* P	Pg	02 13 26.4	-1.4
DUNU				*i* S	Sg	02 13 35.6	-1.9
MASU	**Masugnsbyn**	**0.79**	**117**	*i* P	Pg	02 13 27.2	-1.9
KIF	**Kilpisjarvi**	**1.20**	**11**	*e*P	Pb	02 13 35.8	-0.9
KIF				*e*S	Sb	02 13 51.1	-1.5
ERTU	**Ertsjaerv**	**1.50**	**148**	*e*P	Pn	02 13 39.8	-1.8
KTK1	**Kautokeino**	**1.64**	**42**	*e*P	Pn	02 13 43.4	-0.2
KTK1				*e*SG	Sg	02 14 04.4	-3.6
KTK1				AML	AML	02 14 08.8	
	comp=Z,6.7nm,0.2s						
TRO	**Tromso**	**1.87**	**347**	*e*P	Pn	02 13 45.5	-1.4
TRO				*e*S	Sn	02 14 10.4	-1.1
TRO				AML	AML	02 14 13.6	
	comp=Z,6.7nm,0.4s						
SGF	**Sodankyl**	**2.46**	**96**	*e*P	Pn	02 13 55.4	+0.1
SGF				*e*S	Sn	02 14 26.2	-0.3
LOF	**Lofoten**	**2.52**	**280**	*e*	Pn	02 14 34.9	+39
LOF				AML	AML	02 14 43.5	
	comp=Z,5.1nm,0.9s						
LOF	**Lofoten**	**2.52**	**280**	*e*Sg	Sg	02 14 34.9	-2.3
LOF				AML	AML	02 14 43.5	
	comp=Z,5.1nm,0.9s						
MELS	**Mels**	**2.68**	**252**	*e*Sg	Sg	02 14 36.7	-5.8
MOR8	**Moi Rana**	**2.80**	**236**	*e*SG	Sg	02 14 34.0	-12
MOR8				AML	AML	02 14 38.0	
	comp=Z,13nm,0.3s						
KEV	**Kevo**	**3.15**	**49**	*e*P	Pn	02 14 04.8	-0.3
KEV				*e*S	Sn	02 14 41.6	-2.3
KEV				MSG		02 14 50.9	
	comp=Z,1.4nm,0.2s						
OUL	**Oulu**	**3.59**	**138**	*e*SG	Sg	02 15 02.1	-11
OUL				MSG		02 15 03.3	
	comp=Z,1.1nm,0.3s						
MSF	**Maaselka**	**3.99**	**115**	*e*P	Pn	02 14 16.6	-0.5
MSF				*e*S	Sn	02 15 03.9	-1.4
MSF				MSG		02 15 23.3	
	comp=Z,0.8nm,0.2s						
NSS	**Namsos**	**4.69**	**229**	*e*SG	Sg	02 15 37.8	-12
KJN	**Kajaani**	**4.86**	**137**	*e*P	Pn	02 14 27.7	-1.8
KJN				*e*S	Sn	02 15 22.6	-4.6

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*SKHL **16** 02:20:19.1±0.5, 46.00N×152.90E, h33^{km}, mb5.3/4*

*MOS **16** 02:20:23.8±1.6, 46.47N×152.30E, h54^{km}, mb4.1/3, Error ellipse: s-maj=30.8km s-min=15.2km az=137.3*

*NEIC **16** 02:20:26.1±0.6, 46.22N×152.28E, mb3.9/2, Error ellipse: s-maj=19.6km s-min=8.4km az=154.0*

*IDC **16** 02:20:27.6±0.8, 46.36N×152.43E, h62^{km}±6^{km}, mb3.6/6, mb1 4.1/7, mb1mx3.8/20, Error ellipse: s-maj=32.5km s-min=17.0km az=132.0*

ISC 16 02:20:25.1±0.5**, 46.26N**±0.09×**152.27E**±0.09**, h64**^{km}±6.4^{km}**:pP-P, n34,** σ**1**^{s}**06**/40**, mb3.9**/8**, 2C, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.25**	**253**	*e*P	**P**	**02 21 13.0**	**-1.9**
KUR				AMB	AMB	02 21 13.0	
	60nm,0.8s						
KUR				AMB	AMB	02 21 13.0	
	430nm,0.8s						
KUR				*e*S	**S**	**02 21 53.8**	**+1.2**
KUR				A		02 21 58.7	
	970nm,0.9s						
KUR				A		02 21 58.7	
	710nm,0.9s						
KUR	**Kuril'sk**	**3.25**	**253**	*e*PN	**P**	**02 21 13.0**	**-1.9**
KUR				*e*S	**S**	**02 21 53.8**	**+1.2**
KUR				pmax	pmax		
	comp=N,60nm,0.8s						
KUR				pmax	pmax		
	comp=E,60nm,0.8s						
KUR				pmax	pmax		
	comp=Z,430nm,0.8s						
KUR				smax			
	comp=N,710nm,0.9s						
KUR				smax			
	comp=E,370nm,0.9s						
YUK	**Yuzh-Kuril'sk**	**5.05**	**246**	*e*P	**P**	**02 21 38.6**	**-1.5**
YUK				AMB	AMB	02 21 41.8	
	comp=E,430nm,0.2s						
YUK				*e*S	**S**	**02 22 37.8**	**0.0**
YUK				A		02 22 45.0	
	comp=E,390nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.05**	**246**	*e*PN	**P**	**02 21 38.6**	**-1.5**
YUK				*e*S	**S**	**02 22 37.8**	**0.0**
YUK				pmax	pmax		
	comp=Z,430nm,0.2s						
YUK				smax			
	comp=N,390nm,0.5s						
YUK				smax			
	comp=E,390nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.05**	**246**	*e*Pn	**P**	**02 21 38.6**	**-1.5**
	comp=E,430nm,0.2s						
YUK				*e*S	**S**	**02 22 37.8**	**0.0**
SKR	**Severo-Kuril's**	**5.11**	**29**	*e*P	**P**	**02 21 35.2**	**-5.7**
SKR				AMB	AMB	02 21 38.7	
	comp=E,80nm,0.5s						
SKR				AMB	AMB	02 21 38.7	
	comp=E,150nm,0.5s						
SKR				A		02 22 56.5	
	comp=E,140nm,0.5s						
SKR				A		02 22 56.5	
	comp=E,310nm,0.5s						
SKR				A		02 22 56.5	
	comp=E,170nm,0.5s						
SKR	**Severo-Kuril's**	**5.11**	**29**	*e*PN	**P**	**02 21 35.2**	**-5.7**
SKR				*e*S	**S**	**02 22 39.0**	**-0.2**
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,150nm,0.5s						
SKR				smax			
	comp=N,140nm,0.5s						
SKR				smax			
	comp=E,310nm,0.5s						
SKR	**Severo-Kuril's**	**5.11**	**29**	*e*Pn	**P**	**02 21 35.2**	**-5.7**
	comp=E,150nm,0.5s						
SKR				*e*S	**S**	**02 22 39.0**	**-0.2**
YSS	**Yuzh-Sakhalins**	**6.59**	**279**	⇑*e*P	**P**	**02 22 01.7**	**+0.2**
YSS				AMB	AMB	02 22 03.7	
	comp=E,60nm,1.0s						
YSS	**Yuzh-Sakhalins**	**6.59**	**279**	⇑*e*Pn	**P**	**02 22 01.7**	**+0.2**
	comp=E,60nm,1.0s						
ASAJ	**Asahikawa**	**7.17**	**256**	P	**P**	**02 22 12.4**	**+3.0**
	comp=E,1.9nm,0.3s,baz=78,slow=7.8,SNR=8.9						
ASAJ	**Asahikawa**	**7.17**	**256**	PN	**P**	**02 22 12.5**	**+3.0**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PET	**Petropavlovsk**	**7.93**	**29**	P	**P**	**02 22 24.0**	**+3.9**
MAJO	**Matsushiro**	**14.32**	**232**	P	**P**	**02 23 44.4**	**-1.4**
FX1	**Attu Island--F**	**15.05**	**56**	P	**P**	**02 23 54.4**	**-0.7**
	comp=Z,9.0nm,0.3s,baz=314,slow=1.5,SNR=34						
FX1	**Attu Island--F**	**15.05**	**56**	P	**P**	**02 23 54.4**	**-0.7**
FX1				pmax	pmax		
	comp=Z,9.0nm,0.3s						
FX1	**Attu Island--F**	**15.05**	**56**	*e*P	**P**	**02 23 53.5**	**-1.6**
YAK	**Yakutsk**	**20.43**	**329**	P	**P**	**02 25 00.1**	**+0.9**
IMA	**Indian Mountai**	**34.54**	**36**	*e*P	**P**	**02 27 08.6**	**-0.3**
ILAR	**Eielson Array**	**37.29**	**38**	P	**P**	**02 27 31.1**	**-1.0**
	comp=Z,0.4nm,0.6s,mb3.5,baz=260,slow=7.3,SNR=6.3						
ILAR				pP	pP	02 27 47.5	-0.6
	comp=Z,2.2nm,0.9s,baz=263,slow=8.2,SNR=8.3						
ILAR	**Eielson Array**	**37.29**	**38**	P	**P**	**02 27 31.1**	**-1.0**
ILAR				*PP	pP	02 27 47.5	-0.7
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NVAR	**Mina Array Bea**	**63.18**	**62**	P	**P**	**02 30 48.9**	**+0.4**
	comp=Z,0.7nm,0.7s,mb3.9,baz=307,slow=5.7,SNR=5.1						
PDAR	**Pinedale Array**	**65.50**	**53**	P	**P**	**02 31 03.9**	**+0.4**
	comp=Z,2.0nm,0.7s,mb4.2,baz=319,slow=2.5,SNR=24						
WRA	**Warramunga Arr**	**67.86**	**198**	P	**P**	**02 31 19.8**	**+1.1**
	comp=Z,0.8nm,0.9s,mb3.7,baz=15,slow=6.1,SNR=3.2						
WRA				pP	pP	02 31 36.6	+0.6
	comp=Z,2.0nm,1.0s,baz=19,slow=6.6,SNR=5.6						
WRA	**Warramunga Arr**	**67.86**	**198**	P	**P**	**02 31 19.8**	**+1.1**
WRA				*PP	pP	02 31 36.6	+0.6
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
WRA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
NB2	**NORSAR Subarra**	**68.50**	**341**	P	**P**	**02 31 20.4**	**-1.6**
	comp=Z,1.1nm,0.6s,mb4.0,baz=29,slow=6.2						
NOA	**NORSAR Array B**	**68.50**	**341**	P	**P**	**02 31 20.8**	**-1.2**
	comp=Z,1.2nm,0.8s,mb3.9,baz=27,slow=5.9,SNR=3.4						
NOA				pP	pP	02 31 41.0	+1.7
	comp=Z,0.3nm,0.6s,baz=23,slow=4.3,SNR=1.8						
NOA	**NORSAR Array B**	**68.50**	**341**	P	**P**	**02 31 20.8**	**-1.2**
NOA				*PP	pP	02 31 41.0	+1.7
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
PV10	**Paradox Valley**	**68.72**	**56**	*e*P	**P**	**02 31 24.3**	**+0.5**
SDCO	**Great Sand Dun**	**71.18**	**55**	*e*P	**P**	**02 31 39.1**	**+0.4**
	comp=Z,0.7nm,0.7s,mb3.7						
ASAR	**Alice Springs**	**71.56**	**198**	pP	pP	02 32 00.5	+1.8
	comp=Z,1.0nm,0.8s,baz=15,slow=5.1,SNR=6.0						
LTX	**Lajitas**	**78.24**	**60**	P	**P**	**02 32 19.8**	**+0.4**
	comp=Z,1.7nm,0.6s,mb4.2						
TXAR	**Lajitas Array**	**78.24**	**60**	P	**P**	**02 32 20.6**	**+1.2**
	comp=Z,2.1nm,0.8s,mb4.1,baz=301,slow=4.1,SNR=27						
TXAR				pP	pP	02 32 35.7	-1.3
	comp=Z,0.9nm,0.5s,baz=294,slow=4.2,SNR=5.6						
TXAR	**Lajitas Array**	**78.24**	**60**	P	**P**	**02 32 20.6**	**+1.2**
TXAR				pP	pP	02 32 35.7	-1.3

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*BJI **16** 02:23:06.0, 46.49N×96.73E, h14^{km}, ML4.2, Ms3.7, Msz3.4*

*IDC **16** 02:23:14.8±3.3, 46.31N×96.43E, mb3.8/5, mb1 3.9/7, mb1mx3.7/20, ML3.9/2, Error ellipse: s-maj=84.5km s-min=18.3km az=175.0*

*MOS **16** 02:23:14.0±1.0, 46.09N×96.41E, h15^{km}, mb4.2/3, Error ellipse: s-maj=31.7km s-min=20.8km az=114.3*

*NEIC **16** 02:23:14.5±1.8, 45.99N×96.43E, h10^{km}, mb3.9/1, Error ellipse: s-maj=40.8km s-min=10.4km az=179.0*

ISC 16 02:23:11.0±0.6**, 45.77N**±0.07×**96.5E**±0.1**, h10**^{km}**, n17,** σ**0**^{s}**96**/20**, mb3.7**/6**, Mongolia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZAK	**Zakamensk**	**6.49**	**42**	*e*P	**Pn**	**02 24 49.1**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,16nm,0.8s						
ZAK	**Zakamensk**	**6.49**	**42**	*e*P	**Pn**	**02 24 49.1**	**+0.2**
	comp=Z,16nm,0.8s						
GTA	**Gaotai**	**6.81**	**158**	P	**Pn**	**02 24 57.5**	**+4.0**
GTA				PG	**Pg**	**02 25 19.8**	**-7.2**
GTA				S	**Sn**	**02 26 11.5**	**-0.4**
GTA				Smax			
	comp=N,35nm,0.8s						
GTA				Smax			
	comp=E,65nm,0.8s						
GTA				LR	LR		
	comp=N,146nm,6.1s						
GTA				LR	LR		
	comp=E,326nm,8.0s						
GTA				LR	LR		
	comp=Z,151nm,6.5s						
SONM	**Songino Array**	**7.12**	**70**	Pn	**Pn**	**02 24 58.9**	**+1.2**
	comp=Z,1.2nm,0.3s,baz=258,slow=14,SNR=16						
SONM				Pg	**Pg**	**02 25 24.0**	**-9.1**
	comp=Z,2.2nm,0.3s,baz=259,slow=18,SNR=5.6						
SONM				Lg		02 26 55.5	
	comp=Z,5.8nm,0.3s,baz=249,slow=30,SNR=8.5						
AKAR	**Aktash**	**7.48**	**311**	*e*P	**Pn**	**02 25 02.1**	**-0.8**
BVAR	**Borovoye Array**	**18.40**	**303**	P	**P**	**02 27 28.1**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=97,slow=12,SNR=11						
MOS	**Moscow**	**37.46**	**307**	*e*P	**P**	**02 30 24.8**	**-1.2**
ARCES	**ARCESS Array B**	**41.51**	**330**	P	**P**	**02 30 59.5**	**+0.2**
	comp=Z,2.9nm,0.9s,mb3.9,baz=81,slow=7.9,SNR=6.1						
ARCES	**ARCESS Array B**	**41.51**	**330**	P	**P**	**02 30 59.5**	**+0.2**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FINES	**FINESS Array B**	**42.34**	**318**	P	**P**	**02 31 06.8**	**+0.6**
	comp=Z,0.8nm,0.6s,mb3.5,baz=56,slow=6.9,SNR=3.7						
FINES	**FINESS Array B**	**42.34**	**318**	P	**P**	**02 31 06.9**	**+0.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**43.67**	**302**	P	**P**	**02 31 17.3**	**+0.1**
	comp=Z,0.3nm,0.4s,mb3.4,baz=57,slow=9.1,SNR=5.1						
BRTR	**Keskin Array B**	**45.49**	**286**	P	**P**	**02 31 34.7**	**+2.7**
	comp=Z,0.4nm,0.4s,mb3.6,baz=53,slow=7.2,SNR=3.2						
ILAR	**Eielson Array**	**59.29**	**26**	P	**P**	**02 33 14.1**	**-0.5**
	comp=Z,1.6nm,0.9s,mb4.1,baz=309,slow=4.9,SNR=16						
ILAR	**Eielson Array**	**59.29**	**26**	P	**P**	**02 33 14.1**	**-0.5**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MCK	**McKinley**	**59.34**	**28**	P	**P**	**02 33 14.5**	**-0.5**
	comp=Z,0.6nm,0.6s,mb3.8						
SML	**Sawmill**	**60.86**	**29**	*e*P	**P**	**02 33 24.1**	**-1.2**

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*IDC **16** 02:44:14.5±1.7, 17.91N×145.39E, mb3.6/4, mb1 4.0/4, mb1mx3.7/18, Error ellipse: s-maj=165.0km s-min=23.7km az=113.0*

ISC 16 02:44:18.3±1.4**, 17.8N**±0.4×**145.6E**±0.9**, h33**^{km}**, n6,** σ**0**^{s}**55**/6**, mb3.6**/5**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**39.10**	**197**	*e*P	**P**	**02 51 44.5**	**+0.2**
WRA	**Warramunga Arr**	**39.11**	**197**	P	**P**	**02 51 44.3**	**-0.1**
	0.2nm,0.3s,mb3.3,baz=18,slow=8.3,SNR=4.5						
FITZ	**Fitzroy Crossi**	**40.73**	**210**	*e*P	**P**	**02 51 58.3**	**+0.4**
	4.2nm,1.4s,mb3.9						
ASAR	**Alice Springs**	**42.77**	**196**	P	**P**	**02 52 14.1**	**-0.6**
	0.4nm,0.5s,mb3.5,baz=11,slow=7.3,SNR=6.6						
ILAR	**Eielson Array**	**64.48**	**26**	P	**P**	**02 54 53.1**	**-0.4**
	0.5nm,0.6s,mb3.8,baz=250,slow=6.1,SNR=11						
NVAR	**Mina Array Bea**	**83.75**	**52**	P	**P**	**02 56 46.0**	**+0.4**
	0.4nm,0.5s,mb3.8,baz=270,slow=4.8,SNR=5.9						

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*BJI **16** 02:53:48.3, 21.20N×143.77E, h327^{km}, mB4.6, mb4.3*

*JMA **16** 02:53:53.7±0.4, 21.74N×143.45E, h339^{km}, M4.9*

*IDC **16** 02:53:54.3±1.3, 21.65N×143.20E, h309^{km}±12^{km}, mb4.1/16, mb1 4.3/18, mb1mx4.2/23, Error ellipse: s-maj=19.5km s-min=9.3km az=94.0*

*NEIC **16** 02:53:55.7±0.8, 21.64N×143.11E, h327^{km}±8^{km}, mb4.5/29, Error ellipse: s-maj=6.9km s-min=4.0km az=95.0*

ISC 16 02:53:54.0±0.7**, 21.63N**±0.04×**143.08E**±0.07**, h322**^{km}±6^{km}**, n105,** σ**0**^{s}**72**/101**, mb4.3**/46**, 3C-2D, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**5.05**	**351**	P	**P**	**02 55 13.6**	**+0.2**
JHHJ				*e*S	**S**	**02 56 15.2**	**-0.6**
CBIJ	**Chichi jima**	**5.51**	**352**	P	**P**	**02 55 18.2**	**-0.5**
	110nm,0.3s,baz=218,slow=1.4,SNR=22						
CBIJ				S	**S**	**02 56 27.1**	**+1.9**
	84nm,0.3s,baz=124,slow=23,SNR=11						
CBIJ	**Chichi jima**	**5.51**	**352**	P	**P**	**02 55 18.3**	**-0.4**
CBIJ				*e*S	**S**	**02 56 25.6**	**+0.4**
GUMO	**Guam**	**8.17**	**168**	P	**P**	**02 55 51.6**	**+1.0**
JHJ2	**Mitsune**	**11.80**	**346**	P	**P**	**02 56 33.8**	**-1.1**
JHJ	**Hachijo jima 2**	**11.82**	**346**	P	**P**	**02 56 34.0**	**-1.0**
	55nm,0.3s,baz=219,slow=21,SNR=12						
JHJ				S	**S**	**02 58 45.8**	**+3.3**
	16nm,0.3s,baz=255,slow=23,SNR=3.0						
TK01	**Tokai 1**	**13.03**	**339**	P	**P**	**02 56 50.3**	**+0.6**
BSO1	**Boso 1**	**13.11**	**352**	P	**P**	**02 56 50.4**	**-0.3**
JWZ	**Kozaga**	**13.53**	**333**	P	**P**	**02 56 56.6**	**+0.8**
JIE	**Ise**	**13.90**	**338**	P	**P**	**02 57 00.6**	**+0.4**
JOD2	**Odawara 2**	**14.03**	**346**	P	**P**	**02 57 01.1**	**-0.5**
JTO	**Tosashimizu**	**14.44**	**323**	P	**P**	**02 57 06.2**	**0.0**
JRY	**Ryogami san**	**14.80**	**347**	P	**P**	**02 57 09.0**	**-1.2**
MAJO	**Matsushiro**	**15.46**	**345**	*e*P	**P**	**02 57 15.8**	**-1.6**
	51nm,0.6s						
MAT	**Matsushiro**	**15.46**	**345**	P	**P**	**02 57 16.0**	**-1.4**
MAT				S	**S**	**02 59 54.0**	**-6.4**
MAT	**Matsushiro**	**15.46**	**345**	P	**P**	**02 57 16.1**	**-1.3**
MAT	**Matsushiro**	**15.46**	**345**	*e*P	**P**	**02 57 16.0**	**-1.4**
	36nm,0.7s						
JSJ	**Shimokoshiki**	**15.57**	**313**	P	**P**	**02 57 18.9**	**+0.2**
JHS	**Saijyo**	**15.94**	**329**	P	**P**	**02 57 23.2**	**+0.6**
JMK	**Ichinoseki**	**17.34**	**355**	P	**P**	**02 57 37.3**	**0.0**
KS15	**Wonju Array Si**	**20.53**	**323**	*e*P	**P**	**02 58 10.1**	**+1.1**
MDJ	**Mudanjiang**	**25.49**	**337**	P	**P**	**02 58 56.4**	**+1.1**
MDJ				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,105nm,3.9s						
HHC	**Hu-ho-hao-te**	**32.81**	**313**	*e*P	**P**	**03 00 00.5**	**+0.8**
HHC				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.2						
HHC				AMB	AMB		
	comp=Z,126nm,5.4s						
HIA	**Hailar**	**33.23**	**332**	P	**P**	**03 00 03.3**	**+0.1**
	comp=Z,4.5nm,0.3s,mb4.2						
LZH	**Lanzhou**	**37.00**	**302**	*e*P	**P**	**03 00 36.3**	**+1.3**
LZH				AP	pP	03 01 41.0	+2.1
LZH				PP	PP	03 02 12.0	+4.1
LZH				XP	sP	03 02 18.4	+3.2
LZH				AMB	AMB		
	comp=Z,18nm,1.0s,mb4.3						
LZH				AMB	AMB		
	comp=Z,101nm,4.0s						
KMI	**Kunming**	**37.10**	**283**	*e*P	**P**	**03 00 34.6**	**-1.3**
KMI				AMB	AMB		
	comp=Z,17nm,1.4s,mb4.1						
SONM	**Songino Array**	**39.33**	**321**	P	**P**	**03 00 55.9**	**+1.8**
	comp=Z,2.5nm,0.4s,mb3.8,baz=129,slow=6.6,SNR=20						
SONM				PcP	PcP	03 02 56.2	0.0
	comp=Z,1.6nm,0.8s,baz=124,slow=4.5,SNR=4.1						
SONM				ScP		03 06 14.6	
	comp=Z,1.2nm,0.9s,baz=135,slow=5.2,SNR=4.3						
CTA	**Charters Tower**	**41.57**	**176**	*e*P	**P**	**03 01 13.1**	**+0.4**
	comp=Z,8.9nm,0.9s,mb3.9						
WRAB	**Tennant Creek**	**42.17**	**192**	P	**P**	**03 01 17.0**	**-0.6**
	comp=Z,167nm,0.5s,mb5.4,SNR=38						
WRAB	**Tennant Creek**	**42.17**	**192**	*e*P	**P**	**03 01 17.3**	**-0.3**
	comp=Z,25nm,0.6s,mb4.5						
WB2	**Warramunga Arr**	**42.18**	**192**	⇑*i*P	**P**	**03 01 17.6**	**-0.1**
WB2				*e*S	**S**	**03 07 12.6**	**-0.7**
WRA	**Warramunga Arr**	**42.19**	**192**	P	**P**	**03 01 17.7**	**0.0**
	comp=Z,9.0nm,0.4s,mb4.3,baz=16,slow=8.9,SNR=115						
WRA				PcP	PcP	03 03 05.6	-0.4
	comp=Z,2.6nm,0.9s,baz=3.1,slow=3.3,SNR=6.1						
WRA				ScP		03 06 27.1	
	comp=Z,1.4nm,0.9s,baz=9.2,slow=4.0,SNR=8.1						
FITZ	**Fitzroy Crossi**	**43.02**	**205**	*e*P	**P**	**03 01 24.4**	**+0.1**

	comp=Z,8.6nm,0.6s,mb4.1						
ASAR	**Alice Springs**	**45.90**	**192**	P	**P**	**03 01 46.5**	**-0.5**
	comp=Z,2.2nm,0.5s,mb3.5,baz=13,slow=9.3,SNR=39						
ASAR				PcP	PcP	03 03 18.9	+0.2
	comp=Z,2.1nm,0.9s,baz=24,slow=3.5,SNR=8.9						
ASAR				ScP		03 06 42.5	
	comp=Z,0.8nm,0.7s,baz=14,slow=4.3,SNR=5.8						
ASPA	**Alice Springs**	**45.90**	**192**	*e*P	**P**	**03 01 46.6**	**-0.4**
ASPA				*e*S	**S**	**03 08 06.6**	**+0.3**
WMQ	**Urumqi**	**50.55**	**310**	*e*P	**P**	**03 02 23.0**	**+0.8**
STKA	**Stephens Creek**	**53.22**	**182**	*e*P	**P**	**03 02 41.4**	**-0.6**
	comp=Z,15nm,0.4s,mb4.7						
STKA	**Stephens Creek**	**53.22**	**182**	P	**P**	**03 02 41.7**	**-0.3**
	comp=Z,23nm,0.6s,mb4.7,baz=358,slow=7.4,SNR=80						
FORT	**Forrest**	**54.06**	**196**	*e*P	**P**	**03 02 47.9**	**-0.2**
	comp=Z,67nm,0.7s,mb5.1						
KURK	**Kurchatov**	**57.46**	**317**	*e*P	**P**	**03 03 10.9**	**-0.8**
	comp=Z,3.3nm,0.7s,mb3.8						
KLBR	**Kellerberrin**	**58.22**	**205**	*e*P	**P**	**03 03 16.6**	**-0.6**
	comp=Z,103nm,2.3s,mb4.8						
TOO	**Toolangi**	**58.92**	**178**	*e*P	**P**	**03 03 22.3**	**+0.3**
	comp=Z,5.2nm,0.6s,mb4.1						
IMA	**Indian Mountai**	**59.64**	**25**	*e*P	**P**	**03 03 27.5**	**+1.0**
	comp=Z,6.9nm,0.9s,mb4.1						
FIB	**Fire Island**	**60.10**	**31**	P	**P**	**03 03 29.2**	**-0.4**
PMR	**Palmer**	**60.66**	**31**	*e*P	**P**	**03 03 32.2**	**-1.2**
	comp=Z,9.0nm,0.5s,mb4.5						
SML	**Sawmill**	**61.07**	**30**	*e*P	**P**	**03 03 35.0**	**-1.0**
COLA	**College**	**61.76**	**27**	*e*P	**P**	**03 03 40.0**	**-0.5**
	comp=Z,31nm,1.9s,mb4.5						
ILAR	**Eielson Array**	**62.15**	**27**	P	**P**	**03 03 41.6**	**-1.5**
	comp=Z,10nm,0.8s,mb4.4,baz=258,slow=5.5,SNR=155						
THY	**Trims Highway**	**62.46**	**29**	*e*P	**P**	**03 03 44.8**	**-0.3**
BRVK	**Borovoye**	**62.73**	**320**	*e*P	**P**	**03 03 47.5**	**+0.5**
	comp=Z,6.8nm,0.9s,mb4.2						
DAWY	**Dawson**	**65.33**	**28**	*e*P	**P**	**03 04 03.2**	**-0.3**
INK	**Inuvik**	**67.67**	**24**	P	**P**	**03 04 17.8**	**-0.3**
	comp=Z,5.5nm,0.5s,mb4.6,baz=256,slow=6.4,SNR=21						
INK	**Inuvik**	**67.67**	**24**	*e*P	**P**	**03 04 17.3**	**-0.8**
	comp=Z,5.5nm,0.5s,mb4.5						
INK				*e*pP	pP	03 05 30.3	-0.6
DLBC	**Dease Lake**	**70.24**	**34**	*e*P	**P**	**03 04 34.5**	**+0.5**
YKA	**Yellowknife Ar**	**76.56**	**28**	P	**P**	**03 05 10.3**	**-0.1**
	comp=Z,11nm,0.4s,mb4.9,baz=292,slow=5.9,SNR=51						
GNW	**Green Mountain**	**77.02**	**44**	*e*P	**P**	**03 05 13.8**	**+0.5**
KEV	**Kevo**	**78.40**	**341**	*e*p	**P**	**03 05 19.9**	**-0.4**
ARCES	**ARCESS Array B**	**78.96**	**341**	P	**P**	**03 05 24.1**	**+0.9**
	comp=Z,15nm,0.6s,mb4.9,baz=72,slow=8.2,SNR=74						
DPW	**Davenport**	**79.87**	**43**	*e*P	**P**	**03 05 28.7**	**+0.2**
JOF	**Joensuu**	**80.34**	**334**	*e*p	**P**	**03 05 29.9**	**-0.7**
NEW	**Newport**	**80.40**	**42**	*e*P	**P**	**03 05 31.3**	**+0.1**
	comp=Z,22nm,1.2s,mb4.8						
LNOR	**Lincton Mounta**	**80.53**	**44**	*e*P	**P**	**03 05 32.5**	**+0.6**
BEKR	**Beckwourth**	**81.25**	**51**	*e*P	**P**	**03 05 36.0**	**+0.1**
	comp=Z,7.1nm,0.8s,mb4.5						
CMB	**Columbia Colle**	**81.88**	**52**	*e*P	**P**	**03 05 39.2**	**0.0**
	comp=Z,10.0nm,0.6s,mb4.8						
KAF	**Kangasniemi**	**82.75**	**335**	*e*p	**P**	**03 05 41.8**	**-1.2**
	comp=Z,5.2nm,0.9s,mb4.4,baz=55,slow=4.7						
FINES	**FINESS Array B**	**83.20**	**334**	P	**P**	**03 05 45.2**	**-0.2**
	comp=Z,2.9nm,0.3s,mb4.5,baz=70,slow=5.1,SNR=55						
FINES	**FINESS Array B**	**83.20**	**334**	P	**P**	**03 05 45.2**	**-0.2**
NVAR	**Mina Array Bea**	**83.27**	**51**	P	**P**	**03 05 47.5**	**+1.3**
	comp=Z,8.6nm,0.6s,mb4.7,baz=282,slow=4.1,SNR=102						
CHMT	**Chamberlain Mo**	**83.34**	**42**	*e*P	**P**	**03 05 45.0**	**-1.4**
MNV	**Mina**	**83.37**	**51**	*e*P	**P**	**03 05 46.7**	**0.0**
	comp=Z,4.3nm,0.8s,mb4.3						
HLID	**Hailey**	**83.97**	**46**	*e*P	**P**	**03 05 49.8**	**+0.1**
	comp=Z,3.8nm,0.9s,mb4.2						
TPH	**Tonopah**	**84.19**	**51**	*e*P	**P**	**03 05 51.2**	**+0.3**
	comp=Z,6.4nm,0.8s,mb4.5						
HRY	**Holter Researc**	**84.31**	**42**	*e*P	**P**	**03 05 51.8**	**+0.5**
MCMT	**McKenzie Canyo**	**84.47**	**44**	*e*P	**P**	**03 05 52.4**	**+0.3**
ELK	**Elko**	**84.55**	**48**	*e*P	**P**	**03 05 53.0**	**+0.4**
	comp=Z,11nm,1.0s,mb4.7						
BOZ	**Bozeman (W)**	**84.89**	**43**	*e*P	**P**	**03 05 54.4**	**+0.2**
	comp=Z,6.6nm,0.6s,mb4.6						
TPNV	**Topopah Spring**	**85.34**	**52**	*e*P	**P**	**03 05 56.8**	**+0.3**
	comp=Z,13nm,0.8s,mb4.8						
YMR	**Madison River**	**85.75**	**43**	*e*P	**P**	**03 05 59.6**	**+1.3**
SPUT	**South Promonto**	**86.23**	**47**	*e*P	**P**	**03 06 01.1**	**+0.3**
DUG	**Dugway**	**86.46**	**48**	*e*P	**P**	**03 06 02.0**	**+0.2**
	comp=Z,5.5nm,0.6s,mb4.6						
HWUT	**Hardware Ranch**	**86.70**	**46**	*e*P	**P**	**03 06 03.0**	**0.0**
	comp=Z,6.2nm,0.9s,mb4.4						
NEN	**Nelson**	**86.90**	**53**	*e*P	**P**	**03 06 04.5**	**+0.4**
AKASG	**Malin Array Be**	**87.51**	**324**	P	**P**	**03 06 06.2**	**-0.5**
	comp=Z,0.8nm,0.4s,mb3.9,baz=51,slow=4.8,SNR=10						
BW06	**Boulder Array**	**87.51**	**45**	*e*P	**P**	**03 06 06.7**	**-0.2**
	comp=Z,1.0nm,0.6s,mb3.8						
PDAR	**Pinedale Array**	**87.51**	**45**	P	**P**	**03 06 07.0**	**+0.2**
	comp=Z,1.2nm,0.7s,mb3.9,baz=189,slow=1.5,SNR=20						
SRU	**San Rafael**	**88.52**	**48**	*e*P	**P**	**03 06 11.8**	**+0.1**
NB2	**NORSAR Subarra**	**88.98**	**339**	P	**P**	**03 06 12.3**	**-0.9**
	comp=Z,2.2nm,0.8s,mb4.0,baz=56,slow=4.8						
NOA	**NORSAR Array B**	**88.98**	**339**	P	**P**	**03 06 12.9**	**-0.3**
	comp=Z,2.9nm,0.8s,mb4.2,baz=49,slow=4.2,SNR=11						
PV10	**Paradox Valley**	**89.89**	**48**	*e*P	**P**	**03 06 18.7**	**+0.7**
BRTR	**Keskin Array B**	**90.32**	**313**	P	**P**	**03 06 20.3**	**+0.2**
	comp=Z,1.3nm,0.7s,mb4.0,baz=103,slow=3.6,SNR=8.2						
RSSD	**Black Hills**	**90.37**	**42**	*e*P	**P**	**03 06 20.2**	**0.0**
	comp=Z,5.8nm,0.5s,mb4.8						
SDCO	**Great Sand Dun**	**92.64**	**48**	*e*P	**P**	**03 06 30.8**	**-0.1**
GERES	**GERESS Array B**	**96.60**	**329**	P	**P**	**03 06 48.1**	**-0.6**
	comp=Z,0.3nm,0.5s,mb3.7,baz=56,slow=4.8,SNR=4.6						
TXAR	**Lajitas Array**	**98.17**	**54**	P	**P**	**03 06 56.2**	**0.0**
	comp=Z,0.5nm,0.7s,mb3.9,baz=288,slow=4.0,SNR=8.1						
QSPA	**South Pole Qui**	**111.42**	**180**	*e*PKP	PKPdf	03 11 50.7	+1.7
SNAA	**Sanae**	**126.25**	**193**	⇑*i*	PKPdf	03 12 19.2	+1.3
VNA2	**Neumayer--Watz**	**127.75**	**192**	⇓*i*	PKPdf	03 12 24.7	+3.9
VNA3	**Neumayer Olymp**	**127.90**	**191**	⇓*i*	PKPdf	03 12 24.5	+3.4
VNA1	**Neumayer--Stat**	**128.14**	**192**	⇑*i*	PKPdf	03 12 26.2	+4.6
KIC	**Kosan Boka**	**137.94**	**308**	*e*P	PKPdf	03 12 45.1	+3.7
	comp=Z,188nm,2.0s						
TIC	**Toumodi**	**137.95**	**308**	*e*P	PKPdf	03 12 44.3	+2.9
	comp=Z,56nm,1.2s						
LIC	**Lamto**	**138.24**	**308**	*e*P	PKPdf	03 12 46.0	+4.1
	comp=Z,87nm,1.6s						
LPAZ	**La Paz**	**150.04**	**85**	PKP	PKPdf	03 13 05.2	+3.3
	comp=Z,10nm,0.5s,baz=327,slow=2.8,SNR=16						
LPAZ				PKPbc	PKPdf	03 13 10.2	+8.3
	comp=Z,11nm,0.6s,baz=352,slow=5.0,SNR=61						
LPAZ	**La Paz**	**150.04**	**85**	*e*PKPdf	PKPdf	03 13 04.7	+2.8
LPAZ				*e*PKPbc	PKPdf	03 13 09.9	+8.0
SAML	**Samuel**	**151.77**	**68**	*e*PKPdf	PKPdf	03 13 05.9	+1.3
SAML				*e*PKPbc	PKPdf	03 13 12.1	+7.5
SAML				*e*PKPab	PKPab	03 13 21.0	-2.9

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*IDC **16** 02:58:50.8±1.9, 37.22N×141.03E, h65km±19km, mb3.4/7, mb1 3.8/9, mb1mx3.6/22, Error ellipse: s-maj=31.1km s-min=11.7km az=101.0*
*JMA **16** 02:58:53.3±0.1, 37.22N×140.97E, h90km±1km, M4.0 Broadband fault plane solution: P waves. NP1:φs85°, δ67°, λ-13°. NP2:φs180°, δ78°, λ-156°. Principal axes: T Plg8°, Azm311°; N Plg64°, Azm205°; P Plg25°, Azm45°;*
JMA Felt II J1.
*NEIC **16** 02:58:54.1±1.6, 37.11N×140.99E, h99km±16km, mb3.9/2 Error ellipse: s-maj=20.4km s-min=19.1km az=208.0*
NEIC Recorded [2 JMA] in Fukushima and [1 JMA] in Ibaraki and Tochigi Prefectures.
*NIED **16** 02:59:00, 37.20N×141.10E, h92km, Mw3.9 Best double couple: M0 7.26×10^14 NP1:φs154°, δ84°, λ-128°. NP2: φs56°, δ39°, λ-10°.*
ISC 16 02:58:52.2±0.5, **37.20N**±0.05×**141.08E**±0.07, **h92**km±4km, **n26**, σ**0.84**/39, **mb3.6**/9, **3C-3D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.23**	**316**	⇓P	**P**	**02 59 06.3**	**+0.7**
JFK				S	**S**	**02 59 15.8**	**+0.1**
ONAJ	**Iwakimizuishiy**	**0.24**	**247**	⇓P	**P**	**02 59 06.4**	**+0.8**
ONAJ				S	**S**	**02 59 16.0**	**+0.3**
JFT	**Otama**	**0.67**	**299**	P	**P**	**02 59 09.1**	**+0.3**
JFT				*e*S	**S**	**02 59 20.3**	**-0.9**
JMM	**Marumori**	**0.70**	**341**	⇑P	**P**	**02 59 09.5**	**+0.4**
JMM				S	**S**	**02 59 21.4**	**-0.4**
JFY	**Yanaizu**	**1.11**	**281**	⇑P	**P**	**02 59 13.6**	**-0.1**
JFY				*e*S	**S**	**02 59 29.0**	**-0.7**
JOU	**Okura**	**1.21**	**344**	P	**P**	**02 59 15.0**	**+0.1**
JOU				S	**S**	**02 59 31.9**	**+0.1**
JIO	**Ouri**	**1.27**	**10**	⇓P	**P**	**02 59 15.9**	**+0.2**
JIO				S	**S**	**02 59 32.3**	**-0.9**
JYS	**Shirataka**	**1.30**	**322**	⇑P	**P**	**02 59 16.1**	**+0.1**
JYS				*e*S	**S**	**02 59 33.8**	**0.0**
JKT	**Katashina**	**1.52**	**254**	P	**P**	**02 59 19.4**	**+0.6**
JKT				*e*S	**S**	**02 59 39.6**	**+1.1**
JNS	**Sasagawa**	**1.53**	**294**	P	**P**	**02 59 18.5**	**-0.4**
JNS				*e*S	**S**	**02 59 38.1**	**-0.5**
MAJO	**Matsushiro**	**2.39**	**255**	*e*P	**P**	**02 59 30.2**	**-0.2**
MAT	**Matsushiro**	**2.39**	**255**	P	**P**	**02 59 30.6**	**+0.2**
MAT				S	**S**	**02 59 59.7**	**+0.9**
MAT	**Matsushiro**	**2.39**	**255**	*e*P	**P**	**02 59 31.0**	**+0.6**
MAT				*e*S	**S**	**03 00 00.0**	**+1.2**
JHJ	**Hachijo jima 2**	**4.20**	**195**	P	**P**	**02 59 54.0**	**-1.4**
	37nm,0.3s,baz=108,slow=19,SNR=10.0						
JHJ				S	**S**	**03 00 40.6**	**-3.0**
	151nm,0.3s,baz=65,slow=23,SNR=17						
ASAJ	**Asahikawa**	**7.01**	**9**	P	**P**	**03 00 30.2**	**-3.7**
	3.2nm,0.3s,baz=236,slow=7.8,SNR=6.5						
ASAJ				S	**S**	**03 01 48.0**	**-4.7**
	1.9nm,0.3s,baz=107,slow=28,SNR=5.3						
SONM	**Songino Array**	**27.47**	**304**	P	**P**	**03 04 31.7**	**+0.3**
	1.1nm,0.6s,mb3.6,baz=103,slow=8.4,SNR=5.1						
KURK	**Kurchatov**	**45.62**	**308**	*e*P	**P**	**03 07 04.0**	**-0.7**
	2.2nm,0.4s,mb4.2						
ILAR	**Eielson Array**	**49.50**	**32**	P	**P**	**03 07 34.5**	**-0.2**
	0.7nm,0.8s,mb3.7,baz=271,slow=6.5,SNR=5.6						
WRA	**Warramunga Arr**	**57.18**	**188**	P	**P**	**03 08 30.0**	**-2.0**
	0.2nm,0.3s,mb3.6,baz=3.0,slow=7.2,SNR=4.6						
NOA	**NORSAR Array B**	**73.93**	**337**	P	**P**	**03 10 17.5**	**-1.0**
	2.0nm,1.1s,mb3.8,baz=40,slow=5.7,SNR=4.0						
NOA	**NORSAR Array B**	**73.93**	**337**	P	**P**	**03 10 17.5**	**-1.0**
NVAR	**Mina Array Bea**	**75.11**	**53**	P	**P**	**03 10 27.5**	**+1.8**
	0.6nm,0.7s,mb3.5,baz=294,slow=3.9,SNR=5.6						
BW06	**Boulder Array**	**77.75**	**45**	P	**P**	**03 10 41.0**	**+0.6**
	0.4nm,0.5s,mb3.4						
PDAR	**Pinedale Array**	**77.75**	**45**	P	**P**	**03 10 40.9**	**+0.5**
	0.4nm,0.8s,mb3.2,slow=1.5,SNR=4.6						
TXAR	**Lajitas Array**	**90.23**	**52**	P	**P**	**03 11 44.8**	**+1.1**
	0.4nm,1.0s,mb3.5,baz=328,slow=3.3,SNR=5.5						
LPAZ	**La Paz**	**146.84**	**59**	PKPbc	PKPbc	03 18 26.0	+2.3
	0.7nm,0.5s,baz=12,slow=8.5,SNR=4.9						

IDC 16 03:18:07.7±30.0, **4.09N**×**124.33E**, **mb3.9**/4, **mb1 4.1**/4, **mb1mx3.8**/15, **Error ellipse: s-maj=529.0km s-min=119.0km az=139.0, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.08**	**177**	*e*P	P	03 23 01.3	-4.9
	2.2nm,0.9s						
FITZ	**Fitzroy Crossi**	**22.08**	**177**	P	P	03 23 05.0	-1.3
	0.8nm,0.3s,baz=7.2,slow=8.8,SNR=13						
WRA	**Warramunga Arr**	**25.83**	**158**	P	P	03 23 40.6	-2.0
	2.3nm,0.4s,baz=336,slow=9.7,SNR=19						
WB2	**Warramunga Arr**	**25.83**	**158**	*e*P	P	03 23 40.4	-2.2
ASAR	**Alice Springs**	**29.12**	**162**	P	P	03 24 09.9	-2.7
	0.6nm,0.7s,baz=340,slow=7.8,SNR=7.1						
STKA	**Stephens Creek**	**39.36**	**157**	P	P	03 25 39.6	-1.1
	0.8nm,0.4s,baz=333,slow=11,SNR=3.0						

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*IDC **16** 03:32:12.7±1.3, 11.05N×86.08W, mb3.9/6, mb1 4.2/6, mb1mx3.9/19, MS3.8/4, Ms1 3.8/4, ms1mx3.4/19, Error ellipse: s-maj=64.5km s-min=25.7km az=48.0*
*CASC **16** 03:32:14.5±2.6, 10.70N×86.62W, h11km±12km, MD4.5, mb4.1(NEIC)*
*BJI **16** 03:32:24.2, 10.90N×86.40W, h114km, mB4.3*
*NEIC **16** 03:32:24.2±4.2, 10.86N×86.42W, h115km±41km, mb4.1/11, Error ellipse: s-maj=29.2km s-min=9.8km az=46.0*
ISC 16 03:32:15.4±0.6, **10.66N**±0.05×**86.71W**±0.05, **h45**km±6km, **n70**, σ**1.02**/68, **mb4.0**/15, **MS3.8**/4, **15C-6D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCR	**Vista de Mar**	**1.18**	**116**	⇑*e*P	**P**	**03 32 34.2**	**-1.4**
CRUN	**El Crucero**	**1.38**	**17**	*e*P	**P**	**03 32 39.2**	**+0.6**
APON	**Apoyo**	**1.40**	**27**	*e*P	**P**	**03 32 38.6**	**-0.4**
MASN	**Masaya**	**1.43**	**22**	⇓*e*P	**P**	**03 32 42.3**	**+2.9**
TICN	**Ticuantepe**	**1.45**	**19**	*e*P	**P**	**03 32 39.5**	**-0.1**
COPN	**Copaltepe**	**1.52**	**4**	*e*P	**P**	**03 32 39.5**	**-1.1**
XAVN	**Gruta Xavier**	**1.53**	**14**	⇑*e*P	**P**	**03 32 40.4**	**-0.3**
MGAN	**Managua**	**1.55**	**17**	⇑*e*P	**P**	**03 32 40.7**	**-0.3**
MGAN				*e*S	**S**	**03 33 01.4**	**+1.3**
WILN	**Americas 2**	**1.58**	**19**	⇓*e*P	**P**	**03 32 41.0**	**-0.5**
APYN	**Apoyeque**	**1.61**	**12**	⇓*e*P	**P**	**03 32 41.6**	**-0.2**
MOMJ	**Momotombo**	**1.75**	**5**	⇑*e*P	**P**	**03 32 43.4**	**-0.5**
LEON	**Leon**	**1.76**	**354**	⇑*e*P	**P**	**03 32 43.7**	**-0.3**
JCR	**Jicaral**	**1.76**	**117**	*e*P	**P**	**03 32 42.6**	**-1.4**
MIRN	**Miramar**	**1.77**	**360**	⇓*e*P	**P**	**03 32 44.1**	**0.0**
CNGN	**Cerro Negro**	**1.83**	**0**	*e*P	**P**	**03 32 44.1**	**-0.9**
CNGN				*e*S	**S**	**03 33 10.1**	**+3.0**
TELN	**Telica**	**1.94**	**356**	⇑*e*P	**P**	**03 32 46.3**	**-0.2**
PYTN	**Playitas**	**1.98**	**19**	⇑*e*P	**P**	**03 32 46.1**	**-0.9**
FORC	**Fortuna**	**2.01**	**95**	⇑*e*P	**P**	**03 32 47.7**	**+0.2**
CGA2	**Cerro Gallo 2**	**2.29**	**106**	*e*P	**P**	**03 32 51.1**	**-0.4**
CGA2				*e*S	**S**	**03 33 17.6**	**-1.1**
QUIN	**Quiabu**	**2.47**	**7**	⇑*e*P	**P**	**03 32 53.6**	**-0.5**
VPS2	**Volcan Poas 2**	**2.47**	**101**	*e*P	**P**	**03 32 54.0**	**-0.1**
LAJ	**Bijagual**	**2.66**	**107**	*e*P	**P**	**03 32 51.7**	**-5.1**
SJS	**Escuela Geolog**	**2.71**	**105**	⇑*e*P	**P**	**03 32 58.0**	**+0.6**
SJS				*e*P		03 32 58.9	
SJS				*e*S	**S**	**03 33 29.9**	**+0.8**
LCR2	**La Lucha 2**	**2.81**	**109**	⇑*e*P	**P**	**03 32 59.6**	**+0.6**
CNCH	**Conchagua**	**2.83**	**337**	*e*P	**P**	**03 32 58.7**	**-0.5**
CNCH				⇑*e*P		03 32 59.3	
CNCH				*e*S	**S**	**03 33 31.6**	**-0.7**
ICR	**Volcan Irazu**	**2.91**	**103**	⇑*e*P	**P**	**03 33 01.8**	**+1.5**
TRTC	**Tortuguero**	**2.94**	**91**	*e*P	**P**	**03 33 00.7**	**-0.1**
URSC	**Urasca**	**3.00**	**106**	*e*P	**P**	**03 33 03.2**	**+1.7**
BUS	**Buena Vista**	**3.10**	**110**	*e*P	**P**	**03 33 03.3**	**+0.2**
BLLM	**Bellamira**	**3.15**	**332**	*e*P	**P**	**03 33 02.9**	**-0.8**
SNVI	**San Vicente**	**3.60**	**325**	⇓*e*P	**P**	**03 33 10.1**	**0.0**
LIO	**Limon**	**3.67**	**100**	*e*P	**P**	**03 33 12.2**	**+1.1**
LCBS	**La Ceiba**	**3.72**	**324**	*e*P	**P**	**03 33 11.6**	**-0.1**
LCBS				⇑*e*P		03 33 11.7	
LFRS	**El Faro**	**3.74**	**322**	⇑*e*P	**P**	**03 33 12.1**	**0.0**
LFRS				*e*P		03 33 12.1	
BOQS	**Boqueron**	**3.96**	**321**	*e*P	**P**	**03 33 15.4**	**+0.2**
SBLS	**San Blas**	**4.26**	**318**	*e*P	**P**	**03 33 20.4**	**+1.0**
SNJE	**San Jose**	**4.27**	**319**	*e*P	**P**	**03 33 20.0**	**+0.4**
RTR	**El Retiro**	**4.32**	**319**	⇓*e*P	**P**	**03 33 20.6**	**+0.4**
SDV	**Santo Domingo**	**15.94**	**95**	*e*P	**P**	**03 35 59.9**	**+1.7**
	8.5nm,0.9s						
HKT	**Hockley**	**21.00**	**337**	*e*P	**P**	**03 36 56.5**	**-0.8**
	11nm,1.0s						
LRAL	**Lakeview Retre**	**22.27**	**359**	*e*P	**P**	**03 37 10.1**	**+0.1**
JSC	**Jenkinsville**	**24.04**	**11**	*e*P	**P**	**03 37 27.2**	**0.0**
LTX	**Lajitas**	**24.42**	**322**	*e*P	**P**	**03 37 33.0**	**+2.0**
	4.9nm,0.8s,mb4.0						
TXAR	**Lajitas Array**	**24.42**	**322**	P	**P**	**03 37 33.5**	**+2.4**
	1.9nm,0.7s,mb3.6,baz=140,slow=9.9,SNR=34						
TXAR				PcP	PcP	03 41 12.5	+2.0
	0.5nm,0.9s,baz=153,slow=5.6,SNR=4.5						
MIAR	**Mount Ida**	**24.59**	**346**	*e*P	**P**	**03 37 30.9**	**-1.7**
	9.0nm,1.2s,mb4.2						
WMOK	**Wichita Mounta**	**26.38**	**337**	*e*P	**P**	**03 37 49.5**	**0.0**
	12nm,0.9s,mb4.4						
CCM	**Cathedral Cave**	**27.59**	**352**	*e*P	**P**	**03 37 57.9**	**-2.6**
	14nm,1.1s,mb4.5						
ANMO	**Albuquerque**	**30.15**	**326**	*e*P	**P**	**03 38 23.3**	**-0.1**
	1.9nm,0.9s,mb3.8						
SAML	**Samuel**	**30.45**	**129**	*e*P	**P**	**03 38 24.4**	**-1.8**
SDCO	**Great Sand Dun**	**31.82**	**331**	*e*P	**P**	**03 38 38.5**	**+0.4**
	2.3nm,0.8s,mb4.1						
LPAZ	**La Paz**	**32.47**	**145**	LR	LR	03 52 09.1	
	comp=Z,100nm,19.0s,MS3.5,baz=305,slow=37						
PV10	**Paradox Valley**	**34.08**	**328**	*e*P	**P**	**03 38 58.1**	**+0.5**
SADO	**Sadowa**	**34.61**	**10**	P	**P**	**03 39 00.1**	**-2.0**
	8.1nm,1.1s,mb4.6,baz=238,slow=9.5,SNR=3.7						
TPNV	**Topopah Spring**	**37.34**	**319**	*e*P	**P**	**03 39 26.1**	**+0.8**
	2.5nm,0.9s,mb4.0						
BW06	**Boulder Array**	**37.69**	**332**	*e*P	**P**	**03 39 26.9**	**-1.3**
	1.3nm,0.8s,mb3.7						
PDAR	**Pinedale Array**	**37.69**	**332**	P	**P**	**03 39 29.5**	**+1.3**
	0.5nm,0.5s,mb3.5,baz=133,slow=9.1,SNR=7.6						
HWUT	**Hardware Ranch**	**37.78**	**329**	*e*P	**P**	**03 39 29.8**	**+0.9**
	2.3nm,0.8s,mb4.0						
REDW	**Red Top Meadow**	**38.75**	**332**	*e*P	**P**	**03 39 37.0**	**0.0**
NVAR	**Mina Array Bea**	**39.53**	**320**	P	**P**	**03 39 47.3**	**+3.7**
	0.6nm,0.7s,mb3.4,baz=131,slow=8.7,SNR=6.1						
NVAR				PcP	PcP	03 41 54.2	+3.1
	0.5nm,0.6s,baz=135,slow=3.8,SNR=3.4						
NVAR	**Mina Array Bea**	**39.53**	**320**	P	**P**	**03 39 47.3**	**+3.8**
NVAR				PcP	PcP	03 41 54.2	+3.1
HLID	**Hailey**	**40.64**	**329**	*e*P	**P**	**03 39 51.7**	**-1.0**
MCMT	**McKenzie Canyo**	**40.80**	**331**	*e*P	**P**	**03 39 56.1**	**+2.1**
BDFB	**Brasilia**	**46.37**	**124**	P	**P**	**03 40 38.5**	**-0.9**
	2.4nm,0.7s,mb4.2,baz=292,slow=5.4,SNR=3.3						
BDFB				LR	LR	04 02 10.5	
	comp=Z,135nm,19.1s,MS3.9,baz=240,slow=39						
SCHQ	**Schefferville**	**46.79**	**16**	LR	LR	04 02 35.6	
	comp=Z,198nm,18.7s,MS4.1,baz=314,slow=39						
ILAR	**Eielson Array**	**67.95**	**336**	P	**P**	**03 43 11.0**	**-0.3**
	0.6nm,0.9s,mb3.6,baz=127,slow=4.5,SNR=5.3						
NOA	**NORSAR Array B**	**84.57**	**29**	LR	LR	04 20 25.5	
	comp=Z,32nm,18.0s,MS3.8,baz=165,slow=34						
WMQ	**Urumqi**	**125.55**	**5**	*e*PKP	PKPdf	03 51 12.5	+0.4
LZH	**Lanzhou**	**132.46**	**348**	*e*PKP	PKPdf	03 51 24.4	-1.2
LZH				XPKP		03 52 06.8	
WRA	**Warramunga Arr**	**139.44**	**252**	PKP	PKPdf	03 51 45.9	+7.1
	0.3nm,0.6s,baz=92,slow=2.0,SNR=4.8						
CMAR	**Chiang Mai Arr**	**150.54**	**349**	PKPbc	PKPdf	03 52 06.5	+8.8
	0.9nm,0.5s,baz=322,slow=2.7,SNR=8.9						

IDC 16 03:43:17.1±2.6, **2.77S**×**100.79E**, **mb3.8**/4, **mb1 4.0**/5, **mb1mx3.7**/14, **MS2.8**/2, **Ms1 2.9**/2, **ms1mx2.7**/16, **Error ellipse: s-maj=107.0km s-min=21.4km az=57.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**21.17**	**355**	P	P	03 48 02.8	-3.7
	1.6nm,0.3s,baz=36,slow=41,SNR=2.7						
CMAR				LR	LR	03 57 00.9	
	comp=Z,30nm,20.1s,baz=185,slow=39						
FITZ	**Fitzroy Crossi**	**28.73**	**124**	LR	LR	03 59 10.2	
	comp=Z,19nm,20.9s,baz=248,slow=33						
WRA	**Warramunga Arr**	**36.92**	**120**	P	P	03 50 27.3	-2.4
	0.3nm,0.8s,baz=304,slow=9.9,SNR=2.1						
ASAR	**Alice Springs**	**38.16**	**126**	P	P	03 50 38.9	-1.3
	0.4nm,0.4s,baz=300,slow=7.5,SNR=3.0						
SONM	**Songino Array**	**50.63**	**5**	P	P	03 52 19.5	-0.4
	2.5nm,0.5s,baz=187,slow=8.6,SNR=24						
BVAR	**Borovoye Array**	**61.18**	**340**	P	P	03 53 32.6	-3.2
	0.8nm,0.5s,baz=135,slow=8.4,SNR=6.1						
TXAR	**Lajitas Array**	**144.82**	**39**	PKP	PKPdf	04 02 56.0	-2.5
	0.9nm,0.6s,baz=261,slow=0.8,SNR=13						

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*JMA **16** 03:53:57.3±0.1, 33.10N×137.16E, h40km±3km, M3.5*
ISC 16 03:53:57.3±1.0, **33.08N**±0.06×**137.15E**±0.04, **h40**km, **n18**, σ**0.61**/33, **5D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.77**	**29**	P	**P**	**03 54 11.6**	**-0.2**
TK01				*e*S	**S**	**03 54 21.7**	**-0.7**
TK02	**Tokai 2**	**1.00**	**30**	P	**P**	**03 54 14.9**	**-0.1**
TK02				S	**S**	**03 54 28.3**	**+0.2**
TK03	**Tokai 3**	**1.28**	**32**	P	**P**	**03 54 18.7**	**-0.2**
TK03				S	**S**	**03 54 34.7**	**-0.5**
JWZ	**Kozaga**	**1.28**	**291**	P	**P**	**03 54 19.1**	**+0.1**
JWZ				S	**S**	**03 54 34.5**	**-0.7**
JIE	**Ise**	**1.35**	**344**	⇓P	**P**	**03 54 20.7**	**+0.6**
JIE				S	**S**	**03 54 38.0**	**+0.9**
TK04	**Tokai 4**	**1.43**	**25**	⇓P	**P**	**03 54 21.3**	**+0.1**
TK04				S	**S**	**03 54 38.9**	**-0.2**
JWM	**Minabe**	**1.68**	**297**	P	**P**	**03 54 25.0**	**+0.3**
JWM				*e*S	**S**	**03 54 44.7**	**-0.5**
JWY	**Kouya**	**1.72**	**312**	⇓P	**P**	**03 54 26.3**	**+1.0**
JWY				S	**S**	**03 54 46.3**	**+0.1**
TSUJ	**Tsu 2**	**1.73**	**340**	P	**P**	**03 54 25.8**	**+0.4**
TSUJ				S	**S**	**03 54 46.7**	**+0.2**
JHE	**Heguri**	**1.98**	**323**	⇓P	**P**	**03 54 29.7**	**+0.7**
JHE				*e*S	**S**	**03 54 53.0**	**+0.2**
SHZ3	**Shizuoka 3**	**2.17**	**24**	P	**P**	**03 54 31.5**	**-0.1**
JAI	**Aioi**	**2.36**	**288**	P	**P**	**03 54 34.8**	**+0.4**
JAI				*e*S	**S**	**03 55 01.2**	**-1.2**
JIM2	**Oshima 3**	**2.50**	**49**	*e*S	**S**	**03 55 04.2**	**-1.8**
JWT	**Wachi**	**2.63**	**327**	P	**P**	**03 54 38.9**	**+0.7**
JWT				*e*S	**S**	**03 55 09.0**	**-0.2**
JGM	**Miyama**	**2.63**	**352**	⇓P	**P**	**03 54 38.7**	**+0.4**
JGM				S	**S**	**03 55 09.1**	**-0.2**
JOD2	**Odawara 2**	**2.71**	**36**	P	**P**	**03 54 40.2**	**+0.9**
JMN	**Monobe**	**2.81**	**284**	P	**P**	**03 54 40.9**	**+0.1**
JMN				*e*S	**S**	**03 55 12.5**	**-1.2**
MAT	**Matsushiro**	**3.56**	**14**	P	**P**	**03 54 52.0**	**+0.5**
MAT				S	**S**	**03 55 32.9**	**+0.1**

DJA 16 03:54:13.2±0.8, **9.74S**×**114.11E**, **h33**km, **MD4.9**/4, **ML4.3**/4, **4C-5D, Error ellipse: s-maj=18.4km s-min=9.7km az=25.0, South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.25**	**1**	⇓*e*Pn	Pn	03 54 33.2	-1.5
	650nm,0.2s						
SRDI	**Scrawed**	**1.25**	**1**	⇑*i*P	P	03 54 33.4	-1.0
SRDI				⇑*i*Sn	Sn	03 54 47.5	-3.0
KELI	**Kelakatan**	**1.56**	**14**	⇓*i*Pn	Pn	03 54 38.5	-0.6
	278nm,0.2s						
KELI				⇓*i*Sn	Sn	03 54 57.7	-0.6
RATI	**Rata**	**1.73**	**54**	⇑*i*Pn	Pn	03 54 39.3	-2.2
	237nm,0.2s						
RATI				⇑*i*Sn	Sn	03 54 58.3	-4.2
KEDI	**Kedomdong**	**2.33**	**58**	⇓*i*Pn	Pn	03 54 49.6	-0.6
	47nm,0.2s						
KEDI				⇓*i*Sn	Sn	03 55 12.9	-5.1

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*IDC **16** 04:25:15.0±1.2, 15.17N×120.16E, mb3.8/4, mb1 4.0/5, mb1mx3.7/17, Error ellipse: s-maj=57.2km s-min=20.0km az=62.0*
*MAN **16** 04:25:16.9, 13.86N×120.55E, h68km, mb4.4, ML3.2, MS3.0*
ISC 16 04:25:15.4±0.9, **13.9N**±0.1×**120.47E**±0.07, **h98**km±7km, **n14**, σ**1.19**/15, **mb4.0**/3, **2D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.25**	**240**	*e*P	**P**	**04 25 29.4**	**-0.3**
LUBP				*e*S	**S**	**04 25 40.0**	**-0.4**
LUBP	**Lubang**	**0.25**	**240**	*e*P	**P**	**04 25 33.6**	**+4.0**
PAZ	**Puerto Azul**	**0.41**	**29**	*e*P	**P**	**04 25 31.0**	**+0.5**
NBP	**Mount Natib**	**0.88**	**356**	*e*P	**P**	**04 25 35.0**	**+0.4**
ARP	**Angono**	**0.94**	**45**	*e*P	**P**	**04 25 34.4**	**-0.9**
LQP	**Lukban**	**1.06**	**76**	⇓*i*P	**P**	**04 25 37.0**	**+0.3**
LQP				*i* S	**S**	**04 25 50.6**	**-2.1**
BOAC	**Boac**	**1.39**	**107**	*e*P	**P**	**04 25 39.8**	**-0.8**
GQP	**Guinayangan**	**1.92**	**89**	⇓*i*P	**P**	**04 25 47.8**	**+0.5**
GQP				*i* S	**S**	**04 26 12.9**	**+2.1**
BALP	**Baler**	**2.15**	**30**	*e*P	**P**	**04 25 51.6**	**+1.2**
CMAR	**Chiang Mai Arr**	**21.17**	**285**	P	**P**	**04 29 56.5**	**+2.1**
	1.1nm,0.3s,mb3.6,baz=103,slow=9.2,SNR=7.9						
SONM	**Songino Array**	**35.84**	**344**	P	**P**	**04 32 05.9**	**-1.4**
	1.4nm,0.4s,mb4.2,baz=157,slow=10,SNR=9.3						
WRA	**Warramunga Arr**	**36.26**	**158**	P	pP	04 32 30.9	-3.1
	1.1nm,0.7s,baz=334,slow=9.6,SNR=7.8						
ASAR	**Alice Springs**	**39.55**	**160**	P	pP	04 32 59.5	-1.9
	0.4nm,0.6s,baz=341,slow=6.8,SNR=6.7						
BVAR	**Borovoye Array**	**55.51**	**326**	P	**P**	**04 34 41.3**	**-1.2**
	1.3nm,0.5s,mb4.2,baz=112,slow=7.8,SNR=9.1						

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*LDG **16** 04:28:10.3±0.0, 45.97N×2.78E, h7km, Md1.8/2, Ml1.7/6, Error ellipse: s-maj=1.1km s-min=0.6km az=128.0*
*STR **16** 04:28:11.8±0.5, 45.95N×2.87E, h5km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 16 04:28:09.2±0.5, **46.00N**±0.02×**2.74E**±0.04, **h7**km, **n13**, σ**0.89**/25, **France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGO	**Saint Agoulin**	**0.28**	**78**	Pg	**Pg**	**04 28 16.2**	**+1.3**
AGO				Sg	**Sg**	**04 28 19.5**	**+0.8**
TCF	**Toulx Ste Croi**	**0.47**	**309**	*e*Pg	**Pg**	**04 28 20.2**	**+1.6**
TCF				*e*Sg	**Sg**	**04 28 27.0**	**+2.1**
	0.6nm,0.2s						
BGF	**Bois d'Agland**	**0.57**	**8**	*e*Pg	**Pg**	**04 28 21.4**	**+0.9**
BGF				*e*Sg	**Sg**	**04 28 29.2**	**+1.1**
	3.1nm,0.3s						
PLDF	**La Plantade**	**0.62**	**92**	Pg	**Pg**	**04 28 22.3**	**+0.8**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LBL	Lubilhac	0.84	155	Pg	Pg	04 28 26.6	+0.5
LBL				Sg	Sg	04 28 36.8	-0.6
AVF	Avril sur Loir	0.90	28	ePg	Pg	04 28 27.3	+0.1
AVF				eSg	Sg	04 28 39.0	-0.2
	1.4nm,0.2s						
SMF	Signal de Mont	1.00	49	ePg	Pg	04 28 29.1	-0.1
SMF				eSg	Sg	04 28 42.6	0.0
	3.3nm,0.2s						
RJF	Les Rejaudoux	1.10	231	ePg	Pg	04 28 31.1	-0.1
RJF				eSg	Sg	04 28 45.6	-0.3
	1.6nm,0.2s						
CAF	Calviac	1.17	204	ePg	Pg	04 28 32.1	-0.5
SSF	Saint Saulge	1.19	26	ePn	Pn	04 28 31.9	-0.3
SSF				ePg	Pg	04 28 32.8	-0.1
SSF				eSg	Sg	04 28 48.4	-0.4
	1.3nm,0.2s						
HYF	Humbligny	1.27	357	eSg	Sg	04 28 51.3	-0.3
LOR	Lormes	1.49	31	ePn	Pn	04 28 35.9	-0.5
LOR				ePg	Pg	04 28 38.2	-0.7
LOR				eSn	Sn	04 28 54.6	-1.6
LOR				eSg	Sg	04 28 57.6	-1.1
	1.2nm,0.2s						
MFF	Saint Martin d	2.09	288	eSg	Sg	04 29 16.9	-1.8
	0.2nm,0.2s						

CASC 16 04:31:05.9±3.1**, 11.04N×86.68W, h1**^{km}±9^{km}**, MD4.0, 6C-7D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRUN	El Crucero	1.01	21	⇓eP	Pb	04 31 26.6	+0.7
APON	Apoyo	1.06	34	eP	Pb	04 31 26.9	+0.2
MASN	Masaya	1.08	29	⇓eP	Pb	04 31 26.6	-0.4
MASN				eP		04 31 26.9	
MASN				eS	Sb	04 31 43.8	+2.4
TICN	Ticuantepe	1.08	24	⇓eP	Pb	04 31 27.4	+0.3
TICN				eS	Sb	04 31 43.4	+1.8
XAVN	Gruta Xavier	1.16	17	⇑eP	Pb	04 31 28.4	0.0
MGAN	Managua	1.18	21	⇓eP	Pb	04 31 28.7	-0.1
MGAN				eS	Sb	04 31 45.4	+0.9
WILN	Americas 2	1.22	23	⇑eP	Pb	04 31 28.5	-0.9
WILN				eS	Sb	04 31 46.0	+0.5
APYN	Apoyeque	1.23	15	⇑eP	Pb	04 31 29.6	-0.1
APYN				eS	Sb	04 31 47.5	+1.5
MOMJ	Momotombo	1.37	6	⇓eP	Pb	04 31 31.1	-0.9
MOMJ				eS	Sb	04 31 50.3	+0.3
LEON	Leon	1.39	351	⇑eP	Pb	04 31 31.6	-0.7
MIRN	Miramar	1.40	359	⇑eP	Pb	04 31 32.0	-0.5
CNGN	Cerro Negro	1.46	359	⇓eP	Pn	04 31 32.7	-0.8
CNGN				eS	Sb	04 31 53.0	+0.6
TELN	Telica	1.57	355	eP	Pn	04 31 33.4	-1.6
PYTN	Playitas	1.61	22	⇓eP	Pn	04 31 34.3	-1.3
PYTN				eS	Sb	04 31 56.0	-1.0
JCR	Jicaral	1.94	127	⇑eP	Pn	04 31 37.8	-2.5
JCR				eS	Sn	04 32 07.9	+2.1
FORC	Fortuna	2.05	106	eP	Pn	04 31 40.6	-1.3
CGA2	Cerro Gallo 2	2.40	115	eP	Pn	04 31 48.9	+1.9
LAJ	Bijagual	2.77	115	eP	Pn	04 31 46.5	-5.7
LCR2	La Lucha 2	2.93	116	eP	Pn	04 31 55.8	+1.3
TRTC	Tortuguero	2.95	99	eP	Pn	04 31 56.3	+1.5

*NIED **16** 04:41:00, 34.20N×135.20E, h5^{km}, Mw3.6 Best double couple: M$_0$2.66×10^{14} NP1:φ$_s$196°, δ54°, λ119°. NP2: φ$_s$333°, δ44°, λ56°.*
*IDC **16** 04:41:29.5±1.0, 34.11N×135.10E, mb3.8/6, mb1 4.0/6, mb1mx3.7/21, Error ellipse: s-maj=46.2km s-min=20.3km az=77.0*
*JMA **16** 04:41:29.7, 34.17N×135.18E, h4^{km}±1^{km}, M3.7 Broadband fault plane solution: P waves. NP1:φ$_s$206°, δ52°, λ141°. NP2:φ$_s$323°, δ60°, λ45°. Principal axes: T Plg52°, Azm179°; N Plg38°, Azm349°; P Plg5°, Azm83°;*
JMA Felt III J1.
*NEIC **16** 04:41:30.9±0.5, 34.13N×135.18E, h10^{km}, mb3.7/1 Error ellipse: s-maj=13.7km s-min=9.2km az=112.0*
ISC 16 04:41:29.5±0.6**, 34.15N**±0.03×**135.17E**±0.04**, h12**^{km}±4^{km}**, n20,** σ0^s**64**/27**, mb3.8**/7**, 3C-4D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWM	Minabe	0.34	153	⇑P	Pg	04 41 36.8	+0.3
JWM				eS	Sg	04 41 41.6	+0.4
JWY	Kouya	0.35	79	⇓P	Pg	04 41 36.3	-0.6
JWY				S	Sg	04 41 41.9	0.0
JAJ2	Tsuna	0.36	319	⇓P	Pg	04 41 36.8	-0.2
JAJ2				S	Sg	04 41 41.9	-0.1
JHE	Heguri	0.66	40	⇓P	Pb	04 41 42.1	-0.3
JHE				S	Sb	04 41 50.7	-0.5
JAI	Aioi	0.70	240	⇓P	Pb	04 41 43.2	+0.1
JAI				S	Sb	04 41 53.0	+0.7
JWZ	Kozaga	0.76	144	⇑P	Pb	04 41 44.8	+0.6
JKS	Kasai	0.88	342	⇑P	Pb	04 41 46.2	+0.1
JKS				S	Sb	04 41 57.6	+0.1
MAJO	Matsushiro	3.44	45	eP	Pn	04 42 24.2	+0.1
MAT	Matsushiro	3.44	45	P	Pn	04 42 24.9	+0.8
MAT				S	Sn	04 43 08.4	+3.2
MAT	Matsushiro	3.44	45	eP	Pn	04 42 25.0	+0.9
SONM	Songino Array	25.49	311	P	P	04 46 59.9	+0.9
	1.0nm,0.7s,mb3.4,baz=111,slow=8.6,SNR=3.5						
SONM	Songino Array	25.49	311	P	P	04 46 59.9	+0.9
KURK	Kurchatov	43.79	310	P	P	04 49 36.3	-0.2
	0.9nm,0.7s,mb3.6						
WB2	Warramunga Arr	53.80	181	eP	P	04 50 53.3	-1.0
WRA	Warramunga Arr	53.80	181	P	P	04 50 53.0	-1.2
	1.5nm,0.8s,mb4.0,baz=357,slow=7.7,SNR=16						
ILAR	Eielson Array	54.61	31	P	P	04 50 60.0	+0.3
	0.3nm,0.8s,mb3.4,baz=273,slow=9.4,SNR=4.7						
CTA	Charters Tower	54.96	167	P	P	04 51 02.7	-0.2
	1.5nm,0.6s,mb4.2,baz=342,slow=6.4,SNR=2.6						
CTA	Charters Tower	54.96	167	P	P	04 51 02.7	-0.2
ASAR	Alice Springs	57.51	181	P	P	04 51 20.6	-0.5
	0.3nm,0.5s,mb3.6,baz=13,slow=13,SNR=5.4						
FINES	FINESS Array B	68.92	331	P	P	04 52 35.4	-0.5
	2.4nm,0.9s,mb4.1,baz=72,slow=6.0,SNR=5.3						

*IDC **16** 04:51:29.7±2.3, 17.41S×167.92E, mb3.7/6, mb1 3.9/6, mb1mx3.8/14, MS3.5/5, Ms1 3.6/5, ms1mx3.4/13, Error ellipse: s-maj=95.0km s-min=26.7km az=143.0*
*NEIC **16** 04:51:31.9±0.7, 17.37S×167.86E, h10^{km}, mb4.5/1, Error ellipse: s-maj=21.0km s-min=13.8km az=117.0*
*LDG **16** 04:51:34.1±0.4, 17.23S×166.75E, h10^{km}, Mb4.5/2, Error ellipse: s-maj=66.0km s-min=6.6km az=86.0*
ISC 16 04:51:34.0±1.9**, 17.6S**±0.1×**167.8E**±0.2**, h33**^{km}±22^{km}**, n24,** σ**1^{s}06**/13**, mb3.8**/6**, MS3.5**/5**, 1D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKM	Butte a Klehm	0.47	104	⇓iP	P	04 51 43.9	-0.2
DZM	Mont Dzumac	4.66	195	eP	P	04 52 44.9	+1.1
DZM				eS	S	04 53 36.2	-1.3
DZM	Mont Dzumac	4.66	195	eP	P	04 52 44.9	+1.1
DZM				eS	S	04 53 36.2	-1.3
CTA	Charters Tower	20.51	260	P	P	04 56 12.8	+0.8
	1.3nm,0.6s,baz=74,slow=17,SNR=2.7						
PMG	Port Moresby	21.59	289	LR	LR	05 02 41.1	
	comp=Z,52nm,18.5s,MS3.0,baz=168,slow=31						
STKA	Stephens Creek	27.62	234	P	P	04 57 22.0	+1.4
	2.2nm,1.0s,mb3.7,baz=40,slow=7.1,SNR=2.9						
STKA				LR	LR	05 08 05.3	
	comp=Z,76nm,18.9s,MS3.3,baz=24,slow=36						
STKA	Stephens Creek	27.62	234	P	P	04 57 22.0	+1.4
STKA				LR	LR	05 08 05.3	
WRA	Warramunga Arr	31.71	260	P	P	04 57 56.4	-0.7
	0.3nm,0.6s,mb3.3,baz=88,slow=10,SNR=3.2						
ASAR	Alice Springs	32.22	253	P	P	04 58 00.6	-0.9
	1.2nm,0.7s,mb3.8,baz=77,slow=8.7,SNR=13						
ASAR				LR	LR	05 10 41.7	
	comp=Z,79nm,18.2s,MS3.4,baz=266,slow=36						
VNDA	Vanda	60.06	181	LR	LR	05 25 28.7	
	comp=Z,57nm,18.1s,MS3.8,baz=165,slow=34						
QSPA	South Pole Qui	72.49	180	eP	P	05 03 00.3	+1.7
	2.9nm,0.7s,mb4.3						
SONM	Songino Array	85.04	324	P	P	05 04 08.0	+0.5
	1.0nm,0.8s,mb4.0,baz=133,slow=3.4,SNR=4.0						
ILAR	Eielson Array	89.06	18	P	P	05 04 25.2	-1.3
	0.2nm,0.9s,mb3.4,baz=225,slow=5.1,SNR=3.0						
PDAR	Pinedale Array	96.51	47	LR	LR	05 42 10.4	
	comp=Z,53nm,18.1s,MS4.1,baz=264,slow=32						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARCES	ARCESS Array B	123.09	345	PKP	PKPdf	05 10 27.1	+0.2
	1.5nm,0.6s,baz=72,slow=3.8,SNR=5.2						
CDF	Champ du Feu	145.35	337	ePKP1	PKPbc	05 11 09.5	+0.6
	14nm,0.6s						
MEZF	Maizieres J'vi	146.07	339	ePKP1	PKPbc	05 11 12.0	+1.4
	14nm,0.8s						
LOR	Lormes	147.54	339	ePKP1	PKPdf	05 11 15.7	+3.6
SSF	Saint Saulge	147.84	340	ePKP1	PKPdf	05 11 16.7	+4.1
	6.4nm,0.7s						
LPL	La Plagne	147.94	334	ePKP1	PKPdf	05 11 17.6	+4.8
	4.1nm,0.6s						
LPG	La Plagne	147.95	334	ePKP1	PKPdf	05 11 17.7	+4.9
ORIF	Oris-en-Rattie	148.78	335	ePKP1	PKPdf	05 11 19.4	+5.2
	10nm,0.8s						
PGF	Pioggiola	149.21	328	ePKP1	PKPdf	05 11 21.1	+6.2
	20nm,0.7s						
LMR	La Mourre	149.79	332	ePKP1	PKPdf	05 11 21.6	+5.8
	9.0nm,0.6s						

*BER **16** 05:16:01.3±1.7, 67.79N×20.14E, ML1.5, Suspected explosion*
HEL 16 05:16:01.9±0.3**, 67.84N×20.17E, ML1.7**(BER)**, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KIF	Kilpisjarvi	1.20	11	eP	Pb	05 16 23.7	-1.4
KIF				eS	Sb	05 16 40.3	-0.7
KTK1	Kautokeino	1.64	42	eP	Pn	05 16 29.5	-2.6
KTK1				eSN	Sn	05 16 54.0	-0.2
KTK1				AML	AML	05 16 58.3	
	comp=Z,4.9nm,0.4s						
TRO	Tromso	1.86	346	eP	Pn	05 16 33.9	-1.4
TRO				eSG	Sg	05 16 59.8	-4.0
TRO				AML	AML	05 17 02.0	
	comp=Z,7.1nm,0.4s						
SGF	Sodankyl	2.46	96	eP	Pn	05 16 43.5	-0.5
SGF				eS	Sn	05 17 15.1	-0.1
LOF	Lofoten	2.51	280	eSG	Sg	05 17 20.5	-5.1
LOF				AML	AML	05 17 25.4	
	comp=Z,4.3nm,0.4s						
MELS	Mels	2.68	252	eSg	Sg	05 17 23.4	-7.7
MOR8	Moi Rana	2.80	236	eSG	Sg	05 17 22.4	-13
MOR8				AML	AML	05 17 26.1	
	comp=Z,8.6nm,0.4s						
KEV	Kevo	3.14	49	eSB	Sb	05 17 35.6	-1.9
NSS	Namsos	4.70	229	eSG	Sg	05 18 26.2	-12

*BJI **16** 05:26:01.8, 39.31N×74.73E, h21^{km}, ML3.6*
*NNC **16** 05:26:05.0±9.8, 39.28N×74.78E, mpv3.9, Error ellipse: s-maj=55.6km s-min=42.9km az=41.0*
ISC 16 05:26:03.5±0.8**, 38.93N**±0.05×**75.3E**±0.1**, h33**^{km}**, n18,** σ**1^{s}08**/16**, 3C-4D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH	Kashi	0.81	43	PG	P	05 26 17.9	-0.5
KSH				eSG	S	05 26 29.1	-0.2
KSH				Smax			
	comp=N,1μm,1.1s						
KSH				Smax			
	comp=E,1μm,0.6s						
UCH	Uchtor	3.35	350	P	P	05 26 54.4	-0.3
	SNR=62						
ULHL	Ulahol	3.40	12	P	P	05 26 57.1	+1.7
	SNR=10.0						
AML	Almayashu	3.42	340	P	P	05 26 54.8	-0.9
	SNR=13						
KBK	Karagaybulak	3.73	356	P	P	05 27 02.7	+2.5
	SNR=9.4						
AAK	Ala-Archa	3.75	351	⇓Pn	Pn	05 27 00.1	-0.5
	comp=E,20nm,0.5s						
AAK				⇑Lg		05 27 53.6	
	comp=E,77nm,0.8s						
AAK	Ala-Archa	3.75	351	P	P	05 26 59.8	-0.6
	SNR=14						
TKM2	Tokmak 2	4.00	3	P	P	05 27 04.5	+0.6
	SNR=31						
USP	Ospenovka	4.38	353	P	P	05 27 18.0	+8.6
	SNR=7.7						
MK02	Makanchi Array	9.39	31	⇓Pn	P	05 28 18.4	-1.0
	comp=E,2.5nm,0.9s,baz=210,slow=13						
MK02				⇓Lg		05 30 59.5	
	comp=E,4.6nm,1.2s,baz=220,slow=29						
KURK	Kurchatov	12.03	10	⇑Lg		05 32 18.6	
	comp=E,8.6nm,1.7s,baz=46,slow=7.8,SNR=4.1						
KOLN	Koldanda	13.12	146	eP	P	05 29 08.3	-1.7
	comp=E,13nm,0.9s						
GKN	Gorkha	13.40	142	eP	P	05 29 12.8	-0.9
	comp=E,7.7nm,0.5s						
KKN	Kakani	13.89	140	eP	P	05 29 20.6	+0.4
	comp=E,3.3nm,0.2s						
GUN	Gumba	14.10	138	eP	P	05 29 24.6	+1.7
	comp=E,9.0nm,0.6s						
VOSK	Vostochnaya	14.12	349	⇑Lg		05 33 23.9	
	comp=E,13nm,2.4s						
PKI	Pulchoki	14.14	140	eP	P	05 29 24.2	+0.8
BVA0	Borovoye Array	14.50	348	⇓Lg		05 33 27.5	
	comp=E,1.0nm,1.7s,baz=157,slow=26,SNR=4.3						

*IDC **16** 05:54:23.0±3.3, 5.38N×126.36E, h29^{km}±21^{km}, mb4.0/12, mb1 4.0/12, mb1mx3.9/20, MS3.3/2, Ms1 3.4/2, ms1mx2.8/22, Error ellipse: s-maj=52.9km s-min=15.0km az=72.0*
*NEIC **16** 05:54:24.5±5.8, 5.36N×126.33E, h42^{km}±54^{km}, mb4.5/2, Error ellipse: s-maj=34.2km s-min=11.1km az=74.0*
ISC 16 05:54:22.4±0.6**, 5.31N**±0.09×**126.6E**±0.2**, h33**^{km}**, n24,** σ**1^{s}34**/22**, mb4.1**/14**, MS3.2**/2**, 2C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KCP	Kidapawan	2.26	318	⇑iP	Px	05 55 12.7	
KCP				iS	Sx	05 55 41.0	
BIPH	Bislig	2.86	355	⇑iP	P	05 55 13.5	+6.8
BIPH				iS	S	05 55 45.0	+4.6
BUKP	Musuan	2.97	329	eP	P	05 55 09.7	+1.4
CGP	Cagayan de Oro	3.65	329	eS	S	05 56 05.6	+5.2
PAGZ	Pagadian	4.07	308	eP	P	05 55 25.4	+1.6
FITZ	Fitzroy Crossi	23.28	182	P	P	05 59 28.5	+0.2
	3.9nm,0.9s,mb3.8,baz=25,slow=11,SNR=9.0						
PMG	Port Moresby	25.17	125	LR	LR	06 08 36.5	
	comp=Z,93nm,19.6s,MS3.3,baz=238,slow=34						
WRAB	Tennant Creek	26.22	163	eP	P	05 59 57.5	+1.2
	7.2nm,0.8s,mb4.2						
WRA	Warramunga Arr	26.23	163	P	P	05 59 56.7	+0.3
	3.6nm,0.6s,mb4.0,baz=342,slow=10,SNR=23						
WRA				ScP		06 06 59.9	
	0.6nm,0.7s,baz=337,slow=3.1,SNR=4.5						
ASAR	Alice Springs	29.67	166	P	P	06 00 27.1	-0.3
	0.6nm,0.5s,mb3.6,baz=8.3,slow=6.8,SNR=7.1						
ASAR				PcP	PcP	06 03 29.9	-1.5
	0.5nm,0.6s,baz=357,slow=3.6,SNR=4.6						
ASAR				ScP		06 07 10.5	
	0.4nm,0.5s,baz=326,slow=0.7,SNR=6.0						
CMAR	Chiang Mai Arr	29.99	298	LR	LR	06 13 39.9	
	comp=Z,34nm,18.5s,MS3.0,baz=100,slow=39						
CTA	Charters Tower	31.79	143	P	P	06 00 46.5	+0.3
	1.3nm,0.7s,mb3.9,baz=328,slow=9.5,SNR=2.0						
NWAO	Narrogin (SRO)	39.05	193	P	P	06 01 47.8	-0.2
	4.3nm,0.9s,mb4.2,baz=8.1,slow=7.1,SNR=3.6						
STKA	Stephens Creek	39.65	160	P	P	06 01 54.0	+1.1
	2.1nm,0.4s,mb4.2,baz=340,slow=7.0,SNR=7.9						
STKA	Stephens Creek	39.65	160	eP	P	06 01 53.7	+0.8
SONM	Songino Array	45.77	341	P	P	06 02 41.5	-1.1
	1.0nm,0.8s,mb3.8,baz=153,slow=8.3,SNR=4.1						
KURK	Kurchatov	60.35	327	eP	P	06 04 27.8	-2.7
	3.6nm,0.7s,mb4.5						
BVAR	Borovoye Array	65.93	327	P	P	06 05 04.8	-2.4
	0.9nm,0.6s,mb4.0,baz=101,slow=7.6,SNR=5.7						
VNDA	Vanda	85.00	173	P	P	06 06 56.2	+1.0
	0.6nm,0.8s,mb3.8,baz=313,slow=4.2,SNR=4.1						
MAW	Mawson	85.18	200	P	P	06 06 56.0	-0.2
	2.2nm,1.2s,mb4.2,baz=51,slow=6.5,SNR=2.4						
JOF	Joensuu	87.72	333	ep	P	06 07 03.8	-4.9
ARCES	ARCESS Array B	88.93	340	P	P	06 07 14.1	-0.3
	3.2nm,0.9s,mb4.7,baz=76,slow=5.0,SNR=7.4						
KAF	Kangasniemi	90.14	332	ep	P	06 07 18.3	-2.0
FINES	FINESS Array B	90.39	332	P	P	06 07 19.6	-1.8
	2.7nm,0.9s,mb4.6,baz=27,slow=3.1,SNR=7.8						

*NEIC **16** 06:03:27.8±0.3, 53.91N×165.79W, h71^{km}±2^{km}, mb4.1/10, Error ellipse: s-maj=7.4km s-min=3.5km az=161.0*
*IDC **16** 06:03:28.7±3.4, 54.00N×165.86W, h78^{km}±30^{km}, mb3.8/16, mb1 4.0/18, mb1mx3.9/25, MS3.4/5, Ms1 3.4/5, ms1mx3.1/27, Error ellipse: s-maj=26.7km s-min=13.0km az=8.0*
ISC 16 06:03:27.0±0.3**, 53.95N**±0.06×**165.85W**±0.05**, h79**^{km}±2^{km}**, n76,** σ**0^{s}82**/77**, mb4.1**/22**, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKLV	Akutan Long Va	0.23	343	P	P	06 03 38.5	-0.3
AKLV				S	S	06 03 47.5	-0.2
AKGG	Akutan Green G	0.27	341	P	P	06 03 39.1	+0.1
UNV	Unalaska Valle	0.40	256	P	P	06 03 39.2	-0.7
UNV				S	S	06 03 48.0	-1.7
MTBL	Makushin Table	0.49	273	P	P	06 03 41.0	+0.3
MNAT	Makushin Natee	0.50	263	P	P	06 03 40.6	-0.2
MSW	Makushin Switc	0.56	267	P	P	06 03 41.3	0.0
MCIR	Makushin Cirqu	0.62	271	P	P	06 03 42.8	+0.8
MGOD	Makushin Gods	0.63	256	P	P	06 03 42.0	0.0
WESS	West Dahl Sout	0.85	51	P	P	06 03 44.3	-0.1
WFAR	Faris Peak	0.86	46	P	P	06 03 44.7	+0.1
WPOG	Pogromni	0.92	44	P	P	06 03 45.4	+0.3
WESN	West Dahl Nort	0.97	49	P	P	06 03 46.1	+0.3
WTUG	Tugumak	1.24	43	P	P	06 03 49.4	+0.2
SSLW	Shishaldin Wes	1.30	50	P	P	06 03 50.1	-0.2
SSLN	Shishaldin Nor	1.39	51	P	P	06 03 51.6	+0.3
OKCD	Okmok Cone D	1.44	250	P	P	06 03 52.8	+0.7
OKCE	Okmok Cone E	1.47	250	P	P	06 03 53.4	+1.0
FALS	False Pass	1.69	56	P	P	06 03 55.1	-0.1
FALS				S	S	06 04 17.5	+1.4
NIKO	Nikolski	2.05	243	P	P	06 04 00.2	+0.1
DRIA	Deer Island	2.33	63	P	P	06 04 03.5	-0.5
DTNA	Dutton South F	2.42	59	P	P	06 04 05.0	-0.2
DOL	Dolgoi Island	2.61	61	P	P	06 04 07.6	-0.4
HAG	Hague Volcano	2.67	57	P	P	06 04 09.2	+0.4
SDPT	Sand Point	3.42	64	P	P	06 04 18.1	-1.2
SPIA	Saint Paul Isl	4.09	324	P	P	06 04 31.0	+2.4
KDAK	Kodiak Island	8.39	57	eP	P	06 05 24.2	-3.6
RSO	Redoubt South	9.64	42	P	P	06 05 46.3	+1.7
SPU	Mount Spurr	10.35	40	eP	P	06 05 55.0	+0.7
SLKM	Skilak Lake	10.70	46	P	P	06 05 58.5	-0.6
FX1	Attu Island--F	12.56	274	P	P	06 06 25.6	+1.6
	1.6nm,0.3s,baz=301,slow=14,SNR=15						
FX1				S	S	06 08 41.1	-1.3
	0.2nm,0.3s,baz=78,slow=20,SNR=2.0						
EYAK	Cordova Ski Ar	12.70	51	eP	P	06 06 21.6	-4.0
DIV	Divide	12.92	48	eP	P	06 06 25.4	-3.2
ILAR	Eielson Array	14.45	34	P	P	06 06 47.5	-0.8
	0.1nm,0.3s,baz=218,slow=10,SNR=6.8						
DLBC	Dease Lake	20.26	63	P	P	06 07 58.6	+0.6
	3.3nm,0.7s,baz=272,slow=12,SNR=8.8						
DLBC				LR	LR	06 15 52.7	
	comp=Z,68nm,18.2s,baz=263,slow=37						
INK	Inuvik	20.86	34	P	P	06 08 02.1	-1.8
	1.5nm,0.4s,baz=235,slow=12,SNR=14						
INK	Inuvik	20.86	34	eP	P	06 08 02.1	-1.8
	2.4nm,0.6s						
BBB	Bella Bella	22.57	79	LR	LR	06 16 01.1	
	comp=Z,54nm,18.5s,baz=314,slow=33						
YKA	Yellowknife Ar	27.60	51	P	P	06 09 08.7	+0.4
	2.1nm,0.8s,mb3.7,baz=276,slow=8.4,SNR=6.2						
YKA	Yellowknife Ar	27.60	51	P	P	06 09 08.7	+0.4
EDM	Edmonton	30.59	70	P	P	06 09 31.2	-3.7
NEW	Newport	30.61	80	P	P	06 09 34.5	-0.8
CHMT	Chamberlain Mo	33.55	80	P	P	06 10 00.5	-0.4
HLID	Hailey	34.74	86	eP	P	06 10 11.2	+0.2
	1.2nm,0.7s,mb3.8						
NVAR	Mina Array Bea	35.64	96	P	P	06 10 19.1	+0.3
	2.6nm,0.7s,mb4.3,baz=295,slow=9.8,SNR=30						
NVAR				pP	pP	06 10 32.6	-5.3
	1.6nm,0.8s,baz=290,slow=9.3,SNR=3.8						
MNV	Mina	35.73	96	eP	P	06 10 20.0	+0.4
	0.9nm,0.5s,mb4.0						
ELK	Elko	35.96	90	eP	P	06 10 21.8	+0.3
	3.9nm,1.0s,mb4.3						
HWUT	Hardware Ranch	37.59	86	P	P	06 10 35.4	+0.3
DUG	Dugway	37.74	89	eP	P	06 10 36.6	+0.3
	2.1nm,0.7s,mb4.1						
TPNV	Topopah Spring	37.84	96	eP	P	06 10 37.6	+0.4
	2.4nm,0.7s,mb4.1						
BW06	Boulder Array	38.07	83	eP	P	06 10 39.0	-0.1
	2.4nm,0.9s,mb4.0						
PDAR	Pinedale Array	38.07	83	P	P	06 10 39.1	+0.1
	2.4nm,0.8s,mb4.1,baz=310,slow=4.7,SNR=24						
SRU	San Rafael	39.79	89	eP	P	06 10 53.7	+0.3
LDFC	Landfair	39.80	97	eP	P	06 10 53.4	-0.1
BAR	Barrett	40.59	101	P	P	06 10 59.4	-0.7
PV10	Paradox Valley	41.15	88	eP	P	06 11 05.0	+0.5
SDCO	Great Sand Dun	43.65	86	eP	P	06 11 25.3	+0.3
	2.5nm,0.9s,mb3.9						
LAZ	Ladron	44.97	91	eP	P	06 11 36.0	+0.4
BNM	Barren Site	45.45	91	eP	P	06 11 39.9	+0.5
CPRX	Cap Rock	47.87	90	eP	P	06 11 58.3	-0.1
WMOK	Wichita Mounta	49.67	84	eP	P	06 12 11.5	-0.8
	6.0nm,0.6s,mb4.7						
TXAR	Lajitas Array	50.65	93	P	P	06 12 19.6	-0.3
	2.5nm,0.5s,mb4.5,baz=300,slow=5.4,SNR=58						
TXAR				pP	pP	06 12 34.1	-5.6
	1.7nm,0.6s,baz=300,slow=5.5,SNR=10						
SONM	Songino Array	52.30	302	P	P	06 12 30.3	-1.7
	2.3nm,1.1s,mb4.1,baz=59,slow=7.2,SNR=3.9						
SCHQ	Schefferville	52.82	46	P	P	06 12 35.5	-0.4
	5.0nm,0.9s,mb4.5,baz=347,slow=14,SNR=2.9						
ARCES	ARCESS Array B	56.55	355	P	P	06 13 02.9	+0.1
	3.6nm,0.8s,mb4.4,baz=11,slow=6.2,SNR=3.9						
ARCES				LR	LR	06 40 15.6	
	comp=Z,51nm,18.4s,baz=276,slow=39						
ARCES	ARCESS Array B	56.55	355	P	P	06 13 02.9	+0.1
ARCES				LR	LR	06 40 15.7	
ZAL	Zalesovo	57.68	319	LR	LR	06 37 03.7	
	comp=Z,37nm,20.0s,baz=93,slow=35						
KURK	Kurchatov	62.57	320	P	P	06 13 44.9	+0.5
BVAR	Borovoye Array	63.62	326	P	P	06 13 50.6	-0.5
	0.6nm,0.5s,mb3.6,baz=124,slow=5.3,SNR=3.5						
BVAR				PcP	PcP	06 14 26.1	-0.5
	0.6nm,0.5s,baz=14,slow=6.1,SNR=3.6						
FINES	FINESS Array B	64.57	354	P	P	06 13 56.1	-1.1
	2.6nm,0.8s,mb4.1,baz=20,slow=7.9,SNR=12						
FINES				LR	LR	06 45 23.6	
	comp=Z,29nm,20.8s,baz=348,slow=39						
NB2	NORSAR Subarra	65.34	2	P	P	06 13 59.3	-2.8
	3.9nm,1.0s,mb4.2,baz=1.0,slow=6.5						
NOA	NORSAR Array B	65.34	2	P	P	06 14 02.0	-0.1
	1.1nm,0.7s,mb3.8,baz=360,slow=6.4,SNR=5.1						
AKASG	Malin Array Be	74.96	350	P	P	06 14 60.0	-0.5
	0.7nm,0.4s,mb3.7,baz=13,slow=5.8,SNR=4.1						
GERES	GERESS Array B	77.58	0	P	P	06 15 16.0	+0.7
	0.4nm,0.5s,mb3.4,slow=5.3,SNR=4.1						
CMAR	Chiang Mai Arr	78.30	285	P	P	06 15 20.4	+0.6
	2.3nm,1.0s,mb3.9,baz=18,slow=5.2,SNR=9.4						
BRTR	Keskin Array B	85.20	345	P	P	06 15 56.7	+1.5
	1.0nm,0.7s,mb3.9,baz=45,slow=3.5,SNR=5.5						
TSUM	Tsumeb	145.22	354	PKPbc	PKPbc	06 22 56.4	+0.8
	1.7nm,0.5s,baz=8.5,slow=6.2,SNR=5.8						

*LDG **16** 06:15:11.3±0.0, 46.14N×2.75E, h8^{km}, Md1.8/2, Ml1.9/7, Error ellipse: s-maj=1.0km s-min=0.6km az=123.0*
*STR **16** 06:15:13.0±0.4, 46.13N×2.75E, h5^{km}±1^{km}, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 16 06:15:10.2±0.4**, 46.15N**±0.02×**2.74E**±0.04**, h8**^{km}**, n13,** σ**1^{s}30**/24**, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AGO	Saint Agoulin	0.28	109	Pg	Pg	06 15 18.4	+2.3
TCF	Toulx Ste Croi	0.40	291	ePg	Pg	06 15 19.4	+1.1
TCF				eSg	Sg	06 15 24.3	+0.7
	2.2nm,0.2s						
BGF	Bois d'Agland	0.42	10	ePg	Pg	06 15 19.6	+1.0
BGF				eSg	Sg	06 15 25.1	+0.8
	6.5nm,0.2s						
PLDF	La Plantade	0.64	106	Pg	Pg	06 15 25.3	+2.3
PLDF				Sg	Sg	06 15 33.7	+2.2
AVF	Avril sur Loir	0.77	33	ePg	Pg	06 15 25.9	+0.3
AVF				eSg	Sg	06 15 35.7	-0.2
SMF	Signal de Mont	0.91	56	ePg	Pg	06 15 28.3	-0.1
SMF				eSg	Sg	06 15 39.9	-0.6
	4.5nm,0.2s						
LBL	Lubilhac	0.98	159	Pg	Pg	06 15 31.4	+1.6
LBL				Sg	Sg	06 15 44.6	+1.7
SSF	Saint Saulge	1.05	30	ePg	Pg	06 15 31.1	-0.2
SSF				eSg	Sg	06 15 44.7	-0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	1.4nm,0.2s						
RJF	**Les Rejaudoux**	**1.20**	**226**	*e*Pg	**Pg**	**06 15 33.8**	**-0.5**
RJF				*e*Sg	**Sg**	**06 15 49.4**	**-1.0**
	2.5nm,0.2s						
CAF	**Calviac**	**1.31**	**202**	*e*Pg	**Pg**	**06 15 36.0**	**-0.4**
CAF				*e*Sg	**Sg**	**06 15 52.8**	**-1.1**
	4.9nm,0.2s						
LOR	**Lormes**	**1.36**	**34**	*e*Pg	**Pg**	**06 15 36.6**	**-0.8**
LOR				*e*Sn	**Sn**	**06 15 52.0**	**-1.9**
LOR				*e*Sg	**Sg**	**06 15 54.4**	**-1.1**
	4.8nm,0.2s						
VIVF	**Saint-Julien-l**	**1.87**	**133**	*e*Sg	**Sg**	**06 16 10.1**	**-2.5**
	1.2nm,0.2s						
LASF	**Ste Croix**	**2.22**	**159**	*e*Sg	**Sg**	**06 16 20.8**	**-3.2**
	0.4nm,0.2s						

IDC 16 06:18:53.2±3.2**,3.78S×138.91E,mb3.3**/2**,mb1 3.7**/4**, mb1mx3.6**/11**,ML3.2**/2**,MS2.5**/1**,Ms1 2.5**/1**,ms1mx1.9**/6**, Error ellipse: s-maj=112.0km s-min=27.0km az=94.0, Irian Jaya**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.67**	**195**	Pn	P	06 22 48.6	-1.3
	0.1nm,0.3s,baz=17,slow=12,SNR=5.7						
WRA				LR	LR	06 29 13.7	
	comp=Z,15nm,18.7s,baz=270,slow=37						
FITZ	**Fitzroy Crossi**	**19.27**	**221**	P	P	06 23 19.3	-2.8
	0.1nm,0.3s,baz=48,slow=16,SNR=2.9						
ASAR	**Alice Springs**	**20.35**	**193**	P	P	06 23 31.5	-2.6
	0.4nm,0.6s,baz=24,slow=8.9,SNR=3.6						
SONM	**Songino Array**	**58.77**	**335**	P	P	06 28 53.2	-2.3
	0.4nm,0.4s,baz=149,slow=8.4,SNR=2.3						

*IDC **16** 06:25:37.7±3.5, 11.57N×86.16W, mb3.4/3, mb1 3.9/3, mb1mx3.6/18, Error ellipse: s-maj=242.0km s-min=66.0km az=53.0*
*CASC **16** 06:25:37.3±2.9, 10.68N×86.59W, h24km±12km, MD4.2, ML3.2*
ISC 16 06:25:37.5±1.2**,10.67N**±0.07×**86.64W**±0.09**,h34**km±15km**, n26,**σ**0.99**/31**,mb3.2**/3**,7C-6D,Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VCR	**Vista de Mar**	**1.13**	**118**	*e*P	**P**	**06 25 56.3**	**-0.6**
CRUN	**El Crucero**	**1.35**	**14⇑**	*e*P	**P**	**06 26 02.4**	**+2.2**
LIM	**Lima**	**1.36**	**89⇑**	*i*P	**P**	**06 25 59.4**	**-1.0**
LIM				*e*S	**S**	**06 26 17.1**	**-0.3**
APON	**Apoyo**	**1.36**	**24**	*e*P	**P**	**06 25 59.4**	**-1.0**
TICN	**Ticuantepe**	**1.41**	**16**	*e*P	**P**	**06 26 01.0**	**-0.2**
XAVN	**Gruta Xavier**	**1.50**	**12⇓**	*e*P	**P**	**06 26 02.4**	**-0.1**
MGAN	**Managua**	**1.52**	**15⇓**	*e*P	**P**	**06 26 02.3**	**-0.3**
MGAN				*e*S	**S**	**06 26 26.0**	**+4.6**
WILN	**Americas 2**	**1.55**	**16**	*e*P	**P**	**06 26 02.4**	**-0.7**
APYN	**Apoyeque**	**1.58**	**10⇓**	*e*P	**P**	**06 26 03.3**	**-0.3**
APYN				*e*S	**S**	**06 26 23.8**	**+0.8**
JCR	**Jicaral**	**1.71**	**118**	*e*P	**P**	**06 26 04.4**	**-0.9**
JCR				*e*S	**S**	**06 26 24.4**	**-1.7**
LEON	**Leon**	**1.76**	**352⇑**	*e*P	**P**	**06 26 05.3**	**-0.7**
MIRN	**Miramar**	**1.76**	**358⇓**	*e*P	**P**	**06 26 05.7**	**-0.4**
CNGN	**Cerro Negro**	**1.82**	**358⇑**	*e*P	**P**	**06 26 06.3**	**-0.6**
TELN	**Telica**	**1.93**	**354**	*e*P	**P**	**06 26 08.0**	**-0.6**
PYTN	**Playitas**	**1.94**	**17**	*e*P	**P**	**06 26 10.0**	**+1.3**
CGA2	**Cerro Gallo 2**	**2.23**	**107⇓**	*e*P	**P**	**06 26 12.9**	**+0.1**
CGA2				*e*S	**S**	**06 26 39.2**	**-0.2**
LAJ	**Bijagual**	**2.60**	**108⇑**	*e*P	**P**	**06 26 13.8**	**-4.3**
SJS	**Escuela Geolog**	**2.64**	**106⇑**	*e*P	**P**	**06 26 19.9**	**+1.2**
LCR2	**La Lucha 2**	**2.75**	**109**	*e*P	**P**	**06 26 21.7**	**+1.5**
ICR	**Volcan Irazu**	**2.84**	**104⇑**	*e*P	**P**	**06 26 23.1**	**+1.5**
TRTC	**Tortuguero**	**2.88**	**92**	*e*P	**P**	**06 26 21.6**	**-0.5**
URSC	**Urasca**	**2.93**	**106**	*e*P	**P**	**06 26 25.6**	**+2.8**
BUS	**Buena Vista**	**3.04**	**111⇓**	*e*P	**P**	**06 26 25.0**	**+0.6**
TXAR	**Lajitas Array**	**24.45**	**322**	P	**P**	**06 30 54.6**	**+0.1**
	1.1nm,0.7s,mb3.4,baz=135,slow=10,SNR=16						
TXAR				PcP	PcP	06 34 36.2	+2.1
	0.2nm,0.8s,baz=146,slow=4.5,SNR=3.8						
PDAR	**Pinedale Array**	**37.71**	**332**	P	**P**	**06 32 50.4**	**-1.2**
	0.2nm,0.5s,mb3.1,baz=140,slow=12,SNR=3.7						
NVAR	**Mina Array Bea**	**39.56**	**320**	P	**P**	**06 33 08.2**	**+1.1**
	0.3nm,0.7s,mb3.2,baz=117,slow=10,SNR=3.1						

MEX 16 06:45:48.6±1.0**,15.52N×98.11W,h9**km±36km**,MD3.9,Off coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.87**	**359**	*e*P	Pb	06 46 03.0	-2.5
PNIG				*i* S	Sb	06 46 14.4	-2.5
HUIG	**Huatulco**	**1.94**	**82**	*i* P	Pn	06 46 19.4	-2.7
HUIG				*i* S	Sn	06 46 40.8	-6.0
VHO	**Vista Hermosa**	**2.03**	**40**	*e*P	Pn	06 46 19.0	-4.4
VHO				*e*S	Sn	06 46 44.3	-4.8
OXX	**Oaxaca**	**2.05**	**40**	*e*P	Pn	06 46 21.0	-2.6
OXX				*e*S	Sn	06 46 44.5	-5.0
ACX	**Acapulco**	**2.20**	**308**	*e*P	Pn	06 46 25.0	-0.8
PLIG	**Platanillo**	**3.16**	**335**	*i* S	Sn	06 47 14.1	-3.5
CMIG	**Matias Romero**	**3.47**	**63**	*e*P	Pn	06 46 40.5	-3.4
CMIG				*i* S	Sn	06 47 19.5	-6.1
IISM	**Ciudad Serdan**	**3.52**	**11**	*e*P	Pn	06 46 46.0	+1.3

IDC 16 07:03:02.5±9.6**,8.77S×121.50E,h163**km±71km**,mb3.4**/1**, mb1 3.2**/4**,mb1mx3.0**/13**,Error ellipse: s-maj=112.0km s-min=47.4km az=32.0,Flores region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.11**	**157**	P	P	07 05 24.1	-0.6
	0.1nm,0.3s,baz=318,slow=15,SNR=2.2						
FITZ				S	S	07 07 17.1	+1.1
	0.1nm,0.3s,baz=0.1,slow=14,SNR=2.8						
WRA	**Warramunga Arr**	**16.66**	**133**	P	P	07 06 47.3	-0.8
	0.2nm,0.3s,baz=305,slow=12,SNR=7.3						
WRA				S	S	07 09 56.6	+10
	0.0nm,0.3s,baz=298,slow=23,SNR=2.8						
WB2	**Warramunga Arr**	**16.67**	**133**	*e*P	P	07 06 47.7	-0.5
WB2				*e*S	S	07 09 59.7	+13
ASAR	**Alice Springs**	**18.98**	**143**	P	P	07 07 12.2	-1.7
	0.2nm,0.3s,baz=322,slow=9.6,SNR=10						
STKA	**Stephens Creek**	**29.62**	**144**	P	P	07 08 50.8	-4.0
	1.2nm,0.8s,baz=324,slow=8.7,SNR=2.4						
BDFB	**Brasilia**	**153.62**	**203**	PKPbc	PKPdf	07 22 44.4	+10
	1.5nm,0.7s,baz=135,slow=4.3,SNR=3.0						

MEX 16 07:33:12.6±0.7**,16.00N×97.87W,h16**km±16km**,MD3.8, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.47**	**327**	*i* P	Pb	07 33 20.7	-1.3
PNIG				*e*S	Sb	07 33 26.3	-2.0
VHO	**Vista Hermosa**	**1.52**	**45**	*i* P	Pn	07 33 36.0	-3.3
VHO				*i* S	Sn	07 33 54.1	-4.8
OXX	**Oaxaca**	**1.54**	**45**	*e*P	Pn	07 33 35.0	-4.6
HUIG	**Huatulco**	**1.71**	**97**	*e*P	Pn	07 33 39.0	-3.0
HUIG				*i* S	Sn	07 33 57.3	-6.2
PLIG	**Platanillo**	**2.85**	**327**	*i* P	Pn	07 33 55.3	-3.1
PLIG				*i* S	Sn	07 34 29.5	-3.2
CMIG	**Matias Romero**	**3.06**	**69**	*e*P	Pn	07 33 58.5	-2.8

MEX 16 07:33:59.9±0.9**,16.09N×94.12W,h86**km±26km**,MD4.0, Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.23**	**324**	*e*P	P	07 34 20.8	-1.7
CMIG				*e*S	S	07 34 37.5	-1.9
SCX	**San Cristobal**	**1.56**	**66**	*i* P	P	07 34 26.5	-0.2
SCX				*i* S	S	07 34 47.0	+0.5
CCIG	**Comitan**	**1.92**	**84**	*e*P	P	07 34 31.1	-0.2
CCIG				*i* S	S	07 34 52.6	-2.0
HUIG	**Huatulco**	**1.94**	**261**	*i* P	P	07 34 29.7	-2.0
HUIG				*i* S	S	07 34 53.2	-2.0
TUIG	**Tuzandepetl**	**1.95**	**352**	*i* P	P	07 34 28.4	-3.5
TUIG				*i* S	S	07 34 52.3	-3.1
EVV	**El Vigia**	**2.63**	**334**	*i* P	P	07 34 40.0	-1.3
OXX	**Oaxaca**	**2.68**	**292**	*i* P	P	07 34 42.0	0.0
VHO	**Vista Hermosa**	**2.69**	**292**	*i* P	P	07 34 42.6	+0.5
VHO				*i* S	S	07 35 10.6	-3.1

*CSEM **16** 07:37:06.8±0.1, 67.14N×20.85E, h2km, ML2.6, Error ellipse: s-maj=4.8km s-min=4.0km az=3.0, Mining explosion.*
*UPP **16** 07:37:08.1, 67.16N×20.73E, h0km, ML2.6, Suspected Mining explosion.*
HEL 16 07:37:08.4±0.1**,67.16N×20.73E,ML2.3**(UPP)**, Explosion,Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**242**	*i* P	Pg	07 37 09.5	-0.3
DUNU				*i* S	Sg	07 37 10.7	0.0
MASU	**Masugnsbyn**	**0.58**	**58**	*i* P	Pg	07 37 18.7	-1.2
KUA	**Kurravaara**	**0.82**	**350**	*i* P	Pg	07 37 22.9	-1.8
KUA				*i* S	Sg	07 37 33.7	-1.9
ERTU	**Ertsjaerv**	**0.83**	**136**	*i* P	Pg	07 37 23.2	-1.9
PAJU	**Pajala**	**0.94**	**97**	*e*P	Pg	07 37 25.7	-1.5
SJUU	**Sjulsmark**	**1.69**	**168**	*e*P	Pn	07 37 38.8	-0.6
SJUU	**Sjulsmark**	**1.69**	**168**	P	Pn	07 37 38.7	-0.7
KIF	**Kilpisjarvi**	**1.86**	**1**	*e*P	Pn	07 37 41.7	-0.1
KIF				*e*S	Sn	07 38 04.4	-1.9
KIF	**Kilpisjarvi**	**1.86**	**1**	P	Pn	07 37 41.6	-0.2
KIF				S	Sn	07 38 04.4	-1.9

*PRU **16** 07:44:27.6, 51.48N×16.14E*
*WAR **16** 07:44:28.6, 51.45N×16.08E, ML2.6, Mining Induced*
ISC 16 07:44:26.4±1.7**,51.46N**±0.07×**16.06E**±0.09**,n8,**σ**1.23**/11**, Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.63**	**167**	*e*PG	**Pg**	**07 44 40.0**	**+1.0**
KSP				*e*SG	**Sg**	**07 44 48.0**	**+0.6**
UPC	**Upice**	**0.95**	**182**	*e*PG	**Pg**	**07 44 47.0**	**+1.6**
DPC	**Dobruska-Polom**	**1.12**	**171**	*e*PG	**Pg**	**07 44 48.8**	**+0.1**
DPC				*e*SG	**Sg**	**07 45 03.1**	**-0.6**
PVCC	**Panska Ves**	**1.32**	**226**	*e*PG	**Pg**	**07 44 53.7**	**+0.8**
PRU	**Pruhonice**	**1.76**	**214**	*e*SG	**Sg**	**07 45 26.2**	**+1.2**
	7.4nm,0.4s						
CLL	**Collm**	**1.92**	**267**	*e*PG	**Pg**	**07 45 04.0**	**-0.8**
CLL				*e*SG	**Sg**	**07 45 30.0**	**-0.5**
OKC	**Ostrava-Krasne**	**2.09**	**140**	*e*SG	**Sg**	**07 45 33.3**	**-2.8**
KHC	**Kasperske Hory**	**2.82**	**215**	*e*x	x	07 45 44.5	
KHC				*e*SG	**Sg**	**07 45 58.1**	**-2.2**

*IDC **16** 07:59:17.6±3.0, 31.36S×177.61W, h39km±8km, mb3.9/4, mb1 4.1/5, mb1mx3.7/15, ML3.5/1, Error ellipse: s-maj=58.9km s-min=34.7km az=113.0*
*NEIC **16** 07:59:43.5±8.6, 32.38S×179.43E, h100km±51km, mb4.5/1, Error ellipse: s-maj=105.6km s-min=13.4km az=224.0*
ISC 16 07:59:29.3±1.1**,31.35S**±0.09×**179.5W**±0.2**,h41**km**, h41**km±6.3km**:pP-P,n15,**σ**1.06**/15**,mb4.1**/5**,1C-3D, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.43**	**201**	Pn	**P**	**08 01 12.0**	**-5.8**
	0.6nm,0.3s,baz=63,slow=11,SNR=3.3						
URZ				Sn	**S**	**08 02 41.9**	**+0.2**
	1.0nm,0.3s,baz=107,slow=19,SNR=3.8						
CTA	**Charters Tower**	**32.69**	**282**	P	**P**	**08 06 00.7**	**+0.6**
	2.1nm,0.4s,mb4.5,baz=113,slow=9.0,SNR=7.1						
CTAO	**Charters Tower**	**32.69**	**282**	*e*P	**P**	**08 06 01.5**	**+1.4**
STKA	**Stephens Creek**	**33.00**	**259**	P	**P**	**08 06 03.6**	**+1.0**
	0.9nm,0.6s,mb3.9,baz=102,slow=9.3,SNR=4.9						
STKA				pP	pP	08 06 15.6	+1.6
	2.3nm,1.0s,baz=110,slow=12,SNR=2.5						
STKA	**Stephens Creek**	**33.00**	**259**	P	**P**	**08 05 59.9**	**-2.8**
STKA				pP	pP	08 06 15.6	+1.6
ASAR	**Alice Springs**	**41.77**	**269**	P	**P**	**08 07 16.8**	**+0.3**
	2.0nm,0.9s,mb3.8,baz=114,slow=8.0,SNR=16						
ASAR				pP	pP	08 07 27.5	-0.4
	3.7nm,0.5s,baz=105,slow=7.6,SNR=18						
WB2	**Warramunga Arr**	**42.83**	**274**	*e*P	**P**	**08 07 25.1**	**-0.1**
WRAB	**Tennant Creek**	**42.84**	**274**	*e*P	**P**	**08 07 24.9**	**-0.3**
WRA	**Warramunga Arr**	**42.84**	**274**	P	**P**	**08 07 24.6**	**-0.7**
	1.9nm,0.5s,mb4.1,baz=112,slow=7.9,SNR=39						
WRA				pP	pP	08 07 35.4	-1.4
	8.0nm,0.8s,baz=113,slow=7.6,SNR=22						
QSPA	**South Pole Qui**	**58.76**	**180**	*e*P	**P**	**08 09 23.4**	**-1.6**
	3.4nm,0.7s,mb4.5						
SNAA	**Sanae**	**77.24**	**179⇓**	*i*	**P**	**08 11 25.8**	**+5.6**
VNA3	**Neumayer Olymp**	**77.44**	**177⇓**	*i*	**P**	**08 11 20.6**	**-0.8**
VNA2	**Neumayer--Watz**	**77.86**	**177⇑**	*i*	**P**	**08 11 24.1**	**+0.4**
VNA1	**Neumayer--Stat**	**78.09**	**177⇓**	*i*	**P**	**08 11 27.2**	**+2.2**
FINES	**FINESS Array B**	**145.57**	**338**	PKPbc	PKPbc	08 18 52.0	-11
	2.1nm,0.7s,baz=27,slow=4.3,SNR=7.3						

*IDC **16** 08:08:59.4±1.7, 0.03N×17.31W, mb3.9/3, mb1 4.2/4, mb1mx3.8/19, ML4.2/1, Error ellipse: s-maj=57.5km s-min=41.1km az=147.0*
*NEIC **16** 08:09:00.0±0.8, 0.19S×17.31W, h10km, Error ellipse: s-maj=25.0km s-min=12.5km az=147.0*
ISC 16 08:09:00.0±0.9**,0.2N**±0.2×**17.3W**±0.1**,h10**km**,n15,** σ**0.49**/16**,mb3.9**/3**,4C,North of Ascension Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LIC	**Lamto**	**13.65**	**64**	*e*PKP1	**P**	**08 12 20.4**	**+4.0**
	66nm,1.4s						
TIC	**Toumodi**	**13.84**	**62**	*e*PKP1	**P**	**08 12 19.4**	**+0.5**
	17nm,0.2s						
KIC	**Kosan Boka**	**13.97**	**64**	*e*PKP1	**P**	**08 12 20.9**	**+0.3**
	282nm,1.9s						
DBIC	**Dimbokro**	**14.00**	**62**	Pn	**P**	**08 12 20.3**	**-0.7**
	1.2nm,0.3s,baz=230,slow=15,SNR=15						
DBIC				Sn	**S**	**08 14 44.4**	**-13**
	0.5nm,0.3s,baz=124,slow=17,SNR=3.9						
DBIC	**Dimbokro**	**14.00**	**62**	Pn	**P**	**08 12 20.3**	**-0.7**
DBIC				Sn	**S**	**08 14 44.4**	**-13**
GERES	**GERESS Array B**	**55.34**	**24**	P	**P**	**08 18 36.0**	**-0.4**
	0.4nm,0.6s,mb3.6,baz=211,slow=5.7,SNR=2.9						
FINES	**FINESS Array B**	**69.38**	**21**	P	**P**	**08 20 09.9**	**-0.1**
	4.4nm,1.1s,mb4.3,baz=207,slow=6.2,SNR=2.4						
FINES	**FINESS Array B**	**69.38**	**21**	P	**P**	**08 20 09.9**	**-0.1**
VNA1	**Neumayer--Stat**	**70.98**	**177⇑**	*i*	**P**	**08 20 14.6**	**-4.9**
VNA2	**Neumayer--Watz**	**71.30**	**177⇑**	*i*	**P**	**08 20 21.3**	**-0.2**
VNA3	**Neumayer Olymp**	**71.49**	**177⇑**	*i*	**P**	**08 20 22.7**	**+0.1**
SNAA	**Sanae**	**72.36**	**175⇑**	*i*	**P**	**08 20 18.8**	**-9.0**
TXAR	**Lajitas Array**	**86.72**	**299**	P	**P**	**08 21 46.4**	**+0.4**
	0.4nm,0.6s,mb3.8,baz=119,slow=6.0,SNR=7.3						
TXAR	**Lajitas Array**	**86.72**	**299**	P	**P**	**08 21 46.4**	**+0.4**
WRA	**Warramunga Arr**	**146.01**	**127**	PKPbc	PKPbc	08 28 41.0	-0.3
	0.4nm,0.7s,baz=239,slow=2.8,SNR=5.9						

*NEIC **16** 09:36:38.8±0.4, 16.73N×93.76W, mb4.3/20, Error ellipse: s-maj=13.3km s-min=6.8km az=59.0*
*IDC **16** 09:36:40.1±1.0, 16.87N×93.76W, h126km±8km, mb3.9/10, mb1 4.1/11, mb1mx4.0/18, Error ellipse: s-maj=37.0km s-min=15.3km az=59.0*
*MEX **16** 09:36:41.5±1.2, 16.77N×94.14W, h134km±9km, MD4.5*
ISC 16 09:36:39.1±0.4**,16.76N**±0.04×**94.13W**±0.03**,h134**km±3km**, h119**km±1.8km**:pP-P,n76,**σ**1.47**/87**,mb4.1**/21**,1C,Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.79**	**295**	*i* P	**P**	**09 37 01.7**	**+1.0**
CMIG				*e*S	**S**	**09 37 17.0**	**-0.3**
TUIG	**Tuzandepetl**	**1.29**	**348**	*i* P	**P**	**09 37 06.3**	**+0.7**
TUIG				*i* S	**S**	**09 37 25.6**	**-0.2**
SCX	**San Cristobal**	**1.44**	**91**	*e*P	**P**	**09 37 08.3**	**+1.1**
SCX				*e*S	**S**	**09 37 28.8**	**+0.1**
CCIG	**Comitan**	**1.97**	**104**	*i* P	**P**	**09 37 14.9**	**+1.5**
CCIG				*e*S	**S**	**09 37 40.2**	**+0.7**
EVV	**El Vigia**	**2.05**	**326**	*i* P	**P**	**09 37 14.5**	**+0.2**
EVV				*i* S	**S**	**09 37 38.5**	**-2.6**
HUIG	**Huatulco**	**2.14**	**243**	*i* P	**P**	**09 37 14.1**	**-1.4**
HUIG				*e*S	**S**	**09 37 42.7**	**-0.5**
OXX	**Oaxaca**	**2.50**	**278**	*e*P	**P**	**09 37 22.0**	**+1.8**
OXX				*i* S	**S**	**09 37 51.0**	**-0.4**
VHO	**Vista Hermosa**	**2.51**	**277**	*e*P	**P**	**09 37 21.8**	**+1.5**
VHO				*e*S	**S**	**09 37 51.2**	**-0.4**
SCIG		**3.56**	**52**	*e*P	**P**	**09 37 33.4**	**-0.7**
SCIG				*e*S	**S**	**09 38 13.5**	**-2.7**
SCIG				*e*S	**S**	**09 38 13.9**	**-2.3**
LVIG	**Laguna Verde**	**3.66**	**324**	*e*P	**P**	**09 37 34.0**	**-1.4**
LVIG				*e*S	**S**	**09 38 13.3**	**-5.2**
IISM	**Ciudad Serdan**	**3.80**	**306**	*e*P	**P**	**09 37 37.5**	**+0.2**
PNIG	**Pinotepa**	**3.85**	**265**	*i* P	**P**	**09 37 37.1**	**-0.8**
PNIG				*e*S	**S**	**09 38 22.7**	**-0.2**
PPM	**Popocatepetl**	**4.85**	**299**	*e*P	**P**	**09 37 54.5**	**+3.1**
YAIG	**Yautepec**	**5.14**	**295**	*e*P	**P**	**09 37 57.1**	**+1.9**
YAIG				*e*S	**S**	**09 38 50.7**	**-3.3**
PLIG	**Platanillo**	**5.37**	**288**	*e*P	**P**	**09 38 00.0**	**+1.8**
UNM	**Universidad Na**	**5.44**	**299**	*e*P	**P**	**09 38 02.5**	**+3.4**
ACX	**Acapulco**	**5.54**	**272**	*e*P	**P**	**09 37 59.5**	**-1.0**
CAIG	**El Cayaco**	**5.88**	**274**	*i* P	**P**	**09 38 03.9**	**-1.2**
CAIG				*i* S	**S**	**09 39 10.2**	**-1.6**
ZIIG	**Zihuatanejo**	**7.06**	**278**	*e*P	**P**	**09 38 20.8**	**-0.3**
ZIIG				*e*S	**S**	**09 39 38.8**	**-1.5**
MOIG	**Morelia**	**7.31**	**294**	*e*P	**P**	**09 38 26.3**	**+1.9**
MOIG				*e*S	**S**	**09 39 44.4**	**-1.9**
SFJM	**Santa Fe**	**9.22**	**295**	*i* P	**P**	**09 38 53.5**	**+3.5**
HKT	**Hockley**	**13.22**	**354**	*e*P	**P**	**09 39 43.4**	**+0.8**
	9.8nm,1.0s						
JCT	**Junction City**	**14.61**	**340**	*e*P	**P**	**09 40 05.5**	**+5.2**
	50nm,0.6s						
NATX	**Nacogdoches**	**14.94**	**358**	*e*P	**P**	**09 40 06.1**	**+1.5**
	62nm,0.7s						
LTX	**Lajitas**	**15.27**	**327**	*e*P	**P**	**09 40 10.9**	**+2.1**
TXAR	**Lajitas Array**	**15.27**	**327**	P	**P**	**09 40 11.1**	**+2.3**
	0.1nm,0.3s,baz=149,slow=14,SNR=37						
LRAL	**Lakeview Retre**	**17.44**	**20**	*e*P	**P**	**09 40 34.1**	**-1.4**
	4.7nm,0.6s						
MIAR	**Mount Ida**	**17.72**	**2**	*e*P	**P**	**09 40 37.7**	**-1.1**
	23nm,0.6s						
CLNB	**Carlsbad**	**17.78**	**332**	*e*P	**P**	**09 40 40.0**	**+0.4**
CLNB				*e*pP		09 41 04.5	
GDL2	**Guadalupe Moun**	**17.95**	**331**	*e*P	**P**	**09 40 42.3**	**+0.8**
UALR	**University of**	**18.01**	**5**	*e*P	**P**	**09 40 40.9**	**-1.3**
OXF	**Oxford**	**18.18**	**13**	*e*P	**P**	**09 40 41.4**	**-2.6**
	13nm,0.4s						
WMOK	**Wichita Mounta**	**18.38**	**348**	*e*P	**P**	**09 40 43.8**	**-2.5**
	2.4nm,0.6s						
AMTX	**Amarillo**	**19.27**	**341**	*e*P	**P**	**09 40 55.4**	**-0.3**
	36nm,0.6s						
BNM	**Barren Site**	**20.63**	**329**	*e*P	**P**	**09 41 12.3**	**+2.6**
LPM	**Los Pinos Moun**	**20.77**	**330**	*e*P	**P**	**09 41 13.2**	**+2.2**
LPM				pP		09 41 34.4	
LPM				*e*sP		09 41 50.9	
LAZ	**Ladron**	**21.09**	**329**	*e*P	**P**	**09 41 17.2**	**+3.1**
LAZ				pP		09 41 40.3	
LAZ				*e*sP		09 41 56.2	
ANMO	**Albuquerque**	**21.20**	**331**	*e*P	**P**	**09 41 17.2**	**+1.9**
	2.1nm,0.7s,mb3.6						
ANMO				*e*pP		09 41 40.8	
TUC	**Tucson**	**21.61**	**319**	*e*P	**P**	**09 41 16.4**	**-3.0**
	3.1nm,0.9s,mb3.7						
TUC				*e*pP		09 41 41.8	
KSU1	**Kansas State U**	**22.36**	**355**	*e*P	**P**	**09 41 23.6**	**-3.1**
KSU1				*e*pP		09 41 48.9	
WCI	**Wyandotte Cave**	**22.47**	**16**	*e*P	**P**	**09 41 25.4**	**-2.3**
	31nm,0.8s,mb4.8						
WCI				pP		09 41 51.1	
CBKS	**Cedar Bluff**	**22.51**	**349**	*e*P	**P**	**09 41 28.0**	**-0.1**
	21nm,0.6s,mb4.8						
CBKS				*e*pP		09 41 49.5	
OTAV	**Otavalo**	**22.55**	**135**	P	**P**	**09 41 33.5**	**+4.7**
SDCO	**Great Sand Dun**	**23.18**	**337**	*e*P	**P**	**09 41 37.2**	**+2.6**
	5.0nm,0.7s,mb4.0						
FWV	**Forest Hill**	**23.84**	**27**	*e*P	**P**	**09 41 36.2**	**-4.7**
FWV				*e*pP		09 42 04.0	
SDV	**Santo Domingo**	**24.19**	**106**	*e*P	**P**	**09 41 42.3**	**-2.3**
	8.2nm,0.6s,mb4.4						
PV01	**Paradox Valley**	**24.79**	**332**	*e*P	**P**	**09 41 52.6**	**+2.6**
PV01				*e*pP		09 42 17.5	
PV01				*e*sP		09 42 28.6	
ISCO	**Idaho Springs**	**25.04**	**339**	*e*P	**P**	**09 41 53.1**	**+0.8**
	3.4nm,0.8s,mb3.9						
ISCO				*e*pP	pP	09 42 17.4	-2.8
PV10	**Paradox Valley**	**25.20**	**332**	*e*P	**P**	**09 41 55.5**	**+1.6**
PV10				*e*pP	pP	09 42 20.6	-1.2
PV10				*e*sP	sP	09 42 37.6	+0.2
ARUT	**Antelope Range**	**26.97**	**325**	P	**P**	**09 42 19.3**	**+9.1**
ARUT				*e*		09 42 41.1	
RSSD	**Black Hills**	**28.53**	**345**	*e*P	**P**	**09 42 23.9**	**-0.3**
	4.8nm,0.7s,mb4.3						
RSSD				*e*sP	sP	09 43 10.3	+2.0
PDAR	**Pinedale Array**	**29.07**	**336**	P	**P**	**09 42 29.2**	**+0.2**
	0.7nm,0.8s,mb3.4,baz=122,slow=8.3,SNR=6.9						
MNV	**Mina**	**30.15**	**320**	P	**P**	**09 42 39.4**	**+0.6**
MNV				*e*pP	pP	09 43 06.0	-1.6
NVAR	**Mina Array Bea**	**30.24**	**320**	P	**P**	**09 42 42.5**	**+3.0**
	1.2nm,0.8s,mb3.7,baz=128,slow=10,SNR=8.7						
NVAR				pP	pP	09 43 07.7	-0.7
	3.3nm,0.9s,baz=125,slow=11,SNR=6.7						
MCMT	**McKenzie Canyo**	**32.11**	**335**	*e*P	**P**	**09 42 57.6**	**+1.9**
CHMT	**Chamberlain Mo**	**33.98**	**336**	*e*P	**P**	**09 43 12.1**	**+0.3**
EDM	**Edmonton**	**39.38**	**342**	*e*P	**P**	**09 43 56.0**	**-0.9**
EDM				*e*		09 44 18.1	
SAML	**Samuel**	**39.87**	**128**	*e*P	**P**	**09 43 57.5**	**-3.9**
	0.7nm,0.5s,mb3.5						
SAML				*e*sP	sP	09 44 31.8	-16
LPAZ	**La Paz**	**41.66**	**141**	P	**P**	**09 44 17.2**	**+1.0**
	1.9nm,0.6s,mb3.9,baz=331,slow=14,SNR=7.6						
LPAZ	**La Paz**	**41.66**	**141**	*e*P	**P**	**09 44 17.0**	**+0.7**
	2.4nm,0.8s,mb3.9						
LPAZ				*e*sP	sP	09 44 58.0	-4.3
YKA	**Yellowknife Ar**	**47.89**	**347**	P	**P**	**09 45 04.3**	**-0.9**
	11nm,0.6s,mb4.7,baz=153,slow=7.2,SNR=39						
CPUP	**Villa Florida**	**55.81**	**139**	P	**P**	**09 46 02.1**	**-2.8**
	1.6nm,0.8s,mb3.9,baz=13,slow=9.5,SNR=3.5						
CPUP	**Villa Florida**	**55.81**	**139**	P	**P**	**09 46 02.2**	**-2.7**
	1.3nm,0.7s,mb3.9						
INK	**Inuvik**	**57.22**	**344**	*e*P	**P**	**09 46 13.3**	**-1.0**
	28nm,0.7s,mb5.2						
ILAR	**Eielson Array**	**59.51**	**337**	P	**P**	**09 46 29.7**	**-0.5**
	1.0nm,0.5s,mb3.9,baz=130,slow=5.3,SNR=36						
ILAR				pP	pP	09 46 59.3	-3.0
	2.1nm,1.1s,baz=129,slow=5.8,SNR=4.4						
DAG	**Danmarks Havn**	**70.47**	**14⇑**	*i*P	**P**	**09 47 38.3**	**-2.3**
	6.3nm,0.5s,mb4.6						
NB2	**NORSAR Subarra**	**82.71**	**28**	P	**P**	**09 48 49.0**	**+0.1**
	3.7nm,0.6s,mb4.3,baz=291,slow=5.0						
NOA	**NORSAR Array B**	**82.71**	**28**	P	**P**	**09 48 49.0**	**+0.2**
	5.7nm,0.8s,mb4.4,baz=292,slow=5.0,SNR=20						
ARCES	**ARCESS Array B**	**84.17**	**18**	P	**P**	**09 48 56.4**	**+0.4**
	8.8nm,0.7s,mb4.6,baz=298,slow=4.8,SNR=35						
GERES	**GERESS Array B**	**88.78**	**39**	P	**P**	**09 49 17.9**	**-1.0**
	0.4nm,0.7s,mb3.5,baz=233,slow=4.9,SNR=3.0						
FINES	**FINESS Array B**	**88.87**	**25**	P	**P**	**09 49 18.1**	**-0.9**
	1.7nm,0.8s,mb4.0,baz=225,slow=2.7,SNR=10						
STKA	**Stephens Creek**	**127.56**	**242**	PKP	PKPdf	09 55 30.1	+1.2
	1.7nm,0.7s,baz=287,slow=23,SNR=3.9						
WB2	**Warramunga Arr**	**133.99**	**258**	*e*P	PKPdf	09 55 43.1	+1.7
WRAB	**Tennant Creek**	**133.99**	**258**	*e*PKPdf	PKPdf	09 55 43.1	+1.7
WRA	**Warramunga Arr**	**134.00**	**258**	PKP	PKPdf	09 55 43.1	+1.7
	0.7nm,0.5s,baz=82,slow=2.1,SNR=21						
WRA				pPKP		09 56 18.5	
	0.5nm,0.8s,baz=82,slow=2.2,SNR=2.9						
ASAR	**Alice Springs**	**134.57**	**253**	PKP	PKPdf	09 55 43.0	+0.5
	0.3nm,0.7s,baz=79,slow=2.2,SNR=4.0						

*BER **16** 09:54:16.3±3.4, 67.81N×20.11E, ML1.4, Suspected explosion*
HEL 16 09:54:16.1±0.5**,67.85N×20.19E,ML1.6**(BER)**, Explosion,Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KIF	**Kilpisjarvi**	**1.18**	**11**	*e*P	Pb	09 54 38.2	-0.9
KIF				*e*S	Sb	09 54 53.5	-1.4
KTK1	**Kautokeino**	**1.62**	**43**	*e*P	Pn	09 54 45.1	-1.0
KTK1				*e*SN	Sn	09 55 08.5	+0.5
KTK1				AML	AML	09 55 11.4	
	comp=Z,7.7nm,0.3s						
TRO	**Tromso**	**1.85**	**346**	*e*P	Pn	09 54 46.4	-3.0
TRO				*e*S	Sn	09 55 12.0	-1.8
TRO				AML	AML	09 55 16.4	
	comp=Z,2.8nm,0.4s						
SGF	**Sodankyl**	**2.46**	**97**	*e*P	Pn	09 54 57.6	-0.4
SGF				*e*S	Sn	09 55 25.6	-3.6
LOF	**Lofoten**	**2.52**	**280**	*e*SG	Sg	09 55 35.7	-4.4
LOF				AML	AML	09 55 40.2	
	comp=Z,4.6nm,0.4s						
MELS	**Mels**	**2.69**	**251**	*e*Sg	Sg	09 55 37.1	-8.7
MOR8	**Moi Rana**	**2.82**	**236**	*e*SG	Sg	09 55 37.3	-13
MOR8				AML	AML	09 55 40.5	
	comp=Z,9.2nm,0.3s						
KEV	**Kevo**	**3.13**	**49**	*e*S	Sn	09 55 44.7	-1.5

BGS **16** *10:04:21.5±1.8,31.94N×47.30E,h33km,mb5.5*
THR **16** *10:04:33.9±1.0,33.58N×45.77E,h18km±14km,ML5.1*
IDC **16** *10:04:34.2±2.9,33.47N×45.94E,h13km±17km,mb4.9/20, mb1 5.0/24,mb1mx5.0/25,ML5.1/3,MS4.0/14,Ms1 4.0/14, ms1mx3.8/23,Error ellipse: s-maj=17.1km s-min=12.3km az=11.0*
MOS **16** *10:04:34.8±1.1,33.37N×45.92E,h33km,mb5.2/30,Error ellipse: s-maj=8.3km s-min=4.1km az=116.0*
DHMR **16** *10:04:35.9±3.0,33.45N×45.90E,h10km,mb5.1*
CSEM **16** *10:04:36.4,33.63N×45.92E,h40km,mb5.3*
NEIC **16** *10:04:37.6±0.3,33.45N×45.94E,h40km±2km,mb5.3/119, Error ellipse: s-maj=3.7km s-min=2.2km az=173.0*
HRVD **16** *10:04:38.0±0.7,33.56N×45.63E,h14km±2km,MW4.8/37, Centroid moment Tensor Solution. LP body waves: s10,c15;Mantle waves: s37,c51; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.70±.21; $M_{\theta\theta}$-0.20±.16; $M_{\phi\phi}$-0.50±.12; $M_{r\theta}$-0.34±.38; $M_{\theta\phi}$1.38±.12; $M_{\phi r}$-1.54±.46; Best double couple: $M_0$2.18×10^{16} NP1:ϕ_s282°,δ42°,λ19°. NP2:ϕ_s177°,δ77°,λ130°. Principal axes: T 2.26, Plg43°, Azm126°; N -.15, Plg39°, Azm346°; P -2.11, Plg22°, Azm237°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI **16** *10:04:38.0,33.40N×45.90E,h44km,mB5.3,mb5.4,Ms5.2, Msz5.2*
ZUR_RM **16** *10:04:38,33.43N×45.92E,h18km,Mw4.9/9,Moment Tensor Solution. s9 Moment tensor: Scale 10^{16}Nm; M_{rr}2.16; $M_{\theta\theta}$-0.92; $M_{\phi\phi}$-1.24; $M_{r\theta}$0.75; $M_{\theta\phi}$1.34; $M_{\phi r}$-0.79; Best double couple: $M_0$2.54×10^{16} NP1:ϕ_s138°,δ58°,λ89°. NP2:ϕ_s319°,δ32°,λ92°. Principal axes: T 2.408, Plg77°, Azm44°; N .268, Plg1°, Azm138°; P -2.677, Plg13°, Azm228°;*
SNSN **16** *10:04:40.4,33.10N×45.78E,h61km*
ISC 16 10:04:35.7±0.3**,33.41N**±0.02×**45.86E**±0.01**,h39**km±2km**, h37**km±3.8km**:pP-P,n787,**σ1.07/808**,mb5.3**/216**,MS4.3**/25**, 159C-18D,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IGHG	**Ghaleghazi**	**1.09**	**32**	Pg	**P**	**10 04 54.2**	**-0.5**
BHD	**Baghdad**	**1.25**	**264**	*i* P	**P**	**10 04 55.0**	**-1.9**
BHD				*i* S	**S**	**10 05 13.0**	**+0.2**
IDHR	**Dehrash**	**1.36**	**18**	Pn	**P**	**10 04 59.0**	**+0.4**
IVIS	**Veys**	**1.39**	**36**	Pg	**P**	**10 04 58.9**	**-0.1**
SNGE	**Sanandaj**	**2.08**	**36**	*e*PG	**P**	**10 05 10.6**	**+1.7**
SNGE				*e*SG	**S**	**10 05 36.9**	**+3.1**
SNGE				AMP		10 05 50.7	
	comp=N,9µm,0.6s						
SHGR	**Shooshtar-Gavs**	**2.79**	**117**	*e*PN	**P**	**10 05 21.4**	**+2.3**
SHGR				*e*SG	**S**	**10 06 05.7**	**+14**
SHGR				AMP		10 06 13.6	
	comp=N,10µm,0.5s						
SHGR				AMP		10 06 26.8	
	comp=E,9µm,0.3s						
SHGR	**Shooshtar-Gavs**	**2.79**	**117**	*e*Pn	**P**	**10 05 21.4**	**+2.4**
SHGR				Sn	**S**	**10 05 53.1**	**+1.3**
	comp=E,11µm,0.3s						
ASAO	**Ashtian**	**3.64**	**71**	*e*PN	**P**	**10 05 32.5**	**+1.4**
ASAO				AMP		10 06 38.0	
	comp=E,2µm,0.6s						
ASAO				AMP		10 06 40.4	
	comp=N,3µm,0.6s						
ASAO	**Ashtian**	**3.64**	**71**	*i* Pn	**P**	**10 05 32.5**	**+1.5**
IRAZ	**Razeghan**	**3.91**	**58**	Pn	**P**	**10 05 35.3**	**+0.5**
RST	**Umm Al-Ruwaisa**	**4.01**	**166**	*e*P	**P**	**10 05 38.5**	**+2.2**
RST				AML	AML	10 06 24.0	
	comp=Z,1µm,0.5s						
UMR	**Umm Al-Rimmam**	**4.16**	**157**	*e*P	**P**	**10 05 40.0**	**+1.6**
UMR				*e*S	**S**	**10 06 27.5**	**+1.2**
UMR				AML	AML	10 06 29.6	
	comp=Z,2µm,0.4s						
KBD	**Kabd**	**4.50**	**159**	*e*P	**P**	**10 05 45.0**	**+1.8**
KBD				*e*S	**S**	**10 06 36.5**	**+1.5**
HKR	**Hakkari**	**4.51**	**338**	P	**P**	**10 05 41.0**	**-2.4**
HKR	**Hakkari**	**4.51**	**338**	P	**P**	**10 05 41.0**	**-2.3**
IMHD	**Mahdasht**	**4.57**	**59**	Pn	**P**	**10 05 43.6**	**-0.6**
IMHD				Sn	**S**	**10 06 32.5**	**-4.3**
RDF	**Al-Radifah**	**4.69**	**162**	*e*P	**P**	**10 05 47.6**	**+1.6**
RDF				*e*S	**S**	**10 06 41.3**	**+1.4**
RDF				AML	AML	10 06 41.7	
	comp=Z,1µm,0.6s						
THKV	**Tehran--Karaj**	**4.83**	**57**	*e*Pn	**P**	**10 05 48.0**	**+0.1**
QRN	**Al-Qurain**	**4.97**	**159**	*e*P	**P**	**10 05 51.3**	**+1.5**
QRN				*e*S	**S**	**10 06 47.1**	**+0.3**
IVRN	**Varamin**	**5.11**	**70**	Pn	**P**	**10 05 50.8**	**-1.0**
IAFJ	**Afjeh**	**5.41**	**61**	Pn	**P**	**10 05 54.9**	**-1.0**
VANT	**Van**	**5.41**	**339**	P	**P**	**10 05 56.4**	**+0.4**
TVAN	**Van**	**5.49**	**339**	*i* P	**P**	**10 05 57.6**	**+0.6**
DAMV	**Damavand**	**5.51**	**65**	*e*Pn	**P**	**10 05 56.6**	**-0.8**
IDMV	**Damavand**	**5.54**	**65**	Pn	**P**	**10 05 56.7**	**-1.0**
VANB	**Van**	**5.55**	**340**	P	**P**	**10 05 56.4**	**-1.6**
GRMI	**Germi**	**5.64**	**16**	*e*Pn	**P**	**10 05 58.8**	**-0.4**
BEST	**Besiri**	**5.83**	**321**	*i* P	**P**	**10 06 01.0**	**-0.9**
NASN	**Na'in**	**5.86**	**94**	*e*Pn	**P**	**10 06 01.4**	**-0.9**
IFIR	**Firoozkooh**	**6.11**	**67**	Pn	**P**	**10 06 04.3**	**-1.5**
IFIR				Sn	**S**	**10 07 08.9**	**-6.5**
DIY	**Diyarbakir**	**6.41**	**316**	P	**P**	**10 06 08.8**	**-1.3**
DIY	**Diyarbakir**	**6.41**	**316**	P	**P**	**10 06 08.8**	**-1.3**
VRT	**Varto**	**6.70**	**330**	P	**P**	**10 06 12.6**	**-1.5**
VRT	**Varto**	**6.70**	**330**	P	**P**	**10 06 12.6**	**-1.5**
GNI	**Garni**	**6.79**	**353**	*e*P	**P**	**10 06 15.3**	**-0.1**
HILS	**Ha'il**	**6.96**	**211**	P	**P**	**10 06 15.9**	**-1.8**
BINT	**Bingol**	**6.98**	**323**	P	**P**	**10 06 16.8**	**-1.2**
BINT	**Bingol**	**6.98**	**323**	P	**P**	**10 06 16.8**	**-1.2**
IMOK	**Mook**	**7.30**	**125**	Pn	**P**	**10 06 21.2**	**-1.3**
ERZM	**Erzurum**	**7.42**	**332**	*i* P	**P**	**10 06 24.1**	**-0.1**
ELZG	**Elazig**	**7.54**	**314**	*i* P	**P**	**10 06 24.4**	**-1.5**
ASF	**Jabal al Asfar**	**7.65**	**263**	Pn	**P**	**10 06 26.1**	**-1.2**
	comp=Z,5.5nm,0.3s,baz=336,slow=12,SNR=26						
ASF				Pg	P	10 06 54.5	+27
	comp=Z,7.4nm,0.3s,baz=297,slow=19,SNR=6.5						
ASF				Sn	**S**	**10 07 50.3**	**-3.4**
	comp=Z,12nm,0.3s,baz=288,slow=18,SNR=3.1						
ASF				Lg		10 08 38.8	
	comp=Z,13nm,0.3s,baz=45,slow=18,SNR=3.8						
ASF				LR	LR	10 10 08.3	
	comp=Z,1µm,19.4s,baz=152,slow=43						
MYA	**Malataya**	**7.78**	**311**	P	**P**	**10 06 27.7**	**-1.4**
MYA	**Malataya**	**7.78**	**311**	P	**P**	**10 06 27.7**	**-1.5**
GZT	**Gaziantep**	**7.84**	**303**	*i* P	**P**	**10 06 27.2**	**-2.8**
ARSS	**Ar Rass**	**7.84**	**198**	P	**P**	**10 06 28.0**	**-2.0**
GHIR	**Ghir-Karzin**	**7.97**	**128**	*e*Pn	**P**	**10 06 30.3**	**-1.5**
TI2	**Plekhanov**	**8.36**	**354**	*e*P	**P**	**10 06 39.0**	**+1.8**
TI2				pmax	pmax		
	comp=Z,500nm,1.2s						
TI2				MLR	MLR		
	comp=N,2µm,8.0s						
TI2				MLR	MLR		
	comp=E,2µm,8.0s						
TI2				MLR	MLR		
	comp=Z,2µm,8.0s						
KSHT	**Keshet**	**8.44**	**270**	P	**P**	**10 06 36.6**	**-1.7**
KAHT	**Ahir Dag**	**8.45**	**302**	*i* P	**P**	**10 06 35.8**	**-2.7**
COBT	**Iskenderun**	**8.47**	**294**	*i* P	**P**	**10 06 35.8**	**-3.0**
HRI	**Mount Hermon**	**8.48**	**272**	P	**P**	**10 06 39.1**	**+0.3**
KELT	**Kelkit**	**8.56**	**324**	*i* P	**P**	**10 06 43.2**	**+3.1**
GUMT	**Gumushane**	**8.70**	**326**	P	**P**	**10 06 41.1**	**-0.8**
HMDT	**Nahal Hemdat**	**8.78**	**265**	P	**P**	**10 06 44.2**	**+1.2**
MMLI	**Mount Malkishu**	**8.83**	**267**	P	**P**	**10 06 43.3**	**-0.4**
HASS	**Wahat al Ahsa'**	**8.84**	**157**	P	**P**	**10 06 42.3**	**-1.6**
HNTI	**Hanita**	**8.96**	**271**	P	**P**	**10 06 44.8**	**-0.7**
DRGI	**Dragot**	**9.03**	**261**	P	**P**	**10 06 45.7**	**-0.7**
HAF	**Haifa**	**9.12**	**269**	P	**P**	**10 06 46.6**	**-1.1**
MZDA	**Masada**	**9.12**	**260**	P	**P**	**10 06 48.3**	**+0.5**
OFRI	**'Ofer**	**9.17**	**268**	P	**P**	**10 06 46.7**	**-1.7**
SLTI	**Sal'it**	**9.18**	**266**	P	**P**	**10 06 49.6**	**+1.0**
RYDS	**Riyadh**	**9.21**	**176**	D		10 06 40.2	
MZLS	**Mizel**	**9.36**	**184**	P	**P**	**10 06 48.6**	**-2.5**
ZFRI	**Zfri**	**9.51**	**255**	P	**P**	**10 06 53.1**	**0.0**
KBRS	**Khaybar**	**9.52**	**219**	P	**P**	**10 06 50.8**	**-2.5**
JMQS	**Jabal Moqyreh**	**9.67**	**245**	P	**P**	**10 06 53.8**	**-1.5**
MASH	**Mash'abbe Sade**	**9.69**	**259**	P	**P**	**10 06 56.4**	**+0.8**
PRNI	**Paran**	**9.72**	**255**	P	**P**	**10 06 55.0**	**-1.0**
MBH	**Mount Berech**	**10.01**	**252**	P	**P**	**10 06 58.3**	**-1.7**
EIL	**Elat**	**10.03**	**251**	P	**P**	**10 06 58.5**	**-1.8**
KMTI	**Karmit**	**10.04**	**254**	P	**P**	**10 06 57.8**	**-2.6**
JMOS	**Jabal al Moall**	**10.12**	**248**	P	**P**	**10 07 00.3**	**-1.2**
MEST	**Erdemli**	**10.12**	**292**	*i* P	**P**	**10 07 00.8**	**-0.8**
NIG	**Nigde**	**10.28**	**300**	P	**P**	**10 07 03.7**	**0.0**
AVNT	**Avonos**	**10.39**	**304**	*i* P	**P**	**10 07 09.8**	**+4.5**
IKL	**Isikli**	**10.40**	**289**	P	**P**	**10 07 06.9**	**+1.5**
BDAS	**Al Bad'**	**10.49**	**245**	P	**P**	**10 07 05.4**	**-1.1**
CSS	**Prodhromos**	**10.50**	**282**	*e*P	**P**	**10 07 05.6**	**-1.1**
	comp=Z,22nm,0.9s						
TAYS	**Tayyib Ism**	**10.60**	**246**	P	**P**	**10 07 06.7**	**-1.4**
KIV	**Kislovodsk**	**10.82**	**348**	*c i*P	**P**	**10 07 12.9**	**+1.8**
KIV				pmax	pmax		
	comp=Z,106nm,1.3s						
KIV	**Kislovodsk**	**10.82**	**348**	⇑*i*P	**P**	**10 07 12.9**	**+1.8**
	comp=Z,106nm,1.3s						
LEF	**Lefka**	**10.87**	**283**	P	**P**	**10 07 15.9**	**+4.1**
SOC	**Sochi**	**11.24**	**336**	*i* P	**P**	**10 07 16.7**	**0.0**
SOC				*e*S	**S**	**10 09 19.8**	**-2.3**
SOC				pmax	pmax		
	comp=Z,99nm,1.0s						
SOC				pmax	pmax		
	comp=N,104nm,0.9s						
SOC				pmax	pmax		
	comp=E,22nm,0.7s						
SOC				pmax	pmax		
	comp=Z,279nm,1.9s						
SOC				pmax	pmax		
	comp=N,198nm,1.8s						
SOC				pmax	pmax		
	comp=E,57nm,1.3s						
SOC				smax			
	comp=N,150nm,3.3s						
SOC				smax			
	comp=E,264nm,5.7s						
SOC				MLR	MLR		
	comp=Z,957nm,15.0s						
SOC				MLR	MLR		
	comp=N,858nm,12.0s						
SOC				MLR	MLR		
	comp=E,379nm,12.0s						
SOC	**Sochi**	**11.24**	**336**	*i* P	**P**	**10 07 16.7**	**0.0**
	comp=E,99nm,1.0s						
SOC				*e*S	**S**	**10 09 19.8**	**-2.3**
YNBS	**Yanbu' al Bahr**	**11.36**	**219**	D		10 07 20.8	
CTKT	**Corum**	**11.40**	**312**	*i* P	**P**	**10 07 21.1**	**+2.1**
KAMT	**Kaman**	**11.45**	**305**	P	**P**	**10 07 21.7**	**+2.0**
HDMB	**Hadim**	**11.51**	**292**	P	**P**	**10 07 21.3**	**+1.0**
BRTR	**Keskin Array B**	**11.67**	**306**	Pn	**P**	**10 07 25.1**	**+2.5**
	comp=E,0.2nm,0.3s,baz=131,slow=12,SNR=42						
BRTR				Lg		10 10 45.9	
	comp=E,0.1nm,0.3s,baz=135,slow=12,SNR=3.0						
BRTR				LR	LR	10 12 42.0	
	comp=E,666nm,21.2s,baz=140,slow=42						
BOYT	**Boyabat**	**11.82**	**316**	*i* P	**P**	**10 07 27.0**	**+2.4**
GOF	**Gofitskoye**	**11.84**	**350**	⇓*i*P	**P**	**10 07 26.0**	**+1.2**
GOF				pmax	pmax		
	comp=Z,60nm,1.2s						
GOF				MLR	MLR		
	comp=N,6µm,10.0s						
GOF				MLR	MLR		
	comp=E,3µm,10.0s						
GOF	**Gofitskoye**	**11.84**	**350**	⇓*i*P	**P**	**10 07 26.0**	**+1.2**
	comp=E,60nm,1.2s						
TOS	**Tosya**	**12.12**	**312**	P	**P**	**10 07 28.0**	**-0.6**
ELDT	**Eldivan**	**12.20**	**309**	*i* P	**P**	**10 07 31.5**	**+1.8**
ANTO	**Ankara**	**12.31**	**305**	P	**P**	**10 07 31.0**	**-0.2**
KIZT	**Kizilcal**	**12.55**	**300**	P	**P**	**10 07 34.9**	**+0.5**
BALT	**Daday**	**12.80**	**313**	*i* P	**P**	**10 07 39.3**	**+1.6**
KAMS	**Al Khamasin**	**13.10**	**185**	P	**P**	**10 07 40.2**	**-1.5**
ANN	**Anapa**	**13.12**	**333**	*e*P	**P**	**10 07 43.4**	**+1.5**
ANN				*e*S	**S**	**10 10 08.5**	**+1.1**
ANN				pmax	pmax		
	comp=Z,22nm,0.8s						
ANN				MLR	MLR		
	comp=Z,730nm,14.0s						
ANN				MLR	MLR		
	comp=N,1µm,16.0s						
ANN				MLR	MLR		
	comp=E,518nm,15.0s						
ANN	**Anapa**	**13.12**	**333**	*e*P	**P**	**10 07 43.4**	**+1.5**
	comp=E,22nm,0.8s						
ANN				*e*S	**S**	**10 10 08.5**	**+1.1**
SGKT	**Sivrigoynuk**	**13.14**	**307**	*i* P	**P**	**10 07 44.1**	**+1.9**
ISP	**Isparta**	**13.25**	**294**	P	**P**	**10 07 43.8**	**+0.2**
ELL	**Elmali**	**13.49**	**289**	P	**P**	**10 07 49.4**	**+2.6**
ESKT	**Eskisehir**	**13.53**	**301**	*i* P	**P**	**10 07 55.6**	**+8.3**
ESKT	**Eskisehir**	**13.53**	**301**	P	**P**	**10 07 48.6**	**+1.3**
MDU	**Mudurnu**	**13.66**	**305**	P	**P**	**10 07 48.7**	**-0.4**
ALT	**Altintas**	**13.90**	**298**	P	**P**	**10 07 53.3**	**+1.1**
HENT	**Hendek**	**14.04**	**306**	*i* P	**P**	**10 07 55.8**	**+1.8**
DNZL	**Cakiroluk**	**14.34**	**292**	*i* P	**P**	**10 08 04.7**	**+6.7**
DALT	**Dalyan (Mudla)**	**14.50**	**288**	P	**P**	**10 07 59.9**	**-0.1**
NAMS	**An Nimas**	**14.55**	**194**	P	**P**	**10 07 59.8**	**-1.0**
SIM	**Simferopol'**	**14.67**	**325**	*de*P	**P**	**10 08 07.8**	**+5.6**
SIM				*e*S	**S**	**10 10 54.7**	**+10**
SIM				pmax	pmax		
	comp=Z,50nm,0.8s						
SIM	**Simferopol'**	**14.67**	**325**	*e*Pr		10 08 07.8	
SIM				*e*S	**S**	**10 10 54.7**	**+10**
HRT	**Hereke**	**14.88**	**304**	P	**P**	**10 08 07.7**	**+2.8**
MANT	**Manisa**	**14.90**	**295**	*i* P	**P**	**10 08 09.5**	**+4.2**
ULDT	**Uludag**	**14.98**	**301**	*i* P	**P**	**10 08 12.2**	**+5.8**
AYDN	**Tasoluk**	**15.24**	**291**	*i* P	**P**	**10 08 14.3**	**+4.6**
BDRM	**Kayabasi**	**15.49**	**289**	*i* P	**P**	**10 08 14.6**	**+1.8**
AKS	**Akhisar**	**15.56**	**296**	P	**P**	**10 08 18.4**	**+4.5**
KARP	**Karpathos**	**15.57**	**283**	*e*P	**P**	**10 08 18.0**	**+4.0**
KDAG	**Bornova**	**15.87**	**294**	*i* P	**P**	**10 08 20.1**	**+2.4**
IZM	**Izmir**	**15.87**	**294**	P	**P**	**10 08 19.1**	**+1.3**
SMG	**Samos**	**16.06**	**291**	*e*P	**P**	**10 08 24.0**	**+3.8**
PRK	**Paraskevi**	**16.82**	**296**	*e*P	**P**	**10 08 33.0**	**+3.3**
NPS	**Neapolis**	**16.83**	**282**	*e*P	**P**	**10 08 33.0**	**+3.1**
SANT	**Santorini**	**17.00**	**286**	*e*P	**P**	**10 08 33.0**	**+1.0**
	comp=Z,32nm,0.7s						
THR1	**Thera Island**	**17.00**	**286**	*e*P	**P**	**10 08 42.0**	**+10**
PSN	**Preselentsi**	**17.19**	**312**	*e*P	**P**	**10 08 36.0**	**+1.7**
IDI	**Anoyia**	**17.42**	**282**	P	**P**	**10 08 39.3**	**+2.0**
	comp=Z,3.3nm,0.3s,baz=82,slow=13,SNR=17						
PRD	**Provadia**	**17.45**	**309**	*e*P	**P**	**10 08 40.0**	**+2.4**
ALN	**Alexandroupoli**	**17.46**	**301**	*e*P	**P**	**10 08 38.8**	**+1.0**
RDO	**Rodhopi**	**17.90**	**301**	*e*P	**P**	**10 08 44.0**	**+0.7**
RDO	**Rodhopi**	**17.90**	**301**	P	**P**	**10 08 44.7**	**+1.4**
VAM	**Vamos**	**17.99**	**282**	*e*P	**P**	**10 08 56.0**	**+12**
CFR	**Carcaliu**	**18.02**	**316**	⇑*i*P	**P**	**10 08 43.9**	**-0.8**
GVD	**Gavdhos**	**18.09**	**281**	*e*P	**P**	**10 08 46.0**	**+0.3**
	comp=Z,9.6nm,0.4s						
KDZ	**Kurdzhali**	**18.16**	**303**	*e*P	**P**	**10 08 48.0**	**+1.5**
RZN	**Rozhen**	**18.66**	**302**	*e*P	**P**	**10 08 52.0**	**-0.7**
KIS	**Kishinev**	**18.75**	**321**	*e*P	**P**	**10 08 53.0**	**-0.8**
KIS				*e*S	**S**	**10 12 18.0**	**0.0**
VOR	**Voronezh**	**18.94**	**347**	*e*P	**P**	**10 08 54.5**	**-1.5**
VOR				*e*		10 12 31.5	
VOR				pmax	pmax		
	comp=Z,570nm,1.5s						
VOR				pmax	pmax		
	comp=N,630nm,1.4s						
VOR				pmax	pmax		
	comp=E,350nm,1.4s						
KYTH	**Kithira**	**18.95**	**285**	*e*P	**P**	**10 08 56.0**	**-0.1**
VLI	**Veliai**	**19.05**	**286**	*e*P	**P**	**10 08 56.0**	**-1.3**
XOR	**Xorichti**	**19.18**	**295**	*e*P	**P**	**10 08 54.8**	**-3.9**
VRI	**Vrincioaia**	**19.23**	**316**	⇑*i*P	**P**	**10 08 59.2**	**0.0**
MUKL	**Al Mukalla**	**19.26**	**171**	⇑*e*P	**P**	**10 08 58.9**	**-0.8**
MUKL	**Al Mukalla**	**19.26**	**171**	⇓*e*P	**P**	**10 08 59.1**	**-0.6**
SRS	**Serrai**	**19.29**	**300**	*e*P	**P**	**10 08 59.9**	**-0.1**
MMB	**Musomiste**	**19.33**	**301**	*i* P	**P**	**10 09 00.0**	**-0.4**
PGB	**Panagyurishte**	**19.34**	**304**	*i* P	**P**	**10 09 01.0**	**+0.5**
BDHA	**Al Bayda'**	**19.35**	**181**	⇑*e*P	**P**	**10 09 02.3**	**+1.6**
BDHA				AMb	AMB	10 09 04.3	
	comp=Z,146nm,2.0s						
SOH	**Sokhos**	**19.39**	**299**	*e*P	**P**	**10 09 01.3**	**+0.3**
LBOS		**19.45**	**182**	⇓*e*P	**P**	**10 09 03.6**	**+1.7**
LBOS				AMb	AMB	10 09 05.5	
	comp=Z,268nm,1.2s						
MLR	**Muntele Rosu**	**19.49**	**314**	P	**P**	**10 09 02.3**	**+0.2**
	comp=Z,3.0nm,0.3s,baz=151,slow=1.8,SNR=40						
MLR	**Muntele Rosu**	**19.49**	**314**	P	**P**	**10 09 02.3**	**+0.2**
MLR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
THE	**Thessaloniki**	**19.62**	**298**	*e*P	**P**	**10 09 03.1**	**-0.5**
AGG	**Agios Georgios**	**19.77**	**293**	*e*P	**P**	**10 09 04.9**	**-0.3**
KNT	**Kendrikon**	**19.81**	**300**	*e*P	**P**	**10 09 05.3**	**-0.3**
LIT	**Litokhoron**	**19.85**	**296**	*e*P	**P**	**10 09 05.2**	**-0.9**
KKB	**Krupnik**	**19.88**	**302**	*i* P	**P**	**10 09 05.0**	**-1.3**
ITM	**Ithomi**	**19.88**	**288**	*e*P	**P**	**10 09 05.8**	**-0.6**
VTS	**Vitosha**	**20.02**	**304**	*e*P	**P**	**10 09 07.0**	**-0.9**
VTS	**Vitosha**	**20.02**	**304**	P	**P**	**10 09 07.9**	**0.0**
GRG	**Griva**	**20.12**	**299**	*e*P	**P**	**10 09 08.6**	**-0.3**
EVR	**Evrytania**	**20.16**	**293**	*e*P	**P**	**10 09 09.0**	**-0.4**
KZN	**Kozani**	**20.44**	**297**	*e*P	**P**	**10 09 11.8**	**-0.4**
JAN	**Janina**	**21.01**	**294**	*e*P	**P**	**10 09 18.5**	**+0.4**
VLS	**Valsamata**	**21.02**	**290**	*e*P	**P**	**10 09 17.0**	**-1.3**
SKO	**Skopje**	**21.08**	**301**	*i* P	**P**	**10 09 18.8**	**0.0**
SKO				*i*		10 09 22.4	
	comp=Z,0.1nm,0.7s						
SKO	**Skopje**	**21.08**	**301**	*i* P	**P**	**10 09 18.8**	**0.0**
	comp=Z,80nm,0.7s,mb5.2						
SKO				*i*		10 09 22.4	
AKASG	**Malin Array Be**	**21.16**	**330**	P	**P**	**10 09 18.1**	**-1.5**
	comp=Z,64nm,0.6s,mb5.2,baz=139,slow=9.9,SNR=122						
AKASG	**Malin Array Be**	**21.16**	**330**	P	**P**	**10 09 18.1**	**-1.5**
AKASG				pmax	pmax		
	comp=Z,64nm,0.6s						
KIEV	**Kiev**	**21.16**	**330**	P	**P**	**10 09 18.0**	**-1.6**
DJES	**Djerdap**	**21.24**	**309**	⇑*i*P	**P**	**10 09 20.6**	**+0.2**
BOLS	**Boljevac**	**21.31**	**306**	⇑*i*P	**P**	**10 09 20.0**	**-1.1**
OHR	**Ohrid**	**21.33**	**298**	*i* P	**P**	**10 09 20.6**	**-0.8**
OHR				⇑*i*		10 09 24.4	
KEK	**Kerkira**	**21.82**	**294**	*e*P	**P**	**10 09 26.5**	**+0.3**
SVIS	**Svilajnac**	**21.98**	**307**	*e*P	**P**	**10 09 23.8**	**-4.0**
GRUS	**Gruza**	**22.18**	**306**	*e*P	**P**	**10 09 29.7**	**-0.1**
PVY	**Plav**	**22.30**	**302**	⇑*i*P	**P**	**10 09 32.3**	**+1.3**
IVA	**Berane**	**22.43**	**302**	⇑*i*P	**P**	**10 09 34.6**	**+2.4**
JASL	**Jaisalmer**	**22.56**	**100**	*e*P	**P**	**10 09 33.9**	**+0.2**
ULC	**Ulcinj**	**22.66**	**300**	⇑*i*P	**P**	**10 09 35.0**	**+0.5**
OBN	**Obninsk**	**22.66**	**346**	*c i*P	**P**	**10 09 32.6**	**-1.8**
OBN				*e*		10 10 13.3	
OBN				*e*S	**S**	**10 13 42.2**	**+7.0**
OBN				pmax	pmax		
	comp=Z,104nm,1.5s,mb5.0						
OBN				MLR	MLR		
	comp=Z,700nm,15.0s,MS4.2						
OBN	**Obninsk**	**22.66**	**346**	⇑*i*P	**P**	**10 09 32.6**	**-1.8**
	comp=Z,104nm,1.5s,mb5.0						
OBN				*e*		10 10 13.3	
OBN				*e*S	**S**	**10 13 42.2**	**+7.0**
OBN				LR	LR		
	comp=Z,700nm,15.0s,MS4.2						
DIVS	**Divcibare**	**22.74**	**306**	⇓*i*P	**P**	**10 09 36.8**	**+1.5**
NVSS	**Nova Varos 2**	**22.75**	**304**	⇑*i*P	**P**	**10 09 34.7**	**-0.7**
TTG	**Podgorica**	**22.76**	**301**	⇑*i*P	**P**	**10 09 36.4**	**+0.8**
PLE	**Pljevlja**	**22.91**	**303**	⇑*i*P	**P**	**10 09 34.7**	**-2.3**
BUM	**Brajici-Budva**	**22.99**	**301**	⇑*i*P	**P**	**10 09 39.3**	**+1.5**
NKY	**Niksic**	**23.05**	**302**	⇑*i*P	**P**	**10 09 37.2**	**-1.2**
MOS	**Moscow**	**23.05**	**348**	*e*P	**P**	**10 09 38.0**	**-0.2**
MOS				*e**PP		10 09 47.1	
MOS				*e*		10 10 03.8	
MOS				*e*PPP	PPP	10 10 18.5	-0.6
MOS				*e*S	**S**	**10 13 42.0**	**-0.3**
MOS				*e**SS		10 13 55.7	
MOS				*e*SS	SS	10 14 23.6	-4.8
MOS				pmax	pmax		
	comp=Z,241nm,1.1s,mb5.5						
MOS	**Moscow**	**23.05**	**348**	*e*P	**P**	**10 09 38.0**	**-0.2**
	comp=Z,241nm,1.1s,mb5.5						
MOS				*e*pP		10 09 47.1	
MOS				*e*		10 10 03.8	
MOS				*e*PPP	PPP	10 10 18.5	-0.6
MOS				*e*S	**S**	**10 13 42.0**	**-0.3**
MOS				*e*sS		10 13 55.7	
MOS				*e*SS	SS	10 14 23.6	-4.8
BHJ	**Bhuj**	**23.21**	**110**	*e*P	**P**	**10 09 43.0**	**+2.9**
BHJ				*e*		10 09 44.4	
	comp=Z,125nm,1.1s						
UPM	**Unac-Piva**	**23.22**	**303**	⇑*i*P	**P**	**10 09 34.2**	**-5.8**
HCY	**Herceg Novi**	**23.32**	**301**	⇑*i*P	**P**	**10 09 42.0**	**+1.1**
BRY	**Bratogost**	**23.39**	**302**	⇑*i*P	**P**	**10 09 36.8**	**-4.9**
KOLS	**Kolonicke sedl**	**23.44**	**318**	*e*P	**P**	**10 09 44.0**	**+1.9**
KOLS				*e*		10 09 51.2	
AML	**Almayashu**	**23.58**	**60**	P	**P**	**10 09 45.6**	**+2.1**
	SNR=20						
KWP	**Kalwaria**	**23.59**	**320**	*e*P	**P**	**10 09 45.0**	**+1.5**
KWP	**Kalwaria**	**23.59**	**320**	*e*P	**P**	**10 09 45.0**	**+1.5**
EKS2	**Erkin-Say**	**23.76**	**59**	P	**P**	**10 09 46.8**	**+1.5**
	SNR=11						
UCH	**Uchtor**	**24.20**	**60**	P	**P**	**10 09 51.9**	**+2.4**
	SNR=13						
KECS	**Kecovo**	**24.23**	**316**	*i* P	**P**	**10 09 51.3**	**+1.6**
KECS				*e*		10 09 57.6	
AAK	**Ala-Archa**	**24.27**	**59**	P	**P**	**10 09 52.4**	**+2.2**
	SNR=7.5						
AAK	**Ala-Archa**	**24.27**	**59**	*c i*P	**P**	**10 09 50.6**	**+0.4**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AAK				MLR	MLR		
	comp=Z,500nm,17.0s,MS4.1						
AAK	**Ala-Archa**	**24.27**	**59**	⇑*i*P	**P**	**10 09 50.6**	**+0.4**
	comp=Z,3.0nm,0.8s						
AAK				LR	LR		
	comp=Z,500nm,17.0s,MS4.1						
PSZ	**Piszkesteto**	**24.31**	**314**	⇑*e*P	**P**	**10 09 51.5**	**+1.0**
GRI	**Girifalco**	**24.33**	**291**	*e*P	**P**	**10 09 52.6**	**+1.7**
PKSM	**Moragy**	**24.38**	**310**	⇑*i*P	**P**	**10 09 52.3**	**+1.1**
FRU	**Bishkek**	**24.40**	**59**	*e*P	**P**	**10 09 53.0**	**+1.5**
FRU				pmax	pmax		
	comp=Z,60nm,2.2s,mb4.6						
FRU	**Bishkek**	**24.40**	**59**	*e*P	**P**	**10 09 53.0**	**+1.5**
	comp=Z,60nm,2.2s,mb4.6						
ORI	**Oriolo Calabro**	**24.42**	**294**	P	**P**	**10 09 53.3**	**+1.6**
USP	**Ospenovka**	**24.42**	**58**	P	**P**	**10 09 52.9**	**+1.2**
	SNR=12						
TDS	**Terranova Siba**	**24.46**	**293**	*e*P	**P**	**10 09 53.8**	**+1.7**
CHMS	**Chumysh**	**24.54**	**59**	P	**P**	**10 09 54.2**	**+1.4**
	SNR=8.2						
SOI	**Samo**	**24.58**	**289**	*e*P	**P**	**10 09 54.9**	**+1.6**
KBK	**Karagaybulak**	**24.60**	**59**	P	**P**	**10 09 55.1**	**+1.7**
	SNR=6.5						
PKS8	**Sarbogard**	**24.61**	**311**	⇑*e*P	**P**	**10 09 54.6**	**+1.1**
MNK	**Minsk**	**24.62**	**334**	⇓*e*P	**P**	**10 09 49.0**	**-4.5**
MNK				pmax	pmax		
	comp=Z,230nm,0.9s,mb5.7						
MNK	**Minsk**	**24.62**	**334**	⇓*e*P	**P**	**10 09 49.0**	**-4.5**
	comp=Z,230nm,0.9s,mb5.7						
ARU	**Arti**	**24.64**	**17**	⇑*i*P	**P**	**10 09 54.0**	**+0.4**
ARU				*e*		10 10 34.8	
ARU				*e*S	**S**	**10 14 12.1**	**+2.5**
ARU				*e*SS	SS	10 15 05.5	-1.5
ARU				pmax	pmax		
	comp=Z,78nm,1.0s,mb5.2						
ARU				MLR	MLR		
	comp=N,200nm,16.0s,MS3.8						
ARU				MLR	MLR		
	comp=Z,300nm,16.0s,MS3.9						
ARU				MLR	MLR		
	comp=E,200nm,19.0s,MS3.8						
ARU	**Arti**	**24.64**	**17**	⇑*i*P	**P**	**10 09 54.0**	**+0.4**
	comp=E,78nm,1.0s,mb5.2						
ARU				*e*		10 10 34.8	
ARU				*e*S	**S**	**10 14 12.1**	**+2.5**
ARU				*e*SS	SS	10 15 05.5	-1.5
ARU				LR	LR		
	comp=Z,300nm,16.0s,MS3.9						
BUD	**Budapest**	**24.64**	**313**	⇑*e*P	**P**	**10 09 55.1**	**+1.3**
BUD	**Budapest**	**24.64**	**313**	⇑*e*P	**P**	**10 09 55.2**	**+1.4**
RHK1	**Bakonya**	**24.70**	**309**	⇑*e*P	**P**	**10 09 55.3**	**+0.9**
PKS9	**Tamasi**	**24.75**	**310**	⇑*e*P	**P**	**10 09 56.2**	**+1.4**
NIE	**Niedzica**	**24.79**	**318**	*e*P	**P**	**10 09 57.0**	**+1.8**
SCLL	**Scilla**	**24.86**	**290**	*e*P	**P**	**10 09 58.6**	**+2.7**
MTTG	**Motta San Giov**	**24.87**	**289**	*e*P	**P**	**10 09 58.6**	**+2.5**
KSH	**Kashi**	**24.90**	**67**	P	**P**	**10 09 58.3**	**+1.9**
KSH				*e*AP		10 10 09.0	
KSH				XP		10 10 15.8	
KSH				*e*PP	PP	10 10 37.6	+3.5
KSH				*e*S	**S**	**10 14 19.0**	**+4.7**
KSH				XS		10 14 36.3	
KSH				AMB	AMB		
	comp=Z,280nm,3.8s						
KSH				LR	LR		
	comp=N,1µm,17.7s						
KSH				LR	LR		
	comp=E,860nm,11.7s						
PKSG		**25.00**	**312**	⇑*i*P	**P**	**10 09 58.6**	**+1.4**
THN	**Thein Dam**	**25.04**	**84**	*e*P	**P**	**10 09 57.6**	**-0.2**
	comp=E,36nm,0.7s,mb5.0						
ATN	**Antennamare**	**25.05**	**290**	P	**P**	**10 10 00.0**	**+2.2**
MGR	**Morigerati**	**25.11**	**294**	*e*P	**P**	**10 09 59.8**	**+1.5**
TKM2	**Tokmak 2**	**25.12**	**59**	P	**P**	**10 09 59.8**	**+1.4**
	SNR=21						
SRO	**Srobarova**	**25.22**	**313**	*e*P	**P**	**10 10 00.5**	**+1.2**
SRO				*e*		10 10 06.9	

MRLC **Muro Lucano** 25.23 296 *e*P P **10 10 00.3 +0.8**
LIKS **Likavka** 25.30 316 *e*P P **10 10 01.0 +1.0**
LIKS *e* 10 10 04.7
SGO Sicignano 25.34 295 *e*P P **10 10 01.8 +1.2**
OJC Ojcow 25.49 319 *e*P P **10 10 02.3 +0.5**
OJC Ojcow 25.49 319 *e*P P **10 10 02.3 +0.5**
KOLL Kolacno 25.50 315 P P **10 10 02.9 +1.0**
SVE Sverdlovsk 25.52 19⇑*i*P P **10 10 02.0 0.0**
SVE *e* 10 10 48.0
SVE pmax pmax
comp=Z,189nm,1.7s,mb5.3
SVE Sverdlovsk 25.52 19⇑*i*P P **10 10 02.0 0.0**
comp=Z,189nm,1.7s,mb5.3
SVE *e* 10 10 48.0
SLNA Salina 25.56 291 *e*P P **10 10 03.9 +1.3**
CSSN Cassano Irpino 25.59 296 *e*P P **10 10 04.3 +1.4**
ZRNK Zerenda 25.62 33 P P **10 10 03.0 0.0**
ZRNK pmax pmax
comp=Z,32nm,1.1s,mb4.8
AJM Ajmer 25.82 98 *e*P P **10 10 06.0 +0.9**
AJM *e* 10 10 08.3
comp=Z,52nm,0.9s
SMOL Smolenice 26.05 314 *e*P P **10 10 07.7 +0.6**
SMOL *e* pP 10 10 16.9 -0.6
JAVC Velka Javorina 26.05 315 P P **10 10 08.4 +1.3**
ZST Bratislava 26.12 313 *e*P P **10 10 07.9 +0.2**
SUW Suwalki 26.12 329 *e*P P **10 10 07.2 -0.4**
SUW Suwalki 26.12 329 *e*P P **10 10 07.2 -0.4**
CSLB Castelbuono 26.16 289 *e*P P **10 10 10.1 +1.9**
OKC Ostrava-Krasne 26.22 317⇑*i*P P **10 10 08.8 +0.2**
KHET Khetri 26.23 94 *e*P P **10 10 08.6 -0.3**
KHET AMb AMB 10 10 10.8
comp=Z,29nm,1.4s,mb4.6
CII Carovilli 26.25 298 *e*P P **10 10 10.5 +1.6**
CII Carovilli 26.25 298 P P **10 10 10.6 +1.7**
SOP Sopron 26.25 312⇑*i*P P **10 10 09.7 +0.8**
MIDA Miranda 26.27 297 P P **10 10 11.3 +2.1**
BRVK Borovoye 26.28 34 *e*P P **10 10 08.3 -0.8**
comp=Z,25nm,0.8s,mb4.8
BRVK LR LR
comp=Z,51nm,21.0s
BVA0 Borovoye Array 26.31 34 *i*P P **10 10 08.9 -0.5**
BVA0 pmax pmax
comp=Z,1.0nm,0.9s
BVA0 Borovoye Array 26.31 34 *i*P P **10 10 08.9 -0.5**
comp=Z,1.0nm,0.9s
BVAR Borovoye Array 26.31 34 P P **10 10 09.0 -0.4**
comp=Z,9.7nm,0.7s,mb4.5,baz=211,slow=8.6,SNR=54
BVAR PcP PcP 10 13 35.9 +0.5
comp=Z,9.6nm,0.8s,baz=194,slow=2.8,SNR=6.8
BVAR ScP 10 17 13.5
comp=Z,2.2nm,0.7s,baz=243,slow=3.3,SNR=6.4
RAC Raciborz 26.31 318 *e*P P **10 10 10.2 +0.7**
CRES Cresnjev 26.34 307 P P **10 10 10.7 +1.0**
BOJS Bojanci 26.38 306 *i*P P **10 10 10.7 +0.6**
VOSK Vostochnaya 26.41 35 P P **10 10 09.7 -0.6**
VOSK pmax pmax
comp=Z,10.0nm,0.8s,mb4.4
VOSK Vostochnaya 26.41 35 P P **10 10 09.7 -0.6**
comp=Z,10.0nm,0.8s,mb4.4
DOBS Dobrina 26.43 308 P P **10 10 11.4 +0.9**
GROS Grobnik 26.50 308 P P **10 10 12.2 +1.0**
MORC Moravsky Berou 26.54 317 *e*P P **10 10 11.4 -0.1**
comp=Z,36nm,0.8s,mb5.0
MORC Moravsky Berou 26.54 317 *e*P P **10 10 11.4 -0.2**
comp=Z,36nm,0.8s,mb5.0
SDI San Donato 26.61 297 *e*P P **10 10 13.0 +0.7**
SDI San Donato 26.61 297 P P **10 10 12.9 +0.6**
ARSA Arzberg 26.75 310⇑*i*P P **10 10 14.2 +0.7**
comp=Z,142nm,2.9s,mb5.0
PERS Pernice 26.81 309 *e*P P **10 10 14.4 +0.4**
VRAC Vranov 26.89 315 P P **10 10 15.5 +0.7**
comp=Z,70nm,1.1s,mb5.1,baz=108,slow=9.1,SNR=27
VRAC Vranov 26.89 315 P P **10 10 15.5 +0.8**
VRAC pmax pmax
comp=Z,70nm,1.1s
VRAC Vranov 26.89 315 *e*P P **10 10 15.4 +0.7**
TERO Teramo 26.90 299 P P **10 10 15.8 +0.9**
KRUC Moravsky 26.90 314 P P **10 10 15.2 +0.3**
PTQR Pietraquaria 26.95 298 *e*P P **10 10 16.6 +1.2**
PTQR Pietraquaria 26.95 298 P P **10 10 16.8 +1.4**
AQU L'Aquila 27.00 299 *e*P P **10 10 16.7 +0.8**
comp=Z,89nm,1.2s,mb5.2
AQU L'Aquila 27.00 299 *e*P P **10 10 16.7 +0.8**
comp=Z,89nm,1.2s,mb5.2
LJU Ljubljana 27.02 307 *e*P P **10 10 16.8 +0.8**
LJU *e*pP pP 10 10 25.7 -0.9
OBKA Obir 27.14 308⇑*i*P P **10 10 18.1 +1.0**
comp=Z,91nm,1.4s,mb5.1
AYAN Aya Nagar 27.20 92 *e*P P **10 10 17.7 -0.1**
AYAN AMb AMB 10 10 20.5
comp=Z,41nm,1.3s,mb4.8
NDI New Delhi 27.21 91 *e*P P **10 10 17.0 -1.0**
NRCA Norcia 27.29 300 P P **10 10 19.2 +0.7**
VOJY Vojsko 27.44 307⇑*e*P P **10 10 19.4 -0.4**
DDI Dehra Dun 27.46 88 *e*P P **10 10 19.0 -1.2**
DPC Dobruska-Polom 27.50 317⇑*i*P P **10 10 20.2 -0.2**
DPC AMS AMS 10 24 30.0
comp=Z,300nm,11.4s
ARV Arcevia 27.52 301 *e*P P **10 10 21.1 +0.5**
ARV Arcevia 27.52 301 P P **10 10 21.3 +0.7**
MNS Montasola 27.54 299 *e*P P **10 10 21.1 +0.3**
MNS Montasola 27.54 299 P P **10 10 21.1 +0.4**
FSSB Fossombrone 27.68 302 *e*P P **10 10 22.8 +0.8**
FSSB Fossombrone 27.68 302 P P **10 10 22.9 +0.9**
KSP Ksiaz 27.74 318⇑*e*P P **10 10 22.2 -0.3**
KSP *e**SP sP 10 10 30.4 -7.6
KSP Ksiaz 27.74 318⇑*e*P P **10 10 22.2 -0.3**
KSP *e*pP pP 10 10 27.1 -6.0
KSP *e*sP sP 10 10 30.4 -7.6
KSP Ksiaz 27.74 318 *e*P P **10 10 22.6 +0.1**
UPC Upice 27.75 317⇑*i*P P **10 10 22.6 0.0**
MOA Molln 27.76 311⇑*i*P P **10 10 23.1 +0.4**
comp=Z,64nm,1.1s,mb5.2
ROBS Robic 27.76 307 *e*P P **10 10 22.7 0.0**
PTCC Patocco-Chiusa 27.90 307 *e*P P **10 10 24.3 +0.2**
PTCC Patocco-Chiusa 27.90 307 P P **10 10 24.3 +0.3**
KBA Koelnbreinsper 28.10 309⇑*i*P P **10 10 26.3 +0.5**
comp=Z,41nm,1.0s,mb5.0
VSU Vasula 28.17 339 P P **10 10 25.5 -0.8**
CRE Caprese Michel 28.25 301 *e*P P **10 10 28.0 +0.8**
CRE Caprese Michel 28.25 301 P P **10 10 28.1 +0.9**
FVI Forni Avoltri 28.34 308 *e*P P **10 10 28.7 +0.8**
FVI Forni Avoltri 28.34 308 P P **10 10 28.6 +0.7**
SFI Santa Sofia 28.38 302 *e*P P **10 10 30.4 +2.2**
PRU Pruhonice 28.38 315⇑*i*P P **10 10 28.0 -0.3**
PRU pmax pmax
comp=Z,26nm,1.2s,mb4.7
PRU Pruhonice 28.38 315⇑*i*P P **10 10 28.0 -0.3**
comp=Z,26nm,1.2s,mb4.7
PRU AMS AMS 10 25 20.0
GEC2 GERESS Array S 28.45 312 *e*P P **10 10 28.6 -0.3**
GEC2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.5
GEC2 GERESS Array S 28.45 312 *e*P P **10 10 28.6 -0.3**
comp=Z,10.0nm,0.8s,mb4.5
GERES GERESS Array B 28.45 312 P P **10 10 28.3 -0.6**
comp=Z,7.2nm,0.7s,mb4.4,baz=112,slow=8.4,SNR=43
GERES PP PP 10 11 17.8 -3.4
comp=Z,3.3nm,0.7s,baz=107,slow=20,SNR=3.2
GERES PcP PcP 10 13 40.6 0.0
comp=Z,2.3nm,0.7s,baz=147,slow=2.1,SNR=6.0
GERES ScP 10 17 20.8
comp=Z,0.6nm,0.9s,baz=135,slow=3.8,SNR=3.5
GERES GERESS Array B 28.45 312 P P **10 10 28.3 -0.6**
GERES 10 11 17.8
GERES 10 13 40.6
GERES pmax pmax
comp=Z,7.0nm,0.7s
GERES pmax pmax
comp=Z,3.0nm,0.7s
GERES pmax pmax
comp=Z,2.0nm,0.7s
GERES pmax pmax
comp=Z,1.0nm,0.9s
PGD Poggio Sodo 28.46 302 *e*P P **10 10 31.4 +2.3**
PVCC Panska Ves 28.59 316⇑*e*P P **10 10 30.0 -0.1**
PVCC AMS AMS 10 25 00.0
comp=Z,400nm,15.6s
VMG Vicchio 28.60 302 P P **10 10 32.5 +2.2**
KHC Kasperske Hory 28.63 313⇑*i*P P **10 10 30.0 -0.5**
KHC *e* 10 10 35.0
KHC MLR MLR
comp=Z,400nm,15.5s,MS4.1

KHC Kasperske Hory 28.63 313⇑*i*P P **10 10 30.0 -0.5**
KHC x x 10 10 35.0
KHC AMS AMS 10 25 40.0
comp=Z,400nm,15.5s
JOSI Joshimath 28.65 86 *e*P P **10 10 31.1 +0.2**
JOSI AMb AMB 10 10 34.6
comp=Z,380nm,1.0s,mb6.1
CSNT Castellina Chi 28.70 301 *e*P P **10 10 32.1 +0.9**
CSNT Castellina Chi 28.70 301 P P **10 10 33.0 +1.8**
SEI Scarperia 28.75 302 P P **10 10 33.1 +1.5**
SEST Monte Rota 28.75 308 P P **10 10 32.2 +0.6**
CTI Castel Tesino 28.95 306 *e*P P **10 10 33.6 +0.2**
CTI Castel Tesino 28.95 306 P P **10 10 33.7 +0.3**
BRES Bressanone 29.06 307 P P **10 10 34.8 +0.5**
WET Wettzell 29.07 313 *e*P P **10 10 33.7 -0.7**
WET pmax pmax
comp=Z,11nm,0.9s,mb4.6
WET Wettzell 29.07 313 *e*P P **10 10 33.7 -0.7**
comp=Z,11nm,0.9s,mb4.6
ZCCA Zocca 29.07 302 *e*P P **10 10 36.5 +2.1**
POO Poona 29.08 114⇑*i*P P **10 10 35.0 +0.2**
BRG Berggiesshuebel 29.09 316 *i*P P **10 10 34.4 -0.2**
BRG *i* 10 10 39.4
BRG pmax pmax
comp=Z,2.0nm,0.4s,mb4.2
BRG MLR MLR
comp=N,270nm,14.3s,MS4.2
BRG MLR MLR
comp=E,300nm,14.3s,MS4.2
BRG MLR MLR
comp=Z,500nm,14.8s,MS4.3
WTTA Wattenberg 29.27 308⇑*i*P P **10 10 36.1 -0.1**
comp=Z,59nm,1.5s,mb5.1
BDI Bagni Di Lucca 29.29 302 *e*P P **10 10 35.7 -0.7**
BDI Bagni Di Lucca 29.29 302 P P **10 10 36.6 +0.2**
WATA Walderalm 29.33 309⇑*i*P P **10 10 36.4 -0.4**
comp=Z,36nm,1.1s,mb5.0
APPI Appiano 29.34 307 P P **10 10 37.7 +0.8**
MAIM 29.34 301 P P **10 10 37.0 +0.1**
MAIM 29.34 301 P P **10 10 37.0 +0.1**
GSCL Gusciola 29.35 302 *e*P P **10 10 38.3 +1.4**
GSCL Gusciola 29.35 302 P P **10 10 38.5 +1.6**
SARO Sassorosso 29.45 302 P P **10 10 37.9 +0.1**
SARO Sassorosso 29.45 302 P P **10 10 37.9 +0.1**
BHPL Bhopal 29.47 102 *e*P P **10 10 38.8 +0.6**
BHPL *e* 10 10 39.4
comp=Z,53nm,0.6s
ERBM Eremo 29.48 302 *e*P P **10 10 40.0 +1.9**
ERBM Eremo 29.48 302 P P **10 10 40.2 +2.1**
KURK Kurchatov 29.52 44*c i*P P **10 10 38.7 +0.3**
KURK pmax pmax
comp=Z,18nm,0.7s,mb4.9
KURK Kurchatov 29.52 44⇑*i*P P **10 10 38.7 +0.3**
SQTA Sankt Quirin 29.54 308⇑*i*P P **10 10 38.5 -0.1**
comp=Z,23nm,0.6s,mb5.1
VALM 29.59 302 P P **10 10 39.1 0.0**
VALM 29.59 302 P P **10 10 39.1 0.0**
VINC Vinca 29.62 302 P P **10 10 39.8 +0.5**
VINC Vinca 29.62 302 P P **10 10 39.8 +0.4**
MOTA Moosalm 29.64 308⇑*i*P P **10 10 39.0 -0.5**
comp=Z,22nm,0.7s,mb5.0
BERN Bernov 29.68 315⇑*i*P P **10 10 44.4 +4.6**
BACM 29.70 302 P P **10 10 39.9 -0.2**
BACM 29.70 302 P P **10 10 39.9 -0.2**
NKC Novy Kostel 29.72 314⇑*i*P P **10 10 40.1 -0.1**
NKC AMS AMS 10 25 50.0
comp=Z,300nm,17.0s
GRAM 29.74 302 P P **10 10 39.8 -0.6**
GRAM 29.74 302 P P **10 10 39.8 -0.6**
FUR Furstenfeldbru 29.76 310 *e*P P **10 10 40.4 -0.2**
FUR pmax pmax
comp=Z,196nm,1.0s,mb5.8
FUR Furstenfeldbru 29.76 310 *e*P P **10 10 40.4 -0.2**
comp=Z,196nm,1.0s,mb5.8
CLL Collm 29.82 317⇑*i*P P **10 10 40.6 -0.4**
comp=Z,logA/T=1.5,mb5.0
CLL *i* *PP pP 10 10 45.5 -6.2
CLL *i* *SP sP 10 10 49.5 -7.2
CLL *e*PP PP 10 11 44.0 +5.2
CLL Collm 29.82 317⇑*i*P P **10 10 40.6 -0.4**
CLL pmax pmax
comp=Z,32nm,1.0s,mb5.0
CLL Collm 29.82 317⇑*i*P P **10 10 40.6 -0.4**
comp=Z,32nm,1.0s,mb5.0
CLL *i* 10 10 45.5
VSL Villasalto 29.83 292 *e*P P **10 10 40.8 -0.4**
comp=Z,24nm,0.7s,mb5.0
VSL Villasalto 29.83 292 *e*P P **10 10 40.8 -0.5**
comp=Z,24nm,0.7s,mb5.0
CODM 29.88 302 P P **10 10 41.7 +0.1**
CODM 29.88 302 P P **10 10 41.7 +0.1**
BRMO Bormio 29.92 306 *e*P P **10 10 42.4 +0.5**
BRMO Bormio 29.92 306 P P **10 10 42.4 +0.4**
FUORN Ofenpass 30.02 307⇑*i*P P **10 10 43.1 +0.2**
comp=Z,22nm,0.5s,mb5.1
KAD Karad 30.06 115 *e*P P **10 10 44.3 +0.7**
KAD *e* 10 10 47.6
comp=Z,37nm,0.9s
BERNI Berninapass 30.14 306 *e*P P **10 10 44.2 +0.3**
comp=Z,21nm,0.6s,mb5.0
BOB Bobbio (Coli) 30.22 303 *e*P P **10 10 45.6 +0.9**
BOB Bobbio (Coli) 30.22 303 P P **10 10 46.0 +1.3**
PGF Pioggiola 30.26 298 *e*P P **10 10 45.4 +0.3**
GRA1 Grafenberg Arr 30.27 313 *e*P P **10 10 45.1 0.0**
comp=Z,101nm,0.9s,mb5.5
GRF Grafenberg Arr 30.27 313 *e*P P **10 10 45.1 0.0**
GRF pmax pmax
comp=Z,101nm,0.9s,mb5.5
DAVOX Davos 30.32 307 P P **10 10 45.6 +0.1**
comp=Z,22nm,0.6s,mb5.1,baz=113,slow=7.2,SNR=36
DAVOX Davos 30.32 307⇑*i*P P **10 10 45.5 0.0**
comp=Z,30nm,0.6s,mb5.2
MOX Moxa 30.37 315 *e*P P **10 10 46.0 +0.1**
MOX L 10 27 34.0
UBR Uberruh 30.38 309⇑*e*P P **10 10 45.4 -0.7**
UBR Uberruh 30.38 309 P P **10 10 45.7 -0.4**
DAVA Damuels 30.43 308⇑*i*P P **10 10 46.2 -0.4**
comp=Z,38nm,0.7s,mb5.2
GENL Genova Univers 30.50 302 P P **10 10 46.5 -0.7**
GENL Genova Univers 30.50 302 P P **10 10 46.5 -0.7**
VDL Val di Lei 30.53 306 *e*P P **10 10 47.5 +0.1**
comp=Z,41nm,0.8s,mb5.3
VDL Val di Lei 30.53 306 ⇑P P **10 10 47.8 +0.4**
HDH Heidenheim 30.57 310 *e*P P **10 10 46.6 -1.1**
HDH Heidenheim 30.57 310 P P **10 10 46.8 -0.9**
MK02 Makanchi Array 30.62 53 P P **10 10 48.3 0.0**
MK02 pmax pmax
comp=Z,24nm,0.7s,mb5.1
KAMOR Kamor 30.70 308⇑*i*P P **10 10 48.3 -0.6**
comp=Z,77nm,0.6s,mb5.7
MUGIO Muggio 30.70 305⇑*i*P P **10 10 48.4 -0.6**
comp=Z,43nm,0.5s,mb5.5
PLONS Plons 30.71 307⇑*i*P P **10 10 48.3 -0.7**
comp=Z,66nm,0.8s,mb5.5
FINES FINESS Array B 30.82 341 P P **10 10 48.5 -1.4**
comp=Z,8.5nm,0.6s,mb4.7,baz=144,slow=9.7,SNR=47
FINES PP PP 10 11 46.2 -5.6
comp=Z,5.4nm,0.5s,baz=135,slow=14,SNR=3.5
FINES LR LR 10 25 30.8
comp=Z,284nm,19.0s,MS4.0,baz=158,slow=41
FINES FINESS Array B 30.82 341 P P **10 10 48.5 -1.3**
FINES 10 11 46.2
FINES pmax pmax
comp=Z,9.0nm,0.6s
FINES pmax pmax
comp=Z,5.0nm,0.5s
FINES MLR MLR
comp=Z,284nm,19.0s
PCP Pian Castagno 30.82 302 P P **10 10 49.2 -0.8**
PCP Pian Castagno 30.82 302 P P **10 10 49.2 -0.8**
VAI Varese 30.88 305 *e*P P **10 10 50.0 -0.6**
LLS Linth-Limmern 30.91 307⇑*i*P P **10 10 50.4 -0.4**
comp=Z,71nm,0.5s,mb5.8
JOF Joensuu 30.93 347 *e*p P **10 10 48.8 -2.0**
FIN Finale Ligure 31.02 302 P P **10 10 50.7 -1.0**
FIN Finale Ligure 31.02 302 P P **10 10 50.7 -1.1**
FUSIO Fusio 31.07 306 *e*P P **10 10 51.3 -0.9**
comp=Z,15nm,0.3s,mb5.3
BUCH Bad Urach 31.07 310 *e*P P **10 10 51.2 -1.0**
BUCH Bad Urach 31.07 310 P P **10 10 51.9 -0.3**
WEIN Weingarten 31.08 308 *e*P P **10 10 51.9 -0.4**
comp=Z,149nm,1.1s,mb5.7
RORO 31.10 301 P P **10 10 51.8 -0.7**
WILA Wila 31.11 308 *e*P P **10 10 51.9 -0.6**
comp=Z,147nm,0.8s,mb5.9
WILA Wila 31.11 308 ⇑P P **10 10 52.0 -0.5**
GUT Gutenstein 31.13 309⇑*e*P P **10 10 52.0 -0.7**
GUT Gutenstein 31.13 309 P P **10 10 52.3 -0.4**
SISB Singen-Sch Ber 31.13 308 P P **10 10 52.6 -0.2**
SIND Sindeldorf 31.16 312⇑*e*P P **10 10 51.9 -1.1**
SIND Sindeldorf 31.16 312 P P **10 10 52.2 -0.8**
MUO Muotathal 31.19 307⇑*i*P P **10 10 52.8 -0.5**
comp=Z,56nm,0.3s,mb5.8
MUO Muotathal 31.19 307⇑P P **10 10 52.9 -0.4**
STEIN Stein am Rhein 31.19 308⇑*i*P P **10 10 52.9 -0.4**
comp=Z,204nm,0.8s,mb6.0
IMI Imperia 31.21 301 *e*P P **10 10 53.9 +0.4**
IMI Imperia 31.21 301 P P **10 10 53.3 -0.2**
ROB Roburent 31.27 302 P P **10 10 53.6 -0.3**
ROB Roburent 31.27 302 P P **10 10 53.7 -0.3**
BNALP Bannalp 31.31 307⇑*i*P P **10 10 53.7 -0.6**
comp=Z,57nm,0.5s,mb5.6
TRULL Truellikon 31.31 308⇑*i*P P **10 10 54.1 -0.2**
comp=Z,182nm,0.6s,mb6.1
ZUR Zurich 31.31 308 *e*P P **10 10 53.9 -0.5**
comp=Z,133nm,1.0s,mb5.7
ZUR Zurich 31.31 308 ⇓P P **10 10 54.3 -0.1**
KAF Kangasniemi 31.32 342 *e*p P **10 10 51.2 -3.1**
comp=Z,7.0nm,0.6s,mb4.7,baz=146,slow=9.4
KAF Kangasniemi 31.32 342 *e*P P **10 10 51.2 -3.1**
KAF pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
MONE Monesi 31.32 301 P P **10 10 54.0 -0.4**
MONE Monesi 31.32 301 P P **10 10 54.0 -0.5**
NEGI Negi 31.33 301 P P **10 10 53.6 -0.9**
NEGI Negi 31.33 301 P P **10 10 53.7 -0.9**
SPAK Spaichingen 31.35 309 *e*P P **10 10 54.2 -0.5**
SPAK Spaichingen 31.35 309 P P **10 10 54.9 +0.2**
FLACH Flaach 31.37 308⇑*i*P P **10 10 54.6 -0.2**
comp=Z,242nm,0.6s,mb6.2
ORX Oropa 31.38 304 P P **10 10 53.3 -1.6**
ORX Oropa 31.38 304 P P **10 10 53.3 -1.7**
MCGN Macugnaga 31.43 305 *e*P P **10 10 55.0 -0.4**
SLE Schleitheim 31.46 308⇑*i*P P **10 10 55.0 -0.7**
comp=Z,112nm,1.1s,mb5.6
SLE Schleitheim 31.46 308 ⇑P P **10 10 55.1 -0.6**
MMK Mattmark 31.47 305⇑*i*P P **10 10 54.6 -1.1**
comp=Z,19nm,0.5s,mb5.2
MMK Mattmark 31.47 305 ⇓P P **10 10 54.8 -0.9**
HASLI Hasliberg 31.47 306⇑*i*P P **10 10 55.0 -0.8**
comp=Z,96nm,0.4s,mb6.2
LBG Lerchenberg 31.49 310 *e*P P **10 10 54.8 -1.1**
LBG Lerchenberg 31.49 310 P P **10 10 55.3 -0.6**
TRAV 31.53 304 P P **10 10 54.6 -1.7**
TRAV 31.53 304 P P **10 10 54.6 -1.6**
SBF Sospel 31.53 301⇑*i*P P **10 10 56.4 +0.1**
comp=Z,318nm,0.7s,mb5.9
CLZ Clausthal 31.54 316 *e*P P **10 10 56.2 0.0**
comp=Z,75nm,0.7s,mb5.6
AUTN L'Aution 31.55 301 *e*P P **10 10 57.2 +0.7**
AURF Auriere 31.61 301 *e*P P **10 10 57.4 +0.4**
STV2 Anna di Valdie 31.65 301 P P **10 10 56.7 -0.6**
STV2 Anna di Valdie 31.65 301 P P **10 10 56.7 -0.6**
STV Sta Anna Valdi 31.65 301 P P **10 10 56.9 -0.5**
STV Sta Anna Valdi 31.65 301 P P **10 10 56.9 -0.4**
SULZ Sulz-Cheisache 31.66 308⇑*i*P P **10 10 56.6 -0.8**
comp=Z,205nm,1.2s,mb5.8
SULZ Sulz-Cheisache 31.66 308 ⇑P P **10 10 56.8 -0.6**
TOUF Mont Tournerai 31.68 301 *e*P P **10 10 58.5 +0.9**
BFO Black Forest 31.70 309 *e*P P **10 10 58.1 +0.3**
BFO pmax pmax
comp=Z,21nm,1.1s,mb4.9
BFO Black Forest 31.70 309 *e*P P **10 10 58.1 +0.3**
comp=Z,21nm,1.1s,mb4.9
DOI San Damiano 31.74 302 *e*P P **10 10 57.1 -1.0**
TOD Tromm 31.74 312 *e*P P **10 10 57.1 -1.0**
LKBD Leukerbad 31.76 306⇑*i*P P **10 10 57.7 -0.6**
comp=Z,96nm,0.8s,mb5.7
BHB Bricherasio 31.77 303 P P **10 10 57.1 -1.3**
SWS Schriesheim 31.77 312 *e*P P **10 10 57.5 -0.8**
SWS Schriesheim 31.77 312 P P **10 10 57.7 -0.6**
FELD Feldberg 31.81 308 *e*P P **10 10 58.0 -0.7**
WIMIS Wimmis 31.81 306⇑*i*P P **10 10 57.8 -0.9**
comp=Z,72nm,0.7s,mb5.6
RSP Reno Superiore 31.81 303 P P **10 10 56.8 -2.0**
RSP Reno Superiore 31.81 303 P P **10 10 56.8 -2.0**
PZZ Prazzo 31.84 302 P P **10 10 57.9 -1.1**
PZZ Prazzo 31.84 302 P P **10 10 57.9 -1.1**
DIX Grande Dixence 31.85 305⇑*i*P P **10 10 58.9 -0.2**
comp=Z,96nm,0.5s,mb5.9
KIZ Kirchzarten 31.88 309⇑*e*P P **10 10 58.3 -1.0**
KIZ Kirchzarten 31.88 309 P P **10 10 58.8 -0.5**
BALST Balsthal 31.89 307⇑*i*P P **10 10 59.0 -0.5**
comp=Z,256nm,0.6s,mb6.2
LSD Ceresole Reale 31.93 304 P P **10 10 59.6 -0.1**
LSD Ceresole Reale 31.93 304 P P **10 10 59.6 -0.2**
FENE Fenestrelle 31.93 303 P P **10 10 58.5 -1.3**
FENE Fenestrelle 31.93 303 P P **10 10 58.5 -1.3**
SENIN Lac Senin 31.98 305⇑*i*P P **10 10 59.3 -0.9**
comp=Z,75nm,0.7s,mb5.6
BBS Basel-Blauen 32.05 307 *e*P P **10 11 00.2 -0.6**
BBS Basel-Blauen 32.05 307 *e*P P **10 11 00.3 -0.5**
FRF La Foret Royal 32.07 300⇑*i*P P **10 11 00.8 -0.2**
comp=Z,50nm,0.8s,mb5.1
GRYON Gryon 32.09 305⇑*i*P P **10 11 00.1 -1.0**
comp=Z,55nm,0.6s,mb5.6
MBDF Montbardon 32.10 302⇑*i*P P **10 11 01.4 +0.1**
comp=Z,170nm,0.7s,mb5.7
COP Copenhagen 32.11 324⇑*i*P P **10 11 01.6 +0.3**
comp=Z,64nm,0.8s,mb5.5
RRL Cesana Torines 32.12 303 P P **10 11 01.4 0.0**
LIBD Limburg 32.13 309 *e*P P **10 11 01.2 -0.3**
LIBD Limburg 32.13 309 *e*P P **10 11 00.9 -0.6**
LMR La Mourre 32.15 300 *e*P P **10 11 01.4 -0.3**
comp=Z,24nm,0.8s,mb4.8
SALAN Lac Salanfe 32.16 305⇑*i*P P **10 11 01.0 -0.8**
comp=Z,37nm,0.5s,mb5.5
EMV Vieux Emosson 32.20 305 *e*P P **10 11 01.5 -0.6**
comp=Z,48nm,0.6s,mb5.5
EMV Vieux Emosson 32.20 305 ⇓P P **10 11 01.7 -0.4**
LANF Langenberg 32.20 310⇑*e*P P **10 11 00.7 -1.4**
BNI Bardonecchia 32.21 303 *e*P P **10 11 01.9 -0.3**
comp=Z,183nm,0.6s,mb6.1
BNI Bardonecchia 32.21 303 *e*P P **10 11 01.9 -0.3**
comp=Z,183nm,0.6s,mb6.1
AIGLE Aigle 32.21 305⇑*i*P P **10 11 01.2 -1.0**
comp=Z,88nm,0.7s,mb5.7
BOURR Bourrignon 32.22 307⇑*i*P P **10 11 01.9 -0.4**
comp=Z,146nm,0.9s,mb5.8
LPG La Plagne 32.22 304⇑*i*P P **10 11 02.3 0.0**
comp=Z,222nm,0.7s,mb5.8
LPL La Plagne 32.23 304⇑*i*P P **10 11 02.3 -0.1**
comp=Z,208nm,0.7s,mb5.8
TORNY Torny 32.28 306⇑*i*P P **10 11 02.2 -0.6**
comp=Z,129nm,0.8s,mb5.8
WLS Welschbruch 32.35 309 *e*P P **10 11 02.1 -1.4**
MOF Molkenrain 32.38 308⇑*e*P P **10 11 03.0 -0.6**
BSEG Bad Segeberg 32.40 320 *e*P P **10 11 04.0 +0.2**
BSEG pmax pmax
comp=Z,53nm,0.9s,mb5.4
CDF Champ du Feu 32.41 309⇑*i*P P **10 11 02.5 -1.4**
comp=Z,39nm,0.7s,mb5.0
ECH Echery 32.44 309⇑*e*P P **10 11 03.3 -0.9**
LOMF Lomont 32.48 307⇑*e*P P **10 11 04.3 -0.2**
HINF Hinteralfeld 32.55 308⇑*i*P P **10 11 04.4 -0.8**
comp=Z,37nm,0.6s,mb5.2
ABH Alteburg 32.60 312 *e*P P **10 11 04.7 -0.9**
BRANT Les Verrieres 32.64 306⇑*i*P P **10 11 05.8 -0.1**
comp=Z,80nm,0.6s,mb5.8
GIMEL Gimel 32.71 305⇑*i*P P **10 11 06.4 -0.2**
comp=Z,141nm,1.2s,mb5.8
ORIF Oris-en-Rattie 32.75 302 *e*P P **10 11 05.9 -1.1**
comp=Z,80nm,0.7s,mb5.4
ORIF *e*R
comp=Z,230nm,20.8s
CABF La Chapelle 32.84 306⇑*i*P P **10 11 07.7 0.0**
comp=Z,278nm,0.6s,mb6.0
KOLN Koldanda 32.84 90 *e*P P **10 11 07.6 -0.3**
comp=Z,38nm,0.5s,mb5.6
RUP Ruppelstein 32.86 311 *e*P P **10 11 06.9 -0.9**
RUP Ruppelstein 32.86 311 *e*P P **10 11 06.8 -1.0**
SMRF Simiane la Rot 32.88 301⇑*i*P P **10 11 07.9 -0.2**
comp=Z,34nm,0.9s,mb5.0
HAU Haudompre 32.92 308 *e*P P **10 11 06.5 -1.9**
OG05 Jujurieux 33.19 304⇑*e*P P **10 11 10.2 -0.5**
THEF They Montfort 33.21 308⇑*e*P P **10 11 09.7 -1.1**
HYB Hyderabad 33.37 110⇑*i*P P **10 11 12.5 -0.1**
comp=Z,143nm,0.8s,mb6.0

HYB **Hyderabad** 33.37 110⇑*e*P P **10 11 12.5 -0.1**
comp=Z,143nm,0.8s,mb6.0
WLF **Walferdange** 33.42 311 *e*P P **10 11 11.6 -1.0**
comp=Z,65nm,0.8s,mb5.6
WLF **Walferdange** 33.42 311 *e*P P **10 11 11.6 -1.1**
comp=Z,65nm,0.8s,mb5.6
VIVF **Saint-Julien-l** 33.60 302⇑*i*P P **10 11 13.5 -0.8**
comp=Z,75nm,0.8s,mb5.3
GKN **Gorkha** 33.63 89 *e*P P **10 11 14.6 -0.2**
comp=Z,190nm,0.7s,mb6.2
WTSB **Winterswijk** 33.66 315 P P **10 11 15.7 +1.0**
NVS **Novosibirsk** 33.74 39 *i*P P **10 11 14.0 -1.4**
NVS *e* 10 12 28.2
NVS *e* 10 12 51.0
NVS pmax pmax
comp=N,85nm,1.7s
NVS pmax pmax
comp=E,92nm,1.7s
NVS pmax pmax
comp=Z,157nm,1.7s,mb5.7
NVS **Novosibirsk** 33.74 39 *i*P P **10 11 14.0 -1.4**
comp=Z,157nm,1.7s,mb5.7
NVS *e* 10 12 28.2
NVS *e* 10 12 51.0
MEM **Membach** 33.75 313 P P **10 11 15.8 +0.3**
BLSP **Bilaspur** 33.84 100 *e*P P **10 11 16.6 +0.1**
BLSP *e* 10 14 03.9
MEZF **Maizieres J'vi** 33.87 309⇑*i*P P **10 11 16.1 -0.5**
comp=Z,263nm,0.7s,mb6.0
WMQ **Urumqi** 33.98 60 ⇑P P **10 11 18.0 +0.5**
WMQ PP PP 10 12 32.0 0.0
WMQ S S **10 16 38.0 -0.9**
WMQ AMB AMB
comp=Z,37nm,1.0s,mb5.3
HFS **Hagfors** 34.02 332 P P **10 11 17.1 -0.6**
comp=Z,50nm,0.5s,mb5.7,baz=129,slow=9.5,SNR=169
HFS **Hagfors** 34.02 332 P P **10 11 17.1 -0.6**
HFS pmax pmax
comp=Z,50nm,0.5s
MUD **Monsted U'grnd** 34.09 324⇑*i*P P **10 11 19.2 +0.9**
comp=Z,45nm,0.7s,mb5.5
LASF **Ste Croix** 34.12 301⇑*i*P P **10 11 18.3 -0.5**
comp=Z,62nm,0.8s,mb5.3
DMN **Daman** 34.16 89 *e*P P **10 11 19.5 +0.3**
comp=Z,123nm,0.7s,mb6.0
KKN **Kakani** 34.24 89 *e*P P **10 11 20.1 +0.1**
comp=Z,130nm,0.5s,mb6.1
ZAL **Zalesovo** 34.24 41 P P **10 11 18.5 -1.2**
comp=Z,16nm,0.7s,mb5.1,baz=213,slow=7.9,SNR=82
ZAL LR LR 10 29 07.3
comp=Z,470nm,18.9s,MS4.2,baz=229,slow=43
ZAL **Zalesovo** 34.24 41 P P **10 11 18.5 -1.2**
ZAL pmax pmax
comp=Z,16nm,0.7s
ZAL MLR MLR
comp=Z,470nm,18.9s
COLF **Collangettes** 34.35 303⇑*e*P P **10 11 20.2 -0.5**
GIVF **Givet** 34.36 311 *e*P P **10 11 20.7 0.0**
comp=Z,83nm,0.8s,mb5.4
SMF **Signal de Mont** 34.38 305⇑*i*P P **10 11 20.6 -0.4**
comp=Z,403nm,0.7s,mb6.2
PKI **Pulchoki** 34.42 89 *e*P P **10 11 21.6 +0.1**
comp=Z,112nm,0.8s,mb5.8
LOR **Lormes** 34.45 306⇑*i*P P **10 11 20.9 -0.7**
comp=Z,61nm,0.7s,mb5.4
LOR *e*R
comp=Z,267nm,19.8s
DOU **Dourbes** 34.50 311 P P **10 11 21.9 0.0**
LBL **Lubilhac** 34.64 303⇑*e*P P **10 11 24.0 +0.8**
SSF **Saint Saulge** 34.66 306⇑*i*P P **10 11 23.0 -0.4**
comp=Z,92nm,0.8s,mb5.4
GUN **Gumba** 34.70 88 *e*P P **10 11 24.3 +0.4**
comp=Z,222nm,0.7s,mb6.2
AVF **Avril sur Loir** 34.73 305⇑*i*P P **10 11 23.3 -0.7**
comp=Z,165nm,0.9s,mb5.7
BAIF **Baives** 34.73 311⇑*i*P P **10 11 23.9 -0.1**
comp=Z,139nm,1.0s,mb5.6
EJON **La Jonquera** 34.77 298 P P **10 11 22.3 -2.1**
comp=Z,72nm,2.0s,mb5.3
EJON **La Jonquera** 34.77 298 P P **10 11 23.4 -0.9**
comp=Z,72nm,2.0s,mb5.2,SNR=7.9
SNF **Seneffe** 34.79 312 P P **10 11 24.4 0.0**
comp=Z,11nm,1.3s,mb4.6
PYM **Petit Puy Mans** 34.85 304⇑*e*P P **10 11 25.8 +0.8**
APA **Apatity** 34.97 352⇓*i*P P **10 11 24.3 -1.5**
APA *i* 10 11 30.9
APA *i* 10 12 42.3
APA pmax pmax
comp=Z,24nm,0.8s,mb5.2
APA **Apatity** 34.97 352⇓*i*P P **10 11 24.3 -1.5**
comp=Z,24nm,0.8s,mb5.2
APA *i* 10 11 30.9
APA *i* 10 12 42.3
BGF **Bois d'Agland** 35.05 305⇑*i*P P **10 11 26.3 -0.4**
comp=Z,135nm,0.7s,mb5.7
HYF **Humbligny** 35.28 306⇑*i*P P **10 11 28.8 +0.2**
MTLF **Montolieu** 35.28 299 *e*P P **10 11 28.6 -0.1**
KMBO **Kilima Mbogo** 35.29 195 *e*P P **10 11 31.1 +1.9**
comp=Z,6.0nm,1.0s,mb4.5
KMBO **Kilima Mbogo** 35.29 195 *e*P P **10 11 31.1 +2.0**
comp=Z,6.0nm,1.0s,mb4.5
CAF **Calviac** 35.45 302⇑*i*P P **10 11 29.7 -0.5**
comp=Z,32nm,1.1s,mb4.9
KONO **Kongsberg** 35.45 329 *e*P P **10 11 22.0 -8.0**
TCF **Toulx Ste Croi** 35.46 304 *e*P P **10 11 30.1 -0.1**
comp=Z,84nm,0.8s,mb5.4
NB2 **NORSAR Subarra** 35.55 332 P P **10 11 29.5 -1.3**
comp=Z,12nm,0.7s,mb5.0,baz=124,slow=8.6
NB2 **NORSAR Subarra** 35.55 332 P P **10 11 29.5 -1.3**
baz=124,slow=9.3
NOA **NORSAR Array B** 35.55 332 P P **10 11 29.4 -1.4**
comp=Z,9.9nm,0.7s,mb4.9,baz=125,slow=8.6,SNR=45
NOA PP PP 10 12 48.1 -3.5
comp=Z,8.7nm,0.8s,baz=128,slow=11,SNR=6.7
NOA PcP PcP 10 13 59.6 +0.1
comp=Z,3.3nm,0.7s,baz=155,slow=1.0,SNR=3.5
NOA LR LR 10 28 24.5
comp=Z,156nm,19.3s,MS3.8,baz=120,slow=40
NOA **NORSAR Array B** 35.55 332 P P **10 11 29.4 -1.4**
NOA 10 12 48.2
NOA 10 13 59.7
NOA pmax pmax
comp=Z,10.0nm,0.7s
NOA pmax pmax
comp=Z,9.0nm,0.9s
NOA pmax pmax
comp=Z,3.0nm,0.7s
NOA MLR MLR
comp=Z,156nm,19.3s
NAO01 **NORSAR Array S** 35.57 331 *e*P P **10 11 29.5 -1.4**
comp=Z,16nm,0.8s,mb5.0
NAO01 **NORSAR Array S** 35.57 331 *e*P P **10 11 29.5 -1.5**
comp=Z,16nm,0.8s,mb5.0
RJF **Les Rejaudoux** 35.87 303⇑*i*P P **10 11 33.6 -0.1**
comp=Z,45nm,0.8s,mb5.2
RJF *e*R
comp=Z,210nm,21.5s
EIBI **Ibiza** 36.08 292 P P **10 11 35.1 -0.4**
EIBI **Ibiza** 36.08 292 P P **10 11 35.1 -0.4**
SNR=7.9
MLS **Moulis** 36.09 299⇑*e*P P **10 11 35.2 -0.4**
EPOB **Poblet** 36.13 296 P P **10 11 36.1 +0.1**
comp=Z,55nm,1.7s,mb5.2
EPOB **Poblet** 36.13 296 P P **10 11 35.2 -0.8**
comp=Z,55nm,1.7s,mb5.2,SNR=7.9
LFF **La Frestale** 36.39 302⇑*i*P P **10 11 37.9 -0.2**
comp=Z,70nm,0.7s,mb5.4
EBR **Ebro Roquetas** 36.60 295 *e*P P **10 11 40.2 +0.3**
EPF **Esparros** 36.65 299⇑*i*P P **10 11 39.1 -1.1**
comp=Z,12nm,0.7s,mb4.5
RESF **Ens** 36.65 298 *e*P P **10 11 40.6 +0.3**
EBIE **Bielsa** 36.80 298 P P **10 11 42.4 +0.8**
comp=Z,21nm,1.0s,mb4.9
EBIE **Bielsa** 36.80 298 P P **10 11 40.6 -0.9**
comp=Z,21nm,1.0s,mb4.9,SNR=7.9
MFF **Saint Martin d** 37.11 305⇑*i*P P **10 11 43.4 -0.7**
comp=Z,84nm,0.9s,mb5.2
ESAC **San Caprasio** 37.28 297 P P **10 11 45.0 -0.6**
comp=Z,4.1nm,0.2s,mb5.0,SNR=7.2
LDF **La Druitiere** 37.28 308 *e*P P **10 11 44.8 -0.7**
comp=Z,42nm,0.7s,mb5.1
ETSF **Etsaut** 37.31 299 *e*P P **10 11 47.5 +1.7**
comp=Z,26nm,0.8s,mb4.8
EBEN **Beniarda** 37.33 292 P P **10 11 46.0 0.0**
comp=Z,122nm,1.7s,mb5.5
EBEN **Beniarda** 37.33 292 P P **10 11 46.0 0.0**
comp=Z,122nm,1.7s,mb5.5,SNR=5.6

EMOS **Mosqueruela** 37.36 294 P P **10 11 48.4 +2.1**
comp=Z,182nm,1.7s,mb5.6
EMOS **Mosqueruela** 37.36 294 P P **10 11 45.8 -0.5**
comp=Z,182nm,1.7s,mb5.6,SNR=8.9
FLN **La Foliniere** 37.54 308⇑*i*P P **10 11 47.0 -0.7**
comp=Z,50nm,0.5s,mb5.2
FLN *e*R
comp=Z,206nm,18.2s
GRR **Gorron** 37.74 308 *e*P P **10 11 48.9 -0.5**
comp=Z,239nm,0.9s,mb5.6
MOR8 **Moi Rana** 37.75 340 *e*P P **10 11 48.3 -0.9**
MOR8 AMb AMB 10 11 49.1
comp=Z,34nm,0.7s,mb5.2
MOR8 *e*PP PP 10 13 15.9 -2.8
MOR8 Moi Rana 37.75 340 *e*P P **10 11 48.3 -0.9**
comp=Z,34nm,0.7s,mb5.2
MOR8 Moi Rana 37.75 340 *e*P P **10 11 48.3 -0.9**
comp=Z,34nm,0.7s,mb5.2,SNR=38
SJPF **Ste Jean** 37.79 299 *e*P P **10 11 50.0 +0.1**
comp=Z,38nm,0.6s,mb5.0
MOL **Molde** 37.85 332 *e*P P **10 11 51.9 +1.7**
MOL AMb AMB 10 12 01.6
comp=Z,47nm,1.4s,mb5.0
MOL Molde 37.85 332 *e*P P **10 11 51.9 +1.7**
comp=Z,47nm,1.4s,mb5.0
MOL Molde 37.85 332 *e*P P **10 11 51.9 +1.8**
comp=Z,47nm,1.4s,mb5.0,SNR=38
KTK1 **Kautokeino** 37.87 347 *e*P P **10 11 49.8 -0.5**
KTK1 AMb AMB 10 11 58.9
comp=Z,82nm,1.1s,mb5.4
KTK1 Kautokeino 37.87 347 *e*P P **10 11 49.5 -0.8**
comp=Z,82nm,1.1s,mb5.4
KTK1 Kautokeino 37.87 347 *e*P P **10 11 49.8 -0.5**
comp=Z,82nm,1.1s,mb5.4,SNR=38
KEV **Kevo** 37.88 349 *ep* P **10 11 49.7 -0.7**
TRD **Trivandrum** 37.90 124 *e*P P **10 11 52.7 +1.6**
ARCES **ARCESS Array B** 37.93 349 P P **10 11 50.4 -0.4**
comp=Z,15nm,0.7s,mb4.8,baz=146,slow=8.6,SNR=46
ARCES PP PP 10 13 13.7 -7.2
comp=Z,16nm,0.7s,baz=149,slow=10,SNR=7.4
ARCES PcP PcP 10 14 06.8 +0.1
comp=Z,4.7nm,0.6s,baz=135,slow=3.4,SNR=4.4
ARCES LR LR 10 30 00.3
comp=Z,184nm,20.9s,MS3.9,baz=14,slow=40
ARCES ARCESS Array B 37.93 349 P P **10 11 50.4 -0.3**
ARCES 10 14 06.8
ARCES pmax pmax
comp=Z,15nm,0.7s
ARCES pmax pmax
comp=Z,16nm,0.7s
ARCES pmax pmax
comp=Z,5.0nm,0.6s
ARCES MLR MLR
comp=Z,184nm,20.9s
ARCES ARCESS Array B 37.93 349 P P **10 11 50.3 -0.4**
ARE0 **ARCESS Array S** 37.93 349 *e*P P **10 11 50.0 -0.7**
ARE0 **ARCESS Array S** 37.93 349 *e*P P **10 11 50.0 -0.7**
MELS **Mels** 38.44 340 *e*P P **10 11 54.7 -0.3**
ETOR **Torete** 38.53 295 P P **10 11 56.4 +0.4**
comp=Z,82nm,2.1s,mb5.1
ETOR **Torete** 38.53 295 P P **10 11 55.2 -0.8**
comp=Z,82nm,2.1s,mb5.1,SNR=7.2
ETOR **Torete** 38.53 295 P P **10 11 56.4 +0.4**
comp=Z,82nm,2.1s,mb5.1
SGMF **Saint Gilles** 38.86 307 *e*P P **10 11 58.5 -0.2**
comp=Z,77nm,0.5s,mb5.3
EVIA **Vianos** 39.10 292 P P **10 12 02.1 +1.2**
comp=Z,39nm,0.6s,mb5.3
EVIA **Vianos** 39.10 292 P P **10 12 00.3 -0.5**
comp=Z,39nm,0.6s,mb5.3,SNR=7.0
QUIF **Quistinic** 39.25 307 *e*P P **10 12 01.5 -0.4**
comp=Z,68nm,0.5s,mb5.3
TRO **Tromso** 39.25 345 *e*P P **10 12 00.3 -1.4**
TRO AMb AMB 10 12 02.8
comp=Z,43nm,0.8s,mb5.2
TRO **Tromso** 39.25 345 *e*P P **10 12 00.3 -1.4**
comp=Z,43nm,0.8s,mb5.2,SNR=37
ROSF **Rostrenen** 39.35 307 *e*P P **10 12 02.4 -0.3**
comp=Z,72nm,0.6s,mb5.3
LOF **Lofoten** 39.38 342 *e*P P **10 12 04.0 +1.1**
EQES **Quesada** 39.67 291 P P **10 12 07.2 +1.7**
comp=Z,395nm,4.0s
EQES **Quesada** 39.67 291 P P **10 12 05.1 -0.4**
comp=Z,395nm,4.0s,SNR=7.3
EBER **Berja** 39.67 289 P P **10 12 07.2 +1.7**
comp=Z,153nm,1.9s,mb5.4
EBER **Berja** 39.67 289 P P **10 12 05.3 -0.3**
comp=Z,153nm,1.9s,mb5.4,SNR=4.5
CKE **Kerswick** 40.07 317⇑*i*P P **10 12 09.2 +0.5**
CDU1 **Dunnerdale** 40.08 317⇑*e*P P **10 12 09.1 +0.3**
ESY **Stoneypath** 40.09 319⇑*i*P P **10 12 09.2 +0.4**
ESY AMb AMB 10 12 10.3
comp=Z,226nm,0.9s,mb5.9
ESDC **Sonseca Array** 40.10 294 P P **10 12 09.8 +0.7**
comp=Z,2.5nm,0.5s,mb4.2,baz=69,slow=8.7,SNR=14
ESDC PcP PcP 10 14 14.8 +0.9
comp=Z,3.0nm,0.7s,baz=54,slow=3.2,SNR=6.4
ESDC **Sonseca Array** 40.10 294 P P **10 12 09.8 +0.7**
comp=Z,2.5nm,0.6s
ESDC **Sonseca Array** 40.10 294 P P **10 12 08.2 -0.9**
comp=Z,2.5nm,0.6s,mb4.2,SNR=9.4
CSF **Scaffel** 40.12 317⇑*e*P P **10 12 08.8 -0.3**
EBL **Broad Law** 40.29 319⇑*i*P P **10 12 11.1 +0.6**
ERON **Agron** 40.38 290 P P **10 12 11.6 +0.2**
comp=Z,16nm,0.9s,mb4.8
ERON **Agron** 40.38 290 P P **10 12 10.9 -0.5**
comp=Z,16nm,0.9s,mb4.8,SNR=9.5
EDI **Edinburgh** 40.40 319⇑*i*P P **10 12 11.8 +0.4**
EDI AMb AMB 10 12 13.8
comp=Z,197nm,1.5s,mb5.6
EAU **Auchinoon** 40.53 319⇑*i*P P **10 12 12.6 +0.1**
EAU AMb AMB 10 12 20.1
comp=Z,184nm,2.0s,mb5.4
SHL **Shillong** 40.55 89 *e*P P **10 12 13.0 0.0**
SHL *e*S S **10 18 21.0 +1.7**
MME1 **Meikle Cairn** 40.62 321⇑*i*P P **10 12 13.4 +0.2**
ELOJ **Sierra Loja** 40.62 290 P P **10 12 13.3 -0.1**
comp=Z,6.4nm,0.6s,mb4.4
ELOJ **Sierra Loja** 40.62 290 P P **10 12 13.3 -0.2**
comp=Z,6.4nm,0.6s,mb4.5,SNR=7.1
ELUQ **Luque** 40.64 291 P P **10 12 12.9 -0.7**
comp=Z,1.8nm,0.3s,mb4.2,SNR=6.9
EARI **Arriondas** 40.69 299 P P **10 12 14.6 +0.7**
comp=Z,26nm,0.8s,mb4.9
EARI **Arriondas** 40.69 299 P P **10 12 14.6 +0.6**
comp=Z,26nm,0.8s,mb4.9
EADA **Adamuz** 40.79 292 P P **10 12 15.9 +1.1**
comp=Z,160nm,1.7s,mb5.4
EADA **Adamuz** 40.79 292 P P **10 12 14.0 -0.8**
comp=Z,160nm,1.7s,mb5.4,SNR=9.9
MCD **Coleburn Disti** 40.83 321⇑*i*P P **10 12 15.4 +0.5**
PCOU **Corrie** 40.92 319⇑*i*P P **10 12 16.0 +0.3**
PCA1 **Carrot** 40.94 318⇑*i*P P **10 12 16.4 +0.6**
POB1 **Observatory** 41.07 319 *e*P P **10 12 17.5 +0.6**
EAB **Aberfoyle** 41.09 319⇑*i*P P **10 12 16.9 -0.1**
EAB AMb AMB 10 12 18.2
comp=Z,87nm,1.4s,mb5.2
EMIJ **Mijas** 41.22 289 P P **10 12 18.1 -0.3**
comp=Z,96nm,1.3s,mb5.3
EMIJ **Mijas** 41.22 289 P P **10 12 18.1 -0.3**
comp=Z,96nm,1.3s,mb5.3
TZK **Tazeka** 41.28 285 *e*P P **10 12 16.5 -2.4**
MDO **Dochfour** 41.38 321⇑*e*P P **10 12 19.6 +0.1**
MVH1 **Achvaich** 41.40 322⇑*e*P P **10 12 19.5 -0.1**
LIJA **Lijar** 41.65 290 *i*P P **10 12 21.8 -0.1**
DLF **Lyons Farm** 41.87 315 *e*P P **10 12 22.6 -0.8**
DKH **Dar Kharkhour** 41.91 288 *i*P P **10 12 22.5 -1.5**
ECAL **Calabor** 41.93 298 P P **10 12 23.0 -1.2**
comp=Z,392nm,2.8s,mb5.5
ECAL **Calabor** 41.93 298 P P **10 12 23.0 -1.1**
comp=Z,392nm,2.8s,mb5.5
PBRG **Braganca** 41.95 297 *e*P P **10 12 25.1 +0.8**
comp=Z,52nm,2.1s,mb4.8
PBRG *i* - 10 12 30.3
PBRG Braganca 41.95 297 *e*P P **10 12 25.3 +1.0**
ESPR **Espera** 42.02 290 P P **10 12 23.9 -1.0**
comp=Z,7.2nm,0.2s,mb4.9,SNR=5.2
DMUB **Kingscourt** 42.16 315 *e*P P **10 12 24.0 -1.9**
ERUA **La Rua** 42.19 298 P P **10 12 25.6 -0.7**
comp=Z,16nm,1.0s,mb4.6
ERUA **La Rua** 42.19 298 P P **10 12 25.6 -0.6**
comp=Z,16nm,1.0s,mb4.6
DCN **Croghan** 42.32 315 *e*P P **10 12 24.1 -3.0**
EMIN **Mina Concepcio** 42.49 291 P P **10 12 26.5 -2.2**
comp=Z,257nm,2.6s,mb5.4
EMIN **Mina Concepcio** 42.49 291 P P **10 12 27.6 -1.2**
comp=Z,257nm,2.6s,mb5.4,SNR=5.9
EBAD **Badajoz** 42.58 293 P P **10 12 28.1 -1.4**
EBAD **Badajoz** 42.58 293 P P **10 12 28.1 -1.4**
SNR=7.9
MTE **Manteigas** 42.73 295 *e*P P **10 12 29.5 -1.2**
PVRL **Vila Real** 42.74 297 *e*P P **10 12 31.8 +1.0**
PCBR **Castelo Branco** 42.76 295 *e*P P **10 12 31.8 +0.8**
comp=Z,49nm,1.1s,mb5.2
PCBR *i* - 10 12 37.1
ELOB **Lobios** 42.92 298 P P **10 12 32.2 -0.1**
comp=Z,294nm,2.2s,mb5.6
PVIS **Viseu** 42.95 296 *e*P P **10 12 34.2 +1.7**
comp=Z,71nm,1.7s,mb5.1
PVIS **Viseu** 42.95 296 *e*P P **10 12 34.1 +1.6**
PALC **Alcoutim** 43.17 291 *e*P P **10 12 34.9 +0.6**
comp=Z,21nm,1.1s,mb4.8
PALC *i* - 10 12 41.8
PALC **Alcoutim** 43.17 291 *e*P P **10 12 34.8 +0.5**
GTA **Gaotai** 43.29 66 P P **10 12 36.4 +1.1**
GTA AP pP 10 12 49.1 +2.7
GTA XP sP 10 12 54.9 +3.8
GTA PCS 10 18 14.5
GTA AMB AMB
comp=Z,51nm,1.0s,mb5.2
GTA AMB AMB
comp=Z,140nm,8.0s
EVO **Evora** 43.39 293 *e*P P **10 12 37.3 +1.2**
comp=Z,12nm,0.9s,mb4.3
EVO *e*R
comp=Z,145nm,20.5s
MOY **Mondy** 43.40 48 *e*P P **10 12 37.6 +1.6**
EMAZ **Mazaricos** 43.47 299 P P **10 12 35.6 -1.1**
comp=Z,636nm,3.1s
PTOM **Tomar** 43.51 294 *e*P P **10 12 38.4 +1.4**
PTOM *i* - 10 12 43.5
PTOM **Tomar** 43.51 294 *e*P P **10 12 38.3 +1.3**
ZAK **Zakamensk** 44.82 50 *e*P P **10 12 47.6 +0.2**
ZAK *e* 10 14 25.0
OUK **Oukaimeden** 45.05 283 *i*P P **10 12 47.0 -2.5**
SONM **Songino Array** 46.98 53 P P **10 13 04.8 +0.2**
comp=Z,4.4nm,0.7s,mb4.5,baz=284,slow=9.5,SNR=27
SONM PcP PcP 10 14 36.8 -0.2
comp=Z,4.0nm,0.8s,baz=263,slow=3.6,SNR=7.2
LZH **Lanzhou** 47.11 70 ⇑P P **10 13 06.4 +0.6**
LZH PP PP 10 14 57.0 +0.8
LZH AMB AMB
comp=Z,52nm,1.1s,mb5.4
LZH AMB AMB
comp=Z,190nm,4.0s
LZH LR LR
comp=E,2μm,12.2s
LZH LR LR
comp=Z,2μm,14.0s,MS5.2
JMIC **Jan Mayen** 47.36 339 LR LR 10 33 57.1
comp=Z,149nm,20.1s,MS4.0,baz=92,slow=37
CD2 **Chengdu** 48.53 76⇓*i*P P **10 13 17.0 +0.1**
CD2 AMB AMB
comp=Z,30nm,1.0s,mb5.3
CHG **Chiang Mai** 49.34 93 ⇑P P **10 13 22.5 -0.8**
comp=Z,61nm,0.9s,mb5.6
CM31 **Chiang Mai Arr** 49.50 94 *e*P P **10 13 23.5 -1.1**
comp=Z,41nm,0.6s,mb5.6
CMAR **Chiang Mai Arr** 49.50 94 P P **10 13 23.4 -1.1**
comp=Z,41nm,0.6s,mb5.6,baz=291,slow=8.4,SNR=192
CMAR PcP PcP 10 14 46.9 +0.4
comp=Z,9.0nm,0.8s,baz=292,slow=5.1,SNR=8.6
CMAR PP PP 10 15 19.2 -0.2
comp=Z,13nm,1.2s,baz=298,slow=9.8,SNR=5.7
CMAR LR LR 10 36 25.8
comp=Z,82nm,19.9s,MS3.7,baz=305,slow=39
CMAR **Chiang Mai Arr** 49.50 94 P P **10 13 23.4 -1.2**
CMAR 10 14 46.9
CMAR 10 15 19.2
CMAR pmax pmax
comp=Z,41nm,0.6s
CMAR pmax pmax
comp=Z,9.0nm,0.8s
CMAR pmax pmax
comp=Z,13nm,1.2s
CMAR MLR MLR
comp=Z,82nm,19.9s
KMI **Kunming** 49.78 84 *e*P P **10 13 26.0 -0.6**
KMI S S **10 20 30.6 -1.4**
KMI AMB AMB
comp=Z,44nm,0.9s,mb5.5
BDT **Bhumibol Dam** 50.14 95 P P **10 13 29.0 -0.4**
comp=Z,29nm,0.6s,mb5.5
BORG **Borgarnes** 50.65 329 LR LR 10 35 49.5
comp=Z,104nm,18.8s,MS3.9,baz=328,slow=37
NANT **Nan** 50.81 92 ⇑P P **10 13 32.5 -2.1**
comp=Z,131nm,0.7s,mb6.0
BOD **Bodaibo** 50.98 40 *e*P P **10 13 33.7 -1.6**
BOD *e* 10 13 39.7
XAN **Xi'an** 51.68 71 P P **10 13 40.3 -0.6**
XAN AMB AMB
comp=Z,83nm,0.7s,mb5.8
NST **Nakhon Sawan** 51.85 96 P P **10 13 41.5 -0.9**
comp=Z,50nm,0.7s,mb5.5
DAG **Danmarks Havn** 51.97 345⇓*i*P P **10 13 42.2 -0.3**
comp=Z,4.0nm,0.6s,mb4.5
GYA **Guiyang** 52.51 80⇑*i*P P **10 13 46.3 -0.9**
GYA AP pP 10 13 57.6 -0.8
GYA XP sP 10 14 03.3 +0.2
GYA S S **10 21 05.6 -3.9**
GYA AMB AMB
comp=Z,60nm,0.7s,mb5.6
GYA AMB AMB
comp=Z,190nm,6.0s
NNT **Nongplab** 53.12 100 P P **10 13 51.2 -0.7**
ENH **Enshi** 53.39 75 *e*P P **10 13 52.5 -1.2**
comp=Z,8.5nm,0.5s,mb4.9
ENH LR LR
comp=Z,298nm,22.0s,MS4.3
DBIC **Dimbokro** 53.89 252 P P **10 13 57.9 +0.2**
comp=Z,8.9nm,0.7s,mb4.8,baz=35,slow=7.9,SNR=16
DBIC PcP PcP 10 15 03.4 +0.6
comp=Z,6.5nm,0.7s,baz=44,slow=6.2,SNR=3.0
DBIC LR LR 10 39 51.0
comp=Z,284nm,18.2s,MS4.4,baz=29,slow=39
DBIC **Dimbokro** 53.89 252 P P **10 13 57.9 +0.2**
DBIC 10 15 03.4
DBIC pmax pmax
comp=Z,9.0nm,0.7s
DBIC pmax pmax
comp=Z,7.0nm,0.7s
DBIC MLR MLR
comp=Z,284nm,18.2s
DBIC **Dimbokro** 53.89 252 *e*P P **10 13 57.3 -0.4**
comp=Z,17nm,0.9s,mb5.0
DBIC LR LR
comp=Z,365nm,20.0s,MS4.4
KIC **Kosan Boka** 53.99 252 *e*P P **10 13 58.6 +0.2**
comp=Z,240nm,1.3s,mb6.0
TIC **Toumodi** 54.04 252 *e*P P **10 13 58.8 +0.1**
comp=Z,90nm,1.0s,mb5.7
LIC **Lamto** 54.30 252 *e*P P **10 14 00.7 +0.1**
comp=Z,66nm,0.8s,mb5.6
BJI **Beijing** 55.42 61 P P **10 14 07.4 -1.1**
BJI AMB AMB
comp=Z,33nm,0.7s,mb5.5
BJT **Baijiatuau** 55.43 61 *e*P P **10 14 07.5 -1.0**
comp=Z,21nm,0.7s,mb5.3
HIA **Hailar** 55.52 50 *e*P P **10 14 08.3 -0.7**
comp=Z,15nm,0.7s,mb5.1
TIXI **Tiksi** 56.49 22⇓*e*P P **10 14 13.2 -2.5**
TIXI *e* 10 16 16.0
TIXI pmax pmax
comp=Z,13nm,1.5s,mb4.7
TIXI MLR MLR
comp=Z,200nm,15.0s,MS4.3
TIXI **Tiksi** 56.49 22⇓*e*P P **10 14 13.2 -2.5**
comp=Z,13nm,1.5s,mb4.7
TIXI *e* 10 16 16.0
TIXI LR LR
comp=Z,200nm,15.0s,MS4.3
SUMG **Summit** 56.81 339 *e*P P **10 14 17.9 -0.1**
comp=Z,20nm,0.8s,mb5.2
SNG **Songkhla** 56.84 105 P P **10 14 17.0 -2.0**
CLNS **Chul'man** 56.96 40 *e*P P **10 14 15.9 -3.3**
CLNS pmax pmax
comp=Z,13nm,0.9s,mb5.0
CLNS pmax pmax
comp=N,4.0nm,1.0s
CLNS pmax pmax
comp=E,8.0nm,1.0s
CLNS MLR MLR

comp=Z,200nm,13.0s,MS4.4
CLNS MLR MLR
comp=N,200nm,12.0s,MS4.4
CLNS MLR MLR
comp=E,40nm,12.0s,MS4.4
WHN Wuhan 57.20 73 *e*P **P 10 14 21.0 -0.3**
TIA Tai'an 57.34 65 *e*P **P 10 14 20.8 -1.5**
TIA AMB AMB
comp=Z,49nm,1.0s,mb5.5
YAK Yakutsk 58.28 33 *e*P **P 10 14 25.9 -2.6**
YAK pmax pmax
comp=Z,14nm,1.0s,mb5.0
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK pmax pmax
comp=E,9.0nm,1.3s
YAK Yakutsk 58.28 33 *e*P **P 10 14 25.9 -2.6**
comp=E,14nm,1.0s,mb5.0
QIZ Qiongzhong 58.35 87 P **P 10 14 27.9 -1.6**
QIZ *e*S **S 10 22 28.6 +1.1**
QIZ AMB AMB
comp=Z,36nm,1.1s,mb5.3
QIZ Qiongzhong 58.35 87 P **P 10 14 27.9 -1.6**
comp=Z,36nm,1.1s,mb5.3
QIZ *e*S **S 10 22 28.6 +1.1**
IPM Ipoh 58.68 107⇓*e*P **P 10 14 31.0 -0.9**
TSUM Tsumeb 58.87 212 *e*P **P 10 14 34.0 +0.9**
comp=Z,15nm,1.0s,mb5.0
DL2 Dalian 59.78 61 P **P 10 14 38.3 -0.9**
DL2 AMB AMB
comp=Z,60nm,0.8s,mb5.7
NJ2 Nanjing 60.19 69 *e*P **P 10 14 40.9 -1.2**
NJ2 AP pP 10 14 53.1 -0.4
NJ2 XP sP 10 14 59.1 +1.1
NJ2 PP PP 10 16 56.3 -0.6
NJ2 S **S 10 22 52.0 +0.8**
NJ2 XS 10 23 14.0
NJ2 AMB AMB
comp=Z,90nm,0.7s,mb5.9
NJ2 LR LR
comp=N,720nm,19.2s,MS5.2
NJ2 LR LR
comp=E,1μm,15.4s,MS5.2
NJ2 LR LR
comp=Z,2μm,14.2s
CN2 Changchun 60.83 55 *e*P **P 10 14 45.4 -0.9**
CN2 *e*AP pP 10 14 58.5 +0.8
CN2 *e*S **S 10 22 56.5 -2.7**
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
CN2 LR LR
comp=N,300nm,17.0s,MS4.6
CN2 LR LR
comp=E,200nm,17.0s,MS4.6
SSE Sheshan 62.39 69 P **P 10 14 56.6 -0.3**
SSE XP sP 10 15 13.3 +0.4
SSE S **S 10 23 19.4 +0.2**
SSE AMB AMB
comp=Z,59nm,0.8s,mb5.8
SSE AMB AMB
comp=Z,188nm,3.8s
SSE LR LR
comp=N,378nm,12.8s,MS5.1
SSE LR LR
comp=E,671nm,12.8s,MS5.1
SSE LR LR
comp=Z,869nm,10.6s,MS5.2
MDJ Mudanjiang 63.33 53 P **P 10 15 02.0 -1.0**
MDJ AP pP 10 15 12.5 -2.0
MDJ XP sP 10 15 18.1 -0.9
MDJ PP PP 10 17 24.3 +0.3
MDJ S **S 10 23 29.6 -1.2**
MDJ XS 10 23 59.3
MDJ AMB AMB
comp=Z,92nm,4.5s
MDJ Mudanjiang 63.33 53 PFAKE 10 15 10.0 +7.0
MDJ LR LR
comp=Z,317nm,19.0s,MS4.5
BOSA Boshof 64.70 200 *e*P **P 10 15 12.9 +0.8**
comp=Z,20nm,0.6s,mb5.3
KS15 Wonju Array Si 64.90 61 *e*P **P 10 15 11.7 -1.6**
SCHQ Schefferville 74.92 326 P **P 10 16 14.3 +0.3**
comp=Z,9.7nm,0.7s,mb4.9,baz=60,slow=5.1,SNR=13
SCHQ Schefferville 74.92 326 P **P 10 16 14.3 +0.3**
INK Inuvik 78.60 360 LR LR 10 54 55.6
comp=Z,86nm,18.0s,MS4.1,baz=354,slow=38
INK Inuvik 78.60 360 *e*P **P 10 16 34.1 -0.3**
comp=Z,21nm,1.3s,mb4.9
IMA Indian Mountai 79.70 8 *e*P **P 10 16 42.3 +1.9**
comp=Z,16nm,0.7s,mb5.1
COLA College 81.46 6 *e*P **P 10 16 50.8 +1.1**
COLA pmax pmax
comp=Z,43nm,0.8s,mb5.4
COLA College 81.46 6 *e*P **P 10 16 50.8 +1.1**
comp=Z,43nm,0.8s,mb5.4
ILAR Eielson Array 81.64 5 P **P 10 16 51.4 +0.8**
comp=Z,11nm,0.7s,mb4.9,baz=315,slow=3.7,SNR=109
ILAR PP PP 10 19 56.5 -3.1
comp=Z,1.7nm,1.1s,baz=353,slow=7.3,SNR=3.7
ILAR PKKPbc 10 35 23.3
comp=Z,0.8nm,0.7s,baz=196,slow=2.5,SNR=13
ILAR LR LR 10 54 10.8
comp=Z,61nm,19.2s,MS4.0,baz=179,slow=36
ILAR Eielson Array 81.64 5 P **P 10 16 51.4 +0.8**
ILAR 10 19 56.5
ILAR pmax pmax
comp=Z,11nm,0.7s
ILAR pmax pmax
comp=Z,2.0nm,1.1s
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR MLR MLR
comp=Z,61nm,19.2s
MCK McKinley 82.48 7 *e*P **P 10 16 55.4 +0.4**
comp=Z,20nm,1.3s,mb4.9
DAWY Dawson 82.77 2 *e*P **P 10 16 57.1 +0.7**
THY Trims Highway 83.06 5 *e*P **P 10 16 58.6 +0.7**
YKA Yellowknife Ar 83.15 351 P **P 10 16 59.2 +0.8**
comp=Z,8.2nm,0.7s,mb4.9,baz=22,slow=5.8,SNR=28
YKA LR LR 10 59 42.7
comp=Z,85nm,18.5s,MS4.2,baz=15,slow=40
SML Sawmill 84.43 7 *e*P **P 10 17 05.7 +0.9**
PMR Palmer 84.56 7 *e*P **P 10 17 07.2 +1.7**
comp=Z,42nm,1.3s,mb5.4
MIV Mineville/With 85.19 321 *e*P **P 10 17 10.7 +1.6**
DIV Divide 85.33 6 *e*P **P 10 17 11.1 +1.8**
LOZ Lake Ozonia 85.36 322 *e*P **P 10 17 10.6 +0.7**
EYAK Cordova Ski Ar 85.90 6 *e*P **P 10 17 13.5 +1.4**
KDAK Kodiak Island 87.84 10 *e*P **P 10 17 23.1 +1.5**
comp=Z,73nm,1.3s,mb5.8
FFC Flin Flon 87.96 342 *e*P **P 10 17 23.0 +0.7**
comp=Z,12nm,1.0s,mb5.1
ULM Lac du Bonnet 90.09 337 LR LR 10 58 36.4
comp=Z,115nm,18.3s,MS4.3,baz=339,slow=36
FITZ Fitzroy Crossi 91.61 111 *e*P **P 10 17 40.7 +0.4**
comp=Z,7.6nm,0.8s,mb5.1
FITZ Fitzroy Crossi 91.61 111 P **P 10 17 40.8 +0.6**
comp=Z,9.8nm,0.8s,mb5.2,baz=221,slow=0.9,SNR=13
ACSO Alum Creek Sta 92.82 323 *e*P **P 10 17 46.1 +0.8**
comp=Z,13nm,0.6s,mb5.5
KAKA Kakadu 94.04 102 *e*P **P 10 17 56.9 +5.5**
comp=Z,14nm,0.5s,mb5.7
NWAO Narrogin (SRO) 94.11 127 P **P 10 17 52.0 +0.7**
comp=Z,7.8nm,0.9s,mb5.1,baz=187,slow=5.2,SNR=2.6
NWAO Narrogin (SRO) 94.11 127 P **P 10 17 52.1 +0.7**
NWAO pmax pmax
comp=Z,8.0nm,0.9s
WRA Warramunga Arr 99.49 108 P **P 10 18 15.9 -0.2**
comp=Z,1.6nm,0.5s,mb4.8,baz=316,slow=4.1,SNR=61
WRA PP PP 10 22 21.2 -1.1
comp=Z,1.9nm,0.9s,baz=308,slow=7.4,SNR=7.1
WRA PKKPbc 10 34 39.2
comp=Z,0.3nm,1.0s,baz=119,slow=2.9,SNR=6.0
WRA Warramunga Arr 99.49 108 P **P 10 18 15.9 -0.2**
WRA 10 22 21.2
WRA pmax pmax
comp=Z,2.0nm,0.5s
WRA pmax pmax
comp=Z,2.0nm,0.9s
WB2 Warramunga Arr 99.50 108 *e*P **P 10 18 16.1 0.0**
PDAR Pinedale Array 100.92 342 P P 10 18 23.0 +1.0
comp=Z,0.3nm,0.7s,baz=45,slow=6.3,SNR=3.1
PDAR PP PP 10 22 26.2 -7.0
comp=Z,0.5nm,0.9s,baz=56,slow=9.8,SNR=2.7
ASAR Alice Springs 101.10 111 P P 10 18 22.8 -0.5
comp=Z,1.3nm,0.6s,baz=305,slow=4.5,SNR=26
ASAR PP PP 10 22 30.4 -4.6
comp=Z,1.6nm,0.9s,baz=307,slow=7.6,SNR=6.3
ASAR PKKPbc 10 34 35.0
comp=Z,0.4nm,0.6s,baz=117,slow=3.8,SNR=8.2
NVAR Mina Array Bea 107.03 347 PKiKP 10 23 01.6
comp=Z,0.8nm,0.7s,baz=54,slow=2.2,SNR=5.0
NVAR PP PP 10 23 16.2 -3.0
comp=Z,0.7nm,0.8s,baz=28,slow=4.0,SNR=4.2
NVAR PKKPbc 10 34 17.3
comp=Z,0.4nm,0.6s,baz=212,slow=7.4,SNR=5.2
TXAR Lajitas Array 111.25 332 PKiKP 10 23 08.2
comp=Z,0.3nm,0.7s,baz=135,slow=1.8,SNR=3.8
TXAR PP PP 10 23 41.9 -8.1
comp=Z,0.5nm,0.8s,baz=34,slow=4.5,SNR=4.7
VNDA Vanda 127.92 166 PKP PKPdf 10 23 37.8 +1.2
comp=Z,0.8nm,0.8s,baz=300,slow=1.7,SNR=3.0
VNDA Vanda 127.92 166 PKIKP PKPdf 10 23 37.8 +1.2
VNDA pmax pmax
comp=Z,1.0nm,0.8s

JMA 16 10:05:18.1±0.2**, 44.11N**×**148.21E, M3.6, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.94**	**248**	P	Pn	10 05 53.0	+0.4
NEM2				*e*S	Sn	10 06 18.2	+0.2
JRA	**Rausu**	**2.23**	**267**	P	Pn	10 05 57.1	+0.2
JNK	**Nakash**	**2.58**	**259**	P	Pn	10 06 02.3	+0.5
JNK				*e*S	Sn	10 06 33.8	-0.5
JAK	**Akkeshi**	**2.79**	**248**	P	Pn	10 06 04.8	0.0
JAK				*e*S	Sn	10 06 39.2	-0.4
JAR	**Ashorobuto**	**3.32**	**257**	P	Pn	10 06 13.4	+1.0
JAR				*e*S	Sn	10 06 53.9	+0.8
JCH	**Churui**	**3.84**	**249**	P	Pn	10 06 20.0	+0.3
JCH				*e*S	Sn	10 07 06.1	-0.1
JNBK	**Urakawa-nobuka**	**4.39**	**247**	P	Pn	10 06 27.9	+0.4
JNBK				*e*S	Sn	10 07 20.1	-0.1
JANG	**Nango**	**6.21**	**235**	*e*S	Sn	10 08 01.5	-4.6

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*NEIC **16** 10:13:14.6±3.2, 20.97S×178.65W, h543km±37km, mb4.3/11, Error ellipse: s-maj=19.7km s-min=13.5km az=218.0*
*IDC **16** 10:13:15.9±4.0, 20.93S×178.68W, h556km±45km, mb3.4/13, mb1 3.6/14, mb1mx3.5/18, Error ellipse: s-maj=22.1km s-min=18.4km az=30.0*
ISC 16 10:13:13.0±4.2**, 21.0S**±0.1×**178.7W**±0.1**, h534**km±51km**, n35, σ0.77**/29**, mb4.0**/20**, Fiji Islands region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
URZ Urewera 17.59 191 P **P 10 16 46.2 -1.5**
1.8nm,0.3s,baz=338,slow=4.5,SNR=8.9
RPZ Rata Peaks 24.22 198 P **P 10 17 48.8 -0.2**
13nm,1.0s,mb4.5,baz=8.8,slow=7.0,SNR=4.1
CTA Charters Tower 32.81 265 *e*P **P 10 19 04.6 +0.9**
7.8nm,0.4s,mb4.6
CTA Charters Tower 32.81 265 P **P 10 19 04.5 +0.9**
11nm,0.5s,mb4.6,baz=93,slow=11,SNR=36
CTAO Charters Tower 32.81 265 *e*P **P 10 19 04.5 +0.8**
10nm,0.5s,mb4.6
PMG Port Moresby 34.84 284 P **P 10 19 21.5 +0.8**
4.8nm,0.5s,mb4.3,baz=67,slow=18,SNR=4.4
TOO Toolangi 35.09 234 *e*P **P 10 19 23.8 +1.2**
1.8nm,0.7s,mb3.7
STKA Stephens Creek 37.00 245 *e*P **P 10 19 39.3 +0.9**
2.6nm,0.9s,mb3.8
STKA Stephens Creek 37.00 245 P **P 10 19 39.2 +0.9**
4.0nm,0.9s,mb3.9,baz=114,slow=9.7,SNR=7.5
ASAR Alice Springs 43.79 257 P **P 10 20 33.1 +0.2**
4.0nm,0.5s,mb4.2,baz=96,slow=7.9,SNR=76
ASAR PcP PcP 10 22 07.7 -0.5
1.7nm,0.7s,baz=104,slow=3.9,SNR=12
ASPA Alice Springs 43.79 257 *e*P **P 10 20 33.1 +0.2**
WB2 Warramunga Arr 43.90 263 *e*P **P 10 20 33.3 -0.5**
WRAB Tennant Creek 43.90 263 *e*P **P 10 20 33.4 -0.4**
12nm,0.9s,mb4.4
WRA Warramunga Arr 43.91 263 P **P 10 20 33.5 -0.4**
2.2nm,0.4s,mb4.0,baz=97,slow=7.5,SNR=76
KAKA Kakadu 47.39 272 *e*P **P 10 21 05.3 +4.6**
4.7nm,0.3s,mb4.5
FORT Forrest 48.52 247 *e*P **P 10 21 08.6 -0.5**
21nm,0.5s,mb4.9
FITZ Fitzroy Crossi 52.34 263 *e*P **P 10 21 36.9 -0.3**
1.2nm,0.3s,mb3.7
FITZ Fitzroy Crossi 52.34 263 P **P 10 21 37.3 0.0**
1.9nm,0.4s,mb3.8,baz=221,slow=4.2,SNR=12
MBWA Marble Bar 57.13 258 *e*P **P 10 22 09.8 -0.9**
4.2nm,0.5s,mb3.9
SBA Scott Base 57.34 184 *e*P **P 10 22 12.2 +0.8**
1.6nm,0.8s,mb3.3
VNDA Vanda 57.36 185 P **P 10 22 11.9 +0.3**
0.4nm,0.5s,mb2.9,baz=343,slow=7.1,SNR=8.3
VNDA Vanda 57.36 185 *e*P **P 10 22 11.3 -0.3**
0.5nm,0.7s,mb2.9
QSPA South Pole Qui 69.07 180 *e*P **P 10 23 26.5 +0.3**
24nm,1.4s,mb4.5
NVAR Mina Array Bea 81.82 44 P **P 10 24 37.5 +0.3**
0.7nm,0.6s,mb3.3,baz=215,slow=7.0,SNR=5.9
NVAR Mina Array Bea 81.82 44 P **P 10 24 37.5 +0.3**
TXAR Lajitas Array 87.86 58 P **P 10 25 07.8 +1.1**
0.9nm,1.1s,mb3.4,baz=207,slow=5.6,SNR=4.4
ILAR Eielson Array 88.94 13 P **P 10 25 09.6 -1.3**
0.8nm,0.7s,mb3.6,baz=224,slow=5.8,SNR=9.1
CMAR Chiang Mai Arr 89.68 290 P **P 10 25 14.2 -1.2**
1.2nm,0.4s,mb4.1,baz=153,slow=2.0,SNR=4.8
PDAR Pinedale Array 89.76 43 P **P 10 25 15.3 +0.1**
0.8nm,0.6s,mb3.7,baz=212,slow=2.3,SNR=7.7
FINES FINESS Array B 136.06 343 PKP PKPdf 10 31 34.5 +1.8
2.7nm,1.0s,baz=45,slow=2.0,SNR=3.7
AKASG Malin Array Be 143.13 330 PKhKP 10 31 43.7
4.6nm,0.5s,baz=41,slow=4.3,SNR=33
ASF Jabal al Asfar 146.44 297 PKPbc PKPbc 10 31 54.1 +0.4
1.3nm,0.3s,baz=316,slow=6.1,SNR=3.9
BRTR Keskin Array B 146.70 311 PKPbc PKPbc 10 31 55.5 +1.4
1.6nm,0.6s,baz=132,slow=4.2,SNR=8.1
CLL Collm 148.39 346 *i* PKP1 PKPdf 10 31 59.9 +5.6
CLL *i* PKP2 PKPab 10 32 04.9 -1.4
GERES GERESS Array B 150.50 343 PKPbc PKPdf 10 32 04.5 +6.7
3.9nm,1.1s,baz=63,slow=3.0,SNR=11

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*NEIC **16** 10:32:10.9±0.6, 2.42N×126.82E, h10km, mb4.3/3, Error ellipse: s-maj=39.7km s-min=8.4km az=67.0*
*IDC **16** 10:32:15.5±3.8, 2.34N×126.68E, h42km±34km, mb3.7/9, mb1 3.9/9, mb1mx3.8/16, MS3.3/1, Ms1 3.3/1, ms1mx2.5/20, Error ellipse: s-maj=65.4km s-min=13.3km az=66.0*
ISC 16 10:32:12.6±0.8**, 2.4N**±0.2×**126.7E**±0.3**, h33**km**, n16, σ0.68**/16**, mb4.0**/10**, MS3.2**/1**, Northern Molucca Sea**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
FITZ Fitzroy Crossi 20.38 183 *e*P **P 10 36 49.8 +0.4**
2.2nm,0.4s
FITZ Fitzroy Crossi 20.38 183 P **P 10 36 48.5 -0.9**
1.0nm,0.4s,baz=20,slow=12,SNR=4.2
WRAB Tennant Creek 23.43 162 *e*P **P 10 37 19.7 -0.2**
6.1nm,0.8s,mb4.1
WRA Warramunga Arr 23.43 162 P **P 10 37 19.4 -0.6**
2.4nm,0.7s,mb3.8,baz=338,slow=11,SNR=22
WRA S **S 10 41 31.4 +4.0**
0.8nm,0.8s,baz=333,slow=20,SNR=4.6
WB2 Warramunga Arr 23.44 162 *e*P **P 10 37 20.9 +0.9**
ASAR Alice Springs 26.84 165 P **P 10 37 51.5 -0.8**
0.6nm,0.6s,mb3.3,baz=350,slow=7.0,SNR=7.9
CTA Charters Tower 29.47 140 LR LR 10 50 15.0
comp=Z,58nm,18.8s,MS3.2,baz=99,slow=37
CMAR Chiang Mai Arr 31.51 302 P **P 10 38 34.1 0.0**
3.8nm,0.9s,mb4.2,baz=116,slow=6.9,SNR=18
STKA Stephens Creek 36.91 159 P **P 10 39 20.8 +0.5**
3.7nm,0.8s,mb4.3,baz=332,slow=5.7,SNR=8.5
STKA Stephens Creek 36.91 159 *e*P **P 10 39 19.3 -1.0**
SONM Songino Array 48.54 342 P **P 10 40 54.9 +0.3**
1.1nm,0.7s,mb4.0,baz=158,slow=7.7,SNR=6.6
KURK Kurchatov 62.83 328 *e*P **P 10 42 36.8 -0.6**
6.9nm,0.6s,mb5.0
BVAR Borovoye Array 68.41 327 P **P 10 43 12.7 -0.4**
1.0nm,0.6s,mb4.0,baz=135,slow=8.4,SNR=5.4
BRVK Borovoye 68.48 327 *e*P **P 10 43 13.2 -0.3**
VNDA Vanda 82.11 173 P **P 10 44 32.1 +1.2**
0.7nm,0.8s,mb3.6,baz=334,slow=4.7,SNR=4.6
BRTR Keskin Array B 90.82 310 P **P 10 45 15.1 +0.8**
0.4nm,0.4s,mb4.1,baz=106,slow=9.0,SNR=4.2

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*NIED **16** 10:41:00, 30.10N×131.30E, h26km, Mw4.6 Best double couple: $M_0$7.74×10[15] NP1:ϕ_s17°, δ64°, λ77°. NP2:ϕ_s225°, δ29°, λ115°.*
*JMA **16** 10:41:04.9±0.1, 30.08N×131.31E, h35km±1km, M4.3*
*IDC **16** 10:41:06.8±0.6, 30.20N×131.05E, h32km±4km, mb4.0/17, mb1 4.1/18, mb1mx4.1/23, ML3.7/1, MS4.0/7, Ms1 4.0/7, ms1mx3.5/24, Error ellipse: s-maj=19.5km s-min=11.9km az=89.0*
*BJI **16** 10:41:07.4, 30.20N×131.10E, h40km, mB4.8, mb4.4, Ms4.1, Msz4.0*
*NEIC **16** 10:41:07.4±0.8, 30.16N×131.11E, h40km±7km, mb4.4/7, Error ellipse: s-maj=8.6km s-min=6.3km az=99.0*
ISC 16 10:41:04.3±0.4**, 30.06N**±0.03×**131.28E**±0.05**, h33**km**, h33**km±.8km**: pP-P, n59, σ1.16**/65**, mb4.3**/28**, MS4.1**/7**, 8C-2D, Kyushu**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JTN Tanegashima 3 0.65 336 ⇓P **Pn 10 41 17.4 +0.2**
JTN S **Sb 10 41 26.2 +0.1**
JKC Kuchinoerabu 1.02 293 ⇑P **Pn 10 41 23.7 +1.1**
JKC S **Sn 10 41 37.5 +1.6**
JTSR Tashiro 2 1.15 344 ⇑P **Pn 10 41 24.9 +0.5**
JTSR *e*S **Sn 10 41 40.2 +1.2**
JNN Nakanoshima 1.24 260 P **Pn 10 41 27.1 +1.4**
JNAR Kushima--Naru 1.46 360 ⇑P **Pn 10 41 29.8 +0.9**
JNAR *e*S **Sn 10 41 47.8 +0.7**
JSU Suzuyama 1.61 334 ⇑P **Pn 10 41 31.4 +0.4**
JSU *e*S **Sn 10 41 52.0 +1.2**
JTZ Takazaki 1.84 355 ⇑P **Pn 10 41 35.1 +0.8**
JTZ *e*S **Sn 10 41 57.4 +0.7**
JZK Kikaishima 2.08 214 *e*S **Sn 10 42 04.6 +1.8**
JSJ Shimokoshiki 2.10 321 ⇑P **Pn 10 41 37.6 -0.4**
JSJ *e*S **Sn 10 42 03.3 0.0**
JZO Okuchi 2.16 344 ⇑P **Pn 10 41 39.2 +0.4**
JAM Amami Oshima 2.20 222 ⇓P **Pn 10 41 40.7 +1.3**
JOW Kunigami 4.16 220 Pn **Pn 10 42 07.9 +0.5**
9.6nm,0.3s,baz=92,slow=24,SNR=7.7
JOW Sn **Sn 10 42 53.6 -1.9**
JOW LR LR 10 44 09.6
comp=Z,1μm,18.6s,baz=316,slow=44
KS15 Wonju Array Si 7.89 340 P **Pn 10 42 59.8 0.0**
MAJO Matsushiro 8.68 40 *e*P **P 10 43 09.7 -1.1**
4.8nm,0.4s
MAT Matsushiro 8.68 40 P **P 10 43 10.1 -0.7**
MAT *e*S Sx 10 45 00.0
MAT Matsushiro 8.68 40 *e*P **P 10 43 10.0 -0.8**
MAT *e*S Sx 10 45 15.0
BJT Baijiatuau 15.85 313 *e*P **P 10 44 51.0 +4.2**
30nm,1.0s
BJI Beijing 15.86 313 P **P 10 44 51.1 +4.2**
BJI AMB AMB
comp=Z,14nm,0.9s
BJI LR LR
comp=N,625nm,14.1s
BJI LR LR
comp=E,856nm,14.1s
BJI LR LR
comp=Z,668nm,15.1s
ENH Enshi 18.85 276 *e*P **P 10 45 29.3 +5.1**
comp=Z,22nm,0.9s
HIA Hailar 21.09 339 *e*P **P 10 45 47.1 -1.2**
CD2 Chengdu 23.72 279 P **P 10 46 14.0 -0.3**
LZH Lanzhou 23.72 292 ⇑P **P 10 46 18.0 +3.7**
LZH AP 10 46 22.3
LZH AMB AMB
comp=Z,26nm,1.2s,mb4.5
LZH AMB AMB
comp=Z,92nm,4.3s
LZH LR LR
comp=E,1μm,15.1s
LZH LR LR
comp=Z,2μm,16.2s,MS4.6
SONM Songino Array 26.09 320 P **P 10 46 35.5 -1.2**
comp=Z,6.0nm,1.0s,mb4.1,baz=135,slow=9.0,SNR=22
CMAR Chiang Mai Arr 31.56 256 P **P 10 47 24.9 -1.2**
comp=Z,1.2nm,0.6s,mb3.9,baz=56,slow=9.2,SNR=6.3
CMAR LR LR 11 01 49.3
comp=Z,220nm,18.1s,MS3.9,baz=70,slow=40
GUN Gumba 39.58 278 *e*P **P 10 48 34.3 -0.1**
comp=Z,40nm,0.6s,mb5.4
PKI Pulchoki 40.07 278 *e*P **P 10 48 37.7 -0.7**
comp=Z,13nm,0.6s,mb4.9
KKN Kakani 40.12 279 *e*P **P 10 48 39.0 +0.1**
DMN Daman 40.32 278 *e*P **P 10 48 40.1 -0.4**
comp=Z,11nm,0.6s,mb4.8
GKN Gorkha 40.62 279 *e*P **P 10 48 41.6 -1.3**
comp=Z,8.8nm,0.4s,mb4.8
ZAL Zalesovo 40.99 319 P **P 10 48 44.2 -1.5**
comp=Z,5.4nm,1.2s,mb4.0,baz=14,slow=8.9,SNR=9.3
ZAL LR LR 11 07 40.2
comp=Z,293nm,18.2s,MS4.2,baz=164,slow=39
KOLN Koldanda 41.57 279 *e*P **P 10 48 49.8 -0.9**
comp=Z,9.8nm,0.5s,mb4.7
KURK Kurchatov 44.03 313 *e*P **P 10 49 09.0 -1.5**
comp=Z,1.5nm,0.6s,mb3.9
AAK Ala-Archa 46.63 302 *e*P **P 10 49 30.0 -1.3**
comp=Z,3.0nm,1.0s,mb4.2
FITZ Fitzroy Crossi 48.19 187 P **P 10 49 44.7 +0.9**
comp=Z,2.0nm,0.6s,mb4.3,baz=11,slow=11,SNR=5.1
FITZ pP pP 10 49 55.2 +1.4
comp=Z,1.6nm,0.5s,baz=17,slow=10,SNR=2.3
BVAR Borovoye Array 49.31 316 P **P 10 49 51.1 -1.0**
comp=Z,2.8nm,0.4s,mb4.7,baz=98,slow=10,SNR=21
BRVK Borovoye 49.38 316 *e*P **P 10 49 51.2 -1.4**
comp=Z,6.3nm,0.6s,mb4.8
WRA Warramunga Arr 49.80 176 P **P 10 49 57.4 +1.2**
comp=Z,1.6nm,0.8s,mb4.1,baz=355,slow=8.6,SNR=14
WB2 Warramunga Arr 49.80 176 *e*P **P 10 49 56.2 -0.1**
ASAR Alice Springs 53.48 177 P **P 10 50 25.3 +1.4**
comp=Z,1.7nm,0.8s,mb4.0,baz=3.6,slow=6.5,SNR=20
ILAR Eielson Array 59.80 29 P **P 10 51 07.9 -0.5**
comp=Z,0.2nm,0.7s,mb3.3,baz=293,slow=6.1,SNR=4.6
ILAR pP pP 10 51 17.8 -0.8
comp=Z,0.6nm,0.8s,baz=282,slow=6.4,SNR=4.5
STKA Stephens Creek 62.37 170 P **P 10 51 27.4 +1.1**
comp=Z,1.7nm,0.7s,mb4.3,baz=326,slow=3.9,SNR=6.4
STKA Stephens Creek 62.37 170 *e*P **P 10 51 27.6 +1.3**
INK Inuvik 64.31 24 P **P 10 51 38.5 0.0**
comp=Z,0.8nm,0.6s,mb4.0,baz=359,slow=10.0,SNR=3.7
INK pP pP 10 51 48.6 0.0
comp=Z,2.6nm,0.9s,baz=312,slow=6.5,SNR=3.7
INK Inuvik 64.31 24 P **P 10 51 38.5 0.0**
INK pP pP 10 51 48.6 0.0
KEV Kevo 66.87 338 *e*p **P 10 51 53.2 -1.7**
ARCES ARCESS Array B 67.44 338 P **P 10 51 57.4 -1.1**
comp=Z,5.0nm,0.9s,mb4.5,baz=63,slow=8.1,SNR=6.2
ARCES LR LR 11 26 33.6
comp=Z,145nm,18.8s,MS4.2,baz=198,slow=41
JOF Joensuu 68.01 331 *e*p **P 10 52 00.0 -2.2**
KAF Kangasniemi 70.46 331 *e*p **P 10 52 15.1 -2.1**
comp=Z,4.1nm,0.7s,mb4.5
FINES FINESS Array B 70.87 331 P **P 10 52 18.7 -0.9**
comp=Z,2.3nm,0.4s,mb4.5,baz=75,slow=6.4,SNR=34
FINES LR LR 11 26 39.7
comp=Z,114nm,18.3s,MS4.2,baz=54,slow=39
AKASG Malin Array Be 74.37 320 P **P 10 52 38.5 -1.9**
comp=Z,3.1nm,0.8s,mb4.3,baz=50,slow=5.9,SNR=5.9
BRTR Keskin Array B 76.80 308 P **P 10 52 55.1 +0.6**
comp=Z,2.3nm,0.7s,mb4.2,baz=124,slow=4.5,SNR=4.9
BRTR LR LR 11 31 31.1
comp=Z,36nm,19.7s,MS3.7,baz=315,slow=40
NB2 NORSAR Subarra 77.06 334 P **P 10 52 55.2 -0.3**
comp=Z,1.6nm,0.5s,mb4.2,baz=48,slow=5.6
NOA NORSAR Array B 77.06 334 P **P 10 52 55.5 0.0**
comp=Z,1.8nm,0.6s,mb4.2,baz=50,slow=5.6,SNR=7.8
NOA LR LR 11 32 50.2
comp=Z,89nm,18.4s,MS4.1,baz=35,slow=40
CLL Collm 82.52 326 P pP 10 53 33.0 -2.3
GERES GERESS Array B 83.75 324 pP pP 10 53 41.0 -0.6
comp=Z,0.2nm,0.3s,baz=56,slow=3.5,SNR=1.9
NVAR Mina Array Bea 85.93 48 P **P 10 53 44.6 +2.1**
comp=Z,1.0nm,0.7s,mb4.2,baz=311,slow=3.9,SNR=13
NVAR pP pP 10 53 55.6 +2.7
comp=Z,1.6nm,0.8s,baz=316,slow=4.6,SNR=8.5
DUG Dugway 88.27 44 *e*P **P 10 53 55.6 +1.9**
comp=Z,3.6nm,1.1s,mb4.5
PDAR Pinedale Array 88.51 40 P **P 10 53 56.4 +1.6**
comp=Z,0.6nm,0.7s,mb4.1,baz=45,slow=2.1,SNR=6.4
PDAR pP pP 10 54 05.9 +0.7
comp=Z,1.4nm,0.9s,baz=315,slow=4.2,SNR=8.3
PV10 Paradox Valley 91.68 43 *e*P **P 10 54 11.8 +2.1**

*IDC **16** 11:14:42.4±0.6, 16.02S×73.54W, h64km±6km, mb4.1/6, mb1 4.2/8, mb1mx4.2/9, MS3.6/6, Ms1 3.6/6, ms1mx3.4/21, Error ellipse: s-maj=29.0km s-min=20.9km az=53.0*
*NEIC **16** 11:14:42.5±0.3, 16.06S×73.58W, mb4.5/13, Error ellipse: s-maj=14.1km s-min=5.7km az=57.0*
NEIC Felt [III] at Acari.
ISC 16 11:14:41.0±0.3**, 16.06S**±0.06×**73.64W**±0.05**, h64km, h64km**±1.5km**:pP-P, n65,** σ**1^{s}06**/41**, mb4.4**/13**, 1C-4D, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	Arequipa	2.10	101	⇑iP	P	11 15 16.6	+2.0
ARE				iS	S	11 15 40.8	+1.3
NNA	Nana	5.11	322	eP	P	11 15 58.2	+1.5
	33nm,0.6s						
LPAZ	La Paz	5.30	93	P	P	11 16 03.2	+3.8
	20nm,0.3s,baz=276,slow=11,SNR=158						
LPAZ				S	S	11 16 59.0	-0.8
	baz=256,slow=12,SNR=1.1						
LPAZ				LR	LR	11 18 17.4	
	comp=Z,249nm,20.2s,baz=264,slow=41						
LPAZ	La Paz	5.30	93	eP	P	11 16 03.2	+3.8
	80nm,0.6s						
LVC	Limon Verde	7.90	146	eP	P	11 16 34.2	-1.3
	40nm,0.5s						
SAML	Samuel	12.41	57	eP	P	11 17 32.6	-4.3
	12nm,0.5s						
OTAV	Otavalo	16.88	343	eP	P	11 18 35.2	+0.7
	5.1nm,0.9s						
CPUP	Villa Florida	18.30	127	P	P	11 18 51.8	-0.3
	0.1nm,0.3s,baz=311,slow=12,SNR=5.8						
CPUP	Villa Florida	18.30	127	eP	P	11 18 51.2	-0.8
	9.0nm,1.2s						
TRQA	Tornquist	24.20	157	eP	P	11 19 51.3	-1.3
	11nm,1.0s,mb4.2						
BDFB	Brasilia	24.65	93	P	P	11 19 57.0	-0.2
	4.4nm,0.5s,mb4.3,baz=276,slow=11,SNR=6.7						
BDFB				LR	LR	11 29 49.7	
	comp=Z,92nm,21.1s,baz=102,slow=37						
SDV	Santo Domingo	24.97	7	eP	P	11 19 58.9	-1.4
	14nm,1.0s,mb4.4						
PMSA	Palmer Station	49.10	175	eP	P	11 23 23.0	-0.6
	10nm,0.7s,mb5.0						
JCT	Junction City	52.68	331	eP	P	11 23 50.2	-1.0
JCT				epP	pP	11 24 07.8	-0.2
LTX	Lajitas	53.64	327	epP	pP	11 24 14.3	-0.9
	8.3nm,0.8s						
TXAR	Lajitas Array	53.64	327	P	P	11 23 57.4	-1.0
	0.3nm,0.6s,mb3.4,baz=148,slow=8.9,SNR=6.3						
TXAR				pP	pP	11 24 14.6	-0.6
	4.5nm,0.7s,baz=150,slow=8.5,SNR=41						
TXAR				sP	sP	11 24 22.4	-0.2
	2.3nm,0.7s,baz=149,slow=7.3,SNR=7.6						
TXAR	Lajitas Array	53.64	327	P	P	11 23 57.4	-1.0
TXAR				pP	pP	11 24 14.6	-0.6
TXAR				sP	sP	11 24 22.4	-0.2
WMOK	Wichita Mounta	55.89	335	P	P	11 24 13.1	-1.5
WMOK				pP	pP	11 24 29.5	-2.1
CPRX	Cap Rock	56.72	330	P	P	11 24 20.4	-0.2
CPRX				epP	pP	11 24 38.1	+0.5
CPRX				esP	sP	11 24 46.4	+1.4
BNM	Barren Site	58.99	328	epP	pP	11 24 52.7	-0.8
LAZ	Ladron	59.45	328	epP	pP	11 24 56.3	-0.4
ANMO	Albuquerque	59.54	329	epP	pP	11 24 56.6	-0.8
	5.7nm,1.0s						
TUC	Tucson	59.82	324	P	P	11 24 41.9	-0.3
	5.5nm,1.0s,mb4.5						
TUC				epP	pP	11 24 58.8	-0.5
SDCO	Great Sand Dun	61.33	332	eP	P	11 24 52.8	+0.4
SDCO				epP	pP	11 25 09.3	-0.3
ISCO	Idaho Springs	63.06	333	P	P	11 25 05.7	+1.7
	1.6nm,0.7s,mb4.3						
ISCO				epP	pP	11 25 21.4	+0.1
PV01	Paradox Valley	63.09	330	P	P	11 25 04.0	-0.2
PV01				epP	pP	11 25 21.4	-0.1
PV10	Paradox Valley	63.51	329	epP	pP	11 25 23.2	-1.0
BAR	Barrett	63.58	320	epP	pP	11 25 25.0	+0.2
MSU	Marysvale	65.20	327	P	P	11 25 17.1	-0.8
MSU				epP	pP	11 25 35.3	0.0
TPNV	Topopah Spring	66.28	324	P	P	11 25 25.1	+0.2
	6.4nm,1.0s,mb4.6						
TPNV				epP	pP	11 25 42.6	+0.4
VNA3	Neumayer Olymp	66.63	162	⇓i	P	11 25 27.7	+1.2
DUG	Dugway	66.78	328	P	P	11 25 28.9	+0.9
DUG				epP	pP	11 25 45.6	+0.2
VNA1	Neumayer--Stat	66.87	161	⇓i	P	11 25 29.1	+1.1
PDAR	Pinedale Array	67.21	332	pP	pP	11 25 46.9	-1.1
	1.2nm,1.2s,baz=117,slow=4.0,SNR=3.4						
VNA2	Neumayer--Watz	67.23	161	⇓i	P	11 25 31.5	+1.3
MTUM	Tungsten Hills	67.89	323	epP	pP	11 25 53.0	+0.6
OMM	Old Mammoth Mi	68.32	323	epP	pP	11 25 55.3	+0.2
MNV	Mina	68.39	324	P	P	11 25 39.4	+1.4
MNV				epP	pP	11 25 55.5	0.0
ELK	Elko	68.44	327	P	P	11 25 33.8	-4.5
ELK				epP	pP	11 25 55.7	-0.1
NVAR	Mina Array Bea	68.48	324	pP	pP	11 25 56.5	+0.4
	1.4nm,0.8s,baz=146,slow=6.5,SNR=5.0						
SNAA	Sanae	68.85	161	⇓i	P	11 25 39.4	-0.9
SNAA	Sanae	68.85	161	P	P	11 25 39.5	-0.7
	4.7nm,0.6s,mb4.6,baz=285,slow=6.6,SNR=42						
ULM	Lac du Bonnet	68.87	345	pP	pP	11 25 56.6	-1.6
	3.8nm,0.6s,baz=149,slow=6.1,SNR=2.5						
SCHQ	Schefferville	70.85	4	sP	sP	11 26 17.3	+0.1
	7.9nm,0.8s,baz=215,slow=4.8,SNR=3.8						
DBIC	Dimbokro	71.71	77	P	P	11 25 57.1	-1.4
	3.1nm,0.7s,mb4.3,baz=246,slow=8.8,SNR=4.3						
DBIC				LR	LR	11 54 03.3	
	comp=Z,43nm,21.3s,baz=189,slow=33						
EDM	Edmonton	76.99	337	eP	P	11 26 27.3	-1.1
EDM				epP	pP	11 26 44.9	-1.3
SBA	Scott Base	80.32	191	eP	P	11 26 46.5	+0.3
	5.8nm,1.0s,mb4.5						
VNDA	Vanda	81.38	190	P	P	11 26 52.6	+0.9
	2.9nm,0.7s,mb4.3,baz=128,slow=4.4,SNR=22						
VNDA				LR	LR	11 56 52.8	
	comp=Z,43nm,18.9s,baz=110,slow=31						
VNDA	Vanda	81.38	190	eP	P	11 26 52.5	+0.8
	3.6nm,0.8s,mb4.3						
YKA	Yellowknife Ar	84.63	342	pP	pP	11 27 24.6	-1.8
	1.4nm,0.7s,baz=138,slow=4.8,SNR=3.7						
YKA				LR	LR	12 05 47.8	
	comp=Z,32nm,18.8s,baz=180,slow=36						
ESDC	Sonseca Array	85.25	47	pP	pP	11 27 30.5	+0.4
	3.2nm,0.8s,baz=256,slow=6.0,SNR=4.7						
BORG	Borgarnes	89.78	20	LR	LR	12 08 21.7	
	comp=Z,75nm,18.2s,baz=248,slow=36						
MAW	Mawson	90.76	165	P	P	11 27 37.8	0.0
	3.5nm,0.6s,mb4.9,baz=224,slow=5.5,SNR=31						
MAW	Mawson	90.76	165	eP	P	11 27 37.5	-0.3
	6.1nm,0.8s,mb5.0						
ILAR	Eielson Array	97.45	336	pP	pP	11 28 26.2	-0.5
	0.5nm,0.8s,baz=135,slow=1.3,SNR=4.9						
ASAR	Alice Springs	132.21	215	PKP	PKPdf	11 33 49.1	+0.6
	1.7nm,0.5s,baz=129,slow=1.9,SNR=37						
ASPA	Alice Springs	132.21	215	eP	PKPdf	11 33 48.8	+0.2
WB2	Warramunga Arr	134.87	219	eP	PKPdf	11 33 54.2	+0.6
WRA	Warramunga Arr	134.87	219	PKP	PKPdf	11 33 54.2	+0.6
	2.5nm,0.4s,baz=141,slow=1.9,SNR=35						
WRA				pPKP		11 34 13.8	
	0.6nm,0.6s,baz=147,slow=1.8,SNR=2.4						
ZAL	Zalesovo	138.63	19	PKP	PKPdf	11 34 00.4	+0.9
	0.8nm,0.5s,baz=187,slow=6.2,SNR=5.5						
ZAL				pPKP		11 34 19.3	
	3.8nm,1.1s,baz=162,slow=3.0,SNR=4.4						
ZAL	Zalesovo	138.63	19	PKP	PKPdf	11 34 00.4	+0.9
ZAL				pPKP		11 34 19.3	
FITZ	Fitzroy Crossi	141.10	210	eP	PKPdf	11 33 58.0	-7.0
	3.7nm,0.9s						
MAT	Matsushiro	145.16	312	P	PKPdf	11 34 11.4	-0.1
MAT	Matsushiro	145.16	312	eP	PKPdf	11 34 11.0	-0.5
SONM	Songino Array	148.32	360	PKPbc	PKPdf	11 34 21.8	+5.4
	1.8nm,0.8s,baz=341,slow=2.2,SNR=9.2						
SONM				pPKPbc		11 34 38.6	
	3.3nm,0.8s,baz=347,slow=2.8,SNR=11						

*IDC **16** 12:05:23.5±0.9, 16.97S×173.05W, mb4.1/7, mb1 4.4/8, mb1mx4.2/17, ML4.5/1, MS3.5/4, Ms1 3.5/4, ms1mx3.1/24, Error ellipse: s-maj=40.5km s-min=19.3km az=143.0*
*NEIC **16** 12:05:27.4±0.8, 16.17S×173.47W, h15km, mb4.1/2, Error ellipse: s-maj=39.2km s-min=13.3km az=139.0*
ISC 16 12:05:25.0±0.8**, 16.1S**±0.2×**173.6W**±0.2**, h10km, n17,** σ**0^{s}70**/13**, mb4.0**/9**, MS3.4**/4**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.80	38	eP	Pn	12 06 09.5	-1.2
RAR	Rarotonga	13.99	113	Pn	P	12 08 34.5	-11
	2.4nm,0.3s,baz=184,slow=8.2,SNR=3.1						
URZ	Urewera	23.53	199	P	P	12 10 27.0	-9.2
	14nm,1.0s,mb4.3,baz=354,slow=10,SNR=2.7						
URZ				LR	LR	12 17 59.8	
	comp=Z,84nm,19.2s,MS3.2,baz=222,slow=33						
CTA	Charters Tower	38.34	258	LR	LR	12 26 35.6	
	comp=Z,50nm,18.0s,MS3.4,baz=225,slow=33						
PMG	Port Moresby	38.85	275	LR	LR	12 27 01.9	
	comp=Z,79nm,18.6s,MS3.6,baz=85,slow=33						
STKA	Stephens Creek	43.55	241	eP	P	12 13 30.3	-0.6
	4.8nm,1.0s,mb4.2						
STKA	Stephens Creek	43.55	241	P	P	12 13 30.4	-0.5
	5.7nm,0.9s,mb4.3,baz=34,slow=8.3,SNR=10						
STKA	Stephens Creek	43.55	241	eP	P	12 13 29.9	-1.1
STKA				eP		12 13 30.3	
WRAB	Tennant Creek	49.53	257	eP	P	12 14 19.0	+0.7
	1.2nm,0.7s,mb4.0						
WRA	Warramunga Arr	49.54	257	P	P	12 14 17.9	-0.5
	0.7nm,0.6s,mb3.9,baz=92,slow=7.5,SNR=11						
WRA				LR	LR	12 32 52.9	
	comp=Z,50nm,18.3s,MS3.5,baz=330,slow=33						
ASAR	Alice Springs	49.75	252	P	P	12 14 19.8	-0.2
	5.9nm,0.6s,mb4.8,baz=89,slow=8.3,SNR=108						
QSPA	South Pole Qui	73.91	180	eP	P	12 17 01.4	-0.1
	2.4nm,1.0s,mb4.1						
NVAR	Mina Array Bea	74.97	42	P	P	12 17 09.1	+0.6
	0.5nm,0.8s,mb3.5,baz=219,slow=9.2,SNR=5.4						
PDAR	Pinedale Array	82.90	42	P	P	12 17 52.0	+0.5
	0.7nm,0.7s,mb3.8,baz=244,slow=3.1,SNR=7.3						
ILAR	Eielson Array	83.19	11	P	P	12 17 53.4	+0.9
	0.4nm,0.6s,mb3.6,baz=231,slow=6.5,SNR=16						
BRTR	Keskin Array B	146.63	320	PKPbc	PKPbc	12 25 10.8	+3.8
	3.8nm,1.1s,baz=90,slow=2.5,SNR=6.2						
GERES	GERESS Array B	146.84	351	PKPbc	PKPbc	12 25 10.6	+3.4
	0.5nm,0.7s,baz=27,slow=3.0,SNR=3.9						

*SYO **16** 12:07:21.8, 23.97S×179.36W, h202km, MB4.4*
*IDC **16** 12:07:50.6±1.4, 23.85S×179.97E, h508km±13km, mb3.5/13, mb1 3.7/15, mb1mx3.7/18, Error ellipse: s-maj=15.9km s-min=12.0km az=162.0*
*NEIC **16** 12:07:53.2±1.6, 23.91S×179.89E, h539km±19km, mb4.3/15, Error ellipse: s-maj=10.7km s-min=9.3km az=179.0*
ISC 16 12:07:52.9±2.0**, 23.93S**±0.08×**179.82E**±0.08**, h543km**±25km**, n55,** σ**0^{s}76**/45**, mb4.2**/26**, 3C-2D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	14.47	189	P	P	12 10 56.1	-0.7
	2.0nm,0.3s,baz=311,slow=9.1,SNR=8.2						
URZ				S	S	12 13 25.0	0.0
	0.6nm,0.3s,baz=117,slow=20,SNR=8.5						
RPZ	Rata Peaks	21.01	198	P	P	12 11 58.1	-1.2
	7.0nm,0.5s,mb4.5,baz=6.9,slow=9.7,SNR=7.0						
CNB	Canberra Magne	28.69	240	eP	P	12 13 08.9	+1.1
	7.8nm,0.7s,mb4.5						
CTA	Charters Tower	31.31	270	eP	P	12 13 31.2	+0.9
	9.7nm,0.4s,mb4.7						
CTA	Charters Tower	31.31	270	P	P	12 13 31.3	+1.0
	19nm,0.6s,mb4.8,baz=97,slow=10,SNR=34						
CTAO	Charters Tower	31.31	270	eP	P	12 13 31.0	+0.7
	23nm,0.9s,mb4.7						
TOO	Toolangi	32.29	237	eP	P	12 13 39.1	+0.7
	3.2nm,0.6s,mb4.0						
PMG	Port Moresby	34.34	289	P	P	12 13 56.3	+0.5
	19nm,0.8s,mb4.7,baz=84,slow=5.5,SNR=8.4						
PMG	Port Moresby	34.34	289	eP	P	12 13 56.4	+0.5
	18nm,0.8s,mb4.7						
STKA	Stephens Creek	34.55	248	P	P	12 13 58.3	+0.9
	2.2nm,0.7s,mb3.8,baz=66,slow=6.4,SNR=3.2						
ASAR	Alice Springs	41.86	261	P	P	12 14 57.4	+0.4
	5.4nm,0.8s,mb4.2,baz=95,slow=7.6,SNR=12						
ASAR				ScP		12 19 44.4	
	3.6nm,0.9s,baz=109,slow=4.3,SNR=18						
ASPA	Alice Springs	41.87	261	eP	P	12 14 57.1	+0.1
ASPA				eSCP		12 19 44.0	
WB2	Warramunga Arr	42.22	266	eP	P	12 14 59.6	-0.3
WB2				eSCP		12 19 46.3	
WRAB	Tennant Creek	42.23	266	eP	P	12 14 59.4	-0.5
	18nm,0.7s,mb4.7						
WRAB				e		12 15 06.7	
WRA	Warramunga Arr	42.23	266	P	P	12 14 59.8	-0.2
	10nm,0.7s,mb4.5,baz=103,slow=8.1,SNR=67						
WRA				ScP		12 19 46.0	
	2.6nm,0.8s,baz=98,slow=4.3,SNR=14						
WRA				S	S	12 20 41.3	-0.7
	1.0nm,0.9s,baz=95,slow=15,SNR=4.4						
FORT	Forrest	46.14	250	eP	P	12 15 29.1	-1.2
	45nm,0.6s,mb5.2						
KAKA	Kakadu	46.18	275	eP	P	12 15 35.4	+4.6
	7.3nm,0.6s,mb4.4						
FITZ	Fitzroy Crossi	50.66	266	eP	P	12 16 04.4	+0.2
	6.6nm,0.8s,mb4.0						
FITZ	Fitzroy Crossi	50.66	266	P	P	12 16 04.2	0.0
	10.0nm,0.9s,mb4.1,baz=117,slow=3.0,SNR=14						
VNDA	Vanda	54.34	185	P	P	12 16 29.5	-0.3
	0.7nm,0.7s,mb3.1,baz=0.3,slow=4.2,SNR=6.0						
VNDA	Vanda	54.34	185	P	P	12 16 29.5	-0.3
QSPA	South Pole Qui	66.15	180	eP	P	12 17 47.5	-0.1
	5.7nm,0.7s,mb4.2						
QSPA				e	pP	12 19 37.8	-1.4
JOW	Kunigami	70.88	312	P	P	12 18 15.7	-1.2
	43nm,0.8s,mb5.0,baz=131,slow=30,SNR=3.3						
MAW	Mawson	77.66	200	P	P	12 18 54.1	+0.1
	1.2nm,0.7s,mb3.3,baz=136,slow=7.7,SNR=6.6						
SYO	Syowa Base	82.94	193	⇑P	P	12 19 20.8	-0.5
SYO	Syowa Base	82.94	193	⇓PcP	PcP	12 19 31.1	+6.1
CMB	Columbia Colle	83.34	43	eP	P	12 19 23.4	-0.4
	10nm,1.1s,mb4.3						
OMM	Old Mammoth Mi	83.97	44	eP	P	12 19 28.0	+1.0
YBH	Yreka Blue Hor	84.22	39	P	P	12 19 27.5	-0.5
	2.0nm,0.9s,mb3.7,baz=309,slow=17,SNR=3.4						
SNAA	Sanae	84.64	179	⇑i	P	12 19 28.7	-0.8
VNA3	Neumayer Olymp	84.86	177	⇑i	P	12 19 31.6	+1.1
NVAR	Mina Array Bea	84.89	44	P	P	12 19 31.4	0.0
	1.6nm,0.8s,mb3.6,baz=214,slow=5.9,SNR=12						
MNV	Mina	84.99	44	eP	P	12 19 31.8	-0.2
	4.3nm,1.1s,mb3.9						
LDFC	Landfair	85.09	48	eP	P	12 19 33.1	+0.5
VNA2	Neumayer--Watz	85.27	178	⇓i	P	12 19 34.3	+1.7
TPNV	Topopah Spring	85.37	46	eP	P	12 19 34.0	+0.1
	3.7nm,0.8s,mb4.0						
TUC	Tucson	86.67	53	eP	P	12 19 40.9	+0.8
	5.5nm,0.9s,mb4.2						
TUC				e		12 19 48.2	
ELK	Elko	88.16	44	eP	P	12 19 47.1	+0.3
	1.0nm,0.6s,mb3.7						
MSU	Marysvale	88.93	47	eP	P	12 19 50.9	+0.4
TMUT	Trail Mountain	89.98	46	eP	P	12 19 56.1	+0.7
SRU	San Rafael	90.34	47	eP	P	12 19 57.0	-0.1
TXAR	Lajitas Array	90.59	58	P	P	12 19 58.9	+0.4
	2.6nm,0.7s,mb4.2,baz=214,slow=6.3,SNR=39						
ILAR	Eielson Array	92.10	14	P	P	12 20 03.0	-1.5
	0.4nm,0.6s,mb3.6,baz=221,slow=4.9,SNR=8.0						
PDAR	Pinedale Array	92.83	44	P	P	12 20 06.5	-1.9
	1.0nm,0.8s,mb3.9,baz=219,slow=3.4,SNR=9.3						
BVAR	Borovoye Array	120.35	319	PKP	PKPdf	12 25 42.7	+0.7
	1.0nm,0.4s,baz=90,slow=1.5,SNR=8.3						
ARCES	ARCESS Array B	131.88	348	PKP	PKPdf	12 26 04.1	+0.4
	2.9nm,0.7s,baz=45,slow=1.7,SNR=6.3						
FINES	FINESS Array B	138.42	341	PKP	PKPdf	12 26 15.3	-0.6
	0.7nm,0.4s,baz=90,slow=1.9,SNR=6.1						
FINES				SKPbc		12 29 03.3	
	0.9nm,0.6s,baz=90,slow=5.7,SNR=6.5						
NB2	NORSAR Subarra	142.08	351	PKP		12 26 19.4	
	1.1nm,0.7s,baz=16,slow=3.7						
NOA	NORSAR Array B	142.08	351	PKhKP		12 26 19.7	
	1.6nm,0.8s,baz=16,slow=4.8,SNR=5.6						
NOA	NORSAR Array B	142.08	351	PKP	PKPdf	12 26 19.7	-2.7
AKASG	Malin Array Be	144.90	327	PKP	PKPdf	12 26 28.9	+1.3
	2.4nm,0.5s,baz=40,slow=4.1,SNR=12						
AKASG				SKPbc		12 29 20.7	
	1.5nm,0.7s,baz=42,slow=2.0,SNR=5.9						
BRTR	Keskin Array B	147.46	307	PKPbc	PKPdf	12 26 37.0	+4.9
	1.9nm,0.9s,baz=170,slow=2.7,SNR=4.6						
EKA	Eskdalemuir Ar	148.56	3	PKPbc	PKPdf	12 26 38.6	+5.3
	1.4nm,0.6s,baz=346,slow=2.8,SNR=7.5						
CLL	Collm	150.83	343	i	PKPab	12 26 51.6	-3.7
GERES	GERESS Array B	152.82	340	PKPbc	PKPdf	12 26 48.3	+8.4
	0.4nm,0.5s,baz=27,slow=3.0,SNR=5.1						

*IDC **16** 12:07:56.9±2.3, 23.83S×179.94W, h502km±19km, mb3.5/9, mb1 3.8/10, mb1mx3.6/15, Error ellipse: s-maj=54.3km s-min=16.3km az=159.0*
*NEIC **16** 12:08:00.5±3.4, 24.49S×179.90W, h562km±37km, Error ellipse: s-maj=21.9km s-min=17.1km az=59.0*
ISC 16 12:07:54.5±0.6**, 24.5S**±0.1×**179.7W**±0.1**, h500km, n51,** σ**1^{s}26**/31**, mb4.0**/10**, 3C, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNB	Canberra Magne	28.77	241	esP	P	12 13 15.8	+3.3
CTA	Charters Tower	31.73	271	P	P	12 13 38.1	0.0
	15nm,0.4s,mb4.8,baz=93,slow=11,SNR=11						
CTA	Charters Tower	31.73	271	P	P	12 13 38.1	0.0
CTA	Charters Tower	31.73	271	esP	P	12 13 38.2	+0.1
TOO	Toolangi	32.33	238	esP	P	12 13 46.0	+3.0
STKA	Stephens Creek	34.73	249	P	P	12 14 05.0	+1.8
	2.1nm,0.5s,mb3.8,baz=83,slow=7.7,SNR=6.9						
STKA	Stephens Creek	34.73	249	P	P	12 14 04.1	+0.9
PMG	Port Moresby	34.94	290	P	P	12 14 03.6	-1.5
	12nm,0.6s,mb4.5,baz=117,slow=7.3,SNR=6.0						
PMG	Port Moresby	34.94	290	P	P	12 14 03.6	-1.5
ASAR	Alice Springs	42.19	261	P	P	12 15 04.2	+0.1
	5.3nm,0.7s,mb4.1,baz=96,slow=7.7,SNR=3.8						
ASAR				ScP		12 19 51.0	
	4.2nm,1.2s,baz=108,slow=4.8,SNR=6.8						
ASAR	Alice Springs	42.19	261	P	P	12 15 04.2	+0.1
ASAR				ScP		12 19 51.0	
ASPA	Alice Springs	42.19	261	esP	P	12 15 04.3	+0.2
WB2	Warramunga Arr	42.61	267	esP	P	12 15 06.7	-0.8
WRA	Warramunga Arr	42.62	267	P	P	12 15 06.9	-0.7
	8.0nm,0.5s,mb4.4,baz=96,slow=8.3,SNR=14						
WRA				ScP		12 19 53.1	
	0.8nm,0.6s,baz=99,slow=3.8,SNR=5.5						
WRA	Warramunga Arr	42.62	267	P	P	12 15 06.9	-0.7
WRA				ScP		12 19 53.1	
FORT	Forrest	46.34	250	esP	P	12 15 36.1	-0.3
KAKA	Kakadu	46.66	276	esP	P	12 15 42.2	+3.2
FITZ	Fitzroy Crossi	51.03	266	P	P	12 16 11.4	-0.4
	2.1nm,0.4s,mb3.8,baz=156,slow=8.3,SNR=3.6						
FITZ	Fitzroy Crossi	51.03	266	P	P	12 16 11.4	-0.4
FITZ	Fitzroy Crossi	51.03	266	esP	P	12 16 11.6	-0.2
SBA	Scott Base	53.78	184	eP	P	12 16 30.9	0.0
VNDA	Vanda	53.79	185	P	P	12 16 30.1	-0.8
QSPA	South Pole Qui	65.57	180	eP	P	12 17 47.4	-1.7
NVAR	Mina Array Bea	85.02	44	P	P	12 19 38.4	+0.8
	0.4nm,0.5s,mb3.3,baz=227,slow=6.2,SNR=3.2						
NVAR	Mina Array Bea	85.02	44	P	P	12 19 38.4	+0.8
TXAR	Lajitas Array	90.54	58	P	P	12 20 05.7	+2.0
	1.3nm,0.7s,mb4.0,baz=213,slow=6.0,SNR=9.9						
TXAR	Lajitas Array	90.54	58	P	P	12 20 05.7	+2.0
ILAR	Eielson Array	92.57	13	P	P	12 20 10.1	-2.2
	0.7nm,0.9s,mb3.7,baz=219,slow=5.9,SNR=4.3						
ILAR	Eielson Array	92.57	13	P	P	12 20 10.1	-2.2
PDAR	Pinedale Array	92.96	44	P	P	12 20 14.8	+0.2
	0.5nm,0.7s,mb3.7,baz=243,slow=3.3,SNR=4.2						
PDAR	Pinedale Array	92.96	44	P	P	12 20 14.8	+0.2
BVAR	Borovoye Array	121.06	318	PKP	PKPdf	12 25 49.5	+0.1
	0.2nm,0.3s,baz=129,slow=3.2,SNR=4.0						
BVAR	Borovoye Array	121.06	318	PKP	PKPdf	12 25 49.5	+0.1
ARCES	ARCESS Array B	132.54	348	PKP	PKPdf	12 26 10.7	-0.2
	4.4nm,1.0s,slow=1.2,SNR=1.1						
ARCES	ARCESS Array B	132.54	348	PKP	PKPdf	12 26 10.7	-0.2
KAF	Kangasniemi	138.51	342	ep	PKPdf	12 26 22.7	+0.6
FINES	FINESS Array B	139.11	341	PKP	PKPdf	12 26 21.8	-1.4
	2.5nm,1.0s,baz=80,slow=2.1,SNR=1.6						
FINES				SKPbc		12 29 10.0	
	2.2nm,1.1s,baz=72,slow=6.0,SNR=3.6						
FINES	FINESS Array B	139.11	341	PKP	PKPdf	12 26 21.8	-1.4
FINES				SKPbc		12 29 10.0	
NOA	NORSAR Array B	142.72	351	PKP	PKPdf	12 26 29.5	+0.1
	1.2nm,0.8s,baz=68,slow=2.4,SNR=3.5						
AKASG	Malin Array Be	145.62	327	PKP	PKPdf	12 26 35.7	+1.0
	0.6nm,0.3s,baz=37,slow=3.9,SNR=2.9						
BRTR	Keskin Array B	148.15	307	PKPbc	PKPdf	12 26 42.5	+3.3
	2.1nm,0.7s,baz=90,slow=2.5,SNR=5.1						
BRTR	Keskin Array B	148.15	307	PKPbc	PKPdf	12 26 42.5	+3.3
EKA	Eskdalemuir Ar	149.11	4	PKPbc	PKPdf	12 26 45.2	+5.0
	0.9nm,0.5s,baz=356,slow=3.1,SNR=6.0						
EKA	Eskdalemuir Ar	149.11	4	PKPbc	PKPdf	12 26 45.2	+5.0
OJC	Ojcow	150.20	334	eP	PKPdf	12 26 41.8	-0.3
OJC	Ojcow	150.20	334	ePKP	PKPdf	12 26 41.8	-0.3
KSP	Ksiaz	150.95	339	⇑eP	PKPdf	12 26 43.9	+0.7
KSP				e	PKPdf	12 26 50.8	+7.6
CLL	Collm	151.51	343	⇑iPKP1	PKPdf	12 26 44.8	+0.8
CLL				i PKP2	PKPdf	12 26 54.4	+10
CLL	Collm	151.51	343	⇑iP	PKPdf	12 26 44.8	+0.8
CLL				i	PKPdf	12 26 54.4	+10
BRG	Berggiesshubel	151.65	342	i P	PKPdf	12 26 45.5	+1.3
BRG				i	PKPdf	12 26 52.4	+8.2
GRA1	Grafenberg Arr	153.45	344	eP	PKPdf	12 26 43.9	-2.8

*CNRM **16** 12:08:00.7, 35.16N×3.76W, h5km, MD2.3*
CSEM 16 12:07:59.5±0.5**, 35.12N**×**3.83W, h12km, MD2.3, Error ellipse: s-maj=25.5km s-min=13.7km az=100.0, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	Palemas	0.14	319	i P	Pg	12 08 04.0	+1.1
TOU	Touzarine	0.17	158	eP	Pg	12 08 05.0	+1.4
TZK	Tazeka	1.07	196	i P	Pb	12 08 20.5	+1.0
TZK				i S	Sb	12 08 36.0	+2.8

*NEIC **16** 12:12:14.4±1.3, 51.46N×16.14E, h5km, ML2.7(VIE), ML2.1(BRG), Error ellipse: s-maj=14.2km s-min=6.5km az=209.0*
*PRU **16** 12:12:15.3, 51.43N×16.12E*
*WAR **16** 12:12:15.3, 51.45N×16.12E, ML2.8, Mining Induced*
ISC 16 12:12:13.3±0.8**, 51.41N**±0.04×**16.10E**±0.04**, n19,** σ**1^{s}01**/41**, 1C-1D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.58	168	i PG	Pg	12 12 26.6	+1.7
KSP				eSG	Sg	12 12 34.6	+1.9
KSP	Ksiaz	0.58	168	⇓iPg	Pg	12 12 26.6	+1.7
KSP				eSg	Sg	12 12 34.0	+1.3
KSP	Ksiaz	0.58	168	ePg	Pg	12 12 26.6	+1.7
KSP				eSg	Sg	12 12 34.9	+2.2
UPC	Upice	0.91	183	ePG	Pg	12 12 32.7	+1.3
DPC	Dobruska-Polom	1.07	172	ePG	Pg	12 12 35.4	+0.7
DPC				eSG	Sg	12 12 50.3	+1.3
	14nm,0.3s						
PVCC	Panska Ves	1.31	228	ePG	Pg	12 12 40.0	+0.6
BRG	Berggiesshubel	1.46	249	ePn	Pn	12 12 42.1	+1.1
BRG				i Pg	Pg	12 12 42.8	+0.3
BRG				i Sg	Sg	12 13 02.3	+0.4
PRU	Pruhonice	1.73	215	ePN	Pn	12 12 45.3	+0.4
PRU				PG	Pg	12 12 47.3	-0.6
PRU				i x	x	12 12 51.4	
PRU				i x	x	12 13 04.5	
PRU				SG	Sg	12 13 10.3	-0.7
	13nm,0.3s						
MORC	Moravsky Berou	1.88	150	eP	Pn	12 12 47.5	+0.5
MORC	Moravsky Berou	1.88	150	ePn	Pn	12 12 47.5	+0.6
	baz=335						
CLL	Collm	1.94	268	ePN	Pn	12 12 48.0	+0.1
CLL				i PG	Pg	12 12 51.3	-0.8
CLL				i		12 12 55.2	
CLL				i SG	Sg	12 13 17.5	-0.5
CLL	Collm	1.94	268	ePn	Pn	12 12 48.0	+0.1
CLL				i Pg	Pg	12 12 51.3	-0.8
CLL				i Sg	Sg	12 13 17.5	-0.5
OKC	Ostrava-Krasne	2.05	140	ePN	Pn	12 12 49.5	+0.2
OKC				ePG	Pg	12 12 52.8	-1.3
OKC				eSG	Sg	12 13 19.4	-2.0
OKC	Ostrava-Krasne	2.05	140	Pg	Pg	12 12 52.8	-1.3
NKC	Novy Kostel	2.60	244	ePN	Pn	12 12 58.2	+0.9
NKC				ePG	Pg	12 13 04.6	-0.6
NKC				eSG	Sg	12 13 39.8	0.0
OJC	Ojcow	2.63	116	ePG	Pg	12 13 05.0	-0.8
OJC				eSG	Sg	12 13 40.0	-0.9
OJC	Ojcow	2.63	116	ePg	Pg	12 13 05.5	-0.3
OJC				eSg	Sg	12 13 40.0	-0.9
KHC	Kasperske Hory	2.80	216	ePN	Pn	12 13 00.9	+0.8
KHC				ePG	Pg	12 13 06.9	-2.2
KHC				eSN	Sn	12 13 34.0	-1.1
KHC				eSG	Sg	12 13 44.9	-1.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MOA	**Molln**	**3.76**	**199**	⇑*i*PN	**Pn**	**12 13 14.4**	**+0.6**
MOA				*i* SG	**Sg**	**12 14 18.0**	**-0.4**
	4.6nm,0.5s						

*IDC **16** 12:13:48.1±1.4, 9.11N×126.77E, mb3.8/8, mb1 4.0/8, mb1mx3.8/21, Error ellipse: s-maj=71.5km s-min=18.1km az=64.0*
*NEIC **16** 12:13:49.8±0.8, 9.10N×126.75E, h10km, Error ellipse: s-maj=42.2km s-min=10.5km az=62.0*
*MAN **16** 12:13:53.3, 8.91N×126.57E, h47km, mb4.5, ML3.4, MS3.3*
ISC 16 12:13:56.1±0.8**, 8.92N**±0.05×**126.36E**±0.07**, h71**km±6km**, n22, σ0.93**/29**, mb3.6**/8**, 1C-2D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.73**	**274**	*e*P	**P**	**12 14 10.9**	**-0.6**
BUTP				*e*S	**S**	**12 14 19.7**	**-3.3**
BIPH	**Bislig**	**0.73**	**180**	⇓*e*P	**P**	**12 14 12.2**	**+0.7**
BIPH				*i* S	**S**	**12 14 23.2**	**+0.1**
BUKP	**Musuan**	**1.65**	**231**	*e*P	**P**	**12 14 24.4**	**+0.8**
BUKP				*e*S	**S**	**12 14 44.6**	**+0.8**
CGP	**Cagayan de Oro**	**1.71**	**254**	*e*P	**P**	**12 14 23.5**	**-0.9**
CGP				*e*S	**S**	**12 14 43.5**	**-1.8**
MSLP	**Maasin**	**1.91**	**309**	*e*P	**P**	**12 14 28.8**	**+1.7**
MATI	**Mati**	**1.96**	**183**	*e*P	**P**	**12 14 25.1**	**-2.8**
KCP	**Kidapawan**	**2.27**	**214**	⇓*i*P	**P**	**12 14 33.7**	**+1.5**
KCP				*i* S	**S**	**12 15 00.2**	**+1.1**
TBP	**Tagbilaran**	**2.58**	**288**	*e*P	**P**	**12 14 37.2**	**+0.7**
TBP				*e*S	**S**	**12 15 06.7**	**-0.1**
LLP	**Lapu-Lapu**	**2.73**	**301**	*e*P	**P**	**12 14 39.1**	**+0.4**
LLP				*i* S	**S**	**12 15 10.3**	**-0.5**
SNPH	**Sibulan**	**3.11**	**278**	⇑*e*P	**P**	**12 14 44.0**	**0.0**
PAGZ	**Pagadian**	**3.13**	**250**	*e*P	**P**	**12 14 44.0**	**-0.3**
GUIM	**Jordan**	**4.08**	**295**	*e*P	**P**	**12 14 57.1**	**-0.4**
FITZ	**Fitzroy Crossi**	**26.86**	**182**	P	**P**	**12 19 32.8**	**+0.6**
	1.9nm,1.0s,mb3.6,baz=23,slow=7.7,SNR=7.1						
CMAR	**Chiang Mai Arr**	**28.23**	**293**	P	**P**	**12 19 45.6**	**+0.9**
	1.1nm,0.8s,mb3.4,baz=96,slow=8.2,SNR=5.5						
WRA	**Warramunga Arr**	**29.74**	**165**	P	**P**	**12 19 57.0**	**-1.1**
	0.2nm,0.3s,mb3.2,baz=344,slow=7.9,SNR=8.0						
WB2	**Warramunga Arr**	**29.74**	**165**	*e*P	**P**	**12 19 57.8**	**-0.3**
ASAR	**Alice Springs**	**33.22**	**167**	P	**P**	**12 20 28.0**	**-0.5**
	0.5nm,0.3s,mb3.8,baz=347,slow=7.2,SNR=19						
ASPA	**Alice Springs**	**33.22**	**167**	*e*P	**P**	**12 20 28.1**	**-0.4**
STKA	**Stephens Creek**	**43.10**	**161**	P	**P**	**12 21 50.6**	**-0.6**
	1.6nm,0.7s,mb3.9,baz=342,slow=7.8,SNR=6.0						
BVAR	**Borovoye Array**	**62.82**	**326**	P	**P**	**12 24 16.3**	**-0.3**
	0.4nm,0.5s,mb3.6,baz=130,slow=11,SNR=3.0						
FINES	**FINESS Array B**	**87.11**	**332**	P	**P**	**12 26 36.1**	**+1.1**
	1.8nm,0.9s,mb4.0,baz=72,slow=4.3,SNR=4.9						
VNDA	**Vanda**	**88.59**	**173**	P	**P**	**12 26 41.7**	**-0.1**
	0.6nm,0.9s,mb3.6,baz=326,slow=6.8,SNR=5.4						

*NEIC **16** 12:20:24.8, 36.58S×177.78E, h190km, After WEL.*
WEL 16 12:20:24.9±0.2**, 36.57S**×**177.77E, h187**km±2km**, ML4.1**/2**, Error ellipse: s-maj=4.1km s-min=3.2km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.08**	**157**	*e*P	P	12 20 54.0	-0.2
MXZ	**Matakaoa Point**	**1.08**	**157**	PN	P	12 20 53.9	-0.3
MXZ				SN	S	12 21 16.2	-0.6
PUZ	**Puketiti**	**1.55**	**166**	*e*P	P	12 20 58.1	-0.3
PUZ				S	S	12 21 22.9	-1.2
PUZ	**Puketiti**	**1.55**	**166**	PN	P	12 20 58.1	-0.3
PUZ				SN	S	12 21 22.6	-1.6
URZ	**Urewera**	**1.77**	**197**	P	P	12 21 00.3	-0.2
URZ	**Urewera**	**1.77**	**197**	PN	P	12 21 00.2	-0.2
URZ				SN	S	12 21 27.4	-0.5
URZ				SN	S	12 21 27.4	-0.4
MWZ	**Matawai**	**1.77**	**186**	P	P	12 21 00.5	0.0
MWZ				S	S	12 21 28.0	0.0
MWZ	**Matawai**	**1.77**	**186**	PN	P	12 21 00.5	0.0
MWZ				SN	S	12 21 27.9	0.0
KNZ	**Kokohu**	**2.45**	**182**	P	P	12 21 07.4	-0.6
KNZ	**Kokohu**	**2.45**	**182**	PN	P	12 21 07.3	-0.6
BKZ	**Black Stump Fm**	**2.79**	**201**	P	P	12 21 11.1	-0.8
BKZ	**Black Stump Fm**	**2.79**	**201**	PN	P	12 21 11.0	-0.9
PWZ	**Pawanui**	**3.53**	**191**	P	P	12 21 19.4	-1.6
PWZ	**Pawanui**	**3.53**	**191**	PN	P	12 21 19.3	-1.7
PWZ				SN	S	12 22 02.4	-1.9
TSZ	**Takapari Road**	**3.77**	**202**	P	P	12 21 21.9	-2.1
TSZ	**Takapari Road**	**3.77**	**202**	PN	P	12 21 21.7	-2.3
KIW	**Kapiti Island**	**4.84**	**207**	SN	S	12 22 29.6	-4.4
TUWZ	**Tuamarina**	**5.70**	**210**	SN	S	12 22 49.1	-4.9
NNZ	**Nelson**	**5.77**	**215**	*e*PN	P	12 21 51.8	+2.0
NNZ				SN	S	12 22 51.8	-3.9
MQZ	**McQueen's Vall**	**8.14**	**207**	SN	S	12 23 42.5	-8.9

JMA 16 12:34:54.6±0.1**, 26.46N**×**129.50E, h45**km**, M3.5, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOW	**Kunigami**	**1.16**	**289**	P	P	12 35 14.8	+0.2
JOW				S	S	12 35 28.9	-0.6
JTK	**Tokunoshima**	**1.41**	**340**	P	P	12 35 18.7	+0.4
JTK				S	S	12 35 35.3	-0.6
JIH	**Iheya**	**1.49**	**293**	P	P	12 35 19.9	+0.5
JIH				S	S	12 35 37.0	-0.8
JJT2	**Tamagusuku 2**	**1.60**	**259**	P	P	12 35 21.5	+0.5
JJT2				S	S	12 35 40.4	-0.3
NAH1	**Naha**	**1.64**	**261**	P	P	12 35 21.9	+0.3
NAH1				S	S	12 35 41.0	-0.7
JMZ	**Minamidaito 2**	**1.67**	**112**	P	P	12 35 22.0	0.0
JMZ				S	S	12 35 41.4	-1.0
JAM	**Amami Oshima**	**1.95**	**3**	P	P	12 35 25.8	0.0
JAM				S	S	12 35 49.5	+0.4
JAGN	**Aguni-jima**	**2.03**	**274**	P	P	12 35 27.2	+0.2
JAGN				S	S	12 35 50.4	-0.8
JKE	**Kume jima 2**	**2.44**	**267**	P	P	12 35 32.1	-0.8
JKE				S	S	12 36 00.7	-0.9

*STR **16** 12:40:01.4±0.2, 42.80N×0.86E, h10km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **16** 12:40:01.4±0.1, 42.75N×0.84E, h11km, Md2.2/3, Ml2.0/7, Error ellipse: s-maj=1.7km s-min=0.6km az=163.0*
MDD 16 12:40:02.0±0.3**, 42.76N**×**0.84E, h10**km±1km**, mbLg1.5**/13**, Error ellipse: s-maj=2.8km s-min=1.8km az=9.0, PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MELF	**Melles**	**0.13**	**331**	Pg	Pg	12 40 05.0	-0.1
MELF				Sg	Sg	12 40 07.2	0.0
MELF	**Melles**	**0.13**	**331**	P	Pg	12 40 05.1	-0.1
MELF				S	Sg	12 40 07.3	+0.1
SALF	**Salau**	**0.26**	**90**	P	Pg	12 40 06.6	-0.8
SALF				S	Sg	12 40 10.1	-1.0
MLS	**Moulis**	**0.27**	**43**	Pg	Pg	12 40 06.9	-0.8
MLS				Sg	Sg	12 40 10.8	-0.7
MLS	**Moulis**	**0.27**	**43**	P	Pg	12 40 07.0	-0.7
MLS				S	Sg	12 40 10.8	-0.7
CSOR	**Sort**	**0.44**	**151**	Pg	Pg	12 40 10.1	-0.9
EPF	**Esparros**	**0.46**	**306**	*e*Pg	Pg	12 40 10.4	-0.9
EPF				*e*Sg	Sg	12 40 16.3	-1.2
	5.8nm,0.2s						
GRBF	**Gourbit**	**0.52**	**81**	P	Pg	12 40 11.4	-1.1
GRBF				Pg	Pg	12 40 11.4	-1.1
GRBF				S	Sg	12 40 17.9	-1.5
EBIE	**Bielsa**	**0.52**	**262**	Pg	Pg	12 40 11.6	-0.9
	SNR=7.9						
EBIE				Lg		12 40 18.6	
	7.3nm,0.1s,SNR=7.9						
VIEF	**Viey**	**0.61**	**282**	Pg	Pg	12 40 13.4	-1.0
VIEF				Sg	Sg	12 40 21.8	-0.9
VIEF	**Viey**	**0.61**	**282**	P	Pb	12 40 13.4	-0.9
VIEF				S	Sg	12 40 21.4	-1.3
CORG	**Organya**	**0.64**	**146**	Pg	Pg	12 40 13.7	-1.1
CAVN	**Les Avellanes**	**0.88**	**184**	Pg	Pg	12 40 18.5	-1.2
CLLI	**Llivia**	**0.88**	**108**	Pg	Pg	12 40 17.9	-1.8
EMIR	**Miracle**	**0.99**	**149**	Pg	Pg	12 40 21.0	-0.8
	SNR=4.0						
ETSF	**Etsaut**	**1.04**	**278**	*e*Pg	Pg	12 40 21.2	-1.7
ETSF				*e*Sg	Sg	12 40 34.5	-2.3
	5.1nm,0.2s						
MTLF	**Montolieu**	**1.16**	**60**	*e*Pg	Pg	12 40 23.4	-1.9
MTLF				*e*Sg	Sg	12 40 38.6	-2.2
	6.3nm,0.2s						
EPOB	**Poblet**	**1.42**	**173**	Pg	Pg	12 40 27.9	-2.4
	0.6nm,0.1s,SNR=7.9						
EPOB				Lg		12 40 46.6	
	2.2nm,0.2s,SNR=6.5						
ESAC	**San Caprasio**	**1.42**	**224**	Lg		12 40 47.4	
	9.8nm,0.1s,SNR=7.9						
EJON	**La Jonquera**	**1.54**	**101**	Pg	Pg	12 40 30.5	-2.4
	0.3nm,0.1s,SNR=4.0						
EJON				Lg		12 40 52.3	
	1.7nm,0.1s,SNR=7.9						
SJPF	**Ste Jean**	**1.56**	**284**	*e*Pg	Pg	12 40 30.5	-2.7
SJPF				*e*Sg	Sg	12 40 50.9	-3.1
	1.7nm,0.2s						
EALK	**Alkurruntz**	**1.78**	**286**	Pg	Pg	12 40 35.1	-2.6
	SNR=4.0						
EALK				Lg		12 40 58.8	
	12nm,0.4s,SNR=7.9						
LFF	**La Frestale**	**2.18**	**358**	*e*Pg	Pg	12 40 42.2	-3.3
LFF				*e*Sg	Sg	12 41 10.5	-4.1
	2.2nm,0.2s						
CAF	**Calviac**	**2.34**	**22**	*e*Pg	Pg	12 40 44.9	-3.8
CAF				*e*Sg	Sg	12 41 15.4	-4.5
	1.9nm,0.2s						
LASF	**Ste Croix**	**2.56**	**58**	*e*Sg	Sg	12 41 22.2	-5.1
	0.7nm,0.2s						
RJF	**Les Rejaudoux**	**2.59**	**11**	*e*Sg	Sg	12 41 22.9	-5.3
	1.0nm,0.2s						

*NEIC **16** 12:40:34.9±5.5, 42.65N×142.99E, h53km±67km, Error ellipse: s-maj=57.8km s-min=19.5km az=189.0*
*JMA **16** 12:40:39.5±0.1, 42.57N×142.96E, h91km±1km, M3.4*
*IDC **16** 12:40:41.5±4.8, 42.69N×142.91E, h114km±27km, mb3.4/7, mb1 3.6/8, mb1mx3.4/23, Error ellipse: s-maj=56.2km s-min=22.5km az=178.0*
ISC 16 12:40:37.9±0.4**, 42.51N**±0.04×**142.91E**±0.05**, h101**km±3km**, n27, σ0.79**/41**, mb3.6**/8**, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.26**	**206**	P	**P**	**12 40 53.3**	**+0.8**
JNBK				*e*S	**S**	**12 41 04.0**	**+0.4**
JCH	**Churui**	**0.35**	**73**	P	**P**	**12 40 52.9**	**-0.1**
JCH				*e*S	**S**	**12 41 03.2**	**-1.2**
JBT2	**Biratori 2**	**0.48**	**304**	P	**P**	**12 40 54.2**	**+0.4**
JBT2				*e*S	**S**	**12 41 05.6**	**-0.2**
JEM	**Erimo**	**0.53**	**159**	P	**P**	**12 40 55.1**	**+0.9**
JEM				*e*S	**S**	**12 41 07.2**	**+0.8**
ERM	**Erimo**	**0.53**	**159**	Pn	**P**	**12 40 55.6**	**+1.4**
	5μm,0.4s						
JFR	**Furan**	**0.69**	**341**	P	**P**	**12 40 55.4**	**-0.1**
JOB	**Onbets**	**0.79**	**60**	P	**P**	**12 40 56.9**	**+0.4**
JAR	**Ashorobuto**	**1.01**	**39**	P	**P**	**12 40 58.9**	**+0.1**
JAR				*e*S	**S**	**12 41 13.3**	**-1.2**
JAB	**Ashibetsu**	**1.11**	**333**	P	**P**	**12 41 00.2**	**+0.2**
JAB				*e*S	**S**	**12 41 16.4**	**-0.1**
JEW	**Eniwo**	**1.12**	**287**	*e*S	**S**	**12 41 17.2**	**+0.4**
JKK2	**Kamakawa 2**	**1.36**	**355**	P	**P**	**12 41 03.2**	**+0.2**
JKK2				*e*S	**S**	**12 41 21.4**	**-0.3**
JNB	**Noboribetsu**	**1.38**	**269**	P	**P**	**12 41 02.7**	**-0.5**
JNB				*e*S	**S**	**12 41 20.8**	**-1.3**
JAK	**Akkeshi**	**1.41**	**69**	P	**P**	**12 41 03.2**	**-0.3**
JAK				*e*S	**S**	**12 41 21.2**	**-1.4**
JHR	**Hokuryu**	**1.50**	**325**	P	**P**	**12 41 05.2**	**+0.5**
JHR				*e*S	**S**	**12 41 25.2**	**+0.6**
JKB	**Kayabe**	**1.52**	**246**	P	**P**	**12 41 04.9**	**0.0**
JKB				*e*S	**S**	**12 41 24.1**	**-1.0**
JMP	**Maruseppu**	**1.53**	**12**	P	**P**	**12 41 05.4**	**+0.4**
JMP				*e*S	**S**	**12 41 25.3**	**+0.1**
ASAJ	**Asahikawa**	**1.62**	**352**	P	**P**	**12 41 06.7**	**+0.5**
	39nm,0.3s,baz=237,slow=5.2,SNR=203						
ASAJ				S	**S**	**12 41 28.0**	**+0.9**
	24nm,0.3s,baz=349,slow=28,SNR=6.2						
JTKR	**Abashiri--Toko**	**1.63**	**26**	P	**P**	**12 41 06.5**	**+0.2**
JTKR				*e*S	**S**	**12 41 27.1**	**-0.3**
MAJO	**Matsushiro**	**6.98**	**213**	*e*P	**P**	**12 42 16.3**	**-2.8**
SONM	**Songino Array**	**26.11**	**294**	P	**P**	**12 46 05.2**	**+1.4**
	0.3nm,0.5s,mb3.0,baz=87,slow=7.2,SNR=3.7						
ZAL	**Zalesovo**	**39.29**	**308**	P	**P**	**12 47 57.6**	**-0.4**
	0.9nm,0.5s,mb3.9,baz=31,slow=4.6,SNR=3.8						
ILAR	**Eielson Array**	**44.31**	**35**	P	**P**	**12 48 38.2**	**-0.5**
	0.8nm,0.9s,mb3.4,baz=272,slow=6.4,SNR=7.2						
BVAR	**Borovoye Array**	**47.88**	**309**	P	**P**	**12 49 06.8**	**-0.2**
	0.9nm,0.3s,mb4.0,baz=77,slow=8.8,SNR=9.7						
FINES	**FINESS Array B**	**64.53**	**332**	P	**P**	**12 51 04.2**	**-1.3**
	0.8nm,0.4s,mb3.9,baz=55,slow=8.0,SNR=15						
HFS	**Hagfors**	**69.58**	**336**	P	**P**	**12 51 36.4**	**-0.9**
	0.7nm,0.4s,mb3.9,baz=34,slow=10,SNR=4.9						
PDAR	**Pinedale Array**	**73.06**	**47**	P	**P**	**12 51 59.0**	**+0.7**
	0.3nm,0.6s,mb3.3,baz=333,slow=4.0,SNR=2.4						
TXAR	**Lajitas Array**	**85.90**	**53**	P	**P**	**12 53 08.8**	**+1.3**
	0.2nm,0.6s,mb3.2,baz=289,slow=4.1,SNR=4.8						

MEX 16 12:47:11.9±0.4**, 16.00N**×**97.65W, h13**km±14km**, MD3.5, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.60**	**310**	*i* P	Pb	12 47 22.1	-1.7
PNIG				*i* S	Sb	12 47 30.2	-1.7
VHO	**Vista Hermosa**	**1.38**	**39**	*i* P	Pn	12 47 32.9	-4.0
VHO				*i* S	Sb	12 47 48.9	-5.4
OXX	**Oaxaca**	**1.39**	**39**	*i* P	Pn	12 47 33.5	-3.6
OXX				*i* S	Sb	12 47 50.0	-4.7
CMIG	**Matias Romero**	**2.86**	**67**	*e*P	Pn	12 47 54.1	-4.0
CMIG				*i* S	Sn	12 48 28.2	-4.4

IDC 16 12:57:06.5±4.4**, 36.80N**×**73.51E, mb3.8**/5**, mb1 4.0**/6**, mb1mx3.7**/19**, ML3.8**/1**, Error ellipse: s-maj=92.9km s-min=30.3km az=175.0, Northwestern Kashmir**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZAL	**Zalesovo**	**18.84**	**21**	P	P	13 01 27.6	-2.4
	0.7nm,0.3s,baz=271,slow=7.6,SNR=10						
SONM	**Songino Array**	**26.51**	**55**	P	P	13 02 45.7	-1.5
	0.6nm,0.7s,baz=249,slow=11,SNR=5.3						
MLR	**Muntele Rosu**	**36.40**	**299**	P	P	13 04 13.1	-1.3
	4.7nm,1.1s,baz=115,slow=14,SNR=4.3						
FINES	**FINESS Array B**	**38.38**	**325**	P	P	13 04 28.9	-1.9
	1.2nm,0.8s,baz=124,slow=10.0,SNR=6.1						
ARCES	**ARCESS Array B**	**41.65**	**337**	P	P	13 04 56.6	-1.0
	1.4nm,0.6s,baz=130,slow=7.0,SNR=6.9						
NOA	**NORSAR Array B**	**45.36**	**323**	P	P	13 05 24.9	-2.9
	0.6nm,0.7s,baz=96,slow=7.7,SNR=3.2						

*JMA **16** 13:25:48.8±0.1, 37.72N×141.62E, h78km±1km, M3.5*
Broadband fault plane solution: P waves. NP1:φs67°, δ30°, λ-71°. NP2:φs225°, δ62°, λ-101°. Principal axes: T Plg16°, Azm323°; N Plg10°, Azm230°; P Plg71°, Azm111°;
ISC 16 13:25:48.3±1.3**, 37.70N**±0.05×**141.74E**±0.09**, h66**km±12km**, n13, σ0.57**/26**, 2C-6D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.76**	**245**	⇓P	**P**	**13 26 04.3**	**+0.5**
JFK				S	**S**	**13 26 15.4**	**+0.1**
JMM	**Marumori**	**0.77**	**283**	⇓P	**P**	**13 26 04.3**	**+0.4**
JMM				S	**S**	**13 26 15.3**	**-0.1**
JIO	**Ouri**	**0.82**	**338**	⇓P	**P**	**13 26 05.2**	**+0.7**
JIO				S	**S**	**13 26 16.8**	**+0.3**
JOU	**Okura**	**1.08**	**309**	⇓P	**P**	**13 26 07.7**	**-0.2**
JOU				S	**S**	**13 26 21.6**	**-0.8**
JFT	**Otama**	**1.12**	**261**	⇓P	**P**	**13 26 08.6**	**+0.1**
JFT				S	**S**	**13 26 23.0**	**-0.5**
JMK	**Ichinoseki**	**1.32**	**342**	⇑P	**P**	**13 26 11.1**	**-0.2**
JMK				S	**S**	**13 26 28.1**	**-0.2**
JYS	**Shirataka**	**1.42**	**292**	P	**P**	**13 26 12.5**	**-0.1**
JYS				S	**S**	**13 26 30.5**	**-0.1**
JYK	**Kaneyama**	**1.63**	**319**	⇑P	**P**	**13 26 15.0**	**-0.5**
JYK				S	**S**	**13 26 35.3**	**-0.2**
JFY	**Yanaizu**	**1.64**	**260**	⇓P	**P**	**13 26 15.1**	**-0.5**
JFY				S	**S**	**13 26 35.1**	**-0.6**
JOM	**Ohasama**	**1.81**	**349**	P	**P**	**13 26 17.7**	**-0.2**
JOM				S	**S**	**13 26 40.3**	**+0.6**
JYA	**Atsumi**	**1.83**	**300**	P	**P**	**13 26 17.6**	**-0.6**
JYA				S	**S**	**13 26 41.7**	**+1.5**
JNS	**Sasagawa**	**1.92**	**274**	P	**P**	**13 26 19.2**	**-0.2**
JNS				S	**S**	**13 26 42.2**	**-0.2**
MAT	**Matsushiro**	**3.04**	**249**	P	**P**	**13 26 34.8**	**-0.5**
MAT				S	**S**	**13 27 12.2**	**+1.5**

*CSEM **16** 13:36:37.9±0.6, 38.71N×28.98W, h0km±6km, ML2.0, Error ellipse: s-maj=8.4km s-min=4.8km az=78.0, After PDA*
*PDA **16** 13:36:37.9±0.6, 38.71N×28.98W, h0km±6km, MD2.9, ML2.0, Error ellipse: s-maj=8.4km s-min=4.8km az=78.0*
SVSA 16 13:36:37.9±0.6**, 38.71N**×**28.98W, h0**km±6km**, MD2.9, ML2.0, Error ellipse: s-maj=8.4km s-min=4.8km az=78.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.23**	**110**	*i* P	Pg	13 36 42.4	-0.1
PCED				*e*S	Sg	13 36 45.7	+0.1
	88nm,0.2s						
PCED	**Cedros**	**0.23**	**110**	*i* P	Pg	13 36 42.4	-0.1
PCED				*e*S	Sg	13 36 45.7	+0.1
	88nm,0.2s						
CALA	**Caldeira**	**0.25**	**120**	*e*S	Sg	13 36 46.3	+0.1
PICO	**Pico**	**0.48**	**115**	*e*P	Pg	13 36 46.6	-0.9
PICO				*e*S	Sg	13 36 53.2	-0.6
ROSA	**Rosais**	**0.58**	**88**	*e*P	Pg	13 36 48.3	-1.1
ROSA				*e*S	Sg	13 36 55.6	-1.5
PPNO	**Prainha do Nor**	**0.61**	**112**	*e*P	Pg	13 36 48.7	-1.3
PPNO				*e*S	Sg	13 36 57.1	-1.0
	34nm,0.3s						
PPNO	**Prainha do Nor**	**0.61**	**112**	*e*P	Pg	13 36 48.7	-1.3
PPNO				*e*S	Sg	13 36 57.1	-1.0
	34nm,0.3s						
PID	**Ribeirinha**	**0.72**	**111**	*e*S	Sg	13 36 59.7	-2.3

FUNV 16 13:39:34.8, 6.76N×**73.20W, h176**km**, MD3.6, 2D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.41**	**39**	*e*P	P	13 40 05.3	-0.6
CAPV				*e*S	S	13 40 27.3	-2.6
VIGV	**El Vigia**	**2.76**	**41**	*e*P	P	13 40 19.6	-1.3
VIGV				*e*S	S	13 40 52.3	-4.0
SOCV	**Socops**	**2.78**	**57**	*e*P	P	13 40 19.9	-1.2
SOCV				*e*S	S	13 40 52.2	-4.6
VIRV	**Villa del Rosa**	**3.80**	**12**	⇓*i*P	P	13 40 32.1	-1.9
VIRV				*e*S	S	13 41 14.3	-5.4
CURV	**Curarigua**	**4.55**	**45**	*e*P	P	13 40 41.5	-2.2
CURV				*e*S	S	13 41 31.0	-5.9
BAUV	**El Baul**	**5.56**	**67**	⇓*i*P	P	13 40 53.4	-3.3
BAUV				*e*S	S	13 41 53.6	-6.7

MEX 16 14:01:45.4±0.6**, 15.43N**×**95.51W, h17**km±22km**, MD3.9, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.67**	**301**	*i* P	Pb	14 01 56.3	-1.9
HUIG				*i* S	Sb	14 02 04.2	-2.8
CMIG	**Matias Romero**	**1.76**	**20**	*i* P	Pn	14 02 11.7	-3.9
CMIG				*i* S	Sn	14 02 32.7	-5.0
VHO	**Vista Hermosa**	**2.02**	**325**	*i* P	Pn	14 02 16.5	-2.7
VHO				*i* S	Sn	14 02 39.9	-4.3
OXX	**Oaxaca**	**2.02**	**325**	*e*P	Pn	14 02 17.0	-2.2
OXX				*i* S	Sn	14 02 39.0	-5.2

CASC 16 14:02:00.0±3.0**, 11.07N**×**87.00W, h35**km±53km**, MD4.0, 5C-4D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**1.17**	**20**	⇓*e*P	P	14 02 19.5	-0.6
APON	**Apoyo**	**1.24**	**47**	*e*P	P	14 02 23.2	+2.1
XAVN	**Gruta Xavier**	**1.26**	**32**	⇑*e*P	P	14 02 20.8	-0.5
XAVN				*e*S	S	14 02 32.9	-4.4
APYN	**Apoyeque**	**1.32**	**29**	⇓*e*P	P	14 02 21.6	-0.7
APYN				*i* P		14 02 21.6	
APYN				*e*S	S	14 02 41.0	+2.2
LEON	**Leon**	**1.34**	**5**	⇑*e*P	P	14 02 21.6	-1.0
WILN	**Americas 2**	**1.34**	**36**	⇑*e*P	P	14 02 22.5	-0.1
WILN				*e*S	S	14 02 39.8	+0.3
MIRN	**Miramar**	**1.39**	**12**	*e*P	P	14 02 22.0	-1.2
MOMJ	**Momotombo**	**1.40**	**19**	*e*P	P	14 02 22.4	-1.1
CNGN	**Cerro Negro**	**1.45**	**12**	*e*P	P	14 02 23.9	-0.3
TEL3	**Telica 3**	**1.50**	**6**	⇓*e*P	P	14 02 24.0	-0.9
PYTN	**Playitas**	**1.73**	**32**	⇑*e*P	P	14 02 26.9	-1.2
LIM	**Lima**	**1.76**	**102**	*e*S	S	14 02 49.3	-0.6
JCR	**Jicaral**	**2.22**	**123**	*e*P	P	14 02 33.0	-2.2
CGA2	**Cerro Gallo 2**	**2.71**	**113**	*e*P	P	14 02 43.8	+1.7
CGA2				*e*S	S	14 03 13.9	-0.1
LAJ	**Bijagual**	**3.08**	**113**	⇑*e*P	P	14 02 42.8	-4.6
LAJ				*e*S	S	14 03 13.2	-10
LCR2	**La Lucha 2**	**3.23**	**114**	*e*P	P	14 02 50.3	+0.7
URSC	**Urasca**	**3.40**	**111**	*e*P	P	14 02 53.2	+1.2
BUS	**Buena Vista**	**3.53**	**115**	⇓*e*P	P	14 02 54.2	+0.4
BUS				*e*S	S	14 03 33.6	-1.4

MEX 16 14:03:31.6±1.0**, 18.16N**×**103.09W, h30**km**, MD4.0, Near coast of Michoacan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CGX	**Ciudad Guzman**	**1.57**	**346**	*i* P	Pn	14 03 55.0	-2.9
CGX				*i* S	Sn	14 04 15.5	-1.9
ZIIG	**Zihuatanejo**	**1.65**	**109**	*i* P	Pn	14 03 56.8	-2.1
ZIIG				*i* S	Sn	14 04 16.7	-2.6
CJM	**Chamela**	**2.28**	**306**	*i* P	Pn	14 04 05.7	-2.4
CJM				*i* S	Sn	14 04 32.1	-3.2
SFJM	**Santa Fe**	**2.31**	**1**	*i* P	Pn	14 04 05.0	-3.6
MOIG	**Morelia**	**2.35**	**50**	*i* P	Pn	14 04 05.2	-3.9
MOIG				*i* S	Sn	14 04 33.0	-4.2

TAP 16 14:36:23.1, 22.79N×**121.08E, h12**km**, ML4.1, 9C-9D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWG	**Pinlang**	**0.03**	**346**	⇓*i*P	Pb	14 36 25.8	+0.5
ECL	**Taimali**	**0.23**	**211**	⇓*i*P	Pg	14 36 28.6	+0.5
ELDTW	**Lidau**	**0.40**	**352**	⇑*i*P	Pg	14 36 31.0	-0.4
ELDTW				S	Sg	14 36 35.7	-1.3
CHKT	**Chengkung**	**0.41**	**40**	⇓*i*P	Pg	14 36 31.9	+0.4
CHKT				S	Sg	14 36 38.7	+1.6
SSD	**Sandimen**	**0.42**	**264**	⇓*i*P	Pg	14 36 31.5	-0.3
SSD				S	Sg	14 36 36.1	-1.4
EAST	**Anshuo**	**0.46**	**208**	⇓*i*P	Pg	14 36 33.1	+0.6
EAST				S	Sg	14 36 40.1	+1.3
TAW	**Tawu**	**0.46**	**202**	⇓*i*P	Pg	14 36 33.2	+0.6
TAW				S	Sg	14 36 40.0	+1.0
STYT	**Tauyuan**	**0.48**	**321**	⇑*i*P	Pg	14 36 32.5	-0.4
STYT				S	Sg	14 36 38.6	-0.8
SGST	**Jiashian**	**0.54**	**302**	⇑*i*P	Pb	14 36 34.4	+0.4
SGST				S	Sb	14 36 42.0	+0.6
SGLT	**Jiouru**	**0.55**	**263**	⇓P	Pb	14 36 35.1	+1.0
SGLT				S	Sb	14 36 42.9	+1.3
TWF1	**Yuli**	**0.59**	**20**	*e*P	Pb	14 36 33.8	-1.1
TWF1				S	Sb	14 36 42.6	-0.3
SCZT	**Fangliau**	**0.59**	**226**	⇓*i*P	Pb	14 36 35.5	+0.5
SCZT				S	Sb	14 36 44.5	+1.5
TWM1	**Shoushan**	**0.61**	**273**	⇓P	Pb	14 36 36.5	+1.4
TWM1				S	Sb	14 36 46.1	+2.7
WTP	**Ta-pu**	**0.62**	**317**	⇑*i*P	Pb	14 36 36.0	+0.5
WTP				S	Sb	14 36 45.0	+1.1
CHN1	**Nanshi**	**0.64**	**308**	⇑*i*P	Pb	14 36 36.8	+1.0
CHN1				S	Sb	14 36 46.8	+2.4
CHN4	**Tsaushan**	**0.72**	**321**	⇑*i*P	Pb	14 36 37.8	+0.8
CHN4				S	Sb	14 36 48.5	+2.0
CHN3	**Shinhua**	**0.72**	**293**	*e*P	Pb	14 36 39.6	+2.6
TWK	**Hsinying**	**0.72**	**311**	⇑*i*P	Pb	14 36 38.1	+1.0
TWK				S	Sb	14 36 49.1	+2.4
KAU	**Kaohsiung**	**0.75**	**253**	*e*P	Pb	14 36 41.2	+3.7
EHY	**Hungye**	**0.75**	**17**	*e*P	Pb	14 36 36.4	-1.1
EHY				S	Sb	14 36 47.4	0.0
ALS	**Alishan**	**0.76**	**341**	⇑*i*P	Pb	14 36 38.0	+0.3
ALS				S	Sb	14 36 49.7	+1.9

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HEN	Hengchun	0.84	202	eP	Pb	14 36 40.2	+1.0
TWK1	Hengchun	0.88	197	eP	Pb	14 36 41.5	+1.7
CHN5	Tsauling	0.88	335	⇑P	Pb	14 36 40.5	+0.6
CHN5				S	Sb	14 36 53.6	+2.2
SCLT	Jiali	0.90	295	eP	Pb	14 36 42.1	+1.9
SCLT				S	Sb	14 36 56.7	+4.8
CHY	Chiayi	0.93	320	eP	Pb	14 36 42.0	+1.4
CHY				S	Sb	14 36 56.0	+3.3
CHN8	Yiju	0.97	305	eP	Pb	14 36 43.2	+1.8
CHN8				S	Sb	14 36 58.2	+4.2
WGK	Gukeng	1.01	332	eP	Pb	14 36 43.7	+1.6
WGK				S	Sb	14 36 58.8	+3.7
ESL	Shilin	1.07	18	P	Pb	14 36 43.2	+0.1
ESL				S	Sb	14 36 59.9	+3.1
SMLT	Sun Moon Lake	1.10	351	eP	Pb	14 36 44.4	+0.8
SMLT				S	Sb	14 37 01.1	+3.4
TYC	Yuchr	1.13	350	eP	Pb	14 36 45.0	+0.9
TYC				S	Sb	14 37 01.9	+3.4
WNT	Mingjian	1.14	342	eP	Pb	14 36 45.9	+1.6
WNT				S	Sb	14 37 02.3	+3.4
WSF	Szhu	1.16	317	eP	Pb	14 36 45.7	+1.1
WSF				S	Sb	14 37 02.4	+3.1
HWA	Hwalien	1.28	22	eP	Pb	14 36 47.4	+0.8
WTCT	Ta-ch'eng	1.30	326	eP	Pb	14 36 47.8	+0.8
WTCT				S	Sb	14 37 05.5	+2.1
TWD	Chiawan	1.37	20	eP	Pn	14 36 46.0	-2.1
TWD				S	Sb	14 37 05.6	+0.1
WDGT	Dungji	1.39	290	eP	Pn	14 36 48.4	0.0
WDGT				S	Sb	14 37 06.3	+0.2
TCU	Taichung	1.40	345	eP	Pn	14 36 50.5	+1.9
TCU				S	Sb	14 37 10.9	+4.5
TWT	Tachien	1.46	3	eP	Pn	14 36 49.9	+0.5
TWT				S	Sb	14 37 11.0	+2.9
TWQ1	Liyutan	1.58	350	eP	Pn	14 36 53.2	+2.1
TWQ1				S	Sn	14 37 15.5	+4.0
PNG	Penghu	1.60	299	eP	Pn	14 36 51.7	+0.2
NSY	Sanyi	1.65	350	eP	Pn	14 36 54.2	+2.1
NNS	Nan Shan	1.66	9	eP	Pn	14 36 51.7	-0.6
NNS				S	Sn	14 37 17.2	+3.5
ENA	Nanau	1.74	20	eP	Pn	14 36 50.8	-2.6
ENA				S	Sn	14 37 18.7	+3.1
NSTT	Nanjuang	1.83	358	eP	Pn	14 36 56.4	+1.6
ENTT	Nioudou	1.90	14	eP	Pn	14 36 54.2	-1.4
NSK	Sanguang	1.90	8	eP	Pn	14 36 55.6	-0.1
NSK				S	Sn	14 37 21.3	+1.7
TWC	Suao	1.94	21	eP	Pn	14 36 57.1	+0.8
TWC				S	Sn	14 37 24.6	+3.8
TWE	Neicheng	2.00	16	eP	Pn	14 36 58.7	+1.6
TWS1	Kuangyinshan	2.32	8	eP	Pn	14 37 04.1	+2.3
NWF	Wu-fen Shan	2.36	16	eP	Pn	14 37 03.6	+1.4
TWB1	Santiao Chiao	2.36	20	eP	Pn	14 37 04.3	+2.0

*IDC **16** 15:01:02.4±1.4, 14.58N×146.83E, mb3.6/4, mb1 3.8/5, mb1mx3.7/20, MS3.1/1, Ms1 3.3/1, ms1mx2.3/23, Error ellipse: s-maj=50.3km s-min=24.0km az=80.0*

*NEIC **16** 15:01:11.1±0.8, 14.44N×146.46E, h60km, mb4.2/1, Error ellipse: s-maj=24.7km s-min=17.0km az=101.0*

ISC 16 15:01:06.9±1.4**, 14.5N**±0.1×**146.6E**±0.2**, h33km, n17,** σ**0.52**/12**, mb4.2**/11**, MS3.1**/1**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	1.90	243	P	P	15 01 37.1	-0.4
WRAB	Tennant Creek	36.25	200	eP	P	15 08 09.0	-0.1
	2.8nm,0.9s,mb4.2						
WRA	Warramunga Arr	36.26	200	P	P	15 08 09.1	-0.1
	0.8nm,0.8s,mb3.7,baz=24,slow=9.2,SNR=7.7						
ASAR	Alice Springs	39.88	198	P	P	15 08 39.6	+0.2
	0.2nm,0.5s,mb3.1,baz=25,slow=6.6,SNR=7.8						
CMAR	Chiang Mai Arr	45.79	282	P	P	15 09 27.4	-0.2
	0.5nm,0.4s,mb3.8,baz=75,slow=6.7,SNR=5.1						
CMAR				LR	LR	15 27 14.7	
	comp=Z,23nm,20.9s,MS3.1,baz=210,slow=34						
SONM	Songino Array	47.02	324	P	P	15 09 36.3	-0.6
	0.7nm,0.6s,mb3.8,baz=137,slow=8.6,SNR=6.3						
GUN	Gumba	57.68	294	eP	P	15 10 57.3	+0.5
	7.0nm,0.6s,mb4.9						
PKI	Pulchoki	58.10	294	eP	P	15 10 59.5	-0.2
	3.2nm,0.6s,mb4.6						
DMN	Daman	58.37	294	eP	P	15 11 02.5	+0.9
	4.4nm,0.4s,mb4.8						
GKN	Gorkha	58.78	294	eP	P	15 11 05.1	+0.6
	5.9nm,0.5s,mb4.9						
KOLN	Koldanda	59.70	294	eP	P	15 11 11.3	+0.4
	4.9nm,0.7s,mb4.6						
BVAR	Borovoye Array	70.30	321	P	P	15 12 17.9	-1.0
	1.3nm,0.5s,mb4.1,baz=114,slow=7.5,SNR=7.8						
DBIC	Dimbokro	144.76	305	PKP	PKPdf	15 20 41.4	0.0
	3.8nm,0.5s,baz=25,slow=3.6,SNR=9.6						
KIC	Kosan Boka	144.85	304	ePKP1	PKPbc	15 20 41.8	+0.2
	13nm,0.6s						
TIC	Toumodi	144.91	305	ePKP1	PKPbc	15 20 41.9	+0.1
	21nm,0.2s						
LIC	Lamto	145.16	304	ePKP1	PKPbc	15 20 42.8	+0.3
	24nm,0.7s						
LPAZ	La Paz	146.47	98	PKPbc	PKPbc	15 20 46.0	+0.4
	0.5nm,0.7s,baz=180,slow=1.0,SNR=3.5						

*NEIC **16** 15:11:42.8±1.6, 51.48N×16.05E, h5km, ML2.7(VIE), Error ellipse: s-maj=16.1km s-min=5.9km az=208.0*

*PRU **16** 15:11:43.7, 51.44N×16.09E*

*WAR **16** 15:11:43.5, 51.48N×16.10E, ML2.8, Mining Induced*

ISC 16 15:11:41.8±0.9**, 51.44N**±0.04×**16.02E**±0.04**, n16,** σ**1.12**/33**, 1C, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.62	164	ePg	Pg	15 11 55.4	+1.2
KSP				eSg	Sg	15 12 04.0	+1.5
UPC	Upice	0.93	180	ePG	Pg	15 12 01.5	+1.1
DPC	Dobruska-Polom	1.11	170	ePG	Pg	15 12 04.4	+0.5
DPC				eSG	Sg	15 12 19.6	+0.9
PVCC	Panska Ves	1.29	226	ePG	Pg	15 12 08.6	+1.0
BRG	Berggiesshubel	1.42	247	i Pg	Pg	15 12 11.0	+0.8
BRG				i Sg	Sg	15 12 31.0	+1.8
PRU	Pruhonice	1.73	213	PG	Pg	15 12 16.0	-0.3
PRU				i x	x	15 12 19.3	
PRU				i x	x	15 12 32.9	
PRU				SG	Sg	15 12 39.0	-0.4
	11nm,0.4s						
CLL	Collm	1.89	267	ePN	Pn	15 12 16.0	+0.3
CLL				i PG	Pg	15 12 18.9	-0.7
CLL				e		15 12 22.0	
CLL				i SG	Sg	15 12 45.2	+0.3
CLL	Collm	1.89	267	ePn	Pn	15 12 16.0	+0.3
CLL				i Pg	Pg	15 12 18.9	-0.7
CLL				i Sg	Sg	15 12 45.2	+0.3
MORC	Moravsky Berou	1.93	149	ePn	Pn	15 12 16.3	+0.1
MORC				eSn	Sn	15 12 42.6	+1.1
OKC	Ostrava-Krasne	2.10	139	eSG	Sg	15 12 49.0	-2.7
NKC	Novy Kostel	2.56	243	ePG	Pg	15 12 32.7	-0.3
NKC				eSG	Sg	15 13 07.2	0.0
OJC	Ojcow	2.69	116	ePg	Pg	15 12 34.9	-0.6
OJC				eSg	Sg	15 13 08.1	-3.3
OJC	Ojcow	2.69	116	ePg	Pg	15 12 34.9	-0.6
OJC				eSg	Sg	15 13 08.1	-3.3
KHC	Kasperske Hory	2.79	215	ePN	Pn	15 12 29.5	+1.0
KHC				ePG	Pg	15 12 35.2	-2.3
KHC				eSN	Sn	15 13 03.2	-0.2
KHC				eSG	Sg	15 13 12.5	-2.2
MOX	Moxa	2.89	256	ePg	Pg	15 12 38.1	-1.4
MOX				eSg	Sg	15 13 17.6	-0.4
MOA	Molln	3.77	198	⇑iPN	Pn	15 12 42.6	+0.2
MOA				i SG	Sg	15 13 45.9	-1.4
	1.2nm,0.2s						

IDC 16 15:11:53.5±73.0**, 24.08S**×**179.95E, h640km**±390km**, mb3.0**/4**, mb1 3.1**/4**, mb1mx2.8**/13**, Error ellipse: s-maj=904.0km s-min=96.9km az=80.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	31.43	271	P	P	15 17 26.2	-0.7
	2.9nm,0.3s,baz=96,slow=11,SNR=11						
STKA	Stephens Creek	34.62	248	P	P	15 17 51.0	-2.3
	1.0nm,0.4s,baz=78,slow=9.3,SNR=5.1						
ASAR	Alice Springs	41.96	261	P	P	15 18 51.4	-1.4
	0.6nm,0.6s,baz=96,slow=7.9,SNR=7.5						
WRA	Warramunga Arr	42.35	266	P	P	15 18 54.3	-1.5
	1.4nm,0.3s,baz=98,slow=8.5,SNR=7.7						

*IDC **16** 15:20:18.8±0.8, 6.97S×107.27E, mb3.9/9, mb1 4.0/10, mb1mx4.0/17, Error ellipse: s-maj=33.3km s-min=16.8km az=61.0*

*DJA **16** 15:20:24.8±0.2, 7.25S×107.26E, h28km±4km, MD4.6/4, ML5.0/2, Error ellipse: s-maj=15.6km s-min=3.6km az=24.0*

*NEIC **16** 15:20:26.6±6.9, 7.01S×107.30E, h61km±63km, mb4.1/3, Error ellipse: s-maj=33.3km s-min=11.1km az=63.0*

NEIC Felt [III] at Bandung.

ISC 16 15:20:24.3±0.6**, 7.0S**±0.1×**107.32E**±0.05**, h52km**±6km**, n33,** σ**1.02**/34**, mb3.8**/11**, 5C-2D, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LEM	Lembang	0.35	60	ePn	P	15 20 32.6	-1.5
LEM				eSn	S	15 20 41.6	+0.5
PULI	Pulasari	1.48	296	ePn	P	15 20 49.6	+0.5
PASI	Pasiripis	1.74	280	⇑ePn	P	15 20 51.5	-1.2
PASI				eSn	S	15 21 12.7	-1.1
	2μm,0.2s						
PENI	Pendagan	2.57	304	⇓ePn	P	15 21 05.5	+1.1
PENI	Pendagan	2.57	304	eP	P	15 21 06.7	+2.3
	131nm,0.2s						
PENI				eSn	S	15 21 35.7	+1.2
SRDI	Scrawed	6.92	103	⇑iPn	P	15 22 05.2	-0.4
	46nm,0.2s						
KELI	Kelakatan	7.21	100	⇑iPn	P	15 22 11.5	+1.9
RATI	Rata	8.32	102	⇓iPn	P	15 22 25.1	+0.3
KEDI	Kedomdong	8.84	100	⇑iPn	P	15 22 32.5	+0.5
FITZ	Fitzroy Crossi	20.99	123	eP	P	15 25 04.6	-1.0
	6.5nm,0.7s						
FITZ	Fitzroy Crossi	20.99	123	P	P	15 25 03.9	-1.7
	9.6nm,0.8s,baz=308,slow=3.5,SNR=14						
KAKA	Kakadu	25.34	105	eP	P	15 25 56.4	+8.1
	6.4nm,0.8s,mb4.2						
CMAR	Chiang Mai Arr	26.61	342	P	P	15 25 58.7	-1.3
	0.7nm,0.8s,mb3.3,baz=176,slow=7.4,SNR=5.2						
WRA	Warramunga Arr	29.20	119	P	P	15 26 22.8	-0.6
	0.3nm,0.3s,mb3.5,baz=290,slow=11,SNR=14						
WRAB	Tennant Creek	29.20	119	eP	P	15 26 22.7	-0.7
WB2	Warramunga Arr	29.21	119	eP	P	15 26 23.2	-0.2
ASAR	Alice Springs	30.43	126	P	P	15 26 34.1	-0.1
	0.7nm,0.7s,mb3.5,baz=304,slow=8.7,SNR=7.9						
STKA	Stephens Creek	40.41	132	P	P	15 27 59.5	+0.3
	6.5nm,0.6s,mb4.6,baz=304,slow=8.0,SNR=3.0						
STKA	Stephens Creek	40.41	132	eP	P	15 27 59.0	-0.1
SONM	Songino Array	54.60	359	P	P	15 29 49.9	0.0
	0.9nm,1.1s,mb3.7,baz=158,slow=6.6,SNR=3.3						
SONM				PcP	PcP	15 30 50.7	-1.5
	0.3nm,0.4s,baz=181,slow=4.4,SNR=5.6						
MAW	Mawson	67.45	197	P	P	15 31 16.1	-0.3
	0.8nm,0.6s,mb3.9,baz=49,slow=10.0,SNR=4.7						
BVAR	Borovoye Array	67.49	337	P	P	15 31 16.1	-0.8
	0.6nm,0.6s,mb3.8,baz=146,slow=11,SNR=4.6						
VNDA	Vanda	75.91	169	P	P	15 32 07.3	+0.7
	0.7nm,0.9s,mb3.6,baz=305,slow=9.0,SNR=4.0						
VNDA	Vanda	75.91	169	eP	P	15 32 06.0	-0.7
QSPA	South Pole Qui	82.99	180	eP	P	15 32 45.3	+0.5
	1.5nm,0.8s,mb4.1						
SNAA	Sanae	89.62	197		P	15 33 18.0	+0.8
SNAA	Sanae	89.62	197	P	P	15 33 18.9	+1.7
	0.4nm,0.6s,mb4.0,baz=115,slow=4.3,SNR=7.8						
SNAA	Sanae	89.62	197	P	P	15 33 18.0	+0.8
VNA2	Neumayer--Watz	91.26	197		P	15 33 29.0	+4.1
VNA1	Neumayer--Stat	91.64	198	⇑i	P	15 33 31.3	+4.6
VNA3	Neumayer Olymp	91.78	197		P	15 33 30.2	+2.9
CPUP	Villa Florida	143.67	204	PKP	PKPdf	15 39 53.7	-0.5
	1.3nm,0.6s,baz=176,slow=4.3,SNR=4.3						
CPUP	Villa Florida	143.67	204	PKP	PKPdf	15 39 53.7	-0.5

TAP 16 15:21:03.2, 22.93N×**120.96E, h8km, ML3.6, 2C-13D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWG	Pinlang	0.15	136	⇓iP	Pg	15 21 07.0	+0.4
TWG				S	Sg	15 21 09.4	+0.6
ELDTW	Lidau	0.26	12	i P	Pg	15 21 08.9	+0.2
ELDTW				S	Sg	15 21 12.3	+0.1
STYT	Tauyuan	0.30	321	⇓iP	Pg	15 21 09.7	+0.4
STYT				S	Sg	15 21 14.1	+0.6
ECL	Taimali	0.33	181	⇑iP	Pg	15 21 09.8	-0.2
ECL				S	Sg	15 21 13.9	-0.6
SSD	Sandimen	0.35	239	⇓iP	Pg	15 21 10.0	-0.4
SSD				S	Sg	15 21 14.4	-0.8
SGST	Jiashian	0.38	294	⇓iP	Pg	15 21 11.8	+0.9
SGST				S	Sg	15 21 17.7	+1.7
CHKT	Chengkung	0.41	66	⇓iP	Pg	15 21 12.5	+1.0
CHKT				S	Sg	15 21 19.8	+2.8
WTP	Ta-pu	0.45	315	⇓iP	Pg	15 21 13.2	+1.0
WTP				S	Sg	15 21 20.2	+1.9
CHN1	Nanshi	0.47	303	eP	Pg	15 21 13.7	+1.0
CHN1				S	Sg	15 21 22.9	+3.8
SGLT	Jiouru	0.48	245	⇓P	Pg	15 21 13.7	+0.8
SGLT				S	Sg	15 21 21.0	+1.7
TWM1	Shoushan	0.51	258	⇓P	Pg	15 21 14.7	+1.3
TWF1	Yuli	0.52	36	⇓iP	Pg	15 21 13.6	-0.1
TWF1				S	Sg	15 21 20.4	-0.3
CHN4	Tsaushan	0.54	321	⇓P	Pg	15 21 15.2	+1.1
CHN4				S	Sg	15 21 23.4	+2.2
TWK	Hsinying	0.55	308	⇓iP	Pg	15 21 15.6	+1.4
TWK				S	Sg	15 21 24.6	+3.0
EAST	Anshuo	0.55	191	⇓iP	Pg	15 21 14.2	-0.1
EAST				S	Sg	15 21 21.6	-0.1
CHN3	Shinhua	0.57	285	eP	Pg	15 21 17.3	+2.7
CHN3				S	Sg	15 21 28.7	+6.5
TAW	Tawu	0.57	186	eP	Pg	15 21 14.5	-0.2
ALS	Alishan	0.59	346	i P	Pg	15 21 15.2	0.0
ALS				S	Sg	15 21 24.0	+0.8
SCZT	Fangliau	0.64	210	⇓iP	Pg	15 21 15.5	-0.5
SCZT				S	Sg	15 21 24.5	0.0
EHY	Hungye	0.66	30	P	Pg	15 21 16.0	-0.5
EHY				S	Sg	15 21 24.9	-0.5
CHN5	Tsauling	0.71	339	⇑P	Pb	15 21 17.9	+0.5
CHN5				S	Sb	15 21 29.1	+2.1
SCLT	Jiali	0.75	289	eP	Pb	15 21 20.3	+2.4
SCLT				S	Sb	15 21 33.0	+5.0
CHY	Chiayi	0.75	319	eP	Pb	15 21 19.8	+1.8
CHY				S	Sb	15 21 31.5	+3.4
CHN8	Yiju	0.80	301	eP	Pb	15 21 21.0	+2.0
CHN8				S	Sb	15 21 34.4	+4.7
WGK	Gukeng	0.84	334	eP	Pb	15 21 21.3	+1.9
WGK				S	Sb	15 21 34.4	+3.8
HEN	Hengchun	0.94	193	eP	Pb	15 21 22.6	+1.3
SMLT	Sun Moon Lake	0.95	357	eP	Pb	15 21 22.2	+0.8
SMLT				S	Sb	15 21 37.6	+3.7
TYC	Yuchr	0.97	354	eP	Pb	15 21 23.2	+1.4
TYC				S	Sb	15 21 38.5	+3.9
WNT	Mingjian	0.98	345	eP	Pb	15 21 22.8	+0.9
WNT				S	Sb	15 21 38.0	+3.3
WSF	Szhu	0.98	316	eP	Pb	15 21 23.2	+1.3
WSF				S	Sb	15 21 38.2	+3.4
ESL	Shilin	0.98	26	eP	Pb	15 21 21.7	-0.3
ESL				S	Sb	15 21 35.2	+0.4
WTCT	Ta-ch'eng	1.12	326	eP	Pb	15 21 25.3	+1.0
WTCT				S	Sb	15 21 41.7	+2.9
TCU	Taichung	1.24	348	eP	Pb	15 21 28.3	+1.9
TCU				S	Sb	15 21 45.6	+3.3
WDGT	Dungji	1.24	286	eP	Pb	15 21 26.7	+0.3
WDGT				S	Sb	15 21 43.8	+1.4
TWD	Chiawan	1.28	27	eP	Pb	15 21 27.7	+0.6
TWD				S	Sb	15 21 44.1	+0.4
TWT	Tachien	1.33	9	eP	Pb	15 21 28.6	+0.7
TWT				S	Sb	15 21 49.0	+4.0
TWQ1	Liyutan	1.42	353	eP	Pn	15 21 31.2	+1.8
TWQ1				S	Sb	15 21 52.3	+4.7
PNG	Penghu	1.44	296	eP	Pn	15 21 29.8	+0.2
PNG				S	Sb	15 21 48.9	+0.8
NSY	Sanyi	1.49	353	eP	Pn	15 21 32.4	+2.1
NSY				S	Sb	15 21 54.6	+5.0
NNS	Nan Shan	1.55	14	eP	Pn	15 21 32.4	+1.2
NNS				S	Sb	15 21 52.5	+1.1
ENA	Nanau	1.65	25	eP	Pn	15 21 33.5	+0.8
NSTT	Nanjuang	1.69	1	eP	Pn	15 21 34.6	+1.4
NSTT				S	Sn	15 21 59.1	+3.9
NSK	Sanguang	1.78	12	eP	Pn	15 21 36.0	+1.6
NSK				S	Sn	15 22 02.0	+4.7
ENTT	Nioudou	1.79	18	eP	Pn	15 21 36.8	+2.2
ENTT				S	Sn	15 22 02.0	+4.3
TWC	Suao	1.86	26	eP	Pn	15 21 38.2	+2.6
TWC				S	Sn	15 22 02.1	+2.6
TWE	Neicheng	1.90	20	eP	Pn	15 21 38.6	+2.5
TWA	Mucha	2.12	15	eP	Pn	15 21 43.0	+3.7
NWF	Wu-fen Shan	2.26	19	eP	Pn	15 21 42.8	+1.5

MEX 16 15:23:23.3±0.8**, 15.89N**×**96.29W, h39km**±16km**, MD3.6, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUIG	Huatulco	0.21	124	eP	P	15 23 29.0	-1.5
HUIG				i S	S	15 23 33.9	-1.6
VHO	Vista Hermosa	1.25	340	eP	P	15 23 43.2	-1.4
VHO				i S	S	15 23 58.0	-2.6
OXX	Oaxaca	1.26	341	i P	P	15 23 43.5	-1.2
OXX				i S	S	15 24 00.0	-0.7
CMIG	Matias Romero	1.80	48	eP	P	15 23 50.6	-1.9
CMIG				i S	S	15 24 11.0	-3.3

*MOS **16** 15:28:23.9±1.2, 34.29N×33.20E, h33km, mb5.0/25, Error ellipse: s-maj=11.0km s-min=4.7km az=102.3*

*CSEM **16** 15:28:25.3, 34.37N×33.26E, h42km, mb4.8*

*HRVD **16** 15:28:27.6±0.9, 34.28N×33.09E, h43km±4km, MW4.7/31, Centroid moment Tensor Solution. LP body waves: s6,c7; Mantle waves: s31,c37; Half duration: 0 Moment tensor: Scale 10^16 Nm; M_{rr}0.45±.22; $M_{\theta\theta}$-0.61±.15; $M_{\phi\phi}$0.16±.16; $M_{r\theta}$0.79±.10; $M_{\theta\phi}$0.96±.11; $M_{\phi r}$-0.04±.11; Best double couple: $M_0$1.32×10^16 NP1:ϕ_s347°,δ47°,λ164°. NP2:ϕ_s88°, δ78°,λ44°. Principal axes: T 1.14, Plg38°, Azm317°; N .37, Plg45°, Azm100°; P -1.5, Plg20°, Azm211°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **16** 15:28:27.6±0.1, 34.34N×33.25E, mb4.8/91 Error ellipse: s-maj=2.9km s-min=2.1km az=37.0*

NEIC Felt at Limassol. Also felt at Zefat, Israel.

*BJI **16** 15:28:27.6, 34.30N×33.30E, h50km, mB5.2, mb5.0, Ms5.2, Msz5.3*

*GRAL **16** 15:28:27.9±0.8, 34.35N×33.35E, h34km±680km, MD4.1*

*MED_RC **16** 15:28:27.7±0.4, 34.53N×33.21E, h37km±2km, MW4.6/15, Moment Tensor Solution. Body waves: s15,c27; Duration: 1.0 Moment tensor: Scale 10^15 Nm; M_{rr}5.61±.56; $M_{\theta\theta}$-3.85±.31; $M_{\phi\phi}$-1.75±.37; $M_{r\theta}$5.92±.27; $M_{\theta\phi}$5.01±.25; $M_{\phi r}$-0.40±.24; Best double couple: $M_0$9.2×10^15 NP1: ϕ_s336°,δ34°,λ137°. NP2:ϕ_s105°,δ68°,λ64°. Principal axes: T 8.81, Plg59°, Azm338°; N .77, Plg24°, Azm115°; P -9.58, Plg19°, Azm213°; nsta1 refers to waves, cutoff=35s.*

*ZUR_RM **16** 15:28:27, 34.34N×33.25E, h42km, Mw4.8/14, Moment Tensor Solution. s14 Moment tensor: Scale 10^16 Nm; M_{rr}1.28; $M_{\theta\theta}$-0.76; $M_{\phi\phi}$-0.52; $M_{r\theta}$0.70; $M_{\theta\phi}$0.82; $M_{\phi r}$0.03; Best double couple: $M_0$1.55×10^16 NP1:ϕ_s112°,δ58°,λ68°. NP2:ϕ_s330°,δ38°,λ121°. Principal axes: T 1.539, Plg68°, Azm336°; N .025, Plg19°, Azm124°; P -1.564, Plg11°, Azm218°;*

*THE **16** 15:28:28.4, 34.25N×33.03E, h24km*

*IDC **16** 15:28:28.3±1.2, 34.38N×33.19E, h49km±11km, mb4.5/17, mb1 4.7/24, mb1mx4.7/24, ML4.7/6, MS3.8/12, Ms1 3.8/12, ms1mx3.7/20, Error ellipse: s-maj=12.9km s-min=8.3km az=39.0*

*NIC **16** 15:28:30.2±0.2, 34.43N×33.29E, h30km, ML4.5, MW4.1*

NIC Felt earthquake; Maximum Intensity 4; Felt I=IV MM at Limassol , I=III MM at Larnaca and Nicosia and I=II MM at Pafos.

*NSSC **16** 15:28:30.8, 34.49N×33.61E, h40km*

*GII **16** 15:28:30.5±0.8, 34.17N×33.41E, h25km±30km, mb4.5/5, ML4.4/5, Mw4.4/6*

GII Felt III.

ISC 16 15:28:25.5±0.2**, 34.33N**±0.01×**33.24E**±0.02**, h44km**±2km**, n592,** σ**1.11**/643**, mb4.8**/122**, MS3.7**/14**, 33C-49D, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SZAC	Souni-Zanaja	0.52	325	⇑P	P	15 28 38.6	+2.0
SZAC	Souni-Zanaja	0.52	325	⇑iP	P	15 28 38.6	+2.0
CSS	Prodhromos	0.63	7	⇓P	P	15 28 39.1	+0.9
CSS				S	S	15 28 46.8	-0.6
CSS	Prodhromos	0.63	7	i PG	P	15 28 39.1	+0.9
CSS	Prodhromos	0.63	7	eP	P	15 28 38.9	+0.8
CSS	Prodhromos	0.63	7	eP	P	15 28 38.9	+0.8
CSS				S	S	15 28 46.8	-0.6
LEF	Lefka	0.84	340	Pn	P	15 28 43.0	+2.1
LEF	Lefka	0.84	340	Pn	P	15 28 43.0	+2.0
MAMC	Mammari	0.84	359	i PG	P	15 28 42.3	+1.3
MAMC	Mammari	0.84	359	⇓eP	P	15 28 42.3	+1.3
PPCY	Paphos	0.92	307	⇑P	P	15 28 44.4	+2.3
PPCY				S	S	15 28 55.3	+0.9
PPCY	Paphos	0.92	307	i Pg	P	15 28 44.4	+2.3
PHNC	Paralimni	0.94	44	⇓iP	P	15 28 43.5	+1.1
PHNC				S	S	15 28 54.3	-0.5
ALFC	Alevga	0.98	328	i PG	P	15 28 44.7	+1.8
ALFC	Alevga	0.98	328	⇓eP	P	15 28 44.7	+1.8
AKMC	Akamas	1.02	313	i PG	P	15 28 46.0	+2.5
MATL	Matirih	1.93	115	i PG	P	15 28 56.8	+0.3
IKL	Isikli	1.94	11	Pn	P	15 28 58.3	+1.7
HNTI	Hanita	2.04	127	Pn	P	15 28 58.4	+0.4
HNTI				Sn	S	15 29 20.4	-2.0
HNTI	Hanita	2.04	127	P	P	15 28 58.5	+0.4
HNTI				S	S	15 29 21.4	-1.0
BHL	Bhannes	2.05	101	i PG	P	15 28 57.7	-0.5
BHL				i SG	S	15 29 20.1	-2.5
HAF	Haifa	2.15	136	Pn	P	15 28 60.0	+0.3
HAF	Haifa	2.15	136	P	P	15 28 59.9	+0.2
HWQ	Hawqa	2.24	91	i PG	P	15 29 01.3	+0.3
HWQ				i SG	S	15 29 25.0	-2.6
OFRI	'Ofer	2.25	139	Pn	P	15 29 01.4	+0.3
OFRI	'Ofer	2.25	139	P	P	15 29 01.3	+0.3
KSDI	Kefar Szold	2.31	119	Pn	P	15 29 02.5	+0.5
KSDI	Kefar Szold	2.31	119	P	P	15 29 02.7	+0.7
HRI	Mount Hermon	2.33	116	Pn	P	15 29 02.6	+0.3
MEST	Erdemli	2.37	18	i P	P	15 29 03.8	+1.0
MEST				i S	S	15 29 31.9	+1.1
BRBR	Barbar	2.44	111	⇑P	P	15 29 04.6	+0.8
BRBR				⇑S	S	15 29 30.1	-2.4
BRBR	Barbar	2.44	111	⇑iP	P	15 29 04.6	+0.9
BRBR				⇑iS	S	15 29 30.1	-2.4
KSHT	Keshet	2.53	121	Pn	P	15 29 06.1	+0.9
KSHT	Keshet	2.53	121	P	P	15 29 06.3	+1.2
SLTI	Sal'it	2.58	144	Pn	P	15 29 05.6	-0.2
SLTI	Sal'it	2.58	144	P	P	15 29 05.7	0.0
GLH	Golan-Tel Qazi	2.58	128	Pn	P	15 29 07.1	+1.3
HAWK	Haweek	2.62	85	⇑P	P	15 29 06.4	-0.1
HAWK				⇑S	S	15 29 31.9	-5.3
HAWK	Haweek	2.62	85	⇑iP	P	15 29 06.4	0.0
MMLI	Mount Malkishu	2.63	135	Pn	P	15 29 07.3	+0.8
BIDA	Albida	2.63	74	⇓P	P	15 29 06.3	-0.2
BIDA				⇓S	S	15 29 32.5	-5.0
BIDA	Albida	2.63	74	⇓iP	P	15 29 06.3	-0.2
BIDA				⇓iS	S	15 29 32.5	-4.9
QASN	Qassioun	2.65	107	⇑P	P	15 29 08.2	+1.4
QASN				⇑S	S	15 29 35.6	-2.3
QASN	Qassioun	2.65	107	⇑iP	P	15 29 08.2	+1.4
HDMB	Hadim	2.70	347	Pn	P	15 29 09.3	+1.8
HDMB	Hadim	2.70	347	Pn	P	15 29 09.3	+1.8
MARH	Ras Al Marh	2.71	96	⇑P	P	15 29 08.6	+1.0
MARH				⇑S	S	15 29 35.1	-4.2
MARH	Ras Al Marh	2.71	96	⇑iP	P	15 29 08.6	+1.0
MARH				⇑iS	S	15 29 35.1	-4.3
ARNB	Al Arnab	2.71	55	⇓P	P	15 29 07.5	-0.2
ARNB				⇓S	S	15 29 34.3	-5.2
ARNB	Al Arnab	2.71	55	⇓iP	P	15 29 07.4	-0.3
SLNF	Slenfeh	2.76	62	⇓P	P	15 29 07.7	-0.6
SLNF				⇓S	S	15 29 34.6	-6.0
SLNF	Slenfeh	2.76	62	⇓iP	P	15 29 07.7	-0.6
TCHB	Talchebab	2.82	125	⇓P	P	15 29 10.6	+1.3
TCHB				⇓S	S	15 29 41.8	-0.4
TCHB	Talchebab	2.82	125	⇓iP	P	15 29 10.6	+1.4
TCHB				⇓iS	S	15 29 41.8	-0.5
HMDT	Nahal Hemdat	2.82	137	Pn	P	15 29 10.2	+1.0

HMDT	Nahal Hemdat	2.82	137	Pn	P	15 29 10.2	+0.9
TOTH	TOTAH	2.83	109	⇓P	P	15 29 10.7	+1.4
TOTH				⇓S	S	15 29 39.6	-2.8
TOTH	TOTAH	2.83	109	⇓iP	P	15 29 10.7	+1.4
WRDH	Warideh	2.86	65	⇓P	P	15 29 09.3	-0.5
WRDH				⇓S	S	15 29 37.5	-5.7
WRDH	Warideh	2.86	65	⇓iP	P	15 29 09.3	-0.5
HTY	Hatay	2.97	52	Pn	P	15 29 11.3	0.0
HTY	Hatay	2.97	52	Pn	P	15 29 11.3	0.0
KFRA	Kufra	3.06	72	⇓P	P	15 29 12.6	0.0
KFRA				⇓S	S	15 29 43.0	-5.4
KFRA	Kufra	3.06	72	⇓iP	P	15 29 12.6	0.0
BTCH	Batrach	3.14	56	⇓P	P	15 29 13.6	-0.1
BTCH				⇓S	S	15 29 43.6	-6.7
BTCH	Batrach	3.14	56	⇓iP	P	15 29 13.6	-0.1
DRGI	Dragot	3.28	146	Pn	P	15 29 16.8	+1.1
COBT	Iskenderun	3.29	48	i P	P	15 29 16.1	+0.1
COBT				i S	S	15 29 51.9	-2.3
SALA	Sala	3.34	118	⇓P	P	15 29 18.4	+1.9
SALA				⇓S	S	15 29 52.3	-3.0
SALA	Sala	3.34	118	⇓iP	P	15 29 18.4	+1.9
CEYT	Ceyhan	3.36	37	Pn	P	15 29 16.5	-0.4
CEYT	Ceyhan	3.36	37	Pn	P	15 29 16.5	-0.4
RTMM	Retamin	3.49	159	Pn	P	15 29 19.4	+0.7
MZDA	Masada	3.50	149	Pn	P	15 29 19.9	+1.0
MZDA				Sn	S	15 29 57.6	-2.0
MZDA	Masada	3.50	149	P	P	15 29 19.9	+1.0
MZDA				S	S	15 29 59.0	-0.6
MZDA	Masada	3.50	149	P	P	15 29 19.9	+1.0
MZDA				Sn	S	15 29 57.6	-2.0
MZDA				S	S	15 29 59.0	-0.6
KZIT	Kziot	3.55	164	Pn	P	15 29 20.1	+0.5
KZIT				Sn	S	15 29 58.8	-2.1
KZIT	Kziot	3.55	164	P	P	15 29 20.2	+0.6
KZIT				S	S	15 29 59.4	-1.4
KZIT	Kziot	3.55	164	Pn	P	15 29 20.1	+0.5
KZIT				Sn	S	15 29 58.7	-2.1
MASH	Mash‘abbe Sade	3.57	158	Pn	P	15 29 20.5	+0.6
DRWC	Darouich	3.61	50	⇑P	P	15 29 20.1	-0.3
DRWC	Darouich	3.61	50	⇑iP	P	15 29 20.1	-0.3
ELL	Elmali	3.63	313	Pn	P	15 29 21.2	+0.5
ELL	Elmali	3.63	313	Pn	P	15 29 21.2	+0.5
KONT	Konya--Tatoy	3.67	349	Pn	P	15 29 22.9	+1.6
KONT	Konya--Tatoy	3.67	349	Pn	P	15 29 22.9	+1.6
ZALF	Zalf	3.69	111	⇓P	P	15 29 23.1	+1.5
ZALF				⇓S	S	15 30 01.5	-2.9
ZALF	Zalf	3.69	111	⇓iP	P	15 29 23.1	+1.5
ZALF				⇓iS	S	15 30 01.5	-2.9
ASF	Jabal al Asfar	3.75	124	P	P	15 29 23.7	+1.4
	92nm,0.3s,baz=179,slow=5.2,SNR=810						
ASF				S	S	15 30 09.2	+3.4
	293nm,0.3s,baz=270,slow=16,SNR=14						
ASF				LR	LR	15 31 05.6	
	comp=Z,2µm,18.5s,baz=188,slow=41						
BCK	Bucak	3.79	326	Pn	P	15 29 24.1	+1.2
BCK	Bucak	3.79	326	Pn	P	15 29 24.1	+1.1
NIG	Nigde	3.93	16	Pn	P	15 29 26.6	+1.6
NIG	Nigde	3.93	16	Pn	P	15 29 26.6	+1.7
ZFRI	Zfri	4.11	156	Pn	P	15 29 27.5	0.0
ZFRI	Zfri	4.11	156	P	P	15 29 27.6	+0.1
ISP	Isparta	4.14	329	Pn	P	15 29 29.6	+1.6
PRNI	Paran	4.24	159	Pn	P	15 29 29.5	+0.2
PRNI				Sn	S	15 30 16.7	-1.5
PRNI	Paran	4.24	159	P	P	15 29 29.6	+0.3
PRNI				S	S	15 30 17.1	-1.1
GAZ	Gaziantep	4.30	48	Pn	P	15 29 29.5	-0.6
GAZ	Gaziantep	4.30	48	Pn	P	15 29 29.5	-0.6
KMTI	Karmit	4.40	163	Pn	P	15 29 31.8	+0.2
KMTI				Sn	S	15 30 20.0	-2.2
KAHT	Ahir Dag	4.42	41	i P	P	15 29 31.9	0.0
DALT	Dalyan (Mudla)	4.47	304	Pn	P	15 29 32.8	+0.2
DALT	Dalyan (Mudla)	4.47	304	Pn	P	15 29 32.8	+0.2
QURS	Qurayyt al Mil	4.52	129	P	P	15 29 35.3	+2.0
ARG	Arkhangelos	4.58	296	eP	P	15 29 33.8	-0.4
ARG	Arkhangelos	4.58	296	P	P	15 29 34.0	-0.2
AVNT	Avonos	4.62	16	i P	P	15 29 35.4	+0.7
AVNT				i S	S	15 30 26.4	-1.4
GZT	Gaziantep	4.63	48	i P	P	15 29 33.5	-1.3
KIZT	Kizilcal	4.67	347	Pn	P	15 29 36.4	+1.0
KIZT	Kizilcal	4.67	347	Pn	P	15 29 36.4	+1.0
MBH	Mount Berech	4.75	162	Pn	P	15 29 36.8	+0.3
MBH	Mount Berech	4.75	162	P	P	15 29 36.5	+0.1
MBH	Mount Berech	4.75	162	Pn	P	15 29 36.7	+0.3
DNZL	Cakiroluk	4.77	316	i P	P	15 29 37.6	+0.7
DNZL				i S	S	15 30 31.0	-0.6
DENT	Denizli	4.82	316	Pn	P	15 29 38.6	+1.0
AQBJ	Aqaba	4.84	161	Pn	P	15 29 38.1	+0.3
EIL	Elat	4.87	162	Pn	P	15 29 38.4	+0.2
EIL	Elat	4.87	162	P	P	15 29 38.6	+0.4
YER	Yerkesik	4.91	306	Pn	P	15 29 39.2	+0.5
YER	Yerkesik	4.91	306	Pn	P	15 29 39.2	+0.5
BNN	Bunyan	4.97	24	Pn	P	15 29 40.0	+0.4
BNN	Bunyan	4.97	24	Pn	P	15 29 40.0	+0.3
KHL	Karahalli	4.99	324	Pn	P	15 29 40.1	+0.3
KHL	Karahalli	4.99	324	Pn	P	15 29 40.1	+0.3
KAMT	Kaman	5.04	4	Pn	P	15 29 41.9	+1.3
KAMT	Kaman	5.04	4	Pn	P	15 29 41.9	+1.3
KARP	Karpathos	5.14	285	eP	P	15 29 41.8	-0.1
MLSB	Milas	5.33	305	Pn	P	15 29 44.2	-0.5
MLSB	Milas	5.33	305	Pn	P	15 29 44.2	-0.5
ALT	Altintas	5.34	333	Pn	P	15 29 45.1	+0.3
ALT	Altintas	5.34	333	Pn	P	15 29 45.1	+0.3
JMOS	Jabal al Moall	5.39	162	P	P	15 29 45.0	-0.4
BRTR	Keskin Array B	5.39	3	P	P	15 29 46.9	+1.4
	16nm,0.3s,baz=192,slow=14,SNR=551						
BRTR				S	S	15 30 47.2	+0.1
	5.2nm,0.3s,baz=172,slow=19,SNR=4.1						
BRTR				LR	LR	15 31 58.3	
	comp=Z,983nm,21.9s,baz=260,slow=39						
BRTR	Keskin Array B	5.39	3	P	P	15 29 46.9	+1.4
BRTR				S	S	15 30 47.2	0.0
BRTR				pmax	pmax		
	comp=Z,16nm,0.3s						
BRTR				MLR	MLR		
	comp=Z,983nm,21.9s						
BDRM	Kayabasi	5.45	302	i P	P	15 29 45.9	-0.3
BDRM				i S	S	15 30 38.1	-10
HAQS	Haql	5.46	164	P	P	15 29 46.2	-0.2
AYDN	Tasoluk	5.47	309	i P	P	15 29 46.4	-0.1
AYDN				i S	S	15 30 42.2	-6.8
NISR	Nisiros	5.48	296	eP	P	15 29 47.0	+0.3
ESKT	Eskisehir	5.52	340	i P	P	15 29 48.0	+0.7
ESKT				i S	Sx	15 31 14.7	
ESKT	Eskisehir	5.52	340	Pn	P	15 29 47.8	+0.5
ANTO	Ankara	5.54	356	Pn	P	15 29 48.3	+0.8
ANTO	Ankara	5.54	356	Pn	P	15 29 48.3	+0.8
YOZ	Yozgat	5.55	17	Pn	P	15 29 48.2	+0.5
YOZ	Yozgat	5.55	17	Pn	P	15 29 48.2	+0.5
LOD	Lodumlu	5.56	356	Pn	P	15 29 48.0	+0.2
LOD	Lodumlu	5.56	356	Pn	P	15 29 48.0	+0.2
MANT	Manisa	5.61	319	i P	P	15 29 47.8	-0.7
MANT				i S	S	15 30 48.8	-3.8
MYA	Malataya	5.78	45	Pn	P	15 29 50.3	-0.6
MYA	Malataya	5.78	45	Pn	P	15 29 50.3	-0.6
ZKR	Zakros	5.83	280	P	P	15 29 51.7	0.0
JMQS	Jabal Moqyreh	5.88	157	P	P	15 29 52.3	+0.1
TAYS	Tayyib Ism	5.93	166	P	P	15 29 52.1	-0.9
BDAS	Al Bad‘	6.09	164	P	P	15 29 54.4	-0.9
SMG	Samos	6.18	305	eP	P	15 29 55.3	-1.3
XRY	Khrisi	6.25	277	eP	P	15 29 56.0	-1.4
CANT	Cankiri	6.27	3	Pn	P	15 29 57.9	+0.1
CANT	Cankiri	6.27	3	Pn	P	15 29 57.9	+0.1
AKS	Akhisar	6.29	318	Pn	P	15 29 57.1	-1.0
AKS	Akhisar	6.29	318	Pn	P	15 29 57.1	-1.0
IZM	Izmir	6.30	312	Pn	P	15 29 57.5	-0.7
IZM	Izmir	6.30	312	Pn	P	15 29 57.5	-0.7
MDU	Mudurnu	6.33	346	Pn	P	15 29 58.6	0.0
MDU	Mudurnu	6.33	346	Pn	P	15 29 58.7	+0.1
NPS	Neapolis	6.34	281	eP	P	15 29 58.4	-0.4
AYUS	‘Aynunah	6.37	164	P	P	15 29 58.2	-0.9
DST	Dursunbey	6.43	326	Pn	P	15 29 59.8	-0.3
DST	Dursunbey	6.43	326	Pn	P	15 29 59.8	-0.2
LAST	Lasithi	6.44	280	P	P	15 30 01.2	+1.0
TOKT	Tokat	6.53	23	Pn	P	15 30 01.1	-0.4
TOKT	Tokat	6.53	23	Pn	P	15 30 01.1	-0.4
ULDT	Uludag	6.66	332	i P	P	15 30 03.8	+0.5
ULDT				i S	S	15 31 17.1	-1.6
SANT	Santorini	6.67	290	eP	P	15 30 00.3	-3.2
	comp=Z,71nm,0.4s						
THR1	Thera Island	6.67	290	ePn	P	15 30 01.8	-1.7
THR1				eSn	S	15 31 15.5	-3.6
DIY	Diyarbakir	6.68	56	Pn	P	15 30 02.0	-1.6
TBKS	Tabuk	6.71	154	P	P	15 30 04.1	+0.1
THR6	Thira Island,	6.72	290	ePn	P	15 30 02.7	-1.4
THR6				eSn	S	15 31 16.2	-4.0
TOS	Tosya	6.72	5	Pn	P	15 30 04.1	-0.1
TOS	Tosya	6.72	5	Pn	P	15 30 04.1	-0.1
THR3	Thira Island,	6.73	290	ePn	P	15 30 02.5	-1.7
THR3				eSn	S	15 31 16.8	-3.7
THR3	Thira Island,	6.73	290	ePn	P	15 30 02.5	-1.8
THR4	Thira Island,	6.75	291	ePn	P	15 30 03.0	-1.6
THR4				eSn	S	15 31 17.4	-3.5
THR5	Thira Island,	6.77	290	ePn	P	15 30 03.3	-1.6
THR5				eSn	S	15 31 16.8	-4.8
BALB	Balikesir	6.81	323	Pn	P	15 30 04.8	-0.7
BALB	Balikesir	6.81	323	Pn	P	15 30 04.8	-0.7
APE	Apeiranthos	6.84	296	eP	P	15 30 04.5	-1.3
APE	Apeiranthos	6.84	296	Pn	P	15 30 04.0	-1.8
SAFT	Safranbolu	6.91	357	Pn	P	15 30 06.5	-0.3
SAFT	Safranbolu	6.91	357	Pn	P	15 30 06.5	-0.3
IDI	Anoyia	6.93	280	P	P	15 30 06.2	-0.9
	comp=Z,91nm,0.3s,baz=96,slow=12,SNR=197						
IDI				S	S	15 31 20.5	-5.0
	comp=Z,156nm,0.3s,baz=338,slow=19,SNR=13						
HRT	Hereke	7.07	337	Pn	P	15 30 08.4	-0.6
HRT	Hereke	7.07	337	Pn	P	15 30 08.4	-0.6
KCT	Karacabey	7.08	328	Pn	P	15 30 08.7	-0.5
KCT	Karacabey	7.08	328	Pn	P	15 30 08.7	-0.5
BADT	Buyukada	7.28	335	Pn	P	15 30 11.2	-0.8
BADT	Buyukada	7.28	335	Pn	P	15 30 11.2	-0.8
PRK	Paraskevi	7.43	313	eP	P	15 30 13.3	-0.8
VAM	Vamos	7.51	281	eP	P	15 30 13.3	-1.8
EZC	Erzincan	7.54	42	Pn	P	15 30 10.7	-4.9
GVD	Gavdhos	7.56	276	eP	Px	15 30 34.0	
GVD	Gavdhos	7.56	276	eP	P	15 30 13.2	-2.7
	comp=Z,150nm,0.3s						
BZK	Bozkurt	7.64	4	Pn	P	15 30 16.3	-0.6
BZK	Bozkurt	7.64	4	Pn	P	15 30 16.3	-0.6
GUMT	Gumushane	7.88	37	Pn	P	15 30 18.7	-1.5
VRT	Varto	8.20	52	Pn	P	15 30 22.5	-2.2
PTL	Penteli	8.44	299	eP	P	15 30 28.0	+0.1
LIA	Limnos Island	8.50	313	eP	P	15 30 26.2	-2.6
LIA	Limnos Island	8.50	313	eP	P	15 30 27.9	-0.9
ATH	Athens Observa	8.51	298	eP	P	15 30 29.0	0.0
ALN	Alexandroupoli	8.69	321	ePn	P	15 30 31.2	-0.2
VLI	Veliai	8.73	289	eP	P	15 30 29.1	-2.9
EDRB	Edirne	9.08	328	Pn	P	15 30 35.5	-1.3
RDO	Rodhopi	9.13	320	eP	P	15 30 38.6	+1.0
LKR	Lokris	9.30	301	eP	P	15 30 40.0	+0.1
NEO	Neokhori	9.44	305	eP	P	15 30 41.3	-0.5
ITM	Ithomi	9.62	290	eP	P	15 30 42.9	-1.4
ITM	Ithomi	9.62	290	P	P	15 30 44.4	+0.1
UMJS	Umm Lajj	9.73	158	P	P	15 30 44.5	-1.4
KBRS	Khaybar	9.98	147	P	P	15 30 49.5	+0.2
HILS	Ha’il	10.10	131	P	P	15 30 52.4	+1.5
RLS	Riolos of Patr	10.21	295	eP	P	15 30 52.1	-0.3
EVR	Evrytania	10.26	300	eP	P	15 30 52.1	-0.9
SOC	Sochi	10.52	27	eP	P	15 30 58.9	+2.3
SOC				eS	S	15 32 53.9	-0.2
SOC				pmax	pmax		
	comp=Z,17nm,1.2s						
SOC				pmax	pmax		
	comp=N,20nm,0.8s						
SOC				pmax	pmax		
	comp=E,7.0nm,0.5s						
SOC				MLR	MLR		
	comp=Z,306nm,16.0s						
SOC				MLR	MLR		
	comp=N,323nm,17.0s						
SOC				MLR	MLR		
	comp=E,255nm,17.0s						
SOC	Sochi	10.52	27	eP	P	15 30 58.9	+2.3
	comp=E,17nm,1.2s						
SOC				eS	S	15 32 53.9	-0.2
SIM	Simferopol’	10.62	3	deP	P	15 30 59.5	+1.5
SIM				eS	S	15 32 56.8	+0.2
SIM				pmax	pmax		
	comp=Z,30nm,0.9s						
SIM				MLR	MLR		
	comp=Z,470nm,18.4s						
SIM	Simferopol’	10.62	3	ePr		15 30 59.5	
SIM				eS	S	15 32 56.8	+0.2
YNBS	Yanbu‘ al Bahr	10.78	156	P	P	15 30 59.9	-0.4
GNI	Garni	10.85	54	P	P	15 30 58.6	-2.4
	comp=Z,30nm,1.0s						
GNI	Garni	10.85	54	P	P	15 30 58.6	-2.5
	comp=Z,30nm,1.0s						
VLS	Valsamata	10.91	294	eP	P	15 30 59.3	-2.6
ANN	Anapa	10.94	16	eP	Px	15 31 17.2	
ANN				MLR	MLR		
	comp=Z,473nm,22.0s						
JAN	Janina	11.24	302	eP	P	15 31 07.5	+1.2
KEK	Kerkira	12.01	300	eP	P	15 31 16.3	-0.4
SKO	Skopje	12.01	313	i P	P	15 31 19.0	+2.3
ARSS	Ar Rass	12.07	132	P	P	15 31 19.6	+2.0
KIV	Kislovodsk	12.08	35	eP	P	15 31 18.6	+0.9
KIV				pmax	pmax		
	comp=Z,28nm,1.2s						
KIV	Kislovodsk	12.08	35	eP	P	15 31 14.4	-3.3
	comp=Z,25nm,1.1s						
MLR	Muntele Rosu	12.46	336	P	P	15 31 23.8	+1.0
	comp=Z,0.1nm,0.3s,baz=255,slow=8.3,SNR=5.4						
MLR				LR	LR	15 37 23.9	
	comp=Z,506nm,18.8s,baz=138,slow=43						
VRI	Vrincioaia	12.55	339	P	P	15 31 25.3	+1.4
KIS	Kishinev	13.09	347	eP	P	15 31 30.0	-1.1
KIS				pmax	pmax		
	comp=Z,150nm,2.0s						
KIS				MLR	MLR		
	comp=Z,300nm,21.0s						
KIS				MLR	MLR		
	comp=Z,300nm,21.0s						
KIS	Kishinev	13.09	347	eP	P	15 31 30.0	-1.1
	comp=Z,150nm,2.0s						
GOF	Gofitskoye	13.09	32	⇓iP	P	15 31 41.0	+10
GOF				pmax	pmax		
	comp=Z,30nm,1.1s						
PE1	Pezze di Greco	14.10	302	ePn	P	15 31 41.3	-3.1
BAI	Bari	14.60	302	ePn	P	15 31 48.1	-2.7
CUC	Castrocucco	14.99	297	P	P	15 31 54.4	-1.6
CDT	Castel del Mon	15.01	302	ePn	P	15 31 54.7	-1.5
PKSM	Moragy	16.24	321	⇑eP	P	15 32 11.2	-0.8
RHK1	Bakonya	16.47	320	eP	P	15 32 14.4	-0.4
KIEV	Kiev	16.61	351	P	P	15 32 17.0	+0.4
AKASG	Malin Array Be	16.62	351	P	P	15 32 15.8	-0.9
	comp=Z,6.8nm,0.3s,baz=173,slow=11,SNR=36						
AKASG				S	S	15 35 24.0	+5.0
	baz=124,slow=18,SNR=4.0						
AKASG				PcP	PcP	15 37 03.5	-2.5
	comp=Z,0.8nm,0.3s,baz=187,slow=1.0,SNR=4.3						
AKASG	Malin Array Be	16.62	351	P	P	15 32 15.8	-0.9
AKASG				S	S	15 35 24.0	+5.0
AKASG				pmax	pmax		
	comp=Z,7.0nm,0.3s						
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KOLS	Kolonicke sedl	16.71	334	eP	P	15 32 19.9	+2.1
KOLS				e		15 32 22.2	
PSZ	Piszkesteto	16.86	328	⇓eP	P	15 32 19.7	+0.1
AQU	L’Aquila	17.48	303	eP	P	15 32 27.5	0.0
	comp=Z,92nm,1.2s						
AQU	L’Aquila	17.48	303	eP	P	15 32 27.5	0.0
	comp=Z,92nm,1.2s						
BOJS	Bojanci	17.70	314	i P	P	15 32 32.8	+2.5
NIE	Niedzica	17.84	332	eP	P	15 32 33.3	+1.3
GROS	Grobnik	18.10	317	P	P	15 32 37.2	+2.0
KNDS	Knezji Dol	18.24	313	i P	P	15 32 37.2	+0.3
SOP	Sopron	18.29	322	eP	P	15 32 37.2	-0.4
CEY	Cerknica	18.32	314	P	P	15 32 38.1	+0.2
ZST	Bratislava	18.36	324	eP	P	15 32 38.6	+0.2
ZST				e		15 32 52.5	
PERS	Pernice	18.41	317	i P	P	15 32 41.0	+1.8
LJU	Ljubljana	18.42	315	i P	P	15 32 39.9	+0.7
JAVC	Velka Javorina	18.55	326	P	P	15 32 41.4	+0.6
ARSA	Arzberg	18.56	319	⇓iP	P	15 32 40.5	-0.4
	comp=Z,22nm,1.3s						
OBKA	Obir	18.66	316	⇑iP	P	15 32 42.8	+0.7
	comp=Z,71nm,1.4s						
OJC	Ojcow	18.68	332	eP	P	15 32 41.4	-1.0
VOY	Vojsko	18.79	314	eP	P	15 32 42.4	-1.2
ZGN	Zaghouan	18.98	283	i P	P	15 32 46.6	+0.7
OKC	Ostrava-Krasne	19.06	329	eP	P	15 32 45.9	-0.8
ROBS	Robic	19.13	314	i P	P	15 32 46.8	-0.7
MORC	Moravsky Berou	19.28	328	eP	P	15 32 47.1	-2.1
	comp=Z,14nm,0.9s						
MORC	Moravsky Berou	19.28	328	eP	P	15 32 47.1	-2.0
	comp=Z,14nm,0.9s						
VRAC	Vranov	19.37	326	P	P	15 32 49.5	-0.6
	comp=Z,1.6nm,0.3s,baz=130,slow=11,SNR=13						
VRAC	Vranov	19.37	326	P	P	15 32 49.5	-0.7
VRAC				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MOA	Molln	19.60	319	⇑iP	P	15 32 52.6	-0.1
	comp=Z,34nm,1.0s						
KBA	Koelnbreinsper	19.67	316	⇑iP	P	15 32 52.9	-0.5
	comp=Z,47nm,1.2s						
VSL	Villasalto	19.74	292	eP	P	15 32 54.7	+0.4
	comp=Z,32nm,0.8s						
VSL	Villasalto	19.74	292	eP	P	15 32 54.7	+0.4
	comp=Z,32nm,0.8s						
DPC	Dobruska-Polom	20.23	327	eP	P	15 32 58.2	-1.2
DPC				AMS	AMS	15 43 00.0	
GHAT	Ghardimaou	20.42	283	i P	P	15 33 02.4	+0.9
UPC	Upice	20.49	327	eP	P	15 33 00.7	-1.4
GEC2	GERESS Array S	20.50	321	eP	P	15 33 00.3	-1.9
GEC2				pmax	pmax		
	comp=Z,68nm,0.6s						
GEC2	GERESS Array S	20.50	321	eP	P	15 33 00.3	-1.9
	comp=Z,68nm,0.6s						
GERES	GERESS Array B	20.50	321	P	P	15 33 01.3	-0.9
	comp=Z,53nm,0.6s,baz=132,slow=11,SNR=109						
GERES				PcP	PcP	15 37 11.2	-1.4
	comp=Z,1.6nm,0.6s,baz=137,slow=2.0,SNR=5.2						
GERES	GERESS Array B	20.50	321	P	P	15 33 01.3	-0.9
GERES						15 37 11.2	
GERES				pmax	pmax		
	comp=Z,53nm,0.6s						
GERES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GERES	GERESS Array B	20.50	321	PcP	PcP	15 37 11.2	-1.4
MNK	Minsk	20.52	351	⇓eP	P	15 32 57.0	-5.4
MNK				pmax	pmax		
	comp=Z,320nm,1.0s						
MNK	Minsk	20.52	351	⇓eP	P	15 32 57.0	-5.4
	comp=Z,320nm,1.0s						
KSP	Ksiaz	20.60	328	eP	P	15 33 01.1	-2.2
KSP				e*PP		15 33 13.7	
KSP				e*SP		15 33 19.0	
KSP	Ksiaz	20.60	328	eP	P	15 33 02.4	-0.9
PGF	Pioggiola	20.63	301	eP	P	15 33 02.8	-0.8
	comp=Z,68nm,0.6s						
KHC	Kasperske Hory	20.74	321	eP	P	15 33 03.5	-1.2
KHC				e		15 33 23.0	
KHC				MLR	MLR		
	comp=Z,200nm,16.0s,MS3.6						
KHC	Kasperske Hory	20.74	321	eP	P	15 33 03.5	-1.2
KHC				e		15 33 11.0	
KHC				e		15 33 23.0	
KHC	Kasperske Hory	20.74	321	eP	P	15 33 03.5	-1.2
KHC				pP		15 33 11.0	
KHC				x	x	15 33 23.0	
KHC				AMS	AMS	15 42 40.0	
	comp=Z,200nm,16.0s						
WTTA	Wattenberg	20.76	315	⇓iP	P	15 33 04.2	-0.7
	comp=Z,105nm,1.2s						
PRU	Pruhonice	20.81	324	eP	P	15 33 04.1	-1.3
PRU				pmax	pmax		
	comp=Z,40nm,1.5s						
PRU	Pruhonice	20.81	324	eP	P	15 33 04.1	-1.3
	comp=Z,40nm,1.5s						
PRU				AMS	AMS	15 43 10.0	
WATA	Walderalm	20.83	315	⇑iP	P	15 33 05.2	-0.4
	comp=Z,42nm,1.0s						
OBN	Obninsk	20.91	5	c iP	P	15 33 04.9	-1.5
OBN				eS	S	15 37 00.3	+8.3
OBN				pmax	pmax		
	comp=Z,48nm,0.8s						
OBN				MLR	MLR		
	comp=Z,200nm,21.0s,MS3.5						
OBN	Obninsk	20.91	5	⇑iP	P	15 33 04.9	-1.5
	comp=Z,48nm,0.8s						
OBN				eS	S	15 37 00.3	+8.3
OBN	Obninsk	20.91	5	⇑iP	P	15 33 04.9	-1.5
	comp=Z,48nm,0.8s						
SUW	Suwalki	20.92	343	eP	P	15 33 04.9	-1.6
SQTA	Sankt Quirin	20.98	314	⇓iP	P	15 33 06.8	-0.4
	comp=Z,74nm,1.3s						
ABSA	Djebel Ababsia	21.10	283	P	P	15 33 13.5	+5.1
MOTA	Moosalm	21.11	315	⇑iP	P	15 33 07.6	-0.9
	comp=Z,46nm,1.2s,mb4.7						
WET	Wettzell	21.11	321	eP	P	15 33 07.4	-1.1
WET				pmax	pmax		
	comp=Z,72nm,1.2s,mb4.9						
WET	Wettzell	21.11	321	eP	P	15 33 07.4	-1.1
	comp=Z,72nm,1.2s,mb4.9						
CMAH	Djebel Manchou	21.13	284	P	P	15 33 11.5	+2.7
PVCC	Panska Ves	21.16	326	eP	P	15 33 08.3	-0.7
IDID	Didziasalis	21.46	350	eP	P	15 33 10.4	-1.6
IDID				AMPb	AMB	15 33 13.6	
	comp=Z,14nm,0.8s,mb4.3						
IIGN	Ignalina	21.57	349	eP	P	15 33 11.5	-1.5
IIGN				AMPb	AMB	15 33 18.3	
	comp=Z,34nm,0.5s,mb5.0						
DAVOX	Davos	21.58	312	P	P	15 33 13.8	+0.6
	comp=Z,18nm,0.4s,mb4.8,baz=118,slow=10.0,SNR=31						
MOS	Moscow	21.62	7	eP	P	15 33 11.9	-1.6
MOS				e*PP		15 33 23.2	
MOS				e		15 33 35.4	
MOS				e		15 37 07.9	
MOS				eS	S	15 37 10.9	+5.6
MOS				eSS	SS	15 37 37.4	-5.9
MOS				pmax	pmax		
	comp=N,62nm,0.9s						
MOS				pmax	pmax		
	comp=Z,61nm,0.9s,mb5.0						
MOS	Moscow	21.62	7	eP	P	15 33 11.9	-1.6
	comp=Z,61nm,0.9s,mb5.0						
MOS				epP		15 33 23.2	
MOS				e		15 33 35.4	
MOS				e		15 37 07.9	
MOS				eS	S	15 37 10.9	+5.6
MOS				eSS	SS	15 37 37.4	-5.9
MOS	Moscow	21.62	7	eP	P	15 33 11.9	-1.6
	comp=Z,61nm,0.9s,mb5.0						
MOS				epP		15 33 23.2	
FIN	Finale Ligure	21.67	305	P	P	15 33 16.2	+2.2
FIN	Finale Ligure	21.67	305	P	P	15 33 16.2	+2.1
BRG	Berggiesshubel	21.69	325	eP	P	15 33 13.5	-0.7
BRG				e		15 33 24.5	
BRG				pmax	pmax		
	comp=Z,16nm,1.4s,mb4.3						
BRG	Berggiesshubel	21.69	325	eP	P	15 33 13.5	-0.7
	comp=Z,16nm,1.4s,mb4.3						
BRG				e		15 33 14.9	
BRG				e		15 33 24.5	
RORO		21.74	304	P	P	15 33 16.6	+1.9
RORO		21.74	304	P	P	15 33 16.6	+1.9
IMI	Imperia	21.80	304	P	P	15 33 15.9	+0.6
IMI	Imperia	21.80	304	P	P	15 33 15.9	+0.6
ISAL	Salakas	21.80	349	eP	P	15 33 14.1	-1.3
ISAL				AMPb	AMB	15 33 20.9	
	comp=Z,27nm,1.4s,mb4.5						
DAVA	Damuels	21.81	313	⇑iP	P	15 33 14.9	-0.6
	comp=Z,34nm,0.5s,mb5.0						
CASM	Ain Smara	21.90	283	P	P	15 33 19.5	+3.1
NEGI	Negi	21.91	303	P	P	15 33 17.8	+1.3
NEGI	Negi	21.91	303	P	P	15 33 17.8	+1.4
ROB	Roburent	21.93	305	P	P	15 33 18.3	+1.7
ROB	Roburent	21.93	305	P	P	15 33 18.3	+1.7
IZAR	Zarasai	21.96	349	eP	P	15 33 16.2	-0.7
IZAR				AMPb	AMB	15 33 22.8	
	comp=Z,34nm,1.2s,mb4.7						
BERN	Bernov	21.97	323	⇑P	P	15 33 10.9	-6.1
CTEI	Djebel Teioual	21.97	282	P	P	15 33 21.0	+3.8
NKC	Novy Kostel	22.00	323	eP	P	15 33 16.8	-0.5
SBF	Sospel	22.10	303	eP	P	15 33 18.8	+0.5
	comp=Z,118nm,0.7s,mb5.1						
LLS	Linth-Limmern	22.14	312	⇑P	P	15 33 18.5	-0.3
TOUF	Mont Tournerai	22.27	303	eP	P	15 33 21.1	+1.1
STV2	Anna di Valdie	22.28	304	P	P	15 33 21.3	+1.1
STV2	Anna di Valdie	22.28	304	P	P	15 33 21.3	+1.1
STV	Sta Anna Valdi	22.29	304	P	P	15 33 21.2	+1.0
STV	Sta Anna Valdi	22.29	304	P	P	15 33 21.2	+1.0
ORX	Oropa	22.31	308	P	P	15 33 20.7	+0.3
ORX	Oropa	22.31	308	P	P	15 33 20.7	+0.3
GRA1	Grafenberg Arr	22.31	320	eP	P	15 33 19.9	-0.5
	comp=Z,23nm,1.0s,mb4.6						

GRF **Grafenberg Arr** 22.31 320 *e*P **P** **15 33 19.9 -0.5**
GRF pmax pmax
comp=Z,23nm,1.0s,mb4.6
DFRA Djebel Bou Aff 22.38 284 P **P** **15 33 25.0 +3.8**
TRAV 22.42 307 P **P** **15 33 21.8 +0.3**
TRAV 22.42 307 P **P** **15 33 21.8 +0.3**
CLL Collm 22.42 325⇑P **P** **15 33 20.5 -1.0**
comp=Z,logA/T=1.3,mb4.5
CLL *i* 15 33 26.6
CLL *i* *PP 15 33 33.2
CLL *i* *SP 15 33 41.1
CLL Collm 22.42 325⇑*i*P **P** **15 33 20.5 -1.0**
CLL *i* 15 33 26.1
CLL pmax pmax
comp=Z,14nm,0.7s,mb4.5
CLL Collm 22.42 325⇑*i*P **P** **15 33 20.5 -1.0**
comp=Z,14nm,0.7s,mb4.5
CLL *i* 15 33 26.1
CLL *i* 15 33 41.1
MUO Muotathal 22.42 312⇑P **P** **15 33 21.3 -0.2**
WILA Wila 22.46 313⇓P **P** **15 33 21.2 -0.7**
BHB Bricherasio 22.51 306 P **P** **15 33 23.2 +0.8**
PZZ Prazzo 22.52 305 P **P** **15 33 22.9 +0.4**
PZZ Prazzo 22.52 305 P **P** **15 33 22.9 +0.5**
FRF La Foret Royal 22.56 302 *e*P **P** **15 33 23.6 +0.7**
comp=Z,45nm,0.7s,mb4.7
LMR La Mourre 22.60 301 *e*P **P** **15 33 23.8 +0.5**
comp=Z,44nm,0.7s,mb4.7
RSP Reno Superiore 22.62 306 P **P** **15 33 23.1 -0.3**
RSP Reno Superiore 22.62 306 P **P** **15 33 23.1 -0.3**
ZUR Zurich 22.63 313⇑P **P** **15 33 24.2 +0.6**
MOX Moxa 22.67 323 *i* P **P** **15 33 24.3 +0.4**
comp=Z,logA/T=1.8,mb5.0
MOX *i* 15 33 39.0
MOX Moxa 22.67 323 *e*P **P** **15 33 24.3 +0.4**
MOX *e* 15 33 39.3
MOX pmax pmax
comp=Z,55nm,0.9s,mb5.0
MOX Moxa 22.67 323 *e*P **P** **15 33 24.3 +0.4**
comp=Z,55nm,0.9s,mb5.0
MOX *e* 15 33 39.3
CKHR Kef el Ahmar 22.70 282 P **P** **15 33 28.0 +3.7**
FENE Fenestrelle 22.71 306 P **P** **15 33 24.9 +0.6**
FENE Fenestrelle 22.71 306 P **P** **15 33 24.9 +0.6**
LSD Ceresole Reale 22.79 307 P **P** **15 33 26.4 +1.3**
LSD Ceresole Reale 22.79 307 P **P** **15 33 26.4 +1.3**
MBDF Montbardon 22.81 305 *e*P **P** **15 33 25.5 +0.2**
comp=Z,71nm,0.8s,mb4.9
LKBD Leukerbad 22.82 310⇓P **P** **15 33 25.5 +0.1**
DIX Grande Dixence 22.84 309⇑P **P** **15 33 26.7 +1.0**
RRL Cesana Torines 22.86 305 P **P** **15 33 26.4 +0.5**
RRL Cesana Torines 22.86 305 P **P** **15 33 26.4 +0.6**
SLE Schleitheim 22.86 313⇓P **P** **15 33 25.1 -0.7**
RUE Ruedersdorf 22.87 328 *e*P **P** **15 33 25.6 -0.3**
comp=Z,28nm,0.6s,mb4.9
RUE Ruedersdorf 22.87 328 *e*P **P** **15 33 25.6 -0.2**
comp=Z,28nm,0.6s,mb4.9
STU Stuttgart 22.93 316 *e*P **P** **15 33 25.8 -0.7**
comp=Z,32nm,0.9s,mb4.8
STU Stuttgart 22.93 316 *e*P **P** **15 33 25.8 -0.7**
comp=Z,32nm,0.9s,mb4.8
BNI Bardonecchia 22.97 306 *e*P **P** **15 33 27.4 +0.5**
comp=Z,18nm,0.8s,mb4.5
BNI Bardonecchia 22.97 306 *e*P **P** **15 33 27.4 +0.5**
comp=Z,18nm,0.8s,mb4.5
LPG La Plagne 23.07 307 *e*P **P** **15 33 28.9 +1.0**
comp=Z,37nm,0.5s,mb4.8
LPL La Plagne 23.09 307 *e*P **P** **15 33 29.0 +1.0**
comp=Z,17nm,0.4s,mb4.5
EMV Vieux Emosson 23.17 308⇓P **P** **15 33 30.7 +1.9**
BFO Black Forest 23.22 315 *e*P **P** **15 33 29.2 -0.1**
BFO pmax pmax
comp=Z,42nm,0.9s,mb4.9
BFO Black Forest 23.22 315 *e*P **P** **15 33 29.2 -0.1**
comp=Z,42nm,0.9s,mb4.9
SMRF Simiane la Rot 23.42 303 *e*P **P** **15 33 32.3 +1.0**
comp=Z,27nm,0.8s,mb4.4
ORIF Oris-en-Rattie 23.47 305 *e*P **P** **15 33 32.6 +0.9**
comp=Z,46nm,0.6s,mb4.8
ORIF *e*R
comp=Z,189nm,22.5s
TOD Tromm 23.58 318 *e*P **P** **15 33 32.2 -0.5**
MOF Molkenrain 23.73 313⇑*e*P **P** **15 33 34.1 -0.1**
WLS Welschbruch 23.84 314 *e*P **P** **15 33 35.7 +0.4**
ECH Echery 23.87 313⇑*e*P **P** **15 33 36.0 +0.5**
HINF Hinteralfeld 23.88 312 *e*P **P** **15 33 35.7 0.0**
comp=Z,28nm,0.7s,mb4.5
CDF Champ du Feu 23.88 314 *e*P **P** **15 33 36.2 +0.5**
comp=Z,24nm,0.7s,mb4.4
CABF La Chapelle 23.89 309 *e*P **P** **15 33 36.9 +1.1**
comp=Z,64nm,0.6s,mb4.9
CLZ Clausthal 24.03 324 *e*P **P** **15 33 37.0 0.0**
comp=Z,22nm,1.0s,mb4.5
OG05 Jujurieux 24.11 307 *e*P **P** **15 33 38.4 +0.5**
HAU Haudompre 24.27 312 *e*P **P** **15 33 38.9 -0.6**
VIVF Saint-Julien-l 24.28 304 *e*P **P** **15 33 40.0 +0.4**
comp=Z,30nm,0.8s,mb4.5
THEF They Montfort 24.58 313 *e*P **P** **15 33 42.7 +0.2**
LASF Ste Croix 24.65 302 *e*P **P** **15 33 43.9 +0.7**
comp=Z,60nm,1.0s,mb4.8
EJON La Jonquera 25.03 298 P **P** **15 33 46.8 -0.1**
comp=Z,67nm,1.3s,mb5.0,SNR=7.9
WLF Walferdange 25.11 316 *e*P **P** **15 33 47.1 -0.4**
comp=Z,22nm,0.9s,mb4.7
WLF Walferdange 25.11 316 *e*P **P** **15 33 47.2 -0.4**
comp=Z,22nm,0.9s,mb4.7
MEZF Maizieres J'vi 25.26 313 *e*P **P** **15 33 49.2 +0.2**
comp=Z,68nm,0.5s,mb5.1
SMF Signal de Mont 25.36 308 *e*P **P** **15 33 50.7 +0.7**
comp=Z,45nm,0.6s,mb4.9
BSEG Bad Segeberg 25.39 328 *e*P **P** **15 33 50.1 0.0**
BSEG pmax pmax
comp=Z,14nm,0.9s,mb4.5
LOR Lormes 25.55 309 *e*P **P** **15 33 50.8 -1.0**
LOR *e*R
comp=Z,137nm,20.5s
MEM Membach 25.64 318 P **P** **15 33 53.8 +1.3**
MTLF Montolieu 25.66 300 *e*P **P** **15 33 53.8 +1.0**
comp=Z,25nm,0.6s,mb4.6
SSF Saint Saulge 25.71 309 *e*P **P** **15 33 52.6 -0.6**
comp=Z,27nm,0.8s,mb4.8
AVF Avril sur Loir 25.73 308 *e*P **P** **15 33 52.5 -0.9**
comp=Z,15nm,0.7s,mb4.4
EMIR Miracle 25.96 296 P **P** **15 33 57.0 +1.3**
EMIR Miracle 25.96 296 P **P** **15 33 57.0 +1.3**
SNR=7.9
BGF Bois d'Agland 25.99 307 *e*P **P** **15 33 55.5 -0.3**
comp=Z,16nm,0.6s,mb4.4
GIVF Givet 26.08 316 *e*P **P** **15 33 57.4 +0.8**
comp=Z,63nm,0.6s,mb5.0
CAF Calviac 26.09 303 *e*P **P** **15 33 57.0 +0.2**
comp=Z,18nm,0.8s,mb4.4
DOU Dourbes 26.21 316 P **P** **15 33 58.1 +0.3**
EPOB Poblet 26.24 295 P **P** **15 33 59.0 +0.8**
EPOB Poblet 26.24 295 P **P** **15 33 59.0 +0.8**
SNR=7.9
TCF Toulx Ste Croi 26.33 306 *e*P **P** **15 33 58.8 -0.2**
comp=Z,8.0nm,0.6s,mb4.1
BAIF Baives 26.41 315 *e*P **P** **15 33 59.0 -0.7**
comp=Z,53nm,0.8s,mb4.8
RJF Les Rejaudoux 26.55 304 *e*P **P** **15 34 01.4 +0.3**
comp=Z,30nm,0.6s,mb4.7
RJF *e*R
comp=Z,174nm,20.8s
SNF Seneffe 26.57 316 P **P** **15 34 02.6 +1.5**
comp=Z,14nm,1.9s,mb4.2
EPF Esparros 26.97 299 *e*P **P** **15 34 04.8 -0.1**
LFF La Frestale 27.01 303 *e*P **P** **15 34 05.7 +0.4**
comp=Z,35nm,0.8s,mb4.7
EBIE Bielsa 27.07 298 P **P** **15 34 06.3 +0.4**
comp=Z,21nm,1.1s,mb4.6,SNR=7.9
FINES FINESS Array B 27.52 353 P **P** **15 34 09.0 -0.7**
comp=Z,21nm,0.4s,mb5.2,baz=154,slow=11,SNR=340
FINES LR LR 15 46 45.7
comp=Z,235nm,20.0s,MS3.8,baz=179,slow=40
FINES FINESS Array B 27.52 353 P **P** **15 34 09.0 -0.7**
FINES pmax pmax
comp=Z,21nm,0.4s
FINES MLR MLR
comp=Z,235nm,20.0s
ETSF Etsaut 27.61 298 *e*P **P** **15 34 11.8 +1.0**
comp=Z,33nm,0.9s,mb4.7
MFF Saint Martin d 27.99 306 *e*P **P** **15 34 13.1 -1.0**
comp=Z,20nm,0.8s,mb4.5
ARU Arti 28.07 30⇑*i*P **P** **15 34 14.3 -0.5**
ARU *e* 15 35 04.5
ARU *e* 15 37 27.6
ARU *e*S **S** **15 38 55.4 +0.5**
ARU pmax pmax
comp=Z,11nm,0.7s,mb4.6
ARU MLR MLR
comp=Z,100nm,21.0s,MS3.4
SJPF Ste Jean 28.12 298 *e*P **P** **15 34 16.1 +0.7**
KAF Kangasniemi 28.15 353 *e*p **P** **15 34 14.5 -0.9**
comp=Z,18nm,0.5s,mb5.0
KAF Kangasniemi 28.15 353 *e*P **P** **15 34 14.5 -0.9**
KAF pmax pmax
comp=Z,18nm,0.5s,mb5.0
LDF La Druitiere 28.51 310 *e*P **P** **15 34 16.9 -1.9**
comp=Z,8.6nm,0.4s,mb4.5
ETOR Torete 28.58 294 P **P** **15 34 19.9 +0.5**
comp=Z,6.0nm,0.4s,mb4.6,SNR=5.8
JOF Joensuu 28.63 358 *e*p **P** **15 34 17.9 -1.8**
FLN La Foliniere 28.79 310 *e*P **P** **15 34 19.3 -2.0**
comp=Z,12nm,0.5s,mb4.6
FLN *e*R
comp=Z,124nm,22.0s
HFS Hagfors 28.80 340 P **P** **15 34 20.6 -0.6**
comp=Z,3.6nm,0.5s,mb4.4,baz=146,slow=11,SNR=18
HFS Hagfors 28.80 340 P **P** **15 34 20.6 -0.6**
HFS pmax pmax
comp=Z,4.0nm,0.5s
GRR Gorron 28.92 309 *e*P **P** **15 34 20.7 -1.7**
comp=Z,22nm,0.6s,mb4.8
EVIA Vianos 28.94 289 P **P** **15 34 22.2 -0.5**
comp=Z,24nm,0.6s,mb5.1,SNR=10
SVE Sverdlovsk 29.21 31⇑*e*P **P** **15 34 24.0 -0.9**
SVE pmax pmax
comp=Z,40nm,1.9s,mb4.8
SVE Sverdlovsk 29.21 31⇑*e*P **P** **15 34 24.0 -0.9**
comp=Z,40nm,1.9s,mb4.8
EBER Berja 29.38 286 P **P** **15 34 26.4 -0.1**
comp=Z,30nm,0.7s,mb5.1
EBER Berja 29.38 286 P **P** **15 34 26.5 -0.1**
comp=Z,30nm,0.7s,mb5.1,SNR=4.8
EQES Quesada 29.44 287 P **P** **15 34 27.4 +0.2**
EQES Quesada 29.44 287 P **P** **15 34 27.4 +0.3**
ELAN Lanestosa 29.74 298 P **P** **15 34 28.8 -1.0**
ELAN Lanestosa 29.74 298 P **P** **15 34 28.8 -1.0**
SNR=7.9
SGMF Saint Gilles 29.98 309 *e*P **P** **15 34 30.7 -1.1**
ESDC Sonseca Array 30.04 291 P **P** **15 34 33.4 +1.0**
comp=Z,8.7nm,0.6s,mb4.7,baz=82,slow=9.0,SNR=40
ESDC PcP PcP 15 37 34.9 +1.1
comp=Z,0.3nm,0.5s,baz=31,slow=2.9,SNR=4.4
ESDC LR LR 15 48 17.9
comp=Z,73nm,18.2s,MS3.4,baz=100,slow=40
ESDC Sonseca Array 30.04 291 P **P** **15 34 32.2 -0.3**
comp=Z,6.1nm,0.5s,mb4.6
ESDC Sonseca Array 30.04 291 P **P** **15 34 32.2 -0.2**
comp=Z,6.1nm,0.5s,mb4.6,SNR=41
ESLA Sonseca Array 30.04 291 *e*P **P** **15 34 33.4 +1.0**
comp=Z,2.3nm,0.7s,mb4.0
ESLA Sonseca Array 30.04 291 *e*P **P** **15 34 33.4 +1.0**
comp=Z,2.3nm,0.7s,mb4.0
NAO01 NORSAR Array S 30.20 338 *e*P **P** **15 34 33.9 +0.2**
comp=Z,14nm,0.8s,mb4.8
NAO01 NORSAR Array S 30.20 338 *e*P **P** **15 34 33.9 +0.2**
comp=Z,14nm,0.8s,mb4.8
NB2 NORSAR Subarra 30.25 339 P **P** **15 34 33.0 -1.2**
comp=Z,0.8nm,0.7s,mb3.6,baz=136,slow=10
NB2 NORSAR Subarra 30.25 339 P **P** **15 34 33.0 -1.2**
baz=136,slow=10
NB2 NORSAR Subarra 30.25 339 P **P** **15 34 33.0 -1.2**
baz=136,slow=9.9,SNR=51
NOA NORSAR Array B 30.25 339 P **P** **15 34 33.4 -0.8**
comp=Z,7.3nm,0.8s,mb4.5,baz=141,slow=9.2,SNR=20
NOA PcP PcP 15 37 33.6 -0.5
comp=Z,2.3nm,0.7s,baz=125,slow=3.9,SNR=4.0
NOA LR LR 15 48 55.3
comp=Z,159nm,19.2s,MS3.7,baz=145,slow=41
NOA NORSAR Array B 30.25 339 P **P** **15 34 33.4 -0.8**
NOA 15 37 33.6
NOA pmax pmax
comp=Z,7.0nm,0.8s
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA MLR MLR
comp=Z,159nm,19.3s
NOA NORSAR Array B 30.25 339 P **P** **15 34 33.3 -0.9**
NOA NORSAR Array B 30.25 339 PcP PcP 15 37 33.6 -0.5
QUIF Quistinic 30.30 308 *e*P **P** **15 34 32.7 -2.0**
comp=Z,7.6nm,0.5s,mb4.4
ELOJ Sierra Loja 30.35 286 P **P** **15 34 34.3 -1.0**
comp=Z,3.1nm,0.6s,mb4.2
ELOJ Sierra Loja 30.35 286 P **P** **15 34 34.3 -1.0**
comp=Z,3.1nm,0.6s,mb4.2,SNR=4.7
ELUQ Luque 30.40 287 P **P** **15 34 34.6 -1.1**
comp=Z,3.5nm,0.4s,mb4.4,SNR=5.1
ROSF Rostrenen 30.46 308 *e*P **P** **15 34 34.2 -2.0**
comp=Z,24nm,0.7s,mb4.7
EADA Adamuz 30.60 288 P **P** **15 34 36.2 -1.2**
comp=Z,11nm,0.7s,mb4.8
EADA Adamuz 30.60 288 P **P** **15 34 36.2 -1.2**
comp=Z,11nm,0.7s,mb4.8,SNR=8.4
EMIJ Mijas 30.92 285 P **P** **15 34 39.3 -1.0**
comp=Z,17nm,0.9s,mb4.9
EMIJ Mijas 30.92 285 P **P** **15 34 39.3 -1.0**
comp=Z,17nm,0.9s,mb4.9,SNR=7.9
ESPR Espera 31.74 286 P **P** **15 34 46.4 -1.2**
ESPR Espera 31.74 286 P **P** **15 34 46.4 -1.1**
SNR=7.9
PBRG Braganca 32.12 295 *e*P **P** **15 34 51.6 +0.8**
BRVK Borovoye 32.19 43 *e*P **P** **15 34 51.1 -0.1**
comp=Z,20nm,1.1s,mb4.9
BRVK Borovoye 32.19 43 *e*P **P** **15 34 51.2 -0.1**
comp=Z,20nm,1.1s,mb4.9
BVAR Borovoye Array 32.24 43 P **P** **15 34 51.8 +0.1**
comp=Z,15nm,1.0s,mb4.8,baz=236,slow=5.3,SNR=43
EMIN Mina Concepcio 32.28 288 P **P** **15 34 50.9 -1.3**
comp=Z,56nm,0.7s,mb5.5
EMIN Mina Concepcio 32.28 288 P **P** **15 34 50.9 -1.4**
comp=Z,56nm,0.7s,mb5.5,SNR=52
EBAD Badajoz 32.45 290 P **P** **15 34 52.2 -1.5**
comp=Z,14nm,0.6s,mb5.0
EBAD Badajoz 32.45 290 P **P** **15 34 52.2 -1.6**
comp=Z,14nm,0.6s,mb5.0,SNR=14
PCBR Castelo Branco 32.74 292 *e*P **P** **15 34 57.1 +0.9**
PALC Alcoutim 32.95 287 *e*P **P** **15 34 58.8 +0.7**
comp=Z,56nm,1.0s,mb5.5
AAK Ala-Archa 33.08 63 *e*P **P** **15 34 56.9 -2.2**
EVO Evora 33.25 289 *e*P **P** **15 35 02.0 +1.3**
comp=Z,12nm,0.6s,mb4.7
EVO *e*R
comp=Z,86nm,21.0s
MOR8 Moi Rana 33.77 346 *e*P **P** **15 35 04.3 -0.5**
MOR8 AMb AMB 15 35 05.5
comp=Z,66nm,1.1s,mb5.5
MOR8 Moi Rana 33.77 346 *e*P **P** **15 35 04.3 -0.5**
comp=Z,66nm,1.1s,mb5.5
MOR8 Moi Rana 33.77 346 *e*P **P** **15 35 04.3 -0.5**
comp=Z,66nm,1.1s,mb5.5,SNR=41
PTEO Sao Teotonio 33.92 288 *e*P **P** **15 35 07.5 +1.0**
MELS Mels 34.52 347 *e*P **P** **15 35 11.2 0.0**
KTK1 Kautokeino 35.18 354 *e*P **P** **15 35 16.2 -0.7**
ARCES ARCESS Array B 35.52 355 P **P** **15 35 19.3 -0.5**
comp=Z,19nm,0.8s,mb5.1,baz=172,slow=8.3,SNR=54
ARCES LR LR 15 51 33.8
comp=Z,202nm,21.2s,MS3.9,baz=194,slow=39
ARCES ARCESS Array B 35.52 355 P **P** **15 35 19.3 -0.5**
ARCES pmax pmax
comp=Z,19nm,0.8s
ARCES MLR MLR
comp=Z,203nm,21.2s
ARCES ARCESS Array B 35.52 355 P **P** **15 35 19.3 -0.5**
ARE0 ARCESS Array S 35.52 355 *e*P **P** **15 35 18.4 -1.4**
ARE0 ARCESS Array S 35.52 355 *e*P **P** **15 35 18.4 -1.4**
KEV Kevo 35.65 356 *e*p **P** **15 35 22.3 +1.4**
LOF Lofoten 35.67 347 *e*P **P** **15 35 22.1 +1.0**
LOF AMb AMB 15 35 26.6
comp=Z,113nm,1.8s,mb5.5
LOF Lofoten 35.67 347 *e*P **P** **15 35 22.1 +1.0**
comp=Z,113nm,1.8s,mb5.5
LOF Lofoten 35.67 347 *e*P **P** **15 35 22.1 +1.0**
comp=Z,113nm,1.8s,mb5.5,SNR=41
TRO Tromso 36.23 352 *e*P **P** **15 35 24.1 -1.7**
TRO AMb AMB 15 35 26.7
comp=Z,96nm,1.8s,mb5.4
TRO Tromso 36.23 352 *e*P **P** **15 35 24.1 -1.7**
comp=Z,96nm,1.8s,mb5.4,SNR=41
KURK Kurchatov 36.59 49*c i*P **P** **15 35 29.6 +0.5**
KURK Kurchatov 36.59 49⇑*i*P **P** **15 35 29.6 +0.5**

NVS Novosibirsk 40.03 44 *e*P **P** **15 35 53.3 -4.4**
NVS pmax pmax
comp=N,28nm,1.6s
NVS pmax pmax
comp=E,47nm,1.6s
NVS pmax pmax
comp=Z,57nm,1.6s,mb5.0
NVS Novosibirsk 40.03 44 *e*P **P** **15 35 53.3 -4.4**
comp=Z,57nm,1.6s,mb5.0
ZAL Zalesovo 40.80 45 P **P** **15 36 03.9 -0.2**
comp=Z,3.1nm,0.8s,mb4.0,baz=207,slow=7.8,SNR=16
ZAL PcP PcP 15 38 03.0 -2.1
comp=Z,1.7nm,0.6s,baz=199,slow=5.5,SNR=3.4
ZAL LR LR 15 56 39.7
comp=Z,176nm,18.3s,MS4.0,baz=94,slow=42
ZAL Zalesovo 40.80 45 P **P** **15 36 03.9 -0.1**
ZAL 15 38 03.1
ZAL pmax pmax
comp=Z,3.0nm,0.8s
ZAL pmax pmax
comp=Z,2.0nm,0.6s
ZAL MLR MLR
comp=Z,176nm,18.3s
ZAL Zalesovo 40.80 45 P **P** **15 36 03.9 -0.1**
ZAL *e* 15 38 03.1
WMQ Urumqi 42.65 60 P **P** **15 36 21.0 +1.7**
WMQ AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
CRAJ Montana Rajada 42.67 276 P **P** **15 36 18.4 -1.3**
SNR=9
KOLN Koldanda 43.28 84 *e*P **P** **15 36 26.1 +1.4**
comp=Z,50nm,1.3s,mb5.1
GKN Gorkha 44.05 84 *e*P **P** **15 36 32.2 +1.3**
comp=Z,77nm,0.6s,mb5.6
DMN Daman 44.58 84 *e*P **P** **15 36 36.6 +1.5**
comp=Z,28nm,0.6s,mb5.3
DBIC Dimbokro 44.63 241 P **P** **15 36 36.5 +0.8**
comp=Z,1.4nm,0.4s,mb4.1,baz=12,slow=10,SNR=5.8
DBIC PcP PcP 15 38 19.3 +0.9
comp=Z,3.3nm,0.5s,baz=17,slow=3.5,SNR=5.0
DBIC LR LR 15 55 40.6
comp=Z,75nm,19.9s,MS3.6,baz=44,slow=37
DBIC Dimbokro 44.63 241 P **P** **15 36 36.5 +0.8**
DBIC 15 38 19.3
DBIC pmax pmax
comp=Z,1.0nm,0.4s
DBIC pmax pmax
comp=Z,3.0nm,0.5s
DBIC MLR MLR
comp=Z,75nm,20.0s
DBIC Dimbokro 44.63 241 P **P** **15 36 36.5 +0.8**
DBIC PcP PcP 15 38 19.3 +0.9
KKN Kakani 44.66 84 *e*P **P** **15 36 37.0 +1.2**
comp=Z,68nm,0.6s,mb5.7
KIC Kosan Boka 44.76 240 *e*PKIKP **P** **15 36 37.2 +0.5**
comp=Z,37nm,0.8s,mb5.3
TIC Toumodi 44.76 241 *e*PKIKP **P** **15 36 36.9 +0.1**
comp=Z,17nm,0.2s,mb5.6
PKI Pulchoki 44.84 84 *e*P **P** **15 36 38.5 +1.2**
comp=Z,63nm,1.1s,mb5.4
LIC Lamto 45.05 240 *e*PKIKP **P** **15 36 37.2 -1.9**
comp=Z,32nm,1.2s,mb5.0
GUN Gumba 45.10 83 *e*P **P** **15 36 40.8 +1.5**
comp=Z,60nm,0.9s,mb5.4
LSZ Lusaka 49.56 186 *e*P **P** **15 37 15.2 +0.8**
comp=Z,3.7nm,0.7s,mb4.5
LSZ Lusaka 49.56 186 *e*P **P** **15 37 15.1 +0.7**
comp=Z,3.7nm,0.7s,mb4.5
SHL Shillong 50.96 83 *e*P **P** **15 37 24.0 -0.9**
SUMG Summit 52.15 339 *e*P **P** **15 37 33.9 +0.7**
comp=Z,13nm,0.6s,mb5.0
SUMG Summit 52.15 339 *e*P **P** **15 37 33.8 +0.6**
comp=Z,13nm,0.6s,mb5.0
ZAK Zakamensk 52.26 50⇑*i*P **P** **15 37 35.0 +0.7**
ZAK *e* 15 38 46.0
GTA Gaotai 52.42 64 P **P** **15 37 36.3 +0.6**
GTA AMB AMB
comp=Z,19nm,0.8s,mb5.1
SONM Songino Array 54.80 52 P **P** **15 37 53.5 +0.4**
comp=Z,8.9nm,0.6s,mb4.9,baz=285,slow=7.9,SNR=79
LZH Lanzhou 56.51 66⇑P **P** **15 38 06.0 +0.4**
LZH AMB AMB
comp=Z,28nm,1.1s,mb5.2
LZH AMB AMB
comp=Z,115nm,4.0s
BOD Bodaibo 56.95 39 *e*P **P** **15 38 07.2 -1.3**
CD2 Chengdu 58.39 72 P **P** **15 38 18.8 -0.1**
CD2 AMB AMB
comp=Z,19nm,1.0s,mb5.1
TIXI Tiksi 59.55 21*c i*P **P** **15 38 25.5 -0.9**
TIXI pmax pmax
comp=Z,15nm,0.9s,mb5.0
TIXI MLR MLR
comp=Z,100nm,20.0s,MS4.0
TIXI Tiksi 59.55 21⇑*i*P **P** **15 38 25.5 -0.9**
comp=Z,15nm,0.9s,mb5.0
CMAR Chiang Mai Arr 60.01 87 P **P** **15 38 30.1 -0.2**
comp=Z,4.8nm,0.8s,mb4.6,baz=297,slow=8.3,SNR=42
CMAR LR LR 16 09 44.0
comp=Z,49nm,20.5s,MS3.6,baz=17,slow=41
CMAR Chiang Mai Arr 60.01 87 P **P** **15 38 30.1 -0.2**
CMAR pmax pmax
comp=Z,5.0nm,0.8s
CMAR MLR MLR
comp=Z,49nm,20.5s
CMAR Chiang Mai Arr 60.01 87 P **P** **15 38 30.0 -0.3**
KMI Kunming 60.02 79 *e*P **P** **15 38 29.8 -0.5**
KMI AP pP 15 38 42.1 -0.7
KMI XP sP 15 38 45.8 -2.1
KMI S S **15 46 41.4 +3.4**
KMI SS SS 15 50 37.4 +1.3
KMI AMB AMB
comp=Z,7.0nm,1.2s,mb4.6
XAN Xi'an 61.14 67 P **P** **15 38 37.5 -0.3**
XAN AMB AMB
comp=Z,14nm,0.9s,mb5.1
GYA Guiyang 62.59 75⇑*i*P **P** **15 38 47.3 -0.3**
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb5.0
GYA AMB AMB
comp=Z,180nm,5.4s
GYA LR LR
comp=N,230nm,7.2s
GYA LR LR
comp=E,270nm,6.6s
GYA LR LR
comp=Z,250nm,6.3s
HIA Hailar 62.79 47 *e*P **P** **15 38 47.5 -1.1**
comp=Z,31nm,1.3s,mb5.3
HIA Hailar 62.79 47 *e*P **P** **15 38 47.5 -1.1**
comp=Z,31nm,1.3s,mb5.3
YAK Yakutsk 63.17 32 *e*P **P** **15 38 49.6 -1.4**
YAK pmax pmax
comp=Z,17nm,0.8s,mb5.2
YAK MLR MLR
comp=Z,100nm,17.0s,MS4.1
YAK Yakutsk 63.17 32 *e*P **P** **15 38 49.6 -1.4**
comp=Z,17nm,0.8s,mb5.2
SCHQ Schefferville 68.03 322 P **P** **15 39 22.1 0.0**
comp=Z,25nm,0.9s,mb5.2,baz=61,slow=7.3,SNR=15
SCHQ Schefferville 68.03 322 *e*P **P** **15 39 21.9 -0.1**
comp=Z,30nm,0.8s,mb5.4
SCHQ Schefferville 68.03 322 *e*P **P** **15 39 21.9 -0.1**
comp=Z,30nm,0.8s,mb5.4
CN2 Changchun 68.65 51 *e*P **P** **15 39 26.6 +0.5**
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
NJ2 Nanjing 69.50 65 *e*P **P** **15 39 29.0 -2.5**
NJ2 AP pP 15 39 42.3 -2.0
NJ2 XP sP 15 39 47.6 -1.5
NJ2 PP PP 15 42 05.6 -2.0
NJ2 S S 15 48 30.0 -4.6
SSE Sheshan 71.70 65 P **P** **15 39 42.0 -2.9**
SSE AMB AMB
comp=Z,24nm,0.6s,mb5.3
SSE AMB AMB
comp=Z,135nm,4.8s
IMA Indian Mountai 79.78 3 *e*P **P** **15 40 31.6 +1.6**
comp=Z,57nm,0.9s,mb5.5
IMA Indian Mountai 79.78 3 *e*P **P** **15 40 31.6 +1.6**
comp=Z,57nm,0.9s,mb5.5
YKA Yellowknife Ar 80.10 345 P **P** **15 40 32.8 +1.0**
comp=Z,6.7nm,0.5s,mb4.8,baz=24,slow=5.5,SNR=32
YKA Yellowknife Ar 80.10 345 P **P** **15 40 32.8 +1.0**
YKA pmax pmax
comp=Z,7.0nm,0.5s

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YKA	Yellowknife Ar	80.10	345	P	P	15 40 32.8	+1.0
MAT	Matsushiro	80.75	52	P	P	15 40 36.6	+0.8
MAT	Matsushiro	80.75	52	ePKIKP	P	15 40 37.0	+1.2
COLA	College	81.12	0	eP	P	15 40 38.6	+1.4
	comp=Z,14nm,1.2s,mb4.8						
COLA	College	81.12	0	eP	P	15 40 38.6	+1.4
	comp=Z,14nm,1.2s,mb4.8						
ILAR	Eielson Array	81.23	0	P	P	15 40 39.1	+1.4
	comp=Z,2.8nm,0.9s,mb4.2,baz=321,slow=4.0,SNR=23						
ILAR				LR	LR	16 17 34.5	
	comp=Z,47nm,18.8s,MS3.9,baz=179,slow=36						
ILAR	Eielson Array	81.23	0	P	P	15 40 39.2	+1.5
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ILAR				MLR	MLR		
	comp=Z,47nm,18.8s						
MCK	McKinley	82.25	1	eP	P	15 40 43.9	+0.8
	comp=Z,8.6nm,1.3s,mb4.5						
PMR	Palmer	84.40	1	eP	P	15 40 54.8	+1.0
	comp=Z,12nm,1.1s,mb4.9						
PMR	Palmer	84.40	1	eP	P	15 40 54.8	+0.9
	comp=Z,12nm,1.1s,mb4.9						
ULM	Lac du Bonnet	84.53	330	P	P	15 40 55.6	+0.7
	comp=Z,7.3nm,0.5s,mb5.0,baz=50,slow=5.6,SNR=5.8						
ULM				LR	LR	16 19 54.1	
	comp=Z,72nm,18.3s,MS4.1,baz=348,slow=36						
FWV	Forest Hill	85.81	313	eP	P	15 41 03.4	+1.9
LAO	LASA Array	91.48	333	eP	P	15 41 30.1	+1.8
	comp=Z,21nm,0.8s,mb5.5						
BDFB	Brasilia	91.67	252	P	P	15 41 32.0	+2.2
	comp=Z,4.8nm,0.7s,mb4.9,baz=75,slow=2.6,SNR=6.2						
BDFB	Brasilia	91.67	252	P	P	15 41 32.1	+2.3
BDFB				pmax	pmax		
	comp=Z,5.0nm,0.7s						
RSSD	Black Hills	92.77	331	eP	P	15 41 35.4	+1.1
NEW	Newport	93.61	341	eP	P	15 41 39.2	+1.3
	comp=Z,5.7nm,0.8s,mb5.0						
PDAR	Pinedale Array	96.06	333	P	P	15 41 50.2	+1.0
	comp=Z,1.0nm,0.7s,mb4.3,baz=51,slow=4.4,SNR=8.6						
HWUT	Hardware Ranch	97.80	334	P	P	15 41 57.6	+0.4
	comp=Z,4.2nm,0.9s,mb5.0						
DUG	Dugway	99.49	334	P	P	15 42 06.6	+1.7
NVAR	Mina Array Bea	102.94	337	PP	PP	15 46 36.1	-1.7
	comp=Z,0.3nm,0.7s,baz=41,slow=8.3,SNR=4.6						
TPNV	Topopah Spring	103.60	335	eP	Pdif	15 42 26.4	+3.1
	comp=Z,0.6nm,0.6s						
TXAR	Lajitas Array	104.72	322	Pdiff	Pdif	15 42 30.9	+2.5
	comp=Z,0.3nm,0.4s,baz=63,slow=2.8,SNR=4.2						
WRA	Warramunga Arr	109.89	101	PKiKP		15 46 53.6	
	comp=Z,0.3nm,0.6s,baz=310,slow=1.7,SNR=7.7						
ASAR	Alice Springs	111.38	105	PKiKP		15 46 56.7	
	comp=Z,1.6nm,1.1s,baz=307,slow=1.3,SNR=13						
PMSA	Palmer Station	123.52	211	ePKPdf	PKPdf	15 47 19.5	+1.9
VNDA	Vanda	131.32	167	ePKPdf	PKPdf	15 47 34.1	+1.9
SBA	Scott Base	132.02	168	ePKPdf	PKPdf	15 47 36.1	+2.6
RPZ	Rata Peaks	146.23	119	PKPbc	PKPbc	15 48 03.5	+2.5
	comp=Z,7.9nm,0.8s,baz=60,slow=5.5,SNR=3.8						
URZ	Urewera	150.74	108	PKPbc	PKPdf	15 48 13.2	+6.0
	comp=Z,14nm,0.8s,baz=355,slow=9.0,SNR=5.6						

*NAO **16** 15:39:14.2±2.9, 67.80N×20.50E, ML2.0*
*BER **16** 15:39:14.3±4.3, 67.84N×20.12E, ML1.8, ML2.0(NAO), Suspected explosion*
HEL 16 15:39:12.2±0.4, 67.83N×20.02E, ML2.0, ML2.0(BER), ML2.0(NAO), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KIF	Kilpisjarvi	1.22	13	eP	Pb	15 39 34.5	-1.3
KIF				eS	Sb	15 39 51.0	-0.9
KTK1	Kautokeino	1.68	44	eP	Pn	15 39 41.1	-1.9
KTK1				eSG	Sg	15 40 04.4	-3.8
KTK1				AML	AML	15 40 07.2	
	comp=Z,12nm,0.3s						
TRO	Tromso	1.85	348	eP	Pn	15 39 44.8	-0.7
TRO				eSG	Sg	15 40 10.3	-3.7
TRO				AML	AML	15 40 12.3	
	comp=Z,17nm,0.4s						
LOF	Lofoten	2.46	280	e	Pn	15 40 33.8	+40
LOF				AML	AML	15 40 35.5	
	comp=Z,8.9nm,0.5s						
LOF	Lofoten	2.46	280	eSg	Sg	15 40 33.8	-0.3
LOF				AML	AML	15 40 35.5	
	comp=Z,8.9nm,0.5s						
SGF	Sodankyl	2.52	96	eP	Pn	15 39 54.2	-0.9
SGF				eS	Sn	15 40 25.6	-1.4
MELS	Mels	2.62	251	eSg	Sg	15 40 37.5	-2.0
ARA0	ARCESS Array S	2.64	47	Pn	Pn	15 39 54.6	-2.2
	baz=234,slow=14						
ARA0				Sn	Sn	15 40 29.4	-0.6
	baz=227,slow=28						
ARA0	ARCESS Array S	2.64	47	eP	Pn	15 39 54.6	-2.2
ARA0				eS	Sn	15 40 29.4	-0.6
MOR8	Moi Rana	2.75	235	e	Pn	15 40 35.8	+37
MOR8				AML	AML	15 40 36.6	
	comp=Z,15nm,0.4s						
MOR8	Moi Rana	2.75	235	eSg	Sg	15 40 35.8	-8.0
MOR8				AML	AML	15 40 36.6	
	comp=Z,15nm,0.4s						
KEV	Kevo	3.19	50	eS	Sn	15 40 40.9	-3.1
KEV				MSG		15 40 59.4	
	comp=Z,2.8nm,0.4s						
OUL	Oulu	3.63	137	eSG	Sg	15 41 03.0	-10
OUL				MSG		15 41 10.1	
	comp=Z,2.9nm,0.3s						
MSF	Maaselka	4.05	114	eP	Pn	15 40 15.3	-1.5
MSF				eS	Sn	15 41 02.1	-3.4
MSF				eSG	Sg	15 41 16.3	-11
MSF				MSG		15 41 21.7	
	comp=Z,3.2nm,0.4s						
NSS	Namsos	4.65	228	eSG	Sg	15 41 38.4	-8.6
FIA0	FINESS Array S	6.92	155	eS	Sn	15 42 11.9	-5.8
FIA0				eSG	Sg	15 42 45.9	-17
FIA0	FINESS Array S	6.92	155	Sn	Sn	15 42 11.9	-5.8
	baz=356,slow=28						
FIA0				Lg		15 42 45.9	
	baz=340,slow=37						

*BJI **16** 15:52:43.3, 62.60N×151.20W, h83km, mB4.4, mb4.5, Ms4.1, Msz4.1*
*IDC **16** 15:52:46.8±0.8, 62.82N×151.18W, h94km±7km, mb3.8/8, mb1 4.1/12, mb1mx3.9/21, MS2.7/2, Ms1 2.7/2, ms1mx2.3/18, Error ellipse: s-maj=14.8km s-min=11.7km az=2.0*
*NEIC **16** 15:52:46.3, 62.62N×151.21W, h84km, mb4.0/6, After AEIC.*
NEIC Felt [II] at Anchorage and Eagle River.
ISC 16 15:52:44.4±0.3, 62.63N±0.02×151.18W±0.07, h93km±3km, h91km±1.7km:pP-P, n79, σ0.84/84, mb4.1/16, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CUT	Chulitna	0.48	118	P	P	15 52 59.6	+0.2
HUR	Hurricane	0.79	63	P	P	15 53 02.7	+0.4
TRF	Thorofare Moun	0.92	26	P	P	15 53 04.4	+0.8
TRF				S	S	15 53 19.3	+1.3
KTH	Kantishna Hill	0.93	7	P	P	15 53 04.6	+0.8
KTH				S	S	15 53 18.1	-0.1
PWA	Palmer West	1.16	148	P	P	15 53 06.6	+0.1
STLK	Strandline Lak	1.18	195	P	P	15 53 06.6	-0.1
RND	Reindeer	1.32	53	P	P	15 53 09.0	+0.5
GHO	Glory Hole Cre	1.37	128	P	P	15 53 09.7	+0.7
PMR	Palmer	1.42	136	P	P	15 53 09.7	0.0
MCK	McKinley	1.50	42	P	P	15 53 11.5	+0.7
SPU	Mount Spurr	1.51	196	P	P	15 53 10.7	-0.2
FIB	Fire Island	1.55	162	eP	P	15 53 12.5	+1.2
SML	Sawmill	1.57	120	P	P	15 53 12.2	+0.6
RC01	Rabbit Creek A	1.69	155	P	P	15 53 12.9	-0.3
DHY	Denali Highway	1.80	74	P	P	15 53 14.8	+0.2
SCM	Sheep Creek Mo	1.98	112	P	P	15 53 17.0	+0.2
DFR	Drift River	2.17	200	P	P	15 53 19.7	+0.2
CFI	College Fiord	2.17	130	P	P	15 53 19.6	0.0
SLKM	Skilak Lake	2.18	167	P	P	15 53 20.0	+0.3
NCT	North Crescent	2.24	203	P	P	15 53 20.9	+0.4
TT01	Tatalina	2.24	279	P	P	15 53 20.3	-0.2
RDN	Redoubt North	2.26	200	P	P	15 53 20.9	+0.2
RSO	Redoubt South	2.30	200	eP	P	15 53 21.6	+0.3
MPA	Moose Pass	2.32	157	P	P	15 53 21.1	-0.6
THY	Trims Highway	2.60	70	eP	P	15 53 26.1	+0.6
GLI	Glacier Island	2.62	130	P	P	15 53 24.9	-0.8
PAX	Paxson	2.65	80	P	P	15 53 26.7	+0.5
SEW	Seward	2.67	161	P	P	15 53 26.2	-0.2
JPK	Jack Peak	2.69	124	P	P	15 53 26.3	-0.4
COLA	College	2.69	32	P	P	15 53 26.7	-0.1
ILIM	Iliamna	2.70	199	P	P	15 53 27.2	+0.3
ILW	Iliamna West	2.75	201	P	P	15 53 28.0	+0.5
TZL	Tazlina	2.75	100	P	P	15 53 28.1	+0.6
ILAR	Eielson Array	2.88	40	P	P	15 53 29.1	-0.1
	85nm,0.3s,baz=222,slow=14,SNR=2.3						
ILAR				S	S	15 54 01.9	-1.1
	145nm,0.3s,baz=178,slow=2.6,SNR=1.2						
ILAR	Eielson Array	2.88	40	P	P	15 53 29.1	-0.1
ILAR				S	S	15 54 01.9	-1.1
IL1	Eielson Array	2.88	40	P	P	15 53 29.0	-0.3
FID	Port Fidalgo	2.93	128	P	P	15 53 28.9	-1.2
DIV	Divide	2.97	118	P	P	15 53 29.4	-1.3
GCSA	Galena City Sc	3.31	312	P	P	15 53 35.2	-0.1
EYAK	Cordova Ski Ar	3.33	126	P	P	15 53 34.4	-1.2
DOT	Dot Lake	3.39	69	P	P	15 53 36.6	+0.2
IM3	Indian Mountai	3.55	343	P	P	15 53 38.6	+0.1
IMA	Indian Mountai	3.62	344	eP	P	15 53 39.4	-0.1
GLB	Gilahina Butte	3.67	106	P	P	15 53 39.3	-0.9
MID	Middleton Isla	3.99	142	P	P	15 53 44.1	-0.4
BCA3	Beaver Creek A	4.33	80	P	P	15 53 48.5	-0.8
BALM	Baldy	4.49	107	P	P	15 53 50.0	-1.4
KDAK	Kodiak Island	4.92	189	eP	P	15 53 54.6	-2.7
DAWY	Dawson	5.50	70	P	P	15 54 04.6	-0.7
BM3	Burnt Mountain	5.55	27	P	P	15 54 05.8	-0.2
PCA	Pinnacle	5.84	111	P	P	15 54 08.5	-1.3
PNL	Peninsula	6.43	112	P	P	15 54 16.6	-1.5
WHY	Whitehorse	8.01	97	P	P	15 54 38.2	-1.6
INK	Inuvik	9.27	44	P	P	15 54 57.0	+0.3
	1.1nm,0.3s,baz=238,slow=17,SNR=24						
INK				S	S	15 56 35.0	-5.0
	0.7nm,0.3s,baz=157,slow=18,SNR=2.1						
INK				LR	LR	15 58 46.7	
	comp=Z,33nm,20.6s,baz=182,slow=39						
INK	Inuvik	9.27	44	eP	P	15 54 57.1	+0.4
YKA	Yellowknife Ar	16.72	74	P	P	15 56 33.1	-0.5
	0.3nm,0.3s,baz=284,slow=10,SNR=7.6						
YKA				LR	LR	16 03 16.1	
	comp=Z,39nm,20.5s,baz=315,slow=38						
NEW	Newport	23.71	111	eP	P	15 57 49.8	+1.8
	3.8nm,0.8s,mb3.8						
MSO	Missoula	26.19	110	eP	P	15 58 11.4	-0.1
YBH	Yreka Blue Hor	26.86	128	P	P	15 58 19.9	+2.2
	5.2nm,1.2s,mb3.9,baz=217,slow=8.5,SNR=3.9						
HLID	Hailey	28.59	115	eP	P	15 58 33.8	+0.5
	0.7nm,0.6s,mb3.5						
BW06	Boulder Array	31.31	110	eP	P	15 58 57.7	+0.2
	2.1nm,0.7s,mb4.0						
PDAR	Pinedale Array	31.31	110	P	P	15 58 58.5	+1.1
	2.2nm,0.9s,mb3.9,baz=315,slow=6.3,SNR=14						
NVAR	Mina Array Bea	31.38	125	P	P	15 58 59.6	+1.5
	2.1nm,0.7s,mb4.0,baz=332,slow=9.3,SNR=22						
NVAR				PcP	PcP	16 01 48.9	-0.8
	0.7nm,0.8s,baz=312,slow=0.7,SNR=4.2						
MNV	Mina	31.43	125	eP	P	15 58 59.1	+0.6
	1.5nm,0.6s,mb3.9						
TPNV	Topopah Spring	33.46	124	P	P	15 59 16.7	+0.6
SRU	San Rafael	33.91	115	eP	P	15 59 20.9	+0.9
PV01	Paradox Valley	35.56	113	eP	P	15 59 34.9	+0.9
WMOK	Wichita Mounta	42.67	106	eP	P	16 00 33.1	+0.2
	4.6nm,0.6s,mb4.4						
LTX	Lajitas	45.19	115	eP	P	16 00 54.0	+0.7
TXAR	Lajitas Array	45.19	115	P	P	16 00 54.6	+1.3
	2.9nm,0.7s,mb4.1,baz=334,slow=4.8,SNR=13						
JCT	Junction City	45.85	110	eP	P	16 00 58.3	-0.2
	8.3nm,0.6s,mb4.6						
CN2	Changchun	49.44	289	eP	P	16 01 25.4	-0.9
CN2				eAP	pP	16 01 48.0	-0.8
CN2				eS	S	16 08 22.4	-2.5
SONM	Songino Array	53.96	306	P	P	16 02 00.5	+0.4
	5.6nm,1.1s,mb4.5,baz=29,slow=7.3,SNR=22						
SONM				pP	pP	16 02 23.4	+0.3
	1.4nm,0.8s,baz=31,slow=7.2,SNR=4.4						
ZAL	Zalesovo	55.78	324	P	P	16 02 12.1	-1.2
	0.7nm,0.3s,mb4.1,baz=108,slow=7.8,SNR=3.6						
BVAR	Borovoye Array	60.14	332	P	P	16 02 42.3	-1.4
	1.3nm,0.6s,mb4.2,baz=18,slow=9.4,SNR=9.3						
BVAR				pP	pP	16 03 06.0	-1.2
	2.0nm,0.7s,baz=34,slow=5.3,SNR=8.1						
GTA	Gaotai	63.63	305	eP	P	16 03 06.8	-0.4
GTA				AMB	AMB		
	comp=Z,8.0nm,0.6s,mb4.7						
AKASG	Malin Array Be	67.01	360	P	P	16 03 26.9	-1.8
	comp=Z,0.9nm,0.4s,mb4.0,baz=1.1,slow=5.9,SNR=6.9						
CMAR	Chiang Mai Arr	82.53	296	P	P	16 04 58.8	+0.8
	comp=Z,0.4nm,0.6s,mb3.4,baz=4.3,slow=6.6,SNR=4.7						
CMAR				pP	pP	16 05 21.9	-0.7
	comp=Z,0.8nm,0.8s,baz=9.9,slow=6.4,SNR=5.4						
QSPA	South Pole Qui	152.44	180	eP	PKPdf	16 12 28.9	+8.7

IDC 16 15:56:13.0±4.1, 30.84S×138.60E, mb1 3.0/3, mb1mx3.0/9, ML2.5/3, Error ellipse: s-maj=84.4km s-min=15.4km az=39.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	2.76	113	Pn	Pn	15 56 58.4	-0.9
	0.2nm,0.3s,baz=295,slow=12,SNR=6.2						
STKA				Pg	Pg	15 57 04.9	-3.3
	2.5nm,0.3s,baz=293,slow=14,SNR=27						
STKA				Sn	Sn	15 57 31.1	-2.7
	1.9nm,0.3s,baz=273,slow=12,SNR=4.4						
STKA				Lg		15 57 39.1	
	4.1nm,0.3s,baz=12,slow=22,SNR=12						
ASAR	Alice Springs	8.28	329	Pn	P	15 58 15.4	-1.8
	0.1nm,0.3s,baz=156,slow=12,SNR=10.0						
ASAR				Sn	Sn	15 59 48.5	-4.2
	0.1nm,0.3s,baz=154,slow=22,SNR=5.7						
WRA	Warramunga Arr	11.52	339	Pn	P	15 58 58.7	-3.2
	0.1nm,0.3s,baz=152,slow=13,SNR=9.7						
WRA				Sn	S	16 01 06.8	-5.6
	0.0nm,0.3s,baz=167,slow=10,SNR=2.9						

*CSEM **16** 16:00:01.7, 35.55N×55.23E, ML3.4, After THR*
THR 16 15:59:43.2±1.7, 37.01N×56.35E, h15km, ML4.0, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAMV	Damavand	3.79	250	ePN	Pn	16 00 43.4	+0.9
DAMV				AMP		16 01 27.7	
	comp=N,280nm,0.5s						
DAMV				AMP		16 01 28.7	
	comp=E,190nm,0.5s						
DAMV	Damavand	3.79	250	ePn	Pn	16 00 43.4	+1.0
DAMV				Sn	Sn	16 01 15.4	-12
	comp=E,271nm,0.6s						
THKV	Tehran--Karaj	4.54	258	ePN	Pn	16 00 54.7	+1.7
THKV				AMP		16 01 53.1	
	comp=N,150nm,0.4s						
THKV				AMP		16 01 53.5	
	comp=E,193nm,0.7s						
THKV	Tehran--Karaj	4.54	258	ePn	Pn	16 00 56.5	+3.4
NASN	Na'in	5.11	216	ePN	Pn	16 01 01.9	+0.7
ASAO	Ashtian	5.70	246	ePN	Pn	16 01 08.3	-1.1
ASAO	Ashtian	5.70	246	ePn	Pn	16 01 08.0	-1.4
GRMI	Germi	6.92	288	ePN	Pn	16 01 26.1	-0.5

IDC 16 16:13:35.8±27.0, 17.51S×175.86W, mb3.9/4, mb1 4.0/4, mb1mx3.7/15, Error ellipse: s-maj=500.0km s-min=149.6km az=73.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	35.91	260	P	P	16 20 39.2	-0.7
	1.7nm,0.9s,baz=96,slow=17,SNR=3.6						
STKA	Stephens Creek	40.95	241	P	P	16 21 21.2	-0.6
	0.7nm,0.4s,baz=100,slow=8.2,SNR=5.9						
WRA	Warramunga Arr	47.09	259	P	P	16 22 08.5	-3.1
	0.2nm,0.3s,baz=97,slow=8.6,SNR=14						
ASAR	Alice Springs	47.24	254	P	P	16 22 10.7	-2.1
	2.1nm,0.5s,baz=89,slow=8.5,SNR=88						

*BJI **16** 16:38:34.3, 30.10N×139.10E, h269km, mb4.2*
*NEIC **16** 16:38:34.3±1.2, 30.08N×139.14E, h269km±12km, mb3.8/8, Error ellipse: s-maj=14.7km s-min=9.4km az=88.0*
NEIC Recorded [1 JMA] in Akita Prefecture.
*IDC **16** 16:38:49.5±5.6, 29.98N×138.97E, h432km±65km, mb3.2/12, mb1 3.4/12, mb1mx3.3/20, Error ellipse: s-maj=20.9km s-min=11.5km az=81.0*
ISC 16 16:38:42.9±5.1, 29.98N±0.08×139.0E±0.1, h374km±55km, n33, σ0.69/33, mb3.7/26, 1C, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BJT	Baijiatuau	21.18	304	eP	P	16 43 00.6	0.0
	7.4nm,0.6s,mb4.1						
ENH	Enshi	25.52	278	eP	P	16 43 40.8	+0.2
GYA	Guiyang	28.67	271	⇑iP	P	16 44 08.6	-0.1
LZH	Lanzhou	30.00	291	eP	P	16 44 20.5	+0.4
SONM	Songino Array	30.72	315	P	P	16 44 27.2	+1.1
	1.6nm,0.6s,mb3.4,baz=125,slow=8.6,SNR=15						
GTA	Gaotai	33.36	297	eP	P	16 44 48.3	-0.6
GTA				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb3.9						
CMAR	Chiang Mai Arr	38.13	262	P	P	16 45 30.0	+1.1
	comp=Z,2.4nm,0.9s,mb3.4,baz=56,slow=6.5,SNR=17						
ZAL	Zalesovo	45.50	318	P	P	16 46 27.3	-0.6
	comp=Z,0.8nm,0.3s,mb3.3,baz=348,slow=11,SNR=4.3						
GUN	Gumba	46.20	281	eP	P	16 46 34.4	+0.7
	comp=Z,32nm,0.8s,mb4.5						
PKI	Pulchoki	46.70	281	eP	P	16 46 37.2	-0.3
	comp=Z,5.1nm,0.6s,mb3.9						
KKN	Kakani	46.75	281	eP	P	16 46 38.2	+0.3
	comp=Z,17nm,0.9s,mb4.3						
DMN	Daman	46.95	281	eP	P	16 46 39.6	+0.2
	comp=Z,15nm,0.8s,mb4.3						
GKN	Gorkha	47.23	282	eP	P	16 46 41.7	+0.1
	comp=Z,18nm,1.0s,mb4.2						
KOLN	Koldanda	48.18	282	eP	P	16 46 49.1	+0.3
	comp=Z,23nm,0.9s,mb4.4						
KURK	Kurchatov	48.99	313	eP	P	16 46 53.6	-1.1
	comp=Z,2.3nm,0.4s,mb3.8						
FITZ	Fitzroy Crossi	49.51	197	eP	P	16 47 00.0	+1.0
	comp=Z,2.8nm,1.2s,mb3.4						
WRAB	Tennant Creek	49.82	186	eP	P	16 47 00.6	-0.7
	comp=Z,2.0nm,0.7s,mb3.5						
WB2	Warramunga Arr	49.83	186	eP	P	16 47 01.1	-0.3
WRA	Warramunga Arr	49.83	186	P	P	16 47 01.1	-0.3
	comp=Z,0.3nm,0.3s,mb3.0,baz=7.6,slow=4.6,SNR=21						
ASAR	Alice Springs	53.56	186	P	P	16 47 28.4	-0.3
	comp=Z,0.4nm,0.4s,mb3.1,baz=1.3,slow=6.0,SNR=30						
ASPA	Alice Springs	53.56	186	eP	P	16 47 28.9	+0.1
BRVK	Borovoye	54.11	316	eP	P	16 47 31.4	-0.9
	comp=Z,2.2nm,0.6s,mb3.7						
MCK	McKinley	55.65	31	eP	P	16 47 43.2	+0.1
	comp=Z,1.0nm,0.7s,mb3.2						
ILAR	Eielson Array	56.56	30	P	P	16 47 48.7	-0.7
	comp=Z,0.6nm,0.6s,mb3.1,baz=260,slow=4.7,SNR=16						
STKA	Stephens Creek	61.56	178	P	P	16 48 22.6	-1.0
	comp=Z,0.9nm,0.7s,mb3.4,baz=342,slow=17,SNR=3.7						
ARCES	ARCESS Array B	69.91	340	P	P	16 49 15.6	+0.2
	comp=Z,5.0nm,1.0s,mb4.2,baz=56,slow=8.7,SNR=5.3						
KAF	Kangasniemi	73.67	333	ep	P	16 49 36.6	-1.0
FINES	FINESS Array B	74.13	333	P	P	16 49 39.7	-0.5
	comp=Z,1.1nm,0.6s,mb3.8,baz=83,slow=5.4,SNR=12						
NOA	NORSAR Array B	79.90	337	P	P	16 50 11.2	-0.5
	comp=Z,0.8nm,0.6s,mb3.6,baz=48,slow=5.0,SNR=3.9						
NVAR	Mina Array Bea	80.90	51	P	P	16 50 19.0	+1.6
	comp=Z,1.2nm,0.7s,mb3.7,baz=297,slow=6.6,SNR=12						
NVAR	Mina Array Bea	80.90	51	P	P	16 50 19.0	+1.6
BRTR	Keskin Array B	82.01	311	P	P	16 50 23.2	+0.1
	comp=Z,1.5nm,0.7s,mb3.9,baz=87,slow=5.8,SNR=8.6						
TPNV	Topopah Spring	83.06	51	eP	P	16 50 30.0	+1.5
	comp=Z,2.4nm,0.8s,mb4.1						

*NIED **16** 16:39:00, 40.60N×139.00E, h8km, Mw3.5 Best double couple: $M_0$1.89×10^{14} NP1:ϕ_s134°, δ85°, λ-12°. NP2: ϕ_s225°, δ78°, λ-175°.*
*JMA **16** 16:39:05.1±0.1, 40.62N×139.02E, h24km±2km, M4.1*
JMA Felt I J1.
ISC 16 16:39:05.2±1.2, 40.62N±0.04×139.04E±0.07, h27km±8km, n16, σ0.41/25, 3C-4D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIW	Iwasaki	0.74	92	⇓P	Pb	16 39 19.2	-0.2
JIW				S	Sb	16 39 28.8	-0.4
JOG2	Oga 2	0.91	140	⇑P	Pb	16 39 22.2	-0.1
JOG2				S	Sb	16 39 34.4	+0.3
JSI2	Shiura 2	1.13	67	⇓P	Pn	16 39 25.4	-0.1
JSI2				eS	Sn	16 39 40.4	+0.1
JAH	Hinai	1.29	109	P	Pn	16 39 27.9	+0.1
JAH				eS	Sn	16 39 44.5	+0.1
JSR	Shiriuchi	1.39	48	P	Pn	16 39 29.6	+0.5
JOSM	Okushiri--Mats	1.50	13	⇑P	Pn	16 39 29.9	-0.9
JTM	Tenmabayashi	1.56	83	P	Pn	16 39 31.4	-0.1
JTM				eS	Sn	16 39 50.4	-0.6
JOT	Ohata	1.70	63	⇓P	Pn	16 39 34.0	+0.3
JOT				eS	Sn	16 39 54.9	+0.1
JYM2	Yakumo 2	1.80	33	⇓P	Pn	16 39 35.4	+0.3
JYM2				eS	Sn	16 39 57.0	-0.3
JANG	Nango	1.91	97	P	Pn	16 39 37.2	+0.6
JKB	Kayabe	1.97	49	P	Pn	16 39 38.0	+0.5
JYK	Kaneyama	1.98	149	⇑P	Pn	16 39 37.3	-0.3
JOM	Ohasama	2.08	123	P	Pn	16 39 39.1	+0.1
MAJO	Matsushiro	4.12	189	eP	Pn	16 40 08.0	-0.1
	9.7nm,0.7s						
MAT	Matsushiro	4.12	189	P	Pn	16 40 08.8	+0.7
MAT				S	Sn	16 40 55.4	-0.7
MAT	Matsushiro	4.12	189	eP	Pn	16 40 09.0	+0.9
MAT				eS	Sb	16 41 12.0	+5.3

*IDC **16** 16:57:38.9±0.8, 21.49S×174.92W, mb3.9/11, mb1 4.2/13, mb1mx4.2/18, ML4.2/2, MS3.8/2, Ms1 3.8/2, ms1mx3.3/25, Error ellipse: s-maj=33.4km s-min=18.9km az=139.0*
*NEIC **16** 16:57:41.7±0.5, 21.51S×175.01W, h15km, mb4.4/5, Error ellipse: s-maj=16.8km s-min=13.6km az=136.0*
ISC 16 16:57:39.9±0.6, 21.6S±0.1×175.0W±0.1, h15km, n33, σ1.30/25, mb4.0/15, MS3.8/2, 3C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAR	Rarotonga	14.18	91	Pn	Px	17 00 47.5	
	2.0nm,0.3s,baz=241,slow=10,SNR=4.1						
RAR				Sn	Sx	17 03 07.2	
	0.8nm,0.3s,baz=231,slow=3.9,SNR=2.8						
URZ	Urewera	17.98	201	P	P	17 01 50.3	-0.7
	0.4nm,0.3s,baz=348,slow=14,SNR=2.4						
URZ				S	S	17 04 53.7	-15
	0.3nm,0.3s,baz=148,slow=21,SNR=2.7						
CTAO	Charters Tower	36.20	265	eP	P	17 04 44.6	+0.5
	2.6nm,0.7s,mb4.3						
PMG	Port Moresby	38.32	282	LR	LR	17 19 16.4	
	comp=Z,148nm,19.0s,MS3.8,baz=266,slow=34						
STKA	Stephens Creek	39.89	246	P	P	17 05 16.9	+2.0
	0.9nm,0.5s,mb3.8,baz=74,slow=9.8,SNR=6.2						
STKA	Stephens Creek	39.89	246	P	P	17 05 16.0	+1.1
ASAR	Alice Springs	47.02	257	P	P	17 06 12.3	-0.5
	0.6nm,0.6s,mb3.7,baz=92,slow=9.9,SNR=24						
ASAR				PcP	PcP	17 07 45.5	+0.2
	0.5nm,0.7s,baz=110,slow=4.5,SNR=4.2						
ASAR				LR	LR	17 24 12.3	
	comp=Z,90nm,18.8s,MS3.8,baz=44,slow=34						
ASPA	Alice Springs	47.03	257	eP	P	17 06 14.6	+1.8
WB2	Warramunga Arr	47.24	262	eP	P	17 06 14.1	-0.4
WRAB	Tennant Creek	47.24	262	eP	P	17 06 13.6	-0.9
	3.2nm,0.8s,mb4.3						
WRA	Warramunga Arr	47.25	262	P	P	17 06 13.0	-1.6
	1.6nm,0.8s,mb4.0,baz=93,slow=8.1,SNR=32						
WRA				PcP	PcP	17 07 45.7	-0.6
	2.0nm,1.3s,baz=95,slow=3.2,SNR=2.6						
FITZ	Fitzroy Crossi	55.68	262	eP	P	17 07 17.1	-1.1
	12nm,3.5s						
FITZ	Fitzroy Crossi	55.68	262	P	P	17 07 17.1	-1.1
	1.2nm,0.5s,mb4.2,baz=79,slow=7.5,SNR=8.3						
SBA	Scott Base	57.02	185	eP	P	17 07 27.1	0.0
	7.8nm,1.5s,mb4.5						
VNDA	Vanda	57.13	186	P	P	17 07 27.4	-0.4
	1.7nm,1.2s,mb3.9,baz=359,slow=8.8,SNR=3.6						
QSPA	South Pole Qui	68.52	180	eP	P	17 08 42.0	-1.3
	9.0nm,1.3s,mb4.5						
NVAR	Mina Array Bea	79.89	42	P	P	17 09 49.0	-0.7
	0.8nm,0.7s,mb3.8,baz=217,slow=7.4,SNR=7.8						
MAW	Mawson	81.51	199	P	P	17 09 58.1	+0.5
	1.0nm,0.7s,mb3.9,baz=131,slow=9.3,SNR=3.0						
MAW	Mawson	81.51	199	P	P	17 09 59.0	+1.3
	1.6nm,0.8s,mb4.0						
TXAR	Lajitas Array	85.28	56	P	P	17 10 16.9	-0.8
	0.4nm,0.8s,mb3.6,baz=198,slow=7.9,SNR=3.8						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**86.86**	**178**	⇑*i*	**P**	**17 10 21.0**	**-3.6**
VNA3	**Neumayer Olymp**	**86.88**	**175**	⇑*i*	**P**	**17 10 27.1**	**+2.4**
VNA2	**Neumayer--Watz**	**87.36**	**176**	⇑*i*	**P**	**17 10 30.0**	**+3.0**
PDAR	**Pinedale Array**	**87.83**	**42**	P	**P**	**17 10 32.8**	**+2.9**
	0.5nm,0.9s,mb3.8,baz=202,slow=4.9,SNR=2.7						
ILAR	**Eielson Array**	**88.75**	**12**	P	**P**	**17 10 33.0**	**-0.8**
	0.6nm,0.6s,mb4.1,baz=238,slow=5.0,SNR=9.1						
CMAR	**Chiang Mai Arr**	**93.12**	**288**	P	**P**	**17 10 56.7**	**+1.6**
	0.9nm,0.7s,mb4.3,baz=115,slow=2.2,SNR=5.6						
AKASG	**Malin Array Be**	**145.27**	**333**	PKPbc	PKPbc	17 17 17.2	-0.1
	4.4nm,0.8s,baz=37,slow=3.5,SNR=16						
BRTR	**Keskin Array B**	**149.62**	**313**	PKPbc	PKPdf	17 17 30.6	+2.6
	1.1nm,0.6s,baz=90,slow=2.5,SNR=12						
CLL	**Collm**	**149.66**	**350**	*e*PKP1	PKPdf	17 17 30.0	+2.3
CLL				*e*		17 17 41.0	
ASF	**Jabal al Asfar**	**149.76**	**297**	PKPbc	PKPdf	17 17 32.3	+3.8
	1.0nm,0.4s,baz=340,slow=7.7,SNR=3.5						
BRG	**Berggiesshubel**	**149.92**	**349**	*e*P	PKPdf	17 17 32.8	+4.7
BRG				*e*		17 17 41.2	
KHC	**Kasperske Hory**	**151.66**	**348**	*e*PKPbc	PKPdf	17 17 35.0	+4.2
KHC				*e*PKPab	PKPab	17 17 45.5	+0.9
GERES	**GERESS Array B**	**151.90**	**348**	PKPbc	PKPdf	17 17 35.7	+4.6
	1.9nm,1.1s,slow=1.3,SNR=5.4						
GERES				PKPab	PKPab	17 17 44.5	-1.1
	0.7nm,0.7s,baz=342,slow=4.2,SNR=4.9						

NEIC ***16*** *17:07:22.5±1.6,51.56N×16.16E,h5km,ML3.0(VIE),Error ellipse: s-maj=17.0km s-min=6.2km az=202.0*
PRU ***16*** *17:07:24.2,51.45N×16.14E*
WAR ***16*** *17:07:24.7,51.47N×16.11E,ML2.8,Mining Induced*
ISC 16 17:07:22.6±0.8**,51.42N**±0.05×**16.08E**±0.04**,n15,**σ1ˢ**11**/32**,**
1C-1D,Poland

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.59**	**167**	*i* PG	**Pg**	**17 07 36.4**	**+1.9**
KSP				*e*SG	**Sg**	**17 07 38.4**	**-4.1**
KSP	**Ksiaz**	**0.59**	**167**	⇓*i*Pg	**Pg**	**17 07 36.4**	**+1.9**
KSP				*e*		17 07 38.1	
KSP				*e*Sg	**Sg**	**17 07 44.9**	**+2.4**
UPC	**Upice**	**0.92**	**183**	*e*PG	**Pg**	**17 07 42.2**	**+1.3**
DPC	**Dobruska-Polom**	**1.08**	**172**	*e*PG	**Pg**	**17 07 45.1**	**+0.8**
DPC				*e*SG	**Sg**	**17 07 59.7**	**+1.0**
	30nm,0.4s						
PVCC	**Panska Ves**	**1.31**	**227**	*e*PG	**Pg**	**17 07 50.0**	**+1.2**
BRG	**Berggiesshubel**	**1.45**	**249**	*i* Pg	**Pg**	**17 07 52.1**	**+0.5**
BRG				*i* Sg	**Sg**	**17 08 12.1**	**+1.1**
PRU	**Pruhonice**	**1.74**	**215**	*e*PN	**Pn**	**17 07 55.3**	**+1.0**
PRU				PG	**Pg**	**17 07 56.8**	**-0.5**
PRU				*i* x	x	17 08 00.4	
PRU				*e*x	x	17 08 12.6	
PRU				SG	**Sg**	**17 08 19.8**	**-0.6**
	19nm,0.4s						
MORC	**Moravsky Berou**	**1.89**	**150**	*e*Pn	**Pn**	**17 07 57.0**	**+0.5**
MORC				*e*Sn	**Sn**	**17 08 20.9**	**-0.5**
CLL	**Collm**	**1.93**	**268**	*e*PG	**Pg**	**17 08 00.0**	**-1.2**
CLL				*e*		17 08 03.0	
CLL				*i* SG	**Sg**	**17 08 26.4**	**-0.5**
CLL	**Collm**	**1.93**	**268**	*e*Pg	**Pg**	**17 08 00.0**	**-1.2**
CLL				*i* Sg	**Sg**	**17 08 26.4**	**-0.5**
OKC	**Ostrava-Krasne**	**2.06**	**139**	*e*PN	**Pn**	**17 07 58.4**	**-0.5**
OKC				*e*PG	**Pg**	**17 08 02.4**	**-1.4**
OKC				*e*SG	**Sg**	**17 08 29.3**	**-2.0**
NKC	**Novy Kostel**	**2.59**	**244**	*e*PG	**Pg**	**17 08 14.2**	**-0.2**
NKC				*e*SG	**Sg**	**17 08 48.2**	**-0.7**
OJC	**Ojcow**	**2.65**	**116**	*e*(PG)	**Pg**	**17 08 16.0**	**+0.5**
OJC				*e*SG	**Sg**	**17 08 50.0**	**-0.8**
KHC	**Kasperske Hory**	**2.80**	**216**	*e*PN	**Pn**	**17 08 10.6**	**+1.1**
KHC				*e*PG	**Pg**	**17 08 16.3**	**-2.2**
KHC				*e*SN	**Sn**	**17 08 44.0**	**-0.4**
KHC				*e*SG	**Sg**	**17 08 53.7**	**-2.1**
MOA	**Molln**	**3.76**	**199**	⇑*i*PN	**Pn**	**17 08 24.3**	**+1.1**
MOA				*i* SG	**Sg**	**17 09 28.2**	**+0.2**
	3.5nm,0.3s						

NIED ***16*** *17:19:00,36.30N×141.50E,h20km,Mw5.3 Best double couple: $M_0$1.08×10^17 NP1:ϕ_s28°,δ72°,λ89°. NP2:ϕ_s213°, δ18°,λ95°.*
ORF ***16*** *17:19:08.0,34.78N×144.76E,h30km,mb5.7*
BJI ***16*** *17:19:17.1,36.29N×141.17E,h22km,mB5.5,mb5.5, Ms5.3,Msz5.2*
MOS ***16*** *17:19:18.8±0.9,36.30N×141.35E,h33km,mb5.8/35, MS5.3/31,Error ellipse: s-maj=12.5km s-min=5.6km az=112.2*
IDC ***16*** *17:19:19.8±2.4,36.23N×141.44E,h33km±17km,mb5.0/25, mb1 5.1/29,mb1mx5.1/30,ML4.9/3,MS4.7/23,Ms1 4.7/23, ms1mx4.7/26,Error ellipse: s-maj=14.7km s-min=8.8km az=97.0*
JMA ***16*** *17:19:19.2±0.2,36.27N×141.40E,h48km±4km,M5.5 Broadband fault plane solution: P waves. NP1:ϕ_s218°, δ16°,λ143°. NP2:ϕ_s344°,δ80°,λ77°. Principal axes: T Plg53°, Azm238°; N Plg13°, Azm346°; P Plg34°, Azm85°;*
JMA Felt III J1.
HRVD ***16*** *17:19:19.8±0.2,36.21N×141.59E,h31km,MW5.4/67, Centroid moment Tensor Solution. LP body waves: s49,c96;Mantle waves: s67,c144; Half duration: 1ˢ2 Moment tensor: Scale 10^17Nm; M_{rr}0.83±.02; $M_{\theta\theta}$-0.05±.02; $M_{\phi\phi}$-0.78±.02; $M_{r\theta}$0.37±.03; $M_{\theta\phi}$-0.45±.01; $M_{\phi r}$0.95±.02; Best double couple: $M_0$1.36×10^17 NP1: ϕ_s211°,δ21°,λ98°. NP2:ϕ_s22°,δ69°,λ87°. Principal axes: T 1.28, Plg66°, Azm287°; N .16, Plg3°, Azm23°; P -1.44, Plg24°, Azm114°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***16*** *17:19:19.8±0.1,36.19N×141.34E,mb5.4/140,MS5.4/11, MW5.3(NIED) Error ellipse: s-maj=3.3km s-min=2.5km az=168.0*
NEIC Felt in Fukushima, Kanagawa, Miyagi and Tokyo Prefectures. Recorded [3 JMA] in Chiba, Ibaraki and Tochigi; [2 JMA] in Fukushima, Gumma, Kanagawa, Miyagi, Saitama, Tokyo and Yamagata; [1 JMA] in Nagano, Niigata and Shizuoka Prefectures.
SYO ***16*** *17:19:20.3,36.17N×141.36E,h37km,MB5.3,MS5.5*
ISC 16 17:19:19.7±0.4**,36.25N**±0.02×**141.37E**±0.02**,h42km**±2km**,**
h36km±1.2km**:pP-P,n671,**σ0ˢ**89**/664**,mb5.4**/187**,MS5.1**/60**,**
115C-31D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.68**	**217**	⇓P	**P**	**17 19 33.1**	**+0.2**
CHOJ				S	**S**	**17 19 44.2**	**+1.6**
JHO	**Hitachi**	**0.74**	**300**	⇓P	**P**	**17 19 33.6**	**-0.1**
JHO				S	**S**	**17 19 42.5**	**-1.5**
ONAJ	**Iwakimizuishiy**	**0.97**	**332**	⇓P	**P**	**17 19 36.1**	**-0.9**
JFK	**Kawauchi**	**1.19**	**341**	⇓P	**P**	**17 19 39.0**	**-1.0**
JFT	**Otama**	**1.52**	**327**	⇓P	**P**	**17 19 45.2**	**+0.4**
JFT				S	**S**	**17 20 04.8**	**+1.3**
JAG	**Ashikaga**	**1.56**	**277**	⇓P	**P**	**17 19 45.5**	**+0.1**
BSO3	**Boso 3**	**1.60**	**206**	⇑P	**P**	**17 19 46.4**	**+0.4**
BSO1	**Boso 1**	**1.62**	**191**	P	**P**	**17 19 45.9**	**-0.4**
JMM	**Marumori**	**1.68**	**344**	⇓P	**P**	**17 19 46.2**	**-0.9**
JMM				S	**S**	**17 20 07.2**	**-0.4**
JFY	**Yanaizu**	**1.77**	**311**	⇓P	**P**	**17 19 48.9**	**+0.6**
JFY				S	**S**	**17 20 14.5**	**+4.7**
JKT	**Katashina**	**1.78**	**288**	⇓P	**P**	**17 19 49.4**	**+0.8**
JRY	**Ryogami san**	**2.01**	**264**	⇓P	**P**	**17 19 52.0**	**+0.2**
JOD2	**Odawara 2**	**2.10**	**243**	P	**P**	**17 19 54.5**	**+1.5**
JIO	**Ouri**	**2.21**	**360**	⇓P	**P**	**17 19 52.9**	**-1.7**
JYS	**Shirataka**	**2.23**	**333**	⇓P	**P**	**17 19 55.3**	**+0.4**
MAJO	**Matsushiro**	**2.57**	**278**	*e*P	**P**	**17 20 00.7**	**+1.0**
MAT	**Matsushiro**	**2.57**	**278**	P	**P**	**17 20 00.5**	**+0.7**
MAT				S	**S**	**17 20 32.5**	**+2.5**
MAT	**Matsushiro**	**2.57**	**278**	*e*P	**P**	**17 20 01.0**	**+1.2**
MAT				*e*S	**S**	**17 20 33.0**	**+3.0**
JYA	**Atsumi**	**2.69**	**331**	⇓P	**P**	**17 20 01.8**	**+0.3**
JJN	**Nakama**	**2.71**	**289**	⇓P	**P**	**17 20 03.5**	**+1.6**
JYK	**Kaneyama**	**2.79**	**344**	⇓P	**P**	**17 20 02.6**	**-0.3**
JRG	**Rokugo**	**3.20**	**350**	⇑P	**P**	**17 20 08.5**	**-0.2**
JHJ	**Hachijo jima 2**	**3.38**	**203**	Pn	**P**	**17 20 10.4**	**-0.9**
	827nm,0.3s,baz=98,slow=5.1,SNR=54						
JHJ				Sn	**S**	**17 20 48.9**	**-1.8**
	627nm,0.3s,baz=16,slow=21,SNR=7.1						
JHE	**Heguri**	**4.90**	**253**	⇑P	**P**	**17 20 33.6**	**+0.7**
JMIK	**Miki**	**5.34**	**256**	P	**P**	**17 20 40.1**	**+1.1**
JWM	**Minabe**	**5.48**	**246**	P	**P**	**17 20 41.4**	**+0.5**
JAJ2	**Tsuna**	**5.60**	**253**	P	**P**	**17 20 42.9**	**+0.3**
ERM	**Erimo**	**5.93**	**13**	Pn	**P**	**17 20 43.4**	**-3.7**
	2µm,0.4s,SNR=29						
JOSM	**Okushiri--Mats**	**6.01**	**346**	P	**P**	**17 20 47.1**	**-1.2**
JAI	**Aioi**	**6.18**	**249**	P	**P**	**17 20 51.3**	**+0.6**
JJG	**Jouge**	**6.89**	**259**	P	**P**	**17 21 01.1**	**+0.3**
JKU	**Kubokawa**	**7.43**	**249**	P	**P**	**17 21 09.5**	**+1.2**
JNA	**Nagahama**	**7.78**	**252**	P	**P**	**17 21 14.1**	**+1.0**
ASAJ	**Asahikawa**	**7.92**	**6**	Pn	**P**	**17 21 10.9**	**-4.0**
	22nm,0.3s,baz=233,slow=8.3,SNR=54						
ASAJ				Sn	**S**	**17 22 38.5**	**-5.8**
	12nm,0.3s,baz=347,slow=17,SNR=6.7						
ASAJ				LR	LR	17 24 58.7	
	comp=Z,8µm,20.8s,baz=191,slow=43						
ASAJ	**Asahikawa**	**7.92**	**6**	P	**P**	**17 21 11.0**	**-4.0**
ASAJ						17 22 38.5	
ASAJ				pmax	pmax		
	comp=Z,23nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,8µm,20.8s						
JKD	**Kudamatsu**	**8.08**	**257**	P	**P**	**17 21 17.8**	**+0.6**
YUK	**Yuzh-Kuril'sk**	**8.51**	**22**	*e*P	**P**	**17 21 14.0**	**-9.1**
YUK				pmax	pmax		
	comp=Z,460nm,0.4s						
YUK				pmax	pmax		
	comp=N,370nm,0.5s						
YUK				pmax	pmax		
	comp=E,240nm,0.3s						
YUK				MLR	MLR		
	comp=Z,7µm,19.0s						
YUK				MLR	MLR		
	comp=N,6µm,18.0s						
YUK				MLR	MLR		
	comp=E,6µm,20.0s						
YUK	**Yuzh-Kuril'sk**	**8.51**	**22**	*e*P	**P**	**17 21 14.0**	**-9.1**
	comp=E,460nm,0.4s						
JTY	**Toyota**	**8.66**	**260**	P	**P**	**17 21 27.5**	**+2.3**
JFA	**Akaike**	**9.04**	**257**	P	**P**	**17 21 30.9**	**+0.4**
JTSN	**Tsuno**	**9.09**	**247**	P	**P**	**17 21 31.7**	**+0.5**
CBIJ	**Chichi jima**	**9.15**	**175**	Pn	**P**	**17 21 27.9**	**-4.1**
CBIJ				Sn	Px	17 22 59.8	
JNU	**Nakatsue**	**9.18**	**253**	P	**P**	**17 21 33.3**	**+0.8**
JIU2	**Izumi 2**	**9.47**	**250**	P	**P**	**17 21 37.1**	**+0.7**
JTA	**Tamana**	**9.51**	**253**	P	**P**	**17 21 37.9**	**+0.9**
JZO	**Okuchi**	**9.81**	**248**	P	**P**	**17 21 41.9**	**+0.7**
VLA	**Vladivostok**	**10.02**	**316**	⇓*i*P	**P**	**17 21 46.0**	**+2.1**
VLA				pmax	pmax		
	comp=N,2µm,6.0s						
VLA				pmax	pmax		
	comp=E,1µm,6.0s						
VLA				pmax	pmax		
	comp=Z,2µm,6.0s						
VLA				MLR	MLR		
	comp=N,11µm,15.0s						
VLA				MLR	MLR		
	comp=E,8µm,16.0s						
VLA				MLR	MLR		
	comp=Z,15µm,16.0s						
KUR	**Kuril'sk**	**10.24**	**27**	*e*P	**P**	**17 21 45.0**	**-2.0**
KUR				pmax	pmax		
	comp=N,190nm,0.8s						
KUR				pmax	pmax		
	comp=E,140nm,0.8s						
KUR				pmax	pmax		
	comp=Z,220nm,0.8s						
KUR	**Kuril'sk**	**10.24**	**27**	*e*P	**P**	**17 21 45.0**	**-2.0**
	comp=Z,220nm,0.8s						
JTN	**Tanegashima 3**	**10.31**	**240**	P	**P**	**17 21 49.1**	**+1.1**
YSS	**Yuzh-Sakhalins**	**10.75**	**5**	⇑*i*P	**P**	**17 21 48.6**	**-5.3**
YSS				pmax	pmax		
	comp=N,160nm,0.9s						
YSS				pmax	pmax		
	comp=Z,160nm,0.9s						
YSS				MLR	MLR		
	comp=N,3µm,17.0s						
YSS				MLR	MLR		
	comp=E,4µm,16.0s						
YSS				MLR	MLR		
	comp=Z,4µm,16.0s						
YSS	**Yuzh-Sakhalins**	**10.75**	**5**	⇑*i*P	**P**	**17 21 48.6**	**-5.3**
	comp=Z,160nm,0.9s						
KS15	**Wonju Array Si**	**10.87**	**280**	*e*P	**P**	**17 21 57.5**	**+1.8**
INCN	**Inchon**	**11.87**	**280**	*e*P	**P**	**17 22 08.9**	**-0.2**
	comp=Z,116nm,1.0s						
MDJ	**Mudanjiang**	**12.25**	**317**	P	**P**	**17 22 12.9**	**-1.3**
MDJ				AP		17 22 15.8	
MDJ				XP		17 22 18.1	
MDJ				S	**S**	**17 24 27.5**	**-2.9**
MDJ				PCP	PcP	17 27 53.1	-1.5
MDJ				AMB	AMB		
	comp=Z,153nm,1.3s						
MDJ				AMB	AMB		
	comp=Z,887nm,7.5s						
MDJ				LR	LR		
	comp=N,6µm,16.7s						
MDJ				LR	LR		
	comp=E,5µm,16.4s						
MDJ				LR	LR		
	comp=Z,11µm,16.7s						
MDJ	**Mudanjiang**	**12.25**	**317**	*e*P	**P**	**17 22 12.9**	**-1.4**
	comp=Z,218nm,1.1s						
UGL	**Uglegorsk**	**12.84**	**2**	P	**P**	**17 22 25.0**	**+3.0**
UGL				pmax	pmax		
	comp=Z,170nm,1.0s						
UGL				MLR	MLR		
	comp=N,6µm,21.0s						
UGL				MLR	MLR		
	comp=E,7µm,17.0s						
UGL				MLR	MLR		
	comp=Z,8µm,17.0s						
UGL	**Uglegorsk**	**12.84**	**2**	P	**P**	**17 22 25.0**	**+3.0**
	comp=Z,170nm,1.0s						
CN2	**Changchun**	**14.33**	**307**	*e*P	**P**	**17 22 40.1**	**-1.5**
CN2				*e*AP		17 22 49.1	
CN2				*e*S	**S**	**17 25 17.4**	**-2.6**
CN2				AMB	AMB		
	comp=Z,50nm,1.5s						
CN2				AMB	AMB		
	comp=Z,660nm,5.0s						
CN2				LR	LR		
	comp=N,6µm,14.0s						
CN2				LR	LR		
	comp=E,8µm,14.0s						
CN2				LR	LR		
	comp=Z,7µm,16.0s						
JOW	**Kunigami**	**14.57**	**234**	Pn	**P**	**17 22 46.5**	**+1.6**
	comp=Z,5.3nm,0.3s,baz=44,slow=11,SNR=4.6						
JOW	**Kunigami**	**14.57**	**234**	P	**P**	**17 22 50.8**	**+5.9**
TYV	**Tymovskoe**	**14.64**	**3**	*e*P	**P**	**17 22 38.9**	**-6.7**
TYV				pmax	pmax		
	comp=Z,106nm,1.0s						
TYV				MLR	MLR		
	comp=Z,7µm,14.0s						
SNY	**Shenyang**	**14.90**	**297**	⇑P	**P**	**17 22 48.8**	**-0.2**
SNY				AP		17 22 53.8	
SNY				XP		17 22 58.5	
SNY				AMB	AMB		
	comp=Z,120nm,1.0s						
SNY				LR	LR		
	comp=N,4µm,15.7s						
SNY				LR	LR		
	comp=E,6µm,16.7s						
SNY				LR	LR		
	comp=Z,8µm,16.5s						
DL2	**Dalian**	**15.87**	**286**	P	**P**	**17 23 02.3**	**+0.7**
DL2				AMB	AMB		
	comp=Z,90nm,0.6s						
DL2				LR	LR		
	comp=N,2µm,12.3s						
DL2				LR	LR		
	comp=E,5µm,14.5s						
DL2				LR	LR		
	comp=Z,5µm,16.3s						
SSE	**Sheshan**	**17.56**	**259**	P	**P**	**17 23 22.8**	**-0.1**
SSE				AMB	AMB		
	comp=Z,602nm,5.9s						
SSE				LR	LR		
	comp=N,3µm,16.7s						
SSE				LR	LR		
	comp=E,3µm,16.7s						
SSE				LR	LR		
	comp=Z,4µm,12.6s						
SKR	**Severo-Kuril's**	**17.92**	**32**	*e*P	**P**	**17 23 27.0**	**-0.2**
SKR				S	**S**	**17 26 43.0**	**+0.2**
SKR				pmax	pmax		
	comp=Z,220µm,1.0s						
SKR				smax			
	comp=E,3µm,8.0s						
SKR				MLR	MLR		
	comp=N,3µm,16.0s						
SKR				MLR	MLR		
	comp=Z,3µm,16.0s						
SKR				MLR	MLR		
	comp=E,3µm,14.0s						
JTJ	**Tarama**	**18.41**	**236**	P	**P**	**17 23 31.5**	**-2.1**
JIJ	**Ishigaki jima**	**18.98**	**236**	P	**P**	**17 23 36.8**	**-3.5**
NJ2	**Nanjing**	**19.09**	**264**	*e*P	**P**	**17 23 38.9**	**-2.6**
NJ2				PP	PP	17 23 58.4	-0.1
NJ2				S	**S**	**17 27 11.0**	**+1.8**
NJ2				AMB	AMB		
	comp=Z,130nm,0.8s						
NJ2				AMB	AMB		
	comp=Z,1µm,4.2s						
NJ2				LR	LR		
	comp=N,7µm,15.9s						
NJ2				LR	LR		
	comp=E,7µm,19.8s						
NJ2				LR	LR		
	comp=Z,12µm,19.1s						
IRIF	**Iriomote-Funau**	**19.27**	**237**	P	**P**	**17 23 39.3**	**-4.3**
IRIF				S	**S**	**17 27 11.1**	**-2.4**
TIA	**Tai'an**	**19.55**	**277**	P	**P**	**17 23 43.1**	**-3.5**
TIA				S	**S**	**17 27 25.3**	**+5.8**
TIA				AMB	AMB		
	comp=Z,255nm,1.3s						
TIA				LR	LR		
	comp=N,2µm,16.0s						
TIA				LR	LR		
	comp=E,2µm,13.0s						
BJI	**Beijing**	**20.15**	**288**	P	**P**	**17 23 49.5**	**-3.5**
BJI				AP		17 23 57.8	
BJI				XP		17 24 02.1	
BJI				S	**S**	**17 27 39.1**	**+7.1**
BJI				AMB	AMB		
	comp=Z,98nm,0.9s						
BJI				LR	LR		
	comp=N,4µm,13.4s						
BJI				LR	LR		
	comp=E,1µm,19.0s						
BJT	**Baijiatuau**	**20.16**	**288**	*e*P	**P**	**17 23 49.0**	**-4.1**
	comp=E,177nm,0.8s						
HIA	**Hailar**	**20.44**	**316**	*e*P	**P**	**17 23 50.6**	**-5.3**
	comp=E,99nm,0.9s						
PET	**Petropavlovsk**	**20.71**	**31**	*e*P	**P**	**17 24 09.6**	**+11**
PET				*i* S	**S**	**17 27 49.0**	**+6.3**
PET				pmax	pmax		
	comp=Z,157nm,1.1s						
PET				pmax	pmax		
	comp=Z,500nm,5.7s						
PET				smax			
	comp=E,1µm,17.9s						
PET				smax			
	comp=N,1µm,14.8s						
PET				MLR	MLR		
	comp=Z,2µm,27.0s,MS4.4						
PET				MLR	MLR		
	comp=Z,2µm,21.0s						
PET	**Petropavlovsk**	**20.71**	**31**	*e*P	**P**	**17 23 57.7**	**-1.0**
	comp=Z,188nm,1.2s						
PET				*i* S	**S**	**17 27 49.0**	**+6.3**
PET				LR	LR		
	comp=Z,2µm,27.0s,MS4.4						
QZH	**Quanzhou**	**22.55**	**246**	⇑*i*P	**P**	**17 24 13.3**	**-4.1**
QZH				AMB	AMB		
	comp=Z,220nm,0.9s,mb5.6						
QZH				LR	LR		
	comp=N,3µm,15.9s,MS5.2						
QZH				LR	LR		
	comp=E,7µm,15.7s,MS5.2						
QZH				LR	LR		
	comp=Z,9µm,19.0s,MS5.2						
WHN	**Wuhan**	**23.22**	**264**	⇑P	**P**	**17 24 22.0**	**-1.9**
WHN				LR	LR		
	comp=N,4µm,13.0s,MS5.0						
WHN				LR	LR		
	comp=E,1µm,13.0s,MS5.0						
WHN				LR	LR		
	comp=Z,8µm,19.5s						
CLNS	**Chul'man**	**23.39**	**337**	*e*P	**P**	**17 24 23.3**	**-1.9**
CLNS				*e**PP		17 24 30.5	
CLNS				*e*PPP	PPP	17 24 58.0	-10
CLNS				*e*		17 28 07.4	
CLNS				*e*S	**S**	**17 28 29.9**	**-1.7**
CLNS				*e*SS	SS	17 29 28.3	+8.1
CLNS				pmax	pmax		
	comp=N,166nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,232nm,1.1s,mb5.5						
CLNS				pmax	pmax		
	comp=E,47nm,1.0s						
CLNS				smax			
	comp=N,955nm,10.4s						
CLNS				smax			
	comp=Z,248nm,10.7s						
CLNS				smax			
	comp=E,242nm,11.4s						
CLNS				MLR	MLR		
	comp=Z,4µm,14.0s,MS5.0						
CLNS				MLR	MLR		
	comp=N,4µm,12.0s,MS5.0						
CLNS				MLR	MLR		
	comp=E,900nm,15.0s,MS5.0						
HHC	**Hu-ho-hao-te**	**23.70**	**290**	*e*P	**P**	**17 24 25.6**	**-2.7**
HHC				AP		17 24 38.9	
HHC				XP		17 24 41.8	
HHC				PP	PP	17 24 57.3	-4.7
HHC				S	**S**	**17 28 42.8**	**+5.6**
HHC				AMB	AMB		
	comp=Z,92nm,1.3s,mb5.0						
HHC				LR	LR		
	comp=N,1µm,14.2s,MS4.7						
HHC				LR	LR		
	comp=E,2µm,15.2s,MS4.7						
MA2	**Magadan**	**24.13**	**12**	*e*P	**P**	**17 24 33.1**	**+0.8**
MA2				*e*S	**S**	**17 28 53.4**	**+8.9**
MA2				pmax	pmax		
	comp=Z,180nm,1.8s,mb5.2						
MA2				MLR	MLR		
	comp=Z,1µm,18.0s,MS4.4						
BTO	**Baotou**	**24.87**	**290**	*e*P	**P**	**17 24 37.3**	**-2.4**
BTO				AMB	AMB		
	comp=Z,70nm,0.8s,mb5.2						
BTO				LR	LR		
	comp=N,2µm,14.2s,MS5.1						
BTO				LR	LR		
	comp=E,4µm,14.7s,MS5.1						
XAN	**Xi'an**	**26.56**	**275**	P	**P**	**17 24 54.0**	**-1.6**
XAN				AP	pP	17 25 03.3	-3.3
XAN				S	**S**	**17 29 33.0**	**+7.8**
XAN				AMB	AMB		
	comp=Z,225nm,1.3s,mb5.5						
XAN				LR	LR		
	comp=N,521nm,12.5s,MS4.8						
XAN				LR	LR		
	comp=E,2µm,15.5s,MS4.8						
XAN				LR	LR		
	comp=Z,3µm,15.4s,MS5.0						
YAK	**Yakutsk**	**26.83**	**348***c*	*i*P	**P**	**17 24 56.2**	**-1.6**
YAK				*e**PP	pP	17 25 01.3	-7.5
YAK				*e*PPP	PPP	17 25 46.0	-10
YAK				*e*		17 28 13.2	
YAK				*e*S	**S**	**17 29 29.3**	**0.0**
YAK				*e*		17 35 47.6	
YAK				pmax	pmax		
	comp=Z,268nm,1.0s,mb5.7						
YAK				pmax	pmax		
	comp=N,133nm,1.1s						
YAK				pmax	pmax		
	comp=E,51nm,1.1s						
YAK				smax			
	comp=E,22nm,1.3s						
YAK				smax			
	comp=N,18nm,1.2s						
YAK				MLR	MLR		
	comp=Z,2µm,16.0s,MS4.7						
YAK				MLR	MLR		
	comp=N,2µm,18.0s,MS4.8						
YAK				MLR	MLR		
	comp=E,707nm,14.0s,MS4.8						
YAK	**Yakutsk**	**26.83**	**348**	⇑*i*P	**P**	**17 24 56.2**	**-1.6**
	comp=E,268nm,1.0s,mb5.7						
YAK				*e*pP	pP	17 25 01.3	-7.5

YAK *e*PPP PPP 17 25 46.0 -10
YAK *e* 17 28 13.2
YAK *e*S **S** **17 29 29.3 0.0**
YAK *e* 17 35 47.6
YAK LR LR
comp=Z,2µm,16.0s,MS4.7
ENH Enshi 27.24 267⇑ *i*P **P** **17 24 60.0 -1.9**
comp=Z,359nm,0.9s,mb5.9
GZH Guangzhou 27.55 249 P **P** **17 24 58.6 -6.1**
GZH S **S** **17 29 31.8 -9.5**
GZH LR LR
comp=N,2µm,13.4s,MS5.0
GZH LR LR
comp=E,2µm,14.0s,MS5.0
GZH LR LR
comp=Z,3µm,14.3s,MS5.0
SEY Seymchan 27.57 11 *e*P **P** **17 25 06.1 +1.6**
SEY pmax pmax
comp=N,100nm,1.2s
SEY pmax pmax
comp=E,40nm,1.2s
SEY pmax pmax
comp=Z,320nm,1.2s,mb5.8
SEY Seymchan 27.57 11 *e*P **P** **17 25 06.1 +1.6**
comp=Z,320nm,1.2s,mb5.8
FX1 Attu Island--F 27.80 43 P **P** **17 25 04.4 -2.3**
comp=Z,14nm,0.8s,mb4.6,baz=160,slow=3.2,SNR=5.2
FX1 LR LR 17 33 59.9
comp=Z,49nm,20.4s,baz=260,slow=32
FX1 Attu Island--F 27.80 43 *e*P **P** **17 25 02.4 -4.3**
BOD Bodaibo 28.18 329⇓ *i*P **P** **17 25 08.4 -1.7**
SONM Songino Array 28.20 305 P **P** **17 25 09.3 -1.0**
comp=Z,82nm,0.7s,mb5.5,baz=106,slow=8.9,SNR=644
SONM PcP PcP 17 28 23.8 +0.3
comp=Z,6.8nm,0.9s,baz=139,slow=2.3,SNR=4.5
LZH Lanzhou 30.17 281⇑ P **P** **17 25 27.0 -1.0**
LZH PP PP 17 26 26.0 -1.5
LZH S **S** **17 30 23.0 0.0**
LZH SS SS 17 32 04.0 +1.1
LZH AMB AMB
comp=Z,222nm,1.5s,mb5.7
LZH AMB AMB
comp=Z,618nm,4.8s
LZH LR LR
comp=E,6µm,16.4s
LZH LR LR
comp=Z,9µm,17.6s,MS5.5
IRK Irkutsk 30.61 313 *e*P **P** **17 25 31.0 -0.7**
IRK *e* pP 17 25 41.3 -1.7
ZAK Zakamensk 30.73 309⇑ *i*P **P** **17 25 31.3 -1.6**
ZAK *e* 17 28 29.2
GYA Guiyang 31.06 262⇑ *i*P **P** **17 25 34.3 -1.7**
GYA AP pP 17 25 38.4 -8.9
GYA AMB AMB
comp=Z,250nm,1.1s,mb6.0
GYA AMB AMB
comp=Z,270nm,3.9s
GYA LR LR
comp=N,2µm,21.0s,MS4.9
GYA LR LR
comp=E,2µm,19.8s,MS4.9
GYA LR LR
comp=Z,3µm,17.7s,MS5.0
CD2 Chengdu 31.65 271 *i*P **P** **17 25 39.3 -1.8**
CD2 PP PP 17 26 46.5 -0.1
CD2 S **S** **17 30 51.4 +5.2**
CD2 AMB AMB
comp=Z,90nm,0.7s,mb5.7
CD2 LR LR
comp=N,2µm,16.2s
MOY Mondy 32.42 311 *e*P **P** **17 25 47.0 -0.7**
QIZ Qiongzhong 32.58 247 P **P** **17 25 49.4 0.0**
QIZ S **S** **17 31 03.3 +2.4**
QIZ LR LR
comp=N,1µm,13.2s,MS4.9
QIZ LR LR
comp=E,2µm,14.9s,MS4.9
QIZ LR LR
comp=Z,2µm,15.7s,MS5.0
QIZ Qiongzhong 32.58 247 *e*P **P** **17 25 47.0 -2.4**
comp=Z,34nm,1.0s,mb5.2
GTA Gaotai 32.77 288 P **P** **17 25 49.8 -1.0**
GTA AP pP 17 25 58.6 -3.6
GTA XP sP 17 26 02.5 -5.0
GTA PCP PcP 17 28 35.8 +0.3
GTA S **S** **17 30 56.3 -7.3**
GTA XS 17 31 14.4
GTA SCP 17 32 17.5
GTA PCS 17 32 19.9
GTA SCS ScS 17 36 17.9 +4.6
GTA AMB AMB
comp=Z,104nm,1.7s,mb5.5
GTA AMB AMB
comp=Z,413nm,9.9s
GTA LR LR
comp=N,1µm,19.8s,MS5.1
GTA LR LR
comp=E,3µm,16.0s,MS5.1
GTA LR LR
comp=Z,4µm,17.5s,MS5.2
KMI Kunming 34.81 262 *e*P **P** **17 26 07.5 -1.1**
KMI AP pP 17 26 11.3 -8.7
KMI PP PP 17 27 22.4 -4.4
KMI PCP PcP 17 28 38.3 -3.1
KMI S **S** **17 31 39.8 +4.3**
KMI PCS 17 32 26.1
KMI SCS ScS 17 36 23.5 -0.7
KMI AMB AMB
comp=Z,147nm,1.2s,mb5.8
KMI AMB AMB
comp=Z,315nm,3.8s
KMI LR LR
comp=N,2µm,16.5s,MS5.2
KMI LR LR
comp=E,3µm,16.5s,MS5.2
KMI LR LR
comp=Z,3µm,16.0s,MS5.1
TIXI Tiksi 36.07 353 *i*P **P** **17 26 21.5 +2.7**
TIXI MLR MLR
comp=Z,2µm,17.0s,MS5.0
UBT Ubonrachathani 38.53 247 P **P** **17 26 40.9 +1.0**
KKTK Khon Kaen 39.50 250 PG **P** **17 26 47.5 -0.5**
KKTK SG pP 17 26 50.0 -10
NANT Nan 39.70 255⇑ P **P** **17 26 47.0 -2.6**
comp=Z,275nm,0.7s,mb6.1
CHG Chiang Mai 41.07 257⇑ P **P** **17 27 00.9 0.0**
comp=Z,77nm,0.9s,mb5.3
WMQ Urumqi 41.17 298⇑ *i*P **P** **17 27 02.8 +1.3**
WMQ AP pP 17 27 13.8 +0.7
WMQ PP PP 17 28 42.0 +2.3
WMQ S **S** **17 33 14.0 +2.3**
WMQ AMB AMB
comp=Z,145nm,8.0s
WMQ LR LR
comp=N,1µm,15.0s,MS5.1
WMQ LR LR
comp=E,1µm,14.0s,MS5.1
WMQ LR LR
comp=Z,2µm,15.0s,MS5.1
CM31 Chiang Mai Arr 41.27 256 *e*P **P** **17 27 02.4 -0.2**
comp=Z,42nm,0.6s,mb5.2
CMAR Chiang Mai Arr 41.27 256 P **P** **17 27 02.2 -0.3**
comp=Z,28nm,0.7s,mb5.0,baz=47,slow=6.2,SNR=118
CMAR PcP PcP 17 29 01.9 +0.5
comp=Z,7.1nm,1.0s,baz=17,slow=3.9,SNR=4.3
CMAR LR LR 17 44 57.2
comp=Z,1µm,20.2s,MS4.7,baz=60,slow=37
CMAR Chiang Mai Arr 41.27 256 P **P** **17 27 02.3 -0.3**
CMAR 17 29 01.9
CMAR pmax pmax
comp=Z,28nm,0.7s
CMAR MLR MLR
comp=Z,1µm,20.2s
BDT Bhumibol Dam 41.91 255 P **P** **17 27 08.0 +0.1**
comp=Z,60nm,0.7s,mb5.3
LSA Lhasa 42.25 276 P **P** **17 27 12.0 +1.4**
ZAL Zalesovo 42.43 313 P **P** **17 27 11.1 -0.6**
comp=Z,62nm,0.7s,mb5.3,baz=14,slow=7.3,SNR=270
ZAL LR LR 17 46 05.6
comp=Z,3µm,20.2s,MS5.1,baz=24,slow=38
NVS Novosibirsk 43.36 314 *i*P **P** **17 27 18.2 -1.1**
NVS *e*S **S** **17 33 37.3 -6.4**
NVS pmax pmax
comp=N,57nm,1.1s
NVS pmax pmax
comp=E,233nm,1.1s
NVS pmax pmax
comp=Z,305nm,1.1s,mb5.9
NVS smax
comp=N,48nm,2.0s
NVS smax
comp=E,44nm,2.0s
NVS Novosibirsk 43.36 314 *i*P **P** **17 27 18.2 -1.1**
comp=E,305nm,1.1s,mb5.9
NVS *e*S **S** **17 33 37.3 -6.4**
SHL Shillong 43.37 270⇑ *i*P **P** **17 27 19.0 -0.7**
SHL *e* 17 33 50.0
MK02 Makanchi Array 44.50 303 P **P** **17 27 28.6 0.0**
MK02 pmax pmax
comp=Z,193nm,0.9s,mb5.9
AGT Agartala 44.64 268 *i*P **P** **17 27 30.0 -0.1**
AGT *i* 17 28 07.0
PMG Port Moresby 45.73 172 P **P** **17 27 38.6 -0.3**
comp=Z,6.7nm,0.7s,mb4.7,baz=323,slow=10,SNR=4.4
PMG LR LR 17 44 17.7
comp=Z,425nm,18.1s,MS4.4,baz=142,slow=33
PMG Port Moresby 45.73 172 P **P** **17 27 38.6 -0.3**
PMG pmax pmax
comp=Z,7.0nm,0.7s
PMG MLR MLR
comp=Z,425nm,18.1s
PMG Port Moresby 45.73 172 *e*P **P** **17 27 35.0 -3.8**
comp=Z,13nm,0.8s,mb4.9
PMG LR LR 17 44 17.7
KURK Kurchatov 46.39 309*c* *i*P **P** **17 27 43.2 -0.4**
KURK pmax pmax
comp=Z,134nm,0.8s,mb5.9
KURK Kurchatov 46.39 309⇑ *i*P **P** **17 27 43.2 -0.4**
GUN Gumba 47.20 276 *e*P **P** **17 27 51.0 +0.8**
comp=Z,687nm,0.9s
IMA Indian Mountai 47.39 30 *e*P **P** **17 27 51.6 +0.4**
comp=Z,19nm,1.1s,mb4.9
RSO Redoubt South 47.55 38 *e*P **P** **17 27 52.4 -0.1**
KDAK Kodiak Island 47.71 41 *e*P **P** **17 27 52.2 -1.6**
comp=Z,27nm,0.8s,mb5.3
PKI Puhoki 47.72 276 *e*P **P** **17 27 54.6 +0.2**
comp=Z,532nm,1.0s,mb6.5
KKN Kakani 47.73 277 *e*P **P** **17 27 54.7 +0.3**
comp=Z,705nm,1.0s
SPU Mount Spurr 47.88 37 *e*P **P** **17 27 55.0 -0.2**
DMN Daman 47.95 276 *e*P **P** **17 27 56.4 +0.3**
comp=Z,412nm,1.1s,mb6.3
GKN Gorkha 48.16 277 *e*P **P** **17 27 58.0 +0.2**
comp=Z,2µm,1.2s
IPM Ipoh 48.63 239⇑ *e*P **P** **17 28 01.5 -0.1**
AAA Ala-Ata 48.93 299 *e*P **P** **17 28 03.0 -0.5**
AAA pmax pmax
comp=Z,500nm,1.0s,mb6.5
KGM Kluang 48.95 235⇑ *e*P **P** **17 28 03.9 -0.1**
comp=Z,172nm,1.0s,mb6.0
KOLN Koldanda 49.09 277 *e*P **P** **17 28 05.3 +0.4**
comp=Z,862nm,1.3s
PMR Palmer 49.28 36 *e*P **P** **17 28 04.8 -1.1**
comp=Z,27nm,0.8s,mb5.3
MCK McKinley 49.31 33 *e*P **P** **17 28 05.2 -0.9**
comp=Z,17nm,1.0s,mb5.0
KAKA Kakadu 49.41 192 *e*P **P** **17 28 11.9 +4.3**
comp=Z,92nm,0.9s,mb5.8
SML Sawmill 49.65 36 *e*P **P** **17 28 08.1 -0.7**
ULHL Ulahol 49.70 298 P **P** **17 28 09.3 -0.2**
SNR=23
COLA College 49.77 32 *e*P **P** **17 28 09.3 -0.3**
COLA pmax pmax
comp=Z,44nm,0.9s,mb5.5
COLA College 49.77 32 *e*P **P** **17 28 09.2 -0.4**
comp=Z,44nm,0.9s,mb5.5
TKM2 Tokmak 2 49.98 299 P **P** **17 28 12.6 +1.0**
SNR=169
ILAR Eielson Array 50.18 32 P **P** **17 28 11.3 -1.5**
comp=Z,39nm,0.8s,mb5.5,baz=268,slow=6.1,SNR=302
ILAR LR LR 17 50 48.7
comp=Z,400nm,20.3s,MS4.4,baz=289,slow=38
ILAR Eielson Array 50.18 32 P **P** **17 28 11.3 -1.5**
ILAR pmax pmax
comp=Z,39nm,0.8s
ILAR MLR MLR
comp=Z,400nm,20.3s
KZA Kyzart 50.46 298 P **P** **17 28 17.1 +1.9**
SNR=15
KBK Karagaybulak 50.51 299 P **P** **17 28 16.3 +0.7**
SNR=202
CHMS Chumysh 50.55 299 P **P** **17 28 15.7 -0.3**
SNR=45
USP Ospenovka 50.65 300 P **P** **17 28 16.6 -0.1**
SNR=87
FRU Bishkek 50.69 299*α* *i*P **P** **17 28 17.8 +0.8**
FRU pmax pmax
comp=Z,290nm,1.7s,mb5.9
FRU MLR MLR
comp=N,4µm,18.0s
FRU MLR MLR
comp=Z,6µm,18.0s,MS5.6
FRU Bishkek 50.69 299 *i* Pcu 17 28 17.8
comp=Z,290nm,1.7s
FRU LR LR
comp=Z,6µm,18.0s,MS5.6
KSH Kashi 50.70 295⇑ *i*P **P** **17 28 18.3 +1.2**
KSH AP pP 17 28 29.6 +0.8
KSH PCP PcP 17 29 29.3 -4.8
KSH PP PP 17 30 17.8 +3.7
KSH *e*SCP 17 33 22.4
KSH *e*PCS 17 33 27.4
KSH S **S** **17 35 33.8 +5.9**
KSH *e*SCS ScS 17 38 01.3 +0.1
KSH SS SS 17 39 00.0 +0.1
KSH AMB AMB
comp=Z,690nm,5.4s
KSH LR LR
comp=N,3µm,16.1s,MS5.4
KSH LR LR
comp=E,1µm,12.4s,MS5.4
THY Trims Highway 50.74 34 *e*P **P** **17 28 16.9 -0.2**
AAK Ala-Archa 50.84 299 P **P** **17 28 18.4 +0.3**
SNR=52
AAK Ala-Archa 50.84 299*c* *i*P **P** **17 28 17.2 -0.9**
AAK pmax pmax
comp=Z,59nm,1.0s,mb5.5
AAK Ala-Archa 50.84 299⇑ *i*P **P** **17 28 17.2 -0.9**
comp=Z,59nm,1.0s,mb5.5
DIV Divide 50.93 37 *e*P **P** **17 28 18.1 -0.4**
comp=Z,130nm,0.9s,mb5.9
UCH Uchtor 50.94 298 P **P** **17 28 20.0 +1.1**
SNR=42
EYAK Cordova Ski Ar 51.00 37 *e*P **P** **17 28 18.9 -0.2**
LGTI Lohaghat 51.06 281⇓ *i*P **P** **17 28 21.0 +1.0**
BVA0 Borovoye Array 51.08 313 *i*P **P** **17 28 19.3 -0.5**
BVA0 pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
BVA0 Borovoye Array 51.08 313 *i* P **P** **17 28 19.3 -0.5**
comp=Z,7.0nm,0.8s,mb4.6
BVAR Borovoye Array 51.08 313 P **P** **17 28 19.1 -0.7**
baz=82,slow=7.0
BRVK Borovoye 51.13 313 *e*P **P** **17 28 19.7 -0.5**
comp=Z,144nm,1.0s,mb5.9
JOSI Joshimath 51.16 283 *e*P **P** **17 28 20.8 +0.1**
EKS2 Erkin-Say 51.33 299 P **P** **17 28 22.1 +0.3**
SNR=76
AML Almayashu 51.55 299 P **P** **17 28 24.7 +1.3**
SNR=310
ALBI Allahabad 51.61 275 *e*P **P** **17 28 21.0 -3.2**
DDI Dehra Dun 52.44 283 *e*P **P** **17 28 28.2 -2.1**
ASOR Ausora 53.32 281 *e*P **P** **17 28 36.5 -0.4**
KKR Kurukshetra 53.56 283 *e*P **P** **17 28 37.5 -1.1**
NDI New Delhi 53.79 281 *e*P **P** **17 28 38.0 -2.4**
AGRA Agra 53.85 280 *e*P **P** **17 28 39.3 -1.5**
AGRA *e* 17 28 41.1
comp=Z,248nm,0.9s
AYAN Aya Nagar 53.95 281 *e*P **P** **17 28 40.5 -1.0**
AYAN *e* 17 28 42.6
comp=Z,124nm,1.3s
BHGR Bahadurgarh 54.01 282 *e*P **P** **17 28 41.4 -0.5**
VIS Vishakhapatnam 54.13 266 *e*P **P** **17 28 42.1 -0.9**
RTK Rohtak 54.27 282 *e*P **P** **17 28 42.6 -1.3**
INK Inuvik 55.11 27 LR LR 17 55 08.2
comp=Z,814nm,19.1s,MS4.8,baz=274,slow=39
INK Inuvik 55.11 27 *e*P **P** **17 28 48.6 -0.8**
comp=Z,42nm,1.0s,mb5.4
KHET Khetri 55.17 281 *e*P **P** **17 28 49.7 -0.7**
KHET *e* 17 28 51.7
comp=Z,125nm,1.2s
SVE Sverdlovsk 55.72 319⇑ *i*P **P** **17 28 53.5 -0.5**
SVE *e* 17 31 00.0
SVE *e*S **S** **17 36 46.0 +10**
SVE *e* 17 38 36.0
SVE pmax pmax
comp=Z,320nm,1.9s,mb6.0
SVE MLR MLR
comp=N,2µm,15.0s,MS5.7
SVE MLR MLR
comp=E,4µm,15.0s,MS5.7
SVE MLR MLR
comp=Z,4µm,15.0s,MS5.6
SVE Sverdlovsk 55.72 319⇑ *i*P **P** **17 28 53.5 -0.5**
comp=Z,320nm,1.9s,mb6.0
SVE *e* 17 31 00.0
SVE *e*S **S** **17 36 46.0 +10**
SVE *e* 17 38 36.0
SVE LR LR
comp=Z,4µm,15.0s,MS5.6
FITZ Fitzroy Crossi 56.06 198 *e*P **P** **17 28 56.1 -0.9**
comp=Z,22nm,0.6s,mb5.4
FITZ *e*S **S** **17 36 41.7 +0.8**
FITZ Fitzroy Crossi 56.06 198 P **P** **17 28 55.9 -1.1**
comp=Z,21nm,0.6s,mb5.4,baz=10,slow=7.8,SNR=66
FITZ LR LR 17 48 53.7
comp=Z,106nm,21.4s,baz=43,slow=32
BHPL Bhopal 56.11 275 *e*P **P** **17 28 55.9 -1.4**
BHPL *e* 17 28 58.5
comp=Z,126nm,1.5s
CTA Charters Tower 56.22 174 *e*P **P** **17 28 53.5 -4.6**
comp=Z,6.9nm,0.9s,mb4.7
CTA *e*S **S** **17 36 43.0 +0.1**
CTA Charters Tower 56.22 174 P **P** **17 28 57.4 -0.7**
comp=Z,12nm,1.3s,mb4.8,baz=19,slow=7.5,SNR=6.8
CTA Charters Tower 56.22 174 P **P** **17 28 57.4 -0.7**
CTA pmax pmax
comp=Z,12nm,1.3s
CTAO Charters Tower 56.22 174 *e*P **P** **17 28 56.8 -1.3**
comp=Z,14nm,1.0s,mb4.9
WRAB Tennant Creek 56.27 188 P **P** **17 28 56.0 -2.4**
comp=Z,345nm,0.5s,SNR=30
WRAB Tennant Creek 56.27 188 *e*P **P** **17 28 56.1 -2.3**
comp=Z,69nm,0.8s,mb5.7
WB2 Warramunga Arr 56.27 188 *e*P **P** **17 28 56.5 -2.0**
WB2 *e*S **S** **17 36 50.2 +6.5**
WRA Warramunga Arr 56.27 188 P **P** **17 28 56.2 -2.3**
comp=Z,9.6nm,0.5s,mb5.1,baz=5.0,slow=7.5,SNR=98
WRA S **S** **17 36 44.8 +1.1**
comp=Z,2.2nm,1.1s,baz=4.1,slow=13,SNR=4.5
WRA LR LR 17 53 34.7
comp=Z,404nm,19.1s,MS4.5,baz=85,slow=36
WRA PKP2bc 17 59 06.2
comp=Z,1.5nm,0.9s,baz=202,slow=1.9,SNR=9.7
WRA Warramunga Arr 56.27 188 P **P** **17 28 56.2 -2.3**
WRA S **S** **17 36 44.8 +1.1**
WRA LR LR 17 53 34.8
WRA ⇑*e* 17 59 06.2
AJM Ajmer 56.81 280 *i*P **P** **17 29 01.0 -1.3**
ARU Arti 56.93 319⇑ *i*P **P** **17 29 01.8 -0.9**
ARU *i* 17 29 19.4
ARU *e* 17 29 53.4
ARU *i* 17 31 11.0
ARU *e*PPP PPP 17 32 26.1 -4.6
ARU *e*S **S** **17 36 53.0 +1.2**
ARU pmax pmax
comp=Z,192nm,0.8s,mb6.2
ARU MLR MLR
comp=N,600nm,16.0s,MS5.3
ARU MLR MLR
comp=E,2µm,17.0s,MS5.3
ARU MLR MLR
comp=Z,2µm,17.0s,MS5.4
ARU Arti 56.93 319⇑ *i*P **P** **17 29 01.8 -0.9**
comp=Z,192nm,0.8s,mb6.2
ARU *e* pP 17 29 11.9 -2.8
ARU *i* 17 29 19.4
ARU *e* 17 29 53.4
ARU *i* 17 31 11.0
ARU *e*PPP PPP 17 32 26.1 -4.6
ARU *e*S **S** **17 36 53.0 +1.2**
ARU LR LR
comp=Z,2µm,17.0s,MS5.4
HYB Hyderabad 58.15 269⇑ *i*P **P** **17 29 11.0 -0.8**
comp=Z,100nm,1.0s,mb5.8
HYB Hyderabad 58.15 269⇑ *e*P **P** **17 29 11.0 -0.8**
comp=Z,100nm,1.0s,mb5.8
MDRS Chennai 59.16 264 *i* **P** **17 29 17.0 -1.8**
LATR Latur 59.23 271 *e*P **P** **17 29 18.2 -1.1**
DLBC Dease Lake 59.27 38 *e*P **P** **17 29 19.0 0.0**
JASL Jaisalmer 59.57 283 *e*P **P** **17 29 20.7 -0.9**
JASL *e* 17 29 21.8
ASAR Alice Springs 60.00 188 P **P** **17 29 22.4 -2.1**
comp=Z,6.6nm,0.8s,mb4.7,baz=9.5,slow=6.3,SNR=60
ASAR S **S** **17 37 33.4 +1.0**
comp=Z,1.1nm,1.1s,baz=320,slow=7.0,SNR=4.1
ASAR LR LR 17 55 22.3
comp=Z,363nm,18.8s,MS4.5,baz=1.4,slow=36
ASAR PKP2bc 17 58 57.5
comp=Z,3.8nm,0.9s,baz=179,slow=1.8,SNR=17
ASAR Alice Springs 60.00 188 P **P** **17 29 22.4 -2.1**
ASAR S **S** **17 37 33.4 +1.0**
ASAR LR LR 17 55 22.3
ASAR ⇑*e* 17 58 57.5
ASPA Alice Springs 60.00 188 *e*P **P** **17 29 23.0 -1.6**
ASPA *e*S **S** **17 37 42.2 +10**
MBWA Marble Bar 60.65 203 *e*P **P** **17 29 27.3 -1.7**
comp=Z,41nm,0.8s,mb5.6
KAD Karad 61.74 271⇑ *i*P **P** **17 29 36.0 -0.4**
BHJ Bhuj 62.33 280 *e*P **P** **17 29 39.8 -0.4**
BHJ *e* 17 29 41.1
comp=Z,109nm,0.9s
RES Resolute Bay 63.37 14 *e*P **P** **17 29 45.1 -1.4**
comp=Z,59nm,1.0s,mb5.7
RES *e* pP 17 29 57.0 -1.7
APA Apatity 63.39 336⇓ *e*P **P** **17 29 45.3 -1.4**
APA *i* pP 17 29 56.5 -2.4
APA pmax pmax
comp=Z,20nm,0.8s,mb5.3
APA Apatity 63.39 336⇓ *e*P **P** **17 29 45.3 -1.4**
comp=Z,20nm,0.8s,mb5.3
APA *i* pP 17 29 56.5 -2.4
KEV Kevo 64.17 339 *e*p **P** **17 29 49.2 -2.4**
comp=Z,76nm,0.9s,mb5.7
KEV Kevo 64.17 339 *e*P **P** **17 29 49.2 -2.4**
KEV pmax pmax
comp=Z,76nm,0.9s,mb5.7
PECR Pechory 64.42 322*c* *i*P **P** **17 29 53.2 -0.3**
PECR pmax pmax
comp=Z,500nm,3.0s
PECR Pechory 64.42 322⇑ *i*P **P** **17 29 53.2 -0.3**
YKA Yellowknife Ar 64.51 30 P **P** **17 29 52.6 -1.3**
comp=Z,8.5nm,0.8s,mb4.8,baz=301,slow=6.6,SNR=14
YKA LR LR 17 56 56.8
comp=Z,375nm,21.6s,MS4.5,baz=280,slow=35
YKA Yellowknife Ar 64.51 30 P **P** **17 29 52.6 -1.3**
YKA pmax pmax
comp=Z,9.0nm,0.8s
YKA MLR MLR
comp=Z,375nm,21.6s
ARCES ARCESS Array B 64.72 340 P **P** **17 29 54.7 -0.5**
comp=Z,58nm,0.8s,mb5.6,baz=51,slow=7.8,SNR=42
ARCES LR LR 18 02 06.7
comp=Z,1µm,18.7s,MS5.1,baz=21,slow=40
ARCES ARCESS Array B 64.72 340 P **P** **17 29 54.7 -0.5**
ARCES pmax pmax
comp=Z,58nm,0.8s
ARCES MLR MLR
comp=Z,1µm,18.7s
ARCES ARCESS Array B 64.72 340 P **P** **17 29 54.7 -0.5**
ARCES LR LR 18 02 06.7
ARE0 ARCESS Array S 64.72 340 *e*P **P** **17 29 54.3 -0.9**
JOF Joensuu 66.64 332 *e*p **P** **17 30 06.0 -1.6**
comp=Z,60nm,0.8s,mb5.7
JOF Joensuu 66.64 332 *e*P **P** **17 30 06.0 -1.6**
JOF pmax pmax
comp=Z,60nm,0.8s,mb5.7
HDW Hoodsport 67.63 47 P **P** **17 30 14.9 +0.9**
MBW Mount Baker 67.74 45 P **P** **17 30 14.9 +0.2**
STKA Stephens Creek 67.77 180 *e*P **P** **17 30 14.1 -1.1**
comp=Z,13nm,0.8s,mb5.0
STKA *e*S S 17 39 14.1 +5.6
STKA Stephens Creek 67.77 180 P **P** **17 30 14.2 -1.0**
comp=Z,4.4nm,0.8s,mb4.5,baz=344,slow=7.1,SNR=11
STKA LR LR 17 58 46.4
comp=Z,551nm,19.8s,MS4.8,baz=107,slow=35
GNW Green Mountain 67.81 47 *e*P **P** **17 30 15.6 +0.4**

FORT Forrest 67.83 192 *e*P **P 17 30 14.7 -0.9**
comp=Z,276nm,0.6s,mb6.5
MOS Moscow 67.86 324⇑*i*P **P 17 30 14.9 -0.4**
MOS *e**PP pP 17 30 25.5 -2.1
MOS *e* 17 30 43.7
MOS *e* 17 32 42.2
MOS *e*S S 17 39 02.3 -6.9
MOS *e*SSS SSS 17 46 32.2 -0.2
MOS pmax pmax
comp=N,89nm,1.1s
MOS pmax pmax
comp=E,101nm,1.0s
MOS pmax pmax
comp=Z,210nm,1.0s,mb6.1
MOS pmax pmax
comp=Z,400nm,1.5s,mb6.2
MOS Moscow 67.86 324⇑*i*P **P 17 30 14.9 -0.4**
comp=Z,210nm,1.0s,mb6.1
MOS *e*pP pP 17 30 25.5 -2.1
MOS *e* 17 30 43.7
MOS *e* 17 32 42.2
MOS *e*S S 17 39 02.3 -6.9
MOS *e*SSS SSS 17 46 32.2 -0.2
OBN Obninsk 68.70 323*d* *i*P **P 17 30 19.5 -1.1**
OBN *i* 17 32 52.1
OBN *e*S S 17 39 25.7 +6.4
OBN *i* SS SS 17 43 49.1 +3.0
OBN pmax pmax
comp=Z,145nm,0.8s,mb6.0
OBN MLR MLR
comp=Z,2µm,15.0s,MS5.5
OBN Obninsk 68.70 323 *i* Pr 17 30 19.5
comp=Z,145nm,0.8s
OBN *i* 17 32 52.1
OBN *e*S S 17 39 25.7 +6.4
OBN *i* SS SS 17 43 49.1 +3.0
OBN LR LR
comp=Z,2µm,15.0s,MS5.5
KAF Kangasniemi 68.99 333 *e*p **P 17 30 19.6 -2.6**
comp=Z,66nm,0.9s,mb5.6,baz=50,slow=5.9
KAF Kangasniemi 68.99 333 *e*P **P 17 30 19.6 -2.6**
KAF pmax pmax
comp=Z,66nm,0.9s,mb5.6
NLW Nelson Butte 68.99 45 P **P 17 30 22.8 +0.3**
VOR Voronezh 69.21 319⇑*i*P **P 17 30 22.8 -1.0**
VOR *e* pP 17 30 32.5 -3.5
VOR *e* 17 30 45.0
VOR pmax pmax
comp=N,90nm,1.0s
VOR pmax pmax
comp=E,190nm,1.0s
VOR pmax pmax
comp=Z,210nm,1.0s,mb6.0
ETW Entiat 69.24 46 P **P 17 30 24.2 +0.1**
SSOR Sweet Springs 69.39 49 *e*P **P 17 30 25.8 +0.8**
WTV Waterville 69.41 46 P **P 17 30 24.9 -0.2**
FINES FINESS Array B 69.49 332 P **P 17 30 24.7 -0.6**
comp=Z,77nm,0.8s,mb5.7,baz=56,slow=6.9,SNR=145
FINES LR LR 18 03 15.1
comp=Z,1µm,18.1s,MS5.2,baz=40,slow=38
FINES FINESS Array B 69.49 332 P **P 17 30 24.7 -0.6**
FINES pmax pmax
comp=Z,77nm,0.8s
FINES MLR MLR
comp=Z,1µm,18.1s
MELS Mels 69.78 341 *e*P **P 17 30 26.4 -0.6**
MOR8 Moi Rana 70.09 340 *e*P **P 17 30 27.3 -1.6**
MOR8 AMb AMB 17 30 28.6
comp=Z,209nm,1.0s,mb6.0
MOR8 *e*pP pP 17 30 38.0 -3.1
MOR8 *e*sP sP 17 30 42.4 -3.3
MOR8 Moi Rana 70.09 340 *e*P **P 17 30 27.3 -1.6**
comp=Z,209nm,1.0s,mb6.0
DPW Davenport 70.32 45 *e*P **P 17 30 30.7 +0.1**
GOF Gofitskoye 70.60 312⇓*i*P **P 17 30 32.0 -0.3**
GOF *i* pP 17 30 43.0 -1.6
GOF pmax pmax
comp=Z,120nm,1.1s,mb5.7
GOF Gofitskoye 70.60 312⇓*i*P **P 17 30 32.0 -0.3**
comp=Z,120nm,1.1s,mb5.7
GOF *i* pP 17 30 43.0 -1.6
VIPM Ingram Point 70.69 49 P **P 17 30 33.5 +0.6**
NEW Newport 70.72 44 *e*P **P 17 30 32.6 -0.4**
comp=Z,11nm,1.0s,mb4.8
YBH Yreka Blue Hor 70.86 52 *e*P **P 17 30 34.3 +0.3**
comp=Z,11nm,0.9s,mb4.8
KLBR Kellerberrin 71.02 201 *e*P **P 17 30 33.7 -1.5**
comp=Z,24nm,0.9s,mb5.1
LNOR Linclon Mounta 71.36 47 *e*P **P 17 30 35.8 -1.1**
KIV Kislovodsk 71.39 311*c* *i*P **P 17 30 37.4 +0.2**
KIV pmax pmax
comp=Z,203nm,1.0s,mb6.0
KIV Kislovodsk 71.39 311⇑*i*P **P 17 30 37.4 +0.2**
comp=Z,203nm,1.0s,mb6.0
SUMG Summit 71.47 360 *e*P **P 17 30 37.8 +0.6**
comp=Z,112nm,1.1s,mb5.7
WDC Whiskeytown Da 71.57 53 *e*P **P 17 30 38.3 +0.1**
comp=Z,12nm,0.9s,mb4.8
MUN Mundaring 71.84 202 *e*P **P 17 30 38.5 -1.5**
comp=Z,13nm,1.0s,mb4.8
LTIM Timbered Crate 71.93 52 P **P 17 30 40.8 +0.4**
NSS Namsos 72.01 339 *e*P **P 17 30 38.6 -1.8**
NSS AMb AMB 17 30 40.3
comp=Z,82nm,1.1s,mb5.6
NSS Namsos 72.01 339 *e*P **P 17 30 38.6 -1.8**
comp=Z,82nm,1.1s,mb5.6
GNI Garni 72.15 307 *e*P **P 17 30 42.3 +0.6**
comp=Z,101nm,1.1s,mb5.7
MOD Modoc 72.29 51 *e*P **P 17 30 42.8 +0.3**
comp=Z,10nm,0.9s,mb4.8
NWAO Narrogin (SRO) 72.42 201 P **P 17 30 42.3 -1.1**
comp=Z,21nm,0.8s,mb5.1,baz=12,slow=6.6,SNR=14
NWAO Narrogin (SRO) 72.42 201 P **P 17 30 42.3 -1.1**
NWAO pmax pmax
comp=Z,21nm,0.9s
NWAO Narrogin (SRO) 72.42 201 *e*P **P 17 30 42.0 -1.4**
comp=Z,23nm,0.9s,mb5.1
IZAR Zarasai 73.05 328 *i* P **P 17 30 46.6 -0.1**
IZAR AMPb AMB 17 30 48.6
comp=Z,45nm,1.1s,mb5.3
IDID Didziasalis 73.12 327 *i* P **P 17 30 47.0 -0.1**
IDID AMPb AMB 17 30 49.0
comp=Z,48nm,1.0s,mb5.4
MNK Minsk 73.15 326 *e*P **P 17 30 44.0 -3.3**
MNK pmax pmax
comp=Z,630nm,1.0s,mb6.5
MNK Minsk 73.15 326 *e*P **P 17 30 44.0 -3.3**
comp=Z,630nm,1.0s,mb6.5
ISAL Salakas 73.22 328 *i* P **P 17 30 47.6 -0.1**
ISAL AMPb AMB 17 30 49.8
comp=Z,79nm,1.1s,mb5.5
MSO Missoula 73.31 44 *e*P **P 17 30 47.9 -0.5**
comp=Z,9.3nm,1.1s,mb4.6
IIGN Ignalina 73.32 327 *i* P **P 17 30 48.3 0.0**
IIGN AMPb AMB 17 30 50.2
comp=Z,49nm,0.9s,mb5.4
BEKR Beckwourth 73.36 53 *e*P **P 17 30 48.7 -0.2**
comp=Z,26nm,1.0s,mb5.1
SOC Sochi 73.40 312 *i* P **P 17 30 48.6 -0.4**
SOC *e* 17 31 11.3
SOC *e*PPP PPP 17 35 20.2 +1.6
SOC *e*S S 17 40 06.6 -7.2
SOC *e* 17 40 56.6
SOC *e*SS SS 17 45 04.9 +6.0
SOC *e*SSS SSS 17 48 09.7 -0.1
SOC pmax pmax
comp=Z,72nm,0.8s,mb5.7
SOC pmax pmax
comp=N,10.0nm,0.7s
SOC pmax pmax
comp=E,21nm,1.2s
SOC pmax pmax
comp=Z,114nm,0.9s,mb5.8
SOC pmax pmax
comp=N,22nm,1.2s
SOC pmax pmax
comp=E,22nm,1.2s
SOC smax
comp=N,105nm,4.2s
SOC smax
comp=E,135nm,3.7s
SOC MLR MLR
comp=Z,2µm,19.0s,MS5.4
SOC MLR MLR
comp=N,1µm,17.0s,MS5.3

SOC MLR MLR
comp=E,1µm,18.0s,MS5.3
SOC Sochi 73.40 312 *i* P **P 17 30 48.6 -0.4**
comp=E,72nm,0.8s,mb5.7
SOC *e* 17 31 11.3
SOC *e*PPP PPP 17 35 20.2 +1.6
SOC *e*S S 17 40 06.6 -7.2
SOC *e* 17 40 56.6
SOC *e*SS SS 17 45 04.9 +6.0
SOC *e*SSS SSS 17 48 09.7 -0.1
SOC LR LR
comp=Z,2µm,19.0s,MS5.4
TOO Toolangi 73.55 177 *e*P **P 17 30 50.2 +0.2**
comp=Z,3.6nm,0.7s,mb4.4
CHMT Chamberlain Mo 73.65 44 *e*P **P 17 30 50.5 +0.1**
TVAN Van 73.90 306 *i* P **P 17 30 50.4 -1.7**
ANN Anapa 74.05 314*c* *i*P **P 17 30 52.3 -0.5**
ANN *e* pP 17 31 03.5 -1.6
ANN *e*S S 17 40 29.9 +8.9
ANN pmax pmax
comp=Z,178nm,1.3s,mb5.8
ANN MLR MLR
comp=Z,1µm,17.0s,MS5.3
ANN MLR MLR
comp=N,1µm,16.0s,MS5.4
ANN MLR MLR
comp=E,920nm,18.0s,MS5.4
ANN Anapa 74.05 314⇑*i*P **P 17 30 52.3 -0.5**
comp=E,178nm,1.3s,mb5.8
ANN *e* pP 17 31 03.5 -1.6
ANN *e*S S 17 40 29.9 +8.9
ANN LR LR
comp=Z,1µm,17.0s,MS5.3
PAHR Pah Rah Range 74.08 52 *e*P **P 17 30 52.6 -0.4**
comp=Z,31nm,0.8s,mb5.3
CMB Columbia Colle 74.36 54 *e*P **P 17 30 54.5 -0.2**
comp=Z,21nm,1.0s,mb5.0
FFC Flin Flon 74.39 33 *e*P **P 17 30 53.8 -0.7**
comp=Z,37nm,1.0s,mb5.3
ERZM Erzurum 74.45 308 *i* P **P 17 30 56.2 +1.0**
HRY Holter Researc 74.55 43 *e*P **P 17 30 55.6 0.0**
DOMB Dombas 74.77 339 *e*P **P 17 30 56.5 -0.1**
DOMB AMb AMB 17 30 58.0
comp=Z,97nm,1.2s,mb5.6
DOMB Dombas 74.77 339 *e*P **P 17 30 56.5 -0.1**
comp=Z,97nm,1.2s,mb5.6
MOL Molde 74.78 340 *e*P **P 17 30 58.7 +2.1**
MOL AMb AMB 17 31 00.2
comp=Z,106nm,1.5s,mb5.6
MOL Molde 74.78 340 *e*P **P 17 30 58.7 +2.1**
comp=Z,106nm,1.5s,mb5.5
AKASG Malin Array Be 74.90 322 P **P 17 30 57.1 -0.4**
comp=Z,101nm,0.7s,mb5.9,baz=45,slow=5.9,SNR=470
AKASG LR LR 18 06 45.3
comp=Z,2µm,20.8s,MS5.3,baz=45,slow=38
AKASG Malin Array Be 74.90 322 P **P 17 30 57.1 -0.4**
AKASG pmax pmax
comp=Z,101nm,0.7s
AKASG MLR MLR
comp=Z,2µm,20.8s
NB2 NORSAR Subarra 74.90 337 P **P 17 30 56.9 -0.4**
comp=Z,106nm,1.0s,mb5.7,baz=38,slow=5.8
NB2 NORSAR Subarra 74.90 337 P **P 17 30 56.9 -0.4**
baz=38,slow=5.9
NOA NORSAR Array B 74.90 337 P **P 17 30 57.2 -0.1**
comp=Z,65nm,0.9s,mb5.5,baz=39,slow=5.8,SNR=159
NOA LR LR 18 07 11.6
comp=Z,2µm,18.4s,MS5.4,baz=35,slow=38
NOA NORSAR Array B 74.90 337 P **P 17 30 57.2 -0.1**
NOA pmax pmax
comp=Z,65nm,0.9s
NOA MLR MLR
comp=Z,2µm,18.4s
NOA NORSAR Array B 74.90 337 P **P 17 30 57.2 -0.1**
NOA LR LR 18 07 11.6
HLID Hailey 74.94 47 *e*P **P 17 30 58.3 +0.4**
comp=Z,27nm,1.4s,mb5.0
BMN Battle Mountai 75.04 51 *e*P **P 17 30 59.0 +0.4**
comp=Z,16nm,0.8s,mb5.0
MCMT McKenzie Canyo 75.10 45 *e*P **P 17 30 59.0 +0.1**
NAO01 NORSAR Array S 75.15 337 *e*P **P 17 30 58.2 -0.6**
comp=Z,35nm,0.9s,mb5.3
BOZ Bozeman (W) 75.30 44 *e*P **P 17 31 00.1 +0.1**
comp=Z,22nm,0.9s,mb5.1
NVAR Mina Array Bea 75.49 53 P **P 17 31 01.8 +0.6**
comp=Z,15nm,0.8s,mb5.0,baz=291,slow=4.4,SNR=78
NVAR LR LR 17 59 22.4
comp=Z,467nm,20.9s,MS4.8,baz=290,slow=32
SUW Suwalki 75.53 328 *e*P **P 17 31 00.8 -0.3**
SUW MLR MLR
comp=Z,1µm,19.6s,MS5.3
SUW Suwalki 75.53 328 *e*P **P 17 31 00.8 -0.3**
SUW MLR MLR 18 07 16.1
comp=Z,1µm,19.6s
MNV Mina 75.59 53 *e*P **P 17 31 01.9 +0.2**
comp=Z,7.8nm,0.9s,mb4.6
KELT Kelkit 75.64 309 *i* P **P 17 31 02.6 +0.7**
BEST Besiri 75.65 306 *i* P **P 17 31 02.9 +0.8**
SIM Simferopol' 75.86 316*c* *i*P **P 17 31 03.0 -0.2**
SIM *e* 17 31 19.0
SIM *e* 17 34 00.0
SIM *e*S S 17 40 41.1 -0.1
SIM pmax pmax
comp=Z,130nm,0.9s,mb5.9
SIM MLR MLR
comp=Z,1µm,16.4s,MS5.3
SIM Simferopol' 75.86 316⇑*i*P **P 17 31 03.0 -0.2**
SIM *e* 17 31 19.0
SIM *e* 17 34 00.0
SIM *e*S S 17 40 41.1 -0.1
SIM LR LR
comp=Z,1µm,16.4s,MS5.3
QLMT Earthquake Lak 75.91 44 *e*P **P 17 31 04.2 +0.8**
MTUM Tungsten Hills 75.94 54 *e*P **P 17 31 03.9 +0.1**
ELK Elko 76.09 50 *e*P **P 17 31 04.8 +0.3**
comp=Z,12nm,0.9s,mb4.8
YMR Madison River 76.27 44 *e*P **P 17 31 06.3 +0.8**
GCMT Greycliff 76.31 43 *e*P **P 17 31 06.3 +0.7**
TPH Tonopah 76.39 53 *e*P **P 17 31 06.4 +0.1**
comp=Z,20nm,1.0s,mb5.0
YFT Old Faithful 76.48 45 *e*P **P 17 31 09.1 +2.5**
ELZG Elazig 76.77 308 *i* P **P 17 31 09.7 +1.2**
HASS Wahat al Ahsa' 76.83 292 P **P 17 31 08.4 -0.7**
RRI2 Red Ridge 76.87 46 *e*P **P 17 31 09.9 +1.0**
MOOW Moose Ponds 76.96 45 *e*P **P 17 31 10.2 +0.7**
HVU Hansel Valley 76.97 48 *e*P **P 17 31 10.0 +0.5**
TPAW Teton Pass 77.00 45 *e*P **P 17 31 10.6 +0.9**
TPAW *e* pP 17 31 23.0 +1.0
SNOW Snow King Moun 77.13 45 *e*P **P 17 31 11.2 +0.9**
REDW Red Top Meadow 77.13 45 *e*P **P 17 31 10.8 +0.3**
DAC Darwin (Calif) 77.19 54 *e*P **P 17 31 10.9 0.0**
comp=Z,14nm,1.2s,mb4.8
TRCR Troy Canyon 77.28 52 *e*P **P 17 31 11.7 +0.4**
BGU Big Grassy Mou 77.33 48 *e*P **P 17 31 12.1 +0.5**
SPUT South Promonto 77.45 48 *e*P **P 17 31 12.6 +0.4**
KIS Kishinev 77.47 320α*i*P **P 17 31 11.0 -1.2**
KIS *e* pP 17 31 22.0 -2.6
KIS *e*S ScS 17 41 24.0 +0.5
KIS *i* PS Sx 17 42 05.0
KIS pmax pmax
comp=Z,400nm,1.0s,mb6.3
KIS pmax pmax
comp=Z,300nm,1.0s,mb6.2
KIS MLR MLR
comp=N,3µm,15.0s,MS5.9
KIS MLR MLR
comp=E,3µm,16.0s,MS5.9
KIS MLR MLR
comp=Z,5µm,16.0s,MS5.9
KIS MLR MLR
comp=Z,4µm,16.0s
KIS Kishinev 77.47 320 *i* Pcu 17 31 11.0
comp=Z,400nm,1.0s
KIS *e* 17 31 22.0
KIS *e*S ScS 17 41 24.0 +0.5
KIS *i* PS Sx 17 42 05.0
KIS LR LR
comp=Z,5µm,16.0s,MS5.9
DGMT Dagmar 77.48 38 *e*P **P 17 31 11.7 -0.5**
comp=Z,53nm,1.3s,mb5.3
BOYT Boyabat 77.55 312 *i* P **P 17 31 13.5 +0.8**
LAO LASA Array 77.60 41 *e*P **P 17 31 13.3 +0.4**
comp=Z,40nm,0.9s,mb5.3
TPNV Topopah Spring 77.68 53 *e*P **P 17 31 13.9 +0.3**
comp=Z,19nm,1.0s,mb5.0

HWUT Hardware Ranch 77.79 47 *e*P **P 17 31 14.5 +0.5**
comp=Z,21nm,1.0s,mb5.0
HWUT *e* pP 17 31 28.1 +1.7
DUG Dugway 77.90 49 *e*P **P 17 31 15.1 +0.4**
comp=Z,26nm,1.0s,mb5.1
DUG *e* pP 17 31 27.3 +0.2
LVV L'vov 77.99 324 *e*P **P 17 31 15.1 +0.1**
LVV *e*S S 17 41 16.0 +12
LVV MLR MLR
comp=Z,2µm,15.0s,MS5.7
NOQ North Oquirrh 78.04 48 *e*P **P 17 31 16.1 +0.7**
CTKT Corum 78.10 312 *i* P **P 17 31 16.4 +0.6**
BSD Bornholm Skovb 78.12 332⇑*i*P **P 17 31 15.0 -0.6**
comp=Z,72nm,0.8s,mb5.7
BSD *i* pP 17 31 25.5 -2.5
BSD *e*S S 17 40 56.2 -9.2
comp=Z,930nm,18.0s
PDAR Pinedale Array 78.25 45 P **P 17 31 16.1 -0.4**
comp=Z,8.7nm,0.8s,mb4.7,baz=291,slow=2.5,SNR=68
PDAR LR LR 18 00 18.2
comp=Z,273nm,21.1s,MS4.5,baz=101,slow=31
GZT Gaziantep 78.35 308 *i* P **P 17 31 18.4 +1.2**
BALT Daday 78.38 313 *i* P **P 17 31 17.5 +0.3**
BORG Borgarnes 78.42 353 *e*P **P 17 31 19.1 +2.0**
comp=Z,148nm,1.0s,mb5.9
JLU Jordanelle 78.48 48 *e*P **P 17 31 17.5 -0.3**
NLU North Lily Min 78.50 49 *e*P **P 17 31 18.3 +0.4**
GKP Gorka Klasztor 78.57 330 *e*P **P 17 31 18.1 0.0**
GKP MLR MLR
comp=Z,2µm,18.2s,MS5.5
GKP Gorka Klasztor 78.57 330 *e*P **P 17 31 18.1 0.0**
GKP MLR MLR 18 09 32.5
comp=Z,2µm,18.2s
COP Copenhagen 78.61 333 *i* S ScS 17 41 34.5 +1.9
comp=Z,660nm,17.0s
COP Copenhagen 78.61 333⇑*i*P **P 17 31 18.4 +0.1**
comp=Z,87nm,0.9s,mb5.7
COP *i* S ScS 17 41 34.5 +1.9
COP LR LR
comp=Z,660nm,17.0s,MS5.0
KAHT Ahir Dag 78.62 308 *i* P **P 17 31 19.7 +1.0**
DAU Daniels Canyon 78.71 48 *e*P **P 17 31 20.2 +1.1**
MPU Maple Canyon 78.73 48 *e*P **P 17 31 19.8 +0.5**
KWP Kalwaria 78.75 324 *e*P **P 17 31 19.9 +0.8**
KWP MLR MLR
comp=Z,3µm,16.3s,MS5.8
KWP Kalwaria 78.75 324 *e*P **P 17 31 19.9 +0.8**
KWP MLR MLR 18 09 25.3
comp=Z,3µm,16.3s
ARUT Antelope Range 78.97 51 P **P 17 31 20.7 0.0**
SAFT Safranbolu 78.97 313 *i* P **P 17 31 21.3 +0.7**
ELDT Eldivan 79.00 312 *i* P **P 17 31 21.3 +0.6**
CFR Carcaliu 79.01 319⇓*e*P **P 17 31 20.5 -0.2**
MUD Monsted U'grnd 79.15 335 *i* S S 17 41 24.9 +8.6
comp=Z,990nm,16.0s
MUD Monsted U'grnd 79.15 335 *i* P **P 17 31 21.3 +0.1**
comp=Z,27nm,0.7s,mb5.3
MUD *i* S S 17 41 24.9 +8.6
AVNT Avonos 79.19 310 *i* P **P 17 31 22.1 +0.3**
MVU Marysvale 79.30 50 *e*P **P 17 31 23.3 +0.9**
comp=Z,22nm,1.1s,mb5.0
VRI Vrincioaia 79.30 320⇑*i*P **P 17 31 23.4 +1.1**
VRI Vrincioaia 79.30 320 ⇑P **P 17 31 23.4 +1.1**
MSU Marysvale 79.32 50 *e*P **P 17 31 23.1 +0.6**
BRTR Keskin Array B 79.35 312 P **P 17 31 22.8 +0.2**
comp=Z,45nm,0.9s,mb5.4,baz=108,slow=3.9,SNR=159
BRTR PP PP 17 34 21.5 -2.9
comp=Z,3.6nm,0.9s,baz=79,slow=6.8,SNR=3.4
BRTR LR LR 18 11 01.6
comp=Z,668nm,18.3s,MS5.0,baz=55,slow=39
BRTR Keskin Array B 79.35 312 P **P 17 31 22.8 +0.2**
BRTR 17 34 21.5
BRTR pmax pmax
comp=Z,45nm,1.0s
BRTR pmax pmax
comp=Z,4.0nm,0.9s
BRTR MLR MLR
comp=Z,668nm,18.3s
BRD Bordesti 79.35 319⇓*i*P **P 17 31 24.7 +2.1**
BRD Bordesti 79.35 319⇓*i*P **P 17 31 24.7 +2.2**
NEN Nelson 79.36 54 *e*P **P 17 31 22.9 +0.1**
KOLS Kolonicke sedl 79.44 324 *i* P **P 17 31 23.3 +0.4**
KOLS *e* 17 31 27.9
KOLS *e*PP PP 17 34 18.1 -6.8
PFO Pinyon Flat Ob 79.51 56 *e*P **P 17 31 23.6 0.0**
comp=Z,21nm,1.3s,mb4.9
LDFC Landfair 79.53 54 *e*P **P 17 31 23.9 +0.2**
UZH Uzhgorod 79.64 324 *e*P **P 17 31 24.0 0.0**
UZH *e*S S 17 41 20.0 -1.6
UZH MLR MLR
comp=Z,1µm,15.0s,MS5.4
OJC Ojcow 79.67 326⇑*i*P **P 17 31 24.2 0.0**
OJC *e* 17 34 31.0
OJC Ojcow 79.67 326⇑*i*P **P 17 31 24.2 0.0**
OJC *e*PP PP 17 34 31.0 +4.2
COBT Iskenderun 79.69 308 *i* P **P 17 31 25.2 +0.7**
RYDS Riyadh 79.69 292 P **P 17 31 22.9 -1.9**
SGKT Sivrigoynuk 79.76 313 *i* P **P 17 31 25.3 +0.5**
ANTO Ankara 79.77 312 *e*P **P 17 31 23.9 -1.0**
BAR Barrett 79.92 57 *e*P **P 17 31 26.0 +0.1**
SRU San Rafael 79.96 49 *e*P **P 17 31 26.5 +0.6**
NIE Niedzica 80.01 325⇑*e*P **P 17 31 26.7 +0.7**
ULM Lac du Bonnet 80.18 33 P **P 17 31 25.2 -1.7**
comp=Z,8.0nm,0.8s,mb4.7,baz=284,slow=3.4,SNR=5.9
ULM LR LR 18 05 06.0
comp=Z,329nm,19.9s,MS4.7,baz=344,slow=34
ULM Lac du Bonnet 80.18 33 P **P 17 31 25.2 -1.7**
ULM LR LR 18 05 06.0
HENT Hendek 80.28 314 *i* P **P 17 31 27.1 -0.6**
MDU Mudurnu 80.33 313 *i* P **P 17 31 27.6 -0.3**
RSSD Black Hills 80.44 42 *e*P **P 17 31 28.0 -0.4**
comp=Z,9.4nm,0.9s,mb4.7
RAC Raciborz 80.49 327 *e*P **P 17 31 29.4 +0.9**
RAC MLR MLR
comp=Z,2µm,18.0s,MS5.4
RAC Raciborz 80.49 327 *e*P **P 17 31 29.4 +0.9**
RAC MLR MLR 18 10 58.5
comp=Z,2µm,18.0s
RUE Ruedersdorf 80.55 331 *e*P **P 17 31 28.4 -0.4**
comp=Z,67nm,1.0s,mb5.5
KECS Kecovo 80.60 325 *e*P **P 17 31 29.4 +0.3**
KECS *e*pP pP 17 31 40.2 -1.4
OKC Ostrava-Krasne 80.69 327⇑*i*P **P 17 31 29.9 +0.3**
OKC AMS AMS 18 10 50.0
comp=Z,1µm,15.5s
PRD Provadia 80.71 317 *e*P **P 17 31 30.0 +0.1**
BSEG Bad Segeberg 80.75 333 *e*P **P 17 31 30.1 +0.3**
BSEG pmax pmax
comp=Z,57nm,1.0s,mb5.5
KSP Ksiaz 80.75 328 *e*P **P 17 31 30.1 +0.2**
KSP *e**PP pP 17 31 41.4 -1.0
KSP *e**SP sP 17 31 47.4 +0.5
KSP *e* 17 41 35.0
KSP *e*SS SS 17 46 49.0 -1.0
KSP MLR MLR
comp=Z,4µm,19.0s,MS5.7
KSP Ksiaz 80.75 328 *e*P **P 17 31 30.1 +0.2**
KSP *e*pP pP 17 31 41.4 -1.0
KSP *e*sP sP 17 31 47.4 +0.5
KSP *e*PP PP 17 34 27.0 -9.1
KSP *e*SKS SKS 17 41 35.0 -5.1
KSP *e*SS SS 17 46 49.0 -1.0
KSP LR LR
comp=Z,4µm,19.0s,MS5.7
KSP Ksiaz 80.75 328 *e*P **P 17 31 30.4 +0.5**
KSP MLR MLR 18 10 50.1
comp=Z,3µm,19.0s
MZLS Mizel 80.85 293 P **P 17 31 31.3 +0.3**
KIZT Kizilcal 80.94 312 *i* P **P 17 31 31.5 +0.4**
MEST Erdemli 80.98 309 *i* P **P 17 31 31.3 -0.1**
MORC Moravsky Berou 81.00 327 *e*P **P 17 31 31.4 +0.2**
comp=Z,45nm,1.0s,mb5.3
DPC Dobruska-Polom 81.11 328⇑*i*P **P 17 31 32.5 +0.7**
DPC *e*pP pP 17 31 42.8 -1.4
DPC AMS AMS 18 10 40.0
comp=Z,2µm,18.2s
UPC Upice 81.12 328⇑*i*P **P 17 31 32.2 +0.4**
UPC *e*pP pP 17 31 42.3 -2.0
ESKT Eskisehir 81.14 313 *i* P **P 17 31 31.9 -0.3**
ESKT Eskisehir 81.14 313 *i* P **P 17 31 31.8 -0.4**
ARSS Ar Rass 81.22 296 P **P 17 31 32.6 -0.3**
KONT Konya--Tatoy 81.24 311 *i* P **P 17 31 33.7 +1.0**
PSZ Piszkesteto 81.28 325⇑*i*P **P 17 31 33.4 +0.7**

PV10 Paradox Valley 81.32 49 eP P 17 31 34.1 +0.9
HILS Ha'il 81.39 298 P P 17 31 34.1 +0.4
SZH Strazhica 81.47 318 eP P 17 31 34.0 +0.2
KOLL Kolacno 81.49 326 eP P 17 31 34.6 +0.8
BRG Berggiesshubel 81.71 329 i P P 17 31 35.1 +0.2
BRG i pP 17 31 46.6 -0.8
BRG eS S 17 41 46.0 +2.9
BRG eSS SS 17 47 01.0 -3.4
BRG pmax pmax
comp=Z,40nm,1.0s,mb5.3
BRG MLR MLR
comp=N,2µm,16.1s,MS5.5
BRG MLR MLR
comp=E,1µm,16.1s,MS5.5
BRG MLR MLR
comp=Z,2µm,14.2s,MS5.6
BRG Berggiesshubel 81.71 329 i P P 17 31 35.1 +0.2
comp=Z,40nm,1.0s,mb5.3
BRG i pP 17 31 46.6 -0.8
BRG e 17 34 34.9
BRG eS S 17 41 46.0 +2.9
BRG eSS SS 17 47 01.0 -3.4
BRG LR LR
comp=Z,2µm,14.2s,MS5.6
PVCC Panska Ves 81.71 329⇑ i P P 17 31 35.5 +0.6
PVCC epP pP 17 31 47.1 -0.3
PVCC AMS AMS 18 11 00.0
comp=Z,2µm,17.5s
ULDT Uludag 81.75 314 i P P 17 31 35.4 +0.1
CLL Collm 81.76 330⇑ P P 17 31 35.1 -0.1
comp=Z,logA/T=1.8,mb5.5
CLL i *PP pP 17 31 46.6 -1.0
CLL i *SP sP 17 31 53.0 +0.8
CLL e 17 34 30.0
CLL e 17 34 48.0
CLL eS S 17 41 55.0 +11
CLL ePS PS 17 42 42.0 +4.1
CLL eSS SS 17 47 12.0 +6.9
CLL Collm 81.76 330⇑ i P P 17 31 35.1 -0.1
CLL i *PP pP 17 31 46.6 -1.0
CLL eS S 17 41 55.0 +11
CLL pmax pmax
comp=Z,68nm,1.0s,mb5.5
CLL MLR MLR
comp=Z,2µm,17.9s,MS5.5
CLL Collm 81.76 330⇑ i P P 17 31 35.1 -0.1
comp=Z,68nm,1.0s,mb5.5
CLL i pP pP 17 31 46.6 -1.0
CLL eS S 17 41 55.0 +11
CLL LR LR
comp=Z,2µm,17.9s,MS5.5
PV01 Paradox Valley 81.76 48 eP P 17 31 36.0 +0.5
ALT Altintas 81.88 313 i P P 17 31 37.2 +1.1
ASF Jabal al Asfar 81.92 304 P P 17 31 37.1 +0.8
comp=Z,19nm,0.9s,mb5.0,baz=275,slow=2.5,SNR=26
ASF PP PP 17 34 38.1 -8.0
comp=Z,2.4nm,0.5s,baz=284,slow=4.2,SNR=4.4
EDRB Edirne 81.97 317 eP P 17 31 34.5 -2.0
SMOL Smolenice 81.98 326 eP P 17 31 37.5 +1.2
SRO Srobarova 82.09 325 eP P 17 31 37.9 +1.0
SRO2 Moca 82.09 325 eP P 17 31 37.8 +0.9
PRU Pruhonice 82.14 329⇑ i P P 17 31 37.3 +0.2
PRU e pP 17 31 48.1 -1.5
PRU pmax pmax
comp=Z,47nm,1.0s,mb5.4
PRU MLR MLR
comp=Z,2µm,15.0s,MS5.7
PRU Pruhonice 82.14 329⇑ i P P 17 31 37.3 +0.2
comp=Z,47nm,1.0s,mb5.4
PRU epP pP 17 31 48.1 -1.5
PRU AMS AMS 18 12 30.0
comp=Z,2µm,15.0s
ZST Bratislava 82.36 326 eP P 17 31 39.2 +0.9
CLZ Clausthal 82.38 332 eP P 17 31 38.8 +0.5
comp=Z,48nm,1.0s,mb5.4
ISCO Idaho Springs 82.43 46 eP P 17 31 39.5 +0.6
comp=Z,9.6nm,1.0s,mb4.7
ISP Isparta 82.43 312 eP P 17 31 39.0 +0.1
comp=Z,60nm,1.0s,mb5.5
CSS Prodhromos 82.52 308 eP P 17 31 39.5 +0.1
comp=Z,44nm,0.8s,mb5.5
AFFS 'Afif 82.54 294 P P 17 31 40.1 +0.4
MMLI Mount Malkishu 82.74 305 P P 17 31 41.6 +1.0
HMDT Nahal Hemdat 82.78 305 P P 17 31 41.4 +0.6
HMDT Nahal Hemdat 82.78 305 ⇑P P 17 31 41.4 +0.6
BALB Balikesir 82.80 314 eP P 17 31 41.2 +0.4
NKC Novy Kostel 82.81 330⇑ i P P 17 31 40.9 +0.3
NKC AMS AMS 18 12 10.0
comp=Z,2µm,15.6s
MOX Moxa 82.83 330 i P P 17 31 40.6 0.0
comp=Z,logA/T=1.4,mb5.2
MOX S S 17 42 08.0 +14
MOX L 18 12 55.0
MOX Moxa 82.83 330 eP P 17 31 40.6 0.0
MOX pmax pmax
comp=Z,36nm,1.5s,mb5.2
MOX MLR MLR
comp=Z,1µm,19.0s,MS5.3
MOX Moxa 82.83 330 eP P 17 31 40.6 0.0
comp=Z,36nm,1.5s,mb5.2
MOX LR LR
comp=Z,1µm,19.0s,MS5.3
PGB Panagyurishte 82.90 319 eP P 17 31 42.0 +0.8
SOP Sopron 82.98 326⇑ P P 17 31 42.5 +1.0
PKSM Moragy 83.10 324⇑ i P P 17 31 42.0 -0.1
SLTI Sal'it 83.11 305 P P 17 31 43.4 +0.9
RDO Rodhopi 83.12 317⇑ i P P 17 31 42.9 +0.6
MANT Manisa 83.17 313 i P P 17 31 42.9 +0.3
KHC Kasperske Hory 83.19 328⇑ i P P 17 31 42.8 +0.3
KHC epP pP 17 31 53.4 -1.6
KHC ex x 17 35 00.0
KHC AMS AMS 18 13 00.0
comp=Z,2µm,15.7s
RZN Rozhen 83.20 318 eP P 17 31 43.0 +0.3
BEO Belgrade 83.22 322⇑ i P P 17 31 43.3 +0.6
DRGI Dragot 83.28 304 P P 17 31 44.0 +0.7
DRGI Dragot 83.28 304 ⇑P P 17 31 44.0 +0.7
AKS Akhisar 83.35 314 eP P 17 31 43.0 -0.5
GEC2 GERESS Array S 83.36 328 eP P 17 31 43.7 +0.3
GEC2 pmax pmax
comp=Z,23nm,0.9s,mb5.2
GEC2 GERESS Array S 83.36 328 eP P 17 31 43.7 +0.3
comp=Z,23nm,0.9s,mb5.2
GERES GERESS Array B 83.36 328 P P 17 31 43.4 0.0
comp=Z,12nm,0.8s,mb5.0,baz=34,slow=4.8,SNR=89
GERES PP PP 17 34 40.1 -17
comp=Z,3.2nm,0.9s,baz=37,slow=9.8,SNR=4.3
DENT Denizli 83.37 312 eP P 17 31 35.0 -8.7
VTS Vitosha 83.38 319 eP P 17 31 44.0 +0.4
DNZL Cakiroluk 83.41 312 i P P 17 31 44.4 +0.5
RHK1 Bakonya 83.46 324⇑ eP P 17 31 43.8 -0.1
WET Wettzell 83.48 329 eP P 17 31 44.5 +0.5
WET pmax pmax
comp=Z,35nm,1.1s,mb5.3
WET Wettzell 83.48 329 eP P 17 31 44.5 +0.5
comp=Z,35nm,1.1s,mb5.3
KAMS Al Khamasin 83.49 290 P P 17 31 44.7 +0.1
ELL Elmali 83.50 311 eP P 17 31 44.7 +0.3
WTSB Winterswijk 83.60 334 eP P 17 31 44.3 -0.2
comp=Z,17nm,0.7s,mb5.3
WTSB ex x 17 31 58.8
AYVA Ayvalik 83.71 315 i P P 17 31 45.2 -0.1
GRA1 Grafenberg Arr 83.73 330 eP P 17 31 46.1 +0.9
comp=Z,98nm,1.1s,mb5.8
GRA1 ePP PP 17 35 11.3 +11
GRA1 eS S 17 42 09.7 +6.3
GRA1 LR LR
comp=Z,1µm,18.9s,MS5.3
GRF Grafenberg Arr 83.73 330 eP P 17 31 46.1 +0.9
GRF eS S 17 42 09.7 +6.3
GRF pmax pmax
comp=Z,98nm,1.1s,mb5.8
GRF MLR MLR
comp=Z,1µm,18.9s,MS5.3
GRUS Gruza 83.76 321⇓ i P P 17 31 46.0 +0.5
ARSA Arzberg 83.78 326⇑ i P P 17 31 46.2 +0.7
comp=Z,21nm,1.0s,mb5.2
MMB Musomiste 83.80 318 eP P 17 31 45.0 -0.8
SDCO Great Sand Dun 83.85 47 eP P 17 31 47.2 +1.1
comp=Z,24nm,1.3s,mb5.2
MOA Molln 83.88 327⇑ i P P 17 31 46.5 +0.5
comp=Z,38nm,1.4s,mb5.3
NVR Nevrokopi 83.89 318 eP P 17 31 46.8 +0.6
BARS Barje 83.95 320⇓ i P P 17 31 44.3 -2.2

KKB Krupnik 83.96 319 eP P 17 31 47.0 +0.5
DIVS Divcibare 83.97 322⇓ i P P 17 31 46.8 +0.2
KDAG Bornova 83.98 314 i P P 17 31 46.9 +0.1
IZM Izmir 83.99 314 eP P 17 31 47.4 +0.6
PRK Paraskevi 83.99 315 eP P 17 31 47.0 +0.2
ZFRI Zfri 84.07 304 P P 17 31 48.1 +0.7
ZFRI Zfri 84.07 304 ⇑P P 17 31 48.1 +0.7
TUC Tucson 84.07 54 eP P 17 31 47.7 +0.3
comp=Z,6.6nm,1.0s,mb4.7
AYDN Tasoluk 84.12 313 i P P 17 31 48.7 +1.2
KBRS Khaybar 84.15 298 P P 17 31 48.7 +0.8
YER Yerkesik 84.23 312 i P P 17 31 49.1 +1.1
PRNI Paran 84.31 304 P P 17 31 49.4 +0.8
PRNI Paran 84.31 304 ⇑P P 17 31 49.4 +0.8
KZIT Kziot 84.37 304 P P 17 31 49.5 +0.6
KZIT Kziot 84.37 304 ⇑P P 17 31 49.5 +0.6
PERS Pernice 84.42 326 i P P 17 31 49.3 +0.5
MLSB Milas 84.42 313 eP P 17 31 49.8 +0.8
OUR Ouranopolis 84.53 317 ePg P 17 31 50.0 +0.5
NVSS Nova Varos 2 84.55 322⇑ i P P 17 31 49.0 -0.4
KNT Kendrikon 84.55 318 ePg P 17 31 49.9 +0.4
TBKS Tabuk 84.58 301 P P 17 31 50.7 +0.7
VAY Valandovo 84.61 318⇑ i P P 17 31 50.5 +0.7
JMQS Jabal Moqyreh 84.63 302 P P 17 31 51.0 +0.8
SIND Sindeldorf 84.65 331⇑ eP P 17 31 50.0 +0.2
KMTI Karmit 84.66 303 P P 17 31 50.6 +0.3
KMTI Karmit 84.66 303 ⇑P P 17 31 50.6 +0.3
AQBJ Aqaba 84.67 303 P P 17 31 51.1 +0.7
SMG Samos 84.70 314⇑ i P P 17 31 50.3 -0.1
MBH Mount Berech 84.72 303 P P 17 31 51.3 +0.6
MBH Mount Berech 84.72 303 ⇑P P 17 31 51.3 +0.6
PLG Polygyros 84.80 317⇑ i P P 17 31 50.9 +0.1
THE Thessaloniki 84.88 318 ePg P 17 31 50.5 -0.7
HGN Heimansgroeve 84.90 333 eP P 17 31 50.1 -1.0
comp=Z,18nm,1.1s,mb5.1
HGN Heimansgroeve 84.90 333 eS ScS 17 42 28.8 +4.8
SWS Schriesheim 84.90 331 eP P 17 31 51.0 -0.1
FUR Furstenfeldbru 84.91 329 eP P 17 31 51.8 +0.7
FUR pmax pmax
comp=Z,51nm,0.8s,mb5.7
FUR Furstenfeldbru 84.91 329 eP P 17 31 51.8 +0.7
comp=Z,51nm,0.8s,mb5.7
JMOS Jabal al Moall 84.98 303 P P 17 31 52.7 +0.7
HDH Heidenheim 85.02 330 eP P 17 31 51.7 0.0
ABH Alteburg 85.02 332 eP P 17 31 52.0 +0.4
ABH Alteburg 85.02 332 eP P 17 31 51.9 +0.3
ANMO Albuquerque 85.12 50 eP P 17 31 53.5 +1.0
comp=Z,10nm,1.0s,mb4.9
LJU Ljubljana 85.14 326 i P P 17 31 52.8 +0.5
HAQS Haql 85.17 303 P P 17 31 53.3 +0.4
BOJS Bojanci 85.22 325 i P P 17 31 52.8 +0.1
STU Stuttgart 85.28 331 eP P 17 31 53.2 +0.3
comp=Z,65nm,0.9s,mb5.8
RUP Ruppelstein 85.35 332 eP P 17 31 53.6 +0.3
RUP Ruppelstein 85.35 332 eP P 17 31 53.5 +0.2
CEY Cerknica 85.41 326 i P P 17 31 53.8 +0.1
ROBS Robic 85.44 327 i P P 17 31 52.8 -1.0
BDAS Al Bad' 85.45 302 P P 17 31 54.6 +0.3
WTTA Wattenberg 85.46 328⇑ i P P 17 31 54.1 +0.2
comp=Z,21nm,1.5s,mb5.0
BUCH Bad Urach 85.47 330⇑ eP P 17 31 54.4 +0.5
AYUS 'Aynunah 85.48 302 P P 17 31 54.8 +0.3
LIT Litokhoron 85.51 318 ePg P 17 31 54.6 +0.3
LBG Lerchenberg 85.52 331⇑ eP P 17 31 54.5 +0.4
TAYS Tayyib Ism 85.53 302 P P 17 31 54.9 +0.2
BNM Barren Site 85.54 50 eP P 17 31 55.4 +0.8
DBAS Duba 85.60 301 P P 17 31 55.4 +0.4
MOTA Moosalm 85.62 329⇓ i P P 17 31 54.9 +0.2
comp=Z,16nm,1.1s,mb5.2
LANF Langenberg 85.65 331 eP P 17 31 55.0 +0.2
OHR Ohrid 85.70 319⇑ i P P 17 31 55.3 +0.1
WLF Walferdange 85.72 333 eP P 17 31 53.9 -1.2
comp=Z,34nm,1.1s,mb5.5
UBR Uberruh 85.77 329 eP P 17 31 55.3 -0.1
DJNS Zahran al Janu 85.81 289 P P 17 31 57.7 +1.5
GIVF Givet 85.84 334 eP P 17 31 55.4 -0.3
GUT Gutenstein 85.87 330⇑ eP P 17 31 55.9 +0.1
UMJS Umm Lajj 85.88 299 P P 17 31 57.3 +0.9
APE Apiranthos 85.90 314 eP P 17 31 55.5 +0.6
YNBS Yanbu' al Bahr 85.95 297 P P 17 31 57.5 +0.7
KARP Karpathos 85.96 312⇑ i P P 17 31 56.1 -0.5
BFO Black Forest 85.97 331 eP P 17 31 56.6 +0.2
BFO pmax pmax
comp=Z,45nm,0.9s,mb5.7
BFO Black Forest 85.97 331 eP P 17 31 56.6 +0.2
comp=Z,45nm,0.9s,mb5.7
SPAK Spaichingen 85.97 330 eP P 17 31 56.5 +0.1
BAIF Baives 86.10 334 eP P 17 31 56.8 -0.1
comp=Z,40nm,0.9s,mb5.3
SCHQ Schefferville 86.11 16 P P 17 31 57.3 +0.5
comp=Z,29nm,0.9s,mb5.5,baz=1.5,slow=2.7,SNR=12
SCHQ LR LR 18 10 14.8
comp=Z,487nm,21.7s,MS4.9,baz=24,slow=36
SCHQ Schefferville 86.11 16 P P 17 31 57.3 +0.5
SCHQ LR LR 18 10 14.8
DMUB Kingscourt 86.12 342 eP P 17 31 57.0 0.0
DAVA Damuels 86.18 329⇑ i P P 17 31 58.1 +0.7
comp=Z,34nm,1.0s,mb5.5
LKR Lokris 86.25 316⇑ i P P 17 31 57.5 -0.5
WLS Welschbruch 86.29 331 eP P 17 31 58.3 +0.4
CDF Champ du Feu 86.32 331 eP P 17 31 58.1 +0.1
comp=Z,56nm,0.9s,mb5.5
LIBD Limburg 86.40 331 eP P 17 31 58.5 0.0
KIZ Kirchzarten 86.44 331 eP P 17 31 58.6 0.0
FELD Feldberg 86.47 331 eP P 17 31 58.8 0.0
ECH Echery 86.52 331 eP P 17 31 59.1 0.0
DLF Lyons Farm 86.58 341 eP P 17 31 59.3 +0.1
LTHS Al Lith 86.64 293 P P 17 32 00.9 +0.6
DCN Croghan 86.72 342 eP P 17 32 00.4 +0.5
MOF Molkenrain 86.83 331 eP P 17 32 00.5 -0.1
THEF They Montfort 86.97 332 eP P 17 32 01.3 +0.1
HINF Hinteralfeld 86.97 331 eP P 17 32 00.8 -0.5
comp=Z,21nm,1.0s,mb5.0
BBS Basel-Blauen 87.00 331 eP P 17 32 01.0 -0.4
MEZF Maizieres J'vi 87.09 333 eP P 17 32 02.0 +0.2
comp=Z,66nm,1.2s,mb5.5
FRSS Farasan al Kab 87.48 289 P P 17 32 05.6 +1.1
KSU1 Kansas State U 87.92 41 eP P 17 32 05.9 -0.2
CPRX Cap Rock 88.00 50 eP P 17 32 06.2 -0.4
AMTX Amarillo 88.06 47 eP P 17 32 07.9 +1.1
comp=Z,14nm,0.9s,mb5.2
GDL2 Guadalupe Moun 88.25 51 eP P 17 32 08.3 +0.5
CABF La Chapelle 88.26 331 eP P 17 32 07.4 -0.1
comp=Z,9.5nm,0.8s,mb4.8
AQU L'Aquila 88.48 324 eP P 17 32 09.1 +0.4
comp=Z,40nm,0.9s,mb5.6
LOR Lornes 88.56 333 eP P 17 32 08.7 -0.2
comp=Z,42nm,1.2s,mb5.3
LOR eR
comp=Z,1µm,17.2s
FLN La Foliniere 88.81 336 eP P 17 32 10.1 0.0
FLN eR
comp=Z,2µm,20.2s
LDF La Druitiere 88.84 336 eP P 17 32 10.1 -0.1
SSF Saint Saulge 88.87 333 eP P 17 32 10.3 -0.1
comp=Z,24nm,1.0s,mb5.2
LPL La Plagne 88.90 330 eP P 17 32 10.6 0.0
comp=Z,31nm,1.0s,mb5.3
LPG La Plagne 88.90 330 eP P 17 32 10.7 +0.1
comp=Z,21nm,0.7s,mb5.3
SMF Signal de Mont 89.09 332 eP P 17 32 11.4 0.0
comp=Z,38nm,1.1s,mb5.3
AVF Avril sur Loir 89.15 333 eP P 17 32 11.6 -0.1
comp=Z,71nm,1.1s,mb5.6
GRR Gorron 89.26 336 eP P 17 32 12.2 0.0
comp=Z,45nm,0.9s,mb5.5
MBDF Montbardon 89.53 329 eP P 17 32 12.8 -0.8
BGF Bois d'Agland 89.53 333 eP P 17 32 13.5 0.0
ORIF Oris-en-Rattie 89.73 330 eP P 17 32 14.3 -0.2
comp=Z,48nm,1.3s,mb5.4
ORIF eR
comp=Z,1µm,20.8s
SGMF Saint Gilles 89.93 337 eP P 17 32 14.6 -0.7
comp=Z,26nm,0.8s,mb5.3
SBF Sospel 89.95 329 eP P 17 32 14.7 -0.9
comp=Z,86nm,1.1s,mb5.7
TCF Toulx Ste Croi 90.00 333 eP P 17 32 15.5 -0.2

comp=Z,84nm,1.4s,mb5.6
ROSF Rostrenen 90.08 337 eP P 17 32 15.8 -0.3
comp=Z,186nm,1.4s,mb5.9
VIVF Saint-Julien-l 90.27 331 eP P 17 32 16.8 -0.2
comp=Z,23nm,0.8s,mb5.2
PGF Pioggiola 90.34 327 eP P 17 32 16.0 -1.4
comp=Z,52nm,1.0s,mb5.5
QUIF Quistinic 90.42 337 eP P 17 32 16.4 -1.3
comp=Z,126nm,1.3s,mb5.8
FRF La Foret Royal 90.53 329 eP P 17 32 17.5 -0.8
MFF Saint Martin d 90.57 335 eP P 17 32 18.6 +0.2
comp=Z,76nm,1.0s,mb5.7
LTX Lajitas 90.63 52 eP P 17 32 19.8 +0.7
comp=Z,11nm,0.9s,mb5.2
TXAR Lajitas Array 90.63 52 P P 17 32 19.4 +0.3
comp=Z,6.3nm,0.8s,mb5.0,baz=288,slow=4.0,SNR=34
TXAR LR LR 18 11 39.7
comp=Z,467nm,18.1s,MS5.0,baz=5.0,slow=35
SMRF Simiane la Rot 90.63 330 eP P 17 32 18.5 -0.3
comp=Z,33nm,1.1s,mb5.3
LMR La Mourre 90.78 329 eP P 17 32 18.7 -0.7
comp=Z,48nm,0.9s,mb5.5
RJF Les Rejaudoux 91.09 333 eP P 17 32 20.9 0.0
comp=Z,53nm,1.0s,mb5.5
RJF eR
comp=Z,1µm,17.2s
CAF Calviac 91.21 332 eP P 17 32 21.8 +0.4
comp=Z,37nm,0.9s,mb5.4
LASF Ste Croix 91.24 331 eP P 17 32 21.5 -0.1
comp=Z,49nm,1.1s,mb5.5
LFF La Frestale 91.69 333 eP P 17 32 24.1 +0.5
comp=Z,104nm,1.1s,mb5.8
MTLF Montolieu 92.50 331 eP P 17 32 26.8 -0.6
comp=Z,27nm,0.9s,mb5.3
MIAR Mount Ida 92.92 43 eP P 17 32 29.8 +0.2
comp=Z,33nm,1.1s,mb5.7
EPF Esparros 93.47 332 eP P 17 32 31.6 -0.3
ACSO Alum Creek Sta 93.66 32 eP P 17 32 32.3 -0.5
ETSF Etsaut 93.92 333 eP P 17 32 33.8 -0.1
comp=Z,38nm,0.9s,mb5.5
ESDC Sonseca Array 97.98 334 P P 17 32 52.6 +0.2
comp=Z,2.8nm,0.9s,mb4.8,baz=34,slow=4.7,SNR=5.8
ESDC PP PP 17 36 53.2 -1.2
comp=Z,2.7nm,0.9s,baz=24,slow=9.0,SNR=4.6
ESDC LR LR 18 21 16.6
comp=Z,1µm,20.9s,MS5.4,baz=20,slow=38
ESDC Sonseca Array 97.98 334 P P 17 32 52.6 +0.2
ESDC PP PP 17 36 53.2 -1.2
ESDC LR LR 18 21 16.6
MTE Manteigas 98.55 336 eS 17 43 40.1
MTE e- 18 11 33.8
comp=Z,704nm,20.0s
EVO Evora 100.39 336 eP P 17 33 03.1 -0.3
comp=Z,10nm,0.9s
EVO eR
comp=Z,1µm,19.8s
VNDA Vanda 114.19 175 PKP PKPdf 17 37 53.8 +0.1
comp=Z,1.0nm,0.8s,baz=302,slow=4.4,SNR=6.3
VNDA Vanda 114.19 175 PKIKP PKPdf 17 37 53.8 +0.1
VNDA pmax pmax
comp=Z,1.0nm,0.9s
VNDA Vanda 114.19 175 eP PKPdf 17 37 53.9 +0.2
MAW Mawson 118.81 205 PKP PKPdf 17 38 03.7 +0.9
comp=Z,2.9nm,0.8s,baz=162,slow=1.8,SNR=9.5
MAW Mawson 118.81 205 PKIKP PKPdf 17 38 03.7 +0.9
MAW pmax pmax
comp=Z,3.0nm,0.8s
MAW Mawson 118.81 205 ePKPdf PKPdf 17 38 03.9 +1.1
SDV Santo Domingo 125.95 40 ePKPdf PKPdf 17 38 18.3 +0.4
QSPA South Pole Qui 125.99 180 ePKP PKPdf 17 38 16.6 +0.3
QSPA LR LR
comp=Z,100nm,21.3s,MS4.5
BOSA Boshof 126.39 259 ePKPdf PKPdf 17 38 18.8 +0.4
DBIC Dimbokro 126.84 316 PKP PKPdf 17 38 20.6 +0.9
comp=Z,14nm,1.0s,baz=161,slow=1.3,SNR=9.8
DBIC PP PP 17 40 10.7 -11
comp=Z,6.4nm,0.8s,baz=37,slow=10,SNR=3.2
DBIC Dimbokro 126.84 316 ePKPdf PKPdf 17 38 19.8 +0.1
TIC Toumodi 126.95 317 ePKIKP PKPdf 17 38 20.3 +0.4
comp=Z,16nm,0.2s
KIC Kosan Boka 127.03 316 ePKIKP PKPdf 17 38 20.6 +0.6
comp=Z,72nm,0.9s
LIC Lamto 127.30 316 ePKIKP PKPdf 17 38 20.3 -0.3
comp=Z,50nm,1.1s
LIC Lamto 127.30 316 ePKIKP PKPdf 17 38 20.7 +0.1
comp=Z,63nm,1.1s
SYO Syowa Base 127.48 206 ⇑PKPdf PKPdf 17 38 20.3 +0.9
SUR Sutherland 131.41 256 PKPdf PKPdf 17 38 29.1 +1.2
SNAA Sanae 139.99 197 P PKPdf 17 38 42.7 +0.1
SNAA Sanae 139.99 197⇑ i PKPdf 17 38 46.4 +3.8
SNAA Sanae 139.99 197⇑ i PKPdf 17 39 03.0 +20
SNAA Sanae 139.99 197⇑ i PKPdf 17 39 05.4 +23
SNAA Sanae 139.99 197⇑ i PKPdf 17 39 10.7 +28
SNAA Sanae 139.99 197 ePKPpre 17 38 33.8
VNA2 Neumayer--Watz 141.55 196⇓ iP PKPdf 17 38 42.5 -2.8
VNA2 Neumayer--Watz 141.55 196⇑ i PKPdf 17 38 46.2 +0.9
VNA2 Neumayer--Watz 141.55 196⇑ i PKPdf 17 39 03.5 +18
VNA2 Neumayer--Watz 141.55 196⇑ i PKPdf 17 39 06.9 +22
VNA2 Neumayer--Watz 141.55 196⇑ i PKPdf 17 39 11.3 +26
VNA2 Neumayer--Watz 141.55 196⇑ i PKPdf 17 39 14.5 +29
VNA3 Neumayer Olymp 141.80 195⇑ iP PKPdf 17 38 44.6 -1.1
VNA3 Neumayer Olymp 141.80 195⇑ i PKPdf 17 38 49.0 +3.3
VNA3 Neumayer Olymp 141.80 195⇑ i PKPdf 17 39 04.8 +19
VNA3 Neumayer Olymp 141.80 195⇑ i PKPdf 17 39 09.6 +24
VNA3 Neumayer Olymp 141.80 195⇑ i PKPdf 17 39 14.9 +29
VNA1 Neumayer--Stat 141.95 196⇑ iP PKPdf 17 38 45.1 -0.9
VNA1 Neumayer--Stat 141.95 196⇑ i PKPdf 17 38 48.1 +2.1
VNA1 Neumayer--Stat 141.95 196⇑ i PKPdf 17 39 02.8 +17
VNA1 Neumayer--Stat 141.95 196 PKPdf 17 39 09.8 +24
SAML Samuel 144.83 45 ePKPdf PKPdf 17 38 51.9 -0.8
LPAZ La Paz 147.12 61 PKPbc PKPdf 17 38 59.0 +2.5
comp=Z,19nm,0.9s,baz=343,slow=3.3,SNR=65
LPAZ La Paz 147.12 61 PKP2 PKPab 17 38 59.0 -3.4
LPAZ pmax pmax
comp=Z,19nm,0.9s
LPAZ La Paz 147.12 61 ePKPdf PKPdf 17 38 58.7 +2.3
PMSA Palmer Station 147.65 160 ePKPbc PKPdf 17 38 59.9 +4.0
LVC Limon Verde 150.47 71 ePKPbc PKPdf 17 39 09.1 +7.5

TAP 16 17:20:20.6,23.02N×121.47E,h28km±1km,ML3.5, Taiwan

MAN 16 17:21:01.0,13.34N×120.16E,h4km,mb4.1,ML2.9,MS2.6, 2C,Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	Lubang	0.40	12	eP	Pg	17 21 09.1	+0.1
LUBP				eS	Sg	17 21 14.2	-0.3
TGY	Tagaytay City	1.07	45⇑	iP	Pb	17 21 21.3	-0.4
TGY				i S	Sb	17 21 34.0	-1.9
BUSP	Coron	1.33	178	eP	Pb	17 21 26.8	+0.7
BUSP				eS	Sb	17 21 44.3	+0.9
LQP	Lukban	1.55	60⇑	iP	Pn	17 21 28.7	-0.7
BOAC	Boac	1.65	86	eP	Pn	17 21 30.5	-0.3

MAN 16 17:28:04.2,17.34N×119.77E,h1km,mb4.3,ML3.2,MS3.0, 1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABRA	Dolores	0.95	71	eP	Pb	17 28 23.1	-0.1
BOLP	Bolinao	0.96	172	eP	Pb	17 28 23.3	-0.2
PIP	Pasuquin	1.27	39⇓	eP	Pb	17 28 28.6	-0.1
PIP				eS	Sb	17 28 44.2	-1.1
APYP	Conner	1.50	70	eP	Pn	17 28 31.4	-1.0
APYP				eS	Sb	17 28 49.2	-2.7
CAUP	Cauayan	2.00	101	eP	Pn	17 28 41.2	+1.6

JMA 16 17:39:40.4±0.3,25.40N×122.27E,h173km,M3.5

TAP 16 17:39:39.8,25.19N×122.21E,h195km±1km,ML3.8, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	Yonaguni jima	1.03	135	P	P	17 40 08.8	-0.6
YOJ				S	S	17 40 31.0	-1.3
IRIF	Iriomote-Funau	1.62	121	P	P	17 40 13.6	-1.0
IRIF				S	S	17 40 40.1	-1.3
HATJ	Hateruma jima	1.84	128	P	P	17 40 16.9	+0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HATJ				S	S	17 40 43.9	-1.1
JKRS	Kuro-shima	1.89	120	P	P	17 40 16.8	-0.4
JKRS				S	S	17 40 44.6	-1.3
JIJ	Ishigaki jima	1.94	115	P	P	17 40 16.7	-1.0
JIJ				S	S	17 40 44.1	-2.7
JTJ	Tarama	2.33	103	P	P	17 40 21.4	-0.5
JTJ				S	S	17 40 52.1	-2.3
JMJ	Miyako jima 2	2.82	97	P	P	17 40 27.2	-0.4
JMJ				S	S	17 41 02.5	-2.0

*SNSN **16** 17:47:20.1, 26.90N×34.94E, Ml3.0*
*HLW **16** 17:47:21.5, 26.74N×34.91E, h13km, Mb3.5*
*CSEM **16** 17:47:22.0±0.1, 26.74N×34.93E, h35km, ML3.5, Error ellipse: s-maj=2.3km s-min=1.2km az=89.0*
ISC 16 17:47:19.8±0.4, **26.77N**±0.03×**34.93E**±0.04, **h10km, n37,** σ**0**^{s}**82**/44, **20C-5D, Red Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HSFG		0.92	258	⇑eP	Pb	17 47 38.6	+1.2
DBAS	Duba	1.03	64	P	Pb	17 47 40.3	+1.0
DBAS				S	Sb	17 47 52.0	-0.7
HQSR		1.12	206	⇓eP	Pb	17 47 41.3	+0.5
HHRG	Al Ghardaqah	1.30	291	⇑iP	Pb	17 47 44.5	+0.6
HHRG				S	Sb	17 48 00.9	+0.5
SHRM		1.33	328	⇓eP	Pb	17 47 44.5	+0.1
HADB		1.44	191	⇓eP	Pn	17 47 45.9	-0.1
AYUS	‘Aynunah	1.45	12	P	Pn	17 47 46.5	+0.4
TR1		1.51	325	⇑P	Pn	17 47 47.5	+0.4
ZEIT		1.66	312	⇑eP	Pn	17 47 49.6	+0.4
BDAS	Al Bad‘	1.67	5	P	Pn	17 47 49.5	+0.2
EMRS	Mersa Alam	1.75	183	⇑iP	Pn	17 47 50.2	-0.3
TAYS	Tayyib Ism	1.78	358	P	Pn	17 47 51.0	+0.1
TAYS				S	Sn	17 48 10.9	-2.8
TR2		1.94	327	⇑eP	Pn	17 47 53.4	+0.3
HKAT	Jabal Katrina	1.94	335	⇑eP	Pn	17 47 53.8	+0.6
HDHB	Dhahab	1.97	352	⇑P	Pn	17 47 54.0	+0.4
TBKS	Tabuk	2.04	44	P	Pn	17 47 56.1	+1.5
JMQS	Jabal Moqyreh	2.27	21	P	Pn	17 47 59.2	+1.3
HAQS	Haql	2.28	360	S	Sn	17 48 24.7	-1.8
HAQS				P		17 47 58.7	
HAQS	Haql	2.28	360	P	Pn	17 47 58.7	+0.6
HAQS				S	Sn	17 48 24.7	-1.8
HAGS	Hagol	2.38	179	⇓eP	Pn	17 47 59.2	-0.3
JMOS	Jabal al Moall	2.40	4	P	Pn	17 48 00.6	+0.9
JMOS				S	Sn	17 48 28.6	-0.9
HRDS	Abu Rudays	2.42	324	⇑eP	Pn	17 47 59.9	-0.1
GRB	Gharib	2.42	309	⇑eP	Pn	17 48 00.5	+0.3
HBST	Basata	2.45	356	⇑eP	Pn	17 48 01.0	+0.6
UMJS	Umm Lajj	2.63	125	P	Pn	17 48 02.3	-0.8
HNKL	Nakhl	3.26	345	⇑P	Pn	17 48 12.2	+0.1
HNKL				S	Sn	17 48 49.2	-2.1
HNKL	Nakhl	3.26	345	P	Pn	17 48 12.1	0.0
HNKL				S	Sn	17 48 49.2	-2.1
ZAF		3.27	320	⇑P	Pn	17 48 12.1	-0.1
SUZ		3.58	329	⇑P	Pn	17 48 16.9	+0.3
HSHL	Bi’r Shalatayn	3.67	173	⇓eP	Pn	17 48 17.4	-0.5
YNBS	Yanbu‘ al Bahr	3.67	131	P	Pn	17 48 18.2	+0.3
AKRL	Khor El Raml	3.68	213	⇑P	Pn	17 48 17.1	-1.0
GTR	Jabal at Tayr	4.13	253	⇑P	Pn	17 48 23.1	-1.2
AMAG	Maghara	4.15	339	⇑eP	Pn	17 48 24.4	-0.3
AKRG	Al Kharijah	4.18	253	⇑eP	Pn	17 48 23.9	-1.2
ASHG	Umm Shaghir	4.58	221	⇑P	Pn	17 48 30.1	-0.7
HDK2	Wahat Dakhilah	5.92	247	⇑P	Pn	17 48 50.0	+0.3

*MOS **16** 18:13:33.8±0.9, 36.77N×71.11E, h33km, mb5.3/28, Error ellipse: s-maj=9.8km s-min=5.7km az=118.4*
*NNC **16** 18:13:35.1±9.2, 37.01N×70.59E, mpv5.6, Error ellipse: s-maj=119.5km s-min=70.2km az=114.0*
*HRVD **16** 18:13:38.9±0.4, 36.73N×70.89E, h99km±4km, MW5.0/60, Centroid moment Tensor Solution. LP body waves: s19,c22;Mantle waves: s60,c98; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.98±.16; $M_{\theta\theta}$-2.56±.17; $M_{\phi\phi}$0.57±.14; $M_{r\theta}$2.41±.09; $M_{\theta\phi}$-0.01±.14; $M_{\phi r}$0.23±.08; Best double couple: $M_0$3.32×10^{16} NP1:ϕ_s277°,δ22°,λ101°. NP2:ϕ_s85°,δ69°,λ86°. Principal axes: T 3.04, Plg66°, Azm348°; N .56, Plg4°, Azm87°; P -3.6, Plg23°, Azm179°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **16** 18:13:38.7, 36.94N×70.94E, h81km, mB5.2, mb5.0, Ms5.0, Msz4.7*
*NEIC **16** 18:13:38.9±0.9, 36.79N×71.05E, h65km±8km, mb5.1/100, Error ellipse: s-maj=6.1km s-min=3.4km az=193.0*
*IDC **16** 18:13:40.9±2.4, 36.82N×71.08E, h86km±21km, mb4.5/18, mb1 4.7/20, mb1mx4.6/22, MS3.9/7, Ms1 3.9/7, ms1mx3.7/27, Error ellipse: s-maj=13.8km s-min=11.4km az=13.0*
ISC 16 18:13:38.5±0.4, **36.77N**±0.02×**71.05E**±0.03, **h77**km±4km, **h67**km±5.5km**:pP-P, n332,** σ**1**^{s}**03**/346, **mb4.9**/133, **36C-15D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CEP	Cherat	3.02	166	⇓P	P	18 14 28.0	+2.8
CHCP	Chirah Chowk	3.59	149	P	P	18 14 36.0	+2.8
THW	Thamme Wali	4.00	172	⇓P	P	18 14 40.2	+1.3
SBDP	Sheikh Budin	4.46	183	⇑P	P	18 14 45.7	+0.5
KSH	Kashi	4.75	53	P	P	18 14 53.5	+4.2
KSH				S	S	18 15 51.0	+7.4
TAS	Tashkent	4.75	344	⇑ePN	P	18 14 47.0	-2.3
TAS				e		18 15 02.5	
TAS				eS	S	18 15 40.0	-3.6
TAS				pmax	pmax		
	comp=Z,520μm,2.0s						
SARP	Sargodha	5.01	164	P	P	18 14 53.1	+0.2
SARP				S	S	18 15 45.0	-5.1
DRP	Derazinda	5.06	188	⇓P	P	18 14 54.2	+0.7
AML	Almayashu	5.74	20	P	P	18 15 03.4	+0.7
	SNR=1010						
THN	Thein Dam	5.79	137	eP	P	18 15 03.7	+0.3
	comp=Z,587nm,0.4s						
THN				e		18 16 09.9	
UCH	Uchtor	6.08	25	P	P	18 15 08.6	+1.1
	SNR=362						
KZA	Kyzart	6.22	30	P	P	18 15 10.7	+1.2
	SNR=42						
EKS2	Erkin-Say	6.25	19	P	P	18 15 10.7	+0.7
	SNR=566						
AAK	Ala-Archa	6.43	23	⇑Pn	P	18 15 13.4	+0.9
	comp=Z,310nm,0.7s						
AAK				⇑Sn	S	18 16 25.1	-0.1
	comp=Z,257nm,0.6s						
AAK				⇑Lg		18 16 58.4	
	comp=Z,305nm,0.7s						
AAK	Ala-Archa	6.43	23	P	P	18 15 13.5	+1.0
	SNR=349						
AAK	Ala-Archa	6.43	23c	iPN	P	18 15 12.3	-0.2
AAK				pmax	pmax		
	comp=Z,211nm,0.7s						
AAK	Ala-Archa	6.43	23	i Pnu		18 15 12.3	
	comp=Z,211nm,0.7s						
KBK	Karagaybulak	6.61	26	P	P	18 15 16.0	+1.1
	SNR=228						
FRU	Bishkek	6.65	23α	iPN	P	18 15 17.0	+1.4
FRU				eS	S	18 16 28.0	-2.6
FRU				pmax	pmax		
	comp=Z,620nm,1.8s						
FRU				smax			
	comp=E,1μm,1.9s						
FRU	Bishkek	6.65	23	i Pncu		18 15 17.0	
	comp=E,620nm,1.8s						
FRU				eS	S	18 16 28.0	-2.6
ULHL	Ulahol	6.79	35	P	P	18 15 18.2	+0.8
	SNR=36						
CHMS	Chumysh	6.84	23	P	P	18 15 18.8	+0.6
	SNR=623						
USP	Ospenovka	7.01	21	P	P	18 15 20.5	-0.1
	SNR=158						
TKM2	Tokmak 2	7.07	28	P	P	18 15 22.1	+0.7
	SNR=640						
AAA	Alma-Ata	7.92	33	eP	P	18 15 32.0	-0.9
AAA				eS	S	18 17 04.0	+2.3
AAA				pmax	pmax		
	comp=Z,300nm,0.4s						
AAA				smax			
	comp=E,600nm,2.2s						
AAA				MLR	MLR		
	comp=Z,4μm,17.0s						
DDI	Dehra Dun	8.68	136	eP	P	18 15 40.8	-2.6
DDI				e		18 17 47.4	
NDI	New Delhi	9.58	145	eP	P	18 15 52.0	-3.7
	comp=Z,229nm,0.5s						
NDI				e		18 17 37.0	
PTH	Pithoragarh	10.52	131	eP	P	18 16 04.0	-4.4
PTH				eS	S	18 17 55.0	-10
LGTI	Lohaghat	10.61	131	⇓iP	P	18 16 08.0	-1.6
LGTI				e		18 18 02.0	
AJM	Ajmer	10.70	162	eP	P	18 16 09.3	-1.5
JHNI	Jhansi	12.96	148	⇑iP	P	18 16 37.0	-3.9
JHNI				i S	S	18 18 52.0	-12
MK02	Makanchi Array	13.04	36	⇑P	P	18 16 40.2	-1.8
	comp=Z,34nm,0.7s,baz=216,slow=14						
MK02	Makanchi Array	13.04	36	P	P	18 16 40.1	-1.9
MK02				pmax	pmax		
	comp=Z,26nm,0.6s						
KOLN	Koldanda	13.89	127	eP	P	18 16 50.2	-2.8
	comp=Z,157nm,0.4s						
KOLN				eS	S	18 19 18.3	-7.3
GKN	Gorkha	14.41	123	eP	P	18 16 56.5	-3.3
	comp=Z,687nm,0.7s						
GKN				eS	S	18 19 27.6	-10
WMQ	Urumqi	14.51	56	⇓iP	P	18 17 00.0	-1.0
WMQ				AMB	AMB		
	comp=Z,45nm,0.9s						
WMQ				LR	LR		
	comp=N,827nm,5.0s						
WMQ				LR	LR		
	comp=E,416nm,5.0s						
BHPL	Bhopal	14.56	156	eP	P	18 17 00.0	-1.7
BHPL				e		18 17 01.8	
	comp=Z,86nm,0.9s						
BHPL				i		18 19 36.9	
ALBI	Allahabad	14.66	138	e	P	18 16 57.5	-5.6
KURK	Kurchatov	14.97	19	⇑P	P	18 17 03.0	-3.8
	comp=Z,36nm,0.7s,baz=208,slow=11,SNR=155						
KURK				⇑S	S	18 19 60.0	+9.0
	comp=Z,51nm,2.5s						
KURK				⇓Lg		18 21 27.5	
	comp=Z,117nm,1.5s,baz=118,slow=17,SNR=4.5						
KURK	Kurchatov	14.97	19	i P	P	18 17 03.0	-3.8
KURK				pmax	pmax		
	comp=Z,25nm,0.7s						
DMN	Daman	14.98	124	eP	P	18 17 04.4	-2.8
	comp=Z,338nm,0.7s						
DMN				eS	S	18 19 42.7	-8.8
KKN	Kakani	14.98	123	eP	P	18 17 03.5	-3.7
	comp=Z,262nm,0.5s						
KKN				eS	S	18 19 41.4	-10
PKI	Pulchoki	15.21	123	eP	P	18 17 07.0	-3.1
	comp=Z,293nm,0.6s						
GUN	Gumba	15.32	121	eP	P	18 17 07.9	-3.5
	comp=Z,788nm,0.9s						
BVA0	Borovoye Array	16.27	359	⇑P	P	18 17 20.1	-3.1
	comp=Z,9.6nm,0.8s,baz=166,slow=8.1,SNR=332						
BVA0				⇑S	S	18 20 17.5	-3.2
	comp=Z,12nm,1.2s						
BVA0				⇑Lg		18 22 06.5	
	comp=Z,11nm,1.4s,baz=148,slow=23,SNR=3.8						
BVA0	Borovoye Array	16.27	359	i P	P	18 17 20.1	-3.1
BVA0				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BVA0	Borovoye Array	16.27	359	i P	P	18 17 20.1	-3.1
	comp=Z,3.0nm,1.0s						
BVAR	Borovoye Array	16.27	359	P	P	18 17 20.1	-3.1
	comp=Z,3.8nm,0.3s,baz=174,slow=13,SNR=112						
BVAR				S	S	18 20 27.6	+6.8
	comp=Z,0.9nm,0.3s,baz=196,slow=21,SNR=3.9						
BVAR				Lg		18 22 15.7	
	comp=Z,0.3nm,0.3s,baz=197,slow=20,SNR=2.2						
BVAR				LR	LR	18 23 57.4	
	comp=Z,15nm,19.3s,baz=30,slow=38						
BRVK	Borovoye	16.30	358	eP	P	18 17 20.7	-2.9
AKL	Akola	16.83	160	i	P	18 17 36.9	+6.4
	comp=Z,211nm,1.0s						
AKL				i		18 20 26.3	
NGP	Nagpur	17.05	154	eP	P	18 17 35.0	+1.8
NGP				e		18 20 49.9	
BOM	Bombay	17.87	175	e	P	18 17 38.6	-4.9
	comp=Z,128nm,1.8s						
BOM				e		18 20 57.0	
LSA	Lhasa	18.21	107	P	P	18 17 48.4	+0.9
POO	Poona	18.33	172	eP	P	18 17 49.0	0.0
	comp=Z,260nm,1.0s						
POO				e		18 21 35.0	
LATR	Latur	18.91	164	eP	P	18 17 55.5	-0.1
KAD	Karad	19.58	171	eP	P	18 18 03.2	+0.3
KAD				e		18 18 06.0	
	comp=Z,97nm,1.2s						
ZAL	Zalesovo	19.64	25	P	P	18 18 01.1	-2.2
	comp=Z,35nm,0.3s,baz=256,slow=7.5,SNR=241						
ZAL				S	S	18 21 36.0	+0.6
	baz=112,slow=22,SNR=1.6						
ZAL				Lg		18 23 59.8	
	comp=Z,0.2nm,0.3s,baz=16,slow=20,SNR=2.2						
NVS	Novosibirsk	19.92	21	i P	P	18 18 03.7	-2.5
NVS				pmax	pmax		
	comp=N,96nm,1.3s						
NVS				pmax	pmax		
	comp=E,19nm,1.3s						
NVS				pmax	pmax		
	comp=Z,115nm,1.3s						
NVS	Novosibirsk	19.92	21	i P	P	18 18 03.7	-2.5
	comp=Z,115nm,1.3s						
HYB	Hyderabad	20.38	159	⇓iP	P	18 18 11.0	-0.3
	comp=Z,180nm,1.0s						
HYB				esP		18 18 27.0	
HYB				eS	S	18 22 03.0	+13
HYB	Hyderabad	20.38	159	⇓eP	P	18 18 11.0	-0.3
	comp=Z,180nm,1.0s						
HYB				e		18 18 27.0	
HYB				eS	S	18 22 03.0	+13
UMR	Umm Al-Rimmam	20.79	257	eP	P	18 18 14.6	-0.8
UMR				AMb	AMB	18 18 16.4	
	comp=Z,53nm,0.6s						
GNI	Garni	20.85	287	eP	P	18 18 17.3	+1.4
	comp=Z,139nm,1.2s						
BWNR	Bhubaneshwar	20.87	138	e	P	18 18 05.0	-11
MIB	Mutribah	20.97	258	eP	P	18 18 17.0	-0.2
MIB				AMb	AMB	18 18 21.0	
	comp=Z,93nm,0.7s						
KBD	Kabd	20.98	256	eP	P	18 18 17.0	-0.2
SHL	Shillong	20.99	116	eP	P	18 18 18.0	+0.6
	comp=Z,130nm,1.0s						
SHL				e		18 21 55.5	
QRN	Al-Qurain	21.00	254	eP	P	18 18 17.0	-0.5
QRN				AMb	AMB	18 18 26.2	
	comp=Z,34nm,0.3s,mb5.1						
RDF	Al-Radifah	21.20	255	eP	P	18 18 19.0	-0.5
RDF				AMb	AMB	18 18 20.3	
	comp=Z,100nm,0.7s,mb5.3						
SVE	Sverdlovsk	21.25	344	⇑eP	P	18 18 19.0	-0.8
SVE				e		18 18 43.2	
SVE				pmax	pmax		
	comp=Z,140nm,1.7s,mb5.0						
SVE				MLR	MLR		
	comp=Z,2μm,11.0s						
SVE				MLR	MLR		
	comp=N,1μm,10.0s						
SVE				MLR	MLR		
	comp=E,500nm,10.0s						
SVE	Sverdlovsk	21.25	344	⇑eP	P	18 18 19.0	-0.8
	comp=E,140nm,1.7s,mb5.0						
SVE				e		18 18 43.2	
SVE				LR	LR		
	comp=Z,2μm,11.0s						
GOA	Goa	21.33	173	eP	P	18 18 23.8	+2.9
GOA				e		18 22 19.7	
RST	Umm Al-Ruwaisa	21.37	257	eP	P	18 18 20.8	-0.5
ARU	Arti	21.40	341	⇑iP	P	18 18 20.2	-1.1
ARU				i		18 18 45.3	
ARU				eS	S	18 22 18.1	+9.1
ARU				eSS	SS	18 22 57.9	+9.0
ARU				pmax	pmax		
	comp=Z,99nm,0.9s,mb5.1						
ARU				MLR	MLR		
	comp=Z,800nm,18.0s						
ARU				MLR	MLR		
	comp=N,500nm,18.5s						
ARU				MLR	MLR		
	comp=E,400nm,17.0s						
ARU	Arti	21.40	341	⇑iP	P	18 18 20.2	-1.1
	comp=E,99nm,0.9s,mb5.1						
ARU				i		18 18 45.3	
ARU				eS	S	18 22 18.1	+9.1
ARU				eSS	SS	18 22 57.9	+9.0
ARU				LR	LR		
	comp=Z,800nm,18.0s						
AGT	Agartala	21.60	121	i P	P	18 18 26.0	+2.5
AGT				i		18 18 49.0	
VIS	Vishakhapatnam	21.85	147	eP	P	18 18 26.4	+0.4
VIS				e		18 22 57.7	
GOF	Gofitskoye	22.65	300	⇑iP	P	18 18 34.5	+0.9
GOF				i		18 18 58.0	
GOF				pmax	pmax		
	comp=Z,80nm,1.2s,mb4.9						
GOF	Gofitskoye	22.65	300	⇑iP	P	18 18 34.5	+0.9
	comp=Z,80nm,1.2s,mb4.9						
GOF				i		18 18 58.0	
KIV	Kislovodsk	22.70	297	eP	P	18 18 33.9	-0.2
KIV				pmax	pmax		
	comp=Z,31nm,0.8s,mb4.7						
KIV	Kislovodsk	22.70	297	eP	P	18 18 33.9	-0.2
	comp=Z,31nm,0.8s,mb4.7						
GTA	Gaotai	22.75	75	eP	P	18 18 36.8	+2.1
GTA				AMB	AMB		
	comp=Z,56nm,0.7s,mb5.0						
GTA				AMB	AMB		
	comp=Z,257nm,6.5s						
ERZM	Erzurum	23.45	287	i P	P	18 18 44.8	+3.4
BEST	Besiri	23.67	282	i P	P	18 18 45.8	+2.3
MNGI	Mangalore	23.96	171	eP	P	18 18 48.7	+2.1
MNGI				e		18 24 52.2	
SOC	Sochi	24.79	296	eP	P	18 18 54.3	-0.1
SOC				eS	S	18 23 09.3	+0.9
SOC				eSS	SS	18 24 05.9	-5.5
SOC				pmax	pmax		
	comp=Z,44nm,0.9s,mb4.9						
SOC				pmax	pmax		
	comp=N,10.0nm,0.7s						
SOC				pmax	pmax		
	comp=E,18nm,0.8s						
SOC				MLR	MLR		
	comp=Z,325nm,18.0s						
SOC				MLR	MLR		
	comp=N,215nm,25.0s						
SOC				MLR	MLR		
	comp=E,172nm,16.0s						
SOC	Sochi	24.79	296	eP	P	18 18 54.3	-0.1
	comp=E,44nm,0.9s,mb4.9						
SOC				eS	S	18 23 09.3	+0.9
SOC				eSS	SS	18 24 05.9	-5.5
SOC				LR	LR		
	comp=Z,330nm,18.0s						
KELT	Kelkit	25.06	288	i P	P	18 18 52.1	-4.9
ELZG	Elazig	25.39	284	i P	P	18 19 01.2	+1.2
MZLS	Mizel	25.56	247	P	P	18 19 02.2	+0.3
MOY	Mondy	25.89	45	eP	P	18 19 06.2	+1.6
ARSS	Ar Rass	26.03	253	P	P	18 19 05.9	-0.3
LZH	Lanzhou	26.33	82	eP	P	18 19 10.5	+1.7
LZH				AMB	AMB		
	comp=Z,31nm,1.5s,mb4.5						
LZH				AMB	AMB		
	comp=Z,137nm,5.8s						
HILS	Ha’il	26.41	258	P	P	18 19 09.9	+0.2
ANN	Anapa	26.55	298	eP	P	18 19 10.2	-0.5
ANN				e*PP	pP	18 19 28.2	-0.3
ANN				eS	S	18 23 47.6	+10
ANN				pmax	pmax		
	comp=Z,40nm,0.8s,mb5.0						
ANN	Anapa	26.55	298	eP	P	18 19 10.2	-0.5
	comp=Z,40nm,0.8s,mb5.0						
ANN				epP	pP	18 19 28.2	-0.3
ANN				eS	S	18 23 47.6	+10
GZT	Gaziantep	26.65	281	i P	P	18 19 13.0	+1.2
ZAK	Zakamensk	26.79	49	⇓iP	P	18 19 13.0	+0.1
ZAK				e	pP	18 19 27.0	-3.7
ZAK				e		18 19 57.3	
VOR	Voronezh	27.01	314	eP	P	18 19 13.5	-1.4
VOR				e		18 19 55.0	
VOR				pmax	pmax		
	comp=N,50nm,1.4s						
VOR				pmax	pmax		
	comp=E,60nm,1.4s						
VOR				pmax	pmax		
	comp=Z,40nm,1.4s,mb4.8						
KAHT	Ahir Dag	27.15	282	i P	P	18 19 17.9	+1.5
COBT	Iskenderun	27.83	280	i P	P	18 19 23.3	+0.7
SONM	Songino Array	28.15	56	P	P	18 19 26.0	+0.7
	comp=Z,19nm,0.8s,mb4.7,baz=270,slow=9.3,SNR=121						
KAMS	Al Khamasin	28.32	242	P	P	18 19 26.3	-0.8
CTKT	Corum	28.43	289	i P	P	18 19 28.3	+0.4
ASF	Jabal al Asfar	28.43	271	LR	LR	18 32 56.5	
	comp=Z,148nm,19.1s,baz=121,slow=41						
AVNT	Avonos	28.57	285	i P	P	18 19 29.4	+0.3
SIM	Simferopol’	28.91	298	eP	P	18 19 31.3	-0.8
SIM				e		18 20 24.0	
SIM				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.5						
KBRS	Khaybar	29.16	257	P	P	18 19 35.4	+0.9
BRTR	Keskin Array B	29.39	287	P	P	18 19 36.8	+0.3
	comp=Z,17nm,0.7s,mb4.8,baz=102,slow=9.0,SNR=92						
BRTR	Keskin Array B	29.39	287	P	P	18 19 36.8	+0.3
BRTR				pmax	pmax		
	comp=Z,17nm,0.7s						
KMI	Kunming	29.42	104	eP	P	18 19 35.3	-1.6
KMI				S	S	18 24 27.3	+3.5
KMI				AMB	AMB		
	comp=Z,332nm,5.4s						
BALT	Daday	29.44	291	i P	P	18 19 37.3	+0.5
ELDT	Eldivan	29.48	289	i P	P	18 19 38.0	+0.7
MOS	Moscow	29.48	321	eP	P	18 19 24.3	-13
MOS				pmax	pmax		
	comp=Z,40nm,0.6s,mb5.2						
TATS	Tathlith	29.60	242	P	P	18 19 38.3	-0.2
OBN	Obninsk	29.76	319	eP	P	18 19 39.0	-0.6
OBN				e		18 20 40.0	
OBN				pmax	pmax		
	comp=Z,78nm,1.7s,mb5.1						
OBN				MLR	MLR		
	comp=Z,300nm,21.0s						
OBN	Obninsk	29.76	319	eP	P	18 19 39.0	-0.6
	comp=Z,78nm,1.7s,mb5.1						
OBN				e		18 20 40.0	
OBN				LR	LR		
	comp=Z,300nm,21.0s						
CHG	Chiang Mai	30.31	119	⇑P	P	18 19 51.3	+6.5
	comp=Z,13nm,1.0s,mb4.5						
SGKT	Sivrigoynuk	30.51	289	i P	P	18 19 47.1	+0.7
CM31	Chiang Mai Arr	30.55	119	eP	P	18 19 48.3	+1.4
	comp=Z,5.9nm,0.8s,mb4.4						
CMAR	Chiang Mai Arr	30.55	119	P	P	18 19 47.0	+0.1
	comp=Z,3.5nm,0.9s,mb4.1,baz=300,slow=8.5,SNR=21						
CMAR				LR	LR	18 33 42.8	
	comp=Z,170nm,20.7s,baz=305,slow=39						
CMAR	Chiang Mai Arr	30.55	119	P	P	18 19 47.0	+0.1
CMAR				pmax	pmax		
	comp=Z,4.0nm,1.0s						
CMAR				MLR	MLR		
	comp=Z,170nm,20.7s						
BLJS	Baljurashi	30.73	245	P	P	18 19 48.9	+0.3
XAN	Xi’an	30.86	84	P	P	18 19 49.5	0.0
XAN				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.6						
DBAS	Duba	31.09	262	P	P	18 19 52.1	+0.5
AYUS	‘Aynunah	31.23	265	P	P	18 19 53.3	+0.5
BDT	Bhumibol Dam	31.41	121	P	P	18 19 58.0	+3.5
ESKT	Eskisehir	31.56	287	i P	P	18 19 55.3	-0.3
GYA	Guiyang	31.86	99	P	P	18 20 00.9	+2.6
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
GYA				AMB	AMB		
	comp=Z,100nm,6.3s						
ENH	Enshi	32.53	90	eP	P	18 20 03.6	-0.5
	comp=Z,5.5nm,0.8s,mb4.4						
KIS	Kishinev	32.71	302	eP	P	18 20 04.0	-1.5
KIS				e		18 21 10.0	
AKASG	Malin Array Be	32.81	309	P	P	18 20 05.2	-1.2
	comp=Z,30nm,0.7s,mb5.2,baz=78,slow=7.1,SNR=54						
AKASG				ScP		18 26 25.4	
	comp=Z,1.2nm,0.7s,baz=68,slow=3.3,SNR=4.6						
AKASG				LR	LR	18 35 15.4	
	comp=Z,121nm,19.0s,baz=185,slow=40						
AKASG	Malin Array Be	32.81	309	P	P	18 20 05.2	-1.1
AKASG				pmax	pmax		
	comp=Z,31nm,0.7s						
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.7s						

AKASG MLR MLR
comp=Z,121nm,19.0s
KKTK Khon Kaen 34.71 117 P **P** **18 20 25.0 +2.0**
BOD Bodaibo 35.12 39 *eP* **P** **18 20 25.4 -0.6**
BOD *e* pP 18 20 44.1 -0.6
JOF Joensuu 35.66 330 *ep* **P** **18 20 30.6 0.0**
WHN Wuhan 36.34 87 *eP* **P** **18 20 38.4 +1.7**
KWP Kalwaria 36.89 306 *eP* **P** **18 20 41.5 +0.4**
comp=Z,28nm,0.8s,mb5.2
IDI Anoyia 37.08 282 P **P** **18 20 42.2 -0.7**
comp=Z,5.4nm,0.5s,mb4.8,baz=89,slow=11,SNR=12
HIA Hailar 37.11 55 *eP* **P** **18 20 43.9 +0.9**
comp=Z,5.1nm,0.6s,mb4.6
KOLS Kolonicke sedl 37.16 305 *i* P **P** **18 20 44.0 +0.6**
FINES FINESS Array B 37.29 326 P **P** **18 20 44.4 +0.1**
comp=Z,8.6nm,0.5s,mb4.9,baz=118,slow=9.2,SNR=87
FINES LR LR 18 36 21.5
comp=Z,260nm,19.8s,baz=174,slow=36
FINES FINESS Array B 37.29 326 P **P** **18 20 44.4 +0.1**
FINES pmax pmax
comp=Z,9.0nm,0.5s
FINES MLR MLR
comp=Z,260nm,19.8s
FINES FINESS Array B 37.29 326 P **P** **18 20 44.4 +0.1**
FINES LR LR 18 36 21.5
KAF Kangasniemi 37.43 327 *ep* **P** **18 20 44.8 -0.6**
comp=Z,13nm,0.9s,mb4.9,baz=111,slow=8.4
KAF Kangasniemi 37.43 327 *eP* **P** **18 20 44.8 -0.6**
KAF pmax pmax
comp=Z,13nm,0.9s,mb4.9
NIE Niedzica 38.45 306‖ *eP* **P** **18 20 55.7 +1.7**
PSZ Piszkesteto 38.76 303 *eP* **P** **18 20 57.6 +0.9**
comp=Z,11nm,0.9s,mb4.7
OJC Ojcow 38.78 307 *eP* **P** **18 20 57.1 +0.3**
OJC Ojcow 38.78 307 *eP* **P** **18 20 57.1 +0.3**
DIVS Divcibare 39.02 297⇓ *iP* **P** **18 20 59.6 +0.7**
SRO2 Moca 39.78 303 *i* P **P** **18 21 06.5 +1.4**
SRO Srobarova 39.83 303 *i* P **P** **18 21 07.0 +1.4**
OKC Ostrava-Krasne 39.85 306 *eP* **P** **18 21 06.0 +0.3**
MORC Moravsky Berou 40.24 306 *eP* **P** **18 21 09.3 +0.4**
comp=Z,21nm,1.0s,mb4.9
ZST Bratislava 40.62 304 *eP* **P** **18 21 12.1 +0.1**
ARCES ARCESS Array B 40.92 337 P **P** **18 21 15.1 +0.8**
comp=Z,43nm,0.7s,mb5.4,baz=113,slow=7.7,SNR=80
ARCES LR LR 18 39 33.0
comp=Z,428nm,20.5s,baz=200,slow=38
ARCES ARCESS Array B 40.92 337 P **P** **18 21 15.1 +0.8**
ARCES pmax pmax
comp=Z,43nm,0.7s
ARCES MLR MLR
comp=Z,428nm,20.5s
ARCES ARCESS Array B 40.92 337 P **P** **18 21 15.1 +0.8**
ARCES LR LR 18 39 33.0
ARE0 ARCESS Array S 40.92 337 *eP* **P** **18 21 14.7 +0.4**
DPC Dobruska-Polom 41.00 307 *eP* **P** **18 21 16.2 +1.0**
KSP Ksiaz 41.01 308 *eP* **P** **18 21 15.6 +0.4**
UPC Upice 41.20 307 *eP* **P** **18 21 17.6 +0.8**
KTK1 Kautokeino 41.39 336 *eP* **P** **18 21 18.3 +0.1**
KTK1 AMb AMB 18 21 20.6
comp=Z,101nm,2.1s,mb5.3
KTK1 *ep*P pP 18 21 35.6 -1.5
KTK1 Kautokeino 41.39 336 *eP* **P** **18 21 18.3 +0.1**
comp=Z,101nm,2.1s,mb5.3
ARSA Arzberg 41.76 303⇑ *iP* **P** **18 21 22.2 +0.8**
comp=Z,11nm,1.1s,mb4.5
BSD Bornholm Skovb 41.85 314⇑ *iP* **P** **18 21 21.1 -0.9**
comp=Z,24nm,0.9s,mb4.9
PERS Pernice 42.11 302 *i* P **P** **18 21 25.4 +1.2**
PVCC Panska Ves 42.12 307 *eP* **P** **18 21 25.0 +0.8**
PRU Pruhonice 42.17 307 P **P** **18 21 23.9 -0.8**
PRU pmax pmax
comp=Z,43nm,1.4s,mb5.0
PRU Pruhonice 42.17 307 P **P** **18 21 23.9 -0.8**
comp=Z,43nm,1.4s,mb5.0
BOJS Bojanci 42.17 300 *i* P **P** **18 21 25.7 +0.9**
IPM Ipoh 42.21 132‖ *eP* **P** **18 21 28.0 +2.5**
BRG Berggiesshubel 42.49 308 *i* P **P** **18 21 28.4 +1.1**
BRG *i* 18 21 35.0
BRG pmax pmax
comp=Z,36nm,1.3s,mb4.9
BRG Berggiesshubel 42.49 308 *i* P **P** **18 21 28.4 +1.1**
comp=Z,36nm,1.3s,mb4.9
BRG *i* 18 21 35.0
MOA Molln 42.54 304⇑ *iP* **P** **18 21 28.2 +0.4**
comp=Z,18nm,1.0s,mb4.8
GEC2 GERESS Array S 42.81 305 *eP* **P** **18 21 30.6 +0.6**
GEC2 pmax pmax
comp=Z,25nm,1.8s,mb4.6
GEC2 GERESS Array S 42.81 305 *eP* **P** **18 21 30.6 +0.6**
comp=Z,25nm,1.8s,mb4.6
GERES GERESS Array B 42.81 305 P **P** **18 21 30.3 +0.4**
comp=Z,2.3nm,0.7s,mb4.0,baz=79,slow=6.8,SNR=33
GERES ScP 18 27 04.4
comp=Z,1.3nm,1.0s,baz=90,slow=2.9,SNR=3.8
GERES GERESS Array B 42.81 305 P **P** **18 21 30.3 +0.3**
GERES pmax pmax
comp=Z,2.0nm,0.7s
GERES pmax pmax
comp=Z,1.0nm,1.0s
KHC Kasperske Hory 42.86 305 *eP* **P** **18 21 30.8 +0.4**
TRO Tromso 43.04 336 *eP* **P** **18 21 31.1 -0.5**
TRO AMb AMB 18 21 35.6
comp=Z,83nm,2.0s,mb5.1
TRO Tromso 43.04 336 *eP* **P** **18 21 31.1 -0.5**
comp=Z,83nm,2.0s,mb5.1
CLL Collm 43.06 309⇑ P **P** **18 21 32.0 0.0**
comp=Z,logA/T=1.2,mb4.7
CLL *e* 18 21 41.0
CLL *e*'PP pP 18 21 46.0 -4.9
CLL Collm 43.06 309⇑ *iP* **P** **18 21 32.0 0.0**
CLL *e* 18 21 41.0
CLL pmax pmax
comp=Z,14nm,0.8s,mb4.7
CLL Collm 43.06 309⇑ *iP* **P** **18 21 32.0 0.0**
comp=Z,14nm,0.8s,mb4.7
CLL *e* 18 21 41.0
ROBS Robic 43.27 301 *i* P **P** **18 21 34.3 +0.5**
NKC Novy Kostel 43.49 307 *eP* **P** **18 21 36.5 +1.0**
MOR8 Moi Rana 43.61 331 *eP* **P** **18 21 35.4 -0.8**
MOR8 AMb AMB 18 21 36.7
comp=Z,81nm,0.8s,mb5.5
MOR8 Moi Rana 43.61 331 *eP* **P** **18 21 35.4 -0.8**
comp=Z,81nm,0.8s,mb5.5
YAK Yakutsk 43.73 36 *eP* **P** **18 21 36.2 -1.1**
YAK pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
YAK pmax pmax
comp=E,4.0nm,1.2s
YAK Yakutsk 43.73 36 *eP* **P** **18 21 36.2 -1.1**
comp=E,10.0nm,0.8s,mb4.6
MOX Moxa 43.98 308 *i* P **P** **18 21 39.6 +0.1**
comp=E,logA/T=1.4,mb4.9
MOX Moxa 43.98 308 *eP* **P** **18 21 39.6 +0.1**
MOX pmax pmax
comp=Z,31nm,1.4s,mb4.8
MOX Moxa 43.98 308 *eP* **P** **18 21 39.6 +0.1**
comp=Z,31nm,1.4s,mb4.8
MELS Mels 44.05 331 *eP* **P** **18 21 39.8 0.0**
NB2 NORSAR Subarra 44.19 323 P **P** **18 21 40.6 -0.4**
comp=Z,53nm,0.9s,mb5.3,baz=97,slow=7.9
NB2 NORSAR Subarra 44.19 323 P **P** **18 21 40.6 -0.4**
baz=96,slow=7.9
NOA NORSAR Array B 44.19 323 P **P** **18 21 40.4 -0.7**
comp=Z,42nm,0.9s,mb5.2,baz=97,slow=7.9,SNR=109
NOA LR LR 18 42 56.1
comp=Z,101nm,20.0s,baz=90,slow=40
NOA NORSAR Array B 44.19 323 P **P** **18 21 40.4 -0.6**
NOA pmax pmax
comp=Z,42nm,0.9s
NOA MLR MLR
comp=Z,101nm,20.0s
MDJ Mudanjiang 44.24 61 *eP* **P** **18 21 41.4 -0.2**
comp=Z,6.3nm,0.9s,mb4.3
GRA1 Grafenberg Arr 44.34 307 *eP* **P** **18 21 43.8 +1.5**
comp=Z,94nm,1.7s,mb5.2
GRF Grafenberg Arr 44.34 307 *eP* **P** **18 21 43.8 +1.5**
GRF pmax pmax
comp=Z,94nm,1.7s,mb5.2
WTTA Wattenberg 44.39 303⇑ *iP* **P** **18 21 42.8 0.0**
comp=Z,20nm,1.0s,mb4.8
WATA Walderalm 44.41 303⇓ *iP* **P** **18 21 42.9 -0.1**
comp=Z,8.8nm,0.9s,mb4.5
LOF Lofoten 44.43 333 *eP* **P** **18 21 44.3 +1.5**
FUR Furstenfeldbru 44.49 304 *eP* **P** **18 21 44.2 +0.6**
FUR pmax pmax
comp=Z,58nm,1.5s,mb5.1
FUR Furstenfeldbru 44.49 304 *eP* **P** **18 21 44.2 +0.6**
comp=Z,58nm,1.5s,mb5.1
BSEG Bad Segeberg 44.54 313 *eP* **P** **18 21 44.7 +0.8**
BSEG pmax pmax
comp=Z,36nm,0.9s,mb5.1
CLZ Clausthal 44.65 310 *eP* **P** **18 21 45.3 +0.5**
comp=Z,44nm,1.6s,mb4.9
SQTA Sankt Quirin 44.68 303⇑ *iP* **P** **18 21 44.6 -0.5**
comp=Z,11nm,1.0s,mb4.5
MOTA Moosalm 44.73 303⇑ *iP* **P** **18 21 45.1 -0.4**
comp=Z,11nm,0.8s,mb4.6
TIXI Tiksi 45.51 22*c iP* **P** **18 21 51.4 0.0**
TIXI pmax pmax
comp=Z,96nm,0.7s,mb5.6
TIXI Tiksi 45.51 22⇑ *iP* **P** **18 21 51.4 0.0**
comp=Z,96nm,0.7s,mb5.6
DAVA Damuels 45.56 303⇑ *iP* **P** **18 21 52.0 -0.1**
comp=Z,31nm,1.0s,mb5.0
DAVOX Davos 45.65 303 P **P** **18 21 52.5 -0.3**
comp=Z,16nm,0.7s,mb4.8,baz=99,slow=6.8,SNR=22
MOL Molde 46.04 325 *eP* **P** **18 21 56.9 +1.2**
MOL AMb AMB 18 22 02.3
comp=Z,37nm,1.6s,mb4.9
MOL Molde 46.04 325 *eP* **P** **18 21 56.9 +1.2**
comp=Z,37nm,1.6s,mb4.9
BFO Black Forest 46.41 305 *eP* **P** **18 21 58.9 +0.1**
BFO pmax pmax
comp=Z,41nm,1.8s,mb4.9
BFO Black Forest 46.41 305 *eP* **P** **18 21 58.9 +0.1**
comp=Z,41nm,1.8s,mb4.9
RUND Rundenannen 47.04 322 *eP* **P** **18 22 03.4 -0.2**
RUND AMb AMB 18 22 04.9
comp=Z,75nm,1.0s,mb5.4
CDF Champ du Feu 47.09 305 *eP* **P** **18 22 03.9 -0.3**
comp=Z,18nm,1.0s,mb4.5
HINF Hinteralfeld 47.48 305 *eP* **P** **18 22 07.0 -0.2**
VSL Villasalto 47.75 293 P **P** **18 22 11.1 +1.6**
comp=Z,26nm,1.2s,mb5.0
SBF Sospel 47.96 299 *eP* **P** **18 22 10.8 -0.2**
comp=Z,54nm,0.8s,mb5.1
LPG La Plagne 48.04 302 *eP* **P** **18 22 12.0 +0.3**
comp=Z,42nm,0.9s,mb5.0
LPL La Plagne 48.05 302 *eP* **P** **18 22 11.9 +0.2**
comp=Z,16nm,0.6s,mb4.8
MBDF Montbardon 48.21 301 *eP* **P** **18 22 12.6 -0.4**
comp=Z,38nm,0.8s,mb5.0
CABF La Chapelle 48.24 303 *eP* **P** **18 22 13.1 -0.1**
comp=Z,22nm,0.7s,mb4.8
GIVF Givet 48.37 308 *eP* **P** **18 22 14.2 +0.1**
MEZF Maizieres J'vi 48.53 306 *eP* **P** **18 22 15.6 +0.3**
comp=Z,65nm,1.1s,mb5.2
FRF La Foret Royal 48.59 299 *eP* **P** **18 22 15.7 -0.2**
comp=Z,61nm,1.0s,mb5.2
BAIF Baives 48.76 308 *eP* **P** **18 22 17.7 +0.6**
comp=Z,70nm,1.1s,mb5.2
ORIF Oris-en-Rattie 48.78 301 *eP* **P** **18 22 17.4 +0.1**
ORIF *eR*
comp=Z,148nm,20.8s
SMRF Simiane la Rot 49.23 300 *eP* **P** **18 22 20.6 -0.2**
comp=Z,36nm,1.1s,mb4.9
LOR Lormes 49.58 304 *eP* **P** **18 22 22.7 -0.8**
comp=Z,14nm,0.9s,mb4.6
LOR *eR*
comp=Z,172nm,19.5s
VIVF Saint-Julien-l 49.63 301 *eP* **P** **18 22 23.6 -0.3**
comp=Z,46nm,0.9s,mb5.1
SMF Signal de Mont 49.74 304 *eP* **P** **18 22 24.3 -0.4**
comp=Z,25nm,0.7s,mb5.0
SSF Saint Saulge 49.86 304 *eP* **P** **18 22 25.2 -0.5**
AVF Avril sur Loir 50.03 304 *eP* **P** **18 22 26.5 -0.5**
comp=Z,43nm,0.8s,mb5.2
HYF Humbligny 50.39 305 *eP* **P** **18 22 29.8 +0.1**
LASF Ste Croix 50.40 300 *eP* **P** **18 22 30.0 +0.2**
comp=Z,128nm,1.2s,mb5.4
BGF Bois d'Agland 50.43 304 *eP* **P** **18 22 29.6 -0.4**
comp=Z,14nm,0.7s,mb4.7
TCF Toulx Ste Croi 50.92 304 *eP* **P** **18 22 33.7 0.0**
comp=Z,46nm,1.0s,mb5.2
CAF Calviac 51.39 302 *eP* **P** **18 22 37.2 -0.1**
comp=Z,57nm,1.3s,mb5.2
RJF Les Rejaudoux 51.66 303 *eP* **P** **18 22 39.5 +0.2**
RJF *eR*
comp=Z,168nm,20.2s
MTLF Montolieu 51.75 300 *eP* **P** **18 22 39.9 -0.1**
comp=Z,17nm,0.8s,mb4.8
LDF La Truitiere 51.85 307 *eP* **P** **18 22 40.1 -0.6**
comp=Z,14nm,0.5s,mb4.9
FLN La Foliniere 52.04 307 *eP* **P** **18 22 41.3 -0.8**
comp=Z,41nm,0.8s,mb5.2
FLN *eR*
comp=Z,155nm,21.8s
LFF La Frestale 52.29 302 *eP* **P** **18 22 43.9 -0.1**
JMIC Jan Mayen 52.36 336 LR LR 18 45 35.7
comp=Z,119nm,20.0s,baz=320,slow=37
GRR Gerron 52.38 307 *eP* **P** **18 22 43.6 -1.0**
comp=Z,73nm,1.1s,mb5.3
MFF Saint Martin d 52.40 305 *eP* **P** **18 22 43.9 -0.9**
YSS Yuzh-Sakhalins 52.64 55 *eP* **P** **18 22 44.6 -2.0**
comp=Z,12nm,0.8s,mb5.0
MAJO Matsushiro 52.82 69 *eP* **P** **18 22 47.0 -1.1**
comp=Z,8.9nm,0.8s,mb4.8
MAT Matsushiro 52.82 69 P **P** **18 22 47.1 -1.0**
MAT Matsushiro 52.82 69 *eP* **P** **18 22 47.0 -1.1**
comp=Z,3.3nm,0.6s,mb4.5
EPF Esparros 53.15 300 *eP* **P** **18 22 49.8 -0.7**
EBIE Biesa 53.40 300 P **P** **18 22 50.9 -1.4**
comp=Z,146nm,1.8s,mb5.7
SGMF Saint Gilles 53.50 307 *eP* **P** **18 22 52.5 -0.5**
ETSF Etsaut 53.82 300 *eP* **P** **18 22 55.3 -0.1**
comp=Z,32nm,0.7s,mb5.1
ROSF Rostrenen 53.94 307 *eP* **P** **18 22 55.4 -0.8**
comp=Z,33nm,0.8s,mb5.1
QUIF Quistinic 53.99 307 *eP* **P** **18 22 55.6 -1.0**
comp=Z,20nm,0.7s,mb5.0
DAG Danmarks Havn 54.49 344⇓ *iP* **P** **18 22 59.8 0.0**
comp=Z,17nm,0.8s,mb5.1
EBEN Beniarda 55.05 295 P **P** **18 23 03.3 -1.2**
ETOR Torete 55.59 298 P **P** **18 23 06.8 -1.5**
comp=Z,86nm,1.7s,mb5.5
EVIA Vianos 56.73 296 P **P** **18 23 16.4 0.0**
comp=Z,19nm,0.8s,mb5.2
ESDC Sonseca Array 57.37 298 P **P** **18 23 20.3 -0.7**
comp=Z,6.1nm,0.6s,mb4.8,baz=59,slow=7.7,SNR=33
ESDC Sonseca Array 57.37 298 P **P** **18 23 20.2 -0.8**
comp=Z,15nm,0.8s,mb5.1
EQES Quesada 57.47 295 P **P** **18 23 21.3 -0.4**
comp=Z,35nm,0.9s,mb5.4
EBER Berja 57.70 294 P **P** **18 23 23.1 -0.2**
comp=Z,15nm,0.7s,mb5.1
EPON Pontenova 58.18 303 P **P** **18 23 25.8 -0.8**
comp=Z,806nm,3.3s
ERON Agron 58.32 295 P **P** **18 23 26.2 -1.4**
comp=Z,6.5nm,0.5s,mb4.9
EADA Adamuz 58.41 296 P **P** **18 23 27.5 -0.7**
comp=Z,79nm,2.0s,mb5.4
ELUQ Luque 58.43 296 P **P** **18 23 27.6 -0.9**
comp=Z,9.5nm,0.5s,mb5.1
ELOJ Sierra Loja 58.52 295 P **P** **18 23 27.7 -1.3**
comp=Z,3.8nm,0.7s,mb4.5
ERUA La Rua 58.53 302 P **P** **18 23 28.9 -0.1**
comp=Z,5.7nm,0.6s,mb4.8
ELOB Lobios 59.37 302 P **P** **18 23 34.7 -0.1**
comp=Z,236nm,1.4s,mb6.0
MTE Manteigas 59.60 300 *eP* **P** **18 23 36.7 +0.3**
comp=Z,54nm,1.4s,mb5.4
PVIS Viseu 59.72 300 *eP* **P** **18 23 37.3 +0.1**
comp=Z,30nm,1.9s,mb5.0
ESPR Espera 59.87 295 P **P** **18 23 36.9 -1.5**
comp=Z,7.7nm,0.5s,mb5.0
EBAD Badajoz 59.91 298 P **P** **18 23 38.3 -0.3**
comp=Z,95nm,1.0s,mb5.8
EMIN Mina Concepcio 60.08 297 P **P** **18 23 38.1 -1.6**
comp=Z,34nm,1.1s,mb5.3
PTOM Tomar 60.53 299 *eP* **P** **18 23 43.5 +0.7**
comp=Z,52nm,1.8s,mb5.3
EVO Evora 60.71 298 *eP* **P** **18 23 43.9 -0.2**
comp=Z,11nm,0.8s,mb4.6
EVO *eR*
comp=Z,125nm,21.0s
PALC Alcoutim 60.79 297 *eP* **P** **18 23 44.4 -0.2**
comp=Z,28nm,1.3s,mb5.1
PBEJ Beja 60.82 297 *eP* **P** **18 23 44.4 -0.4**
comp=Z,25nm,1.0s,mb5.2
SUMG Summit 60.83 341 *eP* **P** **18 23 45.1 +0.7**
comp=Z,31nm,0.8s,mb5.4
PTEO Sao Teotonio 61.65 297 *eP* **P** **18 23 50.6 +0.2**
comp=Z,34nm,1.7s,mb5.1
RES Resolute Bay 68.44 356 *eP* **P** **18 24 31.9 -1.6**
comp=Z,2.0nm,0.7s,mb4.1
IMA Indian Mountai 71.86 18 *eP* **P** **18 24 54.4 +0.1**
comp=Z,110nm,0.9s,mb5.7
INK Inuvik 73.64 9 *eP* **P** **18 25 05.2 +0.6**
comp=Z,31nm,1.0s,mb5.0
COLA College 74.21 16 *eP* **P** **18 25 08.5 +0.5**
COLA pmax pmax
comp=Z,52nm,0.9s,mb5.3
COLA College 74.21 16 *eP* **P** **18 25 08.5 +0.5**
comp=Z,52nm,0.9s,mb5.3
ILAR Eielson Array 74.51 16 P **P** **18 25 09.4 -0.3**
comp=Z,8.1nm,0.9s,mb4.5,baz=323,slow=5.6,SNR=57
ILAR PP PP 18 27 58.1 -0.9
comp=Z,1.1nm,0.7s,baz=314,slow=7.0,SNR=4.2
ILAR Eielson Array 74.51 16 P **P** **18 25 09.5 -0.3**
ILAR 18 27 58.1
ILAR pmax pmax
comp=Z,8.0nm,0.9s
ILAR pmax pmax
comp=Z,1.0nm,0.7s
DBIC Dimbokro 74.75 267 P **P** **18 25 10.9 -1.2**
comp=Z,6.2nm,0.7s,mb4.4,baz=16,slow=5.8,SNR=13
DBIC Dimbokro 74.75 267 P **P** **18 25 11.0 -1.2**
DBIC pmax pmax
comp=Z,6.0nm,0.7s
KIC Kosan Boka 74.84 267 *eP* **P** **18 25 11.4 -1.3**
comp=Z,37nm,0.7s,mb5.2
TIC Toumodi 74.90 267 *eP* **P** **18 25 11.7 -1.3**
comp=Z,10nm,0.2s,mb5.2
MCK McKinley 74.94 17 *eP* **P** **18 25 12.2 0.0**
comp=Z,4.1nm,0.6s,mb4.3
FITZ Fitzroy Crossi 75.02 127 *eP* **P** **18 25 14.7 +1.2**
comp=Z,4.3nm,0.9s,mb4.2
TSUM Tsumeb 75.11 232 P **P** **18 25 14.0 -0.1**
comp=Z,3.2nm,0.7s,mb4.2,baz=10.0,slow=8.5,SNR=5.4
LIC Lamto 75.15 267 *eP* **P** **18 25 13.1 -1.3**
comp=Z,19nm,0.7s,mb4.6
LIC Lamto 75.15 267 *eP* **P** **18 25 12.9 -1.5**
comp=Z,35nm,0.8s,mb5.2
THY Trims Highway 75.94 16 *eP* **P** **18 25 18.2 +0.3**
DAWY Dawson 76.66 13 *eP* **P** **18 25 22.3 +0.4**
PMR Palmer 76.70 18 *eP* **P** **18 25 22.5 +0.2**
comp=Z,14nm,0.8s,mb4.7
SML Sawmill 76.72 18 *eP* **P** **18 25 22.6 +0.2**
DIV Divide 77.93 17 *eP* **P** **18 25 30.2 +1.1**
comp=Z,32nm,0.7s,mb5.2
EYAK Cordova Ski Ar 78.44 18 *eP* **P** **18 25 32.9 +1.1**
YKA Yellowknife Ar 80.98 3 P **P** **18 25 45.7 +0.2**
comp=Z,8.2nm,0.6s,mb4.8,baz=350,slow=5.4,SNR=45
YKA Yellowknife Ar 80.98 3 P **P** **18 25 45.7 +0.2**
YKA pmax pmax
comp=Z,8.0nm,0.6s
YKA Yellowknife Ar 80.98 3 P **P** **18 25 45.7 +0.2**
WRA Warramunga Arr 82.09 122 P **P** **18 25 51.2 -0.9**
comp=Z,1.4nm,0.4s,mb4.1,baz=324,slow=5.0,SNR=60
WRA Warramunga Arr 82.09 122 P **P** **18 25 51.2 -1.0**
WRA pmax pmax
comp=Z,1.0nm,0.4s
WRAB Tennant Creek 82.10 122 *eP* **P** **18 25 51.3 -0.8**
comp=Z,7.6nm,0.8s,mb4.6
WB2 Warramunga Arr 82.10 122 *eP* **P** **18 25 51.4 -0.8**
DLBC Dease Lake 83.53 11 *eP* **P** **18 26 00.2 +1.6**
ASPA Alice Springs 84.37 125 *eP* **P** **18 26 02.9 -0.7**
ASAR Alice Springs 84.37 125 P **P** **18 26 03.0 -0.7**
comp=Z,1.9nm,0.6s,mb4.1,baz=310,slow=5.0,SNR=68
FORT Forrest 85.82 134 *eP* **P** **18 26 10.9 +0.3**
comp=Z,40nm,0.7s,mb5.5
CTA Charters Tower 90.61 115 *eP* **P** **18 26 39.9 +6.2**
comp=Z,2.6nm,0.9s,mb4.4
STKA Stephens Creek 94.91 126 P **P** **18 26 55.2 +2.0**
comp=Z,1.2nm,0.6s,mb4.5,baz=310,slow=16,SNR=2.6
PDAR Pinedale Array 100.84 0 P P 18 27 21.6 +1.8
comp=Z,0.5nm,0.6s,baz=56,slow=5.3,SNR=5.5
MAW Mawson 104.23 183 *e*Pdif Pdif 18 27 33.9 -0.4
comp=Z,1.2nm,0.5s
SNAA Sanae 119.66 200 P PKPdf 18 32 19.2 +0.6
VNA2 Neumayer--Watz 120.66 202⇓ *iP* PKPdf 18 32 24.0 +3.4
VNA1 Neumayer--Stat 120.81 202⇑ *iP* PKPdf 18 32 24.7 +3.8
VNA3 Neumayer Olymp 121.47 202⇑ *iP* PKPdf 18 32 26.2 +4.0
VNDA Vanda 125.74 164 *e*PKPdf PKPdf 18 32 29.9 -0.3
QSPA South Pole Qui 126.56 180 *eP* PKPdf 18 32 31.6 -0.1

FUNV **16** *18:30:33.2, 10.79N×60.66W, h26km, MW2.9*
TRN **16** *18:30:34.0, 10.83N×60.79W, h58km, MD3.0*
ISC 16 18:30:32.3±1.4, 10.79N±0.07×60.72W±0.08, h68km±8km, n11, σ0°96/21, 1D, Trinidad

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BOT	**Bacolet**	**0.38**	**0**	*eP*	**P**	**P**	**18 30 44.3**	**+0.4**
BOT				*eS*	**S**	**S**	**18 30 51.9**	**-0.6**
TPR	**Prospect**	**0.40**	**352**⇓	*iP*	**P**	**P**	**18 30 44.6**	**+0.5**
TPR				*eS*	**S**	**S**	**18 30 52.6**	**-0.3**
TBH	**Brigand Hill**	**0.46**	**229**	*eP*	**P**	**P**	**18 30 44.2**	**-0.4**
TBH				*eS*	**S**	**S**	**18 30 53.6**	**0.0**
TRN	**Trinidad (W)**	**0.69**	**258**	*eP*	**P**	**P**	**18 30 47.1**	**0.0**
TRN				*eS*	**S**	**S**	**18 30 56.4**	**-1.6**
TPP	**Pointe-a-Pierr**	**0.86**	**237**	*eP*	**P**	**P**	**18 30 50.4**	**+1.3**
TPP				*eS*	**S**	**S**	**18 31 02.5**	**+0.8**
GUIV	**Guiria**	**1.49**	**265**	*eP*	**P**	**P**	**18 30 58.8**	**+1.2**
GUIV				*eS*	**S**	**S**	**18 31 17.2**	**+1.0**
GUNV	**Guanoco**	**2.27**	**254**	*eP*	**P**	**P**	**18 31 09.5**	**+1.1**
ITEV	**Isla Los Testi**	**2.44**	**284**	*eP*	**P**	**P**	**18 31 11.3**	**+0.6**
ITEV				*eS*	**S**	**S**	**18 31 39.7**	**+0.3**
CRUV	**Carupano**	**2.48**	**268**	*eP*	**P**	**P**	**18 31 11.2**	**-0.1**
CRUV				*eS*	**S**	**S**	**18 31 39.7**	**-0.8**
CAOV	**Caicara del Or**	**6.52**	**239**	*eP*	**P**	**P**	**18 32 06.0**	**-1.7**
CAOV				*eS*	**S**	**S**	**18 33 14.7**	**-6.6**
BAUV	**El Baul**	**7.45**	**256**	*eP*	**P**	**P**	**18 32 18.3**	**-2.2**
BAUV				*eS*	**S**	**S**	**18 33 36.5**	**-7.7**

IDC **16** *18:38:15.7±1.6, 51.96N×31.03W, mb3.5/5, mb1 3.9/6, mb1mx3.7/20, ML3.7/1, MS3.2/1, Ms1 3.3/1, ms1mx2.7/24, Error ellipse: s-maj=54.6km s-min=23.1km az=20.0*
NEIC **16** *18:38:17.1±0.9, 51.97N×31.06W, h10km, mb4.5/2, Error ellipse: s-maj=20.4km s-min=13.7km az=198.0*
ISC 16 18:38:15.7±1.2, 52.0N±0.2×31.1W±0.2, h10km, n10, σ0°59/8, mb3.5/6, MS3.1/1, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**13.72**	**18**	Pn	**P**	**P**	**18 41 32.1**	**-0.2**
	0.4nm,0.3s,baz=246,slow=12,SNR=2.7							
ESK	**Eskdalemuir**	**16.78**	**68**	*eP*	**P**	**P**	**18 42 13.3**	**+1.2**
	66nm,1.5s							
ESDC	**Sonseca Array**	**22.41**	**113**	P	**P**	**P**	**18 43 16.0**	**+0.3**
	1.2nm,1.0s,mb3.3,baz=314,slow=8.8,SNR=6.8							
NAO01	**NORSAR Array S**	**24.42**	**52**	*eP*	**P**	**P**	**18 43 34.4**	**-0.6**
	8.2nm,0.9s,mb4.2							
NOA	**NORSAR Array B**	**24.58**	**52**	LR	LR	LR	18 52 23.8	
	comp=Z,54nm,19.1s,MS3.1,baz=275,slow=34							
GERES	**GERESS Array B**	**28.35**	**78**	P	**P**	**P**	**18 44 11.0**	**-0.5**
	0.3nm,0.9s,mb2.9,baz=288,slow=3.1,SNR=3.6							
BRTR	**Keskin Array B**	**45.24**	**79**	P	**P**	**P**	**18 46 34.1**	**-0.6**
	0.5nm,0.4s,mb3.7,baz=326,slow=7.5,SNR=3.0							
PDAR	**Pinedale Array**	**51.48**	**293**	P	**P**	**P**	**18 47 23.0**	**-0.1**
	0.5nm,0.5s,mb3.7,baz=78,slow=5.2,SNR=5.7							
ILAR	**Eielson Array**	**53.48**	**331**	P	**P**	**P**	**18 47 38.3**	**+0.6**
	0.5nm,1.1s,mb3.4,baz=37,slow=4.5,SNR=3.6							
ASAR	**Alice Springs**	**149.43**	**28**	PKPbc	PKPdf		18 58 05.5	+2.2
	0.2nm,0.8s,baz=348,slow=2.4,SNR=3.6							

IDC 16 18:46:35.3±4.1, 16.18S×178.06E, mb3.7/4, mb1 3.9/4, mb1mx3.7/14, Error ellipse: s-maj=192.0km s-min=31.4km az=138.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.58**	**238**	P	**P**	P	18 53 43.4	-1.6
	1.6nm,0.9s,baz=40,slow=7.9,SNR=3.5							
WRA	**Warramunga Arr**	**41.65**	**258**	P	**P**	P	18 54 25.3	-2.0
	0.4nm,0.9s,baz=96,slow=6.3,SNR=3.5							
ASAR	**Alice Springs**	**42.04**	**252**	P	**P**	P	18 54 28.9	-1.6
	0.6nm,0.8s,baz=80,slow=8.1,SNR=6.6							
ILAR	**Eielson Array**	**85.01**	**14**	P	**P**	P	18 59 12.3	-1.2
	1.0nm,0.7s,baz=234,slow=6.6,SNR=12							

IDC 16 18:54:28.0±5.8, 7.04S×129.15E, h203km±60km, mb3.2/1, mb1 3.6/4, mb1mx3.3/11, Error ellipse: s-maj=67.0km

s-min=48.3km az=98.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.51**	**197**	P	P	18 57 07.2	-0.4
	1.0nm,0.3s,baz=17,slow=9.4,SNR=39						
FITZ				S	S	18 59 14.2	+1.4
	0.6nm,0.3s,baz=152,slow=10,SNR=4.0						
WRA	**Warramunga Arr**	**13.78**	**159**	P	P	18 57 33.9	-2.2
	0.6nm,0.3s,baz=348,slow=11,SNR=19						
WRA				S	S	19 00 09.2	+4.6
	0.5nm,0.3s,baz=329,slow=22,SNR=4.9						
ASAR	**Alice Springs**	**17.15**	**165**	P	P	18 58 15.3	-1.7
	1.4nm,0.3s,baz=343,slow=10,SNR=116						
ASAR				S	S	19 01 23.8	+4.1
	0.1nm,0.3s,baz=345,slow=21,SNR=3.5						
STKA	**Stephens Creek**	**27.30**	**156**	P	P	18 59 53.2	-2.7
	0.8nm,0.7s,baz=320,slow=7.9,SNR=3.0						

NIED ***16*** *18:54:00, 36.30N×141.30E, h23km, Mw5.7 Best double couple: M₀4.02×10¹⁷ NP1:φs33°, δ69°, λ90°. NP2:φs212°, δ21°, λ89°.*

BJI ***16*** *18:54:40.0, 36.35N×141.20E, h28km, mB5.6, mb5.4, Ms5.6, Msz5.6*

JMA ***16*** *18:54:41.6±0.1, 36.26N×141.33E, h49km±3km, M5.7 Broadband fault plane solution: P waves. NP1:φs232°, δ22°, λ121°. NP2:φs19°, δ71°, λ78°. Principal axes: T Plg62°, Azm271°; N Plg11°, Azm23°; P Plg25°, Azm118°;*

JMA Felt III J1.

IDC ***16*** *18:54:43.0±1.4, 36.21N×141.37E, h43km±12km, mb4.8/29, mb1 4.9/34, mb1mx4.9/35, ML4.8/3, MS5.4/28, Ms1 5.4/28, ms1mx5.3/34 Error ellipse: s-maj=14.0km s-min=7.3km az=101.0*

HRVD ***16*** *18:54:43.6±0.1, 36.22N×141.61E, h32km, MW5.8/75, Centroid moment Tensor Solution. LP body waves: s69,c141;Mantle waves: s75,c167; Half duration: 1s9 Moment tensor: Scale 10¹⁷Nm; Mrr3.42±.06; Mθθ-0.30±.05; Mφφ-3.11±.05; Mrθ1.46±.08; Mθφ-1.85±.04; Mφr3.77±.07; Best double couple: M₀5.5×10¹⁷ NP1:φs212°, δ22°, λ99°. NP2:φs22°, δ69°, λ86°. Principal axes: T 5.21, Plg66°, Azm286°; N .59, Plg3°, Azm24°; P -5.79, Plg24°, Azm115°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***16*** *18:54:43.6±0.6, 36.24N×141.31E, h47km±5km, mb5.5/145, MS5.4/34, MW5.8, MW5.7(NIED) Error ellipse: s-maj=3.4km s-min=2.8km az=154.0, Moment Tensor Solution. s30 Moment tensor: Scale 10¹⁷Nm; Mrr2.32; Mθθ-0.18; Mφφ-2.14; Mrθ1.81; Mθφ0.15; Mφr4.09; Best double couple: M₀5×10¹⁷ NP1:φs163°, δ15°, λ54°. NP2: φs20°, δ78°, λ99°. Principal axes: T 5.24, Plg57°, Azm302°; N -.53, Plg9°, Azm198°; P -4.71, Plg32°, Azm102°;*

NEIC Felt in the Tokyo area and at Sendai. Recorded [3 JMA] in Chiba, Fukushima, Ibaraki and Tochigi; [2 JMA] in Gumma, Kanagawa, Miyagi, Saitama, Shizuoka, Tokyo and Yamagata; [1 JMA] in Aomori, Iwate, Niigata and Yamanashi Prefectures.

MOS ***16*** *18:54:44.3±0.8, 36.55N×141.30E, h54km, mb5.7/67, MS5.8/42 Error ellipse: s-maj=7.2km s-min=4.9km az=102.2*

CSEM ***16*** *18:54:48.2, 37.59N×140.80E, h33km, mb5.8*

ISC 16 18:54:41.4±0.3, 36.25N±0.02×141.35E±0.02, h39km±2km, h41km±1.1km:pP-P, n727, σ0.95/736, mb5.4/198, MS5.6/101, 115C-43D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.67**	**216**	⇓P	**P**	**18 54 54.9**	**+0.5**
CHOJ				S	**S**	**18 55 05.6**	**+1.6**
JHO	**Hitachi**	**0.73**	**300**	⇓P	**P**	**18 54 55.4**	**+0.2**
JYT	**Yasato**	**0.93**	**269**	⇓P	**P**	**18 54 58.5**	**+0.4**
JYT				S	**S**	**18 55 10.8**	**+0.3**
ONAJ	**Iwakimizuishiy**	**0.96**	**333**	⇓P	**P**	**18 54 58.0**	**-0.5**
ONAJ				S	**S**	**18 55 09.7**	**-1.5**
JFK	**Kawauchi**	**1.18**	**341**	⇓P	**P**	**18 55 01.1**	**-0.5**
JFK				S	**S**	**18 55 16.4**	**-0.4**
JFT	**Otama**	**1.51**	**328**	⇓P	**P**	**18 55 07.1**	**+0.7**
JFT				S	**S**	**18 55 25.2**	**+0.2**
JAG	**Ashikaga**	**1.54**	**277**	⇓P	**P**	**18 55 07.3**	**+0.4**
BSO3	**Boso 3**	**1.60**	**206**	P	**P**	**18 55 08.4**	**+0.8**
BSO1	**Boso 1**	**1.62**	**191**	P	**P**	**18 55 07.6**	**-0.3**
JMM	**Marumori**	**1.68**	**345**	⇓P	**P**	**18 55 08.3**	**-0.5**
JMM				S	**S**	**18 55 29.3**	**+0.1**
JFY	**Yanaizu**	**1.76**	**312**	⇓P	**P**	**18 55 10.7**	**+0.8**
JRY	**Ryogami san**	**2.00**	**264**	⇓P	**P**	**18 55 13.7**	**+0.4**
JIO	**Ouri**	**2.20**	**360**	⇓P	**P**	**18 55 15.1**	**-1.2**
JYS	**Shirataka**	**2.22**	**333**	⇓P	**P**	**18 55 17.3**	**+0.8**
MAJO	**Matsushiro**	**2.55**	**278**	Pn	**P**	**18 55 22.3**	**+1.1**
MAJO				Pn	**P**	**18 55 22.9**	**+1.6**
MAJO	**Matsushiro**	**2.55**	**278**	*e*P	**P**	**18 55 22.3**	**+1.0**
MAJO	**Matsushiro**	**2.55**	**278**	*e*Pn	**P**	**18 55 21.8**	**+0.5**
MAT	**Matsushiro**	**2.55**	**278**	P	**P**	**18 55 22.3**	**+1.0**
MAT				S	**S**	**18 55 54.6**	**+3.2**
MAT	**Matsushiro**	**2.55**	**278**	*e*P	**P**	**18 55 22.0**	**+0.7**
MAT				*e*S	**S**	**18 55 55.0**	**+3.6**
JJN	**Nakama**	**2.70**	**289**	P	**P**	**18 55 25.3**	**+1.9**
JYK	**Kaneyama**	**2.78**	**344**	⇓P	**P**	**18 55 24.6**	**+0.1**
JRG	**Rokugo**	**3.19**	**350**	P	**P**	**18 55 30.4**	**0.0**
JGN	**Niukaw**	**3.26**	**271**	⇓P	**P**	**18 55 33.1**	**+1.7**
JHJ	**Hachijo jima 2**	**3.38**	**203**	P	**P**	**18 55 33.6**	**+0.6**
	484nm,0.3s,baz=45,slow=15,SNR=28						
JHJ				S	**S**	**18 56 11.1**	**-1.2**
	608nm,0.3s,baz=59,slow=22,SNR=3.8						
JTH	**Tanohata**	**3.71**	**6**	P	**P**	**18 55 36.6**	**-1.1**
JTM	**Tennabayashi**	**4.54**	**357**	P	**P**	**18 55 48.8**	**-0.7**
JSI2	**Shiura 2**	**4.86**	**352**	P	**P**	**18 55 54.2**	**+0.2**
JWM	**Minabe**	**5.47**	**246**	P	**P**	**18 56 03.1**	**+0.6**
JNB	**Noboribetsu**	**6.22**	**358**	P	**P**	**18 56 10.1**	**-2.9**
JJS	**Sakaide**	**6.35**	**255**	P	**P**	**18 56 15.1**	**+0.3**
JKU	**Kubokawa**	**7.42**	**249**	P	**P**	**18 56 31.1**	**+1.2**
JNA	**Nagahama**	**7.76**	**252**	P	**P**	**18 56 36.2**	**+1.6**
UWA2	**Uwa jima 2**	**7.79**	**250**	P	**P**	**18 56 36.4**	**+1.4**
ASAJ	**Asahikawa**	**7.92**	**7**	P	**P**	**18 56 32.9**	**-3.9**
	22nm,0.3s,baz=233,slow=8.3,SNR=68						
ASAJ				S	**S**	**18 57 58.5**	**-7.6**
	baz=284,slow=17,SNR=3.1						
ASAJ				LR	LR	19 00 21.8	
	comp=Z,28μm,20.8s,baz=192,slow=43						
ASAJ	**Asahikawa**	**7.92**	**7**	P	**P**	**18 56 32.9**	**-3.9**
ASAJ				S	**S**	**18 57 58.5**	**-7.6**
ASAJ				pmax	pmax		
	comp=Z,22nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,28μm,20.8s						
JKD	**Kudamatsu**	**8.06**	**257**	P	**P**	**18 56 40.0**	**+1.2**
YUK	**Yuzh-Kuril'sk**	**8.51**	**23**	*e*P	**P**	**18 56 36.8**	**-8.2**
YUK				pmax	pmax		
	comp=Z,360nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**8.51**	**23**	*e*P	**P**	**18 56 36.8**	**-8.2**
	comp=Z,360nm,0.3s						
JUS	**Usuki**	**8.52**	**251**	P	**P**	**18 56 46.1**	**+1.0**
CBIJ	**Chichi jima**	**9.15**	**175**	P	**P**	**18 56 49.0**	**-4.8**
	baz=180						
CBIJ				S	**S**	**18 58 25.5**	**-11**
JTA	**Tamana**	**9.50**	**253**	P	**P**	**18 56 59.6**	**+1.0**
VLA	**Vladivostok**	**10.01**	**316**	⇓*i*P	**P**	**18 57 08.0**	**+2.4**
VLA				*i*		18 59 00.0	
VLA				pmax	pmax		
	comp=Z,3μm,7.0s						
VLA				pmax	pmax		
	comp=N,4μm,5.0s						
VLA				pmax	pmax		
	comp=E,2μm,6.0s						
KUR	**Kuril'sk**	**10.24**	**27**	*e*P	**P**	**18 57 04.0**	**-4.9**
KUR				pmax	pmax		
	comp=N,30nm,0.8s						
KUR				pmax	pmax		
	comp=Z,110nm,0.8s						
KUR	**Kuril'sk**	**10.24**	**27**	*e*P	**P**	**18 57 04.0**	**-4.9**
	comp=Z,110nm,0.8s						
YSS	**Yuzh-Sakhalins**	**10.75**	**5**	⇓*i*P	**P**	**18 57 10.0**	**-5.8**
YSS				*e*S	**S**	**18 59 06.0**	**-10**
YSS				pmax	pmax		
	comp=Z,90nm,1.0s						
YSS				smax			
	comp=E,120nm,1.0s						
YSS				smax			
	comp=N,230nm,1.1s						
YSS				MLR	MLR		
	comp=N,11μm,16.0s						
YSS				MLR	MLR		
	comp=Z,16μm,16.0s						
YSS				MLR	MLR		
	comp=E,12μm,15.0s						
YSS	**Yuzh-Sakhalins**	**10.75**	**5**	⇓*i*P	**P**	**18 57 10.0**	**-5.8**
	comp=E,90nm,1.0s						
YSS				*e*S	**S**	**18 59 06.0**	**-10**
KS15	**Wonju Array Si**	**10.86**	**280**	*e*P	**P**	**18 57 17.1**	**-0.1**
INCN	**Inchon**	**11.86**	**280**	*e*P	**P**	**18 57 32.8**	**+2.1**
	comp=E,305nm,1.5s						
MDJ	**Mudanjiang**	**12.24**	**317**	P	**P**	**18 57 34.4**	**-1.5**
MDJ				AP		18 57 38.3	
MDJ				XP		18 57 40.0	
MDJ				S	**S**	**18 59 50.0**	**-2.0**
MDJ				PCP	PcP	19 03 14.4	-2.1
MDJ				SCS	ScS	19 10 18.3	-1.5
MDJ				AMB	AMB		
	comp=Z,154nm,1.3s						
MDJ				AMB	AMB		
	comp=Z,3μm,10.5s						
MDJ				LR	LR		
	comp=N,21μm,16.6s						
MDJ				LR	LR		
	comp=E,19μm,17.0s						
MDJ				LR	LR		
	comp=Z,39μm,16.6s						
MDJ	**Mudanjiang**	**12.24**	**317**	*e*P	**P**	**18 57 34.6**	**-1.3**
UGL	**Uglegorsk**	**12.84**	**2**	*e*P		18 58 01.8	
UGL				*e*		19 00 09.5	
UGL				pmax	pmax		
	comp=Z,320nm,1.2s						
UGL				MLR	MLR		
	comp=N,18μm,21.0s						
UGL				MLR	MLR		
	comp=E,24μm,17.0s						
UGL				MLR	MLR		
	comp=Z,26μm,17.0s						
CN2	**Changchun**	**14.32**	**307**	*e*P	**P**	**18 58 02.1**	**-1.2**
CN2				*e*AP		18 58 10.8	
CN2				*e*S	**S**	**19 00 40.5**	**-1.1**
CN2				AMB	AMB		
	comp=Z,60nm,1.5s						
CN2				AMB	AMB		
	comp=Z,1μm,5.0s						
CN2				LR	LR		
	comp=N,20μm,14.0s						
CN2				LR	LR		
	comp=E,28μm,14.0s						
CN2				LR	LR		
	comp=Z,28μm,15.0s						
JOW	**Kunigami**	**14.56**	**234**	P	**P**	**18 58 05.8**	**-0.7**
	comp=Z,2.9nm,0.3s,baz=76,slow=8.3,SNR=2.9						
TYV	**Tymovskoe**	**14.64**	**3**	*e*P	**P**	**18 57 59.1**	**-8.4**
TYV				*e*		19 00 42.0	
TYV				smax			
	comp=E,2μm,10.0s						
TYV				MLR	MLR		
	comp=Z,27μm,15.0s						
TYV	**Tymovskoe**	**14.64**	**3**	*e*P	**P**	**18 57 59.1**	**-8.4**
TYV				*e*		19 00 42.0	
SNY	**Shenyang**	**14.88**	**297**	⇑P	**P**	**18 58 10.1**	**-0.6**
SNY				AP		18 58 16.3	
SNY				XP		18 58 20.1	
SNY				PP	PP	18 58 22.8	+0.3
SNY				AMB	AMB		
	comp=Z,70nm,1.4s						
SNY				LR	LR		
	comp=N,13μm,14.5s						
SNY				LR	LR		
	comp=E,22μm,16.5s						
SNY				LR	LR		
	comp=Z,25μm,16.7s						
DL2	**Dalian**	**15.86**	**286**	⇑*i*P	**P**	**18 58 22.5**	**-0.8**
DL2				S	**S**	**19 01 19.9**	**+2.2**
DL2				AMB	AMB		
	comp=Z,90nm,1.3s						
DL2				AMB	AMB		
	comp=Z,1μm,8.3s						
DL2				LR	LR		
	comp=N,6μm,12.5s						
DL2				LR	LR		
	comp=E,15μm,15.8s						
DL2				LR	LR		
	comp=Z,19μm,16.3s						
SSE	**Sheshan**	**17.54**	**259**	P	**P**	**18 58 43.8**	**-0.7**
SSE				XP		18 58 56.8	
SSE				S	**S**	**19 01 58.3**	**+1.9**
SSE				LR	LR		
	comp=N,12μm,16.5s						
SSE				LR	LR		
	comp=E,11μm,16.9s						
SSE				LR	LR		
	comp=Z,14μm,12.9s						
SKR	**Severo-Kuril's**	**17.93**	**32**	P	**P**	**18 58 46.0**	**-3.1**
SKR				*e*S	**S**	**19 02 04.0**	**-0.9**
SKR				pmax	pmax		
	comp=Z,2μm,4.0s						
SKR				pmax	pmax		
	comp=Z,400nm,1.2s						
SKR				smax			
	comp=N,3μm,8.0s						
SKR				smax			
	comp=E,5μm,8.0s						
SKR				MLR	MLR		
	comp=N,6μm,16.0s						
SKR				MLR	MLR		
	comp=E,8μm,16.0s						
SKR				MLR	MLR		
	comp=Z,10μm,16.0s						
SKR	**Severo-Kuril's**	**17.93**	**32**	P	**P**	**18 58 46.0**	**-3.1**
	comp=Z,400nm,1.2s						
SKR				*e*S	**S**	**19 02 04.0**	**-0.9**
JTJ	**Tarama**	**18.40**	**236**	P	**P**	**18 58 53.5**	**-1.8**
JIJ	**Ishigaki jima**	**18.96**	**236**	P	**P**	**18 58 58.6**	**-3.4**
JIJ				S	**S**	**19 02 32.6**	**+4.1**
NJ2	**Nanjing**	**19.07**	**264**	*e*P	**P**	**18 59 03.8**	**+0.6**
NJ2				AP		18 59 11.4	
NJ2				XP		18 59 16.1	
NJ2				PP	PP	18 59 21.0	+0.9
NJ2				PPP	PPP	18 59 30.8	+1.5
NJ2				S	**S**	**19 02 31.0**	**+0.1**
NJ2				XS		19 02 43.0	
NJ2				AMB	AMB		
	comp=Z,190nm,1.2s						
NJ2				LR	LR		
	comp=N,5μm,14.2s						
NJ2				LR	LR		
	comp=E,6μm,16.3s						
NJ2				LR	LR		
	comp=Z,6μm,18.7s						
IRIF	**Iriomote-Funau**	**19.26**	**237**	P	**P**	**18 59 01.0**	**-4.4**
TIA	**Tai'an**	**19.54**	**277**	P	**P**	**18 59 04.8**	**-3.5**
TIA				AP		18 59 14.1	
TIA				S	**S**	**19 02 46.4**	**+5.2**
TIA				AMB	AMB		
	comp=Z,255nm,1.5s						
TIA				LR	LR		
	comp=N,12μm,16.0s						
TIA				LR	LR		
	comp=E,12μm,20.0s						
BJI	**Beijing**	**20.14**	**288**	P	**P**	**18 59 12.5**	**-2.2**
BJI				AP		18 59 20.0	
BJI				XP		18 59 23.9	
BJI				S	**S**	**19 02 54.9**	**+1.2**
BJI				LR	LR		
	comp=N,12μm,13.8s,MS5.4						
BJI				LR	LR		
	comp=E,6μm,17.9s,MS5.4						
BJI				LR	LR		
	comp=Z,10μm,18.0s,MS5.2						
BJT	**Baijiatuan**	**20.14**	**288**	*e*P	**P**	**18 59 12.3**	**-2.5**
BJT				pmax	pmax		
	comp=Z,170nm,1.2s						
BJT				MLR	MLR		
	comp=Z,14μm,19.0s						
BJT	**Baijiatuan**	**20.14**	**288**	*e*P	**P**	**18 59 12.2**	**-2.5**
	comp=Z,173nm,1.3s						
BJT				LR	LR		
	comp=Z,14μm,19.0s,MS5.3						
HIA	**Hailar**	**20.43**	**316**	*e*P	**P**	**18 59 12.9**	**-4.8**
HIA				pmax	pmax		
	comp=Z,80nm,1.2s						
HIA	**Hailar**	**20.43**	**316**	*e*P	**P**	**18 59 12.9**	**-4.9**
	comp=Z,80nm,1.2s						
PET	**Petropavlovsk**	**20.72**	**31**	*e*P	**P**	**18 59 20.2**	**-0.5**
PET				*e*		18 59 42.3	
PET				*e*S	**S**	**19 03 06.9**	**+2.0**
PET				pmax	pmax		
	comp=Z,140nm,1.1s						
PET				pmax	pmax		
	comp=Z,700nm,18.8s						
PET				pmax	pmax		
	comp=Z,700nm,17.2s						
PET				smax			
	comp=E,4μm,19.1s						
PET				smax			
	comp=N,5μm,15.1s						
PET				MLR	MLR		
	comp=Z,8μm,20.0s,MS5.1						
PET				MLR	MLR		
	comp=Z,7μm,20.0s						
PET	**Petropavlovsk**	**20.72**	**31**	*e*P	**P**	**18 59 20.2**	**-0.5**
	comp=Z,140nm,1.1s						
PET				*e*		18 59 42.3	
PET				*e*S	**S**	**19 03 06.9**	**+2.0**
PET				LR	LR		
	comp=Z,8μm,20.0s,MS5.1						
QZH	**Quanzhou**	**22.54**	**246**	P	**P**	**18 59 36.6**	**-2.6**
QZH				LR	LR		
	comp=N,15μm,19.8s,MS5.8						
QZH				LR	LR		
	comp=E,27μm,17.9s,MS5.8						
QZH				LR	LR		
	comp=Z,31μm,18.0s,MS5.8						
WHN	**Wuhan**	**23.21**	**264**	P	**P**	**18 59 44.0**	**-1.6**
WHN				S	**S**	**19 03 50.0**	**-0.9**
WHN				LR	LR		
	comp=Z,29μm,18.3s,MS5.8						
CLNS	**Chul'man**	**23.38**	**337**	*e*P	**P**	**18 59 45.4**	**-1.6**
CLNS				*e*		18 59 58.4	
CLNS				*e*PPP	PPP	19 00 16.2	-13
CLNS				*e*		19 03 36.7	
CLNS				*e*S	**S**	**19 03 49.8**	**-3.8**
CLNS				pmax	pmax		
	comp=Z,197nm,1.1s,mb5.5						
CLNS				pmax	pmax		
	comp=N,192nm,1.3s						
CLNS				pmax	pmax		
	comp=E,75nm,1.4s						
CLNS				smax			
	comp=N,3μm,13.6s						
CLNS				smax			
	comp=Z,1μm,13.0s						
CLNS				smax			
	comp=E,547nm,12.8s						
CLNS				MLR	MLR		
	comp=Z,15μm,15.0s,MS5.6						
CLNS				MLR	MLR		
	comp=N,13μm,14.0s,MS5.6						
CLNS				MLR	MLR		
	comp=E,2μm,14.0s,MS5.6						
HHC	**Hu-ho-hao-te**	**23.68**	**290**	*e*P	**P**	**18 59 48.1**	**-2.0**
HHC				AP		19 00 01.9	
HHC				XP		19 00 06.6	
HHC				PP	PP	19 00 25.1	+1.5
HHC				PCP	PcP	19 03 31.4	-4.0
HHC				S	**S**	**19 04 00.4**	**+1.3**
HHC				AMB	AMB		
	comp=Z,81nm,1.4s,mb5.0						
HHC				LR	LR		
	comp=N,3μm,12.7s,MS5.3						
HHC				LR	LR		
	comp=E,6μm,15.2s,MS5.3						
HHC				LR	LR		
	comp=Z,7μm,15.7s,MS5.2						
MA2	**Magadan**	**24.13**	**12**	*e*P	**P**	**18 59 54.7**	**+0.4**
MA2				*e*S	**S**	**19 04 08.6**	**+2.0**
MA2				pmax	pmax		
	comp=Z,200nm,1.6s,mb5.3						
MA2				MLR	MLR		
	comp=Z,5μm,20.0s,MS5.0						
BTO	**Baotou**	**24.85**	**290**	*e*P	**P**	**18 59 58.8**	**-2.7**
BTO				LR	LR		
	comp=N,5μm,15.2s,MS5.6						
BTO				LR	LR		
	comp=E,13μm,14.2s,MS5.6						
XAN	**Xi'an**	**26.55**	**275**	P	**P**	**19 00 15.9**	**-1.5**
XAN				AP	pP	19 00 27.1	-0.9
XAN				S	**S**	**19 04 45.3**	**-1.7**
XAN				AMB	AMB		
	comp=Z,193nm,1.6s,mb5.4						
XAN				LR	LR		
	comp=N,2μm,13.0s,MS5.3						
XAN				LR	LR		
	comp=E,7μm,15.6s,MS5.3						
XAN				LR	LR		
	comp=Z,11μm,16.3s,MS5.5						
YAK	**Yakutsk**	**26.83**	**348**	*c* *i*P	**P**	**19 00 18.3**	**-1.4**
YAK				*e**PP	pP	19 00 26.8	-3.5
YAK				*e*		19 01 00.2	
YAK				*e*PPP	PPP	19 01 12.2	-5.2
YAK				*e*S	**S**	**19 04 52.6**	**+1.3**
YAK				*e*		19 11 08.0	
YAK				pmax	pmax		
	comp=E,69nm,1.1s						
YAK				pmax	pmax		
	comp=Z,225nm,1.1s,mb5.6						
YAK				pmax	pmax		
	comp=N,166nm,1.2s						
YAK				pmax	pmax		
	comp=Z,45nm,0.9s,mb5.0						
YAK				smax			
	comp=E,22nm,1.2s						
YAK				smax			
	comp=N,13nm,1.6s						
YAK				MLR	MLR		
	comp=Z,6μm,16.0s,MS5.3						
YAK				MLR	MLR		
	comp=N,8μm,18.0s						
YAK	**Yakutsk**	**26.83**	**348**	⇑*i*P	**P**	**19 00 18.3**	**-1.4**
	comp=N,225nm,1.1s,mb5.6						
YAK				*e*pP	pP	19 00 26.8	-3.5
YAK				*e*		19 01 00.2	
YAK				*e*PPP	PPP	19 01 12.2	-5.2
YAK				*e*S	**S**	**19 04 52.6**	**+1.3**
YAK				*e*		19 11 08.0	
YAK				LR	LR		
	comp=Z,6μm,16.0s,MS5.3						
ENH	**Enshi**	**27.23**	**267**	*e*P	**P**	**19 00 21.7**	**-2.0**
	comp=Z,127nm,0.6s,mb5.6						
ENH				LR	LR		
	comp=Z,10μm,20.0s,MS5.4						
FX1	**Attu Island--F**	**27.80**	**43**	P	**P**	**19 00 28.2**	**-0.5**
	comp=Z,15nm,0.7s,mb4.8,baz=254,slow=20,SNR=6.1						
FX1				LR	LR	19 09 55.1	
	comp=Z,200nm,19.5s,baz=261,slow=33						
FX1	**Attu Island--F**	**27.80**	**43**	P	**P**	**19 00 28.2**	**-0.5**
FX1				pmax	pmax		
	comp=Z,15nm,0.7s						
FX1				MLR	MLR		
	comp=Z,200nm,19.5s						
FX1	**Attu Island--F**	**27.80**	**43**	*e*P	**P**	**19 00 28.2**	**-0.5**
BOD	**Bodaibo**	**28.17**	**329**	⇓*i*P	**P**	**19 00 29.8**	**-2.1**
SONM	**Songino Array**	**28.19**	**305**	P	**P**	**19 00 31.0**	**-1.2**
	comp=Z,28nm,0.7s,mb5.0,baz=106,slow=8.7,SNR=226						
LZH	**Lanzhou**	**30.16**	**281**	⇑P	**P**	**19 00 48.9**	**-1.0**
LZH				AP	pP	19 01 02.4	+1.7
LZH				PP	PP	19 01 47.1	-2.0
LZH				S	**S**	**19 05 44.0**	**-0.9**
LZH				SS	SS	19 07 19.0	-5.5
LZH				AMB	AMB		
	comp=Z,308nm,1.5s,mb5.8						
LZH				AMB	AMB		
	comp=Z,1μm,4.8s						
LZH				LR	LR		
	comp=Z,26μm,18.2s,MS5.9						
IRK	**Irkutsk**	**30.59**	**313**	*e*P	**P**	**19 00 53.2**	**-0.4**
IRK				*e*		19 01 13.0	
ZAK	**Zakamensk**	**30.72**	**309**	⇓*i*P	**P**	**19 00 53.8**	**-0.9**
GYA	**Guiyang**	**31.05**	**262**	⇑*i*P	**P**	**19 00 56.3**	**-1.5**
GYA				AP	pP	19 01 08.9	+0.2
GYA				S	**S**	**19 05 48.3**	**-11**
GYA				SCP		19 07 36.0	
GYA				SCS	ScS	19 11 29.8	+2.8
GYA				AMB	AMB		
	comp=Z,100nm,1.4s,mb5.5						
GYA				AMB	AMB		
	comp=Z,690nm,6.9s						
GYA				LR	LR		

comp=N,6µm,20.1s,MS5.3
GYA LR LR
comp=E,4µm,23.3s,MS5.3
GYA LR LR
comp=E,7µm,22.5s,MS5.3
CD2 Chengdu 31.63 271⇑ *i* P **P 19 01 01.0 -1.9**
CD2 PP PP 19 02 08.3 +0.1
CD2 S **S 19 06 06.3 -1.8**
CD2 XS 19 06 25.4
CD2 AMB AMB
comp=Z,40nm,0.9s,mb5.2
CD2 LR LR
comp=N,8µm,16.9s
CD2 LR LR
comp=Z,6µm,18.6s,MS5.3
MOY Mondy 32.41 311 *e*P **P 19 01 08.8 -0.7**
QIZ Qiongzhong 32.56 247 P **P 19 01 11.5 +0.3**
QIZ AP pP 19 01 24.3 +2.2
QIZ PP PP 19 02 22.4 +2.0
QIZ S **S 19 06 24.8 +2.0**
QIZ LR LR
comp=N,4µm,25.8s,MS5.1
QIZ LR LR
comp=E,3µm,24.6s,MS5.1
QIZ LR LR
comp=Z,6µm,18.6s
GTA Gaotai 32.75 288 P **P 19 01 11.8 -0.8**
GTA AP pP 19 01 19.8 -3.8
GTA XP sP 19 01 22.5 -6.1
GTA PP PP 19 02 22.9 +0.2
GTA PCP PcP 19 03 58.1 +0.6
GTA S **S 19 06 24.8 -0.8**
GTA XS 19 06 37.8
GTA PCS 19 07 42.3
GTA SCS ScS 19 11 38.1 +2.6
GTA AMB AMB
comp=Z,74nm,1.5s,mb5.4
GTA LR LR
comp=N,6µm,19.5s,MS5.7
GTA LR LR
comp=E,13µm,17.2s,MS5.7
GTA LR LR
comp=Z,14µm,17.6s,MS5.7
KMI Kunming 34.80 262 *e*P **P 19 01 29.4 -1.0**
KMI AP pP 19 01 38.0 -3.4
KMI PP PP 19 02 48.6 +0.1
KMI S **S 19 06 59.9 +2.5**
KMI SCP 19 07 41.8
KMI LR LR
comp=N,5µm,16.4s,MS5.7
KMI LR LR
comp=E,9µm,16.4s,MS5.7
KMI LR LR
comp=Z,10µm,16.4s,MS5.6
TIXI Tiksi 36.06 353 *e*P **P 19 01 38.4 -2.3**
TIXI pmax pmax
comp=Z,500nm,18.0s
TIXI MLR MLR
comp=Z,8µm,17.0s,MS5.6
UBT Ubonrachathani 38.52 247 P **P 19 02 04.5 +2.7**
MENI Mendum Tagoi 38.56 181⇓ *i*P **P 19 02 10.8 +8.6**
comp=Z,28nm,0.7s,mb5.1
YOMI Yo Moklole 38.69 181 *e*P **P 19 02 07.2 +3.9**
comp=Z,53nm,0.7s,mb5.4
NANT Nan 39.69 255 ⇑P **P 19 02 09.0 -2.4**
comp=Z,188nm,1.0s,mb5.8
CHG Chiang Mai 41.05 257 ⇑P **P 19 02 22.8 0.0**
comp=Z,79nm,1.3s,mb5.2
WMQ Urumqi 41.15 298⇑ *i*P **P 19 02 24.6 +1.2**
WMQ PP PP 19 04 03.0 +1.5
WMQ S **S 19 08 34.0 +0.3**
WMQ SS SS 19 11 34.0 +1.1
WMQ AMB AMB
comp=Z,791nm,8.0s
WMQ LR LR
comp=N,5µm,16.0s,MS5.6
WMQ LR LR
comp=E,5µm,16.0s,MS5.6
WMQ LR LR
comp=Z,7µm,18.0s,MS5.6
CM31 Chiang Mai Arr 41.25 256 *e*P **P 19 02 24.2 -0.2**
comp=Z,20nm,0.6s,mb4.9
CM31 LR LR
comp=Z,3µm,19.0s,MS5.2
CMAR Chiang Mai Arr 41.25 256 P **P 19 02 24.3 -0.1**
comp=Z,11nm,0.6s,mb4.7,baz=52,slow=7.0,SNR=38
CMAR ScP 19 08 12.7
comp=Z,0.9nm,0.9s,baz=45,slow=2.6,SNR=4.0
CMAR LR LR 19 20 19.6
comp=Z,4µm,20.4s,MS5.2,baz=60,slow=37
BDT Bhumibol Dam 41.89 255 P **P 19 02 30.0 +0.3**
comp=Z,29nm,0.7s,mb5.0
NST Nakhon Sawan 41.94 252 ⇑P **P 19 02 30.8 +0.6**
comp=Z,62nm,1.6s,mb5.0
LSA Lhasa 42.23 276 P **P 19 02 34.0 +1.6**
LSA LR LR
comp=N,522nm,15.0s,MS4.8
LSA LR LR
comp=E,750nm,15.0s,MS4.8
ZAL Zalesovo 42.42 313 P **P 19 02 33.0 -0.5**
comp=E,31nm,0.5s,mb5.2,baz=21,slow=8.4,SNR=115
ZAL LR LR 19 21 27.9
comp=E,9µm,19.8s,MS5.7,baz=23,slow=38
NVS Novosibirsk 43.35 314 *i*P **P 19 02 40.1 -1.1**
NVS *e* 19 03 02.2
NVS *e*S **S 19 09 00.1 -5.6**
NVS *e* 19 12 33.7
NVS pmax pmax
comp=N,51nm,1.4s
NVS pmax pmax
comp=E,249nm,1.4s
NVS pmax pmax
comp=Z,258nm,1.4s,mb5.8
NVS smax
comp=N,62nm,1.8s
NVS smax
comp=E,109nm,1.8s
NVS Novosibirsk 43.35 314 *i*P **P 19 02 40.1 -1.1**
comp=E,258nm,1.4s,mb5.8
NVS *e* 19 03 02.2
NVS *e*S **S 19 09 00.1 -5.6**
NVS *e* 19 12 33.7
SHL Shillong 43.35 270 *e*P **P 19 02 41.0 -0.6**
SHL *e*S **S 19 09 08.0 +1.8**
WAU Wau 43.65 172 *e*P **P 19 02 44.2 0.0**
BUNI Buntu Taipa 44.30 211⇑ *e*P **P 19 02 50.6 +1.2**
comp=E,6.5nm,0.4s,mb4.7
MK02 Makanchi Array 44.49 303 P **P 19 02 50.4 0.0**
MK02 pmax pmax
comp=Z,831nm,1.9s,mb6.1
TANI Tanete Lipujan 44.49 212⇓ *e*P **P 19 02 50.8 -0.1**
AGT Agartala 44.63 268 *i*P **P 19 02 52.0 +0.1**
AGT *i* 19 03 38.0
NINI Niniconang 45.22 211⇓ *e*P **P 19 02 56.6 -0.2**
comp=Z,340nm,1.2s,mb6.0
PMG Port Moresby 45.73 172 P **P 19 03 02.3 +1.4**
comp=Z,9.1nm,0.8s,mb4.8,baz=203,slow=2.3,SNR=3.5
PMG S **S 19 09 38.9 -1.7**
comp=Z,3.5nm,0.7s,baz=203,slow=1.5,SNR=2.1
PMG Port Moresby 45.73 172 P **P 19 03 02.3 +1.4**
PMG S **S 19 09 38.9 -1.8**
PMG pmax pmax
comp=Z,9.0nm,0.8s
PMG Port Moresby 45.73 172 *e*P **P 19 03 00.2 -0.6**
comp=Z,94nm,1.4s,mb5.5
KURK Kurchatov 46.38 309⇑ *e*P **P 19 03 04.9 -0.5**
KURK *e* pP 19 03 16.9 +0.3
KURK pmax pmax
comp=Z,150nm,0.6s,mb6.1
KURK MLR MLR
comp=Z,2µm,21.0s,MS5.1
SNG Songkhla 47.09 242 P **P 19 03 12.0 +0.5**
comp=Z,138nm,0.8s,mb5.9
GUN Gumba 47.19 276 *e*P **P 19 03 12.8 +0.7**
comp=Z,938nm,1.4s,mb6.5
IMA Indian Mountai 47.39 30 *e*P **P 19 03 13.8 +0.6**
comp=Z,24nm,1.1s,mb5.0
RSO Redoubt South 47.55 38 *e*P **P 19 03 14.9 +0.3**
CAL Calcutta 47.63 269 *e*P **P 19 03 15.9 +0.2**
CAL *e*S **S 19 10 05.2 -2.3**
PKI Pulchoki 47.71 276 *e*P **P 19 03 16.3 +0.1**
comp=Z,544nm,1.4s,mb6.4
KKN Kakani 47.72 277 *e*P **P 19 03 16.7 +0.4**
comp=Z,1µm,1.6s
KDAK Kodiak Island 47.72 41 *e*P **P 19 03 15.0 -0.9**
comp=Z,35nm,0.8s,mb5.4
SPU Mount Spurr 47.89 37 *e*P **P 19 03 17.1 -0.1**
DMN Daman 47.94 276 *e*P **P 19 03 18.3 +0.3**
comp=Z,598nm,1.6s,mb6.4
GKN Gorkha 48.15 277 *e*P **P 19 03 19.9 +0.3**
comp=Z,2µm,1.4s
IPM Ipoh 48.62 239⇓ *e*P **P 19 03 23.0 -0.4**
AAA Alma-Ata 48.92 299 *e*P **P 19 03 24.0 -1.3**
AAA *e*S **S 19 10 42.0 +17**
AAA pmax pmax
comp=Z,2µm,6.0s
KGM Kluang 48.93 235⇓ *e*P **P 19 03 25.7 -0.2**
KOLN Koldanda 49.08 277 *e*P **P 19 03 27.2 +0.4**
comp=Z,2µm,1.8s
PMR Palmer 49.29 36 *e*P **P 19 03 26.9 -1.1**
PMR pmax pmax
comp=Z,37nm,1.0s,mb5.4
PMR MLR MLR
comp=Z,2µm,21.0s,MS5.1
PMR Palmer 49.29 36 *e*P **P 19 03 27.4 -0.6**
comp=Z,31nm,0.9s,mb5.3
MCK McKinley 49.32 33 *e*P **P 19 03 27.4 -0.7**
MCK pmax pmax
comp=Z,18nm,0.9s,mb5.1
MCK McKinley 49.32 33 *e*P **P 19 03 27.4 -0.8**
comp=Z,18nm,0.9s,mb5.1
KAKA Kakadu 49.41 192 *e*P **P 19 03 33.9 +4.4**
comp=Z,94nm,0.9s,mb5.8
SML Sawmill 49.66 36 *e*P **P 19 03 30.5 -0.3**
ULHL Ulahoi 49.69 298 P **P 19 03 31.9 +0.6**
SNR=14
COLA College 49.77 32 *e*P **P 19 03 31.9 +0.3**
COLA pmax pmax
comp=Z,43nm,1.1s,mb5.4
COLA College 49.77 32 *e*P **P 19 03 31.9 +0.3**
comp=Z,43nm,1.1s,mb5.4
TKM2 Tokmak 2 49.96 299 P **P 19 03 34.5 +1.1**
SNR=172
ILAR Eielson Array 50.19 32 P **P 19 03 33.8 -1.1**
comp=Z,15nm,0.8s,mb5.1,baz=263,slow=5.2,SNR=108
ILAR LR LR 19 26 11.9
comp=Z,2µm,20.2s,MS5.0,baz=287,slow=38
ILAR Eielson Array 50.19 32 P **P 19 03 33.8 -1.0**
ILAR pmax pmax
comp=Z,15nm,0.8s
ILAR MLR MLR
comp=Z,2µm,20.2s
ILAR Eielson Array 50.19 32 P **P 19 03 33.8 -1.1**
ILAR LR LR 19 26 11.9
KEDI Kedomdong 50.43 213⇑ *e*P **P 19 03 36.6 -0.7**
comp=Z,79nm,0.7s,mb5.8
KZA Kyzart 50.44 298 P **P 19 03 38.6 +1.5**
SNR=11
KBK Karagaybulak 50.49 299 P **P 19 03 38.2 +0.8**
SNR=86
CHMS Chumysh 50.54 299 P **P 19 03 38.1 +0.3**
SNR=28
USP Ospenovka 50.64 300 P **P 19 03 38.9 +0.3**
SNR=67
FRU Bishkek 50.68 299⇓ *e*P **P 19 03 39.5 +0.6**
FRU *e*S **S 19 11 08.0 +18**
FRU pmax pmax
comp=Z,330nm,1.6s,mb6.0
FRU MLR MLR
comp=Z,19µm,18.0s,MS6.2
FRU Bishkek 50.68 299 *e*Pcu 19 03 39.5
comp=Z,330nm,1.6s
FRU *e*S **S 19 11 08.0 +18**
FRU LR LR
comp=Z,19µm,18.0s,MS6.2
KSH Kashi 50.68 295 P **P 19 03 40.4 +1.5**
KSH AP pP 19 03 53.3 +3.1
KSH *e*PCP PcP 19 04 52.6 -3.5
KSH *e*PP PP 19 05 39.3 +3.4
KSH SCP 19 08 44.5
KSH *e*PCS 19 08 48.4
KSH S **S 19 10 58.4 +8.6**
KSH *e*SCS ScS 19 13 24.3 +1.0
KSH AMB AMB
comp=Z,1µm,7.9s
THY Trims Highway 50.75 34 *e*P **P 19 03 39.7 +0.6**
AAK Ala-Archa 50.82 299 P **P 19 03 40.3 +0.4**
SNR=30
AAK Ala-Archa 50.82 299 *e*P **P 19 03 38.8 -1.1**
AAK *e* pP 19 03 50.6 -0.6
AAK pmax pmax
comp=Z,210nm,1.7s,mb5.8
AAK Ala-Archa 50.82 299 *e*P **P 19 03 38.8 -1.1**
comp=Z,210nm,1.7s,mb5.8
AAK *e* pP 19 03 50.6 -0.6
UCH Uchtor 50.92 298 P **P 19 03 42.0 +1.2**
SNR=24
KELI Kelakatan 50.93 215⇑ *e*P **P 19 03 39.8 -1.3**
comp=Z,347nm,1.7s,mb6.0
DIV Divide 50.94 37 *e*P **P 19 03 40.5 -0.1**
comp=Z,337nm,1.2s,mb6.2
EYAK Cordova Ski Ar 51.01 37 *e*P **P 19 03 40.8 -0.3**
PTH Pithoragarh 51.03 281 *e*P **P 19 03 40.4 -1.3**
LGTI Lohaghat 51.05 281⇓ *i*P **P 19 03 43.0 +1.2**
BVA0 Borovoye Array 51.07 313 *i*P **P 19 03 41.2 -0.4**
BVAR Borovoye Array 51.07 313 P **P 19 03 41.2 -0.5**
comp=Z,49nm,1.1s,mb5.4,baz=76,slow=6.1,SNR=117
BVAR S **S 19 11 05.0 +10**
comp=Z,0.6nm,0.6s,baz=124,slow=10,SNR=2.3
BVAR LR LR 19 26 25.7
comp=Z,129nm,18.9s,baz=185,slow=37
BRVK Borovoye 51.12 313⇑ *e*P **P 19 03 41.7 -0.4**
BRVK pmax pmax
comp=Z,110nm,1.1s,mb5.7
BRVK MLR MLR
comp=Z,2µm,19.0s,MS5.2
BRVK Borovoye 51.12 313⇑ *e*P **P 19 03 41.7 -0.4**
comp=Z,110nm,1.1s,mb5.7
BRVK LR LR
comp=Z,2µm,19.0s,MS5.2
JOSI Joshimath 51.14 283 *e*P **P 19 03 42.5 -0.1**
EKS2 Erkin-Say 51.32 299 P **P 19 03 43.9 +0.2**
SNR=57
AML Almayashu 51.53 299 P **P 19 03 46.6 +1.3**
SNR=9.3
ALBI Allahabad 51.60 275 *e*P **P 19 03 42.5 -3.5**
MRPI Mariponipon 51.93 238⇓ *i*P **P 19 03 47.5 -1.1**
AEKI Aeknabara 52.17 239⇑ *e*P **P 19 03 48.8 -1.7**
comp=Z,85nm,0.7s,mb5.8
DDI Dehra Dun 52.42 283 *e*P **P 19 03 50.0 -2.1**
ASOR Ausora 53.30 281 *e*P **P 19 03 58.4 -0.3**
THN Thein Dam 53.40 286 *e*P **P 19 03 58.1 -1.3**
KKR Kurukshetra 53.55 283 *e*P **P 19 03 58.0 -2.5**
PENI Pendagan 53.65 227⇓ *e*P **P 19 03 58.8 -2.7**
comp=Z,86nm,0.7s,mb5.8
NDI New Delhi 53.77 281 *e*P **P 19 04 02.0 -0.2**
AGRA Agra 53.83 280 *e*P **P 19 04 01.6 -1.1**
AYAN Aya Nagar 53.93 281 *e*P **P 19 04 02.1 -1.3**
BHGR Bahadurgarh 53.99 282 *e*P **P 19 04 00.7 -3.2**
VIS Vishakhapatnam 54.12 266 *e*P **P 19 04 04.2 -0.6**
RTK Rohtak 54.26 282 *e*P **P 19 04 05.4 -0.3**
PASI Pasiripis 54.31 226⇑ *e*P **P 19 04 03.9 -2.4**
comp=Z,62nm,0.8s,mb5.6
INK Inuvik 55.11 27 P **P 19 04 11.0 -0.5**
comp=Z,28nm,0.9s,mb5.3,baz=281,slow=6.8,SNR=23
INK LR LR 19 30 31.7
comp=Z,3µm,19.2s,MS5.4,baz=277,slow=39
INK Inuvik 55.11 27 *e*P **P 19 04 10.7 -0.7**
INK *e* pP 19 04 22.5 -0.4
INK pmax pmax
comp=Z,34nm,0.7s
INK Inuvik 55.11 27 *e*P **P 19 04 10.7 -0.7**
comp=Z,34nm,0.7s,mb5.5
INK *e* pP 19 04 22.5 -0.4
KHET Khetri 55.16 281 *e*P **P 19 04 11.5 -0.9**
SVE Sverdlovsk 55.70 319⇑ *i*P **P 19 04 15.5 -0.4**
SVE *e* pP 19 04 26.0 -1.3
SVE *e* 19 05 09.2
SVE *e*S **S 19 12 02.0 +4.2**
SVE pmax pmax
comp=Z,300nm,2.3s,mb5.9
SVE pmax pmax
comp=Z,1µm,9.0s
SVE MLR MLR
comp=N,5µm,15.0s,MS5.9
SVE MLR MLR
comp=E,6µm,15.0s,MS5.9
SVE MLR MLR
comp=Z,12µm,15.0s,MS6.1
SVE Sverdlovsk 55.70 319⇑ *i*P **P 19 04 15.5 -0.4**
comp=Z,300nm,2.3s,mb5.9
SVE *e* pP 19 04 26.0 -1.3
SVE *e* 19 05 09.2
SVE *e*S **S 19 12 02.0 +4.2**
SVE LR LR
comp=Z,12µm,15.0s,MS6.1
NGP Nagpur 55.81 272 *e*P **P 19 04 16.3 -0.8**
NGP *e* 19 12 11.6
FITZ Fitzroy Crossi 56.06 198 *e*P **P 19 04 17.9 -1.0**
comp=Z,71nm,1.9s,mb5.4
FITZ *e*S **S 19 12 10.4 +7.4**
FITZ Fitzroy Crossi 56.06 198 P **P 19 04 18.0 -0.9**
comp=Z,14nm,0.6s,mb5.2,baz=8.4,slow=8.9,SNR=24
FITZ S **S 19 12 03.0 0.0**
comp=Z,1.8nm,0.9s,baz=326,slow=11,SNR=1.8
BHPL Bhopal 56.10 275 *e*P **P 19 04 18.0 -1.1**
BHPL *e* 19 04 21.9
comp=Z,164nm,1.8s
CTA Charters Tower 56.22 174 *e*P **P 19 04 19.4 -0.6**
comp=Z,4.3nm,0.6s,mb4.7
CTA *e*S **S 19 12 05.7 +0.6**
CTA Charters Tower 56.22 174 P **P 19 04 17.2 -2.8**
comp=Z,3.1nm,1.0s,baz=336,slow=13,SNR=3.4
CTA Charters Tower 56.22 174 P **P 19 04 17.2 -2.8**
CTA pmax pmax
comp=Z,3.0nm,1.0s
CTAO Charters Tower 56.22 174 *e*P **P 19 04 16.4 -3.6**
CTAO pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
CTAO MLR MLR
comp=Z,1µm,20.0s,MS5.0
CTAO Charters Tower 56.22 174 *e*P **P 19 04 16.4 -3.6**
comp=Z,8.7nm,0.6s,mb5.0
CTAO LR LR
comp=Z,1µm,20.0s,MS5.0
WRAB Tennant Creek 56.26 188 P **P 19 04 18.0 -2.4**
comp=Z,217nm,0.6s,mb6.4,SNR=23
WRAB Tennant Creek 56.26 188 *e*P **P 19 04 17.9 -2.5**
comp=Z,83nm,0.7s,mb5.9
WRAB LR LR
comp=Z,657nm,19.0s,MS4.7
WB2 Warramunga Arr 56.27 188 *e*P **P 19 04 18.5 -1.9**
WB2 *e*S **S 19 12 04.0 -1.8**
WRA Warramunga Arr 56.27 188 P **P 19 04 18.2 -2.3**
comp=Z,18nm,0.6s,mb5.3,baz=5.6,slow=7.5,SNR=35
WRA ScP 19 09 13.9
comp=Z,4.4nm,1.1s,baz=6.3,slow=4.3,SNR=6.2
WRA S **S 19 12 02.7 -3.1**
comp=Z,3.4nm,1.3s,baz=1.9,slow=12,SNR=4.4
WRA LR LR 19 28 48.8
comp=Z,1µm,19.3s,MS5.1,baz=25,slow=36
WRA PKP2bc 19 34 30.0
comp=Z,0.6nm,0.8s,baz=166,slow=2.5,SNR=4.3
WRA Warramunga Arr 56.27 188 P **P 19 04 18.2 -2.2**
WRA S **S 19 12 02.7 -3.1**
WRA pmax pmax
comp=Z,18nm,0.6s
WRA MLR MLR
comp=Z,1µm,19.3s
WRA Warramunga Arr 56.27 188 P **P 19 04 18.2 -2.3**
WRA ScP 19 09 13.9
WRA S **S 19 12 02.7 -3.1**
WRA LR LR 19 28 48.8
WRA ⇑*e* 19 34 30.0
AJM Ajmer 56.80 280 *e*P **P 19 04 23.9 -0.2**
AJM *e* 19 04 25.6
comp=Z,143nm,1.5s
ARU Arti 56.92 319⇑ *i*P **P 19 04 23.7 -0.9**
ARU *i* 19 05 18.8
ARU *i* 19 06 33.5
ARU *e*PPP PPP 19 07 45.1 -7.3
ARU *i*S **S 19 12 16.4 +2.6**
ARU *e* 19 14 11.8
ARU *e*SS SS 19 16 07.0 +3.4
ARU pmax pmax
comp=Z,198nm,1.5s,mb5.9
ARU MLR MLR
comp=N,2µm,16.0s,MS5.8
ARU MLR MLR
comp=E,7µm,17.0s,MS5.8
ARU MLR MLR
comp=Z,8µm,17.0s,MS5.9
ARU Arti 56.92 319⇑ *i*P **P 19 04 23.7 -0.9**
comp=Z,198nm,1.5s,mb5.9
ARU *i* 19 05 18.8
ARU *i* 19 06 33.5
ARU *e*PPP PPP 19 07 45.1 -7.3
ARU *i*S **S 19 12 16.4 +2.6**
ARU *e* 19 14 11.8
ARU *e*SS SS 19 16 07.0 +3.4
ARU LR LR
comp=Z,8µm,17.0s,MS5.9
AKL Akola 57.68 273 *i* **P 19 04 34.6 +4.2**
comp=Z,154nm,1.9s,mb5.7
AKL *i* 19 04 40.5
HYB Hyderabad 58.13 269⇑ *i*P **P 19 04 33.0 -0.6**
HYB *e* pP 19 04 44.0 -1.1
HYB *e* 19 04 48.0
HYB *e*S **S 19 12 28.0 -2.3**
HYB Hyderabad 58.13 269⇑ *e*P **P 19 04 33.0 -0.6**
HYB *e* pP 19 04 43.0 -2.1
HYB *e*S **S 19 12 44.0 +14**
MDRS Chennai 59.14 264 *e*P **P 19 04 40.0 -0.7**
MDRS *e* 19 13 10.0
MDRS *e* 19 16 37.0
LATR Latur 59.22 271 *e*P **P 19 04 40.5 -0.7**
DLBC Dease Lake 59.28 38 *e*P **P 19 04 41.4 +0.4**
DLBC *e* pP 19 04 54.5 +1.9
JASL Jaisalmer 59.56 283 *e*P **P 19 04 43.3 -0.1**
ASAR Alice Springs 60.00 188 P **P 19 04 44.6 -1.9**
comp=Z,4.4nm,0.7s,mb4.6,baz=14,slow=5.9,SNR=33
ASAR S **S 19 12 56.4 +1.9**
comp=Z,0.5nm,0.9s,baz=76,slow=3.7,SNR=2.7
ASAR LR LR 19 30 46.2
comp=Z,1µm,20.0s,MS5.1,baz=1.3,slow=36
ASAR PKP2bc 19 34 19.8
comp=Z,2.0nm,0.9s,baz=183,slow=1.8,SNR=10
ASAR Alice Springs 60.00 188 P **P 19 04 44.6 -1.9**
ASAR S **S 19 12 56.4 +1.9**
ASAR LR LR 19 30 46.2
ASAR ⇑*e* 19 34 19.8
ASPA Alice Springs 60.00 188 *e*P **P 19 04 46.1 -0.4**
ASPA *e*S **S 19 12 52.8 -1.7**
MBWA Marble Bar 60.64 203 *e*P **P 19 04 49.9 -1.0**
comp=Z,33nm,0.6s,mb5.6
MBWA LR LR
comp=Z,844nm,20.0s,MS4.9
KAD Karad 61.72 271 *e*P **P 19 04 57.2 -1.0**
KAD *e* 19 05 00.9
comp=Z,151nm,1.4s
BHJ Bhuj 62.32 280 *e*P **P 19 05 01.4 -0.7**
BHJ *e* 19 05 05.3
comp=Z,120nm,1.6s
LVZ Lovozero 62.81 336 *e*P **P 19 04 53.0 -12**
LVZ pmax pmax
comp=Z,33nm,1.1s,mb5.4
LVZ pmax pmax
comp=N,12nm,2.2s
LVZ pmax pmax
comp=E,2.0nm,0.9s
LVZ pmax pmax
comp=E,697nm,3.8s
LVZ pmax pmax
comp=Z,3µm,3.8s
LVZ pmax pmax
comp=N,1µm,3.4s
LVZ MLR MLR
comp=N,3µm,17.0s,MS5.8
LVZ MLR MLR
comp=Z,8µm,17.0s,MS6.0
LVZ MLR MLR
comp=E,6µm,18.0s,MS5.8
GOA Goa 62.99 270 *e*P **P 19 05 08.9 +2.2**
GOA *e* 19 13 18.3
RES Resolute Bay 63.38 14 *e*P **P 19 05 07.2 -1.3**
RES *e* pP 19 05 19.5 -0.6
RES *e* 19 05 26.4
RES pmax pmax
comp=Z,50nm,1.2s,mb5.5
RES Resolute Bay 63.38 14 *e*P **P 19 05 07.2 -1.4**
comp=Z,50nm,1.2s,mb5.5
RES *e* pP 19 05 19.5 -0.7
RES *e* 19 05 26.4
APA Apatity 63.38 336⇓ *i*P **P 19 05 07.9 -0.7**
APA *i* pP 19 05 17.9 -2.4
APA *e*S **S 19 13 45.0 +8.3**

APA eSS SS 19 17 49.0 +3.4
APA pmax pmax
comp=Z,90nm,1.3s,mb5.7
APA Apatity 63.38 336 ⇓ *i* P **P 19 05 07.9 -0.7**
comp=Z,90nm,1.3s,mb5.7
APA *i* pP 19 05 17.9 -2.4
APA *e*S **S 19 13 45.0 +8.3**
APA *e*SS SS 19 17 49.0 +3.4
MNGI Mangalore 63.58 267 *i* P **P 19 05 09.8 -0.9**
MNGI *i* 19 13 55.1
KEV Kevo 64.16 339 *e*p **P 19 05 12.0 -1.5**
PECR Pechory 64.42 322 *e*P **P 19 05 15.2 -0.2**
PECR *e*S **S 19 13 51.0 +1.4**
PECR pmax pmax
comp=Z,1μm,5.0s
PECR MLR MLR
comp=N,5μm,15.0s,MS6.1
PECR MLR MLR
comp=E,9μm,15.0s,MS6.1
PECR MLR MLR
comp=Z,6μm,15.0s,MS5.9
YKW3 Yellowknife Ar 64.48 30 P **P 19 05 15.8 +0.1**
YKA Yellowknife Ar 64.52 30 P **P 19 05 14.3 -1.6**
comp=Z,7.1nm,0.9s,mb4.7,baz=297,slow=6.5,SNR=7.4
YKA LR LR 19 33 33.5
comp=Z,1μm,21.9s,MS5.0,baz=270,slow=36
YKA Yellowknife Ar 64.52 30 P **P 19 05 14.3 -1.6**
YKA pmax pmax
comp=Z,7.0nm,0.9s
YKA MLR MLR
comp=Z,1μm,21.9s
ARCES ARCESS Array B 64.72 340 P **P 19 05 16.7 -0.4**
comp=Z,14nm,0.6s,mb5.2,baz=52,slow=7.4,SNR=32
ARCES LR LR 19 36 37.9
comp=Z,3μm,20.4s,MS5.5,baz=23,slow=39
ARCES ARCESS Array B 64.72 340 P **P 19 05 16.7 -0.4**
ARCES pmax pmax
comp=Z,14nm,0.6s
ARCES MLR MLR
comp=Z,3μm,20.4s
TRO Tromso 66.44 341 *e*P **P 19 05 25.4 -2.7**
TRO AMb AMB 19 05 31.1
comp=Z,121nm,1.8s,mb5.6
TRO Tromso 66.44 341 *e*P **P 19 05 25.4 -2.7**
comp=Z,121nm,1.8s,mb5.6
DAG Danmarks Havn 66.55 355 ⇓ *i* P **P 19 05 28.0 -0.8**
comp=Z,55nm,1.2s,mb5.5
JOF Joensuu 66.63 332 *e*p **P 19 05 28.6 -0.9**
OCWA Octopus Mounta 66.93 47 PFAKE 19 05 40.0 +8.4
OCWA LR LR
comp=Z,2μm,20.0s,MS5.2
STKA Stephens Creek 67.77 180 *e*P **P 19 05 36.9 -0.2**
comp=Z,12nm,0.8s,mb5.0
STKA Stephens Creek 67.77 180 P **P 19 05 36.4 -0.8**
comp=Z,4.0nm,0.6s,mb4.6,baz=344,slow=9.0,SNR=14
STKA LR LR 19 34 10.3
comp=Z,2μm,20.0s,MS5.3,baz=353,slow=35
GNW Green Mountain 67.82 47 *e*P **P 19 05 37.3 +0.1**
FORT Forrest 67.83 192 *e*P **P 19 05 36.6 -1.0**
comp=Z,261nm,0.6s,mb6.4
FORT *e*S S 19 14 27.2 -4.3
MOS Moscow 67.85 324 *e*P **P 19 05 36.4 -0.8**
MOS *e* pP 19 05 47.7 -1.3
MOS *e* 19 06 01.6
MOS *e* 19 08 05.7
MOS *e*PPP PPP 19 09 43.7 -2.4
MOS *e*S S 19 14 32.2 +0.9
MOS *e*PS PS 19 14 53.0 -7.9
MOS *e* 19 15 33.0
MOS pmax pmax
comp=Z,312nm,1.6s,mb6.1
MOS pmax pmax
comp=N,124nm,1.3s
MOS MLR MLR
comp=Z,6μm,16.0s,MS5.9
MOS MLR MLR
comp=N,3μm,16.5s,MS5.8
MOS MLR MLR
comp=E,4μm,15.5s,MS5.8
MOS Moscow 67.85 324 *e*P **P 19 05 36.4 -0.8**
comp=E,312nm,1.6s,mb6.1
MOS *e* pP 19 05 47.7 -1.3
MOS *e* 19 06 01.6
MOS *e* 19 08 05.7
MOS *e*PPP PPP 19 09 43.7 -2.4
MOS *e*S S 19 14 32.2 +0.9
MOS *e*PS PS 19 14 53.0 -7.9
MOS *e* 19 15 33.0
MOS LR LR
comp=Z,6μm,16.0s,MS5.9
RMW Rattlesnake Mo 68.47 46 *e*P **P 19 05 41.7 +0.5**
OBN Obninsk 68.70 323 *c i* P **P 19 05 41.8 -0.7**
OBN *i* 19 08 13.7
OBN *e*PPP PPP 19 09 57.6 +3.2
OBN *i*S S 19 14 42.7 +1.3
OBN *i*SS SS 19 19 09.6 +1.5
OBN pmax pmax
comp=Z,247nm,1.6s,mb5.9
OBN MLR MLR
comp=Z,8μm,16.0s,MS6.1
OBN Obninsk 68.70 323 ⇑ *i* P **P 19 05 41.8 -0.7**
comp=Z,247nm,1.6s,mb5.9
OBN *i* 19 08 13.7
OBN *e*PPP PPP 19 09 57.6 +3.2
OBN *i*S S 19 14 42.7 +1.3
OBN *i*SS SS 19 19 09.6 +1.5
OBN LR LR
comp=Z,8μm,16.0s,MS6.1
PUL Pulkovo 68.84 330 *e*P **P 19 05 38.7 -4.7**
PUL *e*S S 19 14 58.5 +15
PUL pmax pmax
comp=Z,196nm,1.3s,mb5.9
PUL pmax pmax
comp=Z,364nm,1.6s,mb6.1
PUL MLR MLR
comp=N,2μm,16.0s,MS5.9
PUL MLR MLR
comp=Z,6μm,16.0s,MS5.9
PUL MLR MLR
comp=E,5μm,15.0s,MS5.9
PUL Pulkovo 68.84 330 *e*P **P 19 05 38.7 -4.7**
comp=E,196nm,1.3s,mb5.9
PUL *e*S S 19 14 58.5 +15
PUL LR LR
comp=Z,6μm,16.0s,MS5.9
MAK Makhachkala 68.90 308 *e*P **P 19 05 44.0 0.0**
MAK *e*S S 19 14 49.0 +5.0
MAK *e*PS PS 19 15 26.0 +11
MAK pmax pmax
comp=Z,1μm,6.5s
MAK smax
comp=E,2μm,10.0s
MAK MLR MLR
comp=N,6μm,15.0s,MS6.3
MAK MLR MLR
comp=E,11μm,15.0s,MS6.3
MAK MLR MLR
comp=Z,8μm,15.0s,MS6.1
KAF Kangasniemi 68.98 333 *e*p **P 19 05 42.7 -1.5**
NLW Nelson Butte 69.00 45 *e*P **P 19 05 44.6 +0.1**
COR Corvallis 69.02 50 *e*P **P 19 05 47.0 +2.3**
COR pmax pmax
comp=Z,95nm,1.1s,mb5.6
COR Corvallis 69.02 50 *e*P **P 19 05 47.0 +2.3**
comp=Z,95nm,1.2s,mb5.6
VOR Voronezh 69.20 319 *e*P **P 19 05 44.5 -1.2**
VOR *e**SP sP 19 05 55.5 -6.2
VOR pmax pmax
comp=E,110nm,1.3s
VOR pmax pmax
comp=Z,150nm,1.3s,mb5.8
SSOR Sweet Springs 69.40 49 *e*P **P 19 05 47.6 +0.5**
FINES FINESS Array B 69.49 332 P **P 19 05 46.7 -0.5**
comp=Z,108nm,1.2s,mb5.7,baz=56,slow=6.9,SNR=47
FINES PP PP 19 08 14.5 -8.7
comp=Z,2.7nm,0.8s,baz=48,slow=17,SNR=3.0
FINES LR LR 19 38 37.6
comp=Z,6μm,18.1s,MS5.8,baz=41,slow=38
MELS Mels 69.77 341 *e*P **P 19 05 48.1 -0.8**
MELS *e*pP pP 19 06 01.6 +0.9
VGB Gordon Butte 70.08 48 *e*P **P 19 05 51.6 +0.5**
MOR8 Moi Rana 70.08 340 *e*P **P 19 05 49.3 -1.6**
MOR8 AMb AMB 19 05 51.3
comp=Z,197nm,1.4s,mb5.8
MOR8 *e*pP pP 19 06 01.8 -0.8
MOR8 Moi Rana 70.08 340 *e*P **P 19 05 49.3 -1.6**
comp=Z,197nm,1.4s,mb5.8
DPW Davenport 70.33 45 *e*P **P 19 05 52.5 -0.2**
HAWA Hanford 70.35 47 *e*P **P 19 05 51.8 -1.0**
comp=Z,36nm,1.1s,mb5.2
GOF Gofitskoye 70.58 312 ⇑ *i* P **P 19 05 53.5 -0.7**
GOF *i* pP 19 06 05.0 -1.0
GOF pmax pmax
comp=Z,170nm,1.5s,mb5.8
GOF MLR MLR
comp=N,9μm,16.0s,MS6.3
GOF MLR MLR
comp=E,12μm,16.0s,MS6.3
GOF Gofitskoye 70.58 312 ⇑ *i* P **P 19 05 53.5 -0.7**
comp=E,170nm,1.5s,mb5.8
GOF *i* pP 19 06 05.0 -1.0
KHMM Horse Mountain 70.66 53 *e*P **P 19 05 55.7 +0.9**
NEW Newport 70.73 44 *e*P **P 19 05 54.9 -0.2**
NEW pmax pmax
comp=Z,73nm,1.4s
NEW Newport 70.73 44 *e*P **P 19 05 54.9 -0.2**
comp=Z,73nm,1.4s,mb5.4
YBH Yreka Blue Hor 70.87 52 *e*P **P 19 05 56.3 +0.3**
YBH pmax pmax
comp=Z,14nm,1.0s
YBH Yreka Blue Hor 70.87 52 *e*P **P 19 05 56.3 +0.3**
comp=Z,14nm,1.1s,mb4.8
JMIC Jan Mayen 70.91 350 LR LR 19 39 40.4
comp=Z,1μm,18.2s,MS5.3,baz=195,slow=38
KLBR Kellerberrin 71.02 201 *e*P **P 19 05 56.4 -0.7**
comp=Z,28nm,0.9s,mb5.2
TI2 Plekhanov 71.29 308 *e*P **P 19 05 58.8 +0.3**
LNOR Lincton Mounta 71.37 46 *e*P **P 19 05 59.9 +1.0**
LNOR *e* pP 19 06 12.7 +2.0
KIV Kislovodsk 71.38 311 *c i* P **P 19 05 59.4 +0.3**
KIV pmax pmax
comp=Z,251nm,1.6s,mb5.9
KIV MLR MLR
comp=Z,4μm,16.0s,MS5.7
KIV Kislovodsk 71.38 311 ⇑ *i* P **P 19 05 59.4 +0.3**
comp=Z,251nm,1.6s,mb5.9
KIV LR LR
comp=Z,4μm,16.0s,MS5.7
SUMG Summit 71.47 360 *e*P **P 19 05 59.8 +0.7**
comp=Z,61nm,1.2s,mb5.4
SUMG *e* pP 19 06 10.7 -0.2
WDC Whiskeytown Da 71.58 53 *e*P **P 19 06 00.3 0.0**
WDC pmax pmax
comp=Z,32nm,1.0s,mb5.2
WDC Whiskeytown Da 71.58 53 *e*P **P 19 06 00.3 0.0**
comp=Z,32nm,1.0s,mb5.2
MUN Mundaring 71.84 202 *e*P **P 19 06 02.4 +0.4**
comp=Z,24nm,1.9s,mb4.8
MUN *e*S S 19 15 20.6 +2.1
NSS Namsos 72.00 339 *e*P **P 19 06 01.2 -1.1**
NSS AMb AMB 19 06 03.7
comp=Z,85nm,1.5s,mb5.4
NSS Namsos 72.00 339 *e*P **P 19 06 01.2 -1.1**
comp=Z,85nm,1.5s,mb5.5
WALA Waterton Lakes 72.06 42 *e*P **P 19 06 02.7 -0.2**
comp=Z,41nm,1.1s,mb5.3
GNI Garni 72.14 307 ⇑ *e*P **P 19 06 03.8 +0.2**
GNI pmax pmax
comp=Z,190nm,1.2s
GNI Garni 72.14 307 ⇑ *e*P **P 19 06 03.8 +0.2**
comp=Z,190nm,1.2s,mb5.9
MOD Modoc 72.30 51 *e*P **P 19 06 03.8 -0.7**
comp=Z,15nm,0.9s,mb4.9
NWAO Narrogin (SRO) 72.42 201 P **P 19 06 05.5 +0.1**
comp=Z,12nm,0.7s,mb4.9,baz=354,slow=5.9,SNR=12
NWAO Narrogin (SRO) 72.42 201 P **P 19 06 05.5 +0.1**
NWAO pmax pmax
comp=Z,12nm,0.7s
NWAO Narrogin (SRO) 72.42 201 P **P 19 06 03.6 -1.8**
comp=Z,22nm,0.6s,mb5.3
IZAR Zarasai 73.05 328 *e*P **P 19 06 08.5 -0.2**
IZAR AMPb AMB 19 06 11.4
comp=Z,40nm,1.3s,mb5.2
IDID Didziasalis 73.11 327 *i* P **P 19 06 09.0 0.0**
IDID AMPb AMB 19 06 11.9
comp=Z,37nm,1.4s,mb5.1
MNK Minsk 73.14 326 *e*P **P 19 06 08.0 -1.2**
MNK pmax pmax
comp=Z,470nm,1.2s,mb6.3
MNK MLR MLR
comp=Z,8μm,16.0s,MS6.1
MNK Minsk 73.14 326 *e*P **P 19 06 08.0 -1.2**
comp=Z,470nm,1.2s,mb6.3
MNK LR LR
comp=Z,8μm,16.0s,MS6.1
ISAL Salakas 73.21 328 *i* P **P 19 06 09.8 +0.2**
ISAL AMPb AMB 19 06 13.2
comp=Z,64nm,1.2s,mb5.4
IIGN Ignalina 73.31 327 *i* P **P 19 06 10.2 -0.1**
IIGN AMPb AMB 19 06 13.2
comp=Z,40nm,1.5s,mb5.1
MSO Missoula 73.32 44 *e*P **P 19 06 10.1 -0.3**
comp=Z,7.8nm,1.0s,mb4.6
BEKR Beckwourth 73.38 53 *e*P **P 19 06 11.1 +0.2**
comp=Z,70nm,1.4s,mb5.4
SOC Sochi 73.39 312 *e*P **P 19 06 10.6 -0.3**
SOC *e* 19 06 27.2
SOC *e* 19 08 56.1
SOC *e*PPP PPP 19 10 46.2 +5.8
SOC *e*S S 19 15 35.1 -0.7
SOC *e* 19 16 16.7
SOC *e*SSS SSS 19 23 29.3 -2.4
SOC pmax pmax
comp=Z,391nm,2.5s,mb5.9
SOC pmax pmax
comp=N,5.0nm,0.9s
SOC pmax pmax
comp=E,6.0nm,0.9s
SOC MLR MLR
comp=N,4μm,18.0s,MS5.9
SOC MLR MLR
comp=Z,7μm,18.0s,MS6.0
SOC MLR MLR
comp=E,4μm,19.0s,MS5.9
SOC Sochi 73.39 312 *e*P **P 19 06 10.6 -0.3**
comp=E,391nm,2.5s,mb5.9
SOC *e* 19 06 27.2
SOC *e* 19 08 56.1
SOC *e*PPP PPP 19 10 46.2 +5.8
SOC *e*S S 19 15 35.1 -0.7
SOC *e* 19 16 16.7
SOC *e*SSS SSS 19 23 29.3 -2.4
SOC LR LR
comp=Z,7μm,18.0s,MS6.0
TOO Toolangi 73.55 177 *e*P **P 19 06 19.3 +7.3**
comp=Z,5.4nm,1.1s,mb4.4
TOO *e*S S 19 15 41.6 +3.8
CHMT Chamberlain Mo 73.66 44 *e*P **P 19 06 11.3 -1.1**
CHMT *e* pP 19 06 25.3 +1.2
ANN Anapa 74.04 314 *c i* P **P 19 06 14.2 -0.5**
ANN *e* pP 19 06 24.1 -2.4
ANN *e* 19 09 02.2
ANN pmax pmax
comp=Z,180nm,1.4s,mb5.8
ANN MLR MLR
comp=Z,4μm,16.0s,MS5.8
ANN MLR MLR
comp=N,5μm,18.0s,MS5.9
ANN MLR MLR
comp=E,2μm,19.0s,MS5.9
ANN Anapa 74.04 314 ⇑ *i* P **P 19 06 14.2 -0.5**
comp=E,180nm,1.4s,mb5.8
ANN *e* pP 19 06 24.1 -2.4
ANN *e* 19 09 02.2
ANN LR LR
comp=Z,4μm,16.0s,MS5.8
WCN Washoe City 74.08 53 *e*P **P 19 06 13.3 -1.7**
WCN pmax pmax
comp=Z,61nm,1.4s,mb5.3
WCN Washoe City 74.08 53 *e*P **P 19 06 13.3 -1.7**
comp=Z,61nm,1.4s,mb5.3
PAHR Pah Rah Range 74.09 52 *e*P **P 19 06 15.1 0.0**
comp=Z,54nm,1.2s,mb5.3
CMB Columbia Colle 74.37 54 *e*P **P 19 06 16.8 +0.1**
CMB pmax pmax
comp=Z,95nm,1.4s,mb5.5
CMB Columbia Colle 74.37 54 *e*P **P 19 06 16.8 +0.1**
comp=Z,95nm,1.4s,mb5.5
SAO San Andreas Ge 74.37 56 *e*P **P 19 06 17.3 +0.5**
SAO MLR MLR
comp=Z,2μm,22.0s,MS5.3
FFC Flin Flon 74.40 33 *e*P **P 19 06 15.7 -0.8**
FFC *e* pP 19 06 29.9 +1.6
FFC pmax pmax
comp=Z,44nm,1.1s,mb5.3
FFC Flin Flon 74.40 33 *e*P **P 19 06 15.7 -0.8**
comp=Z,44nm,1.1s,mb5.3
FFC *e* pP 19 06 29.9 +1.6
ERZM Erzurum 74.44 308 *i* P **P 19 06 17.8 +0.7**
HRY Holter Researc 74.56 43 *e*P **P 19 06 17.9 +0.3**
DOMB Dombas 74.76 339 *e*P **P 19 06 18.1 -0.3**
DOMB AMb AMB 19 06 21.5
comp=Z,125nm,1.7s,mb5.6
DOMB *e*pP pP 19 06 31.0 +0.7
DOMB Dombas 74.76 339 *e*P **P 19 06 18.1 -0.3**
comp=Z,125nm,1.7s,mb5.6
MOL Molde 74.78 340 *e*P **P 19 06 21.2 +2.7**
MOL AMb AMB 19 06 23.3
comp=Z,110nm,1.4s,mb5.6
MOL Molde 74.78 340 *e*P **P 19 06 21.2 +2.7**
comp=Z,110nm,1.4s,mb5.6
HFS Hagfors 74.78 336 P **P 19 06 18.4 -0.3**
comp=Z,28nm,1.0s,mb5.2,baz=45,slow=2.1,SNR=27
HFS Hagfors 74.78 336 P **P 19 06 18.4 -0.2**
HFS pmax pmax
comp=Z,28nm,1.0s
AKASG Malin Array Be 74.89 322 P **P 19 06 19.2 -0.3**
comp=Z,37nm,0.6s,mb5.5,baz=46,slow=6.0,SNR=232
AKASG LR LR 19 41 34.3
comp=Z,6μm,20.8s,MS5.9,baz=45,slow=38
AKASG Malin Array Be 74.89 322 P **P 19 06 19.2 -0.2**
AKASG pmax pmax
comp=Z,37nm,0.6s
AKASG MLR MLR
comp=Z,6μm,20.8s
NB2 NORSAR Subarra 74.89 337 P **P 19 06 19.0 -0.3**
comp=Z,192nm,1.4s,mb5.8,baz=40,slow=5.8
NB2 NORSAR Subarra 74.89 337 P **P 19 06 19.0 -0.3**
baz=40,slow=5.9
NOA NORSAR Array B 74.89 337 P **P 19 06 19.2 -0.1**
comp=Z,16nm,0.7s,mb5.1,baz=39,slow=5.8,SNR=45
NOA LR LR 19 42 34.2
comp=Z,7μm,18.6s,MS6.0,baz=35,slow=38
NOA NORSAR Array B 74.89 337 P **P 19 06 19.2 -0.1**
NOA pmax pmax
comp=Z,16nm,0.7s
NOA MLR MLR
comp=Z,7μm,18.6s
HLID Hailey 74.95 47 *e*P **P 19 06 20.5 +0.6**
comp=Z,31nm,1.4s,mb5.0
HLID LR LR
comp=Z,1μm,20.0s,MS5.1
BMN Battle Mountai 75.05 51 *e*P **P 19 06 20.6 0.0**
BMN pmax pmax
comp=Z,35nm,1.0s,mb5.2
BMN Battle Mountai 75.05 51 *e*P **P 19 06 20.6 0.0**
comp=Z,35nm,1.0s,mb5.2
NAO01 NORSAR Array S 75.15 337 *e*P **P 19 06 20.3 -0.4**
comp=Z,12nm,0.6s,mb5.0
BOZ Bozeman (W) 75.31 44 *e*P **P 19 06 21.8 -0.2**
BOZ pmax pmax
comp=Z,29nm,0.9s,mb5.2
BOZ Bozeman (W) 75.31 44 *e*P **P 19 06 21.8 -0.2**
comp=Z,29nm,0.9s,mb5.2
NVAR Mina Array Bea 75.50 53 P **P 19 06 23.7 +0.4**
comp=Z,8.4nm,0.7s,mb4.8,baz=299,slow=4.6,SNR=43
NVAR LR LR 19 34 56.5
comp=Z,2μm,21.2s,MS5.3,baz=285,slow=32
NVAR Mina Array Bea 75.50 53 P **P 19 06 23.7 +0.4**
NVAR LR LR 19 34 56.5
OMM Old Mammoth Mi 75.52 54 *e*P **P 19 06 23.6 +0.2**
SUW Suwalki 75.52 327 *e*P **P 19 06 22.4 -0.6**
SUW *e* pP 19 06 34.2 -0.6
SUW *e*S S 19 15 55.3 -4.1
SUW MLR MLR
comp=Z,5μm,19.3s,MS5.8
SUW Suwalki 75.52 327 *e*P **P 19 06 22.4 -0.6**
SUW *e*pP pP 19 06 29.4 -5.4
SUW *e*PcP PcP 19 06 34.2 -2.0
SUW *e*S S 19 15 55.3 -4.1
SUW Suwalki 75.52 327 *e*P **P 19 06 22.4 -0.6**
SUW *e*pP pP 19 06 29.4 -5.4
SUW *e*PcP PcP 19 06 34.2 -2.0
SUW *e*S S 19 15 55.3 -4.1
SUW MLR MLR 19 42 37.6
comp=Z,5μm,19.3s
MNV Mina 75.60 53 *e*P **P 19 06 23.9 +0.1**
MNV pmax pmax
comp=Z,22nm,1.2s,mb5.0
MNV MLR MLR
comp=Z,2μm,21.0s,MS5.4
MNV Mina 75.60 53 *e*P **P 19 06 23.9 +0.1**
comp=Z,22nm,1.2s,mb5.0
MNV LR LR
comp=Z,2μm,21.0s,MS5.4
KELT Kelkit 75.63 309 *i* P **P 19 06 21.8 -2.2**
BEST Besiri 75.64 306 *i* P **P 19 06 24.7 +0.7**
SIM Simferopol' 75.85 316 *c i* P **P 19 06 25.0 -0.1**
SIM *e* pP 19 06 38.0 +1.1
SIM *e* 19 09 16.0
SIM *e*S S 19 16 03.6 +0.4
SIM *e*PS 19 16 23.0
SIM pmax pmax
comp=Z,50nm,1.4s,mb5.2
SIM MLR MLR
comp=Z,4μm,16.3s,MS5.8
SIM Simferopol' 75.85 316 ⇑ *i* P **P 19 06 25.0 -0.1**
SIM *e* pP 19 06 38.0 +1.1
SIM *e* 19 09 16.0
SIM *e*S S 19 16 03.6 +0.4
SIM *e*PS 19 16 23.0
SIM LR LR
comp=Z,4μm,16.3s,MS5.8
UMR Umm Al-Rimmam 75.86 296 *e*P **P 19 06 24.9 -0.5**
UMR AMb AMB 19 06 29.6
comp=Z,139nm,1.4s,mb5.7
QLMT Earthquake Lak 75.92 44 *e*P **P 19 06 26.0 +0.5**
MTUM Tungsten Hills 75.95 54 *e*P **P 19 06 25.6 -0.2**
KBD Kabd 76.09 296 *e*P **P 19 06 26.9 +0.2**
ELK Elko 76.10 50 *e*P **P 19 06 27.1 +0.5**
ELK pmax pmax
comp=Z,26nm,1.0s
ELK Elko 76.10 50 *e*P **P 19 06 27.1 +0.6**
comp=Z,26nm,1.0s,mb5.1
QRN Al-Qurain 76.17 295 *e*P **P 19 06 27.0 -0.2**
YMR Madison River 76.28 44 *e*P **P 19 06 28.1 +0.6**
RDF Al-Radifah 76.33 296 *e*P **P 19 06 27.9 -0.3**
RDF AMb AMB 19 06 32.6
comp=Z,281nm,1.5s,mb6.0
TPH Tonopah 76.40 53 *e*P **P 19 06 28.5 +0.1**
TPH pmax pmax
comp=Z,55nm,1.2s,mb5.4
TPH Tonopah 76.40 53 *e*P **P 19 06 28.5 +0.2**
comp=Z,55nm,1.3s,mb5.3
RST Umm Al-Ruwaisa 76.41 297 *e*P **P 19 06 27.9 -0.7**
RST AMb AMB 19 06 30.9
comp=Z,179nm,1.4s,mb5.8
YNR Norris Junctio 76.41 44 *e*P **P 19 06 30.1 +1.8**
YFT Old Faithful 76.48 45 P **P 19 06 29.0 +0.3**
ELZG Elazig 76.76 308 *i* P **P 19 06 31.5 +1.2**
RRI2 Red Ridge 76.88 46 *e*P **P 19 06 31.8 +0.8**
MOOW Moose Ponds 76.97 45 *e*P **P 19 06 31.7 +0.3**
MOOW *e* pP 19 06 45.2 +1.9
HVU Hansel Valley 76.98 48 *e*P **P 19 06 32.1 +0.6**
TPAW Teton Pass 77.01 45 *e*P **P 19 06 32.0 +0.3**
TPAW *e* pP 19 06 46.5 +3.0
LMW Long Hollow 77.13 45 *e*P **P 19 06 33.0 +0.7**
SNOW Snow King Moun 77.14 45 *e*P **P 19 06 33.1 +0.7**
REDW Red Top Meadow 77.14 45 *e*P **P 19 06 32.8 +0.4**
DAC Darwin (Calif) 77.20 54 *e*P **P 19 06 33.8 +0.9**
DAC pmax pmax
comp=Z,18nm,1.0s,mb5.0
DAC Darwin (Calif) 77.20 54 *e*P **P 19 06 33.8 +0.9**
comp=Z,18nm,1.0s,mb5.0
SVST Sivas 77.28 310 *i* P **P 19 06 34.9 +1.7**
BGU Big Grassy Mou 77.34 48 *e*P **P 19 06 33.9 +0.3**
AHID Auburn Hatcher 77.36 46 *e*P **P 19 06 33.8 +0.2**
comp=Z,27nm,1.1s,mb5.1
SPUT South Promonto 77.46 48 *e*P **P 19 06 35.1 +0.9**
KIS Kishinev 77.46 320 *α i* P **P 19 06 33.0 -1.1**
KIS *e* pP 19 06 45.0 -0.9
KIS *e* 19 09 30.0
KIS *e*S S 19 16 20.0 -0.7
KIS *e*PS 19 16 34.0
KIS *e*SS SS 19 21 20.0 -2.8

KIS pmax pmax
comp=Z,200nm,1.0s,mb6.0
KIS pmax pmax
comp=Z,900nm,6.0s
KIS MLR MLR
comp=Z,17µm,18.0s,MS6.4
KIS MLR MLR
comp=N,12µm,17.0s,MS6.4
KIS MLR MLR
comp=E,10µm,17.0s,MS6.4
KIS MLR MLR
comp=Z,16µm,16.0s
KIS Kishinev 77.46 320 *i* Pcu 19 06 33.0
comp=Z,200nm,1.0s
KIS *e* 19 06 45.0
KIS *e* 19 09 30.0
KIS *e*S S 19 16 20.0 -0.7
KIS *e*PS 19 16 34.0
KIS *e*SS SS 19 21 20.0 -2.8
KIS LR LR
comp=Z,17µm,18.0s,MS6.4
DGMT Dagmar 77.49 38 PFAKE 19 06 50.0 +16
DGMT LR LR
comp=Z,1µm,20.0s,MS5.2
BOYT Boyabat 77.53 312 *i* P **P** **19 06 35.6 +0.9**
LAO LASA Array 77.61 41 *e*P **P** **19 06 35.2 +0.3**
comp=Z,42nm,0.9s,mb5.4
TPNV Topopah Spring 77.69 53 *e*P **P** **19 06 35.5 -0.1**
TPNV pmax pmax
comp=Z,17nm,0.8s,mb5.0
TPNV MLR MLR
comp=Z,2µm,22.0s,MS5.3
TPNV Topopah Spring 77.69 53 *e*P **P** **19 06 35.5 -0.1**
comp=Z,17nm,0.8s,mb5.0
TPNV LR LR
comp=Z,2µm,22.0s,MS5.3
WAR Warsaw 77.69 327 *e*P **P** **19 06 36.1 +0.8**
WAR *e**PP pP 19 06 44.3 -2.8
WAR MLR MLR
comp=Z,3µm,19.4s,MS5.7
WAR Warsaw 77.69 327 *e*P **P** **19 06 36.1 +0.8**
WAR *e*PcP PcP 19 06 41.1 -4.5
WAR *e*pP pP 19 06 44.3 -2.8
WAR LR LR
comp=Z,3µm,19.4s,MS5.7
WAR Warsaw 77.69 327 *e*P **P** **19 06 36.1 +0.8**
WAR *e*PcP PcP 19 06 41.1 -4.5
WAR *e*pP pP 19 06 44.3 -2.8
WAR MLR MLR 19 43 05.9
comp=Z,3µm,19.4s
HWUT Hardware Ranch 77.80 47 *e*P **P** **19 06 36.9 +0.8**
comp=Z,96nm,1.4s,mb5.5
HWUT *e* pP 19 06 50.3 +2.4
DUG Dugway 77.91 49⇑ *e*P **P** **19 06 37.5 +0.8**
DUG pmax pmax
comp=Z,400nm,1.0s,mb6.3
DUG MLR MLR
comp=Z,19µm,19.0s,MS6.4
DUG Dugway 77.91 49⇑ *e*P **P** **19 06 37.5 +0.7**
comp=Z,30nm,1.0s,mb5.2
DUG LR LR
comp=Z,1µm,19.0s,MS5.2
LVV L'vov 77.98 324 *e*P **P** **19 06 37.4 +0.5**
LVV *e*S S 19 16 26.5 +0.2
LVV MLR MLR
comp=Z,7µm,16.0s,MS6.1
NOQ North Oquirrh 78.05 48 *e*P **P** **19 06 38.6 +1.1**
MWC Mount Wilson 78.09 56 *e*P **P** **19 06 38.7 +0.9**
MWC *e* pP 19 06 51.1 +1.4
CTKT Corum 78.09 312 *i* P **P** **19 06 38.2 +0.5**
BSD Bornholm Skovb 78.11 332 *i* P **P** **19 06 37.4 -0.1**
comp=Z,89nm,1.2s,mb5.6
BSD *i*S S 19 16 23.0 -4.5
BSD *i* 19 16 52.1
comp=Z,3µm,19.0s
TCUT Toone Canyon 78.19 47 *e*P **P** **19 06 37.1 -1.2**
CTU Camp Tracy 78.25 48 *e*P **P** **19 06 39.1 +0.5**
CTU *e* pP 19 06 52.5 +2.0
BW06 Boulder Array 78.26 45 *e*P **P** **19 06 38.0 -0.5**
comp=Z,8.2nm,0.9s,mb4.7
BW06 *e* pP 19 06 51.9 +1.5
PDAR Pinedale Array 78.26 45 P **P** **19 06 38.5 -0.1**
comp=Z,4.7nm,0.8s,mb4.5,baz=287,slow=1.4,SNR=22
PDAR LR LR 19 35 53.1
comp=Z,970nm,21.9s,MS5.1,baz=101,slow=32
GZT Gaziantep 78.34 308 *i* P **P** **19 06 40.4 +1.3**
BALT Daday 78.37 313 *i* P **P** **19 06 39.8 +0.6**
BORG Borgarnes 78.42 353 LR LR 19 41 52.3
comp=Z,1µm,20.0s,MS5.2,baz=218,slow=36
JLU Jordanelle 78.49 48 *e*P **P** **19 06 40.5 +0.7**
NLU North Lily Min 78.51 49 *e*P **P** **19 06 40.5 +0.5**
GKP Gorka Klasztor 78.56 330 *e*P **P** **19 06 40.1 +0.1**
GKP *e**PP pP 19 06 50.3 -1.6
GKP *e*S S 19 16 27.3 -5.0
GKP MLR MLR
comp=Z,8µm,18.3s,MS6.1
GKP Gorka Klasztor 78.56 330 *e*P **P** **19 06 40.1 +0.1**
GKP *e*PcP PcP 19 06 46.4 -2.9
GKP *e*pP pP 19 06 50.3 -1.6
GKP *e*S S 19 16 27.3 -5.0
GKP LR LR
comp=Z,8µm,18.3s,MS6.1
GKP Gorka Klasztor 78.56 330 *e*P **P** **19 06 40.1 +0.1**
GKP *e*PcP PcP 19 06 46.4 -2.9
GKP *e*pP pP 19 06 50.3 -1.6
GKP *e*S S 19 16 27.3 -5.0
GKP MLR MLR 19 44 57.3
comp=Z,8µm,18.3s
COP Copenhagen 78.61 333 *i* P **P** **19 06 40.5 +0.3**
comp=Z,32nm,0.7s,mb5.4
COP *i*S S 19 16 34.8 +2.1
COP *i* 19 16 54.8
comp=Z,3µm,18.0s
KAHT Ahir Dag 78.61 308 *i* P **P** **19 06 41.9 +1.3**
DAU Daniels Canyon 78.72 48 *e*P **P** **19 06 42.0 +0.8**
MPU Maple Canyon 78.74 48 *e*P **P** **19 06 42.4 +1.1**
KWP Kalwaria 78.74 324 *e*P **P** **19 06 41.8 +0.7**
KWP *e**PP pP 19 06 47.2 -5.7
KWP *e* 19 09 35.4
KWP *e*S S 19 16 27.7 -6.6
KWP MLR MLR
comp=Z,12µm,16.2s,MS6.3
KWP Kalwaria 78.74 324 *e*P **P** **19 06 41.8 +0.7**
KWP *e*PcP PcP 19 06 45.5 -4.7
KWP *e*pP pP 19 06 47.2 -5.7
KWP *e*PP PP 19 09 35.4 -5.9
KWP *e*S S 19 16 27.7 -6.6
KWP Kalwaria 78.74 324 *e*P **P** **19 06 41.8 +0.7**
KWP *e*PcP PcP 19 06 45.5 -4.7
KWP *e*pP pP 19 06 47.2 -5.7
KWP *e*PP PP 19 09 35.4 -5.9
KWP *e*S S 19 16 27.7 -6.6
KWP MLR MLR 19 44 48.0
comp=Z,12µm,16.2s
ARUT Antelope Range 78.98 51 *e*P **P** **19 06 42.7 0.0**
ELDT Eldivan 78.99 312 *i* P **P** **19 06 43.5 +0.8**
CFR Carcaliu 79.00 319⇑ *i*P **P** **19 06 42.7 +0.1**
CFR Carcaliu 79.00 319 ⇑P **P** **19 06 42.7 +0.1**
MUD Monsted U'grnd 79.15 335 *i* P **P** **19 06 44.3 +1.1**
MUD Monsted U'grnd 79.15 335⇑ *i*P **P** **19 06 44.4 +1.2**
comp=Z,28nm,1.2s,mb5.1
MUD *i* 19 09 45.2
MUD *i*S S 19 16 43.8 +5.4
comp=Z,4µm,17.0s
MUD Monsted U'grnd 79.15 335 *e*P **P** **19 06 44.3 +1.1**
MUD *i* 19 09 45.2
MUD *i*S S 19 16 43.8 +5.4
AVNT Avonos 79.18 310 *i* P **P** **19 06 43.8 +0.1**
VRI Vrincioaia 79.29 320⇓ *i*P **P** **19 06 45.4 +1.2**
VRI Vrincioaia 79.29 320 ⇓P **P** **19 06 45.4 +1.2**
MSU Marysvale 79.33 50 *e*P **P** **19 06 45.6 +1.1**
BRTR Keskin Array B 79.34 312 P **P** **19 06 45.0 +0.4**
comp=Z,61nm,1.2s,mb5.4,baz=108,slow=3.9,SNR=86
BRTR PP PP 19 09 50.5 +4.2
comp=Z,5.0nm,1.1s,baz=75,slow=6.5,SNR=3.5
BRTR LR LR 19 46 24.0
comp=Z,2µm,18.3s,MS5.5,baz=315,slow=39
BRTR Keskin Array B 79.34 312 P **P** **19 06 45.0 +0.4**
BRTR 19 09 50.5
BRTR pmax pmax
comp=Z,61nm,1.3s
BRTR MLR MLR
comp=Z,2µm,18.3s
BRD Bordesti 79.34 319⇓ *i*P **P** **19 06 46.6 +2.2**
BRD Bordesti 79.34 319⇓ *i*P **P** **19 06 46.7 +2.2**
NEN Nelson 79.37 54 *e*P **P** **19 06 45.0 +0.2**
KOLS Kolonicke sedl 79.43 324 *i* P **P** **19 06 45.2 +0.3**
KOLS *e*pP pP 19 06 57.6 +0.9
PFO Pinyon Flat Ob 79.53 56 *e*P **P** **19 06 45.1 -0.6**
PFO pmax pmax
comp=Z,37nm,1.2s,mb5.2
PFO Pinyon Flat Ob 79.53 56 *e*P **P** **19 06 45.0 -0.7**
comp=Z,37nm,1.2s,mb5.2
UZH Uzhgorod 79.63 324 *e*P **P** **19 06 47.0 +1.1**
UZH *e*S S 19 16 40.0 -3.7
OJC Ojcow 79.67 326⇑ *i*P **P** **19 06 46.4 +0.3**
OJC *e* 19 06 55.2
OJC *i*S 19 17 04.4
OJC MLR MLR
comp=Z,5µm,18.4s,MS5.9
OJC Ojcow 79.67 326⇑ *i*P **P** **19 06 46.4 +0.3**
OJC *e*PcP PcP 19 06 55.2 +1.1
OJC *i*S S 19 17 04.4 +20
OJC MLR MLR 19 44 42.1
comp=Z,5µm,18.4s
RYDS Riyadh 79.67 292 P **P** **19 06 44.9 -1.8**
COBT Iskenderun 79.68 308 *i* P **P** **19 06 47.4 +1.0**
RAR Rarotonga 79.74 126 LR LR 19 40 50.3
comp=Z,3µm,18.9s,MS5.7,baz=299,slow=35
SGKT Sivrigoynuk 79.75 313 *i* P **P** **19 06 47.1 +0.4**
ISR Istrita 79.89 319⇓ *i*P **P** **19 06 48.8 +1.4**
ISR Istrita 79.89 319 ⇓P **P** **19 06 48.8 +1.4**
BAR Barrett 79.93 57 *e*P **P** **19 06 48.7 +0.8**
MLR Muntele Rosu 79.95 320 P **P** **19 06 47.7 -0.1**
comp=Z,40nm,1.3s,mb5.2,baz=10,slow=3.2,SNR=23
MLR LR LR 19 45 43.9
comp=Z,13µm,18.6s,MS6.3,baz=284,slow=38
MLR Muntele Rosu 79.95 320 P **P** **19 06 47.7 0.0**
MLR pmax pmax
comp=Z,40nm,1.3s
MLR MLR MLR
comp=Z,13µm,18.6s
SRU San Rafael 79.97 49 *e*P **P** **19 06 48.3 +0.3**
NIE Niedzica 80.00 325⇑ *i*P **P** **19 06 48.8 +0.9**
NIE *e* 19 09 52.2
ULM Lac du Bonnet 80.19 33 P **P** **19 06 47.9 -1.1**
comp=Z,5.8nm,0.9s,mb4.5,baz=350,slow=11,SNR=2.2
ULM LR LR 19 47 56.0
comp=Z,1µm,18.2s,MS5.2,baz=177,slow=40
HENT Hendek 80.27 314 *i* P **P** **19 06 50.0 +0.4**
RSSD Black Hills 80.45 42 *e*P **P** **19 06 50.1 -0.3**
RSSD pmax pmax
comp=Z,38nm,1.3s,mb5.2
RSSD MLR MLR
comp=Z,1µm,22.0s,MS5.3
RSSD Black Hills 80.45 42 *e*P **P** **19 06 50.1 -0.3**
comp=Z,38nm,1.4s,mb5.1
RSSD LR LR
comp=Z,1µm,22.0s,MS5.3
RAC Raciborz 80.48 327 *e*P **P** **19 06 51.7 +1.3**
RAC MLR MLR
comp=Z,5µm,17.8s,MS6.0
RAC Raciborz 80.48 327 *e*P **P** **19 06 51.7 +1.3**
RAC MLR MLR 19 46 20.8
comp=Z,5µm,17.8s
RUE Ruedersdorf 80.55 331 *e*P **P** **19 06 50.8 0.0**
comp=Z,109nm,1.4s,mb5.6
RUE *e* pP 19 07 03.1 +0.5
KECS Kecovo 80.59 325 *e*P **P** **19 06 51.5 +0.4**
KECS *e* 19 06 57.1
OKC Ostrava-Krasne 80.68 327⇑ *i*P **P** **19 06 51.9 +0.4**
OKC *e*pP pP 19 07 03.7 +0.3
OKC AMS AMS 19 46 20.0
comp=Z,5µm,16.6s
BSEG Bad Segeberg 80.74 333 *e*P **P** **19 06 51.6 -0.1**
BSEG pmax pmax
comp=Z,69nm,1.4s,mb5.4
KSP Ksiaz 80.74 328⇑ *e*P **P** **19 06 52.4 +0.6**
KSP *e**PP pP 19 07 03.3 -0.4
KSP *e* 19 09 51.0
KSP *e*S S 19 16 55.0 -0.3
KSP *e*SS SS 19 22 10.0 -2.0
KSP MLR MLR
comp=Z,14µm,19.0s,MS6.3
KSP Ksiaz 80.74 328 *e*P **P** **19 06 52.4 +0.6**
KSP *e*PcP PcP 19 06 54.8 -4.0
KSP *e*pP pP 19 06 58.7 -5.0
KSP *e*PP PP 19 09 55.1 -2.9
KSP *e*S S 19 16 54.1 -1.2
KSP MLR MLR 19 46 09.6
comp=Z,12µm,19.0s
MZLS Mizel 80.84 293 P **P** **19 06 53.2 +0.3**
MEST Erdemli 80.97 309 *i* P **P** **19 06 53.6 +0.2**
MORC Moravsky Berou 80.99 327 *e*P **P** **19 06 53.5 +0.3**
MORC *e* pP 19 07 05.5 +0.4
MORC pmax pmax
comp=Z,63nm,1.3s,mb5.4
MORC Moravsky Berou 80.99 327 *e*P **P** **19 06 53.5 +0.3**
comp=Z,62nm,1.4s,mb5.3
MORC *e* pP 19 07 05.5 +0.4
DPC Dobruska-Polom 81.10 328⇑ *i*P **P** **19 06 54.4 +0.7**
DPC MLR MLR
comp=Z,6µm,17.5s,MS6.0
DPC Dobruska-Polom 81.10 328⇑ *i*P **P** **19 06 54.4 +0.7**
DPC *e*x x 19 17 21.0
DPC AMS AMS 19 46 10.0
comp=Z,6µm,17.5s
UPC Upice 81.11 328⇑ *i*P **P** **19 06 54.5 +0.7**
UPC *e*pP pP 19 07 06.5 +0.8
ESKT Eskisehir 81.13 313 *i* P **P** **19 06 53.9 -0.2**
URZ Urewera 81.18 152 PP PP 19 09 53.8 -8.2
comp=Z,13nm,1.1s,baz=318,slow=15,SNR=3.2
URZ LR LR 19 38 56.3
comp=Z,2µm,21.7s,MS5.5,baz=229,slow=33
ARSS Ar Rass 81.21 296 P **P** **19 06 54.6 -0.2**
PSZ Piszkesteto 81.27 325⇑ *i*P **P** **19 06 55.3 +0.7**
PSZ Piszkesteto 81.27 325⇑ *e*P **P** **19 06 55.4 +0.8**
PSZ pmax pmax
comp=Z,130nm,1.3s,mb5.7
PSZ Piszkesteto 81.27 325⇑ *e*P **P** **19 06 55.3 +0.7**
PV10 Paradox Valley 81.33 48 *e*P **P** **19 06 56.3 +1.1**
HILS Ha'il 81.38 298 P **P** **19 06 56.1 +0.5**
BRG Berggiesshubel 81.70 329 *e*P **P** **19 06 57.2 +0.3**
BRG *i* pP 19 07 08.9 +0.1
BRG *e* 19 10 05.0
BRG *i*S S 19 17 07.0 +1.8
BRG pmax pmax
comp=Z,35nm,1.2s,mb5.2
BRG MLR MLR
comp=N,6µm,14.7s,MS6.2
BRG MLR MLR
comp=E,5µm,14.7s,MS6.2
BRG MLR MLR
comp=Z,7µm,14.9s,MS6.1
BRG Berggiesshubel 81.70 329 *e*P **P** **19 06 57.2 +0.3**
comp=Z,35nm,1.2s,mb5.2
BRG *i* pP 19 07 08.9 +0.1
BRG *e* 19 10 02.4
BRG *e*PP PP 19 10 05.0 -1.0
BRG *i*S S 19 17 07.0 +1.8
BRG *i*SS SS 19 22 34.0 +7.6
BRG LR LR
comp=Z,7µm,14.9s,MS6.1
PVCC Panska Ves 81.71 329⇑ *i*P **P** **19 06 57.6 +0.7**
PVCC *e*pP pP 19 07 09.6 +0.8
PVCC AMS AMS 19 46 20.0
comp=Z,7µm,17.1s
ULDT Uludag 81.74 314 *i* P **P** **19 06 57.1 -0.1**
CLL Collm 81.75 330⇑ ⇑P **P** **19 06 57.1 0.0**
comp=Z,logA/T=1.9,mb5.6
CLL *i* PCP PcP 19 07 02.9 -0.3
CLL *i**PP pP 19 07 08.1 -0.9
CLL *i**SP sP 19 07 14.0 +0.7
CLL *e* 19 07 31.0
CLL *e*PP PP 19 10 03.0 -3.3
CLL *e*PPP PPP 19 12 06.0 +7.8
CLL *e*S S 19 17 07.0 +1.3
CLL *e* 19 17 46.0
CLL *e*PS PS 19 18 08.0 +8.3
CLL *e*SS SS 19 22 30.0 +2.9
CLL *e*SSS tx 19 26 24.0
CLL Collm 81.75 330⇑ *i*P **P** **19 06 57.1 0.0**
CLL *i**PP pP 19 07 08.1 -0.9
CLL *e*S S 19 17 07.0 +1.3
CLL pmax pmax
comp=Z,103nm,1.4s,mb5.6
CLL MLR MLR
comp=Z,7µm,15.9s,MS6.1
CLL Collm 81.75 330⇑ *i*P **P** **19 06 57.1 0.0**
comp=Z,103nm,1.4s,mb5.6
CLL *i* pP pP 19 07 08.1 -0.9
CLL *e*S S 19 17 07.0 +1.3
CLL LR LR
comp=Z,7µm,15.9s,MS6.1
PV01 Paradox Valley 81.77 48 *e*P **P** **19 06 58.6 +1.1**
ASF Jabal al Asfar 81.90 304 P **P** **19 06 59.3 +1.0**
comp=Z,13nm,1.2s,mb4.7,baz=323,slow=1.3,SNR=14
ASF PP PP 19 09 59.9 -8.1
comp=Z,2.0nm,0.7s,baz=346,slow=8.3,SNR=2.5
ASF LR LR 19 47 18.0
comp=Z,2µm,18.2s,MS5.5,baz=120,slow=38
SRO Srobarova 82.08 325 *e*P **P** **19 06 59.9 +1.0**
SRO *e*PP PP 19 10 08.3 -0.7
SRO2 Moca 82.08 325 *e*P **P** **19 06 59.4 +0.5**
PRU Pruhonice 82.13 329⇑ *i*P **P** **19 06 59.2 +0.1**
PRU *e**PP pP 19 07 12.6 +1.6
PRU *e* 19 17 17.0
PRU pmax pmax
comp=Z,77nm,1.4s,mb5.4
PRU MLR MLR
comp=Z,7µm,15.0s,MS6.2
PRU Pruhonice 82.13 329⇑ *i*P **P** **19 06 59.2 +0.1**
comp=Z,77nm,1.4s,mb5.4
PRU *e*pP pP 19 07 12.6 +1.6
PRU *e*SKS SKS 19 17 17.0 +5.1
PRU AMS AMS 19 47 40.0
comp=Z,7µm,15.0s
ZST Bratislava 82.35 326 *e*S S 19 17 14.5 +2.7
ZST *e*pS 19 17 33.0
ZST Bratislava 82.35 326 *e*P **P** **19 07 01.2 +1.0**
ZST *e* pP 19 07 13.9 +1.7
ZST *e*S S 19 17 14.5 +2.7
ZST *e* 19 17 33.0
CLZ Clausthal 82.37 332 *e*P **P** **19 07 00.5 +0.2**
comp=Z,81nm,1.4s,mb5.5
ISCO Idaho Springs 82.44 46 *e*P **P** **19 07 01.7 +0.8**
ISCO pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
ISCO MLR MLR
comp=Z,1µm,19.0s,MS5.3
ISCO Idaho Springs 82.44 46 *e*P **P** **19 07 01.7 +0.8**
comp=Z,10nm,0.8s,mb4.8
ISCO LR LR
comp=Z,1µm,19.0s,MS5.3
CSS Prodhromos 82.51 308 *e*P **P** **19 07 01.6 +0.2**
comp=Z,28nm,0.7s,mb5.4
AFFS 'Afif 82.53 294 P **P** **19 07 02.1 +0.4**
MMLI Mount Malkishu 82.72 305 P **P** **19 07 03.6 +1.1**
HMDT Nahal Hemdat 82.77 305 P **P** **19 07 03.6 +0.9**
NKC Novy Kostel 82.81 330⇑ *i*P **P** **19 07 03.0 +0.5**
NKC *e*pP pP 19 07 14.9 +0.4
NKC *e*SKS SKS 19 17 22.9 +6.3
NKC AMS AMS 19 47 30.0
comp=Z,7µm,15.8s
MOX Moxa 82.82 330 *i* P **P** **19 07 02.8 +0.2**
comp=Z,logA/T=1.5,mb5.3
MOX S S 19 17 19.0 +2.5
MOX L 19 48 18.0
MOX Moxa 82.82 330 *e*P **P** **19 07 02.8 +0.2**
MOX pmax pmax
comp=Z,57nm,1.7s,mb5.3
MOX MLR MLR
comp=Z,5µm,19.0s,MS5.9
MOX Moxa 82.82 330 *e*P **P** **19 07 02.8 +0.2**
comp=Z,57nm,1.7s,mb5.3
MOX LR LR
comp=Z,5µm,19.0s,MS5.9
KDZ Kurdzhali 82.83 317 *e*P **P** **19 07 04.0 +1.2**
SOP Sopron 82.98 326⇑ *i*P **P** **19 07 04.4 +1.0**
SOP Sopron 82.98 326⇑ *e*P **P** **19 07 04.4 +1.0**
PKSM Moragy 83.09 324⇑ *e*P **P** **19 07 03.9 -0.2**
SLTI Sal'it 83.10 305 P **P** **19 07 05.2 +0.8**
MANT Manisa 83.16 313 *i* P **P** **19 07 05.1 +0.5**
KHC Kasperske Hory 83.19 328⇑ *i*P **P** **19 07 05.1 +0.6**
KHC *e**PP pP 19 07 16.8 +0.4
KHC MLR MLR
comp=Z,7µm,17.6s,MS6.1
KHC Kasperske Hory 83.19 328⇑ *i*P **P** **19 07 05.1 +0.6**
KHC *e*pP pP 19 07 16.8 +0.4
KHC *e* 19 07 41.5
KHC *e* 19 17 28.4
KHC LR LR
comp=Z,7µm,17.6s,MS6.1
KHC Kasperske Hory 83.19 328⇑ *i*P **P** **19 07 05.1 +0.6**
KHC *e*pP pP 19 07 16.8 +0.4
KHC x x 19 07 41.5
KHC *e*x x 19 17 28.4
KHC AMS AMS 19 47 20.0
comp=Z,7µm,17.6s
RZN Rozhen 83.19 318 *e*P **P** **19 07 05.0 +0.4**
SVIS Svilajnac 83.20 321 *e*P **P** **19 07 04.6 -0.1**
DRGI Dragot 83.27 304 P **P** **19 07 06.0 +0.7**
HOPOS Hopovo Monaste 83.30 323⇑ *i*P **P** **19 07 05.9 +0.8**
GEC2 GERESS Array S 83.35 328 *e*P **P** **19 07 05.5 +0.2**
GEC2 pmax pmax
comp=Z,42nm,1.4s,mb5.3
GEC2 GERESS Array S 83.35 328 *e*P **P** **19 07 05.5 +0.2**
comp=Z,42nm,1.4s,mb5.3
GERES GERESS Array B 83.35 328 P **P** **19 07 05.6 +0.3**
comp=Z,6.6nm,0.6s,mb4.8,baz=40,slow=6.0,SNR=42
GERES PP PP 19 10 13.9 -5.3
comp=Z,8.5nm,1.2s,baz=37,slow=6.7,SNR=4.3
GERES GERESS Array B 83.35 328 P **P** **19 07 05.6 +0.3**
GERES 19 10 13.9
GERES pmax pmax
comp=Z,7.0nm,0.6s
GERES pmax pmax
comp=Z,9.0nm,1.2s
VTS Vitosha 83.38 319 *e*P **P** **19 07 06.0 +0.4**
DNZL Cakiroluk 83.40 312 *i* P **P** **19 07 06.4 +0.6**
RHK1 Bakonya 83.45 324⇑ *e*P **P** **19 07 06.0 +0.1**
MZDA Masada 83.46 304 P **P** **19 07 07.0 +0.7**
WET Wettzell 83.47 329 *e*P **P** **19 07 06.5 +0.6**
WET pmax pmax
comp=Z,56nm,1.4s,mb5.4
WET Wettzell 83.47 329 *e*P **P** **19 07 06.5 +0.6**
comp=Z,56nm,1.4s,mb5.4
KAMS Al Khamasin 83.47 290 P **P** **19 07 06.6 +0.1**
WTSB Winterswijk 83.59 334 *e*P **P** **19 07 06.6 +0.2**
comp=Z,17nm,1.5s,mb5.0
WTSB *e*x x 19 07 20.5
GRA1 Grafenberg Arr 83.73 330 *e*P **P** **19 07 08.1 +1.0**
comp=Z,178nm,1.4s,mb6.0
GRA1 *e* pP 19 07 21.4 +2.3
GRA1 *e*PP PP 19 10 30.7 +8.6
GRA1 *e*S S 19 17 32.2 +6.7
GRA1 LR LR
comp=Z,6µm,18.1s,MS6.0
GRF Grafenberg Arr 83.73 330 *e*P **P** **19 07 08.1 +1.0**
GRF *e* pP 19 07 21.4 +2.3
GRF *e*S S 19 17 32.2 +6.7
GRF pmax pmax
comp=Z,178nm,1.4s,mb6.0
GRF MLR MLR
comp=Z,6µm,18.1s,MS6.0
GRUS Gruza 83.75 321⇓ *i*P **P** **19 07 07.8 +0.4**
ARSA Arzberg 83.77 326⇑ *i*P **P** **19 07 08.1 +0.7**
comp=Z,31nm,1.1s,mb5.3
MMB Musomiste 83.79 318 *e*P **P** **19 07 07.0 -0.7**
SDCO Great Sand Dun 83.86 47 *e*P **P** **19 07 08.6 +0.5**
comp=Z,14nm,1.2s,mb5.0
SDCO *e* pP 19 07 21.7 +1.5
SDCO LR LR
comp=Z,2µm,19.0s,MS5.5
MOA Molln 83.87 327⇑ *i*P **P** **19 07 09.0 +1.1**
comp=Z,47nm,1.4s,mb5.4
BARS Barje 83.94 320⇑ *i*P **P** **19 07 08.2 -0.2**
KKB Krupnik 83.95 319 *e*P **P** **19 07 09.0 +0.5**
DIVS Divcibare 83.97 322⇑ *i*P **P** **19 07 09.4 +0.9**
KDAG Bornova 83.97 314 *i* P **P** **19 07 07.9 -0.8**
RPZ Rata Peaks 84.05 159 LR LR 19 39 27.8
comp=Z,2µm,21.9s,MS5.4,baz=327,slow=32
ZFRI Zfri 84.06 304 P **P** **19 07 10.0 +0.7**
ZFRI Zfri 84.06 304 ⇑P **P** **19 07 10.0 +0.7**
TUC Tucson 84.08 54 *e*P **P** **19 07 10.3 +0.9**
TUC pmax pmax
comp=Z,14nm,1.0s,mb5.0
TUC MLR MLR
comp=Z,2µm,20.0s,MS5.5
TUC Tucson 84.08 54 *e*P **P** **19 07 09.7 +0.3**
comp=Z,14nm,1.1s,mb5.0

TUC				LR	LR		
	comp=Z,2µm,20.0s,MS5.5						
AYDN	Tasoluk	84.11	313	iP	P	19 07 10.7	+1.3
KBRS	Khaybar	84.14	298	P	P	19 07 10.7	+0.9
SRS	Serrai	84.19	318	eP	P	19 07 09.6	-0.1
PRNI	Paran	84.30	304	P	P	19 07 11.2	+0.7
PRNI	Paran	84.30	304	⇑P	P	19 07 11.2	+0.7
KZIT	Kziot	84.36	304	P	P	19 07 11.3	+0.5
OUR	Ouranopolis	84.52	317	eP	P	19 07 12.1	+0.7
SOH	Sokhos	84.53	318	eP	P	19 07 12.1	+0.7
NVSS	Nova Varos 2	84.54	322	⇓iP	P	19 07 13.0	+1.6
KNT	Kendrikon	84.54	318	eP	P	19 07 11.8	+0.4
TBKS	Tabuk	84.56	301	P	P	19 07 12.6	+0.7
VAY	Valandovo	84.60	318	⇑iP	P	19 07 12.5	+0.7
VAY				i	pP	19 07 25.5	+1.7
JMQS	Jabal Moqyreh	84.62	302	P	P	19 07 13.0	+0.8
KMTI	Karmit	84.64	303	P	P	19 07 12.5	+0.2
SIND	Sindeldorf	84.64	331	⇑eP	P	19 07 12.0	+0.2
MBH	Mount Berech	84.71	303	P	P	19 07 13.0	+0.4
MBH	Mount Berech	84.71	303	⇑P	P	19 07 13.0	+0.4
SKO	Skopje	84.74	320	⇑iP	P	19 07 13.8	+1.3
	comp=Z,0.2nm,1.5s						
SKO				i	pP	19 07 26.3	+1.8
TOD	Tromm	84.75	331	⇑eP	P	19 07 12.8	+0.5
TATS	Tathlith	84.76	290	P	P	19 07 14.0	+0.9
EIL	Elat	84.76	303	P	P	19 07 13.3	+0.4
BDRM	Kayabasi	84.76	313	iP	P	19 07 12.9	+0.2
KBA	Koelnbreinsper	84.86	327	⇓iP	P	19 07 13.0	+0.1
	comp=Z,31nm,1.5s,mb5.2						
THE	Thessaloniki	84.87	318	eP	P	19 07 13.2	+0.1
HGN	Heimansgroeve	84.89	333	eP	P	19 07 11.5	-1.4
	comp=Z,20nm,1.6s,mb5.0						
HGN				ex	x	19 07 26.6	
HGN	Heimansgroeve	84.89	333	eS	S	19 17 45.3	+8.3
SWS	Schriesheim	84.89	331	eP	P	19 07 13.2	+0.2
FUR	Furstenfeldbru	84.90	329	eP	P	19 07 13.7	+0.6
FUR				pmax	pmax		
	comp=Z,116nm,1.5s,mb5.8						
FUR	Furstenfeldbru	84.90	329	eP	P	19 07 13.7	+0.6
	comp=Z,116nm,1.5s,mb5.8						
GRG	Griva	84.95	318	eP	P	19 07 13.8	+0.3
JMOS	Jabal al Moall	84.97	303	P	P	19 07 14.7	+0.8
HDH	Heidenheim	85.01	330	eP	P	19 07 13.7	+0.1
ABH	Alteburg	85.01	332	⇑eP	P	19 07 14.0	+0.4
ABH	Alteburg	85.01	332	PKP	P	19 07 14.1	+0.5
LAZ	Ladron	85.07	51	eP	P	19 07 14.3	+0.1
ANMO	Albuquerque	85.13	50	eP	P	19 07 15.1	+0.5
ANMO				e	pP	19 07 28.5	+1.9
ANMO				e		19 07 33.9	
ANMO				pmax	pmax		
	comp=Z,28nm,1.1s						
ANMO				MLR	MLR		
	comp=Z,960nm,19.0s						
ANMO	Albuquerque	85.13	50	eP	P	19 07 15.1	+0.6
	comp=Z,28nm,1.2s,mb5.3						
ANMO				e	pP	19 07 28.5	+1.9
ANMO				e		19 07 33.9	
ANMO				LR	LR		
	comp=Z,964nm,19.0s,MS5.2						
HAQS	Haql	85.16	303	P	P	19 07 15.4	+0.6
STU	Stuttgart	85.27	331	eP	P	19 07 15.8	+0.9
STU				pmax	pmax		
	comp=Z,26nm,0.7s,mb5.5						
STU	Stuttgart	85.27	331	eP	P	19 07 15.8	+0.9
	comp=Z,26nm,0.7s,mb5.5						
RUP	Ruppelstein	85.34	332	⇑eP	P	19 07 15.5	+0.3
RUP	Ruppelstein	85.34	332	PKP	P	19 07 15.7	+0.5
BDAS	Al Bad‘	85.43	302	P	P	19 07 16.6	+0.4
LPM	Los Pinos Moun	85.44	50	eP	P	19 07 15.7	-0.4
BUCH	Bad Urach	85.46	330	⇑eP	P	19 07 16.5	+0.7
AYUS	‘Aynunah	85.47	302	P	P	19 07 16.6	+0.2
LBG	Lerchenberg	85.51	331	⇑eP	P	19 07 16.4	+0.3
TAYS	Tayyib Ism	85.52	302	P	P	19 07 16.9	+0.3
BNM	Barren Site	85.55	50	eP	P	19 07 17.2	+0.6
DBAS	Duba	85.59	301	P	P	19 07 17.3	+0.3
MOTA	Moosalm	85.62	329	⇑iP	P	19 07 17.0	+0.4
	comp=Z,17nm,1.2s,mb5.2						
FNA	Florina	85.62	319	eP	P	19 07 17.1	+0.3
XOR	Xorichti	85.63	317	eP	P	19 07 17.2	+0.3
LANF	Langenberg	85.64	331	⇑eP	P	19 07 18.5	+1.8
LANF	Langenberg	85.64	331	PKP	P	19 07 17.3	+0.6
OHR	Ohrid	85.69	319	⇑iP	P	19 07 17.4	+0.2
OHR				i	pP	19 07 28.8	-0.4
WLF	Walferdange	85.71	333	eP	P	19 07 16.8	-0.2
WLF				pmax	pmax		
	comp=Z,140nm,1.6s,mb5.9						
WLF	Walferdange	85.71	333	eP	P	19 07 16.8	-0.3
	comp=Z,144nm,1.6s,mb6.0						
DJNS	Zahran al Janu	85.80	289	P	P	19 07 19.7	+1.5
GIVF	Givet	85.84	334	eP	P	19 07 16.9	-0.7
GUT	Gutenstein	85.86	330	eP	P	19 07 17.9	+0.1
UMJS	Umm Lajj	85.87	298	P	P	19 07 19.5	+1.1
YNBS	Yanbu‘ al Bahr	85.93	297	P	P	19 07 19.5	+0.8
BFO	Black Forest	85.97	331	eP	P	19 07 18.5	+0.2
BFO				pmax	pmax		
	comp=Z,74nm,1.4s,mb5.7						
BFO	Black Forest	85.97	331	eP	P	19 07 18.5	+0.2
	comp=Z,74nm,1.4s,mb5.7						
SPAK	Spaichingen	85.97	330	eP	P	19 07 18.6	+0.3
BLJS	Baljurashi	85.98	292	P	P	19 07 20.3	+1.2
BAIF	Baives	86.09	334	eP	P	19 07 18.2	-0.7
	comp=Z,98nm,1.5s,mb5.5						
SCHQ	Schefferville	86.11	16	P	P	19 07 19.3	+0.5
	comp=Z,6.5nm,0.6s,mb5.1,baz=329,slow=6.6,SNR=9.0						
SCHQ				LR	LR	19 52 53.9	
	comp=Z,1µm,18.3s,MS5.3,baz=89,slow=40						
DMUB	Kingscourt	86.12	342	eP	pP	19 07 33.0	+2.0
DAVA	Damuels	86.17	329	⇑iP	P	19 07 20.0	+0.7
	comp=Z,42nm,1.3s,mb5.5						
WLS	Welschbruch	86.28	331	⇑eP	P	19 07 19.8	0.0
WLS	Welschbruch	86.28	331	PKP	P	19 07 20.2	+0.4
CDF	Champ du Feu	86.31	331	eP	P	19 07 19.4	-0.6
	comp=Z,104nm,1.3s,mb5.6						
LIBD	Limburg	86.40	331	⇑eP	P	19 07 21.0	+0.6
SANT	Santorini	86.41	313	P	P	19 07 20.4	-0.4
	comp=Z,60nm,1.1s,mb5.7						
KIZ	Kirchzarten	86.43	331	eP	P	19 07 20.6	0.0
FELD	Feldberg	86.46	331	eP	P	19 07 20.9	+0.2
ECH	Echery	86.52	331	⇑eP	P	19 07 20.2	-0.8
ECH	Echery	86.52	331	PKP	P	19 07 21.3	+0.3
DAVOX	Davos	86.58	329	P	P	19 07 21.0	-0.4
	comp=Z,15nm,1.2s,mb5.1,baz=5.5,slow=5.8,SNR=8.1						
LTHS	Al Lith	86.63	293	P	P	19 07 22.8	+0.6
DCN	Croghan	86.72	342	eP	pP	19 07 35.9	+2.0
MOF	Molkenrain	86.82	331	⇑eP	P	19 07 22.6	+0.1
MOF	Molkenrain	86.82	331	PKP	P	19 07 22.5	0.0
THEF	They Montfort	86.96	332	⇑eP	P	19 07 24.3	+1.1
THEF	They Montfort	86.96	332	PKP	P	19 07 24.4	+1.2
HINF	Hinteralfeld	86.96	331	eP	P	19 07 22.5	-0.7
	comp=Z,6.4nm,0.6s,mb4.7						
MEZF	Maizieres J’vi	87.08	333	eP	P	19 07 23.5	-0.3
	comp=Z,235nm,1.6s,mb5.8						
LOMF	Lomont	87.35	331	eP	P	19 07 26.7	+1.6
LOMF	Lomont	87.35	331	PKP	P	19 07 21.6	-3.5
IDI	Anoyia	87.49	313	P	P	19 07 26.0	-0.1
	baz=8.4,slow=11						
KSU1	Kansas State U	87.93	41	eP	P	19 07 25.7	-2.4
CPRX	Cap Rock	88.01	50	P	P	19 07 29.1	+0.5
CABF	La Chapelle	88.25	331	eP	P	19 07 28.6	-0.8
	comp=Z,108nm,1.8s,mb5.5						
GDL2	Guadalupe Moun	88.26	51	eP	P	19 07 29.9	+0.1
CLNB	Carlsbad	88.52	50	P	P	19 07 32.4	+1.3
LOR	Lormes	88.56	333	eP	P	19 07 30.2	-0.7
	comp=Z,137nm,1.6s,mb5.7						
LOR				eR			
	comp=Z,5µm,18.0s						
SSF	Saint Saulge	88.86	333	eP	P	19 07 31.6	-0.7
	comp=Z,63nm,1.4s,mb5.4						
LPL	La Plagne	88.89	330	eP	P	19 07 32.2	-0.3
	comp=Z,11nm,0.7s,mb5.0						
LPG	La Plagne	88.90	330	eP	P	19 07 32.2	-0.3
	comp=Z,13nm,0.7s,mb5.1						
SMF	Signal de Mont	89.08	332	eP	P	19 07 32.7	-0.7
	comp=Z,94nm,1.5s,mb5.6						
AVF	Avril sur Loir	89.14	333	eP	P	19 07 33.0	-0.7
	comp=Z,48nm,1.1s,mb5.4						
GRR	Gorron	89.26	336	eP	P	19 07 33.6	-0.6
MBDF	Montbardon	89.52	329	eP	P	19 07 35.1	-0.4
	comp=Z,14nm,0.7s,mb5.1						
BGF	Bois d’Agland	89.53	333	eP	P	19 07 35.0	-0.5
ORIF	Oris-en-Rattie	89.72	330	eP	P	19 07 35.6	-0.9
ORIF				eR			
	comp=Z,5µm,21.0s						
WMOK	Wichita Mounta	89.87	46	PFAKE		19 07 50.0	+13
WMOK				LR	LR		
	comp=Z,1µm,20.0s,MS5.4						
SGMF	Saint Gilles	89.92	337	eP	P	19 07 36.7	-0.6
SBF	Sospel	89.95	329	eP	P	19 07 36.0	-1.5
TCF	Toulx Ste Croi	89.99	333	eP	P	19 07 37.3	-0.4
	comp=Z,70nm,1.4s,mb5.5						
ROSF	Rostrenen	90.08	337	eP	P	19 07 37.3	-0.7
	comp=Z,247nm,1.6s,mb6.0						
VIVF	Saint-Julien-l	90.26	331	eP	P	19 07 38.1	-0.9
PGF	Pioggiola	90.33	327	eP	P	19 07 38.0	-1.4
	comp=Z,72nm,1.2s,mb5.6						
FRF	La Foret Royal	90.53	329	eP	P	19 07 39.3	-1.0
	comp=Z,42nm,1.1s,mb5.4						
MFF	Saint Martin d	90.56	335	eP	P	19 07 39.7	-0.7
	comp=Z,57nm,1.1s,mb5.5						
SMRF	Simiane la Rot	90.62	330	eP	P	19 07 39.7	-1.0
	comp=Z,40nm,1.1s,mb5.3						
LTX	Lajitas	90.64	52	eP	P	19 07 42.0	+0.8
LTX				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.4						
LTX				MLR	MLR		
	comp=Z,2µm,20.0s,MS5.6						
LTX	Lajitas	90.64	52	eP	P	19 07 42.0	+0.8
	comp=Z,19nm,1.1s,mb5.3						
LTX				LR	LR		
	comp=Z,2µm,20.0s,MS5.6						
TXAR	Lajitas Array	90.64	52	P	P	19 07 41.0	-0.1
	comp=Z,4.5nm,0.8s,mb4.8,baz=270,slow=2.5,SNR=16						
TXAR				LR	LR	19 47 03.9	
	comp=Z,2µm,18.6s,MS5.5,baz=275,slow=35						
LMR	La Mourre	90.77	329	eP	P	19 07 40.1	-1.3
	comp=Z,104nm,1.4s,mb5.7						
RJF	Les Rejaudoux	91.08	333	eP	P	19 07 42.3	-0.5
	comp=Z,89nm,1.4s,mb5.6						
RJF				eR			
	comp=Z,5µm,17.5s						
CAF	Calviac	91.20	332	eP	P	19 07 42.7	-0.7
	comp=Z,144nm,1.7s,mb5.7						
LASF	Ste Croix	91.23	331	eP	P	19 07 42.9	-0.6
	comp=Z,63nm,1.3s,mb5.5						
SADO	Sadowa	91.42	28	LR	LR	19 55 10.8	
	comp=Z,1µm,19.8s,MS5.3,baz=2.9,slow=40						
CCM	Cathedral Cave	91.51	39	eP	P	19 07 43.8	-1.2
CCM				pmax	pmax		
	comp=Z,54nm,1.3s,mb5.7						
CCM	Cathedral Cave	91.51	39	eP	P	19 07 43.8	-1.2
	comp=Z,54nm,1.3s,mb5.7						
LFF	La Frestale	91.68	333	eP	P	19 07 44.1	-1.5
FVM	French Village	91.97	38	P	P	19 07 46.0	-1.1
FVM				pmax	pmax		
	comp=Z,26nm,1.2s,mb5.4						
FVM	French Village	91.97	38	P	P	19 07 46.0	-1.1
	comp=Z,26nm,1.2s,mb5.4						
JCT	Junction City	92.27	49	eP	P	19 07 49.5	+0.8
JCT				e	pP	19 08 02.1	+1.3
JCT				pmax	pmax		
	comp=Z,21nm,1.0s,mb5.4						
JCT	Junction City	92.27	49	eP	P	19 07 49.5	+0.9
	comp=Z,21nm,1.1s,mb5.4						
JCT				e	pP	19 08 02.1	+1.3
MIAR	Mount Ida	92.94	43	eP	P	19 07 51.4	-0.2
MIAR				pmax	pmax		
	comp=Z,74nm,1.4s,mb5.9						
MIAR	Mount Ida	92.94	43	eP	P	19 07 51.4	-0.2
	comp=Z,74nm,1.4s,mb5.9						
EPF	Esparros	93.47	332	eP	P	19 07 51.4	-2.4
ETSF	Etsaut	93.92	333	eP	P	19 07 54.8	-1.0
	comp=Z,63nm,1.4s,mb5.5						
ESDC	Sonseca Array	97.97	334	P	P	19 08 16.8	+2.5
	comp=Z,0.8nm,0.7s,mb4.4,baz=11,slow=5.3,SNR=3.8						
ESDC				LR	LR	19 56 39.4	
	comp=Z,4µm,21.4s,MS5.9,baz=45,slow=38						
MTE	Manteigas	98.54	336	eP	P	19 08 26.4	+9.5
MTE				ePP	PP	19 12 26.5	+6.2
MTE				eS	Sx	19 17 42.8	
MTE				eLQ		19 37 08.9	
MTE				e-		19 43 48.9	
	comp=Z,3µm,18.0s						
EVO	Evora	100.39	336	eP	P	19 08 24.6	-0.8
EVO				eR			
	comp=Z,5µm,19.8s						
DRV	Dumont d’Urvil	102.59	181	SS	SS	19 27 33.0	+8.3
VNDA	Vanda	114.19	175	PKP	PKPdf	19 13 18.1	+2.4
	comp=Z,0.5nm,0.6s,baz=320,slow=5.8,SNR=4.6						
VNDA	Vanda	114.19	175	PKIKP	PKPdf	19 13 18.2	+2.5
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MAW	Mawson	118.81	205	PKP	PKPdf	19 13 26.5	+1.8
	comp=Z,1.9nm,0.7s,baz=87,slow=5.6,SNR=6.8						
MAW	Mawson	118.81	205	ePKPdf	PKPdf	19 13 26.4	+1.6
SDV	Santo Domingo	125.96	40	ePKPdf	PKPdf	19 13 39.3	-0.6
QSPA	South Pole Qui	125.99	180	ePKP	PKPdf	19 13 39.5	+1.2
QSPA				e		19 15 35.4	
QSPA				LR	LR		
	comp=Z,470nm,20.9s,MS5.1						
DBIC	Dimbokro	126.83	316	PKP	PKPdf	19 13 41.9	+0.3
	comp=Z,5.0nm,0.9s,baz=48,slow=2.4,SNR=7.6						
DBIC				PP	PP	19 15 32.3	-11
	comp=Z,28nm,1.4s,baz=24,slow=7.2,SNR=2.7						
TIC	Toumodi	126.94	317	eP	PKPdf	19 13 39.9	-2.0
	comp=Z,76nm,1.0s						
KIC	Kosan Boka	127.02	316	eP	PKPdf	19 13 42.5	+0.5
	comp=Z,100nm,1.4s						
LIC	Lamto	127.29	316	ePKIKP	PKPdf	19 13 41.6	-0.9
	comp=Z,72nm,1.4s						
LIC	Lamto	127.29	316	eP	PKPdf	19 13 42.9	+0.4
	comp=Z,62nm,1.4s						
TSUM	Tsumeb	128.10	273	PKP	PKPdf	19 13 46.2	+2.3
	comp=Z,1.6nm,0.5s,baz=84,slow=7.5,SNR=10.0						
SNAA	Sanae	139.98	197	⇑iP	PKPdf	19 13 57.2	-7.4
SNAA	Sanae	139.98	197	⇓i	PKPdf	19 13 59.5	-5.1
SNAA	Sanae	139.98	197		PKPdf	19 14 08.2	+3.6
SNAA	Sanae	139.98	197	⇑i	PKPdf	19 14 10.5	+5.9
SNAA	Sanae	139.98	197	⇑i	PKPdf	19 14 15.4	+11
SNAA	Sanae	139.98	197	ePKIKP	PKPdf	19 14 04.9	+0.3
VNA2	Neumayer--Watz	141.55	196	⇑iP	PKPdf	19 14 05.3	-2.0
VNA2	Neumayer--Watz	141.55	196	⇑i	PKPdf	19 14 08.1	+0.8
VNA2	Neumayer--Watz	141.55	196	⇑i	PKPdf	19 14 16.6	+9.3
VNA2	Neumayer--Watz	141.55	196	⇑i	PKPdf	19 14 19.4	+12
VNA2	Neumayer--Watz	141.55	196	⇑i	PKPdf	19 14 21.3	+14
VNA2	Neumayer--Watz	141.55	196	⇓i	PKPdf	19 14 23.1	+16
VNA3	Neumayer Olymp	141.79	195	⇓iP	PKPdf	19 14 05.5	-2.2
VNA3	Neumayer Olymp	141.79	195	⇑i	PKPdf	19 14 08.4	+0.7
VNA3	Neumayer Olymp	141.79	195	⇑i	PKPdf	19 14 17.0	+9.3
VNA3	Neumayer Olymp	141.79	195	⇑i	PKPdf	19 14 19.7	+12
VNA3	Neumayer Olymp	141.79	195	⇑i	PKPdf	19 14 21.8	+14
VNA3	Neumayer Olymp	141.79	195	⇑i	PKPdf	19 14 23.7	+16
VNA1	Neumayer--Stat	141.95	196	⇑iP	PKPdf	19 14 06.7	-1.3
VNA1	Neumayer--Stat	141.95	196	⇑i	PKPdf	19 14 09.3	+1.3
VNA1	Neumayer--Stat	141.95	196	⇑i	PKPdf	19 14 17.8	+10
VNA1	Neumayer--Stat	141.95	196	⇑i	PKPdf	19 14 20.2	+12
VNA1	Neumayer--Stat	141.95	196	⇑i	PKPdf	19 14 22.2	+14
VNA1	Neumayer--Stat	141.95	196	⇓i	PKPdf	19 14 24.3	+16
SAML	Samuel	144.84	45	ePKP	PKPdf	19 14 13.8	-0.9
LPAZ	La Paz	147.13	61	PKPbc	PKPdf	19 14 21.2	+2.7
	comp=Z,8.0nm,0.6s,baz=337,slow=3.7,SNR=27						
LPAZ	La Paz	147.13	61	PKIKP	PKPdf	19 14 21.2	+2.7
LPAZ				pmax	pmax		
	comp=Z,8.0nm,0.6s						
LPAZ	La Paz	147.13	61	ePKP	PKPdf	19 14 21.1	+2.6
LVC	Limon Verde	150.49	71	ePKPbc	PKPdf	19 14 30.3	+6.6
MDZ	Mendoza	154.95	91	eP	PKPdf	19 14 35.0	+5.3
BDFB	Brasilia	157.84	25	PKPab	PKPab	19 15 08.4	-0.8
	comp=Z,4.2nm,0.8s,baz=10,slow=1.7,SNR=4.1						
BDFB	Brasilia	157.84	25	PKP2	PKPab	19 15 08.4	-0.8
BDFB				pmax	pmax		
	comp=Z,4.0nm,0.8s						

MEX 16 19:08:49.2±0.7, 15.97N×95.20W, h3km±8km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUIG	Huatulco	0.89	257	eP	Pb	19 09 04.5	-2.4
HUIG				eS	Sg	19 09 16.1	-2.8
CMIG	Matias Romero	1.16	15	eP	Pb	19 09 08.3	-3.3
CMIG				iS	Sb	19 09 23.2	-3.6
OXX	Oaxaca	1.83	307	eP	Pn	19 09 20.5	-1.4
VHO	Vista Hermosa	1.83	307	eP	Pn	19 09 18.8	-3.1
VHO				iS	Sn	19 09 41.3	-4.6
CCIG	Comitan	2.96	84	eP	Pn	19 09 34.0	-4.1
CCIG				iS	Sn	19 10 10.3	-4.3

BJI ***16*** *19:26:14.5, 54.20N×159.66E, h143km, mB4.5, mb4.3*
MOS ***16*** *19:26:15.2±1.3, 53.95N×159.50E, h133km, mb4.0/10, Error ellipse: s-maj=17.2km s-min=8.2km az=82.8*
IDC ***16*** *19:26:17.0±0.8, 54.09N×159.12E, h121km±7km, mb3.6/17, mb1 3.9/20, mb1mx3.8/27, Error ellipse: s-maj=16.6km s-min=11.7km az=139.0*
KRSC ***16*** *19:26:16.5±0.9, 53.89N×159.67E, h114km±2km, ML4.3*
NEIC ***16*** *19:26:16.7±0.4, 54.05N×159.16E, h117km±4km, mb4.3/12, Error ellipse: s-maj=9.7km s-min=6.7km az=128.0*
ISC 16 19:26:15.6±0.2, 53.92N±0.02×159.51E±0.07, h134km±1km, h123km±5.4km:pP-P, n113, σ1.21/144, mb4.1/34, 7C, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KII	Karymskiy	0.12	343	iP	P	19 26 33.4	-0.4
KII				eS	S	19 26 47.2	-0.5
SDLR	Sedlovina	0.74	210	iP	P	19 26 36.9	+0.1
SDLR				eS	S	19 26 52.1	-0.8
NLC	Nalytchevo	0.75	188	P	P	19 26 36.3	-0.6
NLC				S	S	19 26 50.9	-2.2
NLC	Nalytchevo	0.75	188	iP	P	19 26 36.4	-0.5
NLC				eS	S	19 26 51.3	-1.8
SMAR	Somma	0.78	213	iP	P	19 26 37.4	+0.4
SMAR				eS	S	19 26 52.1	-1.4
AVH	Avacha	0.80	215	iP	P	19 26 37.8	+0.6
AVH				eS	S	19 26 53.8	+0.1
KOK	Koryaka	0.81	220	iP	P	19 26 38.0	+0.7
KOK				eS	S	19 26 53.9	0.0
SPN	Mys Shipunski	0.88	159	P	P	19 26 36.7	-1.1
SPN				S	S	19 26 50.9	-4.0
SPN	Mys Shipunski	0.88	159	iP	P	19 26 36.8	-1.0
SPN				iS	S	19 26 51.9	-3.0
GNL	Ganaly	0.96	257	iP	P	19 26 39.3	+0.7
GNL				eS	S	19 26 56.5	+0.4
PET	Petropavlovsk	1.03	210	P	P	19 26 39.3	0.0
PET				S	S	19 26 55.4	-2.0
PET	Petropavlovsk	1.03	210	eP	P	19 26 39.4	+0.1
PET				eS	S	19 26 56.0	-1.4
PET	Petropavlovsk	1.03	210	⇑iPN	P	19 26 39.6	+0.3
PET				iS	S	19 26 56.5	-0.9
PET				pmax	pmax		
	comp=Z,1µm,0.3s						
PET				smax			
	comp=N,3µm,0.5s						
PET				smax			
	comp=E,2µm,1.3s						
TUMR	Tumrok	1.42	15	iP	P	19 26 44.4	+1.0
TUMR				eS	S	19 27 05.1	+0.4
MKZ	Mys Kozlova	1.45	63	iP	P	19 26 42.8	-1.0
MKZ				eS	S	19 27 01.8	-3.6
RUS	Russkaya	1.60	202	P	P	19 26 45.2	-0.3
RUS				S	S	19 27 06.7	-1.6
RUS	Russkaya	1.60	202	eP	P	19 26 45.1	-0.4
RUS				eS	S	19 27 06.9	-1.4
GRL	Gorelyy	1.62	213	iP	P	19 26 46.8	+1.1
GRL				iS	S	19 27 09.5	+0.9
APC	Apacha	1.72	236	iP	P	19 26 48.1	+1.2
APC				eS	S	19 27 11.9	+1.2
APC				Smax			
	comp=E,280nm,1.4s						
KMNR	Kamenistaya	1.89	13	eP	P	19 26 49.9	+1.1
KMNR				eS	S	19 27 13.6	-0.6
ESO	Esso	2.07	347	iP	P	19 26 51.6	+0.6
ESO				eS	S	19 27 16.8	-1.2
ESO				Smax			
	comp=E,160nm,0.6s						
KPT	Kopyto	2.10	11	eP	P	19 26 52.6	+1.3
KPT				eS	S	19 27 18.8	+0.2
KOZ	Kozyrevsk	2.16	5	P	P	19 26 53.1	+1.0
KOZ				S	S	19 27 18.9	-1.1
KOZ	Kozyrevsk	2.16	5	iP	P	19 26 53.2	+1.1
KOZ				eS	S	19 27 18.6	-1.4
KOZR	Kozyr	2.17	6	PN	P	19 26 53.1	+0.8
KOZR				S	S	19 27 18.9	-1.3
ZLN	Zelenaya	2.23	19	eP	P	19 26 54.8	+1.7
ZLN				eS	S	19 27 21.6	-0.1
LGNR	Loginova	2.27	17	eP	P	19 26 55.3	+1.6
LGNR				eS	S	19 27 22.5	-0.2
CIRR	Tsirk	2.32	17	eP	P	19 26 56.2	+2.0
CIRR				eS	S	19 27 25.3	+1.7
MIPR	Malaya Ipel’ka	2.33	226	eP	P	19 26 54.9	+0.4
KRSR	Krestovskiy	2.38	14	eP	P	19 26 55.9	+0.8
SRDR	Sredinnyy	2.41	3	iP	P	19 26 56.0	+0.6
KLY	Klyuchi	2.49	15	P	P	19 26 58.1	+1.6
KLY				S	S	19 27 28.5	+0.9
KLY	Klyuchi	2.49	15	eP	P	19 26 58.1	+1.6
KLY				eS	S	19 27 28.1	+0.5
SVLR	Shiveluch	2.84	19	iP	P	19 27 02.6	+1.6
SVLR				eS	S	19 27 35.6	0.0
PAU	Pauzhetka	2.95	215	eP	P	19 27 04.2	+1.7
PAU				Smax			
	comp=E,200nm,0.7s						
KBG	Krutoberegovo	2.98	37	eP	P	19 27 03.5	+0.7
KBG				eS	S	19 27 36.8	-2.0
KBG				Smax			
	comp=E,600nm,1.0s						
KBTR	Krutoberegovo	2.98	38	eP	P	19 27 03.2	+0.3
KBTR				eS	S	19 27 36.4	-2.5
SKR	Severo-Kuril’s	3.85	214	ePN	P	19 27 16.9	+2.5
SKR				eS	S	19 27 55.7	-3.8
SKR				smax			
	comp=N,80nm,0.5s						
SKR				smax			
	comp=E,110nm,0.5s						
BKI	Bering	3.98	68	eP	P	19 27 14.3	-1.8
BKI				eS	S	19 27 56.2	-6.3
BKI				Smax			
	comp=E,710nm,0.2s						
FX1	Attu Island--F	8.23	92	P	P	19 28 11.9	-1.3
	comp=E,6.5nm,0.3s,baz=102,slow=20,SNR=27						
FX1				S	S	19 29 38.9	-6.1
	comp=E,42nm,0.3s,baz=141,slow=16,SNR=16						
FX1	Attu Island--F	8.23	92	eP	P	19 28 11.6	-1.7
FX1				eS	S	19 29 38.2	-6.8
SMY	Shemya	8.82	92	eP	P	19 28 25.6	+4.5
	comp=E,49nm,0.3s						
ASAJ	Asahikawa	14.77	235	P	P	19 29 39.9	+1.3
	comp=E,0.5nm,0.3s,baz=135,slow=20,SNR=3.5						
ASAJ	Asahikawa	14.77	235	P	P	19 29 39.9	+1.3
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YAK	Yakutsk	17.64	309	eP	P	19 30 12.0	-1.9
YAK				pmax	pmax		
	comp=Z,12nm,0.8s						
YAK	Yakutsk	17.64	309	eP	P	19 30 12.0	-1.9
	comp=Z,12nm,0.8s						
TIXI	Tiksi	22.19	335	eP	P	19 31 01.1	+0.1
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb3.8						
TIXI	Tiksi	22.19	335	eP	P	19 31 01.1	+0.1
	comp=Z,4.0nm,1.0s,mb3.8						
MAJO	Matsushiro	22.81	229	eP	P	19 31 08.7	+1.6
	comp=Z,11nm,0.6s,mb4.5						
MAT	Matsushiro	22.81	229	P	P	19 31 09.0	+1.9
MAT	Matsushiro	22.81	229	eP	P	19 31 09.0	+1.9
	comp=Z,8.7nm,0.6s,mb4.4						
BOD	Bodaibo	25.45	297	eP	P	19 31 31.1	-1.0
ILAR	Eielson Array	28.49	46	P	P	19 32 00.8	+1.1
	comp=Z,0.2nm,0.5s,mb3.1,baz=258,slow=6.0,SNR=6.1						
ILAR				pP	pP	19 32 27.3	-0.9
	comp=Z,0.6nm,0.6s,baz=258,slow=6.0,SNR=5.0						
ILAR	Eielson Array	28.49	46	P	P	19 32 00.9	+1.1
ILAR				*PP	pP	19 32 27.3	-0.9
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM	Songino Array	33.38	282	P	P	19 32 42.4	-0.4
	comp=Z,0.6nm,0.4s,mb3.7,baz=52,slow=8.8,SNR=5.5						
SONM				PcP	PcP	19 35 21.8	+0.3
	comp=Z,1.0nm,0.6s,baz=78,slow=1.5,SNR=7.2						
INK	Inuvik	33.44	38	P	P	19 32 43.5	+0.5
	comp=Z,1.3nm,0.6s,mb3.8,baz=269,slow=4.1,SNR=4.9						
INK	Inuvik	33.44	38	P	P	19 32 43.6	+0.6
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	Inuvik	33.44	38	eP	P	19 32 43.7	+0.7
	comp=Z,1.5nm,0.6s,mb3.9						
NJ2	Nanjing	36.21	249	eP	P	19 33 06.1	-0.8
DLBC	Dease Lake	37.84	54	P	P	19 33 23.6	+3.3
	comp=Z,0.5nm,0.4s,mb3.5,baz=281,slow=16,SNR=3.2						
ZAL	Zalesovo	42.06	302	P	P	19 33 53.6	-1.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,0.8nm,0.3s,mb3.8,baz=76,slow=7.2,SNR=3.5						
ZAL	Zalesovo	42.06	302	P	P	19 33 53.7	-1.3
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GTA	Gaotai	42.18	275	P	P	19 33 56.8	+0.6
GTA				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.2						
RES	Resolute Bay	42.69	22	eP	P	19 34 01.0	+1.1
ENH	Enshi	42.84	257	eP	P	19 34 00.7	-1.0
	comp=Z,3.6nm,0.4s,mb4.3						
KURK	Kurchatov	47.01	301	eP	P	19 34 33.0	-1.5
	comp=Z,7.1nm,0.6s,mb4.5						
BVAR	Borovoye Array	49.61	308	P	P	19 34 53.1	-1.5
	comp=Z,2.4nm,0.4s,mb4.2,baz=62,slow=8.3,SNR=30						
BVAR				PcP	PcP	19 36 13.3	-1.0
	comp=Z,0.7nm,0.4s,baz=76,slow=3.1,SNR=5.8						
BRVK	Borovoye	49.63	308	eP	P	19 34 53.1	-1.7
	comp=Z,2.7nm,0.5s,mb4.1						
NVAR	Mina Array Bea	55.79	70	P	P	19 35 42.7	+2.1
	comp=Z,0.5nm,0.5s,mb3.6,baz=293,slow=8.5,SNR=4.4						
NVAR				pP	pP	19 36 11.6	-0.7
	comp=Z,0.6nm,0.6s,baz=308,slow=6.5,SNR=4.9						
NVAR	Mina Array Bea	55.79	70	P	P	19 35 42.7	+2.1
NVAR				pP	pP	19 36 11.6	-0.7
JOF	Joensuu	56.67	335	ep	P	19 35 44.6	-1.9
PDAR	Pinedale Array	57.43	61	P	P	19 35 53.9	+1.8
	comp=Z,1.0nm,0.6s,mb3.8,baz=326,slow=3.0,SNR=9.5						
PDAR				pP	pP	19 36 22.3	-1.5
	comp=Z,0.4nm,0.7s,slow=1.5,SNR=2.3						
CMAR	Chiang Mai Arr	58.02	257	P	P	19 35 57.0	+0.5
	comp=Z,0.7nm,0.7s,mb3.6,baz=31,slow=7.2,SNR=6.6						
CMAR	Chiang Mai Arr	58.02	257	P	P	19 35 57.1	+0.6
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GUN	Gumba	58.47	275	eP	P	19 36 00.0	+0.4
	comp=Z,8.3nm,0.6s,mb4.8						
KAF	Kangasniemi	58.59	336	ep	P	19 35 58.0	-2.0
KKN	Kakani	58.91	275	eP	P	19 36 02.0	-0.7
	comp=Z,9.2nm,0.4s,mb5.0						
PKI	Pulchoki	59.00	275	eP	P	19 36 02.4	-0.9
	comp=Z,2.5nm,0.5s,mb4.3						
GKN	Gorkha	59.13	276	eP	P	19 36 03.6	-0.6
	comp=Z,3.4nm,0.5s,mb4.4						
DMN	Daman	59.15	275	eP	P	19 36 03.9	-0.4
	comp=Z,7.1nm,0.8s,mb4.5						
FINES	FINESS Array B	59.23	336	P	P	19 36 03.0	-1.4
	comp=Z,3.8nm,1.0s,mb4.2,baz=37,slow=6.5,SNR=16						
FINES	FINESS Array B	59.23	336	P	P	19 36 03.0	-1.4
FINES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
FINES	FINESS Array B	59.23	336	P	P	19 36 03.0	-1.4
KOLN	Koldanda	59.91	277	eP	P	19 36 08.7	-0.9
	comp=Z,4.3nm,0.6s,mb4.5						
PIAM	Paiam	60.74	199	eP	P	19 36 12.9	-2.4
OBN	Obninsk	61.63	327	eP	P	19 36 21.3	+0.5
OBN				e*PP	pP	19 36 55.0	+2.0
OBN				eS	S	19 44 21.2	-9.3
OBN				pmax	pmax		
	comp=Z,21nm,1.8s,mb4.7						
OBN				MLR	MLR		
	comp=Z,600nm,17.0s						
OBN	Obninsk	61.63	327	eP	P	19 36 21.3	+0.5
	comp=Z,21nm,1.8s,mb4.7						
OBN				epP	pP	19 36 55.0	+2.0
OBN				eS	S	19 44 21.2	-9.3
OBN				LR	LR		
	comp=Z,600nm,17.0s						
NOA	NORSAR Array B	62.65	343	P	P	19 36 26.0	-1.5
	comp=Z,1.3nm,1.1s,mb3.7,baz=18,slow=5.7,SNR=2.9						
NOA	NORSAR Array B	62.65	343	P	P	19 36 26.0	-1.5
NOA				pmax	pmax		
	comp=Z,1.0nm,1.1s						
NOA	NORSAR Array B	62.65	343	P	P	19 36 26.0	-1.5
SCHQ	Schefferville	65.08	27	P	P	19 36 42.5	-0.8
	comp=Z,3.4nm,0.8s,mb4.3,baz=349,slow=16,SNR=4.8						
AKASG	Malin Array Be	67.73	328	P	P	19 36 58.4	-1.7
	comp=Z,1.4nm,0.4s,mb4.1,baz=29,slow=6.7,SNR=6.8						
AKASG	Malin Array Be	67.73	328	P	P	19 36 58.4	-1.7
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KIV	Kislovodsk	68.60	316	eP	P	19 37 04.5	-1.0
KIV				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
KIV	Kislovodsk	68.60	316	eP	P	19 37 04.5	-1.0
	comp=Z,6.0nm,0.8s,mb4.4						
KAKA	Kakadu	70.26	208	eP	P	19 37 22.0	+5.9
	comp=Z,1.6nm,0.7s,mb3.9						
GERES	GERESS Array B	73.62	337	P	P	19 37 35.0	-0.3
	comp=Z,1.1nm,0.8s,mb3.7,baz=31,slow=7.8,SNR=8.4						
GERES	GERESS Array B	73.62	337	P	P	19 37 35.0	-0.3
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WB2	Warramunga Arr	76.68	204	eP	P	19 37 54.1	+0.9
WRA	Warramunga Arr	76.69	204	P	P	19 37 54.2	+0.9
	comp=Z,1.0nm,0.4s,mb3.8,baz=19,slow=6.0,SNR=32						
WRA	Warramunga Arr	76.69	204	P	P	19 37 54.2	+1.0
WRA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FITZ	Fitzroy Crossi	77.40	213	eP	P	19 37 58.6	+1.4
	comp=Z,2.2nm,0.9s,mb3.8						
FITZ	Fitzroy Crossi	77.40	213	P	P	19 37 58.4	+1.1
	comp=Z,1.2nm,0.6s,mb3.7,baz=36,slow=11,SNR=5.1						
ASAR	Alice Springs	80.37	204	P	P	19 38 14.9	+1.7
	comp=Z,1.0nm,0.5s,mb3.7,baz=17,slow=5.2,SNR=22						
ASAR				pP	pP	19 38 44.8	-2.2
	comp=Z,0.6nm,0.8s,baz=13,slow=4.9,SNR=2.7						
ESDC	Sonseca Array	85.70	347	P	P	19 38 41.5	+1.5
	comp=Z,1.6nm,0.6s,mb3.9,baz=360,slow=5.1,SNR=14						
DRV	Dumont d'Urvil	121.16	189	R		19 44 00.0	
SNAA	Sanae	160.60	197	⇑iP	PKPdf	19 46 02.2	+5.0
VNA2	Neumayer--Watz	161.97	194	⇑iP	PKPdf	19 46 04.6	+6.0
VNA2	Neumayer--Watz	161.97	194	⇑i		19 46 32.4	
VNA2	Neumayer--Watz	161.97	194	⇑i	Px	19 46 39.9	
VNA3	Neumayer Olymp	161.97	191	⇑iP	PKPdf	19 46 04.1	+5.5
VNA1	Neumayer--Stat	162.34	193	P	PKPdf	19 46 02.0	+3.0
VNA1	Neumayer--Stat	162.34	193	⇑iPKPdf	PKPdf	19 46 02.0	+3.0

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*IDC **16** 19:28:41.7±0.6, 60.82S×37.49W, mb4.5/7, mb1 4.5/8, mb1mx4.5/12, ML4.0/1, MS4.4/4, Ms1 4.4/4, ms1mx4.2/10, Error ellipse: s-maj=30.6km s-min=20.5km az=71.0*

*HRVD **16** 19:28:42.8±0.3, 61.11S×37.44W, h14km±1km, MW5.2/45, Centroid moment Tensor Solution. LP body waves: s32,c41;Mantle waves: s45,c75; Half duration: 1.0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.03±.41; $M_{\theta\theta}$5.66±.29; $M_{\phi\phi}$-1.63±.28; $M_{r\theta}$3.73±.73; $M_{\theta\phi}$2.47±.24; $M_{\phi r}$-2.13±.82; Best double couple: $M_0$7.06×10^{16} NP1: ϕ_s42°,δ40°,λ-144°. NP2:ϕ_s283°,δ68°,λ-56°. Principal axes: T 7.26, Plg16°, Azm348°; N -.39, Plg32°, Azm88°; P -6.87, Plg54°, Azm235°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **16** 19:28:42.8, 60.90S×37.40W, h10km, mB4.6, Ms5.1, Msz5.1*

*SYO **16** 19:28:42.7, 60.82S×37.34W, h10km, MB4.9*

*NEIC **16** 19:28:42.8±0.3, 60.89S×37.42W, h10km, mb5.0/17, Error ellipse: s-maj=12.8km s-min=6.8km az=54.0*

ISC 16 19:28:41.6±0.4**, 60.86S**±0.07×**37.3W**±0.2**, h10**km**, n66, σ0.93**/38**, mb4.9**/20**, MS4.6**/3**, 5C-5D, Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	Palmer Station	12.78	241	eP	P	19 31 39.7	-6.2
	29nm,1.1s						
EFI	East Falkland	14.68	300	eP	P	19 32 11.6	+0.8
	90nm,1.1s						
VNA3	Neumayer Olymp	15.12	145	⇑i	P	19 32 15.6	-0.9
VNA3	Neumayer Olymp	15.12	145	⇓iP	P	19 32 15.6	-0.9
VNA1	Neumayer--Stat	15.26	142	⇓i	P	19 32 17.2	-1.1
VNA2	Neumayer--Watz	15.63	143		P	19 32 21.3	-1.9
VNA2	Neumayer--Watz	15.63	143	⇓i	P	19 32 23.2	0.0
SNAA	Sanae	17.28	143	⇑i	P	19 32 42.4	-1.7
SNAA	Sanae	17.28	143	⇑i	P	19 32 44.9	+0.8
SNAA	Sanae	17.28	143	P	P	19 32 41.9	-2.2
	0.5nm,0.3s,baz=304,slow=12,SNR=46						
SNAA				S	S	19 35 43.9	-11
	0.3nm,0.3s,baz=332,slow=17,SNR=5.8						
SNAA				LR	LR	19 37 59.1	
	comp=Z,795nm,19.4s,baz=320,slow=32						
SNAA				T		19 48 44.2	
	0.2nm,0.3s,baz=296,slow=9.8,SNR=3.6						
SNAA	Sanae	17.28	143	⇑iP	P	19 32 42.4	-1.7
MAIT	Maitri	21.72	137	eP	P	19 33 34.9	+0.5
TRQA	Tornquist	27.57	315	eP	P	19 34 28.4	-2.0
	24nm,1.0s,mb4.8						
QSPA	South Pole Qui	29.38	180	eP	P	19 34 47.0	+0.7
	71nm,1.0s,mb5.3						
SYO	Syowa Base	31.42	138	⇑P	P	19 35 03.5	-1.0
SYO	Syowa Base	31.42	138	⇓pP	pP	19 35 05.1	-2.3
MAW	Mawson	39.45	144	eP	P	19 36 13.7	+0.8
	8.4nm,1.2s,mb4.3						
MAW	Mawson	39.45	144	P	P	19 36 13.1	+0.2
	9.5nm,1.1s,mb4.4,baz=227,slow=7.0,SNR=16						
MAW				PcP	PcP	19 38 21.0	-0.4
	4.4nm,1.0s,baz=284,slow=4.2,SNR=3.7						
SBA	Scott Base	40.75	188	eP	P	19 36 24.4	+0.8
	27nm,1.2s,mb4.8						
VNDA	Vanda	41.36	186	P	P	19 36 29.8	+1.1
	6.4nm,1.0s,mb4.2,baz=176,slow=6.3,SNR=19						
VNDA				PcP	PcP	19 38 27.4	-0.2
	2.3nm,0.8s,baz=149,slow=3.3,SNR=3.3						
VNDA	Vanda	41.36	186	eP	P	19 36 29.7	+1.0
	14nm,1.2s,mb4.5						
BDFB	Brasilia	45.81	346	LR	LR	19 53 10.9	
	comp=Z,427nm,21.3s,MS4.4,baz=89,slow=32						
SUR	Sutherland	46.89	80	P	P	19 37 15.3	+1.8
	8.7nm,0.8s,mb4.8,baz=165,slow=12,SNR=4.5						
SUR	Sutherland	46.89	80	eP	P	19 37 15.2	+1.7
	31nm,1.1s,mb5.2						
LPAZ	La Paz	49.70	320	P	P	19 37 35.7	+0.2
	3.5nm,0.9s,mb4.4,baz=142,slow=8.1,SNR=12						
LPAZ	La Paz	49.70	320	eP	P	19 37 35.4	-0.2
	7.3nm,1.0s,mb4.7						
BOSA	Boshof	52.15	81	eP	P	19 37 54.4	+0.3
	19nm,0.9s,mb5.0						
SAML	Samuel	55.25	328	eP	P	19 38 15.4	-1.7
	8.0nm,0.7s,mb4.9						
LSZ	Lusaka	64.91	76	eP	P	19 39 23.1	0.0
	7.7nm,0.9s,mb4.7						
OTAV	Otavalo	68.58	315	eP	P	19 39 47.0	+0.4
	9.1nm,1.0s,mb4.7						
LIC	Lamto	71.49	34	ePKP1	P	19 40 05.3	+1.0
	44nm,0.8s,mb5.4						
KIC	Kosan Boka	71.70	34	ePKP1	P	19 40 05.8	+0.2
	96nm,1.2s,mb5.6						
TIC	Toumodi	71.90	34	ePKP1	P	19 40 06.5	-0.2
	121nm,1.3s,mb5.7						
DBIC	Dimbokro	71.97	34	P	P	19 40 07.3	+0.2
	7.0nm,1.0s,mb4.5,baz=235,slow=12,SNR=4.8						
SDV	Santo Domingo	74.31	326	eP	P	19 40 19.5	-1.3
	6.8nm,0.7s,mb4.7						
NWAO	Narrogin (SRO)	84.26	159	P	P	19 41 15.0	+0.8
	6.1nm,1.0s,mb4.7,baz=169,slow=10,SNR=2.6						
MUN	Mundaring	85.00	158	eP	P	19 41 18.2	+0.3
	8.9nm,1.0s,mb4.8						
MUN				e		19 41 23.7	
STKA	Stephens Creek	87.60	179	P	P	19 41 30.5	-0.2
	2.1nm,0.7s,mb4.5,baz=177,slow=6.4,SNR=5.7						
FORT	Forrest	87.92	167	eP	P	19 41 32.5	+0.3
	31nm,0.7s,mb5.7						
FORT				e		19 41 40.0	
ASAR	Alice Springs	95.48	172	LR	LR	20 24 29.7	
	comp=Z,162nm,18.3s,MS4.5,baz=178,slow=35						
WRA	Warramunga Arr	99.20	172	LR	LR	20 26 09.1	
	comp=Z,282nm,19.0s,MS4.8,baz=330,slow=35						
GERES	GERESS Array B	116.83	35	PKP	PKPdf	19 47 26.0	-2.5
	0.4nm,0.8s,baz=207,slow=6.6,SNR=2.7						
AKASG	Malin Array Be	123.31	44	PKP	PKPdf	19 47 38.0	-3.0
	1.5nm,0.7s,baz=283,slow=1.3,SNR=5.5						
NB2	NORSAR Subarra	127.16	27	PKPdf	PKPdf	19 47 50.4	+2.5
	8.2nm,1.7s,baz=202,slow=1.9						
CMAR	Chiang Mai Arr	127.60	124	PKP	PKPdf	19 47 48.4	-1.5
	1.7nm,0.8s,baz=221,slow=4.2,SNR=6.3						
FINES	FINESS Array B	131.26	35	PKP	PKPdf	19 47 53.6	-2.2
	2.9nm,0.9s,baz=180,slow=5.7,SNR=5.9						
KAF	Kangasniemi	131.87	34	ep	PKPdf	19 48 00.1	+3.2
YKA	Yellowknife Ar	136.24	319	PKP	PKPdf	19 48 05.0	0.0
	1.5nm,0.6s,baz=143,slow=1.6,SNR=3.5						
BVAR	Borovoye Array	141.71	68	PKhKP		19 48 07.5	
	1.7nm,0.9s,baz=297,slow=3.2,SNR=4.4						
BVAR				PKP	PKPdf	19 48 12.5	-2.5
	2.0nm,0.9s,baz=225,slow=2.0,SNR=8.3						
KURK	Kurchatov	144.02	77	ePKPdf	PKPdf	19 48 15.8	-3.2
LZH	Lanzhou	145.11	117	ePKP	PKPdf	19 48 20.5	-0.9
LZH				APKP		19 48 25.3	
LZH				XPKP		19 48 27.8	
XAN	Xi'an	145.47	126	PKP	PKPdf	19 48 21.3	-0.8
XAN				APKP		19 48 28.8	
DAWY	Dawson	145.91	310	ePKPdf	PKPdf	19 48 19.4	-2.5
INK	Inuvik	146.01	319	PKPbc	PKPbc	19 48 20.0	0.0
	8.3nm,1.1s,baz=101,slow=4.2,SNR=9.1						
INK	Inuvik	146.01	319	ePKPdf	PKPdf	19 48 19.6	-2.4
GTA	Gaotai	146.03	109	⇓PKP	PKPdf	19 48 22.8	-0.1
DIV	Divide	146.89	303	ePKPdf	PKPdf	19 48 21.3	-2.3
SML	Sawmill	148.29	302	ePKPbc	PKPdf	19 48 26.5	+0.6
SLKM	Skilak Lake	148.43	299	ePKPbc	PKPdf	19 48 26.3	+0.1
SLKM				ePKPab	PKPab	19 48 32.7	+0.6
PMR	Palmer	148.52	302	ePKPbc	PKPdf	19 48 27.7	+1.4
ILAR	Eielson Array	149.10	308	PKPbc	PKPdf	19 48 28.8	+1.6
	3.7nm,0.5s,baz=145,slow=1.7,SNR=37						
MCK	McKinley	149.44	306	ePKPbc	PKPdf	19 48 29.7	+2.0
COLA	College	149.52	308	ePKPbc	PKPdf	19 48 29.9	+2.2
IMA	Indian Mountai	152.23	308	ePKPbc	PKPdf	19 48 36.3	+4.5
MAT	Matsushiro	155.50	171	PKP	PKPab	19 49 01.1	-1.4
SONM	Songino Array	155.54	106	PKPab	PKPab	19 49 01.0	-1.3
	1.3nm,0.7s,baz=233,slow=6.2,SNR=3.7						

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*IDC **16** 19:36:38.5±0.5, 2.95S×142.17E, mb4.8/16, mb1 4.9/20, mb1mx4.9/21, ML4.4/2, MS4.4/1, Ms1 4.4/1, ms1mx3.7/19, Error ellipse: s-maj=16.7km s-min=9.6km az=99.0*

*BJI **16** 19:36:41.7, 2.91S×142.53E, h38km, mB5.3, mb5.0, Ms5.1, Msz4.9*

*NEIC **16** 19:36:42.9±2.4, 2.95S×142.14E, h28km±17km, mb4.8/26, Error ellipse: s-maj=7.8km s-min=6.1km az=82.0*

*SYO **16** 19:36:42.3, 2.95S×142.16E, h24km, MB4.9*

ISC 16 19:36:41.9±0.2**, 2.99S**±0.03×**142.21E**±0.06**, h33**km**, n115, σ1.02**/91**, mb4.9**/52**, MS4.4**/1**, 5D, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAU	Wau	6.23	134	eP	P	19 38 15.8	+1.9
PMG	Port Moresby	8.05	143	Pn	P	19 38 39.0	-0.3
	3.4nm,0.3s,baz=317,slow=8.4,SNR=22						
PMG				Sn	Sn	19 40 01.5	-8.8
	baz=279,slow=13,SNR=2.4						
PMG				Lg		19 40 58.3	
	baz=311,slow=14,SNR=2.7						
PMG	Port Moresby	8.05	143	eP	P	19 38 38.4	-0.9
	41nm,0.6s						
KAKA	Kakadu	13.68	225	eP	P	19 39 58.6	+2.4
	113nm,0.6s						
KAKA				eS	S	19 42 24.3	-3.7
CTA	Charters Tower	17.44	167	eP	P	19 40 46.9	+2.5
	8.8nm,0.8s						
CTA	Charters Tower	17.44	167	P	P	19 40 47.4	+3.0
	0.5nm,0.3s,baz=349,slow=12,SNR=4.4						
CTA				Lg		19 45 56.8	
	0.2nm,0.3s,baz=61,slow=19,SNR=3.6						
CTAO	Charters Tower	17.44	167	eP	P	19 40 46.7	+2.3
	15nm,0.9s						
WRAB	Tennant Creek	18.50	204	P	P	19 40 56.5	-1.2
	225nm,0.6s,SNR=20						
WRAB	Tennant Creek	18.50	204	eP	P	19 40 55.5	-2.2
	35nm,0.6s						
WB2	Warramunga Arr	18.51	204	eP	P	19 40 56.2	-1.6
WB2				eS	S	19 44 22.4	+2.7
WRA	Warramunga Arr	18.52	204	P	P	19 40 56.6	-1.3
	2.1nm,0.3s,baz=28,slow=11,SNR=95						
WRA				S	S	19 44 16.1	-3.7
	0.1nm,0.3s,baz=24,slow=22,SNR=4.2						
WRA				Lg		19 46 28.7	
	baz=21,slow=33,SNR=4.9						
ASAR	Alice Springs	22.07	201	P	P	19 41 34.3	-1.4
	21nm,0.8s,mb4.7,baz=29,slow=10,SNR=93						
ASAR				S	S	19 45 42.1	+10
	15nm,1.4s,baz=15,slow=21,SNR=2.5						
ASPA	Alice Springs	22.07	201	eP	P	19 41 34.5	-1.2
ASPA				eS	S	19 45 39.7	+7.6
FITZ	Fitzroy Crossi	22.12	226	eP	P	19 41 36.3	0.0
	21nm,0.7s,mb4.7						
FITZ				eS	S	19 45 36.5	+3.4
FITZ	Fitzroy Crossi	22.12	226	P	P	19 41 34.1	-2.2
	24nm,0.7s,mb4.7,baz=39,slow=5.8,SNR=32						
FITZ				S	S	19 45 41.4	+8.3
	14nm,0.8s,baz=161,slow=13,SNR=3.2						
MBWA	Marble Bar	28.37	229	eP	P	19 42 35.5	+0.1
	26nm,1.2s,mb4.7						
STKA	Stephens Creek	28.73	181	eP	P	19 42 37.7	-0.9
	11nm,0.7s,mb4.7						
STKA	Stephens Creek	28.73	181	P	P	19 42 37.8	-0.8
	14nm,0.7s,mb4.8,baz=3.3,slow=9.8,SNR=20						
NOUC	Port Laguerre	30.13	131	eP	P	19 42 49.9	-1.3
DZM	Mont Dzumac	30.22	131	eP	P	19 42 50.5	-1.4
FORT	Forrest	30.70	204	eP	P	19 42 55.3	-0.9
	97nm,0.6s,mb5.8						
ADE	Adelaide	31.98	185	eP	P	19 43 07.5	+0.1
CNB	Canberra Magne	32.84	169	eP	P	19 43 16.4	+1.6
	18nm,0.8s,mb5.0						
TOO	Toolangi	34.54	175	eP	P	19 43 30.1	+0.6
	13nm,1.0s,mb4.8						
KLBR	Kellerberrin	36.60	216	eP	P	19 43 45.7	-1.3
	14nm,1.0s,mb4.8						
NWAO	Narrogin (SRO)	37.87	215	P	P	19 43 57.7	0.0
	14nm,1.1s,mb4.6,baz=30,slow=7.9,SNR=5.9						
NWAO	Narrogin (SRO)	37.87	215	eP	P	19 43 57.2	-0.5
	15nm,1.0s,mb4.7						
MAT	Matsushiro	39.51	355	P	P	19 44 10.0	-1.3
	12nm,1.0s,mb4.6						
GYA	Guiyang	45.14	313	⇓P	P	19 44 58.5	+1.0
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.6						
ENH	Enshi	45.51	319	eP	P	19 44 59.3	-1.1
	comp=Z,13nm,0.9s,mb4.9						
ASAJ	Asahikawa	46.90	0	P	P	19 45 11.1	0.0
	comp=Z,14nm,0.8s,mb5.0,baz=129,slow=7.3,SNR=6.8						
KMI	Kunming	47.40	308	eP	P	19 45 16.3	+1.0
KMI				AMB	AMB		
	comp=Z,13nm,1.5s,mb4.6						
URZ	Urewera	47.41	142	P	P	19 45 15.5	+0.3
	comp=Z,20nm,0.9s,mb5.1,baz=279,slow=6.1,SNR=8.7						
URZ				LR	LR	20 04 27.7	
	comp=Z,386nm,18.9s,MS4.4,baz=174,slow=35						
CM31	Chiang Mai Arr	47.63	298	eP	P	19 45 16.9	-0.4
	comp=Z,17nm,1.0s,mb5.0						
CMAR	Chiang Mai Arr	47.63	298	P	P	19 45 16.9	-0.3
	comp=Z,1.6nm,0.8s,mb4.1,baz=117,slow=6.5,SNR=10						
CMAR				PcP	PcP	19 46 47.7	+0.8
	comp=Z,2.0nm,1.1s,baz=135,slow=1.7,SNR=5.2						
RPZ	Rata Peaks	47.93	152	P	P	19 45 19.6	+0.3
	comp=Z,26nm,0.8s,mb5.3,baz=191,slow=2.0,SNR=8.7						
XAN	Xi'an	48.37	322	P	P	19 45 21.9	-0.9
XAN				AP	pP	19 45 32.6	-0.1
XAN				AMB	AMB		
	comp=Z,18nm,1.4s,mb4.9						
MDJ	Mudanjiang	48.73	348	eP	P	19 45 23.1	-2.3
	comp=Z,21nm,1.3s,mb5.0						
CN2	Changchun	48.96	344	eP	P	19 45 26.8	-0.4
CN2				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.7						
BJT	Baijiatuau	49.02	333	eP	P	19 45 27.0	-0.7
	comp=Z,19nm,0.8s,mb5.2						
BJI	Beijing	49.03	333	P	P	19 45 27.1	-0.7
BJI				AMB	AMB		
	comp=Z,17nm,1.3s,mb4.9						
YSS	Yuzh-Sakhalins	49.74	0	eP	P	19 45 32.4	-0.8
	comp=Z,23nm,0.8s,mb5.3						
CD2	Chengdu	49.79	316	P	P	19 45 34.4	+0.7
CD2				AMB	AMB		
	comp=Z,21nm,0.8s,mb5.2						
HHC	Hu-ho-hao-te	51.83	331	eP	P	19 45 44.9	-4.2
HHC				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.6						
HHC				AMB	AMB		
	comp=Z,307nm,6.5s						
LZH	Lanzhou	52.86	321	eP	P	19 45 57.1	+0.3
LZH				AMB	AMB		
	comp=Z,72nm,1.5s,mb5.4						
LZH				AMB	AMB		
	comp=Z,247nm,4.6s						
HIA	Hailar	55.58	342	eP	P	19 46 15.5	-1.1
	comp=Z,14nm,1.1s,mb4.9						
GTA	Gaotai	57.42	322	⇓iP	P	19 46 30.4	+0.5
SONM	Songino Array	59.52	333	P	P	19 46 44.3	-0.1
	comp=Z,2.6nm,0.8s,mb4.3,baz=152,slow=7.8,SNR=15						
SONM				PcP	PcP	19 47 30.0	-1.4
	comp=Z,0.6nm,0.6s,baz=156,slow=4.0,SNR=2.4						
SONM				PKPPKP		20 16 25.9	
	comp=Z,2.1nm,1.2s,baz=333,slow=2.8,SNR=4.2						
FX1	Attu Island--F	61.46	21	eP	P	19 46 57.3	-0.3
GUN	Gumba	62.24	304	eP	P	19 47 03.5	+0.4
	comp=Z,46nm,0.9s,mb5.6						
PKI	Pulchoki	62.52	303	eP	P	19 47 04.9	-0.1
	comp=Z,28nm,1.1s,mb5.3						
KKN	Kakani	62.70	303	eP	P	19 47 06.3	+0.1
	comp=Z,39nm,0.9s,mb5.6						
DMN	Daman	62.78	303	eP	P	19 47 07.1	+0.3
	comp=Z,57nm,1.0s,mb5.6						
GKN	Gorkha	63.30	303	eP	P	19 47 10.2	0.0
	comp=Z,43nm,0.8s,mb5.6						
KOLN	Koldanda	64.10	303	eP	P	19 47 15.6	+0.1
	comp=Z,39nm,1.0s,mb5.4						
YAK	Yakutsk	65.55	354	eP	P	19 47 23.7	-0.5
	comp=Z,38nm,1.1s,mb5.3						
WMQ	Urumqi	67.43	320	P	P	19 47 37.0	+0.5
WMQ				AP	pP	19 47 47.3	+0.5
WMQ				AMB	AMB		
	comp=Z,26nm,1.0s,mb5.2						
ZAL	Zalesovo	73.97	329	P	P	19 48 15.0	-0.8
	comp=Z,6.1nm,0.9s,mb4.5,baz=9.1,slow=7.7,SNR=25						
KZA	Kyzart	75.15	315	P	P	19 48 25.4	+2.5
	SNR=6.4						
TKM2	Tokmak 2	75.17	316	P	P	19 48 23.6	+0.6
	SNR=10						
VNDA	Vanda	75.21	176	P	P	19 48 22.4	-0.1
	comp=Z,7.6nm,1.1s,mb4.5,baz=329,slow=6.5,SNR=25						
VNDA	Vanda	75.21	176	eP	P	19 48 22.3	-0.3
	comp=Z,3.4nm,0.7s,mb4.4						
UCH	Uchtor	75.72	315	P	P	19 48 28.0	+1.9
	SNR=7.7						
CHMS	Chumysh	75.78	316	P	P	19 48 26.7	+0.2
	SNR=7.8						
AAK	Ala-Archa	75.85	315	eP	P	19 48 26.2	-0.7
	comp=Z,3.7nm,0.9s,mb4.3						
SBA	Scott Base	75.93	175	eP	P	19 48 27.4	+0.8
	comp=Z,6.2nm,1.1s,mb4.5						
KURK	Kurchatov	75.98	324	eP	P	19 48 27.3	-0.1
USP	Ospenovka	76.04	316	P	P	19 48 28.6	+0.7
	SNR=12						
AML	Almayashu	76.27	315	P	P	19 48 30.9	+1.7
	SNR=9.5						
EKS2	Erkin-Say	76.37	315	P	P	19 48 30.9	+1.1
	SNR=9.0						
BVAR	Borovoye Array	81.56	325	P	P	19 48 58.3	+0.5
	comp=Z,13nm,0.6s,mb5.0,baz=110,slow=7.2,SNR=43						
BRVK	Borovoye	81.63	325	eP	P	19 48 58.7	+0.6
	comp=Z,8.5nm,0.6s,mb4.8						
PMR	Palmer	82.63	27	eP	P	19 49 03.3	+0.2
	comp=Z,20nm,1.1s,mb5.0						
MAW	Mawson	83.18	202	eP	P	19 49 06.5	+0.7
	comp=Z,6.8nm,0.9s,mb4.7						
MAW	Mawson	83.18	202	P	P	19 49 06.4	+0.6
	comp=Z,8.2nm,0.8s,mb4.8,baz=91,slow=6.7,SNR=14						
MCK	McKinley	83.46	25	eP	P	19 49 07.3	0.0
	comp=Z,6.7nm,0.8s,mb4.7						
DIV	Divide	84.01	28	eP	P	19 49 11.4	+1.2
	comp=Z,83nm,0.9s,mb5.9						
ILAR	Eielson Array	84.65	24	P	P	19 49 12.7	-0.6
	comp=Z,12nm,0.7s,mb5.1,baz=262,slow=4.9,SNR=17						
QSPA	South Pole Qui	86.95	180	eP	P	19 49 25.2	+0.9
	comp=Z,15nm,0.9s,mb5.2						
DLBC	Dease Lake	91.35	32	P	P	19 49 45.0	-0.6
	comp=Z,2.6nm,0.9s,mb4.5,baz=253,slow=19,SNR=3.9						
SYO	Syowa Base	91.73	201	⇓P	P	19 49 47.7	+0.6
SYO	Syowa Base	91.73	201	⇓PcP	PcP	19 49 49.6	+1.5
SYO	Syowa Base	91.73	201	⇓pP	pP	19 49 53.4	-4.3
YKA	Yellowknife Ar	98.72	27	P	P	19 50 19.4	+0.4
	comp=Z,4.0nm,1.1s,mb4.9,baz=278,slow=4.4,SNR=4.3						
NVAR	Mina Array Bea	99.29	52	P	P	19 50 22.6	+0.5
	comp=Z,0.9nm,0.9s,mb4.3,baz=255,slow=10,SNR=3.3						
ARCES	ARCESS Array B	101.91	341	P	P	19 50 32.8	-0.6
	comp=Z,4.8nm,0.8s,baz=53,slow=9.0,SNR=4.6						
FINES	FINESS Array B	104.89	333	Pdiff	Pdif	19 50 45.3	-1.2
	comp=Z,1.1nm,0.7s,baz=63,slow=3.1,SNR=3.5						
GERES	GERESS Array B	116.73	325	PKP	PKPdf	19 55 24.8	+1.7
	comp=Z,0.5nm,0.6s,baz=90,slow=1.3,SNR=5.7						
CDF	Champ du Feu	120.58	327	ePKIKP	PKPdf	19 55 31.5	+0.9
HINF	Hinteralfeld	121.15	326	ePKIKP	PKPdf	19 55 32.7	+1.0
	comp=Z,5.7nm,0.7s						
MEZF	Maizieres J'vi	121.72	328	ePKIKP	PKPdf	19 55 34.5	+1.7
CABF	La Chapelle	122.27	326	ePKIKP	PKPdf	19 55 35.0	+1.1
MBDF	Montbardon	122.93	323	ePKIKP	PKPdf	19 55 36.8	+1.5
LOR	Lormes	123.11	327	ePKIKP	PKPdf	19 55 36.8	+1.3
ORIF	Oris-en-Rattie	123.35	324	ePKIKP	PKPdf	19 55 37.4	+1.3
	comp=Z,8.9nm,0.9s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SSF	Saint Saulge	123.42	327	ePKIKP	PKPdf	19 55 37.2	+1.1
LMR	La Mourre	123.85	322	ePKIKP	PKPdf	19 55 38.0	+1.0
	comp=Z,81nm,1.4s						
BGF	Bois d'Agland	124.09	327	ePKIKP	PKPdf	19 55 38.6	+1.2
	comp=Z,9.9nm,0.7s						
TCF	Toulx Ste Croi	124.61	327	ePKIKP	PKPdf	19 55 39.4	+1.0
	comp=Z,14nm,0.8s						
EVO	Evora	135.40	326	ePKIKP	PKPdf	19 55 59.6	+0.5
LPAZ	La Paz	144.41	124	PKP	PKPdf	19 56 18.3	+2.5
	comp=Z,9.7nm,0.6s,baz=297,slow=1.5,SNR=33						
LPAZ	La Paz	144.41	124	ePKPdf	PKPdf	19 56 18.1	+2.2
SDV	Santo Domingo	146.83	78	ePKPdf	PKPdf	19 56 23.3	+3.2
KIC	Kosan Boka	146.90	277	ePKP1	PKPbc	19 56 23.5	+1.7
	comp=Z,107nm,1.2s						
DBIC	Dimbokro	146.99	278	PKPbc	PKPbc	19 56 23.4	+1.4
	comp=Z,12nm,0.6s,baz=69,slow=2.3,SNR=41						
DBIC	Dimbokro	146.99	278	ePKPdf	PKPdf	19 56 23.6	+3.2
TIC	Toumodi	147.16	278	ePKP1	PKPdf	19 56 24.2	+3.6
	comp=Z,58nm,0.7s						
LIC	Lamto	147.19	277	ePKIKP	PKPdf	19 56 23.8	+3.1
	comp=Z,25nm,0.6s						
LIC	Lamto	147.19	277	ePKP1	PKPdf	19 56 24.3	+3.6
	comp=Z,82nm,1.1s						
MGP	Maguayo	147.64	60	ePKPbc	PKPdf	19 56 24.9	+3.7
AOPR	Arecibo Observ	147.79	60	ePKPbc	PKPdf	19 56 25.4	+3.9
SJG	San Juan	148.41	60	ePKPbc	PKPdf	19 56 27.4	+4.9
CPD	Cerro la Pandu	148.64	60	ePKPbc	PKPdf	19 56 28.4	+5.6
HUMP	Col San Antoni	148.65	59	ePKPbc	PKPdf	19 56 28.4	+5.6
SAML	Samuel	152.04	115	ePKPbc	PKPdf	19 56 36.7	+8.4

*NEIC **16** 19:54:25.6, 33.80N×25.38E, h38^{km}, MD3.5(ATH), After ATH.*

ATH 16 19:54:25.6, 33.80N×25.38E, h38^{km}, MD3.5/3, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
XRY	Khrisi	1.10	14	ePB	P	19 54 45.7	+1.0
NPS	Neapolis	1.47	7	ePB	P	19 54 51.5	+1.4
VAM	Vamos	1.88	329	ePN	P	19 54 57.2	+1.4
KARP	Karpathos	2.28	40	ePN	P	19 55 03.4	+1.8
ARG	Arkhangelos	3.30	42	ePN	P	19 55 16.5	+0.4

*IDC **16** 20:07:39.5±0.8, 37.29S×176.82E, h241^{km}±5^{km}, mb3.9/7, mb1 4.1/8, mb1mx4.1/12, Error ellipse: s-maj=25.2km s-min=14.4km az=50.0*
*NEIC **16** 20:07:41.7, 37.60S×176.56E, h250^{km}, mb4.3/12, After WEL.*
*SYO **16** 20:07:41.7, 37.60S×176.56E, h250^{km}, MB4.1*
*WEL **16** 20:07:42.0±0.3, 37.59S×176.57E, h246^{km}±2^{km}, ML4.9/12, Error ellipse: s-maj=2.5km s-min=2.3km az=90.0*

ISC 16 20:07:40.6±0.4, 37.68S±0.03×176.48E±0.06, h256^{km}±2^{km}, n171, σ1^{s}02/180, mb4.2/19, 21C-9D, North Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TGRZ	Tauranga	0.18	254	P	P	20 08 13.8	0.0
TGRZ				S	S	20 08 39.0	-0.5
TGRZ	Tauranga	0.18	254	⇑PN	P	20 08 13.8	0.0
TGRZ				SN	S	20 08 38.9	-0.7
LIRZ	Lichensteins R	0.33	193	P	P	20 08 14.4	+0.3
LIRZ	Lichensteins R	0.33	193	⇑PN	P	20 08 14.4	+0.3
MARZ	Manawahe	0.34	153	⇑PN	P	20 08 14.2	+0.1
MYRZ	Mayor Island	0.44	335	⇑PN	P	20 08 14.1	-0.2
EDRZ	Edgecumbe	0.47	154	P	P	20 08 14.6	+0.2
EDRZ	Edgecumbe	0.47	154	PN	P	20 08 14.3	-0.1
UTU	Utuhina	0.55	204	P	P	20 08 15.4	+0.8
UTU	Utuhina	0.55	204	⇑PN	P	20 08 15.4	+0.8
TAZ	Tarawera	0.55	177	P	P	20 08 15.3	+0.7
TAZ	Tarawera	0.55	177	⇓PN	P	20 08 15.3	+0.7
WIZ	White Island	0.58	75	P	P	20 08 14.3	-0.4
WIZ	White Island	0.58	75	PN	P	20 08 13.9	-0.8
PATZ	Paeroa	0.72	194	P	P	20 08 16.1	+0.9
PATZ	Paeroa	0.72	194	⇑PN	P	20 08 16.1	+0.9
URZ	Urewera	0.77	139	P	P	20 08 15.2	-0.2
	285nm,0.3s,baz=273,slow=2.7,SNR=1409						
URZ				S	S	20 08 39.5	-3.0
	144nm,0.3s,baz=9.5,slow=21,SNR=5.6						
URZ	Urewera	0.77	139	P	P	20 08 15.2	-0.2
URZ	Urewera	0.77	139	⇑PN	P	20 08 15.2	-0.2
URZ				SN	S	20 08 40.2	-2.3
TOZ	Tahuroa Road	0.78	266	P	P	20 08 15.9	+0.5
TOZ				S	S	20 08 42.0	-0.5
TOZ	Tahuroa Road	0.78	266	PN	P	20 08 15.8	+0.4
MWZ	Matawai	1.06	129	P	P	20 08 17.0	+0.2
MWZ	Matawai	1.06	129	PN	P	20 08 16.9	+0.1
KUZ	Kuaotunu	1.11	327	⇓PN	P	20 08 16.4	-0.7
MKAZ	Moumakai	1.19	298	P	P	20 08 17.6	0.0
MKAZ				S	S	20 08 46.0	-0.5
MKAZ	Moumakai	1.19	298	PN	P	20 08 17.6	0.0
RATZ	Rangitukua	1.31	205	⇑PN	P	20 08 19.4	+1.0
KATZ	Kakaramea	1.43	205	P	P	20 08 20.4	+1.1
KATZ	Kakaramea	1.43	205	PN	P	20 08 20.2	+0.9
OTAZ	Otara	1.44	300	P	P	20 08 19.4	+0.1
OTAZ	Otara	1.44	300	⇓PN	P	20 08 19.4	0.0
MXZ	Matakaoa Point	1.46	86	P	P	20 08 19.4	-0.1
MXZ				S	S	20 08 47.8	-1.9
MXZ	Matakaoa Point	1.46	86	⇑PN	P	20 08 19.4	-0.1
MXZ				SN	S	20 08 47.8	-1.9
PUZ	Puketiti	1.46	106	P	P	20 08 19.8	+0.3
PUZ				S	S	20 08 47.7	-2.1
PUZ	Puketiti	1.46	106	⇑PN	P	20 08 19.8	+0.3
BKZ	Black Stump Fm	1.48	180	P	P	20 08 20.5	+0.8
BKZ	Black Stump Fm	1.48	180	⇑PN	P	20 08 20.4	+0.7
MGZ	Maungaku	1.51	209	P	P	20 08 21.0	+1.1
MGZ	Maungaku	1.51	209	⇑PN	P	20 08 21.0	+1.1
HIZ	Hauiti	1.53	236	PN	P	20 08 21.0	+1.0
HIZ				SN	S	20 08 51.2	+0.6
MTAZ	Motutapu	1.54	305	P	P	20 08 19.9	-0.2
MTAZ	Motutapu	1.54	305	PN	P	20 08 19.9	-0.2
WTVZ	West Tongariro	1.59	206	P	P	20 08 21.4	+0.9
WTVZ	West Tongariro	1.59	206	PN	P	20 08 21.4	+0.9
TWVZ	Taurewa	1.61	210	P	P	20 08 21.6	+0.9
TWVZ	Taurewa	1.61	210	⇑PN	P	20 08 21.6	+1.0
KNZ	Kokohu	1.64	145	P	P	20 08 22.0	+1.2
KNZ				S	S	20 08 51.1	-1.0
KNZ	Kokohu	1.64	145	⇑PN	P	20 08 22.0	+1.1
KNZ				SN	S	20 08 51.1	-1.0
NGZ	Ngauruhoe	1.65	204	P	P	20 08 22.2	+1.3
NGZ	Ngauruhoe	1.65	204	PN	P	20 08 21.8	+0.8
KAAZ	Kauri Point	1.65	301	P	P	20 08 20.9	-0.1
KAAZ	Kauri Point	1.65	301	PN	P	20 08 20.7	-0.3
CNZ	Chateau	1.68	205	P	P	20 08 22.1	+0.9
CNZ	Chateau	1.68	205	PN	P	20 08 22.1	+0.9
WPVZ	Whakapapa	1.69	205	P	P	20 08 22.4	+1.1
WPVZ	Whakapapa	1.69	205	PN	P	20 08 22.3	+1.0
WTAZ	Waiatarua	1.69	296	⇓PN	P	20 08 21.4	+0.1
TUVZ	Tukino	1.71	202	P	P	20 08 22.6	+1.2
TUVZ				S	S	20 08 53.7	+0.6
TUVZ	Tukino	1.71	202	⇑PN	P	20 08 22.6	+1.1
DRZ	Dome Shelter	1.75	204	P	P	20 08 23.3	+1.6
DRZ	Dome Shelter	1.75	204	ePN	P	20 08 22.5	+0.8
WNVZ	Wahianoa	1.78	202	P	P	20 08 23.1	+1.1
WNVZ	Wahianoa	1.78	202	⇑PN	P	20 08 23.1	+1.1
MOVZ	Moawhango	1.82	198	P	P	20 08 22.9	+0.6
MOVZ				S	S	20 08 54.9	+0.3
MOVZ	Moawhango	1.82	198	⇑PN	P	20 08 22.9	+0.6
MOVZ				SN	S	20 08 54.0	-0.6
VRZ	Vera Road	1.98	223	P	P	20 08 25.3	+1.7
VRZ	Vera Road	1.98	223	PN	P	20 08 25.1	+1.5
PWZ	Pawanui	2.36	173	P	P	20 08 28.4	+1.1
PWZ	Pawanui	2.36	173	PN	P	20 08 28.3	+1.0
WAZ	Wanganui	2.38	209	P	P	20 08 29.0	+1.5
WAZ	Wanganui	2.38	209	PN	P	20 08 28.4	+1.0
WCZ	Waipu Caves	2.44	315	P	P	20 08 27.6	-0.5
WCZ				S	S	20 09 02.7	-2.2
WCZ	Waipu Caves	2.44	315	⇓PN	P	20 08 27.6	-0.4
NEZ	North Egmont	2.45	229	PN	P	20 08 30.2	+2.0
PKE	Pukeiti	2.47	232	P	P	20 08 30.2	+1.8
PKE	Pukeiti	2.47	232	ePN	P	20 08 30.2	+1.8
DFE	Dawson Falls	2.48	228	P	P	20 08 29.0	+0.5
NRZ	Ngariki Road	2.59	230	eP	P	20 08 31.8	+2.2
NWEZ	Newall Road	2.59	231	P	P	20 08 34.4	+4.8
BFZ	Birch Farm	3.00	183	P	P	20 08 34.5	+0.6
BFZ	Birch Farm	3.00	183	PN	P	20 08 34.3	+0.4
MRZ	Mangatainoka R	3.06	193	P	P	20 08 34.7	+0.2
MRZ	Mangatainoka R	3.06	193	⇓PN	P	20 08 34.7	+0.1
OUZ	Omahuta	3.38	316	⇓PN	P	20 08 37.3	-0.8
KIW	Kapiti Island	3.40	200	P	P	20 08 38.2	-0.2
KIW	Kapiti Island	3.40	200	PN	P	20 08 38.0	-0.3
MTW	Mount Morrison	3.56	192	P	P	20 08 39.7	-0.4
MTW	Mount Morrison	3.56	192	PN	P	20 08 39.6	-0.5
CAW	Cannon Point	3.59	197	P	P	20 08 40.5	0.0
CAW	Cannon Point	3.59	197	PN	P	20 08 40.3	-0.3
PAWZ	Paruwai Farm	3.79	192	PN	P	20 08 42.3	-0.4
MRW	Makara Radio	3.80	201	P	P	20 08 42.7	-0.2
MRW	Makara Radio	3.80	201	PN	P	20 08 42.4	-0.5
WEL	Wellington	3.84	200	P	P	20 08 43.1	-0.2
WEL	Wellington	3.84	200	PN	P	20 08 43.0	-0.3
MSWZ	Moikau Station	3.85	194	P	P	20 08 43.0	-0.5
MSWZ	Moikau Station	3.85	194	PN	P	20 08 42.9	-0.5
BHW	Baring Head	3.92	198	P	P	20 08 43.9	-0.4
BHW	Baring Head	3.92	198	PN	P	20 08 43.6	-0.7
TUWZ	Tuamarina	4.23	207	PN	P	20 08 47.1	-0.8
NNZ	Nelson	4.27	213	P	P	20 08 47.5	-0.9
NNZ	Nelson	4.27	213	PN	P	20 08 47.4	-0.9
QRZ	Quartz Range	4.39	223	eP	P	20 08 48.1	-1.7
QRZ	Quartz Range	4.39	223	PN	P	20 08 48.0	-1.8
BSWZ	Blackbirch Sta	4.50	206	P	P	20 08 51.1	0.0
BSWZ	Blackbirch Sta	4.50	206	PN	P	20 08 50.8	-0.3
THZ	Tophouse	4.92	213	eP	P	20 08 54.8	-1.4
THZ	Tophouse	4.92	213	PN	P	20 08 54.2	-1.9
KHZ	Kahutara	5.24	205	PN	P	20 08 59.8	-0.3
DSZ	Denniston Nort	5.43	220	eP	P	20 09 01.3	-1.1
DSZ	Denniston Nort	5.43	220	ePN	P	20 08 59.8	-2.6
LTZ	Lake Taylor	6.03	211	P	P	20 09 08.7	-1.1
LTZ	Lake Taylor	6.03	211	PN	P	20 09 08.5	-1.3
LTZ				SN	S	20 10 14.4	-5.2
CRLZ	Canterbury Las	6.58	205	SN	S	20 10 26.2	-5.8
MQZ	McQueen's Vall	6.69	205	eP	P	20 09 16.6	-1.5
MQZ	McQueen's Vall	6.69	205	PN	P	20 09 16.3	-1.7
WVZ	Waitaha Valley	6.95	217	P	P	20 09 19.6	-1.7
WVZ	Waitaha Valley	6.95	217	ePN	P	20 09 18.6	-2.8
RPZ	Rata Peaks	7.30	213	P	P	20 09 24.6	-1.2
	11nm,0.3s,baz=45,slow=5.7,SNR=47						
RPZ				S	S	20 10 43.0	-5.3
	11nm,0.3s,baz=44,slow=21,SNR=11						
FOZ	Fox Glacier	7.82	219	ePN	P	20 09 28.6	-3.8
FOZ				SN	S	20 10 50.5	-10
LBZ	Lake Benmore	8.21	213	eP	P	20 09 35.0	-2.4
LBZ	Lake Benmore	8.21	213	PN	P	20 09 34.7	-2.7
ODZ	Otahua Downs	8.56	209	eP	P	20 09 40.8	-1.0
ODZ	Otahua Downs	8.56	209	PN	P	20 09 40.2	-1.6
WKZ	Wanaka	9.08	216	P	P	20 09 45.6	-2.8
WKZ	Wanaka	9.08	216	ePN	P	20 09 45.3	-3.0
TUZ	Tuapeka	9.71	210	eP	P	20 09 55.8	-0.5
TUZ	Tuapeka	9.71	210	ePN	P	20 09 55.7	-0.6
MLZ	Mavora Lakes	9.87	216	eP	P	20 09 57.3	-0.9
MLZ	Mavora Lakes	9.87	216	ePN	P	20 09 56.5	-1.7
CNB	Canberra Magne	21.90	268	eP	P	20 12 17.7	+4.0
	15nm,0.7s,mb4.4						
TOO	Toolangi	24.49	261	eP	P	20 12 40.2	+2.1
	5.3nm,0.5s,mb4.1						
STKA	Stephens Creek	29.12	271	eP	P	20 13 21.5	+1.6
	8.5nm,0.8s,mb4.2						
STKA	Stephens Creek	29.12	271	P	P	20 13 21.3	+1.4
	12nm,0.7s,mb4.4,baz=98,slow=9.4,SNR=28						
CTA	Charters Tower	31.55	295	eP	P	20 13 41.9	+0.6
	4.9nm,0.4s,mb4.4						
CTAO	Charters Tower	31.55	295	eP	P	20 13 41.8	+0.6
	8.9nm,0.6s,mb4.5						
ASAR	Alice Springs	38.86	279	P	P	20 14 43.1	+0.3
	12nm,0.6s,mb4.5,baz=120,slow=8.1,SNR=213						
ASPA	Alice Springs	38.86	279	eP	P	20 14 43.1	+0.2
FORT	Forrest	40.26	265	eP	P	20 14 54.9	+0.6
	66nm,0.4s,mb5.3						
VNDA	Vanda	40.44	185	P	P	20 14 58.8	+3.5
	1.2nm,0.6s,mb3.4,baz=6.0,slow=8.0,SNR=11						
VNDA	Vanda	40.44	185	eP	P	20 14 59.1	+3.8
	1.3nm,0.7s,mb3.4						
SBA	Scott Base	40.49	183	eP	P	20 15 00.6	+4.9
	3.9nm,0.9s,mb3.7						
WB2	Warramunga Arr	40.54	284	eP	P	20 14 56.7	0.0
WRAB	Tennant Creek	40.55	284	P	P	20 14 56.9	+0.2
	108nm,0.5s,mb5.3,SNR=31						
WRAB	Tennant Creek	40.55	284	eP	P	20 14 56.4	-0.3
	17nm,0.6s,mb4.5						
WRA	Warramunga Arr	40.55	284	P	P	20 14 56.7	0.0
	9.9nm,0.4s,mb4.4,baz=123,slow=8.0,SNR=304						
NWAO	Narrogin (SRO)	47.89	257	eP	P	20 15 54.2	-0.7
	5.0nm,0.9s,mb3.8						
KLBR	Kellerberrin	48.02	259	eP	P	20 15 55.7	-0.2
	4.1nm,0.3s,mb4.2						
FITZ	Fitzroy Crossi	48.35	279	eP	P	20 15 58.6	0.0
	7.3nm,0.6s,mb4.2						
MUN	Mundaring	49.07	258	eP	P	20 16 03.8	0.0
	3.4nm,0.4s,mb4.0						
MBWA	Marble Bar	51.35	272	eP	P	20 16 19.8	-1.3
	9.4nm,0.6s,mb4.3						
QSPA	South Pole Qui	52.44	180	eP	P	20 16 32.2	+3.8
	19nm,0.6s,mb4.6						
MAW	Mawson	63.87	203	P	P	20 17 47.7	+0.4
	0.8nm,0.5s,mb3.6,baz=118,slow=8.0,SNR=6.1						
MAW	Mawson	63.87	203	eP	P	20 17 47.5	+0.2
	3.4nm,1.0s,mb3.9						
SYO	Syowa Base	68.96	195	⇓P	P	20 18 19.0	-0.2
SYO	Syowa Base	68.96	195	⇓PcP	PcP	20 18 41.1	-1.0
SNAA	Sanae	70.95	180	⇑i	P	20 18 32.3	+1.0
SNAA	Sanae	70.95	180	P	P	20 18 32.5	+1.2
	1.4nm,0.6s,mb3.8,baz=200,slow=7.3,SNR=51						
VNA3	Neumayer Olymp	71.29	178	⇑i	P	20 18 37.9	+4.6
VNA2	Neumayer--Watz	71.67	179	⇑i	P	20 18 40.3	+4.7
VNA1	Neumayer--Stat	71.92	178	⇑i	P	20 18 42.2	+5.1
CMAR	Chiang Mai Arr	91.66	292	P	P	20 20 19.8	-0.4
	1.9nm,0.6s,mb4.2,baz=141,slow=3.1,SNR=15						
ARCES	ARCESS Array B	144.47	343	PKP	PKPdf	20 26 44.6	-0.4
	3.6nm,0.6s,baz=48,slow=2.0,SNR=13						
LIC	Lamto	148.66	177	ePKP2	PKPab	20 27 04.0	-0.6
	72nm,1.8s						
KIC	Kosan Boka	148.80	178	ePKP2	PKPab	20 27 04.7	-0.4
	46nm,0.9s						
TIC	Toumodi	149.08	177	ePKP2	PKPab	20 27 05.6	-0.7
	12nm,0.2s						
DBIC	Dimbokro	149.11	177	PKPbc	PKPdf	20 27 00.4	+6.0
	3.5nm,1.1s,baz=175,slow=3.8,SNR=6.8						
DBIC				PKPab	PKPab	20 27 05.0	-1.4
	4.1nm,0.5s,baz=166,slow=3.8,SNR=13						
KAF	Kangasniemi	149.41	333	ep	PKPdf	20 26 57.1	+3.7
FINES	FINESS Array B	149.92	332	PKPbc	PKPdf	20 26 59.5	+5.3
	0.8nm,0.4s,baz=47,slow=3.5,SNR=13						
FINES				PKPab	PKPab	20 27 05.5	-2.7
	1.0nm,0.5s,baz=57,slow=3.9,SNR=11						
BRTR	Keskin Array B	151.06	286	PKPbc	PKPdf	20 27 03.4	+6.8
	0.3nm,0.5s,baz=198,slow=4.6,SNR=2.5						
BRTR				PKPab	PKPab	20 27 12.5	-1.2
	1.1nm,0.8s,baz=124,slow=4.5,SNR=3.7						
AKASG	Malin Array Be	153.40	310	PKPbc	PKPdf	20 27 08.1	+8.5
	0.3nm,0.3s,baz=64,slow=2.3,SNR=5.2						
AKASG				PKPab	PKPab	20 27 21.6	-1.6
	0.6nm,0.6s,baz=78,slow=4.2,SNR=3.5						

KRSC 16 20:26:56.6±2.0, 49.84N×156.58E, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.90	341	eP	Pg	20 27 14.9	+0.4
SKR				eS	Sg	20 27 29.9	+3.5
PAU	Pauzhetka	1.64	5	eS	Sb	20 27 51.8	+3.3
PAU				Smax			
	140nm,0.2s						
RUS	Russkaya	2.87	24	eP	Pn	20 27 44.8	+0.4
RUS				eS	Sn	20 28 19.2	-0.9
GRL	Gorelyy	2.87	19	eP	Pn	20 27 46.6	+2.1
GRL				eS	Sn	20 28 22.2	+1.9
AVH	Avacha	3.69	21	eP	Pn	20 27 58.2	+2.2
KOK	Koryaka	3.69	20	eP	Pn	20 27 58.6	+2.5
SPN	Mys Shipunski	3.91	32	eS	Sn	20 28 45.4	-1.1
GNL	Ganaly	3.95	12	eP	Pn	20 28 02.8	+3.0

IDC 16 21:05:52.8±15.0, 0.07S×128.04E, mb3.6/3, mb1 3.8/3, mb1mx3.5/14, Error ellipse: s-maj=235.0km s-min=150.5km az=158.0, Halmahera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	13.27	161	eP	P	21 09 12.1	+6.8
	3.1nm,0.4s						
FITZ	Fitzroy Crossi	18.08	187	eP	P	21 10 09.6	+2.3
	3.6nm,1.4s						
WRA	Warramunga Arr	20.69	163	P	P	21 10 34.9	-2.5
	0.7nm,0.4s,baz=341,slow=12,SNR=31						
WB2	Warramunga Arr	20.70	163	eP	P	21 10 35.0	-2.4
ASAR	Alice Springs	24.14	167	P	P	21 11 11.8	+0.2
	0.6nm,0.4s,baz=348,slow=11,SNR=19						
ASPA	Alice Springs	24.14	167	eP	P	21 11 12.0	+0.4
STKA	Stephens Creek	34.14	159	P	P	21 12 38.2	-3.6
	1.4nm,0.9s,baz=336,slow=10.0,SNR=3.1						

*KRSC **16** 21:34:43.4±0.6, 48.05N×153.56E, h501^{km}±16^{km}, ML3.9*
*IDC **16** 21:34:49.9±3.2, 49.94N×150.59E, h402^{km}±59^{km}, mb3.1/6, mb1 3.3/8, mb1mx3.0/24, Error ellipse: s-maj=62.0km s-min=17.7km az=171.0*

ISC 16 21:34:47.9±0.9, 49.8N±0.2×150.9E±0.2, h405^{km}±12^{km}, n25, σ1^{s}44/30, mb3.4/7, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GRL	Gorelyy	5.33	56	P	P	21 36 16.1	+1.9
RUS	Russkaya	5.51	58	eP	P	21 36 15.1	-1.0
RUS				eS	S	21 37 22.4	-2.9
GNL	Ganaly	5.91	46	eP	P	21 36 20.2	0.0
KOK	Koryaka	6.00	51	eP	P	21 36 22.0	+0.7
AVH	Avacha	6.04	52	eP	P	21 36 21.6	-0.1
SMAR	Somma	6.07	52	eP	P	21 36 22.2	+0.1
SDLR	Sedlovina	6.12	52	eP	P	21 36 22.7	+0.1
NLC	Nalytchevo	6.31	54	eP	P	21 36 23.0	-1.7
NLC				eS	S	21 37 35.6	-5.3
SPN	Mys Shipunski	6.63	56	eP	P	21 36 26.5	-1.8
SPN				eS	S	21 37 42.1	-5.4
TUMR	Tumrok	7.91	42	eP	P	21 36 44.2	+1.4
ASAJ	Asahikawa	7.99	228	P	P	21 36 44.2	+0.5
	3.0nm,0.3s,baz=58,slow=12,SNR=18						
MKZ	Mys Kozlova	8.23	50	eP	P	21 36 44.0	-2.4
MKZ				eS	S	21 38 11.3	-8.7
KMNR	Kamenistaya	8.26	40	eP	P	21 36 48.2	+1.3
LGNR	Loginova	8.67	39	eP	P	21 36 54.1	+2.5
ZLN	Zelenaya	8.68	40	eP	P	21 36 53.4	+1.8
KRSR	Krestovskiy	8.71	38	eP	P	21 36 54.1	+2.1
CIRR	Tsirk	8.72	39	eP	P	21 36 54.1	+2.0
KBTR	Krutoberegovo	9.67	44	eP	P	21 37 00.8	-2.1
KBTR				eS	S	21 38 41.2	-8.7
ILAR	Eielson Array	35.20	41	P	P	21 41 07.5	+1.0
	0.8nm,0.7s,mb3.1,baz=270,slow=8.9,SNR=10						
INK	Inuvik	39.96	34	P	P	21 41 46.0	+0.3
	1.3nm,0.8s,mb3.3,baz=270,slow=7.1,SNR=4.6						
BVAR	Borovoye Array	47.81	306	P	P	21 42 47.4	-0.4
	1.2nm,0.3s,mb3.6,baz=54,slow=8.3,SNR=14						
FINES	FINESS Array B	60.67	333	P	P	21 44 17.8	-1.4
	1.1nm,0.3s,mb3.7,baz=37,slow=7.6,SNR=36						
PDAR	Pinedale Array	64.18	54	P	P	21 44 43.7	+1.5
	0.5nm,0.5s,mb3.3,baz=342,slow=2.9,SNR=6.0						
NOA	NORSAR Array B	64.88	340	P	P	21 44 45.3	-1.0
	0.9nm,1.0s,mb3.4,baz=32,slow=5.9,SNR=3.2						
AKASG	Malin Array Be	68.21	324	P	P	21 45 06.0	-1.2
	0.8nm,0.6s,mb3.5,baz=36,slow=6.0,SNR=4.3						

*JMA **16** 22:04:48.7±0.1, 33.12N×137.32E, h43^{km}±2^{km}, M3.3*
*NIED **16** 22:05:00, 33.20N×137.20E, h14^{km}, Mw4.4 Best double couple: $M_0$4.38×10^{15} NP1:ϕ_s224°, δ64°, λ49°. NP2:ϕ_s107°, δ48°, λ143°.*

ISC 16 22:04:49.1±1.1, 33.13N±0.06×137.30E±0.04, h45^{km}±19^{km}, n16, σ0^{s}62/31, 4D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TK01	Tokai 1	0.68	21	P	P	22 05 02.0	-0.4
TK01				S	S	22 05 11.8	-0.3
TK02	Tokai 2	0.90	25	⇓P	P	22 05 05.2	-0.3
TK02				S	S	22 05 17.8	+0.3
TK03	Tokai 3	1.17	28	P	P	22 05 09.1	-0.2
TK03				S	S	22 05 24.3	0.0
TK04	Tokai 4	1.34	21	⇓P	P	22 05 11.7	-0.1
TK04				S	S	22 05 28.6	-0.1
JIE	Ise	1.35	339	⇓P	P	22 05 12.4	+0.5
JIE				S	S	22 05 29.3	+0.4
JWZ	Kozaga	1.38	287	⇓P	P	22 05 12.3	-0.1
JWZ				S	S	22 05 28.9	-0.8
TSUJ	Tsu 2	1.74	335	P	P	22 05 17.8	+0.4
TSUJ				S	S	22 05 38.5	+0.1
JWM	Minabe	1.77	294	P	P	22 05 18.1	+0.2
JWM				S	S	22 05 38.9	-0.5
JWY	Kouya	1.79	308	P	P	22 05 18.9	+0.8
JWY				S	S	22 05 39.9	+0.2
JIZS	Izushimoda	2.06	39	P	P	22 05 21.7	-0.2
JIZS				S	S	22 05 44.4	-2.0
JAI	Aioi	2.47	286	P	P	22 05 28.3	+0.5
JAI				S	S	22 05 55.6	-1.3
JYN	Shimob	2.58	23	S	S	22 05 58.8	-0.8
JOD2	Odawara 2	2.59	34	P	P	22 05 29.9	+0.3
JOD2				eS	S	22 06 01.4	+1.3
JGM	Miyama	2.61	350	P	P	22 05 29.9	+0.1
JGM				S	S	22 06 00.7	+0.3
JWT	Wachi	2.66	324	P	P	22 05 31.2	+0.7
JWT				S	S	22 06 01.8	+0.1
MAT	Matsushiro	3.48	12	P	P	22 05 43.0	+0.8
MAT				S	S	22 06 22.4	-0.3

*BJI **16** 22:05:39.4, 33.15N×137.66E, h29^{km}, mB4.8, mb4.5, Ms4.5, Msz4.3*
*MOS **16** 22:05:41.6±1.3, 33.13N×137.54E, h33^{km}, mb4.3/9, Error ellipse: s-maj=28.8km s-min=16.4km az=91.8*
*JMA **16** 22:05:41.4±0.1, 33.21N×137.19E, h41^{km}±2^{km}, M4.8*
JMA Felt II J1.
*NEIC **16** 22:05:42.2±0.3, 33.14N×137.32E, h20^{km}, mb4.4/10, Error ellipse: s-maj=8.5km s-min=6.3km az=92.0*
NEIC Recorded [3 JMA] in Nara and [1 JMA] in Mie, Osaka and Wakayama Prefectures.
*IDC **16** 22:05:44.1±0.6, 33.11N×137.25E, h35^{km}±4^{km}, mb3.9/17, mb1 4.1/20, mb1mx4.1/27, ML4.0/2, MS3.6/5, Ms1 3.6/5, ms1mx3.3/24, Error ellipse: s-maj=15.5km s-min=12.3km az=86.0*

ISC 16 22:05:41.3±0.8, 33.22N±0.03×137.21E±0.03, h28^{km}±6^{km}, h33^{km}±1.3^{km}:pP-P, n88, σ1^{s}19/99, mb4.2/27, MS3.7/3, 3C-10D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TK01	Tokai 1	0.63	30	P	Pb	22 05 54.1	+0.4
TK01				S	Sb	22 06 03.1	+0.9
TK02	Tokai 2	0.86	32	⇓P	Pb	22 05 57.5	0.0
TK03	Tokai 3	1.13	34	P	Pn	22 06 01.4	-0.1
TK03				S	Sn	22 06 16.5	+0.2
JIE	Ise	1.24	340	⇓P	Pn	22 06 03.5	+0.4
JIE				S	Sn	22 06 18.9	-0.1
JWZ	Kozaga	1.29	284	⇑P	Pn	22 06 03.1	-0.6
JWZ				S	Sn	22 06 18.3	-1.9
TK04	Tokai 4	1.29	25	⇓P	Pn	22 06 03.8	+0.1
TK04				S	Sn	22 06 20.1	-0.1
TSUJ	Tsu 2	1.62	336	⇓P	Pn	22 06 08.7	+0.2
TSUJ				S	Sn	22 06 28.2	-0.5
JWM	Minabe	1.67	293	P	Pn	22 06 08.9	-0.3
JWM				S	Sn	22 06 28.3	-1.6
JWY	Kouya	1.68	307	⇓P	Pn	22 06 09.6	+0.3
JWY				S	Sn	22 06 29.1	-0.9
JHE	Heguri	1.91	319	⇓P	Pn	22 06 12.8	+0.2
JHE				S	Sn	22 06 35.0	-1.0
SHZ3	Shizuoka 3	2.02	24	⇓P	Pn	22 06 13.8	-0.4
SHZ3				S	Sn	22 06 37.3	-1.5
JIZS	Izushimoda	2.04	42	P	Pn	22 06 14.6	+0.1
JHJ	Hachijo jima 2	2.16	92	Pn	Pn	22 06 15.8	-0.5
	155nm,0.3s,baz=91,slow=17,SNR=7.5						
JHJ				Sn	Sn	22 06 40.4	-2.0
	343nm,0.3s,baz=68,slow=22,SNR=9.5						
JHJ				LR	LR	22 07 12.0	
	comp=Z,1μm,21.2s,baz=330,slow=41						
JHJ2	Mitsune	2.19	92	P	Pn	22 06 16.0	-0.7
JHJ2				S	Sn	22 06 40.1	-3.0
JAI	Aioi	2.37	285	P	Pn	22 06 18.4	-0.9
JAI				S	Sn	22 06 45.5	-2.3
JIM2	Oshima 3	2.38	50	P	Pn	22 06 19.6	+0.3
JGM	Miyama	2.51	351	⇓P	Pn	22 06 21.3	+0.1
JGM				S	Sn	22 06 50.7	-0.4
JYN	Shimob	2.53	26	P	Pn	22 06 22.0	+0.5
JYN				S	Sn	22 06 50.6	-1.1
JWT	Wachi	2.54	324	⇓P	Pn	22 06 21.9	+0.2
JWT				S	Sn	22 06 50.9	-1.2
MAJO	Matsushiro	3.42	14	eP	Pn	22 06 34.5	+0.5
MAT	Matsushiro	3.42	14	P	Pn	22 06 34.3	+0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MAT				S	Sn	22 07 12.8	-1.3
MAT	Matsushiro	3.42	14	eP	Pn	22 06 34.0	-0.1
MAT				eS	Sn	22 07 13.0	-1.1
KS15	Wonju Array Si	8.70	302	eP	P	22 07 48.4	-0.1
ASAJ	Asahikawa	11.66	20	Pn	P	22 08 26.4	-2.6
	1.2nm,0.3s,baz=195,slow=14,SNR=6.2						
ASAJ				LR	LR	22 13 37.6	
	comp=Z,129nm,18.8s,baz=179,slow=40						
ASAJ	Asahikawa	11.66	20	P	P	22 08 26.5	-2.5
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,129nm,18.8s						
MDJ	Mudanjiang	12.82	335	P	P	22 08 46.0	+1.5
	comp=Z,6.8nm,0.7s						
CN2	Changchun	14.00	322	eP	P	22 09 00.9	+0.9
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
YSS	Yuzh-Sakhalins	14.35	15	eP	P	22 09 02.4	-2.2
BJT	Baijiatuau	18.18	298	eP	P	22 09 55.0	+1.5
	comp=Z,18nm,0.9s						
BJI	Beijing	18.18	298	P	P	22 09 54.8	+1.3
BJI				XP		22 10 07.0	
BJI				AMB	AMB		
	comp=Z,12nm,1.0s						
HIA	Hailar	20.64	326	eP	P	22 10 20.0	-1.3
	comp=Z,12nm,1.1s						
HHC	Hu-ho-hao-te	21.79	298	eP	P	22 10 38.4	+5.5
HHC				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.2						
HHC				AMB	AMB		
	comp=Z,315nm,5.9s						
ENH	Enshi	23.73	270	eP	P	22 10 54.3	+2.3
	comp=Z,10nm,0.8s,mb4.3						
SONM	Songino Array	27.38	311	P	P	22 11 26.6	+0.4
	comp=Z,4.9nm,1.0s,mb4.0,baz=118,slow=8.7,SNR=20						
YAK	Yakutsk	29.23	353	P	P	22 11 44.1	+1.4
	comp=Z,13nm,0.8s,mb4.7						
GTA	Gaotai	30.60	292	eP	P	22 11 53.9	-1.2
GTA				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.1						
KMI	Kunming	31.05	264	eP	P	22 11 58.5	-0.7
KMI				XP	sP	22 12 09.3	-1.6
KMI				S	S	22 17 05.5	+4.0
KMI				SS	SS	22 18 51.8	+5.1
KMI				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb4.1						
CM31	Chiang Mai Arr	37.22	256	eP	P	22 12 52.8	+0.5
	comp=Z,1.9nm,0.7s,mb4.0						
CMAR	Chiang Mai Arr	37.22	256	P	P	22 12 52.8	+0.5
	comp=Z,0.8nm,0.6s,mb3.7,baz=46,slow=7.4,SNR=6.2						
CMAR				LR	LR	22 29 54.4	
	comp=Z,64nm,20.5s,MS3.4,baz=55,slow=39						
CMAR	Chiang Mai Arr	37.22	256	P	P	22 12 52.8	+0.5
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CMAR				MLR	MLR		
	comp=Z,64nm,20.5s						
LSA	Lhasa	39.20	278	P	P	22 13 11.0	+2.1
WMQ	Urumqi	39.63	300	eP	P	22 13 14.3	+2.1
ZAL	Zalesovo	42.09	316	P	P	22 13 32.8	+0.5
	comp=Z,0.9nm,0.7s,mb3.5,baz=42,slow=9.7,SNR=3.9						
ZAL				LR	LR	22 32 34.5	
	comp=Z,195nm,18.7s,MS4.0,baz=262,slow=38						
ZAL	Zalesovo	42.09	316	P	P	22 13 32.8	+0.5
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZAL				MLR	MLR		
	comp=Z,195nm,18.7s						
NVS	Novosibirsk	43.12	317	eP	P	22 13 49.0	+8.4
KURK	Kurchatov	45.68	311	eP	P	22 14 01.8	+0.4
	comp=Z,5.3nm,0.9s,mb4.5						
BVAR	Borovoye Array	50.66	314	P	P	22 14 40.4	+0.4
	comp=Z,2.1nm,0.9s,mb4.1,baz=100,slow=8.8,SNR=5.2						
BVAR				pP	pP	22 14 50.9	+2.4
	comp=Z,2.2nm,0.8s,baz=104,slow=6.1,SNR=6.2						
BVAR				PcP	PcP	22 15 56.8	-0.6
	comp=Z,1.2nm,0.5s,baz=113,slow=11,SNR=3.0						
BVAR				pPcP		22 16 08.3	
	comp=Z,1.5nm,0.7s,baz=56,slow=5.2,SNR=3.6						
BRVK	Borovoye	50.73	314	P	P	22 14 42.1	+1.6
FITZ	Fitzroy Crossi	52.22	194	eP	P	22 14 51.5	-0.7
	comp=Z,2.9nm,1.1s,mb4.1						
FITZ	Fitzroy Crossi	52.22	194	P	P	22 14 50.2	-2.0
	comp=Z,2.5nm,0.8s,mb4.2,baz=26,slow=6.7,SNR=6.1						
SPU	Mount Spurr	52.34	35	eP	P	22 14 53.5	+1.0
WRAB	Tennant Creek	52.92	183	eP	P	22 14 55.7	-1.8
	comp=Z,8.5nm,0.8s,mb4.7						
WB2	Warramunga Arr	52.93	183	eP	P	22 14 55.8	-1.8
WRA	Warramunga Arr	52.93	183	P	P	22 14 55.7	-1.9
	comp=Z,3.4nm,0.9s,mb4.3,baz=3.1,slow=7.7,SNR=44						
WRA				pP	pP	22 15 06.6	+0.5
	comp=Z,3.2nm,0.7s,baz=1.4,slow=7.9,SNR=10						
WRA				PcP	PcP	22 16 05.8	-0.4
	comp=Z,1.3nm,0.6s,baz=355,slow=4.2,SNR=5.4						
WRA	Warramunga Arr	52.93	183	P	P	22 14 55.7	-1.9
WRA				*PP	pP	22 15 06.6	+0.6
WRA						22 16 05.8	
WRA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
WRA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ILAR	Eielson Array	54.54	31	P	P	22 15 08.3	-0.4
	comp=Z,1.1nm,0.8s,mb3.9,baz=277,slow=6.4,SNR=13						
ILAR				PcP	PcP	22 16 10.5	-1.2
	comp=Z,0.4nm,0.6s,baz=269,slow=3.6,SNR=4.9						
ILAR	Eielson Array	54.54	31	P	P	22 15 08.4	-0.4
ILAR						22 16 10.5	
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SVE	Sverdlovsk	55.77	320	eP	P	22 15 20.4	+2.6
ASAR	Alice Springs	56.66	184	P	P	22 15 22.9	-1.7
	comp=Z,1.2nm,0.6s,mb4.1,baz=14,slow=12,SNR=24						
ASPA	Alice Springs	56.66	184	eP	P	22 15 24.1	-0.5
INK	Inuvik	59.33	26	P	P	22 15 43.0	+0.2
	comp=Z,1.8nm,0.7s,mb4.2,baz=288,slow=6.4,SNR=3.6						
INK	Inuvik	59.33	26	P	P	22 15 43.0	+0.3
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
INK	Inuvik	59.33	26	eP	P	22 15 42.9	+0.1
	comp=Z,3.1nm,0.9s,mb4.3						
DLBC	Dease Lake	63.74	36	P	P	22 16 12.9	+0.4
	comp=Z,2.0nm,0.6s,mb4.3,baz=347,slow=14,SNR=5.5						
STKA	Stephens Creek	64.88	176	eP	P	22 16 19.0	-1.4
	comp=Z,2.9nm,0.6s,mb4.5						
STKA	Stephens Creek	64.88	176	P	P	22 16 19.1	-1.3
	comp=Z,3.0nm,0.7s,mb4.5,baz=319,slow=8.4,SNR=9.3						
FINES	FINESS Array B	70.55	332	P	P	22 16 55.0	-0.4
	comp=Z,3.6nm,1.0s,mb4.2,baz=90,slow=3.8,SNR=5.1						
FINES				pP	pP	22 17 05.8	+1.8
	comp=Z,1.9nm,0.9s,baz=45,slow=8.1,SNR=1.7						
FINES	FINESS Array B	70.55	332	P	P	22 16 55.0	-0.4
FINES				*PP	pP	22 17 05.8	+1.8
FINES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
FINES	FINESS Array B	70.55	332	P	P	22 16 55.0	-0.4
FINES				pP	pP	22 17 05.8	+1.8
AKASG	Malin Array Be	75.15	321	P	P	22 17 23.6	+1.0
	comp=Z,0.4nm,0.3s,mb3.8,baz=56,slow=6.6,SNR=2.8						
BRTR	Keskin Array B	78.73	310	P	P	22 17 44.5	+1.7
	comp=Z,2.6nm,1.0s,mb4.1,baz=77,slow=3.9,SNR=5.1						
BRTR				pP	pP	22 17 55.4	+3.9
	comp=Z,5.0nm,0.8s,baz=124,slow=4.5,SNR=14						
BRTR				LR	LR	22 55 21.6	
	comp=Z,42nm,21.1s,MS3.8,baz=50,slow=38						
BRTR	Keskin Array B	78.73	310	P	P	22 17 44.5	+1.7
BRTR				*PP	pP	22 17 55.4	+3.9
BRTR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BRTR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BRTR				MLR	MLR		
	comp=Z,42nm,21.1s						
NVAR	Mina Array Bea	80.05	51	P	P	22 17 51.6	+1.7
	comp=Z,0.7nm,0.5s,mb3.8,baz=306,slow=5.9,SNR=6.6						
DUG	Dugway	82.46	47	P	P	22 18 04.1	+1.6
BRG	Berggiesshubel	82.50	328	eSg	S	22 28 14.9	-1.0
PDAR	Pinedale Array	82.80	43	P	P	22 18 05.2	+1.0
	comp=Z,1.0nm,0.9s,mb3.9,baz=297,slow=3.3,SNR=7.2						
KHC	Kasperske Hory	83.90	327	eP	P	22 18 12.5	+2.8
KHC				epP	pP	22 18 21.0	+2.5
GERES	GERESS Array B	84.05	326	P	P	22 18 11.9	+1.5
	comp=Z,0.8nm,1.1s,mb3.8,baz=22,slow=5.3,SNR=3.6						
GERES				pP	pP	22 18 22.4	+3.2
	comp=Z,1.5nm,0.7s,baz=34,slow=4.8,SNR=9.9						
GERES	GERESS Array B	84.05	326	P	P	22 18 11.9	+1.5
GERES				*PP	pP	22 18 22.4	+3.2
GERES				pmax	pmax		
	comp=Z,1.0nm,1.1s						
GERES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GRF	Grafenberg Arr	84.56	328	eP	pP	22 18 25.1	+3.3
GRF				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.6						
PV10	Paradox Valley	85.89	46	eP	P	22 18 22.0	+2.1
TXAR	Lajitas Array	95.19	50	P	P	22 19 04.8	+1.2
	comp=Z,0.9nm,0.7s,mb4.3,baz=288,slow=3.4,SNR=13						
TXAR				pP	pP	22 19 16.1	+3.5
	comp=Z,0.8nm,0.7s,baz=284,slow=3.1,SNR=7.7						
SNAA	Sanae	136.10	197⇑	i	PKPdf	22 25 06.5	+2.4
VNA2	Neumayer--Watz	137.70	196⇑	i	PKPdf	22 25 08.1	+1.0
VNA3	Neumayer Olymp	137.99	195⇓	i	PKPdf	22 25 08.0	+0.4
LPAZ	La Paz	151.59	60	PKPbc	PKPdf	22 25 37.2	+5.2
	comp=Z,2.2nm,0.7s,baz=289,slow=2.7,SNR=11						
LPAZ				PKPab	PKPab	22 25 43.5	-0.8
	comp=Z,1.2nm,0.5s,baz=36,slow=1.6,SNR=5.1						
LPAZ	La Paz	151.59	60	PKIKP	PKPdf	22 25 37.2	+5.2
LPAZ						22 25 43.5	
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.7s						
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.5s						
LPAZ	La Paz	151.59	60	PKPbc	PKPdf	22 25 37.2	+5.2
LPAZ				PKPab	PKPab	22 25 43.5	-0.8

*ATH **16** 22:26:11.7, 35.19N×26.60E, h5km, MD3.6/5*
*NEIC **16** 22:26:11.7, 35.19N×26.60E, h5km, MD3.6(ATH), After ATH.*
*CSEM **16** 22:26:11.7, 35.19N×26.60E, h5km, MD3.6/5, After ATH*
ISC 16 22:26:10.4±1.8**, 35.0N**±0.1×**26.7E**±0.1**, h5km, n12, σ0s79**/15**, 1C-1D, Crete**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.71	34⇓	iPB	Pb	22 26 23.1	-1.7
XRY	Khrisi	0.81	264	ePB	Pb	22 26 26.5	-0.1
NPS	Neapolis	0.92	289⇑	iPB	Pb	22 26 28.2	-0.3
ARG	Arkhangelos	1.72	43	ePB	Pb	22 26 42.8	+0.6
SANT	Santorini	1.72	325	ePn	Pn	22 26 40.7	-0.5
VAM	Vamos	2.08	283	ePN	Pn	22 26 49.9	+3.6
BDRM	Kayabasi	2.19	16	i P	Pn	22 26 48.3	+0.3
BDRM				i S	Sn	22 27 16.2	+0.4
APE	Apeiranthos	2.30	337	ePN	Pn	22 26 49.8	+0.3
SMG	Samos	2.75	3	ePN	Pn	22 26 55.7	-0.2
AYDN	Tasoluk	2.87	19	i P	Pn	22 26 58.4	+0.8
AYDN				i S	Sn	22 27 28.9	-4.0
DNZL	Cakiroluk	3.33	34	i P	Pn	22 27 04.1	-0.1
DNZL				i S	Sn	22 27 50.2	+5.6
VLI	Veliai	3.51	301	ePB	Pb	22 27 06.0	-6.7

*STR **16** 22:26:20.0±0.4, 43.18N×1.85W, h5km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **16** 22:26:21.8±0.2, 43.18N×1.75W, h5km, Md2.7/2, Ml2.8/14, Error ellipse: s-maj=4.4km s-min=2.5km az=49.0*
*NEIC **16** 22:26:21.1, 43.11N×1.83W, h1km, ML2.8(LDG), ML2.5(STR), MN2.3(MDD), After MDD.*
*MDD **16** 22:26:21.5±0.4, 43.14N×1.78W, h10km, mb4.1/1, mbLg2.2/11, Error ellipse: s-maj=4.7km s-min=3.4km az=178.0, PRXIMO*
*CSEM **16** 22:26:21.2±0.1, 43.13N×1.78W, h8km, ML2.7/16, Error ellipse: s-maj=1.6km s-min=1.0km az=120.0*
ISC 16 22:26:18.7±0.4**, 43.31N**±0.02×**1.83W**±0.03**, h10km, n50, σ1s29**/90**, 1C, Pyrenees**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EALK	Alkurruntz	0.25	110	⇑Pg	Pg	22 26 25.9	+1.9
	33nm,0.2s,SNR=18						
EALK				Lg		22 26 29.7	
	320nm,0.1s,SNR=5.8						
OSSF	Osses	0.42	97	Pg	Pg	22 26 28.5	+1.3
OSSF				Sg	Sg	22 26 34.5	+1.6
OSSF	Osses	0.42	97	P	Pg	22 26 28.7	+1.4
OSSF				S	Sg	22 26 34.5	+1.6
SJPF	Ste Jean	0.48	113	ePg	Pg	22 26 28.7	+0.2
SJPF				eSg	Sg	22 26 33.9	-1.1
	99nm,0.2s						
ORDF	Ordiarp	0.66	98	Pg	Pg	22 26 32.9	+0.9
ORDF				Sg	Sg	22 26 42.0	+1.1
ORDF	Ordiarp	0.66	98	P	Pb	22 26 32.9	+1.0
ORDF				S	Sb	22 26 41.3	+0.5
LARF	Larrau	0.67	113	Pg	Pg	22 26 32.0	-0.2
LARF				Sg	Sg	22 26 41.5	+0.2
LARF	Larrau	0.67	113	P	Pb	22 26 32.1	+0.1
LARF				S	Sb	22 26 41.1	-0.1
ATE	Arette	0.85	105	P	Pb	22 26 35.9	+0.7
ATE				S	Sb	22 26 47.0	+0.6
ETSF	Etsaut	1.01	113	ePg	Pg	22 26 37.8	-1.3
ETSF				ePn	Pn	22 26 39.7	+0.8
ETSF				eSg	Sg	22 26 51.1	-1.5
	43nm,0.2s						
ETSF				eSn	Sn	22 26 53.0	-0.3
VIEF	Viey	1.42	107	S	Sb	22 27 04.3	+1.4
EBIE	Bielsa	1.57	113	Pg	Pg	22 26 49.0	-1.2
	6.0nm,0.2s,SNR=7.9						
EBIE				Lg		22 27 09.6	
	21nm,0.2s,SNR=7.9						
EBIE	Bielsa	1.57	113	Pg	Pg	22 26 49.0	-1.2
	6.0nm,0.2s,SNR=7.9						
EPF	Esparros	1.61	99	ePn	Pn	22 26 48.7	+1.3
EPF				ePg	Pg	22 26 50.5	-0.4
EPF				eSn	Sn	22 27 08.0	-0.4
EPF				eSg	Sg	22 27 10.4	-2.0
	18nm,0.2s						
ESAC	San Caprasio	1.88	147	Pn	Pn	22 26 49.7	-1.5
	4.8nm,0.1s,SNR=7.9						
ESAC				Lg		22 27 16.9	
	39nm,0.2s,SNR=13						
ESAC	San Caprasio	1.88	147	Pn	Pn	22 26 52.3	+1.1
ESAC				Lg		22 27 13.9	
ESAC	San Caprasio	1.88	147	Pn	Pn	22 26 52.3	+1.1
	4.8nm,0.1s,SNR=7.9						
LFF	La Frestale	2.47	48	ePn	Pn	22 27 02.6	+2.9
LFF				eSn	Sn	22 27 30.5	+0.3
LFF				eSg	Sg	22 27 41.6	+0.7
	6.6nm,0.3s						
EARI	Arriondas	2.47	271	Pn	Pn	22 27 02.4	+2.6
	586nm,2.5s,SNR=4.0						
EARI				Sn	Sn	22 27 30.9	+0.7
	0.5nm,0.2s,SNR=4.0						
EARI				Lg		22 27 40.7	
	0.3nm,0.1s,SNR=4.0						
EARI	Arriondas	2.47	271	Pn	Pn	22 27 02.4	+2.7
	586nm,2.5s,SNR=4.0						
EARI				Sn	Sn	22 27 30.9	+0.7
	0.5nm,0.2s,SNR=4.0						
ETOR	Torete	2.49	184	Pn	Pn	22 26 58.5	-1.5
	0.6nm,0.3s,SNR=6.1						
ETOR				Pg	Pg	22 27 03.6	-4.9
	15nm,0.5s,SNR=33						
ETOR				Lg		22 27 33.6	
	6.1nm,0.3s,SNR=8.5						
EMIR	Miracle	2.84	118	Pn	Pn	22 27 05.5	+0.5
	SNR=4.0						
EMIR				Pg	Pg	22 27 12.3	-3.2
	2.2nm,0.1s,SNR=7.9						
EMIR	Miracle	2.84	118	Pn	Pn	22 27 05.5	+0.5
	SNR=4.0						
EMIR	Miracle	2.84	118	Pg	Pg	22 27 12.3	-3.2
	2.2nm,0.1s,SNR=7.9						
EPOB	Poblet	2.91	131	Pn	Pn	22 27 04.7	-1.3
	0.1nm,0.0s,SNR=7.9						
EPOB				Lg		22 27 49.2	
	0.9nm,0.1s,SNR=4.0						
EPOB	Poblet	2.91	131	Pn	Pn	22 27 04.7	-1.3
EPOB				Lg		22 27 46.8	
EPOB	Poblet	2.91	131	Pn	Pn	22 27 04.7	-1.3
	0.1nm,0.0s,SNR=7.9						
MTLF	Montolieu	2.95	88	ePn	Pn	22 27 08.0	+1.4
MTLF				eSn	Sn	22 27 39.0	-3.5
EMOS	Mosqueruela	3.11	161	Pn	Pn	22 27 07.8	-1.1
	0.1nm,0.1s,SNR=7.9						
EMOS				Pg	Pg	22 27 14.7	-6.1
	0.5nm,0.1s,SNR=8.0						
EMOS				Sn	Sn	22 27 41.4	-5.1
	0.6nm,0.1s,SNR=4.0						
EMOS				Lg		22 27 54.7	
	1.7nm,0.2s,SNR=4.0						
EMOS	Mosqueruela	3.11	161	Pn	Pn	22 27 07.8	-1.1
	0.1nm,0.1s,SNR=7.9						
EMOS	Mosqueruela	3.11	161	Pg	Pg	22 27 14.7	-6.2
	0.5nm,0.1s,SNR=8.0						
EMOS	Mosqueruela	3.11	161	Sn	Sn	22 27 41.4	-5.1
	0.6nm,0.1s,SNR=4.0						
RJF	Les Rejaudoux	3.12	49	ePn	Pn	22 27 10.5	+1.5
RJF				eSn	Sn	22 27 45.9	-0.9
RJF				eSg	Sg	22 28 01.7	-1.0
	5.5nm,0.4s						
CAF	Calviac	3.24	59	ePn	Pn	22 27 11.9	+1.2
CAF				eSn	Sn	22 27 47.2	-2.5
	2.4nm,0.2s						
MFF	Saint Martin d	3.50	19	ePn	Pn	22 27 16.3	+1.8
MFF				eSn	Sn	22 27 56.8	+0.3
	6.1nm,0.6s						
MFF				eSg	Sg	22 28 14.5	-1.0
	2.4nm,0.2s						
EJON	La Jonquera	3.57	102	Lg		22 28 13.0	
	1.1nm,0.2s,SNR=4.0						
ECAL	Calabor	3.87	251	Pn	Pn	22 27 18.7	-1.0
	0.5nm,0.2s,SNR=4.0						
ECAL				Sn	Sn	22 28 02.9	-2.8
	2.0nm,0.4s,SNR=4.0						
ECAL				Lg		22 28 16.4	
	1.2nm,0.2s,SNR=4.0						
ECAL	Calabor	3.87	251	Pn	Pn	22 27 18.7	-1.0
ECAL				Sn	Sn	22 28 00.4	-5.3
ECAL				Lg		22 28 16.4	
ECAL	Calabor	3.87	251	Pn	Pn	22 27 18.7	-1.0
ECAL				Sn	Sn	22 28 00.4	-5.3
ESDC	Sonseca Array	3.97	205	Pn	Pn	22 27 17.7	-3.3
	0.3nm,0.2s,baz=31,slow=14,SNR=4.0						
ESDC				Pg	Pg	22 27 30.9	-7.0
	0.3nm,0.1s,baz=29,slow=17,SNR=4.5						
ESDC				Sn	Sn	22 28 00.4	-7.8
	0.6nm,0.3s,baz=27,slow=23,SNR=12						
ESDC				Lg		22 28 21.5	
	0.9nm,0.4s,baz=28,slow=28,SNR=4.2						
ESDC	Sonseca Array	3.97	205	Pn	Pn	22 27 17.7	-3.4
	0.3nm,0.2s,slow=14,SNR=4.0						
ESDC	Sonseca Array	3.97	205	Pg	Pg	22 27 30.9	-7.1
	0.3nm,0.1s,slow=17,SNR=4.5						
TCF	Toulx Ste Croi	4.14	43	ePn	Pn	22 27 24.6	+1.1
TCF				eSn	Sn	22 28 10.4	-2.2
	1.7nm,0.2s						
LASF	Ste Croix	4.19	77	ePn	Pn	22 27 25.0	+0.7
LASF				eSn	Sn	22 28 10.1	-3.8
	2.1nm,0.3s						
BGF	Bois d'Agland	4.64	44	ePn	Pn	22 27 31.0	+0.3
BGF				eSn	Sn	22 28 23.8	-1.5
BGF				eSg	Sg	22 28 49.1	-4.3
	6.1nm,0.4s						
QUIF	Quistinic	4.71	349	ePn	Pn	22 27 33.6	+2.1
QUIF				eSn	Sn	22 28 25.7	-1.2
	27nm,1.1s						
VIVF	Saint-Julien-l	4.93	69	ePn	Pn	22 27 36.1	+1.4
VIVF				eSn	Sn	22 28 28.7	-3.9
	1.2nm,0.3s						
AVF	Avril sur Loir	5.06	45	ePn	Pn	22 27 36.5	0.0
AVF				eSn	Sn	22 28 32.9	-2.9
ROSF	Rostrenen	5.13	349	eSn	Sn	22 28 36.8	-0.8
	10nm,0.8s						
SSF	Saint Saulge	5.32	43	ePn	Pn	22 27 40.4	+0.2
SSF				eSn	Sn	22 28 37.6	-4.7
	3.5nm,1.2s						

*NEIC **16** 22:28:32.8±0.6, 18.38S×177.75W, h600km, mb4.1/3, Error ellipse: s-maj=25.5km s-min=12.9km az=148.0*
*IDC **16** 22:28:36.8±3.5, 18.60S×177.79W, h653km±50km, mb3.1/6, mb1 3.4/6, mb1mx3.1/15, Error ellipse: s-maj=40.7km s-min=17.0km az=160.0*
ISC 16 22:28:34.7±3.5**, 18.6S**±0.3×**177.8W**±0.2**, h643**km±52km**, n13, σ0s78**/13**, mb3.7**/8**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	20.11	192	P	P	22 32 28.5	-0.8
	2.4nm,0.3s,baz=306,slow=3.6,SNR=8.3						
CTAO	Charters Tower	33.89	261	eP	P	22 34 29.0	+0.5
	14nm,1.2s,mb4.4						
STKA	Stephens Creek	38.81	242	P	P	22 35 10.0	+1.4
	1.6nm,0.5s,mb3.7,baz=105,slow=10,SNR=6.3						
STKA	Stephens Creek	38.81	242	eP	P	22 35 09.8	+1.2
WB2	Warramunga Arr	45.05	260	eP	P	22 35 57.6	-0.2
WRAB	Tennant Creek	45.05	260	eP	P	22 35 57.1	-0.7
	3.5nm,0.4s,mb4.0						
WRA	Warramunga Arr	45.06	260	P	P	22 35 57.7	-0.1
	1.9nm,0.4s,mb3.8,baz=97,slow=7.0,SNR=86						
ASAR	Alice Springs	45.15	255	P	P	22 35 58.6	+0.1
	2.3nm,0.4s,mb3.8,baz=91,slow=7.7,SNR=51						
ASAR				S	S	22 41 53.3	-0.4
	0.2nm,0.6s,baz=95,slow=16,SNR=5.2						
ASPA	Alice Springs	45.15	255	eP	P	22 35 58.6	+0.1
MNV	Mina	79.61	44	P	P	22 39 38.5	-0.1
	0.9nm,0.8s,mb3.2						
TXAR	Lajitas Array	85.88	57	P	P	22 40 11.3	+1.4
	1.1nm,0.9s,mb3.5,baz=216,slow=6.2,SNR=10						
ILAR	Eielson Array	86.40	13	P	P	22 40 10.1	-1.4
	0.3nm,0.5s,mb3.2,baz=223,slow=4.6,SNR=8.2						
GERES	GERESS Array B	148.39	345	PKPbc	PKPdf	22 47 11.6	+5.9
	0.3nm,0.7s,slow=2.7,SNR=4.0						

*NEIC **16** 23:03:43.4, 36.80S×177.56E, h219km, After WEL.*
WEL 16 23:03:44.3±0.3**, 36.71S×177.49E, h196**km±3km**, ML3.6**/2**, Error ellipse: s-maj=5.1km s-min=3.6km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.08	143	eP	P	23 04 14.0	-0.4
MXZ	Matakaoa Point	1.08	143	PN	P	23 04 14.0	-0.4
MXZ				SN	S	23 04 36.8	-0.9
PUZ	Puketiti	1.49	156	P	P	23 04 17.8	-0.2
PUZ				S	S	23 04 43.1	-0.9
PUZ	Puketiti	1.49	156	PN	P	23 04 17.8	-0.3
PUZ				SN	S	23 04 43.0	-1.1
URZ	Urewera	1.58	191	P	P	23 04 18.9	+0.1
URZ	Urewera	1.58	191	PN	P	23 04 18.7	-0.1
URZ				SN	S	23 04 45.1	-0.2
MWZ	Matawai	1.62	179	P	P	23 04 19.4	+0.2
MWZ	Matawai	1.62	179	PN	P	23 04 19.2	0.0
MWZ				SN	S	23 04 46.1	0.0
KNZ	Kokohu	2.31	176	eP	P	23 04 25.9	-0.5
KNZ	Kokohu	2.31	176	PN	P	23 04 25.8	-0.6
KNZ				SN	S	23 04 57.6	-1.2
BKZ	Black Stump Fm	2.58	197	eP	P	23 04 28.9	-0.4
BKZ	Black Stump Fm	2.58	197	PN	P	23 04 28.8	-0.5
BKZ				SN	S	23 05 02.7	-1.4
MRZ	Mangatainoka R	4.22	200	eP	P	23 04 46.4	-3.0
MRZ	Mangatainoka R	4.22	200	PN	P	23 04 46.6	-2.8
KIW	Kapiti Island	4.61	205	SN	S	23 05 44.4	-4.2
NNZ	Nelson	5.52	214	SN	S	23 06 06.0	-3.6
THZ	Tophouse	6.17	214	eP	P	23 05 11.7	-2.8
THZ	Tophouse	6.17	214	ePN	P	23 05 10.8	-3.7
MQZ	McQueen's Vall	7.91	206	SN	S	23 06 56.5	-8.9

*NIED **16** 23:38:00, 28.70N×143.00E, h8km, Mw4.8 Best double couple: $M_0$1.73×10^16 NP1:ϕ_s160°, δ57°, λ-81°. NP2: ϕ_s324°, δ34°, λ-104°.*
*BJI **16** 23:38:44.4, 28.77N×142.77E, h5km, mB5.1, mb5.0, Ms4.9, Msz4.9*
*JMA **16** 23:38:45.8±0.3, 28.73N×143.00E, h81km, M4.8*
*HRVD **16** 23:38:46.8±0.4, 28.82N×143.24E, h18km±1km, MW4.9/48, Centroid moment Tensor Solution. LP body waves: s23,c32;Mantle waves: s48,c72; Half duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}-2.87±.19; $M_{\theta\theta}$0.51±.13; $M_{\phi\phi}$2.36±.13; $M_{r\theta}$0.40±.32; $M_{\theta\phi}$-0.96±.08; $M_{\phi r}$0.17±.27; Best double couple: $M_0$2.85×10^16 NP1:ϕ_s165°, δ46°, λ-79°. NP2:ϕ_s329°, δ46°, λ-101°. Principal axes: T 2.77, Plg0°, Azm67°; N .16, Plg8°, Azm337°; P -2.93, Plg82°, Azm157°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **16** 23:38:46.8±1.7, 28.67N×143.07E, h26km±12km, mb5.1/88,*

MW4.8(NIED) Error ellipse: s-maj=4.2km s-min=3.9km az=121.0

*SYO **16** 23:38:46.3,28.64N×143.10E,h23km,MB5.1*

*MOS **16** 23:38:47.1±0.7,29.01N×143.31E,h30km,mb5.4/15,Error ellipse: s-maj=27.0km s-min=7.7km az=114.6*

*IDC **16** 23:38:49.6±0.3,28.64N×143.17E,h47km±3km,mb4.7/20, mb1 4.8/24,mb1mx4.8/27,MS4.0/14,Ms1 4.0/14, ms1mx3.9/22,Error ellipse: s-maj=12.7km s-min=5.7km az=110.0*

*CSEM **16** 23:38:50.0,29.44N×143.12E,h33km,mb5.5*

ISC 16 23:38:49.9±0.2**,29.06N**±0.03×**143.04E**±0.03**,h48km, h48km**±1.0km**:pP-P,n341,**σ1s02/347**,mb5.1**/124**,MS4.1**/15**, 11C-13D,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.09	201	P	P	23 39 15.7	-7.5
CBIJ				S	S	23 39 38.9	-9.2
CBIJ	Chichi jima	2.09	201	P	P	23 39 15.5	-7.7
CBIJ				S	S	23 39 37.9	-10
JHHJ	Haha-jima-NKT	2.53	198	P	P	23 39 20.8	-8.7
JHHJ				S	S	23 39 48.9	-10
JHJ2	Mitsune	4.89	326	P	P	23 40 02.2	-0.7
JHJ2				S	S	23 41 00.4	+1.5
JHJ	Hachijo jima 2	4.92	326	P	P	23 40 02.8	-0.4
	72nm,0.3s,baz=222,slow=18,SNR=3.5						
JHJ				S	S	23 41 00.0	+0.5
	117nm,0.3s,baz=81,slow=19,SNR=4.6						
BSO1	Boso 1	5.85	343	S	S	23 41 22.5	-0.3
JKO	Kozu shima	6.10	328	P	P	23 40 19.1	-0.6
BSO3	Boso 3	6.12	340	P	P	23 40 18.0	-1.9
BSO4	Boso 4	6.34	340	P	P	23 40 21.6	-1.5
JOD2	Odawara 2	7.03	333	P	P	23 40 32.0	-0.8
HMMJ	Hamamatsu 2	7.33	323	P	P	23 40 37.5	+0.5
JHU	Hanno	7.48	336	P	P	23 40 38.1	-0.9
JHU				S	S	23 42 00.0	-3.3
JYT	Yasato	7.54	342	P	P	23 40 38.9	-0.9
JNY	Yasuok	7.66	326	P	P	23 40 41.8	+0.4
JRY	Ryogami san	7.77	334	P	P	23 40 42.3	-0.6
JRY				S	S	23 42 09.8	-0.6
JHO	Hitachi	7.81	345	P	P	23 40 41.3	-2.3
JHO				S	S	23 42 08.1	-3.5
JAO	Obara	7.89	323	P	P	23 40 45.6	+0.9
JAG	Ashikaga	7.94	339	P	P	23 40 43.5	-1.8
MAJO	Matsushiro	8.50	333	eP	P	23 40 52.4	-0.6
	73nm,0.4s						
MAT	Matsushiro	8.50	333	P	P	23 40 52.4	-0.6
MAT				S	S	23 42 26.6	-2.0
MAT	Matsushiro	8.50	333	P	P	23 40 52.3	-0.7
MAT				S	S	23 42 27.7	-0.9
MAT	Matsushiro	8.50	333	eP	P	23 40 52.0	-1.0
	57nm,0.5s						
MAT				eS	S	23 42 27.0	-1.6
JMK	Ichinoseki	9.98	352	P	P	23 41 09.8	-3.7
JMK				S	S	23 42 58.9	-6.3
JOW	Kunigami	13.24	264	P	P	23 41 58.7	+1.4
	6.7nm,0.3s,baz=78,slow=20,SNR=2.7						
JOW				LR	LR	23 46 59.6	
	comp=Z,917nm,19.8s,baz=82,slow=37						
ASAJ	Asahikawa	15.03	359	P	P	23 42 19.4	-1.2
	3.6nm,0.3s,baz=242,slow=9.5,SNR=8.8						
ASAJ				S	S	23 45 00.2	-6.1
	1.0nm,0.3s,baz=290,slow=29,SNR=3.0						
KS15	Wonju Array Si	15.17	307	eP	P	23 42 24.0	+1.4
INCN	Inchon	16.07	306	eP	P	23 42 35.6	+1.6
	161nm,0.9s						
INCN				e		23 42 50.1	
YSS	Yuzh-Sakhalins	17.87	359	⇑eP	P	23 42 57.3	+0.8
YSS				pmax	pmax		
	comp=Z,50nm,1.0s						
YSS	Yuzh-Sakhalins	17.87	359	⇑eP	P	23 42 57.3	+0.8
	comp=Z,50nm,1.0s						
MDJ	Mudanjiang	18.85	329	P	P	23 43 08.8	+0.4
MDJ				AMB	AMB		
	comp=Z,73nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,309nm,7.2s						
MDJ	Mudanjiang	18.85	329	eP	P	23 43 08.7	+0.2
	comp=Z,82nm,1.0s						
MDJ				e		23 43 24.4	
SSE	Sheshan	19.02	282	P	P	23 43 09.6	-0.9
SSE				S	S	23 46 43.9	+6.7
SSE				AMB	AMB		
	comp=Z,23nm,0.7s						
TATO	Taipei	19.62	263	eP	P	23 43 14.0	-3.1
SNY	Shenyang	20.28	314	⇑P	P	23 43 22.1	-1.9
SNY				AP		23 43 26.3	
SNY				XP		23 43 28.8	
CN2	Changchun	20.35	321	eP	P	23 43 26.3	+1.5
CN2				AMB	AMB		
	comp=Z,50nm,0.9s						
CN2				AMB	AMB		
	comp=Z,310nm,5.0s						
NJ2	Nanjing	21.03	284	eP	P	23 43 29.8	-2.0
NJ2				AP		23 43 39.3	
NJ2				XP		23 43 43.3	
NJ2				PP	PP	23 43 53.5	-2.1
NJ2				S	S	23 47 17.0	-1.2
NJ2				XS		23 47 32.0	
NJ2				AMB	AMB		
	comp=Z,160nm,0.8s,mb5.4						
NJ2				LR	LR		
	comp=N,1μm,20.8s,MS4.5						
NJ2				LR	LR		
	comp=E,1μm,16.3s,MS4.5						
NJ2				LR	LR		
	comp=Z,6μm,16.8s,MS5.0						
SKR	Severo-Kuril's	23.75	21	eP	P	23 43 55.4	-3.0
BJT	Baijiatuau	24.60	304	eP	P	23 44 05.7	-1.1
	comp=Z,18nm,0.7s,mb4.7						
BJI	Beijing	24.60	304	P	P	23 44 05.4	-1.4
BJI				XP		23 44 19.3	
BJI				S	S	23 48 23.1	+1.3
WHN	Wuhan	24.91	281	P	P	23 44 10.0	+0.1
PET	Petropavlovsk	26.57	21	eP	pP	23 44 37.0	-0.3
HIA	Hailar	26.89	325	eP	P	23 44 29.7	+1.6
	comp=Z,31nm,0.9s,mb4.8						
HHC	Hu-ho-hao-te	28.20	303	⇑P	P	23 44 39.4	-0.7
HHC				AP	pP	23 44 45.4	-7.1
HHC				XP	sP	23 44 48.1	-10
HHC				PP	PP	23 45 26.0	-5.8
HHC				PCP	PcP	23 47 53.6	+0.5
HHC				S	S	23 49 22.5	+1.7
HHC				XS		23 49 30.5	
HHC				AMB	AMB		
	comp=Z,21nm,0.9s,mb4.8						
HHC				AMB	AMB		
	comp=Z,269nm,7.0s						
ENH	Enshi	29.12	281	eP	P	23 44 46.0	-2.4
	comp=Z,24nm,0.9s,mb4.9						
XAN	Xi'an	29.41	288	P	P	23 44 48.8	-2.1
XAN				AMB	AMB		
	comp=Z,33nm,1.0s,mb5.0						
CLNS	Chul'man	30.58	340	eP	P	23 45 01.2	+0.1
CLNS				pmax	pmax		
	comp=Z,29nm,1.0s,mb5.1						
CLNS				pmax	pmax		
	comp=N,14nm,0.9s						
CLNS				pmax	pmax		
	comp=E,9.0nm,1.0s						
GYA	Guiyang	32.21	274	⇓P	P	23 45 13.4	-2.4
GYA				S	S	23 50 22.1	-2.2
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
GYA				AMB	AMB		
	comp=Z,210nm,6.3s						
FX1	Attu Island--F	32.51	34	P	P	23 45 18.2	+0.1
	comp=Z,16nm,0.9s,mb5.0,baz=231,slow=6.5,SNR=5.4						
FX1				pP	pP	23 45 30.0	-0.7
	comp=Z,21nm,0.5s,baz=100,slow=20,SNR=4.1						
FX1	Attu Island--F	32.51	34	eP	P	23 45 18.4	+0.3
FX1				e	pP	23 45 28.8	-1.9
LZH	Lanzhou	33.59	292	⇑P	P	23 45 26.4	-1.2
LZH				AMB	AMB		
	comp=Z,38nm,1.0s,mb5.3						
LZH				AMB	AMB		
	comp=Z,131nm,4.4s						
SONM	Songino Array	33.86	314	P	P	23 45 31.7	+1.9
	comp=Z,24nm,0.8s,mb5.2,baz=112,slow=7.8,SNR=140						
SONM				pP	pP	23 45 44.2	+1.7
	comp=Z,13nm,0.7s,baz=104,slow=10,SNR=10						
SONM				PcP	PcP	23 48 06.9	-1.0
	comp=Z,3.4nm,0.9s,baz=153,slow=2.8,SNR=3.8						
CD2	Chengdu	33.95	283	P	P	23 45 28.8	-2.0
CD2				AMB	AMB		
	comp=Z,42nm,1.0s,mb5.3						
YAK	Yakutsk	34.13	349	eP	P	23 45 30.8	-1.2
YAK				pmax	pmax		
	comp=Z,24nm,0.9s,mb5.1						
YAK				pmax	pmax		
	comp=N,8.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.0s						
YAK	Yakutsk	34.13	349	eP	P	23 45 30.8	-1.2
	comp=E,24nm,0.9s,mb5.1						
BOD	Bodaibo	35.13	333	eP	P	23 45 39.9	-0.7
KMI	Kunming	35.97	273	eP	P	23 45 46.4	-1.6
KMI				XP	sP	23 45 51.8	-15
KMI				PP	PP	23 47 11.8	+1.1
KMI				S	S	23 51 26.8	+4.3
KMI				XS		23 51 30.3	
KMI				SS	SS	23 53 46.9	+0.2
ZAK	Zakamensk	36.67	317	⇓iP	P	23 45 55.4	+1.7
ZAK				e		23 48 15.7	
GTA	Gaotai	36.89	298	⇑iP	P	23 45 55.3	-0.3
GTA				PP	PP	23 47 22.8	+0.5
GTA				PCP	PcP	23 48 16.6	-0.3
GTA				S	S	23 51 36.9	+0.4
GTA				AMB	AMB		
	comp=Z,25nm,0.9s,mb5.0						
GTA				AMB	AMB		
	comp=Z,263nm,6.1s						
PMG	Port Moresby	38.44	173	P	P	23 46 02.9	-5.9
	comp=Z,7.6nm,0.7s,mb4.5,baz=138,slow=8.4,SNR=7.0						
PMG				LR	LR	23 59 04.6	
	comp=Z,110nm,18.8s,MS3.7,baz=4.3,slow=32						
PMG	Port Moresby	38.44	173	eP	P	23 46 02.4	-6.5
	comp=Z,34nm,1.3s,mb4.9						
MOY	Mondy	38.47	318	eP	P	23 46 09.2	+0.5
KKTK	Khon Kaen	39.01	260	P	P	23 46 10.0	-3.5
CHG	Chiang Mai	41.37	266	⇓P	P	23 46 30.1	-2.9
	comp=Z,16nm,0.9s,mb4.7						
CMAR	Chiang Mai Arr	41.50	265	P	P	23 46 32.5	-1.7
	comp=Z,3.1nm,0.8s,baz=46,slow=9.8,SNR=17						
CMAR				pP	pP	23 46 46.8	-0.3
	comp=Z,1.4nm,0.5s,baz=44,slow=10,SNR=4.5						
CMAR				PcP	PcP	23 48 30.4	-1.3
	comp=Z,1.6nm,0.8s,baz=79,slow=0.6,SNR=5.1						
CMAR				LR	LR	00 04 48.0	
	comp=Z,216nm,18.3s,MS4.1,baz=75,slow=38						
KAKA	Kakadu	42.76	195	eP	P	23 46 44.7	+0.1
	comp=Z,18nm,0.9s,mb4.8						
TIXI	Tiksi	43.35	354	d iP	P	23 46 49.2	+0.6
TIXI				eS	S	23 53 04.1	-8.4
TIXI				pmax	pmax		
	comp=Z,21nm,0.7s,mb5.0						
TIXI	Tiksi	43.35	354	i Pr	P	23 46 49.2	+0.6
	comp=Z,21nm,0.7s,mb5.0						
TIXI				eS	S	23 53 04.1	-8.4
SHL	Shillong	45.30	278	eP	P	23 47 03.5	-1.4
WMQ	Urumqi	46.07	304	eP	P	23 47 12.0	+1.2
WMQ				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.9						
SDPT	Sand Point	47.72	40	eP	P	23 47 21.6	-2.0
	comp=Z,672nm,2.7s,mb6.2						
ANM	Nome	47.88	27	eP	P	23 47 26.0	+1.3
CTA	Charters Tower	48.96	176	eP	P	23 47 28.2	-5.4
	comp=Z,8.2nm,0.9s,mb4.8						
CTA				e	pP	23 47 41.3	-5.3
CTA	Charters Tower	48.96	176	P	P	23 47 28.4	-5.3
	comp=Z,9.7nm,0.8s,mb4.9,baz=14,slow=8.9,SNR=13						
CTA				pP	pP	23 47 41.4	-5.2
	comp=Z,8.3nm,0.7s,baz=353,slow=9.5,SNR=6.6						
CTAO	Charters Tower	48.96	176	eP	P	23 47 28.2	-5.4
	comp=Z,12nm,0.8s,mb5.0						
CTAO				e	pP	23 47 41.3	-5.3
WRAB	Tennant Creek	49.42	191	P	P	23 47 31.0	-6.2
	comp=Z,376nm,0.7s,SNR=32						
WRAB	Tennant Creek	49.42	191	eP	P	23 47 30.9	-6.3
	comp=Z,91nm,0.8s,mb5.9						
WRAB				e	pP	23 47 45.4	-4.9
WB2	Warramunga Arr	49.43	191	eP	P	23 47 31.5	-5.8
WB2				e	pP	23 47 45.4	-4.9
WB2				eS	S	23 54 31.1	-8.6
WRA	Warramunga Arr	49.43	191	P	P	23 47 31.5	-5.8
	comp=Z,54nm,0.8s,mb5.6,baz=12,slow=8.3,SNR=127						
WRA				pP	pP	23 47 45.6	-4.7
	comp=Z,47nm,0.8s,baz=13,slow=8.5,SNR=15						
WRA				S	S	23 54 30.4	-9.3
	comp=Z,2.0nm,1.0s,baz=11,slow=14,SNR=6.2						
WRA				LR	LR	00 05 43.7	
	comp=Z,85nm,19.0s,MS3.8,baz=20,slow=33						
FITZ	Fitzroy Crossi	49.80	202	eP	P	23 47 35.5	-4.7
	comp=Z,16nm,0.8s,mb5.1						
FITZ				e	pP	23 47 49.2	-4.0
FITZ	Fitzroy Crossi	49.80	202	P	P	23 47 35.5	-4.6
	comp=Z,20nm,0.8s,mb5.2,baz=13,slow=7.7						
FITZ				pP	pP	23 47 49.1	-4.1
	comp=Z,19nm,0.6s,baz=20,slow=7.0,SNR=5.0						
FITZ				LR	LR	00 05 58.9	
	comp=Z,29nm,19.0s,MS3.3,baz=41,slow=33						
GUN	Gumba	49.82	283	eP	P	23 47 39.9	-0.3
	comp=Z,133nm,0.9s,mb6.0						
MK02	Makanchi Array	49.82	308	P	P	23 47 40.7	+0.8
MK02				pmax	pmax		
	comp=Z,27nm,0.9s,mb5.3						
PKI	Pulchoki	50.31	283	eP	P	23 47 42.8	-1.2
	comp=Z,53nm,1.1s,mb5.5						
KKN	Kakani	50.36	283	eP	P	23 47 43.4	-0.9
	comp=Z,82nm,1.0s,mb5.7						
DMN	Daman	50.56	283	eP	P	23 47 45.0	-0.9
	comp=Z,26nm,0.6s,mb5.3						
GKN	Gorkha	50.85	284	eP	P	23 47 47.0	-1.1
	comp=Z,90nm,1.1s,mb5.6						
KOLN	Koldanda	51.80	284	eP	P	23 47 54.3	-0.9
	comp=Z,62nm,0.9s,mb5.5						
KURK	Kurchatov	52.17	313	i P	P	23 47 57.7	+0.1
KURK				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.1						
ASAR	Alice Springs	53.15	190	P	P	23 47 59.2	-6.1
	comp=Z,7.6nm,1.1s,mb4.5,baz=5.8,slow=5.4,SNR=33						
ASAR				pP	pP	23 48 14.2	-4.3
	comp=Z,3.8nm,0.8s,baz=6.6,slow=6.1,SNR=6.6						
ASAR				S	S	23 55 28.8	-2.0
	comp=Z,0.6nm,0.9s,baz=18,slow=11,SNR=3.6						
ASAR				LR	LR	00 08 40.0	
	comp=Z,93nm,19.4s,MS3.9,baz=0.9,slow=34						
ASAR				PKPPKP		00 18 31.1	
	comp=Z,0.4nm,0.7s,baz=187,slow=1.9,SNR=4.5						
ASAR	Alice Springs	53.15	190	P	P	23 47 59.2	-6.1
ASAR				pP	pP	23 48 14.2	-4.3
ASAR				S	S	23 55 28.8	-2.0
ASAR				P'P'		00 18 31.1	
ASPA	Alice Springs	53.15	190	eP	P	23 47 59.5	-5.8
PMR	Palmer	54.39	33	eP	P	23 48 12.7	-1.2
	comp=Z,30nm,0.8s,mb5.3						
MCK	McKinley	54.66	30	eP	P	23 48 15.1	-0.8
	comp=Z,24nm,1.2s,mb5.1						
MBWA	Marble Bar	54.75	207	eP	P	23 48 10.5	-6.6
MBWA				e	pP	23 48 24.7	-5.6
TKM2	Tokmak 2	54.93	304	P	P	23 48 19.4	+1.3
	SNR=18						
COLA	College	55.24	29	eP	P	23 48 17.8	-2.2
	comp=Z,9.1nm,0.8s,mb4.9						
KSH	Kashi	55.24	300	eP	P	23 48 22.8	+2.4
KSH				AMB	AMB		
	comp=Z,170nm,5.7s						
KBK	Karagaybulak	55.44	304	P	P	23 48 22.8	+0.9
	SNR=28						
CHMS	Chumysh	55.53	304	P	P	23 48 23.3	+0.9
	SNR=9.3						
ILAR	Eielson Array	55.64	29	P	P	23 48 21.5	-1.4
	comp=Z,17nm,0.9s,mb5.1,baz=258,slow=6.3,SNR=16						
ILAR				LR	LR	00 12 08.2	
	comp=Z,110nm,18.4s,MS4.0,baz=181,slow=36						
FRU	Bishkek	55.65	304	eP	P	23 48 24.2	+0.8
FRU				pmax	pmax		
	comp=Z,70nm,1.7s,mb5.4						
FRU	Bishkek	55.65	304	eP	P	23 48 24.2	+0.8
	comp=Z,70nm,1.7s,mb5.4						
USP	Ospenovka	55.67	305	P	P	23 48 24.1	+0.6
	SNR=10						
DDI	Dehra Dun	55.74	289	eP	P	23 48 21.3	-2.9
DDI				e		23 53 56.5	
AAK	Ala-Archa	55.78	304	P	P	23 48 25.0	+0.8
	SNR=8.7						
AAK	Ala-Archa	55.78	304	eP	P	23 48 23.6	-0.6
	comp=Z,15nm,0.8s,mb5.1						
UCH	Uchtor	55.83	303	P	P	23 48 26.4	+1.8
	SNR=17						
EKS2	Erkin-Say	56.29	304	P	P	23 48 28.7	+0.7
	SNR=12						
AML	Almayashu	56.45	303	P	P	23 48 30.8	+1.8
	SNR=30						
NDI	New Delhi	56.92	287	eP	P	23 48 31.5	-1.1
BVA0	Borovoye Array	57.13	317	i P	P	23 48 33.7	-0.1
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVA0	Borovoye Array	57.13	317	i P	P	23 48 33.7	-0.1
	comp=Z,1.0nm,0.6s						
BRVK	Borovoye	57.19	317	eP	P	23 48 33.9	-0.3
	comp=Z,9.5nm,0.9s,mb4.8						
HYB	Hyderabad	59.75	274	i P	P	23 48 51.0	-1.5
STKA	Stephens Creek	60.61	181	eP	P	23 48 52.9	-5.3
	comp=Z,14nm,0.9s,mb5.1						
STKA				e	pP	23 49 06.1	-5.5
STKA	Stephens Creek	60.61	181	P	P	23 48 53.0	-5.3
	comp=Z,16nm,0.8s,mb5.2,baz=348,slow=7.8,SNR=37						
STKA				pP	pP	23 49 05.5	-6.2
	comp=Z,16nm,0.8s,baz=330,slow=5.9,SNR=8.3						
INK	Inuvik	60.94	25	eP	P	23 48 59.1	-0.9
	comp=Z,24nm,1.1s,mb5.2						
FORT	Forrest	61.19	195	eP	P	23 48 56.3	-5.8
	comp=Z,32nm,1.0s,mb5.4						
FORT				e	pP	23 49 09.8	-5.8
SVE	Sverdlovsk	62.14	322	⇑iP	P	23 49 08.5	+0.4
ARU	Arti	63.35	322	⇓iP	P	23 49 15.9	-0.3
ARU				e	pP	23 49 32.6	+2.9
ARU				pmax	pmax		
	comp=Z,32nm,1.0s,mb5.4						
ARU	Arti	63.35	322	⇓iP	P	23 49 15.9	-0.3
	comp=Z,32nm,1.0s,mb5.4						
ARU				e	pP	23 49 32.6	+2.9
POO	Poona	63.40	277	eP	P	23 49 14.0	-3.0
DLBC	Dease Lake	64.18	36	eP	P	23 49 21.6	+0.1
KLBR	Kellerberrin	64.93	204	eP	P	23 49 21.8	-5.0
	comp=Z,14nm,0.9s,mb5.0						
KLBR				e	pP	23 49 35.3	-5.1
TOO	Toolangi	66.32	178	eP	P	23 49 30.9	-4.7
	comp=Z,4.8nm,0.9s,mb4.5						
NWAO	Narrogin (SRO)	66.33	204	P	P	23 49 31.2	-4.6
	comp=Z,28nm,1.1s,mb5.2,baz=31,slow=8.0,SNR=9.7						
NWAO				pP	pP	23 49 44.3	-5.1
	comp=Z,16nm,0.7s,baz=31,slow=6.8,SNR=6.0						
NWAO	Narrogin (SRO)	66.33	204	eP	P	23 49 30.8	-5.0
	comp=Z,12nm,0.8s,mb5.0						
NWAO				e	pP	23 49 45.0	-4.4
RES	Resolute Bay	69.98	14	eP	P	23 49 58.1	+0.3
	comp=Z,33nm,1.1s,mb5.2						
YKA	Yellowknife Ar	70.07	29	P	P	23 49 57.8	-0.6
	comp=Z,16nm,0.8s,mb5.0,baz=294,slow=6.4,SNR=20						
YKA				pP	pP	23 50 10.4	-1.8
	comp=Z,7.9nm,1.0s,baz=296,slow=6.4,SNR=3.7						
YKA	Yellowknife Ar	70.07	29	P	P	23 49 57.8	-0.6
YKA				pP	pP	23 50 10.4	-1.7
APA	Apatity	70.53	337	⇓iP	P	23 50 02.2	+1.0
APA				i	pP	23 50 14.4	-0.5
APA				pmax	pmax		
	comp=Z,65nm,1.0s,mb5.5						
APA	Apatity	70.53	337	⇓iP	P	23 50 02.2	+1.0
	comp=Z,65nm,1.0s,mb5.5						
APA				i	pP	23 50 14.4	-0.5
HDW	Hoodsport	71.60	45	P	P	23 50 08.4	+0.5
VDB	Vedder Mountai	71.64	44	P	P	23 50 07.8	-0.3
GNW	Green Mountain	71.78	45	eP	P	23 50 09.4	+0.5
CMW	Cultus Mountai	71.87	44	P	P	23 50 09.9	+0.3
ARCES	ARCESS Array B	71.94	341	P	P	23 50 10.8	+1.3
	comp=Z,17nm,0.8s,mb5.0,baz=66,slow=7.2,SNR=21						
ARCES				pP	pP	23 50 24.0	+0.6
	comp=Z,7.1nm,0.8s,baz=68,slow=6.5,SNR=2.8						
ARCES				LR	LR	00 29 03.6	
	comp=Z,135nm,18.8s,MS4.2,baz=17,slow=42						
JCW	Jim Creek	72.08	44	P	P	23 50 10.8	+0.1
SSOR	Sweet Springs	73.10	48	eP	P	23 50 17.0	+0.2
NLW	Nelson Butte	73.10	44	eP	P	23 50 16.9	+0.1
NLW				e	pP	23 50 29.4	-1.2
VFP	Flag Point	73.55	47	P	P	23 50 19.7	+0.3
JOF	Joensuu	73.66	334	ep	P	23 50 19.8	0.0
YBH	Yreka Blue Hor	74.23	51	eP	P	23 50 23.4	-0.1
	comp=Z,16nm,0.9s,mb4.9						
HAWA	Hanford	74.31	45	eP	P	23 50 23.3	-0.5
	comp=Z,10nm,0.8s,mb4.8						
WDC	Whiskeytown Da	74.83	52	eP	P	23 50 26.7	-0.3
	comp=Z,7.7nm,0.9s,mb4.6						
NEW	Newport	74.96	43	eP	P	23 50 27.1	-0.4
	comp=Z,29nm,1.0s,mb5.2						
NEW				e	pP	23 50 41.4	+0.1
LTIM	Timbered Crate	75.30	51	P	P	23 50 29.6	0.0
LNOR	Lincton Mounta	75.32	46	eP	P	23 50 28.5	-1.1
OBN	Obninsk	75.35	325	deP	P	23 50 29.9	+0.2
OBN				pmax	pmax		
	comp=Z,49nm,1.5s,mb5.2						
OBN				MLR	MLR		
	comp=Z,300nm,15.0s,MS4.7						
OBN	Obninsk	75.35	325	ePr		23 50 29.9	
	comp=Z,49nm,1.5s						
OBN				LR	LR		
	comp=Z,300nm,15.0s,MS4.7						
KAF	Kangasniemi	76.04	334	ep	P	23 50 33.0	-0.4
	comp=Z,22nm,0.9s,mb5.1						
KAF	Kangasniemi	76.04	334	eP	P	23 50 33.0	-0.4
KAF				pmax	pmax		
	comp=Z,22nm,0.9s,mb5.1						
WALA	Waterton Lakes	76.48	41	eP	P	23 50 36.2	+0.1
	comp=Z,30nm,0.8s,mb5.3						
GOF	Gofitskoye	76.52	314	eP	P	23 50 37.0	+0.5
FINES	FINESS Array B	76.53	334	P	P	23 50 36.7	+0.5
	comp=Z,20nm,1.0s,mb5.0,baz=66,slow=4.8,SNR=55						
FINES				pP	pP	23 50 50.1	+0.1
	comp=Z,4.6nm,0.5s,baz=77,slow=5.0,SNR=5.0						
BEKR	Beckwourth	76.65	52	eP	P	23 50 36.6	-0.7
	comp=Z,28nm,0.9s,mb5.2						
BEKR				e	pP	23 50 50.5	-0.7
RPZ	Rata Peaks	76.84	160	P	P	23 50 33.5	-4.9
	comp=Z,31nm,0.9s,mb5.2,baz=33,slow=6.6,SNR=7.3						
RPZ				pP	pP	23 50 47.7	-4.5
	comp=Z,4.8nm,0.4s,baz=119,slow=1.3,SNR=3.6						
KIV	Kislovodsk	77.26	313	d iP	P	23 50 41.6	+0.9
KIV				eS	S	00 00 20.8	-4.6
KIV				pmax	pmax		
	comp=Z,27nm,1.0s,mb5.1						
KIV	Kislovodsk	77.26	313	i Pr		23 50 41.6	
	comp=Z,27nm,1.0s						
KIV				eS	S	00 00 20.8	-4.6
CMB	Columbia Colle	77.45	53	eP	P	23 50 41.1	-0.8
	comp=Z,23nm,0.9s,mb5.1						
CMB				e	pP	23 50 54.1	-1.6
MSO	Missoula	77.54	43	eP	P	23 50 41.5	-0.7
	comp=Z,3.2nm,0.8s,mb4.3						
GNI	Garni	77.67	309	eP	P	23 50 44.6	+1.5
GNI	Garni	77.67	309	eP	P	23 50 44.8	+1.8
	comp=Z,17nm,1.0s,mb4.9						
CHMT	Chamberlain Mo	77.91	43	eP	P	23 50 43.6	-0.6
BMN	Battle Mountai	78.52	50	eP	P	23 50 47.8	+0.1
	comp=Z,8.6nm,0.9s,mb4.7						
OMM	Old Mammoth Mi	78.62	53	eP	P	23 50 48.2	-0.1
SUMG	Summit	78.64	0	eP	P	23 50 49.3	+1.6
	comp=Z,22nm,0.7s,mb5.2						
NVAR	Mina Array Bea	78.72	52	P	P	23 50 48.7	-0.2
	comp=Z,9.4nm,0.7s,mb4.8,baz=290,slow=4.3,SNR=69						
NVAR				pP	pP	23 51 01.3	-1.4
	comp=Z,3.3nm,0.7s,baz=300,slow=4.3,SNR=6.8						
MNV	Mina	78.83	52	eP	P	23 50 49.2	-0.3
	comp=Z,8.2nm,0.9s,mb4.7						
HLID	Hailey	78.84	46	eP	P	23 50 49.3	-0.1
	comp=Z,15nm,1.0s,mb4.9						
HLID				e	pP	23 51 03.5	+0.2
HRY	Holter Researc	78.85	43	eP	P	23 50 49.3	-0.1
MTUM	Tungsten Hills	79.05	53	eP	P	23 50 49.9	-0.7
SOC	Sochi	79.32	314	eP	P	23 50 52.1	+0.1
SOC				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.9						
SOC				pmax	pmax		
	comp=N,6.0nm,1.1s						
SOC				pmax	pmax		
	comp=E,3.0nm,0.6s						
SOC	Sochi	79.32	314	eP	P	23 50 52.1	+0.1
	comp=E,16nm,1.0s,mb4.9						
BOZ	Bozeman (W)	79.52	43	eP	P	23 50 52.8	-0.2
	comp=E,10nm,0.7s,mb4.9						
BOZ				e	pP	23 51 06.9	0.0
TPH	Tonopah	79.64	52	eP	P	23 50 53.7	-0.1
	comp=E,43nm,1.7s,mb5.1						
FFC	Flin Flon	79.69	32	eP	P	23 50 53.7	0.0
	comp=E,37nm,0.8s,mb5.4						

FFC				e	pP	23 51 07.8	+0.2
ELK	Elko	79.69	49	eP	P	23 50 53.6	-0.5
	comp=E,16nm,1.2s,mb4.8						
QLMT	Earthquake Lak	80.06	44	eP	P	23 50 56.6	+0.7
ERZM	Erzurum	80.07	310	i P	P	23 50 58.1	+2.0
EZM	Erzurum	80.07	310	i P	P	23 50 58.5	+2.4
UMR	Umm Al-Rimmam	80.42	298	eP	P	23 50 58.2	-0.1
UMR				AMb	AMB	23 50 58.8	
	comp=Z,38nm,0.6s,mb5.5						
MIB	Mutribah	80.60	299	eP	P	23 50 59.4	+0.2
MIB				AMb	AMB	23 51 00.9	
	comp=Z,63nm,1.0s,mb5.5						
GCMT	Greycliff	80.61	43	eP	P	23 50 59.3	+0.4
KBD	Kabd	80.62	298	eP	P	23 50 59.8	+0.6
YFT	Old Faithful	80.62	44	eP	P	23 51 01.3	+2.4
TRCR	Troy Canyon	80.63	51	eP	P	23 50 59.2	0.0
QRN	Al-Qurain	80.64	298	eP	P	23 50 59.4	0.0
QRN				AMb	AMB	23 51 01.2	
	comp=Z,44nm,1.3s,mb5.2						
HVU	Hansel Valley	80.78	47	eP	P	23 51 00.3	+0.5
BTMT	Batman	80.83	309	eP	P	23 51 01.1	+0.9
RDF	Al-Radifah	80.84	298	eP	P	23 51 00.5	0.0
RDF				AMb	AMB	23 51 02.4	
	comp=Z,62nm,1.5s,mb5.3						
TPNV	Topopah Spring	80.86	53	eP	P	23 50 59.8	-0.6
	comp=Z,16nm,0.8s,mb5.0						
RRI2	Red Ridge	80.89	45	eP	P	23 51 01.3	+0.9
MWC	Mount Wilson	80.90	56	eP	P	23 50 60.0	-0.7
RST	Umm Al-Ruwaisa	81.00	299	eP	P	23 51 01.1	-0.2
RST				AMb	AMB	23 51 03.0	
	comp=Z,72nm,1.3s,mb5.4						
GUMT	Gumushane	81.04	311	i P	P	23 51 03.3	+2.0
MOOW	Moose Ponds	81.04	45	eP	P	23 51 01.9	+0.7
TPAW	Teton Pass	81.05	45	eP	P	23 51 02.3	+1.0
BGU	Big Grassy Mou	81.05	48	eP	P	23 51 01.3	0.0
BEST	Besiri	81.13	308	i P	P	23 51 03.0	+1.2
SPUT	South Promonto	81.23	48	eP	P	23 51 02.5	+0.3
AHID	Auburn Hatcher	81.34	46	eP	P	23 51 02.9	+0.2
	comp=Z,12nm,0.7s,mb4.9						
KELT	Kelkit	81.35	311	i P	P	23 51 04.2	+1.3
AKASG	Malin Array Be	81.48	324	P	P	23 51 03.2	-0.1
	comp=Z,4.2nm,0.5s,mb4.6,baz=47,slow=5.6,SNR=41						
DUG	Dugway	81.57	49	eP	P	23 51 03.5	-0.5
	comp=Z,13nm,0.8s,mb4.9						
HWUT	Hardware Ranch	81.65	47	eP	P	23 51 04.4	0.0
	comp=Z,35nm,1.2s,mb5.2						
NOQ	North Oquirrh	81.78	48	eP	P	23 51 05.4	+0.2
PTK	Pertek	81.90	310	eP	P	23 51 08.0	+2.3
TCUT	Toone Canyon	82.00	47	eP	P	23 51 04.9	-1.4
NB2	NORSAR Subarra	82.07	339	P	P	23 51 06.5	+0.3
	comp=Z,31nm,0.9s,mb5.2,baz=41,slow=5.3						
NB2	NORSAR Subarra	82.07	339	P	P	23 51 06.5	+0.3
	baz=41,slow=5.3						
NOA	NORSAR Array B	82.07	339	P	P	23 51 06.5	+0.4
	comp=Z,22nm,0.9s,mb5.1,baz=40,slow=5.1,SNR=47						
NOA				pP	pP	23 51 18.8	-1.3
	comp=Z,4.1nm,0.6s,baz=40,slow=5.1,SNR=5.3						
NOA				LR	LR	00 31 47.5	
	comp=Z,112nm,19.0s,MS4.2,baz=25,slow=38						
LAO	LASA Array	82.12	41	eP	P	23 51 06.3	-0.4
	comp=Z,31nm,1.0s,mb5.2						
NLU	North Lily Min	82.18	49	eP	P	23 51 07.3	+0.2
JLU	Jordanelle	82.25	48	eP	P	23 51 07.5	0.0
PDAR	Pinedale Array	82.30	45	P	P	23 51 07.3	-0.4
	comp=Z,4.7nm,0.7s,mb4.5,baz=294,slow=2.6,SNR=36						
PDAR				pP	pP	23 51 21.8	+0.1
	comp=Z,5.6nm,1.2s,baz=297,slow=3.3,SNR=4.6						
PDAR				LR	LR	00 23 49.8	
	comp=Z,198nm,19.5s,MS4.5,baz=298,slow=33						
PFO	Pinyon Flat Ob	82.36	56	P	P	23 51 07.0	-1.2
	comp=Z,84nm,1.3s,mb5.5,SNR=9.3						
PFO	Pinyon Flat Ob	82.36	56	eP	P	23 51 07.3	-0.9
	comp=Z,9.9nm,0.9s,mb4.7						
SUW	Suwalki	82.37	329	eP	P	23 51 08.1	+0.3
SUW	Suwalki	82.37	329	eP	P	23 51 08.1	+0.3
ELZG	Elazig	82.37	310	i P	P	23 51 10.2	+1.9
ARUT	Antelope Range	82.38	51	eP	P	23 51 08.2	-0.1
MPU	Maple Canyon	82.43	48	eP	P	23 51 08.5	+0.1
DAU	Daniels Canyon	82.47	48	eP	P	23 51 09.2	+0.5
NEN	Nelson	82.49	53	eP	P	23 51 08.3	-0.6
BAR	Barrett	82.66	57	eP	P	23 51 08.8	-1.0
MYA	Malataya	82.84	310	eP	P	23 51 12.4	+1.8
MVU	Marysvale	82.84	50	eP	P	23 51 11.0	+0.4
	comp=Z,8.2nm,0.8s,mb4.8						
MSU	Marysvale	82.86	50	eP	P	23 51 11.1	+0.4
SRU	San Rafael	83.64	49	eP	P	23 51 13.2	-1.5
GZT	Gaziantep	83.93	309	i P	P	23 51 17.7	+1.6
CTKT	Corum	83.99	313	i P	P	23 51 17.9	+1.5
KAHT	Ahir Dag	84.25	310	i P	P	23 51 19.6	+1.9
WAR	Warsaw	84.51	328	eP	P	23 51 19.8	+1.1
WAR	Warsaw	84.51	328	eP	P	23 51 19.8	+1.1
RSSD	Black Hills	84.86	42	eP	P	23 51 20.8	+0.2
	comp=Z,32nm,1.9s,mb5.1						
ELDT	Eldivan	84.93	314	i P	P	23 51 22.6	+1.6
AVNT	Avonos	84.96	312	i P	P	23 51 21.5	+0.3
PV10	Paradox Valley	85.01	49	eP	P	23 51 21.9	+0.4
MZLS	Mizel	85.03	295	P	P	23 51 23.3	+1.3
BSD	Bornholm Skovb	85.13	333	i P	P	23 51 20.7	-1.0
	comp=Z,26nm,0.9s,mb5.4						
BSD	Bornholm Skovb	85.13	333	eP	P	23 51 20.7	-1.0
	comp=Z,26nm,0.9s,mb5.4						
BRTR	Keskin Array B	85.22	313	P	P	23 51 23.2	+0.7
	comp=Z,5.5nm,0.8s,mb4.8,baz=108,slow=3.9,SNR=35						
BRTR				pP	pP	23 51 38.6	+2.1
	comp=Z,3.0nm,0.8s,baz=120,slow=4.8,SNR=5.5						
BRTR				LR	LR	00 33 59.5	
	comp=Z,42nm,19.8s,MS3.8,baz=95,slow=39						
COBT	Iskenderun	85.26	309	i P	P	23 51 24.0	+1.2
ULM	Lac du Bonnet	85.40	33	LR	LR	00 32 37.9	
	comp=Z,64nm,19.5s,MS4.0,baz=5.0,slow=38						
KWP	Kalwaria	85.43	326	eP	P	23 51 24.1	+0.8
KWP	Kalwaria	85.43	326	eP	P	23 51 24.1	+0.8
PV01	Paradox Valley	85.45	49	eP	P	23 51 23.7	0.0
GKP	Gorka Klasztor	85.49	331	eP	P	23 51 23.6	+0.1
GKP	Gorka Klasztor	85.49	331	eP	P	23 51 23.6	+0.1
ARSS	Ar Rass	85.67	297	P	P	23 51 25.4	+0.3
COP	Copenhagen	85.67	334	i P	P	23 51 25.7	+1.4
	comp=Z,52nm,1.1s,mb5.7						
COP	Copenhagen	85.67	334	eP	P	23 51 25.7	+1.4
	comp=Z,52nm,1.1s,mb5.7						
HILS	Ha'il	86.03	299	P	P	23 51 27.5	+0.7
KOLS	Kolonicke sedl	86.11	325	eP	P	23 51 27.3	+0.7
MUD	Monsted U'grnd	86.27	336	i P	P	23 51 27.7	+0.5
	comp=Z,33nm,1.0s,mb5.5						
MUD	Monsted U'grnd	86.27	336	eP	P	23 51 27.7	+0.5
	comp=Z,33nm,1.0s,mb5.5						
ISCO	Idaho Springs	86.42	46	eP	P	23 51 29.3	+0.9
	comp=Z,14nm,1.4s,mb5.0						
OJC	Ojcow	86.44	327	eP	P	23 51 29.0	+0.8
OJC	Ojcow	86.44	327	eP	P	23 51 29.0	+0.8
MEST	Erdemli	86.64	310	i P	P	23 51 29.7	+0.2
NIE	Niedzica	86.74	327	eP	P	23 51 31.0	+1.3
AFFS	'Afif	86.83	296	P	P	23 51 31.2	+0.4
TUC	Tucson	87.11	55	eP	P	23 51 31.7	-0.3
	comp=Z,4.4nm,0.9s,mb4.7						
QURS	Qurayyt al Mil	87.27	304	P	P	23 51 33.8	+1.1
KAMS	Al Khamasin	87.37	292	P	P	23 51 33.1	-0.3
OKC	Ostrava-Krasne	87.48	328	eP	P	23 51 33.7	+0.4
KSP	Ksiaz	87.62	329	eP	P	23 51 34.1	+0.2
KSP	Ksiaz	87.62	329	eP	P	23 51 34.3	+0.4
BSEG	Bad Segeberg	87.80	334	eP	P	23 51 35.0	+0.3
BSEG				pmax	pmax		
	comp=Z,16nm,1.1s,mb5.2						
DPC	Dobruska-Polom	87.95	329	eP	P	23 51 36.2	+0.6
UPC	Upice	87.98	329	eP	P	23 51 35.7	0.0
CSS	Prodhromos	88.10	309	eP	P	23 51 36.7	+0.1
	comp=Z,15nm,0.9s,mb5.2						
PVCC	Panska Ves	88.61	330	eP	P	23 51 40.6	+2.0
BRG	Berggiesshubel	88.62	331	eP	P	23 51 39.2	+0.5
BRG				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.8						
BRG	Berggiesshubel	88.62	331	eP	P	23 51 39.2	+0.5
	comp=Z,5.4nm,0.9s,mb4.9						
BRG				e		23 51 42.1	
TATS	Tathlith	88.65	292	P	P	23 51 40.3	+0.7
CLL	Collm	88.70	331	P	P	23 51 38.8	-0.3
	comp=Z,logA/T=1.0,mb5.1						
CLL	Collm	88.70	331	i P	P	23 51 38.8	-0.3
CLL				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb5.1						
CLL	Collm	88.70	331	i P	P	23 51 38.8	-0.3
	comp=Z,8.0nm,0.8s,mb5.1						
KBRS	Khaybar	88.79	299	P	P	23 51 40.9	+0.8
SRO	Srobarova	88.81	326	eP	P	23 51 40.2	+0.5
PRU	Pruhonice	89.01	330	eP	P	23 51 40.5	-0.1
ZST	Bratislava	89.12	327	eP	P	23 51 41.5	+0.3
CLZ	Clausthal	89.38	333	eP	P	23 51 42.4	+0.1
	comp=Z,16nm,1.0s,mb5.3						
DJNS	Zahran al Janu	89.52	290	P	P	23 51 44.4	+0.7
TBKS	Tabuk	89.54	302	P	P	23 51 43.9	+0.2
JMQS	Jabal Moqyreh	89.67	303	P	P	23 51 44.5	+0.3
NKC	Novy Kostel	89.74	331	eP	P	23 51 44.5	+0.5
NAMS	An Nimas	89.87	292	P	P	23 51 46.4	+1.0
BLJS	Baljurashi	90.00	293	P	P	23 51 46.9	+0.9
KHC	Kasperske Hory	90.07	330	eP	P	23 51 44.8	-0.8
GEC2	GERESS Array S	90.22	329	eP	P	23 51 46.2	-0.1
GEC2				pmax	pmax		
	comp=Z,21nm,1.8s,mb5.2						
GEC2	GERESS Array S	90.22	329	eP	P	23 51 46.2	-0.1
	comp=Z,21nm,1.8s,mb5.2						
GERES	GERESS Array B	90.22	329	P	P	23 51 46.3	0.0
	comp=Z,3.2nm,0.8s,mb4.7,baz=34,slow=4.8,SNR=32						
GERES				PP	PP	23 55 20.5	-2.3
	comp=Z,0.5nm,0.8s,baz=124,slow=4.8,SNR=3.8						
BDAS	Al Bad'	90.49	303	P	P	23 51 48.0	-0.1
DBAS	Duba	90.51	302	P	P	23 51 48.0	-0.2
UMJS	Umm Lajj	90.58	299	P	P	23 51 49.0	+0.4
GRA1	Grafenberg Arr	90.67	331	eP	P	23 51 48.7	+0.3
	comp=Z,13nm,0.9s,mb5.3						
GRF	Grafenberg Arr	90.67	331	eP	P	23 51 48.7	+0.3
GRF				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.3						
MOA	Molln	90.70	328	⇑iP	P	23 51 49.0	+0.4
	comp=Z,5.4nm,1.0s,mb4.8						
OBKA	Obir	91.54	327	⇑iP	P	23 51 52.3	-0.2
	comp=Z,13nm,1.2s,mb5.1						
GDL2	Guadalupe Moun	91.66	52	eP	P	23 51 53.5	+0.1
FUR	Furstenfeldbru	91.80	330	eP	P	23 51 54.0	+0.3
FUR				pmax	pmax		
	comp=Z,35nm,1.0s,mb5.6						
FUR	Furstenfeldbru	91.80	330	eP	P	23 51 54.0	+0.3
	comp=Z,35nm,1.0s,mb5.6						
AMTX	Amarillo	91.85	48	eP	P	23 51 54.4	+0.1
	comp=Z,15nm,0.7s,mb5.4						
SCHQ	Schefferville	92.59	17	LR	LR	00 36 20.8	
	comp=Z,118nm,18.6s,MS4.4,baz=305,slow=37						
BFO	Black Forest	92.93	332	eP	P	23 51 58.8	-0.1
BFO				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.5						
BFO	Black Forest	92.93	332	eP	P	23 51 58.8	-0.1
	comp=Z,19nm,1.0s,mb5.5						
DAVA	Damuels	93.08	330	⇓iP	P	23 51 59.4	-0.2
	comp=Z,16nm,0.9s,mb5.4						
CDF	Champ du Feu	93.30	332	eP	P	23 51 59.8	-0.8
	comp=Z,14nm,0.9s,mb5.1						
WMOK	Wichita Mounta	93.81	47	eP	P	23 52 03.0	-0.2
	comp=Z,17nm,1.0s,mb5.4						
WMOK				e	pP	23 52 16.5	-0.9
LTX	Lajitas	93.83	53	eP	P	23 52 03.7	+0.3
	comp=Z,19nm,1.1s,mb5.4						
LTX				e	pP	23 52 17.0	-0.6
TXAR	Lajitas Array	93.83	53	P	P	23 52 03.9	+0.4
	comp=Z,8.0nm,0.8s,mb5.2,baz=309,slow=2.7,SNR=84						
TXAR				pP	pP	23 52 17.3	-0.4
	comp=Z,3.1nm,0.8s,baz=293,slow=1.8,SNR=7.4						
TXAR				LR	LR	00 32 26.5	
	comp=Z,116nm,18.2s,MS4.4,baz=355,slow=34						
TXAR	Lajitas Array	93.83	53	P	P	23 52 03.9	+0.4
TXAR				pP	pP	23 52 17.3	-0.4
HINF	Hinteralfeld	93.95	332	eP	P	23 52 02.4	-1.1
CABF	La Chapelle	95.22	332	eP	P	23 52 08.9	-0.4
	comp=Z,93nm,1.6s,mb5.7						
JCT	Junction City	95.81	51	eP	P	23 52 11.9	-0.4
	comp=Z,11nm,0.9s,mb5.3						
LPL	La Plagne	95.83	331	eP	P	23 52 11.5	-0.6
	comp=Z,8.7nm,1.0s,mb4.9						
LPG	La Plagne	95.83	331	eP	P	23 52 11.4	-0.7
	comp=Z,9.9nm,0.9s,mb4.9						
AVF	Avril sur Loir	96.18	333	eP	P	23 52 13.2	-0.4
	comp=Z,6.4nm,0.8s,mb4.8						
MBDF	Montbardon	96.44	330	eP	P	23 52 13.4	-1.5
	comp=Z,25nm,1.1s,mb5.2						
ORIF	Oris-en-Rattie	96.67	331	eP	P	23 52 15.0	-0.9
	comp=Z,14nm,0.9s,mb5.1						
ORIF				eR			
	comp=Z,114nm,18.8s						
SBF	Sospel	96.83	329	eP	P	23 52 15.5	-1.2
	comp=Z,62nm,0.9s,mb5.7						
PGF	Pioggiola	97.14	328	eP	P	23 52 17.1	-1.0
	comp=Z,123nm,1.3s,mb5.9						
MIAR	Mount Ida	97.18	44	eP	P	23 52 18.0	-0.5
	comp=Z,5.2nm,0.9s,mb5.0						
QSPA	South Pole Qui	118.82	180	eP	PKPdf	23 57 31.0	-1.2
SYO	Syowa Base	121.61	204	⇓Pdiff	Pdif	23 54 03.1	-2.7
SDV	Santo Domingo	130.23	46	eP	PKPdf	23 57 56.5	+0.8
SDV				e		23 58 09.8	
DBIC	Dimbokro	132.91	314	PKP	PKPdf	23 58 01.4	+0.6
	comp=Z,3.7nm,0.8s,baz=316,slow=2.9,SNR=6.3						
SNAA	Sanae	133.45	194	⇑iP	PKPdf	23 58 00.0	-0.3
SNAA	Sanae	133.45	194	⇓i	PKPdf	23 58 01.5	+1.2
SNAA	Sanae	133.45	194	⇑i	PKPdf	23 58 13.6	+13
SNAA	Sanae	133.45	194		PKPdf	23 58 16.7	+16
SNAA	Sanae	133.45	194	PKP	PKPdf	23 57 59.1	-1.2
	comp=Z,0.6nm,0.6s,baz=182,slow=3.7,SNR=16						
SNAA				pPKP		23 58 13.2	
	comp=Z,0.4nm,0.7s,baz=143,slow=5.4,SNR=3.0						
ARE	Arequipa	145.91	76	eP	PKPdf	23 58 26.0	+2.0
SAML	Samuel	148.28	56	ePKPdf	PKPdf	23 58 28.8	+0.8
SAML				ePKPbc	PKPdf	23 58 31.7	+3.7
LPAZ	La Paz	148.66	73	PKP	PKPdf	23 58 30.4	+1.9
	comp=Z,20nm,0.8s,baz=327,slow=3.9,SNR=22						
LPAZ				PKPbc	PKPdf	23 58 33.9	+5.3
	comp=Z,19nm,0.8s,baz=328,slow=6.1,SNR=31						
LPAZ				pPKP		23 58 43.1	
	comp=Z,9.4nm,1.0s,baz=270,slow=1.0,SNR=7.5						
LPAZ				pPKPbc		23 58 46.7	
	comp=Z,27nm,1.1s,baz=332,slow=4.8,SNR=8.7						
LPAZ	La Paz	148.66	73	ePKPdf	PKPdf	23 58 29.9	+1.4
LPAZ				ePKPbc	PKPdf	23 58 34.0	+5.4
LVC	Limon Verde	150.60	85	ePKPbc	PKPdf	23 58 38.0	+6.5
BDFB	Brasilia	163.20	40	PKPab	PKPab	23 59 38.6	-1.4
	comp=Z,3.4nm,1.1s,baz=236,slow=4.4,SNR=4.9						

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*NIED **17** 00:11:00, 42.30N×143.00E, h53km, Mw3.9 Best double couple: M0 7.81×10^14 NP1: φs38°, δ64°, λ101°. NP2: φs194°, δ28°, λ68°.*
*MOS **17** 00:11:47.7±1.3, 42.33N×143.37E, h96km, mb3.8/2, Error ellipse: s-maj=43.6km s-min=17.2km az=94.2*
*JMA **17** 00:11:48.4±0.1, 42.35N×142.98E, h53km±1km, M3.8*
JMA Felt II J1.
*NEIC **17** 00:11:51.1±1.1, 42.53N×143.17E, h93km±11km, mb4.4/1, Error ellipse: s-maj=27.2km s-min=20.1km az=127.0*
NEIC Recorded [2 JMA] in the Obihiro area and [1 JMA] in south-central Hokkaido.
*IDC **17** 00:11:52.9±5.0, 42.67N×142.82E, h95km±30km, mb3.4/5, mb1 3.6/5, mb1mx3.3/20, Error ellipse: s-maj=52.6km s-min=35.7km az=177.0*
ISC 17 00:11:46.3±0.5**, 42.31N**±0.05×**143.03E**±0.06**, h71**km±3km**, n26,** σ1s06/33**, mb3.6**/6**, 5C-3D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	Urakawa-nobuka	0.21	261	⇑P	P	00 11 56.8	-0.3
JNBK				eS	S	00 12 03.5	-1.7
JEM	Erimo	0.31	163	⇑P	P	00 11 58.4	+0.6
ERM	Erimo	0.31	163	Pn	P	00 11 58.3	+0.5
	9µm,0.4s						
ERM	Erimo	0.31	163	ePn	S	00 12 06.7	+0.4
ERM				e		00 12 16.6	
JCH	Churui	0.39	39	⇑P	P	00 11 58.7	+0.4
JCH				eS	S	00 12 06.8	-0.5
JBT2	Biratori 2	0.68	313	⇓P	P	00 12 01.4	+0.2
JOB	Onbets	0.83	45	⇑P	P	00 12 04.7	+1.7
JFR	Furan	0.91	339	P	P	00 12 03.6	-0.4
JAR	Ashorobuto	1.12	29	⇑P	P	00 12 07.5	+0.8
JAR				eS	S	00 12 21.5	-0.4
JEW	Eniwo	1.28	295	⇓P	P	00 12 09.5	+0.6
JEW				eS	S	00 12 25.7	0.0
JAB	Ashibetsu	1.33	334	⇓P	P	00 12 10.4	+0.8
ASAJ	Asahikawa	1.83	350	P	P	00 12 17.9	+1.7
	54nm,0.3s,baz=145,slow=3.9,SNR=148						
ASAJ				S	S	00 12 37.5	-0.9
	25nm,0.3s,baz=42,slow=25,SNR=8.0						
ASAJ	Asahikawa	1.83	350	PN	P	00 12 18.0	+1.7
ASAJ				S	S	00 12 37.5	-0.9
ASAJ				pmax	pmax		
	comp=Z,54nm,0.3s						
YUK	Yuzh-Kuril'sk	2.69	49	ePN	P	00 12 27.4	-1.0
YUK				eS	S	00 12 58.0	-1.8
YUK				pmax	pmax		
	comp=Z,290nm,0.3s						
YUK				smax			
	comp=N,700nm,0.4s						
YUK				smax			
	comp=E,350nm,0.4s						
YSS	Yuzh-Sakhalins	4.64	358	ePN	P	00 12 58.0	+2.4
MAJO	Matsushiro	6.87	215	ePn	P	00 13 25.4	-1.1
SONM	Songino Array	26.28	295	P	P	00 17 16.6	0.0
	comp=E,2.0nm,0.8s,mb3.6,baz=72,slow=8.6,SNR=9.4						
KURK	Kurchatov	43.83	304	eP	P	00 19 46.1	-0.5
	comp=E,4.3nm,0.7s,mb4.3						
JOF	Joensuu	61.92	331	ep	P	00 21 58.7	-1.5
KAF	Kangasniemi	64.21	332	ep	P	00 22 14.2	-1.0
FINES	FINESS Array B	64.75	332	P	P	00 22 18.1	-0.6
	comp=E,2.2nm,0.8s,mb4.1,baz=62,slow=6.7,SNR=26						
FINES	FINESS Array B	64.75	332	P	P	00 22 18.1	-0.6
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA	NORSAR Array B	69.81	337	P	P	00 22 49.9	-0.5
	comp=Z,0.3nm,0.7s,mb3.2,baz=54,slow=4.9,SNR=2.6						
BRTR	Keskin Array B	76.29	312	P	P	00 23 30.2	+1.4
	comp=Z,0.5nm,0.8s,mb3.3,baz=45,slow=7.0,SNR=4.1						
BRTR	Keskin Array B	76.29	312	P	P	00 23 30.2	+1.4
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TXAR	Lajitas Array	85.94	54	P	P	00 24 22.3	+2.6
	comp=Z,0.2nm,0.4s,mb3.4,baz=296,slow=3.8,SNR=4.5						

IDC 17 00:22:41.8±4.7**, 6.94S**×**130.20E, mb3.6**/1**, mb1 3.6**/4**, mb1mx3.5**/11**, ML3.2**/3**, Error ellipse: s-maj=62.9km s-min=48.0km az=108.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.95	201	Pn	P	00 25 33.7	-2.8
	0.1nm,0.3s,baz=356,slow=18,SNR=8.7						
FITZ				Sn	S	00 27 50.4	-1.4
	0.1nm,0.3s,baz=344,slow=20,SNR=2.3						
WRA	Warramunga Arr	13.53	163	Pn	P	00 25 56.4	-1.4
	0.2nm,0.3s,baz=342,slow=13,SNR=4.7						
WRA				Sn	S	00 28 28.0	-2.1
	0.3nm,0.3s,baz=344,slow=20,SNR=6.9						
ASAR	Alice Springs	17.00	168	P	P	00 26 39.5	-3.2
	0.1nm,0.3s,baz=352,slow=11,SNR=8.8						
ASAR				S	S	00 29 52.0	+0.4
	0.1nm,0.3s,baz=356,slow=25,SNR=4.0						
STKA	Stephens Creek	26.99	158	P	P	00 28 25.5	-1.8
	0.3nm,0.3s,baz=333,slow=16,SNR=2.5						

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*IDC **17** 00:34:37.3±1.1, 4.31N×62.72E, mb3.7/5, mb1 3.9/5, mb1mx3.7/15, MS3.3/2, Ms1 3.4/2, ms1mx2.9/23, Error ellipse: s-maj=35.8km s-min=23.5km az=5.0*
*NEIC **17** 00:34:38.8±1.0, 4.33N×62.70E, h10km, mb4.2/1, Error ellipse: s-maj=32.6km s-min=21.3km az=181.0*
ISC 17 00:34:37.2±0.9**, 4.4N**±0.2×**62.7E**±0.1**, h10**km**, n8,** σ1s24/7**, mb3.7**/6**, MS3.3**/2**, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	Kilima Mbogo	26.03	258	P	P	00 40 12.8	+0.1
	3.8nm,1.1s,mb3.8,baz=52,slow=15						
KMBO	Kilima Mbogo	26.03	258	eP	P	00 40 12.7	0.0
	5.5nm,1.1s,mb4.0						
CMAR	Chiang Mai Arr	38.05	65	P	P	00 41 59.4	+1.5
	0.9nm,0.4s,mb3.9,baz=253,slow=9.5,SNR=8.3						
CMAR				LR	LR	00 55 29.6	
	comp=Z,29nm,18.4s,MS3.1,baz=70,slow=33						
BRTR	Keskin Array B	43.93	327	P	P	00 42 46.6	+0.4
	0.6nm,1.0s,mb3.3,baz=141,slow=9.2,SNR=3.4						
SONM	Songino Array	57.19	34	P	P	00 44 25.4	-1.5
	0.7nm,0.9s,mb3.7,baz=248,slow=7.0,SNR=3.6						
FITZ	Fitzroy Crossi	65.89	112	LR	LR	01 07 31.2	
	comp=Z,36nm,21.7s,MS3.5,baz=151,slow=30						
WRA	Warramunga Arr	74.32	112	P	P	00 46 15.5	-1.8
	1.0nm,0.9s,mb3.7,baz=291,slow=5.4,SNR=5.0						
ASAR	Alice Springs	74.64	116	P	P	00 46 20.4	+1.2
	0.7nm,0.9s,mb3.6,baz=280,slow=5.5,SNR=4.9						

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*GUC **17** 01:04:20.4±0.9, 33.84S×70.29W, h112km±2km, MD3.8, ML4.2*
*NEIC **17** 01:04:20.4, 33.84S×70.29W, h112km, mb4.2/2, MD3.8(GUC), After GUC.*
*IDC **17** 01:04:31.4±8.6, 33.64S×69.44W, h205km±83km, mb3.3/5, mb1 3.7/6, mb1mx3.5/13, Error ellipse: s-maj=43.9km s-min=17.0km az=69.0*
ISC 17 01:04:19.9±0.4**, 33.85S**±0.03×**70.29W**±0.07**, h116**km±3km**, n34,** σ0s70/57**, mb4.0**/7**, 9C-12D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMEL	Las Melosas	0.07	86	⇓iP	P	01 04 35.7	-0.3
LMEL				i S	S	01 04 48.8	+0.8
LMEL				AMP		01 04 52.1	
	comp=N,7µm,0.2s						
PCH	Pirque	0.30	321	⇓iP	P	01 04 36.7	+0.1
PCH				i S	S	01 04 49.0	0.0
CHCH	Chadas Angostu	0.31	255	⇑iP	P	01 04 36.7	+0.1
CHCH				i S	S	01 04 48.9	-0.3
CACH	El Canelo	0.37	224	⇓iP	P	01 04 37.4	+0.5
CACH				⇓iS	S	01 04 50.3	+0.6
ANTU	Antumapu	0.40	315	⇓iP	P	01 04 37.2	+0.1
ANTU				i S	S	01 04 49.5	-0.5
ANTU				AMP		01 04 50.2	
	comp=N,11µm,0.4s						
CICH	Cipreses	0.48	193	⇑iP	P	01 04 37.9	+0.4
CICH				i S	S	01 04 50.8	+0.1
CLCH	Cerro Calan	0.50	336	⇑iP	P	01 04 37.8	+0.1
CLCH				i S	S	01 04 50.7	-0.2
CLCH				AMP		01 04 51.8	
	comp=E,10µm,0.3s						
SAN	Santiago	0.50	322	⇑iP	P	01 04 37.7	0.0
SAN				i S	S	01 04 50.3	-0.7
SAN				AMP		01 04 51.0	
	comp=N,4µm,0.3s						
STL	Santa Lucia	0.51	325	i P	P	01 04 37.2	-0.5
STL				i S	S	01 04 50.9	-0.1
STL				AMP		01 04 51.3	
	comp=N,3µm,0.5s						
DSCH	Colegio Aleman	0.51	333	i P	P	01 04 38.0	+0.3
DSCH				i S	S	01 04 51.1	0.0
DSCH				AMP		01 04 51.9	
	comp=E,12µm,0.6s						
FCH	Farellones	0.52	0	⇓iP	P	01 04 38.1	+0.3
FCH				i S	S	01 04 52.4	+1.1
RCDM	Rinconada Maip	0.56	310	⇓iP	P	01 04 38.1	0.0
RCDM				i S	S	01 04 51.5	-0.3
RCDM				AMP		01 04 53.2	
	comp=N,10µm,0.1s						
PUEX	Pudahuel	0.56	316	i P	P	01 04 37.9	-0.1
PUEX				i S	S	01 04 51.4	-0.3
PUEX				AMP		01 04 53.2	
	comp=N,9µm,0.3s						
TACH	Talagante	0.57	290	⇓iP	P	01 04 38.2	+0.1
TACH				i S	S	01 04 51.7	-0.2
PEL	Peldehue	0.78	335	⇓iP	P	01 04 40.0	+0.3
PEL				i S	S	01 04 54.5	-0.2
PEL				AMP		01 04 55.6	
	comp=N,18µm,0.4s						
LNV	Longovilo	0.94	263	⇑iP	P	01 04 41.4	0.0
LNV				i S	S	01 04 56.8	-0.5
SFDO	San Fernando	0.97	218	⇑iP	P	01 04 42.4	+0.7
SFDO				⇓iS	S	01 04 58.4	+0.5
JACH	Jahuel	1.19	348	⇑iP	P	01 04 44.6	+0.5
JACH				i S	S	01 05 01.9	-0.2
IHA	Instituto Hidr	1.40	306	i P	P	01 04 46.7	+0.4
IHA				i S	S	01 05 05.7	-0.7
MDZ	Mendoza	1.54	52	i	P	01 04 47.3	-0.8
MDZ				e	S	01 05 13.1	+3.7
PACH	Papudo	1.63	323	⇑iP	P	01 04 48.8	-0.2
CMCH	Combarbala	2.74	347	⇓iP	P	01 05 03.0	-0.6
CMCH				i S	S	01 05 36.8	+0.4
CMCH				AMP		01 05 48.4	
	comp=E,2µm,0.6s						
CCHI	Chillan	3.11	208	⇓iP	P	01 05 08.4	-0.1
CCHI				i S	S	01 05 44.5	-0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CCHI				AMP		01 06 08.6	
	comp=N,544nm,0.5s						
TLL	Tololo Astrono	3.70	353⇑	iP	P	01 05 16.6	+0.1
TLL				iS	S	01 05 59.5	-0.1
TRQA	Tornquist	7.94	124	ePn	P	01 06 11.9	-2.0
	comp=N,6.7nm,0.3s						
TRQA				e		01 06 21.6	
LPAZ	La Paz	17.60	7	P	P	01 08 20.2	+0.9
	comp=N,0.5nm,0.3s,baz=174,slow=10.0,SNR=10						
LPAZ	La Paz	17.60	7	eP	P	01 08 16.9	-2.4
	comp=N,4.4nm,0.8s						
BDFB	Brasilia	27.06	53	P	P	01 09 49.0	-4.6
	comp=N,4.2nm,0.9s,mb4.0,baz=241,slow=7.8,SNR=4.1						
SNAA	Sanae	51.17	158	P	P	01 13 12.6	-0.1
	comp=N,0.2nm,0.3s,mb3.6,baz=280,slow=5.1,SNR=13						
SJG	San Juan	51.82	5	eP	P	01 13 16.1	-2.1
	comp=N,14nm,0.9s,mb5.0						
TXAR	Lajitas Array	70.33	329	P	P	01 15 23.8	+0.8
	comp=N,0.7nm,0.5s,mb3.8,baz=155,slow=8.7,SNR=17						
WVT	Waverly	71.52	345	eP	P	01 15 29.5	-0.5
	comp=N,8.9nm,0.6s,mb4.8						
PDAR	Pinedale Array	84.30	332	P	P	01 16 41.0	+1.3
	comp=N,0.4nm,0.7s,mb3.4,baz=135,slow=6.3,SNR=3.7						
NVAR	Mina Array Bea	84.60	324	P	P	01 16 43.6	+2.3
	comp=N,0.6nm,0.7s,mb3.6,baz=144,slow=6.8,SNR=4.3						

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*IDC **17** 01:17:22.0±3.7, 7.09S×146.83E, mb3.8/3, mb1 4.0/5, mb1mx3.8/13, ML3.0/2, MS2.8/1, Ms1 2.8/1, ms1mx2.3/17, Error ellipse: s-maj=68.6km s-min=18.9km az=70.0*
*NEIC **17** 01:17:22.7±4.5, 6.98S×146.99E, h10^{km}±19^{km}, mb3.8/3, Error ellipse: s-maj=36.0km s-min=21.9km az=54.0*
ISC 17 01:17:20.4±1.7**, 6.9S**±0.1×**147.1E**±0.2**, h10^{km}, n13, σ1^{s}20**/12**, mb3.8**/3**, 1D, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WAU	Wau	0.56	216⇓	iP	Pg	01 17 31.5	-0.2
PMG	Port Moresby	2.50	178	Pn	Pn	01 18 01.8	0.0
	5.9nm,0.3s,baz=180,slow=22,SNR=19						
PMG				Lg		01 18 35.0	
	9.5nm,0.3s,baz=17,slow=6.0,SNR=5.3						
PMG	Port Moresby	2.50	178	eP	Pn	01 18 01.9	0.0
CTA	Charters Tower	13.14	183	LR	LR	01 24 42.8	
	comp=Z,39nm,19.8s,baz=232,slow=34						
WRAB	Tennant Creek	17.89	222	eP	P	01 21 32.4	+1.2
	8.0nm,1.1s						
WB2	Warramunga Arr	17.89	222	eP	P	01 21 34.1	+2.9
WRA	Warramunga Arr	17.90	222	P	P	01 21 30.2	-1.1
	0.2nm,0.3s,baz=48,slow=12,SNR=19						
ASAR	Alice Springs	20.92	216	P	P	01 22 03.2	-2.5
	4.1nm,0.9s,baz=34,slow=12,SNR=11						
ASPA	Alice Springs	20.92	216	eP	P	01 22 10.5	+4.7
FITZ	Fitzroy Crossi	23.65	240	eP	P	01 22 33.3	+0.2
	2.2nm,1.2s,mb3.5						
FITZ	Fitzroy Crossi	23.65	240	P	P	01 22 32.6	-0.5
	1.5nm,0.6s,mb3.6,baz=84,slow=19,SNR=3.6						
CMAR	Chiang Mai Arr	53.72	299	P	P	01 26 45.2	0.0
	0.7nm,0.5s,mb3.9,baz=118,slow=6.7,SNR=4.2						
SBA	Scott Base	71.67	176	eP	P	01 28 44.4	+0.4
	1.5nm,0.6s,mb4.1						

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*FUNV **17** 01:31:21.4, 11.14N×62.09W, h108^{km}, MW3.1*
*TRN **17** 01:31:22.8, 11.20N×62.15W, h89^{km}, MD3.2*
ISC 17 01:31:20.3±0.9**, 11.03N**±0.05×**62.19W**±0.04**, h117^{km}**±7^{km}**, n16, σ1^{s}01**/30**, 2C-1D, Windward Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUIV	Guiria	0.39	185⇑	iP	P	01 31 38.3	+0.8
GUIV				eS	S	01 31 50.0	-0.4
TRN	Trinidad (W)	0.86	116⇑	iP	P	01 31 41.8	+0.7
TRN				eS	S	01 31 55.2	-1.4
ITEV	Isla Los Testi	0.98	289	eP	P	01 31 42.0	-0.3
ITEV				eS	S	01 31 57.7	-1.0
TPP	Pointe-a-Pierr	1.02	134	eP	P	01 31 44.4	+1.8
TPP				eS	S	01 31 59.6	+0.4
CRUV	Carupano	1.09	251⇓	iP	P	01 31 44.3	+0.9
CRUV				eS	S	01 32 00.6	0.0
GUNV	Guanoco	1.14	221	eP	P	01 31 45.8	+1.8
GUNV				eS	S	01 32 02.9	+1.2
TBH	Brigand Hill	1.23	116	eP	P	01 31 45.4	+0.4
TPR	Prospect	1.39	84	eP	P	01 31 46.8	-0.1
TPR				eS	S	01 32 04.7	-2.2
ORIV	Oritupano	2.29	212	eP	P	01 31 58.6	+0.6
ORIV				eS	S	01 32 26.9	+0.5
PCRV	Puerto La Cruz	2.55	251	eP	P	01 32 02.4	+0.9
PCRV				eS	S	01 32 32.3	-0.2
RIOV	Rio Grande	2.97	173	eP	P	01 32 07.5	+0.4
RIOV				eS	S	01 32 41.4	-1.1
GURV	El Guri	3.37	195	eP	P	01 32 12.9	+0.4
GURV				eS	S	01 32 50.7	-1.4
CUPV	Cœpira	3.67	255	eP	P	01 32 17.2	+0.7
MERV	Las Mercedes	4.42	247	eP	P	01 32 26.4	-0.2
MERV				eS	S	01 33 15.3	-2.0
CAOV	Caicara del Or	5.50	228	eP	P	01 32 40.7	-0.4
CAOV				eS	S	01 33 39.9	-3.8
BAUV	El Baul	6.13	251	eP	P	01 32 48.7	-1.0
BAUV				eS	S	01 33 54.1	-4.9

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*IDC **17** 01:31:40.2±4.6, 29.40N×97.47E, h60^{km}±45^{km}, mb3.3/3, mb1 3.5/5, mb1mx3.3/19, ML4.0/2, MS2.4/1, Ms1 2.6/1, ms1mx2.3/20, Error ellipse: s-maj=50.9km s-min=23.0km az=66.0*
ISC 17 01:31:35.9±0.9**, 29.4N**±0.1×**96.86E**±0.07**, h60^{km}, n10, σ0^{s}87**/13**, mb3.6**/3**, Eastern Xizang-India border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUN	Gumba	9.77	264	eP	P	01 33 58.6	+2.5
	15nm,0.4s						
GUN				eS	S	01 35 49.2	+3.9
PKI	Pulchoki	10.25	262	eP	P	01 34 02.9	+0.2
	20nm,0.5s						
KKN	Kakani	10.31	264	eP	P	01 34 03.7	+0.2
	15nm,0.5s						
KKN				eS	S	01 35 58.0	-0.5
DMN	Daman	10.50	263	eP	P	01 34 06.2	+0.1
	19nm,0.6s						
CMAR	Chiang Mai Arr	11.09	170	P	P	01 34 14.6	+0.4
	0.3nm,0.3s,baz=346,slow=11,SNR=6.8						
CMAR				LR	LR	01 38 18.2	
	comp=Z,22nm,19.9s,baz=335,slow=36						
KOLN	Koldanda	11.77	265	eP	P	01 34 22.3	-1.0
	8.6nm,0.7s						
KOLN				eS	S	01 36 33.2	-0.7
SONM	Songino Array	19.79	19	P	P	01 36 03.9	+0.1
	0.1nm,0.3s,baz=198,slow=14,SNR=3.7						
AKASG	Malin Array Be	53.96	313	P	P	01 41 00.6	+5.0
	0.5nm,0.4s,mb3.8,baz=72,slow=6.0,SNR=5.1						
WRA	Warramunga Arr	60.95	139	P	P	01 41 44.8	-0.5
	0.5nm,0.6s,mb3.9,baz=326,slow=7.8,SNR=8.0						
ASAR	Alice Springs	63.69	142	P	P	01 42 03.0	-0.5
	0.2nm,0.7s,mb3.3,baz=324,slow=6.9,SNR=4.6						

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*NEIC **17** 01:33:58.2±5.3, 18.55S×175.61W, h190^{km}±47^{km}, mb4.2/6, Error ellipse: s-maj=16.7km s-min=15.4km az=49.0*
*IDC **17** 01:34:04.1±3.0, 18.73S×175.75W, h238^{km}±27^{km}, mb3.6/7, mb1 3.8/7, mb1mx3.6/16, Error ellipse: s-maj=24.8km s-min=15.0km az=145.0*
ISC 17 01:34:00.6±3.5**, 18.6S**±0.1×**175.7W**±0.1**, h222^{km}**±32^{km}**, n29, σ0^{s}93**/24**, mb3.9**/11**, 2C-1D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	20.59	196	P	P	01 38 22.4	-1.1
	4.6nm,0.5s,baz=114,slow=19,SNR=8.0						
CTA	Charters Tower	35.86	261	P	P	01 40 41.4	+0.4
	6.6nm,0.9s,mb4.2,baz=85,slow=9.3,SNR=11						
CTAO	Charters Tower	35.86	261	eP	P	01 40 41.4	+0.3
	5.0nm,0.7s,mb4.2						
WB2	Warramunga Arr	47.01	260	eP	P	01 42 11.7	+0.2
WRAB	Tennant Creek	47.02	260	eP	P	01 42 11.3	-0.2
	6.9nm,0.5s,mb4.2						
WRA	Warramunga Arr	47.02	260	P	P	01 42 11.8	+0.2
	4.5nm,0.4s,mb4.2,baz=98,slow=6.7,SNR=124						
WRA				PcP	PcP	01 43 40.0	-0.4
	0.5nm,0.4s,baz=90,slow=3.8,SNR=5.8						
ASAR	Alice Springs	47.07	255	P	P	01 42 12.3	+0.3
	4.7nm,0.5s,mb4.0,baz=87,slow=8.6,SNR=103						
ASAR				PcP	PcP	01 43 40.5	-0.1
	1.4nm,0.6s,baz=101,slow=3.9,SNR=9.2						
ASAR				S	S	01 48 45.3	-0.6
	0.6nm,0.9s,baz=92,slow=16,SNR=3.7						
ASAR	Alice Springs	47.07	255	P	P	01 42 12.3	+0.3
ASAR				PcP	PcP	01 43 40.5	-0.1
ASAR				S	S	01 48 45.3	-0.6
ASPA	Alice Springs	47.08	255	eP	P	01 42 12.3	+0.3
FITZ	Fitzroy Crossi	55.44	260	eP	P	01 43 14.8	+0.5
	0.9nm,0.4s,mb3.6						
VNDA	Vanda	60.02	185	P	P	01 43 45.3	-0.2
	0.4nm,0.7s,mb3.1,baz=3.7,slow=4.8,SNR=5.6						
QSPA	South Pole Qui	71.49	180	eP	P	01 44 58.2	0.0
	4.2nm,1.2s,mb3.9						
QSPA				LR	LR		
	comp=Z,350nm,21.3s						
TXAR	Lajitas Array	84.21	57	P	P	01 46 10.4	+1.8
	comp=Z,0.4nm,0.7s,mb3.3,baz=223,slow=7.5,SNR=5.3						
PV10	Paradox Valley	84.30	47	P	P	01 46 07.5	-1.3
PV01	Paradox Valley	84.50	47	P	P	01 46 11.2	+1.3
MCK	McKinley	84.64	12	eP	P	01 46 08.6	-1.4
	comp=Z,2.4nm,0.9s,mb3.9						
COLA	College	85.88	12	eP	P	01 46 14.2	-1.8
	comp=Z,6.6nm,0.9s,mb4.4						
ILAR	Eielson Array	85.98	12	P	P	01 46 16.9	+0.5
	comp=Z,0.9nm,0.8s,mb3.6,baz=233,slow=6.5,SNR=14						
ILAR	Eielson Array	85.98	12	P	P	01 46 16.9	+0.5
SNAA	Sanae	89.86	178⇓	i	P	01 46 33.4	-1.3
VNA3	Neumayer Olymp	89.90	176⇑	i	P	01 46 35.8	+0.9
VNA2	Neumayer--Watz	90.37	176⇑	i	P	01 46 38.2	+1.1
ARCES	ARCESS Array B	127.39	351	PKP	PKPdf	01 52 38.2	-0.1
	comp=Z,9.0nm,1.1s,baz=76,slow=3.7,SNR=4.3						
FINES	FINESS Array B	134.49	346	PKP	PKPdf	01 52 53.9	+2.0
	comp=Z,1.9nm,1.0s,baz=90,slow=1.9,SNR=6.7						
AKASG	Malin Array Be	142.30	334	PKhKP		01 53 04.1	
	comp=Z,0.1nm,0.3s,baz=28,slow=3.2,SNR=4.2						
CLL	Collm	146.61	350	i PKP1	PKPbc	01 53 18.1	+2.8
BRTR	Keskin Array B	147.04	316	PKPbc	PKPdf	01 53 19.5	+4.8
	comp=Z,1.8nm,0.6s,baz=138,slow=4.9,SNR=15						
KHC	Kasperske Hory	148.60	348	ePKPbc	PKPdf	01 53 23.0	+6.1
GERES	GERESS Array B	148.85	348	PKPbc	PKPdf	01 53 23.5	+6.2
	comp=Z,1.2nm,0.7s,baz=25,slow=2.9,SNR=15						

GUC 17 01:39:20.7±0.8**, 31.38S**×**68.74W, h150^{km}, ML3.6, 1D, San Juan Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMCH	Combarbala	1.95	275⇓	iP	P	01 39 55.7	+0.2
CMCH				i S	S	01 40 22.2	-0.1
CMCH				AMP		01 40 24.4	
	comp=E,969nm,0.6s						
TLL	Tololo Astrono	2.15	304	i P	P	01 39 59.1	+1.1
TLL				i S	S	01 40 27.3	+0.6
TLL				AMP		01 40 33.0	
	comp=N,182nm,0.5s						
FCH	Farellones	2.34	214	i P	P	01 40 00.9	+0.5
FCH				i S	S	01 40 32.2	+1.4
RCDM	Rinconada Maip	2.73	219	i P	P	01 40 05.0	-0.3
RCDM				i S	S	01 40 39.6	+0.1
RCDM				AMP		01 40 42.2	
	comp=E,87nm,0.2s						

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*MAN **17** 01:53:52.4, 4.94N×126.56E, h1^{km}, mb4.8, ML3.7, MS3.7*
*BJI **17** 01:53:54.4, 5.40N×126.40E, h10^{km}, mB5.0, mb4.5*
*NEIC **17** 01:53:54.4±0.4, 5.37N×126.41E, h10^{km}, mb4.5/13, Error ellipse: s-maj=21.8km s-min=7.3km az=73.0*
*IDC **17** 01:53:57.4±2.9, 5.47N×126.66E, h33^{km}±20^{km}, mb4.2/15, mb1 4.3/15, mb1mx4.1/22, MS3.6/5, Ms1 3.7/5, ms1mx3.2/22, Error ellipse: s-maj=30.5km s-min=11.5km az=72.0*
ISC 17 01:54:00.8±0.8**, 5.28N**±0.05×**126.33E**±0.08**, h77^{km}**±7^{km}**, n56, σ0^{s}96**/58**, mb4.3**/30**, 3D, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GSPH	General Santos	1.59	300	eP	P	01 54 25.0	-2.7
MATI	Mati	1.65	357	eP	P	01 54 27.4	-1.1
KCP	Kidapawan	2.11	324⇓	eP	P	01 54 34.5	-0.2
KCP				i S	S	01 55 06.9	+7.0
BUKP	Musuan	2.87	334	eP	P	01 54 44.6	-0.8
BIPH	Bislig	2.88	1⇓	eP	P	01 54 45.1	-0.4
BIPH				eS	S	01 55 19.6	+0.5
CGP	Cagayan de Oro	3.55	333	eP	P	01 55 00.1	+5.3
CGP				eS	S	01 55 41.9	+6.2
BUTP	Butuan	3.73	349	eP	P	01 54 58.4	+1.1
PAGZ	Pagadian	3.88	311	eP	P	01 55 00.6	+1.1
IPIL	Ipil	4.49	304	eP	P	01 55 08.0	+0.1
SCPH	Surigao	4.55	349⇓	eP	P	01 55 11.5	+2.8
QIZ	Qiongzhong	21.10	312	P	P	01 58 39.4	-1.6
FITZ	Fitzroy Crossi	23.25	182	eP	P	01 59 03.4	+1.2
	6.8nm,0.9s,mb4.0						
FITZ	Fitzroy Crossi	23.25	182	P	P	01 59 03.5	+1.3
	8.3nm,1.1s,mb4.0,baz=0.6,slow=9.3,SNR=9.4						
PMG	Port Moresby	25.37	125	LR	LR	02 08 41.4	
	comp=Z,138nm,20.5s,baz=291,slow=35						
WRAB	Tennant Creek	26.27	163	eP	P	01 59 30.4	-0.5
	11nm,0.6s,mb4.5						
WRA	Warramunga Arr	26.27	163	P	P	01 59 30.2	-0.8
	5.8nm,0.5s,mb4.3,baz=343,slow=10,SNR=32						
WRA				ScP		02 06 33.2	
	0.5nm,0.7s,baz=344,slow=3.0,SNR=5.8						
WB2	Warramunga Arr	26.28	163	eP	P	01 59 31.5	+0.4
MBWA	Marble Bar	27.06	194	eP	P	01 59 39.0	+0.7
	14nm,1.1s,mb4.4						
ASPA	Alice Springs	29.71	166	eP	P	02 00 06.1	+4.1
ASAR	Alice Springs	29.71	166	P	P	02 00 02.3	+0.3
	1.8nm,0.7s,mb3.8,baz=342,slow=6.9,SNR=22						
ASAR				PcP	PcP	02 03 05.2	+0.7
	0.9nm,0.5s,baz=351,slow=2.2,SNR=6.5						
ASAR				ScP		02 06 43.2	
	1.4nm,0.9s,baz=334,slow=1.9,SNR=8.7						
CMAR	Chiang Mai Arr	29.77	298	P	P	02 00 03.1	+0.6
	0.7nm,0.3s,mb3.7,baz=125,slow=7.5,SNR=5.1						
CMAR				PcP	PcP	02 03 06.8	+2.1
	0.8nm,0.4s,baz=65,slow=1.0,SNR=4.5						
CMAR				LR	LR	02 12 39.5	
	comp=Z,76nm,20.4s,baz=110,slow=37						
JHJ	Hachijo jima 2	30.40	23	P	P	02 00 02.4	-5.6
	364nm,0.5s,baz=244,slow=20,SNR=4.2						
CTA	Charters Tower	31.93	143	P	P	02 00 20.1	-1.4
	2.7nm,0.7s,mb4.1,baz=337,slow=10.0,SNR=3.4						
CTAO	Charters Tower	31.93	143	eP	P	02 00 21.0	-0.5
	3.2nm,0.8s,mb4.1						
XAN	Xi'an	32.86	333	P	P	02 00 29.3	-0.2
XAN				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.4						
BJT	Baijiatuau	35.77	347	P	P	02 00 55.1	+0.7
	comp=Z,16nm,1.0s,mb4.9						
NWAO	Narrogin (SRO)	38.97	192	P	P	02 01 21.7	+0.6
	comp=Z,3.0nm,0.5s,mb4.4,baz=4.7,slow=6.3,SNR=7.4						
NWAO	Narrogin (SRO)	38.97	192	eP	P	02 01 21.7	+0.6
	comp=Z,3.8nm,0.7s,mb4.3						
MDJ	Mudanjiang	39.28	4	P	P	02 01 24.8	+1.2
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,123nm,4.6s						
MDJ	Mudanjiang	39.28	4	eP	P	02 01 25.3	+1.7
	comp=Z,14nm,1.1s,mb4.7						
STKA	Stephens Creek	39.71	159	eP	P	02 01 27.7	+0.4
	comp=Z,4.2nm,0.4s,mb4.6						
STKA	Stephens Creek	39.71	159	P	P	02 01 27.6	+0.3
	comp=Z,4.2nm,0.5s,mb4.5,baz=337,slow=8.2,SNR=17						
HIA	Hailar	44.18	354	P	P	02 02 04.2	+0.4
	comp=Z,10nm,1.1s,mb4.5						
GUN	Gumba	44.51	305	eP	P	02 02 07.5	+0.9
	comp=Z,20nm,0.7s,mb5.0						
PKI	Pulchoki	44.76	304	eP	P	02 02 09.1	+0.4
KKN	Kakani	44.95	305	eP	P	02 02 10.1	-0.1
	comp=Z,6.6nm,0.6s,mb4.5						
DMN	Daman	45.02	304	eP	P	02 02 11.3	+0.5
GKN	Gorkha	45.56	305	eP	P	02 02 15.1	+0.1
	comp=Z,6.6nm,0.5s,mb4.6						
SONM	Songino Array	45.71	341	P	P	02 02 15.4	-0.5
	comp=Z,1.8nm,1.0s,mb3.8,baz=156,slow=8.6,SNR=7.4						
SONM				PcP	PcP	02 03 52.8	-0.3
	comp=Z,1.2nm,0.9s,baz=135,slow=2.0,SNR=3.8						
KOLN	Koldanda	46.33	304	eP	P	02 02 21.6	+0.5
	comp=Z,14nm,0.7s,mb4.8						
ZAL	Zalesovo	59.03	333	P	P	02 03 53.3	-1.7
	comp=Z,1.0nm,0.5s,mb4.2,baz=23,slow=5.4,SNR=4.5						
ZAL				LR	LR	02 32 30.7	
	comp=Z,40nm,19.8s,baz=95,slow=39						
KURK	Kurchatov	60.23	327	eP	P	02 04 01.5	-1.8
	comp=Z,5.4nm,0.7s,mb4.7						
RPZ	Rata Peaks	63.25	145	P	P	02 04 22.0	-1.7
	comp=Z,5.6nm,0.7s,mb4.6,baz=14,slow=15,SNR=2.7						
RPZ				LR	LR	02 34 17.1	
	comp=Z,88nm,18.5s,baz=88,slow=38						
BVAR	Borovoye Array	65.81	327	P	P	02 04 39.1	-0.9
	comp=Z,2.7nm,0.8s,mb4.1,baz=127,slow=7.4,SNR=14						
BRVK	Borovoye	65.88	327	eP	P	02 04 39.5	-1.0
	comp=Z,3.9nm,0.9s,mb4.2						
MCK	McKinley	82.96	27	eP	P	02 06 19.0	+0.5
	comp=Z,2.4nm,0.9s,mb4.0						
ILAR	Eielson Array	83.88	25	P	P	02 06 23.1	+0.1
	comp=Z,1.0nm,0.9s,mb3.6,baz=255,slow=5.6,SNR=12						
VNDA	Vanda	85.01	173	P	P	02 06 31.9	+3.4
JOF	Joensuu	87.62	333	ep	P	02 06 41.5	0.0
	comp=Z,2.3nm,0.6s,mb4.4						
ARCES	ARCESS Array B	88.86	340	P	P	02 06 47.9	+0.6
	comp=Z,11nm,1.0s,mb4.8,baz=80,slow=7.4,SNR=10						
KAF	Kangasniemi	90.05	332	ep	P	02 06 52.7	-0.2
	comp=Z,1.3nm,0.6s,mb4.2,baz=76,slow=4.9						
FINES	FINESS Array B	90.28	332	P	P	02 06 54.2	+0.1
	comp=Z,1.3nm,0.6s,mb4.2,baz=62,slow=4.3,SNR=20						
FINES	FINESS Array B	90.28	332	P	P	02 06 54.2	+0.1
NB2	NORSAR Subarra	97.23	334	P	P	02 07 22.2	-3.7
	comp=Z,3.9nm,1.2s,mb4.7,baz=69,slow=4.3						
NB2	NORSAR Subarra	97.23	334	P	P	02 07 22.2	-3.7
	baz=69,slow=4.3						
NOA	NORSAR Array B	97.23	334	P	P	02 07 25.8	-0.1
	comp=Z,1.1nm,0.7s,mb4.4,baz=65,slow=4.6,SNR=3.6						
NOA				LR	LR	02 55 22.6	
	comp=Z,30nm,18.4s,baz=60,slow=38						

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*IDC **17** 02:00:20.9±1.2, 64.08S×168.57W, mb3.7/5, mb1 4.1/6, mb1mx4.0/9, ML3.9/1, MS4.1/12, Ms1 4.1/12, ms1mx4.0/14, Error ellipse: s-maj=48.0km s-min=24.3km az=38.0*
*NEIC **17** 02:00:22.8±1.0, 64.10S×168.77W, h10^{km}, mb4.1/3, Error ellipse: s-maj=27.2km s-min=16.5km az=69.0*
ISC 17 02:00:22.6±0.8**, 64.13S**±0.09×**169.3W**±0.3**, h10^{km}, n23, σ1^{s}19**/13**, mb3.8**/6**, MS4.1**/11**, 3D, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SBA	Scott Base	15.59	199	eP	P	02 04 03.1	-0.5
	9.4nm,0.9s						
VNDA	Vanda	16.11	202	Pn	P	02 04 10.1	-0.1
	0.4nm,0.3s,baz=59,slow=16,SNR=26						
VNDA				LR	LR	02 09 01.0	
	comp=Z,756nm,19.0s,baz=41,slow=32						
RPZ	Rata Peaks	23.29	322	LR	LR	02 12 06.6	
	comp=Z,206nm,20.8s,MS3.6,baz=168,slow=30						
QSPA	South Pole Qui	25.97	180	eP	P	02 05 57.6	+1.3
	7.4nm,1.0s,mb4.2						
URZ	Urewera	27.14	336	LR	LR	02 14 41.9	
	comp=Z,196nm,20.4s,MS3.7,baz=164,slow=32						
MAW	Mawson	43.36	206	LR	LR	02 25 44.9	
	comp=Z,498nm,18.4s,MS4.5,baz=336,slow=35						
RAR	Rarotonga	43.37	13	LR	LR	02 21 29.5	
	comp=Z,300nm,18.6s,MS4.2,baz=99,slow=29						
SNAA	Sanae	44.15	174⇓	i	P	02 08 28.7	-3.5
SNAA	Sanae	44.15	174	P	P	02 08 30.6	-1.6
	0.6nm,1.0s,mb3.3,baz=161,slow=4.5,SNR=4.3						
VNA3	Neumayer Olymp	44.17	171⇓	i	P	02 08 34.2	+1.8
STKA	Stephens Creek	44.21	293	P	P	02 08 33.8	+0.6
	2.1nm,1.1s,mb3.8,baz=148,slow=19,SNR=2.1						
STKA				LR	LR	02 23 41.9	
	comp=Z,392nm,19.9s,MS4.3,baz=305,slow=32						
VNA2	Neumayer--Watz	44.64	172⇓	i	P	02 08 36.6	+0.4
RKT	Rikitea	46.83	45	eL		02 19 47.1	
RKT				eR		02 21 56.0	
	331nm,28.5s						
PPT	Papeete	48.44	26	eS	S	02 16 07.9	+1.4
PPT				eR		02 22 36.9	
	361nm,25.8s,baz=205						
CTA	Charters Tower	53.03	305	LR	LR	02 29 31.7	
	comp=Z,169nm,18.3s,MS4.1,baz=226,slow=33						
NWAO	Narrogin (SRO)	53.74	268	LR	LR	02 27 26.8	
	comp=Z,83nm,18.3s,MS3.8,baz=146,slow=30						
ASAR	Alice Springs	54.61	290	P	P	02 09 53.2	0.0
	0.6nm,0.7s,mb3.8,baz=149,slow=6.7,SNR=6.0						
ASAR				LR	LR	02 30 07.9	
	comp=Z,109nm,18.2s,MS4.0,baz=137,slow=32						
WRA	Warramunga Arr	57.75	292	P	P	02 10 15.0	-0.9
	0.8nm,1.0s,mb3.7,baz=149,slow=6.3,SNR=3.6						
WRA				LR	LR	02 33 01.4	
	comp=Z,338nm,18.2s,MS4.5,baz=150,slow=34						
PMG	Port Moresby	62.62	310	LR	LR	02 32 27.9	
	comp=Z,95nm,19.7s,MS4.0,baz=158,slow=31						
LPAZ	La Paz	80.30	107	P	P	02 12 32.6	-2.4
	1.3nm,0.8s,mb3.9,baz=214,slow=7.3,SNR=5.6						
LPAZ	La Paz	80.30	107	P	P	02 12 32.8	-2.2
	1.8nm,0.9s,mb4.0						
BDFB	Brasilia	88.80	125	LR	LR	02 53 18.5	
	comp=Z,100nm,18.1s,MS4.3,baz=112,slow=36						
BRTR	Keskin Array B	152.07	220	PKPbc	PKPdf	02 20 17.6	+4.2
	0.9nm,0.9s,baz=176,slow=3.2,SNR=5.2						

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*CSEM **17** 02:24:52.9, 13.08N×43.97E, h17^{km}, ML3.8, After DHMR*
DHMR 17 02:24:53.0±0.9**, 13.08N**×**43.97E, h18^{km}**±4^{km}**, MD3.5, ML3.4, 1D, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
UDYN	Al 'Udayn	0.88	1⇓	iP	Pb	02 25 09.7	+0.3
UDYN				i S	Sb	02 25 21.8	+1.0
	2µm,0.3s						
LBOS		1.47	58	i P	Pn	02 25 19.3	+0.3
LBOS				i S	Sb	02 25 40.3	+2.5
LBOS				AML	AML	02 25 45.2	
	comp=N,597nm,0.8s						
DHBB	Dhamar BB	1.53	15	i P	Pn	02 25 20.9	+1.2
DHBB				i S	Sn	02 25 41.9	+2.7
BDHA	Al Bayda'	1.79	60	i P	Pn	02 25 23.8	+0.3
BDHA				i S	Sn	02 25 48.8	+3.0
HAJJ	Hajjah	2.63	352	i S	Sn	02 26 12.3	+5.0

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*IDC **17** 02:25:19.7±9.4, 6.76S×155.26E, h69^{km}±69^{km}, mb3.3/4, mb1 3.6/5, mb1mx3.4/14, ML3.1/1, Error ellipse: s-maj=70.5km s-min=34.5km az=98.0*
ISC 17 02:25:18.6±5.8**, 6.7S**±0.2×**155.2E**±0.3**, h73^{km}**±45^{km}**, n7, σ0^{s}64**/8**, mb3.5**/5**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.41	251	P	P	02 27 19.9	0.0
	1.2nm,0.3s,baz=107,slow=19,SNR=4.1						
PMG				S	S	02 28 54.0	-0.1
	0.8nm,0.3s,baz=81,slow=19,SNR=3.3						
WB2	Warramunga Arr	24.15	235	eP	P	02 30 29.5	+0.5
WRA	Warramunga Arr	24.16	235	P	P	02 30 29.7	+0.6
	0.4nm,0.3s,mb3.2,baz=62,slow=10,SNR=6.7						
WRA				PcP	PcP	02 34 09.5	-0.2
	0.2nm,0.5s,baz=58,slow=2.4,SNR=6.8						
ASAR	Alice Springs	26.53	228	P	P	02 30 50.5	-0.9
	0.3nm,0.5s,mb3.1,baz=65,slow=9.2,SNR=3.7						
FITZ	Fitzroy Crossi	30.97	246	eP	P	02 31 39.1	+7.8
	2.5nm,1.1s,mb3.9						
CMAR	Chiang Mai Arr	60.85	295	P	P	02 35 26.0	0.0
	1.0nm,0.5s,mb4.1,baz=132,slow=6.2,SNR=6.8						
SONM	Songino Array	69.20	327	P	P	02 36 19.4	0.0
	0.2nm,0.4s,mb3.3,baz=126,slow=4.6,SNR=3.5						

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*CSEM **17** 02:29:35.2, 13.02N×44.03E, h14^{km}, ML3.6, After DHMR*
DHMR 17 02:29:35.3±1.0**, 13.02N**×**44.03E, h14^{km}**±5^{km}**, MD3.2, ML3.5, 2D, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
UDYN	Al 'Udayn	0.94	358⇓	iP	Pb	02 29 52.3	-0.5
UDYN				i S	Sb	02 30 06.5	+1.6
UDYN				AML	AML	02 30 10.3	
	comp=E,1µm,0.4s						
UDYN	Al 'Udayn	0.94	358⇓	iP	Pb	02 29 52.3	-0.5
UDYN				i S	Sb	02 30 06.5	+1.6
	comp=E,740nm,0.6s						
LBOS		1.46	54	i P	Pn	02 30 02.1	+0.7
LBOS				i S	Sb	02 30 22.9	+2.9
DHBB	Dhamar BB	1.57	13	i P	Pn	02 30 03.7	+0.8
DHBB				i S	Sn	02 30 25.7	+2.6
BDHA	Al Bayda'	1.77	57	i P	Pn	02 30 06.6	+0.8
BDHA				i S	Sn	02 30 30.5	+2.3
HAJJ	Hajjah	2.69	351	i S	Sn	02 30 56.9	+5.3

*BJI **17** 02:37:23.0, 39.79N×76.90E, h13km, ML3.5*
*NNC **17** 02:37:30.9±4.2, 40.19N×78.37E, mpv3.2, Error ellipse: s-maj=36.4km s-min=29.0km az=68.0*
ISC 17 02:37:10.0±2.3**, 38.5N**±0.2×**77.0E**±0.3**, h13km, n13, σ1.06**/12**, 3C-2D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.28**	**323**	⇑*i*PG	**Pg**	**02 37 36.8**	**+1.1**
KSH				SG	**Sg**	**02 37 48.8**	**-4.1**
KSH				Smax			
	comp=N,1μm,0.7s						
KSH				Smax			
	comp=E,2μm,0.8s						
ULHL	**Ulahol**	**3.79**	**352**	P	**Pn**	**02 38 08.9**	**-0.5**
	SNR=83						
KZA	**Kyzart**	**3.82**	**340**	P	**Pn**	**02 38 09.7**	**-0.1**
	SNR=24						
UCH	**Uchtor**	**4.18**	**334**	P	**Pn**	**02 38 14.9**	**0.0**
	SNR=21						
AML	**Almayashu**	**4.41**	**327**	P	**Pn**	**02 38 18.8**	**+0.5**
	SNR=15						
KBK	**Karagaybulak**	**4.44**	**340**	P	**Pn**	**02 38 23.1**	**+4.5**
	SNR=8.2						
AAK	**Ala-Archa**	**4.55**	**336**	P	**Pn**	**02 38 19.8**	**-0.3**
	SNR=9.6						
TKM2	**Tokmak 2**	**4.55**	**347**	P	**Pn**	**02 38 19.4**	**-0.7**
	SNR=35						
CHMS	**Chumysh**	**4.81**	**340**	P	**Sn**	**02 39 20.1**	**0.0**
	SNR=6.1						
EKS2	**Erkin-Say**	**4.82**	**331**	P	**Pn**	**02 38 23.8**	**-0.3**
	SNR=7.3						
USP	**Ospenovka**	**5.12**	**339**	P	**Sn**	**02 39 30.6**	**+2.5**
	SNR=9.1						
MK02	**Makanchi Array**	**9.16**	**24**	⇑Pg	Px	02 39 41.6	
	comp=E,1.3nm,0.8s,baz=205,slow=13						
MK02				⇓Lg		02 41 18.7	
	comp=E,2.5nm,0.8s						
KURK	**Kurchatov**	**12.28**	**5**	⇑Pn	Px	02 41 28.7	
	comp=E,5.1nm,2.5s,baz=60,slow=16,SNR=4.4						
KURK				⇓Lg		02 43 05.6	
	comp=E,9.5nm,2.2s						

*IDC **17** 02:48:32.3±2.6, 5.60N×126.73E, mb3.6/4, mb1 3.9/4, mb1mx3.6/17, Error ellipse: s-maj=140.0km s-min=29.9km az=95.0*
ISC 17 02:48:36.5±1.0**, 5.5N**±0.1×**127.0E**±0.2**, h33km, n7, σ0.84**/8**, mb3.5**/4**, 1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.13**	**287**	*e*P	**P**	**02 49 09.0**	**-1.4**
KCP	**Kidapawan**	**2.44**	**309**	⇓*e*P	**P**	**02 49 13.9**	**-0.9**
KCP				*i* S	**S**	**02 49 45.1**	**+1.4**
BUKP	**Musuan**	**3.07**	**321**	*e*P	**P**	**02 49 23.8**	**+0.1**
FITZ	**Fitzroy Crossi**	**23.46**	**183**	P	**P**	**02 53 44.7**	**+0.6**
	0.8nm,0.5s,mb3.4,baz=12,slow=9.3,SNR=6.4						
WRA	**Warramunga Arr**	**26.27**	**164**	P	**P**	**02 54 10.5**	**-0.4**
	0.5nm,0.5s,mb3.3,baz=343,slow=10,SNR=5.2						
ASAR	**Alice Springs**	**29.74**	**167**	P	**P**	**02 54 42.9**	**+0.7**
	0.2nm,0.5s,mb3.1,baz=346,slow=7.8,SNR=5.5						
ILAR	**Eielson Array**	**83.42**	**25**	P	**P**	**03 01 01.4**	**-0.2**
	2.2nm,1.4s,mb4.0,baz=244,slow=6.3,SNR=4.9						

DJA 17 02:57:28.4±1.0**, 9.73S**×**114.26E, h2km, MD5.7**/3**, ML3.8**/3**, 3C-3D, Error ellipse: s-maj=24.0km s-min=13.3km az=27.0, South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.24**	**354**	⇑*i*Pn	Pn	02 57 48.9	-3.9
	318nm,0.2s						
SRDI				⇓*i*Sn	Sn	02 58 03.8	-6.5
KELI	**Kelakatan**	**1.52**	**9**	⇑*i*Pn	Pn	02 57 53.7	-3.0
	58nm,0.2s						
KELI				⇓*i*Sn	Sn	02 58 12.5	-4.7
RATI	**Rata**	**1.60**	**52**	⇑*i*Pn	Pn	02 57 54.9	-3.0
	47nm,0.2s						
RATI				⇓*i*Sn	Sn	02 58 13.4	-6.0

WEL 17 03:24:32.1±0.2**, 38.17S**×**176.27E, h153km**±2km**, ML3.9**/7**, 5C, Error ellipse: s-maj=2.5km s-min=1.9km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.67**	**98**	⇑PN	P	03 24 54.6	-0.5
URZ				SN	S	03 25 12.0	-0.7
MWZ	**Matawai**	**1.00**	**100**	PN	P	03 24 57.2	-0.1
MWZ				SN	S	03 25 16.5	-0.1
MGZ	**Maungaku**	**1.01**	**214**	PN	P	03 24 57.5	+0.2
BKZ	**Black Stump Fm**	**1.01**	**170**	⇑PN	P	03 24 57.3	-0.1
BKZ				SN	S	03 25 16.6	-0.3
KAVZ	**Karewarewa**	**1.05**	**208**	*e*PN	P	03 24 57.6	-0.2
TWVZ	**Taurewa**	**1.12**	**216**	PN	P	03 24 58.1	-0.2
NGZ	**Ngauruhoe**	**1.14**	**207**	*e*PN	P	03 24 58.6	+0.1
CNZ	**Chateau**	**1.18**	**209**	PN	P	03 24 58.6	-0.3
TUVZ	**Tukino**	**1.20**	**204**	⇑PN	P	03 24 59.1	-0.1
DRZ	**Dome Shelter**	**1.24**	**206**	*e*PN	P	03 24 59.5	-0.1
WNVZ	**Wahianoa**	**1.27**	**204**	⇑PN	P	03 24 59.7	-0.2
MOVZ	**Moawhango**	**1.30**	**198**	*e*PN	P	03 24 59.4	-0.8
KNZ	**Kokohu**	**1.39**	**128**	PN	P	03 25 00.8	-0.2
KNZ				SN	S	03 25 22.5	-0.9
PUZ	**Puketiti**	**1.57**	**87**	PN	P	03 25 02.4	-0.5
PUZ				SN	S	03 25 25.7	-1.0
MXZ	**Matakaoa Point**	**1.72**	**70**	PN	P	03 25 04.2	-0.3
MXZ				SN	S	03 25 28.5	-1.0
BFZ	**Birch Farm**	**2.51**	**180**	PN	P	03 25 11.7	-2.3
BFZ				*e*SN	S	03 25 42.8	-3.4
MRZ	**Mangatainoka R**	**2.55**	**192**	⇑PN	P	03 25 11.9	-2.7
MRZ				*e*SN	S	03 25 42.6	-4.4
KIW	**Kapiti Island**	**2.89**	**201**	*e*PN	P	03 25 15.5	-3.4
MTW	**Mount Morrison**	**3.05**	**191**	PN	P	03 25 17.2	-3.7
CAW	**Cannon Point**	**3.08**	**197**	PN	P	03 25 17.8	-3.6
PAWZ	**Paruwai Farm**	**3.28**	**191**	*e*PN	P	03 25 19.8	-4.0
MRW	**Makara Radio**	**3.29**	**201**	*e*PN	P	03 25 20.0	-4.0
MSWZ	**Moikau Station**	**3.34**	**193**	PN	P	03 25 20.6	-4.0
BHW	**Baring Head**	**3.41**	**198**	*e*PN	P	03 25 21.3	-4.3
TUWZ	**Tuamarina**	**3.72**	**208**	*e*PN	P	03 25 25.1	-4.6
NNZ	**Nelson**	**3.78**	**215**	*e*PN	P	03 25 25.9	-4.4
NNZ				SN	S	03 26 09.8	-5.3
THZ	**Tophouse**	**4.43**	**215**	*e*PN	P	03 25 33.3	-5.6
MQZ	**McQueen's Vall**	**6.18**	**205**	SN	S	03 27 00.4	-12

DJA 17 03:24:39.5±1.0**, 9.60S**×**116.12E, h2km, MD5.3**/4**, ML4.0**/4**, 5C-3D, Error ellipse: s-maj=21.4km s-min=12.2km az=147.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	**Rata**	**1.05**	**326**	⇑*i*Pn	Pn	03 24 58.3	-2.7
	246nm,0.2s						
RATI				⇑*i*Sn	Sn	03 25 12.1	-4.3
KEDI	**Kedomdong**	**1.10**	**360**	⇓*i*Pn	Pn	03 24 58.9	-3.0
	372nm,0.2s						
KEDI				⇑*i*Sn	Sn	03 25 12.7	-5.1
KELI	**Kelakatan**	**2.12**	**310**	⇓*i*Pn	Pn	03 25 14.1	-2.2
	70nm,0.2s						
KELI				⇑*i*Sn	Sn	03 25 34.7	-8.9
SRDI	**Scrawed**	**2.25**	**299**	⇑*i*Pn	Pn	03 25 14.5	-3.7
	49nm,0.2s						
SRDI				⇓*i*Sn	Sn	03 25 40.8	-6.1

WEL 17 03:50:23.2±0.5**, 45.09S**×**166.84E, h5km, ML3.5**/8**, 1D, Error ellipse: s-maj=4.6km s-min=2.0km az=90.0, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.45**	**151**	PG	Pg	03 50 32.5	+0.3
DCZ				SG	Sg	03 50 38.5	+0.3
MLZ	**Mavora Lakes**	**0.98**	**106**	⇓P*	Pb	03 50 41.5	-0.7
MLZ				S*	Sb	03 50 54.3	-0.9
WHZ	**Wether Hill Ro**	**1.12**	**136**	P*	Pb	03 50 43.8	-0.9
WHZ				S*	Sb	03 50 58.5	-0.9
WKZ	**Wanaka**	**1.57**	**81**	PN	Pn	03 50 52.7	+0.9
JCZ	**Jackson Bay**	**1.70**	**54**	PN	Pn	03 50 52.7	-1.1
JCZ				SN	Sn	03 51 15.4	-0.8
TUZ	**Tuapeka**	**2.15**	**115**	PN	Pn	03 50 59.4	-0.7
TUZ				SN	Sn	03 51 26.5	-0.9
LBZ	**Lake Benmore**	**2.48**	**75**	PN	Pn	03 51 05.2	+0.2
FOZ	**Fox Glacier**	**2.55**	**54**	*e*PN	Pn	03 51 05.2	-0.6
FOZ				SN	Sn	03 51 36.2	-1.4
ODZ	**Otahua Downs**	**2.69**	**90**	PN	Pn	03 51 06.7	-1.3
ODZ				SN	Sn	03 51 38.6	-2.8
WVZ	**Waitaha Valley**	**3.45**	**56**	PN	Pn	03 51 15.8	-3.0
MQZ	**McQueen's Vall**	**4.39**	**74**	*e*PN	Pn	03 51 28.8	-3.2
LTZ	**Lake Taylor**	**4.55**	**61**	PN	Pn	03 51 32.4	-1.9
DSZ	**Denniston Nort**	**4.92**	**49**	PN	Pn	03 51 35.8	-3.8
QRZ	**Quartz Range**	**5.96**	**46**	PN	Pn	03 51 50.6	-3.7

*IDC **17** 03:55:55.2±0.7, 11.79N×86.49W, mb4.5/11, mb1 4.8/11, mb1mx4.5/18, MS4.2/16, Ms1 4.2/16, ms1mx4.1/22, Error ellipse: s-maj=32.0km s-min=16.2km az=56.0*
*CASC **17** 03:55:59.7±2.8, 11.45N×86.99W, h11km±10km, MD4.6, mb4.6(NEIC)*
*BJI **17** 03:56:05.8, 11.70N×86.70W, h89km, Ms4.7, Msz4.6*
*NEIC **17** 03:56:05.9±1.5, 11.71N×86.68W, h90km±14km, mb4.6/37, Error ellipse: s-maj=10.1km s-min=4.7km az=54.0*
ISC 17 03:56:01.7±0.3**, 11.57N**±0.04×**86.83W**±0.03**, h69km**±2km**, n171, σ1.05**/160**, mb4.5**/45**, 14C-17D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.65**	**21**	⇑*i*P	**P**	**03 56 15.5**	**-0.5**
CRUN	**El Crucero**	**0.66**	**52**	⇑*i*P	**P**	**03 56 16.0**	**-0.1**
TICN	**Ticuantepe**	**0.74**	**52**	⇓*i*P	**P**	**03 56 17.0**	**-0.1**
XAVN	**Gruta Xavier**	**0.75**	**41**	⇓*e*P	**P**	**03 56 17.1**	**-0.1**
MASN	**Masaya**	**0.78**	**58**	⇓*e*P	**P**	**03 56 17.0**	**-0.6**
MGAN	**Managua**	**0.80**	**45**	⇓*e*P	**P**	**03 56 18.0**	**+0.2**
APYN	**Apoyeque**	**0.81**	**35**	⇑*i*P	**P**	**03 56 17.7**	**-0.2**
APON	**Apoyo**	**0.82**	**65**	⇓*i*P	**P**	**03 56 17.9**	**-0.1**
PYN	**Poneloya**	**0.83**	**347**	*e*P	**P**	**03 56 17.6**	**-0.5**
LEON	**Leon**	**0.84**	**356**	⇓*i*P	**P**	**03 56 17.6**	**-0.7**
WILN	**Americas 2**	**0.85**	**47**	⇓*i*P	**P**	**03 56 18.6**	**+0.1**
MIRN	**Miramar**	**0.87**	**7**	⇑*i*P	**P**	**03 56 18.3**	**-0.3**
MOMJ	**Momotombo**	**0.88**	**19**	⇓*i*P	**P**	**03 56 18.6**	**-0.1**
MOMJ				*e*S	**S**	**03 56 33.3**	**+2.0**
CNGN	**Cerro Negro**	**0.93**	**8**	⇓*e*P	**P**	**03 56 18.9**	**-0.5**
CNGN				*e*S	**S**	**03 56 37.2**	**+4.6**
TELN	**Telica**	**1.02**	**360**	⇓*e*P	**P**	**03 56 20.1**	**-0.5**
TELN				*e*S	**S**	**03 56 36.0**	**+1.2**
CRIN	**San Cristobal**	**1.14**	**349**	⇓*e*P	**P**	**03 56 21.9**	**-0.3**
CRIN				*e*S	**S**	**03 56 37.3**	**-0.2**
PYTN	**Playitas**	**1.22**	**38**	⇓*i*P	**P**	**03 56 23.3**	**+0.1**
PYTN				*e*S	**S**	**03 56 45.9**	**+6.6**
VCR	**Vista de Mar**	**1.86**	**141**	*e*P	**P**	**03 56 30.1**	**-1.8**
CNCH	**Conchagua**	**1.96**	**330**	⇑*e*P	**P**	**03 56 32.6**	**-0.7**
CNCH				*e*S	**S**	**03 56 57.7**	**+1.0**
BLLM	**Bellamira**	**2.31**	**324**	*e*P	**P**	**03 56 37.6**	**-0.7**
BLLM				*e*S	**S**	**03 57 10.3**	**+4.7**
VSM	**San Miguel**	**2.32**	**323**	*e*P	**P**	**03 56 38.5**	**0.0**
VSM				*e*S	**S**	**03 57 07.9**	**+2.0**
FORC	**Fortuna**	**2.38**	**117**	⇑*e*P	**P**	**03 56 39.3**	**-0.1**
FORC				*e*S	**S**	**03 57 17.3**	**+10**
JCR	**Jicaral**	**2.40**	**135**	⇓*e*P	**P**	**03 56 38.1**	**-1.5**
JCR				*e*S	**S**	**03 57 15.0**	**+7.2**
CAHU	**Cacacuatique**	**2.57**	**328**	⇓*e*P	**P**	**03 56 41.6**	**-0.3**
CAHU				*e*S	**S**	**03 57 15.0**	**+2.9**
CGA2	**Cerro Gallo 2**	**2.79**	**123**	*e*P	**P**	**03 56 45.9**	**+0.8**
SNVI	**San Vicente**	**2.82**	**316**	⇓*e*P	**P**	**03 56 44.2**	**-1.3**
SNVI				*e*S	**S**	**03 57 20.2**	**+1.8**
VPS2	**Volcan Poas 2**	**2.89**	**118**	*e*P	**P**	**03 56 48.5**	**+2.0**
LCBS	**La Ceiba**	**2.95**	**315**	⇑*e*P	**P**	**03 56 45.5**	**-1.8**
LCBS				*e*S	**S**	**03 57 21.3**	**-0.3**
LFRS	**El Faro**	**2.99**	**313**	⇑*e*P	**P**	**03 56 46.0**	**-1.8**
LBRS	**Las Brisas**	**3.05**	**315**	*e*P	**P**	**03 56 47.6**	**-1.1**
LBRS				*e*S	**S**	**03 57 24.6**	**+0.4**
LFU	**La Fuente**	**3.11**	**314**	*e*P	**P**	**03 56 48.1**	**-1.4**
LAJ	**Bijagual**	**3.15**	**122**	*e*P	**P**	**03 56 45.6**	**-4.6**
SJS	**Escuela Geolog**	**3.17**	**121**	*e*P	**P**	**03 56 52.7**	**+2.2**
TRTC	**Tortuguero**	**3.21**	**108**	*e*P	**P**	**03 56 49.5**	**-1.5**
BOQS	**Boqueron**	**3.22**	**312**	*e*P	**P**	**03 56 49.8**	**-1.3**
BOQS				*e*S	**S**	**03 57 30.3**	**+2.0**
LCR2	**La Lucha 2**	**3.32**	**123**	*e*P	**P**	**03 56 52.8**	**+0.3**
ICR	**Volcan Irazu**	**3.34**	**118**	*e*P	**P**	**03 56 55.5**	**+2.7**
URSC	**Urasca**	**3.46**	**120**	⇑*e*P	**P**	**03 56 55.8**	**+1.3**
SBLS	**San Blas**	**3.54**	**310**	*e*P	**P**	**03 56 54.0**	**-1.5**
SBLS				*e*S	**S**	**03 57 38.0**	**+1.6**
SNJE	**San Jose**	**3.54**	**310**	*e*P	**P**	**03 56 54.9**	**-0.8**
RTR	**El Retiro**	**3.59**	**310**	⇑*e*P	**P**	**03 56 55.4**	**-0.9**
BUS	**Buena Vista**	**3.62**	**123**	*e*P	**P**	**03 56 58.2**	**+1.5**
MTO2	**Montecristo 2**	**3.74**	**319**	⇑*e*P	**P**	**03 56 57.8**	**-0.6**
LIO	**Limon**	**4.04**	**112**	*e*P	**P**	**03 57 04.2**	**+1.7**
IXG	**Ixpaco**	**4.38**	**307**	*e*P	**P**	**03 57 06.3**	**-1.0**
NBG	**Las Nubes**	**4.55**	**312**	*e*P	**P**	**03 57 09.6**	**-0.2**
TP2	**Tecpan 2**	**5.18**	**308**	*e*P	**P**	**03 57 18.9**	**+0.5**
OTAV	**Otavalo**	**14.00**	**143**	P	**P**	**03 59 21.7**	**+3.5**
	9.2nm,1.1s						
SDV	**Santo Domingo**	**16.16**	**98**	*e*P	**P**	**03 59 46.6**	**+0.7**
	18nm,0.8s						
HKT	**Hockley**	**20.11**	**337**	*e*P	**P**	**04 00 32.5**	**0.0**
	54nm,0.9s						
SJG	**San Juan**	**21.01**	**70**	LR	LR	04 07 55.6	
	comp=Z,723nm,21.9s,baz=264,slow=35						
SJG	**San Juan**	**21.01**	**70**	*e*P	**P**	**04 00 31.9**	**-10**
NATX	**Nacogdoches**	**21.35**	**341**	*e*P	**P**	**04 00 45.8**	**+0.8**
	88nm,0.7s,mb5.2						
LRAL	**Lakeview Retre**	**21.36**	**360**	*e*P	**P**	**04 00 45.7**	**+0.5**
	20nm,0.7s,mb4.6						
JCT	**Junction City**	**22.34**	**329**	*e*P	**P**	**04 00 54.5**	**-0.3**
	24nm,0.8s,mb4.6						
OXF	**Oxford**	**22.95**	**355**	*e*P	**P**	**04 01 01.3**	**+0.4**
	36nm,0.6s,mb4.9						
JSC	**Jenkinsville**	**23.17**	**12**	*e*P	**P**	**04 01 04.6**	**+1.6**
MYNC	**Murphy**	**23.52**	**6**	*e*P	**P**	**04 01 08.1**	**+1.7**
	18nm,0.7s,mb4.5						
LTX	**Lajitas**	**23.64**	**321**	*e*P	**P**	**04 01 08.5**	**+1.1**
	33nm,0.7s,mb4.8						
TXAR	**Lajitas Array**	**23.64**	**321**	P	**P**	**04 01 09.3**	**+1.9**
	24nm,0.6s,mb4.7,baz=141,slow=9.5,SNR=166						
TXAR				PcP	PcP	04 04 54.1	+1.9
	1.3nm,0.6s,baz=150,slow=6.6,SNR=7.0						
TXAR				LR	LR	04 12 46.4	
	comp=Z,93nm,21.2s,baz=125,slow=43						
UALR	**University of**	**23.64**	**349**	*e*P	**P**	**04 01 07.5**	**+0.1**
	13nm,0.6s,mb4.4						
MIAR	**Mount Ida**	**23.68**	**346**	*e*P	**P**	**04 01 08.5**	**+0.7**
	35nm,0.7s,mb4.8						
CPCT	**Cooper Cave**	**23.86**	**5**	*e*P	**P**	**04 01 13.6**	**+4.0**
WVT	**Waverly**	**24.46**	**358**	*e*P	**P**	**04 01 14.1**	**-1.4**
	5.8nm,0.6s,mb4.1						
WMOK	**Wichita Mounta**	**25.50**	**337**	*e*P	**P**	**04 01 24.6**	**-0.8**
	124nm,1.0s,mb5.3						
CLNB	**Carlsbad**	**25.89**	**325**	*e*P	**P**	**04 01 30.1**	**+1.1**
GDL2	**Guadalupe Moun**	**26.12**	**325**	*e*P	**P**	**04 01 31.8**	**+0.6**
PWV	**Princeton**	**26.17**	**10**	P	**P**	**04 01 29.7**	**-1.8**
USIN	**University of**	**26.29**	**359**	*e*P	**P**	**04 01 31.3**	**-1.4**
	13nm,0.6s,mb4.5						
FWV	**Forest Hill**	**26.45**	**11**	P	**P**	**04 01 32.3**	**-1.9**
CPRX	**Cap Rock**	**26.47**	**326**	*e*P	**P**	**04 01 33.1**	**-1.3**
WCI	**Wyandotte Cave**	**26.55**	**1**	*e*P	**P**	**04 01 34.7**	**-0.4**
	10nm,0.6s,mb4.5						
CCM	**Cathedral Cave**	**26.67**	**352**	*e*P	**P**	**04 01 33.6**	**-2.5**
	12nm,0.6s,mb4.6						
AMTX	**Amarillo**	**26.85**	**332**	*e*P	**P**	**04 01 37.4**	**-0.4**
MCWV	**Mont Chateau**	**28.65**	**11**	*e*P	**P**	**04 01 53.8**	**-0.3**
	12nm,0.6s,mb4.7						
ACSO	**Alum Creek Sta**	**28.75**	**6**	*e*P	**P**	**04 01 53.8**	**-1.1**
	16nm,0.6s,mb4.8						
KSU1	**Kansas State U**	**28.76**	**344**	*e*P	**P**	**04 01 53.0**	**-2.0**
BNM	**Barren Site**	**28.84**	**324**	*e*P	**P**	**04 01 57.0**	**+1.3**
LAZ	**Ladron**	**29.31**	**324**	*e*P	**P**	**04 01 60.0**	**0.0**
ANMO	**Albuquerque**	**29.33**	**326**	*e*P	**P**	**04 02 00.3**	**+0.2**
	3.8nm,0.7s,mb4.1						
SSPA	**Standing Stone**	**30.00**	**14**	*e*P	**P**	**04 02 05.9**	**-0.1**
	7.7nm,0.6s,mb4.5						
TUC	**Tucson**	**30.19**	**317**	*e*P	**P**	**04 02 06.5**	**-1.4**
	5.2nm,1.0s,mb4.1						
SDCO	**Great Sand Dun**	**30.97**	**330**	*e*P	**P**	**04 02 14.8**	**+0.1**
	11nm,0.6s,mb4.8						
SAML	**Samuel**	**31.12**	**130**	*e*P	**P**	**04 02 14.4**	**-1.8**
	5.4nm,1.0s,mb4.2						
BINY	**Binghamton**	**31.95**	**15**	*e*P	**P**	**04 02 22.7**	**-0.4**
ISCO	**Idaho Springs**	**32.67**	**333**	*e*P	**P**	**04 02 29.1**	**-0.3**
	3.8nm,0.6s,mb4.4						
PV01	**Paradox Valley**	**32.82**	**327**	*e*P	**P**	**04 02 31.4**	**+0.6**
PV10	**Paradox Valley**	**33.25**	**327**	*e*P	**P**	**04 02 34.4**	**-0.1**
LPAZ	**La Paz**	**33.29**	**146**	P	**P**	**04 02 35.1**	**+0.1**
	0.7nm,0.6s,mb3.7,baz=7.3,slow=7.5,SNR=3.6						
LPAZ				LR	LR	04 16 29.0	
	comp=Z,329nm,18.0s,baz=126,slow=37						
LPAZ	**La Paz**	**33.29**	**146**	*e*P	**P**	**04 02 34.7**	**-0.3**
SADO	**Sadowa**	**33.73**	**10**	P	**P**	**04 02 37.5**	**-1.0**
	9.1nm,0.8s,mb4.7,baz=322,slow=4.4,SNR=6.2						
SADO				LR	LR	04 16 17.4	
	comp=Z,343nm,19.9s,baz=24,slow=36						
SRU	**San Rafael**	**34.58**	**327**	*e*P	**P**	**04 02 46.4**	**+0.5**
NEN	**Nelson**	**34.89**	**318**	*e*P	**P**	**04 02 49.3**	**+0.7**
MSU	**Marysvale**	**35.08**	**324**	*e*P	**P**	**04 02 52.1**	**+1.9**
TMUT	**Trail Mountain**	**35.08**	**326**	*e*P	**P**	**04 02 51.1**	**+0.9**
ARUT	**Antelope Range**	**35.34**	**322**	*e*P	**P**	**04 02 53.3**	**+0.9**
RSSD	**Black Hills**	**35.66**	**339**	*e*P	**P**	**04 02 55.5**	**+0.5**
	5.3nm,0.6s,mb4.7						
MPU	**Maple Canyon**	**35.83**	**327**	*e*P	**P**	**04 02 57.4**	**+0.9**
DAU	**Daniels Canyon**	**35.91**	**327**	*e*P	**P**	**04 02 58.2**	**+1.0**
NOQ	**North Oquirrh**	**36.54**	**327**	*e*P	**P**	**04 03 02.8**	**+0.3**
TPNV	**Topopah Spring**	**36.58**	**319**	*e*P	**P**	**04 03 02.2**	**-0.6**
	3.0nm,0.8s,mb4.3						
DUG	**Dugway**	**36.59**	**326**	*e*P	**P**	**04 03 03.6**	**+0.6**
	3.7nm,0.9s,mb4.3						
BW06	**Boulder Array**	**36.83**	**332**	*e*P	**P**	**04 03 04.5**	**-0.5**
	5.3nm,0.6s,mb4.7						
PDAR	**Pinedale Array**	**36.83**	**332**	P	**P**	**04 03 05.3**	**+0.4**
	6.4nm,0.5s,mb4.8,baz=126,slow=10,SNR=50						
PDAR				PcP	PcP	04 05 26.4	+0.4
	1.3nm,0.6s,baz=120,slow=4.3,SNR=5.4						
HWUT	**Hardware Ranch**	**36.94**	**329**	*e*P	**P**	**04 03 06.2**	**+0.3**
	15nm,0.7s,mb5.0						
SPUT	**South Promonto**	**37.18**	**327**	*e*P	**P**	**04 03 08.3**	**+0.4**
BGU	**Big Grassy Mou**	**37.22**	**326**	*e*P	**P**	**04 03 08.5**	**+0.3**
AHID	**Auburn Hatcher**	**37.56**	**330**	*e*P	**P**	**04 03 11.4**	**+0.4**
	13nm,0.6s,mb4.9						
HVU	**Hansel Valley**	**37.69**	**328**	*e*P	**P**	**04 03 10.9**	**-1.2**
REDW	**Red Top Meadow**	**37.89**	**331**	*e*P	**P**	**04 03 14.2**	**+0.4**
SNOW	**Snow King Moun**	**37.92**	**331**	*e*P	**P**	**04 03 14.8**	**+0.8**
LOHW	**Long Hollow**	**37.97**	**332**	*e*P	**P**	**04 03 14.8**	**+0.4**
WUWY	**Wally Ulrich**	**37.98**	**331**	*e*P	**P**	**04 03 14.4**	**-0.1**
TPAW	**Teton Pass**	**38.04**	**331**	*e*P	**P**	**04 03 15.7**	**+0.8**
RRI2	**Red Ridge**	**38.11**	**331**	*e*P	**P**	**04 03 15.7**	**+0.1**
MOOW	**Moose Ponds**	**38.14**	**332**	*e*P	**P**	**04 03 15.1**	**-0.7**
ELK	**Elko**	**38.33**	**324**	*e*P	**P**	**04 03 18.3**	**+0.9**
	4.8nm,0.9s,mb4.3						
LAO	**LASA Array**	**38.66**	**339**	*e*P	**P**	**04 03 20.1**	**0.0**
MNV	**Mina**	**38.67**	**319**	*e*P	**P**	**04 03 21.5**	**+1.3**
	11nm,1.3s,mb4.5						
NVAR	**Mina Array Bea**	**38.76**	**319**	P	**P**	**04 03 23.0**	**+2.0**
	3.3nm,0.7s,mb4.3,baz=129,slow=8.0,SNR=18						
NVAR				PcP	PcP	04 05 34.2	+2.2
	4.6nm,0.6s,baz=121,slow=4.3,SNR=18						
NVAR	**Mina Array Bea**	**38.76**	**319**	P	**P**	**04 03 23.0**	**+2.0**
NVAR				PcP	PcP	04 05 34.2	+2.2
GCMT	**Greycliff**	**39.26**	**335**	*e*P	**P**	**04 03 24.8**	**-0.3**
ULM	**Lac du Bonnet**	**39.28**	**351**	P	**P**	**04 03 23.6**	**-1.6**
	14nm,0.8s,mb4.8,baz=174,slow=9.9,SNR=9.2						
ULM				LR	LR	04 20 31.1	
	comp=Z,159nm,20.6s,baz=256,slow=38						
ULM	**Lac du Bonnet**	**39.28**	**351**	*e*P	**P**	**04 03 22.8**	**-2.4**
	19nm,1.0s,mb4.9						
BMN	**Battle Mountai**	**39.29**	**322**	*e*P	**P**	**04 03 26.0**	**+0.6**
	8.8nm,0.9s,mb4.6						
DGMT	**Dagmar**	**39.54**	**342**	*e*P	**P**	**04 03 26.8**	**-0.6**
	25nm,0.6s,mb5.2						
HLID	**Hailey**	**39.80**	**328**	*e*P	**P**	**04 03 30.1**	**+0.5**
	3.8nm,0.6s,mb4.4						
MCMT	**McKenzie Canyo**	**39.94**	**331**	*e*P	**P**	**04 03 32.0**	**+1.2**
BOZ	**Bozeman (W)**	**40.00**	**333**	*e*P	**P**	**04 03 31.1**	**-0.2**
	4.8nm,0.6s,mb4.5						
PAHR	**Pah Rah Range**	**40.18**	**320**	P	**P**	**04 03 33.7**	**+0.8**
HRY	**Holter Researc**	**40.91**	**334**	*e*P	**P**	**04 03 38.8**	**0.0**
NEW	**Newport**	**44.47**	**331**	*e*P	**P**	**04 04 06.1**	**-1.6**
DPW	**Davenport**	**44.71**	**330**	*e*P	**P**	**04 04 09.2**	**-0.5**
NLW	**Nelson Butte**	**45.91**	**329**	P	**P**	**04 04 19.5**	**+0.3**
SCHQ	**Schefferville**	**45.94**	**16**	P	**P**	**04 04 17.9**	**-1.5**
	8.0nm,0.5s,mb4.7,baz=224,slow=5.8,SNR=17						
SCHQ				LR	LR	04 23 41.3	
	comp=Z,597nm,21.3s,baz=249,slow=36						
BDFB	**Brasilia**	**46.98**	**124**	P	**P**	**04 04 28.0**	**-0.1**
	3.3nm,0.5s,mb4.4,baz=296,slow=6.5,SNR=14						
BDFB				LR	LR	04 25 13.1	
	comp=Z,408nm,18.1s,baz=308,slow=38						
BBB	**Bella Bella**	**52.38**	**329**	LR	LR	04 31 45.7	
	comp=Z,201nm,19.3s,baz=322,slow=41						
FRB	**Frobisher Bay**	**53.68**	**10**	LR	LR	04 28 11.6	
	comp=Z,488nm,21.5s,baz=29,slow=36						
YKA	**Yellowknife Ar**	**54.61**	**345**	P	**P**	**04 05 23.4**	**-1.9**
	4.4nm,0.7s,mb4.6,baz=140,slow=7.9,SNR=7.9						
YKA				LR	LR	04 34 43.0	
	comp=Z,135nm,18.1s,baz=140,slow=43						
DLBC	**Dease Lake**	**56.96**	**335**	LR	LR	04 36 45.8	
	comp=Z,212nm,18.3s,baz=252,slow=43						
DLBC	**Dease Lake**	**56.96**	**335**	*e*P	**P**	**04 05 41.7**	**-0.5**
INK	**Inuvik**	**64.22**	**343**	LR	LR	04 38 07.4	
	comp=Z,158nm,20.9s,baz=360,slow=40						
ILAR	**Eielson Array**	**67.06**	**336**	P	**P**	**04 06 48.5**	**-1.0**
	3.3nm,0.6s,mb4.3,baz=142,slow=4.3,SNR=104						
ILAR				LR	LR	04 39 40.2	
	comp=Z,156nm,20.3s,baz=155,slow=39						
MCK	**McKinley**	**67.51**	**335**	*e*P	**P**	**04 06 51.3**	**-1.0**
	2.6nm,1.0s,mb4.0						
ESDC	**Sonseca Array**	**77.25**	**52**	P	**P**	**04 07 49.0**	**-1.4**
	0.7nm,0.6s,mb3.6,baz=285,slow=5.0,SNR=9.9						
NOA	**NORSAR Array B**	**83.83**	**29**	LR	LR	04 42 37.6	
	comp=Z,197nm,20.0s,baz=280,slow=34						
ARCES	**ARCESS Array B**	**86.81**	**19**	LR	LR	04 48 14.8	
	comp=Z,88nm,19.6s,baz=238,slow=36						
FINES	**FINESS Array B**	**90.48**	**26**	LR	LR	04 46 16.5	
	comp=Z,185nm,21.1s,baz=300,slow=34						
VNA3	**Neumayer Olymp**	**96.78**	**161**	⇑*i*P	**P**	**04 09 26.0**	**+0.5**
VNA3				*e*		04 09 40.3	
VNA1	**Neumayer--Stat**	**97.08**	**161**	⇑*i*P	**P**	**04 09 25.6**	**-1.2**
VNA1				*e*		04 09 38.2	
VNA2	**Neumayer--Watz**	**97.42**	**161**	⇓*i*P	**P**	**04 09 30.3**	**+1.9**
VNA2				*e*		04 09 43.0	
SNAA	**Sanae**	**99.01**	**161**	⇑*i*P	**P**	**04 09 39.3**	**+3.7**
SNAA				*e*		04 09 52.0	
MDJ	**Mudanjiang**	**115.07**	**332**	PKP	PKPdf	04 14 34.5	-0.7
CN2	**Changchun**	**117.55**	**334**	*e*PKP	PKPdf	04 14 41.1	+1.2
SONM	**Songino Array**	**119.70**	**350**	PKP	PKPdf	04 14 46.6	+2.6
	2.0nm,0.7s,baz=339,slow=1.9,SNR=20						
MAW	**Mawson**	**120.55**	**167**	PKP	PKPdf	04 14 47.9	+2.6
	0.7nm,0.4s,baz=32,slow=5.7,SNR=4.2						
BJI	**Beijing**	**124.39**	**339**	PKP	PKPdf	04 14 56.8	+3.5
WMQ	**Urumqi**	**124.65**	**5**	*e*PKP	PKPdf	04 14 55.6	+1.9
GTA	**Gaotai**	**128.91**	**353**	PKP	PKPdf	04 15 01.1	-1.0
NJ2	**Nanjing**	**130.14**	**331**	*e*PKP	PKPdf	04 15 05.6	+1.0
STKA	**Stephens Creek**	**131.15**	**238**	PKP	PKPdf	04 15 10.1	+3.6
	2.3nm,0.7s,baz=131,slow=3.8,SNR=7.0						
LZH	**Lanzhou**	**131.54**	**348**	*e*PKP	PKPdf	04 15 08.1	+0.9
ASAR	**Alice Springs**	**139.50**	**247**	PKhKP		04 15 16.6	
	0.7nm,0.6s,baz=112,slow=3.0,SNR=7.6						
ASAR				PKP	PKPdf	04 15 25.9	+3.8
	1.6nm,0.6s,baz=102,slow=2.4,SNR=14						
WB2	**Warramunga Arr**	**139.59**	**253**	*e*P	PKPdf	04 15 18.0	-4.4
WRAB	**Tennant Creek**	**139.60**	**253**	*e*PKP	PKPdf	04 15 23.4	+1.0
WRA	**Warramunga Arr**	**139.60**	**253**	PKhKP		04 15 18.8	
	0.4nm,0.5s,baz=93,slow=3.3,SNR=3.5						
WRA				PKP	PKPdf	04 15 26.0	+3.6
	2.4nm,0.5s,baz=92,slow=2.3,SNR=19						
FITZ	**Fitzroy Crossi**	**147.99**	**254**	*e*P	PKPdf	04 15 43.8	+6.8
	5.2nm,0.7s						
CMAR	**Chiang Mai Arr**	**149.62**	**349**	PKP	PKPdf	04 15 43.1	+3.6
	5.8nm,0.9s,baz=350,slow=3.5,SNR=17						
CMAR				PKPbc	PKPdf	04 15 46.4	+6.8
	2.9nm,0.5s,baz=13,slow=3.1,SNR=17						
MUN	**Mundaring**	**150.63**	**223**	*e*P	PKPdf	04 15 49.8	+9.0
	14nm,0.8s						
KKTK	**Khon Kaen**	**150.67**	**341**	⇓P	PKPdf	04 15 50.6	+9.4
	617nm,0.6s						
BDT	**Bhumibol Dam**	**150.79**	**349**	P	PKPdf	04 15 49.0	+7.6

*NEIC **17** 04:32:27.5, 12.91N×89.20W, h33km, mb3.4/1, MD3.4(SNET), After SNET.*
NEIC Felt [II] at San Salvador.
*CASC **17** 04:32:28.0±1.5, 12.91N×89.16W, h40km±70km, MD3.8, ML3.4, mb3.4(NEIC)*
ISC 17 04:32:27.2±0.7**, 12.87N**±0.08×**89.18W**±0.04**, h55km**±19km**, n37, σ0.61**/62**, mb3.4**/1**, 11C-3D, Off coast of central America**

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

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LFRS	El Faro	0.75	9	i P	P	04 32 41.5	-0.3
LFRS	El Faro	0.75	9	⇑iP	P	04 32 41.5	-0.4
LFRS				eS	S	04 32 51.8	-0.9
LCBS	La Ceiba	0.80	14	⇑iP	P	04 32 42.1	-0.4
LCBS				eS	S	04 32 52.8	-1.0
SNVI	San Vicente	0.80	24	⇑eP	P	04 32 42.2	-0.3
SNVI				eS	S	04 32 54.7	+0.8
SNET	Serv Nac Est T	0.81	356	eP	P	04 32 42.1	-0.5
SNET	Serv Nac Est T	0.81	356	⇓eP	P	04 32 42.1	-0.5
SNET				eS	S	04 32 53.2	-0.9
SNET				i		04 32 58.4	
	comp=Z,4μm,0.3s						
BOQS	Boqueron	0.86	353	⇑iP	P	04 32 43.5	+0.2
BOQS				eS	S	04 32 55.7	+0.3
LBRS	Las Brisas	0.87	9	eP	P	04 32 43.4	0.0
LBRS	Las Brisas	0.87	9	⇑eP	P	04 32 43.3	0.0
LBRS				eS	S	04 32 55.0	-0.5
LFU	La Fuente	0.87	4	eP	P	04 32 43.3	-0.1
LFU	La Fuente	0.87	4	⇑eP	P	04 32 43.4	-0.1
LFU				eS	S	04 32 54.2	-1.4
VSM	San Miguel	1.04	58	eP	P	04 32 46.2	+0.4
VSM	San Miguel	1.04	58	⇑eP	P	04 32 46.0	+0.3
VSM				eS	S	04 33 00.3	+0.8
SBLS	San Blas	1.05	336	eP	P	04 32 46.1	+0.2
SBLS				eS	S	04 33 01.0	+1.1
SBLS	San Blas	1.05	336	eP	P	04 32 46.1	+0.2
SBLS				eS	S	04 33 00.7	+0.8
SNJE	San Jose	1.07	337	eP	P	04 32 46.3	+0.1
SNJE				eS	S	04 33 00.3	-0.1
SNJE	San Jose	1.07	337	eP	P	04 32 46.3	+0.1
SNJE				eS	S	04 33 00.8	+0.4
BLLM	Bellamira	1.07	58	⇑eP	P	04 32 46.4	+0.2
BLLM				eS	S	04 33 00.8	+0.4
RTR	El Retiro	1.11	336	eP	P	04 32 47.0	+0.2
RTR	El Retiro	1.11	336	⇑eP	P	04 32 47.1	+0.3
RTR				eS	S	04 33 01.6	+0.2
CUSS	Cusmapa	1.27	324	eP	P	04 32 48.4	-0.7
CUSS				eS	S	04 33 06.2	+0.9
CAHU	Cacacuatique	1.29	46	eP	P	04 32 49.6	+0.2
CAHU				eS	S	04 33 07.2	+1.4
CAHU	Cacacuatique	1.29	46	⇓eP	P	04 32 49.5	+0.2
CAHU				eS	S	04 33 07.2	+1.4
RBDL	Robledal	1.33	338	eP	P	04 32 50.3	+0.3
CNCH	Conchagua	1.37	73	eP	P	04 32 50.4	0.0
CNCH	Conchagua	1.37	73	⇓eP	P	04 32 50.5	0.0
CNCH				eS	S	04 33 07.9	+0.1
MTO2	Montecristo 2	1.53	353	eP	P	04 32 52.6	0.0
MTO2	Montecristo 2	1.53	353	⇑eP	P	04 32 52.6	0.0
LEON	Leon	2.27	101	eP	P	04 33 03.1	0.0
LEON				eS	S	04 33 29.7	-0.3
MIRN	Miramar	2.44	100	eP	P	04 33 06.0	+0.5
MIRN				eS	S	04 33 34.4	+0.1
MOMJ	Momotombo	2.62	100	eP	P	04 33 08.5	+0.5
MOMJ				eS	S	04 33 38.6	0.0
APYN	Apoyeque	2.83	103	⇑eP	P	04 33 11.9	+0.8
APYN				eS	S	04 33 43.3	-0.9
XAVN	Gruta Xavier	2.88	104	eP	P	04 33 11.4	-0.2
XAVN				eS	S	04 33 44.8	-0.4
MGAN	Managua	2.95	104	eP	P	04 33 13.4	+0.7
MGAN				eS	S	04 33 46.4	-0.8
	comp=N,104nm,0.3s						
MGAN				e		04 33 49.5	
	comp=E,122nm,0.3s						
TICN	Ticuantepe	3.00	106	eP	P	04 33 13.8	+0.4
TICN				eS	S	04 33 49.3	+1.0
WILN	Americas 2	3.00	103	eS	S	04 33 47.4	-1.1
SAML	Samuel	33.72	129	P	P	04 39 04.7	-0.9
	comp=E,0.2nm,0.4s,mb3.4						

*NEIC **17** 04:56:04.5±0.7, 24.48S×176.80W, h200km, mb3.8/4, Error ellipse: s-maj=20.2km s-min=16.3km az=172.0*
*IDC **17** 04:56:17.5±10.0, 24.31S×177.12W, h320km±97km, mb3.2/9, mb1 3.4/9, mb1mx3.3/17, Error ellipse: s-maj=70.2km s-min=34.0km az=147.0*
ISC 17 04:55:57.8±0.9**, 24.5S**±0.2×**176.8W**±0.2**, h150km, n15, σ0§74**/13**, mb3.7**/11**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	34.43	270	P	P	05 02 33.3	+0.4
	1.9nm,0.5s,mb4.0,baz=106,slow=8.3,SNR=5.9						
CTAO	Charters Tower	34.43	270	eP	P	05 02 33.3	+0.4
	1.6nm,0.4s,mb4.1						
STKA	Stephens Creek	37.24	249	P	P	05 02 57.6	+1.2
	0.4nm,0.5s,mb3.3,baz=95,slow=11,SNR=2.8						
PMG	Port Moresby	37.50	287	P	P	05 02 58.2	-0.6
	2.6nm,0.7s,mb4.0,baz=131,slow=8.4,SNR=3.7						
PMG	Port Moresby	37.50	287	eP	P	05 02 58.0	-0.7
	15nm,1.0s,mb4.6						
ASAR	Alice Springs	44.84	260	P	P	05 03 58.9	+0.2
	0.5nm,0.5s,mb3.4,baz=89,slow=7.5,SNR=9.4						
WRA	Warramunga Arr	45.30	266	P	P	05 04 01.6	-0.9
	0.8nm,0.5s,mb3.6,baz=103,slow=8.0,SNR=11						
FITZ	Fitzroy Crossi	53.72	265	P	P	05 05 05.7	-1.0
	1.8nm,0.8s,mb3.8,baz=80,slow=19,SNR=2.1						
SBA	Scott Base	53.94	184	eP	P	05 05 08.0	+0.4
	1.8nm,0.9s,mb3.8						
QSPA	South Pole Qui	65.55	180	P	P	05 06 26.0	-0.8
	1.0nm,0.7s,mb3.8						
NVAR	Mina Array Bea	83.20	42	P	P	05 08 08.1	-0.4
	0.1nm,0.3s,mb3.0,baz=240,slow=7.3,SNR=3.3						
ILAR	Eielson Array	91.99	12	P	P	05 08 50.7	+0.6
	0.3nm,0.9s,mb3.3,baz=190,slow=5.5,SNR=3.0						
CMAR	Chiang Mai Arr	92.52	289	P	P	05 08 54.5	+0.9
	0.5nm,0.4s,mb4.0,baz=119,slow=2.5,SNR=6.0						
AKASG	Malin Array Be	147.07	329	PKPbc	PKPdf	05 15 19.8	-0.4
	1.2nm,0.8s,baz=37,slow=3.5,SNR=4.0						
BRTR	Keskin Array B	150.31	308	PKPbc	PKPdf	05 15 30.7	+5.0
	0.6nm,0.7s,baz=90,slow=2.9,SNR=3.6						

IDC 17 04:56:37.5±2.8**, 3.93N**×**125.73E, mb3.4**/4**, mb1 3.7**/4**, mb1mx3.5**/17**, Error ellipse: s-maj=141.0km s-min=30.7km az=93.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.89	180	P	P	05 01 32.6	-1.6
	2.4nm,0.7s,baz=11,slow=8.9,SNR=9.2						
WRA	Warramunga Arr	25.18	161	P	P	05 02 04.3	-2.1
	0.8nm,0.7s,baz=339,slow=10,SNR=5.7						
ASAR	Alice Springs	28.56	164	P	P	05 02 35.8	-1.7
	0.1nm,0.5s,baz=345,slow=11,SNR=4.1						
ILAR	Eielson Array	85.35	25	P	P	05 09 16.6	-1.0
	0.3nm,0.8s,baz=250,slow=5.4,SNR=4.5						

*NIED **17** 05:05:00, 36.30N×141.50E, h23km, Mw3.9 Best double couple: M₀7.54×10¹⁴ NP1:φs22°, δ70°, λ85°. NP2:φs217°, δ20°, λ105°.*
*IDC **17** 05:05:46.1±0.8, 36.58N×142.36E, mb3.7/11, mb1 3.9/13, mb1mx3.8/25, ML3.4/2, Error ellipse: s-maj=27.9km s-min=16.2km az=88.0*
*NEIC **17** 05:05:48.2±0.8, 36.52N×142.12E, h10km, Error ellipse: s-maj=17.6km s-min=15.6km az=223.0*
*JMA **17** 05:05:53.2±0.2, 36.28N×141.54E, h60km±4km, M3.6*
ISC 17 05:05:52.4±1.2**, 36.30N**±0.04×**141.7E**±0.1**, h45km**±9km**, n26, σ0§81**/32**, mb3.7**/11**, 7D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.93	230	⇓P	P	05 06 08.8	-0.4
CHOJ				S	S	05 06 20.5	-1.1
JHO	Hitachi	0.99	288	⇓P	P	05 06 09.2	-0.9
ONAJ	Iwakimizuishiy	1.09	317	⇓P	P	05 06 11.4	-0.2
JYT	Yasato	1.25	267	⇓P	P	05 06 12.5	-1.2
JFK	Kawauchi	1.27	327	⇓P	P	05 06 14.2	+0.2
JFT	Otama	1.65	318	⇓P	P	05 06 20.5	+1.0
JFT				eS	S	05 06 40.3	+0.6
JMM	Marumori	1.73	335	⇓P	P	05 06 21.3	+0.6
BSO3	Boso 3	1.80	214	P	P	05 06 22.1	+0.5
BSO3				S	S	05 06 43.8	+0.5
JAG	Ashikaga	1.84	274	P	P	05 06 21.2	-1.0
MAJO	Matsushiro	2.85	276	ePn	P	05 06 36.7	0.0
MAT	Matsushiro	2.85	276	P	P	05 06 36.8	+0.2
MAT				S	S	05 07 10.9	+0.9
MAT	Matsushiro	2.85	276	eP	P	05 06 37.0	+0.4
MAT				eS	S	05 07 11.0	+1.0
JHJ	Hachijo jima 2	3.56	207	Pn	P	05 06 47.4	+0.7
	32nm,0.3s,baz=59,slow=19,SNR=3.7						
JHJ				Sn	S	05 07 23.3	-4.6
	33nm,0.3s,baz=255,slow=23,SNR=3.5						
ASAJ	Asahikawa	7.83	5	Pn	P	05 07 36.4	-10
	0.3nm,0.3s,baz=180,slow=20,SNR=2.6						
SONM	Songino Array	28.41	305	P	P	05 11 44.6	-0.2
	1.0nm,0.6s,mb3.6,baz=106,slow=8.9,SNR=9.5						
CMAR	Chiang Mai Arr	41.57	256	P	P	05 13 38.4	+0.8
	0.6nm,0.7s,mb3.3,baz=48,slow=8.6,SNR=4.9						
ZAL	Zalesovo	42.61	313	P	P	05 13 46.5	+0.9
	1.2nm,0.6s,mb3.8,baz=56,slow=2.6,SNR=5.4						
KURK	Kurchatov	46.59	309	eP	P	05 14 17.9	+0.3
BVAR	Borovoye Array	51.26	313	P	P	05 14 53.5	-0.1
	1.0nm,0.8s,mb3.8,baz=90,slow=8.9,SNR=4.4						
FITZ	Fitzroy Crossi	56.21	198	P	P	05 15 30.8	+0.3
	1.1nm,0.8s,mb4.0,baz=72,slow=19,SNR=2.0						
WRA	Warramunga Arr	56.37	188	P	P	05 15 32.3	+0.6
	0.3nm,0.7s,mb3.4,baz=0.9,slow=7.5,SNR=3.4						
ASAR	Alice Springs	60.10	188	P	P	05 15 58.3	+0.6
	0.1nm,0.3s,mb3.3,slow=6.3,SNR=2.8						
FINES	FINESS Array B	69.58	332	P	P	05 16 57.4	-0.9
	3.1nm,1.2s,mb4.1,baz=45,slow=12,SNR=2.5						
NOA	NORSAR Array B	74.96	337	P	P	05 17 27.6	-2.5
	0.4nm,0.8s,mb3.4,baz=145,slow=4.2,SNR=2.7						
AKASG	Malin Array Be	75.03	323	P	P	05 17 29.6	-1.1
	1.1nm,0.7s,mb3.9,baz=45,slow=5.5,SNR=4.8						
NVAR	Mina Array Bea	75.22	53	P	P	05 17 27.1	-5.0
	0.3nm,0.4s,mb3.6,baz=270,slow=9.0,SNR=2.9						

*BJI **17** 05:16:22.3, 36.30N×70.50E, h181km, mb4.3*
*NEIC **17** 05:16:22.4±2.8, 36.34N×70.47E, h182km±24km, mb4.2/1, Error ellipse: s-maj=23.5km s-min=11.6km az=219.0*
*IDC **17** 05:16:30.7±3.2, 36.49N×70.58E, h263km±32km, mb3.4/11, mb1 3.6/12, mb1mx3.4/19, Error ellipse: s-maj=14.3km s-min=12.6km az=53.0*
ISC 17 05:16:24.6±0.4**, 36.40N**±0.02×**70.64E**±0.06**, h220km**±5km**, n64, σ1§16**/77**, mb4.0**/14**, 8C-1D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.77	158	⇑P	P	05 17 14.6	+1.4
CEP				S	S	05 17 53.0	+2.1
CHCP	Chirah Chowk	3.48	141	⇑P	P	05 17 23.1	+1.6
CHCP				S	S	05 18 06.0	+0.5
THW	Thamme Wali	3.71	165	⇑P	P	05 17 25.0	+0.8
SBDP	Sheikh Budin	4.09	178	P	P	05 17 29.0	+0.1
DRP	Derazinda	4.66	185	P	P	05 17 36.7	+0.8
SARP	Sargodha	4.77	159	⇑P	P	05 17 37.7	+0.4
SARP				S	S	05 18 33.0	-0.8
KSH	Kashi	5.24	52	P	P	05 17 44.8	+1.6
KSH				S	S	05 18 44.3	-0.1
THN	Thein Dam	5.77	132	eS	S	05 18 56.1	-0.2
AML	Almayashu	6.20	22	P	P	05 17 54.7	-0.7
	SNR=283						
UCH	Uchtor	6.55	26	P	P	05 17 59.7	-0.2
	SNR=75						
KZA	Kyzart	6.71	31	P	P	05 18 01.2	-0.8
	SNR=13						
EKS2	Erkin-Say	6.71	20	P	P	05 18 01.4	-0.5
	SNR=10.0						
AAK	Ala-Archa	6.90	24	⇑Pn	P	05 18 03.9	-0.6
	17nm,0.6s						
AAK				⇓Lg		05 19 18.0	
	30nm,0.7s						
AAK	Ala-Archa	6.90	24	P	P	05 18 04.1	-0.4
	SNR=18						
AAK	Ala-Archa	6.90	24	eP	P	05 18 02.6	-1.8
BHK	Bhakra	6.91	134	eS	S	05 19 22.9	+0.3
KBK	Karagaybulak	7.08	27	P	P	05 18 07.3	+0.5
	SNR=8.3						
ULHL	Ulahol	7.28	35	P	P	05 18 09.1	-0.2
	SNR=29						
CHMS	Chumysh	7.31	24	P	P	05 18 08.7	-1.1
	SNR=9.7						
USP	Ospenovka	7.47	22	P	P	05 18 10.5	-1.3
	SNR=6.0						
TKM2	Tokmak 2	7.55	29	P	P	05 18 12.5	-0.4
	SNR=54						
DDI	Dehra Dun	8.67	132	eP	P	05 18 24.6	-2.7
DDI				e		05 20 06.0	
RTK	Rohtak	8.81	145	eP	P	05 18 28.2	-0.9
KHET	Khetri	9.38	151	eP	P	05 18 36.6	+0.2
KHET				eS	S	05 20 16.2	-3.4
KHET				e		05 20 18.6	
	comp=E,39nm,0.2s						
KHET				e		05 20 18.9	
	comp=N,46nm,0.5s						
JOSI	Joshimath	9.46	125	eP	P	05 18 36.6	-0.7
JOSI				eS	S	05 20 19.0	-2.3
NDI	New Delhi	9.48	142	eP	P	05 18 36.5	-1.3
	comp=N,27nm,0.6s						
NDI				eS	S	05 20 19.5	-2.5
AYAN	Aya Nagar	9.61	143	eP	P	05 18 39.6	+0.3
AYAN				eS	S	05 20 22.7	-2.2
AJM	Ajmer	10.46	160	eP	P	05 18 50.4	+0.1
AJM				eS	S	05 20 41.1	-3.5
AGRA	Agra	11.05	144	eS	S	05 20 56.2	-1.9
MK02	Makanchi Array	13.54	36	⇑P	P	05 19 29.1	+0.3
	comp=N,15nm,0.9s,baz=219,slow=12						
KOLN	Koldanda	13.94	124	eP	P	05 19 34.8	+0.7
	comp=N,21nm,0.3s						
KOLN				eS	S	05 22 01.6	-2.3
GKN	Gorkha	14.50	121	eP	P	05 19 42.1	+1.2
	comp=N,60nm,0.4s						
WMQ	Urumqi	14.99	55	P	P	05 19 48.0	+1.1
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.0s						
DMN	Daman	15.07	121	eP	P	05 19 49.1	+1.2
	comp=Z,22nm,0.3s						
KKN	Kakani	15.07	121	eP	P	05 19 49.3	+1.3
	comp=Z,81nm,0.5s						
PKI	Pulchoki	15.30	121	eP	P	05 19 52.8	+2.0
	comp=Z,47nm,0.6s						
GUN	Gumba	15.42	119	eP	P	05 19 54.3	+2.1
	comp=Z,21nm,0.3s						
KURK	Kurchatov	15.42	19	eP	P	05 19 50.2	-1.9
BVA0	Borovoye Array	16.63	359	⇑P	P	05 20 06.2	-0.3
	comp=Z,0.2nm,0.3s,baz=169,slow=11,SNR=19						
BVAR	Borovoye Array	16.63	359	P	P	05 20 05.7	-0.8
	comp=Z,1.3nm,0.3s,baz=158,slow=11,SNR=19						
BVAR				S	S	05 23 03.9	+0.6
	baz=176,slow=23,SNR=2.3						
BRVK	Borovoye	16.66	359	⇑P	P	05 20 06.8	-0.1
	comp=Z,2.8nm,0.6s						
BRVK	Borovoye	16.66	359	eP	P	05 20 05.5	-1.3
ZAL	Zalesovo	20.11	25	P	P	05 20 42.7	0.0
	comp=Z,5.3nm,0.3s,baz=256,slow=6.3,SNR=10						
ZAL				S	S	05 24 14.6	+3.4
	comp=Z,0.8nm,0.3s,baz=46,slow=8.0,SNR=3.1						
ZAL	Zalesovo	20.11	25	P	P	05 20 42.7	-0.1
ZAL				S	S	05 24 14.6	+3.4
SHL	Shillong	21.13	115	eP	P	05 20 55.7	+2.7
GTA	Gaotai	23.17	74	P	P	05 21 15.4	+2.8
GTA				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.3						
SONM	Songino Array	28.63	55	P	P	05 22 03.9	+1.3
	comp=Z,1.7nm,0.7s,mb3.8,baz=257,slow=9.4,SNR=11						
CMAR	Chiang Mai Arr	30.66	118	P	P	05 22 22.7	+2.0
	comp=Z,1.0nm,0.6s,mb3.6,baz=299,slow=8.0,SNR=5.9						
AKASG	Malin Array Be	32.78	309	P	P	05 22 37.6	-1.1
	comp=Z,0.4nm,0.3s,mb3.4,baz=80,slow=6.1,SNR=4.1						
AKASG				PP	PP	05 23 56.2	-0.6
	comp=Z,1.9nm,0.7s,baz=88,slow=9.0,SNR=8.2						
JOF	Joensuu	35.81	330	ep	P	05 23 04.1	-0.2
	comp=Z,3.1nm,0.4s,mb4.2						
FINES	FINESS Array B	37.41	326	P	P	05 23 17.7	+0.1
	comp=Z,3.0nm,0.7s,mb4.0,baz=118,slow=9.6,SNR=16						
FINES				PP	PP	05 24 44.2	-5.1
	comp=Z,0.9nm,0.6s,baz=135,slow=11,SNR=4.6						
KAF	Kangasniemi	37.55	327	ep	P	05 23 18.3	-0.6
	comp=Z,6.5nm,1.2s,mb4.0,baz=111,slow=8.3						
KEV	Kevo	40.79	338	ep	P	05 23 45.3	-0.2
ARCES	ARCESS Array B	41.13	338	P	P	05 23 49.0	+0.7
	comp=Z,4.9nm,0.6s,mb4.1,baz=108,slow=7.7,SNR=21						
NB2	NORSAR Subarra	44.29	323	P	P	05 24 13.2	-0.5
	comp=Z,0.8nm,0.4s,mb3.4,baz=98,slow=7.9						
NOA	NORSAR Array B	44.29	323	P	P	05 24 13.3	-0.4
	comp=Z,0.9nm,0.4s,mb3.4,baz=98,slow=7.7,SNR=6.2						
DBIC	Dimbokro	74.40	267	P	P	05 27 39.5	-0.9
	comp=Z,1.8nm,0.6s,mb3.9,baz=328,slow=6.5,SNR=8.5						
DBIC	Dimbokro	74.40	267	P	P	05 27 39.5	-0.9
KIC	Kosan Boka	74.49	266	ePKP1	P	05 27 41.1	+0.2
	comp=Z,422nm,2.2s						
TIC	Toumodi	74.55	267	ePKP1	P	05 27 41.3	+0.1
	comp=Z,7.7nm,0.3s,mb4.8						
LIC	Lamto	74.80	267	ePKP1	P	05 27 42.2	-0.5
	comp=Z,74nm,1.9s,mb5.0						
ILAR	Eielson Array	74.96	16	P	P	05 27 43.2	+0.7
	comp=Z,0.2nm,0.6s,baz=295,slow=4.7,SNR=5.8						
WRA	Warramunga Arr	82.19	122	P	P	05 28 22.2	-0.1
	comp=Z,0.7nm,0.5s,mb3.5,baz=324,slow=5.0,SNR=14						
ASAR	Alice Springs	84.44	125	P	P	05 28 34.1	+0.4
	comp=Z,0.8nm,0.6s,mb3.7,baz=310,slow=5.0,SNR=17						

*CSEM **17** 05:26:52.6±0.5, 38.86N×29.36W, h0km±10km, ML2.0, Error ellipse: s-maj=33.3km s-min=10.4km az=43.0, After PDA*
*PDA **17** 05:26:52.6±0.5, 38.86N×29.36W, h0km±10km, MD3.2, ML2.0, Error ellipse: s-maj=33.3km s-min=10.4km az=43.0*
SVSA 17 05:26:52.6±0.5**, 38.86N**×**29.36W, h0km**±10km**, MD3.2, ML2.0, Error ellipse: s-maj=33.3km s-min=10.4km az=43.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCED	Cedros	0.56	114	eP	Pg	05 27 02.6	-1.2
PCED				eS	Sg	05 27 10.3	-1.0
	23nm,0.1s						
	23nm,0.1s						
CALA	Caldeira	0.58	118	eP	Pg	05 27 03.1	-1.1
CALA				eS	Sg	05 27 10.7	-1.3
PICO	Pico	0.81	116	eP	Pg	05 27 06.4	-2.4
PICO				eS	Sg	05 27 16.8	-2.9
PID	Ribeirinha	1.06	113	eP	Pb	05 27 09.7	-3.7
PID				eS	Sb	05 27 22.4	-5.2

*NEIC **17** 05:34:18.9±2.8, 17.03N×99.71W, h51km±22km, mb3.5/3, Error ellipse: s-maj=32.1km s-min=12.1km az=223.0*
*IDC **17** 05:34:21.5±5.5, 17.26N×99.47W, h63km±47km, mb3.5/5, mb1 3.8/6, mb1mx3.6/18, ML2.5/2, MS3.3/1, Ms1 3.3/1, ms1mx2.7/18, Error ellipse: s-maj=52.7km s-min=20.0km az=45.0*
*MEX **17** 05:34:23.3±1.4, 17.24N×100.26W, h26km±19km, MD4.3*
ISC 17 05:34:20.4±0.5**, 17.22N**±0.04×**100.28W**±0.03**, h51km**±6km**, n32, σ0§99**/45**, mb3.7**/6**, MS3.3**/1**, Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.49	135	eP	P	05 34 31.4	-0.3
ACX				i S	S	05 34 39.0	-0.7
ZIIG	Zihuatanejo	1.19	289	eP	P	05 34 41.7	+0.7
ZIIG				eS	S	05 34 57.4	+1.1
PLIG	Platanillo	1.39	32	eP	P	05 34 42.6	-1.2
PLIG				eS	S	05 35 00.7	-0.6
YAIG	Yautepec	2.00	35	eP	P	05 34 51.6	-0.8
YAIG				eS	S	05 35 17.2	+0.8
PNIG	Pinotepa	2.22	111	eP	P	05 34 56.4	+0.8
PNIG				i S	S	05 35 21.9	+0.1
UNM	Universidad Na	2.35	26	eP	P	05 34 56.7	-0.7
UNM				eP		05 34 57.5	
UNM				eP		05 34 57.5	
UNM				eS	S	05 35 25.0	-0.1
UNM				i S	S	05 35 25.4	+0.3
UNM				eS	S	05 35 26.5	+1.5
PPM	Popocatepetl	2.42	40	eP	P	05 34 57.5	-0.9
PBVM	Pinon	2.49	27	eP	P	05 34 58.5	-0.9
PBVM				i S	S	05 35 29.8	+1.1
IIB	San Bernardino	2.53	46	eP	P	05 35 00.0	0.0
MOIG	Morelia	2.59	341	eP	P	05 35 01.8	+0.9
MOIG				eS	S	05 35 37.1	+5.7
IISM	Ciudad Serdan	3.28	57	eP	P	05 35 10.0	-0.6
VHO	Vista Hermosa	3.40	92	eP	P	05 35 12.5	+0.2
VHO				i S	S	05 35 53.2	+1.5
OXX	Oaxaca	3.41	92	eP	P	05 35 12.5	+0.1
OXX				eS	S	05 35 52.5	+0.6
CGX	Ciudad Guzman	3.93	309	eP	P	05 35 25.0	+5.3
CGX				eS	S	05 36 05.0	0.0
SFJM	Santa Fe	4.17	322	eP	P	05 35 22.0	-1.1
EVV	El Vigia	4.86	75	eP	P	05 35 36.0	+3.2
CMIG	Matias Romero	5.16	91	eP	P	05 35 36.5	-0.5
TEIG	Tepich	11.76	73	P	P	05 36 57.3	-11
	0.0nm,0.3s,baz=115,slow=24,SNR=1.7						
TEIG				S	S	05 38 59.1	-20
	0.0nm,0.3s,baz=337,slow=24,SNR=2.4						
TXAR	Lajitas Array	12.45	346	P	P	05 37 18.0	+0.7
	0.0nm,0.3s,baz=153,slow=14,SNR=4.0						
GDL2	Guadalupe Moun	15.37	347	P	P	05 37 56.6	+1.1
WMOK	Wichita Mounta	17.50	4	P	P	05 38 21.8	-0.6
ANMO	Albuquerque	18.50	344	eP	P	05 38 34.5	-0.2
	1.0nm,0.7s						
SDCO	Great Sand Dun	20.96	348	eP	P	05 39 00.6	-0.8
	1.9nm,0.8s						
WVT	Waverly	21.84	28	eP	P	05 39 07.2	-3.0
	2.3nm,0.6s,mb3.8						
ISCO	Idaho Springs	22.97	349	eP	P	05 39 21.8	+0.5
NVAR	Mina Array Bea	26.37	327	P	P	05 39 55.8	+2.0
	1.1nm,0.8s,mb3.5,baz=144,slow=11,SNR=9.0						
PDAR	Pinedale Array	26.67	345	P	P	05 39 55.4	-1.0
	0.7nm,0.8s,mb3.3,baz=146,slow=11,SNR=4.3						
LPAZ	La Paz	45.96	135	P	P	05 42 34.4	-6.2
	0.6nm,0.3s,mb4.0,baz=315,slow=4.8,SNR=6.5						
LPAZ	La Paz	45.96	135	eP	P	05 42 34.0	-6.6
YKA	Yellowknife Ar	46.33	351	LR	LR	06 03 27.0	
	comp=Z,36nm,19.8s,MS3.3,baz=270,slow=38						
INK	Inuvik	55.23	346	P	P	05 43 47.0	-3.3
	1.7nm,0.8s,mb4.2,baz=164,slow=7.4,SNR=3.1						
ILAR	Eielson Array	56.82	338	P	P	05 44 02.1	+0.3
	0.4nm,1.0s,mb3.4,baz=136,slow=5.1,SNR=7.9						
ILAR				PcP	PcP	05 44 56.6	-0.1
	0.2nm,0.7s,baz=108,slow=5.7,SNR=5.0						

CASC 17 05:56:54.7±3.0**, 13.53N**×**92.17W, h6km**±278km**, MD3.9, 3C-3D, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAT	Jato	0.94	33	⇑eP	Pb	05 57 14.5	+1.5
JAT				eS	Sb	05 57 24.1	-1.4
IXG	Ixpaco	1.78	69	⇓eP	Pn	05 57 24.6	-1.8
IXG				eS	Sn	05 57 55.3	+5.8
NBG	Las Nubes	2.06	59	⇑eP	Pn	05 57 30.7	+0.4
NBG				eS	Sn	05 57 57.2	+0.7
RTR	El Retiro	2.48	81	eP	Pn	05 57 35.5	-0.8
RTR				eS	Sn	05 58 09.8	+2.6
SBLS	San Blas	2.49	83	⇑eP	Pn	05 57 34.9	-1.6
SBLS				eS	Sn	05 58 08.0	+0.5
SNJE	San Jose	2.51	82	⇓eP	Pn	05 57 35.4	-1.4
SNJE				eS	Sn	05 58 08.9	+0.8
BOQS	Boqueron	2.81	85	eP	Pn	05 57 39.8	-1.3
LFU	La Fuente	2.98	85	eP	Pn	05 57 42.4	-1.0
LFRS	El Faro	3.02	88	eP	Pn	05 57 42.8	-1.2
LFRS				eS	Sn	05 58 19.3	-1.7
LCBS	La Ceiba	3.10	87	⇓eP	Pn	05 57 44.0	-1.2

*IDC **17** 06:01:23.7±15.0, 16.78S×179.25W, h458km±186km, mb3.0/6, mb1 3.3/6, mb1mx3.1/15, Error ellipse: s-maj=156.0km s-min=37.6km az=162.0*
ISC 17 06:01:23.0±1.8**, 16.6S**±0.9×**179.4W**±0.5**, h458km, n8, σ0§27**/7**, mb3.5**/7**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.43	239	P	P	06 08 05.1	0.0
	1.6nm,0.8s,mb3.5,baz=49,slow=7.3,SNR=4.6						
WRA	Warramunga Arr	43.93	258	P	P	06 08 50.0	+0.4
	0.9nm,0.8s,mb3.2,baz=93,slow=7.2,SNR=5.9						
ASAR	Alice Springs	44.23	253	P	P	06 08 51.8	0.0
	3.2nm,0.6s,mb3.9,baz=86,slow=8.3,SNR=29						
KAKA	Kakadu	46.70	268	eP	P	06 09 17.2	+6.1
	2.2nm,0.4s,mb3.9						
FITZ	Fitzroy Crossi	52.30	260	P	P	06 09 52.5	-0.4
	0.8nm,0.5s,mb3.3,baz=153,slow=6.6,SNR=3.9						
NVAR	Mina Array Bea	79.18	44	P	P	06 12 40.3	-0.2
	0.2nm,0.3s,mb3.1,baz=225,slow=5.1,SNR=2.5						
PDAR	Pinedale Array	87.09	44	P	P	06 13 20.3	+0.2
	0.4nm,0.8s,mb3.2,baz=243,slow=3.3,SNR=3.5						
GERES	GERESS Array B	146.13	344	PKPbc	PKPbc	06 20 11.5	+1.2
	0.9nm,1.0s,baz=27,slow=3.0,SNR=4.0						

*IDC **17** 06:48:05.1±4.0, 32.51S×179.96E, h370km±43km, mb3.3/3, mb1 3.5/5, mb1mx3.2/13, Error ellipse: s-maj=48.0km s-min=38.3km az=167.0*

NEIC 17 06:48:07.0±1.4, 32.75S×179.92W, h406km±9km, mb4.0/1, Error ellipse: s-maj=26.9km s-min=14.5km az=84.0

ISC 17 06:48:03.6±1.6, 32.6S±0.1×179.7W±0.3, h398km±17km, n49, $\sigma 0^{s}92$/53, mb3.6/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	5.19	197	eP	P	06 49 29.6	+1.4
MXZ	Matakaoa Point	5.19	197	P	P	06 49 29.6	+1.4
MXZ				S	S	06 50 33.3	-1.1
PUZ	Puketiti	5.69	196	eP	P	06 49 33.0	-0.4
PUZ				S	S	06 50 43.5	-0.4
PUZ	Puketiti	5.69	196	P	P	06 49 33.0	-0.4
PUZ				S	S	06 50 43.5	-0.4
MWZ	Matawai	6.13	201	P	P	06 49 40.5	+2.3
URZ	Urewera	6.19	204	P	P	06 49 39.3	+0.4
	8.9nm,0.3s,baz=270,slow=2.9,SNR=46						
URZ				S	S	06 50 54.2	+0.3
	2.8nm,0.3s,baz=94,slow=24,SNR=9.7						
URZ	Urewera	6.19	204	P	P	06 49 39.4	+0.5
URZ	Urewera	6.19	204	P	P	06 49 37.7	-1.2
KNZ	Kokohu	6.73	197	eP	P	06 49 46.5	+1.5
KNZ	Kokohu	6.73	197	P	P	06 49 46.5	+1.5
BKZ	Black Stump Fm	7.22	204	P	P	06 49 50.9	+0.4
MGZ	Maungaku	7.44	210	P	P	06 49 54.6	+1.6
NGZ	Ngauruhoe	7.56	209	P	P	06 49 55.3	+0.9
TUVZ	Tukino	7.62	208	P	P	06 49 55.5	+0.4
TUVZ	Tukino	7.62	208	P	P	06 49 55.9	+0.8
WNVZ	Wahianoa	7.69	208	P	P	06 49 56.0	+0.1
MOVZ	Moawhango	7.70	207	P	P	06 49 55.6	-0.4
PWZ	Pawanui	7.89	199	P	P	06 49 59.0	+0.8
PWZ	Pawanui	7.89	199	P	P	06 49 57.8	-0.4
TSZ	Takapari Road	8.20	204	P	P	06 49 59.6	-2.2
TSZ	Takapari Road	8.20	204	P	P	06 50 02.0	+0.2
BFZ	Birch Farm	8.68	201	P	P	06 50 08.1	+0.9
MRZ	Mangatainoka R	8.87	204	P	P	06 50 08.9	-0.6
KIW	Kapiti Island	9.28	206	P	P	06 50 13.3	-1.0
MTW	Mount Morrison	9.34	203	P	P	06 50 14.4	-0.6
CAW	Cannon Point	9.44	205	P	P	06 50 14.8	-1.4
CAW	Cannon Point	9.44	205	P	P	06 50 15.3	-0.9
MSWZ	Moikau Station	9.65	203	P	P	06 50 18.3	-0.3
MRW	Makara Radio	9.68	206	P	P	06 50 18.3	-0.6
NNZ	Nelson	10.20	211	eP	P	06 50 23.9	-1.1
NNZ	Nelson	10.20	211	P	P	06 50 23.9	-1.1
QRZ	Quartz Range	10.28	215	eP	P	06 50 24.7	-1.2
QRZ	Quartz Range	10.28	215	P	P	06 50 24.7	-1.2
THZ	Tophouse	10.85	211	eP	P	06 50 32.4	-0.3
THZ	Tophouse	10.85	211	P	P	06 50 32.4	-0.3
KHZ	Kahutara	11.14	207	P	P	06 50 36.1	+0.1
DSZ	Denniston Nort	11.33	214	eP	P	06 50 37.1	-1.1
DSZ	Denniston Nort	11.33	214	P	P	06 50 37.1	-1.1
LTZ	Lake Taylor	11.96	210	eP	P	06 50 44.8	-0.5
LTZ	Lake Taylor	11.96	210	P	P	06 50 44.8	-0.5
MQZ	McQueen's Vall	12.58	206	P	P	06 50 52.8	+0.4
RPZ	Rata Peaks	13.23	210	P	P	06 50 59.0	-0.5
	0.7nm,0.3s,baz=8.1,slow=7.1,SNR=4.6						
RPZ				S	S	06 53 21.7	+1.7
	0.3nm,0.3s,baz=44,slow=21,SNR=2.5						
ODZ	Otahua Downs	14.49	208	eP	P	06 51 16.9	+3.9
ODZ	Otahua Downs	14.49	208	P	P	06 51 16.9	+3.9
STKA	Stephens Creek	32.59	261	P	P	06 54 02.0	+0.8
	0.8nm,0.8s,mb3.1,baz=79,slow=10,SNR=2.2						
ASAR	Alice Springs	41.56	270	P	P	06 55 16.3	+0.5
	0.8nm,0.3s,mb3.5,baz=106,slow=7.5,SNR=11						
WRAB	Tennant Creek	42.75	276	eP	P	06 55 24.7	-0.6
	2.5nm,0.4s,mb3.9						
WRA	Warramunga Arr	42.76	275	P	P	06 55 25.2	-0.2
	2.1nm,0.3s,mb4.0,baz=111,slow=8.1,SNR=74						
FINES	FINESS Array B	146.66	338	PKPbc	PKPbc	07 07 01.6	+3.8
	0.5nm,0.5s,baz=34,slow=6.9,SNR=6.6						

MEX 17 07:01:50.9±0.9, 15.98N×90.96W, h20km±27km, MD4.5
IDC 17 07:01:57.5±8.4, 16.01N×90.76W, h75km±58km, mb3.4/5, mb1 3.8/6, mb1mx3.6/18, ML2.4/2, MS3.7/6, Ms1 3.7/6, ms1mx3.4/18, Error ellipse: s-maj=66.3km s-min=33.7km az=177.0
NEIC 17 07:02:01.8±2.4, 16.36N×91.01W, h89km±20km, mb4.3/13, Error ellipse: s-maj=22.4km s-min=10.9km az=212.0
CASC 17 07:02:05.1±3.0, 16.62N×90.73W, h20km±541km, MD4.5, ML4.6, mb4.3(NEIC)

ISC 17 07:01:57.1±0.5, 16.43N±0.03×91.31W±0.03, h37km±7km, n60, $\sigma 1^{s}43$/68, mb4.1/13, MS3.7/6, 2C-1D, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CCIG	Comitan	0.81	260	eP	P	07 02 08.8	-3.3
CCIG				eS	S	07 02 22.9	-0.2
SCX	San Cristobal	1.31	284	eP	P	07 02 19.0	-0.3
SCX				i S	S	07 02 39.5	+3.7
GCG	Guatemala City	1.98	158⇓	eP	P	07 02 27.8	-1.0
GCG				eS	S	07 02 54.0	+1.5
NBG	Las Nubes	2.05	153	eP	P	07 02 28.7	-1.1
NBG				eS	S	07 02 53.8	-0.5
JAT	Jato	2.12	189⇑	eP	P	07 02 31.4	+0.6
JAT				eS	S	07 03 02.4	+6.2
JAT				AML	AML	07 03 10.5	
	comp=N,3μm,0.8s						
IXG	Ixpaco	2.38	160⇑	eP	P	07 02 36.6	+1.9
IXG				eS	S	07 03 10.8	+7.9
IXG				AML	AML	07 03 14.8	
	comp=E,11μm,0.6s						
SCIG		2.53	3	eP	P	07 02 34.6	-2.1
SCIG				eS	S	07 03 08.9	+2.3
CUSS	Cusmapa	2.83	152	eP	P	07 02 45.4	+4.4
CUSS				eS	S	07 03 20.0	+5.9
RTR	El Retiro	2.98	147	eP	P	07 02 49.0	+5.9
SNJE	San Jose	3.03	147	eP	P	07 02 50.6	+6.8
SBLS	San Blas	3.04	147	eP	P	07 02 51.1	+7.1
SBLS				eS	S	07 03 27.2	+7.5
BOQS	Boqueron	3.32	143	eP	P	07 02 54.6	+6.7
BOQS				eS	S	07 03 36.1	+10
TUIG	Tuzandepetl	3.38	299	i P	P	07 02 49.9	+1.2
TUIG				i S	S	07 03 30.0	+1.9
LBRS	Las Brisas	3.45	140	eP	P	07 02 57.6	+7.8
CMIG	Matias Romero	3.49	281	eP	P	07 02 48.2	-2.1
CMIG				eS	S	07 03 32.5	+1.6
LFRS	El Faro	3.53	142	eP	P	07 02 57.9	+6.9
HUIG	Huatulco	4.66	263	eP	P	07 03 03.0	-3.9
HUIG				eS	S	07 03 59.3	-1.2
TEIG	Tepich	4.75	37	P	P	07 03 07.6	-0.7
	comp=E,0.0nm,0.3s,baz=51,slow=24,SNR=39						
TEIG				S	S	07 04 02.7	-0.1
	comp=E,0.0nm,0.3s,baz=217,slow=24,SNR=11						
OXX	Oaxaca	5.23	278	eP	P	07 03 15.0	+0.1
VHO	Vista Hermosa	5.24	278	eP	P	07 03 12.9	-2.1
VHO				eS	S	07 04 15.9	+0.9
IISM	Ciudad Serdan	6.32	295	eP	P	07 03 29.0	-1.2
PNIG	Pinotepa	6.54	271	i S	S	07 04 45.3	-2.4
JCT	Junction City	16.00	332	eP	P	07 05 44.2	+3.1
	comp=E,21nm,1.4s						
LRAL	Lakeview Retre	16.99	12	eP	P	07 05 53.4	-0.2
LTX	Lajitas	17.15	321	eP	P	07 05 58.7	+3.1
TXAR	Lajitas Array	17.15	321	P	P	07 05 59.3	+3.7
	comp=E,0.0nm,0.3s,baz=141,slow=12,SNR=13						
MIAR	Mount Ida	18.16	354	eP	P	07 06 08.5	+0.3
	comp=E,35nm,1.6s						
UALR	University of	18.30	357	eP	P	07 06 11.0	+1.1
	comp=E,36nm,1.4s						
WMOK	Wichita Mounta	19.43	341	eP	P	07 06 21.8	-1.4
	comp=E,30nm,1.3s						
WMOK				eS	S	07 09 43.3	-12
CLNB	Carlsbad	19.46	326	eP	P	07 06 23.6	+0.1
GDL2	Guadalupe Moun	19.67	325	eP	P	07 06 24.9	-0.9
WVT	Waverly	19.87	8	eP	P	07 06 27.3	-0.6
	comp=E,6.5nm,0.8s						
AMTX	Amarillo	20.59	335	eP	P	07 06 33.3	-2.3
SDV	Santo Domingo	21.51	108	eP	P	07 06 43.8	-1.1
	comp=E,13nm,0.7s,mb4.5						
CCM	Cathedral Cave	21.55	0	eP	P	07 06 44.7	-0.5
	comp=E,19nm,1.2s,mb4.4						
USIN	University of	21.70	8	eP	P	07 06 46.4	-0.3
	comp=E,36nm,0.9s,mb4.8						
WCI	Wyandotte Cave	22.16	11	eP	P	07 06 50.8	-0.6
	comp=E,24nm,0.8s,mb4.7						
BNM	Barren Site	22.38	325	eP	P	07 06 54.6	+1.1
LAZ	Ladron	22.85	324	eP	P	07 07 00.3	+2.1
ANMO	Albuquerque	22.90	327	eP	P	07 06 60.0	+1.3
	comp=E,7.1nm,1.3s,mb3.9						
TUC	Tucson	23.70	315	eP	P	07 07 07.5	+1.1
	comp=E,9.8nm,1.3s,mb4.1						
SJG	San Juan	24.08	82	LR	LR	07 15 19.9	
	comp=E,97nm,20.3s,MS3.3,baz=279,slow=34						
SDCO	Great Sand Dun	24.65	332	eP	P	07 07 16.6	+0.9
	comp=E,11nm,1.3s,mb4.2						
PDAR	Pinedale Array	30.54	333	P	P	07 08 08.2	-1.0
	comp=E,0.2nm,0.7s,mb3.1,baz=130,slow=7.0,SNR=2.3						
REDW	Red Top Meadow	31.58	332	eP	P	07 08 15.3	-3.2
SNOW	Snow King Moun	31.62	332	eP	P	07 08 18.6	-0.2
NVAR	Mina Array Bea	32.27	318	P	P	07 08 25.7	+1.2
	comp=E,1.1nm,0.9s,mb3.7,baz=144,slow=7.8,SNR=8.7						
MCMT	McKenzie Canyo	33.63	332	eP	P	07 08 37.2	+1.0
ULM	Lac du Bonnet	33.94	355	LR	LR	07 26 13.2	
	comp=E,48nm,18.1s,MS3.3,baz=23,slow=42						
SAML	Samuel	37.55	130	eP	P	07 09 04.9	-5.0
	comp=E,3.1nm,1.0s,mb4.0						
SCHQ	Schefferville	42.73	21	LR	LR	07 27 27.0	
	comp=E,180nm,18.8s,MS4.0,baz=232,slow=36						
DLBC	Dease Lake	50.74	335	P	P	07 10 54.5	-0.8
	comp=E,3.3nm,1.0s,mb4.2,baz=81,slow=5.6,SNR=3.9						
BDFB	Brasilia	53.30	125	LR	LR	07 36 28.9	
	comp=E,70nm,18.3s,MS3.8,baz=129,slow=39						
ILAR	Eielson Array	60.90	336	P	P	07 12 06.3	-2.0
	comp=E,2.2nm,1.1s,mb4.2,baz=108,slow=4.4,SNR=14						
BORG	Borgarnes	66.75	26	LR	LR	07 42 41.3	
	comp=E,72nm,18.8s,MS3.9,baz=350,slow=36						
NOA	NORSAR Array B	81.71	29	LR	LR	07 48 31.9	
	comp=E,54nm,21.4s,MS3.9,baz=5.0,slow=34						
CLL	Collm	86.00	38	P	P	07 14 36.0	+1.3
GERES	GERESS Array B	87.32	40	P	P	07 14 36.1	-5.2
	comp=E,0.1nm,0.4s,mb3.4,baz=320,slow=7.7,SNR=2.0						
CMAR	Chiang Mai Arr	143.90	343	PKP	PKPdf	07 21 25.2	-4.1
	comp=E,0.8nm,0.5s,baz=333,slow=2.0,SNR=4.7						
BDT	Bhumibol Dam	145.03	343	P	PKPdf	07 21 31.0	-0.4

NIED 17 07:03:00, 25.70N×126.30E, h56km, Mw4.6 Best double couple: $M_0 8.85\times10^{15}$ NP1:ϕ_s104°, δ53°, λ76°. NP2:ϕ_s306°, δ39°, λ108°.
JMA 17 07:03:55.9±0.1, 25.73N×126.26E, h76km±2km, M4.5
JMA Felt I J1.
IDC 17 07:03:56.4±0.5, 25.67N×126.30E, h56km±4km, mb4.1/19, mb1 4.3/19, mb1mx4.3/24, MS3.5/8, Ms1 3.5/8, ms1mx3.3/26, Error ellipse: s-maj=12.3km s-min=8.7km az=133.0
BJI 17 07:03:56.7, 25.52N×126.49E, h84km, mB4.7, mb4.7, Ms4.4, Msz4.3
MOS 17 07:03:57.7±0.7, 26.62N×126.14E, h33km, mb5.1/6, Error ellipse: s-maj=61.1km s-min=11.4km az=122.2
NEIC 17 07:03:57.8±1.0, 25.62N×126.29E, h67km±8km, mb4.7/19, MW4.6(NIED), Error ellipse: s-maj=8.3km s-min=7.6km az=83.0
NEIC Recorded [1 JMA] on Kume-jima.

ISC 17 07:03:55.8±0.3, 25.61N±0.03×126.36E±0.03, h64km±2km, h59km±2.6km:pP-P, n125, $\sigma 1^{s}08$/142, mb4.6/44, 2D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JKE	Kume jima 2	0.81	28	P	P	07 04 12.0	+0.3
JKE				eS	S	07 04 23.5	0.0
JOGS	Gusukube	1.21	226	P	P	07 04 18.1	+1.0
JOGS				S	S	07 04 34.6	+1.7
JMJ	Miyako jima 2	1.25	231	P	P	07 04 18.3	+0.7
JMJ				S	S	07 04 34.9	+1.0
JAGN	Aguni-jima	1.25	39	P	P	07 04 18.1	+0.4
JAGN				S	S	07 04 34.0	+0.1
NAH1	Naha	1.33	63	P	P	07 04 19.5	+0.6
NAH1				S	S	07 04 37.5	+1.5
JJT2	Tamagusuku 2	1.35	67	P	P	07 04 19.9	+0.7
JTJ	Tarama	1.79	238	P	P	07 04 25.1	+0.1
JTJ				eS	S	07 04 46.7	+0.1
JIH	Iheya	2.02	45	P	P	07 04 28.3	0.0
JIH				eS	S	07 04 51.5	-0.8
JOW	Kunigami	2.10	54	P	P	07 04 29.9	+0.5
JOW				S	S	07 04 54.8	+0.4
	333nm,0.3s,baz=130,slow=27,SNR=7.2						
JOW				LR	LR	07 05 24.6	
	comp=Z,2μm,21.3s,baz=314,slow=42						
JOW	Kunigami	2.10	54	P	P	07 04 29.7	+0.3
JOW				eS	S	07 04 54.7	+0.3
JIJ	Ishigaki jima	2.37	239	P	P	07 04 32.3	-0.9
JIJ				S	S	07 04 59.3	-1.7
JKRS	Kuro-shima	2.54	238	P	P	07 04 34.8	-0.8
JKRS				eS	S	07 05 05.1	-0.2
IRIF	Iriomote-Funau	2.71	243	P	P	07 04 37.0	-1.0
IRIF				S	S	07 05 08.4	-1.2
HATJ	Hateruma jima	2.79	237	P	P	07 04 38.5	-0.7
JTK	Tokunoshima	3.17	46	P	P	07 04 43.8	-0.7
JTK				eS	S	07 05 20.3	-1.0
YOJ	Yonaguni jima	3.25	250	P	P	07 04 45.0	-0.6
YOJ				eS	S	07 05 22.4	-0.9
JAM	Amami Oshima	4.02	45	P	P	07 04 54.9	-1.5
JAM				eS	S	07 05 40.7	-1.9
JZK	Kikaishima	4.20	49	P	P	07 04 57.9	-1.0
JMZ	Minamidaito 2	4.39	86	P	P	07 04 57.8	-3.7
JMZ				eS	S	07 05 43.2	-8.6
TATO	Taipei	4.46	263	eP	P	07 05 03.1	+0.5
SSE	Sheshan	7.12	321	P	P	07 05 41.3	+1.7
SSE				S	S	07 07 01.3	+1.6
SSE				AMB	AMB		
	comp=Z,17nm,0.6s						
SSE				AMB	AMB		
	comp=Z,193nm,4.6s						
NJ2	Nanjing	9.19	316	eP	P	07 06 09.9	+1.9
NJ2				XP		07 06 35.9	
NJ2				S	S	07 07 51.5	+0.5
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s						
NJ2				LR	LR		
	comp=N,2μm,6.0s						
NJ2				LR	LR		
	comp=E,1μm,7.0s						
NJ2				LR	LR		
	comp=Z,2μm,6.0s						
KS15	Wonju Array Si	11.87	6	P	P	07 06 45.8	+1.5
MAJO	Matsushiro	14.88	40	eP	P	07 07 27.6	+3.8
	comp=Z,14nm,0.9s						
MAT	Matsushiro	14.88	40	P	P	07 07 28.7	+4.9
MAT	Matsushiro	14.88	40	eP	P	07 07 29.0	+5.2
	comp=Z,6.2nm,0.7s						
CN2	Changchun	18.16	358	eP	P	07 08 03.3	-1.8
CN2				eXP		07 08 33.0	
CN2				eS	S	07 11 21.5	-0.8
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CN2				AMB	AMB		
	comp=Z,190nm,4.0s						
MDJ	Mudanjiang	19.14	7	P	P	07 08 16.6	+0.2
MDJ				AP		07 08 33.5	
MDJ				XP		07 08 44.9	
MDJ				S	S	07 11 44.3	+0.2
MDJ				XS		07 12 14.4	
MDJ				PCP	PcP	07 12 35.5	-2.5
MDJ				PCS		07 16 12.6	
MDJ				AMB	AMB		
	comp=Z,216nm,6.0s						
HHC	Hu-ho-hao-te	19.56	325	eP	P	07 08 21.5	+0.5
HHC				AMB	AMB		
	comp=Z,150nm,6.9s						
CD2	Chengdu	20.59	290	P	P	07 08 31.0	-0.8
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
KMI	Kunming	21.35	274	eP	P	07 08 39.0	-0.6
KMI				AP		07 08 57.5	
KMI				S	S	07 12 23.8	-4.0
KMI				XS		07 12 53.1	
KMI				SS	SS	07 13 05.8	-0.3
KMI				AMB	AMB		
	comp=Z,247nm,8.1s						
LZH	Lanzhou	21.93	304	eP	P	07 08 45.5	+0.3
LZH				AP		07 09 04.1	
LZH				XP		07 09 15.0	
LZH				eS	S	07 12 35.0	-3.3
LZH				SS	SS	07 13 21.3	+0.9
LZH				AMB	AMB		
	comp=Z,28nm,1.1s,mb4.6						
LZH				AMB	AMB		
	comp=Z,156nm,4.4s						
ASAJ	Asahikawa	22.69	31	LR	LR	07 18 20.9	
	comp=Z,161nm,20.3s,baz=262,slow=38						
GTA	Gaotai	26.16	308	eP	P	07 09 25.3	-0.7
GTA				AP	pP	07 09 46.6	+5.4
GTA				XP	sP	07 09 57.8	+8.9
GTA				PP	PP	07 10 09.8	+0.1
GTA				PCP	PcP	07 12 56.1	+3.9
GTA				AMB	AMB		
	comp=Z,144nm,6.1s						
GTA				LR	LR		
	comp=N,184nm,8.0s						
GTA				LR	LR		
	comp=E,218nm,7.6s						
GTA				LR	LR		
	comp=Z,293nm,6.5s						
CMAR	Chiang Mai Arr	26.36	260	PcP	PcP	07 12 52.8	-0.1
	comp=Z,1.6nm,0.9s,baz=344,slow=2.9,SNR=5.5						
CMAR				LR	LR	07 20 42.0	
	comp=Z,53nm,18.2s,baz=85,slow=38						
SONM	Songino Array	27.20	330	P	P	07 09 33.9	-1.5
	comp=Z,3.1nm,0.5s,mb4.1,baz=149,slow=10,SNR=16						
GUN	Gumba	36.11	283	eP	P	07 10 54.4	+0.8
	comp=Z,7.2nm,0.4s,mb5.0						
WMQ	Urumqi	36.21	310	eP	P	07 10 54.0	-0.2
WMQ				XP	sP	07 11 28.0	+10
WMQ				PP	PP	07 12 19.0	+0.5
WMQ				S	S	07 16 26.0	-3.1
WMQ				SS	SS	07 18 54.0	-2.0
PKI	Pulchoki	36.56	282	eP	P	07 10 57.8	+0.4
	comp=Z,6.1nm,0.5s,mb4.7						
KKN	Kakani	36.65	283	eP	P	07 10 58.8	+0.7
	comp=Z,5.7nm,0.4s,mb4.8						
DMN	Daman	36.82	282	eP	P	07 11 00.0	+0.4
	comp=Z,6.0nm,0.5s,mb4.7						
GKN	Gorkha	37.19	283	eP	P	07 11 05.9	+3.3
	comp=Z,5.8nm,0.3s,mb5.0						
KOLN	Koldanda	38.13	283	eP	P	07 11 10.2	-0.3
	comp=Z,9.7nm,0.9s,mb4.5						
MK02	Makanchi Array	40.69	313	P	P	07 11 30.0	-1.5
MK02				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.1						
ZAL	Zalesovo	41.75	324	P	P	07 11 38.1	-1.9
	comp=Z,1.9nm,0.7s,mb3.8,baz=341,slow=4.3,SNR=5.9						
ZAL				LR	LR	07 30 08.3	
	comp=Z,80nm,20.5s,baz=90,slow=38						
FITZ	Fitzroy Crossi	43.45	181	eP	P	07 11 54.1	-0.4
	comp=Z,5.7nm,0.9s,mb4.3						
FITZ	Fitzroy Crossi	43.45	181	P	P	07 11 53.1	-1.4
	comp=Z,5.6nm,0.7s,mb4.4,baz=8.3,slow=7.1,SNR=13						
FITZ				pP	pP	07 12 08.1	-2.6
	comp=Z,7.2nm,0.9s,baz=13,slow=7.0,SNR=5.6						
KURK	Kurchatov	44.13	317⇓	eP	P	07 11 57.6	-1.9
FX1	Attu Island--F	44.23	39	LR	LR	07 31 30.4	
	comp=Z,3.1nm,18.1s,baz=306,slow=37						
WRAB	Tennant Creek	45.93	170	eP	P	07 12 13.8	-0.5
	comp=Z,20nm,1.1s,mb5.0						
WRA	Warramunga Arr	45.94	170	P	P	07 12 13.3	-1.1
	comp=Z,7.5nm,0.8s,mb4.7,baz=351,slow=8.2,SNR=37						
WRA				pP	pP	07 12 29.7	-0.9
	comp=Z,4.8nm,0.8s,baz=349,slow=8.9,SNR=7.8						
WB2	Warramunga Arr	45.94	170	eP	P	07 12 14.0	-0.4
TIXI	Tiksi	46.10	1	eP	P	07 12 12.8	-2.1
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
TIXI	Tiksi	46.10	1	eP	P	07 12 12.8	-2.1
	comp=Z,2.0nm,1.1s,mb4.0						
ASAR	Alice Springs	49.52	171	P	P	07 12 42.0	-0.2
	comp=Z,3.0nm,0.8s,mb4.4,baz=354,slow=7.2,SNR=42						
ASAR				pP	pP	07 12 58.7	0.0
	comp=Z,1.6nm,0.7s,baz=356,slow=14,SNR=4.2						
ASPA	Alice Springs	49.52	171	eP	P	07 12 42.4	+0.1
BVA0	Borovoye Array	49.63	319	P	P	07 12 41.6	-1.0
BVAR	Borovoye Array	49.63	319	P	P	07 12 41.6	-1.0
	comp=Z,2.4nm,0.5s,mb4.5,baz=102,slow=8.5,SNR=19						
BVAR				sP	sP	07 13 01.4	-4.9
	comp=Z,1.1nm,0.5s,baz=112,slow=8.0,SNR=2.7						
BVAR				PcP	PcP	07 14 02.4	-1.1
	comp=Z,0.8nm,0.4s,baz=89,slow=2.9,SNR=4.4						
BRVK	Borovoye	49.70	319	eP	P	07 12 42.1	-1.1
	comp=Z,3.8nm,0.5s,mb4.7						
SVE	Sverdlovsk	55.73	323⇓	eP	P	07 13 26.9	-1.1
ARU	Arti	56.84	322	eP	P	07 13 33.8	-2.1
IMA	Indian Mountai	62.83	27	eP	P	07 14 17.5	+0.7
IMA				e	pP	07 14 33.4	-0.4
MCK	McKinley	65.03	29	eP	P	07 14 30.0	-1.2
	comp=Z,3.7nm,0.8s,mb4.5						
COLA	College	65.35	28	eP	P	07 14 33.5	+0.3
	comp=Z,2.8nm,0.7s,mb4.4						
ILAR	Eielson Array	65.78	28	P	P	07 14 34.7	-1.2
	comp=Z,1.1nm,0.8s,mb3.9,baz=273,slow=6.0,SNR=14						
ILAR				pP	pP	07 14 51.0	-2.1
	comp=Z,1.2nm,0.9s,baz=289,slow=7.8,SNR=5.9						
HASS	Wahat al Ahsa'	68.25	288	P	P	07 14 51.5	-0.6
DAWY	Dawson	69.10	28	eP	P	07 14 55.3	-1.4
KEV	Kevo	69.40	338	ep	P	07 14 56.9	-1.6
JOF	Joensuu	69.77	331	ep	P	07 14 58.6	-2.2
	comp=Z,2.5nm,0.6s,mb4.3						
JOF	Joensuu	69.77	331	eP	P	07 14 58.6	-2.2
JOF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
ARCES	ARCESS Array B	69.97	338	P	P	07 15 01.0	-0.9
	comp=Z,5.5nm,0.9s,mb4.5,baz=60,slow=8.3,SNR=6.7						
INK	Inuvik	70.12	23	P	P	07 15 03.0	+0.1
	comp=Z,7.6nm,0.9s,mb4.6,baz=281,slow=7.4,SNR=10						
INK				pP	pP	07 15 17.6	-2.7
	comp=Z,9.3nm,1.0s,baz=254,slow=11,SNR=6.8						
INK	Inuvik	70.12	23	eP	P	07 15 02.7	-0.1
	comp=Z,9.7nm,1.0s,mb4.7						
INK				e	pP	07 15 17.3	-2.9
KAF	Kangasniemi	72.23	331	ep	P	07 15 14.7	-0.9
	comp=Z,1.2nm,0.4s,mb4.2						
KAF	Kangasniemi	72.23	331	eP	P	07 15 14.7	-0.9
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
MZLS	Mizel	72.48	289	P	P	07 15 18.1	+0.4
FINES	FINESS Array B	72.57	330	P	P	07 15 16.8	-0.8
	comp=Z,3.1nm,0.4s,mb4.6,baz=59,slow=5.9,SNR=51						
FINES	FINESS Array B	72.57	330	P	P	07 15 16.8	-0.8
AFFS	'Afif	74.40	289	P	P	07 15 29.8	+0.8
AKASG	Malin Array Be	74.91	319	P	P	07 15 30.2	-1.2
	comp=Z,1.2nm,0.3s,mb4.3,baz=64,slow=6.3,SNR=9.6						
AKASG				LR	LR	07 53 45.3	
	comp=Z,27nm,18.9s,baz=250,slow=40						
DLBC	Dease Lake	75.30	32	P	P	07 15 34.5	+1.1
	comp=Z,4.0nm,1.1s,mb4.3,baz=348,slow=8.4,SNR=4.6						
BRTR	Keskin Array B	76.08	307	P	P	07 15 38.5	+0.1
	comp=Z,10nm,0.9s,mb4.8,baz=104,slow=5.1,SNR=27						
RES	Resolute Bay	76.47	10	eP	P	07 15 38.9	-0.9
	comp=Z,7.2nm,1.1s,mb4.5						
KBRS	Khaybar	76.87	292	P	P	07 15 44.1	+1.1
JMQS	Jabal Moqyreh	78.47	296	P	P	07 15 52.6	+0.8
NB2	NORSAR Subarra	79.12	333	P	P	07 15 53.9	-0.8
	comp=Z,8.0nm,1.0s,mb4.6,baz=50,slow=5.8						
NOA	NORSAR Array B	79.12	333	P	P	07 15 54.2	-0.5
	comp=Z,4.6nm,0.8s,mb4.5,baz=55,slow=5.7,SNR=14						
NOA	NORSAR Array B	79.12	333	P	P	07 15 54.2	-0.5
KWP	Kalwaria	79.17	320	eP	P	07 15 55.4	+0.2
	comp=Z,26nm,0.9s,mb5.2						
KOLS	Kolonicke sedl	79.73	319	eP	P	07 15 58.8	+0.5
YKA	Yellowknife Ar	79.79	24	P	P	07 15 58.6	+0.3
	comp=Z,2.7nm,0.7s,mb4.3,baz=303,slow=5.5,SNR=6.0						
RPZ	Rata Peaks	80.25	149	LR	LR	07 46 00.5	
	comp=Z,64nm,20.1s,baz=204,slow=31						
OJC	Ojcow	80.56	321	eP	P	07 16 03.1	+0.5
OJC	Ojcow	80.56	321	eP	P	07 16 03.1	+0.5
NIE	Niedzica	80.65	321	eP	P	07 16 04.5	+1.4
SUMG	Summit	81.53	355	eP	P	07 16 08.2	+0.9
	comp=Z,23nm,0.9s,mb5.1						
KSP	Ksiaz	82.19	323	eP	P	07 16 11.8	+0.7
DPC	Dobruska-Polom	82.42	323	eP	P	07 16 13.1	+0.8
SMOL	Smolenice	82.75	321	eP	P	07 16 16.1	+2.1
PVCC	Panska Ves	83.28	323	eP	P	07 16 15.6	-1.1
BRG	Berggiesshubel	83.43	324	i P	P	07 16 18.6	+1.2
BRG				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
BRG	Berggiesshubel	83.43	324	i P	P	07 16 18.6	+1.2
	comp=Z,10nm,1.0s,mb4.8						
SKO	Skopje	83.51	314	eP	P	07 16 19.2	+1.2
BSEG	Bad Segeberg	83.56	328	eP	P	07 16 19.2	+1.2
BSEG				pmax	pmax		
	comp=Z,28nm,1.1s,mb5.3						
PRU	Pruhonice	83.59	323	eP	P	07 16 19.3	+1.1
CLL	Collm	83.69	325	P	P	07 16 19.5	+0.8
	comp=Z,logA/T=1.2,mb5.1						
CLL	Collm	83.69	325	i P	P	07 16 19.5	+0.8
CLL				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
CLL	Collm	83.69	325	i P	P	07 16 19.5	+0.8
	comp=Z,10.0nm,0.7s,mb5.0						

KHC Kasperske Hory 84.58 323 eP P 07 16 24.1 +0.9
NKC Novy Kostel 84.58 324 eP P 07 16 24.2 +1.0
GEC2 GERESS Array S 84.67 322 eP P 07 16 24.6 +0.9
GEC2 pmax pmax
comp=Z,8.0nm,1.3s,mb4.7
GEC2 GERESS Array S 84.67 322 eP P 07 16 24.6 +0.9
comp=Z,8.0nm,1.3s,mb4.7
GERES GERESS Array B 84.67 322 P P 07 16 24.5 +0.8
comp=Z,1.2nm,0.6s,mb4.2,baz=52,slow=4.6,SNR=12
CLZ Clausthal 84.74 326 eP P 07 16 25.0 +1.0
comp=Z,33nm,1.1s,mb5.4
MOX Moxa 84.79 325 i P P 07 16 24.7 +0.5
GRA1 Grafenberg Arr 85.54 324 eP P 07 16 29.2 +1.2
comp=Z,15nm,0.9s,mb5.2
GRF Grafenberg Arr 85.54 324 eP P 07 16 29.2 +1.2
GRF pmax pmax
comp=Z,15nm,0.9s,mb5.2
FUR Furstenfeldbru 86.39 323 eP P 07 16 33.8 +1.7
FUR pmax pmax
comp=Z,31nm,1.0s,mb5.5
FUR Furstenfeldbru 86.39 323 eP P 07 16 33.8 +1.7
comp=Z,31nm,1.0s,mb5.5
YBH Yreka Blue Hor 87.50 44 P P 07 16 39.7 +2.0
comp=Z,4.0nm,1.2s,mb4.5,baz=204,slow=9.3,SNR=3.5
HLID Hailey 91.45 39 eP P 07 16 58.4 +2.1
comp=Z,3.5nm,1.0s,mb4.6
NVAR Mina Array Bea 92.14 45 P P 07 17 01.0 +1.4
comp=Z,1.2nm,1.0s,mb4.2,baz=252,slow=1.9,SNR=6.8
PDAR Pinedale Array 94.69 38 P P 07 17 12.0 +0.9
comp=Z,0.6nm,0.9s,mb4.0,baz=333,slow=3.3,SNR=4.1
ULM Lac du Bonnet 95.71 26 LR LR 08 00 51.2
comp=Z,106nm,20.2s,baz=354,slow=36
TXAR Lajitas Array 107.27 44 PKiKP 07 22 15.9
comp=Z,0.2nm,0.8s,baz=297,slow=2.0,SNR=3.8

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*MOS **17** 07:07:04.2±0.6, 10.72S×162.20E, h33km, mb5.2/6, Error ellipse: s-maj=70.9km s-min=20.0km az=111.3*
*BJI **17** 07:07:04.9, 10.85S×162.40E, h43km, mB5.3, mb5.2, Ms5.0, Msz4.7*
*IDC **17** 07:07:07.6±0.6, 11.18S×162.49E, h65km±5km, mb4.5/19, mb1 4.6/21, mb1mx4.6/23, MS4.3/16, Ms1 4.3/16, ms1mx4.2/19, Error ellipse: s-maj=16.1km s-min=10.8km az=129.0*
*NEIC **17** 07:07:07.0±0.2, 11.20S×162.52E, mb5.0/26, Error ellipse: s-maj=7.3km s-min=5.5km az=119.0*
*HRVD **17** 07:07:07.0±0.4, 11.08S×162.51E, h41km±2km, MW5.0/53, Centroid moment Tensor Solution. LP body waves: s27,c35;Mantle waves: s53,c72; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.49±.25; $M_{\theta\theta}$0.19±.20; $M_{\phi\phi}$-1.67±.22; $M_{r\theta}$2.17±.23; $M_{\theta\phi}$2.78±.17; $M_{\phi r}$-0.18±.21; Best double couple: $M_0$3.85×10^{16} NP1:ϕ_s3°,δ49°,λ159°. NP2:ϕ_s107°,δ74°,λ43°. Principal axes: T 3.64, Plg41°, Azm334°; N .43, Plg45°, Azm124°; P -4.06, Plg15°, Azm230°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SYO **17** 07:07:11.9, 11.17S×162.36E, h108km, MB4.9*
ISC 17 07:07:05.5±0.2**, 11.21S**±0.05×**162.48E**±0.05**, h63**km**, h63**km±1.1km**:pP-P, n130,** σ1§**02**/107**, mb5.0**/57**, 4C-6D, Bougainville - Solomon Islands region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
BKM Butte a Klehm 8.51 140 i P P 07 09 03.9 -4.4
BKM S S 07 10 31.6 -12
NOUC Port Laguerre 11.43 162 eP P 07 09 45.9 -2.4
NOUC eS S 07 11 45.9 -9.2
DZM Mont Dzumac 11.45 161 eP P 07 09 44.9 -3.6
DZM eS S 07 11 39.4 -16
PMG Port Moresby 15.18 275 P P 07 10 39.4 +1.7
0.6nm,0.3s,baz=82,slow=6.9,SNR=11
PMG Port Moresby 15.18 275 eP P 07 10 39.5 +1.8
56nm,1.1s
WAU Wau 16.02 283 P P 07 10 55.2 +6.8
CTA Charters Tower 17.93 239 eP P 07 11 14.0 +1.8
119nm,0.8s
CTA eS S 07 14 22.2 -4.8
CTA Charters Tower 17.93 239 P P 07 11 14.1 +1.8
5.3nm,0.3s,baz=66,slow=12,SNR=88
CTA LR LR 07 17 07.6
comp=Z,1µm,22.0s,baz=51,slow=33
CTAO Charters Tower 17.93 239 eP P 07 11 13.2 +1.0
187nm,0.8s
STKA Stephens Creek 28.19 220 eP P 07 12 54.4 0.0
11nm,0.9s,mb4.5
STKA Stephens Creek 28.19 220 P P 07 12 54.7 +0.3
15nm,1.0s,mb4.6,baz=22,slow=8.1,SNR=22
STKA LR LR 07 23 27.5
comp=Z,1µm,20.5s,baz=31,slow=35
WRAB Tennant Creek 28.42 249 P P 07 12 54.0 -2.5
12nm,0.8s,mb4.6
WB2 Warramunga Arr 28.42 249 eP P 07 12 56.0 -0.5
WB2 ePCP PcP 07 16 08.2 +0.5
WRA Warramunga Arr 28.43 249 P P 07 12 56.0 -0.6
8.2nm,0.6s,mb4.5,baz=78,slow=9.4,SNR=21
WRA PcP PcP 07 16 08.1 +0.4
4.2nm,0.8s,baz=76,slow=3.2,SNR=11
WRA S S 07 17 40.9 +3.1
3.1nm,1.1s,baz=73,slow=16,SNR=4.3
WRA PKiKP 07 23 41.5
0.6nm,0.5s,baz=326,slow=0.7,SNR=12
KAKA Kakadu 29.46 264 eP P 07 13 10.5 +4.6
11nm,0.5s,mb4.8
ASAR Alice Springs 29.87 242 P P 07 13 08.1 -1.4
12nm,0.7s,mb4.7,baz=66,slow=9.4,SNR=46
ASAR PcP PcP 07 16 11.4 +0.1
2.9nm,0.8s,baz=73,slow=2.8,SNR=5.9
ASAR PKiKP 07 23 42.6
0.6nm,0.6s,baz=98,slow=1.7,SNR=7.4
ASAR LR LR 07 24 20.4
comp=Z,435nm,20.0s,baz=53,slow=35
ASPA Alice Springs 29.88 242 eP P 07 13 08.8 -0.7
URZ Urewera 29.95 157 LR LR 07 23 01.7
comp=Z,184nm,21.1s,baz=357,slow=32
RPZ Rata Peaks 33.23 169 P P 07 13 38.7 +0.1
15nm,0.8s,mb5.0,baz=150,slow=2.6,SNR=5.5
FITZ Fitzroy Crossi 36.25 255 eP P 07 14 04.0 -0.7
6.4nm,0.6s,mb4.7
FITZ ePCP PcP 07 16 30.1 +1.1
FITZ Fitzroy Crossi 36.25 255 P P 07 14 03.8 -0.9
8.9nm,0.7s,mb4.8,baz=120,slow=4.2,SNR=17
FITZ PcP PcP 07 16 29.9 +0.9
8.6nm,0.8s,baz=125,slow=1.4,SNR=4.5
FORT Forrest 37.35 233 eP P 07 14 14.4 +0.6
112nm,0.7s,mb5.8
MBWA Marble Bar 42.11 251 eP P 07 14 52.3 -1.1
KLBR Kellerberrin 45.93 237 eP P 07 15 23.8 -0.2
14nm,0.9s,mb4.9
NWAO Narrogin (SRO) 46.73 235 LR LR 07 35 26.1
comp=Z,702nm,19.1s,baz=59,slow=36
MUN Mundaring 47.30 237 eP P 07 15 35.2 +0.4
10nm,0.7s,mb4.9
MAT Matsushiro 52.71 335 P P 07 16 15.0 -1.1
MAT Matsushiro 52.71 335 eP P 07 16 15.0 -1.1
9.0nm,0.8s,mb4.8
SSE Sheshan 57.78 318 P P 07 16 51.5 -1.3
SSE AMB AMB
comp=Z,37nm,0.6s,mb5.6
SSE AMB AMB
comp=Z,250nm,4.3s
ASAJ Asahikawa 57.95 343 P P 07 16 54.4 +0.6
comp=Z,56nm,0.8s,mb5.6,baz=228,slow=13,SNR=14
ASAJ pP pP 07 17 12.0 +1.4
comp=Z,63nm,1.1s,baz=218,slow=11,SNR=4.2
ASAJ LR LR 07 38 16.5
comp=Z,367nm,21.0s,baz=4.8,slow=32
NJ2 Nanjing 59.93 317 eP P 07 17 07.8 +0.1
NJ2 PP PP 07 19 23.8 +1.5
NJ2 S S 07 25 10.0 -3.2
NJ2 SS SS 07 29 10.0 -1.5
NJ2 AMB AMB
comp=Z,40nm,1.1s,mb5.4
NJ2 LR LR
comp=N,730nm,20.0s
NJ2 LR LR
comp=E,690nm,20.6s
NJ2 LR LR
comp=Z,460nm,19.5s
YSS Yuzh-Sakhalins 60.53 345 P P 07 17 11.0 -0.6
MDJ Mudanjiang 63.05 334 P P 07 17 28.4 -0.1
MDJ S S 07 25 50.5 -2.0
MDJ SCS ScS 07 27 10.3 -1.4
MDJ SS SS 07 29 57.6 -3.5
MDJ AMB AMB
comp=Z,32nm,1.0s,mb5.4
MDJ AMB AMB
comp=Z,302nm,6.0s
MDJ Mudanjiang 63.05 334 eP P 07 17 28.4 -0.2
comp=Z,40nm,1.2s,mb5.4
CN2 Changchun 64.28 331 ⇑P P 07 17 36.6 0.0
CN2 PCP PcP 07 18 10.1 -0.6
CN2 eS S 07 26 07.3 -0.6
CN2 AMB AMB
comp=Z,40nm,1.2s,mb5.3
CN2 AMB AMB
comp=Z,400nm,6.0s
FX1 Attu Island--F 64.49 7 P P 07 17 36.7 -1.0
comp=Z,40nm,0.9s,mb5.5,baz=98,slow=2.0,SNR=4.5
FX1 Attu Island--F 64.49 7 eP P 07 17 35.3 -2.4
CASY Casey 65.08 201 eP P 07 17 40.3 -1.0
ENH Enshi 65.54 311 eP P 07 17 43.3 -1.6
comp=Z,23nm,0.9s,mb5.2
VNDA Vanda 66.30 180 P P 07 17 49.6 +0.6
comp=Z,1.7nm,0.8s,mb4.2,baz=348,slow=7.8,SNR=8.8
VNDA pP pP 07 18 06.0 -0.1
comp=Z,3.4nm,0.8s,baz=358,slow=6.5,SNR=8.7
VNDA LR LR 07 41 28.4
comp=Z,192nm,19.6s,baz=8.6,slow=31
VNDA Vanda 66.30 180 eP P 07 17 49.0 0.0
comp=Z,10nm,1.6s,mb4.6
BJI Beijing 66.64 323 P P 07 17 53.9 +2.2
BJI AMB AMB
comp=Z,6.0nm,0.6s,mb4.8
SBA Scott Base 66.67 179 P P 07 17 51.8 +0.5
comp=Z,6.4nm,1.0s,mb4.6
XAN Xi'an 67.89 314 P P 07 17 59.6 -0.1
XAN AMB AMB
comp=Z,19nm,0.8s,mb5.2
KMI Kunming 68.49 303 eP P 07 18 04.5 +0.9
KMI AMB AMB
comp=Z,21nm,1.1s,mb5.1
CMAR Chiang Mai Arr 69.25 295 P P 07 18 08.0 -0.4
comp=Z,6.0nm,0.9s,mb4.5,baz=114,slow=4.7,SNR=29
CMAR LR LR 07 46 47.2
comp=Z,84nm,18.4s,baz=333,slow=34
CD2 Chengdu 70.18 309 P P 07 18 14.0 +0.2
CD2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
HIA Hailar 70.97 332 eP P 07 18 18.2 0.0
comp=Z,20nm,0.8s,mb5.1
MA2 Magadan 71.17 354 P P 07 18 18.4 -0.9
MA2 pmax pmax
comp=Z,60nm,1.8s,mb5.2
LZH Lanzhou 72.52 314 eP P 07 18 28.5 +0.7
LZH PP PP 07 21 14.0 +2.4
LZH eS S 07 27 42.5 -3.4
LZH SS SS 07 32 27.0 -0.9
LZH AMB AMB
comp=Z,45nm,1.4s,mb5.2
LZH AMB AMB
comp=Z,262nm,6.1s
LZH LR LR
comp=E,271nm,16.1s
LZH LR LR
comp=Z,346nm,17.8s
GTA Gaotai 76.89 315 P P 07 18 54.0 +1.2
GTA PP PP 07 21 49.0 +1.3
GTA S S 07 28 32.3 -1.9
GTA AMB AMB
comp=Z,24nm,0.9s,mb5.1
GTA AMB AMB
comp=Z,129nm,4.9s
GTA LR LR
comp=N,220nm,7.2s
GTA LR LR
comp=E,224nm,8.4s
GTA LR LR
comp=Z,211nm,8.4s
SONM Songino Array 76.93 325 P P 07 18 53.9 +1.0
comp=Z,28nm,0.8s,mb5.3,baz=144,slow=6.0,SNR=117
SONM pP pP 07 19 10.2 -0.1
comp=Z,9.8nm,0.8s,baz=135,slow=5.2,SNR=6.0
YAK Yakutsk 77.38 345 eP P 07 18 54.4 -0.7
YAK pmax pmax
comp=Z,31nm,1.0s,mb5.2
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK Yakutsk 77.38 345 eP P 07 18 54.4 -0.7
comp=E,31nm,1.0s,mb5.2
SHL Shillong 77.79 299 eP P 07 18 58.5 +0.4
QSPA South Pole Qui 78.79 180 eP P 07 19 04.2 +1.6
comp=E,14nm,1.0s,mb4.8
QSPA LR LR
comp=Z,130nm,22.0s
BOD Bodaibo 79.34 336 eP P 07 19 04.4 -1.5
RSO Redoubt South 79.78 21 P P 07 19 06.5 -1.7
ZAK Zakamensk 80.02 326⇓iP P 07 19 09.9 +0.1
ZAK e 07 22 03.9
SML Sawmill 82.27 21 eP P 07 19 22.1 +0.8
MCK McKinley 83.35 20 eP P 07 19 25.9 -0.9
comp=Z,20nm,1.2s,mb5.0
MAW Mawson 83.36 202 P P 07 19 28.2 +1.5
comp=Z,5.0nm,0.8s,mb4.6,baz=94,slow=5.7,SNR=14
MAW LR LR 07 50 17.7
comp=Z,155nm,21.8s,baz=307,slow=31
MAW Mawson 83.36 202 eP P 07 19 27.7 +1.0
comp=Z,14nm,1.3s,mb4.8
GUN Gumba 83.61 300 eP P 07 19 30.0 +1.1
comp=Z,54nm,1.1s,mb5.6
PKI Pulchoki 83.92 300 eP P 07 19 31.0 +0.6
comp=Z,48nm,1.1s,mb5.5
KKN Kakani 84.09 300 eP P 07 19 31.8 +0.5
comp=Z,47nm,1.1s,mb5.5
DMN Daman 84.19 299 eP P 07 19 32.6 +0.8
comp=Z,113nm,1.1s,mb5.9
COLA College 84.46 19 eP P 07 19 32.4 +0.1
COLA pmax pmax
comp=Z,28nm,0.9s,mb5.4
COLA College 84.46 19 eP P 07 19 32.4 +0.1
comp=Z,28nm,0.9s,mb5.4
GKN Gorkha 84.69 300 eP P 07 19 34.5 +0.2
comp=Z,79nm,1.0s,mb5.8
ILAR Eielson Array 84.71 19 P P 07 19 33.0 -0.5
comp=Z,3.1nm,0.9s,mb4.4,baz=232,slow=6.3,SNR=26
ILAR LR LR 07 52 01.1
comp=Z,230nm,20.2s,baz=196,slow=32
KOLN Koldanda 85.52 299 eP P 07 19 38.4 0.0
comp=Z,31nm,1.0s,mb5.5
TIXI Tiksi 85.66 350c iP P 07 19 37.7 -0.4
TIXI pmax pmax
comp=Z,22nm,1.3s,mb5.2
TIXI Tiksi 85.66 350⇑iP P 07 19 37.7 -0.4
comp=Z,22nm,1.3s,mb5.2
YBH Yreka Blue Hor 86.31 46 P P 07 19 42.7 +0.8
comp=Z,6.0nm,0.9s,mb4.8,baz=241,slow=3.6,SNR=9.7
OHCM Honcut 86.46 49 eP P 07 19 42.8 +0.1
BBB Bella Bella 86.54 35 LR LR 07 49 05.7
comp=Z,126nm,21.7s,baz=306,slow=29
DAWY Dawson 86.89 22 eP P 07 19 44.7 +0.5
CMB Columbia Colle 86.90 50 eP P 07 19 44.9 0.0
comp=Z,4.3nm,1.0s,mb4.6
WMQ Urumqi 86.96 316 eP P 07 19 44.0 -1.1
WMQ PP PP 07 23 10.0 -1.0
WMQ S S 07 30 09.0 -7.7
WMQ AMB AMB
comp=Z,28nm,1.0s,mb5.5
DLBC Dease Lake 88.09 29 P P 07 19 51.6 +1.5
comp=Z,2.3nm,0.9s,mb4.4,baz=223,slow=11,SNR=4.7
DLBC LR LR 07 52 45.0
comp=Z,355nm,19.3s,baz=167,slow=31
MTUM Tungsten Hills 88.10 51 eP P 07 19 50.8 +0.1
NVAR Mina Array Bea 88.59 51 P P 07 19 53.8 +0.8
comp=Z,3.7nm,0.8s,mb4.8,baz=224,slow=5.9,SNR=21
MNV Mina 88.70 51 eP P 07 19 53.5 -0.1
comp=Z,23nm,1.5s,mb5.3
TPNV Topopah Spring 89.79 52 eP P 07 19 58.9 +0.2
NEN Nelson 90.58 54 eP P 07 20 03.4 +0.9
SYO Syowa Base 90.68 198 ⇓P P 07 20 02.9 +0.8
SYO Syowa Base 90.68 198 ⇓pP pP 07 20 29.7 +10
INK Inuvik 91.11 20 P P 07 20 04.7 +0.5
comp=Z,3.3nm,0.8s,mb4.7,baz=199,slow=3.8,SNR=6.4
MK02 Makanchi Array 91.44 317 P P 07 20 06.3 +0.1
MK02 pmax pmax
comp=Z,4.0nm,0.7s,mb4.9
ZAL Zalesovo 91.83 325 P P 07 20 06.5 -1.3
comp=Z,2.4nm,0.8s,mb4.5,baz=4.3,slow=9.0,SNR=10
ZAL LR LR 08 01 08.1
comp=Z,198nm,20.9s,baz=91,slow=35
ZAL Zalesovo 91.83 325 i P P 07 20 07.3 -0.5
ZAL pmax pmax
comp=Z,2.0nm,0.9s
HLID Hailey 92.69 46 eP P 07 20 12.8 +0.8
comp=Z,9.4nm,1.3s,mb5.1
NVS Novosibirsk 92.96 325 i P P 07 20 12.1 -0.8
NVS pmax pmax
comp=N,5.0nm,1.3s
NVS pmax pmax
comp=E,13nm,1.3s
NVS pmax pmax
comp=Z,23nm,1.3s,mb5.5
NVS Novosibirsk 92.96 325 i P P 07 20 12.1 -0.8
comp=Z,23nm,1.3s,mb5.5
KURK Kurchatov 94.73 321 i P P 07 20 20.6 -0.5
KURK pmax pmax
comp=Z,6.0nm,1.3s,mb4.9
PDAR Pinedale Array 96.03 48 P P 07 20 27.4 +0.2
comp=Z,0.7nm,0.7s,mb4.2,baz=270,slow=1.5,SNR=6.5
YKA Yellowknife Ar 96.60 28 LR LR 07 58 30.2
comp=Z,156nm,18.8s,baz=245,slow=32
SNAA Sanae 96.72 185 LR LR 08 00 29.2
comp=Z,40nm,21.3s,baz=353,slow=33
SNAA Sanae 96.72 185⇓iP P 07 20 29.7 0.0
SNAA e pP 07 20 48.3 +0.6
SNAA e 07 20 58.6
SNAA e 07 24 54.0
VNA3 Neumayer Olymp 97.57 183⇓iP P 07 20 36.4 +2.9
VNA3 e pP 07 20 54.6 +3.1
VNA2 Neumayer--Watz 97.77 183⇑iP P 07 20 37.5 +3.1
VNA2 e pP 07 20 55.6 +3.2
VNA2 e 07 21 06.2
VNA2 e 07 25 01.8
VNA1 Neumayer--Stat 98.09 183⇓iP P 07 20 37.1 +1.2
VNA1 e pP 07 20 55.2 +1.3
VNA1 e 07 21 05.8
VNA1 e 07 25 01.4
TXAR Lajitas Array 98.72 62 P P 07 20 39.7 -0.1
comp=Z,0.4nm,0.8s,mb4.0,baz=243,slow=5.6,SNR=6.5
TXAR LR LR 07 58 55.0
comp=Z,155nm,18.5s,baz=195,slow=32
TXAR Lajitas Array 98.72 62 P P 07 20 39.7 -0.1
TXAR LR LR 07 58 55.0
BVA0 Borovoye Array 100.11 322 i P P 07 20 44.9 -0.6
ARCES ARCESS Array B 115.66 345 PKP PKPdf 07 25 41.6 +1.3
comp=Z,2.5nm,0.8s,baz=63,slow=0.9,SNR=15
JOF Joensuu 117.86 337 ep PKPdf 07 25 45.7 +1.1
KAF Kangasniemi 120.22 338 ep PKPdf 07 25 49.7 +0.5
FINES FINESS Array B 120.72 337 PKP PKPdf 07 25 51.1 +0.9
comp=Z,2.9nm,1.0s,baz=97,slow=4.2,SNR=10
AKASG Malin Array Be 125.21 325 PKP PKPdf 07 25 59.7 +0.6
comp=Z,4.3nm,0.8s,baz=48,slow=1.9,SNR=18
AKASG pPKP 07 26 18.6
comp=Z,2.7nm,0.7s,baz=57,slow=2.4,SNR=2.9
AKASG PP PP 07 27 51.7 -2.0
comp=Z,0.2nm,0.3s,baz=47,slow=5.9,SNR=4.1
ASF Jabal al Asfar 125.91 302 PKP PKPdf 07 26 03.0 +2.0
comp=Z,1.4nm,0.4s,baz=212,slow=3.5,SNR=5.1
NB2 NORSAR Subarra125.98 343 PKPdf PKPdf 07 26 01.4 +1.1
comp=Z,4.6nm,1.2s,baz=31,slow=1.9
NOA NORSAR Array B 125.98 343 PKP PKPdf 07 26 01.0 +0.7
comp=Z,1.6nm,0.9s,baz=28,slow=1.8,SNR=3.9
BRTR Keskin Array B 126.69 311 PKP PKPdf 07 26 03.5 +1.1
comp=Z,1.0nm,0.5s,baz=153,slow=2.8,SNR=9.0
SDV Santo Domingo 127.70 87 ePKP PKPdf 07 26 06.1 +1.2
MLR Muntele Rosu 129.66 321 PKP PKPdf 07 26 09.6 +1.7
comp=Z,1.1nm,0.6s,baz=233,slow=19,SNR=3.4
KHC Kasperske Hory 134.23 332 ePKPdf PKPdf 07 26 18.9 +2.5
GERES GERESS Array B 134.37 331 PKP PKPdf 07 26 18.2 +1.6
comp=Z,1.2nm,0.8s,baz=45,slow=1.9,SNR=9.2
GERES pPKP 07 26 37.2
comp=Z,0.7nm,0.7s,baz=45,slow=1.9,SNR=2.9
IDI Anoyia 134.73 309 PKP PKPdf 07 26 19.7 +2.0
comp=Z,6.7nm,1.0s,baz=347,slow=5.7,SNR=2.9
BDFB Brasilia 139.71 131 PKP PKPdf 07 26 29.4 +2.2
comp=Z,5.1nm,0.9s,baz=93,slow=1.8,SNR=5.5
GRR Gorron 140.40 343 ePKP1 PKPdf 07 26 29.7 +2.0
comp=Z,171nm,1.6s
MTLF Montolieu 143.70 335 ePKP1 PKPbc 07 26 33.7 +1.3
comp=Z,78nm,1.3s
EPF Esparros 144.70 337 ePKP1 PKPbc 07 26 37.4 +2.2
comp=Z,22nm,1.1s
ETSF Etsaut 145.15 338 ePKP1 PKPbc 07 26 39.1 +2.6
comp=Z,78nm,1.0s
ESDC Sonseca Array 149.20 339 PKPbc PKPdf 07 26 48.5 +5.6
comp=Z,0.8nm,0.5s,baz=12,slow=3.5,SNR=9.5
KIC Kosan Boka 166.49 250 ePKP1 PKPdf 07 27 06.4 +1.9
comp=Z,94nm,1.3s
LIC Lamto 166.70 249 ePKP1 PKPdf 07 27 06.4 +1.8
comp=Z,89nm,1.7s
DBIC Dimbokro 166.71 251 PKP PKPdf 07 27 06.2 +1.5
comp=Z,7.2nm,0.9s,baz=48,slow=5.3,SNR=3.9
TIC Toumodi 166.85 251 ePKP1 PKPdf 07 27 05.4 +0.7
comp=Z,118nm,1.4s

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*HEL **17** 07:19:28.4±0.2, 60.14N×25.26E, ML2.0, ML2.1(UPP), ML2.4(NAO), Explosion*
*IDC **17** 07:19:28.0±1.8, 60.16N×25.39E, mb1 3.4/2, mb1mx3.1/17, ML2.9/2, Error ellipse: s-maj=17.2km s-min=8.6km az=141.0*
*NAO **17** 07:19:28.5±3.0, 60.23N×25.11E, ML2.4*
*BER **17** 07:19:29.4±3.3, 60.22N×25.24E, ML2.4(NAO)*
ISC 17 07:19:26.7±0.7**, 60.11N**±0.05×**25.34E**±0.08**, n24,** σ1§**05**/37**, Finland**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
PVF Pernaja 0.51 31 eP Pg 07 19 37.5 +0.6
PVF eS Sg 07 19 43.3 -0.4
VJF Virojoki 1.19 68 eP Pb 07 19 50.3 +0.5
VJF eS Sb 07 20 05.3 -0.2
FIA0 FINESS Array S 1.39 15 eP Pb 07 19 52.9 -0.3
FIA0 eS Sb 07 20 10.3 -1.1
FIA0 FINESS Array S 1.39 15 Pn Pb 07 19 52.9 -0.3
baz=191,slow=18
FIA0 Lg 07 20 10.2
baz=191,slow=28
FINES FINESS Array B 1.39 15 Pg Pg 07 19 52.9 -1.5
1.4nm,0.3s,baz=190,slow=16,SNR=74
FINES Pn Pn 07 19 55.5 +2.1
4.7nm,0.3s,baz=194,slow=12,SNR=165
FINES Lg 07 20 09.8
2.6nm,0.3s,baz=192,slow=29,SNR=22
FINES Sn Sn 07 20 14.7 +2.0
13nm,0.3s,baz=191,slow=21,SNR=43
FINES Rg 07 20 18.4
60nm,0.9s,baz=189,slow=27,SNR=37
KEF Keuruu 2.08 354 eP Pn 07 20 04.8 +1.6
KEF eS Sn 07 20 30.6 +0.4
KEF MSG 07 20 33.1
comp=Z,9.7nm,0.2s
VAF Ylistaro 3.21 338 eP Pn 07 20 20.6 +1.3
VAF eS Sn 07 20 58.8 -0.1
GRAU Graesoe 3.40 277 eP Pn 07 20 21.5 -0.5
NRTU Norrtaelje 3.41 266 eP Pn 07 20 22.7 +0.5
FLYU Flymyra 3.73 274 eP Pn 07 20 26.5 -0.2
NYNU Nynaeshamn 3.89 257 eP Pn 07 20 30.4 +1.3
JOF Joensuu 4.02 43 eP Pn 07 20 31.2 +0.4
JOF eS Sn 07 21 17.6 -1.7
JOF MSG 07 21 36.4
comp=Z,2.3nm,0.2s
IGGU Iggoen 4.04 284 eP Pn 07 20 30.4 -0.8
OSTU Oestervaala 4.10 275 eP Pn 07 20 31.8 -0.2
BACU Backbrunna 4.14 270 eP Pn 07 20 32.6 0.0
ARNU Arnoeviken 4.20 296 eP Pn 07 20 33.2 -0.3
HEMU Hemsoen 4.35 309 eP Pn 07 20 35.8 +0.1
HUSU Husum 4.36 321 eP Pn 07 20 35.6 -0.1
HFS Hagfors 5.82 275 Pn Pn 07 20 54.5 -1.8
baz=94,slow=11
HFS Sn Sn 07 21 59.3 -5.5
baz=81,slow=28
HFS Lg 07 22 24.9
baz=90,slow=37
HFS Hagfors 5.82 275 eP Pn 07 20 54.5 -1.8
HFS eS Sn 07 21 59.3 -5.5
HFS eSG 07 22 24.9
NOA NORSAR Array B 7.02 284 Pn Pn 07 21 09.5 -3.8
comp=Z,0.2nm,0.3s,baz=112,slow=14,SNR=2.7
NOA Sn Sn 07 22 25.6 -9.3
comp=Z,0.2nm,0.3s,baz=336,slow=14,SNR=2.7
ARA0 ARCESS Array S 9.47 0 Pn P 07 21 42.8 -4.6
baz=182,slow=12
ARA0 Sn Sn 07 23 24.5 -11

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=182,slow=28						
ARA0				Lg		07 24 17.2	
	baz=175,slow=37						
ARA0	**ARCESS Array S**	**9.47**	**0**	*e*P	**P**	**07 21 42.8**	**-4.6**
ARA0				*e*SG		07 24 17.2	
ARCES	**ARCESS Array B**	**9.47**	**0**	Pn	**P**	**07 21 43.4**	**-3.9**
	comp=Z,0.1nm,0.3s,baz=182,slow=12,SNR=7.1						
ARCES				Sn	**Sn**	**07 23 24.7**	**-11**
	comp=Z,0.1nm,0.3s,baz=182,slow=23,SNR=2.6						

*IDC **17** 07:25:22.2±4.0, 11.69N×85.55W, mb3.4/4, mb1 3.9/4, mb1mx3.7/17, Error ellipse: s-maj=155.0km s-min=74.5km az=58.0*

*NEIC **17** 07:25:25.1±0.8, 11.40N×86.29W, h10km, mb3.4/1, Error ellipse: s-maj=57.7km s-min=17.1km az=54.0*

*CASC **17** 07:25:27.9±2.5, 11.17N×86.80W, h19km±11km, MD4.2, ML3.7, mb3.4(NEIC)*

ISC 17 07:25:26.2±1.2**, 11.12N**±0.04×**86.90W**±0.06**, h16**km±9km**, n33, σ1s10**/43**, mb3.3**/5**, 8C-5D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CRUN	**El Crucero**	**1.04**	**34**	⇓*e*P	**Pb**	**07 25 45.8**	**+0.4**
COPN	**Copaltepe**	**1.10**	**16**	⇑*e*P	**Pb**	**07 25 45.5**	**-0.8**
TICN	**Ticuantepe**	**1.12**	**36**	⇑*e*P	**Pb**	**07 25 46.6**	**-0.2**
TICN				*e*S	**Sb**	**07 26 01.1**	**+0.2**
MASN	**Masaya**	**1.13**	**40**	⇑*e*P	**Pb**	**07 25 46.2**	**-0.8**
MASN				*e*S	**Sb**	**07 26 02.0**	**+0.8**
APON	**Apoyo**	**1.14**	**46**	⇑*e*P	**Pb**	**07 25 46.5**	**-0.5**
APON				*e*S	**Sb**	**07 26 01.0**	**-0.4**
XAVN	**Gruta Xavier**	**1.17**	**29**	⇑*e*P	**Pb**	**07 25 47.2**	**-0.4**
XAVN				*e*S	**Sb**	**07 26 02.2**	**-0.1**
MGAN	**Managua**	**1.21**	**32**	⇓*i*P	**Pb**	**07 25 47.4**	**-0.8**
MGAN				*e*S	**Sb**	**07 26 02.2**	**-1.1**
MGAN				*e*		07 26 04.0	
	comp=E,2μm,0.5s						
APYN	**Apoyeque**	**1.23**	**26**	⇓*e*P	**Pb**	**07 25 48.1**	**-0.6**
APYN				*e*S	**Sb**	**07 26 04.4**	**+0.2**
WILN	**Americas 2**	**1.25**	**34**	⇓*e*P	**Pb**	**07 25 48.2**	**-0.8**
WILN				*e*S	**Sb**	**07 26 03.5**	**-1.1**
LEON	**Leon**	**1.29**	**0**	⇓*e*P	**Pb**	**07 25 49.9**	**+0.3**
LEON				*e*S	**Sb**	**07 26 07.8**	**+2.0**
MIRN	**Miramar**	**1.32**	**8**	⇑*e*P	**Pn**	**07 25 50.2**	**0.0**
MIRN				*e*S	**Sb**	**07 26 08.5**	**+1.7**
MOMJ	**Momotombo**	**1.33**	**15**	⇑*e*P	**Pn**	**07 25 49.7**	**-0.6**
MOMJ				*e*S	**Sb**	**07 26 06.9**	**-0.1**
CNGN	**Cerro Negro**	**1.39**	**8**	*e*P	**Pn**	**07 25 50.8**	**-0.3**
CNGN				*e*S	**Sb**	**07 26 10.3**	**+1.8**
PYTN	**Playitas**	**1.63**	**30**	⇑*e*P	**Pn**	**07 25 53.5**	**-1.1**
PYTN				*e*S	**Sn**	**07 26 16.0**	**+0.7**
JCR	**Jicaral**	**2.17**	**125**	*e*P	**Pn**	**07 26 00.8**	**-1.4**
FORC	**Fortuna**	**2.29**	**106**	*e*P	**Pn**	**07 26 05.0**	**+1.0**
CGA2	**Cerro Gallo 2**	**2.63**	**114**	*e*P	**Pn**	**07 26 08.4**	**-0.5**
LAJ	**Bijagual**	**3.01**	**114**	*e*P	**Pn**	**07 26 08.9**	**-5.3**
SJS	**Escuela Geolog**	**3.04**	**112**	*e*P	**Pn**	**07 26 16.6**	**+2.0**
LCR2	**La Lucha 2**	**3.16**	**115**	*e*P	**Pn**	**07 26 17.0**	**+0.5**
TRTC	**Tortuguero**	**3.18**	**100**	*e*P	**Pn**	**07 26 15.1**	**-1.6**
ICR	**Volcan Irazu**	**3.23**	**110**	*e*P	**Pn**	**07 26 19.9**	**+2.5**
URSC	**Urasca**	**3.33**	**112**	*e*P	**Pn**	**07 26 19.9**	**+1.1**
BUS	**Buena Vista**	**3.46**	**116**	*e*P	**Pn**	**07 26 22.0**	**+1.3**
TXAR	**Lajitas Array**	**23.94**	**322**	P	**P**	**07 30 41.0**	**+0.3**
	comp=E,0.8nm,0.6s,mb3.4,baz=138,slow=9.9,SNR=16						
TXAR	**Lajitas Array**	**23.94**	**322**	P	**P**	**07 30 41.0**	**+0.3**
MIAR	**Mount Ida**	**24.10**	**346**	P	**P**	**07 30 40.1**	**-2.1**
SAML	**Samuel**	**30.89**	**129**	*e*P	**P**	**07 31 40.2**	**-4.3**
	comp=E,0.3nm,0.6s,mb3.3						
PDAR	**Pinedale Array**	**37.19**	**332**	P	**P**	**07 32 36.8**	**-1.7**
	comp=E,0.3nm,0.8s,mb3.2,baz=129,slow=12,SNR=3.0						
NVAR	**Mina Array Bea**	**39.05**	**319**	P	**P**	**07 32 56.2**	**+2.0**
	comp=E,0.4nm,0.7s,mb3.3,baz=139,slow=8.3,SNR=3.6						
ILAR	**Eielson Array**	**67.45**	**336**	P	**P**	**07 36 19.4**	**-3.6**
	comp=E,0.2nm,0.5s,mb3.4,baz=135,slow=4.5,SNR=5.0						
ASAR	**Alice Springs**	**139.26**	**247**	PKP	PKPdf	07 44 54.1	-3.1
	comp=E,0.2nm,0.6s,baz=90,slow=1.8,SNR=4.3						
WRA	**Warramunga Arr**	**139.40**	**252**	PKP	PKPdf	07 44 54.4	-3.1
	comp=E,0.4nm,0.6s,baz=96,slow=2.0,SNR=5.8						

IDC 17 08:04:26.1±45.0**, 16.53S**×**172.26W, mb3.7**/3**, mb1 3.9**/3**, mb1mx3.6**/15**, Error ellipse: s-maj=866.0km s-min=180.6km az=80.0, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.44**	**241**	P	P	08 12 40.1	-0.7
	0.6nm,0.4s,baz=95,slow=10.0,SNR=4.6						
WRA	**Warramunga Arr**	**50.67**	**258**	P	P	08 13 27.0	-2.6
	0.1nm,0.4s,baz=97,slow=7.1,SNR=7.4						
ASAR	**Alice Springs**	**50.82**	**253**	P	P	08 13 28.4	-2.2
	1.4nm,0.5s,baz=91,slow=8.1,SNR=35						

*JMA **17** 08:18:17.5±0.4, 23.83N×121.91E, h77km*

TAP 17 08:18:15.4, 23.75N×**121.78E, h28**km**, ML3.3, Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.33**	**58**	P	Pn	08 18 39.0	+0.6
YOJ				S	Sn	08 18 54.6	-0.7
IRIF	**Iriomote-Funau**	**1.88**	**72**	P	Pn	08 18 46.4	+0.2
IRIF				S	Sn	08 19 08.5	-0.7
HATJ	**Hateruma jima**	**1.88**	**80**	S	Sn	08 19 07.6	-1.7
JKRS	**Kuro-shima**	**2.10**	**76**	P	Pn	08 18 49.5	+0.1
JKRS				*e*S	Sn	08 19 14.2	-0.6
JIJ	**Ishigaki jima**	**2.25**	**74**	P	Pn	08 18 50.7	-0.8
JIJ				S	Sn	08 19 16.3	-2.3

*MOS **17** 08:18:45.6±1.7, 58.25N×121.76E, h15km, mb3.9/4, Error ellipse: s-maj=29.2km s-min=20.5km az=73.1*

*IDC **17** 08:18:49.4±7.9, 59.08N×120.85E, h65km±79km, mb3.3/3, mb1 3.5/4, mb1mx3.2/20, ML3.7/1, MS3.2/1, Ms1 3.2/1, ms1mx2.4/22, Error ellipse: s-maj=40.0km s-min=30.4km az=114.0*

ISC 17 08:18:47.5±3.1**, 58.37N**±0.08×**121.7E**±0.1**, h26**km±27km**, n17, σ1s24**/18**, mb3.5**/4**, MS3.2**/1**, Southeastern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CLNS	**Chul'man**	**2.31**	**130**	*e*P	**Pn**	**08 19 22.9**	**-1.8**
CLNS				*e*S	**Sn**	**08 19 53.6**	**+1.0**
CLNS				pmax	pmax		
	comp=N,3.0nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CLNS				pmax	pmax		
	comp=E,2.0nm,0.7s						
CLNS				pmax	pmax		
	comp=Z,33nm,1.2s						
CLNS				pmax	pmax		
	comp=N,37nm,1.1s						
CLNS				pmax	pmax		
	comp=E,33nm,0.9s						
CLNS				smax			
	comp=N,476nm,0.7s						
CLNS				smax			
	comp=Z,59nm,0.7s						
CLNS				smax			
	comp=E,145nm,0.8s						
CLNS				smax			
	comp=N,366nm,0.8s						
CLNS				smax			
	comp=Z,122nm,0.9s						
CLNS				smax			
	comp=E,199nm,0.8s						
CLNS				MLR	MLR		
	comp=Z,100nm,12.0s						
CRS	**Chara**	**2.36**	**233**	*e*P	**Pn**	**08 19 21.8**	**-3.6**
CRS				*e*		08 19 47.2	
CRS				pmax	pmax		
	comp=Z,58nm,0.8s						
CRS				smax			
	comp=E,384nm,0.9s						
NLYR	**Nelyaty**	**3.75**	**242**	*e*P	**Pn**	**08 19 45.2**	**+0.1**
NLYR				*e*		08 20 30.1	
NLYR				pmax	pmax		
	comp=Z,36nm,0.5s						
NLYR				smax			
	comp=E,500nm,0.8s						
BOD	**Bodaibo**	**4.12**	**266**	*e*P	**Pn**	**08 19 52.9**	**+2.5**
BOD				*e*		08 20 38.3	
BOD				pmax	pmax		
	comp=Z,17nm,0.2s						
BOD				smax			
	comp=N,336nm,1.0s						
YAK	**Yakutsk**	**5.41**	**44**	*e*P	**Pn**	**08 20 09.4**	**+0.7**
YAK				*e*S	**Sn**	**08 21 15.7**	**+4.7**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
YAK				pmax	pmax		
	comp=N,3.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.0s						
YAK				smax			
	comp=E,19nm,0.8s						
YAK				smax			
	comp=Z,12nm,0.8s						
YAK				smax			
	comp=N,17nm,0.9s						
YAK				smax			
	comp=N,152nm,0.9s						
YAK				smax			
	comp=E,131nm,0.9s						
YAK				smax			
	comp=Z,38nm,0.9s						
YAK				MLR	MLR		
	comp=Z,16nm,5.0s						
NIZ	**Nizh Angarsk**	**7.12**	**254**	*e*P	**Pn**	**08 20 46.6**	**+14**
SONM	**Songino Array**	**13.96**	**227**	P	**P**	**08 22 06.4**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=51,slow=9.2,SNR=2.9						
ILAR	**Eielson Array**	**40.33**	**41**	P	**P**	**08 26 17.9**	**-6.0**
	comp=Z,0.6nm,0.5s,mb3.6,baz=293,slow=5.9,SNR=21						
ILAR				pP	pP	08 26 28.1	-3.6
	comp=Z,0.3nm,0.5s,baz=299,slow=7.0,SNR=4.2						
ILAR	**Eielson Array**	**40.33**	**41**	P	**P**	**08 26 17.9**	**-6.0**
ILAR				*PP	pP	08 26 28.2	-3.6
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
JOF	**Joensuu**	**41.06**	**316**	*e*p	**P**	**08 26 29.2**	**-0.7**
	comp=Z,0.5nm,0.4s,mb3.5						
JOF	**Joensuu**	**41.06**	**316**	*e*P	**P**	**08 26 29.2**	**-0.7**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.8						
KAF	**Kangasniemi**	**43.38**	**317**	*e*p	**P**	**08 26 48.3**	**-0.4**
	baz=50,slow=7.6						
FINES	**FINESS Array B**	**43.90**	**316**	P	**P**	**08 26 42.0**	**-11**
	comp=Z,1.2nm,1.0s,mb3.6,baz=60,slow=11,SNR=4.9						
FINES				pP	pP	08 26 52.7	-8.1
	comp=Z,1.2nm,0.7s,baz=45,slow=9.8,SNR=2.1						
FINES				LR	LR	08 45 47.8	
	comp=Z,28nm,19.9s,MS3.2,baz=0.6,slow=38						
FINES	**FINESS Array B**	**43.90**	**316**	P	**P**	**08 26 42.0**	**-11**
FINES				*PP	pP	08 26 52.7	-8.1
FINES				pmax	pmax		
	comp=Z,1.0nm,1.0s						
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES				MLR	MLR		
	comp=Z,28nm,20.0s						
NOA	**NORSAR Array B**	**49.25**	**323**	pP	pP	08 27 34.9	-8.3
	comp=Z,0.6nm,0.8s,baz=55,slow=6.6,SNR=1.8						
WRA	**Warramunga Arr**	**78.72**	**168**	P	**P**	**08 30 48.9**	**-0.1**
	comp=Z,0.5nm,1.0s,mb3.4,baz=354,slow=6.5,SNR=2.2						
WRA	**Warramunga Arr**	**78.72**	**168**	P	**P**	**08 30 48.9**	**-0.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						

IDC 17 08:24:56.2±6.0**, 19.01S**×**177.49W, mb3.9**/2**, mb1 4.1**/3**, mb1mx3.7**/15**, ML4.3**/1**, Error ellipse: s-maj=118.0km s-min=51.4km az=61.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**19.75**	**193**	P	P	08 29 27.6	-2.9
	0.8nm,0.3s,baz=331,slow=18,SNR=4.6						
WB2	**Warramunga Arr**	**45.29**	**260**	*e*P	P	08 33 16.6	-1.1
WRA	**Warramunga Arr**	**45.30**	**260**	P	P	08 33 16.5	-1.3
	0.6nm,0.3s,baz=96,slow=7.5,SNR=28						
ASAR	**Alice Springs**	**45.34**	**255**	P	P	08 33 15.8	-2.3
	1.7nm,0.9s,baz=94,slow=7.7,SNR=15						
AKASG	**Malin Array Be**	**141.94**	**332**	PKP	PKPdf	08 44 29.4	-2.4
	0.5nm,0.4s,baz=36,slow=4.1,SNR=8.1						

*STR **17** 09:11:27.2±0.5, 42.84N×1.47W, h5km±1km, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*NEIC **17** 09:11:27.2, 42.84N×1.47W, h5km, ML2.8(LDG), ML2.7(STR), MN2.4(MDD), After STR.*

*LDG **17** 09:11:28.6±0.4, 42.89N×1.44W, h7km, Md2.8/2, Ml2.8/5, Error ellipse: s-maj=7.1km s-min=4.0km az=43.0*

*MDD **17** 09:11:28.5±0.3, 42.86N×1.42W, h5km±4km, mbLg2.3/15, Error ellipse: s-maj=2.9km s-min=2.1km az=28.0, PRXIMO*

*CSEM **17** 09:11:28.4±0.1, 42.86N×1.42W, h2km, ML3.0/4, Error ellipse: s-maj=1.3km s-min=1.1km az=126.0*

ISC 17 09:11:25.9±0.4**, 42.83N**±0.03×**1.49W**±0.02**, h6**km±3km**, n64, σ1s22**/102**, 1C, Pyrenees**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.34**	**34**	*e*Pg	**Pg**	**09 11 34.1**	**+1.2**
SJPF				*e*Sg	**Sg**	**09 11 37.0**	**-0.6**
	363nm,0.4s						
EALK	**Alkurruntz**	**0.39**	**358**	⇑Pg	**Pg**	**09 11 35.3**	**+1.5**
	55nm,0.3s,SNR=18						
EALK				Lg		09 11 41.2	
	149nm,0.2s,SNR=5.7						
LARF	**Larrau**	**0.42**	**60**	Pg	**Pg**	**09 11 35.0**	**+0.5**
LARF				Sg	**Sg**	**09 11 40.7**	**+0.5**
LARF	**Larrau**	**0.42**	**60**	P	**Pg**	**09 11 35.0**	**+0.6**
LARF				S	**Sg**	**09 11 40.5**	**+0.3**
OSSF	**Osses**	**0.46**	**21**	Pg	**Pg**	**09 11 36.1**	**+0.9**
OSSF				Sg	**Sg**	**09 11 42.3**	**+1.0**
OSSF	**Osses**	**0.46**	**21**	P	**Pg**	**09 11 36.0**	**+0.9**
OSSF				S	**Sg**	**09 11 42.3**	**+0.9**
ORDF	**Ordiarp**	**0.56**	**46**	Pg	**Pg**	**09 11 37.8**	**+0.7**
ORDF				Sg	**Sg**	**09 11 45.2**	**+0.6**
ORDF	**Ordiarp**	**0.56**	**46**	P	**Pg**	**09 11 37.9**	**+0.7**
ORDF				S	**Sg**	**09 11 45.2**	**+0.5**
ATE	**Arette**	**0.63**	**66**	P	**Pg**	**09 11 38.5**	**-0.1**
ATE				S	**Sg**	**09 11 47.6**	**+0.5**
FDAF	**Les Forges d'A**	**0.68**	**90**	Pg	**Pg**	**09 11 39.6**	**+0.1**
FDAF				Sg	**Sg**	**09 11 50.2**	**+1.6**
FDAF	**Les Forges d'A**	**0.68**	**90**	P	**Pg**	**09 11 40.0**	**+0.4**
ETSF	**Etsaut**	**0.69**	**84**	*e*Pg	**Pg**	**09 11 39.3**	**-0.4**
ETSF				*e*Sg	**Sg**	**09 11 48.9**	**0.0**
	54nm,0.3s						
REYF	**Montagne du Re**	**0.84**	**73**	S	**Sb**	**09 11 53.7**	**-0.1**
VIEF	**Viey**	**1.11**	**87**	Pg	**Pb**	**09 11 47.2**	**+0.1**
VIEF				Sg	**Sg**	**09 12 02.8**	**-0.2**
VIEF	**Viey**	**1.11**	**87**	P	**Pb**	**09 11 47.2**	**+0.1**
VIEF				S	**Sb**	**09 12 02.2**	**+0.5**
LABF	**Labassere**	**1.17**	**79**	S	**Sb**	**09 12 03.9**	**+0.6**
EBIE	**Bielsa**	**1.21**	**96**	Pg	**Pg**	**09 11 49.3**	**-0.8**
	15nm,0.2s,SNR=7.9						
EBIE				Lg		09 12 07.2	
	11nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**1.21**	**96**	Pg	**Pg**	**09 11 49.3**	**-0.8**
	15nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**1.34**	**145**	Pg	**Pg**	**09 11 52.5**	**-0.2**
	26nm,0.3s,SNR=8.1						
ESAC				Lg		09 12 10.2	
	99nm,0.3s,SNR=10						
ESAC	**San Caprasio**	**1.34**	**145**	Pg	**Pg**	**09 11 52.5**	**-0.2**
	26nm,0.3s,SNR=8.1						
RESF	**Ens**	**1.34**	**90**	Pg	**Pg**	**09 11 53.1**	**+0.3**
RESF				Sg	**Sg**	**09 12 10.9**	**+0.2**
RESF	**Ens**	**1.34**	**90**	P	**Pb**	**09 11 52.2**	**+1.1**
RESF				S	**Sb**	**09 12 09.9**	**+1.5**
EPF	**Esparros**	**1.36**	**81**	*e*Pn	**Pn**	**09 11 51.8**	**+0.4**
EPF				*e*Pg	**Pg**	**09 11 54.0**	**+0.9**
EPF				*e*Sg	**Sg**	**09 12 10.1**	**-1.1**
	43nm,0.2s						
EGRA	**Graus**	**1.48**	**115**	Pg	**Pg**	**09 11 54.2**	**-1.2**
	15nm,0.3s,SNR=7.9						
EGRA				Lg		09 12 15.6	
	16nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**1.48**	**286**	Pg	**Pg**	**09 11 56.2**	**+0.7**
	3.1nm,0.3s,SNR=16						
ELAN				Lg		09 12 17.1	
	8.6nm,0.2s,SNR=6.0						
ELAN	**Lanestosa**	**1.48**	**286**	Pg	**Pg**	**09 11 56.2**	**+0.7**
	3.1nm,0.3s,SNR=16						
MELF	**Melles**	**1.65**	**88**	Pg	**Pg**	**09 11 57.9**	**-1.1**
ETOR	**Torete**	**2.05**	**192**	Pn	**Pn**	**09 12 03.4**	**+2.1**
	0.4nm,0.1s,SNR=31						
ETOR				Pg	**Pg**	**09 12 06.7**	**-0.1**
	5.4nm,0.2s,SNR=13						
ETOR				Sn	**Sn**	**09 12 29.5**	**+2.1**
	21nm,0.3s,SNR=7.9						
ETOR	**Torete**	**2.05**	**192**	Pn	**Pn**	**09 12 03.4**	**+2.1**
ETOR				Pg	**Pg**	**09 12 06.7**	**-0.1**
ETOR				Lg		09 12 31.1	
EMIR	**Miracle**	**2.41**	**111**	Pg	**Pg**	**09 12 11.7**	**-2.4**
	0.8nm,0.3s,SNR=5.3						
EMIR				Lg		09 12 43.5	
	7.5nm,0.2s,SNR=5.2						
EMIR	**Miracle**	**2.41**	**111**	Pg	**Pg**	**09 12 11.7**	**-2.5**
EMIR				Lg		09 12 43.5	
EMIR	**Miracle**	**2.41**	**111**	Pg	**Pg**	**09 12 11.7**	**-2.4**
	0.8nm,0.3s,SNR=5.3						
EPOB	**Poblet**	**2.41**	**127**	Pn	**Pn**	**09 12 06.4**	**-0.1**
	0.4nm,0.1s,SNR=6.1						
EPOB				Pg	**Pg**	**09 12 11.4**	**-2.7**
	3.2nm,0.3s,SNR=9.9						
EPOB				Lg		09 12 45.0	
	8.1nm,0.3s,SNR=6.6						
EPOB	**Poblet**	**2.41**	**127**	Pn	**Pn**	**09 12 06.4**	**-0.1**
EPOB				Pg	**Pg**	**09 12 11.4**	**-2.7**
EPOB				Lg		09 12 40.7	
EPOB	**Poblet**	**2.41**	**127**	Pn	**Pn**	**09 12 06.4**	**-0.1**
	0.4nm,0.1s,SNR=6.1						
EPOB	**Poblet**	**2.41**	**127**	Pg	**Pg**	**09 12 11.4**	**-2.7**
	3.2nm,0.3s,SNR=9.9						
EBR	**Ebro Roquetas**	**2.49**	**143**	*e*SN	**Sn**	**09 12 42.0**	**+3.3**
EBR				*e*S*	**Sb**	**09 12 47.5**	**+5.7**
EMOS	**Mosqueruela**	**2.58**	**162**	Pn	**Pn**	**09 12 10.5**	**+1.7**
	0.1nm,0.2s,SNR=8.3						
EMOS				Pg	**Pg**	**09 12 16.4**	**-1.0**
	1.2nm,0.1s,SNR=7.9						
EMOS				Lg		09 12 52.8	
	5.7nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**2.58**	**162**	Pn	**Pn**	**09 12 10.5**	**+1.7**
	0.1nm,0.2s,SNR=8.3						
EMOS	**Mosqueruela**	**2.58**	**162**	Pg	**Pg**	**09 12 16.4**	**-1.0**
	1.2nm,0.1s,SNR=7.9						
LFF	**La Frestale**	**2.66**	**37**	*e*Pn	**Pn**	**09 12 09.7**	**-0.3**
LFF				*e*Sg	**Sg**	**09 12 47.4**	**-7.0**
	5.4nm,0.3s						
MTLF	**Montolieu**	**2.76**	**78**	*e*Pn	**Pn**	**09 12 12.4**	**+0.9**
MTLF				*e*Sn	**Sn**	**09 12 44.1**	**-1.5**
	4.7nm,0.3s						
EARI	**Arriondas**	**2.77**	**281**	Sn	**Sn**	**09 12 46.5**	**+0.8**
	SNR=4.0						
EARI				Lg		09 13 00.2	
	2.0nm,0.3s,SNR=4.0						
EARI	**Arriondas**	**2.77**	**281**	Sn	**Sn**	**09 12 46.5**	**+0.9**
	SNR=4.0						
EJON	**La Jonquera**	**3.25**	**95**	Pn	**Pn**	**09 12 19.5**	**+1.1**
	0.1nm,0.1s,SNR=7.9						
EJON				Pg	**Pg**	**09 12 28.7**	**-2.1**
	0.5nm,0.2s,SNR=7.9						
EJON				Lg		09 13 10.4	
	15nm,0.5s,SNR=7.9						
EJON	**La Jonquera**	**3.25**	**95**	Pn	**Pn**	**09 12 19.5**	**+1.0**
	0.1nm,0.1s,SNR=7.9						
EJON	**La Jonquera**	**3.25**	**95**	Pg	**Pg**	**09 12 28.7**	**-2.1**
	0.5nm,0.2s,SNR=7.9						
RJF	**Les Rejaudoux**	**3.29**	**40**	*e*Pn	**Pn**	**09 12 17.1**	**-1.9**
RJF				*e*Sn	**Sn**	**09 12 54.6**	**-4.3**
	7.1nm,0.3s						
CAF	**Calviac**	**3.32**	**50**	*e*Pn	**Pn**	**09 12 18.1**	**-1.3**
CAF				*e*Sn	**Sn**	**09 12 55.8**	**-3.8**
	6.5nm,0.2s						
ESLA	**Sonseca Array**	**3.66**	**211**	Pn	**Pn**	**09 12 21.2**	**-3.0**
ESLA	**Sonseca Array**	**3.66**	**211**	Pn	**Pn**	**09 12 21.2**	**-3.1**
MFF	**Saint Martin d**	**3.89**	**14**	*e*Pn	**Pn**	**09 12 26.4**	**-1.2**
ECAL	**Calabor**	**3.99**	**259**	Pn	**Pn**	**09 12 29.5**	**+0.6**
	1.3nm,0.2s,SNR=7.9						
ECAL				Pg	**Pg**	**09 12 42.9**	**-2.6**
	1.3nm,0.2s,SNR=7.9						
ECAL				Sn	**Sn**	**09 13 14.2**	**-2.3**
	SNR=7.9						
ECAL				Lg		09 13 38.1	
	11nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**3.99**	**259**	Pn	**Pn**	**09 12 29.5**	**+0.6**
ECAL				Pg	**Pg**	**09 12 42.9**	**-2.6**
ECAL				Sn	**Sn**	**09 13 14.2**	**-2.3**
ECAL				Lg		09 13 34.4	
ECAL	**Calabor**	**3.99**	**259**	Pn	**Pn**	**09 12 29.5**	**+0.6**
	1.3nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**3.99**	**259**	Pg	**Pg**	**09 12 42.9**	**-2.6**
	1.3nm,0.2s,SNR=7.9						
ECAL				Sn	**Sn**	**09 13 14.2**	**-2.3**
	SNR=7.9						
LASF	**Ste Croix**	**4.09**	**70**	*e*Pn	**Pn**	**09 12 29.6**	**-0.7**
EPON	**Pontenova**	**4.18**	**279**	Pn	**Pn**	**09 12 32.8**	**+1.2**
	SNR=7.9						
EPON				Sn	**Sn**	**09 13 19.5**	**-1.8**
	SNR=4.0						
EPON				Lg		09 13 42.3	
	1.2nm,0.2s,SNR=4.0						
EPON	**Pontenova**	**4.18**	**279**	Pn	**Pn**	**09 12 32.8**	**+1.2**
EPON				Sn	**Sn**	**09 13 23.1**	**+1.7**
EPON				Lg		09 13 40.8	
EPON	**Pontenova**	**4.18**	**279**	Pn	**Pn**	**09 12 32.8**	**+1.2**
EPON				Sn	**Sn**	**09 13 23.1**	**+1.8**
ERUA	**La Rua**	**4.20**	**266**	Pn	**Pn**	**09 12 32.7**	**+0.9**
	1.2nm,0.1s,SNR=4.0						
ERUA				Sn	**Sn**	**09 13 20.5**	**-1.3**
	SNR=7.9						
ERUA				Lg		09 13 42.3	
	1.7nm,0.3s,SNR=7.9						
ERUA	**La Rua**	**4.20**	**266**	Pn	**Pn**	**09 12 32.7**	**+0.9**
ERUA				Sn	**Sn**	**09 13 20.5**	**-1.3**
ERUA				Lg		09 13 40.9	
BGF	**Bois d'Agland**	**4.84**	**38**	*e*Pn	**Pn**	**09 12 38.4**	**-2.7**
VIVF	**Saint-Julien-l**	**4.90**	**63**	*e*Pn	**Pn**	**09 12 40.3**	**-1.5**

MEX 17 09:16:07.6±0.6**, 15.53N**×**96.82W, h10**km**, MD3.7, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.72**	**71**	*e*P	Pb	09 16 20.0	-1.8
HUIG				*i* S	Sb	09 16 29.7	-1.8
VHO	**Vista Hermosa**	**1.54**	**3**	*e*P	Pn	09 16 32.0	-3.2
VHO				*e*S	Sb	09 16 50.3	-4.8
OXX	**Oaxaca**	**1.54**	**3**	*e*P	Pn	09 16 33.0	-2.4
OXX				*e*S	Sb	09 16 51.0	-4.4
CMIG	**Matias Romero**	**2.42**	**50**	*e*P	Pn	09 16 43.5	-4.4
CMIG				*i* S	Sn	09 17 14.3	-3.5

MEX 17 09:24:40.8±0.8**, 16.97N**×**100.08W, h5**km**, MD4.1, 1C, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.18**	**123**	*i* P	Pg	09 24 44.3	-0.3
ACX				*i* S	Sg	09 24 46.3	-0.8
CAIG	**El Cayaco**	**0.20**	**294**	⇑*i*P	Pg	09 24 44.0	-0.9
CAIG				*i* S	Sg	09 24 47.7	+0.1
ZIIG	**Zihuatanejo**	**1.47**	**296**	*e*P	Pn	09 25 04.7	-3.4
ZIIG				*e*S	Sb	09 25 24.2	-2.9
PLIG	**Platanillo**	**1.52**	**21**	*i* P	Pn	09 25 04.5	-4.3
PLIG				*i* S	Sb	09 25 23.5	-5.1
PNIG	**Pinotepa**	**1.95**	**107**	*i* P	Pn	09 25 11.8	-3.2
PNIG				*i* S	Sn	09 25 34.7	-5.5
YAIG	**Yautepec**	**2.12**	**27**	*e*P	Pn	09 25 14.5	-2.8
YAIG				*i* S	Sn	09 25 40.3	-3.9
UNM	**Universidad Na**	**2.50**	**20**	*e*P	Pn	09 25 18.4	-4.4
UNM				*i* S	Sn	09 25 50.1	-4.0
PPM	**Popocatepetl**	**2.50**	**33**	*e*P	Pn	09 25 18.5	-4.3
MOIG	**Morelia**	**2.90**	**339**	*e*P	Pn	09 25 22.6	-5.9
MOIG				*i* S	Sn	09 25 58.4	-5.7
OXX	**Oaxaca**	**3.21**	**87**	*e*P	Pn	09 25 29.0	-3.9
OXX				*e*S	Sn	09 26 08.0	-4.1
IISM	**Ciudad Serdan**	**3.26**	**52**	*e*P	Pn	09 25 31.0	-2.7
CMIG	**Matias Romero**	**4.97**	**88**	*e*P	Pn	09 25 55.0	-2.9
CMIG				*i* S	Sn	09 26 51.6	-4.9

MEX 17 09:46:21.4±0.6**, 15.53N**×**96.82W, h30**km±28km**, MD3.8,**

Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.73**	**71**	*i* P	Pb	09 46 33.6	-1.9
HUIG				*i* S	Sb	09 46 42.7	-2.6
HUIG				*e*S	Sb	09 46 43.5	-1.7
VHO	**Vista Hermosa**	**1.54**	**3**	*e*P	Pn	09 46 44.9	-2.3
VHO				*e*S	Sn	09 47 03.5	-2.8
OXX	**Oaxaca**	**1.55**	**4**	*e*P	Pn	09 46 46.0	-1.3
OXX				*e*S	Sn	09 47 05.0	-1.6
CMIG	**Matias Romero**	**2.42**	**50**	*e*P	Pn	09 46 56.9	-3.0
CMIG				*i* S	Sn	09 47 25.9	-3.0
IISM	**Ciudad Serdan**	**3.48**	**351**	*e*P	Pn	09 47 21.5	+6.6

*IDC **17** 10:53:45.3±6.5, 55.43S×28.10W, h50km±62km, mb4.1/7, mb1 4.1/8, mb1mx4.0/13, ML4.3/1, MS3.5/2, Ms1 3.5/2, ms1mx3.1/9, Error ellipse: s-maj=25.3km s-min=21.6km az=96.0*

*NEIC **17** 10:53:47.8±2.5, 55.39S×28.14W, h73km±23km, mb4.5/9, Error ellipse: s-maj=11.1km s-min=10.4km az=215.0*

ISC 17 10:53:48.5±3.7**, 55.40S**±0.10×**28.2W**±0.2**, h101**km±37km**, n32,** σ**0s86**/22**, mb4.5**/14**, 1C-3D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**17.61**	**158**	⇓*i*P	**P**	**10 57 49.6**	**+1.2**
VNA3	**Neumayer Olymp**	**17.79**	**160**	⇓*i*P	**P**	**10 57 50.6**	**0.0**
VNA2	**Neumayer--Watz**	**18.01**	**158**	⇑*i*P	**P**	**10 57 52.3**	**-0.8**
SNAA	**Sanae**	**19.57**	**156**	⇓*i*P	**P**	**10 58 07.6**	**-2.7**
SNAA	**Sanae**	**19.57**	**156**	P	**P**	**10 58 07.8**	**-2.5**
	0.9nm,0.3s,baz=298,slow=11,SNR=56						
PMSA	**Palmer Station**	**19.91**	**227**	*e*P	**P**	**10 58 14.1**	**+0.2**
	14nm,0.8s						
TRQA	**Tornquist**	**28.54**	**293**	*e*P	**P**	**10 59 35.8**	**-0.6**
	1.7nm,0.5s,mb3.9						
QSPA	**South Pole Qui**	**34.85**	**180**	*e*P	**P**	**11 00 31.8**	**+0.8**
	7.0nm,0.5s,mb4.8						
MAW	**Mawson**	**41.01**	**144**	P	**P**	**11 01 21.9**	**-0.5**
	1.3nm,0.7s,mb3.9,baz=291,slow=19,SNR=3.0						
MAW				LR	LR	11 15 35.5	
	comp=Z,58nm,19.9s,baz=183,slow=32						
SUR	**Sutherland**	**41.03**	**77**	P	**P**	**11 01 24.1**	**+1.1**
	5.0nm,0.7s,mb4.5,baz=224,slow=17,SNR=3.4						
SUR	**Sutherland**	**41.03**	**77**	P	**P**	**11 01 25.1**	**+2.1**
	2.1nm,0.6s,mb4.1						
BOSA	**Boshof**	**46.37**	**77**	*e*P	**P**	**11 02 06.0**	**-0.1**
	1.5nm,0.6s,mb3.9						
VNDA	**Vanda**	**47.19**	**183**	P	**P**	**11 02 12.5**	**+0.6**
	2.7nm,0.7s,mb4.1,baz=183,slow=6.3,SNR=19						
VNDA	**Vanda**	**47.19**	**183**	P	**P**	**11 02 12.5**	**+0.6**
LPAZ	**La Paz**	**49.53**	**306**	P	**P**	**11 02 32.0**	**+1.3**
	6.5nm,0.7s,mb4.7,baz=17,slow=0.1,SNR=13						
LPAZ				LR	LR	11 22 28.1	
	comp=Z,44nm,18.4s,baz=277,slow=35						
TSUM	**Tsumeb**	**49.88**	**62**	P	**P**	**11 02 33.0**	**-0.3**
	1.7nm,0.7s,mb4.1,baz=228,slow=6.4,SNR=5.7						
SAML	**Samuel**	**53.94**	**316**	*e*P	**P**	**11 03 02.8**	**-1.0**
	8.3nm,1.3s,mb4.6						
SAML				*e*		11 03 12.9	
SAML				*e*		11 03 19.4	
LIC	**Lamto**	**64.35**	**26**	*e*P	**P**	**11 04 15.4**	**-0.2**
	28nm,0.6s,mb5.2						
KIC	**Kosan Boka**	**64.55**	**26**	*e*P	**P**	**11 04 17.3**	**+0.4**
	18nm,0.7s,mb5.0						
TIC	**Toumodi**	**64.76**	**26**	*e*P	**P**	**11 04 18.0**	**-0.3**
	21nm,0.5s,mb5.2						
DBIC	**Dimbokro**	**64.82**	**26**	P	**P**	**11 04 18.5**	**-0.2**
	3.9nm,0.6s,mb4.4,baz=173,slow=7.4,SNR=9.0						
ASAR	**Alice Springs**	**99.78**	**163**	P	**P**	**11 07 21.9**	**-0.2**
	0.4nm,0.8s,mb4.1,baz=182,slow=3.7,SNR=5.3						
FINES	**FINESS Array B**	**124.08**	**28**	PKP	PKPdf	11 12 36.0	+2.0
	1.1nm,0.6s,baz=180,slow=1.9,SNR=10						
ARCES	**ARCESS Array B**	**130.55**	**22**	PKP	PKPdf	11 12 48.8	+2.8
	2.2nm,0.8s,baz=270,slow=1.2,SNR=5.9						
INK	**Inuvik**	**144.94**	**321**	*e*P	PKPdf	11 13 14.6	+2.7
INK				*e*		11 13 25.5	
DAWY	**Dawson**	**145.93**	**313**	*e*PKPdf	PKPdf	11 13 17.2	+3.5
DIV	**Divide**	**147.81**	**306**	*e*PKPab	PKPab	11 13 25.3	+0.5
ILAR	**Eielson Array**	**149.26**	**313**	PKPbc	PKPdf	11 13 26.9	+7.8
	9.6nm,0.8s,baz=126,slow=2.2,SNR=102						
COLA	**College**	**149.68**	**313**	*e*PKPbc	PKPdf	11 13 27.9	+8.1
MCK	**McKinley**	**149.92**	**310**	*e*PKPbc	PKPdf	11 13 29.1	+8.9
SONM	**Songino Array**	**151.25**	**86**	PKPbc	PKPdf	11 13 32.4	+10
	2.5nm,0.8s,baz=127,slow=6.2,SNR=3.7						
IMA	**Indian Mountai**	**152.25**	**314**	*e*PKPbc	PKPdf	11 13 35.3	+12
IMA				*e*PKPab	PKPab	11 13 44.6	+1.6

IDC 17 10:56:10.3±7.0**, 25.79S**×**71.16E, mb3.5**/4**, mb1 3.8**/4**, mb1mx3.6**/16**, Error ellipse: s-maj=187.0km s-min=42.2km az=60.0, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**51.61**	**34**	P	P	11 05 18.4	-2.5
	0.2nm,0.3s,baz=234,slow=7.8,SNR=4.7						
ASAR	**Alice Springs**	**56.54**	**102**	P	P	11 05 54.6	-2.5
	0.6nm,0.7s,baz=246,slow=6.6,SNR=5.9						
WRA	**Warramunga Arr**	**58.03**	**98**	P	P	11 06 05.8	-1.9
	0.3nm,0.8s,baz=250,slow=7.2,SNR=5.0						
SONM	**Songino Array**	**79.84**	**23**	P	P	11 08 20.8	-1.3
	0.8nm,1.0s,baz=225,slow=4.1,SNR=3.1						

*IDC **17** 11:22:01.1±5.3, 13.10N×51.30E, mb3.8/3, mb1 4.1/3, mb1mx3.6/16, Error ellipse: s-maj=130.0km s-min=70.5km az=95.0, Low Confidence*

*DHMR **17** 11:22:07.0±1.3, 13.27N×50.44E, h1km±642km, ML3.6*

ISC 17 11:21:59.5±1.0**, 13.1N**±0.2×**50.97E**±0.06**, h10**km**, n7,** σ**1s14**/10**, mb3.9**/3**, 1C-2D, Eastern Gulf of Aden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MUKL	**Al Mukalla**	**2.23**	**302**	*i* S	**Sn**	**11 23 05.6**	**+0.7**
MUKL				AML	AML	11 23 08.4	
	comp=N,786nm,0.4s						
BDHA	**Al Bayda'**	**5.33**	**280**	⇓*i*P	**Pn**	**11 23 22.6**	**+1.5**
BDHA				*e*		11 23 22.8	
	baz=108,slow=16						
BDHA				*i* S	**Sn**	**11 24 21.5**	**-1.8**
BDHA	**Al Bayda'**	**5.33**	**280**	⇓*i*P	**Pn**	**11 23 22.4**	**+1.3**
BDHA				*i* S	**Sn**	**11 24 22.8**	**-0.5**
LBOS		**5.62**	**279**	⇑*i*P	**Pn**	**11 23 26.8**	**+1.6**
LBOS				*i* S	**Sn**	**11 24 29.1**	**-1.5**
CMAR	**Chiang Mai Arr**	**46.37**	**77**	P	**P**	**11 30 27.0**	**-1.1**
	comp=N,1.4nm,0.8s,mb3.9,baz=275,slow=8.9,SNR=10						
SONM	**Songino Array**	**57.39**	**41**	P	**P**	**11 31 50.1**	**-0.5**
	comp=N,1.1nm,1.2s,mb3.8,baz=270,slow=13,SNR=3.5						
WRA	**Warramunga Arr**	**88.31**	**111**	P	**P**	**11 34 53.9**	**+0.6**
	comp=N,0.6nm,0.8s,mb3.9,baz=297,slow=3.9,SNR=6.9						

*NIED **17** 11:47:00, 43.50N×147.50E, h8km, Mw3.9 Best double couple: Mo7.2×10^{14} NP1:φs245°, δ76°, λ-121°. NP2: φs134°, δ34°, λ-26°.*

*SKHL **17** 11:47:01.3±0.3, 43.50N×147.80E, h33km, mb5.0/2*

*MOS **17** 11:47:03.3±1.6, 43.77N×147.60E, h49km, mb4.4/7, Error ellipse: s-maj=21.3km s-min=13.2km az=108.1*

*JMA **17** 11:47:03.4±0.2, 43.53N×147.48E, h13km±3km, M4.1*

*NEIC **17** 11:47:04.6±1.6, 43.78N×147.44E, h40km±12km, mb4.2/6, Error ellipse: s-maj=16.9km s-min=11.5km az=147.0*

*IDC **17** 11:47:09.7±3.5, 43.77N×147.41E, h86km±31km, mb3.5/12, mb1 3.7/13, mb1mx3.6/24, MS3.5/1, Ms1 3.5/1, ms1mx2.4/29, Error ellipse: s-maj=22.3km s-min=17.9km az=109.0*

ISC 17 11:47:04.5±0.9**, 43.77N**±0.06×**147.54E**±0.08**, h57**km±7km**, n52,** σ**1s16**/65**, mb4.0**/18**, MS3.5**/1**, 2D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.24**	**283**	⇓*i*P	**P**	**11 47 23.2**	**-2.7**
YUK				AMB	AMB	11 47 24.7	
	230nm,0.3s						
YUK				AMB	AMB	11 47 24.7	
	290nm,0.3s						
YUK				AMB	AMB	11 47 24.7	
	1μm,0.3s						
YUK				*i* S	**S**	**11 47 39.4**	**-2.5**
YUK				A		11 47 43.5	
	19μm,0.8s						
YUK				A		11 47 43.5	
	9μm,1.0s						
YUK				A		11 47 44.4	
	11μm,0.5s						
YUK				A		11 47 44.4	
	5μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.24**	**283**	⇓*i*PN	**P**	**11 47 23.2**	**-2.7**
YUK				*i* S	**S**	**11 47 39.4**	**-2.5**
YUK				pmax	pmax		
	comp=N,230nm,0.3s						
YUK				pmax	pmax		
	comp=E,290nm,0.3s						
YUK				pmax	pmax		
	comp=Z,1μm,0.3s						
YUK				smax			
	comp=N,19μm,0.8s						
YUK				smax			
	comp=E,9μm,1.0s						
YUK				smax			
	comp=N,11μm,0.5s						
YUK				smax			
	comp=E,5μm,0.5s						
NEM2	**Nemuro 2**	**1.36**	**253**	P	**P**	**11 47 26.9**	**-0.9**
NEM2				*e*S	**S**	**11 47 43.6**	**-1.5**
KUR	**Kuril'sk**	**1.48**	**9**	*e*P	**P**	**11 47 27.3**	**-2.1**
KUR				AMB	AMB	11 47 30.8	
	comp=E,319nm,0.6s						
KUR				AMB	AMB	11 47 30.8	
	comp=E,228nm,0.6s						
KUR				AMB	AMB	11 47 30.8	
	comp=E,410nm,0.6s						
KUR				*i* S	**S**	**11 47 47.0**	**-0.8**
KUR				A		11 47 48.5	
	comp=E,714nm,0.6s						
KUR				A		11 47 48.5	
	comp=E,950nm,0.6s						
KUR	**Kuril'sk**	**1.48**	**9**	*e*PN	**P**	**11 47 27.3**	**-2.1**
KUR				*i* S	**S**	**11 47 47.0**	**-0.8**
KUR				pmax	pmax		
	comp=N,320nm,0.6s						
KUR				pmax	pmax		
	comp=E,230nm,0.6s						
KUR				pmax	pmax		
	comp=Z,410nm,0.6s						
KUR				smax			
	comp=N,710nm,0.6s						
KUR				smax			
	comp=E,950nm,0.6s						
JRA	**Rausu**	**1.75**	**276**	P	**P**	**11 47 34.0**	**+0.8**
JRA				*e*S	**S**	**11 47 56.0**	**+1.6**
JNK	**Nakash**	**2.05**	**266**	P	**P**	**11 47 37.2**	**-0.1**
JNK				*e*S	**S**	**11 48 01.9**	**+0.2**
JAK	**Akkeshi**	**2.21**	**250**	P	**P**	**11 47 38.9**	**-0.7**
JAK				*e*S	**S**	**11 48 05.1**	**-0.6**
JTKR	**Abashiri--Toko**	**2.63**	**276**	P	**P**	**11 47 47.0**	**+1.4**
JTKR				*e*S	**S**	**11 48 20.3**	**+3.9**
JAR	**Ashorobuto**	**2.78**	**261**	P	**P**	**11 47 48.0**	**+0.3**
JAR				*e*S	**S**	**11 48 21.1**	**+1.0**
JOB	**Onbets**	**2.84**	**253**	P	**P**	**11 47 48.2**	**-0.3**
JOB				*e*S	**S**	**11 48 20.5**	**-1.1**
JMP	**Maruseppu**	**3.03**	**276**	P	**P**	**11 47 52.7**	**+1.5**
JCH	**Churui**	**3.26**	**251**	P	**P**	**11 47 53.9**	**-0.6**
JCH				*e*S	**S**	**11 48 31.7**	**-0.7**
ASAJ	**Asahikawa**	**3.58**	**277**	P	**P**	**11 48 01.7**	**+2.7**
	comp=E,3.5nm,0.3s,baz=100,slow=8.9,SNR=18						
ASAJ				S	**S**	**11 48 48.0**	**+7.6**
	comp=E,3.7nm,0.3s,baz=210,slow=26,SNR=7.3						
ASAJ	**Asahikawa**	**3.58**	**277**	PN	**P**	**11 48 01.7**	**+2.7**
ASAJ				S	**S**	**11 48 48.0**	**+7.6**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
JFR	**Furan**	**3.65**	**262**	P	**P**	**11 48 01.0**	**+1.1**
JEM	**Erimo**	**3.66**	**243**	P	**P**	**11 48 01.0**	**+0.9**
ERM	**Erimo**	**3.67**	**243**	Pn	**P**	**11 48 00.5**	**+0.4**
	comp=Z,208nm,0.6s,SNR=21						
JSE	**Soyaes**	**3.74**	**290**	P	**P**	**11 48 02.6**	**+1.4**
JNBK	**Urakawa-nobuka**	**3.81**	**249**	P	**P**	**11 48 01.5**	**-0.7**
YSS	**Yuzh-Sakhalins**	**4.63**	**315**	*e*P	**P**	**11 48 17.0**	**+3.2**
YSS	**Yuzh-Sakhalins**	**4.63**	**315**	*e*PN	**P**	**11 48 14.0**	**+0.2**
YSS				*e*		11 49 06.6	
YSS				pmax	pmax		
	comp=N,30nm,0.9s						
SONM	**Songino Array**	**28.72**	**293**	P	**P**	**11 52 58.2**	**0.0**
	comp=N,0.7nm,0.5s,mb3.7,baz=85,slow=8.8,SNR=5.1						
IMA	**Indian Mountai**	**38.51**	**34**	*e*P	**P**	**11 54 23.6**	**+1.2**
	comp=N,19nm,0.6s,mb5.0						
COLA	**College**	**40.89**	**36**	*e*P	**P**	**11 54 44.0**	**+1.8**
	comp=N,2.5nm,1.0s,mb3.8						
ILAR	**Eielson Array**	**41.31**	**36**	P	**P**	**11 54 46.3**	**+0.7**
	comp=N,1.0nm,0.7s,mb3.6,baz=277,slow=9.0,SNR=18						
ILAR	**Eielson Array**	**41.31**	**36**	P	**P**	**11 54 46.3**	**+0.7**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURK	**Kurchatov**	**45.75**	**304**	*e*P	**P**	**11 55 19.8**	**-1.9**
	comp=Z,1.2nm,0.3s,mb4.3						
INK	**Inuvik**	**46.24**	**30**	P	**P**	**11 55 26.6**	**+1.3**
	comp=Z,2.3nm,0.5s,mb4.4,baz=280,slow=6.5,SNR=16						
INK	**Inuvik**	**46.24**	**30**	P	**P**	**11 55 26.6**	**+1.3**
INK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
INK	**Inuvik**	**46.24**	**30**	*e*P	**P**	**11 55 26.2**	**+0.9**
	comp=Z,3.5nm,0.6s,mb4.5						
BVAR	**Borovoye Array**	**49.71**	**309**	P	**P**	**11 55 52.8**	**+0.4**
	comp=Z,0.3nm,0.4s,mb3.7,baz=68,slow=7.8,SNR=4.0						
PMG	**Port Moresby**	**52.92**	**180**	LR	LR	12 19 42.0	
	comp=Z,41nm,18.3s,MS3.5,baz=40,slow=37						
RES	**Resolute Bay**	**54.87**	**17**	*e*P	**P**	**11 56 29.5**	**-1.2**
	comp=Z,3.0nm,0.7s,mb4.4						
KEV	**Kevo**	**58.79**	**339**	*e*p	**P**	**11 56 57.3**	**-1.3**
ARCES	**ARCESS Array B**	**59.33**	**340**	P	**P**	**11 57 01.0**	**-1.3**
	comp=Z,2.5nm,0.8s,mb4.3,baz=52,slow=7.8,SNR=7.6						
ARCES	**ARCESS Array B**	**59.33**	**340**	P	**P**	**11 57 01.0**	**-1.3**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARCES	**ARCESS Array B**	**59.33**	**340**	P	**P**	**11 57 01.0**	**-1.3**
JOF	**Joensuu**	**62.20**	**332**	*e*p	**P**	**11 57 21.0**	**-0.9**
	comp=Z,1.9nm,0.4s,mb4.6						
JOF	**Joensuu**	**62.20**	**332**	*e*P	**P**	**11 57 21.0**	**-0.9**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.6						
KAF	**Kangasniemi**	**64.42**	**334**	*e*p	**P**	**11 57 35.4**	**-0.9**
	comp=Z,0.7nm,0.4s,mb4.0,baz=42,slow=6.2						
WRA	**Warramunga Arr**	**64.55**	**194**	P	**P**	**11 57 37.0**	**-0.9**
	comp=Z,0.3nm,0.6s,mb3.5,baz=12,slow=6.8,SNR=4.6						
FINES	**FINESS Array B**	**64.98**	**333**	P	**P**	**11 57 39.4**	**-0.6**
	comp=Z,2.0nm,0.5s,mb4.5,baz=46,slow=7.9,SNR=44						
FINES	**FINESS Array B**	**64.98**	**333**	P	**P**	**11 57 39.4**	**-0.6**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ASAR	**Alice Springs**	**68.26**	**193**	P	**P**	**11 58 01.6**	**+0.2**
	comp=Z,0.4nm,0.8s,mb3.5,baz=8.1,slow=6.4,SNR=4.2						
NB2	**NORSAR Subarra**	**69.69**	**339**	P	**P**	**11 58 08.9**	**-0.6**
	comp=Z,1.1nm,0.4s,mb4.1,baz=31,slow=6.2						
NOA	**NORSAR Array B**	**69.69**	**339**	P	**P**	**11 58 09.4**	**-0.1**
	comp=Z,1.7nm,0.7s,mb4.1,baz=32,slow=6.3,SNR=7.5						
NOA	**NORSAR Array B**	**69.69**	**339**	P	**P**	**11 58 09.4**	**-0.1**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKASG	**Malin Array Be**	**71.73**	**324**	P	**P**	**11 58 22.1**	**+0.1**
	comp=Z,0.9nm,0.4s,mb4.0,baz=36,slow=5.9,SNR=10						
AKASG	**Malin Array Be**	**71.73**	**324**	P	**P**	**11 58 22.1**	**+0.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
GERES	**GERESS Array B**	**79.28**	**331**	P	**P**	**11 59 05.5**	**+0.6**
	comp=Z,0.3nm,0.4s,mb3.6,baz=45,slow=5.7,SNR=4.3						
TXAR	**Lajitas Array**	**82.41**	**57**	P	**P**	**11 59 23.2**	**+1.4**
	comp=Z,0.2nm,0.6s,mb3.2,baz=315,slow=3.8,SNR=3.5						

*IDC **17** 12:01:00.1±0.8, 27.83N×141.08E, mb3.9/10, mb1 4.2/11, mb1mx4.0/21, Error ellipse: s-maj=29.5km s-min=16.2km az=61.0*

*NEIC **17** 12:01:01.3±0.5, 27.86N×141.12E, h10km, mb4.6/3, Error ellipse: s-maj=22.0km s-min=10.4km az=78.0*

ISC 17 12:00:59.9±0.5**, 27.82N**±0.09×**141.0E**±0.1**, h10**km**, n19,** σ**0s96**/21**, mb4.1**/14**, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.31**	**123**	Pn	**Pn**	**12 01 24.9**	**+0.6**
MAJO	**Matsushiro**	**9.00**	**346**	*e*Pn	**P**	**12 03 06.5**	**-6.4**
MAT	**Matsushiro**	**9.00**	**346**	P	**P**	**12 03 06.7**	**-6.2**
MAT				S	**Sn**	**12 04 45.6**	**-10**
MAT	**Matsushiro**	**9.00**	**346**	*e*P	**P**	**12 03 07.0**	**-5.9**
MAT				*e*S	**Sn**	**12 04 46.0**	**-9.4**
SONM	**Songino Array**	**33.43**	**316**	P	**P**	**12 07 41.8**	**+0.9**
	0.4nm,0.4s,mb3.7,baz=124,slow=9.5,SNR=3.0						
WRAB	**Tennant Creek**	**47.90**	**188**	*e*P	**P**	**12 09 40.2**	**-0.2**
	9.0nm,0.8s,mb4.8						
WB2	**Warramunga Arr**	**47.91**	**188**	*e*P	**P**	**12 09 40.7**	**+0.2**
WRA	**Warramunga Arr**	**47.91**	**188**	P	**P**	**12 09 40.9**	**+0.4**
	6.4nm,0.8s,mb4.7,baz=12,slow=8.3,SNR=27						
ZAL	**Zalesovo**	**48.23**	**319**	P	**P**	**12 09 43.0**	**+0.5**
	0.9nm,0.8s,mb3.9,baz=354,slow=13,SNR=3.0						
ASAR	**Alice Springs**	**51.64**	**188**	P	**P**	**12 10 07.8**	**-1.1**
	0.5nm,0.7s,mb3.5,baz=6.0,slow=5.3,SNR=9.7						
KURK	**Kurchatov**	**51.70**	**314**	*e*P	**P**	**12 10 08.1**	**-1.0**
	7.9nm,1.0s,mb4.6						
BVAR	**Borovoye Array**	**56.77**	**317**	P	**P**	**12 10 45.5**	**-0.7**
	4.2nm,0.7s,mb4.6,baz=94,slow=9.3,SNR=24						
BRVK	**Borovoye**	**56.83**	**317**	*e*P	**P**	**12 10 45.8**	**-0.9**
	2.5nm,0.6s,mb4.4						
ILAR	**Eielson Array**	**57.61**	**29**	P	**P**	**12 10 50.0**	**-2.0**
	0.4nm,0.7s,mb3.5,baz=258,slow=6.7,SNR=4.2						
ARCES	**ARCESS Array B**	**72.50**	**341**	P	**P**	**12 12 30.0**	**+1.8**
	3.5nm,0.8s,mb4.3,baz=41,slow=8.3,SNR=3.0						
FINES	**FINESS Array B**	**76.81**	**333**	P	**P**	**12 12 54.4**	**+1.3**
	0.6nm,0.4s,mb3.9,baz=76,slow=5.7,SNR=8.2						
PDAR	**Pinedale Array**	**84.46**	**44**	P	**P**	**12 13 42.3**	**+8.3**
	0.3nm,0.4s,mb3.8,baz=315,slow=2.6,SNR=5.3						
BRTR	**Keskin Array B**	**84.71**	**312**	P	**P**	**12 13 35.6**	**+0.3**
	0.8nm,0.6s,mb4.0,baz=112,slow=6.7,SNR=4.4						
TXAR	**Lajitas Array**	**96.04**	**52**	P	**P**	**12 14 29.1**	**+0.1**
	0.4nm,0.8s,mb3.9,baz=304,slow=4.5,SNR=4.0						

IDC 17 12:06:44.0±9.9**, 2.68S**×**127.86E, mb3.7**/2**, mb1 4.0**/3**, mb1mx3.6**/15**, ML3.9**/1**, MS4.0**/1**, Ms1 4.0**/1**, ms1mx2.6**/21**, Error ellipse: s-maj=170.0km s-min=135.4km az=88.0, Ceram Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.29**	**160**	P	P	12 11 00.2	-0.9
	0.4nm,0.3s,baz=342,slow=12,SNR=17						
WB2	**Warramunga Arr**	**18.30**	**160**	*e*P	P	12 11 01.2	0.0
ASAR	**Alice Springs**	**21.67**	**165**	P	P	12 11 37.0	-1.4
	0.9nm,0.4s,baz=345,slow=12,SNR=13						
ASPA	**Alice Springs**	**21.67**	**165**	*e*P	P	12 11 37.3	-1.1
STKA	**Stephens Creek**	**31.80**	**157**	P	P	12 13 09.4	-3.1
	1.3nm,0.6s,baz=341,slow=7.7,SNR=3.3						
JHJ	**Hachijo jima 2**	**37.35**	**17**	LR	LR	12 26 14.9	
	comp=Z,254nm,21.9s,baz=245,slow=31						

*IDC **17** 12:08:24.9±4.3, 5.71S×154.48E, h130km±37km, mb4.1/11, mb1 4.3/13, mb1mx4.2/17, Error ellipse: s-maj=24.3km s-min=16.2km az=80.0*

*NEIC **17** 12:08:24.1±1.3, 5.68S×154.45E, h124km±11km, mb4.3/16, Error ellipse: s-maj=13.1km s-min=8.8km az=105.0*

*SYO **17** 12:08:28.5, 5.57S×154.12E, h165km, MB4.2*

ISC 17 12:08:23.4±1.5**, 5.70S**±0.06×**154.46E**±0.10**, h132**km±13km**, n38,** σ**0s96**/40**, mb4.3**/23**, 1D, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAB	**Rabaul**	**2.73**	**303**	*e*P	**P**	**12 09 06.0**	**-1.5**
RAB				*e*S	**S**	**12 09 41.4**	**+0.4**
PMG	**Port Moresby**	**8.12**	**243**	P	**P**	**12 10 20.2**	**+0.6**
	11nm,0.3s,baz=53,slow=8.6,SNR=40						
PMG				S	**S**	**12 11 51.1**	**+0.9**
	2.4nm,0.3s,baz=94,slow=19,SNR=5.1						
PMG	**Port Moresby**	**8.12**	**243**	*e*P	**P**	**12 10 20.5**	**+0.9**
CTA	**Charters Tower**	**16.38**	**208**	P	**P**	**12 12 08.8**	**+1.8**
	0.2nm,0.3s,baz=33,slow=14,SNR=6.2						
CTAO	**Charters Tower**	**16.38**	**208**	*e*P	**P**	**12 12 08.8**	**+1.9**
	3.9nm,0.7s						
DZM	**Mont Dzumac**	**19.98**	**146**	*e*P	**P**	**12 12 45.9**	**-1.7**
DZM	**Mont Dzumac**	**19.98**	**146**	*e*P	**P**	**12 12 45.9**	**-1.7**
KAKA	**Kakadu**	**22.84**	**251**	*e*P	**P**	**12 13 20.4**	**+4.3**
	6.7nm,0.5s,mb4.3						
WRAB	**Tennant Creek**	**24.13**	**232**	P	**P**	**12 13 28.0**	**-0.4**
	174nm,0.5s,SNR=22						
WRAB	**Tennant Creek**	**24.13**	**232**	*e*P	**P**	**12 13 28.9**	**+0.5**
	27nm,0.6s,mb5.0						
WB2	**Warramunga Arr**	**24.14**	**232**	*e*P	**P**	**12 13 29.1**	**+0.6**
WRA	**Warramunga Arr**	**24.15**	**232**	P	**P**	**12 13 29.3**	**+0.7**
	14nm,0.6s,mb4.6,baz=54,slow=9.6,SNR=96						
WRA				ScP		12 20 39.0	
	0.3nm,0.6s,baz=60,slow=3.5,SNR=4.5						
ASAR	**Alice Springs**	**26.66**	**226**	P	**P**	**12 13 51.5**	**-0.5**
	4.3nm,0.4s,mb4.4,baz=56,slow=9.2,SNR=73						
ASAR				PcP	PcP	12 17 12.4	-0.3
	0.3nm,0.5s,baz=72,slow=1.9,SNR=4.4						
ASPA	**Alice Springs**	**26.66**	**226**	*e*P	**P**	**12 13 51.5**	**-0.5**
STKA	**Stephens Creek**	**28.69**	**203**	*e*P	**P**	**12 14 09.4**	**-0.8**
	3.3nm,0.5s,mb4.3						
STKA	**Stephens Creek**	**28.69**	**203**	P	**P**	**12 14 09.2**	**-1.0**
	4.3nm,0.5s,mb4.4,baz=7.8,slow=7.5,SNR=15						
FITZ	**Fitzroy Crossi**	**30.71**	**244**	*e*P	**P**	**12 14 26.9**	**-1.4**
	5.0nm,0.6s,mb4.4						
FITZ	**Fitzroy Crossi**	**30.71**	**244**	P	**P**	**12 14 26.9**	**-1.5**
	8.5nm,0.8s,mb4.5,baz=51,slow=6.9,SNR=21						
FORT	**Forrest**	**35.18**	**222**	*e*P	**P**	**12 15 05.8**	**-0.8**
	42nm,0.6s,mb5.2						
MBWA	**Marble Bar**	**36.98**	**242**	*e*P	**P**	**12 15 19.3**	**-2.6**
	2.9nm,0.6s,mb4.1						
RPZ	**Rata Peaks**	**40.58**	**161**	P	**P**	**12 15 52.0**	**+0.5**
	8.9nm,0.7s,mb4.5,baz=352,slow=6.7,SNR=5.7						
KLBR	**Kellerberrin**	**42.92**	**229**	*e*P	**P**	**12 16 09.7**	**-1.1**
	5.6nm,0.5s,mb4.5						
MUN	**Mundaring**	**44.26**	**229**	*e*P	**P**	**12 16 21.1**	**-0.5**
	4.0nm,0.6s,mb4.2						
CMAR	**Chiang Mai Arr**	**59.75**	**295**	P	**P**	**12 18 17.5**	**+0.4**
	4.2nm,1.1s,mb4.2,baz=106,slow=5.1,SNR=17						
SONM	**Songino Array**	**67.97**	**327**	P	**P**	**12 19 10.2**	**0.0**
	1.7nm,0.5s,mb4.0,baz=141,slow=6.7,SNR=10						
VNDA	**Vanda**	**71.88**	**178**	P	**P**	**12 19 33.4**	**-0.1**
	2.3nm,0.8s,mb4.0,baz=325,slow=6.2,SNR=15						
VNDA	**Vanda**	**71.88**	**178**	*e*P	**P**	**12 19 33.4**	**-0.1**
	2.5nm,0.9s,mb3.9						
SBA	**Scott Base**	**72.40**	**177**	*e*P	**P**	**12 19 37.5**	**+1.0**
	3.9nm,1.1s,mb4.0						
PMR	**Palmer**	**79.83**	**24**	*e*P	**P**	**12 20 18.7**	**+0.4**
	2.7nm,0.8s,mb3.9						
IMA	**Indian Mountai**	**80.76**	**19**	P	**P**	**12 20 24.7**	**+1.4**
	16nm,1.1s,mb4.6						
MCK	**McKinley**	**81.06**	**22**	*e*P	**P**	**12 20 24.9**	**0.0**
	4.9nm,0.9s,mb4.1						
COLA	**College**	**82.08**	**21**	*e*P	**P**	**12 20 29.9**	**-0.3**
	5.0nm,0.8s,mb4.2						
ILAR	**Eielson Array**	**82.37**	**22**	P	**P**	**12 20 30.9**	**-0.8**
	1.7nm,0.8s,mb3.8,baz=244,slow=5.4,SNR=26						
QSPA	**South Pole Qui**	**84.27**	**180**	*e*P	**P**	**12 20 41.7**	**+0.8**
	4.4nm,0.8s,mb4.2						
MAW	**Mawson**	**85.38**	**203**	*e*P	**P**	**12 20 47.4**	**+0.8**
	5.5nm,0.6s,mb4.5						
MAW	**Mawson**	**85.38**	**203**	P	**P**	**12 20 47.0**	**+0.3**
	5.7nm,0.6s,mb4.5,baz=96,slow=8.4,SNR=16						
NVAR	**Mina Array Bea**	**91.34**	**52**	P	**P**	**12 21 17.1**	**+1.4**
	0.2nm,0.6s,mb3.3,baz=251,slow=9.1,SNR=3.6						
SYO	**Syowa Base**	**93.37**	**199**	⇓P	**P**	**12 21 24.2**	**-0.1**

*IDC **17** 12:27:16.8±11.0, 3.64N×95.44E, mb3.5/2, mb1 3.8/3, mb1mx3.5/18, ML4.0/1, Error ellipse: s-maj=292.0km s-min=48.8km az=79.0*

ISC 17 12:27:18.2±2.7**, 3.6N**±0.2×**95.2E**±0.3**, h33**km**, n4,** σ**0s22**/4**, mb3.5**/2**, 1D, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.90**	**81**	⇓*e*P	**P**	**12 28 45.5**	**0.0**
CMAR	**Chiang Mai Arr**	**15.18**	**14**	Pn	**P**	**12 30 51.9**	**0.0**
	0.2nm,0.3s,baz=205,slow=11,SNR=11						
WRA	**Warramunga Arr**	**45.04**	**123**	P	**P**	**12 35 32.8**	**-0.2**
	0.5nm,0.5s,mb3.6,baz=301,slow=9.2,SNR=12						
ASAR	**Alice Springs**	**46.47**	**128**	P	**P**	**12 35 44.4**	**+0.1**
	0.3nm,0.5s,mb3.5,baz=299,slow=7.6,SNR=7.0						

*IDC **17** 12:40:43.6±1.1, 24.85N×103.10E, mb3.7/7, mb1 3.9/8, mb1mx3.7/18, ML3.9/1, MS3.0/2, Ms1 3.2/2, ms1mx2.8/25, Error ellipse: s-maj=34.0km s-min=17.7km az=91.0*

*BJI **17** 12:40:47.2, 24.62N×103.01E, h38km, mb4.7, ML3.9, Ms4.1, Msz4.1*

*NEIC **17** 12:40:49.5±1.1, 24.80N×102.95E, h43km±12km, mb4.3/2, Error ellipse: s-maj=14.1km s-min=9.2km az=99.0*

PLV 17 12:40:52.4±0.8, 24.43N×103.69E, MD4.5

ISC 17 12:40:42.0±0.4**, 24.60N**±0.03×**103.20E**±0.05**, h10km, n28, σ1§53**/45**, mb3.8**/9**, MS3.3**/1**, Yunnan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMI	**Kunming**	**0.67**	**321**	*e*P	**Pb**	**12 40 55.4**	**0.0**
KMI				S	**Sb**	**12 41 03.3**	**-1.2**
KMI				Smax			
	comp=N,7μm,0.6s						
KMI				Smax			
	comp=E,10μm,0.7s						
DHV	**Doan Hung**	**3.47**	**148**	*e*PN	**Pn**	**12 41 42.5**	**+5.3**
DHV				*e*PG	**Pg**	**12 41 52.4**	**+1.1**
DHV				*e*SG	**Sg**	**12 42 33.1**	**-4.6**
GYA	**Guiyang**	**3.64**	**59**	P	**Pn**	**12 41 45.3**	**+5.7**
GYA				S	**Sn**	**12 42 32.5**	**+9.4**
GYA				Smax			
	comp=N,250nm,0.9s						
GYA				Smax			
	comp=E,220nm,0.9s						
GYA				LR	LR		
	comp=N,880nm,4.8s						
GYA				LR	LR		
	comp=E,1μm,4.8s						
GYA				LR	LR		
	comp=Z,1μm,5.4s						
MTZV	**Met**	**4.19**	**136**	*e*PN	**Pn**	**12 41 53.0**	**+5.5**
MTZV				*e*PG	**Pg**	**12 42 04.5**	**-1.2**
MTZV				*e*SG	**Sg**	**12 42 54.6**	**-6.9**
HNV	**Hanoi**	**4.26**	**145**	*e*PN	**Pn**	**12 41 54.0**	**+5.5**
HNV				*e*PG	**Pg**	**12 42 08.2**	**+1.0**
HNV				*e*SG	**Sg**	**12 42 58.9**	**-5.2**
BGV	**Bac-Giang**	**4.31**	**139**	*e*PN	**Pn**	**12 41 53.4**	**+4.2**
BGV				*e*PG	**Pg**	**12 42 07.1**	**-1.0**
BGV				*e*SG	**Sg**	**12 42 58.7**	**-6.8**
YTV	**Yen Tu**	**4.71**	**136**	*e*PN	**Pn**	**12 41 59.9**	**+4.9**
YTV				*e*PG	**Pg**	**12 42 14.8**	**-1.3**
YTV				*e*SG	**Sg**	**12 43 10.6**	**-8.4**
PLV	**Phu-Lien**	**4.92**	**139**	*e*PN	**Pn**	**12 42 02.7**	**+4.8**
PLV				*e*PG	**Pg**	**12 42 18.5**	**-1.8**
PLV				*e*SG	**Sg**	**12 43 17.5**	**-8.4**
NANT	**Nan**	**6.22**	**202**	P	**Pg**	**12 42 44.0**	**-2.2**
CD2	**Chengdu**	**6.31**	**4**	*e*P	**Pn**	**12 42 20.0**	**+2.5**
CD2				S	**Sn**	**12 43 30.9**	**+0.5**
CD2				Smax			
	comp=N,70nm,1.2s						
CD2				Smax			
	comp=E,94nm,1.2s						
CM31	**Chiang Mai Arr**	**7.28**	**214**	*e*Pn	**Pn**	**12 42 35.2**	**+4.1**
	comp=E,7.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**7.28**	**214**	Pn	**Pn**	**12 42 32.9**	**+1.7**
	comp=E,0.5nm,0.3s,baz=23,slow=12,SNR=9.9						
CMAR				Pg	**Pg**	**12 43 01.3**	**-6.1**
	comp=E,0.6nm,0.3s,baz=33,slow=18,SNR=26						
CMAR				Lg		12 44 39.0	
	comp=E,0.2nm,0.3s,baz=21,slow=32,SNR=6.7						
CMAR				LR	LR	12 45 35.1	
	comp=E,77nm,19.8s,baz=60,slow=39						
ENH	**Enshi**	**7.95**	**43**	*e*Pn	**Pn**	**12 42 43.2**	**+2.8**
	comp=E,23nm,0.7s						
ENH				*e*Sn	**Sn**	**12 44 09.7**	**-1.5**
SHL	**Shillong**	**10.31**	**278**	*e*	**P**	**12 43 14.0**	**+0.9**
XAN	**Xi'an**	**10.65**	**27**	P	**P**	**12 43 18.3**	**+0.5**
WHN	**Wuhan**	**11.52**	**57**	*e*P	**P**	**12 43 35.0**	**+5.3**
GTA	**Gaotai**	**15.05**	**350**	*e*P	**P**	**12 44 23.1**	**+6.7**
GTA				XP		12 44 36.5	
GTA				AMB	AMB		
	comp=Z,6.0nm,0.7s						
SONM	**Songino Array**	**23.33**	**5**	P	**P**	**12 45 50.9**	**-0.3**
	comp=Z,0.6nm,0.6s,mb3.2,baz=194,slow=12,SNR=2.5						
KURK	**Kurchatov**	**32.25**	**330**	*e*P	**P**	**12 47 11.0**	**-1.7**
	comp=Z,1.7nm,0.6s,mb4.0						
ZAL	**Zalesovo**	**32.38**	**340**	P	**P**	**12 47 11.3**	**-2.5**
	comp=Z,1.3nm,1.1s,mb3.7,baz=276,slow=6.2,SNR=3.8						
ZAL	**Zalesovo**	**32.38**	**340**	P	**P**	**12 47 11.3**	**-2.5**
BVAR	**Borovoye Array**	**37.63**	**328**	P	**P**	**12 47 58.5**	**-0.2**
	comp=Z,0.4nm,0.5s,mb3.4,baz=117,slow=6.6,SNR=2.5						
WRAB	**Tennant Creek**	**53.65**	**143**	*e*P	**P**	**12 50 09.0**	**+2.8**
	comp=Z,4.2nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**53.65**	**143**	P	**P**	**12 50 09.1**	**+2.9**
	comp=Z,0.7nm,0.5s,mb3.9,baz=331,slow=8.3,SNR=9.9						
WB2	**Warramunga Arr**	**53.66**	**143**	*e*P	**P**	**12 50 09.3**	**+3.0**
ASAR	**Alice Springs**	**56.46**	**146**	P	**P**	**12 50 34.0**	**+7.3**
	comp=Z,0.6nm,0.9s,mb3.6,baz=323,slow=5.9,SNR=4.4						
ARCES	**ARCESS Array B**	**62.89**	**337**	P	**P**	**12 51 09.8**	**-0.5**
	comp=Z,3.4nm,0.8s,mb4.5,baz=95,slow=10.0,SNR=2.9						
NOA	**NORSAR Array B**	**69.75**	**329**	P	**P**	**12 51 53.5**	**-0.5**
	comp=Z,0.6nm,0.6s,mb3.7,baz=80,slow=5.8,SNR=3.1						
NOA				LR	LR	13 25 05.7	
	comp=Z,18nm,21.4s,MS3.3,slow=38						

LDG 17 13:43:16.3±0.2, 42.77N×1.30W, h19km, Md2.3/2, Ml2.0/3, Error ellipse: s-maj=3.1km s-min=1.5km az=36.0

MDD 17 13:43:17.6±0.7, 42.78N×1.28W, h10km±2km, mbLg1.4/10, Error ellipse: s-maj=5.5km s-min=2.9km az=27.0, PRXIMO

ISC 17 13:43:15.6±0.6**, 42.72N**±0.03×**1.27W**±0.05**, h10km, n15, σ1§01**/19**, 1C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LARF	**Larrau**	**0.38**	**33**	P	**Pg**	**13 43 24.3**	**+0.9**
SJPF	**Ste Jean**	**0.39**	**5**	*e*Pg	**Pg**	**13 43 23.6**	**0.0**
SJPF				*e*Sg	**Sg**	**13 43 28.8**	**-0.2**
	17nm,0.2s						
EALK	**Alkurruntz**	**0.53**	**341**	⇑Pg	**Pg**	**13 43 26.5**	**+0.2**
	8.2nm,0.6s,SNR=18						
EALK				Lg		13 43 33.5	
	11nm,0.3s						
ETSF	**Etsaut**	**0.55**	**71**	*e*Pg	**Pg**	**13 43 27.4**	**+0.6**
ETSF				*e*Sg	**Sg**	**13 43 35.3**	**+1.1**
	12nm,0.3s						
EBIE	**Bielsa**	**1.04**	**92**	Pg	**Pg**	**13 43 37.1**	**+0.6**
	SNR=7.9						
EBIE				Lg		13 43 54.9	
	1.2nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**1.16**	**149**	Pg	**Pg**	**13 43 39.3**	**+0.4**
	9.2nm,0.3s,SNR=10						
ESAC				Lg		13 43 56.4	
	8.2nm,0.2s						
EPF	**Esparros**	**1.22**	**75**	*e*Pg	**Pg**	**13 43 39.6**	**-0.5**
EPF				*e*Sg	**Sg**	**13 43 55.4**	**-1.0**
	4.2nm,0.2s						
EGRA	**Graus**	**1.29**	**114**	Pg	**Pg**	**13 43 41.6**	**+0.2**
	SNR=7.9						
EGRA				Lg		13 44 00.5	
	1.7nm,0.3s,SNR=4.0						
ELAN	**Lanestosa**	**1.67**	**288**	Pg	**Pg**	**13 43 46.4**	**-2.5**
	5.6nm,0.8s,SNR=13						
ELAN				Lg		13 44 11.0	
	1.9nm,0.3s						
ETOR	**Torete**	**1.99**	**197**	Pn	**Pn**	**13 43 51.4**	**+1.7**
	1.8nm,0.4s,SNR=6.7						
ETOR				Pg	**Pg**	**13 43 56.2**	**+0.8**
	SNR=7.9						
ETOR				Lg		13 44 21.1	
	1.4nm,0.2s						
EPOB	**Poblet**	**2.22**	**127**	Pg	**Pg**	**13 43 58.5**	**-1.5**
	SNR=4.0						
EPOB				Lg		13 44 27.2	
	1.3nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**2.23**	**110**	Pg	**Pg**	**13 43 59.8**	**-0.3**
	0.5nm,0.1s,SNR=4.0						
EMOS	**Mosqueruela**	**2.43**	**165**	Pg	**Pg**	**13 44 02.8**	**-1.4**
	SNR=4.0						
EMOS				Lg		13 44 34.3	
	0.4nm,0.1s,SNR=7.9						
MTLF	**Montolieu**	**2.63**	**75**	*e*Sg	**Sg**	**13 44 39.2**	**-4.0**
	0.5nm,0.2s						
LFF	**La Frestale**	**2.65**	**33**	*e*Sg	**Sg**	**13 44 38.9**	**-5.0**
	4.0nm,0.3s						

WEL 17 14:19:18.2±0.2**, 40.25S**×**173.50E, h161km**±2km**, ML3.6**/5**, 3C-2D, Error ellipse: s-maj=1.4km s-min=0.9km az=90.0, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
QRZ	**Quartz Range**	**0.94**	**232**	⇑PN	P	14 19 43.3	-0.4
QRZ				SN	S	14 20 01.5	-1.7
NNZ	**Nelson**	**0.97**	**185**	⇑PN	P	14 19 43.7	-0.2
NNZ				SN	S	14 20 03.0	-0.7
PKE	**Pukeiti**	**1.12**	**20**	PN	P	14 19 44.9	-0.2
PKE				SN	S	14 20 05.3	-0.7
TUWZ	**Tuamarina**	**1.23**	**164**	PN	P	14 19 46.0	-0.2
TUWZ				SN	S	14 20 06.6	-1.2
KIW	**Kapiti Island**	**1.24**	**120**	PN	P	14 19 46.1	-0.1
KIW				SN	S	14 20 06.0	-2.1
WAZ	**Wanganui**	**1.24**	**67**	PN	P	14 19 46.8	+0.5
WAZ				SN	S	14 20 07.7	-0.5
MRW	**Makara Radio**	**1.34**	**137**	PN	P	14 19 47.2	-0.1
MRW				SN	S	14 20 08.7	-1.1
WEL	**Wellington**	**1.42**	**137**	PN	P	14 19 47.8	-0.2
WEL				SN	S	14 20 09.9	-1.3
CAW	**Cannon Point**	**1.47**	**126**	PN	P	14 19 48.3	-0.3
CAW				SN	S	14 20 10.8	-1.3
VRZ	**Vera Road**	**1.48**	**41**	PN	P	14 19 47.9	-0.8
VRZ				SN	S	14 20 10.7	-1.6
BSWZ	**Blackbirch Sta**	**1.49**	**169**	PN	P	14 19 48.7	-0.1
BSWZ				SN	S	14 20 11.6	-0.9
BHW	**Baring Head**	**1.56**	**139**	PN	P	14 19 49.0	-0.5
BHW				SN	S	14 20 11.8	-1.9
THZ	**Tophouse**	**1.58**	**196**	PN	P	14 19 49.1	-0.6
THZ				SN	S	14 20 11.9	-2.1
MRZ	**Mangatainoka R**	**1.64**	**105**	PN	P	14 19 50.0	-0.4
MRZ				SN	S	14 20 12.7	-2.5
MSWZ	**Moikau Station**	**1.77**	**132**	PN	P	14 19 51.2	-0.5
MSWZ				SN	S	14 20 15.4	-2.2
MTW	**Mount Morrison**	**1.77**	**122**	PN	P	14 19 51.3	-0.5
MTW				SN	S	14 20 15.5	-2.3
PAWZ	**Paruwai Farm**	**1.85**	**128**	PN	P	14 19 52.0	-0.6
PAWZ				SN	S	14 20 16.9	-2.3
WNVZ	**Wahianoa**	**1.86**	**61**	PN	P	14 19 51.8	-0.9
WNVZ				SN	S	14 20 17.1	-2.3
DRZ	**Dome Shelter**	**1.86**	**59**	PN	P	14 19 52.8	+0.1
WPVZ	**Whakapapa**	**1.89**	**57**	PN	P	14 19 52.0	-1.0
CNZ	**Chateau**	**1.90**	**57**	PN	P	14 19 52.1	-1.0
TSZ	**Takapari Road**	**1.90**	**85**	PN	P	14 19 52.4	-0.7
TSZ				SN	S	14 20 17.8	-2.3
TWVZ	**Taurewa**	**1.90**	**53**	PN	P	14 19 51.9	-1.3
TWVZ				SN	S	14 20 18.1	-2.1
MOVZ	**Moawhango**	**1.93**	**65**	PN	P	14 19 52.2	-1.3
MOVZ				SN	S	14 20 17.4	-3.2
TUVZ	**Tukino**	**1.93**	**60**	PN	P	14 19 52.6	-0.8
NGZ	**Ngauruhoe**	**1.94**	**57**	PN	P	14 19 52.6	-1.0
NGZ				SN	S	14 20 18.8	-2.2
DSZ	**Denniston Nort**	**1.97**	**220**	PN	P	14 19 52.6	-1.3
DSZ				SN	S	14 20 18.5	-3.1
MGZ	**Maungaku**	**2.01**	**52**	PN	P	14 19 53.2	-1.1
KAVZ	**Karewarewa**	**2.02**	**56**	*e*PN	P	14 19 53.3	-1.2
HIZ	**Hauiti**	**2.03**	**32**	PN	P	14 19 53.2	-1.4
HIZ				SN	S	14 20 21.1	-1.5
KATZ	**Kakaramea**	**2.12**	**54**	PN	P	14 19 54.6	-1.1
KATZ				SN	S	14 20 22.6	-2.0
BFZ	**Birch Farm**	**2.14**	**103**	PN	P	14 19 55.1	-0.9
BFZ				SN	S	14 20 21.8	-3.2
KHZ	**Kahutara**	**2.17**	**179**	⇓PN	P	14 19 55.3	-1.0
KHZ				SN	S	14 20 22.0	-3.6
BKZ	**Black Stump Fm**	**2.55**	**66**	⇓PN	P	14 19 58.8	-2.2
BKZ				SN	S	14 20 30.5	-3.3
PWZ	**Pawanui**	**2.59**	**86**	PN	P	14 19 59.9	-1.6
PWZ				SN	S	14 20 31.2	-3.4
LTZ	**Lake Taylor**	**2.69**	**200**	PN	P	14 20 00.7	-2.1
LTZ				SN	S	14 20 32.1	-4.9
CRLZ	**Canterbury Las**	**3.39**	**191**	PN	P	14 20 08.2	-3.4
CRLZ				SN	S	14 20 45.7	-7.0
URZ	**Urewera**	**3.44**	**56**	PN	P	14 20 08.5	-3.7
KNZ	**Kokohu**	**3.45**	**71**	PN	P	14 20 09.3	-3.0
WVZ	**Waitaha Valley**	**3.50**	**215**	PN	P	14 20 09.9	-3.2
MQZ	**McQueen's Vall**	**3.51**	**190**	PN	P	14 20 09.4	-3.8
MQZ				SN	S	14 20 47.8	-7.7
MWZ	**Matawai**	**3.66**	**60**	⇑PN	P	14 20 11.5	-3.6
PUZ	**Puketiti**	**4.29**	**61**	PN	P	14 20 19.0	-4.2
FOZ	**Fox Glacier**	**4.37**	**219**	PN	P	14 20 19.1	-5.2
LBZ	**Lake Benmore**	**4.81**	**210**	PN	P	14 20 25.8	-4.3
JCZ	**Jackson Bay**	**5.20**	**221**	*e*PN	P	14 20 31.2	-4.0
ODZ	**Otahua Downs**	**5.24**	**203**	PN	P	14 20 31.8	-3.9
ODZ				SN	S	14 21 26.2	-10
TUZ	**Tuapeka**	**6.37**	**205**	*e*PN	P	14 20 46.0	-4.7

IDC 17 14:23:21.3±0.6, 16.99S×172.93W, mb4.5/14, mb1 4.7/15, mb1mx4.6/19, ML4.6/1, MS4.2/14, Ms1 4.2/14, ms1mx4.2/20, Error ellipse: s-maj=29.2km s-min=15.2km az=137.0

SYO 17 14:23:21.8, 16.71S×173.16W, h10km, MB4.7, MS4.4

BJI 17 14:23:22.7, 16.70S×173.00W, h10km, mB5.0, mb4.7, Ms4.8, Msz4.3

NEIC 17 14:23:22.7±0.3, 16.75S×172.99W, h10km, mb4.7/17, MS4.4/4, Error ellipse: s-maj=16.2km s-min=8.1km az=132.0

MOS 17 14:23:29.2±1.2, 16.37S×172.63W, h33km, mb4.9/4, Error ellipse: s-maj=61.2km s-min=27.2km az=98.6

ISC 17 14:23:21.2±0.3**, 16.86S**±0.07×**173.00W**±0.07**, h10km, n165, σ1§44**/77**, mb4.6**/34**, MS4.3**/19**, 15C-9D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.16**	**22**	*e*P	**Pn**	**14 24 08.7**	**-3.3**
RAR	**Rarotonga**	**13.24**	**111**	Pn	**P**	**14 26 19.1**	**-13**
	3.0nm,0.3s,baz=268,slow=8.7,SNR=6.1						
RAR				LR	LR	14 29 41.1	
	comp=Z,1μm,21.2s,baz=243,slow=29						
RAR	**Rarotonga**	**13.24**	**111**	*e*P	**P**	**14 26 16.8**	**-15**
PPT	**Papeete**	**22.39**	**95**	*e*L		14 32 14.6	
PPT				*e*R		14 33 10.1	
	1μm,26.2s,baz=262						
TBI	**Tubuai**	**23.02**	**110**	*e*L		14 32 30.8	
TBI				*e*R		14 33 32.6	
	2μm,29.5s,baz=285						
URZ	**Urewera**	**23.02**	**200**	P	**P**	**14 28 26.3**	**-1.1**
	16nm,0.5s,mb4.7,baz=5.2,slow=9.9,SNR=15						
RPZ	**Rata Peaks**	**29.99**	**203**	P	**P**	**14 29 34.6**	**+2.4**
	23nm,1.1s,mb4.8,baz=319,slow=5.0,SNR=4.3						
CTA	**Charters Tower**	**38.71**	**259**	*e*P	**P**	**14 30 46.4**	**-0.9**
	4.6nm,1.0s,mb4.2						
CTA	**Charters Tower**	**38.71**	**259**	P	**P**	**14 30 46.5**	**-0.9**
	3.6nm,0.7s,mb4.2,baz=96,slow=7.6,SNR=7.1						
CTA				LR	LR	14 44 12.8	
	comp=Z,369nm,21.5s,MS4.2,baz=86,slow=32						
TOO	**Toolangi**	**41.86**	**232**	*e*P	**P**	**14 31 16.1**	**+3.0**
	3.2nm,0.7s,mb4.1						
STKA	**Stephens Creek**	**43.66**	**241**	*e*P	**P**	**14 31 30.8**	**+2.9**
	4.7nm,1.0s,mb4.2						
STKA	**Stephens Creek**	**43.66**	**241**	P	**P**	**14 31 29.1**	**+1.2**
	2.2nm,0.7s,mb4.0,baz=20,slow=10,SNR=5.3						
STKA				LR	LR	14 46 30.8	
	comp=Z,334nm,19.9s,MS4.2,baz=208,slow=32						
WB2	**Warramunga Arr**	**49.89**	**258**	*e*P	**P**	**14 32 15.9**	**-1.2**
WRAB	**Tennant Creek**	**49.89**	**258**	*e*P	**P**	**14 32 15.2**	**-1.9**
	15nm,1.0s,mb5.0						
WRA	**Warramunga Arr**	**49.90**	**258**	P	**P**	**14 32 15.9**	**-1.3**
	3.8nm,0.6s,mb4.6,baz=96,slow=7.2,SNR=45						
WRA				LR	LR	14 52 59.6	
	comp=Z,504nm,18.3s,MS4.6,baz=85,slow=36						
ASAR	**Alice Springs**	**50.04**	**253**	P	**P**	**14 32 17.6**	**-0.6**
	14nm,0.7s,mb5.1,baz=88,slow=8.6,SNR=152						
ASAR				LR	LR	14 53 13.4	
	comp=Z,197nm,18.6s,MS4.1,baz=93,slow=36						
ASPA	**Alice Springs**	**50.04**	**253**	*e*P	**P**	**14 32 17.4**	**-0.9**
KAKA	**Kakadu**	**52.82**	**267**	*e*P	**P**	**14 32 42.0**	**+2.6**
	3.4nm,0.8s,mb4.3						
FITZ	**Fitzroy Crossi**	**58.29**	**259**	*e*P	**P**	**14 33 19.9**	**+1.1**
	2.6nm,1.2s,mb4.1						
FITZ	**Fitzroy Crossi**	**58.29**	**259**	P	**P**	**14 33 20.0**	**+1.2**
	1.1nm,0.6s,mb4.1,baz=164,slow=8.7						
SBA	**Scott Base**	**61.84**	**185**	*e*P	**P**	**14 33 41.5**	**-1.0**
	18nm,1.4s,mb5.0						
VNDA	**Vanda**	**61.97**	**186**	P	**P**	**14 33 41.8**	**-1.6**
	2.8nm,0.9s,mb4.4,baz=355,slow=6.2,SNR=13						
VNDA				LR	LR	14 55 24.5	
	comp=Z,78nm,19.9s,MS3.9,baz=28,slow=31						
VNDA	**Vanda**	**61.97**	**186**	*e*P	**P**	**14 33 41.3**	**-2.0**
	9.3nm,1.3s,mb4.8						
VNDA				LR	LR		
	comp=Z,184nm,20.0s,MS4.2						
MBWA	**Marble Bar**	**63.33**	**254**	P	**P**	**14 33 49.8**	**-3.2**
KLBR	**Kellerberrin**	**63.91**	**243**	*e*P	**P**	**14 33 56.9**	**+0.1**
	comp=Z,22nm,1.1s,mb5.1						
MUN	**Mundaring**	**65.19**	**242**	*e*P	**P**	**14 34 06.0**	**+0.9**
	comp=Z,8.6nm,0.8s,mb4.8						
CASY	**Casey**	**69.25**	**205**	P	**P**	**14 34 28.8**	**-1.3**
QSPA	**South Pole Qui**	**73.19**	**180**	⇓*i*P	**P**	**14 34 53.1**	**-0.4**
	comp=Z,22nm,1.0s,mb5.0						
QSPA				LR	LR		
	comp=Z,1μm,20.9s,MS5.2						
PET	**Petropavlovsk**	**73.78**	**343**	*e*P	**P**	**14 35 05.3**	**+7.9**
PET				*e*		14 37 50.3	
PET				*e*PS	PS	14 45 09.2	+7.2
PET				pmax	pmax		
	comp=Z,100nm,12.8s						
PET				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.2						
YSS	**Yuzh-Sakhalins**	**74.93**	**330**	P	**P**	**14 35 07.0**	**+2.8**
NVAR	**Mina Array Bea**	**75.16**	**42**	P	**P**	**14 35 05.6**	**0.0**
	comp=Z,4.1nm,1.0s,mb4.3,baz=230,slow=8.4,SNR=17						
NVAR				LR	LR	15 06 13.6	
	comp=Z,190nm,18.2s,MS4.4,baz=70,slow=34						
MNV	**Mina**	**75.25**	**42**	*e*P	**P**	**14 35 06.3**	**+0.1**
	comp=Z,6.2nm,1.1s,mb4.5						
TPH	**Tonopah**	**75.64**	**42**	*e*P	**P**	**14 35 08.2**	**-0.2**
	comp=Z,6.1nm,1.0s,mb4.5						
MSU	**Marysvale**	**79.19**	**44**	*e*P	**P**	**14 35 29.2**	**+1.1**
TMUT	**Trail Mountain**	**80.25**	**44**	*e*P	**P**	**14 35 32.3**	**-1.5**
MDJ	**Mudanjiang**	**80.41**	**322**	P	**P**	**14 35 32.6**	**-1.9**
MDJ				PCP	PcP	14 35 39.4	-2.6
MDJ				PP	PP	14 38 39.9	+0.5
MDJ				S	S	14 45 39.3	+0.1
MDJ				SCS	ScS	14 45 58.1	+0.7
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.5						
MDJ				LR	LR		
	comp=N,67nm,30.0s,MS4.0						
MDJ				LR	LR		
	comp=E,63nm,29.0s,MS4.0						
MDJ				LR	LR		
	comp=Z,89nm,21.5s						
PMR	**Palmer**	**80.47**	**11**	*e*P	**P**	**14 35 30.9**	**-3.6**
PMR				LR	LR		
	comp=Z,163nm,19.0s,MS4.4						
HLID	**Hailey**	**80.51**	**39**	*e*P	**P**	**14 35 35.1**	**+0.1**
	comp=Z,3.8nm,0.9s,mb4.3						
HLID				LR	LR		
	comp=Z,155nm,19.0s,MS4.4						
LTX	**Lajitas**	**81.11**	**56**	*e*P	**P**	**14 35 37.0**	**-1.5**
TXAR	**Lajitas Array**	**81.11**	**56**	P	**P**	**14 35 39.1**	**+0.6**
	comp=Z,2.5nm,1.0s,mb4.1,baz=217,slow=6.3,SNR=14						
TXAR				LR	LR	15 08 53.2	
	comp=Z,72nm,18.2s,MS4.1,baz=175,slow=34						
NJ2	**Nanjing**	**81.34**	**307**	*e*P	**P**	**14 35 38.1**	**-1.6**
ANMO	**Albuquerque**	**81.44**	**50**	⇓*e*P	**P**	**14 35 40.6**	**+0.4**
GDL2	**Guadalupe Moun**	**81.79**	**53**	*e*P	**P**	**14 35 42.6**	**+0.6**
MCMT	**McKenzie Canyo**	**82.15**	**39**	*e*P	**P**	**14 35 44.1**	**+0.5**
CN2	**Changchun**	**82.44**	**320**	*e*P	**P**	**14 35 43.9**	**-1.2**
MCK	**McKinley**	**82.48**	**11**	*e*P	**P**	**14 35 42.6**	**-2.3**
	comp=Z,1.3nm,0.4s,mb4.2						
CPRX	**Cap Rock**	**82.52**	**52**	*e*P	**P**	**14 35 45.9**	**+0.1**
QLMT	**Earthquake Lak**	**83.00**	**39**	*e*P	**P**	**14 35 48.4**	**+0.4**
BW06	**Boulder Array**	**83.09**	**42**	*e*P	**P**	**14 35 48.5**	**-0.1**
	comp=Z,12nm,1.6s,mb4.7						
PDAR	**Pinedale Array**	**83.09**	**42**	P	**P**	**14 35 49.2**	**+0.7**
	comp=Z,1.8nm,0.8s,mb4.2,baz=240,slow=2.6,SNR=12						
PDAR				LR	LR	15 09 29.1	
	comp=Z,124nm,19.7s,MS4.3,baz=57,slow=33						
SDCO	**Great Sand Dun**	**83.41**	**47**	*e*P	**P**	**14 35 50.2**	**0.0**
COLA	**College**	**83.72**	**11**	*e*P	**P**	**14 35 54.6**	**+3.4**
COLA	**College**	**83.72**	**11**	P	**P**	**14 35 49.6**	**-1.6**
HRY	**Holter Researc**	**83.77**	**37**	*e*P	**P**	**14 35 51.2**	**-0.7**
ILAR	**Eielson Array**	**83.79**	**11**	P	**P**	**14 35 52.5**	**+0.8**
	comp=Z,1.1nm,0.7s,mb4.1,baz=226,slow=5.9,SNR=22						
ILAR				LR	LR	15 09 46.5	
	comp=Z,105nm,18.7s,MS4.2,baz=352,slow=33						
QIZ	**Qiongzhong**	**83.80**	**292**	*e*P	**P**	**14 35 51.5**	**-1.2**
QIZ				S	S	14 46 12.0	-2.4
MAW	**Mawson**	**86.54**	**199**	P	**P**	**14 36 05.9**	**+0.7**
	comp=Z,2.3nm,0.6s,mb4.6,baz=342,slow=3.1,SNR=5.6						
BJI	**Beijing**	**86.74**	**313**	P	**P**	**14 36 10.3**	**+3.4**
BJI				AMB	AMB		
	comp=Z,18nm,1.1s,mb5.2						
WMOK	**Wichita Mounta**	**87.08**	**53**	P	**P**	**14 36 07.2**	**-1.5**
GYA	**Guiyang**	**89.06**	**298**	P	**P**	**14 36 20.9**	**+2.5**
GYA				AP	pP	14 36 25.8	+4.2
GYA				XP	sP	14 36 27.6	+5.0
GYA				S	S	14 47 10.3	+5.6
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb5.1						
YAK	**Yakutsk**	**90.59**	**337**	*e*P	**P**	**14 36 27.5**	**+2.9**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb5.0						
YAK	**Yakutsk**	**90.59**	**337**	*e*P	**P**	**14 36 27.5**	**+2.9**
	comp=Z,7.0nm,0.9s,mb5.0						
SYO	**Syowa Base**	**91.25**	**191**	⇓P	**P**	**14 36 26.9**	**-0.6**
YKA	**Yellowknife Ar**	**91.28**	**23**	LR	LR	15 12 41.2	
	comp=Z,94nm,18.3s,MS4.3,baz=315,slow=32						
VNA3	**Neumayer Olymp**	**91.38**	**175**	⇓*i*	**P**	**14 36 30.0**	**+1.9**
VNA3	**Neumayer Olymp**	**91.38**	**175**	⇑*i*	pP	14 36 39.7	+8.4
VNA3	**Neumayer Olymp**	**91.38**	**175**	⇑*i*	sP	14 36 43.6	+11
VNA3	**Neumayer Olymp**	**91.38**	**175**	⇑*i*S	S	14 47 24.6	0.0
VNA3	**Neumayer Olymp**	**91.38**	**175**	⇑*i*P	**P**	**14 36 28.9**	**+0.8**
VNA3				*i* S	S	14 47 24.6	0.0
SNAA	**Sanae**	**91.44**	**177**	P	**P**	**14 36 27.5**	**-0.8**
SNAA	**Sanae**	**91.44**	**177**	⇑*i*	**P**	**14 36 28.3**	**0.0**
SNAA	**Sanae**	**91.44**	**177**	⇑*i*	pP	14 36 38.2	+6.7
SNAA	**Sanae**	**91.44**	**177**		sP	14 36 42.5	+10
SNAA	**Sanae**	**91.44**	**177**	⇑*i*P	**P**	**14 36 28.3**	**0.0**
VNA2	**Neumayer--Watz**	**91.88**	**175**	⇓*i*P	**P**	**14 36 32.7**	**+2.3**
VNA2	**Neumayer--Watz**	**91.88**	**175**	⇑*i*	**P**	**14 36 33.7**	**+3.3**
VNA2	**Neumayer--Watz**	**91.88**	**175**	⇑*i*	pP	14 36 42.8	+9.2
VNA2	**Neumayer--Watz**	**91.88**	**175**	⇑*i*	sP	14 36 47.1	+12
VNA2	**Neumayer--Watz**	**91.88**	**175**	⇑*i*S	S	14 47 29.9	+0.9
KMI	**Kunming**	**92.00**	**296**	*e*P	**P**	**14 36 35.0**	**+3.0**
KMI				SKS	SKS	14 47 01.4	-6.9
KMI				S	S	14 47 25.0	-6.1
KMI				SS	SS	14 53 45.3	+2.0
KMI				SSS	SSS	14 57 20.6	-0.7
KMI				AMB	AMB		
	comp=Z,6.0nm,1.3s,mb4.8						
KMI				LR	LR		
	comp=Z,95nm,36.0s,MS4.0						
VNA1	**Neumayer--Stat**	**92.07**	**175**	⇓*i*P	**P**	**14 36 33.1**	**+1.8**
VNA1	**Neumayer--Stat**	**92.07**	**175**	⇑*i*	**P**	**14 36 34.1**	**+2.8**
VNA1	**Neumayer--Stat**	**92.07**	**175**	⇓*i*	pP	14 36 43.6	+9.1
VNA1	**Neumayer--Stat**	**92.07**	**175**	⇑*i*	sP	14 36 47.8	+12
CM31	**Chiang Mai Arr**	**93.43**	**288**	P	**P**	**14 36 38.5**	**-0.2**
CMAR	**Chiang Mai Arr**	**93.43**	**288**	P	**P**	**14 36 42.2**	**+3.5**
	comp=Z,1.9nm,0.8s,mb4.6,baz=95,slow=2.0,SNR=15						
CMAR				LR	LR	15 14 11.5	
	comp=Z,94nm,19.6s,MS4.2,baz=120,slow=33						
LZH	**Lanzhou**	**94.39**	**306**	*e*P	**P**	**14 36 41.0**	**-1.7**
LZH				PP	PP	14 40 30.1	-2.6
LZH				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb5.1						
LZH				AMB	AMB		
	comp=Z,72nm,6.6s						
ULM	**Lac du Bonnet**	**94.82**	**39**	LR	LR	15 19 02.7	
	comp=Z,225nm,18.0s,MS4.7,baz=342,slow=35						
SONM	**Songino Array**	**96.18**	**318**	P	**P**	**14 36 55.7**	**+5.0**
	comp=Z,0.9nm,1.1s,mb4.1,baz=117,slow=6.4,SNR=2.6						
TIXI	**Tiksi**	**96.50**	**344**	*e*P	**P**	**14 36 53.6**	**+2.0**
GTA	**Gaotai**	**98.38**	**309**	*e*P	**P**	**14 37 04.5**	**+3.7**
GTA				XP	sP	14 37 10.9	+5.9
GTA				AMB	AMB		
	comp=Z,3.0nm,2.0s,mb4.5						
LPAZ	**La Paz**	**98.96**	**110**	LR	LR	15 13 40.3	
	comp=Z,78nm,18.2s,MS4.2,baz=240,slow=30						
KURK	**Kurchatov**	**114.48**	**318**	*i* PKIKP	PKPdf	14 42 04.0	-0.4
BVAR	**Borovoye Array**	**119.26**	**322**	PKP	PKPdf	14 42 13.2	-0.4
	comp=Z,1.6nm,0.8s,baz=90,slow=1.5,SNR=8.4						
FINES	**FINESS Array B**	**133.44**	**348**	*i* PKIKP	PKPdf	14 42 46.1	+5.5
FINES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
AKASG	**Malin Array Be**	**141.82**	**337**	PKP	PKPdf	14 42 54.5	-1.6
	comp=Z,2.3nm,0.9s,baz=36,slow=3.4,SNR=2.2						
ELZG	**Elazig**	**144.68**	**314**	*i* P	PKPbc	14 43 03.2	+4.9
KWP	**Kalwaria**	**144.92**	**342**	PKP	PKPdf	14 43 00.6	-0.9
DJNS	**Zahran al Janu**	**145.13**	**277**	P	PKPbc	14 43 04.3	+4.2
OJC	**Ojcow**	**145.16**	**346**	*e*PKIKP	PKPdf	14 43 01.5	-0.4
OJC	**Ojcow**	**145.16**	**346**	*e*PKP	PKPdf	14 43 01.5	-0.4
KMBO	**Kilima Mbogo**	**145.22**	**242**	PKPbc	PKPbc	14 43 04.0	+3.5
	comp=Z,8.2nm,0.9s,baz=62,slow=4.5,SNR=14						
KMBO	**Kilima Mbogo**	**145.22**	**242**	*e*PKP	PKPdf	14 43 01.9	-1.3
TATS	**Tathlith**	**145.28**	**280**	P	PKPbc	14 43 04.4	+4.0
KSP	**Ksiaz**	**145.29**	**350**	*e*PKP	PKPdf	14 43 02.0	-0.1
KSP				*e*		14 43 05.5	
CLL	**Collm**	**145.30**	**353**	*i* PKIKP	PKPdf	14 43 02.1	0.0
	comp=Z,logA/T=1.2						
CLL				*e*		14 43 20.0	
CLL	**Collm**	**145.30**	**353**	*i* PKIKP	PKPdf	14 43 02.1	0.0

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLL				pmax	pmax		
	comp=Z,17nm,1.2s						
AFFS	‘Afif	145.60	288	P	PKPbc	14 43 05.0	+3.9
BRG	Berggiesshubel	145.61	352	*e*PKIKP	PKPdf	14 43 03.9	+1.2
BRG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
UPC	Upice	145.66	350	*e*PKP	PKPdf	14 43 04.1	+1.3
KOLS	Kolonicke sedl	145.67	342	*e*PKP	PKPdf	14 42 59.0	-3.8
KOLS				*e*		14 43 05.7	
KOLS				*e*		14 43 10.0	
KOLS				*e*		14 43 16.0	
KOLS	Kolonicke sedl	145.67	342	*e*PKHKP		14 42 59.0	
KOLS				*e*		14 43 05.7	
KOLS				*e*		14 43 16.0	
BOYT	Boyabat	145.73	321	*i* P	PKPbc	14 43 05.6	+4.6
DPC	Dobruska-Polom	145.76	349	*e*PKP	PKPdf	14 43 04.3	+1.4
NIE	Niedzica	145.77	344	*e*PKP	PKPdf	14 43 04.3	+1.3
PVCC	Panska Ves	145.87	351	*e*PKP	PKPdf	14 43 04.2	+1.1
OKC	Ostrava-Krasne	145.89	347	*e*PKP	PKPdf	14 43 03.9	+0.7
MORC	Moravsky Berou	146.07	348	PKP	PKPdf	14 43 01.0	-2.5
MOX	Moxa	146.09	355	*i* P	PKPbc	14 43 01.9	+0.4
	comp=Z,logA/T=1.4						
MOX	Moxa	146.09	355	*e*PKHKP		14 43 01.9	
MOX				pmax	pmax		
	comp=Z,44nm,1.9s						
HILS	Ha’il	146.21	294	P	PKPbc	14 43 07.4	+4.8
GZT	Gaziantep	146.22	313	*i* P	PKPbc	14 43 06.9	+4.6
PRU	Pruhonice	146.40	351	*e*PKP	PKPdf	14 43 05.6	+1.5
PRU				*e*x	x	14 43 11.6	
NAMS	An Nimas	146.47	279	P	PKPbc	14 43 08.9	+5.5
KECS	Kecovo	146.59	344	*e*PKP	PKPdf	14 43 05.4	+1.0
BAIF	Baives	146.81	3	*e*PKP1	PKPbc	14 43 10.4	+7.2
BLJS	Baljurashi	147.06	281	P	PKPdf	14 43 10.2	+4.2
GRF	Grafenberg Arr	147.07	355	*e*PKP2	PKPab	14 43 11.0	+3.1
ELDT	Eldivan	147.18	321	*i* P	PKPdf	14 43 09.3	+3.7
PSZ	Piszkesteto	147.26	344	*e*pPKP/A		14 43 16.3	
PSZ	Piszkesteto	147.26	344	PKP	PKPdf	14 43 06.4	+0.9
AVNT	Avonos	147.30	317	*i* P	PKPdf	14 43 09.6	+3.7
KHC	Kasperske Hory	147.37	352	*e*PKP	PKPdf	14 43 08.9	+3.2
KHC				x	x	14 43 21.0	
BRTR	Keskin Array B	147.52	320	PKPbc	PKPdf	14 43 08.8	+2.5
	comp=Z,4.7nm,0.9s,baz=121,slow=1.9,SNR=18						
COBT	Iskenderun	147.54	313	*i* P	PKPdf	14 43 10.4	+4.0
FLN	La Foliniere	147.60	9	*e*PKP1	PKPdf	14 43 09.5	+3.4
GERES	GERESS Array B	147.63	352	PKPbc	PKPdf	14 43 08.5	+2.4
	comp=Z,3.0nm,0.8s,baz=45,slow=1.9,SNR=14						
ZST	Bratislava	147.67	347	*e*PKP	PKPdf	14 43 08.9	+2.7
LDF	La Druitiere	147.82	9	*e*PKP1	PKPdf	14 43 10.3	+3.9
GRR	Gorron	147.90	10	*e*PKP1	PKPdf	14 43 11.4	+4.8
SGKT	Sivrigoynuk	147.94	323	*i* P	PKPdf	14 43 09.9	+3.0
MEZF	Maizieres J’vi	148.40	2	*e*PKP1	PKPdf	14 43 11.7	+4.3
HENT	Hendek	148.44	324	*i* P	PKPdf	14 43 07.8	+0.1
CDF	Champ du Feu	148.53	360	*e*PKP1	PKPdf	14 43 11.2	+3.6
KBRS	Khaybar	148.73	292	P	PKPdf	14 43 14.0	+5.4
ARSA	Arzberg	148.88	349	⇓*i*P	PKPdf	14 43 18.8	+11
ASF	Jabal al Asfar	148.95	305	PKPbc	PKPdf	14 43 10.6	+1.8
	comp=Z,2.0nm,0.5s,baz=316,slow=2.3,SNR=5.3						
MEST	Erdemli	148.97	315	*i* P	PKPdf	14 43 13.2	+4.5
MOTA	Moosalm	149.41	355	⇑*i*P	PKPdf	14 43 14.3	+5.3
WTTA	Wattenberg	149.44	354	⇓*i*P	PKPdf	14 43 12.7	+3.6
DAVA	Damuels	149.56	356	⇑*i*P	PKPdf	14 43 13.6	+4.3
LOR	Lormes	149.56	4	*e*PKP1	PKPdf	14 43 13.8	+4.5
	comp=Z,35nm,1.2s						
SSF	Saint Saulge	149.74	5	*e*PKP1	PKPdf	14 43 15.0	+5.4
	comp=Z,46nm,1.2s						
MFF	Saint Martin d	149.75	10	*e*PKP1	PKPdf	14 43 14.6	+5.0
AVF	Avril sur Loir	150.00	5	*e*PKP1	PKPdf	14 43 15.9	+5.9
CABF	La Chapelle	150.32	1	*e*PKP1	PKPdf	14 43 16.2	+5.7
	comp=Z,57nm,1.4s						
TCF	Toulx Ste Croi	150.39	7	*e*PKP1	PKPdf	14 43 18.0	+7.4
JMQS	Jabal Moqyreh	150.91	299	P	PKPdf	14 43 21.9	+10
DBAS	Duba	151.29	296	P	PKPdf	14 43 19.8	+7.3
LPL	La Plagne	151.43	0	*e*PKP1	PKPdf	14 43 21.7	+10
	comp=Z,34nm,1.3s						
LPG	La Plagne	151.45	0	*e*PKP1	PKPdf	14 43 22.0	+10
	comp=Z,27nm,1.2s						
AYUS	‘Aynunah	151.63	298	P	PKPdf	14 43 23.9	+11
BDAS	Al Bad‘	151.69	299	P	PKPdf	14 43 20.4	+7.3
MBDF	Montbardon	152.22	0	*e*PKP1	PKPdf	14 43 22.9	+10
SBF	Sospel	153.08	359	*e*PKP1	PKPdf	14 43 24.3	+10
	comp=Z,56nm,0.9s						

IDC 17 14:34:11.3±3.9**, 0.54N×125.25E, mb3.4**/3**, mb1 3.7**/3**, mb1mx3.4**/15**, Error ellipse: s-maj=191.0km s-min=26.1km az=53.0, Low Confidence, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.22	157	P	P	14 39 09.7	-1.5
	0.4nm,0.3s,baz=330,slow=11,SNR=19						
WB2	Warramunga Arr	22.22	157	*e*P	P	14 39 09.7	-1.5
ASAR	Alice Springs	25.48	161	P	P	14 39 41.4	-1.6
	0.4nm,0.7s,baz=354,slow=7.7,SNR=10						
CMAR	Chiang Mai Arr	31.38	306	P	P	14 40 34.1	-2.1
	0.3nm,0.3s,baz=101,slow=9.2,SNR=5.0						

LDG 17 15:20:07.7±0.1, 46.30N×7.52E, h2km, Md2.1/3, Ml2.0/9, Error ellipse: s-maj=1.0km s-min=0.7km az=105.0
ZUR 17 15:20:07.5, 46.30N×7.52E, h5km, ML1.5/8
ISC 17 15:20:06.8±0.5**, 46.30N**±0.02×**7.51E**±0.04**, h5km, n17, σ1ş16**/33**, 3C-2D, Switzerland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBD	Leukerbad	0.12	43	⇑*i*Pg	Pg	15 20 10.3	+1.0
	6.7nm,0.2s						
LKBD				*i* Sg	Sg	15 20 12.0	+1.0
	6.7nm,0.2s						
SENIN	Lac Senin	0.16	293	⇓*i*Pg	Pg	15 20 11.1	+1.0
	6.4nm,0.3s						
SENIN				*i* Sg	Sg	15 20 13.5	+1.2
	6.4nm,0.3s						
DIX	Grande Dixence	0.23	197	⇑*i*Pg	Pg	15 20 12.7	+1.2
	3.6nm,0.4s						
DIX				*i* Sg	Sg	15 20 15.8	+1.2
	3.6nm,0.4s						
GRYON	Gryon	0.28	260	*e*Pg	Pg	15 20 13.4	+0.9
	1.4nm,0.3s						
GRYON				*e*Sg	Sg	15 20 17.5	+1.2
	1.4nm,0.3s						
WIMIS	Wimmis	0.37	12	*e*Pg	Pg	15 20 15.1	+0.8
	1.3nm,0.2s						
WIMIS				*e*Sg	Sg	15 20 20.2	+0.9
	1.3nm,0.2s						
AIGLE	Aigle	0.39	276	*e*Pg	Pg	15 20 15.8	+1.2
	2.0nm,0.5s						
MMK	Mattmark	0.40	128	⇓*i*Pg	Pg	15 20 15.5	+0.6
	0.4nm,0.2s						
SALAN	Lac Salanfe	0.40	247	⇑*i*Pg	Pg	15 20 15.8	+0.9
	0.6nm,0.3s						
SALAN				*i* Sg	Sg	15 20 21.2	+0.9
	0.6nm,0.3s						
LPL	La Plagne	0.95	215	*e*Pg	Pg	15 20 26.0	+0.1
LPL				*e*Sg	Sg	15 20 38.6	0.0
	2.2nm,0.3s						
LPG	La Plagne	0.96	214	*e*Pg	Pg	15 20 26.3	+0.3
LPG				*e*Sg	Sg	15 20 38.6	-0.3
	2.1nm,0.2s						
CABF	La Chapelle	1.03	288	*e*Pg	Pg	15 20 27.6	+0.2
CABF				*e*Pn	Pn	15 20 28.0	+0.2
CABF				*e*Sg	Sg	15 20 41.0	-0.2
	4.3nm,0.3s						
HINF	Hinteralfeld	1.58	344	*e*Pg	Pg	15 20 36.9	-1.5
HINF				*e*Sg	Sg	15 20 57.9	-1.6
	4.9nm,0.2s						
MBDF	Montbardon	1.66	199	*e*Pg	Pg	15 20 38.6	-1.3
MBDF				*e*Sg	Sg	15 21 00.4	-1.6
	2.3nm,0.4s						
ORIF	Oris-en-Rattie	1.79	220	*e*Pg	Pg	15 20 41.5	-1.1
ORIF				*e*Sg	Sg	15 21 04.3	-2.3
	1.6nm,0.3s						
CDF	Champ du Feu	2.12	356	*e*Pn	Pn	15 20 42.3	-1.1
CDF				*e*Pg	Pg	15 20 47.2	-1.9
CDF				*e*Sg	Sg	15 21 14.2	-3.2
	1.0nm,0.2s						
VIVF	Saint-Julien-l	2.46	235	*e*Pn	Pn	15 20 47.1	-1.2
VIVF				*e*Sg	Sg	15 21 24.9	-3.8
	1.3nm,0.2s						
LOR	Lormes	2.69	292	*e*Sg	Sg	15 21 32.5	-3.8

IDC 17 15:35:43.0±0.8, 35.21N×77.72E, mb3.9/12, mb1 4.2/14, mb1mx4.1/21, ML4.0/2, MS3.4/3, Ms1 3.5/3, ms1mx2.8/27, Error ellipse: s-maj=27.7km s-min=14.6km az=43.0
NNC 17 15:35:44.8±3.5, 35.00N×78.54E, h63km±28km, mpv4.6, Error ellipse: s-maj=38.1km s-min=15.9km az=30.0
NEIC 17 15:35:45.8±0.6, 35.20N×77.67E, h15km, mb4.3/8, Error ellipse: s-maj=14.2km s-min=8.7km az=53.0
BJI 17 15:35:46.7, 35.39N×77.94E, h9km, mB4.7, mb4.3, ML4.7, Ms4.1, Msz4.0
MOS 17 15:35:48.1±1.8, 35.32N×77.62E, h45km, mb4.3/10, Error ellipse: s-maj=17.8km s-min=7.4km az=98.9
ISC 17 15:35:45.6±1.3**, 35.31N**±0.03×**77.85E**±0.05**, h26km**±11km**, n82, σ1ş25**/94**, mb4.0**/17**, MS3.4**/3**, 4C-7D, Eastern Kashmir**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	Thein Dam	3.37	212	*e*	Pn	15 36 42.1	+4.1
BHK	Bhakra	4.06	198	*e*PG	Pn	15 37 07.2	+19
BHK				*e*		15 37 55.5	
CHCP	Chirah Chowk	4.13	248	P	Pn	15 36 50.2	+1.4
KSH	Kashi	4.46	341	P	Pn	15 36 58.3	+4.9
KSH				S	Sn	15 37 51.3	+6.1
KSH				Smax			
	comp=N,830nm,1.1s						
KSH				Smax			
	comp=E,2µm,1.7s						
JOSI	Joshimath	4.95	163	*e*P	Pn	15 37 02.6	+2.2
JOSI				AML	AML	15 38 29.4	
	comp=N,276nm,0.8s						
JOSI				AML	AML	15 38 30.1	
	comp=E,336nm,1.4s						
DDI	Dehra Dun	4.98	178	*e*P	Pn	15 37 02.6	+1.9
DDI				*e*		15 38 19.0	
CEP	Cherat	5.12	255	P	Pn	15 37 02.6	-0.2
CEP				S	Sn	15 38 22.0	+20
THW	Thamme Wali	5.66	245	P	Pn	15 37 09.6	-0.8
SBDP	Sheikh Budin	6.59	245	P	Pn	15 37 19.3	-4.2
NDI	New Delhi	6.63	185	*e*P	Pn	15 37 24.5	+0.5
NDI				*e*		15 39 14.0	
NDI				*e*		15 39 14.0	
DRP	Derazinda	7.31	243	P	Pn	15 37 32.2	-1.4
KHET	Khetri	7.42	194	*e*P	Pn	15 37 36.0	+0.9
AAK	Ala-Archa	7.77	341	⇓Pn	Pn	15 37 41.8	+1.8
	comp=E,26nm,0.8s						
AAK				⇓Sn	Sn	15 39 14.5	+6.5
	comp=E,60nm,1.1s						
AAK				⇑Lg		15 39 44.1	
	comp=E,140nm,1.1s						
AAK	Ala-Archa	7.77	341	*d i*P	Pn	15 37 40.6	+0.6
FRU	Bishkek	7.92	342	*e*P	Pn	15 37 44.0	+1.8
FRU				*e*		15 39 04.0	
FRU				pmax	pmax		
	comp=Z,50nm,2.0s						
FRU				pmax	pmax		
	comp=N,900nm,2.0s						
KOLN	Koldanda	8.97	145	*e*P	P	15 37 57.5	+0.8
	comp=N,37nm,0.6s						
KOLN				*e*S	Sn	15 39 39.3	+1.3
AJM	Ajmer	9.22	198	*i* P	P	15 38 00.0	-0.2
AJM				*i* S	Sn	15 39 44.0	-0.2
GKN	Gorkha	9.30	140	*e*P	P	15 38 00.9	-0.3
	comp=N,76nm,0.5s						
KKN	Kakani	9.81	138	*e*P	P	15 38 07.0	-1.3
	comp=N,33nm,0.6s						
DMN	Daman	9.86	139	*e*P	P	15 38 09.0	0.0
	comp=N,23nm,0.4s						
PKI	Pulchoki	10.05	138	*e*P	P	15 38 10.6	-1.0
	comp=N,33nm,0.6s						
PKI				*e*S	S	15 40 02.9	-1.7
GUN	Gumba	10.06	135	*e*P	P	15 38 10.9	-0.8
	comp=N,41nm,0.4s						
MK31	Makanchi Array	11.95	15	⇓Pn	P	15 38 35.8	-1.6
	baz=195,slow=12,SNR=85						
MK31				⇓Lg		15 40 43.8	
	baz=189,slow=19,SNR=15						
MKAR	Makanchi Array	11.95	15	*i* P	P	15 38 35.8	-1.6
MKAR				pmax	pmax		
	comp=Z,469nm,0.4s						
BHPL	Bhopal	12.03	182	*e*P	P	15 38 36.8	-1.8
BHPL				*e*		15 40 46.0	
LSA	Lhasa	12.54	113	P	P	15 38 45.0	-0.3
KURK	Kurchatov	15.41	2	⇓Pn	P	15 39 20.9	-2.0
	comp=Z,3.2nm,1.3s,baz=186,slow=17,SNR=5.8						
KURK	Kurchatov	15.41	2	P	P	15 39 21.1	-1.8
KURK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SHL	Shillong	15.50	125	*e*P	P	15 39 22.7	-1.6
SHL				*e*		15 42 07.2	
POO	Poona	17.09	193	*e*P	P	15 39 45.0	+0.5
GTA	Gaotai	17.92	70	*e*P	P	15 39 59.0	+4.2
GTA				AP		15 40 04.6	
GTA				XP		15 40 07.8	
GTA				AMB	AMB		
	comp=Z,5.0nm,1.1s						
GTA				AMB	AMB		
	comp=Z,258nm,6.5s						
GTA				LR	LR		
	comp=N,245nm,7.6s						
GTA				LR	LR		
	comp=E,262nm,6.9s						
GTA				LR	LR		
	comp=Z,248nm,6.8s						
BVA0	Borovoye Array	18.48	346	Pn	P	15 40 01.8	+0.2
	comp=Z,1.1nm,0.7s,baz=153,slow=14,SNR=51						
BVA0				⇓Lg		15 45 24.5	
BVA0	Borovoye Array	18.48	346	*i* P	P	15 40 01.8	+0.1
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BVA0	Borovoye Array	18.48	346	*i* P	P	15 40 01.8	+0.1
	comp=Z,1.0nm,0.8s						
BVAR	Borovoye Array	18.48	346	P	P	15 40 01.8	+0.1
	comp=Z,1.2nm,0.3s,baz=153,slow=13,SNR=30						
BRVK	Borovoye	18.54	346	⇑Pn	P	15 40 02.3	0.0
	comp=Z,13nm,1.6s						
BRVK	Borovoye	18.54	346	*e*P	P	15 40 02.8	+0.5
	comp=Z,10nm,0.8s						
ZAL	Zalesovo	19.25	13	P	P	15 40 09.6	-1.2
	comp=Z,0.8nm,0.3s,baz=254,slow=7.6,SNR=8.7						
ZAL				LR	LR	15 48 51.4	
	comp=Z,114nm,18.8s,baz=175,slow=41						
ZAL	Zalesovo	19.25	13	*i* P	P	15 40 11.4	+0.6
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NVS	Novosibirsk	19.89	9	*e*P	P	15 40 16.0	-1.9
NVS				*e*S	S	15 44 02.6	+7.8
NVS				pmax	pmax		
	comp=Z,21nm,1.4s						
NVS				pmax	pmax		
	comp=N,36nm,1.5s						
NVS				smax			
	comp=N,21nm,1.8s						
NVS	Novosibirsk	19.89	9	*e*P	P	15 40 16.0	-1.9
	comp=N,21nm,1.4s						
NVS				*e*S	S	15 44 02.6	+7.8
ZAK	Zakamensk	23.81	43	*e*P	P	15 41 02.2	+5.1
SONM	Songino Array	24.59	51	P	P	15 41 07.1	+2.3
	comp=N,4.1nm,0.9s,mb4.0,baz=250,slow=9.3,SNR=11						
ARU	Arti	24.87	334	⇑*i*P	P	15 41 08.0	+0.7
ARU				*e*		15 41 39.1	
ARU				*e*S	S	15 45 23.1	-2.8
ARU				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.2						
ARU	Arti	24.87	334	⇑*i*P	P	15 41 08.0	+0.7
	comp=Z,5.0nm,0.6s,mb4.2						
ARU				*e*		15 41 39.1	
ARU				*e*S	S	15 45 23.1	-2.8
CMAR	Chiang Mai Arr	25.12	126	P	P	15 41 11.4	+1.2
	comp=Z,0.6nm,0.5s,mb3.4,baz=316,slow=10.0,SNR=8.5						
CMAR				LR	LR	15 51 16.8	
	comp=Z,87nm,18.1s,MS3.3,baz=197,slow=37						
CMAR	Chiang Mai Arr	25.12	126	P	P	15 41 11.4	+1.2
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CMAR				MLR	MLR		
	comp=Z,87nm,18.1s						
GNI	Garni	26.54	290	*e*P	P	15 41 28.8	+5.7
GNI				pmax	pmax		
	comp=Z,10.0nm,1.3s						
ENH	Enshi	27.00	92	P	P	15 41 28.2	+0.8
SOC	Sochi	30.37	297	*e*P	P	15 42 01.3	+3.7
SOC				*e*		15 43 06.9	
SOC				*e*S	S	15 46 53.5	-1.9
SOC				*e*SS	SS	15 48 28.3	-7.2
SOC				pmax	pmax		
	comp=N,14nm,0.8s						
SOC				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.8						
SOC				pmax	pmax		
	comp=E,9.0nm,0.6s						
SOC				MLR	MLR		
	comp=Z,139nm,20.0s,MS3.6						
SOC				MLR	MLR		
	comp=N,194nm,23.0s,MS3.8						
SOC				MLR	MLR		
	comp=E,129nm,19.0s,MS3.8						
SOC	Sochi	30.37	297	*e*P	P	15 42 01.3	+3.7
	comp=E,15nm,0.8s,mb4.8						
SOC				*e*		15 43 06.9	
SOC				*e*S	S	15 46 53.5	-1.9
SOC				*e*SS	SS	15 48 28.3	-7.2
SOC				LR	LR		
	comp=Z,140nm,20.0s,MS3.6						
BRTR	Keskin Array B	35.08	291	P	P	15 42 38.4	-0.3
	comp=Z,0.9nm,0.6s,mb3.9,baz=112,slow=8.4,SNR=6.4						
BRTR	Keskin Array B	35.08	291	P	P	15 42 38.4	-0.2
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SSE	Sheshan	36.29	84	P	P	15 42 53.3	+4.3
AKASG	Malin Array Be	38.02	309	P	P	15 43 01.9	-1.4
	comp=Z,0.4nm,0.3s,mb3.6,baz=75,slow=8.3,SNR=5.8						
JOF	Joensuu	39.73	329	*e*p	P	15 43 17.6	+0.2
FINES	FINESS Array B	41.60	325	P	P	15 43 33.0	+0.2
	comp=Z,1.6nm,0.4s,mb4.0,baz=110,slow=8.2,SNR=18						
FINES	FINESS Array B	41.60	325	P	P	15 43 33.0	+0.3
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KAF	Kangasniemi	41.67	326	*e*p	P	15 43 34.0	+0.7
YAK	Yakutsk	41.78	34	*e*P	P	15 43 36.0	+1.8
ARCES	ARCESS Array B	44.41	337	P	P	15 43 55.6	+0.1
	comp=Z,4.3nm,0.8s,mb4.2,baz=106,slow=8.3,SNR=9.6						
ARCES	ARCESS Array B	44.41	337	P	P	15 43 55.6	+0.1
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TIXI	Tiksi	44.87	20	*e*P	P	15 44 02.0	+2.8
TIXI				pmax	pmax		
	comp=Z,8.0nm,2.2s,mb4.2						
TIXI				MLR	MLR		
	comp=Z,100nm,6.0s						
TIXI	Tiksi	44.87	20	*e*P	P	15 44 02.0	+2.8
	comp=Z,8.0nm,2.2s,mb4.2						
GERES	GERESS Array B	48.12	307	P	P	15 44 24.3	-0.9
	comp=Z,0.2nm,0.5s,mb3.4,baz=265,slow=31,SNR=2.4						
KHC	Kasperske Hory	48.16	307	*e*P	P	15 44 21.5	-4.0
NB2	NORSAR Subarra	48.66	323	P	P	15 44 28.4	-0.7
	comp=Z,0.9nm,0.5s,mb4.1,baz=91,slow=7.9						
NOA	NORSAR Array B	48.66	323	P	P	15 44 28.0	-1.1
	comp=Z,1.5nm,0.7s,mb4.1,baz=91,slow=7.6,SNR=6.8						
NOA				LR	LR	16 06 01.8	
	comp=Z,33nm,18.7s,MS3.4,baz=95,slow=37						
NOA	NORSAR Array B	48.66	323	P	P	15 44 28.0	-1.1
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,33nm,18.7s						
NOA	NORSAR Array B	48.66	323	P	P	15 44 28.0	-1.1
NOA				LR	LR	16 06 01.8	
COLA	College	73.95	19	*e*P	P	15 47 23.1	+3.2
COLA	College	73.95	19	*e*P	P	15 47 23.2	+3.2
	comp=Z,2.0nm,0.8s,mb4.1						
INK	Inuvik	74.07	12	P	P	15 47 19.2	-1.3
	comp=Z,2.3nm,1.0s,mb4.1,baz=41,slow=7.5,SNR=5.6						
INK	Inuvik	74.07	12	P	P	15 47 19.2	-1.3
INK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
INK	Inuvik	74.07	12	P	P	15 47 19.8	-0.8
ILAR	Eielson Array	74.28	18	P	P	15 47 23.4	+1.6
	comp=Z,0.8nm,0.7s,mb3.7,baz=327,slow=5.1,SNR=12						
ILAR	Eielson Array	74.28	18	P	P	15 47 23.4	+1.5
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	Warramunga Arr	76.72	126	P	P	15 47 35.5	-1.1
	comp=Z,1.2nm,0.8s,mb3.9,baz=312,slow=4.9,SNR=16						
WRA	Warramunga Arr	76.72	126	P	P	15 47 35.5	-1.1
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRAB	Tennant Creek	76.72	126	*e*P	P	15 47 36.9	+0.3
	comp=Z,4.0nm,1.0s,mb4.3						
WB2	Warramunga Arr	76.73	126	*e*P	P	15 47 35.9	-0.8
ASAR	Alice Springs	79.10	129	P	P	15 47 49.6	0.0
	comp=Z,1.2nm,0.6s,mb4.0,baz=315,slow=5.5,SNR=30						

IDC 17 15:44:52.0±42.0**, 17.08S×169.89W, mb4.3**/3**, mb1 4.5**/3**, mb1mx3.9**/14**, Error ellipse: s-maj=824.0km s-min=177.4km az=81.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	46.17	242	P	P	15 53 19.1	-1.4
	1.4nm,0.6s,baz=82,slow=12,SNR=7.1						
WB2	Warramunga Arr	52.75	258	*e*P	P	15 54 08.9	-2.4
WRA	Warramunga Arr	52.76	258	P	P	15 54 08.7	-2.6
	1.9nm,0.3s,baz=98,slow=6.6,SNR=104						
ASAR	Alice Springs	52.82	253	P	P	15 54 09.8	-2.0
	4.4nm,0.6s,baz=89,slow=8.4,SNR=95						
ASPA	Alice Springs	52.82	253	*e*P	P	15 54 10.2	-1.6
KAKA	Kakadu	55.78	266	*e*P	P	15 54 39.1	+5.6
	3.6nm,0.8s						

OTT 17 15:59:25.0±0.2**, 52.77N×67.34W, MN2.9**/10**, Blast, Mount Wright, Qc Mining explosion., Northern Quebec**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	Schefferville	2.09	8	PN	Pn	16 00 00.9	-0.7
SCHQ				SG	Sg	16 00 30.4	-4.1
SCHQ				Trac		16 00 31.6	
	comp=Z,59nm,0.2s						
MNQ	Manicouagan	2.41	202	PN	Pn	16 00 05.5	-0.8
MNQ				SG	Sg	16 00 38.4	-6.9
MNQ				Trac		16 00 41.8	
	comp=Z,28nm,0.2s						
SMQ	Clarke City	2.58	171	PN	Pn	16 00 07.9	-0.8
SMQ				SN	Sn	16 00 39.2	-2.0
SMQ				Trac		16 00 50.0	
	comp=Z,19nm,0.2s						
ICQ	Pointe Anglais	3.25	179	PN	Pn	16 00 16.5	-1.7
ICQ				SN	Sn	16 00 55.0	-3.2
ICQ				Trac		16 01 09.2	
	comp=Z,14nm,0.2s						
CNQ	Baie Comeau	3.50	188	PN	Pn	16 00 20.8	-1.0
CNQ				Trac		16 01 14.8	
	comp=Z,9.0nm,0.2s						
GSQ	Grosses Roches	3.87	178	PN	Pn	16 00 26.0	-1.0
GSQ				SN	Sn	16 01 10.4	-3.5
GSQ				Trac		16 01 29.5	
	comp=Z,9.7nm,0.2s						
LG4Q	La Grande 4	4.16	285	PN	Pn	16 00 28.6	-2.5
LG4Q				PG	Pg	16 00 36.2	-12
LG4Q				SN	Sn	16 01 18.1	-3.1
LG4Q				SG	Sg	16 01 32.4	-11
LG4Q				Trac		16 01 36.4	
	comp=Z,8.5nm,0.2s						
DAQ	Lac Daran	5.42	209	PN	Pn	16 00 46.8	-2.2
DAQ				SN	Sn	16 01 52.4	-0.6
DAQ				SG	Sg	16 02 15.2	-10
DAQ				Trac		16 02 26.3	
	comp=Z,4.0nm,0.2s						
LMQ	La Malbaie	5.57	201	PN	Pn	16 00 48.0	-3.1
LMQ				SN	Sn	16 01 53.1	-3.7
LMQ				Trac		16 01 56.3	
	comp=Z,4.0nm,0.2s						
LMN	Caledonia Moun	7.12	166	PN	Pn	16 01 06.3	-6.7
LMN				SN	Sn	16 02 23.8	-12
DRLN	Deer Lake	7.13	116	PN	Pn	16 01 08.2	-4.9
DRLN				SN	Sn	16 02 26.4	-9.4
DRLN				LG		16 03 02.5	
DRLN				Trac		16 03 09.0	
	comp=Z,2.3nm,0.2s						
VLDQ	Val d’Or	7.96	238	PN	Pn	16 01 21.3	-3.4
MALO	McAlpine Lake	8.24	255	PN	P	16 01 23.6	-5.0
MALO				SN	Sn	16 02 52.2	-11
MALO				LG		16 03 38.3	
VIMO	Victor Mine	9.94	277	PN	P	16 01 46.8	-5.3
VIMO				SN	Sn	16 03 32.0	-14
SILO	Sutton Inlier	10.58	286	PN	P	16 01 54.8	-6.0

IDC 17 16:20:34.2±6.5**,18.84N**×**150.33E,mb3.7**/4**,mb1 3.9**/4**, mb1mx3.6**/20**,Error ellipse: s-maj=239.0km s-min=25.1km az=83.0,North Pacific Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WB2	Warramunga Arr	41.61	203	eP	P	16 28 24.7	-1.2
WRA	Warramunga Arr	41.61	203	P	P	16 28 23.2	-2.8
	1.2nm,1.1s,baz=27,slow=8.2,SNR=12						
ASAR	Alice Springs	45.19	201	P	P	16 28 54.0	-1.0
	0.7nm,0.7s,baz=33,slow=8.1,SNR=8.4						
SONM	Songino Array	45.84	319	P	P	16 28 56.8	-2.9
	0.4nm,0.4s,baz=137,slow=8.1,SNR=5.8						
BVAR	Borovoye Array	69.16	320	P	P	16 31 43.4	-1.0
	1.0nm,0.7s,baz=63,slow=3.2,SNR=6.0						

MAN 17 17:18:06.2,12.85N×123.33E,h2^{km},mb4.4,ML3.2,MS3.0, 1C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AUQP	San Andres	0.80	307	eP	Pg	17 18 21.7	-0.4
PVCP	Virac	1.09	47	eP	Pb	17 18 27.5	0.0
GQP	Guinayangan	1.36	321	⇑iP	Pb	17 18 30.1	-2.1
GQP				iS	Sb	17 18 49.0	-0.9
OTRP	Odiongan	1.37	250	eP	Pb	17 18 31.0	-1.2
BOAC	Boac	1.57	293	eP	Pn	17 18 34.5	-0.9
BOAC				eS	Sb	17 18 56.8	+0.7
LQP	Lukban	2.15	306	eP	Pn	17 18 44.0	+0.4
LQP				eS	Sn	17 19 07.7	-3.5
SJMP	San Jose	2.19	260	eP	Pn	17 18 44.7	+0.5
POLP	Polilio Island	2.31	324	eP	Pn	17 18 46.7	+0.9
BUSP	Coron	3.17	255	eP	Pn	17 18 58.1	-0.1

*JMA **17** 17:20:22.6±0.2,36.25N×141.58E,h67^{km}±3^{km},M3.4*
*IDC **17** 17:20:32.8±1.2,35.34N×138.44E,mb3.3/3,mb1 3.6/4, mb1mx3.4/23,ML3.0/1,Error ellipse: s-maj=40.1km s-min=14.9km az=65.0*
ISC 17 17:20:22.4±1.4**,36.22N**±0.06×**141.7E**±0.1**,h44**^{km}±17^{km}**, n12,**σ**0**^{s}**88**/16**,mb3.2**/2**,5D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHOJ	Chosi	0.86	233	⇓P	P	17 20 38.8	+0.7
CHOJ				S	S	17 20 50.0	+0.3
JHO	Hitachi	0.99	293	⇓P	P	17 20 39.3	-0.8
ONAJ	Iwakimizuishiy	1.14	321	⇓P	P	17 20 41.8	-0.3
JYT	Yasato	1.22	271	⇓P	P	17 20 42.5	-0.7
JYT				S	S	17 20 57.6	-1.3
JFK	Kawauchi	1.32	330	⇓P	P	17 20 44.6	-0.2
JFK				S	S	17 21 02.1	+0.6
JFT	Otama	1.70	320	P	P	17 20 50.8	+0.7
JAG	Ashikaga	1.83	277	P	P	17 20 51.3	-0.6
MAT	Matsushiro	2.84	278	P	P	17 21 06.9	+0.5
MAT				S	S	17 21 41.0	+1.4
JHJ	Hachijo jima 2	3.47	208	Pn	P	17 21 13.2	-2.1
	7.7nm,0.3s,baz=357,slow=18,SNR=3.0						
JHJ				Pg	P	17 21 17.5	+2.2
	29nm,0.3s,baz=76,slow=23,SNR=4.0						
JHJ				Lg		17 21 52.6	
	26nm,0.3s,baz=75,slow=24,SNR=2.2						
SONM	Songino Array	28.44	305	P	P	17 26 14.7	-0.3
	0.4nm,0.7s,mb3.1,baz=105,slow=9.1,SNR=3.1						
ILAR	Eielson Array	50.06	32	P	Px	17 29 44.9	
	0.4nm,1.0s,baz=294,slow=8.9,SNR=3.3						
WRA	Warramunga Arr	56.29	188	P	P	17 30 07.3	+6.3
	0.2nm,0.6s,mb3.3,baz=0.9,slow=7.7,SNR=6.1						

IDC 17 17:27:33.0±12.0**,5.90S**×**128.52E,h229**^{km}±110^{km}**, mb3.5**/1**,mb1 3.0**/4**,mb1mx2.9**/13**,Error ellipse: s-maj=112.0km s-min=85.7km az=25.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.45	193	P	P	17 30 23.2	-0.5
	0.1nm,0.3s,baz=183,slow=20,SNR=2.7						
WRA	Warramunga Arr	15.07	158	P	P	17 30 53.3	-2.8
	0.1nm,0.3s,baz=343,slow=12,SNR=4.8						
WRA				S	S	17 33 42.6	+5.5
	0.1nm,0.3s,baz=330,slow=23,SNR=3.4						
ASAR	Alice Springs	18.41	164	P	P	17 31 32.0	-1.5
	0.1nm,0.3s,baz=345,slow=9.7,SNR=16						
STKA	Stephens Creek	28.60	156	P	P	17 33 07.9	-2.3
	2.6nm,1.0s,baz=336,slow=11,SNR=2.8						

*IDC **17** 17:29:39.2±1.9,23.33S×114.72W,mb3.6/3,mb1 4.1/3, mb1mx3.9/14,MS3.7/7,Ms1 3.7/7,ms1mx3.4/19,Error ellipse: s-maj=101.0km s-min=49.7km az=108.0*
*NEIC **17** 17:29:41.7±0.7,22.89S×115.43W,h10^{km},mb4.5/3,Error ellipse: s-maj=25.3km s-min=17.2km az=87.0*
ISC 17 17:29:40.6±1.0**,22.9S**±0.1×**115.4W**±0.2**,h10**^{km}**,n22,** σ**1**^{s}**24**/11**,mb4.1**/6**,MS3.8**/7**,2C,Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RKT	Rikitea	18.03	266	eL		17 37 22.8	
RKT				eR		17 38 08.5	
	414nm,27.5s						
PPT	Papeete	32.47	273	eL		17 43 27.6	
PPT				eR		17 44 49.0	
	191nm,26.5s						
NNA	Nana	38.24	80	eP	P	17 37 00.6	-2.1
	11nm,0.8s,mb4.7						
OTAV	Otavalo	42.67	62	eP	P	17 37 41.1	+1.6
	3.2nm,1.0s,mb4.0						
LPAZ	La Paz	44.86	90	LR	LR	17 52 30.1	
	comp=Z,49nm,21.3s,MS3.4,baz=75,slow=31						
TRQA	Tornquist	47.80	121	eP	P	17 38 21.0	+0.8
	6.2nm,1.1s,mb4.5						
TXAR	Lajitas Array	53.18	13	P	P	17 39 00.8	-0.4
	0.7nm,1.0s,mb3.5,baz=180,slow=5.0,SNR=3.4						
TXAR				LR	LR	17 57 47.8	
	comp=Z,44nm,21.4s,MS3.5,baz=340,slow=32						
NVAR	Mina Array Bea	61.10	357	P	P	17 39 59.7	+2.4
	0.9nm,0.8s,mb4.0,baz=172,slow=8.8,SNR=5.5						
NVAR	Mina Array Bea	61.10	357	P	P	17 39 59.7	+2.4
PDAR	Pinedale Array	65.60	5	P	P	17 40 25.2	-1.6
	0.6nm,0.9s,mb3.6,baz=153,slow=3.3,SNR=3.9						
VNDA	Vanda	66.20	194	LR	LR	18 01 35.3	
	comp=Z,80nm,20.7s,MS3.9,baz=83,slow=29						
VNA3	Neumayer Olymp	73.39	161	⇑i	P	17 41 13.9	-0.2
VNA1	Neumayer--Stat	74.05	161		P	17 41 17.3	-0.6
VNA2	Neumayer--Watz	74.20	161		P	17 41 18.4	-0.4
SNAA	Sanae	75.18	162	⇑i	P	17 41 25.4	+0.9
YKA	Yellowknife Ar	85.14	0	LR	LR	18 15 18.5	
	comp=Z,36nm,19.5s,MS3.8,baz=220,slow=32						
SCHQ	Schefferville	87.88	26	LR	LR	18 16 26.4	
	comp=Z,59nm,19.6s,MS4.0,baz=126,slow=32						
CTA	Charters Tower	89.63	248	LR	LR	18 16 00.6	
	comp=Z,38nm,19.6s,MS3.8,baz=44,slow=31						
MAW	Mawson	89.72	179	LR	LR	18 20 54.5	
	comp=Z,61nm,18.5s,MS4.1,baz=154,slow=34						
ZAL	Zalesovo	145.50	339	PKPbc	PKPbc	17 49 20.2	+0.9
	0.8nm,0.3s,baz=79,slow=4.8,SNR=3.8						
CMAR	Chiang Mai Arr	147.62	269	PKPbc	PKPdf	17 49 26.9	+0.6
	1.5nm,1.1s,baz=35,slow=1.2,SNR=5.7						
BRTR	Keskin Array B	148.90	50	PKPbc	PKPdf	17 49 28.6	+0.8
	1.7nm,1.0s,baz=243,slow=6.4,SNR=7.1						

*NIED **17** 17:59:00,44.50N×148.90E,h47^{km},Mw3.8 Best double couple: $M_0$6.06×10^{14} NP1:ϕ_s53°,δ75°,λ112°. NP2:ϕ_s176°, δ26°,λ36°.*
*NEIC **17** 17:59:12.9±0.7,44.30N×148.70E,h10^{km},Error ellipse: s-maj=16.2km s-min=14.9km az=115.0*
*MOS **17** 17:59:14.5±2.4,44.22N×149.02E,h33^{km},mb4.5/1,Error ellipse: s-maj=28.1km s-min=19.2km az=43.1*
*IDC **17** 17:59:23.0±4.3,44.26N×148.65E,h93^{km}±39^{km},mb3.2/6, mb1 3.5/7,mb1mx3.3/22,MS3.0/1,Ms1 3.0/1,ms1mx2.3/15, Error ellipse: s-maj=35.8km s-min=20.4km az=108.0*
ISC 17 17:59:16.0±2.3**,44.35N**±0.09×**148.7E**±0.2**,h44**^{km}±20^{km}**, n13,**σ**1**^{s}**14**/16**,mb3.5**/6**,1C,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.08	325	⇑iPN	P	17 59 33.6	-1.2
KUR				iS	S	17 59 48.5	-0.4
KUR				pmax	pmax		
	comp=N,170nm,0.7s						
KUR				pmax	pmax		
	comp=E,170nm,0.7s						
KUR				pmax	pmax		
	comp=Z,430nm,0.7s						
KUR				smax			
	comp=N,950nm,0.7s						
KUR				smax			
	comp=E,1μm,0.7s						
KUR				smax			
	comp=N,4μm,1.4s						
KUR				smax			
	comp=E,4μm,1.4s						
YUK	Yuzh-Kuril'sk	2.09	262	ePN	P	17 59 48.5	-0.8
YUK				eS	S	18 00 14.5	+0.2
YUK				pmax	pmax		
	comp=Z,190nm,0.3s						
YUK				smax			
	comp=N,420nm,0.5s						
YUK				smax			
	comp=E,680nm,0.5s						
ASAJ	Asahikawa	4.42	269	P	P	18 00 26.6	+4.2
	comp=E,0.6nm,0.3s,baz=335,slow=24,SNR=4.3						
ASAJ				S	S	18 01 28.9	+16
	comp=E,1.3nm,0.3s,baz=338,slow=21,SNR=5.8						
ASAJ				LR	LR	18 02 25.1	
	comp=E,173nm,18.4s,baz=77,slow=42						
ERM	Erimo	4.70	242	Pn	P	18 00 28.6	+2.2
	comp=E,150nm,0.5s,SNR=34						
YSS	Yuzh-Sakhalins	4.94	304	PN	P	18 00 34.4	+4.8
YSS	Yuzh-Sakhalins	4.94	304	ePn	P	18 00 31.2	+1.6
ILAR	Eielson Array	40.32	37	P	P	18 06 52.0	+1.7
	comp=E,0.3nm,0.7s,mb3.1,baz=264,slow=8.2,SNR=3.6						
FINES	FINESS Array B	64.85	333	P	P	18 09 51.8	-0.3
	comp=E,2.4nm,0.9s,mb4.2,baz=56,slow=5.0,SNR=5.2						
FINES	FINESS Array B	64.85	333	P	P	18 09 51.8	-0.3
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WRA	Warramunga Arr	65.32	195	P	P	18 09 54.3	-1.5
	comp=Z,0.4nm,0.8s,mb3.5,baz=15,slow=7.1,SNR=3.8						
ASAR	Alice Springs	69.04	195	P	P	18 10 18.1	-1.0
	comp=Z,0.4nm,0.8s,mb3.4,baz=3.6,slow=4.8,SNR=4.9						
GERES	GERESS Array B	79.18	332	P	P	18 11 17.9	+0.5
	comp=Z,0.2nm,0.4s,mb3.4,baz=31,slow=5.7,SNR=2.6						
TXAR	Lajitas Array	81.36	57	P	P	18 11 29.7	+0.2
	comp=Z,0.2nm,0.3s,mb3.5,baz=301,slow=5.3,SNR=3.4						

*NEIC **17** 18:03:50.8,45.11N×7.35E,h10^{km},ML2.6(GEN), ML2.5(STR),ML2.4(LDG),After GEN.*
*STR **17** 18:03:52.3±0.2,45.11N×7.20E,h5^{km}±1^{km},Ml2.5,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **17** 18:03:52.9±0.1,45.09N×7.20E,h5^{km},Md2.5/3,Ml2.4/13, Error ellipse: s-maj=2.6km s-min=1.2km az=86.0*
ISC 17 18:03:50.4±0.4**,45.10N**±0.01×**7.30E**±0.03**,h13**^{km}±3^{km}**, n39,**σ**1**^{s}**01**/72**,Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RSP	Reno Superiore	0.06	332	P	Pg	18 03 53.2	+0.2
RSP				S	Sb	18 03 54.8	+0.2
FENE	Fenestrelle	0.18	248	P	Pg	18 03 55.6	+0.9
FENE				S	Sg	18 03 58.5	+1.0
BHB	Bricherasio	0.26	185	P	Pg	18 03 56.9	+0.8
BHB				S	Sg	18 04 00.4	+0.6
LSD	Ceresole Reale	0.37	344	P	Pg	18 03 58.6	+0.4
LSD				S	Sg	18 04 03.6	+0.3
OG22	Abries	0.37	222	Pg	Pg	18 03 59.0	+0.8
OG22				Sg	Sg	18 04 04.2	+0.8
RRL	Cesana Torines	0.41	244	P	Pg	18 03 59.7	+0.9
RRL				S	Sg	18 04 05.6	+1.2
BNI	Bardonecchia	0.44	264	ePg	Pg	18 04 00.1	+0.6
BNI				eSg	Sg	18 04 06.3	+0.7
TRAV		0.52	37	P	Pb	18 04 00.4	-0.4
TRAV				S	Sb	18 04 06.9	-1.1
MBDF	Montbardon	0.53	225	ePg	Pg	18 04 01.9	+0.8
MBDF				eSg	Sg	18 04 08.0	-0.3
	61nm,0.2s						
LPG	La Plagne	0.55	316	ePg	Pg	18 04 01.9	+0.2
LPG				eSg	Sg	18 04 08.8	-0.4
	66nm,0.2s						
LPL	La Plagne	0.58	317	ePg	Pg	18 04 02.4	+0.3
LPL				eSg	Sg	18 04 09.4	-0.6
	58nm,0.3s						
PZZ	Prazzo	0.61	193	P	Pb	18 04 02.9	+0.5
PZZ				S	Sb	18 04 10.7	+0.1
SURF	Saint Ours	0.71	209	Pg	Pg	18 04 05.4	+0.7
SURF				Sg	Sg	18 04 14.7	+0.5
ORX	Oropa	0.72	42	P	Pb	18 04 03.4	-0.8
RSL	Roselend	0.76	321	Pg	Pg	18 04 05.6	0.0
RSL				Sg	Sg	18 04 15.5	-0.3
STV2	Anna di Valdie	0.85	179	P	Pb	18 04 05.7	-0.9
STV	Sta Anna Valdi	0.85	179	P	Pb	18 04 05.7	-0.9
ROB	Roburent	0.90	153	P	Pb	18 04 07.6	+0.2
ORIF	Oris-en-Rattie	1.02	260	ePg	Pg	18 04 11.3	+0.4
ORIF				eSg	Sg	18 04 23.3	-1.3
	20nm,0.2s						
PCP	Pian Castagno	1.05	122	P	Pb	18 04 09.8	-0.1
MONE	Monesi	1.07	162	P	Pb	18 04 10.3	0.0
FIN	Finale Ligure	1.10	144	P	Pb	18 04 10.0	-0.8
RORO		1.13	151	P	Pb	18 04 10.6	-0.7
SBF	Sospel	1.24	175	ePn	Pn	18 04 14.9	+1.5
SBF				eSg	Sg	18 04 31.9	+0.1
	9.4nm,0.2s						
IMI	Imperia	1.26	160	P	Pb	18 04 12.5	-1.0
NEGI	Negi	1.28	167	P	Pb	18 04 13.0	-0.9
FRF	La Foret Royal	1.61	197	ePn	Pn	18 04 20.1	+1.4
FRF				ePg	Pg	18 04 22.2	-0.3
FRF				eSn	Sn	18 04 40.1	+0.7
FRF				eSg	Sg	18 04 42.6	-1.4
	7.4nm,0.2s						
SMRF	Simiane la Rot	1.67	228	ePg	Pg	18 04 23.2	-0.5
SMRF				eSg	Sg	18 04 43.6	-2.4
	11nm,0.4s						
CABF	La Chapelle	1.73	331	ePn	Pn	18 04 22.1	+1.6
CABF				ePg	Pg	18 04 24.3	-0.7
CABF				eSg	Sg	18 04 47.6	-0.6
	6.6nm,0.4s						
LMR	La Mourre	1.85	198	ePn	Pn	18 04 23.6	+1.4
LMR				ePg	Pg	18 04 26.6	-0.8
LMR				eSn	Sn	18 04 45.9	+0.3
LMR				eSg	Sg	18 04 49.6	-2.6
	7.5nm,0.2s						
VIVF	Saint-Julien-l	1.88	263	ePg	Pg	18 04 26.1	-1.8
VIVF				eSg	Sg	18 04 50.1	-2.9
	3.7nm,0.3s						
LASF	Ste Croix	2.66	249	ePn	Pn	18 04 34.3	+0.5
LASF				eSn	Sn	18 05 04.6	-1.6
	0.6nm,0.2s						
HINF	Hinteralfeld	2.74	354	ePn	Pn	18 04 35.9	+1.1
HINF				eSg	Sg	18 05 17.3	-4.2
	4.8nm,0.4s						
SMF	Signal de Mont	2.87	304	ePn	Pn	18 04 39.0	+2.3
SMF				ePg	Pg	18 04 45.1	-2.5
SMF				eSg	Sg	18 05 21.7	-4.2
	2.5nm,0.3s						
LOR	Lormes	3.23	313	ePn	Pn	18 04 43.1	+1.3
LOR				ePg	Pg	18 04 51.7	-3.1
LOR				eSg	Sg	18 05 32.8	-5.1
	2.2nm,0.4s						
AVF	Avril sur Loir	3.23	303	ePn	Pn	18 04 41.7	-0.2
AVF				eP		18 04 44.4	
SSF	Saint Saulge	3.29	308	ePn	Pn	18 04 42.6	-0.1
CDF	Champ du Feu	3.31	360	ePn	Pn	18 04 43.9	+0.8
BGF	Bois d'Agland	3.44	297	ePn	Pn	18 04 45.6	+0.8
BGF				eSg	Sg	18 05 38.6	-6.2
	3.2nm,0.4s						

*BER **17** 18:18:21.5±3.8,67.09N×20.81E,ML1.5,Suspected explosion*
HEL 17 18:18:21.6±0.1**,67.18N**×**20.65E,ML1.6,ML2.2**(UPP)**, ML1.6**(BER)**,Explosion,Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DUNU	Dundret	0.06	209	iP	Pg	18 18 22.5	-0.3
DUNU				iS	Sg	18 18 23.9	+0.2
MASU	Masugnsbyn	0.60	61	iP	Pg	18 18 31.8	-1.7
KUA	Kurravaara	0.79	352	iP	Pg	18 18 35.3	-2.1
NIKU	Nikkaluokta	0.93	319	eP	Pg	18 18 38.1	-2.1
PAJU	Pajala	0.98	98	eP	Pb	18 18 38.4	-2.7
SJUU	Sjulsmark	1.72	167	eP	Pn	18 18 52.0	-1.0
KIF	Kilpisjarvi	1.84	2	eP	Pn	18 18 55.1	+0.4
KIF				eSG	Sg	18 19 19.7	-3.1
LILU	Lilltraesk	1.93	190	eP	Pn	18 18 55.3	-0.6
KTK1	Kautokeino	2.08	27	eP	Pn	18 18 58.3	0.0
KTK1				eSG	Sg	18 19 26.3	-4.7
KTK1				AML	AML	18 19 29.4	
	comp=Z,6.5nm,0.3s						
SGF	Sodankyl	2.30	81	eP	Pn	18 19 01.0	-0.2
SGF				eSB	Sb	18 19 30.9	-1.8
TRO	Tromso	2.55	346	eSG	Sg	18 19 41.1	-5.3
TRO				AML	AML	18 19 42.0	
	comp=Z,2.8nm,0.4s						
MOR8	Moi Rana	2.67	251	eSG	Sn	18 19 39.1	-1.0
MOR8				AML	AML	18 19 43.2	
	comp=Z,5.2nm,0.4s						
MELS	Mels	2.73	267	eSg	Sg	18 19 48.7	-3.9
LOF	Lofoten	2.88	293	e	Pn	18 19 55.2	+46
LOF				AML	AML	18 19 56.9	
	comp=Z,4.5nm,0.6s						
LOF	Lofoten	2.88	293	eSg	Sg	18 19 55.2	-2.3
LOF				AML	AML	18 19 56.9	
	comp=Z,4.5nm,0.6s						
OUL	Oulu	2.99	132	eSG	Sg	18 19 54.8	-6.5
OUL				MSG		18 19 57.0	
	comp=Z,1.8nm,0.3s						
KEV	Kevo	3.49	39	eSG	Sg	18 20 10.4	-7.5
KEV				MSG		18 20 13.4	
	comp=Z,1.1nm,0.3s						
VAF	Ylistaro	4.24	167	eSG	Sg	18 20 32.7	-10
NSS	Namsos	4.45	237	eSG	Sg	18 20 40.7	-8.9

*IDC **17** 18:28:10.7±8.0,6.51S×149.52E,h44^{km}±58^{km},mb3.4/3, mb1 3.7/5,mb1mx3.5/14,ML3.4/2,Error ellipse: s-maj=64.4km s-min=55.5km az=127.0*
ISC 17 18:28:10.4±5.3**,6.6S**±0.3×**149.5E**±0.4**,h60**^{km}±35^{km}**,n7,** σ**0**^{s}**91**/8**,mb3.5**/3**,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	3.67	219	P	P	18 29 06.0	0.0
	6.2nm,0.3s,baz=102,slow=7.7,SNR=22						
PMG				S	S	18 29 48.5	+0.2
	8.2nm,0.3s,baz=26,slow=21,SNR=10.0						
WB2	Warramunga Arr	19.84	226	eP	P	18 32 38.2	-0.9
WRA	Warramunga Arr	19.85	226	P	P	18 32 38.4	-0.7
	0.3nm,0.3s,baz=51,slow=11,SNR=15						
ASAR	Alice Springs	22.68	220	P	P	18 33 07.6	-0.2
	0.6nm,0.7s,mb3.1,baz=55,slow=9.6,SNR=5.4						
FITZ	Fitzroy Crossi	25.95	242	eP	P	18 33 40.3	+1.1
	1.5nm,0.5s,mb3.8						
FITZ	Fitzroy Crossi	25.95	242	P	P	18 33 40.3	+1.1
	1.7nm,0.6s,mb3.7,baz=33,slow=3.3,SNR=5.5						
STKA	Stephens Creek	26.26	195	P	P	18 33 42.4	+0.5
	1.4nm,0.9s,mb3.5,baz=331,slow=16,SNR=3.3						

MAN 17 18:30:52.5,9.67N×123.00E,h20^{km},mb4.3,ML3.2,MS3.0, 1D,Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNPH	Sibulan	0.40	143	iP	Pb	18 31 20.5	+20
SNPH				iS	Sb	18 31 33.5	+27
GUIM	Jordan	1.03	337	eP	Pb	18 31 10.8	-0.7
DCPH	Dipolog City	1.13	162	⇓iP	Pb	18 31 12.1	-1.1
DCPH				eS	Sb	18 31 14.8	-13
PAGZ	Pagadian	1.85	168	eP	Pn	18 31 16.3	-7.3
PAGZ	Pagadian	1.85	168	eP	Pn	18 31 16.2	-7.4
IPIL	Ipil	1.91	193	eP	Pn	18 31 24.3	-0.2
IPIL				eS	Sn	18 31 39.6	-8.6
IPIL	Ipil	1.91	193	eP	Pn	18 31 24.6	+0.1
IPIL				eS	Sn	18 31 39.4	-8.8
CGP	Cagayan de Oro	2.06	126	iP	Pn	18 31 26.5	-0.1
CGP				eS	Sn	18 31 42.3	-10

*IDC **17** 18:35:38.4±0.7,14.89S×173.73W,mb4.1/10,mb1 4.3/10, mb1mx4.3/14,MS3.8/11,Ms1 3.8/11,ms1mx3.7/18,Error ellipse: s-maj=34.4km s-min=17.0km az=141.0*
*NEIC **17** 18:35:40.6±0.3,14.71S×173.92W,h10^{km},mb4.6/10, MS4.4/1,Error ellipse: s-maj=16.0km s-min=9.3km az=134.0*
*SYO **17** 18:35:40.6,14.87S×173.90W,h10^{km},MB4.6*
*BJI **17** 18:35:41.1,14.09S×173.57W,h10^{km},mB5.1,mb4.6, Ms4.7,Msz4.4*
ISC 17 18:35:42.5±0.4**,14.86S**±0.09×**173.89W**±0.09**,h33**^{km}**,n53,** σ**1**^{s}**18**/40**,mb4.4**/23**,MS3.9**/11**,3C-1D,Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	2.25	66	ePn	Px	18 36 05.7	
RAR	Rarotonga	14.83	117	LR	LR	18 42 56.4	
	comp=Z,484nm,18.4s,baz=333,slow=30						
URZ	Urewera	24.64	197	LR	LR	18 49 43.0	
	comp=Z,342nm,20.3s,MS3.8,baz=132,slow=34						
CTA	Charters Tower	38.31	256	LR	LR	18 56 06.9	
	comp=Z,178nm,21.6s,MS3.9,baz=292,slow=32						
STKA	Stephens Creek	43.91	239	P	P	18 43 47.4	-0.6
	1.8nm,0.8s,mb3.8,baz=73,slow=12,SNR=3.0						
STKA	Stephens Creek	43.91	239	eP	P	18 43 49.1	+1.1
WB2	Warramunga Arr	49.50	256	eP	P	18 44 31.8	-0.4
WRAB	Tennant Creek	49.50	256	eP	P	18 44 31.1	-1.1
	8.6nm,0.8s,mb4.8						
WRA	Warramunga Arr	49.51	256	P	P	18 44 31.8	-0.5
	4.2nm,0.7s,mb4.6,baz=90,slow=7.2,SNR=85						
ASAR	Alice Springs	49.84	251	P	P	18 44 33.8	-0.9
	22nm,0.6s,mb5.4,baz=88,slow=7.6,SNR=428						
ASAR				LR	LR	19 03 40.6	
	comp=Z,178nm,21.9s,MS4.0,baz=276,slow=34						
ASPA	Alice Springs	49.84	251	eP	P	18 44 33.7	-1.0
FITZ	Fitzroy Crossi	57.87	258	P	P	18 45 33.7	-0.1
	0.7nm,0.6s,mb3.9,baz=179,slow=18,SNR=3.0						
FITZ				LR	LR	19 07 47.8	
	comp=Z,78nm,20.5s,MS3.8,baz=98,slow=33						
MBWA	Marble Bar	63.06	254	eP	P	18 46 07.8	-1.4
	35nm,1.5s,mb5.3						
SBA	Scott Base	63.75	184	eP	P	18 46 12.8	-0.1
	3.0nm,0.8s,mb4.4						
VNDA	Vanda	63.87	186	P	P	18 46 13.1	-0.5
	1.4nm,0.8s,mb4.0,baz=2.5,slow=7.8,SNR=9.2						
VNDA	Vanda	63.87	186	eP	P	18 46 12.7	-0.9
	2.3nm,1.0s,mb4.2						
NVAR	Mina Array Bea	74.24	42	P	P	18 47 16.3	-1.9
	0.4nm,0.5s,mb3.6,baz=239,slow=5.3,SNR=3.3						
NVAR				LR	LR	19 13 27.1	
	comp=Z,70nm,20.1s,MS4.0,baz=270,slow=31						
TPH	Tonopah	74.75	43	P	P	18 47 18.5	-2.6
	6.6nm,1.1s,mb4.5						
QSPA	South Pole Qui	75.19	180	eP	P	18 47 24.2	+1.4
	6.1nm,0.8s,mb4.6						
QSPA				LR	LR		
	comp=Z,190nm,21.0s,MS4.4						
SSE	Sheshan	77.26	307	P	P	18 47 37.1	+1.6
MDJ	Mudanjiang	78.31	323	P	P	18 47 41.3	+0.3
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.7s,mb4.1						
NJ2	Nanjing	79.46	307	eP	P	18 47 48.4	+0.8
HLID	Hailey	79.51	40	eP	P	18 47 46.5	-1.1
	comp=Z,4.5nm,0.9s,mb4.4						
CN2	Changchun	80.37	320	eP	P	18 47 53.0	+0.8
MCK	McKinley	80.68	11	P	P	18 47 53.5	0.0
	comp=Z,2.3nm,0.9s,mb4.1						
TXAR	Lajitas Array	80.70	56	P	P	18 47 53.3	-1.0
	comp=Z,2.5nm,1.1s,mb4.1,baz=217,slow=6.3,SNR=11						
TXAR				LR	LR	19 15 04.3	
	comp=Z,70nm,19.7s,MS4.0,baz=200,slow=29						
MCMT	McKenzie Canyo	81.13	39	eP	P	18 47 57.2	+1.0
GDL2	Guadalupe Moun	81.27	53	eP	P	18 47 58.3	+1.1
TPAW	Teton Pass	81.63	41	eP	P	18 47 57.8	-1.0
COLA	College	81.92	11	eP	P	18 48 01.0	+1.1
	comp=Z,7.8nm,1.0s,mb4.6						
ILAR	Eielson Array	82.00	11	P	P	18 48 00.8	+0.5
	comp=Z,0.8nm,0.7s,mb3.8,baz=233,slow=4.6,SNR=6.3						
ILAR				LR	LR	19 20 51.5	
	comp=Z,21nm,18.4s,MS3.5,baz=360,slow=33						
PDAR	Pinedale Array	82.18	42	P	P	18 48 00.6	-1.1
	comp=Z,1.2nm,0.7s,mb3.9,baz=212,slow=1.0,SNR=9.0						
PDAR				LR	LR	19 18 52.8	
	comp=Z,64nm,20.0s,MS4.0,baz=144,slow=32						
INK	Inuvik	87.86	14	P	P	18 48 29.7	+0.4
MAW	Mawson	88.16	199	P	P	18 48 30.0	-0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,2.7nm,0.7s,mb4.6,baz=78,slow=9.6,SNR=4.5						
MAW				LR	LR	19 29 33.0	
	comp=Z,84nm,18.9s,MS4.2,baz=232,slow=37						
MAW	Mawson	88.16	199	eP	P	18 48 30.6	-0.1
	comp=Z,6.0nm,0.9s,mb4.8						
HHC	Hu-ho-hao-te	88.31	313	eP	P	18 48 37.8	+5.7
HHC				AMB	AMB		
	comp=Z,12nm,1.2s,mb5.0						
YKA	Yellowknife Ar	89.79	24	LR	LR	19 20 37.1	
	comp=Z,23nm,19.4s,MS3.6,baz=205,slow=30						
KMI	Kunming	90.37	296	eP	P	18 48 44.0	+1.8
KMI				AMB	AMB		
	comp=Z,2.0nm,0.9s,mb4.5						
LZH	Lanzhou	92.52	307	eP	P	18 48 52.5	+0.5
LZH				AP	pP	18 48 55.6	-7.0
LZH				PP	PP	18 52 36.8	+0.7
LZH				AMB	AMB		
	comp=Z,10.0nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,74nm,8.0s						
SYO	Syowa Base	93.04	191	⇑P	P	18 48 51.3	-2.2
SYO	Syowa Base	93.04	191	⇓pP	pP	18 48 59.0	-5.2
VNA3	Neumayer Olymp	93.44	175		P	18 48 57.7	+2.4
SNAA	Sanae	93.47	177		P	18 48 56.9	+1.4
VNA2	Neumayer--Watz	93.93	176	⇑i	P	18 49 00.9	+3.4
SONM	Songino Array	94.13	318	P	P	18 48 58.8	-0.1
	comp=Z,0.7nm,1.0s,mb4.0,baz=72,slow=3.9,SNR=5.6						
VNA1	Neumayer--Stat	94.13	175	⇑i	P	18 49 01.7	+3.3
ARCES	ARCESS Array B	124.01	352	PKP	PKPdf	18 54 38.4	+1.2
	comp=Z,2.2nm,0.8s,baz=45,slow=1.7,SNR=4.5						
BAIF	Baives	144.86	2	ePKP1	PKPbc	18 55 14.4	-1.7
	comp=Z,36nm,1.3s						
KHC	Kasperske Hory	145.28	351	ePKP	PKPdf	18 55 18.0	+1.2
KHC				pPKP		18 55 20.0	
BRTR	Keskin Array B	145.44	321	PKPbc	PKPbc	18 55 20.1	+2.1
	comp=Z,3.9nm,0.7s,baz=105,slow=2.6,SNR=25						
GERES	GERESS Array B	145.54	351	PKPbc	PKPbc	18 55 19.4	+1.5
	comp=Z,1.1nm,0.7s,slow=1.3,SNR=5.5						
SSF	Saint Saulge	147.82	3	ePKP1	PKPdf	18 55 22.9	+1.8
	comp=Z,9.5nm,0.9s						
CABF	La Chapelle	148.34	0	ePKP1	PKPdf	18 55 24.1	+2.1

DJA 17 18:40:11.5±0.6**, 3.89S**×**120.38E, h33**km**, MD4.3**/3**, ML3.0**/1**, 2C-1D, Error ellipse: s-maj=19.3km s-min=11.1km az=107.0, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BUNI	Buntu Taipa	0.24	347	⇓ePg	P	18 40 18.2	-0.3
	576nm,0.2s						
BUNI				eSg	Sn	18 40 22.5	-0.6
NINI	Niniconang	0.81	230	⇑ePg	P	18 40 25.7	-0.8
	40nm,0.2s						
TANI	Tanete Lipujan	1.09	295	⇑ePn	Pn	18 40 29.1	-1.6
	23nm,0.2s						
TANI				eSn	Sn	18 40 42.6	-2.1

JMA 17 18:42:55.8±0.2, 37.62N×135.91E, M4.2

ISC 17 18:42:56.5±2.1**, 37.73N**±0.08×**135.8E**±0.1**, h33**km**, n6, σ0.93**/12**, Sea of Japan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHG	Hegura jima	0.88	82	P	P	18 43 12.4	-0.1
JHG				S	S	18 43 24.5	+0.2
JJH	Hakui	1.11	136	P	P	18 43 14.5	-1.3
JJH				S	S	18 43 28.5	-1.7
JSZ	Suzu	1.26	103	P	P	18 43 17.5	-0.4
JSZ				eS	S	18 43 34.2	+0.2
JKG	Kaga	1.51	164	P	P	18 43 22.0	+0.5
JKG				S	S	18 43 40.4	+0.1
JTT	Ttatey	1.66	132	P	P	18 43 25.2	+1.6
JTT				S	S	18 43 45.2	+1.3
MAT	Matsushiro	2.25	121	P	P	18 43 31.6	-0.5
MAT				S	S	18 44 05.1	+6.1

MEX 17 18:44:04.4±0.6**, 16.28N**×**98.47W, h4**km±8km**, MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.35	71	i P	Pg	18 44 10.9	-0.4
PNIG				i S	Sg	18 44 15.7	-0.3
VHO	Vista Hermosa	1.84	64	i P	Pn	18 44 33.8	-3.2
VHO				i S	Sn	18 44 55.9	-5.1
OXX	Oaxaca	1.85	64	i P	Pn	18 44 34.0	-3.2
CMIG	Matias Romero	3.53	76	i P	Pn	18 44 56.9	-4.2
CMIG				i S	Sn	18 45 37.7	-6.1

DJA 17 18:57:19.2±0.8, 10.70S×118.89E, h160km, MD4.7/5, ML4.7/3, Error ellipse: s-maj=18.7km s-min=6.4km az=159.0

IDC 17 18:57:21.5±3.7, 9.74S×119.60E, mb3.4/1, mb1 3.8/4, mb1mx3.6/13, ML3.3/3, Error ellipse: s-maj=192.0km s-min=25.3km az=59.0

ISC 17 18:57:22.6±1.0**, 10.47S**±0.06×**118.85E**±0.06**, h70**km±21km**, n12, σ1.34**/19**, mb3.5**/1**, 4C-3D, South of Sumbawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KEDI	Kedomdong	3.34	306	⇓iPn	P	18 58 15.6	+1.9
KEDI				eSn	S	18 58 55.5	+3.2
RATI	Rata	3.70	298	⇑ePn	P	18 58 18.7	0.0
	81nm,0.2s						
RATI				eSn	S	18 59 02.2	+0.8
KELI	Kelakatan	4.84	297	⇓ePn	P	18 58 34.1	-0.6
KELI				eSn	S	18 59 28.9	-1.1
SRDI	Scrawed	5.04	293	⇑ePn	P	18 58 35.8	-1.6
SRDI				eSn	S	18 59 33.6	-1.4
NINI	Niniconang	6.07	9	⇑ePn	P	18 58 52.5	+0.9
	326nm,0.5s						
NINI				eSn	S	18 59 59.0	-1.5
BUNI	Buntu Taipa	6.92	12	⇑iPn	P	18 59 03.9	+0.4
	10nm,0.3s						
TANI	Tanete Lipujan	7.00	4	⇓ePn	P	18 59 04.2	-0.5
FITZ	Fitzroy Crossi	10.05	140	eS	S	19 01 34.7	-3.6
FITZ	Fitzroy Crossi	10.05	140	Pn	P	18 59 47.9	+1.5
	0.5nm,0.3s,baz=335,slow=8.5,SNR=6.5						
FITZ				Sn	S	19 01 37.1	-1.2
	0.3nm,0.3s,baz=177,slow=23,SNR=4.0						
WRA	Warramunga Arr	17.66	124	P	P	19 01 26.7	+1.2
	0.1nm,0.3s,baz=300,slow=13,SNR=6.9						
WRA				S	S	19 04 35.2	-2.0
	0.0nm,0.3s,baz=310,slow=21,SNR=3.3						
ASAR	Alice Springs	19.46	134	P	P	19 01 50.6	+4.3
	0.1nm,0.3s,baz=316,slow=10,SNR=18						
SONM	Songino Array	59.09	350	P	P	19 07 19.6	+1.6
	0.5nm,0.9s,mb3.5,baz=166,slow=5.9,SNR=2.9						

IDC 17 19:00:23.4±0.9, 48.88S×124.08E, mb3.9/7, mb1 4.2/8, mb1mx4.1/11, ML2.7/1, MS3.7/6, Ms1 3.7/6, ms1mx3.5/11, Error ellipse: s-maj=39.8km s-min=16.6km az=103.0

NEIC 17 19:00:25.0±0.5, 48.90S×124.13E, h10km, mb4.3/2, Error ellipse: s-maj=21.3km s-min=9.4km az=100.0

ISC 17 19:00:23.1±0.6**, 48.90S**±0.08×**124.1E**±0.3**, h10**km**, n14, σ0.71**/12**, mb3.9**/8**, MS3.5**/5**, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NWAO	Narrogin (SRO)	16.77	339	Pn	P	19 04 20.2	+0.6
	1.2nm,0.3s,baz=166,slow=9.9,SNR=14						
NWAO				LR	LR	19 09 06.4	
	comp=Z,538nm,21.6s,baz=339,slow=31						
STKA	Stephens Creek	21.49	44	P	P	19 05 14.8	+0.8
	2.1nm,0.6s,mb3.6,baz=201,slow=13,SNR=5.1						
STKA				LR	LR	19 11 44.3	
	comp=Z,143nm,18.8s,MS3.4,baz=36,slow=32						
ASAR	Alice Springs	26.34	21	P	P	19 06 00.7	-0.2
	1.7nm,0.7s,mb3.7,baz=190,slow=9.8,SNR=17						
ASAR				LR	LR	19 15 52.7	
	comp=Z,64nm,19.6s,MS3.2,baz=189,slow=35						
WRA	Warramunga Arr	30.03	19	P	P	19 06 33.2	-1.1
	0.7nm,0.9s,mb3.4,baz=191,slow=7.0,SNR=4.0						
VNDA	Vanda	32.12	166	P	P	19 06 52.2	0.0
	2.6nm,0.8s,mb4.1,baz=306,slow=8.4,SNR=15						
VNDA				LR	LR	19 18 43.9	
	comp=Z,243nm,19.2s,MS3.9,baz=321,slow=34						
VNDA	Vanda	32.12	166	eP	P	19 06 52.0	-0.3
	6.3nm,1.3s,mb4.3						
VNDA				LR	LR	19 18 43.9	
CTA	Charters Tower	33.78	40	LR	LR	19 19 45.7	
	comp=Z,80nm,18.6s,MS3.5,baz=41,slow=34						
MAW	Mawson	35.36	215	P	P	19 07 20.3	0.0
	2.0nm,0.6s,mb4.2,baz=76,slow=8.5,SNR=4.2						
QSPA	South Pole Qui	41.23	180	eP	P	19 08 09.5	+0.3
	4.8nm,0.9s,mb4.1						
SNAA	Sanae	54.05	198		P	19 09 47.7	-1.5
SNAA	Sanae	54.05	198	P	P	19 09 48.5	-0.8
	1.1nm,0.7s,mb3.9,baz=157,slow=9.7,SNR=15						
VNA2	Neumayer--Watz	55.55	197		P	19 10 01.3	+1.0
CMAR	Chiang Mai Arr	70.71	335	P	P	19 11 41.0	-0.2
	0.5nm,0.5s,mb3.7,baz=181,slow=5.0,SNR=6.7						
CMAR				LR	LR	19 45 50.9	
	comp=Z,53nm,18.4s,MS3.8,baz=175,slow=39						
PDAR	Pinedale Array	142.75	79	PKP	PKPdf	19 19 57.7	-1.4
	0.3nm,0.9s,baz=214,slow=3.3,SNR=2.6						

LDG 17 19:41:43.5±0.7, 15.56S×167.54E, h10km, Mb4.7/1, Error ellipse: s-maj=90.5km s-min=60.0km az=46.0

IDC 17 19:41:58.7±13.0, 15.59S×167.71E, h137km±117km, mb3.9/11, mb1 4.0/11, mb1mx3.9/17, Error ellipse: s-maj=51.3km s-min=24.9km az=69.0

NEIC 17 19:41:58.5±2.0, 15.59S×167.66E, h132km±16km, mb4.3/8, Error ellipse: s-maj=16.5km s-min=11.4km az=206.0

ISC 17 19:41:58.4±2.7**, 15.7S**±0.1×**167.6E**±0.1**, h142**km±20km**, n56, σ1.12**/32**, mb4.1**/15**, 4C, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	6.42	189	eP	P	19 43 32.1	+0.4
DZM				eS	S	19 44 39.4	-4.7
NOUC	Port Laguerre	6.47	191	eP	P	19 43 33.8	+1.4
NOUC				eS	S	19 44 43.2	-2.2
NOUC	Port Laguerre	6.47	191	eP	P	19 43 33.8	+1.4
NOUC				eS	S	19 44 43.2	-2.2
CTA	Charters Tower	20.75	255	P	P	19 46 31.6	+2.1
	6.5nm,0.8s,baz=81,slow=12,SNR=6.8						
CTAO	Charters Tower	20.75	255	P	P	19 46 29.5	0.0
MTSU	Mount Surprise	22.38	260	eP	P	19 46 48.1	+2.6
	11nm,0.5s,mb4.5						
STKA	Stephens Creek	28.60	231	eP	P	19 47 44.3	+0.8
	1.8nm,0.6s,mb4.0						
STKA	Stephens Creek	28.60	231	P	P	19 47 44.0	+0.5
	2.7nm,0.7s,mb4.1,baz=38,slow=5.9,SNR=7.7						
WB2	Warramunga Arr	31.88	257	eP	P	19 48 11.9	-0.6
WRAB	Tennant Creek	31.88	257	eP	P	19 48 11.4	-1.2
	3.4nm,0.7s,mb4.2						
WRA	Warramunga Arr	31.89	257	P	P	19 48 11.3	-1.3
	2.9nm,0.7s,mb4.1,baz=86,slow=9.1,SNR=39						
ASAR	Alice Springs	32.62	251	P	P	19 48 18.4	-0.5
	5.8nm,0.7s,mb4.5,baz=80,slow=8.6,SNR=97						
ASPA	Alice Springs	32.62	251	eP	P	19 48 18.6	-0.3
KAKA	Kakadu	34.21	270	eP	P	19 48 37.4	+4.8
	2.1nm,0.6s,mb4.0						
FITZ	Fitzroy Crossi	40.13	260	eP	P	19 49 22.5	+0.4
	8.5nm,0.6s,mb4.5						
FITZ	Fitzroy Crossi	40.13	260	P	P	19 49 22.9	+0.8
	9.9nm,0.5s,mb4.7,baz=119,slow=4.0,SNR=39						
VNDA	Vanda	61.90	181	P	P	19 52 04.9	+0.2
	0.5nm,0.6s,mb3.5,baz=5.5,slow=7.5,SNR=5.4						
VNDA	Vanda	61.90	181	eP	P	19 52 04.5	-0.3
	0.6nm,0.7s,mb3.5						
SBA	Scott Base	62.17	180	eP	P	19 52 07.3	+0.7
	12nm,1.4s,mb4.5						
QSPA	South Pole Qui	74.33	180	eP	P	19 53 21.6	+0.1
	7.2nm,0.8s,mb4.5						
CMAR	Chiang Mai Arr	75.61	294	P	P	19 53 30.5	+0.6
	0.5nm,0.7s,mb3.2,baz=130,slow=4.1,SNR=4.2						
SONM	Songino Array	83.45	324	P	P	19 54 11.9	+0.6
	3.0nm,0.9s,mb4.0,baz=156,slow=9.9,SNR=16						
ILAR	Eielson Array	87.36	18	P	P	19 54 28.1	-1.9
	0.2nm,0.6s,mb3.1,baz=230,slow=5.3,SNR=5.3						
SNAA	Sanae	92.59	183	⇑i	P	19 54 53.7	-0.8
SNAA	Sanae	92.59	183	P	P	19 54 54.1	-0.3
	0.8nm,0.7s,mb4.0,baz=207,slow=5.2,SNR=29						
VNA3	Neumayer Olymp	93.25	181	⇑i	P	19 54 58.9	+1.4
VNA2	Neumayer--Watz	93.52	182	⇑i	P	19 54 59.7	+1.0
VNA1	Neumayer--Stat	93.82	181	⇑i	P	19 54 59.7	-0.3
ZAL	Zalesovo	98.36	324	P	P	19 55 19.4	-1.7
	0.6nm,0.3s,mb4.5,baz=296,slow=3.2,SNR=3.4						
ARCES	ARCESS Array B	121.27	345	PKP	PKPdf	20 00 34.4	+0.1
	3.5nm,1.0s,baz=90,slow=2.7,SNR=4.4						
FINES	FINESS Array B	126.73	338	PKP	PKPdf	20 00 44.7	-0.1
	2.7nm,1.0s,baz=297,slow=4.3,SNR=5.1						
AKASG	Malin Array Be	131.70	326	PKP	PKPdf	20 00 56.4	+1.8
	0.2nm,0.3s,baz=151,slow=2.0,SNR=4.9						
BAIF	Baives	143.18	342	ePKP1	PKPbc	20 01 13.6	-0.1
CDF	Champ du Feu	143.59	338	ePKP1	PKPbc	20 01 14.9	-0.1
MEZF	Maizieres J'vi	144.28	340	ePKP1	PKPbc	20 01 18.4	+1.4
	5.3nm,0.6s						
CABF	La Chapelle	145.54	337	ePKP1	PKPbc	20 01 22.0	+1.6
	24nm,1.0s						
FLN	La Foliniere	145.61	346	ePKP1	PKPbc	20 01 21.9	+1.4
LDF	La Druitiere	145.68	345	ePKP1	PKPbc	20 01 22.0	+1.3
LOR	Lormes	145.75	340	ePKP1	PKPbc	20 01 22.1	+1.2
GRR	Gorron	146.05	346	ePKP1	PKPbc	20 01 22.6	+1.0
SSF	Saint Saulge	146.05	340	ePKP1	PKPbc	20 01 23.1	+1.4
	11nm,0.8s						
HYF	Humbligny	146.14	341	ePKP1	PKPbc	20 01 23.7	+1.8
LPL	La Plagne	146.20	335	ePKP1	PKPbc	20 01 24.0	+1.9
LPG	La Plagne	146.21	335	ePKP1	PKPbc	20 01 24.2	+2.1
	4.0nm,0.6s						
AVF	Avril sur Loir	146.34	340	ePKP1	PKPbc	20 01 23.5	+1.2
SGMF	Saint Gilles	146.54	348	ePKP1	PKPbc	20 01 24.1	+1.3
BGF	Bois d'Agland	146.71	341	ePKP1	PKPbc	20 01 24.8	+1.6
	6.5nm,0.7s						
ORIF	Oris-en-Rattie	147.03	336	ePKP1	PKPdf	20 01 26.1	+3.9
TCF	Toulx Ste Croi	147.15	341	ePKP1	PKPdf	20 01 26.1	+3.8
MFF	Saint Martin d	147.54	344	ePKP1	PKPdf	20 01 27.1	+4.1
	7.6nm,0.6s						
PGF	Pioggiola	147.54	330	ePKP1	PKPdf	20 01 27.3	+4.2
RJF	Les Rejaudoux	148.24	341	ePKP1	PKPdf	20 01 28.4	+4.2
LASF	Ste Croix	148.52	337	ePKP1	PKPdf	20 01 30.1	+5.4
	8.6nm,0.9s						
MTLF	Montolieu	149.75	339	ePKP1	PKPdf	20 01 32.1	+5.5
EPF	Esparros	150.66	341	ePKP1	PKPdf	20 01 35.6	+7.6
ETSF	Etsaut	151.06	342	ePKP1	PKPdf	20 01 36.5	+7.9
	6.1nm,0.6s						

KRSC 17 19:48:53.6±0.3**, 49.43N**×**158.07E, h42**km±46km**, ML3.9, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.78	316	eP	P	19 49 22.0	-0.4
SKR				eS	S	19 49 43.0	-1.0
PAU	Pauzhetka	2.19	339	eS	S	19 49 55.7	+1.3
PAU				Smax			
	100nm,0.2s						
RUS	Russkaya	3.02	5	eP	P	19 49 41.1	+0.9
RUS				eS	S	19 50 15.6	+0.2
GRL	Gorelyy	3.13	0	eP	P	19 49 43.0	+1.3
GRL				eS	S	19 50 18.9	+0.8
NLC	Nalytchevo	3.83	12	eS	S	19 50 33.0	-3.0
AVH	Avacha	3.86	6	eP	P	19 49 52.2	+0.1
SPN	Mys Shipunski	3.87	18	eS	S	19 50 35.1	-1.9
SDLR	Sedlovina	3.89	7	eP	P	19 49 52.8	+0.4
GNL	Ganaly	4.27	359	eP	P	19 50 00.2	+2.3
MKZ	Mys Kozlova	5.61	22	i P	P	19 50 16.0	-0.6
KBTR	Krutoberegovo	7.37	21	eP	P	19 50 41.0	-0.4

IDC 17 19:53:52.0±7.6**, 17.37S**×**174.42W, mb3.9**/3**, mb1 4.2**/3**, mb1mx3.8**/14**, Error ellipse: s-maj=333.0km s-min=35.0km az=141.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WB2	Warramunga Arr	48.45	259	eP	P	20 02 35.8	-2.7
WRA	Warramunga Arr	48.47	259	P	P	20 02 36.1	-2.5
	0.3nm,0.3s,baz=95,slow=8.3,SNR=49						
ASAR	Alice Springs	48.59	254	P	P	20 02 38.2	-1.3
	2.3nm,0.4s,baz=89,slow=7.6,SNR=91						
ASPA	Alice Springs	48.59	254	eP	P	20 02 38.3	-1.3
KAKA	Kakadu	51.44	267	eP	P	20 03 03.2	+1.8
	2.6nm,0.5s						
ILAR	Eielson Array	84.56	11	P	P	20 06 26.6	-1.3
	0.3nm,0.5s,baz=232,slow=5.2,SNR=9.3						

IDC 17 20:26:26.0±1.1, 30.63S×177.83W, mb4.8/3, mb1 4.7/5, mb1mx4.2/14, ML3.8/2, MS3.6/5, Ms1 3.5/5, ms1mx3.2/19, Error ellipse: s-maj=33.5km s-min=28.9km az=131.0

NEIC 17 20:26:31.9±1.5, 30.98S×177.58W, h58km±12km, mb4.7/4, Error ellipse: s-maj=18.2km s-min=11.6km az=95.0

ISC 17 20:26:30.4±1.6**, 31.04S**±0.07×**177.6W**±0.2**, h64**km±13km**, n35, σ0.96**/22**, mb4.5**/8**, 5C, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.80	350	Pn	P	20 26 59.7	-0.1
URZ	Urewera	8.44	210	Pn	P	20 28 32.0	-0.2
	1.0nm,0.3s,baz=200,slow=7.2,SNR=5.0						
URZ				Sn	S	20 30 05.9	-1.1
	4.2nm,0.3s,baz=224,slow=20,SNR=15						
RPZ	Rata Peaks	15.54	212	Pn	P	20 30 08.6	+1.8
	0.5nm,0.3s,baz=24,slow=12,SNR=2.6						
RPZ				Sn	S	20 32 42.9	-14
	0.4nm,0.3s,baz=101,slow=24,SNR=3.1						
CTA	Charters Tower	34.28	280	eP	P	20 33 13.2	+0.7
	7.2nm,0.8s,mb4.7						
CTA	Charters Tower	34.28	280	LR	LR	20 44 38.6	
	comp=Z,113nm,19.0s,baz=302,slow=32						
CTAO	Charters Tower	34.28	280	eP	P	20 33 11.9	-0.6
STKA	Stephens Creek	34.71	258	eP	P	20 33 17.6	+1.5
	13nm,0.7s,mb5.0						
STKA	Stephens Creek	34.71	258	P	P	20 33 17.6	+1.5
	17nm,0.8s,mb5.0,baz=94,slow=10,SNR=32						
STKA				LR	LR	20 45 06.5	
	comp=Z,95nm,19.5s,baz=24,slow=32						
PMG	Port Moresby	39.22	296	LR	LR	20 45 46.0	
	comp=Z,90nm,18.1s,baz=88,slow=30						
ASAR	Alice Springs	43.46	267	P	P	20 34 28.8	-0.1
	7.2nm,0.9s,mb4.4,baz=107,slow=7.8,SNR=46						
ASAR				LR	LR	20 51 32.6	
	comp=Z,59nm,19.3s,baz=43,slow=35						
ASPA	Alice Springs	43.46	267	eP	P	20 34 28.4	-0.5
WB2	Warramunga Arr	44.49	273	eP	P	20 34 36.8	-0.5
WRAB	Tennant Creek	44.50	273	eP	P	20 34 36.5	-0.9
	5.8nm,0.4s,mb4.7						
WRA	Warramunga Arr	44.50	273	P	P	20 34 36.9	-0.5
	4.5nm,0.3s,mb4.8,baz=111,slow=8.0,SNR=226						
FITZ	Fitzroy Crossi	52.74	270	eP	P	20 35 41.6	+0.5
	4.0nm,1.1s,mb4.3						
FITZ	Fitzroy Crossi	52.74	270	LR	LR	20 56 40.4	
	comp=Z,30nm,20.8s,baz=167,slow=35						
CASY	Casey	54.76	208	eP	P	20 35 57.3	+2.0
QSPA	South Pole Qui	59.08	180	eP	P	20 36 32.7	+7.0
	5.8nm,1.1s,mb4.5						
SNAA	Sanae	77.51	178	⇑i	P	20 38 17.7	-2.4
SNAA	Sanae	77.51	178		pP	20 38 31.2	-6.7
SNAA	Sanae	77.51	178	P	P	20 38 25.7	+5.6
	0.4nm,0.9s,mb3.4,baz=201,slow=8.8,SNR=4.9						
VNA3	Neumayer Olymp	77.65	176		P	20 38 21.0	+0.2
VNA3	Neumayer Olymp	77.65	176	⇑i	pP	20 38 34.2	-4.4
VNA2	Neumayer--Watz	78.09	177		P	20 38 22.5	-0.7
VNA2	Neumayer--Watz	78.09	177	⇑i	pP	20 38 36.9	-4.1
VNA1	Neumayer--Stat	78.31	176	⇑	P	20 38 24.3	-0.2
VNA1	Neumayer--Stat	78.31	176	⇑i	pP	20 38 38.7	-3.6
KAF	Kangasniemi	145.27	340	epkp	PKPdf	20 46 02.0	+2.1
	baz=42,slow=3.3						
FINES	FINESS Array B	145.87	340	PKPbc	PKPbc	20 46 04.3	+2.4
	2.8nm,0.4s,baz=58,slow=4.3,SNR=55						
FINES	FINESS Array B	145.87	340	PKPbc	PKPbc	20 46 04.3	+2.4
NB2	NORSAR Subarra	149.43	352	PKPab	PKPab	20 46 15.1	-3.4
	3.2nm,0.8s,baz=19,slow=4.5						
NOA	NORSAR Array B	149.43	352	PKPbc	PKPdf	20 46 15.5	+8.7
	2.2nm,0.7s,baz=17,slow=4.3,SNR=7.8						
NAO01	NORSAR Array S	149.66	352	ePKPab	PKPab	20 46 18.8	-0.6
AKASG	Malin Array Be	152.03	322	PKPbc	PKPdf	20 46 20.2	+9.1
	0.9nm,0.5s,baz=46,slow=2.2,SNR=4.5						
BRTR	Keskin Array B	153.23	298	PKPbc	PKPdf	20 46 25.2	+12
	3.1nm,1.1s,baz=135,slow=3.5,SNR=7.4						

SNSN 17 20:37:26.9, 30.33N×34.75E, h10km, Ml2.1

GII 17 20:37:31.8±0.2, 30.15N×35.13E, h9km±2km, ML2.3/3, Mw2.4/4

CSEM 17 20:37:31.0±0.1, 30.13N×35.14E, h15km, Mw2.4, Error ellipse: s-maj=3.5km s-min=1.6km az=97.0

ISC 17 20:37:30.7±0.6**, 30.16N**±0.02×**35.16E**±0.07**, h12**km±6km**, n22, σ0.72**/30**, Dead Sea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HRFI	Mount Harif	0.17	220	Pg	Pg	20 37 35.3	+0.6
HRFI				Sg	Sg	20 37 37.8	+0.5
PRNI	Paran	0.23	324	Pg	Pg	20 37 36.6	+0.8
PRNI				Sg	Sg	20 37 39.7	+0.5
PRNI	Paran	0.23	324	⇑Pg	Pg	20 37 36.6	+0.8
PRNI				Sg	Sg	20 37 39.7	+0.5
KMTI	Karmit	0.38	261	Pg	Pg	20 37 38.9	+0.3
KMTI				Sg	Sg	20 37 43.9	0.0
KMTI	Karmit	0.38	261	⇑Pg	Pg	20 37 38.9	+0.3
KMTI				Sg	Sg	20 37 43.9	0.0
ZFRI	Zfri	0.39	2	Pg	Pg	20 37 39.5	+0.7
MBH	Mount Berech	0.43	210	Pg	Pg	20 37 39.6	+0.1
MBH	Mount Berech	0.43	210	⇑Pg	Pg	20 37 39.6	+0.1
AQBJ	Aqaba	0.45	192	Pg	Pg	20 37 40.3	+0.4
EIL	Elat	0.53	200	Sg	Sg	20 37 47.6	-1.0
RMNI	Mount Ramon	0.55	321	Pg	Pg	20 37 42.0	0.0
MASH	Mash'abbe Sade	0.89	339	Pg	Pg	20 37 48.2	-0.4
RTMM	Retamin	0.97	335	Pg	Pg	20 37 50.1	-0.2
KZIT	Kziot	0.99	319	Pg	Pg	20 37 49.8	-0.8
KZIT				Sg	Sg	20 38 03.4	-0.5
JMOS	Jabal al Moall	0.99	183	P	Pb	20 37 49.6	+0.2
HAQS	Haql	1.12	190	P	Pb	20 37 51.1	-0.5
MZDA	Masada	1.16	9	Pg	Pg	20 37 53.4	-0.5
MZDA				Sg	Sg	20 38 07.8	-1.5
MZDA	Masada	1.16	9	Pg	Pg	20 37 53.3	-0.6
MZDA				Sg	Sg	20 38 07.8	-1.5
DSI	Dead Sea	1.41	8	Sn	Sn	20 38 16.3	+1.3
JMQS	Jabal Moqyreh	1.42	154	P	Pn	20 37 57.3	+0.8
DRGI	Dragot	1.44	8	Pn	Pn	20 37 57.1	+0.3
BDAS	Al Bad'	1.73	182	P	Pn	20 37 59.4	-1.4

BJI 17 21:12:04.7, 61.72N×151.01W, h43km, mB4.4, mb4.7, Ms4.5, Msz4.3

MOS 17 21:12:06.9±0.9, 61.44N×151.40W, h83km, mb4.6/8, Error ellipse: s-maj=48.6km s-min=13.0km az=94.9

IDC 17 21:12:07.9±0.8, 61.43N×150.97W, h73km±5km, mb4.0/18, mb1 4.3/22, mb1mx4.2/24, MS3.3/8, Ms1 3.3/8, ms1mx3.0/25, Error ellipse: s-maj=13.3km s-min=10.8km az=62.0

NEIC 17 21:12:07.7, 61.18N×150.72W, h68km, mb4.5/31, ML4.4(PMR), ML4.2(AEIC), After AEIC.

NEIC Felt [III] at Anchorage, Eagle River and Willow.

ISC 17 21:12:05.6±0.2**, 61.22N**±0.02×**150.79W**±0.04**, h76**km±2km**, h71**km±4.7km**:pP-P, n199, σ1.02**/205**, mb4.4**/61**, 9C-5D, Southern Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FIB	Fire Island	0.30	100	P	P	21 12 18.1	+0.5
FIB				S	S	21 12 27.5	+1.1
NKA	Nikishka	0.53	205	P	P	21 12 20.2	+0.9
RC01	Rabbit Creek A	0.53	104	P	P	21 12 19.4	0.0
RC01				S	S	21 12 29.3	-0.2
SPU	Mount Spurr	0.61	267	P	P	21 12 19.4	-0.8
PWA	Palmer West	0.62	45	P	P	21 12 20.6	+0.3
CKT	Bend	0.69	269	P	P	21 12 20.2	-0.7
SLKM	Skilak Lake	0.77	158	P	P	21 12 21.5	-0.4
PMR	Palmer	0.88	64	P	P	21 12 23.5	+0.3
PMR				S	S	21 12 36.5	+0.2
MPA	Moose Pass	1.01	136	P	P	21 12 25.0	+0.2
GHO	Glory Hole Cre	1.05	57	P	P	21 12 25.9	+0.6
KNK	Knik Glacier	1.14	79	P	P	21 12 27.3	+0.9
RDN	Redoubt North	1.20	235	P	P	21 12 26.5	-0.6
CUT	Chulitna	1.22	12	P	P	21 12 28.0	+0.6
RSO	Redoubt South	1.23	233	eP	P	21 12 27.2	-0.3
NCT	North Crescent	1.24	239	P	P	21 12 27.5	-0.2
PWL	Port Wells	1.25	106	P	P	21 12 28.1	+0.3
SEW	Seward	1.30	149	P	P	21 12 28.4	-0.2
SEW				S	S	21 12 46.4	+0.6
SML	Sawmill	1.32	62	P	P	21 12 29.3	+0.4
SML				S	S	21 12 46.9	+0.7
BRLK	Bradley Lake	1.46	182	P	P	21 12 30.4	-0.4
CFI	College Fiord	1.47	90	P	P	21 12 30.9	0.0
ILIM	Iliamna	1.56	224	P	P	21 12 31.9	-0.2
ILIM				S	S	21 12 51.3	-0.4

INE	Iliamna NE	1.61	225	P	P	21 12 32.7	-0.1
ILW	Iliamna West	1.64	226	P	P	21 12 33.1	0.0
IVS	Iliamna South	1.66	224	P	P	21 12 33.5	+0.1
CNPM	China Poot	1.71	188	P	P	21 12 33.9	-0.3
CNPM				S	S	21 12 55.1	0.0
SCM	Sheep Creek Mo	1.77	68	P	P	21 12 35.3	+0.5
GLI	Glacier Island	1.83	99	P	P	21 12 34.9	-0.8
LTI	Latouche	1.87	128	P	P	21 12 35.4	-0.8
OPT	Oil Point	1.98	219	P	P	21 12 38.3	+0.6
OPT				S	S	21 13 02.5	+1.0
JPK	Jack Peak	2.04	93	P	P	21 12 38.3	-0.2
FID	Port Fidalgo	2.15	101	P	P	21 12 38.6	-1.5
VLZ	Valdez	2.16	90	P	P	21 12 40.0	-0.3
TRF	Thorofare Moun	2.25	6	P	P	21 12 43.2	+1.7
TRF				S	S	21 13 10.0	+1.8
HIN	Hinchinbrook I	2.26	110	P	P	21 12 40.5	-1.1
AUE	Augustine Isla	2.27	216	P	P	21 12 42.1	+0.4
AUP	Augustine Pinn	2.28	216	P	P	21 12 42.5	+0.6
AGU	Augustine-Summ	2.28	216	P	P	21 12 42.5	+0.5
AUW	Augustine West	2.29	217	P	P	21 12 42.6	+0.6
AUI	Augustine Isla	2.30	216	P	P	21 12 42.8	+0.6
AUI				S	S	21 13 10.1	+0.7
KTH	Kantishna Hill	2.34	359	P	P	21 12 44.4	+1.6
KTH				S	S	21 13 11.7	+1.2
DIV	Divide	2.43	90	P	P	21 12 43.6	-0.5
DIV				S	S	21 13 13.0	+0.3
DHY	Denali Highway	2.46	39	P	P	21 12 45.4	+1.0
CVA	Cordova	2.56	103	P	P	21 12 44.6	-1.2
EYAK	Cordova Ski Ar	2.56	103	P	P	21 12 44.5	-1.3
MCK	McKinley	2.67	18	P	P	21 12 48.8	+1.4
MCK				S	S	21 13 19.8	+1.3
TZL	Tazlina	2.69	70	P	P	21 12 48.2	+0.5
MCNL	McNeil River	2.70	222	P	P	21 12 47.3	-0.6
MCNL				S	S	21 13 19.4	-0.1
SDG	Sourdough	2.81	60	P	P	21 12 49.9	+0.5
SGAM	Sherman Glacie	2.83	102	P	P	21 12 48.1	-1.5
MID	Middleton Isla	2.85	127	P	P	21 12 48.6	-1.4
TT01	Tatalina	2.99	307	P	P	21 12 51.1	-0.7
BWN	Browne	3.03	11	P	P	21 12 53.3	+0.9
PAX	Paxson	3.06	53	P	P	21 12 53.5	+0.7
PAX				S	S	21 13 26.8	-1.6
RAGM	Ragged Mountai	3.11	103	P	P	21 12 51.9	-1.7
THY	Trims Highway	3.22	45	P	P	21 12 56.3	+1.1
THY				S	S	21 13 32.6	+0.1
GLB	Gilahina Butte	3.37	83	P	P	21 12 56.3	-0.9
DDM	Donnelly Dome	3.44	39	P	P	21 13 00.2	+2.0
NEA	Nenana	3.46	12	P	P	21 12 58.5	+0.1
KDAK	Kodiak Island	3.57	196	P	P	21 12 59.5	-0.5
KABR	Katmai Barrier	3.75	216	P	P	21 13 02.1	-0.4
ACHA	Angle Creek He	3.79	219	P	P	21 13 02.8	-0.3
MGLS	Mageik LS	3.79	219	P	P	21 13 03.1	+0.1
MLY	Manley	3.83	0	P	P	21 13 04.2	+0.7
ANCK	Angle Creek	3.85	220	P	P	21 13 03.8	-0.1
COLA	College	3.91	19	eP	P	21 13 04.6	0.0
COLA	College	3.91	19	P	P	21 13 04.8	+0.2
CAHL	Cahill	3.92	218	P	P	21 13 04.4	-0.3
DOT	Dot Lake	3.96	49	P	P	21 13 05.5	0.0
IL1	Eielson Array	3.98	25	P	P	21 13 05.9	+0.2
ILAR	Eielson Array	3.98	25	P	P	21 13 05.9	+0.2
	12nm,0.3s,baz=210,slow=13,SNR=270						
ILAR				S	S	21 13 48.9	-2.6
	32nm,0.3s,baz=195,slow=18,SNR=13						
ILAR	Eielson Array	3.98	25	P	P	21 13 05.9	+0.2
ILAR				S	S	21 13 48.9	-2.6
KJL	Kejulik	4.00	219	P	P	21 13 05.9	0.0
BALM	Baldy	4.10	89	P	P	21 13 06.1	-1.3
TMW	Tok Microwave	4.21	56	P	P	21 13 08.8	0.0
GCSA	Galena City Sc	4.50	325	P	P	21 13 12.2	-0.7
YAH	Yahtse	4.52	97	P	P	21 13 11.6	-1.6
CTGM	Chitina Glacie	4.60	89	P	P	21 13 13.3	-0.9
BCA3	Beaver Creek A	4.61	62	P	P	21 13 14.2	-0.3
IM3	Indian Mountai	4.96	346	P	P	21 13 18.7	-0.6
IMA	Indian Mountai	5.04	346	eP	P	21 13 19.9	-0.4
PCA	Pinnacle	5.30	98	P	P	21 13 22.0	-2.0
PNL	Peninsula	5.85	100	P	P	21 13 30.1	-1.4
COLD	Coldfoot	6.04	2	P	P	21 13 34.2	+0.2
BM3	Burnt Mountain	6.78	21	P	P	21 13 44.2	-0.2
ANM	Nome	7.45	303	P	P	21 13 53.4	-0.4
WHY	Whitehorse	7.77	87	P	P	21 13 56.2	-1.8
BESE	Bessie Mountai	8.43	101	P	P	21 14 05.6	-1.6
SIT	Sitka	8.97	111	P	P	21 14 11.9	-2.6
INK	Inuvik	10.21	39	P	P	21 14 29.6	-1.5
	1.6nm,0.3s,baz=229,slow=16,SNR=58						
INK				LR	LR	21 18 55.8	
	comp=Z,93nm,18.4s,baz=32,slow=40						
INK	Inuvik	10.21	39	eP	P	21 14 29.1	-2.0
DLBC	Dease Lake	10.80	96	P	P	21 14 37.4	-1.7
	0.8nm,0.3s,baz=198,slow=6.1,SNR=9.8						
DLBC				LR	LR	21 19 21.6	
	comp=Z,140nm,21.7s,baz=174,slow=40						
DLBC	Dease Lake	10.80	96	P	P	21 14 37.4	-1.7
DLBC				LR	LR	21 19 21.6	
BBB	Bella Bella	15.31	116	LR	LR	21 20 37.8	
	comp=Z,62nm,19.3s,baz=295,slow=33						
YKA	Yellowknife Ar	16.98	70	P	P	21 16 01.9	+2.8
	1.0nm,0.3s,baz=277,slow=10.0,SNR=20						
YKA				PcP	PcP	21 20 41.3	-1.0
	0.2nm,0.3s,baz=282,slow=1.6,SNR=7.1						
YKA				LR	LR	21 22 25.6	
	comp=Z,72nm,21.4s,baz=255,slow=36						
YKA	Yellowknife Ar	16.98	70	P	P	21 16 01.9	+2.8
YKA				PcP	PcP	21 20 41.3	-1.0
YKA				LR	LR	21 22 25.6	
FX1	Attu Island--F	21.06	263	P	P	21 16 46.2	+1.2
	14nm,0.7s,mb4.4,baz=72,slow=19,SNR=10						
FX1	Attu Island--F	21.06	263	P	P	21 16 43.5	-1.4
NEW	Newport	23.05	109	eP	P	21 17 06.9	+2.5
	5.5nm,0.7s,mb4.0						
VGB	Gordon Butte	23.52	118	eP	P	21 17 10.8	+1.8
RES	Resolute Bay	23.69	33	eP	P	21 17 09.9	-0.4
YBH	Yreka Blue Hor	25.85	126	P	P	21 17 34.8	+3.4
	4.0nm,0.8s,mb3.9,baz=278,slow=5.2,SNR=5.9						
BOZ	Bozeman (W)	27.52	106	P	P	21 17 47.3	+0.7
HLID	Hailey	27.85	113	eP	P	21 17 50.7	+1.0
RRI2	Red Ridge	29.42	109	eP	P	21 18 05.3	+1.6
TPAW	Teton Pass	29.47	109	eP	P	21 18 05.5	+1.4
TPAW				e	pP	21 18 24.9	+3.0
ELK	Elko	29.76	117	eP	P	21 18 08.6	+1.9
	4.2nm,0.8s,mb4.1						
NVAR	Mina Array Bea	30.43	124	P	P	21 18 14.9	+2.3
	3.4nm,0.7s,mb4.1,baz=328,slow=7.4,SNR=14						
NVAR				PcP	PcP	21 21 11.7	+1.1
	1.3nm,0.6s,baz=310,slow=2.5,SNR=5.6						
BW06	Boulder Array	30.68	108	P	P	21 18 15.4	+0.6
PDAR	Pinedale Array	30.68	108	P	P	21 18 16.6	+1.8
	0.9nm,0.4s,mb3.9,baz=333,slow=5.3,SNR=12						
PDAR				pP	pP	21 18 35.5	+2.8
	1.4nm,0.6s,baz=325,slow=5.0,SNR=6.3						
PDAR				PcP	PcP	21 21 10.8	-0.4
	0.7nm,0.6s,baz=92,slow=1.2,SNR=6.0						
TIXI	Tiksi	31.16	323⇓	eP	P	21 18 17.8	-0.9
TIXI				pmax	pmax		
	comp=Z,5.0nm,2.1s,mb3.9						
RSSD	Black Hills	32.23	100	eP	P	21 18 29.4	+1.0
	comp=Z,2.6nm,0.5s,mb4.2						
TPNV	Topopah Spring	32.53	122	eP	P	21 18 32.8	+1.7
	comp=Z,3.0nm,0.6s,mb4.3						
YAK	Yakutsk	35.59	307	deP	P	21 18 58.8	+1.8
YAK				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.9						
YAK				MLR	MLR		
	comp=Z,100nm,18.0s						
YAK	Yakutsk	35.59	307	ePr		21 18 58.8	
FRB	Frobisher Bay	35.63	49	P	P	21 18 58.2	+0.8
	comp=Z,20nm,0.9s,mb5.1,baz=308,slow=7.9,SNR=3.6						
FRB				LR	LR	21 35 36.8	
	comp=Z,46nm,18.7s,baz=106,slow=40						
FRB	Frobisher Bay	35.63	49	P	P	21 18 58.2	+0.8
FRB				LR	LR	21 35 36.8	
SDCO	Great Sand Dun	36.55	109	eP	P	21 19 07.2	+1.8
ANMO	Albuquerque	38.43	113	eP	P	21 19 24.6	+3.5
SUMG	Summit	38.83	26	eP	P	21 19 24.8	+0.8
	comp=Z,7.7nm,0.6s,mb4.7						
DAG	Danmarks Havn	39.03	16⇑	iP	P	21 19 25.6	-0.1
	comp=Z,11nm,0.4s,mb5.0						
DAG	Danmarks Havn	39.03	16⇑	eP	P	21 19 25.6	-0.1
	comp=Z,11nm,0.4s,mb5.0						
SCHQ	Schefferville	41.99	59	P	P	21 19 51.1	+1.0
	comp=Z,4.2nm,0.6s,mb4.3,baz=354,slow=6.8,SNR=4.9						
SCHQ				LR	LR	21 36 13.8	
	comp=Z,64nm,18.0s,baz=91,slow=34						
WMOK	Wichita Mounta	42.12	105	eP	P	21 19 52.2	+0.7
	comp=Z,1.8nm,0.5s,mb4.1						
BOD	Bodaibo	44.30	310	eP	P	21 20 04.6	-4.2
LTX	Lajitas	44.44	114	eP	P	21 20 12.1	+1.8
	comp=Z,2.8nm,0.6s,mb4.2						
TXAR	Lajitas Array	44.44	114	P	P	21 20 12.4	+2.1
	comp=Z,2.5nm,0.7s,mb4.0,baz=333,slow=6.5,SNR=34						
TXAR				PcP	PcP	21 21 53.5	+0.2
	comp=Z,0.6nm,0.5s,baz=42,slow=1.5,SNR=8.5						
TXAR				LR	LR	21 38 39.0	
	comp=Z,37nm,19.2s,baz=305,slow=36						
JCT	Junction City	45.20	109	eP	P	21 20 17.8	+1.4
	comp=Z,15nm,0.6s,mb4.9						
MDJ	Mudanjiang	47.56	288	P	P	21 20 34.3	-0.5
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.7s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,61nm,5.8s						
KEV	Kevo	49.30	1	ep	P	21 20 46.2	-1.8
	comp=Z,3.2nm,0.6s,mb4.4						
KEV	Kevo	49.30	1	eP	P	21 20 46.2	-1.8
KEV				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
ARCES	ARCESS Array B	49.51	2	P	P	21 20 48.4	-1.2
	comp=Z,3.1nm,0.5s,mb4.5,baz=9.2,slow=6.9,SNR=33						
ARCES				PcP	PcP	21 22 10.0	-0.8
	comp=Z,2.3nm,0.5s,baz=355,slow=3.8,SNR=9.3						
CN2	Changchun	50.09	290	eP	P	21 20 56.5	+2.2
ZAK	Zakamensk	54.04	310	eP	P	21 21 22.3	-1.5
SONM	Songino Array	54.95	307	P	P	21 21 30.7	+0.3
	comp=Z,7.5nm,1.0s,mb4.7,baz=42,slow=6.7,SNR=35						
JOF	Joensuu	56.17	359	ep	P	21 21 37.1	-2.0
	comp=Z,1.7nm,0.4s,mb4.4						
JOF	Joensuu	56.17	359	eP	P	21 21 37.1	-2.0
JOF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
KAF	Kangasniemi	56.97	2	ep	P	21 21 43.2	-1.6
	comp=Z,1.2nm,0.4s,mb4.3,baz=355,slow=6.7						
KAF	Kangasniemi	56.97	2	eP	P	21 21 43.2	-1.6
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
ZAL	Zalesovo	57.04	324	P	P	21 21 43.5	-2.0
	comp=Z,1.6nm,0.4s,mb4.4,baz=94,slow=5.6,SNR=7.0						
ZAL	Zalesovo	57.04	324	i P	P	21 21 43.7	-1.7
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.4s						
NB2	NORSAR Subarra	57.29	10	P	P	21 21 45.6	-1.4
	comp=Z,2.4nm,0.6s,mb4.4,baz=350,slow=7.0						
NOA	NORSAR Array B	57.29	10	P	P	21 21 45.9	-1.1
	comp=Z,3.7nm,0.7s,mb4.5,baz=350,slow=7.0,SNR=14						
FINES	FINESS Array B	57.64	2	P	P	21 21 48.1	-1.3
	comp=Z,3.3nm,0.5s,mb4.6,baz=9.3,slow=7.9,SNR=43						
FINES	FINESS Array B	57.64	2	i P	P	21 21 48.2	-1.3
FINES				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ARU	Arti	60.44	342⇓	iP	P	21 22 07.2	-1.7
ARU				e		21 22 31.9	
ARU				e		21 22 50.0	
ARU				i		21 24 18.6	
ARU				eS	S	21 30 13.6	-2.8
ARU				eSS	SS	21 34 09.7	-6.9
ARU				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.0						
BVAR	Borovoye Array	61.49	333	P	P	21 22 14.3	-1.7
	comp=Z,2.1nm,0.6s,mb4.3,baz=45,slow=6.3,SNR=14						
KURK	Kurchatov	61.62	327⇓	eP	P	21 22 14.8	-2.1
KURK	Kurchatov	61.62	327	eP	P	21 22 14.6	-2.3
	comp=Z,1.7nm,0.4s,mb4.4						
OBN	Obninsk	63.87	355d	iP	P	21 22 30.7	-0.9
OBN				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.0						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s						
OBN	Obninsk	63.87	355	eP	P	21 22 30.1	-1.5
	comp=Z,15nm,0.6s,mb5.0						
WMQ	Urumqi	65.12	317	eP	P	21 22 44.0	+4.0
LZH	Lanzhou	65.84	301 ⇑	P	P	21 22 46.5	+1.8
LZH				AP	pP	21 23 02.0	-2.6
LZH				XP	sP	21 23 09.0	-3.9
LZH				PP	PP	21 25 13.5	+0.9
LZH				AMB	AMB		
	comp=Z,27nm,1.3s,mb4.9						
BAIF	Baives	67.27	17	eP	P	21 22 53.3	-0.1
ROSF	Rostrenen	67.70	23	eP	P	21 22 56.1	-0.1
FLN	La Foliniere	67.79	21	eP	P	21 22 56.2	-0.5
	comp=Z,15nm,0.7s,mb4.7						
LDF	La Druitiere	68.02	21	eP	P	21 22 57.6	-0.5
	comp=Z,2.4nm,0.4s,mb4.1						
GRR	Gorron	68.09	21	eP	P	21 22 58.3	-0.3
	comp=Z,8.7nm,0.6s,mb4.5						
AKASG	Malin Array Be	68.43	360	P	P	21 22 59.6	-1.0
	comp=Z,2.9nm,0.4s,mb4.5,baz=1.7,slow=6.2,SNR=15						
PRU	Pruhonice	68.52	10	eP	pP	21 23 19.0	-2.2
KHC	Kasperske Hory	69.29	11	eP	P	21 23 06.5	+0.5
GERES	GERESS Array B	69.58	11	P	P	21 23 07.5	-0.2
	comp=Z,0.7nm,0.5s,mb3.8,slow=5.3,SNR=4.3						
GERES				pP	pP	21 23 26.6	-1.3
	comp=Z,1.2nm,0.7s,baz=22,slow=7.2,SNR=3.2						
HYF	Humbligny	69.76	19	eP	P	21 23 08.9	0.0
HINF	Hinteralfeld	69.83	16	eP	P	21 23 09.0	-0.3
	comp=Z,3.0nm,0.5s,mb4.1						
MFF	Saint Martin d	69.94	21	eP	P	21 23 09.9	-0.1
LOR	Lormes	69.94	18	eP	P	21 23 09.8	-0.2
	comp=Z,10.0nm,0.6s,mb4.5						
SSF	Saint Saulge	70.09	18	eP	P	21 23 10.7	-0.2
	comp=Z,12nm,0.7s,mb4.5						
AAK	Ala-Archa	70.17	326	eP	P	21 23 10.1	-1.3
AVF	Avril sur Loir	70.33	19	eP	P	21 23 12.0	-0.4
	comp=Z,9.7nm,0.5s,mb4.6						
BGF	Bois d'Agland	70.48	19	eP	P	21 23 12.8	-0.5
	comp=Z,6.7nm,0.5s,mb4.5						
SMF	Signal de Mont	70.55	18	eP	P	21 23 13.2	-0.5
	comp=Z,4.6nm,0.5s,mb4.3						
TCF	Toulx Ste Croi	70.64	19	eP	P	21 23 13.7	-0.5
	comp=Z,2.7nm,0.5s,mb4.0						
CABF	La Chapelle	70.91	17	eP	P	21 23 15.9	+0.1
	comp=Z,18nm,0.9s,mb4.6						
LFF	La Frestale	71.71	21	eP	P	21 23 20.6	0.0
	comp=Z,6.2nm,0.5s,mb4.4						
CAF	Calviac	71.94	20	eP	P	21 23 21.8	-0.3
VIVF	Saint-Julien-l	72.42	18	eP	P	21 23 24.8	-0.1
	comp=Z,5.7nm,0.5s,mb4.4						
ORIF	Oris-en-Rattie	72.54	17	eP	P	21 23 25.8	+0.4
	comp=Z,2.7nm,0.4s,mb4.1						
MBDF	Montbardon	72.85	17	eP	P	21 23 27.9	+0.7
	comp=Z,12nm,0.9s,mb4.4						
ETSF	Etsaut	73.45	22	eP	P	21 23 31.5	+0.7
	comp=Z,8.7nm,0.8s,mb4.3						
MTLF	Montolieu	73.51	20	eP	P	21 23 31.2	+0.1
	comp=Z,9.8nm,0.8s,mb4.3						
KIV	Kislovodsk	74.61	350	eP	P	21 23 37.2	-0.3
KIV				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
ESDC	Sonseca Array	75.89	26	P	P	21 23 45.5	+0.6
	comp=Z,1.6nm,0.8s,mb3.8,baz=346,slow=5.9,SNR=5.7						
ESDC				pP	pP	21 24 03.4	-1.8
	comp=Z,0.7nm,0.6s,baz=355,slow=7.1,SNR=4.1						
ESDC				sP	sP	21 24 12.6	-0.9
	comp=Z,1.3nm,0.7s,baz=346,slow=6.5,SNR=3.3						
ESDC				LR	LR	21 58 30.4	
	comp=Z,49nm,18.4s,baz=15,slow=37						
BRTR	Keskin Array B	79.34	357	P	P	21 24 04.3	+0.3
	comp=Z,1.3nm,0.7s,mb3.9,baz=33,slow=2.5,SNR=10						
GUN	Gumba	80.09	311	eP	P	21 24 08.9	+0.6
	comp=Z,17nm,0.9s,mb4.9						
KKN	Kakani	80.41	312	eP	P	21 24 10.5	+0.5
	comp=Z,5.0nm,0.6s,mb4.5						
GKN	Gorkha	80.45	312	eP	P	21 24 10.5	+0.3
	comp=Z,9.4nm,0.5s,mb4.9						
PKI	Pulchoki	80.57	312	eP	P	21 24 10.5	-0.3
	comp=Z,15nm,1.3s,mb4.7						
DMN	Daman	80.64	312	eP	P	21 24 11.5	+0.3
	comp=Z,12nm,0.9s,mb4.7						
KOLN	Koldanda	81.03	313	eP	P	21 24 12.5	-0.8
	comp=Z,8.6nm,0.8s,mb4.6						
CMAR	Chiang Mai Arr	83.32	296	P	P	21 24 26.1	+0.9
	comp=Z,1.0nm,0.8s,mb3.7,baz=7.2,slow=5.4,SNR=6.3						
KMBO	Kilima Mbogo	119.75	351	PKP	PKPdf	21 30 48.7	+1.8
	comp=Z,0.7nm,0.5s,baz=47,slow=19,SNR=3.8						
SUR	Sutherland	150.63	15	PKPbc	PKPdf	21 31 50.5	+8.1
	comp=Z,3.9nm,0.6s,baz=75,slow=0.8,SNR=3.2						
QSPA	South Pole Qui	151.02	180	eP	PKPdf	21 31 49.6	+8.0
VNA3	Neumayer Olymp	161.79	139⇑	iP	PKPdf	21 31 53.4	-2.0
VNA3	Neumayer Olymp	161.79	139⇑	iP	PKPdf	21 31 53.4	-2.0
VNA3	Neumayer Olymp	161.79	139⇑	iP	PKPab	21 32 45.9	+2.2
VNA1	Neumayer--Stat	162.38	138⇑	iP	PKPab	21 32 48.2	+1.9
VNA2	Neumayer--Watz	162.59	139⇑	iP	PKPab	21 32 49.3	+2.1
SNAA	Sanae	163.72	143⇑	iP	PKPab	21 32 51.9	-0.2
SNAA	Sanae	163.72	143	PKPab	PKPab	21 32 51.9	-0.2
	comp=Z,0.3nm,1.0s,baz=250,slow=6.9,SNR=3.8						

BJI **17** *21:31:02.1, 35.70N×47.95E, h65km, mB4.8, mb4.5, Ms4.6, Msz4.4*
THR **17** *21:31:02.7±1.3, 35.62N×48.96E, h17km±11km, ML4.5*
MOS **17** *21:31:04.4±1.6, 35.78N×49.21E, h33km, mb4.3/6, Error ellipse: s-maj=15.3km s-min=10.4km az=116.3*
CSEM **17** *21:31:05.3±0.1, 35.59N×48.90E, h50km, mb4.5/10, ML5.2/2, Ms3.2, Error ellipse: s-maj=2.7km s-min=1.5km az=60.0*
NEIC **17** *21:31:07.4, 35.61N×49.16E, h21km, mb4.6/14, MS3.7/1, MN4.7(TEH), After TEH.*
IDC **17** *21:31:09.8±3.4, 35.77N×48.90E, h59km±32km, mb3.8/12, mb1 3.9/16, mb1mx3.8/23, ML3.9/4, MS3.7/8, Ms1 3.7/8, ms1mx3.4/25, Error ellipse: s-maj=26.2km s-min=15.4km az=175.0*
ZUR_RM **17** *21:31:09, 35.75N×48.94E, h18km, Mw4.7/6, Moment Tensor Solution. s6 Moment tensor: Scale 10^{16}Nm; M_{rr}1.21; $M_{\theta\theta}$-1.16; $M_{\phi\phi}$-0.06; $M_{r\theta}$0.39; $M_{\theta\phi}$0.40; $M_{\phi r}$-0.39; Best double couple: $M_0$1.36×10^{16} NP1:ϕ_s119°,δ57°,λ103°. NP2:ϕ_s277°,δ35°,λ72°. Principal axes: T 1.352, Plg75°, Azm65°; N .026, Plg10°, Azm292°; P -1.378, Plg11°, Azm200°;*
SNSN **17** *21:31:51.5, 31.90N×48.11E, h10km*
ISC 17 21:31:01.4±0.2, **35.60N**±0.02×**48.96E**±0.02, **h10km, n137, σ1§41**/151, **mb4.4**/36, **MS3.7**/9, **2C-4D, Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IRAZ	Razeghan	0.82	104	Pg	Pg	21 31 17.7	-0.1
IRAZ				Sg	Sg	21 31 28.9	+0.1
ASAO	Ashtian	1.37	140	ePG	Pg	21 31 28.0	-0.8
ASAO				eSG	Sg	21 31 47.4	+0.2
ASAO				AMP		21 31 48.5	
	comp=E,6µm,0.4s						
ASAO				AMP		21 31 51.8	
	comp=N,3µm,0.3s						
ASAO	Ashtian	1.37	140	i Pg	Pg	21 31 28.5	-0.3
ASAO				i Sg	Sg	21 31 47.1	0.0
	comp=N,3µm,0.4s						
IMHD	Mahdasht	1.40	86	Pg	Pg	21 31 27.9	-1.4
IMHD				Sn	Sn	21 31 45.7	+0.1
SNGE	Sanandaj	1.41	249	ePG	Pg	21 31 28.4	-1.3
SNGE				eSG	Sg	21 31 48.4	-0.1
SNGE				AMP		21 31 50.9	
	comp=N,7µm,0.5s						
THKV	Tehran--Karaj	1.59	78	ePG	Pg	21 31 31.6	-1.7
THKV				eSG	Sg	21 31 53.8	-0.8
THKV				AMP		21 31 58.8	
	comp=N,5µm,0.8s						
THKV				AMP		21 32 00.2	
	comp=E,9µm,0.5s						
THKV	Tehran--Karaj	1.59	78	i Pg	Pg	21 31 31.7	-1.6
THKV				i Sg	Sg	21 31 51.7	-2.9
	comp=E,5µm,0.8s						
IQOM	Qom	1.89	113	Pn	Pn	21 31 36.5	+2.4
IQOM				Sn	Sn	21 31 58.0	-0.2
IVIS	Veys	2.03	239	Pn	Pn	21 31 42.5	+6.3
IAFJ	Afjeh	2.26	83	Pn	Pn	21 31 41.2	+1.8
IAFJ				Sn	Sn	21 32 06.3	-1.2
IDHR	Dehrash	2.29	248	Pn	Pn	21 31 45.8	+5.9
IGHG	Ghaleghazi	2.34	238	Pn	Pn	21 31 46.7	+6.2
IVRN	Varamin	2.35	104	Pn	Pn	21 31 42.5	+1.9
IVRN				Sn	Sn	21 32 08.6	-1.2
ISRB	Sarab	2.45	335	Pn	Pn	21 31 44.2	+2.1
DAMV	Damavand	2.46	89	ePN	Pn	21 31 43.9	+1.7
DAMV				AMP		21 32 21.9	
	comp=N,5µm,0.6s						
DAMV				AMP		21 32 23.1	
	comp=E,4µm,0.6s						
IDMV	Damavand	2.51	90	Pn	Pn	21 31 44.7	+1.8
IDMV				Sn	Sn	21 32 12.2	-1.7
IFIR	Firoozkooh	3.09	88	Pn	Pn	21 31 57.3	+6.0
IFIR				Sn	Sn	21 32 26.1	-2.6
IAZR	Azarshahr	3.17	312	Pn	Pn	21 31 54.6	+2.3
GRMI	Germi	3.31	345	ePN	Pn	21 31 55.9	+1.5
GRMI	Germi	3.31	345	ePn	Pn	21 31 56.0	+1.6
SHGR	Shooshtar-Gavs	3.49	182	ePn	Pn	21 32 00.1	+3.2
ISHB	Shabestar	3.78	316	Pn	Pn	21 32 02.3	+1.2
IMRD	Marand	4.05	321	Pn	Pn	21 32 06.3	+1.4
NASN	Na'in	4.24	130	ePn	Pn	21 32 09.5	+1.8
NASN				Sn	Sn	21 32 56.4	-1.5
IBRJ	Borojen	4.29	153	Pn	Pn	21 32 10.0	+1.8
BHD	Baghdad	4.44	240	ePn	Pn	21 32 09.0	-1.5
MAKU	Maku	5.06	319	ePN	Pn	21 32 20.2	+1.1
MAKU	Maku	5.06	319⇓	ePn	Pn	21 32 21.4	+2.2
ISAD	Sadrabad	5.39	132	Pn	Pn	21 32 26.0	+2.1
GNI	Garni	5.63	325	eP	Pn	21 32 28.2	+1.0
GNI	Garni	5.63	325	eP	Pn	21 32 28.2	+1.0
ICHK	Chekchek	5.63	125	Pn	Pn	21 32 29.2	+1.9
MIB	Mutribah	5.94	194	eP	Pn	21 32 32.7	+1.1
MIB				AML	AML	21 33 39.1	
	comp=Z,50nm,0.6s						
UMR	Umm Al-Rimmam	6.12	190	eP	Pn	21 32 35.5	+1.3
UMR				AML	AML	21 33 41.7	
	comp=Z,44nm,0.5s						
RST	Umm Al-Ruwaisa	6.31	196	eP	Pn	21 32 37.4	+0.5
RST				AML	AML	21 33 52.1	
	comp=Z,109nm,0.7s						
RST	Umm Al-Ruwaisa	6.31	196	eP	Pn	21 32 37.3	+0.5
KBD	Kabd	6.50	190	eP	Pn	21 32 40.7	+1.2
KBD				eS	Sn	21 33 51.0	-3.5
RDF	Al-Radifah	6.76	191	eP	Pn	21 32 43.8	+0.5
RDF				eS	Sn	21 33 56.4	-4.7
RDF				AML	AML	21 34 03.0	
	comp=Z,68nm,0.5s						
IBAF	Bafgh	6.81	124	Pn	Pn	21 32 45.6	+1.7
QRN	Al-Qurain	6.90	188	eP	Pn	21 32 45.3	+0.2
QRN				AML	AML	21 34 04.6	
	comp=Z,60nm,0.6s						
KRBR	Kerman	8.63	128	ePn	P	21 33 09.2	-0.2
KIV	Kislovodsk	9.63	332	eP	P	21 33 35.1	+12
KIV				pmax	pmax		
	comp=Z,13nm,1.3s						
KIV				MLR	MLR		
	comp=Z,300nm,18.0s						
KIV				MLR	MLR		
	comp=N,197nm,21.0s						
KIV	Kislovodsk	9.63	332	eP	P	21 33 35.1	+12
	comp=N,13nm,1.3s						
BNDS	Bandar-Abbas	10.23	141	ePn	P	21 33 31.0	-0.5
ASF	Jabal al Asfar	10.59	255	P	P	21 33 38.8	+2.5
	comp=N,0.5nm,0.3s,baz=290,slow=3.5,SNR=4.1						
ASF				LR	LR	21 38 35.7	
	comp=N,624nm,19.4s,baz=288,slow=42						
SOC	Sochi	10.69	321	eP	P	21 33 38.1	+0.5
SOC				eS	S	21 35 42.4	+4.0
SOC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
SOC				pmax	pmax		
	comp=N,2.0nm,0.5s						
SOC				pmax	pmax		
	comp=E,14nm,0.8s						
SOC				MLR	MLR		
	comp=N,253nm,12.0s						
SOC				MLR	MLR		
	comp=Z,491nm,12.0s						
SOC				MLR	MLR		
	comp=E,535nm,13.0s						
SOC	Sochi	10.69	321	eP	P	21 33 38.1	+0.5
	comp=E,9.0nm,0.7s						
SOC				eS	S	21 35 42.4	+4.0
SOC	Sochi	10.69	321	eP	P	21 33 38.1	+0.5
	comp=E,9.0nm,0.7s						
ARSS	Ar Rass	10.87	208	P	P	21 33 39.3	-0.8
MZLS	Mizel	11.98	197	P	P	21 33 52.4	-3.0
AFFS	'Afif	12.73	206	P	P	21 34 03.7	-1.6
BRTR	Keskin Array B	12.81	293	P	P	21 34 09.2	+2.7
	comp=E,0.0nm,0.3s,baz=342,slow=3.9,SNR=3.9						
BRTR	Keskin Array B	12.81	293	P	P	21 34 09.1	+2.7
KAMS	Al Khamasin	15.72	195	P	P	21 34 42.1	-2.5
TATS	Tathlith	16.72	198	P	P	21 34 56.0	-1.3
DJNS	Zahran al Janu	18.46	196	P	P	21 35 21.2	+2.0
IDI	Anoyia	19.61	276	P	P	21 35 33.0	+0.4
	comp=E,0.7nm,0.3s,baz=69,slow=13,SNR=7.7						
MLR	Muntele Rosu	20.02	307	P	P	21 35 39.5	+2.3
	comp=E,0.4nm,0.3s,baz=205,slow=6.0,SNR=6.5						
AKASG	Malin Array Be	20.76	323	P	P	21 35 42.3	-2.5
	comp=E,4.9nm,0.7s,baz=131,slow=9.9,SNR=24						

AKASG	Malin Array Be	20.76	323	P	P	21 35 42.3	-2.5
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.7s						
AAK	Ala-Archa	20.97	63	eP	P	21 35 44.2	-2.8
OBN	Obninsk	21.30	340	c iP	P	21 35 48.0	-2.3
OBN				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.4						
OBN	Obninsk	21.30	340	⇑ iP	P	21 35 48.0	-2.3
	comp=Z,16nm,0.8s,mb4.4						
MOS	Moscow	21.58	342	eP	P	21 35 52.7	-0.4
MOS				e		21 36 05.4	
MOS				e		21 36 15.3	
MOS				ePPP	PPP	21 36 24.8	-2.4
MOS				pmax	pmax		
	comp=Z,58nm,0.7s,mb5.1						
MOS	Moscow	21.58	342	eP	P	21 35 52.7	-0.4
	comp=Z,58nm,0.7s,mb5.1						
MOS				e		21 36 05.4	
MOS				e		21 36 15.3	
MOS				ePPP	PPP	21 36 24.8	-2.4
KSH	Kashi	21.74	72	eP	P	21 35 56.0	+1.2
KSH				AMB	AMB		
	comp=Z,40nm,2.2s,mb4.5						
KSH				LR	LR		
	comp=N,330nm,6.6s						
KSH				LR	LR		
	comp=E,400nm,6.4s						
ARU	Arti	21.83	14	eP	P	21 35 59.1	+3.5
ARU				e		21 36 24.1	
ARU				eSS	SS	21 40 36.0	+6.8
ARU				MLR	MLR		
	comp=Z,300nm,18.0s,MS3.7						
ARU				MLR	MLR		
	comp=N,200nm,19.0s,MS3.6						
ARU				MLR	MLR		
	comp=E,100nm,17.0s,MS3.6						
SVE	Sverdlovsk	22.65	17	⇓eP	P	21 36 05.7	+2.0
SVE				pmax	pmax		
	comp=Z,120nm,1.9s,mb5.0						
SVE	Sverdlovsk	22.65	17	⇓eP	P	21 36 05.7	+2.0
	comp=Z,120nm,1.9s,mb5.0						
BRVK	Borovoye	23.03	34	eP	P	21 36 09.2	+1.8
	comp=Z,8.2nm,1.0s,mb4.1						
BRVK	Borovoye	23.03	34	eP	P	21 36 09.2	+1.7
	comp=Z,8.2nm,1.0s,mb4.1						
BVAR	Borovoye Array	23.06	34	P	P	21 36 09.0	+1.3
	comp=Z,7.5nm,0.8s,mb4.2,baz=225,slow=6.3,SNR=24						
PSZ	Piszkesteto	24.77	309	P	P	21 36 23.3	-1.1
PSZ	Piszkesteto	24.77	309	P	P	21 36 23.3	-1.1
DDI	Dehra Dun	24.93	94	e	P	21 36 26.0	-0.1
OJC	Ojcow	25.67	314	eP	P	21 36 34.7	+1.9
OJC	Ojcow	25.67	314	eP	P	21 36 34.7	+1.9
SUW	Suwalki	25.71	324	eP	P	21 36 32.4	-0.9
	comp=Z,49nm,1.1s,mb5.0						
SUW	Suwalki	25.71	324	eP	P	21 36 32.4	-0.8
	comp=Z,49nm,1.1s,mb5.0						
KURK	Kurchatov	26.16	46	deP	P	21 36 35.0	-2.4
KURK	Kurchatov	26.16	46	ePr		21 36 35.0	
GERES	GERESS Array B	28.99	308	P	P	21 37 04.1	+1.0
	comp=Z,0.7nm,0.7s,mb3.5,baz=128,slow=11,SNR=2.5						
GERES	GERESS Array B	28.99	308	P	P	21 37 04.1	+0.9
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	FINESS Array B	29.65	338	P	P	21 37 07.5	-1.5
	comp=Z,2.2nm,0.7s,mb4.0,baz=153,slow=8.5,SNR=4.2						
FINES	FINESS Array B	29.65	338	P	P	21 37 07.5	-1.5
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KOLN	Koldanda	30.38	95	eP	P	21 37 15.9	+0.1
	comp=Z,22nm,1.3s,mb4.7						
WMQ	Urumqi	30.68	63	eP	P	21 37 20.0	+1.7
WMQ				PP	PP	21 38 19.5	+0.5
WMQ				S	S	21 42 23.0	+3.3
WMQ				AMB	AMB		
	comp=Z,17nm,1.0s,mb4.8						
WMQ				LR	LR		
	comp=N,113nm,14.0s,MS3.8						
WMQ				LR	LR		
	comp=E,118nm,15.0s,MS3.8						
ZAL	Zalesovo	30.91	42	P	P	21 37 19.5	-0.7
	comp=E,1.4nm,0.5s,mb4.0,baz=218,slow=7.4,SNR=9.5						
ZAL	Zalesovo	30.91	42	P	P	21 37 19.5	-0.7
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GKN	Gorkha	31.13	94	eP	P	21 37 22.0	-0.4
	comp=Z,21nm,0.9s,mb4.9						
DMN	Daman	31.67	94	eP	P	21 37 27.7	+0.6
	comp=Z,18nm,0.9s,mb4.9						
KKN	Kakani	31.74	94	eP	P	21 37 27.5	-0.3
	comp=Z,22nm,1.2s,mb4.9						
PKI	Pulchoki	31.93	94	eP	P	21 37 29.0	-0.4
	comp=Z,31nm,1.4s,mb5.0						
GUN	Gumba	32.18	93	eP	P	21 37 31.5	-0.1
	comp=Z,26nm,0.9s,mb5.1						
SBF	Sospel	32.70	297	eP	P	21 37 35.2	-0.8
MBDF	Montbardon	33.19	299	eP	P	21 37 39.1	-1.1
	comp=Z,9.9nm,0.7s,mb4.6						
LPG	La Plagne	33.22	300	eP	P	21 37 40.2	-0.3
	comp=Z,13nm,0.8s,mb4.6						
LPL	La Plagne	33.24	300	eP	P	21 37 39.9	-0.7
	comp=Z,4.0nm,0.7s,mb4.2						
HINF	Hinteralfeld	33.31	305	eP	P	21 37 40.4	-0.9
CABF	La Chapelle	33.74	302	eP	P	21 37 42.3	-2.7
	comp=Z,19nm,0.9s,mb4.7						
ORIF	Oris-en-Rattie	33.82	299	eP	P	21 37 44.0	-1.7
	comp=Z,15nm,1.0s,mb4.5						
ORIF				eR			
	comp=Z,66nm,19.0s						
VIVF	Saint-Julien-l	34.68	299	eP	P	21 37 51.5	-1.6
NB2	NORSAR Subarra	34.92	329	P	P	21 37 53.0	-2.0
	comp=Z,3.5nm,1.2s,mb4.2,baz=120,slow=8.6						
NOA	NORSAR Array B	34.92	329	P	P	21 37 53.1	-1.9
	comp=Z,1.6nm,1.0s,mb3.9,baz=120,slow=8.5,SNR=3.2						
NOA				LR	LR	21 53 08.9	
	comp=Z,109nm,18.5s,MS3.6,baz=100,slow=38						
NOA	NORSAR Array B	34.92	329	P	P	21 37 53.1	-1.9
NOA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
NOA				MLR	MLR		
	comp=Z,109nm,18.5s						
LASF	Ste Croix	35.28	298	eP	P	21 37 57.1	-1.2
SMF	Signal de Mont	35.29	302	eP	P	21 37 56.9	-1.4
SSF	Saint Saulge	35.53	303	eP	P	21 37 59.3	-1.1
TCF	Toulx Ste Croi	36.41	302	eP	P	21 38 06.2	-1.6
KMBO	Kilima Mbogo	38.14	199	LR	LR	21 54 28.1	
	comp=Z,93nm,20.7s,MS3.6,baz=82,slow=36						
GTA	Gaotai	40.09	69	P	P	21 38 39.8	+1.1
GTA				AMB	AMB		
	comp=Z,5.0nm,1.8s,mb3.9						
GTA				LR	LR		
	comp=N,242nm,6.8s						
GTA				LR	LR		
	comp=E,270nm,5.3s						
GTA				LR	LR		
	comp=Z,177nm,6.5s						
ZAK	Zakamensk	41.45	52	eP	P	21 38 44.0	-5.7
ESDC	Sonseca Array	41.60	292	P	P	21 38 50.9	-0.2
	comp=Z,0.7nm,0.6s,mb3.5,baz=68,slow=7.9,SNR=5.2						
SONM	Songino Array	43.63	55	P	P	21 39 08.9	+1.4
	comp=Z,0.6nm,1.1s,mb3.2,baz=304,slow=10,SNR=4.2						
SONM				PcP	PcP	21 40 56.0	+0.5
	comp=Z,1.0nm,0.9s,baz=252,slow=4.6,SNR=5.6						
LZH	Lanzhou	43.98	73	eP	P	21 39 11.0	+0.5
LZH				PP	PP	21 40 55.3	+0.6
LZH				AMB	AMB		
	comp=Z,24nm,1.4s,mb4.7						
LZH				AMB	AMB		
	comp=Z,103nm,4.9s						
KMI	Kunming	47.06	87	eP	P	21 39 35.8	+0.6
KMI				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.5						
CM31	Chiang Mai Arr	47.18	98	eP	P	21 39 36.4	+0.2
	comp=Z,2.2nm,0.7s,mb4.2						
CM31	Chiang Mai Arr	47.18	98	eP	P	21 39 36.4	+0.2
	comp=Z,2.2nm,0.7s,mb4.2						
CMAR	Chiang Mai Arr	47.18	98	P	P	21 39 36.1	-0.1
	comp=Z,2.3nm,0.8s,mb4.2,baz=301,slow=8.5,SNR=13						
CMAR				LR	LR	22 04 07.3	
	comp=Z,55nm,20.7s,MS3.5,baz=125,slow=42						
CMAR	Chiang Mai Arr	47.18	98	P	P	21 39 36.1	-0.1
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CMAR				MLR	MLR		
	comp=Z,55nm,20.7s						
HIA	Hailar	52.15	52	P	P	21 40 13.5	-0.5
HIA	Hailar	52.15	52	P	P	21 40 13.5	-0.5
TIXI	Tiksi	53.49	23	eP	P	21 40 20.8	-2.9
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
TIXI	Tiksi	53.49	23	eP	P	21 40 20.8	-2.9
	comp=Z,2.0nm,0.9s,mb4.0						
YAK	Yakutsk	55.04	35	iP	P	21 40 32.6	-2.5
YAK				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb5.0						
YAK	Yakutsk	55.04	35	iP	P	21 40 32.6	-2.5
	comp=Z,8.0nm,0.5s,mb5.0						
DBIC	Dimbokro	56.99	253	P	P	21 40 49.1	-0.7
	comp=Z,15nm,1.3s,mb4.9,baz=3.6,slow=9.0,SNR=4.5						
DBIC				LR	LR	22 08 20.9	
	comp=Z,53nm,18.3s,MS3.7,baz=29,slow=39						
DBIC	Dimbokro	56.99	253	P	P	21 40 49.1	-0.7
DBIC				pmax	pmax		
	comp=Z,15nm,1.3s						
DBIC				MLR	MLR		
	comp=Z,53nm,18.3s						
DBIC	Dimbokro	56.99	253	P	P	21 40 49.7	-0.1
NJ2	Nanjing	57.05	72	eP	P	21 40 50.3	+0.3
CN2	Changchun	57.48	57	eP	P	21 40 53.3	+0.4
MDJ	Mudanjiang	59.98	54	P	P	21 41 08.5	-1.7
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.4						
SCHQ	Schefferville	74.48	327	P	P	21 42 40.0	-1.3
	comp=Z,5.4nm,0.8s,mb4.5,baz=31,slow=12,SNR=3.3						
ILAR	Eielson Array	79.18	7	P	P	21 43 07.4	-0.1
	comp=Z,0.5nm,0.8s,mb3.5,baz=334,slow=4.6,SNR=4.9						
ILAR				LR	LR	22 21 02.9	
	comp=Z,37nm,20.3s,MS3.7,baz=180,slow=38						
ILAR	Eielson Array	79.18	7	P	P	21 43 07.4	-0.1
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR				MLR	MLR		
	comp=Z,37nm,20.3s						
YKA	Yellowknife Ar	81.35	352	LR	LR	22 26 36.5	
	comp=Z,36nm,18.3s,MS3.8,baz=95,slow=41						
PDAR	Pinedale Array	99.57	344	LR	LR	22 33 55.2	
	comp=Z,45nm,18.3s,MS4.0,baz=173,slow=38						

THE ***17*** *21:37:04.9, 38.19N×21.83E, h10^{km}, ML3.1*
ATH ***17*** *21:37:05.1, 38.25N×21.74E, h11^{km}±7^{km}, MD3.4/11, ML3.3*
NEIC ***17*** *21:37:05.2, 38.25N×21.74E, h11^{km}, ML3.3(ATH), After ATH.*
CSEM ***17*** *21:37:05.5±0.1, 38.26N×21.76E, h2^{km}, ML3.3, Error ellipse: s-maj=1.8km s-min=1.5km az=108.0*
ISC 17 21:37:05.3±0.5**, 38.20N**±0.04×**21.79E**±0.04**, h11**^{km}**, n23,** σ**1^{s}28**/27**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RLS	Riolos of Patr	0.29	241	ePG	Pg	21 37 11.3	-0.1
EVR	Evrytania	0.72	1	ePB	Pb	21 37 18.1	-1.2
AGG	Agios Georgios	0.92	27	ePg	Pg	21 37 22.0	-1.8
	comp=Z,12nm,0.3s						
AGG				eSg	Sg	21 37 35.3	-0.9
VLS	Valsamata	0.94	269	ePB	Pb	21 37 21.4	-1.8
VLS				eSB	Sb	21 37 35.7	+0.2
LKD	Levkas	1.03	300	ePg	Pg	21 37 22.8	-3.0
	comp=Z,16nm,0.3s						
LKD				eSg	Sg	21 37 41.0	+1.4
LKD	Levkas	1.03	300	eSg	Sg	21 37 41.0	+1.4
LKR	Lokris	1.05	64	ePG	Pg	21 37 24.7	-1.6
NSAL	Nisos Salamina	1.35	102	ePN	Pn	21 37 30.5	+0.3
NAIG	Nisos Aigina	1.41	108	ePB	Pb	21 37 34.0	+2.8
MPAR	Parnis Oros	1.54	91	ePB	Pb	21 37 35.5	+2.2
ATH	Athens Observa	1.54	98	ePN	Pn	21 37 33.5	+0.7
XOR	Xorichti	1.60	43	ePb	Pb	21 37 33.8	-0.5
JAN	Janina	1.63	334	ePB	Pb	21 37 35.8	+0.9
JAN	Janina	1.63	334	ePb	Pb	21 37 36.8	+1.9
VLI	Veliai	1.74	148	ePG	Pg	21 37 39.0	-1.0
IGT	Igoumenitsa	1.75	320	ePb	Pb	21 37 36.7	-0.3
LIT	Litokhoron	1.98	16	ePn	Pn	21 37 39.8	+0.8
	comp=Z,2.0nm,0.3s						
LIT				eSn	Sn	21 38 06.0	+2.0
KEK	Kerkira	2.17	315	ePN	Pn	21 37 41.9	+0.1
FNA	Florina	2.60	353	ePn	Pn	21 37 49.0	+1.0
OUR	Ouranopolis	2.73	38	ePn	Pn	21 37 48.2	-1.6
SOH	Sokhos	2.88	24	ePn	Pn	21 37 52.7	+0.6
KNT	Kendrikon	3.08	16	ePn	Pn	21 37 55.7	+0.8
SRS	Serrai	3.23	25	ePn	Pn	21 37 56.1	-0.9

NEIC ***17*** *21:53:54.6, 19.15N×68.95W, h114^{km}, MD3.6(RSPR), After RSPR.*
RSPR 17 21:53:54.6, 19.15N×68.95W, h114^{km}±11^{km}**, MD3.6**/9**, MD3.6**/9**, 5C-6D, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IDE	Isla Desecheo	1.58	118	⇓eP	P	21 54 21.9	-1.2
IDE				eS	S	21 54 43.8	-0.8
LSP	Las Mesas	2.01	118	⇑eP	P	21 54 27.9	-0.5
LSP				eS	S	21 54 54.0	+0.3
LRS	Lares	2.17	113	⇑eP	P	21 54 29.6	-0.9
LRS				eS	S	21 54 57.3	-0.1
AOPR	Arecibo Observ	2.23	111	⇓eP	P	21 54 30.8	-0.5
AOPR				eS	S	21 54 58.8	-0.2
PORP	Portuguez	2.45	116	⇓eP	P	21 54 32.4	-1.9
PORP				eS	S	21 55 03.8	-0.2
CELP	Cerrillos	2.49	115	⇓eP	P	21 54 33.0	-1.7
CELP				eS	S	21 55 04.8	-0.2
CSB	Colonia Sabana	2.78	107	⇓eP	P	21 54 38.3	-0.4
CSB				eS	S	21 55 12.0	0.0
SJG	San Juan	2.84	111	⇑eP	P	21 54 38.6	-1.0
SJG				eS	S	21 55 12.4	-1.2
SJG	San Juan	2.84	111	⇓eP	P	21 54 39.5	-0.2
SJG				eS	S	21 55 13.3	-0.3
CBYP	Canovanas	3.06	106	⇑eP	P	21 54 41.7	-0.8
CBYP				eS	S	21 55 17.2	-1.5
HUMP	Col San Antoni	3.10	108	⇑eP	P	21 54 42.5	-0.6
HUMP				eS	S	21 55 18.5	-1.3

TAP ***17*** *21:54:37.3, 24.91N×122.32E, h6^{km}, ML3.7*
IDC ***17*** *21:54:38.9±1.6, 24.87N×122.32E, h21^{km}±6^{km}, mb3.1/3, mb1 3.4/3, mb1mx3.1/19, Error ellipse: s-maj=250.0km s-min=18.7km az=70.0*
NEIC ***17*** *21:54:39.1±1.0, 24.82N×122.21E, Error ellipse: s-maj=30.0km s-min=12.6km az=223.0*
ISC 17 21:54:37.2±6.0**, 24.9N**±0.2×**122.4E**±0.4**, h24**^{km}±44^{km}**, h22**^{km}±1.2^{km}**:pP-P, n6,** σ**0^{s}65**/6**, mb3.2**/3**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TATO	Taipei	0.79	277	eP	Pb	21 54 52.2	0.0
TATO				eS	Sb	21 55 02.3	0.0
SONM	Songino Array	26.16	335	P	P	22 00 11.5	0.0
	0.3nm,0.9s,mb2.8,baz=143,slow=7.2,SNR=2.2						
SONM				pP	pP	22 00 18.6	+0.1
	0.5nm,0.6s,baz=157,slow=10,SNR=4.8						
ZAL	Zalesovo	40.26	326	pP	pP	22 02 19.0	-2.0
	0.7nm,1.0s,baz=289,slow=8.9,SNR=2.0						
WRAB	Tennant Creek	46.05	164	P	P	22 03 01.0	-0.2
WRA	Warramunga Arr	46.05	164	P	P	22 03 00.6	-0.6
	0.4nm,0.7s,mb3.4,baz=346,slow=8.1,SNR=5.6						
WRA				pP	pP	22 03 07.0	-1.4
	0.9nm,0.7s,baz=347,slow=8.7,SNR=6.3						
ASAR	Alice Springs	49.54	166	P	P	22 03 29.1	+0.7
	0.2nm,0.6s,mb3.3,baz=344,slow=6.2,SNR=3.5						
ASAR				pP	pP	22 03 35.1	-0.5
	0.8nm,0.8s,baz=338,slow=6.1,SNR=4.1						

IDC ***17*** *22:08:25.8±2.2, 2.52S×67.59E, mb3.7/6, mb1 3.9/6, mb1mx3.6/18, MS3.3/4, Ms1 3.4/4, ms1mx3.1/21, Error ellipse: s-maj=62.7km s-min=27.0km az=61.0*
NEIC ***17*** *22:08:33.3±0.6, 2.22S×68.70E, h10^{km}, mb4.2/4, Error ellipse: s-maj=18.4km s-min=13.6km az=130.0*
ISC 17 22:08:31.6±0.7**, 2.2S**±0.1×**68.7E**±0.1**, h10**^{km}**, n21,** σ**0^{s}76**/17**, mb4.2**/14**, MS3.4**/4**, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALK	Pallekele	15.24	52	ePn	P	22 12 08.3	-0.6
PALK				eS	Sx	22 14 42.8	
DMN	Daman	33.61	27	eP	P	22 15 14.9	+0.4
	24nm,1.1s,mb5.0						
PKI	Pulchoki	33.72	27	eP	P	22 15 15.4	0.0
GKN	Gorkha	33.74	26	eP	P	22 15 15.9	+0.2
	18nm,1.0s,mb5.0						
KKN	Kakani	33.84	27	eP	P	22 15 17.3	+0.8
	12nm,0.9s,mb4.8						
GUN	Gumba	34.22	28	eP	P	22 15 20.9	+1.1
	26nm,1.1s,mb5.1						
CMAR	Chiang Mai Arr	36.16	54	P	P	22 15 37.5	+1.0
	0.4nm,0.8s,mb3.4,baz=228,slow=11,SNR=3.2						
CMAR				LR	LR	22 27 59.6	
	comp=Z,37nm,20.7s,MS3.1,baz=190,slow=32						
LSZ	Lusaka	42.00	250	eP	P	22 16 25.3	+0.3
	2.3nm,0.6s,mb4.0						
BRTR	Keskin Array B	52.70	326	LR	LR	22 40 03.8	
	comp=Z,27nm,18.6s,MS3.3,baz=215,slow=36						
KURK	Kurchatov	53.43	8	eP	P	22 17 52.6	-1.4
	4.7nm,1.0s,mb4.4						
BVAR	Borovoye Array	55.08	1	P	P	22 18 00.8	-5.3
	0.5nm,0.7s,mb3.6,baz=187,slow=12,SNR=2.3						
ZAL	Zalesovo	57.56	11	P	P	22 18 22.3	-1.5
	0.7nm,0.7s,mb3.8,baz=258,slow=7.0,SNR=5.0						
ZAL	Zalesovo	57.56	11	P	P	22 18 22.3	-1.5
FITZ	Fitzroy Crossi	57.95	110	LR	LR	22 38 55.1	
	comp=Z,27nm,18.9s,MS3.4,baz=114,slow=31						
SONM	Songino Array	59.72	28	P	P	22 18 39.2	+0.2
	2.2nm,0.9s,mb4.2,baz=221,slow=7.9,SNR=14						
WRA	Warramunga Arr	66.35	111	P	P	22 19 23.1	-0.1
	1.0nm,0.8s,mb3.9,baz=284,slow=6.0,SNR=8.1						
WRAB	Tennant Creek	66.36	111	eP	P	22 19 22.3	-1.0
	1.2nm,0.6s,mb4.1						
ASAR	Alice Springs	66.42	115	P	P	22 19 23.7	0.0
	0.4nm,0.4s,mb3.8,baz=279,slow=6.7,SNR=6.8						
FINES	FINESS Array B	71.39	340	LR	LR	22 50 34.2	
	comp=Z,29nm,19.6s,MS3.5,baz=182,slow=36						
VNDA	Vanda	88.51	167	P	P	22 21 25.7	+0.5
	0.6nm,0.5s,mb4.2						
TXAR	Lajitas Array	152.10	346	PKPab	PKPab	22 28 31.1	-8.8
	0.5nm,0.9s,baz=34,slow=4.5,SNR=4.6						

MAN 17 22:14:06.1, 13.53N×120.48E, h59^{km}, mb4.0, ML2.8, MS2.4, 1C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LUBP	Lubang	0.31	312	⇑eP	P	22 14 18.6	+2.4
TGY	Tagaytay City	0.72	38	⇓iP	P	22 14 22.2	+1.6
TGY				eS	S	22 14 33.9	+2.4
LQP	Lukban	1.18	60	⇓iP	P	22 14 27.4	+0.7
LQP				eS		22 15 53.5	
SJMP	San Jose	1.23	150	eP	P	22 14 28.2	+0.7
SJMP				eS	S	22 14 43.5	+0.2
BOAC	Boac	1.33	93	eP	P	22 14 29.3	+0.3
BOAC				eS	S	22 14 47.3	+1.4
BUSP	Coron	1.54	190	eP	P	22 14 32.4	+0.5
BUSP				eS	S	22 14 51.5	+0.6
OTRP	Odiongan	1.90	127	eP	P	22 14 38.3	+1.5
PCPH	Palayan	2.11	16	eP	P	22 14 39.8	0.0
PCPH				eS	S	22 15 04.8	+0.1

IDC ***17*** *22:29:44.8±8.7, 17.67S×178.71W, h498^{km}±105^{km}, mb3.4/9, mb1 3.7/9, mb1mx3.5/16, Error ellipse: s-maj=50.5km s-min=21.3km az=1.0*
NEIC ***17*** *22:29:47.9±1.2, 17.68S×178.82W, h534^{km}±15^{km}, mb3.9/6, Error ellipse: s-maj=20.1km s-min=11.4km az=149.0*
ISC 17 22:29:46.8±1.4**, 17.7S**±0.1×**178.9W**±0.1**, h529**^{km}±18^{km}**, n24,** σ**0^{s}99**/21**, mb3.8**/11**, 3C-1D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	7.80	62	eP	P	22 31 43.1	+0.3
	40nm,0.7s						
URZ	Urewera	20.79	189	P	P	22 33 50.1	-1.8
	14nm,1.1s,baz=215,slow=16,SNR=3.6						
STKA	Stephens Creek	38.35	241	eP	P	22 36 24.9	+1.6
	2.1nm,0.6s,mb3.8						
STKA	Stephens Creek	38.35	241	P	P	22 36 25.0	+1.6
	3.7nm,0.7s,mb4.1,baz=93,slow=11,SNR=7.5						
WB2	Warramunga Arr	44.23	259	eP	P	22 37 10.3	-0.2
WRAB	Tennant Creek	44.23	259	eP	P	22 37 10.2	-0.3
	1.3nm,0.6s,mb3.6						
WRA	Warramunga Arr	44.24	259	P	P	22 37 10.3	-0.2
	1.2nm,0.6s,mb3.6,baz=95,slow=7.0,SNR=29						
ASAR	Alice Springs	44.42	254	P	P	22 37 12.2	+0.2
	12nm,0.5s,mb4.7,baz=88,slow=8.1,SNR=190						
ASPA	Alice Springs	44.43	254	eP	P	22 37 12.1	+0.1
KAKA	Kakadu	47.19	269	eP	P	22 37 38.7	+5.4
	2.7nm,0.5s,mb4.0						
FITZ	Fitzroy Crossi	52.63	260	eP	P	22 38 13.4	-0.1
	2.2nm,1.7s,mb3.2						
FITZ	Fitzroy Crossi	52.63	260	P	P	22 38 13.4	-0.1
	2.2nm,1.1s,mb3.4,baz=156,slow=10.0,SNR=3.7						
NVAR	Mina Array Bea	79.58	44	P	P	22 41 00.5	+0.6
	1.0nm,0.6s,mb3.4,baz=192,slow=8.3,SNR=3.7						
ILAR	Eielson Array	85.78	13	P	P	22 41 28.6	-1.7
	0.5nm,0.4s,mb3.5,baz=226,slow=5.0,SNR=12						
TXAR	Lajitas Array	86.25	58	P	P	22 41 34.2	+0.8
	1.5nm,0.7s,mb3.7,baz=216,slow=6.0,SNR=21						
BW06	Boulder Array	87.50	44	eP	P	22 41 38.6	-0.4
	1.0nm,0.5s,mb3.8						
PDAR	Pinedale Array	87.50	44	P	P	22 41 38.6	-0.3
	0.8nm,0.5s,mb3.7,baz=223,slow=2.7,SNR=12						
SNAA	Sanae	90.82	179	⇑i	P	22 41 52.2	-1.5
VNA3	Neumayer Olymp	90.98	177	⇓i	P	22 41 57.2	+2.7
VNA2	Neumayer--Watz	91.41	177	⇑i	P	22 41 57.5	+1.0
VNA1	Neumayer--Stat	91.64	177	⇑i	P	22 41 57.5	0.0
BRTR	Keskin Array B	144.32	315	PKP	PKPdf	22 48 23.2	+1.0
	0.7nm,0.6s,baz=117,slow=2.8,SNR=5.2						
CLL	Collm	145.16	347	i PKP1	PKPbc	22 48 25.5	+1.2
GERES	GERESS Array B	147.29	345	PKPbc	PKPdf	22 48 31.3	+4.4
	1.1nm,0.4s,baz=7.8,slow=2.8,SNR=7.6						

IDC ***17*** *22:37:32.0±0.8, 49.03S×123.86E, mb4.1/8, mb1 4.2/9, mb1mx4.2/11, ML2.5/1, MS3.8/6, Ms1 3.9/6, ms1mx3.7/12, Error ellipse: s-maj=37.7km s-min=16.2km az=104.0*
NEIC ***17*** *22:37:33.6±0.5, 48.98S×123.86E, h10^{km}, mb4.4/5, MS4.2/1, Error ellipse: s-maj=22.7km s-min=9.1km az=100.0*
ISC 17 22:37:31.8±0.5**, 49.03S**±0.07×**123.9E**±0.2**, h10**^{km}**, n28,** σ**0^{s}90**/25**, mb4.0**/9**, MS3.8**/6**, 8C-1D, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NWAO	Narrogin (SRO)	16.83	340	Pn	P	22 41 30.4	+1.4
	0.9nm,0.3s,baz=162,slow=9.3,SNR=6.8						
NWAO				LR	LR	22 46 28.7	
	comp=Z,703nm,20.0s,baz=249,slow=32						
NWAO	Narrogin (SRO)	16.83	340	eP	P	22 41 27.9	-1.1
	34nm,1.3s						
CASY	Casey	18.63	197	eP	P	22 41 50.3	-0.9
	20nm,1.0s						
STKA	Stephens Creek	21.72	44	P	P	22 42 26.1	+1.1
	3.2nm,0.9s,mb3.8,baz=189,slow=12,SNR=5.7						
STKA	Stephens Creek	21.72	44	eP	P	22 42 25.6	+0.7
ASAR	Alice Springs	26.52	21	P	P	22 43 10.8	-0.4
	3.0nm,0.8s,mb3.9,baz=191,slow=9.4,SNR=20						
ASAR				LR	LR	22 52 15.3	
	comp=Z,175nm,20.9s,MS3.6,baz=190,slow=33						
WRA	Warramunga Arr	30.21	20	P	P	22 43 43.3	-1.3
	0.4nm,0.7s,mb3.3,baz=181,slow=12,SNR=7.3						
WRA				LR	LR	22 55 10.1	
	comp=Z,163nm,18.7s,MS3.7,baz=205,slow=35						
VNDA	Vanda	32.04	165	P	P	22 43 59.7	-0.4
	1.2nm,0.8s,mb3.8,baz=304,slow=8.7,SNR=9.3						
VNDA				LR	LR	22 55 38.8	
	comp=Z,372nm,20.6s,MS4.1,baz=322,slow=34						
VNDA	Vanda	32.04	165	eP	P	22 43 59.2	-1.0
	7.3nm,1.2s,mb4.4						
SBA	Scott Base	33.08	165	P	P	22 44 09.0	-0.2
MAW	Mawson	35.15	216	P	P	22 44 26.6	-0.5
	5.8nm,0.9s,mb4.5,baz=71,slow=11,SNR=6.8						
MAW	Mawson	35.15	216	eP	P	22 44 26.5	-0.6
	15nm,1.2s,mb4.8						
QSPA	South Pole Qui	41.10	180	eP	P	22 45 17.3	+0.6
	10.0nm,1.2s,mb4.3						
QSPA				LR	LR		
	comp=Z,350nm,20.6s,MS4.2						
SNAA	Sanae	53.87	198	⇑i	P	22 46 56.2	-0.3
SNAA	Sanae	53.87	198	⇑i	P	22 47 02.9	+6.4
SNAA	Sanae	53.87	198	P	P	22 46 56.2	-0.3
	comp=Z,5.6nm,0.8s,mb4.6,baz=146,slow=9.0,SNR=82						
SNAA				LR	LR	23 08 20.8	
	comp=Z,40nm,18.1s,MS3.5,baz=357,slow=34						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNAA	Sanae	53.87	198	⇑iP	P	22 46 56.2	-0.3
VNA2	Neumayer--Watz	55.37	197	⇑i	P	22 47 08.9	+1.3
VNA2	Neumayer--Watz	55.37	197	⇑i	P	22 47 16.2	+8.6
VNA3	Neumayer Olymp	55.55	197	⇓i	P	22 47 10.4	+1.5
VNA3	Neumayer Olymp	55.55	197	⇑i	P	22 47 17.0	+8.1
VNA1	Neumayer--Stat	55.76	197	⇑i	P	22 47 12.7	+2.3
VNA1	Neumayer--Stat	55.76	197	⇑i	P	22 47 19.3	+8.9
CMAR	Chiang Mai Arr	70.75	335	P	P	22 48 50.2	+0.1
	comp=Z,1.8nm,1.0s,mb4.0,baz=193,slow=5.1,SNR=10						
CMAR				LR	LR	23 20 31.5	
	comp=Z,60nm,18.5s,MS3.9,baz=200,slow=36						
SONM	Songino Array	97.66	348	P	P	22 51 07.6	+0.4
	comp=Z,0.6nm,1.1s,mb4.0,baz=180,slow=4.3,SNR=2.9						
TXAR	Lajitas Array	139.03	101	PKP	PKPdf	22 56 59.0	-2.5
	comp=Z,0.3nm,0.7s,baz=270,slow=0.9,SNR=2.9						
YKA	Yellowknife Ar	145.75	45	PKPbc	PKPbc	22 57 11.2	+1.2
	comp=Z,1.4nm,0.7s,baz=267,slow=2.7,SNR=3.7						
YKA	Yellowknife Ar	145.75	45	PKPbc	PKPbc	22 57 11.2	+1.2

CASC 17 22:53:18.2±2.4, 12.51N×87.88W, h66km±41km, MD3.6, ML3.1, 5C-2D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CNCH	Conchagua	0.77	4	⇑eP	P	22 53 33.9	+0.1
CNCH				eS	S	22 53 46.1	+0.9
CRIN	San Cristobal	0.83	77	eP	P	22 53 35.0	+0.4
CRIN				eS	S	22 53 47.7	+1.0
LEON	Leon	0.97	95	⇑eP	P	22 53 35.9	-0.4
BLLM	Bellamira	0.99	340	⇓eP	P	22 53 36.6	0.0
BLLM				eS	S	22 53 53.2	+2.8
VSM	San Miguel	0.99	337	eP	P	22 53 37.4	+0.7
VSM				eS	S	22 53 51.1	+0.8
TEL3	Telica 3	1.01	86	⇑eP	P	22 53 36.8	-0.2
TEL3				eS	S	22 53 50.2	-0.6
TELN	Telica	1.03	85	eP	P	22 53 36.8	-0.4
TELN				eS	S	22 53 51.0	-0.2
MIRN	Miramar	1.15	93	⇑eP	P	22 53 38.4	-0.2
MIRN				eS	S	22 53 53.4	-0.5
CNGN	Cerro Negro	1.16	90	eP	P	22 53 38.9	+0.1
CAHU	Cacacuatique	1.29	346	eP	P	22 53 40.7	-0.1
CAHU				eS	S	22 53 58.9	+1.5
COPN	Copaltepe	1.30	104	⇓iP	P	22 53 41.9	+0.9
COPN				eS	S	22 53 58.0	+0.2
MOMJ	Momotombo	1.31	94	eP	P	22 53 40.6	-0.5
MOMJ				eS	S	22 53 57.6	-0.5
SNVI	San Vicente	1.44	320	eP	P	22 53 42.6	-0.2
SNVI				eS	S	22 54 00.3	-0.6
APYN	Apoyeque	1.52	100	eP	P	22 53 43.8	-0.1
LCBS	La Ceiba	1.56	317	eP	P	22 53 44.4	-0.1
LCBS				eS	S	22 54 03.1	-0.7
LFRS	El Faro	1.60	314	eP	P	22 53 44.4	-0.5
LFRS				eS	S	22 54 03.4	-1.2
MGAN	Managua	1.64	102	i	P	22 54 06.3	+21
	comp=E,232nm,0.4s						
TICN	Ticuantepe	1.68	106	eP	P	22 53 46.4	+0.4
WILN	Americas 2	1.69	102	eS	S	22 54 07.4	+0.6
LFU	La Fuente	1.72	316	⇑eP	P	22 53 47.5	+0.9
PYTN	Playitas	1.78	89	eP	P	22 53 44.6	-2.8

IDC 17 22:55:17.2±1.6, 33.59S×57.24E, mb3.8/5, mb1 4.0/5, mb1mx3.7/16, MS3.6/4, Ms1 3.6/4, ms1mx3.1/21, Error ellipse: s-maj=50.1km s-min=27.2km az=120.0

NEIC 17 22:55:18.2±1.1, 33.57S×57.13E, h10km, mb3.4/3, Error ellipse: s-maj=38.7km s-min=19.6km az=120.0

ISC 17 22:55:17.2±1.9, 33.7S±0.3×57.3E±0.4, h10km, n13, σ0.61/9, mb3.8/6, MS3.7/4, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MAW	Mawson	34.08	176	LR	LR	23 12 51.6	
	comp=Z,59nm,19.1s,MS3.3,baz=108,slow=31						
SNAA	Sanae	49.05	201	P	P	23 04 06.8	+0.8
	0.6nm,1.2s,mb3.5,baz=125,slow=15,SNR=4.1						
SNAA	Sanae	49.05	201	eP	P	23 04 07.0	+1.1
	0.2nm,0.7s,mb3.3						
QSPA	South Pole Qui	56.45	180	eP	P	23 04 59.9	-1.1
	2.3nm,0.7s,mb4.3						
VNDA	Vanda	60.41	166	P	P	23 05 28.3	-0.3
	0.5nm,0.8s,mb3.6,baz=244,slow=7.3,SNR=3.1						
VNDA				LR	LR	23 28 35.8	
	comp=Z,55nm,19.2s,MS3.7,baz=288,slow=33						
VNDA	Vanda	60.41	166	P	P	23 05 28.2	-0.4
	0.1nm,0.5s,mb3.1						
VNDA				LR	LR	23 28 35.8	
CMAR	Chiang Mai Arr	65.32	44	P	P	23 06 01.6	-0.4
	0.7nm,0.7s,mb3.8,baz=226,slow=7.1,SNR=6.1						
ASAR	Alice Springs	66.55	104	P	P	23 06 09.9	+0.2
	1.1nm,0.5s,mb4.1,baz=235,slow=5.9,SNR=15						
WRA	Warramunga Arr	68.68	100	P	P	23 06 23.5	+0.3
	1.1nm,0.6s,mb4.0,baz=239,slow=5.6,SNR=26						
WB2	Warramunga Arr	68.69	100	eP	P	23 06 23.6	+0.3
BRTR	Keskin Array B	76.29	341	LR	LR	23 42 07.7	
	comp=Z,40nm,18.6s,MS3.8,baz=120,slow=37						
FINES	FINESS Array B	98.17	345	LR	LR	23 52 27.8	
	comp=Z,38nm,18.1s,MS3.9,baz=17,slow=35						
ILAR	Eielson Array	145.59	18	PKPbc	PKPbc	23 14 54.7	-0.8
	0.4nm,0.7s,baz=303,slow=4.2,SNR=4.9						

NEIC 17 23:20:22.2±1.1, 14.94S×179.23W, h386km±13km, mb3.7/4, Error ellipse: s-maj=24.8km s-min=7.8km az=153.0

IDC 17 23:20:37.8±18.0, 15.02S×179.52W, h567km±230km, mb3.2/8, mb1 3.5/8, mb1mx3.4/14, Error ellipse: s-maj=60.5km s-min=28.1km az=85.0

ISC 17 23:20:21.2±1.7, 15.0S±0.2×179.2W±0.1, h389km±20km, n19, σ0.60/19, mb3.8/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	7.32	82	eP	P	23 22 08.9	-0.1
CTAO	Charters Tower	33.24	256	eP	P	23 26 26.3	+1.0
	2.5nm,0.6s,mb3.7						
STKA	Stephens Creek	39.41	238	eP	P	23 27 17.5	+1.0
	5.2nm,0.7s,mb4.0						
STKA	Stephens Creek	39.41	238	P	P	23 27 17.6	+1.1
	5.7nm,0.7s,mb4.0,baz=73,slow=7.9,SNR=13						
WB2	Warramunga Arr	44.43	257	eP	P	23 27 56.9	-0.2
WRAB	Tennant Creek	44.43	257	eP	P	23 27 56.7	-0.4
	2.3nm,0.6s,mb3.7						
WRA	Warramunga Arr	44.44	257	P	P	23 27 56.9	-0.3
	1.1nm,0.3s,mb3.6,baz=94,slow=7.7,SNR=36						
ASAR	Alice Springs	44.88	251	P	P	23 28 00.9	+0.3
	25nm,0.4s,mb4.9,baz=84,slow=8.6,SNR=422						
ASPA	Alice Springs	44.88	251	eP	P	23 28 00.7	+0.1
KAKA	Kakadu	46.94	267	eP	P	23 28 22.8	+6.1
	4.1nm,0.6s,mb3.9						
FORT	Forrest	50.58	242	eP	P	23 28 43.3	-0.7
	48nm,0.7s,mb4.8						
FITZ	Fitzroy Crossi	52.76	259	eP	P	23 28 59.7	-0.6
	0.9nm,0.4s,mb3.4						
VNDA	Vanda	63.26	185	P	P	23 30 10.4	-0.7
	0.7nm,1.1s,mb3.1,baz=21,slow=7.2,SNR=3.2						
VNDA	Vanda	63.26	185	eP	P	23 30 10.6	-0.5
YBH	Yreka Blue Hor	76.81	40	P	P	23 31 33.0	+0.3
	1.6nm,0.9s,mb3.6,baz=198,slow=6.4,SNR=3.4						
NVAR	Mina Array Bea	77.91	45	P	P	23 31 38.7	0.0
	1.6nm,0.8s,mb3.7,baz=214,slow=6.5,SNR=2.8						
ILAR	Eielson Array	83.26	13	P	P	23 32 05.0	-0.9
	0.8nm,0.4s,mb3.8,baz=233,slow=5.4,SNR=24						
TXAR	Lajitas Array	85.14	58	P	P	23 32 17.1	+1.1
	0.9nm,0.9s,mb3.5,baz=213,slow=6.4,SNR=8.4						
PDAR	Pinedale Array	85.81	44	P	P	23 32 18.8	-0.2
	0.7nm,0.5s,mb3.6,baz=230,slow=3.7,SNR=7.9						

NEIC 17 23:25:43.5±2.1, 37.46N×76.80E, h35km, mb4.2/1, Error ellipse: s-maj=34.1km s-min=23.6km az=165.0

NNC 17 23:25:46.2±7.0, 38.40N×77.63E, mpv4.0, Error ellipse: s-maj=91.3km s-min=33.3km az=36.0

BJI 17 23:25:47.0, 38.03N×77.68E, h33km, mb4.4, ML4.0

IDC 17 23:25:55.4±12.0, 37.95N×76.87E, h135km±108km, mb3.3/4, mb1 3.5/6, mb1mx3.2/20, ML3.5/2, Error ellipse: s-maj=75.2km s-min=25.8km az=179.0

ISC 17 23:25:42.4±0.9, 37.60N±0.04×77.53E±0.08, h63km±14km, n27, σ1.19/31, mb3.6/4, 3C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH	Kashi	2.27	328	⇑iP	P	23 26 16.8	-1.6
KSH				S	S	23 26 45.0	-0.1
KSH				Smax			
	comp=N,3μm,0.4s						
KSH				Smax			
	comp=E,3μm,0.8s						
CHCP	Chirah Chowk	5.24	223	P	P	23 27 02.2	+2.2
THN	Thein Dam	5.36	197	eP	P	23 27 04.9	+3.3
	comp=E,44nm,0.2s						
AAK	Ala-Archa	5.54	336	⇑Pn	P	23 27 00.2	-3.9
	comp=E,6.7nm,0.6s						
AAK				⇑Pg	P	23 27 15.3	+11
	comp=E,28nm,0.7s						
AAK				⇓Sn	S	23 27 58.0	-9.2
	comp=E,33nm,0.7s						
AAK				⇓Lg		23 28 24.7	
	comp=E,46nm,0.6s						
AAK	Ala-Archa	5.54	336	ePn	P	23 26 59.3	-4.8
	comp=E,5.6nm,0.6s						
CEP	Cherat	5.92	232	P	P	23 27 08.8	-0.6
CEP				S	S	23 28 18.0	+1.3
THW	Thamme Wali	6.74	226	P	P	23 27 19.6	-1.2
SARP	Sargodha	6.93	217	P	P	23 27 31.0	+7.5
DDI	Dehra Dun	7.27	176	eP	P	23 27 29.0	+0.7
SBDP	Sheikh Budin	7.64	228	P	P	23 27 32.4	-0.9
DRP	Derazinda	8.39	228	P	P	23 27 42.6	-1.1
MK31	Makanchi Array	9.84	20	P	P	23 27 58.1	-5.4
	baz=193,slow=11,SNR=34						
KOLN	Koldanda	11.05	151	eP	P	23 28 18.3	-1.6
	comp=E,12nm,0.9s						
GKN	Gorkha	11.28	146	eP	P	23 28 22.9	-0.1
	comp=E,7.0nm,0.3s						
KKN	Kakani	11.75	144	eP	P	23 28 28.9	-0.5
	comp=E,8.3nm,0.5s						
GUN	Gumba	11.94	142	eP	P	23 28 33.6	+1.7
	comp=E,7.0nm,0.5s						
PKI	Pulchoki	12.00	144	eP	P	23 28 32.0	-0.7
	comp=E,5.3nm,0.4s						
KURK	Kurchatov	13.14	3	P	P	23 28 42.4	-5.3
	comp=E,14nm,1.1s,baz=197,slow=14,SNR=3.5						
BVA0	Borovoye Array	16.21	344	⇓P	P	23 29 28.7	+1.5
	comp=E,1.9nm,0.9s,baz=155,slow=12,SNR=20						
BVAR	Borovoye Array	16.21	344	P	P	23 29 28.7	+1.5
	comp=E,0.4nm,0.3s,baz=157,slow=11,SNR=19						
BRVK	Borovoye	16.26	344	eP	P	23 29 28.6	+0.8
	comp=E,20nm,0.9s						
BRVK				e		23 29 34.0	
ZAL	Zalesovo	17.09	15	P	P	23 29 44.3	+6.0
	comp=E,0.3nm,0.3s,baz=262,slow=10,SNR=6.9						
SONM	Songino Array	23.42	55	P	P	23 30 54.4	+8.1
	comp=E,1.4nm,0.8s,mb3.5,baz=252,slow=9.8,SNR=13						
BRTR	Keskin Array B	34.08	287	P	P	23 32 21.9	-0.8
	comp=E,0.3nm,0.6s,mb3.4,baz=76,slow=5.9,SNR=4.0						
FINES	FINESS Array B	39.59	324	P	P	23 33 08.0	-0.7
	comp=E,2.6nm,1.0s,mb3.9,baz=102,slow=13,SNR=5.5						
FINES	FINESS Array B	39.59	324	P	P	23 33 08.0	-0.7
ARCES	ARCESS Array B	42.22	336	P	P	23 33 29.9	-0.2
	comp=E,1.0nm,0.6s,mb3.6,baz=120,slow=7.3,SNR=4.0						

WEL 17 23:53:03.0±0.4, 38.04S×176.48E, h158km±3km, ML3.6/3, 5C, Error ellipse: s-maj=4.0km s-min=3.3km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	0.54	114	⇑PN	P	23 53 25.3	-0.6
URZ				SN	S	23 53 42.7	-0.7
MWZ	Matawai	0.87	110	⇑PN	P	23 53 27.5	-0.2
MWZ				SN	S	23 53 46.3	-0.4
BKZ	Black Stump Fm	1.12	180	PN	P	23 53 29.6	-0.1
BKZ				SN	S	23 53 49.9	-0.4
MGZ	Maungaku	1.21	217	PN	P	23 53 30.8	+0.2
NGZ	Ngauruhoe	1.33	211	PN	P	23 53 31.9	+0.2
KNZ	Kokohu	1.35	137	⇑PN	P	23 53 31.9	0.0
KNZ				eSN	S	23 53 53.9	-0.5
TUVZ	Tukino	1.39	208	⇑PN	P	23 53 32.3	0.0
PUZ	Puketiti	1.40	92	PN	P	23 53 31.7	-0.8
PUZ				SN	S	23 53 54.1	-1.0
WNVZ	Wahianoa	1.46	208	⇑PN	P	23 53 32.9	-0.2
MOVZ	Moawhango	1.48	203	PN	P	23 53 32.5	-0.8
MOVZ				SN	S	23 53 55.4	-1.2
MRZ	Mangatainoka R	2.71	195	PN	P	23 53 45.0	-2.6
MRZ				SN	S	23 54 18.8	-3.1
KIW	Kapiti Island	3.07	203	PN	P	23 53 49.2	-3.0
MSWZ	Moikau Station	3.50	195	ePN	P	23 53 53.8	-4.0

LDG 18 00:01:13.0±0.7, 16.11S×166.53E, h10km, Mb5.0/2, Error ellipse: s-maj=108.9km s-min=50.6km az=41.0

IDC 18 00:01:28.1±0.8, 15.32S×167.37E, h122km±6km, mb4.2/13, mb1 4.3/14, mb1mx4.2/19, MS3.4/4, Ms1 3.4/4, ms1mx3.2/16, Error ellipse: s-maj=14.7km s-min=12.5km az=149.0

BJI 18 00:01:28.1, 15.30S×167.40E, h120km, mb4.7

NEIC 18 00:01:28.1±0.2, 15.33S×167.43E, mb4.6/15, Error ellipse: s-maj=7.9km s-min=6.5km az=108.0

ISC 18 00:01:27.0±1.2, 15.38S±0.07×167.37E±0.07, h123km±10km, h121km±2.4km:pP-P, n99, σ0.91/53, mb4.5/25, 25C-3D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKM	Butte a Klehm	2.43	160	⇑iP	P	00 02 06.3	-0.3
BKM				S	S	00 02 36.9	+0.3
DZM	Mont Dzumac	6.72	187	⇑iP	P	00 03 04.4	0.0
DZM				eS	S	00 04 19.0	-0.9
DZM	Mont Dzumac	6.72	187	⇑iP	P	00 03 04.4	0.0
DZM				eS	S	00 04 19.0	-0.9
NOUC	Port Laguerre	6.76	188	eP	P	00 03 05.8	+0.8
NOUC				eS	S	00 04 16.6	-4.5
NOUC	Port Laguerre	6.76	188	eP	P	00 03 05.8	+0.8
NOUC				eS	S	00 04 16.6	-4.5
PMG	Port Moresby	20.60	284	P	P	00 05 58.5	+0.2
	5.2nm,0.5s,baz=186,slow=6.7,SNR=4.1						
CTA	Charters Tower	20.64	254	eP	P	00 06 00.6	+2.0
	5.8nm,0.7s						
CTA	Charters Tower	20.64	254	P	P	00 05 59.7	+1.1
	5.8nm,0.8s,baz=86,slow=11,SNR=6.3						
CTAO	Charters Tower	20.64	254	eP	P	00 06 00.5	+1.8
	21nm,1.2s						
URZ	Urewera	24.36	161	P	P	00 06 35.1	+0.3
	31nm,0.8s,mb4.7,baz=6.8,slow=8.6,SNR=8.1						
RPZ	Rata Peaks	28.42	174	P	P	00 07 11.7	-0.5
	11nm,0.9s,mb4.4,baz=312,slow=3.3,SNR=8.1						
RPZ				LR	LR	00 16 58.9	
	comp=Z,50nm,18.7s,baz=320,slow=33						
RPZ	Rata Peaks	28.42	174	P	P	00 07 11.7	-0.4
RPZ				LR	LR	00 16 58.9	
STKA	Stephens Creek	28.65	230	⇓iP	P	00 07 15.1	+0.8
	2.7nm,0.5s,mb4.1						
STKA	Stephens Creek	28.65	230	P	P	00 07 14.9	+0.6
	2.9nm,0.4s,mb4.2,baz=57,slow=8.1,SNR=11						
STKA				PcP	PcP	00 10 20.4	-1.8
	4.2nm,0.6s,baz=176,slow=0.1,SNR=6.7						
STKA				ScP		00 13 53.3	
	3.8nm,0.9s,baz=158,slow=3.0,SNR=4.5						
WB2	Warramunga Arr	31.76	257	eP	P	00 07 41.3	-0.5
WRAB	Tennant Creek	31.76	257	eP	P	00 07 40.5	-1.3
	4.1nm,0.7s,mb4.3						
WRA	Warramunga Arr	31.77	257	P	P	00 07 40.5	-1.4
	2.5nm,0.7s,mb4.0,baz=86,slow=9.0,SNR=30						
WRA				PcP	PcP	00 10 29.5	-0.9
	0.4nm,0.6s,baz=86,slow=3.2,SNR=4.6						
WRA				S	S	00 12 40.3	-1.3
	1.0nm,1.1s,baz=84,slow=15,SNR=4.5						
WRA				ScP		00 14 04.2	
	1.4nm,0.8s,baz=83,slow=3.6,SNR=10						
WRA				LR	LR	00 20 20.8	
	comp=Z,67nm,18.1s,baz=70,slow=36						
ASAR	Alice Springs	32.54	250	P	P	00 07 48.1	-0.4
	7.2nm,0.5s,mb4.8,baz=78,slow=8.9,SNR=62						
ASAR				pP	pP	00 08 14.0	-1.7
	3.9nm,0.8s,baz=75,slow=8.6,SNR=3.4						
ASAR				PcP	PcP	00 10 31.1	-1.4
	1.0nm,0.6s,baz=86,slow=2.8,SNR=5.7						
ASAR				S	S	00 12 54.3	+0.7
	0.7nm,0.9s,baz=73,slow=15,SNR=3.8						
ASAR				ScP		00 14 05.8	
	3.4nm,0.9s,baz=85,slow=3.7,SNR=19						
ASAR				LR	LR	00 20 42.0	
	comp=Z,53nm,18.1s,baz=305,slow=35						
ASPA	Alice Springs	32.54	250	eP	P	00 07 48.3	-0.3
FORT	Forrest	39.05	240	eP	P	00 08 44.5	+1.0
	62nm,0.6s,mb5.6						
FITZ	Fitzroy Crossi	39.99	260	eP	P	00 08 52.2	+0.8
	5.2nm,0.6s,mb4.5						
MBWA	Marble Bar	45.47	255	eP	P	00 09 35.5	-0.3
	9.1nm,0.8s,mb4.6						
KLBR	Kellerberrin	47.88	241	eP	P	00 09 53.9	-0.7
	5.7nm,0.5s,mb4.7						
NWAO	Narrogin (SRO)	48.50	240	P	P	00 09 59.1	-0.3
	8.6nm,0.9s,mb4.7						
VNDA	Vanda	62.22	181	P	P	00 11 36.5	-1.0
	8.6nm,0.9s,mb4.8,slow=6.8,SNR=37						
VNDA				PcP	PcP	00 12 14.7	-1.3
	3.0nm,1.0s,baz=300,slow=4.6,SNR=3.9						
VNDA	Vanda	62.22	181	eP	P	00 11 36.5	-1.0
	10nm,0.9s,mb4.8						
SBA	Scott Base	62.49	180	eP	P	00 11 39.3	-0.1
	18nm,0.8s,mb5.2						
MDJ	Mudanjiang	68.89	332	P	P	00 12 20.3	-0.2
MDJ				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.7						
MDJ	Mudanjiang	68.89	332	eP	P	00 12 20.6	0.0
	comp=Z,14nm,0.9s,mb4.8						
ENH	Enshi	71.85	310	eP	P	00 12 37.2	-1.4
	comp=Z,9.9nm,0.8s,mb4.7						
QSPA	South Pole Qui	74.65	180	eP	P	00 12 54.0	0.0
	comp=Z,36nm,0.9s,mb5.1						
KMI	Kunming	74.73	302	eP	P	00 12 56.8	+1.3
KMI				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.4						
CMAR	Chiang Mai Arr	75.30	294	P	P	00 12 59.7	+0.8
	comp=Z,1.5nm,0.6s,mb3.9,baz=118,slow=3.5,SNR=10						
CMAR				pP	pP	00 13 29.9	+0.1
	comp=Z,2.0nm,1.0s,baz=109,slow=2.8,SNR=1.8						
MAW	Mawson	81.32	202	P	P	00 13 30.9	+0.1
	comp=Z,2.3nm,0.6s,mb4.2,baz=135,slow=5.3,SNR=4.5						
SONM	Songino Array	83.07	324	P	P	00 13 40.6	+0.4
	comp=Z,5.1nm,0.8s,mb4.4,baz=152,slow=7.9,SNR=32						
GTA	Gaotai	83.18	314	⇓P	P	00 13 42.5	+1.6
GTA				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.7						
SHL	Shillong	83.96	298	iP	P	00 13 46.0	+0.9
YBH	Yreka Blue Hor	85.81	45	P	P	00 13 53.8	-0.1
	comp=Z,2.2nm,0.8s,mb4.2,baz=114,slow=4.2,SNR=3.0						
ILAR	Eielson Array	87.11	18	P	P	00 13 57.7	-2.0
	comp=Z,1.7nm,0.5s,mb4.2,baz=241,slow=4.6,SNR=24						
ILAR				pP	pP	00 14 30.1	-1.3
	comp=Z,0.8nm,0.8s,baz=238,slow=5.2,SNR=2.5						
ILAR				LR	LR	00 51 29.2	
	comp=Z,28nm,19.9s,baz=357,slow=34						
SYO	Syowa Base	88.11	197	⇓P	P	00 14 04.1	-0.3
ELK	Elko	90.65	48	eP	P	00 14 16.8	-0.2
	comp=Z,1.1nm,0.7s,mb4.1						
SNAA	Sanae	92.91	183	⇑i	P	00 14 25.9	-0.8
VNA3	Neumayer Olymp	93.57	181	⇑i	P	00 14 30.9	+1.2
VNA2	Neumayer--Watz	93.84	182	⇑i	P	00 14 32.2	+1.3
VNA1	Neumayer--Stat	94.14	181	⇑i	P	00 14 33.9	+1.6
ZAL	Zalesovo	97.98	324	P	P	00 14 48.5	-1.6
	comp=Z,1.5nm,0.5s,mb4.8,baz=356,slow=6.1,SNR=10						
ARCES	ARCESS Array B	120.90	345	PKP	PKPdf	00 20 04.7	+0.3
	comp=Z,4.1nm,0.5s,baz=71,slow=1.5,SNR=32						
KAMS	Al Khamasin	125.54	284	P	PKPdf	00 20 11.6	-3.0
DJNS	Zahran al Janu	126.27	281	P	PKPdf	00 20 18.0	+2.0
FINES	FINESS Array B	126.36	338	PKP	PKPdf	00 20 15.4	+0.4
	comp=Z,6.0nm,1.1s,baz=64,slow=2.4,SNR=8.9						
TATS	Tathlith	126.51	283	P	PKPdf	00 20 14.7	-1.7
AFFS	‘Afif	127.20	289	P	PKPdf	00 20 19.1	+1.4
KMBO	Kilima Mbogo	128.05	256	PKP	PKPdf	00 20 22.0	+2.3
	comp=Z,1.2nm,0.7s,baz=25,slow=7.6,SNR=5.2						
BLJS	Baljurashi	128.30	283	P	PKPdf	00 20 21.5	+1.6
LTHS	Al Lith	129.44	284	P	PKPdf	00 20 21.5	-0.6
NB2	NORSAR Subarra	131.27	345	PKPdf	PKPdf	00 20 24.5	0.0
	comp=Z,4.6nm,1.4s,baz=27,slow=1.8						
NOA	NORSAR Array B	131.27	345	PKP	PKPdf	00 20 25.2	+0.7
	comp=Z,2.1nm,1.0s,baz=34,slow=1.8,SNR=4.1						
NOA	NORSAR Array B	131.27	345	PKP	PKPdf	00 20 25.2	+0.7
AKASG	Malin Array Be	131.32	326	PKP	PKPdf	00 20 25.8	+1.0
	comp=Z,0.2nm,0.4s,baz=49,slow=2.2,SNR=4.2						
GERES	GERESS Array B	140.26	333	PKhKP		00 20 37.4	
	comp=Z,0.7nm,0.7s,baz=45,slow=3.8,SNR=2.8						
GERES				PKP	PKPdf	00 20 42.6	+1.2
	comp=Z,0.5nm,0.7s,baz=27,slow=2.2,SNR=3.9						
GERES	GERESS Array B	140.26	333	PKP	PKPdf	00 20 37.4	-3.9
GERES				PKP	PKPdf	00 20 42.6	+1.2
CDF	Champ du Feu	143.21	338	ePKP1	PKPbc	00 20 44.6	-0.1
	comp=Z,6.7nm,0.6s						
HINF	Hinteralfeld	143.86	338	ePKP1	PKPbc	00 20 46.4	-0.3
	comp=Z,12nm,0.8s						
MEZF	Maizieres J’vi	143.91	340	ePKP1	PKPbc	00 20 47.1	+0.3
	comp=Z,42nm,1.1s						
CABF	La Chapelle	145.16	337	⇑iPKP1	PKPbc	00 20 51.7	+1.3
	comp=Z,133nm,1.1s						
FLN	La Foliniere	145.24	346	⇑iPKP1	PKPbc	00 20 51.0	+0.5
	comp=Z,90nm,0.6s						
LDF	La Druitiere	145.32	345	⇑iPKP1	PKPbc	00 20 51.2	+0.5
	comp=Z,67nm,0.7s						
LOR	Lormes	145.38	340	⇑iPKP1	PKPbc	00 20 52.0	+1.1
	comp=Z,76nm,1.0s						
SSF	Saint Saulge	145.67	340	⇑iPKP1	PKPbc	00 20 53.0	+1.3
	comp=Z,42nm,0.8s						
GRR	Gorron	145.68	346	⇑iPKP1	PKPbc	00 20 52.6	+1.0
	comp=Z,79nm,0.6s						
HYF	Humbligny	145.76	341	ePKP1	PKPbc	00 20 53.5	+1.6
LPL	La Plagne	145.82	335	⇑iPKP1	PKPbc	00 20 53.8	+1.7
	comp=Z,27nm,0.9s						
LPG	La Plagne	145.83	335	⇑iPKP1	PKPbc	00 20 54.0	+1.9
	comp=Z,27nm,0.7s						
SMF	Signal de Mont	145.93	340	ePKP1	PKPbc	00 20 53.5	+1.2
	comp=Z,32nm,0.8s						
AVF	Avril sur Loir	145.96	340	⇑iPKP1	PKPbc	00 20 53.4	+1.0
	comp=Z,32nm,0.6s						
SGMF	Saint Gilles	146.18	348	⇑iPKP1	PKPbc	00 20 54.0	+1.2
	comp=Z,42nm,0.6s						
BNI	Bardonecchia	146.22	335	ePKPdf	PKPdf	00 20 53.2	+1.4
ROSF	Rostrenen	146.24	349	⇑iPKP1	PKPbc	00 20 55.0	+2.0
	comp=Z,43nm,0.9s						
BGF	Bois d’Agland	146.33	341	⇑iPKP1	PKPbc	00 20 54.7	+1.5
	comp=Z,34nm,0.7s						
MBDF	Montbardon	146.45	335	ePKP1	PKPbc	00 20 56.1	+2.5
	comp=Z,6.4nm,0.5s						
QUIF	Quistinic	146.62	348	⇑iPKP1	PKPbc	00 20 55.0	+1.1
	comp=Z,17nm,0.6s						
ORIF	Oris-en-Rattie	146.65	336	ePKP1	PKPbc	00 20 55.9	+1.9
TCF	Toulx Ste Croi	146.77	341	⇑iPKP1	PKPbc	00 20 56.0	+1.7
	comp=Z,42nm,1.0s						
SBF	Sospel	146.86	333	ePKP1	PKPbc	00 20 55.9	+1.3
	comp=Z,96nm,1.1s						
PGF	Pioggiola	147.16	330	ePKP1	PKPdf	00 20 57.7	+4.3
	comp=Z,49nm,0.9s						
MFF	Saint Martin d	147.17	344	⇑iPKP1	PKPdf	00 20 57.0	+3.7
	comp=Z,62nm,0.8s						
VIVF	Saint-Julien-l	147.17	337	⇑iPKP1	PKPdf	00 20 57.2	+3.8
	comp=Z,24nm,1.1s						
FRF	La Foret Royal	147.45	334	ePKP1	PKPdf	00 20 57.6	+3.7
	comp=Z,9.5nm,0.6s						
SMRF	Simiane la Rot	147.56	335	ePKP1	PKPdf	00 20 58.4	+4.4
	comp=Z,5.6nm,0.6s						
LMR	La Mourre	147.69	333	ePKP1	PKPdf	00 20 58.2	+3.9
RJF	Les Rejaudoux	147.87	341	ePKP1	PKPdf	00 20 59.1	+4.6
	comp=Z,40nm,0.9s						
CAF	Calviac	148.03	340	ePKP1	PKPdf	00 20 59.7	+4.9
	comp=Z,21nm,1.0s						
LASF	Ste Croix	148.14	337	⇑iPKP1	PKPdf	00 21 00.0	+5.0
	comp=Z,30nm,1.1s						
LFF	La Frestale	148.44	342	ePKP1	PKPdf	00 21 00.5	+5.1
	comp=Z,38nm,1.0s						
MTLF	Montolieu	149.38	338	⇑iPKP1	PKPdf	00 21 03.0	+6.0
	comp=Z,27nm,1.1s						
EPF	Esparros	150.28	341	ePKP1	PKPdf	00 21 04.9	+6.5
SJPF	Ste Jean	150.68	343	ePKP1	PKPdf	00 21 06.3	+7.3
	comp=Z,25nm,1.3s						
ETSF	Etsaut	150.68	342	⇑iPKP1	PKPdf	00 21 06.6	+7.6
	comp=Z,12nm,0.6s						
ESDC	Sonseca Array	154.63	344	PKPab	PKPab	00 21 30.0	-1.0
	comp=Z,0.8nm,0.6s,baz=13,slow=3.4,SNR=4.1						

CNRM 18 00:03:07.4, 35.24N×3.83W, h6km, MD2.8

CSEM 18 00:03:08.4±0.1, 35.08N×4.02W, h8km, MD2.8, Error ellipse: s-maj=3.0km s-min=2.4km az=112.0

NEIC 18 00:03:11.1, 34.96N×4.01W, h24km, MG3.8(MDD), After MDD.

MDD 18 00:03:11.3±2.3, 34.96N×4.02W, h25km±33km, mb3.8/2, Error ellipse: s-maj=34.3km s-min=10.0km az=18.0, PRXIMO

SFS 18 00:03:11.0, 35.20N×4.01W, ML3.3

ISC 18 00:03:10.1±1.5, 35.12N±0.03×4.10W±0.04, h14km±10km, n21, σ0.97/40, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.32**	**119**	*i* P	**Pg**	**00 03 12.5**	**-4.4**
EMEL	**Melilla**	**0.95**	**79**	P	**Pb**	**00 03 27.3**	**-0.5**
	29nm,0.1s,SNR=4.0						
EMEL				S	**Sb**	**00 03 40.5**	**+0.4**
	34nm,0.2s,SNR=4.0						
EMLI	**Melilla**	**0.96**	**79**	P	**Pb**	**00 03 27.3**	**-0.6**
	29nm,0.1s,SNR=4.0						
EMLI				S	**Sb**	**00 03 40.5**	**+0.3**
	34nm,0.2s,SNR=4.0						
MELI	**Melilla**	**0.97**	**79**	*e*P	**Pb**	**00 03 27.7**	**-0.4**
MELI				*e*S	**Sb**	**00 03 40.6**	**+0.1**
TZK	**Tazeka**	**1.03**	**184**	*i* P	**Pb**	**00 03 28.0**	**-1.1**
TZK				*i* S	**Sb**	**00 03 43.0**	**+0.8**
EMIJ	**Mijas**	**1.55**	**339**	P	**Pn**	**00 03 37.7**	**+0.3**
	2.1nm,0.2s,SNR=7.9						
EMIJ				S	**Sb**	**00 03 58.5**	**+1.2**
	3.6nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**1.55**	**339**	P	**Pn**	**00 03 37.7**	**+0.3**
EMIJ				S	**Sb**	**00 03 56.6**	**-0.7**
EMIJ	**Mijas**	**1.55**	**339**	S	**Sb**	**00 03 56.6**	**-0.7**
	3.6nm,0.2s,SNR=7.9						
MIF	**Mishlifen**	**1.94**	**209**	*i* P	**Pn**	**00 03 42.5**	**-0.6**
MIF				*i* S	**Sn**	**00 04 08.0**	**+0.6**
ELOJ	**Sierra Loja**	**2.03**	**359**	P	**Pn**	**00 03 45.1**	**+0.8**
	0.4nm,0.2s,SNR=4.0						
ELOJ				S	**Sn**	**00 04 09.8**	**+0.2**
	0.6nm,0.2s,SNR=4.0						
EBER	**Berja**	**2.03**	**28**	P	**Pn**	**00 03 43.7**	**-0.7**
	0.3nm,0.1s,SNR=5.6						
EBER				S	**Sn**	**00 04 08.0**	**-1.6**
	10nm,0.5s,SNR=6.1						
EBER	**Berja**	**2.03**	**28**	P	**Pn**	**00 03 43.7**	**-0.6**
	0.3nm,0.1s,SNR=5.6						
EBER				S	**Sn**	**00 04 08.0**	**-1.6**
	10nm,0.5s,SNR=6.1						
ELUQ	**Luque**	**2.44**	**357**	P	**Pn**	**00 03 52.0**	**+1.8**
	0.7nm,0.2s,SNR=4.0						
ELUQ				S	**Sn**	**00 04 23.1**	**+2.9**
	2.5nm,0.3s,SNR=4.0						
EQES	**Quesada**	**2.81**	**17**	P	**Pn**	**00 03 56.7**	**+1.3**
	4.5nm,0.3s,SNR=12						
EQES				S	**Sn**	**00 04 29.2**	**-0.1**
	2.3nm,0.4s						
EQES	**Quesada**	**2.81**	**17**	P	**Pn**	**00 03 56.7**	**+1.3**
	4.5nm,0.3s,SNR=12						
EQES				S	**Sn**	**00 04 29.2**	**-0.1**
	2.3nm,0.4s						
EADA	**Adamuz**	**3.07**	**353**	P	**Pn**	**00 04 00.2**	**+1.0**
	0.2nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**00 04 35.4**	**-0.6**
	0.4nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.07**	**353**	P	**Pn**	**00 04 00.2**	**+1.0**
	0.2nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**00 04 35.4**	**-0.6**
	0.4nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.36**	**323**	P	**Pn**	**00 04 03.4**	**+0.1**
	0.6nm,0.1s,SNR=8.0						
EMIN				S	**Sn**	**00 04 42.5**	**-0.9**
	0.5nm,0.2s						
EMIN	**Mina Concepcio**	**3.36**	**323**	P	**Pn**	**00 04 03.4**	**+0.1**
	0.6nm,0.1s,SNR=8.0						
EMIN				S	**Sn**	**00 04 42.5**	**-0.9**
	0.5nm,0.2s						
EBAD	**Badajoz**	**4.32**	**328**	P	**Pn**	**00 04 16.8**	**-0.2**
	0.1nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**00 05 06.2**	**-1.4**
	SNR=4.0						
EBAD	**Badajoz**	**4.32**	**328**	P	**Pn**	**00 04 16.8**	**-0.1**
EBAD				S	**Sn**	**00 05 06.2**	**-1.4**

PRU ***18*** *00:33:34.4, 43.04N×17.83E*
CSEM ***18*** *00:33:41.0±0.1, 43.27N×17.38E, h40km, ML2.8/6, Error ellipse: s-maj=2.4km s-min=1.8km az=104.0*
ROM ***18*** *00:33:42.6±0.6, 43.25N×17.04E, h10km, MD3.3/7, ML2.8/6, Error ellipse: s-maj=6.1km s-min=3.1km az=90.0*
ISC 18 00:33:37.5±0.4**, 43.18N**±0.02×**17.49E**±0.04**, h10km, n42, σ1.22**/61**, 9C-3D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.34**	**154**⇓	*i* Pg	**Pg**	**00 33 42.5**	**-2.0**
STON				*i* Sg	**Sg**	**00 33 47.5**	**-1.8**
BLY	**Banja Luka**	**1.59**	**352**	Pn	**Pn**	**00 34 07.2**	**+1.3**
NVSS	**Nova Varos 2**	**1.64**	**78**⇑	*i* Pn	**Pn**	**00 34 08.9**	**+2.3**
NVSS				Sn	**Sn**	**00 34 29.8**	**+1.8**
FGMS	**Monte Sant'Ang**	**1.86**	**218**	*e*PN	**Pn**	**00 34 11.6**	**+1.8**
DIVS	**Divcibare**	**2.03**	**62**	*e*Pn	**Pn**	**00 34 11.4**	**-0.9**
DIVS				Sg	**Sg**	**00 34 40.3**	**-5.0**
RGNG	**Rignano Grg**	**2.06**	**224**	*e*PN	**Pn**	**00 34 15.3**	**+2.6**
CDT	**Castel del Mon**	**2.28**	**204**	*e*Pn	**Pn**	**00 34 18.5**	**+2.7**
NVLJ	**Novalja**	**2.35**	**307**	*i* Pn	**Pn**	**00 34 16.7**	**0.0**
NVLJ				*i* Sn	**Sn**	**00 34 47.2**	**+1.3**
SG1	**Sgolgore (BA)**	**2.41**	**195**	*e*Pn	**Pn**	**00 34 18.9**	**+1.2**
SISC	**Sisak**	**2.43**	**341**	*i* Pn	**Pn**	**00 34 19.8**	**+1.8**
SISC				*i* Sn	**Sn**	**00 34 49.8**	**+1.8**
SISC	**Sisak**	**2.43**	**341**	*i* Pn	**Pn**	**00 34 19.7**	**+1.8**
GRUS	**Gruza**	**2.45**	**72**⇓	*i*P	**Pg**	**00 34 33.1**	**+6.7**
CII	**Carovilli**	**2.77**	**239**	*e*PN	**Pn**	**00 34 23.4**	**+0.6**
	44nm,0.7s						
CII	**Carovilli**	**2.77**	**239**	*e*Pn	**Pn**	**00 34 23.4**	**+0.6**
	44nm,0.7s						
VBY	**Vinica-Bojanci**	**2.83**	**326**	*e*Pn	**Pn**	**00 34 25.6**	**+2.0**
VBY				*e*Sn	**Sn**	**00 34 59.2**	**+1.1**
MRLC	**Muro Lucano**	**2.84**	**212**	*e*PN	**Pn**	**00 34 27.9**	**+4.1**
	29nm,0.7s						
SGG	**Gregorio Mates**	**2.92**	**233**	*e*PN	**Pn**	**00 34 25.0**	**0.0**
SGG				SN	**Sn**	**00 34 58.1**	**-2.4**
RHK1	**Bakonya**	**2.95**	**8**⇑	*e*P	**Pn**	**00 34 24.8**	**-0.5**
RHK1				*e*S	**Sn**	**00 34 59.5**	**-1.6**
	1.0nm,0.3s						
SDI	**San Donato**	**3.10**	**243**	*e*PN	**Pn**	**00 34 26.6**	**-0.8**
	20nm,0.4s						
SDI	**San Donato**	**3.10**	**243**	*e*Pn	**Pn**	**00 34 26.6**	**-0.8**
	20nm,0.4s						
PKSM	**Moragy**	**3.14**	**15**⇑	*i*P	**Pn**	**00 34 27.3**	**-0.8**
PKSM				*e*S	**Sn**	**00 35 04.6**	**-1.4**
NRCA	**Norcia**	**3.23**	**265**	*e*PN	**Pn**	**00 34 28.5**	**-0.8**
	8.0nm,0.3s						
NRCA	**Norcia**	**3.23**	**265**	*e*Pn	**Pn**	**00 34 28.5**	**-0.8**
	8.0nm,0.3s						
PTQR	**Pietraquaria**	**3.23**	**250**	*e*PN	**Pn**	**00 34 29.8**	**+0.4**
PTQR				SN	**Sn**	**00 35 03.2**	**-5.2**
	16nm,0.6s						
PTQR	**Pietraquaria**	**3.23**	**250**	*e*Pn	**Pn**	**00 34 29.8**	**+0.4**
	16nm,0.6s						
PTQR				Sn	**Sn**	**00 35 03.2**	**-5.2**
FSSB	**Fossombrone**	**3.47**	**280**	*e*PN	**Pn**	**00 34 32.4**	**-0.4**
	13nm,0.3s						
FSSB	**Fossombrone**	**3.47**	**280**	*e*Pn	**Pn**	**00 34 32.4**	**-0.4**
	13nm,0.3s						
MNS	**Montasola**	**3.63**	**259**	*e*PN	**Pn**	**00 34 34.0**	**-1.0**
	11nm,0.3s						
MNS	**Montasola**	**3.63**	**259**	*e*Pn	**Pn**	**00 34 34.0**	**-1.0**
	11nm,0.3s						
VOY	**Vojsko**	**3.84**	**319**	*e*Pn	**Pn**	**00 34 37.7**	**-0.3**
VOY				*e*Sn	**Sn**	**00 35 23.9**	**+0.2**
OBKA	**Obir**	**3.94**	**329**⇑	*i*PN	**Pn**	**00 34 39.3**	**0.0**
OBKA				*i* SN	**Sn**	**00 35 27.4**	**+1.3**
ARSA	**Arzberg**	**4.30**	**342**⇑	*i*PN	**Pn**	**00 34 44.5**	**-0.1**
ARSA				*i* SN	**Sn**	**00 35 34.2**	**-1.3**
PTCC	**Patocco-Chiusa**	**4.37**	**319**	*e*PN	**Pn**	**00 34 44.7**	**-0.8**
	16nm,0.6s						
PTCC	**Patocco-Chiusa**	**4.37**	**319**	*e*Pn	**Pn**	**00 34 44.7**	**-0.8**
	16nm,0.6s						
MOA	**Molln**	**5.19**	**335**⇑	*i*PN	**Pn**	**00 34 57.6**	**+0.4**
MOA				*i* SN	**Sn**	**00 35 58.2**	**+0.3**
WTTA	**Wattenberg**	**5.81**	**317**⇑	*i*PN	**Pn**	**00 35 05.2**	**-0.7**
WTTA				*i* SN	**Sn**	**00 36 13.0**	**-0.5**
WATA	**Walderalm**	**5.89**	**317**⇑	*i*PN	**Pn**	**00 35 06.3**	**-0.7**
WATA				*i* SN	**Sn**	**00 36 15.3**	**-0.1**
SQTA	**Sankt Quirin**	**6.00**	**314**⇑	*i*PN	**Pn**	**00 35 07.9**	**-0.7**
SQTA				*i* SN	**Sn**	**00 36 18.1**	**-0.1**
MOTA	**Moosalm**	**6.14**	**315**⇓	*i*PN	**Pn**	**00 35 09.8**	**-0.7**
MOTA				*i* SN	**Sn**	**00 36 21.0**	**-0.6**
KHC	**Kasperske Hory**	**6.54**	**337**	*e*PN	**Pn**	**00 35 14.7**	**-1.5**
KHC				*e*SN	**Sn**	**00 36 28.1**	**-3.6**
KHC	**Kasperske Hory**	**6.54**	**337**	Sg	**Sn**	**00 36 28.1**	**-3.6**
PRU	**Pruhonice**	**7.11**	**344**	Sg	Sx	00 36 49.8	
	4.4nm,0.7s						

CSEM ***18*** *00:54:30.8±0.3, 37.49N×25.05W, h30km, ML2.4, Error ellipse: s-maj=11.7km s-min=2.5km az=68.0*
SVSA ***18*** *00:54:31.5±0.9, 37.60N×24.71W, h9km±4km, MD2.5, ML2.4, Error ellipse: s-maj=6.2km s-min=2.2km az=64.0*
PDA ***18*** *00:54:31.5±0.9, 37.60N×24.71W, h9km±4km, MD2.5, ML2.4, Error ellipse: s-maj=6.2km s-min=2.2km az=64.0*
ISC 18 00:54:30.2±1.5**, 37.56N**±0.05×**24.8W**±0.1**, h32km**±6km**, n21, σ0.31**/31**, Azores Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BART	**Pico Bartolome**	**0.35**	**308**	*i* P	**Pb**	**00 54 38.6**	**0.0**
BART				*e*S	**Sb**	**00 54 43.5**	**-0.8**
	573nm,0.2s						
MIRA	**Miradouro**	**0.43**	**302**	*e*P	**Pb**	**00 54 40.0**	**+0.3**
MIRA				*e*S	**Sb**	**00 54 46.2**	**+0.1**
PFAD	**Fenais da Ajud**	**0.49**	**305**	*e*S	**Sb**	**00 54 47.3**	**-0.3**
PCNG	**Congro**	**0.50**	**295**	*e*S	**Sb**	**00 54 48.4**	**+0.4**
	82nm,0.2s						
PCNG	**Congro**	**0.50**	**295**	*e*S	**Sb**	**00 54 48.4**	**+0.4**
	82nm,0.2s						
VIF	**Vila Franca**	**0.53**	**291**	*e*P	**Pb**	**00 54 41.5**	**+0.4**
VIF				*e*S	**Sb**	**00 54 48.9**	**+0.2**
	35nm,0.2s						
VIF	**Vila Franca**	**0.53**	**291**	*e*P	**Pb**	**00 54 41.5**	**+0.4**
VIF				*e*S	**Sb**	**00 54 48.9**	**+0.2**
	35nm,0.2s						
MESC	**Monte Escuro**	**0.55**	**295**	*e*P	**Pb**	**00 54 41.5**	**0.0**
MESC				*e*S	**Sb**	**00 54 49.2**	**-0.1**
PRCH	**Ribeira Ch**	**0.55**	**288**	*e*P	**Pb**	**00 54 41.9**	**+0.4**
PRCH				*e*S	**Sb**	**00 54 49.6**	**+0.3**
	215nm,0.2s						
LFA	**Lagoa do Fogo**	**0.57**	**292**	*e*P	**Pb**	**00 54 41.8**	**0.0**
PMAT	**Coroa da Mata**	**0.58**	**297**	*e*S	**Sb**	**00 54 49.9**	**-0.1**
	35nm,0.1s						
PMAT	**Coroa da Mata**	**0.58**	**297**	*e*S	**Sb**	**00 54 49.9**	**-0.1**
	35nm,0.1s						
PSMN	**Pico do Norte,**	**0.59**	**199**	*e*S	**Sb**	**00 54 50.9**	**+0.5**
CML	**Cha da Macela**	**0.61**	**290**	*e*P	**Pb**	**00 54 42.4**	**-0.1**
CML				*e*S	**Sb**	**00 54 50.9**	**-0.1**
PSMA	**Santa Maria**	**0.61**	**204**	*e*P	**Pb**	**00 54 42.5**	**-0.1**
PSMA				*e*S	**Sb**	**00 54 50.3**	**-0.7**
	113nm,0.1s						
PSMA	**Santa Maria**	**0.61**	**204**	*e*P	**Pb**	**00 54 42.5**	**-0.1**
PSMA				*e*S	**Sb**	**00 54 50.3**	**-0.7**
	113nm,0.1s						
FAC	**Faja de Cima**	**0.69**	**288**	*e*P	**Pn**	**00 54 43.8**	**+0.1**
FAC				*e*S	**Sb**	**00 54 52.9**	**-0.3**
PSAN	**Santo Antonio**	**0.78**	**292**	*e*P	**Pn**	**00 54 44.9**	**0.0**
PFET	**Feteiras**	**0.81**	**289**	*e*P	**Pn**	**00 54 45.4**	**0.0**
SET2	**Ginetes**	**0.83**	**290**	*e*P	**Pn**	**00 54 45.8**	**+0.1**
SET4	**Mosteiros**	**0.84**	**292**	*e*P	**Pn**	**00 54 45.5**	**-0.3**

STR ***18*** *01:03:41.8±0.1, 43.08N×0.44W, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
NEIC ***18*** *01:03:41.8, 43.08N×0.44W, h5km, ML2.5(LDG), ML2.3(STR), MN2.0(MDD), After STR.*
LDG ***18*** *01:03:42.0±0.1, 43.07N×0.45W, h4km, Md2.8/3, Ml2.5/10, Error ellipse: s-maj=1.0km s-min=0.8km az=146.0*
MDD ***18*** *01:03:42.3±0.2, 43.10N×0.45W, h4km±4km, mbLg1.8/17, Error ellipse: s-maj=2.6km s-min=1.4km az=9.0, PRXIMO*
CSEM ***18*** *01:03:42.2±0.1, 43.09N×0.45W, h1km, ML2.5/10, Error ellipse: s-maj=1.7km s-min=1.0km az=15.0*
ISC 18 01:03:40.5±0.3**, 43.17N**±0.02×**0.42W**±0.02**, h5km**±3km**, n59, σ1.09**/97**, Pyrenees**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.10**	**171**	Pg	**Pg**	**01 03 43.4**	**+0.6**
REYF				Sg	**Sg**	**01 03 44.4**	**+0.1**
REYF	**Montagne du Re**	**0.10**	**171**	P	**Pg**	**01 03 43.5**	**+0.7**
REYF				S	**Sg**	**01 03 44.5**	**+0.2**
ATE	**Arette**	**0.23**	**248**	P	**Pg**	**01 03 45.4**	**+0.3**
ATE				S	**Sg**	**01 03 48.2**	**+0.1**
ETSF	**Etsaut**	**0.29**	**201**	*e*Pg	**Pg**	**01 03 46.0**	**-0.4**
ETSF				*e*Sg	**Sg**	**01 03 48.7**	**-1.7**
	66nm,0.2s						
FDAF	**Les Forges d'A**	**0.37**	**198**	Pg	**Pg**	**01 03 47.5**	**-0.4**
FDAF				Sg	**Sg**	**01 03 51.6**	**-1.3**
FDAF	**Les Forges d'A**	**0.37**	**198**	P	**Pg**	**01 03 47.6**	**-0.4**
FDAF				S	**Sg**	**01 03 51.7**	**-1.2**
LABF	**Labassere**	**0.38**	**109**	P	**Pg**	**01 03 49.3**	**+1.2**
LABF				S	**Sg**	**01 03 55.3**	**+2.1**
ORDF	**Ordiarp**	**0.38**	**276**	Pg	**Pg**	**01 03 49.4**	**+1.2**
ORDF				Sg	**Sg**	**01 03 55.1**	**+1.8**
ORDF	**Ordiarp**	**0.38**	**276**	P	**Pg**	**01 03 49.2**	**+1.0**
ORDF				S	**Sg**	**01 03 55.1**	**+1.8**
VIEF	**Viey**	**0.43**	**132**	Pg	**Pg**	**01 03 49.7**	**+0.5**
VIEF				Sg	**Sg**	**01 03 55.3**	**+0.3**
VIEF	**Viey**	**0.43**	**132**	P	**Pg**	**01 03 49.7**	**+0.5**
VIEF				S	**Sg**	**01 03 54.9**	**-0.1**
LARF	**Larrau**	**0.44**	**252**	Pg	**Pg**	**01 03 49.6**	**+0.3**
LARF				Sg	**Sg**	**01 03 55.7**	**+0.5**
LARF	**Larrau**	**0.44**	**252**	P	**Pg**	**01 03 49.6**	**+0.2**
LARF				S	**Sg**	**01 03 55.6**	**+0.4**
EPF	**Esparros**	**0.57**	**104**	*e*Pg	**Pg**	**01 03 52.8**	**+0.9**
EPF				*e*Sg	**Sg**	**01 04 00.9**	**+1.3**
	19nm,0.2s						
SJPF	**Ste Jean**	**0.60**	**265**	*e*Pg	**Pg**	**01 03 52.5**	**+0.1**
SJPF				*e*Sg	**Sg**	**01 04 00.4**	**0.0**
	13nm,0.2s						
OSSF	**Osses**	**0.62**	**278**	Pg	**Pg**	**01 03 52.9**	**-0.1**
OSSF				Pg	**Pg**	**01 03 53.9**	**+0.9**
OSSF	**Osses**	**0.62**	**278**	P	**Pg**	**01 03 53.1**	**+0.1**
OSSF				S	**Sg**	**01 04 01.5**	**+0.2**
OSSF	**Osses**	**0.62**	**278**	Pg	**Pg**	**01 03 53.9**	**+0.9**
EBIE	**Bielsa**	**0.64**	**140**	Pg	**Pg**	**01 03 53.4**	**+0.2**
	1.3nm,0.1s,SNR=18						
EBIE				Lg		01 04 01.1	
	7.5nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**0.64**	**140**	Pg	**Pg**	**01 03 53.4**	**+0.2**
EBIE				Lg		01 04 01.1	
EBIE	**Bielsa**	**0.64**	**140**	Pg	**Pg**	**01 03 53.4**	**+0.2**
	1.3nm,0.1s,SNR=18						
RESF	**Ens**	**0.66**	**123**	Sg	**Sg**	**01 04 03.2**	**+0.6**
RESF	**Ens**	**0.66**	**123**	P	**Pg**	**01 03 54.2**	**+0.4**
RESF				S	**Sg**	**01 04 02.4**	**-0.2**
EALK	**Alkurruntz**	**0.80**	**274**	Pg	**Pg**	**01 03 55.7**	**-0.8**
	1.0nm,0.1s,SNR=8.8						
EALK				Lg		01 04 09.0	
	7.8nm,0.2s,SNR=5.0						
MELF	**Melles**	**0.91**	**109**	S	**Sb**	**01 04 11.5**	**+0.8**
SALF	**Salau**	**1.25**	**109**	S	**Sb**	**01 04 21.3**	**+0.8**
ESAC	**San Caprasio**	**1.45**	**182**	Pg	**Pg**	**01 04 08.6**	**-0.9**
	11nm,0.2s,SNR=8.8						
ESAC				Lg		01 04 27.5	
	26nm,0.2s,SNR=5.0						
ESAC	**San Caprasio**	**1.45**	**182**	Pg	**Pg**	**01 04 08.6**	**-0.9**
	11nm,0.2s,SNR=8.8						
EMIR	**Miracle**	**1.91**	**131**	Pg	**Pg**	**01 04 17.8**	**-0.8**
	1.5nm,0.1s,SNR=8.1						
EMIR				Lg		01 04 42.4	
	4.2nm,0.0s,SNR=8.6						
EMIR	**Miracle**	**1.91**	**131**	Pg	**Pg**	**01 04 17.8**	**-0.8**
EMIR				Lg		01 04 42.4	
EMIR	**Miracle**	**1.91**	**131**	Pg	**Pg**	**01 04 17.8**	**-0.8**
	1.5nm,0.1s,SNR=8.1						
MTLF	**Montolieu**	**1.93**	**84**	*e*Pg	**Pg**	**01 04 18.8**	**-0.3**
MTLF				*e*Sg	**Sg**	**01 04 44.2**	**-0.6**
	5.4nm,0.3s						
LFF	**La Frestale**	**1.95**	**25**	*e*Pn	**Pn**	**01 04 15.6**	**+0.9**
LFF				*e*Pg	**Pg**	**01 04 20.2**	**+0.7**
LFF				*e*Sn	**Sn**	**01 04 40.5**	**+0.6**
LFF				*e*Sg	**Sg**	**01 04 46.9**	**+1.3**
	11nm,0.3s						
EPOB	**Poblet**	**2.13**	**148**	Pg	**Pg**	**01 04 20.5**	**-2.5**
	0.7nm,0.1s,SNR=7.9						
EPOB				Lg		01 04 47.6	
	2.2nm,0.2s,SNR=7.8						
EPOB	**Poblet**	**2.13**	**148**	Pg	**Pg**	**01 04 20.5**	**-2.5**
	0.7nm,0.1s,SNR=7.9						
ELAN	**Lanestosa**	**2.21**	**273**	Lg		01 04 50.8	
	0.6nm,0.2s,SNR=4.0						
ELAN	**Lanestosa**	**2.21**	**273**	Sn	**Sn**	**01 04 49.1**	**+2.7**
	0.6nm,0.2s,SNR=4.0						
CAF	**Calviac**	**2.50**	**45**	Pn	**Pn**	**01 04 23.5**	**+0.9**
CAF				Pg	**Pg**	**01 04 28.0**	**-2.5**
CAF				Lg		01 05 03.7	
	2.0nm,0.2s						
CAF	**Calviac**	**2.50**	**45**	*e*Pn	**Pn**	**01 04 23.5**	**+0.9**
CAF				*e*Pg	**Pg**	**01 04 28.0**	**-2.5**
CAF				*e*Sg	**Sg**	**01 05 03.7**	**-0.2**
CAF	**Calviac**	**2.50**	**45**	*e*Pg	**Pg**	**01 04 28.0**	**-2.5**
CAF				*e*Sg	**Sg**	**01 05 03.7**	**-0.2**
	2.0nm,0.2s						
EJON	**La Jonquera**	**2.54**	**105**	Lg		01 05 04.7	
	0.8nm,0.2s,SNR=4.0						
RJF	**Les Rejaudoux**	**2.54**	**32**	Pn	**Pn**	**01 04 23.5**	**+0.3**
RJF				Pg	**Pg**	**01 04 31.3**	**0.0**
RJF				Lg		01 05 05.7	
	1.8nm,0.2s						
RJF	**Les Rejaudoux**	**2.54**	**32**	*e*Pn	**Pn**	**01 04 23.5**	**+0.3**
RJF				*e*Pg	**Pg**	**01 04 31.3**	**0.0**
RJF				*e*Sg	**Sg**	**01 05 05.7**	**+0.5**
RJF	**Les Rejaudoux**	**2.54**	**32**	*e*Pg	**Pg**	**01 04 31.3**	**0.0**
RJF				*e*Sg	**Sg**	**01 05 05.7**	**+0.5**
	1.8nm,0.2s						
ETOR	**Torete**	**2.65**	**208**	Pn	**Pn**	**01 04 25.4**	**+0.7**
	0.1nm,0.1s,SNR=5.7						
ETOR				Sn	**Sn**	**01 04 56.3**	**-1.2**
	0.9nm,0.2s,SNR=6.2						
ETOR				Lg		01 05 04.9	
	1.1nm,0.2s,SNR=4.0						
ETOR	**Torete**	**2.65**	**208**	Pn	**Pn**	**01 04 25.4**	**+0.7**
ETOR				Sn	**Sn**	**01 04 56.3**	**-1.2**
ETOR				Lg		01 05 07.0	
ETOR	**Torete**	**2.65**	**208**	Pn	**Pn**	**01 04 25.4**	**+0.7**
	0.1nm,0.1s,SNR=5.7						
ETOR				Sn	**Sn**	**01 04 56.3**	**-1.3**
ETOR				Sn	**Sn**	**01 04 56.3**	**-1.3**
	0.9nm,0.2s,SNR=6.2						
EMOS	**Mosqueruela**	**2.81**	**181**	Pg	**Pg**	**01 04 31.3**	**-5.3**
	0.1nm,0.1s,SNR=4.0						
EMOS				Lg		01 05 07.1	
	1.7nm,0.2s,SNR=4.0						
EMOS	**Mosqueruela**	**2.81**	**181**	Pg	**Pg**	**01 04 31.3**	**-5.2**
	0.1nm,0.1s,SNR=4.0						
LASF	**Ste Croix**	**3.23**	**72**	*e*Sg	**Sg**	**01 05 25.8**	**-2.3**
	4.3nm,0.6s						
MFF	**Saint Martin d**	**3.44**	**3**	*e*Pg	**Pg**	**01 04 47.3**	**-1.8**
MFF				*e*Sg	**Sg**	**01 05 32.5**	**-2.4**
	1.9nm,0.3s						
EARI	**Arriondas**	**3.51**	**274**	Pn	**Pn**	**01 04 37.3**	**+0.4**
	SNR=7.9						
EARI				Sn	**Sn**	**01 05 18.7**	**-0.5**
	SNR=7.9						
EARI	**Arriondas**	**3.51**	**274**	Pn	**Pn**	**01 04 38.4**	**+1.6**
EARI				Sn	**Sn**	**01 05 18.7**	**-0.5**
EARI	**Arriondas**	**3.51**	**274**	Pn	**Pn**	**01 04 38.4**	**+1.6**
	SNR=7.9						
EARI				Sn	**Sn**	**01 05 18.7**	**-0.6**
TCF	**Toulx Ste Croi**	**3.63**	**30**	*e*Sn	**Sn**	**01 05 19.7**	**-2.8**
	2.0nm,0.3s						
BGF	**Bois d'Agland**	**4.10**	**33**	*e*Pn	**Pn**	**01 04 44.8**	**-0.5**
BGF				*e*Sg	**Sg**	**01 05 53.6**	**-3.5**
	7.5nm,0.4s						
ESDC	**Sonseca Array**	**4.40**	**219**	Pn	**Pn**	**01 04 48.3**	**-1.2**
	0.1nm,0.3s,baz=38,slow=13,SNR=4.0						
ESDC	**Sonseca Array**	**4.40**	**219**	Pn	**Pn**	**01 04 48.3**	**-1.2**
AVF	**Avril sur Loir**	**4.50**	**35**	*e*Pn	**Pn**	**01 04 50.1**	**-0.8**
AVF				*e*Sg	**Sg**	**01 06 06.1**	**-4.2**
	1.0nm,0.3s						

IDC ***18*** *01:04:10.6±3.7, 13.75N×90.95W, mb3.9/5, mb1 4.3/6, mb1mx4.0/16, MS3.5/4, Ms1 3.5/4, ms1mx3.1/19, Error ellipse: s-maj=83.4km s-min=51.1km az=15.0*
NEIC ***18*** *01:04:12.0±2.8, 13.74N×91.00W, h10km, mb4.0/4, Error ellipse: s-maj=57.9km s-min=35.7km az=192.0*
CASC ***18*** *01:04:13.7±1.6, 13.66N×91.76W, MD4.3, mb4.0(NEIC)*
ISC 18 01:04:11.8±1.9**, 13.5N**±0.2×**91.93W**±0.06**, h8km**±14km**, n25, σ0.83**/27**, mb3.9**/8**, MS3.5**/4**, 1C-4D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CUSS	**Cusmapa**	**1.96**	**79**	*e*P	**Pn**	**01 04 45.8**	**0.0**
CUSS				*e*S	**Sn**	**01 05 11.4**	**+0.6**
RTR	**El Retiro**	**2.25**	**80**	*e*P	**Pn**	**01 04 50.0**	**+0.1**
RBDL	**Robledal**	**2.25**	**75**	*e*P	**Pn**	**01 04 50.4**	**+0.4**
RBDL				*e*S	**Sn**	**01 05 18.3**	**+0.1**
SBLS	**San Blas**	**2.26**	**82**⇓	*e*P	**Pn**	**01 04 49.6**	**-0.5**
SBLS				*e*S	**Sn**	**01 05 17.6**	**-0.9**
SNJE	**San Jose**	**2.28**	**81**⇓	*e*P	**Pn**	**01 04 49.9**	**-0.4**
MTO2	**Montecristo 2**	**2.64**	**71**⇓	*e*P	**Pn**	**01 04 55.5**	**+0.1**
LFRS	**El Faro**	**2.79**	**88**⇑	*e*P	**Pn**	**01 04 57.5**	**-0.1**
LBRS	**Las Brisas**	**2.81**	**85**	*e*P	**Pn**	**01 04 57.8**	**-0.2**
LCBS	**La Ceiba**	**2.87**	**87**⇓	*e*P	**Pn**	**01 04 58.7**	**-0.1**
LCBS				*e*S	**Sn**	**01 05 33.1**	**-0.8**
SNVI	**San Vicente**	**3.00**	**88**	*e*P	**Pn**	**01 05 01.5**	**+0.8**
SNVI				*e*S	**Sn**	**01 05 38.4**	**+1.1**
TEIG	**Tepich**	**7.52**	**27**	Pn	**Pn**	**01 06 04.3**	**-0.2**
	0.0nm,0.3s,baz=204,slow=24,SNR=5.9						
TXAR	**Lajitas Array**	**19.12**	**327**	P	**P**	**01 08 37.6**	**-0.3**
	0.1nm,0.3s,baz=153,slow=11,SNR=17						
CCM	**Cathedral Cave**	**24.43**	**1**	*e*P	**P**	**01 09 28.2**	**-3.9**
	3.7nm,0.8s,mb3.9						
ANMO	**Albuquerque**	**25.05**	**331**	*e*P	**P**	**01 09 39.8**	**+1.8**
	2.1nm,0.8s,mb3.7						
PDAR	**Pinedale Array**	**32.87**	**336**	P	**P**	**01 10 49.4**	**+0.9**
	0.4nm,0.8s,mb3.4,baz=153,slow=8.1,SNR=2.5						
NVAR	**Mina Array Bea**	**34.08**	**321**	P	**P**	**01 11 02.4**	**+3.5**
	1.2nm,0.6s,mb4.0,baz=135,slow=12,SNR=3.9						
HLID	**Hailey**	**35.62**	**331**	*e*P	**P**	**01 11 11.2**	**-0.9**
	1.3nm,0.9s,mb3.9						
MCMT	**McKenzie Canyo**	**35.92**	**334**	*e*P	**P**	**01 11 14.8**	**+0.1**
SCHQ	**Schefferville**	**45.63**	**20**	P	**P**	**01 12 29.4**	**-5.1**
	5.4nm,0.7s,mb4.6,baz=189,slow=12,SNR=4.7						
SCHQ				LR	LR	01 32 25.3	
	comp=Z,119nm,19.6s,MS3.8,baz=74,slow=38						
SCHQ	**Schefferville**	**45.63**	**20**	*e*P	**P**	**01 12 29.7**	**-4.8**
	2.8nm,0.6s,mb4.4						
SCHQ				LR	LR	01 32 25.3	
YKA	**Yellowknife Ar**	**51.50**	**347**	P	**P**	**01 13 15.9**	**-3.9**
	1.2nm,0.5s,mb4.1,baz=153,slow=7.2,SNR=5.9						
YKA				LR	LR	01 37 28.6	
	comp=Z,20nm,18.1s,MS3.2,baz=130,slow=39						
ILAR	**Eielson Array**	**63.30**	**337**	P	**P**	**01 14 41.7**	**-1.5**
	0.6nm,0.8s,mb3.8,baz=119,slow=6.6,SNR=5.7						
NOA	**NORSAR Array B**	**84.52**	**28**	LR	LR	01 56 32.7	
	comp=Z,14nm,18.9s,MS3.4,baz=240,slow=38						
FINES	**FINESS Array B**	**90.89**	**25**	LR	LR	01 56 06.7	
	comp=Z,28nm,19.8s,MS3.7,baz=339,slow=34						
CMAR	**Chiang Mai Arr**	**146.46**	**341**	PKPbc	PKPbc	01 23 53.9	-0.5
	1.1nm,0.6s,baz=353,slow=3.7,SNR=7.1						

STR ***18*** *01:10:12.2±0.1, 43.08N×0.44W, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***18*** *01:10:12.3±0.1, 43.08N×0.45W, h2km, Md2.2/3, Ml1.6/1, Error ellipse: s-maj=2.1km s-min=1.1km az=173.0*
MDD 18 01:10:12.8±0.4**, 43.07N×0.45W, h3km**±6km**, mbLg1.0**/6**, Error ellipse: s-maj=3.4km s-min=1.8km az=7.0, PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.04**	**93**	Pg	Pg	01 10 13.6	-0.2
REYF				Sg	Sg	01 10 14.7	+0.2
REYF	**Montagne du Re**	**0.04**	**93**	P	Pg	01 10 13.7	-0.1
REYF				S	Sg	01 10 14.8	+0.3
ATE	**Arette**	**0.18**	**274**	P	Pg	01 10 15.8	-0.8
ATE				S	Sg	01 10 18.4	-0.6
ETSF	**Etsaut**	**0.19**	**205**	*e*Pg	Pg	01 10 16.3	-0.4
ETSF				*e*Sg	Sg	01 10 18.9	-0.4
	9.5nm,0.2s						
FDAF	**Les Forges d'A**	**0.27**	**199**	Pg	Pg	01 10 17.8	-0.4
FDAF				Sg	Sg	01 10 21.9	+0.1
FDAF	**Les Forges d'A**	**0.27**	**199**	P	Pg	01 10 17.8	-0.4
FDAF				S	Sg	01 10 21.9	+0.1
VIEF	**Viey**	**0.39**	**118**	Pg	Pg	01 10 20.3	-0.4
VIEF				Sg	Sg	01 10 25.7	-0.3
VIEF	**Viey**	**0.39**	**118**	P	Pg	01 10 20.2	-0.5
VIEF				S	Sg	01 10 25.6	-0.4
LARF	**Larrau**	**0.40**	**265**	Pg	Pg	01 10 19.8	-1.0
LARF				Sg	Sg	01 10 26.0	-0.1
LARF	**Larrau**	**0.40**	**265**	P	Pg	01 10 20.0	-0.8
LARF				S	Sg	01 10 25.9	-0.1
SJPF	**Ste Jean**	**0.57**	**274**	*e*Pg	Pg	01 10 23.1	-1.1
SJPF				*e*Sg	Sg	01 10 30.6	-1.3
	2.5nm,0.3s						
EPF	**Esparros**	**0.58**	**94**	*e*Pg	Pg	01 10 23.1	-1.3
EPF				*e*Sg	Sg	01 10 31.2	-0.9
	3.0nm,0.2s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
EBIE	Bielsa	0.58	131	Pg	Pg	01 10 23.6	-0.9
	0.1nm,0.1s,SNR=7.9						
EBIE				Lg		01 10 31.4	
	0.9nm,0.1s,SNR=7.9						
EALK	Alkurruntz	0.79	281	Pg	Pg	01 10 28.9	+0.3
	0.1nm,0.1s,SNR=7.9						
EALK				Lg		01 10 39.4	
	0.2nm,0.1s,SNR=7.9						
ESAC	San Caprasio	1.35	181	Pg	Pg	01 10 39.7	0.0
	0.5nm,0.1s,SNR=4.0						
ESAC				Lg		01 10 55.7	
	0.5nm,0.1s,SNR=6.4						
EMIR	Miracle	1.86	128	Lg		01 11 13.9	
	2.1nm,0.0s,SNR=4.0						
MTLF	Montolieu	1.97	81	ePg	Pg	01 10 49.1	-3.0
MTLF				eSg	Sg	01 11 14.5	-3.8
	0.8nm,0.3s						
EPOB	Poblet	2.06	146	Lg		01 11 17.9	
	0.1nm,0.1s,SNR=4.0						

*STR **18** 01:11:26.8±0.2, 43.10N×0.47W, h2^{km}±1^{km}, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **18** 01:11:26.9±0.1, 43.09N×0.45W, h4^{km}, Md2.0/3, Ml1.5/1, Error ellipse: s-maj=2.1km s-min=1.1km az=165.0*
MDD 18 01:11:27.4±0.4**, 43.09N×0.45W, h4**^{km}±6^{km}**, mbLg1.0**/7**, Error ellipse: s-maj=3.7km s-min=2.0km az=7.0, PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REYF	Montagne du Re	0.05	111	Pg	Pg	01 11 28.4	-0.1
REYF				Sg	Sg	01 11 29.4	+0.2
REYF	Montagne du Re	0.05	111	P	Pg	01 11 28.4	0.0
REYF				S	Sg	01 11 29.4	+0.2
ATE	Arette	0.18	270	P	Pg	01 11 30.5	-0.6
ATE				S	Sg	01 11 33.2	-0.4
ETSF	Etsaut	0.20	203	ePg	Pg	01 11 31.1	-0.4
ETSF				eSg	Sg	01 11 33.6	-0.6
	5.9nm,0.2s						
FDAF	Les Forges d'A	0.28	198	Pg	Pg	01 11 32.4	-0.6
FDAF				Sg	Sg	01 11 36.7	-0.1
FDAF	Les Forges d'A	0.28	198	P	Pg	01 11 32.6	-0.4
FDAF				S	Sg	01 11 36.6	-0.2
SJPF	Ste Jean	0.57	273	ePg	Pg	01 11 37.5	-1.2
SJPF				eSg	Sg	01 11 45.4	-0.9
	1.8nm,0.2s						
EPF	Esparros	0.58	95	ePg	Pg	01 11 37.8	-1.2
EPF				eSg	Sg	01 11 45.9	-0.9
	2.4nm,0.2s						
EBIE	Bielsa	0.59	132	Pg	Pg	01 11 38.4	-0.8
	0.2nm,0.1s,SNR=18						
EBIE				Lg		01 11 46.1	
	2.0nm,0.2s,SNR=7.9						
EALK	Alkurruntz	0.79	280	Pg	Pg	01 11 42.7	-0.3
	0.4nm,0.2s,SNR=4.0						
EALK				Lg		01 11 53.4	
	0.7nm,0.1s,SNR=7.9						
ESAC	San Caprasio	1.36	181	Pg	Pg	01 11 53.5	-1.1
	1.5nm,0.2s,SNR=4.0						
ESAC				Lg		01 12 12.6	
	1.5nm,0.1s,SNR=7.9						
EMIR	Miracle	1.87	128	Lg		01 12 28.0	
	2.2nm,0.0s,SNR=4.0						
MTLF	Montolieu	1.97	82	eSg	Sg	01 12 29.1	-3.8
	0.5nm,0.3s						

*GUC **18** 01:22:58.3±0.8, 32.34S×70.29W, h105^{km}±6^{km}, MD4.1, ML4.2*
*NEIC **18** 01:22:58.3, 32.34S×70.29W, h105^{km}, mb3.7/2, MD4.1(GUC), After GUC.*
*IDC **18** 01:23:04.2±21.0, 32.36S×69.85W, h156^{km}±181^{km}, mb3.4/2, mb1 3.7/3, mb1mx3.4/11, ML4.1/1, Error ellipse: s-maj=112.0km s-min=43.2km az=21.0*
ISC 18 01:22:57.5±0.4**, 32.35S**±0.03×**70.25W**±0.06**, h114**^{km}±4^{km}**, n33,** σ**0^{s}78**/50**, mb3.6**/4**, 2C-14D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	Jahuel	0.44	221	⇓iP	P	01 23 14.8	+0.2
PEL	Peldehue	0.88	205	⇓iP	P	01 23 18.1	0.0
PEL				iS	S	01 23 32.8	-0.7
PEL				AMP		01 23 40.0	
	comp=N,6μm,0.4s						
FCH	Farellones	0.98	182	⇓iP	P	01 23 19.8	+0.6
FCH				iS	S	01 23 36.0	+0.7
FCH				AMP		01 23 39.9	
	comp=E,6μm,0.2s						
PACH	Papudo	1.02	259	⇑iP	P	01 23 19.6	+0.1
PACH				iS	S	01 23 35.8	-0.2
CLCH	Cerro Calan	1.07	193	⇑iP	P	01 23 20.4	+0.2
CLCH				iS	S	01 23 37.3	+0.2
CLCH				AMP		01 23 38.2	
	comp=N,7μm,0.5s						
DSCH	Colegio Aleman	1.08	194	eP	P	01 23 20.4	+0.2
DSCH				iS	S	01 23 37.1	-0.1
DSCH				AMP		01 23 43.1	
	comp=E,8μm,0.5s						
SAN	Santiago	1.16	197	eP	P	01 23 21.3	+0.2
SAN				iS	S	01 23 38.4	-0.3
RCDM	Rinconada Maip	1.23	202	eP	P	01 23 22.0	+0.1
RCDM				iS	S	01 23 40.1	-0.1
RCDM				AMP		01 23 40.8	
	comp=N,10μm,0.2s						
ANTU	Antumapu	1.26	195	⇓iP	P	01 23 22.6	+0.4
ANTU				iS	S	01 23 40.6	-0.2
ANTU				AMP		01 23 41.5	
	comp=N,9μm,0.4s						
PCH	Pirque	1.29	190	eP	P	01 23 22.9	+0.4
PCH				iS	S	01 23 41.6	+0.2
MDZ	Mendoza	1.30	115	⇓iP	P	01 23 22.2	-0.5
MDZ				i		01 23 23.4	
MDZ				iS	S	01 23 41.2	-0.3
IHA	Instituto Hidr	1.35	240	eP	P	01 23 22.6	-0.7
TACH	Talagante	1.43	204	⇓iP	P	01 23 24.3	+0.1
TACH				iS	S	01 23 43.6	-0.6
LMEL	Las Melosas	1.50	178	⇓iP	P	01 23 25.6	+0.6
LMEL				iS	S	01 23 46.6	+0.9
LMEL				AMP		01 23 51.2	
	comp=N,5μm,0.2s						
CHCH	Chadas Angostu	1.62	192	eP	P	01 23 26.6	+0.1
CHCH				iS	S	01 23 48.0	-0.2
CACH	El Canelo	1.79	189	⇓iP	P	01 23 29.4	+0.8
CACH				iS	S	01 23 53.1	+1.3
LNV	Longovilo	1.88	211	⇓iP	P	01 23 29.1	-0.5
LNV				iS	S	01 23 52.5	-1.2
CICH	Cipreses	1.98	184	eP	P	01 23 31.2	+0.4
TLL	Tololo Astrono	2.22	348	eP	P	01 23 35.3	+1.2
TLL				iS	S	01 24 02.4	+0.8
TLL				AMP		01 24 05.6	
	comp=N,1μm,0.4s						
SFDO	San Fernando	2.35	196	eP	P	01 23 35.2	-0.6
SFDO				iS	S	01 24 03.5	-1.1
LSCH	La Serena	2.57	340	⇓iP	P	01 23 38.5	-0.3
LSCH				iS	S	01 24 08.7	-1.3
LSCH				AMP		01 24 12.5	
	comp=N,746nm,0.4s						
TRQA	Tornquist	8.85	132	ePn	P	01 25 01.0	-2.8
	comp=N,9.6nm,0.3s						
LVC	Limon Verde	9.77	7	ePn	P	01 25 16.7	+0.5
LPAZ	La Paz	16.10	7	P	P	01 26 42.2	+3.6
	comp=N,0.3nm,0.3s,baz=176,slow=0.5,SNR=2.5						
SAML	Samuel	24.19	17	P	P	01 28 03.0	-1.6
	comp=N,1.8nm,1.0s,mb3.4						
BDFB	Brasilia	26.17	56	P	P	01 28 21.9	-1.3
	comp=N,5.4nm,0.9s,mb4.0,baz=220,slow=8.2,SNR=4.9						
OTAV	Otavalo	33.32	345	eP	P	01 29 22.4	-4.4
	comp=N,1.3nm,0.5s,mb4.0						
VNA3	Neumayer Olymp	50.33	159	⇓i	P	01 31 45.5	+1.2
VNA1	Neumayer--Stat	50.62	158	⇓i	P	01 31 45.6	-0.8
VNA2	Neumayer--Watz	50.97	158	⇓i	P	01 31 50.0	+0.9
SNAA	Sanae	52.56	158	⇓i	P	01 32 00.9	-0.1
TXAR	Lajitas Array	69.06	329	P	P	01 33 54.4	+1.2
	comp=N,0.1nm,0.5s,mb2.9,baz=157,slow=8.7,SNR=4.5						
WRA	Warramunga Arr	122.93	208	PKP	PKPdf	01 41 42.5	+1.7
	comp=N,0.3nm,0.8s,baz=156,slow=2.0,SNR=5.6						

*NIED **18** 01:47:00, 41.80N×143.90E, h26^{km}, Mw4.1 Best double couple: $M_0 1.81\times10^{15}$ NP1:ϕ_s18°, δ81°, λ62°. NP2:ϕ_s271°, δ29°, λ160°.*
*JMA **18** 01:47:29.8±0.1, 41.78N×143.87E, h34^{km}±2^{km}, M3.9*
*NEIC **18** 01:47:31.6±0.9, 41.72N×143.58E, h45^{km}, mb4.3/3, Error ellipse: s-maj=23.3km s-min=11.9km az=125.0*
*IDC **18** 01:47:53.4±0.9, 44.38N×142.91E, h107^{km}±22^{km}, mb3.6/8, mb1 3.8/9, mb1mx3.5/24, Error ellipse: s-maj=79.1km s-min=19.5km az=175.0*
ISC 18 01:47:28.5±1.1**, 41.68N**±0.06×**143.9E**±0.1**, h42**^{km}±7^{km}**, n33,** σ**0^{s}92**/34**, mb4.3**/13**, 2C-4D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	Erimo	0.63	302	Pn	P	01 47 41.8	+0.7
	33μm,0.4s						
JEM	Erimo	0.63	302	⇓P	P	01 47 40.9	-0.2
JCH	Churui	1.01	338	⇑P	P	01 47 46.6	+0.2
JCH				eS	S	01 47 58.9	-0.7
JNBK	Urakawa-nobuka	1.03	306	⇑P	P	01 47 47.7	+1.0
JOB	Onbets	1.22	359	P	P	01 47 50.0	+0.6
JOB				eS	S	01 48 03.3	-1.7
JAK	Akkeshi	1.45	25	P	P	01 47 52.8	+0.1
JAK				eS	S	01 48 10.8	+0.1
JBT2	Biratori 2	1.57	315	P	P	01 47 55.6	+1.2
JAR	Ashorobuto	1.62	357	P	P	01 47 54.9	-0.2
JAR				eS	S	01 48 14.1	-0.8
ASAJ	Asahikawa	2.61	339	P	P	01 48 11.8	+2.6
	7.9nm,0.3s,baz=151,slow=15,SNR=7.5						
ASAJ				S	S	01 48 21.9	-18
	13nm,0.3s,baz=219,slow=14,SNR=17						
MAJO	Matsushiro	6.76	222	eP	P	01 49 06.6	-1.2
	9.4nm,0.7s						
MAT	Matsushiro	6.76	222	P	P	01 49 06.2	-1.6
MAT	Matsushiro	6.76	222	eP	P	01 49 06.0	-1.8
	7.5nm,0.7s						
SONM	Songino Array	27.12	296	P	P	01 53 09.3	0.0
	0.9nm,0.5s,mb3.6,baz=75,slow=8.8,SNR=12						
ZAL	Zalesovo	40.37	308	P	P	01 55 02.3	-1.3
	1.6nm,0.7s,mb3.9,baz=5.7,slow=7.3,SNR=8.2						
ILAR	Eielson Array	44.57	35	P	P	01 55 38.6	+1.0
	0.6nm,0.7s,mb3.6,baz=278,slow=7.9,SNR=11						
KURK	Kurchatov	44.71	305	eP	P	01 55 38.8	-0.1
	4.0nm,0.8s,mb4.3						
GUN	Gumba	48.72	273	eP	P	01 56 11.4	+0.7
	31nm,0.7s						
BVAR	Borovoye Array	48.96	310	P	P	01 56 12.1	-0.2
	1.2nm,0.4s,mb4.3,baz=71,slow=8.7,SNR=9.2						
KKN	Kakani	49.23	273	eP	P	01 56 15.0	+0.3
	15nm,0.8s,mb5.1						
INK	Inuvik	49.40	29	P	P	01 56 16.2	+0.8
	1.3nm,0.5s,mb4.2,baz=310,slow=7.2,SNR=12						
INK	Inuvik	49.40	29	eP	P	01 56 16.0	+0.5
	1.4nm,0.6s,mb4.2						
DMN	Daman	49.45	273	eP	P	01 56 17.9	+1.5
	4.1nm,0.3s,mb5.0						
KOLN	Koldanda	50.49	274	eP	P	01 56 24.7	+0.3
	8.7nm,0.6s,mb4.9						
KAF	Kangasniemi	65.06	333	ep	P	01 58 12.9	+6.7
	1.9nm,0.7s,mb4.2,baz=46,slow=6.2						
FINES	FINESS Array B	65.60	332	P	P	01 58 08.6	-1.1
	1.7nm,0.5s,mb4.3,baz=68,slow=6.3,SNR=19						
FINES	FINESS Array B	65.60	332	P	P	01 58 08.6	-1.1
HFS	Hagfors	70.63	336	P	P	01 58 40.7	-0.3
	2.6nm,0.9s,mb4.2,baz=68,slow=8.0,SNR=4.7						
AKASG	Malin Array Be	71.78	323	P	P	01 58 47.0	-0.9
	1.6nm,0.7s,mb4.1,baz=49,slow=6.0,SNR=7.2						
WMOK	Wichita Mounta	84.70	47	P	P	02 00 03.7	+4.7
TXAR	Lajitas Array	85.81	54	P	pP	02 00 16.1	-1.4
	0.4nm,0.7s,baz=303,slow=5.1,SNR=5.2						
VNA2	Neumayer--Watz	147.31	197	⇓i	PKPdf	02 07 09.9	+6.2
VNA3	Neumayer Olymp	147.54	196	⇓i	PKPdf	02 07 11.8	+7.7
VNA1	Neumayer--Stat	147.71	197	⇓i	PKPdf	02 07 12.5	+8.1

*NEIC **18** 02:17:50.2±1.1, 24.02S×66.74W, h187^{km}±14^{km}, mb3.4/1, Error ellipse: s-maj=20.6km s-min=13.7km az=82.0*
*IDC **18** 02:17:52.6±8.6, 23.76S×66.77W, h196^{km}±69^{km}, mb2.5/1, mb1 3.3/3, mb1mx3.1/12, Error ellipse: s-maj=83.3km s-min=27.1km az=24.0*
ISC 18 02:17:49.4±1.1**, 23.95S**±0.09×**66.8W**±0.2**, h193**^{km}±18^{km}**, n9,** σ**1^{s}10**/11**, mb2.8**/1**, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.38	304	ePn	P	02 18 33.3	+1.3
LVC				eSn	S	02 19 04.4	-0.5
LPAZ	La Paz	7.73	350	P	P	02 19 41.5	+1.5
	0.6nm,0.3s,baz=117,slow=1.4,SNR=7.9						
LPAZ				S	S	02 21 04.7	-1.6
	0.2nm,0.3s,baz=279,slow=0.7,SNR=2.0						
LPAZ	La Paz	7.73	350	ePn	P	02 19 41.5	+1.6
LPAZ				S	S	02 21 04.7	-1.6
TRQA	Tornquist	14.64	165	ePn	P	02 21 07.2	-1.3
SAML	Samuel	15.31	14	eP	P	02 21 16.3	-0.6
	1.0nm,0.6s						
BDFB	Brasilia	19.47	68	P	P	02 22 04.3	+0.9
	0.4nm,0.3s,baz=255,slow=9.6,SNR=7.1						
TXAR	Lajitas Array	63.76	324	P	P	02 28 03.2	+0.3
	0.1nm,0.4s,mb2.8,baz=153,slow=8.1,SNR=2.7						
TXAR	Lajitas Array	63.76	324	P	P	02 28 03.2	+0.3
WRA	Warramunga Arr	131.77	207	PKP	PKPdf	02 36 41.7	+1.6
	0.1nm,0.3s,baz=152,slow=1.9,SNR=4.7						

*NIED **18** 02:48:00, 34.70N×135.10E, h8^{km}, Mw3.4 Best double couple: $M_0 1.61\times10^{14}$ NP1:ϕ_s75°, δ85°, λ-53°. NP2:ϕ_s172°, δ37°, λ-172°.*
*JMA **18** 02:48:16.8, 34.69N×135.14E, h14^{km}±1^{km}, M3.9 Broadband fault plane solution: P waves. NP1:ϕ_s164°, δ65°, λ179°. NP2:ϕ_s254°, δ89°, λ25°. Principal axes: T Plg18°, Azm122°; N Plg65°, Azm256°; P Plg17°, Azm26°;*
JMA Felt II J1.
ISC 18 02:48:16.6±0.5**, 34.69N**±0.02×**135.14E**±0.03**, h12**^{km}±3^{km}**, n14,** σ**0^{s}33**/28**, 7C-4D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMIK	Miki	0.14	330	⇑P	Pg	02 48 20.4	+0.2
JMIK				S	Sg	02 48 23.0	+0.5
JAJ2	Tsuna	0.34	218	⇓P	Pg	02 48 23.7	0.0
JAJ2				eS	Sg	02 48 28.6	+0.2
JKS	Kasai	0.38	321	⇑P	Pg	02 48 24.5	0.0
JKS				S	Sg	02 48 29.7	-0.2
JHE	Heguri	0.45	94	⇑P	Pg	02 48 25.6	-0.3
JHE				S	Sg	02 48 31.8	-0.3
JWY	Kouya	0.60	141	⇑P	Pb	02 48 28.0	-0.5
JWY				eS	Sb	02 48 36.1	-0.5
JWT	Wachi	0.63	20	⇓P	Pb	02 48 29.1	0.0
JWT				eS	Sb	02 48 37.2	-0.4
JAD	Aida	0.84	288	⇑P	Pb	02 48 32.2	-0.4
JAD				S	Sb	02 48 43.3	-0.2
JWM	Minabe	0.85	168	⇑P	Pb	02 48 33.2	+0.4
JWM				eS	Sb	02 48 44.4	+0.4
JKY	Yasaka	0.94	358	P	Pb	02 48 34.2	-0.1
JKY				eS	Sb	02 48 46.7	+0.2
JKSM	Kasumi	0.98	337	⇓P	Pb	02 48 34.9	-0.1
JKSM				eS	Sb	02 48 47.8	+0.1
JJS	Sakaide	1.04	253	P	Pb	02 48 35.7	-0.4
JJS				eS	Sb	02 48 49.3	-0.2
TSUJ	Tsu 2	1.06	88	⇑P	Pb	02 48 35.9	-0.4
TSUJ				eS	Sb	02 48 50.2	+0.3
JAI	Aioi	1.06	213	⇓P	Pb	02 48 36.5	+0.2
JAI				eS	Sb	02 48 50.3	+0.4
MAT	Matsushiro	3.11	53	P	Pn	02 49 06.7	+0.2
MAT				S	Sn	02 49 44.7	+0.8

*IDC **18** 02:56:38.7±0.7, 81.75N×6.06W, mb3.8/13, mb1 4.1/15, mb1mx4.0/23, ML4.0/1, MS3.4/14, Ms1 3.4/14, ms1mx3.3/23, Error ellipse: s-maj=23.5km s-min=13.9km az=40.0*
*MOS **18** 02:56:38.5±1.9, 81.66N×3.80W, h10^{km}, mb3.9/10, Error ellipse: s-maj=99.9km s-min=14.6km az=94.5*
*NEIC **18** 02:56:39.9±0.4, 81.72N×5.81W, h10^{km}, mb4.0/7, Error ellipse: s-maj=10.6km s-min=7.4km az=220.0*
ISC 18 02:56:37.7±0.4**, 81.65N**±0.07×**5.3W**±0.4**, h10**^{km}**, n54,** σ**1^{s}28**/49**, mb3.9**/20**, MS3.4**/13**, 2C-3D, North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAG	Danmarks Havn	5.48	214	iP	Pn	02 58 01.0	-0.5
DAG	Danmarks Havn	5.48	214	eP	Pn	02 58 01.0	-0.5
HSP	Hornsund	6.01	130	eP	Pn	02 58 06.7	-2.2
SUMG	Summit	11.43	236	eP	P	02 59 18.3	-5.5
	13nm,0.4s						
SCO	Scoresbysund	11.82	208	iP	P	02 59 22.7	-6.5
SCO				eS	S	03 01 34.2	-8.0
SCO	Scoresbysund	11.82	208	eP	P	02 59 22.7	-6.5
SCO				eS	S	03 01 34.2	-8.0
ARCES	ARCESS Array B	14.02	132	Pn	P	02 59 55.0	-3.2
	1.1nm,0.3s,baz=354,slow=12,SNR=31						
ARCES				Sn	S	03 02 29.2	-5.6
	0.1nm,0.3s,baz=355,slow=22,SNR=2.5						
ARCES				LR	LR	03 04 45.1	
	comp=Z,157nm,21.4s,baz=238,slow=34						
ARCES	ARCESS Array B	14.02	132	P	P	02 59 55.0	-3.2
ARCES						03 02 29.2	
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ARCES				MLR	MLR		
	comp=Z,157nm,21.4s						
ARE0	ARCESS Array S	14.02	132	eP	P	02 59 55.4	-2.7
RES	Resolute Bay	17.45	298	P	P	03 00 35.9	-6.4
JOF	Joensuu	21.05	131	ep	P	03 01 22.6	-1.1
	comp=Z,2.7nm,0.6s,mb3.8						
JOF	Joensuu	21.05	131	eP	P	03 01 22.6	-1.1
JOF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb3.8						
NB2	NORSAR Subarra	21.19	157	P	P	03 01 27.1	+2.0
	comp=Z,5.3nm,0.9s,mb3.9,baz=1.0,slow=11						
NOA	NORSAR Array B	21.19	157	P	P	03 01 25.9	+0.8
	comp=Z,1.0nm,0.7s,mb3.2,baz=237,slow=21,SNR=3.8						
NOA				LR	LR	03 08 05.0	
	comp=Z,36nm,20.1s,MS2.8,baz=330,slow=32						
NOA	NORSAR Array B	21.19	157	P	P	03 01 26.0	+0.9
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,36nm,20.1s						
KAF	Kangasniemi	21.31	137	ep	P	03 01 25.9	-0.5
	comp=Z,4.0nm,0.8s,mb3.8						
KAF	Kangasniemi	21.31	137	eP	P	03 01 25.9	-0.5
KAF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.8						
NAO01	NORSAR Array S	21.37	158	eP	P	03 01 35.2	+8.3
FINES	FINESS Array B	21.95	138	P	P	03 01 33.2	+0.4
	comp=Z,2.4nm,0.6s,mb3.8,baz=349,slow=9.7,SNR=16						
FINES				LR	LR	03 09 20.5	
	comp=Z,113nm,21.8s,MS3.2,baz=156,slow=34						
FINES	FINESS Array B	21.95	138	P	P	03 01 33.2	+0.4
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES				MLR	MLR		
	comp=Z,113nm,21.8s						
HFS	Hagfors	22.24	154	P	P	03 01 36.9	+1.2
	comp=Z,3.1nm,0.8s,mb3.8,slow=7.4,SNR=3.9						
HFS	Hagfors	22.24	154	P	P	03 01 36.9	+1.2
HFS				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FRB	Frobisher Bay	23.75	260	P	P	03 01 51.1	+1.0
	comp=Z,33nm,1.2s,mb4.7,baz=17,slow=9.5,SNR=3.1						
FRB				LR	LR	03 11 44.0	
	comp=Z,106nm,20.6s,MS3.3,baz=356,slow=38						
FRB	Frobisher Bay	23.75	260	P	P	03 01 51.2	+1.0
FRB				pmax	pmax		
	comp=Z,33nm,1.2s						
FRB				MLR	MLR		
	comp=Z,106nm,20.6s						
TIXI	Tiksi	25.04	32	⇑iP	P	03 02 02.7	+0.1
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb3.8						
TIXI	Tiksi	25.04	32	⇑iP	P	03 02 02.7	+0.1
	comp=Z,4.0nm,1.3s,mb3.8						
INK	Inuvik	27.78	321	P	P	03 02 26.7	-1.2
	comp=Z,1.7nm,0.8s,mb3.7,baz=54,slow=9.9,SNR=8.2						
INK				LR	LR	03 13 20.8	
	comp=Z,38nm,19.0s,MS3.0,baz=343,slow=36						
INK	Inuvik	27.78	321	P	P	03 02 26.7	-1.3
INK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
INK				MLR	MLR		
	comp=Z,38nm,19.0s						
INK	Inuvik	27.78	321	eP	P	03 02 26.6	-1.3
	comp=Z,1.4nm,0.6s,mb3.8						
YKA	Yellowknife Ar	31.38	303	LR	LR	03 15 33.8	
	comp=Z,159nm,18.3s,MS3.7,baz=355,slow=36						
SCHQ	Schefferville	32.09	253	P	P	03 03 05.8	-0.6
	comp=Z,5.7nm,0.9s,mb4.4,baz=38,slow=12,SNR=3.7						
SCHQ				LR	LR	03 16 18.1	
	comp=Z,96nm,19.6s,MS3.5,baz=50,slow=37						
ILAR	Eielson Array	32.36	330	P	P	03 03 08.6	-0.1
	comp=Z,1.1nm,0.9s,mb3.7,baz=7.6,slow=7.6,SNR=9.3						
ILAR				LR	LR	03 14 37.2	
	comp=Z,32nm,19.7s,MS3.0,baz=177,slow=34						
ILAR	Eielson Array	32.36	330	P	P	03 03 08.6	-0.1
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ILAR				MLR	MLR		
	comp=Z,32nm,19.7s						
GERES	GERESS Array B	33.49	157	P	P	03 03 21.3	+2.6
	comp=Z,1.0nm,0.8s,mb3.8,baz=283,slow=23,SNR=4.7						
GERES	GERESS Array B	33.49	157	P	P	03 03 21.3	+2.6
GERES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BVAR	Borovoye Array	35.89	93	P	P	03 03 41.8	+2.6
	comp=Z,0.3nm,0.6s,mb3.4,baz=315,slow=10,SNR=2.4						
DLBC	Dease Lake	37.10	314	LR	LR	03 18 30.0	
	comp=Z,41nm,18.2s,MS3.3,baz=38,slow=36						
KURK	Kurchatov	39.34	86	P	P	03 04 09.2	+1.0
	comp=Z,1.8nm,0.6s,mb4.0						
ULM	Lac du Bonnet	40.75	280	LR	LR	03 20 36.4	
	comp=Z,65nm,19.1s,MS3.5,baz=358,slow=35						
ESDC	Sonseca Array	42.11	178	P	P	03 04 33.8	+2.8
	comp=Z,1.0nm,1.0s,mb3.4,baz=352,slow=9.1,SNR=2.4						
BBB	Bella Bella	43.05	311	LR	LR	03 23 06.4	
	comp=Z,56nm,18.9s,MS3.5,baz=295,slow=37						
BRTR	Keskin Array B	44.16	136	P	P	03 04 51.2	+3.6
	comp=Z,0.5nm,0.8s,mb3.3,baz=342,slow=9.1,SNR=3.5						
BRTR				LR	LR	03 24 04.6	
	comp=Z,31nm,18.6s,MS3.3,baz=315,slow=37						
BRTR	Keskin Array B	44.16	136	P	P	03 04 51.2	+3.5
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRTR				MLR	MLR		
	comp=Z,31nm,18.6s						
SONM	Songino Array	46.01	60	P	P	03 05 02.6	+0.3
	comp=Z,0.6nm,0.7s,mb3.6,baz=338,slow=8.7,SNR=5.4						
HRY	Holter Researc	46.43	294	eP	P	03 05 05.6	0.0
MSO	Missoula	46.59	296	eP	P	03 05 06.8	-0.2
	comp=Z,4.1nm,1.2s,mb4.2						
PDAR	Pinedale Array	50.00	291	P	P	03 05 33.2	-0.2
	comp=Z,0.5nm,0.6s,mb3.7,slow=5.9,SNR=5.3						
PDAR				LR	LR	03 27 06.7	
	comp=Z,107nm,19.7s,MS3.9,baz=40,slow=37						
JCT	Junction City	60.70	279	eP	P	03 06 51.0	-0.1
	comp=Z,7.8nm,0.9s,mb4.8						
JCT				e		03 06 57.6	
TXAR	Lajitas Array	62.38	283	P	P	03 07 01.8	-0.7
	comp=Z,1.0nm,0.8s,mb4.0,baz=36,slow=3.5,SNR=11						
TXAR				LR	LR	03 34 48.1	
	comp=Z,68nm,18.0s,MS3.9,baz=220,slow=37						
TXAR	Lajitas Array	62.38	283	P	P	03 07 01.8	-0.7
TXAR				LR	LR	03 34 48.1	
PPT	Papeete	114.20	322	eL		03 10 39.3	
PPT				eR		03 12 33.1	
	comp=Z,306nm,26.5s						
VNA1	Neumayer--Stat	152.13	182	⇓i	PKPdf	03 16 35.9	+8.6
VNA2	Neumayer--Watz	152.40	181	⇓i	PKPdf	03 16 34.4	+6.7
VNA3	Neumayer Olymp	152.74	183	⇓i	PKPdf	03 16 35.7	+7.6

IDC 18 03:08:41.9±7.6**, 6.38S**×**149.17E, h118**^{km}±47^{km}**, mb3.4**/3**, mb1 3.5**/5**, mb1mx3.3**/13**, Error ellipse: s-maj=62.1km s-min=42.7km az=16.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.61	213	P	P	03 09 36.7	-0.5
	1.7nm,0.3s,baz=305,slow=13,SNR=4.3						
PMG				S	S	03 10 18.4	-0.9
	8.7nm,0.3s,baz=146,slow=20,SNR=12						
WB2	Warramunga Arr	19.72	225	eP	P	03 13 02.8	-1.8
WRA	Warramunga Arr	19.73	226	P	P	03 13 02.8	-1.9
	0.2nm,0.3s,baz=49,slow=11,SNR=15						
ASAR	Alice Springs	22.60	219	P	P	03 13 34.0	+0.7
	0.7nm,0.5s,baz=51,slow=9.2,SNR=13						
FITZ	Fitzroy Crossi	25.74	241	eP	P	03 14 02.5	-0.8
	3.2nm,1.2s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
FITZ	Fitzroy Crossi	25.74	241	P	P	03 14 01.6	-1.8
	1.8nm,0.4s,baz=28,slow=6.9,SNR=15						
VNDA	Vanda	71.42	177	P	P	03 19 48.2	-2.6
	0.5nm,0.8s,baz=45,slow=10.0,SNR=4.8						

WEL 18 03:33:57.5±0.2, 40.41S×173.64E, h122km±2km, ML3.6/6, 3C-4D, Error ellipse: s-maj=1.2km s-min=1.0km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
NNZ	Nelson	0.83	194	⇓PN	P	03 34 18.2	-0.1
NNZ				SN	S	03 34 33.5	-0.5
QRZ	Quartz Range	0.94	244	⇓PN	P	03 34 18.7	-0.8
QRZ				SN	S	03 34 34.6	-1.2
TUWZ	Tuamarina	1.04	167	PN	P	03 34 20.1	-0.3
TUWZ				SN	S	03 34 37.1	-0.5
KIW	Kapiti Island	1.07	115	PN	P	03 34 20.4	-0.2
KIW				SN	S	03 34 36.7	-1.3
MRW	Makara Radio	1.15	136	PN	P	03 34 21.5	0.0
MRW				SN	S	03 34 38.4	-1.0
WEL	Wellington	1.22	136	SN	S	03 34 39.7	-1.2
WAZ	Wanganui	1.23	58	PN	P	03 34 22.2	-0.2
WAZ				SN	S	03 34 41.5	+0.5
PKE	Pukeiti	1.25	13	PN	P	03 34 22.2	-0.4
PKE				SN	S	03 34 41.2	-0.2
CAW	Cannon Point	1.29	123	PN	P	03 34 22.7	-0.4
CAW				SN	S	03 34 40.3	-2.0
BSWZ	Blackbirch Sta	1.31	172	PN	P	03 34 23.1	-0.3
BSWZ				SN	S	03 34 42.0	-1.0
BHW	Baring Head	1.36	137	SN	S	03 34 41.8	-2.2
THZ	Tophouse	1.46	202	⇓PN	P	03 34 24.1	-0.9
THZ				SN	S	03 34 44.9	-0.9
MRZ	Mangatainoka R	1.50	100	⇑PN	P	03 34 24.8	-0.6
MRZ				SN	S	03 34 44.2	-2.5
VRZ	Vera Road	1.55	34	PN	P	03 34 25.4	-0.7
MSWZ	Moikau Station	1.58	130	⇑PN	P	03 34 25.8	-0.6
MSWZ				SN	S	03 34 45.9	-2.4
MTW	Mount Morrison	1.60	118	⇑PN	P	03 34 26.0	-0.6
PAWZ	Paruwai Farm	1.67	126	PN	P	03 34 26.7	-0.7
TSZ	Takapari Road	1.81	79	PN	P	03 34 27.9	-1.3
WNVZ	Wahianoa	1.86	55	PN	P	03 34 28.8	-0.9
WPVZ	Whakapapa	1.90	51	PN	P	03 34 29.1	-1.2
WPVZ				SN	S	03 34 54.5	-0.5
MOVZ	Moawhango	1.91	59	PN	P	03 34 28.8	-1.5
MOVZ				SN	S	03 34 54.0	-1.3
TUVZ	Tukino	1.93	54	PN	P	03 34 29.7	-0.8
TUVZ				SN	S	03 34 55.2	-0.4
KHZ	Kahutara	2.00	182	⇓PN	P	03 34 30.5	-1.0
BFZ	Birch Farm	2.00	98	PN	P	03 34 30.4	-1.1
BFZ				SN	S	03 34 54.3	-3.0
MGZ	Maungaku	2.03	47	PN	P	03 34 30.7	-1.2
BKZ	Black Stump Fm	2.53	61	PN	P	03 34 36.0	-2.4
BKZ				SN	S	03 35 06.3	-3.1
LTZ	Lake Taylor	2.58	203	PN	P	03 34 36.9	-2.2
LTZ				SN	S	03 35 05.5	-5.2
MQZ	McQueen's Vall	3.37	192	PN	P	03 34 45.4	-4.3
MQZ				SN	S	03 35 21.5	-8.0
KNZ	Kokohu	3.41	67	PN	P	03 34 46.7	-3.5
WVZ	Waitaha Valley	3.43	218	PN	P	03 34 47.1	-3.5
ODZ	Otahua Downs	5.13	204	PN	P	03 35 08.8	-4.5

*LDG **18** 03:56:50.8±0.0, 48.24N×9.02E, h10km, Md2.6/2, Ml2.6/13, Error ellipse: s-maj=0.7km s-min=0.6km az=138.0*
*LEDBW **18** 03:56:50.6±0.1, 48.24N×9.03E, h9km±1km, ML2.2, Error ellipse: s-maj=1.4km s-min=1.0km az=100.0*
*NEIC **18** 03:56:50.0, 48.24N×9.03E, h9km, ML2.6(LDG), ML2.6(VIE), ML2.3(STR), ML2.2(LEDBW), After LEDBW.*
*CSEM **18** 03:56:50.6±0.1, 48.24N×9.05E, h15km, ML2.5/12, Error ellipse: s-maj=0.9km s-min=0.8km az=144.0*
*BGR **18** 03:56:50.9±0.2, 48.25N×9.03E, h10km, ML2.1/5, Error ellipse: s-maj=1.1km s-min=1.1km az=137.0*
*ZUR **18** 03:56:50.5, 48.26N×8.98E, h10km, ML2.0/8*
*STR **18** 03:56:51.7±0.3, 48.22N×8.96E, h10km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 18 03:56:49.2±0.2, 48.27N±0.01×9.00E±0.02, h10km, n89, σ1^{s}25/170, 16C-5D, Germany

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
GUT	Gutenstein	0.21	159	⇓iPg	Pg	03 56 54.6	+0.9
GUT				i Sg	Sg	03 56 57.4	+0.6
SPAK	Spaichingen	0.22	221	⇑iPg	Pg	03 56 55.4	+1.5
TUBL	Tuebingen Lnz	0.26	12	⇑iPg	Pg	03 56 56.7	+1.9
TUBL				eSg	Sg	03 57 00.4	+1.9
BUCH	Bad Urach	0.30	52	⇑iPg	Pg	03 56 56.8	+1.4
BUCH				eSg	Sg	03 57 01.2	+1.6
BUCH	Bad Urach	0.30	52	Pg	Pg	03 56 56.8	+1.4
BUCH				Sg	Sg	03 57 01.2	+1.6
LBG	Lerchenberg	0.42	341	⇓ePg	Pg	03 56 59.5	+1.6
LBG				i PmP		03 57 01.7	
LBG				i Sg	Sg	03 57 05.4	+1.7
LBG				eSmS		03 57 09.3	
LBG	Lerchenberg	0.42	341	⇓eP	Pg	03 56 59.5	+1.6
LBG				i S	Sg	03 57 05.4	+1.7
LBG				eS	Sg	03 57 09.3	+5.6
LBG	Lerchenberg	0.42	341	Pg	Pg	03 56 59.5	+1.6
LBG				Sg	Sg	03 57 05.4	+1.7
BFO	Black Forest	0.45	278	ePg	Pg	03 56 59.9	+1.5
BFO				⇑ePmP		03 57 01.9	
BFO				eSg	Sg	03 57 06.0	+1.4
BFO				SmS		03 57 09.8	
BFO	Black Forest	0.45	278	ePg	Pg	03 56 59.9	+1.4
BFO				eSg	Sg	03 57 06.0	+1.4
BFO	Black Forest	0.45	278	Pg	Pg	03 56 59.9	+1.4
BFO				Sg	Sg	03 57 06.0	+1.4
STU	Stuttgart	0.52	14	eSg	Sg	03 57 07.9	+1.0
	SNR=16						
SISB	Singen-Sch Ber	0.58	182	Pg	Pg	03 57 01.4	+0.4
SISB				i PmP		03 57 02.9	
SISB				eSg	Sg	03 57 09.3	+0.5
STEIN	Stein am Rhein	0.60	189	⇑iPg	Pg	03 57 02.1	+0.7
	5.6nm,0.5s						
STEIN				eSg	Sg	03 57 10.3	+0.8
	5.6nm,0.5s						
SLE	Schleitheim	0.60	215	⇑iPg	Pg	03 57 02.2	+0.8
	2.2nm,0.3s						
SLE				eSg	Sg	03 57 10.2	+0.6
	2.2nm,0.3s						
SLE	Schleitheim	0.60	215	ePg	Pg	03 57 02.1	+0.7
	SNR=16						
SLE				eSg	Sg	03 57 10.1	+0.5
	SNR=3.6						
TRULL	Truellikon	0.65	199	⇑iPg	Pg	03 57 03.2	+0.8
	9.5nm,0.2s						
TRULL				i PmP		03 57 04.8	
	9.5nm,0.2s						
TRULL				eSg	Sg	03 57 11.9	+0.7
	9.5nm,0.2s						
TRULL				eSmS		03 57 15.0	
	9.5nm,0.2s						
TRULL	Truellikon	0.65	199	⇑iPg	Pg	03 57 03.2	+0.8
	9.5nm,0.2s						
TRULL				eSg	Sg	03 57 11.9	+0.7
	9.5nm,0.2s						
WEIN	Weingarten	0.74	181	Pg	Pg	03 57 04.6	+0.5
	4.1nm,0.3s						
WEIN				eSg	Sg	03 57 14.7	+0.7
	4.1nm,0.3s						
FLACH	Flaach	0.75	203	ePg	Pg	03 57 05.0	+0.6
	7.2nm,0.2s						
FLACH				eSg	Sg	03 57 15.2	+0.7
	7.2nm,0.2s						
FELD	Feldberg	0.77	240	Pg	Pg	03 57 05.6	+0.8
FELD				eSg	Sg	03 57 15.8	+0.7
	SNR=8.0						
FELD	Feldberg	0.77	240	Pg	Pg	03 57 05.4	+0.6
FELD				Sg	Sg	03 57 16.0	+0.8
KIZ	Kirchzarten	0.79	247	⇑iPg	Pg	03 57 05.8	+0.7
KIZ				i PmP		03 57 06.6	
KIZ				Sg	Sg	03 57 16.1	+0.4
WILA	Wila	0.85	184	ePg	Pg	03 57 07.0	+0.6
	SNR=6.2						
WILA				eSg	Sg	03 57 18.1	+0.3
	SNR=10						
WILA	Wila	0.85	184	ePg	Pg	03 57 06.8	+0.4
	4.9nm,0.3s						
HDH	Heidenheim	0.86	68	⇑iPg	Pg	03 57 06.8	+0.2
HDH				⇑iPmP		03 57 07.3	
HDH				eSg	Sg	03 57 18.5	+0.3
HDH				i SmS		03 57 20.3	
HDH	Heidenheim	0.86	68	⇑iP	Pb	03 57 06.8	+0.9
HDH				eS	Sb	03 57 18.5	+1.3
HDH				i S	Sb	03 57 20.3	+3.1
HDH	Heidenheim	0.86	68	⇑iP	Pb	03 57 06.8	+0.9
HDH				eS	Sb	03 57 18.5	+1.3
ZUR	Zurich	0.94	198	ePg	Pg	03 57 09.0	+0.9
	SNR=3.9						
ZUR				eSg	Sg	03 57 20.7	0.0
	SNR=6.6						
LIBD	Limburg	0.94	264	Sg	Sg	03 57 23.0	+2.3
LIBD	Limburg	0.94	264	Pg	Pg	03 57 09.5	+1.4
LIBD				Sg	Sg	03 57 21.9	+1.1
UBR	Uberruh	0.95	128	⇓ePg	Pg	03 57 08.6	+0.4
UBR				PmP		03 57 11.4	
UBR				Sg	Sg	03 57 21.3	+0.5
UBR	Uberruh	0.95	128	⇓eP	Pb	03 57 08.6	+1.3
UBR				S	Sb	03 57 21.3	+1.7
SULZ	Sulz-Cheisache	0.95	219	ePg	Pg	03 57 08.7	+0.5
	SNR=9.5						
SULZ				eSg	Sg	03 57 21.3	+0.3
	SNR=7.4						
SULZ	Sulz-Cheisache	0.95	219	ePn	Pn	03 57 08.4	-0.1
	1.1nm,0.3s						
LANF	Langenberg	1.07	312	ePg	Pg	03 57 12.1	+1.4
LANF				eSg	Sg	03 57 26.9	+2.0
	SNR=2.3						
LANF	Langenberg	1.07	312	Pg	Pg	03 57 12.0	+1.4
WLS	Welschbruch	1.11	278	Pg	Pg	03 57 12.5	+1.1
WLS				eSn	Sb	03 57 24.0	-0.4
WLS				eSg	Sg	03 57 27.3	+1.0
WLS	Welschbruch	1.11	278	eS	Sb	03 57 24.0	-0.4
WLS				eS	Sg	03 57 27.3	+1.0
WLS	Welschbruch	1.11	278	Pg	Pg	03 57 12.4	+0.9
WLS				Sg	Sg	03 57 27.2	+0.9
DAVA	Damuels	1.14	148	⇑iPG	Pg	03 57 12.5	+0.3
DAVA				i SG	Sg	03 57 27.9	+0.4
	12nm,0.2s						
DAVA	Damuels	1.14	148	ePg	Pg	03 57 12.3	+0.2
	SNR=4.9						
DAVA				eSg	Sg	03 57 27.2	-0.3
	SNR=4.4						
SIND	Sindeldorf	1.16	20	Pn	Pn	03 57 12.7	+1.3
SIND				ePg	Pg	03 57 13.0	+0.7
SIND				Sn	Sn	03 57 26.6	-0.7
SIND				Sg	Sg	03 57 28.1	+0.2
SIND	Sindeldorf	1.16	20	SG	Sg	03 57 28.1	+0.3
SIND	Sindeldorf	1.16	20	eP	Pg	03 57 13.0	+0.7
SIND				S	Sn	03 57 26.6	-0.7
SIND				S	Sg	03 57 28.1	+0.2
SIND	Sindeldorf	1.16	20	ePg	Pg	03 57 13.0	+0.6
SIND				S	Sb	03 57 26.6	+0.9
SIND				Sg	Sg	03 57 28.1	+0.3
SIND	Sindeldorf	1.16	20	ePg	Pg	03 57 13.0	+0.6
SIND				S	Sb	03 57 26.6	+0.9
CDF	Champ du Feu	1.16	278	ePn	Pn	03 57 11.5	0.0
CDF				ePg	Pg	03 57 13.0	+0.5
CDF				eSg	Sg	03 57 28.5	+0.5
	30nm,0.2s						
ECH	Echery	1.23	268	ePg	Pg	03 57 14.6	+0.7
	SNR=2.9						
ECH				Sg	Sg	03 57 30.5	+0.1
ECH	Echery	1.23	268	S	Sg	03 57 30.5	+0.1
ECH	Echery	1.23	268	Pg	Pg	03 57 14.3	+0.4
SWS	Schriesheim	1.24	351	Pg	Pg	03 57 14.7	+0.7
SWS				Sn	Sn	03 57 28.7	-0.7
SWS				Sg	Sg	03 57 31.3	+0.8
BBS	Basel-Blauen	1.28	232	ePg	Pg	03 57 15.1	+0.2
	SNR=4.0						
BBS				ePn	Pn	03 57 15.2	+1.9
BBS	Basel-Blauen	1.28	232	eP	Pn	03 57 15.2	+1.9
BBS	Basel-Blauen	1.28	232	Pg	Pg	03 57 14.9	-0.1
BBS				Sg	Sg	03 57 32.0	-0.1
MOF	Molkenrain	1.32	252	eSg	Sg	03 57 33.2	-0.1
	SNR=3.7						
MOF	Molkenrain	1.32	252	Pg	Pg	03 57 16.3	+0.7
TOD	Tromm	1.35	355	Sg	Sg	03 57 34.5	+0.3
BOURR	Bourrignon	1.48	235	ePg	Pg	03 57 18.9	+0.1
	SNR=4.5						
BOURR				eSg	Sg	03 57 37.9	-0.7
	SNR=3.2						
HINF	Hinteralfeld	1.51	254	ePn	Pn	03 57 16.4	-0.1
HINF				ePg	Pg	03 57 18.9	-0.5
HINF				eSn	Sn	03 57 35.3	-1.1
HINF				eSg	Sg	03 57 38.6	-1.0
	12nm,0.3s						
FUR	Furstenfeldbru	1.52	93	eSg	Sg	03 57 38.6	-1.5
	SNR=5.2						
MOTA	Moosalm	1.69	122	⇑iPG	Pg	03 57 21.7	-1.3
MOTA				i SG	Sg	03 57 43.4	-2.2
	5.9nm,0.1s						
LOMF	Lomont	1.73	239	ePg	Pg	03 57 23.6	-0.2
	SNR=3.5						
LOMF				eSg	Sg	03 57 45.8	-1.0
	SNR=3.2						
LOMF	Lomont	1.73	239	Pg	Pg	03 57 23.1	-0.7
SQTA	Sankt Quirin	1.82	124	⇑iPG	Pg	03 57 24.5	-1.1
SQTA				i SG	Sg	03 57 47.8	-2.1
	6.7nm,0.2s						
ABH	Alteburg	1.88	330	ePg	Pg	03 57 26.8	0.0
	SNR=1.9						
GRA1	Grafenberg Arr	2.04	45	ePg	Pg	03 57 29.3	-0.8
GRA1				eSg	Sg	03 57 55.5	-1.8
GRF	Grafenberg Arr	2.04	45	ePg	Pg	03 57 29.3	-0.8
	SNR=3.9						
GRF				eSg	Sg	03 57 55.5	-1.9
	SNR=2.4						
WLF	Walferdange	2.34	308	eSg	Sg	03 58 05.5	-1.8
	SNR=2.6						
RFYF	Reffroy	2.38	280	ePn	Pn	03 57 28.3	-0.6
RFYF				ePg	Pg	03 57 35.2	-1.5
RFYF				eSn	Sn	03 57 56.2	-2.2
RFYF				eSg	Sg	03 58 06.6	-1.8
	5.8nm,0.2s						
CABF	La Chapelle	2.58	231	ePg	Pg	03 57 39.2	-1.5
CABF				eSg	Sg	03 58 11.9	-3.2
	3.9nm,0.3s						
MEZF	Maizieres J'vi	2.64	277	ePg	Pg	03 57 40.0	-2.0
MEZF				eSg	Sg	03 58 13.8	-3.5
	2.2nm,0.2s						
SFTF	Sexfontaines	2.65	270	ePg	Pg	03 57 40.3	-1.9
SFTF				eSg	Sg	03 58 15.2	-2.3
	3.9nm,0.2s						
WET	Wettzell	2.71	70	ePg	Pg	03 57 41.0	-2.4
	SNR=4.2						
NKC	Novy Kostel	3.00	48	ePG	Pg	03 57 46.7	-2.4
NKC				eSG	Sg	03 58 25.0	-4.0
GUNZ	Gunzen	3.03	45	ePg	Pg	03 57 48.0	-1.6
	SNR=2.6						
WERD	Werda	3.07	43	ePg	Pg	03 57 47.9	-2.7
	SNR=2.7						
TANN	Tannenbergstha	3.12	45	ePg	Pg	03 57 49.0	-2.5
	SNR=3.1						
KHC	Kasperske Hory	3.15	72	ePN	Pn	03 57 39.5	-0.5
KHC				ePG	Pg	03 57 45.6	-6.6
KHC				ex	x	03 57 48.9	
KHC				eSN	Sn	03 58 14.8	-3.2
KHC				eSG	Sg	03 58 26.5	-7.7
KHC	Kasperske Hory	3.15	72	ePn	Pn	03 57 39.5	-0.5
KHC				Sn	Sn	03 58 14.8	-3.2
KHC				eSg	Sg	03 58 26.5	-7.7
KHC	Kasperske Hory	3.15	72	ePg	Pg	03 57 45.6	-6.6
LPL	La Plagne	3.16	210	ePg	Pg	03 57 49.5	-2.8
LPL				eSg	Sg	03 58 29.9	-4.6
	0.9nm,0.4s						
LPG	La Plagne	3.17	210	ePg	Pg	03 57 49.8	-2.7
LOR	Lormes	3.61	256	ePg	Pg	03 57 57.9	-3.4
LOR				eSg	Sg	03 58 44.1	-5.3
	2.9nm,0.2s						
BAIF	Baives	3.62	302	ePn	Pn	03 57 45.1	-1.5
BAIF				ePg	Pg	03 57 58.2	-3.4
BAIF				eSn	Sn	03 58 26.0	-3.9
SMF	Signal de Mont	3.86	247	ePn	Pn	03 57 48.5	-1.5
SMF				eSg	Sg	03 58 52.1	-5.6
	2.5nm,0.2s						
SSF	Saint Saulge	3.90	254	ePg	Pg	03 58 03.3	-3.9
SSF				eSg	Sg	03 58 53.1	-6.1
	1.2nm,0.2s						
ORIF	Oris-en-Rattie	3.98	214	ePg	Pg	03 58 04.3	-4.4
VIVF	Saint-Julien-l	4.53	223	ePn	Pn	03 57 57.1	-2.5

*MOS **18** 04:12:03.8±0.9, 5.27S×152.81E, h33km, mb4.8/5, Error ellipse: s-maj=45.7km s-min=21.7km az=113.1*
*IDC **18** 04:12:05.3±3.0, 5.39S×152.76E, h33km±22km, mb4.2/10, mb1 4.4/12, mb1mx4.3/16, ML3.8/1, MS4.1/11, Ms1 4.1/11, ms1mx3.9/21, Error ellipse: s-maj=25.7km s-min=13.0km az=123.0*
*BJI **18** 04:12:07.6, 5.05S×152.47E, h44km, mB4.7, mb4.5, Ms4.4, Msz4.6*
*NEIC **18** 04:12:08.9±1.4, 5.31S×152.61E, h62km±12km, mb4.6/17, Error ellipse: s-maj=18.6km s-min=8.3km az=104.0*
ISC 18 04:12:06.2±1.3, 5.39S±0.06×152.64E±0.08, h52km±10km, n68, σ0^{s}87/63, mb4.6/30, MS4.1/13, 3C-2D, New Britain region

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
RAB	Rabaul	1.28	338	⇑iP	P	04 12 28.9	+0.9
PMG	Port Moresby	6.75	233	Pn	P	04 13 44.7	-0.3
	1.7nm,0.3s,baz=34,slow=6.6,SNR=10.0						
PMG				Sn	S	04 15 00.8	-0.5
	8.7nm,0.3s,baz=163,slow=19,SNR=3.3						
PMG	Port Moresby	6.75	233	eP	P	04 13 44.9	-0.2
	34nm,0.7s						
CTA	Charters Tower	15.88	202	eP	P	04 15 52.0	+4.1
	6.7nm,0.9s						
CTA	Charters Tower	15.88	202	Pn	P	04 15 48.7	+0.8
	0.2nm,0.3s,baz=30,slow=11,SNR=6.1						
CTA				LR	LR	04 21 06.7	
	comp=Z,595nm,20.3s,baz=34,slow=34						
CTA	Charters Tower	15.88	202	eP	P	04 15 52.0	+4.1
CTA				LR	LR	04 21 06.7	
CTAO	Charters Tower	15.88	202	eP	P	04 15 51.5	+3.6
	20nm,1.2s						
KAKA	Kakadu	21.26	249	eP	P	04 16 54.9	+4.6
	24nm,0.4s,mb4.9						
WRAB	Tennant Creek	22.93	229	eP	P	04 17 07.9	+1.0
	18nm,1.0s,mb4.5						
WB2	Warramunga Arr	22.94	229	eP	P	04 17 08.5	+1.6
WRA	Warramunga Arr	22.95	229	P	P	04 17 06.7	-0.3
	3.9nm,0.7s,mb3.9,baz=55,slow=10,SNR=27						
WRA				S	S	04 21 15.3	+6.1
	0.9nm,1.1s,baz=58,slow=15,SNR=5.0						
WRA				LR	LR	04 26 46.2	
	comp=Z,282nm,18.7s,MS3.7,baz=65,slow=38						
ASAR	Alice Springs	25.62	223	P	P	04 17 32.7	0.0
	6.6nm,1.1s,mb4.1,baz=58,slow=8.9,SNR=22						
ASAR				S	S	04 22 02.9	+8.2
	0.3nm,0.7s,baz=39,slow=12,SNR=2.3						
STKA	Stephens Creek	28.32	200	eP	P	04 17 55.5	-1.8
	3.3nm,0.6s,mb4.1						
STKA	Stephens Creek	28.32	200	P	P	04 17 55.8	-1.5
	1.9nm,0.6s,mb3.9,baz=1.5,slow=12,SNR=4.9						
STKA				LR	LR	04 29 49.5	
	comp=Z,413nm,18.2s,MS4.1,baz=140,slow=38						
FITZ	Fitzroy Crossi	29.25	242	eP	P	04 18 04.6	-1.1
	8.2nm,0.6s,mb4.6						
FITZ	Fitzroy Crossi	29.25	242	P	P	04 18 04.7	-1.0
	9.0nm,0.7s,mb4.6,baz=115,slow=4.0,SNR=23						
JHJ	Hachijo jima 2	40.19	343	LR	LR	04 32 42.7	
	comp=Z,234nm,21.9s,MS4.0,baz=308,slow=31						
RPZ	Rata Peaks	41.48	160	LR	LR	04 35 14.4	
	comp=Z,554nm,18.9s,MS4.5,baz=354,slow=34						
SSE	Sheshan	47.10	322	P	P	04 20 32.8	-2.4
SSE				S	S	04 27 23.0	+0.3
SSE				AMB	AMB		
	comp=Z,18nm,6.8s						
NJ2	Nanjing	49.20	321	eP	P	04 20 51.4	0.0
ASAJ	Asahikawa	50.10	351	LR	LR	04 41 45.3	
	comp=Z,116nm,18.7s,MS3.9,baz=133,slow=36						
ENH	Enshi	54.44	313	eP	P	04 21 30.8	0.0
	comp=Z,5.2nm,0.6s,mb4.6						
GYA	Guiyang	54.62	308	P	P	04 21 31.8	-0.4
GYA				PP	PP	04 23 35.3	-1.1
GYA				XS		04 29 32.8	
GYA				SS	SS	04 32 40.0	-9.3
GYA				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.7						
KMI	Kunming	57.18	304	eP	P	04 21 50.0	-0.6
KMI				PP	PP	04 24 00.8	+1.3
KMI				S	S	04 29 41.4	+1.0
KMI				AMB	AMB		
	comp=Z,7.0nm,1.6s,mb4.4						
CMAR	Chiang Mai Arr	57.98	296	P	P	04 21 56.5	+0.2
	comp=Z,3.6nm,1.1s,mb4.3,baz=108,slow=5.4,SNR=15						
CMAR	Chiang Mai Arr	57.98	296	P	P	04 21 56.5	+0.2
CMAR				pmax	pmax		
	comp=Z,4.0nm,1.1s						
LZH	Lanzhou	61.54	316	eP	P	04 22 21.0	+0.5
LZH				AP	pP	04 22 34.0	-0.8
LZH				PP	PP	04 24 39.6	+1.1
LZH				AMB	AMB		
	comp=Z,21nm,1.2s,mb5.1						
LZH				AMB	AMB		
	comp=Z,96nm,5.2s						
GTA	Gaotai	65.98	317	eP	P	04 22 50.0	+0.5
GTA				AMB	AMB		
	comp=Z,6.0nm,1.5s,mb4.4						
SONM	Songino Array	66.73	328	P	P	04 22 54.7	+0.6
	comp=Z,3.0nm,1.0s,mb4.3,baz=135,slow=5.2,SNR=16						
YAK	Yakutsk	69.51	349	eP	P	04 23 08.4	-2.8
YAK				pmax	pmax		
	comp=Z,14nm,0.5s,mb5.2						
YAK				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.1						
YAK	Yakutsk	69.51	349	eP	P	04 23 08.4	-2.8
	comp=Z,14nm,0.5s,mb5.2						
YAK				LR	LR		
	comp=Z,100nm,17.0s,MS4.1						
ZAK	Zakamensk	69.91	329	⇑iP	P	04 23 13.7	-0.1
VNDA	Vanda	72.25	178	P	P	04 23 27.6	+0.1
	comp=Z,0.7nm,0.7s,mb3.7,baz=303,slow=8.2,SNR=4.9						
VNDA				LR	LR	04 52 50.3	
	comp=Z,56nm,19.0s,MS3.9,baz=351,slow=34						
VNDA	Vanda	72.25	178	eP	P	04 23 27.6	+0.1
	comp=Z,1.1nm,0.9s,mb3.8						
GUN	Gumba	72.29	301	eP	P	04 23 29.5	+1.0
PKI	Pulchoki	72.60	301	eP	P	04 23 30.1	-0.3
KKN	Kakani	72.77	301	eP	P	04 23 31.2	-0.2
DMN	Daman	72.87	301	eP	P	04 23 32.1	+0.1
	comp=Z,12nm,0.5s,mb5.1						
GKN	Gorkha	73.37	301	eP	P	04 23 35.3	+0.4
KOLN	Koldanda	74.20	301	eP	P	04 23 39.8	+0.1
	comp=Z,32nm,1.3s,mb5.1						
WMQ	Urumqi	76.06	317	eP	P	04 23 51.0	+0.9
WMQ				XP	sP	04 24 14.0	+3.5
WMQ				PP	PP	04 26 44.0	+1.0
WMQ				S	S	04 33 27.0	-1.2
WMQ				SCS	ScS	04 33 56.0	-1.0
WMQ				SS	SS	04 38 23.0	-1.9
WMQ				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.7						
WMQ				LR	LR		
	comp=N,45nm,20.0s,MS4.0						
WMQ				LR	LR		
	comp=E,72nm,20.0s,MS4.0						
TIXI	Tiksi	78.45	353	eP	P	04 24 03.7	+0.9
TIXI				e		04 24 09.7	
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.5s,mb4.4						
TIXI				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.2						
TIXI	Tiksi	78.45	353	eP	P	04 24 03.7	+0.9
	comp=Z,8.0nm,1.5s,mb4.4						
TIXI				e		04 24 09.7	
TIXI				LR	LR		
	comp=Z,100nm,16.0s,MS4.2						
PMR	Palmer	80.28	24	eP	P	04 24 12.7	-0.2
	comp=Z,12nm,1.1s,mb4.8						
MCK	McKinley	81.46	23	eP	P	04 24 18.4	-0.7
	comp=Z,12nm,1.0s,mb4.8						
ZAL	Zalesovo	81.56	326	P	P	04 24 19.4	-0.3
	comp=Z,1.3nm,0.3s,mb4.4,baz=357,slow=4.1,SNR=6.6						
ZAL	Zalesovo	81.56	326	P	P	04 24 19.5	-0.3
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
COLA	College	82.45	22	d iP	P	04 24 23.6	-0.6
COLA	College	82.45	22	eP	P	04 24 23.1	-1.1
	comp=Z,8.0nm,0.9s,mb4.7						
NVS	Novosibirsk	82.73	327	eP	P	04 24 25.0	-0.8
NVS				pmax	pmax		
	comp=Z,14nm,1.5s,mb4.8						
NVS				pmax	pmax		
	comp=N,11nm,1.7s						
NVS				pmax	pmax		
	comp=E,9.0nm,1.4s						

NVS	Novosibirsk	82.73	327	eP	P	04 24 25.0	-0.8
	comp=E,14nm,1.5s,mb4.8						
ILAR	Eielson Array	82.75	22	P	P	04 24 24.2	-1.5
	comp=E,4.6nm,0.9s,mb4.5,baz=255,slow=5.3,SNR=37						
ILAR				LR	LR	05 01 04.5	
	comp=E,82nm,18.8s,MS4.1,baz=184,slow=36						
ILAR	Eielson Array	82.75	22	P	P	04 24 24.3	-1.4
ILAR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ILAR				MLR	MLR		
	comp=Z,82nm,18.8s						
KURK	Kurchatov	84.13	322	⇑iP	P	04 24 33.0	0.0
QSPA	South Pole Qui	84.58	180	eP	P	04 24 35.9	+1.3
	comp=Z,2.4nm,0.7s,mb4.4						
AAK	Ala-Archa	84.95	314	d iP	P	04 24 38.3	+1.0
AAK	Ala-Archa	84.95	314	i Pr		04 24 38.3	
MAW	Mawson	84.97	203	LR	LR	04 57 44.2	
	comp=Z,128nm,20.6s,MS4.3,baz=90,slow=32						
DAWY	Dawson	85.38	24	eP	P	04 24 40.1	+1.2
INK	Inuvik	89.05	21	eP	P	04 24 56.7	+0.1
	comp=Z,2.3nm,0.8s,mb4.6						
BRVK	Borovoye	89.68	323	eP	P	04 24 59.2	-0.6
	comp=Z,2.8nm,0.8s,mb4.6						
ZRNK	Zerenda	90.43	323	eP	P	04 25 02.6	-0.8
	comp=Z,5.2nm,1.3s,mb4.7						
NVAR	Mina Array Bea	92.57	52	P	P	04 25 14.8	+1.1
	comp=Z,0.9nm,0.3s,mb4.7,baz=264,slow=8.2,SNR=2.1						
YKA	Yellowknife Ar	96.01	28	LR	LR	05 05 20.7	
	comp=Z,148nm,18.6s,MS4.5,baz=245,slow=33						
PDAR	Pinedale Array	99.36	48	LR	LR	05 07 07.0	
	comp=Z,136nm,18.5s,MS4.5,baz=78,slow=33						
CLL	Collm	123.28	331	ePKIKP	PKPdf	04 30 56.0	-1.6
CLL				i *PPKP		04 31 12.3	
BDFB	Brasilia	150.76	136	PKPbc	PKPdf	04 31 54.1	+6.1
	comp=Z,3.1nm,1.1s,baz=153,slow=9.0,SNR=4.4						
BDFB	Brasilia	150.76	136	PKIKP	PKPdf	04 31 54.2	+6.1
BDFB				pmax	pmax		
	comp=Z,3.0nm,1.1s						

*IDC **18** 04:22:29.0±1.2, 14.71N×147.52E, mb4.0/9, mb1 4.2/9, mb1mx4.0/20, Error ellipse: s-maj=40.6km s-min=19.3km az=98.0*

*NEIC **18** 04:22:36.9±2.8, 14.67N×147.44E, h57km±21km, mb4.5/1, Error ellipse: s-maj=27.0km s-min=13.5km az=90.0*

ISC 18 04:22:36.7±3.5**, 14.7N**±0.1×**147.3E**±0.2**, h68**km±27km**, n15, σ0^{s}84**/13**, mb3.9**/10**, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	2.59	246	Pn	P	04 23 18.4	+1.1
GUMO				eS	S	04 23 46.5	-1.1
WRA	Warramunga Arr	36.68	201	P	P	04 29 38.9	-0.1
	0.9nm,0.9s,mb3.7,baz=19,slow=8.9,SNR=7.3						
FITZ	Fitzroy Crossi	38.94	214	P	P	04 29 57.6	-0.2
	2.5nm,1.1s,mb4.0,baz=50,slow=2.9,SNR=2.8						
ASAR	Alice Springs	40.28	199	P	P	04 30 09.4	+0.5
	0.4nm,0.6s,mb3.4,baz=18,slow=6.6,SNR=4.8						
CM31	Chiang Mai Arr	46.40	282	P	P	04 30 58.8	+0.3
	3.4nm,0.6s,mb4.2						
CMAR	Chiang Mai Arr	46.40	282	P	P	04 30 58.9	+0.3
	4.0nm,0.9s,mb4.2,baz=81,slow=5.6,SNR=17						
SONM	Songino Array	47.25	323	P	P	04 31 04.9	0.0
	2.2nm,0.5s,mb4.2,baz=138,slow=6.9,SNR=25						
ZAL	Zalesovo	62.15	324	P	P	04 32 53.7	+0.6
	0.9nm,0.4s,mb4.2,baz=224,slow=12,SNR=3.1						
ZAL	Zalesovo	62.15	324	P	P	04 32 53.7	+0.6
ILAR	Eielson Array	66.59	25	P	P	04 33 20.0	-1.7
	0.2nm,0.4s,mb3.3,baz=254,slow=5.9,SNR=5.9						
ARCES	ARCESS Array B	86.78	343	P	P	04 35 15.5	+1.3
	2.4nm,0.9s,mb4.1,baz=60,slow=7.3,SNR=4.2						
FINES	FINESS Array B	91.17	336	P	P	04 35 34.1	-1.0
	1.4nm,0.8s,mb4.1,baz=63,slow=4.3,SNR=4.4						
KIC	Kosan Boka	145.28	305	eP	PKPdf	04 42 09.7	+2.0
	38nm,0.9s						
TIC	Toumodi	145.33	306	eP	PKPdf	04 42 09.7	+1.9
	67nm,1.3s						
LIC	Lamto	145.59	305	eP	PKPdf	04 42 11.2	+2.9
	33nm,0.7s						

*IDC **18** 04:24:51.9±1.7, 41.89N×20.03E, mb3.7/2, mb1 3.8/9, mb1mx3.7/21, ML3.6/7, Error ellipse: s-maj=21.6km s-min=13.8km az=22.0*

*PDG **18** 04:24:52.3±0.8, 41.90N×19.84E, h2km±2km*

*TIR **18** 04:24:52.3, 41.98N×19.87E, h9km, Ml3.2*

*NEIC **18** 04:24:52.3, 41.90N×19.84E, h2km, ML3.8(THE), ML3.8(PDG), After PDG.*

*CSEM **18** 04:24:52.6±0.1, 42.00N×19.86E, h5km, ML4.0/2, Error ellipse: s-maj=1.3km s-min=0.9km az=49.0*

*THE **18** 04:24:53.0, 42.08N×19.47E, h20km, ML3.7*

*LDG **18** 04:24:53.3±0.3, 41.92N×19.79E, h10km, Ml3.9/6, Error ellipse: s-maj=7.9km s-min=4.4km az=95.0*

ISC 18 04:24:54.0±0.2**, 41.97N**±0.01×**19.77E**±0.02**, h22**km±2km**, n124, σ1^{s}23**/192**, mb3.6**/2**, 22C-16D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDA	Shkodra	0.22	293	ePg	Pb	04 24 58.8	-0.8
SDA				i Sg	Sb	04 25 03.8	+0.5
LACI	Lac	0.33	187	i Pg	Pb	04 24 59.8	-1.5
LACI				i Sg	Sb	04 25 06.1	-0.2
ULC	Ulcinj	0.38	270	⇓iPg	Pb	04 25 01.3	-0.8
ULC				eSg	Sb	04 25 08.3	+0.7
QSH	Qafa e Shtames	0.46	167	i Pg	Pb	04 25 02.4	-0.9
QSH				i Sg	Sb	04 25 09.4	-0.3
PRZA	Preza	0.54	188	i pg?	Pb	04 25 06.0	+1.3
PRZA				i Sg	Sb	04 25 16.8	+4.7
PRZA	Preza	0.54	188	ePg	Pb	04 25 06.0	+1.3
PHP	Peshkopia	0.58	119	i Pg	Pb	04 25 02.4	-2.9
PHP				i Sg	Sb	04 25 10.3	-2.8
TTG	Podgorica	0.59	321	⇑iPg	Pb	04 25 04.8	-0.8
TTG				eSg	Sb	04 25 15.4	+1.9
TTG	Podgorica	0.59	321	⇑iPg	Pb	04 25 04.8	-0.8
TTG				eSg	Sb	04 25 15.4	+1.8
TIR	Tirane	0.62	173	⇑iPg	Pb	04 25 04.4	-1.7
TIR				i Sg	Sb	04 25 15.5	+1.1
PVY	Plav	0.65	14	⇑iPg	Pb	04 25 04.9	-1.5
PVY				eSg	Sb	04 25 15.3	+0.3
BUM	Brajici-Budva	0.73	298	⇓iPg	Pb	04 25 08.2	+0.3
BUM				eSg	Sb	04 25 20.3	+3.0
IVA	Berane	0.91	6	⇑iPg	Pb	04 25 09.7	-1.2
IVA				eSg	Sb	04 25 24.8	+2.1
NKY	Niksic	1.02	326	⇓iPg	Pb	04 25 12.1	-0.7
NKY				eSg	Sb	04 25 29.3	+3.6
HCY	Herceg Novi	1.06	297	⇓iPg	Pb	04 25 13.5	0.0
HCY				eSg	Sb	04 25 31.0	+4.2
OHR	Ohrid	1.16	137	i Pg	Pn	04 25 13.6	-1.4
OHR				i Sg	Sb	04 25 29.7	0.0
SKO	Skopje	1.25	89	i Pg	Pn	04 25 15.2	-1.1
SKO				⇓i		04 25 16.0	
SKO				i		04 25 21.8	
SKO				i Sg	Sb	04 25 31.0	-1.4
SKO				Lg		04 25 34.0	
	comp=Z,0.2nm,0.6s						
TREB	Trebinje	1.29	306	Pn	Pn	04 25 17.9	+1.0
TREB				Sn	Sn	04 25 37.6	+4.0
BRY	Bratogost	1.30	316	⇓iPg	Pn	04 25 17.2	+0.2
BRY				eSg	Sn	04 25 39.4	+5.6
UPM	Unac-Piva	1.39	333	⇑iPg	Pn	04 25 19.1	+0.8
UPM				eSg	Sn	04 25 41.6	+5.6
PLE	Pljevlja	1.39	349	⇑iPg	Pn	04 25 18.8	+0.4
PLE				eSg	Sn	04 25 41.7	+5.6
NVSS	Nova Varos 2	1.54	358	⇓iPn	Pn	04 25 19.9	-0.6
NVSS				Sn	Sn	04 25 42.4	+2.4
NVSS	Nova Varos 2	1.54	358	Pn	Pn	04 25 19.9	-0.6
NVSS				Sn	Sn	04 25 42.3	+2.4
KBN	Korca	1.55	150	ePg	Pn	04 25 22.5	+1.9
KBN				i Sg	Sn	04 25 43.0	+2.9
TPE	Tepelena	1.68	174	i Pg	Pn	04 25 23.7	+1.2
TPE				i Sg	Sn	04 25 55.4	+12
FNA	Florina	1.69	134	ePb	Pb	04 25 22.8	-1.5
	comp=Z,4.0nm,0.7s						
FNA				eSb	Sb	04 25 46.8	+1.5
BARS	Barje	1.75	60	⇓iPn	Pn	04 25 22.9	-0.6
BARS				Sn	Sn	04 25 46.6	+1.4
STON	Ston	1.78	301	i Pn	Pn	04 25 25.6	+1.8
STON				i Sn	Sn	04 25 52.5	+6.6
GRUS	Gruza	2.04	20	⇑iPn	Pn	04 25 28.1	+0.4
GRUS				Sn	Sn	04 25 55.0	+2.3
SRN	Sarande	2.09	175	i Pn	Pn	04 25 29.3	+0.9
PE1	Pezze di Greco	2.11	237	ePn	Pn	04 25 28.8	+0.2
DIVS	Divcibare	2.14	4	⇓iPn	Pn	04 25 29.6	+0.6
DIVS				Sn	Sn	04 25 52.8	-2.3
VAY	Valandovo	2.20	106	⇑iPn	Pn	04 25 32.1	+2.2
VAY				i Sn	Sn	04 25 55.9	-0.8
VAY				i		04 26 00.6	
GRG	Griva	2.22	116	ePn	Pn	04 25 30.8	+0.5
GRG				eSn	Sn	04 26 01.2	+3.9
KZN	Kozani	2.25	137	eP	Pn	04 25 33.0	+2.4
KEK	Kerkira	2.25	179	eP	Pn	04 25 30.5	-0.2
BAI	Bari	2.33	249	ePn	Pn	04 25 31.6	-0.2
MEV	Metsovon	2.45	153	ePn	Pn	04 25 35.2	+1.8
	comp=Z,9.0nm,0.4s						
JAN	Janina	2.45	160	eP	Pn	04 25 35.0	+1.5
BOLS	Boljevac	2.46	40	⇓iPn	Pn	04 25 32.9	-0.8
BOLS				Sn	Sn	04 26 01.9	-1.5
IGT	Igoumenitsa	2.47	170	ePn	Pn	04 25 33.5	-0.3
KKB	Krupnik	2.48	91	i P	Pn	04 25 33.8	-0.1
KNT	Kendrikon	2.48	108	ePn	Pn	04 25 34.1	+0.1
	comp=Z,5.0nm,0.7s						
SVIS	Svilajnac	2.56	24	⇑iPn	Pn	04 25 35.2	+0.1
SVIS				Sn	Sn	04 26 07.2	+1.3
SG1	Sgolgore (BA)	2.58	245	ePn	Pn	04 25 35.5	+0.1
VTS	Vitosha	2.63	75	i P	Pn	04 25 35.8	-0.3
THE	Thessaloniki	2.75	118	ePn	Pn	04 25 38.7	+0.9
CDT	Castel del Mon	2.77	253	ePn	Pn	04 25 38.1	+0.1
LIT	Litokhoron	2.78	131	ePn	Pn	04 25 38.6	+0.4
	comp=Z,4.0nm,0.7s						
MS1	Monte Sant'Ang	2.87	266	ePn	Pn	04 25 39.8	+0.3
BEO	Belgrade	2.90	10	⇑iPn	Pn	04 25 50.1	+10
BEO				Sn	Sn	04 26 27.6	+13
SOH	Sokhos	2.93	112	ePn	Pn	04 25 41.3	+0.9
MMB	Musomiste	2.99	96	i P	Pn	04 25 40.5	-0.7
SRS	Serrai	3.00	105	ePn	Pn	04 25 41.4	+0.1
PLG	Polygyros	3.20	119	eP	Pn	04 25 46.0	+1.8
PGB	Panagyurishte	3.32	78	P	Pn	04 25 44.5	-1.4
LKD	Levkas	3.33	168	ePn	Pn	04 25 44.8	-1.2
EVR	Evrytania	3.42	152	eP	Pn	04 25 49.0	+1.7
AGG	Agios Georgios	3.53	146	ePn	Pn	04 25 48.7	-0.2
	comp=Z,3.0nm,0.7s						
AGG				eSn	Sn	04 26 32.2	+1.7
OUR	Ouranopolis	3.58	116	ePn	Pn	04 25 50.4	+0.9
PAIG	Paliouri	3.60	123	ePn	Pn	04 25 49.9	+0.1
XOR	Xorichti	3.68	134	ePn	Pn	04 25 51.0	0.0
RZN	Rozhen	3.71	93	i P	Pn	04 25 51.0	-0.4
VLS	Valsamata	3.84	170	eP	Pn	04 25 51.0	-2.2
RHK3	Tenkes	4.07	345	⇑eP	Pn	04 25 57.1	+0.6
RHK3				eS	Sn	04 26 48.4	+4.3
	comp=Z,0.7nm,0.3s						
KDZ	Kurdzhali	4.24	92	P	Pn	04 25 56.5	-2.4
RHK1	Bakonya	4.30	344	⇑eP	Pn	04 26 00.4	+0.6
RHK1				eS	Sn	04 26 51.7	+1.7
	comp=Z,6.2nm,0.3s						
PKSM	Moragy	4.32	350	⇓eP	Pn	04 25 59.8	-0.3
PKSM				eS	Sn	04 26 51.1	+0.7
NVLJ	Novalja	4.42	308	i Pn	Pn	04 26 02.3	+0.9
AQU	L'Aquila	4.75	277	ePn	Pn	04 26 06.5	+0.3
AQU				Sn	Sn	04 27 00.9	-0.2
AQU	L'Aquila	4.75	277	ePn	Pn	04 26 06.5	+0.4
AQU				Sn	Sn	04 27 00.9	-0.3
BOJS	Bojanci	4.81	319	i Pn	Pn	04 26 08.7	+1.6
BOJS				eSn	Sn	04 27 05.0	+2.1
CRES	Cresnjev	4.96	323	ePn	Pn	04 26 10.6	+1.5
PKS8	Sarbogard	4.97	351	⇓eP	Pn	04 26 08.8	-0.5
	comp=Z,0.7nm,0.7s						
PKS8				eS	Sn	04 27 06.8	-0.1
PKS8	Sarbogard	4.97	351	⇓eP	Pn	04 26 08.8	-0.5
PKS8				eS	Sn	04 27 06.8	-0.1
	comp=Z,0.7nm,0.7s						
GROS	Grobnik	5.44	327	i Pn	Pn	04 26 16.9	+1.0
PKSG		5.51	350	⇑iP	Pn	04 26 17.1	+0.2
	comp=Z,0.7nm,0.4s						
PKSG				eS	Sn	04 27 20.4	0.0
	comp=Z,0.7nm,0.4s						
LJU	Ljubljana	5.56	319	ePn	Pn	04 26 18.6	+1.1
LJU				eSn	Sn	04 27 27.3	+5.8
MLR	Muntele Rosu	5.70	50	Pn	Pn	04 26 17.5	-2.0
	comp=Z,0.3nm,0.3s,baz=187,slow=13,SNR=4.9						
MLR				Sn	Sn	04 27 24.0	-1.1
	comp=Z,0.5nm,0.3s,baz=128,slow=19,SNR=4.1						
PERS	Pernice	5.74	326	ePn	Pn	04 26 21.1	+1.0
VOY	Vojsko	5.87	316	ePn	Pn	04 26 22.6	+0.7
VOY				eSn	Sn	04 27 31.8	+2.5
SRO2	Moca	5.88	351	eSN	Sn	04 27 31.9	+2.4
OBKA	Obir	5.89	322	⇑iPN	Pn	04 26 24.1	+1.9
OBKA				i SN	Sn	04 27 29.4	-0.4
PSZ	Piszkesteto	5.95	1	⇑iPn	Pn	04 26 22.2	-0.9
PSZ				eSn	Sn	04 27 30.8	-0.6
PSZ	Piszkesteto	5.95	1	⇑iP	Pn	04 26 22.2	-0.9
PSZ				i		04 27 30.8	
ARSA	Arzberg	6.09	332	⇑iPN	Pn	04 26 25.9	+0.8
ARSA				i SN	Sn	04 27 34.8	0.0
ZST	Bratislava	6.51	344	ePN	Pn	04 26 32.2	+1.2
KOLL	Kolacno	6.68	352	eSN	Sn	04 27 47.7	-1.9
KBA	Koelnbreinsper	6.87	320	⇓iPN	Pn	04 26 36.8	+0.8
KBA				i SN	Sn	04 27 53.6	-0.7
MOA	Molln	7.06	328	⇑iPN	Pn	04 26 39.6	+0.9
MOA				i SN	Sn	04 27 57.8	-1.3
IDI	Anoyia	7.78	147	Pn	Pn	04 26 44.6	-4.2
	comp=Z,0.5nm,0.3s,baz=304,slow=17,SNR=3.4						
IDI				Sn	Sn	04 28 11.1	-6.1
	comp=Z,0.5nm,0.3s,baz=340,slow=15,SNR=2.9						
WTTA	Wattenberg	7.85	315	⇓iPN	Pn	04 26 50.4	+0.6
WTTA				i SN	Sn	04 28 17.9	-1.0
WATA	Walderalm	7.93	315	⇓iPN	Pn	04 26 51.2	+0.3
WATA				i SN	Sn	04 28 19.8	-1.0
PGF	Pioggiola	8.01	278	ePn	P	04 26 50.3	-1.7
SQTA	Sankt Quirin	8.05	314	⇑iPN	P	04 26 53.2	+0.6
SQTA				i SN	Sn	04 28 21.9	-2.0
GERES	GERESS Array B	8.09	330	Pn	P	04 26 54.7	+1.6
	comp=Z,1.1nm,0.3s,baz=151,slow=13,SNR=20						
GERES				Sn	Sn	04 28 25.3	+0.4
	comp=Z,0.3nm,0.3s,baz=140,slow=24,SNR=3.3						
MOTA	Moosalm	8.18	314	⇑iPN	P	04 26 54.8	+0.4
MOTA				i SN	Sn	04 28 25.4	-1.8
KHC	Kasperske Hory	8.37	331	ePN	P	04 26 57.8	+0.7
KHC				eSN	Sn	04 28 30.8	-1.1
DAVOX	Davos	8.56	308	Pn	P	04 27 00.5	+0.9
	comp=Z,2.1nm,0.3s,baz=107,slow=20,SNR=20						
DAVOX				Sn	Sn	04 28 35.4	-1.1
	comp=Z,1.3nm,0.3s,baz=311,slow=19,SNR=3.2						
DAVOX	Davos	8.56	308	Pn	P	04 27 00.5	+0.9
DAVOX				Sn	Sn	04 28 35.4	-1.1
PRU	Pruhonice	8.80	337	eSN	Sn	04 28 37.7	-4.9
DAVA	Damuels	8.83	310	⇑iPN	P	04 27 03.9	+0.6
DAVA				i SN	Sn	04 28 42.0	-1.2
SBF	Sospel	9.24	286	ePn	P	04 27 06.8	-2.3
SBF				eSn	Sn	04 28 43.1	-10
	comp=Z,24nm,0.9s						
FRF	La Foret Royal	9.78	284	ePn	P	04 27 15.3	-1.1
MBDF	Montbardon	9.86	291	ePn	P	04 27 14.8	-2.7
MBDF				eSn	Sn	04 28 55.4	-13
	comp=Z,6.2nm,0.6s						
LMR	La Mourre	9.86	282	ePn	P	04 27 14.3	-3.3
LPG	La Plagne	10.06	295	ePn	P	04 27 19.3	-1.0
LPG				eSn	S	04 28 59.1	-14
	comp=Z,10nm,0.6s						
LPL	La Plagne	10.08	295	ePn	P	04 27 19.2	-1.3
LPL				eSn	S	04 28 57.9	-16
	comp=Z,9.7nm,0.6s						
ORIF	Oris-en-Rattie	10.52	291	ePn	P	04 27 25.2	-1.4
SMRF	Simiane la Rot	10.59	286	ePn	P	04 27 26.8	-0.8
CABF	La Chapelle	10.85	300	ePn	P	04 27 29.2	-1.8
HINF	Hinteralfeld	10.86	307	ePn	P	04 27 31.2	0.0
HINF				eSn	S	04 29 22.4	-11
	comp=Z,4.6nm,0.4s						
CDF	Champ du Feu	10.91	310	ePn	P	04 27 31.2	-0.7
VIVF	Saint-Julien-l	11.35	290	ePn	P	04 27 33.9	-4.0
LOR	Lormes	12.51	300	ePn	P	04 27 53.6	+0.1
LOR				eSn	S	04 30 01.1	-12
	comp=Z,2.9nm,0.3s						
SSF	Saint Saulge	12.67	299	ePn	P	04 27 54.0	-1.6
AVF	Avril sur Loir	12.69	298	ePn	P	04 27 53.3	-2.6
BGF	Bois d'Agland	12.96	296	ePn	P	04 27 59.4	-0.1
HFS	Hagfors	18.57	350	P	P	04 29 11.8	+0.5
	comp=Z,0.0nm,0.3s,baz=185,slow=16,SNR=2.9						
NOA	NORSAR Array B	19.80	348	P	P	04 29 23.9	-1.6
	comp=Z,0.2nm,0.3s,baz=157,slow=10,SNR=2.7						
NOA	NORSAR Array B	19.80	348	P	P	04 29 23.9	-1.6
FINES	FINESS Array B	19.88	9	P	P	04 29 25.1	-1.3
	comp=Z,0.2nm,0.3s,baz=186,slow=13,SNR=6.2						
ARCES	ARCESS Array B	27.80	4	P	P	04 30 41.3	-1.7
	comp=Z,1.6nm,0.8s,mb3.7,baz=180,slow=11,SNR=3.8						
SONM	Songino Array	58.55	52	P	P	04 34 49.8	-1.0
	comp=Z,0.2nm,0.4s,mb3.5,baz=293,slow=11,SNR=2.9						

*NAO **18** 04:26:58.5±8.0, 58.59N×9.87E, h28km±54km, ML2.3*

BER 18 04:26:59.4±2.5**, 58.57N×9.88E, h12**km±21km**, MD2.1, ML1.3, ML2.3**(NAO)**, Southern Norway**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLS5	Blasjo	1.96	297	eP	Pn	04 27 33.1	+0.3
BLS5				eSg	Sg	04 27 58.6	-6.4
BLS5				AML	AML	04 28 01.4	
	comp=Z,4.3nm,0.4s						
ODD1	Odda	2.14	310	eP	Pn	04 27 32.1	-3.3
ODD1				eSg	Sg	04 28 03.2	-7.6
ODD1				AML	AML	04 28 05.5	
	comp=Z,4.5nm,0.5s						
KMY	Karmoy	2.49	287	eP	Pn	04 27 37.2	-3.1
KMY				eSg	Sg	04 28 12.9	-9.4
KMY				AML	AML	04 28 15.7	
	comp=Z,4.0nm,0.5s						
HFS	Hagfors	2.50	50	Pn	Pn	04 27 37.6	-3.1
	baz=232,slow=14						
HFS				Sn	Sn	04 28 06.8	-4.5
	baz=235,slow=28						
HFS				Lg		04 28 17.0	
	baz=232,slow=37						

*STR **18** 04:46:15.0±0.5, 42.35N×2.14E, h5km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*CSEM **18** 04:46:15.0±0.4, 42.35N×2.20E, h2km, ML2.0, Error ellipse: s-maj=7.7km s-min=5.1km az=124.0*

*MDD **18** 04:46:16.1±0.7, 42.37N×2.16E, h10km±3km, mbLg1.5/3, Error ellipse: s-maj=6.4km s-min=3.7km az=14.0, PRXIMO AftershockPLICA*

ISC 18 04:46:14.3±0.7**, 42.34N**±0.04×**2.18E**±0.05**, h6**km±8km**, n14, σ0^{s}69**/20**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VALF	Valcebollere	0.13	296	Pg	Pg	04 46 17.5	+0.3
VALF				Sg	Sg	04 46 19.1	0.0
FILF	Fillols	0.36	52	Pg	Pg	04 46 21.0	-0.5
FILF				Sg	Sg	04 46 25.2	-1.1
FILF	Fillols	0.36	52	P	Pg	04 46 21.1	-0.4
FILF				S	Sg	04 46 25.2	-1.1
CARF	Carcanieres	0.38	352	Pg	Pg	04 46 22.6	+0.6
CARF				Sg	Sg	04 46 27.7	+0.7
CARF	Carcanieres	0.38	352	P	Pg	04 46 22.6	+0.7
CARF				S	Sg	04 46 27.9	+0.9
EJON	La Jonquera	0.54	78	Pg	Pg	04 46 26.1	+1.0
	0.4nm,0.1s,SNR=7.9						
EJON				Lg		04 46 34.1	
	1.2nm,0.1s,SNR=7.9						
EJON	La Jonquera	0.54	78	Pg	Pg	04 46 26.6	+1.5
	0.4nm,0.1s,SNR=7.9						
SALF	Salau	0.84	300	Pg	Pg	04 46 30.9	-0.3
SALF	Salau	0.84	300	P	Pb	04 46 31.2	+0.2
SALF				S	Sb	04 46 41.6	-0.8
EPOB	Poblet	1.29	220	P	Pb	04 46 38.9	+0.3
	0.9nm,0.1s,SNR=7.9						
EPOB				S	Sb	04 46 55.9	+0.6
	0.7nm,0.1s,SNR=7.9						
EPOB	Poblet	1.29	220	Pg	Pg	04 46 38.9	-1.1
	0.9nm,0.1s,SNR=7.9						
EBIE	Bielsa	1.54	284	Pg	Pg	04 46 45.0	-0.2
	0.1nm,0.1s,SNR=7.9						
EBIE				Lg		04 47 04.4	
	1.7nm,0.1s,SNR=7.9						
EBIE	Bielsa	1.54	284	Pg	Pg	04 46 45.0	-0.2
	0.1nm,0.1s,SNR=7.9						
ESAC	San Caprasio	2.07	253	Lg		04 47 20.1	
	3.7nm,0.2s,SNR=4.0						

IDC 18 04:52:49.1±9.8**, 19.57S×168.60E, mb3.8**/4**, mb1 4.0**/4**, mb1mx3.8**/13**, Error ellipse: s-maj=274.0km s-min=56.9km az=135.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	32.21	263	P	P	04 59 19.1	-2.2
	0.2nm,0.3s,baz=96,slow=8.9,SNR=10						
ASAR	Alice Springs	32.46	256	P	P	04 59 21.8	-1.7
	2.0nm,0.5s,baz=83,slow=9.2,SNR=36						
FITZ	Fitzroy Crossi	40.61	265	P	P	05 00 30.5	-1.9
	1.1nm,0.5s,baz=90,slow=2.0,SNR=6.2						
SONM	Songino Array	87.12	323	P	P	05 05 37.0	-1.1
	0.3nm,0.8s,baz=135,slow=2.0,SNR=2.7						

CASC 18 04:57:23.1±2.1**, 10.83N×86.62W, h118**km±27km**, MD4.3, 5C-2D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	El Crucero	1.19	15	eP	P	04 57 46.4	-0.9
VCR	Vista de Mar	1.20	126	eP	P	04 57 48.2	+0.8
APON	Apoyo	1.21	27	⇑eP	P	04 57 46.1	-1.4
MASN	Masaya	1.24	22	eP	P	04 57 49.0	+1.1
TICN	Ticuantepe	1.26	18	⇓eP	P	04 57 47.3	-0.7
XAVN	Gruta Xavier	1.34	12	⇑eP	P	04 57 48.3	-0.7
XAVN				eS	S	04 58 08.1	-0.5
MGAN	Managua	1.36	16	eP	P	04 57 48.5	-0.7
MGAN				eS	S	04 58 08.8	-0.2
WILN	Americas 2	1.39	18	eP	P	04 57 48.4	-1.1
WILN				eS	S	04 58 11.4	+1.8
APYN	Apoyeque	1.42	11	eP	P	04 57 49.4	-0.5
APYN				eS	S	04 58 10.1	-0.1
MOMJ	Momotombo	1.57	3	eP	P	04 57 51.2	-0.5
MOMJ				eS	S	04 58 13.9	+0.7
LEON	Leon	1.60	350	⇑eP	P	04 57 51.8	-0.2
LEON				eS	S	04 58 14.6	+0.8
MIRN	Miramar	1.60	357	⇓eP	P	04 57 51.9	-0.1
MIRN				eS	S	04 58 15.6	+1.7
CNGN	Cerro Negro	1.66	357	eP	P	04 57 52.4	-0.3
CNGN				eS	S	04 58 15.4	+0.3
PYTN	Playitas	1.79	18	⇑eP	P	04 57 54.7	+0.5
FORC	Fortuna	1.95	100	eP	P	04 57 55.5	-0.7
CGA2	Cerro Gallo 2	2.27	111	eP	P	04 58 00.4	0.0
VPS2	Volcan Poas 2	2.43	105	eP	P	04 58 03.2	+0.6
LAJ	Bijagual	2.64	111	eP	P	04 57 59.9	-5.5
SJS	Escuela Geolog	2.67	109	eP	P	04 58 06.4	+0.6
CNCH	Conchagua	2.71	334	eP	P	04 58 06.8	+0.5
CNCH				eS	S	04 58 39.8	+0.9
LCR2	La Lucha 2	2.79	113	⇑eP	P	04 58 07.2	-0.3
TRTC	Tortuguero	2.87	95	eP	P	04 58 07.6	-0.8
ICR	Volcan Irazu	2.87	107	eP	P	04 58 10.9	+2.4
URSC	Urasca	2.96	109	eP	P	04 58 09.8	0.0
BUS	Buena Vista	3.09	114	eP	P	04 58 10.9	-0.5
LCBS	La Ceiba	3.63	321	eP	P	04 58 19.3	+0.5
LFRS	El Faro	3.66	320	eP	P	04 58 20.3	+1.1
LFRS				eS	S	04 59 02.0	+0.1
SBLS	San Blas	4.19	316	eP	P	04 58 27.2	+0.9
SBLS				eS	S	04 59 14.7	0.0
RTR	El Retiro	4.25	316	eP	P	04 58 27.8	+0.8
RTR				eS	S	04 59 16.1	+0.1

*NIED **18** 05:14:00, 32.50N×129.20E, h8km, Mw3.4 Best double couple: M0 1.51×10¹⁴ NP1:φs9°, δ73°, λ-158°. NP2:φs273°, δ69°, λ-18°.*

JMA 18 05:14:47.4±0.1**, 32.49N×129.16E, h2**km±2km**, M3.6, Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFU	Fukue jima 2	0.38	296	P	Pg	05 14 55.3	+0.2
JFU				S	Sg	05 15 00.6	+0.4
NGSJ	Nagasakinomoza	0.56	75	P	Pg	05 14 58.3	-0.2
NGSJ				S	Sg	05 15 06.2	+0.2
JHD	Hondo	0.83	91	P	Pg	05 15 03.7	-0.2
JHD				S	Sg	05 15 15.7	+0.8
JUR	Ureshino	0.90	48	P	Pg	05 15 04.9	-0.4
JUR				S	Sg	05 15 17.0	-0.2
JSJ	Shimokoshiki	0.94	150	P	Pb	05 15 05.1	-0.9
JSJ				S	Sg	05 15 18.2	-0.4
JTA	Tamana	1.25	67	P	Pb	05 15 11.0	-0.4
JTA				S	Sb	05 15 28.0	+0.2
JZO	Okuchi	1.27	106	P	Pb	05 15 11.0	-0.7
JZO				S	Sb	05 15 29.1	+0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JII	**Iki**	**1.39**	**20**	P	Pb	05 15 13.0	-0.7
JII				S	Sb	05 15 31.3	-0.5
JIU2	**Izumi 2**	**1.40**	**87**	P	Pb	05 15 13.5	-0.4
JIU2				S	Sb	05 15 32.1	0.0
JSU	**Suzuyama**	**1.47**	**131**	P	Pn	05 15 13.4	-1.7

*NEIC **18** 05:51:28.1±1.3, 5.02S×150.07E, h294^{km}±10^{km}, mb4.3/4, Error ellipse: s-maj=36.7km s-min=15.1km az=135.0*
*IDC **18** 05:51:29.3±2.4, 5.03S×149.93E, h298^{km}±21^{km}, mb3.5/4, mb1 3.7/5, mb1mx3.4/14, Error ellipse: s-maj=57.9km s-min=17.8km az=133.0*
ISC 18 05:51:26.9±1.9**, 4.9S**±0.3×**150.1E**±0.4**, h295**^{km}±13^{km}**, n15, σ0^{s}73**/16**, mb4.0**/6**, 1D, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WAU	**Wau**	**4.09**	**234**	eP	**P**	**05 52 35.0**	**+0.6**
PMG	**Port Moresby**	**5.29**	**213**	P	**P**	**05 52 48.0**	**-0.2**
	2.0nm,0.3s,baz=24,slow=7.1,SNR=3.7						
PMG				S	**S**	**05 54 04.1**	**+12**
	1.4nm,0.3s,baz=350,slow=20,SNR=2.7						
PMG	**Port Moresby**	**5.29**	**213**	Pn	**P**	**05 52 47.9**	**-0.3**
PMG				S	**S**	**05 54 04.1**	**+12**
KAKA	**Kakadu**	**19.06**	**245**	eP	**P**	**05 55 34.7**	**+5.1**
	6.2nm,0.2s						
WRAB	**Tennant Creek**	**21.36**	**224**	eP	**P**	**05 55 52.2**	**+0.2**
	13nm,0.3s,mb4.7						
WB2	**Warramunga Arr**	**21.36**	**224**	⇓iP	**P**	**05 55 52.5**	**+0.4**
WRA	**Warramunga Arr**	**21.37**	**224**	P	**P**	**05 55 52.6**	**+0.4**
	4.0nm,0.3s,mb4.2,baz=49,slow=10.0,SNR=178						
WRA				S	**S**	**05 59 28.2**	**+2.0**
	0.5nm,0.7s,baz=52,slow=16,SNR=2.6						
WRA				PcP	PcP	05 59 45.9	+0.2
	0.4nm,0.4s,baz=30,slow=2.1,SNR=4.7						
ASAR	**Alice Springs**	**24.28**	**218**	P	**P**	**05 56 19.1**	**-0.5**
	1.4nm,0.3s,mb3.7,baz=57,slow=7.8,SNR=24						
ASPA	**Alice Springs**	**24.28**	**218**	eP	**P**	**05 56 19.1**	**-0.6**
FITZ	**Fitzroy Crossi**	**27.22**	**239**	eP	**P**	**05 56 45.3**	**-1.1**
	2.0nm,0.4s,mb3.9						
FITZ	**Fitzroy Crossi**	**27.22**	**239**	P	**P**	**05 56 45.4**	**-1.0**
	2.0nm,0.4s,mb3.9,baz=31,slow=6.8,SNR=23						
MBWA	**Marble Bar**	**33.55**	**238**	eP	**P**	**05 57 40.7**	**-0.9**
	1.3nm,0.4s,mb3.8						
ILAR	**Eielson Array**	**83.32**	**23**	P	**P**	**06 03 22.6**	**+0.7**
	0.6nm,0.6s,mb3.6,baz=250,slow=5.3,SNR=8.2						
SAML	**Samuel**	**144.12**	**113**	ePKPdf	PKPdf	06 10 28.8	+0.3
BDFB	**Brasilia**	**152.84**	**139**	PKPbc	PKPdf	06 10 52.3	+10
	1.6nm,0.4s,baz=229,slow=0.3,SNR=7.8						

*NEIC **18** 06:33:36.1, 35.12S×70.42W, h15^{km}, MD3.6(GUC), After GUC.*
GUC 18 06:33:36.1±0.5**, 35.12S×70.42W, h15**^{km}**, MD3.6, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CICH	**Cipreses**	**0.80**	**0**	iP	Pb	06 33 50.8	-0.3
CACH	**El Canelo**	**1.01**	**352**	eP	Pb	06 33 54.1	-0.6
CACH				iS	Sb	06 34 07.2	-0.5
CHCH	**Chadas Angostu**	**1.20**	**351**	iP	Pb	06 33 56.5	-1.4
CHCH				iS	Sb	06 34 12.9	-0.1
LNV	**Longovilo**	**1.42**	**325**	iP	Pn	06 34 00.5	-1.0
LNV				iS	Sb	06 34 18.6	-0.8
ANTU	**Antumapu**	**1.56**	**353**	iP	Pn	06 34 04.1	+0.7
ANTU				iS	Sn	06 34 24.3	+0.9
RCDM	**Rinconada Maip**	**1.66**	**349**	eP	Pn	06 34 04.3	-0.6
RCDM				iS	Sn	06 34 26.0	0.0
FCH	**Farellones**	**1.79**	**4**	eP	Pn	06 34 08.2	+1.4
FCH				iS	Sn	06 34 31.7	+2.3

CASC 18 06:59:34.5±1.4**, 12.61N×88.31W, h38**^{km}±55^{km}**, MD3.6, 9C-8D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.81**	**35**	⇑eP	P	06 59 49.6	+0.1
CNCH				eS	S	07 00 01.4	+0.8
VSM	**San Miguel**	**0.82**	**3**	⇑eP	P	06 59 50.2	+0.6
VSM				eS	S	07 00 02.6	+1.9
BLLM	**Bellamira**	**0.84**	**5**	eP	P	06 59 49.9	+0.1
BLLM				eS	S	07 00 01.5	+0.4
SNVI	**San Vicente**	**1.12**	**333**	⇑eP	P	06 59 53.8	-0.2
SNVI				eS	S	07 00 08.9	+0.5
CAHU	**Cacacuatique**	**1.16**	**5**	eP	P	06 59 55.4	+0.9
CAHU				eS	S	07 00 10.5	+1.1
LCBS	**La Ceiba**	**1.23**	**328**	⇓eP	P	06 59 55.3	-0.2
LCBS				eS	S	07 00 10.7	-0.5
CRIN	**San Cristobal**	**1.23**	**85**	eP	P	06 59 56.2	+0.7
CRIN				eS	S	07 00 11.9	+0.6
LFRS	**El Faro**	**1.25**	**324**	⇓eP	P	06 59 55.5	-0.2
LFRS				eS	S	07 00 11.5	-0.1
LBRS	**Las Brisas**	**1.33**	**328**	⇓eP	P	06 59 57.2	+0.2
LEON	**Leon**	**1.40**	**98**	⇓eP	P	06 59 57.6	-0.4
LEON				eS	S	07 00 15.2	-0.2
TELN	**Telica**	**1.45**	**90**	⇓eP	P	06 59 58.4	-0.2
TELN				eS	S	07 00 16.9	+0.3
BOQS	**Boqueron**	**1.47**	**320**	⇓eP	P	06 59 58.9	0.0
BOQS				eS	S	07 00 17.4	+0.3
MIRN	**Miramar**	**1.57**	**96**	⇑eP	P	07 00 00.1	-0.3
MIRN				eS	S	07 00 18.8	-1.0
CNGN	**Cerro Negro**	**1.58**	**94**	eP	P	07 00 00.7	+0.2
CNGN				eS	S	07 00 20.3	+0.4
COPN	**Copaltepe**	**1.73**	**104**	⇑eP	P	07 00 02.5	-0.2
COPN				eS	S	07 00 22.8	-1.0
MOMJ	**Momotombo**	**1.74**	**96**	eS	S	07 00 23.6	-0.4
SBLS	**San Blas**	**1.77**	**314**	⇑eP	P	07 00 03.1	-0.1
SBLS				eS	S	07 00 25.2	+0.5
SNJE	**San Jose**	**1.78**	**315**	⇓eP	P	07 00 04.2	+0.8
SNJE				eS	S	07 00 25.4	+0.5
RTR	**El Retiro**	**1.83**	**315**	⇑eP	P	07 00 04.2	+0.1
RTR				eS	S	07 00 25.5	-0.6
APYN	**Apoyeque**	**1.95**	**101**	⇑eP	P	07 00 05.8	0.0
APYN				eS	S	07 00 28.1	-1.2
MGAN	**Managua**	**2.07**	**102**	⇑eP	P	07 00 07.2	-0.2
MGAN				eS	S	07 00 31.2	-1.0
TICN	**Ticuantepe**	**2.11**	**105**	⇓eP	P	07 00 08.7	+0.6
TICN				eS	S	07 00 33.2	-0.1
PYTN	**Playitas**	**2.20**	**91**	eP	P	07 00 08.8	-0.6
PYTN				eS	S	07 00 35.2	-0.4

*NIED **18** 08:00:00, 38.90N×141.60E, h62^{km}, Mw3.7 Best double couple: $M_0$3.83×10^{14} NP1:ϕ_s204°, δ68°, λ65°. NP2:ϕ_s75°, δ33°, λ136°.*
*JMA **18** 08:00:27.4, 38.93N×141.63E, h73^{km}±1^{km}, M3.7 Broadband fault plane solution: P waves. NP1:ϕ_s69°, δ32°, λ157°. NP2:ϕ_s178°, δ78°, λ60°. Principal axes: T Plg48°, Azm56°; N Plg30°, Azm185°; P Plg27°, Azm292°;*
JMA Felt II J1.
ISC 18 08:00:27.4±1.7**, 38.91N**±0.06×**141.7E**±0.1**, h70**^{km}±11^{km}**, n8, σ0^{s}36**/15**, 7C, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.17**	**3**	⇑P	**P**	**08 00 38.2**	**+0.3**
OFUJ				S	**S**	**08 00 45.9**	**+0.3**
JIO	**Ouri**	**0.51**	**208**	⇑P	**P**	**08 00 40.6**	**+0.1**
JIO				S	**S**	**08 00 49.9**	**-0.1**
JOM	**Ohasama**	**0.63**	**333**	⇑P	**P**	**08 00 41.6**	**-0.1**
JOM				S	**S**	**08 00 51.9**	**-0.4**
JOU	**Okura**	**0.95**	**236**	⇑P	**P**	**08 00 45.5**	**0.0**
JOU				S	**S**	**08 00 59.2**	**+0.3**
JYK	**Kaneyama**	**1.01**	**271**	⇑P	**P**	**08 00 46.1**	**-0.3**
JYK				eS	**S**	**08 01 00.5**	**+0.1**
JMM	**Marumori**	**1.24**	**213**	⇑P	**P**	**08 00 48.7**	**-0.7**
JMM				S	**S**	**08 01 05.2**	**-0.5**
JYS	**Shirataka**	**1.42**	**242**	⇑P	**P**	**08 00 51.8**	**-0.1**
JYS				S	**S**	**08 01 10.2**	**+0.2**
MAT	**Matsushiro**	**3.61**	**230**	P	**P**	**08 01 23.2**	**+0.8**

*NEIC **18** 08:26:21.4, 39.32S×175.01E, h30^{km}, ML3.8(WEL), After WEL.*
NEIC Felt at New Plymouth.
WEL 18 08:26:21.5±0.0**, 39.29S×174.99E, h28**^{km}**, ML3.7**/10**, 6C-6D, Error ellipse: s-maj=0.6km s-min=0.5km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.24**	**313**	P	Pb	08 26 28.1	+0.2
VRZ				S	Sb	08 26 33.7	+1.4
VRZ	**Vera Road**	**0.24**	**313**	⇑P*	Pb	08 26 28.1	+0.1
VRZ				S*	Sb	08 26 33.2	+0.8
TWVZ	**Taurewa**	**0.41**	**58**	P	Pb	08 26 30.1	-0.2
TWVZ				S	Sb	08 26 36.5	+0.1
TWVZ	**Taurewa**	**0.41**	**58**	⇓P*	Pb	08 26 30.1	-0.2
TWVZ				S*	Sb	08 26 36.5	+0.1
WPVZ	**Whakapapa**	**0.44**	**79**	P	Pb	08 26 30.7	-0.1
WPVZ	**Whakapapa**	**0.44**	**79**	⇓P*	Pb	08 26 30.7	-0.1
WPVZ				S*	Sb	08 26 37.5	+0.4
CNZ	**Chateau**	**0.44**	**78**	P	Pb	08 26 30.7	-0.1
CNZ	**Chateau**	**0.44**	**78**	⇑P*	Pb	08 26 30.7	-0.2
DRZ	**Dome Shelter**	**0.45**	**88**	P*	Pb	08 26 30.9	0.0
WAZ	**Wanganui**	**0.46**	**180**	P	Pb	08 26 30.6	-0.6
WAZ	**Wanganui**	**0.46**	**180**	⇑P*	Pb	08 26 30.5	-0.6
WAZ				S*	Sb	08 26 38.2	+0.4
WNVZ	**Wahianoa**	**0.47**	**95**	P	Pb	08 26 31.2	-0.1
WNVZ	**Wahianoa**	**0.47**	**95**	⇑P*	Pb	08 26 31.2	-0.1
WNVZ				S*	Sb	08 26 37.8	-0.2
NGZ	**Ngauruhoe**	**0.49**	**77**	P	Pb	08 26 31.4	-0.1
WTVZ	**West Tongariro**	**0.50**	**70**	P	Pb	08 26 31.5	-0.2
WTVZ	**West Tongariro**	**0.50**	**70**	⇓P*	Pb	08 26 31.5	-0.2
WTVZ				S*	Sb	08 26 39.0	+0.3
TUVZ	**Tukino**	**0.52**	**88**	P	Pb	08 26 31.9	-0.1
TUVZ	**Tukino**	**0.52**	**88**	⇑P*	Pb	08 26 31.9	0.0
TUVZ				S*	Sb	08 26 39.1	-0.1
MGZ	**Maungaku**	**0.52**	**56**	P	Pb	08 26 31.8	-0.2
MGZ	**Maungaku**	**0.52**	**56**	⇓P*	Pb	08 26 31.8	-0.2
KAVZ	**Karewarewa**	**0.55**	**69**	P	Pb	08 26 32.3	-0.2
KAVZ	**Karewarewa**	**0.55**	**69**	P*	Pb	08 26 32.3	-0.2
MOVZ	**Moawhango**	**0.60**	**101**	P	Pb	08 26 32.8	-0.6
MOVZ				S	Sb	08 26 40.8	-0.8
MOVZ	**Moawhango**	**0.60**	**101**	⇑P*	Pb	08 26 32.8	-0.6
MOVZ				S*	Sb	08 26 40.8	-0.8
KATZ	**Kakaramea**	**0.63**	**60**	P	Pb	08 26 33.6	-0.3
KATZ	**Kakaramea**	**0.63**	**60**	⇓P*	Pb	08 26 33.6	-0.3
KATZ				S*	Sb	08 26 42.5	+0.1
NEZ	**North Egmont**	**0.69**	**271**	P	Pb	08 26 34.8	-0.1
NEZ	**North Egmont**	**0.69**	**271**	⇓P*	Pb	08 26 34.7	-0.2
RATZ	**Rangitukua**	**0.74**	**55**	P	Pb	08 26 35.4	-0.3
RATZ	**Rangitukua**	**0.74**	**55**	P*	Pb	08 26 35.0	-0.7
RATZ				S*	Sb	08 26 45.2	-0.2
HIZ	**Hauiti**	**0.78**	**352**	P	Pb	08 26 36.1	-0.3
HIZ				S	Sb	08 26 47.5	+0.8
HIZ	**Hauiti**	**0.78**	**352**	PN	Pn	08 26 36.1	-0.6
HIZ				S*	Sb	08 26 47.5	+0.8
PKE	**Pukeiti**	**0.79**	**277**	P	Pb	08 26 36.1	-0.3
PKE	**Pukeiti**	**0.79**	**277**	PN	Pn	08 26 36.1	-0.7
PKE				S*	Sb	08 26 46.1	-0.6
WATZ	**Wairara**	**0.82**	**45**	P	Pb	08 26 36.5	-0.5
WATZ	**Wairara**	**0.82**	**45**	PN	Pn	08 26 36.3	-0.9
WATZ				SN	Sn	08 26 47.6	-0.9
NRZ	**Ngariki Road**	**0.82**	**266**	P	Pb	08 26 36.7	-0.3
NRZ	**Ngariki Road**	**0.82**	**266**	PN	Pn	08 26 36.7	-0.5
NWEZ	**Newall Road**	**0.87**	**271**	P	Pb	08 26 37.7	-0.2
NWEZ	**Newall Road**	**0.87**	**271**	PN	Pn	08 26 37.7	-0.3
TSZ	**Takapari Road**	**1.07**	**136**	SN	Sn	08 26 54.2	-0.7
BKZ	**Black Stump Fm**	**1.17**	**84**	PN	Pn	08 26 41.4	-0.8
BKZ				SN	Sn	08 26 59.4	+2.0
MRZ	**Mangatainoka R**	**1.44**	**162**	PN	Pn	08 26 45.5	-0.7
MRZ				SN	Sn	08 27 03.5	-0.8
KIW	**Kapiti Island**	**1.57**	**182**	PN	Pn	08 26 47.0	-0.9
KIW				SN	Sn	08 27 06.2	-1.4
TOZ	**Tahuroa Road**	**1.61**	**15**	PN	Pn	08 26 47.5	-1.0
TOZ				SN	Sn	08 27 06.6	-1.9
BFZ	**Birch Farm**	**1.69**	**146**	PN	Pn	08 26 51.8	+2.1
CAW	**Cannon Point**	**1.82**	**178**	PN	Pn	08 26 51.9	+0.4
TGRZ	**Tauranga**	**1.85**	**33**	PN	Pn	08 26 53.4	+1.5
MTW	**Mount Morrison**	**1.91**	**168**	PN	Pn	08 26 52.4	-0.4
MRW	**Makara Radio**	**1.95**	**186**	PN	Pn	08 26 55.1	+1.8
WEL	**Wellington**	**2.00**	**185**	PN	Pn	08 26 55.9	+1.8
MSWZ	**Moikau Station**	**2.13**	**175**	PN	Pn	08 26 56.9	+0.9
MWZ	**Matawai**	**2.20**	**65**	eP	Pn	08 26 57.9	+0.9
MWZ	**Matawai**	**2.20**	**65**	PN	Pn	08 26 57.9	+0.9
TUWZ	**Tuamarina**	**2.28**	**200**	PN	Pn	08 26 57.9	-0.3
OTAZ	**Otara**	**2.34**	**359**	PN	Pn	08 26 58.1	-0.9
WTAZ	**Waiatarua**	**2.38**	**352**	PN	Pn	08 26 59.2	-0.3
MTAZ	**Motutapu**	**2.50**	**359**	PN	Pn	08 27 00.0	-1.3
BSWZ	**Blackbirch Sta**	**2.56**	**199**	ePN	Pn	08 27 02.5	+0.3
KUZ	**Kuaotunu**	**2.60**	**13**	PN	Pn	08 27 01.0	-1.8
THZ	**Tophouse**	**2.94**	**212**	PN	Pn	08 27 06.6	-0.9
KHZ	**Kahutara**	**3.31**	**199**	PN	Pn	08 27 11.6	-1.1
WCZ	**Waipu Caves**	**3.38**	**351**	PN	Pn	08 27 12.1	-1.7
DSZ	**Denniston Nort**	**3.45**	**224**	PN	Pn	08 27 12.3	-2.5
DSZ				SN	Sn	08 27 50.4	-4.8
LTZ	**Lake Taylor**	**4.05**	**210**	PN	Pn	08 27 20.4	-2.9
OUZ	**Omahuta**	**4.21**	**344**	PN	Pn	08 27 23.8	-1.8
WVZ	**Waitaha Valley**	**4.96**	**219**	PN	Pn	08 27 34.0	-2.2
FOZ	**Fox Glacier**	**5.84**	**221**	PN	Pn	08 27 43.8	-4.7
ODZ	**Otahua Downs**	**6.59**	**208**	PN	Pn	08 27 55.1	-4.1
JCZ	**Jackson Bay**	**6.68**	**222**	PN	Pn	08 27 56.5	-3.9

*IDC **18** 08:46:59.1±1.5, 54.59N×19.31E, mb1 3.4/5, mb1mx3.3/19, ML3.4/5, Error ellipse: s-maj=19.3km s-min=11.1km az=46.0*
*HEL **18** 08:47:00.0±0.1, 54.78N×19.21E, ML2.3, ML2.9(NAO), Explosion*
*BER **18** 08:47:01.4±2.8, 54.74N×19.59E, h15^{km}±265^{km}, ML2.9(NAO)*
*CSEM **18** 08:47:02.3±0.7, 55.23N×19.35E, h2^{km}, ML2.3, Error ellipse: s-maj=17.6km s-min=7.9km az=169.0, Mining explosion.*
*NAO **18** 08:47:06.9±5.2, 55.36N×19.55E, ML2.9*
ISC 18 08:46:58.7±1.3**, 55.02N**±0.09×**19.29E**±0.09**, n31, σ1^{s}25**/42**, Baltic Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BSD	**Bornholm Skovb**	**2.52**	**274**	iP	**Pn**	**08 47 41.1**	**-0.4**
BSD				iS	**Sn**	**08 48 18.2**	**+4.8**
BSD	**Bornholm Skovb**	**2.52**	**274**	eP	**Pn**	**08 47 41.1**	**-0.4**
BSD				iS	**Sn**	**08 48 18.2**	**+4.8**
VSU	**Vasula**	**5.36**	**47**	eP	**Pn**	**08 48 23.4**	**+1.5**
VSU	**Vasula**	**5.36**	**47**	P	**Pn**	**08 48 23.3**	**+1.4**
HFS	**Hagfors**	**5.95**	**332**	eP	**Pn**	**08 48 31.4**	**+1.2**
HFS				eS	**Sn**	**08 49 39.7**	**-0.3**
HFS	**Hagfors**	**5.95**	**332**	Pn	**Pn**	**08 48 31.4**	**+1.2**
	0.2nm,0.3s,baz=144,slow=14,SNR=40						
HFS				Sn	**Sn**	**08 49 41.8**	**+1.8**
	0.1nm,0.3s,baz=147,slow=29,SNR=3.7						
HFS				Lg		08 50 12.7	
	0.2nm,0.3s,baz=165,slow=28,SNR=2.9						
HFS	**Hagfors**	**5.95**	**332**	Pn	**Pn**	**08 48 31.4**	**+1.2**
	baz=144,slow=14						
HFS				Sn	**Sn**	**08 49 39.7**	**-0.3**
	baz=139,slow=28						
PVF	**Pernaja**	**6.56**	**30**	eP	**Pn**	**08 48 40.0**	**+1.2**
PVF				MSG		08 50 48.3	
	comp=Z,3.0nm,0.2s						
PVF	**Pernaja**	**6.56**	**30**	P	**Pn**	**08 48 40.0**	**+1.2**
	comp=Z,3.0nm,0.2s						
VJF	**Virojoki**	**7.08**	**35**	eP	**Pn**	**08 48 48.3**	**+2.2**
VJF				eS	**Sn**	**08 50 07.5**	**-0.8**
NC6	**NORSAR Subarra**	**7.10**	**327**	Pn	**Pn**	**08 48 46.5**	**+0.1**
NC6	**NORSAR Subarra**	**7.10**	**327**	P	**Pn**	**08 48 46.4**	**0.0**
FIA0	**FINESS Array S**	**7.37**	**26**	eP	**Pn**	**08 48 50.9**	**+0.7**
FIA0				eS	**Sn**	**08 50 14.9**	**-0.7**
FIA0				MSG		08 51 12.5	
	comp=Z,1.8nm,0.2s						
FIA0	**FINESS Array S**	**7.37**	**26**	Pn	**Pn**	**08 48 51.0**	**+0.8**
	baz=203,slow=11						
FIA0				Sn	**Sn**	**08 50 08.5**	**-7.1**
	baz=208,slow=22						
FIA0	**FINESS Array S**	**7.37**	**26**	P	**Pn**	**08 48 50.9**	**+0.7**
FIA0				S	**Sn**	**08 50 14.8**	**-0.8**
	comp=Z,1.8nm,0.2s						
FINES	**FINESS Array B**	**7.37**	**26**	Pn	**Pn**	**08 48 51.1**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=204,slow=11,SNR=17						
FINES				Sn	**Sn**	**08 50 17.7**	**+2.1**
	comp=Z,0.8nm,0.3s,baz=212,slow=21,SNR=3.9						
FINES				Lg		08 51 03.7	
	comp=Z,0.3nm,0.3s,baz=172,slow=27,SNR=2.2						
AKASG	**Malin Array Be**	**7.40**	**122**	Pn	**Pn**	**08 48 42.8**	**-7.9**
	comp=Z,2.3nm,0.3s,baz=255,slow=30,SNR=4.6						
NOA	**NORSAR Array B**	**7.40**	**328**	Pn	**Pn**	**08 48 50.3**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=139,slow=11,SNR=2.3						
NOA				Sn	**Sn**	**08 50 16.8**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=131,slow=16,SNR=2.1						
NOA				Lg		08 51 00.8	
	comp=Z,0.6nm,0.3s,baz=48,slow=6.0,SNR=2.8						
KEF	**Keuruu**	**7.74**	**20**	eP	**Pn**	**08 48 57.0**	**+1.6**
KEF	**Keuruu**	**7.74**	**20**	P	**Pn**	**08 48 56.9**	**+1.5**
KAF	**Kangasniemi**	**8.00**	**24**	eP	**Pn**	**08 48 59.0**	**0.0**
KAF				MSG		08 51 25.7	
	comp=Z,0.8nm,0.2s						
KAF	**Kangasniemi**	**8.00**	**24**	P	**Pn**	**08 48 59.0**	**0.0**
	comp=Z,0.8nm,0.2s						
VAF	**Ylistaro**	**8.24**	**11**	eP	**P**	**08 49 02.0**	**-0.3**
VAF	**Ylistaro**	**8.24**	**11**	P	**P**	**08 49 01.9**	**-0.4**
SUF	**Sumiainen**	**8.50**	**22**	eP	**P**	**08 49 05.8**	**-0.1**
SUF				MSG		08 51 35.7	
	comp=Z,0.8nm,0.2s						
SUF	**Sumiainen**	**8.50**	**22**	P	**P**	**08 49 05.8**	**-0.2**
	comp=Z,0.8nm,0.2s						
KJN	**Kajaani**	**10.04**	**22**	eP	**P**	**08 49 25.5**	**-1.6**
JOF	**Joensuu**	**10.05**	**33**	eP	**P**	**08 49 25.6**	**-1.6**
ARA0	**ARCESS Array S**	**14.84**	**9**	Pn	**P**	**08 50 28.7**	**-2.6**
	baz=187,slow=14						
ARA0	**ARCESS Array S**	**14.84**	**9**	eP	**P**	**08 50 28.7**	**-2.6**
ARCES	**ARCESS Array B**	**14.84**	**9**	Pn	**P**	**08 50 28.6**	**-2.7**
	comp=Z,0.2nm,0.3s,baz=188,slow=14,SNR=11						

IDC 18 08:47:05.6±1.5**, 54.58N×19.35E, mb1 3.6**/5**, mb1mx3.4**/19**, ML3.4**/5**, Error ellipse: s-maj=20.9km s-min=11.1km az=45.0, Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HFS	**Hagfors**	**6.35**	**334**	Pn	Pn	08 48 37.9	-4.9
	0.2nm,0.3s,baz=146,slow=14,SNR=19						
HFS				Sn	Sn	08 49 48.4	-8.5
	0.2nm,0.3s,baz=149,slow=31,SNR=5.4						
AKASG	**Malin Array Be**	**7.16**	**119**	Pn	Pn	08 48 49.0	-5.1
	2.6nm,0.3s,baz=316,slow=13,SNR=5.2						
FINES	**FINESS Array B**	**7.75**	**25**	Pn	Pn	08 48 57.6	-4.8
	0.6nm,0.3s,baz=201,slow=11,SNR=11						
FINES				Sn	Sn	08 50 24.2	-7.8
	0.9nm,0.3s,baz=206,slow=21,SNR=4.3						
NOA	**NORSAR Array B**	**7.79**	**329**	Pn	Pn	08 48 57.1	-5.9
	0.4nm,0.3s,baz=298,slow=20,SNR=2.6						
NOA				Sn	Sn	08 50 23.6	-9.4
	0.3nm,0.3s,baz=271,slow=15,SNR=2.1						
ARCES	**ARCESS Array B**	**15.27**	**8**	Pn	P	08 50 35.4	-8.4
	0.2nm,0.3s,baz=188,slow=14,SNR=8.9						

IDC 18 08:47:12.7±1.6**, 54.59N×19.32E, mb1 3.6**/5**, mb1mx3.4**/19**, ML3.5**/5**, Error ellipse: s-maj=21.5km s-min=11.5km az=44.0, Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HFS	**Hagfors**	**6.33**	**334**	Pn	Pn	08 48 45.1	-4.5
	0.2nm,0.3s,baz=148,slow=14,SNR=11						
HFS				Sn	Sn	08 49 54.6	-9.0
	0.2nm,0.3s,baz=141,slow=31,SNR=3.6						
AKASG	**Malin Array Be**	**7.18**	**119**	Pn	Pn	08 48 56.2	-5.2
	2.3nm,0.3s,baz=318,slow=13,SNR=4.0						
FINES	**FINESS Array B**	**7.75**	**25**	Pn	Pn	08 49 04.4	-5.1
	0.7nm,0.3s,baz=209,slow=12,SNR=7.9						
FINES				Sn	Sn	08 50 31.3	-7.7
	0.9nm,0.3s,baz=211,slow=20,SNR=3.7						
NOA	**NORSAR Array B**	**7.77**	**330**	Pn	Pn	08 49 03.8	-6.0
	0.5nm,0.3s,baz=272,slow=14,SNR=2.6						
NOA				Sn	Sn	08 50 30.2	-9.4
	0.3nm,0.3s,baz=49,slow=9.5,SNR=2.5						
ARCES	**ARCESS Array B**	**15.26**	**8**	Pn	P	08 50 42.4	-8.3
	0.2nm,0.3s,baz=186,slow=11,SNR=6.0						

CASC 18 08:56:07.4±2.5**, 11.53N×88.54W, h35**^{km}±999^{km}**, MD4.1, 15C-11D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LEON	**Leon**	**1.83**	**61**	⇑eP	P	08 56 35.9	-1.1
LEON				eS	S	08 57 00.8	+1.6
CNCH	**Conchagua**	**1.86**	**22**	⇑eP	P	08 56 37.6	+0.1
CNCH				eS	S	08 57 03.2	+3.2
VSM	**San Miguel**	**1.90**	**8**	⇓eP	P	08 56 38.6	+0.6
BLLM	**Bellamira**	**1.92**	**9**	⇓eP	P	08 56 38.4	+0.1
BLLM				eS	S	08 57 02.1	+0.7
TELN	**Telica**	**1.98**	**57**	⇑eP	P	08 56 37.7	-1.4
TELN				eS	S	08 57 05.2	+2.3
MIRN	**Miramar**	**2.00**	**63**	⇓eP	P	08 56 38.3	-1.1
CNGN	**Cerro Negro**	**2.04**	**62**	eP	P	08 56 38.6	-1.3
SNVI	**San Vicente**	**2.09**	**352**	eP	P	08 56 40.7	+0.1
MOMJ	**Momotombo**	**2.14**	**66**	eP	P	08 56 40.8	-0.6
LFRS	**El Faro**	**2.14**	**346**	⇑eP	P	08 56 41.2	-0.2
LFRS				eS	S	08 57 02.9	-4.1
LCBS	**La Ceiba**	**2.15**	**349**	⇑eP	P	08 56 41.4	-0.2
LCBS				eS	S	08 57 07.4	+0.1
CRUN	**El Crucero**	**2.24**	**78**	⇓eP	P	08 56 41.1	-1.6
CRUN				eS	S	08 57 08.4	-1.0
SNET	**Serv Nac Est T**	**2.25**	**343**	⇑eP	P	08 56 42.9	0.0
SNET				eS	S	08 57 09.0	-0.7
CAHU	**Cacacuatique**	**2.25**	**8**	⇑eP	P	08 56 43.5	+0.5
CAHU				eS	S	08 57 11.5	+1.8
LBRS	**Las Brisas**	**2.25**	**347**	⇓eP	P	08 56 43.2	+0.3
LBRS				eS	S	08 57 08.2	-1.5
XAVN	**Gruta Xavier**	**2.25**	**74**	eP	P	08 56 41.8	-1.2
APYN	**Apoyeque**	**2.25**	**72**	⇓eP	P	08 56 41.7	-1.3
BOQS	**Boqueron**	**2.31**	**342**	⇑eP	P	08 56 44.0	+0.2
BOQS				eS	S	08 57 11.0	-0.2
TICN	**Ticuantepe**	**2.31**	**77**	eP	P	08 56 42.6	-1.3
TICN				eS	S	08 57 09.8	-1.6
MGAN	**Managua**	**2.32**	**75**	⇑eP	P	08 56 42.6	-1.4
MGAN				eS	S	08 57 11.4	-0.3
WILN	**Americas 2**	**2.38**	**75**	eP	P	08 56 44.5	-0.4
WILN				eS	S	08 57 13.3	+0.1
APON	**Apoyo**	**2.45**	**81**	eP	P	08 56 44.1	-1.7
APON				eS	S	08 57 14.6	-0.3
SBLS	**San Blas**	**2.52**	**335**	⇓eP	P	08 56 47.1	+0.2
SBLS				eS	S	08 57 16.4	-0.4
SNJE	**San Jose**	**2.54**	**336**	⇑eP	P	08 56 47.2	0.0
SNJE				eS	S	08 57 17.5	+0.3
RTR	**El Retiro**	**2.59**	**335**	⇓eP	P	08 56 48.4	+0.6
RTR				eS	S	08 57 17.2	-1.2
PYTN	**Playitas**	**2.62**	**67**	⇑eP	P	08 56 46.9	-1.4
PYTN				eS	S	08 57 18.4	-0.9
CUSS	**Cusmapa**	**2.73**	**330**	eP	P	08 56 49.2	-0.7
CUSS				eS	S	08 57 19.7	-2.4
RBDL	**Robledal**	**2.80**	**337**	⇑eP	P	08 56 51.5	+0.6
RBDL				eS	S	08 57 22.5	-1.2
MTO2	**Montecristo 2**	**2.96**	**344**	eP	P	08 56 53.5	+0.4
MTO2				eS	S	08 57 26.9	-1.0
VCR	**Vista de Mar**	**3.18**	**116**	eP	P	08 56 54.9	-1.4
JCR	**Jicaral**	**3.76**	**116**	⇑eP	P	08 57 03.4	-1.1
JCR				eS	S	08 57 44.6	-3.5
CGA2	**Cerro Gallo 2**	**4.28**	**110**	⇑eP	P	08 57 11.8	0.0
CGA2				eS	S	08 58 02.0	+0.8
LAJ	**Bijagual**	**4.65**	**111**	eP	P	08 57 11.2	-5.9
LAJ				eS	S	08 57 56.6	-14
SJS	**Escuela Geolog**	**4.68**	**109**	eP	P	08 57 17.3	-0.3
SJS				eS	S	08 58 11.4	0.0
LCR2	**La Lucha 2**	**4.80**	**111**	⇓eP	P	08 57 18.8	-0.5
LCR2				eS	S	08 58 10.0	-4.4
TRTC	**Tortuguero**	**4.83**	**101**	⇑iP	P	08 57 18.4	-1.3
TRTC				eS	S	08 58 13.7	-1.5
ICR	**Volcan Irazu**	**4.88**	**108**	eP	P	08 57 20.5	+0.2
URSC	**Urasca**	**4.97**	**109**	⇓eP	P	08 57 21.9	+0.2
URSC				eS	S	08 58 16.0	-2.7
BUS	**Buena Vista**	**5.09**	**112**	⇓eP	P	08 57 23.6	+0.2

*IDC **18** 09:11:51.8±5.6, 35.85N×90.22E, h54^{km}±54^{km}, mb3.4/4, mb1 3.8/8, mb1mx3.6/21, ML4.0/3, MS3.4/3, Ms1 3.5/3, ms1mx3.0/17, Error ellipse: s-maj=45.8km s-min=19.4km az=64.0*
*NEIC **18** 09:11:52.7±3.4, 35.84N×90.25E, h63^{km}±35^{km}, mb4.0/1, Error ellipse: s-maj=26.1km s-min=12.3km az=59.0*
ISC 18 09:11:49.7±4.5**, 35.8N**±0.1×**90.2E**±0.2**, h52**^{km}±44^{km}**, n10, σ1^{s}13**/9**, mb3.7**/6**, MS3.7**/1**, Qinghai**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**16.99**	**40**	P	**P**	**09 15 45.7**	**+0.7**
	0.1nm,0.3s,baz=228,slow=15,SNR=22						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ZAL	**Zalesovo**	**18.54**	**350**	P	**P**	**09 16 02.1**	**-2.0**
	1.2nm,0.3s,baz=160,slow=7.6,SNR=4.3						
ZAL				LR	LR	09 24 19.8	
	comp=Z,154nm,18.0s,baz=306,slow=40						
CMAR	**Chiang Mai Arr**	**18.91**	**154**	P	**P**	**09 16 08.5**	**-0.3**
	0.3nm,0.3s,baz=329,slow=12,SNR=6.7						
CMAR				LR	LR	09 24 04.9	
	comp=Z,49nm,18.0s,baz=300,slow=39						
BVAR	**Borovoye Array**	**22.18**	**327**	P	**P**	**09 16 43.3**	**+0.8**
	1.4nm,0.5s,mb3.6,baz=129,slow=9.5,SNR=8.2						
BRVK	**Borovoye**	**22.25**	**327**	*e*P	**P**	**09 16 44.9**	**+1.6**
	4.4nm,0.6s,mb4.1						
ASAJ	**Asahikawa**	**40.41**	**62**	LR	LR	09 36 48.7	
	comp=Z,96nm,18.9s,MS3.7,baz=250,slow=37						
NOA	**NORSAR Array B**	**54.26**	**324**	P	**P**	**09 21 11.2**	**-1.1**
	0.5nm,0.8s,mb3.5,baz=69,slow=7.7,SNR=3.1						
WRA	**Warramunga Arr**	**69.41**	**136**	P	**P**	**09 22 53.3**	**-1.1**
	0.3nm,0.6s,mb3.4,baz=331,slow=6.4,SNR=4.1						
ILAR	**Eielson Array**	**70.32**	**22**	P	**P**	**09 22 59.0**	**-0.2**
	0.9nm,0.8s,mb3.8,baz=297,slow=4.7,SNR=11						
ASAR	**Alice Springs**	**72.14**	**138**	P	**P**	**09 23 12.1**	**+1.4**
	1.2nm,0.9s,mb3.8,baz=337,slow=6.5,SNR=5.4						

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*MAN **18** 09:16:07.8, 9.79N×123.51E, h25^{km}, mb4.8, ML3.7, MS3.6*
MAN Intensity II Badian Cebu.
*IDC **18** 09:16:09.3±1.5, 9.55N×123.62E, mb3.6/5, mb1 3.7/5, mb1mx3.6/19, Error ellipse: s-maj=144.0km s-min=25.3km az=74.0*
ISC 18 09:16:08.5±0.5**, 9.89N**±0.03×**123.42E**±0.03**, h27**^{km}±5^{km}**, n22,** σ**1**^{s}**08**/28**, mb3.5**/5**, 3C-2D, Negros**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
				Op	ISC	h m s	ISC
TBP	**Tagbilaran**	**0.47**	**114**⇓	*i*P	**Pb**	**09 16 18.0**	**-0.3**
TBP				*i* S	**Sb**	**09 16 25.3**	**+0.3**
SNPH	**Sibulan**	**0.57**	**199**⇑	*i*P	**Pb**	**09 16 19.6**	**-0.3**
SNPH				*i* S	**Sb**	**09 16 28.5**	**+0.9**
LLP	**Lapu-Lapu**	**0.69**	**51**⇑	*i*P	**Pb**	**09 16 20.2**	**-1.6**
LLP				*i* S	**Sb**	**09 16 31.0**	**0.0**
GUIM	**Jordan**	**1.10**	**312**	*e*P	**Pn**	**09 16 27.3**	**-1.0**
GUIM				*e*S	**Sb**	**09 16 43.2**	**+0.4**
MSLP	**Maasin**	**1.44**	**80**	*e*P	**Pn**	**09 16 34.4**	**+1.3**
AAP	**Anini-y**	**1.55**	**290**	*e*P	**Pn**	**09 16 33.0**	**-1.7**
OCLP	**Ormoc**	**1.65**	**45**	*e*P	**Pn**	**09 16 35.9**	**-0.2**
RCP	**Roxas**	**1.79**	**338**⇑	*e*P	**Pn**	**09 16 39.2**	**+1.0**
RCP				*e*S	**Sn**	**09 17 03.4**	**+3.2**
PLP	**Palo**	**1.99**	**50**	*e*P	**Pn**	**09 16 41.1**	**+0.1**
PLP				*i* S	**Sn**	**09 17 05.5**	**+0.3**
PAGZ	**Pagadian**	**2.02**	**181**	*e*P	**Pn**	**09 16 43.9**	**+2.3**
SCPH	**Surigao**	**2.04**	**93**⇓	*e*P	**Pn**	**09 16 39.6**	**-2.1**
CUYO	**Cuyo Island**	**2.55**	**292**	*e*P	**Pn**	**09 16 49.5**	**+0.4**
BUKP	**Musuan**	**2.57**	**141**	*e*P	**Pn**	**09 16 49.6**	**+0.3**
BESP	**Borongan**	**2.61**	**49**	*e*P	**Pn**	**09 16 52.2**	**+2.3**
OTRP	**Odiongan**	**2.82**	**331**	*e*P	**Pn**	**09 16 52.2**	**-0.7**
SJMP	**San Jose**	**3.41**	**319**	*e*P	**Pn**	**09 17 01.6**	**+0.3**
BUSP	**Coron**	**3.80**	**304**	*e*P	**Pn**	**09 17 06.1**	**-0.7**
FITZ	**Fitzroy Crossi**	**27.89**	**175**	P	**P**	**09 21 58.5**	**0.0**
	2.4nm,1.1s,mb3.7,baz=306,slow=8.8,SNR=3.1						
WRA	**Warramunga Arr**	**31.53**	**160**	P	**P**	**09 22 29.4**	**-1.5**
	0.2nm,0.7s,mb3.1,baz=340,slow=9.8,SNR=3.0						
ASAR	**Alice Springs**	**34.88**	**163**	P	**P**	**09 22 59.3**	**-0.7**
	0.6nm,0.7s,mb3.6,baz=332,slow=6.7,SNR=8.5						
SONM	**Songino Array**	**40.46**	**342**	P	**P**	**09 23 52.8**	**+6.3**
	0.4nm,0.8s,mb3.2,baz=172,slow=8.1,SNR=3.6						
STKA	**Stephens Creek**	**45.02**	**158**	P	**P**	**09 24 24.1**	**+0.3**
	0.8nm,0.8s,mb3.6,baz=343,slow=17,SNR=2.6						

IDC 18 09:53:07.5±1.6**, 3.76N**×**128.62E, mb3.7**/4**, mb1 3.9**/4**, mb1mx3.6**/18**, MS3.2**/1**, Ms1 3.2**/1**, ms1mx2.7**/20**, Error ellipse: s-maj=98.3km s-min=22.9km az=86.0, North of Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.92**	**188**	P	P	09 58 03.9	-0.6
	3.2nm,1.1s,baz=359,slow=18,SNR=3.1						
JOW	**Kunigami**	**22.95**	**359**	P	P	09 58 13.5	-1.2
	30nm,0.4s,baz=144,slow=19,SNR=3.7						
WRA	**Warramunga Arr**	**24.21**	**167**	P	P	09 58 25.7	-1.3
	0.5nm,0.3s,baz=346,slow=10,SNR=31						
ASAR	**Alice Springs**	**27.74**	**170**	P	P	09 58 57.3	-2.7
	0.3nm,0.4s,baz=350,slow=7.5,SNR=12						
ASAR				LR	LR	10 10 29.5	
	comp=Z,44nm,18.4s,baz=237,slow=38						
STKA	**Stephens Creek**	**37.52**	**162**	P	P	10 00 23.8	-1.4
	0.7nm,0.4s,baz=336,slow=8.5,SNR=3.1						

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*CSEM **18** 09:53:30.5±0.1, 13.32N×50.96E, h5^{km}, mb4.3/2, Error ellipse: s-maj=8.5km s-min=5.6km az=133.0*
*IDC **18** 09:53:31.5±0.7, 13.14N×51.04E, mb4.0/13, mb1 4.1/15, mb1mx4.1/21, ML3.0/1, MS3.2/2, Ms1 3.2/2, ms1mx2.9/17, Error ellipse: s-maj=19.5km s-min=17.1km az=81.0*
*NEIC **18** 09:53:33.2±0.4, 13.14N×51.07E, h10^{km}, mb4.4/2, Error ellipse: s-maj=11.5km s-min=9.9km az=97.0*
*DHMR **18** 09:53:39.1±0.5, 13.35N×50.44E, h10^{km}±25^{km}, ML3.3*
ISC 18 09:53:31.4±0.5**, 13.18N**±0.08×**51.01E**±0.06**, h10**^{km}**, n24,** σ**0**^{s}**83**/23**, mb4.0**/16**, MS3.1**/2**, 2D, Eastern Gulf of Aden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
				Op	ISC	h m s	ISC
MUKL	**Al Mukalla**	**2.22**	**300**	*i* P	**Pn**	**09 54 10.4**	**+1.5**
MUKL				*e*		09 54 10.4	
	baz=129,slow=6.2						
MUKL				*i* S	**Sn**	**09 54 34.8**	**-1.8**
MUKL				AML	AML	09 54 38.3	
	comp=N,357nm,0.7s						
MUKL	**Al Mukalla**	**2.22**	**300**	*i* S	**Sn**	**09 54 36.2**	**-0.4**
BDHA	**Al Bayda'**	**5.35**	**279**⇓	*i*P	**Pn**	**09 54 53.8**	**+0.5**
LBOS		**5.64**	**278**⇓	*i*P	**Pn**	**09 54 57.4**	**-0.1**
KMBO	**Kilima Mbogo**	**19.70**	**225**	P	**P**	**09 58 04.1**	**+0.1**
	comp=N,0.0nm,0.3s,baz=58,slow=9.5,SNR=2.3						
ASF	**Jabal al Asfar**	**22.91**	**328**	P	**P**	**09 58 39.6**	**+2.9**
	comp=N,2.0nm,0.7s,mb3.7,baz=317,slow=12,SNR=2.0						
ASF				LR	LR	10 07 29.6	
	comp=N,45nm,18.4s,MS3.0,baz=80,slow=36						
BRTR	**Keskin Array B**	**30.56**	**333**	P	**P**	**09 59 48.3**	**+0.8**
	comp=N,0.3nm,0.4s,mb3.5,baz=153,slow=8.3,SNR=3.6						
AKASG	**Malin Array Be**	**41.41**	**339**	P	**P**	**10 01 18.8**	**-0.8**
	comp=N,0.3nm,0.3s,mb3.5,baz=149,slow=7.2,SNR=4.9						
ZRNK	**Zerenda**	**42.19**	**16**	*e*P	**P**	**10 01 26.4**	**+0.4**
	comp=N,3.1nm,0.9s,mb3.9						
BVAR	**Borovoye Array**	**42.65**	**17**	P	**P**	**10 01 30.3**	**+0.6**
	comp=N,2.4nm,1.0s,mb3.9,baz=214,slow=5.2,SNR=6.5						
TSUM	**Tsumeb**	**46.04**	**226**	P	**P**	**10 01 56.7**	**-0.7**
	comp=N,3.0nm,0.9s,mb4.2,baz=134,slow=8.2,SNR=2.5						
CMAR	**Chiang Mai Arr**	**46.32**	**77**	P	**P**	**10 01 59.5**	**-0.1**
	comp=N,8.8nm,1.0s,mb4.7,baz=276,slow=8.9,SNR=32						
ZAL	**Zalesovo**	**48.60**	**26**	P	**P**	**10 02 15.9**	**-1.2**
	comp=N,1.1nm,0.8s,mb3.9,baz=248,slow=8.5,SNR=5.4						
FINES	**FINESS Array B**	**51.46**	**345**	P	**P**	**10 02 37.9**	**-1.0**
	comp=N,1.5nm,0.8s,mb4.0,baz=333,slow=9.3,SNR=3.1						
ESDC	**Sonseca Array**	**54.86**	**309**	P	**P**	**10 03 03.5**	**-0.9**
	comp=N,2.2nm,0.7s,mb4.3,baz=90,slow=5.9,SNR=4.2						
NOA	**NORSAR Array B**	**55.80**	**338**	LR	LR	10 30 56.7	
	comp=N,23nm,20.1s,MS3.2,baz=50,slow=40						
SONM	**Songino Array**	**57.31**	**41**	P	**P**	**10 03 21.7**	**-0.1**
	comp=N,2.2nm,1.0s,mb4.2,baz=255,slow=6.4,SNR=13						
FITZ	**Fitzroy Crossi**	**79.89**	**111**	P	**P**	**10 05 42.1**	**-0.5**
	comp=N,1.6nm,0.8s,mb4.0,baz=344,slow=7.4,SNR=3.6						
MAW	**Mawson**	**81.02**	**175**	P	**P**	**10 05 47.6**	**0.0**
	comp=N,0.8nm,0.5s,mb4.0,baz=257,slow=15,SNR=2.5						
WRA	**Warramunga Arr**	**88.30**	**111**	P	**P**	**10 06 25.7**	**+0.5**
	comp=N,1.1nm,0.7s,mb4.2,baz=297,slow=4.1,SNR=20						
WRAB	**Tennant Creek**	**88.31**	**111**	*e*P	**P**	**10 06 25.3**	**+0.1**
	comp=N,3.1nm,0.8s,mb4.6						
WRAB	**Tennant Creek**	**88.31**	**111**	*e*P	**P**	**10 06 25.3**	**+0.1**
	comp=N,3.1nm,0.8s,mb4.6						
ASAR	**Alice Springs**	**88.85**	**114**	P	**P**	**10 06 28.2**	**+0.4**
	comp=N,1.3nm,1.0s,mb4.2,baz=289,slow=5.0,SNR=8.4						
PMSA	**Palmer Station**	**112.42**	**205**	*e*P	Pdif	10 08 14.4	+1.6

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*NEIC **18** 10:03:07.6, 31.90S×71.44W, h38^{km}, MD3.5(GUC), After GUC.*
GUC 18 10:03:07.6±0.8**, 31.90S**×**71.44W, h38**^{km}±3^{km}**, MD3.5, ML2.8, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
				Op	ISC	h m s	ISC
PACH	**Papudo**	**0.64**	**180**	*e*P	P	10 03 20.4	+0.2
PACH				*i* S	S	10 03 29.7	+0.4
JACH	**Jahuel**	**1.06**	**138**	*e*P	P	10 03 26.8	+0.6
JACH				*i* S	S	10 03 40.9	+1.0
PEL	**Peldehue**	**1.40**	**153**	*e*P	P	10 03 32.3	+1.3
PEL				*i* S	S	10 03 50.6	+2.2
PEL				AMP		10 03 58.2	
	comp=N,255nm,0.4s						
CLCH	**Cerro Calan**	**1.68**	**153**	*e*P	P	10 03 35.5	+0.5
CLCH				*i* S	S	10 03 57.6	+2.2
CLCH				AMP		10 04 09.3	
	comp=N,193nm,0.4s						
FCH	**Farellones**	**1.72**	**146**	*e*P	P	10 03 27.4	-8.2
FCH				*i* S	S	10 03 59.3	+2.7
FCH				AMP		10 04 08.7	
	comp=N,109nm,0.2s						
PCH	**Pirque**	**1.89**	**156**	*e*P	P	10 03 39.0	+1.0
CHCH	**Chadas Angostu**	**2.13**	**162**	*e*P	P	10 03 32.3	-9.3
CHCH				*i* S	S	10 04 08.2	+1.2
CACH	**El Canelo**	**2.32**	**163**	*i* S	S	10 04 13.8	+2.0

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*IDC **18** 10:05:59.1±1.9, 10.43S×160.74E, mb4.0/7, mb1 4.1/9, mb1mx4.0/17, ML3.3/2, MS2.7/3, Ms1 2.8/3, ms1mx2.7/15, Error ellipse: s-maj=53.4km s-min=23.7km az=126.0*
*NEIC **18** 10:06:05.3±4.8, 10.42S×160.64E, h41^{km}±34^{km}, mb4.3/2, Error ellipse: s-maj=45.3km s-min=17.6km az=109.0*
ISC 18 10:06:04.6±6.7**, 10.4S**±0.2×**160.6E**±0.3**, h48**^{km}±51^{km}**, n16,** σ**0**^{s}**90**/14**, mb3.9**/9**, MS2.8**/3**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**13.23**	**273**	Pn	**P**	**10 09 12.1**	**+0.1**
	0.4nm,0.3s,baz=174,slow=18,SNR=2.0						
CTA	**Charters Tower**	**16.81**	**233**	Pn	**P**	**10 09 58.5**	**+0.3**
	0.1nm,0.3s,baz=48,slow=14,SNR=2.6						
WRAB	**Tennant Creek**	**26.97**	**246**	*e*P	**P**	**10 11 44.0**	**0.0**
	5.6nm,0.8s,mb4.2						
WB2	**Warramunga Arr**	**26.97**	**246**	*e*P	**P**	**10 11 43.8**	**-0.2**
WRA	**Warramunga Arr**	**26.98**	**246**	P	**P**	**10 11 43.5**	**-0.6**
	1.7nm,0.5s,mb3.8,baz=76,slow=9.3,SNR=22						
STKA	**Stephens Creek**	**27.65**	**217**	P	**P**	**10 11 51.4**	**+1.4**
	1.4nm,0.6s,mb3.8,baz=53,slow=10,SNR=6.3						
STKA	**Stephens Creek**	**27.65**	**217**	P	**P**	**10 11 51.4**	**+1.4**
KAKA	**Kakadu**	**27.67**	**262**	*e*P	**P**	**10 11 55.1**	**+4.7**
	4.0nm,0.5s,mb4.3						
ASAR	**Alice Springs**	**28.62**	**239**	P	**P**	**10 11 57.2**	**-1.6**
	0.6nm,0.4s,mb3.7,baz=62,slow=10,SNR=5.3						
ASAR				LR	LR	10 20 59.7	
	comp=Z,5.2nm,21.5s,MS2.1,baz=47,slow=31						
FITZ	**Fitzroy Crossi**	**34.65**	**253**	P	**P**	**10 12 51.2**	**-0.4**
	1.5nm,0.6s,mb4.1,baz=72,slow=9.6,SNR=6.2						
MAJO	**Matsushiro**	**51.21**	**337**	*e*P	**P**	**10 15 04.7**	**-0.8**
CMAR	**Chiang Mai Arr**	**67.19**	**295**	P	**P**	**10 16 57.6**	**+1.3**
	0.9nm,0.5s,mb4.1,baz=103,slow=4.3,SNR=6.0						
SONM	**Songino Array**	**75.19**	**326**	P	**P**	**10 17 45.2**	**+1.4**
	0.9nm,0.5s,mb3.9,baz=135,slow=4.1,SNR=7.2						
ILAR	**Eielson Array**	**84.59**	**20**	P	**P**	**10 18 33.0**	**-0.7**
	0.2nm,0.5s,mb3.5,baz=229,slow=5.1,SNR=6.5						
YKA	**Yellowknife Ar**	**96.76**	**28**	LR	LR	11 01 36.7	
	comp=Z,23nm,18.4s,MS3.7,baz=35,slow=34						
BVAR	**Borovoye Array**	**98.31**	**322**	LR	LR	11 05 17.2	
	comp=Z,1.5nm,18.9s,MS2.5,baz=50,slow=36						

FUNV 18 10:46:42.2, 6.69N×**73.15W, h163**^{km}**, MD3.8, 1C-2D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.44**	**35**⇑	*i*P	P	10 47 12.1	-0.4
CAPV				*e*S	S	10 47 33.2	-2.7
SOCV	**Socops**	**2.78**	**55**	*e*P	P	10 47 26.9	-1.1
SOCV				*e*S	S	10 47 58.7	-4.3
VIGV	**El Vigia**	**2.78**	**40**	*e*P	P	10 47 26.7	-1.3
VIGV				*e*S	S	10 47 58.5	-4.6
VIRV	**Villa del Rosa**	**3.86**	**11**	*e*P	P	10 47 39.2	-2.6
VIRV				*e*S	S	10 48 22.4	-5.2
CURV	**Curarigua**	**4.57**	**44**	*e*P	P	10 47 48.7	-2.4
CURV				*e*S	S	10 48 38.4	-5.8
TEPV	**Terepaima**	**5.09**	**50**	*e*P	P	10 47 55.5	-2.4
BAUV	**El Baul**	**5.54**	**66**⇓	*i*P	P	10 48 00.3	-3.5
BAUV				*e*S	S	10 48 59.8	-7.2
MONV	**Montecano**	**6.10**	**31**⇓	*i*P	P	10 48 08.4	-2.8
CAOV	**Caicara del Or**	**6.81**	**84**	*e*P	P	10 48 17.5	-3.1

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*IDC **18** 10:59:53.0±14.0, 29.91S×178.43E, mb3.9/4, mb1 4.1/5, mb1mx3.9/13, ML3.8/1, Error ellipse: s-maj=279.0km s-min=41.9km az=66.0*
ISC 18 11:00:16.0±1.7**, 31.48S**±0.08×**177.4E**±0.2**, h150**^{km}**, n11,** σ**0**^{s}**71**/13**, mb3.7**/4**, 1C, North of New Zealand**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.77**	**182**	Pn	**P**	**11 01 56.1**	**+2.2**
	1.3nm,0.3s,baz=3.5,slow=19,SNR=20						
URZ				Sn	**S**	**11 03 10.2**	**+0.2**
	1.3nm,0.3s,baz=77,slow=22,SNR=11						
URZ	**Urewera**	**6.77**	**182**	P	**P**	**11 01 53.3**	**-0.6**
MWZ	**Matawai**	**6.84**	**179**	P	**P**	**11 01 54.1**	**-0.8**
BKZ	**Black Stump Fm**	**7.70**	**185**	P	**P**	**11 02 06.8**	**+0.4**
NNZ	**Nelson**	**10.23**	**197**	S	**S**	**11 04 32.5**	**0.0**
THZ	**Tophouse**	**10.86**	**198**	P	**P**	**11 02 47.8**	**-0.3**
THZ				S	**S**	**11 04 47.2**	**-0.3**
CTA	**Charters Tower**	**30.11**	**285**	P	**P**	**11 06 08.6**	**-5.2**
	0.8nm,0.3s,mb3.9,baz=60,slow=16,SNR=2.6						
STKA	**Stephens Creek**	**30.35**	**260**	P	**P**	**11 06 17.1**	**+1.4**
	1.4nm,0.8s,mb3.7,baz=104,slow=8.3,SNR=3.6						
ASAR	**Alice Springs**	**39.09**	**270**	P	**P**	**11 07 29.9**	**-0.2**
	0.4nm,0.3s,mb3.5,baz=106,slow=7.9,SNR=8.3						
WB2	**Warramunga Arr**	**40.18**	**276**⇑	*i*P	**P**	**11 07 38.6**	**-0.5**
WRA	**Warramunga Arr**	**40.19**	**276**	P	**P**	**11 07 38.8**	**-0.4**
	1.0nm,0.4s,mb3.8,baz=111,slow=8.0,SNR=30						

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*IDC **18** 11:44:29.6±0.9, 5.98S×153.83E, mb4.2/9, mb1 4.3/11, mb1mx4.3/16, ML3.7/1, MS4.0/11, Ms1 4.0/11, ms1mx3.8/21, Error ellipse: s-maj=30.1km s-min=18.8km az=109.0*
*NEIC **18** 11:44:30.5±6.8, 5.95S×153.82E, h8^{km}±40^{km}, mb4.7/12, MS4.2/1, Error ellipse: s-maj=22.6km s-min=9.0km az=89.0*
*BJI **18** 11:44:32.3, 5.23S×153.78E, h7^{km}, mB5.2, mb4.7*
*MOS **18** 11:44:33.0±0.6, 5.96S×153.74E, h33^{km}, mb4.2/5, Error ellipse: s-maj=22.2km s-min=16.2km az=53.5*
ISC 18 11:44:32.0±5.1**, 5.95S**±0.07×**153.8E**±0.2**, h28**^{km}±33^{km}**, n46,** σ**0**^{s}**76**/42**, mb4.5**/22**, MS4.0**/11**, 3C, New Ireland region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
				Op	ISC	h m s	ISC
RAB	**Rabaul**	**2.38**	**317**	*e*P	**Pn**	**11 45 10.5**	**+0.5**
PMG	**Port Moresby**	**7.40**	**242**	Pn	**Pn**	**11 46 20.7**	**-0.4**
	1.8nm,0.3s,baz=84,slow=9.4,SNR=8.4						
PMG				Sn	**Sn**	**11 47 40.2**	**-4.8**
	3.1nm,0.3s,baz=76,slow=12,SNR=6.0						
PMG				LR	LR	11 48 53.3	
	comp=Z,372nm,21.5s,baz=182,slow=35						
PMG	**Port Moresby**	**7.40**	**242**	P	**Pn**	**11 46 20.7**	**-0.4**
PMG						11 47 40.2	
PMG				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PMG				MLR	MLR		
	comp=Z,372nm,21.5s						
PMG	**Port Moresby**	**7.40**	**242**	*e*Pn	**Pn**	**11 46 19.5**	**-1.6**
PMG				*e*Sn	**Sn**	**11 47 39.9**	**-5.2**
CTA	**Charters Tower**	**15.84**	**207**	Pn	**P**	**11 48 14.8**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=22,slow=19,SNR=2.3						
CTAO	**Charters Tower**	**15.84**	**207**	P	**P**	**11 48 17.2**	**+2.2**
	comp=Z,23nm,1.4s						
KAKA	**Kakadu**	**22.12**	**251**	*e*P	**P**	**11 49 31.1**	**+3.9**
	comp=Z,12nm,0.6s,mb4.5						
WRAB	**Tennant Creek**	**23.45**	**232**	*e*P	**P**	**11 49 39.7**	**-0.5**
	comp=Z,17nm,1.3s,mb4.3						
WB2	**Warramunga Arr**	**23.45**	**232**	*e*P	**P**	**11 49 41.4**	**+1.1**
WRA	**Warramunga Arr**	**23.46**	**232**	P	**P**	**11 49 40.0**	**-0.3**
	comp=Z,7.7nm,1.1s,mb4.1,baz=55,slow=9.9,SNR=14						
WRA				ScP		11 57 08.6	
	comp=Z,1.6nm,0.9s,baz=49,slow=2.9,SNR=5.9						
WRA				LR	LR	11 59 06.9	
	comp=Z,376nm,18.8s,MS3.9,baz=55,slow=37						
ASAR	**Alice Springs**	**26.00**	**225**	P	**P**	**11 50 04.2**	**-0.5**
	comp=Z,6.5nm,1.0s,mb4.1,baz=60,slow=9.6,SNR=6.1						
ASAR				PcP	PcP	11 53 34.9	+1.9
	comp=Z,0.8nm,0.7s,baz=64,slow=3.0,SNR=4.7						
ASAR				ScP		11 57 14.8	
	comp=Z,1.0nm,0.9s,baz=60,slow=2.3,SNR=5.5						
ASAR				LR	LR	12 00 43.5	
	comp=Z,339nm,18.4s,MS3.9,baz=43,slow=37						
ASPA	**Alice Springs**	**26.00**	**225**	*e*P	**P**	**11 50 04.5**	**-0.1**
STKA	**Stephens Creek**	**28.20**	**202**	P	**P**	**11 50 23.9**	**-0.7**
	comp=Z,3.0nm,0.8s,mb4.0,baz=43,slow=14,SNR=3.8						
STKA				LR	LR	12 02 16.7	
	comp=Z,470nm,18.2s,MS4.1,baz=28,slow=38						
STKA	**Stephens Creek**	**28.20**	**202**	P	**P**	**11 50 23.9**	**-0.7**
STKA				LR	LR	12 02 16.7	
FITZ	**Fitzroy Crossi**	**30.00**	**244**	*e*P	**P**	**11 50 41.7**	**+0.8**
	comp=Z,5.7nm,0.9s,mb4.3						
FITZ	**Fitzroy Crossi**	**30.00**	**244**	P	**P**	**11 50 39.6**	**-1.3**
	comp=Z,4.2nm,0.7s,mb4.3,baz=108,slow=4.2,SNR=8.2						
FITZ				LR	LR	12 03 32.9	
	comp=Z,138nm,18.7s,MS3.6,baz=83,slow=38						
NWAO	**Narrogin (SRO)**	**43.30**	**227**	LR	LR	12 11 16.7	
	comp=Z,533nm,18.3s,MS4.5,baz=42,slow=37						
MDJ	**Mudanjiang**	**54.84**	**339**	P	**P**	**11 54 01.5**	**-0.7**
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.3s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,234nm,6.5s						
ENH	**Enshi**	**55.65**	**313**	*e*P	**P**	**11 54 08.0**	**-0.3**
	comp=Z,7.9nm,0.4s,mb5.1						
CN2	**Changchun**	**55.74**	**335**	*e*P	**P**	**11 54 08.3**	**-0.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.8						
CMAR	**Chiang Mai Arr**	**59.25**	**295**	P	**P**	**11 54 34.1**	**+0.3**
	comp=Z,1.5nm,1.0s,mb4.0,baz=112,slow=5.7,SNR=9.6						
CMAR	**Chiang Mai Arr**	**59.25**	**295**	P	**P**	**11 54 34.1**	**+0.3**
CMAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
HIA	**Hailar**	**62.48**	**336**	*e*P	**P**	**11 54 55.3**	**-0.1**
	comp=Z,8.5nm,0.9s,mb4.9						
GTA	**Gaotai**	**67.16**	**317**	P	**P**	**11 55 26.9**	**+1.1**
GTA				AMB	AMB		
	comp=Z,4.0nm,1.5s,mb4.2						
SHL	**Shillong**	**67.73**	**301**	*e*P	**P**	**11 55 29.5**	**-0.1**
SONM	**Songino Array**	**67.81**	**328**	P	**P**	**11 55 30.3**	**+0.5**
	comp=Z,1.9nm,0.6s,mb4.3,baz=135,slow=5.2,SNR=22						
ZAK	**Zakamensk**	**70.98**	**328**⇑	*i*P	**P**	**11 55 49.8**	**+0.6**
BOD	**Bodaibo**	**71.21**	**339**	*e*P	**P**	**11 55 48.9**	**-1.5**
VNDA	**Vanda**	**71.65**	**178**	P	**P**	**11 55 53.1**	**+0.3**
	comp=Z,1.2nm,1.0s,mb3.8,baz=316,slow=7.5,SNR=4.5						
VNDA				LR	LR	12 23 59.8	
	comp=Z,63nm,18.6s,MS3.9,baz=306,slow=33						
COLA	**College**	**82.56**	**22**	*e*P	**P**	**11 56 53.3**	**-0.2**
	comp=Z,4.0nm,1.0s,mb4.4						
ZAL	**Zalesovo**	**82.65**	**326**	P	**P**	**11 56 54.6**	**+0.4**
	comp=Z,2.1nm,0.6s,mb4.4,baz=14,slow=5.6,SNR=9.6						
ZAL	**Zalesovo**	**82.65**	**326**	P	**P**	**11 56 54.7**	**+0.4**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ILAR	**Eielson Array**	**82.86**	**22**	P	**P**	**11 56 54.8**	**-0.3**
	comp=Z,1.0nm,0.8s,mb3.9,baz=251,slow=5.4,SNR=8.5						
ILAR				LR	LR	12 30 18.1	
	comp=Z,78nm,18.3s,MS4.1,baz=179,slow=33						
NVS	**Novosibirsk**	**83.82**	**327**⇑	*i*P	**P**	**11 57 00.5**	**+0.3**
NVS				pmax	pmax		
	comp=Z,23nm,1.5s,mb5.1						
NVS				pmax	pmax		
	comp=N,17nm,1.6s						
NVS				pmax	pmax		
	comp=E,16nm,1.4s						
NVS	**Novosibirsk**	**83.82**	**327**⇑	*i*P	**P**	**11 57 00.5**	**+0.3**
	comp=E,23nm,1.5s,mb5.1						
QSPA	**South Pole Qui**	**84.02**	**180**	*e*P	**P**	**11 57 04.2**	**+3.5**
	comp=E,18nm,1.0s,mb5.2						
KURK	**Kurchatov**	**85.27**	**322**	*i* P	**P**	**11 57 08.4**	**+0.8**
AAK	**Ala-Archa**	**86.16**	**313**	*i* P	**P**	**11 57 12.7**	**+0.5**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.7						
AAK				MLR	MLR		
	comp=Z,100nm,20.0s,MS4.2						
AAK	**Ala-Archa**	**86.16**	**313**	*i* P	**P**	**11 57 12.7**	**+0.5**
	comp=Z,5.0nm,1.0s,mb4.7						
AAK				LR	LR		
	comp=Z,100nm,20.0s,MS4.2						
DLBC	**Dease Lake**	**87.87**	**31**	LR	LR	12 30 01.4	
	comp=Z,39nm,20.9s,MS3.8,baz=128,slow=31						
BRVK	**Borovoye**	**90.81**	**323**	*e*P	**P**	**11 57 33.3**	**-0.8**
	comp=Z,4.4nm,0.9s,mb4.8						
ZRNK	**Zerenda**	**91.56**	**323**	*e*P	**P**	**11 57 37.1**	**-0.4**
	comp=Z,2.1nm,0.6s,mb4.6						
ZRNK				*e*		11 57 49.6	
NVAR	**Mina Array Bea**	**92.03**	**52**	LR	LR	12 39 36.2	
	comp=Z,58nm,18.1s,MS4.1,baz=300,slow=36						
PDAR	**Pinedale Array**	**98.90**	**48**	LR	LR	12 37 48.8	
	comp=Z,112nm,19.1s,MS4.4,baz=144,slow=32						
BDFB	**Brasilia**	**149.57**	**135**	PKPbc	PKPdf	12 04 20.5	+0.3
	comp=Z,7.0nm,1.0s,baz=25,slow=1.1,SNR=4.4						
BDFB	**Brasilia**	**149.57**	**135**	PKP2	PKPab	12 04 20.5	-6.6
BDFB				pmax	pmax		
	comp=Z,7.0nm,1.0s						

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*MOS **18** 12:01:05.7±1.1, 5.50N×126.21E, h33^{km}, mb4.7/21, Error ellipse: s-maj=26.2km s-min=10.8km az=110.3*
*IDC **18** 12:01:06.7±2.6, 5.53N×126.50E, h30^{km}±17^{km}, mb4.1/20, mb1 4.2/20, mb1mx4.2/22, MS3.5/4, Ms1 3.6/4, ms1mx3.2/21, Error ellipse: s-maj=26.2km s-min=12.5km az=77.0*
*BJI **18** 12:01:11.2, 5.40N×126.30E, h68^{km}, mB4.2, mb4.9, Ms4.2, Msz4.2*
*NEIC **18** 12:01:11.2±3.3, 5.43N×126.26E, h68^{km}±30^{km}, mb4.4/17, Error ellipse: s-maj=17.3km s-min=6.8km az=72.0*
ISC 18 12:01:09.9±0.8**, 5.39N**±0.04×**126.26E**±0.08**, h72**^{km}±6^{km}**, n102,** σ**1**^{s}**18**/101**, mb4.3**/44**, 8C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**1.47**	**298**	*i* P	**P**	**12 01 33.0**	**-2.1**
MATI	**Mati**	**1.54**	**360**	*e*P	**P**	**12 01 33.5**	**-2.5**
KCP	**Kidapawan**	**1.98**	**324**⇑	*e*P	**P**	**12 01 41.1**	**-0.9**
KCP				*i* S	**S**	**12 02 10.8**	**+5.2**
CTBH	**Cotabato--PC H**	**2.70**	**312**	*e*P	**P**	**12 01 51.8**	**-0.3**
CTBH				*i* S	**S**	**12 02 28.3**	**+4.6**
BUKP	**Musuan**	**2.74**	**334**	*e*P	**P**	**12 01 51.8**	**-0.9**
BIPH	**Bislig**	**2.77**	**2**⇑	*e*P	**P**	**12 01 52.6**	**-0.5**
BIPH				*e*S	**S**	**12 02 26.7**	**+1.2**
BUTP	**Butuan**	**3.61**	**350**	*e*P	**P**	**12 02 06.5**	**+1.7**
PAGZ	**Pagadian**	**3.76**	**311**	*e*P	**P**	**12 02 08.5**	**+1.7**
IPIL	**Ipil**	**4.37**	**303**	*e*P	**P**	**12 02 16.1**	**+0.8**
SCPH	**Surigao**	**4.43**	**350**⇑	*e*P	**P**	**12 02 17.2**	**+1.1**
TBP	**Tagbilaran**	**4.89**	**331**	*e*P	**P**	**12 02 21.4**	**-1.2**
MSLP	**Maasin**	**4.91**	**344**	*e*P	**P**	**12 02 26.0**	**+3.1**
SNPH	**Sibulan**	**4.94**	**323**	*e*P	**P**	**12 02 26.0**	**+2.7**
KAKA	**Kakadu**	**18.98**	**161**	*e*P	**P**	**12 05 34.8**	**+6.4**
	9.4nm,0.6s						
FITZ	**Fitzroy Crossi**	**23.35**	**181**	*e*P	**P**	**12 06 06.2**	**-6.6**
	2.5nm,1.0s,mb3.5						
FITZ	**Fitzroy Crossi**	**23.35**	**181**	*e*P	**P**	**12 06 10.1**	**-2.7**
	4.2nm,0.8s,mb3.8						
FITZ	**Fitzroy Crossi**	**23.35**	**181**	P	**P**	**12 06 08.1**	**-4.6**
	3.2nm,0.9s,mb3.6,baz=270,slow=5.6,SNR=4.7						
PMG	**Port Moresby**	**25.50**	**125**	LR	LR	12 16 25.5	
	comp=Z,72nm,18.4s,baz=32,slow=36						
SSE	**Sheshan**	**26.01**	**350**	P	**P**	**12 06 35.9**	**-2.1**
SSE				S	**S**	**12 11 06.3**	**+5.0**
SSE				PCS		12 13 43.6	
SSE				AMB	AMB		
	comp=Z,18nm,0.7s,mb4.6						
SSE				AMB	AMB		
	comp=Z,78nm,12.0s						
SSE				LR	LR		
	comp=N,104nm,13.7s						
SSE				LR	LR		
	comp=E,77nm,13.7s						
SSE				LR	LR		
	comp=Z,101nm,13.1s						
CBIJ	**Chichi jima**	**26.39**	**33**	P	**P**	**12 06 37.4**	**-4.1**
	comp=Z,73nm,0.4s,mb5.5						
WRAB	**Tennant Creek**	**26.40**	**163**	*e*P	**P**	**12 06 42.1**	**+0.4**
	comp=Z,4.8nm,0.5s,mb4.2						
WRA	**Warramunga Arr**	**26.40**	**163**	P	**P**	**12 06 42.0**	**+0.3**
	comp=Z,4.1nm,0.8s,mb3.9,baz=344,slow=10,SNR=13						
WRA				ScP		12 13 43.5	
	comp=Z,1.1nm,0.6s,baz=340,slow=3.3,SNR=7.4						
WB2	**Warramunga Arr**	**26.41**	**163**	*e*P	**P**	**12 06 42.0**	**+0.2**
WB2	**Warramunga Arr**	**26.41**	**163**	*e*P	**P**	**12 06 42.1**	**+0.3**
MBWA	**Marble Bar**	**27.15**	**193**	P	**P**	**12 06 47.7**	**-1.0**

	comp=Z,12nm,1.0s,mb4.4						
NJ2	Nanjing	27.41	346	eP	P	12 06 49.8	-1.1
NJ2				PP	PP	12 07 37.5	-3.1
NJ2				S	S	12 11 26.0	+1.8
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.8						
NJ2				LR	LR		
	comp=N,1µm,21.8s						
NJ2				LR	LR		
	comp=E,830nm,22.3s						
NJ2				LR	LR		
	comp=Z,2µm,19.6s						
ENH	Enshi	29.36	329	eP	P	12 07 07.2	-1.2
	comp=Z,7.7nm,0.6s,mb4.5						
CMAR	Chiang Mai Arr	29.65	298	P	P	12 07 12.1	+1.0
	comp=Z,1.8nm,0.9s,mb3.7,baz=97,slow=6.6,SNR=6.4						
CMAR				ScP		12 13 53.7	
	comp=Z,0.5nm,0.8s,baz=155,slow=1.7,SNR=5.4						
CMAR				LR	LR	12 19 42.6	
	comp=Z,70nm,19.1s,baz=253,slow=37						
CMAR	Chiang Mai Arr	29.65	298	P	P	12 07 12.1	+1.0
CMAR						12 13 53.7	
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CMAR				MLR	MLR		
	comp=Z,70nm,19.1s						
ASPA	Alice Springs	29.83	166	eP	P	12 07 15.4	+2.8
ASPA	Alice Springs	29.83	166	eP	P	12 07 15.5	+2.9
ASAR	Alice Springs	29.83	166	P	P	12 07 11.2	-1.4
	comp=Z,0.9nm,0.5s,mb3.7,baz=346,slow=7.0,SNR=20						
ASAR				PcP	PcP	12 10 14.1	-0.4
	comp=Z,0.9nm,0.6s,baz=347,slow=2.3,SNR=6.5						
ASAR				ScP		12 13 54.5	
	comp=Z,1.4nm,1.1s,baz=345,slow=3.4,SNR=7.7						
CTA	Charters Tower	32.06	143	LR	LR	12 19 40.0	
	comp=Z,48nm,19.8s,baz=43,slow=35						
NWAO	Narrogin (SRO)	39.06	192	P	P	12 08 31.2	-0.3
	comp=Z,5.0nm,0.6s,mb4.5,baz=29,slow=6.8,SNR=7.1						
NWAO	Narrogin (SRO)	39.06	192	P	P	12 08 31.2	-0.3
NWAO				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MDJ	Mudanjiang	39.17	4	P	P	12 08 33.4	+1.1
MDJ				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.6						
STKA	Stephens Creek	39.84	159	eP	P	12 08 38.4	+0.4
	comp=Z,1.8nm,1.4s,mb3.7						
STKA	Stephens Creek	39.84	159	eP	P	12 08 38.8	+0.8
	comp=Z,3.2nm,0.6s,mb4.3						
STKA	Stephens Creek	39.84	159	P	P	12 08 38.2	+0.2
	comp=Z,3.3nm,0.6s,mb4.4,baz=327,slow=6.3,SNR=7.5						
STKA				PcP	PcP	12 10 42.8	-0.6
	comp=Z,1.9nm,0.7s,baz=325,slow=5.8,SNR=2.7						
ASAJ	Asahikawa	41.15	18	P	P	12 08 49.1	+0.5
	comp=Z,5.2nm,0.7s,mb4.5,baz=194,slow=23,SNR=4.5						
ASAJ	Asahikawa	41.15	18	P	P	12 08 49.2	+0.5
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.7s						
GTA	Gaotai	41.44	329	eP	P	12 08 51.8	+0.8
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.2						
HIA	Hailar	44.07	354	eP	P	12 09 12.9	+0.5
	comp=Z,2.5nm,0.4s,mb4.3						
GUN	Gumba	44.38	305	eP	P	12 09 16.5	+1.2
	comp=Z,20nm,0.7s,mb5.0						
PKI	Pulchoki	44.64	304	eP	P	12 09 17.9	+0.6
	comp=Z,7.6nm,0.6s,mb4.6						
GKN	Gorkha	45.44	304	eP	P	12 09 24.0	+0.4
SONM	Songino Array	45.58	341	P	P	12 09 24.7	+0.2
	comp=Z,2.8nm,0.8s,mb4.1,baz=152,slow=9.1,SNR=21						
SONM				PcP	PcP	12 11 02.7	+0.3
	comp=Z,3.7nm,0.8s,baz=163,slow=3.5,SNR=16						
KOLN	Koldanda	46.20	304	eP	P	12 09 30.6	+0.9
	comp=Z,23nm,0.7s,mb5.0						
ZAK	Zakamensk	48.81	341	eP	P	12 09 50.2	+0.5
ZAK				e		12 11 10.2	
BOD	Bodaibo	53.16	352	eP	P	12 10 22.1	-0.5
MKAR	Makanchi Array	55.93	325	i P	P	12 10 42.1	-0.8
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
YAK	Yakutsk	56.57	2	eP	P	12 10 46.4	-0.9
YAK				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.0						
YAK				pmax	pmax		
	comp=N,3.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,2.0nm,0.9s						
YAK	Yakutsk	56.57	2	eP	P	12 10 46.4	-0.9
	comp=E,13nm,0.9s,mb5.0						
AAK	Ala-Archa	58.82	317	P	P	12 11 03.0	-0.3
	comp=E,2.0nm,0.7s,mb4.3						
ZAL	Zalesovo	58.90	333	P	P	12 11 01.7	-2.0
	comp=E,1.3nm,0.5s,mb4.2,baz=359,slow=7.4,SNR=6.7						
ZAL	Zalesovo	58.90	333	P	P	12 11 01.7	-2.0
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURK	Kurchatov	60.09	327	i P	P	12 11 10.9	-1.1
KURK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
VOSK	Vostochnaya	65.23	327	P	P	12 11 44.2	-1.8
VOSK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
VOSK	Vostochnaya	65.23	327	P	P	12 11 44.2	-1.8
	comp=Z,4.0nm,0.9s,mb4.2						
BVA0	Borovoye Array	65.68	327	P	P	12 11 47.5	-1.4
BRVK	Borovoye	65.75	327	P	P	12 11 48.0	-1.3
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.3						
BRVK	Borovoye	65.75	327	P	P	12 11 48.0	-1.3
	comp=Z,5.0nm,0.9s,mb4.3						
TIXI	Tiksi	66.20	1	⇑iP	P	12 11 52.0	+0.1
TIXI				e		12 12 05.0	
TIXI				e		12 12 27.2	
TIXI				e		12 14 17.5	
TIXI				eS	S	12 20 38.5	+5.0
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.3						
TIXI	Tiksi	66.20	1	⇑iP	P	12 11 52.0	+0.1
	comp=Z,5.0nm,0.9s,mb4.3						
TIXI				e		12 12 05.0	
TIXI				e		12 12 27.2	
TIXI				e		12 14 17.5	
TIXI				eS	S	12 20 38.5	+5.0
ZRNK	Zerenda	66.41	326	P	P	12 11 52.2	-1.3
ZRNK				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.6						
SVE	Sverdlovsk	72.31	328	⇓eP	P	12 12 28.9	-0.6
ARU	Arti	73.29	328	⇑iP	P	12 12 34.0	-1.2
ARU				e		12 15 15.1	
ARU				ePPP	PPP	12 17 02.4	-2.6
ARU				eS	S	12 22 01.5	+4.8
ARU				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
ARU	Arti	73.29	328	⇑iP	P	12 12 34.0	-1.2
	comp=Z,5.0nm,0.7s,mb4.5						
ARU				e		12 15 15.1	
ARU				ePPP	PPP	12 17 02.4	-2.6
ARU				eS	S	12 22 01.5	+4.8
COLA	College	83.40	25	P	P	12 13 31.7	+1.4
	comp=Z,3.3nm,1.0s,mb4.1						
ILAR	Eielson Array	83.81	25	P	P	12 13 32.3	-0.1
	comp=Z,0.7nm,0.7s,mb3.6,baz=251,slow=4.9,SNR=8.6						
ILAR	Eielson Array	83.81	25	P	P	12 13 32.3	-0.1
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
VNDA	Vanda	85.12	173	P	P	12 13 39.3	+0.6
	comp=Z,0.9nm,1.0s,mb3.7,baz=318,slow=5.0,SNR=4.0						
VNDA				LR	LR	12 51 58.4	
	comp=Z,53nm,19.6s,baz=215,slow=36						
VNDA	Vanda	85.12	173	P	P	12 13 39.3	+0.6
VNDA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
VNDA				MLR	MLR		
	comp=Z,53nm,19.6s						
VNDA	Vanda	85.12	173	eP	P	12 13 40.1	+1.4
	comp=Z,0.8nm,0.6s,mb3.8						
MAW	Mawson	85.14	200	P	P	12 13 41.9	+2.9
	comp=Z,1.5nm,0.8s,mb4.0,baz=85,slow=18,SNR=2.5						
MAW	Mawson	85.14	200	P	P	12 13 41.9	+2.9
MAW				pmax	pmax		
	comp=Z,2.0nm,0.9s						
OBN	Obninsk	85.44	325	eP	P	12 13 40.6	-0.1
OBN				e		12 13 55.1	
OBN				pmax	pmax		
	comp=Z,27nm,1.3s,mb5.0						
OBN	Obninsk	85.44	325	eP	P	12 13 40.6	-0.1
	comp=Z,27nm,1.3s,mb5.0						
OBN				e		12 13 55.1	
JOF	Joensuu	87.49	333	ep	P	12 13 49.8	-0.7
	comp=Z,2.1nm,0.7s,mb4.2						
JOF	Joensuu	87.49	333	eP	P	12 13 49.8	-0.7
JOF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
BRTR	Keskin Array B	88.61	310	P	P	12 13 58.0	+1.5
	comp=Z,1.2nm,0.8s,mb4.0,baz=45,slow=3.5,SNR=5.7						
BRTR	Keskin Array B	88.61	310	P	P	12 13 58.0	+1.6
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARCES	ARCESS Array B	88.73	340	P	P	12 13 56.7	+0.4
	comp=Z,8.9nm,0.6s,mb5.0,baz=79,slow=6.2,SNR=23						
ARCES	ARCESS Array B	88.73	340	P	P	12 13 56.7	+0.4
ARCES				pmax	pmax		
	comp=Z,9.0nm,0.6s						
ARCES	ARCESS Array B	88.73	340	P	P	12 13 56.7	+0.4
INK	Inuvik	88.80	21	P	P	12 13 56.9	+0.2
	comp=Z,0.6nm,0.7s,mb3.7,baz=334,slow=4.4,SNR=4.4						
INK	Inuvik	88.80	21	P	P	12 13 56.9	+0.3
INK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KMBO	Kilima Mbogo	89.12	269	P	P	12 14 01.4	+2.0
	comp=Z,1.4nm,0.9s,mb4.0,baz=223,slow=22,SNR=2.2						
KAF	Kangasniemi	89.91	332	ep	P	12 14 03.2	+1.2
	comp=Z,2.2nm,0.7s,mb4.4						
KAF	Kangasniemi	89.91	332	eP	P	12 14 03.2	+1.2
KAF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.4						
FINES	FINESS Array B	90.15	332	P	P	12 14 01.8	-1.4
	comp=Z,1.6nm,0.7s,mb4.3,baz=63,slow=4.3,SNR=11						
FINES	FINESS Array B	90.15	332	P	P	12 14 01.8	-1.3
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKASG	Malin Array Be	90.31	321	P	P	12 14 04.4	+0.2
	comp=Z,0.9nm,0.6s,mb4.1,baz=37,slow=3.4,SNR=4.7						
AKASG	Malin Array Be	90.31	321	P	P	12 14 04.4	+0.2
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
HFS	Hagfors	96.34	332	P	P	12 14 31.8	+0.3
	comp=Z,1.6nm,0.7s,mb4.6,baz=172,slow=10,SNR=3.4						
HFS	Hagfors	96.34	332	P	P	12 14 31.8	+0.3
HFS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA	NORSAR Array B	97.10	334	P	P	12 14 34.4	-0.5
	comp=Z,0.6nm,0.6s,mb4.2,baz=74,slow=4.2,SNR=3.0						
NOA	NORSAR Array B	97.10	334	P	P	12 14 34.4	-0.6
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
VNA2	Neumayer--Watz	108.31	195		Px	12 19 45.6	
VNA3	Neumayer Olymp	108.65	194	⇑i	Px	12 19 42.5	
SCHQ	Schefferville	119.01	9	PKP	PKPdf	12 19 52.6	+2.3
	comp=Z,3.9nm,0.9s,baz=326,slow=7.3,SNR=3.7						
TXAR	Lajitas Array	120.94	51	PKP	PKPdf	12 19 56.9	+2.1
	comp=Z,0.2nm,0.8s,baz=180,slow=0.9,SNR=3.3						

GUC 18 12:08:52.0±0.7**,32.72S**×**71.59W,h31**km±7km**,MD3.5, ML2.2,1C-2D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PACH	Papudo	0.22	36	⇓iP	Pb	12 08 58.6	+0.1
PACH				i S	Sb	12 09 03.7	+0.6
JACH	Jahuel	0.84	88	i P	Pn	12 09 07.8	+0.1
JACH				i S	Sb	12 09 19.7	+0.6
RCDM	Rinconada Maip	1.01	140	⇑iP	Pn	12 09 10.2	0.0
RCDM				i S	Sn	12 09 23.8	+0.3
RCDM				AMP		12 09 31.2	
	comp=E,85nm,0.1s						
FCH	Farellones	1.25	120	⇓iP	Pn	12 09 14.2	+0.6
FCH				i S	Sn	12 09 31.3	+1.8
FCH				AMP		12 09 32.6	
	comp=E,72nm,0.2s						
PCH	Pirque	1.28	135	i P	Pn	12 09 14.4	+0.5
PCH				i S	Sn	12 09 31.1	+1.0
LMEL	Las Melosas	1.62	135	eP	Pn	12 09 20.0	+1.1
LMEL				i S	Sn	12 09 41.7	+2.9
LMEL				AMP		12 09 44.0	
	comp=N,76nm,0.1s						

ISK 18 12:42:48.0,36.71N×27.76E,h5km,MD3.2
CSEM 18 12:42:52.3±0.2,36.97N×27.47E,h10km,MD3.2,Error ellipse: s-maj=5.9km s-min=3.8km az=119.0
ATH 18 12:42:54.6,36.32N×27.19E,h10km,MD2.8/3
ISC 18 12:42:52.2±0.9**,36.90N**±0.05×**27.50E**±0.07**,h10**km±6km**, n10,**$\sigma 0^{s}71$/15**,1C,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.17	346	i P	Pg	12 42 55.7	-0.3
BDRM				i S	Sg	12 42 59.4	+0.8
NISR	Nisiros	0.41	226	ePG	Pg	12 43 00.5	-0.2
MLSB	Milas	0.45	30	i PG	Pg	12 43 00.7	-0.7
MLSB				i SG	Sg	12 43 07.8	+0.2
AYDN	Tasoluk	0.82	22	⇑iP	Pb	12 43 07.4	-0.6
AYDN				i S	Sb	12 43 19.1	+0.3
ARG	Arkhangelos	0.85	143	ePB	Pb	12 43 09.2	+0.6
KARP	Karpathos	1.38	191	ePB	Pb	12 43 09.2	-8.4
DNZL	Cakiroluk	1.47	57	i P	Pn	12 43 20.1	+1.3
DNZL				i S	Sb	12 43 37.1	-0.5
IZM	Izmir	1.50	353	i PN	Pn	12 43 19.1	-0.3
IZM				i SN	Sn	12 43 43.1	+4.0
APE	Apeiranthos	1.58	277	PN	Pn	12 43 20.5	0.0
AKS	Akhisar	1.99	7	ePN	Pn	12 43 25.4	-0.9

NEIC 18 12:49:00.8±0.7,15.59N×147.11E,h40km,mb4.2/3,Error ellipse: s-maj=26.7km s-min=14.0km az=86.0
IDC 18 12:49:15.4±11.0,15.50N×147.01E,h179km±106km, mb3.1/7,mb1 3.5/8,mb1mx3.4/20,Error ellipse: s-maj=34.1km s-min=18.1km az=77.0
ISC 18 12:48:58.4±0.7**,15.60N**±0.10×**147.1E**±0.2**,h33**km**,n13, $\sigma 0^{s}91$/11,mb3.8**/11**,Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	24.85	180	P	P	12 54 19.0	-0.5
	11nm,0.9s,mb4.4,baz=346,slow=6.6,SNR=3.3						
WRA	Warramunga Arr	37.47	200	P	P	12 56 11.5	+0.6
	1.0nm,0.7s,mb3.7,baz=23,slow=9.7,SNR=5.8						
ASAR	Alice Springs	41.09	199	P	P	12 56 41.9	+0.9
	0.3nm,0.7s,mb3.0,baz=12,slow=6.2,SNR=4.4						
CMAR	Chiang Mai Arr	45.99	281	P	P	12 57 18.9	-1.8
	0.6nm,0.5s,mb3.8,baz=80,slow=5.5,SNR=5.3						
SONM	Songino Array	46.37	323	P	P	12 57 25.5	+2.1
	0.6nm,0.6s,mb3.7,baz=137,slow=10,SNR=5.7						
STKA	Stephens Creek	47.50	186	P	P	12 57 32.0	-0.4
	0.9nm,0.6s,mb3.9,baz=117,slow=14,SNR=2.5						
KURK	Kurchatov	64.44	319	eP	P	12 59 33.6	-0.1
	2.0nm,0.8s,mb4.2						
ILAR	Eielson Array	65.85	25	P	P	12 59 42.1	-0.4
	0.2nm,0.6s,mb3.3,baz=253,slow=5.7,SNR=5.1						
BRVK	Borovoye	69.75	321	P	P	13 00 06.5	-0.5
	1.3nm,0.6s,mb4.0						
ZRNK	Zerenda	70.52	321	eP	P	13 00 12.1	+0.3
	2.8nm,1.1s,mb4.1						
NVAR	Mina Array Bea	84.02	52	P	P	13 01 27.0	-0.1
	0.6nm,0.6s,mb3.9,baz=244,slow=5.1,SNR=5.4						
DBIC	Dimbokro	144.45	306	PKP	PKPdf	13 08 32.6	+0.2
	2.7nm,0.9s,baz=117,slow=18,SNR=2.8						
LPAZ	La Paz	146.18	96	PKPbc	PKPbc	13 08 34.6	-1.7
	1.9nm,0.2s,baz=78,slow=0.8,SNR=2.5						

CASC 18 13:22:17.8±2.3**,11.89N**×**86.55W,h135**km±10km**,MD3.6, 2C-5D,Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRUN	El Crucero	0.26	68	⇓eP	P	13 22 37.0	0.0
CRUN				eS	S	13 22 53.6	+2.0
COPN	Copaltepe	0.29	351	⇓eP	P	13 22 36.4	-0.7
COPN				eS	S	13 22 50.6	-1.2
XAVN	Gruta Xavier	0.34	40	⇓eP	P	13 22 39.1	+1.9
XAVN				eS	S	13 22 51.6	-0.5
TICN	Ticuantepe	0.34	65	eP	P	13 22 36.9	-0.4
MGAN	Managua	0.39	49	eS	S	13 22 51.8	-0.8
APYN	Apoyeque	0.40	29	eP	P	13 22 36.9	-0.6
APYN				eS	S	13 22 52.7	+0.1
APON	Apoyo	0.47	86	eP	P	13 22 36.8	-1.1
APON				eS	S	13 22 53.5	+0.2
MOMJ	Momotombo	0.52	1	eP	P	13 22 37.2	-1.0
MOMJ				eS	S	13 22 53.4	-0.3
MIRN	Miramar	0.57	344	⇓eP	P	13 22 37.7	-0.8
MIRN				eS	S	13 22 53.5	-0.7
LEON	Leon	0.62	327	⇑eP	P	13 22 37.8	-1.0
LEON				eS	S	13 22 54.6	-0.2
CNGN	Cerro Negro	0.63	346	eP	P	13 22 38.0	-0.8
CNGN				eS	S	13 22 54.6	-0.2
TEL3	Telica 3	0.74	337	⇑eP	P	13 22 38.9	-0.6
TEL3				eS	S	13 22 55.2	-0.9
TELN	Telica	0.77	339	eP	P	13 22 39.7	0.0
TELN				eS	S	13 22 52.8	-3.6
PYTN	Playitas	0.80	36	⇓iP	P	13 22 39.2	-0.7
PYTN				eS	S	13 22 55.6	-1.2
JCR	Jicaral	2.47	145	eP	P	13 22 59.3	+0.8
JCR				eS	S	13 23 28.5	-0.9
CGA2	Cerro Gallo 2	2.76	132	eP	P	13 23 03.2	+0.9
CGA2				eS	S	13 23 37.8	+1.6
LAJ	Bijagual	3.12	130	eP	P	13 23 05.0	-1.9
LAJ				eS	S	13 23 39.5	-4.9
LCR2	La Lucha 2	3.29	130	eP	P	13 23 17.8	+8.6
LCR2				eS	S	13 23 48.4	+0.1
URSC	Urasca	3.40	127	eP	P	13 23 12.5	+1.9

IDC 18 13:39:27.0±65.0**,18.23S**×**171.39E,mb4.0**/3**,mb1 4.2**/3**, mb1mx3.8**/13**,1C,Error ellipse: s-maj=1113.0km s-min=133.0km az=74.0,Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKM	Butte a Klehm	3.05	280	⇑iP	Pn	13 40 47.6	+30
BKM				S	Sn	13 41 17.1	+22
STKA	Stephens Creek	30.10	237	P	P	13 45 38.9	-1.7
	1.2nm,0.7s,baz=54,slow=8.7,SNR=3.5						
WRA	Warramunga Arr	35.01	261	P	P	13 46 20.7	-2.7
	0.2nm,0.3s,baz=98,slow=8.7,SNR=7.8						
ASAR	Alice Springs	35.35	255	P	P	13 46 24.7	-1.6
	2.7nm,0.4s,baz=81,slow=8.8,SNR=145						

IDC 18 14:23:45.6±4.2**,3.39N**×**128.44E,mb3.6**/4**,mb1 3.8**/4**, mb1mx3.6**/17**,Error ellipse: s-maj=141.0km s-min=72.8km az=69.0,North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.90	166	P	P	14 29 00.9	-1.2
	1.0nm,0.7s,baz=346,slow=11,SNR=12						
ASAR	Alice Springs	27.41	169	P	P	14 29 33.0	-2.1
	0.3nm,0.8s,baz=356,slow=8.1,SNR=6.6						
STKA	Stephens Creek	37.23	161	P	P	14 30 59.7	-1.1
	1.3nm,0.5s,baz=349,slow=12,SNR=4.6						
VNDA	Vanda	82.88	173	P	P	14 36 11.4	-1.6
	0.4nm,0.8s,baz=315,slow=4.3,SNR=2.9						

NEIC 18 14:36:39.3,38.01S×178.31E,h32km,ML3.9(WEL),After WEL.
WEL 18 14:36:39.1±0.4,38.01S×178.35E,h33km±2km,ML3.8/22, Error ellipse: s-maj=5.9km s-min=2.3km az=90.0
ISC 18 14:36:35.3±1.0**,38.21S**±0.04×**178.5E**±0.1**,h52**km±6km**, n69,**$\sigma 1^{s}50$/84**,6C-4D,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PUZ	Puketiti	0.25	304	⇑P	P	14 36 44.7	+0.5
PUZ				S	S	14 36 48.7	-1.9
PUZ	Puketiti	0.25	304	⇑P*	P	14 36 44.7	+0.5
PUZ				S*	S	14 36 49.0	-1.6
MXZ	Matakaoa Point	0.67	345	⇓eP	P	14 36 48.9	+0.2
MXZ				S	S	14 36 56.6	-2.1
MXZ	Matakaoa Point	0.67	345	⇓PN	P	14 36 48.9	+0.1
MXZ				S*	S	14 36 56.5	-2.2
MWZ	Matawai	0.79	261	⇓P	P	14 36 52.4	+2.0
MWZ				S	S	14 37 02.2	+0.7
MWZ	Matawai	0.79	261	⇓PN	P	14 36 52.4	+2.0
MWZ				SN	S	14 37 02.2	+0.7
KNZ	Kokohu	1.05	219	eP	P	14 36 57.9	+4.0
KNZ	Kokohu	1.05	219	PN	P	14 36 57.8	+3.8
URZ	Urewera	1.11	267	P	P	14 36 56.7	+1.9
URZ	Urewera	1.11	267	PN	P	14 36 56.7	+1.9
URZ				SN	S	14 37 09.8	+0.4
WIZ	White Island	1.25	303	P	P	14 36 56.3	-0.6
WIZ	White Island	1.25	303	PN	P	14 36 56.0	-0.8
EDRZ	Edgecumbe	1.41	274	P	P	14 37 00.3	+1.2
EDRZ	Edgecumbe	1.41	274	PN	P	14 37 00.3	+1.2
MARZ	Manawahe	1.47	278	P	P	14 37 00.4	+0.4
MARZ	Manawahe	1.47	278	PN	P	14 37 00.4	+0.4
TAZ	Tarawera	1.58	269	P	P	14 37 03.4	+1.8
TAZ	Tarawera	1.58	269	PN	P	14 37 03.2	+1.7
LIRZ	Lichensteins R	1.70	276	P	P	14 37 03.8	+0.7
LIRZ	Lichensteins R	1.70	276	PN	P	14 37 03.7	+0.6
PATZ	Paeroa	1.79	264	PN	P	14 37 06.2	+1.8
TGRZ	Tauranga	1.85	284	P	P	14 37 04.9	-0.3
TGRZ	Tauranga	1.85	284	PN	P	14 37 04.9	-0.3
BKZ	Black Stump Fm	1.85	238	P	P	14 37 08.2	+2.9
BKZ	Black Stump Fm	1.85	238	PN	P	14 37 08.2	+3.0
MYRZ	Mayor Island	2.03	296	PN	P	14 37 05.7	-2.1
KAVZ	Karewarewa	2.42	248	P	P	14 37 15.7	+2.4
KAVZ	Karewarewa	2.42	248	PN	P	14 37 15.7	+2.4
MOVZ	Moawhango	2.47	240	P	P	14 37 16.2	+2.1
MOVZ	Moawhango	2.47	240	PN	P	14 37 16.0	+2.0
NGZ	Ngauruhoe	2.48	246	P	P	14 37 16.6	+2.4
NGZ	Ngauruhoe	2.48	246	PN	P	14 37 16.2	+2.0
WNVZ	Wahianoa	2.54	243	PN	P	14 37 17.4	+2.3
KUZ	Kuaotunu	2.66	302	⇑P	P	14 37 15.3	-1.5
KUZ	Kuaotunu	2.66	302	⇑PN	P	14 37 15.2	-1.6
KUZ				SN	S	14 37 43.0	-5.0
TSZ	Takapari Road	2.71	226	P	P	14 37 18.8	+1.3
TSZ	Takapari Road	2.71	226	PN	P	14 37 19.3	+1.8
MKAZ	Moumakai	2.88	291	⇑P	P	14 37 19.0	-0.9
MKAZ	Moumakai	2.88	291	⇑PN	P	14 37 19.0	-0.8
BFZ	Birch Farm	3.03	215	PN	P	14 37 22.9	+0.9
BFZ				eSN	S	14 37 58.2	+0.9
VRZ	Vera Road	3.08	252	PN	P	14 37 24.3	+1.6
OTAZ	Otara	3.12	293	PN	P	14 37 22.6	-0.7
WAZ	Wanganui	3.16	240	eP	P	14 37 25.8	+2.0
WAZ	Wanganui	3.16	240	PN	P	14 37 25.8	+2.0
MTAZ	Motutapu	3.20	295	PN	P	14 37 24.0	-0.4
KAAZ	Kauri Point	3.33	293	PN	P	14 37 26.6	+0.2
MRZ	Mangatainoka R	3.34	222	eP	P	14 37 26.4	0.0
MRZ	Mangatainoka R	3.34	222	PN	P	14 37 26.4	0.0
MRZ				SN	S	14 38 05.4	+0.1
WTAZ	Waiatarua	3.38	291	ePN	P	14 37 27.1	+0.1
MTW	Mount Morrison	3.75	217	P	P	14 37 31.9	-0.3
MTW	Mount Morrison	3.75	217	PN	P	14 37 32.0	-0.2
KIW	Kapiti Island	3.85	225	PN	P	14 37 33.1	-0.4
CAW	Cannon Point	3.93	222	P	P	14 37 33.7	-1.0
CAW	Cannon Point	3.93	222	PN	P	14 37 33.7	-1.0
CAW				SN	S	14 38 18.0	-2.1
WCZ	Waipu Caves	4.04	303	eP	P	14 37 35.0	-1.2
WCZ	Waipu Caves	4.04	303	PN	P	14 37 35.0	-1.2
MRW	Makara Radio	4.21	223	SN	S	14 38 25.6	-1.6
TUWZ	Tuamarina	4.77	226	PN	P	14 37 44.9	-1.6
NNZ	Nelson	4.97	231	PN	P	14 37 47.8	-1.5
NNZ				eSN	S	14 38 42.8	-3.4
QRZ	Quartz Range	5.32	239	PN	P	14 37 52.7	-1.4
QRZ				SN	S	14 38 51.5	-3.4
THZ	Tophouse	5.58	229	PN	P	14 37 56.0	-1.8
THZ				SN	S	14 38 57.8	-3.7
DSZ	Denniston Nort	6.25	234	PN	P	14 38 04.1	-3.0
DSZ				SN	S	14 39 11.4	-6.7
LTZ	Lake Taylor	6.60	224	PN	P	14 38 08.9	-3.2
CRLZ	Canterbury Las	6.98	218	SN	S	14 39 26.6	-10
MQZ	McQueen's Vall	7.06	217	SN	S	14 39 29.6	-8.6
WVZ	Waitaha Valley	7.66	228	SN	S	14 39 45.9	-7.1
ODZ	Otahua Downs	9.02	218	PN	P	14 38 41.5	-4.0
ASPA	Alice Springs	40.54	278	eP	P	14 44 12.3	+1.2
WB2	Warramunga Arr	42.23	283	eP	P	14 44 25.9	+0.8

BJI 18 14:54:05.4,34.60N×136.10E,h367km,mb4.1
IDC 18 14:54:07.9±1.7,34.63N×136.12E,h372km±20km,mb3.1/7, mb1 3.4/9,mb1mx3.2/26,Error ellipse: s-maj=20.7km s-min=13.1km az=86.0
NEIC 18 14:54:07.5±0.5,34.57N×136.12E,h368km±6km,mb3.7/4, Error ellipse: s-maj=9.4km s-min=8.0km az=103.0
JMA 18 14:54:07.9±0.1,34.68N×136.05E,h371km±1km,M3.0
ISC 18 14:54:06.5±0.3**,34.65N**±0.05×**136.11E**±0.05**,h379**km±2km**, n39,**$\sigma 0^{s}72$/54**,mb3.5**/15**,Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIE	**Ise**	**0.56**	**118**	P	**P**	**14 54 55.2**	**+0.9**
JIE				S	**S**	**14 55 31.8**	**-0.1**
JWY	**Kouya**	**0.61**	**225**	P	**P**	**14 54 55.0**	**+0.6**
JWY				S	**S**	**14 55 31.4**	**-0.7**
JWT	**Wachi**	**0.86**	**317**	P	**P**	**14 54 55.3**	**+0.2**
JWT				S	**S**	**14 55 32.1**	**-1.2**
JGM	**Miyama**	**1.16**	**25**	P	**P**	**14 54 56.8**	**+0.5**
JGM				S	**S**	**14 55 35.4**	**+0.1**
JWZ	**Kozaga**	**1.17**	**196**	P	**P**	**14 54 56.4**	**+0.1**
JWZ				*e*S	**S**	**14 55 34.6**	**-0.8**
JKG	**Kaga**	**1.63**	**6**	P	**P**	**14 54 58.7**	**0.0**
JKG				*e*S	**S**	**14 55 38.8**	**-0.7**
JMN	**Monobe**	**2.07**	**244**	P	**P**	**14 55 01.7**	**+0.3**
JMN				*e*S	**S**	**14 55 44.2**	**-0.1**
JYN	**Shimob**	**2.17**	**66**	P	**P**	**14 55 02.5**	**+0.5**
JHS	**Saijyo**	**2.49**	**279**	P	**P**	**14 55 04.5**	**+0.1**
JHS				*e*S	**S**	**14 55 49.6**	**-0.2**
JOD2	**Odawara 2**	**2.52**	**75**	P	**P**	**14 55 05.3**	**+0.7**
MAJO	**Matsushiro**	**2.54**	**42**	*e*Pn	**P**	**14 55 04.5**	**-0.3**
MAT	**Matsushiro**	**2.54**	**42**	P	**P**	**14 55 05.1**	**+0.3**
MAT				S	**S**	**14 55 50.5**	**0.0**
MAT	**Matsushiro**	**2.54**	**42**	P	**P**	**14 55 05.3**	**+0.5**
MAT				*e*S	**S**	**14 55 50.4**	**-0.1**
MAT	**Matsushiro**	**2.54**	**42**	*e*P	**P**	**14 55 05.0**	**+0.2**
MAT				*e*S	**S**	**14 55 51.0**	**+0.5**
JRY	**Ryogami san**	**2.66**	**58**	P	**P**	**14 55 06.5**	**+0.8**
JRY				*e*S	**S**	**14 55 53.3**	**+1.2**
JIM2	**Oshima 3**	**2.74**	**88**	P	**P**	**14 55 07.0**	**+0.7**
JHJ	**Hachijo jima 2**	**3.42**	**116**	P	**P**	**14 55 13.2**	**+1.0**
	29nm,0.3s,baz=3.7,slow=3.4,SNR=5.2						
JHJ				S	**S**	**14 56 10.1**	**+6.3**
	18nm,0.3s,baz=264,slow=23,SNR=3.2						
BSO1	**Boso 1**	**4.01**	**89**	P	**P**	**14 55 16.8**	**-1.1**
BSO1				*e*S	**S**	**14 56 13.2**	**-0.7**
KS15	**Wonju Array Si**	**7.22**	**295**	*e*P	**P**	**14 55 53.3**	**+0.3**
ASAJ	**Asahikawa**	**10.70**	**26**	P	**P**	**14 56 32.6**	**-1.1**
	4.9nm,0.3s,baz=248,slow=11,SNR=27						
ASAJ				S	**S**	**14 58 27.8**	**-2.4**
	1.6nm,0.3s,baz=39,slow=31,SNR=6.4						
MDJ	**Mudanjiang**	**11.14**	**335**	P	**P**	**14 56 38.6**	**-0.4**
MDJ				AMB	AMB		
	comp=Z,9.0nm,0.9s						
MDJ	**Mudanjiang**	**11.14**	**335**	*e*P	**P**	**14 56 39.2**	**+0.2**
YSS	**Yuzh-Sakhalins**	**13.27**	**20**	*e*P	**P**	**14 57 03.6**	**+0.1**
ENH	**Enshi**	**22.86**	**266**	*e*P	**P**	**14 58 40.4**	**+0.8**
	comp=Z,7.9nm,0.7s,mb4.0						
SONM	**Songino Array**	**25.75**	**310**	P	**P**	**14 59 06.8**	**+1.0**
	comp=Z,1.2nm,0.8s,mb3.2,baz=126,slow=8.5,SNR=5.8						
CMAR	**Chiang Mai Arr**	**36.71**	**254**	P	**P**	**15 00 40.5**	**+0.1**
	comp=Z,0.9nm,0.9s,mb3.0,baz=42,slow=7.8,SNR=5.2						
GUN	**Gumba**	**43.09**	**275**	*e*P	**P**	**15 01 32.8**	**+0.5**
	comp=Z,5.2nm,0.4s,mb4.0						
KKN	**Kakani**	**43.63**	**275**	*e*P	**P**	**15 01 36.7**	**+0.1**
	comp=Z,6.1nm,0.7s,mb3.8						
GKN	**Gorkha**	**44.08**	**276**	*e*P	**P**	**15 01 38.7**	**-1.4**
	comp=Z,5.6nm,0.5s,mb3.9						
KOLN	**Koldanda**	**45.02**	**276**	*e*P	**P**	**15 01 47.2**	**-0.3**
	comp=Z,9.9nm,1.0s,mb3.9						
BVAR	**Borovoye Array**	**49.02**	**313**	P	**P**	**15 02 18.5**	**+0.5**
	comp=Z,0.5nm,0.3s,mb3.2,baz=99,slow=10,SNR=4.4						
MCK	**McKinley**	**52.98**	**33**	*e*P	**P**	**15 02 47.9**	**+0.8**
	comp=Z,0.7nm,0.5s,mb3.2						
FITZ	**Fitzroy Crossi**	**53.40**	**192**	P	**P**	**15 02 51.3**	**+0.5**
	comp=Z,1.4nm,0.8s,mb3.3,baz=36,slow=8.7,SNR=2.0						
ILAR	**Eielson Array**	**53.78**	**31**	P	**P**	**15 02 53.1**	**+0.2**
	comp=Z,0.6nm,0.6s,mb3.1,baz=258,slow=6.0,SNR=12						
WRAB	**Tennant Creek**	**54.31**	**182**	*e*P	**P**	**15 02 56.1**	**-1.2**
	comp=Z,2.4nm,0.5s,mb3.8						
WB2	**Warramunga Arr**	**54.32**	**182**	*e*P	**P**	**15 02 56.3**	**-1.1**
WRA	**Warramunga Arr**	**54.32**	**182**	P	**P**	**15 02 56.5**	**-0.9**
	comp=Z,2.4nm,0.8s,mb3.6,baz=358,slow=7.9,SNR=12						
ASAR	**Alice Springs**	**58.04**	**182**	P	**P**	**15 03 23.3**	**+0.1**
	comp=Z,0.9nm,0.6s,mb3.3,baz=17,slow=9.4,SNR=8.4						
INK	**Inuvik**	**58.44**	**26**	*e*P	**P**	**15 03 25.6**	**+0.3**
	comp=Z,1.9nm,0.8s,mb3.5						

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*NEIC **18** 14:54:38.7±1.8, 5.37S×152.75E, h43km±14km, mb4.2/5, Error ellipse: s-maj=23.0km s-min=8.7km az=109.0*
*IDC **18** 14:54:40.3±5.8, 5.45S×152.76E, h60km±51km, mb3.7/10, mb1 3.9/11, mb1mx3.8/16, ML2.8/1, Error ellipse: s-maj=37.0km s-min=26.5km az=111.0*
ISC 18 14:54:38.6±2.2**, 5.37S**±0.10×**152.7E**±0.2**, h53**km±17km**, n22, σ0s83**/24**, mb4.0**/14**, 1C-1D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAB	**Rabaul**	**1.27**	**337**	⇑*i*P	**P**	**14 55 00.8**	**+0.4**
PMG	**Port Moresby**	**6.77**	**233**	P	**P**	**14 56 18.2**	**+0.5**
	1.0nm,0.3s,baz=55,slow=15,SNR=6.4						
PMG				S	**S**	**14 57 33.7**	**-0.5**
	5.2nm,0.3s,baz=79,slow=17,SNR=8.8						
PMG	**Port Moresby**	**6.77**	**233**	*e*Pn	**P**	**14 56 16.5**	**-1.2**
PMG				S	**S**	**14 57 33.7**	**-0.5**
KAKA	**Kakadu**	**21.28**	**249**	⇓*i*P	**P**	**14 59 26.8**	**+4.1**
	11nm,0.4s,mb4.5						
WRAB	**Tennant Creek**	**22.95**	**229**	*e*P	**P**	**14 59 39.7**	**+0.4**
	3.9nm,0.6s,mb4.0						
WB2	**Warramunga Arr**	**22.96**	**229**	*e*P	**P**	**14 59 39.5**	**+0.1**
WRA	**Warramunga Arr**	**22.97**	**229**	P	**P**	**14 59 40.4**	**+0.9**
	1.2nm,0.5s,mb3.6,baz=54,slow=10.0,SNR=16						
ASAR	**Alice Springs**	**25.64**	**223**	P	**P**	**15 00 04.6**	**-0.6**
	3.0nm,1.0s,mb3.8,baz=58,slow=9.0,SNR=19						
ASPA	**Alice Springs**	**25.64**	**223**	*e*P	**P**	**15 00 07.7**	**+2.5**
STKA	**Stephens Creek**	**28.33**	**200**	P	**P**	**15 00 28.7**	**-1.0**
	1.0nm,0.6s,mb3.6,baz=336,slow=19,SNR=3.5						
FITZ	**Fitzroy Crossi**	**29.27**	**242**	*e*P	**P**	**15 00 36.9**	**-1.3**
	4.6nm,1.4s,mb4.0						
FITZ	**Fitzroy Crossi**	**29.27**	**242**	P	**P**	**15 00 37.1**	**-1.1**
	2.2nm,0.6s,mb4.1,baz=68,slow=3.8,SNR=10						
CMAR	**Chiang Mai Arr**	**57.99**	**296**	P	**P**	**15 04 28.8**	**+0.2**
	1.0nm,0.8s,mb3.9,baz=111,slow=5.1,SNR=6.5						
SONM	**Songino Array**	**66.73**	**328**	P	**P**	**15 05 26.5**	**+0.1**
	0.2nm,0.4s,mb3.5,baz=135,slow=5.2,SNR=4.1						
MCK	**McKinley**	**81.44**	**23**	*e*P	**P**	**15 06 50.5**	**-0.7**
	1.9nm,0.8s,mb4.1						
ZAL	**Zalesovo**	**81.55**	**326**	P	**P**	**15 06 51.8**	**-0.2**
	0.8nm,0.3s,mb4.1,baz=208,slow=13,SNR=3.2						
ILAR	**Eielson Array**	**82.73**	**22**	P	**P**	**15 06 56.9**	**-1.0**
	1.1nm,0.8s,mb3.9,baz=250,slow=5.1,SNR=12						
QSPA	**South Pole Qui**	**84.59**	**180**	*e*P	**P**	**15 07 08.0**	**+1.1**
AAK	**Ala-Archa**	**84.95**	**314**	*e*P	**P**	**15 07 09.9**	**+0.4**
	2.5nm,0.8s,mb4.4						
BVAR	**Borovoye Array**	**89.61**	**323**	P	**P**	**15 07 31.5**	**-0.3**
	1.6nm,0.6s,mb4.5,baz=124,slow=11,SNR=6.4						
NVAR	**Mina Array Bea**	**92.54**	**52**	P	**P**	**15 07 46.0**	**+0.2**
	0.2nm,0.6s,mb3.8,baz=275,slow=10.0,SNR=3.7						
NVAR	**Mina Array Bea**	**92.54**	**52**	P	**P**	**15 07 46.0**	**+0.2**

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*IDC **18** 14:58:56.9±2.9, 18.56S×169.58E, mb4.0/5, mb1 4.2/5, mb1mx3.9/14, Error ellipse: s-maj=113.0km s-min=31.8km az=143.0*
ISC 18 14:59:21.5±5.8**, 18.0S**±0.2×**166.12E**±0.07**, h1**km±37km**, n8, σ0s62**/9**, mb3.9**/4**, 1D, Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**2.05**	**81**	⇓*i*P	**Pn**	**14 59 57.4**	**-0.1**
BKM				S	**Sn**	**15 00 24.1**	**0.0**
NOUC	**Port Laguerre**	**4.08**	**178**	*e*P	**Pn**	**15 00 26.6**	**+0.2**
STKA	**Stephens Creek**	**26.10**	**233**	P	**P**	**15 04 55.0**	**-3.7**
	1.1nm,0.7s,mb3.6,baz=90,slow=8.1,SNR=3.2						
WB2	**Warramunga Arr**	**30.09**	**261**	*e*P	**P**	**15 05 35.2**	**+0.2**
WRA	**Warramunga Arr**	**30.10**	**261**	P	**P**	**15 05 35.6**	**+0.6**
	0.3nm,0.3s,mb3.6,baz=99,slow=8.2,SNR=8.2						
ASAR	**Alice Springs**	**30.59**	**254**	P	**P**	**15 05 38.8**	**-0.6**
	3.7nm,0.4s,mb4.7,baz=81,slow=8.7,SNR=140						
ASPA	**Alice Springs**	**30.59**	**254**	*e*P	**P**	**15 05 38.8**	**-0.6**
FITZ	**Fitzroy Crossi**	**38.44**	**263**	P	**P**	**15 06 47.5**	**+0.7**
	1.8nm,0.7s,mb3.9,baz=45,slow=2.9,SNR=5.2						

IDC 18 15:03:19.1±26.0**, 22.89S**×**172.31W, mb4.0**/4**, mb1 4.1**/4**, mb1mx3.9**/15**, MS3.5**/1**, Ms1 3.5**/1**, ms1mx2.7**/19**, 1D, Error ellipse: s-maj=485.0km s-min=147.1km az=78.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**24.91**	**210**	LR	LR	15 17 57.5	
	comp=Z,94nm,18.1s,baz=209,slow=35						
CTA	**Charters Tower**	**38.57**	**266**	P	P	15 10 44.0	-1.6
	2.8nm,0.3s,baz=100,slow=9.2,SNR=7.1						
STKA	**Stephens Creek**	**41.64**	**247**	P	P	15 11 08.9	-1.9
	0.9nm,0.8s,baz=135,slow=14,SNR=3.3						
ASAR	**Alice Springs**	**49.16**	**258**	P	P	15 12 09.1	-1.9
	0.3nm,0.4s,baz=92,slow=7.0,SNR=16						
WB2	**Warramunga Arr**	**49.53**	**263**	⇓*i*P	P	15 12 12.0	-1.8
WRA	**Warramunga Arr**	**49.54**	**263**	P	P	15 12 12.1	-1.7
	1.0nm,0.3s,baz=103,slow=8.0,SNR=19						

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*NEIC **18** 15:04:15.5, 32.46S×71.00W, h73km, MD3.6(GUC), After GUC.*
GUC 18 15:04:15.5±0.6**, 32.46S**×**71.00W, h73**km±3km**, MD3.6, ML3.6, 4C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.38**	**257**	⇓*i*P	P	15 04 28.1	+0.5
PACH				*i* S	S	15 04 37.2	+0.5
JACH	**Jahuel**	**0.41**	**123**	⇑*i*P	P	15 04 28.2	+0.3
JACH				*i* S	S	15 04 37.9	+0.8
PEL	**Peldehue**	**0.74**	**159**	*e*P	P	15 04 31.6	+0.4
PEL				*i* S	S	15 04 43.5	+0.7
PEL				AMP		15 04 44.7	
	comp=N,4μm,0.2s						
DSCH	**Colegio Aleman**	**1.01**	**159**	*i* P	P	15 04 34.8	+0.3
DSCH				*i* S	S	15 04 49.5	+0.8
DSCH				AMP		15 04 51.0	
	comp=E,3μm,0.8s						
CLCH	**Cerro Calan**	**1.02**	**157**	*e*P	P	15 04 34.6	0.0
CLCH				*i* S	S	15 04 49.6	+0.7
CLCH				AMP		15 04 50.6	
	comp=N,2μm,0.3s						
RCDM	**Rinconada Maip**	**1.04**	**171**	*e*P	P	15 04 34.9	0.0
RCDM				*i* S	S	15 04 49.6	+0.2
RCDM				AMP		15 04 52.6	
	comp=E,3μm,0.1s						
FCH	**Farellones**	**1.05**	**146**	⇑*i*P	P	15 04 35.7	+0.6
FCH				*i* S	S	15 04 51.3	+1.6
FCH				AMP		15 04 53.0	
	comp=E,3μm,0.2s						
ANTU	**Antumapu**	**1.15**	**165**	*i* P	P	15 04 36.4	+0.1
ANTU				*i* S	S	15 04 52.5	+0.5
ANTU				AMP		15 04 54.0	
	comp=E,2μm,0.3s						
TACH	**Talagante**	**1.20**	**177**	⇓*i*P	P	15 04 37.2	+0.3
TACH				*i* S	S	15 04 53.2	+0.3
PCH	**Pirque**	**1.23**	**161**	*e*P	P	15 04 37.4	0.0
PCH				*i* S	S	15 04 54.2	+0.4
CHCH	**Chadas Angostu**	**1.50**	**169**	*e*P	P	15 04 41.0	-0.1
CHCH				*i* S	S	15 05 00.5	+0.5
LNV	**Longovilo**	**1.54**	**193**	*i* P	P	15 04 41.1	-0.4
LMEL	**Las Melosas**	**1.54**	**154**	⇑*i*P	P	15 04 42.1	+0.4
LMEL				*i* S	S	15 05 02.1	+1.2
LMEL				AMP		15 05 04.4	
	comp=N,1μm,0.1s						
CACH	**El Canelo**	**1.69**	**169**	*e*P	P	15 04 44.1	+0.5
CACH				*i* S	S	15 05 06.1	+1.7
CICH	**Cipreses**	**1.92**	**165**	*e*P	P	15 04 47.1	+0.4
CICH				*i* S	S	15 05 11.0	+1.2
SFDO	**San Fernando**	**2.15**	**180**	⇑*i*P	P	15 04 50.1	+0.1

IDC 18 15:04:53.3±16.0**, 18.23S**×**173.01W, mb4.5**/5**, mb1 4.6**/5**, mb1mx4.1**/17**, 1D, Error ellipse: s-maj=305.0km s-min=141.8km az=79.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**38.46**	**260**	⇓*i*P	P	15 12 17.6	-1.3
	3.5nm,0.3s						
CTA	**Charters Tower**	**38.46**	**260**	P	P	15 12 17.7	-1.2
	4.7nm,0.3s,baz=92,slow=10,SNR=15						
STKA	**Stephens Creek**	**43.02**	**243**	*e*P	P	15 12 55.0	-1.4
	1.9nm,0.6s						
STKA	**Stephens Creek**	**43.02**	**243**	P	P	15 12 55.0	-1.3
	3.2nm,0.7s,baz=92,slow=10,SNR=8.4						
WRA	**Warramunga Arr**	**49.62**	**259**	P	P	15 13 46.2	-2.6
	1.5nm,0.2s,baz=98,slow=7.2,SNR=13						
ASAR	**Alice Springs**	**49.65**	**254**	P	P	15 13 46.5	-2.5
	4.2nm,0.6s,baz=88,slow=8.2,SNR=14						
ASPA	**Alice Springs**	**49.65**	**254**	*e*P	P	15 13 46.7	-2.3
FITZ	**Fitzroy Crossi**	**58.04**	**260**	*e*P	P	15 14 48.8	-2.0
	1.1nm,0.4s						
FITZ	**Fitzroy Crossi**	**58.04**	**260**	P	P	15 14 48.9	-1.9
	2.2nm,0.7s,baz=21,slow=15,SNR=6.4						

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*IDC **18** 15:08:10.9±15.0, 0.93S×139.90E, mb3.7/3, mb1 4.0/4, mb1mx3.7/14, ML4.2/1, Error ellipse: s-maj=232.0km s-min=77.0km az=6.0*
*NEIC **18** 15:08:31.9±5.4, 2.09S×139.73E, h93km±49km, mb3.9/3, Error ellipse: s-maj=47.4km s-min=23.6km az=91.0*
ISC 18 15:08:32.5±1.8**, 2.4S**±0.1×**139.9E**±0.2**, h100**km**, n11, σ0s94**/11**, mb4.0**/3**, 1C-1D, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**12.64**	**215**	*e*P	**P**	**15 11 29.6**	**-0.2**
	9.1nm,0.4s						
WRAB	**Tennant Creek**	**18.26**	**197**	*e*P	**P**	**15 12 41.6**	**+0.9**
	4.2nm,0.6s						
WB2	**Warramunga Arr**	**18.27**	**197**	*e*P	**P**	**15 12 41.0**	**+0.3**
WRA	**Warramunga Arr**	**18.27**	**197**	P	**P**	**15 12 40.3**	**-0.5**
	0.7nm,0.3s,baz=18,slow=12,SNR=23						
SCPH	**Surigao**	**18.74**	**310**	⇓*e*P	**P**	**15 12 46.3**	**+0.2**
FITZ	**Fitzroy Crossi**	**20.95**	**221**	*e*P	**P**	**15 13 08.1**	**-1.1**
	0.7nm,0.4s						
FITZ	**Fitzroy Crossi**	**20.95**	**221**	P	**P**	**15 13 08.0**	**-1.2**
	1.6nm,0.9s,baz=50,slow=7.9,SNR=4.3						
ASAR	**Alice Springs**	**21.93**	**195**	P	**P**	**15 13 22.3**	**+3.4**
	2.1nm,0.6s,mb3.6,baz=18,slow=11,SNR=31						
ASPA	**Alice Springs**	**21.93**	**195**	*e*P	**P**	**15 13 22.5**	**+3.6**
STKA	**Stephens Creek**	**29.38**	**177**	P	**P**	**15 14 28.1**	**-0.3**
	1.5nm,0.8s,mb3.7,baz=357,slow=16,SNR=2.9						
CNB	**Canberra Magne**	**33.93**	**166**	⇑*i*P	**P**	**15 15 07.6**	**-0.6**
	5.9nm,0.5s,mb4.7						

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*NEIC **18** 15:09:05.7±2.3, 18.05S×178.27W, h437km±24km, mb3.9/7, Error ellipse: s-maj=17.0km s-min=14.0km az=183.0*
*IDC **18** 15:09:10.4±2.1, 18.16S×178.30W, h495km±24km, mb3.4/17, mb1 3.6/17, mb1mx3.6/22, Error ellipse: s-maj=16.2km s-min=10.6km az=142.0*
ISC 18 15:09:04.1±2.3**, 18.03S**±0.09×**178.33W**±0.10**, h433**km±24km**, n36, σ1s12**/36**, mb4.0**/23**, 3C-1D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**11.18**	**178**	Pn	**P**	**15 11 35.1**	**-1.1**
URZ	**Urewera**	**20.55**	**190**	P	**P**	**15 13 11.3**	**-0.8**
	3.1nm,0.2s,baz=336,slow=12,SNR=7.4						
RPZ	**Rata Peaks**	**27.13**	**197**	P	**P**	**15 14 11.8**	**-0.2**
	3.0nm,0.4s,mb4.0,baz=28,slow=5.3,SNR=5.4						
CTA	**Charters Tower**	**33.50**	**261**	P	**P**	**15 15 09.1**	**+2.0**
	0.9nm,0.3s,mb3.5,baz=130,slow=6.6,SNR=3.2						
TOO	**Toolangi**	**37.15**	**231**	*e*P	**P**	**15 15 38.8**	**+1.3**
	4.6nm,0.5s,mb4.1						
STKA	**Stephens Creek**	**38.64**	**241**	*e*P	**P**	**15 15 51.2**	**+1.4**
	3.3nm,0.6s,mb3.8						
STKA	**Stephens Creek**	**38.64**	**241**	P	**P**	**15 15 51.1**	**+1.3**
	6.6nm,0.9s,mb4.0,baz=99,slow=10,SNR=16						
WRA	**Warramunga Arr**	**44.69**	**260**	P	**P**	**15 16 38.4**	**-0.1**
	1.1nm,0.7s,mb3.3,baz=96,slow=7.8,SNR=15						
WRA				S	**S**	**15 22 40.4**	**-1.9**
	0.2nm,0.6s,baz=96,slow=13,SNR=3.9						
ASAR	**Alice Springs**	**44.83**	**254**	P	**P**	**15 16 39.6**	**+0.1**
	22nm,0.7s,mb4.6,baz=90,slow=8.3,SNR=191						
ASAR				PcP	PcP	15 18 11.2	-1.9
	0.5nm,0.4s,baz=98,slow=4.6,SNR=3.7						
ASAR				S	**S**	**15 22 39.6**	**-4.7**
	2.0nm,0.8s,baz=88,slow=16,SNR=18						
ASPA	**Alice Springs**	**44.83**	**254**	⇑*i*P	**P**	**15 16 39.5**	**-0.1**
ASPA				*i* S	**S**	**15 22 39.2**	**-5.2**
KAKA	**Kakadu**	**47.70**	**269**	⇑*i*P	**P**	**15 17 06.7**	**+4.9**
	4.5nm,0.4s,mb4.2						
FORT	**Forrest**	**50.02**	**245**	*e*P	**P**	**15 17 18.3**	**-0.8**
	47nm,0.6s,mb5.0						
FITZ	**Fitzroy Crossi**	**53.08**	**261**	*e*P	**P**	**15 17 41.6**	**-0.1**
	1.5nm,0.4s,mb3.6						
FITZ	**Fitzroy Crossi**	**53.08**	**261**	P	**P**	**15 17 41.3**	**-0.4**
	1.5nm,0.4s,mb3.5,baz=118,slow=5.4,SNR=7.2						
MBWA	**Marble Bar**	**58.12**	**256**	*e*P	**P**	**15 18 15.8**	**-1.0**
	5.1nm,0.7s,mb4.0						
CBIJ	**Chichi jima**	**58.98**	**319**	P	**P**	**15 18 22.4**	**-0.2**
	53nm,0.6s,mb5.0						
VNDA	**Vanda**	**60.33**	**185**	P	**P**	**15 18 31.1**	**+0.2**
	0.7nm,0.6s,mb3.3,baz=346,slow=4.5,SNR=3.6						
VNDA	**Vanda**	**60.33**	**185**	*e*P	**P**	**15 18 30.5**	**-0.4**
	1.0nm,0.7s,mb3.4						
FX1	**Attu Island--F**	**71.00**	**355**	P	**P**	**15 19 36.6**	**-1.3**
	12nm,0.7s,mb4.5,baz=71,slow=16,SNR=2.8						
ASAJ	**Asahikawa**	**71.42**	**331**	P	**P**	**15 19 41.6**	**+1.1**
	5.0nm,0.5s,mb4.3,baz=169,slow=3.5						
QSPA	**South Pole Qui**	**72.03**	**180**	*e*P	**P**	**15 19 43.2**	**-0.4**
	1.6nm,0.6s,mb3.7						
NVAR	**Mina Array Bea**	**79.46**	**44**	P	**P**	**15 20 25.2**	**-0.2**
	0.5nm,0.6s,mb3.3,baz=217,slow=7.6,SNR=4.1						
MAW	**Mawson**	**83.77**	**200**	P	**P**	**15 20 46.2**	**-0.6**
	1.8nm,0.8s,mb3.9,baz=226,slow=13,SNR=2.6						
DLBC	**Dease Lake**	**85.91**	**23**	P	**P**	**15 20 59.5**	**+2.1**
	1.1nm,0.5s,mb3.8,baz=317,slow=25,SNR=2.7						
ILAR	**Eielson Array**	**85.99**	**13**	P	**P**	**15 20 56.2**	**-1.4**
	0.6nm,0.4s,mb3.7,baz=224,slow=5.4,SNR=30						
TXAR	**Lajitas Array**	**86.00**	**58**	P	**P**	**15 20 59.5**	**+0.9**
	1.2nm,0.7s,mb3.8,baz=225,slow=5.3,SNR=3.6						
PDAR	**Pinedale Array**	**87.39**	**43**	P	**P**	**15 21 04.8**	**-0.2**
	0.5nm,0.7s,mb3.4,baz=225,slow=4.2,SNR=3.8						
SNAA	**Sanae**	**90.47**	**179**	P	**P**	**15 21 17.0**	**-1.6**
	0.3nm,0.4s,mb3.5,baz=177,slow=18,SNR=5.6						
VNA3	**Neumayer Olymp**	**90.61**	**176**	⇑*i*	**P**	**15 21 20.2**	**+0.9**
VNA2	**Neumayer--Watz**	**91.05**	**177**		**P**	**15 21 23.2**	**+1.9**
VNA1	**Neumayer--Stat**	**91.28**	**177**	⇓*i*	**P**	**15 21 24.6**	**+2.2**
INK	**Inuvik**	**91.98**	**15**	P	**P**	**15 21 24.3**	**-1.4**
	8.0nm,1.4s,mb4.4,baz=234,slow=3.5,SNR=2.8						
INK	**Inuvik**	**91.98**	**15**	P	**P**	**15 21 24.3**	**-1.4**
ARCES	**ARCESS Array B**	**126.45**	**350**	PKP	PKPdf	15 27 15.9	-0.2
	3.1nm,1.0s,baz=281,slow=1.7,SNR=6.9						
BRTR	**Keskin Array B**	**144.92**	**315**	PKPbc	PKPbc	15 27 52.5	+1.1
	0.8nm,0.6s,baz=117,slow=2.8,SNR=4.1						
GERES	**GERESS Array B**	**147.75**	**345**	PKPbc	PKPdf	15 27 59.8	+4.8
	0.8nm,0.4s,baz=28,slow=3.2,SNR=7.4						

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*IDC **18** 15:19:18.8±2.6, 49.96N×175.84W, mb3.9/6, mb1 4.0/7, mb1mx3.8/23, ML3.2/1, Error ellipse: s-maj=59.7km s-min=21.4km az=170.0*
ISC 18 15:19:27.9±5.2**, 50.9N**±0.4×**176.4W**±0.2**, h39**km±36km**, n7, σ1s88**/8**, mb4.0**/5**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	**6.77**	**291**	Pn	**P**	**15 21 08.1**	**+0.7**
	1.2nm,0.3s,baz=287,slow=23,SNR=8.3						
FX1				Sn	**S**	**15 22 23.5**	**-0.6**
	0.6nm,0.3s,baz=290,slow=16,SNR=1.5						
ILAR	**Eielson Array**	**20.71**	**37**	P	**P**	**15 24 05.8**	**-1.1**
	0.4nm,0.5s,baz=218,slow=11,SNR=10						
INK	**Inuvik**	**27.02**	**34**	P	**P**	**15 25 08.2**	**+0.5**
	1.5nm,0.9s,mb3.5,baz=244,slow=6.0,SNR=4.4						
SONM	**Songino Array**	**48.23**	**298**	P	**P**	**15 28 07.8**	**+1.5**
	0.9nm,0.8s,mb3.9,baz=56,slow=8.9,SNR=3.9						
FINES	**FINESS Array B**	**66.59**	**348**	P	**P**	**15 30 14.8**	**-0.7**
	8.3nm,1.2s,mb4.6,baz=90,slow=1.9,SNR=4.4						
CMAR	**Chiang Mai Arr**	**72.58**	**278**	P	**P**	**15 30 50.3**	**-2.5**
	0.5nm,0.7s,mb3.5,baz=23,slow=6.9,SNR=5.9						
BRTR	**Keskin Array B**	**86.02**	**337**	P	**P**	**15 32 07.0**	**+2.0**
	2.1nm,1.1s,mb4.3,baz=1.7,slow=3.9,SNR=4.9						

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*IDC **18** 15:57:49.3±6.6, 28.52N×143.04E, h42km±53km, mb3.3/3, mb1 3.6/3, mb1mx3.3/20, MS3.1/1, Ms1 3.1/1, ms1mx2.4/15, Error ellipse: s-maj=67.2km s-min=25.4km az=86.0*
ISC 18 15:57:47.8±5.3**, 28.5N**±0.2×**143.1E**±0.5**, h49**km±38km**, n6, σ0s29**/6**, mb3.6**/3**, 1C, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.64**	**210**	P	**P**	**15 58 14.8**	**0.0**
CBIJ				S	**S**	**15 58 34.8**	**0.0**
JHJ	**Hachijo jima 2**	**5.39**	**329**	LR	LR	16 00 36.5	
	comp=Z,197nm,20.1s,baz=84,slow=31						
SONM	**Songino Array**	**34.27**	**314**	P	**P**	**16 04 31.0**	**0.0**
	0.7nm,1.0s,mb3.6,baz=124,slow=10,SNR=3.9						
WB2	**Warramunga Arr**	**48.92**	**191**	⇑*i*P	**P**	**16 06 31.3**	**+0.2**
WRA	**Warramunga Arr**	**48.92**	**191**	P	**P**	**16 06 31.2**	**+0.1**
	1.7nm,0.6s,mb4.3,baz=12,slow=8.4,SNR=14						
WRA				pP	pP	16 06 44.2	-0.3
	1.0nm,0.5s,baz=12,slow=8.4,SNR=6.3						
ASAR	**Alice Springs**	**52.64**	**191**	P	**P**	**16 06 59.0**	**-0.3**
	0.1nm,0.4s,mb3.1,baz=8.6,slow=6.5,SNR=3.9						

OTT 18 15:59:26.9±0.2**, 52.77N**×**67.34W, MN3.0**/8**, Blast, Mount Wright, Qc Mining explosion., Northern Quebec**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**2.08**	**8**	PN	Pn	16 00 03.9	+0.4
SCHQ				SG	Sg	16 00 31.8	-4.5
SCHQ				Trac		16 00 33.9	
	comp=Z,56nm,0.1s						
MNQ	**Manicouagan**	**2.42**	**202**	PN	Pn	16 00 07.9	-0.3
MNQ				SN	Sn	16 00 38.5	-0.5
MNQ				Trac		16 00 42.7	
	comp=Z,20nm,0.2s						
SMQ	**Clarke City**	**2.59**	**171**	PN	Pn	16 00 09.5	-1.2
SMQ				SN	Sn	16 00 41.0	-2.3
SMQ				Trac		16 00 47.9	
	comp=Z,11nm,0.1s						
ICQ	**Pointe Anglais**	**3.26**	**179**	PN	Pn	16 00 18.5	-1.8
ICQ				SN	Sn	16 00 57.0	-3.4
ICQ				Trac		16 01 07.5	
	comp=Z,14nm,0.2s						
CNQ	**Baie Comeau**	**3.51**	**188**	PN	Pn	16 00 23.5	-0.3
CNQ				SN	Sn	16 01 01.1	-5.6
CNQ				Trac		16 01 22.1	
	comp=Z,8.3nm,0.2s						
GSQ	**Grosses Roches**	**3.87**	**178**	PN	Pn	16 00 26.7	-2.3
GSQ				SN	Sn	16 01 06.1	-10
GSQ				Trac		16 01 27.8	
	comp=Z,8.5nm,0.2s						
LG4Q	**La Grande 4**	**4.15**	**285**	PN	Pn	16 00 31.1	-1.8
LG4Q				PG	Pg	16 00 38.9	-11
LG4Q				SN	Sn	16 01 20.3	-2.7
LG4Q				SG	Sg	16 01 33.8	-11
DAQ	**Lac Daran**	**5.42**	**209**	SN	Sn	16 01 50.4	-4.6
DAQ				Trac		16 02 16.6	
	comp=Z,2.9nm,0.2s						
LMQ	**La Malbaie**	**5.57**	**201**	PN	Pn	16 00 50.0	-3.0
LMQ				SN	Sn	16 01 54.2	-4.6
LMQ				Trac		16 01 57.1	
	comp=Z,7.0nm,0.2s						
LMN	**Caledonia Moun**	**7.12**	**166**	PN	Pn	16 01 11.2	-3.8
DRLN	**Deer Lake**	**7.13**	**116**	PN	Pn	16 01 10.2	-4.9
DRLN				SN	Sn	16 02 28.6	-9.4
DRLN				SG	Sg	16 03 00.4	-24
VLDQ	**Val d'Or**	**7.96**	**238**	PN	Pn	16 01 23.4	-3.3
VLDQ				SN	Sn	16 02 52.4	-6.2
MALO	**McAlpine Lake**	**8.24**	**255**	PN	P	16 01 25.9	-4.7
MALO				SN	Sn	16 02 55.0	-11
VIMO	**Victor Mine**	**9.94**	**277**	PN	P	16 01 48.4	-5.6
SILO	**Sutton Inlier**	**10.57**	**286**	PN	P	16 01 55.4	-7.3

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*LDG **18** 16:00:43.3±0.1, 50.63N×6.70E, h6km, Ml2.2/4, Error ellipse: s-maj=1.2km s-min=0.9km az=164.0*
*BNS **18** 16:00:43.5±0.5, 50.63N×6.71E, h6km±10km, ML1.2*
ISC 18 16:00:42.0±0.7**, 50.58N**±0.05×**6.66E**±0.05**, h13**km±6km**, n8, σ0s74**/14**, 1C, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STB	**Steinbach**	**0.12**	**84**	⇑*e*Pg	**Pg**	**16 00 45.6**	**+0.4**
STB				*e*Sg	**Sg**	**16 00 47.0**	**-0.4**
	213nm,0.2s						
KLL	**Kalltalsperre**	**0.23**	**286**	*e*Pg	**Pg**	**16 00 48.2**	**+1.1**
BNS	**Bensberg**	**0.50**	**40**	*e*Sg	**Sg**	**16 00 58.2**	**-1.0**
BGG	**Burgeitz**	**0.57**	**131**	*e*Pg	**Pg**	**16 00 54.7**	**+1.0**
BGG				*e*Sg	**Sg**	**16 01 02.2**	**+0.7**
	11nm,0.1s						
GIVF	**Givet**	**1.27**	**248**	*e*Pg	**Pg**	**16 01 07.8**	**+0.3**
GIVF				*e*Sg	**Sg**	**16 01 24.9**	**+0.4**
	7.4nm,0.3s						
BAIF	**Baives**	**1.66**	**252**	*e*Pg	**Pg**	**16 01 14.3**	**-0.8**
BAIF				*e*Sn	**Sn**	**16 01 32.3**	**0.0**
BAIF				*e*Sg	**Sg**	**16 01 36.6**	**-0.7**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	3.9nm,0.2s						
CDF	**Champ du Feu**	**2.21**	**169**	*e*Pn	**Pn**	**16 01 19.4**	**+0.4**
CDF				*e*Sg	**Sg**	**16 01 54.1**	**-1.5**
	0.8nm,0.3s						
LOR	**Lormes**	**3.80**	**210**	*e*Pn	**Pn**	**16 01 41.5**	**-0.1**

*NEIC **18** 16:28:15.5±3.2, 18.01S×168.18E, h105km±19km, mb4.4/9, Error ellipse: s-maj=36.1km s-min=10.3km az=217.0*
*IDC **18** 16:28:18.8±7.6, 17.99S×168.19E, h138km±63km, mb3.9/9, mb1 4.1/10, mb1mx3.9/17, Error ellipse: s-maj=51.5km s-min=19.3km az=41.0*
ISC 18 16:28:11.9±0.7**, 17.96S**±0.06×**168.19E**±0.10**, h87**km±5km**, n32,** σ**1^{s}08**/37**, mb4.4**/15**, 7C, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**0.30**	**10**	⇑*i*P	**P**	**16 28 25.1**	**0.0**
BKM				S	**S**	**16 28 34.3**	**-0.6**
DZM	**Mont Dzumac**	**4.40**	**202**	*e*P	**P**	**16 29 18.8**	**+0.9**
DZM				*e*S	**S**	**16 30 07.3**	**-0.9**
DZM	**Mont Dzumac**	**4.40**	**202**	*e*P	**P**	**16 29 18.8**	**+0.9**
DZM				*e*S	**S**	**16 30 07.3**	**-0.9**
NOUC	**Port Laguerre**	**4.48**	**203**	⇑*e*P	**P**	**16 29 20.8**	**+1.9**
NOUC				*e*S	**S**	**16 30 09.8**	**-0.4**
NOUC	**Port Laguerre**	**4.48**	**203**	⇑*e*P	**P**	**16 29 20.8**	**+1.9**
NOUC				*e*S	**S**	**16 30 09.8**	**-0.4**
CTA	**Charters Tower**	**20.84**	**261**	P	**P**	**16 32 50.5**	**+1.8**
	4.1nm,0.8s,baz=81,slow=12,SNR=9.5						
CTAO	**Charters Tower**	**20.84**	**261**	*e*P	**P**	**16 32 49.7**	**+1.1**
	4.9nm,0.7s						
URZ	**Urewera**	**21.67**	**161**	P	**P**	**16 32 58.1**	**+1.3**
	12nm,0.9s,mb4.2,baz=118,slow=14,SNR=5.9						
PMG	**Port Moresby**	**22.11**	**290**	P	**P**	**16 33 03.5**	**+2.2**
	16nm,1.2s,mb4.2,baz=333,slow=13,SNR=3.5						
PMG	**Port Moresby**	**22.11**	**290**	P	**P**	**16 33 03.0**	**+1.7**
	20nm,1.2s,mb4.3						
STKA	**Stephens Creek**	**27.72**	**235**	⇑*i*P	**P**	**16 33 55.2**	**+1.0**
	8.9nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**27.72**	**235**	P	**P**	**16 33 55.3**	**+1.1**
	12nm,0.9s,mb4.5,baz=58,slow=8.7,SNR=22						
WB2	**Warramunga Arr**	**32.03**	**261**	*e*P	**P**	**16 34 31.5**	**-1.0**
WRAB	**Tennant Creek**	**32.04**	**261**	*e*P	**P**	**16 34 31.2**	**-1.3**
	5.2nm,0.7s,mb4.4						
WRA	**Warramunga Arr**	**32.05**	**261**	P	**P**	**16 34 31.4**	**-1.2**
	4.7nm,0.9s,mb4.2,baz=92,slow=9.4,SNR=30						
ASAR	**Alice Springs**	**32.49**	**254**	P	**P**	**16 34 35.8**	**-0.7**
	9.5nm,0.5s,mb4.8,baz=81,slow=8.4,SNR=283						
ASPA	**Alice Springs**	**32.50**	**254**	*e*P	**P**	**16 34 35.7**	**-0.8**
FORT	**Forrest**	**38.52**	**243**	*e*P	**P**	**16 35 28.0**	**+0.6**
	54nm,0.6s,mb5.5						
FITZ	**Fitzroy Crossi**	**40.39**	**263**	*e*P	**P**	**16 35 43.5**	**+0.4**
	21nm,0.7s,mb5.1						
FITZ	**Fitzroy Crossi**	**40.39**	**263**	P	**P**	**16 35 43.6**	**+0.6**
	31nm,0.8s,mb5.2,baz=134,slow=3.7,SNR=61						
MBWA	**Marble Bar**	**45.64**	**258**	⇑*i*P	**P**	**16 36 26.2**	**+0.5**
MBWA	**Marble Bar**	**45.64**	**258**	*e*P	**P**	**16 36 25.1**	**-0.5**
	16nm,0.8s,mb4.8						
NWAO	**Narrogin (SRO)**	**47.92**	**242**	P	**P**	**16 36 43.1**	**-0.4**
	4.2nm,0.5s,mb4.5						
VNDA	**Vanda**	**59.67**	**182**	P	**P**	**16 38 08.1**	**-0.9**
	1.8nm,1.2s,mb4.0,baz=356,slow=4.9,SNR=2.6						
SBA	**Scott Base**	**59.92**	**180**	*e*P	**P**	**16 38 09.9**	**-0.8**
	2.3nm,0.8s,mb4.3						
QSPA	**South Pole Qui**	**72.08**	**180**	*e*P	**P**	**16 39 27.1**	**-1.0**
	5.1nm,1.0s,mb4.3						
CMAR	**Chiang Mai Arr**	**77.08**	**294**	P	**P**	**16 39 58.1**	**+0.3**
	0.6nm,0.8s,mb3.4,baz=105,slow=3.9,SNR=5.8						
SNAA	**Sanae**	**90.38**	**183**	⇑*i*	**P**	**16 41 02.4**	**-1.7**
SNAA	**Sanae**	**90.38**	**183**	P	**P**	**16 41 03.6**	**-0.5**
	0.3nm,0.7s,mb3.6,baz=209,slow=13,SNR=3.9						
VNA3	**Neumayer Olymp**	**91.01**	**181**	⇑*i*	**P**	**16 41 08.0**	**+0.9**
VNA2	**Neumayer--Watz**	**91.29**	**181**		**P**	**16 41 10.1**	**+1.7**
VNA1	**Neumayer--Stat**	**91.58**	**181**	⇑*i*	**P**	**16 41 06.5**	**-3.2**

IDC 18 16:33:37.2±5.8**, 13.28S**×**166.75E, mb3.7**/5**, mb1 3.9**/5**, mb1mx3.7**/15**, Error ellipse: s-maj=126.0km s-min=51.5km az=107.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**20.76**	**248**	P	P	16 38 19.1	-3.2
	2.1nm,0.8s,baz=72,slow=14,SNR=2.1						
STKA	**Stephens Creek**	**29.57**	**227**	P	P	16 39 44.1	-2.0
	2.3nm,0.7s,baz=62,slow=9.3,SNR=7.3						
WRA	**Warramunga Arr**	**31.72**	**254**	P	P	16 40 04.1	-1.1
	0.5nm,0.9s,baz=85,slow=8.9,SNR=4.4						
ASAR	**Alice Springs**	**32.75**	**247**	P	P	16 40 11.8	-2.2
	0.9nm,0.5s,baz=75,slow=9.4,SNR=31						
CMAR	**Chiang Mai Arr**	**73.90**	**294**	P	P	16 45 14.5	-2.0
	0.2nm,0.7s,baz=141,slow=5.1,SNR=4.9						

ECX 18 16:47:14.3±0.3**, 30.31N**×**114.57W, h6**km**, ML3.6, 3C, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPX	**San Pedro Mart**	**1.06**	**314**	*e*P	Pb	16 47 32.6	-2.0
SPX				*e*S	Sb	16 47 47.4	-1.2
EMX	**El Mayor**	**1.77**	**341**	*e*S	Sn	16 48 07.8	-0.9
EMX				*e*		16 48 08.3	
	comp=E,373nm,0.4s						
EMX				⇑*e*		16 48 35.2	
	comp=N,367nm,0.7s						
RDX	**Rancho Dowling**	**2.00**	**324**	*e*S	Sn	16 48 15.1	+0.4
CPBX	**Cerro Prieto**	**2.19**	**344**	*e*P	Pn	16 47 51.2	-0.6
CPBX				⇑*e*		16 48 40.3	
	comp=N,786nm,0.4s						
CPBX				⇑*e*		16 48 41.3	
	comp=E,898nm,0.7s						
ECNX	**Esteban Cantu**	**2.20**	**308**	*e*S	Sn	16 48 20.0	+0.4
PBX	**Punta Banda**	**2.33**	**308**	*e*S	Sn	16 48 23.3	+0.1
ENX	**Ensenada**	**2.38**	**312**	*e*S	Sn	16 48 24.3	-0.1
RMX	**La Rumorosa**	**2.62**	**331**	*e*S	Sn	16 48 33.4	+3.0
CBX	**Cerro Bola**	**2.68**	**319**	*e*P	Pn	16 47 58.1	-0.7
CBX				*e*S	Sn	16 48 31.8	-0.2

IDC 18 16:48:57.0±4.0**, 20.78N**×**143.97E, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.5**/20**, Error ellipse: s-maj=257.0km s-min=32.0km az=88.0, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**41.55**	**194**	*e*P	P	16 56 46.8	-1.4
WRA	**Warramunga Arr**	**41.55**	**194**	P	P	16 56 46.9	-1.4
	0.4nm,0.3s,baz=16,slow=8.7,SNR=11						
ASAR	**Alice Springs**	**45.25**	**193**	P	P	16 57 15.8	-2.4
	0.2nm,0.5s,baz=13,slow=7.0,SNR=10						
FINES	**FINESS Array B**	**84.32**	**335**	P	P	17 01 30.8	-1.0
	3.5nm,1.1s,baz=72,slow=4.4,SNR=6.9						

*NEIC **18** 17:06:03.1±1.9, 51.52N×16.06E, h5km, ML2.6(VIE), ML2.3(BRG), Error ellipse: s-maj=20.2km s-min=6.4km az=209.0*
*PRU **18** 17:06:04.7, 51.45N×16.05E*
*WAR **18** 17:06:04.5, 51.49N×16.05E, ML2.7, Mining Induced*
ISC 18 17:06:01.7±0.8**, 51.49N**±0.04×**16.05E**±0.04**, n15,** σ**1^{s}16**/33**, 1C, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67**	**166**	*e*P	**Pg**	**17 06 16.6**	**+1.6**
KSP				*e*		17 06 18.0	
KSP				*i* Sg	**Sg**	**17 06 25.4**	**+1.6**
KSP				*e*		17 06 29.6	
KSP	**Ksiaz**	**0.67**	**166**	*e*Pg	**Pg**	**17 06 16.6**	**+1.6**
KSP				*e*Sg	**Sg**	**17 06 25.4**	**+1.6**
UPC	**Upice**	**0.98**	**181**	*e*PG	**Pg**	**17 06 23.0**	**+1.7**
UPC				*e*SG	**Sg**	**17 06 35.3**	**+0.9**
DPC	**Dobruska-Polom**	**1.15**	**171**	*e*PG	**Pg**	**17 06 25.3**	**+0.6**
DPC				*e*SG	**Sg**	**17 06 39.9**	**-0.2**
	8.6nm,0.2s						
PVCC	**Panska Ves**	**1.34**	**225**	*e*PG	**Pg**	**17 06 29.8**	**+1.3**
PVCC				*e*SG	**Sg**	**17 06 47.7**	**+1.3**
BRG	**Berggiesshubel**	**1.46**	**246**	*e*Pn	**Pn**	**17 06 30.9**	**+1.5**
BRG				*i* Pg	**Pg**	**17 06 31.6**	**+0.7**
PRU	**Pruhonice**	**1.78**	**213**	PG	**Pg**	**17 06 36.6**	**-0.7**
PRU				*i* x	x	17 06 39.1	
PRU				*e*SG	**Sg**	**17 06 59.6**	**-1.4**
	12nm,0.4s						
CLL	**Collm**	**1.92**	**266**	*e*PG	**Pg**	**17 06 39.0**	**-1.0**
CLL				*i* SG	**Sg**	**17 07 05.2**	**-0.3**
OKC	**Ostrava-Krasne**	**2.12**	**140**	*e*PG	**Pg**	**17 06 43.7**	**-0.4**
OKC				*e*SG	**Sg**	**17 07 10.5**	**-2.0**
NKC	**Novy Kostel**	**2.60**	**243**	*e*PN	**Pn**	**17 06 47.3**	**+1.5**
NKC				*e*PG	**Pg**	**17 06 53.4**	**-0.3**
NKC				*e*SG	**Sg**	**17 07 28.6**	**+0.2**
OJC	**Ojcow**	**2.69**	**117**	*e*Pg	**Pg**	**17 06 55.4**	**-0.1**
OJC				*e*Sg	**Sg**	**17 07 30.6**	**-0.8**
OJC	**Ojcow**	**2.69**	**117**	*e*Pg	**Pg**	**17 06 55.4**	**-0.1**
OJC				*e*Sg	**Sg**	**17 07 30.6**	**-0.8**
KHC	**Kasperske Hory**	**2.84**	**215**	*e*PN	**Pn**	**17 06 50.0**	**+0.8**
KHC				*e*PG	**Pg**	**17 06 56.2**	**-2.3**
KHC				*e*SN	**Sn**	**17 07 24.5**	**-0.1**
KHC				*e*SG	**Sg**	**17 07 33.7**	**-2.6**
MOX	**Moxa**	**2.92**	**255**	*e*Pg	**Pg**	**17 06 58.8**	**-1.2**
MOX				*e*Sg	**Sg**	**17 07 38.5**	**-0.5**
MOA	**Molln**	**3.82**	**198**	⇑*i*PN	**Pn**	**17 07 02.5**	**-0.6**
MOA				*i* SG	**Sg**	**17 08 05.1**	**-3.9**
	3.2nm,0.5s						

CSEM 18 18:10:20.6, 13.07N×**43.94E, h14**km**, ML3.5, 4D, After DHMR, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
UDYN	**Al 'Udayn**	**0.89**	**3**	⇓*i*P	Pb	18 10 37.9	+0.6
UDYN				*i* S	Sb	18 10 49.6	+0.8
DHBB	**Dhamar BB**	**1.54**	**16**	⇓*i*P	Pn	18 10 48.2	+0.3
DHBB				*i* S	Sb	18 11 10.2	+2.5
BDHA	**Al Bayda'**	**1.82**	**60**	⇓*i*P	Pn	18 10 53.0	+1.2
BDHA				*i* S	Sn	18 11 18.4	+3.6
HAJJ	**Hajjah**	**2.63**	**353**	⇓*i*P	Pn	18 11 04.9	+1.4
HAJJ				*i* S	Sn	18 11 41.2	+5.7

*STR **18** 18:18:50.4±0.3, 43.07N×0.44W, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **18** 18:18:50.7±0.1, 43.07N×0.45W, h2km, Md2.0/3, Ml1.7/2, Error ellipse: s-maj=1.5km s-min=0.9km az=164.0*
ISC 18 18:18:49.3±0.8**, 43.12N**±0.05×**0.43W**±0.04**, h11**km±9km**, n8,** σ**0^{s}72**/14**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.05**	**152**	Pg	**Pg**	**18 18 51.9**	**+0.4**
REYF				Sg	**Sg**	**18 18 53.0**	**0.0**
ETSF	**Etsaut**	**0.24**	**204**	*e*Pg	**Pg**	**18 18 54.6**	**+0.1**
ETSF				*e*Sg	**Sg**	**18 18 56.7**	**-1.2**
	11nm,0.2s						
FDAF	**Les Forges d'A**	**0.32**	**199**	Pg	**Pg**	**18 18 56.0**	**+0.1**
FDAF				Sg	**Sg**	**18 18 59.8**	**-0.5**
LARF	**Larrau**	**0.42**	**259**	Pg	**Pg**	**18 18 58.1**	**+0.2**
LARF				Sg	**Sg**	**18 19 04.2**	**+0.6**
EPF	**Esparros**	**0.57**	**99**	*e*Pg	**Pg**	**18 19 01.9**	**+1.1**
EPF				*e*Sg	**Sg**	**18 19 09.6**	**+1.1**
	3.9nm,0.2s						
SJPF	**Ste Jean**	**0.58**	**270**	*e*Pg	**Pg**	**18 19 01.6**	**+0.5**
SJPF				*e*Sg	**Sg**	**18 19 08.7**	**-0.3**
	4.5nm,0.4s						
MTLF	**Montolieu**	**1.94**	**83**	*e*Sg	**Sg**	**18 19 52.8**	**-1.3**
	0.8nm,0.2s						
LFF	**La Frestale**	**2.01**	**24**	*e*Sg	**Sg**	**18 19 55.4**	**-0.8**
	1.1nm,0.2s						

CASC 18 18:32:30.1±2.9**, 8.04N**×**82.98W, h13**km±11km**, MD4.2, 4C-8D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.64**	**343**	⇓*i*P	Pb	18 32 41.5	-1.1
DVD	**David**	**0.66**	**53**	⇓*i*P	Pb	18 32 43.0	+0.1
DVD				*i* S	Sb	18 32 50.5	-1.2
BRU2	**Volcan**	**0.80**	**21**	⇓*i*P	Pb	18 32 45.4	0.0
BRU2				*i* S	Sb	18 32 56.6	+0.7
CNI	**Changuinola**	**1.44**	**19**	⇓*i*P	Pn	18 32 56.0	0.0
CNI				*i* S	Sb	18 33 14.2	-0.3
BUS	**Buena Vista**	**1.69**	**333**	*e*P	Pn	18 32 58.8	-0.8
BUS				*e*S	Sn	18 33 21.7	+0.5
URSC	**Urasca**	**1.95**	**336**	⇓*e*P	Pn	18 33 02.6	-0.7
URSC				*e*S	Sn	18 33 26.2	-1.5
LIO	**Limon**	**1.95**	**358**	*e*P	Pn	18 33 03.6	+0.3
LIO				*e*S	Sn	18 33 33.6	+5.7
LCR2	**La Lucha 2**	**1.97**	**329**	⇓*i*P	Pn	18 33 02.7	-0.8
LCR2				*i* S	Sn	18 33 28.6	+0.3
ICR	**Volcan Irazu**	**2.10**	**337**	⇓*e*P	Pn	18 33 05.3	-0.2
ICR				*e*S	Sn	18 33 33.2	+1.5
LAJ	**Bijagual**	**2.13**	**328**	⇑*e*P	Pn	18 33 05.7	-0.2
SJS	**Escuela Geolog**	**2.16**	**331**	⇑*e*P	Pn	18 33 06.1	-0.3
SJS				*e*S	Sn	18 33 31.9	-1.3
CGA2	**Cerro Gallo 2**	**2.45**	**323**	⇑*e*P	Pn	18 33 09.2	-1.2
CGA2				*i* P		18 33 11.0	
CGA2				*e*S	Sn	18 33 41.4	+0.9
VPS2	**Volcan Poas 2**	**2.47**	**330**	⇓*e*P	Pn	18 33 10.6	-0.1
VPS2				*e*S	Sn	18 33 44.0	+3.1
TRTC	**Tortuguero**	**2.62**	**344**	⇑*i*P	Pn	18 33 12.7	-0.2
TRTC				*i* S	Sn	18 33 46.0	+1.1
AZU	**Azuero**	**2.69**	**95**	*e*P	Pn	18 33 13.6	-0.4
AZU				*i* S	Sn	18 33 46.2	-0.5
JCR	**Jicaral**	**2.77**	**311**	*e*P	Pn	18 33 12.3	-2.6
FORC	**Fortuna**	**2.93**	**326**	*e*P	Pn	18 33 17.9	+0.6
FORC				*e*S	Sn	18 33 52.5	-0.3
VCR	**Vista de Mar**	**3.34**	**309**	*e*P	Pn	18 33 21.0	-2.1
UPA	**Univ. de Panam**	**3.54**	**74**	*e*P	Pn	18 33 24.5	-1.4
	baz=246,slow=16						
UPA				*i* S	Sn	18 34 06.1	-1.9

ISC 18 18:42:35.8±2.4**, 41.0N**±0.1×**20.2E**±0.1**, h14**km±13km**, n6,** σ**0^{s}84**/10**, 1C-2D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.41**	**328**	⇓*i*Pg	**Pg**	**18 42 44.0**	**-0.4**
TIR				*i* Sg	**Sg**	**18 42 51.0**	**+0.9**
OHR	**Ohrid**	**0.50**	**77**	⇑*i*Pg	**Pg**	**18 42 45.9**	**-0.1**
OHR				⇓*i*Sg	**Sg**	**18 42 53.2**	**+0.3**
QSH	**Qafa e Shtames**	**0.56**	**340**	*i* Pg	**Pg**	**18 42 47.0**	**-0.1**
QSH				*i* Sg	**Sg**	**18 42 54.0**	**-0.7**
PRZA	**Preza**	**0.56**	**320**	*i* Pg	**Sg**	**18 42 58.0**	**+2.9**
LACI	**Lac**	**0.72**	**332**	*i* Pg	**Pg**	**18 42 49.4**	**-1.0**
LACI				*i* Sg	**Sg**	**18 42 59.5**	**-0.6**
SKO	**Skopje**	**1.37**	**44**	*e*Pn	**Pn**	**18 43 01.0**	**+0.4**

*NEIC **18** 18:46:10.5, 63.08N×149.80W, h91km, After AEIC.*
*IDC **18** 18:46:12.5±4.0, 63.31N×149.78W, h104km±32km, mb3.6/2, mb1 3.6/3, mb1mx3.2/17, Error ellipse: s-maj=38.3km s-min=17.6km az=36.0*
ISC 18 18:46:09.0±0.3**, 63.09N**±0.02×**149.80W**±0.06**, h106**km±4km**, n70,** σ**0^{s}74**/78**, mb4.0**/2**, Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUR	**Hurricane**	**0.13**	**146**	P	**P**	**18 46 23.3**	**-0.6**
TRF	**Thorofare Moun**	**0.43**	**329**	P	**P**	**18 46 25.4**	**+0.3**
TRF				S	**S**	**18 46 36.6**	**-0.6**
RND	**Reindeer**	**0.53**	**53**	P	**P**	**18 46 25.9**	**0.0**
KTH	**Kantishna Hill**	**0.69**	**313**	P	**P**	**18 46 27.2**	**+0.1**
KTH				S	**S**	**18 46 39.2**	**-1.5**
CUT	**Chulitna**	**0.72**	**198**	P	**P**	**18 46 26.9**	**-0.4**
MCK	**McKinley**	**0.76**	**30**	P	**P**	**18 46 27.8**	**+0.1**
DHY	**Denali Highway**	**1.10**	**89**	P	**P**	**18 46 31.3**	**0.0**
GHO	**Glory Hole Cre**	**1.38**	**163**	P	**P**	**18 46 34.9**	**+0.3**
PWA	**Palmer West**	**1.44**	**182**	P	**P**	**18 46 35.6**	**+0.3**
SML	**Sawmill**	**1.45**	**151**	P	**P**	**18 46 35.6**	**+0.2**
SML				S	**S**	**18 46 55.5**	**+0.2**
NEA	**Nenana**	**1.53**	**12**	P	**P**	**18 46 36.4**	**0.0**
PMR	**Palmer**	**1.53**	**168**	P	**P**	**18 46 36.6**	**+0.2**
SCM	**Sheep Creek Mo**	**1.70**	**137**	P	**P**	**18 46 38.9**	**+0.4**
KNK	**Knik Glacier**	**1.79**	**159**	P	**P**	**18 46 40.2**	**+0.5**
HDA	**Harding Lake**	**1.83**	**42**	P	**P**	**18 46 40.5**	**+0.3**
STLK	**Strandline Lak**	**1.86**	**212**	P	**P**	**18 46 40.6**	**+0.1**
THY	**Trims Highway**	**1.86**	**78**	P	**P**	**18 46 42.1**	**+1.6**
DDM	**Donnelly Dome**	**1.90**	**67**	P	**P**	**18 46 42.0**	**+0.9**
FIB	**Fire Island**	**1.94**	**185**	P	**P**	**18 46 43.0**	**+1.6**
PAX	**Paxson**	**1.98**	**91**	P	**P**	**18 46 43.2**	**+1.2**
PAX				S	**S**	**18 47 08.9**	**+2.3**
COLA	**College**	**1.99**	**25**	P	**P**	**18 46 42.2**	**+0.1**
COLA				S	**S**	**18 47 06.4**	**-0.5**
MLY	**Manley**	**2.00**	**348**	P	**P**	**18 46 42.7**	**+0.5**
RC01	**Rabbit Creek A**	**2.00**	**179**	P	**P**	**18 46 44.3**	**+2.0**
RC01				S	**S**	**18 47 06.9**	**-0.3**
SDG	**Sourdough**	**2.03**	**104**	P	**P**	**18 46 43.8**	**+1.0**
CGLM	**Capps Glacier**	**2.06**	**211**	P	**P**	**18 46 43.5**	**+0.4**
IL1	**Eielson Array**	**2.12**	**36**	P	**P**	**18 46 44.1**	**+0.2**
ILAR	**Eielson Array**	**2.12**	**36**	P	**P**	**18 46 44.4**	**+0.4**
	111nm,0.3s,baz=222,slow=14,SNR=5481						
ILAR				S	**S**	**18 47 09.2**	**-1.0**
	26nm,0.3s,baz=220,slow=21,SNR=9.8						
CFI	**College Fiord**	**2.13**	**153**	P	**P**	**18 46 44.3**	**+0.2**
SPU	**Mount Spurr**	**2.19**	**210**	P	**P**	**18 46 45.0**	**+0.2**
TZL	**Tazlina**	**2.28**	**115**	P	**P**	**18 46 47.0**	**+0.9**
PWL	**Port Wells**	**2.34**	**162**	P	**P**	**18 46 47.0**	**+0.2**
JPK	**Jack Peak**	**2.53**	**142**	P	**P**	**18 46 48.9**	**-0.6**
VLZ	**Valdez**	**2.55**	**139**	P	**P**	**18 46 48.6**	**-1.2**
GLI	**Glacier Island**	**2.56**	**149**	P	**P**	**18 46 49.0**	**-0.8**
SLKM	**Skilak Lake**	**2.59**	**185**	P	**P**	**18 46 51.2**	**+0.8**
MPA	**Moose Pass**	**2.61**	**175**	P	**P**	**18 46 50.1**	**-0.5**
DOT	**Dot Lake**	**2.64**	**75**	P	**P**	**18 46 51.3**	**+0.3**
DIV	**Divide**	**2.73**	**134**	P	**P**	**18 46 51.8**	**-0.4**
FID	**Port Fidalgo**	**2.82**	**145**	P	**P**	**18 46 52.7**	**-0.7**
TT01	**Tatalina**	**2.85**	**269**	P	**P**	**18 46 53.4**	**-0.4**
DFR	**Drift River**	**2.85**	**210**	P	**P**	**18 46 54.8**	**+0.9**
NCT	**North Crescent**	**2.94**	**212**	P	**P**	**18 46 56.4**	**+1.4**
RDN	**Redoubt North**	**2.94**	**210**	P	**P**	**18 46 54.8**	**-0.3**
RSO	**Redoubt South**	**2.98**	**209**	*e*P	**P**	**18 46 55.9**	**+0.2**
SEW	**Seward**	**3.00**	**177**	P	**P**	**18 46 55.1**	**-0.7**
HIN	**Hinchinbrook I**	**3.12**	**148**	P	**P**	**18 46 56.7**	**-0.8**
EYAK	**Cordova Ski Ar**	**3.19**	**141**	P	**P**	**18 46 57.7**	**-0.7**
LTI	**Latouche**	**3.19**	**162**	P	**P**	**18 46 57.4**	**-1.1**
GLB	**Gilahina Butte**	**3.25**	**118**	P	**P**	**18 46 59.2**	**-0.1**
IM3	**Indian Mountai**	**3.37**	**331**	P	**P**	**18 47 00.7**	**-0.3**
ILIM	**Iliamna**	**3.37**	**208**	P	**P**	**18 47 01.7**	**+0.7**
BRLK	**Bradley Lake**	**3.38**	**189**	P	**P**	**18 47 00.7**	**-0.2**
IMA	**Indian Mountai**	**3.43**	**333**	*e*P	**P**	**18 47 02.2**	**+0.5**
CNPM	**China Poot**	**3.64**	**192**	P	**P**	**18 47 04.3**	**-0.2**
RAGM	**Ragged Mountai**	**3.64**	**136**	P	**P**	**18 47 04.5**	**-0.1**
BCA3	**Beaver Creek A**	**3.64**	**87**	P	**P**	**18 47 04.2**	**-0.5**
HMT	**Hamilton**	**3.81**	**134**	P	**P**	**18 47 06.2**	**-0.8**
BALM	**Baldy**	**4.06**	**117**	P	**P**	**18 47 09.6**	**-0.8**
COLD	**Coldfoot**	**4.16**	**358**	P	**P**	**18 47 12.0**	**+0.3**
YAH	**Yahtse**	**4.70**	**122**	P	**P**	**18 47 18.2**	**-0.9**
DAWY	**Dawson**	**4.75**	**73**	P	**P**	**18 47 19.4**	**-0.3**
BM3	**Burnt Mountain**	**4.87**	**24**	P	**P**	**18 47 21.2**	**-0.1**
PCA	**Pinnacle**	**5.45**	**119**	P	**P**	**18 47 28.1**	**-1.1**
KDAK	**Kodiak Island**	**5.50**	**196**	P	**P**	**18 47 27.7**	**-2.1**
KABR	**Katmai Barrier**	**5.58**	**209**	P	**P**	**18 47 30.5**	**-0.4**
CAHL	**Cahill**	**5.73**	**211**	P	**P**	**18 47 32.8**	**-0.2**
INK	**Inuvik**	**8.49**	**45**	P	**P**	**18 48 10.3**	**-0.3**
	0.8nm,0.3s,baz=235,slow=13,SNR=20						
INK				S	**S**	**18 49 44.6**	**-0.8**
	0.2nm,0.3s,baz=127,slow=18,SNR=4.8						
INK	**Inuvik**	**8.49**	**45**	*e*P	**P**	**18 48 10.5**	**-0.2**
ARCES	**ARCESS Array B**	**47.62**	**2**	P	**P**	**18 54 35.0**	**-0.1**
	3.3nm,1.1s,mb4.1,baz=354,slow=8.2,SNR=7.9						
SONM	**Songino Array**	**54.21**	**306**	P	**P**	**18 55 26.2**	**+1.0**
	1.1nm,1.0s,mb3.8,baz=18,slow=4.6,SNR=3.2						

*IDC **18** 20:10:40.3±5.7, 3.65S×130.05E, h52km±53km, mb3.6/3, mb1 3.8/5, mb1mx3.6/16, ML3.5/2, Error ellipse: s-maj=67.7km s-min=18.6km az=68.0*
ISC 18 20:10:42.4±1.3**, 3.6S**±0.1×**130.2E**±0.2**, h100**km**, n9,** σ**0^{s}95**/12**, mb3.6**/2**, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.26**	**167**	*e*P	**P**	**20 12 54.9**	**+0.4**
	5.1nm,0.6s						
FITZ	**Fitzroy Crossi**	**15.05**	**197**	*e*P	**P**	**20 14 13.9**	**+2.9**
	1.7nm,0.7s						
FITZ	**Fitzroy Crossi**	**15.05**	**197**	P	**P**	**20 14 09.2**	**-1.8**
	0.1nm,0.3s,baz=170,slow=13,SNR=2.9						
FITZ				S	**S**	**20 16 55.4**	**+0.1**
	0.1nm,0.3s,baz=252,slow=11,SNR=2.2						
WRA	**Warramunga Arr**	**16.69**	**166**	P	**P**	**20 14 27.2**	**-4.3**
	0.3nm,0.3s,baz=348,slow=11,SNR=7.6						
WRA				S	**S**	**20 17 28.1**	**-4.6**
	0.1nm,0.3s,baz=343,slow=22,SNR=3.5						
WB2	**Warramunga Arr**	**16.70**	**166**	*e*P	**P**	**20 14 27.6**	**-4.0**
ASAR	**Alice Springs**	**20.22**	**170**	P	**P**	**20 15 11.4**	**-0.3**
	4.0nm,0.4s,baz=354,slow=11,SNR=63						
ASAR				S	**S**	**20 18 56.6**	**+8.6**
	1.6nm,1.1s,baz=340,slow=18,SNR=3.5						
ASPA	**Alice Springs**	**20.22**	**170**	*e*P	**P**	**20 15 11.6**	**-0.1**
STKA	**Stephens Creek**	**30.06**	**160**	P	**P**	**20 16 44.9**	**+0.5**
	1.9nm,0.9s,mb3.7,baz=336,slow=12,SNR=2.6						
CMAR	**Chiang Mai Arr**	**37.82**	**307**	P	**P**	**20 17 51.0**	**0.0**
	0.6nm,0.9s,mb3.4,baz=134,slow=8.4,SNR=5.6						

*IDC **18** 20:12:21.6±3.8, 19.73N×144.52E, h507km±45km, mb3.3/15, mb1 3.5/16, mb1mx3.5/23, Error ellipse: s-maj=19.1km s-min=10.9km az=86.0*
*NEIC **18** 20:12:21.3±2.7, 19.76N×144.46E, h507km±31km, mb4.0/6, Error ellipse: s-maj=20.1km s-min=9.5km az=86.0*
ISC 18 20:12:20.4±2.6**, 19.73N**±0.07×**144.4E**±0.1**, h506**km±30km**, n34,** σ**0^{s}64**/33**, mb3.8**/27**, 2C-1D, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**6.12**	**176**	P	**P**	**20 13 51.2**	**-7.8**
MAJO	**Matsushiro**	**17.62**	**343**	P	**P**	**20 15 55.7**	**-0.8**
KAKA	**Kakadu**	**34.33**	**201**	⇓*i*P	**P**	**20 18 30.8**	**+5.3**
	7.0nm,0.6s,mb4.3						
WRAB	**Tennant Creek**	**40.63**	**195**	*e*P	**P**	**20 19 17.1**	**0.0**
	4.2nm,0.3s,mb4.3						
WB2	**Warramunga Arr**	**40.64**	**195**	⇑*i*P	**P**	**20 19 17.5**	**+0.4**
WB2				*e*S	**S**	**20 24 50.4**	**-0.7**
WRA	**Warramunga Arr**	**40.65**	**195**	P	**P**	**20 19 17.4**	**+0.2**
	2.1nm,0.5s,mb3.9,baz=16,slow=8.8,SNR=14						
SONM	**Songino Array**	**41.60**	**321**	P	**P**	**20 19 25.0**	**+0.5**
	3.5nm,0.5s,mb4.1,baz=138,slow=7.9,SNR=20						
FITZ	**Fitzroy Crossi**	**41.88**	**207**	⇑*i*P	**P**	**20 19 27.4**	**+0.2**
	3.2nm,0.7s,mb3.9						
FITZ	**Fitzroy Crossi**	**41.88**	**207**	P	**P**	**20 19 27.1**	**0.0**
	2.2nm,0.4s,mb3.9,baz=19,slow=7.7,SNR=14						
FITZ				PcP	PcP	20 21 12.8	+1.0
	1.2nm,0.6s,baz=90,slow=2.0,SNR=3.3						
CMAR	**Chiang Mai Arr**	**42.91**	**276**	P	**P**	**20 19 36.1**	**+0.8**
	0.7nm,0.5s,mb3.4,baz=85,slow=4.9,SNR=9.9						
CMAR				PcP	PcP	20 21 16.1	+0.8
	0.3nm,0.5s,baz=61,slow=3.2,SNR=5.0						
ASAR	**Alice Springs**	**44.34**	**194**	P	**P**	**20 19 46.4**	**-0.1**
	0.3nm,0.3s,mb3.1,baz=11,slow=6.3,SNR=4.3						
STKA	**Stephens Creek**	**51.38**	**183**	P	**P**	**20 20 38.4**	**-1.2**
	0.9nm,0.8s,mb3.1,baz=348,slow=9.3,SNR=2.3						
PKI	**Pulchoki**	**54.21**	**290**	*e*P	**P**	**20 21 00.3**	**+0.4**
	3.1nm,0.4s,mb4.0						
KKN	**Kakani**	**54.30**	**291**	*e*P	**P**	**20 21 00.4**	**-0.2**
	6.3nm,0.9s,mb4.0						
DMN	**Daman**	**54.47**	**290**	*e*P	**P**	**20 21 02.3**	**+0.5**
	4.0nm,0.5s,mb4.0						
GKN	**Gorkha**	**54.85**	**291**	*e*P	**P**	**20 21 04.8**	**+0.4**
	5.2nm,0.6s,mb4.1						
KOLN	**Koldanda**	**55.79**	**291**	*e*P	**P**	**20 21 11.1**	**+0.2**
	4.3nm,0.8s,mb3.8						
ZAL	**Zalesovo**	**56.49**	**322**	P	**P**	**20 21 14.4**	**-1.0**
	1.0nm,0.5s,mb3.4,baz=5.2,slow=7.6,SNR=6.3						
KURK	**Kurchatov**	**59.71**	**318**	*e*P	**P**	**20 21 37.0**	**-0.2**
	2.8nm,0.4s,mb4.0						
ILAR	**Eielson Array**	**63.26**	**27**	P	**P**	**20 21 59.2**	**-0.9**
	1.8nm,0.5s,mb3.8,baz=250,slow=6.4,SNR=36						
BVAR	**Borovoye Array**	**64.93**	**320**	P	**P**	**20 22 11.2**	**+0.3**
	9.8nm,0.6s,mb4.7,baz=99,slow=8.0,SNR=39						
INK	**Inuvik**	**68.90**	**23**	P	**P**	**20 22 35.3**	**+0.3**
	2.0nm,0.7s,mb3.7,baz=257,slow=7.3,SNR=5.5						
YKA	**Yellowknife Ar**	**77.64**	**28**	P	**P**	**20 23 25.6**	**+0.9**
	1.6nm,0.5s,mb3.7,baz=288,slow=5.3,SNR=6.0						
YKA	**Yellowknife Ar**	**77.64**	**28**	P	**P**	**20 23 25.6**	**+0.9**
KEV	**Kevo**	**80.59**	**342**	*e*p	**P**	**20 23 39.6**	**-0.5**
	1.0nm,0.3s,mb3.8						
ARCES	**ARCESS Array B**	**81.15**	**342**	P	**P**	**20 23 43.5**	**+0.5**
	2.2nm,0.5s,mb3.9,baz=81,slow=7.8,SNR=20						
JOF	**Joensuu**	**82.59**	**335**	*e*p	**P**	**20 23 49.9**	**-0.5**
	1.5nm,0.4s,mb3.9						
NVAR	**Mina Array Bea**	**83.44**	**52**	P	**P**	**20 23 57.1**	**+1.9**
	1.3nm,0.6s,mb3.6,baz=277,slow=4.6,SNR=8.7						
KAF	**Kangasniemi**	**84.99**	**335**	*e*p	**P**	**20 24 01.4**	**-0.8**
	0.6nm,0.3s,mb3.7,baz=53,slow=4.7						
FINES	**FINESS Array B**	**85.45**	**335**	P	**P**	**20 24 04.0**	**-0.5**
	1.9nm,0.4s,mb4.1,baz=68,slow=5.0,SNR=33						
NOA	**NORSAR Array B**	**91.20**	**339**	P	**P**	**20 24 31.3**	**-0.1**
	0.7nm,0.8s,mb3.6,baz=275,slow=4.9,SNR=2.9						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BRTR	Keskin Array B	92.54	314	P	P	20 24 38.0	0.0
	0.5nm,0.8s,mb3.6,baz=93,slow=4.6,SNR=5.5						
SNAA	Sanae	124.68	192	PKP	PKPdf	20 30 23.2	+2.0
	0.4nm,0.8s,baz=310,slow=8.5,SNR=3.6						
LPAZ	La Paz	148.87	89	PKPbc	PKPdf	20 31 10.9	+4.6
	1.6nm,0.3s,baz=307,slow=0.7,SNR=3.8						

MEX 18 20:17:26.7±0.7, 16.75N×99.80W, h22km±7km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.16	317	*i* P	Pb	20 17 30.7	-0.9
ACX				*i* S	Sb	20 17 33.5	-1.5
CAIG	El Cayaco	0.54	304	*i* P	Pb	20 17 35.6	-1.8
CAIG				*i* S	Sb	20 17 42.9	-1.8
PNIG	Pinotepa	1.64	102	*i* P	Pn	20 17 52.4	-2.3
PNIG				*i* S	Sn	20 18 11.6	-3.7
PLIG	Platanillo	1.66	10	*i* P	Pn	20 17 51.7	-3.3
PLIG				*i* S	Sn	20 18 12.5	-3.2
YAIG	Yautepec	2.22	18	*i* P	Pn	20 17 58.7	-4.2
YAIG				*i* S	Sn	20 18 23.0	-6.9
PPM	Popocatepetl	2.56	26	*i* P	Pn	20 18 04.5	-3.4
PPM				*i* S	Sn	20 18 35.0	-3.7
VHO	Vista Hermosa	2.95	83	*i* P	Pn	20 18 08.9	-4.5
VHO				*i* S	Sn	20 18 42.6	-6.0
OXX	Oaxaca	2.96	83	*i* P	Pn	20 18 10.0	-3.6
MOIG	Morelia	3.20	336	*i* P	Pn	20 18 15.5	-1.4
MOIG				*i* S	Sn	20 18 50.3	-4.5
IISM	Ciudad Serdan	3.21	46	*i* P	Pn	20 18 13.7	-3.3
CMIG	Matias Romero	4.72	85	*e*P	Pn	20 18 35.0	-3.4
CMIG				*i* S	Sn	20 19 27.2	-6.0

IDC 18 20:18:59.8±0.9, 19.63S×170.10E, mb4.3/11, mb1 4.4/12, mb1mx4.3/17, MS3.7/6, Ms1 3.7/6, ms1mx3.3/24, Error ellipse: s-maj=29.5km s-min=19.0km az=167.0
NEIC 18 20:19:04.2±0.5, 19.69S×170.03E, h30km, mb4.3/3, Error ellipse: s-maj=15.0km s-min=9.7km az=162.0
ISC 18 20:19:02.0±5.9, 19.7S±0.1×169.98E±0.09, h24km±42km, n25, σ1ˢ07/23, mb4.2/14, MS3.7/5, 2C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NOUC	Port Laguerre	4.19	235	*e*P	Pn	20 20 06.3	+0.2
NOUC				*e*S	Sn	20 20 53.9	-1.0
NOUC	Port Laguerre	4.19	235	*e*P	Pn	20 20 06.3	+0.2
NOUC				*e*S	Sn	20 20 53.9	-1.0
URZ	Urewera	19.51	163	LR	LR	20 29 26.9	
	comp=Z,210nm,21.9s,baz=99,slow=32						
CTA	Charters Tower	22.31	265	P	P	20 24 02.3	+2.8
	3.6nm,0.6s,mb4.0,baz=98,slow=9.1,SNR=4.6						
RPZ	Rata Peaks	23.96	178	P	P	20 24 15.7	+0.2
	4.1nm,0.5s,mb4.2,baz=138,slow=7.9,SNR=3.1						
PMG	Port Moresby	24.31	292	P	P	20 24 19.4	+0.2
	5.6nm,0.6s,mb4.2,baz=198,slow=6.4,SNR=3.4						
STKA	Stephens Creek	28.20	239	P	P	20 24 56.3	+1.2
	2.1nm,0.8s,mb3.8,baz=95,slow=4.0,SNR=4.9						
RAR	Rarotonga	28.36	98	P	P	20 24 55.2	-1.4
	18nm,0.8s,mb4.8,baz=242,slow=18,SNR=2.1						
WB2	Warramunga Arr	33.48	263	⇑*i*P	P	20 25 41.0	-0.8
WRAB	Tennant Creek	33.48	263	*e*P	P	20 25 40.2	-1.7
WRA	Warramunga Arr	33.49	263	P	P	20 25 40.8	-1.1
	2.6nm,0.6s,mb4.3,baz=99,slow=8.5,SNR=13						
WRA				PcP	PcP	20 28 22.5	-0.3
	0.7nm,1.0s,baz=107,slow=2.4,SNR=3.7						
ASAR	Alice Springs	33.70	257	P	P	20 25 43.7	0.0
	6.7nm,0.5s,mb4.8,baz=86,slow=8.9,SNR=60						
ASAR				LR	LR	20 39 55.4	
	comp=Z,54nm,20.4s,MS3.3,baz=280,slow=37						
ASPA	Alice Springs	33.70	257	⇑*i*P	P	20 25 43.8	+0.1
KAKA	Kakadu	36.69	275	*e*P	P	20 26 14.1	+4.8
	14nm,1.6s,mb4.5						
FITZ	Fitzroy Crossi	41.89	265	*e*P	P	20 26 53.4	+0.9
	3.7nm,0.6s,mb4.2						
FITZ	Fitzroy Crossi	41.89	265	P	P	20 26 53.4	+0.9
	4.4nm,0.7s,mb4.2,baz=151,slow=5.9,SNR=17						
VNDA	Vanda	58.00	182	LR	LR	20 51 57.3	
	comp=Z,58nm,18.7s,MS3.7,baz=177,slow=34						
ASAJ	Asahikawa	68.27	339	LR	LR	21 01 12.3	
	comp=Z,74nm,18.5s,MS3.9,baz=152,slow=37						
QSPA	South Pole Qui	70.36	180	*e*P	P	20 30 18.3	+2.9
	2.1nm,0.8s,mb4.1						
CMAR	Chiang Mai Arr	79.33	294	P	P	20 31 08.7	+0.8
	1.6nm,0.8s,mb4.0,baz=133,slow=4.6,SNR=13						
SONM	Songino Array	88.00	323	P	P	20 31 50.9	-0.6
	3.0nm,1.0s,mb4.5,baz=124,slow=4.5,SNR=8.6						
NVAR	Mina Array Bea	88.58	48	P	P	20 31 54.7	+0.3
	0.2nm,0.5s,mb3.7,baz=296,slow=16,SNR=3.2						
NVAR				LR	LR	21 04 15.4	
	comp=Z,44nm,18.9s,MS3.9,baz=270,slow=31						
NVAR	Mina Array Bea	88.58	48	P	P	20 31 54.7	+0.3
NVAR				LR	LR	21 04 15.4	
ILAR	Eielson Array	90.46	17	P	P	20 32 02.4	-0.3
	0.5nm,0.6s,mb4.0,baz=230,slow=4.8,SNR=8.5						
ILAR				LR	LR	21 13 27.8	
	comp=Z,40nm,18.3s,MS3.9,baz=359,slow=36						
GERES	GERESS Array B	145.22	332	PKPbc	PKPbc	20 38 39.1	+1.1
	1.4nm,0.8s,baz=45,slow=3.8,SNR=9.5						

IDC 18 20:19:12.0±11.0, 18.74N×145.28E, h360km±121km, mb3.1/10, mb1 3.3/10, mb1mx3.2/20, Error ellipse: s-maj=30.5km s-min=17.1km az=76.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	39.92	196	P	P	20 26 11.8	-2.2
	0.8nm,0.8s,baz=17,slow=8.7,SNR=4.0						
FITZ	Fitzroy Crossi	41.39	209	P	P	20 26 25.4	-0.5
	0.5nm,0.3s,baz=28,slow=11,SNR=6.1						
SONM	Songino Array	42.86	322	P	P	20 26 36.1	-1.4
	0.3nm,0.4s,baz=129,slow=9.2,SNR=2.7						
ASAR	Alice Springs	43.59	195	P	P	20 26 41.7	-1.9
	0.5nm,0.9s,baz=21,slow=7.7,SNR=2.9						
CMAR	Chiang Mai Arr	43.82	277	P	P	20 26 44.4	-1.2
	1.0nm,0.7s,baz=68,slow=7.2,SNR=9.0						
ZAL	Zalesovo	57.75	323	P	P	20 28 26.4	-1.8
	0.6nm,0.4s,baz=331,slow=8.8,SNR=3.1						
ILAR	Eielson Array	63.78	26	P	P	20 29 05.7	-2.3
	0.4nm,0.5s,baz=254,slow=5.6,SNR=7.0						
INK	Inuvik	69.49	23	P	P	20 29 42.7	-0.8
	1.6nm,0.7s,baz=330,slow=1.5,SNR=3.5						
ARCES	ARCESS Array B	82.33	342	P	P	20 30 53.6	-1.3
	1.3nm,0.8s,baz=63,slow=8.1,SNR=6.1						
NVAR	Mina Array Bea	83.42	52	P	P	20 31 01.7	+0.7
	0.7nm,0.5s,baz=271,slow=6.0,SNR=6.5						
FINES	FINESS Array B	86.68	335	P	P	20 31 14.3	-2.1
	1.3nm,0.6s,baz=56,slow=5.6,SNR=3.9						

IDC 18 20:30:05.4±6.9, 3.04N×127.08E, mb3.6/4, mb1 3.8/4, mb1mx3.6/18, MS2.8/1, Ms1 2.8/1, ms1mx2.4/25, Error ellipse: s-maj=116.0km s-min=96.4km az=121.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.05	184	P	P	20 34 51.2	-2.4
	2.5nm,0.8s,baz=32,slow=9.5,SNR=2.3						
FITZ				LR	LR	20 44 15.1	
	comp=Z,25nm,19.1s,baz=260,slow=40						
WRA	Warramunga Arr	23.92	163	P	P	20 35 20.9	-1.3
	1.1nm,0.6s,baz=343,slow=11,SNR=5.9						
ASAR	Alice Springs	27.36	166	P	P	20 35 53.1	-1.4
	0.3nm,0.5s,baz=347,slow=9.0,SNR=3.3						
STKA	Stephens Creek	37.36	159	P	P	20 37 19.8	-1.9
	1.4nm,0.9s,baz=340,slow=12,SNR=2.6						

IDC 18 20:36:41.8±15.0, 26.66S×175.21E, h656km±158km, mb3.0/5, mb1 3.1/5, mb1mx2.9/14, Error ellipse: s-maj=134.0km s-min=77.9km az=92.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	27.34	278	P	P	20 41 38.2	-1.5
	7.4nm,0.5s,baz=94,slow=12,SNR=14						
STKA	Stephens Creek	29.71	252	P	P	20 41 57.6	-2.2
	1.6nm,0.8s,baz=333,slow=21,SNR=2.4						
ASAR	Alice Springs	37.40	265	P	P	20 43 04.2	+0.5
	1.3nm,0.5s,baz=100,slow=8.0,SNR=15						
WB2	Warramunga Arr	38.00	271	*e*P	P	20 43 06.6	-2.0
WRA	Warramunga Arr	38.01	271	P	P	20 43 06.6	-2.1
	1.2nm,0.3s,baz=106,slow=8.4,SNR=35						
FITZ	Fitzroy Crossi	46.39	270	P	P	20 44 11.6	-2.6
	1.2nm,0.8s,baz=121,slow=9.9,SNR=6.1						
ARCES	ARCESS Array B	133.59	346	PKP	PKPdf	20 54 44.0	-1.1
	1.6nm,0.8s,baz=45,slow=2.6,SNR=3.7						
GERES	GERESS Array B	153.60	332	PKPbc	PKPdf	20 55 28.3	+9.3
	0.3nm,0.4s,baz=18,slow=3.1,SNR=4.4						

IDC 18 20:52:40.6±16.0, 1.63N×127.33E, h96km±162km, mb3.6/5, mb1 3.6/6, mb1mx3.4/17, ML3.5/1, 1C, Error ellipse: s-maj=98.3km s-min=27.4km az=65.0, Halmahera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	19.68	185	P	P	20 57 02.4	-2.2
	0.1nm,0.3s,baz=15,slow=12,SNR=3.9						
WRA	Warramunga Arr	22.52	163	P	P	20 57 32.5	-0.7
	3.1nm,0.6s,baz=342,slow=10,SNR=14						
WB2	Warramunga Arr	22.52	163	⇑*i*P	P	20 57 32.7	-0.6
ASAR	Alice Springs	25.95	166	P	P	20 58 03.9	-2.2
	0.8nm,0.7s,baz=352,slow=7.5,SNR=8.2						
STKA	Stephens Creek	35.97	159	P	P	20 59 32.3	-1.7
	3.7nm,0.8s,baz=320,slow=6.5,SNR=8.5						
SONM	Songino Array	49.46	342	P	P	21 01 21.6	-1.5
	0.7nm,0.8s,baz=124,slow=5.2,SNR=3.0						
BVAR	Borovoye Array	69.39	327	P	P	21 03 38.1	-2.1
	0.5nm,0.5s,baz=117,slow=6.4,SNR=3.9						

MOS 18 21:05:58.3±1.0, 36.38N×71.09E, h173km, mb4.3/7, Error ellipse: s-maj=27.7km s-min=12.9km az=111.9
NEIC 18 21:06:01.2±2.2, 36.46N×71.05E, h179km±21km, mb4.2/6, Error ellipse: s-maj=15.7km s-min=10.6km az=211.0
BJI 18 21:06:02.4, 36.65N×70.98E, h191km, mb4.5
NNC 18 21:06:03.8±15.0, 37.42N×70.28E, mpv3.9, Error ellipse: s-maj=188.7km s-min=110.0km az=139.0
IDC 18 21:06:04.9±4.0, 36.54N×71.18E, h219km±41km, mb3.5/11, mb1 3.7/13, mb1mx3.5/21, Error ellipse: s-maj=13.7km s-min=12.1km az=134.0
ISC 18 21:06:01.0±0.4, 36.46N±0.03×71.02E±0.06, h192km±6km, n74, σ1ˢ04/86, mb3.7/16, 12C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.73	164	⇑P	P	21 06 48.9	+1.4
CHCP	Chirah Chowk	3.34	146	⇑P	P	21 06 56.6	+1.7
CHCP				S	S	21 07 33.0	-3.6
THW	Thamme Wali	3.70	171	⇑P	P	21 07 00.3	+0.9
SBDP	Sheikh Budin	4.15	183	P	P	21 07 05.0	0.0
SARP	Sargodha	4.73	163	P	P	21 07 12.9	+0.5
SARP				S	S	21 08 05.0	-2.7
DRP	Derazinda	4.75	188	⇑P	P	21 07 13.1	+0.4
KSH	Kashi	4.96	51	⇑*i*P	P	21 07 17.8	+2.4
KSH				S	S	21 08 14.0	+0.9
KSH				Smax			
	comp=N,180nm,0.5s						
KSH				Smax			
	comp=E,220nm,0.6s						
THN	Thein Dam	5.58	135	*e*P	P	21 07 22.7	-0.7
THN				*e*		21 08 27.1	
AML	Almayashu	6.03	19	P	P	21 07 28.7	-0.5
	SNR=47						
UCH	Uchtor	6.36	24	P	P	21 07 33.3	-0.3
	SNR=8.4						
KZA	Kyzart	6.50	29	P	P	21 07 34.6	-0.8
	SNR=12						
EKS2	Erkin-Say	6.55	18	P	P	21 07 36.1	+0.1
	SNR=18						
AAK	Ala-Archa	6.72	22	⇑Pn	P	21 07 37.6	-0.8
	comp=E,6.4nm,0.6s,baz=204,slow=10						
AAK				⇑Sn	S	21 08 47.8	-6.4
	comp=E,18nm,0.7s,baz=204,slow=10						
AAK	Ala-Archa	6.72	22	*e*P	P	21 07 37.0	-1.4
	comp=E,5.2nm,0.4s						
BHK	Bhakra	6.74	137	*e*	S	21 08 55.0	+0.6
KBK	Karagaybulak	6.89	25	P	P	21 07 40.8	+0.3
	SNR=6.6						
TKM2	Tokmak 2	7.35	27	P	P	21 07 46.4	-0.2
	SNR=5.2						
SMLA	Simla	7.37	134	*e*	P	21 07 59.5	+13
SMLA				*i*		21 09 20.1	
DDI	Dehra Dun	8.48	134	*e*P	P	21 07 59.0	-2.4
DDI				*e*		21 09 37.0	
JOSI	Joshimath	9.24	127	*e*P	P	21 08 11.2	-0.1
JOSI				*e*		21 09 50.2	
KHET	Khetri	9.29	153	*e*P	P	21 08 11.1	-0.8
KHET				*e*S	S	21 09 50.1	-4.1
KHET				*e*		21 09 51.3	
	comp=N,32nm,0.4s						
KHET				*e*		21 09 51.5	
	comp=E,38nm,0.2s						
NDI	New Delhi	9.35	144	*e*P	P	21 08 13.0	+0.4
NDI				*e*S	S	21 09 49.5	-6.1
AYAN	Aya Nagar	9.47	145	*e*P	P	21 08 13.9	-0.4
AYAN				*e*S	S	21 09 54.0	-4.6
AYAN				*e*		21 09 57.5	
	comp=Z,75nm,0.2s						
KALG	Kalgarh	9.49	135	*e*	P	21 08 03.8	-11
KALG				*e*		21 09 50.8	
	comp=E,109nm,0.3s						
AJM	Ajmer	10.41	162	*e*	P	21 08 26.0	-0.5
AJM				*e*		21 10 17.0	
LGTI	Lohaghat	10.43	129	*e*P	P	21 08 26.0	-0.7
LGTI				*e*		21 10 16.0	
MK31	Makanchi Array	13.31	36	⇑P	P	21 09 07.1	+3.7
	baz=204,slow=10,SNR=17						
KOLN	Koldanda	13.72	126	*e*P	P	21 09 08.4	-0.2
	comp=E,19nm,0.3s						
GKN	Gorkha	14.27	122	*e*P	P	21 09 15.3	-0.1
	comp=E,79nm,0.5s						
BHPL	Bhopal	14.29	155	*e*	P	21 09 20.4	+4.7
BHPL				*e*		21 11 46.2	
DMN	Daman	14.84	123	*e*P	P	21 09 23.6	+1.1
	comp=E,74nm,0.7s						
DMN				*e*S	S	21 11 59.5	-2.4
KKN	Kakani	14.84	122	*e*P	P	21 09 22.7	+0.2
	comp=E,77nm,0.8s						
PKI	Pulchoki	15.07	122	*e*P	P	21 09 25.8	+0.4
	comp=E,156nm,0.7s						
GUN	Gumba	15.18	120	*e*P	P	21 09 27.7	+0.9
	comp=E,24nm,0.5s						
KURK	Kurchatov	15.26	19	*e*P	P	21 09 28.2	+0.6
VOSK	Vostochnaya	16.26	360	⇓P	P	21 09 39.9	0.0
	comp=E,2.5nm,1.2s,baz=204,slow=10						
ZRNK	Zerenda	16.55	356	⇑P	P	21 09 43.0	-0.4
	comp=E,4.9nm,0.6s,baz=204,slow=10						
ZRNK	Zerenda	16.55	356	*e*P	P	21 09 42.8	-0.6
	comp=E,6.6nm,0.6s						
BVA0	Borovoye Array	16.57	359	⇑P	P	21 09 43.3	-0.3
	comp=E,0.4nm,0.7s,baz=159,slow=9.7,SNR=14						
BVA0				S	S	21 12 39.7	-1.0
	comp=E,0.2nm,0.9s,baz=156,slow=24,SNR=4.6						
BVAR	Borovoye Array	16.57	359	P	P	21 09 43.0	-0.6
	comp=E,0.7nm,0.3s,baz=160,slow=12,SNR=16						
BVAR				S	S	21 12 39.5	-1.1
	comp=E,0.3nm,0.3s,baz=160,slow=22,SNR=4.2						
LSA	Lhasa	18.15	106	P	P	21 10 06.0	+4.8
ZAL	Zalesovo	19.93	24	P	P	21 10 18.9	-0.5
	comp=E,1.6nm,0.3s,baz=254,slow=8.4,SNR=29						
ZAL				S	S	21 13 49.8	+1.9
	comp=E,0.1nm,0.3s,baz=185,slow=23,SNR=5.7						
ZAL	Zalesovo	19.93	24	P	P	21 10 18.9	-0.5
ZAL				S	S	21 13 49.8	+1.9
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.3s						
NVS	Novosibirsk	20.21	21	*e*P	P	21 10 22.6	+0.3
SHL	Shillong	20.87	115	*e*	P	21 10 31.5	+2.5
ARU	Arti	21.68	341	⇑*i*P	P	21 10 37.0	+0.3
ARU				*e*SS	SS	21 15 10.6	-5.1
ARU				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.2						
ARU	Arti	21.68	341	⇑*i*P	P	21 10 37.0	+0.3
	comp=Z,9.0nm,1.2s,mb4.2						
ARU				*e*SS	SS	21 15 10.6	-5.1
CM31	Chiang Mai Arr	30.42	119	P	P	21 11 53.8	-3.7
	comp=Z,1.9nm,0.3s,mb4.2						
CMAR	Chiang Mai Arr	30.42	119	P	P	21 11 54.9	-2.6
	comp=Z,0.3nm,0.4s,mb3.3,baz=70,slow=24,SNR=4.4						
ENH	Enshi	32.56	90	*e*P	P	21 12 17.3	+1.3
AKASG	Malin Array Be	32.99	309	P	P	21 12 18.5	-0.9
	comp=Z,3.8nm,0.5s,mb4.2,baz=80,slow=7.2,SNR=23						
AKASG	Malin Array Be	32.99	309	P	P	21 12 18.5	-0.9
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.5s						
MLR	Muntele Rosu	34.82	299	P	P	21 12 37.2	+2.1
	comp=Z,3.5nm,0.9s,mb3.9,baz=157,slow=7.7						
MLR	Muntele Rosu	34.82	299	P	P	21 12 37.2	+2.1
MLR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
JOF	Joensuu	35.91	330	*e*p	P	21 12 43.6	-0.5
	comp=Z,1.8nm,0.3s,mb4.1						
JOF	Joensuu	35.91	330	*e*P	P	21 12 43.6	-0.5
JOF				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.1						
IDI	Anoyia	37.13	282	P	P	21 12 55.8	+1.2
	comp=Z,3.1nm,0.9s,mb3.8,baz=29,slow=12,SNR=2.2						
FINES	FINESS Array B	37.53	326	P	P	21 12 57.2	-0.5
	comp=Z,2.1nm,0.5s,mb4.0,baz=120,slow=11,SNR=17						
FINES	FINESS Array B	37.53	326	P	P	21 12 57.2	-0.5
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FINES	FINESS Array B	37.53	326	P	P	21 12 57.2	-0.5
KAF	Kangasniemi	37.67	327	*e*p	P	21 12 58.5	-0.3
	comp=Z,0.3nm,0.4s,mb3.2,baz=106,slow=8.4						
ARCES	ARCESS Array B	41.19	338	P	P	21 13 27.9	+0.2
	comp=Z,5.0nm,0.5s,mb4.2,baz=112,slow=8.0,SNR=47						
ARCES	ARCESS Array B	41.19	338	P	P	21 13 27.9	+0.1
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ARCES	ARCESS Array B	41.19	338	P	P	21 13 27.9	+0.1
ARE0	ARCESS Array S	41.19	338	*e*P	P	21 13 27.9	+0.1
GERES	GERESS Array B	42.97	305	P	P	21 13 42.8	+0.5
	comp=Z,0.3nm,0.6s,mb2.9,baz=122,slow=17,SNR=2.7						
NB2	NORSAR Subarra	44.43	323	P	P	21 13 53.5	-0.3
	comp=Z,7.6nm,0.6s,mb4.2,baz=96,slow=7.9						
NOA	NORSAR Array B	44.43	323	P	P	21 13 53.5	-0.3
	comp=Z,5.8nm,0.6s,mb4.1,baz=96,slow=7.8,SNR=31						
NOA	NORSAR Array B	44.43	323	P	P	21 13 53.5	-0.3
NOA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
DAVOX	Davos	45.80	303	P	P	21 14 03.5	-1.4
	comp=Z,1.9nm,0.6s,mb3.6,baz=176,slow=12,SNR=2.7						
KMBO	Kilima Mbogo	48.82	228	P	P	21 14 29.6	+0.9
	comp=Z,0.5nm,0.6s,mb3.1,baz=65,slow=23,SNR=3.5						
ILAR	Eielson Array	74.81	16	P	P	21 17 21.2	+0.1
	comp=Z,1.0nm,1.1s,mb3.4,baz=282,slow=6.9,SNR=4.4						
ILAR	Eielson Array	74.81	16	P	P	21 17 21.3	+0.2
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.1s						
WRA	Warramunga Arr	81.95	122	P	P	21 18 00.7	0.0
	comp=Z,0.3nm,0.4s,mb3.3,baz=324,slow=5.0,SNR=7.2						

MEX 18 21:20:39.6±0.6, 16.74N×99.81W, h23km±8km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.16	321	*i* P	Pb	21 20 43.5	-1.0
ACX				*i* S	Sb	21 20 46.5	-1.3
CAIG	El Cayaco	0.53	305	*i* P	Pb	21 20 48.4	-1.8
CAIG				*i* S	Sb	21 20 55.7	-1.7
PLIG	Platanillo	1.67	10	*i* P	Pn	21 21 04.5	-3.4
PLIG				*i* S	Sn	21 21 23.2	-5.6
PPM	Popocatepetl	2.57	26	*e*P	Pn	21 21 19.5	-1.4

STR 18 21:26:59.6±0.4, 43.49N×0.66W, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0
NEIC 18 21:26:59.6, 43.49N×0.66W, h5km, ML2.5(LDG), ML2.3(STR), MN1.8(MDD), After STR.
LDG 18 21:27:00.3±0.1, 43.42N×0.68W, h10km, Md2.6/3, Ml2.5/9, Error ellipse: s-maj=1.6km s-min=1.1km az=130.0
CSEM 18 21:27:00.3±0.1, 43.42N×0.68W, h10km, MD2.5/1, ML2.5/8, Error ellipse: s-maj=1.1km s-min=0.7km az=128.0
MDD 18 21:27:01.3±0.4, 43.38N×0.69W, h18km±6km, mbLg1.7/16, Error ellipse: s-maj=3.5km s-min=2.2km az=5.0, PRXIMO
ISC 18 21:26:58.0±0.3, 43.52N±0.02×0.64W±0.03, h9km±4km, n40, σ1ˢ04/66, Pyrenees

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ORDF	Ordiarp	0.38	215	Pg	Pg	21 27 05.9	+0.2
ORDF				Sg	Sg	21 27 11.6	+0.8
ORDF	Ordiarp	0.38	215	P	Pg	21 27 06.0	+0.3
ORDF				S	Sg	21 27 10.9	+0.1
ATE	Arette	0.44	186	P	Pg	21 27 07.1	+0.2
ATE				S	Sg	21 27 12.1	-0.8
REYF	Montagne du Re	0.49	158	Sg	Sg	21 27 14.6	+0.2
REYF	Montagne du Re	0.49	158	P	Pg	21 27 08.3	+0.5
REYF				S	Sg	21 27 13.7	-0.7
OSSF	Osses	0.53	240	Pg	Pg	21 27 09.0	+0.4
OSSF				Pg	Pg	21 27 09.0	+0.4
OSSF				Sg	Sg	21 27 16.6	+0.9
OSSF	Osses	0.53	240	P	Pg	21 27 09.2	+0.6
OSSF				S	Sg	21 27 16.0	+0.3
OSSF	Osses	0.53	240	Pg	Pg	21 27 09.0	+0.4
OSSF				Sg	Sg	21 27 16.6	+0.9
LARF	Larrau	0.55	208	Pg	Pg	21 27 08.9	-0.1
LARF				Sg	Sg	21 27 16.9	+0.5
LARF	Larrau	0.55	208	P	Pg	21 27 09.1	0.0
LARF				S	Sg	21 27 16.1	-0.3
SJPF	Ste Jean	0.59	226	*e*Pg	Pg	21 27 10.0	+0.1
SJPF				*e*Sg	Sg	21 27 16.3	-1.5
	20nm,0.3s						
ETSF	Etsaut	0.63	175	*e*Pg	Pg	21 27 10.1	-0.5
ETSF				*e*Sg	Sg	21 27 17.7	-1.3
	19nm,0.4s						
EALK	Alkurruntz	0.70	245	Pg	Pg	21 27 12.4	+0.3
	2.5nm,0.1s,SNR=6.4						
EALK				Lg		21 27 22.2	
	21nm,0.2s,SNR=10						
LABF	Labassere	0.71	132	Pg	Pg	21 27 13.4	+1.3
LABF				Sg	Sg	21 27 22.9	+1.3
LABF	Labassere	0.71	132	P	Pb	21 27 13.5	+1.5
LABF				S	Sb	21 27 23.0	+1.4
VIEF	Viey	0.80	143	P	Pb	21 27 14.3	+0.6
VIEF				S	Sb	21 27 24.3	-0.1
EPF	Esparros	0.87	124	*e*Pg	Pg	21 27 15.8	+0.4
EPF				*e*Pn	Pn	21 27 16.8	+0.6
EPF				*e*Sg	Sg	21 27 27.5	+0.5
EPF				*e*Sn	Sn	21 27 28.2	-0.9
	15nm,0.2s						
EBIE	Bielsa	1.01	145	Pg	Pg	21 27 18.0	-0.2
	0.5nm,0.1s,SNR=7.9						
EBIE				Lg		21 27 30.6	
	4.5nm,0.3s,SNR=7.9						
EBIE	Bielsa	1.01	145	Pg	Pg	21 27 18.0	-0.3
	0.5nm,0.1s,SNR=7.9						
LFF	La Frestale	1.73	35	*e*Pg	Pg	21 27 34.5	+2.0
LFF				*e*Sg	Sg	21 27 58.1	+2.5
	17nm,0.4s						
ESAC	San Caprasio	1.81	176	Pg	Pg	21 27 30.4	-3.7
	9.6nm,0.3s,SNR=4.0						
ESAC				Lg		21 27 54.3	
	33nm,0.3s,SNR=6.5						
ESAC	San Caprasio	1.81	176	Pg	Pg	21 27 33.8	-0.3
ESAC				Lg		21 27 55.5	
ESAC	San Caprasio	1.81	176	Pg	Pg	21 27 33.8	-0.2
	9.6nm,0.3s,SNR=4.0						
ELAN	Lanestosa	2.06	263	Pg	Pg	21 27 38.8	-0.3
	2.4nm,0.2s,SNR=4.0						
ELAN				Lg		21 28 04.8	
	1.4nm,0.2s,SNR=4.0						
ELAN	Lanestosa	2.06	263	Pg	Pg	21 27 38.8	-0.3
ELAN				Lg		21 28 06.8	
ELAN	Lanestosa	2.06	263	Pg	Pg	21 27 38.8	-0.3
	2.4nm,0.2s,SNR=4.0						
MTLF	Montolieu	2.09	94	*e*Pn	Pn	21 27 34.0	+0.3
MTLF				*e*Pg	Pg	21 27 39.1	-0.6
MTLF				*e*Sg	Sg	21 28 06.9	-0.7
	4.8nm,0.3s						
EMIR	Miracle	2.27	134	Pg	Pg	21 27 41.8	-1.4
	0.4nm,0.1s,SNR=4.0						
EMIR				Lg		21 28 10.2	
	1.2nm,0.2s,SNR=4.0						
EMIR	Miracle	2.27	134	Pg	Pg	21 27 41.8	-1.4
EMIR				Lg		21 28 11.3	
EMIR	Miracle	2.27	134	Pg	Pg	21 27 41.8	-1.4
	0.4nm,0.1s,SNR=4.0						
RJF	Les Rejaudoux	2.36	40	*e*Pg	Pg	21 27 46.0	+0.9
RJF				*e*Sg	Sg	21 28 17.6	+1.1
	7.2nm,0.3s						
CAF	Calviac	2.40	53	*e*Pg	Pg	21 27 46.5	+0.6
CAF				*e*Sg	Sg	21 28 18.3	+0.5
	6.0nm,0.3s						

EPOB	Poblet	2.52	149	Pg	Pg	21 27 44.7	-3.5
	0.7nm,0.2s,SNR=4.0						
EPOB				Lg		21 28 16.9	
	3.3nm,0.2s,SNR=4.0						
EPOB	Poblet	2.52	149	Pg	Pg	21 27 44.7	-3.5
	0.7nm,0.2s,SNR=4.0						
ETOR	Torete	2.90	202	Lg		21 28 27.8	
	1.7nm,0.5s,SNR=4.0						
MFF	Saint Martin d	3.10	6	*e*Pg	Pg	21 27 59.4	-0.5
MFF				*e*Sn	Sn	21 28 24.0	-1.7
MFF				*e*Sg	Sg	21 28 41.1	-0.1
	2.6nm,0.3s						
MFF	Saint Martin d	3.10	6	Pg	Pg	21 27 59.4	-0.5
MFF				Lg		21 28 41.1	
	1.3nm,0.3s						
LASF	Ste Croix	3.30	79	*e*Pg	Pg	21 28 02.4	-1.5
LASF				*e*Sg	Sg	21 28 45.6	-2.3
	0.4nm,0.2s						
BGF	Bois d'Agland	3.91	38	*e*Pn	Pn	21 28 00.0	+0.3
BGF				*e*Sg	Sg	21 29 06.6	-1.7
	9.4nm,0.4s						
AVF	Avril sur Loir	4.32	39	*e*Sg	Sg	21 29 19.0	-2.8
	2.5nm,0.4s						

IDC 18 21:51:14.4±40.0**,20.36S**×**171.70E,mb4.1**/4**,mb1 4.3**/4**, mb1mx3.9**/13**,Error ellipse: s-maj=704.0km s-min=126.3km az=80.0,Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	29.27	241	P	P	21 57 18.6	-2.0
	1.3nm,0.4s,baz=98,slow=9.7,SNR=4.4						
WB2	Warramunga Arr	35.02	264	*e*P	P	21 58 08.9	-2.1
WRA	Warramunga Arr	35.03	264	P	P	21 58 08.1	-3.0
	0.8nm,0.4s,baz=83,slow=6.7,SNR=8.5						
ASAR	Alice Springs	35.13	258	P	P	21 58 09.9	-2.0
	2.4nm,0.5s,baz=89,slow=8.8,SNR=49						
ASPA	Alice Springs	35.13	258	*e*P	P	21 58 10.3	-1.6
FITZ	Fitzroy Crossi	43.45	265	P	P	21 59 20.5	-0.6
	1.4nm,0.5s,baz=80,slow=6.1,SNR=4.0						

CNRM ***18*** *22:08:54.6,35.34N×1.43W,h30km,MD3.4*
CSEM ***18*** *22:09:00.0±0.3,34.88N×1.71W,h35km,ML3.1/4,Error ellipse: s-maj=5.6km s-min=3.5km az=110.0*
SFS ***18*** *22:09:00.0,35.10N×1.70W,ML3.5*
MDD ***18*** *22:09:00.8±2.4,35.13N×1.82W,mb3.5/4,Error ellipse: s-maj=23.1km s-min=13.9km az=140.0,PRXIMO*
ISC 18 22:08:58.1±1.1**,34.96N**±0.04×**1.61W**±0.08**,h30km,n17,** σ**1s24**/30**,Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZAI	Zaio	0.93	271	*i* S	Sn	22 09 27.0	-0.7
ZAI	Zaio	0.93	271	*i* P	Pn	22 09 12.0	-3.3
MELI	Melilla	1.13	287	*i* P	Pn	22 09 18.8	+0.6
MELI				*e*S	Sn	22 09 33.2	+0.4
EMLI	Melilla	1.15	287	Pn	Pn	22 09 19.4	+1.0
	19nm,0.1s,SNR=8.1						
EMLI				Sn	Sn	22 09 35.0	+1.8
	156nm,0.2s,SNR=4.9						
EMEL	Melilla	1.15	287	Pn	Pn	22 09 19.4	+0.9
	SNR=8.1						
EMEL				Sn	Sn	22 09 35.0	+1.7
	156nm,0.2s,SNR=4.9						
EBER	Berja	2.19	332	Pn	Pn	22 09 33.0	-0.3
	2.1nm,0.2s,SNR=4.9						
EBER				Sn	Sn	22 09 57.4	-2.3
	3.8nm,0.2s,SNR=6.6						
EBER	Berja	2.19	332	Pn	Pn	22 09 33.0	-0.3
	2.1nm,0.2s,SNR=4.9						
EBER				Sn	Sn	22 09 57.4	-2.3
	3.8nm,0.2s,SNR=6.6						
TZK	Tazeka	2.30	248	*e*P	Pn	22 09 34.5	-0.3
TZK				*i* S	Sn	22 10 02.0	-0.3
EMUR	La Murta	2.89	6	Pn	Pn	22 09 44.5	+1.2
	7.7nm,0.5s,SNR=4.0						
EMUR				Sn	Sn	22 10 13.7	-3.7
	5.0nm,0.3s,SNR=5.9						
EMUR	La Murta	2.89	6	Pn	Pn	22 09 44.5	+1.2
	7.7nm,0.5s,SNR=4.0						
EMIJ	Mijas	3.03	303	Pn	Pn	22 09 45.1	-0.1
	1.9nm,0.3s,SNR=7.9						
EMIJ				Sn	Sn	22 10 17.5	-3.3
	3.2nm,0.4s,SNR=7.9						
EQES	Quesada	3.07	338	Pn	Pn	22 09 47.7	+1.9
	1.7nm,0.2s,SNR=16						
EQES				Sn	Sn	22 10 21.8	-0.1
	8.4nm,0.4s,SNR=6.6						
EQES	Quesada	3.07	338	Pn	Pn	22 09 47.7	+1.9
	1.7nm,0.2s,SNR=16						
EQES				Sn	Sn	22 10 21.8	-0.1
	8.4nm,0.4s,SNR=6.6						
MIF	Mishlifen	3.38	244	*e*P	Pn	22 09 49.0	-1.1
MIF				*i* S	Sn	22 10 29.0	-0.7
ZFT	Errachidia	3.71	219	*e*P	Pn	22 09 55.0	+0.1
ZFT				*i* S	Sn	22 10 38.0	-0.2
EADA	Adamuz	3.99	324	Pn	Pn	22 09 58.9	0.0
	0.6nm,0.2s,SNR=7.9						
EADA				Sn	Sn	22 10 41.7	-3.6
	2.6nm,0.4s,SNR=4.0						
EADA	Adamuz	3.99	324	Pn	Pn	22 09 58.9	0.0
	0.6nm,0.2s,SNR=7.9						

MOS ***18*** *22:11:43.7±1.0,24.97N×99.07E,h33km,mb5.1/10,Error ellipse: s-maj=22.1km s-min=8.7km az=115.3*
BJI ***18*** *22:11:43.6,25.08N×99.17E,h34km,mB5.1,mb4.8,ML5.1,Ms4.8,Msz4.6*
IDC ***18*** *22:11:44.1±5.3,25.03N×99.05E,h28km±37km,mb4.4/14,mb1 4.5/17,mb1mx4.5/21,ML4.8/1,MS4.1/17,Ms1 4.1/17,ms1mx4.0/25,Error ellipse: s-maj=20.2km s-min=12.5km az=61.0*
NEIC ***18*** *22:11:44.9±1.4,25.07N×99.17E,h30km±10km,mb4.8/47,MS4.4/4,Error ellipse: s-maj=5.0km s-min=3.3km az=66.0*
NEIC Twelve people injured and more than 20,000 houses damaged or destroyed in the Baoshan area. Felt strongly in Changning, Longling, Shidian and Tengchong Counties.
ISC 18 22:11:41.7±1.1**,25.03N**±0.03×**99.02E**±0.03**,h19km**±8km**, n203,** σ**1s03**/207**,mb4.7**/73**,MS4.3**/28**,12C-9D,Yunnan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMI	Kunming	3.38	88	*e*P	Pn	22 12 35.6	+0.9
KMI				PG	Pn	22 12 44.5	+10
KMI				SG	Sn	22 13 27.4	+13
KMI				Smax			
	comp=N,7µm,1.0s						
KMI				Smax			
	comp=E,4µm,1.1s						
IMP	Imphal	4.62	268	*e*P	Pn	22 12 55.0	+2.6
CHG	Chiang Mai	6.19	181	PN	Pn	22 13 15.4	+0.9
CHG				PG	Pn	22 13 38.7	+24
CHG				SG	Sn	22 15 01.7	+36
NANT	Nan	6.40	166	PG	Pn	22 13 17.2	-0.2
NANT				SG	Px	22 13 19.0	
SHL	Shillong	6.48	276	*e*P	Pn	22 13 19.0	+0.4
SHL				*e*		22 14 43.0	
CM31	Chiang Mai Arr	6.54	181	*e*P	Pn	22 13 19.8	+0.3
	comp=E,0.2nm,0.6s						
CMAR	Chiang Mai Arr	6.54	181	Pn	Pn	22 13 20.1	+0.5
	comp=E,5.0nm,0.3s,baz=356,slow=13,SNR=212						
CMAR				Pg	Pn	22 13 45.4	+26
	comp=E,15nm,0.3s,baz=358,slow=17,SNR=24						
CMAR				Lg		22 15 09.8	
	comp=E,35nm,0.3s,baz=358,slow=30,SNR=12						
CMAR				LR	LR	22 15 20.0	
	comp=E,208nm,21.3s,baz=82,slow=33						
AGT	Agartala	7.17	262	*e*P	Pn	22 13 29.0	+0.7
CD2	Chengdu	7.20	35⇓	*i*P	Pn	22 13 29.0	+0.3
CD2				SG	Sn	22 15 28.3	+38
CD2				Smax			
	comp=N,579nm,1.0s						
CD2				Smax			
	comp=E,642nm,1.0s						
CD2				LR	LR		
	comp=Z,8µm,9.0s						
BDT	Bhumibol Dam	7.75	180	PN	Pn	22 13 37.0	+0.6
BDT				PG	Pn	22 14 11.0	+35
BDT				SG	Sn	22 15 50.8	+46
LSA	Lhasa	8.40	305	P	P	22 13 46.0	+0.6
KKTK	Khon Kaen	9.36	157	P	P	22 14 00.0	+1.3
	comp=Z,926nm,0.5s						
NST	Nakhon Sawan	9.37	173	P	P	22 13 59.0	+0.1
ENH	Enshi	10.64	58	*e*P	P	22 14 12.4	-4.0
	comp=Z,40nm,0.7s						
UBT	Ubonrachathani	11.25	149	P	P	22 14 28.0	+3.3
QIZ	Qiongzhong	11.68	119	*e*P	P	22 14 27.8	-2.8
QIZ				S	S	22 16 36.8	-4.6
QIZ				LR	LR		
	comp=N,1µm,8.3s						
QIZ				LR	LR		
	comp=E,1µm,6.9s						
QIZ				LR	LR		
	comp=Z,1µm,8.7s						
QIZ	Qiongzhong	11.68	119	*e*P	P	22 14 27.1	-3.5
LZH	Lanzhou	11.77	20	⇑P	P	22 14 33.0	+1.2
LZH				AP		22 14 34.9	
LZH				S	S	22 16 44.5	+0.8
LZH				SS	SS	22 16 59.0	+0.9
GUN	Gumba	12.11	287	*e*P	P	22 14 34.5	-1.9
	comp=Z,61nm,0.5s						
XAN	Xi'an	12.44	42	P	P	22 14 36.4	-4.3
XAN				LG2		22 18 28.8	
XAN				AMB	AMB		
	comp=Z,11nm,0.6s						
XAN				LR	LR		
	comp=N,3µm,14.1s						
XAN				LR	LR		
	comp=E,3µm,19.6s						
XAN				LR	LR		
	comp=Z,3µm,12.5s						
PKI	Pulchoki	12.47	285	*e*P	P	22 14 38.7	-2.4
	comp=Z,27nm,0.4s						
KKN	Kakani	12.62	286	*e*P	P	22 14 40.7	-2.4
	comp=Z,106nm,0.7s						
DMN	Daman	12.74	285	*e*P	P	22 14 42.6	-2.2
	comp=Z,28nm,0.4s						
GKN	Gorkha	13.21	286	*e*P	P	22 14 48.1	-2.9
GZH	Guangzhou	13.23	95	P	P	22 14 50.8	-0.5
GZH				S	S	22 17 10.4	-8.5
KOLN	Koldanda	14.08	285	*e*P	P	22 14 59.8	-2.8
GTA	Gaotai	14.35	2	*e*P	P	22 15 05.3	-0.7
GTA				XP		22 15 13.0	
GTA				PP	PP	22 15 16.3	-1.0
GTA				S	S	22 17 41.3	-4.2
GTA				AMB	AMB		
	comp=Z,282nm,8.4s						
GTA				LR	LR		
	comp=Z,1µm,12.5s						
WHN	Wuhan	14.63	65	*e*P	P	22 15 05.0	-4.7
WHN				AP		22 15 12.5	
WHN				LR	LR		
	comp=Z,6µm,9.1s						
ALBI	Allahabad	15.59	275	*e*	P	22 15 19.0	-3.2
VIS	Vishakhapatnam	16.32	247	*e*P	P	22 15 33.5	+1.9
TIY	Taiyuan	17.04	39	⇑P	P	22 15 38.1	-2.4
TIY				LR	LR		
	comp=E,2µm,10.0s						
TIY				LR	LR		
	comp=Z,1µm,11.0s						
BTO	Baotou	18.05	28	*e*P	P	22 15 53.5	+0.3
BTO				AP		22 15 55.9	
BTO				S	S	22 19 11.4	+0.2
BTO				SS	SS	22 19 31.8	-2.8
BTO				AMB	AMB		
	comp=Z,35nm,1.2s						
NJ2	Nanjing	18.76	64	*e*P	P	22 16 03.6	+1.6
NJ2				AP		22 16 11.1	
NJ2				XP		22 16 15.4	
NJ2				PP	PP	22 16 19.4	+1.2
NJ2				S	S	22 19 28.0	+0.6
NJ2				XS		22 19 41.0	
NJ2				SS	SS	22 19 53.0	+0.5
NJ2				AMB	AMB		
	comp=Z,40nm,0.8s						
NJ2				LR	LR		
	comp=Z,4µm,13.5s						
HHC	Hu-ho-hao-te	18.93	31	*e*P	P	22 16 02.9	-1.0
HHC				AP		22 16 11.3	
HHC				XP		22 16 15.3	
HHC				PP	PP	22 16 19.1	-1.3
HHC				S	S	22 19 31.4	+0.3
HHC				XS		22 19 42.8	
HHC				PCP	PcP	22 20 26.1	-3.6
HHC				AMB	AMB		
	comp=Z,29nm,1.4s						
HHC				AMB	AMB		
	comp=Z,531nm,5.1s						
HHC				LR	LR		
	comp=N,2µm,9.4s						
HHC				LR	LR		
	comp=E,1µm,7.2s						
HHC				LR	LR		
	comp=Z,948nm,11.8s						
DDI	Dehra Dun	19.29	291	*e*P	P	22 16 05.2	-3.1
DDI				*e*		22 19 36.8	
NDI	New Delhi	19.78	285	*e*P	P	22 16 12.0	-1.9
NDI				*e*		22 20 54.0	
BHPL	Bhopal	19.79	269	*e*P	P	22 16 13.9	-0.1
BHPL				*e*		22 16 21.0	
	comp=Z,193nm,1.5s						
BHPL				*e*S	S	22 19 55.9	+5.7
IPM	Ipoh	20.43	174⇑	*e*P	P	22 16 21.7	+1.0
SSE	Sheshan	20.46	68	P	P	22 16 19.1	-1.9
SSE				XP		22 16 31.3	
SSE				S	S	22 20 06.8	+2.7
SSE				AMB	AMB		
	comp=Z,88nm,1.0s						
SSE				LR	LR		
	comp=N,3µm,18.5s,MS4.6						
SSE				LR	LR		
	comp=E,477nm,18.5s,MS4.6						
SSE				LR	LR		
	comp=Z,618nm,22.6s,MS3.9						
HYB	Hyderabad	20.51	252⇑	*i*P	P	22 16 22.0	+0.4
	comp=Z,60nm,1.0s						
HYB				*e*		22 16 38.5	
HYB				*e*		22 17 08.5	
HYB	Hyderabad	20.51	252⇑	*e*P	P	22 16 22.0	+0.4
	comp=Z,60nm,1.0s						
BJI	Beijing	20.76	40	*e*P	P	22 16 24.1	+0.1
BJI				AMB	AMB		
	comp=Z,35nm,1.5s						
BJI				LR	LR		
	comp=Z,422nm,18.4s,MS3.9						
BHK	Bhakra	20.89	293	*e*	P	22 16 28.8	+3.4
WMQ	Urumqi	20.90	337	P	P	22 16 25.6	+0.2
WMQ				XP		22 16 38.6	
WMQ				PP	PP	22 16 48.0	0.0
WMQ				S	S	22 20 11.0	-1.8
WMQ				SS	SS	22 20 43.0	-1.9
WMQ				AMB	AMB		
	comp=Z,26nm,1.0s						
WMQ				LR	LR		
	comp=N,947nm,10.0s,MS4.7						
WMQ				LR	LR		
	comp=E,2µm,12.0s,MS4.7						
WMQ				LR	LR		
	comp=Z,478nm,8.0s						
MDRS	Chennai	21.33	240	*i*	P	22 16 36.0	+6.0
MDRS				*e*		22 25 53.0	
THN	Thein Dam	21.70	295	*e*P	P	22 16 31.6	-1.9
	comp=Z,24nm,0.7s,mb4.7						
AJM	Ajmer	22.00	279	*e*P	P	22 16 37.5	+0.9
AJM				*e*		22 16 44.6	
	comp=Z,228nm,1.8s						
SONM	Songino Array	23.50	13	P	P	22 16 51.4	+0.2
	comp=Z,12nm,0.8s,mb4.4,baz=196,slow=9.8,SNR=61						
DL2	Dalian	23.57	49	P	P	22 16 53.8	+1.9
DL2				AMB	AMB		
	comp=Z,30nm,0.8s,mb4.8						
KSH	Kashi	24.16	312	P	P	22 17 02.4	+4.7
KSH				AP		22 17 12.0	
KSH				*e*PCP	PcP	22 20 36.0	-3.9
KSH				*e*SCP		22 24 13.0	
KSH				*e*PCS		22 24 15.8	
KSH				LR	LR		
	comp=N,1µm,11.8s						
KSH				LR	LR		
	comp=E,2µm,17.6s						
KAD	Karad	24.37	256	*e*P	P	22 17 01.0	+1.0
KAD				*e*		22 17 05.8	
	comp=Z,41nm,0.7s						
PALK	Pallekele	24.87	228	*e*P	P	22 17 06.0	+1.2
	comp=Z,42nm,1.2s,mb4.8						
KKM	Kota Kinabalu	25.06	136⇓	*e*P	P	22 17 10.5	+3.9
MKAR	Makanchi Array	25.49	333	*i* P	P	22 17 11.6	+1.3
MKAR				pmax	pmax		
	comp=Z,30nm,0.8s						
ZAK	Zakamensk	25.52	6⇓	*e*P	P	22 17 11.0	+0.4
ZAK				*e*		22 20 41.8	
SNY	Shenyang	26.33	44	⇓P	P	22 17 18.6	+0.4
SNY				AP	pP	22 17 23.3	-0.5
SNY				S	S	22 21 43.4	-4.7
SNY				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.7						
SNY				LR	LR		
	comp=N,2µm,19.7s						
SNY				LR	LR		
	comp=E,2µm,26.5s						
SNY				LR	LR		
	comp=Z,1µm,13.2s						
MOY	Mondy	26.64	3	*e*P	P	22 17 23.9	+3.0
AAK	Ala-Archa	26.74	317	*i* P	P	22 17 23.1	+1.1
AAK				pmax	pmax		
	comp=Z,30nm,2.3s,mb4.4						
AAK				MLR	MLR		
	comp=Z,800nm,17.0s,MS4.3						
AAK	Ala-Archa	26.74	317	*i* P	P	22 17 23.1	+1.1
	comp=Z,30nm,2.3s,mb4.4						
AAK				LR	LR		
	comp=Z,800nm,17.0s,MS4.3						
FRU	Bishkek	26.78	318	*e*P	P	22 17 38.0	+16
CN2	Changchun	28.55	42	*e*P	P	22 17 38.6	+0.3
CN2				*e*XP	sP	22 17 52.0	+5.5
CN2				*e*S	S	22 22 21.8	-2.1
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.7						
CN2				LR	LR		
	comp=N,1µm,14.0s,MS4.7						
CN2				LR	LR		
	comp=E,1µm,14.0s,MS4.7						
CN2				LR	LR		
	comp=Z,1µm,15.0s,MS4.5						
HIA	Hailar	29.10	28	*e*P	P	22 17 42.6	-0.7
	comp=Z,2.5nm,0.5s,mb4.2						
KURK	Kurchatov	30.08	334	*i* P	P	22 17 52.1	+0.1
KURK				pmax	pmax		
	comp=Z,5.0nm,1.5s,mb4.0						
ZAL	Zalesovo	30.76	344	P	P	22 17 57.2	-0.8
	comp=Z,4.7nm,0.9s,mb4.3,baz=305,slow=11,SNR=9.9						
ZAL				LR	LR	22 29 58.1	
	comp=Z,345nm,20.2s,MS4.0,baz=308,slow=36						
ZAL	Zalesovo	30.76	344	P	P	22 17 57.2	-0.8
ZAL				LR	LR	22 29 58.1	
MDJ	Mudanjiang	31.53	44	P	P	22 18 03.8	-1.1
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.5s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,190nm,7.5s						
NVS	Novosibirsk	31.98	343	*e*P	P	22 18 08.4	-0.3
NVS				pmax	pmax		
	comp=Z,23nm,1.5s,mb4.8						
NVS				pmax	pmax		
	comp=N,38nm,1.6s						
NVS				pmax	pmax		
	comp=E,9.0nm,1.2s						
NVS	Novosibirsk	31.98	343	*e*P	P	22 18 08.4	-0.3
	comp=E,23nm,1.5s,mb4.8						
BOD	Bodaibo	34.47	14	*e*P	P	22 18 30.9	+0.6
VOSK	Vostochnaya	34.81	330	P	P	22 18 33.9	+0.6
VOSK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
VOSK	Vostochnaya	34.81	330	P	P	22 18 33.9	+0.6
	comp=Z,5.0nm,0.8s,mb4.5						
BVA0	Borovoye Array	35.28	330	P	P	22 18 39.5	+2.2
BVAR	Borovoye Array	35.28	330	P	P	22 18 36.4	-0.9
	comp=Z,2.2nm,0.6s,mb4.3,baz=135,slow=8.4,SNR=9.2						
BVAR				PcP	PcP	22 21 06.0	-2.0
	comp=Z,1.6nm,0.7s,baz=135,slow=2.0,SNR=3.9						
BRVK	Borovoye	35.35	330	P	P	22 18 38.5	+0.6
BRVK				pmax	pmax		
	comp=Z,17nm,1.8s,mb4.7						
BRVK	Borovoye	35.35	330	P	P	22 18 38.5	+0.6
	comp=Z,17nm,1.8s,mb4.7						
ZRNK	Zerenda	35.87	329	P	P	22 18 42.2	-0.1
ZRNK				pmax	pmax		
	comp=Z,21nm,1.6s,mb4.8						
ASAJ	Asahikawa	40.07	50	P	P	22 19 17.2	-0.3
	comp=Z,62nm,0.7s,mb5.4,baz=253,slow=13,SNR=28						
YSS	Yuzh-Sakhalins	40.93	46⇑	*e*P	P	22 19 24.6	+0.1
YSS				pmax	pmax		
	comp=Z,120nm,1.4s,mb5.3						
YSS	Yuzh-Sakhalins	40.93	46⇑	*e*P	P	22 19 24.6	+0.1
	comp=Z,120nm,1.4s,mb5.3						
SVE	Sverdlovsk	42.06	329⇓	*e*P	P	22 19 35.1	+1.5
SVE				*e*S	S	22 26 00.0	+8.4
SVE				*e*SS	Sx	22 29 25.0	
SVE				pmax	pmax		
	comp=Z,60nm,2.2s,mb4.8						
SVE				MLR	MLR		
	comp=N,200nm,11.0s,MS4.7						
SVE				MLR	MLR		
	comp=E,500nm,11.0s,MS4.7						
SVE				MLR	MLR		
	comp=Z,600nm,11.0s,MS4.7						
SVE	Sverdlovsk	42.06	329⇓	*e*P	P	22 19 35.1	+1.5
	comp=Z,60nm,2.2s,mb4.8						
SVE				*e*S	S	22 26 00.0	+8.4
SVE				*e*SS	Sx	22 29 25.0	
SVE				LR	LR		
	comp=Z,600nm,11.0s,MS4.7						
ARU	Arti	42.83	328	*e*P	P	22 19 36.1	-3.9
ARU				*e*		22 21 29.0	
ARU				*e*S	S	22 25 57.2	-5.8
ARU				*e*SS	SS	22 29 07.9	-0.3
ARU				*i*		22 29 38.7	
ARU				MLR	MLR		
	comp=Z,400nm,19.0s,MS4.3						
ARU				MLR	MLR		
	comp=N,200nm,17.0s,MS4.3						
ARU				MLR	MLR		
	comp=E,300nm,20.0s,MS4.3						
UMR	Umm Al-Rimmam	45.52	288	*e*P	P	22 20 03.0	+1.0
UMR				AMb	AMB	22 20 03.6	
	comp=Z,25nm,0.6s,mb5.3						
KBD	Kabd	45.59	287	*e*P	P	22 20 03.1	+0.6
RDF	Al-Radifah	45.74	287	*e*P	P	22 20 03.6	-0.2
RDF				AMb	AMB	22 20 09.3	
	comp=Z,39nm,1.2s,mb5.2						
MIB	Mutribah	45.81	288	*e*P	P	22 20 04.6	+0.3
MIB				AMb	AMB	22 20 06.1	
	comp=Z,52nm,0.6s,mb5.6						
RST	Umm Al-Ruwaisa	46.15	288	*e*P	P	22 20 07.0	0.0
RST				AMb	AMB	22 20 07.7	
	comp=Z,27nm,0.7s,mb5.3						
MZLS	Mizel	48.69	281	P	P	22 20 27.0	0.0
GOF	Gofitskoye	48.96	309⇓	*i*P	P	22 20 31.0	+2.2
GOF				pmax	pmax		
	comp=Z,37nm,1.6s,mb5.2						
GOF	Gofitskoye	48.96	309⇓	*i*P	P	22 20 31.0	+2.2
	comp=Z,37nm,1.6s,mb5.2						
KIV	Kislovodsk	49.14	307	*i* P	P	22 20 31.1	+0.9
KIV				pmax	pmax		
	comp=Z,57nm,1.8s,mb5.3						
KIV				MLR	MLR		
	comp=Z,500nm,20.0s,MS4.5						
KIV	Kislovodsk	49.14	307	*i* P	P	22 20 31.1	+0.9
	comp=Z,57nm,1.8s,mb5.3						
KIV				LR	LR		
	comp=Z,500nm,20.0s,MS4.5						
TIXI	Tiksi	49.58	12⇑	*i*P	P	22 20 32.7	-0.5
TIXI				*e*		22 20 48.9	
TIXI				*e*		22 21 52.3	
TIXI				*e*		22 22 31.0	
TIXI				*e*S	S	22 27 33.2	-5.9
TIXI				*e*SSS	SSS	22 32 39.7	+5.9
TIXI				pmax	pmax		
	comp=Z,29nm,1.8s,mb5.0						
TIXI				MLR	MLR		
	comp=Z,300nm,17.0s,MS4.4						
TIXI	Tiksi	49.58	12⇑	*i*P	P	22 20 32.7	-0.5
	comp=Z,29nm,1.8s,mb5.0						
TIXI				*e*		22 20 48.9	
TIXI				*e*		22 21 52.3	
TIXI				*e*		22 22 31.0	
TIXI				*e*S	S	22 27 33.2	-5.9
TIXI				*e*SSS	SSS	22 32 39.7	+5.9
TIXI				LR	LR		
	comp=Z,300nm,17.0s,MS4.4						

ERZM	Erzurum	50.04	302	*i* P	P	22 20 38.5	+1.4
FITZ	Fitzroy Crossi	50.10	146	*e*P	P	22 20 37.0	-0.9
	comp=Z,9.2nm,1.2s,mb4.7						
MBWA	Marble Bar	50.13	155	*e*P	P	22 20 37.5	-0.6
KAMS	Al Khamasin	50.18	276	P	P	22 20 37.3	-1.2
AFFS	‘Afif	50.68	281	P	P	22 20 42.3	+0.1
HILS	Ha’il	51.01	286	P	P	22 20 45.0	+0.3
SOC	Sochi	51.27	307	*e*P	P	22 20 45.9	-0.6
SOC				*e*PPP	PPP	22 23 39.6	-5.3
SOC				*e*S	S	22 28 03.8	+1.0
SOC				*e*SS	Sx	22 33 16.6	
SOC				pmax	pmax		
	comp=Z,22nm,1.2s,mb5.0						
SOC				MLR	MLR		
	comp=Z,253nm,22.0s,MS4.2						
SOC				MLR	MLR		
	comp=N,300nm,20.0s,MS4.4						
SOC				MLR	MLR		
	comp=E,141nm,17.0s,MS4.4						
ELZG	Elazig	51.95	300	*i* P	P	22 20 52.7	+1.1
GZT	Gaziantep	53.15	299	*i* P	P	22 21 00.5	-0.2
OBN	Obninsk	54.16	321	*i* P	P	22 21 07.5	-0.3
OBN				*e*		22 21 20.9	
OBN				*e*		22 22 11.8	
OBN				*e*		22 34 16.8	
OBN				pmax	pmax		
	comp=Z,19nm,1.5s,mb4.8						
OBN				MLR	MLR		
	comp=Z,300nm,23.0s,MS4.3						
OBN	Obninsk	54.16	321	*i* P	P	22 21 07.5	-0.3
	comp=Z,19nm,1.5s,mb4.8						
OBN				*e*		22 21 20.9	
OBN				*e*		22 22 11.8	
OBN				*e*		22 34 16.8	
OBN				LR	LR		
	comp=Z,300nm,23.0s,MS4.3						
COBT	Iskenderun	54.28	298	*i* P	P	22 21 07.6	-1.4
TBKS	Tabuk	55.39	288	P	P	22 21 17.8	+0.6
JMQS	Jabal Moqyreh	55.83	289	P	P	22 21 19.6	-0.8
MEST	Erdemli	55.96	298	*i* P	P	22 21 20.2	-1.0
BRTR	Keskin Array B	55.99	302	P	P	22 21 20.2	-1.1
	comp=Z,1.8nm,0.6s,mb4.3,baz=112,slow=8.9,SNR=9.8						
BRTR				PcP	PcP	22 22 16.3	-3.3
	comp=Z,2.3nm,1.1s,baz=135,slow=5.2,SNR=3.8						
BRTR				LR	LR	22 48 33.6	
	comp=Z,84nm,19.9s,MS3.8,baz=80,slow=39						
ELDT	Eldivan	56.08	303	*i* P	P	22 21 21.9	0.0
DBAS	Duba	56.11	287	P	P	22 21 22.4	+0.1
MORW	Morawa	56.22	162	*e*P	P	22 21 23.3	+0.1
	comp=Z,18nm,0.8s,mb5.2						
WRAB	Tennant Creek	56.38	139	P	P	22 21 23.0	-1.4
	comp=Z,136nm,1.1s,mb5.9,SNR=17						
WRAB	Tennant Creek	56.38	139	*e*P	P	22 21 22.6	-1.8
	comp=Z,36nm,1.0s,mb5.4						
WRA	Warramunga Arr	56.38	139	P	P	22 21 22.9	-1.6
	comp=Z,16nm,1.1s,mb5.0,baz=328,slow=7.8,SNR=24						
WRA				LR	LR	22 49 07.0	
	comp=Z,124nm,20.0s,MS4.0,baz=240,slow=40						
WB2	Warramunga Arr	56.39	139	*e*P	P	22 21 23.4	-1.1
BDAS	Al Bad‘	56.59	289	P	P	22 21 25.6	-0.3
HAQS	Haql	56.61	289	P	P	22 21 25.1	-0.8
SGKT	Sivrigoynuk	57.11	303	*i* P	P	22 21 28.6	-0.8
AKASG	Malin Array Be	58.40	316	P	P	22 21 37.0	-1.3
	comp=Z,7.8nm,0.8s,mb4.8,baz=78,slow=6.2,SNR=14						
AKASG				LR	LR	22 51 32.2	
	comp=Z,265nm,18.3s,MS4.4,baz=80,slow=41						
MUN	Mundaring	59.02	163	*e*P	P	22 21 42.7	-0.2
	comp=Z,7.0nm,0.5s,mb5.0						
ASPA	Alice Springs	59.05	142	*e*P	P	22 21 42.6	-0.5
ASAR	Alice Springs	59.05	142	P	P	22 21 41.6	-1.5
	comp=Z,15nm,1.2s,mb4.9,baz=324,slow=6.8,SNR=24						
ASAR				LR	LR	22 46 52.8	
	comp=Z,145nm,19.8s,MS4.1,baz=313,slow=36						
ULDT	Uludag	59.38	303	*i* P	P	22 21 44.2	-1.0
KAF	Kangasniemi	60.12	329	*e*p	P	22 21 54.0	+4.0
	comp=Z,2.0nm,0.7s,mb4.3						
KAF	Kangasniemi	60.12	329	*e*P	P	22 21 54.0	+4.0
KAF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
NWAO	Narrogin (SRO)	60.19	162	LR	LR	22 47 20.7	
	comp=Z,355nm,21.0s,MS4.5,baz=325,slow=36						
FINES	FINESS Array B	60.20	328	P	P	22 21 50.0	-0.6
	comp=Z,2.4nm,0.7s,mb4.3,baz=108,slow=6.0,SNR=9.6						
FINES				LR	LR	22 49 57.0	
	comp=Z,198nm,20.7s,MS4.2,baz=72,slow=38						
ARCES	ARCESS Array B	61.02	337	P	P	22 21 55.6	-0.4
	comp=Z,18nm,1.2s,mb5.1,baz=100,slow=7.4,SNR=11						
ARCES				LR	LR	22 51 16.9	
	comp=Z,252nm,19.7s,MS4.4,baz=30,slow=39						
SUW	Suwalki	61.92	320	*e*P	P	22 22 01.6	-0.7
SUW	Suwalki	61.92	320	*e*P	P	22 22 01.6	-0.7
FORT	Forrest	62.08	152	*e*P	P	22 22 03.2	-0.5
	comp=Z,37nm,0.6s,mb5.7						
KWP	Kalwaria	62.66	315	*e*P	P	22 22 07.4	+0.1
KWP				*e*pP	pP	22 22 11.8	-1.5
KWP	Kalwaria	62.66	315	*e*P	P	22 22 07.4	+0.1
KWP				*e*pP	pP	22 22 11.8	-1.5
KOLS	Kolonicke sedl	63.03	314	*e*P	P	22 22 12.1	+2.4
NIE	Niedzica	64.23	315	*e*P	P	22 22 18.2	+0.6
OJC	Ojcow	64.44	316	*e*P	P	22 22 19.1	+0.1
OJC	Ojcow	64.44	316	*e*P	P	22 22 19.1	+0.1
KMBO	Kilima Mbogo	65.11	256	P	P	22 22 23.6	-0.4
	comp=Z,1.3nm,0.8s,mb4.0,baz=49,slow=16,SNR=2.9						
MORC	Moravsky Berou	65.95	315	*e*P	P	22 22 28.2	-0.5
	comp=Z,4.3nm,0.9s,mb4.5						
KSP	Ksiaz	66.53	317	*e*P	P	22 22 32.3	-0.1
NB2	NORSAR Subarra	67.39	328	P	P	22 22 36.4	-1.2
	comp=Z,5.1nm,0.8s,mb4.6,baz=80,slow=6.2						
NOA	NORSAR Array B	67.39	328	P	P	22 22 36.6	-1.0
	comp=Z,4.8nm,1.0s,mb4.5,baz=80,slow=6.3,SNR=10						
NOA				LR	LR	22 54 08.3	
	comp=Z,257nm,18.2s,MS4.5,baz=75,slow=38						
PRU	Pruhonice	67.81	316	*e*P	P	22 22 45.3	+4.8
	comp=Z,2.7nm,0.6s,mb4.5						
BRG	Berggiesshubel	67.98	317	*e*P	P	22 22 42.1	+0.5
BRG				*e*		22 22 54.4	
BRG				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
BRG	Berggiesshubel	67.98	317	*e*P	P	22 22 42.1	+0.5
	comp=Z,5.6nm,1.1s,mb4.5						
BRG				*e*		22 22 54.4	
CRES	Cresnjev	68.16	312	*i* P	P	22 22 43.1	+0.4
PERS	Pernice	68.20	312	*i* P	P	22 22 43.0	0.0
BOJS	Bojanci	68.38	311	*i* P	P	22 22 43.4	-0.8
CLL	Collm	68.46	318	P	P	22 22 49.0	+4.5
MOA	Molln	68.47	314	⇑*i*P	P	22 22 45.0	+0.3
	comp=Z,5.4nm,0.7s,mb4.7						
GERES	GERESS Array B	68.60	315	P	P	22 22 45.2	-0.2
	comp=Z,2.0nm,0.6s,mb4.2,baz=64,slow=5.1,SNR=20						
KHC	Kasperske Hory	68.61	315	*e*P	P	22 22 45.5	0.0
KBA	Koelnbreinsper	69.27	313	⇓*i*P	P	22 22 49.3	-0.3
	comp=Z,4.3nm,0.6s,mb4.6						
ROBS	Robic	69.37	312	*i* P	P	22 22 49.6	-0.6
STKA	Stephens Creek	69.69	142	*e*P	P	22 22 51.5	-0.9
	comp=Z,5.0nm,0.8s,mb4.5						
STKA	Stephens Creek	69.69	142	P	P	22 22 51.5	-0.9
	comp=Z,7.2nm,1.0s,mb4.6,baz=353,slow=5.5,SNR=8.1						
STKA				LR	LR	22 55 56.6	
	comp=Z,118nm,19.1s,MS4.2,baz=212,slow=38						
GRA1	Grafenberg Arr	69.96	316	*e*P	P	22 22 58.5	+4.8
	comp=Z,6.0nm,1.0s,mb4.5						
GRA1				LR	LR		
	comp=Z,200nm,19.6s,MS4.4						
GRF	Grafenberg Arr	69.96	316	*e*P	P	22 22 58.5	+4.8
GRF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
GRF				MLR	MLR		
	comp=Z,200nm,19.6s,MS4.4						
DAVA	Damuels	71.49	314	⇑*i*P	P	22 23 02.5	-0.6
	comp=Z,5.4nm,0.9s,mb4.5						
CDF	Champ du Feu	72.82	316	*e*P	P	22 23 11.6	+0.7
PGF	Pioggiola	73.54	310	*e*P	P	22 23 15.9	+0.6
	comp=Z,18nm,1.0s,mb4.7						
LPG	La Plagne	74.10	313	*e*P	P	22 23 18.8	+0.4
	comp=Z,5.9nm,0.6s,mb4.4						
LPL	La Plagne	74.11	313	*e*P	P	22 23 18.6	+0.1
	comp=Z,22nm,1.1s,mb4.7						
MEZF	Maizieres J’vi	74.19	316	*e*P	P	22 23 19.7	+0.8
	comp=Z,7.9nm,0.6s,mb4.5						
SBF	Sospel	74.19	311	*e*P	P	22 23 19.5	+0.5
	comp=Z,14nm,0.7s,mb4.7						
MBDF	Montbardon	74.35	312	*e*P	P	22 23 20.8	+0.9
	comp=Z,10nm,0.9s,mb4.5						
FRF	La Foret Royal	74.83	311	*e*P	P	22 23 22.9	+0.2
	comp=Z,80nm,1.7s,mb5.1						
ORIF	Oris-en-Rattie	74.88	313	*e*P	P	22 23 24.0	+1.0
	comp=Z,7.5nm,0.9s,mb4.3						
ORIF				*e*R			
	comp=Z,297nm,20.0s						
SMF	Signal de Mont	75.61	315	*e*P	P	22 23 27.3	+0.2
	comp=Z,11nm,0.7s,mb4.6						
SSF	Saint Saulge	75.67	315	*e*P	P	22 23 27.8	+0.4
	comp=Z,10nm,0.9s,mb4.4						
VIVF	Saint-Julien-l	75.70	313	*e*P	P	22 23 28.1	+0.4
AVF	Avril sur Loir	75.86	315	*e*P	P	22 23 28.9	+0.4
	comp=Z,27nm,1.3s,mb4.7						
TCF	Toulx Ste Croi	76.78	315	*e*P	P	22 23 34.6	+0.9
	comp=Z,19nm,1.1s,mb4.6						
COLA	College	76.80	24	P	P	22 23 31.9	-1.5
MCK	McKinley	76.98	25	*e*P	P	22 23 34.4	0.0
ILAR	Eielson Array	77.20	24	P	P	22 23 33.9	-1.8
	comp=Z,5.9nm,1.2s,mb4.4,baz=305,slow=4.8,SNR=16						
ILAR				LR	LR	23 00 58.7	
	comp=Z,141nm,18.2s,MS4.3,baz=151,slow=38						
LDF	La Druitiere	77.35	318	*e*P	P	22 23 37.3	+0.5
	comp=Z,25nm,1.1s,mb4.8						
CAF	Calviac	77.40	314	*e*P	P	22 23 37.8	+0.7
	comp=Z,11nm,1.0s,mb4.4						
RJF	Les Rejaudoux	77.61	314	*e*P	P	22 23 39.0	+0.7
	comp=Z,65nm,1.7s,mb5.0						
RJF				*e*R			
	comp=Z,200nm,22.2s						
SUMG	Summit	78.47	348	*e*P	P	22 23 42.5	+0.1
	comp=Z,13nm,1.2s,mb4.7						
INK	Inuvik	79.31	17	*e*P	P	22 23 47.1	0.0
	comp=Z,23nm,1.3s,mb5.0						
LSZ	Lusaka	79.79	248	*e*P	P	22 23 50.3	-0.5
	comp=Z,5.7nm,0.8s,mb4.5						
ETSF	Etsaut	79.95	313	*e*P	P	22 23 51.9	+0.8
	comp=Z,7.9nm,0.8s,mb4.4						
DAWY	Dawson	80.27	22	*e*P	P	22 23 52.2	-0.2
ESDC	Sonseca Array	83.67	311	P	P	22 24 11.2	+0.7
	comp=Z,0.5nm,0.6s,mb3.8,baz=42,slow=44,SNR=3.6						
ESDC				LR	LR	23 04 52.3	
	comp=Z,73nm,19.4s,MS4.1,baz=295,slow=38						
EVO	Evora	86.98	311	*e*P	P	22 24 27.6	+0.5
	comp=Z,168nm,1.8s,mb5.7						
EVO				*e*R			
	comp=Z,115nm,20.5s						
YKA	Yellowknife Ar	88.74	15	LR	LR	23 10 07.7	
	comp=Z,98nm,18.3s,MS4.3,baz=40,slow=40						
MAW	Mawson	96.20	193	LR	LR	23 04 26.4	
	comp=Z,82nm,21.1s,MS4.2,baz=99,slow=33						
SCHQ	Schefferville	99.54	352	LR	LR	23 19 37.7	
	comp=Z,77nm,18.6s,MS4.2,baz=17,slow=41						
DBIC	Dimbokro	99.64	282	LR	LR	23 13 47.4	
	comp=Z,86nm,18.3s,MS4.3,baz=40,slow=37						
PDAR	Pinedale Array	107.58	22	PKiKP		22 30 10.3	
	comp=Z,0.9nm,1.1s,baz=14,slow=3.7,SNR=3.0						
VNA2	Neumayer--Watz	118.80	201		PKPdf	22 30 44.5	+12
VNA3	Neumayer Olymp	119.48	201	⇑*i*	PKPdf	22 30 45.0	+11
TXAR	Lajitas Array	121.72	23	PKP	PKPdf	22 30 36.0	-3.0
	comp=Z,1.6nm,0.8s,baz=180,slow=1.3,SNR=7.0						
JCT	Junction City	121.93	19	*e*PKP	PKPdf	22 30 35.7	-3.6
CAM4	Nova Friburgo	144.80	266	(P)	PKPbc	22 31 18.9	+0.9
CAM4				*i*		22 31 21.7	
CAM4				*i*		22 31 33.9	
CAM4				*i*		22 32 10.6	
CAM4				*i*		22 32 26.7	
CAM4				*i*		22 32 55.2	
CAM4				*i*		22 33 32.1	
SDV	Santo Domingo	144.81	342	*e*PKP	PKPdf	22 31 17.8	-4.5
BDFB	Brasilia	147.78	280	PKPbc	PKPdf	22 31 25.2	-2.0
	comp=Z,6.1nm,0.9s,baz=133,slow=5.5,SNR=6.4						
CPUP	Villa Florida	158.65	261	PKP	PKPdf	22 31 39.7	-2.7
	comp=Z,4.5nm,1.1s,baz=110,slow=4.6,SNR=3.3						
CPUP	Villa Florida	158.65	261	PKP	PKPdf	22 31 39.7	-2.7
LPAZ	La Paz	165.16	303	PKP	PKPdf	22 31 47.6	-1.7
	comp=Z,2.1nm,0.2s,baz=278,slow=0.8,SNR=2.2						
LPAZ				PKPab	PKPab	22 32 44.1	-0.4
	comp=Z,2.2nm,0.3s,baz=293,slow=0.5,SNR=2.6						

MAN 18 22:55:40, 16.13N×119.88E, h19^{km}, mb4.1, ML2.9, MS2.5, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BOLP	Bolinao	0.26	7	*e*P	Pb	22 55 50.3	+4.3
SCZP	Santa Cruz	0.35	175	*e*P	Pb	22 55 46.8	-0.6
BCPH	Baguio City Da	0.72	69	⇑*i*P	Pb	22 55 54.9	+1.2
BCPH				*i* S	Sb	22 56 04.0	+1.0
PCPH	Palayan	1.30	115	*i* P	Pn	22 56 00.9	-2.4
BALP	Baler	1.68	103	*e*P	Pn	22 56 09.4	+0.7
QVPH	Quezon City--P	1.85	142	*e*P	Pn	22 56 33.7	+22
CAUP	Cauayan	2.03	66	*e*P	Pn	22 56 17.5	+3.6
APYP	Conner	2.16	37	*e*P	Pn	22 56 17.0	+1.3
APYP				*e*S	Sn	22 56 45.7	+3.4
TGY	Tagaytay City	2.25	153	⇑*i*P	Pn	22 56 18.5	+1.5
TGY				*i* S	Sn	22 56 31.6	-13
PIP	Pasuquin	2.30	18	⇓*e*P	Pn	22 56 22.0	+4.3
LUBP	Lubang	2.40	172	*e*P	Pn	22 56 18.6	-0.5
CVP	Callao Caves	2.43	50	*e*P	Pn	22 56 22.5	+2.9
CVP				*e*S	Sn	22 56 51.0	+1.9
BUSP	Coron	4.11	176	*e*P	Pn	22 56 43.1	-0.3

*BJI **18** 22:57:03.1, 17.87S×178.24W, h568^{km}, mB4.9, mb4.3*
*NEIC **18** 22:57:05.0±2.6, 17.93S×178.80W, h563^{km}±28^{km}, mb4.8/12, Error ellipse: s-maj=19.3km s-min=14.5km az=139.0*
*IDC **18** 22:57:09.7±1.7, 17.82S×179.02W, h610^{km}±20^{km}, mb3.6/13, mb1 3.8/14, mb1mx3.7/18, Error ellipse: s-maj=18.0km s-min=11.0km az=148.0*
ISC 18 22:57:08.5±1.9**, 17.9S**±0.1×**179.02W**±0.09**, h615**^{km}±25^{km}**, n86,** σ**0**^{s}**98**/35**, mb4.2**/22**, 2C-9D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	8.01	61	*e*P	Px	22 58 58.7	
	99nm,0.6s						
URZ	Urewera	20.58	189	P	P	23 01 10.0	+1.9
	5.7nm,0.6s,baz=54,slow=12,SNR=3.5						
RPZ	Rata Peaks	27.08	196	P	P	23 02 05.7	-0.1
	10nm,0.9s,mb4.4,baz=359,slow=8.1,SNR=3.1						
CTA	Charters Tower	32.88	261	⇓*i*P	P	23 02 55.3	+0.1
	14nm,0.6s,mb4.8						
CTAO	Charters Tower	32.88	261	*e*P	P	23 02 54.7	-0.5
	16nm,0.7s,mb4.8						
PMG	Port Moresby	33.88	280	P	P	23 03 04.6	+0.9
	30nm,0.8s,mb5.0,baz=104,slow=4.6,SNR=12						
TOO	Toolangi	36.73	230	*e*P	P	23 03 27.0	+0.1
	15nm,0.6s,mb4.7						
STKA	Stephens Creek	38.13	241	⇓*i*P	P	23 03 38.9	+0.5
	14nm,0.6s,mb4.7						
STKA	Stephens Creek	38.13	241	P	P	23 03 38.6	+0.2
	18nm,0.6s,mb4.8,baz=87,slow=8.7,SNR=43						
WB2	Warramunga Arr	44.05	260	⇓*i*P	P	23 04 24.7	-0.8
WRAB	Tennant Creek	44.05	260	P	P	23 04 24.0	-1.5
	209nm,0.6s,SNR=18						
WRAB	Tennant Creek	44.05	260	*e*P	P	23 04 24.0	-1.5
	29nm,0.6s,mb5.0						
WRA	Warramunga Arr	44.06	260	P	P	23 04 24.8	-0.8
	16nm,0.5s,mb4.8,baz=94,slow=7.0,SNR=153						
WRA				PcP	PcP	23 05 57.0	-0.2
	0.5nm,0.4s,baz=87,slow=3.6,SNR=4.5						
WRA				S	S	23 10 13.0	-2.3
	0.5nm,0.8s,baz=90,slow=16,SNR=2.9						
ASAR	Alice Springs	44.24	254	P	P	23 04 26.8	-0.1
	165nm,0.5s,baz=89,slow=8.2,SNR=1796						
ASAR				PcP	PcP	23 05 57.6	-0.1
	2.8nm,0.5s,baz=89,slow=3.2,SNR=4.3						
ASAR				ScP		23 08 53.2	
	0.8nm,1.0s,baz=92,slow=4.1,SNR=5.2						
ASAR				S	S	23 10 18.4	+0.8
	1.6nm,0.8s,baz=89,slow=15,SNR=6.0						
ASPA	Alice Springs	44.24	254	⇓*i*P	P	23 04 26.8	-0.1
ASPA				*e*S	S	23 10 18.6	+0.9
KAKA	Kakadu	47.04	269	⇓*i*P	P	23 04 53.2	+4.9
	19nm,0.5s,mb4.9						
FORT	Forrest	49.49	245	⇓*i*P	P	23 05 05.3	-1.1
	95nm,0.4s						
FITZ	Fitzroy Crossi	52.46	261	⇓*i*P	P	23 05 27.9	0.0
	5.4nm,0.6s,mb4.0						
KLBR	Kellerberrin	58.32	244	*e*P	P	23 06 07.3	-0.8
	24nm,0.7s,mb4.4						
MUN	Mundaring	59.61	243	*e*P	P	23 06 16.6	-0.1
	7.8nm,0.8s,mb4.0						
FX1	Attu Island--F	70.80	355	P	P	23 07 24.6	-1.2
	9.1nm,0.6s,mb4.5,baz=113,slow=22,SNR=2.9						
ASAJ	Asahikawa	70.98	332	P	P	23 07 27.2	+0.3
	4.7nm,0.5s,mb4.3,baz=238,slow=11,SNR=3.1						
QSPA	South Pole Qui	72.16	180	*e*P	P	23 07 32.9	-0.3
	3.3nm,0.7s,mb4.0						
MDJ	Mudanjiang	77.84	325	P	P	23 08 06.6	+1.5
MDJ				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,390nm,7.3s						
CN2	Changchun	79.65	323	*e*P	P	23 08 15.5	+0.9
NVAR	Mina Array Bea	79.81	44	P	P	23 08 15.7	+0.1
	comp=Z,1.3nm,0.8s,baz=219,slow=8.3,SNR=5.7						
MAW	Mawson	83.68	200	P	P	23 08 34.6	+0.2
	comp=Z,1.4nm,0.7s,mb3.6,baz=253,slow=12,SNR=3.2						
ILAR	Eielson Array	86.00	13	P	P	23 08 44.5	-1.2
	comp=Z,0.8nm,0.5s,mb3.6,baz=221,slow=5.0,SNR=18						
TXAR	Lajitas Array	86.48	58	P	P	23 08 49.1	+0.2
	comp=Z,1.9nm,0.7s,mb3.9,baz=225,slow=5.3,SNR=13						
BW06	Boulder Array	87.74	44	*e*P	P	23 08 53.0	-1.4
	comp=Z,0.6nm,0.8s,mb3.4						
PDAR	Pinedale Array	87.74	44	P	P	23 08 54.1	-0.3
	comp=Z,0.4nm,0.5s,mb3.4,baz=225,slow=1.2,SNR=5.2						
CMAR	Chiang Mai Arr	88.33	290	P	P	23 08 60.0	+2.2
	comp=Z,3.0nm,0.8s,mb4.1,baz=109,slow=2.8,SNR=21						
SONM	Songino Array	93.16	319	P	P	23 09 21.4	+2.1
	comp=Z,0.3nm,0.5s,mb3.6,baz=119,slow=4.1,SNR=3.6						
BVAR	Borovoye Array	116.46	321	PKP	PKPdf	23 14 44.3	+1.0
	comp=Z,1.2nm,0.4s,baz=118,slow=1.6,SNR=9.7						
ARCES	ARCESS Array B	126.19	350	PKP	PKPdf	23 15 02.0	+0.3
	comp=Z,1.1nm,0.5s,baz=25,slow=1.9,SNR=13						
FINES	FINESS Array B	133.01	344	PKP	PKPdf	23 15 15.0	+0.2
	comp=Z,2.3nm,0.9s,baz=45,slow=5.4,SNR=5.7						
NOA	NORSAR Array B	136.29	353	PKP	PKPdf	23 15 22.8	+2.0
	comp=Z,0.8nm,0.9s,baz=40,slow=2.1,SNR=3.3						
HFS	Hagfors	136.82	351	PKP	PKPdf	23 15 24.5	+2.7
	comp=Z,1.5nm,0.6s,baz=76,slow=12,SNR=2.4						
AKASG	Malin Array Be	140.27	332	PKhKP		23 15 23.0	
	comp=Z,1.0nm,0.4s,baz=42,slow=4.3,SNR=6.9						
HILS	Ha’il	141.31	292	P	PKPdf	23 15 29.1	-1.7
KBRS	Khaybar	143.71	289	P	PKPbc	23 15 37.3	+2.8
KWP	Kalwaria	143.82	336	*e*PKP	PKPdf	23 15 36.2	+1.7
KWP	Kalwaria	143.82	336	*e*PKP	PKPdf	23 15 36.2	+1.7
BRTR	Keskin Array B	144.36	314	PKP	PKPdf	23 15 37.6	+1.9
	comp=Z,4.3nm,0.8s,baz=128,slow=2.5,SNR=21						
OJC	Ojcow	144.39	339	*e*P	PKPdf	23 15 37.7	+2.3
OJC	Ojcow	144.39	339	*e*PKP	PKPdf	23 15 37.7	+2.3
KOLS	Kolonicke sedl	144.55	336	*i* PKP	PKPdf	23 15 38.9	+3.2
KOLS				*e*		23 15 44.6	
ASF	Jabal al Asfar	144.67	301	PKP	PKPdf	23 15 38.6	+2.1
	comp=Z,5.0nm,0.8s,baz=281,slow=4.7,SNR=7.4						
KSP	Ksiaz	144.93	343	*e*PKP	PKPdf	23 15 39.1	+2.8
KSP	Ksiaz	144.93	343	*e*PKP	PKPdf	23 15 39.8	+3.5
CLL	Collm	145.32	347	⇓*i*PKP1	PKPbc	23 15 40.2	+2.1
BRG	Berggiesshubel	145.51	345	*e*P	PKPdf	23 15 41.2	+3.9
MLR	Muntele Rosu	145.51	328	PKPbc	PKPbc	23 15 41.3	+2.5
TBKS	Tabuk	145.81	294	P	PKPdf	23 15 43.2	+4.7
PRU	Pruhonice	146.17	344	*e*PKP	PKPdf	23 15 43.5	+5.0
VRAC	Vranov	146.21	342	PKPbc	PKPbc	23 15 42.0	+1.6
	comp=Z,3.5nm,0.7s,baz=48,slow=3.4,SNR=5.9						
JMQS	Jabal Moqyreh	146.27	295	P	PKPdf	23 15 44.5	+5.2
DBAS	Duba	146.47	292	P	PKPdf	23 15 44.9	+5.2
SMOL	Smolenice	146.65	340	*e*PKP	PKPdf	23 15 45.2	+5.9
JMOS	Jabal al Moall	146.87	296	P	PKPdf	23 15 43.2	+2.9
BDAS	Al Bad‘	147.03	295	P	PKPdf	23 15 46.1	+5.5
HAQS	Haql	147.05	296	P	PKPdf	23 15 46.2	+5.6
KHC	Kasperske Hory	147.21	345	*e*PKP	PKPdf	23 15 45.5	+5.3
KHC				x	x	23 15 49.5	
GERES	GERESS Array B	147.44	344	PKPbc	PKPdf	23 15 46.3	+5.7
	comp=Z,4.5nm,0.5s,baz=22,slow=3.2,SNR=58						
GIVF	Givet	147.72	355	*e*PKP1	PKPdf	23 15 46.6	+5.6
BAIF	Baives	147.80	356	*e*PKP1	PKPdf	23 15 47.0	+5.9
	comp=Z,11nm,0.7s						
MOA	Molln	148.20	343	⇑*i*P	PKPdf	23 15 48.2	+6.4
CDF	Champ du Feu	149.13	352	*e*PKP1	PKPdf	23 15 50.2	+7.0
	comp=Z,14nm,0.9s						
KBA	Koelnbreinsper	149.16	343	⇑*i*P	PKPdf	23 15 49.5	+6.2
FLN	La Foliniere	149.18	2	*e*PKP1	PKPdf	23 15 49.8	+6.5
	comp=Z,10nm,0.6s						
LDF	La Druitiere	149.36	1	*e*PKP1	PKPdf	23 15 50.2	+6.6
	comp=Z,4.5nm,0.4s						
WTTA	Wattenberg	149.42	346	⇓*i*P	PKPdf	23 15 51.3	+7.6
GRR	Gorron	149.54	2	*e*PKP1	PKPdf	23 15 50.9	+7.0
	comp=Z,10nm,0.5s						
HINF	Hinteralfeld	149.77	352	*e*PKP1	PKPdf	23 15 52.1	+7.8
	comp=Z,4.3nm,0.6s						
DAVOX	Davos	150.27	348	PKPbc	PKPdf	23 15 53.0	+8.0
	comp=Z,11nm,0.7s,baz=284,slow=2.3,SNR=18						
LOR	Lormes	150.61	356	*e*PKP1	PKPdf	23 15 53.6	+8.0
	comp=Z,11nm,0.6s						
SSF	Saint Saulge	150.83	356	*e*PKP1	PKPdf	23 15 54.2	+8.3
	comp=Z,7.9nm,0.6s						
CABF	La Chapelle	151.05	353	*e*PKP1	PKPdf	23 15 55.3	+9.1
MFF	Saint Martin d	151.35	2	*e*PKP1	PKPdf	23 15 55.0	+8.3
	comp=Z,14nm,0.8s						
BGF	Bois d’Agland	151.37	357	*e*PKP1	PKPdf	23 15 55.2	+8.5
TCF	Toulx Ste Croi	151.66	358	*e*PKP1	PKPdf	23 15 55.7	+8.6
	comp=Z,7.6nm,0.9s						
LPL	La Plagne	152.04	351	*e*PKP1	PKPdf	23 15 57.6	+10
	comp=Z,2.2nm,0.6s						
IDI	Anoyia	152.59	314	PKPbc	PKPdf	23 15 59.1	+10
	comp=Z,3.0nm,0.8s,baz=344,slow=8.4,SNR=6.6						
ORIF	Oris-en-Rattie	152.74	352	*e*PKP1	PKPdf	23 15 59.3	+11
MBDF	Montbardon	152.81	351	*e*PKP1	PKPdf	23 15 59.3	+11
EVO	Evora	157.98	19	*e*PKIKP	PKPdf	23 15 57.5	+1.7
	comp=Z,36nm,1.2s						

*MOS **18** 23:15:23.3±2.0, 45.12N×37.05E, h33^{km}, mb3.8/3, Error ellipse: s-maj=12.5km s-min=8.8km az=112.8*
*CSEM **18** 23:15:24.3±0.2, 44.74N×36.93E, h82^{km}±2^{km}, mb3.3/3, Error ellipse: s-maj=3.7km s-min=2.4km az=29.0*
*IDC **18** 23:15:25.8±3.1, 44.86N×36.87E, h40^{km}±32^{km}, mb3.5/3, mb1 3.7/8, mb1mx3.5/22, ML3.7/5, MS4.0/1, Ms1 4.0/1, ms1mx2.5/25, Error ellipse: s-maj=25.8km s-min=18.8km az=89.0*
*NEIC **18** 23:15:25.3±0.5, 44.87N×37.02E, h40^{km}±9^{km}, mb3.2/2, Error ellipse: s-maj=6.6km s-min=5.5km az=195.0*
ISC 18 23:15:23.9±0.5**, 44.80N**±0.04×**36.94E**±0.05**, h33**^{km}**, n44,** σ**1**^{s}**46**/55**, mb3.5**/2**, MS4.0**/1**, 1C-1D, Crimea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ANN	Anapa	0.35	90	*e*P	P	23 15 33.0	+0.8
ANN				*e*		23 15 39.2	
ANN				pmax	pmax		
	comp=Z,1μm,0.2s						
ANN				pmax	pmax		
	comp=N,209nm,0.1s						
ANN				pmax	pmax		
	comp=E,325nm,0.1s						
ANN				smax			
	comp=N,1μm,0.2s						
ANN				smax			
	comp=E,2μm,0.2s						
ANN				smax			
	comp=Z,1μm,0.2s						
KERU	Kerch	0.61	326	*e*P	P	23 15 41.3	+5.4
FEO	Feodosiya	1.12	282	*e*P	P	23 15 45.7	+2.4
SUDU	Sudak	1.39	274	⇑*i*P	P	23 15 49.4	+2.3
SUDU				*e*S	S	23 16 06.9	+2.5
SUDU				pmax	pmax		
	comp=Z,110nm,0.4s						
ALU	Alushta	1.81	267	⇓*e*P	P	23 15 54.5	+1.3
ALU				*i* S	S	23 16 16.6	+1.4
ALU				pmax	pmax		
	comp=Z,50nm,0.5s						
SIM	Simferopol’	2.02	275	*e*P	P	23 15 58.3	+2.2
SIM				*e*S	S	23 16 22.1	+1.8
SIM				pmax	pmax		
	comp=Z,55nm,0.8s						
SOC	Sochi	2.34	120	*e*P	P	23 16 03.3	+2.6
SOC				*e*S	S	23 16 29.5	+0.9
SOC				pmax	pmax		
	comp=Z,4.0nm,0.3s						
SOC				pmax	pmax		
	comp=N,6.0nm,0.4s						
SOC				pmax	pmax		
	comp=E,7.0nm,0.4s						
SOC				smax			
	comp=N,9.0nm,0.3s						
SOC				smax			
	comp=E,39nm,0.3s						
SEV	Sevastopol’	2.35	265	*e*P	P	23 16 01.2	+0.3
SEV				*e*S	S	23 16 29.8	+0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SEV				pmax	pmax		
	comp=Z,20nm,0.4s						
BZK	**Bozkurt**	**3.56**	**218**	*e*P	**P**	**23 16 19.4**	**+1.3**
BYBT	**Boyabat**	**3.69**	**206**	*e*P	**P**	**23 16 21.4**	**+1.4**
BOYT	**Boyabat**	**3.70**	**205**	*i* P	**P**	**23 16 19.8**	**-0.2**
BOYT				*i* S	**S**	**23 16 59.7**	**-3.4**
BALT	**Daday**	**4.18**	**220**	*i* P	**P**	**23 16 27.5**	**+0.6**
BALT				*i* S	**S**	**23 17 08.5**	**-6.7**
TOS	**Tosya**	**4.33**	**211**	P	**P**	**23 16 30.6**	**+1.5**
CTKT	**Corum**	**4.47**	**202**	*i* P	**P**	**23 16 31.0**	**-0.1**
CTKT				*i* S	**S**	**23 17 17.2**	**-5.4**
GUMT	**Gumushane**	**4.73**	**156**	P	**P**	**23 16 35.1**	**+0.4**
SAFT	**Safranbolu**	**4.74**	**223**	*e*P	**P**	**23 16 36.0**	**+1.2**
BCA	**Borcka**	**4.79**	**133**	P	**P**	**23 16 34.9**	**-0.7**
ELDT	**Eldivan**	**5.03**	**212**	*i* P	**P**	**23 16 38.3**	**-0.7**
ELDT				*i* S	**S**	**23 17 34.6**	**-2.2**
BRTR	**Keskin Array B**	**5.63**	**207**	Pn	**P**	**23 16 47.3**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=18,slow=11,SNR=14						
BRTR				Sn	**Sn**	**23 17 49.8**	**-2.2**
	comp=Z,0.8nm,0.3s,baz=36,slow=20,SNR=8.8						
BRTR	**Keskin Array B**	**5.63**	**207**	P	**P**	**23 16 47.3**	**-0.1**
BRTR						23 17 49.8	
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KAMT	**Kaman**	**5.94**	**205**	*e*P	**P**	**23 16 52.3**	**+0.6**
HRT	**Hereke**	**6.67**	**236**	*e*P	**P**	**23 17 01.4**	**-0.6**
ISK	**Istanbul-Kandi**	**6.89**	**240**	*e*P	**P**	**23 17 04.0**	**-1.1**
BADT	**Buyukada**	**6.98**	**238**	*e*P	**P**	**23 17 05.4**	**-0.9**
CTT	**Catalca**	**7.23**	**243**	*e*P	**P**	**23 17 08.5**	**-1.4**
KCT	**Karacabey**	**7.79**	**237**	*e*P	**P**	**23 17 16.5**	**-1.2**
MLR	**Muntele Rosu**	**7.81**	**279**	Pn	**Pn**	**23 17 16.9**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=300,slow=2.5,SNR=4.3						
MLR				Sn	**Sn**	**23 18 41.8**	**-4.4**
	comp=Z,1.0nm,0.3s,baz=84,slow=23,SNR=7.1						
AKASG	**Malin Array Be**	**7.86**	**321**	Pn	**Pn**	**23 17 15.3**	**-3.5**
	comp=Z,2.8nm,0.3s,baz=60,slow=13,SNR=8.0						
AKASG				Sn	**Sn**	**23 18 38.3**	**-9.3**
	comp=Z,6.4nm,0.3s,baz=133,slow=25,SNR=13						
AKASG	**Malin Array Be**	**7.86**	**321**	P	**P**	**23 17 15.4**	**-3.3**
AKASG						23 18 38.3	
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.3s						
FINES	**FINESS Array B**	**17.86**	**343**	P	**P**	**23 19 25.6**	**-5.4**
	comp=Z,0.4nm,0.3s,baz=153,slow=14,SNR=12						
KAF	**Kangasniemi**	**18.42**	**344**	*e*p	**P**	**23 19 33.5**	**-4.6**
	comp=Z,0.5nm,0.3s						
KAF	**Kangasniemi**	**18.42**	**344**	*e*P	**P**	**23 19 33.5**	**-4.6**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JOF	**Joensuu**	**18.44**	**352**	*e*p	**P**	**23 19 33.7**	**-4.6**
	comp=Z,0.5nm,0.3s						
JOF	**Joensuu**	**18.44**	**352**	*e*P	**P**	**23 19 33.7**	**-4.6**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.3s						
DAVOX	**Davos**	**18.94**	**286**	P	**P**	**23 19 42.6**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=230,slow=1.5,SNR=2.8						
HFS	**Hagfors**	**20.71**	**326**	P	**P**	**23 20 01.6**	**-1.9**
	comp=Z,1.7nm,0.4s,baz=120,slow=12,SNR=16						
HFS	**Hagfors**	**20.71**	**326**	P	**P**	**23 20 01.6**	**-2.0**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.4s						
NB2	**NORSAR Subarra**	**22.24**	**326**	P	**P**	**23 20 17.9**	**-1.0**
	comp=Z,0.6nm,0.5s,mb3.3,baz=130,slow=11						
NOA	**NORSAR Array B**	**22.24**	**326**	P	**P**	**23 20 17.9**	**-0.9**
	comp=Z,1.2nm,0.7s,mb3.5,baz=132,slow=9.6,SNR=4.9						
NOA	**NORSAR Array B**	**22.24**	**326**	P	**P**	**23 20 17.9**	**-1.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**22.24**	**326**	P	**P**	**23 20 17.9**	**-1.0**
ARCES	**ARCESS Array B**	**25.47**	**351**	P	**P**	**23 20 49.2**	**-0.8**
	comp=Z,0.9nm,0.5s,mb3.6,baz=168,slow=11,SNR=13						
ARCES	**ARCESS Array B**	**25.47**	**351**	P	**P**	**23 20 49.2**	**-0.8**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
JMIC	**Jan Mayen**	**34.19**	**335**	LR	LR	23 34 01.7	
	comp=Z,282nm,21.4s,MS4.0,baz=288,slow=33						

DJA 18 23:18:22.2±1.0**, 9.59S**×**113.86E, h33**km**, MD5.4**/3**, ML3.3**/1**, 1C-5D, Error ellipse: s-maj=23.8km s-min=15.5km az=43.0, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.14**	**14**	⇓*e*Pg	P	23 18 40.3	-1.6
	35nm,0.2s						
SRDI				⇓*e*Sg	S	23 18 53.3	-3.2
KELI	**Kelakatan**	**1.50**	**24**	⇓*e*Pn	Pn	23 18 46.2	-1.0
KELI				⇓*e*Sn	Sn	23 19 03.4	-2.4
RATI	**Rata**	**1.86**	**62**	⇓*e*Pn	Pn	23 18 50.2	-2.2
RATI				⇑*e*Sn	Sn	23 19 10.9	-4.1

*IDC **18** 23:28:28.9±0.5, 15.00S×173.57W, mb4.6/17, mb1 4.8/18, mb1mx4.7/21, ML4.7/1, MS4.3/17, Ms1 4.3/17, ms1mx4.3/19, Error ellipse: s-maj=25.5km s-min=14.6km az=130.0*

*SYO **18** 23:28:29.4, 15.18S×173.53W, h10km, MB4.9, MS4.8*

*HRVD **18** 23:28:30.0±0.3, 14.94S×173.59W, h12km, MW5.3/64, Centroid moment Tensor Solution. LP body waves: s24,c30;Mantle waves: s64,c86; Half duration: 1s2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.14±.01; $M_{\theta\theta}$0.20±.02; $M_{\phi\phi}$-0.06±.01; $M_{r\theta}$-1.27±.04; $M_{\theta\phi}$0.10±.01; $M_{\phi r}$0.09±.04; Best double couple: $M_0$1.29×10^{17} NP1: ϕ_s219°,δ6°,λ-145°. NP2:ϕ_s94°,δ86°,λ-85°. Principal axes: T 1.31, Plg41°, Azm179°; N -.05, Plg5°, Azm274°; P -1.26, Plg48°, Azm9°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **18** 23:28:30.0, 15.00S×173.60W, h10km, mB5.2, mb4.9, Ms4.8, Msz4.9*

*NEIC **18** 23:28:30.0±0.2, 15.03S×173.60W, h10km, mb4.9/16, MS4.8/8, Error ellipse: s-maj=11.8km s-min=6.4km az=143.0*

ISC 18 23:28:32.8±2.8**, 15.09S**±0.08×**173.57W**±0.06**, h41**km±24km**, n148,** σ**1s02**/73**, mb4.7**/38**, MS4.5**/25**, 9C-5D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**14.45**	**117**	Pn	**P**	**23 31 56.8**	**+0.2**
	3.2nm,0.3s,baz=250,slow=4.1,SNR=3.7						
RAR				LR	LR	23 35 56.3	
	comp=Z,862nm,21.8s,baz=311,slow=31						
RAR				T		23 46 42.1	
	15nm,0.3s,baz=206,slow=19,SNR=4.2						
PPT	**Papeete**	**23.15**	**99**	*e*S	**S**	**23 37 40.3**	**-1.0**
PPT				*e*L		23 38 15.3	
PPT				*e*R		23 38 45.7	
	741nm,28.5s,baz=251						
TBI	**Tubuai**	**24.17**	**114**	*e*L		23 38 47.5	
TBI				*e*R		23 39 20.7	
	1μm,28.5s,baz=282						
URZ	**Urewera**	**24.51**	**198**	P	**P**	**23 33 51.0**	**+1.4**
	4.4nm,0.3s,mb4.5,baz=288,slow=9.2,SNR=3.6						
URZ				LR	LR	23 42 35.3	
	comp=Z,2μm,19.5s,MS4.5,baz=289,slow=34						
RPZ	**Rata Peaks**	**31.41**	**202**	P	**P**	**23 34 50.8**	**-1.5**
	7.3nm,0.8s,mb4.6,baz=82,slow=16,SNR=2.8						
RKT	**Rikitea**	**37.24**	**108**	*e*L		23 45 28.7	
	557nm,28.8s						
CTA	**Charters Tower**	**38.56**	**257**	P	**P**	**23 35 54.6**	**+1.2**
	1.8nm,0.3s,mb4.2,baz=126,slow=8.7,SNR=3.2						
PMG	**Port Moresby**	**38.75**	**274**	P	**P**	**23 35 55.1**	**0.0**
	2.7nm,0.4s,mb4.3,baz=249,slow=19,SNR=1.8						
STKA	**Stephens Creek**	**44.05**	**240**	P	**P**	**23 36 38.6**	**-0.1**
	3.3nm,0.6s,mb4.2,baz=83,slow=5.3,SNR=4.8						
STKA				LR	LR	23 52 17.2	
	comp=Z,275nm,21.5s,MS4.1,baz=40,slow=32						
STKA	**Stephens Creek**	**44.05**	**240**	*e*P	**P**	**23 36 38.1**	**-0.6**
WB2	**Warramunga Arr**	**49.75**	**257**	*e*P	**P**	**23 37 23.3**	**-0.2**
WRAB	**Tennant Creek**	**49.75**	**257**	*e*P	**P**	**23 37 22.4**	**-1.2**
	9.8nm,0.4s,mb5.2						
WRA	**Warramunga Arr**	**49.76**	**257**	P	**P**	**23 37 20.5**	**-3.2**
	4.8nm,0.4s,mb4.8,baz=90,slow=6.9,SNR=60						
WRA				LR	LR	23 57 04.1	
	comp=Z,164nm,20.4s,MS4.0,baz=95,slow=34						
ASAR	**Alice Springs**	**50.05**	**252**	P	**P**	**23 37 23.1**	**-2.8**
	15nm,0.5s,mb5.2,baz=89,slow=6.4,SNR=89						
ASAR				LR	LR	23 57 04.1	
	comp=Z,192nm,21.8s,MS4.1,baz=90,slow=34						
ASPA	**Alice Springs**	**50.06**	**252**	*e*P	**P**	**23 37 25.5**	**-0.4**
KAKA	**Kakadu**	**52.40**	**265**	*e*P	**P**	**23 37 48.8**	**+5.2**
	7.6nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**58.12**	**258**	*e*P	**P**	**23 38 25.0**	**0.0**
	1.4nm,0.6s,mb4.2						
VNDA	**Vanda**	**63.67**	**186**	P	**P**	**23 39 02.9**	**+1.1**
	4.8nm,0.8s,mb4.6,baz=55,slow=5.6,SNR=4.6						
VNDA				LR	LR	23 59 31.4	
	comp=Z,105nm,20.2s,MS4.0,baz=18,slow=29						
VNDA	**Vanda**	**63.67**	**186**	P	**P**	**23 39 02.9**	**+1.1**
VNDA				LR	LR	23 59 31.4	
ASAJ	**Asahikawa**	**71.19**	**328**	LR	LR	00 04 58.4	
	comp=Z,186nm,20.1s,MS4.3,baz=160,slow=31						
CMB	**Columbia Colle**	**72.64**	**41**	*e*P	**P**	**23 39 57.7**	**-0.4**
	12nm,0.9s,mb4.8						
OHCM	**Honcut**	**72.72**	**40**	P	**P**	**23 39 58.2**	**-0.5**
MTUM	**Tungsten Hills**	**73.43**	**43**	*e*P	**P**	**23 40 03.1**	**+0.2**
YBH	**Yreka Blue Hor**	**73.45**	**37**	P	**P**	**23 40 03.8**	**+0.9**
	15nm,0.8s,mb5.0,baz=198,slow=2.2,SNR=22						
BEKR	**Beckwourth**	**73.73**	**40**	*e*P	**P**	**23 40 04.2**	**-0.4**
	17nm,1.1s,mb4.9						
NVAR	**Mina Array Bea**	**74.21**	**42**	P	**P**	**23 40 07.2**	**-0.2**
	12nm,0.8s,mb4.9,baz=222,slow=8.1,SNR=49						
NVAR				LR	LR	00 06 11.9	
	comp=Z,276nm,19.1s,MS4.6,baz=195,slow=30						
MNV	**Mina**	**74.30**	**42**	*e*P	**P**	**23 40 07.4**	**-0.5**
	20nm,1.0s,mb5.0						
TPH	**Tonopah**	**74.71**	**43**	*e*P	**P**	**23 40 10.2**	**-0.1**
	20nm,0.9s,mb5.0						
TPNV	**Topopah Spring**	**74.75**	**44**	*e*P	**P**	**23 40 10.7**	**+0.2**
	13nm,1.3s,mb4.7						
TPNV				LR	LR		
	comp=Z,571nm,21.0s,MS4.8						
QSPA	**South Pole Qui**	**74.95**	**180**	*e*PKP	**P**	**23 40 10.3**	**-0.6**
QSPA				LR	LR		
	comp=Z,140nm,21.8s,MS4.2						
BMN	**Battle Mountai**	**76.02**	**41**	*e*P	**P**	**23 40 17.8**	**0.0**
	comp=Z,23nm,1.3s,mb5.0						
BMW	**Boistfort Moun**	**76.17**	**33**	*e*P	**P**	**23 40 17.5**	**-1.0**
TUC	**Tucson**	**76.32**	**51**	*e*P	**P**	**23 40 19.5**	**-0.1**
	comp=Z,8.8nm,1.0s,mb4.6						
MVU	**Marysvale**	**78.29**	**45**	*e*P	**P**	**23 40 30.6**	**+0.2**
	comp=Z,10nm,1.1s,mb4.7						
MSU	**Marysvale**	**78.32**	**45**	*e*P	**P**	**23 40 30.0**	**-0.6**
MDJ	**Mudanjiang**	**78.68**	**322**	P	**P**	**23 40 32.4**	**0.0**
MDJ				AP	pP	23 40 35.5	-9.2
MDJ				SCS	ScS	23 50 53.8	+6.8
MDJ				SS	SS	23 55 38.6	+5.9
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,182nm,5.8s						
MDJ				LR	LR		
	comp=N,157nm,32.0s,MS4.4						
MDJ				LR	LR		
	comp=E,237nm,29.6s,MS4.4						
MDJ				LR	LR		
	comp=Z,375nm,32.0s,MS4.5						
DUG	**Dugway**	**78.74**	**43**	*e*P	**P**	**23 40 32.7**	**-0.2**
	comp=Z,4.0nm,0.6s,mb4.5						
DUG				LR	LR		
	comp=Z,396nm,22.0s,MS4.7						
TMUT	**Trail Mountain**	**79.36**	**44**	P	**P**	**23 40 37.3**	**+1.0**
HVU	**Hansel Valley**	**79.58**	**42**	*e*P	**P**	**23 40 37.8**	**+0.4**
SRU	**San Rafael**	**79.74**	**45**	P	**P**	**23 40 37.2**	**-1.2**
JLU	**Jordanelle**	**79.85**	**43**	*e*P	**P**	**23 40 39.9**	**+1.0**
DAU	**Daniels Canyon**	**79.88**	**43**	*e*P	**P**	**23 40 39.2**	**+0.1**
TCUT	**Toone Canyon**	**80.13**	**43**	*e*P	**P**	**23 40 39.9**	**-0.5**
BNM	**Barren Site**	**80.25**	**51**	P	**P**	**23 40 42.8**	**+1.6**
HWUT	**Hardware Ranch**	**80.27**	**42**	*e*P	**P**	**23 40 40.9**	**-0.2**
	comp=Z,8.1nm,1.2s,mb4.5						
LTX	**Lajitas**	**80.57**	**56**	*e*P	**P**	**23 40 41.4**	**-1.6**
TXAR	**Lajitas Array**	**80.57**	**56**	P	**P**	**23 40 42.9**	**-0.1**
	comp=Z,0.8nm,0.6s,mb3.9,baz=202,slow=6.7,SNR=14						
TXAR				LR	LR	00 09 49.9	
	comp=Z,180nm,18.6s,MS4.5,baz=245,slow=31						
TXAR	**Lajitas Array**	**80.57**	**56**	P	**P**	**23 40 42.9**	**-0.1**
TXAR				LR	LR	00 09 49.9	
ANMO	**Albuquerque**	**80.72**	**50**	*e*P	**P**	**23 40 44.2**	**+0.5**
ANMO				LR	LR		
	comp=Z,339nm,20.0s,MS4.7						
CN2	**Changchun**	**80.74**	**320**	*e*P	**P**	**23 40 45.1**	**+1.5**
CN2				*e*XP	sP	23 40 52.5	-7.8
CN2				*e*S	S	23 50 52.5	+5.6
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
CN2				LR	LR		
	comp=Z,700nm,17.0s,MS5.1						
MCK	**McKinley**	**80.85**	**11**	*e*P	**P**	**23 40 42.9**	**-0.8**
	comp=Z,6.5nm,0.8s,mb4.6						
MCMT	**McKenzie Canyo**	**81.11**	**39**	*e*P	**P**	**23 40 46.6**	**+1.1**
AHID	**Auburn Hatcher**	**81.15**	**41**	P	**P**	**23 40 46.6**	**+0.9**
	comp=Z,2.7nm,0.5s,mb4.4						
GDL2	**Guadalupe Moun**	**81.16**	**53**	P	**P**	**23 40 45.3**	**-0.8**
DLBC	**Dease Lake**	**81.47**	**21**	LR	LR	00 11 47.0	
	comp=Z,238nm,18.4s,MS4.6,baz=309,slow=32						
TPAW	**Teton Pass**	**81.61**	**41**	*e*P	**P**	**23 40 47.9**	**-0.2**
COLA	**College**	**82.09**	**11**	*e*P	**P**	**23 40 49.4**	**-0.8**
	comp=Z,18nm,0.8s,mb5.0						
COLA				LR	LR		
	comp=Z,640nm,19.0s,MS5.0						
BW06	**Boulder Array**	**82.14**	**42**	*e*P	**P**	**23 40 49.5**	**-1.3**
	comp=Z,6.6nm,1.2s,mb4.4						
PDAR	**Pinedale Array**	**82.14**	**42**	P	**P**	**23 40 52.1**	**+1.3**
	comp=Z,2.4nm,0.7s,mb4.3,baz=225,slow=2.0,SNR=18						
PDAR				LR	LR	00 11 25.4	
	comp=Z,246nm,18.7s,MS4.6,baz=252,slow=31						
ILAR	**Eielson Array**	**82.17**	**11**	P	**P**	**23 40 49.3**	**-1.3**
	comp=Z,3.5nm,0.7s,mb4.4,baz=227,slow=5.4,SNR=48						
ILAR				PP	PP	23 43 53.9	-7.1
	comp=Z,0.9nm,0.8s,baz=227,slow=7.8,SNR=5.1						
ILAR				LR	LR	00 10 00.1	
	comp=Z,178nm,22.0s,MS4.4,baz=43,slow=30						
SDCO	**Great Sand Dun**	**82.62**	**48**	*e*P	**P**	**23 40 54.1**	**+0.6**
SDCO				LR	LR		
	comp=Z,409nm,22.0s,MS4.8						
HRY	**Holter Researc**	**82.70**	**38**	*e*P	**P**	**23 40 52.2**	**-1.5**
DAWY	**Dawson**	**83.16**	**14**	*e*P	**P**	**23 40 56.8**	**+1.2**
WMOK	**Wichita Mounta**	**86.44**	**53**	*e*P	**P**	**23 41 12.8**	**+0.2**
INK	**Inuvik**	**88.01**	**14**	P	**P**	**23 41 20.9**	**+1.5**
	comp=Z,4.2nm,1.0s,mb4.6,baz=200,slow=10,SNR=4.9						
INK				LR	LR	00 12 49.9	
	comp=Z,206nm,21.9s,MS4.5,baz=23,slow=30						
INK	**Inuvik**	**88.01**	**14**	P	**P**	**23 41 20.9**	**+1.5**
INK				LR	LR	00 12 49.9	
MAW	**Mawson**	**88.04**	**199**	P	**P**	**23 41 21.0**	**+1.4**
	comp=Z,2.8nm,0.6s,mb4.7,baz=121,slow=7.8,SNR=8.4						
MAW				LR	LR	00 18 13.0	
	comp=Z,427nm,19.6s,MS4.9,baz=318,slow=34						
YKA	**Yellowknife Ar**	**89.88**	**23**	P	**P**	**23 41 27.9**	**-0.4**
	comp=Z,4.8nm,1.1s,mb4.7,baz=240,slow=5.0,SNR=4.4						
YKA				LR	LR	00 16 14.1	
	comp=Z,226nm,18.7s,MS4.6,baz=240,slow=32						
YKA	**Yellowknife Ar**	**89.88**	**23**	P	**P**	**23 41 27.9**	**-0.4**
YKA				LR	LR	00 16 14.1	
KMI	**Kunming**	**90.75**	**296**	*e*P	**P**	**23 41 37.0**	**+3.6**
KMI				S	S	23 52 30.6	+6.5
KMI				AMB	AMB		
	comp=Z,4.0nm,1.4s,mb4.6						
KMI				LR	LR		
	comp=Z,166nm,31.0s,MS4.3						
CMAR	**Chiang Mai Arr**	**92.36**	**288**	P	**P**	**23 41 42.2**	**+1.3**
	comp=Z,0.6nm,0.4s,mb4.3,baz=90,slow=0.9,SNR=2.5						
CMAR				LR	LR	00 18 39.3	
	comp=Z,75nm,18.3s,MS4.2,baz=100,slow=33						
SYO	**Syowa Base**	**92.87**	**191**	⇓P	**P**	**23 41 40.0**	**-2.1**
SYO	**Syowa Base**	**92.87**	**191**	⇓PcP	PcP	23 41 42.3	-0.7
LZH	**Lanzhou**	**92.91**	**306**	*e*P	**P**	**23 41 43.5**	**+0.4**
LZH				AP	pP	23 41 46.6	-9.0
LZH				PP	PP	23 45 29.5	+0.9
LZH				AMB	AMB		
	comp=Z,17nm,1.6s,mb5.2						
LZH				AMB	AMB		
	comp=Z,72nm,6.0s						
VNA3	**Neumayer Olymp**	**93.18**	**175**	⇑*i*	**P**	**23 41 46.4**	**+2.9**
VNA3	**Neumayer Olymp**	**93.18**	**175**	⇑*i*	sP	23 42 00.2	0.0
SNAA	**Sanae**	**93.22**	**177**		**P**	**23 41 42.6**	**-1.1**
SNAA	**Sanae**	**93.22**	**177**	⇑*i*	pP	23 41 56.1	-0.1
VNA2	**Neumayer--Watz**	**93.67**	**175**	⇑*i*	**P**	**23 41 49.0**	**+3.3**
VNA2	**Neumayer--Watz**	**93.67**	**175**	⇑*i*	sP	23 42 03.9	+1.5
ULM	**Lac du Bonnet**	**93.79**	**39**	LR	LR	00 18 54.3	
	comp=Z,301nm,18.2s,MS4.8,baz=284,slow=32						
VNA1	**Neumayer--Stat**	**93.88**	**175**	⇑*i*	**P**	**23 41 50.9**	**+4.3**
WMQ	**Urumqi**	**106.54**	**312**	*e*PDIF	Pdif	23 42 45.4	+1.3
WMQ				PP	PP	23 47 14.0	+1.6
WMQ				S		23 54 43.0	
ARCES	**ARCESS Array B**	**124.28**	**352**	PKP	PKPdf	23 47 28.9	+1.8
	comp=Z,4.6nm,0.8s,baz=342,slow=1.2,SNR=10						
FINES	**FINESS Array B**	**131.60**	**348**	PKP	PKPdf	23 47 43.7	+2.5
	comp=Z,3.9nm,1.1s,slow=5.7,SNR=6.1						
FINES	**FINESS Array B**	**131.60**	**348**	PKP	PKPdf	23 47 43.7	+2.5
NOA	**NORSAR Array B**	**133.99**	**357**	PKP	PKPdf	23 47 49.3	+3.6
	comp=Z,1.2nm,0.9s,baz=183,slow=1.6,SNR=3.8						
CLL	**Collm**	**143.49**	**353**	*e*PKIKP	PKPdf	23 48 04.0	+1.1
CLL				*e*		23 48 24.0	
DPC	**Dobruska-Polom**	**143.93**	**349**	*e*PKP	PKPdf	23 48 02.0	-1.7
MOX	**Moxa**	**144.29**	**354**	*e*P	PKPbc	23 48 08.0	+4.2
MOX				*e*		23 48 20.0	
MOX				*e*		23 48 30.0	
PRU	**Pruhonice**	**144.57**	**351**	*e*PKP	PKPdf	23 48 08.1	+3.2
VRAC	**Vranov**	**144.87**	**348**	PKP	PKPdf	23 48 07.1	+1.7
	comp=Z,5.3nm,1.0s,baz=69,slow=4.0,SNR=6.8						
GIVF	**Givet**	**145.06**	**2**	*e*PKP1	PKPbc	23 48 07.6	+1.6
BAIF	**Baives**	**145.07**	**3**	*e*PKP1	PKPbc	23 48 08.0	+2.0
	comp=Z,67nm,1.2s						
GRA1	**Grafenberg Arr**	**145.27**	**355**	*e*PKP	PKPdf	23 48 09.9	+3.8
ABH	**Alteburg**	**145.29**	**359**	PKP	PKPdf	23 48 09.8	+3.7
PSZ	**Piszkesteto**	**145.42**	**344**	⇑*i*	PKPdf	23 48 10.0	+3.6
SMOL	**Smolenice**	**145.46**	**347**	*e*PKP	PKPdf	23 48 10.7	+4.3
SMOL				*e*		23 48 19.8	
SMOL				*e*		23 48 31.0	
RUP	**Ruppelstein**	**145.48**	**359**	PKP	PKPdf	23 48 10.5	+4.1
MLR	**Muntele Rosu**	**145.52**	**335**	PKPbc	PKPbc	23 48 08.3	+1.1
	comp=Z,4.9nm,0.7s,baz=123,slow=4.6,SNR=18						
KMBO	**Kilima Mbogo**	**145.52**	**245**	PKPbc	PKPbc	23 48 09.7	+1.4
	comp=Z,0.9nm,0.6s,baz=72,slow=13,SNR=3.5						
TOD	**Tromm**	**145.52**	**357**	PKP	PKPdf	23 48 09.7	+3.2
KHC	**Kasperske Hory**	**145.55**	**352**	*e*PKP	PKPdf	23 48 09.4	+2.8
KHC				*e*x	x	23 48 21.2	
GEC2	**GERESS Array S**	**145.81**	**351**	*e*PKP	PKPdf	23 48 10.9	+3.9
GERES	**GERESS Array B**	**145.81**	**351**	PKPbc	PKPbc	23 48 09.7	+1.8
	comp=Z,2.4nm,0.6s,baz=24,slow=3.7,SNR=26						
BRTR	**Keskin Array B**	**145.81**	**321**	PKPbc	PKPbc	23 48 08.7	+0.5
	comp=Z,7.2nm,0.7s,baz=357,slow=1.2,SNR=48						
ZST	**Bratislava**	**145.83**	**347**	*e*PKP	PKPdf	23 48 11.8	+4.7
ZST				*e*		23 48 23.4	
ZST				*e*		23 48 32.3	
FLN	**La Foliniere**	**145.94**	**8**	*e*PKP1	PKPbc	23 48 10.1	+1.9
	comp=Z,50nm,1.2s						
FLN				*e*R			
	comp=Z,373nm,20.8s						
SGMF	**Saint Gilles**	**146.10**	**11**	*e*PKP1	PKPbc	23 48 10.6	+2.0
	comp=Z,26nm,0.9s						
LDF	**La Druitiere**	**146.16**	**8**	*e*PKP1	PKPbc	23 48 10.9	+2.2
	comp=Z,7.7nm,0.6s						
LANF	**Langenberg**	**146.18**	**358**	PKP	PKPdf	23 48 12.7	+5.0
GRR	**Gorron**	**146.25**	**9**	*e*PKP1	PKPbc	23 48 11.4	+2.4
	comp=Z,17nm,0.8s						
MEZF	**Maizieres J'vi**	**146.66**	**2**	*e*PKP1	PKPbc	23 48 13.1	+3.2
MOA	**Molln**	**146.69**	**350**	⇑*i*P	PKPdf	23 48 14.4	+5.8
WLS	**Welschbruch**	**146.76**	**359**	PKP	PKPdf	23 48 14.2	+5.5
CDF	**Champ du Feu**	**146.76**	**359**	*e*PKP1	PKPbc	23 48 13.3	+3.1
	comp=Z,38nm,1.0s						
FUR	**Furstenfeldbru**	**146.78**	**354**	*e*PKP	PKPdf	23 48 13.8	+5.1
BFO	**Black Forest**	**146.82**	**358**	*e*PKP	PKPdf	23 48 12.8	+4.0
THEF	**They Montfort**	**146.95**	**1**	PKP	PKPdf	23 48 14.8	+5.8
ECH	**Echery**	**146.96**	**359**	PKP	PKPdf	23 48 14.7	+5.7
FELD	**Feldberg**	**147.28**	**358**	PKP	PKPdf	23 48 15.8	+6.3
KBA	**Koelnbreinsper**	**147.59**	**351**	⇓*i*P	PKPdf	23 48 15.7	+5.6
MOTA	**Moosalm**	**147.60**	**354**	⇓*i*P	PKPdf	23 48 16.4	+6.3
WTTA	**Wattenberg**	**147.63**	**353**	⇑*i*P	PKPdf	23 48 17.0	+6.9
HYF	**Humbligny**	**147.76**	**5**	*e*PKP1	PKPdf	23 48 16.1	+5.8
DAVA	**Damuels**	**147.77**	**356**	⇓*i*P	PKPdf	23 48 16.2	+5.9
LOMF	**Lomont**	**147.83**	**359**	PKP	PKPdf	23 48 17.3	+6.9
LOR	**Lormes**	**147.84**	**3**	*e*PKP1	PKPdf	23 48 16.2	+5.7
	comp=Z,16nm,0.7s						
LOR				*e*R			
	comp=Z,306nm,21.5s						
SSF	**Saint Saulge**	**148.03**	**4**	*e*PKP1	PKPdf	23 48 16.8	+6.0
	comp=Z,64nm,1.3s						
MFF	**Saint Martin d**	**148.10**	**9**	*e*PKP1	PKPdf	23 48 16.7	+5.8
	comp=Z,40nm,1.3s						
DAVOX	**Davos**	**148.27**	**355**	PKPbc	PKPdf	23 48 17.1	+5.9
	comp=Z,6.6nm,0.6s,baz=258,slow=1.9,SNR=18						
AVF	**Avril sur Loir**	**148.29**	**4**	*e*PKP1	PKPdf	23 48 17.1	+5.9
	comp=Z,12nm,0.7s						
SMF	**Signal de Mont**	**148.46**	**3**	*e*PKP1	PKPdf	23 48 17.9	+6.4
	comp=Z,13nm,0.8s						
BGF	**Bois d'Agland**	**148.48**	**5**	*e*PKP1	PKPdf	23 48 17.8	+6.3
	comp=Z,15nm,0.7s						
CABF	**La Chapelle**	**148.57**	**0**	*e*PKP1	PKPdf	23 48 19.0	+7.4
	comp=Z,45nm,1.0s						
TCF	**Toulx Ste Croi**	**148.69**	**6**	*e*PKP1	PKPdf	23 48 18.2	+6.3
	comp=Z,42nm,1.5s						
LPL	**La Plagne**	**149.67**	**360**	*e*PKP1	PKPdf	23 48 22.1	+8.6
	comp=Z,24nm,1.0s						
LPG	**La Plagne**	**149.69**	**360**	*e*PKP1	PKPdf	23 48 22.4	+8.9
	comp=Z,18nm,0.8s						
LFF	**La Frestale**	**149.86**	**8**	*e*PKP1	PKPdf	23 48 22.6	+8.8
CAF	**Calviac**	**150.03**	**6**	*e*PKP1	PKPdf	23 48 22.0	+8.0
BNI	**Bardonecchia**	**150.13**	**360**	PKPdf	PKPdf	23 48 15.1	+0.9
BNI				*e*PKPbc	PKPdf	23 48 22.5	+8.3
ORIF	**Oris-en-Rattie**	**150.26**	**1**	*e*PKP1	PKPdf	23 48 23.1	+8.7
	comp=Z,23nm,1.1s						
ORIF				*e*R			
	comp=Z,170nm,22.0s						
VIVF	**Saint-Julien-l**	**150.29**	**3**	*e*PKP1	PKPdf	23 48 23.1	+8.7
	comp=Z,12nm,0.8s						
MBDF	**Montbardon**	**150.46**	**360**	*e*PKP1	PKPdf	23 48 23.5	+8.8
	comp=Z,16nm,0.9s						
LASF	**Ste Croix**	**151.03**	**4**	*e*PKP1	PKPdf	23 48 25.9	+10
	comp=Z,33nm,1.1s						
SMRF	**Simiane la Rot**	**151.20**	**1**	*e*PKP1	PKPdf	23 48 25.5	+10
	comp=Z,54nm,1.3s						
LMR	**La Mourre**	**151.85**	**360**	*e*PKP1	PKPdf	23 48 26.3	+9.5
	comp=Z,23nm,1.0s						
PGF	**Pioggiola**	**152.55**	**356**	*e*PKP1	PKPdf	23 48 27.6	+10

CASC 18 23:34:10.2±2.4**, 8.34N**×**82.77W, h22**km±7km**, MD4.1, 10C-3D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.33**	**73**	⇓*i*P	Pb	23 34 17.9	+0.4
BRU2	**Volcan**	**0.46**	**10**	⇓*i*P	Pb	23 34 19.8	+0.3
BRU2				*e*S	Sb	23 34 27.9	+2.0
ACR	**Cerro Adams**	**0.50**	**309**	⇑*i*P	Pb	23 34 19.6	-0.6
CNI	**Changuinola**	**1.10**	**13**	⇑*e*P	Pb	23 34 29.7	-0.7
BUS	**Buena Vista**	**1.55**	**321**	⇑*i*P	Pn	23 34 35.9	-1.0
BUS				*e*S	Sn	23 34 56.6	0.0
LIO	**Limon**	**1.67**	**351**	*e*P	Pn	23 34 38.5	-0.2
URSC	**Urasca**	**1.79**	**326**	⇓*e*P	Pn	23 34 39.6	-0.7
LCR2	**La Lucha 2**	**1.85**	**319**	⇑*e*P	Pn	23 34 39.9	-1.3
LCR2				*e*S	Sn	23 35 05.3	+1.2
ICR	**Volcan Irazu**	**1.94**	**327**	⇑*e*P	Pn	23 34 42.2	-0.3
ICR				*e*S	Sn	23 35 08.4	+2.0
LAJ	**Bijagual**	**2.02**	**319**	⇑*e*P	Pn	23 34 45.0	+1.4
LAJ				*e*S	Sn	23 35 17.3	+8.9
SJS	**Escuela Geolog**	**2.03**	**322**	*e*P	Pn	23 34 42.4	-1.4
SJS				*e*S	Sn	23 35 08.7	-0.1
VPS2	**Volcan Poas 2**	**2.34**	**322**	⇑*e*P	Pn	23 34 48.8	+0.6
VPS2				*e*S	Sn	23 35 19.3	+2.7
CGA2	**Cerro Gallo 2**	**2.36**	**315**	⇑*e*P	Pn	23 34 47.6	-0.9
CGA2				*e*S	Sn	23 35 18.5	+1.4
TRTC	**Tortuguero**	**2.41**	**337**	*e*P	Pn	23 34 48.3	-0.9
AZU	**Azuero**	**2.53**	**102**	⇑*e*P	Pn	23 34 50.3	-0.7
AZU				*i* S	Sn	23 35 21.1	-0.5
FORC	**Fortuna**	**2.83**	**319**	⇑*e*P	Pn	23 34 55.5	+0.3
FORC				*e*S	Sn	23 35 31.0	+2.1
UPA	**Univ. de Panam**	**3.27**	**79**	*e*S	Sn	23 35 39.1	-1.0

CASC 19 00:02:25.3±3.5**, 13.65N**×**90.69W, h34**km±14km**, MD3.6, ML3.3, 1C-4D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.57**	**24**	⇑*e*P	P	00 02 37.5	+0.7
IXG				*e*S	S	00 02 47.8	+2.5
RTR	**El Retiro**	**1.05**	**76**	*e*P	P	00 02 43.1	-0.5
RTR				*e*S	S	00 02 58.6	+1.3
SBLS	**San Blas**	**1.06**	**79**	⇓*e*P	P	00 02 43.7	-0.1
SBLS				*e*S	S	00 02 59.3	+1.8
SNJE	**San Jose**	**1.08**	**78**	*e*P	P	00 02 43.9	-0.2
SNJE				*e*S	S	00 03 00.4	+2.3
JAT	**Jato**	**1.13**	**306**	⇓*e*P	P	00 02 45.7	+0.8
JAT				*e*S	S	00 03 02.4	+2.9
JAT				AML	AML	00 03 04.4	
	comp=E,933nm,0.3s						
TP2	**Tecpan 2**	**1.17**	**344**	⇓*e*P	P	00 02 44.5	-0.9
TP2				*e*S	S	00 02 59.6	-0.9

TP2				AML	AML	00 03 07.0	
	comp=E,336nm,0.3s						
BOQS	**Boqueron**	**1.38**	**86**	eP	P	00 02 47.4	-1.0
BOQS				eS	S	00 03 06.9	+1.2
MTO2	**Montecristo 2**	**1.50**	**60**	⇓iP	P	00 02 49.5	-0.6
LFRS	**El Faro**	**1.59**	**91**	eP	P	00 02 43.9	-7.5
LFRS				eS	S	00 03 12.4	+1.4
LCBS	**La Ceiba**	**1.67**	**89**	eP	P	00 02 50.8	-1.7
LCBS				eS	S	00 03 13.9	+0.9

*IDC **19** 00:06:07.0±0.8, 53.78N×160.39E, mb4.0/13, mb1 4.3/14, mb1mx4.1/24, ML4.3/1, Error ellipse: s-maj=23.6km s-min=13.9km az=4.0*

*MOS **19** 00:06:11.6±1.1, 53.54N×160.82E, h56km, mb4.4/11, Error ellipse: s-maj=17.4km s-min=8.5km az=79.0*

*KRSC **19** 00:06:12.7±1.1, 53.55N×160.78E, h37km±5km, ML4.7*

*NEIC **19** 00:06:13.7±0.7, 53.65N×160.63E, h51km±7km, mb4.3/5, Error ellipse: s-maj=12.7km s-min=7.5km az=137.0*

ISC 19 00:06:12.4±0.4**, 53.53N**±0.02×**160.82E**±0.06**, h60**km±4km**, n77,** σ1§**03**/116**, mb4.0**/18**, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.64**	**228**	P	**P**	**00 06 25.7**	**-0.3**
SPN				S	**S**	**00 06 34.9**	**-1.3**
SPN	**Mys Shipunski**	**0.64**	**228**	i P	**P**	**00 06 25.6**	**-0.4**
SPN				eS	**S**	**00 06 34.9**	**-1.3**
NLC	**Nalytchevo**	**0.95**	**248**	P	**P**	**00 06 29.6**	**-0.4**
NLC				S	**S**	**00 06 41.8**	**-1.3**
NLC	**Nalytchevo**	**0.95**	**248**	i P	**P**	**00 06 29.6**	**-0.4**
NLC				eS	**S**	**00 06 41.7**	**-1.4**
KII	**Karymskiy**	**0.96**	**303**	P	**P**	**00 06 29.3**	**-0.8**
KII	**Karymskiy**	**0.96**	**303**	i P	**P**	**00 06 29.2**	**-0.9**
MKZ	**Mys Kozlova**	**1.16**	**27**	P	**P**	**00 06 31.7**	**-1.1**
MKZ				S	**S**	**00 06 45.2**	**-2.8**
MKZ	**Mys Kozlova**	**1.16**	**27**	i P	**P**	**00 06 31.8**	**-1.0**
MKZ				eS	**S**	**00 06 46.0**	**-2.0**
SDLR	**Sedlovina**	**1.19**	**259**	i P	**P**	**00 06 33.2**	**+0.1**
SDLR				eS	**S**	**00 06 48.0**	**-0.6**
SMAR	**Somma**	**1.24**	**258**	i P	**P**	**00 06 33.9**	**0.0**
SMAR				eS	**S**	**00 06 49.0**	**-0.9**
AVH	**Avacha**	**1.27**	**259**	i P	**P**	**00 06 34.7**	**+0.3**
AVH				eS	**S**	**00 06 51.0**	**+0.2**
KOK	**Koryaka**	**1.33**	**261**	i P	**P**	**00 06 35.3**	**0.0**
KOK				eS	**S**	**00 06 51.5**	**-0.8**
PET	**Petropavlovsk**	**1.40**	**250**	P	**P**	**00 06 36.1**	**-0.1**
PET				S	**S**	**00 06 52.6**	**-1.2**
PET	**Petropavlovsk**	**1.40**	**250**	i P	**P**	**00 06 36.1**	**-0.1**
PET				eS	**S**	**00 06 53.1**	**-0.7**
PET	**Petropavlovsk**	**1.40**	**250**	ePN	**P**	**00 06 36.0**	**-0.2**
PET				eS	**S**	**00 06 53.2**	**-0.6**
PET				pmax	pmax		
	comp=Z,366nm,0.3s						
PET				smax			
	comp=E,2μm,0.4s						
PET				smax			
	comp=N,2μm,0.5s						
GNL	**Ganaly**	**1.72**	**277**	i P	**P**	**00 06 41.1**	**+0.4**
GNL				eS	**S**	**00 07 01.5**	**-0.1**
RUS	**Russkaya**	**1.77**	**233**	P	**P**	**00 06 41.4**	**0.0**
RUS				S	**S**	**00 07 02.0**	**-0.8**
RUS	**Russkaya**	**1.77**	**233**	eP	**P**	**00 06 41.3**	**-0.1**
RUS				eS	**S**	**00 07 02.0**	**-0.8**
TUMR	**Tumrok**	**1.80**	**348**	i P	**P**	**00 06 42.0**	**+0.3**
TUMR				eS	**S**	**00 07 03.4**	**0.0**
GRL	**Gorelyy**	**1.93**	**241**	eP	**P**	**00 06 44.4**	**+0.9**
KMNR	**Kamenistaya**	**2.26**	**352**	eP	**P**	**00 06 49.3**	**+1.1**
KMNR				eS	**S**	**00 07 16.5**	**+1.7**
APC	**Apacha**	**2.28**	**256**	i P	**P**	**00 06 49.6**	**+1.1**
APC				eS	**S**	**00 07 16.4**	**+1.0**
APC				Smax			
	comp=N,480nm,0.9s						
KPT	**Kopyto**	**2.47**	**352**	eP	**P**	**00 06 51.3**	**+0.2**
KPT				eS	**S**	**00 07 20.1**	**0.0**
ZLN	**Zelenaya**	**2.49**	**360**	i P	**P**	**00 06 52.4**	**+0.9**
ZLN				eS	**S**	**00 07 22.3**	**+1.5**
LGNR	**Loginova**	**2.56**	**358**	i P	**P**	**00 06 54.0**	**+1.5**
LGNR				eS	**S**	**00 07 23.0**	**+0.5**
CIRR	**Tsirk**	**2.59**	**359**	i P	**P**	**00 06 53.9**	**+1.0**
CIRR				eS	**S**	**00 07 24.0**	**+0.7**
KOZ	**Kozyrevsk**	**2.59**	**348**	P	**P**	**00 06 53.1**	**+0.2**
KOZ				S	**S**	**00 07 23.2**	**-0.1**
KOZ	**Kozyrevsk**	**2.59**	**348**	eP	**P**	**00 06 53.1**	**+0.2**
KOZ				eS	**S**	**00 07 23.9**	**+0.6**
KOZR	**Kozyr**	**2.60**	**349**	PN	**P**	**00 06 53.1**	**+0.1**
KOZR				S	**S**	**00 07 23.2**	**-0.2**
KRSR	**Krestovskiy**	**2.70**	**357**	eP	**P**	**00 06 54.7**	**+0.3**
KRSR				eS	**S**	**00 07 25.9**	**0.0**
MIPR	**Malaya Ipel'ka**	**2.76**	**245**	eP	**P**	**00 06 56.7**	**+1.4**
KLY	**Klyuchi**	**2.79**	**358**	P	**P**	**00 06 56.2**	**+0.5**
KLY				S	**S**	**00 07 28.6**	**+0.3**
KLY	**Klyuchi**	**2.79**	**358**	eP	**P**	**00 06 56.3**	**+0.6**
KLY				eS	**S**	**00 07 28.7**	**+0.4**
SRDR	**Sredinnyy**	**2.87**	**348**	eP	**P**	**00 06 56.4**	**-0.4**
SRDR				eS	**S**	**00 07 29.5**	**-0.7**
KBTR	**Krutoberegovo**	**2.92**	**22**	P	**P**	**00 06 57.7**	**+0.1**
KBTR				S	**S**	**00 07 31.2**	**-0.4**
KBTR	**Krutoberegovo**	**2.92**	**22**	eP	**P**	**00 06 57.5**	**-0.1**
KBTR				eS	**S**	**00 07 30.0**	**-1.6**
KBG	**Krutoberegovo**	**2.94**	**21**	eP	**P**	**00 06 58.5**	**+0.6**
KBG				eS	**S**	**00 07 31.2**	**-0.9**
KBG				Smax			
	comp=N,2μm,0.8s						
SVLR	**Shiveluch**	**3.06**	**4**	eP	**P**	**00 06 59.8**	**+0.2**
SVLR				eS	**S**	**00 07 34.6**	**-0.6**
PAU	**Pauzhetka**	**3.20**	**231**	eP	**P**	**00 07 03.0**	**+1.4**
PAU				eS	**S**	**00 07 39.2**	**+0.5**
PAU				Smax			
	comp=N,440nm,0.7s						
BKI	**Bering**	**3.45**	**59**	i P	**P**	**00 07 04.4**	**-0.6**
BKI				eS	**S**	**00 07 40.4**	**-4.5**
BKI				Smax			
	comp=N,180nm,0.4s						
SKR	**Severo-Kuril's**	**4.07**	**227**	ePN	**P**	**00 07 14.9**	**+1.3**
SKR				eS	**S**	**00 08 02.5**	**+2.1**
SKR				pmax	pmax		
	comp=Z,60nm,0.3s						
SKR				smax			
	comp=E,170nm,0.6s						
SKR				smax			
	comp=N,110nm,0.4s						
SKR				smax			
	comp=Z,80nm,0.6s						
FX1	**Attu Island--F**	**7.45**	**90**	Pn	**P**	**00 07 59.7**	**-1.0**
	comp=Z,16nm,0.3s,baz=251,slow=1.7,SNR=6.6						
FX1				Sn	**S**	**00 09 17.4**	**-7.1**
	comp=Z,9.3nm,0.3s,baz=333,slow=21,SNR=6.7						
FX1	**Attu Island--F**	**7.45**	**90**	ePn	**P**	**00 07 59.1**	**-1.6**
TIXI	**Tiksi**	**22.87**	**334**	eP	**P**	**00 11 11.4**	**+0.6**
TIXI				e		00 11 27.3	
TIXI				eS	**S**	**00 15 19.1**	**+7.3**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb3.9						
TIXI				MLR	MLR		
	comp=Z,100nm,18.0s						
TIXI	**Tiksi**	**22.87**	**334**	eP	**P**	**00 11 11.4**	**+0.6**
	comp=Z,6.0nm,1.3s,mb3.9						
TIXI				e		00 11 27.3	
TIXI				eS	**S**	**00 15 19.1**	**+7.3**
MAJO	**Matsushiro**	**23.16**	**232**	P	**P**	**00 11 18.1**	**+4.1**
	comp=Z,11nm,0.6s,mb4.5						
BOD	**Bodaibo**	**26.32**	**298**	eP	**P**	**00 11 39.9**	**-3.9**
ILAR	**Eielson Array**	**28.20**	**46**	P	**P**	**00 12 00.8**	**0.0**
	comp=Z,0.7nm,0.7s,mb3.4,baz=264,slow=8.3,SNR=8.5						
ILAR	**Eielson Array**	**28.20**	**46**	P	**P**	**00 12 00.9**	**0.0**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
DAWY	**Dawson**	**31.50**	**47**	P	**P**	**00 12 32.3**	**+2.2**
INK	**Inuvik**	**33.26**	**38**	P	**P**	**00 12 45.9**	**+0.4**
	comp=Z,3.0nm,1.2s,mb4.1,baz=246,slow=11,SNR=3.2						
INK	**Inuvik**	**33.26**	**38**	P	**P**	**00 12 45.9**	**+0.5**
INK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
SONM	**Songino Array**	**34.23**	**283**	P	**P**	**00 12 52.0**	**-1.9**
	comp=Z,0.6nm,0.7s,mb3.7,baz=50,slow=9.2,SNR=4.8						
SONM				PcP	PcP	00 15 29.5	-0.2
	comp=Z,0.5nm,0.6s,slow=1.2,SNR=4.3						
BVAR	**Borovoye Array**	**50.46**	**308**	P	**P**	**00 15 02.7**	**-2.9**
	comp=Z,0.6nm,0.4s,mb4.0,baz=72,slow=7.3,SNR=6.6						
ARCES	**ARCESS Array B**	**53.01**	**342**	P	**P**	**00 15 22.5**	**-2.0**
	comp=Z,7.6nm,1.1s,mb4.5,baz=46,slow=7.5,SNR=10						
ARCES	**ARCESS Array B**	**53.01**	**342**	P	**P**	**00 15 22.5**	**-2.0**
ARCES				pmax	pmax		
	comp=Z,8.0nm,1.1s						
PDAR	**Pinedale Array**	**56.93**	**61**	P	**P**	**00 15 54.5**	**+1.1**
	comp=Z,0.3nm,0.5s,mb3.6,baz=207,slow=6.6,SNR=4.0						
JOF	**Joensuu**	**57.35**	**335**	ep	**P**	**00 15 53.9**	**-2.1**
	comp=Z,0.4nm,0.4s,mb3.8						
CMAR	**Chiang Mai Arr**	**58.70**	**258**	P	**P**	**00 16 06.3**	**+0.3**
	comp=Z,1.2nm,0.5s,mb4.2,baz=22,slow=6.7,SNR=5.3						
CMAR	**Chiang Mai Arr**	**58.70**	**258**	P	**P**	**00 16 06.3**	**+0.3**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KAF	**Kangasniemi**	**59.25**	**337**	ep	**P**	**00 16 07.7**	**-1.5**
	comp=Z,0.8nm,0.3s,mb4.2,baz=28,slow=6.3						
KAF	**Kangasniemi**	**59.25**	**337**	eP	**P**	**00 16 07.7**	**-1.5**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
FINES	**FINESS Array B**	**59.89**	**337**	P	**P**	**00 16 11.9**	**-1.7**
	comp=Z,2.0nm,0.6s,mb4.4,baz=37,slow=6.9,SNR=19						
FINES	**FINESS Array B**	**59.89**	**337**	P	**P**	**00 16 11.9**	**-1.8**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
OBN	**Obninsk**	**62.38**	**328**	eP	**P**	**00 16 31.4**	**+0.8**
OBN				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.4						
OBN	**Obninsk**	**62.38**	**328**	eP	**P**	**00 16 31.4**	**+0.8**
	comp=Z,2.0nm,0.6s,mb4.4						
NB2	**NORSAR Subarra**	**63.24**	**344**	P	**P**	**00 16 34.6**	**-1.6**
	comp=Z,1.3nm,0.5s,mb4.3,baz=24,slow=6.5						
NOA	**NORSAR Array B**	**63.24**	**344**	P	**P**	**00 16 34.9**	**-1.4**
	comp=Z,4.3nm,1.0s,mb4.5,baz=22,slow=6.6,SNR=12						
NOA	**NORSAR Array B**	**63.24**	**344**	P	**P**	**00 16 34.9**	**-1.3**
NOA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
AKASG	**Malin Array Be**	**68.46**	**329**	P	**P**	**00 17 06.7**	**-2.8**
	comp=Z,2.2nm,0.5s,mb4.4,baz=28,slow=6.6,SNR=6.4						
AKASG	**Malin Array Be**	**68.46**	**329**	P	**P**	**00 17 06.7**	**-2.8**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
TXAR	**Lajitas Array**	**70.07**	**68**	P	**P**	**00 17 21.2**	**+1.5**
	comp=Z,0.8nm,0.6s,mb3.8,baz=302,slow=5.0,SNR=6.7						
CLL	**Collm**	**72.10**	**339**	P	**P**	**00 17 31.0**	**-0.5**
GERES	**GERESS Array B**	**74.27**	**338**	P	**P**	**00 17 44.1**	**0.0**
	comp=Z,0.7nm,0.5s,mb3.9,baz=33,slow=5.5,SNR=9.8						
GERES	**GERESS Array B**	**74.27**	**338**	P	**P**	**00 17 44.1**	**-0.1**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**80.33**	**205**	P	**P**	**00 18 19.6**	**+1.3**
	comp=Z,0.8nm,0.6s,mb3.8,baz=18,slow=4.8,SNR=8.1						
QSPA	**South Pole Qui**	**143.28**	**180**	eP	PKPbc	00 25 37.4	+1.3

*MOS **19** 00:25:12.4±1.1, 49.06N×152.81E, h176km, mb3.9/14, Error ellipse: s-maj=14.6km s-min=9.3km az=84.3*

*BJI **19** 00:25:12.7, 48.89N×153.13E, h192km, mB4.8, mb4.6*

*NEIC **19** 00:25:13.8±0.6, 49.04N×152.94E, h173km±5km, mb4.5/24, Error ellipse: s-maj=7.8km s-min=4.2km az=149.0*

*IDC **19** 00:25:16.1±1.8, 49.10N×152.92E, h193km±17km, mb3.8/19, mb1 4.1/21, mb1mx4.0/26, Error ellipse: s-maj=13.6km s-min=8.7km az=154.0*

ISC 19 00:25:11.9±0.4**, 49.05N**±0.05×**152.94E**±0.06**, h170**km±4km**, h193**km±1.9km**:pP-P, n141,** σ1§**03**/160**, mb4.3**/50**, 5C-6D, Northwest of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.63**	**50**	⇓iPN	**P**	**00 25 55.9**	**-0.2**
SKR				i S	**S**	**00 26 29.3**	**-0.8**
SKR				pmax	pmax		
	comp=N,190nm,0.6s						
SKR				pmax	pmax		
	comp=E,160nm,0.6s						
SKR				pmax	pmax		
	comp=Z,640nm,0.6s						
SKR				smax			
	comp=N,460nm,0.5s						
SKR				smax			
	comp=E,390nm,0.5s						
SKR				smax			
	comp=Z,120nm,0.5s						
KUR	**Kuril'sk**	**5.15**	**224**	⇓iPN	**P**	**00 26 29.0**	**+0.6**
KUR				i S	**S**	**00 27 31.0**	**+3.3**
KUR				pmax	pmax		
	comp=Z,170nm,0.7s						
KUR				smax			
	comp=N,260nm,0.8s						
KUR				smax			
	comp=E,110nm,0.8s						
KUR	**Kuril'sk**	**5.15**	**224**	⇓iPn	**P**	**00 26 29.0**	**+0.6**
	comp=E,170nm,0.7s						
KUR				i S	**S**	**00 27 31.0**	**+3.3**
PET	**Petropavlovsk**	**5.37**	**40**	ePN	**P**	**00 26 33.2**	**+1.9**
PET				eS	**S**	**00 27 32.6**	**-0.2**
PET				pmax	pmax		
	comp=Z,52nm,0.5s						
PET				smax			
	comp=E,86nm,0.5s						
PET				smax			
	comp=N,100nm,0.5s						
PET	**Petropavlovsk**	**5.37**	**40**	ePn	**P**	**00 26 33.2**	**+1.9**
	comp=N,52nm,0.5s						
PET				eS	**S**	**00 27 32.6**	**-0.2**
YUK	**Yuzh-Kuril'sk**	**7.00**	**227**	⇓iPN	**P**	**00 26 51.1**	**-1.7**
YUK				eS	**S**	**00 28 14.2**	**+2.8**
YUK				pmax	pmax		
	comp=E,190nm,0.5s						
YUK				pmax	pmax		
	comp=Z,420nm,0.5s						
YUK				pmax	pmax		
	comp=N,2μm,2.0s						
YUK				pmax	pmax		
	comp=E,2μm,2.0s						
YUK				pmax	pmax		
	comp=Z,2μm,2.0s						
YUK				smax			
	comp=N,2μm,2.0s						
YUK				smax			
	comp=E,2μm,2.0s						
YUK				smax			
	comp=E,190nm,5.0s						
YUK	**Yuzh-Kuril'sk**	**7.00**	**227**	⇓iPn	**P**	**00 26 51.1**	**-1.7**
	comp=E,420nm,0.5s						
YUK				eS	**S**	**00 28 14.2**	**+2.8**
YSS	**Yuzh-Sakhalins**	**7.15**	**257**	⇑iPN	**P**	**00 26 59.0**	**+4.1**
NEM2	**Nemuro 2**	**7.56**	**224**	P	**P**	**00 26 58.8**	**-1.5**
NEM2				eS	**S**	**00 28 19.0**	**-5.9**
JTKR	**Abashiri--Toko**	**8.04**	**234**	P	**P**	**00 27 08.7**	**+2.1**
JSE	**Soyaes**	**8.18**	**244**	P	**P**	**00 27 13.7**	**+5.3**
JMP	**Maruseppu**	**8.31**	**236**	P	**P**	**00 27 13.1**	**+2.9**
JAK	**Akkeshi**	**8.34**	**227**	P	**P**	**00 27 09.2**	**-1.4**
JAK				eS	**S**	**00 28 37.8**	**-5.4**
JAR	**Ashorobuto**	**8.57**	**231**	P	**P**	**00 27 14.6**	**+0.9**
ASAJ	**Asahikawa**	**8.66**	**239**	P	**P**	**00 27 18.8**	**+3.9**
	comp=E,10.0nm,0.3s,baz=73,slow=12,SNR=101						
ASAJ	**Asahikawa**	**8.66**	**239**	P	**P**	**00 27 18.6**	**+3.7**
ASAJ	**Asahikawa**	**8.66**	**239**	PN	**P**	**00 27 18.8**	**+3.9**
ASAJ				pmax	pmax		
	comp=Z,10.0nm,0.3s						
JKK2	**Kamakawa 2**	**8.73**	**237**	P	**P**	**00 27 19.1**	**+3.3**
JOB	**Onbets**	**8.83**	**229**	P	**P**	**00 27 16.8**	**-0.2**
JOB				eS	**S**	**00 28 50.9**	**-3.9**
JAB	**Ashibetsu**	**9.26**	**237**	P	**P**	**00 27 26.4**	**+3.7**
JCH	**Churui**	**9.27**	**230**	P	**P**	**00 27 21.7**	**-1.2**
JCH				eS	**S**	**00 28 59.4**	**-5.9**
JFR	**Furan**	**9.29**	**235**	P	**P**	**00 27 25.1**	**+2.1**
JBT2	**Biratori 2**	**9.67**	**234**	P	**P**	**00 27 28.6**	**+0.6**
JEM	**Erimo**	**9.82**	**228**	P	**P**	**00 27 29.2**	**-0.7**
JEM				eS	**S**	**00 29 12.6**	**-5.5**
JNBK	**Urakawa-nobuka**	**9.83**	**230**	P	**P**	**00 27 28.3**	**-1.7**
JNBK				eS	**S**	**00 29 12.1**	**-6.1**
JNB	**Noboribetsu**	**10.60**	**236**	P	**P**	**00 27 40.9**	**+0.8**
JKB	**Kayabe**	**11.00**	**234**	P	**P**	**00 27 43.3**	**-2.0**
JYM2	**Yakumo 2**	**11.20**	**237**	P	**P**	**00 27 47.6**	**-0.3**
JSR	**Shiriuchi**	**11.58**	**234**	P	**P**	**00 27 52.1**	**-0.7**
JOSM	**Okushiri--Mats**	**11.72**	**239**	P	**P**	**00 27 55.5**	**+0.9**
JTM	**Tenmabayashi**	**11.78**	**230**	eS	**S**	**00 29 56.0**	**-8.0**
JANG	**Nango**	**11.87**	**227**	P	**P**	**00 27 53.9**	**-2.7**
JANG				eS	**S**	**00 29 55.8**	**-10**
OFUJ	**Ofunato**	**12.83**	**223**	P	**P**	**00 28 05.6**	**-3.3**
JRG	**Rokugo**	**13.06**	**227**	P	**P**	**00 28 08.9**	**-2.9**
FX1	**Attu Island--F**	**13.30**	**66**	P	**P**	**00 28 17.0**	**+2.2**
	comp=Z,10.0nm,0.3s,baz=354,slow=17,SNR=87						
FX1				S	**S**	**00 30 31.9**	**-7.2**
	comp=Z,4.1nm,0.3s,baz=235,slow=21,SNR=8.9						
FX1	**Attu Island--F**	**13.30**	**66**	P	**P**	**00 28 16.9**	**+2.1**
MAJO	**Matsushiro**	**16.49**	**226**	eP	**P**	**00 28 52.9**	**-1.7**
	comp=Z,27nm,0.5s						
MAT	**Matsushiro**	**16.49**	**226**	P	**P**	**00 28 54.5**	**-0.1**
MAT	**Matsushiro**	**16.49**	**226**	eP	**P**	**00 28 55.0**	**+0.4**
	comp=Z,32nm,1.1s						
MDJ	**Mudanjiang**	**16.56**	**263**	P	**P**	**00 28 56.3**	**+0.8**
MDJ				AMB	AMB		
	comp=Z,23nm,0.7s						
MDJ	**Mudanjiang**	**16.56**	**263**	eP	**P**	**00 28 55.4**	**-0.1**
	comp=Z,24nm,0.7s						
JRY	**Ryogami san**	**16.60**	**224**	P	**P**	**00 28 56.2**	**+0.3**
JGF	**Kuroka**	**17.65**	**226**	P	**P**	**00 29 09.1**	**+0.8**
YAK	**Yakutsk**	**18.36**	**324**	eP	**P**	**00 29 17.6**	**+1.9**
YAK				e		00 32 35.7	
YAK				pmax	pmax		
	comp=Z,19nm,0.8s						
YAK				pmax	pmax		
	comp=N,3.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.0s						
YAK				pmax	pmax		
	comp=N,10.0nm,0.8s						
YAK				pmax	pmax		
	comp=E,4.0nm,0.8s						
YAK	**Yakutsk**	**18.36**	**324**	eP	**P**	**00 29 17.6**	**+1.9**
	comp=E,19nm,0.8s						
YAK				e		00 32 35.7	
JWT	**Wachi**	**18.86**	**230**	P	**P**	**00 29 21.2**	**+0.1**
CN2	**Changchun**	**19.61**	**265**	eP	**P**	**00 29 27.5**	**-1.3**
CN2				eXP		00 30 23.5	
CN2				eS	**S**	**00 32 52.5**	**-3.3**
CN2				PCS		00 37 19.4	
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
JAD	**Aida**	**19.76**	**231**	P	**P**	**00 29 30.7**	**+0.3**
JHS	**Saijyo**	**20.26**	**234**	P	**P**	**00 29 37.1**	**+1.6**
KS15	**Wonju Array Si**	**21.52**	**247**	eP	**P**	**00 29 50.8**	**+2.9**
TIXI	**Tiksi**	**25.24**	**342**	eP	**P**	**00 30 22.7**	**-0.4**
TIXI				e	pP	00 31 01.9	+4.5
TIXI				eS	**S**	**00 34 34.9**	**+1.3**
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.4s,mb3.1						
TIXI				MLR	MLR		
	comp=Z,100nm,17.0s						
TIXI	**Tiksi**	**25.24**	**342**	eP	**P**	**00 30 22.7**	**-0.4**
	comp=Z,1.0nm,1.4s,mb3.1						
TIXI				e	pP	00 31 01.9	+4.5
TIXI				eS	**S**	**00 34 34.9**	**+1.3**
SONM	**Songino Array**	**30.53**	**286**	P	**P**	**00 31 11.1**	**+0.1**
	comp=Z,1.0nm,0.7s,mb3.7,baz=77,slow=7.4,SNR=9.5						
SONM				ScP		00 37 27.2	
	comp=Z,0.7nm,0.8s,baz=90,slow=1.4,SNR=4.3						
NJ2	**Nanjing**	**30.64**	**249**	eP	**P**	**00 31 13.0**	**+0.9**
NJ2				AP	pP	00 31 52.9	+5.2
NJ2				XP	sP	00 32 13.8	+6.3
NJ2				PP	PP	00 32 20.1	+0.8
NJ2				PCP	PcP	00 34 07.5	+1.4
NJ2				S	**S**	**00 35 59.5**	**-1.0**
ZAK	**Zakamensk**	**31.66**	**292**	eP	**P**	**00 31 26.4**	**+5.5**
IMA	**Indian Mountai**	**32.04**	**38**	eP	**P**	**00 31 24.1**	**+0.1**
SPU	**Mount Spurr**	**32.69**	**47**	eP	**P**	**00 31 29.3**	**-0.3**
MCK	**McKinley**	**34.00**	**43**	eP	**P**	**00 31 40.5**	**-0.3**
	comp=Z,5.8nm,0.8s,mb4.4						
COLA	**College**	**34.43**	**40**	⇑eP	**P**	**00 31 44.6**	**+0.1**
	comp=Z,23nm,0.8s,mb5.0						
ILAR	**Eielson Array**	**34.85**	**41**	P	**P**	**00 31 47.5**	**-0.4**
	comp=Z,4.7nm,0.6s,mb4.3,baz=263,slow=5.5,SNR=88						
ILAR	**Eielson Array**	**34.85**	**41**	P	**P**	**00 31 47.6**	**-0.4**
ILAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
DIV	**Divide**	**35.72**	**47**	⇑eP	**P**	**00 31 55.2**	**-0.1**
	comp=Z,48nm,0.6s,mb5.3						
LZH	**Lanzhou**	**37.76**	**269**	eP	**P**	**00 32 14.0**	**+1.3**
LZH				AP	pP	00 32 54.8	+5.2
LZH				XP	sP	00 33 16.4	+6.7
LZH				PP	PP	00 33 48.9	+4.5
LZH				eS	**S**	**00 37 50.3**	**+0.1**
LZH				XS		00 39 00.4	
LZH				SS	SS	00 40 37.1	+0.7
LZH				AMB	AMB		
	comp=Z,27nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,112nm,4.0s						
DAWY	**Dawson**	**38.16**	**41**	eP	**P**	**00 32 16.0**	**+0.2**
GTA	**Gaotai**	**38.56**	**276**	eP	**P**	**00 32 20.3**	**+1.0**
GTA				AP	pP	00 33 01.3	+5.0
GTA				XP	sP	00 33 23.3	+6.9
GTA				PP	PP	00 33 56.8	+3.5
GTA				PCP	PcP	00 34 31.9	+3.0
GTA				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.2						
INK	**Inuvik**	**39.79**	**34**	P	**P**	**00 32 30.0**	**+0.8**
	comp=Z,5.5nm,0.5s,mb4.4,baz=291,slow=7.2,SNR=17						
INK	**Inuvik**	**39.79**	**34**	P	**P**	**00 32 30.0**	**+0.8**
INK				pmax	pmax		
	comp=Z,6.0nm,0.5s						
INK	**Inuvik**	**39.79**	**34**	eP	**P**	**00 32 29.8**	**+0.6**
	comp=Z,5.8nm,0.6s,mb4.4						
ZAL	**Zalesovo**	**41.23**	**304**	P	**P**	**00 32 41.0**	**-0.1**
ZAL				PcP	PcP	00 34 36.5	-0.8
	comp=Z,1.1nm,0.4s,baz=136,slow=1.2,SNR=4.9						
ZAL	**Zalesovo**	**41.23**	**304**	P	**P**	**00 32 41.0**	**-0.1**
ZAL						00 34 36.5	
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAL	**Zalesovo**	**41.23**	**304**	P	**P**	**00 32 41.0**	**-0.1**
ZAL				e		00 34 36.5	
GYA	**Guiyang**	**42.15**	**255**	⇓iP	**P**	**00 32 50.1**	**+1.2**
GYA				AP	pP	00 33 31.3	+5.0
GYA				XP	sP	00 33 53.4	+7.2
GYA				S	**S**	**00 38 55.8**	**+0.5**
GYA				XS		00 40 08.6	
GYA				SCS	ScS	00 42 29.0	-1.3
GYA				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.9						
WMQ	**Urumqi**	**44.03**	**289**	eP	**P**	**00 33 05.3**	**+1.5**
DLBC	**Dease Lake**	**44.10**	**47**	P	**P**	**00 33 05.0**	**+0.9**
	comp=Z,7.1nm,0.7s,mb4.4,baz=277,slow=7.3,SNR=10.0						
KMI	**Kunming**	**45.60**	**257**	eP	**P**	**00 33 17.6**	**+1.1**
KMI				AMB	AMB		
	comp=Z,9.0nm,0.6s,mb4.6						
MKAR	**Makanchi Array**	**45.82**	**295**	i P	**P**	**00 33 18.2**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
KURK	**Kurchatov**	**46.03**	**302**	P	**P**	**00 33 19.2**	**-0.3**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.8						
YKA	**Yellowknife Ar**	**49.16**	**38**	P	**P**	**00 33 43.9**	**+0.3**
	comp=Z,6.1nm,0.6s,mb4.4,baz=301,slow=7.0,SNR=14						
YKA	**Yellowknife Ar**	**49.16**	**38**	P	**P**	**00 33 43.9**	**+0.2**
YKA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
YKA	**Yellowknife Ar**	**49.16**	**38**	P	**P**	**00 33 43.9**	**+0.3**
VOSK	**Vostochnaya**	**49.18**	**307**	P	**P**	**00 33 43.3**	**-0.6**
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.9						
VOSK	**Vostochnaya**	**49.18**	**307**	P	**P**	**00 33 43.3**	**-0.6**
	comp=Z,2.0nm,0.7s,mb3.9						
BVA0	**Borovoye Array**	**49.34**	**308**	i P	**P**	**00 33 44.8**	**-0.3**
BVAR	**Borovoye Array**	**49.34**	**308**	P	**P**	**00 33 44.8**	**-0.3**
	comp=Z,3.2nm,0.5s,mb4.2,baz=52,slow=8.3,SNR=27						
BVAR				PcP	PcP	00 35 05.2	-0.2
	comp=Z,1.5nm,0.4s,baz=94,slow=3.4,SNR=9.3						
BRVK	**Borovoye**	**49.37**	**308**	P	**P**	**00 33 45.0**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.5						
ZRNK	**Zerenda**	**50.09**	**308**	P	**P**	**00 33 50.3**	**-0.5**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.7						
CMAR	**Chiang Mai Arr**	**52.84**	**254**	P	**P**	**00 34 12.8**	**+0.9**
	comp=Z,5.6nm,0.8s,mb4.3,baz=33,slow=6.8,SNR=23						
CMAR				ScP		00 38 59.2	
	comp=Z,1.8nm,1.0s,baz=26,slow=3.1,SNR=6.2						
CMAR	**Chiang Mai Arr**	**52.84**	**254**	P	**P**	**00 34 12.8**	**+0.9**
CMAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CMAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ARU	**Arti**	**53.26**	**316**	eP	**P**	**00 34 13.2**	**-1.3**
ARU				e		00 34 57.2	
GUN	**Gumba**	**54.72**	**273**	eP	**P**	**00 34 25.6**	**+0.1**

	comp=Z,10nm,0.4s,mb4.9						
EDM	Edmonton	54.82	47	eP	P	00 34 25.4	-0.5
KKN	Kakani	55.20	274	eP	P	00 34 29.8	+0.8
	comp=Z,9.0nm,0.4s,mb4.8						
PKI	Pulchoki	55.26	273	eP	P	00 34 29.6	+0.2
	comp=Z,5.2nm,0.5s,mb4.5						
DMN	Daman	55.43	274	eP	P	00 34 31.4	+0.7
GKN	Gorkha	55.48	274	eP	P	00 34 31.2	+0.2
	comp=Z,19nm,0.5s,mb5.0						
ARCES	ARCESS Array B	55.65	340	P	P	00 34 31.0	-0.7
	comp=Z,0.9nm,0.8s,mb3.7,baz=34,slow=7.9,SNR=5.4						
ARCES	ARCESS Array B	55.65	340	P	P	00 34 31.0	-0.7
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KOLN	Koldanda	56.31	275	eP	P	00 34 36.9	0.0
	comp=Z,13nm,0.6s,mb4.9						
YBH	Yreka Blue Hor	56.78	63	P	P	00 34 40.4	+0.4
	comp=Z,3.6nm,0.8s,mb4.2,baz=34,slow=5.4,SNR=6.0						
YBH	Yreka Blue Hor	56.78	63	P	P	00 34 40.4	+0.4
YBH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MSO	Missoula	58.47	54	eP	P	00 34 51.3	-0.5
	comp=Z,6.7nm,0.8s,mb4.5						
CHMT	Chamberlain Mo	58.78	53	eP	P	00 34 53.4	-0.6
JOF	Joensuu	59.23	333	ep	P	00 34 55.0	-1.8
	comp=Z,0.3nm,0.3s,mb3.6						
HRY	Holter Researc	59.66	53	eP	P	00 35 00.1	+0.1
HLID	Hailey	60.33	57	eP	P	00 35 04.7	+0.2
	comp=Z,2.7nm,0.8s,mb4.1						
MCMT	McKenzie Canyo	60.35	55	eP	P	00 35 04.5	-0.2
BOZ	Bozeman (W)	60.46	53⇑	eP	P	00 35 05.5	+0.1
	comp=Z,7.1nm,0.8s,mb4.5						
KAF	Kangasniemi	61.32	335	ep	P	00 35 09.8	-1.2
	comp=Z,0.2nm,0.3s,mb3.4						
NVAR	Mina Array Bea	61.49	63	P	P	00 35 12.4	0.0
	comp=Z,3.3nm,0.5s,mb4.4,baz=298,slow=6.5,SNR=22						
MNV	Mina	61.57	63	eP	P	00 35 13.2	+0.2
	comp=Z,7.8nm,1.1s,mb4.5						
FINES	FINESS Array B	61.92	334	P	P	00 35 13.5	-1.5
	comp=Z,1.0nm,0.3s,mb4.1,baz=39,slow=7.3,SNR=24						
FINES	FINESS Array B	61.92	334	P	P	00 35 13.5	-1.5
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
RRI2	Red Ridge	62.16	55	eP	P	00 35 17.5	+0.7
TPAW	Teton Pass	62.26	55	eP	P	00 35 16.9	-0.6
TPH	Tonopah	62.36	63	eP	P	00 35 18.0	-0.3
	comp=Z,5.3nm,0.7s,mb4.5						
HWUT	Hardware Ranch	63.20	57	eP	P	00 35 23.9	+0.2
	comp=Z,4.5nm,0.7s,mb4.4						
OBN	Obninsk	63.36	325	eP	P	00 35 22.9	-1.7
OBN				e	pP	00 35 58.5	-6.3
OBN				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
OBN	Obninsk	63.36	325	eP	P	00 35 22.9	-1.7
	comp=Z,3.0nm,0.8s,mb4.2						
OBN				e	pP	00 35 58.5	-6.3
DUG	Dugway	63.46	59⇑	eP	P	00 35 25.6	+0.1
	comp=Z,6.0nm,0.7s,mb4.5						
PDAR	Pinedale Array	63.50	55	P	P	00 35 25.8	+0.1
	comp=Z,4.1nm,0.8s,mb4.3,baz=318,slow=2.0,SNR=34						
ULM	Lac du Bonnet	64.87	41	P	P	00 35 33.8	-0.5
	comp=Z,4.1nm,0.8s,mb4.3,baz=291,slow=4.3,SNR=3.6						
NB2	NORSAR Subarra	66.02	341	P	P	00 35 40.5	-1.0
	comp=Z,0.8nm,0.5s,mb3.8,baz=30,slow=6.5						
NOA	NORSAR Array B	66.02	341	P	P	00 35 40.4	-1.1
	comp=Z,0.8nm,0.8s,mb3.6,baz=292,slow=18,SNR=2.5						
NOA	NORSAR Array B	66.02	341	P	P	00 35 40.4	-1.1
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRAB	Tennant Creek	70.64	199	eP	P	00 36 10.1	-0.6
	comp=Z,5.1nm,0.6s,mb4.4						
WB2	Warramunga Arr	70.65	199	eP	P	00 36 10.3	-0.4
WRA	Warramunga Arr	70.65	199	P	P	00 36 09.7	-1.0
	comp=Z,2.6nm,0.6s,mb4.1,baz=24,slow=7.5,SNR=14						
WRA	Warramunga Arr	70.65	199	P	P	00 36 09.7	-1.0
WRA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
LAZ	Ladron	70.74	60	eP	P	00 36 11.3	+0.3
FITZ	Fitzroy Crossi	71.12	207	eP	P	00 36 14.1	+0.5
	comp=Z,1.8nm,0.6s,mb4.0						
ASAR	Alice Springs	74.35	198	P	P	00 36 32.7	+0.3
	comp=Z,2.5nm,0.5s,mb4.2,baz=13,slow=5.3,SNR=40						
ASPA	Alice Springs	74.35	198	eP	P	00 36 32.8	+0.4
GERES	GERESS Array B	76.34	334	P	P	00 36 43.6	+0.5
	comp=Z,0.5nm,0.7s,mb3.3,baz=27,slow=6.0,SNR=5.1						
GERES	GERESS Array B	76.34	334	P	P	00 36 43.6	+0.5
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
LTX	Lajitas	76.47	61	eP	P	00 36 44.6	+0.4
	comp=Z,12nm,0.6s,mb4.7						
TXAR	Lajitas Array	76.47	61	P	P	00 36 44.5	+0.3
	comp=Z,9.1nm,0.6s,mb4.6,baz=298,slow=4.6,SNR=137						
BRTR	Keskin Array B	76.65	316	P	P	00 36 45.1	+0.1
	comp=Z,0.7nm,0.8s,mb3.3,baz=76,slow=5.1,SNR=4.7						
BRTR	Keskin Array B	76.65	316	P	P	00 36 45.1	+0.1
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
JCT	Junction City	77.78	58	eP	P	00 36 50.9	-0.5
	comp=Z,5.9nm,0.6s,mb4.4						
CPUP	Villa Florida	147.37	57	PKPbc	PKPdf	00 44 35.1	+2.7
	comp=Z,1.2nm,0.6s,baz=339,slow=7.0,SNR=3.7						
CPUP	Villa Florida	147.37	57	PKP2	PKPab	00 44 35.1	-4.5
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.6s						

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*CSEM **19** 00:45:52.6, 30.09N×139.80E, h33^{km}, mb5.6*
*NIED **19** 00:46:00, 30.50N×138.90E, h400^{km}, Mw5.0 Best double couple: $M_0$2.99×10^{16} NP1:ϕ_s335°, δ66°, λ-72°. NP2: ϕ_s117°, δ30°, λ-124°.*
*MOS **19** 00:46:37.7±0.7, 30.61N×138.48E, h394^{km}, mb5.0/32, Error ellipse: s-maj=15.2km s-min=5.8km az=115.7*
*JMA **19** 00:46:37.9±0.2, 30.52N×138.90E, h425^{km}, M4.5*
*IDC **19** 00:46:39.0±0.6, 30.57N×138.51E, h396^{km}±6^{km}, mb4.3/25, mb1 4.4/29, mb1mx4.4/32, Error ellipse: s-maj=10.4km s-min=7.5km az=87.0*
*BJI **19** 00:46:38.1, 30.57N×138.34E, h388^{km}, mB4.8, mb4.9*
*NEIC **19** 00:46:40.0±0.5, 30.58N×138.47E, h409^{km}±4^{km}, mb4.9/87, MW5.0(NIED), Error ellipse: s-maj=4.1km s-min=3.5km az=93.0*
*HRVD **19** 00:46:40.0±0.7, 30.70N×138.38E, h412^{km}±4^{km}, MW5.1/26, Centroid moment Tensor Solution. LP body waves: s26,c33; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.66±.35; $M_{\theta\theta}$2.99±.66; $M_{\phi\phi}$0.67±.57; $M_{r\theta}$0.46±.66; $M_{\theta\phi}$-0.66±.56; $M_{\phi r}$-3.78±.65; Best double couple: $M_0$4.79×10^{16} NP1:ϕ_s97°, δ31°, λ-135°. NP2: ϕ_s326°, δ68°, λ-67°. Principal axes: T 3.73, Plg20°, Azm38°; N 2.12, Plg21°, Azm137°; P -5.85, Plg60°, Azm269°; nsta1 refers to body waves, cutoff=40s.*
ISC 19 00:46:38.3±0.3**, 30.50N**±0.03×**138.55E**±0.03**, h406**^{km}±2^{km}**, h403**^{km}±3.7^{km}**:pP-P, n410, σ0.89**/417**, mb4.8**/131**, 39C-47D, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	2.82	21	P	P	00 47 40.7	-0.2
	221nm,0.3s,baz=41,slow=23,SNR=14						
JHJ				S	S	00 48 28.7	-1.6
	267nm,0.3s,baz=76,slow=22,SNR=8.4						
JHJ2	Mitsune	2.82	22	P	P	00 47 41.3	+0.3
JHJ2				S	S	00 48 30.8	+0.5
TK01	Tokai 1	3.36	346	P	P	00 47 47.9	+2.4
TK01				S	S	00 48 42.0	+3.7
JWZ	Kozaga	3.87	322	P	P	00 47 51.7	+1.6
JIE	Ise	4.19	339	P	P	00 47 55.1	+2.0
JIE				S	S	00 48 55.3	+3.5
JIM2	Oshima 3	4.27	10	P	P	00 47 54.9	+0.9
JIM2				S	S	00 48 55.7	+2.4
BSO1	Boso 1	4.62	26	P	P	00 47 55.6	-1.8
BSO1				S	S	00 48 57.2	-2.3
CBIJ	Chichi jima	4.65	136	P	P	00 47 56.3	-1.4
CBIJ				S	S	00 48 56.0	-3.9
CBIJ	Chichi jima	4.65	136	P	P	00 47 55.8	-1.9
CBIJ				S	S	00 48 58.4	-1.6
JOD2	Odawara 2	4.78	5	P	P	00 47 58.3	-0.7
JOD2				S	S	00 49 02.1	-0.1
JYN	Shimob	4.99	360	P	P	00 48 01.3	+0.2
JTO	Tosashimizu	5.44	297	P	P	00 48 08.1	+2.3
JRY	Ryogami san	5.51	3	P	P	00 48 05.9	-0.7
JRY				S	S	00 49 14.3	-1.5
MAJO	Matsushiro	6.04	357	ePn	P	00 48 11.7	-0.5
	33nm,0.4s						
MAT	Matsushiro	6.04	357	P	P	00 48 10.8	-1.4
MAT				S	S	00 49 29.4	+3.4
MAT	Matsushiro	6.04	357	eP	P	00 48 11.0	-1.2
	30nm,0.7s						
MAT				eS	S	00 49 25.0	-1.0
JHS	Saijyo	6.41	316	P	P	00 48 18.6	+2.2
JHS				S	S	00 49 38.3	+4.7
JSJ	Shimokoshiki	7.67	281	P	P	00 48 33.1	+2.5
JAM	Amami Oshima	8.07	257	P	P	00 48 37.2	+2.1
JTU	Tsushima	8.71	300	S	P	00 48 45.1	+2.7
JOW	Kunigami	9.74	251	P	P	00 48 52.8	-1.5
	28nm,0.3s,baz=166,slow=28,SNR=4.3						
JOW	Kunigami	9.74	251	P	P	00 48 55.7	+1.4
JOT	Ohata	11.05	10	P	P	00 49 08.5	-1.0
KS15	Wonju Array Si	11.24	311	eP	P	00 49 11.4	-0.3
JKB	Kayabe	11.54	9	P	P	00 49 13.9	-1.2
JOSM	Okushiri--Mats	11.59	3	P	P	00 49 14.7	-0.9
ERM	Erimo	12.08	17	P	P	00 49 20.6	-0.5
	1µm,1.2s,SNR=10						
ASAJ	Asahikawa	13.97	12	P	P	00 49 40.8	-1.1
	3.3nm,0.3s,baz=234,slow=14,SNR=8.9						
ASAJ				S	S	00 52 11.2	+2.2
	1.0nm,0.3s,baz=177,slow=34,SNR=2.6						
ASAJ				ScP		00 57 24.6	
	0.4nm,0.3s,baz=303,slow=1.3,SNR=3.5						
ASAJ	Asahikawa	13.97	12	P	P	00 49 40.8	-1.0
ASAJ				S	S	00 52 11.2	+2.3
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
JTKR	Abashiri--Toko	14.11	16	P	P	00 49 43.7	+0.4
SSE	Sheshan	14.94	277	P	P	00 49 47.8	-4.3
SSE				S	S	00 52 27.1	-0.8
SSE				AMB	AMB		
	comp=Z,39nm,0.7s						
SSE				AMB	AMB		
	comp=Z,89nm,12.0s						
MDJ	Mudanjiang	15.77	336	P	P	00 50 00.0	-0.4
MDJ				XP		00 51 37.6	
MDJ				S	S	00 52 48.6	+5.1
MDJ				AMB	AMB		
	comp=Z,44nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,164nm,3.5s						
MDJ	Mudanjiang	15.77	336	eP	P	00 50 00.0	-0.4
	comp=Z,39nm,0.8s						
DL2	Dalian	16.23	306	P	P	00 50 04.9	-0.3
DL2				AMB	AMB		
	comp=Z,20nm,1.3s						
YSS	Yuzh-Sakhalins	16.75	10⇑	eP	P	00 50 09.2	-1.1
YSS				iS	S	00 53 04.0	+2.1
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
YSS				smax			
	comp=N,150nm,1.6s						
YSS				smax			
	comp=E,40nm,1.2s						
YSS	Yuzh-Sakhalins	16.75	10⇑	eP	P	00 50 09.2	-1.1
	comp=E,60nm,1.0s						
YSS				iS	S	00 53 04.0	+2.1
CN2	Changchun	16.87	326	eP	P	00 50 11.3	-0.2
CN2				eXP		00 51 52.5	
CN2				PCP	PcP	00 54 35.8	-0.3
CN2				AMB	AMB		
	comp=Z,50nm,1.1s						
CN2				AMB	AMB		
	comp=Z,380nm,6.0s						
NJ2	Nanjing	16.92	280	eP	P	00 50 11.3	-0.8
NJ2				XP		00 51 52.0	
NJ2				S	S	00 53 04.0	-1.0
NJ2				PCP	PcP	00 54 36.0	-0.2
NJ2				SCP		00 57 32.5	
TIA	Tai'an	18.77	293	eP	P	00 50 29.3	-1.3
BJI	Beijing	20.56	304	eP	P	00 50 47.3	-0.6
BJI				AMB	AMB		
	comp=Z,75nm,1.3s						
BJI				LR	LR		
	comp=Z,150nm,21.7s						
WHN	Wuhan	20.85	276	⇑P	P	00 50 51.8	+1.1
HIA	Hailar	23.55	328⇓	eP	P	00 51 15.6	-0.1
	comp=Z,86nm,1.2s,mb5.1						
HHC	Hu-ho-hao-te	24.15	303	⇓P	P	00 51 20.8	-0.4
HHC				AMB	AMB		
	comp=Z,78nm,1.1s,mb5.0						
HHC				AMB	AMB		
	comp=Z,212nm,6.9s						
ENH	Enshi	25.05	277	eP	P	00 51 28.6	-0.8
	comp=Z,15nm,0.5s,mb4.7						
BTO	Baotou	25.21	301	eP	P	00 51 30.4	-0.4
BTO				AMB	AMB		
	comp=Z,34nm,1.6s,mb4.5						
XAN	Xi'an	25.26	286	P	P	00 51 30.8	-0.5
XAN				AMB	AMB		
	comp=Z,89nm,1.3s,mb5.0						
CLNS	Chul'man	28.02	344	eP	P	00 51 54.9	-0.7
CLNS				pmax	pmax		
	comp=N,1.0nm,0.7s						
CLNS				pmax	pmax		
	comp=Z,15nm,0.7s,mb4.4						
CLNS				pmax	pmax		
	comp=E,12nm,1.0s						
GYA	Guiyang	28.27	270⇓	iP	P	00 51 57.8	-0.3
GYA				PCP	PcP	00 54 58.0	-1.7
GYA				S	S	00 56 12.8	-1.5
GYA				SCP		00 57 59.3	
GYA				AMB	AMB		
	comp=Z,30nm,1.1s,mb4.5						
LZH	Lanzhou	29.44	290	⇓P	P	00 52 07.9	-0.3
LZH				AP		00 53 21.8	
LZH				XP	sP	00 54 08.5	-0.7
LZH				eS	S	00 56 31.8	-0.8
LZH				XS		00 58 43.0	
LZH				AMB	AMB		
	comp=Z,100nm,1.5s,mb4.9						
LZH				AMB	AMB		
	comp=Z,540nm,6.0s						
CD2	Chengdu	29.85	280⇓	iP	P	00 52 11.5	-0.3
CD2				AMB	AMB		
	comp=Z,40nm,0.8s,mb4.8						
SONM	Songino Array	30.07	314	P	P	00 52 13.4	-0.1
	comp=Z,36nm,1.1s,mb4.6,baz=119,slow=7.9,SNR=108						
SONM				PcP	PcP	00 55 03.5	-0.6
	comp=Z,5.4nm,0.7s,baz=136,slow=3.0,SNR=9.4						
SONM				ScP		00 58 06.4	
	comp=Z,2.9nm,0.9s,baz=152,slow=3.5,SNR=8.2						
KMI	Kunming	32.04	269	eP	P	00 52 30.9	+0.2
KMI				AMB	AMB		
	comp=Z,18nm,0.9s,mb4.4						
KMI				LR	LR		
	comp=Z,162nm,21.9s						
YAK	Yakutsk	32.07	352	eP	P	00 52 29.8	-0.8
YAK				e*PP	pP	00 53 43.1	-3.0
YAK				e		00 55 07.5	
YAK				eS	S	00 57 07.8	-5.3
YAK				e*SS		00 59 41.2	
YAK				e		01 02 08.9	
YAK				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.5						
YAK				pmax	pmax		
	comp=N,13nm,1.2s						
YAK				smax			
	comp=E,12nm,1.2s						
YAK				smax			
	comp=N,4.0nm,1.1s						
YAK	Yakutsk	32.07	352	eP	P	00 52 29.8	-0.8
	comp=N,20nm,0.8s,mb4.5						
YAK				epP	pP	00 53 43.1	-3.0
YAK				e		00 55 07.5	
YAK				eS	S	00 57 07.8	-5.3
YAK				esS		00 59 41.2	
YAK				e		01 02 08.9	
BOD	Bodaibo	32.14	335⇓	iP	P	00 52 30.9	-0.4
GTA	Gaotai	32.77	296⇓	iP	P	00 52 36.8	0.0
GTA				AP	pP	00 53 52.4	-0.2
GTA				XP	sP	00 54 39.1	+0.5
GTA				PCP	PcP	00 55 12.1	+0.6
GTA				S	S	00 57 19.8	-4.3
GTA				SCP		00 58 17.5	
GTA				PCS		00 58 56.6	
GTA				AMB	AMB		
	comp=Z,72nm,0.9s,mb5.0						
GTA				AMB	AMB		
	comp=Z,299nm,6.1s						
ZAK	Zakamensk	32.96	317⇓	iP	P	00 52 38.2	-0.1
FX1	Attu Island--F	33.68	38	P	P	00 52 45.3	+0.9
	comp=Z,93nm,0.7s,mb5.2,baz=346,slow=1.4,SNR=17						
FX1	Attu Island--F	33.68	38	P	P	00 52 45.3	+0.9
FX1				pmax	pmax		
	comp=Z,93nm,0.7s						
FX1	Attu Island--F	33.68	38⇑	eP	P	00 52 45.2	+0.9
MOY	Mondy	34.80	318	eP	P	00 52 54.6	+0.8
NANT	Nan	36.16	260	⇓P	P	00 53 05.0	-0.6
	comp=Z,94nm,1.0s,mb5.1						
CHG	Chiang Mai	37.65	261	⇓P	P	00 53 18.6	+0.7
	comp=Z,84nm,0.9s,mb5.1						
CM31	Chiang Mai Arr	37.81	261	eP	P	00 53 19.9	+0.7
	comp=Z,27nm,0.6s,mb4.8						
CMAR	Chiang Mai Arr	37.81	261	P	P	00 53 20.1	+1.0
	comp=Z,18nm,0.7s,mb4.5,baz=55,slow=6.7,SNR=90						
CMAR				PcP	PcP	00 55 26.9	+0.2
	comp=Z,6.1nm,0.8s,baz=35,slow=1.0,SNR=12						
CMAR				ScP		00 58 36.0	
	comp=Z,4.7nm,1.1s,baz=46,slow=2.7,SNR=8.3						
CMAR	Chiang Mai Arr	37.81	261	P	P	00 53 20.2	+1.0
CMAR						00 55 26.9	
CMAR						00 58 36.0	
CMAR				pmax	pmax		
	comp=Z,18nm,0.7s						
CMAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CMAR				pmax	pmax		
	comp=Z,5.0nm,1.1s						
PMG	Port Moresby	40.52	167	PcP	PcP	00 55 35.3	-0.2
	comp=Z,11nm,0.5s,baz=33,slow=3.3,SNR=4.8						
SHL	Shillong	41.26	275	eP	P	00 53 47.5	+0.2
SHL				e		00 55 48.0	
TIXI	Tiksi	41.54	355⇓	iP	P	00 53 48.1	-0.9
WMQ	Urumqi	42.03	303⇓	iP	P	00 53 53.6	+0.3
WMQ				AP	pP	00 55 13.6	+1.3
WMQ				S	S	00 59 42.0	-0.1
WMQ				AMB	AMB		
	comp=Z,82nm,1.2s,mb4.9						
KAKA	Kakadu	43.35	189	eP	P	00 54 09.7	+5.5
	comp=Z,39nm,1.0s,mb4.7						
ZAL	Zalesovo	44.85	317	P	P	00 54 14.2	-1.3
	comp=Z,9.4nm,0.5s,mb4.4,baz=17,slow=7.2,SNR=38						
ZAL				PcP	PcP	00 55 48.4	-1.2
	comp=Z,11nm,0.8s,baz=358,slow=3.3,SNR=16						
ZAL				ScP		00 59 00.3	
	comp=Z,2.0nm,0.8s,baz=44,slow=6.0,SNR=5.3						
ZAL	Zalesovo	44.85	317	P	P	00 54 14.2	-1.3
ZAL						00 55 48.4	
ZAL				pmax	pmax		
	comp=Z,9.0nm,0.5s						
ZAL				pmax	pmax		
	comp=Z,11nm,0.8s						
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ZAL	Zalesovo	44.85	317	P	P	00 54 14.2	-1.3
ZAL				e		00 55 48.4	
GUN	Gumba	45.71	281	eP	P	00 54 23.4	+0.8
	comp=Z,182nm,0.7s,mb5.5						
MKAR	Makanchi Array	45.87	307	iP	P	00 54 23.0	-0.6
MKAR				pmax	pmax		
	comp=Z,68nm,0.9s						
NVS	Novosibirsk	45.89	319⇓	iP	P	00 54 22.2	-1.4
NVS				i		00 55 50.5	
NVS				pmax	pmax		
	comp=Z,53nm,1.4s,mb4.7						
NVS				pmax	pmax		
	comp=E,40nm,1.3s						
NVS	Novosibirsk	45.89	319⇓	iP	P	00 54 22.2	-1.4
	comp=E,53nm,1.4s,mb4.7						
NVS				i		00 55 50.5	
PKI	Pulchoki	46.21	280	eP	P	00 54 26.5	0.0
KKN	Kakani	46.25	281	eP	P	00 54 27.2	+0.4
	comp=E,54nm,0.5s,mb5.1						
DMN	Daman	46.45	280	eP	P	00 54 28.6	+0.2
	comp=E,69nm,0.7s,mb5.1						
GKN	Gorkha	46.74	281	eP	P	00 54 30.6	+0.1
	comp=E,106nm,0.9s,mb5.2						
KOLN	Koldanda	47.68	281	eP	P	00 54 38.2	+0.5
	comp=E,191nm,0.9s,mb5.5						
KURK	Kurchatov	48.34	313	iP	P	00 54 41.6	-0.8
KURK				pmax	pmax		
	comp=Z,71nm,1.1s,mb4.9						
FITZ	Fitzroy Crossi	49.89	196	eP	P	00 54 54.8	+0.3
	comp=Z,18nm,0.6s,mb4.6						
FITZ				ePP	PP	00 56 54.7	+0.6
FITZ				eS	S	01 01 33.0	+0.6
LGTI	Lohaghat	50.02	284⇑	iP	P	00 54 56.5	+1.1
WRAB	Tennant Creek	50.30	185	P	P	00 54 57.0	-0.6
	comp=Z,593nm,0.5s						
WRAB	Tennant Creek	50.30	185⇓	iP	P	00 54 57.3	-0.3
	comp=Z,100nm,0.6s,mb5.3						
WRAB				e		00 56 10.3	
WRAB				eScP		00 59 26.1	
WB2	Warramunga Arr	50.31	185	eP	P	00 54 57.3	-0.3
WB2				ePP	PP	00 56 50.3	-7.6
WB2				eSCP		00 59 25.6	
WB2				eS	S	01 01 36.3	-1.8
WRA	Warramunga Arr	50.31	185	P	P	00 54 57.3	-0.3
	comp=Z,61nm,0.5s,mb5.2,baz=2.0,slow=7.8,SNR=210						
WRA				PcP	PcP	00 56 09.9	+0.2
	comp=Z,25nm,1.2s,baz=0.9,slow=4.2,SNR=6.9						
WRA				ScP		00 59 25.3	
	comp=Z,6.3nm,0.6s,baz=359,slow=4.6,SNR=15						
WRA				S	S	01 01 36.6	-1.6
	comp=Z,4.1nm,0.8s,baz=9.2,slow=15,SNR=8.6						
WRA	Warramunga Arr	50.31	185	P	P	00 54 57.3	-0.3
WRA						00 56 09.9	
WRA				S	S	01 01 36.6	-1.5
WRA				pmax	pmax		
	comp=Z,61nm,0.5s						
WRA				pmax	pmax		
	comp=Z,25nm,1.2s						
WRA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
WRA				smax			
	comp=N,4.0nm,0.9s						
CTA	Charters Tower	50.83	171	eP	P	00 55 01.4	-0.1
	comp=N,6.7nm,0.9s,mb3.9						
CTA	Charters Tower	50.83	171	P	P	00 55 01.7	+0.2
	comp=N,7.6nm,0.7s,mb4.0,baz=350,slow=7.9,SNR=9.0						
CTA	Charters Tower	50.83	171	P	P	00 55 01.7	+0.2
CTA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
TKM2	Tokmak 2	50.88	303	P	P	00 55 02.1	+0.5
	SNR=15						
KSH	Kashi	51.14	298	eP	P	00 55 05.5	+2.0
KSH				ePCP	PcP	00 56 16.4	+3.8
KSH				eAP	pP	00 56 27.5	+1.6
KSH				ePP	PP	00 57 09.4	+4.4
KSH				AMB	AMB		
	comp=Z,270nm,5.5s						
KZA	Kyzart	51.26	301	P	P	00 55 05.7	+1.3
	SNR=5.4						
KBK	Karagaybulak	51.39	302	P	P	00 55 05.6	+0.3
	SNR=47						
CHMS	Chumysh	51.49	303	P	P	00 55 05.8	-0.2
	SNR=9.2						
DDI	Dehra Dun	51.60	286	e	P	00 55 04.1	-2.9
USP	Ospenovka	51.63	303	P	P	00 55 06.7	-0.4
	SNR=13						
AAK	Ala-Archa	51.73	302	P	P	00 55 07.7	-0.2
	SNR=19						
AAK	Ala-Archa	51.73	302d	iP	P	00 55 06.5	-1.3
AAK				pmax	pmax		
	comp=Z,27µm,0.8s						
UCH	Uchtor	51.78	302	P	P	00 55 09.1	+0.9
	SNR=28						
EKS2	Erkin-Say	52.25	302	P	P	00 55 11.3	-0.3
	SNR=9.1						
AML	Almayashu	52.39	302	P	P	00 55 13.4	+0.7
	SNR=12						
NDI	New Delhi	52.78	284	eP	P	00 55 13.5	-2.3
THN	Thein Dam	52.93	289	eP	P	00 55 14.6	-2.2
	comp=Z,16nm,0.5s,mb4.5						
VOSK	Vostochnaya	53.05	315	P	P	00 55 16.1	-1.3
VOSK				pmax	pmax		
	comp=Z,64nm,1.0s,mb4.8						
VOSK	Vostochnaya	53.05	315	P	P	00 55 16.1	-1.3
	comp=Z,64nm,1.0s,mb4.8						
BVA0	Borovoye Array	53.39	316	P	P	00 55 18.7	-1.1
BVAR	Borovoye Array	53.39	316	P	P	00 55 19.0	-0.9
	comp=Z,54nm,0.8s,mb4.8,baz=90,slow=8.9,SNR=238						
BVAR				PcP	PcP	00 56 20.4	-0.5
	comp=Z,23nm,0.6s,baz=90,slow=3.0,SNR=17						
BVAR				ScP		00 59 37.7	

comp=Z,3.6nm,1.0s,baz=90,slow=5.8,SNR=4.3
BVAR S **S** **01 02 18.5 -0.7**
comp=Z,0.5nm,0.8s,baz=90,slow=7.2,SNR=2.4
BVAR Borovoye Array 53.39 316 P **P** **00 55 19.0 -0.9**
BVAR PcP PcP 00 56 20.4 -0.5
BVAR ScP 00 59 37.7
BVAR S **S** **01 02 18.5 -0.7**
BRVK Borovoye 53.45 316 P **P** **00 55 19.4 -0.9**
BRVK pmax pmax
comp=Z,58nm,1.1s,mb4.7
BRVK Borovoye 53.45 316 P **P** **00 55 19.4 -0.9**
comp=Z,58nm,1.1s,mb4.7
IMA Indian Mountai 53.54 28 *eP* **P** **00 55 20.9 +0.2**
IMA *e*PcP PcP 00 56 22.8 +1.5
RSO Redoubt South 53.56 35 *eP* **P** **00 55 20.8 -0.1**
KDAK Kodiak Island 53.62 38⇑ *eP* **P** **00 55 20.5 -0.9**
comp=Z,34nm,0.6s,mb4.8
SPU Mount Spurr 53.92 34 *eP* **P** **00 55 23.2 -0.3**
ASAR Alice Springs 54.04 185 P **P** **00 55 24.6 -0.3**
comp=Z,35nm,0.5s,mb4.8,baz=17,slow=12,SNR=444
ASAR PcP PcP 00 56 24.5 +0.7
comp=Z,4.3nm,0.8s,baz=11,slow=4.0,SNR=6.2
ASAR ScP 00 59 42.4
comp=Z,3.9nm,0.8s,baz=6.8,slow=4.6,SNR=9.3
ASAR S **S** **01 02 26.9 -1.3**
comp=Z,2.5nm,0.6s,baz=19,slow=21,SNR=8.6
ASPA Alice Springs 54.04 185 *eP* **P** **00 55 24.6 -0.3**
ASPA *e*S **S** **01 02 27.0 -1.2**
ASPA *e*SCS ScS 01 04 32.5 +4.0
ZRNK Zerenda 54.23 316 P **P** **00 55 25.0 -0.9**
BHPL Bhopal 54.45 278 *eP* **P** **00 55 26.6 -1.2**
BHPL *e* 00 55 27.5
comp=Z,57nm,1.0s
MBWA Marble Bar 54.45 202⇓ *iP* **P** **00 55 27.5 -0.3**
comp=Z,65nm,0.6s,mb5.0
SLKM Skilak Lake 54.81 35 *eP* **P** **00 55 28.2 -1.7**
MCK McKinley 55.42 31 *eP* **P** **00 55 32.9 -1.2**
comp=Z,10nm,1.0s,mb4.0
AJM Ajmer 55.66 283 *eP* **P** **00 55 35.3 -1.0**
AJM *e* 00 55 36.7
comp=Z,58nm,1.0s
HYB Hyderabad 55.79 271 *i* P **P** **00 55 37.0 -0.3**
HYB *e*PcP PcP 00 56 29.5 -1.1
HYB Hyderabad 55.79 271 *eP* **P** **00 55 37.0 -0.3**
ILAR Eielson Array 56.31 30 P **P** **00 55 39.0 -1.4**
comp=Z,2.2nm,0.7s,baz=258,slow=4.6,SNR=24
ILAR PcP PcP 00 56 30.5 -1.6
comp=Z,1.4nm,0.7s,baz=290,slow=4.0,SNR=7.5
ILAR ScP 00 59 48.9
comp=Z,0.6nm,0.9s,baz=304,slow=2.6,SNR=4.8
ILAR Eielson Array 56.31 30 P **P** **00 55 39.0 -1.3**
ILAR 00 56 30.5
ILAR pmax pmax
comp=Z,2.0nm,0.7s
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR pmax pmax
comp=Z,1.0nm,0.9s
DIV Divide 56.97 34⇑ *eP* **P** **00 55 44.7 -0.2**
comp=Z,61nm,0.9s,mb4.9
SVE Sverdlovsk 58.59 321⇓ *eP* **P** **00 55 55.2 -0.8**
SVE pmax pmax
comp=Z,100nm,1.6s,mb4.9
SVE Sverdlovsk 58.59 321⇓ *eP* **P** **00 55 55.2 -0.8**
comp=Z,100nm,1.6s,mb4.9
PALK Pallekele 58.73 259 *eP* **P** **00 55 57.2 -0.3**
comp=Z,12nm,0.7s,mb4.3
KAD Karad 59.60 273 *eP* **P** **00 56 02.6 -0.6**
KAD *e* 00 56 04.1
comp=Z,99nm,1.2s
ARU Arti 59.79 321⇑ *iP* **P** **00 56 02.8 -1.2**
ARU *e* 00 56 41.8
ARU *e* 00 58 18.9
ARU *e*S **S** **01 03 43.2 +1.0**
ARU pmax pmax
comp=Z,84nm,0.9s,mb5.2
ARU Arti 59.79 321⇑ *iP* **P** **00 56 02.8 -1.2**
comp=Z,84nm,0.9s,mb5.2
ARU *e* 00 56 41.8
ARU *e* 00 58 18.9
ARU *e*S **S** **01 03 43.2 +1.0**
INK Inuvik 61.29 25 P **P** **00 56 13.2 -0.6**
comp=Z,1.0nm,0.4s,baz=315,slow=3.8,SNR=3.3
INK Inuvik 61.29 25 P **P** **00 56 13.2 -0.6**
INK pmax pmax
comp=Z,1.0nm,0.4s
TRD Trivandrum 61.29 263 *eP* **P** **00 56 14.8 +0.3**
TRD *e* 00 56 15.8
comp=Z,45nm,1.3s
FORT Forrest 61.75 190 *eP* **P** **00 56 17.7 +0.4**
comp=Z,554nm,0.5s
STKA Stephens Creek 62.10 177 *eP* **P** **00 56 19.9 +0.3**
comp=Z,31nm,0.7s,mb5.0
STKA *e*S **S** **01 04 10.5 -1.0**
STKA Stephens Creek 62.10 177 P **P** **00 56 20.0 +0.4**
comp=Z,35nm,0.6s,mb5.1,baz=346,slow=6.8,SNR=93
STKA S **S** **01 04 10.9 -0.6**
comp=Z,2.0nm,0.7s,baz=165,slow=19,SNR=3.4
KLBR Kellerberrin 64.83 200 *eP* **P** **00 56 36.8 -0.4**
comp=Z,27nm,0.8s,mb4.9
KLBR *e*PCP PcP 00 57 06.6 -0.3
MUN Mundaring 65.65 201 *eP* **P** **00 56 43.4 +1.0**
comp=Z,5.5nm,0.6s,mb4.4
MUN *e*PCP PcP 00 57 10.1 -0.2
NWAO Narrogin (SRO) 66.23 200⇓ *eP* **P** **00 56 45.8 -0.2**
comp=Z,51nm,0.6s,mb5.3
NWAO *e*PcP PcP 00 57 12.5 -0.2
APA Apatity 67.69 336⇑ *iP* **P** **00 56 53.7 -0.7**
APA *i* 00 57 15.7
APA pmax pmax
comp=Z,50nm,0.8s,mb5.2
APA Apatity 67.69 336⇑ *iP* **P** **00 56 53.7 -0.7**
comp=Z,50nm,0.8s,mb5.2
APA *i* 00 57 15.7
KEV Kevo 68.72 340 *ep* **P** **00 57 00.1 -0.5**
comp=Z,1.1nm,0.3s,mb4.0
KEV Kevo 68.72 340 *eP* **P** **00 57 00.1 -0.5**
KEV pmax pmax
comp=Z,1.0nm,0.3s,mb3.9
ARCES ARCESS Array B 69.28 340 P **P** **00 57 04.0 0.0**
comp=Z,29nm,0.7s,mb5.0,baz=72,slow=8.5,SNR=93
ARCES ARCESS Array B 69.28 340 P **P** **00 57 04.1 +0.1**
ARCES pmax pmax
comp=Z,29nm,0.7s
KTK1 Kautokeino 70.24 340 *eP* **P** **00 57 09.9 +0.1**
KTK1 AMb AMB 00 57 11.6
comp=Z,68nm,1.7s,mb4.9
KTK1 Kautokeino 70.24 340 *eP* **P** **00 57 09.9 +0.1**
comp=Z,68nm,1.7s,mb4.9
JOF Joensuu 70.62 332 *ep* **P** **00 57 11.5 -0.6**
comp=Z,4.3nm,0.3s,mb4.5
JOF Joensuu 70.62 332 *eP* **P** **00 57 11.5 -0.6**
JOF pmax pmax
comp=Z,4.0nm,0.3s,mb4.4
YKA Yellowknife Ar 70.66 28 P **P** **00 57 12.2 -0.2**
comp=Z,2.1nm,0.7s,mb3.8,baz=300,slow=6.0,SNR=6.1
YKA Yellowknife Ar 70.66 28 P **P** **00 57 12.2 -0.2**
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 70.66 28 P **P** **00 57 12.2 -0.2**
MOS Moscow 71.10 324ĸ *iP* **P** **00 57 15.0 -0.1**
MOS pmax pmax
comp=Z,105nm,1.1s,mb5.3
MOS Moscow 71.10 324 *i* Pdr 00 57 15.0
comp=Z,105nm,1.1s
TRO Tromso 71.12 341 *eP* **P** **00 57 13.8 -1.2**
TRO AMb AMB 00 57 14.7
comp=Z,49nm,1.0s,mb5.0
TRO Tromso 71.12 341 *eP* **P** **00 57 13.8 -1.2**
comp=Z,49nm,1.0s,mb5.0
OBN Obninsk 71.92 324 *dP* **P** **00 57 19.5 -0.4**
OBN *i* 00 57 34.6
OBN *i* *PP pP 00 58 51.1 +1.1
OBN S S 01 06 06.4 -0.7
OBN *e*SS SS 01 10 52.9 -2.6
OBN pmax pmax
comp=Z,75nm,1.1s,mb5.1
OBN Obninsk 71.92 324 *i* Pr 00 57 19.5
comp=Z,75nm,1.1s
OBN *i* 00 57 34.6
OBN *i* pP pP 00 58 51.1 +1.1
OBN S S 01 06 06.4 -0.7
OBN *e*SS SS 01 10 52.9 -2.6
VOR Voronezh 72.05 320 *eP* **P** **00 57 19.7 -1.1**
VOR pmax pmax
comp=Z,110nm,1.3s,mb5.2
DAG Danmarks Havn 72.06 355⇑ *iP* **P** **00 57 19.7 -0.7**
comp=Z,16nm,1.2s,mb4.4
DAG Danmarks Havn 72.06 355⇑ *eP* **P** **00 57 19.7 -0.7**
comp=Z,16nm,1.2s,mb4.4
GOF Gofitskoye 72.70 312⇑ *iP* **P** **00 57 25.0 +0.4**
GOF pmax pmax
comp=Z,51nm,1.2s,mb4.9
GOF Gofitskoye 72.70 312⇑ *iP* **P** **00 57 25.0 +0.4**
comp=Z,51nm,1.2s,mb4.9
KAF Kangasniemi 73.02 333 *ep* **P** **00 57 24.8 -1.3**
comp=Z,18nm,0.6s,mb4.8,baz=53,slow=5.5
KAF Kangasniemi 73.02 333 *eP* **P** **00 57 24.8 -1.3**
KAF pmax pmax
comp=Z,18nm,0.6s,mb4.8
KIV Kislovodsk 73.41 311 *dP* **P** **00 57 29.0 +0.3**
KIV *e* 00 57 44.4
KIV *e**PP pP 00 58 57.8 -1.4
KIV *e*S S 01 06 32.4 +8.7
KIV *e*SS SS 01 11 22.8 +4.1
KIV pmax pmax
comp=N,46nm,0.9s
KIV pmax pmax
comp=E,25nm,0.9s
KIV pmax pmax
comp=Z,85nm,0.9s,mb5.3
KIV Kislovodsk 73.41 311 *i* Pr 00 57 29.0
comp=Z,85nm,0.9s
KIV *e* 00 57 44.4
KIV *e*pP pP 00 58 57.8 -1.4
KIV *e*S S 01 06 32.4 +8.7
KIV *e*SS SS 01 11 22.8 +4.1
FINES FINESS Array B 73.48 332 P **P** **00 57 28.5 -0.3**
comp=Z,27nm,0.7s,mb4.9,baz=70,slow=5.6,SNR=83
FINES FINESS Array B 73.48 332 P **P** **00 57 28.5 -0.3**
FINES pmax pmax
comp=Z,27nm,0.7s
FINES FINESS Array B 73.48 332 P **P** **00 57 28.5 -0.3**
MOR8 Moi Rana 74.65 340⇓ *iP* **P** **00 57 34.1 -1.2**
MOR8 AMb AMB 00 57 35.2
comp=Z,65nm,1.2s,mb5.1
MOR8 Moi Rana 74.65 340 *eP* **P** **00 57 34.1 -1.2**
comp=Z,65nm,1.2s,mb5.1
TVAN Van 75.38 306 *i* P **P** **00 57 41.0 +1.1**
SOC Sochi 75.49 312 *i* P **P** **00 57 40.4 -0.1**
SOC *e**PP pP 00 59 09.1 -2.4
SOC *e*S S 01 06 42.2 -4.2
SOC *e* 01 07 31.9
SOC *e*SS SS 01 11 50.3 +0.2
SOC pmax pmax
comp=Z,66nm,0.8s,mb5.3
SOC pmax pmax
comp=N,11nm,1.1s
SOC pmax pmax
comp=E,12nm,0.9s
SOC MLR MLR
comp=Z,75nm,14.0s
SOC MLR MLR
comp=N,147nm,26.0s
SOC MLR MLR
comp=E,81nm,16.0s
SOC Sochi 75.49 312 *i* P **P** **00 57 40.4 -0.1**
comp=E,66nm,0.8s,mb5.3
SOC *e*pP pP 00 59 09.1 -2.4
SOC *e*S S 01 06 42.2 -4.2
SOC *e* 01 07 31.9
SOC *e*SS SS 01 11 50.3 +0.2
DPW Davenport 76.10 42 *eP* **P** **00 57 44.6 +0.9**
ERZM Erzurum 76.14 308 *iP* **P** **00 57 45.8 +1.7**
UMR Umm Al-Rimmam 76.30 296 *eP* **P** **00 57 45.7 +0.4**
YBH Yreka Blue Hor 76.31 50 P **P** **00 57 46.2 +1.2**
comp=E,3.7nm,0.8s,mb4.1,baz=183,slow=6.4,SNR=6.3
YBH Yreka Blue Hor 76.31 50 P **P** **00 57 46.2 +1.1**
YBH pmax pmax
comp=Z,4.0nm,0.8s
ANN Anapa 76.35 314*c* *iP* **P** **00 57 44.8 -0.4**
ANN *e**PP pP 00 59 14.7 -1.7
ANN *e*S S 01 06 57.2 +1.6
ANN *e* 01 07 43.9
ANN pmax pmax
comp=Z,120nm,0.9s,mb5.5
ANN Anapa 76.35 314⇑ *iP* **P** **00 57 44.8 -0.4**
comp=Z,120nm,0.9s,mb5.5
ANN *e*pP pP 00 59 14.7 -1.7
ANN *e*S S 01 06 57.2 +1.6
ANN *e* 01 07 43.9
MIB Mutribah 76.48 297 *eP* **P** **00 57 46.0 -0.3**
MIB AMb AMB 00 57 47.4
comp=Z,149nm,0.7s,mb5.7
KBD Kabd 76.49 296 *eP* **P** **00 57 46.3 0.0**
RDF Al-Radifah 76.72 296 *eP* **P** **00 57 47.1 -0.5**
RDF AMb AMB 00 57 48.0
comp=Z,138nm,0.7s,mb5.7
RST Umm Al-Ruwaisa 76.88 297 *eP* **P** **00 57 48.0 -0.5**
RST AMb AMB 00 57 49.5
comp=Z,134nm,0.8s,mb5.6
BEST Besiri 77.16 306 *iP* **P** **00 57 49.6 -0.2**
SUMG Summit 77.19 359 *eP* **P** **00 57 50.3 +1.0**
comp=Z,18nm,0.9s,mb4.7
URZ Urewera 77.29 150 P **P** **00 57 50.3 -0.2**
comp=Z,18nm,1.1s,mb4.6,baz=278,slow=7.1,SNR=3.4
WALA Waterton Lakes 77.92 40 *eP* **P** **00 57 54.4 +0.7**
comp=Z,6.2nm,0.6s,mb4.4
AKASG Malin Array Be 78.00 322 P **P** **00 57 53.7 -0.3**
comp=Z,12nm,0.4s,mb4.8,baz=49,slow=5.7,SNR=113
AKASG PP PP 01 00 55.9 -1.9
comp=Z,2.1nm,0.8s,baz=50,slow=8.1,SNR=4.1
AKASG Malin Array Be 78.00 322 P **P** **00 57 53.7 -0.3**
AKASG 01 00 55.9
AKASG pmax pmax
comp=Z,12nm,0.4s
AKASG pmax pmax
comp=Z,2.0nm,0.8s
SIM Simferopol' 78.31 315 *eP* **P** **00 57 56.0 +0.2**
SIM pmax pmax
comp=Z,37nm,0.9s,mb5.0
SIM Simferopol' 78.31 315 *eP* **P** **00 57 56.0 +0.2**
comp=Z,37nm,0.9s,mb5.0
SUW Suwalki 79.09 327⇓ *eP* **P** **00 57 59.5 -0.2**
SUW Suwalki 79.09 327⇓ *eP* **P** **00 57 59.5 -0.2**
NB2 NORSAR Subarra 79.26 337 P **P** **00 58 00.4 -0.1**
comp=Z,33nm,0.8s,mb5.0,baz=43,slow=5.3
NB2 NORSAR Subarra 79.26 337 P **P** **00 58 00.4 -0.1**
baz=43,slow=5.3
NOA NORSAR Array B 79.26 337 P **P** **00 58 00.1 -0.4**
comp=Z,19nm,0.7s,mb4.8,baz=46,slow=5.3,SNR=84
NOA NORSAR Array B 79.26 337 P **P** **00 58 00.2 -0.3**
NOA pmax pmax
comp=Z,19nm,0.7s
NAO01 NORSAR Array S 79.52 337 *eP* **P** **00 58 01.4 -0.5**
comp=Z,16nm,0.7s,mb4.8
RPZ Rata Peaks 79.62 157 P **P** **00 58 03.4 +0.5**
comp=Z,12nm,0.6s,mb4.7,baz=5.2,slow=16,SNR=4.4
BOYT Boyabat 79.65 312 *iP* **P** **00 58 02.1 -0.9**
CMB Columbia Colle 79.69 52 *eP* **P** **00 58 03.9 +0.6**
comp=Z,4.5nm,0.6s,mb4.3
HRY Holter Researc 80.39 41 *eP* **P** **00 58 08.0 +1.2**
BALT Daday 80.56 313 *iP* **P** **00 58 06.9 -0.9**
NVAR Mina Array Bea 80.89 51 P **P** **00 58 10.8 +1.2**
comp=Z,1.7nm,0.6s,mb4.0,baz=282,slow=4.5,SNR=12
MZLS Mizel 80.89 292 P **P** **00 58 10.6 +0.8**
AVNT Avonos 81.07 310 *iP* **P** **00 58 05.9 -4.6**
ELDT Eldivan 81.09 312 *iP* **P** **00 58 09.8 -0.8**
BOZ Bozeman (W) 81.11 42 *eP* **P** **00 58 11.6 +1.1**
comp=Z,8.0nm,0.6s,mb4.6
WAR Warsaw 81.21 327 *eP* **P** **00 58 06.0 -4.9**
WAR Warsaw 81.21 327 *eP* **P** **00 58 06.0 -4.9**
LVV L'vov 81.22 323 *iP* **P** **00 58 11.9 +0.9**
LVV *e* 01 09 42.5
BRTR Keskin Array B 81.37 311 P **P** **00 58 12.5 +0.5**
comp=Z,36nm,0.9s,mb5.1,baz=101,slow=3.8,SNR=167
BRTR Keskin Array B 81.37 311 P **P** **00 58 12.5 +0.5**
BRTR pmax pmax
comp=Z,36nm,0.9s
CFR Carcaliu 81.72 318⇓ *iP* **P** **00 58 14.1 +0.4**
CFR Carcaliu 81.72 318⇓ *iP* **P** **00 58 14.1 +0.4**
HILS Ha'il 81.92 297 P **P** **00 58 15.8 +0.7**
KWP Kalwaria 82.01 324⇓ *eP* **P** **00 58 15.7 +0.6**
KWP Kalwaria 82.01 324⇓ *eP* **P** **00 58 15.7 +0.6**
BSD Bornholm Skovb 82.04 331 *iP* **P** **00 58 12.3 -2.8**
BSD Bornholm Skovb 82.04 331 *iP* **P** **00 58 12.6 -2.5**
comp=Z,78nm,1.1s,mb5.3
BSD Bornholm Skovb 82.04 331 *eP* **P** **00 58 12.3 -2.8**
BSD *i* P 00 58 12.6
VRI Vrincioaia 82.13 319⇑ *iP* **P** **00 58 17.1 +1.4**
VRI Vrincioaia 82.13 319⇑ *iP* **P** **00 58 17.1 +1.4**
BRD Bordesti 82.14 319⇑ *iP* **P** **00 58 18.1 +2.3**
PSN Preselentsi 82.56 317 *iP* **P** **00 58 19.3 +1.3**
RRI2 Red Ridge 82.61 44 *eP* **P** **00 58 19.2 +0.9**
COP Copenhagen 82.65 333 *iP* **P** **00 58 18.2 0.0**
comp=Z,43nm,0.7s,mb5.3
COP Copenhagen 82.65 333 *eP* **P** **00 58 18.2 0.0**
comp=Z,43nm,0.7s,mb5.3
KOLS Kolonicke sedl 82.67 323 *eP* **P** **00 58 19.0 +0.6**
KOLS *e* 00 58 29.2
KOLS *e* 00 58 33.9
KOLS *e* 00 58 40.8
ISR Istrita 82.67 319⇑ *iP* **P** **00 58 20.2 +1.7**
ISR Istrita 82.67 319⇑ *iP* **P** **00 58 20.2 +1.7**
AFFS 'Afif 82.69 293 P **P** **00 58 20.0 +0.9**
MLR Muntele Rosu 82.79 319 P **P** **00 58 19.6 +0.5**
comp=Z,23nm,1.1s,mb4.8,baz=331,slow=6.2,SNR=24
MLR Muntele Rosu 82.79 319 P **P** **00 58 19.6 +0.5**
MLR pmax pmax
comp=Z,23nm,1.1s
OJC Ojcow 83.09 325 *eP* **P** **00 58 20.6 0.0**
OJC Ojcow 83.09 325 *eP* **P** **00 58 20.6 0.0**
ASF Jabal al Asfar 83.13 303 P **P** **00 58 22.0 +0.8**
comp=Z,38nm,0.9s,mb5.1,baz=285,slow=2.4,SNR=62
KAMS Al Khamasin 83.22 289 P **P** **00 58 21.7 -0.1**
QURS Qurayyt al Mil 83.23 302 P **P** **00 58 22.3 +0.7**
PRD Provadia 83.30 317 *iP* **P** **00 58 23.0 +1.2**
MUD Monsted U'grnd 83.34 334 *iP* **P** **00 58 21.7 0.0**
comp=Z,38nm,1.1s,mb5.0
NIE Niedzica 83.36 325 *eP* **P** **00 58 23.0 +1.1**
HRI Mount Hermon 83.39 305 P **P** **00 58 23.1 +0.7**
KSHT Keshet 83.48 304 P **P** **00 58 23.6 +0.7**
DUG Dugway 83.49 47 *eP* **P** **00 58 24.2 +1.4**
comp=Z,5.4nm,0.6s,mb4.5
TCUT Toone Canyon 83.84 46 *eP* **P** **00 58 24.8 +0.3**
KECS Kecovo 83.87 324 *eP* **P** **00 58 25.2 +0.7**
HNTI Hanita 83.88 305 P **P** **00 58 25.3 +0.4**
RAC Raciborz 83.96 326 *eP* **P** **00 58 25.5 +0.6**
RAC Raciborz 83.96 326 *eP* **P** **00 58 25.5 +0.6**
PDAR Pinedale Array 83.99 43 P **P** **00 58 26.4 +1.2**
comp=Z,1.4nm,0.7s,mb3.8,baz=297,slow=2.4,SNR=16
PDAR PP PP 01 01 46.0 -0.4
comp=Z,0.9nm,0.9s,baz=315,slow=4.2,SNR=4.1
MMLI Mount Malkishu 84.05 304 P **P** **00 58 26.5 +0.8**
HMDT Nahal Hemdat 84.07 304 P **P** **00 58 26.4 +0.5**
NLU North Lily Min 84.09 47 *eP* **P** **00 58 27.2 +1.4**
SZH Strazhica 84.13 317 *iP* **P** **00 58 26.5 +0.6**
OKC Ostrava-Krasne 84.15 326⇓ *iP* **P** **00 58 26.0 +0.2**
CSS Prodhromos 84.15 307⇓ *iP* **P** **00 58 25.6 -0.6**
comp=Z,53nm,0.9s,mb5.3
DAU Daniels Canyon 84.34 46 *eP* **P** **00 58 28.7 +1.7**
KSP Ksiaz 84.35 327⇓ *eP* **P** **00 58 27.1 +0.3**
KSP *e*pP pP 01 00 05.4 +5.7
MORC Moravsky Berou 84.48 326 *eP* **P** **00 58 27.4 -0.1**
comp=Z,9.8nm,0.9s,mb4.5
MORC Moravsky Berou 84.48 326 *eP* **P** **00 58 27.6 +0.2**
TATS Tathlith 84.50 289 P **P** **00 58 29.5 +1.3**
DRGI Dragot 84.52 303 P **P** **00 58 28.4 +0.3**
PSZ Piszkesteto 84.54 324⇑ *iP* **P** **00 58 28.4 +0.6**
KBRS Khaybar 84.67 297 P **P** **00 58 29.8 +0.8**
DPC Dobruska-Polom 84.68 327⇓ *iP* **P** **00 58 28.9 +0.5**
UPC Upice 84.71 327⇓ *iP* **P** **00 58 28.9 +0.4**
BSEG Bad Segeberg 84.76 332 *eP* **P** **00 58 28.8 +0.1**
BSEG pmax pmax
comp=Z,39nm,1.4s,mb4.9
MSU Marysvale 84.86 48 *eP* **P** **00 58 31.4 +1.8**
ZFRI Zfri 85.23 303 P **P** **00 58 31.4 -0.2**
DJNS Zahran al Janu 85.37 288 P **P** **00 58 33.6 +1.2**
PVCC Panska Ves 85.37 328⇓ *iP* **P** **00 58 32.0 +0.3**
SMOL Smolenice 85.39 325 *eP* **P** **00 58 32.9 +1.1**
KDZ Kurdzhali 85.40 316 P **P** **00 58 33.0 +0.9**
SRO2 Moca 85.41 324 *eP* **P** **00 58 32.5 +0.5**
BRG Berggiesshubel 85.41 328 *iP* **P** **00 58 31.9 0.0**
BRG pmax pmax
comp=Z,18nm,1.0s,mb4.8
BRG Berggiesshubel 85.41 328 *iP* **P** **00 58 31.9 0.0**
comp=Z,18nm,1.0s,mb4.8
TBKS Tabuk 85.46 300 P **P** **00 58 33.2 +0.5**
PRNI Paran 85.47 303 P **P** **00 58 32.6 -0.1**
CLL Collm 85.52 329⇓ P **P** **00 58 32.1 -0.3**
comp=Z,logA/T=1.4,mb4.9
CLL Collm 85.52 329⇓ *iP* **P** **00 58 32.1 -0.3**
CLL pmax pmax
comp=Z,24nm,1.0s,mb4.9
CLL Collm 85.52 329⇓ *iP* **P** **00 58 32.1 -0.3**
comp=Z,24nm,1.0s,mb4.9
KZIT Kziot 85.61 303 P **P** **00 58 33.0 -0.4**
JMQS Jabal Moqyreh 85.61 301 P **P** **00 58 33.4 0.0**
NAMS An Nimas 85.72 290 P **P** **00 58 35.1 +1.0**
PRU Pruhonice 85.76 328⇓ *iP* **P** **00 58 33.3 -0.3**
PRU *ex* x 00 59 09.6
ZST Bratislava 85.76 325 *eP* **P** **00 58 34.3 +0.6**
RZN Rozhen 85.80 317 *iP* **P** **00 58 35.3 +1.3**
KMTI Kartal 85.80 302 P **P** **00 58 33.7 -0.6**
MBH Mount Berech 85.83 302 P **P** **00 58 34.2 -0.3**
BLJS Baljurashi 85.85 291 P **P** **00 58 35.7 +1.0**
VTS Vitosha 86.12 318 *iP* **P** **00 58 36.0 +0.5**
HAQS Haql 86.22 301 P **P** **00 58 36.1 -0.3**
CLZ Clausthal 86.27 331 *eP* **P** **00 58 36.1 +0.1**
comp=Z,22nm,1.2s,mb4.8
BDAS Al Bad' **86.43 301** P **P** **00 58 37.1 -0.2**
DBAS Duba 86.43 299 P **P** **00 58 37.2 -0.2**
AYUS 'Aynunah 86.44 301 P **P** **00 58 37.0 -0.4**
MMB Musomiste 86.44 317 *iP* **P** **00 58 37.0 -0.1**
UMJS Umm Lajj 86.46 297 P **P** **00 58 38.1 +0.6**
NKC Novy Kostel 86.54 329⇓ *iP* **P** **00 58 37.4 +0.1**
LTHS Al Lith 86.61 291 P **P** **00 58 39.2 +0.8**
MOX Moxa 86.61 329 *iP* **P** **00 58 37.7 0.0**
MOX Moxa 86.61 329 *eP* **P** **00 58 37.7 0.0**
KKB Krupnik 86.65 318 *iP* **P** **00 58 38.5 +0.4**
RHK1 Bakonya 86.68 323⇑ *iP* **P** **00 58 38.1 0.0**
KHC Kasperske Hory 86.81 327⇓ *iP* **P** **00 58 38.4 -0.2**
KHC *ex* x 00 59 21.8
GEC2 GERESS Array S 86.95 327 *eP* **P** **00 58 39.0 -0.3**
GEC2 pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
GEC2 GERESS Array S 86.95 327 *eP* **P** **00 58 39.0 -0.3**
comp=Z,9.0nm,0.9s,mb4.5
GERES GERESS Array B 86.95 327 P **P** **00 58 39.0 -0.3**
comp=Z,4.2nm,0.6s,mb4.3,baz=43,slow=4.7,SNR=50
GERES PP PP 01 02 08.7 -1.8
comp=Z,1.0nm,0.9s,baz=34,slow=9.6,SNR=4.7
GERES PKKPbc 01 16 29.2
comp=Z,0.6nm,0.7s,baz=207,slow=3.0,SNR=6.3
GERES GERESS Array B 86.95 327 P **P** **00 58 39.0 -0.3**
GERES 01 02 08.7
GERES pmax pmax
comp=Z,4.0nm,0.6s
GERES pmax pmax
comp=Z,1.0nm,0.9s
GERES pmax pmax
comp=Z,1.0nm,0.7s
DIVS Divcibare 86.97 321⇑ *iP* **P** **00 58 39.0 -0.6**
WET Wettzell 87.12 328 *eP* **P** **00 58 39.9 -0.2**
WET pmax pmax
comp=Z,12nm,1.3s,mb4.5
WET Wettzell 87.12 328 *eP* **P** **00 58 39.9 -0.2**
comp=Z,12nm,1.3s,mb4.5
ARSA Arzberg 87.19 325⇑ *iP* **P** **00 58 40.8 +0.3**
comp=Z,9.1nm,1.0s,mb4.5
MOA Molln 87.38 326⇓ *iP* **P** **00 58 41.4 0.0**
comp=Z,6.4nm,0.9s,mb4.3
GRA1 Grafenberg Arr 87.48 329 *eP* **P** **00 58 42.2 +0.4**
comp=Z,29nm,1.3s,mb4.8
GRF Grafenberg Arr 87.48 329 *eP* **P** **00 58 42.2 +0.4**
GRF pmax pmax
comp=Z,29nm,1.3s,mb4.8
SKO Skopje 87.53 318 *eP* **P** **00 58 43.0 +0.7**
PERS Pernice 87.81 325 *iP* **P** **00 58 43.2 -0.3**
OBKA Obir 88.18 325⇑ *iP* **P** **00 58 45.1 -0.1**
comp=Z,7.5nm,0.8s,mb4.5
PDKS Podkum 88.26 325 *iP* **P** **00 58 45.1 -0.4**
KBA Koelnbreinsper 88.37 326⇑ *iP* **P** **00 58 46.0 -0.1**
comp=Z,8.1nm,0.8s,mb4.5
LJU Ljubljana 88.52 325 *iP* **P** **00 58 46.4 -0.4**
FUR Furstenfeldbru 88.56 328 *eP* **P** **00 58 47.2 +0.3**
FUR pmax pmax
comp=Z,35nm,0.9s,mb5.1
FUR Furstenfeldbru 88.56 328 *eP* **P** **00 58 47.2 +0.3**
comp=Z,35nm,0.9s,mb5.1
JAVS Javornik 88.85 325 *iP* **P** **00 58 47.4 -0.9**
WATA Walderalm 89.03 327⇑ *iP* **P** **00 58 48.9 -0.2**
comp=Z,10nm,0.8s,mb4.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WTTA	Wattenberg	89.05	327	⇓iP	P	00 58 48.5	-0.7
	comp=Z,19nm,1.4s,mb4.6						
MOTA	Moosalm	89.24	327	⇑iP	P	00 58 49.7	-0.4
	comp=Z,5.7nm,0.8s,mb4.3						
RUP	Ruppelstein	89.27	331	⇑eP	P	00 58 47.2	-3.0
SQTA	Sankt Quirin	89.28	327	⇓iP	P	00 58 50.0	-0.3
	comp=Z,7.4nm,0.7s,mb4.5						
LANF	Langenberg	89.50	330	⇑eP	P	00 58 51.5	+0.2
BFO	Black Forest	89.77	329	eP	P	00 58 52.3	-0.2
BFO				pmax	pmax		
	comp=Z,22nm,1.0s,mb4.9						
BFO	Black Forest	89.77	329	eP	P	00 58 52.3	-0.2
	comp=Z,22nm,1.0s,mb4.9						
DAVA	Damuels	89.85	328	⇓iP	P	00 58 52.9	0.0
	comp=Z,36nm,1.1s,mb5.1						
WLS	Welschbruch	90.13	330	⇑eP	P	00 58 54.5	+0.3
BAIF	Baives	90.16	333	eP	P	00 58 53.8	-0.5
CDF	Champ du Feu	90.16	330	eP	P	00 58 54.3	0.0
	comp=Z,34nm,1.0s,mb4.8						
LIBD	Limburg	90.22	330	⇑eP	P	00 58 54.9	+0.3
FELD	Feldberg	90.25	329	⇑eP	P	00 58 54.7	-0.1
ECH	Echery	90.36	330	⇑eP	P	00 58 55.3	0.0
MOF	Molkenrain	90.65	330	⇑eP	P	00 58 56.7	+0.1
ANMO	Albuquerque	90.66	48	eP	P	00 58 59.2	+2.3
	comp=Z,4.3nm,1.0s,mb4.2						
BBS	Basel-Blauen	90.78	329	⇑eP	P	00 58 57.3	+0.1
HINF	Hinteralfeld	90.80	330	eP	P	00 58 56.8	-0.5
	comp=Z,27nm,0.9s,mb4.8						
THEF	They Montfort	90.86	330	⇑eP	P	00 58 57.7	+0.1
MEZF	Maizieres J'vi	91.04	331	eP	P	00 58 57.7	-0.7
	comp=Z,29nm,0.9s,mb4.8						
CABF	La Chapelle	92.06	329	eP	P	00 59 02.9	-0.3
LOR	Lormes	92.50	331	eP	P	00 59 04.8	-0.5
	comp=Z,42nm,1.1s,mb5.0						
LPL	La Plagne	92.61	328	eP	P	00 59 05.6	-0.2
	comp=Z,24nm,0.9s,mb4.8						
LPG	La Plagne	92.62	328	eP	P	00 59 05.8	0.0
	comp=Z,20nm,0.7s,mb4.8						
SSF	Saint Saulge	92.82	331	eP	P	00 59 06.3	-0.4
	comp=Z,29nm,1.0s,mb4.9						
SMF	Signal de Mont	93.00	331	eP	P	00 59 07.1	-0.5
	comp=Z,44nm,0.9s,mb5.1						
HYF	Humbligny	93.01	332	eP	P	00 59 07.8	+0.2
FLN	La Foliniere	93.02	334	eP	P	00 59 06.3	-1.3
LDF	La Druitiere	93.02	334	eP	P	00 59 06.9	-0.7
	comp=Z,53nm,1.1s,mb5.1						
AVF	Avril sur Loir	93.09	331	eP	P	00 59 07.6	-0.4
	comp=Z,62nm,1.0s,mb5.2						
MBDF	Montbardon	93.20	328	eP	P	00 59 07.6	-0.9
	comp=Z,7.9nm,0.7s,mb4.5						
ORIF	Oris-en-Rattie	93.46	328	eP	P	00 59 09.0	-0.7
	comp=Z,7.3nm,0.7s,mb4.4						
GRR	Gorron	93.47	334	eP	P	00 59 09.5	-0.1
	comp=Z,41nm,0.9s,mb5.0						
BGF	Bois d'Agland	93.49	331	eP	P	00 59 09.6	-0.2
	comp=Z,36nm,1.1s,mb4.9						
TCF	Toulx Ste Croi	93.97	331	eP	P	00 59 11.5	-0.4
	comp=Z,40nm,1.2s,mb5.0						
VIVF	Saint-Julien-l	94.05	329	eP	P	00 59 11.8	-0.5
	comp=Z,29nm,1.0s,mb5.0						
SGMF	Saint Gilles	94.21	335	eP	P	00 59 13.1	+0.1
ROSF	Rostrenen	94.40	336	eP	P	00 59 13.8	0.0
	comp=Z,49nm,1.2s,mb5.1						
MFF	Saint Martin d	94.67	333	eP	P	00 59 15.4	+0.3
QUIF	Quistinic	94.71	335	eP	P	00 59 14.2	-1.1
LASF	Ste Croix	95.02	329	eP	P	00 59 16.5	-0.3
	comp=Z,55nm,1.5s,mb5.1						
RJF	Les Rejaudoux	95.05	331	eP	P	00 59 16.9	0.0
	comp=Z,41nm,1.2s,mb5.0						
CAF	Calviac	95.12	331	eP	P	00 59 17.5	+0.2
	comp=Z,22nm,1.1s,mb4.8						
TXAR	Lajitas Array	96.04	51	P	P	00 59 24.0	+2.1
	comp=Z,0.6nm,0.6s,mb3.9,baz=300,slow=3.0,SNR=12						
TXAR				PP	PP	01 03 15.9	-6.0
	comp=Z,1.0nm,1.0s,baz=288,slow=4.0,SNR=4.8						
EPF	Esparros	97.39	330	eP	P	00 59 25.4	-2.2
MAW	Mawson	112.62	204	PKiKP		01 04 28.1	
	comp=Z,1.9nm,0.8s,baz=135,slow=7.1,SNR=3.4						
MAW				PP	PP	01 05 21.4	-2.6
	comp=Z,2.5nm,0.8s,baz=52,slow=9.9,SNR=6.0						
MAW	Mawson	112.62	204	i PKIKP	PKPdf	01 04 28.1	+1.9
MAW						01 05 21.4	
MAW				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MAW				pmax	pmax		
	comp=Z,3.0nm,0.8s						
LSZ	Lusaka	114.97	266	ePKPdf	PKPdf	01 04 34.6	+2.6
QSPA	South Pole Qui	120.25	180	ePKP	PKPdf	01 04 42.5	+1.6
QSPA				e		01 07 39.0	
DBIC	Dimbokro	129.06	310	PKP	PKPdf	01 05 00.6	+1.1
	comp=Z,4.9nm,0.6s,baz=12,slow=1.2,SNR=10						
DBIC	Dimbokro	129.06	310	PKIKP	PKPdf	01 05 00.6	+1.1
DBIC				pmax	pmax		
	comp=Z,5.0nm,0.6s						
TIC	Toumodi	129.19	310	ePKIKP	PKPdf	01 05 01.2	+1.5
	comp=Z,8.2nm,0.2s						
KIC	Kosan Boka	129.22	310	ePKIKP	PKPdf	01 05 01.5	+1.7
	comp=Z,27nm,0.8s						
LIC	Lamto	129.51	310	ePKIKP	PKPdf	01 05 02.0	+1.7
	comp=Z,23nm,0.9s						
LIC	Lamto	129.51	310	ePKIKP	PKPdf	01 05 01.9	+1.6
	comp=Z,34nm,0.9s						
SDV	Santo Domingo	131.85	40	ePKPdf	PKPdf	01 05 06.6	+1.8
SDV				eSKPbc		01 07 53.1	
SNAA	Sanae	133.82	196	e	Px	01 07 58.5	
SNAA	Sanae	133.82	196	ePKPdf	PKPdf	01 05 07.9	+1.0
SNAA				eSKPbc		01 07 58.2	
VNA2	Neumayer--Watz	135.40	195	e	PP	01 07 52.8	-1.7
VNA2	Neumayer--Watz	135.40	195	e		01 08 05.4	
VNA3	Neumayer Olymp	135.66	194	e	PP	01 07 52.3	-3.8
VNA3	Neumayer Olymp	135.66	194	e		01 08 06.3	
VNA1	Neumayer--Stat	135.79	195	e	PP	01 07 53.2	-3.7
VNA1	Neumayer--Stat	135.79	195	e		01 08 07.3	
SAML	Samuel	150.48	48	ePKPdf	PKPdf	01 05 39.4	+2.1
SAML				ePKPbc	PKPdf	01 05 44.8	+7.6
LPAZ	La Paz	151.81	66	PKPbc	PKPdf	01 05 49.4	+10
	comp=Z,12nm,1.0s,baz=354,slow=2.7,SNR=12						
LPAZ	La Paz	151.81	66	PKIKP	PKPdf	01 05 49.4	+10
LPAZ				pmax	pmax		
	comp=Z,12nm,1.0s						
LPAZ	La Paz	151.81	66	ePKPbc	PKPdf	01 05 49.5	+10
BDFB	Brasilia	164.03	24	PKP	PKPdf	01 05 56.1	+2.4
	comp=Z,5.8nm,1.1s,baz=43,slow=3.4,SNR=5.3						
BDFB	Brasilia	164.03	24	PKIKP	PKPdf	01 05 56.1	+2.4
BDFB				pmax	pmax		
	comp=Z,6.0nm,1.1s						
CPUP	Villa Florida	165.42	77	PKP	PKPdf	01 05 56.5	+1.8
	comp=Z,2.3nm,1.1s,baz=43,slow=9.8,SNR=3.4						
CPUP	Villa Florida	165.42	77	PKIKP	PKPdf	01 05 56.5	+1.8
CPUP				pmax	pmax		
	comp=Z,2.0nm,1.1s						

*CSEM **19** 00:53:56.8±0.2, 42.59N×8.49W, h8km, Error ellipse: s-maj=6.9km s-min=2.8km az=31.0*

MDD 19 00:53:56.6±0.4**, 42.55N×8.55W, mbLg0.9**/5**, 1D, Error ellipse: s-maj=4.8km s-min=2.7km az=59.0, PRXIMO, Spain**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
EZAM	Zamans	0.41	195	Pg	Pg	00 54 03.6	-1.2
	SNR=7.9						
EZAM				Lg		00 54 09.5	
	2.4nm,0.4s,SNR=4.0						
EZAM	Zamans	0.41	195	Pg	Pg	00 54 03.6	-1.2
	1.0nm,0.1s,SNR=7.9						
EMAZ	Mazaricos	0.51	322	⇓Pg	Pg	00 54 06.3	-0.6
	2.3nm,0.1s,SNR=18						
EMAZ				Lg		00 54 12.5	
	1.0nm,0.1s,SNR=7.9						
EMAZ	Mazaricos	0.51	322	Pg	Pg	00 54 06.3	-0.5
	2.3nm,0.1s,SNR=18						
ELOB	Lobios	0.77	152	Pg	Pg	00 54 12.0	0.0
	0.9nm,0.1s,SNR=4.0						
ELOB				Lg		00 54 21.9	
	1.3nm,0.1s,SNR=7.9						
ELOB	Lobios	0.77	152	Pg	Pg	00 54 12.0	0.0
	0.9nm,0.1s,SNR=4.0						
ERUA	La Rua	1.05	98	Pg	Pg	00 54 15.6	-2.0
	0.8nm,0.1s,SNR=7.9						
ERUA				Lg		00 54 30.8	
	0.7nm,0.4s,SNR=7.9						
EPON	Pontenova	1.29	52	Pg	Pg	00 54 19.3	-3.0
	0.6nm,0.1s,SNR=7.9						
EPON				Lg		00 54 37.5	
	1.7nm,0.2s,SNR=7.9						
EPON	Pontenova	1.29	52	Pg	Pg	00 54 19.3	-3.1
	0.6nm,0.1s,SNR=7.9						
ECAL	Calabor	1.47	114	Pg	Pg	00 54 23.3	-2.8
	0.3nm,0.1s,SNR=7.9						
ECAL				Lg		00 54 43.2	
	1.9nm,0.4s,SNR=7.9						
ECAL	Calabor	1.47	114	Pg	Pg	00 54 23.3	-2.7
	0.3nm,0.1s,SNR=7.9						

*IDC **19** 00:55:50.4±6.2, 5.76S×154.62E, h118km±51km, mb3.5/6, mb1 3.8/7, mb1mx3.8/14, Error ellipse: s-maj=47.9km s-min=26.2km az=102.0*

*NEIC **19** 00:55:50.5±3.2, 5.79S×154.69E, h120km±23km, mb4.3/1, Error ellipse: s-maj=35.9km s-min=16.5km az=105.0*

ISC 19 00:55:50.9±4.8**, 5.8S**±0.2×**154.5E**±0.2**, h135km**±40km**, n8,** σ**0**^{s}**55**/9**, mb3.8**/7**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PMG	Port Moresby	8.16	243	P	P	00 57 47.9	+0.3
	7.2nm,0.3s,baz=58,slow=9.3,SNR=21						
PMG				S	S	00 59 18.0	-0.6
	0.7nm,0.3s,baz=241,slow=10,SNR=2.7						
WRAB	Tennant Creek	24.16	232	eP	P	01 00 56.7	+0.9
	7.0nm,0.6s,mb4.4						
WRA	Warramunga Arr	24.17	232	P	P	01 00 56.7	+0.7
	2.7nm,0.6s,mb4.0,baz=54,slow=9.5,SNR=9.9						
ASAR	Alice Springs	26.67	226	P	P	01 01 18.9	-0.3
	0.8nm,0.5s,mb3.6,baz=61,slow=9.3,SNR=5.3						
STKA	Stephens Creek	28.67	203	P	P	01 01 36.5	-0.7
	2.8nm,0.9s,mb4.0,baz=41,slow=9.3,SNR=3.1						
CMAR	Chiang Mai Arr	59.84	295	P	P	01 05 45.1	+0.3
	1.0nm,0.4s,mb4.0,baz=124,slow=5.7,SNR=4.3						
SONM	Songino Array	68.05	327	P	P	01 06 37.4	-0.5
	0.5nm,0.8s,mb3.3,baz=135,slow=4.1,SNR=3.3						
ILAR	Eielson Array	82.40	22	P	P	01 07 58.7	-0.2
	0.4nm,0.8s,mb3.1,baz=243,slow=6.0,SNR=4.4						

*IDC **19** 01:23:40.5±2.5, 41.24S×179.01W, mb3.7/2, mb1 4.2/4, mb1mx3.9/13, ML4.4/2, MS3.4/4, Ms1 3.4/4, ms1mx3.1/20, Error ellipse: s-maj=63.6km s-min=39.6km az=38.0*

*WEL **19** 01:23:46.5±0.6, 41.20S×179.16W, h33km, ML4.8/20, Error ellipse: s-maj=5.4km s-min=3.3km az=90.0*

*BJI **19** 01:23:47.3, 41.10S×179.20W, h33km, Msz4.0*

*SYO **19** 01:23:47.3, 41.12S×179.23W, h33km, MB4.4*

*NEIC **19** 01:23:47.3, 41.12S×179.23W, h33km, mb4.2/2, ML4.7(WEL), After WEL.*

ISC 19 01:23:46.1±1.3**, 41.32S**±0.04×**179.47W**±0.06**, h30km**±12km**, n103,** σ**1**^{s}**18**/115**, mb4.0**/5**, MS3.5**/3**, 1C, East of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PWZ	Pawanui	3.08	294	eP	Pn	01 24 34.5	+0.6
PWZ				S	Sn	01 25 09.7	-0.4
PWZ	Pawanui	3.08	294	PN	Pn	01 24 34.5	+0.7
PWZ				SN	Sn	01 25 09.8	-0.2
KNZ	Kokohu	3.17	315	P	Pn	01 24 33.7	-1.6
KNZ				S	Sn	01 25 07.2	-5.4
KNZ	Kokohu	3.17	315	PN	Pn	01 24 33.7	-1.6
KNZ				SN	Sn	01 25 09.7	-2.9
BFZ	Birch Farm	3.31	280	P	Pn	01 24 38.2	+1.1
BFZ	Birch Farm	3.31	280	PN	Pn	01 24 38.2	+1.1
BFZ				SN	Sn	01 25 16.3	+0.3
PUZ	Puketiti	3.69	331	eP	Pn	01 24 38.8	-3.8
PUZ	Puketiti	3.69	331	PN	Pn	01 24 39.1	-3.5
TSZ	Takapari Road	3.70	288	P	Pn	01 24 43.7	+1.0
TSZ	Takapari Road	3.70	288	PN	Pn	01 24 43.7	+1.0
TSZ				SN	Sn	01 25 24.5	-1.3
BKZ	Black Stump Fm	3.77	304	P	Pn	01 24 43.6	-0.1
BKZ	Black Stump Fm	3.77	304	PN	Pn	01 24 43.6	-0.1
MWZ	Matawai	3.77	321	P	Pn	01 24 41.7	-2.1
MWZ	Matawai	3.77	321	PN	Pn	01 24 41.7	-2.1
MWZ				SN	Sn	01 25 22.9	-4.8
MTW	Mount Morrison	3.80	271	P	Pn	01 24 44.6	+0.5
MTW				S	Sn	01 25 26.9	-1.4
MTW	Mount Morrison	3.80	271	PN	Pn	01 24 44.5	+0.4
MTW				SN	Sn	01 25 26.9	-1.4
MRZ	Mangatainoka R	3.81	278	eP	Pn	01 24 43.6	-0.6
MRZ				S	Sn	01 25 27.2	-1.4
MRZ	Mangatainoka R	3.81	278	ePN	Pn	01 24 43.6	-0.7
MRZ				SN	Sn	01 25 27.9	-0.7
PAWZ	Paruwai Farm	3.84	267	PN	Pn	01 24 44.8	+0.1
PAWZ				SN	Sn	01 25 30.5	+0.9
MSWZ	Moikau Station	3.98	267	P	Pn	01 24 46.3	-0.4
MSWZ	Moikau Station	3.98	267	PN	Pn	01 24 46.3	-0.4
URZ	Urewera	4.04	318	Pn	Pn	01 24 45.9	-1.7
	35nm,0.3s,baz=193,slow=4.9,SNR=70						
URZ				Sn	Sn	01 25 30.4	-4.0
	44nm,0.3s,baz=345,slow=21,SNR=14						
URZ	Urewera	4.04	318	PN	Pn	01 24 45.7	-1.8
MOVZ	Moawhango	4.12	296	P	Pn	01 24 49.6	+0.9
MOVZ	Moawhango	4.12	296	PN	Pn	01 24 49.6	+0.9
CAW	Cannon Point	4.13	271	P	Pn	01 24 49.4	+0.6
CAW	Cannon Point	4.13	271	PN	Pn	01 24 49.4	+0.6
CAW				SN	Sn	01 25 37.5	+0.8
MXZ	Matakaoa Point	4.13	335	P	Pn	01 24 45.2	-3.6
MXZ	Matakaoa Point	4.13	335	PN	Pn	01 24 45.2	-3.7
TUVZ	Tukino	4.26	297	P	Pn	01 24 52.1	+1.4
TUVZ	Tukino	4.26	297	PN	Pn	01 24 52.2	+1.6
TUVZ				SN	Sn	01 25 40.0	0.0
BHW	Baring Head	4.26	267	eP	Pn	01 24 50.9	+0.2
BHW	Baring Head	4.26	267	PN	Pn	01 24 50.9	+0.1
WNVZ	Wahianoa	4.27	296	P	Pn	01 24 52.4	+1.6
WNVZ	Wahianoa	4.27	296	PN	Pn	01 24 52.4	+1.7
KIW	Kapiti Island	4.28	274	P	Pn	01 24 51.7	+0.8
KIW	Kapiti Island	4.28	274	PN	Pn	01 24 51.7	+0.8
NGZ	Ngauruhoe	4.34	298	eP	Pn	01 24 52.7	+0.9
NGZ				eP		01 24 53.2	
NGZ	Ngauruhoe	4.34	298	PN	Pn	01 24 53.2	+1.4
WEL	Wellington	4.34	269	P	Pn	01 24 52.5	+0.6
WEL	Wellington	4.34	269	ePN	Pn	01 24 52.5	+0.6
WPVZ	Whakapapa	4.36	297	P	Pn	01 24 53.4	+1.3
WPVZ	Whakapapa	4.36	297	ePN	Pn	01 24 53.4	+1.2
CNZ	Chateau	4.36	297	P	Pn	01 24 53.5	+1.3
CNZ	Chateau	4.36	297	PN	Pn	01 24 53.5	+1.3
TAZ	Tarawera	4.37	314	P	Pn	01 24 51.6	-0.7
TAZ	Tarawera	4.37	314	PN	Pn	01 24 51.6	-0.7
WTVZ	West Tongariro	4.38	299	P	Pn	01 24 52.9	+0.5
WTVZ	West Tongariro	4.38	299	ePN	Pn	01 24 52.9	+0.5
KATZ	Kakaramea	4.39	301	eP	Pn	01 24 53.0	+0.5
KATZ	Kakaramea	4.39	301	ePN	Pn	01 24 53.0	+0.5
SNZO	South Karori	4.39	268	P	Pn	01 24 53.3	+0.8
SNZO	South Karori	4.39	268	PN	Pn	01 24 53.1	+0.6
MRW	Makara Radio	4.40	269	P	Pn	01 24 52.9	+0.3
MRW	Makara Radio	4.40	269	PN	Pn	01 24 52.9	+0.2
PATZ	Paeroa	4.41	310	eP	Pn	01 24 51.4	-1.4
PATZ	Paeroa	4.41	310	PN	Pn	01 24 51.4	-1.4
MGZ	Maungaku	4.47	300	P	Pn	01 24 54.1	+0.4
MGZ	Maungaku	4.47	300	PN	Pn	01 24 54.1	+0.3
WAZ	Wanganui	4.51	288	eP	Pn	01 24 55.5	+1.3
WAZ	Wanganui	4.51	288	ePN	Pn	01 24 55.5	+1.3
LIRZ	Lichensteins R	4.61	315	ePN	Pn	01 24 54.3	-1.3
CMWZ	Cape Campbell	4.76	263	SN	Sn	01 25 56.0	+3.3
VRZ	Vera Road	4.94	294	eP	Pn	01 25 01.6	+1.4
VRZ	Vera Road	4.94	294	PN	Pn	01 25 01.6	+1.3
TUWZ	Tuamarina	4.96	267	PN	Pn	01 25 00.8	+0.2
BSWZ	Blackbirch Sta	5.01	263	ePN	Pn	01 25 01.7	+0.4
HIZ	Hauiti	5.19	301	P	Pn	01 25 03.3	-0.5
HIZ	Hauiti	5.19	301	ePN	Pn	01 25 03.4	-0.4
DFE	Dawson Falls	5.30	290	eP	Pn	01 25 07.7	+2.3
DFE	Dawson Falls	5.30	290	ePN	Pn	01 25 07.7	+2.3
NEZ	North Egmont	5.33	290	PN	Pn	01 25 08.3	+2.5
KHZ	Kahutara	5.34	256	ePN	Pn	01 25 04.8	-1.1
NNZ	Nelson	5.39	269	ePN	Pn	01 25 06.5	-0.2
PKE	Pukeiti	5.44	291	P	Pn	01 25 09.5	+2.2
PKE	Pukeiti	5.44	291	ePN	Pn	01 25 09.5	+2.1
THZ	Tophouse	5.74	263	ePN	Pn	01 25 10.5	-1.1
QRZ	Quartz Range	6.07	272	ePN	Pn	01 25 17.1	+0.8
MQZ	McQueen's Vall	6.29	245	ePN	Pn	01 25 17.7	-1.7
LTZ	Lake Taylor	6.32	254	PN	Pn	01 25 18.5	-1.3
DSZ	Denniston Nort	6.57	263	ePN	Pn	01 25 22.6	-0.6
RPZ	Rata Peaks	7.40	248	Pn	Pn	01 25 33.9	-1.0
	4.1nm,0.3s,baz=299,slow=0.2,SNR=19						
RPZ				Sn	Sn	01 26 55.0	-3.8
	7.8nm,0.3s,baz=117,slow=2.1,SNR=18						
RPZ				LR	LR	01 28 15.9	
	comp=Z,158nm,21.8s,baz=292,slow=36						
RPZ	Rata Peaks	7.40	248	PN	Pn	01 25 32.7	-2.3
WVZ	Waitaha Valley	7.48	253	PN	Pn	01 25 34.9	-1.2
ODZ	Otahua Downs	8.13	239	PN	P	01 25 44.2	-0.8
LBZ	Lake Benmore	8.20	245	PN	P	01 25 44.4	-1.7
FOZ	Fox Glacier	8.33	251	PN	P	01 25 46.3	-1.5
JCZ	Jackson Bay	9.10	248	PN	P	01 25 58.2	-0.3
WKZ	Wanaka	9.13	244	PN	P	01 25 58.4	-0.5
TUZ	Tuapeka	9.16	236	ePN	P	01 25 58.8	-0.5
MLZ	Mavora Lakes	9.86	242	ePN	P	01 26 10.3	+1.3
STKA	Stephens Creek	32.42	274	LR	LR	01 42 03.5	
	comp=Z,72nm,18.0s,MS3.4,baz=205,slow=34						
CTA	Charters Tower	35.95	296	LR	LR	01 43 48.7	
	comp=Z,68nm,18.8s,MS3.4,baz=225,slow=33						
ASAR	Alice Springs	42.54	280	P	P	01 31 41.1	+0.3
	1.3nm,0.9s,mb3.7,baz=121,slow=6.6,SNR=11						
PMG	Port Moresby	43.33	308	LR	LR	01 46 56.8	
	comp=Z,63nm,19.4s,MS3.5,baz=125,slow=32						
WB2	Warramunga Arr	44.47	284	eP	P	01 32 06.0	+10
WRAB	Tennant Creek	44.48	284	eP	P	01 31 56.4	-0.1
	4.3nm,0.7s,mb4.3						
WRA	Warramunga Arr	44.48	284	P	P	01 31 55.9	-0.7
	0.7nm,0.7s,mb3.5,baz=128,slow=7.3,SNR=3.2						
QSPA	South Pole Qui	48.81	180	eP	P	01 32 31.2	+1.3
	1.4nm,0.8s,mb4.0						
FITZ	Fitzroy Crossi	52.04	279	eP	P	01 33 05.4	+10
	6.3nm,0.9s,mb4.5						
SYO	Syowa Base	66.25	194	⇑P	P	01 34 32.3	-0.5
CN2	Changchun	98.14	323	eP	P	01 37 22.8	+1.9
DBIC	Dimbokro	145.16	171	PKPbc	PKPbc	01 43 19.1	-2.3
	5.5nm,1.1s,baz=189,slow=5.6,SNR=4.4						

*NEIC **19** 01:52:01.9±0.8, 29.94S×178.50W, h218km±8km, mb3.9/1, Error ellipse: s-maj=25.1km s-min=12.6km az=118.0*

*IDC **19** 01:52:02.5±7.9, 29.93S×178.54W, h219km±76km, mb3.4/3, mb1 3.7/4, mb1mx3.4/13, Error ellipse: s-maj=69.3km s-min=29.8km az=178.0*

ISC 19 01:52:01.6±1.0**, 29.91S**±0.08×**178.7W**±0.2**, h219km**±13km**, n24,** σ**1**^{s}**56**/22**, mb3.6**/4**, 1D, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
RAO	Raoul Island	0.97	48	⇓iPn	P	01 52 32.6	-0.7
RAO				eS	S	01 52 51.3	-6.6
MXZ	Matakaoa Point	8.02	197	S	S	01 55 30.4	+5.1
PUZ	Puketiti	8.52	196	eP	P	01 54 01.5	-0.8
PUZ				S	S	01 55 39.7	+3.0
PUZ	Puketiti	8.52	196	eP	P	01 54 01.5	-0.8
PUZ				S	S	01 55 39.9	+3.2
MWZ	Matawai	8.96	199	S	S	01 55 49.8	+3.0
URZ	Urewera	9.01	201	P	P	01 54 09.5	+0.8
	1.1nm,0.3s,baz=91,slow=18,SNR=5.2						
URZ				S	S	01 55 51.0	+2.9
	4.5nm,0.3s,baz=212,slow=20,SNR=11						
KNZ	Kokohu	9.56	197	S	S	01 56 04.8	+4.1
BFZ	Birch Farm	11.50	199	S	S	01 56 45.5	0.0
MRZ	Mangatainoka R	11.69	202	S	S	01 56 47.1	-2.7
KIW	Kapiti Island	12.09	204	S	S	01 56 57.2	-1.8
MRW	Makara Radio	12.49	203	S	S	01 57 07.8	-0.3
NNZ	Nelson	12.97	207	S	S	01 57 17.4	-1.7
MQZ	McQueen's Vall	15.39	204	S	S	01 58 09.5	-3.6
STKA	Stephens Creek	33.97	256	P	P	01 58 23.7	-2.5
ASAR	Alice Springs	42.49	267	P	P	01 59 37.6	+0.6
	0.5nm,0.5s,mb3.2,baz=94,slow=7.8,SNR=9.3						
ASAR				PcP	PcP	02 01 26.6	+0.5
	0.6nm,0.7s,baz=116,slow=3.9,SNR=5.6						
WRAB	Tennant Creek	43.43	272	eP	P	01 59 45.7	+1.1
	3.6nm,0.7s,mb3.9						
WRA	Warramunga Arr	43.44	272	P	P	01 59 45.6	+0.9
	1.7nm,0.7s,mb3.6,baz=109,slow=7.6,SNR=5.9						
NVAR	Mina Array Bea	88.32	43	P	P	02 04 29.4	0.0
	0.7nm,0.7s,mb3.6,baz=221,slow=6.6,SNR=6.1						
FINES	FINESS Array B	144.46	340	PKP	PKPdf	02 11 10.1	-0.7
	1.8nm,0.5s,baz=61,slow=4.6,SNR=19						
FINES	FINESS Array B	144.46	340	PKP	PKPdf	02 11 10.1	-0.8
NB2	NORSAR Subarra	148.17	351	PKP		02 11 20.4	
	1.8nm,0.9s,baz=11,slow=2.9						
NOA	NORSAR Array B	148.17	351	PKPbc	PKPdf	02 11 21.0	+4.0
	0.8nm,0.6s,baz=15,slow=4.3,SNR=3.9						
NOA	NORSAR Array B	148.17	351	PKPbc	PKPdf	02 11 21.0	+4.0
AKASG	Malin Array Be	150.52	323	PKPbc	PKPdf	02 11 27.7	+6.6
	1.7nm,0.7s,baz=47,slow=2.6,SNR=7.9						

*NEIC **19** 02:05:53.2, 36.88N×9.48W, h22km, MG4.1(MDD), After MDD.*

*MDD **19** 02:05:53.9±1.7, 36.88N×9.44W, h24km±32km, mb4.1/8, Error ellipse: s-maj=35.3km s-min=8.6km az=47.0, PRXIMO*

*CSEM **19** 02:05:54.5±0.3, 36.94N×9.25W, h10km, ML3.1/12, Error ellipse: s-maj=5.2km s-min=2.9km az=45.0*

INMG 19 02:05:53.8±0.8**, 36.99N×9.33W, h1km**±15km**, ML1.9, 1C-1D, Error ellipse: s-maj=15.2km s-min=3.6km az=49.0, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PTEO	Sao Teotonio	0.74	41	ePn	Pn	02 06 10.0	-1.0
PALC	Alcoutim	1.56	72	ePn	Pn	02 06 20.8	-1.9
PALC				eSn	Sn	02 06 41.5	-2.3
	5.5nm,0.3s						
PALC	Alcoutim	1.56	72	ePn	Pn	02 06 20.8	-1.9
PALC				eSn	Sn	02 06 41.5	-2.3
	5.5nm,0.3s						
PBEJ	Beja	1.56	48	ePn	Pn	02 06 20.9	-1.8
PBEJ				eSn	Sn	02 06 40.9	-2.9
	3.7nm,0.1s						
PBEJ	Beja	1.56	48	ePn	Pn	02 06 20.9	-1.8
PBEJ				eSn	Sn	02 06 40.9	-2.9
	3.7nm,0.1s						
MOE	Montemor	1.72	27	eSn	Sn	02 06 45.1	-2.7
PLOU	Loures	1.90	4	ePn	Pn	02 06 25.9	-1.7
PLOU				eSn	Sn	02 06 49.2	-3.2
	7.0nm,0.2s						
PLOU	Loures	1.90	4	ePn	Pn	02 06 25.9	-1.7
PLOU				eSn	Sn	02 06 49.2	-3.2
	7.0nm,0.2s						
EMIN	Mina Concepcio	2.26	69	⇑Pn	Pn	02 06 30.1	-2.7
	1.5nm,0.1s,SNR=18						
EMIN				Sn	Sn	02 06 57.1	-4.4
	1.5nm,0.2s						
EMIN	Mina Concepcio	2.26	69	Pn	Pn	02 06 30.1	-2.6
	1.5nm,0.1s,SNR=18						
EMIN				Sn	Sn	02 06 57.1	-4.5
	1.5nm,0.2s						
EBAD	Badajoz	2.54	45	Pn	Pn	02 06 34.2	-2.6
	3.3nm,0.1s,SNR=19						
EBAD				Sn	Sn	02 07 04.6	-4.2
	2.8nm,0.0s,SNR=11						
EBAD	Badajoz	2.54	45	Pn	Pn	02 06 34.2	-2.6
	3.3nm,0.1s,SNR=19						
EBAD				Sn	Sn	02 07 04.6	-4.3
	2.8nm,0.0s,SNR=11						
PTOM	Tomar	2.72	15	ePn	Pn	02 06 37.1	-2.3
PTOM				eSn	Sn	02 07 08.4	-5.0
	6.6nm,0.1s						
PTOM	Tomar	2.72	15	ePn	Pn	02 06 37.1	-2.3
PTOM				eSn	Sn	02 07 08.4	-5.0
	6.6nm,0.1s						
ESPR	Espera	2.79	91	Pn	Pn	02 06 37.3	-3.0
	6.9nm,0.2s,SNR=11						
ESPR				Sn	Sn	02 07 09.6	-5.5
	8.9nm,0.2s						
ESPR	Espera	2.79	91	Pn	Pn	02 06 37.3	-3.0
	6.9nm,0.2s,SNR=11						
ESPR				Sn	Sn	02 07 09.6	-5.5
	8.9nm,0.2s						
PCBR	Castelo Branco	3.20	27	ePn	Pn	02 06 44.1	-2.0
PCBR				eSn	Sn	02 07 20.0	-5.4
	2.8nm,0.1s						
PCBR	Castelo Branco	3.20	27	Pn	Pn	02 06 44.1	-2.0
PCBR				Sn	Sn	02 07 20.0	-5.4
	1.4nm,0.1s						
MTE	Manteigas	3.68	22	eSn	Sn	02 07 31.9	-5.7
	5.7nm,0.8s						
MTE	Manteigas	3.68	22	Sn	Sn	02 07 31.9	-5.7
	2.8nm,0.8s						
EMIJ	Mijas	3.69	95	Pn	Pn	02 06 49.5	-3.6
	0.4nm,0.1s,SNR=7.9						
EMIJ				Sn	Sn	02 07 30.6	-7.2
	3.9nm,0.4s,SNR=7.9						
PVIS	Viseu	3.88	16	eSn	Sn	02 07 36.8	-6.0
	2.3nm,0.1s						
PVIS	Viseu	3.88	16	Sn	Sn	02 07 36.8	-6.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	1.1nm,0.1s						
EADA	Adamuz	3.96	71	Pn	Pn	02 06 53.9	-3.1
	3.5nm,0.2s,SNR=17						
EADA				Sn	Sn	02 07 38.7	-6.0
	1.5nm,0.1s						
EADA	Adamuz	3.96	71	Pn	Pn	02 06 53.9	-3.0
	3.5nm,0.2s,SNR=17						
EADA				Sn	Sn	02 07 38.7	-5.9
	1.5nm,0.1s						
PVRL	Vila Real	4.46	16	eSn	Sn	02 07 49.7	-7.7
	5.4nm,0.1s						
PVRL	Vila Real	4.46	16	Sn	Sn	02 07 49.7	-7.7
	2.7nm,0.1s						
ELOB	Lobios	4.97	11	Sn	Sn	02 08 02.3	-7.9
	6.3nm,0.2s,SNR=7.9						
ELOB	Lobios	4.97	11	Sn	Sn	02 08 02.3	-7.9
	6.3nm,0.2s,SNR=7.9						
ESDC	Sonseca Array	5.00	56	⇓Pn	Pn	02 07 08.3	-3.4
	3.3nm,0.1s,baz=241,slow=14,SNR=18						
ESDC				Sn	Sn	02 08 03.6	-7.4
	1.6nm,0.2s,baz=243,slow=23,SNR=4.0						
ESDC	Sonseca Array	5.00	56	Pn	Pn	02 07 08.3	-3.4
	3.3nm,0.1s,SNR=18						
ESDC				Sn	Sn	02 08 03.6	-7.4
	1.6nm,0.2s,SNR=4.0						
EQES	Quesada	5.05	79	Pn	Pn	02 07 08.3	-4.1
	3.0nm,0.3s,SNR=8.0						
EQES				Sn	Sn	02 08 04.6	-7.7
	2.8nm,0.2s,SNR=6.7						
EQES	Quesada	5.05	79	Pn	Pn	02 07 08.4	-4.1
EQES				Sn	Sn	02 08 04.6	-7.7
	2.8nm,0.2s,SNR=6.7						
ECAL	Calabor	5.34	21	Pn	Pn	02 07 13.7	-2.8
	1.5nm,0.3s,SNR=4.0						
ECAL				Sn	Sn	02 08 12.2	-7.2
	3.6nm,0.2s,SNR=4.0						
ECAL	Calabor	5.34	21	Pn	Pn	02 07 13.7	-2.8
	1.5nm,0.3s,SNR=4.0						
ECAL				Sn	Sn	02 08 12.2	-7.3
	3.6nm,0.2s,SNR=4.0						
EMAZ	Mazaricos	5.96	3	Pn	Pn	02 07 20.5	-4.7
	2.4nm,0.2s,SNR=7.9						
EMAZ				Sn	Sn	02 08 23.7	-11
	16nm,0.6s,SNR=7.9						
EMAZ	Mazaricos	5.96	3	Pn	Pn	02 07 20.5	-4.7
	2.4nm,0.2s,SNR=7.9						
ETOR	Torete	6.84	54	Pn	Pn	02 07 33.7	-4.0
	3.9nm,0.2s,SNR=4.8						
ETOR				Sn	Sn	02 08 48.2	-9.0
	SNR=4.0						
ETOR	Torete	6.84	54	Pn	Pn	02 07 33.7	-4.0
ETOR				Sn	Sn	02 08 48.2	-9.0
	SNR=4.0						
ETOR				Sn	Sn	02 08 48.2	-9.0

*IDC **19** 02:12:27.8±2.0, 6.03S×130.34E, mb3.8/2, mb1 4.2/5, mb1mx3.9/13, ML3.8/3, Error ellipse: s-maj=72.0km s-min=24.9km az=76.0*
*NEIC **19** 02:12:32.9±3.5, 6.10S×130.34E, h38km±42km, mb3.8/1, Error ellipse: s-maj=27.5km s-min=22.8km az=191.0*
ISC 19 02:12:38.9±3.2**, 6.4S**±0.1×**130.3E**±0.2**, h131**km±33km**, n12, σ0^{s}69**/16**, mb3.7**/2**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.51	201	Pn	P	02 15 32.0	-1.4
	0.7nm,0.3s,baz=23,slow=9.4,SNR=75						
FITZ				Sn	S	02 17 40.8	-10
	1.7nm,0.3s,baz=8.5,slow=12,SNR=4.1						
WRAB	Tennant Creek	14.02	164	eP	P	02 15 52.9	0.0
WRAB				eS	S	02 18 17.2	-8.4
WRA	Warramunga Arr	14.03	164	Pn	P	02 15 53.0	0.0
	0.7nm,0.3s,baz=347,slow=13,SNR=12						
WRA				Sn	S	02 18 20.4	-5.3
	2.1nm,0.3s,baz=344,slow=24,SNR=13						
ASAR	Alice Springs	17.52	169	P	P	02 16 37.6	+1.1
	0.3nm,0.3s,baz=347,slow=12,SNR=12						
ASAR				S	S	02 19 44.6	-0.4
	0.5nm,0.3s,baz=358,slow=28,SNR=7.0						
MBWA	Marble Bar	17.92	214	eP	P	02 16 42.5	+1.3
	4.7nm,0.6s						
CMAR	Chiang Mai Arr	39.60	309	P	P	02 19 59.5	+0.2
	0.9nm,0.4s,mb3.7,baz=137,slow=8.7,SNR=5.9						
GUN	Gumba	54.80	311	eP	P	02 21 57.5	-0.3
PKI	Pulchoki	54.98	310	eP	P	02 21 59.8	+0.7
KKN	Kakani	55.19	310	eP	P	02 22 01.0	+0.4
GKN	Gorkha	55.79	310	eP	P	02 22 04.2	-0.8
KOLN	Koldanda	56.47	309	eP	P	02 22 09.4	-0.4
SONM	Songino Array	57.97	341	P	P	02 22 19.6	-0.3
	0.5nm,0.5s,mb3.6,baz=161,slow=6.3,SNR=7.2						

MAN 19 02:26:09.9, 18.22N×122.05E, h12km, mb3.8, ML2.5, MS2.0, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SGCP	Mt. Cagua	0.02	343	eP	Pb	02 26 12.6	+0.5
SGCP				eS	Sb	02 26 17.9	+4.7
CVP	Callao Caves	0.56	203	eP	Pb	02 26 22.5	+1.3
CVP				eS	Sb	02 26 35.0	+6.2
APYP	Conner	0.85	245	eP	Pb	02 26 25.6	-0.6
APYP				eS	Sb	02 26 40.7	+3.5
ABRA	Dolores	1.40	246	eP	Pn	02 26 34.3	-1.1

*IDC **19** 02:34:29.0±29.0, 15.72S×174.09W, mb4.2/4, mb1 4.4/4, mb1mx3.9/15, MS3.3/1, Ms1 3.3/1, ms1mx2.8/20, Error ellipse: s-maj=584.0km s-min=164.7km az=86.0*
*NEIC **19** 02:34:30.5±1.0, 14.67S×173.90W, h35km, mb4.4/3, Error ellipse: s-maj=32.1km s-min=21.3km az=151.0*
ISC 19 02:34:28.9±1.3**, 14.7S**±0.3×**174.0W**±0.2**, h33**km**, n9, σ0^{s}45**/9**, mb4.3**/7**, MS3.3**/1**, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	43.92	239	P	P	02 42 33.5	-1.0
	3.2nm,1.1s,mb4.0,baz=63,slow=9.0,SNR=3.2						
WB2	Warramunga Arr	49.45	256	eP	P	02 43 18.4	+0.2
WRAB	Tennant Creek	49.45	256	eP	P	02 43 18.8	+0.6
	1.8nm,0.5s,mb4.4						
WRA	Warramunga Arr	49.46	256	P	P	02 43 18.6	+0.3
	1.2nm,0.6s,mb4.1,baz=96,slow=8.1,SNR=9.2						
ASAR	Alice Springs	49.80	251	P	P	02 43 20.7	-0.2
	9.4nm,0.6s,mb5.0,baz=87,slow=7.9,SNR=101						
ASAR				LR	LR	03 00 25.3	
	comp=Z,32nm,20.7s,MS3.3,baz=17,slow=32						
ASPA	Alice Springs	49.80	251	eP	P	02 43 20.6	-0.3
FITZ	Fitzroy Crossi	57.81	258	P	P	02 44 20.1	+0.3
	1.5nm,0.8s,mb4.0,baz=85,slow=12,SNR=4.2						
QSPA	South Pole Qui	75.39	180	eP	P	02 46 10.7	+0.3
	1.3nm,0.6s,mb4.0						
INK	Inuvik	87.69	14	eP	P	02 47 14.7	-0.2
	3.5nm,0.5s,mb4.8						

WEL 19 02:37:08.8±0.2**, 45.05S×167.33E, h115**km±2km**, ML3.5**/4**, 2C, Error ellipse: s-maj=2.3km s-min=1.5km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.45	196	PN	P	02 37 25.6	-0.4
DCZ				SN	S	02 37 38.0	-1.0
MLZ	Mavora Lakes	0.67	117	⇑PN	P	02 37 27.2	-0.3
MLZ				SN	S	02 37 41.1	-0.6
WHZ	Wether Hill Ro	0.95	153	PN	P	02 37 29.7	-0.6
WHZ				SN	S	02 37 45.2	-1.0
WHZ				SN	S	02 37 45.3	-0.9
WKZ	Wanaka	1.22	80	⇑PN	P	02 37 32.8	-0.3
WKZ				SN	S	02 37 50.0	-1.3
JCZ	Jackson Bay	1.41	47	PN	P	02 37 34.8	-0.6
JCZ				SN	S	02 37 53.9	-1.4
TUZ	Tuapeka	1.86	120	PN	P	02 37 39.4	-1.2
TUZ				SN	S	02 38 00.4	-4.3
LBZ	Lake Benmore	2.14	73	PN	P	02 37 41.9	-2.4
LBZ				SN	S	02 38 06.8	-4.2
FOZ	Fox Glacier	2.25	50	PN	P	02 37 44.9	-1.0
FOZ				SN	S	02 38 12.2	-1.6
ODZ	Otahua Downs	2.35	91	PN	P	02 37 44.6	-2.5
ODZ				SN	S	02 38 10.8	-5.2

*IDC **19** 02:47:43.4±1.0, 5.86S×153.46E, mb4.2/8, mb1 4.4/11, mb1mx4.3/17, ML3.8/1, MS3.4/6, Ms1 3.5/6, ms1mx3.2/19, Error ellipse: s-maj=34.3km s-min=18.7km az=117.0*
*BJI **19** 02:47:50.2, 4.87S×153.40E, h17km, mb4.8*
*NEIC **19** 02:47:50.6±2.2, 5.83S×153.24E, h47km±17km, mb4.5/6, Error ellipse: s-maj=27.3km s-min=10.5km az=101.0*
ISC 19 02:47:49.3±2.2**, 5.88S**±0.07×**153.2E**±0.1**, h46**km±16km**, n32, σ0^{s}89**/29**, mb4.4**/16**, MS3.5**/5**, New Ireland region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAB	Rabaul	1.98	328	eP	P	02 48 20.7	-0.2
PMG	Port Moresby	6.94	239	Pn	P	02 49 31.1	+0.1
	4.3nm,0.3s,baz=52,slow=15,SNR=12						
PMG				Sn	S	02 50 48.7	-0.7
	baz=5.5,slow=23,SNR=4.1						
PMG				LR	LR	02 51 36.8	
	comp=Z,133nm,18.4s,baz=100,slow=33						
PMG	Port Moresby	6.94	239	Pn	P	02 49 31.9	+0.9
	21nm,0.6s						
CTA	Charters Tower	15.65	205	Pn	P	02 51 29.9	+1.5
	0.2nm,0.3s,baz=41,slow=11,SNR=4.6						
CTA	Charters Tower	15.65	205	Pn	P	02 51 29.9	+1.5
KAKA	Kakadu	21.61	250	eP	P	02 52 42.1	+4.7
	29nm,0.6s,mb4.9						
WRAB	Tennant Creek	23.04	231	eP	P	02 52 51.8	+0.2
	9.0nm,0.8s,mb4.2						
WB2	Warramunga Arr	23.05	231	eP	P	02 52 51.7	0.0
WRA	Warramunga Arr	23.06	231	P	P	02 52 52.0	+0.2
	1.2nm,0.6s,mb3.5,baz=55,slow=10.0,SNR=6.7						
WRA				LR	LR	03 00 52.9	
	comp=Z,47nm,19.5s,MS3.0,baz=50,slow=34						
ASAR	Alice Springs	25.65	224	P	P	02 53 16.4	-0.3
	4.4nm,0.9s,mb4.0,baz=55,slow=8.8,SNR=36						
ASPA	Alice Springs	25.65	224	eP	P	02 53 16.3	-0.4
STKA	Stephens Creek	28.05	201	eP	P	02 53 37.3	-1.4
	4.4nm,1.1s,mb4.0						
STKA	Stephens Creek	28.05	201	P	P	02 53 37.1	-1.5
	3.6nm,0.8s,mb4.0,baz=23,slow=11,SNR=5.2						
FITZ	Fitzroy Crossi	29.52	243	eP	P	02 53 51.0	-0.8
	6.1nm,0.8s,mb4.4						
FITZ	Fitzroy Crossi	29.52	243	P	P	02 53 50.9	-1.0
	3.2nm,0.6s,mb4.2,baz=92,slow=2.6,SNR=18						
FITZ				LR	LR	03 06 29.7	
	comp=Z,40nm,19.6s,MS3.0,baz=249,slow=38						
FORT	Forrest	34.22	221	eP	P	02 54 32.3	-0.6
	29nm,0.6s,mb5.4						
FORT				e	pP	02 54 42.6	-2.5
CMAR	Chiang Mai Arr	58.70	296	P	P	02 57 46.0	+1.0
	2.5nm,0.9s,mb4.2,baz=117,slow=5.7,SNR=12						
GTA	Gaotai	66.72	317	eP	P	02 58 39.3	+1.3
GTA				AP	pP	02 58 45.3	-5.9
GTA				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.4						
SONM	Songino Array	67.45	328	P	P	02 58 42.5	+0.1
	comp=Z,1.9nm,0.5s,mb4.3,baz=143,slow=7.2,SNR=12						
VNDA	Vanda	71.74	178	LR	LR	03 23 28.6	
	comp=Z,98nm,21.5s,MS4.0,baz=148,slow=30						
GUN	Gumba	73.03	301	eP	P	02 59 17.2	+0.5
	comp=Z,23nm,0.9s,mb5.1						
PKI	Pulchoki	73.33	301	eP	P	02 59 18.8	+0.3
KKN	Kakani	73.50	301	eP	P	02 59 19.6	+0.1
DMN	Daman	73.60	301	eP	P	02 59 20.8	+0.7
KOLN	Koldanda	74.93	301	eP	P	02 59 28.4	+0.6
	comp=Z,10.0nm,0.9s,mb4.7						
ZAL	Zalesovo	82.28	326	P	P	03 00 06.2	-1.2
	comp=Z,1.5nm,0.6s,mb4.1,baz=15,slow=6.3,SNR=6.1						
ILAR	Eielson Array	83.00	22	P	P	03 00 08.3	-2.5
	comp=Z,0.8nm,0.8s,mb3.8,baz=243,slow=5.1,SNR=13						
ILAR				LR	LR	03 35 49.0	
	comp=Z,36nm,18.1s,MS3.8,baz=358,slow=35						
QSPA	South Pole Qui	84.08	180	eP	P	03 00 17.5	+1.5
	comp=Z,4.4nm,0.8s,mb4.6						
BVAR	Borovoye Array	90.34	323	P	P	03 00 46.1	-0.7
	comp=Z,2.4nm,0.7s,mb4.7,baz=108,slow=4.7,SNR=11						
YKA	Yellowknife Ar	96.19	28	LR	LR	03 44 58.7	
	comp=Z,21nm,18.1s,MS3.6,baz=245,slow=36						
GERES	GERESS Array B	125.18	328	PKP	PKPdf	03 06 47.7	+2.5
	comp=Z,0.6nm,0.6s,baz=63,slow=3.0,SNR=5.5						
BDFB	Brasilia	150.02	136	PKPbc	PKPdf	03 07 37.9	+7.1
	comp=Z,2.3nm,0.5s,baz=307,slow=2.2,SNR=7.0						

*IDC **19** 03:23:58.4±3.2, 6.27S×146.03E, h116km±33km, mb3.5/5, mb1 3.7/7, mb1mx3.6/14, MS2.7/1, Ms1 2.7/1, ms1mx2.4/11, Error ellipse: s-maj=31.4km s-min=17.5km az=127.0*
*NEIC **19** 03:23:59.4±1.6, 6.28S×145.98E, h129km±18km, mb3.9/5, Error ellipse: s-maj=29.5km s-min=13.8km az=125.0*
ISC 19 03:23:59.8±1.4**, 6.4S**±0.1×**146.1E**±0.1**, h152**km±16km**, n18, σ1^{s}06**/18**, mb3.8**/6**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WAU	Wau	1.09	146	eP	P	03 24 25.5	-0.3
PMG	Port Moresby	3.13	160	P	P	03 24 50.1	+0.5
	19nm,0.3s,baz=333,slow=5.2,SNR=42						
PMG				S	S	03 25 27.7	0.0
	30nm,0.3s,baz=125,slow=23,SNR=24						
PMG	Port Moresby	3.13	160	eP	P	03 24 50.1	+0.5
CTA	Charters Tower	13.57	179	LR	LR	03 32 23.5	
	comp=Z,34nm,19.3s,baz=342,slow=37						
KAKA	Kakadu	14.87	244	eP	P	03 27 26.8	+3.1
	5.2nm,0.4s						
WRAB	Tennant Creek	17.61	219	eP	P	03 27 56.4	-0.8
	3.0nm,0.6s						
WB2	Warramunga Arr	17.62	219	eP	P	03 27 56.0	-1.3
WRA	Warramunga Arr	17.62	219	P	P	03 27 56.1	-1.3
	0.3nm,0.3s,baz=41,slow=12,SNR=7.4						
WRA				S	S	03 31 16.0	+10
	0.1nm,0.3s,baz=46,slow=25,SNR=3.0						
ASAR	Alice Springs	20.76	213	P	P	03 28 30.9	+0.7
	1.1nm,0.7s,baz=45,slow=8.3,SNR=7.7						
FITZ	Fitzroy Crossi	23.08	238	eP	P	03 28 52.7	-0.3
	0.9nm,0.4s,mb3.5						
FITZ	Fitzroy Crossi	23.08	238	P	P	03 28 52.5	-0.5
	1.3nm,0.6s,mb3.5,baz=40,slow=9.9,SNR=17						
STKA	Stephens Creek	25.65	189	P	P	03 29 20.4	+3.1
	2.3nm,0.7s,mb4.0,baz=351,slow=11,SNR=5.1						
CMAR	Chiang Mai Arr	52.67	299	P	P	03 33 01.4	+0.4
	1.5nm,0.5s,mb4.0,baz=121,slow=5.7,SNR=8.5						
KURK	Kurchatov	81.03	324	P	P	03 35 59.8	+0.7
	1.0nm,0.4s,mb3.8						
RSO	Redoubt South	81.90	26	eP	P	03 36 02.5	-0.9
ILAR	Eielson Array	86.24	23	P	P	03 36 25.1	+0.2
	1.0nm,0.6s,mb3.7,baz=253,slow=4.9,SNR=17						
ZRNK	Zerenda	87.39	324	P	P	03 36 30.3	-0.5
	0.9nm,0.4s,mb4.0						
DBIC	Dimbokro	151.15	272	PKPbc	PKPdf	03 43 39.1	+9.4
	2.2nm,0.9s,baz=117,slow=4.5,SNR=4.5						

*TAP **19** 03:50:45.8, 22.69N×121.42E, h12km, ML2.9*
*NIED **19** 03:51:00, 20.60N×122.30E, h86km, Mw4.8 Best double couple: Mo1.96×10^16 NP1: φs208°, δ86°, λ-68°. NP2: φs309°, δ22°, λ-168°.*
*MOS **19** 03:51:11.0±0.8, 20.93N×122.47E, h132km, mb4.4/6, Error ellipse: s-maj=31.1km s-min=10.1km az=126.0*
*BJI **19** 03:51:16.5, 20.88N×122.15E, h164km, mB5.1, mb5.0*
*IDC **19** 03:51:17.9±2.3, 20.80N×122.20E, h179km±20km, mb4.3/16, mb1 4.5/17, mb1mx4.5/19, Error ellipse: s-maj=19.4km s-min=9.6km az=68.0*
*NEIC **19** 03:51:17.3±0.8, 20.79N×122.12E, h173km±7km, mb4.8/33, Error ellipse: s-maj=6.7km s-min=4.5km az=77.0*
*MAN **19** 03:51:18.9, 20.66N×121.94E, h143km, mb4.7, ML3.6, MS3.5*
ISC 19 03:51:16.4±0.4**, 20.74N**±0.03×**122.17E**±0.04**, h178**km±3km**, n162, σ0^{s}93**/167**, mb4.6**/60**, 5C-15D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BBP	Basco	0.35	213	eP	P	03 51 39.4	-1.4
BBP				eS	S	03 51 55.3	-4.3
SGCP	Mt. Cagua	2.48	183	eP	P	03 52 00.1	+0.8
PIP	Pasuquin	2.81	212	⇓iP	P	03 52 01.7	-1.6
PIP				eS	Sx	03 52 56.0	
APYP	Conner	2.99	197	eP	P	03 52 05.6	+0.1
CVP	Callao Caves	3.04	186	⇑iP	P	03 52 06.0	0.0
CVP				eS	S	03 52 43.5	-0.7
ABRA	Dolores	3.36	204	eP	P	03 52 10.1	-0.1
CAUP	Cauayan	3.79	185	eP	P	03 52 17.7	+2.2
TATO	Taipei	4.26	352	P	P	03 52 19.3	-2.3
BOLP	Bolinao	4.83	207	eP	P	03 52 29.3	+0.4
BALP	Baler	5.00	187	eP	P	03 52 32.4	+1.2
QZH	Quanzhou	5.33	322	P	P	03 52 33.0	-2.4
SCZP	Santa Cruz	5.38	204	eP	P	03 52 36.3	+0.3
POLP	Polilio Island	5.98	182	eP	P	03 52 45.5	+1.6
LUBP	Lubang	7.20	195	eP	P	03 52 59.6	-0.4
SSE	Sheshan	10.35	355	P	P	03 53 40.0	-1.4
SSE				S	S	03 55 37.0	+2.0
SSE				AMB	AMB		
	comp=Z,42nm,0.7s						
NJ2	Nanjing	11.65	346	eP	P	03 53 58.4	+0.2
NJ2				XP		03 54 38.4	
NJ2				S	S	03 56 06.6	+1.3
QIZ	Qiongzhong	11.72	264	P	P	03 53 59.4	+0.3
QIZ				XP		03 54 38.1	
QIZ				eS	S	03 56 06.8	-0.1
QIZ				AMB	AMB		
	comp=Z,48nm,1.0s						
QIZ	Qiongzhong	11.72	264	eP	P	03 53 59.1	0.0
	comp=Z,62nm,1.2s						
WHN	Wuhan	12.04	326	P	P	03 54 03.5	+0.3
WHN				S	S	03 56 08.5	-5.8
ENH	Enshi	14.86	312	eP	P	03 54 37.7	-1.2
	comp=Z,19nm,0.8s						
GYA	Guiyang	15.30	295	⇑iP	P	03 54 45.3	+0.8
GYA				XP		03 55 28.5	
GYA				S	S	03 57 34.3	+5.4
GYA				AMB	AMB		
	comp=Z,60nm,1.4s						
GYA				AMB	AMB		
	comp=Z,320nm,3.6s						
KKM	Kota Kinabalu	15.70	202	⇓eP	P	03 54 52.0	+2.5
	comp=Z,27nm,0.5s						
XAN	Xi'an	17.69	321	P	P	03 55 11.5	-1.4
XAN				AMB	AMB		
	comp=Z,29nm,1.0s						
KMI	Kunming	18.41	287	eP	P	03 55 21.3	+0.7
KMI				AP		03 55 27.3	
KMI				AMB	AMB		
	comp=Z,17nm,0.9s						
CD2	Chengdu	19.39	305	⇑iP	P	03 55 30.8	0.0
CD2				AMB	AMB		
	comp=Z,90nm,0.9s						
NANT	Nan	20.29	268	⇓P	P	03 55 39.0	-1.0
MAJO	Matsushiro	21.07	38	P	P	03 55 48.5	+0.9
MAT	Matsushiro	21.07	38	P	P	03 55 49.3	+1.7
MAT				eS	S	03 59 33.8	+7.3
MAT	Matsushiro	21.07	38	eP	P	03 55 49.0	+1.4
MAT				eS		03 56 21.0	
CHG	Chiang Mai	21.93	269	⇓P	P	03 55 58.2	+2.1
	comp=Z,19nm,1.0s,mb4.5						
HHC	Hu-ho-hao-te	21.98	338	⇓P	P	03 55 57.6	+1.1
HHC				AMB	AMB		
	comp=Z,17nm,1.1s,mb4.4						
HHC				AMB	AMB		
	comp=Z,299nm,6.5s						
CMAR	Chiang Mai Arr	21.99	268	P	P	03 55 59.0	+2.4
	comp=Z,6.4nm,0.6s,mb4.2,baz=75,slow=8.8,SNR=25						
CMAR				PcP	PcP	03 59 49.4	-0.7
	comp=Z,3.1nm,0.6s,baz=58,slow=1.0,SNR=15						
CMAR				ScP		04 03 09.4	
	comp=Z,2.8nm,1.0s,baz=79,slow=0.4,SNR=8.0						
LZH	Lanzhou	22.16	318	eP	P	03 55 59.3	+1.1
LZH				AP		03 56 30.6	
LZH				PP	PP	03 56 35.0	+3.9
LZH				XP		03 56 50.4	
LZH				eS	S	03 59 48.3	+2.7
LZH				SS	SS	04 00 43.0	0.0
LZH				AMB	AMB		
	comp=Z,71nm,1.4s,mb4.9						
LZH				AMB	AMB		
	comp=Z,269nm,5.1s						
CN2	Changchun	23.16	6	eP	P	03 56 08.8	+0.9
CN2				eAP		03 56 40.6	
CN2				PCP	PcP	03 59 53.8	+1.6
CN2				eS	S	04 00 05.0	+2.3
MDJ	Mudanjiang	24.60	13	P	P	03 56 20.9	-0.6
MDJ				AP		03 56 52.9	
MDJ				XP		03 57 12.6	
MDJ				S	S	04 00 34.1	+7.3
MDJ				XS		04 01 30.1	
MDJ				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,200nm,5.0s						
IPM	Ipoh	26.08	235	⇑eP	P	03 56 35.2	-0.3
GTA	Gaotai	26.72	319	eP	P	03 56 41.1	0.0
GTA				AP	pP	03 57 15.8	-1.4
GTA				PP	PP	03 57 31.6	-1.2
GTA				XP	sP	03 57 36.8	-1.4
GTA				PCP	PcP	04 00 00.4	+0.3
GTA				S	S	04 01 00.1	-1.5
GTA				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.2						
GTA				AMB	AMB		
	comp=Z,366nm,6.8s						
SHL	Shillong	28.22	286	⇑iP	P	03 56 54.3	-0.5
SONM	Songino Array	29.89	338	P	P	03 57 08.7	-0.7
	comp=Z,2.0nm,0.5s,mb4.1,baz=158,slow=10.0,SNR=19						
SONM				PcP	PcP	04 00 07.1	-0.8
	comp=Z,0.6nm,0.3s,baz=164,slow=3.1,SNR=6.5						
SONM				ScP		04 03 32.1	
	comp=Z,0.6nm,0.7s,baz=180,slow=4.9,SNR=4.0						
GUN	Gumba	33.74	289	eP	P	03 57 43.7	+0.8
	comp=Z,25nm,0.7s,mb5.1						
PKI	Pulchoki	34.13	289	eP	P	03 57 46.6	+0.3
	comp=Z,27nm,1.0s,mb4.9						
KKN	Kakani	34.26	289	eP	P	03 57 47.7	+0.3
DMN	Daman	34.40	289	eP	P	03 57 48.8	+0.2
	comp=Z,58nm,1.0s,mb5.2						
KAKA	Kakadu	34.72	162	⇓iP	P	03 57 54.9	+3.5
	comp=Z,60nm,0.7s,mb5.3						
KAKA				i PCP	PcP	04 00 27.1	+5.7
GKN	Gorkha	34.84	289	eP	P	03 57 52.3	0.0
	comp=Z,36nm,0.9s,mb5.0						
KOLN	Koldanda	35.74	289	eP	P	03 58 00.3	+0.4
	comp=Z,28nm,0.8s,mb4.9						
WMQ	Urumqi	36.73	317	eP	P	03 58 08.8	+0.7
FITZ	Fitzroy Crossi	38.75	175	⇓iP	P	03 58 24.1	-1.0
	comp=Z,35nm,1.0s,mb5.0						
FITZ				eS	S	04 04 03.6	-5.0
DDI	Dehra Dun	40.72	293	e	P	03 58 39.8	-1.4
MKAR	Makanchi Array	41.47	318	i P	P	03 58 47.9	+0.7
MKAR				pmax	pmax		
	comp=Z,1μm,0.4s						
WRAB	Tennant Creek	42.14	163	P	P	03 58 52.0	-1.0
	comp=Z,363nm,1.1s,mb5.9,SNR=28						
WRAB	Tennant Creek	42.14	163	eP	P	03 58 51.8	-1.3
	comp=Z,65nm,0.8s,mb5.3						
WRA	Warramunga Arr	42.15	163	P	P	03 58 52.4	-0.7
	comp=Z,25nm,0.6s,mb5.0,baz=344,slow=8.7,SNR=117						
WRA				PcP	PcP	04 00 44.2	-0.4
	comp=Z,5.2nm,0.6s,baz=346,slow=3.8,SNR=7.7						
WRA				S	S	04 04 54.5	-4.4
	comp=Z,6.0nm,1.0s,baz=342,slow=15,SNR=9.8						
WB2	Warramunga Arr	42.15	163	eP	P	03 58 52.1	-1.0
WB2				ePCP	PcP	04 00 44.1	-0.5
WB2				eS	S	04 04 54.4	-4.5
ZAL	Zalesovo	43.64	329	P	P	03 59 04.2	-0.4
	comp=Z,2.7nm,0.3s,mb4.4,baz=16,slow=3.6,SNR=6.8						
ZAL	Zalesovo	43.64	329	P	P	03 59 04.3	-0.3
KURK	Kurchatov	45.33	322	i P	P	03 59 17.7	-0.5
AAK	Ala-Archa	45.36	310	i P	P	03 59 13.9	-4.6
ASAR	Alice Springs	45.59	165	P	P	03 59 20.4	-0.3
	comp=Z,20nm,0.5s,mb5.0,baz=348,slow=8.4,SNR=171						
ASAR				PcP	PcP	04 00 56.1	-0.2
	comp=Z,4.6nm,0.7s,baz=355,slow=4.0,SNR=7.5						
ASAR				S	S	04 05 46.8	-1.6
	comp=Z,2.3nm,0.8s,baz=360,slow=19,SNR=6.5						
ASPA	Alice Springs	45.59	165	eP	P	03 59 20.2	-0.4
ASPA				eS	S	04 05 47.0	-1.4
CTA	Charters Tower	46.92	148	eP	P	03 59 32.1	+1.1
	comp=Z,10nm,0.6s,mb4.6						
CTA				ePCP	PcP	04 01 01.5	+0.4
VOSK	Vostochnaya	50.49	322	P	P	03 59 57.0	-0.9
VOSK				pmax	pmax		
	comp=Z,6.0nm,1.5s,mb4.0						
VOSK	Vostochnaya	50.49	322	P	P	03 59 57.0	-0.9
	comp=Z,6.0nm,1.5s,mb4.0						
BVAR	Borovoye Array	50.92	322	ScP		04 04 52.4	
	comp=Z,4.5nm,0.9s,baz=124,slow=5.3,SNR=8.8						
BRVK	Borovoye	50.99	322	P	P	04 00 02.0	+0.2
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.8						
BRVK	Borovoye	50.99	322	P	P	04 00 02.0	+0.2
	comp=Z,2.0nm,0.9s,mb3.8						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FORT	Forrest	51.53	174	eP	P	04 00 05.6	-0.5
	comp=Z,124nm,0.5s						
FORT				ePCP	PcP	04 01 17.4	-0.4
ZRNK	Zerenda	51.70	322	P	P	04 00 06.6	-0.4
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.8						
KLBR	Kellerberrin	52.20	185	⇓iP	P	04 00 09.9	-1.2
	comp=Z,26nm,0.5s,mb5.1						
STKA	Stephens Creek	55.53	160	⇓iP	P	04 00 35.0	-0.4
	comp=Z,17nm,0.5s,mb5.1						
STKA	Stephens Creek	55.53	160	P	P	04 00 35.1	-0.3
	comp=Z,25nm,0.6s,mb5.2,baz=338,slow=6.8,SNR=92						
ARU	Arti	58.41	324	⇓iP	P	04 00 53.9	-1.4
ARU				e		04 01 48.9	
ARU				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.5						
ARU	Arti	58.41	324	⇓iP	P	04 00 53.9	-1.4
	comp=Z,4.0nm,0.5s,mb4.5						
ARU				e		04 01 48.9	
CNB	Canberra Magne	61.43	155	eP	P	04 01 16.8	+0.7
	comp=Z,24nm,0.9s,mb5.0						
TOO	Toolangi	62.02	159	eP	P	04 01 20.5	+0.5
	comp=Z,6.9nm,0.8s,mb4.5						
KIV	Kislovodsk	68.47	310	iP	P	04 02 01.5	+0.3
KIV				pmax	pmax		
	comp=Z,15nm,0.7s,mb4.8						
KIV	Kislovodsk	68.47	310	iP	P	04 02 01.5	+0.3
	comp=Z,15nm,0.7s,mb4.8						
IMA	Indian Mountai	68.88	26	eP	P	04 02 03.5	+0.1
	comp=Z,80nm,1.1s,mb5.4						
RSO	Redoubt South	69.79	32	eP	P	04 02 09.4	+0.5
SPU	Mount Spurr	70.05	31	eP	P	04 02 10.2	-0.3
KDAK	Kodiak Island	70.20	35	eP	P	04 02 10.8	-0.7
	comp=Z,19nm,0.6s,mb5.0						
MZLS	Mizel	70.39	289	P	P	04 02 12.9	-0.3
SOC	Sochi	70.66	310	eP	P	04 02 14.5	0.0
SOC				e		04 02 38.3	
SOC				e		04 04 48.7	
SOC				e		04 11 38.9	
SOC				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb4.8						
SOC				pmax	pmax		
	comp=N,7.0nm,0.3s						
SOC				pmax	pmax		
	comp=E,5.0nm,0.3s						
SOC	Sochi	70.66	310	eP	P	04 02 14.5	0.0
	comp=E,9.0nm,0.5s,mb4.8						
SOC				e		04 02 38.3	
SOC				e		04 04 48.7	
SOC				e		04 11 38.9	
MCK	McKinley	71.14	28	eP	P	04 02 16.9	-0.2
	comp=E,14nm,0.8s,mb4.8						
COLA	College	71.43	27	eP	P	04 02 18.4	-0.3
	comp=E,7.1nm,0.7s,mb4.5						
ILAR	Eielson Array	71.86	27	P	P	04 02 20.3	-0.9
	comp=E,3.0nm,0.5s,mb4.3,baz=271,slow=4.7,SNR=92						
ANN	Anapa	72.04	312	eP	P	04 02 21.0	-1.7
ANN				e		04 11 24.7	
ANN				e*SS		04 12 27.2	
ANN				pmax	pmax		
	comp=Z,15nm,0.5s,mb5.0						
ANN	Anapa	72.04	312	eP	P	04 02 21.0	-1.7
	comp=Z,15nm,0.5s,mb5.0						
ANN				e		04 11 24.7	
ANN				esS		04 12 27.2	
JOF	Joensuu	72.15	331	ep	P	04 02 21.4	-1.6
	comp=Z,1.9nm,0.4s,mb4.2						
JOF	Joensuu	72.15	331	eP	P	04 02 21.4	-1.6
JOF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.2						
KEV	Kevo	72.50	339	ep	P	04 02 23.6	-1.3
	comp=Z,3.5nm,0.3s,mb4.6						
KEV	Kevo	72.50	339	eP	P	04 02 23.6	-1.3
KEV				pmax	pmax		
	comp=Z,4.0nm,0.3s,mb4.6						
THY	Trims Highway	72.60	28	eP	P	04 02 25.7	+0.1
DIV	Divide	73.06	30	eP	P	04 02 28.9	+0.6
	comp=Z,65nm,0.7s,mb5.5						
ARCES	ARCESS Array B	73.06	339	P	P	04 02 27.9	-0.3
	comp=Z,6.5nm,0.6s,mb4.6,baz=70,slow=8.4,SNR=51						
ARE0	ARCESS Array S	73.06	339	eP	P	04 02 27.6	-0.6
TATS	Tathlith	73.13	285	P	P	04 02 29.4	-0.2
DJNS	Zahran al Janu	73.59	283	P	P	04 02 32.7	+0.3
KAF	Kangasniemi	74.59	331	ep	P	04 02 36.0	-1.2
	comp=Z,1.7nm,0.4s,mb4.0,baz=72,slow=5.3						
KAF	Kangasniemi	74.59	331	eP	P	04 02 36.0	-1.2
KAF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.1						
BLJS	Baljurashi	74.73	286	P	P	04 02 39.2	+0.4
FINES	FINESS Array B	74.87	330	P	P	04 02 38.4	-0.4
	comp=Z,4.7nm,0.6s,mb4.3,baz=49,slow=6.3,SNR=37						
KBRS	Khaybar	75.13	292	P	P	04 02 41.9	+0.9
DAWY	Dawson	75.19	27	eP	P	04 02 41.0	+0.5
BRTR	Keskin Array B	75.96	307	P	P	04 02 45.5	+0.2
	comp=Z,1.3nm,0.5s,mb3.8,baz=104,slow=5.1,SNR=11						
AKASG	Malin Array Be	76.05	319	P	P	04 02 44.7	-0.9
	comp=Z,4.9nm,0.7s,mb4.2,baz=60,slow=5.6,SNR=19						
INK	Inuvik	76.07	22	eP	P	04 02 45.0	-0.4
	comp=Z,25nm,1.3s,mb4.7						
UMJS	Umm Lajj	76.98	292	P	P	04 02 52.8	+1.5
RPZ	Rata Peaks	78.24	146	P	P	04 02 58.6	+0.8
	comp=Z,12nm,0.6s,mb4.7,baz=293,slow=5.1,SNR=4.1						
SUW	Suwalki	78.59	324	eP	P	04 02 59.0	-0.5
SUW	Suwalki	78.59	324	eP	P	04 02 59.0	-0.5
DAG	Danmarks Havn	79.90	352	iP	P	04 03 05.0	-1.2
	comp=Z,2.0nm,0.6s,mb3.9						
DAG	Danmarks Havn	79.90	352	eP	P	04 03 05.0	-1.2
	comp=Z,2.0nm,0.6s,mb3.9						
KWP	Kalwaria	80.36	319	eP	P	04 03 09.1	0.0
KWP	Kalwaria	80.36	319	eP	P	04 03 09.1	0.0
NB2	NORSAR Subarra	81.69	333	P	P	04 03 14.9	-0.9
	comp=Z,3.5nm,0.6s,mb4.2,baz=63,slow=4.6						
NOA	NORSAR Array B	81.69	333	P	P	04 03 15.2	-0.7
	comp=Z,2.8nm,0.6s,mb4.1,baz=66,slow=4.8,SNR=24						
NIE	Niedzica	81.89	320	eP	P	04 03 18.4	+1.3
OJC	Ojcow	81.89	321	eP	P	04 03 17.0	-0.1
OJC	Ojcow	81.89	321	eP	P	04 03 17.0	-0.1
OKC	Ostrava-Krasne	83.03	321	eP	P	04 03 23.2	+0.3
KSP	Ksiaz	83.69	322	eP	P	04 03 26.4	+0.2
KSP	Ksiaz	83.69	322	eP	P	04 03 26.7	+0.5
DPC	Dobruska-Polom	83.88	322	eP	P	04 03 28.0	+0.8
UPC	Upice	84.00	322	eP	P	04 03 28.5	+0.8
PVCC	Panska Ves	84.81	322	eP	P	04 03 32.8	+1.0
PRU	Pruhonice	85.07	322	eP	P	04 03 34.0	+0.9
CLL	Collm	85.34	323	P	P	04 03 35.0	+0.6
CLL	Collm	85.34	323	eP	P	04 03 35.0	+0.6
KMBO	Kilima Mbogo	85.64	267	P	P	04 03 38.0	+1.2
	comp=Z,5.5nm,0.8s,mb4.3,baz=34,slow=6.6,SNR=14						
KMBO	Kilima Mbogo	85.64	267	eP	P	04 03 37.4	+0.6
YKA	Yellowknife Ar	85.78	23	P	P	04 03 37.1	+0.8
	comp=Z,9.6nm,0.5s,mb4.8,baz=308,slow=4.7,SNR=70						
GERES	GERESS Array B	86.08	321	P	P	04 03 37.9	-0.2
	comp=Z,1.1nm,0.6s,mb3.7,baz=56,slow=4.8,SNR=12						
NKC	Novy Kostel	86.16	323	eP	P	04 03 38.7	+0.3
CASY	Casey	87.19	185	eP	P	04 03 43.9	+0.9
CDF	Champ du Feu	90.00	323	eP	P	04 03 56.7	0.0
	comp=Z,13nm,0.9s,mb4.5						
LPG	La Plagne	91.85	321	eP	P	04 04 05.4	0.0
	comp=Z,12nm,0.8s,mb4.7						
LPL	La Plagne	91.85	321	eP	P	04 04 05.2	-0.2
	comp=Z,9.5nm,0.8s,mb4.6						
PGF	Pioggiola	92.00	317	eP	P	04 04 05.8	-0.3
	comp=Z,42nm,1.2s,mb5.0						
EDM	Edmonton	92.14	30	eP	P	04 04 07.2	+0.7
SBF	Sospel	92.30	319	eP	P	04 04 06.6	-0.9
	comp=Z,21nm,0.8s,mb4.9						
LOR	Lormes	92.55	323	eP	P	04 04 08.4	-0.1
	comp=Z,4.9nm,0.7s,mb4.4						
ORIF	Oris-en-Rattie	92.68	320	eP	P	04 04 08.5	-0.7
SSF	Saint Saulge	92.87	323	eP	P	04 04 09.2	-0.8
	comp=Z,5.3nm,0.8s,mb4.4						
SMF	Signal de Mont	92.91	323	eP	P	04 04 09.5	-0.7
	comp=Z,9.1nm,0.8s,mb4.7						
AVF	Avril sur Loir	93.11	323	eP	P	04 04 10.6	-0.5
	comp=Z,10nm,0.9s,mb4.7						
HYF	Humbligny	93.23	324	eP	P	04 04 11.5	-0.2
RJF	Les Rejaudoux	95.01	322	eP	P	04 04 19.4	-0.4
NVAR	Mina Array Bea	98.31	44	P	P	04 04 36.4	+1.5
	comp=Z,2.1nm,0.8s,mb4.6,baz=285,slow=5.0,SNR=16						
NVAR	Mina Array Bea	98.31	44	P	P	04 04 36.4	+1.5
QSPA	South Pole Qui	110.54	180	ePKP	PKPdf	04 09 24.2	-2.4
TXAR	Lajitas Array	113.45	43	PKiKP		04 09 34.7	
	comp=Z,0.3nm,0.5s,baz=178,slow=1.4,SNR=9.1						
SNAA	Sanae	120.25	197	⇓iPKPdf	PKPdf	04 09 46.2	+0.5
DBIC	Dimbokro	121.28	292	PKP	PKPdf	04 09 49.6	+0.6
	comp=Z,2.3nm,0.7s,baz=35,slow=3.2,SNR=6.0						
VNA2	Neumayer--Watz	121.90	197	⇓iPKPdf	PKPdf	04 09 52.6	+3.7
VNA1	Neumayer--Stat	122.29	197	⇓iPKPdf	PKPdf	04 09 53.0	+3.4
VNA3	Neumayer Olymp	122.35	197	⇓iPKPdf	PKPdf	04 09 52.6	+2.9
SDV	Santo Domingo	147.99	24	ePKP	PKPdf	04 10 40.1	+2.0
LPAZ	La Paz	169.28	67	PKP	PKPdf	04 11 02.5	0.0
	comp=Z,1.9nm,0.2s,baz=291,SNR=3.1						
BDFB	Brasilia	169.38	297	PKP	PKPdf	04 11 04.5	+1.9
	comp=Z,1.6nm,0.7s,baz=156,slow=2.4,SNR=3.5						
CPUP	Villa Florida	174.41	185	PKPab	PKPab	04 12 39.9	-0.6
	comp=Z,3.2nm,0.7s,baz=171,slow=2.2,SNR=12						

*NEIC **19** 03:58:51.7±3.5, 18.19S×178.23W, h504^{km}±38^{km}, mb4.0/8, Error ellipse: s-maj=22.3km s-min=18.1km az=156.0*
*IDC **19** 03:58:54.8±3.0, 18.29S×178.27W, h540^{km}±35^{km}, mb3.4/9, mb1 3.7/9, mb1mx3.5/15, Error ellipse: s-maj=34.2km s-min=13.1km az=153.0*
ISC 19 03:58:52.4±2.9**, 18.2S**±0.1×**178.4W**±0.1**, h519**^{km}±33^{km}**, n66,** σ**1**^{s}**15**/25**, mb3.9**/15**, 8C-2D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	20.40	190	P	P	04 02 52.9	-1.5
	7.0nm,0.8s,baz=274,slow=4.4,SNR=5.8						
CTAO	Charters Tower	33.44	261	eP	P	04 04 51.1	+1.8
	3.2nm,0.7s,mb4.0						
STKA	Stephens Creek	38.54	241	eP	P	04 05 32.9	+1.7
	2.5nm,0.8s,mb3.8						
STKA	Stephens Creek	38.54	241	P	P	04 05 32.9	+1.7
	2.0nm,0.4s,mb4.0,baz=84,slow=11,SNR=4.9						
WB2	Warramunga Arr	44.61	260	eP	P	04 06 19.2	-0.6
WRAB	Tennant Creek	44.62	260	eP	P	04 06 19.4	-0.5
	4.0nm,0.6s,mb4.1						
WRA	Warramunga Arr	44.62	260	P	P	04 06 19.4	-0.5
	1.8nm,0.5s,mb3.8,baz=96,slow=6.7,SNR=17						
WRA				PcP	PcP	04 07 51.2	-0.8
	1.0nm,0.5s,baz=90,slow=3.8,SNR=6.0						
ASAR	Alice Springs	44.76	254	P	P	04 06 21.1	+0.2
	9.8nm,0.5s,mb4.6,baz=89,slow=8.2,SNR=72						
ASAR				PcP	PcP	04 07 51.8	-0.6
	1.3nm,0.4s,baz=104,slow=3.6,SNR=6.2						
ASAR				S	S	04 12 18.9	-1.2
	1.1nm,0.9s,baz=88,slow=15,SNR=3.8						
ASPA	Alice Springs	44.76	254	eP	P	04 06 20.7	-0.2
KAKA	Kakadu	47.66	269	⇑iP	P	04 06 48.0	+4.7
	6.6nm,0.6s,mb4.3						
MBWA	Marble Bar	58.05	256	eP	P	04 07 56.6	-1.0
	4.0nm,0.6s,mb3.8						
CASY	Casey	65.92	205	P	P	04 08 47.9	+0.1
	3.8nm,0.8s,mb4.0						
NVAR	Mina Array Bea	79.58	44	P	P	04 10 06.1	-0.3
	0.7nm,0.6s,mb3.1,baz=220,slow=7.4,SNR=5.4						
RSO	Redoubt South	81.05	13	P	P	04 10 14.9	+1.3
MCK	McKinley	84.79	13	eP	P	04 10 30.5	-1.6
	0.7nm,0.4s,mb3.5						
TXAR	Lajitas Array	86.10	58	P	P	04 10 40.2	+0.9
	1.3nm,0.8s,mb3.6,baz=222,slow=5.7,SNR=11						
ILAR	Eielson Array	86.13	13	P	P	04 10 36.7	-1.9
	0.9nm,0.4s,mb3.7,baz=221,slow=5.3,SNR=20						
PDAR	Pinedale Array	87.52	43	P	P	04 10 45.8	+0.2
	0.7nm,0.6s,mb3.6,baz=243,slow=1.9,SNR=6.5						
CMAR	Chiang Mai Arr	89.01	290	P	P	04 10 54.4	+1.2
	0.6nm,0.4s,mb3.8,baz=99,slow=3.3,SNR=4.0						
SNAA	Sanae	90.33	179	e	P	04 10 55.0	-3.0
SNAA	Sanae	90.33	179	eP	P	04 10 57.3	-0.7
	1.5nm,0.8s,mb3.9						
VNA3	Neumayer Olymp	90.47	176	e	P	04 11 01.4	+2.7
VNA2	Neumayer--Watz	90.91	177	e	P	04 11 01.4	+0.7
VNA1	Neumayer--Stat	91.14	177	e	P	04 11 01.7	-0.1
BVAR	Borovoye Array	117.08	321	PKP	PKPdf	04 16 37.4	-0.3
	0.7nm,0.3s,baz=134,slow=1.8,SNR=4.8						
ARCES	ARCESS Array B	126.58	350	PKP	PKPdf	04 16 55.1	-0.5
	1.2nm,0.6s,baz=326,slow=0.4,SNR=10						
FINES	FINESS Array B	133.45	344	PKP	PKPdf	04 17 10.0	+1.1
	0.6nm,0.5s,baz=90,slow=1.4,SNR=4.8						
NOA	NORSAR Array B	136.64	353	PKP	PKPdf	04 17 16.7	+1.9
	0.4nm,0.8s,baz=16,slow=2.1,SNR=3.1						
BRTR	Keskin Array B	145.00	315	PKPbc	PKPbc	04 17 31.9	+1.0
	7.3nm,1.2s,baz=104,slow=2.0,SNR=11						
KOLS	Kolonicke sedl	145.06	336	ePKP	PKPdf	04 17 32.1	+2.2
KOLS				e		04 17 42.2	
KSP	Ksiaz	145.37	344	eP	PKPdf	04 17 32.8	+2.4
CLL	Collm	145.73	347	⇓iPKP1	PKPbc	04 17 33.3	+0.9
UPC	Upice	145.75	344	⇑ePKPB	PKPbc	04 17 33.7	+1.2
DPC	Dobruska-Polom	145.81	343	⇑ePKPB	PKPbc	04 17 34.1	+1.5
BRG	Berggiesshubel	145.93	346	eP	PKPdf	04 17 34.1	+2.7
PVCC	Panska Ves	146.10	345	⇑ePKPB	PKPbc	04 17 34.8	+1.5
PRU	Pruhonice	146.61	345	⇑ePKPB	PKPbc	04 17 36.0	+1.5
PRU				ePKPAB	PKPab	04 17 38.5	-1.6
GRA1	Grafenberg Arr	147.62	348	ePKP	PKPdf	04 17 39.1	+5.0
KHC	Kasperske Hory	147.64	345	⇑ePKPB	PKPdf	04 17 38.7	+4.6
KHC				ePKPAB	PKPab	04 17 43.0	-1.2
WET	Wettzell	147.79	346	ePKP	PKPdf	04 17 39.2	+4.8
GEC2	GERESS Array S	147.88	345	ePKP	PKPdf	04 17 39.4	+4.9
GERES	GERESS Array B	147.88	345	PKPbc	PKPdf	04 17 39.4	+4.9
	4.0nm,0.5s,baz=25,slow=2.9,SNR=45						
GIVF	Givet	148.04	356	ePKP1	PKPdf	04 17 39.5	+4.7
BAIF	Baives	148.12	357	ePKP1	PKPdf	04 17 39.8	+4.9
MOA	Molln	148.65	344	⇑iP	PKPdf	04 17 41.4	+5.6
FLN	La Foliniere	149.44	3	ePKP1	PKPdf	04 17 42.6	+5.5
	12nm,0.5s						
CDF	Champ du Feu	149.49	353	ePKP1	PKPdf	04 17 43.2	+6.0
	10nm,0.6s						
KBA	Koelnbreinsper	149.60	344	⇑iP	PKPdf	04 17 43.2	+5.8
LDF	La Druitiere	149.62	2	ePKP1	PKPdf	04 17 42.9	+5.5
	10nm,0.5s						
GRR	Gorron	149.79	3	ePKP1	PKPdf	04 17 43.5	+5.9
	13nm,0.4s						
SGMF	Saint Gilles	149.80	6	ePKP1	PKPdf	04 17 43.2	+5.5
	28nm,0.9s						
WTTA	Wattenberg	149.84	346	⇓iP	PKPdf	04 17 44.0	+6.2
HINF	Hinteralfeld	150.13	353	ePKP1	PKPdf	04 17 44.4	+6.2
	9.9nm,0.7s						
LOR	Lormes	150.93	357	ePKP1	PKPdf	04 17 46.5	+7.1
	13nm,0.5s						
HYF	Humbligny	150.97	359	ePKP1	PKPdf	04 17 46.9	+7.4
SSF	Saint Saulge	151.15	357	ePKP1	PKPdf	04 17 47.0	+7.3
	8.7nm,0.5s						
CABF	La Chapelle	151.40	354	ePKP1	PKPdf	04 17 48.0	+7.9
MFF	Saint Martin d	151.61	3	ePKP1	PKPdf	04 17 47.7	+7.3
	10nm,0.6s						
BGF	Bois d'Agland	151.68	358	ePKP1	PKPdf	04 17 48.2	+7.7
	7.9nm,0.6s						
TCF	Toulx Ste Croi	151.96	359	ePKP1	PKPdf	04 17 48.6	+7.7
	8.1nm,0.7s						
LPL	La Plagne	152.41	352	ePKP1	PKPdf	04 17 50.7	+9.2
LPG	La Plagne	152.42	352	ePKP1	PKPdf	04 17 50.7	+9.2
RJF	Les Rejaudoux	152.95	0	ePKP1	PKPdf	04 17 50.9	+8.6
ORIF	Oris-en-Rattie	153.10	353	ePKP1	PKPdf	04 17 51.4	+8.9
	4.7nm,0.6s						
MBDF	Montbardon	153.18	352	ePKP1	PKPdf	04 17 51.7	+9.1
	5.9nm,0.6s						
CAF	Calviac	153.32	359	ePKP1	PKPdf	04 17 51.8	+9.0

CASC 19 04:15:38.6±2.4**, 12.20N**×**86.80W, h105**^{km}±10^{km}**, MD3.6, ML3.1, 6C-2D, Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LEON	Leon	0.24	337	⇑eP	P	04 15 53.5	-0.1
LEON				eS	S	04 16 05.7	+0.9
MIRN	Miramar	0.26	19	⇓eP	P	04 15 53.7	0.0
MIRN				eS	S	04 16 05.9	+0.9
CNGN	Cerro Negro	0.32	18	eP	P	04 15 54.3	+0.4
CNGN				eS	S	04 16 06.9	+1.5
MOMJ	Momotombo	0.33	50	⇑eP	P	04 15 53.7	-0.3
MOMJ				eS	S	04 16 05.3	-0.3
TELN	Telica	0.41	356	eP	P	04 15 54.4	0.0
APYN	Apoyeque	0.44	85	eP	P	04 15 54.1	-0.6
APYN				eS	S	04 16 07.3	+0.7
XAVN	Gruta Xavier	0.46	96	⇑eP	P	04 15 54.7	-0.1
CRUN	El Crucero	0.53	113	eP	P	04 15 54.9	-0.3
CRUN				eS	S	04 16 08.0	+0.2
MGAN	Managua	0.54	95	⇑eP	P	04 15 54.7	-0.6
MGAN				eS	S	04 16 07.5	-0.4
MGAN				i		04 16 07.6	
	comp=N,381nm,0.3s						
CRIN	San Cristobal	0.56	334	⇑eP	P	04 15 56.0	+0.6
CRIN				eS	S	04 16 10.2	+2.1
TICN	Ticuantepe	0.58	106	⇑eP	P	04 15 55.3	-0.3
TICN				eS	S	04 16 08.4	+0.1
WILN	Americas 2	0.60	93	eP	P	04 15 55.8	0.0
WILN				eS	S	04 16 07.8	-0.9
APON	Apoyo	0.77	111	eP	P	04 15 59.6	+2.3
PYTN	Playitas	0.80	65	⇓eP	P	04 15 57.4	-0.2
PYTN				eS	S	04 16 12.1	+0.3
SNVI	San Vicente	2.44	306	eP	P	04 16 19.5	+1.7
SNVI				eS	S	04 16 47.2	+0.1
LCBS	La Ceiba	2.57	305	eP	P	04 16 20.8	+1.1
LCBS				eS	S	04 16 49.9	-0.5
LFRS	El Faro	2.62	303	eP	P	04 16 28.7	+8.4
LFRS				eS	S	04 16 51.9	+0.3
BOQS	Boqueron	2.86	303	eP	P	04 16 32.4	+8.8
BOQS				eS	S	04 16 57.9	+0.5
SBLS	San Blas	3.20	301	eP	P	04 16 29.2	+1.1
SBLS				eS	S	04 17 05.1	-0.5

*UAV **19** 04:33:08.3, 7.43N×73.37W, h178^{km}*
FUNV 19 04:33:06.3, 6.74N×73.15W, h166^{km}**, MD3.7, 3C, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAPV	Capacho	1.40	36	⇑iP	P	04 33 35.9	-0.6
CAPV				eS	S	04 33 57.1	-2.6
OSV	Paramo de la O	2.51	41	P	P	04 33 47.7	-1.2
OSV				S	S	04 34 18.9	-2.7
UAV	Universidad de	2.72	47	P	P	04 33 50.8	-0.7
UAV				S	S	04 34 22.0	-4.2
VIGV	El Vigia	2.74	40	eP	P	04 33 50.4	-1.3
VIGV				eS	S	04 34 22.4	-4.2
SOCV	Socops	2.75	56	eP	P	04 33 50.7	-1.1
SOCV				eS	S	04 34 22.5	-4.2
EAV	Pico El Aguila	3.12	47	P	P	04 33 55.7	-0.8
EAV				S	S	04 34 32.0	-3.1
VIRV	Villa del Rosa	3.81	11	eP	P	04 34 02.8	-2.5
VIRV				eS	S	04 34 45.5	-5.3
TORV	Torococo	4.03	46	P	P	04 34 04.8	-3.3
TORV				S	S	04 34 49.6	-6.1
CURV	Curarigua	4.53	44	⇑iP	P	04 34 12.6	-2.1
CURV				eS	S	04 35 01.1	-6.4
DABV	Dabajuro	4.84	31	eP	P	04 34 16.9	-1.8
DABV				eS	S	04 35 08.1	-6.6
TEPV	Terepaima	5.06	50	eP	P	04 34 19.5	-2.1
BAUV	El Baul	5.52	66	⇑iP	P	04 34 24.0	-3.6
BAUV				eS	S	04 35 23.7	-6.9
CAOV	Caicara del Or	6.80	85	eP	P	04 34 41.1	-3.6
CAOV				eS	S	04 35 52.3	-8.9

*NEIC **19** 04:34:53.5±1.4, 51.45N×16.07E, h5^{km}, ML2.6(VIE), ML2.0(BRG), Error ellipse: s-maj=14.6km s-min=5.6km az=195.0*
*PRU **19** 04:34:54.7, 51.39N×16.09E*
*WAR **19** 04:34:54.4, 51.45N×16.08E, ML2.8, Mining Induced*
ISC 19 04:34:53.0±0.8**, 51.37N**±0.04×**16.01E**±0.04**, n20,** σ**1**^{s}**36**/37**, 2C, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.56	161	iPG	Pg	04 35 05.8	+1.7
KSP				eSG	Sg	04 35 15.8	+4.2
KSP	Ksiaz	0.56	161	⇑iPg	Pg	04 35 05.8	+1.7
KSP				eSg	Sg	04 35 14.2	+2.6
KSP	Ksiaz	0.56	161	ePg	Pg	04 35 05.9	+1.8
KSP				eSg	Sg	04 35 14.6	+3.0
UPC	Upice	0.86	180	ePG	Pg	04 35 11.6	+1.3
DPC	Dobruska-Polom	1.04	169	ePG	Pg	04 35 14.6	+0.8
DPC				eSG	Sg	04 35 29.0	+1.4
	16nm,0.3s						
PVCC	Panska Ves	1.24	228	ePG	Pg	04 35 19.4	+1.6
BRG	Berggiesshubel	1.40	250	iPg	Pg	04 35 21.4	+0.5
BRG				iSg	Sg	04 35 41.3	+1.8
PRU	Pruhonice	1.67	215	ePG	Pg	04 35 26.1	-0.3
PRU				ix	x	04 35 28.4	
PRU				ix	x	04 35 42.5	
PRU				SG	Sg	04 35 48.3	-0.3
	23nm,0.4s						
MORC	Moravsky Berou	1.87	148	ePn	Pn	04 35 28.3	+1.7
CLL	Collm	1.89	269	ePG	Pg	04 35 30.0	-0.7
CLL				e		04 35 51.0	
CLL				eSG	Sg	04 35 56.0	+0.1
CLL	Collm	1.89	269	ePg	Pg	04 35 30.0	-0.7
CLL				eSg	Sg	04 35 56.0	+0.1
OKC	Ostrava-Krasne	2.05	138	ePG	Pg	04 35 32.5	-1.4
OKC				eSG	Sg	04 35 58.5	-2.8
NKC	Novy Kostel	2.53	245	ePG	Pg	04 35 43.5	0.0
NKC				eSG	Sg	04 36 17.0	-0.3
OJC	Ojcow	2.66	114	ePG	Pg	04 35 44.0	-2.2
OJC				eSG	Sg	04 36 18.0	-3.7
OJC	Ojcow	2.66	114	ePg	Pg	04 35 44.3	-1.9
OJC				eSg	Sg	04 36 18.5	-3.2
KHC	Kasperske Hory	2.73	216	ePN	Pn	04 35 40.5	+1.6
KHC				ePG	Pg	04 35 45.8	-1.8
KHC				eSN	Sn	04 36 12.4	-0.7
KHC				eSG	Sg	04 36 22.7	-1.3
MOX	Moxa	2.87	257	ePg	Pg	04 35 49.2	-1.1
MOX				eSg	Sg	04 36 28.2	-0.4
MOA	Molln	3.70	199	⇑iPN	Pn	04 35 51.2	-1.5
MOA				iSG	Sg	04 36 55.4	-0.9
	4.0nm,0.5s						
KWP	Kalwaria	4.61	110	ePG	Pg	04 36 27.0	+1.9
KWP	Kalwaria	4.61	110	ePg	Pg	04 36 27.3	+2.2

*NEIC **19** 04:54:02.4±0.8, 5.14S×134.35E, h35^{km}, mb4.3/3, Error ellipse: s-maj=28.4km s-min=10.9km az=89.0*
*IDC **19** 04:54:15.2±11.0, 5.46S×133.81E, h158^{km}±116^{km}, mb3.5/3, mb1 3.7/7, mb1mx3.6/13, MS2.6/1, Ms1 2.6/1, ms1mx2.4/14, Error ellipse: s-maj=67.9km s-min=29.2km az=53.0*
ISC 19 04:54:07.6±3.3**, 5.38S**±0.09×**133.8E**±0.1**, h101**^{km}±33^{km}**, n11,** σ**0**^{s}**85**/13**, mb3.9**/5**, Aru Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRAB	Tennant Creek	14.47	178	eP	P	04 57 27.6	-1.1
	6.4nm,0.8s						
WRAB				e		04 57 42.8	
WRA	Warramunga Arr	14.48	178	P	P	04 57 27.8	-1.1
	0.5nm,0.3s,baz=357,slow=13,SNR=7.2						
WRA				S	S	05 00 07.7	+0.5
	0.6nm,0.3s,baz=355,slow=23,SNR=4.3						
FITZ	Fitzroy Crossi	14.97	212	P	P	04 57 36.5	+1.4
	1.8nm,0.3s,baz=25,slow=10,SNR=41						
FITZ				S	S	05 00 17.9	-0.6
	1.3nm,0.3s,baz=177,slow=15,SNR=6.3						
FITZ				LR	LR	05 03 33.2	
	comp=Z,24nm,18.5s,baz=57,slow=38						
ASAR	Alice Springs	18.18	180	P	P	04 58 15.8	+1.1
	0.4nm,0.3s,baz=5.7,slow=11,SNR=28						
CTA	Charters Tower	18.96	142	P	P	04 58 24.1	+0.6
	0.5nm,0.3s,baz=325,slow=13,SNR=4.5						
MBWA	Marble Bar	20.81	220	eP	P	04 58 48.0	+5.1
	7.0nm,0.7s						
STKA	Stephens Creek	27.34	166	P	P	04 59 44.8	-0.5
	0.4nm,0.4s,mb3.3,baz=350,slow=12,SNR=1.8						
SONM	Songino Array	58.23	339	P	P	05 03 53.8	+0.1
	1.4nm,0.7s,mb4.1,baz=153,slow=7.4,SNR=8.9						
KURK	Kurchatov	73.19	327	eP	P	05 05 28.3	-0.9
	2.5nm,0.8s,mb4.1						
BRVK	Borovoye	78.85	327	P	P	05 06 02.0	+1.0
	3.1nm,0.7s,mb4.2						
ILAR	Eielson Array	90.27	25	P	P	05 06 57.6	-0.3
	0.6nm,0.8s,mb3.8,baz=261,slow=4.6,SNR=7.2						

*NEIC **19** 05:05:47.3, 51.60N×175.47W, h38^{km}, ML3.1(AEIC), After AEIC.*
*IDC **19** 05:05:56.5±11.0, 51.96N×176.25W, h179^{km}±160^{km}, mb2.9/2, mb1 3.3/4, mb1mx3.0/22, ML3.3/2, MS3.2/1, Ms1 3.2/1, ms1mx2.7/17, Error ellipse: s-maj=130.0km s-min=45.6km az=135.0*
ISC 19 05:05:46.3±1.0**, 51.8N**±0.2×**175.53W**±0.08**, h65**^{km}±8^{km}**, n15,** σ**0**^{s}**72**/22**, mb3.3**/2**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GSIG	Igitkin Island	0.34	315	P	P	05 05 56.9	-0.4
GSIG				S	S	05 06 04.9	-0.6
GSMY	Great Sitkin M	0.44	313	P	P	05 05 58.2	0.0
GSTD	Great Sitkin T	0.49	309	P	P	05 05 58.8	+0.1
GSTD				S	S	05 06 08.2	+0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GSSP	Great Sitkin S	0.53	311	P	P	05 05 59.5	+0.4
GSSP				S	S	05 06 08.8	+0.3
ADAG	Mount Adagdak	0.71	290	P	P	05 06 01.7	+0.7
ATKA	Atka Island	0.94	60	P	P	05 06 03.8	-0.2
ATKA				S	S	05 06 16.8	-0.4
KIWB	Kanaga Island	1.01	277	P	P	05 06 05.3	+0.3
KIWB				S	S	05 06 18.7	-0.1
KIKV	Kanaga Island	1.03	278	P	P	05 06 05.5	+0.4
KIKV				S	S	05 06 18.9	-0.3
KIMD	Kanaga Island	1.06	272	P	P	05 06 05.4	-0.2
KIMD				S	S	05 06 19.6	-0.4
FX1	Attu Island--F	7.03	284	P	P	05 07 30.4	+1.7
	1.0nm,0.3s,baz=295,slow=20,SNR=5.1						
FX1				S	S	05 08 45.3	-2.6
	1.0nm,0.3s,baz=262,slow=15,SNR=2.2						
ILAR	Eielson Array	19.69	38	P	P	05 10 12.8	+0.4
	0.1nm,0.3s,baz=242,slow=10,SNR=7.0						
ASAJ	Asahikawa	28.75	271	LR	LR	05 21 41.7	
	comp=Z,50nm,19.6s,baz=345,slow=33						
PDAR	Pinedale Array	44.25	75	P	P	05 13 51.1	+0.6
	0.6nm,0.5s,mb3.5,baz=330,slow=3.0,SNR=7.8						
TXAR	Lajitas Array	56.58	84	P	P	05 15 23.3	-1.1
	0.1nm,0.5s,mb3.1,baz=288,slow=4.0,SNR=3.7						
TXAR	Lajitas Array	56.58	84	P	P	05 15 23.3	-1.1

*NEIC **19** 05:07:47.8, 37.60S×72.04W, h117^{km}, MD3.8(GUC), After GUC.*

GUC 19 05:07:47.8±1.0**, 37.60S×72.04W, h117^{km}**±11^{km}**, MD3.8, ML3.7, 2C-4D, Central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CCHI	Chillan	1.00	358	⇓iP	P	05 08 10.2	+0.3
CCHI				i S	S	05 08 26.0	-0.4
CCHI				AMP		05 08 32.1	
	comp=E,1μm,0.7s						
TMCH	Temuco	1.23	201	eP	P	05 08 13.0	+0.7
TMCH				i S	S	05 08 31.6	+0.9
TMCH				AMP		05 08 32.8	
	comp=N,1μm,0.5s						
VLCH	Valdivia	2.39	203	⇑iP	P	05 08 26.8	0.0
VLCH				i S	S	05 08 55.2	-1.0
VLCH				AMP		05 09 04.4	
	comp=E,823nm,0.2s						
SFDO	San Fernando	3.10	16	⇓iP	P	05 08 36.0	-0.3
CICH	Cipreses	3.53	22	eP	P	05 08 42.3	+0.2
CACH	El Canelo	3.67	19	⇓iP	P	05 08 43.8	-0.1
LNV	Longovilo	3.68	8	⇑iP	P	05 08 43.3	-0.7
CHCH	Chadas Angostu	3.83	18	i P	P	05 08 45.5	-0.6
PMCH	Puerto Montt	3.94	189	⇓iP	P	05 08 46.6	-1.0
PMCH				i S	S	05 09 29.8	-3.4
LMEL	Las Melosas	4.04	22	eP	P	05 08 48.8	-0.1
LMEL				i S	S	05 09 34.9	-0.6
TACH	Talagante	4.04	13	eP	P	05 08 47.5	-1.4
PCH	Pirque	4.17	18	eP	P	05 08 50.1	-0.5
ANTU	Antumapu	4.19	16	eP	P	05 08 50.2	-0.7
RCDM	Rinconada Maip	4.23	14	eP	P	05 08 50.1	-1.3
CLCH	Cerro Calan	4.37	17	eP	P	05 08 52.5	-1.0
CLCH				i S	S	05 09 42.0	-1.8
FCH	Farellones	4.50	19	eP	P	05 08 54.3	-0.8

*BJI **19** 05:15:05.7, 16.40S×72.20W, h21^{km}, mB5.0, Ms4.6, Msz4.5*
*NEIC **19** 05:15:05.7, 16.41S×72.23W, h21^{km}, mb4.7/8, ML4.2(LIM), After LIM.*
NEIC Felt [III] at Aplao, Camana and Santa Rita de Sihuas; [II] at Arequipa.
*SYO **19** 05:15:05.7, 16.41S×72.23W, h21^{km}, MB4.4*
*IDC **19** 05:15:17.9±3.7, 16.08S×71.87W, h113^{km}±31^{km}, mb3.7/8, mb1 3.9/9, mb1mx3.8/15, MS3.0/2, Ms1 3.1/2, ms1mx2.9/16, Error ellipse: s-maj=37.7km s-min=20.5km az=37.0*

ISC 19 05:15:07.0±0.5**, 16.22S**±0.08×**72.08W**±0.08**, h33^{km}, n36,** σ1§**03**/30**, mb4.3**/15**, 1C-5D, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARE	Arequipa	0.61	113	⇓iP	P	05 15 19.4	+0.3
ARE				i S	S	05 15 38.5	+11
LPAZ	La Paz	3.79	92	P	P	05 16 13.6	+9.0
	7.9nm,0.3s,baz=266,slow=9.9,SNR=141						
LPAZ				LR	LR	05 17 27.7	
	comp=Z,153nm,20.4s,baz=272,slow=36						
LPAZ	La Paz	3.79	92	ePn	Pn	05 16 13.0	+8.4
NNA	Nana	6.25	312	ePn	Pn	05 16 39.0	-0.5
	19nm,0.4s						
LVC	Limon Verde	7.03	155	ePn	Pn	05 16 47.2	-3.1
	23nm,0.3s						
SAML	Samuel	11.29	51	eP	P	05 17 48.6	-0.6
	16nm,0.9s						
CPUP	Villa Florida	17.02	129	LR	LR	05 26 34.4	
	comp=Z,74nm,19.3s,baz=143,slow=40						
BDFB	Brasilia	23.14	92	P	P	05 20 11.4	-0.1
	3.0nm,0.4s,mb4.0,baz=265,slow=12,SNR=9.4						
TRQA	Tornquist	23.50	160	eP	P	05 20 15.2	+0.4
	3.9nm,0.7s,mb4.0						
SDV	Santo Domingo	24.98	3	eP	P	05 20 30.5	+1.1
	19nm,1.0s,mb4.6						
TXAR	Lajitas Array	54.60	326	P	P	05 24 34.5	-0.3
	0.4nm,0.5s,mb3.8,baz=152,slow=9.1,SNR=16						
TXAR	Lajitas Array	54.60	326	P	P	05 24 34.5	-0.3
CPRX	Cap Rock	57.63	328	eP	P	05 24 56.7	+0.2
ANMO	Albuquerque	60.46	328	P	P	05 25 16.2	+0.1
	1.5nm,0.9s,mb4.0						
VNA3	Neumayer Olymp	66.01	162	⇑i	P	05 25 53.1	+1.1
VNA1	Neumayer--Stat	66.23	161	⇓i	P	05 25 58.9	+5.4
PDAR	Pinedale Array	68.06	331	P	P	05 26 05.5	+0.1
	0.5nm,0.7s,mb3.6,baz=131,slow=8.3,SNR=4.8						
SNAA	Sanae	68.22	161	⇓i	P	05 26 03.3	-2.6
ULM	Lac du Bonnet	69.42	344	P	P	05 26 11.3	-2.4
	2.9nm,0.5s,mb4.5,baz=154,slow=7.4,SNR=3.5						
ULM	Lac du Bonnet	69.42	344	P	P	05 26 11.3	-2.4
NVAR	Mina Array Bea	69.50	323	P	P	05 26 15.2	+0.8
	0.8nm,0.9s,mb3.6,baz=130,slow=7.0,SNR=3.5						
LIC	Lamto	69.97	77	eP	P	05 26 22.8	+5.2
	33nm,1.3s,mb5.1						
TIC	Toumodi	70.11	77	eP	P	05 26 21.7	+3.2
	16nm,0.5s,mb5.2						
DBIC	Dimbokro	70.28	77	P	P	05 26 18.5	-1.0
	3.7nm,0.7s,mb4.4,baz=224,slow=5.5,SNR=8.7						
DBIC	Dimbokro	70.28	77	eP	P	05 26 18.8	-0.7
	3.5nm,0.6s,mb4.5						
KIC	Kosan Boka	70.28	77	eP	P	05 26 19.4	-0.1
	53nm,1.1s,mb5.4						
QSPA	South Pole Qui	73.94	180	eP	P	05 26 40.7	+0.6
	3.9nm,1.0s,mb4.3						
VNDA	Vanda	81.50	190	P	P	05 27 22.6	+0.6
	0.6nm,0.8s,mb3.6,baz=208,slow=5.8,SNR=4.1						
SYO	Syowa Base	82.47	160	⇓P	P	05 27 26.8	-0.3
SYO	Syowa Base	82.47	160	⇓pP	pP	05 27 32.7	-4.9
YKA	Yellowknife Ar	85.25	342	P	P	05 27 41.4	+0.2
	1.6nm,0.6s,mb4.3,baz=137,slow=5.7,SNR=6.4						
ZRNK	Zerenda	132.32	31	PKPdf	PKPdf	05 34 18.4	+0.4
ASAR	Alice Springs	132.93	213	PKP	PKPdf	05 34 20.9	+1.0
	0.5nm,0.8s,baz=127,slow=1.3,SNR=3.9						
SONM	Songino Array	148.45	2	PKPbc	PKPdf	05 34 52.4	+5.8
	4.8nm,1.0s,baz=318,slow=1.7,SNR=22						
HHC	Hu-ho-hao-te	155.26	353	ePKP	PKPdf	05 35 01.3	+4.5
HHC				PP	PP		
	comp=Z,134nm,7.5s						
LZH	Lanzhou	159.88	10	ePKP	PKPdf	05 35 01.3	-1.4
LZH				XPKP		05 35 08.3	

IDC 19 07:00:09.2±3.2**, 14.38S×172.86W, mb3.7**/3**, mb1 4.1**/3**, mb1mx3.7**/15**, Error ellipse: s-maj=190.0km s-min=33.2km az=145.0, Samoa Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	50.92	251	P	P	07 09 12.6	-2.0
	1.6nm,1.1s,baz=83,slow=7.3,SNR=6.5						
NVAR	Mina Array Bea	73.23	42	P	P	07 11 42.6	-1.6
	0.7nm,0.8s,baz=238,slow=8.5,SNR=3.7						
ILAR	Eielson Array	81.35	11	P	P	07 12 27.2	-1.5
	0.3nm,0.6s,baz=218,slow=4.7,SNR=4.3						

BJI 19 07:14:34.8, 25.18N×98.92E, h33^{km}, ML3.6, Ms3.4, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KMI	Kunming	3.46	90	ePG	P	07 15 36.8	+9.1
KMI				Smax			
	comp=N,96nm,1.1s						
KMI				Smax			
	comp=E,91nm,0.8s						
KMI				LR	LR		
	comp=N,448nm,7.9s						
KMI				LR	LR		
	comp=E,362nm,9.0s						
CHG	Chiang Mai	6.33	180	PG	P	07 16 30.8	+23
CHG				SG	S	07 18 24.6	+64
NANT	Nan	6.56	165	P	P	07 16 08.0	-3.4
NANT				S	S	07 16 39.0	-47

BJI 19 07:15:06.3, 25.09N×99.06E, h17^{km}, ML3.8, Ms3.8, Msz3.3, Yunnan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KMI	Kunming	3.34	89	eP	Pn	07 15 57.3	-1.6
KMI				PG	Pn	07 16 07.3	+8.4
KMI				SG	Sn	07 16 50.3	+12
KMI				Smax			
	comp=N,205nm,1.0s						
KMI				Smax			
	comp=E,106nm,0.8s						
KMI				LR	LR		
	comp=N,981nm,5.6s						
KMI				LR	LR		
	comp=E,568nm,5.7s						
KMI				LR	LR		
	comp=Z,430nm,8.8s						
GYA	Guiyang	6.99	77	P	Pn	07 16 49.3	-1.2

*NNC **19** 07:15:19.0±6.2, 43.06N×83.30E, h27^{km}±17^{km}, mpv3.8, Error ellipse: s-maj=33.5km s-min=12.0km az=124.0*

BJI 19 07:15:28.5, 44.03N×84.52E, h12^{km}, ML3.4, 6C-6D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WMQ	Urumqi	2.30	94	⇓iP	Pn	07 16 07.5	+0.6
WMQ				S	Sn	07 16 38.0	+2.6
WMQ				Smax			
	comp=N,245nm,0.5s						
WMQ				Smax			
	comp=E,276nm,0.5s						
MK31	Makanchi Array	3.18	331	⇓Pn	Pn	07 16 19.2	-0.2
	comp=E,1.9nm,0.2s,baz=143,slow=14,SNR=228						
MK31				⇑Pg	Pg	07 16 26.2	-5.8
	comp=E,10nm,0.3s,baz=147,slow=17,SNR=9.8						
MK31				⇓Sn	Sn	07 17 07.2	+10
	comp=E,43nm,0.2s,baz=142,slow=27,SNR=5.7						
AAK	Ala-Archa	7.44	263	⇑Lg		07 18 45.3	
	comp=E,18nm,0.7s						
KURK	Kurchatov	7.79	331	⇑Pn	Pn	07 17 20.8	-3.8
	comp=E,1.4nm,0.2s,baz=138,slow=7.2,SNR=3.5						
KURK				⇓Lg		07 19 39.8	
	comp=E,6.2nm,0.7s,baz=214,slow=4.7,SNR=7.8						
VOSK	Vostochnaya	12.50	319	⇓Sn	S	07 20 38.1	-11
	comp=E,1.8nm,0.8s						
VOSK				⇑Lg		07 22 04.2	
	comp=E,4.2nm,1.4s						
BVA0	Borovoye Array	12.97	319	⇑Sn	S	07 20 48.9	-11
	comp=E,0.5nm,1.1s						
ZRNK	Zerenda	13.60	316	⇑Sn	S	07 21 04.8	-11
	comp=E,0.7nm,0.6s						
ZRNK				⇓Lg		07 22 38.1	
	comp=E,2.2nm,0.8s						

*NAO **19** 07:34:25.3±4.8, 60.18N×25.23E, ML2.4*
*HEL **19** 07:34:26.2±0.2, 60.16N×25.26E, ML1.6, ML2.0(UPP), ML2.4(NAO), Explosion*
*IDC **19** 07:34:26.2±1.7, 60.19N×25.37E, mb1 3.0/3, mb1mx3.0/18, ML2.5/3, Error ellipse: s-maj=18.3km s-min=7.2km az=143.0*
*BER **19** 07:34:26.8±5.2, 60.19N×25.31E, ML2.4(NAO)*

ISC 19 07:34:24.7±0.7**, 60.18N**±0.05×**25.25E**±0.07**, n25,** σ1§**14**/42**, Finland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PVF	Pernaja	0.48	39	eP	Pg	07 34 34.8	+0.6
PVF				eS	Sg	07 34 40.8	+0.2
VJF	Virojoki	1.20	71	eP	Pb	07 34 47.5	-0.5
VJF				eS	Sb	07 35 03.6	-0.3
FIA0	FINESS Array S	1.33	17	eP	Pb	07 34 50.2	-0.1
FIA0				eS	Sb	07 35 07.4	-0.3
FIA0	FINESS Array S	1.33	17	Pn	Pn	07 34 50.4	-0.2
	baz=210,slow=18						
FIA0				Lg		07 35 07.4	
	baz=187,slow=37						
FINES	FINESS Array B	1.33	17	Pg	Pg	07 34 50.4	-0.9
	1.7nm,0.3s,baz=199,slow=16,SNR=69						
FINES				Pn	Pn	07 34 52.1	+1.6
	0.8nm,0.3s,baz=195,slow=13,SNR=5.1						
FINES				Lg		07 35 07.1	
	1.1nm,0.3s,baz=195,slow=27,SNR=12						
FINES				Sn	Sn	07 35 12.6	+3.4
	4.4nm,0.3s,baz=195,slow=20,SNR=19						
KEF	Keuruu	2.00	355	eP	Pn	07 35 01.5	+1.3
KEF				eS	Sn	07 35 27.3	+1.0
KAF	Kangasniemi	2.01	14	eP	Pn	07 35 02.0	+1.8
KAF				eS	Sn	07 35 25.7	-0.6
SUF	Sumiainen	2.59	9	eP	Pn	07 35 10.6	+2.2
SUF				eSG	Sg	07 35 45.9	-4.9
SUF				MSG		07 35 46.7	
	comp=Z,1.6nm,0.2s						
AAL	Aland	2.63	272	eP	Pn	07 35 09.8	+0.7
AAL				eS	Sn	07 35 42.0	-0.1
VAF	Ylistaro	3.13	338	eP	Pn	07 35 17.6	+1.5
VAF				eS	Sn	07 35 53.7	-1.1
GRAU	Graesoe	3.35	276	eP	Pn	07 35 19.0	-0.3
NRTU	Norrtaelje	3.37	264	eP	Pn	07 35 20.3	+0.7
NYNU	Nynaeshamn	3.87	255	eP	Pn	07 35 27.4	+0.7
IGGU	Iggoen	3.98	283	eP	Pn	07 35 27.9	-0.5
JOF	Joensuu	3.99	44	eP	Pn	07 35 28.4	-0.1
JOF				eS	Sn	07 36 15.8	-0.9
OSTU	Oestervaala	4.05	274	eP	Pn	07 35 29.2	-0.1
BACU	Backbrunna	4.10	269	eP	Pn	07 35 30.4	+0.4
ARNU	Arnoeviken	4.13	295	eP	Pn	07 35 30.8	+0.3
HFS	Hagfors	5.77	275	Pn	Pn	07 35 52.5	-1.2
	baz=111,slow=12						
HFS				Sn	Sn	07 36 56.8	-4.8
	baz=80,slow=28						
HFS				Lg		07 37 24.9	
HFS	Hagfors	5.77	275	eP	Pn	07 35 52.5	-1.2
HFS				eS	Sn	07 36 56.8	-4.8
HFS				eSG	Sg	07 37 24.9	-12
HFS	Hagfors	5.77	275	Pn	Pn	07 35 52.2	-1.5
	comp=Z,0.0nm,0.3s,baz=98,slow=14,SNR=4.8						
HFS				Sn	Sn	07 36 57.8	-3.8
	comp=Z,0.0nm,0.3s,baz=87,slow=30,SNR=4.7						
NOA	NORSAR Array B	6.96	283	Pn	Pn	07 36 07.4	-3.1
	comp=Z,0.1nm,0.3s,baz=173,slow=13,SNR=2.0						
NOA				Sn	Sn	07 37 24.1	-7.3
	comp=Z,0.1nm,0.3s,baz=224,slow=26,SNR=2.6						
ARA0	ARCESS Array S	9.40	1	Pn	P	07 36 41.1	-3.3
	baz=181,slow=12						
ARA0	ARCESS Array S	9.40	1	eP	P	07 36 41.1	-3.3
ARCES	ARCESS Array B	9.40	1	Pn	P	07 36 41.4	-3.0
	comp=Z,0.1nm,0.3s,baz=176,slow=12,SNR=7.6						
ARCES				Sn	Sn	07 38 17.5	-15
	comp=Z,0.2nm,0.3s,baz=180,slow=22,SNR=5.4						

*NEIC **19** 07:40:55.6, 33.98N×25.09E, h20^{km}, MD3.6(ATH), After ATH.*

ATH 19 07:40:55.6, 33.98N×25.09E, h20^{km}±3^{km}**, MD3.6**/5**, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
XRY	Khrisi	1.02	29	ePN	Pn	07 41 15.0	+0.1
GVD	Gavdhos	1.19	316	ePN	Pn	07 41 18.2	+0.9
NPS	Neapolis	1.35	18	ePN	Pn	07 41 20.7	+1.1
VAM	Vamos	1.60	333	ePN	Pn	07 41 25.2	+2.0
SANT	Santorini	2.41	7	ePn	Pn	07 41 32.9	-1.8
VLI	Veliai	3.25	328	ePN	Pn	07 41 47.5	+0.8

IDC 19 07:46:50.9±71.0**, 13.80S×169.84E, mb3.6**/3**, mb1 3.8**/3**, mb1mx3.6**/14**, Error ellipse: s-maj=1217.0km s-min=127.7km az=66.0, Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	31.49	230	P	P	07 53 14.6	-2.2
	0.8nm,0.3s,baz=48,slow=7.8,SNR=6.2						
WRA	Warramunga Arr	34.47	255	P	P	07 53 41.0	-1.8
	0.2nm,0.5s,baz=86,slow=9.0,SNR=4.7						
ASAR	Alice Springs	35.33	249	P	P	07 53 48.0	-2.1
	0.5nm,0.6s,baz=77,slow=8.9,SNR=10						

*MOS **19** 08:14:06.0±0.6, 31.94N×140.73E, h34^{km}, mb4.3/14, Error ellipse: s-maj=34.6km s-min=15.0km az=110.5*
*IDC **19** 08:14:10.3±2.5, 31.96N×140.78E, h45^{km}±22^{km}, mb3.9/13, mb1 4.1/14, mb1mx4.0/22, Error ellipse: s-maj=22.7km s-min=15.4km az=86.0*
*JMA **19** 08:14:11.5±0.1, 32.18N×140.96E, h36^{km}, M4.5*
*NEIC **19** 08:14:13.5±1.3, 31.92N×140.70E, h80^{km}±11^{km}, mb4.4/7, Error ellipse: s-maj=11.4km s-min=9.1km az=86.0*

ISC 19 08:14:11.1±1.0**, 32.08N**±0.06×**140.82E**±0.08**, h69^{km}**±8^{km}**, n61,** σ1§**26**/69**, mb4.1**/23**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	1.34	321	P	P	08 14 34.8	+0.5
JHJ	Hachijo jima 2	1.36	320	P	P	08 14 35.0	+0.4
	109nm,0.3s,baz=92,slow=2.4,SNR=113						
JHJ				S	S	08 14 50.8	-1.3
	438nm,0.3s,baz=90,slow=20,SNR=18						
JMY	Miyakejima3	2.27	331	S	S	08 15 14.5	+0.7
JKO	Kozu shima	2.53	327	P	P	08 14 51.9	+1.0
JKO				eS	S	08 15 21.3	+0.7
BSO1	Boso 1	2.57	3	P	P	08 14 50.5	-0.9
BSO1				eS	S	08 15 19.5	-2.0
NJJJ	Nii jima 2	2.65	331	P	P	08 14 53.1	+0.6
NJJJ				S	S	08 15 24.3	+0.7
BSO2	Boso 2	2.67	359	eS	S	08 15 22.8	-1.1
BSO3	Boso 3	2.73	355	P	P	08 14 53.4	-0.2
BSO3				S	S	08 15 23.7	-1.8
JIM2	Oshima 3	2.88	337	P	P	08 14 55.9	+0.2
JIM2				S	S	08 15 28.5	-0.7
JOD2	Odawara 2	3.49	336	P	P	08 15 04.9	+0.6
JYN	Shimob	3.90	332	P	P	08 15 11.9	+1.9
JIE	Ise	4.15	305	P	P	08 15 14.7	+1.2
JRY	Ryogami san	4.24	338	P	P	08 15 15.9	+1.2
JAG	Ashikaga	4.48	346	P	P	08 15 18.0	-0.1
MAJO	Matsushiro	4.95	335	ePn	P	08 15 26.9	+2.2
	45nm,0.6s						
MAT	Matsushiro	4.95	335	P	P	08 15 25.2	+0.6
MAT				S	S	08 16 19.4	-1.8
MAT	Matsushiro	4.95	335	eP	P	08 15 27.0	+2.4
MAT				eS	S	08 16 19.0	-2.2
JMM	Marumori	5.77	360	P	P	08 15 34.2	-1.7
SONM	Songino Array	30.42	311	P	P	08 20 19.8	+0.9
	0.4nm,0.5s,mb3.3,baz=113,slow=7.7,SNR=3.6						
TIXI	Tiksi	40.15	354	eP	P	08 21 40.9	-0.6
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.8						
TIXI	Tiksi	40.15	354	eP	P	08 21 40.9	-0.6
	comp=Z,1.0nm,0.7s,mb3.8						
MKAR	Makanchi Array	46.49	306	P	P	08 22 32.5	-0.5
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KURK	Kurchatov	48.73	312	i P	P	08 22 49.6	-0.8
KURK				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.5						
WRAB	Tennant Creek	52.09	188	eP	P	08 23 13.7	-2.7
	comp=Z,2.3nm,0.4s,mb4.6						
WB2	Warramunga Arr	52.09	188	eP	P	08 23 13.9	-2.5
WRA	Warramunga Arr	52.10	188	P	P	08 23 14.0	-2.4
	comp=Z,1.1nm,0.4s,mb4.2,baz=5.3,slow=7.7,SNR=40						
WRA				PcP	PcP	08 24 28.6	+0.9
	comp=Z,0.8nm,0.8s,baz=1.3,slow=4.1,SNR=4.7						
WRA	Warramunga Arr	52.10	188	P	P	08 23 14.0	-2.4
WRA						08 24 28.6	
WRA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MCK	McKinley	53.06	32	P	P	08 23 24.1	+1.0
	comp=Z,2.5nm,0.7s,mb4.3						
VOSK	Vostochnaya	53.31	315	P	P	08 23 24.1	-1.0
BVA0	Borovoye Array	53.64	315	i P	P	08 23 26.9	-0.5
BVAR	Borovoye Array	53.64	315	P	P	08 23 26.8	-0.6
	comp=Z,1.0nm,0.3s,mb4.3,baz=108,slow=9.4,SNR=12						
BRVK	Borovoye	53.70	315	eP	P	08 23 26.6	-1.3
	comp=Z,7.3nm,1.1s,mb4.6						
ILAR	Eielson Array	53.97	30	P	P	08 23 29.5	-0.2
	comp=Z,2.3nm,0.6s,mb4.4,baz=264,slow=6.6,SNR=46						
ILAR	Eielson Array	53.97	30	P	P	08 23 29.5	-0.2
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZRNK	Zerenda	54.48	315	P	P	08 23 32.7	-0.9
DIV	Divide	54.57	35	P	P	08 23 34.7	+0.6
	comp=Z,7.1nm,0.3s,mb5.2						
ASAR	Alice Springs	55.82	188	P	P	08 23 41.5	-2.2
	comp=Z,0.6nm,0.5s,mb3.9,baz=4.8,slow=7.4,SNR=13						
INK	Inuvik	59.03	26	P	P	08 24 05.6	-0.1
	comp=Z,1.3nm,0.4s,mb4.3,baz=296,slow=3.0,SNR=11						
INK	Inuvik	59.03	26	P	P	08 24 05.6	-0.1
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
INK	Inuvik	59.03	26	eP	P	08 24 05.6	-0.1
	comp=Z,2.4nm,0.6s,mb4.4						
KEV	Kevo	67.91	340	ep	P	08 25 10.8	+7.0
	comp=Z,0.2nm,0.3s,mb3.4						
ARCES	ARCESS Array B	68.47	340	P	P	08 25 07.5	+0.2
	comp=Z,1.3nm,0.8s,mb3.8,baz=56,slow=6.5,SNR=4.6						
ARCES	ARCESS Array B	68.47	340	P	P	08 25 07.5	+0.2
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
JOF	Joensuu	70.11	333	ep	P	08 25 17.2	-0.3
	comp=Z,0.5nm,0.3s,mb3.8						
JOF	Joensuu	70.11	333	eP	P	08 25 17.2	-0.3
JOF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.1						
KAF	Kangasniemi	72.49	333	ep	P	08 25 30.5	-1.2
	comp=Z,0.5nm,0.3s,mb3.8						
KAF	Kangasniemi	72.49	333	eP	P	08 25 30.5	-1.2
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.1						
FINES	FINESS Array B	72.98	333	P	P	08 25 34.6	+0.1
	comp=Z,2.0nm,0.7s,mb4.1,baz=56,slow=6.9,SNR=9.4						
FINES	FINESS Array B	72.98	333	P	P	08 25 34.6	+0.1
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKASG	Malin Array Be	77.93	323	P	P	08 26 04.8	+1.9
	comp=Z,0.6nm,0.3s,mb3.8,baz=51,slow=5.4,SNR=4.0						
AKASG	Malin Array Be	77.93	323	P	P	08 26 04.8	+1.9
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NVAR	Mina Array Bea	78.38	52	P	P	08 26 07.7	+2.0
	comp=Z,1.3nm,0.7s,mb3.8,baz=283,slow=6.7,SNR=9.2						
NB2	NORSAR Subarra	78.56	338	P	P	08 26 06.4	+0.2
	comp=Z,0.5nm,0.4s,mb3.7,baz=41,slow=5.0						
NOA	NORSAR Array B	78.56	338	P	P	08 26 06.5	+0.3
	comp=Z,0.7nm,0.5s,mb3.8,baz=42,slow=5.4,SNR=3.8						
NOA	NORSAR Array B	78.56	338	P	P	08 26 06.5	+0.3
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
PDAR	Pinedale Array	81.51	45	P	P	08 26 23.9	+1.5
	comp=Z,0.6nm,0.6s,mb3.6,baz=359,slow=0.8,SNR=6.7						
BRTR	Keskin Array B	81.78	312	P	P	08 26 26.4	+2.6
	comp=Z,1.5nm,0.9s,mb3.8,baz=63,slow=2.8,SNR=5.7						
BRTR	Keskin Array B	81.78	312	P	P	08 26 26.5	+2.7
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SRU	San Rafael	83.06	48	eP	P	08 26 30.5	+0.1
PV10	Paradox Valley	84.43	48	eP	P	08 26 39.5	+2.2
TXAR	Lajitas Array	93.53	52	P	P	08 27 22.6	+2.0
	comp=Z,2.6nm,0.7s,mb4.7,baz=297,slow=3.0,SNR=42						

MEX 19 08:28:03.8±1.4**, 16.02N×97.74W, h28^{km}**±51^{km}**, MD3.8, Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.53	315	i P	Pb	08 28 12.7	-1.9
PNIG				i S	Sb	08 28 20.1	-1.8
VHO	Vista Hermosa	1.42	42	i P	Pn	08 28 24.9	-3.3
VHO				i S	Sn	08 28 42.1	-3.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OXX	Oaxaca	1.44	43	iP	Pn	08 28 25.8	-2.5
OXX				iS	Sn	08 28 43.3	-3.1
HUIG	Huatulco	1.59	99	iP	Pn	08 28 28.7	-1.8
HUIG				iS	Sn	08 28 47.7	-2.5
PLIG	Platanillo	2.90	325	eP	Pn	08 28 48.8	-0.4
PLIG				iS	Sn	08 29 21.9	-1.7
CMIG	Matias Romero	2.94	68	iP	Pn	08 28 45.3	-4.5
CMIG				iS	Sn	08 29 19.7	-4.8

IDC 19 08:36:39.4±46.0, 16.62S×177.96W, mb4.0/3, mb1 4.1/3, mb1mx3.7/14, Error ellipse: s-maj=850.0km s-min=153.3km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.64	240	P	P	08 44 13.6	-1.1
	1.3nm,0.5s,baz=90,slow=8.1,SNR=6.9						
WRA	Warramunga Arr	45.30	258	P	P	08 44 58.7	-2.3
	0.4nm,0.7s,baz=95,slow=7.9,SNR=9.1						
ASAR	Alice Springs	45.56	253	P	P	08 45 01.3	-1.8
	2.8nm,0.5s,baz=89,slow=8.1,SNR=42						

OTT 19 08:41:52.1±0.2, 65.13N×87.10W, h18km, MN3.2/13, Wager Bay, Nunavut. 160km south from Repulse Bay, Nu Boothia Ungava Seismic Zone., Northwest Territories

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
QILN	Qililugaq Expl	1.56	11	PG	Pn	08 42 20.6	+1.2
QILN				SG	Sn	08 42 40.2	+0.9
QILN				Trac		08 42 44.2	
	comp=Z,132nm,0.1s						
YRTN	Rankin Inlet	3.21	226	PG	Pn	08 42 46.1	+3.3
YRTN				SN	Sn	08 43 18.0	-2.9
YRTN				SG	Sn	08 43 29.5	+8.6
YRTN				Trac		08 43 37.6	
	comp=Z,79nm,0.3s						
IGLN	Igloolik	4.73	23	PN	Pn	08 43 01.4	-3.0
IGLN				SN	Sn	08 43 53.8	-5.7
IGLN				SG	Sn	08 44 18.7	+19
IGLN				Trac		08 44 27.4	
	comp=Z,16nm,0.1s						
IGL	Igloolik	4.74	23	PN	Pn	08 43 01.9	-2.6
IGL				SN	Sn	08 43 55.0	-4.7
IGL				LG		08 44 16.1	
IGL				Trac		08 44 25.8	
	comp=Z,45nm,0.4s						
FCC	Fort Churchill	7.18	210	PN	Pn	08 43 36.6	-2.4
FCC				SN	Sn	08 44 50.5	-10
FCC				LG		08 45 30.1	
FCC				Trac		08 45 40.4	
	comp=Z,7.7nm,0.3s						
FRB	Frobisher Bay	8.14	91	PN	P	08 43 48.0	-4.3
FRB				SN	Sn	08 45 14.1	-11
FRB				LG		08 46 00.8	
FRB				Trac		08 46 09.8	
	comp=Z,9.0nm,0.3s						
RES	Resolute Bay	9.96	348	PN	P	08 44 14.5	-2.8
RES				SN	Sn	08 45 57.4	-12
RES				LG		08 47 01.6	
RES				Trac		08 47 05.2	
	comp=Z,11nm,0.7s						
ACKN	Achilles Lake	10.02	280	PN	P	08 44 18.2	0.0
ACKN				SN	S	08 45 59.0	-12
LUPN	Lupin Mine	10.06	284	SN	S	08 45 58.2	-14
LUPN				LG		08 46 59.4	
LUPN				Trac		08 47 07.7	
	comp=Z,4.6nm,0.4s						
YMBN	Yamba Lake	10.32	280	PN	P	08 44 21.0	-1.3
SNPN	Snap Lake	10.44	272	PN	P	08 44 19.1	-4.7
SNPN				SN	S	08 46 07.5	-14
SILO	Sutton Inlier	10.74	173	PN	P	08 44 23.0	-5.0
SILO				SN	S	08 46 15.6	-13
SILO				LG		08 47 25.4	
KUQ	Kuujjuuaa	11.30	120	PN	P	08 44 33.0	-2.6
KUQ				SN	S	08 46 28.4	-14
KUQ				LG		08 47 37.1	
KUQ				Trac		08 47 45.7	
	comp=Z,5.1nm,0.4s						
DSMN	Discovery Mine	11.82	273	PN	P	08 44 38.8	-3.9
DSMN				SN	S	08 46 38.7	-16
DSMN				LG		08 47 57.2	
DSMN				Trac		08 48 12.2	
	comp=Z,2.4nm,0.3s						
YKW3	Yellowknife Ar	12.36	271	PN	P	08 44 45.2	-4.8
YKW3				SN	S	08 46 52.6	-16
YKW3				LG		08 48 04.5	
YKW3				LG		08 48 12.3	
YKW3				Trac		08 48 17.0	
	comp=Z,5.0nm,0.5s						
VIMO	Victor Mine	12.46	171	PN	P	08 44 44.9	-6.5
VIMO				SN	S	08 46 54.0	-17
VIMO				LG		08 48 12.8	
LG4Q	La Grande 4	13.26	144	PN	P	08 44 57.3	-4.7
LG4Q				SN	S	08 47 12.2	-18
LG4Q				LG		08 48 36.3	
LG4Q				Trac		08 48 51.7	
	comp=Z,4.0nm,0.6s						
SCHQ	Schefferville	14.38	126	PN	P	08 45 15.3	-1.3
SCHQ				SN	S	08 47 44.1	-12
SCHQ				LG		08 49 11.5	
SCHQ				Trac		08 49 26.8	
	comp=Z,5.3nm,0.6s						
MALO	McAlpine Lake	15.62	162	PN	P	08 45 26.8	-6.0
MALO				SN	S	08 48 08.6	-17
FNBB	Fort Nelson	17.77	266	PN	P	08 45 55.1	-4.7
FNBB				SN	S	08 49 01.0	-14

ISK 19 09:09:28.0, 39.55N×25.23E, h5km, MD3.4
CSEM 19 09:09:32.0±0.1, 39.63N×25.48E, h10km, ML3.1, Error ellipse: s-maj=3.5km s-min=1.9km az=2.0
THE 19 09:09:34.0, 39.69N×25.43E, h12km, ML3.1
ISC 19 09:09:32.4±0.7, 39.68N±0.03×25.44E±0.03, h9km±5km, n31, σ1^{s}09/44, 1C, Aegean Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LOS	Limnos	0.37	312	ePg	Pg	09 09 40.6	+0.7
LOS				eSg	Sg	09 09 46.9	+1.9
BOZC	Bozcaada	0.50	71	⇑iP	Pg	09 09 41.6	-0.9
BOZC				iS	Sg	09 09 49.7	+0.5
EZN	Ezine	0.70	78	iPG	Pg	09 09 45.3	-1.1
LPK	Lapseki	1.23	55	PN	Pn	09 09 55.4	-0.3
OUR	Ouranopolis	1.29	301	ePb	Pb	09 09 56.7	+0.3
	comp=Z,6.0nm,0.2s						
OUR				eSb	Sb	09 10 14.7	+1.7
ALN	Alexandroupoli	1.30	21	ePb	Pb	09 09 56.5	0.0
ALN				eSb	Sb	09 10 14.3	+1.2
ALN	Alexandroupoli	1.30	21	ePb	Pb	09 09 56.5	0.0
ALN				eSb	Sb	09 10 14.4	+1.2
AOS	Alonnisos	1.31	247	ePb	Pb	09 09 56.3	-0.5
AOS				eSb	Sb	09 10 14.8	+1.2
MFT	Murefte	1.79	51	PN	Pn	09 10 04.5	+0.7
MFT				SN	Sn	09 10 31.0	+4.2
KDAG	Bornova	1.91	131	iP	Pn	09 10 03.9	-1.7
KDAG				iS	Sn	09 10 32.7	+2.7
IZM	Izmir	1.92	132	ePN	Pn	09 10 03.1	-2.5
IZM				eSN	Sn	09 10 30.5	+0.5
SOH	Sokhos	1.96	306	ePb	Pb	09 10 06.6	-1.2
SOH				eSb	Sb	09 10 30.7	-1.6
KDZ	Kurdzhali	1.96	360	P	Pn	09 10 05.0	-1.3
EDC	Edincik	1.98	70	PN	Pn	09 10 07.2	+0.8
SRS	Serrai	2.01	316	ePn	Pn	09 10 07.2	+0.2
SRS				eSn	Sn	09 10 31.6	-0.8
AKS	Akhisar	2.01	113	PN	Pn	09 10 06.4	-0.5
BNT	Bandirma	2.02	70	PN	Pn	09 10 07.1	0.0
RZN	Rozhen	2.08	345	iP	Pn	09 10 08.0	+0.1
MMB	Musomiste	2.31	326	iP	Pn	09 10 10.0	-1.2
KCT	Karacabey	2.32	75	ePN	Pn	09 10 10.9	-0.4
EDRB	Edirne	2.38	24	ePN	Pn	09 10 11.9	-0.3
KNT	Kendrikon	2.44	308	ePn	Pn	09 10 12.4	-0.7
KNT				eSn	Sn	09 10 43.5	+0.2
AGG	Agios Georgios	2.50	256	ePn	Pn	09 10 14.5	+0.6
SLVT	Silivri	2.62	53	ePN	Pn	09 10 16.6	+1.0
GRG	Griva	2.65	300	ePn	Pn	09 10 16.1	+0.1
GRG				eSn	Sn	09 10 48.1	-0.6
KKB	Krupnik	2.82	321	eP	Pn	09 10 19.0	+0.5
ULDT	Uludag	2.88	80	iP	Pn	09 10 21.8	+2.5
PGB	Panagyurishte	3.02	342	P	Pn	09 10 20.0	-1.4
VTS	Vitosha	3.36	331	eP	Pn	09 10 28.0	+1.8
SILT	Sile	3.53	64	ePN	Pn	09 10 28.9	+0.3
PVL	Pavlikeni	3.53	359	eP	Pn	09 10 27.0	-1.6

IDC 19 09:17:43.6±1.9, 9.32S×124.93E, mb3.9/1, mb1 4.3/4, mb1mx4.0/13, ML4.0/3, MS3.1/2, Ms1 3.1/2, ms1mx2.7/17, Error ellipse: s-maj=103.0km s-min=27.6km az=71.0
NEIC 19 09:17:45.7±0.8, 9.27S×125.15E, h10km, mb4.2/3, Error ellipse: s-maj=20.7km s-min=11.2km az=61.0
ISC 19 09:17:50.8±2.2, 9.57S±0.09×125.1E±0.1, h85km±25km, n16, σ1^{s}26/22, mb4.0/4, Timor region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	7.77	114	eP	P	09 19 51.6	+8.5
	16nm,0.4s						
KAKA				eS	S	09 21 20.0	+10
FITZ	Fitzroy Crossi	8.49	177	eP	P	09 19 52.6	-0.3
	11nm,0.8s						
FITZ	Fitzroy Crossi	8.49	177	Pn	P	09 19 52.6	-0.4
	1.9nm,0.3s,baz=4.0,slow=9.9,SNR=48						
FITZ				Sn	S	09 21 27.4	-0.6
	3.7nm,0.3s,baz=178,slow=5.2,SNR=12						
MBWA	Marble Bar	12.64	204	eP	P	09 20 48.6	-0.2
	7.7nm,0.8s						
WRA	Warramunga Arr	13.61	140	Pn	P	09 21 01.3	-0.2
	1.2nm,0.3s,baz=315,slow=15,SNR=66						
WRA				Sn	S	09 23 28.9	-2.1
	1.3nm,0.3s,baz=312,slow=27,SNR=13						
WRAB	Tennant Creek	13.61	140	Pn	P	09 21 02.0	+0.5
	71nm,0.9s,SNR=18						
WRAB	Tennant Creek	13.61	140	eP	P	09 21 01.0	-0.5
WRAB				eS	S	09 23 25.6	-5.3
WB2	Warramunga Arr	13.62	140	eP	P	09 21 01.7	+0.1
WB2				eS	S	09 23 28.4	-2.7
ASPA	Alice Springs	16.33	150	eP	P	09 21 40.0	+3.8
ASPA				eS	S	09 24 34.0	-0.1
ASAR	Alice Springs	16.33	150	Pn	P	09 21 38.5	+2.3
	0.4nm,0.3s,baz=318,slow=11,SNR=27						
ASAR				Sn	S	09 24 35.7	+1.6
	0.4nm,0.3s,baz=322,slow=21,SNR=14						
ASAR				LR	LR	09 29 18.1	
	comp=Z,55nm,18.4s,baz=338,slow=42						
CTA	Charters Tower	22.90	120	LR	LR	09 32 15.4	
	comp=Z,51nm,21.3s,baz=141,slow=38						
STKA	Stephens Creek	26.93	148	P	P	09 23 30.6	+4.4
SONM	Songino Array	59.52	345	P	P	09 27 46.8	-0.7
	0.8nm,0.6s,mb3.9,baz=170,slow=7.5,SNR=4.1						
KURK	Kurchatov	72.31	331	eP	P	09 29 08.8	-0.1
	2.6nm,0.7s,mb4.2						
QSPA	South Pole Qui	80.42	180	eP	P	09 30 01.0	+6.9
	1.9nm,0.7s,mb4.0						
SNAA	Sanae	92.03	194	eP	P	09 30 56.8	+5.9
	0.7nm,0.7s,mb4.0						

IDC 19 09:40:02.4±0.8, 20.69S×169.37E, mb4.1/11, mb1 4.3/11, mb1mx4.3/14, MS3.9/14, Ms1 4.0/14, ms1mx3.9/18, Error ellipse: s-maj=33.8km s-min=20.8km az=153.0
NEIC 19 09:40:03.9±0.5, 20.61S×169.20E, h10km, mb4.6/10, Error ellipse: s-maj=17.8km s-min=11.7km az=150.0
ISC 19 09:40:03.7±2.9, 20.79S±0.09×169.12E±0.07, h13km±17km, n56, σ1^{s}24/37, mb4.3/18, MS3.9/13, 5C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	2.80	242	eP	Pn	09 40 47.5	-1.6
DZM				eS	Sn	09 41 23.8	+0.7
DZM	Mont Dzumac	2.80	242	eP	Pn	09 40 47.5	-1.6
DZM				eS	Sn	09 41 23.8	+0.7
NOUC	Port Laguerre	2.93	243	eP	Pn	09 40 49.8	-1.2
NOUC				eS	Sn	09 41 25.6	-0.9
NOUC	Port Laguerre	2.93	243	eP	Pn	09 40 49.8	-1.2
NOUC				eS	Sn	09 41 25.6	-0.9
BKM	Butte a Klehm	3.21	345	⇑iP	Pn	09 40 55.8	+0.8
URZ	Urewera	18.73	160	LR	LR	09 50 42.3	
	comp=Z,516nm,18.2s,baz=100,slow=34						
CTA	Charters Tower	21.44	268	eP	P	09 44 56.0	+2.1
	5.5nm,0.6s,mb4.1						
CTA	Charters Tower	21.44	268	P	P	09 44 56.1	+2.2
	4.9nm,0.8s,mb3.9,baz=96,slow=13,SNR=5.0						
CTA				LR	LR	09 52 25.6	
	comp=Z,334nm,21.2s,MS3.7,baz=95,slow=34						
CTAO	Charters Tower	21.44	268	eP	P	09 44 55.6	+1.7
	30nm,1.3s,mb4.5						
RPZ	Rata Peaks	22.92	176	LR	LR	09 52 39.0	
	comp=Z,206nm,19.4s,MS3.6,baz=15,slow=33						
PMG	Port Moresby	24.00	295	LR	LR	09 52 44.4	
	comp=Z,202nm,19.8s,MS3.6,baz=101,slow=32						
TOO	Toolangi	26.45	226	eP	P	09 45 45.9	+3.7
	5.9nm,1.3s,mb4.0						
STKA	Stephens Creek	26.96	240	eP	P	09 45 49.4	+2.5
	5.3nm,1.1s,mb4.0						
STKA	Stephens Creek	26.96	240	P	P	09 45 49.2	+2.3
	2.2nm,0.7s,mb3.8,baz=54,slow=12,SNR=6.5						
STKA				LR	LR	09 56 25.0	
	comp=Z,286nm,18.2s,MS3.9,baz=27,slow=36						
RAR	Rarotonga	29.02	96	LR	LR	09 54 59.8	
	comp=Z,264nm,20.7s,MS3.8,baz=32,slow=31						
WB2	Warramunga Arr	32.57	265	eP	P	09 46 37.1	0.0
WRAB	Tennant Creek	32.58	265	eP	P	09 46 35.9	-1.2
	17nm,1.2s,mb4.9						
WRA	Warramunga Arr	32.59	265	P	P	09 46 36.0	-1.2
	0.8nm,0.5s,mb4.0,baz=90,slow=8.6,SNR=32						
WRA				PcP	PcP	09 49 22.8	-0.9
	0.8nm,0.8s,baz=93,slow=2.0,SNR=4.8						
WRA				LR	LR	10 00 11.4	
	comp=Z,344nm,18.5s,MS4.1,baz=90,slow=37						
ASAR	Alice Springs	32.68	258	P	P	09 46 38.2	+0.2
	3.4nm,0.9s,mb4.3,baz=84,slow=8.9,SNR=23						
ASAR				PcP	PcP	09 49 23.4	-0.5
	1.1nm,0.9s,baz=105,slow=3.8,SNR=5.2						
ASAR				LR	LR	10 00 48.7	
	comp=Z,287nm,18.3s,MS4.0,baz=88,slow=38						
ASPA	Alice Springs	32.68	258	eP	P	09 46 37.0	-1.0
TBI	Tubuai	38.38	102	eL		09 56 16.0	
TBI				eR		09 57 56.1	
	180nm,25.8s,baz=287						
PPT	Papeete	39.07	93	eS	S	09 53 29.4	-1.6
PPT				eL		09 56 35.4	
PPT				eR		09 58 16.6	
	289nm,24.8s,baz=261						
FITZ	Fitzroy Crossi	41.00	266	eP	P	09 47 49.0	+0.7
	8.5nm,0.8s,mb4.4						
FITZ	Fitzroy Crossi	41.00	266	LR	LR	10 04 51.8	
	comp=Z,125nm,18.4s,MS3.8,baz=92,slow=36						
MBWA	Marble Bar	45.97	260	P	P	09 48 27.7	-0.9
	10nm,0.8s,mb4.8						
NWAO	Narrogin (SRO)	47.42	244	LR	LR	10 08 47.3	
	comp=Z,354nm,20.0s,MS4.3,baz=296,slow=36						
VNDA	Vanda	56.88	182	LR	LR	10 09 38.2	
	comp=Z,66nm,20.6s,MS3.7,baz=19,slow=31						
SBA	Scott Base	57.12	181	eP	P	09 49 50.7	-1.2
	9.0nm,1.0s,mb4.8						
QSPA	South Pole Qui	69.27	180	eP	P	09 51 12.1	0.0
	16nm,1.1s,mb4.9						
MAW	Mawson	76.96	202	P	P	09 51 58.1	+0.8
	1.5nm,0.7s,mb4.0,baz=135,slow=8.6,SNR=3.4						
CMAR	Chiang Mai Arr	79.04	295	P	P	09 52 11.1	+1.4
	1.6nm,0.7s,mb4.1,baz=126,slow=4.5,SNR=9.4						
SNAA	Sanae	87.62	183	⇑i	P	09 52 52.2	-0.2
SNAA	Sanae	87.62	183	P	P	09 52 52.0	-0.4
	1.6nm,0.9s,mb4.2,baz=200,slow=4.2,SNR=9.6						
VNA3	Neumayer Olymp	88.21	180	⇑i	P	09 52 56.5	+1.3
SONM	Songino Array	88.39	323	P	P	09 52 57.2	+0.5
	1.5nm,0.7s,mb4.3,baz=112,slow=6.7,SNR=5.8						
VNA2	Neumayer--Watz	88.50	181	⇑i	P	09 52 58.6	+2.0
VNA1	Neumayer--Stat	88.79	181	⇑i	P	09 53 00.3	+2.3
NVAR	Mina Array Bea	89.90	49	P	P	09 53 03.1	-1.0
	1.7nm,0.9s,mb4.4,baz=215,slow=5.8,SNR=7.9						
NVAR				LR	LR	10 26 03.7	
	comp=Z,76nm,18.2s,MS4.2,baz=90,slow=31						
ILAR	Eielson Array	91.74	17	P	P	09 53 08.8	-3.0
	0.3nm,0.5s,mb3.9,baz=237,slow=5.2,SNR=6.5						
ILAR				LR	LR	10 27 37.3	
	comp=Z,65nm,20.1s,MS4.1,baz=350,slow=31						
TUC	Tucson	92.94	57	eP	P	09 53 17.1	-1.1
	1.6nm,1.0s,mb4.4						
TXAR	Lajitas Array	97.60	62	P	P	09 53 39.4	-0.1
	0.6nm,1.1s,mb4.0,baz=252,slow=4.0,SNR=3.5						
PDAR	Pinedale Array	97.74	47	LR	LR	10 31 26.2	
	comp=Z,38nm,20.0s,MS3.9,baz=63,slow=32						
ARCES	ARCESS Array B	126.53	345	PKP	PKPdf	09 59 05.8	-3.7
	2.2nm,0.9s,baz=84,slow=2.5,SNR=9.9						
BRG	Berggiesshubel	144.20	333	iP	PKPbc	09 59 38.3	-0.3
CLL	Collm	144.27	334	⇓iPKIKP	PKPdf	09 59 38.1	-4.5
	logA/T=1.1						
CLL				i*PPKP		09 59 53.3	
PRU	Pruhonice	144.59	331	ePKP	PKPdf	09 59 39.5	-3.8
KHC	Kasperske Hory	145.64	331	ePKP	PKPdf	09 59 42.5	-2.6
GERES	GERESS Array B	145.79	331	PKPbc	PKPbc	09 59 42.8	0.0
	7.2nm,1.0s,baz=27,slow=3.0,SNR=30						
GRA1	Grafenberg Arr	146.24	334	ePKP	PKPdf	09 59 45.3	-0.8
CDF	Champ du Feu	148.82	336	ePKP2	PKPab	09 59 54.2	-2.8
	32nm,1.0s						
HINF	Hinteralfeld	149.47	336	ePKP2	PKPab	09 59 56.4	-3.3
MEZF	Maizieres J'vi	149.53	339	ePKP2	PKPab	09 59 57.1	-2.8
LOR	Lormes	151.00	339	ePKP2	PKPab	10 00 02.8	-3.3
SMF	Signal de Mont	151.55	338	ePKP2	PKPab	10 00 05.2	-3.2
	20nm,1.0s						
AVF	Avril sur Loir	151.59	339	ePKP2	PKPab	10 00 05.4	-3.1
	41nm,1.4s						
CAF	Calviac	153.66	339	ePKP2	PKPab	10 00 14.8	-2.5

NEIC 19 09:46:21.3, 18.97N×65.07W, h25km, ML3.7(RSPR), After RSPR.
RSPR 19 09:46:21.3, 18.97N×65.07W, h25km±28km, MD3.4/14, MD3.4/14, 5C-9D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MTP	Monte Pirata	0.98	208	⇓eP	Pb	09 46 37.2	-2.3
MTP				eS	Sb	09 46 50.3	-1.8
CBYP	Canovanas	1.02	227	⇓eP	Pn	09 46 37.5	-2.6
CBYP				eS	Sb	09 46 51.2	-2.0
HUMP	Col San Antoni	1.11	222	⇓eP	Pn	09 46 38.9	-2.5
HUMP				eS	Sb	09 46 52.4	-3.2
CPD	Cerro la Pandu	1.23	221	⇑eP	Pn	09 46 41.0	-2.0
CPD				eS	Sn	09 46 54.9	-3.9
CSB	Colonia Sabana	1.23	237	⇓eP	Pn	09 46 40.3	-2.8
CSB				eS	Sn	09 46 55.8	-3.3
SJG	San Juan	1.33	230	⇓eP	Pn	09 46 41.9	-2.7
SJG				eS	Sn	09 46 57.3	-4.3
SJG	San Juan	1.33	230	⇑eP	Pn	09 46 42.0	-2.6
SJG				eS	Sn	09 46 58.5	-3.2
CELP	Cerrillos	1.69	238	⇓eP	Pn	09 46 47.2	-2.5
CELP				eS	Sn	09 47 07.2	-3.5
AOPR	Arecibo Observ	1.71	249	⇓eP	Pn	09 46 47.4	-2.6
AOPR				eS	Sn	09 47 08.7	-2.6
OBIP	Obispado Ponce	1.73	238	⇓eP	Pn	09 46 47.7	-2.5
OBIP				eS	Sn	09 47 07.7	-3.9
PORP	Portuguez	1.74	239	⇑eP	Pn	09 46 48.0	-2.4
PORP				eS	Sn	09 47 08.1	-3.9
LRS	Lares	1.81	249	⇑eP	Pn	09 46 49.0	-2.5
LSP	Las Mesas	2.07	248	⇑eP	Pn	09 46 52.9	-2.2
LSP				eS	Sn	09 47 17.1	-3.3
MGP	Maguayo	2.14	244	⇓eP	Pn	09 46 53.7	-2.4
MGP				eS	Sn	09 47 19.1	-3.1

IDC 19 10:40:25.5±1.3, 25.00N×99.41E, mb3.8/4, mb1 3.9/6, mb1mx3.7/21, ML4.0/1, Error ellipse: s-maj=48.9km s-min=18.1km az=81.0
NEIC 19 10:40:28.8±0.9, 24.97N×99.57E, h25km, mb4.6/1, Error ellipse: s-maj=24.7km s-min=13.5km az=96.0
BJI 19 10:40:33.0, 25.14N×99.46E, h27km, mb4.5, ML4.3, Ms4.2
ISC 19 10:40:24.3±0.8, 24.81N±0.05×99.29E±0.07, h10km, n11, σ1^{s}51/15, mb3.9/6, Yunnan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KMI	Kunming	3.14	84	eP	Pn	10 41 18.4	+3.4
KMI				PG	Pg	10 41 27.0	-0.1
KMI				SG	Sg	10 42 08.6	-0.5
KMI				LR	LR		
	comp=N,2μm,6.2s						
KMI				LR	LR		
	comp=E,1μm,4.9s						
CHG	Chiang Mai	5.97	183	PG	Pg	10 42 22.0	-1.6
CHG				SG	Sg	10 43 44.1	+0.9
CMAR	Chiang Mai Arr	6.33	183	Pn	Pn	10 42 03.5	+3.5
	comp=E,0.8nm,0.3s,baz=358,slow=12,SNR=12						
CMAR				Pg	Pg	10 42 28.3	-2.4
	comp=E,1.2nm,0.3s,baz=357,slow=20,SNR=8.4						
CMAR				Lg		10 43 53.2	
	comp=E,3.5nm,0.3s,baz=15,slow=14,SNR=14						
BDT	Bhumibol Dam	7.53	182	P	Pn	10 42 21.0	+4.1
	comp=E,22nm,0.7s						
ENH	Enshi	10.56	57	P	P	10 42 54.0	-4.9
SONM	Songino Array	23.66	12	P	P	10 45 37.5	+0.8
	comp=E,0.4nm,0.4s,mb3.2,baz=211,slow=8.4,SNR=2.8						
BVAR	Borovoye Array	35.60	330	P	P	10 47 23.1	-0.9
	comp=E,0.4nm,0.4s,mb3.7,baz=124,slow=11,SNR=3.9						
FITZ	Fitzroy Crossi	49.78	146	P	P	10 49 22.0	+2.6
	comp=E,3.4nm,1.2s,mb4.3,baz=311,slow=11,SNR=3.7						
WRA	Warramunga Arr	56.05	139	P	P	10 50 06.4	+0.4
	comp=E,2.5nm,1.0s,mb4.2,baz=327,slow=7.6,SNR=11						
WRAB	Tennant Creek	56.05	139	eP	P	10 50 03.8	-2.2
	comp=E,7.3nm,1.0s,mb4.7						
ASAR	Alice Springs	58.72	142	P	P	10 50 25.1	+0.3
	comp=E,0.5nm,0.7s,mb3.6,baz=328,slow=7.2,SNR=5.3						

BER 19 10:58:51.2±2.5, 60.55N×25.48E, ML2.2(NAO), Suspected explosion
HEL 19 10:58:52.4±0.2, 60.61N×25.40E, ML1.4, ML2.2(NAO), Explosion
NAO 19 10:58:52.0±4.3, 60.65N×25.14E, ML2.2
ISC 19 10:58:51.2±1.2, 60.62N±0.05×25.4E±0.1, n12, σ0^{s}99/21, Finland

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PVF	Pernaja	0.24	109	eP	Pg	10 58 56.5	+0.6
PVF				eS	Sg	10 59 00.2	+1.2
FIA0	FINESS Array S	0.89	21	eP	Pg	10 59 08.3	-0.6
FIA0				eS	Sg	10 59 20.2	-0.5
FIA0	FINESS Array S	0.89	21	Pg	Pg	10 59 08.7	-0.2
	baz=197,slow=18						
FIA0				Lg		10 59 19.9	
	baz=207,slow=37						
FIA0				Rg		10 59 26.2	
	baz=194,slow=37						
VJF	Virojoki	1.06	94	eP	Pb	10 59 11.1	-1.1
VJF				eS	Sb	10 59 25.3	-1.1
KAF	Kangasniemi	1.56	16	eP	Pn	10 59 20.2	-0.1
KAF				eS	Sb	10 59 40.6	-0.2
KEF	Keuruu	1.57	351	eP	Pn	10 59 19.6	-0.8
KEF				eS	Sb	10 59 41.2	-0.1
SUF	Sumiainen	2.14	9	eP	Pn	10 59 29.9	+1.3
SUF				eS	Sn	10 59 57.9	+1.7
SUF				MSG		11 00 01.0	
	comp=Z,1.5nm,0.4s						
VAF	Ylistaro	2.75	333	eP	Pn	10 59 37.9	+0.6
VAF				eS	Sn	11 00 11.9	0.0
HFS	Hagfors	5.83	270	Pn	Pn	11 00 17.0	-4.0
	baz=92,slow=14						
HFS				Sn	Sn	11 01 22.0	-7.6
	baz=88,slow=37						
HFS	Hagfors	5.83	270	eP	Pn	11 00 17.0	-4.0
HFS				eS	Sn	11 01 22.0	-7.6
ARA0	ARCESS Array S	8.95	0	Pn	P	11 01 01.1	-3.6
	baz=173,slow=14						
ARA0	ARCESS Array S	8.95	0	eP	P	11 01 01.1	-3.6

BJI 19 11:26:48.7, 25.39N×100.02E, h20km, ML3.5, Yunnan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KMI	Kunming	2.48	96	ePG	Pn	11 27 32.3	+3.5
KMI				SG	Sn	11 28 04.8	+6.0
KMI				Smax			
	comp=N,205nm,0.6s						
KMI				Smax			
	comp=E,223nm,0.8s						

JMA 19 11:26:53.8±0.4, 23.90N×122.77E, h12km, M2.8
TAP 19 11:26:52.7, 23.79N×122.68E, h4km±1km, ML3.0, Taiwan region

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

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.73	24	P	Pg	11 27 05.5	-1.8
HATJ	Hateruma jima	1.06	75	P	Pb	11 27 11.8	-1.5
HATJ				eS	Sb	11 27 24.4	-3.0
IRIF	Iriomote-Funau	1.10	60	P	Pb	11 27 12.2	-1.8
IRIF				S	Sb	11 27 25.2	-3.4
JKRS	Kuro-shima	1.29	70	P	Pb	11 27 16.2	-1.1
JKRS				S	Sb	11 27 31.7	-2.4
JIJ	Ishigaki jima	1.45	67	P	Pn	11 27 17.7	-2.2
JIJ				S	Sb	11 27 34.9	-3.9

*JMA **19** 12:03:32.1±0.2, 30.69N×132.69E, h68^{km}, M3.4*
*IDC **19** 12:03:36.4±5.0, 29.56N×127.66E, mb3.8/3, mb1 4.0/3, mb1mx3.6/21, MS3.2/1, Ms1 3.2/1, ms1mx2.2/29, Error ellipse: s-maj=534.0km s-min=28.5km az=72.0*
ISC 19 12:03:32.1±3.1**, 30.81N**±0.07×**132.75E**±0.07**, h32**^{km}±24^{km}**, n9, σ0^{s}83**/13**, mb3.8**/3**, Southeast of Shikoku**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JNAR	Kushima--Naru	1.46	300	P	Pn	12 03 57.2	+0.5
JNAR				eS	Sn	12 04 15.6	+0.8
JTN	Tanegashima 3	1.54	265	P	Pn	12 03 57.1	-0.7
JTN				S	Sn	12 04 15.3	-1.5
JTSR	Tashiro 2	1.61	283	P	Pn	12 03 58.6	-0.3
JTSR				eS	Sn	12 04 18.9	+0.1
JTZ	Takazaki	1.79	308	P	Pn	12 04 01.8	+0.3
JTZ				eS	Sn	12 04 24.1	+0.8
JTO	Tosashimizu	2.05	1	P	Pn	12 04 05.5	+0.4
JTO				S	Sn	12 04 27.7	-2.1
ASAJ	Asahikawa	15.40	28	LR	LR	12 16 04.8	
	comp=Z,61nm,18.3s,baz=360,slow=40						
WRA	Warramunga Arr	50.48	178	P	P	12 12 28.9	-0.5
	1.3nm,0.9s,mb4.0,baz=352,slow=8.4,SNR=6.2						
ASAR	Alice Springs	54.17	179	P	P	12 12 57.7	+0.8
	0.4nm,0.5s,mb3.6,baz=12,slow=11,SNR=9.1						
FINES	FINESS Array B	70.84	331	P	P	12 14 47.9	+0.5
	1.0nm,0.7s,mb3.9,baz=72,slow=4.4,SNR=7.0						

MEX 19 12:05:40.3±0.9**, 15.43N**×**94.74W, h16**^{km}±92^{km}**, MD4.0, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	1.36	285	eP	Pn	12 06 01.0	-3.8
HUIG				i S	Sb	12 06 16.9	-5.0
CMIG	Matias Romero	1.66	355	i P	Pn	12 06 05.3	-3.8
CMIG				i S	Sn	12 06 24.9	-5.3
OXX	Oaxaca	2.52	311	i P	Pn	12 06 20.5	-0.8
VHO	Vista Hermosa	2.52	311	i P	Pn	12 06 20.1	-1.3
VHO				i S	Sn	12 06 48.7	-3.2

*CSEM **19** 12:30:47.8±0.4, 60.84N×29.00E, h2^{km}, ML3.2/1, Error ellipse: s-maj=8.9km s-min=5.4km az=138.0, Mining explosion.*
*HEL **19** 12:30:49.1±0.2, 60.89N×29.02E, ML2.3, ML2.6(NAO), Explosion*
*IDC **19** 12:30:50.0±1.7, 60.91N×28.90E, mb1 3.4/3, mb1mx3.2/18, ML3.3/3, Error ellipse: s-maj=17.5km s-min=11.4km az=174.0*
*BER **19** 12:30:49.4±3.9, 61.08N×29.02E, ML2.6(NAO), Suspected explosion*
*NAO **19** 12:30:49.1±2.5, 61.08N×29.01E, ML2.6*
ISC 19 12:30:47.4±1.0**, 60.92N**±0.05×**29.0E**±0.1**, n21, σ1^{s}70**/40**, Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VJF	Virojoki	0.80	242	eP	Pg	12 31 03.9	+0.6
VJF				eS	Sg	12 31 13.7	-0.2
FIA0	FINESS Array S	1.50	292	eP	Pn	12 31 15.5	-0.1
FIA0				eS	Sb	12 31 36.4	+1.1
FIA0	FINESS Array S	1.50	292	Pn	Pn	12 31 15.7	+0.1
	baz=111,slow=16						
FIA0				Lg		12 31 36.3	
	baz=105,slow=28						
FIA0				Rg		12 31 44.0	
	baz=119,slow=37						
FIA0	FINESS Array S	1.50	292	P	Pn	12 31 15.5	-0.1
FIA0				S	Sb	12 31 36.3	+1.0
FINES	FINESS Array B	1.50	292	Pg	Pg	12 31 15.7	-1.6
	4.4nm,0.3s,baz=112,slow=16,SNR=80						
FINES				Lg		12 31 36.1	
	8.3nm,0.3s,baz=110,slow=28,SNR=25						
FINES				Rg		12 31 44.2	
	43nm,0.7s,baz=119,slow=39,SNR=25						
PVF	Pernaja	1.58	257	eP	Pn	12 31 16.8	+0.1
PVF				eS	Sb	12 31 38.2	+0.7
KAF	Kangasniemi	1.75	314	eP	Pn	12 31 20.6	+1.4
KAF				eS	Sn	12 31 43.0	+0.4
KAF	Kangasniemi	1.75	314	P	Pn	12 31 20.5	+1.3
KAF				S	Sn	12 31 42.9	+0.4
SUF	Sumiainen	2.25	325	eP	Pn	12 31 28.5	+2.2
SUF				eS	Sn	12 31 57.2	+2.0
SUF				eSG	Sg	12 31 59.4	-2.8
SUF				MSG		12 31 59.7	
	comp=Z,13nm,0.3s						
SUF	Sumiainen	2.25	325	P	Pn	12 31 28.5	+2.2
SUF				S	Sn	12 31 57.1	+1.9
SUF				Sg	Sg	12 31 59.3	-2.9
	comp=Z,13nm,0.3s						
JOF	Joensuu	2.29	28	eP	Pn	12 31 28.1	+1.2
JOF				eS	Sn	12 31 56.8	+0.6
KEF	Keuruu	2.33	304	eP	Pn	12 31 29.2	+1.7
KEF				eS	Sn	12 31 59.8	+2.5
KEF	Keuruu	2.33	304	P	Pn	12 31 29.1	+1.6
KEF				S	Sn	12 31 59.7	+2.5
HFS	Hagfors	7.58	271	Pn	Pn	12 32 39.2	-2.6
	baz=89,slow=14						
HFS				Sn	Sn	12 34 01.8	-7.8
	baz=75,slow=28						
HFS				Lg		12 34 41.9	
	baz=79,slow=37						
HFS	Hagfors	7.58	271	eP	Pn	12 32 39.2	-2.6
HFS				eS	Sn	12 34 01.8	-7.8
HFS				eSG	Sg	12 34 41.9	-18
HFS	Hagfors	7.58	271	Pn	Pn	12 32 39.9	-1.9
	comp=Z,0.1nm,0.3s,baz=88,slow=13,SNR=8.8						
HFS				Lg		12 34 45.5	
	comp=Z,0.2nm,0.3s,baz=82,slow=32,SNR=6.8						
HFS	Hagfors	7.58	271	Pn	Pn	12 32 39.2	-2.6
HFS				Sn	Sn	12 34 01.8	-7.7
	SNR=6.0						
HFS				Sg	Sg	12 34 41.9	-18
NOA	NORSAR Array B	8.63	279	Pn	P	12 32 53.5	-3.1
	comp=Z,0.3nm,0.3s,baz=80,slow=14,SNR=2.5						
NOA				Lg		12 35 20.4	
	comp=Z,0.4nm,0.3s,baz=24,slow=15,SNR=3.3						
ARA0	ARCESS Array S	8.77	352	Pn	P	12 32 55.1	-3.3
	baz=165,slow=16						
ARA0				Sn	Sn	12 34 27.5	-12
	baz=166,slow=28						
ARA0				Lg		12 35 11.0	
	baz=168,slow=28						
ARA0	ARCESS Array S	8.77	352	eP	P	12 32 55.1	-3.3
ARA0				e		12 34 27.5	
ARA0				e		12 35 11.0	
ARCES	ARCESS Array B	8.77	352	Pn	P	12 32 55.4	-3.0
	comp=Z,0.6nm,0.3s,baz=169,slow=13,SNR=31						

MAN 19 12:47:27.2, 18.71N×119.62E, h1^{km}, mb4.5, ML3.3, MS3.2, Philippine Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ABRA	Dolores	1.48	135	eP	Pn	12 47 53.8	-1.2
APYP	Conner	1.76	118	eP	Pn	12 47 58.2	-0.8
CVP	Callao Caves	2.32	115	eP	Pn	12 48 07.0	-0.1
CVP				eS	Sn	12 48 36.0	-0.7
SGCP	Mt. Cagua	2.35	101	eP	Pn	12 48 07.6	+0.1
CAUP	Cauayan	2.73	129	eP	Pn	12 48 14.6	+1.6

IDC 19 12:49:51.9±25.0**, 18.89S**×**178.27W, h313**^{km}±258^{km}**, mb3.2**/4**, mb1 3.5**/4**, mb1mx3.2**/14**, Error ellipse: s-maj=246.0km s-min=69.8km az=149.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	44.60	260	P	P	12 57 34.2	-1.4
	0.6nm,0.3s,baz=97,slow=7.5,SNR=28						
ASAR	Alice Springs	44.66	255	P	P	12 57 34.3	-1.8
	1.3nm,0.9s,baz=87,slow=8.2,SNR=8.2						
ILAR	Eielson Array	86.81	13	P	P	13 02 00.8	-1.1
	0.3nm,0.5s,baz=216,slow=5.4,SNR=4.3						
CMAR	Chiang Mai Arr	89.34	290	P	P	13 02 13.7	-1.1
	0.6nm,0.8s,baz=124,slow=2.3,SNR=4.1						

*GUC **19** 12:53:05.9±0.9, 28.06S×70.00W, h109^{km}±18^{km}, ML4.4*
*NEIC **19** 12:53:05.9, 28.06S×70.00W, h109^{km}, mb4.6/2, After GUC.*
ISC 19 12:53:05.4±0.8**, 27.94S**±0.07×**70.4W**±0.4**, h123**^{km}±8^{km}**, n7, σ0^{s}59**/12**, mb4.6**/1**, 2C-1D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CPCH	Copiapo	0.58	360	⇓iP	P	12 53 25.1	+0.8
CPCH				i S	S	12 53 39.0	+0.2
CPCH				AMP		12 53 41.7	
	comp=E,44μm,0.1s						
VACH	Vallenar	0.72	210	⇑iP	P	12 53 26.0	+0.7
VACH				i S	S	12 53 40.7	+0.1
VACH				AMP		12 53 41.6	
	comp=E,31μm,0.1s						
LSCH	La Serena	2.11	202	eP	P	12 53 40.5	-0.3
LSCH				i S	S	12 54 07.3	-0.4
LSCH				AMP		12 54 08.3	
	comp=N,1μm,0.3s						
TLL	Tololo Astrono	2.25	190	⇑iP	P	12 53 42.6	-0.1
TLL				i S	S	12 54 10.4	-0.6
TLL				AMP		12 54 14.8	
	comp=N,894nm,0.6s						
CPN1	Cerro Paranal	3.30	359	eP	P	12 53 56.8	+0.1
CPN1				i S	S	12 54 35.4	-0.3
CPN1				AMP		12 54 39.2	
	comp=E,397nm,0.4s						
LVC	Limon Verde	5.46	14	ePn	P	12 54 24.5	-1.2
	comp=E,10.0nm,0.3s						
QSPA	South Pole Qui	62.28	180	eP	P	13 03 17.0	+1.0
	comp=E,3.6nm,0.6s,mb4.6						

*IDC **19** 13:06:18.1±3.4, 6.51N×72.87W, mb3.9/2, mb1 4.3/2, mb1mx3.7/19, Error ellipse: s-maj=196.0km s-min=40.4km az=83.0*
*UAV **19** 13:06:39.6, 7.39N×73.59W, h147^{km}*
*NEIC **19** 13:06:41.1±1.0, 6.99N×72.95W, h181^{km}±12^{km}, mb3.7/2, Error ellipse: s-maj=19.4km s-min=13.8km az=106.0*
ISC 19 13:06:40.5±0.9**, 7.0N**±0.1×**72.9W**±0.1**, h193**^{km}±13^{km}**, n12, σ0^{s}69**/11**, mb3.4**/3**, Northern Colombia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
UAV	Universidad de	2.37	47	P	P	13 07 23.1	+0.2
UAV				S	S	13 07 55.0	-0.7
EAV	Pico El Aguila	2.77	48	P	P	13 07 28.1	+0.6
EAV				S	S	13 08 04.5	+0.7
SDV	Santo Domingo	2.93	50	ePn	P	13 07 29.5	+0.1
TORV	Torococo	3.67	46	P	P	13 07 37.6	-1.0
OTAV	Otavalo	8.70	220	P	P	13 08 43.9	+0.2
SAML	Samuel	18.55	148	P	P	13 10 44.9	-0.2
	2.5nm,0.5s						
TUC	Tucson	43.31	311	P	P	13 14 23.7	-1.4
	0.8nm,0.6s,mb3.3						
PDAR	Pinedale Array	48.08	324	P	P	13 15 03.2	+0.8
	0.6nm,0.6s,mb3.1,baz=121,slow=9.4,SNR=4.4						
YKA	Yellowknife Ar	63.19	340	P	P	13 16 50.6	+0.6
	1.8nm,0.6s,mb3.9,baz=132,slow=6.6,SNR=11						
ASAR	Alice Springs	149.39	234	PKPbc	PKPdf	13 26 09.1	+6.5
	0.4nm,0.5s,baz=113,slow=3.7,SNR=13						
WB2	Warramunga Arr	150.60	241	eP	PKPdf	13 26 12.2	+7.7
WRA	Warramunga Arr	150.61	241	PKPbc	PKPdf	13 26 12.2	+7.6
	0.4nm,0.4s,baz=108,slow=2.6,SNR=18						

*STR **19** 13:14:19.5±0.1, 42.85N×0.27W, h2^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **19** 13:14:19.4±0.1, 42.85N×0.27W, h2^{km}, Md2.1/2, Error ellipse: s-maj=2.1km s-min=0.8km az=177.0*
ISC 19 13:14:19.0±1.6**, 42.86N**±0.07×**0.27W**±0.04**, h11**^{km}±17^{km}**, n6, σ0^{s}26**/12**, Pyrenees**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ETSF	Etsaut	0.22	281	ePg	Pg	13 14 23.8	+0.1
ETSF				eSg	Sg	13 14 26.6	-0.3
	25nm,0.3s						
VIEF	Viey	0.22	83	Pg	Pg	13 14 23.9	+0.2
VIEF				Sg	Sg	13 14 27.0	+0.1
FDAF	Les Forges d'A	0.22	260	Pg	Pg	13 14 23.9	+0.1
FDAF				Sg	Sg	13 14 27.1	0.0
REYF	Montagne du Re	0.23	337	Pg	Pg	13 14 24.1	+0.1
REYF				Sg	Sg	13 14 27.6	+0.3
EPF	Esparros	0.48	69	ePg	Pg	13 14 28.9	+0.2
EPF				eSg	Sg	13 14 34.7	-0.6
	6.6nm,0.2s						
SJPF	Ste Jean	0.75	290	ePg	Pg	13 14 34.3	+0.3
SJPF				eSg	Sg	13 14 43.7	-0.3
	3.4nm,0.2s						

*IDC **19** 13:25:05.7±5.8, 17.95S×178.56W, h610^{km}±74^{km}, mb3.7/10, mb1 3.9/10, mb1mx3.8/15, Error ellipse: s-maj=26.9km s-min=22.1km az=112.0*
*NEIC **19** 13:25:05.9±3.4, 17.87S×178.68W, h612^{km}±41^{km}, mb4.4/14, Error ellipse: s-maj=16.4km s-min=14.6km az=113.0*
ISC 19 13:25:11.1±0.5**, 17.9S**±0.1×**178.9W**±0.1**, h700**^{km}**, n32, σ0^{s}47**/31**, mb4.2**/22**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	32.97	261	eP	P	13 30 54.5	-0.1
	6.3nm,0.5s,mb4.4						
CNB	Canberra Magne	33.03	232	eP	P	13 30 54.9	-0.1
	13nm,0.5s,mb4.7						
PMG	Port Moresby	33.99	280	P	P	13 31 04.3	+1.2
	42nm,1.0s,mb4.9,baz=72,slow=7.9,SNR=13						
PMG	Port Moresby	33.99	280	P	P	13 31 02.5	-0.6
	36nm,0.9s,mb4.9						
TOO	Toolangi	36.78	231	eP	P	13 31 25.7	0.0
	7.0nm,0.9s,mb4.2						
STKA	Stephens Creek	38.20	241	eP	P	13 31 37.7	+0.5
	7.1nm,0.5s,mb4.5						
STKA	Stephens Creek	38.20	241	P	P	13 31 37.8	+0.6
	11nm,0.6s,mb4.6,baz=91,slow=9.8,SNR=32						
WB2	Warramunga Arr	44.14	260	eP	P	13 32 23.6	-0.4
WRAB	Tennant Creek	44.14	260	P	P	13 32 23.0	-1.0
	92nm,0.6s,SNR=40						
WRAB	Tennant Creek	44.14	260	eP	P	13 32 23.3	-0.7
	9.3nm,0.6s,mb4.4						
WRA	Warramunga Arr	44.15	260	P	P	13 32 23.7	-0.4
	12nm,0.7s,mb4.4,baz=92,slow=7.4,SNR=219						
ASAR	Alice Springs	44.32	254	P	P	13 32 25.6	+0.3
	46nm,0.5s,mb5.1,baz=87,slow=8.7,SNR=1155						
ASPA	Alice Springs	44.32	254	eP	P	13 32 25.5	+0.2
KAKA	Kakadu	47.14	269	eP	P	13 32 51.7	+5.1
	19nm,0.4s,mb4.9						
FORT	Forrest	49.56	245	eP	P	13 33 03.9	-0.4
	39nm,0.6s,mb5.0						
FITZ	Fitzroy Crossi	52.55	261	eP	P	13 33 26.4	+0.7
	2.1nm,0.4s,mb3.8						
MBWA	Marble Bar	57.60	256	eP	P	13 34 00.6	+0.3
	7.7nm,0.3s,mb4.4						
KLBR	Kellerberrin	58.39	244	eP	P	13 34 05.4	+0.1
	10nm,0.6s,mb4.2						
SBA	Scott Base	60.37	183	eP	P	13 34 18.4	+0.7
	0.5nm,0.4s						
VNDA	Vanda	60.38	185	P	P	13 34 17.0	-0.8
	0.2nm,0.5s,baz=2.2,slow=6.5,SNR=5.1						
VNDA	Vanda	60.38	185	P	P	13 34 17.0	-0.8
QSPA	South Pole Qui	72.12	180	eP	P	13 35 29.0	-0.2
	2.6nm,0.8s,mb3.6						
YBH	Yreka Blue Hor	78.85	39	P	P	13 36 06.4	+0.1
	2.3nm,0.5s,mb3.8,baz=296,slow=3.5,SNR=7.5						
NVAR	Mina Array Bea	79.78	44	P	P	13 36 11.3	+0.1
	1.5nm,0.6s,mb3.6,baz=213,slow=7.5,SNR=10						
NVAR	Mina Array Bea	79.78	44	P	P	13 36 11.3	+0.1
TUC	Tucson	82.10	53	eP	P	13 36 23.3	+0.2
	3.3nm,0.9s,mb3.8						
ILAR	Eielson Array	86.02	13	P	P	13 36 40.6	-0.7
	0.7nm,0.5s,mb3.5,baz=229,slow=5.2,SNR=14						
TXAR	Lajitas Array	86.42	58	P	P	13 36 44.3	+0.2
	2.4nm,0.8s,mb3.8,baz=207,slow=5.6,SNR=12						
PDAR	Pinedale Array	87.70	44	P	P	13 36 49.9	+0.1
	1.5nm,0.6s,mb3.7,baz=236,slow=1.8,SNR=9.1						
CMAR	Chiang Mai Arr	88.44	290	P	P	13 36 58.0	+4.2
	1.2nm,0.9s,mb3.4,baz=114,slow=2.1,SNR=7.4						
SNAA	Sanae	90.58	179	P	P	13 37 02.5	0.0
	0.7nm,0.6s,mb3.5						
BRTR	Keskin Array B	144.46	314	PKP	PKPdf	13 43 33.8	+3.2
	0.4nm,0.4s,baz=90,slow=1.2,SNR=4.2						

*JMA **19** 13:43:42.1±0.1, 33.07N×136.94E, h37^{km}, M3.5*
ISC 19 13:43:42.9±1.1**, 33.11N**±0.07×**136.93E**±0.04**, h37**^{km}**, n14, σ0^{s}51**/24**, 5C-4D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TK01	Tokai 1	0.85	40	P	P	13 43 58.0	-0.5
TK02	Tokai 2	1.08	40	⇓P	P	13 44 01.4	-0.4
TK02				S	S	13 44 16.0	+0.2
JWZ	Kozaga	1.10	293	⇑P	P	13 44 01.6	-0.4
JWZ				S	S	13 44 15.5	-0.7
JIE	Ise	1.29	352	⇓P	P	13 44 05.3	+0.6
JIE				S	S	13 44 21.2	+0.1
TK04	Tokai 4	1.50	32	⇓P	P	13 44 07.6	-0.1
TK04				S	S	13 44 26.2	0.0
JWM	Minabe	1.50	300	⇑P	P	13 44 07.8	-0.1
JWM				S	S	13 44 26.0	-0.5
JWY	Kouya	1.57	315	⇑P	P	13 44 09.4	+0.7
JWY				S	S	13 44 28.5	+0.5
TSUJ	Tsu 2	1.65	345	⇓P	P	13 44 10.4	+0.5
TSUJ				S	S	13 44 29.9	-0.2
JHE	Heguri	1.85	326	⇑P	P	13 44 13.4	+0.6
JHE				S	S	13 44 35.7	+0.5
JAJ2	Tsuna	2.14	308	P	P	13 44 17.7	+0.7
JAI	Aioi	2.18	289	⇑P	P	13 44 17.4	-0.1
JAI				S	S	13 44 42.7	-0.7
SHZ3	Shizuoka 3	2.22	28	P	P	13 44 17.6	-0.5
JIZS	Izushimoda	2.28	45	P	P	13 44 19.4	+0.5
MAT	Matsushiro	3.58	17	P	P	13 44 37.9	+0.5
MAT				S	S	13 45 17.9	-1.2

OTT 19 13:57:27.0±0.3**, 52.83N**×**67.34W, MN2.8**/5**, Blast, Mount Wright, Qc Mining explosion., Northern Quebec**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCHQ	Schefferville	2.03	8	PN	Pn	13 58 03.1	+0.4
SCHQ				SG	Sg	13 58 30.2	-4.3
SCHQ				Trac		13 58 34.6	
	comp=Z,31nm,0.2s						
MNQ	Manicouagan	2.47	202	PN	Pn	13 58 08.2	-0.9
MNQ				SN	Sn	13 58 40.7	+0.3
MNQ				Trac		13 58 43.0	
	comp=Z,17nm,0.2s						
SMQ	Clarke City	2.64	171	PN	Pn	13 58 11.3	-0.2
SMQ				SN	Sn	13 58 41.9	-2.9
SMQ				Trac		13 58 46.6	
	comp=Z,12nm,0.2s						
ICQ	Pointe Anglais	3.31	179	PN	Pn	13 58 18.7	-2.4
ICQ				SN	Sn	13 58 57.1	-4.7
CNQ	Baie Comeau	3.56	188	PN	Pn	13 58 23.9	-0.8
CNQ				SN	Sn	13 59 09.8	+1.7
CNQ				Trac		13 59 12.2	
	comp=Z,4.0nm,0.2s						
GSQ	Grosses Roches	3.93	178	PN	Pn	13 58 27.9	-2.0
LG4Q	La Grande 4	4.14	284	PN	Pn	13 58 31.3	-1.6
LG4Q				PG	Pg	13 58 39.5	-10
LG4Q				SG	Sg	13 59 37.8	-6.9
LG4Q				Trac		13 59 41.0	
	comp=Z,5.3nm,0.2s						
LMQ	La Malbaie	5.62	201	PN	Pn	13 58 50.2	-3.7
DRLN	Deer Lake	7.16	116	PN	Pn	13 59 10.1	-5.5
DRLN				SN	Sn	14 00 24.1	-15
LMN	Caledonia Moun	7.18	166	PN	Pn	13 59 09.2	-6.6
MALO	McAlpine Lake	8.26	255	PN	P	13 59 26.9	-3.9
MALO				SN	Sn	14 00 54.1	-12
VIMO	Victor Mine	9.93	276	PN	P	13 59 48.6	-5.3
SILO	Sutton Inlier	10.56	286	PN	P	13 59 56.6	-5.9

*IDC **19** 14:13:35.4±1.0, 32.69S×71.90W, mb4.1/5, mb1 4.2/7, mb1mx4.1/14, ML4.4/2, MS3.7/3, Ms1 3.6/3, ms1mx3.3/15, Error ellipse: s-maj=40.0km s-min=25.2km az=100.0*
*BJI **19** 14:13:38.7, 33.76S×72.21W, h24^{km}, mB4.6, Ms4.6, Msz4.4*
*GUC **19** 14:13:41.1±0.6, 32.76S×71.70W, h25^{km}±6^{km}, MD4.4, ML4.3*
*SYO **19** 14:13:41.1, 32.76S×71.70W, h25^{km}, MB4.4*
*NEIC **19** 14:13:41.1, 32.76S×71.70W, h25^{km}, mb4.6/7, ML4.3(GUC), After GUC.*
NEIC Felt [III] at La Ligua, Limache, Quillota, Quilpue, Quintero, Papudo, Puchuncavi, Valparaiso and Vina del Mar; [II] at Santiago.
ISC 19 14:13:39.5±0.7**, 32.68S**±0.04×**71.80W**±0.07**, h41**^{km}±7^{km}**, h43**^{km}±1.0^{km}**:pP-P, n47, σ1^{s}01**/50**, mb4.2**/10**, MS3.8**/2**, 11C-6D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PACH	Papudo	0.34	65	⇓iP	P	14 13 48.3	-0.1
IHA	Instituto Hidr	0.37	158	⇑iP	P	14 13 47.7	-1.0
IHA				i S	S	14 13 52.4	-2.7
JACH	Jahuel	1.02	90	⇑iP	P	14 13 57.8	+0.3
PEL	Peldehue	1.05	116	⇑iP	P	14 13 58.4	+0.5
PEL				i S	S	14 14 11.1	-0.5
PEL				AMP		14 14 14.7	
	comp=N,30μm,0.7s						
RCDM	Rinconada Maip	1.16	134	eP	P	14 13 59.4	-0.1
RCDM				i S	S	14 14 13.7	-0.8
RCDM				AMP		14 14 16.6	
	comp=E,8μm,0.3s						
TACH	Talagante	1.21	143	⇑iP	P	14 14 00.6	+0.3
TACH				i S	S	14 14 15.2	-0.6
SAN	Santiago	1.23	129	eP	P	14 14 00.9	+0.4
SAN				i S	S	14 14 15.8	-0.4
DSCH	Colegio Aleman	1.26	125	eP	P	14 14 01.4	+0.4
DSCH				i S	S	14 14 16.5	-0.5
DSCH				AMP		14 14 22.5	
	comp=E,18μm,0.5s						
LNV	Longovilo	1.31	166	⇑iP	P	14 14 01.7	-0.1
LNV				i S	S	14 14 17.6	-0.8
ANTU	Antumapu	1.32	132	eP	P	14 14 02.4	+0.4
ANTU				i S	S	14 14 18.2	-0.4
ANTU				AMP		14 14 22.2	
	comp=N,10μm,0.7s						
FCH	Farellones	1.43	117	⇓iP	P	14 14 04.3	+0.9
FCH				i S	S	14 14 21.9	+0.8
FCH				AMP		14 14 22.6	
	comp=N,10μm,0.3s						
PCH	Pirque	1.43	131	⇑iP	P	14 14 04.1	+0.6
CHCH	Chadas Angostu	1.58	143	⇑iP	P	14 14 06.5	+1.0
CACH	El Canelo	1.75	145	⇑iP	P	14 14 09.8	+1.9
LMEL	Las Melosas	1.78	131	⇓eP	P	14 14 09.6	+1.3
LMEL				AMP		14 14 35.9	
	comp=N,10μm,0.3s						
CICH	Cipreses	2.00	145	⇓iP	P	14 14 13.0	+1.4
SFDO	San Fernando	2.04	161	⇓iP	P	14 14 12.9	+0.9
MDZ	Mendoza	2.50	95	eP	P	14 14 22.8	+4.2
MDZ				e		14 14 26.7	
MDZ				i		14 14 34.7	
MDZ				S	S	14 14 56.7	+8.6
TRQA	Tornquist	9.65	127	eP	P	14 15 57.9	-0.9
	comp=N,30nm,1.1s						
LVC	Limon Verde	10.35	15	eP	P	14 16 06.8	-1.7
CPUP	Villa Florida	14.10	67	Pn	P	14 16 59.1	+0.6
	comp=N,0.6nm,0.3s,baz=243,slow=11,SNR=4.9						
CPUP				Sn	S	14 19 30.0	-4.5
	baz=264,slow=12,SNR=2.3						
CPUP				LR	LR	14 23 04.0	
	comp=N,148nm,19.3s,baz=267,slow=40						
LPAZ	La Paz	16.66	12	Pn	P	14 17 31.4	-0.1
	comp=N,0.5nm,0.3s,baz=63,slow=0.5,SNR=3.4						
LPAZ	La Paz	16.66	12	P	P	14 17 33.8	+2.3
	comp=N,7.1nm,0.2s						
EFI	East Falkland	21.47	156	eP	P	14 18 25.5	-0.8
	comp=N,46nm,1.0s,mb4.8						
SAML	Samuel	24.93	21	eP	P	14 18 58.3	-2.1
	comp=N,4.5nm,1.0s,mb4.0						
BDFB	Brasilia	27.44	57	P	P	14 19 22.9	-0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=N,3.8nm,0.8s,mb4.0,baz=250,slow=7.3,SNR=3.9						
BDFB				LR	LR	14 31 50.0	
	comp=N,160nm,20.3s,MS3.6,baz=276,slow=40						
SDV	Santo Domingo	41.35	2	eP	P	14 21 22.6	-0.6
	comp=N,6.0nm,0.9s,mb4.2						
VNA3	Neumayer Olymp	50.51	158	⇑i	P	14 22 38.9	+3.7
VNA1	Neumayer--Stat	50.81	157	⇑i	P	14 22 37.3	-0.2
VNA2	Neumayer--Watz	51.15	158	⇑i	P	14 22 43.8	+3.8
SNAA	Sanae	52.73	158		P	14 22 50.2	-1.7
SNAA	Sanae	52.73	158	P	P	14 22 51.7	-0.2
	comp=N,1.1nm,0.8s,mb3.9,baz=289,slow=5.9,SNR=12						
QSPA	South Pole Qui	57.55	180	eP	P	14 23 27.7	+0.9
	comp=N,9.4nm,1.0s,mb4.8						
SYO	Syowa Base	67.02	159	⇓P	P	14 24 27.7	-2.1
WVT	Waverly	70.08	346	eP	P	14 24 49.5	+0.3
	comp=N,10nm,0.7s,mb4.9						
WVT				e	pP	14 25 02.8	+1.3
MAW	Mawson	74.39	164	P	P	14 25 15.1	+0.9
	comp=N,2.2nm,0.8s,mb4.2,baz=221,slow=9.4,SNR=6.5						
MAW				pP	pP	14 25 27.5	+1.0
	comp=N,2.2nm,0.8s,baz=91,slow=2.7,SNR=3.2						
MAW				LR	LR	14 57 23.9	
	comp=N,85nm,20.2s,MS4.0,baz=239,slow=35						
DBIC	Dimbokro	74.57	71	P	P	14 25 16.8	+0.5
	comp=N,5.8nm,1.1s,mb4.4,baz=265,slow=7.7,SNR=3.7						
DBIC				pP	pP	14 25 29.3	+0.7
	comp=N,2.3nm,0.9s,baz=254,slow=7.4,SNR=1.6						
DBIC	Dimbokro	74.57	71	P	P	14 25 16.2	-0.1
	comp=N,3.7nm,0.7s,mb4.4						
PDAR	Pinedale Array	82.68	333	P	P	14 26 01.1	+1.1
	comp=N,0.4nm,0.8s,mb3.5,baz=135,slow=6.4,SNR=2.9						
WRA	Warramunga Arr	122.01	209	PKP	PKPdf	14 32 30.9	+0.8
	comp=N,0.3nm,0.7s,baz=158,slow=1.4,SNR=4.1						
ZRNK	Zerenda	145.42	42	ePKPdf	PKPdf	14 33 15.6	+3.2
BRVK	Borovoye	146.10	42	ePKPdf	PKPdf	14 33 17.7	+4.1
BVAR	Borovoye Array	146.17	42	PKPbc	PKPbc	14 33 18.0	+3.1
	comp=N,1.9nm,0.3s,baz=315,slow=2.1,SNR=23						
AAK	Ala-Archa	151.69	60	ePKPbc	PKPdf	14 33 31.7	+8.8
KURK	Kurchatov	151.77	42	ePKPbc	PKPdf	14 33 31.4	+8.7
KURK				ePKPab	PKPab	14 33 41.5	+1.0
ZAL	Zalesovo	153.00	31	PKPbc	PKPdf	14 33 33.9	+10
	comp=N,3.7nm,0.6s,baz=170,slow=3.0,SNR=18						
LZH	Lanzhou	175.05	45	ePKP	PKPdf	14 33 47.0	+2.4
LZH				XPKP		14 33 57.6	

*NEIC **19** 14:17:29.5±3.3, 35.41S×179.77W, h49^{km}±22^{km}, mb4.4/9, Error ellipse: s-maj=35.7km s-min=12.0km az=50.0*
*IDC **19** 14:17:31.7±3.9, 35.32S×179.96E, h58^{km}±29^{km}, mb4.2/5, mb1 4.3/7, mb1mx4.1/15, ML3.9/2, MS3.5/5, Ms1 3.5/5, ms1mx3.3/14, Error ellipse: s-maj=28.2km s-min=23.2km az=69.0*
ISC 19 14:17:33.0±1.3**, 35.64S**±0.05×**179.9E**±0.1**, h83**^{km}±8^{km}**, n74, σ1^{s}23**/73**, mb4.3**/11**, 1C-1D, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.29	213	eP	P	14 18 09.6	0.0
MXZ	Matakaoa Point	2.29	213	P	P	14 18 09.5	-0.1
MXZ				S	S	14 18 43.0	+6.2
MXZ				T		14 20 50.0	
PUZ	Puketiti	2.75	207	eP	P	14 18 16.2	+0.2
PUZ	Puketiti	2.75	207	eP	P	14 18 16.8	+0.8
PUZ				S	S	14 18 55.1	+6.9
WIZ	White Island	2.86	228	eP	P	14 18 16.5	-1.0
MWZ	Matawai	3.28	214	eP	P	14 18 23.6	+0.3
MWZ				S	S	14 19 06.9	+5.6
URZ	Urewera	3.42	219	P	P	14 18 25.5	+0.2
	20nm,0.3s,baz=30,slow=5.5,SNR=59						
URZ				S	S	14 19 09.8	+4.9
	47nm,0.3s,baz=136,slow=21,SNR=7.9						
URZ	Urewera	3.42	219	P	P	14 18 25.3	0.0
KUZ	Kuaotunu	3.52	250	P	P	14 18 26.6	-0.1
KUZ	Kuaotunu	3.52	250	P	P	14 18 26.5	-0.2
TGRZ	Tauranga	3.57	233	P	P	14 18 28.0	+0.7
LIRZ	Lichensteins R	3.65	229	P	P	14 18 29.8	+1.3
LIRZ	Lichensteins R	3.65	229	P	P	14 18 29.7	+1.2
KNZ	Kokohu	3.80	207	eP	P	14 18 29.5	-1.0
KNZ				S	S	14 19 17.1	+2.8
MKAZ	Moumakai	4.06	247	eP	P	14 18 34.9	+0.7
TOZ	Tahuroa Road	4.08	238	eP	P	14 18 35.0	+0.6
MTAZ	Motutapu	4.16	253	eP	P	14 18 36.4	+0.8
OTAZ	Otara	4.19	250	eP	P	14 18 37.1	+1.1
KAAZ	Kauri Point	4.33	253	eP	P	14 18 39.9	+2.0
BKZ	Black Stump Fm	4.43	216	eP	P	14 18 37.7	-1.5
BKZ	Black Stump Fm	4.43	216	eP	P	14 18 37.9	-1.3
BKZ				S	S	14 19 32.3	+2.4
WCZ	Waipu Caves	4.49	265	eP	P	14 18 39.4	-0.7
MGZ	Maungaku	4.81	224	P	P	14 18 45.0	+0.5
NGZ	Ngauruhoe	4.89	223	P	P	14 18 45.7	0.0
NGZ	Ngauruhoe	4.89	223	eP	P	14 18 45.9	+0.2
HIZ	Hauiti	4.92	233	eP	P	14 18 47.2	+1.1
HIZ	Hauiti	4.92	233	P	P	14 18 47.2	+1.1
TUVZ	Tukino	4.93	221	eP	P	14 18 46.6	+0.4
PWZ	Pawanui	4.98	208	eP	P	14 18 45.6	-1.3
PWZ				S	S	14 19 44.4	+0.7
PWZ	Pawanui	4.98	208	P	P	14 18 45.6	-1.3
PWZ				S	S	14 19 44.4	+0.7
OUZ	Omahuta	5.13	273	⇑eP	P	14 18 46.9	-2.0
OUZ	Omahuta	5.13	273	⇓P	P	14 18 47.0	-1.9
VRZ	Vera Road	5.35	228	eP	P	14 18 52.5	+0.6
TSZ	Takapari Road	5.38	214	eP	P	14 18 50.3	-2.1
TSZ				S	S	14 19 54.3	+0.6
BFZ	Birch Farm	5.78	208	eP	P	14 18 55.8	-2.0
MRZ	Mangatainoka R	6.04	213	eP	P	14 18 58.0	-3.4
MRZ				S	S	14 20 08.1	-1.8
MTW	Mount Morrison	6.49	211	eP	P	14 19 04.0	-3.7
CAW	Cannon Point	6.63	213	S	S	14 20 23.6	-0.8
NNZ	Nelson	7.54	220	S	S	14 20 44.7	-2.1
QRZ	Quartz Range	7.75	226	eP	P	14 19 20.9	-4.2
THZ	Tophouse	8.18	220	eP	P	14 19 26.0	-4.9
KHZ	Kahutara	8.36	214	S	S	14 21 00.8	-6.3
LTZ	Lake Taylor	9.25	217	S	S	14 21 23.1	-5.5
MQZ	McQueen's Vall	9.78	212	S	S	14 21 32.6	-9.0
RPZ	Rata Peaks	10.54	217	P	P	14 19 57.9	-4.9
	0.5nm,0.3s,baz=178,slow=21,SNR=3.6						
RPZ				S	S	14 21 53.8	-5.9
	2.4nm,0.3s,baz=341,slow=18,SNR=8.3						
STKA	Stephens Creek	31.90	266	eP	P	14 23 55.0	+2.5
	1.7nm,0.8s,mb3.8						
STKA	Stephens Creek	31.90	266	P	P	14 23 53.8	+1.2
	1.8nm,0.7s,mb3.9,baz=87,slow=9.7,SNR=4.0						
STKA				LR	LR	14 35 59.7	
	comp=Z,86nm,19.2s,baz=24,slow=35						
CTA	Charters Tower	33.31	289	eP	P	14 24 05.3	+0.4
	5.5nm,1.2s,mb4.3						
CTA	Charters Tower	33.31	289	P	P	14 24 05.2	+0.3
	7.5nm,1.2s,mb4.4,baz=112,slow=15,SNR=4.9						
CTA				LR	LR	14 36 51.1	
	comp=Z,57nm,19.1s,baz=221,slow=35						
CTAO	Charters Tower	33.31	289	eP	P	14 24 04.8	-0.1
	2.4nm,0.6s,mb4.2						
PMG	Port Moresby	39.59	303	LR	LR	14 36 48.0	
	comp=Z,49nm,21.0s,baz=122,slow=29						
ASAR	Alice Springs	41.34	274	P	P	14 25 11.9	-0.3
	4.4nm,0.5s,mb4.6,baz=116,slow=7.6,SNR=54						
ASAR				ScP		14 30 53.7	
	0.2nm,0.5s,baz=122,slow=3.9,SNR=4.8						
ASAR				LR	LR	14 42 23.1	
	comp=Z,87nm,18.6s,baz=298,slow=36						
ASPA	Alice Springs	41.34	274	eP	P	14 25 11.8	-0.4
WB2	Warramunga Arr	42.80	279	eP	P	14 25 23.6	-0.6
WRAB	Tennant Creek	42.80	279	eP	P	14 25 22.4	-1.8
	8.2nm,0.5s,mb4.7						
WRA	Warramunga Arr	42.81	279	P	P	14 25 23.7	-0.6
	8.9nm,0.7s,mb4.6,baz=118,slow=7.7,SNR=97						
WRA				LR	LR	14 41 13.4	
	comp=Z,60nm,19.4s,baz=210,slow=33						
FORT	Forrest	43.20	261	eP	P	14 25 28.0	+0.6
	43nm,1.1s,mb5.1						
FITZ	Fitzroy Crossi	50.79	275	eP	P	14 26 26.7	-0.3
	2.2nm,0.6s,mb4.4						
FITZ	Fitzroy Crossi	50.79	275	P	P	14 26 26.5	-0.5
	3.5nm,0.7s,mb4.5,baz=165,slow=8.7,SNR=9.7						
MBWA	Marble Bar	54.06	268	P	P	14 26 46.7	-4.7
	3.6nm,0.7s,mb4.5						
QSPA	South Pole Qui	54.49	180	eP	P	14 26 58.0	+4.3
	3.1nm,0.7s,mb4.5						
MAW	Mawson	66.79	202	P	P	14 28 18.7	+1.5
	2.2nm,0.8s,mb4.0						
SNAA	Sanae	72.97	179	P	P	14 28 56.6	+2.1
	0.3nm,0.6s,mb3.3,baz=198,slow=9.6,SNR=4.5						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARCES	ARCESS Array B	143.25	345	PKhKP		14 36 53.9	
	3.9nm,0.9s,baz=45,slow=2.6,SNR=3.7						
JOF	Joensuu	146.49	334	epkp	PKPdf	14 37 02.7	+0.6
KAF	Kangasniemi	148.75	336	epkp	PKPdf	14 37 08.5	+2.7
FINES	FINESS Array B	149.30	335	PKPbc	PKPdf	14 37 11.2	+4.5
	2.5nm,0.5s,baz=50,slow=4.8,SNR=28						
LIC	Lamto	150.38	170	ePKP1	PKPdf	14 37 18.5	+8.6
	28nm,0.7s						
KIC	Kosan Boka	150.56	171	ePKP1	PKPdf	14 37 19.0	+8.8
	96nm,1.3s						
TIC	Toumodi	150.80	170	ePKP1	PKPdf	14 37 19.5	+9.0
	9.8nm,0.2s						
DBIC	Dimbokro	150.85	170	PKPbc	PKPdf	14 37 19.8	+9.2
	4.6nm,0.6s,baz=180,slow=4.5,SNR=9.8						
BRTR	Keskin Array B	153.05	289	PKPbc	PKPdf	14 37 21.1	+8.1
	1.2nm,0.6s,baz=108,slow=3.9,SNR=6.2						
BRTR				PKPab	PKPab	14 37 34.3	-0.2
	2.3nm,1.1s,baz=117,slow=5.5,SNR=3.7						
NB2	NORSAR Subarra	153.56	348	PKP		14 37 21.1	
	0.9nm,0.7s,baz=21,slow=2.3						
NOA	NORSAR Array B	153.56	348	PKPbc	PKPdf	14 37 21.4	+8.4
	1.2nm,0.8s,baz=31,slow=2.0,SNR=4.4						
NOA				PKPab	PKPab	14 37 35.1	-0.9
	0.9nm,0.6s,baz=15,slow=1.8,SNR=3.6						

*CSEM **19** 15:07:04.1±0.8, 45.51N×9.83E, h20^{km}, ML2.6/1, Error ellipse: s-maj=17.2km s-min=6.3km az=154.0*
*ROM **19** 15:07:04.9±0.4, 45.58N×9.81E, h13^{km}±2^{km}, MD2.5/3, ML1.9/3, Error ellipse: s-maj=4.3km s-min=1.7km az=0.0*
*ZUR **19** 15:07:04.3, 45.55N×9.78E, h10^{km}, ML2.0/9*
ISC 19 15:07:03.9±1.6**, 45.52N**±0.07×**9.78E**±0.05**, h5**^{km}±7^{km}**, n27, σ0^{s}73**/37**, 1D, Northern Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MUGIO	Muggio	0.65	308	ePg	Pg	15 07 16.6	-0.4
	1.6nm,0.3s						
MUGIO				eSg	Sg	15 07 25.6	-0.2
	1.6nm,0.3s						
MUGIO	Muggio	0.65	308	eP	Pg	15 07 16.6	-0.4
MABI	Malga Bissina	0.74	44	ePG	Pg	15 07 18.4	-0.4
MABI				SG	Sg	15 07 29.1	+0.4
VAI	Varese	0.79	296	ePG	Pg	15 07 21.0	+1.3
VAI				SG	Sg	15 07 31.3	+1.1
	25nm,0.2s						
VAI	Varese	0.79	296	ePg	Pg	15 07 21.0	+1.3
	25nm,0.2s						
VAI				Sg	Sg	15 07 31.3	+1.1
BERNI	Berninapass	0.91	11	ePg	Pb	15 07 21.8	0.0
	1.3nm,0.6s						
BERNI				eSg	Sg	15 07 33.7	-0.5
	1.3nm,0.6s						
BERNI	Berninapass	0.91	11	eP	Pb	15 07 21.8	0.0
VDL	Val di Lei	0.99	348	ePg	Pb	15 07 23.2	0.0
	2.5nm,0.6s						
VDL	Val di Lei	0.99	348	eP	Pb	15 07 23.2	0.0
FUORN	Ofenpass	1.15	17	ePg	Pb	15 07 26.1	+0.2
	1.8nm,0.6s						
FUORN	Ofenpass	1.15	17	eP	Pb	15 07 26.1	+0.2
FUSIO	Fusio	1.22	321	ePg	Pb	15 07 27.3	+0.2
	3.6nm,0.4s						
FUSIO	Fusio	1.22	321	eP	Pb	15 07 27.3	+0.2
DAVOX	Davos	1.26	3	ePg	Pb	15 07 28.4	+0.5
	1.0nm,0.4s						
DAVOX	Davos	1.26	3	eP	Pb	15 07 28.4	+0.5
ORO	Oropa	1.27	275	ePN	Pn	15 07 28.1	-0.2
ORO				SN	Sn	15 07 45.7	-0.2
	38nm,0.3s						
ORO	Oropa	1.27	275	ePn	Pn	15 07 28.1	-0.2
	38nm,0.3s						
ORO				Sn	Sn	15 07 45.7	-0.2
MCGN	Macugnaga	1.33	290	ePN	Pn	15 07 28.8	-0.4
MCGN				SN	Sn	15 07 46.3	-1.1
	9.0nm,0.2s						
MCGN	Macugnaga	1.33	290	ePn	Pn	15 07 28.8	-0.4
	9.0nm,0.2s						
MCGN				Sn	Sn	15 07 46.3	-1.1
MMK	Mattmark	1.38	293	ePg	Pb	15 07 29.3	-0.5
MMK	Mattmark	1.38	293	eP	Pb	15 07 29.3	-0.5
LLS	Linth-Limmern	1.43	338	ePg	Pg	15 07 31.2	-1.3
	0.9nm,0.5s						
PLONS	Plons	1.55	350	ePn	Pn	15 07 33.9	+1.5
	0.7nm,0.3s						
PLONS	Plons	1.55	350	eP	Pn	15 07 33.9	+1.5
BNALP	Bannalp	1.65	326	ePn	Pn	15 07 34.7	+1.0
	1.5nm,0.5s						
BNALP	Bannalp	1.65	326	eP	Pn	15 07 34.7	+1.0
DAVA	Damuels	1.77	2	⇓iPG	Pg	15 07 38.1	-1.1
DAVA				i SG	Sg	15 08 03.0	+0.2
	5.9nm,0.4s						

*NEIC **19** 15:13:12.5, 32.49S×72.13W, h38^{km}, MD3.7(GUC), After GUC.*
GUC 19 15:13:12.5±0.8**, 32.49S**×**72.13W, h38**^{km}±5^{km}**, MD3.7, ML2.8, 1C, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PACH	Papudo	0.59	95	eP	P	15 13 23.8	-0.5
PACH				i S	S	15 13 31.9	-1.0
JACH	Jahuel	1.31	99	eP	P	15 13 35.6	+0.9
JACH				i S	S	15 13 53.7	+2.4
PEL	Peldehue	1.38	119	eP	P	15 13 37.0	+1.3
PEL				i S	S	15 13 55.0	+2.0
PEL				AMP		15 13 56.6	
	comp=N,537nm,0.3s						
RCDM	Rinconada Maip	1.50	132	eP	P	15 13 38.3	+1.0
RCDM				i S	S	15 13 57.2	+1.4
RCDM				AMP		15 13 58.9	
	comp=E,154nm,0.1s						
TACH	Talagante	1.54	140	eP	P	15 13 38.8	+0.9
CLCH	Cerro Calan	1.62	125	eP	P	15 13 39.8	+0.7
CLCH				i S	S	15 14 00.7	+1.9
CLCH				AMP		15 14 12.1	
	comp=E,136nm,0.7s						
FCH	Farellones	1.76	119	⇑iP	P	15 13 42.7	+1.7
FCH				i S	S	15 14 05.0	+2.5
FCH				AMP		15 14 06.7	
	comp=E,167nm,0.3s						
PCH	Pirque	1.77	130	eP	P	15 13 42.0	+0.8
CHCH	Chadas Angostu	1.90	140	eP	P	15 13 45.3	+2.2
CHCH				i S	S	15 14 09.2	+3.2
CACH	El Canelo	2.07	142	i S	S	15 14 12.9	+2.6
CICH	Cipreses	2.32	142	eP	P	15 13 49.5	+0.4

*IDC **19** 15:15:13.7±7.6, 17.61S×178.25W, h514^{km}±85^{km}, mb3.2/6, mb1 3.5/6, mb1mx3.3/14, Error ellipse: s-maj=81.9km s-min=28.8km az=151.0*
*NEIC **19** 15:15:13.9±5.1, 17.56S×178.30W, h517^{km}±59^{km}, mb3.9/3, Error ellipse: s-maj=62.5km s-min=22.5km az=154.0*
ISC 19 15:15:19.4±1.4**, 17.7S**±0.5×**178.5W**±0.3**, h600**^{km}**, n13, σ0^{s}36**/11**, mb3.7**/8**, 3D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTAO	Charters Tower	33.43	260	eP	P	15 21 12.0	+0.5
	2.2nm,0.6s,mb4.0						
STKA	Stephens Creek	38.69	241	⇓iP	P	15 21 54.4	-0.2
	1.7nm,0.5s,mb3.8						
STKA	Stephens Creek	38.69	241	P	P	15 21 54.6	0.0
	3.3nm,0.8s,mb3.9,baz=81,slow=9.3,SNR=8.2						
WB2	Warramunga Arr	44.61	259	⇓iP	P	15 22 41.4	-0.2
WRAB	Tennant Creek	44.61	259	eP	P	15 22 40.7	-0.9
	2.6nm,0.5s,mb4.0						
WRA	Warramunga Arr	44.62	259	P	P	15 22 41.9	+0.2
	1.3nm,0.5s,mb3.7,baz=98,slow=6.7,SNR=52						
ASAR	Alice Springs	44.80	254	P	P	15 22 43.4	+0.3
	10.0nm,0.6s,mb4.6,baz=89,slow=9.1,SNR=314						
ASAR				PcP	PcP	15 24 12.7	+0.7
	0.4nm,0.8s,baz=103,slow=3.8,SNR=4.5						
ASPA	Alice Springs	44.80	254	⇓iP	P	15 22 43.1	+0.1
NVAR	Mina Array Bea	79.30	44	P	P	15 26 24.9	-0.2
	0.5nm,0.3s,mb3.3,baz=214,slow=6.5,SNR=2.9						
ILAR	Eielson Array	85.69	13	P	P	15 26 56.5	0.0
	0.2nm,0.4s,mb3.1,baz=218,slow=5.3,SNR=6.0						
TXAR	Lajitas Array	85.92	58	P	P	15 26 58.6	+0.2
	0.2nm,0.4s,mb3.1,baz=225,slow=5.3,SNR=5.9						
BRTR	Keskin Array B	144.59	315	PKP	PKPdf	15 33 52.5	+4.1
	0.8nm,0.7s,baz=90,slow=2.5,SNR=4.7						
GERES	GERESS Array B	147.39	345	PKPbc	PKPdf	15 33 58.7	+5.9
	0.5nm,0.5s,slow=2.7,SNR=4.3						

*PRU **19** 15:55:58.5, 51.42N×16.08E*
*WAR **19** 15:55:58.3, 51.48N×16.03E, ML2.7, Mining Induced*
ISC 19 15:55:57.7±1.4**, 51.39N**±0.06×**15.95E**±0.07**, n9, σ1^{s}09**/18**, Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.59	158	ePG	Pg	15 56 10.0	+0.5
KSP				eSG	Sg	15 56 19.0	+1.6
UPC	Upice	0.89	177	ePG	Pg	15 56 16.1	+0.7
DPC	Dobruska-Polom	1.07	167	ePG	Pg	15 56 18.9	-0.2
DPC				eSG	Sg	15 56 33.9	+0.6
	8.9nm,0.2s						
PVCC	Panska Ves	1.23	226	ePG	Pg	15 56 22.6	+0.4
PRU	Pruhonice	1.66	213	ePG	Pg	15 56 29.6	-1.4
PRU				ex	x	15 56 46.6	
PRU				eSG	Sg	15 56 53.0	-0.1
	9.7nm,0.6s						
CLL	Collm	1.85	269	i PG	Pg	15 56 33.9	-0.7
CLL				eSG	Sg	15 57 00.0	+0.7
OKC	Ostrava-Krasne	2.09	137	eSG	Sg	15 57 04.0	-3.4
NKC	Novy Kostel	2.50	244	ePN	Pn	15 56 40.6	+0.2
NKC				ePG	Pg	15 56 48.4	+0.7
NKC				eSG	Sg	15 57 22.5	+1.4
KHC	Kasperske Hory	2.73	215	ePN	Pn	15 56 44.1	+0.6
KHC				ePG	Pg	15 56 49.5	-2.6
KHC				eSN	Sn	15 57 16.0	-1.7
KHC				eSG	Sg	15 57 27.8	-0.7

*THE **19** 16:02:47.5, 39.99N×20.51E, h8^{km}, ML2.7*
*ATH **19** 16:02:47.0, 39.98N×20.51E, h18^{km}±4^{km}, MD3.2/4*
*NEIC **19** 16:02:47.0, 39.98N×20.51E, h18^{km}, MD3.2(ATH), After ATH.*
*CSEM **19** 16:02:47.3±0.1, 39.99N×20.54E, h2^{km}, ML2.7, Error ellipse: s-maj=3.4km s-min=2.3km az=158.0*
ISC 19 16:02:47.2±0.6**, 40.00N**±0.04×**20.52E**±0.05**, h15**^{km}±6^{km}**, n13, σ1^{s}05**/20**, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SRN	Sarande	0.41	254	ePg	Pg	16 02 56.3	+0.4
SRN				i Sg	Sg	16 03 03.5	+1.8
JAN	Janina	0.43	143	ePB	Pb	16 02 54.8	-1.1
JAN				eSB	Sb	16 03 01.6	-0.2
IGT	Igoumenitsa	0.49	197	ePg	Pg	16 02 56.1	-1.1
IGT				eSg	Sg	16 03 04.0	0.0
MEV	Metsovon	0.59	111	ePg	Pg	16 02 58.5	-0.8
	comp=Z,10.0nm,0.3s						
MEV				eSg	Sg	16 03 07.4	+0.1
KEK	Kerkira	0.62	243	ePN	Pn	16 02 59.0	-2.2
FNA	Florina	1.02	40	ePg	Pg	16 03 06.6	-1.2
FNA				eSg	Sg	16 03 22.6	+1.1
LKD	Levkas	1.29	175	ePb	Pb	16 03 11.0	+0.3
EVR	Evrytania	1.47	137	ePN	Pn	16 03 15.0	+1.6
LIT	Litokhoron	1.52	86	ePb	Pb	16 03 14.2	-0.3
LIT				eSb	Sb	16 03 35.4	+1.9
AGG	Agios Georgios	1.71	124	ePb	Pb	16 03 17.3	-0.5
AGG				eSb	Sb	16 03 39.4	+0.4
GRG	Griva	1.73	56	ePb	Pb	16 03 17.0	-1.1
VLS	Valsamata	1.82	178	ePN	Pn	16 03 19.5	+1.2
OUR	Ouranopolis	2.68	82	ePn	Pn	16 03 30.3	-0.3

*IDC **19** 16:12:41.0±0.8, 39.90S×45.96E, mb3.9/6, mb1 4.0/6, mb1mx3.8/17, MS3.8/5, Ms1 3.8/5, ms1mx3.3/24, Error ellipse: s-maj=36.7km s-min=25.2km az=21.0*
*NEIC **19** 16:12:42.5±0.5, 39.89S×45.96E, h10^{km}, mb4.4/6, Error ellipse: s-maj=17.2km s-min=11.4km az=222.0*
ISC 19 16:12:40.5±0.5**, 39.85S**±0.09×**46.0E**±0.1**, h10**^{km}**, n31, σ0^{s}74**/23**, mb4.3**/16**, MS3.8**/5**, 2C-1D, Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BOSA	Boshof	20.42	297	eP	P	16 17 21.6	+1.1
	14nm,0.9s						
SUR	Sutherland	21.61	282	P	P	16 17 32.5	-0.1
	4.6nm,0.8s,mb4.0,baz=105,slow=13,SNR=2.4						
LSZ	Lusaka	29.00	323	eP	P	16 18 42.2	-0.5
	7.7nm,1.1s,mb4.3						
MAW	Mawson	29.33	167	LR	LR	16 27 15.9	
	comp=Z,138nm,18.1s,MS3.6,baz=239,slow=30						
MAW	Mawson	29.33	167	P	P	16 18 44.0	-1.1
	6.6nm,1.1s,mb4.3						
SNAA	Sanae	40.02	202	⇓i	P	16 20 22.9	+6.1
VNA2	Neumayer--Watz	41.08	204		P	16 20 31.4	+5.9
VNA1	Neumayer--Stat	41.26	204	⇑i	P	16 20 32.1	+5.1
VNA3	Neumayer Olymp	41.88	204	⇑i	P	16 20 31.3	-0.7
QSPA	South Pole Qui	50.35	180	eP	P	16 21 39.4	+0.4
	4.0nm,0.8s,mb4.5						
NWAO	Narrogin (SRO)	56.41	107	LR	LR	16 39 58.5	
	comp=Z,90nm,19.6s,MS3.9,baz=292,slow=29						
VNDA	Vanda	56.64	166	P	P	16 22 24.8	-0.8
	1.2nm,0.7s,mb4.0,baz=261,slow=7.6,SNR=8.2						
VNDA				LR	LR	16 43 49.1	
	comp=Z,55nm,21.7s,MS3.6,baz=54,slow=33						
SBA	Scott Base	57.30	168	eP	P	16 22 31.5	+1.3
	2.9nm,0.8s,mb4.4						
DBIC	Dimbokro	65.83	302	LR	LR	16 50 08.0	
	comp=Z,88nm,19.6s,MS4.0,baz=148,slow=34						
ASAR	Alice Springs	73.73	107	P	P	16 24 16.2	-0.4
	0.6nm,0.7s,mb3.6,baz=227,slow=5.2,SNR=9.9						
STKA	Stephens Creek	74.26	118	P	P	16 24 20.6	+1.1
	1.2nm,0.5s,mb4.1,baz=225,slow=5.9,SNR=7.2						
STKA	Stephens Creek	74.26	118	eP	P	16 24 20.4	+0.8
KOLN	Koldanda	75.85	34	eP	P	16 24 28.1	-0.7
	12nm,1.1s,mb4.7						
CMAR	Chiang Mai Arr	76.16	51	P	P	16 24 32.1	+1.4
	0.5nm,0.8s,mb3.5,baz=225,slow=7.7,SNR=2.8						
WRA	Warramunga Arr	76.29	105	P	P	16 24 32.2	+0.8
	0.9nm,1.0s,mb3.6,baz=224,slow=4.5,SNR=6.0						
WRAB	Tennant Creek	76.30	105	P	P	16 24 31.6	+0.1
	5.9nm,1.0s,mb4.5						
DMN	Daman	76.37	35	eP	P	16 24 31.6	-0.1
	18nm,1.0s,mb5.0						
PKI	Pulchoki	76.47	35	eP	P	16 24 31.7	-0.6
GKN	Gorkha	76.50	35	eP	P	16 24 31.9	-0.6
	16nm,1.0s,mb4.9						
KKN	Kakani	76.60	35	eP	P	16 24 32.7	-0.3
	6.0nm,0.8s,mb4.6						
GUN	Gumba	76.97	36	eP	P	16 24 35.0	-0.1
	18nm,0.8s,mb5.0						
CPUP	Villa Florida	82.96	242	LR	LR	16 54 19.5	
	comp=Z,48nm,18.6s,MS3.9,baz=335,slow=30						
MIAR	Mount Ida	147.54	274	ePKPbc	PKPdf	16 32 25.3	+0.2
INK	Inuvik	151.49	360	PKPbc	PKPdf	16 32 35.1	+4.9
	1.5nm,0.4s,baz=131,slow=2.3,SNR=4.4						
TXAR	Lajitas Array	153.01	257	PKPbc	PKPdf	16 32 41.6	+7.9
	1.8nm,0.8s,baz=146,slow=4.5,SNR=9.9						
ILAR	Eielson Array	153.94	13	PKPbc	PKPdf	16 32 39.9	+6.0
	0.7nm,1.0s,baz=311,slow=3.2,SNR=5.0						

*IDC **19** 16:31:50.9±2.0, 9.16N×127.02E, mb3.7/6, mb1 3.9/6, mb1mx3.7/18, MS3.3/1, Ms1 3.3/1, ms1mx2.5/23, Error ellipse: s-maj=82.6km s-min=24.7km az=55.0*
*MAN **19** 16:31:56.2, 8.68N×126.20E, h10^{km}, mb4.4, ML3.3, MS3.2*
ISC 19 16:31:55.7±1.0**, 8.67N**±0.05×**126.30E**±0.06**, h22**^{km}±7^{km}**, n18, σ0^{s}84**/23**, mb3.5**/6**, MS3.3**/1**, 2C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BIPH	Bislig	0.48	173	⇑iP	Pb	16 32 06.0	+0.5
BIPH				i S	Sb	16 32 12.5	+0.4
BUTP	Butuan	0.74	294	eP	Pb	16 32 08.7	-1.0
BUTP				eS	Sb	16 32 18.4	-1.0
SCPH	Surigao	1.37	324	⇓eP	Pn	16 32 19.3	-0.5
SCPH				eS	Sn	16 32 38.1	+0.7
BUKP	Musuan	1.46	238	eP	Pn	16 32 21.9	+0.8
CGP	Cagayan de Oro	1.61	263	⇑eP	Pn	16 32 22.4	-0.8
CGP				eS	Sn	16 32 43.5	0.0
MATI	Mati	1.71	182	eP	Pn	16 32 25.7	+1.0
MSLP	Maasin	2.04	316	eP	Pn	16 32 29.1	-0.3
TBP	Tagbilaran	2.62	293	eP	Pn	16 32 37.8	+0.1
TBP				eS	Sn	16 33 09.2	+0.1
OCLP	Ormoc	2.90	325	eP	Pn	16 32 42.9	+1.2
BESP	Borongan	3.04	344	eP	Pn	16 32 44.3	+0.7
IPIL	Ipil	3.80	257	eP	Pn	16 32 57.8	+3.4
LUBP	Lubang	7.79	311	eP	Pn	16 33 50.7	+0.1
FITZ	Fitzroy Crossi	26.61	181	P	P	16 37 35.3	+0.6
	0.9nm,0.8s,mb3.3,baz=42,slow=14,SNR=4.8						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	28.28	293	P	P	16 37 50.5	+0.6
	0.4nm,0.6s,mb3.2,baz=105,slow=6.4,SNR=4.8						
CMAR				PcP	PcP	16 41 00.1	-3.1
	0.2nm,0.4s,baz=149,slow=5.3,SNR=3.4						
WRA	Warramunga Arr	29.51	165	P	P	16 38 00.2	-0.8
	0.2nm,0.6s,mb3.1,baz=349,slow=9.9,SNR=2.9						
ASAR	Alice Springs	32.98	167	P	P	16 38 29.6	-1.9
	0.2nm,0.4s,mb3.4,baz=352,slow=6.9,SNR=11						
ASAR				PcP	PcP	16 41 13.1	-2.3
	0.6nm,0.8s,baz=347,slow=2.5,SNR=5.5						
ASAR				LR	LR	16 50 30.9	
	comp=Z,55nm,19.8s,MS3.3,baz=106,slow=34						
STKA	Stephens Creek	42.88	161	P	P	16 39 53.5	-1.0
	2.0nm,0.6s,mb4.0,baz=342,slow=10,SNR=5.4						
VNDA	Vanda	88.35	173	P	P	16 44 46.2	-0.4
	0.5nm,0.5s,mb4.0,baz=299,slow=7.0,SNR=3.8						

*GUC **19** 16:39:20.7±0.7, 33.57S×69.88W, h6^{km}±1^{km}, MD4.0, ML3.2*
*NEIC **19** 16:39:20.7, 33.57S×69.88W, h6^{km}, ML3.2(GUC), After GUC.*
*SYO **19** 16:39:20.7, 33.57S×69.88W, h6^{km}, MB4.8*
ISC 19 16:39:19.5±0.8**, 33.57S**±0.03×**69.77W**±0.04**, h9**^{km}±5^{km}**, n20, σ0^{s}61**/35**, mb4.8**/1**, 4C-5D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LMEL	Las Melosas	0.46	233	⇓iP	Pg	16 39 28.7	-0.1
LMEL				iS	Sg	16 39 35.2	+0.3
LMEL				AMP		16 39 36.5	
	comp=E,10μm,0.5s						
FCH	Farellones	0.50	299	⇑iP	Pg	16 39 29.7	+0.1
FCH				iS	Sg	16 39 36.4	0.0
FCH				AMP		16 39 38.7	
	comp=E,3μm,0.3s						
PCH	Pirque	0.62	265	⇓iP	Pg	16 39 31.9	-0.2
PCH				iS	Sg	16 39 40.4	-0.1
CLCH	Cerro Calan	0.67	285	⇑iP	Pb	16 39 32.7	-0.1
CLCH				iS	Sg	16 39 41.5	-0.3
CLCH				AMP		16 39 45.5	
	comp=E,3μm,0.7s						
DSCH	Colegio Aleman	0.69	284	⇓iP	Pb	16 39 33.4	+0.1
DSCH				iS	Sb	16 39 42.7	+0.1
DSCH				AMP		16 39 45.6	
	comp=E,4μm,0.5s						
ANTU	Antumapu	0.72	270	iP	Pb	16 39 33.4	-0.4
ANTU				iS	Sb	16 39 43.3	-0.2
ANTU				AMP		16 39 44.3	
	comp=N,2μm,0.5s						
CHCH	Chadas Angostu	0.82	244	⇑iP	Pb	16 39 35.3	-0.1
CHCH				iS	Sb	16 39 46.3	-0.1
RCDM	Rinconada Maip	0.87	275	eP	Pb	16 39 36.3	-0.1
RCDM				iS	Sb	16 39 47.8	-0.1
RCDM				AMP		16 39 49.2	
	comp=N,1μm,0.3s						
PEL	Peldehue	0.88	299	eP	Pb	16 39 36.1	-0.4
PEL				iS	Sb	16 39 48.4	+0.3
PEL				AMP		16 39 57.4	
	comp=N,2μm,0.4s						
CACH	El Canelo	0.88	232	eP	Pb	16 39 36.6	+0.1
CACH				iS	Sb	16 39 49.3	+1.2
CICH	Cipreses	0.92	216	⇑iP	Pb	16 39 37.6	+0.4
CICH				iS	Sb	16 39 50.5	+1.1
TACH	Talagante	0.98	265	⇓iP	Pb	16 39 38.0	-0.2
TACH				iS	Sb	16 39 50.9	-0.1
MDZ	Mendoza	1.03	49	eP	Pb	16 39 40.0	+0.9
MDZ				i		16 39 58.8	
MDZ				iS	Sb	16 40 03.0	+10
JACH	Jahuel	1.12	322	eP	Pb	16 39 41.1	+0.4
JACH				iS	Sb	16 39 56.1	+0.9
LNV	Longovilo	1.42	254	eP	Pn	16 39 45.0	-0.6
LNV				iS	Sb	16 40 02.5	-1.3
SFDO	San Fernando	1.47	224	eP	Pn	16 39 46.9	+0.6
PACH	Papudo	1.74	306	eP	Pn	16 39 50.9	+0.7
TRQA	Tornquist	7.75	127	eP	Pn	16 41 14.9	-0.4
	comp=N,12nm,0.6s						
NNA	Nana	22.44	342	P	P	16 44 19.7	-0.5
	comp=N,16nm,0.4s,mb4.8						
SYO	Syowa Base	65.56	158	⇓P	P	16 50 02.7	-2.4

DJA 19 16:53:30.2±0.5**, 8.12S×115.20E, h160**^{km}**, MD4.6**/4**, ML4.0**/2**, 1C-4D, Error ellipse: s-maj=50.0km s-min=14.0km az=11.0, Bali region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RATI	Rata	0.68	151	⇓ePn	P	16 53 53.9	-0.1
	507nm,0.2s						
RATI				⇓eSn	S	16 54 10.7	-1.6
KELI	Kelakatan	0.71	262	⇓ePn	P	16 53 54.2	+0.1
	65nm,0.2s						
KEDI	Kedomdong	0.97	112	⇓ePn	P	16 53 55.2	-0.6
	319nm,0.2s						
SRDI	Scrawed	1.10	251	⇑ePn	P	16 53 56.3	-0.7
	161nm,0.2s						

MAN 19 16:59:10.1, 19.83N×121.27E, h1^{km}**, mb4.6, ML3.5, MS3.4, 1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BBP	Basco	0.89	47	eP	Pg	16 59 27.2	-0.7
PIP	Pasuquin	1.62	202	⇓eP	Pn	16 59 39.5	-0.5
PIP				eS	Sb	17 00 00.5	-1.0
APYP	Conner	1.96	181	eP	Pn	16 59 44.8	-0.1
APYP				eS	Sn	17 00 09.7	-0.7
CVP	Callao Caves	2.18	166	eP	Pn	16 59 52.0	+3.9
CVP				eS	Sn	17 00 17.0	+0.9
ABRA	Dolores	2.24	194	eP	Pn	16 59 48.8	0.0

IDC 19 17:12:19.1±2.0**, 0.45S×150.18E, mb3.4**/4**, mb1 3.7**/4**, mb1mx3.6**/14**, Error ellipse: s-maj=159.0km s-min=28.0km az=124.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.82	218	P	P	17 17 43.5	-1.0
	0.7nm,0.9s,baz=40,slow=11,SNR=11						
ASAR	Alice Springs	27.97	213	P	P	17 18 10.8	-2.9
	0.1nm,0.6s,baz=37,slow=9.0,SNR=4.1						
FITZ	Fitzroy Crossi	29.83	233	P	P	17 18 28.6	-1.8
	1.2nm,0.8s,baz=41,slow=11,SNR=4.1						
ILAR	Eielson Array	79.16	23	P	P	17 24 25.6	-1.5
	0.5nm,1.0s,baz=245,slow=5.8,SNR=4.4						

*IDC **19** 17:45:14.7±0.9, 28.23N×127.93E, h127^{km}±9^{km}, mb3.7/12, mb1 3.9/13, mb1mx3.7/25, Error ellipse: s-maj=25.6km s-min=12.8km az=80.0*
*BJI **19** 17:45:15.7, 28.20N×127.90E, h140^{km}, mb4.5*
*NEIC **19** 17:45:15.8±0.8, 28.23N×127.94E, h140^{km}±8^{km}, mb4.2/8, Error ellipse: s-maj=11.0km s-min=9.1km az=74.0*
*JMA **19** 17:45:17.0±0.1, 28.12N×127.89E, h127^{km}±3^{km}, M4.5*
ISC 19 17:45:14.9±0.3**, 28.11N**±0.04×**127.88E**±0.06**, h146**^{km}±4^{km}**, n40, σ1^{s}09**/50**, mb3.9**/17**, 1C, Northwest of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JTK	Tokunoshima	1.00	108	P	P	17 45 39.8	+0.4
JTK				S	S	17 45 56.8	-1.5
JIH	Iheya	1.07	176	P	P	17 45 40.9	+0.8
JIH				S	S	17 45 58.2	-1.3
JOW	Kunigami	1.32	165	P	P	17 45 43.1	+0.5
	1μm,0.3s,baz=74,slow=7.3,SNR=367						
JOW				S	S	17 46 02.2	-1.7
JOW	Kunigami	1.32	165	P	P	17 45 43.2	+0.6
JOW				S	S	17 46 02.6	-1.3
JAM	Amami Oshima	1.55	78	P	P	17 45 45.4	+0.4
JAM				S	S	17 46 07.1	-1.1
JAGN	Aguni-jima	1.62	201	P	P	17 45 46.7	+1.0
JAGN				S	S	17 46 08.6	-0.9
JZK	Kikaishima	1.86	83	S	S	17 46 14.8	+0.6
NAH1	Naha	1.90	185	P	P	17 45 50.1	+1.1
NAH1				S	S	17 46 14.4	-0.8
JJT2	Tamagusuku 2	1.96	183	P	P	17 45 51.1	+1.4
JJT2				eS	S	17 46 16.2	-0.2
JKE	Kume jima 2	2.02	209	P	P	17 45 51.3	+0.9
JKE				eS	S	17 46 17.5	-0.2
JKC	Kuchinoerabu	3.10	40	P	P	17 46 05.0	+0.9
JTN	Tanegashima 3	3.71	46	P	P	17 46 13.3	+1.2
JTN				S	S	17 46 57.1	+1.2
TATO	Taipei	6.52	243	eP	P	17 46 51.9	+2.4
JHJ	Hachijo jima 2	11.40	61	P	P	17 47 58.5	+4.2
	30nm,0.3s,baz=91,slow=16,SNR=5.4						
MAJO	Matsushiro	12.12	43	P	P	17 48 02.2	-1.4
BJT	Baijiatuau	15.32	324	eP	P	17 48 45.3	+0.9
	29nm,0.7s						
CN2	Changchun	15.78	354	eP	P	17 48 53.5	+3.4
CN2				AMB	AMB		
	comp=Z,20nm,0.8s						
ENH	Enshi	16.21	282	P	P	17 48 54.3	-1.2
	comp=Z,4.4nm,0.4s						
XAN	Xi'an	17.28	295	P	P	17 49 09.0	+0.5
GTA	Gaotai	25.81	303	eP	P	17 50 34.1	0.0
GTA				AMB	AMB		
	comp=Z,5.0nm,0.5s,mb4.4						
SONM	Songino Array	25.82	325	P	P	17 50 34.2	+0.1
	comp=Z,2.6nm,0.7s,mb4.0,baz=142,slow=10,SNR=6.5						
ZAL	Zalesovo	40.59	322	P	P	17 52 39.8	-1.5
	comp=Z,0.9nm,0.5s,mb3.7,baz=345,slow=5.7,SNR=3.5						
KURK	Kurchatov	43.26	315	eP	P	17 53 02.0	-1.1
	comp=Z,2.5nm,0.5s,mb4.1						
FITZ	Fitzroy Crossi	45.99	183	⇑iP	P	17 53 25.9	+0.6
	comp=Z,3.1nm,0.8s,mb4.0						
FITZ	Fitzroy Crossi	45.99	183	P	P	17 53 26.2	+0.9
	comp=Z,2.2nm,0.4s,mb4.1,baz=1.8,slow=8.8,SNR=17						
WRAB	Tennant Creek	48.16	172	P	P	17 53 37.3	-5.1
	comp=Z,3.8nm,0.8s,mb4.1						
WRA	Warramunga Arr	48.17	172	P	P	17 53 42.8	+0.5
	comp=Z,2.3nm,0.9s,mb3.8,baz=353,slow=8.2,SNR=14						
WB2	Warramunga Arr	48.17	172	eP	P	17 53 43.0	+0.6
BVAR	Borovoye Array	48.68	317	P	P	17 53 45.3	-0.5
	comp=Z,1.2nm,0.6s,mb3.7,baz=82,slow=10,SNR=5.7						
BVAR				PcP	PcP	17 55 08.8	-0.3
	comp=Z,2.3nm,0.3s,baz=117,slow=2.9,SNR=17						
ZRNK	Zerenda	49.50	317	eP	P	17 53 49.7	-2.5
	comp=Z,2.9nm,0.6s,mb4.1						
ZRNK				ePcP	PcP	17 55 11.2	-1.0
ASAR	Alice Springs	51.80	173	P	P	17 54 10.7	+0.8
	comp=Z,0.7nm,0.5s,mb3.5,baz=1.2,slow=13,SNR=27						
MCK	McKinley	62.20	30	eP	P	17 55 19.7	-3.1
	comp=Z,2.7nm,0.7s,mb4.2						
ILAR	Eielson Array	62.94	29	P	P	17 55 25.8	-1.9
	comp=Z,0.8nm,0.5s,mb3.8,baz=262,slow=3.8,SNR=17						
INK	Inuvik	67.30	23	P	P	17 55 54.9	-0.6
	comp=Z,2.7nm,0.9s,mb4.1,baz=265,slow=6.4,SNR=6.8						
INK	Inuvik	67.30	23	eP	P	17 55 54.9	-0.6
	comp=Z,2.2nm,0.6s,mb4.2						
FINES	FINESS Array B	71.08	330	P	P	17 56 18.1	-0.5
	comp=Z,0.5nm,0.3s,mb3.6,baz=57,slow=5.1,SNR=7.7						
YKA	Yellowknife Ar	76.96	25	P	P	17 56 52.8	+0.4
	comp=Z,3.3nm,0.7s,mb4.1,baz=306,slow=5.9,SNR=6.4						
YKA	Yellowknife Ar	76.96	25	P	P	17 56 52.8	+0.4
NOA	NORSAR Array B	77.50	334	P	P	17 56 55.4	0.0
	comp=Z,0.2nm,0.5s,mb3.0,baz=58,slow=5.3,SNR=2.9						
PDAR	Pinedale Array	91.89	38	P	P	17 58 08.7	+1.1
	comp=Z,1.0nm,0.7s,mb4.0,baz=45,slow=2.1,SNR=9.2						

*IDC **19** 17:45:40.3±3.7, 20.26S×68.93E, mb3.7/4, mb1 4.0/5, mb1mx3.7/18, MS3.5/2, Ms1 3.6/2, ms1mx3.0/16, Error ellipse: s-maj=109.0km s-min=33.0km az=55.0*
*NEIC **19** 17:45:41.6±1.1, 20.26S×68.96E, h10^{km}, mb4.1/2, Error ellipse: s-maj=34.0km s-min=20.0km az=87.0*
ISC 19 17:45:39.9±1.3**, 20.2S**±0.2×**69.0E**±0.3**, h10**^{km}**, n8, σ0^{s}54**/7**, mb3.8**/7**, MS3.5**/2**, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MAW	Mawson	47.51	183	LR	LR	18 08 41.7	
	comp=Z,56nm,20.1s,MS3.5,baz=240,slow=29						
CM31	Chiang Mai Arr	48.38	39	P	P	17 54 23.1	-1.1
	0.8nm,0.5s,mb4.0						
CMAR	Chiang Mai Arr	48.38	39	P	P	17 54 24.6	+0.3
	0.6nm,0.7s,mb3.7,baz=235,slow=9.0,SNR=7.3						
CMAR				LR	LR	18 13 54.4	
	comp=Z,47nm,19.3s,MS3.5,baz=342,slow=35						
ASAR	Alice Springs	59.84	106	P	P	17 55 48.1	-0.1
	0.8nm,0.7s,mb3.9,baz=267,slow=6.2,SNR=8.7						
WRA	Warramunga Arr	60.97	102	P	P	17 55 56.6	+0.6
	0.4nm,0.7s,mb3.7,baz=259,slow=6.2,SNR=4.1						
QSPA	South Pole Qui	69.86	180	P	P	17 56 52.0	-0.3
	2.0nm,1.0s,mb4.0						
BVAR	Borovoye Array	72.97	1	P	P	17 57 11.8	+0.5
	0.7nm,0.7s,mb3.7,baz=153,slow=6.4,SNR=3.9						
ZAL	Zalesovo	75.12	10	P	P	17 57 23.9	+0.1
	1.0nm,0.6s,mb4.0,baz=266,slow=7.7,SNR=5.0						

*BER **19** 18:20:49.6±1.9, 67.86N×20.16E, ML1.4, Suspected explosion*
HEL 19 18:20:49.1±0.3**, 67.83N×20.30E, ML1.5**(BER)**, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KIF	Kilpisjarvi	1.19	9	eP	Pb	18 21 11.7	-0.6
KIF				eS	Sb	18 21 26.9	-1.2
KTK1	Kautokeino	1.61	41	eP	Pn	18 21 17.2	-1.7
KTK1				eSN	Sn	18 21 40.4	-0.2
KTK1				AML	AML	18 21 45.1	
	comp=Z,3.9nm,0.5s						
TRO	Tromso	1.88	345	eP	Pn	18 21 19.5	-3.2
TRO				eS	Sn	18 21 45.7	-1.8
TRO				AML	AML	18 21 49.6	
	comp=Z,4.5nm,0.5s						
LOF	Lofoten	2.56	280	eSG	Sg	18 22 08.0	-6.5
LOF				AML	AML	18 22 12.5	
	comp=Z,2.6nm,0.6s						
MELS	Mels	2.73	252	eSg	Sg	18 22 12.6	-7.3
MOR8	Moi Rana	2.84	237	eSG	Sg	18 22 11.3	-12
MOR8				AML	AML	18 22 15.5	
	comp=Z,6.0nm,0.6s						
STOK	Stokkvaagen	3.22	246	eSG	Sg	18 22 30.1	-6.3
STOK				AML	AML	18 22 35.0	
	comp=Z,6.3nm,0.4s						

SKHL 19 18:24:22.9±0.3**, 51.98N×142.76E, h10**^{km}**, mb4.3**/5**, Ms4.0**/1**, 1C-1D, Sakhalin Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TYV	Tymovskoe	1.12	183	⇑iPg	Pg	18 24 45.0	-0.3
TYV				AMB	AMB	18 24 46.9	
	188nm,0.6s						
TYV				sP		18 24 50.0	
TYV				eSg	Sg	18 25 00.5	+0.2
TYV				A		18 25 05.4	
	514nm,0.6s						
TYV				A		18 25 05.4	
	728nm,0.6s						
TYV				AMS	AMS	18 25 48.0	
	2μm,4.0s						
TYV				AMS	AMS	18 25 48.0	
	3μm,4.0s						
TYV				AMS	AMS	18 25 48.0	
	3μm,4.0s						
OKH	Okha	1.58	4	ePg	Pg	18 24 55.8	+1.4
OKH				eSg	Sg	18 25 18.0	+2.5
OKH				A		18 25 25.0	
	2μm,0.9s						
NKL	Nikolayevsk	1.73	314	ePb	Pb	18 24 55.0	+0.7
NKL				⇓iPg	Pg	18 24 57.0	-0.4
NKL				AMB	AMB	18 24 59.0	
	88nm,0.5s						
NKL				AMB	AMB	18 24 59.0	
	170nm,0.5s						
NKL				AMB	AMB	18 24 59.0	
	220nm,0.5s						
NKL				eSg	Sg	18 25 21.2	+0.7
NKL				A		18 25 27.5	
	550nm,0.6s						
NKL				A		18 25 27.5	
	48nm,0.6s						
UGL	Uglegorsk	2.94	189	ePn	Pn	18 25 12.0	+1.4
UGL				ePg	Pg	18 25 21.0	-0.6
UGL				AMB	AMB	18 25 24.8	
	65nm,0.4s						
UGL				AMB	AMB	18 25 24.8	
	48nm,0.4s						
UGL				eSb	Sb	18 25 49.8	-1.4
UGL				eSg	Sg	18 26 01.8	+1.0
UGL				A		18 26 04.0	
	100nm,0.7s						
UGL				A		18 26 04.0	
	190nm,0.7s						
UGL				A		18 26 04.0	
	51nm,0.7s						
GRNR	Gornyy	4.15	256	ePb	Pb	18 25 34.8	-1.0
GRNR				ePg	Pg	18 25 44.8	-1.0
GRNR				AMB	AMB	18 25 47.0	
	18nm,0.4s						
GRNR				eSg	Sg	18 26 42.0	+0.8
GRNR				A		18 26 43.6	
	92nm,0.7s						
YSS	Yuzh-Sakhalins	5.03	180	ePn	Pn	18 25 42.3	+2.0
YSS				ePb	Pb	18 25 52.2	+1.4
YSS				ePg	Pg	18 26 04.6	+1.2
YSS				eSn	Sn	18 26 38.2	-1.0
YSS				eSg	Sg	18 27 12.0	+1.6
EKMR	Ekimchan	6.09	284	ePn	Pn	18 25 57.5	+2.3
EKMR				ePb	Pb	18 26 08.5	-0.4
EKMR				ePg	Pg	18 26 22.4	-2.0
EKMR				AMB	AMB	18 26 27.4	
	3.0nm,0.5s						
EKMR				AMB	AMB	18 26 27.4	
	4.0nm,0.5s						
EKMR				AMB	AMB	18 26 27.4	
	8.0nm,0.5s						
EKMR				eSb	Sb	18 27 19.2	-3.4
EKMR				eSg	Sg	18 27 45.8	+0.2
EKMR				A		18 27 47.0	
	27nm,0.6s						
EKMR				A		18 27 47.0	
	6.0nm,0.6s						
EKMR				A		18 27 47.0	
	9.0nm,0.6s						
KLR	Kul'dur	7.53	253	erx	rx	18 26 43.6	
KLR				erx	rx	18 28 13.2	
KLR				erx	rx	18 28 35.7	
TEY	Ternei	8.06	213	erx	rx	18 28 48.0	
TEY				erx	rx	18 29 04.0	
BMKR	Bomnak	8.77	294	erx	rx	18 28 26.5	
BMKR				erx	rx	18 29 11.9	
YASR	Yasnyy	9.09	284	erx	rx	18 26 41.6	
YASR				eS	Sn	18 28 26.6	+6.1
YASR				erx	rx	18 29 27.1	
ZEA	Zeya	9.55	287	erx	rx	18 29 16.8	
ZEA				erx	rx	18 29 36.3	
KROS	Kirovskiy	9.79	291	eP	P	18 26 49.8	+3.1
KROS				erx	rx	18 28 46.0	

*INMG **19** 18:29:22.7±0.8, 36.75N×11.37W, h31^{km}±36^{km}, ML2.5, Error ellipse: s-maj=28.9km s-min=3.6km az=59.0*
*CSEM **19** 18:29:22.2±0.5, 36.99N×11.35W, h20^{km}, ML3.4/14, Error ellipse: s-maj=9.7km s-min=5.5km az=54.0*
MDD 19 18:29:21.2±2.0**, 36.93N×11.20W, mb4.1**/6**, Error ellipse: s-maj=17.6km s-min=12.0km az=51.0, PRXIMO, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	2.07	72	ePn	Pn	18 29 56.4	-1.3
PTEO				eSn	Sn	18 30 21.1	-3.5
	13nm,0.1s						
PTEO	Sao Teotonio	2.07	72	ePn	Pn	18 29 56.4	-1.3
PTEO				eSn	Sn	18 30 21.1	-3.5
	13nm,0.1s						
PLOU	Loures	2.54	39	ePn	Pn	18 30 02.7	-1.7
PLOU				eSn	Sn	18 30 33.4	-3.1
	29nm,0.2s						
PLOU	Loures	2.54	39	Pn	Pn	18 30 02.7	-1.7
PLOU				Sn	Sn	18 30 33.4	-3.1
	14nm,0.2s						
PBEJ	Beja	2.87	67	ePn	Pn	18 30 07.1	-2.0
PBEJ				eSn	Sn	18 30 40.5	-4.4
	5.8nm,0.2s						
PBEJ	Beja	2.87	67	ePn	Pn	18 30 07.1	-2.0
PBEJ				eSn	Sn	18 30 40.5	-4.4
	5.8nm,0.2s						
PALC	Alcoutim	3.02	79	ePn	Pn	18 30 09.4	-1.9
PALC				eSn	Sn	18 30 43.7	-5.1
	8.1nm,0.3s						
PALC	Alcoutim	3.02	79	ePn	Pn	18 30 09.4	-1.9
PALC				eSn	Sn	18 30 43.7	-5.1
	8.1nm,0.3s						
PTOM	Tomar	3.47	38	ePn	Pn	18 30 15.7	-1.9
PTOM				eSn	Sn	18 30 56.3	-3.7
	14nm,0.1s						
PTOM	Tomar	3.47	38	Pn	Pn	18 30 15.7	-1.9
PTOM				Sn	Sn	18 30 56.3	-3.7
	7.0nm,0.1s						
EMIN	Mina Concepcio	3.71	76	Pn	Pn	18 30 18.4	-2.5
	0.3nm,0.1s,SNR=14						
EMIN				Sn	Sn	18 31 00.5	-5.5
	3.8nm,0.2s,SNR=13						
EMIN	Mina Concepcio	3.71	76	Pn	Pn	18 30 18.4	-2.6
	0.3nm,0.1s,SNR=14						
EMIN				Sn	Sn	18 31 00.5	-5.5
	3.8nm,0.2s,SNR=13						
EBAD	Badajoz	3.79	60	Pn	Pn	18 30 19.9	-2.3
	1.3nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	18 31 03.0	-5.0
	2.4nm,0.1s,SNR=7.9						
EBAD	Badajoz	3.79	60	Pn	Pn	18 30 19.9	-2.2
	1.3nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	18 31 03.0	-5.0
	2.4nm,0.1s,SNR=7.9						
PCBR	Castelo Branco	4.13	44	ePn	Pn	18 30 24.8	-2.1
PCBR				eSn	Sn	18 31 11.3	-5.3
	5.3nm,0.5s						
PCBR	Castelo Branco	4.13	44	Pn	Pn	18 30 24.8	-2.1
PCBR				Sn	Sn	18 31 11.3	-5.3
	2.7nm,0.5s						
ESPR	Espera	4.29	89	Sn	Sn	18 31 12.8	-8.0
	18nm,0.3s,SNR=4.0						
ESPR	Espera	4.29	89	Sn	Sn	18 31 12.8	-7.9
	18nm,0.3s,SNR=4.0						
PVIS	Viseu	4.58	33	ePn	Pn	18 30 30.5	-2.9
PVIS				eSn	Sn	18 31 22.3	-5.8
	9.5nm,0.1s						
PVIS	Viseu	4.58	33	Pn	Pn	18 30 30.5	-2.9
PVIS				Sn	Sn	18 31 22.3	-5.8
	4.8nm,0.1s						
EADA	Adamuz	5.41	75	Pn	Pn	18 30 42.1	-3.0
	1.1nm,0.1s,SNR=6.9						
EADA				Sn	Sn	18 31 40.9	-8.1
	2.9nm,0.2s,SNR=7.4						
EADA	Adamuz	5.41	75	Pn	Pn	18 30 42.1	-3.0
	1.1nm,0.1s,SNR=6.9						
EADA				Sn	Sn	18 31 40.9	-8.1
	2.9nm,0.2s,SNR=7.4						
ELOB	Lobios	5.50	25	Sn	Sn	18 31 43.5	-7.8
	3.1nm,0.1s,SNR=7.9						
ELOB	Lobios	5.50	25	Sn	Sn	18 31 43.5	-7.8
	3.1nm,0.1s,SNR=7.9						
EZAM	Zamans	5.56	20	Pn	Pn	18 30 43.0	-4.3
	1.8nm,0.3s,SNR=7.9						
EZAM				Sn	Sn	18 31 44.5	-8.4
	1.4nm,0.2s,SNR=7.9						
PBRG	Braganca	5.97	34	eSn	Sn	18 31 55.1	-8.0
ECAL	Calabor	6.08	33	Pn	Pn	18 30 50.7	-3.9
	2.8nm,0.1s,SNR=7.9						
ECAL				Sn	Sn	18 31 57.6	-8.3
	1.6nm,0.1s,SNR=7.9						
ECAL	Calabor	6.08	33	Pn	Pn	18 30 50.7	-3.9
	2.8nm,0.1s,SNR=7.9						
ECAL				Sn	Sn	18 31 57.6	-8.3
	1.6nm,0.1s,SNR=7.9						
EMAZ	Mazaricos	6.25	15	Pn	Pn	18 30 53.4	-3.6
	0.5nm,0.1s,SNR=4.0						
EMAZ				Sn	Sn	18 31 59.3	-11
	2.2nm,0.1s,SNR=7.9						
EMAZ	Mazaricos	6.25	15	Pn	Pn	18 30 53.4	-3.6
	0.5nm,0.1s,SNR=4.0						
EMAZ				Sn	Sn	18 31 59.3	-11
	2.2nm,0.1s,SNR=7.9						
ERUA	La Rua	6.29	29	Pn	Pn	18 30 53.0	-4.5
	2.0nm,0.4s,SNR=7.9						
ERUA				Sn	Sn	18 32 02.4	-8.7
	1.4nm,0.2s,SNR=4.0						
EQES	Quesada	6.54	80	Pn	Pn	18 30 57.9	-3.1
	SNR=7.9						
EQES				Sn	Sn	18 32 09.1	-8.2
	0.3nm,0.2s,SNR=7.9						
EQES	Quesada	6.54	80	Pn	Pn	18 30 57.9	-3.1

	SNR=7.9						
EQES				Sn	Sn	18 32 09.1	-8.2
	0.3nm,0.2s,SNR=7.9						
EPON	Pontenova	7.11	25	Pn	Pn	18 31 04.2	-4.8
	1.9nm,0.2s,SNR=7.2						
EPON				Sn	Sn	18 32 21.9	-10
	1.1nm,0.2s,SNR=7.9						
EPON	Pontenova	7.11	25	Pn	Pn	18 31 04.2	-4.8
	1.9nm,0.2s,SNR=7.2						
EPON				Sn	Sn	18 32 21.9	-10
	1.1nm,0.2s,SNR=7.9						
EARI	Arriondas	7.85	34	Pn	Pn	18 31 15.8	-3.6
	SNR=7.9						
EARI				Sn	Sn	18 32 40.4	-10
	SNR=4.0						
EARI	Arriondas	7.85	34	Pn	Pn	18 31 15.8	-3.6
	SNR=7.9						
EARI				Sn	Sn	18 32 40.4	-10
	0.3nm,0.2s,SNR=4.0						

*IDC **19** 18:41:56.7±10.0, 35.84N×72.37E, mb3.8/3, mb1 4.0/4, mb1mx3.6/20, ML3.9/1, Error ellipse: s-maj=184.0km s-min=57.6km az=153.0*

*NEIC **19** 18:42:25.4±8.5, 37.20N×72.13E, h172km±43km, mb3.9/3, Error ellipse: s-maj=94.1km s-min=43.3km az=173.0*

ISC 19 18:42:27.6±1.3**, 37.42N**±0.06×**72.2E**±0.2**, h188**km±14km**, n21, σ1.07/23, mb3.4/2, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	4.85	14	P	P	18 43 41.2	+0.7
	SNR=57						
UCH	Uchtor	5.13	20	P	P	18 43 45.0	+0.9
	SNR=6.8						
KZA	Kyzart	5.22	26	P	P	18 43 45.5	+0.2
	SNR=13						
EKS2	Erkin-Say	5.38	13	P	P	18 43 48.0	+0.6
	SNR=17						
AAK	Ala-Archa	5.50	18	ePn	P	18 43 48.6	-0.3
	3.0nm,0.4s						
AAK				eS	S	18 44 50.8	-1.4
KBK	Karagaybulak	5.65	21	P	P	18 43 52.4	+1.6
	SNR=5.5						
THN	Thein Dam	5.77	149	eP	P	18 43 52.2	-0.2
	48nm,0.3s						
THN				eS	S	18 44 56.6	-1.8
CHMS	Chumysh	5.91	19	P	S	18 45 00.2	-1.5
	SNR=6.5						
DDI	Dehra Dun	8.61	144	e	S	18 46 04.0	-1.1
KOLN	Koldanda	13.61	132	eP	P	18 45 33.2	-0.8
	6.0nm,0.4s						
KURK	Kurchatov	14.07	17	eP	P	18 45 41.5	+2.0
	5.1nm,0.7s						
GKN	Gorkha	14.08	128	eP	P	18 45 40.5	+0.7
KKN	Kakani	14.63	127	eP	P	18 45 47.4	+0.7
	4.5nm,0.5s						
DMN	Daman	14.65	128	eP	P	18 45 47.8	+0.8
	10nm,0.6s						
PKI	Pulchoki	14.87	128	eP	P	18 45 50.6	+0.9
	5.6nm,0.3s						
GUN	Gumba	14.93	125	eP	P	18 45 51.9	+1.4
	7.4nm,0.4s						
BVAR	Borovoye Array	15.65	356	P	P	18 45 58.3	-1.0
	0.4nm,0.3s,baz=165,slow=9.1,SNR=5.6						
ZRNK	Zerenda	15.69	353	eP	P	18 45 59.9	+0.2
	2.2nm,0.5s						
ZAL	Zalesovo	18.68	24	P	P	18 46 31.6	-1.9
	4.0nm,0.4s,baz=248,slow=8.5,SNR=18						
ARCES	ARCESS Array B	40.66	337	P	P	18 49 50.4	-0.1
	1.5nm,0.8s,mb3.6,baz=117,slow=8.1,SNR=8.7						
NOA	NORSAR Array B	44.21	322	P	P	18 50 18.3	-0.9
	0.4nm,0.7s,mb3.2,baz=110,slow=6.5,SNR=3.0						

JMA 19 18:44:41.8±0.1**, 42.47N**×**139.19E, h18**km±2km**, M1.2, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOSM	Okushiri--Mats	0.44	151	P	Pb	18 44 50.5	-0.2
JOSM				eS	Sb	18 44 56.9	+0.1
JYM2	Yakumo 2	0.94	112	P	Pb	18 44 59.2	-0.1
JYM2				eS	Sb	18 45 11.9	+0.5
JNB	Noboribetsu	1.37	89	eS	Sb	18 45 23.9	+0.3

*NIED **19** 18:44:00, 44.70N×150.10E, h35km, Mw3.7 Best double couple: Mo4.7×10^14 NP1:φs240°, δ86°, λ-140°. NP2: φs147°, δ50°, λ-5°.*

*IDC **19** 18:44:38.5±5.1, 44.66N×148.86E, mb3.9/5, mb1 4.0/5, mb1mx3.7/21, Error ellipse: s-maj=357.0km s-min=22.4km az=86.0*

*JMA **19** 18:44:41.5±0.5, 44.66N×150.11E, h30km, M3.9*

ISC 19 18:44:44.0±1.7**, 44.6N**±0.1×**149.8E**±0.1**, h71**km±15km**, n23, σ1.10/26, mb3.8/5, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	Nemuro 2	3.16	249	P	P	18 45 31.7	-0.9
NEM2				eS	S	18 46 09.4	+0.1
JRA	Rausu	3.41	261	P	P	18 45 37.4	+1.3
JRA				eS	S	18 46 19.9	+4.3
JNK	Nakash	3.79	257	P	P	18 45 41.5	+0.2
JNK				eS	S	18 46 26.6	+1.7
JAK	Akkeshi	4.01	249	P	P	18 45 43.4	-1.1
JAK				eS	S	18 46 29.5	-1.1
JAR	Ashorobuto	4.53	256	P	P	18 45 52.3	+0.6
JAR				eS	S	18 46 44.7	+1.1
JOB	Onbets	4.63	251	P	P	18 45 52.7	-0.4
JMP	Maruseppu	4.65	265	P	P	18 45 56.3	+2.9
JCH	Churui	5.06	249	P	P	18 45 58.2	-0.9
JCH				eS	S	18 46 55.7	-1.2
JFR	Furan	5.39	257	P	P	18 46 05.6	+2.0
JNBK	Urakawa-nobuka	5.62	248	P	P	18 46 05.5	-1.1
JNB	Noboribetsu	6.70	255	P	P	18 46 21.7	-0.1
JNB				eS	S	18 47 36.8	-0.6
JKB	Kayabe	6.94	250	P	P	18 46 24.1	-1.0
JKB				eS	S	18 47 38.9	-4.4
JANG	Nango	7.42	238	eS	Sx	18 47 46.8	
JTM	Tenmabayashi	7.46	242	eS	Sx	18 47 49.9	
JTH	Tanohata	7.49	234	eS	Sx	18 47 47.9	
JRG	Rokugo	8.56	236	eS	Sx	18 48 16.0	
JIO	Ouri	8.80	229	eS	Sx	18 48 19.6	
ARCES	ARCESS Array B	59.12	340	P	P	18 54 37.6	-1.3
	2.5nm,1.0s,mb4.2,baz=36,slow=7.8,SNR=2.9						
FINES	FINESS Array B	64.98	334	P	P	18 55 17.3	-0.7
	3.8nm,1.1s,mb4.2,baz=45,slow=5.4,SNR=5.1						
WRA	Warramunga Arr	65.74	196	P	P	18 55 24.1	+0.5
	0.6nm,0.6s,mb3.6,baz=16,slow=6.7,SNR=3.7						
ASAR	Alice Springs	69.45	196	P	P	18 55 48.1	+1.5
	0.5nm,0.6s,mb3.5,baz=13,slow=5.9,SNR=7.6						
NB2	NORSAR Subarra	69.50	340	P	P	18 55 46.3	0.0
	0.3nm,0.5s,mb3.4,baz=30,slow=6.2						
NOA	NORSAR Array B	69.50	340	P	P	18 55 46.8	+0.5
	0.2nm,0.4s,mb3.3,baz=42,slow=5.0,SNR=3.2						

*NEIC **19** 19:11:43.3, 33.42S×70.33W, h106km, MD3.7(GUC), After GUC.*

GUC 19 19:11:43.3±0.8**, 33.42S**×**70.33W, h106**km±2km**, MD3.7, ML3.7, 3C-8D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FCH	Farellones	0.10	17⇑	iP	P	19 11 58.7	+0.6
FCH				i S	S	19 12 10.3	+1.3
FCH				AMP		19 12 11.5	
	comp=E,4μm,0.3s						
CLCH	Cerro Calan	0.18	279⇑	iP	P	19 11 58.5	+0.3
CLCH				i S	S	19 12 09.9	+0.5
CLCH				AMP		19 12 11.3	
	comp=N,5μm,0.5s						
DSCH	Colegio Aleman	0.20	277	i P	P	19 11 58.7	+0.4
DSCH				i S	S	19 12 10.2	+0.6
DSCH				AMP		19 12 10.7	
	comp=N,10μm,0.4s						
PCH	Pirque	0.25	219⇓	iP	P	19 11 58.7	+0.3
PCH				i S	S	19 12 10.1	+0.3
SAN	Santiago	0.28	264	eP	P	19 11 58.7	+0.1
SAN				i S	S	19 12 10.3	+0.2
ANTU	Antumapu	0.30	240	eP	P	19 11 58.5	-0.2
ANTU				i S	S	19 12 10.3	+0.2
ANTU				AMP		19 12 10.6	
	comp=N,2μm,0.5s						
RCDM	Rinconada Maip	0.41	261	eP	P	19 11 59.4	+0.1
RCDM				i S	S	19 12 11.0	-0.1
RCDM				AMP		19 12 11.8	
	comp=E,5μm,0.1s						
PEL	Peldehue	0.41	313⇓	iP	P	19 11 59.8	+0.6
PEL				i S	S	19 12 11.9	+0.8
PEL				AMP		19 12 12.5	
	comp=N,6μm,0.3s						
LMEL	Las Melosas	0.43	167⇓	iP	P	19 11 59.6	+0.2
LMEL				i S	S	19 12 12.5	+1.0
LMEL				AMP		19 12 14.7	
	comp=N,2μm,0.1s						
TACH	Talagante	0.56	246⇓	iP	P	19 12 00.2	-0.1
TACH				i S	S	19 12 12.8	-0.2
CHCH	Chadas Angostu	0.58	208⇓	iP	P	19 12 00.4	0.0
CHCH				i S	S	19 12 13.2	0.0
CACH	El Canelo	0.73	198	eP	P	19 12 02.2	+0.5
CACH				i S	S	19 12 16.8	+1.3
JACH	Jahuel	0.77	343⇓	iP	P	19 12 02.9	+0.7
JACH				i S	S	19 12 17.4	+1.3
CICH	Cipreses	0.90	185⇓	iP	P	19 12 03.8	+0.4
CICH				i S	S	19 12 19.2	+0.8
LNV	Longovilo	1.05	239	eP	P	19 12 04.1	-0.9
LNV				i S	S	19 12 20.3	-0.9
PACH	Papudo	1.29	313⇑	iP	P	19 12 07.7	-0.1
PACH				i S	S	19 12 25.4	-0.7
SFDO	San Fernando	1.32	206⇓	iP	P	19 12 08.2	+0.1
SFDO				i S	S	19 12 26.6	-0.2
MDZ	Mendoza	1.35	67	eP	P	19 12 08.7	+0.2
MDZ				S	S	19 12 33.1	+5.7
TLL	Tololo Astrono	3.27	353	eP	P	19 12 34.0	+0.1
TLL				i S	S	19 13 11.9	-0.2
TLL				AMP		19 13 14.8	
	comp=N,119nm,0.4s						

IDC 19 19:15:53.0±27.0**, 48.83S**×**107.66E, mb3.4**/3**, mb1 3.7**/3**, mb1mx3.6**/9**, MS3.3**/1**, Ms1 3.3**/1**, ms1mx2.9**/10**, Error ellipse: s-maj=633.0km s-min=58.5km az=4.0, Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	32.54	49	P	P	19 22 25.8	-2.0
	0.6nm,0.9s,baz=212,slow=7.9,SNR=5.8						
VNDA	Vanda	35.25	162	LR	LR	19 36 24.0	
	comp=Z,46nm,19.8s,baz=304,slow=35						
WRA	Warramunga Arr	35.91	46	P	P	19 22 54.7	-2.1
	0.4nm,0.7s,baz=209,slow=8.6,SNR=3.6						
CMAR	Chiang Mai Arr	67.43	351	P	P	19 26 50.2	-2.3
	0.4nm,0.7s,baz=180,slow=5.4,SNR=4.1						

*IDC **19** 20:10:49.0±0.8, 39.77N×73.11E, mb4.1/14, mb1 4.3/16, mb1mx4.2/23, ML3.9/2, Error ellipse: s-maj=18.8km s-min=15.9km az=24.0*

*MOS **19** 20:10:53.5±1.3, 40.08N×72.92E, h33km, mb4.3/15, Error ellipse: s-maj=15.4km s-min=7.4km az=99.1*

*BJI **19** 20:10:54.5, 40.14N×73.00E, h63km, mB4.6, mb4.6, ML4.1, Ms4.3, Msz4.4*

*NEIC **19** 20:10:55.9±0.6, 40.06N×73.09E, h45km, mb4.2/10, Error ellipse: s-maj=9.9km s-min=9.7km az=99.0*

*NNC **19** 20:10:58.0±1.3, 40.50N×72.70E, h2km±5km, mpv4.3, Error ellipse: s-maj=11.5km s-min=8.1km az=124.0*

ISC 19 20:10:55.1±0.5**, 39.94N**±0.03×**73.03E**±0.05**, h56**km±5km**, n93, σ0.91/98, mb4.1/25, MS3.2/1, 19C-6D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	2.24	13	P	P	20 11 30.9	+0.2
	SNR=330						
KSH	Kashi	2.31	100	i PR	P	20 11 33.0	+1.4
KSH				S	S	20 12 05.6	+6.8
UCH	Uchtor	2.54	26	P	P	20 11 35.1	+0.2
	SNR=16						
KZA	Kyzart	2.71	37	P	P	20 11 37.0	-0.3
	SNR=41						
EKS2	Erkin-Say	2.77	11	P	P	20 11 38.5	+0.3
	SNR=54						
AAK	Ala-Archa	2.91	22	⇑Pn	P	20 11 40.3	+0.3
	111nm,0.6s						
AAK				⇑Pg	P	20 11 44.1	+4.1
AAK				⇑Lg		20 12 18.2	
	325nm,0.9s						
AAK	Ala-Archa	2.91	22	P	P	20 11 40.5	+0.4
	SNR=17						
AAK	Ala-Archa	2.91	22c	iPN	P	20 11 39.3	-0.7
KBK	Karagaybulak	3.07	27	P	P	20 11 42.8	+0.4
	SNR=38						
FRU	Bishkek	3.12	22	ePN	P	20 11 44.0	+0.9
FRU				e		20 11 51.0	
FRU				i S	S	20 12 25.0	+5.5
FRU				pmax	pmax		
	comp=Z,200nm,1.4s						
FRU				pmax	pmax		
	comp=N,2μm,1.8s						
CHMS	Chumysh	3.32	22	P	P	20 11 45.9	+0.1
	SNR=51						
ULHL	Ulahol	3.34	45	P	P	20 11 45.5	-0.8
	SNR=24						
USP	Ospenovka	3.50	18	P	P	20 11 48.2	-0.2
	SNR=20						
TKM2	Tokmak 2	3.55	32	P	P	20 11 48.9	-0.2
	SNR=22						
CEP	Cherat	6.17	189	⇑P	P	20 12 27.5	+1.7
CEP				S	S	20 13 43.0	+7.2
CHCP	Chirah Chowk	6.28	178	P	P	20 12 28.7	+1.5
THW	Thamme Wali	7.21	189	⇓P	P	20 12 40.3	0.0
SBDP	Sheikh Budin	7.83	194	P	P	20 12 47.4	-1.5
SARP	Sargodha	8.01	182	P	P	20 12 50.7	-0.6
DRP	Derazinda	8.50	197	P	P	20 12 57.1	-0.9
MK31	Makanchi Array	9.61	41	⇑Pn	P	20 13 13.5	+0.4
	comp=N,0.8nm,0.7s,baz=238,slow=15,SNR=5.2						
MK31				⇓Lg		20 15 52.6	
	comp=N,8.1nm,0.8s,baz=221,slow=28,SNR=4.2						
MKAR	Makanchi Array	9.61	41	i P	P	20 13 13.5	+0.3
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURK	Kurchatov	11.46	18	⇑Pn	P	20 13 37.0	-1.4
	comp=Z,1.2nm,0.7s,baz=200,slow=16,SNR=4.9						
KURK				⇑Lg		20 16 46.9	
	comp=Z,21nm,1.1s,baz=116,slow=16,SNR=10						
KURK	Kurchatov	11.46	18	P	P	20 13 36.9	-1.5
KURK				pmax	pmax		
	comp=Z,13nm,2.2s						
WMQ	Urumqi	11.60	66	eP	P	20 13 40.6	+0.4
VOSK	Vostochnaya	12.86	354	⇑Pn	P	20 13 51.9	-5.2
	comp=Z,1.9nm,0.6s						
VOSK				⇑Lg		20 17 29.9	
	comp=Z,17nm,1.0s						
VOSK	Vostochnaya	12.86	354	P	P	20 13 51.9	-5.2
	comp=Z,1.0nm,0.6s						
BVA0	Borovoye Array	13.21	353	⇑Pn	P	20 13 57.2	-4.4
	comp=Z,0.4nm,0.5s,baz=154,slow=14,SNR=25						
BVA0				⇓Lg		20 17 39.1	
	comp=Z,2.2nm,0.9s,baz=157,slow=10,SNR=3.9						
BVA0	Borovoye Array	13.21	353	i P	P	20 13 57.2	-4.5
BVAR	Borovoye Array	13.21	353	Pn	P	20 13 57.8	-3.9
	comp=Z,0.5nm,0.3s,baz=166,slow=12,SNR=18						
BVAR				Lg		20 17 43.8	
	comp=Z,0.4nm,0.3s,baz=150,slow=32,SNR=4.2						
BRVK	Borovoye	13.25	353	eP	P	20 13 58.0	-4.2
	comp=Z,4.6nm,0.7s						
ZRNK	Zerenda	13.30	349	⇓Pn	P	20 13 58.9	-3.9
	comp=Z,3.8nm,0.7s						
ZRNK				⇓Lg		20 17 43.9	
	comp=Z,18nm,1.3s						
KOLN	Koldanda	14.97	141	eP	P	20 14 21.6	-3.1
	comp=Z,15nm,0.6s						
GKN	Gorkha	15.30	138	eP	P	20 14 25.9	-3.0
	comp=Z,9.7nm,0.3s						
KKN	Kakani	15.80	136	eP	P	20 14 30.2	-5.2
	comp=Z,13nm,0.5s						
DMN	Daman	15.86	137	eP	P	20 14 30.3	-5.8
	comp=Z,13nm,0.7s						
GUN	Gumba	16.03	135	eP	P	20 14 33.0	-5.3
PKI	Pulchoki	16.05	136	eP	P	20 14 31.3	-7.2
	comp=Z,7.5nm,0.5s						
ZAL	Zalesovo	16.11	26	Pn	P	20 14 37.3	-1.7
	comp=Z,1.4nm,0.3s,baz=257,slow=6.8,SNR=8.7						
ZAL	Zalesovo	16.11	26	P	P	20 14 37.3	-1.7
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ARU	Arti	19.04	335⇑	iP	P	20 15 14.4	-0.7
ARU				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ARU	Arti	19.04	335⇑	iP	P	20 15 14.4	-0.7
	comp=Z,5.0nm,1.0s						
GTA	Gaotai	20.60	83	eP	P	20 15 31.9	+0.1
GTA				AP		20 15 41.6	
GTA				XP		20 15 47.1	
GTA				S	S	20 19 12.8	-1.2
GTA				AMB	AMB		
	comp=Z,3.0nm,0.7s						
GTA				LR	LR		
	comp=N,188nm,8.7s						
GTA				LR	LR		
	comp=E,306nm,6.5s						
GTA				LR	LR		
	comp=Z,301nm,6.8s						
KIV	Kislovodsk	22.86	290⇑	eP	P	20 15 50.9	-3.3
KIV				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.2						
KIV	Kislovodsk	22.86	290	P	P	20 15 55.8	+1.6
	comp=Z,7.7nm,0.6s,mb4.3						
LZH	Lanzhou	24.52	89	eP	P	20 16 10.8	+0.4
LZH				AP		20 16 22.3	
LZH				XP		20 16 27.8	
LZH				AMB	AMB		
	comp=Z,25nm,1.0s,mb4.7						
LZH				AMB	AMB		
	comp=Z,115nm,4.6s						
SOC	Sochi	25.02	289	eP	P	20 16 14.1	-1.0
SOC				e		20 16 53.2	
SOC				eS	S	20 20 32.0	-0.5
SOC				eSS	SS	20 21 26.4	-8.5
SOC				eSSS	SSS	20 21 47.9	-4.4
SOC				pmax	pmax		
	comp=N,11nm,0.9s						
SOC				pmax	pmax		
	comp=Z,24nm,0.9s,mb4.7						
SOC				pmax	pmax		
	comp=E,13nm,0.6s						
SOC				MLR	MLR		
	comp=N,45nm,13.0s,MS3.3						
SOC				MLR	MLR		
	comp=Z,45nm,13.0s,MS3.2						
SOC				MLR	MLR		
	comp=E,40nm,14.0s,MS3.3						
SOC	Sochi	25.02	289	eP	P	20 16 14.1	-1.0
	comp=E,24nm,0.9s,mb4.7						
SOC				e		20 16 53.2	
SOC				eS	S	20 20 32.0	-0.5
SOC				eSS	SS	20 21 26.4	-8.5
SOC				eSSS	SSS	20 21 47.9	-4.4
SONM	Songino Array	25.16	61	P	P	20 16 16.2	-0.2
	comp=E,2.0nm,0.7s,mb3.8,baz=252,slow=7.8,SNR=4.7						
OBN	Obninsk	28.52	314	P	P	20 16 45.7	-1.4
OBN				e		20 17 34.8	
OBN				eSS	SS	20 22 52.0	-6.1
OBN				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
OBN	Obninsk	28.52	314	P	P	20 16 45.7	-1.4
	comp=Z,3.0nm,0.8s,mb4.1						
OBN				e		20 17 34.8	
OBN				eSS	SS	20 22 52.0	-6.1
KMI	Kunming	28.92	112	eP	P	20 16 51.8	+0.8
KMI				AP	pP	20 17 03.0	-1.9
KMI				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.1						
BRTR	Keskin Array B	30.08	282	P	P	20 17 01.9	+0.7
	comp=Z,1.6nm,0.7s,mb3.8,baz=92,slow=8.3,SNR=10						
BRTR	Keskin Array B	30.08	282	P	P	20 17 02.0	+0.8
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKASG	Malin Array Be	32.18	304	P	P	20 17 19.2	-0.3
	comp=Z,1.2nm,0.5s,mb4.0,baz=77,slow=7.3,SNR=10						
AKASG	Malin Array Be	32.18	304	P	P	20 17 19.2	-0.4
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
JOF	Joensuu	33.78	327	ep	P	20 17 33.8	+0.6
	comp=Z,0.6nm,0.3s,mb4.0						
JOF	Joensuu	33.78	327	eP	P	20 17 33.8	+0.6
JOF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.2						
FINES	FINESS Array B	35.61	323	P	P	20 17 49.4	+0.4
	comp=Z,2.8nm,0.5s,mb4.4,baz=111,slow=9.0,SNR=26						
FINES	FINESS Array B	35.61	323	eP	P	20 17 49.9	+0.9
KAF	Kangasniemi	35.69	324	ep	P	20 17 48.9	-0.7
	comp=Z,0.2nm,0.2s,mb3.7						
NJ2	Nanjing	37.56	87	eP	P	20 18 06.4	+0.7
NJ2				AP	pP	20 18 18.4	-1.7
NJ2				XP	sP	20 18 24.3	-2.5
NJ2				PP	PP	20 19 34.6	-0.2
NJ2				PPP	PPP	20 19 57.0	+0.4
NJ2				S	S	20 23 51.0	+0.5
NJ2				XS		20 24 12.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8						
IDI	Anoyia	38.05	279	P	P	20 18 10.0	+0.3
	comp=Z,1.2nm,0.3s,mb4.0,baz=54,slow=8.8,SNR=12						
KEV	Kevo	38.25	336	ep	P	20 18 10.0	-1.0
	comp=Z,0.3nm,0.3s,mb3.5						
ARCES	ARCESS Array B	38.63	335	P	P	20 18 15.1	+1.0
	comp=Z,3.9nm,0.5s,mb4.4,baz=110,slow=8.4,SNR=62						
ARCES	ARCESS Array B	38.63	335	P	P	20 18 15.1	+1.0
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ARE0	ARCESS Array S	38.63	335	eP	P	20 18 15.0	+0.8
CN2	Changchun	38.69	67	eP	P	20 18 13.8	-1.1
YAK	Yakutsk	40.25	38⇑	eP	P	20 18 28.5	+0.8
YAK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.4						
YAK	Yakutsk	40.25	38⇑	eP	P	20 18 28.5	+0.8
	comp=Z,5.0nm,0.6s,mb4.4						
HFS	Hagfors	41.42	319	P	P	20 18 38.2	+0.9
	comp=Z,3.2nm,0.5s,mb4.2,baz=98,slow=10,SNR=15						
HFS	Hagfors	41.42	319	P	P	20 18 38.2	+0.9
HFS				pmax	pmax		
	comp=Z,3.0nm,0.5s						
TIXI	Tiksi	41.99	23⇓	eP	P	20 18 41.9	+0.2
GERES	GERESS Array B	42.34	302	P	P	20 18 45.3	+0.4
	comp=Z,0.9nm,0.7s,mb3.5,baz=66,slow=8.2,SNR=9.3						
GERES	GERESS Array B	42.34	302	P	P	20 18 45.3	+0.4
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NB2	NORSAR Subarra	42.66	321	P	P	20 18 47.4	0.0
	comp=Z,1.9nm,0.7s,mb3.9,baz=91,slow=7.9						
NOA	NORSAR Array B	42.66	321	P	P	20 18 47.8	+0.4
	comp=Z,1.4nm,0.6s,mb3.9,baz=91,slow=7.9,SNR=11						
NOA	NORSAR Array B	42.66	321	P	P	20 18 47.8	+0.4
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ILAR	Eielson Array	71.03	17	P	P	20 22 08.2	-0.2
	comp=Z,1.1nm,1.0s,mb3.7,baz=321,slow=3.6,SNR=6.7						
ILAR	Eielson Array	71.03	17	P	P	20 22 08.2	-0.2
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
DBIC	Dimbokro	76.47	267	P	P	20 22 41.8	+0.9
	comp=Z,3.0nm,0.7s,mb4.3,baz=348,slow=6.8,SNR=6.9						
DBIC	Dimbokro	76.47	267	P	P	20 22 41.8	+0.9
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.7s						
DBIC	Dimbokro	76.47	267	P	P	20 22 41.4	+0.5
	comp=Z,3.7nm,0.6s,mb4.5						
YKA	Yellowknife Ar	77.73	4	P	P	20 22 47.8	+0.9
	comp=Z,1.0nm,0.7s,mb3.8,baz=352,slow=5.7,SNR=3.4						
YKA	Yellowknife Ar	77.73	4	P	P	20 22 47.8	+0.9
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	Warramunga Arr	82.51	124	P	P	20 23 13.2	-0.1
	comp=Z,1.5nm,0.6s,mb4.2,baz=325,slow=4.9,SNR=26						
WRA	Warramunga Arr	82.51	124	P	P	20 23 13.2	-0.1
WRA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
WRAB	Tennant Creek	82.51	124	eP	P	20 23 13.2	0.0
	comp=Z,3.2nm,0.5s,mb4.6						
WB2	Warramunga Arr	82.51	124	eP	P	20 23 13.5	+0.2
ASAR	Alice Springs	84.96	126	P	P	20 23 25.1	-0.5
	comp=Z,1.5nm,1.0s,mb4.1,baz=315,slow=5.1,SNR=15						
SNAA	Sanae	123.18	202⇑	iP	PKPdf	20 29 36.1	-8.6
VNA2	Neumayer--Watz	124.19	203⇑	iP	PKPdf	20 29 52.8	+6.1
VNA3	Neumayer Olymp	124.99	203⇑	iP	PKPdf	20 29 53.1	+5.0

*NEIC **19** 20:18:46.3±3.5, 37.26N×71.42E, h126km±24km, mb3.6/1, Error ellipse: s-maj=34.7km s-min=16.9km az=174.0*

IDC ***19*** *20:18:47.5±10.0, 37.34N×71.42E, h134km±94km, mb3.6/7, mb1 3.6/9, mb1mx3.4/20, ML3.9/1, MS4.0/1, Ms1 4.0/1, ms1mx2.6/22, Error ellipse: s-maj=58.0km s-min=25.3km az=174.0*

ISC 19 20:18:41.6±1.2**, 36.77N**±0.06×**71.9E**±0.2**, h151**km±15km**, n33,** σ0s96/35**, mb3.8**/7**, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	Thein Dam	5.33	143	ePB	P	20 20 00.0	-0.2
THN				eSG	S	20 21 00.1	-1.0
AML	Almayashu	5.53	14	P	P	20 20 02.5	-0.3
	SNR=69						
UCH	Uchtor	5.80	19	P	P	20 20 07.2	+0.7
	SNR=16						
KZA	Kyzart	5.89	25	P	P	20 20 08.1	+0.4
	SNR=6.4						
EKS2	Erkin-Say	6.05	13	P	P	20 20 09.8	-0.1
	SNR=23						
AAK	Ala-Archa	6.18	18	P	P	20 20 12.1	+0.5
	SNR=23						
AAK	Ala-Archa	6.18	18	ePn	P	20 20 10.8	-0.8
KBK	Karagaybulak	6.32	21	P	P	20 20 14.5	+1.0
	SNR=7.3						
ULHL	Ulahol	6.40	30	P	P	20 20 15.2	+0.6
	SNR=12						
CHMS	Chumysh	6.59	18	P	P	20 20 17.2	+0.1
	SNR=20						
TKM2	Tokmak 2	6.76	23	P	P	20 20 20.4	+1.0
	SNR=20						
USP	Ospenovka	6.78	16	P	P	20 20 19.2	-0.5
	SNR=9.5						
SMLA	Simla	7.10	141	eP	P	20 20 36.7	+13
SMLA				eSB	S	20 21 53.0	+9.3
DDI	Dehra Dun	8.21	140	eSG	S	20 22 08.0	-2.1
DDI				e		20 25 18.1	
KOLN	Koldanda	13.32	129	eP	P	20 21 45.4	-0.2
	2.1nm,0.2s						
GKN	Gorkha	13.82	126	eP	P	20 21 52.6	+0.6
	4.0nm,0.2s						
KKN	Kakani	14.39	125	eP	P	20 21 59.6	+0.4
	4.3nm,0.4s						
DMN	Daman	14.40	126	eP	P	20 21 59.4	+0.1
	6.0nm,0.6s						
PKI	Pulchoki	14.62	125	eP	P	20 22 02.6	+0.5
	2.8nm,0.2s						
BVAR	Borovoye Array	16.29	357	P	P	20 22 21.1	-1.7
	0.2nm,0.3s,baz=167,slow=10,SNR=4.6						
BVAR				S	S	20 25 14.7	-3.5
	0.6nm,0.3s,baz=158,slow=11,SNR=8.5						
ZRNK	Zerenda	16.31	354	P	P	20 22 22.0	-1.0
	1.5nm,0.4s						
ZAL	Zalesovo	19.35	23	P	P	20 22 58.3	+1.0
	0.9nm,0.3s,baz=275,slow=5.5,SNR=6.6						
SONM	Songino Array	27.56	55	P	P	20 24 22.3	+6.1
	1.6nm,0.8s,mb3.8,baz=135,slow=14,SNR=2.8						
BRTR	Keskin Array B	30.08	287	P	P	20 24 39.2	+0.5
	1.3nm,0.5s,mb3.9,baz=103,slow=8.8,SNR=9.1						
AKASG	Malin Array Be	33.37	308	P	P	20 25 06.8	-0.3
	2.3nm,0.7s,mb4.0,baz=80,slow=7.1,SNR=6.2						
FINES	FINESS Array B	37.69	326	P	P	20 25 44.4	+0.9
	4.2nm,1.0s,mb4.0,baz=123,slow=9.8,SNR=5.8						
FINES	FINESS Array B	37.69	326	P	P	20 25 44.4	+0.9
ARCES	ARCESS Array B	41.19	337	P	P	20 26 11.9	-0.4
	2.3nm,0.9s,mb3.8,baz=131,slow=9.6,SNR=6.0						
NB2	NORSAR Subarra	44.62	323	P	P	20 26 40.1	0.0
	0.7nm,0.5s,mb3.5,baz=94,slow=7.9						
NOA	NORSAR Array B	44.62	323	P	P	20 26 40.7	+0.7
	0.7nm,0.5s,mb3.5,baz=96,slow=7.7,SNR=4.9						
NOA	NORSAR Array B	44.62	323	P	P	20 26 40.7	+0.7
TGY	Tagaytay City	49.04	104	LR	LR	20 49 37.3	
	comp=Z,145nm,18.6s,baz=80,slow=37						
ESDC	Sonseca Array	58.00	298	P	P	20 28 21.1	+0.5
	0.8nm,0.5s,mb3.8,baz=55,slow=7.9,SNR=4.9						

MAN 19 20:22:05.4, 13.85N×120.37E, h93km, mb4.3, ML3.1, MS2.9, 1C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.16	226	eP	P	20 22 20.6	+1.9
LUBP				eS	S	20 22 29.8	+1.2
TGY	Tagaytay City	0.61	65	⇓iP	P	20 22 22.0	+0.5
TGY				eS	S	20 22 34.0	+0.5
LQP	Lukban	1.17	77	⇓iP	P	20 22 27.7	0.0
BOAC	Boac	1.49	105	eP	P	20 22 31.6	0.0
SJMP	San Jose	1.56	152	eP	P	20 22 33.0	+0.6
SJMP				eS	S	20 22 52.0	-0.6
POLP	Polilio Island	1.76	60	eP	P	20 22 35.5	+0.4
BUSP	Coron	1.84	185	eP	P	20 22 36.5	+0.5
BUSP				eS	S	20 22 58.6	-0.1
PCPH	Palayan	1.85	22	⇑iP	P	20 22 35.0	-1.1
PCPH				i S	S	20 22 58.4	-0.5
OTRP	Odiongan	2.19	132	eP	P	20 22 41.1	+0.4
BALP	Baler	2.22	32	eP	P	20 22 42.1	+0.9
CUYO	Cuyo Island	3.05	168	eP	P	20 22 51.9	-0.8

ORF ***19*** *20:29:33.9, 15.50S×169.11E, h30km, mb5.7*
LDG ***19*** *20:29:34.8±0.2, 13.66S×166.73E, h10km, Mb5.5/4, Ms4.6/8, Error ellipse: s-maj=36.9km s-min=9.0km az=85.0*
IDC ***19*** *20:29:36.0±1.8, 13.93S×166.73E, h18km±9km, mb4.7/16, mb1 4.9/17, mb1mx4.8/20, MS4.5/12, Ms1 4.5/12, ms1mx4.4/18, Error ellipse: s-maj=18.4km s-min=15.3km az=126.0*
MOS ***19*** *20:29:37.4±1.1, 13.88S×166.49E, h33km, mb5.3/22, Error ellipse: s-maj=14.8km s-min=12.8km az=123.9*
HRVD ***19*** *20:29:39.8±0.2, 14.01S×166.57E, h30km, MW5.2/59, Centroid moment Tensor Solution. LP body waves: s54,c83; Mantle waves: s59,c99; Half duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.67±.02; $M_{\theta\theta}$0.11±.02; $M_{\phi\phi}$-0.78±.02; $M_{r\theta}$0.28±.03; $M_{\theta\phi}$0.18±.02; $M_{\phi r}$-0.04±.03; Best double couple: M_0.8×10^{17} NP1:ϕ_s10°, δ46°, λ122°. NP2:ϕ_s148°, δ53°, λ61°. Principal axes: T .78, Plg67°, Azm356°; N .04, Plg22°, Azm166°; P -.82, Plg4°, Azm258°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***19*** *20:29:39.8±1.5, 13.93S×166.78E, h51km±13km, mb5.2/28 Error ellipse: s-maj=9.6km s-min=8.3km az=67.0*
BJI ***19*** *20:29:42.7, 13.25S×166.45E, h51km, mB5.4, mb5.2, Ms5.4, Msz5.4*
SYO ***19*** *20:29:49.1, 14.01S×166.54E, h128km, MB5.2*

ISC 19 20:29:33.7±2.0**, 13.90S**±0.05×**166.62E**±0.06**, h10**km±12km**, n271,** σ1s03/113**, mb5.2**/57**, MS4.6**/21**, 24C-12D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	Butte a Klehm	4.06	158	⇑iP	Pn	20 30 38.9	+1.6
DZM	Mont Dzumac	8.13	181	eP	P	20 31 33.8	-0.9
DZM				eS	Sn	20 32 59.7	-7.9
NOUC	Port Laguerre	8.17	182	eP	P	20 31 35.4	+0.3
NOUC				eS	Sn	20 33 02.7	-5.7
NOUC	Port Laguerre	8.17	182	eP	P	20 31 35.4	+0.3
NOUC				eS	Sn	20 33 02.7	-5.7
PMG	Port Moresby	19.57	281	P	P	20 34 04.5	-0.3
	1.1nm,0.3s,baz=86,slow=7.5,SNR=24						
PMG	Port Moresby	19.57	281	P	P	20 34 04.5	-0.2
PMG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PMG	Port Moresby	19.57	281	eP	P	20 34 06.1	+1.4
	comp=Z,51nm,1.0s						
CTA	Charters Tower	20.42	250	eP	P	20 34 14.6	+0.8
	comp=Z,37nm,1.0s						
CTA	Charters Tower	20.42	250	P	P	20 34 13.9	+0.1
	comp=Z,33nm,1.0s,baz=75,slow=13,SNR=18						
CTA				LR	LR	20 41 21.6	
	comp=Z,1μm,19.2s,MS4.4,baz=59,slow=34						
CTA	Charters Tower	20.42	250	P	P	20 34 13.9	+0.1
CTA				pmax	pmax		
	comp=Z,33nm,1.0s						
CTA				MLR	MLR		
	comp=Z,1μm,19.2s						
CTAO	Charters Tower	20.42	250	eP	P	20 34 14.4	+0.6
	comp=Z,130nm,1.2s						
URZ	Urewera	25.99	161	P	P	20 35 08.2	-0.2
	comp=Z,26nm,1.0s,mb4.7,baz=359,slow=4.1,SNR=8.0						
URZ				LR	LR	20 44 20.0	
	comp=Z,1μm,18.9s,MS4.5,baz=325,slow=34						
CNB	Canberra Magne	26.39	213	eP	P	20 35 14.3	+2.2
	comp=Z,30nm,1.1s,mb4.7						
STKA	Stephens Creek	29.07	228	eP	P	20 35 36.7	+0.2
	comp=Z,14nm,0.6s,mb4.9						
STKA				ePCP	PcP	20 38 43.2	-1.6
STKA				eSCP		20 42 33.1	
STKA	Stephens Creek	29.07	228	P	P	20 35 37.1	+0.6
	comp=Z,20nm,0.6s,mb5.0,baz=45,slow=7.8,SNR=62						
STKA				PcP	PcP	20 38 43.3	-1.5
	comp=Z,12nm,1.0s,baz=159,slow=0.7,SNR=3.2						
STKA				LR	LR	20 47 15.2	
	comp=Z,3μm,18.7s,MS4.9,baz=155,slow=36						
RPZ	Rata Peaks	29.96	174	P	P	20 35 43.0	-1.3
	comp=Z,14nm,0.7s,mb4.8,baz=326,slow=5.5,SNR=8.3						
RPZ				LR	LR	20 46 30.5	
	comp=Z,781nm,20.0s,MS4.3,baz=242,slow=34						
TOO	Toolangi	30.16	215	eP	P	20 35 46.5	+0.3
	comp=Z,6.9nm,0.9s,mb4.4						
WB2	Warramunga Arr	31.42	254	⇓iP	P	20 35 57.0	-0.4
WB2				eSCP		20 42 40.4	
WRAB	Tennant Creek	31.42	255	eP	P	20 35 56.7	-0.7
	comp=Z,19nm,1.1s,mb4.8						
WRAB				ePcP	PcP	20 38 48.3	-2.6
WRA	Warramunga Arr	31.43	254	P	P	20 35 56.1	-1.5
	comp=Z,16nm,1.2s,mb4.7,baz=85,slow=8.5,SNR=30						
WRA				PcP	PcP	20 38 49.6	-1.4
	comp=Z,5.0nm,1.0s,baz=86,slow=1.7,SNR=6.7						
WRA				ScP		20 42 31.4	
	comp=Z,1.2nm,0.8s,baz=86,slow=3.5,SNR=4.9						
WRA				LR	LR	20 48 02.7	
	comp=Z,990nm,20.0s,MS4.5,baz=85,slow=35						
WRA	Warramunga Arr	31.43	254	P	P	20 35 56.1	-1.4
WRA						20 38 49.6	
WRA				pmax	pmax		
	comp=Z,16nm,1.2s						
WRA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
WRA				MLR	MLR		
	comp=Z,990nm,20.0s						
ASAR	Alice Springs	32.40	248	P	P	20 36 04.8	-1.1
	comp=Z,7.7nm,0.6s,mb4.7,baz=75,slow=9.2,SNR=135						
ASAR				PcP	PcP	20 38 52.3	-1.3
	comp=Z,1.5nm,0.7s,baz=70,slow=2.2,SNR=3.8						
ASAR				ScP		20 42 35.0	
	comp=Z,2.6nm,0.8s,baz=84,slow=3.1,SNR=9.8						
ASAR				LR	LR	20 48 46.2	
	comp=Z,781nm,18.4s,MS4.4,baz=69,slow=35						
ASPA	Alice Springs	32.40	248	⇓iP	P	20 36 05.5	-0.5
ASPA				eSCP		20 42 43.5	
RAR	Rarotonga	32.81	108	LR	LR	20 45 37.1	
	comp=Z,377nm,21.1s,MS4.1,baz=331,slow=29						
RAR	Rarotonga	32.81	108	P	P	20 36 12.6	+3.1
	comp=Z,85nm,1.1s,mb5.6						
KAKA	Kakadu	33.31	268	eP	P	20 36 19.0	+5.0
	comp=Z,31nm,0.8s,mb5.3						
FORT	Forrest	39.19	238	eP	P	20 37 03.9	+0.2
	comp=Z,115nm,0.7s,mb5.7						
FITZ	Fitzroy Crossi	39.56	258	eP	P	20 37 08.1	+1.2
	comp=Z,22nm,0.9s,mb4.9						
FITZ	Fitzroy Crossi	39.56	258	P	P	20 37 07.2	+0.3
	comp=Z,5.1nm,0.6s,mb4.4,baz=129,slow=3.7,SNR=19						
PPT	Papeete	42.25	101	eS	S	20 43 50.0	+0.7
PPT				eL		20 47 31.4	
PPT				eR		20 49 19.9	
	comp=Z,874nm,24.2s						
TBI	Tubuai	42.53	109	eS	S	20 43 53.6	+0.3
TBI				eL		20 47 37.1	
TBI				eR		20 49 30.3	
	comp=Z,1μm,23.8s						
MBWA	Marble Bar	45.16	254	eP	P	20 37 53.6	+0.9
	comp=Z,40nm,1.1s,mb5.2						
NWAO	Narrogin (SRO)	48.64	238	P	P	20 38 18.2	-1.7
	comp=Z,9.0nm,0.8s,mb4.9,baz=66,slow=6.2,SNR=7.7						
NWAO	Narrogin (SRO)	48.64	238	P	P	20 38 18.2	-1.7
NWAO				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MUN	Mundaring	49.33	240	eP	P	20 38 24.7	-0.5
	comp=Z,116nm,1.1s,mb5.8						
KKM	Kota Kinabalu	53.80	288	⇓eP	P	20 39 05.9	+6.8
MAJO	Matsushiro	56.88	333	eP	P	20 39 20.5	-0.7
	comp=Z,84nm,1.0s,mb5.7						
MAT	Matsushiro	56.88	333	P	P	20 39 20.2	-1.0
MAT	Matsushiro	56.88	333	eP	P	20 39 20.0	-1.2
	comp=Z,94nm,1.2s,mb5.7						
SSE	Sheshan	62.49	316	P	P	20 39 58.5	-1.4
SSE				S	S	20 48 26.9	+1.5
SSE				XS		20 48 40.1	
SSE				AMB	AMB		
	comp=Z,29nm,0.9s,mb5.4						
VNDA	Vanda	63.68	181	P	P	20 40 05.1	-1.9
	comp=Z,16nm,0.9s,mb5.0,baz=27,slow=9.0,SNR=3.4						
VNDA	Vanda	63.68	181	P	P	20 40 05.1	-1.9
VNDA				pmax	pmax		
	comp=Z,16nm,0.9s						
VNDA	Vanda	63.68	181	P	P	20 40 05.1	-2.0
YSS	Yuzh-Sakhalins	64.24	342	⇑eP	P	20 40 10.5	-0.7
YSS				pmax	pmax		
	comp=Z,50nm,1.2s,mb5.4						
YSS	Yuzh-Sakhalins	64.24	342	⇑eP	P	20 40 10.5	-0.7
	comp=Z,50nm,1.2s,mb5.4						
NJ2	Nanjing	64.64	316	eP	P	20 40 12.9	-1.2
NJ2				AP	pP	20 40 23.3	+6.1
NJ2				PCP	PcP	20 40 46.5	-1.3
NJ2				S	S	20 48 50.0	-2.3
NJ2				XS		20 49 07.0	
NJ2				AMB	AMB		
	comp=Z,50nm,0.6s,mb5.7						
NJ2				LR	LR		
	comp=N,3μm,24.9s,MS5.5						
NJ2				LR	LR		
	comp=E,3μm,25.9s,MS5.5						
NJ2				LR	LR		
	comp=Z,6μm,25.8s,MS5.7						
WHN	Wuhan	66.92	312	eP	P	20 40 28.5	-0.2
PET	Petropavlovsk	67.00	355	eP	P	20 40 34.5	+5.7
PET				e		20 49 58.6	
PET				MLR	MLR		
	comp=Z,100nm,18.9s,MS4.0						
MDJ	Mudanjiang	67.25	332	P	P	20 40 30.9	+0.4
MDJ				PP	PP	20 43 01.5	+1.0
MDJ				S	S	20 49 17.9	-6.0
MDJ				AMB	AMB		
	comp=Z,50nm,1.2s,mb5.4						
MDJ	Mudanjiang	67.25	332	eP	P	20 40 30.5	0.0
	comp=Z,45nm,0.9s,mb5.5						
CN2	Changchun	68.61	329	⇑P	P	20 40 39.6	+0.5
CN2				eS	S	20 49 31.8	-8.3
CN2				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.4						
ENH	Enshi	70.35	310	eP	P	20 40 49.8	-0.2
	comp=Z,75nm,1.0s,mb5.6						
GYA	Guiyang	70.73	305	⇓iP	P	20 40 53.1	+0.8
GYA				PP	PP	20 43 34.8	+3.7
GYA				S	S	20 49 57.4	-7.9
GYA				PS	PS	20 50 44.3	+10
GYA				AMB	AMB		
	comp=Z,30nm,1.2s,mb5.1						
GYA				AMB	AMB		
	comp=Z,360nm,4.6s						
GYA				LR	LR		
	comp=N,2μm,18.4s,MS5.5						
GYA				LR	LR		
	comp=E,2μm,18.0s,MS5.5						
GYA				LR	LR		
	comp=Z,2μm,17.8s,MS5.5						
MIR	Mirnyy	70.83	204	⇑eP	P	20 40 51.5	-0.7
MIR				pmax	pmax		
	comp=Z,50nm,1.2s,mb5.3						
BJT	Baijiatuau	71.22	321	eP	P	20 40 55.1	+0.1
	comp=Z,22nm,0.7s,mb5.2						
BJI	Beijing	71.22	321	eP	P	20 40 55.6	+0.5
BJI				AMB	AMB		
	comp=Z,35nm,1.0s,mb5.2						
XAN	Xi'an	72.67	313	P	P	20 41 04.4	+0.6
XAN				AMB	AMB		
	comp=Z,26nm,1.1s,mb5.1						
KMI	Kunming	73.33	302	eP	P	20 41 09.8	+1.9
KMI				PP	PP	20 43 56.8	+3.5
KMI				S	S	20 50 25.8	-10
KMI				AMB	AMB		
	comp=Z,34nm,1.1s,mb5.2						
KMI				AMB	AMB		
	comp=Z,237nm,4.5s						
CM31	Chiang Mai Arr	74.04	294	eP	P	20 41 12.7	+0.7
	comp=Z,17nm,0.9s,mb5.0						
CMAR	Chiang Mai Arr	74.04	294	P	P	20 41 13.3	+1.3
	comp=Z,11nm,0.9s,mb4.8,baz=118,slow=4.4,SNR=72						
CMAR	Chiang Mai Arr	74.04	294	P	P	20 41 13.4	+1.3
CMAR				pmax	pmax		
	comp=Z,11nm,0.9s						
HHC	Hu-ho-hao-te	74.55	320	eP	P	20 41 15.5	+0.9
HHC				PP	PP	20 44 00.6	-2.7
HHC				S	S	20 50 38.6	-10
HHC				AMB	AMB		
	comp=Z,35nm,1.4s,mb5.1						
HHC				AMB	AMB		
	comp=Z,385nm,5.9s						
CD2	Chengdu	75.00	308	P	P	20 41 18.4	+0.9
CD2				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.0						
HIA	Hailar	75.25	330	eP	P	20 41 18.7	+0.2
	comp=Z,39nm,1.1s,mb5.2						
BTO	Baotou	75.39	319	eP	P	20 41 20.9	+1.5
BTO				AMB	AMB		
	comp=Z,29nm,1.4s,mb5.0						
QSPA	South Pole Qui	76.13	180	⇑eP	P	20 41 21.8	-1.1
	comp=Z,42nm,0.9s,mb5.4						
LZH	Lanzhou	77.30	312	⇑P	P	20 41 32.0	+1.7
LZH				PCP	PcP	20 41 40.8	-0.5
LZH				AMB	AMB		
	comp=Z,122nm,1.5s,mb5.6						
LZH				AMB	AMB		
	comp=Z,510nm,5.5s						
CLNS	Chul'man	78.52	338	eP	P	20 41 35.5	-1.0
CLNS				pmax	pmax		
	comp=Z,55nm,1.0s,mb5.4						
CLNS				pmax	pmax		
	comp=N,19nm,0.9s						
CLNS				pmax	pmax		
	comp=E,12nm,0.8s						
YAK	Yakutsk	81.05	343c	iP	P	20 41 49.6	-0.4
YAK				pmax	pmax		
	comp=Z,89nm,0.9s,mb5.7						
YAK				MLR	MLR		
	comp=Z,400nm,18.0s,MS4.8						
YAK	Yakutsk	81.05	343	⇑iP	P	20 41 49.6	-0.4
	comp=Z,89nm,0.9s,mb5.7						
SONM	Songino Array	81.46	324	P	P	20 41 53.5	+1.0
	comp=Z,14nm,0.8s,mb4.9,baz=135,slow=5.2,SNR=28						
GTA	Gaotai	81.64	314	P	P	20 41 54.8	+1.2
GTA				PP	PP	20 45 06.3	+3.8
GTA				S	S	20 51 56.0	-8.5
GTA				SS	SS	20 57 19.3	-5.7
GTA				AMB	AMB		
	comp=Z,57nm,1.1s,mb5.4						
GTA				AMB	AMB		
	comp=Z,345nm,10.6s						
GTA				LR	LR		
	comp=N,232nm,7.6s						
GTA				LR	LR		
	comp=E,313nm,6.5s						
GTA				LR	LR		
	comp=Z,361nm,6.8s						
MAW	Mawson	82.42	202	eP	P	20 41 56.8	-0.2
	comp=Z,8.2nm,0.8s,mb4.7						
MAW	Mawson	82.42	202	P	P	20 41 56.9	-0.1
	comp=Z,9.9nm,0.9s,mb4.7,baz=108,slow=7.3,SNR=18						
MAW				LR	LR	21 12 45.4	
	comp=Z,446nm,20.4s,MS4.8,baz=71,slow=31						
MAW	Mawson	82.42	202	P	P	20 41 56.9	-0.1
MAW				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MAW				MLR	MLR		
	comp=Z,446nm,20.4s						
BOD	Bodaibo	83.46	335	eP	P	20 42 01.4	-1.2
BOD				e		20 45 20.5	
ZAK	Zakamensk	84.51	325	⇑iP	P	20 42 08.5	+0.4
MCK	McKinley	84.56	18	eP	P	20 42 08.0	0.0
	comp=Z,13nm,1.1s,mb5.0						
LSA	Lhasa	84.59	302	P	P	20 42 11.0	+2.0
YBH	Yreka Blue Hor	85.27	45	P	P	20 42 11.9	-0.2
	comp=Z,1.8nm,0.7s,mb4.3,baz=186,slow=4.8,SNR=5.1						
YBH	Yreka Blue Hor	85.27	45	P	P	20 42 11.9	-0.2
YBH				pmax	pmax		
	comp=Z,2.0nm,0.7s						
COLA	College	85.72	18	⇑eP	P	20 42 13.9	+0.2
COLA	College	85.72	18	eP	P	20 42 12.9	-0.8
	comp=Z,11nm,0.8s,mb5.1						
ILAR	Eielson Array	85.93	18	P	P	20 42 13.5	-1.3
	comp=Z,5.6nm,0.6s,mb5.0,baz=247,slow=5.2,SNR=41						
ILAR	Eielson Array	85.93	18	P	P	20 42 13.5	-1.3
ILAR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MOY	Mondy	86.39	325	eP	P	20 42 18.0	+0.6
NVAR	Mina Array Bea	87.21	49	P	P	20 42 21.3	-0.4
	comp=Z,1.1nm,0.6s,mb4.3,baz=207,slow=6.3,SNR=5.2						
GUN	Gumba	88.44	299	eP	P	20 42 28.5	+0.6
	comp=Z,44nm,0.8s,mb5.7						
PKI	Pulchoki	88.75	299	eP	P	20 42 29.5	+0.1
	comp=Z,74nm,1.0s,mb6.0						
KKN	Kakani	88.92	299	eP	P	20 42 30.4	+0.2
	comp=Z,50nm,0.8s,mb5.9						
DMN	Daman	89.02	299	eP	P	20 42 31.0	+0.4
	comp=Z,117nm,1.0s,mb6.2						
TIXI	Tiksi	89.03	349	⇑eP	P	20 42 27.8	-1.9
TIXI				pmax	pmax		
	comp=Z,11nm,1.1s,mb5.1						
TIXI				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.6						
TIXI	Tiksi	89.03	349	⇑eP	P	20 42 27.8	-1.9
	comp=Z,11nm,1.1s,mb5.1						
SYO	Syowa Base	89.32	197	⇓P	P	20 42 29.6	-1.5
SYO	Syowa Base	89.32	197	⇑P	P	20 42 30.7	-0.4
GKN	Gorkha	89.53	299	eP	P	20 42 32.9	-0.1
	comp=Z,63nm,0.9s,mb6.0						
KOLN	Koldanda	90.35	298	eP	P	20 42 36.5	-0.4
	comp=Z,36nm,1.2s,mb5.6						
WMQ	Urumqi	91.70	315	P	P	20 42 42.5	-0.2
WMQ				PP	PP	20 46 25.0	+1.1
WMQ				S	S	20 53 30.0	-11
WMQ				SS	SS	20 59 44.0	-7.2
WMQ				AMB	AMB		
	comp=Z,28nm,1.5s,mb5.4						
WMQ				LR	LR		
	comp=N,105nm,20.0s,MS4.5						
WMQ				LR	LR		
	comp=E,145nm,22.0s,MS4.5						
MAIT	Maitri	93.79	188	⇓iP	P	20 42 50.9	-0.8
SNAA	Sanae	94.34	183	⇑iP	P	20 42 52.5	-1.7
SNAA	Sanae	94.34	183	⇑iS	Sx	20 54 32.9	
PDAR	Pinedale Array	94.84	47	LR	LR	21 20 32.7	
	comp=E,252nm,18.8s,MS4.7,baz=93,slow=32						
VNA3	Neumayer Olymp	95.03	181	⇑iP	P	20 42 58.7	+1.3
VNA2	Neumayer--Watz	95.29	182	⇑iP	P	20 43 00.1	+1.5
VNA1	Neumayer--Stat	95.59	182	⇑iP	P	20 43 02.2	+2.2
MKAR	Makanchi Array	96.17	317	i P	P	20 43 03.5	+0.3
MKAR				pmax	pmax		
	comp=Z,22nm,0.8s						
ZAL	Zalesovo	96.36	324	P	P	20 43 02.9	-1.0
	comp=Z,8.7nm,0.7s,mb5.3,baz=0.7,slow=6.0,SNR=49						
ZAL				LR	LR	21 29 01.2	
	comp=Z,134nm,18.8s,MS4.5,baz=201,slow=37						
ZAL	Zalesovo	96.36	324	P	P	20 43 02.9	-0.9
ZAL				pmax	pmax		
	comp=Z,9.0nm,0.7s						
ZAL				MLR	MLR		
	comp=Z,134nm,18.8s						
TXAR	Lajitas Array	96.43	61	PP	PP	20 46 57.9	-3.3
	comp=Z,0.2nm,0.3s,baz=239,slow=7.3,SNR=5.3						
TXAR				LR	LR	21 18 07.4	
	comp=Z,264nm,20.9s,MS4.7,baz=260,slow=30						
YKA	Yellowknife Ar	97.10	27	LR	LR	21 26 45.6	
	comp=Z,151nm,18.5s,MS4.5,baz=285,slow=35						
NVS	Novosibirsk	97.47	325	i P	P	20 43 07.3	-1.5
KSH	Kashi	99.19	308	eP	P	20 43 21.3	+4.4
KSH				ePP	PP	20 47 25.3	+3.3
KSH				AMB	AMB		
	comp=Z,80nm,5.4s						
KURK	Kurchatov	99.36	320	⇑eP	P	20 43 16.8	-0.6
VOSK	Vostochnaya	104.33	321	P	Pdif	20 43 37.7	-1.9
VOSK				pmax	pmax		
	comp=Z,9.0nm,1.5s						
VOSK	Vostochnaya	104.33	321	P	Pdif	20 43 37.7	-1.9
	comp=Z,9.0nm,1.5s						
BVA0	Borovoye Array	104.71	322	i P	Pdif	20 43 40.2	-1.1
BRVK	Borovoye	104.77	322	Pdif	Pdif	20 43 39.7	-1.9
ZRNK	Zerenda	105.54	322	P	Pdif	20 43 43.7	-1.2
ZRNK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
ZRNK	Zerenda	105.54	322	P	Pdif	20 43 43.7	-1.2
ZRNK				ePKPdf		20 47 56.9	
DAG	Danmarks Havn	117.06	1	⇑iP	PKPdf	20 48 17.6	-3.9
	comp=Z,1.4nm,0.5s						

DAG	Danmarks Havn	117.06	1	⇑eP	PKPdf	20 48 17.6	-3.9
KEV	Kevo	118.76	345	epkp	PKPdf	20 48 20.8	-4.1
ARCES	ARCESS Array B	119.29	345	PKP	PKPdf	20 48 22.6	-3.3
	comp=Z,13nm,0.6s,baz=83,slow=1.9,SNR=81						
ARCES	ARCESS Array B	119.29	345	PKIKP	PKPdf	20 48 22.6	-3.3
ARCES				pmax	pmax		
	comp=Z,13nm,0.6s						
ARE0	ARCESS Array S	119.29	345	ePKPdf	PKPdf	20 48 22.5	-3.4
JOF	Joensuu	121.88	338	epkp	PKPdf	20 48 23.3	-7.8
OBN	Obninsk	123.67	328	⇓iPKIKP	PKPdf	20 48 32.1	-2.6
OBN				e		20 55 28.4	
OBN				pmax	pmax		
	comp=Z,19nm,1.0s						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.5						
SDV	Santo Domingo	123.76	89	ePKPdf	PKPdf	20 48 32.6	-3.2
KIV	Kislovodsk	123.82	314	d iPKIKP	PKPdf	20 48 33.3	-2.0
KIV				e		20 50 12.3	
KIV				e		20 55 25.0	
KIV				pmax	pmax		
	comp=Z,12nm,1.2s						
KIV				MLR	MLR		
	comp=Z,81nm,19.0s,MS4.4						
KIV				MLR	MLR		
	comp=N,23nm,16.0s,MS4.2						
KIV				MLR	MLR		
	comp=E,37nm,21.0s,MS4.2						
KIV	Kislovodsk	123.82	314	i PKPdfr		20 48 33.3	
KIV				e		20 50 12.3	
KIV				e		20 55 25.0	
KAF	Kangasniemi	124.19	339	epkp	PKPdf	20 48 30.9	-4.7
FINES	FINESS Array B	124.72	338	PKP	PKPdf	20 48 33.5	-3.0
	comp=E,13nm,0.9s,baz=57,slow=2.3,SNR=40						
FINES	FINESS Array B	124.72	338	PKIKP	PKPdf	20 48 33.6	-3.0
FINES				pmax	pmax		
	comp=Z,13nm,0.9s						
ERZM	Erzurum	125.71	309	i P	PKPdf	20 48 38.4	-0.7
SOC	Sochi	125.99	314	i PKIKP	PKPdf	20 48 39.7	+0.2
SOC				e		20 50 30.9	
SOC				pmax	pmax		
	comp=Z,15nm,0.8s						
SOC				pmax	pmax		
	comp=N,29nm,1.0s						
SOC				pmax	pmax		
	comp=E,8.0nm,0.6s						
SOC				MLR	MLR		
	comp=Z,126nm,19.0s,MS4.6						
SOC				MLR	MLR		
	comp=N,42nm,17.0s,MS4.2						
SOC				MLR	MLR		
	comp=E,31nm,19.0s,MS4.2						
KMBO	Kilima Mbogo	127.68	258	PKP	PKPdf	20 48 42.1	-1.5
	comp=E,3.0nm,0.8s,baz=49,slow=7.7,SNR=8.5						
KMBO	Kilima Mbogo	127.68	258	ePKPdf	PKPdf	20 48 41.6	-1.9
ELZG	Elazig	127.83	308	i P	PKPdf	20 48 42.6	-0.6
GZT	Gaziantep	129.18	307	i P	PKPdf	20 48 44.0	-1.8
HUMP	Col San Antoni	129.52	78	ePKPdf	PKPdf	20 48 41.7	-5.2
NB2	NORSAR Subarra	129.66	345	PKPdf	PKPdf	20 48 42.9	-3.1
	comp=E,9.1nm,0.8s,baz=33,slow=1.9						
NB2	NORSAR Subarra	129.66	345	PKPd		20 48 42.9	
	baz=33,slow=1.9						
NB2	NORSAR Subarra	129.66	345	⇓PKP	PKPdf	20 48 42.9	-3.1
NOA	NORSAR Array B	129.66	345	PKP	PKPdf	20 48 43.3	-2.8
	comp=E,4.7nm,0.7s,baz=33,slow=2.0,SNR=23						
NOA				SKPbc		20 52 05.4	
	comp=E,3.4nm,0.7s,baz=32,slow=3.1,SNR=14						
AKASG	Malin Array Be	129.70	326	PKP	PKPdf	20 48 43.5	-2.9
	comp=E,3.7nm,0.6s,baz=52,slow=1.9,SNR=24						
AKASG				PP	PP	20 50 55.5	-2.8
	comp=E,0.1nm,0.3s,baz=53,slow=6.5,SNR=4.7						
AKASG				SKPbc		20 52 05.2	
	comp=E,1.2nm,0.7s,baz=42,slow=4.3,SNR=4.6						
LSZ	Lusaka	129.70	236	ePKPdf	PKPdf	20 48 44.4	-2.9
BOYT	Boyabat	130.04	313	i P	PKPdf	20 48 45.2	-2.1
COBT	Iskenderun	130.40	306	i P	PKPdf	20 48 47.0	-1.2
ASF	Jabal al Asfar	130.75	301	PKP	PKPdf	20 48 47.0	-1.9
	comp=E,3.6nm,0.8s,baz=284,slow=3.6,SNR=6.0						
ASF				SKP		20 52 20.1	
	comp=E,3.8nm,0.9s,baz=5.0,slow=4.2,SNR=4.1						
AVNT	Avonos	130.88	310	i P	PKPdf	20 48 46.5	-2.5
BALT	Daday	131.07	313	i P	PKPdf	20 48 47.1	-2.2
ELDT	Eldivan	131.40	312	i P	PKPdf	20 48 48.0	-2.0
BRTR	Keskin Array B	131.49	311	PKP	PKPdf	20 48 47.1	-3.0
	comp=E,2.0nm,0.7s,baz=90,slow=1.2,SNR=12						
BRTR				SKPbc		20 52 12.9	
	comp=E,1.3nm,0.7s,baz=87,slow=3.7,SNR=4.9						
BRTR				SKP		20 52 21.6	
	comp=E,3.6nm,0.8s,baz=80,slow=3.1,SNR=10						
MEST	Erdemli	132.02	307	i P	PKPdf	20 48 49.0	-2.3
SGKT	Sivrigoynuk	132.35	313	i P	PKPdf	20 48 49.2	-2.6
HENT	Hendek	133.08	313	i P	PKPdf	20 48 50.4	-2.8
ESKT	Eskisehir	133.59	312	i P	PKPdf	20 48 51.1	-2.9
KWP	Kalwaria	133.76	328	ePKIKP	PKPdf	20 48 52.0	-2.0
KWP	Kalwaria	133.76	328	ePKP	PKPdf	20 48 52.0	-2.0
MBAR	Mbarara	134.00	255	ePKPdf	PKPdf	20 48 52.5	-2.9
KOLS	Kolonicke sedl	134.41	327	ePKP	PKPdf	20 48 54.0	-1.3
ULDT	Uludag	134.58	313	i P	PKPdf	20 48 53.0	-2.9
OJC	Ojcow	134.83	330	ePKIKP	PKPdf	20 48 53.6	-2.5
OJC	Ojcow	134.83	330	ePKP	PKPdf	20 48 53.6	-2.5
CRVS	Cervenica-Dubn	134.85	328	ePKP	PKPdf	20 48 55.6	-0.5
CRVS				e		20 52 25.6	
NIE	Niedzica	135.10	329	ePKP	PKPdf	20 48 54.9	-1.7
KSP	Ksiaz	136.01	333	ePKIKP	PKPdf	20 48 55.8	-2.4
KSP	Ksiaz	136.01	333	ePKP	PKPdf	20 48 56.1	-2.1
MORC	Moravsky Berou	136.20	331	ePKPdf	PKPdf	20 48 55.8	-2.7
PSZ	Piszkesteto	136.28	328	⇑ePKP/D		20 48 57.0	
DPC	Dobruska-Polom	136.35	333	ePKPdf	PKPdf	20 48 57.0	-1.8
DPC				eSKP		20 52 29.3	
DPC				ex	x	20 52 36.7	
UPC	Upice	136.38	333	ePKPdf	PKPdf	20 48 57.1	-1.7
UPC				eSKP		20 52 29.1	
UPC				ex	x	20 52 36.7	
VYHS	Vyhne	136.44	329	ePKP	PKPdf	20 48 56.1	-2.9
KDAG	Bornova	136.60	312	i P	PKPdf	20 48 57.7	-1.9
PVCC	Panska Ves	136.99	334	ePKPdf	PKPdf	20 48 58.1	-1.8
BRG	Berggiesshubel	136.99	335	ePKIKP	PKPdf	20 48 57.8	-2.1
BRG				pmax	pmax		
	comp=Z,13nm,1.2s						
CLL	Collm	137.04	336	⇓iPKIKP	PKPdf	20 48 57.8	-2.2
CLL				i PKIKP	PKPdf	20 48 59.4	-0.6
CLL				e		20 52 30.0	
CLL				i PKS	PKS	20 52 37.8	+5.8
CLL	Collm	137.04	336	i PKIKP	PKPdf	20 48 57.8	-2.2
CLL				pmax	pmax		
	comp=Z,12nm,0.9s						
CLL	Collm	137.04	336	i PKP	PKPdf	20 48 57.8	-2.2
CLL				eSKP		20 52 30.0	
CLL				i		20 52 37.8	
SMOL	Smolenice	137.12	330	ePKP	PKPdf	20 48 59.2	-1.0
PRU	Pruhonice	137.40	333	ePKPdf	PKPdf	20 48 58.3	-2.4
PRU				eSKP		20 52 32.3	
PRU				ex	x	20 52 39.8	
PKSM	Moragy	138.03	327	⇓iP	PKPdf	20 48 59.7	-2.4
NKC	Novy Kostel	138.10	335	ePKPdf	PKPdf	20 49 00.6	-1.5
KHC	Kasperske Hory	138.46	333	ePKP	PKPdf	20 49 00.4	-2.4
KHC				eSKP		20 52 35.2	
KHC				e		20 52 42.8	
KHC	Kasperske Hory	138.46	333	ePKPpre		20 48 50.5	
KHC				ePKPdf	PKPdf	20 49 00.4	-2.4
KHC				eSKP		20 52 35.2	
KHC				ex	x	20 52 42.8	
DIVS	Divcibare	138.57	323	⇑iP	PKPdf	20 49 00.5	-2.7
GERES	GERESS Array B	138.62	333	PKhKP		20 48 51.3	
	comp=Z,0.6nm,0.6s,baz=45,slow=1.9,SNR=5.2						
GERES				PKP	PKPdf	20 49 00.8	-2.3
	comp=Z,2.7nm,0.8s,baz=45,slow=1.9,SNR=7.4						
GERES				SKPbc		20 52 35.9	
	comp=Z,2.2nm,0.8s,baz=45,slow=1.9,SNR=11						
GERES				SKPab		20 52 42.8	
	comp=Z,6.3nm,0.9s,baz=45,slow=1.9,SNR=15						
SKO	Skopje	138.90	320	ePKP	PKPdf	20 49 00.5	-3.3
LJU	Ljubljana	140.26	329	ePKPdf	PKPdf	20 49 03.9	-2.2
BOJS	Bojanci	140.27	328	ePKPdf	PKPdf	20 49 04.2	-2.0
VISS	Visnje	140.27	329	ePKPdf	PKPdf	20 49 04.0	-2.1
WTTA	Wattenberg	140.72	333	⇓iP	PKPdf	20 49 05.0	-1.9
GIVF	Givet	140.95	341	ePKP1	PKPdf	20 49 04.9	-2.3
	comp=Z,30nm,0.8s						
AQU	L'Aquila	143.40	326	ePKPdf	PKPdf	20 49 06.8	-4.8
CABF	La Chapelle	143.52	337	ePKP1	PKPbc	20 49 09.3	+2.1
	comp=Z,20nm,0.7s						
GRAM		143.54	331	P	PKPbc	20 49 04.6	-2.8
VALM		143.57	331	P	PKPbc	20 49 07.3	-0.2
ORX	Oropa	143.57	335	P	PKPbc	20 49 06.6	-0.8
SARO	Sassorosso	143.62	331	P	PKPbc	20 49 06.3	-1.3
FLN	La Foliniere	143.64	346	ePKP1	PKPbc	20 49 08.3	+0.8
	comp=Z,10nm,0.6s						
FLN				eR			
	comp=Z,221nm,18.0s						
BACM		143.70	331	P	PKPbc	20 49 07.9	+0.1
LDF	La Druitiere	143.71	345	ePKP1	PKPbc	20 49 08.5	+0.8
CODM		143.72	331	P	PKPbc	20 49 07.3	-0.6
LOR	Lormes	143.74	340	ePKP1	PKPbc	20 49 08.7	+0.8
	comp=Z,19nm,0.9s						
LOR				eR			
	comp=Z,233nm,20.2s						
VINC	Vinca	143.77	331	P	PKPbc	20 49 04.4	-3.7
MAIM		143.78	330	P	PKPbc	20 49 06.1	-2.0
SSF	Saint Saulge	144.04	340	ePKP1	PKPbc	20 49 08.9	+0.1
	comp=Z,36nm,0.7s						
LSD	Ceresole Reale	144.06	335	P	PKPbc	20 49 09.4	+0.5
GRR	Gorron	144.08	346	ePKP1	PKPbc	20 49 09.0	+0.2
	comp=Z,18nm,0.8s						
HYF	Humbligny	144.14	341	ePKP1	PKPbc	20 49 09.4	+0.4
LPL	La Plagne	144.18	336	ePKP1	PKPbc	20 49 09.8	+0.6
	comp=Z,30nm,0.8s						
LPG	La Plagne	144.19	336	ePKP1	PKPbc	20 49 09.9	+0.7
	comp=Z,32nm,0.7s						
PCP	Pian Castagno	144.20	333	P	PKPbc	20 49 08.5	-0.8
RSP	Reno Superiore	144.26	335	P	PKPbc	20 49 09.5	+0.1
SMF	Signal de Mont	144.29	340	ePKP1	PKPbc	20 49 09.5	0.0
	comp=Z,96nm,1.2s						
AVF	Avril sur Loir	144.33	340	ePKP1	PKPbc	20 49 09.5	-0.1
	comp=Z,65nm,1.0s						
FENE	Fenestrelle	144.44	335	P	PKPbc	20 49 10.1	+0.1
BHB	Bricherasio	144.51	334	P	PKPbc	20 49 08.5	-1.7
BNI	Bardonecchia	144.58	335	ePKPdf	PKPdf	20 49 10.9	-2.8
SGMF	Saint Gilles	144.59	347	ePKP1	PKPbc	20 49 10.1	-0.2
	comp=Z,125nm,0.9s						
FIN	Finale Ligure	144.61	333	P	PKPbc	20 49 10.1	-0.4
RRL	Cesana Torines	144.65	335	P	PKPbc	20 49 11.5	+1.0
ROSF	Rostrenen	144.65	348	ePKP1	PKPbc	20 49 10.3	-0.2
	comp=Z,64nm,0.9s						
ROB	Roburent	144.69	333	P	PKPbc	20 49 10.4	-0.3
BGF	Bois d'Agland	144.70	341	ePKP1	PKPbc	20 49 10.9	+0.3
	comp=Z,55nm,0.7s						
RORO		144.75	333	P	PKPbc	20 49 10.3	-0.5
MBDF	Montbardon	144.81	335	ePKP1	PKPbc	20 49 11.3	+0.3
	comp=Z,38nm,0.8s						
PZZ	Prazzo	144.85	334	P	PKPbc	20 49 10.3	-0.9
MONE	Monesi	144.91	333	P	PKPbc	20 49 11.2	-0.1
ENR	Entracque	144.94	334	P	PKPbc	20 49 08.9	-2.5
STV	Sta Anna Valdi	144.97	334	P	PKPbc	20 49 09.9	-1.5
IMI	Imperia	144.98	333	P	PKPbc	20 49 11.7	+0.2
ORIF	Oris-en-Rattie	145.01	336	ePKP1	PKPbc	20 49 12.4	+0.8
	comp=Z,161nm,0.9s						
ORIF				eR			
	comp=Z,204nm,21.8s						
QUIF	Quistinic	145.03	348	ePKP1	PKPbc	20 49 11.4	-0.1
	comp=Z,45nm,0.7s						
NEGI	Negi	145.12	333	P	PKPbc	20 49 09.1	-2.7
AUTN	L'Aution	145.12	333	PKP	PKPdf	20 49 13.2	-1.4
TCF	Toulx Ste Croi	145.14	341	ePKP1	PKPbc	20 49 12.4	+0.5
	comp=Z,119nm,1.1s						
TOUF	Mont Tournerai	145.18	334	PKP	PKPdf	20 49 12.5	-2.2
SBF	Sospel	145.22	333	ePKP1	PKPbc	20 49 12.5	+0.4
	comp=Z,396nm,1.1s						
AURF	Auriere	145.25	333	PKP	PKPdf	20 49 12.6	-2.2
MVIF	Mont Vial	145.32	334	PKP	PKPdf	20 49 12.9	-2.1
COLF	Collangettes	145.32	339	PKP	PKPdf	20 49 13.3	-1.6
REVF	Revere	145.35	333	PKP	PKPdf	20 49 11.8	-3.2
REVF				PKP	PKPdf	20 49 12.8	-2.2
PYM	Petit Puy Mans	145.36	340	PKP	PKPdf	20 49 14.4	-0.6
OG26	St.-Nazaire-De	145.52	336	PKP	PKPdf	20 49 14.1	-1.2
PGF	Pioggiola	145.52	330	ePKP1	PKPbc	20 49 13.7	+0.8
	comp=Z,122nm,0.8s						
OCF	Saint Nazaire	145.52	336	PKP	PKPdf	20 49 14.1	-1.2
VIVF	Saint-Julien-l	145.53	337	ePKP1	PKPbc	20 49 14.1	+1.2
	comp=Z,273nm,1.4s						
MFF	Saint Martin d	145.55	344	ePKP1	PKPbc	20 49 13.6	+0.7
	comp=Z,98nm,0.9s						
LCHF	La Chataignera	145.65	345	PKP	PKPdf	20 49 13.7	-1.7
LBL	Lubilhac	145.73	339	PKP	PKPdf	20 49 15.8	+0.2
FRF	La Foret Royal	145.81	334	ePKP1	PKPbc	20 49 14.3	+0.7
	comp=Z,85nm,0.7s						
SMRF	Simiane la Rot	145.91	335	ePKP1	PKPbc	20 49 15.2	+1.3
	comp=Z,51nm,0.7s						
LMR	La Mourre	146.05	334	ePKP1	PKPbc	20 49 15.0	+0.8
	comp=Z,112nm,0.8s						
RJF	Les Rejaudoux	146.24	341	ePKP1	PKPbc	20 49 16.1	+1.5
	comp=Z,52nm,1.0s						
RJF				eR			
	comp=Z,204nm,19.8s						
CAF	Calviac	146.40	340	ePKP1	PKPbc	20 49 16.7	+1.7
	comp=Z,46nm,1.0s						
LASF	Ste Croix	146.50	337	ePKP1	PKPbc	20 49 16.9	+1.7
	comp=Z,136nm,1.1s						
LFF	La Frestale	146.81	342	ePKP1	PKPbc	20 49 17.4	+1.5
	comp=Z,72nm,1.0s						
VSL	Villasalto	147.57	326	ePKPdf	PKPdf	20 49 16.4	-2.5
VSL				ePKPbc	PKPdf	20 49 19.4	+0.5
MTLF	Montolieu	147.74	338	ePKP1	PKPdf	20 49 20.3	+1.3
	comp=Z,136nm,1.0s						
EPF	Esparros	148.65	340	ePKP1	PKPdf	20 49 22.3	+1.8
LABF	Labassere	148.72	341	PKP	PKPdf	20 49 22.1	+1.5
VIEF	Viey	148.89	341	PKP	PKPdf	20 49 23.5	+2.6
ETSF	Etsaut	149.06	342	ePKP1	PKPdf	20 49 24.1	+3.0
	comp=Z,71nm,0.9s						
SJPF	Ste Jean	149.06	343	ePKP1	PKPdf	20 49 23.8	+2.7
EBR	Ebro Roquetas	150.56	338	ePKPDF	PKPdf	20 49 21.0	-2.6
EBR				ePKIKP	PKPdf	20 49 27.0	+3.4
ESDC	Sonseca Array	153.02	344	PKPbc	PKPdf	20 49 32.7	+5.5
	comp=Z,3.5nm,0.6s,baz=24,slow=2.0,SNR=16						
ESDC				PKPab	PKPab	20 49 44.6	-0.7
	comp=Z,3.7nm,0.7s,baz=28,slow=4.1,SNR=5.2						
EVO	Evora	155.00	350	ePKIKP	PKPdf	20 49 26.6	-3.3
	comp=Z,122nm,1.7s						
EVO				eR			
	comp=Z,252nm,20.8s						
LIC	Lamto	168.79	228	ePKIKP	PKPdf	20 49 41.1	-3.5
	comp=Z,28nm,1.0s						
DBIC	Dimbokro	168.97	230	PKP	PKPdf	20 49 41.8	-2.8
	comp=Z,2.7nm,0.6s,baz=128,slow=3.2,SNR=4.0						
DBIC	Dimbokro	168.97	230	PKIKP	PKPdf	20 49 41.8	-2.9
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.6s						

MEX 19 21:04:37.9±1.1, 17.58N×100.84W, h32^{km}±38^{km}, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.76	134	i P	Pn	21 04 49.2	-3.2
CAIG				i S	Sb	21 05 00.4	-2.4
ACX	Acapulco	1.13	129	i P	Pn	21 04 57.3	-0.4
ACX				i S	Sn	21 05 11.8	-0.5
PLIG	Platanillo	1.51	57	eP	Pn	21 05 01.0	-2.1
PLIG				i S	Sn	21 05 19.4	-2.4
MOIG	Morelia	2.11	351	i P	Pn	21 05 09.8	-2.0
MOIG				i S	Sn	21 05 34.4	-2.8
YAIG	Yautepec	2.11	53	i P	Pn	21 05 08.6	-3.2
YAIG				i S	Sn	21 05 33.5	-3.7
PPM	Popocatepetl	2.57	55	eP	Pn	21 05 15.5	-2.8

*NEIC **19** 21:12:07.7, 32.63S×71.80W, h24^{km}, ML3.5(GUC), After GUC.*

GUC 19 21:12:07.7±0.8, 32.63S×71.80W, h24^{km}±3^{km}, MD3.4, ML3.5, 5C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PACH	Papudo	0.32	73	⇓iP	Pb	21 12 14.9	-0.1
PACH				i S	Sb	21 12 20.2	+0.4
IHA	Instituto Hidr	0.41	162	⇓iP	Pb	21 12 16.1	-0.3
IHA				i S	Sb	21 12 22.2	-0.2
JACH	Jahuel	1.01	93	⇑iP	Pb	21 12 25.5	-1.0
JACH				i S	Sb	21 12 39.5	0.0
PEL	Peldehue	1.06	119	⇑iP	Pn	21 12 26.8	-0.4
PEL				i S	Sb	21 12 41.3	+0.4
PEL				AMP		21 12 43.6	
	comp=N,4µm,0.2s						
RCDM	Rinconada Maip	1.19	136	⇑iP	Pn	21 12 28.6	-0.5
RCDM				i S	Sb	21 12 44.5	-0.1
RCDM				AMP		21 12 46.9	
	comp=E,2µm,0.4s						
TACH	Talagante	1.25	145	⇓iP	Pn	21 12 29.6	-0.3
TACH				i S	Sn	21 12 45.5	-0.5
SAN	Santiago	1.26	131	AMP		21 12 52.8	
	comp=E,991nm,0.6s						
CLCH	Cerro Calan	1.30	126	⇓iP	Pn	21 12 30.4	-0.3
CLCH				i S	Sn	21 12 47.8	+0.4
CLCH				AMP		21 12 54.9	
	comp=E,1µm,0.7s						
CLCH				AMP		21 12 55.5	
	comp=E,1µm,0.7s						
ANTU	Antumapu	1.35	134	⇑iP	Pn	21 12 31.4	+0.1
ANTU				i S	Sn	21 12 48.9	+0.2
ANTU				AMP		21 12 51.8	
	comp=E,1µm,0.4s						
FCH	Farellones	1.44	119	⇓iP	Pn	21 12 32.6	-0.1
FCH				i S	Sn	21 12 51.7	+0.8
FCH				AMP		21 12 54.0	
	comp=N,939nm,0.3s						
PCH	Pirque	1.46	133	⇓iP	Pn	21 12 33.0	+0.1
PCH				i S	Sn	21 12 51.8	+0.4
CHCH	Chadas Angostu	1.61	144	eP	Pn	21 12 35.4	+0.4
CHCH				i S	Sn	21 12 56.0	+0.7
CACH	El Canelo	1.79	146	eP	Pn	21 12 39.1	+1.5
CACH				i S	Sn	21 13 02.7	+3.0
LMEL	Las Melosas	1.80	133	⇑iP	Pn	21 12 38.7	+0.9
LMEL				i S	Sn	21 13 02.2	+2.1
LMEL				AMP		21 13 06.3	
	comp=N,1µm,0.2s						
CICH	Cipreses	2.04	146	i P	Pn	21 12 41.8	+0.6
CICH				i S	Sn	21 13 07.8	+1.8
SFDO	San Fernando	2.08	162	i P	Pn	21 12 42.2	+0.4
TLL	Tololo Astrono	2.60	19	AMP		21 13 31.2	
	comp=E,263nm,0.6s						

*LDG **19** 21:29:43.9±0.3, 13.65S×166.59E, h10^{km}, Mb5.3/4, Ms4.6/9, Error ellipse: s-maj=40.6km s-min=8.8km az=83.0*
*IDC **19** 21:29:44.6±2.5, 13.98S×166.79E, h15^{km}±13^{km}, mb4.4/13, mb1 4.5/14, mb1mx4.4/19, MS4.6/13, Ms1 4.6/13, ms1mx4.5/18, Error ellipse: s-maj=26.1km s-min=18.4km az=121.0*
*MOS **19** 21:29:45.6±1.3, 13.88S×166.75E, h33^{km}, mb5.0/6, Error ellipse: s-maj=26.3km s-min=20.1km az=10.2*
*HRVD **19** 21:29:50.8±0.2, 13.99S×166.55E, h29^{km}, MW5.3/61, Centroid moment Tensor Solution. LP body waves: s60,c98; Mantle waves: s61,c102; Half duration: 1^{s}0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.87±.02; $M_{\theta\theta}$0.00±.02; $M_{\phi\phi}$-0.87±.02; $M_{r\theta}$0.30±.03; $M_{\theta\phi}$0.27±.01; $M_{\phi r}$-0.06±.02; Best double couple: M_0.96×10^{17} NP1:ϕ_s0°, δ43°, λ115°. NP2:ϕ_s147°, δ52°, λ68°. Principal axes: T .97, Plg72°, Azm357°; N -.01, Plg17°, Azm161°; P -.96, Plg5°, Azm253°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **19** 21:29:50.9±1.6, 14.00S×166.71E, h68^{km}±14^{km}, mb5.1/21 Error ellipse: s-maj=11.1km s-min=10.0km az=51.0*
*BJI **19** 21:29:53.4, 13.35S×166.40E, h68^{km}, mB5.2, mb4.9, Ms5.4, Msz4.6*
*SYO **19** 21:30:02.1, 14.02S×166.34E, h159^{km}, MB5.1*

ISC 19 21:29:43.3±1.9, 13.91S±0.04×166.61E±0.07, h13^{km}±11^{km}, n129, σ1^{s}09/90, mb5.0/42, MS4.7/17, 16C-2D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKM	Butte a Klehm	4.05	157	⇑iP	Pn	21 30 48.2	+1.6
DZM	Mont Dzumac	8.12	181	eP	P	21 31 44.0	+0.2
DZM				eS	Sn	21 33 15.2	-1.2
DZM	Mont Dzumac	8.12	181	eP	P	21 31 44.0	+0.2
DZM				eS	Sn	21 33 15.2	-1.2
NOUC	Port Laguerre	8.15	182	eP	P	21 31 45.7	+1.5
NOUC	Port Laguerre	8.15	182	eP	P	21 31 45.7	+1.5
PMG	Port Moresby	19.57	281	P	P	21 34 15.9	+1.9
	0.5nm,0.3s,baz=95,slow=7.0,SNR=14						
PMG	Port Moresby	19.57	281	eP	P	21 34 15.2	+1.2
	64nm,1.0s						
CTA	Charters Tower	20.40	250	eP	P	21 34 23.9	+0.9
	34nm,1.0s						
CTA				eS	S	21 38 10.7	+4.7
CTA	Charters Tower	20.40	250	P	P	21 34 23.8	+0.8
	14nm,1.0s,baz=79,slow=12,SNR=9.0						
CTA				LR	LR	21 41 21.6	
	comp=Z,2µm,20.2s,MS4.4,baz=60,slow=34						
CTAO	Charters Tower	20.40	250	eP	P	21 34 24.0	+1.0
	85nm,1.1s						
URZ	Urewera	25.98	161	LR	LR	21 44 19.7	
	comp=Z,2µm,19.4s,MS4.5,baz=197,slow=34						
STKA	Stephens Creek	29.05	228	eP	P	21 35 46.0	+0.4
	11nm,0.7s,mb4.7						
STKA				eS	S	21 40 37.2	+1.9
STKA	Stephens Creek	29.05	228	P	P	21 35 46.1	+0.6
	8.8nm,0.6s,mb4.7,baz=33,slow=6.5,SNR=25						
STKA				LR	LR	21 47 24.8	
	comp=Z,3µm,18.7s,MS5.0,baz=158,slow=36						
RPZ	Rata Peaks	29.95	174	LR	LR	21 46 40.4	
	comp=Z,879nm,20.1s,MS4.4,baz=349,slow=34						
WB2	Warramunga Arr	31.40	255	eP	P	21 36 05.9	-0.7
WB2				e		21 36 11.9	
WB2				eS	S	21 41 16.9	+4.3
WRAB	Tennant Creek	31.40	255	P	P	21 36 12.0	+5.4
	108nm,0.8s,mb5.7,SNR=8.9						
WRAB	Tennant Creek	31.40	255	eP	P	21 36 05.9	-0.7
	68nm,1.3s,mb5.3						
WRAB				e		21 36 12.0	
WRA	Warramunga Arr	31.41	255	P	P	21 36 06.2	-0.5
	3.0nm,0.8s,mb4.2,baz=85,slow=8.8,SNR=18						
WRA				ScP		21 42 42.3	
	3.1nm,1.3s,baz=78,slow=2.6,SNR=2.6						
ASAR	Alice Springs	32.38	248	P	P	21 36 13.7	-1.4
	2.4nm,0.6s,mb4.2,baz=72,slow=9.6,SNR=36						
ASAR				ScP		21 42 46.5	
	0.6nm,0.8s,baz=72,slow=2.9,SNR=4.2						
ASAR				LR	LR	21 48 55.7	
	comp=Z,936nm,18.0s,MS4.5,baz=72,slow=35						
ASPA	Alice Springs	32.38	248	eP	P	21 36 12.6	-2.5
ASPA				i		21 36 20.9	
RAR	Rarotonga	32.81	108	LR	LR	21 46 47.5	
	comp=Z,1µm,21.0s,MS4.6,baz=307,slow=31						
KAKA	Kakadu	33.30	268	eP	P	21 36 28.1	+4.9
	65nm,1.2s,mb5.4						
FORT	Forrest	39.17	238	eP	P	21 37 13.0	+0.1
	96nm,0.8s,mb5.6						
FITZ	Fitzroy Crossi	39.55	258	eP	P	21 37 15.4	-0.7
	2.2nm,0.7s,mb4.0						
FITZ				i		21 37 22.2	
FITZ	Fitzroy Crossi	39.55	258	P	P	21 37 15.7	-0.3
	2.2nm,0.7s,mb4.0,baz=163,slow=5.3,SNR=7.5						
FITZ				LR	LR	21 52 07.4	
	comp=Z,397nm,21.7s,MS4.2,baz=88,slow=34						
PPT	Papeete	42.26	101	eS	S	21 43 58.2	-0.2
PPT				eL		21 47 41.9	
PPT				eR		21 49 30.6	
	908nm,23.8s						
TBI	Tubuai	42.53	109	eS	S	21 44 02.4	0.0
TBI				eL		21 47 49.2	
TBI				eR		21 49 39.0	
	2µm,24.5s						
MBWA	Marble Bar	45.15	254	eP	P	21 38 02.7	+0.8
	62nm,1.2s,mb5.3						
KLBR	Kellerberrin	47.95	240	eP	P	21 38 23.3	-0.6
	42nm,1.6s,mb5.2						
NWAO	Narrogin (SRO)	48.63	238	P	P	21 38 28.4	-0.7
	5.5nm,0.6s,mb4.7,baz=72,slow=7.8,SNR=4.5						
KKM	Kota Kinabalu	53.80	288	⇓eP	P	21 39 09.0	+0.6
DRV	Dumont d'Urvil	55.60	192	S	S	21 47 06.0	+1.5
DRV				SS	SS	21 50 59.0	+9.4
DRV				R		21 56 00.0	
MAJO	Matsushiro	56.89	333	eP	P	21 39 29.0	-1.5
	39nm,1.1s,mb5.3						
MAT	Matsushiro	56.89	333	P	P	21 39 29.3	-1.2
MAT	Matsushiro	56.89	333	eP	P	21 39 29.0	-1.6
	53nm,1.2s,mb5.5						
ASAJ	Asahikawa	61.76	341	P	P	21 40 04.2	+0.1
	2.6nm,0.4s,mb4.7,baz=185,slow=9.2,SNR=2.8						
VNDA	Vanda	63.66	181	P	P	21 40 14.5	-1.7
	3.3nm,0.8s,mb4.4,baz=10.0,slow=4.6,SNR=12						
SBA	Scott Base	63.95	180	eP	P	21 40 16.8	-1.3
	15nm,0.8s,mb5.1						
NJ2	Nanjing	64.65	316	eP	P	21 40 23.4	0.0
NJ2				PP	PP	21 42 44.1	-3.5
NJ2				S	S	21 48 50.0	-11
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.5						
NJ2				LR	LR		
	comp=N,802nm,18.6s,MS5.2						

NJ2				LR	LR		
	comp=E,1µm,14.5s,MS5.2						
MDJ	Mudanjiang	67.26	332	P	P	21 40 39.9	0.0
MDJ				PP	PP	21 43 11.3	+1.4
MDJ				S	S	21 49 26.3	-6.7
MDJ				SS	SS	21 53 48.3	-6.0
MDJ				AMB	AMB		
	comp=Z,23nm,1.1s,mb5.1						
MDJ				AMB	AMB		
	comp=Z,245nm,5.0s						
MDJ	Mudanjiang	67.26	332	eP	P	21 40 38.8	-1.0
	comp=Z,33nm,1.2s,mb5.2						
MDJ				e		21 40 49.0	
CN2	Changchun	68.62	329	eP	P	21 40 47.6	-0.8
CN2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.9						
CN2				AMB	AMB		
	comp=Z,180nm,4.0s						
ENH	Enshi	70.35	310	eP	P	21 40 58.5	-0.7
	comp=Z,40nm,1.1s,mb5.3						
GYA	Guiyang	70.73	305⇑	iP	P	21 41 01.6	+0.1
GYA				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.6						
BJT	Baijiatuau	71.22	321	eP	P	21 41 04.5	+0.2
	comp=Z,52nm,1.3s,mb5.3						
BJI	Beijing	71.23	321	eP	P	21 41 04.4	0.0
BJI				AMB	AMB		
	comp=Z,22nm,1.6s,mb4.8						
XAN	Xi'an	72.67	313	P	P	21 41 13.0	-0.1
XAN				AMB	AMB		
	comp=Z,18nm,1.9s,mb4.7						
KMI	Kunming	73.33	302	eP	P	21 41 18.1	+0.9
KMI				PP	PP	21 44 04.5	+1.9
KMI				AMB	AMB		
	comp=Z,24nm,1.8s,mb4.8						
KMI				LR	LR		
	comp=Z,390nm,21.6s,MS4.7						
CMAR	Chiang Mai Arr	74.03	294	P	P	21 41 22.6	+1.3
	comp=Z,4.5nm,0.8s,mb4.4,baz=121,slow=4.1,SNR=31						
HHC	Hu-ho-hao-te	74.55	320	⇑P	P	21 41 24.8	+0.9
HHC				AMB	AMB		
	comp=Z,21nm,1.6s,mb4.8						
HHC				AMB	AMB		
	comp=Z,141nm,5.9s						
CD2	Chengdu	75.01	308	eP	P	21 41 27.3	+0.6
HIA	Hailar	75.26	330	eP	P	21 41 27.5	-0.3
	comp=Z,27nm,1.1s,mb5.1						
BTO	Baotou	75.39	319	eP	P	21 41 29.4	+0.7
BTO				AMB	AMB		
	comp=Z,35nm,1.9s,mb5.0						
QSPA	South Pole Qui	76.11	180	eP	P	21 41 30.7	-1.4
	comp=Z,11nm,0.9s,mb4.8						
LZH	Lanzhou	77.30	312	⇑P	P	21 41 41.0	+1.4
LZH				AMB	AMB		
	comp=Z,108nm,1.5s,mb5.6						
LZH				AMB	AMB		
	comp=Z,541nm,5.9s						
CLNS	Chul'man	78.53	338	eP	P	21 41 45.2	-0.7
CLNS				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.9						
CLNS				pmax	pmax		
	comp=N,8.0nm,0.9s						
CLNS				pmax	pmax		
	comp=E,6.0nm,1.1s						
YAK	Yakutsk	81.07	343	eP	P	21 41 58.6	-0.8
YAK				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.7						
YAK				pmax	pmax		
	comp=E,4.0nm,1.3s						
YAK	Yakutsk	81.07	343	eP	P	21 41 58.6	-0.8
	comp=E,13nm,1.2s,mb4.7						
SONM	Songino Array	81.46	324	P	P	21 42 02.3	+0.5
	comp=E,3.5nm,0.9s,mb4.3,baz=135,slow=7.0,SNR=9.2						
GTA	Gaotai	81.64	314⇑	iP	P	21 42 04.1	+1.2
GTA				SCS	Sx	21 52 17.9	
GTA				AMB	AMB		
	comp=Z,28nm,1.4s,mb5.0						
MAW	Mawson	82.40	202	eP	P	21 42 07.7	+1.5
	comp=Z,4.3nm,1.0s,mb4.3						
MAW	Mawson	82.40	202	P	P	21 42 07.4	+1.2
	comp=Z,2.1nm,0.8s,mb4.1,baz=104,slow=2.8,SNR=6.1						
MAW				LR	LR	22 12 55.3	
	comp=Z,486nm,21.8s,MS4.8,baz=78,slow=31						
SHL	Shillong	82.62	299⇑	iP	P	21 42 09.0	+0.8
BOD	Bodaibo	83.47	335	eP	P	21 42 10.7	-1.2
LSA	Lhasa	84.59	302	P	P	21 42 20.0	+1.8
ILAR	Eielson Array	85.95	18	P	P	21 42 25.3	+1.1
	comp=Z,1.4nm,0.5s,mb4.5,baz=253,slow=5.6,SNR=15						
NVAR	Mina Array Bea	87.22	49	LR	LR	22 14 40.1	
	comp=Z,892nm,19.9s,MS5.2,baz=235,slow=31						
GUN	Gumba	88.44	299	eP	P	21 42 37.3	+0.2
PKI	Pulchoki	88.75	299	eP	P	21 42 38.6	0.0
	comp=Z,39nm,1.2s,mb5.6						
KKN	Kakani	88.92	299	eP	P	21 42 39.3	-0.1
	comp=Z,39nm,1.2s,mb5.6						
DMN	Daman	89.02	299	eP	P	21 42 40.0	+0.1
	comp=Z,46nm,1.1s,mb5.7						
TIXI	Tiksi	89.05	349	eP	P	21 42 35.8	-3.2
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.5						
TIXI				MLR	MLR		
	comp=Z,200nm,17.0s,MS4.6						
TIXI	Tiksi	89.05	349	eP	P	21 42 35.8	-3.2
	comp=Z,3.0nm,1.2s,mb4.5						
SYO	Syowa Base	89.30	197	⇓P	P	21 42 38.2	-2.1
SYO	Syowa Base	89.30	197	⇑PKiKP		21 47 35.0	
GKN	Gorkha	89.52	299	eP	P	21 42 41.6	-0.7
KOLN	Koldanda	90.34	298	eP	P	21 42 45.2	-0.9
	comp=Z,60nm,1.7s,mb5.6						
WMQ	Urumqi	91.70	315	eP	P	21 42 52.0	0.0
MPU	Maple Canyon	92.64	50	eP	P	21 42 59.5	+3.1
SNAA	Sanae	94.33	183⇑	i	P	21 42 59.9	-3.5
SNAA	Sanae	94.33	183⇑	i	P	21 43 02.8	-0.6
SNAA	Sanae	94.33	183⇑	iP	P	21 43 02.8	-0.6
PDAR	Pinedale Array	94.86	47	LR	LR	22 20 22.1	
	comp=Z,266nm,19.8s,MS4.7,baz=350,slow=32						
VNA3	Neumayer Olymp	95.02	181⇑	i	P	21 43 08.4	+1.8
VNA3	Neumayer Olymp	95.02	181⇑	iP	P	21 43 05.4	-1.2
VNA3			⇑	iP	pP	21 43 08.4	-2.2
EDM	Edmonton	95.16	36	eP	P	21 43 09.2	+1.6
VNA2	Neumayer--Watz	95.27	182⇑	i	P	21 43 09.4	+1.6
VNA2	Neumayer--Watz	95.27	182	P	P	21 43 05.9	-1.9
VNA2			⇑	iP	pP	21 43 09.4	-2.4
VNA1	Neumayer--Stat	95.58	182⇑	i	P	21 43 10.5	+1.3
ZAL	Zalesovo	96.37	324	P	P	21 43 11.8	-1.3
	comp=Z,1.6nm,0.6s,mb4.6,baz=266,slow=3.8,SNR=15						
ZAL				LR	LR	22 23 49.1	
	comp=Z,150nm,21.9s,MS4.4,baz=192,slow=34						
TXAR	Lajitas Array	96.45	61	LR	LR	22 18 15.8	
	comp=Z,310nm,20.6s,MS4.8,baz=230,slow=30						
YKA	Yellowknife Ar	97.12	27	LR	LR	22 25 31.0	
	comp=Z,179nm,18.3s,MS4.6,baz=245,slow=34						
BVAR	Borovoye Array	104.71	322	PP	PP	21 48 08.3	-4.8
	comp=Z,0.3nm,0.5s,baz=100,slow=8.8,SNR=3.4						
ZRNK	Zerenda	105.54	321	PKPdf		21 48 07.8	
KEV	Kevo	118.78	345	epkp	PKPdf	21 48 28.7	-5.8
ARCES	ARCESS Array B	119.30	345	PKP	PKPdf	21 48 31.6	-3.8
	comp=Z,1.1nm,0.3s,baz=80,slow=2.1,SNR=29						
JOF	Joensuu	121.89	338	epkp	PKPdf	21 48 36.0	-4.6
OBN	Obninsk	123.67	328	i PKIKP	PKPdf	21 48 34.8	-9.5
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,100nm,20.0s,MS4.5						
KAF	Kangasniemi	124.20	339	epkp	PKPdf	21 48 39.6	-5.5
FINES	FINESS Array B	124.73	338	PKP	PKPdf	21 48 42.1	-4.0
	comp=Z,0.8nm,0.4s,baz=75,slow=1.1,SNR=12						
AKASG	Malin Array Be	129.70	326	PKP	PKPdf	21 48 52.7	-3.2
	comp=Z,0.4nm,0.4s,baz=44,slow=2.5,SNR=9.6						
BRTR	Keskin Array B	131.49	311	PKP	PKPdf	21 48 55.6	-4.1
	comp=Z,0.9nm,1.1s,baz=315,slow=1.7,SNR=4.0						
BRTR				SKP		21 52 31.4	
	comp=Z,0.7nm,0.7s,baz=76,slow=5.1,SNR=3.7						
PSZ	Piszkesteto	136.29	328	PKPdf	PKPdf	21 49 05.9	-2.4
BRG	Berggiesshubel	137.00	335	ePKIKP	PKPdf	21 49 07.6	-1.9
BRG				pmax	pmax		
	comp=Z,12nm,1.8s						
CLL	Collm	137.05	336	ePKIKP	PKPdf	21 49 07.0	-2.5
	comp=Z,logA/T=0.8						
CLL	Collm	137.05	336	ePKIKP	PKPdf	21 49 07.0	-2.5
CLL				pmax	pmax		
	comp=Z,8.0nm,1.4s						
KHC	Kasperske Hory	138.47	333	ePKPdf	PKPdf	21 49 09.5	-2.8
GERES	GERESS Array B	138.63	333	PKP	PKPdf	21 49 09.7	-2.9
	comp=Z,1.3nm,1.0s,baz=63,slow=3.0,SNR=6.1						
GERES				SKPbc		21 52 44.5	
	comp=Z,0.7nm,0.9s,baz=27,slow=3.0,SNR=3.5						
GERES				SKPab		21 52 51.6	
	comp=Z,1.0nm,1.1s,slow=1.3,SNR=4.6						
LPG	La Plagne	144.20	336	ePKP1	PKPbc	21 49 18.7	+0.2
	comp=Z,33nm,1.3s						
SMF	Signal de Mont	144.31	340	ePKP1	PKPbc	21 49 18.1	-0.7
	comp=Z,98nm,1.6s						
BNI	Bardonecchia	144.59	335	ePKPdf	PKPdf	21 49 18.9	-4.3
SGMF	Saint Gilles	144.60	347	ePKP1	PKPbc	21 49 18.9	-0.7
ROSF	Rostrenen	144.67	348	ePKP1	PKPbc	21 49 18.9	-0.9
	comp=Z,108nm,1.6s						
BGF	Bois d'Agland	144.71	340	ePKP1	PKPbc	21 49 19.5	-0.5
	comp=Z,87nm,1.4s						
ORIF	Oris-en-Rattie	145.02	336	ePKP1	PKPbc	21 49 21.1	+0.2
	comp=Z,166nm,1.5s						
ORIF				eR			
	comp=Z,193nm,17.8s						
QUIF	Quistinic	145.05	348	ePKP1	PKPbc	21 49 20.1	-0.7
TCF	Toulx Ste Croi	145.16	341	ePKP1	PKPbc	21 49 21.2	0.0
	comp=Z,126nm,1.6s						
SBF	Sospel	145.23	333	ePKP1	PKPbc	21 49 21.2	-0.2
	comp=Z,77nm,1.0s						
PGF	Pioggiola	145.53	330	ePKP1	PKPbc	21 49 22.3	+0.1
	comp=Z,350nm,1.8s						
VIVF	Saint-Julien-l	145.54	337	ePKP1	PKPbc	21 49 22.9	+0.7
	comp=Z,188nm,1.6s						
MFF	Saint Martin d	145.56	344	ePKP1	PKPbc	21 49 22.3	+0.1
	comp=Z,184nm,1.7s						
FRF	La Foret Royal	145.81	334	ePKP1	PKPbc	21 49 23.1	+0.2
	comp=Z,185nm,1.7s						
RJF	Les Rejaudoux	146.25	341	ePKP1	PKPbc	21 49 24.8	+0.9
	comp=Z,132nm,1.7s						
RJF				eR			
	comp=Z,203nm,21.5s						
LFF	La Frestale	146.82	342	ePKP1	PKPbc	21 49 26.3	+1.1
	comp=Z,76nm,1.4s						
MTLF	Montolieu	147.75	338	ePKP1	PKPdf	21 49 29.0	+0.4
	comp=Z,75nm,1.3s						
EPF	Esparros	148.66	340	ePKP1	PKPdf	21 49 31.5	+1.5
	comp=Z,99nm,1.8s						
SJPF	Ste Jean	149.07	343	ePKP1	PKPdf	21 49 32.6	+1.9
EBR	Ebro Roquetas	150.57	338	eTs		21 49 38.5	
EVO	Evora	155.02	350	ePKIKP	PKPdf	21 49 35.1	-4.4
	comp=Z,173nm,1.7s						
EVO				eR			
	comp=Z,283nm,20.8s						

CASC 19 21:52:57.8±2.9**, 14.55N**×**92.51W, h74**^{km}±30^{km}**, MD4.4, ML4.0, 1C-2D, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	Jato	0.88	105⇓	eP	P	21 53 14.6	-0.6
JAT				eS	S	21 53 28.9	+0.7
JAT				AML	AML	21 53 29.7	
	comp=N,7µm,0.3s						
TP2	Tecpan 2	1.46	81⇓	eP	P	21 53 23.3	+0.5
TP2				eS	S	21 53 43.1	+1.8
TP2				AML	AML	21 53 47.4	
	comp=N,504nm,0.5s						
IXG	Ixpaco	2.03	100	eP	P	21 53 30.1	-0.4
IXG				eS	S	21 53 53.3	-1.4
IXG				AML	AML	21 54 03.7	
	comp=N,4µm,0.5s						
RTR	El Retiro	2.85	103	eP	P	21 53 50.3	+8.1
SBLS	San Blas	2.89	104	eP	P	21 53 42.4	-0.3
SBLS				eS	S	21 54 18.2	+2.0
SNJE	San Jose	2.90	103⇑	eP	P	21 53 43.8	+1.1
SNJE				eS	S	21 54 17.7	+1.2
LFRS	El Faro	3.47	105	eP	P	21 53 48.5	-2.2
LFRS				eS	S	21 54 30.2	-0.7
LCBS	La Ceiba	3.54	104	eP	P	21 53 51.4	-0.4
LCBS				eS	S	21 54 32.8	+0.2
SNVI	San Vicente	3.68	104	eP	P	21 53 58.5	+4.8
SNVI				eS	S	21 54 37.0	+0.8

IDC 19 22:14:51.2±56.0**, 22.85S**×**179.23W, mb4.2**/3**, mb1 4.4**/3**, mb1mx4.0**/13**, Error ellipse: s-maj=1011.0km s-min=161.1km az=86.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	32.20	268	eP	P	22 21 25.5	+2.2
	4.8nm,0.4s						
STKA	Stephens Creek	35.78	247	P	P	22 21 52.1	-2.0
	0.6nm,0.3s,baz=113,slow=7.7,SNR=3.0						
ASAR	Alice Springs	42.91	259	P	P	22 22 51.6	-1.9
	1.6nm,0.5s,baz=95,slow=7.9,SNR=23						
WB2	Warramunga Arr	43.18	265	eP	P	22 22 53.8	-1.9
WRA	Warramunga Arr	43.19	265	P	P	22 22 54.3	-1.5
	5.0nm,0.6s,baz=102,slow=8.4,SNR=24						
FITZ	Fitzroy Crossi	51.62	265	eP	P	22 23 57.7	-4.2
	2.5nm,0.8s						

MAN 19 22:15:20.7, 13.73N×**120.56E, h101**^{km}**, mb4.1, ML2.9, MS2.7, 1C, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.30	270	eP	P	22 15 37.2	+1.6
LUBP				eS	S	22 15 49.2	+2.5
TGY	Tagaytay City	0.52	45⇑	eP	P	22 15 38.4	+1.5
TGY				eS	S	22 15 50.9	+1.9
LQP	Lukban	1.02	68	i P	P	22 15 42.6	+0.9
LQP				i S	S	22 16 01.6	+4.1
BOAC	Boac	1.28	102	eP	P	22 15 45.6	+0.8
SJMP	San Jose	1.38	157	eP	P	22 15 46.5	+0.5
SJMP				eS	S	22 16 05.3	+0.5
POLP	Polilio Island	1.66	53	eP	P	22 15 49.5	0.0
BUSP	Coron	1.76	192	eP	P	22 15 50.8	+0.1
BUSP				eS	S	22 16 13.3	+0.4
OTRP	Odiongan	1.97	134	eP	P	22 15 53.5	+0.1
BALP	Baler	2.23	26	eP	P	22 15 56.5	-0.4
CUYO	Cuyo Island	2.90	171	eP	P	22 16 05.4	-0.7

*NEIC **19** 22:28:39.2±4.4, 7.26S×130.17E, h54^{km}±52^{km}, mb4.3/1, Error ellipse: s-maj=38.4km s-min=27.0km az=195.0*
*IDC **19** 22:28:47.8±10.0, 7.67S×130.00E, h151^{km}±119^{km}, mb3.1/1, mb1 3.8/4, mb1mx3.5/12, ML4.1/3, Error ellipse: s-maj=75.1km s-min=39.8km az=40.0*
ISC 19 22:28:43.6±3.5**, 7.5S**±0.1×**130.2E**±0.1**, h128**^{km}±44^{km}**, n7, σ0**^{s}**89**/10**, mb3.6**/1**, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.43	203	P	P	22 31 23.4	-0.6
	2.1nm,0.3s,baz=26,slow=9.3,SNR=45						
FITZ				S	S	22 33 30.0	+0.4
	0.9nm,0.3s,baz=338,slow=20,SNR=4.7						
WRAB	Tennant Creek	12.97	162	eP	P	22 31 43.3	-0.9
WRAB				eS	S	22 34 05.4	-0.5
WRA	Warramunga Arr	12.98	163	P	P	22 31 44.9	+0.6
	1.3nm,0.3s,baz=332,slow=14,SNR=21						
WRA				S	S	22 34 05.6	-0.5
	2.1nm,0.3s,baz=342,slow=22,SNR=16						
ASAR	Alice Springs	16.44	168	P	P	22 32 30.3	+2.1
	0.7nm,0.3s,baz=342,slow=9.0,SNR=25						
ASAR				S	S	22 35 30.1	+4.4
	0.3nm,0.3s,baz=65,slow=7.6,SNR=7.4						
MBWA	Marble Bar	16.93	216	P	P	22 32 33.9	-0.3
	29nm,1.3s						
CMAR	Chiang Mai Arr	40.23	310	P	P	22 36 09.3	-0.2
	0.6nm,0.6s,mb3.6,baz=134,slow=6.1,SNR=4.8						
ILAR	Eielson Array	93.72	25	pP	pP	22 42 35.2	+15
	0.8nm,0.8s,baz=269,slow=5.4,SNR=5.0						

*IDC **19** 22:29:55.6±8.5, 5.53S×153.65E, h43^{km}±64^{km}, mb4.1/5, mb1 4.3/7, mb1mx4.0/16, MS3.3/4, Ms1 3.4/4, ms1mx3.1/19, Error ellipse: s-maj=77.1km s-min=36.8km az=107.0*
*NEIC **19** 22:29:56.4±3.2, 5.36S×153.48E, h50^{km}±28^{km}, mb4.8/5, Error ellipse: s-maj=30.8km s-min=14.9km az=222.0*
ISC 19 22:29:52.6±4.6**, 5.36S**±0.10×**153.52E**±0.08**, h30**^{km}±32^{km}**, n26, σ0**^{s}**98**/26**, mb4.7**/15**, MS3.4**/2**, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAU	Wau	7.04	253	eP	Pn	22 31 36.2	-0.2
PMG	Port Moresby	7.48	237	P	Pn	22 31 43.2	+0.6
	2.5nm,0.3s,baz=67,slow=7.1,SNR=7.9						
PMG				S	Sn	22 33 05.8	-1.3
	9.9nm,0.3s,baz=40,slow=23,SNR=9.6						
PMG				LR	LR	22 34 03.3	
	comp=Z,118nm,19.4s,baz=359,slow=33						
PMG	Port Moresby	7.48	237	eP	Pn	22 31 42.8	+0.3
PMG				eS	Sn	22 33 08.3	+1.1
CTA	Charters Tower	16.25	205	LR	LR	22 39 12.1	
	comp=Z,124nm,19.3s,baz=37,slow=34						
NOUC	Port Laguerre	20.74	145	eP	P	22 34 34.2	+0.7
NOUC	Port Laguerre	20.74	145	eP	P	22 34 34.2	+0.6
DZM	Mont Dzumac	20.79	144	eP	P	22 34 33.3	-0.9
ASAR	Alice Springs	26.23	224	P	P	22 35 27.4	+0.3
	1.3nm,0.9s,mb3.5,baz=69,slow=7.7,SNR=6.6						
STKA	Stephens Creek	28.64	202	LR	LR	22 47 47.3	
	comp=Z,71nm,18.1s,MS3.3,baz=26,slow=38						
FITZ	Fitzroy Crossi	30.03	243	P	P	22 35 60.0	-1.5
	3.0nm,0.6s,mb4.2,baz=35,slow=6.4,SNR=2.9						
ENH	Enshi	55.06	313	P	P	22 39 22.2	-2.1
	17nm,1.1s,mb5.0						
CMAR	Chiang Mai Arr	58.76	295	P	P	22 39 52.0	+1.2
	4.1nm,0.8s,mb4.5,baz=120,slow=5.4,SNR=31						
CMAR				LR	LR	23 02 11.7	
	comp=Z,43nm,19.8s,MS3.6,baz=315,slow=33						
SONM	Songino Array	67.18	328	P	P	22 40 47.1	+1.0
	1.6nm,0.5s,mb4.3,baz=135,slow=8.2,SNR=4.2						
SHL	Shillong	67.20	300	e	P	22 40 47.0	+0.3
GUN	Gumba	73.02	301	eP	P	22 41 23.3	+1.2
	16nm,0.7s,mb5.1						
PKI	Pulchoki	73.33	301	eP	P	22 41 24.0	+0.1
KKN	Kakani	73.50	301	eP	P	22 41 25.7	+0.8
	7.6nm,0.6s,mb4.8						
DMN	Daman	73.60	301	eP	P	22 41 26.3	+0.8
	14nm,0.7s,mb5.0						
GKN	Gorkha	74.11	301	eP	P	22 41 28.0	-0.4
KOLN	Koldanda	74.93	300	eP	P	22 41 33.0	-0.2
	11nm,0.9s,mb4.8						
ZAL	Zalesovo	82.02	326	P	P	22 42 11.5	+0.2
	2.9nm,0.5s,mb4.5,baz=6.3,slow=6.2,SNR=14						
QSPA	South Pole Qui	84.60	180	eP	P	22 42 24.5	+0.5
	3.8nm,0.5s,mb4.8						
AAK	Ala-Archa	85.57	313	eP	P	22 42 28.1	-1.4
	3.0nm,0.6s,mb4.7						
BVAR	Borovoye Array	90.12	323	P	P	22 42 51.6	+0.4
	5.9nm,0.7s,mb5.0,baz=104,slow=6.1,SNR=40						
BRVK	Borovoye	90.18	323	eP	P	22 42 48.8	-2.7
	6.8nm,0.9s,mb5.0						
ZRNK	Zerenda	90.93	323	eP	P	22 42 54.8	-0.2
	2.1nm,0.6s,mb4.6						

*ATH **19** 22:43:14.9, 37.88N×22.50E, h27^{km}±3^{km}, MD3.0/6*
*NEIC **19** 22:43:14.9, 37.88N×22.50E, h27^{km}, MD3.0(ATH), After ATH.*
*CSEM **19** 22:43:15.7±0.1, 37.85N×22.49E, h20^{km}, MD3.0, Error ellipse: s-maj=3.1km s-min=2.4km az=102.0*
*THE **19** 22:43:19.5, 38.12N×22.70E, h12^{km}, ML2.7*
ISC 19 22:43:13.9±1.5**, 37.91N**±0.04×**22.62E**±0.06**, h2**^{km}±11^{km}**, n22, σ1**^{s}**07**/25**, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NSAL	Nisos Salamina	0.67	90	ePN	Pn	22 43 30.0	0.0
NAIG	Nisos Aigina	0.70	102	ePN	Pn	22 43 31.8	+1.3
LKR	Lokris	0.80	22	ePB	Pb	22 43 30.9	+0.7
ITM	Ithomi	0.91	217	ePN	Pn	22 43 31.0	-2.5
RLS	Riolos of Patr	0.93	280	ePN	Pn	22 43 31.6	-2.1
PTL	Penteli	0.99	81	ePN	Pn	22 43 36.0	+1.3
AGG	Agios Georgios	1.14	349	ePg	Pg	22 43 37.0	+0.3
	comp=Z,2.1nm,0.3s						
AGG				eSg	Sg	22 43 51.3	-0.5
EVR	Evrytania	1.19	328	ePN	Pn	22 43 37.4	-0.2
VLI	Veliai	1.21	168	ePN	Pn	22 43 37.7	-0.1
NEO	Neokhori	1.48	18	ePN	Pn	22 43 42.3	+0.7
XOR	Xorichti	1.52	17	ePb	Pb	22 43 42.4	-0.2
AOS	Alonnisos	1.60	38	ePb	Pb	22 43 44.0	+0.1
AOS				eSb	Sb	22 44 03.0	-1.5
LKD	Levkas	1.74	298	ePb	Pb	22 43 48.8	+2.5
PAIG	Paliouri	2.18	22	ePb	Pb	22 43 52.1	-1.7
LIT	Litokhoron	2.19	357	ePn	Pn	22 43 52.5	+0.7
	comp=Z,3.5nm,0.2s						
LIT	Litokhoron	2.19	357	ePn	Pn	22 43 52.5	+0.6
	3.5nm,0.2s						
IGT	Igoumenitsa	2.42	313	ePn	Pn	22 43 57.1	+2.0
IGT				eSn	Sn	22 44 26.0	+0.4
OUR	Ouranopolis	2.65	23	ePn	Pn	22 43 58.3	0.0
SOH	Sokhos	2.97	11	ePn	Pn	22 44 02.6	-0.3
FNA	Florina	3.03	342	ePn	Pn	22 44 04.1	+0.2
KNT	Kendrikon	3.26	4	ePn	Pn	22 44 06.8	-0.3
SRS	Serrai	3.29	13	ePn	Pn	22 44 07.0	-0.5

*FUNV **19** 22:58:34.5, 9.43N×61.44W, h27^{km}, MW3.0*
*TRN **19** 22:58:34.5, 9.45N×62.07W, h21^{km}, MD3.5*
ISC 19 22:58:36.6±0.5**, 9.38N**±0.03×**61.81W**±0.04**, h33**^{km}**, n20, σ1**^{s}**31**/34**, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUAY	Buenos Aires	0.73	9	eP	P	22 58 50.5	0.0
BUAY				eS	S	22 58 59.7	-0.9
ALNG	Atlantic LNG	0.81	8	eP	P	22 58 51.6	+0.1
SIPA	Siparia	0.82	21	eP	P	22 58 50.3	-1.3
TPP	Pointe-a-Pierr	1.00	21	eP	P	22 58 53.9	-0.4
TPP				eS	S	22 59 09.5	+2.2
RIOV	Rio Grande	1.30	180	eP	P	22 58 58.4	-0.1
RIOV				eS	S	22 59 15.4	+0.4
TBH	Brigand Hill	1.32	33	eP	P	22 59 00.1	+1.3
TBH				eS	S	22 59 17.4	+2.0
TRN	Trinidad (W)	1.32	17	eP	P	22 58 59.8	+0.9
TRN				eS	S	22 59 16.8	+1.2
GUIV	Guiria	1.33	342	eP	P	22 58 58.3	-0.7
GUIV				eS	S	22 59 15.5	-0.1
GUNV	Guanoco	1.36	305	eP	P	22 59 01.4	+1.9
GUNV				eS	S	22 59 21.7	+5.1
ORIV	Oritupano	1.61	259	eP	P	22 59 06.4	+3.3
ORIV				eS	S	22 59 29.4	+6.6
CRUV	Carupano	1.91	313	eP	P	22 59 07.8	+0.5
CRUV				eS	S	22 59 31.8	+1.4
GURV	El Guri	2.04	218	eS	S	22 59 37.3	+3.5
TPR	Prospect	2.06	29	eP	P	22 59 08.9	-0.6
ITEV	Isla Los Testi	2.36	327	eP	P	22 59 12.6	-1.2
SVB	Belmont	3.91	8	eP	P	22 59 33.3	-2.5
SVB				eS	S	23 00 17.2	-4.0
SVV	Soufriere Volc	3.96	8	eP	P	22 59 34.0	-2.5
SVV				eS	S	23 00 18.6	-3.8
CUPV	Cœpira	3.98	280	eP	P	22 59 36.6	-0.3
CUPV				eS	S	23 00 23.5	+0.4
MERV	Las Mercedes	4.43	269	eP	P	22 59 43.5	+0.2
MERV				eS	S	23 00 34.1	-0.4
CAOV	Caicara del Or	4.91	246	eP	P	22 59 50.0	-0.1
CAOV				eS	S	23 00 45.3	-1.1
PAYV	Puerto Ayacuch	7.01	236	eP	P	23 00 17.4	-2.1

*ATH **19** 23:03:11.2, 35.27N×23.37E, h34^{km}±5^{km}, MD3.3/5*
*THE **19** 23:03:12.7, 34.91N×24.18E, h6^{km}*
ISC 19 23:03:12.6±1.2**, 35.31N**±0.08×**23.47E**±0.09**, h34**^{km}**, n10, σ0**^{s}**65**/12**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAM	Vamos	0.61	81	ePN	P	23 03 25.4	+0.8
GVD	Gavdhos	0.69	133	ePN	P	23 03 25.8	-0.1
KYTH	Kithira	1.03	340	ePN	P	23 03 31.0	+0.3
VLI	Veliai	1.47	343	ePN	P	23 03 37.2	+0.2
NPS	Neapolis	1.75	91	ePB	P	23 03 42.5	+1.4
THR6	Thira Island,	1.88	56	ePb	P	23 03 42.6	-0.4
THR5	Thira Island,	1.88	54	ePb	P	23 03 42.5	-0.4
THR5				eSb	S	23 04 06.0	+0.2
THR3	Thira Island,	1.91	55	ePb	P	23 03 43.1	-0.2
THR3				eSb	S	23 04 06.8	+0.3
THR1	Thera Island	1.93	56	ePb	P	23 03 42.8	-0.9
KARP	Karpathos	3.02	84	ePN	P	23 03 58.2	-1.1

IDC 19 23:06:47.5±4.4**, 25.83N**×**141.31E, mb3.9**/3**, mb1 4.1**/3**, mb1mx3.6**/20**, Error ellipse: s-maj=309.0km s-min=28.6km az=84.0, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	46.00	189	P	P	23 15 12.6	-2.0
	2.5nm,0.3s,baz=9.9,slow=8.7,SNR=21						
ASAR	Alice Springs	49.72	189	P	P	23 15 41.7	-2.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	0.2nm,0.4s,baz=18,slow=14,SNR=3.2						
FINES	FINESS Array B	78.73	334	P	P	23 18 51.6	-1.4
	0.8nm,0.5s,baz=76,slow=5.7,SNR=9.8						

INMG ***19*** *23:16:58.6±1.1, 38.29N×7.95W, h4km±5km, ML1.8, Error ellipse: s-maj=2.7km s-min=1.8km az=79.0*
MDD ***19*** *23:16:58.7±0.3, 38.29N×7.96W, h4km±6km, mbLg2.0/9, Error ellipse: s-maj=4.5km s-min=2.5km az=49.0, PRXIMO*
ISC 19 23:16:57.5±0.6**, 38.30N**±0.03×**7.88W**±0.04**, h9**km±5km**, n17,** σ**0.77**/31**, Portugal**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBEJ	Beja	0.27	178	ePg	Pg	23 17 03.7	+0.5
PBEJ				eSg	Sg	23 17 07.3	+0.3
	68nm,0.1s						
PBEJ	Beja	0.27	178	Pg	Pg	23 17 03.7	+0.5
PBEJ				Lg		23 17 07.3	
	34nm,0.1s						
MOE	Montemor	0.43	301	ePg	Pg	23 17 05.8	-0.6
MOE				eSg	Sg	23 17 11.3	-0.9
EBAD	Badajoz	0.82	56	Pg	Pg	23 17 15.3	+1.3
	2.8nm,0.0s,SNR=7.9						
EBAD				Lg		23 17 26.6	
	26nm,0.1s,SNR=7.9						
PALC	Alcoutim	0.89	159	eP	Pb	23 17 15.1	+0.4
PALC				eS	Sb	23 17 27.1	+0.6
	23nm,0.2s						
PALC	Alcoutim	0.89	159	P	Pb	23 17 15.1	+0.4
PALC				S	Sb	23 17 27.1	+0.6
	12nm,0.2s						
PTEO	Sao Teotonio	1.01	222	eP	Pb	23 17 16.8	+0.1
PTEO				eS	Sb	23 17 29.1	-0.7
	20nm,0.2s						
PTEO	Sao Teotonio	1.01	222	P	Pb	23 17 16.8	+0.1
PTEO				S	Sb	23 17 29.1	-0.7
	10nm,0.2s						
EMIN	Mina Concepcio	1.09	119	Pg	Pg	23 17 19.2	-0.2
	1.3nm,0.1s,SNR=7.9						
EMIN				Lg		23 17 36.0	
	5.7nm,0.1s,SNR=7.9						
PLOU	Loures	1.16	301	eP	Pb	23 17 19.4	+0.1
PLOU				eS	Sb	23 17 33.9	-0.3
	13nm,0.2s						
PLOU	Loures	1.16	301	P	Pb	23 17 19.4	+0.1
PLOU				S	Sb	23 17 33.9	-0.3
	6.7nm,0.2s						
PTOM	Tomar	1.38	343	eP	Pn	23 17 23.8	+0.7
PTOM				eS	Sb	23 17 41.7	+1.0
	24nm,0.2s						
PTOM	Tomar	1.38	343	P	Pn	23 17 23.8	+0.7
PTOM				S	Sb	23 17 41.7	+1.0
	12nm,0.2s						
PCBR	Castelo Branco	1.57	11	eP	Pn	23 17 26.1	+0.3
PCBR				eS	Sb	23 17 46.7	+0.5
	5.3nm,0.3s						
PCBR	Castelo Branco	1.57	11	P	Pn	23 17 26.1	+0.3
PCBR				S	Sb	23 17 46.7	+0.5
	2.7nm,0.3s						
EADA	Adamuz	2.60	92	Pn	Pn	23 17 40.8	+0.3
	0.2nm,0.1s,SNR=6.1						
EADA				Pg	Pg	23 17 47.8	-1.7
	0.3nm,0.2s,SNR=7.9						
EADA				Sn	Sn	23 18 12.2	-0.4
	0.5nm,0.1s,SNR=7.9						
EADA				Lg		23 18 22.0	
	1.1nm,0.2s,SNR=7.9						
ESDC	Sonseca Array	3.35	65	Sn	Sn	23 18 29.7	-1.7
	0.3nm,0.1s,baz=229,slow=54,SNR=7.9						
ESDC				Lg		23 18 45.0	
	2.0nm,0.6s,baz=256,slow=28,SNR=7.9						

WEL 19 23:48:19.3±0.3**, 38.62S**×**175.90E, h148**km±2km**, ML3.5**/5**, 7C, Error ellipse: s-maj=2.3km s-min=2.2km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGZ	Maungaku	0.47	216	⇑PN	P	23 48 40.4	-0.3
TWVZ	Taurewa	0.57	219	⇑PN	P	23 48 40.7	-0.5
NGZ	Ngauruhoe	0.60	203	PN	P	23 48 41.0	-0.4
CNZ	Chateau	0.64	205	PN	P	23 48 41.2	-0.3
TUVZ	Tukino	0.67	196	PN	P	23 48 41.5	-0.3
BKZ	Black Stump Fm	0.71	140	⇑PN	P	23 48 42.1	+0.1
BKZ				SN	S	23 48 58.9	-0.6
BKZ				SN	S	23 48 59.3	-0.2
WNVZ	Wahianoa	0.74	198	⇑PN	P	23 48 42.0	-0.2
MOVZ	Moawhango	0.79	188	⇑PN	P	23 48 42.0	-0.5
MOVZ				SN	S	23 48 58.9	-1.4
URZ	Urewera	1.02	70	PN	P	23 48 43.8	-0.3
URZ				SN	S	23 49 02.5	-0.8
MWZ	Matawai	1.31	78	PN	P	23 48 46.8	-0.3
MWZ				SN	S	23 49 07.6	-0.9
TSZ	Takapari Road	1.44	178	⇑PN	P	23 48 47.7	-0.7
TSZ				SN	S	23 49 08.7	-2.1
KNZ	Kokohu	1.44	107	SN	S	23 49 10.3	-0.6
PUZ	Puketiti	1.93	74	PN	P	23 48 53.0	-0.8
PUZ				SN	S	23 49 19.3	-1.1
MRZ	Mangatainoka R	2.05	187	⇑PN	P	23 48 53.2	-2.0
MRZ				SN	S	23 49 18.8	-4.0
BFZ	Birch Farm	2.07	173	PN	P	23 48 54.1	-1.4
BFZ				SN	S	23 49 20.3	-3.1
MXZ	Matakaoa Point	2.17	62	PN	P	23 48 55.9	-0.8
KIW	Kapiti Island	2.36	199	PN	P	23 48 56.2	-3.0
KIW				SN	S	23 49 25.0	-4.6
CAW	Cannon Point	2.56	194	PN	P	23 48 58.6	-3.1
NNZ	Nelson	3.23	216	SN	S	23 49 43.7	-5.7
QRZ	Quartz Range	3.41	229	PN	P	23 49 07.1	-5.4
QRZ				SN	S	23 49 46.3	-7.0
THZ	Tophouse	3.88	215	SN	S	23 49 58.0	-6.6
KHZ	Kahutara	4.19	205	PN	P	23 49 18.1	-4.8
MQZ	McQueen's Vall	5.64	205	SN	S	23 50 34.7	-11

SKHL ***20*** *00:04:35.1±1.3, 44.90N×147.80E, h150km±10km, mb5.1/3, mbv6.1/1, msh6.0/1, msha5.6/2*
MOS ***20*** *00:04:36.0±1.4, 45.10N×147.62E, h161km, mb4.2/15, Error ellipse: s-maj=16.3km s-min=10.0km az=113.5*
BJI ***20*** *00:04:36.8, 45.10N×147.40E, h145km, mb4.9*
NEIC ***20*** *00:04:36.9±0.6, 45.14N×147.40E, h145km±6km, mb4.4/9, Error ellipse: s-maj=11.9km s-min=10.2km az=173.0*
JMA ***20*** *00:04:39.3±0.4, 44.67N×147.79E, h155km, M4.1*
IDC ***20*** *00:04:41.2±1.5, 45.13N×147.40E, h185km±14km, mb3.7/15, mb1 3.9/18, mb1mx3.8/26, MS3.9/1, Ms1 3.9/1, ms1mx2.8/22, Error ellipse: s-maj=14.2km s-min=11.6km az=141.0*
ISC 20 00:04:36.0±0.5**, 45.06N**±0.05×**147.72E**±0.06**, h157**km±3km**, n95,** σ**1.42**/108**, mb4.1**/34**, 9C-8D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	0.20	31	⇓iP	P	00 04 57.0	-0.5
KUR				AMB	AMB	00 04 57.3	
	300nm,0.5s						
KUR				AMB	AMB	00 04 57.3	
	150nm,0.5s						
KUR				AMB	AMB	00 04 57.3	
	1µm,0.5s						
KUR				AMB	AMB	00 04 58.0	
	3µm,1.5s						
KUR				iS	S	00 05 13.0	-1.0
KUR				A		00 05 14.0	
	4µm,2.0s						
KUR				A		00 05 14.0	
	8µm,2.0s						
KUR				A		00 05 21.5	
	2µm,0.6s						
KUR				A		00 05 21.5	
	910nm,0.6s						
KUR	Kuril'sk	0.20	31	⇓iPN	P	00 04 57.0	-0.5
KUR				iS	S	00 05 13.0	-1.0
KUR				pmax	pmax		
	comp=N,300nm,0.5s						
KUR				pmax	pmax		
	comp=E,150nm,0.5s						
KUR				pmax	pmax		
	comp=Z,1µm,0.5s						
KUR				pmax	pmax		
	comp=Z,3µm,1.5s						
KUR				smax			
	comp=N,4µm,2.0s						
KUR				smax			
	comp=E,8µm,2.0s						
KUR				smax			
	comp=N,2µm,0.6s						
KUR				smax			
	comp=E,910nm,0.6s						
YUK	Yuzh-Kuril'sk	1.68	233	⇓iP	P	00 05 06.7	-1.6
YUK				AMB	AMB	00 05 08.0	
	comp=E,3µm,0.4s						
YUK				AMB	AMB	00 05 08.0	
	comp=E,550nm,0.5s						
YUK				AMB	AMB	00 05 08.0	
	comp=E,2µm,0.5s						
YUK				AMB	AMB	00 05 08.0	
	comp=E,760nm,0.5s						
YUK				iS	S	00 05 31.5	-1.8
YUK				A		00 05 32.0	
	comp=E,6µm,0.9s						
YUK				A		00 05 32.0	
	comp=E,2µm,0.5s						
YUK				A		00 05 32.0	
	comp=E,3µm,0.5s						
YUK	Yuzh-Kuril'sk	1.68	233	⇓iPN	P	00 05 06.7	-1.6
YUK				iS	S	00 05 31.5	-1.8
YUK				pmax	pmax		
	comp=N,550nm,0.5s						
YUK				pmax	pmax		
	comp=Z,2µm,0.5s						
YUK				pmax	pmax		
	comp=E,760nm,0.5s						
YUK				pmax	pmax		
	comp=Z,3µm,0.4s						
YUK				smax			
	comp=N,2µm,0.5s						
YUK				smax			
	comp=N,6µm,0.9s						
YUK				smax			
	comp=E,6µm,0.9s						
JRA	Rausu	2.17	240	P	P	00 05 15.5	+1.5
JRA				eS	S	00 05 44.1	+0.9
NEM2	Nemuro 2	2.21	221	P	P	00 05 14.4	-0.1
NEM2				S	S	00 05 41.2	-2.9
JNK	Nakash	2.61	237	P	P	00 05 20.7	+1.3
JTKR	Abashiri--Toko	2.94	250	P	P	00 05 24.7	+1.2
JTKR				eS	S	00 06 00.6	+0.7
JAK	Akkeshi	3.00	228	P	P	00 05 24.3	0.0
JAK				eS	S	00 05 58.7	-2.7
JAR	Ashorobuto	3.34	240	P	P	00 05 30.4	+1.6
JAR				eS	S	00 06 09.3	+0.1
JSE	Soyaes	3.65	270	P	P	00 05 34.7	+2.1
JKK2	Kamakawa 2	3.75	253	P	P	00 05 35.9	+1.9
JKK2				eS	S	00 06 20.4	+1.7
ASAJ	Asahikawa	3.78	257	P	P	00 05 36.7	+2.3
	comp=E,5.2nm,0.3s,baz=94,slow=18,SNR=11						
ASAJ				S	S	00 06 21.6	+2.3
	comp=E,2.0nm,0.3s,baz=245,slow=29,SNR=6.4						
ASAJ	Asahikawa	3.78	257	PN	P	00 05 36.7	+2.3
ASAJ				S	S	00 06 21.6	+2.3
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
YSS	Yuzh-Sakhalins	3.94	300	⇑eP	P	00 05 37.6	+1.1
YSS				eS	S	00 06 23.8	+0.7
YSS				A		00 06 29.8	
	comp=Z,50nm,1.0s						
JCH	Churui	3.99	234	P	P	00 05 37.3	+0.2
JCH				eS	S	00 06 20.3	-3.9
JWK2	Keihoku	4.12	276	P	P	00 05 42.3	+3.4
JNBK	Urakawa-nobuka	4.55	234	P	P	00 05 43.7	-0.8
JNBK				eS	S	00 06 31.3	-6.0
JKB	Kayabe	5.81	239	P	P	00 06 00.4	-0.6
JKB				eS	S	00 07 00.9	-6.2
JOT	Ohata	6.11	235	P	P	00 06 03.2	-1.8
JOT				eS	S	00 07 06.6	-7.6
JOSM	Okushiri--Mats	6.69	246	P	P	00 06 12.8	0.0
TYV	Tymovskoe	6.73	331	eP	P	00 06 12.0	-1.3
TEY	Ternei	7.88	274	eP	P	00 06 29.0	+0.3
TEY				AMB	AMB	00 06 30.5	
	comp=Z,30nm,0.8s						
CN2	Changchun	15.96	273	eP	P	00 08 12.8	+0.1
FX1	Attu Island--F	18.37	56	P	P	00 08 42.6	+1.6
	comp=Z,1.8nm,0.3s,baz=256,slow=8.3,SNR=5.0						
FX1	Attu Island--F	18.37	56	P	P	00 08 42.6	+1.6
FX1				pmax	pmax		
	comp=Z,2.0nm,0.3s						
YAK	Yakutsk	19.97	335	eP	P	00 08 55.4	-2.1
YAK				pmax	pmax		
	comp=Z,33nm,0.8s						
YAK	Yakutsk	19.97	335	eP	P	00 08 55.4	-2.1
	comp=Z,33nm,0.8s						
JOW	Kunigami	23.95	227	LR	LR	00 20 37.4	
	comp=Z,254nm,18.8s,baz=297,slow=40						
BOD	Bodaibo	24.30	314	eP	P	00 09 36.2	-3.4
SSE	Sheshan	24.98	245	eP	P	00 09 43.5	-2.8
SSE				AMB	AMB		
	comp=Z,44nm,0.7s,mb5.1						
NJ2	Nanjing	25.89	250	eP	P	00 09 55.0	+0.2
NJ2				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.0						
SONM	Songino Array	28.37	291	P	P	00 10 15.7	-1.4
	comp=Z,1.2nm,0.3s,mb4.1,baz=84,slow=8.2,SNR=4.7						
GTA	Gaotai	35.50	278	P	P	00 11 21.0	+1.9
GTA				AMB	AMB		
	comp=Z,13nm,0.5s,mb4.8						
ILAR	Eielson Array	40.19	37	P	P	00 11 59.1	+1.3
	comp=Z,0.5nm,0.5s,mb3.4,baz=280,slow=9.1,SNR=15						
ILAR	Eielson Array	40.19	37	P	P	00 11 59.1	+1.2
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	Makanchi Array	44.35	297	iP	P	00 12 31.8	0.0
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
INK	Inuvik	45.07	31	P	P	00 12 38.2	+1.0
	comp=Z,1.3nm,0.3s,mb4.0,baz=148,slow=7.9,SNR=4.0						
INK	Inuvik	45.07	31	P	P	00 12 38.2	+1.0
INK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
INK	Inuvik	45.07	31	P	P	00 12 38.2	+1.0
KURK	Kurchatov	45.15	303	iP	P	00 12 36.9	-1.1
KURK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.7						
VOSK	Vostochnaya	48.79	308	P	P	00 13 05.0	-1.4
VOSK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.5						
VOSK	Vostochnaya	48.79	308	P	P	00 13 05.0	-1.4
	comp=Z,1.0nm,0.7s,mb3.5						
BVAR	Borovoye Array	49.00	309	P	P	00 13 06.5	-1.5
	comp=Z,1.5nm,0.6s,mb3.8,baz=101,slow=7.3,SNR=7.8						
BRVK	Borovoye	49.04	309	eP	P	00 13 07.2	-1.2
DLBC	Dease Lake	49.44	43	P	P	00 13 14.1	+2.8
	comp=Z,0.9nm,0.7s,mb3.5,baz=321,slow=13,SNR=3.8						
ZRNK	Zerenda	49.79	309	P	P	00 13 12.9	-1.2
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.9						
AAK	Ala-Archa	51.17	295	c iP	P	00 13 24.1	-0.6
AAK				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.2						
AAK	Ala-Archa	51.17	295	⇑iP	P	00 13 24.1	-0.6
	comp=Z,8.0nm,1.2s,mb4.2						
GUN	Gumba	51.36	273	eP	P	00 13 27.6	+1.3
KKN	Kakani	51.85	273	eP	P	00 13 31.2	+1.2
	comp=Z,2.3nm,0.2s,mb4.4						
PKI	Pulchoki	51.89	273	eP	P	00 13 30.9	+0.6
	comp=Z,3.3nm,0.5s,mb4.3						
DMN	Daman	52.08	273	eP	P	00 13 32.8	+1.1
	comp=Z,9.3nm,0.7s,mb4.5						
GKN	Gorkha	52.18	274	eP	P	00 13 33.3	+0.9
KOLN	Koldanda	53.05	274	eP	P	00 13 39.8	+0.9
	comp=Z,3.3nm,0.4s,mb4.4						
ARU	Arti	53.67	316	⇑iP	P	00 13 41.2	-1.8
ARU				e		00 14 43.3	
ARU				e		00 15 43.3	
ARU				ePPP	PPP	00 16 55.7	-3.9
ARU				eS	S	00 21 03.0	+0.3
ARU				eSS	SS	00 24 45.9	+0.5
ARU				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3						
ARU	Arti	53.67	316	⇑iP	P	00 13 41.2	-1.8
	comp=Z,6.0nm,0.9s,mb4.3						
ARU				e		00 14 43.3	
ARU				e		00 15 43.3	
ARU				ePPP	PPP	00 16 55.7	-3.9
ARU				eS	S	00 21 03.0	+0.3
ARU				eSS	SS	00 24 45.9	+0.5
KEV	Kevo	57.63	339	ep	P	00 14 08.6	-2.6
	comp=Z,3.9nm,0.6s,mb4.4						
KEV	Kevo	57.63	339	eP	P	00 14 08.6	-2.6
KEV				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.4						
ARCES	ARCESS Array B	58.16	339	P	P	00 14 13.2	-1.7
	comp=Z,2.8nm,1.0s,mb4.1,baz=46,slow=7.2,SNR=14						
ARCES	ARCESS Array B	58.16	339	P	P	00 14 13.2	-1.7
ARCES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
JOF	Joensuu	61.12	332	ep	P	00 14 33.4	-1.8
	comp=Z,2.0nm,0.3s,mb4.4						
JOF	Joensuu	61.12	332	eP	P	00 14 33.4	-1.8
JOF				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.4						
KAF	Kangasniemi	63.33	333	ep	P	00 14 47.9	-2.0
	comp=Z,0.9nm,0.3s,mb4.1,baz=46,slow=6.8						
KAF	Kangasniemi	63.33	333	eP	P	00 14 47.9	-2.0
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.1						
FINES	FINESS Array B	63.90	333	P	P	00 14 51.9	-1.5
	comp=Z,5.8nm,0.6s,mb4.6,baz=42,slow=8.2,SNR=45						
FINES	FINESS Array B	63.90	333	P	P	00 14 51.9	-1.5
FINES				pmax	pmax		
	comp=Z,6.0nm,0.6s						
OBN	Obninsk	64.50	324	deP	P	00 14 56.1	-1.4
OBN				e*PP	pP	00 15 31.0	-4.0
OBN				e		00 17 17.0	
OBN				eS	S	00 23 28.2	+6.1
OBN				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.5						
OBN	Obninsk	64.50	324	ePr		00 14 56.1	
	comp=Z,6.0nm,0.7s						
OBN				epP	pP	00 15 31.0	-4.0
OBN				e		00 17 17.0	
OBN				eS	S	00 23 28.2	+6.1
WRA	Warramunga Arr	65.83	194	P	P	00 15 05.3	-1.4
	comp=Z,1.1nm,0.5s,mb3.9,baz=10,slow=6.6,SNR=7.3						
WRA	Warramunga Arr	65.83	194	P	P	00 15 05.3	-1.3
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NVAR	Mina Array Bea	66.54	59	P	P	00 15 12.4	+1.5
	comp=Z,1.9nm,0.6s,mb4.1,baz=284,slow=8.7,SNR=11						
NB2	NORSAR Subarra	68.53	339	P	P	00 15 21.5	-1.3
	comp=Z,1.5nm,0.5s,mb4.0,baz=31,slow=6.5						
NOA	NORSAR Array B	68.53	339	P	P	00 15 21.8	-1.0
	comp=Z,0.8nm,0.3s,mb3.9,baz=30,slow=6.5,SNR=6.4						
NOA	NORSAR Array B	68.53	339	P	P	00 15 21.8	-1.0
NOA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
PDAR	Pinedale Array	68.75	50	P	P	00 15 25.8	+1.3
	comp=Z,1.7nm,0.7s,mb3.9,baz=279,slow=2.0,SNR=14						
KIV	Kislovodsk	69.20	312	c iP	P	00 15 28.6	+1.5
KIV				e		00 15 51.1	
KIV				e*PP	pP	00 16 10.5	+5.4
KIV				eS	S	00 24 17.2	-1.4
KIV				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.6						
KIV	Kislovodsk	69.20	312	⇑iP	P	00 15 28.6	+1.5
	comp=Z,11nm,0.8s,mb4.6						
KIV				e		00 15 51.1	
KIV				epP	pP	00 16 10.5	+5.4
KIV				eS	S	00 24 17.2	-1.4
ASAR	Alice Springs	69.55	194	P	P	00 15 30.3	+0.7
	comp=Z,0.6nm,0.6s,mb3.5,baz=14,slow=6.0,SNR=9.2						
AKASG	Malin Array Be	70.77	324	P	P	00 15 35.5	-1.0
	comp=Z,4.3nm,0.8s,mb4.3,baz=35,slow=6.2,SNR=12						
AKASG	Malin Array Be	70.77	324	P	P	00 15 35.5	-1.0
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SOC	Sochi	71.01	313	eP	P	00 15 36.7	-1.4
SOC				e		00 15 54.2	
SOC				e		00 18 15.5	
SOC				ePPP	PPP	00 19 56.8	-4.2
SOC				eS	S	00 24 39.5	-0.1
SOC				e		00 25 13.3	
SOC				ePS	PS	00 25 31.2	-0.5
SOC				eSS	SS	00 29 17.5	-0.6
SOC				eSSS	SSS	00 32 23.2	-2.9
SOC				pmax	pmax		
	comp=N,11nm,0.8s						
SOC				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.7						
SOC				pmax	pmax		
	comp=E,18nm,0.9s						
CLL	Collm	76.34	333	P	P	00 16 09.0	+0.4
BRTR	Keskin Array B	76.94	314	P	P	00 16 13.8	+1.6
	comp=E,0.6nm,0.5s,mb3.5,baz=53,slow=6.2,SNR=4.5						
BRTR	Keskin Array B	76.94	314	P	P	00 16 13.9	+1.7
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KHC	Kasperske Hory	78.01	331	eP	P	00 16 19.0	+1.1
GERES	GERESS Array B	78.21	331	P	P	00 16 20.0	+1.0
	comp=Z,0.5nm,0.4s,mb3.5,baz=36,slow=5.5,SNR=12						
GERES	GERESS Array B	78.21	331	P	P	00 16 20.0	+1.0
GERES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TXAR	Lajitas Array	81.59	57	P	P	00 16 39.4	+1.9
	comp=Z,1.9nm,0.6s,mb3.9,baz=294,slow=4.2,SNR=35						
SNAA	Sanae	149.83	198	⇓iP	PKPdf	00 24 13.2	+12
SNAA	Sanae	149.83	198	PKPbc	PKPdf	00 24 07.7	+7.0
	comp=Z,0.8nm,1.0s,baz=118,slow=1.5,SNR=7.4						
SNAA				PKPab	PKPab	00 24 14.2	+0.2
	comp=Z,0.1nm,0.4s,baz=320,slow=1.7,SNR=7.5						
SNAA	Sanae	149.83	198	PKPbc	PKPdf	00 24 07.7	+7.0
SNAA				⇓iPKPdf	PKPdf	00 24 13.2	+12
SNAA				PKPab	PKPab	00 24 14.2	+0.2
VNA2	Neumayer--Watz	151.36	197	⇑iP	PKPdf	00 24 14.2	+11
VNA3	Neumayer Olymp	151.54	195	⇑iP	PKPdf	00 24 14.2	+11
VNA1	Neumayer--Stat	151.75	197	⇓iP	PKPdf	00 24 15.3	+12

MOS ***20*** *00:26:53.4±1.6, 46.16N×144.93E, h313km, mb3.4/6, Error ellipse: s-maj=24.7km s-min=16.7km az=93.2*
BJI ***20*** *00:26:54.0, 46.10N×145.10E, h305km, mb4.5*
NEIC ***20*** *00:26:54.0±1.0, 46.11N×145.11E, h305km±17km, mb4.0/4, Error ellipse: s-maj=26.6km s-min=14.3km az=147.0*
IDC ***20*** *00:26:55.9±0.8, 46.09N×144.92E, h323km±9km, mb3.2/12, mb1 3.4/13, mb1mx3.3/22, Error ellipse: s-maj=17.1km s-min=12.3km az=132.0*
JMA ***20*** *00:26:55.3±0.4, 45.72N×145.22E, h332km, M3.5*
ISC 20 00:26:54.3±0.4**, 45.80N**±0.06×**145.23E**±0.09**, h331**km±4km**, n61,** σ**1.22**/71**, mb3.6**/20**, 2C-2D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRA	Rausu	1.86	182	P	P	00 27 44.2	+1.0
JRA				eS	S	00 28 22.9	+1.5
KUR	Kuril'sk	1.94	106	i PN	P	00 27 41.8	-1.9
JSE	Soyaes	2.04	247	P	P	00 27 44.7	+0.2
JSE				eS	S	00 28 23.3	-0.4
JTKR	Abashiri--Toko	2.06	208	P	P	00 27 45.6	+1.0
JTKR				eS	S	00 28 24.6	+0.7
JWK2	Keihoku	2.39	260	P	P	00 27 47.7	+0.5
NEM2	Nemuro 2	2.46	171	P	P	00 27 47.3	-0.6
NEM2				eS	S	00 28 27.7	-2.0
ASAJ	Asahikawa	2.51	229	P	P	00 27 49.1	+0.9
	10nm,0.3s,baz=44,slow=4.8,SNR=38						
ASAJ				S	S	00 28 32.5	+2.0
	baz=146,slow=34,SNR=3.1						
ASAJ	Asahikawa	2.51	229	PN	P	00 27 49.2	+0.9
ASAJ				S	S	00 28 32.6	+2.1
ASAJ				pmax	pmax		
	comp=Z,10.0nm,0.3s						
JKK2	Kamakawa 2	2.61	223	P	P	00 27 50.0	+0.9
JAR	Ashorobuto	2.71	203	P	P	00 27 50.8	+0.8
JAR				eS	S	00 28 33.9	+0.3
JAK	Akkeshi	2.83	188	P	P	00 27 51.0	0.0
JAK				eS	S	00 28 33.7	-1.7
JHR	Hokuryu	3.23	232	P	P	00 27 55.8	+1.0
JFR	Furan	3.24	216	P	P	00 27 56.2	+1.3
JCH	Churui	3.46	203	P	P	00 27 56.5	-0.5
JCH				eS	S	00 28 43.7	-2.5
JNBK	Urakawa-nobuka	3.94	208	P	P	00 28 01.5	-0.5
JNBK				eS	S	00 28 52.2	-3.0
JEW	Eniwo	4.01	224	P	P	00 28 03.6	+0.9
ERM	Erimo	4.07	202	Pn	P	00 28 03.1	-0.2
	comp=Z,1µm,0.4s,SNR=50						
JKB	Kayabe	4.95	219	P	P	00 28 12.7	-0.3
JKB				eS	S	00 29 11.5	-3.2
JOT	Ohata	5.36	216	P	P	00 28 16.4	-1.2
JOT				eS	S	00 29 19.1	-4.0
JOSM	Okushiri--Mats	5.57	230	P	P	00 28 19.8	-0.3
JANG	Nango	6.07	208	P	P	00 28 25.3	-0.6
JANG				eS	S	00 29 33.4	-4.3

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JMK	Ichinoseki	7.46	205	P	P	00 28 42.4	0.0
JMK				eS	S	00 30 06.4	-1.0
MAJO	Matsushiro	10.65	212	eP	P	00 29 23.1	+2.1
	comp=Z,16nm,0.5s						
MAT	Matsushiro	10.65	212	P	P	00 29 22.3	+1.4
MAT	Matsushiro	10.65	212	eP	P	00 29 22.0	+1.1
	comp=Z,18nm,0.7s						
MDJ	Mudanjiang	11.10	269	P	P	00 29 26.3	-0.1
MDJ				AMB	AMB		
	comp=Z,14nm,1.0s						
MDJ	Mudanjiang	11.10	269	eP	P	00 29 26.2	-0.2
CN2	Changchun	14.19	269	eP	P	00 30 03.3	+0.1
FX1	Attu Island--F	19.45	59	P	P	00 31 00.1	+2.3
	baz=228,slow=11						
BOD	Bodaibo	22.52	314	eP	P	00 31 22.1	-5.2
ZAL	Zalesovo	38.70	305	P	P	00 33 44.5	-3.7
	comp=Z,0.6nm,0.3s,mb3.3,baz=61,slow=2.5,SNR=3.6						
ZAL	Zalesovo	38.70	305	P	P	00 33 44.5	-3.7
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ILAR	Eielson Array	40.67	38	P	P	00 34 03.5	-0.7
	comp=Z,0.6nm,0.5s,mb3.1,baz=253,slow=6.5,SNR=14						
ILAR	Eielson Array	40.67	38	P	P	00 34 03.5	-0.6
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURK	Kurchatov	43.27	302	eP	P	00 34 23.6	-1.6
	comp=Z,1.9nm,0.6s,mb3.4						
CMAR	Chiang Mai Arr	46.86	250	P	P	00 34 55.3	+1.5
	comp=Z,1.6nm,0.6s,mb3.5,baz=44,slow=8.3,SNR=4.6						
CMAR	Chiang Mai Arr	46.86	250	P	P	00 34 55.3	+1.5
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZRNK	Zerenda	47.95	308	eP	P	00 35 00.2	-1.6
	comp=Z,1.5nm,0.6s,mb3.4						
GUN	Gumba	49.58	270	eP	P	00 35 15.6	+1.2
	comp=Z,9.8nm,0.3s,mb4.5						
KKN	Kakani	50.07	271	eP	P	00 35 18.8	+0.7
	comp=Z,2.9nm,0.3s,mb3.9						
PKI	Pulchoki	50.12	270	eP	P	00 35 18.9	+0.5
	comp=Z,3.4nm,0.4s,mb3.9						
DMN	Daman	50.31	270	eP	P	00 35 19.0	-0.8
	comp=Z,4.4nm,0.4s,mb4.0						
GKN	Gorkha	50.39	271	eP	P	00 35 20.8	+0.3
	comp=Z,8.9nm,0.5s,mb4.3						
KOLN	Koldanda	51.26	272	eP	P	00 35 27.7	+0.8
	comp=Z,3.2nm,0.3s,mb4.0						
YKA	Yellowknife Ar	54.86	34	P	P	00 35 52.5	0.0
	comp=Z,0.7nm,0.6s,mb3.2,baz=305,slow=7.3,SNR=3.8						
YKA	Yellowknife Ar	54.86	34	P	P	00 35 52.5	0.0
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARCES	ARCESS Array B	56.84	339	P	P	00 36 04.9	-1.4
	comp=Z,3.3nm,1.1s,mb3.6,baz=45,slow=7.7,SNR=3.4						
ARCES	ARCESS Array B	56.84	339	P	P	00 36 04.9	-1.5
ARCES				pmax	pmax		
	comp=Z,3.0nm,1.1s						
FINES	FINESS Array B	62.42	332	P	P	00 36 42.2	-1.9
	comp=Z,2.2nm,0.8s,mb3.7,baz=37,slow=9.5,SNR=7.7						
FINES	FINESS Array B	62.42	332	P	P	00 36 42.2	-1.9
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WRA	Warramunga Arr	66.17	191	P	P	00 37 09.7	+1.1
	comp=Z,0.3nm,0.4s,mb3.4,baz=7.9,slow=6.6,SNR=2.6						
NOA	NORSAR Array B	67.19	338	P	P	00 37 13.2	-1.1
	comp=Z,0.2nm,0.5s,mb3.1,baz=39,slow=4.3,SNR=2.5						
AKASG	Malin Array Be	69.12	322	P	P	00 37 25.5	-0.7
	comp=Z,2.6nm,0.8s,mb4.0,baz=37,slow=6.3,SNR=7.1						
AKASG	Malin Array Be	69.12	322	P	P	00 37 25.5	-0.7
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
PDAR	Pinedale Array	69.62	49	P	P	00 37 31.1	+1.7
	comp=Z,0.6nm,0.8s,mb3.4,baz=315,slow=2.1,SNR=4.3						
ASAR	Alice Springs	69.89	191	P	P	00 37 34.5	+3.1
	comp=Z,0.6nm,0.7s,mb3.4,baz=8.3,slow=5.5,SNR=6.0						
GERES	GERESS Array B	76.70	329	P	P	00 38 09.3	-1.1
	comp=Z,0.2nm,0.4s,mb3.2,baz=53,slow=6.7,SNR=4.8						
SNAA	Sanae	149.96	200	⇑i	PKPdf	00 46 07.3	+8.5
VNA2	Neumayer--Watz	151.53	198	⇓i	PKPdf	00 46 13.4	+12
VNA3	Neumayer Olymp	151.77	197	⇑i	PKPdf	00 46 13.3	+12
VNA1	Neumayer--Stat	151.93	198	⇓i	PKPdf	00 46 13.1	+11

WEL 20 00:29:40.4±0.3, 37.53S×177.58E, h108km±2km, ML3.6/2, 1D, Error ellipse: s-maj=3.3km s-min=2.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.58	93	PN	P	00 29 57.6	-0.2
MXZ				SN	S	00 30 10.5	-0.4
MWZ	Matawai	0.80	183	PN	P	00 29 59.7	-0.1
MWZ				SN	S	00 30 14.2	0.0
URZ	Urewera	0.81	207	⇓PN	P	00 29 59.7	-0.2
URZ				SN	S	00 30 13.9	-0.6
KNZ	Kokohu	1.49	177	PN	P	00 30 06.8	-0.6
BKZ	Black Stump Fm	1.84	207	PN	P	00 30 11.3	-0.5
MRZ	Mangatainoka R	3.49	206	PN	P	00 30 30.3	-3.7

*ATH **20** 01:00:47.9, 39.37N×20.27E, h45km, MD3.0/4*
*THE **20** 01:00:51.3, 39.18N×20.61E, h10km, ML2.8*
*CSEM **20** 01:00:51.2±0.3, 39.17N×20.55E, h2km, ML2.8, Error ellipse: s-maj=6.5km s-min=4.2km az=76.0*
ISC 20 01:00:51.0±0.6, 39.17N±0.03×20.63E±0.04, h2km, n15, σ0.82/23, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IGT	Igoumenitsa	0.43	328	ePg	Pg	01 00 58.4	-1.2
IGT				eSg	Sg	01 01 06.0	+0.7
LKD	Levkas	0.47	178	ePg	Pg	01 00 59.8	-0.5
	comp=Z,11nm,0.1s						
LKD				eSg	Sg	01 01 07.5	+0.9
JAN	Janina	0.51	20	eP	Pg	01 01 00.0	-1.3
MEV	Metsovon	0.77	37	ePg	Pg	01 01 05.6	-0.7
	comp=Z,2.5nm,0.3s						
MEV				eSg	Sg	01 01 16.8	+0.2
KEK	Kerkira	0.84	310	eP	Pg	01 00 59.0	-8.8
SRN	Sarande	0.86	326	i Sg	Sg	01 01 20.3	+0.7
SRN	Sarande	0.86	326	ePg	Pg	01 01 09.6	+1.5
EVR	Evrytania	0.95	105	eP	Pb	01 01 10.0	0.0
VLS	Valsamata	0.99	182	eP	Pb	01 01 10.0	-0.7
AGG	Agios Georgios	1.33	96	ePb	Pb	01 01 16.2	-0.3
AGG				eSb	Sb	01 01 36.5	+2.6
FNA	Florina	1.71	19	ePb	Pb	01 01 22.1	-0.8
FNA				eSb	Sb	01 01 45.1	+0.4
LIT	Litokhoron	1.71	57	ePb	Pb	01 01 22.5	-0.4
LIT				eSb	Sb	01 01 44.8	-0.1
GRG	Griva	2.24	37	ePn	Pn	01 01 29.7	0.0
GRG				eSn	Sn	01 01 58.7	+0.4
KNT	Kendrikon	2.64	40	ePn	Pn	01 01 35.0	-0.4
SOH	Sokhos	2.66	51	ePn	Pn	01 01 35.1	-0.6
SOH				eSn	Sn	01 02 09.4	+0.4

*UAV **20** 01:19:12.0, 9.14N×70.21W, h10km*
FUNV 20 01:19:11.0, 9.12N×70.15W, h10km, MW2.1, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TORV	Torococo	0.45	350	P	Pg	01 19 20.6	+0.6
TORV				S	Sg	01 19 27.1	+1.0
EAV	Pico El Aguila	0.71	248	P	Pb	01 19 24.6	-0.4
CURV	Curarigua	0.91	12	eP	Pb	01 19 27.8	-0.6
CURV				eS	Sb	01 19 39.7	-0.6
CUV	La Culata	0.97	248	P	Pb	01 19 29.5	+0.1
SOCV	Socops	1.08	220	eP	Pb	01 19 30.7	-0.6
SOCV				eS	Sb	01 19 45.5	+0.2
UAV	Universidad de	1.10	243	P	Pb	01 19 31.9	+0.2
UAV				S	Sb	01 19 46.4	+0.5
VIGV	El Vigia	1.23	257	eP	Pb	01 19 33.9	+0.1
VIGV				eS	Sb	01 19 49.6	0.0
TEPV	Terepaima	1.27	48	eP	Pb	01 19 34.3	-0.2
TEPV				eS	Sb	01 19 51.0	+0.4
SIQV	Siquisique	1.56	13	eP	Pn	01 19 39.4	+0.5
DABV	Dabajuro	1.85	345	eS	Sn	01 20 04.9	-1.9
BAUV	El Baul	2.09	95	eP	Pn	01 19 45.9	-0.6
BAUV				eS	Sn	01 20 10.8	-2.0
ELOV	Elorza	2.21	162	eP	Pn	01 19 46.7	-1.4
VIRV	Villa del Rosa	2.61	302	eP	Pn	01 19 52.9	-1.1
CAOV	Caicara del Or	4.19	115	eP	Pn	01 20 12.9	-3.5

SKHL 20 01:57:23.5±0.6, 52.99N×135.61E, h20km, mb3.7/3, 1D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EKMR	Ekimchan	1.61	274	ePn	Pn	01 57 51.2	0.0
EKMR				⇓iPg	Pn	01 57 52.3	+1.1
EKMR				AMB	AMB	01 57 52.9	
	42nm,0.4s						
EKMR				AMB	AMB	01 57 52.9	
	32nm,0.4s						
EKMR				AMB	AMB	01 57 52.9	
	120nm,0.4s						
EKMR				erx	rx	01 57 54.8	
EKMR				eSg	Sn	01 58 13.7	+2.2
EKMR				A		01 58 17.0	
	130nm,0.5s						
EKMR				A		01 58 17.0	
	32nm,0.5s						
EKMR				A		01 58 17.0	
	63nm,0.5s						
GRNR	Gornyy	2.28	167	ePg	Pn	01 58 05.5	+4.7
GRNR				eSg	Sn	01 58 35.0	+6.4
NKL	Nikolayevsk	3.06	85	eSg	Sn	01 58 59.0	+11
NKL				A		01 58 59.5	
	50nm,0.8s						
BMKR	Bomnak	4.36	296	ePg	Pn	01 58 42.1	+12
BMKR				AMB	AMB	01 58 42.9	
	3.0nm,0.4s						
BMKR				eSg	Sn	01 59 39.0	+18
BMKR				A		01 59 45.5	
	8.0nm,0.5s						
YASR	Yasnyy	4.60	277	ePg	Pn	01 58 48.3	+14
YASR				AMB	AMB	01 58 50.1	
	2.0nm,0.5s						
YASR				pP		01 58 54.3	
YASR				eSg	Sn	01 59 48.3	+21
YASR				A		01 59 56.5	
	7.0nm,0.5s						
YASR				A		01 59 56.5	
	4.0nm,0.5s						
ZEA	Zeya	5.06	282	erx	rx	02 00 07.6	
KROS	Kirovskiy	5.33	289	eSg	Sn	02 00 10.0	+24
KROS				A		02 00 15.4	
	5.0nm,0.6s						

*NIED **20** 02:16:00, 41.50N×141.30E, h5km, Mw3.9 Best double couple: M0 8.24×10^14 NP1:φs71°, δ62°, λ72°. NP2:φs286°, δ33°, λ121°.*
*NEIC **20** 02:16:08.8±0.7, 41.36N×141.36E, h10km, mb4.2/5, Error ellipse: s-maj=20.2km s-min=12.0km az=125.0*
NEIC Felt at Misawa, Honshu. Recorded [2 JMA] in Aomori and [1 JMA] in Iwate Prefectures, Honshu.
*BJI **20** 02:16:09.9, 41.53N×141.02E, h10km, mB4.4, mb4.1, Ms4.3, Msz4.2*
*MOS **20** 02:16:10.1±1.2, 41.36N×141.37E, h33km, mb4.0/8, Error ellipse: s-maj=33.1km s-min=15.9km az=77.4*
*JMA **20** 02:16:10.3, 41.54N×141.32E, h8km±1km, M3.9*
JMA Felt II J1.
*IDC **20** 02:16:14.9±2.7, 41.49N×141.16E, h49km±25km, mb3.6/10, mb1 3.8/11, mb1mx3.6/23, ML3.6/1, Error ellipse: s-maj=27.3km s-min=17.3km az=95.0*
ISC 20 02:16:09.6±0.7, 41.53N±0.03×141.37E±0.07, h23km±5km, n43, σ0.90/51, mb4.0/14, 1C-5D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOT	Ohata	0.28	240	⇑P	Pb	02 16 15.7	-0.5
JOT				S	Sb	02 16 19.2	-1.4
JKB	Kayabe	0.44	325	⇓P	Pb	02 16 18.7	0.0
JKB				S	Sb	02 16 24.3	-0.6
JSR	Shiriuchi	0.71	271	P	Pb	02 16 23.3	0.0
JTM	Tenmabayashi	0.77	197	⇓P	Pb	02 16 24.9	+0.7
JTM				eS	Sb	02 16 35.5	+1.2
JSI2	Shiura 2	0.86	237	⇓P	Pb	02 16 26.3	+0.5
JSI2				S	Sb	02 16 37.2	+0.4
JYM2	Yakumo 2	0.95	309	⇓P	Pb	02 16 27.7	+0.4
JYM2				eS	Sb	02 16 40.0	+0.5
JNB	Noboribetsu	0.97	345	⇓P	Pb	02 16 27.9	+0.2
JNB				S	Sb	02 16 40.4	+0.3
ASAJ	Asahikawa	2.74	19	P	Pn	02 16 56.6	+3.4
	6.6nm,0.3s,baz=218,slow=7.5,SNR=19						
ASAJ				S	Sn	02 17 31.4	+5.3
	9.0nm,0.3s,baz=210,slow=33,SNR=4.2						
ASAJ	Asahikawa	2.74	19	P	Pn	02 16 56.7	+3.4
ASAJ				S	Sn	02 17 31.4	+5.3
ASAJ				pmax	pmax		
	comp=Z,7.0nm,0.3s						
YUK	Yuzh-Kuril'sk	4.15	51	P	Pn	02 17 12.6	-0.7
YUK				eS	Sn	02 18 00.5	-1.2
YUK				smax			
	comp=Z,210nm,0.6s						
YUK				smax			
	comp=N,750nm,0.8s						
YUK				smax			
	comp=N,2μm,0.6s						
YUK				smax			
	comp=E,2μm,0.6s						
MAJO	Matsushiro	5.55	207	P	Pn	02 17 27.7	-5.4
MAT	Matsushiro	5.55	207	P	Pn	02 17 37.9	+4.8
MAT	Matsushiro	5.55	207	P	Pn	02 17 38.0	+4.9
	comp=E,8.2nm,0.8s						
MDJ	Mudanjiang	9.16	294	P	P	02 18 19.8	-3.7
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.7s						
CN2	Changchun	11.94	286	eP	P	02 19 01.3	-0.2
SSE	Sheshan	19.27	244	eP	P	02 20 33.6	-1.8
NJ2	Nanjing	20.31	250	eP	P	02 20 46.3	-0.5
WMQ	Urumqi	38.95	292	eP	P	02 23 38.0	+2.5
ZAL	Zalesovo	38.99	308	P	P	02 23 35.0	-0.8
	comp=Z,1.0nm,0.6s,mb3.8,baz=48,slow=11,SNR=3.4						
ZAL	Zalesovo	38.99	308	P	P	02 23 35.0	-0.7
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURK	Kurchatov	43.25	304	eP	P	02 24 11.0	+0.3
	comp=Z,1.7nm,0.6s,mb4.0						
ILAR	Eielson Array	45.77	35	P	P	02 24 30.9	+0.2
	comp=Z,0.9nm,0.9s,mb3.7,baz=266,slow=5.8,SNR=8.7						
ILAR	Eielson Array	45.77	35	P	P	02 24 31.0	+0.3
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ZRNK	Zerenda	48.44	310	eP	P	02 24 52.5	+0.6
	comp=Z,2.8nm,1.0s,mb4.2						
INK	Inuvik	50.44	29	P	P	02 25 08.1	+1.1
	comp=Z,0.7nm,0.6s,mb3.9,baz=316,slow=6.8,SNR=16						
INK	Inuvik	50.44	29	P	P	02 25 08.1	+1.1
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	Inuvik	50.44	29	eP	P	02 25 07.8	+0.8
	comp=Z,1.0nm,0.7s,mb4.0						
RES	Resolute Bay	58.27	15	eP	P	02 26 04.3	0.0
	comp=Z,4.3nm,1.0s,mb4.4						
WRAB	Tennant Creek	61.49	188	eP	P	02 26 26.2	-0.8
	comp=Z,2.8nm,0.9s,mb4.4						
WRA	Warramunga Arr	61.50	188	P	P	02 26 25.8	-1.3
	comp=Z,0.8nm,0.7s,mb4.0,baz=4.2,slow=3.9,SNR=17						
WRA	Warramunga Arr	61.50	188	P	P	02 26 25.8	-1.3
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	FINESS Array B	64.85	331	P	P	02 26 48.1	-0.4
	comp=Z,1.4nm,0.5s,mb4.3,baz=56,slow=6.9,SNR=11						
FINES	FINESS Array B	64.85	331	P	P	02 26 48.1	-0.4
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	Alice Springs	65.23	188	P	P	02 26 51.7	+0.1
	comp=Z,0.6nm,0.5s,mb3.9,baz=5.6,slow=6.9,SNR=9.6						
NB2	NORSAR Subarra	70.05	337	P	P	02 27 21.3	+0.1
	comp=Z,1.6nm,0.7s,mb4.1,baz=37,slow=6.5						
NOA	NORSAR Array B	70.05	337	P	P	02 27 20.7	-0.5
	comp=Z,0.5nm,0.7s,mb3.6,baz=43,slow=5.5,SNR=2.9						
NOA	NORSAR Array B	70.05	337	P	P	02 27 20.7	-0.5
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	Malin Array Be	70.75	321	P	P	02 27 25.7	+0.1
	comp=Z,0.9nm,0.4s,mb4.1,baz=45,slow=6.4,SNR=6.5						
AKASG	Malin Array Be	70.75	321	P	P	02 27 25.7	+0.1
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
PDAR	Pinedale Array	74.57	46	P	P	02 27 50.0	+1.7
	comp=Z,0.9nm,1.0s,mb3.6,baz=270,slow=1.5,SNR=5.0						
BRTR	Keskin Array B	75.88	311	P	P	02 27 55.6	-0.1
	comp=Z,0.6nm,0.8s,mb3.6,baz=72,slow=3.9,SNR=3.9						
BRTR	Keskin Array B	75.88	311	P	P	02 27 55.7	-0.1
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SNAA	Sanae	145.01	199	ePKPdf	PKPdf	02 35 45.7	-2.5

*BJI **20** 02:28:14.2, 23.17S×177.21W, h338km, mB4.2, mb4.5*
*NEIC **20** 02:28:20.8±3.2, 22.42S×177.89W, h338km±31km, mb4.3/7, Error ellipse: s-maj=14.1km s-min=13.6km az=130.0*
*IDC **20** 02:28:21.8±4.3, 22.54S×177.81W, h348km±42km, mb3.8/12, mb1 4.0/14, mb1mx4.0/18, Error ellipse: s-maj=18.1km s-min=16.5km az=165.0*
*SYO **20** 02:28:28.8, 22.31S×178.15W, h416km, MB4.3*
ISC 20 02:28:12.5±3.8, 22.37S±0.07×177.9W±0.1, h264km±36km, n71, σ0.92/45, mb4.2/20, 4C-6D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	16.42	194	P	P	02 31 48.5	-1.0
	3.4nm,0.3s,baz=21,slow=3.7,SNR=11						
URZ				S	S	02 34 42.7	-0.6
	5.1nm,0.3s,baz=134,slow=21,SNR=12						
URZ	Urewera	16.42	194	P	P	02 31 49.0	-0.6
QRZ	Quartz Range	20.12	202	eP	P	02 32 27.4	-0.1
THZ	Tophouse	20.84	200	eP	P	02 32 35.0	+0.5
RPZ	Rata Peaks	23.19	201	P	P	02 32 56.9	-0.3
	12nm,0.5s,mb4.5,baz=11,slow=11,SNR=14						
CTA	Charters Tower	33.49	267	P	P	02 34 30.7	+1.5
	4.7nm,0.4s,mb4.4,baz=95,slow=11,SNR=14						
CTA	Charters Tower	33.49	267	P	P	02 34 30.7	+1.5
CTAO	Charters Tower	33.49	267	eP	P	02 34 29.9	+0.7
	5.2nm,0.6s,mb4.2						
PMG	Port Moresby	35.94	285	P	P	02 34 51.4	+1.6
	44nm,0.9s,mb5.0,baz=99,slow=7.9,SNR=15						
STKA	Stephens Creek	37.14	246	eP	P	02 35 00.6	+0.9
	2.6nm,0.4s,mb4.0						
STKA	Stephens Creek	37.14	246	P	P	02 35 00.7	+0.9
	5.1nm,0.6s,mb4.1,baz=89,slow=9.5,SNR=13						
ASAR	Alice Springs	44.26	259	P	P	02 35 57.9	0.0
	1.6nm,0.7s,mb3.4,baz=95,slow=8.0,SNR=14						
WB2	Warramunga Arr	44.50	264	eP	P	02 35 59.4	-0.4
WRAB	Tennant Creek	44.51	264	eP	P	02 35 59.2	-0.6
	2.3nm,0.7s,mb3.5						
WRA	Warramunga Arr	44.51	264	P	P	02 35 59.6	-0.3
	0.8nm,0.3s,mb3.4,baz=96,slow=8.3,SNR=34						
QSPA	South Pole Qui	67.71	180	eP	P	02 38 43.3	+0.7
	8.4nm,0.8s,mb4.5						
SSE	Sheshan	79.00	310	eP	P	02 39 47.6	-1.1
MAW	Mawson	79.86	200	P	P	02 39 52.4	-0.2
	2.3nm,0.9s,mb3.9,baz=154,slow=5.8,SNR=4.6						
NJ2	Nanjing	81.18	310	eP	P	02 40 00.3	+0.1
YBH	Yreka Blue Hor	81.66	38	P	P	02 40 03.2	+0.7
	baz=109,slow=3.4						
MDJ	Mudanjiang	82.13	325	P	P	02 40 04.6	-0.2
MDJ				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.5						
NVAR	Mina Array Bea	82.28	43	P	P	02 40 06.5	+0.7
	comp=Z,3.2nm,0.8s,mb4.1,baz=215,slow=7.9,SNR=12						
CN2	Changchun	83.86	323	eP	P	02 40 14.0	+0.3
SYO	Syowa Base	84.94	193	⇑P	P	02 40 16.7	-1.8
SYO	Syowa Base	84.94	193	⇓P	P	02 40 21.1	+2.6
SNAA	Sanae	86.14	178	⇑i	P	02 40 23.1	-1.2
SNAA	Sanae	86.14	178	P	P	02 40 23.6	-0.7
	baz=298,slow=5.4						
VNA3	Neumayer Olymp	86.27	176	⇑i	P	02 40 26.1	+1.1
VNA2	Neumayer--Watz	86.72	177	⇑i	P	02 40 28.5	+1.4
VNA1	Neumayer--Stat	86.94	177	⇓i	P	02 40 27.1	-1.1
TMUT	Trail Mountain	87.36	45	eP	P	02 40 31.6	+0.8
TXAR	Lajitas Array	87.94	57	P	P	02 40 34.6	+0.8
	comp=Z,1.3nm,0.8s,mb3.8,baz=220,slow=7.5,SNR=15						
DPW	Davenport	87.98	36	eP	P	02 40 33.7	+0.1
GDL2	Guadalupe Moun	88.72	54	eP	P	02 40 38.0	+0.6
MCK	McKinley	88.76	12	eP	P	02 40 35.7	-1.1
	comp=Z,6.8nm,1.0s,mb4.4						
MCMT	McKenzie Canyo	89.28	40	eP	P	02 40 40.5	+0.7
DLBC	Dease Lake	89.71	23	P	P	02 40 40.3	-1.1
	comp=Z,3.8nm,0.9s,mb4.2,baz=198,slow=9.4,SNR=8.2						
COLA	College	90.00	12	eP	P	02 40 41.1	-1.5
	comp=Z,6.7nm,0.7s,mb4.6						
ILAR	Eielson Array	90.10	13	P	P	02 40 41.5	-1.7
	comp=Z,3.9nm,0.9s,mb4.2,baz=221,slow=5.4,SNR=29						
QLMT	Earthquake Lak	90.14	41	eP	P	02 40 44.8	+1.0
PDAR	Pinedale Array	90.22	43	P	P	02 40 44.0	-0.2
	comp=Z,2.1nm,0.8s,mb4.0,baz=217,slow=2.5,SNR=16						
CMAR	Chiang Mai Arr	90.87	289	P	P	02 40 48.9	+1.1
	comp=Z,5.1nm,1.1s,mb4.3,baz=127,slow=2.9,SNR=14						
LZH	Lanzhou	94.01	307	eP	P	02 41 00.8	-1.0
LZH				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
INK	Inuvik	96.03	15	eP	P	02 41 09.0	-1.2
	comp=Z,1.4nm,0.8s,mb4.1						
BVAR	Borovoye Array	120.59	319	PKP	PKPdf	02 46 31.5	-1.1
	comp=Z,1.1nm,0.4s,baz=115,slow=2.6,SNR=6.9						
ZRNK	Zerenda	121.43	319	ePKPdf	PKPdf	02 46 32.8	-1.4
ARCES	ARCESS Array B	130.78	349	PKP	PKPdf	02 46 50.7	-1.0
	comp=Z,2.1nm,0.5s,baz=6.0,slow=1.2,SNR=18						
ARCES	ARCESS Array B	130.78	349	PKP	PKPdf	02 46 50.7	-1.0
FINES	FINESS Array B	137.60	343	PKP	PKPdf	02 47 02.5	-2.0
	comp=Z,0.9nm,0.6s,baz=45,slow=2.7,SNR=5.8						
NOA	NORSAR Array B	140.85	353	PKhKP		02 47 03.6	
	comp=Z,1.0nm,0.8s,baz=33,slow=2.0,SNR=3.9						
NOA				PKP	PKPdf	02 47 10.6	+0.3
	comp=Z,0.9nm,0.6s,baz=14,slow=4.0,SNR=3.8						
NOA	NORSAR Array B	140.85	353	PKP		02 47 03.6	
NOA				PKP	PKPdf	02 47 10.6	+0.3
SUW	Suwalki	144.63	339	ePKPdf	PKPdf	02 47 16.3	-0.7
AKASG	Malin Array Be	144.71	330	PKP	PKPdf	02 47 15.8	-1.5
	comp=Z,3.5nm,0.4s,baz=38,slow=4.2,SNR=27						
ASF	Jabal al Asfar	147.73	295	PKPbc	PKPdf	02 47 26.7	+3.7
	comp=Z,2.7nm,0.7s,baz=173,slow=3.7,SNR=6.0						
BRTR	Keskin Array B	148.18	310	PKPbc	PKPdf	02 47 26.6	+3.2
	comp=Z,1.8nm,0.6s,baz=122,slow=4.0,SNR=10						
KWP	Kalwaria	148.33	334	ePKPbc	PKPdf	02 47 27.2	+3.9
KOLS	Kolonicke sedl	149.05	334	ePKP	PKPdf	02 47 29.7	+5.2
CRVS	Cervenica-Dubn	149.40	335	ePKP	PKPdf	02 47 31.0	+5.9
KSP	Ksiaz	149.51	342	ePKP	PKPdf	02 47 30.4	+5.2
OKC	Ostrava-Krasne	149.83	339	ePKPbc	PKPdf	02 47 31.3	+5.6
UPC	Upice	149.89	342	⇓ePKPbc	PKPdf	02 47 31.5	+5.7
UPC				ePKPab	PKPab	02 47 38.5	-1.3
CLL	Collm	149.91	346	⇓iPKP1	PKPdf	02 47 31.2	+5.5
CLL				i PKP2	PKPab	02 47 37.3	-2.5
DPC	Dobruska-Polom	149.94	342	ePKPbc	PKPdf	02 47 31.3	+5.5
DPC				ePKPab	PKPab	02 47 38.7	-1.3
BRG	Berggiesshubel	150.10	345	i PKP	PKPdf	02 47 31.8	+5.7
PVCC	Panska Ves	150.26	344	⇓ePKPbc	PKPdf	02 47 32.4	+6.1
PVCC				ePKPab	PKPab	02 47 36.7	-4.6
VYHS	Vyhne	150.74	337	i PKP	PKPdf	02 47 33.3	+6.2
VYHS				e		02 47 41.7	
PRU	Pruhonice	150.76	344	⇓iPKPbc	PKPdf	02 47 32.9	+5.8
	comp=Z,9.7nm,0.8s						
NKC	Novy Kostel	151.04	346	ePKPbc	PKPdf	02 47 33.6	+6.1
NKC				ePKPab	PKPab	02 47 42.3	-2.3
KHC	Kasperske Hory	151.80	344	ePKP	PKPdf	02 47 35.5	+6.8
KHC				ex	x	02 47 46.1	
GRA1	Grafenberg Arr	151.81	347	ePKP	PKPdf	02 47 35.8	+7.1
GERES	GERESS Array B	152.03	344	PKP	PKPdf	02 47 27.2	-1.8
	comp=Z,0.3nm,0.5s,baz=256,slow=4.0,SNR=4.2						
GERES				PKPbc	PKPdf	02 47 35.9	+6.9
	comp=Z,1.4nm,0.5s,slow=2.0,SNR=16						

*IDC **20** 02:37:21.5±3.6, 12.41N×86.31W, mb3.8/3, mb1 4.2/3, mb1mx3.8/19, Error ellipse: s-maj=97.8km s-min=33.6km az=16.0*
*CASC **20** 02:37:38.3±2.6, 12.48N×87.91W, h47km±48km, MD4.1, ML4.0*
ISC 20 02:37:37.7±0.5, 12.46N±0.08×87.92W±0.05, h66km±10km, n36, σ0.73/65, mb3.6/2, 8C-5D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CNCH	Conchagua	0.81	6	⇑eP	P	02 37 53.5	-0.3
CNCH				eS	S	02 38 05.6	-0.2
CRIN	San Cristobal	0.88	74	⇓eP	P	02 37 55.7	+1.0
CRIN				eS	S	02 38 08.2	+1.0
LEON	Leon	1.00	93	⇑eP	P	02 37 56.2	-0.1
LEON				eS	S	02 38 08.2	-1.8
VSM	San Miguel	1.02	340	eP	P	02 37 56.6	+0.1
VSM				eS	S	02 38 11.0	+0.5
BLLM	Bellamira	1.02	342	eP	P	02 37 56.2	-0.4
BLLM				eS	S	02 38 09.6	-1.0
TELN	Telica	1.07	82	eP	P	02 37 57.5	+0.4
TELN				eS	S	02 38 11.6	0.0
MIRN	Miramar	1.18	91	⇑eP	P	02 37 58.9	+0.3
MIRN				eS	S	02 38 12.7	-1.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CNGN	**Cerro Negro**	**1.19**	**88⇑**	eP	**P**	**02 37 58.9**	**+0.1**
CNGN				eS	**S**	**02 38 14.5**	**0.0**
COPN	**Copaltepe**	**1.32**	**102⇑**	eP	**P**	**02 38 00.8**	**0.0**
COPN				eS	**S**	**02 38 16.8**	**-1.0**
CAHU	**Cacacuatique**	**1.33**	**348**	eP	**P**	**02 38 00.8**	**0.0**
CAHU				eS	**S**	**02 38 19.1**	**+1.1**
MOMJ	**Momotombo**	**1.34**	**92⇓**	eP	**P**	**02 38 01.1**	**+0.1**
MOMJ				eS	**S**	**02 38 17.9**	**-0.3**
SNVI	**San Vicente**	**1.46**	**322**	eP	**P**	**02 38 02.9**	**+0.4**
SNVI				eS	**S**	**02 38 20.5**	**-0.4**
APYN	**Apoyeque**	**1.55**	**98⇓**	eP	**P**	**02 38 04.0**	**+0.2**
APYN				eS	**S**	**02 38 23.0**	**+0.1**
LCBS	**La Ceiba**	**1.57**	**319**	eP	**P**	**02 38 03.9**	**-0.3**
LCBS				eS	**S**	**02 38 23.6**	**0.0**
XAVN	**Gruta Xavier**	**1.58**	**101**	eP	**P**	**02 38 04.5**	**+0.3**
XAVN				eS	**S**	**02 38 24.4**	**+0.6**
SOMN	**Somoto**	**1.59**	**53⇑**	eP	**P**	**02 38 06.5**	**+2.2**
SOMN				eS	**S**	**02 38 27.6**	**+3.7**
QUIN	**Quiabu**	**1.60**	**66⇑**	iP	**P**	**02 38 04.6**	**+0.1**
QUIN				eS	**S**	**02 38 20.4**	**-3.8**
LFRS	**El Faro**	**1.61**	**316⇓**	eP	**P**	**02 38 04.3**	**-0.2**
CRUN	**El Crucero**	**1.65**	**107⇓**	eP	**P**	**02 38 06.0**	**+0.9**
CRUN				eS	**S**	**02 38 25.7**	**+0.3**
MGAN	**Managua**	**1.66**	**101**	eP	**P**	**02 38 04.0**	**-1.3**
MGAN				eP		02 38 05.2	
MGAN				eS	**S**	**02 38 24.3**	**-1.3**
MGAN				eS	**S**	**02 38 25.1**	**-0.5**
MGAN				i		02 38 27.7	
	comp=N,2µm,0.4s						
LBRS	**Las Brisas**	**1.68**	**319**	eP	**P**	**02 38 05.9**	**+0.4**
LBRS				eS	**S**	**02 38 25.5**	**-0.5**
TICN	**Ticuantepe**	**1.70**	**104**	eP	**P**	**02 38 06.3**	**+0.5**
TICN				eS	**S**	**02 38 26.3**	**-0.3**
WILN	**Americas 2**	**1.71**	**100**	eP	**P**	**02 38 06.5**	**+0.5**
WILN				eS	**S**	**02 38 26.9**	**+0.1**
SNET	**Serv Nac Est T**	**1.77**	**314**	eP	**P**	**02 38 06.3**	**-0.5**
SNET				eS	**S**	**02 38 27.5**	**-0.6**
SNET				i		02 38 28.6	
	comp=Z,2µm,0.3s						
MASN	**Masaya**	**1.79**	**105**	eP	**P**	**02 38 07.5**	**+0.5**
PYTN	**Playitas**	**1.81**	**87⇑**	eP	**P**	**02 38 07.3**	**-0.1**
PYTN				eS	**S**	**02 38 24.4**	**-4.8**
BOQS	**Boqueron**	**1.83**	**314**	eP	**P**	**02 38 07.8**	**+0.1**
BOQS				eS	**S**	**02 38 30.1**	**+0.4**
APON	**Apoyo**	**1.89**	**107**	eP	**P**	**02 38 09.0**	**+0.6**
APON				eS	**S**	**02 38 30.9**	**0.0**
SBLS	**San Blas**	**2.15**	**310**	eP	**P**	**02 38 12.4**	**+0.3**
SBLS				eS	**S**	**02 38 38.1**	**+0.5**
SNJE	**San Jose**	**2.16**	**311**	eP	**P**	**02 38 12.4**	**+0.2**
SNJE				eS	**S**	**02 38 38.3**	**+0.6**
RTR	**El Retiro**	**2.21**	**310**	eP	**P**	**02 38 13.3**	**+0.4**
RBDL	**Robledal**	**2.38**	**314**	eP	**P**	**02 38 15.4**	**+0.1**
CUSS	**Cusmapa**	**2.45**	**306**	eP	**P**	**02 38 16.2**	**-0.1**
CUSS				eS	**S**	**02 38 43.6**	**-1.4**
TXAR	**Lajitas Array**	**22.28**	**321**	P	**P**	**02 42 31.2**	**+0.7**
	comp=Z,2.5nm,0.7s,mb3.6,baz=139,slow=9.6,SNR=29						
TXAR				ScP		02 49 57.0	
	comp=Z,0.4nm,0.9s,baz=149,slow=5.3,SNR=3.7						
PDAR	**Pinedale Array**	**35.55**	**332**	P	**P**	**02 44 28.1**	**-2.4**
	comp=Z,0.5nm,0.6s,mb3.6,baz=120,slow=8.4,SNR=4.0						
WRA	**Warramunga Arr**	**138.84**	**254**	PKP	PKPdf	02 56 54.6	-2.9
	comp=Z,0.6nm,0.8s,baz=90,slow=2.5,SNR=8.7						

*NEIC **20** 02:59:20.6±1.2, 32.32N×140.82E, h10km, mb4.4/2, Error ellipse: s-maj=47.6km s-min=19.5km az=85.0*
*IDC **20** 02:59:35.4±2.7, 32.25N×140.73E, h131km±13km, mb3.6/6, mb1 3.8/6, mb1mx3.4/21, Error ellipse: s-maj=51.6km s-min=25.2km az=93.0*
ISC 20 02:59:33.4±2.4**, 32.2N**±0.1×**140.8E**±0.4**, h131**km±14km**,** **n12,** σ**0.80**/13**, mb3.8**/8**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**1.26**	**320**	P	**P**	**03 00 00.5**	**+1.1**
	40nm,0.3s,baz=251,slow=22,SNR=7.4						
JHJ				S	**S**	**03 00 18.2**	**-0.8**
	34nm,0.3s,baz=257,slow=23,SNR=4.8						
CMAR	**Chiang Mai Arr**	**39.94**	**260**	P	**P**	**03 06 57.0**	**+0.6**
	1.3nm,0.5s,mb3.8,baz=76,slow=7.4,SNR=5.0						
WRAB	**Tennant Creek**	**52.16**	**188**	eP	**P**	**03 08 32.0**	**-0.7**
	14nm,1.6s,mb4.3						
WRA	**Warramunga Arr**	**52.17**	**188**	P	**P**	**03 08 32.8**	**+0.1**
	0.2nm,0.8s,mb2.8,baz=8.1,slow=7.5,SNR=2.8						
BRVK	**Borovoye**	**53.60**	**315**	eP	**P**	**03 08 39.0**	**-3.9**
	1.7nm,0.8s,mb3.8						
ARCES	**ARCESS Array B**	**68.37**	**340**	P	**P**	**03 10 22.7**	**+0.5**
	2.1nm,0.9s,mb3.9,baz=63,slow=6.0,SNR=4.9						
FINES	**FINESS Array B**	**72.88**	**333**	P	**P**	**03 10 48.2**	**-1.1**
	4.2nm,1.2s,mb4.1,baz=56,slow=6.9,SNR=4.5						
FINES	**FINESS Array B**	**72.88**	**333**	P	**P**	**03 10 48.2**	**-1.1**
HFS	**Hagfors**	**78.30**	**336**	P	**P**	**03 11 19.8**	**-0.1**
	4.9nm,1.2s,mb4.0,baz=44,slow=4.8,SNR=9.7						
NB2	**NORSAR Subarra**	**78.47**	**337**	P	**P**	**03 11 21.9**	**+1.1**
	0.8nm,0.8s,mb3.4,baz=43,slow=5.3						
NOA	**NORSAR Array B**	**78.47**	**337**	P	**P**	**03 11 21.3**	**+0.5**
	1.0nm,0.7s,mb3.5,baz=41,slow=5.1,SNR=4.3						
NOA	**NORSAR Array B**	**78.47**	**337**	P	**P**	**03 11 21.3**	**+0.5**

*NEIC **20** 03:21:07.2±4.2, 14.75N×144.44E, h33km±31km, mb4.4/4, Error ellipse: s-maj=20.4km s-min=8.2km az=86.0*
*IDC **20** 03:21:24.4±4.5, 14.62N×144.28E, h193km±44km, mb3.5/11, mb1 3.7/12, mb1mx3.6/21, MS3.6/9, Ms1 3.6/9, ms1mx3.4/19, Error ellipse: s-maj=28.6km s-min=11.7km az=86.0*
ISC 20 03:21:06.3±2.0**, 14.74N**±0.07×**144.3E**±0.2**, h40**km±20km**,** **n31,** σ**0.65**/24**, mb4.3**/18**, MS3.5**/8**, 3D, Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.26**	**155**	eP	**P**	**03 21 27.6**	**-0.2**
JHJ	**Hachijo jima 2**	**18.75**	**348**	LR	LR	03 30 49.0	
	comp=Z,467nm,21.1s,baz=338,slow=30						
MAJO	**Matsushiro**	**22.39**	**347**	P	**P**	**03 26 03.6**	**+1.1**
	12nm,0.9s,mb4.3						
ASAJ	**Asahikawa**	**29.31**	**357**	LR	LR	03 39 01.6	
	comp=Z,100nm,20.2s,MS3.4,baz=138,slow=36						
CTA	**Charters Tower**	**34.66**	**177**	P	**P**	**03 27 55.3**	**+0.9**
	0.9nm,0.3s,mb4.2,baz=341,slow=11,SNR=2.4						
CTA				LR	LR	03 39 36.5	
	comp=Z,85nm,18.7s,MS3.5,baz=226,slow=32						
WRAB	**Tennant Creek**	**35.83**	**196**	eP	**P**	**03 28 04.6**	**+0.3**
	5.1nm,0.9s,mb4.5						
WB2	**Warramunga Arr**	**35.84**	**196**	eP	**P**	**03 28 04.6**	**+0.2**
WRA	**Warramunga Arr**	**35.84**	**196**	P	**P**	**03 28 04.1**	**-0.3**
	3.1nm,1.0s,mb4.2,baz=17,slow=9.6,SNR=13						
WRA				LR	LR	03 41 33.4	
	comp=Z,45nm,18.4s,MS3.3,baz=205,slow=34						
FITZ	**Fitzroy Crossi**	**37.48**	**210**	eP	**P**	**03 28 18.8**	**+0.6**
	3.2nm,0.8s,mb4.2						
FITZ	**Fitzroy Crossi**	**37.48**	**210**	P	**P**	**03 28 18.4**	**+0.3**
	4.3nm,0.8s,mb4.3,baz=22,slow=9.9,SNR=12						
ASAR	**Alice Springs**	**39.51**	**195**	P	**P**	**03 28 35.2**	**+0.2**
	1.1nm,1.0s,mb3.5,baz=14,slow=13,SNR=4.4						
ASAR				LR	LR	03 44 20.9	
	comp=Z,40nm,18.3s,MS3.3,baz=160,slow=35						
MBWA	**Marble Bar**	**43.08**	**215**	eP	**P**	**03 29 04.3**	**-0.2**
	5.6nm,0.7s,mb4.4						
CMAR	**Chiang Mai Arr**	**43.56**	**281**	P	**P**	**03 29 08.4**	**-0.1**
	1.1nm,0.4s,mb4.0,baz=18,slow=4.5,SNR=8.3						
CMAR				LR	LR	03 45 18.4	
	comp=Z,64nm,19.0s,MS3.5,baz=66,slow=33						
SONM	**Songino Array**	**45.49**	**324**	P	**P**	**03 29 24.6**	**+1.0**
	0.6nm,0.4s,mb3.7,baz=153,slow=11,SNR=2.2						
STKA	**Stephens Creek**	**46.43**	**183**	P	**P**	**03 29 30.6**	**-0.6**
	1.2nm,0.6s,mb4.0,baz=348,slow=23,SNR=3.7						
STKA				LR	LR	03 50 06.0	
	comp=Z,67nm,18.4s,MS3.6,baz=205,slow=37						
GUN	**Gumba**	**55.54**	**294**	eP	**P**	**03 30 40.0**	**-0.2**
PKI	**Pulchoki**	**55.95**	**293**	eP	**P**	**03 30 43.0**	**-0.2**
DMN	**Daman**	**56.22**	**293**	eP	**P**	**03 30 44.6**	**-0.5**
	8.4nm,0.8s,mb4.8						
GKN	**Gorkha**	**56.64**	**294**	eP	**P**	**03 30 47.8**	**-0.3**
	11nm,0.6s,mb5.0						
KOLN	**Koldanda**	**57.56**	**294**	eP	**P**	**03 30 54.1**	**-0.5**
	9.6nm,0.7s,mb4.9						
ZAL	**Zalesovo**	**60.39**	**324**	P	**P**	**03 31 13.2**	**-0.7**
	1.0nm,0.4s,mb4.2,baz=135,slow=18,SNR=2.7						
ILAR	**Eielson Array**	**67.76**	**26**	P	**P**	**03 32 00.4**	**-1.3**
	0.3nm,0.6s,mb3.5,baz=249,slow=6.3,SNR=5.5						
BVAR	**Borovoye Array**	**68.70**	**321**	P	**P**	**03 32 08.3**	**+0.5**
	4.2nm,0.5s,mb4.7,baz=107,slow=7.9,SNR=26						
YKA	**Yellowknife Ar**	**82.08**	**27**	LR	LR	04 06 50.4	
	comp=Z,30nm,19.7s,MS3.7,baz=50,slow=33						
ARCES	**ARCESS Array B**	**85.83**	**342**	P	**P**	**03 33 43.7**	**+1.2**
	1.7nm,0.8s,mb4.3,baz=67,slow=9.2,SNR=6.4						
ARCES	**ARCESS Array B**	**85.83**	**342**	P	**P**	**03 33 43.7**	**+1.2**
FINES	**FINESS Array B**	**89.90**	**335**	P	**P**	**03 34 01.5**	**-0.7**
	2.5nm,0.8s,mb4.6,baz=315,slow=2.7,SNR=3.9						
NOA	**NORSAR Array B**	**95.79**	**339**	LR	LR	04 21 24.9	
	comp=Z,40nm,19.8s,MS3.9,baz=220,slow=38						
SNAA	**Sanae**	**119.81**	**191⇓**	i	PKPdf	03 39 57.6	+5.6
VNA2	**Neumayer--Watz**	**121.26**	**190⇓**	i	PKPdf	03 39 56.9	+2.1
VNA3	**Neumayer Olymp**	**121.37**	**190⇓**	i	PKPdf	03 39 59.5	+4.5

*THE **20** 03:43:08.3, 39.15N×20.53E, h10km, ML2.5*
*ATH **20** 03:43:08.6, 39.20N×20.54E, h10km, MD3.0/3*
*CSEM **20** 03:43:08.8±0.1, 39.21N×20.56E, h2km, ML2.5, Error ellipse: s-maj=3.3km s-min=2.5km az=67.0*
ISC 20 03:43:08.6±0.7**, 39.14N**±0.04×**20.52E**±0.08**, h9**km±10km**,** **n10,** σ**1.02**/16**, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.41**	**340**	ePg	**Pg**	**03 43 15.6**	**-1.4**
IGT				eSg	**Sg**	**03 43 23.0**	**+0.4**
LKD	**Levkas**	**0.45**	**166**	ePg	**Pg**	**03 43 16.7**	**-1.0**
	comp=Z,11nm,0.3s						
LKD				eSg	**Sg**	**03 43 24.1**	**+0.3**
KEK	**Kerkira**	**0.80**	**316**	ePB	**Pb**	**03 43 23.3**	**-0.8**
SRN	**Sarande**	**0.84**	**332**	ePg	**Pg**	**03 43 27.1**	**+1.7**
SRN				i Sg	**Sg**	**03 43 37.5**	**+0.9**
VLS	**Valsamata**	**0.97**	**177**	ePB	**Pb**	**03 43 28.1**	**+1.0**
EVR	**Evrytania**	**1.03**	**102**	ePB	**Pb**	**03 43 28.0**	**-0.2**
AGG	**Agios Georgios**	**1.42**	**94**	ePb	**Pb**	**03 43 34.5**	**-0.3**
AGG				eSb	**Sb**	**03 43 55.1**	**+2.3**
FNA	**Florina**	**1.77**	**22**	ePb	**Pb**	**03 43 39.9**	**-0.8**
FNA				eSb	**Sb**	**03 44 03.6**	**+0.6**
LIT	**Litokhoron**	**1.80**	**57**	ePb	**Pb**	**03 43 40.0**	**-1.3**
LIT				eSb	**Sb**	**03 44 03.7**	**-0.2**
GRG	**Griva**	**2.32**	**38**	ePn	**Pn**	**03 43 46.7**	**-0.8**

*NEIC **20** 04:09:39.2±3.8, 4.02S×156.22E, h10km, mb4.4/1, Error ellipse: s-maj=72.9km s-min=37.9km az=188.0*
*IDC **20** 04:09:58.3±9.4, 5.62S×154.43E, mb3.8/4, mb1 4.0/4, mb1mx3.8/14, Error ellipse: s-maj=155.0km s-min=73.5km az=41.0*
ISC 20 04:09:44.0±5.5**, 4.4S**±0.7×**156.0E**±0.4**, h33**km**, n7,** σ**0.27**/7**,** **mb3.9**/5**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**10.07**	**240**	eP	**P**	**04 12 09.5**	**-0.1**
	32nm,0.8s						
WRAB	**Tennant Creek**	**26.13**	**232**	eP	**P**	**04 15 17.1**	**-0.1**
	7.8nm,0.9s,mb4.2						
WB2	**Warramunga Arr**	**26.14**	**232**	eP	**P**	**04 15 17.8**	**+0.6**
WRA	**Warramunga Arr**	**26.15**	**232**	P	**P**	**04 15 17.4**	**+0.1**
	3.2nm,1.0s,mb3.8,baz=55,slow=9.6,SNR=20						
ASAR	**Alice Springs**	**28.66**	**226**	P	**P**	**04 15 39.8**	**-0.4**
	0.6nm,0.3s,mb3.7,baz=57,slow=9.1,SNR=9.5						
STKA	**Stephens Creek**	**30.52**	**205**	P	**P**	**04 15 56.6**	**0.0**
	0.9nm,0.6s,mb3.8,baz=23,slow=13,SNR=2.8						
FITZ	**Fitzroy Crossi**	**32.65**	**243**	P	**P**	**04 16 15.3**	**-0.2**
	0.6nm,0.5s,mb3.8,baz=60,slow=8.1,SNR=6.6						

*NEIC **20** 04:13:57.3±2.9, 4.18S×144.28E, h75km±25km, mb4.5/5, Error ellipse: s-maj=28.6km s-min=14.8km az=147.0*
*IDC **20** 04:14:10.1±5.0, 4.43S×144.04E, h196km±50km, mb3.4/4, mb1 3.6/5, mb1mx3.4/13, MS2.9/2, Ms1 2.9/2, ms1mx2.5/12, Error ellipse: s-maj=50.1km s-min=16.7km az=119.0*
ISC 20 04:13:55.9±3.3**, 4.3S**±0.2×**144.2E**±0.2**, h71**km±30km**, n13,** σ**0.88**/14**, mb4.1**/7**, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.89**	**150**	eP	**P**	**04 15 22.5**	**+0.2**
	18nm,0.4s						
WRAB	**Tennant Creek**	**18.31**	**211**	eP	**P**	**04 18 06.3**	**-0.4**
	2.7nm,0.5s						
WB2	**Warramunga Arr**	**18.31**	**211**	eP	**P**	**04 18 06.3**	**-0.5**
WRA	**Warramunga Arr**	**18.32**	**211**	P	**P**	**04 18 05.9**	**-1.0**
	0.5nm,0.3s,baz=32,slow=11,SNR=19						
WRA				S	**S**	**04 21 25.0**	**-0.4**
	0.0nm,0.3s,baz=31,slow=22,SNR=2.6						
WRA				LR	LR	04 25 43.7	
	comp=Z,33nm,19.5s,baz=210,slow=38						
ASAR	**Alice Springs**	**21.71**	**206**	P	**P**	**04 18 43.4**	**+0.6**
	1.1nm,0.5s,mb3.5,baz=34,slow=9.8,SNR=21						
ASAR				LR	LR	04 27 57.1	
	comp=Z,39nm,20.6s,baz=236,slow=38						
ASPA	**Alice Springs**	**21.71**	**206**	eP	**P**	**04 18 45.0**	**+2.2**
FITZ	**Fitzroy Crossi**	**22.80**	**231**	eP	**P**	**04 18 55.1**	**+1.6**
	7.1nm,0.4s,mb4.3						
FITZ	**Fitzroy Crossi**	**22.80**	**231**	P	**P**	**04 18 55.0**	**+1.4**
	6.5nm,0.4s,mb4.3,baz=29,slow=8.0,SNR=47						
STKA	**Stephens Creek**	**27.58**	**185**	P	**P**	**04 19 37.8**	**-0.8**
	2.0nm,0.8s,mb3.7,baz=358,slow=6.0,SNR=3.6						
MBWA	**Marble Bar**	**29.12**	**233**	P	**P**	**04 19 51.7**	**-0.8**
	26nm,1.5s,mb4.6						
FORT	**Forrest**	**30.46**	**208**	eP	**P**	**04 20 04.4**	**+0.1**
	39nm,1.3s,mb4.9						
ILAR	**Eielson Array**	**85.00**	**24**	P	**P**	**04 26 23.8**	**-0.7**
	0.2nm,0.5s,mb3.3,baz=249,slow=4.5,SNR=5.6						
QSPA	**South Pole Qui**	**85.69**	**180**	eP	**P**	**04 26 28.0**	**+0.4**
	2.2nm,0.6s,mb4.3						

*NEIC **20** 04:37:31.7±1.5, 14.66N×144.37E, h10km, mb4.3/1, Error ellipse: s-maj=41.3km s-min=12.9km az=61.0*
*IDC **20** 04:37:33.9±3.6, 14.56N×143.57E, mb3.7/5, mb1 3.9/5, mb1mx3.7/20, Error ellipse: s-maj=101.0km s-min=26.8km az=76.0*
ISC 20 04:37:30.6±1.6**, 14.7N**±0.2×**144.2E**±0.3**, h10**km**, n7,** σ**0.44**/7**, mb3.7**/6**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.24**	**148**	eP	**Pb**	**04 37 53.4**	**-0.2**
WRAB	**Tennant Creek**	**35.70**	**196**	P	**P**	**04 44 30.9**	**-0.6**
	4.9nm,1.0s,mb4.4						
WRA	**Warramunga Arr**	**35.72**	**196**	P	**P**	**04 44 31.9**	**+0.3**
	0.8nm,0.7s,mb3.8,baz=13,slow=9.6,SNR=7.9						
FITZ	**Fitzroy Crossi**	**37.34**	**210**	P	**P**	**04 44 45.5**	**+0.3**
	2.4nm,1.0s,mb4.0,baz=17,slow=11,SNR=4.1						
ASAR	**Alice Springs**	**39.39**	**195**	P	**P**	**04 45 02.9**	**+0.5**
	0.2nm,0.9s,mb2.9,baz=13,slow=12,SNR=2.7						
CMAR	**Chiang Mai Arr**	**43.47**	**281**	P	**P**	**04 45 35.3**	**-0.6**
	0.8nm,0.4s,mb3.9,baz=68,slow=7.6,SNR=4.8						
SONM	**Songino Array**	**45.50**	**325**	P	**P**	**04 45 52.2**	**+0.3**
	0.3nm,0.5s,mb3.4,baz=146,slow=10,SNR=3.9						

KRSC 20 04:45:51.9±0.5**, 54.92N**×**159.51E, h308**km±2km**, ML3.9,** **Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TUMR	**Tumrok**	**0.52**	**45**	eP	P	04 46 31.9	+0.2
KMNR	**Kamenistaya**	**0.94**	**26**	eP	P	04 46 33.3	+0.3
KPT	**Kopyto**	**1.12**	**21**	i P	P	04 46 33.7	-0.3
KOZ	**Kozyrevsk**	**1.16**	**10**	eP	P	04 46 33.4	-0.7
ZLN	**Zelenaya**	**1.32**	**33**	i P	P	04 46 36.0	+0.9
MKZ	**Mys Kozlova**	**1.34**	**105**	eP	P	04 46 34.7	-0.5
MKZ				eS	S	04 47 05.9	-3.1
LGNR	**Loginova**	**1.34**	**29**	eP	P	04 46 35.8	+0.6
SRDR	**Sredinnyy**	**1.41**	**5**	eP	P	04 46 34.6	-1.0
KRSR	**Krestovskiy**	**1.43**	**24**	eP	P	04 46 35.1	-0.6
GNL	**Ganaly**	**1.53**	**217**	eP	P	04 46 36.0	-0.4
KLY	**Klyuchi**	**1.54**	**24**	P	P	04 46 35.3	-1.1
SDLR	**Sedlovina**	**1.69**	**193**	i P	P	04 46 37.7	+0.3
KOK	**Koryaka**	**1.71**	**198**	i P	P	04 46 38.2	+0.7
SMAR	**Somma**	**1.71**	**194**	eP	P	04 46 38.1	+0.5
AVH	**Avacha**	**1.72**	**196**	eP	P	04 46 38.0	+0.4
NLC	**Nalytchevo**	**1.75**	**183**	eP	P	04 46 37.8	-0.1
NLC				eS	S	04 47 11.1	-2.6
SPN	**Mys Shipunski**	**1.85**	**170**	i P	P	04 46 38.6	+0.1
SPN				eS	S	04 47 12.4	-2.6
KBTR	**Krutoberegovo**	**2.28**	**54**	i P	P	04 46 41.9	-0.1
KBTR				eS	S	04 47 18.5	-2.6
APC	**Apacha**	**2.44**	**216**	P	P	04 46 43.3	-0.1
RUS	**Russkaya**	**2.56**	**194**	eP	P	04 46 43.3	-1.2
RUS				eS	S	04 47 21.4	-4.1

*MOS **20** 04:53:19.7±1.4, 7.43S×128.31E, h42km, mb5.4/5, Error ellipse: s-maj=37.3km s-min=14.8km az=117.4*
*IDC **20** 04:53:22.3±2.4, 7.42S×128.36E, h49km±22km, mb4.0/8, mb1 4.4/11, mb1mx4.2/15, ML4.5/3, MS2.8/1, Ms1 2.8/1, ms1mx2.7/11, Error ellipse: s-maj=26.6km s-min=10.4km az=58.0*
*BJI **20** 04:53:22.3, 7.40S×128.30E, h49km, mb4.8*
*NEIC **20** 04:53:22.4±1.9, 7.40S×128.32E, h50km±18km, mb4.7/13, Error ellipse: s-maj=16.4km s-min=12.3km az=57.0*
ISC 20 04:53:20.8±2.5**, 7.43S**±0.09×**128.3E**±0.1**, h51**km±24km**,** **n54,** σ**1.07**/61**, mb4.7**/25**, 6C-4D, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.60**	**143**	eP	**P**	**04 55 08.3**	**+11**
	68nm,0.1s						
KAKA				eS	**S**	**04 56 18.5**	**+6.1**
FITZ	**Fitzroy Crossi**	**10.92**	**194**	eP	**P**	**04 55 57.3**	**0.0**
	41nm,0.9s						
FITZ				eS	**S**	**04 57 50.8**	**-8.2**
FITZ	**Fitzroy Crossi**	**10.92**	**194**	P	**P**	**04 55 55.4**	**-1.9**
	5.5nm,0.3s,baz=20,slow=9.9,SNR=127						
FITZ				S	**S**	**04 57 47.1**	**-12**
	9.1nm,0.3s,baz=340,slow=16,SNR=14						
FITZ				LR	LR	05 00 58.4	
	comp=Z,44nm,19.6s,baz=166,slow=42						
WRAB	**Tennant Creek**	**13.74**	**155**	Pn	**P**	**04 56 34.0**	**-0.8**
	142nm,0.6s,SNR=34						
WRAB	**Tennant Creek**	**13.74**	**155**	eP	**P**	**04 56 34.2**	**-0.6**
	84nm,1.3s						
WRAB				eS	**S**	**04 58 56.5**	**-10**
WRA	**Warramunga Arr**	**13.74**	**155**	P	**P**	**04 56 33.8**	**-1.1**
	2.9nm,0.3s,baz=342,slow=13,SNR=115						
WRA				S	**S**	**04 58 53.2**	**-14**
	3.5nm,0.3s,baz=328,slow=24,SNR=8.0						
WB2	**Warramunga Arr**	**13.75**	**155**	eP	**P**	**04 56 34.1**	**-0.9**
WB2				eS	**S**	**04 58 57.1**	**-10**
MBWA	**Marble Bar**	**15.97**	**210**	eP	**P**	**04 57 04.7**	**+0.9**
	9.6nm,0.4s						
ASAR	**Alice Springs**	**17.01**	**162**	P	**P**	**04 57 16.9**	**+0.1**
	1.8nm,0.3s,baz=334,slow=9.6,SNR=124						
ASAR				S	**S**	**05 00 14.3**	**-8.6**
	1.0nm,0.3s,baz=328,slow=17,SNR=4.6						
ASPA	**Alice Springs**	**17.01**	**162**	eP	**P**	**04 57 18.0**	**+1.2**
ASPA				eS	**S**	**05 00 14.7**	**-8.2**
CTA	**Charters Tower**	**21.46**	**128**	P	**P**	**04 58 07.7**	**+0.7**
	0.8nm,0.3s,mb3.5,baz=210,slow=23,SNR=2.3						
CTA				S	**S**	**05 02 02.1**	**+5.2**
	1.5nm,0.4s,baz=63,slow=16,SNR=2.1						
CTAO	**Charters Tower**	**21.46**	**128**	eP	**P**	**04 58 09.5**	**+2.5**
	8.8nm,0.9s,mb4.1						
FORT	**Forrest**	**23.23**	**181**	eP	**P**	**04 58 26.2**	**+1.8**
	49nm,0.6s,mb5.1						
FORT				eS	**S**	**05 02 36.9**	**+7.9**
KLBR	**Kellerberrin**	**25.98**	**201**	eP	**P**	**04 58 51.5**	**+0.7**
	42nm,1.5s,mb4.8						
KLBR				eS		05 03 43.4	
STKA	**Stephens Creek**	**27.29**	**155**	eP	**P**	**04 59 03.2**	**+0.4**
	3.4nm,0.6s,mb4.0						
STKA				eS		05 04 13.6	
STKA	**Stephens Creek**	**27.29**	**155**	P	**P**	**04 59 03.0**	**+0.1**
	5.2nm,0.7s,mb4.2,baz=338,slow=9.1,SNR=7.7						
STKA				S	**S**	**05 03 40.1**	**+3.2**
	1.3nm,0.6s,baz=350,slow=21,SNR=1.5						
NWAO	**Narrogin (SRO)**	**27.38**	**201**	P	**P**	**04 59 03.2**	**-0.4**
	5.6nm,0.8s,mb4.2,baz=33,slow=8.3,SNR=3.7						
CMAR	**Chiang Mai Arr**	**38.75**	**312**	P	**P**	**05 00 43.2**	**+1.0**
	2.9nm,0.7s,mb4.1,baz=140,slow=6.8,SNR=15						
SSE	**Sheshan**	**38.91**	**350**	eP	**P**	**05 00 45.6**	**+2.2**
SSE				AMB	AMB		
	comp=Z,28nm,0.8s,mb5.0						
NJ2	**Nanjing**	**40.28**	**348**	eP	**P**	**05 00 59.9**	**+5.1**
KMI	**Kunming**	**40.83**	**323**	eP	**P**	**05 01 02.3**	**+2.9**
KMI				AMB	AMB		
	comp=Z,8.0nm,1.4s,mb4.2						
GTA	**Gaotai**	**53.56**	**333**	P	**P**	**05 02 39.8**	**+0.8**
GTA				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.7						
GUN	**Gumba**	**53.99**	**312**	eP	**P**	**05 02 42.3**	**0.0**
	comp=Z,36nm,0.7s,mb5.4						
PKI	**Pulchoki**	**54.15**	**312**	eP	**P**	**05 02 43.0**	**-0.5**
	comp=Z,21nm,1.0s,mb5.0						
KKN	**Kakani**	**54.37**	**312**	eP	**P**	**05 02 44.6**	**-0.5**
DMN	**Daman**	**54.39**	**312**	eP	**P**	**05 02 44.7**	**-0.6**
GKN	**Gorkha**	**54.96**	**312**	eP	**P**	**05 02 48.9**	**-0.5**
	comp=Z,11nm,0.4s,mb5.2						
KOLN	**Koldanda**	**55.60**	**311**	eP	**P**	**05 02 53.8**	**-0.3**
	comp=Z,30nm,1.0s,mb5.3						
SONM	**Songino Array**	**58.34**	**343**	P	**P**	**05 03 14.0**	**+0.9**
	comp=Z,6.7nm,0.8s,mb4.7,baz=166,slow=7.0,SNR=35						
ZAK	**Zakamensk**	**61.54**	**342**	eP	**P**	**05 03 29.7**	**-5.3**
YAK	**Yakutsk**	**69.26**	**1⇓**	eP	**P**	**05 04 24.6**	**+0.2**
YAK				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.2						
YAK	**Yakutsk**	**69.26**	**1⇓**	eP	**P**	**05 04 24.6**	**+0.2**
	comp=Z,25nm,0.8s,mb5.2						
AAK	**Ala-Archa**	**69.80**	**321⇓**	eP	**P**	**05 04 28.1**	**+0.1**
AAK				i		05 04 48.2	
AAK				i		05 07 06.2	
AAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
AAK	**Ala-Archa**	**69.80**	**321⇓**	eP	**P**	**05 04 28.1**	**+0.1**
	comp=Z,3.0nm,0.9s,mb4.2						
AAK				i		05 04 48.2	
AAK				i		05 07 06.2	
ZAL	**Zalesovo**	**71.24**	**335**	P	**P**	**05 04 34.7**	**-1.9**
	comp=Z,2.8nm,0.3s,mb4.6,baz=349,slow=3.2,SNR=14						
ZAL	**Zalesovo**	**71.24**	**335**	P	**P**	**05 04 34.8**	**-1.7**
KURK	**Kurchatov**	**72.02**	**329c**	iP	**P**	**05 04 41.1**	**-0.1**
KURK	**Kurchatov**	**72.02**	**329⇑**	iP	**P**	**05 04 41.1**	**-0.1**
VNDA	**Vanda**	**72.23**	**173**	P	**P**	**05 04 41.1**	**-0.9**
	comp=Z,0.7nm,0.8s,mb3.6,baz=320,slow=6.2,SNR=3.9						
BRVK	**Borovoye**	**77.61**	**328**	eP	**P**	**05 05 12.9**	**-0.5**
	comp=Z,6.4nm,1.0s,mb4.5						
ZRNK	**Zerenda**	**78.23**	**328**	eP	**P**	**05 05 15.9**	**-0.9**
	comp=Z,8.9nm,0.8s,mb4.8						
TIXI	**Tiksi**	**78.91**	**0⇑**	eP	**P**	**05 05 19.1**	**-1.1**
TIXI				i		05 05 26.3	
TIXI				i		05 08 21.5	
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
TIXI	**Tiksi**	**78.91**	**0⇑**	eP	**P**	**05 05 19.1**	**-1.1**
	comp=Z,5.0nm,0.7s,mb4.5						
TIXI				i		05 05 26.3	
TIXI				i		05 08 21.5	
ARU	**Arti**	**85.19**	**328⇑**	iP	**P**	**05 05 52.1**	**-0.8**
ARU				e		05 09 14.1	
ARU				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.8						
ARU	**Arti**	**85.19**	**328⇑**	iP	**P**	**05 05 52.1**	**-0.8**
	comp=Z,6.0nm,0.8s,mb4.8						
ARU				e		05 09 14.1	
SOC	**Sochi**	**94.05**	**313**	eP	**P**	**05 06 33.2**	**-1.8**
SOC				e		05 06 42.8	
SOC				e*SS		05 18 56.1	
SOC				pmax	pmax		
	comp=Z,28nm,1.4s,mb5.5						
SOC				pmax	pmax		
	comp=N,18nm,0.7s						
SOC				pmax	pmax		
	comp=E,6.0nm,0.5s						
SOC	**Sochi**	**94.05**	**313**	eP	**P**	**05 06 33.2**	**-1.8**
	comp=E,28nm,1.4s,mb5.5						
SOC				e		05 06 42.8	
SOC				esS		05 18 56.1	
ILAR	**Eielson Array**	**94.45**	**25**	P	**P**	**05 06 36.2**	**-0.1**
	comp=E,0.7nm,0.9s,mb4.1,baz=243,slow=5.7,SNR=5.3						
OBN	**Obninsk**	**97.04**	**325**	eP	**P**	**05 06 51.0**	**+2.7**
OBN				eS	Sx	05 17 27.2	
OBN				ePS	tx	05 20 09.3	
OBN				pmax	pmax		
	comp=Z,12nm,0.6s,mb5.5						
OBN	**Obninsk**	**97.04**	**325**	eP	**P**	**05 06 51.0**	**+2.7**
	comp=Z,12nm,0.6s,mb5.5						
OBN				eS	Sx	05 17 27.2	
OBN				ePS	tx	05 20 09.3	
PDAR	**Pinedale Array**	**118.38**	**45**	PKP	PKPdf	05 12 03.3	+0.3
	comp=Z,0.6nm,0.8s,baz=45,slow=2.1,SNR=4.4						
TXAR	**Lajitas Array**	**126.58**	**59**	PKP	PKPdf	05 12 20.6	+1.3
	comp=Z,0.2nm,0.7s,baz=277,slow=1.2,SNR=4.4						
CPUP	**Villa Florida**	**146.00**	**171**	PKPbc	PKPbc	05 12 56.0	0.0
	comp=Z,4.5nm,1.1s,baz=319,slow=3.4,SNR=3.9						
LPAZ	**La Paz**	**151.36**	**145**	PKPbc	PKPdf	05 13 11.8	+8.1
	comp=Z,2.0nm,0.2s,baz=54,slow=2.0,SNR=3.9						

IDC ***20*** *05:17:15.6±6.4, 25.95S×69.06W, h61^{km}±55^{km}, mb3.5/4, mb1 3.8/6, mb1mx3.7/14, ML3.5/2, Error ellipse: s-maj=40.9km s-min=30.8km az=107.0*
GUC ***20*** *05:17:19.9±0.9, 26.00S×69.12W, h103^{km}±22^{km}, MD4.0, ML4.4*
NEIC ***20*** *05:17:19.9, 26.00S×69.12W, h103^{km}, mb3.8/2, MD4.0(GUC), After GUC.*
ISC 20 05:17:19.4±0.6**, 26.02S**±0.04×**69.1W**±0.1**, h106**^{km}±9^{km}**, n24,** σ**0^{s}83**/27**, mb3.6**/4**, 3C-4D, Northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**1.77**	**221**	⇓*i*P	**P**	**05 17 49.5**	**-0.2**
CPCH				*i* S	**S**	**05 18 12.4**	**+0.1**
CPN1	**Cerro Paranal**	**1.85**	**318**	⇑*i*P	**P**	**05 17 51.3**	**+0.6**
CPN1				*i* S	**S**	**05 18 14.5**	**+0.3**
CPN1				AMP		05 18 18.2	
	comp=N,4μm,0.3s						
ANCH	**Antofagasta**	**2.63**	**332**	*i* P	**P**	**05 18 02.4**	**+1.2**
ANCH				*i* S	**S**	**05 18 31.4**	**-1.3**
VACH	**Vallenar**	**2.96**	**210**	*e*P	**P**	**05 18 05.2**	**-0.6**
VACH				*i* S	**S**	**05 18 40.5**	**-0.2**
SPCH	**San Pedro de A**	**3.19**	**14**	*i* P	**P**	**05 18 10.0**	**+1.1**
SPCH				*i* S	**S**	**05 18 46.9**	**+0.5**
SPCH				AMP		05 18 53.6	
	comp=N,952nm,0.4s						
LVC	**Limon Verde**	**3.39**	**2**	⇑*i*P	**P**	**05 18 11.7**	**+0.1**
LVC				*i* S	**S**	**05 18 51.0**	**-0.2**
LVC				AMP		05 18 55.4	
	comp=E,375nm,0.6s						
LPAZ	**La Paz**	**9.72**	**5**	P	**P**	**05 19 37.5**	**-0.1**
	comp=E,0.2nm,0.3s,baz=300,slow=0.2,SNR=1.7						
LPAZ	**La Paz**	**9.72**	**5**	P	**P**	**05 19 37.5**	**-0.2**
ARE	**Arequipa**	**9.78**	**346**	*e*P	Px	05 19 56.0	
ARE				*e*S	**S**	**05 21 19.0**	**-7.9**
CPUP	**Villa Florida**	**10.54**	**94**	P	**P**	**05 19 42.7**	**-5.8**
	comp=E,0.1nm,0.3s,baz=202,slow=19,SNR=2.0						
CPUP	**Villa Florida**	**10.54**	**94**	P	**P**	**05 19 42.7**	**-5.8**
TRQA	**Tornquist**	**13.41**	**155**	*e*P	**P**	**05 20 25.5**	**-0.8**
	comp=E,3.4nm,0.6s						
SAML	**Samuel**	**17.87**	**19**	*e*P	**P**	**05 21 21.0**	**-1.6**
	comp=E,1.9nm,0.4s						
BDFB	**Brasilia**	**22.18**	**66**	P	**P**	**05 22 06.2**	**-1.4**
	comp=E,3.8nm,0.8s,mb3.8,baz=64,slow=16,SNR=5.6						
VNA3	**Neumayer Olymp**	**55.87**	**160**	⇓*i*	**P**	**05 26 48.8**	**+1.0**
VNA1	**Neumayer--Stat**	**56.10**	**159**	⇓*i*	**P**	**05 26 50.6**	**+1.1**
VNA2	**Neumayer--Watz**	**56.46**	**160**	⇓*i*	**P**	**05 26 52.3**	**+0.2**
SNAA	**Sanae**	**58.08**	**160**	⇑*i*	**P**	**05 27 02.7**	**-0.7**
TXAR	**Lajitas Array**	**64.28**	**327**	P	**P**	**05 27 44.9**	**-0.9**
	comp=E,0.2nm,0.6s,mb3.1,baz=151,slow=8.3,SNR=4.3						
DBIC	**Dimbokro**	**70.20**	**72**	P	**P**	**05 28 23.9**	**+0.8**
	comp=E,2.3nm,0.7s,mb4.1,baz=202,slow=5.4,SNR=3.2						
VNDA	**Vanda**	**72.40**	**190**	P	**P**	**05 28 36.3**	**+1.1**
	comp=E,0.5nm,0.6s,mb3.5,baz=110,slow=2.5,SNR=3.9						
ASAR	**Alice Springs**	**125.84**	**206**	PKP	PKPdf	05 36 09.5	+0.2
	comp=E,0.6nm,0.5s,baz=142,slow=1.9,SNR=10						
WRA	**Warramunga Arr**	**128.98**	**209**	PKP	PKPdf	05 36 15.8	+0.4
	comp=E,0.9nm,0.7s,baz=170,slow=1.8,SNR=14						
ZAL	**Zalesovo**	**146.04**	**28**	PKPbc	PKPbc	05 36 47.0	+0.5
	comp=E,1.8nm,0.8s,baz=173,slow=2.1,SNR=8.9						

GUC ***20*** *05:40:36.6±1.0, 41.12S×74.38W, h20^{km}, ML4.4*
NEIC ***20*** *05:40:36.6, 41.12S×74.38W, h20^{km}, ML4.4(GUC), After GUC.*
ISC 20 05:40:34.6±3.0**, 41.06S**±0.05×**74.4W**±0.1**, h6**^{km}±20^{km}**, n8,** σ**1^{s}02**/12**, 1C-3D, Off coast of southern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMCH	**Puerto Montt**	**1.20**	**112**	*i* P	**Pb**	**05 40 57.1**	**-0.2**
PMCH				*i* S	**Sb**	**05 41 12.5**	**-0.4**
PMCH				AMP		05 41 18.6	
	comp=E,9μm,0.4s						
VLCH	**Valdivia**	**1.52**	**35**	*e*P	**Pn**	**05 41 02.8**	**+0.3**
VLCH				*i* S	**Sb**	**05 41 22.9**	**+0.7**
VLCH				AMP		05 41 26.5	
	comp=N,16μm,0.4s						
TMCH	**Temuco**	**2.68**	**31**	*i* P	**Pn**	**05 41 18.9**	**-0.1**
TMCH				⇑*i*S	**Sn**	**05 41 52.4**	**+0.3**
TMCH				AMP		05 42 07.5	
	comp=N,2μm,0.6s						
CCHI	**Chillan**	**4.80**	**23**	*i* P	**Pn**	**05 41 49.8**	**+0.7**
CCHI				*i* S	**Sn**	**05 42 45.2**	**-0.6**
LVC	**Limon Verde**	**18.96**	**16**	*e*P	**P**	**05 44 56.8**	**-2.0**
VNA3	**Neumayer Olymp**	**43.65**	**155**	⇓*i*	**P**	**05 48 42.1**	**+1.1**
VNA2	**Neumayer--Watz**	**44.35**	**154**	⇓*i*	**P**	**05 48 47.8**	**+1.1**
SNAA	**Sanae**	**45.86**	**155**	⇓*i*	**P**	**05 48 55.4**	**-3.3**

IDC ***20*** *05:46:30.3±13.0, 18.26S×178.15W, h359^{km}±136^{km}, mb3.4/6, mb1 3.6/6, mb1mx3.3/15, Error ellipse: s-maj=50.1km s-min=24.1km az=33.0*
NEIC ***20*** *05:46:34.5±3.2, 18.37S×178.19W, h402^{km}±39^{km}, mb3.9/4, Error ellipse: s-maj=24.2km s-min=12.1km az=175.0*
ISC 20 05:46:34.3±4.9**, 18.4S**±0.2×**178.2W**±0.1**, h414**^{km}±59^{km}**, n13,** σ**0^{s}57**/13**, mb3.6**/9**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**17.58**	**102**	P	**P**	**05 50 14.4**	**-0.2**
URZ	**Urewera**	**20.22**	**191**	P	**P**	**05 50 40.5**	**+0.2**
	3.6nm,0.3s,baz=310,slow=9.0,SNR=6.3						
CTAO	**Charters Tower**	**33.55**	**261**	*e*P	**P**	**05 52 40.2**	**+1.1**
	7.4nm,0.9s,mb4.0						
STKA	**Stephens Creek**	**38.56**	**242**	P	**P**	**05 53 21.5**	**+0.7**
	2.7nm,0.6s,mb3.8,baz=108,slow=10,SNR=5.3						
WB2	**Warramunga Arr**	**44.72**	**260**	*e*P	**P**	**05 54 09.8**	**-0.6**
WRAB	**Tennant Creek**	**44.72**	**260**	*e*P	**P**	**05 54 09.4**	**-1.0**
	2.5nm,0.6s,mb3.7						
WRA	**Warramunga Arr**	**44.73**	**260**	P	**P**	**05 54 09.8**	**-0.7**
	1.0nm,0.3s,mb3.6,baz=90,slow=8.4,SNR=61						
ASAR	**Alice Springs**	**44.84**	**255**	P	**P**	**05 54 11.2**	**-0.1**
	7.8nm,0.5s,mb4.3,baz=88,slow=8.4,SNR=127						
ASPA	**Alice Springs**	**44.84**	**255**	*e*P	**P**	**05 54 11.7**	**+0.3**
KAKA	**Kakadu**	**47.80**	**269**	*e*P	**P**	**05 54 39.4**	**+5.1**
	2.4nm,0.3s,mb4.0						
FITZ	**Fitzroy Crossi**	**53.13**	**261**	*e*P	**P**	**05 55 14.1**	**+0.2**
	1.5nm,1.1s,mb3.1						
VNDA	**Vanda**	**59.99**	**185**	P	**P**	**05 56 00.2**	**-0.3**
	0.8nm,1.1s,mb3.1,baz=348,slow=5.0,SNR=2.9						
TXAR	**Lajitas Array**	**86.09**	**58**	P	**P**	**05 58 31.6**	**+0.4**
	0.5nm,1.0s,mb3.2,baz=270,slow=3.8,SNR=3.7						

BJI ***20*** *06:10:59.3, 26.52N×96.78E, h75^{km}*
IDC ***20*** *06:11:01.1±3.9, 26.57N×96.99E, h68^{km}±37^{km}, mb3.7/10, mb1 3.9/12, mb1mx3.8/21, ML3.7/1, MS2.9/1, Ms1 3.1/1, ms1mx2.4/27, Error ellipse: s-maj=30.7km s-min=14.6km az=58.0*
NEIC ***20*** *06:11:01.5±1.9, 26.51N×96.99E, h69^{km}±23^{km}, mb4.0/3, Error ellipse: s-maj=25.0km s-min=13.8km az=68.0*
ISC 20 06:10:57.8±1.0**, 26.38N**±0.07×**96.64E**±0.05**, h60**^{km}±11^{km}**, n36,** σ**1^{s}17**/38**, mb4.0**/14**, 1D, Myanmar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**2.91**	**237**	*e*	Px	06 11 58.0	
SHL	**Shillong**	**4.35**	**260**	*e*P	**P**	**06 12 05.7**	**+2.6**
SHL				*e*S	**S**	**06 13 00.0**	**+7.0**
AGT	**Agartala**	**5.48**	**244**	*e*	**S**	**06 13 20.0**	**-1.2**
LSA	**Lhasa**	**5.87**	**306**	P	**P**	**06 12 27.6**	**+3.5**
CD2	**Chengdu**	**7.71**	**53**	*e*P	**P**	**06 12 49.3**	**-0.5**
CMAR	**Chiang Mai Arr**	**8.17**	**164**	P	**P**	**06 12 58.0**	**+2.0**
	0.2nm,0.3s,baz=342,slow=11,SNR=7.6						
CMAR				LR	LR	06 16 40.9	
	comp=Z,73nm,18.8s,baz=5.0,slow=41						
GYA	**Guiyang**	**8.99**	**87**	⇓*i*P	**P**	**06 13 07.1**	**-0.2**
GUN	**Gumba**	**9.70**	**281**	*e*P	**P**	**06 13 17.4**	**+0.3**
	33nm,0.3s						
PKI	**Pulchoki**	**10.09**	**279**	*e*P	**P**	**06 13 21.9**	**-0.5**
KKN	**Kakani**	**10.22**	**280**	*e*P	**P**	**06 13 23.7**	**-0.5**
	39nm,0.4s						
DMN	**Daman**	**10.36**	**279**	*e*P	**P**	**06 13 25.7**	**-0.4**
GKN	**Gorkha**	**10.80**	**281**	*e*P	**P**	**06 13 31.4**	**-0.7**
	34nm,0.5s						
KOLN	**Koldanda**	**11.70**	**280**	*e*P	**P**	**06 13 42.8**	**-1.4**
KOLN				*e*S	**S**	**06 15 49.6**	**-4.4**
JOSI	**Joshimath**	**15.58**	**289**	*e*P	**P**	**06 14 34.2**	**-0.8**
JOSI				*e*S	**S**	**06 17 21.1**	**-4.9**
KALG	**Kalgarh**	**16.11**	**285**	*e*	**P**	**06 14 30.1**	**-12**
KALG				AMb	AMB	06 14 32.7	
	comp=Z,29nm,0.7s						
KALG				*e*		06 17 24.9	
AGRA	**Agra**	**16.71**	**277**	*e*P	**P**	**06 14 50.9**	**+1.6**
ASOR	**Ausora**	**16.89**	**282**	*e*P	**P**	**06 14 49.5**	**-2.0**
AYAN	**Aya Nagar**	**17.45**	**281**	*e*P	**P**	**06 14 58.1**	**-0.5**
BHPL	**Bhopal**	**17.72**	**264**	*e*P	**P**	**06 15 05.5**	**+3.5**
BHPL				*e*		06 15 07.7	
	comp=Z,22nm,1.0s						
BHPL				*e*		06 17 45.1	
KHET	**Khetri**	**18.60**	**280**	*e*P	**P**	**06 15 13.0**	**+0.4**
KHET				AMb	AMB	06 15 16.6	
	comp=Z,8.9nm,1.1s						
SONM	**Songino Array**	**22.75**	**17**	P	**P**	**06 15 55.0**	**-0.5**
	comp=Z,1.1nm,0.6s,mb3.5,baz=205,slow=10,SNR=12						
AAK	**Ala-Archa**	**24.30**	**317**	*e*P	**P**	**06 16 13.9**	**+3.3**
	comp=Z,1.5nm,0.7s,mb3.5						
KURK	**Kurchatov**	**27.94**	**335**	*e*P	**P**	**06 16 45.4**	**+1.0**
	comp=Z,2.1nm,0.7s,mb3.9						
BVAR	**Borovoye Array**	**33.05**	**331**	P	**P**	**06 17 30.5**	**+1.0**
	comp=Z,0.9nm,0.6s,mb3.9,baz=135,slow=8.4,SNR=4.5						
BRTR	**Keskin Array B**	**53.46**	**301**	P	**P**	**06 20 16.0**	**+2.0**
	comp=Z,0.5nm,0.4s,mb3.8,baz=106,slow=8.1,SNR=2.3						
AKASG	**Malin Array Be**	**55.93**	**315**	P	**P**	**06 20 31.0**	**-0.9**
	comp=Z,1.8nm,0.6s,mb4.3,baz=74,slow=6.9,SNR=7.7						
FINES	**FINESS Array B**	**57.92**	**328**	P	**P**	**06 20 46.4**	**+0.5**
	comp=Z,2.5nm,1.0s,mb4.2,baz=90,slow=4.2,SNR=3.3						
WRA	**Warramunga Arr**	**58.81**	**138**	P	**P**	**06 20 52.1**	**-0.5**
	comp=Z,3.3nm,0.7s,mb4.5,baz=327,slow=7.5,SNR=41						
WRAB	**Tennant Creek**	**58.81**	**138**	*e*P	**P**	**06 20 52.2**	**-0.4**
	comp=Z,5.4nm,0.7s,mb4.7						
WB2	**Warramunga Arr**	**58.82**	**138**	*e*P	**P**	**06 20 51.8**	**-0.8**
ASAR	**Alice Springs**	**61.44**	**141**	P	**P**	**06 21 10.3**	**-0.1**
	comp=Z,1.1nm,0.4s,mb4.3,baz=324,slow=6.6,SNR=26						
NB2	**NORSAR Subarra**	**65.11**	**328**	P	**P**	**06 21 33.5**	**-0.5**
	comp=Z,1.4nm,0.6s,mb4.2,baz=81,slow=6.5						
NOA	**NORSAR Array B**	**65.11**	**328**	P	**P**	**06 21 34.5**	**+0.4**
	comp=Z,1.4nm,0.7s,mb4.1,baz=80,slow=6.6,SNR=5.5						
GERES	**GERESS Array B**	**66.13**	**314**	P	**P**	**06 21 43.0**	**+2.2**
	comp=Z,0.5nm,0.4s,mb3.9,baz=72,slow=8.4,SNR=4.4						
ILAR	**Eielson Array**	**76.83**	**23**	P	**P**	**06 22 42.9**	**-1.5**
	comp=Z,0.4nm,0.8s,mb3.4,baz=305,slow=3.5,SNR=4.1						
INK	**Inuvik**	**78.66**	**17**	P	**P**	**06 22 54.0**	**-0.5**
	comp=Z,2.5nm,0.8s,mb4.2,baz=339,slow=4.4,SNR=12						

NAO ***20*** *06:15:08.3±3.2, 69.41N×32.18E, ML2.4*
HEL 20 06:15:14.1±0.4**, 69.80N**×**32.33E, ML2.4, Explosion, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KEV	**Kevo**	**1.85**	**271**	*e*P	Pn	06 15 46.7	-0.6
KEV				*e*S	Sn	06 16 10.2	-1.6
KEV				MSG		06 16 14.7	
	comp=Z,36nm,0.2s						
APA0	**Apatity Array**	**2.21**	**173**	Pn	Pn	06 15 40.2	-12
	baz=353,slow=12						
APA0				Sn	Sn	06 16 05.5	-16
	baz=348,slow=22						
ARA0	**ARCESS Array S**	**2.40**	**267**	Pn	Pn	06 15 48.5	-6.6
	baz=93,slow=18						
ARA0				Lg		06 16 21.9	
	baz=98,slow=37						
SGF	**Sodankyl**	**3.18**	**225**	*e*P	Pn	06 16 05.1	-1.3
SGF				*e*S	Sn	06 16 42.6	-2.9
SGF				MSG		06 16 46.6	
	comp=Z,9.4nm,0.2s						
KTK1	**Kautokeino**	**3.31**	**261**	*e*P	Pn	06 16 00.2	-8.0
KTK1				AML	AML	06 16 59.1	
	comp=Z,11nm,0.3s						
MSF	**Maaselka**	**4.10**	**199**	*e*S	Sn	06 17 05.1	-3.6
MSF				MSG		06 17 13.6	
	comp=Z,5.1nm,0.2s						
KIF	**Kilpisjarvi**	**4.15**	**264**	*e*SG	Sg	06 17 21.4	-11

IDC ***20*** *06:29:16.1±6.0, 33.89N×25.28E, h45^{km}±42^{km}, mb3.8/3, mb1 3.7/5, mb1mx3.4/19, ML3.8/2, Error ellipse: s-maj=102.0km s-min=42.7km az=77.0*
ATH ***20*** *06:29:34.0, 35.55N×25.84E, h5^{km}, MD3.2/3*
CSEM ***20*** *06:29:34.4±0.2, 35.54N×25.82E, h1^{km}±4^{km}, MD3.2, Error ellipse: s-maj=6.3km s-min=5.1km az=122.0*
ISC 20 06:29:15.8±4.3**, 33.9N**±0.3×**25.1E**±0.3**, h58**^{km}±21^{km}**, n14,** σ**0^{s}94**/14**, mb3.8**/3**, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IDI	**Anoyia**	**1.37**	**354**	P	**P**	**06 29 39.2**	**0.0**
	10nm,0.3s,baz=160,slow=20,SNR=93						
IDI				S	**S**	**06 29 57.4**	**+0.9**
	39nm,0.3s,baz=315,slow=19,SNR=12						
NPS	**Neapolis**	**1.41**	**18**	*e*PG	**P**	**06 29 40.5**	**+0.8**
KARP	**Karpathos**	**2.36**	**46**	*e*PB	**P**	**06 29 54.7**	**+1.6**
THR6	**Thira Island,**	**2.44**	**6**	*e*P	**P**	**06 29 54.0**	**-0.1**
THR1	**Thera Island**	**2.46**	**7**	*e*P	**P**	**06 29 53.4**	**-1.1**
THR3	**Thira Island,**	**2.50**	**6**	*e*P	**P**	**06 29 53.8**	**-1.1**
THR5	**Thira Island,**	**2.50**	**5**	*e*P	**P**	**06 29 54.3**	**-0.7**
KYTH	**Kithira**	**2.88**	**325**	*e*PN	Px	06 30 17.1	
APE	**Apeiranthos**	**3.16**	**7**	*e*PB	**P**	**06 30 03.0**	**-1.4**
AKASG	**Malin Array Be**	**17.04**	**9**	P	**P**	**06 33 11.5**	**+0.1**
	0.8nm,0.3s,baz=201,slow=11,SNR=3.3						
GERES	**GERESS Array B**	**17.15**	**334**	P	**P**	**06 33 14.5**	**+1.8**
	0.1nm,0.3s,baz=150,slow=11,SNR=5.7						
HFS	**Hagfors**	**27.26**	**348**	P	**P**	**06 34 56.7**	**+0.4**
	1.1nm,0.6s,mb3.6,baz=155,slow=11,SNR=4.5						
FINES	**FINESS Array B**	**27.54**	**1**	P	**P**	**06 34 58.5**	**-0.4**
	2.1nm,0.9s,mb3.8,baz=170,slow=11,SNR=2.8						
ARCES	**ARCESS Array B**	**35.66**	**0**	P	**P**	**06 36 09.2**	**-0.6**
	2.4nm,1.0s,mb4.1,baz=190,slow=10,SNR=4.0						

IDC ***20*** *06:30:17.3±4.7, 34.57N×25.10E, h61^{km}±16^{km}, mb3.6/7, mb1 3.8/10, mb1mx3.7/22, Error ellipse: s-maj=80.6km s-min=43.1km az=27.0*
ISC 20 06:30:16.3±3.7**, 34.5N**±0.3×**25.1E**±0.3**, h73**^{km}±14^{km}**, n12,** σ**0^{s}90**/12**, mb3.7**/7**, Crete**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IDI	**Anoyia**	**0.82**	**346**	P	**P**	**06 30 32.6**	**-0.4**
	30nm,0.3s,baz=329,slow=17,SNR=2.4						
AKASG	**Malin Array Be**	**16.47**	**9**	P	**P**	**06 34 05.3**	**+1.4**
	1.5nm,0.3s,baz=200,slow=11,SNR=7.6						
GERES	**GERESS Array B**	**16.66**	**333**	P	**P**	**06 34 07.0**	**+0.7**
	0.5nm,0.3s,baz=153,slow=12,SNR=7.4						
DAVOX	**Davos**	**16.83**	**321**	P	**P**	**06 34 09.0**	**+0.5**
	0.7nm,0.3s,baz=344,slow=3.5,SNR=3.2						
HFS	**Hagfors**	**26.72**	**347**	P	**P**	**06 35 50.5**	**0.0**
	1.2nm,0.4s,mb3.8,baz=146,slow=11,SNR=6.3						
FINES	**FINESS Array B**	**26.98**	**1**	P	**P**	**06 35 51.5**	**-1.3**
	1.6nm,0.6s,mb3.7,baz=169,slow=9.7,SNR=4.4						
NB2	**NORSAR Subarra**	**28.04**	**346**	P	**P**	**06 36 00.8**	**-1.6**
	0.4nm,0.4s,mb3.3,baz=150,slow=9.3						
NOA	**NORSAR Array B**	**28.04**	**346**	P	**P**	**06 36 01.6**	**-0.8**
	0.8nm,0.8s,mb3.3,baz=136,slow=8.2,SNR=2.8						
ARCES	**ARCESS Array B**	**35.10**	**0**	P	**P**	**06 37 02.6**	**-1.4**
	4.3nm,1.1s,mb4.2,baz=173,slow=9.8,SNR=8.5						
SONM	**Songino Array**	**59.93**	**50**	P	**P**	**06 40 17.5**	**+0.5**
	0.6nm,0.9s,mb3.6,baz=281,slow=7.3,SNR=3.0						
INK	**Inuvik**	**76.28**	**352**	P	**P**	**06 41 58.4**	**+0.3**
	6.7nm,1.4s,mb4.2,baz=252,slow=3.3,SNR=4.0						
ILAR	**Eielson Array**	**80.87**	**357**	P	**P**	**06 42 24.0**	**+0.8**
	0.1nm,0.5s,mb2.9,baz=301,slow=3.4,SNR=4.9						

NEIC ***20*** *06:51:45.4±1.4, 4.32S×137.51E, h10^{km}, mb4.5/2, Error ellipse: s-maj=23.8km s-min=19.9km az=127.0*
IDC ***20*** *06:51:48.7±7.8, 4.40S×137.41E, h34^{km}±63^{km}, mb3.9/2, mb1 4.1/6, mb1mx3.8/12, ML3.7/4, MS3.2/7, Ms1 3.2/7, ms1mx3.0/16, Error ellipse: s-maj=60.5km s-min=19.1km az=103.0*
ISC 20 06:51:48.8±4.2**, 4.5S**±0.2×**137.5E**±0.2**, h44**^{km}±38^{km}**, n15,** σ**1^{s}28**/19**, mb4.1**/3**, MS3.5**/3**, Irian Jaya**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.55**	**211**	*e*P	**P**	**06 54 07.4**	**+0.7**
	15nm,0.6s						
KAKA				*e*S	**S**	**06 55 53.9**	**+0.1**
WRAB	**Tennant Creek**	**15.63**	**191**	Pn	**P**	**06 55 31.0**	**+3.2**
	177nm,0.7s,SNR=15						
WRAB	**Tennant Creek**	**15.63**	**191**	*e*P	**P**	**06 55 25.6**	**-2.1**
	28nm,0.6s						
WRA	**Warramunga Arr**	**15.64**	**191**	Pn	**P**	**06 55 20.5**	**-7.4**
	0.2nm,0.3s,baz=7.1,slow=13,SNR=16						
WRA				Sn	**S**	**06 58 07.9**	**-12**
	0.2nm,0.3s,baz=11,slow=22,SNR=4.8						
WRA				Lg		07 00 01.9	
	0.2nm,0.3s,baz=16,slow=28,SNR=4.5						
WRA				LR	LR	07 01 49.6	
	comp=Z,156nm,19.5s,baz=25,slow=38						
WRA	**Warramunga Arr**	**15.64**	**191**	Pn	**P**	**06 55 20.5**	**-7.4**
WRA				Sn	**S**	**06 58 07.9**	**-12**
WRA				Lg		07 00 01.9	
WRA				LR	LR	07 01 49.6	
CTA	**Charters Tower**	**17.70**	**152**	P	**P**	**06 55 54.5**	**+0.6**
	0.3nm,0.3s,baz=322,slow=12,SNR=5.1						
CTA				Lg		07 01 08.2	
	0.1nm,0.3s,baz=69,slow=20,SNR=5.6						
CTA				LR	LR	07 02 31.0	
	comp=Z,79nm,19.1s,baz=230,slow=36						
CTAO	**Charters Tower**	**17.70**	**152**	*e*P	**P**	**06 55 54.1**	**+0.2**
FITZ	**Fitzroy Crossi**	**17.78**	**220**	P	**P**	**06 55 55.0**	**+0.2**
	0.2nm,0.3s,baz=30,slow=13,SNR=9.6						
FITZ				S	**S**	**06 59 03.3**	**-5.5**
	0.2nm,0.3s,baz=184,slow=8.8,SNR=3.7						
FITZ				Lg		07 01 16.8	
	0.1nm,0.3s,baz=3.8,slow=8.5,SNR=2.8						
FITZ				LR	LR	07 03 06.3	
	comp=Z,38nm,21.5s,baz=82,slow=38						
FITZ	**Fitzroy Crossi**	**17.78**	**220**	P	**P**	**06 55 55.0**	**+0.2**
FITZ				S	**S**	**06 59 03.3**	**-5.5**
FITZ				Lg		07 01 16.8	
FITZ				LR	LR	07 03 06.3	
ASAR	**Alice Springs**	**19.35**	**190**	P	**P**	**06 56 11.1**	**-2.5**
	0.5nm,0.3s,baz=13,slow=10,SNR=53						
ASAR				S	**S**	**06 59 51.2**	**+6.9**
	0.1nm,0.3s,baz=14,slow=26,SNR=4.2						
ASAR				Lg		07 01 55.7	
	0.1nm,0.3s,baz=12,slow=29,SNR=2.3						
ASAR				LR	LR	07 05 23.9	
	comp=Z,10nm,18.2s,baz=15,slow=42						
STKA	**Stephens Creek**	**27.50**	**172**	P	**P**	**06 57 33.8**	**+0.4**
	0.9nm,0.3s,mb3.9,baz=324,slow=14,SNR=2.8						
STKA				LR	LR	07 10 11.2	
	comp=Z,65nm,20.6s,MS3.2,baz=25,slow=40						
NWAO	**Narrogin (SRO)**	**34.00**	**211**	LR	LR	07 12 24.3	
	comp=Z,64nm,21.8s,MS3.3,baz=1.6,slow=36						
VNDA	**Vanda**	**74.12**	**175**	LR	LR	07 34 53.1	
	comp=Z,79nm,18.8s,MS4.0,baz=299,slow=35						
QSPA	**South Pole Qui**	**85.45**	**180**	*e*P	**P**	**07 04 24.5**	**+2.0**
	2.2nm,0.7s,mb4.4						
ILAR	**Eielson Array**	**87.98**	**25**	P	**P**	**07 04 34.5**	**-0.5**
	1.4nm,1.1s,mb4.1,baz=269,slow=4.4,SNR=6.1						

UCC ***20*** *06:59:09.8±2.8, 53.24N×9.99E, ML4.1*
BJI ***20*** *06:59:12.6, 53.79N×9.05E, h5^{km}, mB4.9, mb4.7, Ms4.7, Msz4.6*
MOS ***20*** *06:59:13.4±1.0, 53.09N×9.66E, h10^{km}, mb4.3/9, Error ellipse: s-maj=8.6km s-min=4.5km az=99.1*
LDG ***20*** *06:59:14.8±0.1, 53.11N×9.71E, h10^{km}, Md4.6/9, Ml4.7/31, ms3.3/6, Error ellipse: s-maj=3.0km s-min=2.1km az=132.0*
MED_RC ***20*** *06:59:14.9±0.7, 53.16N×9.83E, h10^{km}, MW4.2/9, Moment Tensor Solution. Body waves: s9,c10; Duration: 1^{s}0 Moment tensor: Scale 10^{15}Nm; M_{rr}-2.02±.10; $M_{\theta\theta}$-0.26±.13; $M_{\phi\phi}$2.28±.12; $M_{r\theta}$1.49±.36; $M_{\theta\phi}$0.77±.08; $M_{\phi r}$-0.15±.48; Best double couple: $M_0$2.72×10^{15} NP1: ϕ_s349°, δ49°, λ-133°. NP2: ϕ_s224°, δ56°, λ-52°. Principal axes: T 2.52, Plg4°, Azm288°; N .4, Plg31°, Azm20°; P -2.92, Plg59°, Azm191°; nsta1 refers to waves, cutoff=35s.*
NEIC ***20*** *06:59:14.9±0.8, 53.01N×9.47E, h6^{km}±5^{km}, mb4.5/20, ML4.7(LDG), ML4.3(CLL), ML4.5(SZGRF), ML4.2(STR), ML4.1(BRG), ML4.1(LEDBW) Error ellipse: s-maj=2.7km s-min=2.3km az=140.0*
NEIC Felt at Hamburg, Hannover and Soltau. Also felt in Overijssel, Netherlands.
IDC ***20*** *06:59:15.5±1.7, 53.04N×9.54E, h10^{km}±11^{km}, mb3.9/13, mb1 4.2/24, mb1mx4.1/29, ML4.0/10, MS3.5/3, Ms1 3.5/3, ms1mx2.9/30, Error ellipse: s-maj=10.6km s-min=6.3km az=77.0*
CSEM ***20*** *06:59:15.4, 53.01N×9.73E, h10^{km}, ML4.5*
NAO ***20*** *06:59:16.7±3.8, 53.38N×9.56E, ML4.1*
ZUR_RM ***20*** *06:59:16, 53.04N×9.54E, h6^{km}, Mw4.3/27, Moment Tensor Solution. s27 Moment tensor: Scale 10^{15}Nm; M_{rr}-2.05; $M_{\theta\theta}$-1.13; $M_{\phi\phi}$3.18; $M_{r\theta}$1.12; $M_{\theta\phi}$0.47; $M_{\phi r}$-1.66; Best double couple: $M_0$3.44×10^{15} NP1: ϕ_s339°, δ67°, λ-122°. NP2: ϕ_s217°, δ39°, λ-39°. Principal axes: T 3.662, Plg16°, Azm92°; N -.437, Plg29°, Azm353°; P -3.225, Plg56°, Azm207°;*
BGR ***20*** *06:59:16.1±0.2, 53.04N×9.54E, h5^{km}, ML4.5/9 Error ellipse: s-maj=4.4km s-min=3.3km az=84.0*
IPEC ***20*** *06:59:16.4±0.1, 53.04N×9.52E, h19^{km}±1^{km}, ML3.9/1, Error ellipse: s-maj=1.1km s-min=0.6km az=33.0*
BNS ***20*** *06:59:16.0±0.5, 53.00N×9.66E, h10^{km}, ML4.3, GESPUERT: SOLTAU, BREMEN, SCHNEVERDINGEN, ROTENBURG*
LEDBW ***20*** *06:59:17.2±0.6, 53.13N×9.48E, h10^{km}, ML4.1, Error ellipse: s-maj=38.0km s-min=12.0km az=112.0*
STR ***20*** *06:59:27.5±1.3, 52.24N×8.79E, h10^{km}±1^{km}, Ml4.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 20 06:59:12.8±0.1**, 53.03N**±0.01×**9.40E**±0.02**, h10**^{km}**, n317,** σ**1^{s}44**/510**, mb4.3**/31**, MS4.0**/7**, 15C-9D, Germany**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NRDL	**Niedersach Rie**	**0.69**	**141**	*e*Pg	**Pg**	**06 59 29.4**	**+2.6**
	SNR=423						
NRDL				*e*Sg	**Sg**	**06 59 38.6**	**+2.6**
	SNR=3.8						
BSEG	**Bad Segeberg**	**1.06**	**31**	*e*Pg	**Pg**	**06 59 34.4**	**+0.3**
	SNR=323						
BSEG				*e*Sg	**Sg**	**06 59 48.8**	**+0.6**
	SNR=8.8						
BSEG	**Bad Segeberg**	**1.06**	**31**	⇓*e*P	**Pb**	**06 59 34.4**	**+1.6**
BSEG				*e*S	**Sb**	**06 59 49.3**	**+2.8**
BSEG	**Bad Segeberg**	**1.06**	**31**	*e*Pg	**Pg**	**06 59 34.9**	**+0.8**
BSEG				*e*Sg	**Sg**	**06 59 49.1**	**+0.9**
IBBN	**Ibbenburen**	**1.23**	**235**	*e*Pn	**Pn**	**06 59 39.2**	**+3.0**
	SNR=2.9						
IBBN				*e*Pg	**Pg**	**06 59 39.4**	**+1.8**
IBBN				*e*Sg	**Sg**	**06 59 58.7**	**+4.6**
	SNR=2.3						
IBBN	**Ibbenburen**	**1.23**	**235**	*e*P	**Pb**	**06 59 39.3**	**+3.5**
IBBN				S	**Sb**	**07 00 00.8**	**+9.2**
IBBN	**Ibbenburen**	**1.23**	**235**	*e*Pg	**Pg**	**06 59 40.9**	**+3.3**
IBBN				Sg	**Sg**	**06 59 58.7**	**+4.6**
	SNR=2.3						
CLZ	**Clausthal**	**1.33**	**153**	*e*Pn	**Pn**	**06 59 39.2**	**+1.6**
	SNR=42						
CLZ				*e*Sg	**Sg**	**06 59 56.9**	**-0.5**
HLG	**Helgoland**	**1.47**	**323**	*e*Pn	**Pn**	**06 59 42.7**	**+3.3**
	SNR=3.3						
HLG				*e*Sg	**Sg**	**07 00 05.0**	**+3.3**
	SNR=8.0						
HLG	**Helgoland**	**1.47**	**323**	*e*P	**Pn**	**06 59 42.5**	**+3.1**
HLG				S	**Sb**	**07 00 06.0**	**+7.7**
WIT	**Witteveen**	**1.67**	**264**	*e*Pn	**Pn**	**06 59 51.6**	**+9.3**
WTSB	**Winterswijk**	**1.91**	**237**	*e*Pn	**Pn**	**06 59 49.1**	**+3.2**
	SNR=12						
WTSB	**Winterswijk**	**1.91**	**237**	*e*Pn	**Pn**	**06 59 49.0**	**+3.2**
WTSB				*e*Sn	Sx	07 00 25.0	
BUG	**Bochum--Univer**	**2.06**	**220**	*e*Pn	**Pn**	**06 59 50.4**	**+2.4**
	SNR=4.6						
BUG				*e*Pg	**Pg**	**06 59 56.3**	**+2.2**
	SNR=58						
BUG				*e*(Sg)	**Sg**	**07 00 25.1**	**+3.5**
BUG	**Bochum--Univer**	**2.06**	**220**	*e*Pg	**Pg**	**06 59 55.7**	**+1.7**
UBBA	**Unterbreizbach**	**2.25**	**170**	*e*Pn	**Pn**	**06 59 51.7**	**+1.0**
	SNR=16						
BNS	**Bensberg**	**2.48**	**214**	*e*Pg	**Pn**	**06 59 56.2**	**+2.1**
BNS				*e*Sg	**Sn**	**07 00 27.0**	**+2.2**
	2μm,1.1s						
HROE	**Hohe Rhon--Fla**	**2.54**	**169**	⇓*i*Pn	**Pn**	**06 59 55.9**	**+1.0**
RUE	**Ruedersdorf**	**2.72**	**100**	P	**Pn**	**06 59 59.7**	**+2.3**
RUE	**Ruedersdorf**	**2.72**	**100**	P	**Pn**	**06 59 59.7**	**+2.3**
MOX	**Moxa**	**2.76**	**149**	*e*Pn	**Pn**	**06 59 58.1**	**+0.1**
	SNR=18						
MOX				*e*Pg	**Pg**	**07 00 07.9**	**-0.1**
MOX				*e*(Sg)	**Sg**	**07 00 40.2**	**-4.5**
MOX	**Moxa**	**2.76**	**149**	*i* P	**Pn**	**06 59 58.1**	**+0.1**
MOX				Pg	**Pg**	**07 00 08.0**	**0.0**
MOX				Sg	**Sg**	**07 00 42.0**	**-2.8**

MOX L 07 01 18.0
MOX Moxa 2.76 149 *e*P **Pn 06 59 58.1 +0.1**
MOX MLR MLR
comp=Z,3µm,11.0s
MOX Moxa 2.76 149 *e*Pn **Pn 06 59 58.1 +0.1**
MOX *e*Pg **Pg 07 00 07.9 -0.1**
MOX *e*Sg **Sg 07 00 42.3 -2.5**
MOX Moxa 2.76 149 *e*Pn **Pn 06 59 58.8 +0.8**
MOX Moxa 2.76 149 *e*Pg **Pg 07 00 07.9 -0.1**
RGN Rugen 2.78 55 *e*Pn **Pn 06 59 59.5 +1.3**
SNR=2.9
RGN Rugen 2.78 55 *e*P **Pn 06 59 59.4 +1.1**
RGN Rugen 2.78 55 *e*P **Pn 06 59 59.9 +1.6**
RGN Rugen 2.78 55 *e*P **Pn 06 59 59.9 +1.6**
CLL Collm 2.81 126 *e*Pn **Pn 06 59 59.5 +0.8**
SNR=17
CLL *i* Pg **Pg 07 00 08.1 -0.9**
CLL *i* Sn **Sn 07 00 34.2 +1.1**
CLL *i* Sg **Sg 07 00 40.7 -5.9**
CLL Collm 2.81 126 *i* PN **Pn 07 00 00.0 +1.2**
CLL *i* PG **Pg 07 00 08.1 -0.9**
CLL *i* 07 00 16.5
CLL *i* SN **Sn 07 00 34.2 +1.1**
CLL *i* SG **Sg 07 00 40.7 -5.9**
CLL *i* L 07 00 51.3
CLL *e*L 07 01 15.0
CLL Collm 2.81 126 *i* P **Pn 07 00 00.0 +1.2**
CLL *i* 07 00 34.2
CLL Collm 2.81 126 *i* Pn **Pn 07 00 00.0 +1.2**
CLL *i* Pg **Pg 07 00 08.1 -0.9**
CLL *i* Sn **Sn 07 00 34.2 +1.1**
CLL *i* Sg **Sg 07 00 40.7 -5.9**
STB Steinbach 2.91 214 *e*Pn **Pn 07 00 02.1 +1.9**
KLL Kalltalsperre 3.06 220 *e*Pn **Pn 07 00 03.7 +1.4**
HGN Heimansgroeve 3.12 225 *e*(Pn) **Pn 07 00 04.8 +1.6**
SNR=23
HGN *e*(Sn) **Sn 07 00 43.1 +2.1**
HGN Heimansgroeve 3.12 225‖ *e*Pn **Pn 07 00 04.8 +1.6**
comp=Z,32nm,0.5s,baz=50
HGN *e*Sn **Sg 07 00 59.6 +2.7**
HGN Heimansgroeve 3.12 225 *e*Pn **Pn 07 00 04.7 +1.5**
WERD Werda 3.16 144 *e*Pn **Pn 07 00 04.2 +0.5**
SNR=11
WERD *e*Sg **Sg 07 00 53.3 -4.7**
COP Copenhagen 3.20 33 *i* P **Pn 07 00 12.9 +8.7**
COP *i* S **Sn 07 00 52.3 +10**
COP *i* S **Sg 07 00 57.9 -1.4**
comp=Z,340nm,17.0s
MEM Membach 3.21 222 Pn **Pn 07 00 05.9 +1.5**
MEM Membach 3.21 222 Pg **Pg 07 00 17.5 +0.5**
BEBN Eben Emael 3.21 227 Pn **Pn 07 00 06.4 +2.0**
GUNZ Gunzen 3.24 144 *e*Pn **Pn 07 00 06.0 +1.2**
SNR=9.0
TANN Tannenbergstha 3.24 143 *e*Pn **Pn 07 00 06.1 +1.3**
SNR=21
ABH Alteburg 3.36 201 Pn **Pn 07 00 08.2 +1.7**
NKC Novy Kostel 3.39 145 *e*PN **Pn 07 00 07.9 +1.0**
NKC *ex* x 07 00 22.2
NKC *e*SG **Sg 07 00 59.0 -6.6**
MUD Monsted U'grnd 3.43 358 *i* P **Pn 07 00 07.5 -0.1**
MUD *i* S **Sn 07 00 46.2 -2.5**
MUD *e*S **Sg 07 01 05.2 -2.0**
comp=Z,440nm,18.0s
TOD Tromm 3.45 186 Pn **Pn 07 00 09.3 +1.5**
TOD Tromm 3.45 186 P **Pn 07 00 09.7 +1.9**
GRF Grafenberg Arr 3.54 160 *e*Pn **Pn 07 00 10.3 +1.3**
SNR=7.6
GRF *e*Sg **Sg 07 01 08.1 -2.5**
GRFO Grafenberg 3.54 160 *e*Pn **Pn 07 00 10.3 +1.3**
BRG Berggiesshubel 3.55 126 *e*Pn **Pn 07 00 09.6 +0.4**
SNR=18
BRG *e*(Sn) **Sn 07 00 49.2 -2.4**
BRG *i* Sg **Sg 07 01 03.9 -7.1**
BRG Berggiesshubel 3.55 126 *i* P **Pn 07 00 09.3 +0.1**
BRG *i* 07 00 48.9
BRG MLR MLR
comp=N,2µm,13.2s
BRG MLR MLR
comp=E,1µm,13.2s
BRG MLR MLR
comp=Z,2µm,6.8s
BRG Berggiesshubel 3.55 126 *i* Pn **Pn 07 00 09.3 +0.1**
BRG *i* 07 00 36.1
BRG *i* Sn **Sn 07 00 48.9 -2.8**
BRG *i* Sg **Sg 07 01 03.9 -7.1**
SWS Schriesheim 3.58 187 Pn **Pn 07 00 11.0 +1.4**
SWS Sg **Sg 07 01 09.4 -2.7**
RUP Ruppelstein 3.64 205 Pn **Pn 07 00 11.4 +0.9**
RUP Ruppelstein 3.64 205 P **Pn 07 00 12.6 +2.1**
SIND Sindeldorf 3.69 178 Pn **Pn 07 00 11.6 +0.3**
SIND Sn **Sn 07 00 54.2 -1.1**
KTD Kalmit 3.81 193 Pn **Pn 07 00 14.5 +1.6**
BSD Bornholm Skovb 3.86 55 *i* P **Pn 07 00 12.3 -1.3**
BSD *i* 07 00 26.2
BSD *i* S **Sn 07 00 55.2 -4.4**
BSD *e*S **Sn 07 01 10.6 +11**
comp=Z,330nm,18.0s
WLF Walferdange 3.94 212 *e*Pn **Pn 07 00 16.2 +1.5**
SNR=3.7
WLF Walferdange 3.94 212 *e*P **Pn 07 00 17.6 +2.9**
WLF Walferdange 3.94 212 Pn **Pn 07 00 16.3 +1.6**
WLF Walferdange 3.94 212 *e*P **Pn 07 00 17.6 +2.9**
PVCC Panska Ves 4.08 126 *e*Pn **Pn 07 00 17.0 +0.3**
PVCC *e*Sg **Sg 07 01 23.5 -5.0**
GIVF Givet 4.09 226 *e*Pn **Pn 07 00 18.2 +1.3**
GIVF *e*Sn **Sn 07 01 04.2 -1.2**
GIVF *e*Sg **Sg 07 01 29.7 +0.6**
LANF Langenberg 4.18 195 Pn **Pn 07 00 18.7 +0.5**
LANF Langenberg 4.18 195 P **Pn 07 00 19.8 +1.6**
DOU Dourbes 4.20 227 Pn **Pn 07 00 18.9 +0.5**
DOU Sn **Sn 07 01 09.7 +1.6**
STU Stuttgart 4.27 182 *e*Pn **Pn 07 00 19.6 +0.2**
SNR=2.4
STU Stuttgart 4.27 182 *e*P **Pn 07 00 19.4 0.0**
STU Stuttgart 4.27 182 *e*P **Pn 07 00 19.4 0.0**
STU Stuttgart 4.27 182 *e*Pn **Pn 07 00 19.7 +0.3**
LBG Lerchenberg 4.39 185 Pn **Pn 07 00 21.5 +0.4**
BAIF Baives 4.40 229 *e*Pn **Pn 07 00 22.2 +0.9**
BAIF *e*Sn **Sn 07 01 12.9 -0.3**
BAIF *e*Sg **Sg 07 01 39.8 +0.5**
comp=Z,272nm,0.8s
PRU Pruhonice 4.43 131 PN **Pn 07 00 21.6 -0.1**
PRU *i* x x 07 00 33.7
PRU *ex* x 07 00 41.5
PRU *e*SN **Sn 07 01 13.0 -1.0**
PRU *e*SG **Sg 07 01 33.4 -6.9**
comp=Z,398nm,1.0s
PRU Pruhonice 4.43 131 Pn **Pn 07 00 21.6 -0.1**
PRU *e*Sn **Sn 07 01 13.0 -1.0**
PRU *e*Sg **Sg 07 01 33.4 -6.9**
comp=Z,398nm,1.0s
WET Wettzell 4.47 149 *e*Pn **Pn 07 00 23.1 +0.8**
SNR=8.2
WET Wettzell 4.47 149 *e*Pn **Pn 07 00 23.1 +0.8**
WET *e*Sg **Sg 07 01 38.3 -3.4**
WET Wettzell 4.47 149 *e*Pn **Pn 07 00 23.0 +0.7**
WET *e*Sg **Sg 07 01 38.3 -3.4**
HDH Heidenheim 4.48 173 Pn **Pn 07 00 22.6 +0.1**
HDH Sg **Sg 07 01 39.8 -2.4**
HDH Heidenheim 4.48 173 P **Pn 07 00 22.6 +0.1**
HDH Sg **Sg 07 01 39.8 -2.3**
TUBL Tuebingen Lnz 4.52 183 Sg **Sg 07 01 45.6 +2.3**
BUCH Bad Urach 4.59 180 Pn **Pn 07 00 23.8 -0.2**
BUCH Pg **Pg 07 00 46.5 +2.1**
BUCH Sg **Sg 07 01 44.2 -1.4**
BUCH Bad Urach 4.59 180 P **Pn 07 00 23.8 -0.2**
BUCH Pg **Pg 07 00 46.5 +2.0**
BUCH Sg **Sg 07 01 44.2 -1.4**
KHC Kasperske Hory 4.71 144 *e*P **Pn 07 00 26.3 +0.6**
KHC MLR MLR
comp=Z,4µm,4.1s
KHC Kasperske Hory 4.71 144 *e*PN **Pn 07 00 26.3 +0.6**
KHC *ex* x 07 00 46.8
KHC *e*SG **Sg 07 01 42.6 -7.2**
KHC AMS AMS 07 02 40.0
comp=Z,4µm,4.1s
KHC Kasperske Hory 4.71 144 *e*Pn **Pn 07 00 26.3 +0.6**
KHC *e*Sg **Sg 07 01 42.6 -7.2**
GKP Gorka Klasztor 4.73 84 *e*Pn **Pn 07 00 26.1 +0.2**
GKP *e*Pg **Pg 07 00 49.1 +1.9**
GKP *e*Sn **Sn 07 01 31.5 +10**
GKP *e*Sg **Sg 07 01 57.5 +7.3**
BFO Black Forest 4.76 189 *e*Pn **Pn 07 00 26.6 +0.3**
SNR=7.8
BFO Black Forest 4.76 189 P **Pn 07 00 26.6 +0.3**
BFO Black Forest 4.76 189 *e*Pn **Pn 07 00 27.0 +0.6**
KSP Ksiaz 4.80 114 *e*Pn **Pn 07 00 27.9 +1.0**
KSP *e* 07 00 29.1
KSP *e*Pg **Pg 07 00 48.4 -0.2**
KSP *e*Sn **Sn 07 01 18.0 -5.3**
KSP *e*Sg **Sg 07 01 47.0 -5.6**
KSP Ksiaz 4.80 114 *e*Pn **Pn 07 00 28.2 +1.3**
KSP *e*Pg **Pg 07 00 53.5 +4.9**
KSP *e*Sn **Sn 07 01 28.3 +5.0**
KSP *e*Sg **Sg 07 02 03.5 +11**
WLS Welschbruch 4.80 196 Pn **Pn 07 00 27.5 +0.5**
WLS Welschbruch 4.80 196 P **Pn 07 00 27.6 +0.6**
CDF Champ du Feu 4.82 197 *e*Pn **Pn 07 00 27.7 +0.5**
CDF *e*Pg **Pg 07 00 46.8 -2.2**
CDF *e*Sn **Sn 07 01 20.6 -3.2**
CDF *e*Sg **Sg 07 01 48.3 -5.0**
comp=Z,199nm,0.6s
UPC Upice 4.82 119 *e*PN **Pn 07 00 26.9 -0.4**
UPC *ex* x 07 01 19.9
SPAK Spaichingen 4.95 185 Pn **Pn 07 00 27.8 -1.3**
GUT Gutenstein 4.97 182 Pn **Pn 07 00 28.9 -0.5**
GUT Sn **Sn 07 01 24.5 -3.2**
GUT Sg **Sg 07 01 57.6 -0.8**
GUT Gutenstein 4.97 182 P **Pn 07 00 28.9 -0.5**
GUT S **Sn 07 01 24.5 -3.2**
GUT Sg **Sg 07 01 57.6 -0.8**
GEC2 GERESS Array S 5.00 145 *e*Pn **Pn 07 00 30.3 +0.5**
SNR=12
GERES GERESS Array B 5.00 145 Pn **Pn 07 00 30.6 +0.8**
comp=Z,7.2nm,0.3s,baz=329,slow=14,SNR=89
GERES Pg **Pg 07 00 42.5 -10**
comp=Z,4.4nm,0.3s,baz=324,slow=13,SNR=9.8
GERES Sn **Sn 07 01 25.8 -2.6**
comp=Z,5.3nm,0.3s,baz=339,slow=26,SNR=4.0
GERES Lg 07 01 53.1
comp=Z,11nm,0.3s,baz=330,slow=28,SNR=6.4
GERES GERESS Array B 5.00 145 P **Pn 07 00 30.6 +0.8**
GERES 07 01 25.8
GERES pmax pmax
comp=Z,7.0nm,0.3s
GERES pmax pmax
comp=Z,4.0nm,0.3s
GERES smax
comp=N,5.0nm,0.3s
ECH Echery 5.03 197 Pn **Pn 07 00 30.5 +0.3**
ECH Echery 5.03 197 P **Pn 07 00 30.4 +0.2**
RFYF Reffroy 5.06 211 *e*Pn **Pn 07 00 31.3 +0.7**
baz=32
RFYF *e*Pg **Pg 07 00 51.8 -2.1**
RFYF *e*Sn **Sn 07 01 27.3 -2.6**
RFYF *e*Sg **Sg 07 01 58.0 -3.3**
comp=N,540nm,1.1s
DPC Dobruska-Polom 5.08 119 *e*PN **Pn 07 00 30.4 -0.5**
DPC *ex* x 07 00 41.7
DPC *e*SG **Sg 07 01 52.8 -9.1**
DPC Dobruska-Polom 5.08 119 *e*Pn **Pn 07 00 30.2 -0.7**
DPC Sg **Sg 07 01 52.8 -9.1**
MENF Mencas 5.13 244 P **Pn 07 00 35.3 +3.7**
MENF S **Sn 07 01 31.3 -0.4**
KIZ Kirchzarten 5.17 191 Pn **Pn 07 00 32.1 -0.1**
FELD Feldberg 5.24 190 Pn **Pn 07 00 33.0 -0.1**
THEF They Montfort 5.28 206 Pn **Pn 07 00 34.1 +0.4**
THEF They Montfort 5.28 206 P **Pn 07 00 35.2 +1.5**
MEZF Maizieres J'vi 5.31 213 *e*Pn **Pn 07 00 35.2 +1.1**
baz=34
MEZF Maizieres J'vi 5.31 213 *e*Sn **Sn 07 01 32.7 -3.4**
MEZF *e*Sg **Sg 07 02 07.7 -1.9**
comp=N,218nm,0.8s
MEZF Maizieres J'vi 5.31 213 *e*Pn **Pn 07 00 35.2 +1.1**
MEZF *e*Sn **Sn 07 01 32.7 -3.4**
MEZF *e*Sg **Sg 07 02 07.7 -1.9**
MEZF Maizieres J'vi 5.31 213 *e*Pn **Pn 07 00 35.2 +1.1**
MEZF *e*Sn **Sn 07 01 32.7 -3.4**
SISB Singen-Sch Ber 5.36 183 Pn **Pn 07 00 33.0 -1.8**
UBR Uberruh 5.38 175 Pn **Pn 07 00 34.9 -0.2**
MOF Molkenrain 5.38 196 Pn **Pn 07 00 35.1 -0.1**
MOF Molkenrain 5.38 196 P **Pn 07 00 35.8 +0.6**
HAU Haudompre 5.39 202 *e*Pn **Pn 07 00 35.2 -0.2**
HAU *e*R
comp=N,665nm,12.5s
HAU Haudompre 5.39 202 *e*Pn **Pn 07 00 35.2 -0.2**
HAU *e*Pg **Pg 07 00 56.6 -4.0**
HAU *e*Sg **Sg 07 02 07.9 -4.6**
HAU Haudompre 5.39 202 *e*Pg **Pg 07 00 56.6 -4.0**
HAU *e*Sg **Sg 07 02 07.9 -4.6**
comp=N,82nm,0.7s
SNART Snartemo 5.46 348 *e*S **Sn 07 01 33.9 -6.1**
HINF Hinteralfeld 5.47 198 *e*Pn **Pn 07 00 36.3 -0.1**
HINF *e*Sg **Sg 07 02 09.2 -5.7**
comp=N,426nm,1.0s
SFTF Sexfontaines 5.57 212 *e*Pn **Pn 07 00 37.3 -0.6**
baz=34
SFTF *e*Pg **Pg 07 01 00.5 -3.6**
SFTF *e*Sn **Sn 07 01 39.3 -3.4**
SFTF *e*Sg **Sg 07 02 14.6 -3.8**
comp=N,1µm,1.7s
DAVA Damuels 5.76 177⇑ *i*PN **Pn 07 00 40.3 -0.2**
DAVA *i* SN **Sn 07 01 54.2 +6.7**
DAVA *i* SG **Sg 07 02 34.9 +10**
comp=N,125nm,1.0s
DAVA Damuels 5.76 177⇑ *i*Pn **Pn 07 00 40.3 -0.2**
comp=N,125nm,1.0s
DAVA *i* Sn **Sn 07 01 54.2 +6.7**
DAVA *i* Sg **Sg 07 02 34.9 +10**
MOTA Moosalm 5.80 168⇑ *i*PN **Pn 07 00 40.5 -0.6**
MOTA *i* SN **Sn 07 01 57.1 +8.7**
VRAC Vranov 5.86 127 Pn **Pn 07 00 41.0 -1.0**
comp=N,2.4nm,0.3s,baz=304,slow=14,SNR=9.9
VRAC Lg 07 02 19.7
comp=N,3.1nm,0.3s,baz=272,slow=15,SNR=6.0
WATA Walderalm 5.87 165⇑ *i*PN **Pn 07 00 42.1 0.0**
WATA *i* SN **Sn 07 01 57.0 +6.7**
SQTA Sankt Quirin 5.93 168‖ *i*PN **Pn 07 00 42.0 -1.0**
SQTA *i* SN **Sn 07 01 58.0 +6.2**
KRUC Moravsky 5.94 129 P **Pn 07 00 42.7 -0.3**
KRUC Moravsky 5.94 129 *e*Pn **Pn 07 00 42.8 -0.2**
KRUC *e*Sg Sn 07 02 20.9 +29
comp=N,166nm,0.9s
WTTA Wattenberg 5.95 165⇑ *i*PN **Pn 07 00 43.4 +0.2**
WTTA *i* SN **Sn 07 02 01.6 +9.3**
MOA Molln 6.05 147⇑ *i*PN **Pn 07 00 45.9 +1.3**
MOA *i* SN **Sn 07 02 03.3 +8.5**
MORC Moravsky Berou 6.05 119 *e*P **Pn 07 00 44.4 -0.2**
MORC Moravsky Berou 6.05 119 *e*Pn **Pn 07 00 44.3 -0.3**
DAVOX Davos 6.27 177 Pn **Pn 07 00 47.4 -0.3**
comp=N,1.0nm,0.3s,baz=340,slow=15,SNR=7.3
DAVOX Pg **Pg 07 01 11.2 -6.7**
comp=N,2.0nm,0.3s,baz=334,slow=17,SNR=4.5
DAVOX Lg 07 02 36.5
comp=N,1.5nm,0.3s,baz=186,slow=20,SNR=2.8
DAVOX Davos 6.27 177 Pg **Pg 07 01 11.2 -6.8**
STAV Stavanger 6.27 342 *e*P **Pn 07 00 46.6 -1.1**
STAV *e*S **Sn 07 01 54.0 -6.2**
OKC Ostrava-Krasne 6.34 117 *e*PN **Pn 07 00 48.8 +0.1**
OKC *e*SG **Sg 07 02 36.0 -7.9**
KBA Koelnbreinsper 6.48 155⇑ *i*PN **Pn 07 00 51.0 +0.3**
KBA *i* SN **Sn 07 02 12.1 +6.7**
VKA Vienna 6.49 135⇑ *i*PN **Pn 07 00 52.2 +1.4**
VKA *i* SN **Sn 07 02 08.7 +3.0**
VKA *i* SG **Sg 07 02 49.9 +0.9**
BLS5 Blasjo 6.61 347 *e*P **Pn 07 00 50.9 -1.6**
BLS5 *e*S **Sn 07 02 01.5 -7.3**
BLS5 AML AML 07 02 17.4
comp=Z,61nm,0.6s
KMY Karmoy 6.61 341 *e*P **Pn 07 00 50.3 -2.2**
KMY *e*S **Sn 07 01 58.9 -10**
KMY AML AML 07 02 05.7
comp=Z,95nm,0.8s
KONO Kongsberg 6.63 1 *e*P **Pn 07 00 54.4 +1.5**
JAVC Velka Javorina 6.69 125 *e*Pn **Pn 07 00 54.3 +0.7**
JAVC Velka Javorina 6.69 125 P **Pn 07 00 54.8 +1.2**
CABF La Chapelle 6.77 200 *e*Pn **Pn 07 00 54.8 0.0**
CABF *e*Sn **Sn 07 02 07.3 -5.5**
CABF *e*Sg **Sg 07 02 50.8 -7.6**
LOR Lormes 6.78 214 *e*Pn **Pn 07 00 54.8 -0.1**
baz=40
LOR Lormes 6.78 214 *e*Sg **Sg 07 02 52.9 -5.6**
comp=Z,52nm,0.6s,baz=36
LOR Lormes 6.78 214 *e*Pn **Pn 07 00 54.8 -0.1**
LOR *e*Sn **Sn 07 02 08.9 -4.0**
LOR *e*Sg **Sg 07 02 52.9 -5.6**
LOR Lormes 6.78 214 *e*Pn **Pn 07 00 54.8 -0.1**
LOR *e*Sn **Sn 07 02 08.9 -4.0**
ZST Bratislava 6.89 132 *e*SG **Sg 07 02 51.6 -11**
OSL Oslo 6.96 6 *e*S **Sn 07 02 06.4 -11**
ARSA Arzberg 7.00 143‖ *i*PN **Pn 07 00 59.2 +1.2**
ARSA *i* SN **Sn 07 02 27.1 +8.7**
SOP Sopron 7.04 137 *e*SB **Sb 07 02 50.2 +10**
OJC Ojcow 7.06 109 *e*Pn **Pn 07 00 57.5 -1.4**
OJC *e*Pg **Pg 07 01 36.3 +2.5**
OJC *e*Sn **Sn 07 02 10.8 -9.2**
OJC *e*Sg **Sg 07 03 07.1 -0.9**
OJC Ojcow 7.06 109 *e*Pn **Pn 07 00 57.5 -1.4**
OJC *e*Sn **Sn 07 02 10.8 -9.2**
OJC Ojcow 7.06 109 *e*Pn **Pn 07 00 57.5 -1.4**
OJC *e*Pg **Pg 07 01 36.3 +2.5**
OJC *e*Sn **Sn 07 02 10.8 -9.2**
OJC *e*Sg **Sg 07 03 07.1 -0.9**
ODD1 Odda 7.07 349 *e*P **Pn 07 00 56.0 -2.9**
ODD1 *e*S **Sn 07 02 12.3 -7.8**
ODD1 AML AML 07 02 33.5
comp=Z,89nm,0.5s
SSF Saint Saulge 7.08 215 *e*Pn **Pn 07 00 58.3 -0.8**
SSF *e*Sn **Sn 07 02 15.6 -4.8**
SSF *e*Sg **Sg 07 03 01.8 -6.7**
comp=Z,70nm,0.8s
HYF Humbligny 7.22 220 *e*Pn **Pn 07 01 01.0 0.0**
HYF *e*Sg **Sg 07 03 05.9 -7.3**
KOLL Kolacno 7.24 124 *i* PN **Pn 07 01 00.4 -1.0**
OBKA Obir 7.33 151⇑ *i*PN **Pn 07 01 03.4 +0.8**
OBKA *i* SN **Sn 07 02 34.0 +7.3**
SMF Signal de Mont 7.33 212 *e*Pn **Pn 07 01 01.8 -0.8**
SMF *e*Sg **Sg 07 03 08.8 -8.1**
AVF Avril sur Loir 7.36 214 *e*Pn **Pn 07 01 00.4 -2.7**
AVF *e*Sn **Sn 07 02 22.3 -5.3**
AVF *e*Sg **Sg 07 03 11.8 -6.2**
PERS Pernice 7.39 148 *i* Pn **Pn 07 01 01.4 -2.1**
LDF La Druitiere 7.49 237 *e*Pn **Pn 07 01 04.8 0.0**
LDF *e*Sn **Sn 07 02 25.0 -5.7**
LDF *e*Sg **Sg 07 03 17.4 -4.7**
comp=Z,71nm,0.8s
HFS Hagfors 7.50 17 Pn **Pn 07 01 02.3 -2.7**
baz=195,slow=14
HFS Sn **Sn 07 02 19.0 -12**
baz=211,slow=28
HFS Lg 07 03 04.1
baz=219,slow=37
HFS Hagfors 7.50 17 Pn **Pn 07 01 02.1 -2.9**
comp=Z,0.1nm,0.3s,baz=205,slow=12,SNR=16
HFS Sn **Sn 07 02 21.7 -9.3**
comp=Z,1.0nm,0.3s,baz=198,slow=23,SNR=6.1
HFS Lg 07 03 10.5
comp=Z,1.0nm,0.3s,baz=180,slow=27,SNR=3.6
VYHS Vyhne 7.51 123 *i* PN **Pn 07 01 04.3 -0.9**
VYHS *e* 07 01 16.1
VYHS *e* 07 03 11.5
FLN La Foliniere 7.57 240 *e*Pn **Pn 07 01 06.4 +0.5**
FLN *e*Sn **Sn 07 02 27.2 -5.4**
FLN *e*R
comp=Z,541nm,13.0s
VOY Vojsko 7.59 156 *e*Pn **Pn 07 01 07.7 +1.4**
VOY *e* 07 01 50.0
VOY *e* 07 03 20.8
EGD Espegrend 7.61 344 *e*P **Pn 07 01 04.5 -2.0**
EGD *e*S **Sn 07 02 25.3 -8.5**
EGD AML AML 07 02 31.3
comp=Z,224nm,0.6s
LPL La Plagne 7.72 194 *e*Pn **Pn 07 01 07.5 -0.6**
LPL *e*Sg **Sg 07 03 22.2 -7.7**
comp=Z,466nm,1.9s
RUND Rundenannen 7.72 345 *e*P **Pn 07 01 06.8 -1.4**
RUND *e*S **Sn 07 02 28.9 -7.6**
RUND AML AML 07 02 33.4
comp=Z,104nm,0.7s
LPG La Plagne 7.74 194 *e*Pn **Pn 07 01 07.9 -0.4**
LPG *e*Sg **Sg 07 03 23.3 -7.1**
comp=Z,124nm,1.2s
BGF Bois d'Agland 7.74 216 *e*Pn **Pn 07 01 08.4 0.0**
BGF *e*Sn **Sn 07 02 30.2 -6.8**
BGF *e*Sg **Sg 07 03 23.0 -7.6**
comp=Z,205nm,0.9s
ESK Eskdalemuir 7.74 292 Pn **Pn 07 01 08.1 -0.3**
comp=Z,560nm,0.6s,SNR=58
ESK Eskdalemuir 7.74 292 *e*P **Pn 07 01 07.6 -0.8**
ESK Eskdalemuir 7.74 292 *e*Pn **Pn 07 01 08.1 -0.3**
LJU Ljubljana 7.75 152 *e*Pn **Pn 07 01 20.0 +12**
NIE Niedzica 7.75 113 *e*P **Pn 07 01 08.3 -0.2**
NIE *e*S **Sg 07 03 19.8 -11**
ASK Askoy 7.82 345 *e*P **Pn 07 01 07.0 -2.4**
ASK AML AML 07 02 46.0
comp=Z,213nm,0.7s
NC6 NORSAR Subarra 7.82 7 Pn **Pn 07 01 05.8 -3.7**
NC6 Sn **Sn 07 02 27.4 -12**
GRR Gorron 8.00 239 *e*Pn **Pn 07 01 12.4 +0.5**
GRR *e*Sn **Sn 07 02 37.9 -5.5**
VISS Visnje 8.06 152 *e*Pn **P 07 01 13.2 +0.4**
NB2 NORSAR Subarra 8.09 6 Pn **P 07 01 09.7 -3.6**
NB2 Sn **Sn 07 02 34.0 -12**
NOA NORSAR Array B 8.09 6 Pn **P 07 01 09.9 -3.4**
comp=Z,2.3nm,0.3s,baz=188,slow=12,SNR=20
NOA Sn **Sn 07 02 38.0 -7.7**
comp=Z,5.9nm,0.3s,baz=183,slow=19,SNR=8.5
NOA Lg 07 03 29.7
comp=Z,4.4nm,0.3s,baz=54,slow=7.7,SNR=4.7
NOA NORSAR Array B 8.09 6 Sn **Sn 07 02 38.0 -7.7**
TCF Toulx Ste Croi 8.20 217 *e*Pn **P 07 01 13.4 -1.4**
TCF *e*Pg P 07 01 49.7 +35
TCF *e*Sn **Sn 07 02 42.2 -6.3**
TCF *e*Sg **Sg 07 03 38.4 -7.5**
comp=Z,144nm,1.0s
CRES Cresnjev 8.22 149 *i* Pn **P 07 01 15.2 +0.1**
SUW Suwalki 8.28 78 *e*P **P 07 01 14.8 -1.0**
SUW *e* 07 02 43.3
SUW Suwalki 8.28 78 *e*Pn **P 07 01 14.8 -1.0**
SUW *e*Pg P 07 01 53.0 +37
SUW *e*Sn **Sn 07 02 43.3 -7.0**
SUW *e*Sg **Sg 07 03 48.1 -0.3**
SUW Suwalki 8.28 78 *e*Pn **P 07 01 14.8 -1.0**
SUW *e*Pg P 07 01 53.0 +37
SUW *e*Sn **Sn 07 02 43.3 -7.0**
SUW *e*Sg **Sg 07 03 48.1 -0.3**
PSZ Piszkesteto 8.43 123‖ *e* **P 07 01 17.3 -0.6**
SUE Sulen 8.43 344 *e*P **P 07 01 15.6 -2.4**
SUE *e*S **Sn 07 02 43.2 -11**
SUE AML AML 07 02 56.1
comp=Z,27nm,0.6s
ORIF Oris-en-Rattie 8.44 197 *e*Pn **P 07 01 18.0 -0.1**
ORIF *e*Sn **Sn 07 02 47.4 -7.1**
ORIF *e*Sg **Sg 07 03 43.2 -11**
comp=Z,124nm,1.1s
ORIF *e*R
comp=Z,437nm,15.5s
BOJS Bojanci 8.45 151 *e*Pn **P 07 01 22.0 +3.8**
MBDF Montbardon 8.49 193 *e*Pn **P 07 01 17.7 -1.1**
MBDF *e*Sg **Sg 07 03 43.8 -12**
comp=Z,66nm,1.1s
CRVS Cervenica-Dubn 8.66 114 *e*PN **P 07 01 20.8 -0.4**
CRVS *e* 07 04 09.1
MFF Saint Martin d 8.91 228 *e*Pn **P 07 01 23.9 -0.7**
MFF *e*Sn **Sn 07 02 59.4 -6.7**
SGMF Saint Gilles 8.97 243 *e*Pn **P 07 01 23.4 -2.1**
SGMF *e*Sn **Sn 07 03 01.4 -6.3**
SGMF *e*Sg **Sg 07 04 01.1 -10**
comp=Z,181nm,1.1s
KWP Kalwaria 9.00 107 *e*P **P 07 01 23.3 -2.6**
KWP *e* 07 03 04.7
KWP Kalwaria 9.00 107 *e*P **P 07 01 23.3 -2.6**
KWP *e*PP PP 07 01 33.3 -0.4
KWP *e*PPP PPP 07 01 39.7 -1.0
KWP *e*Sn **Sn 07 03 04.7 -3.7**
KWP *e*Sg **Sg 07 04 05.8 -6.8**
KWP Kalwaria 9.00 107 *e*P **P 07 01 23.3 -2.6**
KWP *e*PP PP 07 01 33.3 -0.4
KWP *e*PPP PPP 07 01 39.7 -1.0
KWP *e*Sn **Sn 07 03 04.7 -3.7**
KWP *e*Sg **Sg 07 04 05.8 -6.8**
DOMB Dombas 9.04 359 *e*P **P 07 01 23.4 -3.0**

DOMB				*e*S	**Sn**	**07 02 55.6**	**-14**
DOMB				AML	AML	07 03 22.9	
	comp=Z,37nm,0.5s						
PKSM	**Moragy**	**9.08**	**135**⇓	*e*P	**P**	**07 01 26.2**	**-0.8**
PKSM				*e*S	**Sg**	**07 04 06.9**	**-8.4**
KOLS	**Kolonicke sedl**	**9.10**	**112**	*i* PN	**P**	**07 01 25.1**	**-2.1**
KOLS				*e*		07 01 35.4	
SBF	**Sospel**	**9.27**	**189**	*e*P	**P**	**07 01 32.6**	**+3.0**
SBF				*e*Sg	**Sg**	**07 04 07.2**	**-14**
	comp=Z,40nm,0.9s						
UZH	**Uzhgorod**	**9.27**	**113**	*e*P	**P**	**07 01 29.0**	**-0.6**
RJF	**Les Rejaudoux**	**9.29**	**217**	*e*Pn	**P**	**07 01 29.1**	**-0.8**
RJF				*e*Sn	**Sn**	**07 03 07.6**	**-8.0**
RJF				*e*Sg	**Sg**	**07 04 12.5**	**-10**
	comp=Z,531nm,1.8s						
RJF				*e*R			
	comp=Z,290nm,13.0s						
ROSF	**Rostrenen**	**9.31**	**245**	*e*Pn	**P**	**07 01 29.2**	**-1.0**
ROSF				*e*Sn	**Sn**	**07 03 08.9**	**-7.2**
ROSF				*e*Sg	**Sg**	**07 04 12.0**	**-11**
SMRF	**Simiane la Rot**	**9.41**	**197**	*e*Pn	**P**	**07 01 30.9**	**-0.6**
SMRF				*e*Sg	**Sg**	**07 04 13.2**	**-13**
	comp=Z,396nm,1.9s						
CAF	**Calviac**	**9.43**	**214**	*e*Pn	**P**	**07 01 30.9**	**-0.9**
CAF				*e*Pg	Px	07 02 12.3	
CAF				*e*Sg	**Sg**	**07 04 15.0**	**-12**
	comp=Z,152nm,1.3s						
QUIF	**Quistinic**	**9.50**	**242**	*e*Pn	**P**	**07 01 30.5**	**-2.2**
QUIF				*e*Sn	**Sn**	**07 03 14.5**	**-6.1**
QUIF				*e*Sg	**Sg**	**07 04 16.8**	**-12**
	comp=Z,209nm,1.3s						
MOL	**Molde**	**9.62**	**355**	*e*P	**P**	**07 01 33.0**	**-1.2**
MOL				*e*S	**Sn**	**07 03 12.6**	**-11**
MOL				AML	AML	07 03 52.7	
	comp=Z,48nm,0.7s						
LASF	**Ste Croix**	**9.68**	**204**	*e*Pn	**P**	**07 01 34.1**	**-1.1**
LASF				*e*Sg	**Sg**	**07 04 21.8**	**-13**
	comp=Z,153nm,1.3s						
LFF	**La Frestale**	**9.89**	**218**	*e*Pn	**P**	**07 01 36.7**	**-1.4**
LFF				*e*Sg	**Sg**	**07 04 28.5**	**-14**
	comp=Z,275nm,1.4s						
DCN	**Croghan**	**10.02**	**278**	*e*P	**P**	**07 01 40.0**	**+0.3**
DCN				*e*S	**S**	**07 03 20.0**	**-13**
MTLF	**Montolieu**	**10.81**	**209**	*e*Pn	**P**	**07 01 48.9**	**-1.8**
MTLF				*e*Sg	S	07 04 58.0	+65
	comp=Z,298nm,1.9s						
MNK	**Minsk**	**11.01**	**75**	*e*P	**P**	**07 01 46.0**	**-7.4**
VSU	**Vasula**	**11.17**	**54**	Pn	**P**	**07 01 50.2**	**-5.3**
VSU				Sn	**S**	**07 03 52.8**	**-8.6**
NSS	**Namsos**	**11.61**	**6**	*e*P	**P**	**07 01 56.6**	**-4.9**
NSS				*e*S	**S**	**07 03 55.6**	**-17**
EPF	**Esparros**	**11.69**	**215**	*e*Pn	**P**	**07 02 01.0**	**-1.6**
EPF				*e*Sg		07 05 26.3	
	comp=Z,182nm,1.7s						
ETSF	**Etsaut**	**12.12**	**217**	*e*Pn	**P**	**07 02 06.6**	**-1.9**
ETSF				*e*Sg		07 05 39.7	
	comp=Z,126nm,1.4s						
SJPF	**Ste Jean**	**12.19**	**220**	*e*Pn	**P**	**07 02 08.2**	**-1.2**
SJPF				*e*Sg		07 05 42.2	
	comp=Z,105nm,1.4s						
FIA0	**FINESS Array S**	**12.32**	**40**	Pn	**P**	**07 02 07.0**	**-4.1**
	baz=232,slow=12						
FIA0				Sn	**S**	**07 04 18.1**	**-11**
	baz=233,slow=22						
FIA0	**FINESS Array S**	**12.32**	**40**	Sn	**S**	**07 04 18.1**	**-11**
	SNR=50						
FINES	**FINESS Array B**	**12.32**	**40**	Pn	**P**	**07 02 07.6**	**-3.5**
	comp=Z,0.7nm,0.3s,baz=229,slow=11,SNR=15						
FINES				Sn	**S**	**07 04 18.3**	**-11**
	comp=Z,0.5nm,0.3s,baz=250,slow=21,SNR=3.5						
FINES				Lg		07 05 42.0	
	comp=Z,1.5nm,0.3s,baz=243,slow=26,SNR=6.5						
FINES	**FINESS Array B**	**12.32**	**40**	Sn	**S**	**07 04 18.3**	**-11**
AKASG	**Malin Array Be**	**12.47**	**93**	Pn	**P**	**07 02 06.0**	**-7.2**
	comp=Z,0.8nm,0.3s,baz=285,slow=13,SNR=3.6						
AKASG				Sn	**S**	**07 04 20.9**	**-12**
	comp=Z,2.2nm,0.3s,baz=302,slow=22,SNR=5.8						
AKASG	**Malin Array Be**	**12.47**	**93**	P	**P**	**07 02 06.0**	**-7.2**
AKASG						07 04 20.9	
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KAF	**Kangasniemi**	**12.81**	**38**	*e*p	**P**	**07 02 14.3**	**-3.3**
	comp=Z,2.7nm,0.4s						
KAF	**Kangasniemi**	**12.81**	**38**	*e*P	**P**	**07 02 14.3**	**-3.3**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.4s						
MLR	**Muntele Rosu**	**13.16**	**118**	Pn	**P**	**07 02 24.8**	**+2.5**
	comp=Z,0.2nm,0.3s,baz=141,slow=22,SNR=2.6						
MLR				LR	LR	07 07 39.3	
	comp=Z,189nm,19.1s,baz=100,slow=38						
MOR8	**Moi Rana**	**13.42**	**9**	*e*Pn	**P**	**07 02 25.8**	**+0.2**
JOF	**Joensuu**	**15.19**	**41**	*e*p	**P**	**07 02 43.9**	**-4.8**
OBN	**Obninsk**	**16.05**	**72**	*e*P	**P**	**07 02 54.4**	**-5.5**
OBN				pmax	pmax		
	comp=Z,43nm,1.9s						
OBN				MLR	MLR		
	comp=Z,300nm,12.0s						
OBN	**Obninsk**	**16.05**	**72**	*e*P	**P**	**07 02 54.4**	**-5.5**
	comp=Z,43nm,1.9s						
ESDC	**Sonseca Array**	**16.20**	**220**	Pn	**P**	**07 03 03.1**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=294,slow=36,SNR=3.3						
ARA0	**ARCESS Array S**	**18.16**	**18**	P	**P**	**07 03 21.7**	**-4.8**
	baz=210,slow=12						
ARCES	**ARCESS Array B**	**18.16**	**18**	P	**P**	**07 03 28.0**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=209,slow=11,SNR=17						
ARCES				S	**S**	**07 06 39.3**	**-7.0**
	comp=Z,0.3nm,0.3s,baz=212,slow=22,SNR=4.7						
ARCES				Lg		07 08 40.4	
	comp=Z,0.4nm,0.3s,baz=207,slow=27,SNR=5.8						
ARCES				LR	LR	07 11 28.7	
	comp=Z,109nm,21.5s,baz=20,slow=40						
ARCES	**ARCESS Array B**	**18.16**	**18**	P	**P**	**07 03 28.0**	**+1.5**
ARCES				S	**S**	**07 06 39.3**	**-7.0**
ARCES				Lg		07 08 40.4	
ARCES				LR	LR	07 11 28.7	
APA	**Apatity**	**18.61**	**29**⇑	*i*P	**P**	**07 03 30.6**	**-1.4**
APA				*i* S	**S**	**07 06 59.9**	**+3.5**
APA				pmax	pmax		
	comp=Z,34nm,1.3s						
APA				MLR	MLR		
	comp=Z,2μm,7.0s						
APA	**Apatity**	**18.61**	**29**⇑	*i*P	**P**	**07 03 30.6**	**-1.4**
	comp=Z,34nm,1.3s						
APA				*i* S	**S**	**07 06 59.9**	**+3.5**
KEV	**Kevo**	**18.64**	**19**	*e*p	**P**	**07 03 30.0**	**-2.3**
ANN	**Anapa**	**20.08**	**103**	*e*P	**P**	**07 03 43.9**	**-5.2**
ANN				pmax	pmax		
	comp=Z,20nm,1.1s						
ANN	**Anapa**	**20.08**	**103**	*e*P	**P**	**07 03 43.9**	**-5.2**
	comp=Z,20nm,1.1s						
SANT	**Santorini**	**20.12**	**140**	*e*P	**P**	**07 03 46.2**	**-3.3**
	comp=Z,4.9nm,0.4s						
IDI	**Anoyia**	**20.85**	**142**	P	**P**	**07 03 58.2**	**+1.1**
	comp=Z,1.8nm,0.5s,baz=304,slow=20,SNR=3.3						
ISP	**Isparta**	**21.10**	**128**	*e*P	**P**	**07 04 00.1**	**+0.4**
BRTR	**Keskin Array B**	**21.24**	**119**	P	**P**	**07 04 01.8**	**+0.7**
	comp=Z,2.1nm,0.9s,mb3.5,baz=309,slow=7.9,SNR=10						
BRTR	**Keskin Array B**	**21.24**	**119**	P	**P**	**07 04 01.8**	**+0.7**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SOC	**Sochi**	**22.12**	**103**	*e*P	**P**	**07 04 05.7**	**-4.2**
SOC				*e*		07 04 31.3	
SOC				*e*SS	SS	07 08 40.6	-7.2
SOC				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.4						
SOC				pmax	pmax		
	comp=N,6.0nm,0.7s						
SOC				pmax	pmax		
	comp=E,6.0nm,0.5s						
SOC				MLR	MLR		
	comp=Z,196nm,16.0s,MS3.6						
SOC				MLR	MLR		
	comp=N,83nm,14.0s,MS3.4						
SOC				MLR	MLR		
	comp=E,99nm,18.0s,MS3.4						
SOC	**Sochi**	**22.12**	**103**	*e*P	**P**	**07 04 05.7**	**-4.2**
	comp=E,9.0nm,0.6s,mb4.4						
SOC				*e*		07 04 31.3	
SOC				*e*SS	SS	07 08 40.6	-7.2
SOC				LR	LR		
	comp=Z,200nm,16.0s,MS3.6						
KIV	**Kislovodsk**	**23.67**	**99**	*e*P	**P**	**07 04 24.4**	**-0.6**
KIV				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.0						
KIV				MLR	MLR		
	comp=Z,200nm,22.0s,MS3.5						
KIV	**Kislovodsk**	**23.67**	**99**	*e*P	**P**	**07 04 24.4**	**-0.6**
	comp=Z,6.0nm,0.9s,mb4.0						
KIV				LR	LR		
	comp=Z,200nm,22.0s,MS3.5						
ASF	**Jabal al Asfar**	**28.76**	**126**	P	**P**	**07 05 13.8**	**+1.3**
	comp=Z,1.6nm,0.4s,mb4.1,baz=128,slow=6.8,SNR=6.5						
SVE	**Sverdlovsk**	**29.12**	**62**⇑	*e*P	**P**	**07 05 15.0**	**-0.5**
SVE				*e*		07 06 03.0	
SVE				pmax	pmax		
	comp=Z,40nm,2.2s,mb4.8						
SVE				MLR	MLR		
	comp=Z,600nm,10.0s,MS4.5						
SVE				MLR	MLR		
	comp=N,300nm,12.0s,MS4.4						
SVE				MLR	MLR		
	comp=E,500nm,12.0s,MS4.4						
SVE				MLR	MLR		
	comp=N,500nm,8.0s						
SVE				MLR	MLR		
	comp=E,1μm,8.0s						
SVE				MLR	MLR		
	comp=Z,1μm,8.0s						
SVE	**Sverdlovsk**	**29.12**	**62**⇑	*e*P	**P**	**07 05 15.0**	**-0.5**
	comp=Z,40nm,2.2s,mb4.8						
SVE				*e*		07 06 03.0	
ZRNK	**Zerenda**	**34.97**	**66**	*e*P	**P**	**07 06 07.6**	**+0.8**
	comp=Z,4.0nm,0.9s,mb4.3						
BVAR	**Borovoye Array**	**35.70**	**65**	P	**P**	**07 06 13.9**	**+1.0**
	comp=Z,9.1nm,1.3s,mb4.5,baz=270,slow=10,SNR=5.6						
KURK	**Kurchatov**	**41.29**	**64**	*e*P	**P**	**07 07 00.1**	**+0.5**
	comp=Z,0.7nm,0.7s,mb3.4						
SCHQ	**Schefferville**	**42.84**	**304**	P	**P**	**07 07 11.8**	**-0.3**
	comp=Z,11nm,1.2s,mb4.5,baz=46,slow=14,SNR=2.7						
SCHQ	**Schefferville**	**42.84**	**304**	P	**P**	**07 07 11.8**	**-0.3**
ZAL	**Zalesovo**	**42.88**	**57**	P	**P**	**07 07 13.2**	**+0.7**
	comp=Z,1.3nm,0.3s,mb4.1,baz=190,slow=5.2,SNR=5.3						
ZAL	**Zalesovo**	**42.88**	**57**	P	**P**	**07 07 13.2**	**+0.7**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AAK	**Ala-Archa**	**43.49**	**77**	*e*P	**P**	**07 07 15.8**	**-1.8**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.4s,mb3.8						
AAK				MLR	MLR		
	comp=Z,100nm,17.0s,MS3.8						
AAK	**Ala-Archa**	**43.49**	**77**	*e*P	**P**	**07 07 15.8**	**-1.8**
	comp=Z,3.0nm,1.4s,mb3.8						
AAK				LR	LR		
	comp=Z,100nm,17.0s,MS3.8						
WMQ	**Urumqi**	**50.31**	**67**	*e*P	**P**	**07 08 13.0**	**+1.7**
WMQ				PP	PP	07 10 09.0	+1.2
WMQ				S	**S**	**07 15 24.0**	**+1.3**
WMQ				SS	SS	07 18 55.0	+1.6
WMQ				LR	LR		
	comp=N,220nm,20.0s						
BOD	**Bodaibo**	**53.72**	**40**	*e*P	**P**	**07 08 34.1**	**-2.5**
ZAK	**Zakamensk**	**54.12**	**52**	*e*P	**P**	**07 08 38.9**	**-0.8**
INK	**Inuvik**	**55.89**	**344**	*e*P	**P**	**07 08 55.0**	**+2.6**
	comp=N,14nm,1.5s,mb4.8						
YKA	**Yellowknife Ar**	**56.70**	**333**	P	**P**	**07 08 58.6**	**+0.4**
	comp=N,2.7nm,1.0s,mb4.2,baz=34,slow=6.7,SNR=2.9						
YKA	**Yellowknife Ar**	**56.70**	**333**	P	**P**	**07 08 58.6**	**+0.4**
YKA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SONM	**Songino Array**	**57.36**	**53**	P	**P**	**07 09 03.8**	**+0.6**
	comp=Z,1.3nm,1.0s,mb3.9,baz=270,slow=4.9,SNR=7.0						
DAWY	**Dawson**	**60.74**	**345**	*e*P	**P**	**07 09 28.1**	**+1.7**
ILAR	**Eielson Array**	**61.11**	**349**	P	**P**	**07 09 29.4**	**+0.6**
	comp=Z,1.5nm,1.2s,mb4.0,baz=24,slow=8.2,SNR=5.2						
ILAR	**Eielson Array**	**61.11**	**349**	P	**P**	**07 09 29.5**	**+0.7**
ILAR				pmax	pmax		
	comp=Z,2.0nm,1.2s						
LZH	**Lanzhou**	**64.57**	**63**	*e*P	**P**	**07 09 52.0**	**-0.1**
LZH				AP	pP	07 09 55.1	-0.1
LZH				PP	PP	07 12 15.1	-1.0
LZH				AMB	AMB		
	comp=Z,16nm,1.2s,mb4.9						
LZH				AMB	AMB		
	comp=Z,106nm,7.0s						
LRAL	**Lakeview Retre**	**67.92**	**296**	*e*P	**P**	**07 10 14.8**	**+1.2**
	comp=Z,5.6nm,0.7s,mb4.7						
CN2	**Changchun**	**69.04**	**44**	*e*P	**P**	**07 10 20.8**	**+0.5**
UALR	**University of**	**69.43**	**301**	*e*P	**P**	**07 10 24.8**	**+2.0**
	comp=Z,20nm,1.1s,mb5.0						
MIAR	**Mount Ida**	**70.24**	**301**	*e*P	**P**	**07 10 29.8**	**+2.0**
	comp=Z,30nm,1.1s,mb5.1						
PDAR	**Pinedale Array**	**71.10**	**317**	P	**P**	**07 10 33.7**	**+0.8**
	comp=Z,2.0nm,1.0s,mb4.0,baz=45,slow=6.3,SNR=11						
ISCO	**Idaho Springs**	**71.85**	**313**	*e*P	**P**	**07 10 40.6**	**+3.1**
	comp=Z,4.8nm,1.3s,mb4.3						
KMI	**Kunming**	**72.27**	**72**	*e*P	**P**	**07 10 41.5**	**+1.4**
KMI				XP	sP	07 10 46.4	+2.0
KMI				PP	PP	07 13 18.0	-4.6
KMI				S	S	07 20 03.5	+1.8
KMI				SS	SS	07 24 45.6	+4.1
KMI				AMB	AMB		
	comp=Z,7.0nm,0.5s,mb4.8						
KMI				LR	LR		
	comp=Z,66nm,17.0s,MS4.0						
WMOK	**Wichita Mounta**	**72.73**	**305**	*e*P	**P**	**07 10 44.8**	**+2.2**
	comp=Z,12nm,1.1s,mb4.7						
SDCO	**Great Sand Dun**	**73.48**	**311**	*e*P	**P**	**07 10 50.1**	**+3.1**
	comp=Z,6.7nm,1.1s,mb4.5						
PV01	**Paradox Valley**	**74.53**	**314**	*e*P	**P**	**07 10 56.2**	**+3.2**
SRU	**San Rafael**	**74.55**	**316**	*e*P	**P**	**07 10 55.4**	**+2.3**
DUG	**Dugway**	**74.59**	**318**	*e*P	**P**	**07 10 55.1**	**+1.8**
	comp=Z,2.8nm,0.9s,mb4.2						
CMAR	**Chiang Mai Arr**	**75.21**	**79**	P	**P**	**07 10 57.3**	**0.0**
	comp=Z,0.7nm,0.3s,mb4.1,baz=315,slow=7.7,SNR=6.5						
CMAR	**Chiang Mai Arr**	**75.21**	**79**	P	**P**	**07 10 57.3**	**0.0**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NJ2	**Nanjing**	**75.52**	**56**	*e*P	**P**	**07 10 57.9**	**-1.0**
SDV	**Santo Domingo**	**76.96**	**267**	*e*P	**P**	**07 11 10.0**	**+2.7**
	comp=Z,5.6nm,1.0s,mb4.5						
SSE	**Sheshan**	**77.45**	**55**	*e*P	**P**	**07 11 10.1**	**+0.4**
SSE				S	S	07 21 00.1	+1.0
SSE				XS		07 21 05.1	
SSE				SS	SS	07 25 58.8	-2.1
SSE				LR	LR		
	comp=N,405nm,20.5s,MS4.8						
SSE				LR	LR		
	comp=E,255nm,20.5s,MS4.8						
SSE				LR	LR		
	comp=Z,134nm,10.8s						
NVAR	**Mina Array Bea**	**78.27**	**321**	P	**P**	**07 11 17.8**	**+3.7**
	comp=Z,0.4nm,0.7s,mb3.5,baz=22,slow=4.9,SNR=3.2						
NVAR				LR	LR	07 46 53.0	
	comp=Z,44nm,19.8s,MS3.8,baz=40,slow=36						
TXAR	**Lajitas Array**	**79.52**	**305**	P	**P**	**07 11 22.6**	**+1.6**
	comp=Z,1.0nm,0.8s,mb3.8,baz=53,slow=5.3,SNR=11						
TUC	**Tucson**	**80.39**	**312**	*e*P	**P**	**07 11 29.4**	**+3.7**
	comp=Z,5.7nm,1.4s,mb4.3						
BDFB	**Brasilia**	**84.27**	**235**	P	**P**	**07 11 49.1**	**+3.2**
	comp=Z,2.5nm,0.9s,mb4.3,baz=56,slow=15,SNR=3.1						
BDFB	**Brasilia**	**84.27**	**235**	P	**P**	**07 11 49.1**	**+3.1**
BDFB				pmax	pmax		
	comp=Z,3.0nm,0.9s						
VNA1	**Neumayer--Stat**	**124.03**	**187**⇓	*i*PKPdf	PKPdf	07 18 10.2	-3.2
VNA1				*e*		07 20 01.1	
VNA2	**Neumayer--Watz**	**124.24**	**187**⇓	*i*PKPdf	PKPdf	07 18 13.6	-0.2
VNA2				*e*		07 20 04.7	
SNAA	**Sanae**	**124.70**	**185**⇑	*i*PKPdf	PKPdf	07 18 13.6	-0.9
SNAA				*e*		07 20 04.4	
VNA3	**Neumayer Olymp**	**124.72**	**187**⇓	*i*PKPdf	PKPdf	07 18 14.3	-0.2
VNA3				*e*		07 20 05.4	
WRA	**Warramunga Arr**	**126.56**	**74**	PKP	PKPdf	07 18 18.4	-0.9
	comp=Z,1.0nm,1.2s,baz=331,slow=2.0,SNR=3.6						
WRA	**Warramunga Arr**	**126.56**	**74**	PKIKP	PKPdf	07 18 18.4	-0.9
WRA				pmax	pmax		
	comp=Z,1.0nm,1.2s						
ASAR	**Alice Springs**	**129.19**	**77**	PKP	PKPdf	07 18 22.5	-1.9
	comp=Z,0.4nm,0.7s,baz=335,slow=1.4,SNR=5.7						

TAP 20 07:21:39.0, 21.56N×121.73E, h56km±1km, ML3.5, Taiwan region

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NIED ***20*** *07:35:00, 28.10N×128.00E, h5km, Mw4.2 Best double couple: M₀2.03×10¹⁵ NP1:φs30°, δ72°, λ157°. NP2:φs127°, δ68°, λ19°.*
IDC ***20*** *07:35:42.0±1.6, 28.07N×128.08E, mb3.8/4, mb1 4.0/5, mb1mx3.7/23, MS3.5/5, Ms1 3.6/5, ms1mx3.3/23, Error ellipse: s-maj=68.6km s-min=16.3km az=70.0*
JMA ***20*** *07:35:42.6±0.4, 28.13N×127.97E, h12km±5km, M3.7*
NEIC ***20*** *07:35:43.7±2.7, 28.03N×127.90E, h10km, mb4.3/1, Error ellipse: s-maj=161.0km s-min=11.2km az=66.0*
BJI ***20*** *07:35:44.7, 28.00N×127.90E, h10km, mb4.3*
ISC 20 07:35:43.5±1.3**, 28.11N**±0.05×**127.97E**±0.06**, h21**km±10km**, n19, σ0ˢ56**/19**, mb4.1**/9**, MS3.5**/5**, Northwest of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.93**	**110**	P	**Pb**	**07 36 00.1**	**-0.6**
JTK				S	**Sb**	**07 36 12.4**	**-0.1**
JIH	**Iheya**	**1.07**	**180**	P	**Pb**	**07 36 02.9**	**-0.2**
JIH				S	**Sb**	**07 36 17.5**	**+0.9**
JOW	**Kunigami**	**1.30**	**168**	Pn	**Pn**	**07 36 06.5**	**-0.2**
	224nm,0.3s,baz=356,slow=15,SNR=40						
JOW				Sn	**Sn**	**07 36 23.6**	**+0.1**
	113nm,0.3s,baz=133,slow=26,SNR=10						
JOW				LR	LR	07 36 26.8	
	comp=Z,1μm,21.1s,baz=50,slow=36						
JOW	**Kunigami**	**1.30**	**168**	P	**Pn**	**07 36 06.3**	**-0.3**
JAM	**Amami Oshima**	**1.47**	**78**	P	**Pn**	**07 36 09.1**	**0.0**
JAM				S	**Sn**	**07 36 28.6**	**+0.7**
BJI	**Beijing**	**15.38**	**324**	*e*P	**P**	**07 39 28.9**	**+7.9**
BJI				AMB	AMB		
	comp=Z,9.0nm,0.6s						
CD2	**Chengdu**	**21.25**	**283**	*e*P	**P**	**07 40 30.0**	**-0.5**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.2						
LZH	**Lanzhou**	**21.89**	**297**	*e*P	**P**	**07 40 43.0**	**+6.0**
LZH				AP		07 40 46.4	
LZH				XP		07 40 47.6	
LZH				AMB	AMB		
	comp=Z,27nm,1.4s,mb4.5						
SONM	**Songino Array**	**25.87**	**325**	P	**P**	**07 41 15.7**	**+0.3**
	comp=Z,2.0nm,1.0s,mb3.6,baz=140,slow=9.6,SNR=8.8						
GTA	**Gaotai**	**25.88**	**303**	*e*P	**P**	**07 41 16.5**	**+1.0**
GTA				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.3						
CMAR	**Chiang Mai Arr**	**28.28**	**256**	LR	LR	07 54 20.8	
	comp=Z,53nm,20.8s,MS3.1,baz=270,slow=39						
KURK	**Kurchatov**	**43.31**	**315**	P	**P**	**07 43 44.6**	**-0.8**
	comp=Z,7.1nm,1.3s,mb4.2						
FITZ	**Fitzroy Crossi**	**45.99**	**183**	P	**P**	**07 44 07.0**	**-0.3**
	comp=Z,2.2nm,0.9s,mb4.1,baz=6.3,slow=9.2,SNR=4.4						
WRA	**Warramunga Arr**	**48.16**	**172**	P	**P**	**07 44 23.5**	**-0.9**
	comp=Z,1.6nm,1.1s,mb4.0,baz=352,slow=8.1,SNR=7.7						
BVAR	**Borovoye Array**	**48.73**	**317**	P	**P**	**07 44 29.1**	**+0.7**
	comp=Z,1.2nm,0.8s,mb4.0,baz=111,slow=13,SNR=5.6						
CTA	**Charters Tower**	**51.07**	**158**	LR	LR	08 06 12.8	
	comp=Z,56nm,18.8s,MS3.6,baz=48,slow=36						
ASAR	**Alice Springs**	**51.79**	**173**	P	**P**	**07 44 52.2**	**+0.1**
	comp=Z,0.8nm,1.0s,mb3.6,baz=342,slow=5.7,SNR=6.1						
ASAR				LR	LR	08 06 40.6	
	comp=Z,23nm,21.0s,MS3.2,baz=138,slow=36						
FINES	**FINESS Array B**	**71.12**	**330**	LR	LR	08 21 51.7	
	comp=Z,79nm,18.0s,MS4.0,baz=160,slow=39						
NOA	**NORSAR Array B**	**77.54**	**334**	LR	LR	08 23 24.2	
	comp=Z,37nm,19.5s,MS3.7,baz=25,slow=37						

PDG ***20*** *07:50:32.0±0.8, 38.40N×15.64E, h100km±4km*
CSEM ***20*** *07:50:33.1±0.1, 38.40N×15.53E, h80km, ML2.8/7, Error ellipse: s-maj=1.9km s-min=1.4km az=110.0*
ROM ***20*** *07:50:33.1±0.4, 38.37N×15.54E, h94km±5km, MD3.1/7, ML2.8/7, Error ellipse: s-maj=2.7km s-min=2.4km az=0.0*
ISC 20 07:50:32.1±0.6**, 38.48N**±0.03×**15.58E**±0.06**, h102**km±6km**, n52, σ0ˢ85**/68**, 9C-15D, Sicily**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCLL	**Scilla**	**0.25**	**156**⇓	*i*P	**P**	**07 50 46.4**	**-0.4**
MSI	**Messina ING**	**0.28**	**185**⇓	*i*P	**P**	**07 50 46.2**	**-0.7**
	1μm,0.3s						
MSI	**Messina ING**	**0.28**	**185**⇓	*i*P	**P**	**07 50 46.2**	**-0.7**
	1μm,0.3s						
ATN	**Antennamare**	**0.34**	**196**⇓	*i*P	**P**	**07 50 46.6**	**-0.6**
GMB	**Gambarie**	**0.37**	**149**	*e*P	**P**	**07 50 47.3**	**-0.1**
MTTG	**Motta San Giov**	**0.49**	**170**⇓	*i*P	**P**	**07 50 48.3**	**+0.1**
MTTG				S	**S**	**07 50 58.4**	**-1.8**
	702nm,0.4s						
MTTG	**Motta San Giov**	**0.49**	**170**⇓	*i*P	**P**	**07 50 48.3**	**+0.1**
	702nm,0.4s						
MTTG				S	**S**	**07 50 58.4**	**-1.8**
SOI	**Samo**	**0.55**	**138**⇓	*i*P	**P**	**07 50 48.8**	**+0.2**
SLNA	**Salina**	**0.59**	**278**	*e*P	**P**	**07 50 49.3**	**+0.3**
GRI	**Girifalco**	**0.74**	**62**⇓	*i*P	**P**	**07 50 51.7**	**+1.5**
GRI				S	**S**	**07 51 04.9**	**+1.1**
MNO	**Monte Soro**	**0.89**	**232**	*e*P	**P**	**07 50 52.3**	**+0.5**
	1μm,0.4s						
MNO	**Monte Soro**	**0.89**	**232**	*e*P	**P**	**07 50 52.3**	**+0.5**
	1μm,0.4s						
AGST	**Augusta-Monte**	**1.26**	**193**⇓	*i*P	**P**	**07 50 54.4**	**-1.6**
AGST				S	**S**	**07 51 09.8**	**-4.1**
TDS	**Terranova Siba**	**1.31**	**26**	*e*P	**P**	**07 50 58.2**	**+1.6**
TDS				S	**S**	**07 51 15.9**	**+1.0**
	191nm,0.6s						
TDS	**Terranova Siba**	**1.31**	**26**	*e*P	**P**	**07 50 58.2**	**+1.6**
	191nm,0.6s						
TDS				S	**S**	**07 51 15.9**	**+1.0**
CSLB	**Castelbuono**	**1.32**	**246**⇑	*i*P	**P**	**07 50 56.1**	**-0.6**
GIB	**Gibilmanna**	**1.32**	**249**⇑	*i*P	**P**	**07 50 56.3**	**-0.4**
	56nm,0.2s						
GIB	**Gibilmanna**	**1.32**	**249**⇑	*i*P	**P**	**07 50 56.3**	**-0.4**
	56nm,0.2s						
MGR	**Morigerati**	**1.65**	**359**	*e*P	**P**	**07 51 02.8**	**+2.0**
	55nm,0.3s						
MGR	**Morigerati**	**1.65**	**359**	*e*P	**P**	**07 51 02.8**	**+2.0**
	55nm,0.3s						
USI	**Ustica**	**1.90**	**277**⇑	*i*P	**P**	**07 51 03.9**	**0.0**
	195nm,0.4s						
USI	**Ustica**	**1.90**	**277**⇑	*i*P	**P**	**07 51 03.9**	**0.0**
	195nm,0.4s						
SG1	**Sgolgore (BA)**	**2.50**	**19**	*e*Pn	**P**	**07 51 12.5**	**+0.5**
CDT	**Castel del Mon**	**2.65**	**11**	*e*Pn	**P**	**07 51 14.9**	**+0.8**
PE1	**Pezze di Greco**	**2.72**	**31**	*e*Pn	**P**	**07 51 15.0**	**0.0**
KEK	**Kerkira**	**3.50**	**68**	*e*P	**P**	**07 51 25.5**	**-0.2**
IGT	**Igoumenitsa**	**3.84**	**73**	*e*P	**P**	**07 51 29.9**	**-0.5**
VLS	**Valsamata**	**3.95**	**93**	*e*P	**P**	**07 51 32.6**	**+0.8**
LKD	**Levkas**	**3.98**	**85**	*e*P	**P**	**07 51 31.5**	**-0.7**
ULC	**Ulcinj**	**4.47**	**38**⇑	*i*Pn	**P**	**07 51 38.8**	**-0.1**
ULC				*e*Sn	**S**	**07 52 29.1**	**-1.0**
HCY	**Herceg Novi**	**4.54**	**28**⇓	*i*Pn	**P**	**07 51 39.0**	**-0.9**
HCY				*e*Sn	**S**	**07 52 30.7**	**-1.2**
BUM	**Brajici-Budva**	**4.58**	**33**⇑	*i*Pn	**P**	**07 51 40.8**	**+0.5**
BUM				*e*Sn	**S**	**07 52 31.6**	**-1.2**
MEV	**Metsovon**	**4.58**	**72**	*e*P	**P**	**07 51 40.5**	**+0.1**
TTG	**Podgorica**	**4.84**	**34**⇓	*i*Pn	**P**	**07 51 43.7**	**-0.2**
TTG				*e*Sn	**S**	**07 52 38.5**	**-0.7**
EVR	**Evrytania**	**4.89**	**83**	*e*P	**P**	**07 51 46.7**	**+2.0**
BRY	**Bratogost**	**4.95**	**26**⇑	*i*Pn	**P**	**07 51 45.6**	**+0.1**
BRY				*e*Sn	**S**	**07 52 40.9**	**-1.1**
FNA	**Florina**	**5.03**	**61**	*e*P	**P**	**07 51 47.3**	**+0.7**
NKY	**Niksic**	**5.04**	**30**⇓	*i*Pn	**P**	**07 51 46.7**	**0.0**
NKY				*e*Sn	**S**	**07 52 43.4**	**-0.9**
ITM	**Ithomi**	**5.19**	**103**	*e*P	**P**	**07 51 49.0**	**+0.3**
PVY	**Plav**	**5.29**	**38**⇓	*i*Pn	**P**	**07 51 51.4**	**+1.3**
PVY				*e*Sn	**S**	**07 52 50.4**	**0.0**
AGG	**Agios Georgios**	**5.30**	**82**	*e*P	**P**	**07 51 50.3**	**0.0**
UPM	**Unac-Piva**	**5.34**	**27**⇑	*i*Pn	**P**	**07 51 51.3**	**+0.4**
UPM				*e*Sn	**S**	**07 52 50.8**	**-0.9**
IVA	**Berane**	**5.47**	**35**⇓	*i*Pn	**P**	**07 51 53.8**	**+1.3**
IVA				*e*Sn	**S**	**07 52 54.3**	**-0.5**
LIT	**Litokhoron**	**5.59**	**71**	*e*P	**P**	**07 51 54.6**	**+0.4**
PLE	**Pljevlja**	**5.63**	**30**⇓	*i*Pn	**P**	**07 51 56.3**	**+1.5**
PLE				*e*Sn	**S**	**07 52 58.0**	**-0.8**
GRG	**Griva**	**5.81**	**63**	*e*P	**P**	**07 51 56.9**	**-0.1**
XOR	**Xorichti**	**6.00**	**79**	*e*P	**P**	**07 51 59.2**	**-0.5**
VLI	**Veliai**	**6.10**	**105**	*e*P	**P**	**07 52 02.1**	**+1.0**
KNT	**Kendrikon**	**6.23**	**62**	*e*P	**P**	**07 52 02.6**	**-0.4**
SOH	**Sokhos**	**6.43**	**66**	*e*P	**P**	**07 52 05.9**	**+0.1**
PAIG	**Paliouri**	**6.45**	**75**	*e*P	**P**	**07 52 05.2**	**-0.8**
OUR	**Ouranopolis**	**6.76**	**72**	*e*P	**P**	**07 52 09.5**	**-0.8**

IDC ***20*** *07:58:51.6±0.9, 37.01S×176.13E, h304km±19km, mb3.4/2, mb1 3.6/3, mb1mx3.2/12, Error ellipse: s-maj=43.7km s-min=24.8km az=140.0*
WEL ***20*** *07:58:51.9±0.3, 37.07S×176.88E, h312km±2km, ML4.4/6, Error ellipse: s-maj=4.0km s-min=3.3km az=0.0*
NEIC ***20*** *07:58:52.3, 37.09S×176.87E, h310km, After WEL.*

ISC 20 07:58:49.8±0.7**, 37.16S**±0.07×**176.7E**±0.1**, h336**^{km}±8^{km}**, n86, σ0^{s}74**/109**, mb3.5**/2**, 18C-1D, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYRZ	**Mayor Island**	**0.38**	**251**	PN	**P**	**07 59 32.1**	**-0.5**
MARZ	**Manawahe**	**0.83**	**181**	PN	**P**	**07 59 33.4**	**-0.2**
LIRZ	**Lichensteins R**	**0.88**	**196**	*e*PN	**P**	**07 59 33.4**	**-0.5**
EDRZ	**Edgecumbe**	**0.95**	**178**	*e*PN	**P**	**07 59 34.0**	**-0.1**
TAZ	**Tarawera**	**1.08**	**187**	P	**P**	**07 59 35.3**	**+0.6**
TAZ	**Tarawera**	**1.08**	**187**	PN	**P**	**07 59 35.3**	**+0.6**
URZ	**Urewera**	**1.15**	**163**	P	**P**	**07 59 34.3**	**-0.7**
	49nm,0.3s,baz=279,slow=2.7,SNR=532						
URZ				S	**S**	**08 00 09.6**	**-0.8**
	22nm,0.3s,baz=200,slow=22,SNR=16						
URZ	**Urewera**	**1.15**	**163**	⇑P	**P**	**07 59 34.3**	**-0.7**
URZ	**Urewera**	**1.15**	**163**	⇑PN	**P**	**07 59 34.3**	**-0.7**
URZ				SN	**S**	**08 00 07.6**	**-2.8**
PATZ	**Paeroa**	**1.27**	**195**	P	**P**	**07 59 36.3**	**+0.7**
PATZ	**Paeroa**	**1.27**	**195**	PN	**P**	**07 59 36.3**	**+0.7**
MWZ	**Matawai**	**1.35**	**151**	⇑P	**P**	**07 59 35.7**	**-0.4**
MWZ	**Matawai**	**1.35**	**151**	⇑PN	**P**	**07 59 35.6**	**-0.4**
MWZ				SN	**S**	**08 00 10.0**	**-2.3**
MXZ	**Matakaoa Point**	**1.35**	**108**	⇑P	**P**	**07 59 34.8**	**-1.3**
MXZ				S	**S**	**08 00 08.3**	**-4.0**
MXZ	**Matakaoa Point**	**1.35**	**108**	⇑PN	**P**	**07 59 34.8**	**-1.3**
MXZ				SN	**S**	**08 00 08.3**	**-4.0**
PUZ	**Puketiti**	**1.54**	**127**	P	**P**	**07 59 36.3**	**-0.9**
PUZ	**Puketiti**	**1.54**	**127**	PN	**P**	**07 59 36.3**	**-0.9**
BKZ	**Black Stump Fm**	**2.01**	**184**	P	**P**	**07 59 40.5**	**+0.2**
BKZ				S	**S**	**08 00 19.0**	**-0.7**
BKZ	**Black Stump Fm**	**2.01**	**184**	⇑PN	**P**	**07 59 40.5**	**+0.2**
BKZ				SN	**S**	**08 00 19.0**	**-0.7**
KNZ	**Kokohu**	**2.02**	**158**	⇑P	**P**	**07 59 40.4**	**+0.1**
KNZ	**Kokohu**	**2.02**	**158**	⇑PN	**P**	**07 59 40.4**	**+0.1**
KNZ				SN	**S**	**08 00 18.7**	**-1.1**
MGZ	**Maungaku**	**2.05**	**206**	P	**P**	**07 59 41.6**	**+1.0**
MGZ	**Maungaku**	**2.05**	**206**	⇑PN	**P**	**07 59 41.6**	**+1.1**
KAVZ	**Karewarewa**	**2.10**	**203**	PN	**P**	**07 59 41.5**	**+0.5**
WTVZ	**West Tongariro**	**2.14**	**204**	P	**P**	**07 59 41.8**	**+0.6**
WTVZ	**West Tongariro**	**2.14**	**204**	⇑PN	**P**	**07 59 41.9**	**+0.7**
TWVZ	**Taurewa**	**2.15**	**207**	⇑P	**P**	**07 59 42.3**	**+1.0**
TWVZ	**Taurewa**	**2.15**	**207**	⇑PN	**P**	**07 59 42.3**	**+0.9**
NGZ	**Ngauruhoe**	**2.19**	**203**	P	**P**	**07 59 42.7**	**+1.1**
NGZ	**Ngauruhoe**	**2.19**	**203**	PN	**P**	**07 59 42.7**	**+1.0**
CNZ	**Chateau**	**2.23**	**203**	PN	**P**	**07 59 42.8**	**+0.9**
WPVZ	**Whakapapa**	**2.23**	**203**	P	**P**	**07 59 42.7**	**+0.7**
WPVZ	**Whakapapa**	**2.23**	**203**	PN	**P**	**07 59 42.6**	**+0.6**
TUVZ	**Tukino**	**2.26**	**201**	P	**P**	**07 59 43.1**	**+0.9**
TUVZ	**Tukino**	**2.26**	**201**	⇓PN	**P**	**07 59 43.1**	**+0.9**
TUVZ				⇑PN	**P**	**07 59 43.1**	**+0.9**
DRZ	**Dome Shelter**	**2.29**	**202**	P	**P**	**07 59 44.8**	**+2.3**
DRZ	**Dome Shelter**	**2.29**	**202**	PN	**P**	**07 59 44.4**	**+2.0**
WNVZ	**Wahianoa**	**2.33**	**201**	⇑PN	**P**	**07 59 43.6**	**+0.8**
MOVZ	**Moawhango**	**2.36**	**198**	P	**P**	**07 59 43.3**	**+0.3**
MOVZ	**Moawhango**	**2.36**	**198**	PN	**P**	**07 59 43.3**	**+0.2**
PWZ	**Pawanui**	**2.87**	**177**	P	**P**	**07 59 47.8**	**+0.4**
PWZ	**Pawanui**	**2.87**	**177**	PN	**P**	**07 59 47.8**	**+0.5**
PWZ				SN	**S**	**08 00 33.9**	**+1.5**
WAZ	**Wanganui**	**2.92**	**207**	P	**P**	**07 59 48.5**	**+0.7**
WAZ	**Wanganui**	**2.92**	**207**	PN	**P**	**07 59 48.5**	**+0.8**
TSZ	**Takapari Road**	**2.95**	**191**	P	**P**	**07 59 48.4**	**+0.3**
TSZ	**Takapari Road**	**2.95**	**191**	⇑PN	**P**	**07 59 48.4**	**+0.3**
BFZ	**Birch Farm**	**3.53**	**185**	*e*P	**P**	**07 59 54.1**	**+0.4**
BFZ	**Birch Farm**	**3.53**	**185**	PN	**P**	**07 59 54.1**	**+0.4**
BFZ				SN	**S**	**08 00 44.6**	**+0.8**
MRZ	**Mangatainoka R**	**3.60**	**194**	⇑P	**P**	**07 59 54.5**	**+0.1**
MRZ	**Mangatainoka R**	**3.60**	**194**	⇑PN	**P**	**07 59 54.4**	**0.0**
MRZ				SN	**S**	**08 00 45.2**	**+0.1**
KIW	**Kapiti Island**	**3.95**	**200**	P	**P**	**07 59 58.0**	**+0.1**
KIW	**Kapiti Island**	**3.95**	**200**	PN	**P**	**07 59 58.0**	**+0.1**
MTW	**Mount Morrison**	**4.10**	**193**	P	**P**	**07 59 59.3**	**-0.2**
MTW	**Mount Morrison**	**4.10**	**193**	PN	**P**	**07 59 59.3**	**-0.2**
CAW	**Cannon Point**	**4.14**	**197**	P	**P**	**08 00 00.0**	**+0.1**
CAW	**Cannon Point**	**4.14**	**197**	PN	**P**	**07 59 60.0**	**0.0**
CAW				SN	**S**	**08 00 54.6**	**-0.3**
PAWZ	**Paruwai Farm**	**4.33**	**193**	SN	**S**	**08 00 58.8**	**+0.2**
MRW	**Makara Radio**	**4.35**	**200**	P	**P**	**08 00 02.5**	**+0.3**
MRW	**Makara Radio**	**4.35**	**200**	PN	**P**	**08 00 02.5**	**+0.3**
MRW				SN	**S**	**08 00 59.0**	**0.0**
WEL	**Wellington**	**4.38**	**199**	P	**P**	**08 00 03.0**	**+0.5**
WEL	**Wellington**	**4.38**	**199**	PN	**P**	**08 00 03.0**	**+0.4**
MSWZ	**Moikau Station**	**4.39**	**194**	P	**P**	**08 00 02.5**	**-0.2**
MSWZ	**Moikau Station**	**4.39**	**194**	PN	**P**	**08 00 02.5**	**-0.1**
MSWZ				SN	**S**	**08 00 60.0**	**+0.1**
BHW	**Baring Head**	**4.47**	**198**	P	**P**	**08 00 03.6**	**+0.1**
BHW	**Baring Head**	**4.47**	**198**	*e*PN	**P**	**08 00 03.6**	**+0.1**
TUWZ	**Tuamarina**	**4.77**	**206**	PN	**P**	**08 00 06.7**	**-0.1**
TUWZ				SN	**S**	**08 01 06.5**	**-0.6**
NNZ	**Nelson**	**4.80**	**211**	P	**P**	**08 00 06.8**	**-0.3**
NNZ	**Nelson**	**4.80**	**211**	PN	**P**	**08 00 06.8**	**-0.3**
NNZ				SN	**S**	**08 01 07.4**	**-0.4**
QRZ	**Quartz Range**	**4.89**	**220**	P	**P**	**08 00 07.3**	**-0.8**
QRZ	**Quartz Range**	**4.89**	**220**	PN	**P**	**08 00 07.3**	**-0.7**
BSWZ	**Blackbirch Sta**	**5.04**	**205**	PN	**P**	**08 00 10.5**	**+0.7**
BSWZ				SN	**S**	**08 01 13.1**	**+0.5**
THZ	**Tophouse**	**5.45**	**211**	*e*P	**P**	**08 00 13.9**	**-0.5**
THZ	**Tophouse**	**5.45**	**211**	PN	**P**	**08 00 13.9**	**-0.6**
THZ				SN	**S**	**08 01 20.6**	**-0.3**
KHZ	**Kahutara**	**5.78**	**204**	P	**P**	**08 00 18.3**	**0.0**
KHZ	**Kahutara**	**5.78**	**204**	PN	**P**	**08 00 18.2**	**0.0**
KHZ				SN	**S**	**08 01 27.7**	**-0.1**
DSZ	**Denniston Nort**	**5.94**	**218**	*e*PN	**P**	**08 00 20.1**	**0.0**
DSZ				SN	**S**	**08 01 29.6**	**-1.4**
LTZ	**Lake Taylor**	**6.56**	**210**	*e*P	**P**	**08 00 27.4**	**0.0**
LTZ	**Lake Taylor**	**6.56**	**210**	PN	**P**	**08 00 27.4**	**-0.1**
LTZ				SN	**S**	**08 01 43.7**	**-0.3**
MQZ	**McQueen's Vall**	**7.23**	**204**	*e*PN	**P**	**08 00 35.8**	**+0.5**
MQZ				SN	**S**	**08 01 57.6**	**-0.6**
RPZ	**Rata Peaks**	**7.83**	**211**	P	**P**	**08 00 43.0**	**+0.5**
	0.3nm,0.3s,baz=43,slow=17,SNR=2.4						
RPZ				S	**S**	**08 02 09.4**	**-1.8**
	1.6nm,0.3s,baz=336,slow=20,SNR=10						
RPZ	**Rata Peaks**	**7.83**	**211**	P	**P**	**08 00 43.0**	**+0.5**
RPZ				S	**S**	**08 02 09.4**	**-1.8**
ASAR	**Alice Springs**	**38.95**	**278**	P	**P**	**08 05 45.5**	**-0.1**
	1.9nm,0.5s,mb3.5,baz=120,slow=8.0,SNR=35						
WB2	**Warramunga Arr**	**40.58**	**283**	*e*P	**P**	**08 05 58.1**	**-0.9**
WRA	**Warramunga Arr**	**40.59**	**283**	P	**P**	**08 05 58.4**	**-0.7**
	1.0nm,0.4s,mb3.4,baz=121,slow=7.8,SNR=35						
ARCES	**ARCESS Array B**	**144.02**	**343**	PKhKP		08 17 41.5	
	9.7nm,1.3s,baz=56,slow=3.3,SNR=5.0						
FINES	**FINESS Array B**	**149.53**	**332**	PKPbc	PKPdf	08 18 02.7	+9.2
	5.1nm,1.1s,baz=100,slow=35,SNR=4.6						

IDC 20 08:10:48.7±4.3**, 6.36S**×**105.38E, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.6**/14**, MS3.3**/2**, Ms1 3.3**/2**, ms1mx2.8**/21**, Error ellipse: s-maj=160.0km s-min=69.3km az=48.0, Sunda Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.95**	**122**	LR	LR	08 23 41.0	
	comp=Z,27nm,18.8s,baz=315,slow=34						
WRA	**Warramunga Arr**	**31.19**	**118**	P	P	08 17 09.7	-2.3
	1.0nm,0.8s,baz=290,slow=10,SNR=8.0						
ASAR	**Alice Springs**	**32.37**	**125**	P	P	08 17 20.4	-1.9
	0.4nm,0.9s,baz=296,slow=7.6,SNR=3.2						
STKA	**Stephens Creek**	**42.26**	**132**	P	P	08 18 44.0	-1.7
	4.4nm,0.9s,baz=307,slow=10,SNR=5.9						
STKA				LR	LR	08 36 03.5	
	comp=Z,88nm,19.4s,baz=24,slow=36						
TXAR	**Lajitas Array**	**144.33**	**47**	PKP	PKPdf	08 30 27.1	-2.2
	0.3nm,0.5s,baz=270,slow=2.7,SNR=8.1						

*ATH **20** 08:14:04.7, 39.70N×20.58E, h18^{km}, MD2.9/3*
*THE **20** 08:14:05.6, 39.57N×20.62E, h10^{km}, ML2.6*
*CSEM **20** 08:14:05.4±0.2, 39.59N×20.59E, h2^{km}, ML2.6, Error ellipse: s-maj=6.1km s-min=3.6km az=161.0*
ISC 20 08:14:04.7±0.7**, 39.63N**±0.05×**20.54E**±0.05**, h15**^{km}±6^{km}**, n10, σ1^{s}07**/16**, 1D, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.19**	**238**	*e*Pg	**Pg**	**08 14 09.6**	**+0.3**
IGT				*e*Sg	**Sg**	**08 14 14.0**	**+1.6**
IGT	**Igoumenitsa**	**0.19**	**238**	*e*Sg	**Sg**	**08 14 14.0**	**+1.6**
JAN	**Janina**	**0.24**	**84**	⇓*e*PB	**Pb**	**08 14 09.2**	**-1.0**
JAN				*e*SB	**Sb**	**08 14 13.5**	**-0.4**
MEV	**Metsovon**	**0.55**	**74**	*e*Pg	**Pg**	**08 14 15.0**	**-1.0**
	comp=Z,8.0nm,0.1s						
MEV				*e*Sg	**Sg**	**08 14 23.6**	**+0.1**
KEK	**Kerkira**	**0.58**	**278**	*e*PN	**Pn**	**08 14 16.7**	**-1.4**
LKD	**Levkas**	**0.93**	**175**	*e*Pg	**Pg**	**08 14 21.4**	**-2.0**
	comp=Z,5.0nm,0.1s						
LKD				*e*Sg	**Sg**	**08 14 35.1**	**-0.7**
EVR	**Evrytania**	**1.22**	**126**	*e*PN	**Pn**	**08 14 28.1**	**+0.9**
AGG	**Agios Georgios**	**1.52**	**113**	*e*Pb	**Pb**	**08 14 32.0**	**0.0**
AGG				*e*Sb	**Sb**	**08 14 52.5**	**+1.6**
XOR	**Xorichti**	**2.07**	**97**	*e*Pn	**Pn**	**08 14 40.1**	**+0.7**
KNT	**Kendrikon**	**2.36**	**49**	*e*Pn	**Pn**	**08 14 45.2**	**+1.7**
KNT				*e*Sn	**Sn**	**08 15 11.9**	**-0.6**

*NIED **20** 08:15:00, 40.70N×142.70E, h38^{km}, Mw4.1 Best double couple: $M_0$1.81×10^{15} NP1:ϕ_s27°, δ71°, λ96°. NP2:ϕ_s189°, δ20°, λ73°.*
*MOS **20** 08:15:19.9±1.2, 40.66N×142.70E, h33^{km}, mb4.4/8, Error ellipse: s-maj=19.3km s-min=10.2km az=94.9*
*NEIC **20** 08:15:22.8±2.4, 40.90N×142.63E, h29^{km}±18^{km}, mb4.2/5, Error ellipse: s-maj=12.1km s-min=7.8km az=129.0*
NEIC Recorded [1 JMA] in Aomori and Iwate Prefectures.
*JMA **20** 08:15:22.2±0.2, 40.70N×142.65E, h27^{km}±4^{km}, M4.3*
JMA Felt I J1.
*IDC **20** 08:15:24.6±2.9, 40.71N×142.53E, h46^{km}±26^{km}, mb3.6/11, mb1 3.9/13, mb1mx3.8/23, ML4.1/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/28, Error ellipse: s-maj=24.0km s-min=17.9km az=93.0*
ISC 20 08:15:23.3±0.6**, 40.72N**±0.03×**142.59E**±0.06**, h55**^{km}±5^{km}**, n51, σ0^{s}89**/67**, mb4.0**/16**, 7D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JANG	**Nango**	**0.89**	**247**	⇓P	**P**	**08 15 39.3**	**-0.5**
JANG				*e*S	**S**	**08 15 50.8**	**-1.3**
JTH	**Tanohata**	**0.96**	**215**	⇓P	**P**	**08 15 39.7**	**-1.0**
JTH				*e*S	**S**	**08 15 52.0**	**-1.7**
JTM	**Tenmabayashi**	**1.16**	**274**	⇓P	**P**	**08 15 43.5**	**0.0**
JTM				*e*S	**S**	**08 15 59.6**	**+1.1**
JOT	**Ohata**	**1.34**	**300**	⇓P	**P**	**08 15 45.7**	**-0.5**
JOT				*e*S	**S**	**08 16 02.2**	**-0.9**
JEM	**Erimo**	**1.36**	**18**	P	**P**	**08 15 46.3**	**-0.2**
JEM				*e*S	**S**	**08 16 04.2**	**+0.5**
JNBK	**Urakawa-nobuka**	**1.56**	**5**	P	**P**	**08 15 49.6**	**+0.3**
JAH	**Hinai**	**1.58**	**251**	⇓P	**P**	**08 15 50.3**	**+0.8**
JAH				*e*S	**S**	**08 16 10.5**	**+1.6**
JOM	**Ohasama**	**1.59**	**219**	P	**P**	**08 15 49.8**	**+0.1**
JOM				*e*S	**S**	**08 16 09.8**	**+0.6**
JKB	**Kayabe**	**1.65**	**315**	⇓P	**P**	**08 15 50.2**	**-0.3**
JKB				*e*S	**S**	**08 16 10.1**	**-0.5**
JSR	**Shiriuchi**	**1.83**	**297**	⇓P	**P**	**08 15 53.4**	**+0.5**
JSR				*e*S	**S**	**08 16 16.3**	**+1.4**
ASAJ	**Asahikawa**	**3.39**	**0**	P	**P**	**08 16 15.1**	**0.0**
	12nm,0.3s,baz=258,slow=12,SNR=17						
ASAJ				S	**S**	**08 16 54.6**	**+0.2**
	8.2nm,0.3s,baz=32,slow=23,SNR=4.6						
ASAJ				LR	LR	08 18 23.6	
	comp=Z,208nm,18.2s,baz=173,slow=53						
ASAJ	**Asahikawa**	**3.39**	**0**	P	**P**	**08 16 15.1**	**0.0**
ASAJ				S	**S**	**08 16 54.6**	**+0.2**
ASAJ				pmax	pmax		
	comp=Z,12nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,208nm,18.2s						
YUK	**Yuzh-Kuril'sk**	**4.11**	**35**	P	**P**	**08 16 20.4**	**-4.7**
YUK				*e*S	**S**	**08 17 03.0**	**-9.3**
YUK				smax			
	comp=N,380nm,0.5s						
YUK				smax			
	comp=E,280nm,0.5s						
MAJO	**Matsushiro**	**5.40**	**221**	*e*P	**P**	**08 16 45.1**	**+1.9**
	comp=E,17nm,0.6s						
MAT	**Matsushiro**	**5.40**	**221**	P	**P**	**08 16 44.1**	**+0.9**
MAT				*e*S	**S**	**08 17 44.5**	**-0.3**
MAT	**Matsushiro**	**5.40**	**221**	P	**P**	**08 16 44.0**	**+0.8**
	comp=E,6.8nm,0.7s						
MAT				S	**S**	**08 17 52.0**	**+7.2**
KUR	**Kuril'sk**	**5.94**	**39**	*e*P	**P**	**08 16 46.0**	**-4.7**
KUR				*e*S	**S**	**08 17 51.0**	**-7.4**
KUR				pmax	pmax		
	comp=Z,70nm,0.7s						
KUR				smax			
	comp=N,80nm,0.5s						
KUR				smax			
	comp=E,30nm,0.5s						
KUR	**Kuril'sk**	**5.94**	**39**	*e*P	**P**	**08 16 46.0**	**-4.7**
	comp=E,70nm,0.7s						
KUR				*e*S	**S**	**08 17 51.0**	**-7.4**
HIA	**Hailar**	**18.22**	**306**	*e*P	**P**	**08 19 31.1**	**-2.6**
	comp=E,4.9nm,0.7s						
BOD	**Bodaibo**	**25.02**	**323**	*e*P	**P**	**08 20 41.8**	**-1.5**
SONM	**Songino Array**	**26.68**	**298**	P	**P**	**08 20 59.4**	**+0.6**
	comp=E,1.1nm,0.5s,mb3.7,baz=90,slow=9.1,SNR=11						
MKAR	**Makanchi Array**	**43.03**	**299**	*e*P	**P**	**08 23 19.3**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,163nm,0.4s						
KURK	**Kurchatov**	**44.46**	**305**	*i* P	**P**	**08 23 30.1**	**-0.3**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
ILAR	**Eielson Array**	**45.91**	**34**	P	**P**	**08 23 42.8**	**+1.0**
	comp=Z,0.6nm,0.8s,mb3.6,baz=269,slow=5.7,SNR=6.8						
ILAR	**Eielson Array**	**45.91**	**34**	P	**P**	**08 23 42.8**	**+1.0**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
VOSK	**Vostochnaya**	**48.57**	**310**	P	**P**	**08 24 02.9**	**+0.2**
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
VOSK	**Vostochnaya**	**48.57**	**310**	P	**P**	**08 24 02.9**	**+0.2**
	comp=Z,2.0nm,0.8s,mb4.2						
BVA0	**Borovoye Array**	**48.83**	**310**	*i* P	**P**	**08 24 04.9**	**+0.2**
BVAR	**Borovoye Array**	**48.83**	**310**	P	**P**	**08 24 05.1**	**+0.4**
	comp=Z,4.4nm,0.7s,mb4.6,baz=80,slow=9.0,SNR=15						
BRVK	**Borovoye**	**48.88**	**310**	*e*P	**P**	**08 24 04.2**	**-0.9**
	comp=Z,3.2nm,0.7s,mb4.5						
ZRNK	**Zerenda**	**49.66**	**310**	P	**P**	**08 24 11.5**	**+0.4**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
INK	**Inuvik**	**50.70**	**29**	P	**P**	**08 24 19.7**	**+0.8**
	comp=Z,1.2nm,0.7s,mb3.9,baz=341,slow=12,SNR=11						
INK	**Inuvik**	**50.70**	**29**	P	**P**	**08 24 19.7**	**+0.8**
INK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
INK	**Inuvik**	**50.70**	**29**	*e*P	**P**	**08 24 19.5**	**+0.7**
	comp=Z,2.2nm,0.7s,mb4.2						
ARU	**Arti**	**54.25**	**317**	*e*P	**P**	**08 24 44.8**	**-0.6**
WRA	**Warramunga Arr**	**60.84**	**189**	P	**P**	**08 25 31.3**	**-1.0**
	comp=Z,0.5nm,0.8s,mb3.7,baz=4.7,slow=5.7,SNR=10.0						
WRA	**Warramunga Arr**	**60.84**	**189**	P	**P**	**08 25 31.3**	**-1.0**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARCES	**ARCESS Array B**	**60.88**	**339**	P	**P**	**08 25 31.4**	**-0.6**
	comp=Z,3.3nm,0.9s,mb4.5,baz=58,slow=11,SNR=4.9						
ARCES	**ARCESS Array B**	**60.88**	**339**	P	**P**	**08 25 31.4**	**-0.6**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
JOF	**Joensuu**	**63.16**	**331**	*e*p	**P**	**08 25 45.6**	**-1.7**
ASAR	**Alice Springs**	**64.56**	**189**	P	**P**	**08 25 57.3**	**+0.3**
	comp=Z,0.5nm,0.7s,mb3.6,baz=5.0,slow=7.1,SNR=5.8						
KAF	**Kangasniemi**	**65.46**	**332**	*e*p	**P**	**08 26 01.1**	**-1.0**
FINES	**FINESS Array B**	**65.99**	**332**	P	**P**	**08 26 05.4**	**-0.1**
	comp=Z,2.2nm,0.4s,mb4.5,baz=46,slow=8.0,SNR=18						
FINES	**FINESS Array B**	**65.99**	**332**	P	**P**	**08 26 05.4**	**-0.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
NB2	**NORSAR Subarra**	**71.14**	**337**	P	**P**	**08 26 37.1**	**-0.3**
	comp=Z,1.2nm,0.8s,mb3.9,baz=37,slow=5.8						
NOA	**NORSAR Array B**	**71.14**	**337**	P	**P**	**08 26 37.5**	**+0.2**
	comp=Z,2.5nm,0.9s,mb4.1,baz=38,slow=5.9,SNR=5.6						
NOA	**NORSAR Array B**	**71.14**	**337**	P	**P**	**08 26 37.6**	**+0.2**
NOA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
AKASG	**Malin Array Be**	**71.95**	**322**	P	**P**	**08 26 42.6**	**+0.3**
	comp=Z,0.4nm,0.3s,mb3.8,baz=40,slow=5.9,SNR=5.7						
PDAR	**Pinedale Array**	**74.45**	**47**	P	**P**	**08 26 58.0**	**+0.9**
	comp=Z,0.3nm,0.6s,mb3.4,baz=288,slow=4.7,SNR=3.5						
BRTR	**Keskin Array B**	**77.09**	**312**	P	**P**	**08 27 13.3**	**+1.1**
	comp=Z,1.2nm,0.9s,mb3.8,baz=53,slow=6.2,SNR=4.0						
BRTR	**Keskin Array B**	**77.09**	**312**	P	**P**	**08 27 13.4**	**+1.2**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						

*IDC **20** 08:55:15.1±10.0, 17.00S×179.05W, h491^{km}±133^{km}, mb3.4/9, mb1 3.7/9, mb1mx3.5/16, Error ellipse: s-maj=81.7km s-min=29.0km az=162.0*
*NEIC **20** 08:55:20.1±5.3, 17.38S×178.98W, h559^{km}±66^{km}, mb4.1/8, Error ellipse: s-maj=39.3km s-min=19.8km az=164.0*
ISC 20 08:55:22.2±0.8**, 17.4S**±0.3×**179.1W**±0.2**, h600**^{km}**, n20, σ0^{s}45**/19**, mb3.9**/15**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTAO	**Charters Tower**	**32.87**	**260**	*e*P	**P**	**09 01 10.4**	**+0.7**
	4.8nm,0.8s,mb4.2						
CNB	**Canberra Magne**	**33.22**	**231**	*e*P	**P**	**09 01 12.1**	**-0.3**
	47nm,1.9s,mb4.8						
TOO	**Toolangi**	**36.98**	**230**	*e*P	**P**	**09 01 43.1**	**-0.4**
	2.7nm,0.5s,mb4.0						
STKA	**Stephens Creek**	**38.29**	**240**	*e*P	**P**	**09 01 54.5**	**+0.2**
	3.3nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**38.29**	**240**	P	**P**	**09 01 54.5**	**+0.2**
	3.9nm,0.5s,mb4.2,baz=89,slow=9.6,SNR=29						
WB2	**Warramunga Arr**	**44.05**	**259**	*e*P	**P**	**09 02 39.7**	**-0.4**
WRAB	**Tennant Creek**	**44.05**	**259**	*e*P	**P**	**09 02 40.1**	**0.0**
	3.6nm,0.6s,mb4.1						
WRA	**Warramunga Arr**	**44.06**	**259**	P	**P**	**09 02 39.7**	**-0.5**
	2.3nm,0.6s,mb3.9,baz=97,slow=7.0,SNR=84						
ASAR	**Alice Springs**	**44.28**	**254**	P	**P**	**09 02 42.1**	**+0.2**
	23nm,0.5s,mb4.9,baz=89,slow=8.2,SNR=358						
ASPA	**Alice Springs**	**44.29**	**254**	*e*P	**P**	**09 02 42.0**	**+0.1**
KAKA	**Kakadu**	**46.96**	**269**	*e*P	**P**	**09 03 08.2**	**+5.8**
	4.3nm,0.3s,mb4.5						
FITZ	**Fitzroy Crossi**	**52.45**	**260**	*e*P	**P**	**09 03 43.3**	**+0.8**
	1.6nm,0.9s,mb3.4						
FITZ	**Fitzroy Crossi**	**52.45**	**260**	P	**P**	**09 03 43.0**	**+0.4**
	1.0nm,0.3s,mb3.6,baz=163,slow=5.2,SNR=9.5						
MBWA	**Marble Bar**	**57.55**	**256**	*e*P	**P**	**09 04 17.9**	**0.0**
	2.0nm,0.4s,mb3.6						
YBH	**Yreka Blue Hor**	**78.55**	**40**	P	**P**	**09 06 24.2**	**+0.3**
	1.8nm,0.6s,mb3.6,baz=218,slow=8.6,SNR=3.6						
NVAR	**Mina Array Bea**	**79.52**	**44**	P	**P**	**09 06 29.4**	**+0.4**
	1.1nm,0.7s,mb3.3,baz=225,slow=10,SNR=7.3						
ILAR	**Eielson Array**	**85.53**	**13**	P	**P**	**09 06 57.5**	**-1.0**
	0.4nm,0.4s,mb3.4,baz=224,slow=5.2,SNR=12						
TXAR	**Lajitas Array**	**86.29**	**58**	P	**P**	**09 07 03.4**	**+0.4**
	1.1nm,0.9s,mb3.5,baz=216,slow=5.3,SNR=12						
PDAR	**Pinedale Array**	**87.44**	**44**	P	**P**	**09 07 07.8**	**-0.3**
	0.5nm,0.6s,mb3.4,baz=200,slow=3.1,SNR=5.8						
GERES	**GERESS Array B**	**146.93**	**344**	PKPbc	PKPbc	09 14 00.7	+3.5
	0.2nm,0.3s,baz=27,slow=3.0,SNR=5.1						

*MOS **20** 09:27:12.4±1.7, 48.48N×155.03E, h37^{km}, mb4.3/7, Error ellipse: s-maj=17.7km s-min=11.2km az=66.5*
*BJI **20** 09:27:13.4, 48.30N×155.00E, h30^{km}, mb4.4*
*NEIC **20** 09:27:13.5±2.5, 48.34N×155.01E, h30^{km}±17^{km}, mb4.1/7, Error ellipse: s-maj=9.4km s-min=5.7km az=141.0*
*IDC **20** 09:27:16.2±3.3, 48.32N×155.07E, h54^{km}±30^{km}, mb3.8/14, mb1 4.1/17, mb1mx3.9/27, ML3.8/2, MS3.5/4, Ms1 3.5/4, ms1mx3.2/27, Error ellipse: s-maj=20.4km s-min=12.7km az=141.0*
ISC 20 09:27:10.3±2.6**, 48.40N**±0.07×**155.04E**±0.10**, h21**^{km}±19^{km}**, n47, σ0^{s}95**/48**, mb4.0**/19**, MS3.7**/3**, 3C-1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.39**	**17**	*e*PN	**Pn**	**09 27 47.4**	**-1.7**
SKR				*i* S	**Sn**	**09 28 13.5**	**-4.6**
SKR				pmax	pmax		
	comp=N,50nm,0.5s						
SKR				pmax	pmax		
	comp=E,30nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,1μm,2.0s						
SKR				smax			
	comp=E,1μm,2.0s						
SKR				smax			
	comp=Z,1μm,2.0s						
SKR				smax			
	comp=N,550nm,0.6s						
SKR				smax			
	comp=E,650nm,0.6s						
SKR				smax			
	comp=Z,360nm,0.6s						
SKR				MLR	MLR		
	comp=Z,2μm,14.0s						
PET	**Petropavlovsk**	**5.17**	**25**	*e*PN	**Pn**	**09 28 29.2**	**+0.7**
PET				*e*S	**Sn**	**09 29 28.4**	**+0.1**
PET				pmax	pmax		
	comp=Z,62nm,0.5s						
PET				smax			
	comp=E,167nm,0.6s						
PET				smax			
	comp=N,151nm,0.5s						
PET				MLR	MLR		
	comp=Z,100nm,20.0s						
PET	**Petropavlovsk**	**5.17**	**25**	*e*Pn	**Pn**	**09 28 29.2**	**+0.7**
	comp=Z,62nm,0.5s						
PET				*e*S	**Sn**	**09 29 28.4**	**+0.1**
KUR	**Kuril'sk**	**5.85**	**240**	⇑*i*PN	**Pn**	**09 28 37.5**	**-0.7**
KUR				*e*S	**Sn**	**09 29 47.0**	**+1.5**
KUR				pmax	pmax		
	comp=Z,110nm,0.7s						
KUR				smax			
	comp=N,90nm,0.8s						
KUR				smax			
	comp=E,150nm,0.8s						
KUR	**Kuril'sk**	**5.85**	**240**	⇑*i*Pn	**Pn**	**09 28 37.5**	**-0.7**
	comp=E,110nm,0.7s						
KUR				*e*S	**Sn**	**09 29 47.0**	**+1.5**
YSS	**Yuzh-Sakhalins**	**8.42**	**265**	*e*PN	**P**	**09 29 18.0**	**+3.8**
ASAJ	**Asahikawa**	**9.62**	**248**	P	**P**	**09 29 32.8**	**+2.0**
	comp=E,1.4nm,0.3s,baz=90,slow=16,SNR=14						
ASAJ				LR	LR	09 33 25.4	
	comp=E,102nm,18.8s,baz=326,slow=38						
ASAJ	**Asahikawa**	**9.62**	**248**	PN	**P**	**09 29 32.8**	**+2.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,102nm,18.8s						
FX1	**Attu Island--F**	**12.34**	**62**	P	**P**	**09 30 07.6**	**0.0**
	comp=Z,1.4nm,0.3s,baz=258,slow=18,SNR=7.5						
FX1				S	**S**	**09 32 14.6**	**-11**
	comp=Z,2.6nm,0.3s,baz=210,slow=22,SNR=6.4						
YAK	**Yakutsk**	**19.71**	**323**	*e*P	**P**	**09 31 40.3**	**-0.7**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YAK				pmax	pmax		
	comp=E,4.0nm,0.9s						
YAK	**Yakutsk**	**19.71**	**323**	*e*P	**P**	**09 31 40.3**	**-0.7**
	comp=E,10.0nm,0.8s						
CLNS	**Chul'man**	**20.02**	**306**	*e*P	**P**	**09 31 40.5**	**-3.9**
CLNS				pmax	pmax		
	comp=Z,28nm,0.9s						
CLNS				pmax	pmax		
	comp=N,14nm,1.2s						
CLNS				pmax	pmax		
	comp=E,20nm,1.0s						
CN2	**Changchun**	**20.96**	**268**	*e*P	**P**	**09 31 52.6**	**-1.6**
SONM	**Songino Array**	**32.05**	**288**	P	**P**	**09 33 37.8**	**+0.3**
	comp=E,2.5nm,1.3s,mb3.9,baz=69,slow=11,SNR=4.4						
COLA	**College**	**34.03**	**40**	*e*P	**P**	**09 33 55.1**	**+0.5**
	comp=E,3.9nm,0.9s,mb4.3						
ILAR	**Eielson Array**	**34.45**	**40**	P	**P**	**09 33 58.1**	**0.0**
	comp=E,1.1nm,0.7s,mb3.9,baz=286,slow=10,SNR=8.2						
ILAR	**Eielson Array**	**34.45**	**40**	P	**P**	**09 33 58.1**	**0.0**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
INK	**Inuvik**	**39.56**	**34**	P	**P**	**09 34 42.0**	**+0.8**
	comp=Z,1.5nm,0.7s,mb3.9,baz=265,slow=5.2,SNR=11						
INK	**Inuvik**	**39.56**	**34**	P	**P**	**09 34 42.0**	**+0.9**
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
INK	**Inuvik**	**39.56**	**34**	*e*P	**P**	**09 34 42.0**	**+0.9**
	comp=Z,2.0nm,0.8s,mb3.9						
DLBC	**Dease Lake**	**43.51**	**48**	P	**P**	**09 35 15.0**	**+1.5**
	comp=Z,1.2nm,0.7s,mb3.8,baz=330,slow=26,SNR=3.3						
DLBC	**Dease Lake**	**43.51**	**48**	P	**P**	**09 35 15.0**	**+1.5**
KURK	**Kurchatov**	**47.55**	**303**	*e*P	**P**	**09 35 46.1**	**+0.3**
	comp=Z,1.4nm,0.7s,mb4.1						
BVAR	**Borovoye Array**	**50.83**	**309**	P	**P**	**09 36 11.5**	**+0.6**
	comp=Z,1.6nm,0.6s,mb4.2,baz=64,slow=7.4,SNR=8.2						
ZRNK	**Zerenda**	**51.58**	**310**	*e*P	**P**	**09 36 16.1**	**-0.6**
	comp=Z,0.9nm,0.8s,mb3.8						
CMAR	**Chiang Mai Arr**	**54.02**	**257**	P	**P**	**09 36 35.3**	**0.0**
	comp=Z,2.2nm,0.9s,mb4.1,baz=30,slow=8.8,SNR=8.8						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	54.02	257	P	P	09 36 35.3	0.0
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
AAK	Ala-Archa	54.28	296	i P	P	09 36 35.4	-1.4
AAK				pmax	pmax		
	comp=Z,3.0nm,1.7s,mb4.0						
AAK	Ala-Archa	54.28	296	i P	P	09 36 35.4	-1.4
	comp=Z,3.0nm,1.7s,mb4.0						
ARCES	ARCESS Array B	56.72	341	LR	LR	10 07 11.7	
	comp=Z,47nm,18.1s,MS3.6,baz=16,slow=42						
NVAR	Mina Array Bea	60.53	64	P	P	09 37 21.2	+0.1
	comp=Z,0.4nm,0.5s,mb3.8,baz=283,slow=7.4,SNR=3.5						
PDAR	Pinedale Array	62.73	56	P	P	09 37 36.2	+0.4
	comp=Z,1.3nm,0.8s,mb4.1,baz=315,slow=2.1,SNR=11						
PDAR				pP	pP	09 37 47.7	+5.3
	comp=Z,0.9nm,0.8s,baz=315,slow=4.2,SNR=5.3						
FINES	FINESS Array B	63.10	335	P	P	09 37 37.9	-0.2
	comp=Z,3.5nm,1.2s,mb4.4,baz=51,slow=12,SNR=4.7						
FINES				LR	LR	10 12 10.4	
	comp=Z,44nm,18.3s,MS3.7,baz=154,slow=43						
NOA	NORSAR Array B	67.08	342	LR	LR	10 11 11.2	
	comp=Z,47nm,18.1s,MS3.8,baz=5.0,slow=39						
WB2	Warramunga Arr	70.50	201	eP	P	09 38 24.1	-1.4
WRA	Warramunga Arr	70.50	201	P	P	09 38 24.1	-1.4
	comp=Z,3.4nm,0.8s,mb4.3,baz=13,slow=6.5,SNR=22						
WRA	Warramunga Arr	70.50	201	P	P	09 38 24.1	-1.4
WRA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FITZ	Fitzroy Crossi	71.22	210	eP	P	09 38 29.4	-0.4
	comp=Z,2.2nm,0.8s,mb4.1						
FITZ	Fitzroy Crossi	71.22	210	P	P	09 38 29.0	-0.8
	comp=Z,2.5nm,0.7s,mb4.3,baz=359,slow=3.9,SNR=7.3						
ASAR	Alice Springs	74.19	200	P	P	09 38 47.0	-0.3
	comp=Z,1.3nm,0.7s,mb4.0,baz=14,slow=5.5,SNR=15						
TXAR	Lajitas Array	75.56	62	P	P	09 38 55.3	+0.3
	comp=Z,2.4nm,0.7s,mb4.2,baz=298,slow=4.2,SNR=40						
GERES	GERESS Array B	77.53	335	P	P	09 39 06.0	+0.3
	comp=Z,0.3nm,0.2s,mb3.8,baz=59,slow=7.8,SNR=3.3						
BRTR	Keskin Array B	78.07	318	P	P	09 39 09.7	+0.9
	comp=Z,0.6nm,0.8s,mb3.6,baz=18,slow=4.6,SNR=3.0						
BRTR	Keskin Array B	78.07	318	P	P	09 39 09.7	+0.9
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
EBR	Ebro Roquetas	88.35	341	eRs		09 40 05.5	
VNA2	Neumayer--Watz	155.92	194	⇑i	PKPab	09 47 31.7	+1.1
VNA3	Neumayer Olymp	155.98	192	⇓i	PKPab	09 47 31.8	+1.0

*NEIC **20** 09:50:46.1±0.5, 19.14N×145.85E, h10km, mb4.3/2, Error ellipse: s-maj=27.2km s-min=10.1km az=107.0*
*IDC **20** 09:51:05.4±8.2, 19.10N×145.54E, h184km±78km, mb3.5/7, mb1 3.7/7, mb1mx3.5/22, Error ellipse: s-maj=39.2km s-min=13.2km az=100.0*
ISC 20 09:51:00.4±0.7**, 19.1N**±0.1×**145.6E**±0.3**, h150**km**, n11, σ0s71**/11**, mb3.9**/9**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	Asahikawa	25.06	355	P	P	09 56 12.7	+0.4
	4.5nm,0.8s,mb4.1,baz=169,slow=5.2,SNR=3.8						
WRAB	Tennant Creek	40.35	197	P	P	09 58 25.0	0.0
	30nm,0.5s,mb5.2,SNR=12						
WRAB	Tennant Creek	40.35	197	eP	P	09 58 24.9	-0.1
	4.4nm,0.6s,mb4.3						
WB2	Warramunga Arr	40.36	197	eP	P	09 58 25.3	+0.3
WRA	Warramunga Arr	40.36	197	P	P	09 58 24.8	-0.3
	1.6nm,0.3s,mb4.1,baz=19,slow=8.3,SNR=68						
WRA				PcP	PcP	10 00 24.1	-1.9
	0.5nm,0.5s,baz=15,slow=3.2,SNR=7.1						
FITZ	Fitzroy Crossi	41.87	209	eP	P	09 58 37.6	0.0
	1.0nm,0.2s,mb4.1						
SONM	Songino Array	42.78	321	P	P	09 58 44.8	+0.2
	0.6nm,0.4s,mb3.6,baz=137,slow=8.0,SNR=7.5						
ASAR	Alice Springs	44.03	196	P	P	09 58 54.8	-0.2
	0.5nm,0.3s,mb3.5,baz=11,slow=5.9,SNR=20						
ASAR				PcP	PcP	10 00 36.5	-1.8
	0.3nm,0.5s,baz=5.6,slow=3.1,SNR=4.2						
ILAR	Eielson Array	63.31	26	P	P	10 01 13.8	-1.4
	0.6nm,0.5s,mb3.7,baz=257,slow=5.6,SNR=6.6						
INK	Inuvik	69.02	23	P	P	10 01 50.8	-0.5
	1.4nm,1.0s,mb3.6,baz=260,slow=3.9,SNR=3.7						
NVAR	Mina Array Bea	82.94	52	P	P	10 03 11.6	+1.6
	1.2nm,0.6s,mb3.8,baz=270,slow=5.4,SNR=12						

*NNC **20** 09:55:09.3±22.0, 38.07N×70.42E, h9km±106km, mpv3.8, Error ellipse: s-maj=379.2km s-min=140.6km az=129.0*
ISC 20 09:55:11.2±3.2**, 37.9N**±0.2×**70.7E**±0.4**, h96**km±47km**, n10, σ1s12**/11**, 1C-2D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	4.85	28	P	P	09 56 22.1	-1.0
	SNR=6.4						
UCH	Uchtor	5.25	33	P	P	09 56 27.6	-1.1
	SNR=8.8						
EKS2	Erkin-Say	5.34	25	P	P	09 56 31.4	+1.5
	SNR=8.9						
KZA	Kyzart	5.48	38	P	P	09 56 31.4	-0.3
	SNR=6.3						
AAK	Ala-Archa	5.58	30	⇓Pn	P	09 56 31.9	-1.3
	5.5nm,0.5s						
AAK				⇑Sn	S	09 57 36.5	-0.1
	12nm,0.8s						
AAK				⇓Lg		09 58 04.7	
	11nm,0.8s						
KBK	Karagaybulak	5.79	33	P	P	09 56 39.6	+3.6
	SNR=8.5						
USP	Ospenovka	6.13	27	P	P	09 56 41.0	+0.3
	SNR=7.5						
TKM2	Tokmak 2	6.29	35	P	P	09 56 45.3	+2.4
	SNR=15						
MK31	Makanchi Array	12.37	40	Pn	P	09 58 04.7	-0.3
	baz=77,slow=22,SNR=6.9						
VOSK	Vostochnaya	14.86	1	Pn	P	09 58 37.0	-0.1

*CSEM **20** 10:02:00.7±0.2, 28.74N×34.69E, h20km, Mw2.8, Error ellipse: s-maj=6.0km s-min=2.0km az=81.0*
*SNSN **20** 10:02:01.5, 28.76N×34.68E, h20km, Ml2.6*
*GII **20** 10:02:02.1±0.7, 28.82N×34.56E, h5km±30km, ML2.9/2, Mw2.8/2*
ISC 20 10:02:00.2±1.1**, 28.77N**±0.03×**34.59E**±0.08**, h13**km±5km**, n15, σ0s83**/22**, Egypt**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAYS	Tayyib Ism	0.33	131	P	Pg	10 02 07.9	+0.7
TAYS				S	Sg	10 02 12.2	+0.4
HAQS	Haql	0.41	46	P	Pg	10 02 09.4	+0.6
HAQS				S	Sg	10 02 15.0	+0.4
BDAS	Al Bad'	0.56	126	P	Pb	10 02 11.4	0.0
JMOS	Jabal al Moall	0.61	49	P	Pb	10 02 12.5	+0.4
ALWS	Ilw as Safayha	0.68	38	P	Pb	10 02 14.2	+0.7
AYUS	'Aynunah	0.83	134	P	Pb	10 02 16.1	+0.1
AYUS				S	Sb	10 02 26.6	-0.2
EIL	Elat	0.95	19	Pg	Pg	10 02 19.6	+0.2
AQBJ	Aqaba	1.04	23	Pg	Pg	10 02 20.7	-0.4
MBH	Mount Berech	1.06	16	Pg	Pg	10 02 21.4	-0.1
MRSJ	Marsad	1.12	35	eP	Pb	10 02 19.8	-1.1
	SNR=35						
MRSJ				eS	Sb	10 02 34.2	-1.0
	SNR=35						
JMQS	Jabal Moqyreh	1.14	84	P	Pb	10 02 21.3	+0.1
JMQS				S	Sb	10 02 35.4	-0.4
KMTI	Karmit	1.34	5	Pg	Pg	10 02 26.0	-1.0
KMTI				Sg	Sg	10 02 43.9	-1.0
PRNI	Paran	1.62	13	Pn	Pn	10 02 30.5	+1.7
PRNI				Sn	Sn	10 02 52.2	+2.7
TBKS	Tabuk	1.81	107	P	Pn	10 02 31.0	-0.4
DBAS	Duba	1.98	141	P	Pn	10 02 32.6	-1.3

*NEIC **20** 10:05:02.9±2.9, 32.01S×179.71W, h102km±21km, mb4.3/1, Error ellipse: s-maj=33.6km s-min=13.6km az=220.0*
*IDC **20** 10:05:07.2±8.9, 32.43S×179.81W, h140km±85km, mb3.5/2, mb1 3.8/4, mb1mx3.5/14, Error ellipse: s-maj=77.2km s-min=39.2km az=5.0*
ISC 20 10:05:13.2±1.4**, 32.79S**±0.08×**179.5E**±0.2**, h177**km±11km**, n71, σ1s40**/80**, mb3.8**/3**, 4C, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	4.86	191	eP	P	10 06 26.5	+0.5
MXZ				eS	S	10 07 24.8	+2.5
MXZ	Matakaoa Point	4.86	191	eP	P	10 06 30.1	+4.1
MXZ				S	S	10 07 28.0	+5.7
PUZ	Puketiti	5.37	190	eP	P	10 06 32.9	+0.3
PUZ	Puketiti	5.37	190	P	P	10 06 32.8	+0.2
PUZ	Puketiti	5.37	190	P	P	10 06 37.3	+4.7
PUZ				S	S	10 07 37.3	+3.1
MWZ	Matawai	5.76	195	P	P	10 06 38.7	+1.0
MWZ	Matawai	5.76	195	eP	P	10 06 38.5	+0.8
MWZ	Matawai	5.76	195	eP	P	10 06 42.0	+4.3
MWZ				S	S	10 07 47.2	+3.8
URZ	Urewera	5.79	199	P	P	10 06 39.6	+1.4
	16nm,0.3s,baz=280,slow=2.9,SNR=70						
URZ				S	S	10 07 48.3	+4.1
	7.1nm,0.3s,baz=195,slow=1.6,SNR=7.7						
URZ	Urewera	5.79	199	eP	P	10 06 38.7	+0.5
URZ	Urewera	5.79	199	P	P	10 06 42.6	+4.4
KNZ	Kokohu	6.39	193	eP	P	10 06 46.6	+0.5
KNZ	Kokohu	6.39	193	eP	P	10 06 46.4	+0.3
KNZ				eS	S	10 07 57.4	-0.9
KNZ	Kokohu	6.39	193	P	P	10 06 49.3	+3.2
KNZ				S	S	10 08 04.1	+5.8
BKZ	Black Stump Fm	6.81	200	eP	P	10 06 51.2	-0.4
BKZ	Black Stump Fm	6.81	200	eP	P	10 06 51.1	-0.5
BKZ	Black Stump Fm	6.81	200	eP	P	10 06 54.9	+3.3
BKZ				S	S	10 08 15.0	+6.7
MGZ	Maungaku	6.97	206	P	P	10 06 59.1	+5.3
NGZ	Ngauruhoe	7.11	205	eP	P	10 06 57.2	+1.6
CNZ	Chateau	7.15	205	P	P	10 07 00.8	+4.7
TUVZ	Tukino	7.17	205	eP	P	10 07 00.3	+3.9
MOVZ	Moawhango	7.26	203	eP	P	10 06 58.4	+0.8
PWZ	Pawanui	7.53	196	eP	P	10 06 58.3	-2.8
PWZ				S	S	10 08 24.8	-0.5
PWZ	Pawanui	7.53	196	P	P	10 07 02.1	+1.0
PWZ				S	S	10 08 25.0	-0.3
WAZ	Wanganui	7.84	206	eP	P	10 07 05.6	+0.3
WAZ	Wanganui	7.84	206	P	P	10 07 08.8	+3.5
BFZ	Birch Farm	8.29	197	eP	P	10 07 08.0	-3.2
BFZ	Birch Farm	8.29	197	eP	P	10 07 08.1	-3.1
BFZ	Birch Farm	8.29	197	P	P	10 07 11.9	+0.7
BFZ				S	S	10 08 41.8	-1.6
MRZ	Mangatainoka R	8.46	201	eP	P	10 07 09.9	-3.5
MRZ	Mangatainoka R	8.46	201	eP	P	10 07 09.7	-3.7
MRZ	Mangatainoka R	8.46	201	P	P	10 07 14.5	+1.1
MRZ				S	S	10 08 48.1	+0.8
KIW	Kapiti Island	8.85	203	eP	P	10 07 16.0	-2.5
KIW	Kapiti Island	8.85	203	P	P	10 07 18.8	+0.3
MTW	Mount Morrison	8.94	200	eP	P	10 07 15.9	-3.8
MTW	Mount Morrison	8.94	200	eP	P	10 07 15.4	-4.3
MTW	Mount Morrison	8.94	200	P	P	10 07 19.5	-0.2
CAW	Cannon Point	9.02	202	eP	P	10 07 18.0	-2.8
CAW	Cannon Point	9.02	202	eP	P	10 07 20.3	-0.5
MSWZ	Moikau Station	9.25	200	eP	P	10 07 21.7	-2.0
MRW	Makara Radio	9.25	203	eP	P	10 07 22.4	-1.3
MRW	Makara Radio	9.25	203	P	P	10 07 23.1	-0.6
BHW	Baring Head	9.36	202	eP	P	10 07 23.5	-1.6
BHW	Baring Head	9.36	202	eP	P	10 07 24.3	-0.8
NNZ	Nelson	9.72	208	eP	P	10 07 29.8	-0.1
QRZ	Quartz Range	9.76	213	eP	P	10 07 31.2	+0.8
THZ	Tophouse	10.37	208	eP	P	10 07 36.0	-2.4
THZ	Tophouse	10.37	208	P	P	10 07 36.2	-2.2
THZ	Tophouse	10.37	208	eP	P	10 07 37.6	-0.8
KHZ	Kahutara	10.70	204	eP	P	10 07 39.3	-3.3
KHZ	Kahutara	10.70	204	eP	P	10 07 40.4	-2.2
DSZ	Denniston Nort	10.83	212	eP	P	10 07 43.2	-1.1
LTZ	Lake Taylor	11.49	208	eP	P	10 07 46.5	-6.3
LTZ	Lake Taylor	11.49	208	eP	P	10 07 51.8	-1.0
MQZ	McQueen's Vall	12.14	204	eP	P	10 07 59.0	-2.3
MQZ	McQueen's Vall	12.14	204	eP	P	10 07 59.6	-1.7
RPZ	Rata Peaks	12.75	209	P	P	10 08 08.2	-0.8
	0.9nm,0.3s,baz=165,slow=17,SNR=7.5						
RPZ				S	S	10 10 28.2	+0.6
	1.2nm,0.3s,baz=81,slow=15,SNR=7.4						
JCZ	Jackson Bay	14.04	214	eP	P	10 08 22.7	-2.6
JCZ	Jackson Bay	14.04	214	eP	P	10 08 25.4	+0.1
ASAR	Alice Springs	40.91	271	P	P	10 12 40.9	+1.2
	1.1nm,0.6s,mb3.6,baz=111,slow=7.7,SNR=15						
WB2	Warramunga Arr	42.12	276	eP	P	10 12 50.1	+0.5
WRAB	Tennant Creek	42.12	276	eP	P	10 12 50.1	+0.5
	3.3nm,0.7s,mb4.1						
WRA	Warramunga Arr	42.12	276	P	P	10 12 50.1	+0.4
	0.8nm,0.4s,mb3.7,baz=114,slow=8.1,SNR=33						
SNAA	Sanae	75.82	179	⇑i	P	10 16 41.0	+0.4
VNA3	Neumayer Olymp	76.06	177	⇑i	P	10 16 43.0	+1.0
VNA2	Neumayer--Watz	76.46	178	⇑i	P	10 16 45.6	+1.4
VNA1	Neumayer--Stat	76.71	177	⇑i	P	10 16 43.5	-2.1
FINES	FINESS Array B	146.57	337	PKPbc	PKPbc	10 24 30.2	-2.3
	1.4nm,0.4s,baz=46,slow=5.2,SNR=16						
NB2	NORSAR Subarra	150.72	348	PKP		10 24 40.5	
	0.7nm,0.5s,baz=19,slow=2.6						
NOA	NORSAR Array B	150.72	348	PKPbc	PKPdf	10 24 41.0	+3.4
	1.1nm,0.7s,baz=16,slow=4.1,SNR=3.8						
NOA	NORSAR Array B	150.72	348	PKPbc	PKPdf	10 24 41.0	+3.4

MEX 20 10:30:01.3±1.2**, 17.21N**×**94.53W, h155**km±12km**, MD4.0, 1D, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.36	250	⇓iP	P	10 30 21.6	-1.5
CMIG				i S	S	10 30 36.2	-3.5
EVV	El Vigia	1.46	328	eP	P	10 30 33.0	+1.8
EVV				i S	S	10 30 52.0	-2.2
SCX	San Cristobal	1.88	104	i P	P	10 30 36.5	+0.9
SCX				eS	S	10 31 03.0	+0.9
HUIG	Huatulco	2.09	227	i P	P	10 30 35.5	-2.5
HUIG				i S	S	10 31 04.4	-2.0
OXX	Oaxaca	2.10	267	i P	P	10 30 37.5	-0.7
OXX				i S	S	10 31 05.0	-1.7
VHO	Vista Hermosa	2.11	266	i P	P	10 30 37.0	-1.4
VHO				i S	S	10 31 04.1	-2.8

*GUC **20** 10:52:56.6±0.6, 21.60S×69.15W, h134km±7km, ML4.2*
*NEIC **20** 10:52:56.5±0.7, 21.39S×68.72W, h104km±6km, mb4.2/5, Error ellipse: s-maj=10.3km s-min=8.3km az=104.0*
*IDC **20** 10:52:57.1±0.9, 21.28S×68.63W, h108km±8km, mb3.7/7, mb1 3.9/9, mb1mx3.9/14, MS2.9/1, Ms1 3.0/1, ms1mx2.7/12, Error ellipse: s-maj=23.6km s-min=18.5km az=48.0*
*SYO **20** 10:52:58, 21.49S×68.67W, h107km, MB4.2*
ISC 20 10:52:55.5±0.5**, 21.29S**±0.05×**68.89W**±0.08**, h109**km±5km**, h108**km±1.5km**:pP-P, n35, σ1s50**/35**, mb3.9**/10**, 5C-2D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	1.31	181	⇑iP	P	10 53 21.1	+0.7
LVC				i S	S	10 53 39.7	+0.5
LVC				AMP		10 53 40.4	
	comp=E,3μm,0.3s						
LVC	Limon Verde	1.31	181	eP	P	10 53 20.7	+0.3
SPCH	San Pedro de A	1.73	158	⇑iP	P	10 53 27.1	+1.7
SPCH				i S	S	10 53 50.1	+2.2
SPCH				AMP		10 54 05.9	
	comp=E,2μm,0.4s						
ANCH	Antofagasta	2.76	210	eP	P	10 53 38.2	-1.0
ANCH				i S	S	10 54 08.6	-3.5
ANCH				AMP		10 54 15.5	
	comp=E,2μm,0.5s						
CPN1	Cerro Paranal	3.60	203	eP	P	10 53 48.5	-2.0
CPN1				i S	S	10 54 27.5	-4.8
CPN1				AMP		10 54 51.6	
	comp=E,971nm,0.5s						
LPAZ	La Paz	5.03	8	P	P	10 54 12.3	+2.3
	comp=E,3.1nm,0.3s,baz=199,slow=4.6,SNR=18						
LPAZ	La Paz	5.03	8	P	P	10 54 12.3	+2.3
ARE	Arequipa	5.40	332	eP	P	10 54 13.0	-1.9
ARE				eS	S	10 55 16.0	-0.4
CPUP	Villa Florida	11.71	118	P	P	10 55 37.4	-2.7
	comp=E,0.4nm,0.3s,baz=317,slow=12,SNR=15						
CPUP				LR	LR	11 01 12.9	
	comp=E,62nm,18.8s,baz=138,slow=43						
TRQA	Tornquist	17.74	162	eP	P	10 56 54.5	-2.5
	comp=E,8.1nm,0.8s						
BDFB	Brasilia	20.57	78	P	P	10 57 25.0	-2.6
	comp=E,24nm,0.5s,baz=265,slow=7.9,SNR=22						
BAO	Brasilia Array	20.60	78	eP	P	10 57 26.0	-1.8
BAO				i		10 57 29.1	
OTAV	Otavalo	23.35	335	P	P	10 58 00.6	+5.6
	comp=E,4.8nm,0.9s,mb3.8						
RCBR	Riachuelo	35.45	69	eP	P	10 59 43.6	+0.2
	comp=E,12nm,0.8s,mb4.8						
VNA3	Neumayer Olymp	60.26	161	⇑i	P	11 02 55.6	+1.2
TXAR	Lajitas Array	60.47	325	P	P	11 02 55.7	-0.6
	comp=E,0.2nm,0.7s,mb3.3,baz=150,slow=7.3,SNR=3.4						
TXAR				pP	pP	11 03 22.6	-0.5
	comp=E,0.2nm,0.7s,baz=139,slow=8.3,SNR=2.7						
VNA1	Neumayer--Stat	60.47	160	⇓i	P	11 03 05.6	+10
VNA2	Neumayer--Watz	60.84	161		P	11 02 59.1	+0.8
SNAA	Sanae	62.47	161	⇓i	P	11 03 07.8	-1.4
DBIC	Dimbokro	68.66	73	P	P	11 03 47.3	-2.3
	comp=E,2.5nm,0.5s,mb4.3,baz=201,slow=11,SNR=6.4						
QSPA	South Pole Qui	68.90	180	eP	P	11 03 49.6	-0.4
	comp=E,5.4nm,0.7s,mb4.5						
PDAR	Pinedale Array	73.94	330	P	P	11 04 21.1	+0.5
	comp=E,0.4nm,0.5s,mb3.4,baz=134,slow=8.8,SNR=5.1						
PDAR				pP	pP	11 04 49.1	+0.7
	comp=E,0.4nm,0.7s,baz=149,slow=5.3,SNR=2.8						
PDAR	Pinedale Array	73.94	330	P	P	11 04 21.1	+0.5
PDAR				pP	pP	11 04 49.1	+0.7
NVAR	Mina Array Bea	75.34	322	P	P	11 04 30.0	+1.3
	comp=E,0.7nm,0.6s,mb3.6,baz=132,slow=6.8,SNR=4.7						
NVAR				pP	pP	11 04 57.0	+0.4
	comp=E,0.5nm,0.7s,baz=104,slow=7.4,SNR=2.0						
SBA	Scott Base	76.03	190	eP	P	11 04 33.3	+1.4
	comp=E,2.7nm,1.1s,mb3.9						
SYO	Syowa Base	76.69	159	⇑P	P	11 04 35.2	-0.5
SYO	Syowa Base	76.69	159	⇑PcP	PcP	11 04 47.1	+0.2
MCMT	McKenzie Canyo	77.06	330	eP	P	11 04 39.8	+1.6
VNDA	Vanda	77.06	190	P	P	11 04 38.8	+1.2
	comp=E,1.0nm,0.8s,mb3.6,baz=163,slow=4.3,SNR=6.8						
MAW	Mawson	84.52	163	P	P	11 05 17.6	+0.6
	comp=E,2.0nm,0.6s,mb4.2,baz=241,slow=10,SNR=12						
ESK	Eskdalemuir	94.40	31	P	P	11 06 06.1	+2.3
	comp=E,190nm,0.5s,SNR=9.9						
ASAR	Alice Springs	130.10	208	PKP	PKPdf	11 11 54.1	+0.7
	comp=E,0.9nm,0.7s,baz=137,slow=1.9,SNR=8.1						
WRA	Warramunga Arr	133.14	211	PKP	PKPdf	11 12 00.3	+1.1
	comp=E,0.8nm,0.6s,baz=156,slow=1.8,SNR=14						
ZAL	Zalesovo	141.76	25	PKP	PKPdf	11 12 15.3	+1.4
	comp=E,0.7nm,0.4s,baz=63,slow=5.2,SNR=3.8						
SONM	Songino Array	153.25	7	PKP	PKPdf	11 12 35.1	+2.5
	comp=E,0.3nm,0.6s,baz=315,slow=4.1,SNR=3.4						
SONM				PKPab	PKPab	11 12 54.8	-0.1
	comp=E,0.2nm,0.5s,baz=350,slow=8.8,SNR=2.1						
SONM				pPKPab		11 13 23.6	
	comp=E,0.5nm,0.7s,baz=334,slow=2.6,SNR=3.8						

IDC 20 11:09:50.5±70.0**, 17.10S**×**173.97E, mb4.3**/3**, mb1 4.5**/3**, mb1mx3.9**/13**, Error ellipse: s-maj=1211.0km s-min=135.8km az=73.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	8.65	234	⇑iP	P	11 12 05.6	+5.8
NOUC	Port Laguerre	8.77	234	⇑iP	P	11 12 06.9	+5.3
STKA	Stephens Creek	32.78	237	P	P	11 16 25.6	-2.1
	4.1nm,0.8s,baz=50,slow=7.7,SNR=12						
WRA	Warramunga Arr	37.63	259	P	P	11 17 08.0	-1.2
	0.6nm,0.4s,baz=81,slow=6.0,SNR=5.9						
ASAR	Alice Springs	38.03	253	P	P	11 17 10.3	-2.1
	7.2nm,0.5s,baz=83,slow=9.0,SNR=84						

*PRU **20** 11:14:22.9, 51.40N×16.16E*
*WAR **20** 11:14:22.6, 51.45N×16.16E, ML2.7, Mining Induced*
ISC 20 11:14:19.1±1.2**, 51.48N**±0.06×**16.18E**±0.05**, n10, σ1s26**/15**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.64	174	ePg	Pg	11 14 33.8	+1.9
KSP				eSg	Sg	11 14 42.1	+1.7
UPC	Upice	0.98	186	ePG	Pg	11 14 39.8	+1.2
DPC	Dobruska-Polom	1.13	176	ePG	Pg	11 14 42.7	+1.0
DPC				eSG	Sg	11 14 57.3	+0.5
PVCC	Panska Ves	1.39	228	ePG	Pg	11 14 48.0	+1.0
PRU	Pruhonice	1.82	216	PG	Pg	11 14 54.7	-0.8
PRU				SG	Sg	11 15 18.0	-1.7
	15nm,0.3s						
CLL	Collm	2.00	266	ePG	Pg	11 15 00.0	+0.9
CLL				eSG	Sg	11 15 26.0	+0.3
OKC	Ostrava-Krasne	2.06	142	eSG	Sg	11 15 26.5	-1.3
OJC	Ojcow	2.61	117	ePG	Pg	11 15 11.0	-0.3
OJC				eSG	Sg	11 15 45.0	-1.2
NKC	Novy Kostel	2.67	244	eSG	Sg	11 15 46.9	-1.3
KHC	Kasperske Hory	2.88	216	ePG	Pg	11 15 14.2	-2.5

*CSEM **20** 11:16:54.9±0.1, 30.14N×35.27E, h15km, ML2.6, Error ellipse: s-maj=2.3km s-min=1.5km az=76.0*
*GII **20** 11:16:56.4±0.2, 30.17N×35.14E, h15km±2km, ML2.1/4*
*SNSN **20** 11:16:56.6, 30.17N×35.03E, h28km, Ml1.9*
ISC 20 11:16:55.8±0.6**, 30.20N**±0.03×**35.18E**±0.06**, h15**km**, n15, σ0s59**/21**, Dead Sea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRNI	Paran	0.21	315	Pg	Pg	11 17 01.9	+1.0
PRNI	Paran	0.21	315	⇑Pg	Pg	11 17 01.9	+1.1
KMTI	Karmit	0.40	256	Pg	Pg	11 17 04.2	-0.1
KMTI				Sg	Sg	11 17 10.0	+0.1
KMTI	Karmit	0.40	256	⇑Pg	Pg	11 17 04.2	-0.1
KMTI				Sg	Sg	11 17 10.0	0.0
MBH	Mount Berech	0.47	209	Pg	Pg	11 17 04.9	-0.6
MBH	Mount Berech	0.47	209	⇑Pg	Pg	11 17 04.9	-0.6
AQBJ	Aqaba	0.48	193	Pg	Pg	11 17 05.7	-0.1
ALWS	Ilw as Safayha	0.89	186	P	Pb	11 17 12.8	+0.4
ALWS				S	Sb	11 17 24.8	+0.9
KZIT	Kziot	0.97	316	Pg	Pg	11 17 15.1	-0.4
KZIT				Sg	Sg	11 17 28.6	0.0
JMOS	Jabal al Moall	1.03	183	P	Pb	11 17 14.9	+0.1
JMOS				S	Sb	11 17 28.6	+0.7
LISJ	El Lisan	1.07	14	eP	Pb	11 17 16.2	+0.7
	SNR=73						
MZDA	Masada	1.12	8	Sg	Sg	11 17 32.9	-0.4
HAQS	Haql	1.16	191	P	Pb	11 17 16.4	-0.7
HAQS				S	Sb	11 17 31.7	-0.1
JMQS	Jabal Moqyreh	1.45	155	P	Pn	11 17 21.4	-0.2
TAYS	Tayyib Ism	1.67	189	P	Pn	11 17 23.4	-1.4

*BJI **20** 11:35:11.7, 38.20N×118.39W, h3km, mB5.2, mb5.0, Ms4.6, Msz4.4*
*IDC **20** 11:35:15.4±2.9, 38.05N×118.71W, mb3.7/1, mb1 4.0/3, mb1mx3.6/19, ML3.2/2, MS2.9/2, Ms1 2.9/2, ms1mx2.5/18, Error ellipse: s-maj=45.9km s-min=11.5km az=114.0*
*NEIC **20** 11:35:15.3, 38.04N×118.61W, h5km, ML4.1(REN), MW4.0(BRK), After REN.*
ISC 20 11:35:14.1±0.3**, 38.07N**±0.03×**118.57W**±0.04**, h5**km**, n49, σ1s05**/49**, mb5.4**/2**, 2C-1D, California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVAR	Mina Array Bea	0.42	30	Pg	Pg	11 35 24.1	+1.6
	864nm,0.3s,baz=225,slow=22						
NVAR				Lg		11 35 31.0	
	2μm,0.3s,baz=208,slow=35,SNR=68						
OMM	Old Mammoth Mi	0.56	217	⇓iP	Pg	11 35 25.5	+0.2
MTUM	Tungsten Hills	0.71	179	eP	Pg	11 35 28.4	+0.1
TPH	Tonopah	1.07	89	⇑iP	Pb	11 35 36.0	+1.4
CMB	Columbia Colle	1.43	269	⇑eP	Pn	11 35 40.8	-0.1
WCN	Washoe City	1.54	323	eP	Pn	11 35 43.7	+1.3
PAHR	Pah Rah Range	1.75	339	eP	Pn	11 35 46.1	+0.7
DAC	Darwin (Calif)	1.95	156	eP	Pn	11 35 49.4	+1.1
TPNV	Topopah Spring	2.16	120	ePn	Pn	11 35 52.2	+0.9
LRV	Little Rabbit	2.55	231	Pn	Pn	11 35 56.8	0.0
BMN	Battle Mountai	2.58	24	ePn	Pn	11 35 57.7	+0.5
OHCM	Honcut	2.60	300	ePn	Pn	11 35 57.8	+0.1
OHCM				ePg	Pg	11 36 01.7	-4.4
SAO	San Andreas Ge	2.63	241	Pn	Pn	11 35 57.9	-0.2
LKC	Lake Chabot	2.78	264	ePn	Pn	11 35 59.9	-0.2
SAC	San Andreas	3.08	262	ePn	Pn	11 36 04.3	-0.1
NSHM	Saint Helena R	3.21	279	ePn	Pn	11 36 06.7	+0.5
NEN	Nelson	3.84	128	Pn	Pn	11 36 15.6	+0.3
MWC	Mount Wilson	3.86	174	ePn	Pn	11 36 14.7	-0.7
WDC	Whiskeytown Da	3.97	310	ePn	Pn	11 36 17.1	+0.1
MOD	Modoc	4.05	341	ePn	Pn	11 36 19.8	+1.6
ARUT	Antelope Range	4.07	92	ePn	Pn	11 36 18.5	+0.1
LDFC	Landfair	4.08	136	Pn	Pn	11 36 18.7	0.0
PFO	Pinyon Flat Ob	4.77	158	ePn	Pn	11 36 28.6	+0.1
DUG	Dugway	4.96	63	ePn	Pn	11 36 29.3	-1.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MVU	**Marysvale**	**5.02**	**83**	Pn	**Pn**	**11 36 32.5**	**+0.5**
MSU	**Marysvale**	**5.05**	**83**	Pn	**Pn**	**11 36 32.7**	**+0.4**
BGU	**Big Grassy Mou**	**5.15**	**55**	*e*Pn	**Pn**	**11 36 34.1**	**+0.4**
NLU	**North Lily Min**	**5.40**	**68**	*e*Pn	**Pn**	**11 36 38.1**	**+0.8**
MPU	**Maple Canyon**	**5.74**	**68**	Pn	**Pn**	**11 36 43.7**	**+1.6**
HVU	**Hansel Valley**	**5.79**	**48**	*e*Pn	**Pn**	**11 36 42.4**	**-0.5**
TMUT	**Trail Mountain**	**5.89**	**76**	*e*Pn	**Pn**	**11 36 43.1**	**-1.1**
JLU	**Jordanelle**	**6.07**	**63**	Pn	**Pn**	**11 36 44.1**	**-2.6**
DAU	**Daniels Canyon**	**6.14**	**65**	Pn	**Pn**	**11 36 46.2**	**-1.5**
SRU	**San Rafael**	**6.39**	**78**	*e*Pn	**Pn**	**11 36 50.5**	**-0.8**
HWUT	**Hardware Ranch**	**6.45**	**55**	*e*Pn	**Pn**	**11 36 50.0**	**-2.0**
PV01	**Paradox Valley**	**7.89**	**86**	Pn	**Pn**	**11 37 14.7**	**+2.4**
TPAW	**Teton Pass**	**7.92**	**44**	Pn	**Pn**	**11 37 17.1**	**+4.4**
MCMT	**McKenzie Canyo**	**8.00**	**31**	Pn	**P**	**11 37 14.5**	**+0.6**
LOHW	**Long Hollow**	**8.19**	**45**	Pn	**P**	**11 37 15.2**	**-1.3**
PDAR	**Pinedale Array**	**8.32**	**53**	Pn	**P**	**11 37 22.4**	**+4.1**
	0.1nm,0.3s,baz=225,slow=10,SNR=28						
SHW	**Mount Saint He**	**8.56**	**343**	Pn	**P**	**11 37 20.1**	**-1.5**
ANMO	**Albuquerque**	**10.23**	**104**	Pn	**P**	**11 37 49.3**	**+4.5**
BNM	**Barren Site**	**10.42**	**108**	Pn	**P**	**11 37 46.0**	**-1.4**
TXAR	**Lajitas Array**	**15.14**	**121**	Pn	**P**	**11 38 54.6**	**+4.2**
	0.0nm,0.3s,baz=307,slow=12,SNR=6.4						
TXAR				LR	LR	11 44 54.0	
	comp=Z,34nm,18.7s,baz=345,slow=38						
ULM	**Lac du Bonnet**	**20.24**	**46**	P	**P**	**11 39 53.2**	**+0.5**
	2.6nm,0.6s,baz=276,slow=9.2,SNR=3.2						
YKA	**Yellowknife Ar**	**24.57**	**4**	LR	LR	11 51 02.5	
	comp=Z,36nm,21.0s,baz=130,slow=38						
SSE	**Sheshan**	**91.46**	**312**	*e*P	**P**	**11 48 22.1**	**-0.6**
SSE				AMB	AMB		
	comp=Z,39nm,0.7s,mb5.8						
NJ2	**Nanjing**	**92.09**	**314**	*e*P	**P**	**11 48 23.9**	**-1.8**
LZH	**Lanzhou**	**96.42**	**327**	*e*P	**P**	**11 48 44.5**	**-0.9**
LZH				AP	pP	11 48 46.3	-0.7
LZH				XP	sP	11 48 47.0	-0.5
LZH				AMB	AMB		
	comp=Z,10.0nm,1.5s,mb5.0						

*CSEM **20** 11:35:29.7±0.8, 38.58N×29.12W, h5^{km}, ML2.1, Error ellipse: s-maj=13.1km s-min=6.4km az=169.0, After PDA*
*PDA **20** 11:35:29.7±0.8, 38.58N×29.12W, h5^{km}, MD3.1, ML2.1, Error ellipse: s-maj=13.1km s-min=6.4km az=169.0*
SVSA 20 11:35:29.7±0.8**, 38.58N×29.12W, h5^{km}, MD3.1, ML2.1, Error ellipse: s-maj=13.1km s-min=6.4km az=169.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**0.33**	**90**	*e*P	Pg	11 35 35.7	-0.6
CALA				*e*S	Sg	11 35 40.0	-0.8
PCED	**Cedros**	**0.33**	**82**	*e*P	Pg	11 35 36.0	-0.4
PCED				*e*S	Sg	11 35 40.4	-0.5
	160nm,0.3s						
PICO	**Pico**	**0.55**	**98**	*e*P	Pg	11 35 39.1	-1.7
PICO				*e*S	Sg	11 35 46.6	-1.5
PPNO	**Prainha do Nor**	**0.68**	**99**	*e*P	Pg	11 35 41.0	-2.3
PPNO				*e*S	Sg	11 35 50.2	-2.3
	20nm,0.1s						
PPNO	**Prainha do Nor**	**0.68**	**99**	*e*P	Pg	11 35 41.0	-2.3
PPNO				*e*S	Sg	11 35 50.2	-2.3
	20nm,0.1s						
ROSA	**Rosais**	**0.70**	**78**	*e*-		11 35 47.2	
PMAN	**Manadas**	**0.81**	**86**	*e*S	Sg	11 35 52.5	-4.2
	10nm,0.2s						

*NNC **20** 11:57:52.3±2.9, 38.89N×70.03E, mpv5.2, Error ellipse: s-maj=24.8km s-min=23.2km az=62.0*
*BJI **20** 11:57:52.9, 38.79N×70.46E, h34^{km}, mB5.0, mb4.7, ML4.9, Ms4.8, Msz4.5*
*MOS **20** 11:57:53.4±1.3, 38.66N×70.51E, h33^{km}, mb4.7/16, Error ellipse: s-maj=12.0km s-min=6.8km az=90.0*
*NEIC **20** 11:57:55.0±1.2, 38.53N×70.50E, h38^{km}±10^{km}, mb4.7/27, Error ellipse: s-maj=8.9km s-min=5.5km az=184.0*
*IDC **20** 11:57:55.4±4.0, 38.48N×70.55E, h38^{km}±35^{km}, mb4.0/15, mb1 4.3/18, mb1mx4.2/23, ML4.7/2, MS3.8/6, Ms1 3.8/6, ms1mx3.4/22, Error ellipse: s-maj=19.8km s-min=13.6km az=24.0*
ISC 20 11:57:53.4±0.5**, 38.47N**±0.02×**70.52E**±0.04**, h42^{km}**±5^{km}**, n165, σ1^{s}28**/183**, mb4.5**/51**, MS4.0**/12**, 14C-13D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAS	**Tashkent**	**3.01**	**342**⇑	*e*PN	Px	11 58 50.0	
TAS				*e*S	**S**	**11 59 20.0**	**+5.1**
TAS				pmax	pmax		
	comp=Z,130μm,1.5s						
KSH	**Kashi**	**4.38**	**74**⇑	*i*P	**P**	**11 59 01.1**	**+1.9**
KSH				S	**S**	**11 59 56.3**	**+6.7**
KSH				Smax			
	comp=N,3μm,1.4s						
KSH				Smax			
	comp=E,2μm,1.2s						
AML	**Almayashu**	**4.39**	**33**	P	**P**	**11 59 00.5**	**+1.0**
	SNR=349						
CEP	**Cherat**	**4.77**	**166**	⇓P	**P**	**11 59 07.3**	**+2.6**
UCH	**Uchtor**	**4.84**	**38**	P	**P**	**11 59 07.1**	**+1.3**
	SNR=172						
EKS2	**Erkin-Say**	**4.87**	**30**	P	**P**	**11 59 07.0**	**+0.8**
	SNR=105						
KZA	**Kyzart**	**5.11**	**44**	P	**P**	**11 59 10.1**	**+0.6**
	SNR=129						
AAK	**Ala-Archa**	**5.15**	**35**	⇓Pn	**P**	**11 59 10.8**	**+0.7**
	comp=E,235nm,0.6s						
AAK				⇓Lg		12 00 32.4	
	comp=E,951nm,1.4s						
AAK	**Ala-Archa**	**5.15**	**35**	P	**P**	**11 59 10.9**	**+0.8**
	SNR=122						
AAK	**Ala-Archa**	**5.15**	**35***c*	*i*PN	**P**	**11 59 10.0**	**0.0**
AAK				pmax	pmax		
	comp=Z,122nm,0.6s						
AAK	**Ala-Archa**	**5.15**	**35**	*i* Pnu		11 59 10.0	
	comp=Z,122nm,0.6s						
CHCP	**Chirah Chowk**	**5.29**	**154**	P	**P**	**11 59 14.7**	**+2.7**
FRU	**Bishkek**	**5.36**	**34**	*e*PN	**P**	**11 59 15.0**	**+2.0**
FRU				pmax	pmax		
	comp=Z,480nm,1.4s						
FRU				pmax	pmax		
	comp=E,2μm,2.0s						
KBK	**Karagaybulak**	**5.38**	**37**	P	**P**	**11 59 14.8**	**+1.5**
	SNR=88						
CHMS	**Chumysh**	**5.55**	**34**	P	**P**	**11 59 16.3**	**+0.6**
	SNR=97						
USP	**Ospenovka**	**5.67**	**31**	P	**P**	**11 59 17.7**	**+0.5**
	SNR=14						
THW	**Thamme Wali**	**5.75**	**170**	P	**P**	**11 59 19.7**	**+1.3**
ULHL	**Ulahol**	**5.78**	**47**	P	**P**	**11 59 19.1**	**+0.3**
	SNR=65						
TKM2	**Tokmak 2**	**5.89**	**39**	P	**P**	**11 59 21.0**	**+0.6**
	SNR=64						
SBDP	**Sheikh Budin**	**6.16**	**178**	P	**P**	**11 59 22.7**	**-1.5**
DRP	**Derazinda**	**6.71**	**182**	P	**P**	**11 59 33.9**	**+1.9**
THN	**Thein Dam**	**7.36**	**143**	*e*P	**P**	**11 59 41.1**	**+0.1**
THN				*e*S	**S**	**12 01 06.0**	**+1.8**
BHK	**Bhakra**	**8.54**	**144**	*e*	Px	12 00 29.7	
BHK				*e*S	**S**	**12 01 33.9**	**+0.5**
KKR	**Kurukshetra**	**9.96**	**147**	*e*P	**P**	**12 00 18.9**	**+2.0**
KKR				*e*		12 00 27.5	
DDI	**Dehra Dun**	**10.23**	**140**	*e*P	**P**	**12 00 19.6**	**-1.1**
DDI				*e*S	**S**	**12 02 13.8**	**-1.3**
RTK	**Rohtak**	**10.61**	**151**	*e*P	**P**	**12 00 28.3**	**+2.5**
RTK				*e*		12 02 29.8	
JOSI	**Joshimath**	**10.85**	**134**	*e*P	**P**	**12 00 28.8**	**-0.3**
NDI	**New Delhi**	**11.24**	**148**	*e*P	**P**	**12 00 33.0**	**-1.4**
NDI				*e*S	**S**	**12 02 38.0**	**-1.6**
KALG	**Kalgarh**	**11.24**	**140**	*e*P	**P**	**12 00 24.4**	**-10**
KALG				AMb	AMB	12 00 27.5	
	comp=Z,34nm,1.0s						
KALG				*e*S	**S**	**12 02 26.4**	**-13**
KHET	**Khetri**	**11.27**	**155**	*e*P	**P**	**12 00 34.4**	**-0.3**
KHET				AMb	AMB	12 00 50.3	
	comp=Z,21nm,0.9s						
KHET				*e*		12 02 31.7	
AYAN	**Aya Nagar**	**11.38**	**149**	*e*P	**P**	**12 00 34.0**	**-2.2**
AYAN				AMb	AMB	12 00 40.7	
	comp=Z,15nm,0.3s						
AYAN				*e*		12 02 34.1	
KUDL	**Kundal**	**11.44**	**152**	*e*P	**P**	**12 00 33.9**	**-3.2**
KUDL				AMb	AMB	12 00 40.3	
	comp=Z,12nm,0.7s						
JASL	**Jaisalmer**	**11.51**	**178**	*e*	**P**	**12 00 34.8**	**-3.3**
SONA	**Sohna**	**11.57**	**150**	*e*P	**P**	**12 00 38.0**	**-0.8**
SONA				AMb	AMB	12 00 39.5	
	comp=Z,7.7nm,0.4s						
SONA				*e*S	**S**	**12 02 45.9**	**-1.8**
PTH	**Pithoragarh**	**11.98**	**135**	*e*P	**P**	**12 00 43.0**	**-1.4**
PTH				*e*S	**S**	**12 02 52.0**	**-5.7**
MK31	**Makanchi Array**	**12.01**	**42**	⇓Pn	**P**	**12 00 43.0**	**-1.6**
	baz=233,slow=14,SNR=5.0						
MK31				⇓Lg		12 04 12.3	
	baz=207,slow=28						
MKAR	**Makanchi Array**	**12.01**	**42**	*i* P	**P**	**12 00 43.5**	**-1.2**
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.2s						
LGTI	**Lohaghat**	**12.08**	**135**	*e*P	**P**	**12 00 44.5**	**-1.2**
LGTI				*e*S	**S**	**12 02 55.0**	**-5.0**
AJM	**Ajmer**	**12.45**	**163**	*e*P	**P**	**12 00 50.1**	**-0.6**
KURK	**Kurchatov**	**13.53**	**23**	⇑Pn	**P**	**12 01 00.6**	**-4.2**
	comp=Z,9.7nm,1.2s,baz=221,slow=11,SNR=16						
KURK				Sn	**S**	**12 03 32.0**	**-2.6**
KURK				⇑Lg		12 04 52.1	
	comp=Z,96nm,1.6s,baz=130,slow=13,SNR=3.4						
KURK				⇑Rg		12 06 02.1	
	comp=Z,690nm,9.3s						
KURK	**Kurchatov**	**13.53**	**23**	*i* P	**P**	**12 01 00.5**	**-4.3**
KURK				pmax	pmax		
	comp=Z,10.0nm,1.2s						
WMQ	**Urumqi**	**14.00**	**62**	P	**P**	**12 01 10.0**	**-1.0**
WMQ				XP		12 01 22.4	
WMQ				S	**S**	**12 03 44.0**	**-1.9**
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.0s						
WMQ				LR	LR		
	comp=N,591nm,6.0s						
WMQ				LR	LR		
	comp=E,268nm,6.0s						
WMQ				LR	LR		
	comp=Z,437nm,6.0s						
VOSK	**Vostochnaya**	**14.26**	**1**	⇑Pn	**P**	**12 01 09.8**	**-4.6**
	comp=Z,16nm,0.7s						
VOSK				Sn	**S**	**12 03 45.7**	**-6.4**
VOSK				⇓Lg		12 05 10.3	
	comp=Z,134nm,1.5s						
VOSK	**Vostochnaya**	**14.26**	**1**	P	**P**	**12 01 09.8**	**-4.6**
VOSK				pmax	pmax		
	comp=Z,11nm,0.7s						
VOSK	**Vostochnaya**	**14.26**	**1**	P	**P**	**12 01 09.8**	**-4.6**
	comp=Z,11nm,0.7s						
ZRNK	**Zerenda**	**14.53**	**356**	⇑Pn	**P**	**12 01 11.7**	**-6.2**
	comp=Z,25nm,1.1s						
ZRNK				Sn	**S**	**12 03 51.8**	**-6.5**
ZRNK				⇑Lg		12 05 18.1	
	comp=Z,103nm,1.6s						
ZRNK	**Zerenda**	**14.53**	**356**	P	**P**	**12 01 16.0**	**-1.8**
ZRNK				pmax	pmax		
	comp=Z,27nm,1.1s						
BVA0	**Borovoye Array**	**14.56**	**360**	⇓Pn	**P**	**12 01 15.3**	**-3.0**
	comp=Z,3.2nm,0.8s,baz=172,slow=14,SNR=92						
BVA0	**Borovoye Array**	**14.56**	**360**	*e*P	**P**	**12 01 14.9**	**-3.4**
BVAR	**Borovoye Array**	**14.56**	**360**	Pn	**P**	**12 01 14.7**	**-3.6**
	comp=Z,2.6nm,0.3s,baz=160,slow=15,SNR=26						
BRVK	**Borovoye**	**14.60**	**359**	*e*P	**P**	**12 01 15.3**	**-3.4**
KOLN	**Koldanda**	**15.28**	**130**	*e*P	**P**	**12 01 23.8**	**-4.0**
	comp=Z,5.2nm,0.4s						
GKN	**Gorkha**	**15.74**	**127**	*e*P	**P**	**12 01 30.3**	**-3.4**
	comp=Z,28nm,0.5s						
BHPL	**Bhopal**	**16.28**	**157**	*e*P	**P**	**12 01 43.8**	**+3.1**
BHPL				*e*		12 01 45.7	
	comp=Z,30nm,0.6s						
KKN	**Kakani**	**16.30**	**126**	*e*P	**P**	**12 01 35.8**	**-4.9**
	comp=Z,28nm,0.5s						
DMN	**Daman**	**16.31**	**127**	*e*P	**P**	**12 01 36.5**	**-4.5**
PKI	**Pulchoki**	**16.53**	**127**	*e*P	**P**	**12 01 39.0**	**-4.7**
	comp=Z,22nm,0.6s						
GUN	**Gumba**	**16.59**	**125**	*e*P	**P**	**12 01 41.2**	**-3.3**
	comp=Z,88nm,0.9s						
ZAL	**Zalesovo**	**18.30**	**28**	P	**P**	**12 02 02.8**	**-2.9**
	comp=Z,6.3nm,0.3s,baz=250,slow=12,SNR=65						
ZAL	**Zalesovo**	**18.30**	**28**	P	**P**	**12 02 02.8**	**-2.9**
ZAL				pmax	pmax		
	comp=Z,6.0nm,0.3s						
NVS	**Novosibirsk**	**18.51**	**24**⇓	*i*P	**P**	**12 02 05.2**	**-3.1**
NVS				*i* S	**S**	**12 05 30.8**	**+1.0**
NVS				pmax	pmax		
	comp=N,30nm,1.0s						
NVS				pmax	pmax		
	comp=Z,33nm,1.0s						
NVS				pmax	pmax		
	comp=E,6.0nm,0.8s						
NVS				smax			
	comp=N,57nm,1.9s						
NVS				smax			
	comp=E,9.0nm,1.4s						
NVS	**Novosibirsk**	**18.51**	**24**⇓	*i*P	**P**	**12 02 05.2**	**-3.1**
	comp=E,33nm,1.0s						
NVS				*i* S	**S**	**12 05 30.8**	**+1.0**
SVE	**Sverdlovsk**	**19.50**	**344**⇓	*e*P	**P**	**12 02 18.0**	**-1.6**
SVE				pmax	pmax		
	comp=Z,40nm,1.1s						
SVE				MLR	MLR		
	comp=N,600nm,10.0s						
SVE				MLR	MLR		
	comp=E,200nm,10.0s						
SVE				MLR	MLR		
	comp=Z,2μm,10.0s						
SVE	**Sverdlovsk**	**19.50**	**344**⇓	*e*P	**P**	**12 02 18.0**	**-1.6**
	comp=Z,40nm,1.1s						
ARU	**Arti**	**19.66**	**340**⇑	*i*P	**P**	**12 02 20.6**	**-0.7**
ARU				*i* S	**S**	**12 05 57.8**	**+2.4**
ARU				pmax	pmax		
	comp=Z,19nm,0.8s						
ARU				MLR	MLR		
	comp=Z,300nm,17.0s						
ARU				MLR	MLR		
	comp=E,100nm,15.0s						
ARU	**Arti**	**19.66**	**340**⇑	*i*P	**P**	**12 02 20.6**	**-0.7**
	comp=E,19nm,0.8s						
ARU				*i* S	**S**	**12 05 57.8**	**+2.4**
POO	**Poona**	**20.07**	**171**	*e*P	**P**	**12 02 25.0**	**-1.0**
UMR	**Umm Al-Rimmam**	**20.85**	**252**	*e*P	**P**	**12 02 34.7**	**+0.7**
UMR				AMb	AMB	12 02 38.1	
	comp=Z,103nm,0.5s						
KBD	**Kabd**	**21.06**	**251**	*e*P	**P**	**12 02 36.4**	**+0.2**
RDF	**Al-Radifah**	**21.30**	**250**	*e*P	**P**	**12 02 38.5**	**-0.1**
RDF				AMb	AMB	12 02 44.5	
	comp=Z,74nm,0.9s,mb5.0						
KAD	**Karad**	**21.32**	**170**	*e*P	**P**	**12 02 41.3**	**+2.4**
KAD				AMb	AMB	12 02 46.4	
	comp=Z,14nm,1.1s,mb4.2						
RST	**Umm Al-Ruwaisa**	**21.41**	**252**	*e*P	**P**	**12 02 39.6**	**-0.1**
RST				AMb	AMB	12 02 44.7	
	comp=Z,87nm,0.6s,mb5.2						
GOF	**Gofitskoye**	**21.47**	**297**⇑	*i*P	**P**	**12 02 40.0**	**-0.2**
GOF				pmax	pmax		
	comp=Z,60nm,1.2s,mb4.8						
GOF	**Gofitskoye**	**21.47**	**297**⇑	*i*P	**P**	**12 02 40.0**	**-0.2**
	comp=Z,60nm,1.2s,mb4.8						
KIV	**Kislovodsk**	**21.59**	**294**	*e*P	**P**	**12 02 40.6**	**-0.8**
KIV				pmax	pmax		
	comp=N,8.0nm,0.7s						
KIV				pmax	pmax		
	comp=Z,17nm,0.7s,mb4.6						
KIV				MLR	MLR		
	comp=N,133nm,17.0s,MS3.6						
KIV				MLR	MLR		
	comp=Z,228nm,17.0s,MS3.6						
KIV				MLR	MLR		
	comp=E,194nm,18.0s,MS3.6						
KIV	**Kislovodsk**	**21.59**	**294**	*e*P	**P**	**12 02 40.6**	**-0.8**
	comp=E,17nm,0.7s,mb4.6						
KIV				LR	LR		
	comp=Z,230nm,17.0s,MS3.6						
HYB	**Hyderabad**	**22.12**	**159**	*i* P	**P**	**12 02 49.0**	**+2.2**
SHL	**Shillong**	**22.15**	**119**	*e*P	**P**	**12 02 47.0**	**-0.1**
SHL				*e*S	**S**	**12 06 47.0**	**+3.5**
GTA	**Gaotai**	**22.77**	**78**	P	**P**	**12 02 54.3**	**+1.3**
GTA				AP		12 03 00.8	
GTA				XP		12 03 03.4	
GTA				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.3						
GTA				AMB	AMB		
	comp=Z,180nm,5.3s						
GTA				LR	LR		
	comp=N,311nm,14.5s						
GTA				LR	LR		
	comp=E,604nm,9.1s						
GTA				LR	LR		
	comp=Z,565nm,11.8s,MS4.2						
SOC	**Sochi**	**23.72**	**292**	*e*P	**P**	**12 03 00.1**	**-2.1**
SOC				*e*		12 03 41.3	
SOC				*e*S	**S**	**12 07 01.5**	**-10**
SOC				pmax	pmax		
	comp=Z,30nm,0.7s,mb4.8						
SOC				pmax	pmax		
	comp=N,20nm,0.9s						
SOC				pmax	pmax		
	comp=E,29nm,0.8s						
SOC				MLR	MLR		
	comp=Z,221nm,18.0s,MS3.7						
SOC				MLR	MLR		
	comp=N,152nm,14.0s,MS3.7						
SOC				MLR	MLR		
	comp=E,67nm,12.0s,MS3.7						
SOC	**Sochi**	**23.72**	**292**	*e*P	**P**	**12 03 00.1**	**-2.1**
	comp=E,30nm,0.7s,mb4.8						
SOC				*e*		12 03 41.3	
SOC				*e*S	**S**	**12 07 01.5**	**-10**
SOC				LR	LR		
	comp=Z,220nm,18.0s,MS3.7						
MOY	**Mondy**	**25.04**	**48**	*e*P	**P**	**12 03 17.0**	**+2.1**
ANN	**Anapa**	**25.41**	**295**	*e*P	**P**	**12 03 23.8**	**+5.3**
ANN				pmax	pmax		
	comp=Z,30nm,0.9s,mb4.8						
MZLS	**Mizel**	**25.88**	**244**	P	**P**	**12 03 24.4**	**+1.3**
ZAK	**Zakamensk**	**26.04**	**52**⇑	*i*P	**P**	**12 03 24.7**	**+0.4**
ZAK				*e*		12 09 17.5	
HILS	**Ha'il**	**26.42**	**254**	P	**P**	**12 03 29.3**	**+1.2**
LZH	**Lanzhou**	**26.55**	**85**	*e*P	**P**	**12 03 30.5**	**+1.3**
LZH				AP	pP	12 03 39.5	-0.8
LZH				XP	sP	12 03 43.5	-1.9
LZH				PP	PP	12 04 14.5	+0.9
LZH				*e*S	**S**	**12 08 00.0**	**+1.4**
LZH				XS		12 08 16.0	
LZH				SS	SS	12 09 11.0	+0.1
LZH				AMB	AMB		
	comp=Z,39nm,1.2s,mb4.8						
LZH				AMB	AMB		
	comp=Z,170nm,4.2s						
LZH				LR	LR		
	comp=E,2μm,13.5s						
LZH				LR	LR		
	comp=Z,2μm,15.0s,MS4.7						
AFFS	**'Afif**	**27.51**	**246**	P	**P**	**12 03 38.7**	**+0.5**
SONM	**Songino Array**	**27.58**	**59**	P	**P**	**12 03 38.7**	**+0.2**
	comp=Z,4.1nm,0.7s,mb4.2,baz=264,slow=8.6,SNR=29						
MOS	**Moscow**	**27.91**	**319**	*e*P	**P**	**12 03 37.2**	**-4.2**
MOS				pmax	pmax		
	comp=Z,34nm,0.6s,mb5.2						
MOS	**Moscow**	**27.91**	**319**	*e*P	**P**	**12 03 37.2**	**-4.2**
	comp=Z,34nm,0.6s,mb5.2						
ASF	**Jabal al Asfar**	**28.04**	**267**	P	**P**	**12 03 43.8**	**+0.9**
	comp=Z,1.2nm,0.4s,mb3.9,baz=294,slow=12,SNR=4.7						
ASF				LR	LR	12 17 35.2	
	comp=Z,230nm,18.4s,MS3.8,baz=148,slow=42						
OBN	**Obninsk**	**28.22**	**317**	*e*P	**P**	**12 03 38.6**	**-5.6**
OBN				*e*		12 04 37.1	
OBN				*e*S	**S**	**12 08 34.3**	**+8.9**
OBN				pmax	pmax		
	comp=Z,28nm,1.8s,mb4.6						
OBN				MLR	MLR		
	comp=Z,100nm,15.0s,MS3.5						
OBN	**Obninsk**	**28.22**	**317**	*e*P	**P**	**12 03 38.6**	**-5.6**
	comp=Z,28nm,1.8s,mb4.6						
OBN				*e*		12 04 37.1	
OBN				*e*S	**S**	**12 08 34.3**	**+8.9**
OBN				LR	LR		
	comp=Z,100nm,15.0s,MS3.5						
BRTR	**Keskin Array B**	**28.52**	**284**	P	**P**	**12 03 47.4**	**+0.3**
	comp=Z,0.8nm,0.5s,mb3.7,baz=90,slow=10,SNR=4.4						
BRTR	**Keskin Array B**	**28.52**	**284**	P	**P**	**12 03 47.4**	**+0.3**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KBRS	**Khaybar**	**29.19**	**254**	P	**P**	**12 03 55.4**	**+2.3**
KMI	**Kunming**	**30.28**	**107**	*e*P	**P**	**12 04 05.1**	**+2.3**
KMI				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.5						
AKASG	**Malin Array Be**	**31.44**	**306**	P	**P**	**12 04 12.3**	**-0.5**
	comp=Z,2.0nm,0.5s,mb4.2,baz=77,slow=7.3,SNR=5.1						
AKASG	**Malin Array Be**	**31.44**	**306**	P	**P**	**12 04 12.3**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**31.76**	**121**	P	**P**	**12 04 16.0**	**0.0**
	comp=Z,0.4nm,0.7s,mb3.4,baz=306,slow=7.8,SNR=3.3						
CMAR				PcP	PcP	12 07 07.8	+1.2
	comp=Z,0.3nm,0.6s,baz=329,slow=5.3,SNR=2.1						
CMAR				LR	LR	12 18 37.9	
	comp=Z,66nm,18.1s,MS3.4,baz=70,slow=39						
ENH	**Enshi**	**32.99**	**92**	*e*P	**P**	**12 04 27.1**	**+0.5**
	comp=Z,19nm,1.0s,mb5.0						
JOF	**Joensuu**	**33.98**	**329**	*e*p	**P**	**12 04 34.7**	**-0.1**
	comp=Z,2.5nm,0.4s,mb4.5						
JOF	**Joensuu**	**33.98**	**329**	*e*P	**P**	**12 04 34.7**	**-0.1**
JOF				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.6						
BOD	**Bodaibo**	**34.09**	**41**	*e*P	**P**	**12 04 34.2**	**-1.6**
FINES	**FINESS Array B**	**35.65**	**325**	P	**P**	**12 04 49.2**	**+0.2**
	comp=Z,6.7nm,0.8s,mb4.6,baz=118,slow=9.3,SNR=25						
FINES	**FINESS Array B**	**35.65**	**325**	P	**P**	**12 04 49.2**	**+0.1**
FINES				pmax	pmax		
	comp=Z,7.0nm,0.8s						
FINES	**FINESS Array B**	**35.65**	**325**	P	**P**	**12 04 49.2**	**+0.2**
KAF	**Kangasniemi**	**35.78**	**326**	*e*p	**P**	**12 04 50.1**	**0.0**
	comp=Z,1.4nm,0.5s,mb4.2						
KAF	**Kangasniemi**	**35.78**	**326**	*e*P	**P**	**12 04 50.1**	**0.0**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
KEV	**Kevo**	**38.84**	**338**	*e*p	**P**	**12 05 15.0**	**-0.7**
ARCES	**ARCESS Array B**	**39.19**	**337**	P	**P**	**12 05 18.8**	**+0.2**
	comp=Z,4.0nm,0.7s,mb4.3,baz=110,slow=7.5,SNR=32						
ARCES				LR	LR	12 21 40.3	
	comp=Z,77nm,18.1s,MS3.6,baz=354,slow=36						
ARCES	**ARCESS Array B**	**39.19**	**337**	P	**P**	**12 05 18.8**	**+0.2**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ARCES				MLR	MLR		
	comp=Z,77nm,18.1s						
KTK1	**Kautokeino**	**39.67**	**336**	*e*P	**P**	**12 05 22.2**	**-0.4**
KTK1				AMb	AMB	12 05 28.8	
	comp=Z,33nm,2.0s,mb4.7						
CN2	**Changchun**	**41.07**	**64**	*e*P	**P**	**12 05 35.6**	**+1.1**
CN2				*e*XP	sP	12 05 49.3	-2.0
CN2				*e*S	**S**	**12 11 45.6**	**+1.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.7						
CN2				LR	LR		
	comp=N,600nm,13.0s,MS4.8						
CN2				LR	LR		
	comp=E,500nm,13.0s,MS4.8						
CN2				LR	LR		
	comp=Z,500nm,15.0s,MS4.5						
BRG	**Berggiesshubel**	**41.13**	**306**	*e*P	**P**	**12 05 35.9**	**+1.1**
BRG				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.2						
BRG	**Berggiesshubel**	**41.13**	**306**	P	**P**	**12 05 35.9**	**+1.1**
	comp=Z,6.8nm,0.9s,mb4.3						
GERES	**GERESS Array B**	**41.51**	**303**	P	**P**	**12 05 39.6**	**+1.7**
	comp=Z,1.0nm,0.7s,mb3.6,baz=72,slow=8.4,SNR=6.1						
GERES	**GERESS Array B**	**41.51**	**303**	P	**P**	**12 05 39.6**	**+1.7**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MOR8	**Moi Rana**	**41.92**	**330**	*e*P	**P**	**12 05 40.6**	**-0.5**
MELS	**Mels**	**42.36**	**331**	*e*P	**P**	**12 05 44.3**	**-0.4**
NB2	**NORSAR Subarra**	**42.59**	**322**	P	**P**	**12 05 46.9**	**+0.3**
	comp=Z,4.6nm,0.6s,mb4.4,baz=95,slow=8.6						
NB2	**NORSAR Subarra**	**42.59**	**322**	P	**P**	**12 05 46.9**	**+0.3**
	baz=94,slow=8.6						
NOA	**NORSAR Array B**	**42.59**	**322**	P	**P**	**12 05 47.1**	**+0.4**
	comp=Z,6.1nm,0.9s,mb4.3,baz=94,slow=8.0,SNR=14						
NOA	**NORSAR Array B**	**42.59**	**322**	P	**P**	**12 05 47.1**	**+0.5**
NOA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
YAK	**Yakutsk**	**42.61**	**37**	*e*P	**P**	**12 05 46.4**	**-0.3**
YAK				pmax	pmax		
	comp=N,3.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,22nm,0.9s,mb4.9						
YAK				pmax	pmax		
	comp=E,9.0nm,1.1s						
YAK	**Yakutsk**	**42.61**	**37**	*e*P	**P**	**12 05 46.4**	**-0.3**
	comp=E,22nm,0.9s,mb4.9						
MDJ	**Mudanjiang**	**43.80**	**62**	P	**P**	**12 05 55.8**	**-0.9**
MDJ				AMB	AMB		

	comp=Z,9.0nm,0.9s,mb4.5						
LPG	La Plagne	46.81	300	eP	P	12 06 20.7	+0.1
	comp=Z,3.8nm,0.5s,mb4.3						
LPL	La Plagne	46.82	300	eP	P	12 06 20.6	-0.1
	comp=Z,9.3nm,0.6s,mb4.6						
CABF	La Chapelle	46.98	302	eP	P	12 06 20.8	-1.1
	comp=Z,13nm,0.8s,mb4.6						
MBDF	Montbardon	47.00	299	eP	P	12 06 21.3	-0.8
	comp=Z,30nm,1.1s,mb4.8						
ORIF	Oris-en-Rattie	47.56	300	eP	P	12 06 25.3	-1.3
LOR	Lormes	48.28	303	eP	P	12 06 30.9	-1.3
AVF	Avril sur Loir	48.75	303	eP	P	12 06 34.6	-1.1
	comp=Z,12nm,0.9s,mb4.6						
KMBO	Kilima Mbogo	49.90	226	P	P	12 06 45.2	+0.2
	comp=Z,0.8nm,0.4s,mb4.1,baz=244,slow=23,SNR=5.3						
MTLF	Montolieu	50.55	299	eP	P	12 06 48.4	-1.2
SGMF	Saint Gilles	52.16	306	eP	P	12 07 00.6	-1.0
	comp=Z,30nm,0.9s,mb4.9						
DAG	Danmarks Havn	52.74	343	⇓iP	P	12 07 05.8	+0.1
	comp=Z,2.7nm,0.7s,mb4.3						
DAG	Danmarks Havn	52.74	343	⇓eP	P	12 07 05.8	+0.1
	comp=Z,2.7nm,0.7s,mb4.3						
MBAR	Mbarara	53.36	233	eP	P	12 07 11.2	0.0
	comp=Z,6.9nm,0.9s,mb4.6						
ESDC	Sonseca Array	56.22	297	P	P	12 07 31.6	0.0
	comp=Z,1.9nm,0.5s,mb4.4,baz=57,slow=7.1,SNR=10						
SUMG	Summit	59.08	341	eP	P	12 07 51.1	-0.2
	comp=Z,24nm,1.0s,mb5.2						
PET	Petropavlovsk	59.40	45	eP	P	12 07 51.2	-2.4
	comp=Z,11nm,1.1s,mb4.8						
RES	Resolute Bay	66.72	356	P	P	12 08 38.1	-3.4
	comp=Z,6.9nm,1.0s,mb4.6						
IMA	Indian Mountai	70.37	18	eP	P	12 09 04.7	+0.4
	comp=Z,25nm,0.7s,mb5.2						
INK	Inuvik	72.03	9	eP	P	12 09 14.6	+0.4
	comp=Z,11nm,0.6s,mb5.0						
ILAR	Eielson Array	73.00	16	P	P	12 09 20.1	+0.3
	comp=Z,4.3nm,0.9s,mb4.4,baz=338,slow=7.7,SNR=24						
ILAR	Eielson Array	73.00	16	P	P	12 09 20.2	+0.3
ILAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MCK	McKinley	73.44	17	eP	P	12 09 22.4	-0.1
	comp=Z,1.3nm,0.6s,mb4.0						
THY	Trims Highway	74.43	16	eP	P	12 09 27.6	-0.6
DBIC	Dimbokro	74.43	266	LR	LR	12 47 03.5	
	comp=Z,112nm,19.2s,MS4.2,baz=354,slow=40						
DAWY	Dawson	75.10	13	eP	P	12 09 32.8	+0.7
SML	Sawmill	75.24	18	eP	P	12 09 33.6	+0.7
FITZ	Fitzroy Crossi	76.37	127	P	P	12 09 40.4	+0.2
	comp=Z,1.0nm,0.8s,mb3.8,baz=196,slow=3.0,SNR=2.5						
YKA	Yellowknife Ar	79.30	2	P	P	12 09 56.6	+1.0
	comp=Z,4.2nm,0.6s,mb4.6,baz=352,slow=5.5,SNR=19						
YKA				LR	LR	12 47 07.3	
	comp=Z,65nm,21.0s,MS3.9,baz=15,slow=37						
YKA	Yellowknife Ar	79.30	2	P	P	12 09 56.6	+1.0
YKA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
YKA				MLR	MLR		
	comp=Z,65nm,21.0s						
WRA	Warramunga Arr	83.35	122	P	P	12 10 18.3	+0.7
	comp=Z,2.9nm,0.7s,mb4.4,baz=324,slow=4.7,SNR=30						
WRA	Warramunga Arr	83.35	122	P	P	12 10 18.3	+0.7
WRA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
WRAB	Tennant Creek	83.35	122	eP	P	12 10 17.9	+0.3
	comp=Z,7.3nm,0.8s,mb4.8						
ASAR	Alice Springs	85.69	125	P	P	12 10 30.1	+0.8
	comp=Z,1.4nm,0.7s,mb4.3,baz=312,slow=5.1,SNR=12						
EDM	Edmonton	88.62	2	eP	P	12 10 43.9	+1.1
PDAR	Pinedale Array	99.15	0	LR	LR	12 56 56.3	
	comp=Z,61nm,19.0s,MS4.1,baz=263,slow=36						
CPUP	Villa Florida	134.87	270	PKP	PKPdf	12 17 09.7	+1.5
	comp=Z,1.0nm,0.8s,baz=40,slow=12,SNR=3.0						
CPUP	Villa Florida	134.87	270	PKIKP	PKPdf	12 17 09.7	+1.5
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.8s						

NEIC 20 12:03:11.6, 38.04N×118.61W, h6^{km}, ML3.9(REN), MW3.6(BRK), 1D, After REN., California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OMM	Old Mammoth Mi	0.52	216	⇓iP	Pg	12 03 21.8	-0.1
MTUM	Tungsten Hills	0.69	177	eP	Pg	12 03 24.7	-0.6
TPH	Tonopah	1.10	88	eP	Pb	12 03 32.0	-0.5
CMB	Columbia Colle	1.40	270	eP	Pn	12 03 37.0	-0.8
CMB				eS	Sb	12 03 54.7	-1.1
WCN	Washoe City	1.55	325	eP	Pn	12 03 40.2	+0.4
PAHR	Pah Rah Range	1.77	340	eP	Pn	12 03 43.0	0.0
DAC	Darwin (Calif)	1.94	155	eP	Pn	12 03 46.0	+0.6
TPNV	Topopah Spring	2.17	119	ePn	Pn	12 03 48.3	-0.5
TRCR	Troy Canyon	2.41	82	ePn	Pn	12 03 52.1	-0.1
LRV	Little Rabbit	2.51	231	ePn	Pn	12 03 53.2	-0.4
SAO	San Andreas Ge	2.59	241	ePn	Pn	12 03 54.8	0.0
OHCM	Honcut	2.59	301	ePn	Pn	12 03 55.5	+0.7
BMN	Battle Mountai	2.62	24	ePn	Pn	12 03 54.0	-1.2
LKC	Lake Chabot	2.75	265	ePn	Pn	12 03 56.9	-0.1
NSHM	Saint Helena R	3.18	280	ePn	Pn	12 04 01.8	-1.4
MWC	Mount Wilson	3.83	173	Pn	Pn	12 04 12.2	-0.3
NEN	Nelson	3.85	127	ePn	Pn	12 04 11.9	-0.8
WDC	Whiskeytown Da	3.96	311	Pn	Pn	12 04 13.6	-0.7
MOD	Modoc	4.07	342	ePn	Pn	12 04 14.7	-1.1
ARUT	Antelope Range	4.10	92	ePn	Pn	12 04 14.7	-1.5
PFO	Pinyon Flat Ob	4.75	158	Pn	Pn	12 04 22.7	-2.8
DUG	Dugway	5.00	63	Pn	Pn	12 04 26.1	-2.9
MVU	Marysvale	5.06	83	Pn	Pn	12 04 27.6	-2.2
MSU	Marysvale	5.09	83	Pn	Pn	12 04 27.6	-2.6
BGU	Big Grassy Mou	5.19	55	ePn	Pn	12 04 28.5	-3.2
NLU	North Lily Min	5.44	67	ePn	Pn	12 04 35.7	+0.5
MPU	Maple Canyon	5.78	68	ePn	Pn	12 04 37.3	-2.8
HVU	Hansel Valley	5.84	48	Pn	Pn	12 04 39.1	-1.7
TMUT	Trail Mountain	5.93	75	ePn	Pn	12 04 39.5	-2.6
JLU	Jordanelle	6.11	63	Pn	Pn	12 04 40.6	-4.1
DAU	Daniels Canyon	6.18	65	Pn	Pn	12 04 44.2	-1.5
SRU	San Rafael	6.43	78	ePn	Pn	12 04 45.1	-4.0

*IDC **20** 12:10:22.5±1.6, 38.28N×70.48E, mb3.8/6, mb1 4.0/8, mb1mx3.8/21, ML3.9/1, MS4.2/1, Ms1 4.2/1, ms1mx2.7/21, Error ellipse: s-maj=38.4km s-min=25.3km az=49.0*
*NNC **20** 12:10:24.6±4.0, 38.60N×70.43E, mpv4.5, Error ellipse: s-maj=37.3km s-min=36.5km az=121.0*
*MOS **20** 12:10:24.9±2.9, 38.28N×70.37E, h33^{km}, mb4.2/4, Error ellipse: s-maj=45.5km s-min=20.5km az=72.4*
*NEIC **20** 12:10:28.9±4.0, 38.54N×70.66E, h39^{km}±27^{km}, mb4.3/1, Error ellipse: s-maj=38.9km s-min=16.4km az=199.0*
*BJI **20** 12:10:31.2, 38.88N×70.72E, h12^{km}, mb3.9, ML4.1*
ISC 20 12:10:29.5±1.9, **38.68N**±0.09×**70.3E**±0.1, **h53**^{km}±16^{km}, **n41**, σ**1**^{s}**52**/45, **mb3.8**/8, **MS4.2**/1, **7C-6D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	4.32	36	P	P	12 11 34.6	+0.2
	SNR=12						
KSH	Kashi	4.51	78	⇓P	P	12 11 36.4	-0.6
KSH				S	S	12 12 31.4	+2.6
KSH				Smax			
	comp=N,310nm,1.4s						
KSH				Smax			
	comp=E,210nm,0.9s						
EKS2	Erkin-Say	4.79	33	P	P	12 11 44.6	+3.7
	SNR=6.0						
UCH	Uchtor	4.80	41	P	P	12 11 40.9	-0.1
	SNR=12						
AAK	Ala-Archa	5.09	38	⇓Pn	P	12 11 45.4	+0.3
	comp=E,35nm,0.5s						
AAK				⇓Sn	S	12 12 43.4	+0.1
	comp=E,53nm,0.7s						
AAK				⇑Lg		12 13 06.2	
	comp=E,63nm,0.8s						
AAK	Ala-Archa	5.09	38	P	P	12 11 45.5	+0.4
	SNR=21						
AAK	Ala-Archa	5.09	38	eP	P	12 11 42.8	-2.2
	comp=E,25nm,0.6s						
KZA	Kyzart	5.09	47	P	P	12 11 44.5	-0.6
	SNR=14						
FRU	Bishkek	5.30	37	ePN	P	12 11 52.0	+4.0
FRU				eS	S	12 13 03.0	+14
FRU				pmax	pmax		
	comp=Z,80nm,1.2s						
FRU				pmax	pmax		
	comp=E,420nm,1.9s						
KBK	Karagaybulak	5.33	40	P	P	12 11 48.9	+0.5
	SNR=49						
CHMS	Chumysh	5.49	37	P	P	12 11 53.6	+2.9
	SNR=20						
USP	Ospenovka	5.59	34	P	P	12 11 54.5	+2.5
	SNR=11						
ULHL	Ulahol	5.78	50	P	P	12 11 52.8	-1.9
	SNR=11						
TKM2	Tokmak 2	5.85	42	P	P	12 11 59.0	+3.3
	SNR=45						
DDI	Dehra Dun	10.52	140	e	P	12 13 10.0	+10
DDI				e		12 14 48.0	
MK31	Makanchi Array	11.98	44	⇑Pn	P	12 13 17.6	-2.2
	baz=231,slow=12,SNR=19						
KURK	Kurchatov	13.40	23	Pn	P	12 13 36.9	-1.8
KURK				Sn	S	12 15 54.5	-12
KURK				⇑Lg		12 17 33.6	
	comp=E,18nm,2.2s						
KURK	Kurchatov	13.40	23	eP	P	12 13 36.7	-2.0
	comp=E,2.1nm,0.7s						
VOSK	Vostochnaya	14.05	2	⇑Pn	P	12 13 45.0	-2.1
	comp=E,8.4nm,1.4s						
VOSK				⇑Lg		12 17 50.0	
	comp=E,18nm,1.4s						
ZRNK	Zerenda	14.30	357	⇓Pn	P	12 13 50.6	+0.3
	comp=E,5.8nm,1.3s						
ZRNK				⇑Sn	S	12 16 28.5	+0.4
	comp=E,2.4nm,1.1s						
ZRNK				⇑Lg		12 18 01.7	
	comp=E,16nm,1.9s						
ZRNK	Zerenda	14.30	357	eP	P	12 13 50.6	+0.3
	comp=E,1.6nm,0.5s						
BVA0	Borovoye Array	14.35	0	⇓Pn	P	12 13 50.7	-0.2
	comp=E,0.5nm,0.8s,baz=159,slow=14,SNR=12						
BVA0				⇓Lg		12 17 54.1	
	comp=E,2.3nm,1.4s						
BVAR	Borovoye Array	14.35	0	Pn	P	12 13 49.3	-1.7
	comp=E,0.5nm,0.3s,baz=166,slow=13,SNR=8.8						
BVAR				Lg		12 17 59.1	
	comp=E,0.1nm,0.3s,baz=186,slow=28,SNR=2.5						
BRVK	Borovoye	14.38	0	eP	P	12 13 51.3	-0.1
	comp=E,3.9nm,0.6s						
ZAL	Zalesovo	18.20	28	P	P	12 14 37.8	-2.0
	comp=E,0.9nm,0.3s,baz=260,slow=9.2,SNR=3.5						
ZAL	Zalesovo	18.20	28	P	P	12 14 37.8	-2.0
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GTA	Gaotai	22.91	79	eP	P	12 15 33.5	+4.1
GTA				AP		12 15 37.1	
GTA				XP		12 15 39.8	
GTA				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb3.9						
ZAK	Zakamensk	26.06	53	eP	P	12 15 54.8	-4.6
SONM	Songino Array	27.64	59	P	P	12 16 12.4	-1.6
	comp=Z,0.4nm,0.7s,mb3.2,baz=265,slow=9.2,SNR=3.9						
FINES	FINESS Array B	35.37	325	P	P	12 17 23.1	+1.6
	comp=Z,2.8nm,0.9s,mb4.2,baz=111,slow=12,SNR=3.8						
FINES	FINESS Array B	35.37	325	P	P	12 17 23.1	+1.6
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARCES	ARCESS Array B	38.91	337	P	P	12 17 52.1	+0.9
	comp=Z,5.9nm,1.1s,mb4.2,baz=112,slow=9.7,SNR=4.3						
ARCES	ARCESS Array B	38.91	337	P	P	12 17 52.1	+0.9
ARCES				pmax	pmax		
	comp=Z,6.0nm,1.1s						
NOA	NORSAR Array B	42.31	322	P	P	12 18 20.8	+1.6
	comp=Z,0.9nm,0.8s,mb3.4,baz=140,slow=7.3,SNR=2.7						
NOA	NORSAR Array B	42.31	322	P	P	12 18 20.8	+1.7
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TGY	Tagaytay City	50.80	104	LR	LR	12 41 20.9	
	comp=Z,264nm,21.9s,MS4.2,baz=62,slow=37						
INK	Inuvik	71.85	9	eP	P	12 21 48.4	+0.5
	comp=Z,2.4nm,0.6s,mb4.3						
ILAR	Eielson Array	72.84	16	P	P	12 21 54.8	+1.1
	comp=Z,0.6nm,0.8s,mb3.5,baz=315,slow=3.8,SNR=5.5						
ILAR	Eielson Array	72.84	16	P	P	12 21 54.8	+1.1
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	Eielson Array	72.84	16	P	P	12 21 54.8	+1.1
WRA	Warramunga Arr	83.63	122	P	P	12 22 51.5	-2.3
	comp=Z,0.4nm,0.8s,mb3.6,baz=323,slow=4.8,SNR=5.6						

*NAO **20** 12:33:41.8±3.1, 58.92N×9.75E, ML2.3*
*CSEM **20** 12:33:45.6±0.6, 59.09N×9.84E, h10^{km}, ML1.2, Error ellipse: s-maj=17.8km s-min=5.8km az=164.0*
*BER **20** 12:33:46.5±2.9, 59.04N×9.91E, MD1.8, ML1.2, ML2.3(NAO), Suspected explosion*
ISC 20 12:33:44.8±1.5, **59.2N**±0.1×**9.89E**±0.10, **n7**, σ**0**^{s}**62**/13, **Southern Norway**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BLS5	Blasjo	1.78	279	eP	Pn	12 34 17.4	+0.4
BLS5				eS	Sn	12 34 40.4	-0.1
BLS5				AML	AML	12 34 43.3	
	comp=Z,3.9nm,0.3s						
BLS5	Blasjo	1.78	279	eP	Pn	12 34 17.4	+0.4
	SNR=50						
BLS5				eS	Sn	12 34 40.4	-0.2
	comp=Z,3.9nm,0.3s,SNR=50						
ODD1	Odda	1.81	295	eP	Pn	12 34 16.8	-0.7
ODD1				eS	Sn	12 34 42.6	+1.1
NB2	NORSAR Subarra	1.97	19	Pn	Pn	12 34 19.3	-0.5
NB2				Pg	Pg	12 34 23.4	-0.7
NB2				Lg		12 34 51.8	
HFS	Hagfors	2.15	62	Pn	Pn	12 34 22.4	+0.1
	baz=251,slow=16						
HFS				Sn	Sn	12 34 50.9	+0.8
	baz=239,slow=28						
HFS				Lg		12 34 55.4	
	baz=232,slow=37						
HFS	Hagfors	2.15	62	Pn	Pn	12 34 22.5	+0.2
	baz=251,slow=14,SNR=7.8						
HFS				Sn	Sn	12 34 50.9	+0.8
	baz=239,slow=27						
KMY	Karmoy	2.39	273	eP	Pn	12 34 25.2	-0.5

*HEL **20** 12:35:17.2±0.3, 61.42N×34.61E, ML2.1, ML2.1(NAO), Explosion*
*NAO **20** 12:35:21.5±7.1, 61.90N×34.13E, ML2.1*
ISC 20 12:35:18.9±2.2, **61.46N**±0.08×**34.2E**±0.2, **n8**, σ**0**^{s}**74**/18, **Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOF	Joensuu	1.99	319	eP	Pn	12 35 54.6	+0.5
JOF				eS	Sn	12 36 21.6	+1.5
JOF				MSG		12 36 22.4	
	comp=Z,20nm,0.3s						
VJF	Virojoki	3.35	257	eP	Pn	12 36 13.7	+0.1
VJF				eS	Sn	12 36 54.8	+0.1
KAF	Kangasniemi	3.79	283	eP	Pn	12 36 20.2	+0.3
KAF				eS	Sn	12 37 05.3	-0.5
KAF				MSG		12 37 23.9	
	comp=Z,2.0nm,0.3s						
FIA0	FINESS Array S	3.89	273	eP	Pn	12 36 20.8	-0.4
FIA0				ePG	Pg	12 36 31.8	-4.7
FIA0				eS	Sn	12 37 08.7	+0.5
FIA0				eSG	Sg	12 37 22.9	-5.4
FIA0	FINESS Array S	3.89	273	Pn	Pn	12 36 20.8	-0.4
	baz=100,slow=14						
FIA0				Pg	Pg	12 36 31.8	-4.7
	baz=93,slow=16						
FIA0				Sn	Sn	12 37 08.7	+0.5
	baz=94,slow=28						
FIA0				Lg		12 37 22.9	
	baz=80,slow=37						
KJN	Kajaani	3.97	314	eP	Pn	12 36 21.8	-0.6
KJN				eS	Sn	12 37 09.2	-1.2
KJN				MSG		12 37 24.1	
	comp=Z,3.9nm,0.2s						
ARA0	ARCESS Array S	8.86	340	Pn	P	12 37 24.9	-6.3
	baz=151,slow=14						
ARA0				Sn	Sn	12 38 57.8	-15
	baz=149,slow=28						
ARA0	ARCESS Array S	8.86	340	eP	P	12 37 24.9	-6.3
ARA0				e		12 38 57.8	

*IDC **20** 13:17:54.0±0.6, 0.87N×28.87W, mb4.1/12, mb1 4.3/12, mb1mx4.3/18, MS4.1/17, Ms1 4.1/17, ms1mx4.0/21, Error ellipse: s-maj=27.2km s-min=15.3km az=143.0*
*NEIC **20** 13:17:55.5±0.4, 0.80N×28.82W, h10^{km}, mb4.8/1, Error ellipse: s-maj=16.9km s-min=7.8km az=147.0*
ISC 20 13:17:53.9±0.5, **0.8N**±0.1×**28.84W**±0.09, **h10**^{km}, **n27**, σ**1**^{s}**03**/20, **mb4.3**/16, **MS4.2**/17, **Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RCBR	Riachuelo	9.68	227	eP	P	13 20 13.8	-2.6
	67nm,0.8s						
LIC	Lamto	24.35	77	eP	P	13 23 13.2	-0.2
	190nm,1.9s,mb5.2						
TIC	Toumodi	24.44	76	eP	P	13 23 13.4	-0.9
	133nm,1.4s,mb5.2						
DBIC	Dimbokro	24.61	76	P	P	13 23 16.2	+0.3
	baz=246,slow=12						
DBIC				LR	LR	13 31 03.5	
	comp=Z,750nm,18.3s,MS4.2,baz=237,slow=32						
DBIC	Dimbokro	24.61	76	P	P	13 23 16.2	+0.3
DBIC				LR	LR	13 31 03.5	
KIC	Kosan Boka	24.66	77	eP	P	13 23 16.4	0.0
	103nm,1.1s,mb5.3						
BDFB	Brasilia	25.05	228	P	P	13 23 20.6	+0.5
	10nm,0.9s,mb4.4,baz=75,slow=7.3,SNR=7.4						
BDFB				LR	LR	13 32 24.5	
	comp=Z,855nm,18.4s,MS4.3,baz=75,slow=35						
CPUP	Villa Florida	38.54	223	P	P	13 25 18.6	-0.1
	5.4nm,1.1s,mb4.2,baz=61,slow=11,SNR=3.8						
CPUP				LR	LR	13 40 44.5	
	comp=Z,892nm,19.7s,MS4.6,baz=85,slow=36						
LPAZ	La Paz	42.35	245	P	P	13 25 52.1	+1.9
	2.7nm,0.2s,mb4.4,baz=266,slow=0.2,SNR=2.0						
LPAZ				LR	LR	13 42 32.5	
	comp=Z,321nm,20.5s,MS4.2,baz=68,slow=35						
ESDC	Sonseca Array	44.81	27	P	P	13 26 10.9	+0.9
	2.5nm,0.8s,mb4.1,baz=223,slow=9.3,SNR=8.2						
ESDC				LR	LR	13 44 15.6	
	comp=Z,89nm,18.4s,MS3.7,baz=240,slow=35						
VAE	Valguarnera	53.97	42	LR	LR	13 48 39.0	
	comp=Z,217nm,19.9s,MS4.2,baz=140,slow=34						
GRA1	Grafenberg Arr	59.46	29	eP	P	13 27 59.2	-0.2
	6.0nm,0.8s,mb4.7						
GERES	GERESS Array B	60.15	31	P	P	13 28 04.2	0.0
	2.8nm,0.8s,mb4.3,baz=233,slow=6.7,SNR=14						
KMBO	Kilima Mbogo	66.11	92	P	P	13 28 45.9	+1.8
	0.3nm,0.3s,mb3.8,baz=226,slow=21,SNR=3.0						
KMBO				LR	LR	13 54 14.3	
	comp=Z,157nm,18.4s,MS4.2,baz=283,slow=33						
EIL	Elat	66.95	58	LR	LR	13 58 52.8	
	comp=Z,343nm,18.3s,MS4.6,baz=300,slow=37						
NOA	NORSAR Array B	67.34	20	P	P	13 28 50.6	-0.5
	3.4nm,1.1s,mb4.3,baz=224,slow=6.3,SNR=2.9						
NOA				LR	LR	13 52 57.0	
	comp=Z,65nm,21.3s,MS3.8,baz=220,slow=31						
BRTR	Keskin Array B	68.55	47	P	P	13 28 59.2	+0.1
	1.1nm,0.6s,mb3.9,baz=248,slow=6.7,SNR=5.5						
BRTR				LR	LR	14 00 41.7	
	comp=Z,102nm,19.5s,MS4.1,baz=145,slow=38						
AKASG	Malin Array Be	69.66	35	P	P	13 29 03.7	-2.0
	1.6nm,0.5s,mb4.2,baz=241,slow=7.1,SNR=12						
FINES	FINESS Array B	73.20	24	LR	LR	13 58 06.8	
	comp=Z,100nm,18.7s,MS4.1,baz=188,slow=33						
ULM	Lac du Bonnet	74.83	322	LR	LR	13 56 27.8	
	comp=Z,81nm,18.0s,MS4.1,baz=252,slow=31						
TXAR	Lajitas Array	76.37	300	P	P	13 29 45.0	-0.6
	0.4nm,0.6s,mb3.5,baz=117,slow=5.6,SNR=6.2						
TXAR				LR	LR	14 03 08.6	
	comp=Z,56nm,18.1s,MS3.9,baz=15,slow=36						
PDAR	Pinedale Array	82.61	313	P	P	13 30 20.2	+1.3
	0.3nm,0.7s,mb3.4,baz=90,slow=9.0,SNR=2.9						
PDAR				LR	LR	14 00 47.4	
	comp=Z,132nm,21.7s,MS4.3,baz=91,slow=31						
YKA	Yellowknife Ar	87.29	332	LR	LR	14 05 47.6	
	comp=Z,120nm,19.8s,MS4.3,baz=100,slow=33						
NVAR	Mina Array Bea	89.06	308	P	P	13 30 50.5	-0.5
	0.3nm,0.6s,mb3.8,baz=103,slow=6.8,SNR=3.6						
NVAR				LR	LR	14 03 54.1	
	comp=Z,92nm,20.8s,MS4.2,baz=315,slow=31						
NVAR	Mina Array Bea	89.06	308	P	P	13 30 50.5	-0.5
NVAR				LR	LR	14 03 54.1	
MAW	Mawson	91.43	157	LR	LR	14 05 13.6	
	comp=Z,45nm,21.5s,MS3.9,baz=68,slow=31						
ASAR	Alice Springs	151.81	145	PKPbc	PKPdf	13 37 51.2	+4.9
	0.6nm,0.8s,baz=188,slow=3.2,SNR=5.8						
ASAR				PKPab	PKPab	13 37 58.1	-3.0
	0.7nm,0.8s,baz=190,slow=2.6,SNR=5.7						

*CSEM **20** 13:24:22.6±0.5, 39.58N×30.91E, h12^{km}, MD2.6, Error ellipse: s-maj=13.0km s-min=10.2km az=8.0*
ISK 20 13:24:20.5, 39.75N×30.87E, h10^{km}, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ESKT	Eskisehir	0.23	183	i PG	Pg	13 24 25.9	+0.4
ESKT				i SG	Sg	13 24 29.4	+0.6
ALT	Altintas	0.91	220	PG	Pg	13 24 38.1	-0.7
ALT				SG	Sg	13 24 51.2	+0.2
KIZT	Kizilcal	1.17	138	ePN	Pn	13 24 43.0	+0.1
KIZT				eSN	Sn	13 25 00.2	+1.2

*CSEM **20** 13:25:26.9±0.5, 38.75N×29.14W, ML2.3, Error ellipse: s-maj=16.1km s-min=5.1km az=47.0, After PDA*
*PDA **20** 13:25:26.9±0.5, 38.75N×29.14W, MD3.2, ML2.3, Error ellipse: s-maj=16.1km s-min=5.1km az=47.0*
SVSA 20 13:25:26.9±0.5, **38.75N×29.14W, MD3.2, ML2.3, Error ellipse: s-maj=16.1km s-min=5.1km az=47.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCED	Cedros	0.37	109	eP	Pg	13 25 33.8	-0.4
PCED				eS	Sg	13 25 38.8	-0.3
	75nm,0.3s						
PCED	Cedros	0.37	109	eP	Pg	13 25 33.8	-0.4
PCED				eS	Sg	13 25 38.8	-0.3
	75nm,0.3s						
CALA	Caldeira	0.39	116	eS	Sg	13 25 39.7	0.0
PICO	Pico	0.62	114	eP	Pg	13 25 37.8	-1.4
PICO				eS	Sg	13 25 46.2	-1.2
ROSA	Rosais	0.71	92	eP	Pg	13 25 39.3	-1.7

DJA 20 14:48:33.2±0.8, **9.44S×113.88E, h33**^{km}, **MD4.8**/4, **ML3.7**/3, **3C-6D, Error ellipse: s-maj=18.4km s-min=10.6km az=44.0, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SRDI	Scrawed	0.99	15	⇑iPn	Pn	14 48 49.6	-1.3
	44nm,0.2s						
SRDI				⇓iSn	Sn	14 48 59.6	-4.3
KELI	Kelakatan	1.36	27	⇑iPn	Pn	14 48 55.2	-1.0
KELI				⇓iSn	Sn	14 49 12.4	-0.8
RATI	Rata	1.78	67	⇓iPn	Pn	14 49 01.6	-0.7
	181nm,0.2s						
RATI				⇓iSn	Sn	14 49 20.7	-3.3
KEDI	Kedomdong	2.40	67	⇑iPn	Pn	14 49 09.3	-1.9
	27nm,0.2s						
KEDI	Kedomdong	2.40	67	⇓iP	P	14 49 09.7	-1.3
KEDI				⇓iSn	Sn	14 49 35.7	-4.1

*STR **20** 15:05:04.3±0.8, 43.08N×2.04W, h10^{km}±1^{km}, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **20** 15:05:04.9±0.3, 43.07N×2.03W, h5^{km}, Md2.7/1, Ml2.8/9, Error ellipse: s-maj=6.4km s-min=3.9km az=30.0*
*NEIC **20** 15:05:05.2, 43.50N×1.90W, ML2.8(LDG), ML2.6(STR), MN2.2(MDD), After MDD.*
*CSEM **20** 15:05:05.9±0.1, 43.06N×1.97W, h5^{km}, ML2.8/7, Error ellipse: s-maj=2.2km s-min=1.3km az=7.0*
*MDD **20** 15:05:06.7±0.6, 43.13N×1.94W, h9^{km}±3^{km}, mbLg2.3/7, Error ellipse: s-maj=6.0km s-min=3.4km az=162.0, PRXIMO*
ISC 20 15:05:03.9±0.6, **43.27N**±0.03×**1.99W**±0.03, **h9**^{km}±3^{km}, **n41**, σ**1**^{s}**26**/69, **Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EALK	Alkurruntz	0.36	98	Pg	Pg	15 05 13.0	+1.7
	8.2nm,0.1s,SNR=7.9						
EALK				Lg		15 05 17.9	
	40nm,0.1s,SNR=7.9						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OSSF	Osses	0.54	91	Pg	Pg	15 05 16.3	+1.6
OSSF				Sg	Sg	15 05 24.4	+2.5
OSSF	Osses	0.54	91	P	Pg	15 05 16.4	+1.7
OSSF				S	Sg	15 05 23.4	+1.5
SJPF	Ste Jean	0.58	105	ePg	Pg	15 05 15.8	+0.1
SJPF				eSg	Sg	15 05 23.4	-0.1
	29nm,0.2s						
LARF	Larrau	0.77	107	Pg	Pg	15 05 19.1	-0.3
LARF				Sg	Sg	15 05 30.2	+0.5
LARF	Larrau	0.77	107	P	Pb	15 05 19.1	+0.1
LARF				S	Sb	15 05 29.4	0.0
ORDF	Ordiarp	0.78	94	Pg	Pg	15 05 19.3	-0.2
ORDF				Sg	Sg	15 05 31.2	+1.4
ORDF	Ordiarp	0.78	94	P	Pb	15 05 20.3	+1.2
ORDF				S	Sb	15 05 30.2	+0.7
ATE	Arette	0.96	101	P	Pb	15 05 23.6	+1.3
ATE				S	Sb	15 05 35.7	+0.7
ELAN	Lanestosa	1.05	268	Pg	Pg	15 05 25.7	+0.8
	5.5nm,0.2s,SNR=4.0						
ELAN				Lg		15 05 42.7	
	11nm,0.2s,SNR=7.9						
ELAN	Lanestosa	1.05	268	Pg	Pg	15 05 25.8	+0.8
ELAN				Lg		15 05 42.7	
ELAN	Lanestosa	1.05	268	Pg	Pg	15 05 25.8	+0.8
ETSF	Etsaut	1.11	109	ePg	Pg	15 05 25.5	-0.7
ETSF				eSg	Sg	15 05 39.0	-2.1
	48nm,0.2s						
REYF	Montagne du Re	1.19	99	S	Sb	15 05 41.7	+0.2
VIEF	Viey	1.53	104	S	Sb	15 05 51.1	-0.2
LABF	Labassere	1.53	98	S	Sb	15 05 52.3	+0.9
EBIE	Bielsa	1.67	110	Pg	Pg	15 05 35.8	-1.5
	5.6nm,0.2s,SNR=7.9						
EBIE				Lg		15 05 57.1	
	20nm,0.1s,SNR=7.9						
EBIE	Bielsa	1.67	110	Pg	Pg	15 05 35.8	-1.5
	5.6nm,0.2s,SNR=7.9						
EPF	Esparros	1.72	97	ePn	Pn	15 05 34.4	0.0
EPF				ePg	Pg	15 05 37.4	-1.0
EPF				eSg	Sg	15 05 58.8	-2.6
	18nm,0.2s						
ESAC	San Caprasio	1.92	143	Pg	Pn	15 05 39.4	+2.3
	5.2nm,0.1s,SNR=7.9						
ESAC				Lg		15 06 02.4	
	46nm,0.2s,SNR=7.9						
ESAC	San Caprasio	1.92	143	Pn	Pn	15 05 39.4	+2.3
ESAC				Pg	Pg	15 05 42.8	+0.7
ESAC				Sn	Sn	15 06 02.4	+0.8
EARI	Arriondas	2.35	272	Sn	Sn	15 06 13.0	+0.4
	SNR=7.9						
EARI	Arriondas	2.35	272	Sn	Sn	15 06 11.7	-0.9
	SNR=7.9						
ETOR	Torete	2.45	181	Pn	Pn	15 05 43.5	-1.3
	2.8nm,0.2s,SNR=7.9						
ETOR				Pg	Pg	15 05 50.7	-2.1
	3.5nm,0.2s,SNR=7.9						
ETOR				Sn	Sn	15 06 12.1	-3.1
	SNR=7.9						
ETOR				Lg		15 06 20.1	
	3.5nm,0.2s,SNR=7.9						
ETOR	Torete	2.45	181	Pn	Pn	15 05 43.5	-1.3
ETOR				Pg	Pg	15 05 50.7	-2.1
ETOR				Sn	Sn	15 06 20.1	+4.9
LFF	La Frestale	2.58	49	ePn	Pn	15 05 48.2	+1.6
LFF				eSg	Sg	15 06 31.6	+1.7
	8.3nm,0.3s						
EMIR	Miracle	2.93	116	Pg	Pg	15 06 00.1	-2.4
	SNR=7.9						
EMIR				Lg		15 06 36.8	
	SNR=4.0						
EPOB	Poblet	2.98	129	Pg	Pg	15 05 59.2	-4.2
	SNR=7.9						
EPOB				Sn	Sn	15 06 24.8	-3.7
	SNR=7.9						
EPOB	Poblet	2.98	129	Pg	Pg	15 05 59.2	-4.2
EPOB				Sn	Sn	15 06 24.8	-3.7
EBR	Ebro Roquetas	3.07	142	eSN	Sn	15 06 35.5	+4.6
MTLF	Montolieu	3.07	87	ePn	Pn	15 05 53.2	-0.5
MTLF				eSn	Sn	15 06 28.0	-3.0
MTLF				eSg	Sg	15 06 42.4	-3.9
	1.2nm,0.2s						
EMOS	Mosqueruela	3.12	158	Pg	Pg	15 06 02.3	-3.9
	SNR=7.9						
EMOS				Sn	Sn	15 06 28.5	-3.6
	SNR=7.9						
EMOS				Lg		15 06 41.2	
	SNR=7.9						
EMOS	Mosqueruela	3.12	158	Pg	Pg	15 06 02.3	-3.9
EMOS				Sn	Sn	15 06 38.3	+6.1
EMOS	Mosqueruela	3.12	158	Pg	Pg	15 06 02.3	-3.9
RJF	Les Rejaudoux	3.24	50	eSg	Sg	15 06 50.7	-1.0
	4.8nm,0.3s						
CAF	Calviac	3.36	59	ePn	Pn	15 05 58.3	+0.6
CAF				eSn	Sn	15 06 37.4	-0.8
CAF				eSg	Sg	15 06 54.6	-1.2
	2.6nm,0.3s						
QUIF	Quistinic	4.72	350	ePn	Pn	15 06 16.5	-0.5
QUIF				eSn	Sn	15 07 06.5	-6.1
	4.9nm,0.2s						
BGF	Bois d'Agland	4.75	45	ePn	Pn	15 06 18.1	+0.5
BGF				eSn	Sn	15 07 11.3	-2.2
	5.1nm,0.4s						
ROSF	Rostrenen	5.14	350	eSn	Sn	15 07 19.1	-4.2
	2.5nm,0.2s						
SMF	Signal de Mont	5.34	49	ePn	Pn	15 06 26.0	+0.2
FLN	La Foliniere	5.59	10	ePn	Pn	15 06 30.4	+1.0

IDC ***20*** *15:39:53.9±3.7, 12.74N×87.62W, mb3.8/7, mb1 4.1/7, mb1mx3.9/20, Error ellipse: s-maj=109.0km s-min=60.8km az=37.0*

CASC ***20*** *15:40:03.4±2.4, 12.64N×88.57W, h36km±6km, MD4.3, ML3.9*

ISC 20 15:40:03.0±0.4**, 12.64N**±0.04×**88.56W**±0.03**, h64**km±6km**, n51,** σ1.00/83**, mb3.8**/7**, 12C-15D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VSM	San Miguel	0.83	20	⇑eP	P	15 40 19.4	+0.2
VSM				eS	S	15 40 31.4	+0.1
BLLM	Bellamira	0.85	21	⇑iP	P	15 40 19.6	+0.1
BLLM				eS	S	15 40 30.0	-1.8
CNCH	Conchagua	0.95	48	⇑eP	P	15 40 20.5	-0.3
CNCH				eS	S	15 40 33.9	0.0
SNVI	San Vicente	1.00	344	⇓eP	P	15 40 21.0	-0.5
SNVI				eS	S	15 40 33.6	-1.5
LCBS	La Ceiba	1.08	338	⇓iP	P	15 40 22.1	-0.6
LCBS				eS	S	15 40 39.5	+2.4
LFRS	El Faro	1.09	333	⇓iP	P	15 40 22.0	-0.7
LFRS				eS	S	15 40 37.3	0.0
CAHU	Cacacuatique	1.17	17	⇑eP	P	15 40 24.2	+0.5
CAHU				eS	S	15 40 39.1	-0.1
LBRS	Las Brisas	1.19	337	⇓eP	P	15 40 23.7	-0.2
LBRS				eS	S	15 40 38.4	-1.1
BOQS	Boqueron	1.29	327	⇓eP	P	15 40 24.9	-0.6
CRIN	San Cristobal	1.47	88	⇑eP	P	15 40 28.9	+1.0
CRIN				eS	S	15 40 45.9	-0.6
SBLS	San Blas	1.58	319	⇓eP	P	15 40 29.1	-0.2
SBLS				eS	S	15 40 49.5	+0.6
SNJE	San Jose	1.59	320	⇓eP	P	15 40 29.3	-0.2
SNJE				eS	S	15 40 49.5	+0.4
RTR	El Retiro	1.64	320	⇓eP	P	15 40 30.1	-0.1
LEON	Leon	1.64	98	⇑eP	P	15 40 29.8	-0.5
LEON				eS	S	15 40 50.9	+0.5
TEL3	Telica 3	1.68	92	⇓eP	P	15 40 30.7	0.0
TEL3				eS	S	15 40 52.5	+1.4
TELN	Telica	1.69	91	⇑eP	P	15 40 30.9	0.0
TELN				eS	S	15 40 51.1	-0.4
MIRN	Miramar	1.81	96	⇓eP	P	15 40 32.4	-0.2
MIRN				eS	S	15 40 55.9	+1.4
CNGN	Cerro Negro	1.82	94	eP	P	15 40 32.9	+0.2
CNGN				eS	S	15 40 57.0	+2.3
RBDL	Robledal	1.83	323	⇓eP	P	15 40 33.0	+0.2
RBDL				eS	S	15 40 55.3	+0.5
CUSS	Cusmapa	1.85	313	⇓eP	P	15 40 32.4	-0.6
CUSS				eS	S	15 40 55.1	-0.2
MTO2	Montecristo 2	1.91	336	eP	P	15 40 34.4	+0.4
COPN	Copaltepe	1.98	103	⇑eP	P	15 40 34.5	-0.4
COPN				eS	S	15 40 56.4	-2.0
MOMJ	Momotombo	1.98	97	⇓eP	P	15 40 34.8	-0.1
MOMJ				eS	S	15 40 59.3	+0.7
SOMN	Somoto	2.05	68	⇑eP	P	15 40 38.1	+2.3
SOMN				eS	S	15 40 58.8	-1.4
APYN	Apoyeque	2.20	100	⇑eP	P	15 40 37.9	0.0
APYN				eS	S	15 41 05.5	+1.6
XAVN	Gruta Xavier	2.24	102	⇓eP	P	15 40 38.6	0.0
XAVN				eS	S	15 41 05.8	+0.9
MGAN	Managua	2.31	102	eP	P	15 40 39.4	-0.2
MGAN				eS	S	15 41 06.8	0.0
MGAN				i		15 41 08.6	
	comp=N,918nm,0.3s						
TICN	Ticuantepe	2.35	105	eP	P	15 40 40.0	-0.2
WILN	Americas 2	2.37	101	eS	S	15 41 07.6	-0.6
IXG	Ixpaco	2.39	310	⇑eP	P	15 40 39.4	-1.3
IXG				eS	S	15 41 08.9	+0.1
MASN	Masaya	2.44	105	eP	P	15 40 41.3	-0.2
PYTN	Playitas	2.44	92	⇑eP	P	15 40 41.2	-0.3
PYTN				eS	S	15 41 10.6	+0.4
APON	Apoyo	2.54	106	eP	P	15 40 41.0	-1.8
NBG	Las Nubes	2.60	318	eP	P	15 40 43.0	-0.7
NBG				eS	S	15 41 17.0	+2.9
TP2	Tecpan 2	3.20	312	eP	P	15 40 52.5	+0.3
TP2				eS	S	15 41 31.7	+2.4
VCR	Vista de Mar	3.81	131	eP	P	15 40 59.8	-0.8
JCR	Jicaral	4.38	129	eP	P	15 41 07.6	-0.9
CGA2	Cerro Gallo 2	4.79	123	⇓eP	P	15 41 15.1	+0.7
CGA2				eS	S	15 42 09.3	+0.2
PRS1	Puriscal	4.93	122	eP	P	15 41 17.7	+1.4
PRS1				eS	S	15 42 12.4	-0.3
LAJ	Bijagual	5.16	122	eP	P	15 41 15.5	-3.9
LAJ				eS	S	15 42 08.5	-10
LCR2	La Lucha 2	5.32	122	eP	P	15 41 22.3	+0.6
LCR2				eS	S	15 42 19.6	-2.7
ICR	Volcan Irazu	5.34	119	eP	P	15 41 23.5	+1.5
URSC	Urasca	5.46	120	eP	P	15 41 24.2	+0.7
URSC				eS	S	15 42 24.6	-1.2
TXAR	Lajitas Array	21.75	322	P	P	15 44 51.8	+1.1
	comp=N,1.6nm,0.6s,mb3.6,baz=132,slow=11,SNR=5.4						
PDAR	Pinedale Array	35.10	333	P	P	15 46 52.2	+0.2
	comp=N,0.4nm,0.7s,mb3.5,baz=96,slow=13,SNR=3.2						
NVAR	Mina Array Bea	36.85	319	P	P	15 47 09.2	+2.3
	comp=N,0.5nm,0.6s,mb3.5,baz=132,slow=9.0,SNR=3.9						
ULM	Lac du Bonnet	37.98	352	P	P	15 47 13.4	-2.8
	comp=N,4.0nm,0.8s,mb4.2,baz=157,slow=9.2,SNR=3.2						
DLBC	Dease Lake	55.27	335	P	P	15 49 32.0	+0.1
	comp=N,1.3nm,0.5s,mb4.3,baz=153,slow=9.0,SNR=4.5						
INK	Inuvik	62.70	343	P	P	15 50 21.9	-1.4
	comp=N,1.0nm,0.6s,mb4.2,baz=116,slow=8.1,SNR=6.4						
ILAR	Eielson Array	65.41	336	P	P	15 50 39.1	-1.7
	comp=N,0.3nm,0.7s,mb3.5,baz=127,slow=4.5,SNR=5.5						
CMAR	Chiang Mai Arr	148.22	346	PKPbc	PKPdf	15 59 42.4	+3.2
	comp=N,0.2nm,0.5s,baz=351,slow=4.7,SNR=4.2						

CNRM ***20*** *15:40:17.1, 35.11N×2.72W, MD3.1*

CSEM ***20*** *15:40:20.6±0.2, 35.11N×3.05W, h12km, MD3.1, Error ellipse: s-maj=4.2km s-min=2.0km az=138.0*

SFS ***20*** *15:40:21.0, 35.09N×2.85W, ML3.6*

MDD 20 15:40:21.2±1.6**, 35.04N×2.90W, h12**km±5km**, mbLg2.4**/8**, 1D, Error ellipse: s-maj=15.2km s-min=13.4km az=64.0, PRXIMO, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MELI	Melilla	0.25	353	eP	Pg	15 40 25.7	-1.0
EMLI	Melilla	0.26	351	P	Pg	15 40 26.3	-0.5
	1μm,0.1s,SNR=18						
EMEL	Melilla	0.26	350	⇓P	Pg	15 40 26.3	-0.5
	SNR=18						
EMEL				S	Sg	15 40 30.2	-0.4
	2μm,0.1s,SNR=7.9						
TOU	Touzarine	0.71	264	eP	Pb	15 40 33.5	-1.5
TOU				i S	Sb	15 40 45.0	+0.6
MPAL	Palemas	0.87	282	eP	Pb	15 40 35.5	-2.3
MPAL				i S	Sb	15 40 48.0	-1.2
TZK	Tazeka	1.42	228	i P	Pn	15 40 45.0	-2.0
TZK				i S	Sb	15 41 05.0	-0.2
EBER	Berja	1.85	0	P	Pn	15 40 52.0	-1.2
	4.8nm,0.3s,SNR=5.4						
EBER				S	Sn	15 41 11.2	-5.5
	7.5nm,0.2s,SNR=7.9						
EBER	Berja	1.85	0	S	Sn	15 41 11.2	-5.4
	7.5nm,0.2s,SNR=7.9						
EBER	Berja	1.85	0	P	Pn	15 40 52.0	-1.2
	4.8nm,0.3s,SNR=5.4						
EMIJ	Mijas	2.15	315	P	Pn	15 40 55.1	-2.4
	2.7nm,0.1s,SNR=7.9						
EMIJ				S	Sn	15 41 20.5	-3.7
	5.0nm,0.2s,SNR=7.9						
EQES	Quesada	2.76	357	P	Pn	15 41 05.5	-0.6
	2.1nm,0.1s,SNR=7.9						
EQES				S	Sn	15 41 37.2	-2.4
	14nm,0.2s,SNR=7.9						
EQES	Quesada	2.76	357	P	Pn	15 41 05.5	-0.6
	2.1nm,0.1s,SNR=7.9						
EQES				S	Sn	15 41 37.2	-2.5
	14nm,0.2s,SNR=7.9						
EMUR	La Murta	3.10	25	P	Pn	15 41 08.1	-2.9
	4.2nm,0.2s,SNR=7.9						
EMUR				S	Sn	15 41 40.4	-7.9
	8.1nm,0.4s,SNR=7.9						
EMUR	La Murta	3.10	25	P	Pn	15 41 08.1	-2.9
	4.2nm,0.2s,SNR=7.9						
EADA	Adamuz	3.40	337	P	Pn	15 41 13.4	-1.9
	0.6nm,0.1s,SNR=7.9						
EADA				S	Sn	15 41 50.4	-5.4
	2.9nm,0.2s,SNR=7.9						
EADA	Adamuz	3.40	337	P	Pn	15 41 13.4	-1.8
	0.6nm,0.1s,SNR=7.9						
EADA				S	Sn	15 41 50.4	-5.5
	2.9nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	4.08	313	P	Pn	15 41 22.7	-2.2
	1.8nm,0.1s,SNR=17						
EMIN				S	Sn	15 42 07.6	-5.5
	1.3nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	4.08	313	P	Pn	15 41 22.7	-2.2
	1.8nm,0.1s,SNR=17						
EMIN				S	Sn	15 42 07.6	-5.6
	1.3nm,0.2s,SNR=7.9						
EBAD	Badajoz	4.96	320	P	Pn	15 41 35.0	-2.4
	1.1nm,0.1s,SNR=7.9						
EBAD				S	Sn	15 42 28.6	-6.8
	3.8nm,0.2s,SNR=7.9						
EBAD	Badajoz	4.96	320	P	Pn	15 41 35.0	-2.4
	1.1nm,0.1s,SNR=7.9						
EIBI	Ibiza	5.23	39	S	Sn	15 42 32.9	-9.2
	1.4nm,0.3s,SNR=7.9						

MAN 20 15:44:05.0, 8.91N×122.62E, h32km**, mb4.3, ML3.1, MS2.9, 1C, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNPH	Sibulan	0.75	55	⇑iP	Pn	15 44 19.5	+0.1
SNPH				i S	Sb	15 44 30.0	+0.5
IPIL	Ipil	1.11	182	eP	Pn	15 44 23.9	-0.6
IPIL				eS	Sn	15 44 37.1	-1.7
PAGZ	Pagadian	1.29	144	eP	Pn	15 44 27.8	+0.6
PAGZ				eS	Sn	15 44 47.0	+3.5
GUIM	Jordan	1.71	359	eP	Pn	15 44 33.8	+0.7
GUIM				eS	Sn	15 44 56.5	+2.4
CUYO	Cuyo Island	2.49	321	eP	Pn	15 44 43.7	-0.6

DJA ***20*** *15:47:40.5±0.2, 6.53S×108.30E, h300km, MD4.5/6, ML4.9/5, Error ellipse: s-maj=31.5km s-min=5.4km az=12.0*

IDC ***20*** *15:47:50.0±7.3, 6.20S×108.19E, h365km±82km, mb3.3/8, mb1 3.5/10, mb1mx3.4/18, Error ellipse: s-maj=38.1km s-min=13.7km az=60.0*

NEIC ***20*** *15:47:50.0±6.7, 6.09S×108.28E, h367km±73km, mb3.9/3, Error ellipse: s-maj=39.7km s-min=12.0km az=61.0*

ISC 20 15:47:41.6±0.5**, 6.0S**±0.1×**108.24E**±0.07**, h290**km±6km**, n32,** σ0.88/36**, mb4.0**/17**, 4C-8D, Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PACI	Pancar Gunung	1.43	247	⇓iPn	P	15 48 23.7	0.0
	42nm,0.2s						
KALI	Kaliastana	1.90	236	⇓iPn	P	15 48 25.9	-1.0
PASI	Pasiripis	2.71	256	⇓ePn	P	15 48 33.7	-0.6
	3μm,0.2s						
PASI	Pasiripis	2.71	256	⇓iP	P	15 48 34.4	+0.1
PASI				⇓iSn	S	15 49 09.0	-6.3
PENI	Pendagan	3.09	279	⇑iPn	P	15 48 39.2	+1.2
	231nm,0.2s						
PENI	Pendagan	3.09	279	⇓iP	P	15 48 40.4	+2.4
PENI				eSn	S	15 49 16.2	-5.8
SRDI	Scrawed	6.34	113	⇑iPn	P	15 49 14.7	-0.6
	115nm,0.2s						
SRDI				eSn	S	15 50 23.1	-5.8
KELI	Kelakatan	6.57	110	⇑ePn	P	15 49 18.9	+0.7
KELI				⇓iSn	S	15 50 33.9	0.0
RATI	Rata	7.71	111	⇓iPn	P	15 49 31.3	-0.9
	226nm,0.2s						
RATI				⇑iSn	Px	15 50 37.9	
FITZ	Fitzroy Crossi	20.79	127	eP	P	15 52 03.1	+1.6
	2.1nm,0.6s						
FITZ	Fitzroy Crossi	20.79	127	P	P	15 52 03.3	+1.8
	2.1nm,0.5s,baz=354,slow=2.8,SNR=15						
KAKA	Kakadu	24.73	107	eP	P	15 52 46.8	+8.0
	3.9nm,0.5s,mb4.1						
CMAR	Chiang Mai Arr	26.01	340	P	P	15 52 52.2	+1.8
	4.2nm,0.8s,mb3.9,baz=177,slow=8.5,SNR=37						
WRA	Warramunga Arr	28.88	121	P	P	15 53 16.0	-0.2
	0.8nm,0.4s,mb3.5,baz=312,slow=9.3,SNR=56						
WB2	Warramunga Arr	28.89	121	eP	P	15 53 15.8	-0.5
ASAR	Alice Springs	30.27	128	P	P	15 53 28.2	-0.2
	0.8nm,0.3s,mb3.7,baz=304,slow=8.3,SNR=39						
PKI	Pulchoki	40.04	328	eP	P	15 54 50.6	0.0
	2.9nm,0.4s,mb4.0						
GUN	Gumba	40.06	328	eP	P	15 54 51.4	+0.6
	14nm,0.4s,mb4.6						
DMN	Daman	40.23	327	eP	P	15 54 52.2	+0.1
	7.5nm,0.5s,mb4.3						
KKN	Kakani	40.28	328	eP	P	15 54 52.5	-0.1
	4.7nm,0.4s,mb4.2						
STKA	Stephens Creek	40.39	134	P	P	15 54 54.1	+0.7
	1.8nm,0.7s,mb3.5,baz=309,slow=12,SNR=3.1						
GKN	Gorkha	40.80	327	eP	P	15 54 56.1	-0.7
	9.4nm,0.3s,mb4.5						
KOLN	Koldanda	41.18	326	eP	P	15 54 59.9	0.0
	20nm,0.7s,mb4.4						
SONM	Songino Array	53.66	358	P	P	15 56 37.4	+1.9
	1.0nm,0.4s,mb3.5,baz=174,slow=8.1,SNR=12						
KURK	Kurchatov	62.03	339	eP	P	15 57 31.8	-1.6
ZAL	Zalesovo	62.92	345	P	P	15 57 38.0	-1.1
	0.9nm,0.3s,mb3.8,baz=279,slow=5.1,SNR=3.3						
ZAL	Zalesovo	62.92	345	P	P	15 57 38.0	-1.1
BVAR	Borovoye Array	66.98	336	P	P	15 58 04.7	-0.3
	1.5nm,0.6s,mb3.9,baz=129,slow=9.5,SNR=12						
ZRNK	Zerenda	67.48	336	eP	P	15 58 07.1	-1.0
	1.8nm,0.6s,mb4.0						
KMBO	Kilima Mbogo	70.98	271	P	P	15 58 30.2	+0.1
	2.1nm,0.9s,mb3.8,baz=219,slow=23,SNR=5.7						
BRTR	Keskin Array B	82.12	311	P	P	15 59 30.7	-0.7
	1.8nm,1.1s,mb3.7,baz=130,slow=9.6,SNR=4.6						
QSPA	South Pole Qui	83.95	180	eP	P	15 59 40.2	+0.4

IDC 20 15:59:08.0±13.0**, 15.37S×170.38E, mb3.5**/3**, mb1 3.8**/3**, mb1mx3.6**/14**, Error ellipse: s-maj=331.0km s-min=70.1km az=122.0, Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	34.60	257	P	P	16 06 00.3	-0.7
	0.1nm,0.3s,baz=82,slow=8.9,SNR=7.7						
ASAR	Alice Springs	35.27	251	P	P	16 06 03.4	-3.4
	0.7nm,0.9s,baz=89,slow=8.2,SNR=9.4						
CMAR	Chiang Mai Arr	77.95	293	P	P	16 11 08.9	-1.3
	0.7nm,0.8s,baz=118,slow=4.1,SNR=5.8						

NEIC ***20*** *16:08:37.3, 19.30N×67.39W, h25km, ML3.7(RSPR), After RSPR.*

RSPR 20 16:08:37.3, 19.30N×67.39W, h25km±26km**, MD3.4**/14**, MD3.4**/14**, 13C-2D, Mona Passage**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IDE	Isla Desecheo	0.91	186	⇑eP	Pb	16 08 52.5	-1.9
IDE				eS	Sb	16 09 04.4	-1.7
AOPR	Arecibo Observ	1.12	148	⇓eP	Pn	16 08 54.5	-3.1
AOPR				eS	Sb	16 09 08.7	-3.5
LRS	Lares	1.13	153	⇑eP	Pn	16 08 55.0	-2.7
LRS				eS	Sb	16 09 08.6	-3.7
LSP	Las Mesas	1.15	166	⇓eP	Pn	16 08 55.5	-2.5
MGP	Maguayo	1.32	168	⇑eP	Pn	16 08 57.9	-2.5
MGP				eS	Sn	16 09 14.2	-3.0
PORP	Portuguez	1.43	150	⇑eP	Pn	16 08 59.5	-2.4
CELP	Cerrillos	1.44	148	⇑eP	Pn	16 08 59.7	-2.4
CELP				eS	Sn	16 09 17.1	-3.2
OBIP	Obispado Ponce	1.45	149	⇑eP	Pn	16 08 59.9	-2.4
OBIP				eS	Sn	16 09 17.3	-3.4
CSB	Colonia Sabana	1.54	131	⇑eP	Pn	16 09 01.0	-2.5
CSB				eS	Sn	16 09 19.1	-3.7
SJG	San Juan	1.67	135	⇑eP	Pn	16 09 02.9	-2.4
SJG				eS	Sn	16 09 23.0	-3.0
SJG	San Juan	1.67	135	⇑eP	Pn	16 09 03.4	-1.9
SJG				eS	Sn	16 09 23.2	-2.8
CBYP	Canovanas	1.77	125	⇑eP	Pn	16 09 04.2	-2.7
CBYP				eS	Sn	16 09 25.1	-3.7
HUMP	Col San Antoni	1.86	128	⇑eP	Pn	16 09 05.6	-2.4
HUMP				eS	Sn	16 09 28.0	-2.9
CPD	Cerro la Pandu	1.88	132	⇑eP	Pn	16 09 06.0	-2.4
CPD				eS	Sn	16 09 29.0	-2.5
MTP	Monte Pirata	2.11	124	⇑eP	Pn	16 09 08.9	-2.7
MTP				eS	Sn	16 09 34.4	-2.9

ISK ***20*** *16:11:13.3, 36.04N×27.45E, h15km, MD3.4*

ATH ***20*** *16:11:15.1, 36.06N×27.60E, h28km±6km, MD3.2/5*

NEIC ***20*** *16:11:15.1, 36.06N×27.60E, h28km, MD3.5(ISK), MD3.2(ATH), After ATH.*

CSEM ***20*** *16:11:15.7±0.1, 36.11N×27.54E, h25km, MD3.2, Error ellipse: s-maj=3.2km s-min=1.7km az=157.0*

ISC 20 16:11:14.9±0.9**, 36.05N**±0.04×**27.52E**±0.05**, h15**km±9km**, n32,** σ0.87/41**, 1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.52	71	ePB	Pb	16 11 25.2	+0.1
ARG				eSB	Sb	16 11 31.9	-0.2
KARP	Karpathos	0.58	210	ePN	Pn	16 11 27.9	-0.4
NISR	Nisiros	0.64	331	ePN	Pn	16 11 28.5	-0.6
BDRM	Kayabasi	1.01	357	i P	Pb	16 11 32.8	-0.8
BDRM				i S	Sb	16 11 46.3	-0.2
DALT	Dalyan (Mudla)	1.15	51	Pn	Pn	16 11 36.2	-0.3
DALT				Sg	Sb	16 11 54.2	+3.7
DALT	Dalyan (Mudla)	1.15	51	Pn	Pn	16 11 36.2	-0.2
DALT				Sg	Sb	16 11 54.2	+3.7
YER	Yerkesik	1.24	29	PN	Pn	16 11 37.4	-0.3
YER				SN	Sn	16 11 55.3	+1.1
YER	Yerkesik	1.24	29	Pn	Pn	16 11 37.5	-0.3
YER	Yerkesik	1.24	29	Pn	Pn	16 11 37.5	-0.2
YER				eSn	Sn	16 11 55.3	+1.1
MLSB	Milas	1.26	9	ePN	Pn	16 11 36.8	-1.2
MLSB				eSN	Sn	16 11 54.0	-0.6
MLSB	Milas	1.26	9	Pn	Pn	16 11 38.9	+0.9
AYDN	Tasoluk	1.63	10	⇑iP	Pn	16 11 44.1	+0.8
AYDN				i S	Sn	16 12 03.0	-1.1
SANT	Santorini	1.69	281	eP	Pn	16 11 47.8	+3.6
THR1	Thera Island	1.69	281	eP	Pn	16 11 44.7	+0.5
NPS	Neapolis	1.74	244	ePN	Pn	16 11 45.7	+0.8
SMG	Samos	1.74	342	ePN	Pn	16 11 47.1	+2.2
THR6	Thira Island,	1.74	281	eP	Pn	16 11 45.0	+0.1
THR3	Thira Island,	1.75	282	eP	Pn	16 11 44.6	-0.4
THR5	Thira Island,	1.79	282	eP	Pn	16 11 45.5	-0.1
APE	Apeiranthos	1.89	303	ePN	Pn	16 11 45.8	-1.3
APE	Apeiranthos	1.89	303	Pn	Pn	16 11 45.9	-1.2
APE	Apeiranthos	1.89	303	ePn	Pn	16 11 46.4	-0.7
DNZL	Cakiroluk	2.04	36	i P	Pn	16 11 49.9	+0.7
DNZL				i S	Sn	16 12 15.0	+0.5
ELL	Elmali	2.05	70	ePN	Pn	16 11 48.1	-1.2
ELL	Elmali	2.05	70	Pn	Pn	16 11 48.2	-1.1
ELL	Elmali	2.05	70	Pn	Pn	16 11 48.2	-1.1
DENT	Denizli	2.09	35	ePN	Pn	16 11 49.9	+0.1
DENT	Denizli	2.09	35	Pn	Pn	16 11 50.2	+0.4
IZM	Izmir	2.35	355	ePN	Pn	16 11 52.7	-0.9
IZM	Izmir	2.35	355	Pn	Pn	16 11 54.6	+1.0
BCK	Bucak	2.84	59	ePN	Pn	16 12 00.2	-0.4
KIZT	Kizilcal	4.47	50	ePN	Pn	16 12 23.5	-0.3

IDC 20 16:34:32.2±20.0**, 18.91S×178.89W, h661**km±202km**, mb2.9**/3**, mb1 3.3**/3**, mb1mx2.9**/14**, Error ellipse:**

s-maj=271.0km s-min=48.4km az=132.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**44.00**	**261**	*e*P	P	16 41 44.7	-1.5
WRA	**Warramunga Arr**	**44.01**	**261**	P	P	16 41 44.4	-1.8
	0.8nm,0.3s,baz=98,slow=7.5,SNR=70						
ASAR	**Alice Springs**	**44.09**	**255**	P	P	16 41 45.2	-1.6
	1.8nm,0.6s,baz=87,slow=8.1,SNR=57						
ASAR				PcP	PcP	16 43 14.8	-2.1
	0.6nm,0.8s,baz=108,slow=4.0,SNR=5.0						
ASPA	**Alice Springs**	**44.09**	**255**	*e*P	P	16 41 45.0	-1.8
ILAR	**Eielson Array**	**86.96**	**13**	P	P	16 46 08.8	-1.2
	0.4nm,0.6s,baz=210,slow=5.9,SNR=5.5						

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*NEIC **20** 16:47:18.5, 42.81N×1.48W, h5^{km}, ML3.5(STR), ML3.5(LDG), After STR.*
NEIC Felt [II] at Aoiz and [I] at Lizoain, Lumbier and Zubiri, Spain.
*STR **20** 16:47:19.5±0.4, 42.84N×1.41W, h5^{km}±1^{km}, Ml3.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **20** 16:47:19.9±0.2, 42.83N×1.41W, h3^{km}±2^{km}, mbLg2.7/21, Error ellipse: s-maj=2.1km s-min=1.7km az=61.0, AftershockPLICA PRXIMO I LUMBIER IN ZUBIRI*
MDD EMS: II AOIZ PRESA DE ITOIZ.
*CSEM **20** 16:47:20.2±0.1, 42.82N×1.37W, h5^{km}, ML3.5/21, Error ellipse: s-maj=1.0km s-min=0.9km az=101.0*
*LDG **20** 16:47:21.3±0.2, 42.87N×1.35W, h7^{km}, Md3.2/2, Ml3.5/24, Error ellipse: s-maj=3.8km s-min=2.3km az=37.0*
ISC 20 16:47:17.1±0.2**, 42.87N**±0.02×**1.50W**±0.02**, h10^{km}, n125,** σ**1^{s}38**/218**, 1C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.31**	**40**	*e*Pg	**Pg**	**16 47 25.8**	**+2.2**
SJPF				*e*Sg	**Sg**	**16 47 30.7**	**+2.8**
	3μm,0.4s						
EALK	**Alkurruntz**	**0.34**	**359**	⇑Pg	**Pg**	**16 47 27.1**	**+2.8**
	SNR=18						
EALK				Lg		16 47 33.1	
	821nm,0.4s,SNR=7.9						
LARF	**Larrau**	**0.41**	**66**	Pg	**Pg**	**16 47 26.7**	**+1.2**
LARF	**Larrau**	**0.41**	**66**	P	**Pg**	**16 47 26.7**	**+1.2**
LARF				S	**Sg**	**16 47 32.8**	**+1.7**
OSSF	**Osses**	**0.42**	**24**	Pg	**Pg**	**16 47 27.8**	**+2.1**
OSSF				Sg	**Sg**	**16 47 34.2**	**+2.8**
OSSF	**Osses**	**0.42**	**24**	P	**Pg**	**16 47 27.9**	**+2.2**
OSSF				S	**Sg**	**16 47 33.9**	**+2.5**
ORDF	**Ordiarp**	**0.54**	**50**	Pg	**Pg**	**16 47 29.5**	**+1.6**
ORDF	**Ordiarp**	**0.54**	**50**	P	**Pg**	**16 47 29.6**	**+1.6**
ORDF				S	**Sg**	**16 47 37.1**	**+1.9**
ATE	**Arette**	**0.62**	**70**	P	**Pb**	**16 47 30.5**	**+0.8**
ATE				S	**Sg**	**16 47 38.9**	**+0.8**
FDAF	**Les Forges d'A**	**0.69**	**94**	Pg	**Pg**	**16 47 31.2**	**+0.2**
FDAF				Sg	**Sg**	**16 47 41.0**	**+0.8**
FDAF	**Les Forges d'A**	**0.69**	**94**	P	**Pb**	**16 47 31.1**	**+0.4**
FDAF				S	**Sb**	**16 47 40.9**	**+0.8**
ETSF	**Etsaut**	**0.69**	**88**	*e*Pg	**Pg**	**16 47 31.2**	**+0.2**
ETSF				*e*Sg	**Sg**	**16 47 39.7**	**-0.6**
	728nm,0.3s						
REYF	**Montagne du Re**	**0.84**	**76**	Pg	**Pg**	**16 47 34.2**	**+0.3**
REYF				Sg	**Sg**	**16 47 46.2**	**+1.1**
REYF	**Montagne du Re**	**0.84**	**76**	P	**Pb**	**16 47 34.3**	**+1.0**
REYF				S	**Sb**	**16 47 45.3**	**+1.0**
VIEF	**Viey**	**1.12**	**89**	Pg	**Pg**	**16 47 38.5**	**-1.0**
VIEF				Sg	**Sg**	**16 47 54.2**	**-0.3**
VIEF	**Viey**	**1.12**	**89**	P	**Pb**	**16 47 38.5**	**+0.4**
VIEF				S	**Sb**	**16 47 53.6**	**+1.0**
LABF	**Labassere**	**1.17**	**81**	Pg	**Pg**	**16 47 40.5**	**0.0**
LABF				Sg	**Sg**	**16 47 55.8**	**-0.3**
LABF	**Labassere**	**1.17**	**81**	P	**Pb**	**16 47 40.0**	**+1.0**
LABF				S	**Sb**	**16 47 56.0**	**+2.0**
EBIE	**Bielsa**	**1.22**	**98**	Pg	**Pg**	**16 47 40.8**	**-0.8**
	63nm,0.2s,SNR=7.9						
EBIE				Lg		16 47 58.0	
	186nm,0.4s,SNR=7.9						
EBIE	**Bielsa**	**1.22**	**98**	Pg	**Pg**	**16 47 40.8**	**-0.8**
	63nm,0.2s,SNR=7.9						
RESF	**Ens**	**1.35**	**92**	Pg	**Pg**	**16 47 43.7**	**-0.5**
RESF				Sg	**Sg**	**16 48 02.5**	**+0.2**
RESF	**Ens**	**1.35**	**92**	P	**Pb**	**16 47 42.9**	**+0.8**
RESF				S	**Sb**	**16 48 00.4**	**+1.1**
RESF	**Ens**	**1.35**	**92**	Pg	**Pg**	**16 47 43.7**	**-0.5**
RESF				Sg	**Sg**	**16 48 02.4**	**+0.1**
EPF	**Esparros**	**1.36**	**83**	*e*Pn	**Pn**	**16 47 43.1**	**+0.9**
EPF				*e*Pg	**Pg**	**16 47 44.8**	**+0.5**
EPF				*e*Sg	**Sg**	**16 48 01.1**	**-1.4**
	428nm,0.2s						
ESAC	**San Caprasio**	**1.38**	**146**	Pg	**Pg**	**16 47 43.9**	**-0.9**
	234nm,0.3s,SNR=68						
ESAC				Lg		16 48 01.9	
	546nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**1.38**	**146**	Pg	**Pg**	**16 47 43.9**	**-0.9**
	234nm,0.3s,SNR=68						
ELAN	**Lanestosa**	**1.46**	**285**	Pn	**Pn**	**16 47 47.8**	**+4.1**
	6.9nm,0.2s,SNR=26						
ELAN				Pg	**Pg**	**16 47 49.6**	**+3.2**
	15nm,0.2s,SNR=7.9						
ELAN				Lg		16 48 10.1	
	12nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**1.46**	**285**	Pn	**Pn**	**16 47 47.8**	**+4.1**
	6.9nm,0.2s,SNR=26						
ELAN	**Lanestosa**	**1.46**	**285**	Pg	**Pg**	**16 47 49.6**	**+3.2**
	15nm,0.2s,SNR=7.9						
MELF	**Melles**	**1.66**	**89**	Pg	**Pg**	**16 47 49.7**	**-0.6**
MELF				Sg	**Sg**	**16 48 12.2**	**-0.3**
MELF	**Melles**	**1.66**	**89**	P	**Pn**	**16 47 48.8**	**+2.3**
MLS	**Moulis**	**1.91**	**87**	Pg	**Pg**	**16 47 54.2**	**-1.0**
SALF	**Salau**	**1.98**	**92**	Pg	**Pg**	**16 47 55.4**	**-1.3**
SALF				Sg	**Sg**	**16 48 20.7**	**-2.5**
SALF	**Salau**	**1.98**	**92**	P	**Pn**	**16 47 54.0**	**+2.8**
ETOR	**Torete**	**2.10**	**192**	Pn	**Pn**	**16 47 54.3**	**+1.6**
	14nm,0.2s,SNR=94						
ETOR				Pg	**Pg**	**16 47 58.5**	**-0.4**
	37nm,0.3s,SNR=7.9						
ETOR				Lg		16 48 25.7	
	29nm,0.3s,SNR=7.9						
ETOR	**Torete**	**2.10**	**192**	Pn	**Pn**	**16 47 54.3**	**+1.6**
ETOR				Pg	**Pg**	**16 47 59.6**	**+0.6**
ETOR				Lg		16 48 22.4	
ETOR	**Torete**	**2.10**	**192**	Pg	**Pg**	**16 47 59.6**	**+0.6**
	37nm,0.3s,SNR=7.9						
ETOR	**Torete**	**2.10**	**192**	Pg	**Pg**	**16 47 59.6**	**+0.6**
GRBF	**Gourbit**	**2.23**	**90**	P	**Pn**	**16 47 57.4**	**+2.7**
EMIR	**Miracle**	**2.44**	**112**	Pn	**Pn**	**16 47 58.4**	**+0.7**
	0.8nm,0.1s,SNR=7.9						
EMIR				Pg	**Pg**	**16 48 02.8**	**-3.0**
	7.2nm,0.1s,SNR=7.9						
EMIR				Lg		16 48 36.4	
	54nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**2.44**	**112**	Pn	**Pn**	**16 47 58.4**	**+0.7**
	0.8nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**2.44**	**112**	Pg	**Pg**	**16 48 02.8**	**-3.0**
	7.2nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**2.45**	**128**	Pn	**Pn**	**16 47 57.7**	**-0.1**
	1.2nm,0.1s,SNR=7.9						
EPOB				Pg	**Pg**	**16 48 03.3**	**-2.7**
	5.5nm,0.1s,SNR=7.9						
EPOB				Sn	**Sn**	**16 48 26.4**	**-1.7**
	SNR=7.9						
EPOB				Lg		16 48 34.1	
	15nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**2.45**	**128**	Pn	**Pn**	**16 47 57.7**	**-0.1**
EPOB				Pg	**Pg**	**16 48 03.3**	**-2.7**
EPOB				Sn	**Sn**	**16 48 26.4**	**-1.7**
EPOB				Lg		16 48 32.6	
EPOB	**Poblet**	**2.45**	**128**	Pn	**Pn**	**16 47 57.7**	**-0.1**
	1.2nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**2.45**	**128**	Pg	**Pg**	**16 48 03.3**	**-2.7**
	5.5nm,0.1s,SNR=7.9						
EPOB				Sn	**Sn**	**16 48 26.4**	**-1.7**
	SNR=7.9						
EBR	**Ebro Roquetas**	**2.54**	**143**	*e*P*P*	**Pn**	**16 48 07.0**	**+7.9**
EBR				*e*S*	**Sn**	**16 48 16.5**	**-14**
EBR	**Ebro Roquetas**	**2.54**	**143**	*e*SG	**Sg**	**16 48 40.0**	**-1.6**
LFF	**La Frestale**	**2.62**	**37**	*e*Pn	**Pn**	**16 48 00.8**	**+0.5**
LFF				*e*Sn	**Sn**	**16 48 30.8**	**-1.7**
LFF				*e*Sg	**Sg**	**16 48 42.0**	**-2.5**
	78nm,0.4s						
LFF	**La Frestale**	**2.62**	**37**	Pn	**Pn**	**16 48 00.8**	**+0.5**
LFF				Lg		16 48 42.0	
	39nm,0.4s						
EMOS	**Mosqueruela**	**2.62**	**163**	Pn	**Pn**	**16 48 02.2**	**+1.9**
	1.0nm,0.1s,SNR=7.9						
EMOS				Pg	**Pg**	**16 48 06.3**	**-3.2**
	1.6nm,0.2s,SNR=7.9						
EMOS				Lg		16 48 42.9	
	3.8nm,0.4s,SNR=7.9						
EMOS	**Mosqueruela**	**2.62**	**163**	Pn	**Pn**	**16 48 02.2**	**+1.9**
	1.0nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**2.62**	**163**	Pg	**Pg**	**16 48 06.3**	**-3.2**
	1.6nm,0.2s,SNR=7.9						
VALF	**Valcebollere**	**2.64**	**99**	Pn	**Pn**	**16 48 01.4**	**+0.9**
VALF	**Valcebollere**	**2.64**	**99**	P	**Pn**	**16 48 02.8**	**+2.2**
CARF	**Carcanieres**	**2.66**	**92**	Pg	**Pg**	**16 48 07.9**	**-2.3**
EARI	**Arriondas**	**2.75**	**280**	Pn	**Pn**	**16 48 05.9**	**+3.7**
	2.3nm,0.4s,SNR=7.9						
EARI				Pg	**Pg**	**16 48 11.2**	**-0.9**
	SNR=7.9						
EARI				Sn	**Sn**	**16 48 38.3**	**+2.5**
	SNR=4.0						
EARI				Lg		16 48 49.9	
	34nm,0.6s,SNR=5.1						
EARI	**Arriondas**	**2.75**	**280**	Pn	**Pn**	**16 48 05.9**	**+3.7**
EARI				Pg	**Pg**	**16 48 11.2**	**-0.9**
EARI				Sn	**Sn**	**16 48 38.3**	**+2.5**
EARI				Lg		16 48 47.6	
EARI	**Arriondas**	**2.75**	**280**	Pn	**Pn**	**16 48 05.9**	**+3.8**
	2.3nm,0.4s,SNR=7.9						
EARI	**Arriondas**	**2.75**	**280**	Pg	**Pg**	**16 48 11.2**	**-0.9**
	SNR=7.9						
EARI				Sn	**Sn**	**16 48 38.3**	**+2.5**
	SNR=4.0						
MTLF	**Montolieu**	**2.76**	**79**	*e*Pn	**Pn**	**16 48 03.6**	**+1.3**
MTLF				*e*Sn	**Sn**	**16 48 32.5**	**-3.5**
	44nm,0.3s						
FILF	**Fillols**	**3.01**	**95**	Pg	**Pg**	**16 48 13.1**	**-4.1**
FILF	**Fillols**	**3.01**	**95**	P	**Pn**	**16 48 06.9**	**+1.1**
RJF	**Les Rejaudoux**	**3.26**	**41**	*e*Pn	**Pn**	**16 48 08.9**	**-0.5**
RJF				*e*Sn	**Sn**	**16 48 46.2**	**-2.4**
	35nm,0.2s						
EJON	**La Jonquera**	**3.26**	**96**	Pn	**Pn**	**16 48 11.5**	**+2.0**
	0.8nm,0.2s,SNR=7.9						
EJON				Pg	**Pg**	**16 48 17.8**	**-4.5**
	SNR=7.9						
EJON				Lg		16 49 01.3	
	9.7nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**3.26**	**96**	Pn	**Pn**	**16 48 11.5**	**+2.1**
	0.8nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**3.26**	**96**	Pg	**Pg**	**16 48 17.8**	**-4.5**
	SNR=7.9						
CAF	**Calviac**	**3.29**	**50**	*e*Pn	**Pn**	**16 48 09.9**	**+0.1**
CAF				*e*Sn	**Sn**	**16 48 46.7**	**-2.8**
	64nm,0.3s						
ESDC	**Sonseca Array**	**3.70**	**211**	Pn	**Pn**	**16 48 15.8**	**+0.2**
	2.0nm,0.2s,baz=38,slow=14,SNR=7.3						
ESDC				Pg	**Pg**	**16 48 27.7**	**-3.2**
	7.5nm,0.4s,baz=30,slow=18,SNR=7.2						
ESDC				Sn	**Sn**	**16 48 59.2**	**-0.5**
	baz=35,slow=24,SNR=4.0						
ESDC				Lg		16 49 15.6	
	1.3nm,0.2s,baz=41,slow=30,SNR=7.9						
ESDC	**Sonseca Array**	**3.70**	**211**	Pn	**Pn**	**16 48 15.8**	**+0.2**
ESDC				Pg	**Pg**	**16 48 27.7**	**-3.2**
ESDC				Sn	**Sn**	**16 48 59.2**	**-0.5**
ESDC				Lg		16 49 15.6	
ESDC	**Sonseca Array**	**3.70**	**211**	Pn	**Pn**	**16 48 15.8**	**+0.2**
	2.0nm,0.2s,slow=14,SNR=7.3						
ESDC	**Sonseca Array**	**3.70**	**211**	Pg	**Pg**	**16 48 27.7**	**-3.2**
	7.5nm,0.4s,baz=30,slow=18,SNR=7.2						
ESDC				Sn	**Sn**	**16 48 59.2**	**-0.5**
	slow=24,SNR=4.0						
MFF	**Saint Martin d**	**3.85**	**14**	*e*Pn	**Pn**	**16 48 18.9**	**+1.1**
MFF				*e*Pg	**Pg**	**16 48 30.5**	**-3.5**
MFF				*e*Sn	**Sn**	**16 49 02.0**	**-1.6**
	27nm,0.5s						
ECAL	**Calabor**	**3.99**	**258**	Pn	**Pn**	**16 48 21.1**	**+1.4**
	2.6nm,0.2s,SNR=6.8						
ECAL				Pg	**Pg**	**16 48 33.5**	**-3.2**
	SNR=7.9						
ECAL				Sn	**Sn**	**16 49 06.1**	**-1.0**
	SNR=4.0						
ECAL				Lg		16 49 29.3	
	16nm,0.5s,SNR=7.9						
ECAL	**Calabor**	**3.99**	**258**	Pn	**Pn**	**16 48 21.1**	**+1.4**
ECAL				Pg	**Pg**	**16 48 33.5**	**-3.2**
ECAL				Sn	**Sn**	**16 49 06.1**	**-1.0**
ECAL				Lg		16 49 24.0	
ECAL	**Calabor**	**3.99**	**258**	Pn	**Pn**	**16 48 21.1**	**+1.4**
	2.6nm,0.2s,SNR=6.8						
ECAL				Sn	**Sn**	**16 49 06.1**	**-1.0**
	SNR=4.0						
LASF	**Ste Croix**	**4.08**	**71**	*e*Pn	**Pn**	**16 48 21.0**	**0.0**
LASF				*e*Sn	**Sn**	**16 49 05.3**	**-4.1**
	86nm,0.5s						
EPON	**Pontenova**	**4.16**	**278**	Pn	**Pn**	**16 48 25.0**	**+2.8**
	1.4nm,0.3s,SNR=5.0						
EPON				Pg	**Pg**	**16 48 36.8**	**-3.5**
	SNR=7.9						
EPON				Sn	**Sn**	**16 49 13.2**	**+1.7**
	SNR=7.9						
EPON				Lg		16 49 34.8	
	2.8nm,0.2s,SNR=4.0						
EPON	**Pontenova**	**4.16**	**278**	Pn	**Pn**	**16 48 25.0**	**+2.8**
EPON				Pg	**Pg**	**16 48 36.8**	**-3.5**
EPON				Sn	**Sn**	**16 49 13.2**	**+1.7**
EPON				Lg		16 49 32.0	
EPON	**Pontenova**	**4.16**	**278**	Pn	**Pn**	**16 48 25.0**	**+2.8**
	1.4nm,0.3s,SNR=5.0						
EPON				Sn	**Sn**	**16 49 13.2**	**+1.7**
	SNR=7.9						
EBEN	**Beniarda**	**4.28**	**167**	Pn	**Pn**	**16 48 23.9**	**+0.1**
	0.0nm,0.2s,SNR=7.9						
EBEN				Lg		16 49 32.9	
	1.6nm,0.3s,SNR=4.0						
EBEN	**Beniarda**	**4.28**	**167**	Pn	**Pn**	**16 48 23.9**	**+0.1**
	SNR=7.9						
EVIA	**Vianos**	**4.30**	**191**	Pn	**Pn**	**16 48 25.4**	**+1.3**
	4.8nm,0.2s,SNR=6.2						
EVIA				Pg	**Pg**	**16 48 39.3**	**-3.7**
	17nm,0.4s,SNR=6.1						
EVIA				Lg		16 49 37.9	
	3.9nm,0.3s,SNR=7.9						
EVIA	**Vianos**	**4.30**	**191**	Pn	**Pn**	**16 48 25.4**	**+1.3**
EVIA				Pg	**Pg**	**16 48 39.3**	**-3.7**
EVIA				Lg		16 49 33.5	
TCF	**Toulx Ste Croi**	**4.32**	**37**	*e*Pn	**Pn**	**16 48 24.9**	**+0.5**
TCF				*e*Sn	**Sn**	**16 49 11.7**	**-3.8**
TCF				*e*Sg	**Sg**	**16 49 35.3**	**-5.7**
	16nm,0.4s						
EIBI	**Ibiza**	**4.41**	**150**	Pn	**Pn**	**16 48 24.9**	**-0.7**
	0.6nm,0.2s,SNR=4.0						
EIBI				Sn	**Sn**	**16 49 13.9**	**-3.7**
	SNR=4.0						
EIBI	**Ibiza**	**4.41**	**150**	Pn	**Pn**	**16 48 24.9**	**-0.7**
EIBI				Sn	**Sn**	**16 49 11.5**	**-6.1**
EIBI	**Ibiza**	**4.41**	**150**	Pn	**Pn**	**16 48 24.9**	**-0.7**
	0.6nm,0.2s,SNR=4.0						
EIBI	**Ibiza**	**4.41**	**150**	Sn	**Sn**	**16 49 11.5**	**-6.1**
	SNR=4.0						
BGF	**Bois d'Agland**	**4.81**	**39**	*e*Pn	**Pn**	**16 48 30.5**	**-0.9**
BGF				*e*Sn	**Sn**	**16 49 21.6**	**-6.3**
BGF				*e*Sg	**Sg**	**16 49 50.8**	**-6.5**
	49nm,0.4s						
VIVF	**Saint-Julien-l**	**4.88**	**64**	*e*Pn	**Pn**	**16 48 31.0**	**-1.4**
VIVF				*e*Sn	**Sn**	**16 49 24.2**	**-5.5**
	20nm,0.5s						
QUIF	**Quistinic**	**5.18**	**347**	*e*Pn	**Pn**	**16 48 38.3**	**+1.7**
QUIF				*e*Sn	**Sn**	**16 49 34.5**	**-2.6**
	8.8nm,0.4s						
EQES	**Quesada**	**5.21**	**194**	Pn	**Pn**	**16 48 37.2**	**+0.2**
	2.1nm,0.2s,SNR=7.9						
EQES				Pg	**Pg**	**16 48 56.0**	**-5.1**
	SNR=7.9						
EQES				Lg		16 50 03.4	
	10nm,0.6s,SNR=7.9						
EQES	**Quesada**	**5.21**	**194**	Pn	**Pn**	**16 48 37.2**	**+0.2**
	2.1nm,0.2s,SNR=7.9						
EQES	**Quesada**	**5.21**	**194**	Pg	**Pg**	**16 48 56.0**	**-5.1**
	SNR=7.9						
AVF	**Avril sur Loir**	**5.22**	**40**	*e*Pn	**Pn**	**16 48 37.0**	**-0.1**
AVF				*e*Sn	**Sn**	**16 49 32.2**	**-5.9**
	21nm,0.5s						
EADA	**Adamuz**	**5.25**	**208**	Pn	**Pn**	**16 48 37.2**	**-0.5**
	3.2nm,0.1s,SNR=34						
EADA				Pg	**Pg**	**16 48 56.3**	**-5.7**
	1.0nm,0.2s,SNR=4.0						
EADA				Sn	**Sn**	**16 49 35.2**	**-3.8**
	SNR=7.9						
EADA				Lg		16 50 05.6	
	2.3nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**5.25**	**208**	Pn	**Pn**	**16 48 37.1**	**-0.5**
EADA				Pg	**Pg**	**16 48 58.3**	**-3.7**
EADA				Sn	**Sn**	**16 49 35.2**	**-3.8**
EADA				Lg		16 50 05.6	
EADA	**Adamuz**	**5.25**	**208**	Pn	**Pn**	**16 48 37.2**	**-0.4**
EADA	**Adamuz**	**5.25**	**208**	Pg	**Pg**	**16 48 58.3**	**-3.7**
SMRF	**Simiane la Rot**	**5.27**	**76**	*e*Pn	**Pn**	**16 48 37.7**	**-0.2**
HYF	**Humbligny**	**5.28**	**32**	*e*Pn	**Pn**	**16 48 37.6**	**-0.4**
HYF				*e*Sn	**Sn**	**16 49 35.1**	**-4.6**
SMF	**Signal de Mont**	**5.35**	**43**	*e*Pn	**Pn**	**16 48 39.0**	**-0.1**
SMF				*e*Sn	**Sn**	**16 49 36.5**	**-5.1**
	15nm,0.5s						
SGMF	**Saint Gilles**	**5.43**	**353**	*e*Pn	**Pn**	**16 48 40.8**	**+0.7**
SGMF				*e*Sn	**Sn**	**16 49 40.4**	**-3.1**
	1.8nm,0.1s						
SSF	**Saint Saulge**	**5.49**	**39**	*e*Pn	**Pn**	**16 48 40.5**	**-0.5**
SSF				*e*Sn	**Sn**	**16 49 39.7**	**-5.2**
	10nm,0.5s						
GRR	**Gorron**	**5.53**	**4**	*e*Pn	**Pn**	**16 48 41.6**	**0.0**
GRR				*e*Sn	**Sn**	**16 49 42.3**	**-3.7**
	13nm,0.4s						
ROSF	**Rostrenen**	**5.60**	**348**	*e*Pn	**Pn**	**16 48 43.2**	**+0.6**
ROSF				*e*Sn	**Sn**	**16 49 44.7**	**-3.1**
	4.5nm,0.3s						
ORIF	**Oris-en-Rattie**	**5.71**	**67**	*e*Pn	**Pn**	**16 48 43.5**	**-0.6**
ORIF				*e*Sn	**Sn**	**16 49 44.2**	**-6.3**
	14nm,0.5s						
LDF	**La Druitiere**	**5.80**	**9**	*e*Pn	**Pn**	**16 48 45.0**	**-0.4**
LDF				*e*Sn	**Sn**	**16 49 48.2**	**-4.5**
	4.2nm,0.4s						
LOR	**Lormes**	**5.80**	**39**	*e*Pn	**Pn**	**16 48 45.0**	**-0.4**
LOR				*e*Sn	**Sn**	**16 49 46.2**	**-6.6**
LOR				*e*Sg	**Sg**	**16 50 21.7**	**-8.7**
	9.6nm,0.6s						
EBAD	**Badajoz**	**5.87**	**227**	Pn	**Pn**	**16 48 45.2**	**-1.1**
	0.3nm,0.1s,SNR=7.9						
EBAD				Sn	**Sn**	**16 49 50.1**	**-4.3**
	SNR=4.0						
EBAD				Lg		16 50 28.9	
	2.8nm,0.3s,SNR=4.0						
EBAD	**Badajoz**	**5.87**	**227**	Pn	**Pn**	**16 48 45.2**	**-1.1**
LMR	**La Mourre**	**5.88**	**83**	*e*Pn	**Pn**	**16 48 46.0**	**-0.5**
FLN	**La Foliniere**	**5.93**	**7**	*e*Pn	**Pn**	**16 48 47.1**	**-0.1**
FLN				*e*Sn	**Sn**	**16 49 51.5**	**-4.5**
	4.7nm,0.3s						
FRF	**La Foret Royal**	**5.99**	**81**	*e*Pn	**Pn**	**16 48 47.7**	**-0.4**
EBER	**Berja**	**6.06**	**191**	Pn	**Pn**	**16 48 50.3**	**+1.2**
	11nm,0.5s,SNR=5.2						
EBER	**Berja**	**6.06**	**191**	Pn	**Pn**	**16 48 50.3**	**+1.2**
EMIN	**Mina Concepcio**	**6.45**	**219**	Pn	**Pn**	**16 48 53.3**	**-1.2**
	0.7nm,0.2s,SNR=7.9						
EMIN				Sn	**Sn**	**16 50 02.4**	**-6.6**
	SNR=7.9						
EMIN				Lg		16 50 46.6	
	2.1nm,0.5s,SNR=7.9						
EMIN	**Mina Concepcio**	**6.45**	**219**	Pn	**Pn**	**16 48 53.3**	**-1.3**
LPL	**La Plagne**	**6.48**	**63**	*e*Pn	**Pn**	**16 48 55.4**	**+0.5**
LPL				*e*Sn	**Sn**	**16 50 02.7**	**-7.0**
	4.3nm,0.5s						
LPG	**La Plagne**	**6.49**	**63**	*e*Pn	**Pn**	**16 48 55.0**	**0.0**
CABF	**La Chapelle**	**6.57**	**53**	*e*Pn	**Pn**	**16 48 55.5**	**-0.7**
CABF				*e*Sn	**Sn**	**16 50 03.8**	**-8.1**
	17nm,0.7s						
MEZF	**Maizieres J'vi**	**7.26**	**37**	*e*Pn	**Pn**	**16 49 04.4**	**-1.5**
BAIF	**Baives**	**8.19**	**27**	*e*Pn	**P**	**16 49 18.6**	**-0.3**
GIVF	**Givet**	**8.44**	**29**	*e*Pn	**P**	**16 49 21.0**	**-1.4**

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*ATH **20** 16:55:42.0, 38.71N×23.72E, h31^{km}±1^{km}, MD2.7/5, ML2.9*
*NEIC **20** 16:55:42.0, 38.71N×23.72E, h31^{km}, ML2.9(ATH), After ATH.*
*CSEM **20** 16:55:42.6±0.1, 38.72N×23.83E, h10^{km}, ML2.4, Error ellipse: s-maj=2.7km s-min=1.2km az=73.0*
*THE **20** 16:55:43.5, 38.78N×23.80E, h15^{km}, ML2.4*
ISC 20 16:55:42.5±0.7**, 38.74N**±0.03×**23.80E**±0.07**, h27**^{km}±7^{km}**, n17,** σ**0^{s}96**/23**, 1D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.44**	**9**	*e*Pg	**Pb**	**16 55 51.3**	**-0.4**
MPAR	**Parnis Oros**	**0.59**	**185**	*e*PN	**Pn**	**16 55 53.6**	**-1.3**
LKR	**Lokris**	**0.63**	**262**	*e*PN	**Pn**	**16 55 53.8**	**-1.8**
PTL	**Penteli**	**0.69**	**175**	*e*PN	**Pn**	**16 55 55.3**	**-1.1**
NEO	**Neokhori**	**0.72**	**322**⇓	*e*PN	**Pn**	**16 55 56.6**	**-0.3**
NEO				*e*SN	**Sn**	**16 56 06.8**	**-0.3**
ATH	**Athens Observa**	**0.77**	**185**	*e*PN	**Pn**	**16 55 57.5**	**0.0**
ATH				*e*SN	**Sn**	**16 56 07.6**	**-0.6**
XOR	**Xorichti**	**0.79**	**323**	*e*Pg	**Pb**	**16 55 57.5**	**0.0**
XOR				*e*Sg	**Sb**	**16 56 09.1**	**+1.3**
NAIG	**Nisos Aigina**	**1.00**	**194**	*e*PN	**Pn**	**16 56 01.6**	**+0.7**
AGG	**Agios Georgios**	**1.18**	**284**	*e*Pb	**Pb**	**16 56 04.4**	**+0.3**
AGG				*e*Sb	**Sb**	**16 56 20.9**	**+1.8**
PAIG	**Paliouri**	**1.19**	**356**	*e*Pg	**Pn**	**16 56 03.9**	**+0.3**
OUR	**Ouranopolis**	**1.60**	**5**	*e*Pb	**Pb**	**16 56 10.1**	**-1.2**
LIT	**Litokhoron**	**1.70**	**324**	*e*Pb	**Pb**	**16 56 12.0**	**-1.0**
LIT				*e*Sb	**Sb**	**16 56 32.7**	**-1.2**
SOH	**Sokhos**	**2.11**	**351**	*e*Pn	**Pn**	**16 56 17.8**	**+1.0**
APE	**Apeiranthos**	**2.16**	**140**	*e*PN	**Pn**	**16 56 18.3**	**+0.9**
GRG	**Griva**	**2.46**	**335**	*e*Pn	**Pn**	**16 56 21.7**	**-0.1**
GRG				*e*Sn	**Sn**	**16 56 52.1**	**+0.7**
THR5	**Thira Island,**	**2.62**	**151**	*e*Pn	**Pn**	**16 56 25.4**	**+1.3**
THR3	**Thira Island,**	**2.65**	**151**	*e*Pn	**Pn**	**16 56 25.6**	**+1.1**

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*BJI **20** 17:07:54.9, 31.30S×178.13W, h10^{km}*
*SYO **20** 17:07:55.9, 30.93S×177.65W, h10^{km}, MB4.9*
*IDC **20** 17:07:57.5±0.7, 31.78S×178.21W, mb4.2/10, mb1 4.3/12, mb1mx4.3/18, ML3.8/2, MS4.0/10, Ms1 4.1/10, ms1mx4.0/19, Error ellipse: s-maj=25.8km s-min=18.3km az=142.0*
*NEIC **20** 17:07:57.8±0.6, 31.66S×178.13W, h10^{km}, mb4.7/9, Error ellipse: s-maj=17.6km s-min=14.4km az=118.0*
ISC 20 17:08:01.2±0.5**, 31.89S**±0.06×**178.4W**±0.1**, h33^{km}, n62,** σ**1^{s}03**/44**, mb4.3**/15**, MS4.1**/9**, 8C-1D, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**6.76**	**203**	*e*P	**P**	**17 09 38.9**	**-1.8**
PUZ				S	**S**	**17 11 05.6**	**+8.2**
MWZ	**Matawai**	**7.26**	**206**	*e*P	**P**	**17 09 46.3**	**-1.3**
MWZ				S	**S**	**17 11 16.3**	**+6.6**
URZ	**Urewera**	**7.36**	**209**	Pn	**Pn**	**17 09 50.0**	**+0.8**
	1.0nm,0.3s,baz=319,slow=4.7,SNR=8.1						
URZ				Sn	**Sn**	**17 11 17.3**	**+5.0**
	7.5nm,0.3s,baz=167,slow=20,SNR=14						
URZ	**Urewera**	**7.36**	**209**	*e*P	**P**	**17 09 49.3**	**+0.3**
BKZ	**Black Stump Fm**	**8.38**	**209**	*e*P	**P**	**17 10 02.4**	**-0.8**
BKZ				S	**S**	**17 11 42.5**	**+4.8**
MRZ	**Mangatainoka R**	**10.02**	**207**	S	**S**	**17 12 18.2**	**-0.1**
THZ	**Tophouse**	**12.07**	**213**	*e*P	**P**	**17 10 54.4**	**+0.6**
THZ				S	**S**	**17 13 08.4**	**+0.1**
MQZ	**McQueen's Vall**	**13.76**	**208**	S	**S**	**17 13 42.8**	**-5.9**
RPZ	**Rata Peaks**	**14.45**	**212**	Pn	**P**	**17 11 26.4**	**+1.2**
	0.6nm,0.3s,baz=290,slow=23,SNR=3.5						
RPZ				Sn	**S**	**17 14 04.2**	**-1.0**
	0.7nm,0.3s,baz=325,slow=22,SNR=4.1						
RAR	**Rarotonga**	**19.71**	**62**	LR	LR	17 18 32.9	
	comp=Z,261nm,18.9s,baz=58,slow=32						
CTA	**Charters Tower**	**33.76**	**282**	*e*P	**P**	**17 14 42.9**	**+0.9**
	14nm,0.8s,mb4.9						
CTA	**Charters Tower**	**33.76**	**282**	P	**P**	**17 14 42.4**	**+0.4**
	9.8nm,0.7s,mb4.9,baz=105,slow=9.6,SNR=4.7						
CTA				LR	LR	17 27 31.4	
	comp=Z,681nm,18.4s,MS4.4,baz=124,slow=35						
CTAO	**Charters Tower**	**33.76**	**282**	*e*P	**P**	**17 14 42.5**	**+0.5**
	18nm,0.8s,mb5.0						
STKA	**Stephens Creek**	**33.86**	**259**	*e*P	**P**	**17 14 45.2**	**+2.4**
	4.4nm,0.8s,mb4.4						
STKA	**Stephens Creek**	**33.86**	**259**	P	**P**	**17 14 44.8**	**+2.0**
	3.0nm,0.8s,mb4.3,baz=108,slow=17,SNR=5.7						
STKA				LR	LR	17 28 19.3	
	comp=Z,420nm,18.1s,MS4.2,baz=31,slow=36						
PMG	**Port Moresby**	**38.98**	**297**	LR	LR	17 28 10.4	
	comp=Z,205nm,20.6s,MS3.9,baz=305,slow=31						
ASAR	**Alice Springs**	**42.73**	**269**	P	**P**	**17 15 57.6**	**+0.5**
	3.6nm,0.9s,mb4.1,baz=106,slow=7.6,SNR=29						
ASAR				ScP		17 21 39.3	

	1.1nm,1.0s,baz=114,slow=5.5,SNR=4.9						
ASAR				LR	LR	17 33 46.6	
	comp=Z,279nm,18.2s,MS4.2,baz=286,slow=36						
ASPA	**Alice Springs**	**42.74**	**269**	*e*P	**P**	**17 15 57.8**	**+0.6**
WB2	**Warramunga Arr**	**43.85**	**274**	*e*P	**P**	**17 16 05.9**	**-0.3**
WRAB	**Tennant Creek**	**43.85**	**274**	*e*P	**P**	**17 16 06.2**	**-0.1**
	25nm,0.7s,mb5.0						
WRA	**Warramunga Arr**	**43.86**	**274**	P	**P**	**17 16 06.1**	**-0.3**
	3.5nm,0.5s,mb4.3,baz=111,slow=8.0,SNR=89						
SBA	**Scott Base**	**46.53**	**184**	P	**P**	**17 16 27.5**	**+0.7**
	1.1nm,0.8s,mb3.8						
VNDA	**Vanda**	**46.59**	**186**	P	**P**	**17 16 26.5**	**-0.8**
	0.4nm,0.9s,mb3.3,baz=351,slow=7.1,SNR=2.1						
VNDA				LR	LR	17 33 22.5	
	comp=Z,165nm,18.1s,MS4.0,baz=27,slow=33						
FITZ	**Fitzroy Crossi**	**52.06**	**271**	*e*P	**P**	**17 17 08.7**	**-1.4**
	5.9nm,1.2s,mb4.4						
FITZ	**Fitzroy Crossi**	**52.06**	**271**	P	**P**	**17 17 08.9**	**-1.2**
	6.5nm,1.1s,mb4.5,baz=153,slow=8.7,SNR=9.0						
CASY	**Casey**	**53.68**	**208**	*e*P	**P**	**17 17 21.6**	**0.0**
	8.0nm,0.9s,mb4.7						
QSPA	**South Pole Qui**	**58.23**	**180**	*e*P	**P**	**17 17 58.2**	**+4.1**
	17nm,1.0s,mb5.0						
MAW	**Mawson**	**70.81**	**201**	P	**P**	**17 19 16.0**	**+0.1**
	1.7nm,0.9s,mb4.0,baz=96,slow=12,SNR=3.8						
SYO	**Syowa Base**	**75.60**	**193**	⇑P	**P**	**17 19 44.2**	**+0.4**
SYO	**Syowa Base**	**75.60**	**193**	⇓PcP	PcP	17 19 57.7	+0.7
SNAA	**Sanae**	**76.68**	**179**	⇑*i*	**P**	**17 19 57.4**	**+7.5**
SNAA	**Sanae**	**76.68**	**179**	⇑*i*	Px	17 20 10.9	
SNAA	**Sanae**	**76.68**	**179**	LR	LR	17 51 15.6	
	comp=Z,32nm,18.6s,MS3.7,baz=15,slow=34						
SNAA	**Sanae**	**76.68**	**179**	*e*P	**P**	**17 19 51.0**	**+1.0**
	3.4nm,0.9s,mb4.3						
VNA3	**Neumayer Olymp**	**76.85**	**176**	⇑*i*	**P**	**17 19 52.1**	**+1.2**
VNA3	**Neumayer Olymp**	**76.85**	**176**		Px	17 20 04.1	
VNA3	**Neumayer Olymp**	**76.85**	**176**		Px	17 20 13.6	
VNA2	**Neumayer--Watz**	**77.28**	**177**		**P**	**17 19 54.7**	**+1.4**
VNA2	**Neumayer--Watz**	**77.28**	**177**	⇑*i*	Px	17 20 06.7	
VNA2	**Neumayer--Watz**	**77.28**	**177**		Px	17 20 15.2	
VNA1	**Neumayer--Stat**	**77.51**	**177**	⇑*i*	**P**	**17 19 52.6**	**-2.0**
VNA1	**Neumayer--Stat**	**77.51**	**177**	⇑*i*	**P**	**17 20 04.2**	**+10**
VNA1	**Neumayer--Stat**	**77.51**	**177**	⇑*i*	Px	17 20 13.2	
NJ2	**Nanjing**	**86.97**	**311**	*e*P	**P**	**17 20 41.1**	**-3.2**
YBH	**Yreka Blue Hor**	**89.39**	**38**	P	**P**	**17 20 55.3**	**-0.4**
	0.9nm,0.4s,mb4.4,baz=162,slow=3.2,SNR=2.5						
NVAR	**Mina Array Bea**	**89.54**	**43**	P	**P**	**17 20 56.3**	**-0.2**
	1.1nm,0.8s,mb4.2,baz=211,slow=6.6,SNR=4.7						
CN2	**Changchun**	**91.13**	**323**	*e*P	**P**	**17 20 59.9**	**-3.9**
TXAR	**Lajitas Array**	**93.45**	**58**	P	**P**	**17 21 14.3**	**-0.5**
	0.1nm,0.3s,mb3.7,baz=252,slow=4.0,SNR=3.1						
TXAR				LR	LR	17 58 20.5	
	comp=Z,136nm,18.2s,MS4.5,baz=25,slow=32						
LPAZ	**La Paz**	**97.82**	**115**	LR	LR	17 59 13.8	
	comp=Z,36nm,19.4s,MS3.9,baz=49,slow=32						
CPUP	**Villa Florida**	**99.31**	**129**	LR	LR	17 56 22.4	
	comp=Z,67nm,20.0s,MS4.1,baz=180,slow=29						
KURK	**Kurchatov**	**121.84**	**313**	PKPdf	PKPdf	17 26 50.2	-1.6
BRVK	**Borovoye**	**127.30**	**315**	PKPdf	PKPdf	17 27 00.2	-2.0
ZRNK	**Zerenda**	**128.07**	**315**	PKPdf	PKPdf	17 26 59.9	-3.8
ARCES	**ARCESS Array B**	**139.97**	**347**	PKhKP		17 27 22.9	
	3.5nm,0.9s,slow=6.1,SNR=3.4						
ARCES	**ARCESS Array B**	**139.97**	**347**	PKP	PKPdf	17 27 22.9	-2.5
KAF	**Kangasniemi**	**145.84**	**340**	*e*pkp	PKPdf	17 27 31.0	-4.7
OBN	**Obninsk**	**146.19**	**324**	*e*PKPdf	PKPdf	17 27 34.6	-1.9
FINES	**FINESS Array B**	**146.42**	**339**	PKP	PKPdf	17 27 34.1	-2.6
	3.6nm,0.8s,baz=27,slow=2.1,SNR=8.5						
FINES				PKPbc	PKPbc	17 27 38.8	+0.8
	9.3nm,0.7s,baz=45,slow=3.9,SNR=17						
NB2	**NORSAR Subarra**	**150.17**	**351**	PKP		17 27 49.6	
	3.4nm,0.8s,baz=15,slow=4.1						
NOA	**NORSAR Array B**	**150.17**	**351**	PKPbc	PKPdf	17 27 49.4	+6.7
	1.5nm,1.1s,baz=339,slow=3.0,SNR=4.4						
AKASG	**Malin Array Be**	**152.27**	**321**	PKP	PKPdf	17 27 49.8	+3.6
	1.1nm,0.6s,baz=38,slow=2.5,SNR=6.3						
AKASG				PKPbc	PKPdf	17 27 54.1	+7.9
	2.7nm,0.7s,baz=50,slow=2.5,SNR=11						
BRTR	**Keskin Array B**	**152.99**	**296**	PKPbc	PKPdf	17 27 57.5	+10
	2.2nm,1.0s,baz=135,slow=3.5,SNR=4.8						

IDC ***20*** *17:27:33.0±1.1, 29.83S×72.32W, mb3.9/3, mb1 4.2/5, mb1mx3.9/15, ML4.1/2, MS3.7/2, Ms1 3.7/2, ms1mx3.3/18, Error ellipse: s-maj=33.9km s-min=27.7km az=80.0*
NEIC ***20*** *17:27:42.7±3.3, 29.60S×71.88W, h77km±29km, mb4.4/2, Error ellipse: s-maj=39.1km s-min=15.3km az=97.0*
ISC 20 17:27:37.2±0.9**, 29.57S**±0.08×**72.2W**±0.2**, h33**km**, n21, σ1s03**/18**, mb4.1**/5**, MS4.4**/1**, 7C, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDZ	**Mendoza**	**4.37**	**140**	*e*P	**P**	**17 28 43.4**	**+0.4**
MDZ				*e*		17 28 55.6	
LVC	**Limon Verde**	**7.52**	**24**	*e*P	**P**	**17 29 20.1**	**-7.2**
	5.6nm,0.4s						
TRQA	**Tornquist**	**11.98**	**138**	*e*P	**P**	**17 30 28.4**	**-0.2**
	8.8nm,0.6s						
CPUP	**Villa Florida**	**13.52**	**80**	Pn	**P**	**17 30 48.5**	**-0.6**
	0.1nm,0.3s,baz=360,slow=20,SNR=2.1						
CPUP				LR	LR	17 36 07.3	
	comp=Z,94nm,20.8s,slow=38						
LPAZ	**La Paz**	**13.73**	**17**	Pn	**P**	**17 30 52.6**	**+0.7**
	0.7nm,0.3s,baz=171,slow=1.1,SNR=3.5						
SAML	**Samuel**	**22.18**	**24**	*e*P	**P**	**17 32 30.3**	**-1.8**
	5.9nm,0.9s,mb4.0						
BDFB	**Brasilia**	**26.19**	**63**	P	**P**	**17 33 11.9**	**+1.1**
	4.8nm,0.8s,mb4.1,baz=247,slow=6.4,SNR=3.6						
VNA3	**Neumayer Olymp**	**53.52**	**159**	⇑*i*	**P**	**17 36 56.6**	**+0.2**
VNA3	**Neumayer Olymp**	**53.52**	**159**	⇑*i*	**P**	**17 37 05.3**	**+8.9**
VNA1	**Neumayer--Stat**	**53.81**	**158**		**P**	**17 37 00.0**	**+1.5**
VNA1	**Neumayer--Stat**	**53.81**	**158**	⇑*i*	**P**	**17 37 08.6**	**+10**
VNA2	**Neumayer--Watz**	**54.15**	**158**	⇑*i*	**P**	**17 37 01.9**	**+0.9**
VNA2	**Neumayer--Watz**	**54.15**	**158**	⇑*i*	**P**	**17 37 09.8**	**+8.8**
SNAA	**Sanae**	**55.74**	**159**	⇑*i*	**P**	**17 37 09.3**	**-3.3**
SNAA	**Sanae**	**55.74**	**159**	⇑*i*	**P**	**17 37 18.1**	**+5.5**
SNAA	**Sanae**	**55.74**	**159**	P	**P**	**17 37 10.0**	**-2.6**
	0.8nm,0.7s,mb3.9,baz=278,slow=6.8,SNR=16						
QSPA	**South Pole Qui**	**60.66**	**180**	*e*P	**P**	**17 37 45.9**	**-1.0**
	5.1nm,0.8s,mb4.7						
TXAR	**Lajitas Array**	**65.83**	**330**	P	**P**	**17 38 22.2**	**+0.6**
	0.2nm,0.3s,mb3.6,baz=137,slow=53,SNR=2.6						
SCHQ	**Schefferville**	**84.18**	**3**	LR	LR	18 18 52.1	
	comp=Z,155nm,18.2s,MS4.4,baz=213,slow=36						
WRA	**Warramunga Arr**	**124.54**	**211**	PKP	PKPdf	17 46 33.2	-0.7
	0.7nm,1.1s,baz=151,slow=1.5,SNR=5.3						
ZAL	**Zalesovo**	**150.46**	**28**	PKPbc	PKPdf	17 47 25.6	+6.1
	3.3nm,0.8s,baz=181,slow=3.5,SNR=24						

IDC 20 17:31:29.2±55.0**, 19.49S**×**179.32W, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.6**/13**, Error ellipse: s-maj=990.0km s-min=143.7km az=81.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.13**	**243**	P	P	17 38 41.5	-1.9
	2.6nm,1.1s,baz=85,slow=11,SNR=2.8						
WRA	**Warramunga Arr**	**43.52**	**261**	P	P	17 39 34.8	-1.6
	0.3nm,0.4s,baz=97,slow=7.7,SNR=25						
ASAR	**Alice Springs**	**43.55**	**256**	P	P	17 39 35.0	-1.7
	0.8nm,0.5s,baz=93,slow=7.5,SNR=34						

NEIC ***20*** *17:32:41.7±1.4, 23.34S×67.72W, h138km±16km, mb4.2/2, Error ellipse: s-maj=21.6km s-min=14.5km az=133.0*
IDC ***20*** *17:32:43.5±4.1, 23.30S×67.63W, h154km±41km, mb3.6/3, mb1 3.8/5, mb1mx3.5/14, Error ellipse: s-maj=31.5km s-min=30.9km az=118.0*
ISC 20 17:32:40.7±1.5**, 23.38S**±0.10×**67.6W**±0.2**, h134**km±21km**, n18, σ1s27**/19**, mb4.0**/4**, 4C, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.42**	**302**	*e*P	**P**	**17 33 07.8**	**-0.7**
LPAZ	**La Paz**	**7.07**	**356**	P	**P**	**17 34 24.3**	**+1.5**
	1.9nm,0.3s,baz=153,slow=4.6,SNR=7.4						
LPAZ				S	**S**	**17 35 43.2**	**+1.0**
	0.2nm,0.3s,baz=328,slow=13,SNR=2.5						
LPAZ	**La Paz**	**7.07**	**356**	P	**P**	**17 34 24.3**	**+1.5**
LPAZ				S	**S**	**17 35 43.2**	**+1.0**
ARE	**Arequipa**	**7.79**	**331**	*e*P	**P**	**17 34 32.0**	**-0.4**
ARE				*e*S	**S**	**17 35 53.0**	**-6.4**
SAML	**Samuel**	**14.97**	**17**	*e*P	**P**	**17 36 04.6**	**-1.9**
	3.9nm,0.8s						
BDFB	**Brasilia**	**20.00**	**71**	P	**P**	**17 37 04.9**	**+0.1**
	3.1nm,0.3s,baz=248,slow=10,SNR=27						
BAO	**Brasilia Array**	**20.02**	**71**	*e*P	**P**	**17 37 05.5**	**+0.5**
VNA3	**Neumayer Olymp**	**57.92**	**161**	⇑*i*	**P**	**17 42 22.6**	**+2.0**
VNA1	**Neumayer--Stat**	**58.12**	**160**	⇑*i*	**P**	**17 42 29.2**	**+7.2**
VNA2	**Neumayer--Watz**	**58.49**	**160**	⇑*i*	**P**	**17 42 26.5**	**+2.0**
SNAA	**Sanae**	**60.12**	**161**	⇑*i*	**P**	**17 42 35.4**	**-0.4**
SNAA	**Sanae**	**60.12**	**161**	P	**P**	**17 42 35.0**	**-0.7**
	0.4nm,0.7s,mb3.4,baz=285,slow=8.4,SNR=14						
SNAA				PcP	PcP	17 43 19.0	-0.8
	0.2nm,0.6s,baz=277,slow=8.1,SNR=2.5						
QSPA	**South Pole Qui**	**66.82**	**180**	*e*P	**P**	**17 43 19.5**	**0.0**
	5.6nm,0.5s,mb4.7						
DBIC	**Dimbokro**	**68.15**	**72**	P	**P**	**17 43 27.0**	**-1.7**
	3.4nm,0.6s,mb4.3,baz=188,slow=9.1,SNR=5.4						
DBIC	**Dimbokro**	**68.15**	**72**	P	**P**	**17 43 27.0**	**-1.7**
MAW	**Mawson**	**82.19**	**163**	P	**P**	**17 44 45.9**	**-1.6**
	0.8nm,0.4s,mb3.7,baz=178,slow=4.4,SNR=4.7						
ASAR	**Alice Springs**	**128.77**	**206**	PKP	PKPdf	17 51 33.4	+0.6
	1.0nm,0.6s,baz=139,slow=1.7,SNR=19						
WRA	**Warramunga Arr**	**131.91**	**208**	PKP	PKPdf	17 51 39.8	+0.9
	0.6nm,0.3s,baz=157,slow=1.8,SNR=52						

MEX 20 17:47:26.4±0.7**, 16.82N**×**99.66W, h14**km±33km**, MD3.7, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.63**	**292**	*i* P	Pb	17 47 36.7	-1.9
CAIG				*i* S	Sb	17 47 44.7	-2.3
PLIG	**Platanillo**	**1.57**	**5**	*i* P	Pn	17 47 50.5	-3.6
PLIG				*i* S	Sn	17 48 09.2	-5.1
ZIIG	**Zihuatanejo**	**1.90**	**295**	*i* P	Pn	17 47 57.1	-1.7
ZIIG				*i* S	Sn	17 48 18.4	-4.2

IDC ***20*** *18:02:47.2±22.0, 12.43S×166.11E, h246km±184km, mb3.5/5, mb1 3.7/5, mb1mx3.4/15, MS3.0/1, Ms1 3.0/1, ms1mx2.7/16, Error ellipse: s-maj=112.0km s-min=54.1km az=69.0*
ISC 20 18:02:48.7±4.8**, 12.5S**±0.3×**165.8E**±0.7**, h250**km**, n11, σ0s78**/10**, mb3.9**/5**, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**20.20**	**246**	P	**P**	**18 07 06.8**	**+1.1**
	4.9nm,0.8s,baz=88,slow=12,SNR=5.5						
CTA				LR	LR	18 14 11.9	
	comp=Z,38nm,18.8s,baz=169,slow=33						
STKA	**Stephens Creek**	**29.43**	**225**	*e*P	**P**	**18 08 31.4**	**0.0**
	3.9nm,0.7s,mb4.2						
STKA	**Stephens Creek**	**29.43**	**225**	P	**P**	**18 08 31.6**	**+0.2**
	4.5nm,0.7s,mb4.2,baz=59,slow=9.1,SNR=10						
WB2	**Warramunga Arr**	**31.04**	**252**	*e*P	**P**	**18 08 44.9**	**-0.7**
WRA	**Warramunga Arr**	**31.05**	**252**	P	**P**	**18 08 44.9**	**-0.8**
	1.3nm,0.6s,mb3.7,baz=84,slow=9.4,SNR=20						
ASAR	**Alice Springs**	**32.20**	**245**	P	**P**	**18 08 54.8**	**-0.9**
	4.1nm,0.6s,mb4.1,baz=68,slow=9.7,SNR=48						
ASPA	**Alice Springs**	**32.20**	**245**	*e*P	**P**	**18 08 55.0**	**-0.6**
FITZ	**Fitzroy Crossi**	**39.07**	**257**	*e*P	**P**	**18 09 54.7**	**+1.3**
	2.9nm,0.7s,mb3.9						
FORT	**Forrest**	**39.26**	**236**	*e*P	**P**	**18 09 55.3**	**+0.5**
	32nm,0.6s						
CMAR	**Chiang Mai Arr**	**72.74**	**294**	P	**P**	**18 13 52.0**	**+0.1**
	0.5nm,0.6s,mb3.3,baz=120,slow=4.9,SNR=5.6						
ARCES	**ARCESS Array B**	**117.76**	**345**	PKP	PKPdf	18 21 01.9	-2.8
	2.9nm,0.9s,baz=55,slow=2.0,SNR=6.1						

WEL 20 18:15:30.7±1.2**, 36.50S**×**176.82E, h33**km**, ML3.5**/1**, Error ellipse: s-maj=10.1km s-min=7.3km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.59**	**132**	*e*P*	Pb	18 15 57.0	-2.5
MXZ				S*	Sb	18 16 16.4	-3.0
URZ	**Urewera**	**1.77**	**173**	P*	Pb	18 15 59.5	-3.0
URZ				S*	Sb	18 16 19.6	-5.0
URZ				S*	Sb	18 16 19.8	-4.7
MWZ	**Matawai**	**1.92**	**163**	*e*P*	Pb	18 16 00.5	-4.5
MWZ				S*	Sb	18 16 23.4	-5.3
PUZ	**Puketiti**	**1.94**	**144**	PN	Pn	18 15 60.0	-2.2
PUZ				SN	Sn	18 16 25.8	+0.1

MAN 20 18:29:54.3, 13.71N×**120.53E, h78**km**, mb4.1, ML3.0, MS2.7, 1D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.28**	**276**	*e*P	P	18 30 08.3	+2.0
LUBP				*e*S	S	18 30 17.9	+2.7
LQP	**Lukban**	**1.06**	**67**	⇓*e*P	P	18 30 14.9	+0.8
BOAC	**Boac**	**1.30**	**101**	*e*P	P	18 30 17.5	+0.2
SJMP	**San Jose**	**1.36**	**155**	*e*P	P	18 30 19.3	+1.1
SJMP				*e*S	S	18 30 37.7	+1.7
POLP	**Polilio Island**	**1.70**	**53**	*e*P	P	18 30 22.8	+0.2
BUSP	**Coron**	**1.73**	**191**	*e*P	P	18 30 23.0	+0.1
BUSP				*e*S	S	18 30 44.7	+0.6
OTRP	**Odiongan**	**1.97**	**133**	*e*P	P	18 30 26.6	+0.3

LDG ***20*** *18:32:17.8±0.2, 13.63S×166.68E, h10km, Mb5.9/4, Ms5.7/9, Error ellipse: s-maj=26.7km s-min=6.8km az=84.0*
MOS ***20*** *18:32:20.4±1.0, 14.00S×166.56E, h33km, mb5.9/29, MS5.7/25, Error ellipse: s-maj=11.5km s-min=10.1km az=100.7*
BJI ***20*** *18:32:22.4, 13.39S×166.67E, h33km, mB6.0, mb5.6, Ms5.8, Msz5.6*
HRVD ***20*** *18:32:24.6±0.1, 13.98S×166.58E, h24km, MW6.0/81, Centroid moment Tensor Solution. LP body waves: s78,c183; Mantle waves: s81,c198; Half duration: 2s5 Moment tensor: Scale 10[18]Nm; M_{rr}1.27±.01; $M_{\theta\theta}$-0.02±.01; $M_{\phi\phi}$-1.25±.01; $M_{r\theta}$0.28±.02; $M_{\theta\phi}$0.41±.01; $M_{\phi r}$-0.09±.02; Best double couple: $M_0$1.36×10[18] NP1: ϕ_s354°, δ42°, λ107°. NP2:ϕ_s152°, δ50°, λ75°. Principal axes: T 1.33, Plg78°, Azm1°; N .06, Plg11°, Azm162°; P -1.39, Plg4°, Azm253°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***20*** *18:32:24.6±1.3, 14.03S×166.61E, h60km±11km, mb5.6/45, MS5.9/20, MW6.0 Error ellipse: s-maj=5.8km s-min=5.6km az=193.0, Moment Tensor Solution. s41 Moment tensor: Scale 10[18]Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{\theta\phi}$0.00; $M_{\phi r}$0.00; Best double couple: $M_0$1×10[18] NP1: ϕ_s321°, δ36°, λ89°. NP2:ϕ_s142°, δ54°, λ91°. Principal axes: T 1.02, Plg81°, Azm56°; N -.01, Plg1°, Azm322°; P -1.01, Plg9°, Azm232°;*
IDC ***20*** *18:32:25.4±1.5, 13.99S×166.63E, h67km±12km, mb4.9/24, mb1 5.0/25, mb1mx5.0/26, MS5.8/18, Ms1 5.8/18, ms1mx5.6/23 Error ellipse: s-maj=13.2km s-min=8.5km az=153.0*
SYO ***20*** *18:32:27, 14.05S×166.56E, h82km, MB5.6*
ISC 20 18:32:23.5±0.2**, 14.04S**±0.03×**166.57E**±0.03**, h60**km**, (h67**km±3.5km**:pP-P), n578, σ1s18**/261**, mb5.5**/87**, MS5.7**/65**, 46C-22D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOUC	**Port Laguerre**	**8.03**	**182**	*e*P	**P**	**18 34 17.0**	**-2.9**
NOUC				*e*S	**S**	**18 35 41.6**	**-8.4**
NOUC	**Port Laguerre**	**8.03**	**182**	*e*P	**P**	**18 34 17.0**	**-2.9**
NOUC				*e*S	**S**	**18 35 41.6**	**-8.4**
PMG	**Port Moresby**	**19.55**	**281**	P	**P**	**18 36 49.3**	**+0.1**
	2.1nm,0.3s,baz=88,slow=6.2,SNR=75						
PMG				S	**S**	**18 40 32.1**	**+11**
	0.3nm,0.3s,baz=288,slow=20,SNR=1.9						
PMG				ScP		18 44 42.9	
	0.2nm,0.3s,baz=72,slow=2.5,SNR=4.3						
PMG	**Port Moresby**	**19.55**	**281**	*e*P	**P**	**18 36 49.1**	**-0.1**
PMG				pmax	pmax		
	comp=Z,270nm,1.0s						
PMG	**Port Moresby**	**19.55**	**281**	P	**P**	**18 36 46.7**	**-2.5**
PMG				*e*P		18 36 50.1	
CTA	**Charters Tower**	**20.33**	**250**	*e*P	**P**	**18 36 57.7**	**+0.4**
	comp=Z,112nm,1.0s						
CTA				*e*S	**S**	**18 40 48.6**	**+12**
CTA				*e*SCP		18 44 50.9	
CTA	**Charters Tower**	**20.33**	**250**	P	**P**	**18 36 58.0**	**+0.7**
	comp=Z,93nm,1.0s,baz=75,slow=13,SNR=54						
CTA				LR	LR	18 43 57.5	
	comp=Z,25μm,19.9s,MS5.6,baz=60,slow=34						
CTA				ScP		18 44 50.7	
	comp=Z,54nm,1.2s,baz=41,slow=4.4,SNR=7.6						
CTAO	**Charters Tower**	**20.33**	**250**	P	**P**	**18 36 58.5**	**+1.2**
CTAO	**Charters Tower**	**20.33**	**250**	*e*P	**P**	**18 36 57.1**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,560nm,1.7s						
CTAO	**Charters Tower**	**20.33**	**250**	*e*P	**P**	**18 36 57.1**	**-0.2**
	comp=Z,564nm,1.7s						
WAU	**Wau**	**20.60**	**287**	*e*P	**P**	**18 37 01.9**	**+1.7**
AFI	**Afiamalu**	**21.01**	**92**	*e*P	**P**	**18 37 04.4**	**+0.1**
AFI				pmax	pmax		
	comp=Z,320nm,1.0s,mb5.6						
AFI	**Afiamalu**	**21.01**	**92**	*e*P	**P**	**18 37 04.4**	**+0.1**
	comp=Z,318nm,1.0s,mb5.6						
ARMA	**Armidale**	**21.34**	**218**	*e*P	**P**	**18 37 09.7**	**+2.1**
ARMA				*e*S	**S**	**18 41 10.3**	**+14**
ARMA				*e*SCP		18 44 55.2	
OUZ	**Omahuta**	**22.02**	**165**	*e*P	**P**	**18 37 14.4**	**+0.1**
OUZ	**Omahuta**	**22.02**	**165**	P	**P**	**18 37 14.5**	**+0.2**
WCZ	**Waipu Caves**	**22.90**	**164**	*e*P	**P**	**18 37 23.7**	**+0.7**
WCZ	**Waipu Caves**	**22.90**	**164**	P	**P**	**18 37 23.7**	**+0.7**
RIV	**Riverview**	**24.17**	**213**	*e*P	**P**	**18 37 36.4**	**+1.2**
URZ	**Urewera**	**25.88**	**161**	P	**P**	**18 37 49.7**	**-1.7**
	comp=Z,8.0nm,0.4s,mb4.6,baz=207,slow=9.0,SNR=4.4						
URZ				S	**S**	**18 42 20.8**	**+6.1**
	comp=Z,5.1nm,0.4s,baz=124,slow=7.3,SNR=1.6						
URZ				LR	LR	18 47 04.3	
	comp=Z,22μm,19.3s,MS5.7,baz=153,slow=34						
CNB	**Canberra Magne**	**26.25**	**213**	*e*P	**P**	**18 37 55.1**	**+0.1**
	comp=Z,176nm,1.6s,mb5.3						
YOMI	**Yo Moklole**	**28.08**	**291**	⇓*i*P	**P**	**18 38 10.9**	**-0.9**
MENI	**Mendum Tagoi**	**28.26**	**292**	⇓*i*P	**P**	**18 38 13.0**	**-0.5**
STKA	**Stephens Creek**	**28.94**	**228**	*e*P	**P**	**18 38 19.8**	**+0.4**
	comp=Z,57nm,0.6s,mb5.5						
STKA				*e*S	**S**	**18 43 06.1**	**+1.7**
STKA				*e*SCP		18 45 08.8	
STKA	**Stephens Creek**	**28.94**	**228**	P	**P**	**18 38 19.9**	**+0.5**
	comp=Z,98nm,1.0s,mb5.5,baz=44,slow=7.6,SNR=102						
STKA				S	**S**	**18 43 09.7**	**+5.3**
	comp=Z,5.9nm,1.1s,baz=177,slow=18,SNR=1.5						
STKA				ScP		18 45 08.0	
	comp=Z,7.1nm,1.1s,baz=48,slow=12,SNR=2.8						
STKA				LR	LR	18 50 00.5	
	comp=Z,52μm,18.6s,MS6.2,baz=156,slow=36						
FOZ	**Fox Glacier**	**29.55**	**175**	P	**P**	**18 38 23.5**	**-1.2**
RPZ	**Rata Peaks**	**29.83**	**173**	P	**P**	**18 38 25.8**	**-1.3**
	comp=Z,35nm,0.7s,mb5.2,baz=285,slow=1.1,SNR=21						
RPZ				LR	LR	18 49 15.4	
	comp=Z,14μm,20.1s,MS5.6,baz=347,slow=34						
RPZ	**Rata Peaks**	**29.83**	**173**	P	**P**	**18 38 25.3**	**-1.8**
RPZ	**Rata Peaks**	**29.83**	**173**	*e*P	**P**	**18 38 25.2**	**-1.9**
TOO	**Toolangi**	**30.02**	**215**	*e*P	**P**	**18 38 29.8**	**+0.9**
	comp=Z,34nm,1.7s,mb4.8						
TOO				*e*S	**S**	**18 43 26.6**	**+5.2**
LBZ	**Lake Benmore**	**30.41**	**175**	*e*P	**P**	**18 38 29.4**	**-2.9**
LBZ	**Lake Benmore**	**30.41**	**175**	*e*P	**P**	**18 38 29.9**	**-2.4**
MSZ	**Milford Sound**	**30.56**	**178**	*e*P	**P**	**18 38 32.7**	**-0.9**
WB2	**Warramunga Arr**	**31.34**	**255**	*e*P	**P**	**18 38 38.8**	**-1.9**
WB2				*e*S	**S**	**18 43 37.7**	**-4.6**
WB2				*e*SCP		18 45 22.2	
WRAB	**Tennant Creek**	**31.34**	**255**	P	**P**	**18 38 40.0**	**-0.7**
	comp=Z,399nm,1.7s,mb6.0,SNR=23						
WRAB	**Tennant Creek**	**31.34**	**255**	*e*P	**P**	**18 38 38.7**	**-2.0**
	comp=Z,309nm,1.5s,mb5.9						
WRAB				*e*ScP		18 45 15.9	
WRA	**Warramunga Arr**	**31.35**	**255**	P	**P**	**18 38 39.1**	**-1.7**
	comp=Z,20nm,0.8s,mb5.0,baz=85,slow=9.4,SNR=98						
WRA				S	**S**	**18 43 46.0**	**+3.5**
	comp=Z,2.4nm,0.8s,baz=91,slow=26,SNR=3.7						
WRA				ScP		18 45 16.1	
	comp=Z,4.9nm,1.0s,baz=84,slow=3.4,SNR=4.8						
WRA				PKiKP		18 49 00.6	
	comp=Z,3.3nm,0.7s,baz=13,slow=0.3,SNR=11						
WRA				LR	LR	18 50 48.4	
	comp=Z,17μm,20.1s,MS5.7,baz=85,slow=35						
WRA	**Warramunga Arr**	**31.35**	**255**	PKPdf		18 49 00.6	
ASAR	**Alice Springs**	**32.30**	**248**	P	**P**	**18 38 47.5**	**-1.5**
	comp=Z,30nm,0.6s,mb5.3,baz=74,slow=9.0,SNR=259						
ASAR				PcP	PcP	18 41 36.1	0.0
	comp=Z,4.7nm,0.7s,baz=86,slow=2.4,SNR=3.5						
ASAR				S	**S**	**18 43 58.9**	**+1.6**
	comp=Z,3.9nm,1.2s,baz=58,slow=29,SNR=2.6						
ASAR				ScP		18 45 18.7	
	comp=Z,11nm,1.0s,baz=81,slow=3.5,SNR=9.2						
ASAR				LR	LR	18 51 40.6	
	comp=Z,13μm,18.2s,MS5.7,baz=71,slow=36						
ASPA	**Alice Springs**	**32.30**	**248**	*e*P	**P**	**18 38 45.5**	**-3.6**
ASPA				*e*S	**S**	**18 43 59.5**	**+2.2**
ASPA				*e*SCP		18 45 25.9	
ADE	**Adelaide**	**32.63**	**225**	*e*P	**P**	**18 38 52.9**	**+1.0**
RAR	**Rarotonga**	**32.81**	**107**	P	**P**	**18 38 54.0**	**+0.5**
	comp=Z,112nm,1.1s,mb5.7,baz=242,slow=4.6,SNR=10						
RAR				LR	LR	18 49 32.6	
	comp=Z,15μm,20.9s,MS5.7,baz=274,slow=31						
RAR	**Rarotonga**	**32.81**	**107**	*e*P	**P**	**18 38 51.9**	**-1.6**
RAR				pmax	pmax		
	comp=Z,140nm,1.1s						
RAR	**Rarotonga**	**32.81**	**107**	*e*P	**P**	**18 38 51.9**	**-1.6**
	comp=Z,141nm,1.1s,mb5.8						
TAU	**Tasmania Unive**	**33.21**	**206**	*e*P	**P**	**18 38 55.9**	**-0.9**
TAU				pmax	pmax		
	comp=Z,130nm,1.3s,mb5.7						
TAU	**Tasmania Unive**	**33.21**	**206**	*e*P	**P**	**18 38 55.9**	**-0.9**
	comp=Z,128nm,1.3s,mb5.7						
KAKA	**Kakadu**	**33.26**	**268**	*e*P	**P**	**18 39 01.7**	**+4.2**
	comp=Z,94nm,0.7s,mb5.8						
KAKA				*e*SCP		18 45 27.5	
FORT	**Forrest**	**39.08**	**238**	*e*P	**P**	**18 39 46.5**	**0.0**
	comp=Z,372nm,0.8s,mb6.2						
FORT				*e*PP	PP	18 41 26.1	+5.4
FORT				*e*S	**S**	**18 45 39.3**	**-2.0**
FITZ	**Fitzroy Crossi**	**39.49**	**259**	*e*P	**P**	**18 39 49.6**	**-0.4**
	comp=Z,53nm,0.9s,mb5.3						
FITZ				*e*SCP		18 45 53.1	
FITZ	**Fitzroy Crossi**	**39.49**	**259**	P	**P**	**18 39 50.2**	**+0.3**
	comp=Z,29nm,0.8s,mb5.1,baz=138,slow=4.7,SNR=46						
FITZ				S	**S**	**18 45 45.6**	**-2.0**
	comp=Z,5.2nm,1.1s,baz=189,slow=3.8,SNR=3.3						
FITZ				LR	LR	18 56 15.0	
	comp=Z,22μm,18.5s,MS6.0,baz=90,slow=36						
PAE	**Paea**	**42.27**	**101**	*e*P	**P**	**18 40 13.5**	**+0.5**
	comp=Z,233nm,1.2s,mb5.7						
PPT	**Papeete**	**42.27**	**101**	P	**P**	**18 40 13.1**	**+0.1**
	comp=Z,51nm,0.8s,mb5.2,baz=225,slow=1.4,SNR=3.3						
PPT	**Papeete**	**42.27**	**101**	*e*P	**P**	**18 40 13.8**	**+0.8**
	comp=Z,88nm,1.3s,mb5.2						
TIAR	**Tiarei**	**42.49**	**101**	*e*P	**P**	**18 40 15.5**	**+0.7**
	comp=Z,278nm,1.3s,mb5.7						
TBI	**Tubuai**	**42.52**	**109**	*e*P	**P**	**18 40 16.0**	**+0.9**
	comp=Z,272nm,1.0s,mb6.0						
TVO	**Taravao**	**42.58**	**101**	*e*P	**P**	**18 40 16.1**	**+0.6**
	comp=Z,129nm,0.8s,mb5.7						
MEH	**Mehetia**	**43.70**	**101**	*e*P	**P**	**18 40 25.3**	**+0.6**
	comp=Z,194nm,1.1s,mb5.7						
PMOR	**Pomariorio Ree**	**44.03**	**97**	*e*P	**P**	**18 40 28.4**	**+1.0**
	comp=Z,503nm,1.1s,mb6.1						
VAH	**Vaihoa**	**44.27**	**98**	*e*P	**P**	**18 40 28.7**	**-0.6**
	comp=Z,392nm,1.2s,mb6.0						
MBWA	**Marble Bar**	**45.08**	**254**	*e*P	**P**	**18 40 35.1**	**-0.6**
	comp=Z,345nm,1.4s,mb6.0						
NINI	**Niniconang**	**47.10**	**277**	⇑*i*P	**P**	**18 40 53.5**	**+1.7**
TANI	**Tanete Lipujan**	**47.72**	**278**	⇓*i*P	**P**	**18 40 54.2**	**-2.5**
MSLP	**Maasin**	**47.84**	**298**	*e*P	**P**	**18 40 58.0**	**+0.4**
KLBR	**Kellerberrin**	**47.86**	**240**	*e*P	**P**	**18 40 56.5**	**-1.0**
	comp=Z,181nm,1.4s,mb5.9						
PAGZ	**Pagadian**	**48.06**	**294**	*e*P	**P**	**18 40 59.8**	**+0.5**
BESP	**Borongan**	**48.08**	**300**	*e*P	**P**	**18 40 59.2**	**-0.2**
NWAO	**Narrogin (SRO)**	**48.53**	**238**	P	**P**	**18 41 02.1**	**-0.6**
	comp=Z,40nm,0.8s,mb5.5,baz=84,slow=6.0,SNR=23						
NWAO	**Narrogin (SRO)**	**48.53**	**238**	*e*P	**P**	**18 41 02.0**	**-0.7**
NWAO				pmax	pmax		
	comp=Z,83nm,0.9s						
NWAO	**Narrogin (SRO)**	**48.53**	**238**	*e*P	**P**	**18 41 02.0**	**-0.6**
	comp=Z,83nm,0.9s,mb5.8						
SNPH	**Sibulan**	**48.87**	**296**	*e*P	**P**	**18 41 06.5**	**+1.0**
MUN	**Mundaring**	**49.22**	**240**	*e*P	**P**	**18 41 07.7**	**-0.3**
	comp=Z,86nm,1.0s,mb5.7						
MUN				*e*S	**S**	**18 48 11.1**	**+3.0**
GUIM	**Jordan**	**50.03**	**297**	*e*P	**P**	**18 41 13.6**	**-0.9**
PVCP	**Virac**	**50.18**	**301**	*e*P	**P**	**18 41 15.9**	**+0.3**
RATI	**Rata**	**50.24**	**270**	⇓*i*P	**P**	**18 41 16.9**	**+0.8**
RCP	**Roxas**	**50.34**	**298**	⇓*e*P	**P**	**18 41 18.4**	**+1.5**
AUQP	**San Andres**	**51.28**	**300**	*e*P	**P**	**18 41 25.0**	**+1.1**
KELI	**Kelakatan**	**51.35**	**271**	⇓*i*P	**P**	**18 41 25.1**	**+0.6**

OTRP	**Odiongan**	**51.35 299**	*e*P	**P**	**18 41 23.4**	**-1.1**
CUYO	**Cuyo Island**	**51.50 296**	*e*P	**P**	**18 41 25.4**	**-0.2**
SRDI	**Scrawed**	**51.64 270**⇓	*i*P	**P**	**18 41 30.9**	**+4.3**
BOAC	**Boac**	**52.04 300**	*e*P	**P**	**18 41 28.9**	**-0.7**
SJMP	**San Jose**	**52.17 298**	*e*P	**P**	**18 41 31.1**	**+0.5**
BUSP	**Coron**	**52.74 297**	*e*P	**P**	**18 41 34.1**	**-0.8**
PPR	**Puerto Princes**	**53.03 294**⇑	*i*P	**P**	**18 41 37.8**	**+0.7**
JHJ	**Hachijo jima 2**	**53.41 332**	LR	LR	19 04 20.9	
	comp=Z,4µm,18.8s,MS5.5,baz=100,slow=36					
BATP	**Bataraza**	**53.45 292**	*e*P	**P**	**18 41 40.8**	**+0.7**
LUBP	**Lubang**	**53.53 299**	*e*P	**P**	**18 41 39.8**	**-0.9**
KKM	**Kota Kinabalu**	**53.80 288**⇓	*e*P	**P**	**18 41 43.9**	**+1.1**
JOW	**Kunigami**	**55.08 318**	P	**P**	**18 41 51.5**	**-0.5**
	comp=Z,44nm,0.8s,mb5.6,baz=156,slow=13,SNR=3.6					
DRV	**Dumont d'Urvil**	**55.47 192**	P	**P**	**18 41 52.0**	**-2.2**
DRV			SP	SP	18 49 32.0	-12
DRV			SS	SS	18 53 21.0	+2.8
DRV			R		18 58 00.0	
MAJO	**Matsushiro**	**56.98 333**	*e*P	**P**	**18 42 03.6**	**-1.9**
MAJO			pmax	pmax		
	comp=Z,150nm,1.1s,mb5.9					
MAJO	**Matsushiro**	**56.98 333**	*e*P	**P**	**18 42 03.6**	**-1.9**
	comp=Z,148nm,1.1s,mb5.9					
MAT	**Matsushiro**	**56.98 333**	P	**P**	**18 42 03.4**	**-2.1**
MAT			S	**S**	**18 49 51.6**	**-1.7**
MAT	**Matsushiro**	**56.98 333**	*e*P	**P**	**18 42 03.0**	**-2.5**
	comp=Z,114nm,1.0s,mb5.9					
MAT			*e*S	**S**	**18 49 52.0**	**-1.3**
MAT			LR	LR		
	comp=Z,4µm,20.0s,MS5.5					
PASI	**Pasiripis**	**60.30 270**⇓	*i*P	**P**	**18 42 28.8**	**0.0**
QZH	**Quanzhou**	**60.75 309**⇑	*i*P	**P**	**18 42 33.0**	**+1.3**
QZH			S	**S**	**18 50 49.5**	**+7.2**
QZH			AMB	AMB		
	comp=Z,120nm,1.0s,mb6.0					
QZH			LR	LR		
	comp=Z,4µm,18.8s,MS5.6					
YUK	**Yuzh-Kuril'sk**	**60.80 343**	*e*P	**P**	**18 42 24.0**	**-7.8**
YUK			*e*SP	pP	18 42 36.0	-12
YUK			*e*PS	**S**	**18 50 40.0**	**-2.8**
YUK			*e*		18 52 14.0	
YUK			pmax	pmax		
	comp=Z,2µm,5.0s					
PENI	**Pendagan**	**60.95 271**⇑	*i*P	**P**	**18 42 29.4**	**-3.8**
SSE	**Sheshan**	**62.56 317**	⇑P	**P**	**18 42 43.4**	**-0.3**
SSE			AP	pP	18 42 59.3	-0.6
SSE			S	**S**	**18 51 06.8**	**+1.7**
SSE			SCS	ScS	18 52 29.3	+2.5
SSE			AMB	AMB		
	comp=Z,56nm,2.1s,mb5.3					
SSE			AMB	AMB		
	comp=Z,1µm,12.0s					
SSE			LR	LR		
	comp=N,2µm,18.8s,MS5.5					
SSE			LR	LR		
	comp=E,2µm,18.8s,MS5.5					
SSE			LR	LR		
	comp=Z,3µm,19.6s,MS5.5					
VNDA	**Vanda**	**63.54 181**	P	**P**	**18 42 48.7**	**-0.9**
	comp=Z,51nm,1.1s,mb5.5,baz=358,slow=6.7,SNR=62					
VNDA	**Vanda**	**63.54 181**	P	**P**	**18 42 48.7**	**-0.9**
SBA	**Scott Base**	**63.83 180**	*e*P	**P**	**18 42 51.0**	**-0.4**
SBA			pmax	pmax		
	comp=Z,150nm,1.0s,mb6.0					
SBA	**Scott Base**	**63.83 180**	*e*P	**P**	**18 42 51.0**	**-0.5**
	comp=Z,148nm,1.0s,mb6.0					
GZH	**Guangzhou**	**63.83 305**	P	**P**	**18 42 49.8**	**-2.5**
GZH			S	**S**	**18 51 22.3**	**+1.1**
GZH			LR	LR		
	comp=N,1µm,15.8s,MS5.4					
GZH			LR	LR		
	comp=E,2µm,17.7s,MS5.4					
GZH			LR	LR		
	comp=Z,3µm,20.2s,MS5.5					
CASY	**Casey**	**63.91 202**	*e*P	**P**	**18 42 51.5**	**-0.6**
CASY			*i* S	**S**	**18 51 26.6**	**+5.1**
YSS	**Yuzh-Sakhalins**	**64.36 342**α	*i*P	**P**	**18 42 55.7**	**+0.3**
YSS			*i* *SP	sP	18 43 12.0	-6.3
YSS			*e*S	**S**	**18 51 26.0**	**-1.4**
YSS			*e*PS	PS	18 51 43.0	-13
YSS			*e*SSS	SSS	18 58 35.0	+4.9
YSS			pmax	pmax		
	comp=Z,80nm,1.1s,mb5.7					
YSS			smax			
	comp=N,1µm,12.0s					
YSS	**Yuzh-Sakhalins**	**64.36 342**	*i* Pcu		18 42 55.7	
	comp=N,80nm,1.1s					
YSS			*i* sP	sP	18 43 12.0	-6.3
YSS			*e*S	**S**	**18 51 26.0**	**-1.4**
YSS			*e*PS	PS	18 51 43.0	-13
YSS			*e*SSS	SSS	18 58 35.0	+4.9
KGM	**Kluang**	**64.65 279**⇓	*e*P	**P**	**18 42 59.0**	**+1.2**
NJ2	**Nanjing**	**64.71 316**	*e*P	**P**	**18 42 56.5**	**-1.4**
NJ2			AP	pP	18 43 06.3	-7.9
NJ2			XP	sP	18 43 10.1	-11
NJ2			PP	PP	18 45 21.1	-1.6
NJ2			PPP	PPP	18 46 56.5	+0.2
NJ2			S	**S**	**18 51 34.0**	**+2.0**
NJ2			XS		18 51 51.0	
NJ2			LR	LR		
	comp=N,4µm,18.0s,MS5.7					
NJ2			LR	LR		
	comp=E,2µm,16.0s,MS5.7					
NJ2			LR	LR		
	comp=Z,9µm,20.2s,MS6.0					
QIZ	**Qiongzhong**	**64.81 299**⇑	*i*P	**P**	**18 42 58.4**	**-0.3**
QIZ			S	**S**	**18 51 36.9**	**+3.5**
QIZ			AMB	AMB		
	comp=Z,1µm,10.4s					
QIZ			LR	LR		
	comp=E,2µm,20.3s					
QIZ			LR	LR		
	comp=Z,3µm,22.0s,MS5.4					
QIZ	**Qiongzhong**	**64.81 299**	*e*P	**P**	**18 42 59.0**	**+0.2**
	comp=Z,61nm,1.2s,mb5.5					
SKR	**Severo-Kuril's**	**65.09 353**	*e*P	**P**	**18 42 52.0**	**-8.0**
SKR			*e*PPP	PPP	18 46 54.0	-6.0
SKR			*e*S	S	18 51 34.0	-2.2
SKR			*e*PS	PS	18 51 51.6	-14
SKR			*e*		18 52 18.0	
SKR			*e*SS	SS	18 55 56.0	+4.8
SKR			pmax	pmax		
	comp=N,1µm,1.0s					
SKR			pmax	pmax		
	comp=Z,2µm,1.0s					
SKR			pmax	pmax		
	comp=Z,400nm,1.5s,mb6.2					
SKR			smax			
	comp=N,1µm,16.0s					
SKR			smax			
	comp=E,2µm,16.0s					
SKR			MLR	MLR		
	comp=N,2µm,16.0s,MS5.5					
SKR			MLR	MLR		
	comp=E,1µm,16.0s,MS5.5					
SKR			MLR	MLR		
	comp=Z,3µm,16.0s,MS5.5					
VLA	**Vladivostok**	**65.15 333**⇓	*i*P	**P**	**18 42 56.0**	**-4.5**
VLA			*i* S	S	18 51 43.0	+5.9
VLA			*i* PS	PS	18 52 20.0	+14
VLA			pmax	pmax		
	comp=Z,1µm,7.0s					
VLA			pmax	pmax		
	comp=N,1µm,9.0s					
VLA			pmax	pmax		
	comp=E,1µm,7.0s					
VLA			pmax	pmax		
	comp=Z,1µm,10.0s					
VLA			smax			
	comp=E,4µm,8.0s					
VLA			smax			
	comp=E,2µm,10.0s					
VLA			smax			
	comp=Z,600nm,9.0s					
VLA			MLR	MLR		
	comp=N,2µm,18.0s					
VLA			MLR	MLR		
	comp=Z,2µm,18.0s,MS5.5					
WHN	**Wuhan**	**66.98 312**	*e*P	**P**	**18 43 11.5**	**-0.9**
WHN			S	S	18 51 55.0	-4.6
WHN			LR	LR		
	comp=N,3µm,20.3s,MS5.6					
WHN			LR	LR		
	comp=E,3µm,25.3s,MS5.6					
WHN			LR	LR		
	comp=Z,6µm,17.6s					
KIWB	**Kanaga Island**	**67.12 11**	*e*P	**P**	**18 43 13.3**	**+0.5**
KIWB			*e*	pP	18 43 31.1	+1.9
PET	**Petropavlovsk**	**67.13 355**	*e*P	**P**	**18 43 11.7**	**-1.2**
PET			pmax	pmax		
	comp=Z,120nm,1.2s,mb5.8					
PET	**Petropavlovsk**	**67.13 355**	*e*P	**P**	**18 43 11.7**	**-1.2**
	comp=Z,120nm,1.2s,mb5.8					
DL2	**Dalian**	**67.34 323**	P	**P**	**18 43 14.8**	**+0.3**
DL2			S	S	18 52 09.3	+5.5
DL2			AMB	AMB		
	comp=Z,70nm,0.8s,mb5.7					
DL2			AMB	AMB		
	comp=Z,1µm,8.6s					
DL2			LR	LR		
	comp=N,1µm,27.3s					
DL2			LR	LR		
	comp=E,2µm,20.6s					
MDJ	**Mudanjiang**	**67.36 332**	P	**P**	**18 43 14.1**	**-0.4**
MDJ			PP	PP	18 45 44.8	-0.5
MDJ			S	S	18 52 08.0	+4.1
MDJ			SCS	ScS	18 53 06.4	+3.0
MDJ			AMB	AMB		
	comp=Z,98nm,1.2s,mb5.7					
MDJ			AMB	AMB		
	comp=Z,2µm,6.2s					
MDJ			LR	LR		
	comp=N,2µm,19.8s,MS5.4					
MDJ			LR	LR		
	comp=E,1µm,18.7s,MS5.4					
MDJ	**Mudanjiang**	**67.36 332**	*e*P	**P**	**18 43 13.9**	**-0.5**
	comp=E,115nm,1.1s,mb5.8					
UBT	**Ubonrachathani**	**67.47 293**	P	**P**	**18 43 17.5**	**+1.9**
IPM	**Ipoh**	**67.58 281**⇓	*e*P	**P**	**18 43 17.5**	**+1.1**
SNY	**Shenyang**	**68.26 327**⇑	*i*P	**P**	**18 43 18.8**	**-1.3**
SNY			XP	sP	18 43 38.0	-5.0
SNY			LR	LR		
	comp=N,3µm,19.1s					
SNY			LR	LR		
	comp=Z,3µm,22.9s,MS5.5					
TIA	**Tai'an**	**68.37 319**	*e*P	**P**	**18 43 19.8**	**-1.2**
TIA			AMB	AMB		
	comp=Z,44nm,1.2s,mb5.4					
CN2	**Changchun**	**68.71 329**	⇑P	**P**	**18 43 22.6**	**-0.3**
CN2			*e*S	S	18 52 19.6	-0.5
CN2			AMB	AMB		
	comp=Z,120nm,0.9s,mb5.8					
CN2			LR	LR		
	comp=N,3µm,20.0s,MS5.6					
CN2			LR	LR		
	comp=E,3µm,20.0s,MS5.6					
CN2			LR	LR		
	comp=Z,3µm,21.0s,MS5.5					
KKTK	**Khon Kaen**	**69.83 293**	P	**P**	**18 43 31.0**	**+0.8**
	comp=Z,247nm,0.8s,mb6.2					
ENH	**Enshi**	**70.41 310**	*e*P	**P**	**18 43 32.8**	**-0.7**
	comp=Z,187nm,1.2s,mb5.9					
MIR	**Mirnyy**	**70.68 204**α	*i*P	**P**	**18 43 34.6**	**0.0**
MIR			*e*	pP	18 43 52.5	+1.4
MIR			*e*S	S	18 52 48.0	+5.2
MIR			*e*S	S	18 52 51.0	+8.2
MIR			pmax	pmax		
	comp=Z,120nm,1.0s,mb5.8					
MIR			pmax	pmax		
	comp=Z,2µm,5.6s					
MIR			smax			
	comp=E,1µm,14.0s					
MIR			smax			
	comp=N,2µm,16.0s					
MIR			MLR	MLR		
	comp=Z,2µm,17.0s,MS5.5					
MIR			MLR	MLR		
	comp=N,1µm,17.0s,MS5.3					
MIR			MLR	MLR		
	comp=E,1µm,17.0s,MS5.3					
GYA	**Guiyang**	**70.77 305**⇑	*i*P	**P**	**18 43 36.5**	**+0.7**
GYA			PP	PP	18 46 18.4	+3.1
GYA			S	S	18 52 47.8	+3.3
GYA			AMB	AMB		
	comp=Z,60nm,0.9s,mb5.5					
GYA			AMB	AMB		
	comp=Z,2µm,10.2s					
GYA			LR	LR		
	comp=N,2µm,20.4s,MS5.5					
GYA			LR	LR		
	comp=E,2µm,16.2s,MS5.5					
GYA			LR	LR		
	comp=Z,3µm,18.8s,MS5.5					
BJT	**Baijiatuau**	**71.30 321**	*e*P	**P**	**18 43 38.5**	**-0.2**
	comp=Z,66nm,0.9s,mb5.6					
BJI	**Beijing**	**71.30 321**	P	**P**	**18 43 38.6**	**-0.1**
BJI			PP	PP	18 46 22.6	+3.1
BJI			S	S	18 52 48.0	-2.4
BJI			AMB	AMB		
	comp=Z,97nm,0.9s,mb5.7					
BJI			LR	LR		
	comp=N,4µm,19.0s,MS5.8					
BJI			LR	LR		
	comp=E,3µm,19.0s,MS5.8					
BJI			LR	LR		
	comp=Z,4µm,22.8s,MS5.6					
NNT	**Nongplab**	**71.31 289**	P	**P**	**18 43 41.0**	**+1.8**
UNV	**Unalaska Valle**	**71.42 16**	*e*P	**P**	**18 43 38.2**	**-1.0**
	comp=Z,110nm,1.0s,mb5.7					
NST	**Nakhon Sawan**	**72.00 292**	P	**P**	**18 43 45.0**	**+1.7**
NANT	**Nan**	**72.63 295**	P	**P**	**18 43 45.0**	**-2.0**
XAN	**Xi'an**	**72.73 313**	P	**P**	**18 43 47.0**	**-0.3**
XAN			S	S	18 53 06.6	-0.3
XAN			AMB	AMB		
	comp=Z,82nm,1.8s,mb5.4					
XAN			AMB	AMB		
	comp=Z,2µm,10.6s					
XAN			LR	LR		
	comp=E,2µm,20.5s					
XAN			LR	LR		
	comp=Z,3µm,20.1s,MS5.6					
KMI	**Kunming**	**73.37 302**	*e*P	**P**	**18 43 52.6**	**+1.3**
KMI			AP	pP	18 44 08.3	+0.4
KMI			PP	PP	18 46 40.5	+3.2
KMI			PPP	PPP	18 48 17.5	-3.7
KMI			S	S	18 53 17.1	+2.8
KMI			SKS	SKS	18 53 52.3	+4.9
KMI			SS	SS	18 57 57.3	-2.5
KMI			AMB	AMB		
	comp=Z,93nm,1.2s,mb5.6					
KMI			LR	LR		
	comp=N,1µm,15.8s,MS5.5					
KMI			LR	LR		
	comp=E,2µm,18.6s,MS5.5					
KMI			LR	LR		
	comp=Z,3µm,25.8s					
BDT	**Bhumibol Dam**	**73.57 293**	P	**P**	**18 43 54.0**	**+1.4**
CMAR	**Chiang Mai Arr**	**74.05 294**	P	**P**	**18 43 56.2**	**+0.8**
	comp=Z,24nm,0.8s,mb5.2,baz=127,slow=4.6,SNR=193					
CMAR			PKiKP		18 49 47.4	
	comp=Z,0.5nm,0.8s,baz=117,slow=2.0,SNR=2.7					
CHG	**Chiang Mai**	**74.18 294**	⇑P	**P**	**18 43 56.7**	**+0.6**
	comp=Z,50nm,0.9s,mb5.4					
MA2	**Magadan**	**74.46 352***c*	*i*P	**P**	**18 43 55.4**	**-1.5**
MA2			pmax	pmax		
	comp=Z,121nm,1.7s,mb5.5					
MA2	**Magadan**	**74.46 352**⇑	*i*P	**P**	**18 43 55.4**	**-1.5**
	comp=Z,121nm,1.7s,mb5.5					
HHC	**Hu-ho-hao-te**	**74.62 320**	⇑P	**P**	**18 43 57.9**	**-0.4**
HHC			PCP	PcP	18 44 07.9	-4.7
HHC			S	S	18 53 31.3	+3.4
HHC			SKS	SKS	18 53 53.9	-2.4
HHC			SCS	ScS	18 54 04.9	+4.0
HHC			AMB	AMB		
	comp=Z,88nm,1.8s,mb5.4					
HHC			AMB	AMB		
	comp=Z,1µm,5.8s					
HHC			LR	LR		
	comp=N,1µm,18.6s,MS5.3					
HHC			LR	LR		
	comp=E,774nm,17.3s,MS5.3					
CD2	**Chengdu**	**75.05 308**⇑	*i*P	**P**	**18 44 01.9**	**+1.0**
CD2			PPP	PPP	18 48 43.6	+6.7
CD2			S	S	18 53 38.8	+5.9
CD2			SKS	SKS	18 54 01.6	+1.9
CD2			AMB	AMB		
	comp=Z,50nm,1.8s,mb5.1					
CD2			AMB	AMB		
	comp=Z,1µm,9.0s					
CD2			LR	LR		
	comp=E,1µm,18.7s					
HIA	**Hailar**	**75.35 330**	*e*P	**P**	**18 44 01.8**	**-0.4**
	comp=E,124nm,1.2s,mb5.7					
BTO	**Baotou**	**75.46 319**	*e*P	**P**	**18 44 03.3**	**+0.3**
BTO			S	S	18 53 43.6	+6.4
BTO			AMB	AMB		
	comp=Z,96nm,1.6s,mb5.5					
BTO			LR	LR		
	comp=N,1µm,19.1s,MS5.5					
BTO			LR	LR		
	comp=E,2µm,17.1s,MS5.5					
QSPA	**South Pole Qui**	**75.99 180**	*e*P	**P**	**18 44 04.8**	**-0.5**
	comp=E,130nm,0.9s,mb5.9					
QSPA			LR	LR		
	comp=Z,2µm,22.0s,MS5.4					
LZH	**Lanzhou**	**77.36 312**	⇑P	**P**	**18 44 15.1**	**+1.3**
LZH			PCP	PcP	18 44 25.3	+0.8
LZH			PP	PP	18 47 12.3	+2.1
LZH			S	S	18 54 00.0	+2.0
LZH			SS	SS	18 59 02.1	+1.9
LZH			AMB	AMB		
	comp=Z,301nm,1.5s,mb6.0					
LZH			AMB	AMB		
	comp=Z,1µm,5.0s					
LZH			LR	LR		
	comp=N,3µm,16.8s					
LZH			LR	LR		
	comp=Z,5µm,19.8s,MS5.8					
SEY	**Seymchan**	**77.52 353**	*e*P	**P**	**18 44 15.5**	**+1.3**
SEY			*e*		18 44 24.9	
SEY			*e*		18 47 14.5	
SEY			*e*S	S	18 54 04.9	+5.8
SEY			*e*PS	PS	18 54 47.5	+0.1
SEY			*e*SS	SS	18 59 05.8	+3.8
SEY			*e*SSS	SSS	19 02 23.4	+3.9
SEY			pmax	pmax		
	comp=E,20nm,0.6s					
SEY			pmax	pmax		
	comp=Z,110nm,0.6s,mb6.0					
SEY			pmax	pmax		
	comp=N,50nm,0.7s					
SEY			smax			
	comp=N,3µm,18.4s					
SEY			smax			
	comp=E,1µm,16.3s					
SEY			MLR	MLR		
	comp=Z,7µm,20.0s,MS6.0					
SEY			MLR	MLR		
	comp=N,4µm,19.0s,MS6.1					
SEY			MLR	MLR		
	comp=E,8µm,19.0s,MS6.1					
SEY	**Seymchan**	**77.52 353**	*e*P	**P**	**18 44 15.5**	**+1.3**
	comp=E,110nm,0.6s,mb6.0					
SEY			*e*		18 44 24.9	
SEY			*e*		18 47 14.5	
SEY			*e*S	S	18 54 04.9	+5.8
SEY			*e*PS	PS	18 54 47.5	+0.1
SEY			*e*SS	SS	18 59 05.8	+3.8
SEY			*e*SSS	SSS	19 02 23.4	+3.9
SEY			LR	LR		
	comp=Z,7µm,20.0s,MS6.0					
CLNS	**Chul'man**	**78.63 338**	*e*P	**P**	**18 44 19.8**	**-0.6**
CLNS			*e*		18 44 31.4	
CLNS			pmax	pmax		
	comp=Z,74nm,0.9s,mb5.6					
CLNS			pmax	pmax		
	comp=N,28nm,1.0s					
CLNS			pmax	pmax		
	comp=E,15nm,0.9s					
CLNS			pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7					
CLNS			pmax	pmax		
	comp=N,10.0nm,1.1s					
CLNS			pmax	pmax		
	comp=E,6.0nm,1.0s					
CLNS			MLR	MLR		
	comp=Z,1µm,14.0s,MS5.3					
CLNS			MLR	MLR		
	comp=N,400nm,15.0s,MS5.1					
CLNS			MLR	MLR		
	comp=E,500nm,13.0s,MS5.1					
KDAK	**Kodiak Island**	**79.06 21**	*e*P	**P**	**18 44 22.2**	**-0.5**
	comp=E,12nm,0.5s,mb5.1					
YAK	**Yakutsk**	**81.17 343**	*e*P	**P**	**18 44 32.1**	**-1.8**
YAK			pmax	pmax		
	comp=Z,100nm,0.9s,mb5.8					
YAK	**Yakutsk**	**81.17 343**	*e*P	**P**	**18 44 32.1**	**-1.8**
	comp=Z,100nm,0.9s,mb5.8					
SONM	**Songino Array**	**81.54 324**	P	**P**	**18 44 36.1**	**0.0**
	comp=Z,28nm,0.9s,mb5.2,baz=145,slow=5.7,SNR=175					
SONM			PKiKP		18 49 59.0	
	comp=Z,0.5nm,0.8s,baz=183,slow=8.3,SNR=3.4					
SONM			PKKP	PKKP	19 03 11.0	+23
	comp=Z,0.6nm,0.8s,baz=255,slow=3.1,SNR=4.2					
GTA	**Gaotai**	**81.70 314**	P	**P**	**18 44 38.3**	**+1.1**
GTA			PP	PP	18 47 44.4	-2.0
GTA			SKS	SKS	18 54 50.9	+3.7
GTA			S	S	18 54 52.5	+8.9
GTA			AMB	AMB		
	comp=Z,143nm,1.2s,mb5.8					
GTA			AMB	AMB		
	comp=Z,2µm,9.5s					
GTA			LR	LR		
	comp=N,2µm,19.8s,MS5.5					
GTA			LR	LR		
	comp=E,2µm,19.4s,MS5.5					
GTA			LR	LR		
	comp=Z,2µm,24.3s,MS5.4					
SLKM	**Skilak Lake**	**81.92 20**	*e*P	**P**	**18 44 37.0**	**-0.8**
MAW	**Mawson**	**82.27 202**	*e*S	S	18 54 52.9	+4.1
MAW	**Mawson**	**82.27 202**	P	**P**	**18 44 39.5**	**0.0**
	comp=Z,30nm,0.9s,mb5.2,baz=99,slow=6.4,SNR=47					
MAW			LR	LR	19 15 51.8	
	comp=Z,7µm,21.0s,MS6.0,baz=97,slow=32					
MAW	**Mawson**	**82.27 202**	*e*P	**P**	**18 44 39.8**	**+0.3**
	comp=Z,20nm,0.6s,mb5.2					
MAW			*e*S	S	18 54 52.9	+4.1
SHL	**Shillong**	**82.64 299**⇑	*i*P	**P**	**18 44 44.0**	**+1.7**
SHL			*e*		18 55 02.0	
PMR	**Palmer**	**83.08 20**	*e*P	**P**	**18 44 43.5**	**-0.2**
PMR			LR	LR		
	comp=Z,6µm,19.0s,MS6.0					
EYAK	**Cordova Ski Ar**	**83.49 22**	*e*P	**P**	**18 44 46.0**	**+0.2**
EYAK			*e*		18 45 08.4	
SML	**Sawmill**	**83.49 20**	*e*P	**P**	**18 44 44.8**	**-1.0**
BOD	**Bodaibo**	**83.56 335**⇓	*i*P	**P**	**18 44 45.2**	**-1.0**
DIV	**Divide**	**83.88 21**	*e*P	**P**	**18 44 45.3**	**-2.5**
	comp=Z,52nm,0.7s,mb5.8					
DIV			*e*pP	pP	18 44 51.2	-13
DIV			*e*		18 45 09.1	
ZAK	**Zakamensk**	**84.60 325**⇓	*i*P	**P**	**18 44 51.5**	**-0.1**
ZAK			*e*		18 48 11.0	
ZAK			*e*		18 55 11.4	
LSA	**Lhasa**	**84.62 302**	P	**P**	**18 44 55.0**	**+2.7**
MCK	**McKinley**	**84.71 18**	*e*P	**P**	**18 44 50.5**	**-1.3**
MCK			pmax	pmax		
	comp=Z,14nm,0.8s,mb5.1					
MCK	**McKinley**	**84.71 18**	*e*P	**P**	**18 44 50.5**	**-1.3**
	comp=Z,14nm,0.8s,mb5.2					
MCK			*e*pP	pP	18 44 56.1	-13
MCK			*e*		18 45 13.5	
IRK	**Irkutsk**	**84.99 327**	*e*P	**P**	**18 44 53.0**	**-0.5**
IRK			*e*		18 45 03.7	
IMA	**Indian Mountai**	**85.16 15**	*e*P	**P**	**18 44 53.7**	**-0.4**
	comp=Z,152nm,1.3s,mb6.0					
IMA			*e*	pP	18 45 14.0	+3.0
YBH	**Yreka Blue Hor**	**85.41 45**	P	**P**	**18 44 55.1**	**-0.7**
	comp=Z,11nm,0.9s,mb5.0,baz=214,slow=0.7,SNR=16					
THY	**Trims Highway**	**85.48 19**	*e*P	**P**	**18 44 54.8**	**-0.8**
THY			*e*	pP	18 45 15.9	+3.3
CMB	**Columbia Colle**	**85.66 49**	*e*P	**P**	**18 44 57.5**	**+0.3**
CMB			pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.9					
CMB	**Columbia Colle**	**85.66 49**	*e*P	**P**	**18 44 57.5**	**+0.4**
	comp=Z,6.1nm,0.8s,mb4.9					
CMB			*e*	pP	18 45 18.8	+4.7
COLA	**College**	**85.86 18**	*e*P	**P**	**18 44 56.6**	**-0.9**
COLA			MLR	MLR		
	comp=Z,5µm,21.0s,MS5.9					
ILAR	**Eielson Array**	**86.08 18**	P	**P**	**18 44 56.7**	**-1.9**
	comp=Z,18nm,0.5s,mb5.5,baz=244,slow=5.6,SNR=60					
ILAR			PKiKP		18 50 06.3	
	comp=Z,0.6nm,0.6s,baz=286,slow=3.4,SNR=6.6					
ILAR			PKKP	PKKP	19 02 56.1	+16
	comp=Z,2.0nm,1.2s,baz=354,slow=1.5,SNR=5.1					
MOY	**Mondy**	**86.48 325**	*e*P	**P**	**18 45 01.6**	**+0.8**

MTUM **Tungsten Hills** 86.77 50 *e*P P 18 45 03.9 +1.3
MOD **Modoc** 87.13 46 *e*P P 18 45 05.2 +0.9
comp=Z,9.2nm,1.0s,mb5.0
NVAR **Mina Array Bea** 87.33 49 P P 18 45 06.2 +0.8
comp=Z,6.5nm,0.8s,mb4.9,baz=225,slow=4.9,SNR=26
NVAR PKKP PKKP 19 02 58.5 +20
comp=Z,0.4nm,0.6s,baz=104,slow=3.7,SNR=3.9
NVAR LR LR 19 17 14.7
comp=Z,13µm,19.6s,MS6.3,baz=310,slow=31
NVAR **Mina Array Bea** 87.33 49 P P 18 45 06.2 +0.8
NVAR PKKP PKKP 19 02 58.5 +20
NVAR LR LR 19 17 14.7
PALK **Pallekele** 87.76 278 *e*P P 18 45 09.9 +1.9
comp=Z,117nm,1.7s,mb5.8
DAWY **Dawson** 88.04 21 *e*P P 18 45 08.2 +0.1
DAWY *e* pP 18 45 29.7 +4.6
TPNV **Topopah Spring** 88.38 51 *e*P P 18 45 11.1 +0.7
TPNV pmax pmax
comp=Z,7.0nm,0.7s,mb5.0
TPNV **Topopah Spring** 88.38 51 *e*P P 18 45 11.1 +0.8
comp=Z,6.8nm,0.7s,mb5.0
DLBC **Dease Lake** 88.65 28 P P 18 45 10.5 -0.6
comp=Z,1.5nm,0.5s,mb4.6,baz=220,slow=16,SNR=3.6
DLBC LR LR 19 22 24.5
comp=Z,3µm,19.1s,MS5.8,baz=273,slow=34
DLBC **Dease Lake** 88.65 28 P P 18 45 10.5 -0.6
DLBC LR LR 19 22 24.5
RPW **Rockport** 88.81 39 *e*P P 18 45 13.0 +0.8
NEN **Nelson** 89.05 53 *e*P P 18 45 14.4 +0.9
SYO **Syowa Base** 89.17 197 ⇓P P 18 45 12.7 -0.7
SYO **Syowa Base** 89.17 197 ⇓PcP PcP 18 45 17.4 +2.3
SYO **Syowa Base** 89.17 197 ⇑pP Px 18 45 36.0
SYO **Syowa Base** 89.17 197 ⇑sP Px 18 45 45.6
MDRS **Chennai** 89.63 283 *i* P P 18 45 18.0 +1.2
MDRS *i* 18 48 53.0
MDRS *i* 18 55 48.0
DPW **Davenport** 90.66 41 *e*P P 18 45 21.5 +0.7
TUC **Tucson** 91.31 57 *e*P P 18 45 25.5 +1.2
TUC pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
TUC **Tucson** 91.31 57 *e*P P 18 45 25.5 +1.2
comp=Z,4.9nm,0.8s,mb4.9
TRD **Trivandrum** 91.66 278 *e*P P 18 45 29.4 +3.1
WMQ **Urumqi** 91.76 315 ⇑*i*P P 18 45 27.0 +0.9
WMQ PP PP 18 49 09.0 +1.2
WMQ SKS SKS 18 55 51.0 -0.7
WMQ S S 18 56 19.0 -0.3
WMQ SS SS 19 02 31.0 -0.3
WMQ AMB AMB
comp=Z,57nm,1.4s,mb5.7
WMQ AMB AMB
comp=Z,491nm,8.0s
WMQ LR LR
comp=N,2µm,22.0s,MS5.7
WMQ LR LR
comp=E,2µm,22.0s,MS5.7
WMQ LR LR
comp=Z,2µm,21.0s,MS5.6
MSU **Marysvale** 91.92 51 *e*P P 18 45 28.8 +1.9
DUG **Dugway** 91.93 49 P P 18 45 28.0 +1.1
DUG pmax pmax
comp=Z,150nm,1.1s,mb6.2
DUG **Dugway** 91.93 49 P P 18 45 28.0 +1.1
comp=Z,12nm,1.2s,mb5.1
HYB **Hyderabad** 92.27 287 *i* P P 18 45 29.5 +0.5
HYB *e* 18 45 39.0
HYB *e* pP 18 45 48.5 +2.3
HYB *e*PP PP 18 49 20.0 +7.5
HYB *e*SKS SKS 18 56 00.0 +4.7
HYB *e*S S 18 56 28.0 +3.7
HYB *e*PS PS 18 57 52.0 +3.8
HYB **Hyderabad** 92.27 287 *e*P P 18 45 29.5 +0.5
NLU **North Lily Min** 92.40 50 *e*P P 18 45 30.2 +1.1
INK **Inuvik** 92.45 19 P P 18 45 29.9 +1.3
comp=Z,1.2nm,0.6s,baz=162,slow=9.6,SNR=3.0
INK LR LR 19 21 18.4
comp=Z,8µm,21.5s,MS6.1,baz=225,slow=32
INK **Inuvik** 92.45 19 P P 18 45 29.9 +1.3
INK LR LR 19 21 18.4
PMSA **Palmer Station** 92.64 161 P P 18 45 31.8 +2.2
DAU **Daniels Canyon** 93.13 49 *e*P P 18 45 34.0 +1.6
MCMT **McKenzie Canyo** 93.22 45 *e*P P 18 45 33.6 +0.8
SRU **San Rafael** 93.33 51 *e*P P 18 45 33.8 +0.4
NVL **N'lazarevskaya** 93.64 188 ⇑*e*P P 18 45 33.0 -1.0
NVL *e*S S 18 56 35.0 0.0
NVL pmax pmax
comp=Z,755nm,3.9s
MAIT **Maitri** 93.65 188 *e*P P 18 45 33.9 -0.1
PTH **Pithoragarh** 93.70 299 *e*P P 18 45 34.2 -1.1
SNAA **Sanae** 94.20 183 ⇑*i*P P 18 45 35.4 -1.1
SNAA **Sanae** 94.20 183 ⇑*i* P 18 45 35.8 -0.7
SNAA **Sanae** 94.20 183 18 50 15.7
SNAA **Sanae** 94.20 183 ⇑*i* PKKP 19 02 36.3 +10
SNAA **Sanae** 94.20 183 P P 18 45 35.5 -1.0
comp=Z,28nm,1.3s,mb5.5,baz=173,slow=3.8,SNR=59
SNAA **Sanae** 94.20 183 *e*P P 18 45 35.4 -1.1
SNAA pmax pmax
comp=Z,38nm,1.0s
MNGI **Mangalore** 94.73 282 *i* P P 18 45 38.0 -2.3
MNGI *i* S 18 56 08.8
VNA3 **Neumayer Olymp** 94.89 181 ⇑*i*P P 18 45 41.5 +1.8
VNA3 **Neumayer Olymp** 94.89 181 ⇑*i* P 18 45 41.8 +2.1
VNA3 **Neumayer Olymp** 94.89 181 ⇑*i* 18 50 22.1
VNA3 **Neumayer Olymp** 94.89 181 ⇑*i* PKKP 19 02 35.7 +10
PDAR **Pinedale Array** 94.97 47 P P 18 45 41.1 +0.4
comp=Z,0.9nm,0.5s,mb4.4,baz=197,slow=1.8,SNR=8.1
PDAR PKKP PKKP 19 02 35.5 +10
comp=Z,0.8nm,0.7s,baz=53,slow=4.5,SNR=6.5
PDAR LR LR 19 22 57.1
comp=Z,4µm,19.8s,MS5.8,baz=256,slow=32
BNM **Barren Site** 95.15 56 *e*P P 18 45 40.5 -1.3
VNA2 **Neumayer--Watz** 95.15 182 ⇑*i*P P 18 45 42.9 +2.0
VNA2 **Neumayer--Watz** 95.15 182 ⇑*i* 18 50 23.7
VNA2 **Neumayer--Watz** 95.15 182 PKKP 19 02 34.5 +10
VNA1 **Neumayer--Stat** 95.45 182 ⇑*i*P P 18 45 44.4 +2.1
VNA1 **Neumayer--Stat** 95.45 182 ⇑*i* P 18 45 45.0 +2.7
VNA1 **Neumayer--Stat** 95.45 182 ⇑*i* 18 50 26.0
VNA1 **Neumayer--Stat** 95.45 182 ⇑*i* PKKP 19 02 36.3 +12
ANMO **Albuquerque** 95.46 55 *e*P P 18 45 41.7 -1.5
ANMO pmax pmax
comp=Z,6.0nm,1.1s
ANMO **Albuquerque** 95.46 55 *e*P P 18 45 41.7 -1.5
comp=Z,6.4nm,1.1s,mb5.0
DDI **Dehra Dun** 95.70 300 *e* P 18 45 40.0 -4.3
NDI **New Delhi** 96.06 298 *e*P P 18 45 43.5 -2.5
NDI *e*S 18 56 20.0
MKAR **Makanchi Array** 96.24 317 *i* P P 18 45 46.7 +0.3
MKAR pmax pmax
comp=Z,11µm,1.0s
ZAL **Zalesovo** 96.44 324 P P 18 45 45.5 -1.6
comp=Z,15nm,0.8s,mb5.4,baz=358,slow=5.3,SNR=74
ZAL S 18 56 18.7
comp=Z,0.5nm,0.8s,baz=234,slow=23,SNR=14
ZAL PKKP PKKP 19 02 31.2 +8.3
comp=Z,0.5nm,0.3s,baz=234,slow=1.1,SNR=3.6
ZAL LR LR 19 30 56.7
comp=Z,3µm,19.5s,MS5.7,baz=1.4,slow=36
ZAL **Zalesovo** 96.44 324 P P 18 45 45.5 -1.6
ZAL S 18 56 18.7
ZAL PKKP PKKP 19 02 31.2 +8.3
ZAL LR LR 19 30 56.7
TXAR **Lajitas Array** 96.54 62 P P 18 45 48.7 +0.5
comp=Z,0.9nm,0.3s,mb4.7,baz=256,slow=5.2,SNR=5.8
TXAR LR LR 19 20 50.9
comp=Z,4µm,21.4s,MS5.9,baz=230,slow=30
POO **Poona** 96.89 287 *e*P P 18 45 49.0 -1.0
YKA **Yellowknife Ar** 97.24 27 LR LR 19 29 11.3
comp=Z,2µm,18.6s,MS5.7,baz=255,slow=35
NVS **Novosibirsk** 97.55 325 *e*P P 18 45 48.9 -3.3
NVS *i* 18 56 26.0
NVS pmax pmax
comp=N,18nm,1.7s
NVS pmax pmax
comp=E,27nm,1.7s
NVS pmax pmax
comp=Z,40nm,1.7s,mb5.7
NVS pmax pmax
comp=Z,108nm,2.5s,mb5.9
NVS pmax pmax
comp=N,14nm,1.8s
NVS pmax pmax
comp=E,50nm,2.1s
NVS **Novosibirsk** 97.55 325 *e*P P 18 45 48.9 -3.3
comp=E,40nm,1.7s,mb5.7
NVS *i* 18 56 26.0
KSH **Kashi** 99.24 308 *e*P P 18 46 02.1 +1.9
KSH PP PP 18 50 03.8 -2.0
KSH SKS SKS 18 56 31.8 -0.2
KSH S S 18 57 24.4 +1.3
KSH *e*PS PS 18 59 03.6 +1.4
KSH *e*SS SS 19 04 15.5 -1.6
KSH LR LR
comp=N,1µm,17.6s,MS5.7
KSH LR LR
comp=E,2µm,17.2s,MS5.7
KURK **Kurchatov** 99.44 320 *i* P P 18 45 59.5 -1.3
KURK pmax pmax
comp=Z,15nm,1.8s,mb5.2
FRU **Bishkek** 100.81 312 *e*P P 18 46 08.0 +0.8
FRU *e* 18 50 19.0
FRU LR LR
comp=Z,2µm,18.0s,MS5.5
VOSK **Vostochnaya** 104.41 321 P Pdif 18 46 21.7 -1.2
VOSK pmax pmax
comp=Z,11nm,1.5s
VOSK **Vostochnaya** 104.41 321 P Pdif 18 46 21.7 -1.2
comp=Z,11nm,1.5s
BVA0 **Borovoye Array** 104.79 322 *i* P Pdif 18 46 24.0 -0.5
BVAR **Borovoye Array** 104.79 322 PKiKP 18 50 43.1
comp=Z,2.4nm,0.5s,baz=126,slow=2.0,SNR=7.2
BRVK **Borovoye** 104.85 322 *e*P Pdif 18 46 24.2 -0.6
ZRNK **Zerenda** 105.62 321 *e*P Pdif 18 46 27.2 -1.0
ZRNK pmax pmax
comp=Z,8.0nm,1.2s
ARU **Arti** 111.54 325 *i* PKIKP PKPdf 18 50 51.2 +0.4
ARU *e* 18 57 31.0
ARU *e*PS PS 19 01 10.7 +6.1
ARU *e*SS SS 19 07 10.0 +5.8
ARU MLR MLR
comp=Z,2µm,22.0s,MS5.6
ARU MLR MLR
comp=N,1µm,23.0s,MS5.5
ARU MLR MLR
comp=E,1µm,22.0s,MS5.5
LVZ **Lovozero** 117.93 341 ⇓*i*PKIKP PKPdf 18 51 03.3 +0.3
LVZ *e* 18 52 20.1
LVZ *e*SP SP 19 02 00.5 +3.5
LVZ *e*PS PS 19 02 00.5 -3.5
LVZ MLR MLR
comp=Z,5µm,23.0s,MS6.0
LVZ MLR MLR
comp=N,3µm,25.0s,MS5.9
LVZ MLR MLR
comp=E,1µm,23.0s,MS5.9
LPAZ **La Paz** 118.12 117 PKP PKPdf 18 51 08.3 +3.8
comp=E,2.0nm,0.3s,baz=160,slow=0.5,SNR=2.6
APA **Apatity** 118.51 341 ⇑*i*PKIKP PKPdf 18 51 04.6 +0.5
APA *e*PPS PPS 19 03 27.0 -4.3
APA *i* SS SS 19 08 36.0 +0.7
APA pmax pmax
comp=Z,116nm,1.6s
APA MLR MLR
comp=Z,1µm,20.0s,MS5.5
KEV **Kevo** 118.89 345 *e*pkp PKPdf 18 51 04.1 -0.7
comp=Z,23nm,1.0s
KEV **Kevo** 118.89 345 *e*PKIKP PKPdf 18 51 04.1 -0.7
KEV pmax pmax
comp=Z,23nm,1.0s
ARCES **ARCESS Array B** 119.41 345 PKP PKPdf 18 51 05.5 -0.3
comp=Z,9.3nm,0.4s,baz=78,slow=1.9,SNR=155
SUMG **Summit** 119.65 8 *e*PKPdf PKPdf 18 51 06.9 +0.6
CPUP **Villa Florida** 121.42 133 PKP PKPdf 18 51 10.2 -0.6
comp=Z,4.3nm,1.0s,baz=265,slow=0.3,SNR=4.5
CPUP SKP 18 54 44.9
comp=Z,1.6nm,0.8s,baz=297,slow=2.3,SNR=2.6
QRN **Al-Qurain** 121.60 295 *e*P PKPdf 18 51 12.2 +1.1
QRN AMb AMB 18 51 13.7
comp=Z,97nm,0.8s
UMR **Umm Al-Rimmam** 121.76 296 *e*P PKPdf 18 51 12.9 +1.5
UMR AMb AMB 18 51 14.5
comp=Z,74nm,0.8s
KBD **Kabd** 121.79 296 *e*P PKPdf 18 51 12.5 +1.0
RDF **Al-Radifah** 121.92 295 *e*P PKPdf 18 51 12.4 +0.7
RDF AMb AMB 18 51 14.0
comp=Z,76nm,0.8s
JOF **Joensuu** 121.99 338 *e*pkp PKPdf 18 51 10.1 -0.9
comp=Z,26nm,0.7s
JOF **Joensuu** 121.99 338 *e*PKIKP PKPdf 18 51 10.1 -0.9
JOF pmax pmax
comp=Z,26nm,0.7s
MIB **Mutribah** 122.08 296 *e*P PKPdf 18 51 12.7 +0.7
MIB AMb AMB 18 51 14.3
comp=Z,68nm,0.9s
SCHQ **Schefferville** 122.09 33 PKP PKPdf 18 51 11.0 -0.3
comp=Z,3.0nm,0.5s,baz=248,slow=11,SNR=3.9
SCHQ **Schefferville** 122.09 33 PKP PKPdf 18 51 11.0 -0.3
RST **Umm Al-Ruwaisa** 122.39 296 *e*P PKPdf 18 51 13.0 +0.5
RST AMb AMB 18 51 14.8
comp=Z,83nm,0.8s
RYDS **Riyadh** 122.72 290 P PKPdf 18 51 14.4 +1.1
MOS **Moscow** 122.94 328 *e*PKIKP PKPdf 18 51 12.8 -0.2
MOS *e* 18 52 53.2
MOS pmax pmax
comp=Z,56nm,1.0s
SCO **Scoresbysund** 123.34 3 *i* P PP 18 52 52.0 -7.5
comp=Z,4.7nm,0.9s
GOF **Gofitskoye** 123.37 315 ⇓*i*PKIKP PKPdf 18 51 15.0 +0.9
GOF pmax pmax
comp=Z,50nm,1.2s
GOF MLR MLR
comp=N,2µm,20.0s
SUR **Sutherland** 123.40 215 PKP PKPdf 18 51 16.2 +1.7
comp=N,3.3nm,0.9s,baz=220,slow=0.2,SNR=5.9
SUR **Sutherland** 123.40 215 *e*PKPdf PKPdf 18 51 16.1 +1.7
VOR **Voronezh** 123.72 324 PKIKP PKPdf 18 51 15.0 +0.4
VOR pmax pmax
comp=Z,100nm,1.2s
OBN **Obninsk** 123.76 328 *c*/*i*PKIKP PKPdf 18 51 14.9 +0.3
OBN *e* 18 53 02.3
OBN *i* PS PS 19 02 54.5 -1.4
OBN *i* SS SS 19 09 49.1 +6.1
OBN pmax pmax
comp=Z,52nm,0.9s
OBN MLR MLR
comp=Z,2µm,17.0s,MS5.8
OBN **Obninsk** 123.76 328 ⇑*i*PKPdf PKPdf 18 51 14.9 +0.3
OBN *e* 18 53 02.3
OBN *i* PS PS 19 02 54.5 -1.4
OBN *i* SS SS 19 09 49.1 +6.1
OBN LR LR
comp=Z,2µm,17.0s,MS5.8
SDV **Santo Domingo** 123.81 89 *e*PKPdf PKPdf 18 51 14.7 -1.0
KIV **Kislovodsk** 123.88 314 *i* PKIKP PKPdf 18 51 15.1 0.0
KIV *e* 18 53 00.9
KIV *e*SP SP 19 02 51.7 +1.5
KIV *e*PS PS 19 02 59.5 +2.3
KIV *e*SS SS 19 09 48.6 +3.8
KIV pmax pmax
comp=Z,16nm,1.1s
KIV MLR MLR
comp=Z,1µm,21.0s,MS5.5
KIV MLR MLR
comp=E,502nm,19.0s
MZLS **Mizel** 124.02 290 P PKPdf 18 51 17.8 +1.9
PUL **Pulkovo** 124.24 335 *i* PKIKP PKPdf 18 51 14.9 -0.5
PUL *e* 18 53 00.0
PUL *e* 19 09 50.2
PUL MLR MLR
comp=Z,2µm,18.0s,MS5.8
PUL MLR MLR
comp=N,2µm,26.0s
KAF **Kangasniemi** 124.31 339 *e*pkp PKPdf 18 51 15.0 -0.5
comp=N,5.0nm,0.4s,baz=46,slow=1.9
KAF **Kangasniemi** 124.31 339 *e*PKIKP PKPdf 18 51 15.0 -0.5
KAF pmax pmax
comp=Z,5.0nm,0.4s
KAMS **Al Khamasin** 124.46 285 P PKPdf 18 51 18.1 +1.4
FINES **FINESS Array B** 124.83 338 PKhKP 18 51 09.3
comp=Z,2.4nm,1.1s,baz=27,slow=4.3,SNR=4.7
FINES PKP PKPdf 18 51 16.6 +0.2
comp=Z,18nm,0.8s,baz=85,slow=2.6,SNR=35
FINES SKP 18 54 44.0
comp=Z,5.0nm,1.0s,baz=90,slow=5.6,SNR=4.3
FINES **FINESS Array B** 124.83 338 *i* PKIKP PKPdf 18 51 11.0 -5.5
FINES pmax pmax
comp=Z,2.0nm,1.1s
FINES **FINESS Array B** 124.83 338 PKP PKPdf 18 51 16.6 +0.2
FINES SKP 18 54 44.0
DJNS **Zahran al Janu** 125.25 282 P PKPdf 18 51 21.1 +2.6
TATS **Tathlith** 125.44 284 P PKPdf 18 51 21.3 +2.6
SAML **Samuel** 125.61 112 *e*PKPdf PKPdf 18 51 18.3 -0.9
AFFS **'Afif** 126.04 289 P PKPdf 18 51 21.4 +1.5
SOC **Sochi** 126.06 314 *i* PKIKP PKPdf 18 51 17.4 -1.9
SOC *e* 18 53 14.6
SOC pmax pmax
comp=Z,35nm,0.9s
SOC pmax pmax
comp=N,30nm,1.0s
SOC pmax pmax
comp=E,14nm,0.8s
VSU **Vasula** 126.50 335 *i* PKP PKPdf 18 51 20.6 +0.8
NAMS **An Nimas** 126.62 284 P PKPdf 18 51 24.1 +3.1
HILS **Ha'il** 127.05 294 P PKPdf 18 51 24.0 +2.2
BLJS **Baljurashi** 127.23 284 P PKPdf 18 51 25.4 +3.1
ANN **Anapa** 127.26 316 *e*PKIKP PKPdf 18 51 14.7 -6.9
ANN *e* 18 53 22.3
ANN *e* 19 03 28.1
ANN pmax pmax
comp=Z,46nm,1.4s
ANN MLR MLR
comp=N,2µm,22.0s,MS5.7
ANN MLR MLR
comp=Z,2µm,22.0s,MS5.8
ANN MLR MLR
comp=E,1µm,23.0s,MS5.7
KMBO **Kilima Mbogo** 127.60 257 *e*PKP PKPdf 18 51 25.0 +1.8
comp=E,5.3nm,0.8s,baz=67,slow=2.0,SNR=14
KMBO SKP 18 54 58.0
comp=E,16nm,1.2s,baz=41,slow=2.4,SNR=7.3
KMBO **Kilima Mbogo** 127.60 257 *e*PKPdf PKPdf 18 51 25.1 +2.0
LTHS **Al Lith** 128.36 285 P PKPdf 18 51 26.5 +2.1
MNK **Minsk** 128.41 331 *e*PKIKP PKPdf 18 51 17.0 -6.6
SJG **San Juan** 129.31 78 PKP PKPdf 18 51 25.8 -0.4
comp=E,37nm,0.8s,baz=4.9,slow=5.6,SNR=6.3
SJG **San Juan** 129.31 78 *e*PKIKP PKPdf 18 51 25.7 -0.5
KBRS **Khaybar** 129.39 292 P PKPdf 18 51 28.3 +2.1
LSZ **Lusaka** 129.58 236 *e*PKIKP PKPdf 18 51 27.8 +1.0
HUMP **Col San Antoni** 129.60 78 *e*PKPdf PKPdf 18 51 26.4 -0.4
NB2 **NORSAR Subarra** 129.78 345 PKPdf PKPdf 18 51 26.2 +0.2
comp=E,22nm,1.1s,baz=31,slow=1.9
NB2 **NORSAR Subarra** 129.78 345 PKPdf 18 51 26.2
baz=31,slow=1.9
NB2 **NORSAR Subarra** 129.78 345 ⇓PKP PKPdf 18 51 26.2 +0.2
NOA **NORSAR Array B** 129.78 345 PKP PKPdf 18 51 26.3 +0.3
comp=E,37nm,1.2s,baz=32,slow=2.0,SNR=21
NOA SKP 18 54 48.4
comp=E,7.4nm,0.8s,baz=32,slow=3.1,SNR=12
AKASG **Malin Array Be** 129.78 326 PKP PKPdf 18 51 26.5 +0.2
comp=E,6.5nm,0.6s,baz=51,slow=1.9,SNR=36
AKASG PP PP 18 53 37.9 -4.3
comp=E,0.4nm,0.5s,baz=51,slow=6.3,SNR=4.6
AKASG SKP 18 54 48.5
comp=E,4.9nm,0.9s,baz=42,slow=4.4,SNR=6.6
ASF **Jabal al Asfar** 130.78 300 PKP PKPdf 18 51 30.1 +1.4
comp=E,10.0nm,1.1s,baz=235,slow=1.3,SNR=10
ASF SKPab 18 54 55.1
comp=E,5.1nm,1.0s,baz=337,slow=0.8,SNR=3.8
ASF SKP 18 55 01.5
comp=E,25nm,1.0s,baz=327,slow=0.8,SNR=12
SUW **Suwalki** 130.87 332 *i* PKIKP PKPdf 18 51 30.3 +2.0
SUW **Suwalki** 130.87 332 *e*PKP PKPdf 18 51 29.0 +0.7
SUW *e*PKPdf PKPdf 18 51 30.3 +2.0
SUW **Suwalki** 130.87 332 *e*PKP PKPdf 18 51 29.0 +0.7
SUW *e*PKIKP PKPdf 18 51 30.3 +2.0
UMJS **Umm Lajj** 131.18 291 P 18 55 02.8
BRTR **Keskin Array B** 131.55 311 PKP PKPdf 18 51 30.2 +0.2
comp=E,3.3nm,0.7s,baz=135,slow=1.7,SNR=13
BRTR SKPab 18 54 57.0
comp=E,4.5nm,0.8s,baz=87,slow=3.7,SNR=7.7
BRTR SKP 18 55 03.1
comp=E,16nm,0.8s,baz=31,slow=2.9,SNR=19
TBKS **Tabuk** 131.62 295 P PKPdf 18 51 33.1 +2.7
TBKS **Tabuk** 131.62 295 P 18 55 06.0
KIS **Kishinev** 131.87 322 *e*PKHKP 18 51 11.0
KIS *e* 18 51 31.0
KIS *e* 18 53 48.0
KIS *e*PPP PPP 18 56 42.0 -4.8
KIS MLR MLR
comp=N,2µm,20.0s,MS5.9
KIS MLR MLR
comp=E,1µm,20.0s,MS5.9
KIS MLR MLR
comp=Z,2µm,20.0s,MS5.9
KIS MLR MLR
comp=Z,2µm,20.0s
JMQS **Jabal Moqyreh** 132.13 296 P PKPdf 18 51 34.2 +2.9
JMQS **Jabal Moqyreh** 132.13 296 P 18 55 08.4
DBAS **Duba** 132.22 294 P PKPdf 18 51 33.0 +1.4
DBAS **Duba** 132.22 294 P 18 55 06.8
AYUS **'Aynunah** 132.74 295 P PKPdf 18 51 34.2 +1.6
AYUS **'Aynunah** 132.74 295 P 18 55 07.9
JMOS **Jabal al Moall** 132.76 297 P PKPdf 18 51 34.5 +1.9
JMOS **Jabal al Moall** 132.76 297 P 18 55 09.0
ALWS **Ilw as Safayha** 132.78 297 P PKPdf 18 51 34.3 +1.7
ALWS **Ilw as Safayha** 132.78 297 P 18 55 09.2
BDAS **Al Bad'** 132.86 296 P PKPdf 18 51 34.4 +1.6
BDAS **Al Bad'** 132.86 296 P 18 55 09.9
HAQS **Haql** 132.93 297 P PKPdf 18 51 34.8 +1.9
HAQS **Haql** 132.93 297 P 18 55 10.2
TAYS **Tayyib Ism** 133.05 296 P PKPdf 18 51 34.5 +1.4
TAYS **Tayyib Ism** 133.05 296 P 18 55 10.5
BSD **Bornholm Skovb** 133.47 338 *i* P PKPdf 18 51 28.4 -4.7
comp=Z,38nm,1.1s
BSD *i* 18 54 02.3
BSD *i* 18 55 09.4
BSD *e* 19 06 53.7
comp=Z,3µm,21.0s
KWP **Kalwaria** 133.85 328 *i* PKIKP PKPdf 18 51 37.0 +3.0
KWP **Kalwaria** 133.85 328 *e*PKP PKPdf 18 51 35.4 +1.4
KWP *e*PKPdf PKPdf 18 51 37.0 +3.0
KWP **Kalwaria** 133.85 328 *e*PKP PKPdf 18 51 35.4 +1.4
KWP *e*PKIKP PKPdf 18 51 37.0 +3.0
COP **Copenhagen** 133.88 340 *i* P PKPdf 18 51 37.8 +3.9
COP *i* 18 53 39.4
COP *i* 18 54 05.3
COP *i* 19 05 29.8
COP *i* 19 07 15.2
comp=Z,2µm,21.0s
COP **Copenhagen** 133.88 340 *e*P PKPdf 18 51 37.8 +3.9
COP *i* 18 53 39.4
COP *i* 18 54 05.3
COP *i* 19 05 29.8
COP *i* 19 07 15.2
COP LR LR
comp=Z,2µm,21.0s,MS5.7
MBAR **Mbarara** 133.92 255 *e*PKPdf PKPdf 18 51 36.2 +1.0
GKP **Gorka Klasztor** 133.96 335 *i* PKIKP PKPdf 18 51 38.4 +4.3
GKP **Gorka Klasztor** 133.96 335 *e*PKP PKPdf 18 51 36.8 +2.7
GKP *e*PKPdf PKPdf 18 51 38.4 +4.3
GKP **Gorka Klasztor** 133.96 335 *e*PKP PKPdf 18 51 36.8 +2.7
GKP *e*PKIKP PKPdf 18 51 38.4 +4.3
MUD **Monsted U'grnd** 134.26 343 *i* P PP 18 54 09.3 -1.4
MUD *i* 18 55 09.0
MLR **Muntele Rosu** 134.35 321 PKP PKPdf 18 51 35.6 +0.5
comp=Z,18nm,1.1s,baz=74,slow=2.8,SNR=9.0
ISP **Isparta** 134.47 310 *e*PKIKP PKPdf 18 51 36.2 +0.7
KOLS **Kolonicke sedl** 134.50 327 *e*PKP PKPdf 18 51 36.8 +1.6
KOLS *e* 18 51 41.4
KOLS **Kolonicke sedl** 134.50 327 *e*P 18 55 07.0
KOLS *e* 18 55 13.6
KOLS *e* 18 55 24.2
BDFB **Brasilia** 134.85 130 PKP PKPdf 18 51 37.6 +0.9
comp=Z,3.3nm,0.8s,baz=209,slow=8.2,SNR=3.2
BDFB SKP 18 55 07.1
comp=Z,15nm,1.0s,baz=67,slow=7.5,SNR=4.5
OJC **Ojcow** 134.93 330 *e*PKIKP PKPdf 18 51 37.0 +1.0
OJC **Ojcow** 134.93 330 *e*PKP PKPdf 18 51 37.0 +1.0
CRVS **Cervenica-Dubn** 134.94 328 *e*PKP PKPdf 18 51 39.7 +3.7
CRVS *e* 18 51 49.4
CRVS **Cervenica-Dubn** 134.94 328 *e*P 18 55 09.3
CRVS *e* 18 55 15.2
CRVS *e* 18 55 24.2
NIE **Niedzica** 135.20 329 *e*PKP PKPdf 18 51 38.4 +1.9
KECS **Kecovo** 135.71 328 *e*P 18 55 09.2
KECS *e* 18 55 17.6
PVL **Pavlikeni** 135.86 319 *e*P PKPdf 18 51 40.0 +2.1
OKC **Ostrava-Krasne** 135.97 331 *e*PKIKP PKPdf 18 51 38.8 +0.9
OKC MLR MLR
comp=Z,2µm,18.7s,MS6.0
OKC **Ostrava-Krasne** 135.97 331 *e*PKPdf PKPdf 18 51 38.8 +0.9
OKC *e*PP PP 18 54 33.7 +13
OKC *e*SKP 18 55 17.6

Code	Station	Δ	AZ	Op	ISC	Time	Res
OKC				AMS	AMS	19 56 20.0	
	comp=Z,2µm,18.7s						
KSP	**Ksiaz**	**136.12**	**333**	ePKHKP		18 51 26.6	
KSP				e		18 51 39.3	
KSP				e		18 54 15.0	
KSP				ePPS	PPS	19 06 19.0	-9.2
KSP				MLR	MLR		
	comp=Z,7µm,21.4s,MS6.4						
KSP	**Ksiaz**	**136.12**	**333**	ePKP	PKPdf	18 51 26.6	-12
KSP				e		18 51 39.3	
KSP				ePP	PP	18 54 15.0	-7.0
KSP				eSKKS		19 00 38.0	
KSP				ePPS	PPS	19 06 19.0	-9.2
KSP				LR	LR		
	comp=Z,7µm,21.4s,MS6.4						
KSP	**Ksiaz**	**136.12**	**333**	ePKP	PKPdf	18 51 39.4	+1.3
KSP				ePKIKP	PKPdf	18 51 41.2	+3.1
MORC	**Moravsky Berou**	**136.30**	**331**	ePKIKP	PKPdf	18 51 39.2	+0.7
PSZ	**Piszkesteto**	**136.37**	**328**⇓	ePKP/D		18 51 40.0	
PSZ				i		18 55 17.4	
PSZ	**Piszkesteto**	**136.37**	**328**	ePKIKP	PKPdf	18 51 39.0	+0.3
DPC	**Dobruska-Polom**	**136.46**	**333**	ePKHKP		18 51 29.1	
DPC				e		18 51 40.2	
DPC				MLR	MLR		
	comp=Z,4µm,22.4s,MS6.1						
DPC	**Dobruska-Polom**	**136.46**	**333**	ePKPpre		18 51 29.1	
DPC				ePKPdf	PKPdf	18 51 40.2	+1.4
DPC				eSKP		18 55 12.4	
DPC				ex	x	18 55 19.3	
DPC				AMS	AMS	19 51 20.0	
	comp=Z,4µm,22.4s						
UPC	**Upice**	**136.48**	**333**	ePKPdf	PKPdf	18 51 40.2	+1.4
UPC				eSKP		18 55 12.4	
UPC				ex	x	18 55 19.3	
VYHS	**Vyhne**	**136.54**	**329**	ePKP	PKPdf	18 51 40.0	+1.0
VYHS				e		18 51 50.1	
VYHS				ePP	PP	18 54 20.2	-4.4
VYHS	**Vyhne**	**136.54**	**329**	eP		18 55 13.4	
VYHS				e		18 55 20.0	
KDZ	**Kurdzhali**	**136.56**	**317**	eP	PKPdf	18 51 40.0	+0.8
KOLL	**Kolacno**	**136.70**	**329**	eP		18 55 13.8	
KOLL				e		18 55 20.6	
RZN	**Rozhen**	**137.00**	**317**	eP	PKPdf	18 51 41.0	+1.0
PVCC	**Panska Ves**	**137.09**	**334**	ePKIKP	PKPdf	18 51 41.3	+1.4
PVCC				MLR	MLR		
	comp=Z,2µm,25.1s,MS5.8						
PVCC	**Panska Ves**	**137.09**	**334**	ePKPdf	PKPdf	18 51 41.3	+1.4
PVCC				eSKP		18 55 14.3	
PVCC				AMS	AMS	19 49 30.0	
	comp=Z,2µm,25.1s						
BRG	**Berggiesshubel**	**137.10**	**335**	ePKIKP	PKPdf	18 51 41.9	+2.0
BRG				i		18 51 46.3	
BRG				eSS	SS	19 12 26.0	-0.8
BRG				pmax	pmax		
	comp=Z,30nm,1.0s						
BRG				MLR	MLR		
	comp=N,2µm,19.9s,MS6.0						
BRG				MLR	MLR		
	comp=E,2µm,19.9s,MS6.0						
BRG				MLR	MLR		
	comp=Z,3µm,20.4s,MS6.1						
BRG	**Berggiesshubel**	**137.10**	**335**	ePKP	PKPdf	18 51 41.9	+2.0
BRG				i		18 51 46.3	
BRG				ePP	PP	18 54 15.3	-13
BRG				i		18 55 14.3	
BRG				i PKS	PKS	18 55 20.9	+5.8
BRG				eSS	SS	19 12 26.0	-0.8
BRG				LR	LR		
	comp=Z,3µm,20.4s,MS6.1						
CLL	**Collm**	**137.15**	**336**	e	PKPdf	18 51 30.0	-10
CLL				i PKIKP	PKPdf	18 51 40.9	+0.9
CLL				i		18 51 46.0	
CLL				e*PPKP		18 51 59.0	
CLL				ePP	PP	18 54 25.0	-3.3
CLL				i		18 55 14.1	
CLL				i PKS	PKS	18 55 20.4	+5.2
CLL				e		18 55 36.0	
CLL				ePPS	PPS	19 06 36.0	-1.6
CLL	**Collm**	**137.15**	**336**	i PKIKP	PKPdf	18 51 40.9	+0.9
CLL				pmax	pmax		
	comp=Z,44nm,1.3s						
CLL				MLR	MLR		
	comp=Z,3µm,19.4s,MS6.0						
CLL	**Collm**	**137.15**	**336**	i PKP	PKPdf	18 51 40.9	+0.9
CLL				PP	PP	18 54 17.0	-11
CLL				i SKP		18 55 14.1	
CLL				LR	LR		
	comp=Z,3µm,19.4s,MS6.0						
SMOL	**Smolenice**	**137.22**	**330**	ePKP	PKPdf	18 51 43.7	+3.5
SMOL	**Smolenice**	**137.22**	**330**	eP		18 55 15.7	
SMOL				e		18 55 22.2	
SRO1	**Iza**	**137.33**	**329**	ePKP	PKPdf	18 51 42.4	+2.0
SRO1				e		18 55 22.6	
PRU	**Pruhonice**	**137.51**	**333**	ePKHKP		18 51 30.5	
PRU				e		18 51 41.2	
PRU				e		18 54 26.7	
PRU				MLR	MLR		
	comp=Z,3µm,24.0s,MS5.9						
PRU	**Pruhonice**	**137.51**	**333**	ePKPpre		18 51 30.5	
PRU				ePKPdf	PKPdf	18 51 41.2	+0.5
PRU				ePP	PP	18 54 26.7	-4.1
PRU				eSKP		18 55 15.3	
PRU				ex	x	18 55 21.5	
PRU				AMS	AMS	19 53 40.0	
VTS	**Vitosha**	**137.53**	**319**	eP	PKPdf	18 51 41.0	0.0
ZST	**Bratislava**	**137.60**	**330**	ePKP	PKPdf	18 51 42.4	+1.5
ZST				e		18 54 28.3	
ZST	**Bratislava**	**137.60**	**330**	eP		18 55 16.0	
ZST				e		18 55 21.8	
ZST				e		18 55 31.1	
MMB	**Musomiste**	**137.70**	**318**	eP	PKPdf	18 51 30.0	-11
KKB	**Krupnik**	**137.98**	**318**	eP	PKPdf	18 51 42.0	+0.2
PKSM	**Moragy**	**138.12**	**326**⇑	eP	PKPdf	18 51 42.6	+0.7
PKSM				i		18 55 16.2	
NKC	**Novy Kostel**	**138.20**	**335**	eSKP		18 55 17.4	
NKC				ex	x	18 55 24.1	
NKC				AMS	AMS	19 51 20.0	
	comp=Z,2µm,25.2s						
MOX	**Moxa**	**138.22**	**336**	i P	PKPdf	18 51 42.7	+0.7
	comp=Z,logA/T=1.3						
MOX				PP	PP	18 54 37.0	+1.5
MOX	**Moxa**	**138.22**	**336**	ePKIKP	PKPdf	18 51 42.7	+0.7
MOX				pmax	pmax		
	comp=Z,27nm,1.3s						
MOX				MLR	MLR		
	comp=Z,3µm,20.0s,MS6.0						
LCP	**Cassop**	**138.33**	**350**	eP		18 55 23.2	
GRUS	**Gruza**	**138.35**	**322**⇑	iP	PKPdf	18 51 37.6	-4.8
GRUS	**Gruza**	**138.35**	**322**⇑	iP		18 55 24.6	
KHC	**Kasperske Hory**	**138.56**	**333**	ePKHKP		18 51 35.0	
KHC				e		18 51 43.8	
KHC				e		18 51 48.5	
KHC				e		18 54 33.3	
KHC				MLR	MLR		
	comp=Z,2µm,19.4s,MS6.0						
KHC	**Kasperske Hory**	**138.56**	**333**	i PKPr		18 51 40.9	
KHC	**Kasperske Hory**	**138.56**	**333**	ePKPpre		18 51 35.0	
KHC				ePKPdf	PKPdf	18 51 43.8	+1.1
KHC				x	x	18 51 48.5	
KHC				ePP	PP	18 54 33.3	-4.3
KHC				eSKP		18 55 19.0	
KHC				ex	x	18 55 24.5	
KHC				eP		19 04 05.0	
KHC				AMS	AMS	19 58 10.0	
	comp=Z,2µm,19.4s						
DIVS	**Divcibare**	**138.66**	**323**⇑	iP	PKPdf	18 51 36.2	-6.7
GERES	**GERESS Array B**	**138.72**	**333**	PKhKP		18 51 34.8	
	comp=Z,0.9nm,0.8s,baz=56,slow=3.5,SNR=6.9						
GERES				PKP	PKPdf	18 51 44.1	+1.1
	comp=Z,12nm,1.0s,baz=34,slow=3.5,SNR=16						
GERES				SKPab		18 55 18.8	
	comp=Z,6.2nm,0.8s,baz=45,slow=1.9,SNR=12						
GERES	**GERESS Array B**	**138.72**	**333**	PKP	PKPdf	18 51 44.1	+1.1
GERES				SKPab		18 55 18.8	
SANT	**Santorini**	**138.76**	**310**	ePKPpre		18 51 37.2	
WTSB	**Winterswijk**	**138.83**	**341**	eP		18 51 46.9	
	comp=Z,36nm,1.3s						
SKO	**Skopje**	**138.97**	**320**	ePKHKP		18 51 39.5	
SKO				i PKIKP	PKPdf	18 51 48.1	+4.5
SKO				i PKS	PKS	18 55 27.0	+8.4
GRA1	**Grafenberg Arr**	**139.12**	**336**	ePKPdf	PKPdf	18 51 45.1	+1.5
GRA1				ePP	PP	18 54 39.0	-1.9
GRA1				e		18 55 19.0	
GRA1				eSKP		18 55 26.9	
GRA1				LR	LR		
	comp=Z,3µm,21.3s,MS6.0						
GRF	**Grafenberg Arr**	**139.12**	**336**	ePKIKP	PKPdf	18 51 45.1	+1.5
GRF				e		18 54 39.0	
GRF				MLR	MLR		
	comp=Z,3µm,21.3s,MS6.0						
MOA	**Molln**	**139.20**	**331**⇑	iP	PKPdf	18 51 35.5	-8.3
MOA				i		18 55 27.2	
LHO	**Holmfirth**	**139.53**	**349**	eP		18 55 26.8	
KBI1	**Birley Grange**	**139.75**	**349**	eP		18 55 27.4	
OHR	**Ohrid**	**139.84**	**319**	ePKHKP		18 51 36.3	
OHR				i PKIKP	PKPdf	18 51 45.5	+0.3
OHR				i PKS	PKS	18 55 19.3	-0.8
KSY	**Syston**	**139.84**	**348**	eP		18 55 25.9	
KWE	**Weaver Farm**	**140.04**	**349**	eP		18 55 27.7	
TOD	**Tromm**	**140.13**	**337**	PKP	PKPdf	18 51 47.0	+1.5
HGN	**Heimansgroeve**	**140.14**	**341**	eP	PKPdf	18 51 46.3	+0.9
	comp=Z,16nm,1.1s						
KBA	**Koelnbreinsper**	**140.19**	**331**⇓	iP	PKPdf	18 51 40.0	-5.6
KBA				i		18 54 44.9	
KBA				i		18 55 22.5	
ABH	**Alteburg**	**140.35**	**339**	PKP	PKPdf	18 51 47.0	+1.1
LJU	**Ljubljana**	**140.36**	**329**	ePKPdf	PKPdf	18 51 46.6	+0.6
LJU				ePKiKP		18 51 49.6	
LJU				epPKPdf		18 52 05.9	
LJU				e		18 52 24.5	
LJU				ePP	PP	18 54 46.1	-2.3
LJU				e		18 55 03.9	
BOJS	**Bojanci**	**140.37**	**328**	ePKPdf		18 51 47.0	
BOJS				ePP	PP	18 54 45.0	-3.5
DCN	**Croghan**	**140.48**	**354**	eP	PKPdf	18 51 45.3	-0.7
DCN	**Croghan**	**140.48**	**354**	eP		18 55 22.1	
STU	**Stuttgart**	**140.66**	**336**	ePKIKP	PKPdf	18 51 47.3	+0.8
RUP	**Ruppelstein**	**140.68**	**339**	PKP	PKPdf	18 51 50.1	+3.6
VOY	**Vojsko**	**140.68**	**330**	ePKPdf	PKPdf	18 51 46.4	-0.2
VOY				e		18 52 15.3	
ROBS	**Robic**	**140.71**	**330**	ePKPdf	PKPdf	18 51 45.6	-1.1
ROBS				ePP	PP	18 54 45.0	-5.6
WATA	**Walderalm**	**140.80**	**333**⇑	iP	PKPdf	18 51 44.6	-2.2
WATA				i		18 55 28.5	
WTTA	**Wattenberg**	**140.82**	**333**⇑	iP	PKPdf	18 51 42.2	-4.6
WTTA				i		18 55 30.3	
MOTA	**Moosalm**	**141.00**	**333**⇓	iP	PKPdf	18 51 42.0	-5.1
MOTA				i		18 55 04.2	
MOTA				i		18 55 30.9	
LANF	**Langenberg**	**141.01**	**338**	PKP	PKPdf	18 51 48.0	+0.9
WLF	**Walferdange**	**141.02**	**340**	ePKIKP	PKPdf	18 51 48.9	+1.8
SQTA	**Sankt Quirin**	**141.05**	**333**⇑	iP	PKPdf	18 51 42.0	-5.2
SQTA				i		18 55 31.6	
GIVF	**Givet**	**141.07**	**341**	ePKP1	PKPdf	18 51 48.0	+0.9
	comp=Z,70nm,1.0s						
BAIF	**Baives**	**141.30**	**342**	ePKP1	PKPdf	18 51 48.4	+0.9
DAVA	**Damuels**	**141.57**	**334**⇑	iP	PKPdf	18 51 42.5	-5.6
DAVA				i		18 55 31.5	
WLS	**Welschbruch**	**141.65**	**338**	PKP	PKPdf	18 51 47.6	-0.6
CDF	**Champ du Feu**	**141.68**	**338**	ePKP1	PKPdf	18 51 48.5	+0.3
	comp=Z,59nm,1.1s						
FELD	**Feldberg**	**141.85**	**337**	PKP	PKPdf	18 51 45.0	-3.5
ECH	**Echery**	**141.89**	**338**	PKP	PKPdf	18 51 45.9	-2.7
MOF	**Molkenrain**	**142.20**	**337**	PKP	PKPdf	18 51 48.5	-0.6
THEF	**They Montfort**	**142.30**	**339**	PKP	PKPdf	18 51 49.2	-0.1
HINF	**Hinteralfeld**	**142.34**	**338**	ePKP1	PKPdf	18 51 50.1	+0.7
HAU	**Haudompre**	**142.36**	**338**	ePKP1	PKPdf	18 51 49.8	+0.4
HAU				eR			
	comp=Z,2µm,22.2s						
LOMF	**Lomont**	**142.73**	**337**	PKP	PKPdf	18 51 49.4	-0.7
AQU	**L'Aquila**	**143.49**	**326**	ePKIKP	PKPdf	18 51 51.1	-0.4
CABF	**La Chapelle**	**143.63**	**337**	ePKP1	PKPbc	18 51 52.5	+2.1
	comp=Z,113nm,1.0s						
GRAM		**143.64**	**331**	P	PKPbc	18 51 50.4	-0.2
ORX	**Oropa**	**143.68**	**334**	P	PKPbc	18 51 49.1	-1.4
SARO	**Sassorosso**	**143.72**	**331**	P	PKPbc	18 51 49.3	-1.4
FLN	**La Foliniere**	**143.76**	**345**	ePKP1	PKPbc	18 51 52.6	+1.9
FLN				eR			
	comp=Z,3µm,19.8s						
BACM		**143.80**	**331**	P	PKPbc	18 51 49.7	-1.3
CODM		**143.82**	**331**	P	PKPbc	18 51 49.8	-1.3
LDF	**La Druitiere**	**143.83**	**345**	ePKP1	PKPbc	18 51 53.0	+2.1
LOR	**Lormes**	**143.86**	**340**	ePKP1	PKPbc	18 51 51.9	+0.8
	comp=Z,90nm,1.2s						
LOR				eR			
	comp=Z,4µm,19.5s						
VINC	**Vinca**	**143.87**	**331**	P	PKPbc	18 51 49.9	-1.2
TRAV		**143.87**	**334**	P	PKPbc	18 51 49.9	-1.2
MAIM		**143.88**	**330**	P	PKPbc	18 51 49.9	-1.3
SSF	**Saint Saulge**	**144.16**	**340**	ePKP1	PKPbc	18 51 52.1	+0.2
	comp=Z,64nm,0.8s						
LSD	**Ceresole Reale**	**144.16**	**335**	P	PKPbc	18 51 52.3	+0.3
RSL	**Roselend**	**144.19**	**336**	PKP	PKPdf	18 51 52.3	-0.3
GRR	**Gorron**	**144.20**	**346**	ePKP1	PKPbc	18 51 53.8	+1.8
HYF	**Humbligny**	**144.25**	**341**	ePKP1	PKPbc	18 51 52.6	+0.4
LPL	**La Plagne**	**144.29**	**335**	ePKP1	PKPbc	18 51 52.7	+0.4
	comp=Z,85nm,1.0s						
LPG	**La Plagne**	**144.29**	**335**	ePKP1	PKPbc	18 51 52.6	+0.2
	comp=Z,83nm,0.9s						
PCP	**Pian Castagno**	**144.30**	**333**	P	PKPbc	18 51 51.8	-0.6
OG05	**Jujurieux**	**144.35**	**337**	PKP	PKPdf	18 51 52.8	-0.1
RSP	**Reno Superiore**	**144.37**	**335**	P	PKPbc	18 51 51.6	-0.9
SMF	**Signal de Mont**	**144.41**	**339**	ePKP1	PKPbc	18 51 52.6	0.0
	comp=Z,111nm,1.1s						
AVF	**Avril sur Loir**	**144.44**	**340**	ePKP1	PKPbc	18 51 52.7	0.0
	comp=Z,113nm,1.1s						
FENE	**Fenestrelle**	**144.55**	**335**	P	PKPbc	18 51 53.0	-0.1
BHB	**Bricherasio**	**144.62**	**334**	P	PKPbc	18 51 52.1	-1.2
BNI	**Bardonecchia**	**144.69**	**335**	ePKIKP	PKPdf	18 51 53.8	+0.3
FIN	**Finale Ligure**	**144.71**	**333**	P	PKPbc	18 51 52.1	-1.4
SGMF	**Saint Gilles**	**144.71**	**347**	ePKP1	PKPbc	18 51 53.3	-0.1
	comp=Z,266nm,0.8s						
RRL	**Cesana Torines**	**144.75**	**335**	P	PKPdf	18 51 53.7	0.0
OG22	**Abries**	**144.76**	**335**	PKP	PKPdf	18 51 53.9	+0.2
GDM	**Grand'Maison**	**144.79**	**336**	PKP	PKPdf	18 51 54.7	+1.0
ROB	**Roburent**	**144.79**	**333**	P	PKPdf	18 51 52.3	-1.5
BGF	**Bois d'Agland**	**144.82**	**340**	ePKP1	PKPbc	18 51 54.1	+0.3
	comp=Z,263nm,1.1s						
RORO		**144.85**	**333**	P	PKPdf	18 51 53.3	-0.6
GRN	**Grenoble**	**144.90**	**336**	PKP	PKPdf	18 51 55.1	+1.2
PZZ	**Prazzo**	**144.96**	**334**	P	PKPdf	18 51 53.6	-0.4
MONE	**Monesi**	**145.01**	**333**	P	PKPdf	18 51 54.2	0.0
ENR	**Entracque**	**145.04**	**333**	P	PKPdf	18 51 52.9	-1.2
STV2	**Anna di Valdie**	**145.07**	**334**	P	PKPdf	18 51 53.4	-0.8
STV	**Sta Anna Valdi**	**145.07**	**334**	P	PKPdf	18 51 53.4	-0.9
IMI	**Imperia**	**145.09**	**333**	P	PKPdf	18 51 53.7	-0.6
SURF	**Saint Ours**	**145.10**	**334**	PKP	PKPdf	18 51 55.8	+1.5
ORIF	**Oris-en-Rattie**	**145.12**	**336**	ePKP1	PKPbc	18 51 54.9	+0.2
	comp=Z,305nm,1.1s						
ORIF				eR			
	comp=Z,2µm,21.2s						
QUIF	**Quistinic**	**145.16**	**348**	ePKP1	PKPbc	18 51 54.6	-0.1
	comp=Z,89nm,0.6s						
SAOF	**Saorge**	**145.17**	**333**	PKP	PKPdf	18 51 55.4	+1.0
NEGI	**Negi**	**145.22**	**333**	P	PKPdf	18 51 54.4	-0.1
AUTN	**L'Aution**	**145.22**	**333**	PKP	PKPdf	18 51 56.7	+2.2
TCF	**Toulx Ste Croi**	**145.26**	**341**	ePKP1	PKPbc	18 51 54.7	-0.3
	comp=Z,322nm,1.2s						
TOUF	**Mont Tournerai**	**145.29**	**333**	PKP	PKPdf	18 51 56.1	+1.5
SBF	**Sospel**	**145.32**	**333**	ePKP1	PKPbc	18 51 55.7	+0.5
	comp=Z,509nm,1.1s						
AURF	**Auriere**	**145.35**	**333**	PKP	PKPdf	18 51 56.1	+1.4
MVIF	**Mont Vial**	**145.42**	**333**	PKP	PKPdf	18 51 56.1	+1.3
COLF	**Collangettes**	**145.44**	**339**	PKP	PKPdf	18 51 56.4	+1.6
REVF	**Revere**	**145.45**	**333**	PKP	PKPdf	18 51 56.2	+1.3
PYM	**Petit Puy Mans**	**145.47**	**340**	PKP	PKPdf	18 51 57.8	+2.9
OG25	**Le Caire**	**145.49**	**335**	PKP	PKPdf	18 51 56.2	+1.2
PGF	**Pioggiola**	**145.62**	**330**	ePKP1	PKPbc	18 51 55.0	-1.0
	comp=Z,501nm,1.1s						
OCF	**Saint Nazaire**	**145.63**	**336**	PKP	PKPdf	18 51 57.5	+2.3
OG26	**St.-Nazaire-De**	**145.63**	**336**	PKP	PKPdf	18 51 57.5	+2.3
VIVF	**Saint-Julien-l**	**145.64**	**337**	ePKP1	PKPbc	18 51 56.4	+0.4
	comp=Z,337nm,1.2s						
VERF	**Verneugheol**	**145.65**	**340**	PKP	PKPdf	18 51 57.2	+2.0
MFF	**Saint Martin d**	**145.67**	**344**	ePKP1	PKPbc	18 51 55.9	-0.1
	comp=Z,375nm,1.1s						
LCHF	**La Chataignera**	**145.77**	**344**	PKP	PKPdf	18 51 56.5	+1.2
LBL	**Lubilhac**	**145.84**	**339**	PKP	PKPdf	18 51 59.3	+3.8
STOF	**St-Etienne Org**	**145.87**	**335**	PKP	PKPdf	18 51 57.9	+2.3
FRF	**La Foret Royal**	**145.91**	**334**	ePKP1	PKPbc	18 51 56.6	-0.1
	comp=Z,400nm,1.2s						
FRNF	**Fournols**	**145.94**	**340**	PKP	PKPdf	18 51 58.4	+2.7
SMRF	**Simiane la Rot**	**146.02**	**335**	ePKP1	PKPbc	18 51 57.5	+0.6
	comp=Z,155nm,1.0s						
VILF	**Villemus**	**146.07**	**335**	PKP	PKPdf	18 51 58.9	+3.0
TAVF	**Tavernes**	**146.12**	**334**	PKP	PKPdf	18 51 58.6	+2.6
LMR	**La Mourre**	**146.15**	**333**	ePKP1	PKPbc	18 51 57.4	+0.1
	comp=Z,298nm,1.1s						
PRAF	**Pradon**	**146.33**	**335**	PKP	PKPdf	18 51 59.6	+3.2
PUYF	**Puyloubier**	**146.34**	**335**	PKP	PKPdf	18 51 58.9	+2.5
RJF	**Les Rejaudoux**	**146.36**	**341**	ePKP1	PKPbc	18 51 58.3	+0.6
	comp=Z,302nm,1.3s						
RJF				eR			
	comp=Z,3µm,21.8s						
TREF	**Trevaresse**	**146.39**	**335**	PKP	PKPdf	18 51 59.3	+2.8
CAF	**Calviac**	**146.51**	**340**	ePKP1	PKPbc	18 51 58.8	+0.8
	comp=Z,130nm,1.0s						
BERF	**Bertagne**	**146.52**	**334**	PKP	PKPdf	18 51 59.8	+3.0
GELF	**Grande-Etoile**	**146.57**	**335**	PKP	PKPdf	18 51 59.8	+3.0
LASF	**Ste Croix**	**146.61**	**337**	ePKP1	PKPbc	18 51 59.1	+0.8
	comp=Z,305nm,1.1s						
LFF	**La Frestale**	**146.93**	**341**	ePKP1	PKPbc	18 51 59.2	+0.2
	comp=Z,122nm,0.8s						
VSL	**Villasalto**	**147.66**	**326**	ePKPdf	PKPdf	18 51 59.4	+0.7
MTLF	**Montolieu**	**147.85**	**338**	ePKP1	PKPdf	18 52 02.6	+3.7
	comp=Z,365nm,1.1s						
LRDF	**Laroque-de-Fa**	**148.08**	**338**	PKP	PKPdf	18 52 03.9	+4.6
LPEF	**Le Peyrat**	**148.30**	**338**	PKP	PKPdf	18 52 04.5	+4.9
EJON	**La Jonquera**	**148.37**	**337**	P	PKPdf	18 51 56.8	-3.0
FILF	**Fillols**	**148.40**	**337**	PKP	PKPdf	18 52 04.8	+5.0
MLS	**Moulis**	**148.58**	**339**	PKP	PKPdf	18 52 05.2	+5.1
SALF	**Salau**	**148.72**	**339**	PKP	PKPdf	18 52 09.7	+9.4
VALF	**Valcebollere**	**148.74**	**338**	PKP	PKPdf	18 52 06.1	+5.7
EPF	**Esparros**	**148.77**	**340**	ePKP1	PKPdf	18 52 05.5	+5.1
MELF	**Melles**	**148.77**	**340**	PKP	PKPdf	18 52 05.8	+5.4
REYF	**Montagne du Re**	**148.97**	**341**	PKP	PKPdf	18 52 08.3	+7.6
RESF	**Ens**	**148.97**	**340**	PKP	PKPdf	18 52 07.2	+6.5
VIEF	**Viey**	**149.00**	**341**	PKP	PKPdf	18 52 07.0	+6.2
EBIE	**Bielsa**	**149.14**	**340**	P	PKPdf	18 52 06.2	+5.2
EALK	**Alkurruntz**	**149.16**	**343**	P	PKPdf	18 52 04.8	+3.7
ETSF	**Etsaut**	**149.17**	**341**	ePKP1	PKPdf	18 52 06.5	+5.5
	comp=Z,137nm,1.0s						
LARF	**Larrau**	**149.18**	**342**	PKP	PKPdf	18 52 07.2	+6.1
SJPF	**Ste Jean**	**149.18**	**342**	ePKP1	PKPdf	18 52 07.0	+5.9
	comp=Z,80nm,0.9s						
FDAF	**Les Forges d'A**	**149.25**	**341**	PKP	PKPdf	18 52 07.5	+6.3
EMIR	**Miracle**	**149.34**	**338**	P	PKPdf	18 52 06.1	+4.8
ELAN	**Lanestosa**	**149.66**	**345**	P	PKPdf	18 52 06.7	+4.9
EARI	**Arriondas**	**149.99**	**348**	P	PKPdf	18 52 06.2	+3.9
EPOB	**Poblet**	**150.00**	**338**	P	PKPdf	18 52 06.7	+4.3
RCBR	**Riachuelo**	**150.22**	**130**	ePKPbc	PKPdf	18 52 07.5	+3.9
EPON	**Pontenova**	**150.31**	**351**	P	PKPdf	18 52 08.2	+5.4
EBR	**Ebro Roquetas**	**150.68**	**338**	eP	PKPdf	18 52 08.7	+5.2
EBR				eTs		19 09 04.5	
EMAZ	**Mazaricos**	**150.93**	**353**	P	PKPdf	18 52 09.4	+5.6
STS	**Santiago**	**150.94**	**353**	P	PKPdf	18 52 10.0	+6.2
ERUA	**La Rua**	**151.23**	**350**	P	PKPdf	18 52 08.8	+4.5
ECAL	**Calabor**	**151.60**	**349**	P	PKPdf	18 52 11.2	+6.4
EZAM	**Zamans**	**151.69**	**353**	P	PKPdf	18 52 11.1	+6.2
ESDC	**Sonseca Array**	**153.14**	**344**	PKP	PKPdf	18 52 08.5	+1.4
	comp=Z,7.7nm,0.8s,baz=5.3,slow=3.3,SNR=6.5						
MTE	**Manteigas**	**153.23**	**350**	ePKPdf	PKPdf	18 52 08.4	+1.2
EADA	**Adamuz**	**154.71**	**344**	P	PKPdf	18 52 11.9	+2.7
EVO	**Evora**	**155.13**	**350**	ePKIKP	PKPdf	18 52 09.9	+0.1
	comp=Z,117nm,1.5s						
EVO				eR			
	comp=Z,4µm,20.5s						
KIC	**Kosan Boka**	**168.55**	**229**	ePKIKP	PKPdf	18 52 28.4	+4.3
	comp=Z,141nm,1.1s						
LIC	**Lamto**	**168.66**	**228**	ePKIKP	PKPdf	18 52 28.5	+4.3
	comp=Z,68nm,1.1s						
LIC	**Lamto**	**168.66**	**228**	ePKIKP	PKPdf	18 52 24.0	-0.2
	comp=Z,60nm,1.1s						
DBIC	**Dimbokro**	**168.84**	**230**	PKP	PKPdf	18 52 25.0	+0.7
	comp=Z,13nm,0.9s,baz=172,slow=5.3,SNR=4.7						
DBIC	**Dimbokro**	**168.84**	**230**	PKP	PKPdf	18 52 25.0	+0.7
TIC	**Toumodi**	**168.94**	**229**	ePKIKP	PKPdf	18 52 28.0	+3.7
	comp=Z,118nm,1.2s						

*CNRM **20** 18:34:24.3, 35.09N×3.93W, h11km, MD3.8*
*NEIC **20** 18:34:26.9, 34.98N×4.08W, MG3.9(MDD), After MDD.*
*CSEM **20** 18:34:26.7±0.2, 34.93N×4.09W, h40km, MD3.8, Error ellipse: s-maj=5.7km s-min=4.1km az=100.0*
*SFS **20** 18:34:27.0, 35.10N×4.07W, ML3.1*
*MDD **20** 18:34:28.1±0.6, 35.07N×4.04W, mbLg2.7/3, Error ellipse: s-maj=6.7km s-min=5.7km az=151.0, PRXIMO*
ISC 20 18:34:25.6±0.4**, 34.99N**±0.02×**4.11W**±0.03**, h10km, n44, σ1§25/77, 1C, Morocco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TZK	**Tazeka**	**0.90**	**184**	i P	**Pb**	**18 34 43.0**	**+0.1**
TZK				i S	**Sb**	**18 34 56.0**	**+1.3**
EMEL	**Melilla**	**0.99**	**72**	⇑P	**Pb**	**18 34 44.4**	**-0.1**
	SNR=18						
EMEL				S	**Sb**	**18 34 57.5**	**+0.1**
	582nm,0.2s,SNR=7.9						
EMLI	**Melilla**	**1.00**	**72**	P	**Pb**	**18 34 44.4**	**-0.2**
	307nm,0.2s,SNR=18						
EMLI	**Melilla**	**1.00**	**72**	S	**Sb**	**18 34 57.5**	**-0.1**
	582nm,0.2s,SNR=7.9						
MELI	**Melilla**	**1.01**	**72**	i P	**Pb**	**18 34 44.6**	**-0.1**
MELI				eS	**Sb**	**18 34 56.8**	**-1.0**
DKH	**Dar Kharkhour**	**1.14**	**296**	eS	**Sb**	**18 35 00.5**	**-1.1**
RSA	**Sarsar**	**1.42**	**266**	i P	**Pn**	**18 34 52.0**	**+0.5**
RSA				i S	**Sb**	**18 35 11.0**	**+1.3**
MDAL	**Dalia**	**1.44**	**309**	i P	**Pn**	**18 34 50.5**	**-1.4**
MDAL				i S	**Sb**	**18 35 08.0**	**-2.4**
EMIJ	**Mijas**	**1.66**	**341**	P	**Pn**	**18 34 54.1**	**-0.9**
	6.1nm,0.1s,SNR=7.9						
EMIJ				S	**Sn**	**18 35 17.0**	**+0.5**
	23nm,0.2s,SNR=7.9						
IFR	**Ifrane**	**1.69**	**210**	P	**Pn**	**18 35 00.0**	**+4.5**
IFR				S	**Sn**	**18 35 21.0**	**+3.6**
MIF	**Mishlifen**	**1.83**	**211**	i P	**Pn**	**18 34 57.0**	**-0.5**
MIF				i S	**Sn**	**18 35 20.0**	**-0.9**
ERON	**Agron**	**2.04**	**7**	P	**Pn**	**18 35 01.3**	**+0.9**
	3.8nm,0.2s,SNR=4.0						
ERON				S	**Sn**	**18 35 27.8**	**+1.6**
	27nm,0.4s,SNR=4.0						
ERON	**Agron**	**2.04**	**7**	P	**Pn**	**18 35 01.3**	**+0.9**
ERON				S	**Sn**	**18 35 21.8**	**-4.3**
ERON	**Agron**	**2.04**	**7**	P	**Pn**	**18 35 01.3**	**+0.9**
	3.8nm,0.2s,SNR=4.0						
ERON				S	**Sn**	**18 35 21.8**	**-4.3**
	27nm,0.4s,SNR=4.0						
EBER	**Berja**	**2.15**	**27**	P	**Pn**	**18 35 03.2**	**+1.2**
	9.2nm,0.4s,SNR=11						
EBER				S	**Sn**	**18 35 28.6**	**-0.3**
	61nm,0.4s,SNR=7.9						
EBER	**Berja**	**2.15**	**27**	P	**Pn**	**18 35 00.3**	**-1.7**
EBER				S	**Sn**	**18 35 25.1**	**-3.7**
EBER	**Berja**	**2.15**	**27**	P	**Pn**	**18 35 00.3**	**-1.7**
	9.2nm,0.4s,SNR=11						
EBER				S	**Sn**	**18 35 25.1**	**-3.8**
	61nm,0.4s,SNR=7.9						
ELOJ	**Sierra Loja**	**2.15**	**359**	P	**Pn**	**18 35 03.9**	**+1.8**
	7.0nm,0.4s,SNR=7.9						
ELOJ				S	**Sn**	**18 35 31.4**	**+2.3**
	20nm,0.5s,SNR=4.0						
LIJA	**Lijar**	**2.18**	**332**	i P	**Pn**	**18 35 05.2**	**+2.7**
ESPR	**Espera**	**2.35**	**323**	P	**Pn**	**18 35 07.0**	**+2.2**
	8.3nm,0.4s,SNR=4.0						
ESPR				S	**Sn**	**18 35 33.7**	**-0.3**
	9.6nm,0.3s,SNR=4.0						
ESPR	**Espera**	**2.35**	**323**	P	**Pn**	**18 35 07.0**	**+2.1**
	8.3nm,0.4s,SNR=4.0						
ESPR				S	**Sn**	**18 35 33.7**	**-0.3**
	9.6nm,0.3s,SNR=4.0						
ELUQ	**Luque**	**2.57**	**357**	P	**Pn**	**18 35 10.5**	**+2.5**
	2.5nm,0.2s,SNR=7.9						
ELUQ				S	**Sn**	**18 35 39.9**	**+0.3**
	9.4nm,0.3s,SNR=4.0						
EQES	**Quesada**	**2.93**	**16**	P	**Pn**	**18 35 14.2**	**+1.0**
	12nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**18 35 47.1**	**-1.7**
	11nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.93**	**16**	P	**Pn**	**18 35 14.1**	**+0.9**
EQES				S	**Sn**	**18 35 47.1**	**-1.6**
	11nm,0.2s,SNR=7.9						
ZFT	**Errachidia**	**2.96**	**184**	i P	**Pn**	**18 35 12.0**	**-1.6**
ZFT				i S	**Sn**	**18 35 45.0**	**-4.5**
EADA	**Adamuz**	**3.19**	**353**	P	**Pn**	**18 35 17.6**	**+0.7**
	0.8nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**18 35 55.2**	**-0.2**
	1.9nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.19**	**353**	P	**Pn**	**18 35 17.6**	**+0.7**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EADA				S	Sn	18 35 55.2	-0.2
EADA	**Adamuz**	**3.19**	**353**	P	**Pn**	**18 35 17.6**	**+0.7**
	0.8nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**18 35 55.2**	**-0.2**
	1.9nm,0.2s,SNR=7.9						
AVE	**Averroes**	**3.22**	**239**	P	**Pn**	**18 35 20.5**	**+3.2**
AVE				S	**Sn**	**18 35 56.4**	**+0.3**
EMIN	**Mina Concepcio**	**3.46**	**324**	P	**Pn**	**18 35 20.7**	**0.0**
	3.1nm,0.4s,SNR=17						
EMIN				S	**Sn**	**18 36 02.4**	**+0.3**
	1.4nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.46**	**324**	P	**Pn**	**18 35 20.7**	**0.0**
EMIN				S	**Sn**	**18 35 59.1**	**-3.0**
EMIN	**Mina Concepcio**	**3.46**	**324**	P	**Pn**	**18 35 20.7**	**0.0**
	3.1nm,0.4s,SNR=17						
EMIN				S	**Sn**	**18 35 59.1**	**-3.0**
	1.4nm,0.1s,SNR=7.9						
EMUR	**La Murta**	**3.67**	**38**	P	**Pn**	**18 35 23.5**	**-0.1**
	2.5nm,0.4s,SNR=4.0						
EMUR				S	**Sn**	**18 36 02.4**	**-5.0**
	28nm,0.4s,SNR=7.9						
EMUR	**La Murta**	**3.67**	**38**	P	**Pn**	**18 35 27.3**	**+3.6**
EMUR				S	**Sn**	**18 36 02.4**	**-5.0**
EVIA	**Vianos**	**3.86**	**19**	P	**Pn**	**18 35 26.7**	**+0.3**
	3.9nm,0.4s,SNR=4.0						
EVIA				S	**Sn**	**18 36 08.3**	**-4.0**
	18nm,0.5s,SNR=4.0						
EBAD	**Badajoz**	**4.42**	**329**	P	**Pn**	**18 35 34.2**	**-0.2**
	1.5nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**18 36 22.1**	**-4.4**
	6.6nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.42**	**329**	S	**Sn**	**18 36 22.1**	**-4.4**
EBAD	**Badajoz**	**4.42**	**329**	P	**Pn**	**18 35 34.2**	**-0.1**
ESDC	**Sonseca Array**	**4.68**	**1**	P	**Pn**	**18 35 38.1**	**+0.1**
	1.9nm,0.2s,baz=176,slow=11,SNR=7.9						
ESDC	**Sonseca Array**	**4.68**	**1**	P	**Pn**	**18 35 38.1**	**+0.1**
CIA	**Chichaoua**	**5.18**	**230**	*i* P	**Pn**	**18 35 42.5**	**-2.6**
CIA				*i* S	**Sn**	**18 36 40.5**	**-5.2**
ECAL	**Calabor**	**7.24**	**344**	P	**Pn**	**18 36 13.2**	**-0.9**
	5.1nm,0.3s,SNR=4.0						
ECAL	**Calabor**	**7.24**	**344**	P	**Pn**	**18 36 13.2**	**-0.9**
ERUA	**La Rua**	**7.76**	**343**	P	**Pn**	**18 36 20.3**	**-1.1**
	0.7nm,0.2s,SNR=4.0						

MAN 20 18:38:03.6, 7.78N×125.84E, h25^{km}, mb3.5, ML2.2, MS1.7, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.65**	**52**⇑	*e*P	Pb	18 38 16.2	-0.1
BIPH				*i* S	Sb	18 38 26.6	+1.6
BUKP	**Musuan**	**0.78**	**277**	*e*P	Pb	18 38 18.3	0.0
MATI	**Mati**	**0.93**	**153**	*e*P	Pb	18 38 20.6	-0.4
BUTP	**Butuan**	**1.20**	**350**	*e*P	Pn	18 38 34.8	+10
PAGZ	**Pagadian**	**2.43**	**272**	*e*P	Pn	18 38 42.4	-0.2

*NEIC **20** 18:41:19.0±5.2, 19.60S×177.91W, h602^{km}±56^{km}, mb4.3/2, Error ellipse: s-maj=69.9km s-min=28.3km az=147.0*
*IDC **20** 18:41:20.1±7.4, 19.71S×177.87W, h618^{km}±79^{km}, mb3.3/7, mb1 3.5/7, mb1mx3.3/16, Error ellipse: s-maj=97.1km s-min=37.8km az=144.0*
ISC 20 18:41:17.9±2.0**, 19.5S**±0.6×**178.0W**±0.4**, h600**^{km}**, n15,** σ**0^{s}44**/11**, mb4.0**/8**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.60**	**263**	P	**P**	**18 47 12.5**	**+1.1**
	7.4nm,0.4s,mb4.7,baz=92,slow=11,SNR=25						
CTA	**Charters Tower**	**33.60**	**263**	P	**P**	**18 47 12.5**	**+1.1**
CTAO	**Charters Tower**	**33.60**	**263**	*e*P	**P**	**18 47 12.2**	**+0.7**
	8.6nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**38.23**	**243**	P	**P**	**18 47 49.3**	**-0.1**
	3.1nm,0.7s,mb3.9,baz=194,slow=20,SNR=4.0						
WRAB	**Tennant Creek**	**44.73**	**261**	*e*P	**P**	**18 48 40.5**	**-0.5**
	4.5nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**44.74**	**261**	P	**P**	**18 48 40.9**	**-0.2**
	2.9nm,0.6s,mb4.0,baz=97,slow=7.7,SNR=40						
WRA	**Warramunga Arr**	**44.74**	**261**	P	**P**	**18 48 40.9**	**-0.2**
ASAR	**Alice Springs**	**44.75**	**256**	P	**P**	**18 48 41.0**	**-0.1**
	5.0nm,0.4s,mb4.4,baz=87,slow=8.5,SNR=52						
FITZ	**Fitzroy Crossi**	**53.16**	**262**	P	**P**	**18 49 43.3**	**0.0**
	2.2nm,0.9s,mb3.5,baz=105,slow=5.3,SNR=5.5						
ILAR	**Eielson Array**	**87.35**	**13**	P	**P**	**18 53 02.4**	**-0.4**
	0.9nm,0.6s,mb3.7,baz=219,slow=6.0,SNR=13						
PDAR	**Pinedale Array**	**88.25**	**43**	P	**P**	**18 53 07.8**	**+0.4**
	0.5nm,0.6s,mb3.5,baz=183,slow=3.7,SNR=4.0						
ARCES	**ARCESS Array B**	**127.95**	**350**	PKP	PKPdf	18 59 16.8	+0.9
	2.5nm,0.8s,baz=56,slow=3.3,SNR=4.0						
AKASG	**Malin Array Be**	**142.15**	**332**	PKP	PKPdf	18 59 40.5	-1.9
	1.6nm,0.5s,baz=41,slow=4.5,SNR=7.8						
GERES	**GERESS Array B**	**149.25**	**345**	PKPbc	PKPdf	19 00 01.2	+7.0
	1.1nm,0.7s,baz=27,slow=3.0,SNR=7.6						
DAVOX	**Davos**	**152.04**	**348**	PKPbc	PKPdf	19 00 08.0	+10
	1.5nm,0.4s,baz=311,slow=9.3,SNR=4.2						

*NEIC **20** 18:46:21.9±0.8, 18.63N×122.64E, h10^{km}, mb4.3/1, Error ellipse: s-maj=26.8km s-min=11.0km az=73.0*
*MAN **20** 18:46:21.2, 18.66N×122.34E, h9^{km}, mb4.9, ML3.8, MS3.9*
*IDC **20** 18:46:29.2±5.7, 18.47N×122.32E, h70^{km}±54^{km}, mb3.4/5, mb1 3.6/6, mb1mx3.4/20, Error ellipse: s-maj=54.9km s-min=17.3km az=62.0*
ISC 20 18:46:21.1±0.6**, 18.65N**±0.04×**122.34E**±0.07**, h10**^{km}**, n27,** σ**1^{s}13**/31**, mb3.7**/7**, 2C-2D, Luzon**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**0.49**	**215**	*e*P	**Pg**	**18 46 31.2**	**+0.2**
SGCP				*e*S	**Sg**	**18 46 36.8**	**-0.9**
CVP	**Callao Caves**	**1.06**	**208**⇑	*i*P	**Pb**	**18 46 41.0**	**-0.1**
APYP	**Conner**	**1.30**	**233**	*e*P	**Pb**	**18 46 44.2**	**-1.1**
APYP				*e*S	**Sb**	**18 47 00.1**	**-1.8**
CAUP	**Cauayan**	**1.76**	**196**	*e*P	**Pn**	**18 46 53.1**	**+1.1**
BBP	**Basco**	**1.82**	**349**	*e*P	**Pn**	**18 46 52.5**	**-0.4**
ABRA	**Dolores**	**1.84**	**238**	*e*P	**Pn**	**18 46 52.8**	**-0.3**
BCPH	**Baguio City Da**	**2.81**	**217**⇑	*i*P	**Pn**	**18 47 08.0**	**+1.0**
BCPH				*i* S	**Sn**	**18 47 46.3**	**+5.1**
BALP	**Baler**	**2.98**	**194**	*e*P	**Pn**	**18 47 09.6**	**+0.2**
BOLP	**Bolinao**	**3.23**	**226**	*e*P	**Pn**	**18 47 14.1**	**+1.1**
PCPH	**Palayan**	**3.29**	**201**⇓	*e*P	**Pn**	**18 47 13.8**	**0.0**
PCPH				*e*S	**Sn**	**18 47 58.4**	**+4.9**
SCZP	**Santa Cruz**	**3.68**	**220**	*e*P	**Pn**	**18 47 19.7**	**+0.3**
POLP	**Polilio Island**	**3.92**	**186**	*e*P	**Pn**	**18 47 22.0**	**-0.7**
LQP	**Lukban**	**4.57**	**190**⇓	*e*P	**Pn**	**18 47 32.4**	**+0.3**
TGY	**Tagaytay City**	**4.71**	**197**	P	**Pn**	**18 47 35.8**	**+1.8**
BOAC	**Boac**	**5.18**	**185**	*e*P	**Pn**	**18 47 41.4**	**+0.8**
LUBP	**Lubang**	**5.28**	**203**	*e*P	**Pn**	**18 47 48.0**	**+5.9**
SJMP	**San Jose**	**6.26**	**191**	*e*P	**Pn**	**18 47 58.0**	**+2.1**
CMAR	**Chiang Mai Arr**	**22.18**	**273**	P	**P**	**18 51 19.7**	**+0.5**
	0.9nm,0.8s,mb3.3,baz=71,slow=10,SNR=7.8						
SONM	**Songino Array**	**31.89**	**339**	P	**P**	**18 52 48.3**	**-0.4**
	1.0nm,0.7s,mb3.8,baz=158,slow=9.0,SNR=6.8						
WRAB	**Tennant Creek**	**40.11**	**162**	P	**P**	**18 53 56.5**	**-2.4**
WRA	**Warramunga Arr**	**40.11**	**162**	P	**P**	**18 53 57.4**	**-1.5**
	1.7nm,0.9s,mb3.8,baz=340,slow=11,SNR=14						
ASAR	**Alice Springs**	**43.54**	**165**	P	**P**	**18 54 24.1**	**-2.9**
	0.5nm,0.9s,mb3.2,baz=341,slow=6.9,SNR=6.3						
ZAL	**Zalesovo**	**45.51**	**330**	P	**P**	**18 54 43.3**	**+0.9**
	0.6nm,0.3s,mb3.9,baz=4.4,slow=11,SNR=3.1						
KURK	**Kurchatov**	**47.08**	**323**	P	**P**	**18 54 56.8**	**+1.9**
BVAR	**Borovoye Array**	**52.68**	**323**	P	**P**	**18 55 38.0**	**+0.2**
	0.4nm,0.4s,mb3.7,baz=127,slow=7.2,SNR=3.9						
BRVK	**Borovoye**	**52.75**	**323**	*e*P	**P**	**18 55 37.8**	**-0.6**
ZRNK	**Zerenda**	**53.45**	**323**	*e*P	**P**	**18 55 42.7**	**-0.7**
	3.6nm,1.1s,mb4.2						

*MAN **20** 18:54:05.5, 13.31N×125.40E, h10^{km}, mb5.0, ML3.9, MS4.0*
*IDC **20** 18:54:14.6±1.2, 13.22N×125.24E, h75^{km}±9^{km}, mb3.0/4, mb1 3.2/4, mb1mx3.1/18, MS3.7/1, Ms1 3.7/1, ms1mx2.9/8, Error ellipse: s-maj=39.8km s-min=16.0km az=56.0*
ISC 20 18:54:12.1±1.2**, 13.01N**±0.09×**125.2E**±0.1**, h74**^{km}**, h74**^{km}±2.0^{km}**:pP-P, n21,** σ**1^{s}30**/15**, mb3.2**/4**, 2D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**0.71**	**226**	*e*P	**P**	**18 54 25.9**	**-1.7**
PVCP	**Virac**	**1.17**	**300**	*e*P	**P**	**18 54 27.6**	**-5.5**
BESP	**Borongan**	**1.42**	**170**	*e*P	**P**	**18 54 34.4**	**-2.2**
MMPH	**Masbate**	**1.66**	**247**⇓	*i*P	**P**	**18 54 39.0**	**-0.8**
PLP	**Palo**	**1.84**	**186**	*e*P	**P**	**18 54 42.8**	**+0.5**
OCLP	**Ormoc**	**2.03**	**196**	*e*P	**P**	**18 54 45.1**	**+0.4**
AUQP	**San Andres**	**2.47**	**278**	*e*P	**P**	**18 54 49.4**	**-1.6**
RCP	**Roxas**	**2.79**	**239**⇓	*e*P	**P**	**18 54 55.7**	**+0.2**
OTRP	**Odiongan**	**3.16**	**259**	*e*P	**P**	**18 55 02.6**	**+1.9**
GUIM	**Jordan**	**3.48**	**227**	*e*P	**P**	**18 55 05.1**	**0.0**
TGY	**Tagaytay City**	**4.28**	**285**	P	**P**	**18 55 18.5**	**+2.3**
TGY				LR	LR	18 57 07.2	
	comp=Z,921nm,21.2s,baz=305,slow=40						
CMAR	**Chiang Mai Arr**	**25.82**	**285**	P	**P**	**18 59 38.1**	**-0.3**
	0.5nm,0.8s,mb3.0,baz=100,slow=7.8,SNR=6.6						
CMAR				pP	pP	18 59 56.5	+1.0
	1.1nm,0.7s,baz=95,slow=7.3,SNR=8.9						
FITZ	**Fitzroy Crossi**	**30.91**	**179**	pP	pP	19 00 41.7	-0.2
	0.9nm,0.5s,baz=309,slow=6.5,SNR=2.5						
WRA	**Warramunga Arr**	**33.96**	**164**	P	**P**	**19 00 51.4**	**+0.8**
	0.3nm,0.8s,mb3.2,baz=345,slow=9.3,SNR=3.2						
WRA				pP	pP	19 01 09.3	+0.7
	0.4nm,0.6s,baz=344,slow=9.2,SNR=3.3						
ASAR	**Alice Springs**	**37.43**	**167**	P	**P**	**19 01 23.6**	**+3.6**
	0.3nm,0.7s,mb3.4,baz=349,slow=7.3,SNR=6.0						
ASAR				pP	pP	19 01 40.9	+2.8
	1.4nm,1.0s,baz=349,slow=7.5,SNR=5.5						
SONM	**Songino Array**	**38.10**	**339**	P	**P**	**19 01 24.8**	**-0.4**
	0.4nm,0.8s,mb3.3,baz=146,slow=5.2,SNR=2.9						
SONM				pP	pP	19 01 42.7	-0.7
	1.4nm,1.1s,baz=156,slow=7.5,SNR=3.6						
PKI	**Pulchoki**	**39.84**	**298**	*e*P	pP	19 01 57.9	-0.2
	5.9nm,0.9s						
KKN	**Kakani**	**40.00**	**298**	*e*P	pP	19 01 59.6	+0.1
	14nm,1.2s						
DMN	**Daman**	**40.11**	**298**	*e*P	pP	19 02 00.5	+0.1
	13nm,1.2s						
GKN	**Gorkha**	**40.60**	**298**	*e*P	pP	19 02 04.1	-0.3
	6.3nm,0.8s						
KOLN	**Koldanda**	**41.45**	**297**	*e*P	pP	19 02 11.9	+0.5
	6.6nm,0.8s						

*MOS **20** 18:55:47.2±1.0, 15.54S×74.07W, h59^{km}, mb5.6/21, Error ellipse: s-maj=26.7km s-min=7.1km az=111.3*
*SYO **20** 18:55:49.8, 15.63S×73.91W, h75^{km}, MB5.5*
*IDC **20** 18:55:50.3±0.4, 15.62S×74.10W, h76^{km}±2^{km}, mb4.9/18, mb1 5.0/20, mb1mx5.0/21, MS4.1/2, Ms1 4.2/2, ms1mx4.0/18, Error ellipse: s-maj=16.1km s-min=10.3km az=60.0*
*HRVD **20** 18:55:50.1±0.4, 15.88S×74.16W, h96^{km}±3^{km}, MW5.4/54, Centroid moment Tensor Solution. LP body waves: s29,c34; Mantle waves: s54,c94; Half duration: 1^{s}2 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.27±.07; $M_{\theta\theta}$0.53±.07; $M_{\phi\phi}$0.74±.08; $M_{r\theta}$0.32±.05; $M_{\theta\phi}$-1.23±.07; $M_{\phi r}$-0.06±.07; Best double couple: $M_0$1.61×10^{17} NP1: ϕ_s152°, δ42°, λ-68°. NP2: ϕ_s304°, δ51°, λ-108°. Principal axes: T 1.89, Plg5°, Azm47°; N -.55, Plg14°, Azm316°; P -1.34, Plg75°, Azm155°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **20** 18:55:50.1, 15.60S×74.00W, h75^{km}, mB5.6, Ms5.5, Msz5.4*
*NEIC **20** 18:55:50.1±0.2, 15.61S×73.97W, mb5.4/70, Error ellipse: s-maj=6.2km s-min=4.1km az=55.0*
NEIC Felt [III] at Chala.
*LDG **20** 18:55:51.1±0.7, 15.22S×73.67W, h82^{km}, Mb5.3/14, Ms4.2/1, Error ellipse: s-maj=45.9km s-min=14.4km az=53.0*
ISC 20 18:55:47.1±1.0**, 15.54S**±0.03×**73.98W**±0.04**, h61**^{km}±9^{km}**, h75**^{km}±.4^{km}**:pP-P, n369,** σ**1^{s}05**/255**, mb5.4**/90**, 18C-19D, Southern Peru**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.49**	**321**	*e*P	**P**	**18 56 55.8**	**+1.5**
LPAZ	**La Paz**	**5.68**	**98**	P	**P**	**18 57 16.6**	**+5.8**
	32nm,0.3s,baz=202,slow=1.3,SNR=162						
LPAZ				LR	LR	18 59 54.6	
	comp=Z,3μm,20.7s,baz=278,slow=42						
LVC	**Limon Verde**	**8.52**	**147**	*e*P	**P**	**18 57 48.8**	**-1.4**
	69nm,0.7s						
SAML	**Samuel**	**12.41**	**59**	*e*P	**P**	**18 58 42.3**	**-0.9**
	12nm,1.6s						
TLL	**Tololo Astrono**	**14.85**	**169**	*e*P	**P**	**18 59 15.0**	**-0.1**
OTAV	**Otavalo**	**16.28**	**344**	*e*P	**P**	**18 59 34.2**	**+0.8**
	47nm,1.0s						
MDZ	**Mendoza**	**17.89**	**166**	*e*P	**P**	**18 59 54.4**	**+1.0**
FCH	**Farellones**	**18.03**	**170**	*e*P	**P**	**18 59 53.9**	**-1.2**
LMEL	**Las Melosas**	**18.55**	**170**	*e*P	**P**	**18 59 57.4**	**-4.0**
CPUP	**Villa Florida**	**18.88**	**127**	P	**P**	**19 00 05.4**	**+0.2**
	0.3nm,0.3s,baz=324,slow=11,SNR=16						
CPUP				sP		19 00 29.1	
	0.7nm,0.3s,baz=328,slow=13,SNR=5.0						
CPUP				LR	LR	19 08 52.2	
	comp=Z,325nm,18.6s,baz=55,slow=41						
PAYG	**Puerto Ayora**	**21.84**	**311**	*e*P	**P**	**19 00 37.1**	**+0.9**
LPA	**La Plata**	**24.08**	**146**	*ce*P	**P**	**19 00 54.0**	**-3.9**
LPA	**La Plata**	**24.08**	**146**	*e*P	**P**	**19 00 58.0**	**+0.1**
LPA				*e*pP		19 01 14.0	
LPA				*e*sP		19 01 23.0	
LPA				*e*PP	PP	19 01 32.0	-2.0
LPA				*e*S	**S**	**19 05 09.0**	**+0.8**
LPA				*e*sS		19 05 42.0	
SDV	**Santo Domingo**	**24.49**	**8**	*e*P	**P**	**19 01 04.2**	**+2.1**
	33nm,0.9s,mb4.8						
TRQA	**Tornquist**	**24.81**	**157**	*e*P	**P**	**19 01 03.0**	**-2.0**
	178nm,1.1s,mb5.5						
BDFB	**Brasilia**	**25.01**	**94**	P	**P**	**19 01 09.1**	**+2.0**
	22nm,0.7s,mb4.8,baz=270,slow=11,SNR=18						
BAO	**Brasilia Array**	**25.03**	**94**	*e*P	**P**	**19 01 09.0**	**+1.7**
BAO				*i*	pP	19 01 20.2	-1.6
BAO				*i*	pP	19 01 27.5	+5.7
BAO				*e*		19 01 36.6	
BAO				*e*		19 02 42.3	
CAM4	**Nova Friburgo**	**30.44**	**108**	*e*P	**P**	**19 01 56.7**	**+0.4**
CAM4				*i*		19 01 58.1	
CAM4				*i*		19 02 03.1	
CAM4				*i*		19 02 29.4	
MGP	**Maguayo**	**34.01**	**12**	*e*P	**P**	**19 02 27.0**	**-0.5**
MGP				*e*pP	pP	19 02 47.3	+4.5
CPD	**Cerro la Pandu**	**34.29**	**14**	*e*P	**P**	**19 02 31.6**	**+1.7**
CPD				*e*	pP	19 02 47.3	+2.1
CPD	**Cerro la Pandu**	**34.29**	**14**	*e*P	**P**	**19 02 31.6**	**+1.7**
CPD				*e*pP	pP	19 02 47.9	+2.8
SJG	**San Juan**	**34.31**	**13**	P	**P**	**19 02 32.0**	**+1.9**
	46nm,0.9s,mb5.4,baz=132,slow=3.8,SNR=7.3						
SJG				pP	pP	19 02 49.3	+4.0
	141nm,0.9s,baz=197,slow=2.6,SNR=10						
SJG	**San Juan**	**34.31**	**13**	*e*P	**P**	**19 02 31.8**	**+1.8**
SJG				pmax	pmax		
	comp=Z,38nm,0.9s						
SJG	**San Juan**	**34.31**	**13**	*e*P	**P**	**19 02 31.8**	**+1.8**
	comp=Z,38nm,0.8s,mb5.4						
HUMP	**Col San Antoni**	**34.41**	**14**	*e*P	**P**	**19 02 28.3**	**-2.5**
HUMP				*e*pP	pP	19 02 48.3	+2.1
AOPR	**Arecibo Observ**	**34.41**	**12**	P	**P**	**19 02 31.9**	**+1.0**
MTP	**Monte Pirata**	**34.43**	**14**	*e*P	**P**	**19 02 31.4**	**+0.4**
CBYP	**Canovanas**	**34.53**	**14**	*e*P	**P**	**19 02 32.1**	**+0.2**
RPN	**Rapa Nui**	**34.78**	**245**	*e*P	**P**	**19 02 32.5**	**-1.4**
TEIG	**Tepich**	**38.21**	**338**	P	**P**	**19 03 04.7**	**+1.8**
EFI	**East Falkland**	**38.24**	**164**	*e*P	**P**	**19 03 01.7**	**-1.1**
	comp=Z,175nm,1.1s,mb5.7						
CSU	**Charleston Sou**	**48.59**	**353**	*e*P	**P**	**19 04 27.5**	**+0.8**
TWB	**Tillmans-White**	**48.73**	**353**	*e*P	**P**	**19 04 27.4**	**-0.3**
PMSA	**Palmer Station**	**49.66**	**174**	*e*P	**P**	**19 04 32.9**	**-1.6**
	comp=Z,174nm,1.3s,mb5.9						
LRAL	**Lakeview Retre**	**49.87**	**346**	*e*P	**P**	**19 04 35.6**	**-0.9**
	comp=Z,60nm,1.2s,mb5.5						
HKT	**Hockley**	**49.89**	**335**	*e*P	**P**	**19 04 36.5**	**-0.2**
HKT				*e**PP	pP	19 04 54.4	+1.9
JSC	**Jenkinsville**	**50.02**	**352**	*e*P	**P**	**19 04 37.2**	**-0.5**
NATX	**Nacogdoches**	**51.04**	**337**	*e*P	**P**	**19 04 45.9**	**+0.4**
CPCT	**Cooper Cave**	**51.68**	**349**	*e*P	**P**	**19 04 51.6**	**+1.4**
CPCT				*e*pP	pP	19 05 10.8	+4.7
OXF	**Oxford**	**51.89**	**344**	*e*P	**P**	**19 04 50.4**	**-1.4**
OXF				*e**PP	pP	19 05 09.2	+1.5
JCT	**Junction City**	**52.07**	**332**	*e*P	**P**	**19 04 52.4**	**-0.8**
JCT				pmax	pmax		
	comp=Z,67nm,1.1s,mb5.5						
JCT	**Junction City**	**52.07**	**332**	*e*P	**P**	**19 04 52.4**	**-0.8**
	comp=Z,67nm,1.1s,mb5.5						
BLA	**Blacksburg**	**52.81**	**354**	*e*P	**P**	**19 04 58.0**	**-0.7**
BLA				pmax	pmax		
	comp=Z,160nm,1.8s,mb5.7						
BLA	**Blacksburg**	**52.81**	**354**	*e*P	**P**	**19 04 58.0**	**-0.7**
	comp=Z,164nm,1.8s,mb5.7						
ELN	**Prospectdale**	**52.86**	**353**	*e*P	**P**	**19 04 59.1**	**0.0**
ELN				*e*pP	pP	19 05 18.6	+3.6
UALR	**University of**	**52.99**	**341**	*e*P	**P**	**19 04 59.2**	**-0.8**
UALR				*e*pP	pP	19 05 18.9	+2.9
PWV	**Princeton**	**53.01**	**353**	*e*P	**P**	**19 05 00.2**	**+0.1**
PWV				*e*pP	pP	19 05 18.5	+2.4
LTX	**Lajitas**	**53.02**	**327**	*e*P	**P**	**19 04 59.7**	**-0.7**
LTX				pmax	pmax		
	comp=Z,78nm,1.3s,mb5.5						
LTX	**Lajitas**	**53.02**	**327**	*e*P	**P**	**19 04 59.7**	**-0.6**
	comp=Z,78nm,1.3s,mb5.5						
TXAR	**Lajitas Array**	**53.02**	**327**	P	**P**	**19 05 00.3**	**-0.1**
	comp=Z,25nm,0.8s,mb5.2,baz=146,slow=9.0,SNR=86						
TXAR				pP	pP	19 05 20.4	+4.0
	comp=Z,6.4nm,0.6s,baz=154,slow=9.1,SNR=5.2						
TXAR	**Lajitas Array**	**53.02**	**327**	P	**P**	**19 05 00.3**	**-0.1**
TXAR				pP	pP	19 05 20.4	+4.0
FWV	**Forest Hill**	**53.22**	**353**	*e*P	**P**	**19 05 01.8**	**+0.1**
USIN	**University of**	**54.74**	**347**	*e*P	**P**	**19 05 11.3**	**-1.6**
	comp=Z,379nm,1.6s,mb6.2						
USIN				*e*pP	pP	19 05 30.7	+1.8
WMOK	**Wichita Mounta**	**55.27**	**335**	*e*P	**P**	**19 05 14.8**	**-2.0**
WMOK				pmax	pmax		
	comp=Z,69nm,1.1s,mb5.6						
WMOK	**Wichita Mounta**	**55.27**	**335**	*e*P	**P**	**19 05 14.8**	**-1.9**
	comp=Z,69nm,1.2s,mb5.6						
FVM	**French Village**	**55.43**	**344**	*e*P	**P**	**19 05 16.2**	**-1.6**
FVM				*e**PP	pP	19 05 35.9	+2.0
CLNB	**Carlsbad**	**55.49**	**329**	*e*P	**P**	**19 05 17.2**	**-1.2**
CLNB				*e*pP	pP	19 05 36.0	+1.5
BLO	**Bloomington**	**55.67**	**348**	*e*P	**P**	**19 05 17.7**	**-1.8**
BLO				*e**PP	pP	19 05 37.3	+1.6
BLO				pmax	pmax		
	comp=Z,54nm,1.0s,mb5.5						
BLO	**Bloomington**	**55.67**	**348**	*e*P	**P**	**19 05 17.7**	**-1.9**
	comp=Z,26nm,0.6s,mb5.4						
BLO				*e*pP	pP	19 05 37.3	+1.6
GDL2	**Guadalupe Moun**	**55.68**	**329**	*e*P	**P**	**19 05 19.2**	**-0.5**
CCM	**Cathedral Cave**	**55.72**	**344**	*e*P	**P**	**19 05 18.8**	**-1.1**
CCM				*e**PP	pP	19 05 36.8	+0.8
CCM				pmax	pmax		
	comp=Z,51nm,1.5s,mb5.3						
CCM	**Cathedral Cave**	**55.72**	**344**	*e*P	**P**	**19 05 18.8**	**-1.1**
	comp=Z,51nm,1.5s,mb5.3						
CCM				*e*pP	pP	19 05 36.8	+0.8
SLM	**Saint Louis**	**56.00**	**345**	*e*P	**P**	**19 05 20.7**	**-1.2**
SLM				*e**PP	pP	19 05 39.5	+1.5
SSPA	**Standing Stone**	**56.00**	**356**	*e*P	**P**	**19 05 20.4**	**-1.5**
	comp=Z,84nm,1.4s,mb5.6						
CPRX	**Cap Rock**	**56.10**	**330**	*e*P	**P**	**19 05 22.0**	**-0.7**
AMTX	**Amarillo**	**56.62**	**333**	P	**P**	**19 05 23.3**	**-3.2**
	comp=Z,31nm,0.9s,mb5.3						
ALLY	**Alegheny Colle**	**57.18**	**355**	*e*P	**P**	**19 05 29.0**	**-1.3**
ALLY				*e*pP	pP	19 05 47.9	+1.4
BINY	**Binghamton**	**57.47**	**358**	*e*P	**P**	**19 05 32.2**	**-0.2**
	comp=Z,110nm,1.3s,mb5.7						
BINY				*e*pP	pP	19 05 51.9	+3.4
QUA2	**Belchertown**	**57.54**	**1**	P	**P**	**19 05 32.5**	**-0.3**
	comp=Z,26nm,0.6s,mb5.4						
GENY	**Geneseo**	**58.12**	**357**	*e*P	**P**	**19 05 36.5**	**-0.3**
GENY				*e*pP	pP	19 05 56.0	+3.0
KSU1	**Kansas State U**	**58.32**	**339**	*e*P	**P**	**19 05 37.6**	**-0.8**
KSU1				*e*pP	pP	19 05 56.9	+2.3
BNM	**Barren Site**	**58.37**	**328**	*e*P	**P**	**19 05 38.2**	**-0.6**
LPM	**Los Pinos Moun**	**58.50**	**328**	*e*P	**P**	**19 05 39.4**	**-0.2**
LPM				*e*pP	pP	19 05 58.2	+2.4
LENM	**Lemitar**	**58.56**	**328**	*e*P	**P**	**19 05 39.5**	**-0.6**
ACCN	**Adirondack Com**	**58.63**	**0**	*e*P	**P**	**19 05 41.1**	**+0.7**
ACCN				*e*pP	pP	19 05 59.5	+2.9
LAZ	**Ladron**	**58.83**	**328**	*e*P	**P**	**19 05 41.8**	**-0.2**
LAZ				*e*pP	pP	19 06 01.2	+3.0
ANMO	**Albuquerque**	**58.92**	**329**	*e*P	**P**	**19 05 42.0**	**-0.5**
ANMO				*e**PP	pP	19 06 01.0	+2.2
ANMO				pmax	pmax		
	comp=Z,45nm,1.0s						
ANMO	**Albuquerque**	**58.92**	**329**	*e*P	**P**	**19 05 42.0**	**-0.5**
	comp=Z,45nm,1.0s,mb5.5						
ANMO				*e*pP	pP	19 06 01.0	+2.2
CBKS	**Cedar Bluff**	**59.20**	**337**	*e*P	**P**	**19 05 43.0**	**-1.4**
CBKS				*e**PP	pP	19 06 03.2	+2.6
CBKS				pmax	pmax		
	comp=Z,100nm,0.9s,mb5.8						
CBKS	**Cedar Bluff**	**59.20**	**337**	*e*P	**P**	**19 05 43.0**	**-1.4**
	comp=Z,124nm,1.4s,mb5.8						
CBKS				*e*pP	pP	19 06 03.2	+2.6
TUC	**Tucson**	**59.20**	**324**	*e*P	**P**	**19 05 43.8**	**-0.7**
TUC				pmax	pmax		
	comp=Z,33nm,1.1s,mb5.3						
TUC	**Tucson**	**59.20**	**324**	*e*P	**P**	**19 05 43.8**	**-0.7**
	comp=Z,33nm,1.1s,mb5.3						
NCB	**Newcomb**	**59.21**	**360**	*e*P	**P**	**19 05 43.1**	**-1.3**
NCB				*e*pP	pP	19 06 03.4	+2.7
MDV	**Middlebury**	**59.25**	**1**	*e*P	**P**	**19 05 44.6**	**-0.1**
MDV				*e*pP	pP	19 06 04.2	+3.4
SADO	**Sadowa**	**60.20**	**356**	P	**P**	**19 05 50.3**	**-0.9**
	comp=Z,31nm,0.9s,mb5.3,baz=194,slow=7.1,SNR=12						
SADO				pP	pP	19 06 09.8	+2.4
	comp=Z,28nm,0.7s,baz=210,slow=7.2,SNR=7.6						
SADO	**Sadowa**	**60.20**	**356**	P	**P**	**19 05 50.3**	**-0.9**
SADO				pP	pP	19 06 09.8	+2.4
MSNY	**Massena**	**60.25**	**359**	*e*P	**P**	**19 05 51.4**	**-0.2**
MSNY				*e*pP	pP	19 06 10.7	+2.9
ISCO	**Idaho Springs**	**62.45**	**333**	P	**P**	**19 06 06.7**	**+0.3**
ISCO				*e*	pP	19 06 25.2	+2.4
ISCO				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.2						
PV01	**Paradox Valley**	**62.48**	**330**	*e*P	**P**	**19 06 06.1**	**-0.5**
PV01				*e*pP	pP	19 06 25.7	+2.7
PFO	**Pinyon Flat Ob**	**63.47**	**321**	P	**P**	**19 06 14.0**	**+0.7**
	comp=Z,292nm,1.0s,mb6.4,SNR=9.0						
PFO	**Pinyon Flat Ob**	**63.47**	**321**	*e*P	**P**	**19 06 13.4**	**+0.1**
PFO				*e**PP	pP	19 06 33.1	+3.4
PFO				pmax	pmax		
	comp=Z,71nm,1.1s,mb5.7						
PFO	**Pinyon Flat Ob**	**63.47**	**321**	*e*P	**P**	**19 06 13.3**	**+0.1**
	comp=Z,71nm,1.1s,mb5.7						
PFO				*e*pP	pP	19 06 33.1	+3.4
PHWY	**Pilot Hill**	**63.62**	**334**	*e*P	**P**	**19 06 13.3**	**-0.9**
PHWY				*e*pP	pP	19 06 33.0	+2.5
NEN	**Nelson**	**63.94**	**324**	*e*P	**P**	**19 06 16.8**	**+0.4**
SRU	**San Rafael**	**64.20**	**329**	P	**P**	**19 06 18.2**	**+0.2**
SRU	**San Rafael**	**64.20**	**329**	*e*P	**P**	**19 06 17.8**	**-0.1**
SRU				*e*pP	pP	19 06 38.0	+3.6
MSU	**Marysvale**	**64.58**	**328**	*e*P	**P**	**19 06 21.1**	**+0.6**
MSU				*e*pP	pP	19 06 40.9	+3.9
MSU				*e*sP	sP	19 06 49.0	+5.3
MVU	**Marysvale**	**64.59**	**327**	*e*P	**P**	**19 06 20.9**	**+0.4**
	comp=Z,115nm,1.4s,mb5.7						
MVU				*e*pP	pP	19 06 40.2	+3.2
TMUT	**Trail Mountain**	**64.68**	**329**	*e*P	**P**	**19 06 21.0**	**-0.1**
TMUT				*e*pP	pP	19 06 41.2	+3.6
ARUT	**Antelope Range**	**64.71**	**326**	P	**P**	**19 06 22.4**	**+1.1**
ARUT	**Antelope Range**	**64.71**	**326**	*e*P	**P**	**19 06 22.2**	**+0.9**
ARUT				*e*pP	pP	19 06 42.6	+4.8
MWC	**Mount Wilson**	**64.86**	**320**	P	**P**	**19 06 23.0**	**+0.6**
MWC				*e*	pP	19 06 44.1	+5.2
MWC	**Mount Wilson**	**64.86**	**320**	*e*P	**P**	**19 06 22.9**	**+0.5**
MWC				*e*pP	pP	19 06 42.7	+3.8
EYMN	**Ely**	**65.10**	**347**	*e*P	**P**	**19 06 22.5**	**-1.2**
	comp=Z,76nm,1.1s,mb5.6						
EYMN				*e*pP	pP	19 06 42.9	+2.7
RSSD	**Black Hills**	**65.40**	**337**	*e*P	**P**	**19 06 26.2**	**+0.5**
RSSD				*e*	pP	19 06 45.4	+3.2
RSSD				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.0						
RSSD	**Black Hills**	**65.40**	**337**	*e*P	**P**	**19 06 26.1**	**+0.5**
	comp=Z,69nm,1.9s,mb5.4						
RSSD				*e*pP	pP	19 06 45.3	+3.1
RSSD				*e*sP	sP	19 06 54.6	+5.7
MPU	**Maple Canyon**	**65.44**	**329**	*e*P	**P**	**19 06 26.4**	**+0.4**
DAU	**Daniels Canyon**	**65.56**	**329**	*e*P	**P**	**19 06 26.9**	**+0.2**
DAU				*e**PP	pP	19 06 46.6	+3.4
NLU	**North Lily Min**	**65.61**	**329**	*e*pP	pP	19 06 47.5	+3.8
TPNV	**Topopah Spring**	**65.66**	**324**	*e*P	**P**	**19 06 28.5**	**+1.0**
TPNV				pmax	pmax		
	comp=Z,39nm,1.0s,mb5.4						
TPNV	**Topopah Spring**	**65.66**	**324**	*e*P	**P**	**19 06 28.2**	**+0.7**
	comp=Z,69nm,1.2s,mb5.6						
JLU	**Jordanelle**	**65.80**	**329**	*e*P	**P**	**19 06 28.5**	**+0.3**
JLU				*e*pP	pP	19 06 49.1	+4.3
JLU				*e*sP	sP	19 06 57.7	+6.2

DAC Darwin (Calif) 65.97 322 P **P** **19 06 30.4 +0.9**
DAC *e* pP 19 06 51.0 +5.0
DAC Darwin (Calif) 65.97 322 *e*P **P** **19 06 30.2 +0.8**
comp=Z,55nm,1.4s,mb5.4
DAC *ep*P pP 19 06 50.2 +4.2
DUG Dugway 66.17 328 P **P** **19 06 31.5 +0.9**
DUG pmax pmax
comp=Z,280nm,0.8s,mb6.3
DUG Dugway 66.17 328 *e*P **P** **19 06 31.2 +0.6**
comp=Z,92nm,1.1s,mb5.7
DUG *ep*P pP 19 06 51.3 +4.1
DUG *es*P sP 19 07 00.2 +6.4
TCUT Toone Canyon 66.17 330 *e*P **P** **19 06 28.9 -1.7**
TCUT *ep*P pP 19 06 48.8 +1.6
TCUT *es*P sP 19 06 57.8 +4.0
TRCR Troy Canyon 66.28 325 *e*P **P** **19 06 32.5 +1.1**
PDAR Pinedale Array 66.59 332 P **P** **19 06 32.8 -0.5**
comp=Z,4.2nm,1.0s,mb4.4,baz=153,slow=6.6,SNR=24
PDAR pP pP 19 06 52.5 +2.7
comp=Z,6.5nm,0.8s,baz=143,slow=7.4,SNR=12
BGU Big Grassy Mou 66.82 329 *e*P **P** **19 06 35.1 +0.4**
BGU *ep*P pP 19 06 55.2 +3.9
BGU *es*P sP 19 07 03.3 +5.4
TPH Tonopah 67.00 324 P **P** **19 06 36.5 +0.6**
TPH pmax pmax
comp=Z,63nm,1.2s,mb5.5
TPH Tonopah 67.00 324 *e*P **P** **19 06 36.5 +0.6**
comp=Z,60nm,1.2s,mb5.5
VNA3 Neumayer Olymp 67.23 162⇓*i*P **P** **19 06 39.1 +2.3**
VNA3 Neumayer Olymp 67.23 162⇑*i* sP 19 06 58.4 -1.6
VNA3 Neumayer Olymp 67.23 162⇑*i* PcP 19 07 06.1 +1.8
VNA3 Neumayer Olymp 67.23 162⇑*i* PP 19 09 08.4 +1.1
VNA3 Neumayer Olymp 67.23 162 19 13 02.8
MTUM Tungsten Hills 67.28 323 *e*P **P** **19 06 38.3 +0.7**
AHID Auburn Hatcher 67.30 331 *e*P **P** **19 06 37.1 -0.6**
comp=Z,26nm,0.8s,mb5.3
AHID *ep*P pP 19 06 57.2 +3.0
AHID *es*P sP 19 07 06.2 +5.3
HVU Hansel Valley 67.34 329 *e*P **P** **19 06 37.8 -0.2**
HVU *ep*P pP 19 06 57.8 +3.2
VNA1 Neumayer--Stat 67.48 161⇓*i*P **P** **19 06 41.2 +2.9**
VNA1 Neumayer--Stat 67.48 161⇑*i* sP 19 07 01.9 +0.4
VNA1 Neumayer--Stat 67.48 161 PcP 19 07 06.4 +1.1
VNA1 Neumayer--Stat 67.48 161⇑*i* PP 19 09 10.3 +0.8
VNA1 Neumayer--Stat 67.48 161⇑*i* 19 13 04.7
REDW Red Top Meadow 67.65 332 *e*P **P** **19 06 40.0 +0.1**
REDW *ep*P pP 19 06 59.2 +2.8
SNOW Snow King Moun 67.68 332 *e*P **P** **19 06 40.1 +0.1**
SNOW *ep*P pP 19 06 59.3 +2.6
OMM Old Mammoth Mi 67.71 323 *e*P **P** **19 06 41.0 +0.7**
OMM *ep*P pP 19 07 01.4 +4.5
OMM *es*P sP 19 07 09.9 +6.4
LOHW Long Hollow 67.73 332 *e*P **P** **19 06 40.3 -0.1**
LOHW *ep*P pP 19 07 00.3 +3.3
LOHW *es*P sP 19 07 09.3 +5.7
WUWY Wally Ulrich 67.73 332 *e*P **P** **19 06 40.5 +0.2**
WUWY *ep*P pP 19 07 00.4 +3.4
TPAW Teton Pass 67.79 332 *e*P **P** **19 06 40.9 +0.2**
TPAW *ep*P pP 19 07 00.5 +3.1
VNA2 Neumayer--Watz 67.83 161⇓*i*P **P** **19 06 42.9 +2.3**
VNA2 Neumayer--Watz 67.83 161⇑*i* sP 19 07 02.3 -1.4
RRI2 Red Ridge 67.85 331 *e*P **P** **19 06 41.4 +0.3**
RRI2 *ep*P pP 19 07 01.5 +3.8
RRI2 *es*P sP 19 07 09.2 +5.0
NVAR Mina Array Bea 67.86 324 P **P** **19 06 42.0 +0.7**
comp=Z,13nm,1.0s,mb4.9,baz=133,slow=6.7,SNR=50
NVAR pP pP 19 07 01.3 +3.4
comp=Z,7.8nm,0.9s,baz=128,slow=6.6,SNR=6.3
NVAR Mina Array Bea 67.86 324 P **P** **19 06 42.0 +0.7**
NVAR *ep*P pP 19 07 01.3 +3.4
MOOW Moose Ponds 67.90 332 *e*P **P** **19 06 41.0 -0.4**
MOOW *ep*P pP 19 07 00.1 +2.1
LRV Little Rabbit 68.13 321 *e*P **P** **19 06 44.1 +1.1**
LRV *ep*P pP 19 07 03.3 +3.7
ULM Lac du Bonnet 68.28 345 P **P** **19 06 42.9 -0.8**
comp=Z,28nm,0.8s,mb5.4,baz=157,slow=5.7,SNR=24
ULM pP pP 19 07 02.3 +2.0
comp=Z,24nm,0.7s,baz=167,slow=6.2,SNR=9.1
LAO LASA Array 68.39 337 *e*P **P** **19 06 44.1 -0.3**
comp=Z,34nm,1.1s,mb5.3
LAO *ep*P pP 19 07 03.6 +2.5
LAO *es*P sP 19 07 12.4 +4.8
YFT Old Faithful 68.49 333 *e*P **P** **19 06 46.0 +0.9**
YFT *ep*P pP 19 07 05.0 +3.3
YNR Norris Junctio 68.63 333 *e*P **P** **19 06 46.6 +0.7**
YNR *ep*P pP 19 07 06.6 +4.0
YMR Madison River 68.72 333 *e*P **P** **19 06 47.3 +0.8**
YMR *ep*P pP 19 07 06.6 +3.4
YMR *es*P sP 19 07 16.5 +6.8
CMB Columbia Colle 68.80 322 *e*P **P** **19 06 46.6 -0.5**
CMB *e**PP pP 19 07 07.3 +3.5
CMB pmax pmax
comp=Z,25nm,1.2s,mb5.0
CMB Columbia Colle 68.80 322 *e*P **P** **19 06 46.6 -0.5**
comp=Z,25nm,1.2s,mb5.0
CMB *ep*P pP 19 07 07.3 +3.5
QLMT Earthquake Lak 69.05 332 *e*P **P** **19 06 49.9 +1.4**
QLMT *ep*P pP 19 07 08.9 +3.7
QLMT *es*P sP 19 07 18.6 +6.9
DGMT Dagmar 69.16 339 *e*P **P** **19 06 48.6 -0.5**
comp=Z,111nm,1.4s,mb5.6
DGMT *ep*P pP 19 07 09.6 +3.8
WCN Washoe City 69.28 324 P **P** **19 06 51.7 +1.6**
WCN pmax pmax
comp=Z,37nm,1.1s,mb5.2
WCN Washoe City 69.28 324 *e*P **P** **19 06 51.4 +1.3**
comp=Z,45nm,1.2s,mb5.3
PAHR Pah Rah Range 69.34 324 *e*P **P** **19 06 47.9 -2.5**
comp=Z,74nm,1.2s,mb5.5
SNAA Sanae 69.45 161⇓*i*P **P** **19 06 49.8 -0.7**
SNAA Sanae 69.45 161⇑*i* pP 19 07 08.2 +1.0
SNAA Sanae 69.45 161⇓*i* sP 19 07 16.5 +2.8
SNAA Sanae 69.45 161⇓*i* PP 19 09 21.7 -5.1
SNAA Sanae 69.45 161 P **P** **19 06 49.9 -0.7**
comp=Z,45nm,0.7s,mb5.5,baz=280,slow=6.2,SNR=834
SNAA pP pP 19 07 09.3 +2.1
comp=Z,10nm,0.8s,baz=280,slow=6.0,SNR=3.5
SNAA Sanae 69.45 161 P **P** **19 06 49.7 -0.8**
SNAA pmax pmax
comp=Z,160nm,0.9s
MCMT McKenzie Canyo 69.69 332 *e*P **P** **19 06 53.1 +0.6**
MCMT *ep*P pP 19 07 13.8 +4.7
MCMT *es*P sP 19 07 22.5 +6.9
OHCM Honcut 70.31 323 *e*P **P** **19 06 56.1 -0.1**
SCHQ Schefferville 70.35 4 P **P** **19 06 55.7 -0.5**
comp=Z,18nm,1.0s,mb5.0,baz=167,slow=5.1,SNR=7.1
SCHQ pP pP 19 07 16.2 +3.2
comp=Z,23nm,1.0s,baz=190,slow=6.0,SNR=5.7
SCHQ Schefferville 70.35 4 P **P** **19 06 55.7 -0.5**
SCHQ pP pP 19 07 16.2 +3.2
HRY Holter Researc 70.69 333 *e*P **P** **19 06 58.9 +0.4**
TBI Tubuai 70.91 250 *e*P **P** **19 07 00.3 +0.1**
comp=Z,145nm,1.1s,mb5.8
PMOR Pomariorio Ree 70.94 259 *e*P **P** **19 07 00.6 +0.1**
comp=Z,99nm,1.1s,mb5.7
MOD Modoc 71.34 325 *e*P **P** **19 07 03.1 +0.6**
comp=Z,60nm,1.3s,mb5.4
CHMT Chamberlain Mo 71.47 333 *e*P **P** **19 07 04.0 +0.8**
CHMT *ep*P pP 19 07 23.1 +3.2
CHMT *es*P sP 19 07 32.9 +6.6
LIC Lamto 71.61 78 *e*P **P** **19 07 04.1 -0.4**
comp=Z,98nm,1.1s,mb5.7
LIC Lamto 71.61 78 *e*P **P** **19 07 04.0 -0.5**
comp=Z,79nm,1.1s,mb5.3
TVO Taravao 71.68 256 *e*P **P** **19 07 05.7 +0.8**
comp=Z,108nm,1.1s,mb5.7
TIC Toumodi 71.75 77 *e*P **P** **19 07 04.9 -0.5**
comp=Z,155nm,1.2s,mb5.8
DBIC Dimbokro 71.91 78 P **P** **19 07 06.2 -0.1**
comp=Z,23nm,0.8s,mb5.1,baz=233,slow=3.9,SNR=16
DBIC pP pP 19 07 25.7 +2.6
comp=Z,27nm,0.9s,baz=223,slow=6.0,SNR=7.6
DBIC Dimbokro 71.91 78 P **P** **19 07 06.2 -0.1**
DBIC pP pP 19 07 25.7 +2.6
KIC Kosan Boka 71.92 78 *e*P **P** **19 07 06.2 -0.2**
comp=Z,169nm,0.9s,mb6.0
PAE Paea 72.01 256 *e*P **P** **19 07 07.3 +0.5**
comp=Z,84nm,1.0s,mb5.6
YBH Yreka Blue Hor 72.58 324 P **P** **19 07 09.5 -0.3**
comp=Z,13nm,0.9s,mb4.8,baz=115,slow=4.2,SNR=19
YBH pP pP 19 07 29.6 +3.0
comp=Z,9.7nm,0.8s,baz=46,slow=2.7,SNR=5.3
LNOR Lincton Mounta 73.05 329 P **P** **19 07 12.8 +0.3**
LNOR *e* pP 19 07 33.1 +3.8
LNOR Lincton Mounta 73.05 329 *e*P **P** **19 07 12.5 0.0**
LNOR *ep*P pP 19 07 32.8 +3.5
WALA Waterton Lakes 73.40 334 *e*P **P** **19 07 15.0 +0.6**
comp=Z,14nm,1.0s,mb4.9
WALA *ep*P pP 19 07 35.2 +3.9
WALA *es*P sP 19 07 44.1 +6.4
FFC Flin Flon 73.92 344 P **P** **19 07 17.0 -0.4**
FFC *e* pP 19 07 37.3 +3.1
FFC pmax pmax
comp=Z,75nm,1.8s,mb5.3
FFC Flin Flon 73.92 344 *e*P **P** **19 07 16.8 -0.6**
comp=Z,34nm,1.4s,mb5.1
HAWA Hanford 74.03 329 *e*P **P** **19 07 18.9 +0.6**
comp=Z,26nm,0.9s,mb5.2
HAWA *ep*P pP 19 07 39.0 +3.9
HAWA *es*P sP 19 07 48.3 +6.7
MAIT Maitri 74.04 160⇓*i*P **P** **19 07 18.0 +0.2**
VGB Gordon Butte 74.05 328 P **P** **19 07 19.9 +1.5**
VGB *e* pP 19 07 39.6 +4.4
VGB Gordon Butte 74.05 328 *e*P **P** **19 07 19.6 +1.2**
VGB *ep*P pP 19 07 37.6 +2.4
VGB *es*P sP 19 07 48.7 +7.0
NVL N'lazarevskaya 74.07 160 *e*P **P** **19 07 17.0 -1.0**
DPW Davenport 74.44 331 *e*P **P** **19 07 21.2 +0.7**
DPW *ep*P pP 19 07 40.7 +3.3
DPW *es*P sP 19 07 49.9 +6.0
QSPA South Pole Qui 74.62 180⇓*i*P **P** **19 07 21.2 +0.2**
comp=Z,94nm,1.0s,mb5.7
QSPA *e* pP 19 07 40.7 +2.8
NLW Nelson Butte 75.60 330 *e*P **P** **19 07 27.7 +0.5**
NLW *ep*P pP 19 07 47.3 +3.2
FCC Fort Churchill 75.84 349 P **P** **19 07 28.1 -0.3**
RMW Rattlesnake Mo 75.90 329 P **P** **19 07 29.6 +0.7**
RMW *e* pP 19 07 49.4 +3.6
BMW Boistfort Moun 75.97 327 P **P** **19 07 30.8 +1.5**
BMW *e* pP 19 07 50.7 +4.5
BMW Boistfort Moun 75.97 327 *e*P **P** **19 07 30.6 +1.3**
BMW *ep*P pP 19 07 50.6 +4.4
BMW *es*P sP 19 07 59.6 +6.8
EDM Edmonton 76.38 337 P **P** **19 07 31.1 -0.4**
EDM Edmonton 76.38 337 *e*P **P** **19 07 31.0 -0.6**
RPW Rockport 76.42 330 *e*P **P** **19 07 32.0 +0.2**
GNW Green Mountain 76.48 328 *e*P **P** **19 07 32.4 +0.2**
GNW *ep*P pP 19 07 52.0 +2.9
PGC Sidney 77.51 329 *e*P **P** **19 07 38.3 +0.3**
comp=Z,104nm,1.2s,mb5.6
PGC *ep*P pP 19 07 58.4 +3.6
PGC *es*P sP 19 08 08.3 +6.8
FRB Frobisher Bay 79.14 2 pP pP 19 08 06.6 +3.1
comp=Z,34nm,1.0s,baz=176,slow=6.1,SNR=5.2
SBA Scott Base 80.78 191 P **P** **19 07 55.6 +0.5**
SBA pmax pmax
comp=Z,71nm,1.1s,mb5.5
SBA Scott Base 80.78 191 *e*P **P** **19 07 55.5 +0.4**
comp=Z,86nm,1.2s,mb5.5
EVO Evora 81.79 46 *e*P **P** **19 07 59.2 -2.0**
comp=Z,97nm,1.5s,mb5.2
VNDA Vanda 81.84 190 P **P** **19 08 01.2 +0.5**
comp=Z,34nm,1.0s,mb5.2,baz=131,slow=4.8,SNR=143
EBAD Badajoz 82.59 47 P **P** **19 08 07.3 +2.0**
comp=Z,12nm,0.9s,mb4.9
EJIF Jimena Fronter 82.69 49 P **P** **19 08 07.6 +1.8**
EMIJ Mijas 83.25 49 P **P** **19 08 10.2 +1.5**
SYO Syowa Base 83.72 161⇑P **P** **19 08 10.0 -0.3**
SYO Syowa Base 83.72 161⇓PcP PcP 19 08 12.5 -2.3
SYO Syowa Base 83.72 161⇓pP pP 19 08 28.6 +1.2
SYO Syowa Base 83.72 161⇑PP PP 19 11 20.8 -4.6
SYO Syowa Base 83.72 161⇓PKiKP 19 13 22.7
ELOJ Sierra Loja 83.94 49 P **P** **19 08 15.2 +3.0**
comp=Z,26nm,0.8s,mb5.4
ELUQ Luque 84.03 49 P **P** **19 08 15.2 +2.6**
comp=Z,30nm,0.9s,mb5.4
YKA Yellowknife Ar 84.03 342 P **P** **19 08 12.0 0.0**
comp=Z,18nm,0.8s,mb5.2,baz=137,slow=5.2,SNR=27
YKA pP pP 19 08 32.1 +3.0
comp=Z,12nm,0.7s,baz=141,slow=5.9,SNR=7.6
EADA Adamuz 84.06 48 P **P** **19 08 14.6 +1.9**
comp=Z,14nm,0.9s,mb5.1
YKW3 Yellowknife Ar 84.09 342 *e*P **P** **19 08 11.9 -0.4**
YKW3 *ep*P pP 19 08 32.8 +3.4
ERUA La Rua 84.14 43 P **P** **19 08 15.2 +2.1**
EBER Berja 84.76 50 P **P** **19 08 18.4 +2.1**
comp=Z,17nm,0.9s,mb5.2
PAB San Pablo 84.80 47 P **P** **19 08 18.2 +1.8**
PAB pP pP 19 08 37.8 +4.2
EQES Quesada 84.99 49 P **P** **19 08 18.5 +1.1**
ESDC Sonseca Array 85.12 47 P **P** **19 08 19.9 +1.9**
comp=Z,13nm,1.0s,mb5.0,baz=252,slow=5.3,SNR=26
ESDC pP pP 19 08 39.8 +4.6
comp=Z,24nm,0.9s,baz=253,slow=5.5,SNR=14
ESDC Sonseca Array 85.12 47 P **P** **19 08 19.6 +1.5**
comp=Z,18nm,1.1s,mb5.1
DLBC Dease Lake 86.74 334 *e*P **P** **19 08 26.7 +1.2**
DLBC *ep*P pP 19 08 46.7 +4.0
ETOR Torete 86.92 46 P **P** **19 08 29.4 +2.6**
comp=Z,21nm,0.8s,mb5.4
SJPF Ste Jean 88.39 44 *e*P **P** **19 08 33.8 0.0**
EPF Esparros 89.42 45 *e*P **P** **19 08 38.3 -0.4**
comp=Z,84nm,1.6s,mb5.5
EPF *ep*P pP 19 09 01.0 +5.0
LFF La Frestale 90.40 43 *e*P **P** **19 08 42.1 -1.1**
LFF *ep*P pP 19 09 04.4 +3.8
GRR Gorron 90.68 40 *e*P **P** **19 08 42.1 -2.3**
MTLF Montolieu 90.82 45 *e*P **P** **19 08 43.9 -1.3**
comp=Z,70nm,1.6s,mb5.4
MTLF *ep*P pP 19 09 06.3 +3.7
SUMG Summit 91.00 10 *e*P **P** **19 08 47.3 +1.9**
comp=Z,88nm,1.1s,mb6.0
SUMG *ep*P pP 19 09 07.9 +5.1
RJF Les Rejaudoux 91.04 43 *e*P **P** **19 08 44.9 -1.3**
FLN La Foliniere 91.05 39 *e*P **P** **19 08 45.1 -1.1**
LDF La Druitiere 91.21 40 *e*P **P** **19 08 45.6 -1.3**
LDF *ep*P pP 19 09 07.9 +3.6
CAF Calviac 91.27 44 *e*P **P** **19 08 45.2 -2.1**
comp=Z,11nm,0.8s,mb4.9
MAW Mawson 91.36 165⇓*i*P **P** **19 08 47.1 -0.1**
comp=Z,37nm,0.9s,mb5.7
MAW Mawson 91.36 165 P **P** **19 08 47.3 +0.1**
comp=Z,42nm,0.8s,mb5.8,baz=217,slow=6.0,SNR=100
TCF Toulx Ste Croi 91.84 42 *e*P **P** **19 08 48.4 -1.5**
comp=Z,41nm,1.3s,mb5.3
TCF *ep*P pP 19 09 10.7 +3.4
BGF Bois d'Agland 92.35 42 *e*P **P** **19 08 51.0 -1.2**
comp=Z,36nm,1.1s,mb5.3
BGF *ep*P pP 19 09 13.3 +3.7
AVF Avril sur Loir 92.76 42 *e*P **P** **19 08 52.5 -1.6**
SSF Saint Saulge 92.95 42 *e*P **P** **19 08 53.3 -1.6**
comp=Z,41nm,1.4s,mb5.4
SSF *ep*P pP 19 09 15.7 +3.3
SMF Signal de Mont 93.03 42 *e*P **P** **19 08 54.0 -1.3**
SMF *ep*P pP 19 09 16.3 +3.6
LOR Lormes 93.25 42 *e*P **P** **19 08 55.4 -0.9**
comp=Z,46nm,1.3s,mb5.5
DAWY Dawson 93.59 336 *e*P **P** **19 08 57.1 -0.3**
DAWY *ep*P pP 19 09 17.6 +2.7
INK Inuvik 93.75 341 P **P** **19 08 58.2 +0.1**
INK pmax pmax
comp=Z,30nm,1.1s
INK Inuvik 93.75 341 *e*P **P** **19 08 57.9 -0.2**
comp=Z,30nm,1.1s,mb5.6
INK *ep*P pP 19 09 17.5 +2.1
ORIF Oris-en-Rattie 93.83 45 *e*P **P** **19 08 58.7 -0.3**
BAIF Baives 94.38 39 *e*P **P** **19 08 59.7 -1.6**
LPL La Plagne 94.58 44 *e*P **P** **19 09 01.5 -0.9**
comp=Z,37nm,1.3s,mb5.4
LPG La Plagne 94.59 44 *e*P **P** **19 09 02.3 -0.1**
comp=Z,41nm,1.3s,mb5.4
LPG *ep*P pP 19 09 24.0 +4.2
GIVF Givet 94.77 39 *e*P **P** **19 09 02.2 -0.9**
GIVF *ep*P pP 19 09 24.6 +4.1
DIV Divide 94.96 332 *e*P **P** **19 09 03.3 -0.4**
DIV *ep*P pP 19 09 23.3 +2.1
CDF Champ du Feu 95.79 41 *e*P **P** **19 09 06.8 -1.0**
comp=Z,51nm,1.5s,mb5.4
CDF *ep*P pP 19 09 29.2 +4.0
RPZ Rata Peaks 96.42 221 P **P** **19 09 11.4 +0.7**
comp=Z,19nm,1.1s,mb5.5,baz=136,slow=3.3,SNR=5.2
ILAR Eielson Array 96.84 336 P **P** **19 09 11.2 -0.9**
comp=Z,1.7nm,0.8s,mb4.5,baz=161,slow=3.3,SNR=16
ILAR pP pP 19 09 32.2 +2.6
comp=Z,2.8nm,0.7s,baz=150,slow=2.9,SNR=9.9
ILAR PP PP 19 13 05.4 -5.0
comp=Z,2.2nm,1.0s,baz=118,slow=6.5,SNR=10
DAVOX Davos 97.04 44 P **P** **19 09 15.6 +2.0**
comp=Z,2.8nm,0.8s,mb4.7,baz=300,slow=6.3,SNR=5.5
DAVOX pP pP 19 09 35.8 +4.8
comp=Z,9.6nm,0.8s,baz=310,slow=5.5,SNR=7.4
COLA College 97.26 336 *e*P **P** **19 09 13.5 -0.6**
COLA *e**PP pP 19 09 33.3 +1.8
MCK McKinley 97.30 334 P **P** **19 09 14.7 +0.4**
MCK *e* pP 19 09 35.1 +3.4
MCK McKinley 97.30 334 *e*P **P** **19 09 13.6 -0.8**
comp=Z,3.6nm,1.1s,mb4.7
MCK *ep*P pP 19 09 34.8 +3.0
MOTA Moosalm 97.99 43⇑*i*P **P** **19 09 18.9 +1.1**
comp=Z,9.9nm,1.3s,mb5.2
MOTA *i* pP 19 09 39.8 +4.6
comp=Z,6.7nm,1.1s
SQTA Sankt Quirin 98.03 43⇓*i*P **P** **19 09 19.5 +1.5**
comp=Z,18nm,1.3s,mb5.5
SQTA *i* pP 19 09 40.4 +5.0
comp=Z,12nm,1.1s
WTTA Wattenberg 98.32 43⇑*i*P **P** **19 09 19.5 +0.2**
comp=Z,20nm,1.6s,mb5.4
WTTA *i* pP 19 09 41.2 +4.5
comp=Z,14nm,1.4s
GRA1 Grafenberg Arr 98.63 41 *e*P **P** **19 09 21.7 +1.0**
comp=Z,16nm,1.3s,mb5.4
GRA1 *ep*P pP 19 09 42.8 +4.7
GRF Grafenberg Arr 98.63 41 *e*P **P** **19 09 21.7 +1.0**
GRF *e**PP pP 19 09 42.8 +4.7
GRF pmax pmax
comp=Z,16nm,1.3s,mb5.4
IMA Indian Mountai 99.94 336 P **P** **19 09 26.5 +0.2**
KHC Kasperske Hory 100.00 42 *e*PDIF P 19 09 33.0 +6.1
GERES GERESS Array B 100.02 42 P P 19 09 28.3 +1.3
comp=Z,1.0nm,0.7s,baz=270,slow=4.0,SNR=9.4
GERES pP 19 09 48.9
comp=Z,2.7nm,0.8s,baz=243,slow=3.0,SNR=9.8
CLL Collm 100.10 40 *e**PP 19 09 49.0
CLL *e**SP 19 10 03.0
NOA NORSAR Array B 101.14 30 P P 19 09 32.8 +1.0
comp=Z,1.0nm,0.9s,baz=328,slow=18,SNR=2.4
NOA pP 19 09 51.8
comp=Z,0.9nm,0.8s,baz=22,slow=8.2,SNR=2.7
IDI Anoyia 105.94 57 Pdiff Pdif 19 09 52.8 -0.8
comp=Z,1.8nm,0.8s,baz=338,slow=11,SNR=3.4
AKASG Malin Array Be 110.21 41 PKiKP 19 14 12.8
comp=Z,1.3nm,0.6s,baz=272,slow=2.7,SNR=9.7
APA Apatity 110.87 23⇑*i*PKIKP PKPdf 19 14 07.6 -5.2
APA MLR MLR
comp=Z,900nm,17.0s
BRTR Keskin Array B 113.23 53 PKiKP 19 14 19.9
comp=Z,1.5nm,0.8s,baz=180,slow=3.7,SNR=7.2
AYUS 'Aynunah 113.93 66 P PKPdf 19 14 22.6 +2.8
OBN Obninsk 114.34 36 *i* PKIKP PKPdf 19 14 16.9 -3.0
OBN pmax pmax
comp=Z,9.0nm,0.7s
JMQS Jabal Moqyreh 114.52 65 P PKPdf 19 14 23.6 +2.7
UMJS Umm Lajj 115.46 69 P PKPdf 19 14 25.6 +2.8
ASF Jabal al Asfar 115.62 61 PKP PKPdf 19 14 25.4 +2.4
comp=Z,12nm,1.1s,baz=160,slow=1.4,SNR=7.5
ASF pPKP 19 14 46.6
comp=Z,3.0nm,0.6s,baz=306,slow=6.2,SNR=2.7
KBRS Khaybar 117.27 69 P PKPdf 19 14 28.4 +2.2
BLJS Baljurashi 118.79 76 P PKPdf 19 14 32.6 +3.2
NAMS An Nimas 119.27 77 P PKPdf 19 14 33.7 +3.4
HILS Ha'il 119.63 67 P PKPdf 19 14 33.2 +2.4
KIV Kislovodsk 119.77 48 *i* PKIKP PKPdf 19 14 28.1 -2.6
KIV MLR MLR
comp=Z,800nm,17.0s
DJNS Zahran al Janu 120.34 78 P PKPdf 19 14 35.8 +3.4
AFFS 'Afif 120.50 71 P PKPdf 19 14 34.8 +2.3
TATS Tathlith 120.51 76 P PKPdf 19 14 35.7 +3.0
KAMS Al Khamasin 121.63 76 P PKPdf 19 14 36.6 +1.8
STKA Stephens Creek 121.81 216 *e*P PKPdf 19 14 35.7 +0.8
comp=Z,6.0nm,0.8s
STKA Stephens Creek 121.81 216 PKP PKPdf 19 14 35.8 +0.8
comp=Z,6.9nm,0.7s,baz=103,slow=1.4,SNR=13
MZLS Mizel 122.52 71 P PKPdf 19 14 38.8 +2.3
ARU Arti 125.69 30 *i* PKIKP PKPdf 19 14 42.7 +0.9
ARU *e* 19 21 39.8
SVE Sverdlovsk 126.48 29⇓*e*PKIKP PKPdf 19 14 44.5 +1.2
SVE *e* 19 15 07.2
CTA Charters Tower 126.93 229 *e*PKP PKPdf 19 14 45.7 +0.6
comp=Z,16nm,1.0s
CTA *ep*PKP 19 15 07.1
CTAO Charters Tower 126.93 229 PKPdf PKPdf 19 14 45.9 +0.7
CTAO Charters Tower 126.93 229 *e*P PKPdf 19 14 45.4 +0.2
CTAO *ep*P 19 15 07.2
FORT Forrest 129.31 205 *e*PKP PKPdf 19 14 49.7 +0.2
comp=Z,61nm,0.8s
YAK Yakutsk 130.61 346 *e*PKIKP PKPdf 19 14 51.3 +0.2
YAK *e**PP 19 15 13.0
NWAO Narrogin (SRO) 130.63 192 PKP PKPdf 19 14 52.8 +0.8
comp=Z,23nm,1.1s,baz=139,slow=1.0,SNR=4.0
NWAO pPKP 19 15 13.2
comp=Z,20nm,1.1s,baz=163,slow=7.4,SNR=3.6
NWAO Narrogin (SRO) 130.63 192 *e*P PKPdf 19 14 52.1 +0.2
MUN Mundaring 131.76 192 *e*PKP PKPdf 19 14 54.7 +0.6
comp=Z,21nm,1.3s
KLBR Kellerberrin 131.81 193 *e*PKP PKPdf 19 14 54.7 +0.5
comp=Z,50nm,1.2s
ASAR Alice Springs 132.45 216 PKhKP 19 14 40.1
comp=Z,1.3nm,1.1s,baz=142,slow=3.2,SNR=7.3
ASAR PKP PKPdf 19 14 55.8 +0.2
comp=Z,20nm,1.0s,baz=124,slow=1.6,SNR=49
ASAR pPKP 19 15 17.2
comp=Z,10nm,0.9s,baz=147,slow=2.4,SNR=5.9
ASAR SKP 19 18 23.4
comp=Z,2.3nm,0.9s,baz=141,slow=5.8,SNR=4.6
ASAR Alice Springs 132.45 216 PKP PKPdf 19 14 55.8 +0.2
ASAR pPKP 19 15 17.2
ASAR SKP 19 18 23.4
ASPA Alice Springs 132.45 216 *e*PKP PKPdf 19 14 55.1 -0.5
ASPA *ep*PKP 19 15 17.1
ASPA *e*PKS PKS 19 18 21.4 -10
ASPA *e* 19 18 42.2
ZRNK Zerenda 132.66 30 *e*P PKPdf 19 14 57.3 +2.1
ZRNK *ep*P 19 15 18.2
WB2 Warramunga Arr 135.07 219 *i* PKP PKPdf 19 15 01.0 +0.4
WB2 *ep*PKP 19 15 22.3
WB2 *e*PKS PKS 19 18 31.0 -4.9
WB2 *e* 19 18 50.3
WRA Warramunga Arr 135.08 219 PKhKP 19 14 47.5
comp=Z,0.8nm,0.8s,baz=150,slow=3.7,SNR=8.2
WRA PKP PKPdf 19 15 01.2 +0.6
comp=Z,24nm,0.7s,baz=141,slow=1.8,SNR=91
WRA pPKP 19 15 22.8
comp=Z,16nm,0.9s,baz=158,slow=1.4,SNR=5.6
WRA Warramunga Arr 135.08 219 PKP PKPdf 19 15 01.2 +0.6
WRA pPKP 19 15 22.8
WRAB Tennant Creek 135.08 219 *e*PKP PKPdf 19 15 00.7 +0.1
WRAB *ep*PKPdf 19 15 22.5
YSS Yuzh-Sakhalins 136.31 324 *i* PKIKP PKPdf 19 15 01.5 -0.6
NVS Novosibirsk 136.99 19 *e*PKIKP PKPdf 19 15 04.2 +1.1
NVS pmax pmax
comp=Z,33nm,1.7s
NVS pmax pmax
comp=N,4.0nm,1.3s
NVS pmax pmax
comp=E,17nm,1.7s
BOD Bodaibo 137.37 354 *e*PKHKP 19 14 47.1
ZAL Zalesovo 138.24 19 PKhKP 19 14 58.9
comp=E,1.0nm,0.9s,baz=209,slow=5.8,SNR=5.8
ZAL PKP PKPdf 19 15 07.1 +1.6
comp=E,27nm,1.0s,baz=158,slow=2.1,SNR=60
ZAL pPKP 19 15 28.1
comp=E,14nm,1.0s,baz=185,slow=2.8,SNR=5.6
ZAL Zalesovo 138.24 19 PKP PKPdf 19 15 07.1 +1.6
ZAL pPKP 19 15 28.1
KURK Kurchatov 138.55 26 PKIKP PKPdf 19 15 08.3 +2.2
FITZ Fitzroy Crossi 141.39 211 *e*P PKPdf 19 15 05.2 -6.9
comp=E,17nm,0.9s
KAKA Kakadu 141.68 224 *e*PKP PKPdf 19 15 12.2 -0.5
comp=E,22nm,0.9s
AAK Ala-Archa 141.81 39 *i* PKHKP 19 15 08.9
AAK MLR MLR
comp=Z,200nm,13.0s
MOY Mondy 143.73 5 *e*PKIKP PKPdf 19 15 15.4 +0.3
KSH Kashi 144.50 42 *i* PKP PKPdf 19 15 19.1 +2.2
KSH *e*PKS PKS 19 18 54.1 +2.6
KSH *e*SKS SKS 19 22 18.0 -0.2
KSH PP PP
comp=Z,180nm,3.6s
MAJO Matsushiro 144.56 312 *e*PKIKP PKPdf 19 15 16.3 -0.8
MAJO Matsushiro 144.56 312 *e*PKPpre 19 15 16.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MAJO				epPKPdf		19 15 36.9	
MAT	Matsushiro	144.56	312	PKP	PKPdf	19 15 15.8	-1.3
MAT	Matsushiro	144.56	312	ePKP	PKPdf	19 15 16.0	-1.1
MDJ	Mudanjiang	144.81	330	PKP	PKPdf	19 15 17.3	0.0
BHJ	Bhuj	144.92	72	ePKP	PKPdf	19 15 20.3	+2.1
BHJ				e		19 16 16.6	
	comp=Z,360nm,17.1s						
ZAK	Zakamensk	145.17	3	⇑iPKIKP	PKPdf	19 15 18.9	+1.2
ZAK				i		19 15 40.3	
ZAK				e		19 18 38.0	
CN2	Changchun	147.33	334	ePKP	PKPdf	19 15 18.6	-3.0
CN2				eAPKP		19 15 44.6	
CN2				ePP	PP	19 18 51.4	-2.4
CN2				LR	LR		
	comp=N,400nm,21.0s						
CN2				LR	LR		
	comp=E,300nm,21.0s						
CN2				LR	LR		
	comp=Z,400nm,23.0s						
THN	Thein Dam	147.76	53	ePKP	PKPdf	19 15 24.2	+1.6
	comp=Z,73nm,0.9s						
WMQ	Urumqi	147.78	25	⇓iPKP	PKPdf	19 15 25.0	+2.7
SONM	Songino Array	147.79	360	PKPbc	PKPdf	19 15 24.2	+2.1
	comp=Z,33nm,0.9s,baz=326,slow=2.0,SNR=62						
SONM				pPKPbc		19 15 48.6	
	comp=Z,48nm,0.7s,baz=346,slow=2.2,SNR=19						
SONM				PP	PP	19 18 53.5	-3.0
	comp=Z,1.3nm,0.9s,baz=315,slow=6.1,SNR=3.0						
POO	Poona	149.12	80	⇓iPKP	PKPdf	19 15 26.0	+0.8
KAD	Karad	149.43	82	ePKP	PKPdf	19 15 26.4	+0.7
SNY	Shenyang	149.73	333	⇓PKP	PKPdf	19 15 31.6	+6.1
SNY				APKP		19 15 52.3	
NDI	New Delhi	150.37	59	ePKP	PKPdf	19 15 28.5	+1.6
DDI	Dehra Dun	150.44	55	ePKP	PKPdf	19 15 26.6	-0.4
TRD	Trivandrum	150.76	100	ePKP	PKPdf	19 15 30.4	+2.5
TRD				e		19 17 41.0	
	comp=Z,680nm,19.7s						
LATR	Latur	151.69	80	ePKPb		19 15 33.5	
BHPL	Bhopal	152.00	70	ePKP	PKPdf	19 15 31.5	+2.0
BHPL				AMb	AMB	19 15 40.0	
	comp=Z,38nm,1.5s						
PTH	Pithoragarh	152.47	55	ePKPb		19 15 38.4	
HYB	Hyderabad	153.60	82	i PKP	PKPdf	19 15 34.0	+2.2
HYB				e		19 15 42.0	
HYB				ePKPAB	PKPab	19 15 54.5	-0.3
HYB				epPKPAB		19 16 11.5	
HYB	Hyderabad	153.60	82	ePKP	PKPdf	19 15 34.0	+2.2
HYB				e		19 15 42.0	
HHC	Hu-ho-hao-te	154.32	350	⇑PKP	PKPdf	19 15 35.5	+3.4
GTA	Gaotai	155.60	12	PKP	PKPdf	19 15 35.8	+1.9
GTA				APKP		19 15 57.4	
GTA				PKP2	PKPab	19 16 07.0	+4.3
GTA				PP	PP	19 19 45.5	+4.9
GTA				SKKS		19 26 21.8	
GTA				SS	SS	19 39 24.3	+4.7
GTA				LR	LR		
	comp=N,271nm,16.4s						
GTA				LR	LR		
	comp=E,475nm,16.4s						
GTA				LR	LR		
	comp=Z,484nm,19.8s						
KOLN	Koldanda	155.92	56	eP	PKPdf	19 15 35.8	+1.1
GKN	Gorkha	156.63	54	eP	PKPdf	19 15 37.1	+1.5
DMN	Daman	157.18	55	eP	PKPdf	19 15 38.2	+1.9
KKN	Kakani	157.23	54	eP	PKPdf	19 15 37.9	+1.5
PKI	Pulchoki	157.44	55	eP	PKPdf	19 15 37.9	+1.2
GUN	Gumba	157.64	53	eP	PKPdf	19 15 38.8	+1.9
SSE	Sheshan	159.21	321	ePKP	PKPdf	19 15 37.6	-1.1
LZH	Lanzhou	159.44	5	PKP	PKPdf	19 15 40.9	+2.1
LZH				APKP		19 15 57.3	
LZH				PP	PP	19 20 03.0	+1.7
LZH				SKS	SKS	19 22 34.0	-2.3
LZH				PP	PP		
	comp=Z,336nm,7.2s						
LZH				LR	LR		
	comp=E,412nm,18.3s						
LZH				LR	LR		
	comp=Z,627nm,20.0s						
NJ2	Nanjing	159.83	327	ePKP	PKPdf	19 15 41.4	+2.0
NJ2				PKP2	PKPab	19 16 23.1	+2.0
NJ2				PKS	PKS	19 19 13.0	+1.1
NJ2				PP	PP	19 20 06.0	+2.6
NJ2				SKS	SKS	19 22 36.0	-0.8
LSA	Lhasa	160.35	42	PKP	PKPdf	19 15 43.8	+3.8
XAN	Xi'an	161.39	352	PKP	PKPdf	19 15 43.1	+2.2
XAN				APKP		19 16 04.5	
WHN	Wuhan	163.22	334	⇑PKP	PKPdf	19 15 45.0	+2.2
SHL	Shillong	163.44	51	⇓iPKP	PKPdf	19 15 45.0	+1.8
SHL	Shillong	163.44	51	⇓iP	PKPdf	19 15 45.0	+1.8
CD2	Chengdu	164.56	7	PKP	PKPdf	19 15 46.8	+2.6
GYA	Guiyang	169.11	357	⇑iPKP	PKPdf	19 15 48.8	+1.2
GYA				APKP		19 16 14.6	
GYA				LR	LR		
	comp=N,550nm,20.8s						
GYA				LR	LR		
	comp=E,670nm,22.6s						
GYA				LR	LR		
	comp=Z,580nm,23.4s						
KMI	Kunming	169.98	17	ePKP	PKPdf	19 15 49.6	+1.4
KMI				APKP		19 16 10.8	
KMI				XPKP		19 16 21.5	
KMI				PKP2	PKPab	19 17 04.9	-0.6
KMI				PP	PP	19 20 55.8	-0.5
KMI				PP	PP		
	comp=Z,217nm,9.3s						
CMAR	Chiang Mai Arr	172.63	66	PKP	PKPdf	19 15 51.2	+1.3
	comp=Z,5.6nm,0.9s,baz=283,slow=1.6,SNR=33						
CMAR				pPKP		19 16 12.3	
	comp=Z,2.8nm,0.8s,baz=277,slow=2.1,SNR=5.1						
CMAR				PKPab	PKPab	19 17 18.1	+0.6
	comp=Z,7.3nm,1.1s,baz=292,slow=5.5,SNR=13						
CMAR				pPKPab		19 17 38.5	
	comp=Z,6.9nm,1.1s,baz=288,slow=5.6,SNR=8.0						
CMAR				PP	PP	19 21 09.8	0.0
	comp=Z,1.6nm,1.1s,baz=297,slow=4.0,SNR=4.9						

*MDD **20** 19:22:17.4±0.4, 36.95N×3.50E, mb4.0/10, Error ellipse: s-maj=5.1km s-min=4.2km az=89.0, PRXIMO*
*CSEM **20** 19:22:18.3±0.2, 37.17N×3.41E, h12km, ML3.3/7, Error ellipse: s-maj=4.5km s-min=3.7km az=176.0*
*LDG **20** 19:22:19.7±0.6, 37.02N×3.18E, h10km, Ml3.3/11, Error ellipse: s-maj=12.3km s-min=5.5km az=151.0*
*NEIC **20** 19:22:19.7, 37.02N×3.17E, h10km, MG4.0(MDD), After LDG.*
ISC 20 19:22:17.1±0.4**, 37.15N**±0.03×**3.44E**±0.03**, h10km, n63,** σ**1.39**/97**, Western Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ABMS	Boumerdes	0.40	176	P	Pg	19 22 20.4	-5.0
EMHD	Djebel Mahouad	1.03	203	P	Pb	19 22 33.0	-3.6
CKHR	Kef el Ahmar	2.02	124	P	Pn	19 22 51.0	-0.6
EANR	'Ain N'Sour	2.24	238	P	Pn	19 22 56.0	+1.2
ETRT	Tiaret	2.47	225	P	Pn	19 22 57.0	-1.1
EIBI	Ibiza	2.50	319	P	Pn	19 23 01.1	+2.6
	10nm,0.2s,SNR=13						
EIBI				S	Sn	19 23 31.6	+2.2
	46nm,0.4s,SNR=7.9						
EIBI	Ibiza	2.50	319	P	Pn	19 23 01.1	+2.6
EIBI				S	Sn	19 23 32.0	+2.7
EIBI	Ibiza	2.50	319	P	Pn	19 23 01.1	+2.6
	10nm,0.2s,SNR=13						
EIBI				S	Sn	19 23 31.6	+2.3
	46nm,0.4s,SNR=7.9						
CASM	Ain Smara	2.61	109	P	Pn	19 23 02.0	+1.9
CTEI	Djebel Teioual	2.62	114	P	Pn	19 23 04.0	+3.7
CAEH	'Ain El Ouahch	2.75	97	P	Pn	19 23 03.0	+0.8
CMAH	Djebel Manchou	3.23	98	P	Pn	19 23 06.0	-3.0
EBEN	Beniarda	3.29	299	P	Pn	19 23 11.3	+1.5
	1.8nm,0.2s,SNR=7.9						
EBEN				S	Sn	19 23 49.3	0.0
	5.0nm,0.3s,SNR=7.9						
EBEN	Beniarda	3.29	299	P	Pn	19 23 11.3	+1.6
	1.8nm,0.2s,SNR=7.9						
EBEN				S	Sn	19 23 49.3	0.0
	5.0nm,0.3s,SNR=7.9						
CABS	Djebel Ababsia	3.36	104	P	Pn	19 23 09.0	-1.8
EMUR	La Murta	3.79	282	P	Pn	19 23 17.5	+0.7
	1.8nm,0.3s,SNR=7.9						
EMUR				S	Sn	19 23 59.4	-2.5
	10nm,0.4s,SNR=7.9						
EMUR	La Murta	3.79	282	P	Pn	19 23 18.0	+1.1
EMUR				S	Sn	19 23 59.5	-2.5
EMUR	La Murta	3.79	282	S	Sn	19 23 59.5	-2.5
EMUR	La Murta	3.79	282	P	Pn	19 23 18.0	+1.2
EMOS	Mosqueruela	4.43	318	P	Pn	19 23 28.0	+2.0
	1.0nm,0.2s,SNR=9.3						
EMOS				S	Sn	19 24 18.3	0.0
	2.0nm,0.2s,SNR=7.9						
EMOS	Mosqueruela	4.43	318	P	Pn	19 23 28.0	+2.0
	1.0nm,0.2s,SNR=9.3						
EMOS				S	Sn	19 24 18.3	0.0
	2.0nm,0.2s,SNR=7.9						
EPOB	Poblet	4.58	337	P	Pn	19 23 29.9	+1.8
	1.2nm,0.3s,SNR=7.9						
EPOB				S	Sn	19 24 22.1	+0.1
	0.8nm,0.1s,SNR=7.9						
EPOB	Poblet	4.58	337	P	Pn	19 23 29.9	+1.8
EPOB				S	Sn	19 24 21.1	-0.9
EPOB	Poblet	4.58	337	P	Pn	19 23 29.9	+1.8
	1.2nm,0.3s,SNR=7.9						
EPOB				S	Sn	19 24 21.1	-0.9
EVIA	Vianos	4.93	289	P	Pn	19 23 33.6	+0.5
	3.8nm,0.2s,SNR=6.2						
EVIA				S	Sn	19 24 30.3	-0.5
	5.3nm,0.3s,SNR=4.0						
EVIA	Vianos	4.93	289	P	Pn	19 23 33.6	+0.5
EVIA				S	Sn	19 24 30.3	-0.5
EMIR	Miracle	4.98	343	P	Pn	19 23 36.5	+2.7
	4.5nm,0.2s,SNR=15						
EMIR				S	Sn	19 24 32.0	-0.1
	4.8nm,0.2s,SNR=7.9						
EMIR	Miracle	4.98	343	P	Pn	19 23 36.5	+2.7
	4.5nm,0.2s,SNR=15						
EMIR				S	Sn	19 24 32.0	-0.1
	4.8nm,0.2s,SNR=7.9						
EBER	Berja	5.07	269	P	Pn	19 23 33.6	-1.5
	0.3nm,0.2s,SNR=7.9						
EBER				S	Sn	19 24 30.9	-3.6
	SNR=7.9						
EBER	Berja	5.07	269	S	Sn	19 24 30.9	-3.6
	SNR=7.9						
EBER	Berja	5.07	269	P	Pn	19 23 33.6	-1.5
	0.3nm,0.2s,SNR=7.9						
VSL	Villasalto	5.22	62	eP	Pn	19 23 33.3	-3.9
	8.8nm,0.3s						
VSL	Villasalto	5.22	62	eP	Pn	19 23 33.3	-3.9
	8.8nm,0.3s						
EQES	Quesada	5.22	279	P	Pn	19 23 38.4	+1.2
	1.8nm,0.2s,SNR=7.9						
EQES				S	Sn	19 24 35.3	-2.9
	1.4nm,0.3s,SNR=7.9						
EQES	Quesada	5.22	279	P	Pn	19 23 38.4	+1.2
EQES				S	Sn	19 24 37.6	-0.5
EQES	Quesada	5.22	279	P	Pn	19 23 38.4	+1.2
	1.8nm,0.2s,SNR=7.9						
EQES				S	Sn	19 24 37.6	-0.6
	1.4nm,0.3s,SNR=7.9						
EJON	La Jonquera	5.31	356	P	Pn	19 23 40.1	+1.7
	5.4nm,0.3s,SNR=14						
EJON				S	Sn	19 24 38.8	-1.5
	5.8nm,0.2s,SNR=7.9						
EJON	La Jonquera	5.31	356	P	Pn	19 23 40.1	+1.7
	5.4nm,0.3s,SNR=14						
EJON				S	Sn	19 24 38.8	-1.5
	5.8nm,0.2s,SNR=7.9						
ETOR	Torete	5.63	312	P	Pn	19 23 45.0	+2.0
	SNR=4.0						
ETOR	Torete	5.63	312	P	Pn	19 23 47.2	+4.2
MTLF	Montolieu	6.25	352	ePn	Pn	19 23 52.1	+0.4
MTLF				eSn	Sn	19 24 59.6	-4.4
	1.3nm,0.3s						
EPF	Esparros	6.33	339	ePn	Pn	19 23 52.2	-0.7
EPF				eSn	Sn	19 25 01.4	-4.7
	1.9nm,0.2s						
ESDC	Sonseca Array	6.34	296	P	Pn	19 23 52.9	0.0
	2.2nm,0.1s,baz=113,slow=14,SNR=5.5						
ESDC				S	Sn	19 25 03.5	-2.6
	0.4nm,0.1s,baz=113,slow=24,SNR=4.0						
ESDC	Sonseca Array	6.34	296	P	Pn	19 23 52.9	0.0
ESDC	Sonseca Array	6.34	296	P	Pn	19 23 52.9	0.0
ETSF	Etsaut	6.51	333	ePn	Pn	19 23 54.0	-1.3
ETSF				eSn	Sn	19 25 04.7	-5.7
	2.1nm,0.3s						
LMR	La Mourre	6.60	20	ePn	Pn	19 23 55.7	-1.0
LMR				eSn	Sn	19 25 09.1	-3.7
	6.5nm,0.2s						
FRF	La Foret Royal	6.85	20	ePn	Pn	19 23 59.4	-0.8
FRF				eSn	Sn	19 25 13.5	-5.5
	7.5nm,0.2s						
PGF	Pioggiola	6.88	37	ePn	Pn	19 23 59.1	-1.4
PGF				eSn	Sn	19 25 12.3	-7.3
	1.1nm,0.2s						
LASF	Ste Croix	6.92	2	ePn	Pn	19 24 02.1	+0.9
LASF				eSn	Sn	19 25 15.7	-5.1
	1.7nm,0.2s						
SJPF	Ste Jean	6.94	330	ePn	Pn	19 23 59.8	-1.6
SJPF				eSn	Sn	19 25 14.1	-7.2
	2.3nm,0.3s						
SMRF	Simiane la Rot	7.00	13	ePn	Pn	19 24 03.0	+0.7
SMRF				eSn	Sn	19 25 19.4	-3.5
	0.8nm,0.2s						
SBF	Sospel	7.36	23	ePn	Pn	19 24 06.1	-1.2
SBF				eSn	Sn	19 25 26.2	-5.5
	6.1nm,0.3s						
VIVF	Saint-Julien-l	7.75	7	ePn	Pn	19 24 13.4	+0.6
VIVF				eSn	Sn	19 25 35.2	-6.3
	1.0nm,0.2s						
CAF	Calviac	7.83	353	ePn	Pn	19 24 14.1	+0.2
LPG	La Plagne	8.70	16	ePn	P	19 24 27.4	+1.4
LPL	La Plagne	8.71	15	ePn	P	19 24 26.8	+0.6
TCF	Toulx Ste Croi	9.17	355	ePn	P	19 24 32.1	-0.4
BGF	Bois d'Agland	9.41	357	ePn	P	19 24 34.8	-1.0
SMF	Signal de Mont	9.49	2	ePn	P	19 24 39.0	+2.1
AVF	Avril sur Loir	9.63	360	ePn	P	19 24 39.4	+0.6
CABF	La Chapelle	9.65	11	ePn	P	19 24 38.8	-0.3
HAU	Haudompre	11.05	10	ePn	P	19 24 58.3	0.0

*NEIC **20** 19:38:06.3, 40.24S×173.54E, h182km, After WEL.*
WEL 20 19:38:06.5±0.4**, 40.25S×173.53E, h179km**±3km**, ML3.9**/7**, 12C-3D, Error ellipse: s-maj=2.3km s-min=1.1km az=90.0, Cook Strait**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NRZ	Ngariki Road	0.96	19	P	P	19 38 33.8	-0.2
NRZ	Ngariki Road	0.96	19	PN	P	19 38 33.8	-0.2
QRZ	Quartz Range	0.96	232	⇓P	P	19 38 33.7	-0.3
QRZ				S	S	19 38 53.7	-1.6
QRZ	Quartz Range	0.96	232	⇑PN	P	19 38 33.7	-0.3
QRZ				SN	S	19 38 53.7	-1.5
NNZ	Nelson	0.98	187	P	P	19 38 34.0	-0.1
NNZ				S	S	19 38 54.9	-0.6
NNZ	Nelson	0.98	187	⇑PN	P	19 38 34.0	-0.1
NNZ				SN	S	19 38 54.9	-0.6
NWEZ	Newall Road	1.00	15	P	P	19 38 34.3	0.0
NWEZ	Newall Road	1.00	15	PN	P	19 38 34.3	0.0
NEZ	North Egmont	1.06	24	PN	P	19 38 34.4	-0.4
KIW	Kapiti Island	1.22	121	P	P	19 38 35.9	-0.3
KIW	Kapiti Island	1.22	121	PN	P	19 38 35.9	-0.2
WAZ	Wanganui	1.22	67	P	P	19 38 36.4	+0.2
WAZ	Wanganui	1.22	67	PN	P	19 38 36.3	+0.1
TUWZ	Tuamarina	1.23	165	PN	P	19 38 36.1	-0.1
MRW	Makara Radio	1.32	138	⇑P	P	19 38 37.0	-0.1
MRW	Makara Radio	1.32	138	⇑PN	P	19 38 37.0	-0.1
CAW	Cannon Point	1.45	127	P	P	19 38 38.0	-0.3
CAW	Cannon Point	1.45	127	PN	P	19 38 38.0	-0.3
BSWZ	Blackbirch Sta	1.49	170	P	P	19 38 38.8	+0.1
BSWZ	Blackbirch Sta	1.49	170	PN	P	19 38 38.8	+0.1
BHW	Baring Head	1.54	139	⇑PN	P	19 38 38.6	-0.6
THZ	Tophouse	1.59	197	⇑P	P	19 38 39.1	-0.6
THZ	Tophouse	1.59	197	⇑PN	P	19 38 39.0	-0.6
THZ				SN	S	19 39 02.8	-2.4
MRZ	Mangatainoka R	1.61	106	P	P	19 38 39.3	-0.6
MRZ	Mangatainoka R	1.61	106	PN	P	19 38 39.3	-0.6
MSWZ	Moikau Station	1.75	132	P	P	19 38 40.4	-0.8
MSWZ	Moikau Station	1.75	132	PN	P	19 38 40.4	-0.8
MTW	Mount Morrison	1.75	122	P	P	19 38 40.6	-0.7
MTW	Mount Morrison	1.75	122	PN	P	19 38 40.6	-0.7
PAWZ	Paruwai Farm	1.83	129	PN	P	19 38 41.5	-0.6
PAWZ				SN	S	19 39 07.7	-1.8
WNVZ	Wahianoa	1.83	61	P	P	19 38 41.2	-0.9
WNVZ	Wahianoa	1.83	61	PN	P	19 38 41.2	-0.9
WPVZ	Whakapapa	1.87	57	P	P	19 38 41.4	-1.0
WPVZ	Whakapapa	1.87	57	PN	P	19 38 41.4	-1.1
TSZ	Takapari Road	1.87	85	P	P	19 38 41.5	-1.0
TSZ	Takapari Road	1.87	85	PN	P	19 38 41.5	-1.0
CNZ	Chateau	1.87	57	P	P	19 38 41.4	-1.1
CNZ	Chateau	1.87	57	PN	P	19 38 41.4	-1.1
TWVZ	Taurewa	1.88	52	P	P	19 38 41.2	-1.4
TWVZ	Taurewa	1.88	52	PN	P	19 38 41.2	-1.4
MOVZ	Moawhango	1.90	65	P	P	19 38 41.4	-1.4
MOVZ	Moawhango	1.90	65	PN	P	19 38 41.4	-1.4
TUVZ	Tukino	1.90	60	P	P	19 38 42.0	-0.8
TUVZ	Tukino	1.90	60	PN	P	19 38 42.0	-0.9
NGZ	Ngauruhoe	1.92	57	⇑P	P	19 38 41.8	-1.2
NGZ	Ngauruhoe	1.92	57	PN	P	19 38 41.8	-1.2
WTVZ	West Tongariro	1.94	55	P	P	19 38 42.0	-1.3
WTVZ	West Tongariro	1.94	55	PN	P	19 38 42.0	-1.3
MGZ	Maungaku	1.98	52	P	P	19 38 42.4	-1.3
MGZ	Maungaku	1.98	52	PN	P	19 38 42.4	-1.3
DSZ	Denniston Nort	1.99	221	⇑P	P	19 38 42.8	-1.0
DSZ				S	S	19 39 09.3	-3.2
DSZ	Denniston Nort	1.99	221	⇑PN	P	19 38 42.8	-0.9
DSZ				SN	S	19 39 09.3	-3.2
KAVZ	Karewarewa	1.99	56	P	P	19 38 42.6	-1.2
KAVZ	Karewarewa	1.99	56	PN	P	19 38 42.6	-1.2
HIZ	Hauiti	2.01	31	⇑P	P	19 38 42.4	-1.6
HIZ	Hauiti	2.01	31	⇓PN	P	19 38 42.4	-1.5
BFZ	Birch Farm	2.11	103	⇑P	P	19 38 44.4	-0.8
BFZ	Birch Farm	2.11	103	⇓PN	P	19 38 44.4	-0.8
BFZ				SN	S	19 39 12.0	-3.0
KHZ	Kahutara	2.17	180	P	P	19 38 44.6	-1.2
KHZ				S	S	19 39 13.0	-3.1
KHZ	Kahutara	2.17	180	PN	P	19 38 44.6	-1.2
KHZ				SN	S	19 39 12.8	-3.3
BKZ	Black Stump Fm	2.52	66	P	P	19 38 47.9	-2.0
BKZ	Black Stump Fm	2.52	66	PN	P	19 38 47.9	-2.1
PWZ	Pawanui	2.56	86	P	P	19 38 48.9	-1.5
PWZ	Pawanui	2.56	86	PN	P	19 38 48.9	-1.5
LTZ	Lake Taylor	2.71	200	eP	P	19 38 50.5	-1.7
LTZ	Lake Taylor	2.71	200	PN	P	19 38 50.5	-1.7
KNZ	Kokohu	3.42	70	P	P	19 38 58.6	-2.4
KNZ	Kokohu	3.42	70	PN	P	19 38 58.6	-2.4
WVZ	Waitaha Valley	3.52	216	P	P	19 38 59.3	-2.9
WVZ	Waitaha Valley	3.52	216	PN	P	19 38 59.3	-2.9
MQZ	McQueen's Vall	3.52	190	eP	P	19 38 58.6	-3.6
MQZ	McQueen's Vall	3.52	190	PN	P	19 38 58.6	-3.6
MWZ	Matawai	3.64	60	PN	P	19 39 00.5	-3.2
PUZ	Puketiti	4.26	61	PN	P	19 39 07.9	-3.8
FOZ	Fox Glacier	4.39	220	PN	P	19 39 08.6	-4.7
MXZ	Matakaoa Point	4.58	56	eP	P	19 39 12.1	-3.7
MXZ	Matakaoa Point	4.58	56	PN	P	19 39 12.1	-3.7
LBZ	Lake Benmore	4.83	210	eP	P	19 39 15.3	-3.7
LBZ	Lake Benmore	4.83	210	PN	P	19 39 15.3	-3.7
JCZ	Jackson Bay	5.22	221	eP	P	19 39 20.3	-3.8
JCZ	Jackson Bay	5.22	221	PN	P	19 39 20.3	-3.8
ODZ	Otahua Downs	5.25	203	eP	P	19 39 21.2	-3.2
ODZ	Otahua Downs	5.25	203	PN	P	19 39 21.2	-3.3

*INMG **20** 20:13:08.5±0.8, 36.72N×7.54W, h19km±4km, ML1.9, Error ellipse: s-maj=4.3km s-min=2.9km az=16.0*
*MDD **20** 20:13:08.2±1.7, 36.70N×7.54W, h18km±8km, mbLg1.8/7, Error ellipse: s-maj=12.5km s-min=8.2km az=24.0, PRXIMO*
ISC 20 20:13:06.6±1.7**, 36.70N**±0.07×**7.52W**±0.06**, h13km**±8km**, n11,** σ**0.88**/18**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALC	Alcoutim	0.77	2	ePg	Pg	20 13 22.0	0.0
PALC				eSg	Sg	20 13 32.3	0.0
	30nm,0.1s						
PALC	Alcoutim	0.77	2	Pg	Pg	20 13 22.0	0.0
PALC				Lg		20 13 32.3	
	15nm,0.1s						
EMIN	Mina Concepcio	1.26	32	P	Pb	20 13 29.9	+0.2
	0.9nm,0.1s,SNR=7.9						
EMIN				S	Sb	20 13 45.4	-0.2
	5.3nm,0.2s,SNR=7.9						
PTEO	Sao Teotonio	1.28	312	eP	Pb	20 13 29.6	-0.5
PTEO				eS	Sb	20 13 45.2	-1.1
	14nm,0.4s						
PTEO	Sao Teotonio	1.28	312	P	Pb	20 13 29.6	-0.5
PTEO				S	Sb	20 13 45.2	-1.1
	7.1nm,0.4s						
ESPR	Espera	1.34	82	P	Pn	20 13 30.9	-0.2
	0.7nm,0.2s,SNR=7.9						
ESPR				S	Sb	20 13 47.7	-0.3
	2.6nm,0.2s,SNR=7.9						
PBEJ	Beja	1.35	348	eP	Pn	20 13 31.7	+0.5
PBEJ				eS	Sb	20 13 48.3	0.0
	7.8nm,0.1s						
PBEJ	Beja	1.35	348	P	Pn	20 13 31.7	+0.5
PBEJ				S	Sb	20 13 48.3	0.0
	3.9nm,0.1s						
MOE	Montemor	1.94	340	eSn	Sn	20 14 05.7	+1.8
EBAD	Badajoz	2.09	11	P	Pn	20 13 44.9	+3.1
	0.2nm,0.1s,SNR=4.0						
EBAD				S	Sn	20 14 06.7	-1.2
	2.0nm,0.1s,SNR=7.9						
EADA	Adamuz	2.76	57	Lg		20 14 35.1	
	0.2nm,0.1s,SNR=4.0						

*PRU **20** 20:19:58.1, 49.86N×18.42E*
*NEIC **20** 20:19:58.2±0.6, 49.79N×18.27E, h5km, ML3.3(FUR), ML3.1(SZGRF), ML2.6(VIE), Error ellipse: s-maj=9.4km s-min=4.7km az=223.0*
*CSEM **20** 20:20:03.4±1.2, 49.25N×18.95E, h1km, ML3.1, Error ellipse: s-maj=20.0km s-min=13.3km az=11.0, After BGR*
*BGR **20** 20:20:03.4±1.2, 49.25N×18.95E, h1km, ML3.1/4, Error ellipse: s-maj=20.0km s-min=13.3km az=11.0*
ISC 20 20:19:55.8±0.4**, 49.85N**±0.03×**18.30E**±0.03**, n34,** σ**1.50**/62**, 1C, Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.10	264	ePG	Pg	20 20 02.1	+4.4
OKC				eSG	Sg	20 20 05.7	+6.6
RAC	Raciborz	0.24	344	ePg	Pg	20 20 04.2	+3.6
RAC				eSg	Sg	20 20 09.5	+5.6
RAC	Raciborz	0.24	344	ePg	Pg	20 20 04.2	+3.6
RAC				eSg	Sg	20 20 09.5	+5.6
MORC	Moravsky Berou	0.50	262	eP	Pg	20 20 08.4	+2.8
LIKS	Likavka	0.96	146	ePN	Pn	20 20 16.6	+0.4
LIKS				eSN	Sn	20 20 30.5	-0.3
OJC	Ojcow	1.03	68	ePg	Pg	20 20 14.4	-2.0
OJC				i Sg	Sg	20 20 30.0	-0.2
OJC	Ojcow	1.03	68	ePg	Pg	20 20 14.4	-2.0
OJC				i Sg	Sg	20 20 30.0	-0.2
KOLL	Kolacno	1.27	177	i PN	Pn	20 20 21.4	+0.6
KOLL				eSN	Sn	20 20 38.9	+0.1
DPC	Dobruska-Polom	1.37	292	ePG	Pg	20 20 24.3	+1.2
DPC				eSG	Sg	20 20 44.4	+3.1
	22nm,0.3s						
NIE	Niedzica	1.38	107	ePg	Pg	20 20 20.9	-2.4
NIE				eSg	Sg	20 20 39.6	-2.0
VYHS	Vyhne	1.40	165	ePN	Pn	20 20 22.7	+0.1
VYHS				eSN	Sn	20 20 41.9	-0.1
SMOL	Smolenice	1.45	203	i PN	Pn	20 20 24.6	+1.3
SMOL				eSN	Sn	20 20 45.2	+1.8
UPC	Upice	1.61	295	ePg	Pg	20 20 28.7	+0.8
UPC				eSg	Sg	20 20 50.8	+1.4
KSP	Ksiaz	1.63	309	ePn	Pn	20 20 27.2	+1.4
KSP				ePg	Pg	20 20 28.8	+0.6
KSP				eSg	Sg	20 20 52.2	+2.3
ZST	Bratislava	1.83	206	ePN	Pn	20 20 29.5	+0.7
KECS	Kecovo	1.98	133	ePN	Pn	20 20 30.5	-0.4
KECS				eSN	Sn	20 20 55.6	-1.2
PSZ	Piszkesteto	2.20	151	ePB	Pb	20 20 38.1	+1.9
PSZ	Piszkesteto	2.20	151	eP	Pn	20 20 34.4	+0.4
CRVS	Cervenica-Dubn	2.27	113	ePN	Pn	20 20 37.6	+2.5
PRU	Pruhonice	2.43	275	ePG	Pg	20 20 42.7	-1.6
PRU				eSG	Sg	20 21 18.2	+1.4
	9.9nm,0.5s						
PVCC	Panska Ves	2.49	287	ePG	Pg	20 20 44.8	-0.7
KOLS	Kolonicke sedl	2.75	108	ePB	Pb	20 20 47.6	+2.0
BRG	Berggiesshubel	2.97	292	ePg	Pg	20 20 53.5	-1.6
BRG				eSg	Sg	20 21 34.6	-0.1
KHC	Kasperske Hory	3.16	259	ePN	Pn	20 20 49.2	+1.5
KHC				ePG	Pg	20 20 56.4	-2.5
KHC				eSN	Sn	20 21 29.0	+2.3
KHC				eSG	Sg	20 21 42.0	+1.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GEC2	**GERESS Array S**	**3.17**	**253**	*e*Pn	**Pg**	**20 20 58.4**	**-0.6**
GEC2				*e*Sn	**Sg**	**20 21 39.1**	**-2.2**
GEC2	**GERESS Array S**	**3.17**	**253**	*e*Pn	**Pg**	**20 20 58.4**	**-0.6**
GEC2				*e*Sn	**Sg**	**20 21 39.1**	**-2.2**
MOA	**Molln**	**3.33**	**235**	⇑*i*PN	**Pn**	**20 20 50.7**	**+0.5**
MOA				*i* SG	**Sg**	**20 21 45.8**	**-0.9**
	4.7nm,0.5s						
WET	**Wettzell**	**3.60**	**261**	*e*Pn	**Pg**	**20 21 05.2**	**-2.5**
WET				*e*Sn	**Sg**	**20 21 52.2**	**-3.6**
WET	**Wettzell**	**3.60**	**261**	*e*Pn	**Pg**	**20 21 05.2**	**-2.5**
WET				*e*Sn	**Sg**	**20 21 52.2**	**-3.5**
CLL	**Collm**	**3.68**	**295**	*e*SG	**Sg**	**20 21 58.0**	**-0.2**
NKC	**Novy Kostel**	**3.79**	**278**	*e*SG	**Sg**	**20 22 01.7**	**-0.3**
TANN	**Tannenbergstha**	**3.80**	**281**	*e*Pn	**Pg**	**20 21 10.8**	**-0.8**
TANN				*e*Sn	**Sg**	**20 22 00.5**	**-1.7**
GUNZ	**Gunzen**	**3.88**	**280**	*e*Pn	**Pg**	**20 21 11.3**	**-1.8**
GUNZ				*e*Sn	**Sg**	**20 22 02.4**	**-2.4**
WERD	**Werda**	**3.90**	**281**	*e*Pn	**Pg**	**20 21 11.0**	**-2.6**
WERD				*e*Sn	**Sg**	**20 22 02.8**	**-2.9**

*BJI **20** 20:55:57.9, 43.30N×126.70W, h10km, mb4.3, Msz4.3*
*IDC **20** 20:56:02.0±2.1, 43.37N×126.61W, mb3.6/4, mb1 4.1/8, mb1mx3.8/22, ML3.7/4, MS4.0/1, Ms1 4.0/1, ms1mx3.0/25, Error ellipse: s-maj=39.3km s-min=14.8km az=51.0*
*NEIC **20** 20:56:02.9±1.0, 43.28N×126.70W, h10km, mb4.0/5, Error ellipse: s-maj=12.6km s-min=5.9km az=63.0*
ISC 20 20:55:59.3±3.0**, 43.31N**±0.06×**126.8W**±0.1**, h2**km±19km**, n47, σ1ˢ00**/47**, mb4.2**/4**, Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**1.87**	**103**	*e*P	**Pn**	**20 56 31.9**	**-0.9**
HSO	**Harness Mounta**	**2.73**	**84**	*e*P	**Pn**	**20 56 44.7**	**-0.3**
COR	**Corvallis**	**2.84**	**62**	*e*P	**Pn**	**20 56 46.5**	**-0.1**
HUMO	**Hull Mountain**	**2.92**	**103**	*e*P	**Pn**	**20 56 46.9**	**-0.8**
YBH	**Yreka Blue Hor**	**3.42**	**116**	Pn	**Pn**	**20 56 55.3**	**+0.5**
	5.3nm,0.3s,baz=284,slow=12,SNR=54						
YBH				Sn	**Sn**	**20 57 37.1**	**+0.4**
	2.0nm,0.3s,baz=91,slow=21,SNR=3.3						
YBH	**Yreka Blue Hor**	**3.42**	**116**	*e*P	**Pn**	**20 56 55.1**	**+0.2**
SSOR	**Sweet Springs**	**3.50**	**62**	*e*P	**Pn**	**20 56 56.9**	**+0.9**
BMW	**Boistfort Moun**	**4.06**	**38**	*e*P	**Pn**	**20 57 04.2**	**+0.2**
VGB	**Gordon Butte**	**4.86**	**61**	*e*P	**Pn**	**20 57 15.6**	**+0.4**
LON	**Longmire**	**4.94**	**44**	*e*P	**Pn**	**20 57 17.2**	**+0.7**
MOD	**Modoc**	**5.01**	**104**	*e*P	**Pn**	**20 57 15.8**	**-1.7**
GNW	**Green Mountain**	**5.10**	**32**	*e*P	**Pn**	**20 57 19.7**	**+1.1**
PGC	**Sidney**	**5.83**	**23**	*e*P	**Pn**	**20 57 28.1**	**-0.8**
HAWA	**Hanford**	**6.03**	**57**	*e*P	**Pn**	**20 57 31.7**	**0.0**
RPW	**Rockport**	**6.33**	**34**	*e*P	**Pn**	**20 57 36.0**	**0.0**
NLW	**Nelson Butte**	**6.58**	**41**	P	**Pn**	**20 57 40.0**	**+0.4**
LNOR	**Lincton Mounta**	**6.61**	**64**	*e*P	**Pn**	**20 57 38.8**	**-1.1**
WCN	**Washoe City**	**6.66**	**125**	P	**Pn**	**20 57 40.4**	**-0.2**
DPW	**Davenport**	**7.57**	**50**	*e*P	**Pn**	**20 57 52.5**	**-0.9**
NVAR	**Mina Array Bea**	**8.09**	**124**	Pn	**P**	**20 58 01.7**	**+1.1**
	0.6nm,0.3s,baz=301,slow=13,SNR=9.8						
MSO	**Missoula**	**9.77**	**64**	*e*P	**P**	**20 58 22.6**	**-1.3**
MCMT	**McKenzie Canyo**	**10.17**	**77**	*e*P	**P**	**20 58 29.0**	**-0.4**
CHMT	**Chamberlain Mo**	**10.24**	**65**	*e*P	**P**	**20 58 28.9**	**-1.6**
QLMT	**Earthquake Lak**	**11.18**	**77**	P	**P**	**20 58 43.2**	**0.0**
RRI2	**Red Ridge**	**11.29**	**85**	*e*P	**P**	**20 58 42.7**	**-2.1**
TPAW	**Teton Pass**	**11.55**	**84**	P	**P**	**20 58 47.4**	**-0.9**
ARUT	**Antelope Range**	**11.57**	**114**	*e*P	**P**	**20 58 49.3**	**+0.7**
SNOW	**Snow King Moun**	**11.70**	**84**	*e*P	**P**	**20 58 51.6**	**+1.3**
GCMT	**Greycliff**	**12.49**	**73**	P	**P**	**20 59 01.6**	**+0.7**
PDAR	**Pinedale Array**	**12.65**	**87**	Pn	**P**	**20 59 04.3**	**+1.3**
	0.1nm,0.3s,baz=285,slow=12,SNR=21						
PDAR				LR	LR	21 04 19.1	
	comp=Z,645nm,18.1s,baz=324,slow=40						
DLBC	**Dease Lake**	**15.28**	**354**	Pn		20 59 43.6	
	0.1nm,0.3s,baz=168,slow=15,SNR=6.0						
DLBC	**Dease Lake**	**15.28**	**354**	P	**P**	**20 59 39.1**	**+1.6**
ISCO	**Idaho Springs**	**16.25**	**95**	*e*P	**P**	**20 59 50.3**	**0.0**
	2.8nm,0.6s						
SDCO	**Great Sand Dun**	**17.12**	**102**	*e*P	**P**	**21 00 00.8**	**-0.4**
	8.1nm,0.8s						
ANMO	**Albuquerque**	**17.84**	**111**	*e*P	**P**	**21 00 10.2**	**0.0**
	5.3nm,0.9s						
BNM	**Barren Site**	**18.18**	**113**	P	**P**	**21 00 15.8**	**+1.2**
YKA	**Yellowknife Ar**	**20.51**	**16**	P	**P**	**21 00 42.0**	**+0.8**
	2.2nm,0.6s,baz=201,slow=11,SNR=3.4						
YKA	**Yellowknife Ar**	**20.51**	**16**	P	**P**	**21 00 42.0**	**+0.8**
ULM	**Lac du Bonnet**	**22.18**	**61**	P	**P**	**21 00 59.2**	**+0.9**
	3.9nm,0.6s,mb4.0,baz=260,slow=9.2,SNR=4.4						
TXAR	**Lajitas Array**	**23.20**	**119**	P	**P**	**21 01 10.2**	**+1.8**
	0.4nm,0.3s,mb3.3,baz=319,slow=8.3,SNR=3.5						
WMOK	**Wichita Mounta**	**23.32**	**102**	*e*P	**P**	**21 01 11.0**	**+1.4**
	10nm,1.0s,mb4.2						
ILAR	**Eielson Array**	**24.30**	**339**	P	**P**	**21 01 20.0**	**+1.3**
	0.5nm,0.6s,baz=152,slow=8.6,SNR=7.4						
ACSO	**Alum Creek Sta**	**32.56**	**80**	P	**P**	**21 02 33.6**	**-0.3**
	87nm,1.3s						
SSPA	**Standing Stone**	**36.06**	**77**	P	**P**	**21 03 02.9**	**-1.2**
	24nm,0.9s,mb5.1						
SSE	**Sheshan**	**83.29**	**307**	*e*P	**P**	**21 08 28.4**	**-0.5**
NJ2	**Nanjing**	**83.94**	**309**	*e*P	**P**	**21 08 30.3**	**-1.8**
LZH	**Lanzhou**	**88.51**	**321**	*e*P	**P**	**21 08 52.6**	**-1.9**

*CSEM **20** 21:10:23.5±0.5, 35.03N×4.01W, h35km, mb3.4/9, Error ellipse: s-maj=10.4km s-min=5.1km az=26.0*
*NEIC **20** 21:10:24.2, 35.14N×4.00W, MG3.4(MDD), After MDD.*
*MDD **20** 21:10:24.5±1.7, 35.10N×3.97W, h7km±15km, mb3.6/9, Error ellipse: s-maj=9.2km s-min=7.0km az=138.0, PRXIMO*
*SFS **20** 21:10:25.0, 35.20N×3.90W, ML3.3*
ISC 20 21:10:23.7±1.2**, 35.11N**±0.04×**4.03W**±0.07**, h18**km±16km**, n25, σ1ˢ01**/45**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EMEL	**Melilla**	**0.90**	**78**	P	**Pb**	**21 10 40.1**	**-0.4**
	60nm,0.2s,SNR=20						
EMEL				S	**Sb**	**21 10 52.4**	**+0.5**
	241nm,0.2s,SNR=4.0						
EMLI	**Melilla**	**0.90**	**78**	P	**Pb**	**21 10 40.1**	**-0.4**
	60nm,0.2s,SNR=20						
EMLI	**Melilla**	**0.90**	**78**	S	**Sb**	**21 10 52.4**	**+0.3**
	241nm,0.2s,SNR=4.0						
MELI	**Melilla**	**0.92**	**78**	*e*P	**Pb**	**21 10 40.3**	**-0.4**
MELI				*e*S	**Sb**	**21 10 52.0**	**-0.4**
EMIJ	**Mijas**	**1.57**	**338**	P	**Pn**	**21 10 51.9**	**+0.9**
	1.7nm,0.2s,SNR=7.9						
EMIJ				S	**Sn**	**21 11 12.5**	**+1.6**
	24nm,0.5s,SNR=7.9						
EMIJ	**Mijas**	**1.57**	**338**	P	**Pn**	**21 10 51.9**	**+0.9**
EMIJ				S	**Sn**	**21 11 10.0**	**-1.0**
EMIJ	**Mijas**	**1.57**	**338**	P	**Pn**	**21 10 51.9**	**+0.9**
	1.7nm,0.2s,SNR=7.9						
EMIJ				S	**Sn**	**21 11 10.0**	**-0.9**
	24nm,0.5s,SNR=7.9						
IFR	**Ifrane**	**1.83**	**210**	P	**Pn**	**21 10 56.0**	**+1.2**
IFR				S	**Sn**	**21 11 17.0**	**-0.7**
ERON	**Agron**	**1.91**	**5**	S	**Sn**	**21 11 18.9**	**-0.7**
	3.1nm,0.4s,SNR=4.0						
EBER	**Berja**	**2.01**	**27**	P	**Pn**	**21 10 56.5**	**-0.8**
	1.6nm,0.2s,SNR=6.9						
EBER				S	**Sn**	**21 11 23.7**	**+1.7**
	14nm,0.4s,SNR=4.5						
EBER	**Berja**	**2.01**	**27**	P	**Pn**	**21 10 56.5**	**-0.8**
EBER				S	**Sn**	**21 11 20.1**	**-2.0**
EBER	**Berja**	**2.01**	**27**	P	**Pn**	**21 10 56.5**	**-0.8**
	1.6nm,0.2s,SNR=6.9						
EBER				S	**Sn**	**21 11 20.1**	**-2.0**
	14nm,0.4s,SNR=4.5						
ELOJ	**Sierra Loja**	**2.03**	**357**	P	**Pn**	**21 10 58.2**	**+0.6**
	1.6nm,0.2s,SNR=4.0						
ELOJ				S	**Sn**	**21 11 24.4**	**+1.7**
	1.4nm,0.3s,SNR=4.0						
ELOJ	**Sierra Loja**	**2.03**	**357**	P	**Pn**	**21 10 58.2**	**+0.6**
ELOJ				S	**Sn**	**21 11 24.4**	**+1.7**
ESPR	**Espera**	**2.29**	**320**	P	**Pn**	**21 11 02.9**	**+1.5**
	4.4nm,0.3s,SNR=4.0						
ESPR				S	**Sn**	**21 11 29.9**	**+0.5**
	5.1nm,0.3s,SNR=4.0						
ESPR	**Espera**	**2.29**	**320**	P	**Pn**	**21 11 04.6**	**+3.3**
ESPR				S	**Sn**	**21 11 29.9**	**+0.5**
EQES	**Quesada**	**2.79**	**16**	P	**Pn**	**21 11 09.5**	**+1.0**
	1.6nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**21 11 42.4**	**+0.3**
	7.7nm,0.4s,SNR=7.9						
EQES	**Quesada**	**2.79**	**16**	P	**Pn**	**21 11 09.5**	**+1.0**
	1.6nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**21 11 42.4**	**+0.4**
	7.7nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**3.08**	**352**	P	**Pn**	**21 11 11.8**	**-0.7**
	1.2nm,0.2s,SNR=4.0						
EADA				S	**Sn**	**21 11 49.0**	**-0.3**
	1.7nm,0.2s,SNR=4.0						
EADA	**Adamuz**	**3.08**	**352**	P	**Pn**	**21 11 15.3**	**+2.7**
EADA				S	**Sn**	**21 11 49.0**	**-0.3**
EMIN	**Mina Concepcio**	**3.40**	**322**	P	**Pn**	**21 11 16.4**	**-0.7**
	0.4nm,0.1s,SNR=9.2						
EMIN				S	**Sn**	**21 11 55.3**	**-2.0**
	0.1nm,0.4s,SNR=4.0						
EMIN	**Mina Concepcio**	**3.40**	**322**	P	**Pn**	**21 11 16.4**	**-0.7**
	0.4nm,0.1s,SNR=9.2						
EMIN				S	**Sn**	**21 11 55.3**	**-2.1**
EBAD	**Badajoz**	**4.35**	**328**	P	**Pn**	**21 11 29.6**	**-1.0**
	1.4nm,0.2s,SNR=5.0						
EBAD				S	**Sn**	**21 12 17.5**	**-3.9**
	3.9nm,0.3s,SNR=4.7						
ESDC	**Sonseca Array**	**4.55**	**1**	P	**Pn**	**21 11 33.6**	**+0.1**
	0.9nm,0.2s,baz=178,slow=12,SNR=6.7						
ESDC	**Sonseca Array**	**4.55**	**1**	P	**Pn**	**21 11 33.7**	**+0.2**

*KRSC **20** 21:20:23.5±0.4, 57.24N×160.54E, h31km±6km, ML4.1*
*MOS **20** 21:20:24.4±1.1, 57.13N×160.49E, h16km, mb4.0/1, Error ellipse: s-maj=73.2km s-min=19.1km az=91.4*
ISC 20 21:20:24.4±0.7**, 57.25N**±0.04×**160.6E**±0.1**, h31**km**, n26, σ0ˢ96**/42**, Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SVLR	**Shiveluch**	**0.75**	**153**	*e*P	**Pn**	**21 20 38.2**	**-0.7**
SVLR				*e*S	**Sb**	**21 20 48.6**	**-0.2**
KLY	**Klyuchi**	**0.94**	**179**	P	**Pn**	**21 20 40.6**	**-0.9**
KLY				S	**Sn**	**21 20 53.3**	**-0.6**
KLY	**Klyuchi**	**0.94**	**179**	*i* P	**Pn**	**21 20 40.7**	**-0.8**
KLY				*i* S	**Sn**	**21 20 53.4**	**-0.5**
KRSR	**Krestovskiy**	**1.03**	**181**	*e*P	**Pn**	**21 20 41.8**	**-1.1**
KRSR				*e*S	**Sn**	**21 20 55.3**	**-1.1**
SRDR	**Sredinnyy**	**1.05**	**208**	*i* P	**Pn**	**21 20 41.3**	**-1.9**
SRDR				*i* S	**Sn**	**21 20 54.2**	**-2.7**
CIRR	**Tsirk**	**1.14**	**176**	*i* P	**Pn**	**21 20 43.9**	**-0.5**
CIRR				*e*S	**Sn**	**21 20 58.8**	**-0.2**
LGNR	**Loginova**	**1.17**	**178**	*i* P	**Pn**	**21 20 44.6**	**-0.2**
LGNR				*e*S	**Sn**	**21 20 59.4**	**-0.4**
ZLN	**Zelenaya**	**1.24**	**175**	*i* P	**Pn**	**21 20 45.6**	**-0.2**
KOZR	**Kozyr**	**1.25**	**199**	PN	**Pn**	**21 20 45.9**	**-0.1**
KOZR				S	**Sn**	**21 21 01.9**	**+0.1**
KOZ	**Kozyrevsk**	**1.26**	**199**	P	**Pn**	**21 20 45.9**	**-0.2**
KOZ				S	**Sn**	**21 21 01.9**	**-0.2**
KOZ	**Kozyrevsk**	**1.26**	**199**	*i* P	**Pn**	**21 20 45.9**	**-0.2**
KOZ				*e*S	**Sn**	**21 21 02.1**	**0.0**
KPT	**Kopyto**	**1.30**	**190**	*e*P	**Pn**	**21 20 46.2**	**-0.5**
KPT				*e*S	**Sn**	**21 21 03.0**	**-0.2**
KMNR	**Kamenistaya**	**1.51**	**188**	*e*P	**Pn**	**21 20 49.5**	**-0.2**
KMNR				*e*S	**Sn**	**21 21 09.1**	**+0.7**
KBTR	**Krutoberegovo**	**1.60**	**130**	P	**Pn**	**21 20 53.2**	**+2.1**
KBTR				S	**Sn**	**21 21 14.5**	**+3.7**
KBTR	**Krutoberegovo**	**1.60**	**130**	*e*P	**Pn**	**21 20 53.2**	**+2.1**
KBTR				*e*S	**Sn**	**21 21 15.2**	**+4.4**
TUMR	**Tumrok**	**1.98**	**188**	*e*P	**Pn**	**21 20 57.1**	**+0.6**
OSSR	**Ossora**	**2.39**	**32**	*e*P	**Pn**	**21 21 02.0**	**-0.4**
OSSR				*e*S	**Sn**	**21 21 30.0**	**-0.9**
OSSR				Smax			
	100nm,0.5s						
GNL	**Ganaly**	**3.87**	**204**	*i* P	**Pn**	**21 21 24.1**	**+0.8**
SDLR	**Sedlovina**	**4.10**	**195**	P	**Pn**	**21 21 28.0**	**+1.4**
KOK	**Koryaka**	**4.12**	**197**	*e*P	**Pn**	**21 21 28.3**	**+1.4**
SMAR	**Somma**	**4.12**	**195**	*e*P	**Pn**	**21 21 28.8**	**+1.8**
AVH	**Avacha**	**4.13**	**196**	*e*P	**Pn**	**21 21 27.8**	**+0.7**
SPN	**Mys Shipunski**	**4.17**	**185**	P	**Pn**	**21 21 28.5**	**+0.9**
SPN				S	**Sn**	**21 22 16.1**	**+0.1**
GRL	**Gorelyy**	**4.93**	**198**	*e*P	**Pn**	**21 21 38.5**	**+0.2**
RUS	**Russkaya**	**4.97**	**195**	P	**Pn**	**21 21 40.5**	**+1.5**
RUS	**Russkaya**	**4.97**	**195**	P	**Pn**	**21 21 41.5**	**+2.5**

*INMG **20** 21:22:36.8±1.2, 42.28N×7.82W, h18km±5km, ML2.0, Error ellipse: s-maj=3.0km s-min=2.4km az=102.0*
MDD 20 21:22:36.5±0.3**, 42.30N**×**7.83W, h12**km±1km**, mbLg2.3**/13**, 2C, Error ellipse: s-maj=3.0km s-min=1.8km az=162.0, PRXIMO, Spain**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ELOB	**Lobios**	**0.46**	**202**	⇑Pg	Pg	21 22 45.2	-0.8
	18nm,0.1s,SNR=18						
ELOB				Lg		21 22 51.4	
	43nm,0.1s,SNR=4.0						
ERUA	**La Rua**	**0.52**	**79**	⇑Pg	Pg	21 22 46.8	-0.3
	21nm,0.2s,SNR=18						
ERUA				Lg		21 22 52.6	
	40nm,0.1s,SNR=19						
EZAM	**Zamans**	**0.66**	**257**	Pg	Pg	21 22 48.7	-1.1
	2.6nm,0.0s,SNR=18						
EZAM				Lg		21 22 56.7	
	11nm,0.1s,SNR=19						
STS	**Santiago**	**0.80**	**318**	Pg	Pg	21 22 51.7	-0.8
	4.0nm,0.1s,SNR=4.0						
STS				Lg		21 23 01.7	
	34nm,0.1s,SNR=30						
ECAL	**Calabor**	**0.89**	**113**	Pg	Pg	21 22 53.0	-1.4
	9.4nm,0.3s,SNR=21						
ECAL				Lg		21 23 04.7	
	52nm,0.2s,SNR=32						
PBRG	**Braganca**	**0.95**	**121**	*e*P	Pb	21 22 53.7	-0.8
PBRG				*e*S	Sb	21 23 06.3	-0.5
	32nm,0.1s						
PBRG	**Braganca**	**0.95**	**121**	P	Pb	21 22 53.7	-0.8
PBRG				S	Sb	21 23 06.3	-0.5
	16nm,0.1s						
PVRL	**Vila Real**	**1.02**	**175**	*e*P	Pb	21 22 55.3	-0.4
PVRL				*e*S	Sb	21 23 08.1	-0.8
	27nm,0.1s						
PVRL	**Vila Real**	**1.02**	**175**	P	Pb	21 22 55.3	-0.4
PVRL				S	Sb	21 23 08.1	-0.8
	14nm,0.1s						
EMAZ	**Mazaricos**	**1.07**	**308**	Pg	Pg	21 22 56.1	-1.9
	3.6nm,0.2s,SNR=21						
EMAZ				Lg		21 23 09.6	
	43nm,0.2s,SNR=32						
EPON	**Pontenova**	**1.15**	**26**	Pg	Pg	21 22 56.1	-3.4
	6.1nm,0.6s,SNR=9.7						
EPON				Lg		21 23 12.8	
	9.2nm,0.1s,SNR=16						
PVIS	**Viseu**	**1.58**	**182**	*e*Sn	Sn	21 23 20.6	-4.5
PVIS				*e*Sg	Sg	21 23 25.3	-3.9
	13nm,0.1s						
PVIS	**Viseu**	**1.58**	**182**	Lg		21 23 25.3	
	6.5nm,0.1s						
EARI	**Arriondas**	**2.17**	**62**	Pn	Pn	21 23 11.7	-1.5
	17nm,1.0s,SNR=8.1						
EARI				Lg		21 23 44.5	
	2.7nm,0.2s,SNR=6.1						
PCBR	**Castelo Branco**	**2.47**	**174**	*e*Sn	Sn	21 23 43.3	-4.4
PCBR				*e*Sg	Sg	21 23 53.1	-5.6
ELAN	**Lanestosa**	**3.37**	**72**	Pn	Pn	21 23 29.0	-1.1
	SNR=4.0						
ELAN				Sn	Sn	21 24 07.0	-3.5
	SNR=4.0						
ELAN				Lg		21 24 22.4	
	1.1nm,0.2s,SNR=4.0						

*IDC **20** 21:38:44.4±5.1, 34.24N×25.02E, h22km±24km, mb3.6/4, mb1 3.7/8, mb1mx3.6/20, ML3.9/4, Error ellipse: s-maj=51.1km s-min=23.6km az=57.0*
*CSEM **20** 21:38:45.1±0.2, 34.19N×25.21E, h40km, MD3.6, Error ellipse: s-maj=6.1km s-min=2.8km az=36.0*
*ATH **20** 21:38:48.6, 34.61N×25.13E, h26km±4km, MD3.6/8*
*NEIC **20** 21:38:48.6, 34.61N×25.13E, h26km, MD3.6(ATH), After ATH.*
ISC 20 21:38:45.5±1.2**, 34.2N**±0.1×**25.21E**±0.08**, h47**km±10km**, n29, σ0ˢ96**/30**, mb3.7**/4**, Crete**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.76**	**32**	*e*PN	**P**	**21 38 59.0**	**-0.9**
NPS	**Neapolis**	**1.08**	**18**	*e*PN	**P**	**21 39 04.2**	**-0.2**
IDI	**Anoyia**	**1.08**	**346**	Pg	**P**	**21 39 03.7**	**-0.8**
	44nm,0.3s,baz=168,slow=17,SNR=487						
IDI				Lg		21 39 18.1	
	126nm,0.3s,baz=297,slow=17,SNR=21						
GVD	**Gavdhos**	**1.10**	**304**	*e*P	**P**	**21 39 04.5**	**-0.2**
GVD	**Gavdhos**	**1.10**	**304**	*e*P	**P**	**21 39 04.6**	**-0.2**
GAVD	**Gavdhos**	**1.11**	**304**	*e*PN	**P**	**21 39 06.2**	**+1.4**
VAM	**Vamos**	**1.44**	**325**	*e*PN	**P**	**21 39 09.4**	**-0.2**
KARP	**Karpathos**	**2.08**	**50**	*e*PN	**P**	**21 39 21.9**	**+3.3**
THR6	**Thira Island,**	**2.12**	**4**	*e*P	**P**	**21 39 20.7**	**+1.5**
SANT	**Santorini**	**2.14**	**5**	*e*P	**P**	**21 39 19.1**	**-0.5**
SANT	**Santorini**	**2.14**	**5**	*e*P	**P**	**21 39 19.1**	**-0.4**
THR1	**Thera Island**	**2.14**	**5**	*e*P	**P**	**21 39 19.5**	**-0.1**
THR3	**Thira Island,**	**2.18**	**4**	*e*P	**P**	**21 39 20.4**	**+0.4**
THR5	**Thira Island,**	**2.18**	**3**	*e*P	**P**	**21 39 20.6**	**+0.5**
KYTH	**Kithira**	**2.71**	**320**	*e*PB	**P**	**21 39 29.1**	**+1.5**
APE	**Apeiranthos**	**2.84**	**5**	*e*PN	**P**	**21 39 29.3**	**-0.2**
VLI	**Veliai**	**3.10**	**324**	*e*PN	**P**	**21 39 32.4**	**-0.7**
LKD	**Levkas**	**5.78**	**322**	*e*P	**P**	**21 40 09.7**	**-1.1**
SRN	**Sarande**	**7.00**	**325**	*e*Pn	**P**	**21 40 25.7**	**-2.3**
BRTR	**Keskin Array B**	**8.69**	**48**	Pn	**P**	**21 40 51.5**	**+0.2**
	0.1nm,0.3s,baz=324,slow=26,SNR=3.4						
BRTR	**Keskin Array B**	**8.69**	**48**	Pn	**P**	**21 40 51.5**	**+0.1**
EIL	**Elat**	**9.45**	**116**	Pn	**P**	**21 41 01.3**	**-0.5**
	0.7nm,0.3s,baz=343,slow=24,SNR=9.4						
EIL				Sn	**S**	**21 42 39.6**	**-8.1**
	0.5nm,0.3s,baz=357,slow=14,SNR=3.7						
AKASG	**Malin Array Be**	**16.72**	**9**	Pn	**P**	**21 42 37.6**	**-0.1**
	0.9nm,0.3s,baz=200,slow=10,SNR=13						
GERES	**GERESS Array B**	**16.92**	**333**	Pn	**P**	**21 42 41.9**	**+1.7**
	0.4nm,0.3s,baz=146,slow=12,SNR=19						
FINES	**FINESS Array B**	**27.23**	**1**	P	**P**	**21 44 26.4**	**-0.4**
	0.5nm,0.6s,mb3.3,baz=166,slow=12,SNR=2.9						
ARCES	**ARCESS Array B**	**35.36**	**0**	P	**P**	**21 45 36.9**	**-1.1**
	0.5nm,0.6s,mb3.6,baz=186,slow=9.1,SNR=4.9						
ARCES	**ARCESS Array B**	**35.36**	**0**	P	**P**	**21 45 36.9**	**-1.1**
ZAL	**Zalesovo**	**45.61**	**46**	P	**P**	**21 47 02.6**	**0.0**
	1.0nm,0.4s,mb4.1,baz=209,slow=5.8,SNR=4.6						
SONM	**Songino Array**	**60.05**	**50**	P	**P**	**21 48 50.8**	**+1.0**
	0.4nm,0.5s,mb3.7,baz=288,slow=7.2,SNR=5.7						

*IDC **20** 21:45:44.6±1.8, 36.93S×177.72E, h140km±11km, mb4.1/9, mb1 4.3/11, mb1mx4.2/16, Error ellipse: s-maj=28.1km s-min=13.1km az=53.0*
*NEIC **20** 21:45:47.8, 37.09S×177.46E, h151km, mb4.5/10, After WEL.*
*WEL **20** 21:45:49.0±0.4, 37.14S×177.41E, h144km±3km, ML4.9/12, Error ellipse: s-maj=2.4km s-min=2.3km az=90.0*
ISC 20 21:45:46.6±0.6**, 37.18S**±0.05×**177.49E**±0.07**, h165**km±3km**, n158, σ0ˢ79**/110**, mb4.4**/16**, 26C-20D, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.43**	**214**	⇑P	**P**	**21 46 08.9**	**-0.8**
WIZ	**White Island**	**0.43**	**214**	⇑PN	**P**	**21 46 08.9**	**-0.8**
MXZ	**Matakaoa Point**	**0.76**	**121**	⇑P	**P**	**21 46 11.7**	**+0.4**
MXZ				S	**S**	**21 46 29.6**	**-0.7**
MXZ	**Matakaoa Point**	**0.76**	**121**	⇑PN	**P**	**21 46 11.7**	**+0.4**
MXZ				SN	**S**	**21 46 29.6**	**-0.8**
MYRZ	**Mayor Island**	**1.00**	**264**	⇓PN	**P**	**21 46 12.7**	**-0.2**
MARZ	**Manawahe**	**1.04**	**219**	⇑PN	**P**	**21 46 13.5**	**+0.3**
PUZ	**Puketiti**	**1.08**	**146**	⇑P	**P**	**21 46 14.6**	**+1.0**
PUZ				S	**S**	**21 46 34.1**	**-0.4**
PUZ	**Puketiti**	**1.08**	**146**	⇑PN	**P**	**21 46 14.6**	**+1.0**
PUZ				SN	**S**	**21 46 34.1**	**-0.4**
EDRZ	**Edgecumbe**	**1.11**	**213**	⇓P	**P**	**21 46 14.3**	**+0.5**
EDRZ	**Edgecumbe**	**1.11**	**213**	⇓PN	**P**	**21 46 14.3**	**+0.4**
URZ	**Urewera**	**1.12**	**196**	P	**P**	**21 46 14.0**	**0.0**
	749nm,0.3s,baz=299,slow=2.9,SNR=4392						
URZ				S	**S**	**21 46 33.5**	**-1.7**
	362nm,0.3s,baz=141,slow=4.3,SNR=26						
URZ	**Urewera**	**1.12**	**196**	⇑P	**P**	**21 46 14.3**	**+0.3**
URZ	**Urewera**	**1.12**	**196**	⇑PN	**P**	**21 46 14.2**	**+0.3**
URZ				SN	**S**	**21 46 33.5**	**-1.6**
MWZ	**Matawai**	**1.16**	**179**	⇑P	**P**	**21 46 14.9**	**+0.6**
MWZ	**Matawai**	**1.16**	**179**	⇑PN	**P**	**21 46 14.9**	**+0.6**
MWZ				SN	**S**	**21 46 35.2**	**-0.5**
LIRZ	**Lichensteins R**	**1.21**	**226**	P	**P**	**21 46 15.2**	**+0.4**
LIRZ	**Lichensteins R**	**1.21**	**226**	PN	**P**	**21 46 15.2**	**+0.5**
TAZ	**Tarawera**	**1.31**	**216**	P	**P**	**21 46 16.4**	**+0.6**
TAZ	**Tarawera**	**1.31**	**216**	PN	**P**	**21 46 16.4**	**+0.6**
UTU	**Utuhina**	**1.44**	**225**	PN	**P**	**21 46 17.6**	**+0.7**
KUZ	**Kuaotunu**	**1.48**	**286**	⇓P	**P**	**21 46 16.5**	**-0.9**
KUZ	**Kuaotunu**	**1.48**	**286**	⇓PN	**P**	**21 46 16.5**	**-0.9**
PATZ	**Paeroa**	**1.55**	**219**	⇑P	**P**	**21 46 19.0**	**+0.9**
PATZ	**Paeroa**	**1.55**	**219**	⇑PN	**P**	**21 46 19.1**	**+0.9**
TOZ	**Tahuroa Road**	**1.68**	**250**	⇑P	**P**	**21 46 19.8**	**+0.4**
TOZ	**Tahuroa Road**	**1.68**	**250**	⇑PN	**P**	**21 46 19.8**	**+0.3**
KNZ	**Kokohu**	**1.85**	**176**	⇑P	**P**	**21 46 21.8**	**+0.6**
KNZ	**Kokohu**	**1.85**	**176**	⇑PN	**P**	**21 46 21.8**	**+0.6**
KNZ				SN	**S**	**21 46 47.2**	**-0.8**
MKAZ	**Moumakai**	**1.86**	**271**	⇓P	**P**	**21 46 21.6**	**+0.2**
MKAZ	**Moumakai**	**1.86**	**271**	⇓PN	**P**	**21 46 21.6**	**+0.2**
OTAZ	**Otara**	**2.07**	**275**	⇓P	**P**	**21 46 24.1**	**+0.4**
OTAZ	**Otara**	**2.07**	**275**	⇓PN	**P**	**21 46 24.1**	**+0.5**
MTAZ	**Motutapu**	**2.10**	**280**	⇓P	**P**	**21 46 24.3**	**+0.2**
MTAZ	**Motutapu**	**2.10**	**280**	⇓PN	**P**	**21 46 24.3**	**+0.2**
BKZ	**Black Stump Fm**	**2.14**	**201**	P	**P**	**21 46 24.2**	**-0.4**
BKZ	**Black Stump Fm**	**2.14**	**201**	PN	**P**	**21 46 24.2**	**-0.4**
RATZ	**Rangitukua**	**2.17**	**218**	P	**P**	**21 46 25.8**	**+0.9**
RATZ	**Rangitukua**	**2.17**	**218**	PN	**P**	**21 46 25.8**	**+0.9**
KAAZ	**Kauri Point**	**2.26**	**278**	P	**P**	**21 46 26.3**	**+0.3**
KAAZ	**Kauri Point**	**2.26**	**278**	PN	**P**	**21 46 26.3**	**+0.3**
KATZ	**Kakaramea**	**2.29**	**218**	P	**P**	**21 46 26.7**	**+0.3**
KATZ	**Kakaramea**	**2.29**	**218**	*e*PN	**P**	**21 46 26.7**	**+0.3**
WTAZ	**Waiatarua**	**2.35**	**275**	⇓P	**P**	**21 46 27.4**	**+0.3**
WTAZ	**Waiatarua**	**2.35**	**275**	⇓PN	**P**	**21 46 27.4**	**+0.3**
MGZ	**Maungaku**	**2.39**	**220**	P	**P**	**21 46 28.1**	**+0.5**
MGZ	**Maungaku**	**2.39**	**220**	*e*PN	**P**	**21 46 28.1**	**+0.5**
KAVZ	**Karewarewa**	**2.41**	**217**	*e*P	**P**	**21 46 28.1**	**+0.3**
KAVZ	**Karewarewa**	**2.41**	**217**	*e*PN	**P**	**21 46 27.9**	**0.0**
WTVZ	**West Tongariro**	**2.45**	**217**	*e*PN	**P**	**21 46 28.5**	**+0.2**
HIZ	**Hauiti**	**2.48**	**237**	⇑P	**P**	**21 46 29.6**	**+0.9**
HIZ	**Hauiti**	**2.48**	**237**	⇓PN	**P**	**21 46 29.6**	**+0.9**
TWVZ	**Taurewa**	**2.49**	**220**	P	**P**	**21 46 29.1**	**+0.2**
TWVZ	**Taurewa**	**2.49**	**220**	PN	**P**	**21 46 29.1**	**+0.2**
NGZ	**Ngauruhoe**	**2.49**	**216**	P	**P**	**21 46 29.2**	**+0.3**
NGZ	**Ngauruhoe**	**2.49**	**216**	PN	**P**	**21 46 29.2**	**+0.3**
CNZ	**Chateau**	**2.54**	**217**	PN	**P**	**21 46 29.5**	**+0.1**
WPVZ	**Whakapapa**	**2.54**	**217**	PN	**P**	**21 46 30.4**	**+1.0**
TUVZ	**Tukino**	**2.54**	**214**	PN	**P**	**21 46 29.4**	**-0.1**
MOVZ	**Moawhango**	**2.62**	**211**	PN	**P**	**21 46 29.5**	**-0.9**
MOVZ				SN	**S**	**21 47 00.8**	**-3.2**
WNVZ	**Wahianoa**	**2.62**	**214**	P	**P**	**21 46 30.1**	**-0.3**
WNVZ	**Wahianoa**	**2.62**	**214**	PN	**P**	**21 46 30.1**	**-0.3**
WCZ	**Waipu Caves**	**2.82**	**295**	⇓P	**P**	**21 46 32.1**	**-0.8**
WCZ	**Waipu Caves**	**2.82**	**295**	⇓PN	**P**	**21 46 32.0**	**-0.9**
PWZ	**Pawanui**	**2.89**	**190**	*e*P	**P**	**21 46 32.8**	**-1.0**
PWZ	**Pawanui**	**2.89**	**190**	PN	**P**	**21 46 32.8**	**-1.0**
VRZ	**Vera Road**	**2.91**	**227**	*e*P	**P**	**21 46 35.2**	**+1.2**
VRZ	**Vera Road**	**2.91**	**227**	PN	**P**	**21 46 35.2**	**+1.2**
TSZ	**Takapari Road**	**3.12**	**202**	⇓P	**P**	**21 46 35.4**	**-1.3**
TSZ	**Takapari Road**	**3.12**	**202**	⇓PN	**P**	**21 46 35.4**	**-1.3**
WAZ	**Wanganui**	**3.24**	**217**	P	**P**	**21 46 37.9**	**-0.3**
WAZ	**Wanganui**	**3.24**	**217**	*e*PN	**P**	**21 46 37.5**	**-0.7**
BFZ	**Birch Farm**	**3.63**	**195**	PN	Px	21 46 41.5	
OUZ	**Omahuta**	**3.71**	**301**	*e*P	Px	21 46 43.2	
OUZ	**Omahuta**	**3.71**	**301**	⇓PN	Px	21 46 43.2	
MRZ	**Mangatainoka R**	**3.79**	**203**	⇑P	Px	21 46 42.9	
MRZ	**Mangatainoka R**	**3.79**	**203**	⇑PN	Px	21 46 42.9	
KIW	**Kapiti Island**	**4.20**	**208**	P	Px	21 46 47.8	
KIW	**Kapiti Island**	**4.20**	**208**	PN	Px	21 46 47.7	
KIW				*e*SN	Sx	21 47 34.6	
MTW	**Mount Morrison**	**4.27**	**201**	P	Px	21 46 48.3	
MTW	**Mount Morrison**	**4.27**	**201**	PN	Px	21 46 48.3	
MTW				SN	Sx	21 47 36.6	
CAW	**Cannon Point**	**4.36**	**205**	P	Px	21 46 49.5	
CAW	**Cannon Point**	**4.36**	**205**	PN	Px	21 46 49.5	
CAW				*e*SN	Sx	21 47 37.1	
PAWZ	**Paruwai Farm**	**4.50**	**200**	PN	Px	21 46 51.3	
PAWZ				SN	Sx	21 47 41.2	
MSWZ	**Moikau Station**	**4.58**	**202**	P	Px	21 46 51.9	
MSWZ	**Moikau Station**	**4.58**	**202**	PN	Px	21 46 51.9	
MRW	**Makara Radio**	**4.59**	**207**	PN	Px	21 46 52.1	
MRW				*e*SN	Sx	21 47 43.1	
WEL	**Wellington**	**4.62**	**206**	P	Px	21 46 52.7	
WEL	**Wellington**	**4.62**	**206**	PN	Px	21 46 52.7	
BHW	**Baring Head**	**4.69**	**205**	P	Px	21 46 53.5	
BHW	**Baring Head**	**4.69**	**205**	PN	Px	21 46 53.5	
TUWZ	**Tuamarina**	**5.06**	**212**	*e*PN	Px	21 46 58.1	
NNZ	**Nelson**	**5.15**	**217**	P	Px	21 46 59.0	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NNZ	Nelson	5.15	217	PN	Px	21 46 59.0	
NNZ				SN	Sx	21 47 57.1	
QRZ	Quartz Range	5.31	225	eP	Px	21 47 01.5	
QRZ	Quartz Range	5.31	225	ePN	Px	21 47 01.4	
BSWZ	Blackbirch Sta	5.33	211	ePN	Px	21 47 01.6	
BSWZ				SN	Sx	21 48 00.7	
THZ	Tophouse	5.79	216	PN	Px	21 47 07.5	
KHZ	Kahutara	6.05	209	PN	Px	21 47 10.5	
DSZ	Denniston Nort	6.34	222	ePN	Px	21 47 13.9	
LTZ	Lake Taylor	6.89	214	ePN	Px	21 47 21.5	
CRLZ	Canterbury Las	7.39	209	SN	Px	21 48 45.9	
MQZ	McQueen's Vall	7.50	208	ePN	Px	21 47 28.2	
WVZ	Waitaha Valley	7.84	219	eP	Px	21 47 35.1	
WVZ	Waitaha Valley	7.84	219	ePN	Px	21 47 34.3	
RPZ	Rata Peaks	8.17	215	P	Px	21 47 39.2	
	5.1nm,0.3s,baz=42,slow=4.7,SNR=14						
RPZ				S	Sx	21 49 04.0	
	17nm,0.3s,baz=6.6,slow=16,SNR=12						
RPZ	Rata Peaks	8.17	215	ePN	Px	21 47 37.3	
FOZ	Fox Glacier	8.73	221	ePN	Px	21 47 44.9	
LBZ	Lake Benmore	9.09	215	ePN	Px	21 47 49.6	
ODZ	Otahua Downs	9.40	211	ePN	Px	21 47 54.2	
JCZ	Jackson Bay	9.56	221	ePN	Px	21 47 55.7	
JCZ				SN	Sx	21 49 35.4	
WKZ	Wanaka	9.97	217	ePN	Px	21 48 01.1	
WKZ				SN	Sx	21 49 45.5	
MSZ	Milford Sound	10.41	221	ePN	Px	21 48 09.6	
TOO	**Toolangi**	**25.37**	**259**	eP	**P**	**21 51 00.8**	**+0.8**
	3.2nm,0.5s,mb4.1						
STKA	**Stephens Creek**	**29.93**	**269**	eP	**P**	**21 51 41.5**	**+0.3**
	7.3nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**29.93**	**269**	P	**P**	**21 51 41.6**	**+0.4**
	8.8nm,0.7s,mb4.6,baz=101,slow=9.7,SNR=19						
CTA	**Charters Tower**	**32.08**	**293**	eP	**P**	**21 52 00.4**	**+0.3**
	11nm,0.9s,mb4.6						
CTA	**Charters Tower**	**32.08**	**293**	P	**P**	**21 52 00.5**	**+0.4**
	12nm,0.7s,mb4.8,baz=120,slow=9.7,SNR=17						
CTAO	**Charters Tower**	**32.08**	**293**	eP	**P**	**21 52 00.4**	**+0.3**
	19nm,0.9s,mb4.8						
PMG	**Port Moresby**	**38.93**	**308**	P	**P**	**21 52 57.6**	**-0.4**
	14nm,0.7s,mb4.7,baz=95,slow=4.5,SNR=9.0						
PMG	**Port Moresby**	**38.93**	**308**	eP	**P**	**21 52 57.6**	**-0.4**
ASAR	**Alice Springs**	**39.59**	**277**	P	**P**	**21 53 03.1**	**-0.2**
	12nm,0.6s,mb4.7,baz=121,slow=8.3,SNR=137						
ASPA	**Alice Springs**	**39.59**	**277**	eP	**P**	**21 53 02.9**	**-0.5**
VNDA	**Vanda**	**41.01**	**185**	P	**P**	**21 53 17.2**	**+2.8**
	1.0nm,0.6s,mb3.6,baz=1.3,slow=8.0,SNR=8.1						
VNDA				PcP	PcP	21 55 11.8	0.0
	0.7nm,0.7s,baz=328,slow=2.6,SNR=3.9						
FORT	**Forrest**	**41.11**	**264**	eP	**P**	**21 53 15.3**	**-0.5**
	43nm,0.3s						
WB2	**Warramunga Arr**	**41.21**	**282**	eP	**P**	**21 53 16.3**	**-0.4**
WRAB	**Tennant Creek**	**41.22**	**282**	eP	**P**	**21 53 16.1**	**-0.6**
	13nm,0.7s,mb4.7						
WRA	**Warramunga Arr**	**41.22**	**282**	P	**P**	**21 53 16.3**	**-0.4**
	8.7nm,0.6s,mb4.5,baz=122,slow=7.5,SNR=38						
KAKA	**Kakadu**	**47.02**	**289**	eP	**P**	**21 54 07.3**	**+4.1**
	5.3nm,0.5s,mb4.4						
FITZ	**Fitzroy Crossi**	**49.08**	**278**	eP	**P**	**21 54 18.3**	**-0.7**
	4.3nm,0.8s,mb4.1						
FITZ	**Fitzroy Crossi**	**49.08**	**278**	P	**P**	**21 54 18.4**	**-0.6**
	4.5nm,0.6s,mb4.2,baz=169,slow=11,SNR=22						
MUN	**Mundaring**	**49.97**	**257**	eP	**P**	**21 54 24.6**	**-1.0**
	12nm,1.2s,mb4.4						
MBWA	**Marble Bar**	**52.15**	**271**	eP	**P**	**21 54 39.9**	**-2.3**
	5.5nm,0.7s,mb4.3						
QSPA	**South Pole Qui**	**52.95**	**180**	eP	**P**	**21 54 52.2**	**+4.8**
	11nm,0.7s,mb4.7						
MAW	**Mawson**	**64.65**	**203**	P	**P**	**21 56 07.9**	**-0.3**
	2.4nm,0.4s,mb4.3,baz=129,slow=7.0,SNR=12						
SYO	**Syowa Base**	**69.65**	**195**	⇓P	**P**	**21 56 39.0**	**-0.4**
SYO	**Syowa Base**	**69.65**	**195**	⇑P	**P**	**21 56 47.7**	**+8.3**
SYO	**Syowa Base**	**69.65**	**195**	⇑P	PcP	21 56 55.6	-5.7
SNAA	**Sanae**	**71.45**	**180**	⇑i	**P**	**21 56 50.8**	**+0.6**
SNAA	**Sanae**	**71.45**	**180**	P	**P**	**21 56 51.3**	**+1.1**
	0.7nm,0.4s,mb3.8,baz=174,slow=8.7,SNR=30						
VNA3	**Neumayer Olymp**	**71.76**	**178**	⇑i	**P**	**21 56 56.1**	**+4.1**
VNA2	**Neumayer--Watz**	**72.15**	**178**	⇑i	**P**	**21 56 58.7**	**+4.4**
VNA1	**Neumayer--Stat**	**72.40**	**178**	⇑i	**P**	**21 57 00.4**	**+4.6**
CMAR	**Chiang Mai Arr**	**92.22**	**291**	P	**P**	**21 58 39.6**	**+0.6**
	1.0nm,0.7s,mb3.9,baz=146,slow=3.4,SNR=8.3						
ILAR	**Eielson Array**	**105.39**	**15**	PKiKP		22 03 49.0	
	0.3nm,0.7s,baz=281,slow=2.6,SNR=4.5						
ZRNK	**Zerenda**	**129.22**	**312**	eP	PKPdf	22 04 34.7	-0.1
KEV	**Kevo**	**143.71**	**343**	epkp	PKPdf	22 04 57.5	-3.1
ARCES	**ARCESS Array B**	**144.22**	**344**	PKP	PKPdf	22 05 00.6	-0.9
	8.7nm,0.5s,baz=42,slow=3.1,SNR=86						
JOF	**Joensuu**	**147.00**	**332**	epkp	PKPdf	22 05 07.9	+1.6
	5.0nm,0.4s						
LIC	**Lamto**	**149.11**	**175**	ePKIKP	PKPdf	22 05 17.3	+6.0
	46nm,0.7s						
KIC	**Kosan Boka**	**149.26**	**176**	ePKIKP	PKPdf	22 05 17.7	+6.2
	221nm,1.4s						
KAF	**Kangasniemi**	**149.33**	**334**	epkp	PKPdf	22 05 14.2	+4.1
	3.3nm,0.5s,baz=47,slow=2.5						
TIC	**Toumodi**	**149.53**	**175**	ePKIKP	PKPdf	22 05 17.9	+6.0
	25nm,0.5s						
DBIC	**Dimbokro**	**149.56**	**175**	PKPbc	PKPdf	22 05 18.5	+6.5
	11nm,0.8s,baz=155,slow=2.3,SNR=16						
DBIC				PKPab	PKPab	22 05 23.8	-0.8
	4.9nm,0.6s,baz=110,slow=4.2,SNR=5.3						
FINES	**FINESS Array B**	**149.85**	**333**	PKPbc	PKPdf	22 05 16.1	+5.1
	5.3nm,0.8s,baz=40,slow=4.3,SNR=34						
FINES				PKPab	PKPab	22 05 22.3	-2.0
	3.5nm,0.4s,baz=56,slow=5.0,SNR=24						
BRTR	**Keskin Array B**	**151.69**	**286**	PKPbc	PKPdf	22 05 21.1	+6.6
	2.4nm,0.5s,baz=143,slow=3.9,SNR=14						
AKASG	**Malin Array Be**	**153.68**	**311**	PKPbc	PKPdf	22 05 24.8	+7.9
	2.5nm,0.9s,baz=56,slow=2.5,SNR=6.3						
AKASG				PKPab	PKPab	22 05 39.1	-1.6
	7.0nm,1.1s,baz=56,slow=4.0,SNR=11						
CLL	**Collm**	**162.08**	**327**	ePKP2	PKPab	22 06 16.0	-0.8
GERES	**GERESS Array B**	**163.41**	**320**	PKPab	PKPab	22 06 21.7	-1.0
	0.4nm,0.7s,baz=56,slow=4.8,SNR=7.2						

IDC 20 21:54:07.3±2.7**, 3.79S**×**138.44E, mb3.4**/2**, mb1 3.8**/3**, mb1mx3.5**/10**, ML3.7**/1**, Error ellipse: s-maj=388.0km s-min=33.9km az=106.0, Irian Jaya**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.55**	**194**	Pn	P	21 58 01.4	-1.2
	0.3nm,0.3s,baz=13,slow=13,SNR=18						
ASAR	**Alice Springs**	**20.25**	**192**	P	P	21 58 44.1	-3.0
	0.6nm,0.4s,baz=17,slow=9.5,SNR=5.1						
ILAR	**Eielson Array**	**86.92**	**24**	P	P	22 06 54.0	-1.1
	0.3nm,1.1s,baz=244,slow=6.8,SNR=4.4						

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*NEIC **20** 21:56:43.3, 37.43S×177.87E, h95^{km}, ML4.0(WEL), After WEL.*

WEL 20 21:56:43.5±0.2**, 37.44S**×**177.85E, h93**^{km}±2^{km}**, ML3.9**/8**, 5C-5D, Error ellipse: s-maj=1.7km s-min=1.4km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.38**	**109**	⇑P	P	21 56 57.6	-0.2
MXZ				S	S	21 57 08.3	-0.3
MXZ	**Matakaoa Point**	**0.38**	**109**	⇑P*	P	21 56 57.6	-0.2
MXZ				S*	S	21 57 08.3	-0.3
WIZ	**White Island**	**0.53**	**261**	P*	P	21 56 58.3	-0.7
PUZ	**Puketiti**	**0.71**	**153**	⇑P	P	21 57 00.2	-0.4
PUZ				S	S	21 57 13.2	0.0
PUZ	**Puketiti**	**0.71**	**153**	⇑PN	P	21 57 00.2	-0.4
PUZ				SN	S	21 57 13.2	-0.1
MWZ	**Matawai**	**0.93**	**196**	P	P	21 57 02.7	-0.1
MWZ	**Matawai**	**0.93**	**196**	P*	P	21 57 02.7	-0.1
MWZ				S*	S	21 57 17.3	0.0
URZ	**Urewera**	**1.00**	**215**	⇓P	P	21 57 03.3	-0.4
URZ	**Urewera**	**1.00**	**215**	⇓P*	P	21 57 03.3	-0.4
URZ				S*	S	21 57 18.1	-0.8
MARZ	**Manawahe**	**1.08**	**239**	P*	P	21 57 04.1	-0.5
EDRZ	**Edgecumbe**	**1.10**	**233**	P	P	21 57 04.7	-0.2
EDRZ	**Edgecumbe**	**1.10**	**233**	P*	P	21 57 04.7	-0.3
MYRZ	**Mayor Island**	**1.29**	**277**	P*	P	21 57 07.1	-0.2
TAZ	**Tarawera**	**1.32**	**233**	P	P	21 57 08.0	+0.3
TAZ	**Tarawera**	**1.32**	**233**	P*	P	21 57 08.0	+0.4
PATZ	**Paeroa**	**1.57**	**233**	P*	P	21 57 10.9	+0.2
KNZ	**Kokohu**	**1.58**	**185**	P	P	21 57 10.1	-0.8
KNZ	**Kokohu**	**1.58**	**185**	PN	P	21 57 10.1	-0.8
KNZ				SN	S	21 57 30.6	-0.6
KUZ	**Kuaotunu**	**1.84**	**292**	⇓P	P	21 57 13.9	-0.3
KUZ	**Kuaotunu**	**1.84**	**292**	⇓PN	P	21 57 13.9	-0.3
BKZ	**Black Stump Fm**	**2.03**	**211**	⇑P	P	21 57 16.1	-0.6
BKZ	**Black Stump Fm**	**2.03**	**211**	⇓PN	P	21 57 16.1	-0.6
MGZ	**Maungaku**	**2.40**	**229**	P	P	21 57 21.8	0.0
MGZ	**Maungaku**	**2.40**	**229**	PN	P	21 57 21.8	0.0
KAVZ	**Karewarewa**	**2.40**	**226**	PN	P	21 57 21.2	-0.6
WTVZ	**West Tongariro**	**2.44**	**226**	P	P	21 57 22.3	-0.2
WTVZ	**West Tongariro**	**2.44**	**226**	PN	P	21 57 22.3	-0.2
NGZ	**Ngauruhoe**	**2.48**	**225**	P	P	21 57 22.5	-0.4
NGZ	**Ngauruhoe**	**2.48**	**225**	PN	P	21 57 22.6	-0.4
TUVZ	**Tukino**	**2.51**	**223**	P	P	21 57 22.5	-0.9
TUVZ	**Tukino**	**2.51**	**223**	ePN	P	21 57 21.7	-1.7
CNZ	**Chateau**	**2.52**	**225**	P	P	21 57 23.2	-0.4
CNZ	**Chateau**	**2.52**	**225**	PN	P	21 57 23.2	-0.3
WPVZ	**Whakapapa**	**2.53**	**225**	P	P	21 57 23.4	-0.2
WPVZ	**Whakapapa**	**2.53**	**225**	PN	P	21 57 23.3	-0.3
MOVZ	**Moawhango**	**2.56**	**219**	P	P	21 57 22.6	-1.5
MOVZ	**Moawhango**	**2.56**	**219**	PN	P	21 57 22.6	-1.5
WNVZ	**Wahianoa**	**2.58**	**223**	P	P	21 57 23.5	-0.9
WNVZ	**Wahianoa**	**2.58**	**223**	PN	P	21 57 23.5	-0.9
PWZ	**Pawanui**	**2.70**	**196**	P	P	21 57 23.1	-2.9
PWZ	**Pawanui**	**2.70**	**196**	PN	P	21 57 23.1	-2.9
PWZ				SN	S	21 57 55.2	-2.5
VRZ	**Vera Road**	**2.96**	**234**	P	P	21 57 29.6	0.0
VRZ	**Vera Road**	**2.96**	**234**	PN	P	21 57 29.6	0.0
TSZ	**Takapari Road**	**3.00**	**209**	P	P	21 57 27.1	-3.1
TSZ	**Takapari Road**	**3.00**	**209**	PN	P	21 57 27.1	-3.2
TSZ				SN	S	21 58 01.6	-3.7
WAZ	**Wanganui**	**3.22**	**223**	ePN	P	21 57 31.7	-1.5
MRZ	**Mangatainoka R**	**3.67**	**208**	P	P	21 57 35.2	-4.2
MRZ	**Mangatainoka R**	**3.67**	**208**	PN	P	21 57 35.2	-4.2
KIW	**Kapiti Island**	**4.11**	**213**	P	P	21 57 40.9	-4.5
KIW	**Kapiti Island**	**4.11**	**213**	PN	P	21 57 40.9	-4.5
MTW	**Mount Morrison**	**4.13**	**205**	P	P	21 57 40.6	-5.2
MTW	**Mount Morrison**	**4.13**	**205**	PN	P	21 57 40.6	-5.2
CAW	**Cannon Point**	**4.25**	**210**	P	P	21 57 42.4	-5.0
CAW	**Cannon Point**	**4.25**	**210**	ePN	P	21 57 42.3	-5.0
TUWZ	**Tuamarina**	**5.00**	**216**	PN	P	21 57 51.9	-5.7
THZ	**Tophouse**	**5.76**	**220**	PN	P	21 58 02.4	-5.6
KHZ	**Kahutara**	**5.97**	**212**	SN	S	21 59 08.1	-11
MQZ	**McQueen's Vall**	**7.40**	**211**	SN	S	21 59 41.0	-13

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*HEL **20** 22:08:11.3±0.5, 67.13N×20.61E, ML1.9, ML1.5(UPP), ML1.8(BER), Explosion*
*IDC **20** 22:08:13.8±1.0, 67.29N×20.90E, mb1 3.1/4, mb1mx3.0/19, ML2.5/4, Error ellipse: s-maj=17.4km s-min=7.7km az=112.0*
*BER **20** 22:08:18.3±2.5, 67.35N×20.23E, ML1.6, Suspected explosion*

ISC 20 22:08:11.0±0.5**, 67.21N**±0.03×**20.5E**±0.1**, n21, σ1^{s}27**/25**, Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.09**	**161**	i P	**Pg**	**22 08 11.8**	**-1.1**
MASU	**Masugnsbyn**	**0.64**	**66**	i P	**Pg**	**22 08 21.7**	**-2.0**
KUA	**Kurravaara**	**0.75**	**356**	i P	**Pg**	**22 08 25.5**	**-0.6**
NIKU	**Nikkaluokta**	**0.87**	**321**	eP	**Pg**	**22 08 27.5**	**-0.8**
ERTU	**Ertsjaerv**	**0.94**	**134**	i P	**Pg**	**22 08 25.7**	**-4.0**
PAJU	**Pajala**	**1.04**	**99**	eP	**Pb**	**22 08 27.8**	**-3.8**
KIF	**Kilpisjarvi**	**1.81**	**4**	eP	**Pn**	**22 08 44.8**	**+1.0**
KIF				eS	**Sn**	**22 09 06.7**	**-1.0**
KTK1	**Kautokeino**	**2.08**	**28**	eP	**Pn**	**22 08 51.8**	**+4.1**
KTK1				eSG	**Sg**	**22 09 20.6**	**+0.1**
KTK1				AML	AML	22 09 23.7	
	comp=Z,13nm,0.6s						
SGF	**Sodankyl**	**2.35**	**81**	eP	**Pn**	**22 08 53.0**	**+1.6**
SGF				MSG		22 09 27.9	
	comp=Z,6.7nm,0.2s						
TRO	**Tromso**	**2.50**	**347**	eP	**Pn**	**22 08 59.3**	**+5.7**
TRO				eSg	**Sg**	**22 09 34.2**	**-0.3**
TRO				AML	AML	22 09 40.5	
	comp=Z,3.5nm,0.5s						
MOR8	**Moi Rana**	**2.62**	**249**	e	**Pn**	**22 09 01.8**	**+6.5**
MOR8				AML	AML	22 09 38.0	
	comp=Z,11nm,0.6s						
MELS	**Mels**	**2.68**	**266**	ePg	**Pg**	**22 09 06.2**	**+1.7**
ARCES	**ARCESS Array B**	**2.99**	**36**	Pn	**Pn**	**22 09 01.5**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=211,slow=14,SNR=18						
ARCES				Pg	**Pg**	**22 09 06.8**	**-3.8**
	comp=Z,0.7nm,0.3s,baz=212,slow=14,SNR=20						
ARCES				Lg		22 09 41.1	
	comp=Z,2.1nm,0.3s,baz=219,slow=23,SNR=18						
OUL	**Oulu**	**3.06**	**132**	MSG		22 09 51.2	
	comp=Z,2.5nm,0.2s						
KEV	**Kevo**	**3.51**	**40**	eP	**Pn**	**22 09 08.2**	**+0.2**
KEV				MSG		22 10 07.1	
	comp=Z,3.9nm,0.3s						
MSF	**Maaselka**	**3.66**	**107**	eP	**Pn**	**22 09 12.2**	**+2.1**
MSF				MSG		22 10 08.4	
	comp=Z,2.0nm,0.2s						
NSS	**Namsos**	**4.41**	**236**	e	**Sg**	**22 10 34.4**	**-3.5**
NSS	**Namsos**	**4.41**	**236**	eSg	**Sg**	**22 10 34.4**	**-3.5**
FINES	**FINESS Array B**	**6.27**	**155**	Pn	**Pn**	**22 09 48.5**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=349,slow=15,SNR=8.1						
FINES				Sn	**Sn**	**22 10 59.0**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=352,slow=24,SNR=3.4						
FINES				Lg		22 11 30.4	
	comp=Z,0.3nm,0.3s,baz=345,slow=27,SNR=3.3						
NOA	**NORSAR Array B**	**7.39**	**218**	Pn	**Pn**	**22 10 03.1**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=320,slow=18,SNR=2.5						
HFS	**Hagfors**	**7.71**	**206**	Pn	**Pn**	**22 10 07.0**	**-0.3**
	comp=Z,0.0nm,0.3s,baz=18,slow=14,SNR=3.7						

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*NEIC **20** 22:10:55.3±7.6, 42.53N×138.29E, h229^{km}±29^{km}, mb3.9/4, Error ellipse: s-maj=128.6km s-min=13.8km az=171.0*
*IDC **20** 22:10:57.4±5.5, 42.74N×138.16E, h237^{km}±19^{km}, mb3.4/6, mb1 3.6/8, mb1mx3.3/23, Error ellipse: s-maj=146.0km s-min=19.1km az=170.0*
*JMA **20** 22:10:57.4±0.2, 42.56N×138.28E, h255^{km}±2^{km}, M3.4*

ISC 20 22:10:56.8±0.3**, 42.53N**±0.04×**138.43E**±0.08**, h265**^{km}±6^{km}**, n44, σ0^{s}90**/56**, mb3.9**/15**, Eastern Sea of Japan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JOSM	**Okushiri--Mats**	**0.89**	**119**	P	**P**	**22 11 33.0**	**-0.1**
JOSM				eS	**S**	**22 12 00.5**	**-0.9**
JSH	**Shimam**	**1.20**	**84**	P	**P**	**22 11 34.9**	**+0.1**
JSH				eS	**S**	**22 12 04.2**	**-0.2**
JYM2	**Yakumo 2**	**1.49**	**105**	P	**P**	**22 11 37.4**	**+0.6**
JSK	**Shakotan**	**1.71**	**60**	P	**P**	**22 11 38.6**	**+0.2**
JKB	**Kayabe**	**2.03**	**107**	P	**P**	**22 11 41.6**	**+0.5**
JEW	**Eniwo**	**2.25**	**81**	P	**P**	**22 11 43.9**	**+0.8**
JEW				eS	**S**	**22 12 20.9**	**+1.9**
JOT	**Ohata**	**2.26**	**119**	P	**P**	**22 11 43.4**	**+0.2**
JHR	**Hokuryu**	**2.70**	**62**	P	**P**	**22 11 48.6**	**+1.1**
JHR				eS	**S**	**22 12 28.6**	**+1.7**
JYG	**Yagishiri**	**2.89**	**48**	P	**P**	**22 11 49.9**	**+0.4**
JFR	**Furan**	**3.12**	**77**	eS	**S**	**22 12 33.7**	**-1.2**
JANG	**Nango**	**3.16**	**132**	P	**P**	**22 11 51.8**	**-0.5**
JANG				eS	**S**	**22 12 34.6**	**-1.0**
JNBK	**Urakawa-nobuka**	**3.21**	**93**	P	**P**	**22 11 53.0**	**+0.1**
JNBK				eS	**S**	**22 12 36.5**	**0.0**
ASAJ	**Asahikawa**	**3.43**	**61**	P	**P**	**22 11 55.1**	**-0.2**
	5.7nm,0.3s,baz=204,slow=15,SNR=6.0						
ASAJ				S	**S**	**22 12 40.5**	**-0.4**
	2.7nm,0.3s,baz=275,slow=33,SNR=9.9						
JKK2	**Kamakawa 2**	**3.43**	**65**	P	**P**	**22 11 56.2**	**+0.9**
JKK2				eS	**S**	**22 12 40.4**	**-0.5**
ERM	**Erimo**	**3.54**	**97**	Pn	**P**	**22 11 57.5**	**+0.9**
	707nm,0.4s,SNR=52						
JCH	**Churui**	**3.64**	**87**	P	**P**	**22 11 57.2**	**-0.5**
JCH				eS	**S**	**22 12 42.9**	**-2.2**
JOM	**Ohasama**	**3.74**	**144**	P	**P**	**22 11 58.7**	**-0.1**
JOM				eS	**S**	**22 12 46.7**	**-0.3**
JWK2	**Keihoku**	**3.75**	**41**	P	**P**	**22 12 00.2**	**+1.3**
JYK	**Kaneyama**	**3.89**	**157**	P	**P**	**22 12 01.0**	**+0.5**
JYK				eS	**S**	**22 12 51.5**	**+1.4**
JAR	**Ashorobuto**	**4.00**	**77**	P	**P**	**22 12 01.5**	**-0.2**
JAR				eS	**S**	**22 12 50.0**	**-2.3**
JMK	**Ichinoseki**	**4.15**	**148**	P	**P**	**22 12 03.8**	**+0.3**
JMK				eS	**S**	**22 12 54.4**	**-1.1**
JTKR	**Abashiri--Toko**	**4.25**	**68**	P	**P**	**22 12 06.1**	**+1.4**
YSS	**Yuzh-Sakhalins**	**5.39**	**33**	eP	**P**	**22 12 15.8**	**-2.6**
HIA	**Hailar**	**14.64**	**304**	eP	**P**	**22 14 11.0**	**-2.2**
	2.0nm,0.4s						
SONM	**Songino Array**	**23.10**	**294**	P	**P**	**22 15 39.6**	**-0.7**
	1.0nm,0.7s,mb3.2,baz=92,slow=8.2,SNR=11						
ZAL	**Zalesovo**	**36.65**	**307**	P	**P**	**22 17 38.6**	**-0.8**
	3.3nm,0.5s,mb4.0,baz=23,slow=9.2,SNR=16						
KURK	**Kurchatov**	**40.88**	**303**	eP	**P**	**22 18 13.3**	**-1.0**
	5.0nm,0.6s,mb3.9						
GUN	**Gumba**	**44.66**	**269**	eP	**P**	**22 18 45.2**	**+0.3**
	12nm,0.4s,mb4.5						
KKN	**Kakani**	**45.16**	**269**	eP	**P**	**22 18 49.2**	**+0.3**
PKI	**Pulchoki**	**45.19**	**268**	eP	**P**	**22 18 49.1**	**0.0**
	2.9nm,0.3s,mb4.0						
BVAR	**Borovoye Array**	**45.28**	**308**	P	**P**	**22 18 49.5**	**0.0**
	2.6nm,0.4s,mb3.8,baz=76,slow=9.4,SNR=24						
BRVK	**Borovoye**	**45.33**	**308**	eP	**P**	**22 18 50.3**	**+0.4**
	2.7nm,0.7s,mb3.6						
DMN	**Daman**	**45.39**	**269**	eP	**P**	**22 18 51.2**	**+0.5**
	4.7nm,0.5s,mb3.9						
GKN	**Gorkha**	**45.52**	**269**	eP	**P**	**22 18 51.6**	**-0.1**
	3.2nm,0.3s,mb4.1						
ZRNK	**Zerenda**	**46.11**	**308**	eP	**P**	**22 18 56.2**	**+0.3**
	3.5nm,0.5s,mb4.0						
ILAR	**Eielson Array**	**46.20**	**35**	P	**P**	**22 18 57.9**	**+1.4**
	1.2nm,0.5s,mb3.5,baz=272,slow=7.0,SNR=21						
KOLN	**Koldanda**	**46.42**	**270**	eP	**P**	**22 18 59.1**	**+0.4**
	4.3nm,0.5s,mb4.0						
FINES	**FINESS Array B**	**62.91**	**330**	P	**P**	**22 20 56.0**	**-0.3**
	0.9nm,0.3s,mb3.8,baz=39,slow=10,SNR=14						
FINES	**FINESS Array B**	**62.91**	**330**	P	**P**	**22 20 56.0**	**-0.3**
NB2	**NORSAR Subarra**	**68.24**	**335**	P	**P**	**22 21 30.0**	**0.0**
	1.1nm,0.6s,mb3.8,baz=40,slow=6.2						
NOA	**NORSAR Array B**	**68.24**	**335**	P	**P**	**22 21 30.2**	**+0.1**
	0.6nm,0.5s,mb3.6,baz=41,slow=6.1,SNR=4.1						
NOA	**NORSAR Array B**	**68.24**	**335**	P	**P**	**22 21 30.2**	**+0.1**
AKASG	**Malin Array Be**	**68.59**	**320**	P	**P**	**22 21 32.3**	**0.0**
	0.6nm,0.4s,mb3.7,baz=43,slow=5.9,SNR=7.3						
GERES	**GERESS Array B**	**76.86**	**326**	pP	pP	22 23 27.4	+4.4
	0.3nm,0.8s,baz=18,slow=4.2,SNR=5.1						

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*MOS **20** 22:14:26.5±1.5, 57.17N×160.50E, h15^{km}, mb4.1/1, Error ellipse: s-maj=39.1km s-min=14.0km az=95.0*
*KRSC **20** 22:14:26.0±0.3, 57.20N×160.46E, h19^{km}±3^{km}, ML4.2*
*IDC **20** 22:14:28.1±0.9, 57.32N×160.35E, mb3.6/6, mb1 4.0/7, mb1mx3.7/23, ML3.4/1, Error ellipse: s-maj=33.8km s-min=15.2km az=12.0*
*NEIC **20** 22:14:28.6±0.6, 57.10N×160.48E, h10^{km}, mb4.1/2, Error ellipse: s-maj=14.3km s-min=11.7km az=67.0*

ISC 20 22:14:25.8±1.0**, 57.19N**±0.03×**160.43E**±0.08**, h2**^{km}±6^{km}**, n42, σ0^{s}85**/59**, mb3.8**/8**, Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SVLR	**Shiveluch**	**0.75**	**144**	eP	**Pg**	**22 14 40.6**	**-0.2**
SVLR				eS	**Sg**	**22 14 51.4**	**+0.6**
KLY	**Klyuchi**	**0.88**	**172**	P	**Pg**	**22 14 43.2**	**-0.3**
KLY				S	**Sg**	**22 14 55.8**	**+0.5**
KLY	**Klyuchi**	**0.88**	**172**	i P	**Pg**	**22 14 43.0**	**-0.5**
KLY				i S	**Sg**	**22 14 55.8**	**+0.5**
SRDR	**Sredinnyy**	**0.96**	**204**	i P	**Pb**	**22 14 43.8**	**-1.0**
SRDR				i S	**Sb**	**22 14 56.6**	**-1.1**
KRSR	**Krestovskiy**	**0.97**	**175**	i P	**Pb**	**22 14 44.4**	**-0.7**
KRSR				i S	**Sb**	**22 14 57.8**	**-0.4**
CIRR	**Tsirk**	**1.09**	**171**	i P	**Pb**	**22 14 46.4**	**-0.6**
CIRR				eS	**Sb**	**22 15 01.2**	**-0.3**
LGNR	**Loginova**	**1.12**	**172**	i P	**Pb**	**22 14 47.1**	**-0.4**
LGNR				eS	**Sb**	**22 15 02.9**	**+0.6**
KOZR	**Kozyr**	**1.16**	**195**	PN	**Pn**	**22 14 48.4**	**-0.6**
KOZR				S	**Sb**	**22 15 04.5**	**+0.9**
KOZ	**Kozyrevsk**	**1.17**	**195**	P	**Pb**	**22 14 48.4**	**-0.1**
KOZ				S	**Sb**	**22 15 04.5**	**+0.5**
KOZ	**Kozyrevsk**	**1.17**	**195**	i P	**Pb**	**22 14 48.2**	**-0.3**
KOZ				eS	**Sb**	**22 15 04.4**	**+0.4**
ZLN	**Zelenaya**	**1.19**	**170**	i P	**Pb**	**22 14 48.1**	**-0.7**
ZLN				eS	**Sb**	**22 15 04.4**	**-0.1**
KPT	**Kopyto**	**1.23**	**185**	i P	**Pb**	**22 14 48.8**	**-0.6**
KPT				eS	**Sb**	**22 15 05.4**	**-0.2**
KMNR	**Kamenistaya**	**1.44**	**184**	eP	**Pn**	**22 14 51.6**	**-1.4**
KMNR				eS	**Sb**	**22 15 10.2**	**-1.5**
KBTR	**Krutoberegovo**	**1.64**	**126**	P	**Pn**	**22 14 55.8**	**-0.1**
KBTR				S	**Sb**	**22 15 17.0**	**-0.6**
KBTR	**Krutoberegovo**	**1.64**	**126**	i P	**Pn**	**22 14 55.8**	**-0.1**
KBTR				eS	**Sb**	**22 15 17.2**	**-0.4**
TUMR	**Tumrok**	**1.92**	**185**	P	**Pn**	**22 14 59.2**	**-0.6**
OSSR	**Ossora**	**2.49**	**33**	i P	**Pn**	**22 15 05.5**	**-2.6**
OSSR				eS	**Sn**	**22 15 34.0**	**-5.5**
OSSR				Smax			
	450nm,0.7s						
GNL	**Ganaly**	**3.77**	**203**	eP	**Pn**	**22 15 26.5**	**+0.2**
SDLR	**Sedlovina**	**4.02**	**193**	eP	**Pn**	**22 15 31.0**	**+1.3**
KOK	**Koryaka**	**4.04**	**195**	i P	**Pn**	**22 15 31.0**	**+1.0**
SMAR	**Somma**	**4.04**	**194**	eP	**Pn**	**22 15 31.4**	**+1.3**
AVH	**Avacha**	**4.05**	**195**	eP	**Pn**	**22 15 31.8**	**+1.6**
NLC	**Nalytchevo**	**4.07**	**189**	P	**Pn**	**22 15 31.0**	**+0.5**
NLC	**Nalytchevo**	**4.07**	**189**	P	**Pn**	**22 15 30.7**	**+0.2**
SPN	**Mys Shipunski**	**4.10**	**183**	P	**Pn**	**22 15 31.6**	**+0.6**
SPN				S	**Sn**	**22 16 20.2**	**-0.1**
SPN	**Mys Shipunski**	**4.10**	**183**	eP	**Pn**	**22 15 31.7**	**+0.7**
APC	**Apacha**	**4.67**	**205**	P	**Pn**	**22 15 39.2**	**+0.2**
GRL	**Gorelyy**	**4.84**	**197**	P	**Pn**	**22 15 42.7**	**+1.3**
FX1	**Attu Island--F**	**8.49**	**115**	Pn	**P**	**22 16 34.3**	**+1.6**
	1.4nm,0.3s,baz=280,slow=20,SNR=3.4						
FX1	**Attu Island--F**	**8.49**	**115**	PN	**P**	**22 16 34.3**	**+1.6**
FX1				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ILAR	**Eielson Array**	**25.93**	**51**	P	**P**	**22 20 00.2**	**-0.3**
	comp=Z,1.1nm,1.0s,mb3.3,baz=266,slow=7.5,SNR=5.9						
SONM	**Songino Array**	**33.36**	**277**	P	**P**	**22 21 06.7**	**-0.3**
	comp=Z,0.6nm,0.7s,mb3.6,baz=59,slow=7.2,SNR=5.7						
SONM				PcP	PcP	22 23 47.9	-1.1
	comp=Z,0.5nm,0.7s,baz=45,slow=1.7,SNR=4.6						
KURK	**Kurchatov**	**45.83**	**299**	eP	**P**	**22 22 49.7**	**-0.7**
	comp=Z,2.7nm,0.9s,mb4.2						
BVAR	**Borovoye Array**	**48.07**	**306**	P	**P**	**22 23 08.6**	**+0.5**
	comp=Z,0.5nm,0.6s,mb3.8,baz=59,slow=8.4,SNR=3.5						
ZRNK	**Zerenda**	**48.73**	**306**	eP	**P**	**22 23 12.6**	**-0.5**
	comp=Z,0.7nm,0.5s,mb4.0						
KZA	**Kyzart**	**53.55**	**293**	P	**P**	**22 23 53.7**	**+3.8**
	SNR=18						
UCH	**Uchtor**	**53.81**	**293**	P	**P**	**22 23 55.2**	**+3.5**
	SNR=19						
AML	**Almayashu**	**54.29**	**294**	P	**P**	**22 23 54.8**	**-0.4**
	SNR=19						
PDAR	**Pinedale Array**	**55.43**	**63**	P	**P**	**22 24 04.3**	**+0.7**
	comp=Z,0.4nm,0.7s,mb3.6,slow=7.4,SNR=3.9						
CMAR	**Chiang Mai Arr**	**59.29**	**256**	P	**P**	**22 24 31.4**	**+0.2**
	comp=Z,0.9nm,0.8s,mb3.9,baz=20,slow=6.7,SNR=6.5						
CMAR	**Chiang Mai Arr**	**59.29**	**256**	P	**P**	**22 24 31.4**	**+0.2**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TXAR	**Lajitas Array**	**68.91**	**69**	P	**P**	**22 25 34.9**	**+1.0**
	comp=Z,0.4nm,0.3s,mb3.9,baz=270,slow=2.5,SNR=3.9						

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*IDC **20** 22:43:12.5±5.3, 6.97S×129.85E, h43^{km}±51^{km}, mb3.8/4, mb1 4.2/8, mb1mx3.9/14, ML4.2/3, Error ellipse: s-maj=78.4km s-min=22.7km az=62.0*
*NEIC **20** 22:43:12.7±3.4, 6.97S×129.78E, h44^{km}±32^{km}, mb4.3/3, Error ellipse: s-maj=34.4km s-min=13.5km az=59.0*

ISC 20 22:43:22.3±1.9**, 7.48S**±0.07×**129.6E**±0.1**, h166**^{km}±20^{km}**, n25, σ1^{s}26**/31**, mb4.3**/12**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**5.89**	**152**	eP	**P**	**22 44 51.1**	**+2.6**
	26nm,0.2s						
KAKA				eS	**S**	**22 45 57.1**	**+1.7**
FITZ	**Fitzroy Crossi**	**11.23**	**200**	eP	**P**	**22 45 58.1**	**-0.9**
	9.1nm,0.3s						
FITZ				eS	**S**	**22 48 01.0**	**-0.9**
FITZ	**Fitzroy Crossi**	**11.23**	**200**	P	**P**	**22 45 58.3**	**-0.7**
	5.9nm,0.3s,baz=22,slow=8.3,SNR=82						
FITZ				S	**S**	**22 48 00.9**	**-1.0**
	12nm,0.3s,baz=184,slow=12,SNR=11						
WRAB	**Tennant Creek**	**13.22**	**160**	eP	**P**	**22 46 21.8**	**-2.8**
	7.2nm,0.7s						
WRA	**Warramunga Arr**	**13.22**	**160**	P	**P**	**22 46 21.8**	**-2.9**
	1.0nm,0.3s,baz=344,slow=13,SNR=36						
WRA				S	**S**	**22 48 41.1**	**-7.2**
	2.8nm,0.3s,baz=339,slow=23,SNR=10						
WB2	**Warramunga Arr**	**13.23**	**160**	eP	**P**	**22 46 21.8**	**-2.9**
WB2				eS	**S**	**22 48 45.1**	**-3.2**
MBWA	**Marble Bar**	**16.59**	**214**	eP	**P**	**22 47 08.6**	**+1.7**
ASAR	**Alice Springs**	**16.62**	**166**	P	**P**	**22 47 08.0**	**+0.8**
	0.7nm,0.3s,baz=335,slow=9.3,SNR=32						
ASAR				S	**S**	**22 50 06.1**	**+0.7**
	1.0nm,0.3s,baz=347,slow=26,SNR=12						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAR				ScP		22 55 16.1	
	0.2nm,0.3s,baz=0.6,slow=1.5,SNR=5.8						
ASPA	Alice Springs	16.62	166	eP	P	22 47 08.1	+0.9
ASPA				eS	S	22 50 06.1	+0.7
FORT	Forrest	23.22	183	eP	P	22 48 22.5	+6.9
	30nm,0.7s,mb4.8						
STKA	Stephens Creek	26.74	157	eP	P	22 48 52.3	+3.9
	4.9nm,1.5s,mb3.9						
STKA	Stephens Creek	26.74	157	P	P	22 48 52.2	+3.9
	1.4nm,0.6s,mb3.7,baz=336,slow=8.9,SNR=3.6						
CMAR	Chiang Mai Arr	39.71	311	P	P	22 50 40.5	+0.4
	0.9nm,0.7s,mb3.5,baz=139,slow=7.7,SNR=6.4						
GUN	Gumba	54.95	312	eP	P	22 52 39.1	+0.6
	14nm,0.5s,mb5.0						
PKI	Pulchoki	55.11	311	eP	P	22 52 39.3	-0.4
	3.2nm,0.4s,mb4.4						
KKN	Kakani	55.33	311	eP	P	22 52 41.5	+0.3
	7.1nm,0.6s,mb4.6						
DMN	Daman	55.36	311	eP	P	22 52 41.9	+0.4
GKN	Gorkha	55.92	311	eP	P	22 52 44.9	-0.6
	14nm,0.6s,mb5.0						
KOLN	Koldanda	56.58	310	eP	P	22 52 51.0	+0.9
	6.4nm,0.6s,mb4.6						
SONM	Songino Array	58.76	342	P	P	22 53 04.4	-0.7
	0.8nm,0.4s,mb3.9,baz=162,slow=6.9,SNR=13						
ZAL	Zalesovo	71.82	334	P	P	22 54 27.2	-1.4
	1.2nm,0.3s,mb4.0,baz=333,slow=3.5,SNR=5.2						
KURK	Kurchatov	72.70	329	eP	P	22 54 33.5	-0.3
	4.0nm,1.1s,mb4.1						
BVAR	Borovoye Array	78.24	328	P	P	22 55 05.7	+0.7
	0.6nm,0.6s,mb3.4,baz=117,slow=3.3,SNR=5.9						
ZRNK	Zerenda	78.94	328	eP	P	22 55 09.2	+0.4
CPUP	Villa Florida	145.73	169	PKPbc	PKPbc	23 02 47.9	+5.3
	1.3nm,0.5s,baz=257,slow=2.2,SNR=6.0						

JMA 20 23:32:06.2±0.4,25.76N×125.05E,h18km,M3.5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JMJ	Miyako jima 2	0.97	167	P	Pb	23 32 24.0	-0.1
JMJ				S	Sb	23 32 36.4	0.0
JOGS	Gusukube	1.05	162	P	Pb	23 32 25.2	-0.3
JOGS				S	Sb	23 32 38.9	+0.1
JTJ	Tarama	1.16	196	P	Pb	23 32 26.8	-0.6
JTJ				S	Sb	23 32 42.0	0.0
JIJ	Ishigaki jima	1.62	211	P	Pn	23 32 33.9	-0.3
JIJ				S	Sn	23 32 54.4	-0.2
JKRS	Kuro-shima	1.79	212	P	Pn	23 32 38.2	+1.6
JKRS				eS	Sn	23 33 00.7	+1.7

JMA 20 23:49:50.4±0.1,31.43N×130.56E,h146km±1km,M3.5, Kyushu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JSU	Suzuyama	0.12	310	P	P	23 50 10.2	-0.2
JSU				S	S	23 50 25.2	-0.4
JTSR	Tashiro 2	0.41	130	P	P	23 50 10.9	-0.5
JTSR				S	S	23 50 26.3	-1.1
JTZ	Takazaki	0.65	44	P	P	23 50 12.3	-0.3
JTZ				S	S	23 50 28.5	-1.1
JSJ	Shimokoshiki	0.76	289	P	P	23 50 12.8	-0.5
JSJ				S	S	23 50 30.2	-0.6
JTN	Tanegashima 3	0.85	155	P	P	23 50 13.7	-0.2
JTN				S	S	23 50 30.8	-1.1
JIU2	Izumi 2	1.13	11	P	P	23 50 16.1	-0.1
JIU2				eS	S	23 50 35.2	-0.9

TAP 21 00:38:22.2,23.12N×121.27E,h8km,ML3.8
TAP Felt II J at Chenggung, I J at Lidau, I J at Tauyuan.
JMA 21 00:38:22.6±0.2,22.74N×121.57E,h49km,M3.4
ISC 21 00:38:21.5±0.4,23.05N±0.02×121.40E±0.02,h17km±4km, n52,σ0§99/77,8C-2D,Taiwan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHKT	Chengkung	0.06	333	⇓iP	Pb	00 38 25.1	+0.3
CHKT				S	Sb	00 38 27.3	+0.5
TWF1	Yuli	0.32	344	⇑iP	Pb	00 38 27.9	-0.4
TWF1				S	Sb	00 38 32.1	-0.8
TTN	Taitung	0.37	218	eP	Pb	00 38 30.4	+1.2
TTN				S	Sb	00 38 37.2	+2.8
TWG	Pinlang	0.37	233	⇓iP	Pb	00 38 29.3	0.0
TWG				S	Sb	00 38 35.2	+0.6
ELDTW	Lidau	0.38	292	⇑iP	Pb	00 38 28.1	-1.3
ELDTW				S	Sb	00 38 32.3	-2.3
EHY	Hungye	0.46	352	eP	Pb	00 38 30.1	-0.7
EHY				S	Sb	00 38 36.0	-1.2
STYT	Tauyuan	0.60	281	⇑iP	Pb	00 38 32.3	-0.8
STYT				S	Sb	00 38 39.4	-1.7
YUS	Yu-Shan	0.60	317	⇑iP	Pb	00 38 32.5	-0.7
YUS				S	Sb	00 38 39.3	-1.9
ECL	Taimali	0.60	222	eP	Pb	00 38 32.6	-0.6
ALS	Alishan	0.71	311	⇑iP	Pb	00 38 34.7	-0.4
ALS				S	Sb	00 38 43.3	-1.0
WTP	Ta-pu	0.75	286	⇑iP	Pb	00 38 35.4	-0.2
WTP				S	Sb	00 38 45.1	-0.3
SGST	Jiashian	0.75	273	eP	Pb	00 38 35.6	0.0
SGST				S	Sb	00 38 45.2	-0.2
SSD	Sandimen	0.76	247	eP	Pb	00 38 35.2	-0.7
SSD				S	Sb	00 38 44.1	-1.7
ESL	Shilin	0.77	3	eP	Pb	00 38 36.9	+1.0
CHN4	Tsaushan	0.80	293	⇑iP	Pb	00 38 36.5	0.0
CHN4				S	Sb	00 38 47.1	+0.3
CHN1	Nanshi	0.81	280	eP	Pb	00 38 36.7	0.0
CHN1				S	Sb	00 38 48.1	+0.9
TAW	Tawu	0.83	214	eP	Pb	00 38 36.5	-0.5
EAST	Anshuo	0.83	218	eP	Pb	00 38 35.6	-1.5
CHN5	Tsauling	0.86	310	⇑iP	Pb	00 38 37.6	+0.1
CHN5				S	Sb	00 38 48.4	-0.1
TWK	Hsinying	0.86	285	eP	Pb	00 38 37.5	-0.1
TWK				S	Sb	00 38 49.0	+0.3
SGLT	Jiouru	0.89	249	eP	Pb	00 38 41.3	+3.2
TWM1	Shoushan	0.92	256	eP	Pb	00 38 39.5	+0.8
CHN3	Shinhua	0.95	272	eP	Pb	00 38 39.5	+0.4
SMLT	Sun Moon Lake	0.95	331	eP	Pb	00 38 38.7	-0.4
SMLT				S	Sb	00 38 50.6	-0.7
SCZT	Fangliau	0.98	227	eP	Pb	00 38 39.5	-0.2
TYC	Yuchr	0.99	330	eP	Pb	00 38 40.0	+0.3
WGK	Gukeng	1.00	310	eP	Pb	00 38 40.8	+0.9
WGK				S	Sb	00 38 54.7	+2.1
CHY	Chiayi	1.00	297	eP	Pb	00 38 40.1	+0.1
CHY				S	Sb	00 38 54.5	+1.8
TWD	Chiawan	1.05	10	eP	Pb	00 38 41.5	+0.8
WNT	Mingjian	1.05	322	eP	Pb	00 38 41.5	+0.6
CHN8	Yiju	1.13	286	eP	Pb	00 38 42.8	+0.6
HEN	Hengchun	1.20	211	eP	Pb	00 38 43.5	+0.1
TCU	Taichung	1.28	329	eP	Pn	00 38 46.0	+1.2
NNS	Nan Shan	1.39	359	eP	Pn	00 38 47.3	+1.0
ENA	Nanau	1.41	13	eP	Pn	00 38 45.6	-1.1
TWQ1	Liyutan	1.42	336	eP	Pn	00 38 47.6	+0.9
TWQ1				S	Sb	00 39 06.6	+1.9
NSY	Sanyi	1.48	337	eP	Pn	00 38 48.6	+1.0
ENTT	Nioudou	1.59	6	eP	Pn	00 38 51.2	+1.9
TWC	Suao	1.61	15	eP	Pn	00 38 48.5	-0.9
WDGT	Dungji	1.61	278	eP	Pn	00 38 48.8	-0.7
NSTT	Nanjuang	1.62	347	eP	Pn	00 38 48.4	-1.2
NSK	Sanguang	1.62	359	eP	Pn	00 38 49.1	-0.5
TWE	Neicheng	1.69	8	eP	Pn	00 38 51.0	+0.4
PNG	Penghu	1.77	287	eP	Pn	00 38 51.0	-0.7
TWA	Mucha	1.93	5	eP	Pn	00 38 56.8	+2.7
YOJ	Yonaguni jima	2.04	46	S	Sn	00 39 22.9	+1.9
NWF	Wu-fen Shan	2.05	10	eP	Pn	00 38 56.3	+0.6
HATJ	Hateruma jima	2.43	65	P	Pn	00 39 01.1	-0.1
HATJ				S	Sn	00 39 29.6	-1.2
IRIF	Iriomote-Funau	2.50	59	P	Pn	00 39 02.6	+0.5
IRIF				S	Sn	00 39 32.3	-0.1
JKRS	Kuro-shima	2.67	63	P	Pn	00 39 04.7	0.0
JKRS				eS	Sn	00 39 36.6	-0.4
JIJ	Ishigaki jima	2.84	62	P	Pn	00 39 06.8	-0.2
JIJ				S	Sn	00 39 39.8	-1.4
JTJ	Tarama	3.42	62	P	Pn	00 39 15.3	0.0
JTJ				eS	Sn	00 39 55.1	-0.7

MOS 21 01:00:05.5±2.2,51.68N×102.28E,h19km,mb4.5/1,Error ellipse: s-maj=14.0km s-min=9.7km az=45.3
MOS Felt (III-IV) at Arshan, Kiren; (III) at Mondy.
BYKL 21 01:00:05.7±0.2,51.70N×102.25E,h9km±4km,FELT I=IV-V at Kiren,Tunka, IV at Zhemchug, Mondy, III-IV at Arshan
ISC 21 01:00:05.1±0.4,51.70N±0.03×102.29E±0.03,h9km,n44, σ1§37/79,14C-2D,Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARS	Arshan	0.23	21	⇓iPG	Pg	01 00 11.4	+1.4
ARS				e		01 00 15.4	
ARS				pmax	pmax		
	comp=Z,3µm,0.1s						
ARS				smax			
	comp=N,4µm,0.1s						
MOY	Mondy	0.81	268	⇑iPg	Pg	01 00 19.9	-1.4
MOY				Pmax		01 00 20.5	
	comp=N,1µm,0.2s						
MOY				i Sg	Sg	01 00 31.1	-1.0
MOY				Smax		01 00 31.7	
	comp=N,22µm,0.7s						
MOY	Mondy	0.81	268	ePG	Pg	01 00 19.9	-1.4
MOY				e		01 00 30.9	
MOY				pmax	pmax		
	comp=Z,1µm,0.2s						
MOY				smax			
	comp=N,22µm,0.3s						
TLY	Talaya	0.84	91	⇑iPg	Pg	01 00 21.0	-1.0
TLY				Pmax		01 00 25.5	
	comp=N,552nm,0.5s						
TLY				eSg	Sg	01 00 33.2	0.0
TLY				Smax		01 00 34.0	
	comp=N,9µm,0.4s						
TLY	Talaya	0.84	91	⇑iPG	Pg	01 00 21.0	-1.0
TLY				e		01 00 33.0	
TLY				pmax	pmax		
	comp=Z,598nm,0.4s						
TLY				smax			
	comp=E,9µm,0.5s						
IRK	Irkutsk	1.34	65	ePg	Pg	01 00 30.8	-1.1
IRK				Pmax		01 00 32.5	
	comp=E,2µm,0.4s						
IRK				i Sg	Sg	01 00 48.3	-1.4
IRK				Smax		01 00 48.6	
	comp=E,8µm,0.6s						
IRK	Irkutsk	1.34	65	ePN	Pn	01 00 30.0	0.0
IRK				e		01 00 47.2	
IRK				pmax	pmax		
	comp=Z,1µm,0.2s						
IRK				smax			
	comp=N,8µm,0.4s						
ZAK	Zakamensk	1.46	154	⇑iPg	Pg	01 00 31.8	-2.5
ZAK				Pmax		01 00 33.8	
	comp=N,578nm,0.5s						
ZAK				i Pg	Pg	01 00 34.3	0.0
ZAK				Pmax		01 00 36.5	
	comp=N,249nm,0.5s						
ZAK				e		01 00 38.8	
ZAK				eSg	Sg	01 00 51.3	-2.5
ZAK				e		01 00 55.2	
ZAK				eSg	Sg	01 00 55.3	+1.5
ZAK				max		01 00 55.8	
	comp=N,500nm,0.0s						
ZAK				Smax		01 00 58.1	
	comp=N,3µm,0.8s						
ZAK	Zakamensk	1.46	154	i PN	Pn	01 00 31.7	-0.1
ZAK				eS	Sb	01 00 51.1	+0.5
ZAK				pmax	pmax		
	comp=Z,567nm,0.4s						
ZAK				smax			
	comp=E,7µm,0.6s						
LSTR	Listvyanka	1.59	83	ePN	Pn	01 00 34.9	+1.4
LSTR				e		01 00 55.2	
LSTR				pmax	pmax		
	comp=Z,238nm,0.5s						
LSTR				smax			
	comp=N,3µm,0.6s						
ORL	Orlik	1.74	300	⇑iPg	Pn	01 00 36.4	+0.6
ORL				e		01 00 38.0	
ORL				max		01 00 38.5	
	comp=N,2µm,0.5s						
ORL				eSg	Sn	01 00 59.0	+0.7
ORL				Smax		01 01 09.1	
	comp=N,1µm,0.5s						
ORL	Orlik	1.74	300	ePN	Pn	01 00 36.5	+0.7
ORL				e		01 00 58.9	
ORL				pmax	pmax		
	comp=Z,2µm,0.4s						
ORL				smax			
	comp=N,1µm,0.4s						
BTMB	Babushkin	2.20	89	ePn	Pn	01 00 41.5	-0.9
BTMB				⇑iPg	Pg	01 00 45.1	-4.0
BTMB				Pmax		01 00 45.5	
	comp=N,460nm,0.4s						
BTMB				i Sg	Sg	01 01 14.4	-4.1
BTMB				Smax		01 01 15.9	
	comp=N,5µm,1.0s						
STDB	Stepnoy Dvoret	2.57	78	ePg	Pg	01 00 52.4	-3.9
STDB				Pmax		01 00 56.7	
	comp=N,360nm,0.8s						
STDB				eSg	Sg	01 01 27.0	-3.5
STDB				Smax		01 01 32.6	
	comp=N,6µm,0.6s						
TRG	Tyrgan	2.71	65	⇓iPn	Pn	01 00 50.0	+0.4
TRG				ePg	Pb	01 00 54.4	+1.0
TRG				Pmax		01 01 00.2	
	comp=N,161nm,0.3s						
TRG				eSn	Sn	01 01 23.2	+0.3
TRG				eSg	Sb	01 01 29.8	+3.0
TRG				Smax		01 01 33.7	
	comp=N,2µm,0.9s						
TRG	Tyrgan	2.71	65	ePN	Pb	01 00 54.4	+1.0
TRG				e		01 01 29.1	
TRG				pmax	pmax		
	comp=Z,153nm,0.2s						
TRG				smax			
	comp=E,2µm,0.8s						
KAB	Kabansk	2.73	81	ePg	Pb	01 00 54.2	+0.5
KAB				Pmax		01 00 54.9	
	comp=E,280nm,0.5s						
KAB				eSg	Sb	01 01 29.4	+2.1
KAB				Smax		01 01 33.0	
	comp=E,5µm,0.8s						
KAB	Kabansk	2.73	81	ePN	Pb	01 00 54.4	+0.7
KAB				e		01 01 29.4	
KAB				pmax	pmax		
	comp=Z,282nm,0.5s						
KAB				smax			
	comp=E,6µm,0.7s						
FFNB	Fofonovo	2.79	81	ePn	Pn	01 00 51.5	+0.7
FFNB				ePg	Pb	01 00 55.4	+0.6
FFNB				eSg	Sb	01 01 32.7	+3.4
FFNB				Smax		01 01 33.5	
	comp=E,5µm,0.5s						
TRTB	Turuntaevo	3.34	79	⇑iPn	Pn	01 00 59.5	+0.9
TRTB				ePg	Pb	01 01 06.1	+1.9
TRTB				Pmax	Sb	01 01 13.3	-32
	comp=E,117nm,0.6s						
TRTB				e		01 01 40.5	
TRTB				eSg	Sg	01 01 50.1	-6.4
TRTB				Smax		01 01 54.5	
	comp=E,1µm,1.3s						
TRTB				eSgSg		01 02 02.4	
OGRR	Ongureny	3.77	57	⇑iPn	Pn	01 01 05.1	+0.4
OGRR				⇑iPg	Pb	01 01 13.5	+2.0
OGRR				Pmax		01 01 15.2	
	comp=E,248nm,0.3s						
OGRR				eSg	Sb	01 02 02.9	+5.3
OGRR				Smax		01 02 08.7	
	comp=E,630nm,0.6s						
OGRR	Ongureny	3.77	57	ePN	Pb	01 01 13.4	+1.9
OGRR				e		01 02 01.7	
OGRR				pmax	pmax		
	comp=Z,232nm,0.4s						
OGRR				smax			
	comp=E,576nm,0.6s						
TDJR	Todzha	3.88	283	ePg	Pb	01 01 14.4	+0.9
TDJR				eSg	Sb	01 02 05.8	+4.9
ULN	Ulaanbaatar	4.93	139	eSg	Sb	01 02 36.8	+5.7
SYVR	Suvo	5.08	64	ePn	Pn	01 01 23.3	0.0
SYVR				ePg	Pb	01 01 36.6	+2.7
SYVR				Pmax		01 01 43.4	
	comp=E,39nm,0.6s						
SYVR				eSn	Sn	01 02 20.3	-2.6
SYVR				eSg	Sb	01 02 42.2	+6.5
SYVR				Smax		01 02 48.8	
	comp=E,233nm,1.1s						
SYVR	Suvo	5.08	64	ePN	Pn	01 01 23.3	0.0
SYVR				e		01 01 38.1	
SYVR				e		01 02 44.5	
SYVR				pmax	pmax		
	comp=Z,7.0nm,0.1s						
SYVR				smax			
	comp=E,159nm,0.6s						
ARDR	Aradan	5.53	283	eSg	Sb	01 02 56.8	+8.2
NIZ	Nizh Angarsk	5.93	44	⇑iPn	Pn	01 01 34.8	-0.4
NIZ				max		01 01 35.2	
	comp=E,84nm,0.6s						
NIZ				⇑i		01 01 43.5	
NIZ				⇑ePg	Pb	01 01 52.0	+3.6
NIZ				eSn	Sn	01 02 41.7	-2.4
NIZ				eSg	Sx	01 03 09.0	
NIZ				Smax		01 03 20.4	
	comp=E,255nm,1.0s						
NIZ	Nizh Angarsk	5.93	44	ePN	Pn	01 01 34.8	-0.4
NIZ				e		01 01 52.0	
NIZ				e		01 03 09.0	
NIZ				pmax	pmax		
	comp=Z,51nm,0.4s						
NIZ				smax			
	comp=N,202nm,0.9s						
YLYR	Ulyunkhan	6.20	56	ePn	Pn	01 01 38.5	-0.5
YLYR				e		01 01 51.2	
YLYR				ePg	Pb	01 01 57.9	+4.9
YLYR				Pmax		01 02 01.3	
	comp=N,30nm,0.7s						
YLYR				e		01 02 53.7	
YLYR				eSg	Sx	01 03 18.8	
YLYR				Smax		01 03 28.0	
	comp=N,196nm,1.3s						
YLYR	Ulyunkhan	6.20	56	ePN	Pn	01 01 38.4	-0.6
YLYR				e		01 01 56.7	
YLYR				e		01 03 18.4	
YLYR				pmax	pmax		
	comp=Z,30nm,0.7s						
YLYR				smax			
	comp=N,197nm,1.3s						
EBM	Esen Bulak	6.63	219	ePn	Pn	01 01 43.9	-1.2
EBM				ePg	Pb	01 02 03.5	+3.1
EBM				eSg	Sx	01 03 32.1	
ULG	Ulaangom	6.71	259	eSg	Sb	01 03 31.0	+8.0
KPC	Khapcheranga	6.71	103	e	Pn	01 01 43.1	-3.2
KPC				ePg	Pb	01 02 08.0	+6.2
KPC				Pmax		01 02 14.8	
	comp=N,11nm,0.7s						
KPC				e		01 02 56.8	
KPC				eSg	Sx	01 03 35.8	
KPC				Smax		01 03 44.4	
	comp=N,262nm,1.3s						
KPC	Khapcheranga	6.71	103	ePN	Pn	01 01 43.2	-3.1
KMO	Kumora	6.74	48	ePn	Pn	01 01 45.9	-0.7
KMO				ePg	Pb	01 02 07.0	+4.7
KMO				Pmax		01 02 25.0	
	comp=N,39nm,0.5s						
KMO				eSn	Sn	01 02 59.7	-4.6
KMO				eSg	Sx	01 03 33.8	
KMO				Smax		01 03 40.7	
	comp=N,276nm,1.1s						
CIT	Chita	6.98	83	ePn	Pn	01 01 49.1	-1.0
CIT				max		01 01 52.1	
	comp=N,16nm,0.4s						
CIT				eSg	Sx	01 03 42.7	
CIT				Smax		01 04 00.4	
	comp=N,238nm,1.0s						
UKT	Uakit	7.74	56	⇑iPn	Pn	01 01 59.9	-0.7
UKT				e		01 02 27.3	
UKT				max		01 02 33.4	
	comp=N,18nm,1.1s						
UKT				eSg	Sx	01 04 05.9	
UKT				Smax		01 04 13.5	
	comp=N,85nm,1.4s						
BOD	Bodaibo	9.12	43	⇑iPn	P	01 02 18.0	-1.9
BOD				max		01 02 38.3	
	comp=N,18nm,0.7s						
BOD				eSn	Sn	01 03 57.5	-6.3
BOD				eSg	Sx	01 04 47.2	
BOD				Smax		01 05 00.0	
	comp=N,85nm,1.5s						
BOD	Bodaibo	9.12	43	eP	P	01 02 16.2	-3.7
BOD				eS	Sn	01 03 54.9	-8.9
NLYR	Nelyaty	9.22	53	ePn	P	01 02 21.1	-0.1
NLYR				max		01 02 46.9	
	comp=N,10.0nm,0.9s						
NLYR				eSg	Sx	01 04 52.0	
NLYR				Smax		01 05 05.1	
	comp=N,131nm,1.0s						
CRS	Chara	10.68	55	ePn	P	01 02 42.2	+1.0
CRS				max		01 03 14.8	
	comp=N,10.0nm,0.9s						
CRS				eSg	Sx	01 05 36.8	
CRS				Smax		01 06 24.7	
	comp=N,96nm,2.0s						
TUP	Tupik	10.97	69	ePn	P	01 02 45.3	+0.1
TUP				eSg	Sx	01 05 46.6	
TUP				Smax		01 05 54.7	
	comp=N,123nm,1.9s						
SOC	Sochi	41.75	284	eP	P	01 07 53.2	-2.6
SOC				e		01 09 28.5	
SOC				ePPP	PPP	01 09 59.3	-7.1
SOC				eS	S	01 14 07.1	-5.7
SOC				eSSS	SSS	01 17 48.6	-6.5

TAP 21 01:06:44.3,23.11N×121.28E,h12km,ML3.6,2C-3D, Taiwan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHKT	Chengkung	0.08	98	⇓iP	Pg	01 06 47.4	+0.6
CHKT				S	Sg	01 06 49.7	+1.1
TWF1	Yuli	0.24	4	⇑iP	Pg	01 06 50.3	+0.8
TWF1				S	Sg	01 06 54.4	+1.4
ELDTW	Lidau	0.26	288	⇑iP	Pg	01 06 50.5	+0.7
ELDTW				S	Sg	01 06 54.7	+1.3
TWG	Pinlang	0.35	214	⇓P	Pg	01 06 51.7	+0.2
TWG				S	Sg	01 06 57.3	+1.0
TTN	Taitung	0.38	199	eP	Pg	01 06 52.2	+0.1
TTN				S	Sg	01 06 59.6	+2.4
EHY	Hungye	0.40	6	P	Pg	01 06 52.6	+0.2
EHY				S	Sg	01 06 58.8	+0.9
YUS	Yu-Shan	0.48	321	eP	Pg	01 06 54.7	+0.6
YUS				S	Sg	01 07 01.5	+0.7
STYT	Tauyuan	0.48	276	P	Pg	01 06 54.7	+0.5
STYT				S	Sg	01 07 01.8	+1.0
ALS	Alishan	0.59	312	eP	Pb	01 06 57.1	+1.0
ALS				S	Sb	01 07 05.6	+1.4
ECL	Taimali	0.59	211	eP	Pb	01 06 55.0	-1.1
WTP	Ta-pu	0.63	283	⇓iP	Pb	01 06 57.7	+1.0
WTP				S	Sb	01 07 07.5	+2.3
SGST	Jiashian	0.64	268	eP	Pb	01 06 58.1	+1.1
SGST				S	Sb	01 07 08.1	+2.5
CHN4	Tsaushan	0.68	291	P	Pb	01 06 58.8	+1.3
CHN4				S	Sb	01 07 09.5	+2.9
CHN1	Nanshi	0.70	276	eP	Pb	01 06 59.1	+1.2
CHN1				S	Sb	01 07 10.2	+3.0
SSD	Sandimen	0.70	239	eP	Pb	01 06 57.4	-0.5
ESL	Shilin	0.71	11	eP	Pb	01 06 58.8	+0.6
CHN5	Tsauling	0.74	311	P	Pb	01 07 00.1	+1.5
CHN5				S	Sb	01 07 10.5	+2.1
TWK	Hsinying	0.74	282	eP	Pb	01 06 59.8	+1.1
TWK				S	Sb	01 07 11.0	+2.3
TWM1	Shoushan	0.84	250	eP	Pb	01 07 01.5	+1.1
SMLT	Sun Moon Lake	0.84	336	eP	Pb	01 07 01.5	+1.1
WGK	Gukeng	0.87	311	eP	Pb	01 07 02.2	+1.3
CHY	Chiayi	0.88	296	eP	Pb	01 07 02.5	+1.5
TYC	Yuchr	0.88	334	eP	Pb	01 07 02.4	+1.3
TYC				S	Sb	01 07 16.3	+3.8
WNT	Mingjian	0.94	325	eP	Pb	01 07 03.4	+1.3
SCZT	Fangliau	0.95	220	eP	Pb	01 07 00.9	-1.4
TWD	Chiawan	1.01	17	eP	Pb	01 07 01.2	-2.0
CHN8	Yiju	1.01	284	eP	Pb	01 07 05.5	+2.2
TWQ1	Liyutan	1.32	339	eP	Pb	01 07 09.9	+1.4
TWQ1				S	Sb	01 07 28.3	+3.1
NNS	Nan Shan	1.33	4	eP	Pb	01 07 09.4	+0.8
ENA	Nanau	1.38	18	eP	Pn	01 07 08.7	-0.8
NSY	Sanyi	1.38	340	eP	Pn	01 07 10.4	+0.8
NSY				S	Sb	01 07 31.0	+3.8
WDGT	Dungji	1.50	276	eP	Pn	01 07 10.7	-0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
NSTT	Nanjuang	1.54	350	eP	Pn	01 07 12.6	+0.8
ENTT	Nioudou	1.54	10	eP	Pn	01 07 12.3	+0.4
NSK	Sanguang	1.56	3	eP	Pn	01 07 11.1	-1.0
TWE	Neicheng	1.64	12	eP	Pn	01 07 12.8	-0.4
NWF	Wu-fen Shan	2.00	13	eP	Pn	01 07 17.4	-1.1

*THE **21** 01:09:00.9, 39.49N×25.15E, h2^{km}, ML3.1*
*SOF **21** 01:09:00.1, 39.79N×25.69E, h17^{km}, MD2.8*
*CSEM **21** 01:09:01.7±0.1, 39.53N×25.13E, h10^{km}, MD3.3, Error ellipse: s-maj=3.0km s-min=1.7km az=137.0*
*ATH **21** 01:09:02.3, 39.63N×25.14E, h28^{km}±3^{km}, MD3.3/3*
*NEIC **21** 01:09:02.3, 39.63N×25.14E, h28^{km}, MD3.3(ATH), After ATH.*
ISC 21 01:09:00.7±0.7**, 39.54N**±0.03×**25.11E**±0.03**, h3**^{km}±6^{km}**, n30,** σ0^{s}93/45**, 1C, Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LIA	Limnos Island	0.37	8	ePB	Pb	01 09 09.1	-0.3
LIA				eSB	Sb	01 09 14.6	-0.6
LOS	Limnos	0.40	356	ePg	Pg	01 09 10.1	+1.4
LOS				eSg	Sg	01 09 15.8	+1.8
BOZC	Bozcaada	0.79	67	i P	Pg	01 09 16.5	+0.1
BOZC				i S	Sg	01 09 25.9	-0.9
PRK	Paraskevi	0.94	107	ePB	Pb	01 09 19.9	+0.6
PRK				eSN	Sn	01 09 34.9	+0.2
AOS	Alonnisos	1.02	250	ePg	Pg	01 09 21.0	-0.1
AOS				eSg	Sg	01 09 34.8	0.0
PAIG	Paliouri	1.17	290	ePb	Pb	01 09 23.2	-0.1
PAIG				eSb	Sb	01 09 41.1	+2.4
OUR	Ouranopolis	1.18	313	ePb	Pb	01 09 23.5	+0.2
	comp=Z,4.0nm,0.2s						
AYVA	Ayvalik	1.24	100	i P	Pb	01 09 24.7	+0.3
AYVA				i S	Sb	01 09 42.2	+1.6
NEO	Neokhori	1.48	262	ePN	Pn	01 09 29.8	+1.5
XOR	Xorichti	1.50	264	ePb	Pb	01 09 27.4	-1.4
XOR				eSb	Sb	01 09 49.5	+1.5
XOR	Xorichti	1.50	264	ePb	Pb	01 09 27.4	-1.4
XOR				eSb	Sb	01 09 49.5	+1.4
PLG	Polygyros	1.53	304	ePB	Pb	01 09 28.5	-0.9
ALN	Alexandroupoli	1.54	27	ePb	Pb	01 09 28.2	-1.2
	comp=Z,3.0nm,0.3s						
ALN				eSb	Sb	01 09 49.9	+0.7
RDO	Rodhopi	1.64	11	ePN	Pn	01 09 30.1	-0.5
SOH	Sokhos	1.86	314	ePb	Pb	01 09 33.9	-1.2
SOH				eSb	Sb	01 09 59.5	+0.8
SOH	Sokhos	1.86	314	ePb	Pb	01 09 33.8	-1.2
SRS	Serrai	1.96	324	ePn	Pn	01 09 34.7	-0.4
THE	Thessaloniki	1.98	304	ePn	Pn	01 09 34.9	-0.6
KDAG	Bornova	2.02	123	⇑iP	Pn	01 09 35.0	-1.1
KDAG				i S	Sn	01 10 07.1	+4.9
LIT	Litokhoron	2.10	286	ePn	Pn	01 09 36.7	-0.4
KDZ	Kurdzhali	2.12	6	i P	Pn	01 09 33.0	-4.5
RZN	Rozhen	2.17	352	i P	Pn	01 09 38.0	-0.2
AGG	Agios Georgios	2.22	258	ePn	Pn	01 09 38.5	-0.3
AGG				eSn	Sn	01 10 06.9	-0.3
AGG	Agios Georgios	2.22	258	ePn	Pn	01 09 38.5	-0.4
BTOK	Tokmak	2.26	83	i P	Pn	01 09 40.4	+0.9
BTOK				i S	Sn	01 10 13.6	+5.3
MMB	Musomiste	2.31	333	eP	Pn	01 09 39.0	-1.1
GRG	Griva	2.52	305	ePn	Pn	01 09 43.1	0.0
KKB	Krupnik	2.79	327	eP	Pn	01 09 46.0	-1.1
ULDT	Uludag	3.15	78	i P	Pn	01 10 00.6	+8.4
ULDT				i S	Sn	01 10 37.7	+6.8
VTS	Vitosha	3.38	335	eP	Pn	01 10 05.0	+10

DJA 21 01:31:38.8±0.8**, 9.21S**×**113.76E, h33**^{km}**, MD4.9**/4**, ML3.9**/3**, 5C-5D, Error ellipse: s-maj=17.9km s-min=10.8km az=43.0, South of Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SRDI	Scrawed	0.81	28	⇓ePn	Pn	01 31 53.2	-0.8
	591nm,0.2s						
SRDI	Scrawed	0.81	28	⇑iP	P	01 31 53.5	-0.3
SRDI				⇑iSn	Sn	01 32 03.4	-1.6
KELI	Kelakatan	1.22	36	⇑iPn	Pn	01 31 59.2	-0.6
	59nm,0.2s						
KELI	Kelakatan	1.22	36	⇑iP	P	01 31 59.5	-0.1
KELI				⇓iSn	Sn	01 32 13.3	-2.0
RATI	Rata	1.82	75	⇑iPn	Pn	01 32 07.4	-0.9
	197nm,0.2s						
RATI				⇓iSn	Sn	01 32 27.1	-3.3
KEDI	Kedomdong	2.43	73	⇓iPn	Pn	01 32 15.1	-2.1
	56nm,0.2s						
KEDI				⇓iSn	Sn	01 32 41.7	-4.4

*NEIC **21** 02:36:25.4, 15.44N×93.37W, h16^{km}, MD4.3(MEX), After MEX.*
MEX 21 02:36:25.6±1.3**, 15.44N**×**93.37W, h16**^{km}±22^{km}**, MD4.3, 1D, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CCIG	Comitan	1.45	55	i P	Pn	02 36 47.1	-4.3
CCIG				i S	Sb	02 37 04.7	-5.1
SCX	San Cristobal	1.47	29	i P	Pn	02 36 47.8	-3.8
SCX				i S	Sb	02 37 06.3	-4.0
CMIG	Matias Romero	2.19	319	i P	Pn	02 36 59.1	-2.9
CMIG				i S	Sn	02 37 22.2	-6.8
TUIG	Tuzandepetl	2.77	339	i P	Pn	02 37 07.9	-2.3
TUIG				i S	Sn	02 37 37.6	-6.0
MRL	Marmol	3.57	96	⇓eP	Pn	02 37 14.8	-6.7
VHO	Vista Hermosa	3.62	297	i P	Pn	02 37 17.8	-4.5
VHO				i S	Sn	02 38 00.6	-4.5

MAN 21 03:54:16.4, 13.80N×**120.54E, h101**^{km}**, mb3.8, ML2.6, MS2.2, 2C, Mindoro**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.29	258	⇑eP	P	03 54 32.5	+1.4
LUBP	Lubang	0.29	258	eP	P	03 54 32.7	+1.6
LUBP	Lubang	0.29	258	eP	P	03 54 35.4	+4.2
PAZ	Puerto Azul	0.45	17	eP	P	03 54 33.2	+1.1
TGY	Tagaytay City	0.49	52	⇑iP	S	03 54 46.8	+2.5
ARP	Angono	0.95	39	eP	P	03 54 36.3	-0.2
BOAC	Boac	1.31	105	eP	P	03 54 41.5	+0.7
SJMP	San Jose	1.44	157	eP	P	03 54 42.9	+0.5
SJMP				eS	S	03 55 01.6	-0.2
BUSP	Coron	1.81	191	eP	P	03 54 46.9	-0.1
BUSP				eS	S	03 55 10.2	+0.4
OTRP	Odiongan	2.03	134	eP	P	03 54 50.1	+0.2

*NEIC **21** 05:02:41.1, 35.81S×178.72E, h215^{km}, After WEL.*
WEL 21 05:02:44.9±1.5**, 36.05S**×**178.56E, h196**^{km}±12^{km}**, ML3.6**/2**, Error ellipse: s-maj=21.7km s-min=17.6km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.53	187	P	P	05 03 18.0	-0.9
MXZ				S	S	05 03 45.5	+0.4
MXZ	Matakaoa Point	1.53	187	PN	P	05 03 18.0	-0.9
MXZ				SN	S	05 03 44.7	-0.4
MXZ				SN	S	05 03 45.4	+0.3
PUZ	Puketiti	2.04	187	P	P	05 03 23.9	0.0
PUZ				S	S	05 03 56.2	+2.3
PUZ	Puketiti	2.04	187	PN	P	05 03 23.9	0.0
PUZ				SN	S	05 03 53.8	-0.1
MWZ	Matawai	2.43	199	P	P	05 03 28.5	+0.3
MWZ	Matawai	2.43	199	PN	P	05 03 28.2	0.0
MWZ				SN	S	05 04 03.4	+1.8
URZ	Urewera	2.49	207	eP	P	05 03 28.9	-0.1
URZ	Urewera	2.49	207	PN	P	05 03 28.9	-0.1
URZ				SN	S	05 04 04.3	+1.3
KNZ	Kokohu	3.05	193	PN	P	05 03 35.1	-0.4
BKZ	Black Stump Fm	3.52	207	eP	P	05 03 40.8	-0.4
BKZ	Black Stump Fm	3.52	207	PN	P	05 03 40.8	-0.5
MRZ	Mangatainoka R	5.17	206	eP	P	05 03 59.7	-2.4
MRZ	Mangatainoka R	5.17	206	PN	P	05 03 59.7	-2.4
KIW	Kapiti Island	5.60	210	PN	P	05 04 04.9	-2.7
TUWZ	Tuamarina	6.47	212	PN	P	05 04 15.7	-3.3
THZ	Tophouse	7.21	216	ePN	P	05 04 26.0	-2.7

*IDC **21** 05:08:22.4±1.5, 60.18N×25.31E, mb1 3.3/3, mb1mx3.2/18, ML2.5/3, Error ellipse: s-maj=15.9km s-min=6.7km az=146.0*
*NAO **21** 05:08:22.5±2.5, 60.22N×25.13E, ML2.2*
*HEL **21** 05:08:22.4±0.2, 60.15N×25.19E, ML2.2, ML2.1(UPP), ML2.2(NAO), Explosion*
*BER **21** 05:08:23.4±3.0, 60.22N×25.33E, ML2.2(NAO)*
ISC 21 05:08:21.5±0.8**, 60.23N**±0.05×**25.11E**±0.10**, n29,** σ1^{s}24/44**, Finland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PVF	Pernaja	0.49	50	eP	Pg	05 08 31.4	+0.1
PVF				eS	Sg	05 08 38.0	+0.2
FIA0	FINESS Array S	1.30	21	eP	Pb	05 08 46.8	+0.2
FIA0				eS	Sb	05 09 04.2	+0.4
FIA0	FINESS Array S	1.30	21	Pn	Pn	05 08 46.8	-0.2
	baz=196,slow=14						
FIA0				Lg		05 09 04.4	
	baz=189,slow=28						
FINES	FINESS Array B	1.30	21	Pg	Pg	05 08 46.9	-0.7
	6.1nm,0.3s,baz=193,slow=17,SNR=138						
FINES				Pn	Pn	05 08 49.0	+2.1
	6.1nm,0.3s,baz=194,slow=13,SNR=133						
FINES				Lg		05 09 03.7	
	1.6nm,0.3s,baz=199,slow=29,SNR=7.4						
FINES				Sn	Sn	05 09 09.1	+3.8
	12nm,0.3s,baz=195,slow=23,SNR=26						
FINES				Rg		05 09 11.8	
	17nm,0.8s,baz=190,slow=33,SNR=19						
KEF	Keuruu	1.95	357	eP	Pn	05 08 58.8	+2.7
KEF				eSG	Sg	05 09 26.5	+0.2
KAF	Kangasniemi	1.98	17	eP	Pn	05 08 58.4	+1.9
KAF				eSG	Sg	05 09 25.4	-1.9
KAF				MSG		05 09 27.3	
	comp=Z,9.2nm,0.1s						
SUF	Sumiainen	2.55	11	eSB	Sb	05 09 41.3	+1.5
SUF				MSG		05 09 42.4	
	comp=Z,13nm,0.2s						
AAL	Aland	2.56	271	eP	Pn	05 09 05.7	+0.8
AAL				eS	Sn	05 09 39.1	+2.0
GRAU	Graesoe	3.27	275	eP	Pn	05 09 15.2	+0.1
NRTU	Norrtaelje	3.31	263	eP	Pn	05 09 16.1	+0.6
FLYU	Flymyra	3.61	271	eP	Pn	05 09 20.2	+0.3
NYNU	Nynaeshamn	3.81	254	eP	Pn	05 09 23.0	+0.2
IGGU	Iggoen	3.90	283	eP	Pn	05 09 23.9	-0.1
OSTU	Oestervaala	3.98	273	eP	Pn	05 09 25.2	+0.2
BACU	Backbrunna	4.03	268	eP	Pn	05 09 25.8	0.0
ARNU	Arnoeviken	4.04	295	eP	Pn	05 09 26.6	+0.6
ESKU	Eskilstuna	4.52	261	eP	Pn	05 09 32.7	-0.1
FALU	Falun	4.62	277	eP	Pn	05 09 33.7	-0.5
VIKU	Vikbolandet	4.64	252	eP	Pn	05 09 34.5	+0.1
ROTU	Roteberg	4.70	289	eP	Pn	05 09 34.8	-0.6
HFS	Hagfors	5.70	274	Pn	Pn	05 09 48.4	-1.1
	baz=76,slow=14						
HFS				Sn	Sn	05 10 52.8	-3.7
	baz=76,slow=28						
HFS				Lg		05 11 22.4	
	baz=89,slow=28						
HFS	Hagfors	5.70	274	eP	Pn	05 09 48.4	-1.1
HFS				eS	Sn	05 10 52.8	-3.7
HFS				eSG	Sg	05 11 22.4	-8.8
HFS	Hagfors	5.70	274	Pn	Pn	05 09 48.1	-1.4
	comp=Z,0.0nm,0.3s,baz=135,slow=10,SNR=5.7						
HFS				Sn	Sn	05 10 52.9	-3.6
	comp=Z,0.1nm,0.3s,baz=80,slow=27,SNR=9.2						
HFS				Lg		05 11 23.2	
	comp=Z,0.1nm,0.3s,baz=78,slow=27,SNR=5.1						
NOA	NORSAR Array B	6.88	283	Pn	Pn	05 10 03.3	-2.8
	comp=Z,0.1nm,0.3s,baz=128,slow=19,SNR=2.5						
NOA				Sn	Sn	05 11 20.1	-6.1
	comp=Z,0.2nm,0.3s,baz=71,slow=13,SNR=2.6						
APA0	Apatity Array	8.17	22	Pn	P	05 10 21.6	-2.6
	baz=195,slow=14						
APA0	Apatity Array	8.17	22	eP	P	05 10 21.6	-2.6
ARA0	ARCESS Array S	9.34	1	Pn	P	05 10 37.2	-3.3
	baz=180,slow=14						
ARA0				Sn	Sn	05 12 17.6	-10
	baz=178,slow=28						
ARA0				Lg		05 13 10.8	
	baz=176,slow=37						
ARA0	ARCESS Array S	9.34	1	eP	P	05 10 37.2	-3.3
ARA0				eS	Sn	05 12 17.6	-10
ARA0				eSG	Sx	05 13 10.8	
ARCES	ARCESS Array B	9.34	1	Pn	P	05 10 37.0	-3.5
	comp=Z,0.1nm,0.3s,baz=180,slow=12,SNR=12						
ARCES				Sn	Sn	05 12 19.3	-8.2
	comp=Z,0.1nm,0.3s,baz=177,slow=23,SNR=2.8						

*IDC **21** 05:17:01.0±0.7, 14.50N×146.89E, mb4.1/11, mb1 4.3/12, mb1mx4.2/22, Error ellipse: s-maj=26.8km s-min=16.0km az=98.0*
*BJI **21** 05:17:05.4, 14.42N×146.80E, h42^{km}, mB5.0, mb4.7, Ms4.7, Msz3.9*
*NEIC **21** 05:17:07.1±1.1, 14.41N×146.82E, h44^{km}±9^{km}, mb4.6/20, Error ellipse: s-maj=12.3km s-min=6.9km az=95.0*
ISC 21 05:17:05.7±1.0**, 14.38N**±0.05×**146.85E**±0.08**, h47**^{km}±8^{km}**, h42**^{km}±3.4^{km}**:pP-P, n68,** σ0^{s}89/62**, mb4.6**/39**, MS4.1**/4**, 5C, Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	Guam	2.08	248	eP	P	05 17 37.5	-1.3
ANA2	Anatahan	2.24	331	P	P	05 17 42.4	+1.3
ANAT	Anatahan	2.27	330	eP	P	05 17 42.2	+0.6
SARN	Sarigan	2.53	336	eP	P	05 17 45.5	+0.2
MAJO	Matsushiro	23.38	342	P	P	05 22 11.3	+0.3
PMG	Port Moresby	23.64	179	P	P	05 22 14.4	+0.7
	3.2nm,0.3s,mb4.2,baz=141,slow=5.3,SNR=3.2						
PMG	Port Moresby	23.64	179	eP	P	05 22 14.1	+0.4
	20nm,1.0s,mb4.5						
SSE	Sheshan	28.82	310	eP	P	05 23 01.4	-0.4
SSE				AP	pP	05 23 12.8	-1.2
SSE				AMB	AMB		
	comp=Z,19nm,0.7s,mb4.9						
SSE				AMB	AMB		
	comp=Z,153nm,5.6s						
SSE	Sheshan	28.82	310	eP	P	05 23 01.4	-0.4
	comp=Z,19nm,0.7s,mb4.9						
SSE				pP	pP	05 23 12.7	-1.3
SSE				S	S	05 27 49.3	+2.4
SSE				sS		05 28 10.2	
KAKA	Kakadu	30.48	209	eP	P	05 23 21.1	+4.4
	comp=Z,4.0nm,0.7s,mb4.3						
NJ2	Nanjing	31.02	309	eP	P	05 23 22.1	+0.8
NJ2				AP	pP	05 23 33.9	+0.2
NJ2				XP	sP	05 23 39.4	-0.2
NJ2				S	S	05 28 23.0	+1.3
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.1						
NJ2				LR	LR		
	comp=N,4μm,13.6s,MS5.4						
NJ2				LR	LR		
	comp=E,4μm,13.6s,MS5.4						
MDJ	Mudanjiang	33.52	337	P	P	05 23 42.9	-0.1
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.7s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,162nm,4.8s						
CTAO	Charters Tower	34.26	181	P	P	05 23 56.2	+6.7
	comp=Z,7.4nm,1.2s,mb4.5						
CN2	Changchun	34.56	332	eP	P	05 23 52.8	+0.9
QIZ	Qiongzhong	35.70	283	P	P	05 23 55.2	-6.7
	comp=Z,25nm,1.3s,mb5.0						
WRAB	Tennant Creek	36.25	200	eP	P	05 24 06.5	0.0
	comp=Z,9.1nm,1.1s,mb4.6						
WB2	Warramunga Arr	36.26	200	eP	P	05 24 07.1	+0.5
WRA	Warramunga Arr	36.26	200	P	P	05 24 06.7	+0.1
	comp=Z,1.6nm,0.9s,mb4.0,baz=22,slow=9.8,SNR=17						
WRA				PcP	PcP	05 26 32.0	+0.7
	comp=Z,0.4nm,0.7s,baz=22,slow=3.6,SNR=4.6						
BJT	Baijiatuau	37.05	319	P	P	05 24 11.3	-1.7
	comp=Z,7.5nm,0.6s,mb4.7						
BJI	Beijing	37.06	319	P	P	05 24 12.0	-1.1
BJI				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.5						
BJI				LR	LR		
	comp=Z,50nm,16.2s,MS3.4						
BJI	Beijing	37.06	319	P	P	05 24 12.0	-1.1
	comp=Z,6.0nm,0.8s,mb4.5						
ENH	Enshi	37.80	301	P	P	05 24 19.1	-0.3
	comp=Z,8.4nm,0.7s,mb4.6						
FITZ	Fitzroy Crossi	38.46	214	eP	P	05 24 26.0	+1.0
	comp=Z,2.0nm,0.8s,mb3.9						
FITZ	Fitzroy Crossi	38.46	214	P	P	05 24 25.8	+0.8
	comp=Z,1.1nm,0.4s,mb4.0,baz=34,slow=5.9,SNR=15						
GYA	Guiyang	39.37	294	P	P	05 24 29.3	-3.2
GYA				AP	pP	05 24 39.8	-5.4
GYA				XP	sP	05 24 45.6	-5.3
GYA				PP	PP	05 26 04.4	-2.8
GYA				S	S	05 30 29.3	-1.1
GYA				XS		05 30 50.0	
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
GYA				LR	LR		
	comp=N,160nm,16.8s,MS4.1						
GYA				LR	LR		
	comp=E,180nm,17.2s,MS4.1						
GYA				LR	LR		
	comp=Z,170nm,17.0s,MS4.0						
ASAR	Alice Springs	39.88	199	P	P	05 24 37.6	+0.9
	comp=Z,0.7nm,0.8s,mb3.5,baz=22,slow=8.9,SNR=4.7						
HHC	Hu-ho-hao-te	40.46	318	⇑P	P	05 24 41.8	+0.4
HHC				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.5						
HHC				AMB	AMB		
	comp=Z,108nm,5.4s						
KMI	Kunming	42.70	291	eP	P	05 25 00.8	+0.8
KMI				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.3						
KMI	Kunming	42.70	291	eP	P	05 25 00.8	+0.8
	comp=Z,5.0nm,0.7s,mb4.3						
LZH	Lanzhou	44.05	307	eP	P	05 25 11.0	+0.1
LZH				AP	pP	05 25 21.5	-2.1
LZH				AMB	AMB		
	comp=Z,56nm,1.4s,mb5.1						
LZH	Lanzhou	44.05	307	eP	P	05 25 11.0	+0.1
	comp=Z,56nm,1.4s,mb5.1						
LZH				pP	pP	05 25 21.5	-2.1
LZH				sP	sP	05 25 38.5	+9.3
MBWA	Marble Bar	44.23	218	eP	P	05 25 12.2	-0.4
	comp=Z,7.6nm,1.1s,mb4.3						
MBWA				e	pP	05 25 27.5	+2.2
CMAR	Chiang Mai Arr	46.03	282	P	P	05 25 27.6	+0.7
	comp=Z,2.1nm,0.8s,mb4.1,baz=81,slow=6.4,SNR=16						
CMAR				PcP	PcP	05 27 04.5	+1.3
	comp=Z,1.0nm,0.4s,baz=90,slow=0.9,SNR=5.3						
SONM	Songino Array	47.22	323	P	P	05 25 35.8	0.0
	comp=Z,1.9nm,0.6s,mb4.2,baz=136,slow=8.2,SNR=16						
GTA	Gaotai	48.11	310	eP	P	05 25 43.1	+0.2
GTA				AP	pP	05 25 54.4	-1.3
GTA				AMB	AMB		
	comp=Z,5.0nm,1.3s,mb4.4						
GUN	Gumba	57.92	294	eP	P	05 26 55.9	+0.1
	comp=Z,35nm,0.7s,mb5.5						
WMQ	Urumqi	58.00	313	eP	P	05 26 57.4	+1.3
WMQ				XP	sP	05 27 15.4	+0.7
WMQ				PP	PP	05 29 08.0	+1.5
WMQ				S	S	05 34 53.0	+1.7
WMQ				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,21nm,8.0s						
WMQ				LR	LR		
	comp=Z,41nm,20.0s,MS3.5						
PKI	Pulchoki	58.34	294	eP	P	05 26 58.2	-0.5
KKN	Kakani	58.45	294	eP	P	05 26 59.6	+0.1
DMN	Daman	58.61	294	eP	P	05 27 00.6	0.0
	comp=Z,21nm,0.8s,mb5.2						
GKN	Gorkha	59.02	294	eP	P	05 27 03.4	0.0
	comp=Z,31nm,0.7s,mb5.4						
KOLN	Koldanda	59.94	294	eP	P	05 27 09.7	-0.1
	comp=Z,23nm,0.9s,mb5.2						
ZAL	Zalesovo	62.12	324	P	P	05 27 22.9	-1.3
	comp=Z,2.1nm,0.6s,mb4.5,baz=20,slow=9.1,SNR=12						
KURK	Kurchatov	65.23	319	eP	P	05 27 43.5	-1.1
	comp=Z,37nm,0.8s,mb5.5						
COLA	College	66.67	25	P	P	05 27 53.1	-0.4
	comp=Z,6.4nm,0.8s,mb4.7						
AAK	Ala-Archa	67.46	310	eP	P	05 27 57.5	-1.4
	comp=Z,2.9nm,0.9s,mb4.3						
BRVK	Borovoye	70.57	321	eP	P	05 28 17.6	-0.2
	comp=Z,14nm,0.8s,mb5.0						
ZRNK	Zerenda	71.34	321	eP	P	05 28 21.7	-0.7
	comp=Z,10nm,0.9s,mb4.8						
INK	Inuvik	72.90	22	P	P	05 28 30.6	-0.8
	comp=Z,2.5nm,0.9s,mb4.2,baz=279,slow=8.3,SNR=7.7						
INK	Inuvik	72.90	22	eP	P	05 28 30.4	-1.0
	comp=Z,3.2nm,0.9s,mb4.2						
DLBC	Dease Lake	74.28	33	eP	P	05 28 39.4	-0.2
YKA	Yellowknife Ar	81.27	28	P	P	05 29 18.1	-0.1
	comp=Z,0.8nm,0.4s,mb4.0,baz=283,slow=5.7,SNR=5.5						
YKA	Yellowknife Ar	81.27	28	P	P	05 29 18.1	-0.1
NEW	Newport	83.36	42	P	P	05 29 27.4	-1.8
	comp=Z,1.8nm,0.8s,mb4.2						
CMB	Columbia Colle	83.42	53	P	P	05 29 31.5	+1.8
NVAR	Mina Array Bea	84.92	52	P	P	05 29 38.8	+1.5
	comp=Z,0.5nm,0.6s,mb3.8,baz=255,slow=5.4,SNR=4.1						
ARCES	ARCESS Array B	86.92	342	P	P	05 29 46.4	0.0
	comp=Z,2.6nm,0.9s,mb4.5,baz=79,slow=6.2,SNR=4.8						
FINES	FINESS Array B	91.25	336	P	P	05 30 06.0	-1.0
	comp=Z,1.4nm,0.5s,mb4.5,baz=61,slow=3.7,SNR=7.1						
SNAA	Sanae	119.92	191	⇑iP	PKPdf	05 36 05.9	+15
SNAA	Sanae	119.92	191	⇑iP	PKPdf	05 36 05.9	+15
VNA2	Neumayer--Watz	121.33	190	⇑iPKPdf	PKPdf	05 35 57.0	+3.6
VNA3	Neumayer Olymp	121.41	189	⇑iPKPdf	PKPdf	05 35 53.2	-0.4
DBIC	Dimbokro	145.00	305	PKP	PKPdf	05 36 40.7	+1.8
	comp=Z,11nm,0.5s,baz=43,slow=4.2,SNR=33						
KIC	Kosan Boka	145.09	304	ePKP1	PKPbc	05 36 41.0	+1.6
	comp=Z,41nm,0.6s						
TIC	Toumodi	145.14	305	ePKP1	PKPbc	05 36 41.0	+1.5
	comp=Z,56nm,0.6s						
LIC	Lamto	145.40	304	ePKP1	PKPbc	05 36 42.0	+1.9
	comp=Z,56nm,0.6s						
LPAZ	La Paz	146.24	98	PKPbc	PKPbc	05 36 45.9	+3.9
	comp=Z,2.0nm,0.3s,baz=249,slow=0.6,SNR=2.1						
LPAZ	La Paz	146.24	98	PKPbc	PKPbc	05 36 45.9	+3.9

*SYO **21** 05:26:14.6, 21.92S×67.11W, h164^{km}, MB4.1*
*NEIC **21** 05:26:15.7±0.7, 21.94S×67.29W, h173^{km}±7^{km}, mb4.0/12, MD4.0(GUC), Error ellipse: s-maj=12.8km s-min=9.0km az=70.0*
*BJI **21** 05:26:16.9, 21.90S×67.30W, h173^{km}, mB4.5*
*IDC **21** 05:26:17.6±2.2, 21.87S×67.22W, h185^{km}±19^{km}, mb3.6/11, mb1 3.7/14, mb1mx3.7/16, Error ellipse: s-maj=24.1km s-min=12.1km az=58.0*
*GUC **21** 05:26:17.4±1.2, 21.93S×67.68W, h184^{km}±12^{km}, MD4.0, ML3.6*
ISC 21 05:26:15.6±0.5**, 21.95S**±0.04×**67.41W**±0.07**, h185**^{km}±4^{km}**, n56,** σ1^{s}27/52**, mb3.9**/20**, 1C-8D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SPCH	San Pedro de A	1.20	217	⇓iP	P	05 26 47.3	+1.7
SPCH				i S	S	05 27 10.4	+1.6
SPCH				AMP		05 27 11.7	
	comp=E,708nm,0.7s						
LVC	Limon Verde	1.54	244	eP	P	05 26 49.1	+0.5
LVC				i S	S	05 27 13.7	-0.5
LVC				AMP		05 27 16.8	
	comp=N,512nm,0.5s						
LVC	Limon Verde	1.54	244	ePn	P	05 26 49.0	+0.3
LVC				eSn	S	05 27 04.6	-10
ANCH	Antofagasta	3.26	238	eP	P	05 27 08.6	+0.3
ANCH				i S	S	05 27 47.8	-1.0
CPN1	Cerro Paranal	3.83	225	i P	P	05 27 14.6	-0.7
CPN1				i S	S	05 27 57.9	-3.5
LPAZ	La Paz	5.68	353	P	P	05 27 41.2	+2.0
	comp=N,5.2nm,0.3s,baz=176,slow=0.7,SNR=36						
LPAZ				S	S	05 28 45.2	+1.1
	comp=N,0.4nm,0.3s,baz=191,slow=25,SNR=3.2						
CPCH	Copiapo	6.01	206	eP	P	05 27 38.1	-5.4
CPCH				i S	S	05 28 45.5	-6.5
ARE	Arequipa	6.69	324	eP	P	05 27 51.0	-1.4
ARE				eS	S	05 29 06.0	-1.9
CPUP	Villa Florida	10.18	117	P	P	05 28 37.6	-0.6
	comp=N,0.1nm,0.3s,baz=317,slow=10,SNR=3.3						
SAML	Samuel	13.55	18	eP	P	05 29 18.7	-2.9
	comp=N,3.9nm,0.8s						
SAML				eS	S	05 31 48.6	+0.4
TRQA	Tornquist	16.72	165	eP	P	05 29 58.7	-1.9
	comp=N,2.9nm,0.5s						
BDFB	Brasilia	19.40	74	P	P	05 30 27.2	-2.3
	comp=N,0.7nm,0.3s,baz=269,slow=8.9,SNR=9.9						
SJG	San Juan	39.84	2	P	P	05 33 31.5	-1.2

	comp=N,9.8nm,0.8s,mb4.5						
PMSA	**Palmer Station**	**42.86**	**178**	P	**P**	**05 33 54.5**	**-2.3**
	comp=N,34nm,1.4s,mb4.8						
VNA3	**Neumayer Olymp**	**59.20**	**161**	⇓*i*P	**P**	**05 36 00.9**	**+1.8**
VNA3	**Neumayer Olymp**	**59.20**	**161**	*e*	pP	05 36 36.6	-5.2
VNA3	**Neumayer Olymp**	**59.20**	**161**	*e*	PcP	05 36 41.0	-4.2
VNA2	**Neumayer--Watz**	**59.76**	**161**	⇓*i*P	**P**	**05 36 04.3**	**+1.4**
VNA2	**Neumayer--Watz**	**59.76**	**161**	*e*	pP	05 36 40.2	-5.5
VNA2	**Neumayer--Watz**	**59.76**	**161**	*e*	PcP	05 36 45.4	-2.1
ELN	**Prospectdale**	**60.19**	**348**	*e*P	**P**	**05 36 06.1**	**-0.1**
PWV	**Princeton**	**60.35**	**348**	*e*P	**P**	**05 36 06.8**	**-0.5**
WVT	**Waverly**	**60.91**	**341**	*e*P	**P**	**05 36 09.3**	**-1.8**
	comp=N,4.5nm,0.7s,mb4.4						
SNAA	**Sanae**	**61.40**	**161**	⇓*i*P	**P**	**05 36 13.2**	**-0.7**
SNAA	**Sanae**	**61.40**	**161**	⇓*i*P	**P**	**05 36 13.2**	**-0.7**
SNAA	**Sanae**	**61.40**	**161**	*e*	PcP	05 36 49.3	-4.7
SNAA	**Sanae**	**61.40**	**161**	*e*	pP	05 36 55.1	-1.9
SNAA	**Sanae**	**61.40**	**161**	P	**P**	**05 36 13.6**	**-0.3**
	comp=N,1.0nm,0.7s,mb3.8,baz=262,slow=7.6,SNR=9.3						
SNAA				PcP	PcP	05 36 53.6	-0.4
	comp=N,0.2nm,0.5s,baz=288,slow=3.2,SNR=3.2						
SNAA	**Sanae**	**61.40**	**161**	⇓*i*PKPdf	**P**	**05 36 13.2**	**-0.7**
MIAR	**Mount Ida**	**61.45**	**336**	P	**P**	**05 36 13.8**	**-1.0**
	comp=N,1.7nm,0.6s,mb4.0						
TXAR	**Lajitas Array**	**61.80**	**324**	P	**P**	**05 36 16.6**	**-0.6**
	comp=N,0.4nm,0.8s,mb3.3,baz=152,slow=9.2,SNR=4.0						
DBIC	**Dimbokro**	**67.53**	**73**	P	**P**	**05 36 53.4**	**-1.0**
	comp=N,2.8nm,0.5s,mb4.2,baz=209,slow=4.5,SNR=2.9						
ANMO	**Albuquerque**	**67.65**	**326**	P	**P**	**05 36 55.3**	**+0.6**
	comp=N,1.1nm,0.7s,mb3.7						
SDCO	**Great Sand Dun**	**69.35**	**328**	*e*P	**P**	**05 37 06.1**	**+1.0**
	comp=N,2.1nm,0.8s,mb3.9						
PDAR	**Pinedale Array**	**75.20**	**329**	P	**P**	**05 37 40.2**	**+0.7**
	comp=N,0.4nm,0.5s,mb3.4,baz=129,slow=8.3,SNR=5.0						
HWUT	**Hardware Ranch**	**75.31**	**327**	*e*P	**P**	**05 37 41.1**	**+1.0**
	comp=N,1.8nm,0.7s,mb3.8						
SYO	**Syowa Base**	**75.59**	**159**	⇑P	**P**	**05 37 41.4**	**+0.3**
SYO	**Syowa Base**	**75.59**	**159**	⇓PcP	PcP	05 37 54.9	+1.5
SYO	**Syowa Base**	**75.59**	**159**	⇓pP	pP	05 38 20.5	-5.3
ULM	**Lac du Bonnet**	**76.17**	**342**	P	**P**	**05 37 44.9**	**+0.1**
	comp=N,1.4nm,0.4s,mb3.9,baz=151,slow=5.2,SNR=2.4						
SCHQ	**Schefferville**	**76.47**	**0**	P	**P**	**05 37 45.5**	**-0.8**
	comp=N,2.4nm,0.9s,mb3.8,baz=184,slow=14,SNR=2.4						
VNDA	**Vanda**	**76.64**	**190**	P	**P**	**05 37 48.1**	**+1.3**
	comp=N,0.6nm,0.8s,mb3.3,baz=62,slow=4.7,SNR=3.8						
NVAR	**Mina Array Bea**	**76.71**	**321**	P	**P**	**05 37 50.1**	**+2.1**
	comp=N,0.4nm,0.6s,mb3.3,baz=164,slow=6.6,SNR=6.3						
SUR	**Sutherland**	**77.15**	**120**	P	**P**	**05 37 51.8**	**+1.2**
	comp=N,7.6nm,1.1s,mb4.3,baz=211,slow=13,SNR=4.0						
SUR	**Sutherland**	**77.15**	**120**	*e*P	**P**	**05 37 50.8**	**+0.3**
	comp=N,5.1nm,0.9s,mb4.2						
HLID	**Hailey**	**78.17**	**327**	*e*P	**P**	**05 37 57.7**	**+1.8**
	comp=N,2.4nm,0.8s,mb3.9						
MCMT	**McKenzie Canyo**	**78.32**	**329**	*e*P	**P**	**05 37 58.7**	**+2.0**
WALA	**Waterton Lakes**	**81.93**	**331**	P	**P**	**05 38 15.1**	**-0.6**
	comp=N,2.9nm,0.9s,mb3.9						
FCC	**Fort Churchill**	**83.39**	**346**	P	**P**	**05 38 22.1**	**-0.9**
	comp=N,214nm,1.7s						
MAW	**Mawson**	**83.49**	**163**	P	**P**	**05 38 24.1**	**+0.7**
	comp=N,2.2nm,0.6s,mb4.1,baz=204,slow=5.0,SNR=9.9						
YKA	**Yellowknife Ar**	**92.08**	**340**	P	**P**	**05 39 05.0**	**+0.6**
	comp=N,1.3nm,0.7s,mb4.0,baz=136,slow=4.7,SNR=5.5						
ASAR	**Alice Springs**	**130.14**	**206**	PKP	PKPdf	05 45 05.8	+1.5
	comp=N,0.9nm,0.7s,baz=174,slow=2.6,SNR=7.1						
WRA	**Warramunga Arr**	**133.25**	**209**	PKP	PKPdf	05 45 11.8	+1.5
	comp=N,0.7nm,0.5s,baz=165,slow=1.7,SNR=11						
ZAL	**Zalesovo**	**141.75**	**26**	PKP	PKPdf	05 45 25.8	+1.1
	comp=N,0.7nm,0.3s,baz=204,slow=2.2,SNR=2.6						
CN2	**Changchun**	**155.74**	**337**	*e*PKP	PKPdf	05 45 48.3	+1.5
CN2				PP	PP	05 49 56.8	+1.4
NJ2	**Nanjing**	**168.50**	**332**	*e*PKP	PKPdf	05 46 01.4	+1.4

*CSEM **21** 05:28:15.0±0.1, 34.97N×4.12W, h10^{km}, MD3.8, Error ellipse: s-maj=3.1km s-min=2.2km az=98.0*
*CNRM **21** 05:28:15.4, 35.06N×3.92W, h8^{km}, MD3.8*
*NEIC **21** 05:28:18.6, 34.97N×4.02W, h4^{km}, MG3.7(MDD), After MDD.*
*MDD **21** 05:28:19.3±0.7, 35.08N×4.02W, mb3.7/13, Error ellipse: s-maj=7.0km s-min=5.8km az=10.0, PRXIMO*
ISC 21 05:28:16.1±0.4**, 34.97N**±0.02×**4.13W**±0.03**, h10**^{km}**, n44,** σ**1**^{s}**28**/81**, 1C, Morocco**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TZK	**Tazeka**	**0.88**	**183**	*i* P	**Pb**	**05 28 33.5**	**+0.5**
TZK				*i* S	**Sb**	**05 28 47.0**	**+2.4**
EMEL	**Melilla**	**1.01**	**71**	⇑P	**Pb**	**05 28 35.3**	**0.0**
	346nm,0.1s,SNR=18						
EMEL				S	**Sb**	**05 28 48.5**	**0.0**
	598nm,0.2s						
EMLI	**Melilla**	**1.02**	**71**	P	**Pb**	**05 28 35.3**	**-0.1**
	346nm,0.1s,SNR=18						
EMLI				S	**Sb**	**05 28 48.5**	**-0.2**
	598nm,0.2s						
DKH	**Dar Kharkhour**	**1.14**	**298**	*i* P	**Pb**	**05 28 37.5**	**+0.1**
DKH				*i* S	**Sb**	**05 28 54.0**	**+1.9**
MDAL	**Dalia**	**1.45**	**310**	*e*P	**Pn**	**05 28 41.0**	**-1.5**
MDAL				*e*S	**Sb**	**05 29 01.0**	**0.0**
IFR	**Ifrane**	**1.67**	**210**	P	**Pn**	**05 28 51.0**	**+5.3**
IFR				S	**Sn**	**05 29 14.0**	**+6.7**
EMIJ	**Mijas**	**1.68**	**342**	P	**Pn**	**05 28 44.8**	**-1.0**
	4.5nm,0.2s,SNR=7.9						
EMIJ				S	**Sn**	**05 29 08.8**	**+1.3**
	15nm,0.2s,SNR=7.9						
EMIJ				T		05 29 58.3	
	SNR=7.9						
EMIJ	**Mijas**	**1.68**	**342**	P	**Pn**	**05 28 44.7**	**-1.1**
EMIJ				S	**Sn**	**05 29 05.6**	**-1.9**
EMIJ	**Mijas**	**1.68**	**342**	P	**Pn**	**05 28 44.8**	**-1.0**
	4.5nm,0.2s,SNR=7.9						
EMIJ				S	**Sn**	**05 29 05.6**	**-1.9**
	15nm,0.2s,SNR=7.9						
MIF	**Mishlifen**	**1.80**	**211**	*e*P	**Pn**	**05 28 47.0**	**-0.6**
ERON	**Agron**	**2.06**	**7**	P	**Pn**	**05 28 53.5**	**+2.2**
	7.1nm,0.4s,SNR=4.0						
ERON				S	**Sn**	**05 29 17.1**	**-0.2**
	16nm,0.5s						
EBER	**Berja**	**2.17**	**27**	P	**Pn**	**05 28 51.7**	**-1.2**
	7.5nm,0.3s,SNR=10						
EBER				S	**Sn**	**05 29 16.6**	**-3.4**
	62nm,0.5s						
EBER	**Berja**	**2.17**	**27**	P	**Pn**	**05 28 51.6**	**-1.3**
EBER				S	**Sn**	**05 29 16.6**	**-3.4**
EBER	**Berja**	**2.17**	**27**	P	**Pn**	**05 28 51.7**	**-1.2**
	7.5nm,0.3s,SNR=10						
EBER				S	**Sn**	**05 29 16.6**	**-3.5**
	62nm,0.5s						
ELOJ	**Sierra Loja**	**2.17**	**359**	P	**Pn**	**05 28 54.9**	**+1.9**
	5.0nm,0.3s,SNR=10						
ELOJ				S	**Sn**	**05 29 19.6**	**-0.5**
	8.6nm,0.4s,SNR=5.0						
ESPR	**Espera**	**2.36**	**324**	P	**Pn**	**05 28 57.8**	**+2.2**
	1.8nm,0.1s,SNR=5.1						
ESPR				S	**Sn**	**05 29 26.3**	**+1.4**
	20nm,0.5s,SNR=4.5						
ESPR	**Espera**	**2.36**	**324**	P	**Pn**	**05 28 59.2**	**+3.6**
ESPR				S	**Sn**	**05 29 29.1**	**+4.3**
ESPR	**Espera**	**2.36**	**324**	P	**Pn**	**05 28 57.8**	**+2.2**
	1.8nm,0.1s,SNR=5.1						
ESPR				S	**Sn**	**05 29 29.1**	**+4.2**
	20nm,0.5s,SNR=4.5						
ELUQ	**Luque**	**2.59**	**358**	P	**Pn**	**05 29 01.4**	**+2.6**
	4.5nm,0.2s,SNR=5.6						
ELUQ				S	**Sn**	**05 29 31.6**	**+0.9**
	9.4nm,0.3s,SNR=4.0						
ZFT	**Errachidia**	**2.93**	**184**	*i* P	**Pn**	**05 29 02.0**	**-1.7**
ZFT				*i* S	**Sn**	**05 29 38.0**	**-1.4**
EQES	**Quesada**	**2.95**	**16**	P	**Pn**	**05 29 05.2**	**+1.1**
	SNR=4.0						
EQES				S	**Sn**	**05 29 39.0**	**-1.0**
	32nm,0.5s,SNR=7.9						
EQES	**Quesada**	**2.95**	**16**	P	**Pn**	**05 29 06.1**	**+2.0**
EQES	**Quesada**	**2.95**	**16**	P	**Pn**	**05 29 05.2**	**+1.1**
	SNR=4.0						
EQES				S	**Sn**	**05 29 39.0**	**-0.9**
	32nm,0.5s,SNR=7.9						
EADA	**Adamuz**	**3.21**	**354**	P	**Pn**	**05 29 08.6**	**+0.9**
	1.0nm,0.2s,SNR=10.0						
EADA				S	**Sn**	**05 29 47.4**	**+0.9**
	12nm,0.5s,SNR=4.0						
EADA	**Adamuz**	**3.21**	**354**	P	**Pn**	**05 29 08.6**	**+0.9**
EADA				S	**Sn**	**05 29 46.1**	**-0.4**
EADA	**Adamuz**	**3.21**	**354**	P	**Pn**	**05 29 08.6**	**+0.9**
	1.0nm,0.2s,SNR=10.0						
EADA				S	**Sn**	**05 29 46.1**	**-0.4**
EMIN	**Mina Concepcio**	**3.47**	**324**	P	**Pn**	**05 29 11.8**	**+0.5**
	1.2nm,0.2s,SNR=10						
EMIN				S	**Sn**	**05 29 51.0**	**-1.9**
	3.0nm,0.3s						
EMIN	**Mina Concepcio**	**3.47**	**324**	P	**Pn**	**05 29 11.8**	**+0.5**
	1.2nm,0.2s,SNR=10						
EMIN				S	**Sn**	**05 29 51.0**	**-1.9**
	3.0nm,0.3s						
PALC	**Alcoutim**	**3.68**	**314**	*e*Pn	**Pn**	**05 29 15.2**	**+0.8**
PALC				*e*Sn	**Sn**	**05 29 56.5**	**-1.8**
	9.8nm,0.7s						
PALC	**Alcoutim**	**3.68**	**314**	*e*Pn	**Pn**	**05 29 15.2**	**+0.8**
PALC				*e*Sn	**Sn**	**05 29 56.5**	**-1.8**
	9.8nm,0.7s						
EVIA	**Vianos**	**3.89**	**19**	P	**Pn**	**05 29 24.9**	**+7.6**
	4.9nm,0.3s,SNR=4.0						
EVIA				S	**Sn**	**05 30 02.8**	**-0.8**
	20nm,0.6s,SNR=4.0						
EVIA	**Vianos**	**3.89**	**19**	S	**Sn**	**05 30 05.0**	**+1.4**
	20nm,0.6s,SNR=4.0						
PBEJ	**Beja**	**4.29**	**316**	*e*Pn	**Pn**	**05 29 24.6**	**+1.6**
EBAD	**Badajoz**	**4.43**	**329**	P	**Pn**	**05 29 25.1**	**+0.1**
	1.0nm,0.1s,SNR=8.0						
EBAD				S	**Sn**	**05 30 14.4**	**-3.0**
	3.9nm,0.2s,SNR=6.5						
EBAD	**Badajoz**	**4.43**	**329**	P	**Pn**	**05 29 25.1**	**0.0**
	1.0nm,0.1s,SNR=8.0						
EBAD				S	**Sn**	**05 30 14.4**	**-3.0**
ESDC	**Sonseca Array**	**4.70**	**2**	P	**Pn**	**05 29 28.9**	**0.0**
	2.3nm,0.2s,baz=180,slow=12,SNR=7.6						
ESDC				S	**Sn**	**05 30 20.7**	**-3.4**
	0.6nm,0.2s,baz=182,slow=23,SNR=4.3						
ESDC				UNK		05 30 34.1	
	baz=181,slow=23,SNR=5.3						
ESDC	**Sonseca Array**	**4.70**	**2**	P	**Pn**	**05 29 28.9**	**0.0**
ESDC				S	**Sn**	**05 30 19.8**	**-4.3**
ESDC				*e*		05 30 34.1	
ESDC	**Sonseca Array**	**4.70**	**2**	P	**Pn**	**05 29 28.9**	**+0.1**
ESDC				S	**Sn**	**05 30 19.8**	**-4.3**
CIA	**Chichaoua**	**5.16**	**230**	*e*P	**Pn**	**05 29 34.5**	**-0.8**
CIA				*i* S	**Sn**	**05 30 32.0**	**-3.6**
EIBI	**Ibiza**	**5.96**	**46**	P	**Pn**	**05 29 46.0**	**-0.7**
	0.8nm,0.1s,SNR=4.0						
EIBI				S	**Sn**	**05 30 48.1**	**-7.7**
	5.9nm,0.5s,SNR=4.0						
EIBI	**Ibiza**	**5.96**	**46**	P	**Pn**	**05 29 46.0**	**-0.7**
ETOR	**Torete**	**6.07**	**15**	P	**Pn**	**05 29 48.7**	**+0.5**
	1.0nm,0.4s,SNR=4.0						
ECAL	**Calabor**	**7.26**	**344**	P	**Pn**	**05 30 04.3**	**-0.6**
	1.4nm,0.3s,SNR=7.9						
ECAL				S	**Sn**	**05 31 22.6**	**-5.6**
	11nm,0.7s,SNR=4.0						
ECAL	**Calabor**	**7.26**	**344**	P	**Pn**	**05 30 04.3**	**-0.6**

*IDC **21** 06:11:27.9±0.5, 14.50N×146.98E, mb4.6/18, mb1 4.8/19, mb1mx4.7/23, MS4.0/13, Ms1 4.1/13, ms1mx3.8/27, Error ellipse: s-maj=21.4km s-min=13.6km az=94.0*
*MOS **21** 06:11:29.3±1.0, 14.26N×146.92E, h33^{km}, mb5.2/10, Error ellipse: s-maj=45.6km s-min=12.1km az=118.8*
*BJI **21** 06:11:32.2, 14.50N×147.28E, h62^{km}, mB5.1, mb5.0, Ms4.6, Msz4.2*
*HRVD **21** 06:11:34.4±0.6, 14.22N×147.21E, h18^{km}±1^{km}, MW4.8/48, Centroid moment Tensor Solution. LP body waves: s9,c10;Mantle waves: s48,c59; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.81±.22; $M_{\theta\theta}$0.11±.12; $M_{\phi\phi}$1.70±.14; $M_{r\theta}$-0.95±.37; $M_{\theta\phi}$0.27±.08; $M_{\phi r}$-0.84±.25; Best double couple: $M_0$2.17×10^{16} NP1:ϕ_s174°,δ32°, λ-120°. NP2:ϕ_s29°,δ62°,λ-72°. Principal axes: T 2.02, Plg16°, Azm106°; N .29, Plg16°, Azm200°; P -2.32, Plg68°, Azm333°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **21** 06:11:34.4±1.2, 14.43N×146.84E, h46^{km}±10^{km}, mb4.9/35 Error ellipse: s-maj=8.4km s-min=5.3km az=100.0*
ISC 21 06:11:32.7±1.0**, 14.43N**±0.04×**146.81E**±0.05**, h45**^{km}±8^{km}**, h56**^{km}±2.0^{km}**:pP-P, n141,** σ**1**^{s}**00**/140**, mb4.9**/76**, MS4.2**/23**, 10C-4D, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ANAT	**Anatahan**	**2.21**	**330**	*e*P	**P**	**06 12 09.8**	**+2.1**
SARN	**Sarigan**	**2.47**	**336**	⇑*e*P	**P**	**06 12 12.1**	**+0.7**
JHJ	**Hachijo jima 2**	**19.67**	**342**	LR	LR	06 22 31.2	
	comp=Z,414nm,20.0s,baz=115,slow=34						
JOW	**Kunigami**	**21.25**	**308**	P	**P**	**06 16 17.4**	**+0.2**
	49nm,0.7s,mb5.0,baz=168,slow=4.8,SNR=8.5						
JOW				LR	LR	06 24 31.8	
	comp=Z,708nm,18.7s,MS4.1,baz=358,slow=37						
MAJO	**Matsushiro**	**23.32**	**342**	*e*P	**P**	**06 16 35.1**	**-2.5**
	119nm,1.5s,mb5.1						
MAT	**Matsushiro**	**23.32**	**342**	P	**P**	**06 16 35.0**	**-2.6**
MAT	**Matsushiro**	**23.32**	**342**	*e*P	**P**	**06 16 35.0**	**-2.6**
PMG	**Port Moresby**	**23.69**	**179**	P	**P**	**06 16 42.9**	**+1.6**
	33nm,1.0s,mb4.7,baz=334,slow=6.1,SNR=7.6						
PMG	**Port Moresby**	**23.69**	**179**	*e*P	**P**	**06 16 39.6**	**-1.7**
	113nm,1.0s,mb5.2						
PMG				*e*		06 17 01.6	
SSE	**Sheshan**	**28.76**	**310**	*e*P	**P**	**06 17 27.8**	**-0.5**
SSE				AP	pP	06 17 42.8	+2.5
SSE				XP	sP	06 17 49.3	+3.4
SSE				S	**S**	**06 22 12.6**	**-0.6**
SSE				AMB	AMB		
	comp=Z,16nm,0.5s,mb5.0						
SSE				AMB	AMB		
	comp=Z,209nm,5.5s						
SSE				LR	LR		
	comp=N,132nm,25.5s,MS3.6						
SSE				LR	LR		
	comp=E,168nm,25.5s,MS3.6						
SSE				LR	LR		
	comp=Z,247nm,18.9s						
SSE	**Sheshan**	**28.76**	**310**	*e*P	**P**	**06 17 27.7**	**-0.6**
	comp=Z,16nm,0.5s,mb5.0						
SSE				pP	pP	06 17 42.8	+2.5
SSE				sP	sP	06 17 49.2	+3.3
SSE				S	**S**	**06 22 12.6**	**-0.6**
SSE				sS		06 22 39.1	
ASAJ	**Asahikawa**	**29.80**	**354**	P	**P**	**06 17 36.5**	**-0.9**
	comp=Z,15nm,0.7s,mb4.8,baz=155,slow=28,SNR=4.5						
KAKA	**Kakadu**	**30.50**	**209**	*e*P	**P**	**06 17 49.2**	**+5.2**
	comp=Z,14nm,0.6s,mb5.0						
NJ2	**Nanjing**	**30.96**	**309**	*e*P	**P**	**06 17 47.4**	**-0.5**
NJ2				AP	pP	06 18 02.3	+2.3
NJ2				XP	sP	06 18 09.5	+3.8
NJ2				PP	PP	06 18 51.3	+0.6
NJ2				S	**S**	**06 22 48.0**	**0.0**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,1μm,5.3s						
NJ2				LR	LR		
	comp=N,950nm,20.8s,MS4.5						
NJ2				LR	LR		
	comp=E,820nm,21.0s,MS4.5						
NJ2				LR	LR		
	comp=Z,3μm,20.7s,MS4.9						
YSS	**Yuzh-Sakhalins**	**32.60**	**355**	P	**P**	**06 18 00.9**	**-1.2**
	comp=Z,54nm,1.1s,mb5.4						
MDJ	**Mudanjiang**	**33.46**	**337**	P	**P**	**06 18 09.4**	**-0.1**
MDJ				AP	pP	06 18 24.1	+2.4
MDJ				PP	PP	06 19 22.5	0.0
MDJ				S	**S**	**06 23 26.9**	**+0.1**
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,149nm,4.3s						
MDJ				LR	LR		
	comp=N,93nm,19.1s,MS3.6						
MDJ				LR	LR		
	comp=E,77nm,18.3s,MS3.6						
MDJ				LR	LR		
	comp=Z,173nm,19.1s,MS3.8						
WHN	**Wuhan**	**33.85**	**304**	*e*P	**P**	**06 18 18.0**	**+4.9**
CTAO	**Charters Tower**	**34.31**	**181**	*e*P	**P**	**06 18 14.4**	**-2.7**
	comp=Z,18nm,1.5s,mb4.8						
CN2	**Changchun**	**34.50**	**332**	*e*P	**P**	**06 18 20.3**	**+1.8**
WRAB	**Tennant Creek**	**36.28**	**200**	*e*P	**P**	**06 18 33.8**	**-0.1**
	comp=Z,19nm,0.9s,mb5.0						
WB2	**Warramunga Arr**	**36.29**	**200**	*e*P	**P**	**06 18 33.6**	**-0.4**
WRA	**Warramunga Arr**	**36.30**	**200**	P	**P**	**06 18 33.6**	**-0.4**
	comp=Z,8.8nm,0.9s,mb4.7,baz=21,slow=9.7,SNR=62						
BJT	**Baijiatuau**	**36.99**	**319**	*e*P	**P**	**06 18 39.6**	**0.0**
	comp=Z,28nm,0.8s,mb5.1						
BJI	**Beijing**	**36.99**	**319**	P	**P**	**06 18 39.6**	**-0.1**
BJI				AP	pP	06 18 53.1	+1.1
BJI				XP	sP	06 18 59.8	+2.2
BJI				S	**S**	**06 24 21.5**	**+0.1**
BJI				AMB	AMB		
	comp=Z,37nm,1.1s,mb5.1						
BJI				AMB	AMB		
	comp=Z,219nm,4.2s						
BJI				LR	LR		
	comp=N,375nm,19.2s,MS4.3						
BJI				LR	LR		
	comp=E,382nm,19.0s,MS4.3						
BJI				LR	LR		
	comp=Z,274nm,17.9s,MS4.1						
BJI	**Beijing**	**36.99**	**319**	P	**P**	**06 18 39.6**	**-0.1**
	comp=Z,37nm,1.1s,mb5.1						
BJI				pP	pP	06 18 53.1	+1.1
BJI				sP	sP	06 18 59.7	+2.1
BJI				S	**S**	**06 24 21.5**	**+0.1**
BJI				SS	SS	06 27 09.3	+17
ENH	**Enshi**	**37.74**	**301**	*e*P	**P**	**06 18 45.8**	**-0.3**
	comp=Z,56nm,1.1s,mb5.2						
FITZ	**Fitzroy Crossi**	**38.48**	**214**	*e*P	**P**	**06 18 52.9**	**+0.6**
	comp=Z,7.8nm,0.8s,mb4.5						
GYA	**Guiyang**	**39.32**	**294**	⇓*i*P	**P**	**06 19 00.8**	**+1.6**
GYA				AP	pP	06 19 15.8	+4.3
GYA				XP	sP	06 19 23.4	+6.3
GYA				PP	PP	06 20 37.3	+3.6
GYA				S	**S**	**06 24 58.0**	**+1.2**
GYA				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.8						
GYA				LR	LR		
	comp=N,220nm,15.0s,MS4.4						
GYA				LR	LR		
	comp=E,370nm,16.4s,MS4.4						
GYA				LR	LR		
	comp=Z,650nm,16.8s,MS4.5						
XAN	**Xi'an**	**39.38**	**307**	P	**P**	**06 19 00.3**	**+0.6**
XAN				AMB	AMB		
	comp=Z,13nm,1.2s,mb4.5						
PET	**Petropavlovsk**	**39.63**	**11**	*e*P	**P**	**06 19 09.3**	**+7.8**
PET				*e*S	**S**	**06 25 11.1**	**+10**
PET				pmax	pmax		
	comp=Z,50nm,14.7s						
PET				smax			
	comp=E,100nm,13.0s						
ASAR	**Alice Springs**	**39.91**	**199**	P	**P**	**06 19 04.2**	**0.0**
	comp=E,2.0nm,0.6s,mb4.0,baz=23,slow=9.4,SNR=20						
ASAR				LR	LR	06 35 10.1	
	comp=E,112nm,18.0s,MS3.8,baz=22,slow=36						
ASPA	**Alice Springs**	**39.91**	**199**	*e*P	**P**	**06 19 04.9**	**+0.7**
HHC	**Hu-ho-hao-te**	**40.40**	**318**	⇑P	**P**	**06 19 08.8**	**+0.8**
HHC				AMB	AMB		
	comp=Z,28nm,1.2s,mb4.9						
HHC				AMB	AMB		
	comp=Z,142nm,6.2s						
HIA	**Hailar**	**41.21**	**333**	*e*P	**P**	**06 19 14.3**	**-0.3**
	comp=Z,8.6nm,0.7s,mb4.5						
BTO	**Baotou**	**41.30**	**316**	*e*P	**P**	**06 19 16.0**	**+0.6**
BTO				AMB	AMB		
	comp=Z,39nm,1.2s,mb4.9						
KMI	**Kunming**	**42.65**	**291**	*e*P	**P**	**06 19 27.9**	**+1.2**
KMI				AP	pP	06 19 43.6	+4.5
KMI				XP	sP	06 19 50.5	+5.9
KMI				PP	PP	06 21 08.8	+0.3
KMI				PCP	PcP	06 21 17.9	-0.8
KMI				S	**S**	**06 25 47.6**	**+1.4**
KMI				SS	SS	06 28 51.6	+0.3
KMI				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.6						
KMI				AMB	AMB		
	comp=Z,98nm,3.7s						
KMI				LR	LR		
	comp=N,193nm,15.6s,MS4.3						
KMI				LR	LR		
	comp=E,249nm,16.6s,MS4.3						
KMI				LR	LR		
	comp=Z,211nm,17.4s,MS4.1						
KMI	**Kunming**	**42.65**	**291**	*e*P	**P**	**06 19 27.9**	**+1.2**
	comp=Z,9.0nm,0.7s,mb4.6						
KMI				pP	pP	06 19 43.6	+4.5
KMI				sP	sP	06 19 50.5	+5.9
KMI				PP	PP	06 21 08.8	+0.3
KMI				PcP	PcP	06 21 17.9	-0.8
KMI				S	**S**	**06 25 47.6**	**+1.4**
KMI				sS		06 26 13.2	
KMI				SS	SS	06 28 51.6	+0.3
CD2	**Chengdu**	**42.69**	**300**	P	**P**	**06 19 27.8**	**+0.8**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
LZH	**Lanzhou**	**43.99**	**307**	*e*P	**P**	**06 19 38.9**	**+1.4**
LZH				AP	pP	06 19 52.3	+2.4
LZH				XP	sP	06 19 58.3	+2.9
LZH				PP	PP	06 21 26.1	+4.3
LZH				AMB	AMB		
	comp=Z,36nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,190nm,5.0s						
LZH				LR	LR		
	comp=E,610nm,14.6s						
LZH				LR	LR		
	comp=Z,1μm,16.7s,MS5.0						
LZH	**Lanzhou**	**43.99**	**307**	*e*P	**P**	**06 19 38.9**	**+1.4**
	comp=Z,36nm,1.0s,mb5.1						
LZH				pP	pP	06 19 52.2	+2.3
LZH				sP	sP	06 19 58.2	+2.8
LZH				PP	PP	06 21 26.1	+4.3
LZH				PPP	PPP	06 22 07.0	+7.0
LZH				*e*S	**S**	**06 26 14.2**	**+8.5**
LZH				sS		06 26 40.0	
LZH				*e*SS	SS	06 29 30.0	+15
MBWA	**Marble Bar**	**44.25**	**218**	*e*P	**P**	**06 19 40.0**	**+0.2**
	comp=Z,12nm,0.8s,mb4.7						
MA2	**Magadan**	**45.16**	**3**	*e*P	**P**	**06 19 47.5**	**+1.0**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.7						
MA2	**Magadan**	**45.16**	**3**	*e*P	**P**	**06 19 47.5**	**+0.9**
	comp=Z,29nm,0.7s,mb5.2						
CMAR	**Chiang Mai Arr**	**45.98**	**282**	P	**P**	**06 19 55.2**	**+1.6**
	comp=Z,9.3nm,0.9s,mb4.7,baz=79,slow=6.3,SNR=39						
CMAR				PcP	PcP	06 21 32.2	+2.0
	comp=Z,2.6nm,0.6s,baz=104,slow=1.7,SNR=4.7						
STKA	**Stephens Creek**	**46.31**	**186**	P	**P**	**06 19 56.0**	**0.0**
	comp=Z,6.1nm,1.0s,mb4.5,baz=0.4,slow=10,SNR=6.0						
STKA				LR	LR	06 39 45.0	
	comp=Z,174nm,19.4s,MS4.0,baz=22,slow=37						
SONM	**Songino Array**	**47.16**	**323**	P	**P**	**06 20 02.6**	**+0.1**
	comp=Z,6.9nm,0.6s,mb4.8,baz=139,slow=9.0,SNR=30						
GTA	**Gaotai**	**48.05**	**310**	*e*P	**P**	**06 20 10.3**	**+0.7**
GTA				AP	pP	06 20 25.8	+3.7
GTA				XP	sP	06 20 32.5	+5.0
GTA				S	**S**	**06 27 04.8**	**+1.3**
GTA				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.1						
GTA				AMB	AMB		
	comp=Z,213nm,5.7s						
GTA				LR	LR		
	comp=N,169nm,15.6s,MS4.3						
GTA				LR	LR		
	comp=E,264nm,19.4s,MS4.3						
GTA				LR	LR		
	comp=Z,218nm,19.8s,MS4.1						
YAK	**Yakutsk**	**49.09**	**349***c*	*i*P	**P**	**06 20 15.9**	**-1.4**
YAK				pmax	pmax		
	comp=Z,29nm,0.9s,mb5.3						
YAK				MLR	MLR		
	comp=Z,100nm,14.0s,MS4.0						
YAK	**Yakutsk**	**49.09**	**349**	P	**P**	**06 20 16.0**	**-1.3**
	comp=Z,53nm,0.8s,mb5.6						
ZAK	**Zakamensk**	**50.21**	**325**	*e*P	**P**	**06 20 25.8**	**-0.3**
SHL	**Shillong**	**52.48**	**291**	*e*P	**P**	**06 20 43.0**	**-0.5**
KLBR	**Kellerberrin**	**53.59**	**211**	*e*P	**P**	**06 20 51.0**	**-0.7**
	comp=Z,14nm,1.0s,mb4.9						
NWAO	**Narrogin (SRO)**	**54.92**	**210**	*e*P	**P**	**06 21 01.0**	**-0.5**
	comp=Z,19nm,1.1s,mb5.0						
TAU	**Tasmania Unive**	**57.06**	**180**	*e*P	**P**	**06 21 12.7**	**-3.9**
	comp=Z,25nm,1.1s,mb5.2						
TAU				*e*	pP	06 21 29.1	-0.4
GUN	**Gumba**	**57.87**	**294**	*e*P	**P**	**06 21 22.8**	**+0.3**
	comp=Z,101nm,0.7s,mb6.0						
WMQ	**Urumqi**	**57.94**	**313**	P	**P**	**06 21 23.6**	**+0.8**
WMQ				PP	PP	06 23 34.0	+1.0
WMQ				S	**S**	**06 29 18.0**	**+0.3**
WMQ				SS	SS	06 33 11.0	+0.4

WMQ AMB AMB
comp=Z,32nm,1.2s,mb5.2
WMQ AMB AMB
comp=Z,23nm,8.0s
WMQ LR LR
comp=N,135nm,22.0s,MS4.3
WMQ LR LR
comp=E,198nm,19.0s,MS4.3
WMQ LR LR
comp=Z,189nm,20.0s,MS4.2
TIXI Tiksi 58.20 353 *i* P **P 06 21 22.3 -2.0**
PKI Pulchoki 58.28 294 *e*P **P 06 21 25.2 -0.2**
comp=Z,49nm,0.8s,mb5.6
KKN Kakani 58.40 294 *e*P **P 06 21 26.1 -0.1**
comp=Z,46nm,0.8s,mb5.6
DMN Daman 58.55 294 *e*P **P 06 21 27.2 -0.1**
comp=Z,91nm,0.9s,mb5.8
GKN Gorkha 58.97 294 *e*P **P 06 21 30.0 -0.2**
comp=Z,110nm,0.8s,mb5.9
URZ Urewera 59.62 153 LR LR 06 44 54.1
comp=Z,107nm,20.0s,MS4.0,baz=214,slow=34
KOLN Koldanda 59.89 294 *e*P **P 06 21 36.2 -0.3**
comp=Z,54nm,0.8s,mb5.6
ZAL Zalesovo 62.06 324 P **P 06 21 50.5 -0.3**
comp=Z,7.3nm,0.7s,mb4.9,baz=11,slow=7.9,SNR=14
ZAL LR LR 06 48 50.4
comp=Z,126nm,20.0s,MS4.1,baz=6.0,slow=36
ZAL Zalesovo 62.06 324 *i* P **P 06 21 50.7 -0.1**
ZAL pmax pmax
comp=Z,7.0nm,0.7s
MKAR Makanchi Array 62.20 315 *i* P **P 06 21 51.3 -0.6**
MKAR pmax pmax
comp=Z,23nm,0.6s
NVS Novosibirsk 63.16 325 *i* P **P 06 21 56.9 -1.3**
NVS pmax pmax
comp=Z,30nm,1.3s,mb5.3
NVS pmax pmax
comp=N,20nm,1.5s
NVS pmax pmax
comp=E,32nm,1.5s
JOSI Joshimath 63.36 297 *e*P **P 06 22 00.9 +1.1**
KALG Kalgarh 64.09 296 *e* **P 06 21 54.9 -10**
DDI Dehra Dun 64.66 297 *e*P **P 06 22 05.7 -2.7**
AGRA Agra 64.93 294 *e*P **P 06 22 09.7 -0.5**
AGRA AMb AMB 06 22 13.0
comp=Z,39nm,0.3s,mb6.0
KURK Kurchatov 65.17 319*d i*P **P 06 22 10.4 -0.9**
KURK Kurchatov 65.17 319 *e*P **P 06 22 10.6 -0.7**
comp=Z,108nm,0.9s,mb5.9
KURK *e* pP 06 22 24.8 +0.4
HYB Hyderabad 65.40 283 *i* P **P 06 22 13.5 +0.2**
NDI New Delhi 65.48 295 *e*P **P 06 22 13.0 -0.7**
AYAN Aya Nagar 65.57 295 *e*P **P 06 22 13.3 -1.0**
AYAN AMb AMB 06 22 15.3
comp=Z,13nm,1.2s,mb4.8
SML Sawmill 65.58 28 *e*P **P 06 22 12.8 -0.9**
BHPL Bhopal 65.74 289 *e*P **P 06 22 14.9 -0.5**
BHPL *e* 06 22 16.2
comp=Z,21nm,0.5s
MCK McKinley 65.85 26 *e*P **P 06 22 14.5 -0.9**
comp=Z,8.0nm,1.2s,mb4.6
KUDL Kundal 66.15 295 *e*P **P 06 22 17.9 -0.1**
KUDL AMb AMB 06 22 19.2
comp=Z,24nm,0.7s,mb5.3
RTK Rohtak 66.16 296 *e*P **P 06 22 18.9 +0.9**
RTK AMb AMB 06 22 19.8
comp=Z,45nm,0.2s,mb6.2
COLA College 66.64 25 *e*P **P 06 22 19.7 -0.7**
comp=Z,5.0nm,0.7s,mb4.7
ILAR Eielson Array 67.00 25 P **P 06 22 20.8 -1.9**
comp=Z,4.7nm,0.7s,mb4.6,baz=251,slow=6.1,SNR=105
ILAR LR LR 06 48 54.7
comp=Z,107nm,19.0s,MS4.1,baz=87,slow=34
THY Trims Highway 67.14 27 *e*P **P 06 22 23.3 -0.3**
FRU Bishkek 67.31 311 *e*P **P 06 22 26.0 +1.0**
AAK Ala-Archa 67.40 310*d i*P **P 06 22 24.6 -1.0**
AAK pmax pmax
comp=Z,11nm,1.5s,mb4.7
AAK MLR MLR
comp=Z,200nm,18.0s,MS4.4
AAK Ala-Archa 67.40 310 *e*P **P 06 22 24.9 -0.7**
comp=Z,12nm,1.3s,mb4.8
POO Poona 69.66 285⇑*i*P **P 06 22 38.5 -1.5**
DAWY Dawson 70.04 27 *e*P **P 06 22 41.2 -0.3**
VOSK Vostochnaya 70.07 321 P **P 06 22 40.9 -1.0**
VOSK pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
BVA0 Borovoye Array 70.44 321 P **P 06 22 43.4 -0.7**
BRVK Borovoye 70.51 321 *e*P **P 06 22 44.4 -0.1**
comp=Z,47nm,0.9s,mb5.4
ZRNK Zerenda 71.28 321 P **P 06 22 48.5 -0.7**
ZRNK pmax pmax
comp=Z,17nm,0.8s,mb5.0
ZRNK Zerenda 71.28 321 *e*P **P 06 22 48.6 -0.5**
comp=Z,36nm,1.0s,mb5.3
INK Inuvik 72.87 23 P **P 06 22 57.9 -0.4**
comp=Z,7.0nm,0.8s,mb4.6,baz=276,slow=6.5,SNR=31
INK Inuvik 72.87 23 *e*P **P 06 22 57.9 -0.4**
comp=Z,8.6nm,0.8s,mb4.7
DLBC Dease Lake 74.26 33 *e*P **P 06 23 06.5 -0.1**
DLBC *e* 06 23 51.1
SVE Sverdlovsk 75.97 326⇑*e*P **P 06 23 17.0 +0.5**
SVE pmax pmax
comp=Z,80nm,2.3s,mb5.2
ARU Arti 77.15 325⇑*i*P **P 06 23 23.0 -0.1**
ARU *e* 06 23 29.5
ARU *e* 06 26 18.6
ARU *e*S S 06 33 01.9 -5.6
ARU *e*SS SS 06 38 07.7 -0.8
ARU pmax pmax
comp=Z,24nm,1.4s,mb4.9
GNW Green Mountain 79.74 43 *e*P **P 06 23 38.8 +1.2**
YKA Yellowknife Ar 81.24 28 P **P 06 23 44.9 -0.2**
comp=Z,4.1nm,0.7s,mb4.5,baz=284,slow=5.7,SNR=6.9
YKA Yellowknife Ar 81.24 28 P **P 06 23 44.9 -0.2**
RES Resolute Bay 83.30 14 *e*P **P 06 23 56.5 +1.0**
comp=Z,9.6nm,1.0s,mb4.8
NEW Newport 83.35 42 P **P 06 23 56.5 +0.3**
comp=Z,4.8nm,0.8s,mb4.6
NEW *e* pP 06 24 10.3 +0.6
CMB Columbia Colle 83.42 53 *e*P **P 06 23 55.5 -1.4**
comp=Z,11nm,1.1s,mb4.8
NVAR Mina Array Bea 84.92 52 P **P 06 24 06.2 +1.8**
comp=Z,2.4nm,0.7s,mb4.5,baz=263,slow=4.5,SNR=9.5
NVAR LR LR 06 58 55.8
comp=Z,58nm,19.8s,MS4.0,baz=295,slow=34
MNV Mina 85.03 52 *e*P **P 06 24 06.0 +1.0**
comp=Z,1.5nm,0.8s,mb4.2
APA Apatity 85.35 339⇑*i*P **P 06 24 06.6 +0.7**
KEV Kevo 86.30 342 *e*p **P 06 24 08.7 -1.7**
HLID Hailey 86.41 46 P **P 06 24 12.2 +0.6**
comp=Z,3.9nm,1.0s,mb4.6
ARCES ARCESS Array B 86.86 342 P **P 06 24 13.1 -0.1**
comp=Z,3.2nm,0.7s,mb4.7,baz=71,slow=6.6,SNR=12
ARCES LR LR 07 08 13.5
comp=Z,134nm,18.9s,MS4.4,baz=21,slow=39
MCMT McKenzie Canyo 87.12 45 *e*P **P 06 24 16.2 +1.2**
HRY Holter Researc 87.22 42 *e*P **P 06 24 15.8 +0.3**
JOF Joensuu 88.32 336 *e*p **P 06 24 19.0 -1.4**
comp=Z,4.6nm,0.7s,mb4.8
JOF Joensuu 88.32 336 *e*P **P 06 24 19.0 -1.4**
JOF pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
YMR Madison River 88.44 44 *e*P **P 06 24 23.6 +2.2**
DUG Dugway 88.53 49 *e*P **P 06 24 22.4 +0.5**
comp=Z,4.4nm,0.8s,mb4.8
GCMT Greycliff 88.94 43 *e*P **P 06 24 25.2 +1.5**
HWUT Hardware Ranch 89.00 47 *e*P **P 06 24 25.1 +1.0**
comp=Z,4.6nm,0.9s,mb4.8
HWUT *e* 06 25 05.4
JLU Jordanelle 89.40 48 *e*P **P 06 24 26.8 +0.7**
MSU Marysvale 89.52 50 *e*P **P 06 24 28.5 +1.9**
PDAR Pinedale Array 90.03 46 P **P 06 24 29.5 +0.6**
comp=Z,0.5nm,0.6s,mb4.0,baz=255,slow=2.0,SNR=6.5
PDAR LR LR 06 58 57.5
comp=Z,81nm,19.0s,MS4.2,baz=245,slow=32
KAF Kangasniemi 90.72 336 *e*p **P 06 24 29.6 -2.1**
FINES FINESS Array B 91.19 336 P **P 06 24 33.1 -0.8**
comp=Z,3.7nm,0.6s,mb4.9,baz=72,slow=6.0,SNR=19
FINES LR LR 07 05 56.3
comp=Z,62nm,18.0s,MS4.1,baz=43,slow=36
FINES FINESS Array B 91.19 336 *i* P **P 06 24 33.1 -0.8**
FINES pmax pmax
comp=Z,4.0nm,0.6s
VNDA Vanda 92.19 177 P **P 06 24 39.2 +1.0**
comp=Z,1.8nm,1.0s,mb4.3,baz=306,slow=7.0,SNR=5.0
VNDA LR LR 07 02 15.0
comp=Z,61nm,18.3s,MS4.1,baz=256,slow=33
RSSD Black Hills 93.27 43 *e*P **P 06 24 44.0 +0.1**
comp=Z,7.0nm,1.2s,mb5.0
AKASG Malin Array Be 95.40 326 P **P 06 24 55.1 +1.7**
comp=Z,0.3nm,0.3s,mb4.2,baz=52,slow=4.9,SNR=16
BRTR Keskin Array B 97.84 314 P **P 06 25 04.9 +0.1**
comp=Z,2.6nm,1.1s,mb4.7,baz=59,slow=7.2,SNR=4.1
TXAR Lajitas Array 99.32 57 LR LR 07 05 51.7
comp=Z,138nm,18.1s,MS4.5,baz=335,slow=33
SNAA Sanae 119.97 191⇑*i*PKPdf PKPdf 06 30 19.2 +1.2
SNAA *e* 06 30 33.3
VNA2 Neumayer--Watz 121.38 190⇑*i*PKPdf PKPdf 06 30 23.8 +3.1
VNA2 *e* 06 30 38.5
VNA3 Neumayer Olymp 121.45 189⇓*i*PKPdf PKPdf 06 30 23.5 +2.7
VNA3 *e* 06 30 37.9
VNA1 Neumayer--Stat 121.76 190⇑*i*PKPdf PKPdf 06 30 22.9 +1.5
VNA1 *e* 06 30 39.4
DBIC Dimbokro 144.94 305 PKPbc PKPbc 06 31 07.3 +1.2
comp=Z,42nm,0.7s,baz=35,slow=3.7,SNR=65
KIC Kosan Boka 145.03 304 *e*PKP1 PKPbc 06 31 07.6 +1.2
comp=Z,227nm,0.7s
TIC Toumodi 145.08 305 *e*PKP1 PKPbc 06 31 07.6 +1.1
comp=Z,152nm,0.8s
LVC Limon Verde 145.23 109 *e*PKPdf PKPdf 06 31 08.2 +2.1
LIC Lamto 145.34 304 *e*PKP1 PKPbc 06 31 08.5 +1.4
comp=Z,236nm,0.8s
LPAZ La Paz 146.28 98 PKPbc PKPbc 06 31 11.5 +2.2
comp=Z,3.5nm,0.4s,baz=193,slow=0.2,SNR=4.8
SAML Samuel 150.14 83 *e*PKPdf PKPdf 06 31 17.0 +2.6
SAML *e*PKPbc PKPdf 06 31 21.6 +7.1
SAML *e*PKPab PKPab 06 31 27.6 -0.2

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*IDC **21** 06:21:42.1±0.9, 14.50N×147.07E, mb3.8/8, mb1 4.0/8, mb1mx3.9/20, Error ellipse: s-maj=33.0km s-min=21.3km az=103.0*
*NEIC **21** 06:21:47.2±0.5, 14.47N×146.88E, h35km, mb4.6/3, Error ellipse: s-maj=16.5km s-min=11.7km az=122.0*
ISC 21 06:21:42.8±7.6**, 14.5N**±0.1×**146.9E**±0.2**, h16**km±53km**, n24,** σ**0.75**/19**, mb4.2**/14**, Mariana Islands**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
GUMO Guam 2.18 245 *e*Pn **Pn 06 22 18.9 -0.2**
WRA Warramunga Arr 36.42 200 P **P 06 28 48.1 -0.8**
0.7nm,0.9s,mb3.6,baz=23,slow=9.9,SNR=7.9
ASAR Alice Springs 40.04 199 P **P 06 29 19.9 +0.8**
0.1nm,0.4s,mb2.9,baz=21,slow=13,SNR=3.5
CMAR Chiang Mai Arr 46.04 282 P **P 06 30 09.4 +1.5**
0.5nm,0.4s,mb3.8,baz=74,slow=6.6,SNR=4.3
SONM Songino Array 47.12 323 P **P 06 30 17.0 +0.9**
1.0nm,0.6s,mb3.9,baz=131,slow=7.3,SNR=5.2
GUN Gumba 57.90 294 *e*P **P 06 31 37.3 +0.5**
6.3nm,0.5s,mb4.9
PKI Pulchoki 58.32 294 *e*P **P 06 31 38.9 -0.8**
DMN Daman 58.59 294 *e*P **P 06 31 41.4 -0.2**
GKN Gorkha 59.00 294 *e*P **P 06 31 44.3 -0.2**
5.1nm,0.4s,mb4.9
KOLN Koldanda 59.92 294 *e*P **P 06 31 50.9 +0.1**
3.1nm,0.6s,mb4.5
ZAL Zalesovo 62.02 324 P **P 06 32 05.5 +0.8**
1.0nm,0.3s,mb4.4,baz=317,slow=2.1,SNR=3.3
KURK Kurchatov 65.14 319 *e*P **P 06 32 24.5 -0.7**
11nm,0.9s,mb4.9
ILAR Eielson Array 66.87 25 P **P 06 32 35.0 -1.0**
0.4nm,0.5s,mb3.7,baz=253,slow=6.0,SNR=14
BRVK Borovoye 70.47 321 *e*P **P 06 32 57.9 -0.7**
3.1nm,0.7s,mb4.3
ZRNK Zerenda 71.24 321 *e*P **P 06 33 02.4 -0.9**
4.1nm,1.0s,mb4.3
INK Inuvik 72.74 23 P **P 06 33 12.5 +0.6**
1.9nm,1.2s,mb3.9,baz=239,slow=2.6,SNR=4.3
INK Inuvik 72.74 23 P **P 06 33 12.0 +0.1**
DPW Davenport 82.60 43 *e*P **P 06 34 07.8 +1.1**
FINES FINESS Array B 91.12 336 P **P 06 34 47.5 -0.4**
1.7nm,0.8s,mb4.4,baz=177,slow=34,SNR=1.8
DBIC Dimbokro 144.94 305 PKPbc PKPbc 06 41 21.3 +0.7
7.1nm,0.8s,baz=37,slow=2.6,SNR=9.4
KIC Kosan Boka 145.03 305 *e*PKIKP PKPdf 06 41 22.1 -2.2
30nm,0.8s
TIC Toumodi 145.09 305 *e*PKIKP PKPdf 06 41 22.1 -2.2
142nm,1.4s
LIC Lamto 145.34 305 *e*PKIKP PKPdf 06 41 22.3 -2.5
109nm,1.8s
LPAZ La Paz 146.21 98 PKPbc PKPbc 06 41 25.1 +1.5
2.0nm,0.3s,baz=65,slow=0.7,SNR=1.9

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*MAN **21** 06:34:20.7, 6.53N×125.93E, h87km, mb4.4, ML3.3, MS3.1*
ISC 21 06:34:20.6±1.0**, 6.5N**±0.2×**125.9E**±0.1**, h100**km±18km**, n7,** σ**0.24**/9**, mb3.8**/1**, 1C, Mindanao**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
MATI Mati 0.56 41 *e*P **P 06 34 37.1 +0.1**
KCP Kidapawan 0.93 301⇑*e*P **P 06 34 40.8 +0.2**
KCP *i* S **S 06 34 55.3 -0.2**
BUKP Musuan 1.58 329 *e*P **P 06 34 48.3 +0.1**
BUKP *e*S **S 06 35 08.8 -0.1**
PAGZ Pagadian 2.82 298 *e*P **P 06 35 05.0 +0.1**
KAKA Kakadu 20.16 161 *e*P **P 06 38 55.4 +6.1**
3.8nm,0.6s
FITZ Fitzroy Crossi 24.47 181 *e*P **P 06 39 32.0 +0.3**
1.9nm,0.4s,mb3.8
WB2 Warramunga Arr 27.58 163 *e*P **P 06 40 00.1 -0.5**

DJA 21 07:00:19.4±0.9**, 9.47S**×**115.08E, h240**km**, MD4.8**/4**, ML3.7**/4**, 4C-2D, Error ellipse: s-maj=49.9km s-min=16.2km az=12.0, South of Bali**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
RATI Rata 0.87 31⇓*i*Pn P 07 00 54.5 +1.7
302nm,0.2s
RATI ⇑*e*Sn S 07 01 17.4 -1.5
SRDI Scrawed 1.36 317⇑*i*Pn P 07 00 56.2 +0.2
65nm,0.2s
SRDI ⇑*i*Sn S 07 01 22.6 -1.8
KELI Kelakatan 1.38 335⇑*i*Pn P 07 00 54.8 -1.4
140nm,0.2s
KELI ⇓*i*Sn S 07 01 25.3 +0.6
KEDI Kedomdong 1.41 46 *e*Pn P 07 00 55.3 -1.1
18nm,0.2s

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*IDC **21** 07:42:09.7±0.7, 25.65N×140.93E, mb4.2/12, mb1 4.4/13, mb1mx4.3/22, Error ellipse: s-maj=30.2km s-min=15.9km az=103.0*
*BJI **21** 07:42:15.0, 25.50N×141.10E, h35km, mb4.4*
*NEIC **21** 07:42:15.1±0.3, 25.53N×141.05E, h35km, mb4.5/10, Error ellipse: s-maj=12.9km s-min=9.3km az=100.0*
ISC 21 07:42:11.0±4.9**, 25.49N**±0.06×**141.29E**±0.08**, h15**km±31km**, n43,** σ**1.38**/43**, mb4.4**/25**, 1C, Volcano Islands region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
CBIJ Chichi jima 1.79 26 Pn **Pn 07 42 41.8 +0.1**
CBIJ Sn **Sn 07 43 03.5 -0.9**
TATO Taipei 17.93 273 P **P 07 46 18.6 -2.9**
126nm,1.1s
SNY Shenyang 21.91 322 ⇑P **P 07 47 07.8 +2.4**
SNY AMB AMB
comp=Z,30nm,1.2s,mb4.6
WHN Wuhan 24.29 288 *e*P **P 07 47 32.8 +4.0**
LZH Lanzhou 33.68 297 *e*P **P 07 48 56.0 +2.5**
LZH AP pP 07 49 05.0 +7.0
LZH XP sP 07 49 12.0 +12
LZH AMB AMB
comp=Z,30nm,1.5s,mb5.0
LZH Lanzhou 33.68 297 *e*P **P 07 48 56.0 +2.5**
comp=Z,30nm,1.5s,mb5.0
LZH pP pP 07 49 05.0 +7.0
LZH sP sP 07 49 12.0 +12
SONM Songino Array 35.35 318 P **P 07 49 07.5 -0.2**
comp=Z,1.2nm,0.6s,mb4.0,baz=126,slow=8.0,SNR=6.4
GTA Gaotai 37.33 302 *e*P **P 07 49 24.3 -0.2**
GTA AP pP 07 49 35.3 +6.3
GTA AMB AMB
comp=Z,12nm,1.7s,mb4.5
CTAO Charters Tower 45.55 173 P **P 07 50 30.4 -1.8**
comp=Z,8.1nm,1.1s,mb4.6
WRAB Tennant Creek 45.65 189 P **P 07 50 32.7 -0.3**
comp=Z,71nm,0.7s,mb5.7,SNR=8.7
WRAB Tennant Creek 45.65 189 *e*P **P 07 50 32.7 -0.3**
comp=Z,37nm,1.2s,mb5.2
WB2 Warramunga Arr 45.66 189 *e*P **P 07 50 32.6 -0.4**
WRA Warramunga Arr 45.66 189 P **P 07 50 32.8 -0.3**
comp=Z,6.9nm,0.7s,mb4.7,baz=8.6,slow=8.6,SNR=72
WMQ Urumqi 46.88 307 *e*P **P 07 50 43.5 +1.1**
GUN Gumba 49.21 286 *e*P **P 07 51 02.1 +1.3**
comp=Z,11nm,0.5s,mb5.1
ASAR Alice Springs 49.38 189 P **P 07 51 01.6 -0.6**
comp=Z,1.3nm,0.8s,mb4.0,baz=11,slow=12,SNR=9.5
PKI Pulchoki 49.68 285 *e*P **P 07 51 04.8 +0.4**
KKN Kakani 49.76 286 *e*P **P 07 51 05.2 +0.2**
DMN Daman 49.94 286 *e*P **P 07 51 07.4 +1.0**
GKN Gorkha 50.27 286 *e*P **P 07 51 09.7 +0.8**
KOLN Koldanda 51.22 286 *e*P **P 07 51 16.5 +0.4**
comp=Z,36nm,1.2s,mb5.2
KURK Kurchatov 53.55 315 P **P 07 51 28.4 -4.9**
comp=Z,3.9nm,1.0s,mb4.3
STKA Stephens Creek 57.04 180 P **P 07 51 59.3 +0.5**
comp=Z,9.4nm,1.4s,mb4.6,baz=327,slow=18,SNR=4.6
BVAR Borovoye Array 58.69 318 P **P 07 52 07.8 -2.3**
comp=Z,1.7nm,0.6s,mb4.3,baz=106,slow=11,SNR=6.3
COLA College 59.10 28 *e*P **P 07 52 11.6 -1.2**
ILAR Eielson Array 59.50 28 P **P 07 52 14.4 -1.1**
comp=Z,1.7nm,0.8s,mb4.1,baz=258,slow=5.3,SNR=15
ZRNK Zerenda 59.53 318 P **P 07 52 14.1 -1.8**
comp=Z,4.8nm,1.6s,mb4.3
INK Inuvik 64.82 24 P **P 07 52 50.0 -1.0**
comp=Z,1.2nm,0.5s,mb4.2,baz=314,slow=5.9,SNR=15
INK Inuvik 64.82 24 *e*P **P 07 52 49.9 -1.1**
comp=Z,1.6nm,0.6s,mb4.2
YKA Yellowknife Ar 73.93 28 P **P 07 53 46.8 -0.2**
comp=Z,1.1nm,0.6s,mb4.0,baz=296,slow=6.4,SNR=4.2
YKA Yellowknife Ar 73.93 28 P **P 07 53 46.8 -0.2**
ARCES ARCESS Array B 74.80 341 P **P 07 53 50.4 -1.5**
comp=Z,3.0nm,1.0s,mb4.2,baz=68,slow=6.5,SNR=5.2
FINES FINESS Array B 79.03 334 P **P 07 54 13.2 -2.5**
comp=Z,1.4nm,0.4s,mb4.2,baz=62,slow=5.2,SNR=18
CMB Columbia Colle 80.83 52 P **P 07 54 26.6 +0.8**
comp=Z,2.2nm,0.7s,mb4.2
NVAR Mina Array Bea 82.14 51 P **P 07 54 34.5 +2.0**
comp=Z,1.0nm,0.8s,mb3.8,baz=310,slow=4.1,SNR=6.5
HLID Hailey 82.44 45 P **P 07 54 37.0 +3.0**
comp=Z,0.5nm,0.7s,mb3.5
TPAW Teton Pass 84.67 44 *e*P **P 07 54 45.3 -0.1**
NOA NORSAR Array B 84.80 338 P **P 07 54 43.4 -2.3**
comp=Z,1.3nm,0.8s,mb4.1,baz=45,slow=5.0,SNR=4.0
HWUT Hardware Ranch 85.22 46 *e*P **P 07 54 50.0 +1.8**
comp=Z,6.3nm,1.2s,mb4.6
PDAR Pinedale Array 85.92 44 P **P 07 54 52.7 +1.1**
comp=Z,1.2nm,0.9s,mb4.1,baz=270,slow=1.5,SNR=9.1
DAU Daniels Canyon 86.02 47 P **P 07 54 54.2 +2.0**
LTX Lajitas 97.21 53 *e*P **P 07 55 41.5 -3.1**
LPAZ La Paz 151.08 77 PKPbc PKPdf 08 02 06.4 +4.6
comp=Z,1.6nm,0.3s,baz=201,slow=0.5,SNR=2.4

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*NEIC **21** 07:48:48.6±0.7, 21.79S×68.40W, h122km±10km, mb4.0/7, MD4.0(GUC), Error ellipse: s-maj=13.9km s-min=11.1km az=177.0*
*GUC **21** 07:48:50.2±0.9, 21.86S×68.68W, h123km±10km, MD4.0, ML4.2*
*IDC **21** 07:48:51.3±3.7, 21.68S×68.27W, h135km±31km, mb3.5/6, mb1 3.7/8, mb1mx3.6/14, Error ellipse: s-maj=37.9km s-min=19.0km az=40.0*
ISC 21 07:48:47.4±0.5**, 21.69S**±0.05×**68.55W**±0.07**, h120**km±6km**, n28,** σ**1.48**/33**, mb3.9**/10**, 2C-5D, Chile-Bolivia border region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
LVC Limon Verde 0.98 200⇑*i*P **P 07 49 11.4 +1.8**
LVC *i* S **S 07 49 27.4 +1.3**
LVC AMP 07 49 29.0
comp=E,4μm,0.5s
LVC Limon Verde 0.98 200 *e*Pn **P 07 49 10.8 +1.2**
LVC *e*S **S 07 49 23.6 -2.6**
SPCH San Pedro de A 1.26 165⇓*i*P **P 07 49 14.7 +2.1**
SPCH *i* S **S 07 49 33.9 +2.5**
SPCH AMP 07 49 46.9
comp=N,3μm,0.4s
ANCH Antofagasta 2.63 221⇓*i*P **P 07 49 29.9 +0.2**
ANCH *i* S **S 07 49 60.0 -1.6**
ANCH AMP 07 50 03.7
comp=N,1μm,0.8s
CPN1 Cerro Paranal 3.39 210 *e*P **P 07 49 39.1 -0.7**
CPN1 *i* S **S 07 50 17.1 -2.6**
CPN1 AMP 07 50 27.9
comp=E,786nm,0.4s
LPAZ La Paz 5.39 4 P **P 07 50 10.5 +3.8**
comp=E,2.2nm,0.3s,baz=204,slow=1.8,SNR=18
ARE Arequipa 5.89 331 *e*P **P 07 50 12.0 -1.6**
ARE *e*S **S 07 51 21.0 +0.6**
CPUP Villa Florida 11.25 116 P **P 07 51 24.2 -1.3**
comp=E,0.2nm,0.3s,baz=337,slow=14,SNR=3.7
NNA Nana 12.49 319 *e*P **P 07 51 52.6 +11**
SAML Samuel 13.68 23 *e*P **P 07 51 57.3 -0.1**
comp=E,1.2nm,0.7s
TRQA Tornquist 17.27 162 P **P 07 52 33.9 -8.6**
comp=E,3.4nm,0.6s
BDFB Brasilia 20.35 76 P **P 07 53 14.6 -1.8**
comp=E,6.4nm,0.5s,baz=253,slow=10,SNR=21
BAO Brasilia Array 20.38 76 P **P 07 53 14.7 -1.9**
VNA3 Neumayer Olymp 59.79 161⇓*i* **P 07 58 43.5 +1.7**
JCT Junction City 59.94 329 P **P 07 58 40.6 -2.8**
comp=E,3.9nm,0.8s,mb4.5
VNA1 Neumayer--Stat 60.00 160⇑*i* **P 07 58 44.6 +1.4**
WVT Waverly 60.33 342 *e*P **P 07 58 44.8 -1.2**
comp=E,3.6nm,0.9s,mb4.4
VNA2 Neumayer--Watz 60.36 161⇓*i* **P 07 58 46.1 +0.4**
MIAR Mount Ida 60.77 336 *e*P **P 07 58 48.5 -0.5**
comp=E,1.5nm,0.6s,mb4.2
TXAR Lajitas Array 60.97 325 P **P 07 58 51.0 +0.5**
comp=E,0.1nm,0.5s,mb3.1,baz=144,slow=8.0,SNR=3.7
SNAA Sanae 61.99 161⇓*i* **P 07 58 53.4 -3.3**
ANMO Albuquerque 66.84 327 *e*P **P 07 59 29.9 +1.2**
comp=E,1.3nm,0.7s,mb3.9
DBIC Dimbokro 68.47 73 P **P 07 59 37.9 -1.2**
comp=E,6.8nm,0.7s,mb4.6,baz=226,slow=4.8,SNR=7.7
SDCO Great Sand Dun 68.58 329 P **P 07 59 40.3 +0.9**
comp=E,1.6nm,0.8s,mb3.9
PDAR Pinedale Array 74.44 330 P **P 08 00 15.3 +1.2**
comp=E,0.5nm,0.8s,mb3.3,baz=141,slow=9.5,SNR=4.4
NVAR Mina Array Bea 75.85 322 P **P 08 00 24.1 +1.9**
comp=E,0.6nm,0.7s,mb3.5,baz=187,slow=8.3,SNR=6.6
MAW Mawson 84.06 163 P **P 08 01 06.3 +1.1**
comp=E,0.8nm,0.7s,mb3.7,baz=255,slow=6.3,SNR=3.5
WRA Warramunga Arr 132.96 210 PKP PKPdf 08 07 51.0 +1.6
comp=E,0.2nm,0.5s,baz=161,slow=1.7,SNR=6.8

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*IDC **21** 08:06:54.8±0.8, 18.38S×73.33W, mb4.0/8, mb1 4.2/10, mb1mx4.1/16, ML3.9/2, MS3.2/3, Ms1 3.2/3, ms1mx3.1/15, Error ellipse: s-maj=27.8km s-min=20.5km az=35.0*
*BJI **21** 08:06:56.6, 18.30S×73.40W, h13km, mB4.7, Msz4.5*
*NEIC **21** 08:06:56.7±4.3, 18.32S×73.39W, h13km±26km, mb4.3/12, Error ellipse: s-maj=16.6km s-min=7.9km az=60.0*
*SYO **21** 08:06:56.5, 18.21S×73.10W, h14km, MB4.3*
ISC 21 08:06:54.7±2.9**, 18.33S**±0.06×**73.42W**±0.05**, h13**km±18km**, n40,** σ**1.14**/38**, mb4.2**/18**, MS3.8**/1**, 5C, Off coast of northern Chile**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
ARE Arequipa 2.62 45⇑*i*P **Pn 08 07 38.1 +0.7**
ARE *i* S **Sn 08 08 09.1 -0.2**
LPAZ La Paz 5.45 69 Pn **Pn 08 08 18.5 +0.9**
5.2nm,0.3s,baz=243,slow=1.8,SNR=38
LPAZ Sn **Sn 08 09 20.8 0.0**
1.9nm,0.3s,baz=43,slow=19,SNR=3.7
LPAZ LR LR 08 10 18.7
comp=Z,129nm,19.3s,baz=246,slow=38
LVC Limon Verde 6.00 136⇑*e*P **Pn 08 08 24.2 -1.2**
LVC *i* S **Sn 08 09 26.6 -8.2**
ANCH Antofagasta 6.02 153 *i* S **Sn 08 09 23.5 -12**
CPN1 Cerro Paranal 6.87 156⇑*i*P **Pn 08 08 33.0 -4.6**
CPN1 *i* S **Sn 08 09 43.9 -12**
NNA Nana 7.12 332 *e*Pn **Pn 08 08 41.0 -0.1**
13nm,0.8s
NNA *e*Sn **Sn 08 09 52.4 -10**
SAML Samuel 13.63 48 *e*P **P 08 10 05.4 -4.9**
2.8nm,0.9s
CPUP Villa Florida 16.87 121 Pn **P 08 10 54.4 +2.1**
0.1nm,0.3s,baz=299,slow=13,SNR=1.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CPUP				LR	LR	08 17 17.8	
	comp=Z,40nm,18.8s,baz=183,slow=37						
OTAV	**Otavalo**	**19.10**	**344**	P	**P**	**08 11 26.0**	**+6.1**
	9.1nm,1.2s						
TRQA	**Tornquist**	**22.05**	**155**	*e*P	**P**	**08 11 50.3**	**-0.6**
	6.7nm,1.0s,mb4.0						
BDFB	**Brasilia**	**24.44**	**88**	P	**P**	**08 12 15.4**	**+0.9**
	2.4nm,0.6s,mb3.8,baz=296,slow=5.9,SNR=5.9						
SDV	**Santo Domingo**	**27.18**	**6**	*e*P	**P**	**08 12 39.1**	**-1.0**
	9.5nm,1.1s,mb4.2						
OXF	**Oxford**	**54.70**	**344**	*e*P	**P**	**08 16 23.7**	**-2.4**
	10nm,0.9s,mb4.9						
TXAR	**Lajitas Array**	**55.65**	**328**	P	**P**	**08 16 33.2**	**+0.2**
	0.7nm,0.7s,mb3.8,baz=155,slow=8.8,SNR=16						
WVT	**Waverly**	**55.85**	**346**	*e*P	**P**	**08 16 32.6**	**-1.7**
	3.8nm,0.7s,mb4.5						
MIAR	**Mount Ida**	**55.97**	**340**	*e*P	**P**	**08 16 34.6**	**-0.6**
	9.7nm,0.9s,mb4.8						
WMOK	**Wichita Mounta**	**58.02**	**335**	P	**P**	**08 16 48.5**	**-1.2**
	1.0nm,0.8s,mb3.9						
BRNJ	**Basking Ridge**	**58.72**	**359**	P	**P**	**08 16 53.3**	**-1.3**
ANMO	**Albuquerque**	**61.58**	**329**	*e*P	**P**	**08 17 13.8**	**-0.5**
	1.9nm,0.9s,mb4.2						
SNAA	**Sanae**	**66.65**	**161**	P	**P**	**08 17 46.0**	**-0.8**
	0.8nm,1.1s,mb3.7,baz=238,slow=8.7,SNR=4.1						
SNAA	**Sanae**	**66.65**	**161**	*e*P	**P**	**08 17 46.1**	**-0.7**
	2.5nm,1.0s,mb4.2						
RSSD	**Black Hills**	**68.16**	**337**	*e*P	**P**	**08 17 57.3**	**+0.6**
	1.9nm,0.8s,mb4.2						
HWUT	**Hardware Ranch**	**69.30**	**330**	*e*P	**P**	**08 18 04.5**	**+0.7**
	3.5nm,0.9s,mb4.3						
PDAR	**Pinedale Array**	**69.30**	**332**	P	**P**	**08 18 04.7**	**+0.8**
	0.5nm,0.8s,mb3.5,baz=135,slow=8.4,SNR=4.1						
NVAR	**Mina Array Bea**	**70.42**	**324**	P	**P**	**08 18 11.9**	**+1.2**
	0.6nm,0.7s,mb3.6,baz=138,slow=7.0,SNR=6.4						
RRI2	**Red Ridge**	**70.55**	**332**	*e*P	**P**	**08 18 12.9**	**+1.5**
DBIC	**Dimbokro**	**72.02**	**76**	P	**P**	**08 18 18.9**	**-1.9**
	4.7nm,0.7s,mb4.5,baz=206,slow=6.5,SNR=3.9						
HLID	**Hailey**	**72.15**	**330**	*e*P	**P**	**08 18 22.8**	**+1.8**
	1.6nm,0.9s,mb4.0						
EDM	**Edmonton**	**79.15**	**337**	*e*P	**P**	**08 19 00.7**	**+0.2**
VNDA	**Vanda**	**79.20**	**190**	LR	LR	08 50 42.3	
	comp=Z,40nm,19.8s,MS3.8,baz=283,slow=33						
SYO	**Syowa Base**	**80.92**	**160**	⇑P	**P**	**08 19 10.2**	**+0.5**
SYO	**Syowa Base**	**80.92**	**160**	⇑PcP	PcP	08 19 18.6	+1.8
YKA	**Yellowknife Ar**	**86.84**	**342**	P	**P**	**08 19 40.7**	**+0.9**
	2.5nm,0.6s,mb4.6,baz=140,slow=3.9,SNR=9.3						
YKA	**Yellowknife Ar**	**86.84**	**342**	P	**P**	**08 19 40.7**	**+0.9**
MAW	**Mawson**	**88.53**	**165**	P	**P**	**08 19 49.1**	**+1.3**
	1.5nm,0.5s,mb4.6,baz=201,slow=4.4,SNR=10						
ASAR	**Alice Springs**	**130.47**	**214**	PKP	PKPdf	08 26 07.7	-1.8
	0.5nm,0.9s,baz=144,slow=3.1,SNR=5.1						
WRA	**Warramunga Arr**	**133.22**	**217**	PKP	PKPdf	08 26 13.5	-1.2
	0.3nm,0.5s,baz=143,slow=1.9,SNR=9.0						
BVAR	**Borovoye Array**	**135.41**	**31**	PKP	PKPdf	08 26 18.0	+0.1
	0.4nm,0.7s,baz=342,slow=4.6,SNR=2.7						
ZAL	**Zalesovo**	**140.68**	**20**	PKP	PKPdf	08 26 26.9	-0.5
	0.9nm,0.3s,baz=81,slow=4.1,SNR=4.9						
SONM	**Songino Array**	**150.57**	**0**	PKPbc	PKPdf	08 26 49.2	+5.0
	3.5nm,0.7s,baz=337,slow=1.8,SNR=21						

WAR ***21*** *08:32:00.2, 51.49N×16.09E, ML2.6, Mining Induced*
PRU 21 08:33:00.1, 51.46N×16.12E, Poland

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.63**	**170**	*e*PG	Pg	08 33 12.0	-0.6
KSP				*e*SG	Sg	08 33 21.0	0.0
UPC	**Upice**	**0.96**	**184**	*e*PG	Pg	08 33 18.4	-0.8
DPC	**Dobruska-Polom**	**1.12**	**173**	*e*PG	Pg	08 33 20.8	-1.6
DPC				*e*SG	Sg	08 33 36.1	-1.2
PVCC	**Panska Ves**	**1.35**	**227**	*e*PG	Pg	08 33 25.4	-1.7
PRU	**Pruhonice**	**1.78**	**215**	*e*PG	Pg	08 33 32.6	-3.1
PRU				*i* x	x	08 33 36.7	
PRU				*i* x	x	08 33 49.2	
PRU				*e*SG	Sg	08 33 56.5	-2.9
	3.7nm,0.3s						
PRU				*e*x	x	08 33 59.4	
NKC	**Novy Kostel**	**2.63**	**244**	*e*SG	Sg	08 34 24.4	-3.3
KHC	**Kasperske Hory**	**2.84**	**216**	*e*SG	Sg	08 34 31.0	-3.8

JSN 21 08:38:08.2±0.3**, 18.13N×77.79W, h16**km±7km**, MD3.5, 3D, Jamaica region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STH	**Stony Hill**	**0.94**	**93**	⇓*i*P	Pb	08 38 24.7	-0.9
STH				*i* S	Sb	08 38 37.0	-0.6
HOJ	**Hope**	**1.00**	**97**	⇓*i*P	Pb	08 38 25.9	-0.8
GWJ	**Greenwich**	**1.01**	**93**	⇓*i*P	Pb	08 38 26.0	-0.9

IDC ***21*** *09:35:29.5±0.9, 14.49N×146.99E, mb3.9/7, mb1 4.2/7, mb1mx4.0/19, Error ellipse: s-maj=32.6km s-min=21.2km az=104.0*
NEIC ***21*** *09:35:37.5±0.6, 14.42N×146.77E, h60km, mb4.4/4, Error ellipse: s-maj=18.7km s-min=12.9km az=120.0*
ISC 21 09:35:32.7±3.0**, 14.5N**±0.1×**146.9E**±0.2**, h38**km±25km**, n25, σ0ˢ53**/20**, mb4.3**/15**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.18**	**246**	*e*P	**P**	**09 36 07.2**	**0.0**
WRA	**Warramunga Arr**	**36.37**	**200**	P	**P**	**09 42 35.2**	**-0.3**
	0.6nm,0.6s,mb3.7,baz=23,slow=9.6,SNR=9.5						
ASAR	**Alice Springs**	**39.99**	**199**	P	**P**	**09 43 06.0**	**+0.3**
	0.3nm,0.6s,mb3.2,baz=20,slow=9.3,SNR=4.5						
CMAR	**Chiang Mai Arr**	**46.08**	**282**	P	**P**	**09 43 56.3**	**+1.1**
	0.8nm,0.3s,mb4.1,baz=72,slow=5.7,SNR=4.1						
CMAR	**Chiang Mai Arr**	**46.08**	**282**	P	**P**	**09 43 56.3**	**+1.1**
SONM	**Songino Array**	**47.18**	**323**	P	**P**	**09 44 03.7**	**+0.2**
	0.7nm,0.6s,mb3.8,baz=129,slow=9.2,SNR=5.7						
GUN	**Gumba**	**57.94**	**294**	*e*P	**P**	**09 45 24.2**	**+0.3**
	7.0nm,0.5s,mb4.9						
PKI	**Pulchoki**	**58.36**	**294**	*e*P	**P**	**09 45 26.8**	**-0.1**
KKN	**Kakani**	**58.47**	**294**	*e*P	**P**	**09 45 27.4**	**-0.2**
	4.3nm,0.5s,mb4.8						
DMN	**Daman**	**58.63**	**294**	*e*P	**P**	**09 45 29.0**	**+0.3**
	6.1nm,0.6s,mb4.8						
GKN	**Gorkha**	**59.04**	**294**	*e*P	**P**	**09 45 30.9**	**-0.7**
KOLN	**Koldanda**	**59.96**	**294**	*e*P	**P**	**09 45 37.0**	**-1.0**
	5.8nm,0.7s,mb4.7						
ZAL	**Zalesovo**	**62.08**	**324**	P	**P**	**09 45 52.8**	**+0.9**
	1.8nm,0.3s,mb4.7,baz=18,slow=19,SNR=4.3						
KURK	**Kurchatov**	**65.20**	**319**	*e*P	**P**	**09 46 11.8**	**-0.6**
	14nm,0.9s,mb5.0						
ILAR	**Eielson Array**	**66.92**	**25**	P	**P**	**09 46 22.4**	**-0.7**
	0.6nm,0.5s,mb3.9,baz=267,slow=6.7,SNR=13						
BRVK	**Borovoye**	**70.53**	**321**	*e*P	**P**	**09 46 45.5**	**-0.1**
	4.4nm,0.7s,mb4.5						
ZRNK	**Zerenda**	**71.30**	**321**	*e*P	**P**	**09 46 50.2**	**0.0**
	3.3nm,0.8s,mb4.3						
INK	**Inuvik**	**72.79**	**23**	*e*P	**P**	**09 46 58.9**	**+0.1**
	0.8nm,0.7s,mb3.8						
YKA	**Yellowknife Ar**	**81.16**	**28**	P	**P**	**09 47 46.3**	**+0.6**
	1.6nm,0.7s,mb4.1,baz=290,slow=5.1,SNR=4.0						
YKA	**Yellowknife Ar**	**81.16**	**28**	P	**P**	**09 47 46.3**	**+0.6**
DBIC	**Dimbokro**	**144.99**	**305**	PKPbc	PKPbc	09 55 08.9	+1.7
	5.4nm,0.5s,baz=35,slow=4.2,SNR=12						
KIC	**Kosan Boka**	**145.09**	**304**	*e*PKP1	PKPbc	09 55 09.2	+1.7
	122nm,1.5s						
TIC	**Toumodi**	**145.14**	**305**	*e*PKP1	PKPbc	09 55 09.2	+1.6
	29nm,0.7s						
LIC	**Lamto**	**145.40**	**305**	*e*PKP1	PKPbc	09 55 10.2	+1.9
	34nm,0.6s						
LPAZ	**La Paz**	**146.18**	**98**	PKPbc	PKPbc	09 55 14.2	+4.1
	0.5nm,0.5s,baz=351,slow=5.7,SNR=2.1						

IDC ***21*** *09:42:34.0±0.9, 14.52N×146.85E, mb3.7/7, mb1 3.9/7, mb1mx3.8/21, Error ellipse: s-maj=41.6km s-min=19.6km az=105.0*
NEIC ***21*** *09:42:39.4±0.6, 14.48N×146.67E, h35km, mb4.5/5, Error ellipse: s-maj=21.3km s-min=11.6km az=106.0*
ISC 21 09:42:36.8±0.8**, 14.49N**±0.10×**146.8E**±0.2**, h33**km**, n20, σ0ˢ74**/17**, mb4.0**/12**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.07**	**245**	*e*Pn	**Pn**	**09 43 09.4**	**-0.5**
MAJO	**Matsushiro**	**23.27**	**342**	*e*P	**P**	**09 47 50.1**	**+7.7**
	36nm,0.7s,mb4.9						
MAT	**Matsushiro**	**23.27**	**342**	P	**P**	**09 47 49.7**	**+7.4**
MAT	**Matsushiro**	**23.27**	**342**	*e*P	**P**	**09 47 50.0**	**+7.7**
WRAB	**Tennant Creek**	**36.33**	**200**	P	**P**	**09 49 38.9**	**-0.7**
	2.3nm,0.8s,mb4.2						
WRA	**Warramunga Arr**	**36.34**	**200**	P	**P**	**09 49 39.9**	**+0.1**
	0.4nm,0.6s,mb3.5,baz=21,slow=9.5,SNR=4.9						
FITZ	**Fitzroy Crossi**	**38.52**	**213**	P	**P**	**09 49 59.0**	**+1.0**
	2.0nm,1.0s,mb3.8,baz=358,slow=13,SNR=2.6						
ASAR	**Alice Springs**	**39.96**	**199**	P	**P**	**09 50 10.1**	**+0.2**
	0.3nm,0.9s,mb3.0,baz=19,slow=9.8,SNR=4.6						
SONM	**Songino Array**	**47.10**	**323**	P	**P**	**09 51 08.5**	**+1.1**
	0.5nm,0.5s,mb3.7,baz=135,slow=6.1,SNR=4.9						
ZAL	**Zalesovo**	**62.01**	**324**	P	**P**	**09 52 55.7**	**-0.2**
	1.3nm,0.6s,mb4.3,baz=43,slow=6.0,SNR=3.4						
ZAL	**Zalesovo**	**62.01**	**324**	P	**P**	**09 52 55.7**	**-0.2**
KURK	**Kurchatov**	**65.11**	**319**	*e*P	**P**	**09 53 16.8**	**+0.5**
	10nm,1.0s,mb4.8						
ILAR	**Eielson Array**	**66.97**	**25**	P	**P**	**09 53 27.1**	**-0.8**
	0.5nm,0.5s,mb3.8,baz=249,slow=6.4,SNR=9.1						
BRVK	**Borovoye**	**70.45**	**321**	*e*P	**P**	**09 53 48.2**	**-1.5**
	2.9nm,0.7s,mb4.3						
ZRNK	**Zerenda**	**71.22**	**321**	*e*P	**P**	**09 53 54.7**	**+0.3**
	2.3nm,0.8s,mb4.2						
INK	**Inuvik**	**72.83**	**23**	P	**P**	**09 54 04.1**	**+0.5**
	0.5nm,0.8s,mb3.5,baz=193,slow=13,SNR=3.2						
INK	**Inuvik**	**72.83**	**23**	P	**P**	**09 54 04.1**	**+0.5**
DBIC	**Dimbokro**	**144.89**	**305**	PKP	PKPdf	10 02 13.7	+2.1
	5.9nm,0.8s,baz=50,slow=4.4,SNR=7.4						
DBIC	**Dimbokro**	**144.89**	**305**	PKP	PKPdf	10 02 13.7	+2.1
LPAZ	**La Paz**	**146.31**	**98**	PKPbc	PKPbc	10 02 18.8	+3.8
	0.5nm,0.5s,baz=88,slow=2.8,SNR=1.8						

IDC ***21*** *09:43:03.0±0.8, 14.49N×147.05E, mb4.0/10, mb1 4.2/10, mb1mx4.1/22, Error ellipse: s-maj=30.0km s-min=18.0km az=112.0*
ISC 21 09:43:06.1±0.7**, 14.5N**±0.1×**147.0E**±0.2**, h33**km**, n18, σ0ˢ88**/10**, mb4.0**/10**, 2C, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**36.39**	**200**	P	**P**	**09 50 09.0**	**-0.6**
	1.2nm,0.7s,mb3.9,baz=21,slow=9.2,SNR=6.8						
FITZ	**Fitzroy Crossi**	**38.62**	**214**	P	**P**	**09 50 28.2**	**0.0**
	2.6nm,0.8s,mb4.0,baz=25,slow=9.4,SNR=4.7						
ASAR	**Alice Springs**	**40.01**	**199**	P	**P**	**09 50 39.8**	**+0.1**
	0.4nm,0.5s,mb3.4,baz=15,slow=12,SNR=5.9						
CMAR	**Chiang Mai Arr**	**46.17**	**282**	P	**P**	**09 51 30.4**	**+0.4**
	1.1nm,0.4s,mb4.1,baz=81,slow=5.5,SNR=5.4						
SONM	**Songino Array**	**47.25**	**323**	P	**P**	**09 51 38.1**	**+0.2**
	1.1nm,0.5s,mb4.1,baz=139,slow=5.8,SNR=5.8						
ZAL	**Zalesovo**	**62.15**	**324**	P	**P**	**09 53 26.2**	**-0.1**
	1.7nm,0.4s,mb4.6,baz=354,slow=5.0,SNR=4.9						
ILAR	**Eielson Array**	**66.89**	**25**	P	**P**	**09 53 55.0**	**-1.8**
	0.6nm,0.7s,mb3.7,baz=246,slow=5.7,SNR=4.2						
INK	**Inuvik**	**72.77**	**23**	P	**P**	**09 54 31.9**	**-0.7**
	2.6nm,0.8s,mb4.2,baz=237,slow=13,SNR=9.9						
DLBC	**Dease Lake**	**74.12**	**33**	P	**P**	**09 54 41.2**	**+0.5**
	1.0nm,0.6s,mb3.9,baz=304,slow=10,SNR=4.2						
NVAR	**Mina Array Bea**	**84.75**	**52**	P	**P**	**09 55 40.5**	**+2.0**
	0.3nm,0.5s,mb3.7,baz=243,slow=4.0,SNR=3.4						
VNA2	**Neumayer--Watz**	**121.44**	**190**	⇑*i*	Pdif	09 58 21.2	-2.2
VNA1	**Neumayer--Stat**	**121.82**	**189**	⇑*i*	Pdif	09 58 21.2	-3.8
DBIC	**Dimbokro**	**145.08**	**305**	PKPbc	PKPbc	10 02 42.1	+0.7
	7.0nm,0.6s,baz=11,slow=2.9,SNR=8.2						
DBIC	**Dimbokro**	**145.08**	**305**	PKPbc	PKPbc	10 02 42.1	+0.7
KIC	**Kosan Boka**	**145.17**	**305**	*e*PKP1	PKPbc	10 02 43.3	+1.6
	46nm,0.8s						
TIC	**Toumodi**	**145.23**	**305**	*e*PKP1	PKPbc	10 02 43.3	+1.5
	141nm,1.4s						
LIC	**Lamto**	**145.48**	**305**	*e*PKP1	PKPbc	10 02 44.2	+1.7
	46nm,0.8s						
LPAZ	**La Paz**	**146.09**	**98**	PKPbc	PKPbc	10 02 47.8	+3.9
	0.9nm,0.7s,baz=333,slow=5.5,SNR=3.6						

IDC 21 09:43:24.5±17.0**, 14.63N×144.07E, h158**km±155km**, mb3.8**/6**, mb1 4.0**/6**, mb1mx3.6**/18**, Error ellipse: s-maj=70.4km s-min=24.0km az=68.0, Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**45.44**	**325**	P	P	09 51 26.6	-2.5
	7.1nm,1.1s,baz=138,slow=8.7,SNR=18						
STKA	**Stephens Creek**	**46.30**	**183**	P	P	09 51 34.6	-1.5
	3.7nm,1.1s,baz=355,slow=7.2,SNR=3.1						
ZAL	**Zalesovo**	**60.34**	**324**	P	P	09 53 17.3	-1.5
	1.6nm,0.7s,baz=25,slow=6.1,SNR=6.9						
ARCES	**ARCESS Array B**	**85.86**	**342**	P	P	09 55 45.5	-1.5
	2.9nm,0.7s,baz=80,slow=7.4,SNR=8.7						
NVAR	**Mina Array Bea**	**86.88**	**51**	P	P	09 55 52.8	+0.2
	1.0nm,0.7s,baz=260,slow=4.9,SNR=6.4						
FINES	**FINESS Array B**	**89.89**	**335**	P	P	09 56 06.4	+0.1
	0.6nm,0.3s,baz=69,slow=3.6,SNR=8.9						
LPAZ	**La Paz**	**148.94**	**97**	PKPbc	PKPdf	10 02 52.9	+2.7
	1.1nm,0.8s,baz=106,slow=6.8,SNR=3.7						

NIED ***21*** *10:09:00, 28.80N×129.20E, h65km, Mw4.8 Best double couple: M₀1.91×10¹⁶ NP1:φs150°, δ58°, λ-42°. NP2: φs265°, δ56°, λ-141°.*
MOS ***21*** *10:09:12.1±1.2, 28.83N×129.49E, h33km, mb4.8/15, Error ellipse: s-maj=23.8km s-min=13.1km az=104.1*
IDC ***21*** *10:09:17.4±0.6, 28.75N×129.43E, h63km±5km, mb4.3/21, mb1 4.5/25, mb1mx4.4/29, MS3.8/16, Ms1 3.8/16, ms1mx3.5/30, Error ellipse: s-maj=12.2km s-min=6.8km az=102.0*
JMA ***21*** *10:09:17.0±0.1, 28.82N×129.24E, h31km±3km, M4.9*
JMA Felt II J1.
BJI ***21*** *10:09:19.9, 28.78N×129.34E, h81km, mB4.8, mb4.4, Ms4.1, Msz3.8*
NEIC ***21*** *10:09:20.8±0.8, 28.70N×129.38E, h94km±7km, mb4.7/36, MW4.8(NIED), Error ellipse: s-maj=7.1km s-min=6.0km az=98.0*
ISC 21 10:09:16.8±0.3**, 28.69N**±0.02×**129.53E**±0.03**, h70**km±3km**, h64**km±2.4km**:pP-P, n138, σ1ˢ10**/155**, mb4.6**/58**, 10C-5D, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAM	**Amami Oshima**	**0.29**	**167**	P	**P**	**10 09 27.5**	**-0.5**
JAM				S	**S**	**10 09 34.8**	**-1.4**
JZK	**Kikaishima**	**0.54**	**134**	P	**P**	**10 09 32.1**	**+2.0**
JZK				S	**S**	**10 09 44.1**	**+4.2**
JTK	**Tokunoshima**	**1.04**	**210**	P	**P**	**10 09 36.1**	**+0.1**
JTK				S	**S**	**10 09 50.0**	**-0.3**
JNN	**Nakanoshima**	**1.19**	**15**	P	**P**	**10 09 37.0**	**-0.9**
JNN				*e*S	**S**	**10 09 52.2**	**-1.5**
JKC	**Kuchinoerabu**	**1.86**	**18**	P	**P**	**10 09 46.6**	**-0.5**
JKC				S	**S**	**10 10 09.3**	**-0.1**
JIH	**Iheya**	**2.15**	**220**	P	**P**	**10 09 51.2**	**0.0**
JIH				S	**S**	**10 10 16.1**	**-0.6**
JOW	**Kunigami**	**2.16**	**211**	P	**P**	**10 09 51.8**	**+0.4**
	573nm,0.3s,baz=75,slow=12,SNR=940						
JOW				S	**S**	**10 10 17.0**	**+0.1**
	634nm,0.3s,baz=96,slow=30,SNR=16						
JOW				LR	LR	10 10 57.8	
	comp=Z,3μm,21.7s,baz=37,slow=46						
JOW	**Kunigami**	**2.16**	**211**	P	**P**	**10 09 51.8**	**+0.5**
JOW				*e*S	**S**	**10 10 18.6**	**+1.7**
JTN	**Tanegashima 3**	**2.33**	**32**	P	**P**	**10 09 53.8**	**+0.1**
JAGN	**Aguni-jima**	**2.92**	**225**	P	**P**	**10 10 02.1**	**+0.1**
JAGN				*e*S	**S**	**10 10 35.5**	**-0.4**
JJT2	**Tamagusuku 2**	**3.00**	**212**	P	**P**	**10 10 03.7**	**+0.6**
JKE	**Kume jima 2**	**3.39**	**227**	P	**P**	**10 10 08.4**	**-0.2**
JKE				*e*S	**S**	**10 10 47.7**	**-0.1**
SSE	**Sheshan**	**7.63**	**290**	⇓P	**P**	**10 11 06.5**	**-0.9**
SSE				S	**S**	**10 12 33.6**	**+0.5**
SSE				AMB	AMB		
	comp=Z,46nm,1.0s						
SSE				AMB	AMB		
	comp=Z,190nm,4.1s						
SSE				LR	LR		
	comp=N,351nm,28.5s						
SSE				LR	LR		
	comp=E,666nm,28.6s						
SSE				LR	LR		
	comp=Z,724nm,25.9s						
SSE	**Sheshan**	**7.63**	**290**	⇓Pn	**P**	**10 11 06.5**	**-0.9**
	comp=Z,46nm,1.0s						
SSE				Sn	**S**	**10 12 33.6**	**+0.5**
NJ2	**Nanjing**	**9.81**	**293**	*e*P	**P**	**10 11 36.1**	**-1.2**
NJ2				XP		10 12 02.5	
NJ2				S	**S**	**10 13 27.0**	**+0.3**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s						
NJ2				AMB	AMB		
	comp=Z,530nm,4.4s						
NJ2				LR	LR		
	comp=N,1μm,15.3s						
NJ2				LR	LR		
	comp=E,1μm,18.9s						
NJ2				LR	LR		
	comp=Z,6μm,21.9s						
JHJ	**Hachijo jima 2**	**9.85**	**61**	P	**P**	**10 11 36.3**	**-1.5**
	comp=Z,71nm,0.3s,baz=247,slow=23,SNR=6.5						
JHJ				LR	LR	10 15 06.0	
	comp=Z,280nm,20.0s,baz=325,slow=35						
MAJO	**Matsushiro**	**10.71**	**41**	*e*P	**P**	**10 11 50.7**	**+1.3**
MAT	**Matsushiro**	**10.71**	**41**	P	**P**	**10 11 51.1**	**+1.7**
MAT				*e*S	**S**	**10 13 49.2**	**+0.7**
CBIJ	**Chichi jima**	**11.31**	**95**	P	**P**	**10 11 56.9**	**-0.7**
TIA	**Tai'an**	**12.88**	**309**	*e*P	**P**	**10 12 18.6**	**+0.2**
SNY	**Shenyang**	**13.97**	**341**	⇑P	**P**	**10 12 36.8**	**+4.1**
SNY				AMB	AMB		
	comp=Z,20nm,1.7s						
SNY				AMB	AMB		
	comp=Z,190nm,4.4s						
SNY				LR	LR		
	comp=N,580nm,26.1s						
SNY				LR	LR		
	comp=Z,600nm,20.8s						
CN2	**Changchun**	**15.43**	**349**	*e*P	**P**	**10 12 54.0**	**+2.5**
CN2				*e*S	**S**	**10 15 42.1**	**+1.5**
CN2				PCP	PcP	10 17 53.4	+1.2
CN2				AMB	AMB		
	comp=Z,20nm,1.3s						
CN2				AMB	AMB		
	comp=Z,300nm,5.0s						
CN2				LR	LR		
	comp=N,600nm,11.0s						
CN2				LR	LR		
	comp=E,600nm,11.0s						
CN2				LR	LR		
	comp=Z,600nm,18.0s						
BJT	**Baijiatuau**	**15.77**	**319**	*e*P	**P**	**10 12 57.8**	**+1.9**
	comp=Z,56nm,0.8s						
BJI	**Beijing**	**15.78**	**319**	P	**P**	**10 12 58.0**	**+2.0**
BJI				AP		10 13 16.0	
BJI				S	**S**	**10 15 55.8**	**+7.1**
BJI				AMB	AMB		
	comp=Z,10.0nm,1.1s						
BJI				AMB	AMB		
	comp=Z,141nm,3.5s						
BJI	**Beijing**	**15.78**	**319**	P	**P**	**10 12 58.0**	**+2.0**
	comp=Z,10.0nm,1.1s						
BJI				pP		10 13 16.0	
BJI				sP		10 13 28.8	
BJI				S	**S**	**10 15 55.8**	**+7.1**
BJI				sS		10 16 36.1	
MDJ	**Mudanjiang**	**15.89**	**0**	P	**P**	**10 12 59.1**	**+1.7**
MDJ				AMB	AMB		
	comp=Z,13nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,89nm,4.8s						
MDJ	**Mudanjiang**	**15.89**	**0**	*e*P	**P**	**10 13 01.0**	**+3.6**
	comp=Z,16nm,1.0s						
ENH	**Enshi**	**17.52**	**280**	*e*P	**P**	**10 13 19.8**	**+1.9**
	comp=Z,15nm,0.6s						
ASAJ	**Asahikawa**	**18.61**	**31**	P	**P**	**10 13 28.1**	**-2.8**
	comp=Z,0.8nm,0.3s,baz=230,slow=15,SNR=3.7						
ASAJ	**Asahikawa**	**18.61**	**31**	P	**P**	**10 13 28.1**	**-2.7**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
HHC	**Hu-ho-hao-te**	**19.06**	**314**	*e*P	**P**	**10 13 38.8**	**+2.8**
HHC				AMB	AMB		
	comp=Z,13nm,1.1s						
HHC				AMB	AMB		
	comp=Z,265nm,5.0s						
BTO	**Baotou**	**19.92**	**312**	*e*P	**P**	**10 13 45.6**	**+0.3**
BTO				AMB	AMB		
	comp=Z,27nm,1.9s						
QIZ	**Qiongzhong**	**20.39**	**246**	P	**P**	**10 13 53.3**	**+3.1**
QIZ				S	**S**	**10 17 30.3**	**+0.6**
QIZ				SS	SS	10 18 06.8	+3.4
QIZ				LR	LR		
	comp=N,280nm,17.2s						
QIZ				LR	LR		
	comp=Z,263nm,21.2s						
GYA	**Guiyang**	**20.39**	**269**	⇑*i*P	**P**	**10 13 51.1**	**+0.9**
GYA				AP		10 14 10.4	
GYA				S	**S**	**10 17 24.3**	**-5.4**
GYA				XS		10 17 55.0	
GYA				PCP	PcP	10 18 02.3	+1.8
GYA				AMB	AMB		
	comp=Z,20nm,0.8s						
GYA				LR	LR		
	comp=N,300nm,15.3s						
GYA				LR	LR		
	comp=E,240nm,16.8s						
GYA				LR	LR		
	comp=Z,260nm,15.0s						
YSS	**Yuzh-Sakhalins**	**20.96**	**26**	P	**P**	**10 13 58.2**	**+2.3**
	comp=Z,36nm,1.0s						
HIA	**Hailar**	**21.87**	**343**	P	**P**	**10 14 05.1**	**+0.1**
	comp=Z,14nm,1.2s,mb4.2						
CD2	**Chengdu**	**22.46**	**282**	*e*P	**P**	**10 14 11.3**	**+0.4**
CD2				S	**S**	**10 18 07.3**	**-0.6**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.2						
CD2				AMB	AMB		
	comp=Z,60nm,5.0s						
CD2				LR	LR		
	comp=N,250nm,8.1s						
CD2				LR	LR		
	comp=Z,190nm,8.4s						
LZH	**Lanzhou**	**22.87**	**295**	*e*P	**P**	**10 14 14.0**	**-0.8**
LZH				AP		10 14 34.5	
LZH				XP		10 14 46.0	
LZH				AMB	AMB		
	comp=Z,29nm,1.5s,mb4.4						
LZH	**Lanzhou**	**22.87**	**295**	*e*P	**P**	**10 14 14.0**	**-0.8**
	comp=Z,29nm,1.5s,mb4.4						
LZH				pP		10 14 34.5	
LZH				sP		10 14 46.0	
KMI	**Kunming**	**24.13**	**268**	⇑*e*P	**P**	**10 14 28.1**	**+0.9**
KMI				AP		10 14 49.0	
KMI				PCP	PcP	10 18 10.8	+2.7
KMI				S	**S**	**10 18 34.3**	**-2.8**
KMI				SS	SS	10 19 36.3	+2.3
KMI				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.3						
KMI				AMB	AMB		
	comp=Z,156nm,4.4s						
KMI				LR	LR		
	comp=N,273nm,10.7s						
KMI				LR	LR		
	comp=E,215nm,18.1s						
KMI				LR	LR		
	comp=Z,249nm,20.3s						
KMI	**Kunming**	**24.13**	**268**	⇑*e*P	**P**	**10 14 28.1**	**+0.9**
	comp=Z,12nm,0.8s,mb4.3						
KMI				pP		10 14 49.0	
KMI				sP		10 15 02.2	
KMI				PcP	PcP	10 18 10.7	+2.6
KMI				S	**S**	**10 18 34.3**	**-2.8**
KMI				sS		10 19 13.2	
KMI				SS	SS	10 19 36.3	+2.3
SONM	**Songino Array**	**26.20**	**323**	P	**P**	**10 14 46.2**	**-0.4**
	comp=Z,8.8nm,0.7s,mb4.3,baz=137,slow=9.7,SNR=33						
SONM				pP	pP	10 15 02.2	-0.8
	comp=Z,9.2nm,1.0s,baz=150,slow=10.0,SNR=8.2						
SONM				ScP		10 21 46.3	
	comp=Z,4.7nm,0.9s,baz=135,slow=3.5,SNR=20						
GTA	**Gaotai**	**26.73**	**301**	*e*P	**P**	**10 14 52.0**	**+0.5**
GTA				AP	pP	10 15 13.9	+5.9
GTA				S	**S**	**10 19 16.6**	**-3.5**
GTA				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.2						
GTA				AMB	AMB		
	comp=Z,49nm,4.9s						
GTA				LR	LR		
	comp=N,260nm,17.5s						
GTA				LR	LR		
	comp=E,297nm,15.2s						
GTA				LR	LR		
	comp=Z,310nm,20.2s						
ZAK	**Zakamensk**	**29.38**	**325**	*e*P	**P**	**10 15 14.2**	**-1.1**
CMAR	**Chiang Mai Arr**	**29.75**	**257**	P	**P**	**10 15 18.4**	**-0.5**
	comp=Z,1.4nm,0.6s,mb3.8,baz=54,slow=6.9,SNR=7.8						
CMAR				PcP	PcP	10 18 21.6	+0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,2.7nm,0.8s,baz=49,slow=1.2,SNR=14						
CMAR				LR	LR	10 28 41.5	
	comp=Z,101nm,19.1s,baz=70,slow=39						
CMAR	Chiang Mai Arr	29.75	257	P	P	10 15 18.4	-0.5
CMAR						10 18 21.7	
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CMAR				MLR	MLR		
	comp=Z,101nm,19.1s						
PET	Petropavlovsk	32.41	33	eP	P	10 15 47.7	+5.8
PET				eS	S	10 20 58.8	+8.7
PET				smax			
	comp=N,40nm,9.3s						
PET				MLR	MLR		
	comp=Z,100nm,20.0s						
WMQ	Urumqi	36.55	306	eP	P	10 16 19.3	+1.9
WMQ				AP	pP	10 16 41.9	+7.2
WMQ				PP	PP	10 17 46.0	+2.8
WMQ				S	S	10 21 53.0	-1.1
WMQ				SS	SS	10 24 24.0	+0.3
WMQ				SCS	ScS	10 26 24.0	-0.3
WMQ				LR	LR		
	comp=N,148nm,15.0s						
WMQ				LR	LR		
	comp=E,154nm,15.0s						
WMQ				LR	LR		
	comp=Z,157nm,15.0s						
GUN	Gumba	38.28	280	eP	P	10 16 32.8	+0.8
	comp=Z,20nm,0.4s,mb5.3						
PKI	Pulchoki	38.76	279	eP	P	10 16 35.8	-0.2
	comp=Z,6.4nm,0.4s,mb4.8						
KKN	Kakani	38.83	280	eP	P	10 16 36.8	+0.3
	comp=Z,9.8nm,0.4s,mb5.0						
DMN	Daman	39.02	279	eP	P	10 16 38.2	+0.1
	comp=Z,4.8nm,0.3s,mb4.8						
GKN	Gorkha	39.34	280	eP	P	10 16 40.4	-0.4
	comp=Z,14nm,0.5s,mb5.1						
KOLN	Koldanda	40.28	280	eP	P	10 16 48.3	-0.3
	comp=Z,4.7nm,0.4s,mb4.7						
ZAL	Zalesovo	41.04	321	P	P	10 16 54.5	-0.1
	comp=Z,2.8nm,0.4s,mb4.5,baz=353,slow=4.0,SNR=6.6						
ZAL				pP	pP	10 17 10.8	-1.2
	comp=Z,2.1nm,0.4s,baz=46,slow=5.5,SNR=1.9						
ZAL				ScP		10 22 37.0	
	comp=Z,2.1nm,0.3s,baz=135,slow=3.5,SNR=7.7						
ZAL				LR	LR	10 36 19.0	
	comp=Z,134nm,19.6s,baz=146,slow=40						
ZAL	Zalesovo	41.04	321	P	P	10 16 54.5	-0.1
ZAL				*PP	pP	10 17 10.8	-1.2
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ZAL				MLR	MLR		
	comp=Z,134nm,19.6s						
ZAL	Zalesovo	41.04	321	P	P	10 16 54.5	-0.1
ZAL				pP	pP	10 17 10.8	-1.2
ZAL				ScP		10 22 37.0	
PMG	Port Moresby	41.52	153	P	P	10 16 59.7	+0.7
	comp=Z,7.6nm,0.8s,mb4.5,baz=38,slow=10,SNR=4.0						
PMG	Port Moresby	41.52	153	P	P	10 16 59.7	+0.7
PMG				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KURK	Kurchatov	43.88	315	eP	P	10 17 16.1	-1.7
	comp=Z,3.5nm,0.7s,mb4.2						
KSH	Kashi	45.06	298	eP	P	10 17 33.3	+5.9
KSH				AMB	AMB		
	comp=Z,100nm,4.1s						
FITZ	Fitzroy Crossi	46.67	185⇑	iP	P	10 17 40.9	+0.5
	comp=Z,10nm,0.8s,mb4.6						
FITZ	Fitzroy Crossi	46.67	185	P	P	10 17 40.7	+0.3
	comp=Z,14nm,0.8s,mb4.8,baz=9.8,slow=5.9,SNR=19						
WRAB	Tennant Creek	48.56	174	P	P	10 17 55.0	-0.1
	comp=Z,80nm,0.6s,mb5.8,SNR=12						
WRAB	Tennant Creek	48.56	174	eP	P	10 17 54.9	-0.3
	comp=Z,32nm,1.0s,mb5.2						
WRA	Warramunga Arr	48.57	174	P	P	10 17 55.0	-0.2
	comp=Z,6.9nm,0.5s,mb4.9,baz=354,slow=8.5,SNR=59						
WRA				pP	pP	10 18 10.3	-2.6
	comp=Z,2.1nm,0.7s,baz=351,slow=8.3,SNR=3.5						
WRA				LR	LR	10 36 17.1	
	comp=Z,78nm,19.7s,baz=170,slow=33						
WRA	Warramunga Arr	48.57	174	P	P	10 17 55.0	-0.2
WRA				*PP	pP	10 18 10.3	-2.6
WRA				pmax	pmax		
	comp=Z,7.0nm,0.5s						
WRA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WB2	Warramunga Arr	48.57	174⇓	iP	P	10 17 55.0	-0.2
BRVK	Borovoye	49.31	317	eP	P	10 17 59.0	-1.4
	comp=Z,9.4nm,1.0s,mb4.7						
BRVK				e	pP	10 18 14.9	-3.3
ZRNK	Zerenda	50.07	317	eP	P	10 18 04.3	-2.1
	comp=Z,9.0nm,0.9s,mb4.7						
ZRNK				e	pP	10 18 20.9	-3.2
PALK	Pallekele	50.66	255	P	P	10 18 10.4	-0.9
	comp=Z,14nm,1.3s,mb4.8						
CTA	Charters Tower	51.11	160	eP	P	10 18 15.5	+0.8
	comp=Z,8.4nm,1.3s,mb4.6						
CTA	Charters Tower	51.11	160	P	P	10 18 15.3	+0.7
	comp=Z,4.7nm,0.6s,mb4.7,baz=320,slow=8.2,SNR=10.0						
CTA	Charters Tower	51.11	160	P	P	10 18 15.3	+0.6
CTA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ASAR	Alice Springs	52.22	175	P	P	10 18 23.1	+0.1
	comp=Z,4.9nm,0.5s,mb4.8,baz=8.6,slow=14,SNR=95						
ASAR				pP	pP	10 18 38.9	-2.0
	comp=Z,1.5nm,0.6s,baz=1.6,slow=14,SNR=3.5						
ASAR				PcP	PcP	10 19 33.5	-0.1
	comp=Z,0.7nm,0.5s,baz=1.8,slow=3.8,SNR=4.2						
ASAR				LR	LR	10 37 59.8	
	comp=Z,50nm,21.1s,baz=0.2,slow=33						
ASPA	Alice Springs	52.22	175⇑	iP	P	10 18 23.0	+0.1
IMA	Indian Mountai	58.80	28	eP	P	10 19 09.4	-0.4
	comp=Z,34nm,1.0s,mb5.3						
SPU	Mount Spurr	59.78	33	eP	P	10 19 16.2	-0.3
MCK	McKinley	60.97	30	eP	P	10 19 23.5	-1.2
	comp=Z,10nm,0.9s,mb4.8						
COLA	College	61.31	29	eP	P	10 19 26.6	-0.3
	comp=Z,8.7nm,0.7s,mb4.9						
STKA	Stephens Creek	61.32	168⇓	iP	P	10 19 27.2	-0.2
	comp=Z,3.8nm,0.4s,mb4.8						
STKA	Stephens Creek	61.32	168	P	P	10 19 27.0	-0.4
	comp=Z,5.0nm,0.5s,mb4.8,baz=358,slow=5.8,SNR=21						
STKA				LR	LR	10 45 27.7	
	comp=Z,96nm,20.0s,baz=25,slow=35						
ILAR	Eielson Array	61.73	29	P	P	10 19 27.9	-1.8
	comp=Z,4.3nm,0.7s,mb4.6,baz=269,slow=5.0,SNR=44						
ILAR				pP	pP	10 19 45.7	-2.5
	comp=Z,1.9nm,0.7s,baz=291,slow=6.8,SNR=4.2						
ILAR				LR	LR	10 51 16.8	
	comp=Z,41nm,18.7s,baz=265,slow=41						
ILAR	Eielson Array	61.73	29	P	P	10 19 28.0	-1.7
ILAR				*PP	pP	10 19 45.7	-2.5
ILAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ILAR				MLR	MLR		
	comp=Z,41nm,18.7s						
DIV	Divide	62.81	33	eP	P	10 19 35.9	-1.1
	comp=Z,47nm,0.9s,mb5.4						
DAWY	Dawson	65.06	29	eP	P	10 19 50.9	-0.6
INK	Inuvik	66.18	24	eP	P	10 19 57.7	-0.9
	comp=Z,8.2nm,0.6s,mb4.7						
ARCES	ARCESS Array B	68.15	338	P	P	10 20 08.7	-2.3
	comp=Z,2.0nm,0.7s,mb4.0,baz=72,slow=7.7,SNR=7.1						
ARCES				LR	LR	10 54 22.9	
	comp=Z,97nm,19.6s,baz=200,slow=40						
ARCES	ARCESS Array B	68.15	338	P	P	10 20 08.7	-2.2
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARCES				MLR	MLR		
	comp=Z,97nm,19.6s						
JOF	Joensuu	68.46	331	ep	P	10 20 09.4	-3.6
	comp=Z,3.0nm,0.5s,mb4.4						
JOF	Joensuu	68.46	331	eP	P	10 20 09.4	-3.6
JOF				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.4						
KAF	Kangasniemi	70.91	331	ep	P	10 20 23.1	-4.8
	comp=Z,4.4nm,0.8s,mb4.3						
KAF	Kangasniemi	70.91	331	eP	P	10 20 23.1	-4.8
KAF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
DLBC	Dease Lake	71.19	33	eP	P	10 20 30.8	+1.1
FINES	FINESS Array B	71.30	330	P	P	10 20 28.4	-1.8
	comp=Z,5.1nm,0.7s,mb4.5,baz=69,slow=6.0,SNR=24						
FINES				LR	LR	10 52 54.9	
	comp=Z,118nm,19.1s,baz=179,slow=37						
FINES	FINESS Array B	71.30	330	P	P	10 20 28.4	-1.9
FINES				pmax	pmax		
	comp=Z,5.0nm,0.7s						
FINES				MLR	MLR		
	comp=Z,118nm,19.1s						
FINES	FINESS Array B	71.30	330	P	P	10 20 28.4	-1.8
RES	Resolute Bay	72.92	11	eP	P	10 20 39.0	-0.6
	comp=Z,8.1nm,0.7s,mb4.7						
MALT	Malatya	73.65	305	eP	P	10 20 44.5	0.0
	comp=Z,5.7nm,1.0s,mb4.3						
AKASG	Malin Array Be	74.42	319	P	P	10 20 46.4	-2.3
	comp=Z,4.0nm,0.7s,mb4.3,baz=55,slow=6.4,SNR=9.6						
AKASG				LR	LR	10 56 15.8	
	comp=Z,93nm,18.7s,baz=65,slow=38						
AKASG	Malin Array Be	74.42	319	P	P	10 20 46.4	-2.3
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.7s						
AKASG				MLR	MLR		
	comp=Z,93nm,18.7s						
YKA	Yellowknife Ar	75.82	26	P	P	10 20 56.6	+0.1
	comp=Z,5.2nm,0.8s,mb4.3,baz=304,slow=5.5,SNR=8.9						
YKA				LR	LR	10 54 36.0	
	comp=Z,46nm,19.2s,baz=305,slow=36						
YKA	Yellowknife Ar	75.82	26	P	P	10 20 56.6	+0.1
YKA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
YKA				MLR	MLR		
	comp=Z,46nm,19.2s						
BRTR	Keskin Array B	76.44	308	P	P	10 21 00.0	-0.5
	comp=Z,6.0nm,0.9s,mb4.3,baz=91,slow=5.1,SNR=16						
BRTR	Keskin Array B	76.44	308	P	P	10 21 00.0	-0.5
BRTR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
NB2	NORSAR Subarra	77.62	334	P	P	10 21 04.4	-2.2
	comp=Z,1.3nm,0.6s,mb3.8,baz=49,slow=5.6						
NOA	NORSAR Array B	77.62	334	P	P	10 21 04.8	-1.8
	comp=Z,7.7nm,1.1s,mb4.3,baz=51,slow=5.4,SNR=7.2						
NOA				LR	LR	10 54 31.1	
	comp=Z,68nm,21.7s,baz=30,slow=35						
NOA	NORSAR Array B	77.62	334	P	P	10 21 04.8	-1.8
SUMG	Summit	78.67	356	eP	P	10 21 12.3	+0.1
	comp=Z,12nm,0.7s,mb4.8						
URZ	Urewera	80.09	144	P	P	10 21 20.2	-0.4
	comp=Z,11nm,0.8s,mb4.7,baz=83,slow=7.2,SNR=2.6						
RPZ	Rata Peaks	81.49	151	P	P	10 21 27.9	+0.1
	comp=Z,9.2nm,0.8s,mb4.6,baz=55,slow=20,SNR=3.2						
EDM	Edmonton	81.91	33	P	P	10 21 27.7	-2.1
CLL	Collm	82.79	326	P	P	10 21 34.0	-0.4
	comp=Z,logA/T=0.9,mb4.5						
CLL	Collm	82.79	326	eP	P	10 21 34.0	-0.4
CLL				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.5						
CLL	Collm	82.79	326	eP	P	10 21 34.0	-0.4
	comp=Z,7.0nm,0.8s,mb4.5						
NEW	Newport	82.96	38	eP	P	10 21 35.2	0.0
	comp=Z,6.0nm,1.0s,mb4.4						
GERES	GERESS Array B	83.93	323	P	P	10 21 39.9	-0.2
	comp=Z,2.1nm,0.7s,mb4.1,baz=45,slow=5.7,SNR=13						
GERES	GERESS Array B	83.93	323	P	P	10 21 39.9	-0.2
GERES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
OHCM	Honcut	85.42	47	eP	P	10 21 48.3	+0.5
FCC	Fort Churchill	85.64	21	P	P	10 21 48.1	-0.3
	comp=Z,67nm,1.2s,mb5.5						
STU	Stuttgart	86.30	325	P	P	10 21 56.0	+4.2
	comp=Z,14nm,1.3s,mb4.7						
CMB	Columbia Colle	86.86	48	eP	P	10 21 55.4	+0.5
	comp=Z,8.5nm,0.8s,mb4.7						
HLID	Hailey	87.28	41	eP	P	10 21 58.4	+1.6
	comp=Z,7.0nm,1.0s,mb4.5						
NVAR	Mina Array Bea	87.98	47	P	P	10 22 01.7	+1.5
	comp=Z,1.9nm,0.6s,mb4.3,baz=295,slow=5.4,SNR=16						
NVAR				LR	LR	11 02 43.7	
	comp=Z,28nm,18.8s,baz=220,slow=36						
TPH	Tonopah	88.88	46	eP	P	10 22 06.1	+1.6
	comp=Z,5.4nm,1.0s,mb4.5						
DGMT	Dagmar	89.40	32	eP	P	10 22 07.9	+1.2
	comp=Z,18nm,1.1s,mb5.0						
HWUT	Hardware Ranch	90.14	41	eP	P	10 22 12.2	+1.8
	comp=Z,11nm,1.2s,mb4.9						
PDAR	Pinedale Array	90.53	39	P	P	10 22 13.3	+1.1
	comp=Z,1.7nm,0.8s,mb4.2,baz=326,slow=2.2,SNR=15						
ULM	Lac du Bonnet	91.71	27	P	P	10 22 17.4	-0.1
	comp=Z,6.3nm,0.7s,mb5.0,baz=341,slow=3.6,SNR=7.4						
RSSD	Black Hills	92.55	35	eP	P	10 22 22.0	+0.6
	comp=Z,11nm,1.3s,mb5.0						
SCHQ	Schefferville	95.64	9	LR	LR	11 06 53.8	
	comp=Z,87nm,19.9s,baz=304,slow=36						
TXAR	Lajitas Array	103.11	46	Pdiff	Pdif	10 23 11.2	+1.7
	comp=Z,0.2nm,0.8s,baz=297,slow=4.0,SNR=4.1						
TXAR				PKiKP		10 27 30.5	
	comp=Z,1.8nm,1.3s,baz=270,slow=0.9,SNR=3.9						
VNA2	Neumayer--Watz	131.46	197⇓	iP	PKPdf	10 28 24.1	+3.5
VNA2	Neumayer--Watz	131.46	197⇑	i	Px	10 28 51.6	
VNA3	Neumayer Olymp	131.84	196⇑	iP	PKPdf	10 28 25.4	+4.0
VNA3	Neumayer Olymp	131.84	196		Px	10 28 52.2	
VNA1	Neumayer--Stat	131.85	197⇑	iP	PKPdf	10 28 27.0	+5.6
VNA1	Neumayer--Stat	131.85	197⇑	i	Px	10 28 56.2	

CSEM **21** *11:00:28.1±0.2, 58.99N×18.28E, h2km, ML2.5, Error ellipse: s-maj=4.8km s-min=3.0km az=119.0, Mining explosion.*
HEL **21** *11:00:29.6±0.1, 59.00N×18.19E, ML1.7, ML2.5(UPP), ML2.2(NAO), Explosion*
UPP **21** *11:00:29.0, 59.00N×18.20E, h2km, ML2.5, Mining explosion.*
NAO **21** *11:00:31.2±4.1, 59.12N×18.26E, ML2.2*
IDC **21** *11:00:32.3±1.9, 59.18N×18.10E, mb1 3.0/4, mb1mx2.9/18, ML2.6/3, Error ellipse: s-maj=25.1km s-min=6.3km az=179.0*
BER **21** *11:00:35.8±3.5, 59.31N×18.20E, ML2.2(NAO), Suspected explosion*
ISC 21 11:00:27.9±0.4**, 59.00N**±0.03×**18.28E**±0.05**, n40, σ0ˢ82**/62**, Baltic Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NYNU	Nynaeshamn	0.14	273	i P	Pg	11 00 30.9	+0.3
NYNU				i S	Sg	11 00 32.3	-0.2
NRTU	Norrtaelje	0.70	15	i P	Pg	11 00 42.1	+0.1
VIKU	Vikbolandet	0.96	239	eP	Pg	11 00 46.3	-0.7
VIKU				eS	Sg	11 00 58.5	-1.4
ESKU	Eskilstuna	1.00	284	eP	Pb	11 00 46.6	-1.1
BACU	Backbrunna	1.05	326	eP	Pb	11 00 48.1	-0.5
BACU	Backbrunna	1.05	326	P	Pb	11 00 48.0	-0.5
FLYU	Flymyra	1.15	350	eP	Pb	11 00 50.0	-0.3
GOTU	Gotland	1.32	173	eP	Pb	11 00 53.0	-0.4
GRAU	Graesoe	1.35	6	eP	Pb	11 00 53.8	+0.1
GRAU				eS	Sb	11 01 11.6	+0.2
OSTU	Oestervaala	1.36	335	eP	Pb	11 00 53.9	-0.1
OSTU				eS	Sb	11 01 11.5	-0.4
AAL	Aland	1.47	36	eP	Pn	11 00 56.1	+0.4
VSTU	Vaestervik	1.62	215	eP	Pn	11 00 58.4	+0.5
VSTU				eS	Sb	11 01 18.9	-0.5
VSTU	Vaestervik	1.62	215	P	Pn	11 00 58.3	+0.4
VSTU				S	Sb	11 01 18.9	-0.5
LNKU	Linkoeping	1.65	243	eP	Pn	11 00 58.4	+0.2
LNKU	Linkoeping	1.65	243	P	Pn	11 00 58.3	+0.1
NRAU	Nora	1.76	290	eP	Pn	11 00 59.6	-0.2
ASKU	Askersund	1.79	268	eP	Pn	11 01 00.7	+0.4
ASKU	Askersund	1.79	268	P	Pn	11 01 00.6	+0.3
BYXU	Byxelkrok	1.84	202	eP	Pn	11 01 02.2	+1.2
BYXU				eS	Sn	11 01 26.3	+1.0
IGGU	Iggoen	1.94	346	eP	Pn	11 01 03.0	+0.6
IGGU				eS	Sn	11 01 29.3	+1.4
FALU	Falun	1.94	322	eS	Sn	11 01 28.9	+0.9
FALU	Falun	1.94	322	S	Sn	11 01 28.8	+0.8
HFS	Hagfors	2.59	298	Pn	Pn	11 01 12.8	+1.1
	baz=110,slow=14						
HFS				Sn	Sn	11 01 45.3	+0.8
	baz=91,slow=37						
HFS	Hagfors	2.59	298	eP	Pn	11 01 12.8	+1.1
HFS				eSB	Sn	11 01 45.3	+0.8
HFS	Hagfors	2.59	298	Pn	Pn	11 01 12.8	+1.1
	0.1nm,0.3s,baz=110,slow=17,SNR=16						
HFS				Lg		11 01 47.1	
	0.6nm,0.3s,baz=111,slow=29,SNR=21						
ROTU	Roteberg	2.72	334	eP	Pn	11 01 13.2	-0.4
NOA	NORSAR Array B	4.09	303	Pn	Pn	11 01 32.6	-0.5
	0.1nm,0.3s,baz=108,slow=12,SNR=2.4						
NOA				Pg	Pg	11 01 41.0	-8.5
	0.2nm,0.3s,baz=126,slow=20,SNR=2.4						
NOA				Sn	Sn	11 02 18.9	-3.5
	0.2nm,0.3s,baz=220,slow=26,SNR=3.2						
NOA				Lg		11 02 35.8	
	0.7nm,0.3s,baz=128,slow=20,SNR=3.9						
KEF	Keuruu	4.55	43	eP	Pn	11 01 40.3	+0.8
KEF				eS	Sn	11 02 33.7	-0.3
KEF				MSG		11 02 52.3	
	comp=Z,0.9nm,0.2s						
KEF	Keuruu	4.55	43	P	Pn	11 01 40.3	+0.7
KEF				S	Sn	11 02 33.6	-0.3
	comp=Z,0.9nm,0.2s						
FIA0	FINESS Array S	4.60	54	Pn	Pn	11 01 41.0	+0.7
	baz=246,slow=14						
FIA0				Sn	Sn	11 02 34.1	-1.1
	baz=238,slow=22						
FIA0				Lg		11 02 53.6	
	baz=251,slow=28						
FIA0	FINESS Array S	4.60	54	eP	Pn	11 01 41.0	+0.7
FIA0				eS	Sn	11 02 34.3	-1.0
FIA0	FINESS Array S	4.60	54	S	Sn	11 02 34.2	-1.0
FINES	FINESS Array B	4.60	54	Pn	Pn	11 01 41.7	+1.4
	comp=Z,0.2nm,0.3s,baz=249,slow=13,SNR=7.5						
FINES				Pg	Pg	11 01 51.2	-8.5
	comp=Z,0.3nm,0.3s,baz=244,slow=16,SNR=3.4						
FINES				Sn	Sn	11 02 34.5	-0.7
	comp=Z,0.6nm,0.3s,baz=243,slow=20,SNR=8.7						
FINES				Lg		11 02 54.9	
	comp=Z,0.7nm,0.3s,baz=237,slow=23,SNR=6.7						
VJF	Virojoki	4.94	68	eSG	Sg	11 03 02.1	-10
KAF	Kangasniemi	5.05	48	eP	Pn	11 01 46.8	+0.2
SUF	Sumiainen	5.36	43	eP	Pn	11 01 51.1	+0.1
SUF				eP		11 01 51.3	
SUF				eS	Sn	11 02 52.2	-2.2
SUF				MSG		11 03 18.1	
	comp=Z,0.6nm,0.2s						
SUF	Sumiainen	5.36	43	P	Pn	11 01 51.3	+0.2
SUF				S	Sn	11 02 52.2	-2.2
	comp=Z,0.6nm,0.2s						
ARA0	ARCESS Array S	11.02	13	Pn	P	11 03 05.9	-3.8
	baz=194,slow=14						
ARA0				Sn	S	11 05 02.2	-13
	baz=198,slow=22						
ARA0	ARCESS Array S	11.02	13	eP	P	11 03 05.9	-3.8
ARA0				eS	S	11 05 02.2	-13
ARCES	ARCESS Array B	11.02	13	Pn	P	11 03 05.7	-4.0
	comp=Z,0.1nm,0.3s,baz=194,slow=13,SNR=9.8						

BJI **21** *11:17:30.1, 21.10S×178.70W, h568km, mB4.9, mb4.7*
IDC **21** *11:17:32.9±0.6, 21.02S×178.79W, h566km±6km, mb4.4/17, mb1 4.5/21, mb1mx4.5/22, Error ellipse: s-maj=12.0km s-min=7.6km az=154.0*
NEIC **21** *11:17:32.1±0.1, 21.08S×178.73W, mb4.8/43, Error ellipse: s-maj=6.1km s-min=3.3km az=115.0*
SYO **21** *11:17:32.2, 21.06S×178.75W, h569km, MB4.7*
ISC 21 11:17:32.8±0.7**, 21.22S**±0.04×**178.73W**±0.04**, h589**km±9km**, h568**km±1.8km**:pP-P, n317, σ1ˢ12**/246**, mb4.8**/65**, 15C-20D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	9.84	43⇓	iPn	P	11 19 43.6	-6.4
	561nm,1.0s						
AFI				eS	S	11 21 31.0	-9.2
DZM	Mont Dzumac	13.81	264	eP	P	11 20 29.5	0.0
DZM	Mont Dzumac	13.81	264	eP	P	11 20 29.5	0.0
NOUC	Port Laguerre	13.94	264	eP	P	11 20 30.7	-0.1
NOUC	Port Laguerre	13.94	264	eP	P	11 20 30.7	-0.1
OUZ	Omahuta	15.49	204	eP	P	11 20 48.8	+3.0
OUZ	Omahuta	15.49	204	P	P	11 20 49.4	+3.6
WCZ	Waipu Caves	15.87	201	eP	P	11 20 53.3	+3.9
WCZ	Waipu Caves	15.87	201	P	P	11 20 53.3	+3.9
KUZ	Kuaotunu	16.21	196	eP	P	11 20 55.3	+2.7
KUZ	Kuaotunu	16.21	196	P	P	11 20 55.3	+2.7
MTAZ	Motutapu	16.47	198	P	P	11 20 58.8	+3.7
MTAZ	Motutapu	16.47	198	P	P	11 20 58.3	+3.2
MXZ	Matakaoa Point	16.49	188	P	P	11 20 55.1	-0.2
KAAZ	Kauri Point	16.57	199	eP	P	11 20 59.1	+3.1
KAAZ	Kauri Point	16.57	199	P	P	11 20 59.1	+3.1
OTAZ	Otara	16.62	198	P	P	11 21 00.5	+4.0
MKAZ	Moumakai	16.70	197	P	P	11 21 00.5	+3.2
WTAZ	Waiatarua	16.71	199	P	P	11 21 00.9	+3.5
PUZ	Puketiti	17.00	188	eP	P	11 21 00.4	+0.3
PUZ	Puketiti	17.00	188	P	P	11 21 00.4	+0.3
PUZ				S	S	11 23 47.4	+0.3
MARZ	Manawahe	17.18	192	P	P	11 21 03.9	+2.1
LIRZ	Lichensteins R	17.25	193	P	P	11 21 04.9	+2.4
URZ	Urewera	17.36	191	P	P	11 21 02.9	-0.6
	34nm,0.3s,baz=328,slow=3.2,SNR=85						
URZ				S	S	11 23 52.9	-0.4
	6.5nm,0.3s,baz=136,slow=23,SNR=14						
URZ	Urewera	17.36	191	eP	P	11 21 02.2	-1.3
URZ	Urewera	17.36	191	P	P	11 21 02.2	-1.3
MWZ	Matawai	17.36	190	eP	P	11 21 02.7	-0.8
MWZ	Matawai	17.36	190	P	P	11 21 02.7	-0.8
MWZ				S	S	11 23 52.1	-1.2
TAZ	Tarawera	17.45	193	eP	P	11 21 05.9	+1.5
TAZ	Tarawera	17.45	193	P	P	11 21 06.7	+2.3
UTU	Utuhina	17.46	193	eP	P	11 21 07.8	+3.3
UTU	Utuhina	17.46	193	P	P	11 21 07.8	+3.3
PATZ	Paeroa	17.64	193	P	P	11 21 07.4	+1.2
RAR	Rarotonga	17.68	93	P	P	11 21 06.2	-0.5
	2.4nm,0.3s,baz=260,slow=6.3,SNR=10						
RAR	Rarotonga	17.68	93	eP	P	11 21 06.2	-0.4
	143nm,1.2s						
KNZ	Kokohu	18.01	189	eP	P	11 21 10.6	+0.9
KNZ	Kokohu	18.01	189	P	P	11 21 10.6	+0.9
HIZ	Hauiti	18.10	196	eP	P	11 21 13.5	+3.0
HIZ	Hauiti	18.10	196	P	P	11 21 13.1	+2.6
MGZ	Maungaku	18.40	194	eP	P	11 21 14.3	+1.0
MGZ	Maungaku	18.40	194	P	P	11 21 13.8	+0.5
NGZ	Ngauruhoe	18.55	194	eP	P	11 21 16.1	+1.4
NGZ	Ngauruhoe	18.55	194	P	P	11 21 15.4	+0.7
CNZ	Chateau	18.58	194	eP	P	11 21 15.8	+0.8
CNZ	Chateau	18.58	194	P	P	11 21 15.8	+0.8
TUVZ	Tukino	18.63	194	eP	P	11 21 16.0	+0.6
TUVZ	Tukino	18.63	194	P	P	11 21 16.0	+0.6
MOVZ	Moawhango	18.74	193	P	P	11 21 16.3	-0.2
PWZ	Pawanui	19.12	190	eP	P	11 21 19.9	-0.2
PWZ	Pawanui	19.12	190	P	P	11 21 19.4	-0.7
PWZ				S	S	11 24 22.4	-0.5
WAZ	Wanganui	19.24	195	P	P	11 21 20.6	-0.6
TSZ	Takapari Road	19.32	192	eP	P	11 21 20.9	-1.0
TSZ	Takapari Road	19.32	192	P	P	11 21 20.9	-1.0
MRZ	Mangatainoka R	19.98	193	eP	P	11 21 26.2	-1.7
MRZ	Mangatainoka R	19.98	193	P	P	11 21 26.2	-1.7
KIW	Kapiti Island	20.32	194	eP	P	11 21 30.3	-0.7
KIW	Kapiti Island	20.32	194	P	P	11 21 30.2	-0.8
MTW	Mount Morrison	20.47	193	eP	P	11 21 31.8	-0.6
MTW	Mount Morrison	20.47	193	P	P	11 21 31.8	-0.6
CAW	Cannon Point	20.52	193	eP	P	11 21 31.8	-1.0
CAW	Cannon Point	20.52	193	P	P	11 21 31.8	-1.0
MRW	Makara Radio	20.71	194	P	P	11 21 34.5	-0.1
WEL	Wellington	20.75	194	P	P	11 21 35.7	+0.7
MSWZ	Moikau Station	20.77	193	P	P	11 21 34.7	-0.5
QRZ	Quartz Range	20.91	199	P	P	11 21 37.1	+0.7
QRZ				S	S	11 24 52.3	+0.2
QRZ	Quartz Range	20.91	199	P	P	11 21 37.2	+0.8
QRZ				S	S	11 24 52.3	+0.2
NNZ	Nelson	21.03	197	P	P	11 21 37.0	-0.5
NNZ				S	S	11 24 51.0	-3.1
NNZ	Nelson	21.03	197	P	P	11 21 37.0	-0.5
NNZ				S	S	11 24 49.9	-4.2
BSWZ	Blackbirch Sta	21.37	195	eP	P	11 21 39.6	-1.0
THZ	Tophouse	21.67	197	P	P	11 21 42.4	-1.0
THZ				S	S	11 25 00.3	-4.1
DSZ	Denniston Nort	21.97	199	eP	P	11 21 45.4	-0.7
DSZ				S	S	11 25 06.6	-2.8
DSZ	Denniston Nort	21.97	199	P	P	11 21 45.4	-0.7
DSZ				S	S	11 25 06.6	-2.8
KHZ	Kahutara	22.11	195	P	P	11 21 46.4	-1.0
LTZ	Lake Taylor	22.79	197	P	P	11 21 52.2	-1.2
WVZ	Waitaha Valley	23.51	200	P	P	11 21 58.7	-1.2
WVZ				S	S	11 25 31.1	-2.7
WVZ	Waitaha Valley	23.51	200	P	P	11 21 58.7	-1.2
WVZ				S	S	11 25 31.2	-2.6

MOZ McQueen's Vall 23.55 196 P **P** **11 21 59.0 -1.2**
RPZ Rata Peaks 23.99 198 P **P** **11 22 03.9 -0.3**
53nm,0.3s,mb5.6,baz=37,slow=3.3,SNR=60
RPZ S **S** **11 25 39.3 -2.2**
5.8nm,0.5s,baz=202,slow=16,SNR=3.5
RPZ Rata Peaks 23.99 198 P **P** **11 22 02.7 -1.5**
RPZ Rata Peaks 23.99 198 P **P** **11 22 02.5 -1.7**
FOZ Fox Glacier 24.29 201 P **P** **11 22 04.9 -1.8**
LBZ Lake Benmore 24.86 199 *eP* **P** **11 22 09.9 -1.9**
LBZ Lake Benmore 24.86 199 P **P** **11 22 09.9 -1.9**
JCZ Jackson Bay 25.05 202 *eP* **P** **11 22 13.0 -0.5**
JCZ Jackson Bay 25.05 202 P **P** **11 22 13.0 -0.5**
JCZ S **S** **11 25 56.0 -2.1**
ODZ Otahua Downs 25.33 198 *eP* **P** **11 22 15.0 -0.9**
ODZ Otahua Downs 25.33 198 P **P** **11 22 15.0 -0.9**
ODZ S **S** **11 26 08.8 +6.3**
WKZ Wanaka 25.63 200 *eP* **P** **11 22 17.3 -1.3**
WKZ Wanaka 25.63 200 P **P** **11 22 17.3 -1.3**
MSZ Milford Sound 25.86 202 P **P** **11 22 21.2 +0.6**
MLZ Mavora Lakes 26.37 201 *eP* **P** **11 22 25.5 +0.4**
MLZ Mavora Lakes 26.37 201 P **P** **11 22 25.5 +0.4**
TUZ Tuapeka 26.45 198 P **P** **11 22 26.4 +0.6**
WHZ Wether Hill Ro 26.92 201 *eP* **P** **11 22 30.0 +0.1**
WHZ *e* 11 22 48.6
WHZ Wether Hill Ro 26.92 201 P **P** **11 22 30.0 +0.1**
WHZ *eE* 11 22 48.6
TBI Tubuai 27.15 100 *eP* **P** **11 22 32.1 0.0**
239nm,1.3s,mb5.7
PAE Paea 27.70 88 *eP* **P** **11 22 35.9 -0.9**
117nm,1.3s,mb5.4
PPT Papeete 27.72 88 P **P** **11 22 36.0 -1.1**
14nm,0.6s,mb4.8,baz=350,slow=5.6,SNR=4.0
PPT Papeete 27.72 88 *eP* **P** **11 22 36.3 -0.7**
55nm,1.3s,mb5.0
TIAR Tiarei 27.94 88 *eP* **P** **11 22 38.2 -0.7**
TVO Taravao 27.98 88 *eP* **P** **11 22 38.8 -0.5**
68nm,1.1s,mb5.2
ARMA Armidale 28.14 245 *eP* **P** **11 22 41.7 +1.1**
PMOR Pomariorio Ree 29.92 83 *eP* **P** **11 22 55.1 -0.8**
82nm,1.2s,mb5.2
VAH Vaihoa 30.10 84 *eP* **P** **11 22 55.0 -2.5**
87nm,1.1s,mb5.3
CNB Canberra Magne 31.26 236⇓ *iP* **P** **11 23 08.5 +1.4**
130nm,0.5s,mb5.8
CTA Charters Tower 32.74 266⇓ *iP* **P** **11 23 19.8 0.0**
127nm,0.3s
CTA *eS* **S** **11 27 55.7 -1.6**
CTA *e* 11 30 49.9
CTA Charters Tower 32.74 266 P **P** **11 23 19.9 +0.2**
164nm,0.4s,baz=93,slow=10.0,SNR=609
CTAO Charters Tower 32.74 266⇓ *eP* **P** **11 23 19.8 0.0**
167nm,0.4s
CTAO *eS* **S** **11 27 56.7 -0.6**
PMG Port Moresby 34.85 284 P **P** **11 23 36.9 -0.4**
176nm,0.9s,mb5.7,baz=96,slow=11,SNR=58
PMG Port Moresby 34.85 284 *eP* **P** **11 23 36.9 -0.4**
TOO Toolangi 34.92 234 *eP* **P** **11 23 39.0 +1.3**
49nm,0.6s,mb5.3
TAU Tasmania Unive 35.64 225 *eP* **P** **11 23 44.7 +1.2**
31nm,1.0s,mb4.8
WAU Wau 36.11 287 *eP* **P** **11 23 46.8 -0.9**
STKA Stephens Creek 36.86 245⇓ *iP* **P** **11 23 54.7 +1.0**
59nm,0.3s,mb5.6
STKA Stephens Creek 36.86 245 P **P** **11 23 54.9 +1.2**
66nm,0.3s,mb5.6,baz=88,slow=8.3,SNR=292
ASAR Alice Springs 43.69 258 P **P** **11 24 48.6 +0.2**
88nm,0.4s,mb5.6,baz=95,slow=7.9,SNR=1354
ASAR PcP PcP **11 26 22.5 0.0**
5.4nm,0.7s,baz=110,slow=3.8,SNR=6.0
ASAR ScP **11 29 21.9**
3.9nm,0.6s,baz=113,slow=4.2,SNR=10
ASAR S **S** **11 30 36.6 -0.5**
4.2nm,0.7s,baz=96,slow=15,SNR=7.5
ASPA Alice Springs 43.70 258 *eP* **P** **11 24 48.1 -0.4**
ASPA *e*SCP 11 29 23.4
ASPA *i* S **S** **11 30 35.7 -1.5**
ASPA *e*SCS ScS **11 33 45.9 +5.2**
WB2 Warramunga Arr 43.82 263⇓ *iP* **P** **11 24 48.4 -1.1**
WB2 *e*S **S** **11 30 35.3 -3.6**
WB2 *e*SCS ScS **11 33 47.3 +5.8**
WRAB Tennant Creek 43.82 263 P **P** **11 24 48.0 -1.5**
562nm,0.3s
WRAB Tennant Creek 43.82 263⇓ *iP* **P** **11 24 48.3 -1.2**
72nm,0.4s,mb5.6
WRAB *e*S **S** **11 30 37.9 -1.1**
WRA Warramunga Arr 43.83 263 P **P** **11 24 48.8 -0.7**
50nm,0.3s,mb5.5,baz=96,slow=7.3,SNR=2220
WRA PcP PcP **11 26 24.0 +1.0**
2.5nm,0.4s,baz=92,slow=4.3,SNR=5.4
WRA S **S** **11 30 37.0 -2.1**
1.3nm,0.6s,baz=94,slow=14,SNR=8.2
KAKA Kakadu 47.35 272 *eP* **P** **11 25 20.6 +4.1**
83nm,0.3s,mb5.7
KAKA *e*S **S** **11 31 31.4 +3.4**
FORT Forrest 48.38 247 *eP* **P** **11 25 23.3 -0.8**
432nm,0.5s
FITZ Fitzroy Crossi 52.26 263 *eP* **P** **11 25 51.9 -0.6**
33nm,0.3s,mb5.2
FITZ *e*S **S** **11 32 35.5 +1.3**
FITZ Fitzroy Crossi 52.26 263 P **P** **11 25 52.5 +0.1**
37nm,0.3s,mb5.2,baz=139,slow=2.7,SNR=162
MBWA Marble Bar 57.03 258 *eP* **P** **11 26 24.7 -0.9**
77nm,0.4s,mb5.3
SBA Scott Base 57.11 184⇓ *iP* **P** **11 26 28.9 +3.4**
31nm,0.9s,mb4.5
KLBR Kellerberrin 57.13 245⇓ *iP* **P** **11 26 25.8 -0.4**
34nm,0.4s,mb4.9
VNDA Vanda 57.14 185 P **P** **11 26 28.3 +2.7**
5.2nm,0.5s,mb4.0,baz=357,slow=7.2,SNR=39
VNDA ScP **11 30 19.5**
3.2nm,1.1s,baz=337,slow=2.5,SNR=3.9
NWAO Narrogin (SRO) 57.44 244⇓ *eP* **P** **11 26 28.4 +0.1**
44nm,1.1s,mb4.6
MUN Mundaring 58.40 245 *eP* **P** **11 26 35.6 +0.8**
16nm,0.4s,mb4.5
CASY Casey 63.02 205 *eP* **P** **11 27 05.9 +1.4**
MAJO Matsushiro 70.39 324 *eP* **P** **11 27 49.0 -0.9**
11nm,0.7s,mb4.4
ASAJ Asahikawa 74.03 332 P **P** **11 28 11.2 +0.5**
9.2nm,0.7s,mb4.4,baz=140,slow=30,SNR=3.1
SSE Sheshan 77.63 310 P **P** **11 28 29.4 -1.2**
SSE PP PP **11 31 35.9 -1.0**
SSE S S **11 37 36.3 +1.2**
SSE XS **11 41 10.4**
SSE AMB AMB
comp=Z,42nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,139nm,6.5s
SSE Sheshan 77.63 310 P **P** **11 28 29.4 -1.2**
comp=Z,42nm,0.7s,mb5.0
SSE PP PP **11 31 35.9 -1.0**
SSE S S **11 37 36.3 +1.2**
SSE sS **11 41 10.4**
SSE SS SS **11 43 03.3 +7.9**
NJ2 Nanjing 79.81 310 *eP* **P** **11 28 38.8 -3.3**
NJ2 AP pP **11 30 46.0 -1.0**
NJ2 PP PP **11 31 52.5 -2.0**
NJ2 XS **11 41 36.0**
NJ2 AMB AMB
comp=Z,20nm,0.5s,mb4.7
MAW Mawson 80.66 200⇓ *iP* **P** **11 28 47.6 +1.9**
comp=Z,6.4nm,0.8s,mb4.1
MAW Mawson 80.66 200 P **P** **11 28 47.9 +2.2**
comp=Z,7.3nm,0.8s,mb4.2,baz=119,slow=6.4,SNR=51
MDJ Mudanjiang 80.71 325 P **P** **11 28 47.0 +0.5**
MDJ S S **11 38 07.9 +1.6**
MDJ SCS ScS **11 38 22.0 +3.4**
MDJ SS SS **11 43 38.8 -1.9**
MDJ AMB AMB
comp=Z,19nm,1.3s,mb4.4
MDJ AMB AMB
comp=Z,119nm,7.4s
MDJ Mudanjiang 80.71 325 *eP* **P** **11 28 46.9 +0.5**
comp=Z,20nm,1.1s,mb4.5
MTUM Tungsten Hills 81.23 44 *eP* **P** **11 28 50.3 +1.0**
MTUM *ep*P pP **11 30 52.9 -1.8**
YBH Yreka Blue Hor 81.27 39 P **P** **11 28 50.2 +0.8**
comp=Z,12nm,0.9s,mb4.3,baz=302,slow=3.3,SNR=7.8
YBH Yreka Blue Hor 81.27 39 *eP* **P** **11 28 50.4 +1.1**
comp=Z,12nm,0.9s,mb4.3
HUMO Hull Mountain 81.68 38 *eP* **P** **11 28 51.5 +0.1**
comp=Z,17nm,1.0s,mb4.5
NVAR Mina Array Bea 82.01 44 P **P** **11 28 54.0 +0.8**
comp=Z,4.7nm,0.5s,mb4.2,baz=216,slow=5.9,SNR=49
NVAR pP pP **11 30 55.7 -3.3**
comp=Z,28nm,1.5s,baz=215,slow=5.7,SNR=6.4
NVAR Mina Array Bea 82.01 44 P **P** **11 28 54.0 +0.8**
NVAR pP pP **11 30 55.7 -3.3**
LDFC Landfair 82.29 48 *eP* **P** **11 28 56.0 +1.3**
WHN Wuhan 82.32 307⇓ P **P** **11 28 50.5 -4.4**
CN2 Changchun 82.45 323 *eP* **P** **11 28 56.3 +1.0**
CN2 *e*AP pP **11 30 53.8 -7.4**
CN2 *e*S S **11 38 27.4 +4.0**
CN2 AMB AMB
comp=Z,20nm,1.2s,mb4.5
TPH Tonopah 82.51 44 *eP* **P** **11 28 56.2 +0.4**
comp=Z,8.0nm,0.8s,mb4.3
TPH *ep*P pP **11 31 00.7 -0.9**
NEN Nelson 82.78 47 *eP* **P** **11 28 57.4 +0.3**
NEN *ep*P pP **11 30 59.4 -3.8**
MOD Modoc 82.80 40 *eP* **P** **11 28 58.0 +0.8**
comp=Z,7.1nm,0.6s,mb4.4
RSO Redoubt South 84.08 13 *eP* **P** **11 29 02.0 -0.9**
MA2 Magadan 84.29 345 P **P** **11 29 02.0 -2.0**
comp=Z,33nm,1.1s,mb4.8
SLKM Skilak Lake 84.66 14 *eP* **P** **11 29 04.7 -1.0**
RMW Rattlesnake Mo 85.34 35 *eP* **P** **11 29 09.8 +0.4**
RMW *ep*P pP **11 31 11.9 -4.3**
PMR Palmer 85.87 14 *eP* **P** **11 29 10.8 -0.8**
comp=Z,31nm,1.3s,mb4.8
ENH Enshi 85.88 305 *eP* **P** **11 29 12.9 +0.5**
comp=Z,46nm,1.1s,mb5.0
SYO Syowa Base 85.88 193⇑ P **P** **11 29 12.0 +0.5**
SYO Syowa Base 85.88 193⇓ PcP PcP **11 29 13.0 -0.6**
SYO Syowa Base 85.88 193⇑ *ep*P pP **11 31 17.8 -0.7**
BJT Baijiatuan 85.92 316 P **P** **11 29 12.6 +0.2**
BJI Beijing 85.92 316 P **P** **11 29 13.4 +1.0**
BJI AMB AMB
comp=Z,14nm,2.0s,mb4.2
BJI Beijing 85.92 316 P **P** **11 29 13.4 +1.0**
comp=Z,14nm,2.0s,mb4.2
HAWA Hanford 85.93 37 *eP* **P** **11 29 11.9 -0.3**
comp=Z,25nm,1.1s,mb4.8
HAWA *ep*P pP **11 31 15.4 -3.9**
SIT Sitka 86.04 22 *eP* **P** **11 29 11.5 -1.0**
comp=Z,100nm,1.7s,mb5.2
MSU Marysvale 86.09 46 *eP* **P** **11 29 13.7 +0.5**
MSU *ep*P pP **11 31 19.4 -0.9**
MSU *ep*PP PP **11 32 43.0 -2.1**
DIV Divide 86.25 15 *eP* **P** **11 29 12.4 -1.1**
comp=Z,92nm,1.0s,mb5.4
LNOR Linton Mounta 86.32 38 *eP* **P** **11 29 04.0 -10**
GYA Guiyang 86.41 300⇑ *iP* **P** **11 29 15.6 +0.6**
GYA AP pP **11 31 16.8 -5.4**
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.4
TMUT Trail Mountain 87.14 46 *eP* **P** **11 29 19.8 +1.7**
HLID Hailey 87.31 41 *eP* **P** **11 29 19.8 +0.9**
comp=Z,8.2nm,1.1s,mb4.4
HLID *ep*P pP **11 31 23.6 -2.7**
SNAA Sanae 87.31 179⇑ *iP* **P** **11 29 19.5 +1.3**
SNAA Sanae 87.31 179⇑ *i* **P** **11 29 20.8 +2.6**
SNAA Sanae 87.31 179 P **P** **11 29 19.2 +1.0**
comp=Z,1.2nm,0.8s,baz=161,slow=3.5,SNR=8.0
VNA3 Neumayer Olymp 87.47 176⇓ *iP* **P** **11 29 23.0 +4.0**
VNA3 Neumayer Olymp 87.47 176⇑ *i* **P** **11 29 24.3 +5.3**
SRU San Rafael 87.51 46 *eP* **P** **11 29 20.4 +0.5**
DPW Davenport 87.53 36 *eP* **P** **11 29 19.7 0.0**
DPW *ep*P pP **11 31 23.1 -4.2**
LENM Lemitar 87.65 52 P **P** **11 29 20.9 +0.2**
LENM *ep*P pP **11 31 26.0 -2.2**
MCK McKinley 87.82 13 *eP* **P** **11 29 19.4 -1.3**
comp=Z,18nm,1.0s,mb4.8
MCK *ep*P pP **11 31 24.1 -4.3**
BNM Barren Site 87.89 52 *ep*P pP **11 31 26.8 -2.7**
VNA2 Neumayer--Watz 87.91 177⇓ *iP* **P** **11 29 25.4 +4.4**
VNA2 Neumayer--Watz 87.91 177⇑ *i* **P** **11 29 26.6 +5.6**
TCUT Toona Canyon 87.93 44 *ep*P pP **11 31 23.7 -5.8**
LPM Los Pinos Moun 87.97 52 *ep*P pP **11 31 25.9 -3.9**
TXAR Lajitas Array 88.02 58 P **P** **11 29 24.0 +1.5**
comp=Z,12nm,1.1s,mb4.5,baz=220,slow=6.1,SNR=50
TXAR pP pP **11 31 27.7 -2.4**
comp=Z,6.3nm,1.2s,baz=225,slow=5.3,SNR=11
TXAR PKKPbc **11 47 05.5**
comp=Z,0.3nm,0.5s,baz=162,slow=2.2,SNR=7.8
LTX Lajitas 88.02 58 *ep*P pP **11 31 27.3 -2.8**
comp=Z,25nm,1.7s
XAN Xi'an 88.02 308 P **P** **11 29 23.6 +1.2**
XAN AMB AMB
comp=Z,19nm,1.8s,mb4.5
HWUT Hardware Ranch 88.08 44 *eP* **P** **11 29 22.3 -0.2**
comp=Z,2.3nm,0.7s,mb4.0
HWUT *ep*P pP **11 31 27.8 -2.3**
VNA1 Neumayer--Stat 88.14 177⇑ *iP* **P** **11 29 26.6 +4.5**
THY Trims Highway 88.23 14 *eP* **P** **11 29 22.1 -0.6**
NEW Newport 88.35 36 P **P** **11 29 23.3 -0.3**
comp=Z,3.0nm,0.8s,mb4.1,baz=277,slow=5.2,SNR=4.4
PV01 Paradox Valley 88.37 48 P **P** **11 29 24.1 +0.1**
PV01 *ep*P pP **11 31 26.4 -5.3**
ANMO Albuquerque 88.38 52 *eP* **P** **11 29 24.6 +0.5**
comp=Z,4.8nm,1.1s,mb4.1
ANMO *ep*P pP **11 31 28.4 -3.4**
GDL2 Guadalupe Moun 88.72 55 *eP* **P** **11 29 26.5 +0.8**
GDL2 *ep*P pP **11 31 31.1 -2.5**
HIA Hailar 88.88 325 *eP* **P** **11 29 24.9 -1.2**
comp=Z,12nm,1.5s,mb4.5
MCMT McKenzie Canyo 88.94 41 *eP* **P** **11 29 27.1 +0.6**
MCMT *ep*P pP **11 31 30.6 -3.8**
AHID Auburn Hatcher 88.96 43 *eP* **P** **11 29 26.8 +0.1**
comp=Z,5.5nm,0.8s,mb4.4
AHID *ep*P pP **11 31 29.5 -5.0**
DLBC Dease Lake 88.98 23 *eP* **P** **11 29 23.9 -2.4**
COLA College 89.05 13 *eP* **P** **11 29 24.4 -2.1**
comp=Z,33nm,0.8s,mb5.2
IMA Indian Mountai 89.07 10 *eP* **P** **11 29 25.4 -1.1**
comp=Z,7.4nm,0.8s,mb4.6
KMI Kunming 89.07 297⇑ *eP* **P** **11 29 27.1 -0.4**
KMI SKS SKS **11 39 03.6 +2.6**
KMI S S **11 39 24.8 -0.6**
KMI AMB AMB
comp=Z,18nm,1.2s,mb4.8
KMI AMB AMB
comp=Z,136nm,7.5s
KMI Kunming 89.07 297⇑ *eP* **P** **11 29 27.1 -0.4**
comp=Z,18nm,1.2s,mb4.8
KMI *ep*P pP **11 31 24.2 -11**
KMI *ep*P pP **11 32 19.4 -14**
KMI PP PP **11 33 02.5 -7.3**
KMI SKS SKS **11 39 03.6 +2.6**
KMI S S **11 39 24.7 -0.7**
KMI sS **11 42 54.2**
CLNB Carlsbad 89.12 55 *eP* **P** **11 29 28.3 +0.7**
CLNB *ep*P pP **11 31 31.3 -4.3**
RRI2 Red Ridge 89.12 42 *eP* **P** **11 29 27.8 +0.5**
RRI2 *ep*P pP **11 31 32.4 -2.9**
ILAR Eielson Array 89.16 13 P **P** **11 29 25.3 -1.7**
comp=Z,11nm,1.0s,mb4.6,baz=215,slow=4.7,SNR=96
ILAR pP pP **11 31 31.6 -3.4**
comp=Z,0.9nm,0.8s,baz=227,slow=6.2,SNR=4.3
ILAR PP PP **11 33 07.0 -2.6**
comp=Z,1.2nm,0.9s,baz=214,slow=7.8,SNR=4.1
ILAR PKKPbc **11 47 01.0**
comp=Z,1.1nm,1.3s,baz=12,slow=2.4,SNR=4.4
BDT Bhumibol Dam 89.20 289 P **P** **11 29 29.0 +0.7**
HHC Hu-ho-hao-te 89.36 315 *eP* **P** **11 29 29.8 +1.3**
HHC AMB AMB
comp=Z,13nm,1.2s,mb4.6
HHC AMB AMB
comp=Z,106nm,5.7s
REDW Red Top Meadow 89.42 43 *eP* **P** **11 29 29.1 +0.4**
REDW *ep*P pP **11 31 33.6 -3.1**
CPRX Cap Rock 89.46 54 *eP* **P** **11 29 29.5 +0.4**
CPRX *ep*P pP **11 31 35.0 -2.2**
SNOW Snow King Moun 89.53 42 *eP* **P** **11 29 29.8 +0.6**
SNOW *ep*P pP **11 31 34.5 -2.9**
LOHW Long Hollow 89.70 42 *eP* **P** **11 29 30.3 +0.3**
LOHW *ep*P pP **11 31 35.3 -2.8**
CMAR Chiang Mai Arr 89.71 290 P **P** **11 29 32.6 +2.0**
comp=Z,9.6nm,0.9s,mb4.6,baz=119,slow=3.0,SNR=40
CMAR PP PP **11 33 15.1 +0.1**
comp=Z,3.0nm,1.0s,baz=126,slow=6.3,SNR=7.7
CHG Chiang Mai 89.84 290⇑ P **P** **11 29 32.7 +1.5**
comp=Z,16nm,1.0s,mb4.8
PDAR Pinedale Array 89.95 43 P **P** **11 29 31.2 +0.1**
comp=Z,4.9nm,0.6s,mb4.5,baz=215,slow=3.1,SNR=53
DAWY Dawson 90.33 16 *eP* **P** **11 29 31.8 -0.7**
SDCO Great Sand Dun 90.34 49 *eP* **P** **11 29 34.3 +1.3**
comp=Z,2.7nm,0.9s,mb4.1
WALA Waterton Lakes 90.56 37 *eP* **P** **11 29 33.5 -0.4**
comp=Z,6.0nm,1.0s,mb4.5
LZH Lanzhou 92.66 308 *eP* **P** **11 29 45.0 +1.3**
LZH AP pP **11 31 49.0 -3.3**
LZH XP sP **11 32 43.0 -7.2**
LZH AMB AMB
comp=Z,30nm,1.2s,mb5.2
LZH Lanzhou 92.66 308 *eP* **P** **11 29 45.0 +1.3**
comp=Z,30nm,1.2s,mb5.2
LZH pP pP **11 31 49.0 -3.3**
LZH sP sP **11 32 43.0 -7.2**
EDM Edmonton 93.08 33 *eP* **P** **11 29 43.7 -1.5**
EDM *ep*P pP **11 31 46.2 -7.7**
INK Inuvik 95.14 15 P **P** **11 29 53.0 -1.1**
comp=Z,3.2nm,0.8s,mb4.5,baz=272,slow=6.5,SNR=8.9
INK PKKPbc **11 46 46.4**
comp=Z,0.6nm,0.8s,baz=71,slow=4.3,SNR=4.9
INK Inuvik 95.14 15 *eP* **P** **11 29 52.6 -1.6**
comp=Z,11nm,1.2s,mb4.9
INK *ep*P pP **11 32 01.3 -1.6**
SONM Songino Array 95.84 319 P **P** **11 29 58.4 +0.6**
comp=Z,0.4nm,0.7s,mb3.8,baz=63,slow=3.2,SNR=3.3
ZAL Zalesovo 110.63 321 PKiKP **11 34 59.3**
comp=Z,0.8nm,0.4s,baz=12,slow=3.3,SNR=3.2
AAK Ala-Archa 116.20 308 *e*PKP PKPdf **11 35 09.5 -0.2**
FRB Frobisher Bay 117.74 28 PKP PKPdf **11 35 12.2 0.0**
comp=Z,4.8nm,0.8s,baz=196,slow=19,SNR=3.7
BVAR Borovoye Array 119.18 320 PKP PKPdf **11 35 15.8 +0.5**
comp=Z,5.9nm,0.3s,baz=114,slow=2.3,SNR=32
BVAR PP PP **11 36 48.2 -1.6**
comp=Z,1.2nm,0.8s,baz=72,slow=9.4,SNR=4.2
BVAR SKP **11 37 59.7**
comp=Z,0.5nm,0.5s,baz=135,slow=2.1,SNR=3.8
BRVK Borovoye 119.25 320 *i* PKP PKPdf **11 35 15.6 +0.2**
SCHQ Schefferville 119.66 38 PKP PKPdf **11 35 16.9 +0.8**
comp=Z,1.4nm,0.8s,baz=56,slow=18,SNR=2.5
ZRNK Zerenda 120.02 320 *e*PKPdf PKPdf **11 35 17.1 +0.2**
KEV Kevo 129.04 349 *ep* PKPdf **11 35 32.6 -1.2**
ARCES ARCESS Array B 129.50 349 PKP PKPdf **11 35 35.3 +0.6**
comp=Z,4.0nm,0.5s,baz=25,slow=1.4,SNR=33
ARCES SKPbc **11 38 05.9**
comp=Z,1.5nm,0.7s,baz=315,slow=1.7,SNR=4.3
ARCES SKP **11 38 20.3**
comp=Z,2.2nm,0.8s,baz=67,slow=18,SNR=3.7
JOF Joensuu 133.60 342 *ep* PKPdf **11 35 40.8 -1.7**
comp=Z,9.0nm,0.7s
KAF Kangasniemi 135.65 343 *ep* PKPdf **11 35 47.3 +1.0**
comp=Z,3.3nm,0.5s
FINES FINESS Array B 136.26 343 PKhKP **11 35 38.9**
comp=Z,1.4nm,0.8s,baz=90,slow=1.9,SNR=4.6
FINES PKP PKPdf **11 35 48.1 +0.6**
comp=Z,1.8nm,0.6s,baz=27,slow=4.3,SNR=7.0
FINES SKPbc **11 38 28.7**
comp=Z,8.6nm,0.7s,baz=63,slow=4.3,SNR=17
OBN Obninsk 137.05 331 *e*PKP PKPdf **11 35 51.1 +2.0**
KMBO Kilima Mbogo 138.40 242 PKP PKPdf **11 35 56.0 +3.3**
comp=Z,1.9nm,0.8s,baz=51,slow=19,SNR=4.3
KMBO SKP **11 38 39.5**
comp=Z,4.1nm,1.0s,baz=52,slow=4.2,SNR=7.3
NB2 NORSAR Subarra 139.60 353 PKP **11 35 45.8**
comp=Z,0.8nm,0.5s,baz=10,slow=3.1
NOA NORSAR Array B 139.60 353 PKhKP **11 35 46.3**
comp=Z,1.4nm,0.6s,baz=14,slow=4.5,SNR=5.3
NOA PKP PKPdf **11 35 56.2 +2.7**
comp=Z,1.6nm,0.7s,baz=14,slow=3.7,SNR=4.0
NOA SKPbc **11 38 38.1**
comp=Z,4.2nm,0.8s,baz=16,slow=4.4,SNR=7.2
HFS Hagfors 140.13 350 SKPbc **11 38 39.5**
comp=Z,6.7nm,0.8s,baz=180,slow=1.5,SNR=6.2
NAMS An Nimas 141.60 274 P PKPdf **11 35 58.5 +0.3**
BLJS Baljurashi 142.28 275 P PKPdf **11 36 00.4 +1.1**
SUW Suwalki 143.26 338 *e*PKP PKPdf **11 35 59.9 -0.1**
SUW Suwalki 143.26 338 *e*PKP PKPdf **11 35 59.9 -0.1**
AKASG Malin Array Be 143.30 330 PKhKP **11 35 59.1**
comp=Z,12nm,0.4s,baz=38,slow=4.4,SNR=48
AKASG SKPbc **11 38 48.2**
comp=Z,1.0nm,0.5s,baz=35,slow=2.1,SNR=9.3
LTHS Al Lith 143.45 276 P PKPbc **11 36 03.0 +2.5**
MALT Malatya 143.81 306 *e*PKPdf PKPdf **11 36 02.8 +1.3**
MBAR Mbarara 143.95 237 *e*PKPdf PKPdf **11 36 04.2 +1.7**
SIM Simferopol' 144.09 319 *i* Pr **11 36 03.4**
KBRS Khaybar 144.94 265 P PKPdf **11 36 06.6 +2.8**
ASF Jabal al Asfar 146.49 297 PKPbc PKPbc **11 36 11.3 +3.0**
comp=Z,8.0nm,0.6s,baz=342,slow=0.6,SNR=13
BSEG Bad Segeberg 146.62 350 *e*PKPbc PKPbc **11 36 09.8 +2.0**
BRTR Keskin Array B 146.80 311 PKPbc PKPbc **11 36 10.8 +2.1**
comp=Z,5.0nm,0.5s,baz=135,slow=3.5,SNR=23
KWP Kalwaria 146.94 334 *e*PKP PKPdf **11 36 11.2 +4.8**
KWP *e* **11 36 14.6**
KWP Kalwaria 146.94 334 *e*PKP PKPdf **11 36 11.2 +4.8**
KWP *e* **11 36 14.6**
HRI Mount Hermon 147.24 299 P PKPdf **11 36 13.3 +5.8**
TBKS Tabuk 147.29 289 P PKPdf **11 36 13.0 +5.3**
OJC Ojcow 147.57 338⇓ *e*PKP PKPdf **11 36 12.6 +5.1**
OJC Ojcow 147.57 338⇓ *e*PKP PKPdf **11 36 12.6 +5.1**
HMDT Nahal Hemdat 147.62 297 P PKPdf **11 36 13.7 +5.6**
KOLS Kolonicke sedl 147.66 334 *e*PKP PKPdf **11 36 13.2 +5.6**
KOLS *e* **11 36 22.2**
MMLI Mount Malkishu 147.67 297 P PKPdf **11 36 14.0 +5.8**
JMQS Jabal Moqyreh 147.82 291 P PKPdf **11 36 14.8 +6.3**
DBAS Duba 147.86 288 P PKPdf **11 36 14.5 +5.9**
CRVS Cervenica-Dubn 148.01 335 *e*PKP PKPdf **11 36 19.0 +11**
NIE Niedzica 148.04 336 *e*PKP PKPdf **11 36 14.9 +6.7**
KSP Ksiaz 148.16 342 *e*PKP PKPdf **11 36 14.5 +6.2**
KSP *e* **11 36 19.6**
KSP *ep*PKP **11 38 28.7**
KSP Ksiaz 148.16 342 *e*PKP PKPdf **11 36 14.9 +6.6**
KSP *e* **11 36 18.8**
ZFRI Zfri 148.21 294 P PKPdf **11 36 15.3 +6.2**
PRNI Paran 148.39 294 P PKPdf **11 36 15.4 +6.1**
MLR Muntele Rosu 148.44 326 PKPbc PKPdf **11 36 15.3 +6.4**
comp=Z,28nm,1.0s,baz=29,slow=1.7,SNR=25
MLR Muntele Rosu 148.44 326 PKPbc PKPdf **11 36 15.3 +6.4**
JMOS Jabal al Moall 148.46 291 P PKPdf **11 36 15.8 +6.3**
OKC Ostrava-Krasne 148.46 339 *e*PKPbc PKPdf **11 36 15.0 +6.2**
ALWS Ilw as Safayha 148.48 292 P PKPdf **11 36 16.2 +6.7**
EIL Elat 148.53 292 *e*PKPbc PKPdf **11 36 16.0 +6.4**
EIL *ep*PKPdf **11 38 24.9**
EIL *ep*PKPbc **11 38 33.1**
BDAS Al Bad' **148.54 290** P PKPdf **11 36 16.2 +6.5**
MBH Mount Berech 148.54 293 P PKPdf **11 36 16.0 +6.4**
UPC Upice 148.54 342 *e*PKPbc PKPdf **11 36 15.6 +6.7**
UPC *e*PKPab PKPab **11 36 20.1 -1.7**
DPC Dobruska-Polom 148.59 341 *e*PKPbc PKPdf **11 36 15.5 +6.5**
DPC *ep*PKP **11 38 32.3**
CLL Collm 148.60 346 *i* PKP1 PKPdf **11 36 15.1 +6.1**
CLL *i* PKP2 PKPab **11 36 20.7 -1.3**
CLL *e*'PKP **11 38 31.0**
CLZ Clausthal 148.62 349 *e*PKPbc PKPdf **11 36 15.5 +6.5**
CLZ *e*PKPab PKPab **11 36 20.6 -1.5**
HAQS Haql 148.62 291 P PKPdf **11 36 16.2 +6.5**
MORC Moravsky Berou 148.72 340 *e*PKPbc PKPdf **11 36 15.1 +5.9**
MORC *ep*PKPbc **11 38 32.2**
CSS Prodhromos 148.73 303 *e*PKPbc PKPdf **11 36 15.3 +5.6**
KECS Kecovo 148.74 335 *e*PKP PKPdf **11 36 16.4 +7.1**
KECS *e* **11 36 21.9**
BRG Berggiesshubel 148.77 344 *i* PKP PKPdf **11 36 16.0 +6.7**
BRG *ep*PKP **11 38 17.4**
BRG *e* **11 38 30.2**
PVCC Panska Ves 148.93 343 *e*PKPbc PKPdf **11 36 14.1 +4.6**
VYHS Vyhne 149.36 337 *i* PKP PKPdf **11 36 17.5 +7.2**
VYHS *e* **11 36 24.0**
PRU Pruhonice 149.43 343 *e*PKPbc PKPdf **11 36 17.1 +6.8**
PRU *e*PKPab PKPab **11 36 24.5 -1.0**
PRU *ep*PKP **11 38 33.3**
PSZ Piszkesteto 149.43 335⇑ *i* PKP/F **11 36 18.1**
PSZ Piszkesteto 149.43 335 *e*PKPdf PKPdf **11 36 12.6 +2.2**
PSZ *e*PKPbc PKPdf **11 36 18.1 +7.7**
PSZ *e*PKPab PKPab **11 36 24.6 -0.9**
VRAC Vranov 149.43 340 PKPbc PKPdf **11 36 18.3 +7.9**
VRAC PKPab PKPab **11 36 25.3 -0.2**
comp=Z,7.2nm,0.7s,baz=41,slow=5.3,SNR=4.4
MOX Moxa 149.52 347 *e*PKP PKPdf **11 36 17.3 +6.8**
NKC Novy Kostel 149.73 346 *e*PKPbc PKPdf **11 36 17.9 +7.1**
NKC *e*PKPab PKPab **11 36 25.6 -1.1**
KHC Kasperske Hory 150.47 343 *e*PKPbc PKPdf **11 36 19.4 +7.4**
KHC *e*PKPab PKPab **11 36 28.9 -0.9**
KHC *ep*PKP **11 38 36.0**
GRA1 Grafenberg Arr 150.51 347 *e*PKPbc PKPdf **11 36 20.3 +8.3**
GRA1 *e*PKPab PKPab **11 36 29.2 -0.8**
WET Wettzell 150.64 344 *e*PKPbc PKPdf **11 36 20.2 +8.0**
WET *e*PKPab PKPab **11 36 29.8 -0.7**
GEC2 GERESS Array S 150.69 343 *e*PKPbc PKPdf **11 36 20.1 +7.8**
GEC2 *e*PKPab PKPab **11 36 30.1 -0.7**

GERES	GERESS Array B	150.69	343	PKP	PKPdf	11 36 15.0	+2.6
	comp=Z,0.8nm,0.5s,baz=315,slow=1.9,SNR=4.0						
GERES				PKPbc	PKPdf	11 36 19.8	+7.4
	comp=Z,7.1nm,0.6s,baz=45,slow=1.9,SNR=36						
GERES				PKPab	PKPab	11 36 30.0	-0.7
	comp=Z,1.3nm,0.5s,baz=34,slow=4.8,SNR=7.1						
PKSM	Moragy	151.31	334	⇑eP	PKPdf	11 36 21.3	+8.0
ARSA	Arzberg	151.58	339	⇓iP	PKPdf	11 36 22.3	+8.6
GROS	Grobnik	152.27	339	ePKPbc	PKPdf	11 36 23.7	+9.1
GROS				e		11 36 36.4	
BFO	Black Forest	152.36	350	ePKPbc	PKPdf	11 36 23.6	+8.9
BFO				ePKPab	PKPab	11 36 36.3	-1.5
DIVS	Divcibare	152.40	330	⇑iP	PKPdf	11 36 24.1	+9.2
WATA	Walderalm	152.64	345	⇓iP	PKPdf	11 36 24.3	+9.2
WATA				i		11 36 38.7	
WTTA	Wattenberg	152.69	345	⇓iP	PKPdf	11 36 24.4	+9.2
WTTA				i		11 36 38.4	
PDKS	Podkum	152.78	339	i PKPbc	PKPdf	11 36 24.4	+9.1
PDKS				i		11 36 25.4	
VISS	Visnje	153.07	339	i PKPbc	PKPdf	11 36 25.3	+9.5
VISS				i		11 36 39.5	
DAVA	Damuels	153.07	347	⇑iP	PKPdf	11 36 26.1	+10
DAVOX	Davos	153.56	347	PKPbc	PKPdf	11 36 26.7	+10
	baz=225,slow=4.3						
DAVOX				PKPab	PKPab	11 36 42.9	+0.1
DAVOX	Davos	153.56	347	PKPbc	PKPdf	11 36 26.7	+10
DAVOX				PKPab	PKPab	11 36 42.9	+0.1
ESDC	Sonseca Array	161.07	13	PKPab	PKPab	11 37 14.9	-0.4
	comp=Z,13nm,1.2s,baz=338,slow=3.6,SNR=13						
DBIC	Dimbokro	164.37	157	PKP	PKPdf	11 36 31.7	+1.9
	comp=Z,3.6nm,0.7s,baz=252,slow=3.2,SNR=3.8						
DBIC				PKPab	PKPab	11 37 32.3	+1.9
	comp=Z,3.2nm,0.6s,baz=164,slow=7.6,SNR=4.6						

*NEIC **21** 11:28:40.0±1.1, 24.51N×120.34E, h35^{km}, mb4.3/3, ML4.3(TAP), Error ellipse: s-maj=24.0km s-min=22.0km az=139.0*

NEIC Recorded [2 TAP] in Miao-li and T'ai-chung; [1 TAP] in Chang-hua and I-lan Counties.

*TAP **21** 11:28:44.3, 24.32N×120.82E, h31^{km}, ML3.8*

TAP Felt I J at Liyutan, II J at Sanyi, I J at Taichung, II J at Tachien, I J at Nanjuang, I J at Nanshan.

ISC 21 11:28:44.4±0.4**, 24.35N**±0.02×**120.79E**±0.03**, h35**^{km}±5^{km}**, n52, σ0^{s}49**/83**, mb4.5**/2**, 3C-15D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWQ1	Liyutan	0.01	253	⇓iP	P	11 28 49.9	-0.2
TWQ1				S	S	11 28 53.8	-0.3
NSY	Sanyi	0.07	339	⇓iP	P	11 28 50.4	+0.2
NSY				S	S	11 28 54.8	+0.4
TCU	Taichung	0.23	207	⇓iP	P	11 28 51.3	-0.2
TCU				S	S	11 28 56.2	-0.2
NSTT	Nanjuang	0.34	35	⇓iP	P	11 28 53.0	+0.2
NSTT				S	S	11 28 59.1	+0.4
TWT	Tachien	0.37	105	⇑iP	P	11 28 53.0	-0.2
TWT				S	S	11 28 58.3	-1.0
TYC	Yuchr	0.45	172	⇓iP	P	11 28 54.0	-0.3
TYC				S	S	11 29 01.1	-0.1
SMLT	Sun Moon Lake	0.48	168	⇓iP	P	11 28 54.5	-0.2
SMLT				S	S	11 29 01.7	-0.2
WNT	Mingjian	0.48	191	⇓iP	P	11 28 54.6	-0.2
WNT				S	S	11 29 02.2	+0.2
NNS	Nan Shan	0.54	81	⇑iP	P	11 28 55.6	+0.1
NNS				S	S	11 29 02.6	-0.9
WTCT	Ta-ch'eng	0.67	224	eP	P	11 28 56.9	-0.5
WTCT				S	S	11 29 06.7	-0.1
WGK	Gukeng	0.69	197	i P	P	11 28 57.7	0.0
WGK				S	S	11 29 07.8	+0.4
CHN5	Tsauling	0.76	188	⇓iP	P	11 28 58.4	-0.2
CHN5				S	S	11 29 08.8	-0.3
ENTT	Nioudou	0.77	68	eP	P	11 28 59.1	+0.3
TWD	Chiawan	0.79	110	eP	P	11 28 58.7	-0.3
TWD				S	S	11 29 08.6	-1.1
ESL	Shilin	0.80	132	⇑P	P	11 28 59.3	+0.1
ESL				S	S	11 29 09.7	-0.4
HWA	Hwalien	0.83	116	eP	P	11 29 00.0	+0.3
HWA				S	S	11 29 10.1	-0.8
ALS	Alishan	0.84	179	⇓iP	P	11 29 00.0	+0.2
ALS				S	S	11 29 11.3	+0.2
ENA	Nanau	0.87	85	eP	P	11 29 00.5	+0.3
YUS	Yu-Shan	0.87	170	⇓iP	P	11 29 00.7	+0.5
YUS				S	S	11 29 12.1	+0.2
WSF	Szhu	0.88	216	eP	P	11 29 00.0	-0.3
WSF				S	S	11 29 12.3	+0.2
TWE	Neicheng	0.88	65	eP	P	11 29 00.8	+0.4
TWE				S	S	11 29 12.4	+0.3
TATO	Taipei	0.89	46	ePg	P	11 29 00.3	-0.2
TATO				eSg	S	11 29 16.8	+4.4
CHY	Chiayi	0.91	201	eP	P	11 29 00.8	-0.1
CHY				S	S	11 29 12.5	-0.5
TWS1	Kuangyinshan	0.94	37	eP	P	11 29 01.6	+0.3
TWS1				S	S	11 29 14.4	+0.7
TWA	Mucha	0.96	49	eP	P	11 29 01.9	+0.5
EHY	Hungye	0.97	150	eP	P	11 29 02.3	+0.5
EHY				S	S	11 29 14.5	0.0
TWC	Suao	1.00	75	eP	P	11 29 02.8	+0.6
CHN4	Tsaushan	1.01	190	⇓iP	P	11 29 02.4	+0.1
CHN4				S	S	11 29 15.9	+0.4
TWF1	Yuli	1.10	155	eP	P	11 29 04.1	+0.6
TWF1				S	S	11 29 17.8	+0.1
WTP	Ta-pu	1.11	188	eP	P	11 29 03.6	0.0
WTP				S	S	11 29 18.3	+0.3
TWK	Hsinying	1.11	194	⇓iP	P	11 29 03.9	+0.1
TWK				S	S	11 29 18.3	+0.2
CHN8	Yiju	1.13	208	eP	P	11 29 03.9	-0.1
CHN8				S	S	11 29 18.9	+0.3
NWF	Wu-fen Shan	1.15	51	eP	P	11 29 04.4	+0.1
ELDTW	Lidau	1.18	170	⇓P	P	11 29 05.0	+0.4
TWY	Chenhua	1.18	39	eP	P	11 29 04.7	0.0
STYT	Tauyuan	1.18	181	⇓P	P	11 29 05.0	+0.3
STYT				S	S	11 29 20.0	+0.1
CHN1	Nanshi	1.19	192	⇓iP	P	11 29 04.7	0.0
CHN1				S	S	11 29 20.2	+0.3
SGST	Jiashian	1.28	188	eP	P	11 29 06.0	0.0
SCLT	Jiali	1.29	205	eP	P	11 29 05.8	-0.4
CHKT	Chengkung	1.35	157	eP	P	11 29 07.4	+0.2
CHKT				S	S	11 29 25.8	+1.6
PNG	Penghu	1.37	236	eP	P	11 29 06.2	-1.3
WDGT	Dungji	1.50	224	eP	P	11 29 07.7	-1.5
TWG	Pinlang	1.55	170	eP	P	11 29 10.4	+0.5
TWM1	Shoushan	1.56	192	eP	P	11 29 10.9	+0.8
SSD	Sandimen	1.60	185	eP	P	11 29 10.5	-0.2
ECL	Taimali	1.75	175	eP	P	11 29 12.7	-0.2
EAST	Anshuo	1.96	178	eP	P	11 29 15.6	-0.3
SCZT	Fangliau	1.98	185	eP	P	11 29 16.0	-0.1
KNM	Kinmen	2.15	272	eP	P	11 29 18.8	+0.3
MAJO	Matsushiro	19.28	47	P	P	11 33 07.5	-1.5
	16nm,1.2s						
YSS	Yuzh-Sakhalins	28.58	32	P	P	11 34 32.1	-7.1
	21nm,1.1s,mb4.8						
WRAB	Tennant Creek	45.96	162	eP	P	11 37 01.8	-4.4
	3.0nm,0.9s,mb4.2						

*GUC **21** 11:59:54.9±1.1, 24.09S×70.33W, h62^{km}±9^{km}, MD3.6, ML4.1*

*IDC **21** 11:59:55.7±0.8, 24.08S×69.93W, h53^{km}±6^{km}, mb3.3/4, mb1 3.7/5, mb1mx3.6/13, MS2.9/2, Ms1 3.0/2, ms1mx2.9/5, Error ellipse: s-maj=34.8km s-min=21.5km az=70.0*

*NEIC **21** 11:59:55.8±0.8, 24.08S×70.13W, h55^{km}±8^{km}, mb3.9/3, MD3.6(GUC), Error ellipse: s-maj=17.2km s-min=9.3km az=89.0*

ISC 21 11:59:55.3±0.5**, 24.07S**±0.04×**70.38W**±0.08**, h61**^{km}±4^{km}**, h53**^{km}±2.5^{km}**:pP-P, n22, σ0^{s}91**/23**, mb3.7**/6**, 5C-1D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANCH	Antofagasta	0.39	356	⇑iP	P	12 00 05.9	-0.4
ANCH				i S	S	12 00 15.1	+0.7
ANCH				AMP		12 00 15.8	
	comp=N,10μm,0.5s						
CPN1	Cerro Paranal	0.56	182	i P	P	12 00 08.6	+0.6
CPN1				i S	S	12 00 18.4	+1.1
CPN1				AMP		12 00 20.1	
	comp=N,13μm,0.3s						
LVC	Limon Verde	1.98	43	⇑iP	P	12 00 26.4	-0.7
LVC				i S	S	12 00 51.5	+0.8
LVC				AMP		12 00 51.9	
	comp=E,2μm,0.3s						
SPCH	San Pedro de A	2.31	60	⇑iP	P	12 00 32.0	+0.2
SPCH				i S	S	12 00 59.1	+0.1
SPCH				AMP		12 01 20.8	
	comp=E,3μm,0.4s						
CPCH	Copiapo	3.28	180	i P	P	12 00 44.4	-1.0
CPCH				i S	S	12 01 21.0	-2.4
ARE	Arequipa	7.64	352	P	P	12 01 45.0	-1.3
LPAZ	La Paz	8.02	16	P	P	12 01 50.3	-1.2
	comp=E,0.6nm,0.3s,baz=203,slow=0.6,SNR=3.0						
LPAZ				LR	LR	12 05 18.4	
	comp=E,62nm,18.9s,baz=112,slow=41						
CPUP	Villa Florida	12.03	104	LR	LR	12 07 29.8	
	comp=E,89nm,21.0s,baz=120,slow=39						
TRQA	Tornquist	15.68	155	P	P	12 03 33.6	-0.1
SAML	Samuel	16.53	26	eP	P	12 03 43.7	-0.9
	comp=E,1.9nm,0.8s						
BDFB	Brasilia	22.62	72	P	P	12 04 47.5	-4.5
	comp=E,1.4nm,0.3s,mb3.8,baz=158,slow=11,SNR=2.6						
VNA3	Neumayer Olymp	58.10	161	⇑i	P	12 09 45.7	+1.3
VNA2	Neumayer--Watz	58.70	160	⇓i	P	12 09 49.3	+0.8
SNAA	Sanae	60.32	160	⇑i	P	12 09 55.6	-4.1
TXAR	Lajitas Array	61.99	327	P	P	12 10 12.1	+0.6
	comp=E,0.1nm,0.7s,mb3.1,baz=139,slow=8.3,SNR=3.0						
TXAR				pP	pP	12 10 27.0	-1.0
	comp=E,0.1nm,0.5s,baz=101,slow=27,SNR=2.0						
QSPA	South Pole Qui	66.14	180	eP	P	12 10 37.6	-0.2
	comp=E,2.5nm,0.8s,mb4.3						
QSPA				e	pP	12 10 52.5	-1.9
QSPA				e	pP	12 10 58.7	+4.3
RSSD	Black Hills	74.53	336	P	P	12 11 29.4	+0.2
	comp=E,1.3nm,0.7s,mb4.0						
PDAR	Pinedale Array	75.67	331	P	P	12 11 36.7	+1.0
	comp=E,0.2nm,0.5s,mb3.3,baz=146,slow=9.8,SNR=2.4						
PDAR				pP	pP	12 11 51.8	-0.9
	comp=E,0.3nm,0.7s,baz=90,slow=4.4,SNR=2.0						
MAW	Mawson	82.27	164	P	P	12 12 11.4	+0.4
	comp=E,1.5nm,0.8s,mb4.0,baz=254,slow=16,SNR=4.1						
MAW				pP	pP	12 12 25.8	-2.3
	comp=E,0.6nm,0.5s,baz=280,slow=15,SNR=2.0						
ASAR	Alice Springs	127.02	208	PKP	PKPdf	12 18 54.0	+0.9
	comp=E,0.2nm,0.6s,baz=153,slow=2.0,SNR=3.6						
ASAR				pPKP		12 19 09.8	
	comp=E,0.6nm,1.0s,baz=144,slow=1.7,SNR=3.4						
WRA	Warramunga Arr	130.06	211	PKP	PKPdf	12 19 00.3	+1.2
	comp=E,0.3nm,1.0s,baz=143,slow=1.5,SNR=5.3						
WRA				pPKP		12 19 15.6	
	comp=E,0.4nm,1.1s,baz=158,slow=1.7,SNR=2.3						
AAK	Ala-Archa	145.63	49	ePKPdf	PKPdf	12 19 28.0	+1.4

*UPP **21** 12:00:06.9, 59.00N×18.21E, h0^{km}, ML2.0, Mining explosion.*

*CSEM **21** 12:00:07.1±0.2, 59.08N×18.02E, h3^{km}±2^{km}, ML2.0, Error ellipse: s-maj=9.2km s-min=4.0km az=114.0, Mining explosion.*

*NAO **21** 12:00:09.6±11.0, 59.08N×18.34E, ML2.5*

*BER **21** 12:00:09.4±4.4, 58.87N×18.36E, ML2.5(NAO), Suspected explosion*

ISC 21 12:00:05.9±0.7**, 58.98N**±0.05×**18.33E**±0.09**, n15, σ0^{s}73**/17**, Baltic Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NYNU	Nynaeshamn	0.17	277	P	Pg	12 00 09.2	0.0
NRTU	Norrtaelje	0.71	12	P	Pg	12 00 20.3	+0.2
VIKU	Vikbolandet	0.98	241	P	Pb	12 00 24.5	-0.9
ESKU	Eskilstuna	1.03	285	P	Pb	12 00 24.7	-1.5
BACU	Backbrunna	1.07	325	P	Pb	12 00 25.9	-1.1
FLYU	Flymyra	1.17	349	P	Pb	12 00 28.2	-0.5
GOTU	Gotland	1.31	174	P	Pb	12 00 31.2	+0.2
GRAU	Graesoe	1.36	4	P	Pb	12 00 32.0	+0.1
VSTU	Vaestervik	1.63	216	P	Pn	12 00 36.5	+0.5
LNKU	Linkoeping	1.66	244	P	Pn	12 00 36.5	0.0
NRAU	Nora	1.79	291	P	Pn	12 00 38.5	+0.3
IGGU	Iggoen	1.96	345	P	Pn	12 00 41.2	+0.5
HFS	Hagfors	2.63	298	Pn	Pn	12 00 51.1	+0.8
	baz=114,slow=16						
HFS				Sn	Sn	12 01 24.6	+1.3
	baz=123,slow=37						
FIA0	FINESS Array S	4.58	54	Pn	Pn	12 01 18.5	+0.4
	baz=240,slow=12						
FIA0				Sn	Sn	12 02 12.6	-0.3
	baz=230,slow=28						
FIA0				Lg		12 02 31.2	
	baz=266,slow=28						
ARA0	ARCESS Array S	11.03	13	Pn	P	12 02 43.8	-4.0
	baz=193,slow=16						

ISC 21 12:05:26.5±1.0**, 47.54N**±0.09×**16.37E**±0.07**, h1**^{km}±10^{km}**, n6, σ0^{s}93**/12**, 3C, Austria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOP	Sopron	0.19	43	⇑eP	Pg	12 05 30.3	0.0
SOP				eS	Sg	12 05 33.2	+0.4
ARSA	Arzberg	0.64	243	⇑iPG	Pg	12 05 39.8	+0.5
ARSA				i SG	Sg	12 05 48.7	+0.8
	20nm,0.5s						
ZST	Bratislava	0.82	37	ePG	Pg	12 05 43.8	+1.0
ZST				eSG	Sg	12 05 55.1	+1.4
SMOL	Smolenice	1.20	36	ePN	Pn	12 05 50.9	+0.5
SMOL				eSN	Sn	12 06 07.3	-0.2
MOA	Molln	1.45	283	⇑iPG	Pg	12 05 53.9	-1.5
MOA				i SG	Sg	12 06 14.3	-0.5
	24nm,0.7s						
VYHS	Vyhne	1.91	59	ePN	Pg	12 06 03.9	-0.7
VYHS				eSN	Sg	12 06 28.2	-1.9

*NEIC **21** 12:10:49.0, 38.63S×175.62E, h171^{km}, After WEL.*

WEL 21 12:10:49.4±0.3**, 38.63S**×**175.65E, h167**^{km}±2^{km}**, ML3.9**/6**, 4C-11D, Error ellipse: s-maj=2.2km s-min=2.0km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGZ	Maungaku	0.38	193	⇓P	P	12 11 12.5	-0.1
MGZ	Maungaku	0.38	193	⇓PN	P	12 11 12.5	-0.1
KAVZ	Karewarewa	0.47	180	P	P	12 11 12.9	-0.1
KAVZ	Karewarewa	0.47	180	PN	P	12 11 12.9	-0.1
TWVZ	Taurewa	0.47	200	P	P	12 11 12.6	-0.4
TWVZ				S	S	12 11 30.6	-0.5
TWVZ	Taurewa	0.47	200	PN	P	12 11 12.6	-0.4
TWVZ				SN	S	12 11 30.6	-0.5
WTVZ	West Tongariro	0.49	185	P	P	12 11 12.8	-0.3
WTVZ				S	S	12 11 31.3	+0.1
WTVZ	West Tongariro	0.49	185	PN	P	12 11 12.8	-0.2
WTVZ				SN	S	12 11 31.3	+0.1
PATZ	Paeroa	0.54	63	P	P	12 11 13.2	-0.1
PATZ	Paeroa	0.54	63	PN	P	12 11 12.8	-0.5
NGZ	Ngauruhoe	0.55	184	P	P	12 11 13.1	-0.2
NGZ				S	S	12 11 31.9	+0.2
NGZ	Ngauruhoe	0.55	184	PN	P	12 11 13.1	-0.2
NGZ				SN	S	12 11 31.7	+0.1
CNZ	Chateau	0.57	188	P	P	12 11 13.0	-0.4
CNZ	Chateau	0.57	188	PN	P	12 11 13.0	-0.4
WPVZ	Whakapapa	0.58	188	⇓P	P	12 11 13.4	-0.1
WPVZ				S	S	12 11 30.9	-1.1
WPVZ	Whakapapa	0.58	188	⇓PN	P	12 11 13.3	-0.1
WPVZ				SN	S	12 11 30.9	-1.1
UTU	Utuhina	0.62	44	P	P	12 11 13.7	0.0
UTU	Utuhina	0.62	44	PN	P	12 11 13.7	0.0
HIZ	Hauiti	0.63	280	eP	P	12 11 12.9	-0.8
HIZ				S	S	12 11 31.8	-0.6
HIZ	Hauiti	0.63	280	PN	P	12 11 12.9	-0.8
HIZ				SN	S	12 11 31.8	-0.6
TUVZ	Tukino	0.64	180	⇑P	P	12 11 13.8	+0.1
TUVZ				S	S	12 11 31.5	-1.0
TUVZ	Tukino	0.64	180	PN	P	12 11 13.8	+0.1
TUVZ				SN	S	12 11 31.4	-1.1
WNVZ	Wahianoa	0.70	183	P	P	12 11 14.1	0.0
WNVZ	Wahianoa	0.70	183	PN	P	12 11 14.1	0.0
MOVZ	Moawhango	0.78	174	⇓P	P	12 11 14.2	-0.3
MOVZ	Moawhango	0.78	174	⇓PN	P	12 11 14.2	-0.3
MOVZ				SN	S	12 11 32.3	-1.5
TAZ	Tarawera	0.78	60	P	P	12 11 14.6	+0.1
TAZ	Tarawera	0.78	60	PN	P	12 11 14.6	+0.1
BKZ	Black Stump Fm	0.85	129	⇑P	P	12 11 15.1	+0.2
BKZ				S	S	12 11 34.7	+0.1
BKZ	Black Stump Fm	0.85	129	⇓PN	P	12 11 15.1	+0.1
VRZ	Vera Road	0.85	234	P	P	12 11 14.1	-0.9
VRZ				S	S	12 11 34.3	-0.4
VRZ	Vera Road	0.85	234	PN	P	12 11 14.1	-0.8
VRZ				SN	S	12 11 33.4	-1.3
URZ	Urewera	1.21	73	⇓PN	P	12 11 17.2	-0.6
URZ				SN	S	12 11 38.2	-1.6
WAZ	Wanganui	1.24	204	⇓P	P	12 11 17.6	-0.5
WAZ	Wanganui	1.24	204	⇓PN	P	12 11 17.6	-0.5
WAZ				SN	S	12 11 38.4	-1.9
TSZ	Takapari Road	1.45	170	PN	P	12 11 19.6	-0.6
MWZ	Matawai	1.50	79	P	P	12 11 20.3	-0.4
MWZ	Matawai	1.50	79	⇓PN	P	12 11 20.3	-0.4
MWZ				SN	S	12 11 43.2	-1.6
KNZ	Kokohu	1.63	105	eP	P	12 11 22.1	+0.1
KNZ	Kokohu	1.63	105	PN	P	12 11 22.0	+0.1
PWZ	Pawanui	1.69	146	⇑P	P	12 11 22.3	-0.2
PWZ	Pawanui	1.69	146	⇑PN	P	12 11 22.3	-0.2
PWZ				SN	S	12 11 47.1	-1.0
MRZ	Mangatainoka R	2.03	181	P	P	12 11 24.6	-1.7
MRZ	Mangatainoka R	2.03	181	PN	P	12 11 24.6	-1.7
MRZ				SN	S	12 11 50.9	-3.8
BFZ	Birch Farm	2.10	167	P	P	12 11 25.7	-1.4
BFZ	Birch Farm	2.10	167	PN	P	12 11 25.7	-1.4
PUZ	Puketiti	2.12	76	eP	P	12 11 26.7	-0.7
PUZ	Puketiti	2.12	76	PN	P	12 11 26.5	-0.9
PUZ				SN	S	12 11 53.9	-2.8
KIW	Kapiti Island	2.30	194	P	P	12 11 27.1	-2.4
KIW	Kapiti Island	2.30	194	PN	P	12 11 27.1	-2.4
KIW				SN	S	12 11 55.0	-5.3
MXZ	Matakaoa Point	2.35	64	eP	P	12 11 29.4	-0.7
MXZ	Matakaoa Point	2.35	64	PN	P	12 11 29.1	-1.1
MXZ				SN	S	12 11 59.5	-2.0
CAW	Cannon Point	2.52	190	P	P	12 11 29.4	-2.7
CAW	Cannon Point	2.52	190	PN	P	12 11 29.4	-2.7
CAW				SN	S	12 12 00.6	-4.3
MTW	Mount Morrison	2.53	182	P	P	12 11 29.6	-2.7
MTW	Mount Morrison	2.53	182	PN	P	12 11 29.6	-2.7
MTW				SN	S	12 12 00.5	-4.8
MRW	Makara Radio	2.70	195	P	P	12 11 31.1	-3.3
MRW	Makara Radio	2.70	195	PN	P	12 11 31.1	-3.2
MRW				SN	S	12 12 03.0	-5.8
WEL	Wellington	2.74	194	P	P	12 11 31.8	-3.1
WEL	Wellington	2.74	194	PN	P	12 11 31.8	-3.0
PAWZ	Paruwai Farm	2.75	183	SN	S	12 12 04.6	-5.5
MSWZ	Moikau Station	2.80	186	P	P	12 11 32.5	-3.1
MSWZ	Moikau Station	2.80	186	PN	P	12 11 32.5	-3.1
MSWZ				SN	S	12 12 05.2	-5.9
BHW	Baring Head	2.84	192	P	P	12 11 32.8	-3.3
BHW	Baring Head	2.84	192	PN	P	12 11 32.8	-3.3
BHW				SN	S	12 12 05.6	-6.3
TUWZ	Tuamarina	3.09	205	PN	P	12 11 35.1	-4.2
TUWZ				SN	S	12 12 11.1	-6.4
NNZ	Nelson	3.12	213	P	P	12 11 35.1	-4.5
NNZ	Nelson	3.12	213	PN	P	12 11 35.1	-4.5
NNZ				SN	S	12 12 12.4	-5.7
QRZ	Quartz Range	3.26	227	eP	P	12 11 36.3	-5.1
QRZ	Quartz Range	3.26	227	PN	P	12 11 36.3	-5.1
QRZ				SN	S	12 12 15.0	-6.3
BSWZ	Blackbirch Sta	3.37	203	P	P	12 11 39.0	-3.8
BSWZ	Blackbirch Sta	3.37	203	PN	P	12 11 39.0	-3.8
THZ	Tophouse	3.77	213	eP	P	12 11 42.8	-5.1
THZ	Tophouse	3.77	213	PN	P	12 11 42.7	-5.2
THZ				SN	S	12 12 26.5	-6.5
KHZ	Kahutara	4.11	202	P	P	12 11 48.0	-4.3
KHZ	Kahutara	4.11	202	PN	P	12 11 48.0	-4.3
DSZ	Denniston Nort	4.29	222	eP	P	12 11 48.6	-6.0
DSZ	Denniston Nort	4.29	222	PN	P	12 11 48.5	-6.1
DSZ				SN	S	12 12 36.0	-8.9
LTZ	Lake Taylor	4.88	211	PN	P	12 11 55.8	-6.6
LTZ				SN	S	12 12 48.9	-10
CRLZ	Canterbury Las	5.45	204	PN	P	12 12 03.4	-6.3
MQZ	McQueen's Vall	5.55	203	eP	P	12 12 04.5	-6.7
MQZ	McQueen's Vall	5.55	203	PN	P	12 12 04.5	-6.7
MQZ				SN	S	12 13 03.2	-11
WVZ	Waitaha Valley	5.79	218	SN	S	12 13 08.1	-12
ODZ	Otahua Downs	7.42	209	PN	P	12 12 28.8	-7.2

*IDC **21** 13:12:24.0±10.0, 9.24N×92.24E, mb3.7/2, mb1 4.0/3, mb1mx3.6/18, ML3.9/1, Error ellipse: s-maj=239.0km s-min=45.9km az=96.0*

ISC 21 13:12:30.9±2.4**, 9.3N**±0.2×**93.0E**±0.4**, h33**^{km}**, n4, σ0^{s}14**/5**, mb3.8**/2**, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	2.36	355	eP	P	13 13 08.0	0.0
PBA				eS	S	13 13 28.5	-7.6
CMAR	Chiang Mai Arr	10.80	32	Pn	P	13 15 06.3	0.0
	0.3nm,0.3s,baz=223,slow=15,SNR=6.9						
WRA	Warramunga Arr	50.02	126	P	P	13 21 24.5	-0.1
	0.8nm,0.5s,mb4.0,baz=306,slow=8.5,SNR=15						
ASAR	Alice Springs	51.71	130	P	P	13 21 37.5	+0.1
	0.5nm,0.8s,mb3.5,baz=316,slow=7.3,SNR=4.8						

IDC 21 13:24:05.8±6.5**, 36.23S**×**177.60E, h134**^{km}±34^{km}**, mb3.1**/3**, mb1 3.3**/4**, mb1mx3.2**/12**, Error ellipse: s-maj=85.8km s-min=27.0km az=55.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	2.06	191	P	P	13 24 41.2	0.0
	1.4nm,0.3s,baz=184,slow=9.5,SNR=17						
URZ				S	S	13 25 07.9	-0.3
	3.1nm,0.3s,baz=264,slow=23,SNR=14						
ASAR	Alice Springs	39.57	276	P	P	13 31 24.2	-1.1
	0.9nm,0.7s,baz=120,slow=8.2,SNR=12						
WRA	Warramunga Arr	41.11	281	P	P	13 31 36.2	-1.8
	0.4nm,0.6s,baz=122,slow=7.7,SNR=8.7						
VNDA	Vanda	41.96	185	P	P	13 31 42.6	-1.6
	0.2nm,0.5s,baz=22,slow=5.4,SNR=3.8						

*MAN **21** 13:45:49.5, 9.87N×127.03E, h25^{km}, mb5.3, ML4.3, MS4.5*

*MOS **21** 13:45:51.0±1.1, 9.67N×126.65E, h33^{km}, mb4.9/21, MS4.2/9, Error ellipse: s-maj=22.5km s-min=9.0km az=116.2*

*IDC **21** 13:45:53.0±2.8, 9.71N×126.73E, h34^{km}±21^{km}, mb4.4/25, mb1 4.5/28, mb1mx4.5/30, ML4.7/1, MS4.1/12, Ms1 4.1/12, ms1mx3.8/26, Error ellipse: s-maj=20.4km s-min=9.9km az=73.0*

*HRVD **21** 13:45:56.9±0.3, 9.79N×126.80E, h25^{km}±1^{km}, MW5.1/60, Centroid moment Tensor Solution. LP body waves: s31,c41; Mantle waves: s60,c91; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.89±.21; $M_{\theta\theta}$1.81±.14; $M_{\phi\phi}$-3.70±.16; $M_{r\theta}$-1.48±.36; $M_{\theta\phi}$-1.96±.10; $M_{\phi r}$2.93±.36; Best double couple: $M_0$4.98×10^{16} NP1:ϕ_s236°, δ43°, λ158°. NP2:ϕ_s342°, δ75°, λ50°. Principal axes: T 4.77, Plg44°, Azm212°; N .42, Plg39°, Azm354°; P -5.18, Plg20°, Azm101°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **21** 13:45:56.9±2.3, 9.66N×126.73E, h70^{km}±21^{km}, mb5.0/34 Error ellipse: s-maj=11.2km s-min=5.3km az=68.0*

*BJI **21** 13:45:56.2, 9.55N×126.85E, h86^{km}, mB5.0, mb4.8, Ms4.6, Msz4.2*

ISC 21 13:45:52.8±0.6**, 9.78N**±0.02×**126.79E**±0.04**, h48**^{km}±4^{km}**, h63**^{km}±3.8^{km}**:pP-P, n188, σ1^{s}24**/212**, mb4.8**/77**, MS4.2**/25**, 19C-9D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	1.28	270	⇓eP	P	13 46 14.5	-0.2
SCPH				eS	S	13 46 30.1	-0.9
BUTP	Butuan	1.41	235	eP	P	13 46 16.8	+0.2
BUTP				eS	S	13 46 35.2	+1.1
BIPH	Bislig	1.64	195	⇑iP	P	13 46 18.6	-1.2
BIPH				i S	S	13 46 36.7	-3.1
MSLP	Maasin	1.94	281	eP	P	13 46 24.8	+0.8
MSLP				eS	S	13 46 52.3	+5.2
BESP	Borongan	2.25	324	eP	P	13 46 26.4	-2.0
PLP	Palo	2.25	308	i P	P	13 46 28.0	-0.5
PLP				i S	S	13 46 55.1	-0.1
CGP	Cagayan de Oro	2.45	238	eP	P	13 46 31.6	+0.3
CGP				eS	S	13 47 00.5	+0.3
OCLP	Ormoc	2.49	301	eP	P	13 46 32.9	+1.0
BUKP	Musuan	2.54	222	eP	P	13 46 32.9	+0.3
LLP	Lapu-Lapu	2.83	281	⇓iP	P	13 46 37.7	+1.0
LLP				i S	S	13 47 11.4	+1.5

MATI Mati 2.86 191 *e*P **P** **13 46 36.5 -0.7**
TBP Tagbilaran 2.89 269 *e*P **P** **13 46 38.0 +0.5**
TBP *e*S **S** **13 47 09.2 -2.0**
DAV Davao City (W) 2.94 204 *e*P **P** **13 46 40.3 +2.0**
KCP Kidapawan 3.22 212⇑*e*P **P** **13 46 42.2 -0.1**
KCP *i* S **S** **13 47 22.0 +2.2**
CNP Catarman 3.43 323 *e*P **P** **13 46 43.0 -2.1**
CNP *e*S **S** **13 47 24.7 -0.3**
SNPH Sibulan 3.53 263⇓*e*P **P** **13 46 53.0 +6.4**
CTBH Cotabato--PC H 3.58 225⇓*e*P **P** **13 46 49.2 +1.9**
CTBH *i* S **S** **13 47 30.6 +1.9**
PAGZ Pagadian 3.88 241 *e*P **P** **13 46 52.5 +1.0**
MMPH Masbate 4.03 310 *i* P **P** **13 46 52.9 -0.8**
GUIM Jordan 4.22 282 *e*P **P** **13 46 56.6 +0.2**
RCP Roxas 4.35 294⇓*e*P **P** **13 46 58.3 +0.1**
PVCP Virac 4.59 326 *e*P **P** **13 46 59.5 -2.1**
PVCP *e*S **S** **13 47 51.2 -3.0**
IPIL Ipil 4.62 245 *e*P **P** **13 47 03.9 +2.0**
KALP Kalibo 4.77 294⇑*e*P **P** **13 47 06.8 +2.8**
OTRP Odiongan 5.34 299 *e*P **P** **13 47 11.8 -0.2**
CUYO Cuyo Island 5.78 281 *e*P **P** **13 47 17.9 -0.2**
BOAC Boac 6.07 308 *e*P **P** **13 47 22.2 0.0**
SJMP San Jose 6.17 296 *e*P **P** **13 47 24.6 +0.9**
POLP Polilio Island 6.83 317 *e*P **P** **13 47 32.5 -0.4**
POLP *e*S **S** **13 48 48.1 -2.2**
BUSP Coron 6.84 289 *e*P **P** **13 47 33.0 -0.1**
BALP Baler 7.81 320 *e*P **P** **13 47 47.2 +0.7**
CAUP Cauayan 8.61 326 *e*P **P** **13 47 54.8 -2.7**
CAUP *e*S **S** **13 49 25.8 -8.5**
JOW Kunigami 17.02 5 P **P** **13 49 57.4 +8.2**
4.7nm,0.3s,baz=176,slow=13,SNR=16
JOW LR LR 13 55 43.6
comp=Z,538nm,20.2s,baz=125,slow=35
GZH Guangzhou 18.46 317 P **P** **13 50 05.3 -1.7**
GZH S **S** **13 53 35.3 +7.4**
GZH LR LR
comp=N,1μm,22.1s
GZH LR LR
comp=E,1μm,20.9s
GZH LR LR
comp=Z,2μm,20.2s
QIZ Qiongzhong 18.80 301 *e*P **P** **13 50 12.3 +1.2**
QIZ XP 13 50 36.4
QIZ S **S** **13 53 34.1 -1.5**
QIZ SS SS 13 54 02.6 +1.0
QIZ LR LR
comp=E,957nm,18.8s
QIZ LR LR
comp=Z,1μm,22.8s
QIZ Qiongzhong 18.80 301 P **P** **13 50 12.8 +1.7**
comp=Z,115nm,1.7s
SSE Sheshan 21.84 347 *e*P **P** **13 50 45.5 +2.5**
SSE AP 13 51 03.1
SSE AMB AMB
comp=Z,54nm,0.7s,mb5.1
SSE AMB AMB
comp=Z,106nm,4.3s
SSE LR LR
comp=N,473nm,15.6s,MS4.0
SSE LR LR
comp=E,173nm,15.6s,MS4.0
SSE LR LR
comp=Z,586nm,19.6s,MS4.0
SSE Sheshan 21.84 347 *e*P **P** **13 50 45.5 +2.5**
comp=Z,54nm,0.7s,mb5.1
SSE pP 13 51 03.1
SSE S **S** **13 54 45.8 +9.3**
SSE sS 13 55 12.6
CBiJ Chichi jima 22.54 38 P **P** **13 50 50.2 +0.2**
comp=Z,83nm,0.6s,mb5.3,baz=90,slow=17
KAKA Kakadu 23.01 166⇑*i*P **P** **13 50 59.5 +4.8**
comp=Z,40nm,0.6s,mb5.0
KAKA *e*S **S** **13 55 13.3 +16**
NJ2 Nanjing 23.35 343 *e*P **P** **13 51 00.5 +2.6**
NJ2 AP 13 51 17.5
NJ2 XP 13 51 26.8
NJ2 PP PP 13 51 35.8 +5.5
NJ2 S **S** **13 55 05.0 +1.4**
NJ2 AMB AMB
comp=Z,20nm,0.5s,mb4.8
NJ2 AMB AMB
comp=Z,1μm,5.4s
NJ2 LR LR
comp=N,880nm,21.4s
NJ2 LR LR
comp=E,1μm,11.9s
NJ2 LR LR
comp=Z,2μm,16.2s
WHN Wuhan 23.69 332⇓P **P** **13 51 03.4 +2.2**
WHN AMB AMB
comp=Z,37nm,1.1s,mb4.7
WHN LR LR
comp=Z,1μm,25.2s,MS4.3
KGM Kluang 24.57 253⇑*e*P **P** **13 51 10.8 +0.9**
comp=Z,194nm,0.9s,mb5.6
GYA Guiyang 25.26 314⇑*i*P **P** **13 51 22.4 +6.1**
GYA AMB AMB
comp=Z,100nm,4.8s
GYA LR LR
comp=N,630nm,15.9s,MS4.4
GYA LR LR
comp=E,820nm,16.8s,MS4.4
GYA LR LR
comp=Z,1μm,18.0s,MS4.5
ENH Enshi 26.01 324 *e*P **P** **13 51 22.2 -1.1**
comp=Z,16nm,0.6s,mb4.7
IPM Ipoh 26.07 260⇓*e*P **P** **13 51 25.5 +1.4**
comp=Z,34nm,0.5s,mb5.1
KMI Kunming 27.48 307 *e*P **P** **13 51 37.8 +0.9**
KMI AP pP 13 51 55.9 +6.7
KMI XP sP 13 52 05.3 +10
KMI S **S** **13 56 11.6 -1.0**
KMI XS 13 56 44.8
KMI SS SS 13 57 36.4 +3.7
KMI PCS 13 58 36.8
KMI AMB AMB
comp=Z,90nm,5.5s
KMI LR LR
comp=N,457nm,24.7s
KMI LR LR
comp=E,403nm,19.0s
KMI LR LR
comp=Z,530nm,19.8s,MS4.1
KMI Kunming 27.48 307 *e*P **P** **13 51 37.7 +0.8**
comp=Z,0.1nm,5.5s
KMI pP pP 13 51 55.9 +6.7
KMI sP sP 13 52 05.2 +10
KMI PP PcP 13 54 54.6 0.0
KMI S **S** **13 56 11.6 -1.0**
KMI sS 13 56 44.7
KMI SS SS 13 57 36.4 +3.7
KMI PcS 13 58 36.8
FITZ Fitzroy Crossi 27.72 182 *e*P **P** **13 51 37.7 -1.5**
comp=Z,23nm,0.6s,mb5.0
FITZ Fitzroy Crossi 27.72 182 P **P** **13 51 38.0 -1.2**
comp=Z,25nm,0.5s,mb5.1,baz=14,slow=5.4,SNR=30
PMG Port Moresby 27.82 133 P **P** **13 51 37.9 -2.2**
comp=Z,7.7nm,0.7s,mb4.4,baz=334,slow=8.9,SNR=4.5
PMG Port Moresby 27.82 133 P **P** **13 51 37.9 -2.2**
PMG pmax pmax
comp=Z,8.0nm,0.7s
PMG Port Moresby 27.82 133 P **P** **13 51 37.9 -2.2**
CMAR Chiang Mai Arr 28.32 291 P **P** **13 51 42.9 -1.6**
comp=Z,3.2nm,0.9s,mb4.0,baz=103,slow=6.8,SNR=21
CMAR PcP PcP 13 54 55.6 -1.1
comp=Z,1.0nm,0.8s,baz=98,slow=1.9,SNR=4.6
CMAR ScP 13 58 34.9
comp=Z,0.9nm,1.0s,baz=71,slow=2.5,SNR=4.1
CMAR Chiang Mai Arr 28.32 291 P **P** **13 51 42.9 -1.6**
CMAR 13 54 55.7
CMAR pmax pmax
comp=Z,3.0nm,0.9s
CMAR pmax pmax
comp=Z,1.0nm,0.8s
CMAR pmax pmax
comp=Z,1.0nm,1.0s
XAN Xi'an 29.19 329 P **P** **13 51 51.1 -1.0**
XAN AMB AMB
comp=Z,12nm,0.7s,mb4.7
WRAB Tennant Creek 30.45 166 *e*P **P** **13 52 00.9 -2.5**
comp=Z,11nm,0.7s,mb4.7
WRAB *e* 13 52 05.8
WRA Warramunga Arr 30.45 166 P **P** **13 52 00.8 -2.7**
comp=Z,3.4nm,0.6s,mb4.2,baz=346,slow=9.3,SNR=25
WRA Warramunga Arr 30.45 166 P **P** **13 52 00.8 -2.7**
WRA pmax pmax
comp=Z,3.0nm,0.6s
WB2 Warramunga Arr 30.45 166⇑*i*P **P** **13 52 01.0 -2.5**
MBWA Marble Bar 31.51 193 *e*P **P** **13 52 10.9 -1.9**
comp=Z,15nm,0.5s,mb5.1
BJI Beijing 31.59 344 P **P** **13 52 14.6 +1.3**
BJI AP pP 13 52 31.4 +5.6
BJI XP sP 13 52 42.3 +10
BJI S **S** **13 57 15.3 -2.2**
BJI AMB AMB
comp=Z,10.0nm,1.1s,mb4.6
BJI AMB AMB
comp=Z,123nm,5.6s
BJI LR LR
comp=Z,303nm,24.8s,MS3.9
BJI Beijing 31.59 344 P **P** **13 52 14.6 +1.3**
comp=Z,10.0nm,1.1s,mb4.6
BJI pP pP 13 52 31.4 +5.6
BJI sP sP 13 52 42.2 +10
BJI S **S** **13 57 15.2 -2.3**
LZH Lanzhou 33.47 325 *e*P **P** **13 52 32.1 +2.4**
LZH AP pP 13 52 47.1 +4.7
LZH XP sP 13 52 56.9 +8.5
LZH PP PP 13 53 46.0 +3.2
LZH PCP PcP 13 55 11.1 +1.0
LZH *e*S **S** **13 57 47.0 +0.1**
LZH XS 13 58 18.0
LZH SS SS 13 59 54.0 +1.5
LZH AMB AMB
comp=Z,30nm,1.0s,mb5.2
LZH AMB AMB
comp=Z,230nm,4.4s
LZH LR LR
comp=E,1μm,14.4s
LZH LR LR
comp=Z,2μm,16.2s,MS4.9
LZH Lanzhou 33.47 325 *e*P **P** **13 52 32.1 +2.4**
comp=Z,30nm,1.0s,mb5.2
LZH pP pP 13 52 47.1 +4.7
LZH sP sP 13 52 56.9 +8.5
LZH PP PP 13 53 46.0 +3.2
LZH PcP PcP 13 55 11.1 +1.0
LZH *e*S **S** **13 57 47.0 +0.1**
LZH sS 13 58 18.0
LZH SS SS 13 59 54.0 +1.5
HHC Hu-ho-hao-te 33.76 339 *e*P **P** **13 52 33.5 +1.4**
HHC XP sP 13 53 00.6 +10
HHC PP PP 13 53 52.1 +6.0
HHC PCP PcP 13 55 08.9 -2.0
HHC S **S** **13 57 57.0 +5.7**
HHC SCS ScS 14 02 47.0 -3.4
HHC AMB AMB
comp=Z,23nm,1.2s,mb5.0
HHC AMB AMB
comp=Z,159nm,6.3s
HHC LR LR
comp=N,171nm,16.6s,MS4.0
HHC LR LR
comp=E,125nm,14.1s,MS4.0
HHC LR LR
comp=Z,161nm,17.8s,MS3.8
CN2 Changchun 33.92 358 *e*P **P** **13 52 37.3 +3.8**
CN2 *e*AP pP 13 52 56.0 +10
CN2 *e*S **S** **13 57 57.3 +3.6**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
CN2 LR LR
comp=N,300nm,11.0s,MS4.4
CN2 LR LR
comp=E,300nm,11.0s,MS4.4
CN2 LR LR
comp=Z,300nm,13.0s,MS4.2
ASAR Alice Springs 33.96 168 P **P** **13 52 32.3 -1.7**
comp=Z,2.9nm,0.4s,mb4.6,baz=353,slow=6.7,SNR=83
ASAR PcP PcP 13 55 10.6 -1.0
comp=Z,2.7nm,0.7s,baz=350,slow=2.2,SNR=5.8
ASAR ScP 13 58 52.0
comp=Z,1.4nm,0.8s,baz=5.9,slow=5.0,SNR=5.2
ASPA Alice Springs 33.96 168 *e*P **P** **13 52 32.2 -1.8**
BTO Baotou 34.12 337 *e*P **P** **13 52 35.0 -0.2**
BTO AMB AMB
comp=Z,20nm,1.9s,mb4.7
MDJ Mudanjiang 34.80 4 P **P** **13 52 43.0 +2.0**
MDJ AP pP 13 52 57.6 +3.9
MDJ PP PP 13 54 03.6 +4.2
MDJ S **S** **13 58 11.1 +3.8**
MDJ XS 13 58 40.6
MDJ SCS ScS 14 02 53.5 -2.4
MDJ AMB AMB
comp=Z,15nm,1.7s,mb4.7
MDJ AMB AMB
comp=Z,152nm,5.3s
MDJ LR LR
comp=N,198nm,19.5s,MS4.0
MDJ LR LR
comp=E,197nm,17.2s,MS4.0
MDJ LR LR
comp=Z,274nm,16.1s,MS4.1
CTA Charters Tower 35.32 147 *e*P **P** **13 52 53.5 +7.8**
comp=Z,18nm,0.6s,mb5.2
CTA Charters Tower 35.32 147 P **P** **13 52 45.9 +0.2**
comp=Z,2.5nm,0.7s,mb4.2,baz=323,slow=10,SNR=2.8
CTA Charters Tower 35.32 147 P **P** **13 52 45.9 +0.2**
CTA pmax pmax
comp=Z,3.0nm,0.7s
CTA Charters Tower 35.32 147 P **P** **13 52 45.9 +0.2**
CTAO Charters Tower 35.32 147 *e*P **P** **13 52 53.3 +7.6**
comp=Z,25nm,0.6s,mb5.3
SHL Shillong 36.63 300 *e*P **P** **13 52 56.0 -0.7**
SHL *e*S **S** **13 58 36.0 +0.2**
ASAJ Asahikawa 36.86 19 P **P** **13 52 58.8 +0.3**
comp=Z,9.7nm,0.9s,mb4.6,baz=194,slow=4.2,SNR=3.7
ASAJ LR LR 14 07 16.8
comp=Z,271nm,20.5s,MS4.0,baz=56,slow=35
ASAJ Asahikawa 36.86 19 P **P** **13 52 58.8 +0.3**
ASAJ pmax pmax
comp=Z,10.0nm,0.9s
ASAJ MLR MLR
comp=Z,271nm,20.5s
GTA Gaotai 38.08 325 *e*P **P** **13 53 09.0 +0.3**
GTA AP pP 13 53 27.3 +5.8
GTA XP sP 13 53 36.4 +9.1
GTA PCP PcP 13 55 24.6 +0.9
GTA S **S** **13 58 52.6 -5.0**
GTA PCS 13 59 11.9
GTA AMB AMB
comp=Z,85nm,6.5s
GTA LR LR
comp=N,464nm,15.6s,MS4.4
GTA LR LR
comp=E,369nm,20.5s,MS4.4
GTA LR LR
comp=Z,711nm,18.6s,MS4.5
HIA Hailar 39.80 353 P **P** **13 53 23.5 +0.6**
comp=Z,3.8nm,0.6s,mb4.3
FORT Forrest 40.34 178⇑*i*P **P** **13 53 27.1 -0.5**
comp=Z,128nm,0.6s,mb5.8
SONM Songino Array 41.66 339 P **P** **13 53 39.5 +1.2**
comp=Z,5.9nm,0.6s,mb4.4,baz=156,slow=9.9,SNR=28
KLBR Kellerberrin 42.03 192⇑*i*P **P** **13 53 40.7 -0.9**
comp=Z,12nm,0.4s,mb4.9
GUN Gumba 42.46 301 *e*P **P** **13 53 44.1 -1.0**
comp=Z,26nm,0.7s,mb5.0
MUN Mundaring 42.73 193⇑*i*P **P** **13 53 46.8 -0.5**
comp=Z,27nm,0.6s,mb5.2
PKI Pulchoki 42.76 300 *e*P **P** **13 53 46.1 -1.5**
comp=Z,8.5nm,0.5s,mb4.7
KKN Kakani 42.93 300 *e*P **P** **13 53 48.0 -1.0**
comp=Z,4.3nm,0.4s,mb4.5
DMN Daman 43.03 300 *e*P **P** **13 53 48.3 -1.5**
comp=Z,6.0nm,0.5s,mb4.6
NWAO Narrogin (SRO) 43.43 192 P **P** **13 53 52.5 -0.4**
comp=Z,19nm,0.4s,mb5.2,baz=19,slow=9.3,SNR=59
NWAO Narrogin (SRO) 43.43 192 P **P** **13 53 52.6 -0.4**
NWAO pmax pmax
comp=Z,19nm,0.4s
NWAO Narrogin (SRO) 43.43 192 *e*P **P** **13 53 52.4 -0.6**
comp=Z,30nm,0.8s,mb5.1
GKN Gorkha 43.54 301 *e*P **P** **13 53 52.6 -1.3**
comp=Z,4.6nm,0.3s,mb4.6
STKA Stephens Creek 43.77 162⇑*i*P **P** **13 53 55.2 -0.6**
comp=Z,7.5nm,0.9s,mb4.4
STKA *e* 13 54 00.9
STKA Stephens Creek 43.77 162 P **P** **13 53 55.5 -0.3**
comp=Z,6.1nm,0.5s,mb4.6,baz=345,slow=6.8,SNR=17
KOLN Koldanda 44.36 300 *e*P **P** **13 53 58.9 -1.6**
comp=Z,20nm,0.7s,mb4.9
ZAK Zakamensk 44.91 339 *e*P **P** **13 54 05.0 +0.4**
ZAK *e* 13 55 43.7
PALK Pallekele 45.62 271 P **P** **13 54 09.9 -0.9**
comp=Z,20nm,1.2s,mb4.9
MOY Mondy 46.79 338 *e*P **P** **13 54 20.9 +1.4**
HYB Hyderabad 47.39 285 *i* P **P** **13 54 23.5 -1.2**
HYB Hyderabad 47.39 285 *e*P **P** **13 54 23.5 -1.2**
WMQ Urumqi 47.92 322 *e*P **P** **13 54 30.6 +2.1**
WMQ XP sP 13 54 58.0 +11
WMQ PP PP 13 56 23.0 +3.0
WMQ S **S** **14 01 22.0 +0.5**
WMQ SS SS 14 04 46.0 +0.8
WMQ AMB AMB
comp=Z,10.0nm,0.4s,mb5.2
WMQ LR LR
comp=N,312nm,20.0s,MS4.5
WMQ LR LR
comp=E,377nm,20.0s,MS4.5
WMQ LR LR
comp=Z,363nm,20.0s,MS4.3
TOO Toolangi 50.25 161 *e*P **P** **13 54 46.7 +0.2**
comp=Z,4.6nm,0.7s,mb4.6
TOO *i* 13 54 53.2
YAK Yakutsk 52.20 2*c i*P **P** **13 55 16.0 +15**
YAK pmax pmax
comp=Z,16nm,1.0s,mb4.9
YAK MLR MLR
comp=Z,300nm,18.0s,MS4.4
YAK Yakutsk 52.20 2 *e*P **P** **13 55 00.4 -0.5**
comp=Z,25nm,0.9s,mb5.2
YAK *e* pP 13 55 14.5 +0.5
ZAL Zalesovo 55.31 331 P **P** **13 55 23.5 -0.4**
comp=Z,1.8nm,0.3s,mb4.5,baz=1.1,slow=6.3,SNR=11
ZAL LR LR 14 21 57.7
comp=Z,219nm,20.0s,MS4.2,baz=336,slow=39
ZAL Zalesovo 55.31 331 P **P** **13 55 23.5 -0.4**
ZAL pmax pmax
comp=Z,2.0nm,0.3s
ZAL MLR MLR
comp=Z,219nm,20.0s
AAK Ala-Archa 56.03 315⇓*i*P **P** **13 55 27.5 -1.8**
AAK *i* *PP PcP 13 56 25.2 -1.7
AAK pmax pmax
comp=Z,8.0nm,2.2s,mb4.4
AAK MLR MLR
comp=Z,400nm,19.0s,MS4.5
AAK Ala-Archa 56.03 315 *e*P **P** **13 55 28.9 -0.3**
comp=Z,5.1nm,1.1s,mb4.5
NVS Novosibirsk 56.58 331 *i* P **P** **13 55 31.9 -1.1**
NVS pmax pmax
comp=Z,23nm,1.8s,mb4.9
NVS pmax pmax
comp=N,23nm,1.7s
NVS pmax pmax
comp=E,17nm,1.7s
KURK Kurchatov 56.76 326*c i*P **P** **13 55 33.5 -0.9**
KURK Kurchatov 56.76 326 *e*P **P** **13 55 33.3 -1.0**
comp=E,42nm,1.2s,mb5.3
BVAR Borovoye Array 62.36 325 P **P** **13 56 12.6 -0.2**
comp=E,4.6nm,0.9s,mb4.6,baz=112,slow=8.0,SNR=14
BRVK Borovoye 62.43 325 *e*P **P** **13 56 12.7 -0.7**
comp=E,7.4nm,0.8s,mb4.9
ZRNK Zerenda 63.11 325 *e*P **P** **13 56 16.7 -1.1**
comp=E,8.8nm,0.7s,mb5.0
RPZ Rata Peaks 66.69 147 P **P** **13 56 41.5 +0.4**
comp=E,9.9nm,0.5s,mb5.1,baz=170,slow=1.3,SNR=12
SVE Sverdlovsk 68.90 327⇑*e*P **P** **13 56 54.2 -0.4**
SVE *e* pP 13 57 10.0 +1.7
SVE pmax pmax
comp=Z,40nm,2.0s,mb5.0
SVE MLR MLR
comp=Z,200nm,20.0s,MS4.3
ARU Arti 69.92 327⇑*i*P **P** **13 56 59.6 -1.2**
ARU *e* 13 57 19.3
ARU *e* 13 59 34.4
ARU *e*SSS SSS 14 13 37.6 -4.4
ARU pmax pmax
comp=Z,11nm,0.9s,mb4.8
IMA Indian Mountai 76.88 24 P **P** **13 57 43.5 +2.1**
comp=Z,26nm,1.2s,mb5.0
MCK McKinley 78.77 27 *e*P **P** **13 57 52.4 +0.5**
comp=Z,4.7nm,0.9s,mb4.4
KIV Kislovodsk 79.06 313 *e*P **P** **13 57 51.4 -2.4**
KIV *e* 13 57 58.9
KIV *e* 14 00 52.1
KIV *e*PPP PPP 14 02 41.3 -3.9
KIV *e*S S 14 07 39.6 -8.3
KIV pmax pmax
comp=Z,12nm,1.1s,mb4.7
KIV pmax pmax
comp=N,6.0nm,0.7s
COLA College 79.25 26⇑*i*P **P** **13 58 01.6 +7.2**
KAMS Al Khamasin 79.42 289 P **P** **13 57 55.0 -1.3**
ILAR Eielson Array 79.66 26 P **P** **13 57 56.5 -0.1**
comp=N,1.0nm,0.7s,mb3.9,baz=236,slow=5.1,SNR=18
ILAR LR LR 14 32 28.8
comp=N,70nm,18.5s,MS4.0,baz=269,slow=35
ILAR Eielson Array 79.66 26 P **P** **13 57 56.6 -0.1**
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR MLR MLR
comp=Z,70nm,18.5s
ARSS Ar Rass 80.04 295 P **P** **13 57 58.8 -0.7**
TATS Tathlith 80.54 288 P **P** **13 58 02.4 +0.1**
DJNS Zahran al Janu 80.71 286 P **P** **13 58 03.6 +0.5**
HILS Ha'il 81.17 296 P **P** **13 58 05.8 +0.3**
OBN Obninsk 82.19 325⇓*i*P **P** **13 58 07.8 -2.4**
OBN *e* 13 58 15.6
OBN pmax pmax
comp=Z,6.0nm,0.4s,mb4.9
OBN MLR MLR
comp=Z,100nm,19.0s,MS4.2
OBN Obninsk 82.19 325 *e*P **P** **13 58 08.7 -1.5**
comp=Z,58nm,1.4s,mb5.3
APA Apatity 82.33 337⇑*i*P **P** **13 58 11.4 +0.8**
APA pmax pmax
comp=Z,91nm,1.4s,mb5.5
MALT Malatya 82.75 308 *e*P **P** **13 58 13.8 +0.5**
comp=Z,8.6nm,1.1s,mb4.7
KBRS Khaybar 83.61 295 P **P** **13 58 19.1 +1.0**
JOF Joensuu 83.86 333 *e*p **P** **13 58 17.4 -1.1**
comp=Z,18nm,0.8s,mb5.2
JOF Joensuu 83.86 333 *e*P **P** **13 58 17.4 -1.1**
JOF pmax pmax
comp=Z,18nm,0.8s,mb5.2
KEV Kevo 84.27 340 *e*p **P** **13 58 20.7 +0.3**
INK Inuvik 84.55 22 P **P** **13 58 23.0 +1.2**
comp=Z,2.8nm,0.9s,mb4.4,baz=266,slow=5.4,SNR=6.9
INK Inuvik 84.55 22 P **P** **13 58 23.0 +1.2**
INK pmax pmax
comp=Z,3.0nm,0.9s
INK Inuvik 84.55 22 *e*P **P** **13 58 23.1 +1.3**
comp=Z,16nm,1.4s,mb5.0
INK *e* pP 13 58 39.1 +3.3
ASF Jabal al Asfar 84.78 302 P **P** **13 58 24.6 +0.7**
comp=Z,2.2nm,0.7s,mb4.4,baz=104,slow=6.6,SNR=3.2
ARCES **ARCESS Array B 84.83 340** P **P** **13 58 24.3 +1.1**
comp=Z,8.0nm,0.6s,mb5.0,baz=79,slow=6.1,SNR=47
ARCES LR LR 14 42 34.5
comp=Z,167nm,18.8s,MS4.5,baz=21,slow=40
JMQS Jabal Moqyreh 86.14 298 P **P** **13 58 31.5 +0.9**
BRTR Keskin Array B 86.24 309 P **P** **13 58 31.0 +0.2**
comp=Z,2.1nm,1.1s,mb4.3,baz=45,slow=3.5,SNR=4.0
BRTR LR LR 14 43 11.7
comp=Z,58nm,20.2s,MS4.0,baz=20,slow=40
KAF Kangasniemi 86.30 332 ep **P** **13 58 30.7 +0.2**
FINES FINESS Array B 86.57 332 P **P** **13 58 32.7 +0.8**
comp=Z,18nm,1.0s,mb5.2,baz=84,slow=4.6,SNR=23
FINES LR LR 14 40 01.8
comp=Z,120nm,19.1s,MS4.3,baz=80,slow=38
FINES FINESS Array B 86.57 332 P **P** **13 58 32.7 +0.8**
FINES pmax pmax
comp=Z,18nm,1.0s
FINES MLR MLR
comp=Z,120nm,19.1s
FINES FINESS Array B 86.57 332 P **P** **13 58 32.7 +0.8**
JMOS Jabal al Moall 86.76 299 P **P** **13 58 34.2 +0.6**
PPT Papeete 86.92 108 *e*S S 14 09 20.9 +13
PPT *e*SS SS 14 15 15.0 +21
PPT *e*R 14 26 21.3
comp=Z,286nm,26.0s,baz=287
HAQS Haql 86.94 299 P **P** **13 58 35.1 +0.6**

AKASG	**Malin Array Be**	**87.27 321**	P		**P**		**13 58 35.5**	**-0.1**
	comp=Z,1.6nm,0.5s,mb4.5,baz=62,slow=4.2,SNR=18							
AKASG	**Malin Array Be**	**87.27 321**	P		**P**		**13 58 35.5**	**-0.1**
AKASG			pmax		pmax			
	comp=Z,2.0nm,0.5s							
TBI	**Tubuai**	**88.16 114**	*e*S		S		14 09 33.6	+15
TBI			*e*SS		SS		14 15 10.9	-1.1
TBI			*e*R				14 26 49.6	
	comp=Z,335nm,27.2s,baz=304							
DLBC	**Dease Lake**	**88.55 31**	P		**P**		**13 58 44.2**	**+2.7**
VNDA	**Vanda**	**89.38 173**	P		**P**		**13 58 45.7**	**+0.6**
	comp=Z,1.3nm,0.7s,mb4.4,baz=326,slow=6.4,SNR=13							
VNDA			LR		LR		14 37 49.5	
	comp=Z,102nm,19.1s,MS4.3,baz=330,slow=35							
VNDA	**Vanda**	**89.38 173**	P		**P**		**13 58 45.7**	**+0.6**
VNDA			pmax		pmax			
	comp=Z,1.0nm,0.7s							
VNDA			MLR		MLR			
	comp=Z,102nm,19.1s							
VNDA	**Vanda**	**89.38 173**	P		**P**		**13 58 45.7**	**+0.6**
MAW	**Mawson**	**89.41 200**	P		**P**		**13 58 45.1**	**-0.3**
	comp=Z,1.5nm,0.8s,mb4.4,baz=48,slow=10,SNR=3.6							
MAW			LR		LR		14 31 51.8	
	comp=Z,113nm,21.9s,MS4.2,baz=170,slow=31							
KMBO	**Kilima Mbogo**	**89.73 269**	LR		LR		14 38 47.7	
	comp=Z,92nm,20.0s,MS4.2,baz=94,slow=35							
MLR	**Muntele Rosu**	**90.61 316**	P		**P**		**13 58 52.3**	**+0.8**
	comp=Z,1.3nm,0.4s,mb4.6,baz=191,slow=7.6,SNR=3.2							
MLR	**Muntele Rosu**	**90.61 316**	P		**P**		**13 58 52.3**	**+0.8**
MLR			pmax		pmax			
	comp=Z,1.0nm,0.4s							
DAG	**Danmarks Havn**	**91.31 352**	*i* P		**P**		**13 58 54.2**	**+0.1**
	comp=Z,6.0nm,0.8s,mb5.0							
DAG	**Danmarks Havn**	**91.31 352**	*e* P		**P**		**13 58 54.2**	**+0.1**
	comp=Z,6.0nm,0.8s,mb5.0							
RES	**Resolute Bay**	**91.89 10**	P		**P**		**13 58 58.2**	**+1.4**
	comp=Z,9.6nm,1.0s,mb5.1							
HFS	**Hagfors**	**92.72 333**	P		**P**		**13 59 01.0**	**+0.1**
	comp=Z,7.7nm,0.8s,mb5.2,baz=90,slow=4.4,SNR=9.9							
HFS	**Hagfors**	**92.72 333**	P		**P**		**13 59 01.0**	**+0.1**
HFS			pmax		pmax			
	comp=Z,8.0nm,0.8s							
HFS	**Hagfors**	**92.72 333**	P		**P**		**13 59 01.0**	**+0.1**
NB2	**NORSAR Subarra**	**93.42 334**	P		**P**		**13 59 03.3**	**-0.8**
	comp=Z,6.1nm,0.9s,mb5.0,baz=63,slow=4.5							
NB2	**NORSAR Subarra**	**93.42 334**	P		**P**		**13 59 03.3**	**-0.8**
	baz=63,slow=4.6							
NOA	**NORSAR Array B**	**93.42 334**	P		**P**		**13 59 04.1**	**0.0**
	comp=Z,3.4nm,0.8s,mb4.8,baz=64,slow=4.6,SNR=9.3							
NOA	**NORSAR Array B**	**93.42 334**	P		**P**		**13 59 04.1**	**0.0**
NOA			pmax		pmax			
	comp=Z,3.0nm,0.8s							
NOA	**NORSAR Array B**	**93.42 334**	P		**P**		**13 59 04.1**	**0.0**
PSZ	**Piszkesteto**	**93.89 320**	*e* P		**P**		**13 59 05.0**	**-1.6**
	comp=Z,4.3nm,0.9s,mb4.9							
YKA	**Yellowknife Ar**	**94.00 24**	P		**P**		**13 59 09.4**	**+2.8**
	comp=Z,1.4nm,0.8s,mb4.4,baz=296,slow=4.7,SNR=5.2							
YKA			LR		LR		14 41 34.4	
	comp=Z,79nm,20.4s,MS4.2,baz=265,slow=36							
YKA	**Yellowknife Ar**	**94.00 24**	P		**P**		**13 59 09.4**	**+2.8**
YKA			pmax		pmax			
	comp=Z,1.0nm,0.8s							
YKA			MLR		MLR			
	comp=Z,79nm,20.4s							
MORC	**Moravsky Berou**	**94.72 322**	*e* P		**P**		**13 59 11.1**	**+0.9**
	comp=Z,5.6nm,1.1s,mb4.9							
BRG	**Berggiesshubel**	**96.43 324**	*i* P		**P**		**13 59 19.3**	**+1.3**
BRG			pmax		pmax			
	comp=Z,9.0nm,1.3s,mb5.0							
BRG	**Berggiesshubel**	**96.43 324**	*i* P		**P**		**13 59 19.3**	**+1.3**
	comp=Z,8.8nm,1.3s,mb5.0							
CLL	**Collm**	**96.79 325**	P		**P**		**13 59 20.0**	**+0.4**
CLL	**Collm**	**96.79 325**	*e* P		**P**		**13 59 20.0**	**+0.4**
GERES	**GERESS Array B**	**97.40 322**	P		**P**		**13 59 23.5**	**+1.0**
	comp=Z,0.3nm,0.2s,mb4.3,baz=63,slow=6.0,SNR=10							
GRA1	**Grafenberg Arr**	**98.51 324**	*e* Pdif		**P**		**13 59 29.2**	**+1.7**
GRF	**Grafenberg Arr**	**98.51 324**	*e* P		**P**		**13 59 29.2**	**+1.7**
SDV	**Santo Domingo**	**154.61 44**	*e* PKPdf		PKPdf		14 05 43.6	+2.8
SDV			*e* PKPbc		PKPdf		14 05 52.8	+12
LPAZ	**La Paz**	**164.09 116**	PKP		PKPdf		14 05 55.7	+4.2
	comp=Z,1.9nm,0.3s,baz=30,slow=0.9,SNR=5.0							
LPAZ	**La Paz**	**164.09 116**	PKIKP		PKPdf		14 05 55.7	+4.2
LPAZ			pmax		pmax			
	comp=Z,2.0nm,0.3s							
SAML	**Samuel**	**170.12 86**	*e* PKPdf		PKPdf		14 05 58.5	+2.5

*NEIC **21** 13:46:58.5, 15.44N×94.77W, h20km, MD4.2(MEX), After MEX.*

MEX 21 13:46:58.4±1.4, 15.43N×94.77W, h16km±20km, MD4.2, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
HUIG	**Huatulco**	**1.33**	**285**	*i* P		Pn	13 47 18.6	-3.8
HUIG				*i* S		Sb	13 47 33.7	-5.6
CMIG	**Matias Romero**	**1.65**	**356**	*i* P		Pn	13 47 23.0	-4.0
CMIG				*i* S		Sn	13 47 42.1	-5.9
SCX	**San Cristobal**	**2.43**	**57**	*i* P		Pn	13 47 35.5	-2.6
SCX				*i* S		Sn	13 48 04.3	-3.4
OXX	**Oaxaca**	**2.49**	**311**	*i* P		Pn	13 47 38.0	-1.0
OXX				*i* S		Sn	13 48 05.5	-3.8
VHO	**Vista Hermosa**	**2.49**	**311**	*i* P		Pn	13 47 36.5	-2.6
VHO				*i* S		Sn	13 48 06.5	-2.9
CCIG	**Comitan**	**2.67**	**71**	*i* P		Pn	13 47 38.6	-3.0
CCIG				*i* S		Sn	13 48 08.3	-5.6
EVV	**El Vigia**	**3.06**	**350**	*i* P		Pn	13 47 47.5	+0.4

*MAN **21** 13:50:12.8, 9.76N×126.83E, h28km, mb5.0, ML3.9, MS4.0*
*IDC **21** 13:50:16.7±8.1, 9.68N×126.59E, h62km±74km, mb4.0/16, mb1 4.1/18, mb1mx4.0/25, ML4.5/1, Error ellipse: s-maj=39.7km s-min=13.7km az=64.0*
*NEIC **21** 13:50:19.7±3.0, 9.50N×126.25E, h91km±29km, mb4.6/14, Error ellipse: s-maj=32.0km s-min=6.7km az=71.0*

ISC 21 13:50:12.9±0.9, 9.76N±0.04×126.82E±0.06, h48km±7km, n63, σ1°91/70, mb4.4/32, 3C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
SCPH	**Surigao**	**1.31**	**271**	*e* P		**P**	**13 50 34.7**	**-0.6**
SCPH				*e* S		**S**	**13 50 50.2**	**-1.7**
BUTP	**Butuan**	**1.42**	**236**	*e* P		**P**	**13 50 37.0**	**+0.2**
BIPH	**Bislig**	**1.63**	**196**	*e* P		**P**	**13 50 39.2**	**-0.5**
BIPH				*i* S		**S**	**13 50 56.3**	**-3.4**
MSLP	**Maasin**	**1.97**	**281**	*e* P		**P**	**13 50 45.4**	**+1.0**
MSLP				*e* S		**S**	**13 51 12.2**	**+4.3**
BESP	**Borongan**	**2.28**	**324**	*e* P		**P**	**13 50 46.2**	**-2.7**
PLP	**Palo**	**2.29**	**308**	*i* P		**P**	**13 50 48.2**	**-0.7**
PLP				*i* S		**S**	**13 51 15.2**	**-0.8**
CGP	**Cagayan de Oro**	**2.47**	**238**	*e* P		**P**	**13 50 51.8**	**+0.2**
CGP				*e* S		**S**	**13 51 21.6**	**+0.9**
OCLP	**Ormoc**	**2.52**	**301**	*e* P		**P**	**13 50 53.6**	**+1.2**
BUKP	**Musuan**	**2.55**	**223**	*e* P		**P**	**13 50 54.4**	**+1.7**
MATI	**Mati**	**2.85**	**191**	*e* P		**P**	**13 50 57.0**	**0.0**
LLP	**Lapu-Lapu**	**2.86**	**281**	*i* P		**P**	**13 50 57.9**	**+0.7**
LLP				*i* S		**S**	**13 51 31.7**	**+1.0**
TBP	**Tagbilaran**	**2.92**	**269**	*i* P		**P**	**13 50 58.3**	**+0.3**
TBP				*e* S		**S**	**13 51 30.2**	**-1.8**
DAV	**Davao City (W)**	**2.94**	**205**	*e* P		**P**	**13 51 05.6**	**+7.3**
KCP	**Kidapawan**	**3.23**	**212**	*e* P		**P**	**13 51 01.0**	**-1.3**
KCP				*i* S		**S**	**13 51 43.7**	**+3.8**
CNP	**Catarman**	**3.46**	**322**	*e* P		**P**	**13 51 06.0**	**+0.5**
SNPH	**Sibulan**	**3.56**	**264**	*e* P		**P**	**13 51 07.5**	**+0.5**
PAGZ	**Pagadian**	**3.89**	**241**	*e* P		**P**	**13 51 13.2**	**+1.5**
GUIM	**Jordan**	**4.25**	**282**	*e* P		**P**	**13 51 16.7**	**-0.1**
RCP	**Roxas**	**4.39**	**294**	*e* P		**P**	**13 51 18.8**	**+0.1**
PVCP	**Virac**	**4.62**	**326**	*e* P		**P**	**13 51 23.0**	**+1.0**
JOW	**Kunigami**	**17.04**	**4**	P		**P**	**13 54 17.0**	**+7.8**
	2.6nm,0.3s,baz=278,slow=22,SNR=6.7							
ENH	**Enshi**	**26.04**	**324**	P		**P**	**13 55 42.4**	**-1.2**
	12nm,0.9s,mb4.4							
FITZ	**Fitzroy Crossi**	**27.71**	**182**	*e* P		**P**	**13 56 00.0**	**+1.0**
	8.6nm,0.7s,mb4.5							
FITZ	**Fitzroy Crossi**	**27.71**	**182**	P		**P**	**13 55 59.0**	**0.0**
	8.4nm,0.6s,mb4.6,baz=7.1,slow=7.2,SNR=8.7							
PMG	**Port Moresby**	**27.79**	**133**	P		pP	13 56 13.3	+1.1
CMAR	**Chiang Mai Arr**	**28.35**	**291**	P		**P**	**13 56 03.6**	**-1.1**
	2.0nm,0.9s,mb3.7,baz=101,slow=8.3,SNR=5.4							
WRAB	**Tennant Creek**	**30.42**	**166**	P		**P**	**13 56 22.4**	**-0.8**
	12nm,1.2s,mb4.5							
WRA	**Warramunga Arr**	**30.43**	**166**	P		**P**	**13 56 21.8**	**-1.4**
	1.2nm,0.6s,mb3.8,baz=346,slow=9.0,SNR=4.0							
MBWA	**Marble Bar**	**31.50**	**193**	*e* P		**P**	**13 56 25.5**	**-7.2**
	14nm,1.1s,mb4.7							
ASAR	**Alice Springs**	**33.94**	**168**	P		**P**	**13 56 52.6**	**-1.1**
	0.9nm,0.5s,mb4.0,baz=350,slow=7.2,SNR=8.3							
CTA	**Charters Tower**	**35.30**	**147**	*e* P		**P**	**13 57 14.2**	**+8.7**
	5.9nm,0.6s,mb4.7							
CTA	**Charters Tower**	**35.30**	**147**	P		**P**	**13 57 06.7**	**+1.3**
	2.0nm,0.8s,mb4.1,baz=347,slow=20,SNR=2.0							
CTA	**Charters Tower**	**35.30**	**147**	P		**P**	**13 57 06.7**	**+1.3**
CTAO	**Charters Tower**	**35.30**	**147**	*e* P		**P**	**13 57 13.9**	**+8.5**
	9.6nm,0.8s,mb4.8							
FORT	**Forrest**	**40.32**	**178**	*e* P		**P**	**13 57 47.0**	**-0.4**
	58nm,0.7s,mb5.4							
SONM	**Songino Array**	**41.68**	**339**	P		**P**	**13 57 59.5**	**+1.0**
	2.6nm,0.7s,mb4.0,baz=158,slow=9.2,SNR=8.1							
GUN	**Gumba**	**42.49**	**301**	*e* P		**P**	**13 58 05.2**	**-0.1**
	12nm,0.6s,mb4.7							
MUN	**Mundaring**	**42.73**	**193**	*e* P		**P**	**13 58 07.1**	**-0.1**
	12nm,0.7s,mb4.8							
PKI	**Pulchoki**	**42.79**	**300**	*e* P		**P**	**13 58 09.4**	**+1.6**
	2.9nm,0.5s,mb4.3							
DMN	**Daman**	**43.06**	**300**	*e* P		**P**	**13 58 12.2**	**+2.2**
	8.0nm,1.0s,mb4.4							
NWAO	**Narrogin (SRO)**	**43.42**	**192**	P		**P**	**13 58 12.8**	**0.0**
	14nm,0.8s,mb4.7,baz=6.6,slow=11,SNR=4.5							
NWAO	**Narrogin (SRO)**	**43.42**	**192**	*e* P		**P**	**13 58 12.6**	**-0.3**
	9.6nm,0.8s,mb4.6							
GKN	**Gorkha**	**43.57**	**301**	*e* P		**P**	**13 58 14.0**	**-0.1**
STKA	**Stephens Creek**	**43.75**	**162**	*e* P		**P**	**13 58 15.3**	**-0.2**
	4.3nm,0.9s,mb4.2							
STKA	**Stephens Creek**	**43.75**	**162**	P		**P**	**13 58 15.9**	**+0.4**
	2.9nm,0.8s,mb4.0,baz=338,slow=15,SNR=3.4							
KOLN	**Koldanda**	**44.39**	**300**	*e* P		**P**	**13 58 18.8**	**-2.0**
	3.7nm,0.6s,mb4.3							
ZAL	**Zalesovo**	**55.33**	**331**	P		**P**	**13 59 43.6**	**-0.4**
	0.8nm,0.4s,mb4.1,baz=331,slow=9.9,SNR=3.4							
TAU	**Tasmania Unive**	**55.66**	**162**	P		**P**	**13 59 46.4**	**-0.1**
	27nm,1.2s,mb5.2							
KURK	**Kurchatov**	**56.79**	**325**	*e* P		**P**	**13 59 53.5**	**-1.0**
	5.7nm,0.8s,mb4.7							
BVAR	**Borovoye Array**	**62.39**	**325**	P		**P**	**14 00 32.9**	**0.0**
	0.7nm,0.5s,mb4.1,baz=129,slow=9.2,SNR=3.3							
BVAR	**Borovoye Array**	**62.39**	**325**	P		**P**	**14 00 32.9**	**0.0**
ZRNK	**Zerenda**	**63.14**	**325**	*e* P		**P**	**14 00 36.4**	**-1.6**
	1.8nm,0.5s,mb4.5							
RPZ	**Rata Peaks**	**66.67**	**147**	P		**P**	**14 01 02.3**	**+1.5**
	5.5nm,0.7s,mb4.7,baz=20,slow=5.3,SNR=3.7							
MCK	**McKinley**	**78.77**	**27**	P		**P**	**14 02 21.5**	**+10**
	2.4nm,0.9s,mb4.1							
JOF	**Joensuu**	**83.89**	**333**	*e*p		**P**	**14 02 38.5**	**0.0**
	3.7nm,0.6s,mb4.7							
ARCES	**ARCESS Array B**	**84.86**	**340**	P		**P**	**14 02 44.3**	**+1.0**
	1.9nm,0.6s,mb4.4,baz=84,slow=6.0,SNR=7.3							
KAF	**Kangasniemi**	**86.33**	**332**	*e*p		**P**	**14 02 50.7**	**+0.1**
	1.5nm,0.4s,mb4.6							
FINES	**FINESS Array B**	**86.59**	**332**	P		**P**	**14 02 52.8**	**+0.9**
	1.8nm,0.6s,mb4.5,baz=80,slow=5.5,SNR=6.7							
VNDA	**Vanda**	**89.36**	**173**	P		**P**	**14 03 05.3**	**+0.4**
	0.7nm,0.7s,mb4.1,baz=330,slow=8.1,SNR=3.0							
VNDA	**Vanda**	**89.36**	**173**	P		**P**	**14 03 05.3**	**+0.4**
KMBO	**Kilima Mbogo**	**89.76**	**269**	P		**P**	**14 03 08.6**	**+0.4**
	1.0nm,0.7s,mb4.3,baz=38,slow=22,SNR=2.5							
HFS	**Hagfors**	**92.75**	**333**	P		**P**	**14 03 20.9**	**-0.1**
	1.1nm,0.4s,mb4.6,baz=72,slow=4.7,SNR=6.9							
NOA	**NORSAR Array B**	**93.45**	**334**	P		**P**	**14 03 24.4**	**+0.2**
	0.5nm,0.6s,mb4.1,baz=64,slow=4.6,SNR=3.0							

*IDC **21** 14:09:50.0±3.4, 34.43N×85.44E, mb3.3/2, mb1 3.7/4, mb1mx3.5/19, ML3.5/2, Error ellipse: s-maj=96.2km s-min=29.6km az=80.0*

ISC 21 14:09:53.6±1.1, 34.56N±0.08×85.7E±0.3, h33km, n10, σ0°99/10, mb3.6/1, Xizang

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
GKN	**Gorkha**	**6.60**	**188**	*e* P		**P**	**14 11 30.1**	**-0.6**
	5.9nm,0.4s							
GUN	**Gumba**	**6.63**	**179**	*e* P		**P**	**14 11 33.6**	**+2.4**
KKN	**Kakani**	**6.76**	**183**	*e* P		**P**	**14 11 33.6**	**+0.6**
	7.5nm,0.6s							
DMN	**Daman**	**6.95**	**184**	*e* P		**P**	**14 11 34.9**	**-0.7**
PKI	**Pulchoki**	**6.97**	**182**	*e* P		**P**	**14 11 36.1**	**+0.2**
	10nm,0.7s							
KOLN	**Koldanda**	**7.00**	**195**	*e* P		**P**	**14 11 32.5**	**-3.9**
	10nm,0.7s							
ZAL	**Zalesovo**	**19.38**	**358**	P		**P**	**14 14 19.0**	**-0.2**
	0.3nm,0.3s,baz=8.2,slow=7.0,SNR=3.5							
CMAR	**Chiang Mai Arr**	**19.91**	**140**	P		**P**	**14 14 24.1**	**-1.1**
	0.1nm,0.3s,baz=321,slow=11,SNR=3.3							
SONM	**Songino Array**	**20.38**	**43**	P		**P**	**14 14 30.5**	**+0.6**
	0.7nm,1.0s,baz=234,slow=11,SNR=3.7							
WRA	**Warramunga Arr**	**71.25**	**132**	P		**P**	**14 21 11.6**	**0.0**
	0.8nm,0.9s,mb3.6,baz=325,slow=6.2,SNR=4.0							

*ISK **21** 14:31:43.6, 38.51N×25.31E, h5km, MD3.3*
*ATH **21** 14:31:48.5, 38.53N×25.54E, h4km, MD3.0/4*
*NEIC **21** 14:31:48.5, 38.53N×25.54E, h4km, MD3.0(ATH), After ATH.*
*CSEM **21** 14:31:49.3±0.3, 38.54N×25.67E, h63km±5km, MD3.3, Error ellipse: s-maj=2.5km s-min=1.9km az=98.0*
*THE **21** 14:31:51.0, 38.50N×25.76E, h20km*

ISC 21 14:31:48.0±0.4, 38.56N±0.03×25.58E±0.04, h4km, n23, σ1°33/33, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PRK	**Paraskevi**	**0.87**	**38**	*e* PG		**Pg**	**14 32 05.5**	**0.0**
AYVA	**Ayvalik**	**1.15**	**49**	*i* P		**Pb**	**14 32 10.1**	**+0.1**
AYVA				*i* S		**Sb**	**14 32 22.5**	**-2.5**
SMG	**Samos**	**1.30**	**130**	*e* PN		**Pn**	**14 32 14.1**	**+1.1**
IZM	**Izmir**	**1.33**	**96**	PN		**Pn**	**14 32 13.3**	**0.0**
KDAG	**Bornova**	**1.33**	**96**	*i* P		**Pb**	**14 32 12.8**	**-0.4**
KDAG				*i* S		**Sb**	**14 32 31.7**	**+1.3**
BOZC	**Bozcaada**	**1.33**	**16**	*i* P		**Pb**	**14 32 11.9**	**-1.3**
BOZC				*i* S		**Sb**	**14 32 28.6**	**-1.9**
LOS	**Limnos**	**1.43**	**344**	*e* Pb		**Pb**	**14 32 14.9**	**0.0**
LOS				*e* Sb		**Sb**	**14 32 35.2**	**+1.9**
PTL	**Penteli**	**1.44**	**250**	*e* PN		**Pn**	**14 32 14.9**	**-0.1**
AOS	**Alonnisos**	**1.46**	**295**	*e* Pb		**Pb**	**14 32 15.9**	**+0.5**
AOS				*e* Sb		**Sb**	**14 32 36.7**	**+2.4**
APE	**Apeiranthos**	**1.49**	**182**	*e* PN		**Pn**	**14 32 11.3**	**-4.3**
APE				*e* SN		**Sn**	**14 32 33.7**	**-2.0**
APE	**Apeiranthos**	**1.49**	**182**	*e* Pb		**Pb**	**14 32 15.1**	**-0.7**
APE				*e* Sn		**Sn**	**14 32 33.7**	**-2.0**
AKS	**Akhisar**	**1.77**	**79**	*e* PN		**Pn**	**14 32 20.0**	**+0.3**
AKS				*e* SN		**Sn**	**14 32 46.4**	**+3.4**
AYDN	**Tasoluk**	**2.02**	**116**	*i* P		**Pn**	**14 32 26.3**	**+3.1**
AYDN				*i* S		**Sn**	**14 32 51.1**	**+1.8**
LPK	**Lapseki**	**2.03**	**26**	*e* PN		**Pn**	**14 32 22.3**	**-1.1**
XOR	**Xorichti**	**2.03**	**294**	*e* Pn		**Pn**	**14 32 24.2**	**+0.8**
BALB	**Balikesir**	**2.09**	**58**	*e* PN		**Pn**	**14 32 23.8**	**-0.4**
THR5	**Thira Island,**	**2.14**	**185**	*e* Pn		**Pn**	**14 32 23.6**	**-1.4**
THR3	**Thira Island,**	**2.15**	**184**	*e* Pn		**Pn**	**14 32 24.0**	**-1.0**
MANT	**Manisa**	**2.33**	**91**	*i* P		**Pn**	**14 32 32.2**	**+4.5**
MANT				*i* S		**Sn**	**14 33 00.0**	**+2.8**
ALN	**Alexandroupoli**	**2.36**	**9**	*e* Pn		**Pn**	**14 32 27.2**	**-0.9**
AGG	**Agios Georgios**	**2.58**	**281**	*e* Pn		**Pn**	**14 32 32.5**	**+1.2**
MFT	**Murefte**	**2.58**	**30**	*e* PN		**Pn**	**14 32 30.2**	**-1.1**
DST	**Dursunbey**	**2.59**	**65**	*e* PN		**Pn**	**14 32 30.7**	**-0.7**

*TAP **21** 14:44:08.7, 24.52N×122.62E, h88km±1km, ML3.2*

JMA 21 14:44:08.9±0.2, 24.85N×122.60E, h90km, M1.8, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.54**	**136**	P		P	14 44 24.0	-0.1
YOJ				S		S	14 44 35.3	-0.1
IRIF	**Iriomote-Funau**	**1.15**	**116**	P		P	14 44 30.5	-0.2
IRIF				*e*S		S	14 44 46.3	-0.7
HATJ	**Hateruma jima**	**1.35**	**125**	*e*S		S	14 44 51.2	-0.1
JKRS	**Kuro-shima**	**1.42**	**115**	P		P	14 44 34.0	-0.1
JKRS				*e*S		S	14 44 52.2	-0.6
JIJ	**Ishigaki jima**	**1.49**	**109**	P		P	14 44 34.6	-0.3
JIJ				*e*S		S	14 44 53.0	-1.2
JTJ	**Tarama**	**1.92**	**96**	*e*S		S	14 45 04.9	+1.0

MAN 21 15:07:07.0, 8.31N×124.63E, h1km, mb3.9, ML2.7, MS2.3, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
CGP	**Cagayan de Oro**	**0.16**	**25**	*i* P		Pg	15 07 10.3	+0.1
CGP				*i* S		Sg	15 07 12.7	+0.5
BUKP	**Musuan**	**0.61**	**135**	*e* P		Pg	15 07 19.2	0.0
PAGZ	**Pagadian**	**1.31**	**250**	*e* P		Pb	15 07 31.5	-0.8
PAGZ				*e* S		Sb	15 07 50.8	+1.4
IPIL	**Ipil**	**2.10**	**256**	*e* P		Pn	15 07 45.1	+1.4

*NAO **21** 15:24:47.3±4.8, 58.95N×18.32E, ML2.0*
*BER **21** 15:24:49.4±3.4, 58.89N×18.35E, ML2.0(NAO), Suspected explosion*

HEL 21 15:24:47.5±0.1, 59.01N×18.18E, ML1.5, ML2.1(UPP), ML2.0(NAO), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
NYNU	**Nynaeshamn**	**0.09**	**268**	*i* P		Pg	15 24 48.8	-0.5
NYNU				*i* S		Sg	15 24 50.2	-0.3
NRTU	**Norrtaelje**	**0.71**	**19**	*i* P		Pg	15 24 60.0	-1.7
VIKU	**Vikbolandet**	**0.92**	**237**	*e* P		Pg	15 25 04.2	-1.7
ESKU	**Eskilstuna**	**0.95**	**284**	*e* P		Pg	15 25 04.5	-1.9
BACU	**Backbrunna**	**1.01**	**328**	*e* P		Pb	15 25 05.6	-1.9
FLYU	**Flymyra**	**1.13**	**352**	*e* P		Pb	15 25 07.9	-1.8
OSTU	**Oestervaala**	**1.34**	**337**	*e* P		Pb	15 25 11.7	-1.4
GOTU	**Gotland**	**1.34**	**171**	*e* P		Pb	15 25 11.0	-2.3
GRAU	**Graesoe**	**1.34**	**8**	*e* P		Pb	15 25 11.7	-1.6
AAL	**Aland**	**1.49**	**37**	*e* P		Pn	15 25 14.0	-1.6
VSTU	**Vaestervik**	**1.61**	**213**	*e* P		Pn	15 25 16.2	-1.1
LNKU	**Linkoeping**	**1.61**	**242**	*e* P		Pn	15 25 16.2	-1.1
NRAU	**Nora**	**1.71**	**291**	*e* P		Pn	15 25 18.1	-0.6
ASKU	**Askersund**	**1.74**	**268**	*e* P		Pn	15 25 18.4	-0.8
FALU	**Falun**	**1.91**	**322**	*e* P		Pn	15 25 20.9	-0.7
HFS	**Hagfors**	**2.55**	**298**	Pn		Pn	15 25 30.7	0.0
	baz=115,slow=12							
HFS				Sn		Sn	15 26 03.9	+0.9
	baz=100,slow=28							
HFS	**Hagfors**	**2.55**	**298**	*e* P		Pn	15 25 30.7	0.0
HFS				*e* SB		Sb	15 26 03.9	-2.0
ROTU	**Roteberg**	**2.69**	**335**	*e* P		Pn	15 25 31.6	-1.3
ARNU	**Arnoeviken**	**2.72**	**352**	*e* P		Pn	15 25 31.7	-1.5
PVF	**Pernaja**	**4.18**	**65**	*e* SG		Sg	15 26 58.3	-8.2
KEF	**Keuruu**	**4.57**	**43**	*e* P		Pn	15 25 58.7	-0.8
KEF				*e* S		Sn	15 26 50.8	-3.5
KEF				MSG			15 27 12.2	
	comp=Z,0.5nm,0.2s							
FIA0	**FINESS Array S**	**4.63**	**55**	Pn		Pn	15 25 58.9	-1.5
	baz=236,slow=12							
FIA0				Sn		Sn	15 26 52.2	-3.5
	baz=234,slow=22							
FIA0				Lg			15 27 11.2	
	baz=228,slow=37							
FIA0	**FINESS Array S**	**4.63**	**55**	*e* P		Pn	15 25 59.4	-1.0
FIA0				*e* S		Sn	15 26 52.9	-2.8
KAF	**Kangasniemi**	**5.08**	**49**	*e* P		Pn	15 26 04.7	-2.0
KAF				*e* S		Sn	15 27 02.1	-4.8
SUF	**Sumiainen**	**5.39**	**43**	*e* P		Pn	15 26 08.9	-2.1
SUF				*e* S		Sn	15 27 09.1	-5.6
SUF				MSG			15 27 37.1	
	comp=Z,0.3

MSWZ	**Moikau Station**	**2.17 173**	PN	P	15 49 51.7	-1.1
MSWZ			SN	S	15 50 20.8	-2.2
NNZ	**Nelson**	**2.27 210**	⇑PN	P	15 49 52.5	-1.5
NNZ			SN	S	15 50 23.8	-1.2
TUWZ	**Tuamarina**	**2.28 198**	PN	P	15 49 52.9	-1.2
TUWZ			SN	S	15 50 23.2	-2.1
QRZ	**Quartz Range**	**2.39 228**	PN	P	15 49 53.1	-2.3
QRZ			SN	S	15 50 24.6	-2.9
BSWZ	**Blackbirch Sta**	**2.57 197**	PN	P	15 49 56.5	-1.0
BSWZ			SN	S	15 50 29.6	-1.7
THZ	**Tophouse**	**2.92 210**	PN	P	15 49 59.6	-2.1
THZ			SN	S	15 50 37.5	-1.3
KHZ	**Kahutara**	**3.31 197**	PN	P	15 50 04.8	-1.9
KHZ			SN	S	15 50 44.3	-3.2
DSZ	**Denniston Nort**	**3.42 222**	PN	P	15 50 04.9	-3.1
DSZ			SN	S	15 50 45.3	-4.5
LTZ	**Lake Taylor**	**4.04 209**	PN	P	15 50 13.2	-2.6
LTZ			SN	S	15 50 59.7	-4.1
CRLZ	**Canterbury Las**	**4.63 201**	PN	P	15 50 19.8	-3.8
MQZ	**McQueen's Vall**	**4.75 200**	PN	P	15 50 21.0	-4.1
MQZ			SN	S	15 51 13.3	-7.0
WVZ	**Waitaha Valley**	**4.93 218**	PN	P	15 50 24.2	-3.2
ODZ	**Otahua Downs**	**6.58 207**	PN	P	15 50 45.3	-3.8
ODZ			SN	S	15 51 56.5	-6.8

*DJA **21** 16:01:18.7±0.9,9.61S×109.73E,h2km,MD5.1/4,ML5.0/4, Error ellipse: s-maj=48.6km s-min=6.4km az=7.0*
*NEIC **21** 16:01:24.0±1.3,9.02S×109.90E,h51km±14km,mb3.8/2, Error ellipse: s-maj=20.0km s-min=9.6km az=207.0*
*IDC **21** 16:01:25.9±13.0,8.86S×110.08E,h66km±130km,mb3.6/7, mb1 3.8/8,mb1mx3.7/15,ML3.8/1,MS2.4/1,Ms1 2.4/1, ms1mx2.0/20,Error ellipse: s-maj=50.9km s-min=18.2km az=66.0*

ISC 21 16:01:21.9±1.4,9.0S±0.1×109.83E±0.06,h52km±16km, n17,σ1§07/23,mb3.9/8,5C-3D,Jawa

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**4.29**	**83**	⇓*i*P*n*		**P**	**16 02 26.4**	**+0.1**
	218nm,0.3s							
SRDI				⇑*e*S*n*		**S**	**16 03 16.0**	**+0.3**
KELI	**Kelakatan**	**4.67**	**81**	⇑*e*P*n*		**P**	**16 02 32.0**	**+0.3**
	148nm,0.2s							
KELI				⇓*e*S*n*		**S**	**16 03 27.0**	**+1.7**
PASI	**Pasiripis**	**4.79**	**298**	⇑*e*P*n*		**P**	**16 02 34.0**	**+0.7**
	82nm,0.2s							
PASI				⇑*e*S*n*		**S**	**16 03 25.2**	**-3.0**
RATI	**Rata**	**5.64**	**88**	⇑*e*P*n*		**P**	**16 02 45.3**	**+0.2**
	390nm,0.2s							
RATI				⇓*e*S*n*		**S**	**16 03 48.0**	**-1.5**
FITZ	**Fitzroy Crossi**	**17.82**	**122**	*e*P		**P**	**16 05 25.5**	**-2.4**
	1.9nm,0.6s							
FITZ				*e*S		**S**	**16 08 30.3**	**-12**
FITZ	**Fitzroy Crossi**	**17.82**	**122**	P		**P**	**16 05 26.4**	**-1.5**
	0.2nm,0.3s,baz=302,slow=13,SNR=6.8							
FITZ				S		**S**	**16 08 30.6**	**-11**
	0.1nm,0.3s,baz=185,slow=6.7,SNR=3.3							
FITZ				LR		LR	16 11 15.2	
	comp=Z,14nm,20.2s,baz=114,slow=33							
KAKA	**Kakadu**	**22.46**	**101**	*e*P		**P**	**16 06 23.8**	**+5.9**
	4.7nm,0.4s,mb4.3							
WRA	**Warramunga Arr**	**26.06**	**117**	P		**P**	**16 06 51.8**	**-0.7**
	3.8nm,0.9s,mb3.9,baz=290,slow=11,SNR=30							
WB2	**Warramunga Arr**	**26.07**	**117**	*e*P		**P**	**16 06 52.2**	**-0.5**
ASAR	**Alice Springs**	**27.25**	**125**	P		**P**	**16 07 02.9**	**-0.6**
	1.2nm,0.5s,mb3.7,baz=307,slow=9.5,SNR=17							
CMAR	**Chiang Mai Arr**	**29.32**	**339**	P		**P**	**16 07 23.0**	**+0.9**
	0.3nm,0.5s,mb3.3,baz=168,slow=8.3,SNR=3.8							
STKA	**Stephens Creek**	**37.23**	**132**	P		**P**	**16 08 31.0**	**+0.7**
	4.5nm,0.5s,mb4.6,baz=332,slow=6.6,SNR=13							
STKA	**Stephens Creek**	**37.23**	**132**	P		**P**	**16 08 31.0**	**+0.7**
SONM	**Songino Array**	**56.66**	**357**	P		**P**	**16 11 00.9**	**-1.4**
	0.3nm,0.7s,mb3.4,baz=184,slow=7.7,SNR=2.5							
MAW	**Mawson**	**66.30**	**198**	P		**P**	**16 12 07.9**	**+1.1**
	1.1nm,0.7s,mb4.0,baz=74,slow=7.4,SNR=4.5							
VNDA	**Vanda**	**73.51**	**170**	P		**P**	**16 12 51.7**	**+1.3**
	0.7nm,0.8s,mb3.7,baz=314,slow=4.3,SNR=2.9							
VNDA	**Vanda**	**73.51**	**170**	P		**P**	**16 12 51.7**	**+1.3**

*IDC **21** 16:01:37.9±1.2,31.38S×177.80W,h46km±8km,mb4.1/9, mb1 4.3/11,mb1mx4.2/16,ML3.9/2,MS4.0/5,Ms1 4.0/5, ms1mx3.5/20,Error ellipse: s-maj=24.2km s-min=22.9km az=109.0*
*NEIC **21** 16:01:37.5±0.6,31.32S×177.70W,h45km,mb4.7/8,Error ellipse: s-maj=15.9km s-min=14.3km az=196.0*

ISC 21 16:01:38.5±0.7,31.78S±0.05×178.2W±0.1,h45km, h45km±3.0km:pP-P,n55,σ1§52/41,mb4.5/15,MS4.0/5,12C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**6.94**	**204**	P		**P**	**16 03 16.5**	**-3.7**
PUZ				S		**S**	**16 04 39.2**	**+0.6**
MWZ	**Matawai**	**7.44**	**207**	P		**P**	**16 03 24.1**	**-3.0**
MWZ				S		**S**	**16 04 53.4**	**+2.3**
URZ	**Urewera**	**7.54**	**210**	P		**P**	**16 03 26.5**	**-2.0**
	1.4nm,0.3s,baz=165,slow=1.2,SNR=7.3							
URZ				S		**S**	**16 04 55.5**	**+1.8**
	9.4nm,0.3s,baz=174,slow=18,SNR=13							
OUZ	**Omahuta**	**7.70**	**241**	P		**P**	**16 03 36.6**	**+5.8**
KNZ	**Kokohu**	**7.99**	**204**	S		**S**	**16 05 04.0**	**-0.7**
BKZ	**Black Stump Fm**	**8.57**	**209**	P		**P**	**16 03 38.3**	**-4.4**
BKZ				S		**S**	**16 05 18.7**	**-0.4**
MRZ	**Mangatainoka R**	**10.21**	**208**	S		**S**	**16 05 53.1**	**-6.3**
THZ	**Tophouse**	**12.27**	**213**	S		**S**	**16 06 43.1**	**-6.3**
KHZ	**Kahutara**	**12.51**	**210**	S		**S**	**16 06 48.5**	**-6.8**
MQZ	**McQueen's Vall**	**13.94**	**209**	S		**S**	**16 07 18.2**	**-11**
RPZ	**Rata Peaks**	**14.64**	**213**	P		**P**	**16 05 03.1**	**-1.3**
	0.5nm,0.3s,baz=46,slow=2.5,SNR=3.9							
RPZ				S		**S**	**16 07 36.5**	**-10**
	1.4nm,0.3s,baz=9.0,slow=17,SNR=10							
TOO	**Toolangi**	**30.33**	**249**	*e*P		**P**	**16 07 50.1**	**+2.1**
	5.4nm,1.0s,mb4.2							
CTA	**Charters Tower**	**33.92**	**281**	*e*P		**P**	**16 08 20.8**	**+1.3**
	16nm,0.9s,mb5.0							
CTA				*e*		pP	16 08 32.2	+0.6
STKA	**Stephens Creek**	**34.07**	**259**	*e*P		**P**	**16 08 22.4**	**+1.7**
	6.9nm,0.8s,mb4.6							
STKA				*e*		pP	16 08 30.5	-2.3
STKA	**Stephens Creek**	**34.07**	**259**	P		**P**	**16 08 21.6**	**+0.9**
	7.9nm,0.8s,mb4.7,baz=98,slow=9.1,SNR=15							
STKA				LR		LR	16 21 47.5	
	comp=Z,269nm,18.3s,MS4.0,baz=170,slow=35							
ASAR	**Alice Springs**	**42.93**	**268**	P		**P**	**16 09 34.8**	**+0.1**
	12nm,0.7s,mb4.7,baz=109,slow=7.7,SNR=89							
ASAR				pP		pP	16 09 47.7	+0.6
	20nm,0.6s,baz=108,slow=7.3,SNR=25							
ASAR				LR		LR	16 27 50.8	
	comp=Z,169nm,18.3s,MS4.0,baz=32,slow=36							
ASPA	**Alice Springs**	**42.93**	**268**	*e*P		**P**	**16 09 35.3**	**+0.5**
ASPA				*e*pP		pP	16 09 48.0	+0.9
WB2	**Warramunga Arr**	**44.03**	**274**	*e*P		**P**	**16 09 43.3**	**-0.4**
WB2				*e*pP		pP	16 09 56.2	+0.1
WRAB	**Tennant Creek**	**44.03**	**274**	P		**P**	**16 09 43.0**	**-0.8**
	264nm,0.7s,SNR=12							
WRA	**Warramunga Arr**	**44.04**	**274**	P		**P**	**16 09 43.0**	**-0.8**
	28nm,0.7s,mb5.1,baz=115,slow=7.5,SNR=107							
WRA				pP		pP	16 09 56.0	-0.2
	20nm,0.6s,baz=114,slow=7.7,SNR=13							
FORT	**Forrest**	**45.59**	**256**	*e*P		**P**	**16 09 55.4**	**-0.7**
	62nm,0.7s,mb5.6							
VNDA	**Vanda**	**46.72**	**186**	P		**P**	**16 10 05.8**	**+1.5**
	0.7nm,0.8s,mb3.7,baz=11,slow=3.3,SNR=4.3							
VNDA				LR		LR	16 25 58.3	
	comp=Z,91nm,18.9s,MS3.8,baz=18,slow=31							
KAKA	**Kakadu**	**49.10**	**281**	*e*P		**P**	**16 10 26.7**	**+3.0**
	6.1nm,1.0s,mb4.6							
FITZ	**Fitzroy Crossi**	**52.24**	**271**	*e*P		**P**	**16 10 47.1**	**-0.4**
	9.3nm,0.9s,mb4.7							
FITZ				*e*pP		pP	16 11 01.5	+1.4
FITZ	**Fitzroy Crossi**	**52.24**	**271**	P		**P**	**16 10 46.4**	**-1.1**
	9.9nm,0.8s,mb4.8,baz=167,slow=7.0,SNR=14							
FITZ				pP		pP	16 10 59.3	-0.8
	11nm,0.9s,baz=160,slow=9.3,SNR=6.7							
QSPA	**South Pole Qui**	**58.34**	**180**	*e*P		**P**	**16 11 31.4**	**+0.6**
	5.5nm,1.0s,mb4.5							
MAW	**Mawson**	**70.98**	**201**	*e*P		**P**	**16 12 53.7**	**+0.9**
	3.7nm,1.0s,mb4.3							
MAW	**Mawson**	**70.98**	**201**	P		**P**	**16 12 52.8**	**0.0**
	4.9nm,1.0s,mb4.4,baz=106,slow=3.7,SNR=5.8							
MAW				LR		LR	16 44 34.1	
	comp=Z,138nm,18.2s,MS4.2,baz=63,slow=36							
SNAA	**Sanae**	**76.78**	**178**	*i*		**P**	**16 13 27.5**	**+1.1**
SNAA	**Sanae**	**76.78**	**178**	*i*		pP	16 13 38.5	-1.1
SNAA	**Sanae**	**76.78**	**178**	*i*		sP	16 13 49.2	+4.6
SNAA	**Sanae**	**76.78**	**178**	P		**P**	**16 13 25.8**	**-0.6**
	2.0nm,1.2s,mb3.9,baz=182,slow=7.7,SNR=6.3							
VNA3	**Neumayer Olymp**	**76.94**	**176**	*i*		**P**	**16 13 29.5**	**+2.2**
VNA3	**Neumayer Olymp**	**76.94**	**176**	*i*		pP	16 13 39.6	-0.9
VNA3	**Neumayer Olymp**	**76.94**	**176**	*i*		sP	16 13 54.3	+8.8
VNA2	**Neumayer--Watz**	**77.37**	**177**	*i*		**P**	**16 13 27.0**	**-2.7**
VNA2	**Neumayer--Watz**	**77.37**	**177**	*i*		PcP	16 13 39.1	-1.3
VNA2	**Neumayer--Watz**	**77.37**	**177**	*i*		sP	16 13 55.9	+8.0
VNA1	**Neumayer--Stat**	**77.61**	**177**	*i*		**P**	**16 13 32.8**	**+1.8**
VNA1	**Neumayer--Stat**	**77.61**	**177**	*i*		pP	16 13 43.3	-0.9
VNA1	**Neumayer--Stat**	**77.61**	**177**	*i*		sP	16 13 58.0	+8.8
NVAR	**Mina Array Bea**	**89.33**	**43**	P		**P**	**16 14 27.1**	**-4.2**
	1.0nm,0.7s,mb4.2,baz=207,slow=6.0,SNR=7.0							
TXAR	**Lajitas Array**	**93.24**	**57**	LR		LR	16 48 07.8	
	comp=Z,73nm,19.5s,MS4.1,baz=125,slow=30							
CMAR	**Chiang Mai Arr**	**93.73**	**289**	P		**P**	**16 14 50.2**	**-1.9**
	0.2nm,0.5s,mb3.8,baz=135,slow=1.3,SNR=3.1							
ILAR	**Eielson Array**	**99.29**	**13**	P		**P**	**16 15 11.7**	**-4.6**
	0.6nm,1.0s,mb4.1,baz=225,slow=5.1,SNR=4.0							
ARCES	**ARCESS Array B**	**139.91**	**347**	PKhKP			16 20 52.8	
	2.1nm,1.0s,baz=45,slow=6.9,SNR=3.7							
KAF	**Kangasniemi**	**145.80**	**340**	*ep*		PKPdf	16 21 06.7	-4.7
FINES	**FINESS Array B**	**146.39**	**339**	PKPbc		PKPbc	16 21 11.8	-1.9
	8.2nm,0.7s,baz=90,slow=3.8,SNR=18							
NB2	**NORSAR Subarra**	**150.09**	**351**	PKP			16 21 26.0	
	4.0nm,1.0s,baz=19,slow=4.1							
NOA	**NORSAR Array B**	**150.09**	**351**	PKPbc		PKPdf	16 21 24.5	+6.1
	3.8nm,1.2s,baz=344,slow=3.2,SNR=2.9							
EIL	**Elat**	**151.53**	**274**	*e*PKPbc		PKPdf	16 21 28.2	+6.7
AKASG	**Malin Array Be**	**152.30**	**321**	PKPbc		PKPdf	16 21 27.7	+5.7
	1.6nm,0.6s,baz=43,slow=2.7,SNR=6.9							
AKASG				PKPab		PKPab	16 21 37.3	-3.9
	3.5nm,0.8s,baz=45,slow=3.6,SNR=11							
BRTR	**Keskin Array B**	**153.12**	**296**	PKPbc		PKPdf	16 21 31.1	+7.6
	1.4nm,0.9s,baz=162,slow=3.9,SNR=4.4							
BRTR				PKPab		PKPab	16 21 42.5	-2.5
	1.4nm,0.6s,baz=162,slow=3.9,SNR=5.7							
CLL	**Collm**	**158.82**	**340**	*e*PKP2		PKPab	16 22 05.0	-4.0
GERES	**GERESS Array B**	**160.75**	**336**	PKPab		PKPab	16 22 13.2	-4.2
	1.0nm,0.8s,baz=34,slow=4.8,SNR=7.2							

*ATH **21** 16:10:46.9,36.68N×27.27E,h26km, MD3.0/5*
*ISK **21** 16:10:46.1,36.64N×27.31E,h11km,MD3.4*
*NEIC **21** 16:10:46.9,36.68N×27.27E,h26km,MD3.4(ISK), MD3.0(ATH),After ATH.*
*CSEM **21** 16:10:47.2±0.1,36.68N×27.35E,h20km,MD3.4,Error ellipse: s-maj=1.8km s-min=1.3km az=145.0*

ISC 21 16:10:46.4±0.9,36.64N±0.04×27.33E±0.05,h7km±6km, n24,σ0§76/31,1C,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
NISR	**Nisiros**	**0.16**	**259**	⇑*i*PB		**Pb**	**16 10 52.1**	**+0.8**
BDRM	**Kayabasi**	**0.43**	**12**	*i*P		**Pg**	**16 10 54.8**	**-0.4**
BDRM				*i*S		**Sg**	**16 11 00.2**	**-0.7**
MLSB	**Milas**	**0.74**	**29**	PG		**Pg**	**16 11 01.6**	**+0.3**
MLSB				SG		**Sg**	**16 11 11.7**	**+0.4**
MLSB	**Milas**	**0.74**	**29**	Pg		**Pg**	**16 11 01.6**	**+0.3**
ARG	**Arkhangelos**	**0.77**	**123**	*e*PN		**Pn**	**16 11 03.3**	**-0.1**
YER	**Yerkesik**	**0.91**	**57**	PG		**Pg**	**16 11 04.1**	**-0.5**
YER				SG		**Sg**	**16 11 18.1**	**+1.3**
DALT	**Dalyan (Mudla)**	**1.06**	**83**	Pn		**Pn**	**16 11 07.2**	**-0.3**
DALT	**Dalyan (Mudla)**	**1.06**	**83**	Pn		**Pn**	**16 11 07.2**	**-0.3**
KARP	**Karpathos**	**1.10**	**187**	*e*PN		**Pn**	**16 11 08.5**	**+0.4**
AYDN	**Tasoluk**	**1.11**	**23**	*i*P		**Pb**	**16 11 07.3**	**-0.1**
AYDN				*i*S		**Sb**	**16 11 21.4**	**-0.5**
SMG	**Samos**	**1.14**	**340**	*e*PN		**Pn**	**16 11 07.8**	**-0.8**
APE	**Apeiranthos**	**1.50**	**287**	PN		**Pn**	**16 11 13.2**	**-0.7**
APE	**Apeiranthos**	**1.50**	**287**	Pn		**Pn**	**16 11 13.2**	**-0.6**
APE	**Apeiranthos**	**1.50**	**287**	*e*Pn		**Pn**	**16 11 13.5**	**-0.3**
DNZL	**Cakiroluk**	**1.73**	**52**	*i*P		**Pn**	**16 11 17.3**	**+0.2**
DNZL				*i*S		**Sn**	**16 11 38.7**	**-0.8**
IZM	**Izmir**	**1.75**	**358**	*e*PN		**Pn**	**16 11 17.8**	**+0.4**
DENT	**Denizli**	**1.76**	**50**	*e*PN		**Pn**	**16 11 17.7**	**+0.2**
DENT	**Denizli**	**1.76**	**50**	Pn		**Pn**	**16 11 17.8**	**+0.3**
KDAG	**Bornova**	**1.76**	**358**	*i*P		**Pn**	**16 11 16.0**	**-1.5**
KDAG				*i*S		**Sn**	**16 11 42.3**	**+1.9**
ELL	**Elmali**	**2.08**	**86**	*e*PN		**Pn**	**16 11 21.6**	**-0.5**
ELL	**Elmali**	**2.08**	**86**	Pn		**Pn**	**16 11 21.7**	**-0.4**
ELL	**Elmali**	**2.08**	**86**	Pn		**Pn**	**16 11 21.7**	**-0.4**
MANT	**Manisa**	**2.09**	**28**	*i*P		**Pn**	**16 11 26.2**	**+3.9**
MANT				*i*S		**Sn**	**16 11 54.7**	**+6.0**
AKS	**Akhisar**	**2.27**	**10**	*e*PN		**Pn**	**16 11 25.4**	**+0.6**

*NEIC **21** 16:27:42.3,33.38S×73.15W,h20km,ML3.9(GUC),After GUC.*

GUC 21 16:27:42.3±0.9,33.38S×73.15W,h20km±4km,MD3.9, ML3.9,2C-1D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**1.56**	**112**	*i*P		Pn	16 28 08.9	-0.3
LNV				*i*S		Sn	16 28 28.6	-0.4
PACH	**Papudo**	**1.66**	**60**	⇓*i*P		Pn	16 28 11.0	+0.2
PACH				*i*S		Sn	16 28 32.0	+0.3
RCDM	**Rinconada Maip**	**1.96**	**94**	AMP			16 28 42.4	
	comp=N,1μm,0.2s							
PEL	**Peldehue**	**2.07**	**84**	AMP			16 28 49.0	
	comp=N,1μm,0.4s							
STL	**Santa Lucia**	**2.10**	**92**	AMP			16 28 47.4	
	comp=N,688nm,0.2s							
ANTU	**Antumapu**	**2.11**	**96**	*i*S		Sn	16 28 44.5	+1.5
ANTU				AMP			16 28 45.9	
	comp=E,2μm,0.2s							
CHCH	**Chadas Angostu**	**2.15**	**106**	*e*P		Pn	16 28 18.6	+0.9
CHCH				*i*S		Sn	16 28 45.2	+1.2
SFDO	**San Fernando**	**2.16**	**125**	*e*P		Pn	16 28 18.4	+0.6
SFDO				*i*S		Sn	16 28 45.3	+1.1
CLCH	**Cerro Calan**	**2.18**	**91**	AMP			16 28 52.8	
	comp=E,874nm,0.8s							
CLCH				AMP			16 28 53.2	
	comp=N,1μm,0.4s							
FSR	**Penalolen**	**2.19**	**93**	*i*S		Sn	16 28 46.7	+1.7
FSR				AMP			16 28 51.7	
	comp=N,814nm,0.3s							
PCH	**Pirque**	**2.21**	**97**	*e*P		Pn	16 28 19.2	+0.7
PCH				*e*S		Sn	16 28 47.0	+1.4
CACH	**El Canelo**	**2.24**	**110**	*e*S		Sn	16 28 49.4	+2.9
JACH	**Jahuel**	**2.25**	**73**	*e*P		Pn	16 28 19.7	+0.5
JACH				*i*S		Sn	16 28 48.8	+2.1
SJCH	**San Jose de Ma**	**2.35**	**97**	*i*P		Pn	16 28 20.6	+0.1
SJCH				*i*S		Sn	16 28 50.9	+1.8
SJCH				AMP			16 28 52.7	
	comp=N,768nm,0.4s							
FCH	**Farellones**	**2.39**	**90**	⇑*i*P		Pn	16 28 23.4	+2.3
FCH				*i*S		Sn	16 28 53.6	+3.5
FCH				AMP			16 28 55.4	
	comp=N,2μm,0.3s							
CICH	**Cipreses**	**2.45**	**113**	*i*P		Pn	16 28 22.5	+0.5
CICH				*e*S		Sn	16 28 53.0	+1.3
LMEL	**Las Melosas**	**2.50**	**102**	*e*P		Pn	16 28 23.8	+1.1
LMEL				*i*S		Sn	16 28 54.5	+1.7
LMEL				AMP			16 28 57.0	
	comp=N,2μm,0.2s							
CMCH	**Combarbala**	**2.85**	**40**	⇑*i*P		Pn	16 28 27.6	-0.2
CMCH				*i*S		Sn	16 29 02.7	+0.8
CMCH				AMP			16 29 06.4	
	comp=E,847nm,0.5s							
TLL	**Tololo Astrono**	**3.77**	**33**	*e*P		Pn	16 28 40.6	-0.2
TLL				*i*S		Sn	16 29 25.6	+0.4
TLL				AMP			16 29 43.1	
	comp=N,78nm,0.4s							

PRE 21 16:28:42.9±2.2,26.93S×26.84E,h2km,ML3.6,South Africa

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KSR	**Koster**	**1.06**	**3**	*e*P		Pb	16 29 02.4	-1.3
KSR				*e*S		Sb	16 29 15.8	-2.1
KSR				*e*			16 29 21.8	
	comp=Z,888nm,0.3s							
SEK	**Senekal**	**1.55**	**154**	*e*S		Sb	16 29 29.9	-2.1
SEK				*e*			16 29 33.4	
	comp=Z,490nm,0.2s							
SLR	**Silverton**	**1.76**	**48**	*e*P		Pn	16 29 14.2	-0.4
SLR				*e*S		Sn	16 29 36.9	-1.0
SLR				*e*			16 29 38.8	
	comp=Z,1μm,0.3s							
BOSA	**Boshof**	**2.19**	**220**	*e*P		Pn	16 29 20.1	-0.7
BOSA				*e*S		Sn	16 29 47.2	-1.5
NWL	**Newcastle**	**2.88**	**107**	*e*P		Pn	16 29 28.4	-2.3
NWL				*e*S		Sn	16 30 04.7	-1.6

IDC 21 16:30:31.0±4.2,5.64S×131.51E,mb3.4/1,mb1 3.9/4, mb1mx3.6/13,ML3.6/3,Error ellipse: s-maj=122.0km s-min=29.5km az=69.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.65**	**204**	Pn		P	16 33 45.2	-3.3
	0.3nm,0.3s,baz=19,slow=12,SNR=30							
FITZ				Sn		S	16 36 08.9	-13
	0.3nm,0.3s,baz=194,slow=14,SNR=4.4							
WRA	**Warramunga Arr**	**14.48**	**169**	Pn		P	16 33 55.4	-3.9
	0.2nm,0.3s,baz=352,slow=13,SNR=15							
WRA				Sn		S	16 36 29.9	-12
	0.3nm,0.3s,baz=356,slow=24,SNR=7.0							
ASAR	**Alice Springs**	**18.07**	**173**	P		P	16 34 45.0	-0.2
	0.3nm,0.3s,baz=350,slow=11,SNR=15							
CMAR	**Chiang Mai Arr**	**40.06**	**307**	P		P	16 38 08.2	-1.7
	0.3nm,0.5s,baz=132,slow=6.9,SNR=4.8							

*CSEM **21** 16:39:11.8±0.9,39.59N×29.47W,MD3.6,Error ellipse: s-maj=13.6km s-min=2.7km az=35.0,After PDA*
*PDA **21** 16:39:11.8±0.9,39.59N×29.47W,MD3.6,Error ellipse: s-maj=13.6km s-min=2.7km az=35.0*

SVSA 21 16:39:11.8±0.9,39.59N×29.47W,MD3.6,Error ellipse: s-maj=13.6km s-min=2.7km az=35.0,Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**1.17**	**149**	*e*P		Pb	16 39 30.9	-3.8
CALA				*e*S		Sb	16 39 44.4	-5.9
ROSA	**Rosais**	**1.29**	**132**	*e*P		Pb	16 39 32.3	-4.4
ROSA				*e*S		Sb	16 39 47.5	-6.3
PICO	**Pico**	**1.36**	**143**	*e*P		Pb	16 39 33.4	-4.5
PICO				*e*S		Sb	16 39 49.5	-6.2

*ISK **21** 16:39:42.0,38.57N×25.50E,h5km,MD3.4*
*THE **21** 16:39:43.7,38.52N×25.65E,h55km*
*CSEM **21** 16:39:43.3±0.1,38.55N×25.68E,h2km,MD3.1,Error ellipse: s-maj=2.4km s-min=1.9km az=20.0*
*ATH **21** 16:39:45.3,38.65N×25.64E,h36km±8km,MD3.1/4*
*NEIC **21** 16:39:45.6,38.66N×25.87E,h59km, MD3.4(ISK), MD3.1(ATH),After ATH.*

ISC 21 16:39:46.2±0.4,38.55N±0.03×25.55E±0.04,h36km,n44, σ1§17/59,3C,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.89**	**39**	*e*PN		**P**	**16 40 00.6**	**-1.8**
AYVA	**Ayvalik**	**1.17**	**49**	⇑*i*P		**P**	**16 40 05.6**	**-0.7**
AYVA				*i*S		**S**	**16 40 20.5**	**-0.8**
BLCB	**Balcova**	**1.18**	**98**	PN		**P**	**16 40 06.1**	**-0.4**
BLCB				SN		**S**	**16 40 22.6**	**+0.9**
SMG	**Samos**	**1.32**	**129**	*e*PN		**P**	**16 40 09.6**	**+1.1**
SMG	**Samos**	**1.32**	**129**	*e*P		**P**	**16 40 07.6**	**-0.9**
BOZC	**Bozcaada**	**1.35**	**17**	*i*P		**P**	**16 40 07.4**	**+1.5**
BOZC				*i*S		**S**	**16 40 28.8**	**+2.9**
IZM	**Izmir**	**1.35**	**96**	PN		**P**	**16 40 08.7**	**-0.3**
IZM				SN		**S**	**16 40 28.4**	**+2.4**
IZM	**Izmir**	**1.35**	**96**	Pn		**P**	**16 40 08.7**	**-0.3**
IZM				Sg		**S**	**16 40 28.7**	**+2.7**
KDAG	**Bornova**	**1.36**	**96**	⇑*i*P		**P**	**16 40 08.4**	**-0.7**
KDAG				*i*S		**S**	**16 40 27.0**	**+0.9**
LIA	**Limnos Island**	**1.38**	**348**	*e*PN		**P**	**16 40 08.7**	**-0.6**
PTL	**Penteli**	**1.42**	**250**	*e*PN		**P**	**16 40 11.5**	**+1.6**
LOS	**Limnos**	**1.43**	**345**	*e*Pn		**P**	**16 40 10.0**	**-0.1**
LOS				*e*Sb		**S**	**16 40 30.6**	**+2.8**
LOS	**Limnos**	**1.43**	**345**	*e*Pb		**P**	**16 40 10.0

n13,σ0°53/21,mb3.9/5,6D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.60**	**278**	⇓P	**P**	**16 49 30.5**	**+0.2**
JIO				S	**S**	**16 49 38.4**	**-0.7**
OFUJ	**Ofunato**	**0.78**	**335**	⇓P	**P**	**16 49 33.1**	**+0.3**
OFUJ				S	**S**	**16 49 42.8**	**-0.8**
JMK	**Ichinoseki**	**0.90**	**310**	⇓P	**P**	**16 49 34.9**	**+0.5**
JMK				*eS*	**S**	**16 49 46.1**	**-0.4**
JOU	**Okura**	**1.13**	**270**	⇓P	**P**	**16 49 38.3**	**+0.7**
JOU				S	**S**	**16 49 52.7**	**+0.5**
JMM	**Marumori**	**1.15**	**244**	⇓P	**P**	**16 49 37.8**	**-0.1**
JMM				*eS*	**S**	**16 49 52.0**	**-0.7**
JOM	**Ohasama**	**1.27**	**330**	⇓P	**P**	**16 49 40.4**	**+0.8**
JOM				S	**S**	**16 49 55.9**	**+0.1**
MAT	**Matsushiro**	**3.60**	**241**	P	**P**	**16 50 13.0**	**+0.3**
MAT				*eS*	**S**	**16 50 54.7**	**+0.3**
ASAJ	**Asahikawa**	**5.75**	**4**	Pn	**P**	**16 50 42.5**	**-0.5**
	0.2nm,0.3s,baz=229,slow=11,SNR=2.5						
ASAJ				Sn	**S**	**16 51 48.8**	**+0.1**
	0.3nm,0.3s,baz=32,slow=7.5,SNR=2.1						
ZAL	**Zalesovo**	**41.44**	**311**	P	**P**	**16 57 02.6**	**+1.0**
	0.7nm,0.5s,mb3.6,baz=18,slow=9.0,SNR=2.6						
BVAR	**Borovoye Array**	**50.09**	**312**	P	**P**	**16 58 09.6**	**-0.5**
	0.2nm,0.5s,mb3.5,baz=90,slow=7.2,SNR=2.9						
WRA	**Warramunga Arr**	**58.46**	**189**	P	**P**	**16 59 11.1**	**-0.7**
	1.3nm,0.6s,mb4.1,baz=5.9,slow=6.6,SNR=26						
ASAR	**Alice Springs**	**62.19**	**188**	P	**P**	**16 59 36.9**	**-0.3**
	0.9nm,0.7s,mb4.0,baz=4.5,slow=5.1,SNR=16						
FINES	**FINESS Array B**	**67.89**	**332**	P	**P**	**17 00 13.2**	**0.0**
	1.3nm,0.7s,mb4.0,baz=233,slow=29,SNR=1.4						

IDC 21 17:17:29.2±21.0, 2.07N×126.08E, h528km±300km, mb2.7/5, mb1 2.9/5, mb1mx2.6/17, Error ellipse: s-maj=119.0km s-min=42.4km az=45.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.05**	**181**	*eP*	P	17 21 27.4	-0.3
	0.8nm,0.9s						
FITZ	**Fitzroy Crossi**	**20.05**	**181**	P	P	17 21 27.5	-0.2
	1.6nm,0.7s,baz=4.1,slow=8.3,SNR=10						
WRA	**Warramunga Arr**	**23.33**	**160**	P	P	17 21 55.1	-2.7
	0.1nm,0.4s,baz=334,slow=11,SNR=8.6						
WB2	**Warramunga Arr**	**23.33**	**160**	*eP*	P	17 21 55.6	-2.3
ASAR	**Alice Springs**	**26.69**	**164**	P	P	17 22 26.2	-1.4
	0.3nm,0.5s,baz=345,slow=7.0,SNR=10						
STKA	**Stephens Creek**	**36.83**	**158**	P	P	17 23 52.8	-0.9
	1.3nm,0.8s,baz=338,slow=17,SNR=2.4						
ZAL	**Zalesovo**	**61.77**	**334**	P	P	17 26 56.1	-1.8
	0.8nm,0.3s,baz=251,slow=5.9,SNR=2.3						

NEIC 21 18:33:48.4, 38.39S×177.29E, h43km, ML3.8(WEL), 2D, After WEL., North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.19**	**312**	⇓P	P	18 33 55.5	-0.4
MWZ	**Matawai**	**0.19**	**74**	⇓P	P	18 33 55.8	-0.1
MWZ				S	S	18 34 01.4	+0.3
EDRZ	**Edgecumbe**	**0.52**	**303**	P	P	18 33 59.3	-0.2
MARZ	**Manawahe**	**0.63**	**310**	P	P	18 34 00.4	-0.6
TAZ	**Tarawera**	**0.64**	**284**	P	P	18 34 01.7	+0.1
KNZ	**Kokohu**	**0.70**	**155**	*eP*	P	18 34 01.6	-0.3
KNZ				S	S	18 34 11.6	-0.2
PATZ	**Paeroa**	**0.81**	**270**	P	P	18 34 03.3	-0.2
PUZ	**Puketiti**	**0.82**	**68**	*eP*	P	18 34 03.2	-0.5
BKZ	**Black Stump Fm**	**1.00**	**219**	*eP*	P	18 34 05.5	-0.6
MXZ	**Matakaoa Point**	**1.15**	**45**	*eP*	P	18 34 08.1	-0.2
NGZ	**Ngauruhoe**	**1.54**	**239**	*eP*	P	18 34 13.6	-0.3

*IDC **21** 18:51:46.7±0.9, 11.97N×143.89E, mb3.7/8, mb1 4.0/9, mb1mx3.9/20, Error ellipse: s-maj=30.1km s-min=26.6km az=108.0*
*NEIC **21** 18:51:53.5±1.7, 11.91N×143.86E, h50km±14km, mb4.0/3, Error ellipse: s-maj=16.8km s-min=14.4km az=116.0*

ISC 21 18:51:52.2±2.4, 11.9N±0.1×143.8E±0.2, h55km±21km, n14, σ0°65/14, mb3.8/11, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.01**	**31**	*ePn*	**P**	**18 52 24.2**	**-0.2**
GUMO				*eSn*	**S**	**18 52 48.5**	**+0.3**
WRA	**Warramunga Arr**	**32.95**	**197**	P	**P**	**18 58 23.7**	**-0.3**
	0.5nm,0.6s,mb3.6,baz=20,slow=9.9,SNR=8.8						
ASAR	**Alice Springs**	**36.61**	**195**	P	**P**	**18 58 59.8**	**+4.5**
	0.3nm,0.9s,mb3.1,baz=12,slow=10,SNR=3.7						
CMAR	**Chiang Mai Arr**	**43.72**	**284**	P	**P**	**18 59 54.9**	**+0.8**
	0.4nm,0.4s,mb3.5,baz=90,slow=6.3,SNR=3.6						
SONM	**Songino Array**	**47.57**	**326**	P	**P**	**19 00 23.9**	**-0.4**
	0.3nm,0.6s,mb3.5,baz=135,slow=8.2,SNR=3.1						
KURK	**Kurchatov**	**65.25**	**321**	*eP*	**P**	**19 02 29.8**	**-0.6**
	3.9nm,1.0s,mb4.4						
ILAR	**Eielson Array**	**70.56**	**25**	P	**P**	**19 03 01.9**	**-1.2**
	0.4nm,0.8s,mb3.4,baz=246,slow=5.4,SNR=5.4						
BVAR	**Borovoye Array**	**70.65**	**322**	P	**P**	**19 03 03.6**	**-0.3**
	1.3nm,0.4s,mb4.2,baz=104,slow=8.0,SNR=12						
ZRNK	**Zerenda**	**71.47**	**322**	P	**P**	**19 03 08.8**	**-0.1**
	1.0nm,0.8s,mb3.8						
INK	**Inuvik**	**76.35**	**22**	P	**P**	**19 03 37.2**	**+0.4**
	2.3nm,1.1s,mb4.0,baz=259,slow=6.5,SNR=4.2						
INK	**Inuvik**	**76.35**	**22**	*eP*	**P**	**19 03 36.8**	**-0.1**
	1.4nm,0.8s,mb3.9						
ARCES	**ARCESS Array B**	**88.41**	**342**	P	**P**	**19 04 40.1**	**+1.0**
	3.5nm,1.0s,mb4.5,baz=76,slow=10.0,SNR=4.2						
NVAR	**Mina Array Bea**	**88.80**	**51**	P	**P**	**19 04 42.4**	**+0.7**
	0.4nm,0.8s,mb3.8,baz=45,slow=8.4,SNR=5.1						
LPAZ	**La Paz**	**148.72**	**102**	PKPbc	PKPdf	19 11 38.1	+7.7
	1.8nm,0.3s,baz=7.1,slow=1.4,SNR=2.2						

*IDC **21** 19:01:56.7±1.2, 3.73N×123.55E, mb3.8/6, mb1 4.0/6, mb1mx3.8/17, Error ellipse: s-maj=71.8km s-min=18.7km az=64.0*

ISC 21 19:01:55.8±1.9, 4.3N±0.4×124.0E±0.6, h33km, n13, σ0°75/13, mb3.9/8, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.35**	**176**	P	**P**	**19 06 52.0**	**-0.5**
	1.5nm,0.8s,mb3.5,baz=198,slow=5.0,SNR=4.7						
WRA	**Warramunga Arr**	**26.18**	**157**	P	**P**	**19 07 30.2**	**+0.8**
	1.4nm,0.3s,mb3.9,baz=336,slow=9.7,SNR=34						
WB2	**Warramunga Arr**	**26.19**	**157**	*eP*	**P**	**19 07 30.2**	**+0.7**
CMAR	**Chiang Mai Arr**	**28.21**	**302**	P	**P**	**19 07 50.5**	**+2.6**
	0.6nm,0.8s,mb3.3,baz=144,slow=7.8,SNR=4.9						
ASAR	**Alice Springs**	**29.46**	**161**	P	**P**	**19 07 58.7**	**-0.3**
	0.8nm,0.6s,mb3.6,baz=337,slow=7.4,SNR=15						
ASPA	**Alice Springs**	**29.46**	**161**	*eP*	**P**	**19 07 58.9**	**-0.1**
STKA	**Stephens Creek**	**39.72**	**156**	P	**P**	**19 09 26.3**	**-0.6**
	2.6nm,0.8s,mb4.0,baz=318,slow=13,SNR=4.4						
GUN	**Gumba**	**43.16**	**307**	*eP*	**P**	**19 09 55.4**	**0.0**
	6.4nm,0.4s,mb4.7						
PKI	**Pulchoki**	**43.40**	**306**	*eP*	**P**	**19 09 56.9**	**-0.4**
KKN	**Kakani**	**43.59**	**307**	*eP*	**P**	**19 09 58.6**	**-0.3**
	2.4nm,0.3s,mb4.3						
GKN	**Gorkha**	**44.20**	**306**	*eP*	**P**	**19 10 03.4**	**-0.3**
KOLN	**Koldanda**	**44.94**	**306**	*eP*	**P**	**19 10 09.1**	**-0.6**
SONM	**Songino Array**	**45.90**	**344**	P	**P**	**19 10 25.2**	**+8.1**
	0.7nm,0.6s,mb3.7,baz=163,slow=8.6,SNR=7.7						

*FUNV **21** 19:08:11.6, 11.18N×61.74W, h29km, MW2.7*
*TRN **21** 19:08:12.1, 11.29N×61.76W, h2km, MD3.2*

ISC 21 19:08:11.2±0.6, 11.10N±0.03×61.90W±0.04, h88km±8km, n17, σ1°20/33, 2C, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.55**	**216**	⇑*eP*	**P**	**19 08 25.5**	**-0.8**
GUIV				*eS*	**S**	**19 08 35.5**	**-1.9**
TRN	**Trinidad (W)**	**0.66**	**132**	*eP*	**P**	**19 08 27.3**	**0.0**
TRN				*eS*	**S**	**19 08 37.1**	**-2.2**
TPP	**Pointe-a-Pierr**	**0.89**	**150**	*eP*	**P**	**19 08 32.1**	**+2.5**
TPP				*eS*	**S**	**19 08 44.6**	**+1.1**
TBH	**Brigand Hill**	**1.02**	**127**	*eP*	**P**	**19 08 33.3**	**+2.1**
TBH				*eS*	**S**	**19 08 48.1**	**+1.9**
TPR	**Prospect**	**1.10**	**85**	*eP*	**P**	**19 08 31.3**	**-0.9**
TPR				*eS*	**S**	**19 08 44.0**	**-4.0**
TPR				*eS*	**S**	**19 08 45.3**	**-2.7**
BOT	**Bacolet**	**1.16**	**86**	*eP*	**P**	**19 08 32.2**	**-0.8**
CRUV	**Carupano**	**1.38**	**252**	*eP*	**P**	**19 08 36.1**	**+0.4**
CRUV				*eS*	**S**	**19 08 54.9**	**+0.9**
GUNV	**Guanoco**	**1.38**	**228**	⇑*iP*	**P**	**19 08 36.8**	**+1.0**
GUNV				*eS*	**S**	**19 08 55.4**	**+1.4**
SVB	**Belmont**	**2.25**	**16**	*eP*	**P**	**19 08 46.6**	**-0.7**
SVB				*eS*	**S**	**19 09 14.9**	**+0.7**
SVV	**Soufriere Volc**	**2.31**	**17**	*eP*	**P**	**19 08 48.0**	**-0.1**
SVV				*eS*	**S**	**19 09 15.0**	**-0.6**
ORIV	**Oritupano**	**2.50**	**217**	*eP*	**P**	**19 08 52.0**	**+1.2**
PCRV	**Puerto La Cruz**	**2.84**	**252**	*eP*	**P**	**19 08 56.6**	**+1.1**
PCRV				*eS*	**S**	**19 09 29.3**	**+0.5**
RIOV	**Rio Grande**	**3.01**	**178**	*eP*	**P**	**19 08 58.1**	**+0.2**
RIOV				*eS*	**S**	**19 09 32.0**	**-0.9**
GURV	**El Guri**	**3.51**	**200**	*eP*	**P**	**19 09 04.7**	**-0.1**
GURV				*eS*	**S**	**19 09 43.9**	**-1.5**
MERV	**Las Mercedes**	**4.70**	**247**	*eP*	**P**	**19 09 21.5**	**+0.3**
MERV				*eS*	**S**	**19 10 13.9**	**-1.0**
CAOV	**Caicara del Or**	**5.75**	**230**	*eP*	**P**	**19 09 35.4**	**-0.1**
CAOV				*eS*	**S**	**19 10 38.0**	**-2.9**
BAUV	**El Baul**	**6.42**	**251**	*eP*	**P**	**19 09 44.2**	**-0.6**
BAUV				*eS*	**S**	**19 10 53.3**	**-3.9**

IDC 21 19:20:41.9±28.0, 2.04S×125.42E, h132km±174km, mb3.3/2, mb1 3.3/4, mb1mx3.1/16, ML3.6/2, Error ellipse: s-maj=235.0km s-min=140.9km az=168.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.97**	**179**	*eP*	P	19 24 21.1	+0.7
	0.7nm,0.5s						
FITZ	**Fitzroy Crossi**	**15.97**	**179**	P	P	19 24 20.9	+0.4
	0.2nm,0.3s,baz=14,slow=14,SNR=9.2						
WRA	**Warramunga Arr**	**19.82**	**155**	P	P	19 25 01.4	-3.0
	0.1nm,0.3s,baz=336,slow=9.6,SNR=9.6						
ASAR	**Alice Springs**	**23.02**	**160**	P	P	19 25 34.9	-1.4
	0.9nm,0.5s,baz=344,slow=15,SNR=18						
STKA	**Stephens Creek**	**33.37**	**154**	P	P	19 27 08.6	-1.1
	0.6nm,0.5s,baz=333,slow=14,SNR=2.5						

*MOS **21** 19:38:42.2±0.9, 36.37N×137.78E, h190km, mb4.9/18, Error ellipse: s-maj=12.8km s-min=6.6km az=105.2*
*BJI **21** 19:38:45.3, 36.33N×137.79E, h235km, mB5.0, mb5.0*
*NEIC **21** 19:38:46.5±0.2, 36.32N×137.66E, mb4.7/54, MW4.8(NIED), Error ellipse: s-maj=8.1km s-min=6.2km az=89.0*
*JMA **21** 19:38:46.9±0.1, 36.30N×137.92E, h228km±1km, M4.7 Broadband fault plane solution: P waves. NP1:φs357°, δ49°, λ15°. NP2:φs257°, δ79°, λ138°. Principal axes: T Plg37°, Azm208°; N Plg47°, Azm65°; P Plg19°, Azm313°;*
JMA Felt II J1.
*IDC **21** 19:38:47.1±0.7, 36.27N×137.70E, h224km±6km, mb4.1/20, mb1 4.2/24, mb1mx4.2/29 Error ellipse: s-maj=12.9km s-min=7.7km az=81.0*
*NIED **21** 19:39:00, 36.20N×137.90E, h240km, Mw4.8 Best double couple: Mo1.82×10^16 NP1:φs259°, δ75°, λ146°. NP2: φs359°, δ58°, λ18°.*

ISC 21 19:38:45.8±0.2, 36.34N±0.02×137.86E±0.03, h230km±1km, h224km±3.8km; pP-P, n222, σ1°18/252, mb4.6/78, 21C-18D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNG	**Nsakai**	**0.21**	**70**	⇑P	**P**	**19 39 16.7**	**+0.8**
JNG				S	**S**	**19 39 39.2**	**0.0**
MAJO	**Matsushiro**	**0.35**	**54**	*ePn*	**P**	**19 39 16.1**	**0.0**
MAJO				*eSn*	**S**	**19 39 38.2**	**-1.5**
MAT	**Matsushiro**	**0.35**	**54**	P	**P**	**19 39 16.8**	**+0.6**
MAT				S	**S**	**19 39 39.3**	**-0.4**
MAT	**Matsushiro**	**0.35**	**54**	P	**P**	**19 39 16.7**	**+0.5**
MAT				S	**S**	**19 39 39.1**	**-0.6**
MAT	**Matsushiro**	**0.35**	**54**	*eP*	**P**	**19 39 17.0**	**+0.8**
MAT				*eS*	**S**	**19 39 39.0**	**-0.7**
JRY	**Ryogami san**	**0.90**	**110**	P	**P**	**19 39 18.9**	**+0.6**
JRY				S	**S**	**19 39 42.4**	**-1.1**
JYN	**Shimob**	**1.00**	**146**	⇓P	**P**	**19 39 19.3**	**+0.5**
JGM	**Miyama**	**1.12**	**236**	⇓P	**P**	**19 39 20.3**	**+0.7**
JGM				S	**S**	**19 39 45.6**	**-0.3**
JSZ	**Suzu**	**1.18**	**340**	⇑P	**P**	**19 39 20.6**	**+0.6**
JSZ				S	**S**	**19 39 46.1**	**-0.5**
JKG	**Kaga**	**1.23**	**268**	P	**P**	**19 39 21.3**	**+0.8**
JKG				S	**S**	**19 39 47.6**	**+0.3**
JAG	**Ashikaga**	**1.29**	**86**	⇑P	**P**	**19 39 20.9**	**0.0**
JAG				S	**S**	**19 39 46.6**	**-1.5**
JOD2	**Odawara 2**	**1.47**	**137**	⇓P	**P**	**19 39 22.8**	**+0.6**
JOD2				S	**S**	**19 39 50.5**	**+0.1**
JHG	**Hegura jima**	**1.69**	**334**	⇑P	**P**	**19 39 24.9**	**+0.8**
JHG				S	**S**	**19 39 54.2**	**+0.6**
JSD	**Sado**	**1.73**	**11**	⇑P	**P**	**19 39 25.0**	**+0.6**
JSD				S	**S**	**19 39 53.7**	**-0.6**
JNS	**Sasagawa**	**1.88**	**38**	⇑P	**P**	**19 39 26.5**	**+0.7**
JNS				S	**S**	**19 39 55.6**	**-1.1**
JIM2	**Oshima 3**	**2.06**	**141**	⇓P	**P**	**19 39 27.6**	**+0.1**
JIM2				S	**S**	**19 39 59.7**	**-0.1**
JIE	**Ise**	**2.16**	**206**	⇓P	**P**	**19 39 29.3**	**+0.8**
JIE				S	**S**	**19 40 01.3**	**-0.2**
JWT	**Wachi**	**2.26**	**243**	⇑P	**P**	**19 39 30.0**	**+0.5**
JWT				S	**S**	**19 40 02.7**	**-0.6**
JAW	**Awa shima**	**2.39**	**27**	⇑P	**P**	**19 39 31.5**	**+0.7**
TK01	**Tokai 1**	**2.58**	**185**	P	**P**	**19 39 33.4**	**+0.6**
TK01				S	**S**	**19 40 10.0**	**+0.7**
JWY	**Kouya**	**2.81**	**222**	⇑P	**P**	**19 39 36.4**	**+1.0**
JWY				S	**S**	**19 40 14.2**	**+0.4**
JHJ	**Hachijo jima 2**	**3.58**	**153**	P	**P**	**19 39 44.0**	**-0.2**
	524nm,0.3s,baz=193,slow=3.8,SNR=49						
JHJ				S	**S**	**19 40 29.7**	**+0.2**
	312nm,0.3s,baz=68,slow=24,SNR=4.4						
ERM	**Erimo**	**7.00**	**34**	Pn	**P**	**19 40 24.1**	**-2.9**
	3μm,0.5s						
ASAJ	**Asahikawa**	**8.57**	**24**	P	**P**	**19 40 44.8**	**-2.4**
	29nm,0.3s,baz=234,slow=11,SNR=176						
ASAJ				S	**S**	**19 42 15.2**	**-7.0**
	7.1nm,0.3s,baz=156,slow=32,SNR=7.2						
ASAJ	**Asahikawa**	**8.57**	**24**	P	**P**	**19 40 44.8**	**-2.4**
ASAJ				S	**S**	**19 42 15.2**	**-7.0**
ASAJ				pmax	pmax		
	comp=Z,29nm,0.3s						
INCN	**Inchon**	**9.06**	**281**	*ePn*	**P**	**19 40 54.5**	**+1.0**
	comp=Z,69nm,1.0s						
YUK	**Yuzh-Kuril'sk**	**9.82**	**36**	*eP*	**P**	**19 40 57.0**	**-6.1**
YUK				pmax	pmax		
	comp=E,350nm,0.5s						
YUK				pmax	pmax		
	comp=Z,770nm,0.5s						
YUK				pmax	pmax		
	comp=Z,3μm,1.0s						
CBIJ	**Chichi jima**	**9.92**	**157**	P	**P**	**19 41 00.0**	**-4.4**
CBIJ				S	**S**	**19 42 44.1**	**-9.0**
MDJ	**Mudanjiang**	**10.39**	**325**	P	**P**	**19 41 10.9**	**+0.6**
MDJ				XP		19 42 06.0	
MDJ				S	**S**	**19 43 04.0**	**+0.2**
MDJ				PCP	PcP	19 46 55.1	-0.3
MDJ				PCS		19 50 30.0	
MDJ				SCS	ScS	19 53 40.3	+2.0
MDJ				AMB	AMB		
	comp=Z,148nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,324nm,6.4s						
MDJ	**Mudanjiang**	**10.39**	**325**	*ePn*	**P**	**19 41 10.9**	**+0.6**
	comp=Z,130nm,0.7s						
YSS	**Yuzh-Sakhalins**	**11.22**	**17**	*eP*	**P**	**19 41 18.0**	**-2.9**
YSS				*eS*	**S**	**19 43 04.6**	**-18**
KUR	**Kuril'sk**	**11.68**	**37**	⇑*iP*	**P**	**19 41 23.0**	**-3.6**
KUR				*eS*	**S**	**19 43 27.0**	**-6.3**
KUR				pmax	pmax		
	comp=N,60nm,0.8s						
KUR				pmax	pmax		
	comp=E,90nm,0.8s						
KUR				pmax	pmax		
	comp=Z,250nm,0.8s						
KUR				smax			
	comp=N,190nm,0.7s						
KUR				smax			
	comp=E,170nm,0.7s						
CN2	**Changchun**	**12.07**	**312**	*eP*	**P**	**19 41 31.9**	**+0.3**
CN2				*eXP*		19 42 24.8	
CN2				*eS*	**S**	**19 43 45.8**	**+3.4**
CN2				AMB	AMB		
	comp=Z,120nm,0.9s						
CN2				AMB	AMB		
	comp=Z,580nm,5.0s						
SNY	**Shenyang**	**12.37**	**301**	⇓P	**P**	**19 41 36.3**	**+0.9**
SNY				AMB	AMB		
	comp=Z,80nm,0.9s						
JOW	**Kunigami**	**12.50**	**223**	P	**P**	**19 41 36.9**	**-0.2**
	comp=Z,7.7nm,0.3s,baz=31,slow=8.9,SNR=25						
DL2	**Dalian**	**13.12**	**286**	P	**P**	**19 41 46.5**	**+1.8**
DL2				*eXP*		19 42 41.5	
DL2				S	**S**	**19 44 10.3**	**+4.2**
DL2				AMB	AMB		
	comp=Z,110nm,0.7s						
SSE	**Sheshan**	**14.82**	**254**	*eP*	**P**	**19 42 00.5**	**-5.3**
SSE				S	**S**	**19 44 44.8**	**+0.7**
SSE				AMB	AMB		
	comp=Z,23nm,0.7s						
SSE				AMB	AMB		
	comp=Z,63nm,4.6s						
SSE	**Sheshan**	**14.82**	**254**	*eP*	**P**	**19 42 00.5**	**-5.3**
	comp=Z,23nm,0.7s						
SSE				S	**S**	**19 44 44.7**	**+0.6**
NJ2	**Nanjing**	**16.29**	**260**	*eP*	**P**	**19 42 22.4**	**-1.0**
NJ2				XP		19 43 20.1	
NJ2				S	**S**	**19 45 13.0**	**-3.7**
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s						
BJI	**Beijing**	**17.44**	**289**	P	**P**	**19 42 33.5**	**-2.4**
BJI				S	**S**	**19 45 39.3**	**-1.2**
BJI				AMB	AMB		
	comp=Z,49nm,1.0s						
BJI	**Beijing**	**17.44**	**289**	P	**P**	**19 42 33.5**	**-2.4**
	comp=Z,49nm,1.0s						
BJI				pP		19 42 45.3	
BJI				S	**S**	**19 45 39.3**	**-1.2**
BJT	**Baijiatuan**	**17.44**	**289**	*eP*	**P**	**19 42 33.1**	**-2.9**
	comp=Z,73nm,0.7s						
BJT				*e*		19 42 44.0	
BJT				*eS*	**S**	**19 45 41.9**	**+1.3**
HIA	**Hailar**	**18.48**	**320**	*eP*	**P**	**19 42 44.1**	**-2.5**
	comp=Z,70nm,0.6s						
WHN	**Wuhan**	**20.43**	**260**	*eP*	**P**	**19 43 08.3**	**+1.8**
HHC	**Hu-ho-hao-te**	**21.01**	**290**	⇓P	**P**	**19 43 09.3**	**-2.8**
HHC				XP		19 44 20.8	
HHC				AMB	AMB		
	comp=Z,30nm,1.3s,mb4.7						
HHC				AMB	AMB		
	comp=Z,94nm,4.2s						
BTO	**Baotou**	**22.17**	**290**	*eP*	**P**	**19 43 20.8**	**-2.6**
BTO				AMB	AMB		
	comp=Z,21nm,0.6s,mb4.8						
CLNS	**Chul'man**	**22.28**	**341**	*eP*	**P**	**19 43 25.6**	**+1.2**
CLNS				pmax	pmax		
	comp=N,55nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,89nm,1.0s,mb5.2						
CLNS				pmax	pmax		
	comp=E,26nm,0.9s						
XAN	**Xi'an**	**23.73**	**273**	P	**P**	**19 43 37.4**	**-0.9**
XAN				AMB	AMB		
	comp=Z,38nm,0.6s,mb5.2						
ENH	**Enshi**	**24.42**	**264**	*eP*	**P**	**19 43 43.6**	**-1.3**
	comp=Z,26nm,0.7s,mb5.0						
ENH				*eS*	**S**	**19 47 47.9**	**+2.4**
MA2	**Magadan**	**24.72**	**16**	⇓*iP*	**P**	**19 43 46.3**	**-1.0**
MA2				*i* *PP		19 44 30.0	
MA2				pmax	pmax		
	comp=Z,55nm,0.9s,mb5.2						
MA2	**Magadan**	**24.72**	**16**	*eP*	**P**	**19 43 48.0**	**+0.7**
	comp=Z,50nm,0.8s,mb5.2						
MA2				*e*pP		19 44 30.0	
SONM	**Songino Array**	**25.84**	**306**	P	**P**	**19 43 57.0**	**-0.8**
	comp=Z,24nm,0.7s,mb4.9,baz=104,slow=8.8,SNR=205						
SONM				ScP		19 50 38.9	
	comp=Z,4.8nm,1.0s,baz=117,slow=2.8,SNR=17						
YAK	**Yakutsk**	**26.23**	**351**	*d iP*	**P**	**19 44 00.1**	**-1.0**
YAK				*i* *pP	pP	19 44 47.4	+1.6
YAK				pmax	pmax		
	comp=Z,42nm,0.6s,mb5.2						
YAK	**Yakutsk**	**26.23**	**351**	*eP*	**P**	**19 43 59.4**	**-1.7**
	comp=Z,53nm,0.6s,mb5.3						
TGY	**Tagaytay City**	**26.83**	**219**	P	**P**	**19 44 08.9**	**+1.9**
	comp=Z,82nm,0.5s,mb5.6						
TGY	**Tagaytay City**	**26.83**	**219**	P	**P**	**19 44 08.9**	**+1.8**
TGY				pmax	pmax		
	comp=Z,82nm,0.5s						
LZH	**Lanzhou**	**27.37**	**280**	*eP*	**P**	**19 44 09.6**	**-2.1**
LZH				AP	pP	19 44 58.3	+1.4
LZH				XP	sP	19 45 26.5	+2.5
LZH				*eS*	**S**	**19 48 31.1**	**-2.0**
LZH				SS	SS	19 50 14.0	+0.2
LZH				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.9						
LZH				AMB	AMB		
	comp=Z,210nm,4.0s						
LZH	**Lanzhou**	**27.37**	**280**	*eP*	**P**	**19 44 09.6**	**-2.1**
	comp=Z,30nm,1.0s,mb4.9						
LZH				pP	pP	19 44 58.2	+1.3
LZH				PP	PP	19 45 04.5	-4.2
LZH				sP	sP	19 45 26.5	+2.5
LZH				*eS*	**S**	**19 48 31.1**	**-2.0**
LZH				sS		19 49 47.4	
LZH				SS	SS	19 50 14.0	+0.2
LZH				LR	LR		
	comp=Z,790nm,14.0s						
ZAK	**Zakamensk**	**28.50**	**310**	⇓*iP*	**P**	**19 44 19.9**	**-1.8**
GTA	**Gaotai**	**30.04**	**288**	*eP*	**P**	**19 44 34.0**	**-1.4**
GTA				PP	PP	19 45 38.4	-4.8
GTA				S	**S**	**19 49 14.4**	**-1.1**
GTA				SCP		19 50 51.5	
GTA				AMB	AMB		
	comp=Z,17nm,0.7s,mb4.8						
QIZ	**Qiongzhong**	**30.05**	**243**	P	**P**	**19 44 35.0**	**-0.7**
	comp=Z,30nm,1.

SNR=91
KZA Kyzart 47.90 297 P P 19 47 04.5 +2.0
SNR=19
KBK Karagaybulak 47.97 298 P P 19 47 03.9 +0.9
SNR=107
CHMS Chumysh 48.02 298 P P 19 47 03.8 +0.4
SNR=22
KSH Kashi 48.07 294 *i* PR 19 47 05.3
KSH AP pP 19 47 52.0 -1.7
KSH XP sP 19 48 23.3 +3.7
KSH PCP PcP 19 48 30.6 +2.4
KSH *e*PP PP 19 49 00.8 +3.5
KSH *e*SCP 19 51 59.3
KSH *e*PCS 19 52 20.0
KSH *e*S **S** **19 53 46.8 +3.3**
KSH *e*XS 19 55 07.3
KSH *e*SCS ScS 19 56 30.8 +1.2
KSH AMB AMB
comp=Z,170nm,5.0s
USP Ospenovka 48.14 299 P P 19 47 04.6 +0.3
SNR=55
FRU Bishkek 48.16 298 *i* P **P** **19 47 05.0 +0.5**
FRU *e* 19 53 48.0
FRU pmax pmax
comp=Z,120nm,1.6s,mb5.0
AAK Ala-Archa 48.30 298 P P 19 47 06.1 +0.6
SNR=37
AAK Ala-Archa 48.30 298*d* *i*P **P** **19 47 04.9 -0.6**
AAK pmax pmax
comp=Z,25nm,0.5s,mb4.8
AAK Ala-Archa 48.30 298 *e*P **P** **19 47 04.2 -1.4**
comp=Z,34nm,0.7s,mb4.8
UCH Uchtor 48.39 297 P P 19 47 07.6 +1.3
SNR=34
VOSK Vostochnaya 48.62 312 P P 19 47 07.3 -0.5
VOSK pmax pmax
comp=Z,62nm,0.7s,mb5.0
IMA Indian Mountai 48.74 30 *e*P **P** **19 47 10.6 +2.1**
comp=Z,48nm,1.1s,mb4.7
IMA *e*pP pP 19 47 58.8 +0.3
IMA *e*PP PP 19 49 09.7 +6.2
EKS2 Erkin-Say 48.80 298 P P 19 47 09.8 +0.4
SNR=33
BVA0 Borovoye Array 48.93 312 *i* P **P** **19 47 09.5 -0.6**
BVA0 pmax pmax
comp=Z,1.0nm,0.5s
BRVK Borovoye 48.98 312 *e*P **P** **19 47 10.3 -0.3**
comp=Z,70nm,0.9s,mb5.0
AML Almayashu 49.00 297 P P 19 47 12.4 +1.5
SNR=179
KAKA Kakadu 49.04 187⇑ *i*P **P** **19 47 15.9 +4.4**
comp=Z,18nm,0.6s,mb4.6
ZRNK Zerenda 49.76 312 P P 19 47 16.2 -0.3
ZRNK pmax pmax
comp=Z,50nm,0.7s,mb5.0
ZRNK Zerenda 49.76 312 *e*P **P** **19 47 16.3 -0.2**
comp=Z,136nm,0.7s,mb5.4
MCK McKinley 50.79 33 *e*P **P** **19 47 25.4 +1.3**
comp=Z,2.1nm,0.6s,mb3.7
MCK *e*pP pP 19 48 13.1 -1.4
COLA College 51.19 32 *i* P **P** **19 47 28.8 +1.8**
COLA College 51.19 32 *e*P **P** **19 47 29.7 +2.7**
comp=Z,7.3nm,0.9s,mb4.1
ILAR Eielson Array 51.60 32 P P 19 47 31.3 +1.2
comp=Z,2.5nm,0.8s,mb3.7,baz=284,slow=6.9,SNR=21
ILAR Eielson Array 51.60 32 P P 19 47 31.3 +1.2
ILAR pmax pmax
comp=Z,3.0nm,0.8s
SVE Sverdlovsk 53.77 318⇓ *e*P **P** **19 47 46.0 -0.2**
SVE pmax pmax
comp=Z,60nm,1.1s,mb5.0
ARU Arti 54.98 318⇓ *i*P **P** **19 47 54.2 -0.7**
ARU *e* 19 49 59.2
ARU *e*PPP PPP 19 51 17.8 -2.6
ARU *e*S **S** **19 55 23.2 +6.0**
ARU *e* 19 57 17.9
ARU pmax pmax
comp=Z,44nm,0.9s,mb5.0
FITZ Fitzroy Crossi 55.36 194⇑ *i*P **P** **19 47 57.6 -0.5**
comp=Z,28nm,0.9s,mb4.8
WRAB Tennant Creek 56.06 184 P P 19 48 02.9 -0.1
comp=Z,456nm,1.0s,SNR=74
WRAB Tennant Creek 56.06 184 *e*P **P** **19 48 01.8 -1.2**
comp=Z,95nm,0.8s,mb5.4
WB2 Warramunga Arr 56.07 184⇑ *i*P **P** **19 48 02.2 -0.9**
WB2 *e*S **S** **19 55 30.8 -1.3**
WRA Warramunga Arr 56.07 184 P P 19 48 02.4 -0.7
comp=Z,64nm,0.8s,mb5.2,baz=0.6,slow=7.5,SNR=340
WRA Warramunga Arr 56.07 184 P P 19 48 02.4 -0.7
WRA pmax pmax
comp=Z,65nm,0.9s
INK Inuvik 56.30 27 P P 19 48 05.1 +1.0
comp=Z,3.5nm,0.8s,mb3.9,baz=275,slow=5.3,SNR=8.3
INK pP pP 19 48 55.2 -0.3
comp=Z,6.0nm,1.0s,baz=276,slow=7.5,SNR=5.2
INK Inuvik 56.30 27 P P 19 48 05.1 +1.0
INK *PP pP 19 48 55.3 -0.3
INK pmax pmax
comp=Z,4.0nm,0.8s
INK pmax pmax
comp=Z,6.0nm,1.0s
CTAO Charters Tower 56.68 171 *e*P **P** **19 48 06.8 -0.6**
comp=Z,11nm,0.9s,mb4.5
PALK Pallekele 59.43 255 *e*P **P** **19 48 26.3 -0.3**
comp=Z,12nm,0.9s,mb4.5
MBWA Marble Bar 59.70 200 *e*P **P** **19 48 26.8 -1.5**
comp=Z,36nm,0.7s,mb5.1
ASAR Alice Springs 59.79 184 P P 19 48 28.1 -0.8
comp=Z,9.4nm,0.6s,mb4.6,baz=13,slow=13,SNR=152
ASPA Alice Springs 59.79 184⇑ *i*P **P** **19 48 28.2 -0.8**
ASPA *e*S **S** **19 56 20.8 +0.3**
KEV Kevo 63.06 339 *e*p **P** **19 48 49.1 -1.0**
ARCES ARCESS Array B 63.62 339 P P 19 48 53.5 -0.2
comp=Z,12nm,1.0s,mb4.5,baz=61,slow=8.2,SNR=20
ARCES ARCESS Array B 63.62 339 P **P** **19 48 53.5 -0.2**
ARCES pmax pmax
comp=Z,12nm,1.0s
ARCES ARCESS Array B 63.62 339 P P 19 48 53.5 -0.2
RES Resolute Bay 63.97 14 *e*P **P** **19 48 55.3 -0.5**
comp=Z,8.1nm,0.7s,mb4.5
JOF Joensuu 65.21 331 *e*p **P** **19 49 02.6 -1.3**
comp=Z,7.2nm,0.6s,mb4.5
JOF Joensuu 65.21 331 *e*P **P** **19 49 02.6 -1.3**
JOF pmax pmax
comp=Z,7.0nm,0.6s,mb4.5
DAG Danmarks Havn 66.20 354⇑ *i*P **P** **19 49 09.9 -0.2**
comp=Z,6.7nm,0.8s,mb4.4
DAG Danmarks Havn 66.20 354⇑ *e*P **P** **19 49 09.9 -0.2**
comp=Z,6.7nm,0.8s,mb4.3
OBN Obninsk 66.92 322*d* *i*P **P** **19 49 14.6 -0.3**
OBN *e* 19 51 44.0
OBN pmax pmax
comp=Z,20nm,1.2s,mb4.6
OBN Obninsk 66.92 322 *e*P **P** **19 49 13.4 -1.5**
comp=Z,17nm,0.8s,mb4.7
FORT Forrest 67.39 189 *e*P **P** **19 49 17.9 -0.4**
comp=Z,85nm,0.6s,mb5.5
KAF Kangasniemi 67.59 332 *e*p **P** **19 49 17.6 -1.4**
comp=Z,7.5nm,0.6s,mb4.5,baz=52,slow=5.9
KAF Kangasniemi 67.59 332 *e*P **P** **19 49 17.6 -1.4**
KAF pmax pmax
comp=Z,8.0nm,0.6s,mb4.5
STKA Stephens Creek 67.95 177⇑ *i*P **P** **19 49 21.4 -0.3**
comp=Z,7.6nm,0.6s,mb4.5
STKA Stephens Creek 67.95 177 P **P** **19 49 21.8 +0.1**
comp=Z,9.6nm,0.6s,mb4.6,baz=349,slow=7.0,SNR=30
FINES FINESS Array B 68.08 331 P P 19 49 21.7 -0.3
comp=Z,21nm,0.9s,mb4.8,baz=76,slow=6.8,SNR=45
FINES FINESS Array B 68.08 331 P P 19 49 21.7 -0.3
FINES pmax pmax
comp=Z,21nm,1.0s
KIV Kislovodsk 69.18 310*d* *i*P **P** **19 49 29.4 +0.4**
KIV *e**SP sP 19 50 35.0 -12
KIV *e*S S 19 58 14.7 -0.1
KIV *e*SS SS 20 02 52.3 +4.1
KIV pmax pmax
comp=Z,23nm,1.1s,mb4.7
KIV pmax pmax
comp=N,10.0nm,1.0s
KIV Kislovodsk 69.18 310 *e*P **P** **19 49 29.7 +0.7**
comp=N,29nm,1.1s,mb4.8
KLBR Kellerberrin 70.15 198 *e*P **P** **19 49 34.2 -0.9**
comp=N,16nm,0.8s,mb4.7
SOC Sochi 71.21 311 *e*P **P** **19 49 46.9 +5.6**
SOC *e* 19 50 07.0
SOC *e*PPP PPP 19 53 59.3 -7.5
SOC *e*S S 19 58 44.0 +5.7
SOC *e* 19 59 16.1
SOC *e*SSS SSS 20 06 22.4 -6.8
SOC pmax pmax
comp=N,26nm,0.8s
SOC pmax pmax
comp=Z,68nm,0.8s,mb5.3
SOC pmax pmax
comp=E,81nm,1.0s
SUMG Summit 71.35 359 *e*P **P** **19 49 43.0 +1.3**
comp=E,30nm,0.8s,mb5.0
SUMG *e*pP pP 19 50 35.8 +0.1
NWAO Narrogin (SRO) 71.55 198 P P 19 49 43.0 -0.6
comp=E,11nm,0.6s,mb4.7,baz=7.9,slow=9.5,SNR=10
NWAO Narrogin (SRO) 71.55 198 P P 19 49 43.0 -0.5
NWAO pmax pmax
comp=Z,11nm,0.6s
NWAO Narrogin (SRO) 71.55 198 *e*P **P** **19 49 42.5 -1.0**
comp=Z,14nm,0.8s,mb4.6
AKASG Malin Array Be 73.07 321 P P 19 49 51.7 -0.5
comp=Z,9.5nm,0.7s,mb4.5,baz=48,slow=6.1,SNR=32
AKASG Malin Array Be 73.07 321 P P 19 49 51.7 -0.4
AKASG pmax pmax
comp=Z,10.0nm,0.7s
NB2 NORSAR Subarra 73.69 336 P P 19 49 55.5 0.0
comp=Z,4.6nm,0.8s,mb4.2,baz=39,slow=6.2
NOA NORSAR Array B 73.69 336 P P 19 49 55.5 0.0
comp=Z,6.7nm,0.7s,mb4.4,baz=41,slow=5.9,SNR=18
NOA NORSAR Array B 73.69 336 P **P** **19 49 55.6 +0.1**
NOA pmax pmax
comp=Z,7.0nm,0.7s
TOO Toolangi 73.88 174 *e*P **P** **19 49 58.2 +1.1**
comp=Z,2.9nm,0.6s,mb4.1
SUW Suwalki 73.90 326 *e*P **P** **19 49 56.8 -0.1**
SUW Suwalki 73.90 326 *e*P **P** **19 49 56.8 -0.1**
KWP Kalwaria 76.99 323 *e*P **P** **19 50 14.6 +0.3**
KWP Kalwaria 76.99 323 *e*P **P** **19 50 14.6 +0.3**
BRTR Keskin Array B 77.14 310 P **P** **19 50 16.1 +0.8**
comp=Z,4.6nm,0.7s,mb4.2,baz=90,slow=4.9,SNR=18
BRTR Keskin Array B 77.14 310 P **P** **19 50 16.2 +0.8**
BRTR pmax pmax
comp=Z,5.0nm,0.7s
KOLS Kolonicke sedl 77.67 322 *e*P **P** **19 50 18.6 +0.5**
KOLS *e* 19 50 22.0
KOLS *e*PP PP 19 53 18.1 +0.2
NVAR Mina Array Bea 77.67 51 P **P** **19 50 21.1 +2.8**
comp=Z,0.8nm,0.8s,baz=298,slow=3.3,SNR=4.0
NVAR pP pP 19 51 14.8 +1.6
comp=Z,1.1nm,0.7s,baz=301,slow=4.0,SNR=3.4
OJC Ojcow 77.99 325 *e*P **P** **19 50 20.3 +0.5**
OJC Ojcow 77.99 325 *e*P **P** **19 50 20.3 +0.5**
FRB Frobisher Bay 78.07 12 P **P** **19 50 20.8 +0.8**
comp=Z,3.1nm,0.6s,mb4.1,baz=14,slow=11,SNR=4.7
FRB Frobisher Bay 78.07 12 P **P** **19 50 20.8 +0.9**
FRB pmax pmax
comp=Z,3.0nm,0.6s
FRB Frobisher Bay 78.07 12 P **P** **19 50 20.8 +0.8**
CRVS Cervenica-Dubn 78.09 323 *e*P **P** **19 50 21.6 +1.2**
NIE Niedzica 78.29 324 *e*P **P** **19 50 23.0 +1.5**
TPH Tonopah 78.57 51 P **P** **19 50 24.4 +1.3**
comp=Z,3.5nm,0.7s,mb4.1
OKC Ostrava-Krasne 79.02 325 *e*P **P** **19 50 26.4 +1.0**
KSP Ksiaz 79.15 327 *e*P **P** **19 50 26.7 +0.7**
KSP Ksiaz 79.15 327 *e*P **P** **19 50 27.3 +1.3**
MORC Moravsky Berou 79.34 325 *e*P **P** **19 50 27.6 +0.6**
comp=Z,9.0nm,1.1s,mb4.3
DPC Dobruska-Polom 79.49 326 *e*P **P** **19 50 29.4 +1.6**
UPC Upice 79.52 327 *e*P **P** **19 50 29.1 +1.1**
PSZ Piszkesteto 79.52 323 *e*P **P** **19 50 29.0 +0.9**
comp=Z,6.2nm,0.8s,mb4.3
VYHS Vyhne 79.64 324 *e*P **P** **19 50 29.5 +0.8**
VYHS *e* 19 50 33.4
HWUT Hardware Ranch 79.78 46 P **P** **19 50 31.3 +1.7**
comp=Z,3.1nm,1.1s,mb3.9
PVCC Panska Ves 80.14 327 *e*P **P** **19 50 32.5 +1.2**
BRG Berggiesshubel 80.16 328 *i*P **P** **19 50 32.2 +0.8**
BRG pmax pmax
comp=Z,6.0nm,1.0s,mb4.2
BRG Berggiesshubel 80.16 328 *i* P **P** **19 50 32.2 +0.8**
comp=Z,6.4nm,1.0s,mb4.2
PDAR Pinedale Array 80.17 44 P **P** **19 50 34.0 +2.4**
comp=Z,0.6nm,0.8s,baz=333,slow=3.3,SNR=4.2
PDAR pP pP 19 51 26.7 -0.1
comp=Z,1.8nm,0.8s,baz=288,slow=4.7,SNR=5.0
CLL Collm 80.24 328⇓ P **P** **19 50 32.0 +0.2**
comp=Z,logA/T=1.2,mb4.6
CLL *i* 19 50 36.3
CLL *e* 19 50 40.0
CLL Collm 80.24 328⇓ *i*P **P** **19 50 32.0 +0.2**
CLL pmax pmax
comp=Z,14nm,0.8s,mb4.6
CLL Collm 80.24 328⇓ *i*P **P** **19 50 32.0 +0.2**
comp=Z,14nm,0.8s,mb4.6
CLL *i* pP Px 19 50 36.3
SMOL Smolenice 80.29 324 *e*P **P** **19 50 33.9 +1.8**
PRU Pruhonice 80.54 327 *e*P **P** **19 50 34.4 +1.0**
KHC Kasperske Hory 81.60 327 *e*P **P** **19 50 40.0 +1.1**
GERES GERESS Array B 81.76 326 P **P** **19 50 40.6 +0.8**
comp=Z,1.8nm,0.6s,mb3.9,baz=35,slow=6.0,SNR=21
GERES GERESS Array B 81.76 326 P **P** **19 50 40.6 +0.9**
GERES pmax pmax
comp=Z,2.0nm,0.6s
GRA1 Grafenberg Arr 82.20 328 *e*P **P** **19 50 43.5 +1.5**
comp=Z,19nm,1.4s,mb4.5
GRF Grafenberg Arr 82.20 328 *e*P **P** **19 50 43.5 +1.5**
GRF pmax pmax
comp=Z,19nm,1.4s,mb4.5
PERS Pernice 82.73 324 *i* P **P** **19 50 45.7 +0.9**
PERS *e* 19 50 50.1
PDKS Podkum 83.19 324 *i* P **P** **19 50 47.8 +0.6**
VISS Visnje 83.47 324 *i* P **P** **19 50 48.9 +0.3**
VISS *e* 19 50 58.2
BOJS Bojanci 83.49 323 *i* P **P** **19 50 49.2 +0.5**
CDF Champ du Feu 84.84 329 *e*P **P** **19 50 53.1 -2.2**
IDI Anoyia 85.33 311 P **P** **19 50 57.8 -0.2**
comp=Z,2.3nm,0.6s,mb4.1,baz=39,slow=17,SNR=3.5
HINF Hinteralfeld 85.48 329 *e*P **P** **19 50 56.1 -2.4**
HAU Haudompre 85.54 330 *e*P **P** **19 50 56.5 -2.3**
SDCO Great Sand Dun 85.84 45 *e*P **P** **19 51 02.1 +1.6**
comp=Z,4.8nm,0.9s,mb4.2
SCHQ Schefferville 86.75 14 P **P** **19 51 06.3 +1.8**
comp=Z,4.5nm,0.8s,mb4.2,baz=269,slow=19,SNR=3.2
LPL La Plagne 87.36 328 *e*P **P** **19 51 06.1 -1.5**
comp=Z,12nm,1.0s,mb4.2
LPG La Plagne 87.36 328 *e*P **P** **19 51 06.1 -1.5**
comp=Z,6.7nm,0.8s,mb4.2
SSF Saint Saulge 87.44 331 *e*P **P** **19 51 05.9 -2.0**
comp=Z,14nm,1.0s,mb4.4
MBDF Montbardon 87.97 327 *e*P **P** **19 51 08.7 -1.8**
comp=Z,11nm,0.9s,mb4.4
ORIF Oris-en-Rattie 88.20 328 *e*P **P** **19 51 09.8 -1.7**
comp=Z,3.2nm,0.6s,mb4.0
SBF Sospel 88.36 327 *e*P **P** **19 51 09.9 -2.4**
comp=Z,27nm,0.9s,mb4.8
TCF Toulx Ste Croi 88.59 331 *e*P **P** **19 51 11.3 -2.0**
comp=Z,14nm,1.0s,mb4.4
VIVF Saint-Julien-l 88.76 329 *e*P **P** **19 51 12.0 -2.2**
ROSF Rostrenen 88.86 335 *e*P **P** **19 51 12.4 -2.2**
FRF La Foret Royal 88.95 327 *e*P **P** **19 51 12.1 -3.0**
comp=Z,26nm,1.2s,mb4.6
LMR La Mourre 89.19 327 *e*P **P** **19 51 13.9 -2.3**
comp=Z,11nm,0.8s,mb4.4
TXAR Lajitas Array 92.79 50 P **P** **19 51 34.9 +1.6**
comp=Z,0.3nm,0.2s,mb3.9,baz=288,slow=2.9,SNR=3.7
VNDA Vanda 114.54 174 PKP PKPdf 19 56 58.5 +1.2
comp=Z,0.5nm,0.8s,baz=350,slow=3.2,SNR=6.4
VNDA Vanda 114.54 174 PKIKP PKPdf 19 56 58.6 +1.2
VNDA pmax pmax
comp=Z,1.0nm,0.8s
MAW Mawson 117.69 205 *e*P PKPdf 19 57 05.8 +2.2
comp=Z,1.8nm,0.7s
MAW Mawson 117.69 205 PKP PKPdf 19 57 05.3 +1.6
comp=Z,1.3nm,0.7s,baz=2.2,slow=2.4,SNR=9.4
MAW Mawson 117.69 205 PKIKP PKPdf 19 57 05.3 +1.7
MAW pmax pmax
comp=Z,1.0nm,0.7s
QSPA South Pole Qui 126.08 180 *e*P PKPdf 19 57 21.0 +1.5
SNAA Sanae 139.23 198⇑ *i*P PKPdf 19 57 35.7 -8.6
SNAA Sanae 139.23 198 PKhKP 19 57 35.7
comp=Z,0.4nm,0.6s,baz=192,slow=5.9,SNR=13
VNA2 Neumayer--Watz 140.83 197⇑ *i*P PKPdf 19 57 44.1 -2.9
VNA3 Neumayer Olymp 141.13 196⇑ *i*P PKPdf 19 57 45.0 -2.5
VNA1 Neumayer--Stat 141.23 197⇑ *i*P PKPdf 19 57 45.5 -2.2
LPAZ La Paz 149.48 56 PKBpc PKPdf 19 58 10.9 +7.7
comp=Z,1.6nm,0.3s,baz=211,slow=0.6,SNR=4.1
LPAZ La Paz 149.48 56 PKP2 PKPab 19 58 10.9 -5.0
LPAZ pmax pmax
comp=Z,2.0nm,0.3s

MAN 21 19:56:57.8, 9.89N×123.33E, h13km, mb3.9, ML2.7, MS2.3, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.55**	**190**	*e*P	Pb	19 57 09.0	+0.2
TBP	**Tagbilaran**	**0.56**	**111**	*e*P	Pb	19 57 09.0	+0.1
TBP				*e*S	Sb	19 57 15.3	-1.2
GUIM	**Jordan**	**1.03**	**315**	*e*P	Pb	19 57 16.6	-0.5
MSLP	**Maasin**	**1.52**	**81**	*e*P	Pn	19 57 23.4	-1.6
MSLP				*e*S	Sb	19 57 45.4	+0.8

IDC 21 20:07:13.3±10.0, 7.51S×129.61E, h167km±78km, mb3.4/1, mb1 3.3/3, mb1mx3.0/12, Error ellipse: s-maj=99.4km s-min=68.2km az=83.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.18**	**160**	P	P	20 10 14.7	-0.3
	0.2nm,0.3s,baz=341,slow=13,SNR=14						
WRA				S	S	20 12 39.4	+1.2
	0.3nm,0.3s,baz=336,slow=22,SNR=8.6						
ASAR	**Alice Springs**	**16.58**	**166**	P	P	20 10 56.5	-1.1
	0.1nm,0.3s,baz=342,slow=9.0,SNR=14						
ASAR				S	S	20 14 02.9	+7.4
	0.1nm,0.3s,baz=352,slow=31,SNR=3.3						
STKA	**Stephens Creek**	**26.69**	**157**	P	P	20 12 36.6	-2.3
	1.7nm,1.0s,baz=323,slow=10,SNR=4.3						

IDC 21 20:08:58.4±6.8, 17.67S×177.38W, mb3.8/3, mb1 4.1/3, mb1mx3.8/14, Error ellipse: s-maj=297.0km s-min=36.8km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WB2	**Warramunga Arr**	**45.63**	**259**	*e*P	P	20 17 20.7	-1.9
WRA	**Warramunga Arr**	**45.64**	**259**	P	P	20 17 20.8	-2.0
	0.6nm,0.7s,baz=96,slow=7.8,SNR=17						
ASAR	**Alice Springs**	**45.80**	**254**	P	P	20 17 22.4	-1.5
	2.5nm,0.6s,baz=86,slow=8.9,SNR=42						
ASPA	**Alice Springs**	**45.81**	**254**	*e*P	P	20 17 23.1	-0.9
KAKA	**Kakadu**	**48.61**	**268**	*e*P	P	20 17 49.1	+3.0
	1.2nm,0.4s						
ILAR	**Eielson Array**	**85.43**	**13**	P	P	20 21 37.3	-1.4
	0.2nm,0.5s,baz=222,slow=4.5,SNR=5.6						

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*BJI **21** 20:11:09.5, 52.89N×168.77W, h12km, mB5.0, mb5.0, Ms4.6, Msz4.2*
*IDC **21** 20:11:12.0±2.6, 52.47N×168.32W, h37km±21km, mb4.2/20, mb1 4.4/22, mb1mx4.4/25, ML4.1/2, MS3.7/12, Ms1 3.7/12, ms1mx3.5/28, Error ellipse: s-maj=19.1km s-min=11.5km az=174.0*
*MOS **21** 20:11:12.1±1.1, 52.77N×168.33W, h41km, mb5.0/15, Error ellipse: s-maj=19.5km s-min=9.0km az=91.2*
*NEIC **21** 20:11:12.2±0.5, 52.47N×168.25W, h37km±3km, mb4.8/47, ML4.0(AEIC), Error ellipse: s-maj=5.8km s-min=3.4km az=170.0*
ISC 21 20:11:10.3±0.6, 52.38N±0.04×168.22W±0.04, h37km±4km, h34km±2.0km: pP-P, n208, σ1900/209, mb4.7/77, MS3.8/21, 16C-10D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKO	**Nikolski**	**0.71**	**328**	P	**P**	**20 11 24.3**	**+0.4**
NIKO				S	**S**	**20 11 36.3**	**+2.4**
OKCE	**Okmok Cone E**	**1.05**	**2**	P	**P**	**20 11 29.6**	**+0.9**
OKCE				S	**S**	**20 11 44.6**	**+2.2**
OKCD	**Okmok Cone D**	**1.06**	**4**	P	**P**	**20 11 29.8**	**+0.9**
OKCD				S	**S**	**20 11 45.3**	**+2.7**
OKER	**East Rim**	**1.09**	**5**	P	**P**	**20 11 29.6**	**+0.4**
MGOD	**Makushin Gods**	**1.64**	**29**	P	**P**	**20 11 36.8**	**-0.4**
MGOD				S	**S**	**20 11 58.2**	**+1.0**
MSW	**Makushin Switc**	**1.77**	**29**	P	**P**	**20 11 39.6**	**+0.6**
MSW				S	**S**	**20 11 60.0**	**-0.5**
MCIR	**Makushin Cirqu**	**1.77**	**26**	P	**P**	**20 11 39.6**	**+0.5**
MNAT	**Makushin Natee**	**1.77**	**31**	P	**P**	**20 11 38.7**	**-0.4**
UNV	**Unalaska Valle**	**1.80**	**34**	P	**P**	**20 11 38.6**	**-0.9**
UNV				S	**S**	**20 12 01.4**	**+0.1**
MTBL	**Makushin Table**	**1.85**	**30**	P	**P**	**20 11 40.0**	**-0.1**
LVA	**Lava Point**	**2.22**	**35**	P	**P**	**20 11 45.9**	**+0.5**
AKLV	**Akutan Long Va**	**2.25**	**36**	P	**P**	**20 11 46.1**	**+0.2**
AKLV				S	**S**	**20 12 13.7**	**+1.1**
AHB	**Akutan Harbor**	**2.27**	**39**	P	**P**	**20 11 45.6**	**-0.5**
AKGG	**Akutan Green G**	**2.27**	**35**	P	**P**	**20 11 45.9**	**-0.2**
WESS	**West Dahl Sout**	**2.97**	**43**	P	**P**	**20 11 55.7**	**-0.5**
WESS				S	**S**	**20 12 30.2**	**-0.8**
WFAR	**Faris Peak**	**2.99**	**42**	P	**P**	**20 11 56.5**	**0.0**
WPOG	**Pogromni**	**3.04**	**42**	P	**P**	**20 11 57.3**	**0.0**
SSLN	**Shishaldin Nor**	**3.51**	**44**	P	**P**	**20 12 03.0**	**-0.8**
ATKA	**Atka Island**	**3.67**	**270**	P	**P**	**20 12 06.8**	**+0.7**
DT1	**Dutton Round H**	**4.46**	**50**	P	**P**	**20 12 17.0**	**-0.3**
HAG	**Hague Volcano**	**4.76**	**49**	P	**P**	**20 12 21.3**	**-0.3**
SPIA	**Saint Paul Isl**	**4.95**	**347**	P	**P**	**20 12 24.7**	**+0.4**
KIKV	**Kanaga Island**	**5.54**	**268**	P	**P**	**20 12 33.7**	**+1.3**
KIMD	**Kanaga Island**	**5.59**	**267**	P	**P**	**20 12 33.3**	**+0.1**
FX1	**Attu Island--F**	**11.33**	**280**	Pn	**P**	**20 13 52.0**	**-0.5**
	4.2nm,0.3s,baz=48,slow=22,SNR=5.5						
FX1	**Attu Island--F**	**11.33**	**280**	P	**P**	**20 13 52.0**	**-0.5**
FX1				pmax	pmax		
	comp=Z,4.0nm,0.3s						
RSO	**Redoubt South**	**11.76**	**40**	P	**P**	**20 13 56.4**	**-1.9**
SPU	**Mount Spurr**	**12.47**	**39**	*e*P	**P**	**20 14 05.9**	**-2.1**
SLKM	**Skilak Lake**	**12.83**	**44**	*e*P	**P**	**20 14 10.9**	**-1.8**
SML	**Sawmill**	**14.29**	**41**	*e*P	**P**	**20 14 28.2**	**-3.6**
DIV	**Divide**	**15.04**	**46**	*e*P	**P**	**20 14 38.4**	**-3.1**
	comp=Z,16nm,0.5s						
MCK	**McKinley**	**15.21**	**34**	P	**P**	**20 14 42.6**	**-1.0**
	comp=Z,3.0nm,0.4s						
IMA	**Indian Mountai**	**15.55**	**22**	P	**P**	**20 14 46.5**	**-1.7**
	comp=Z,39nm,1.2s						
THY	**Trims Highway**	**16.17**	**38**	*e*P	**P**	**20 14 54.7**	**-1.3**
COLA	**College**	**16.30**	**32**	*e*P	**P**	**20 14 55.8**	**-1.9**
COLA				pmax	pmax		
	comp=Z,26nm,1.3s						
COLA	**College**	**16.30**	**32**	*e*P	**P**	**20 14 55.8**	**-1.9**
	comp=Z,26nm,1.3s						
ILAR	**Eielson Array**	**16.56**	**33**	Pn	**P**	**20 14 58.4**	**-2.5**
	comp=Z,0.4nm,0.3s,baz=224,slow=11,SNR=25						
DLBC	**Dease Lake**	**22.28**	**59**	P	**P**	**20 16 06.3**	**+0.9**
	comp=Z,2.6nm,0.8s,mb3.7,baz=320,slow=5.1,SNR=3.5						
DLBC				LR	LR	20 25 41.6	
	comp=Z,181nm,18.5s,MS3.5,baz=302,slow=39						
DLBC	**Dease Lake**	**22.28**	**59**	*e*P	**P**	**20 16 06.0**	**+0.6**
INK	**Inuvik**	**22.96**	**33**	P	**P**	**20 16 09.1**	**-2.7**
	comp=Z,16nm,0.9s,mb4.4,baz=238,slow=12,SNR=26						
INK				LR	LR	20 26 00.4	
	comp=Z,201nm,19.1s,MS3.6,baz=39,slow=39						
INK	**Inuvik**	**22.96**	**33**	P	**P**	**20 16 09.1**	**-2.7**
INK				pmax	pmax		
	comp=Z,16nm,1.0s						
INK				MLR	MLR		
	comp=Z,201nm,19.2s						
INK	**Inuvik**	**22.96**	**33**	*e*P	**P**	**20 16 08.8**	**-3.0**
	comp=Z,12nm,0.8s,mb4.4						
YKA	**Yellowknife Ar**	**29.71**	**49**	P	**P**	**20 17 14.6**	**0.0**
	comp=Z,1.0nm,0.5s,mb3.8,baz=272,slow=8.1,SNR=4.5						
YKA				LR	LR	20 31 02.6	
	comp=Z,263nm,18.9s,MS3.9,baz=290,slow=40						
YKA	**Yellowknife Ar**	**29.71**	**49**	P	**P**	**20 17 14.6**	**0.0**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA				MLR	MLR		
	comp=Z,263nm,18.9s						
YBH	**Yreka Blue Hor**	**32.28**	**91**	P	**P**	**20 17 38.0**	**+0.5**
	comp=Z,1.2nm,0.5s,mb4.0,baz=222,slow=4.0,SNR=4.3						
YBH	**Yreka Blue Hor**	**32.28**	**91**	P	**P**	**20 17 38.0**	**+0.5**
YBH				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YBH	**Yreka Blue Hor**	**32.28**	**91**	*e*P	**P**	**20 17 38.0**	**+0.6**
NEW	**Newport**	**32.33**	**77**	LR	LR	20 27 33.1	
	comp=Z,41nm,21.5s,MS3.1,baz=153,slow=30						
MOD	**Modoc**	**33.66**	**89**	*e*P	**P**	**20 17 49.1**	**-0.3**
	comp=Z,19nm,1.4s,mb4.8						
YAK	**Yakutsk**	**33.70**	**311**	*i* P	**P**	**20 17 46.7**	**-2.8**
YAK				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.1						

YAK MLR MLR
comp=Z,200nm,19.0s,MS3.9
YAK Yakutsk 33.70 311 *eP* **P 20 17 46.6 -2.9**
comp=Z,13nm,0.6s,mb5.0
HLID Hailey 36.33 82 P **P 20 18 12.3 +0.2**
MCMT McKenzie Canyo 36.59 79 *eP* **P 20 18 15.4 +1.1**
NVAR Mina Array Bea 36.96 92 P **P 20 18 18.7 +1.1**
comp=Z,1.2nm,0.6s,mb3.9,baz=286,slow=10,SNR=9.1
MNV Mina 37.05 92 P **P 20 18 18.9 +0.6**
MTUM Tungsten Hills 37.48 94 *eP* **P 20 18 22.6 +0.7**
BW06 Boulder Array 39.71 80 *eP* **P 20 18 41.5 +1.1**
comp=Z,2.7nm,0.8s,mb4.0
PDAR Pinedale Array 39.71 80 P **P 20 18 41.2 +0.8**
comp=Z,1.3nm,0.5s,mb3.9,baz=304,slow=5.3,SNR=10
MAJO Matsushiro 40.40 269 *eP* **P 20 18 45.8 -0.4**
comp=Z,12nm,0.7s,mb4.8
MAJO *e* pP 20 18 57.9 +1.1
MAT Matsushiro 40.40 269 P **P 20 18 46.3 +0.1**
MAT Matsushiro 40.40 269 *eP* **P 20 18 46.0 -0.2**
comp=Z,9.7nm,0.8s,mb4.6
PV01 Paradox Valley 43.11 85 *eP* **P 20 19 09.4 +1.0**
ULM Lac du Bonnet 43.52 63 LR LR 20 36 34.4
comp=Z,84nm,20.6s,MS3.6,baz=28,slow=35
CN2 Changchun 43.69 286 *eP* **P 20 19 12.0 -1.0**
CN2 *eXP* sP 20 19 25.3 -2.9
CN2 PCP PcP 20 20 59.0 -1.2
CN2 *eS* **S 20 25 36.8 -3.2**
CN2 AMB AMB
comp=Z,30nm,0.7s,mb5.1
CN2 AMB AMB
comp=Z,140nm,4.0s
SDCO Great Sand Dun 45.23 83 P **P 20 19 25.9 +0.5**
ANMO Albuquerque 46.47 87 ⇓*iP* **P 20 19 37.0 +1.7**
SUMG Summit 50.57 17 *eP* **P 20 20 05.5 -1.1**
comp=Z,8.6nm,0.8s,mb4.7
WMOK Wichita Mounta 51.29 81 *eP* **P 20 20 11.8 -0.7**
comp=Z,21nm,1.7s,mb4.8
BJI Beijing 51.45 288 P **P 20 20 13.8 +0.2**
BJI S **S 20 27 29.1 -0.4**
BJI AMB AMB
comp=Z,9.0nm,0.8s,mb4.8
BJI LR LR
comp=Z,135nm,17.3s,MS4.0
BJI Beijing 51.45 288 P **P 20 20 13.7 +0.1**
comp=Z,9.0nm,0.8s,mb4.8
BJI S **S 20 27 29.1 -0.4**
BJI LR LR
comp=Z,140nm,17.3s,MS4.0
ZAK Zakamensk 51.89 306 *eP* **P 20 20 16.1 -0.7**
SONM Songino Array 51.90 301 P **P 20 20 16.2 -0.7**
comp=Z,7.4nm,1.1s,mb4.5,baz=57,slow=6.7,SNR=43
SONM PcP PcP 20 21 29.1 -0.3
comp=Z,0.8nm,0.7s,baz=72,slow=2.0,SNR=4.0
LTX Lajitas 52.05 90 P **P 20 20 19.1 +0.8**
comp=Z,3.8nm,0.6s,mb4.5
TXAR Lajitas Array 52.05 90 P **P 20 20 17.8 -0.5**
comp=Z,3.0nm,0.7s,mb4.4,baz=304,slow=4.5,SNR=15
TXAR LR LR 20 40 13.0
comp=Z,48nm,19.9s,MS3.5,baz=305,slow=33
HHC Hu-ho-hao-te 53.57 292 *eP* **P 20 20 29.8 +0.3**
HHC AMB AMB
comp=Z,15nm,1.2s,mb4.8
HHC AMB AMB
comp=Z,132nm,6.9s
SSE Sheshan 54.49 276 *eP* **P 20 20 33.4 -3.0**
SSE AP pP 20 20 42.3 -5.0
SSE S **S 20 28 10.1 -1.0**
SSE XS 20 28 24.1
SSE AMB AMB
comp=Z,37nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,203nm,5.3s
SSE LR LR
comp=N,40nm,27.2s,MS3.4
SSE LR LR
comp=E,18nm,27.1s,MS3.4
SSE LR LR
comp=Z,44nm,26.1s,MS3.4
SSE Sheshan 54.49 276 *eP* **P 20 20 33.4 -3.0**
comp=Z,37nm,0.7s,mb5.4
SSE pP pP 20 20 42.3 -5.0
SSE S **S 20 28 10.1 -1.0**
SSE sS 20 28 24.1
SSE SS SS 20 32 06.7 +13
SSE LR LR
comp=Z,40nm,26.1s,MS3.4
BTO Baotou 54.61 292 *eP* **P 20 20 37.3 +0.2**
BTO AMB AMB
comp=Z,29nm,0.8s,mb5.4
SCHQ Schefferville 54.95 44 P **P 20 20 38.8 -0.6**
comp=Z,2.4nm,0.9s,mb4.2,baz=315,slow=13,SNR=2.9
KEV Kevo 57.68 354 *ep* **P 20 20 56.4 -2.3**
ZAL Zalesovo 57.91 318 P **P 20 20 59.6 -0.9**
comp=Z,1.2nm,0.4s,mb4.3,baz=99,slow=5.9,SNR=6.1
ZAL LR LR 20 49 44.1
comp=Z,121nm,18.2s,MS4.0,baz=150,slow=40
ZAL Zalesovo 57.91 318 P **P 20 20 59.6 -0.9**
ZAL pmax pmax
comp=Z,1.0nm,0.4s
ZAL MLR MLR
comp=Z,121nm,18.2s
ARCES ARCESS Array B 57.99 354 P **P 20 20 58.8 -2.1**
comp=Z,15nm,1.1s,mb4.9,baz=355,slow=6.9,SNR=30
ARCES PcP PcP 20 21 52.1 -0.3
comp=Z,4.3nm,0.9s,baz=11,slow=4.6,SNR=5.4
ARCES LR LR 20 49 56.1
comp=Z,50nm,18.1s,MS3.7,baz=200,slow=40
ARCES ARCESS Array B 57.99 354 P **P 20 20 58.8 -2.1**
ARCES 20 21 52.2
ARCES pmax pmax
comp=Z,15nm,1.1s
ARCES pmax pmax
comp=Z,4.0nm,0.9s
ARCES MLR MLR
comp=Z,50nm,18.1s
KTK1 Kautokeino 58.63 355 *eP* **P 20 21 04.0 -1.4**
KTK1 AMb AMB 20 21 06.8
comp=Z,37nm,2.2s,mb5.0
KTK1 *es*P sP 20 21 20.9 +0.2
KTK1 Kautokeino 58.63 355 *eP* **P 20 21 04.0 -1.4**
comp=Z,37nm,2.2s,mb5.0
WHN Wuhan 59.03 281 ⇓P **P 20 21 08.0 -0.7**
XAN Xi'an 59.77 288 P **P 20 21 17.6 +3.8**
XAN AMB AMB
comp=Z,15nm,1.1s,mb4.9
GTA Gaotai 61.10 298 P **P 20 21 21.5 -1.2**
GTA AP pP 20 21 32.0 -1.7
GTA XP sP 20 21 35.5 -2.6
GTA AMB AMB
comp=Z,11nm,0.9s,mb5.0
GTA AMB AMB
comp=Z,72nm,5.7s
GTA LR LR
comp=N,126nm,11.4s
GTA LR LR
comp=E,160nm,19.0s
GTA LR LR
comp=Z,202nm,13.3s,MS4.5
KURK Kurchatov 62.84 319 ⇑*iP* **P 20 21 32.5 -1.7**
JOF Joensuu 64.03 350 *ep* **P 20 21 38.8 -2.8**
WMQ Urumqi 64.08 309 *eP* **P 20 21 42.0 -0.3**
WMQ XP sP 20 21 56.0 -1.6
WMQ PP PP 20 24 04.0 -1.2
WMQ S **S 20 30 14.0 -0.8**
WMQ SS SS 20 34 24.0 -1.4
WMQ AMB AMB
comp=Z,11nm,0.8s,mb4.9
WMQ LR LR
comp=N,69nm,20.0s,MS4.0
WMQ LR LR
comp=E,78nm,21.0s,MS4.0
WMQ LR LR
comp=Z,77nm,20.0s,MS3.9
BRVK Borovoye 64.11 325 *eP* **P 20 21 41.2 -1.2**
comp=Z,15nm,0.9s,mb5.0
ZRNK Zerenda 64.65 326 *eP* **P 20 21 44.5 -1.4**
comp=Z,14nm,0.6s,mb5.2
ARU Arti 64.93 333 ⇑*iP* **P 20 21 46.3 -1.3**
ARU *e* 20 22 19.3
ARU *e* 20 24 07.6
ARU *eS* **S 20 30 26.6 +1.6**
ARU pmax pmax
comp=Z,17nm,1.1s,mb5.0
KAF Kangasniemi 65.28 353 *ep* **P 20 21 47.5 -2.3**
comp=Z,12nm,0.6s,mb5.1,baz=6.0,slow=6.1
KAF Kangasniemi 65.28 353 *eP* **P 20 21 47.5 -2.3**

KAF pmax pmax
comp=Z,12nm,0.6s,mb5.1
MOL Molde 65.35 2 *eP* **P 20 21 50.0 -0.3**
FINES FINESS Array B 65.96 353 P **P 20 21 52.6 -1.5**
comp=Z,7.1nm,0.5s,mb5.0,baz=21,slow=7.5,SNR=69
FINES LR LR 20 53 53.9
comp=Z,40nm,18.6s,MS3.6,baz=189,slow=39
FINES FINESS Array B 65.96 353 P **P 20 21 52.6 -1.5**
FINES pmax pmax
comp=Z,7.0nm,0.5s
FINES MLR MLR
comp=Z,40nm,18.6s
GYA Guiyang 66.61 283 ⇑*iP* **P 20 21 58.8 -0.1**
GYA AP pP 20 22 09.3 -0.8
GYA XP sP 20 22 12.8 -1.4
GYA PP PP 20 24 29.4 +1.7
GYA S S 20 30 50.6 +4.6
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.2
GYA LR LR
comp=N,170nm,20.2s,MS4.5
GYA LR LR
comp=E,260nm,21.7s,MS4.5
GYA LR LR
comp=Z,180nm,20.8s,MS4.3
NB2 NORSAR Subarra 66.94 0 P **P 20 21 59.0 -1.3**
comp=Z,3.4nm,0.5s,mb4.6,baz=359,slow=6.2
NB2 NORSAR Subarra 66.94 0 P **P 20 21 59.0 -1.3**
baz=358,slow=6.2
NOA NORSAR Array B 66.94 0 P **P 20 21 59.4 -0.9**
comp=Z,3.4nm,0.5s,mb4.7,baz=360,slow=6.2,SNR=14
NOA LR LR 20 55 37.3
comp=Z,26nm,18.2s,MS3.5,baz=240,slow=40
NOA NORSAR Array B 66.94 0 P **P 20 21 59.4 -0.9**
NOA pmax pmax
comp=Z,3.0nm,0.5s
NOA MLR MLR
comp=Z,27nm,18.2s
KMI Kunming 69.95 285 ⇑*eP* **P 20 22 19.0 -0.6**
KMI AP pP 20 22 29.8 -1.0
KMI XP sP 20 22 33.9 -1.0
KMI S S 20 31 23.5 -2.3
KMI SKS SKS 20 32 14.6 +1.3
KMI AMB AMB
comp=Z,9.0nm,0.9s,mb4.7
KMI AMB AMB
comp=Z,90nm,4.7s
KMI LR LR
comp=Z,36nm,23.3s,MS3.5
KMI Kunming 69.95 285 ⇑*eP* **P 20 22 19.0 -0.6**
comp=Z,9.0nm,0.9s,mb4.7
KMI pP pP 20 22 29.8 -1.0
KMI sP sP 20 22 33.9 -1.0
KMI S S 20 31 23.5 -2.3
KMI SKS SKS 20 32 14.6 +1.3
KMI LR LR
comp=Z,40nm,23.3s,MS3.6
USP Ospenovka 70.47 316 P **P 20 22 22.5 0.0**
SNR=6.9
KBK Karagaybulak 70.78 316 P **P 20 22 24.6 +0.2**
SNR=8.1
OBN Obninsk 70.92 345 ⇓*iP* **P 20 22 23.1 -1.9**
OBN pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
OBN MLR MLR
comp=Z,100nm,13.0s,MS4.3
AAK Ala-Archa 70.99 316 P **P 20 22 25.9 +0.2**
SNR=6.1
AAK Ala-Archa 70.99 316 *i* P **P 20 22 24.6 -1.1**
AAK pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
AAK MLR MLR
comp=Z,200nm,20.0s,MS4.4
AAK Ala-Archa 70.99 316 *eP* **P 20 22 24.3 -1.3**
comp=Z,8.2nm,0.9s,mb4.7
EKS2 Erkin-Say 71.27 317 P **P 20 22 27.4 +0.1**
SNR=11
AML Almayashu 71.74 316 P **P 20 22 30.9 +0.8**
SNR=6.2
SUW Suwalki 73.56 353 *eP* **P 20 22 39.5 -1.0**
SUW Suwalki 73.56 353 *eP* **P 20 22 39.5 -1.0**
SHL Shillong 75.88 293 ⇑*iP* **P 20 22 54.0 -0.5**
AKASG Malin Array Be 76.25 349 P **P 20 22 55.0 -1.1**
comp=Z,7.6nm,0.6s,mb4.8,baz=14,slow=5.6,SNR=24
AKASG Malin Array Be 76.25 349 P **P 20 22 55.0 -1.0**
AKASG pmax pmax
comp=Z,8.0nm,0.6s
CLL Collm 76.69 359 P **P 20 22 59.0 +0.5**
CLL Collm 76.69 359 *eP* **P 20 22 59.0 +0.5**
BRG Berggiesshubel 77.11 359 *eP* **P 20 23 00.9 -0.1**
BRG pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
BRG Berggiesshubel 77.11 359 P **P 20 23 00.9 -0.1**
comp=Z,6.3nm,1.1s,mb4.5
CMAR Chiang Mai Arr 77.30 284 P **P 20 23 03.0 +0.4**
comp=Z,9.0nm,0.9s,mb4.7,baz=26,slow=6.4,SNR=61
CMAR LR LR 21 00 07.7
comp=Z,61nm,18.0s,MS4.0,baz=271,slow=38
CMAR Chiang Mai Arr 77.30 284 P **P 20 23 03.0 +0.4**
CMAR pmax pmax
comp=Z,9.0nm,0.9s
CMAR MLR MLR
comp=Z,61nm,18.0s
GUN Gumba 77.34 299 *eP* **P 20 23 03.1 +0.4**
comp=Z,24nm,0.5s,mb5.4
OJC Ojcow 77.56 355 *eP* **P 20 23 02.6 -0.8**
OJC Ojcow 77.56 355 *eP* **P 20 23 02.6 -0.8**
GIVF Givet 77.73 5 *eP* **P 20 23 04.4 0.0**
BAIF Baives 77.74 5 *eP* **P 20 23 04.3 -0.1**
KKN Kakani 77.75 300 *eP* **P 20 23 05.2 +0.2**
comp=Z,11nm,0.5s,mb5.1
PKI Pulchoki 77.86 299 *eP* **P 20 23 05.6 0.0**
comp=Z,36nm,1.1s,mb5.2
GKN Gorkha 77.92 300 *eP* **P 20 23 06.0 +0.1**
DMN Daman 77.99 300 *eP* **P 20 23 06.7 +0.4**
comp=Z,23nm,0.9s,mb5.1
GRA1 Grafenberg Arr 78.31 0 *eP* **P 20 23 08.5 +0.9**
comp=Z,10.0nm,1.1s,mb4.7
GRF Grafenberg Arr 78.31 0 *eP* **P 20 23 08.5 +0.9**
GRF pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
KOLN Koldanda 78.66 301 *eP* **P 20 23 10.0 +0.1**
LDF La Druitiere 78.90 8 *eP* **P 20 23 10.8 0.0**
GERES GERESS Array B 79.14 359 P **P 20 23 12.2 0.0**
comp=Z,1.2nm,0.7s,mb3.9,slow=5.3,SNR=12
GERES GERESS Array B 79.14 359 P **P 20 23 12.2 0.0**
GERES pmax pmax
comp=Z,1.0nm,0.7s
VYHS Vyhne 79.33 355 *i* P **P 20 23 13.7 +0.5**
VYHS *e* pP 20 23 23.8 -0.7
SMOL Smolenice 79.38 356 *eP* **P 20 23 14.4 +1.0**
SMOL *e* 20 23 20.4
ZST Bratislava 79.70 356 *eP* **P 20 23 16.8 +1.6**
ZST *ep*P pP 20 23 27.8 +1.3
HAU Haudompre 79.89 4 *eP* **P 20 23 16.4 +0.2**
KIV Kislovodsk 80.41 338 *c iP* **P 20 23 18.6 -0.5**
KIV pmax pmax
comp=Z,19nm,1.2s,mb4.9
LOR Lormes 80.50 5 *eP* **P 20 23 19.4 -0.1**
comp=Z,34nm,1.3s,mb4.8
MOTA Moosalm 80.66 0 ⇓*iP* **P 20 23 21.3 +1.0**
comp=Z,6.5nm,1.0s,mb4.5
WATA Walderalm 80.67 0 ⇓*iP* **P 20 23 21.1 +0.7**
comp=Z,2.9nm,0.5s,mb4.5
SSF Saint Saulge 80.69 6 *eP* **P 20 23 20.5 0.0**
comp=Z,5.3nm,0.4s,mb4.5
ARSA Arzberg 80.70 357 ⇑*iP* **P 20 23 21.7 +1.2**
comp=Z,5.9nm,1.1s,mb4.4
WTTA Wattenberg 80.74 0 ⇑*iP* **P 20 23 20.7 -0.1**
comp=Z,10nm,1.2s,mb4.6
SQTA Sankt Quirin 80.78 0 ⇓*iP* **P 20 23 21.8 +0.8**
comp=Z,9.2nm,0.8s,mb4.8
MFF Saint Martin d 80.87 8 *eP* **P 20 23 21.4 -0.1**
comp=Z,67nm,1.3s,mb5.1
KBA Koelnbreinsper 80.92 359 ⇑*iP* **P 20 23 23.3 +1.6**
comp=Z,23nm,1.0s,mb5.1
SMF Signal de Mont 81.12 6 *eP* **P 20 23 21.9 -0.9**
comp=Z,25nm,1.1s,mb4.7
BGF Bois d'Agland 81.15 6 *eP* **P 20 23 23.0 +0.1**
CABF La Chapelle 81.27 4 *eP* **P 20 23 23.3 -0.3**
comp=Z,10nm,0.7s,mb4.6
PERS Pernice 81.33 358 *eP* **P 20 23 24.7 +0.9**
TCF Toulx Ste Croi 81.38 7 *eP* **P 20 23 24.1 0.0**
comp=Z,10nm,0.8s,mb4.5
OBKA Obir 81.47 358 ⇑*iP* **P 20 23 25.3 +0.7**
comp=Z,11nm,1.1s,mb4.7

GROS Grobnik 81.49 357 *eP* **P 20 23 25.3 +0.6**
VAI Varese 82.10 2 *eP* **P 20 23 28.5 +0.7**
CTA Charters Tower 82.30 223 LR LR 20 57 15.7
comp=Z,56nm,18.8s,MS4.0,baz=46,slow=34
RJF Les Rejaudoux 82.30 7 *eP* **P 20 23 29.1 +0.2**
LPL La Plagne 82.39 4 *eP* **P 20 23 30.0 +0.6**
LPG La Plagne 82.41 4 *eP* **P 20 23 30.1 +0.6**
BOJS Bojanci 82.46 358 *eP* **P 20 23 30.1 +0.4**
LFF La Frestale 82.60 8 *eP* **P 20 23 30.9 +0.5**
comp=Z,17nm,0.5s,mb5.0
CAF Calviac 82.72 7 *eP* **P 20 23 31.6 +0.6**
comp=Z,22nm,1.1s,mb4.8
BNI Bardonecchia 82.85 4 *eP* **P 20 23 32.9 +1.2**
ORIF Oris-en-Rattie 82.95 4 *eP* **P 20 23 32.5 +0.3**
VIVF Saint-Julien-l 82.96 5 *eP* **P 20 23 32.5 +0.3**
comp=Z,18nm,1.1s,mb4.7
MBDF Montbardon 83.18 4 *eP* **P 20 23 34.1 +0.7**
comp=Z,10nm,0.6s,mb4.8
SMRF Simiane la Rot 83.88 4 *eP* **P 20 23 37.5 +0.6**
SBF Sospel 84.07 3 *eP* **P 20 23 38.8 +1.0**
comp=Z,20nm,0.7s,mb5.0
SJPF Ste Jean 84.23 10 *eP* **P 20 23 39.9 +1.2**
comp=Z,7.1nm,0.6s,mb4.7
MTLF Montolieu 84.31 7 *eP* **P 20 23 40.0 +1.0**
comp=Z,20nm,0.9s,mb4.9
FRF La Foret Royal 84.34 4 *eP* **P 20 23 39.7 +0.5**
comp=Z,19nm,0.8s,mb5.0
EPF Esparros 84.46 8 *eP* **P 20 23 39.9 +0.1**
comp=Z,21nm,1.0s,mb4.9
ETSF Etsaut 84.51 9 *eP* **P 20 23 41.3 +1.2**
comp=Z,18nm,0.7s,mb5.0
LMR La Mourre 84.56 4 *eP* **P 20 23 41.3 +1.0**
NRCA Norcia 85.16 359 *eP* **P 20 23 44.9 +1.6**
PGF Pioggiola 85.43 2 *eP* **P 20 23 45.7 +1.1**
comp=Z,55nm,1.0s,mb5.3
AQU L'Aquila 85.64 359 *eP* **P 20 23 47.3 +1.6**
SDI San Donato 86.28 358 *eP* **P 20 23 49.4 +0.6**
BRTR Keskin Array B 86.33 343 P **P 20 23 50.6 +1.5**
comp=Z,4.4nm,0.6s,mb4.9,baz=42,slow=2.6,SNR=18
BRTR Keskin Array B 86.33 343 P **P 20 23 50.6 +1.5**
BRTR pmax pmax
comp=Z,4.0nm,0.6s
SGG Gregorio Mates 86.59 358 *eP* **P 20 23 52.6 +2.3**
ESDC Sonseca Array 87.31 12 P **P 20 23 54.2 +0.3**
comp=Z,15nm,1.1s,mb5.1,baz=352,slow=4.9,SNR=21
WRAB Tennant Creek 87.55 233 P **P 20 23 54.5 -1.0**
comp=Z,1.9nm,0.7s,mb4.4
WRA Warramunga Arr 87.56 233 P **P 20 23 54.9 -0.6**
comp=Z,1.4nm,0.6s,mb4.3,baz=32,slow=5.8,SNR=19
WRA Warramunga Arr 87.56 233 P **P 20 23 54.9 -0.6**
WRA pmax pmax
comp=Z,1.0nm,0.6s
MGR Morigerati 87.81 357 *eP* **P 20 23 56.5 +0.2**
HYB Hyderabad 89.76 299 *i* P **P 20 24 06.0 0.0**
HYB Hyderabad 89.76 299 *eP* **P 20 24 06.0 0.0**
ASAR Alice Springs 90.94 231 P **P 20 24 11.6 +0.1**
comp=Z,2.4nm,0.7s,mb4.6,baz=31,slow=4.4,SNR=29
QSPA South Pole Qui 142.14 180 *eP* PKPdf 20 30 35.5 -1.3
MAW Mawson 151.31 218 PKPbc PKPdf 20 30 59.7 +7.4
comp=Z,2.2nm,0.6s,baz=77,slow=2.9,SNR=11
MAW Mawson 151.31 218 PKIKP PKPdf 20 30 59.7 +7.5
MAW pmax pmax
comp=Z,2.0nm,0.6s
VNA3 Neumayer Olymp 158.77 161 ⇑*i* PKPdf 20 31 14.7 +13
VNA3 Neumayer Olymp 158.77 161 ⇓*i* PKPdf 20 31 19.3 +17
VNA3 Neumayer Olymp 158.77 161 ⇑*i*PKPdf PKPdf 20 31 03.3 +1.1
VNA3 ⇑*iP* 20 31 14.7
VNA3 ⇓*iP* 20 31 19.3
VNA2 Neumayer--Watz 159.47 162 ⇑*i* PKPdf 20 31 15.9 +13
VNA2 Neumayer--Watz 159.47 162 PKPdf 20 31 20.0 +17
VNA2 Neumayer--Watz 159.47 162 ⇓*i*PKPdf PKPdf 20 31 04.2 +1.2
VNA2 ⇑*iP* 20 31 15.9
VNA2 P 20 31 20.0
SNAA Sanae 159.58 167 PKPdf 20 31 18.7 +16
SNAA Sanae 159.58 167 ⇓*i*PKPdf PKPdf 20 31 08.7 +5.6
SNAA P 20 31 18.7

MAN 21 20:13:11.8, 10.42N×122.08E, h7km, mb3.7, ML2.4, MS2.0, Panay

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAP	**Anini-y**	**0.13**	**270**	*eP*	Pg	20 13 15.5	+0.8
AAP				*eS*	Sg	20 13 23.5	+6.9
GUIM	**Jordan**	**0.55**	**68**	*eP*	Pg	20 13 22.7	-0.1
CUYO	**Cuyo Island**	**1.12**	**292**	*eP*	Pb	20 13 33.1	0.0
CUYO				*eS*	Sb	20 13 49.9	+2.1
OTRP	**Odiongan**	**1.93**	**358**	*eP*	Pn	20 13 45.1	-0.4

WEL 21 20:36:13.8±0.4, 38.71S×175.45E, h232km±4km, ML3.7/6, 2C, Error ellipse: s-maj=8.1km s-min=7.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWVZ	**Taurewa**	**0.36**	**182**	PN	P	20 36 43.5	-1.0
NGZ	**Ngauruhoe**	**0.48**	**166**	PN	P	20 36 44.6	-0.3
CNZ	**Chateau**	**0.50**	**171**	PN	P	20 36 44.8	-0.1
TUVZ	**Tukino**	**0.58**	**164**	PN	P	20 36 45.1	0.0
TUVZ				SN	S	20 37 08.6	-0.9
WNVZ	**Wahianoa**	**0.63**	**170**	PN	P	20 36 45.3	0.0
MOVZ	**Moawhango**	**0.74**	**162**	⇑PN	P	20 36 45.3	-0.4
MOVZ				SN	S	20 37 09.5	-1.1
BKZ	**Black Stump Fm**	**0.93**	**120**	PN	P	20 36 46.7	0.0
BKZ				SN	S	20 37 12.9	+0.7
WAZ	**Wanganui**	**1.11**	**199**	PN	P	20 36 47.2	-0.6
WAZ				SN	S	20 37 13.7	-0.5
TSZ	**Takapari Road**	**1.41**	**164**	PN	P	20 36 49.9	-0.1
MWZ	**Matawai**	**1.67**	**78**	PN	P	20 36 51.4	-0.8
MWZ				SN	S	20 37 20.5	-1.3
MRZ	**Mangatainoka R**	**1.96**	**177**	PN	P	20 36 53.5	-1.2
MRZ				SN	S	20 37 25.3	-1.0
KIW	**Kapiti Island**	**2.19**	**191**	PN	P	20 36 55.3	-1.7
KIW				SN	S	20 37 27.9	-2.6
CAW	**Cannon Point**	**2.42**	**187**	PN	P	20 36 57.5	-1.8
CAW				SN	S	20 37 32.6	-1.9
MTW	**Mount Morrison**	**2.45**	**179**	PN	P	20 36 57.8	-1.8
MRW	**Makara Radio**	**2.58**	**193**	PN	P	20 36 58.8	-2.3
PAWZ	**Paruwai Farm**	**2.67**	**180**	PN	P	20 37 00.0	-2.0
MSWZ	**Moikau Station**	**2.71**	**183**	PN	P	20 37 00.3	-2.2
BHW	**Baring Head**	**2.73**	**189**	PN	P	20 37 00.2	-2.5
TUWZ	**Tuamarina**	**2.96**	**203**	PN	P	20 37 02.5	-2.6
NNZ	**Nelson**	**2.97**	**212**	⇑PN	P	20 37 01.8	-3.5
NNZ				SN	S	20 37 41.3	-3.9
QRZ	**Quartz Range**	**3.09**	**226**	PN	P	20 37 02.1	-4.6
THZ	**Tophouse**	**3.62**	**212**	PN	P	20 37 08.5	-4.4
KHZ	**Kahutara**	**3.98**	**201**	PN	P	20 37 13.6	-3.6
DSZ	**Denniston Nort**	**4.12**	**221**	PN	P	20 37 13.4	-5.5
LTZ	**Lake Taylor**	**4.73**	**210**	PN	P	20 37 21.4	-5.0
MQZ	**McQueen's Vall**	**5.42**	**202**	PN	P	20 37 29.3	-5.6
MQZ				SN	S	20 38 30.5	-7.7

*NEIC **21** 20:40:36.4±0.6, 15.71N×92.38W, h195km±7km, mb4.2/7, Error ellipse: s-maj=14.0km s-min=8.6km az=200.0*
*IDC **21** 20:40:38.4±0.9, 15.91N×92.21W, h208km±8km, mb3.8/6, mb1 4.0/7, mb1mx3.6/18, Error ellipse: s-maj=17.6km s-min=12.2km az=51.0*
*MEX **21** 20:40:40.1±1.2, 15.73N×92.74W, h189km±17km, MD4.4*
ISC 21 20:40:35.7±0.5, 15.78N±0.07×92.45W±0.04, h207km±4km, n39,σ1$45/46, mb4.0/8, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**0.58**	**31**	*i* P	**P**	**20 41 05.6**	**+1.5**
CCIG				*i* S	**S**	**20 41 26.3**	**+0.1**
SCX	**San Cristobal**	**0.96**	**349**	*i* P	**P**	**20 41 08.2**	**+2.2**
SCX				*i* S	**S**	**20 41 30.7**	**+1.2**
CMIG	**Matias Romero**	**2.67**	**299**	*i* P	**P**	**20 41 21.4**	**-0.9**
CMIG				*i* S	**S**	**20 41 53.1**	**-5.4**
TUIG	**Tuzandepetl**	**2.93**	**320**	*i* P	**P**	**20 41 24.9**	**-0.4**
TUIG				*i* S	**S**	**20 42 00.9**	**-2.8**
HUIG	**Huatulco**	**3.52**	**270**	*i* P	**P**	**20 41 30.9**	**-1.5**
HUIG				*i* S	**S**	**20 42 10.7**	**-5.7**
EVV	**El Vigia**	**3.84**	**314**	*i* P	**P**	**20 41 35.7**	**-0.6**
OXX	**Oaxaca**	**4.30**	**288**	*i* P	**P**	**20 41 43.5**	**+1.5**
OXX				*i* S	**S**	**20 42 30.7**	**-2.8**
VHO	**Vista Hermosa**	**4.31**	**288**	*i* P	**P**	**20 41 42.7**	**+0.6**
VHO				*i* S	**S**	**20 42 31.6**	**-2.0**

PNIG	**Pinotepa**	**5.49**	**277**	*i* P		**P**	**20 41 57.0**	**-0.2**
PNIG				*i* S		**S**	**20 42 57.2**	**-3.4**
TEIG	**Tepich**	**5.94**	**41**	P		**P**	**20 42 01.9**	**-1.1**
	0.0nm,0.3s,baz=45,slow=24,SNR=17							
TEIG				S		**S**	**20 43 08.3**	**-2.5**
	0.0nm,0.3s,baz=212,slow=24,SNR=4.7							
PPM	**Popocatepetl**	**6.74**	**300**	*i* P		**P**	**20 42 16.2**	**+2.9**
YAIG	**Yautepec**	**7.02**	**297**	*i* P		**P**	**20 42 18.4**	**+1.5**
YAIG				*i* S		**S**	**20 43 36.1**	**+0.1**
PLIG	**Platanillo**	**7.23**	**292**	*i* P		**P**	**20 42 21.3**	**+1.6**
PLIG				*i* S		**S**	**20 43 39.2**	**-1.6**
ACX	**Acapulco**	**7.25**	**280**	*i* P		**P**	**20 42 19.7**	**-0.2**
MOIG	**Morelia**	**9.19**	**296**	*i* P		**P**	**20 42 47.3**	**+2.3**
DWPF	**Disney**	**15.95**	**38**	P		**P**	**20 44 06.5**	**-3.9**
	59nm,1.2s							
LTX	**Lajitas**	**16.99**	**324**	*e*P		**P**	**20 44 24.1**	**+1.5**
	6.1nm,0.8s							
TXAR	**Lajitas Array**	**16.99**	**324**	P		**P**	**20 44 23.9**	**+1.3**
	1.0nm,0.3s,baz=153,slow=11,SNR=11							
MIAR	**Mount Ida**	**18.71**	**357**	*e*P		**P**	**20 44 44.8**	**+4.1**
	12nm,0.9s							
MIAR				*e*			20 44 54.6	
GDL2	**Guadalupe Moun**	**19.61**	**329**	*e*P		**P**	**20 44 51.5**	**+1.5**
GDL2				*e*			20 44 56.8	
WMOK	**Wichita Mounta**	**19.71**	**344**	*e*P		**P**	**20 44 51.3**	**+0.2**
	6.8nm,1.0s							
WVT	**Waverly**	**20.68**	**11**	*e*P		**P**	**20 44 51.8**	**-8.9**
OTAV	**Otavalo**	**20.73**	**137**	*e*P		**P**	**20 45 07.7**	**+6.4**
	10nm,1.1s							
SDV	**Santo Domingo**	**22.37**	**105**	P		**P**	**20 45 15.9**	**-1.5**
	6.3nm,0.8s,mb4.2							
SJG	**San Juan**	**25.25**	**81**	P		**P**	**20 45 44.1**	**-0.6**
	4.6nm,0.3s,mb4.6,baz=345,slow=22,SNR=2.3							
SJG	**San Juan**	**25.25**	**81**	P		**P**	**20 45 44.1**	**-0.6**
PV10	**Paradox Valley**	**26.83**	**330**	P		**P**	**20 46 08.8**	**+10**
NVAR	**Mina Arroyo Bea**	**32.03**	**320**	P		**P**	**20 46 45.9**	**+1.0**
	2.2nm,0.9s,mb3.7,baz=149,slow=8.1,SNR=9.1							
NVAR				pP		pP	20 47 28.2	+0.8
	0.8nm,0.7s,baz=129,slow=10,SNR=4.1							
NVAR				sP		sP	20 47 53.9	+2.5
	0.6nm,0.8s,baz=129,slow=9.2,SNR=3.3							
NVAR	**Mina Arroyo Bea**	**32.03**	**320**	P		**P**	**20 46 45.9**	**+1.0**
NVAR				pP		pP	20 47 28.2	+0.8
NVAR				sP		sP	20 47 53.9	+2.5
SAML	**Samuel**	**38.00**	**128**	*e*P		**P**	**20 47 34.0**	**-1.6**
	2.8nm,0.6s,mb4.0							
LPAZ	**La Paz**	**39.89**	**142**	P		**P**	**20 47 53.6**	**+2.5**
	3.9nm,0.3s,mb4.2,baz=330,slow=6.2,SNR=9.8							
YKA	**Yellowknife Ar**	**49.20**	**347**	P		**P**	**20 49 03.8**	**-0.6**
	1.1nm,0.7s,mb3.3,baz=134,slow=9.1,SNR=4.4							
BDFB	**Brasilia**	**53.85**	**123**	P		**P**	**20 49 39.1**	**-0.6**
	2.6nm,0.4s,mb4.1,baz=36,slow=0.5,SNR=3.1							
CPUP	**Villa Florida**	**54.02**	**140**	P		**P**	**20 49 40.1**	**-0.8**
	2.7nm,0.9s,mb3.8,baz=348,slow=7.9,SNR=5.6							
CPUP				pP		pP	20 50 26.8	-0.5
	0.6nm,0.5s,baz=333,slow=4.5,SNR=2.7							
CPUP	**Villa Florida**	**54.02**	**140**	P		**P**	**20 49 40.1**	**-0.8**
CPUP				pP		pP	20 50 26.8	-0.5
ILAR	**Eielson Array**	**61.04**	**337**	pP		pP	20 51 15.5	-1.4
	0.6nm,1.0s,baz=121,slow=5.3,SNR=3.9							
MAW	**Mawson**	**125.80**	**169**	PKP		PKPdf	20 59 14.7	+2.4
	1.6nm,1.1s,baz=315,slow=16,SNR=4.2							
WRA	**Warramunga Arr**	**135.38**	**257**	PKP		PKPdf	20 59 35.3	+3.6
	0.4nm,0.8s,baz=86,slow=2.0,SNR=4.6							
WRA	**Warramunga Arr**	**135.38**	**257**	PKP		PKPdf	20 59 35.3	+3.6

*IDC **21** 20:48:18.1±6.1,31.26S×179.97W,h456km±73km,mb3.2/4, mb1 3.4/5,mb1mx3.2/14,Error ellipse: s-maj=73.1km s-min=33.1km az=13.0*
*NEIC **21** 20:48:28.8±1.1,30.75S×179.39E,h550km,mb3.9/4,Error ellipse: s-maj=38.5km s-min=15.8km az=214.0*

ISC 21 20:48:15.8±2.7,31.0S±0.2×179.6E±0.2,h405km±20km, n20,σ0§94/22,mb3.6/6,1C,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**6.68**	**189**	P	**P**	**20 49 57.4**	**+0.5**
MXZ				S	**S**	**20 51 16.3**	**-0.2**
PUZ	**Puketiti**	**7.19**	**189**	P	**P**	**20 50 01.9**	**-0.7**
PUZ				S	**S**	**20 51 24.8**	**-2.0**
URZ	**Urewera**	**7.58**	**195**	P	**P**	**20 50 07.1**	**+0.1**
	9.6nm,0.3s,baz=312,slow=3.4,SNR=34						
URZ				S	**S**	**20 51 36.0**	**+1.4**
	5.2nm,0.3s,baz=270,slow=23,SNR=16						
URZ	**Urewera**	**7.58**	**195**	P	**P**	**20 50 07.6**	**+0.6**
KNZ	**Kokohu**	**8.21**	**191**	P	**P**	**20 50 15.0**	**+0.9**
BKZ	**Black Stump Fm**	**8.59**	**196**	P	**P**	**20 50 18.1**	**-0.4**
CTA	**Charters Tower**	**31.88**	**282**	*e*P	**P**	**20 54 08.7**	**+1.7**
	1.7nm,0.7s,mb3.5						
CTA	**Charters Tower**	**31.88**	**282**	P	**P**	**20 54 08.6**	**+1.6**
	1.7nm,0.3s,mb3.8,baz=118,slow=9.6,SNR=6.7						
CTAO	**Charters Tower**	**31.88**	**282**	*e*P	**P**	**20 54 08.5**	**+1.5**
	2.7nm,0.7s,mb3.7						
STKA	**Stephens Creek**	**32.35**	**258**	P	**P**	**20 54 12.3**	**+1.4**
	0.7nm,0.4s,mb3.3,baz=108,slow=13,SNR=5.2						
STKA	**Stephens Creek**	**32.35**	**258**	P	**P**	**20 54 12.3**	**+1.4**
ASAR	**Alice Springs**	**41.03**	**269**	P	**P**	**20 55 22.6**	**-0.4**
	0.6nm,0.3s,mb3.4,baz=106,slow=7.4,SNR=13						
WB2	**Warramunga Arr**	**42.06**	**274**	*e*P	**P**	**20 55 30.7**	**-0.7**
WRAB	**Tennant Creek**	**42.07**	**274**	*e*P	**P**	**20 55 30.6**	**-0.8**
	6.4nm,1.0s,mb3.9						
WRA	**Warramunga Arr**	**42.08**	**274**	P	**P**	**20 55 30.8**	**-0.7**
	1.3nm,0.3s,mb3.7,baz=111,slow=8.0,SNR=92						
FITZ	**Fitzroy Crossi**	**50.31**	**272**	*e*P	**P**	**20 56 34.6**	**-0.7**
	2.5nm,1.6s,mb3.3						
SNAA	**Sanae**	**77.65**	**179⇑**	*i*	**P**	**20 59 30.1**	**+0.7**
VNA3	**Neumayer Olymp**	**77.88**	**177**		**P**	**20 59 29.6**	**-1.0**
VNA2	**Neumayer--Watz**	**78.29**	**178**		**P**	**20 59 33.5**	**+0.7**
FINES	**FINESS Array B**	**144.92**	**338**	PKPbc	PKPbc	21 07 02.4	-2.6
	1.1nm,0.4s,baz=53,slow=4.5,SNR=15						

*NAO **21** 21:01:17.2±2.8,76.93N×19.75E,h20km±33km,ML2.5*
*BER **21** 21:01:20.3±3.7,77.04N×19.64E,h23km±27km,MD2.5, ML2.2,ML2.5(NAO)*

ISC 21 21:01:15.7±1.1,76.92N±0.05×19.3E±0.3,h10km,n4, σ1§02/8,Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSP	**Hornsund**	**0.84**	**278**	*e*Pg	**Pg**	**21 01 33.4**	**+0.8**
HSP				*e*Sg	**Sg**	**21 01 43.2**	**-0.7**
SPA0	**Spitsbergen Ar**	**1.41**	**335**	Pn	**Pn**	**21 01 42.5**	**+0.9**
	baz=148,slow=18						
SPA0				Pg	**Pg**	**21 01 43.6**	**-0.3**
	baz=145,slow=22						
SPA0				Lg		21 02 01.6	
	baz=159,slow=37						
BJO	**Bjornoya**	**2.43**	**180**	*e*	**Pg**	**21 02 04.8**	**+0.6**
BJO				*e*Sg	**Sg**	**21 02 37.1**	**+0.6**
BJO				AML	AML	21 02 42.5	
	comp=Z,25nm,0.6s						
ARA0	**ARCESS Array S**	**7.63**	**163**	Pn	**Pn**	**21 03 07.4**	**-2.3**
	baz=1.6,slow=11						
ARA0				Sn	**Sn**	**21 04 27.6**	**-10**
	baz=1.1,slow=18						

IDC 21 21:07:52.1±5.5,30.69S×177.99W,mb3.9/3,mb1 4.1/3, mb1mx3.8/13,Error ellipse: s-maj=208.0km s-min=53.5km az=151.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.42**	**257**	P	P	21 14 41.2	-2.1
	2.3nm,1.1s,baz=119,slow=13,SNR=2.3						
ASAR	**Alice Springs**	**43.10**	**267**	P	P	21 15 54.5	-1.4
	0.9nm,0.8s,baz=105,slow=7.7,SNR=7.2						
WB2	**Warramunga Arr**	**44.10**	**272**	*e*P	P	21 16 02.0	-2.0
WRA	**Warramunga Arr**	**44.12**	**272**	P	P	21 16 02.1	-2.0
	1.5nm,0.7s,baz=112,slow=8.0,SNR=24						
FINES	**FINESS Array B**	**145.42**	**340**	PKPbc	PKPbc	21 27 30.5	-1.3
	2.3nm,0.9s,baz=45,slow=2.0,SNR=4.6						

*LDG **21** 21:46:21.5±2.2,42.82N×1.55W,h2km,Md2.1/2,Ml2.3/1, Error ellipse: s-maj=40.2km s-min=25.1km az=55.0*
*CSEM **21** 21:46:23.6±0.2,42.87N×1.39W,h2km,ML2.3/1,Error ellipse: s-maj=4.3km s-min=3.5km az=122.0*
*MDD **21** 21:46:23.8±0.5,42.86N×1.40W,h2km±11km,mbLg1.3/4, Error ellipse: s-maj=3.9km s-min=2.2km az=44.0,PRXIMO AftershockPLICA*

ISC 21 21:46:21.8±0.7,42.81N±0.05×1.45W±0.05,h1km±9km,n13, σ0§73/19,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.35**	**28**	*e*Pg	**Pg**	**21 46 29.2**	**+0.4**
SJPF				*e*Sg	**Sg**	**21 46 31.7**	**-1.7**
	12nm,0.2s						
LARF	**Larrau**	**0.41**	**55**	P	**Pg**	**21 46 30.5**	**+0.5**
LARF				S	**Sg**	**21 46 36.1**	**+0.6**
EALK	**Alkurruntz**	**0.41**	**354**	Pg	**Pg**	**21 46 30.6**	**+0.5**
	3.3nm,0.4s,SNR=16						
EALK				Lg		21 46 36.0	
	12nm,0.3s,SNR=21						
ETSF	**Etsaut**	**0.66**	**82**	*e*Pg	**Pg**	**21 46 34.2**	**-0.8**
ETSF				*e*Sg	**Sg**	**21 46 44.0**	**+0.2**
	7.6nm,0.3s						
EBIE	**Bielsa**	**1.18**	**95**	Pg	**Pg**	**21 46 45.9**	**+0.5**
	1.1nm,0.1s,SNR=7.9						
EBIE				Lg		21 47 01.5	
	1.9nm,0.3s,SNR=7.9						
EBIE	**Bielsa**	**1.18**	**95**	Pg	**Pg**	**21 46 45.9**	**+0.5**
	1.1nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**1.30**	**146**	Pg	**Pg**	**21 46 46.9**	**-1.0**
	5.0nm,0.2s,SNR=4.0						
ESAC				Lg		21 47 05.1	
	10nm,0.5s,SNR=4.0						
ESAC	**San Caprasio**	**1.30**	**146**	Pg	**Pg**	**21 46 46.9**	**-1.0**
	5.0nm,0.2s,SNR=4.0						
EPF	**Esparros**	**1.33**	**80**	*e*Pg	**Pg**	**21 46 47.7**	**-0.7**
EPF				*e*Sg	**Sg**	**21 47 07.5**	**+1.3**
	4.5nm,0.2s						
ELAN	**Lanestosa**	**1.52**	**287**	Pg	**Pg**	**21 46 52.3**	**+0.2**
	0.6nm,0.3s,SNR=7.9						
ELAN				Lg		21 47 13.2	
	0.8nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**1.52**	**287**	Pg	**Pg**	**21 46 52.3**	**+0.2**
	0.6nm,0.3s,SNR=7.9						
ETOR	**Torete**	**2.04**	**193**	Pn	**Pn**	**21 46 58.2**	**+0.6**
	SNR=4.0						
ETOR				Pg	**Pg**	**21 47 02.3**	**-0.2**
	0.9nm,0.2s,SNR=7.9						
ETOR				Sn	**Sn**	**21 47 24.2**	**+0.2**
	SNR=7.9						
ETOR				Lg		21 47 30.1	
	2.1nm,0.6s,SNR=7.9						
EPOB	**Poblet**	**2.38**	**127**	Sn	**Sn**	**21 47 32.0**	**-0.6**
	2.3nm,0.7s,SNR=7.9						

*ISK **21** 21:46:43.5,36.87N×37.04E,h9km,MD3.4*
*CSEM **21** 21:46:44.0±0.1,36.93N×37.01E,h10km,MD3.4,Error ellipse: s-maj=4.0km s-min=1.9km az=144.0*
*NSSC **21** 21:46:53.4,36.42N×36.85E,h12km±5km*

ISC 21 21:46:43.6±0.6,36.80N±0.03×37.09E±0.05,h9km±5km, n21,σ1§33/33,1C-4D,Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.39**	**15**	*i* PG	**Pg**	**21 46 50.4**	**-1.0**
GAZ				*i* SG	**Sg**	**21 46 55.9**	**-0.8**
GZT	**Gaziantep**	**0.67**	**34⇑**	*i*P	**Pg**	**21 46 56.4**	**-0.8**
GZT				*i* S	**Sg**	**21 47 07.5**	**+1.3**
COBT	**Iskenderun**	**0.72**	**248**	*i* P	**Pb**	**21 46 58.5**	**+0.6**
COBT				*i* S	**Sg**	**21 47 10.3**	**+2.4**
KAHT	**Ahir Dag**	**0.85**	**348**	*i* P	**Pb**	**21 46 59.6**	**-0.4**
KAHT				*i* S	**Sb**	**21 47 13.5**	**+2.3**
HTY	**Hatay**	**1.02**	**229**	PG	**Pg**	**21 47 04.1**	**+0.1**
CEYT	**Ceyhan**	**1.09**	**281**	PG	**Pg**	**21 47 03.8**	**-1.7**
WRDH	**Warideh**	**1.40**	**203**	⇑P	**Pn**	**21 47 11.6**	**+2.2**
WRDH				⇑S	**Sb**	**21 47 26.2**	**-1.0**
WRDH	**Warideh**	**1.40**	**203**	⇑*i*P	**Pn**	**21 47 11.6**	**+2.3**
KFRA	**Kufra**	**1.60**	**188**	⇑P	**Pn**	**21 47 15.4**	**+3.2**
KFRA				⇓S	**Sb**	**21 47 32.8**	**-0.3**
KFRA	**Kufra**	**1.60**	**188**	⇑*i*P	**Pn**	**21 47 15.4**	**+3.2**
KFRA				⇓*i*S	**Sb**	**21 47 32.8**	**-0.3**
MALT	**Malatya**	**1.85**	**35**	*e*PN	**Pn**	**21 47 15.5**	**-0.2**
MALT				*e*SN	**Sn**	**21 47 39.2**	**-0.2**
MYA	**Malataya**	**1.86**	**34**	*e*PN	**Pn**	**21 47 16.0**	**+0.1**
BIDA	**Albida**	**1.89**	**199**	⇑P	**Pn**	**21 47 19.3**	**+3.0**
BIDA				⇓S	**Sn**	**21 47 38.9**	**-1.5**
BIDA	**Albida**	**1.89**	**199**	⇑*i*P	**Pn**	**21 47 19.3**	**+3.0**
BIDA				⇓*i*S	**Sn**	**21 47 38.9**	**-1.5**
ELZG	**Elazig**	**2.27**	**41**	*i* P	**Pn**	**21 47 25.4**	**+3.7**
ELZG				*i* S	**Sn**	**21 47 55.5**	**+5.5**
BNN	**Bunyan**	**2.27**	**335**	*e*PN	**Pn**	**21 47 21.1**	**-0.7**
NIG	**Nigde**	**2.37**	**304**	*e*PN	**Pn**	**21 47 22.5**	**-0.7**
PTK	**Pertek**	**2.77**	**40**	*e*PN	**Pn**	**21 47 29.0**	**0.0**
IKL	**Isikli**	**2.80**	**259**	*e*PN	**Pn**	**21 47 29.4**	**+0.1**
BEST	**Besiri**	**3.51**	**71**	*i* P	**Pg**	**21 47 52.3**	**-1.2**
BEST				*i* S	**Sg**	**21 48 42.7**	**+2.3**
BTMT	**Batman**	**3.77**	**67**	*e*PN	**Pn**	**21 47 41.1**	**-2.0**

IDC 21 21:56:11.5±53.0,17.10S×179.36W,mb3.9/3,mb1 4.1/3, mb1mx3.7/14,Error ellipse: s-maj=960.0km s-min=152.4km az=78.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.24**	**240**	P	P	22 03 33.8	-1.3
	0.6nm,0.4s,baz=90,slow=11,SNR=4.0						
WB2	**Warramunga Arr**	**43.88**	**259**	*e*P	P	22 04 19.9	-1.8
WRA	**Warramunga Arr**	**43.89**	**259**	P	P	22 04 20.2	-1.6
	0.4nm,0.3s,baz=94,slow=7.4,SNR=26						
ASAR	**Alice Springs**	**44.15**	**253**	P	P	22 04 21.7	-2.1
	2.4nm,0.8s,baz=88,slow=8.9,SNR=18						

IDC 21 22:47:46.1±9.6,1.96N×126.95E,mb3.8/3,mb1 4.0/4, mb1mx3.6/16,ML3.9/1,Error ellipse: s-maj=151.0km s-min=103.9km az=146.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**15.53**	**160**	*e*P	P	22 51 38.5	+10
	4.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**19.97**	**184**	*e*P	P	22 52 21.6	-1.4
	4.3nm,1.8s						
FITZ	**Fitzroy Crossi**	**19.97**	**184**	P	P	22 52 20.6	-2.4
	0.3nm,0.3s,baz=9.5,slow=12,SNR=5.3						
WRA	**Warramunga Arr**	**22.94**	**162**	P	P	22 52 51.4	-1.8
	1.4nm,0.3s,baz=339,slow=11,SNR=35						
WB2	**Warramunga Arr**	**22.94**	**162**	*e*P	P	22 52 51.1	-2.1
WB2				*e*		22 52 58.5	
ASAR	**Alice Springs**	**26.35**	**166**	P	P	22 53 26.0	+0.2
	0.5nm,0.4s,baz=343,slow=11,SNR=3.4						
STKA	**Stephens Creek**	**36.40**	**159**	P	P	22 54 50.9	-3.5
	0.6nm,0.5s,baz=354,slow=9.2,SNR=2.9						

*IDC **21** 22:48:17.9±12.0,22.08S×176.40W,h74km±95km,mb4.1/8, mb1 4.2/9,mb1mx3.9/18,ML4.5/1,Error ellipse: s-maj=59.7km s-min=26.2km az=53.0*
*NEIC **21** 22:48:19.4±6.8,22.00S×176.44W,h87km±53km,mb4.7/5, Error ellipse: s-maj=44.1km s-min=18.6km az=224.0*

ISC 21 22:48:22.9±5.1,22.2S±0.1×176.9W±0.3,h109km±45km, n17,σ0§71/16,mb4.4/10,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**16.86**	**197**	P	**P**	**22 52 13.0**	**-0.4**
	1.5nm,0.3s,baz=342,slow=3.4,SNR=8.1						
URZ				S	**S**	**22 55 15.9**	**0.0**
	0.8nm,0.3s,baz=0.2,slow=21,SNR=6.5						
RPZ	**Rata Peaks**	**23.71**	**202**	P	**P**	**22 53 25.9**	**+0.3**
	7.1nm,0.5s,mb4.2,baz=34,slow=11,SNR=3.8						
CTA	**Charters Tower**	**34.43**	**267**	P	**P**	**22 55 02.9**	**+0.9**
	4.2nm,0.4s,mb4.6,baz=96,slow=11,SNR=18						
CTAO	**Charters Tower**	**34.43**	**267**	*e*P	**P**	**22 55 03.1**	**+1.1**
	5.6nm,0.5s,mb4.7						
PMG	**Port Moresby**	**36.78**	**284**	P	**P**	**22 55 22.8**	**+0.9**
	3.9nm,0.5s,mb4.6,baz=96,slow=9.1,SNR=2.9						
PMG	**Port Moresby**	**36.78**	**284**	*e*P	**P**	**22 55 22.5**	**+0.6**
	7.4nm,0.6s,mb4.8						
STKA	**Stephens Creek**	**38.07**	**246**	P	**P**	**22 55 33.6**	**+1.2**
	3.4nm,0.5s,mb4.5,baz=95,slow=12,SNR=12						
ASAR	**Alice Springs**	**45.21**	**258**	P	**P**	**22 56 30.8**	**-0.1**
	3.8nm,0.5s,mb4.4,baz=93,slow=8.1,SNR=46						
ASAR				PcP	PcP	22 58 07.0	-2.8
	0.7nm,0.6s,baz=111,slow=3.8,SNR=4.8						
WB2	**Warramunga Arr**	**45.44**	**263**	*e*P	**P**	**22 56 32.3**	**-0.6**
WRAB	**Tennant Creek**	**45.45**	**263**	*e*P	**P**	**22 56 33.1**	**+0.2**
	4.7nm,0.6s,mb4.4						
WRA	**Warramunga Arr**	**45.46**	**263**	P	**P**	**22 56 32.1**	**-0.8**
	1.7nm,0.3s,mb4.2,baz=99,slow=7.8,SNR=36						
FITZ	**Fitzroy Crossi**	**53.89**	**263**	*e*P	**P**	**22 57 36.5**	**-0.9**
	1.9nm,0.6s,mb4.3						
FITZ	**Fitzroy Crossi**	**53.89**	**263**	P	**P**	**22 57 36.6**	**-0.8**
	2.1nm,0.5s,mb4.4,baz=110,slow=5.2,SNR=8.7						
MBWA	**Marble Bar**	**58.55**	**258**	*e*P	**P**	**22 58 09.4**	**-1.2**
	16nm,1.1s,mb5.0						
MAW	**Mawson**	**80.36**	**200**	P	**P**	**23 00 23.6**	**+0.4**
	0.9nm,0.5s,mb3.9,baz=126,slow=8.7,SNR=6.4						
ARCES	**ARCESS Array B**	**130.75**	**350**	PKP	PKPdf	23 07 19.1	-1.6
	2.2nm,0.9s,baz=45,slow=3.8,SNR=4.7						
AKASG	**Malin Array Be**	**144.99**	**331**	PKPbc	PKPbc	23 07 43.7	-3.6
	0.6nm,0.3s,baz=43,slow=4.2,SNR=4.1						

WEL 21 22:58:09.5±0.5,36.38S×178.05E,h81km±3km,ML3.5/1, Error ellipse: s-maj=6.2km s-min=3.0km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.21**	**170**	P*	P	22 58 31.2	-0.1
MXZ				S*	S	22 58 47.4	-0.4
MWZ	**Matawai**	**2.00**	**192**	PN	P	22 58 41.5	-0.5
MWZ				SN	S	22 59 06.1	+0.2
URZ	**Urewera**	**2.03**	**201**	PN	P	22 58 41.9	-0.4
URZ				SN	S	22 59 06.3	-0.2

IDC 21 23:03:29.4±9.6,16.87S×170.04E,mb3.8/4,mb1 4.0/4, mb1mx3.7/14,MS3.5/1,Ms1 3.4/1,ms1mx2.8/16,Error ellipse: s-maj=279.0km s-min=44.1km az=135.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**22.78**	**258**	P	P	23 08 33.8	-1.2
	2.8nm,0.7s,baz=67,slow=13,SNR=6.1						
STKA	**Stephens Creek**	**29.79**	**235**	LR	LR	23 20 38.9	
	comp=Z,55nm,21.1s,baz=26,slow=35						
WB2	**Warramunga Arr**	**33.96**	**259**	*e*P	P	23 10 15.1	-1.8
WRA	**Warramunga Arr**	**33.98**	**259**	P	P	23 10 14.1	-2.9
	0.6nm,0.5s,baz=80,slow=9.1,SNR=9.0						
ASAR	**Alice Springs**	**34.50**	**253**	P	P	23 10 20.4	-1.1
	0.4nm,0.4s,baz=85,slow=8.7,SNR=9.0						
FITZ	**Fitzroy Crossi**	**42.29**	**261**	*e*P	P	23 11 22.9	-3.9
	1.5nm,0.9s						
SONM	**Songino Array**	**85.80**	**323**	P	P	23 16 10.9	-1.1
	1.4nm,0.8s,baz=135,slow=4.1,SNR=10						

*ISK **21** 23:14:54.7,38.71N×25.95E,h12km,MD3.6*
*ATH **21** 23:14:55.9,38.70N×26.09E,h29km±2km,MD3.7/18, ML3.8*
*NEIC **21** 23:14:55.9,38.70N×26.09E,h29km,ML3.8(ATH), ML3.8(ISK),After ATH.*
*THE **21** 23:14:56.8,38.67N×26.14E,h14km,ML3.5*
*CSEM **21** 23:14:57.8±0.1,38.72N×26.11E,h40km,ML3.8,Error ellipse: s-maj=1.6km s-min=1.2km az=9.0*

ISC 21 23:14:56.7±0.4,38.69N±0.02×26.02E±0.02,h22km±5km, n117,σ0§80/132,1C,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.59**	**20**	*e*PN	**Pn**	**23 15 07.7**	**-1.9**
AYVA	**Ayvalik**	**0.81**	**40**	*i* P	**Pb**	**23 15 11.3**	**-0.6**
AYVA				*i* S	**Sb**	**23 15 23.2**	**+0.8**
BLCB	**Balcova**	**0.86**	**111**	*i* PG	**Pb**	**23 15 12.7**	**-0.1**
BLCB				*i* SG	**Sb**	**23 15 25.9**	**+2.0**
IZM	**Izmir**	**1.02**	**106**	*i* PG	**Pb**	**23 15 15.9**	**+0.4**
IZM				*i* SG	**Sb**	**23 15 31.5**	**+3.0**
IZM	**Izmir**	**1.02**	**106**	Pg	**Pb**	**23 15 15.9**	**+0.4**
KDAG	**Bornova**	**1.02**	**106⇑**	*i*P	**Pb**	**23 15 15.7**	**+0.2**
KDAG				*i* S	**Sb**	**23 15 29.8**	**+1.3**
EZN	**Ezine**	**1.16**	**12**	*i* PN	**Pn**	**23 15 17.7**	**0.0**
EZN				*i* SN	**Sn**	**23 15 33.7**	**+0.8**
EZN	**Ezine**	**1.16**	**12**	Pn	**Pn**	**23 15 17.8**	**0.0**
EZN	**Ezine**	**1.16**	**12**	Pn	**Pn**	**23 15 17.8**	**+0.1**
EZN				*i* Sn	**Sn**	**23 15 33.7**	**+0.8**
SMG	**Samos**	**1.17**	**146**	*e*PN	**Pn**	**23 15 17.9**	**-0.1**
LIA	**Limnos Island**	**1.37**	**332**	*e*PN	**Pn**	**23 15 21.5**	**+0.7**
AKS	**Akhisar**	**1.41**	**82**	PN	**Pn**	**23 15 21.4**	**0.0**
AKS	**Akhisar**	**1.41**	**82**	Pn	**Pn**	**23 15 21.4**	**0.0**
LOS	**Limnos**	**1.44**	**330**	*e*Pb	**Pb**	**23 15 22.7**	**0.0**
LOS				*e*Sb	**Sb**	**23 15 41.5**	**+0.9**
APE	**Apeiranthos**	**1.67**	**194**	PN	**Pn**	**23 15 24.3**	**-0.7**
APE	**Apeiranthos**	**1.67**	**194**	Pn	**Pn**	**23 15 24.4**	**-0.7**
APE	**Apeiranthos**	**1.67**	**194**	Pn	**Pn**	**23 15 24.4**	**-0.6**
APE	**Apeiranthos**	**1.67**	**194**	*e*Pb	**Pb**	**23

BADT	**Buyukada**	**3.22**	**47**	Pn	**Pn**	**23**	**15**	**47.1**	**0.0**
KARP	**Karpathos**	**3.27**	**163**	*e*PN	**Pn**	**23**	**15**	**47.2**	**-0.7**
EVR	**Evrytania**	**3.30**	**275**	*e*PN	**Pn**	**23**	**15**	**49.5**	**+1.2**
ISK	**Istanbul-Kandi**	**3.33**	**44**	*e*PN	**Pn**	**23**	**15**	**47.9**	**-0.8**
ISK	**Istanbul-Kandi**	**3.33**	**44**	Pn	**Pn**	**23**	**15**	**48.0**	**-0.8**
ISK	**Istanbul-Kandi**	**3.33**	**44**	Pn	**Pn**	**23**	**15**	**48.0**	**-0.7**
DIM	**Dimitrovgrad**	**3.37**	**354**	P	**Pn**	**23**	**15**	**49.0**	**-0.4**
KYTH	**Kithira**	**3.38**	**226**	*e*PN	**Pn**	**23**	**15**	**50.0**	**+0.5**
MMB	**Musomiste**	**3.38**	**329**	P	**Pn**	**23**	**15**	**49.0**	**-0.5**
NPS	**Neapolis**	**3.44**	**186**	*e*PN	**Pn**	**23**	**15**	**49.5**	**-0.8**
KNT	**Kendrikon**	**3.44**	**317**	*e*Pn	**Pn**	**23**	**15**	**50.6**	**+0.2**
KNT				*e*Sn	**Sn**	**23**	**16**	**32.2**	**+1.3**
HRT	**Hereke**	**3.53**	**52**	*e*PN	**Pn**	**23**	**15**	**51.8**	**+0.3**
HRT	**Hereke**	**3.53**	**52**	Pn	**Pn**	**23**	**15**	**51.9**	**+0.3**
PLD	**Plovdiv**	**3.55**	**344**	P	**Pn**	**23**	**15**	**52.5**	**+0.6**
ITM	**Ithomi**	**3.57**	**246**	*e*PN	**Pn**	**23**	**15**	**53.2**	**+1.0**
GRG	**Griva**	**3.59**	**310**	*e*PN	**Pn**	**23**	**15**	**53.2**	**+0.8**
VAM	**Vamos**	**3.59**	**204**	*e*PN	**Pn**	**23**	**15**	**53.3**	**+0.9**
ISP	**Isparta**	**3.63**	**102**	*e*PN	**Pn**	**23**	**15**	**53.5**	**+0.4**
ISP	**Isparta**	**3.63**	**102**	Pn	**Pn**	**23**	**15**	**53.5**	**+0.5**
ELL	**Elmali**	**3.64**	**121**	*e*PN	**Pn**	**23**	**15**	**53.4**	**+0.2**
ELL	**Elmali**	**3.64**	**121**	Pn	**Pn**	**23**	**15**	**53.4**	**+0.2**
JMB	**Yambol**	**3.79**	**6**	P	**Pn**	**23**	**15**	**54.5**	**-0.9**
ESKT	**Eskisehir**	**3.85**	**76**	*e*PN	**Pn**	**23**	**15**	**56.2**	**+0.1**
ESKT	**Eskisehir**	**3.85**	**76**	Pn	**Pn**	**23**	**15**	**56.2**	**+0.1**
KKB	**Krupnik**	**3.88**	**326**	P	**Pn**	**23**	**15**	**57.0**	**+0.4**
PGB	**Panagyurishte**	**4.10**	**340**	P	**Pn**	**23**	**15**	**59.0**	**-0.7**
FNA	**Florina**	**4.14**	**302**	*e*Pn	**Pn**	**23**	**16**	**00.7**	**+0.4**
MDU	**Mudurnu**	**4.39**	**65**	*e*PN	**Pn**	**23**	**16**	**04.3**	**+0.5**
MDU	**Mudurnu**	**4.39**	**65**	Pn	**Pn**	**23**	**16**	**04.4**	**+0.6**
VTS	**Vitosha**	**4.44**	**332**	P	**Pn**	**23**	**16**	**05.5**	**+0.9**
PVL	**Pavlikeni**	**4.55**	**354**	*i* P	**Pn**	**23**	**16**	**04.5**	**-1.6**
SZH	**Strazhica**	**4.57**	**359**	*i* P	**Pn**	**23**	**16**	**05.5**	**-0.9**
KIZT	**Kizilcal**	**4.58**	**86**	*e*PN	**Pn**	**23**	**16**	**06.6**	**0.0**
KIZT	**Kizilcal**	**4.58**	**86**	Pn	**Pn**	**23**	**16**	**06.7**	**+0.1**
PSN	**Preselentsi**	**5.25**	**17**	*i* P	**Pn**	**23**	**16**	**14.0**	**-1.9**
KAMT	**Kaman**	**6.03**	**81**	*e*PN	**Pn**	**23**	**16**	**26.7**	**-0.3**

*CSEM **21** 23:16:59.8±0.1,30.64N×35.51E,h20km,ML2.1,Error ellipse: s-maj=1.7km s-min=1.1km az=110.0*
*SNSN **21** 23:17:00.7,30.78N×35.20E,h68km,Ml2.2*
*GII **21** 23:17:01.7±0.4,30.62N×35.35E,h15km±4km,ML2.1/4*

ISC 21 23:17:01.0±0.5,**30.64N**±0.02×**35.37E**±0.04,**h15**km,**n23,**
σ0§**90**/31,**1D,Dead Sea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZFRI	**Zfri**	**0.19**	**243**	Pg	**Pg**	**23 17 06.7**	**+1.2**
ZFRI	**Zfri**	**0.19**	**243**	⇑Pg	**Pg**	**23 17 06.7**	**+1.1**
PRNI	**Paran**	**0.42**	**228**	Pg	**Pg**	**23 17 10.4**	**+0.5**
PRNI				Sg	**Sg**	**23 17 16.8**	**+1.0**
PRNI	**Paran**	**0.42**	**228**	⇑Pg	**Pg**	**23 17 10.4**	**+0.5**
PRNI				Sg	**Sg**	**23 17 16.8**	**+1.0**
MASH	**Mash'abbe Sade**	**0.62**	**305**	Pg	**Pg**	**23 17 13.8**	**+0.2**
MASH	**Mash'abbe Sade**	**0.62**	**305**	⇓Pg	**Pg**	**23 17 13.9**	**+0.3**
MZDA	**Masada**	**0.67**	**359**	Pg	**Pg**	**23 17 15.0**	**+0.4**
MZDA				Sg	**Sg**	**23 17 24.5**	**+0.7**
RTMM	**Retamin**	**0.72**	**305**	Pg	**Pg**	**23 17 15.6**	**0.0**
KMTI	**Karmit**	**0.77**	**227**	Pg	**Pg**	**23 17 15.9**	**-0.7**
KMTI				Sg	**Sg**	**23 17 26.1**	**-1.0**
KZIT	**Kziot**	**0.88**	**288**	Pg	**Pg**	**23 17 18.3**	**-0.5**
KZIT				Sg	**Sg**	**23 17 30.1**	**-0.5**
MBH	**Mount Berech**	**0.93**	**205**	Pg	**Pg**	**23 17 18.6**	**-1.1**
MBH	**Mount Berech**	**0.93**	**205**	⇑Pg	**Pg**	**23 17 18.7**	**-1.1**
AQBJ	**Aqaba**	**0.95**	**197**	Pg	**Pg**	**23 17 19.3**	**-0.8**
DRGI	**Dragot**	**0.95**	**1**	Pg	**Pg**	**23 17 20.0**	**-0.2**
DRGI	**Dragot**	**0.95**	**1**	⇑Pg	**Pg**	**23 17 20.0**	**-0.2**
BYRJ	**Bayer** SNR=78	**0.97**	**90**	*e*P	**Pb**	**23 17 17.5**	**-1.5**
EIL	**Elat**	**1.03**	**201**	Pg	**Pg**	**23 17 20.7**	**-1.0**
ALWS	**Ilw as Safayha**	**1.35**	**191**	P	**Pn**	**23 17 25.5**	**+0.1**
ALWS				S	**Sb**	**23 17 43.9**	**+1.5**
JMOS	**Jabal al Moall**	**1.48**	**189**	P	**Pn**	**23 17 27.0**	**-0.3**
JMOS				S	**Sb**	**23 17 47.5**	**+1.3**
SLTI	**Sal'it**	**1.62**	**350**	Sn	**Sn**	**23 17 50.9**	**+0.9**
HAQS	**Haql**	**1.62**	**194**	P	**Pn**	**23 17 29.0**	**-0.3**
JMQS	**Jabal Moqyreh**	**1.80**	**166**	P	**Pn**	**23 17 31.6**	**-0.3**
JMQS				S	**Sn**	**23 17 56.4**	**+1.9**
TAYS	**Tayyib Ism**	**2.12**	**192**	P	**Pn**	**23 17 35.3**	**-1.2**

*UAV **21** 23:30:21.8,9.40N×69.95W,h2km*
*FUNV **21** 23:30:22.8,9.39N×69.91W,h0km,MW2.6*

ISC 21 23:30:22.5±1.0,**9.36N**±0.03×**69.89W**±0.03,**h10**km±6km,
n15,σ1§**08**/26,**Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORV	**Torococo**	**0.40**	**300**	P	**Pg**	**23 30 30.4**	**-0.2**
TORV				S	**Sg**	**23 30 36.7**	**+0.7**
TEPV	**Terepaima**	**0.91**	**49**	*e*S	**Sb**	**23 30 52.5**	**+0.7**
EAV	**Pico El Aguila**	**1.05**	**242**	P	**Pb**	**23 30 41.0**	**-1.4**
EAV				S	**Sb**	**23 30 55.3**	**-0.7**
SIQV	**Siquisique**	**1.28**	**3**	*e*P	**Pb**	**23 30 45.6**	**-0.7**
SIQV				*e*S	**Sb**	**23 31 03.8**	**+1.1**
SOCV	**Socops**	**1.44**	**222**	*e*P	**Pn**	**23 30 49.3**	**+0.6**
SOCV				*e*S	**Sb**	**23 31 09.8**	**+2.6**
UAV	**Universidad de**	**1.45**	**239**	P	**Pn**	**23 30 48.5**	**-0.4**
UAV				S	**Sb**	**23 31 07.7**	**+0.2**
VIGV	**El Vigia**	**1.55**	**251**	*e*P	**Pn**	**23 30 50.3**	**0.0**
VIGV				*e*S	**Sb**	**23 31 12.2**	**+1.8**
DABV	**Dabajuro**	**1.72**	**335**	*e*P	**Pn**	**23 30 53.0**	**+0.3**
DABV				*e*S	**Sn**	**23 31 15.6**	**+0.6**
BAUV	**El Baul**	**1.87**	**103**	*e*P	**Pn**	**23 30 56.1**	**+1.2**
BAUV				*e*S	**Sn**	**23 31 20.7**	**+2.1**
TURV	**Turiamo**	**2.29**	**62**	*e*P	**Pn**	**23 31 01.2**	**+0.3**
TURV				*e*S	**Sn**	**23 31 29.9**	**+0.5**
MONV	**Montecano**	**2.58**	**358**	*e*P	**Pn**	**23 31 04.8**	**-0.3**
MONV				*e*S	**Sn**	**23 31 35.6**	**-1.3**
VIRV	**Villa del Rosa**	**2.73**	**295**	*e*S	**Sn**	**23 31 39.3**	**-1.3**
IMOV	**Isla Los Monje**	**3.14**	**342**	*e*P	**Pn**	**23 31 12.4**	**-0.7**
CAOV	**Caicara del Or**	**4.06**	**120**	*e*P	**Pn**	**23 31 25.1**	**-1.1**
CAOV				*e*S	**Sn**	**23 32 12.1**	**-2.3**
PAYV	**Puerto Ayacuch**	**4.50**	**150**	*e*P	**Pn**	**23 31 31.1**	**-1.2**

*PDG **21** 23:39:46.9±1.0,43.38N×17.82E,h11km±1km*
*NEIC **21** 23:39:46.9,43.38N×17.82E,h11km,MD2.9(PDG),After PDG.*
*CSEM **21** 23:39:46.1±0.1,43.48N×17.83E,h2km,ML2.8/7,Error ellipse: s-maj=3.2km s-min=2.4km az=42.0*
*ROM **21** 23:39:46.0±1.1,43.31N×18.24E,h10km,MD3.4/13, ML2.8/7,Error ellipse: s-maj=10.7km s-min=4.1km az=90.0*

ISC 21 23:39:47.3±0.2,**43.38N**±0.02×**17.83E**±0.02,**h10**km,**n65,**
σ1§**21**/93,**9C-9D,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.51**	**191**	*i* Pg	**Pg**	**23 39 55.8**	**-2.0**
STON				*i* Sg	**Sg**	**23 40 04.1**	**-0.6**
BRY	**Bratogost**	**0.71**	**132**	⇑*i*Pg	**Pg**	**23 39 59.7**	**-1.9**
BRY				*e*Sg	**Sg**	**23 40 11.4**	**+0.3**
TREB	**Trebinje**	**0.76**	**150**	Sg	**Sg**	**23 40 13.7**	**+0.8**
UPM	**Unac-Piva**	**0.81**	**102**	⇑*i*Pg	**Pg**	**23 40 02.1**	**-1.5**
UPM				*e*Sg	**Sg**	**23 40 15.6**	**+1.2**
NKY	**Niksic**	**1.03**	**123**	⇑*i*Pg	**Pg**	**23 40 05.7**	**-2.2**
NKY				*e*Sg	**Sg**	**23 40 22.6**	**+0.9**
NKY	**Niksic**	**1.03**	**123**	⇑*i*Pg	**Pg**	**23 40 05.7**	**-2.2**
NKY				*e*Sg	**Sg**	**23 40 22.5**	**+0.9**
HCY	**Herceg Novi**	**1.05**	**152**	⇓*i*Pg	**Pg**	**23 40 06.0**	**-2.4**
HCY				*e*Sg	**Sg**	**23 40 22.8**	**+0.4**
PLE	**Pljevlja**	**1.14**	**92**	⇑*i*Pg	**Pg**	**23 40 08.4**	**-1.9**
PLE				*e*Sg	**Sg**	**23 40 26.9**	**+1.4**
BUM	**Brajici-Budva**	**1.33**	**143**	*e*Pg	**Pg**	**23 40 12.1**	**-1.9**
BUM				*e*Sg	**Sg**	**23 40 32.6**	**+0.8**
NVSS	**Nova Varos 2**	**1.37**	**84**	⇓*i*Pg	**Pg**	**23 40 14.6**	**-0.1**
NVSS				Sg	**Sg**	**23 40 34.6**	**+1.5**
TTG	**Podgorica**	**1.42**	**131**	⇓*i*Pg	**Pg**	**23 40 13.2**	**-2.4**
TTG				*e*Sg	**Sg**	**23 40 35.8**	**+1.2**
BLY	**Banja Luka**	**1.45**	**342**	Pn	**Pn**	**23 40 13.8**	**+0.1**
IVA	**Berane**	**1.60**	**108**	*e*Pn	**Pn**	**23 40 16.9**	**+1.0**
IVA				*e*Sn	**Sn**	**23 40 41.9**	**+5.2**
DIVS	**Divcibare**	**1.73**	**65**	⇓*i*Pg	**Pg**	**23 40 17.9**	**-3.9**
DIVS				Sg	**Sg**	**23 40 44.3**	**-0.6**
PVY	**Plav**	**1.76**	**116**	*e*Pn	**Pn**	**23 40 19.5**	**+1.4**
PVY				*e*Sn	**Sn**	**23 40 45.6**	**+4.8**
ULC	**Ulcinj**	**1.76**	**143**	*e*Pn	**Pn**	**23 40 19.2**	**+1.1**
ULC				*e*Sn	**Sn**	**23 40 45.1**	**+4.3**
GRUS	**Gruza**	**2.16**	**75**	⇓*i*Pn	**Pn**	**23 40 24.1**	**+0.2**
GRUS				Sn	**Sn**	**23 40 51.5**	**+0.6**
BEO	**Belgrade**	**2.38**	**52**	⇓*i*Pn	**Pn**	**23 40 27.5**	**+0.4**
BEO				Sg	**Sg**	**23 41 06.8**	**+0.1**
QSH	**Qafa e Shtames**	**2.41**	**140**	*i* Sn	**Sn**	**23 41 04.6**	**+7.3**
NVLJ	**Novalja**	**2.44**	**300**	*i* Pn	**Pn**	**23 40 28.4**	**+0.4**
NVLJ				*i* Sn	**Sn**	**23 41 00.8**	**+2.6**
CDT	**Castel del Mon**	**2.57**	**207**	*e*Pn	**Pn**	**23 40 30.9**	**+1.2**
RHK1	**Bakonya**	**2.73**	**4**	*e*P	**Pn**	**23 40 30.7**	**-1.3**
PKSM	**Moragy**	**2.90**	**11**	⇑*e*P	**Pn**	**23 40 32.6**	**-1.8**
SKO	**Skopje**	**3.01**	**117**	*e*Pn	**Sn**	**23 41 16.3**	**+3.7**
CII	**Carovilli** 28nm,0.6s	**3.08**	**239**	*e*Pn	**Pn**	**23 40 36.4**	**-0.7**
CII	**Carovilli** 6.0nm,0.4s	**3.08**	**239**	*e*Pn	**Pn**	**23 40 36.4**	**-0.7**
CII	**Carovilli** 28nm,0.6s	**3.08**	**239**	*e*Pn	**Pn**	**23 40 36.4**	**-0.7**
MRLC	**Muro Lucano** 15nm,0.8s	**3.14**	**214**	*e*PN	**Pn**	**23 40 37.1**	**-0.8**
MRLC	**Muro Lucano** 15nm,0.8s	**3.14**	**214**	*e*Pn	**Pn**	**23 40 37.1**	**-0.8**
MRLC	**Muro Lucano** 15nm,0.8s	**3.14**	**214**	*e*Pn	**Pn**	**23 40 37.1**	**-0.8**
SGO	**Sicignano** 6.0nm,0.4s	**3.38**	**215**	*e*PN	**Pn**	**23 40 41.0**	**-0.3**
SGO	**Sicignano** 6.0nm,0.4s	**3.38**	**215**	*e*Pn	**Pn**	**23 40 41.0**	**-0.3**
SGO	**Sicignano** 6.0nm,0.4s	**3.38**	**215**	*e*Pn	**Pn**	**23 40 41.0**	**-0.3**
SDI	**San Donato** 37nm,0.6s	**3.40**	**242**	*e*PN	**Pn**	**23 40 41.4**	**-0.2**
SDI				SN	**Sn**	**23 41 25.0**	**+2.5**
SDI	**San Donato** 37nm,0.6s	**3.40**	**242**	*e*Pn	**Pn**	**23 40 41.4**	**-0.2**
SDI				*e*Sn	**Sn**	**23 41 25.0**	**+2.5**
SDI	**San Donato** 37nm,0.6s	**3.40**	**242**	*e*Pn	**Pn**	**23 40 41.4**	**-0.2**
NRCA	**Norcia** 9.0nm,0.7s	**3.49**	**263**	*e*Pn	**Pn**	**23 40 42.6**	**-0.3**
NRCA	**Norcia** 9.0nm,0.7s	**3.49**	**263**	*e*Pn	**Pn**	**23 40 42.6**	**-0.3**
NRCA	**Norcia** 9.0nm,0.7s	**3.49**	**263**	*e*Pn	**Pn**	**23 40 42.6**	**-0.3**
RFI	**Roccamonfina** RFI	**3.52**	**235**	*e*PN	**Pn**	**23 40 43.2**	**-0.1**
RFI	**Roccamonfina** RFI	**3.52**	**235**	*e*Pn	**Pn**	**23 40 43.2**	**-0.2**
RFI	**Roccamonfina** RFI	**3.52**	**235**	*e*Pn	**Pn**	**23 40 43.2**	**-0.2**
PTQR	**Pietraquaria** 12nm,0.7s	**3.53**	**249**	*e*PN	**Pn**	**23 40 43.9**	**+0.4**
PTQR	**Pietraquaria** 12nm,0.7s	**3.53**	**249**	*e*Pn	**Pn**	**23 40 43.9**	**+0.4**
PTQR	**Pietraquaria** 12nm,0.7s	**3.53**	**249**	*e*Pn	**Pn**	**23 40 43.9**	**+0.4**
MSC	**Monte Massico**	**3.60**	**234**	*e*PN	**Pn**	**23 40 43.6**	**-0.8**
MGR	**Morigerati** 9.0nm,0.9s	**3.66**	**208**	*e*PN	**Pn**	**23 40 44.2**	**-1.0**
MGR	**Morigerati** 9.0nm,0.9s	**3.66**	**208**	*e*Pn	**Pn**	**23 40 44.2**	**-1.0**
MGR	**Morigerati** 9.0nm,0.9s	**3.66**	**208**	*e*Pn	**Pn**	**23 40 44.2**	**-1.0**
FSSB	**Fossombrone** 7.0nm,0.5s	**3.69**	**277**	*e*PN	**Pn**	**23 40 45.8**	**+0.2**
FSSB	**Fossombrone** 7.0nm,0.5s	**3.69**	**277**	*e*Pn	**Pn**	**23 40 45.8**	**+0.2**
FSSB	**Fossombrone** 7.0nm,0.5s	**3.69**	**277**	*e*Pn	**Pn**	**23 40 45.8**	**+0.2**
VOY	**Vojsko** VOY	**3.86**	**315**	*e*Pn	**Pn**	**23 40 48.7**	**+0.6**
				*e*Sn	**Sg**	**23 41 53.5**	**-2.5**
OBKA	**Obir** OBKA	**3.90**	**325**	⇑*i*PN	**Pn**	**23 40 48.7**	**0.0**
				i SN	**Sn**	**23 41 36.2**	**+1.1**
MNS	**Montasola** 11nm,0.6s	**3.91**	**257**	*e*PN	**Pn**	**23 40 50.0**	**+1.2**
MNS	**Montasola** 11nm,0.6s	**3.91**	**257**	*e*Pn	**Pn**	**23 40 50.0**	**+1.2**
ARSA	**Arzberg** ARSA	**4.20**	**338**	⇓*i*PN	**Pn**	**23 40 51.4**	**-1.6**
				i SN	**Sn**	**23 41 42.2**	**-0.5**
PTCC	**Patocco-Chiusa**	**4.39**	**315**	*e*PN	**Pn**	**23 40 56.3**	**+0.6**
PTCC	**Patocco-Chiusa**	**4.39**	**315**	*e*Pn	**Pn**	**23 40 56.3**	**+0.7**
FVI	**Forni Avoltri**	**4.81**	**314**	*e*PN	**Pn**	**23 41 02.6**	**+0.9**
FVI	**Forni Avoltri**	**4.81**	**314**	*e*Pn	**Pn**	**23 41 02.6**	**+1.0**
MOA	**Molln** MOA	**5.12**	**332**	⇑*i*PN	**Pn**	**23 41 04.3**	**-1.7**
				i SN	**Sn**	**23 42 05.3**	**-0.7**
WTTA	**Wattenberg** WTTA	**5.84**	**314**	⇑*i*PN	**Pn**	**23 41 15.9**	**-0.3**
				i SN	**Sn**	**23 42 25.6**	**+1.5**
SQTA	**Sankt Quirin** SQTA	**6.05**	**312**	⇓*i*PN	**Pn**	**23 41 18.8**	**-0.3**
				i SN	**Sn**	**23 42 31.4**	**+2.3**
MOTA	**Moosalm** MOTA	**6.18**	**312**	⇓*i*PN	**Pn**	**23 41 20.8**	**-0.1**
				i SN	**Sn**	**23 42 34.5**	**+2.1**

*PRU **21** 23:46:15.4,51.47N×16.10E*
*WAR **21** 23:46:15.5,51.50N×16.09E,ML2.8,Mining Induced*
*NEIC **21** 23:46:17.1±2.0,51.39N×15.88E,h5km,ML2.7(SZGRF), ML2.6(VIE),ML2.4(BRG),Error ellipse: s-maj=21.9km s-min=6.7km az=204.0*

ISC 21 23:46:14.0±1.0,**51.44N**±0.05×**16.00E**±0.05,**n17,**σ1§**23**/31,
1C,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.62**	**163**	*e*PG	**Pg**	**23 46 28.0**	**+1.5**
KSP				*e*SG	**Sg**	**23 46 37.0**	**+2.2**
KSP	**Ksiaz**	**0.62**	**163**	*e*Pg	**Pg**	**23 46 27.8**	**+1.3**
KSP				*e*Sg	**Sg**	**23 46 36.8**	**+2.0**
UPC	**Upice**	**0.93**	**180**	*e*PG	**Pg**	**23 46 33.9**	**+1.3**
DPC	**Dobruska-Polom**	**1.11**	**169**	*e*PG	**Pg**	**23 46 36.6**	**+0.4**
DPC				*e*SG	**Sg**	**23 46 51.7**	**+0.8**
PVCC	**Panska Ves**	**1.28**	**225**	*e*PG	**Pg**	**23 46 40.6**	**+0.9**
BRG	**Berggiesshubel**	**1.41**	**247**	*i* Pg	**Pg**	**23 46 43.3**	**+1.0**
BRG				*i* Sg	**Sg**	**23 47 03.5**	**+2.4**
PRU	**Pruhonice**	**1.72**	**213**	*e*PG	**Pg**	**23 46 46.8**	**-1.6**
PRU				*i x*	x	23 46 49.9	
PRU				*i x*	x	23 47 04.6	
PRU				SG	**Sg**	**23 47 11.2**	**-0.2**
	11nm,0.6s						
CLL	**Collm** CLL	**1.88**	**267**	*e*PG	**Pg**	**23 46 50.0**	**-1.6**
				e		23 46 55.0	
CLL				*e*SG	**Sg**	**23 47 17.0**	**+0.3**
CLL	**Collm** CLL	**1.88**	**267**	*e*Pg	**Pg**	**23 46 50.0**	**-1.6**
CLL				*e*Sg	**Sg**	**23 47 17.0**	**+0.3**
MORC	**Moravsky Berou**	**1.93**	**149**	*e*Pn	**Pn**	**23 46 47.8**	**-0.6**
OKC	**Ostrava-Krasne** OKC	**2.11**	**139**	*e*PG	**Pg**	**23 46 54.5**	**-1.6**
				*e*SG	**Sg**	**23 47 21.5**	**-2.7**
NKC	**Novy Kostel** NKC	**2.56**	**243**	*e*PG	**Pg**	**23 47 04.6**	**-0.4**
				*e*SG	**Sg**	**23 47 38.9**	**-0.2**
KHC	**Kasperske Hory** KHC	**2.78**	**215**	*e*PN	**Pn**	**23 47 01.2**	**+0.6**
				*e*PG	**Pg**	**23 47 07.5**	**-2.1**
KHC				*e*SG	**Sg**	**23 47 45.2**	**-1.5**
MOX	**Moxa** MOX	**2.88**	**256**	*e*Pg	**Pg**	**23 47 10.4**	**-1.1**
				*e*Sg	**Sg**	**23 47 50.3**	**+0.4**
GEC2	**GERESS Array S**	**2.99**	**211**	*e*Pn	**Pn**	**23 47 04.9**	**+1.3**
WET	**Wettzell** WET	**3.05**	**222**	*e*Pn	**Pn**	**23 47 05.4**	**+1.0**
				*e*Sg	**Sg**	**23 47 54.8**	**-0.7**
MOA	**Molln** MOA	**3.76**	**198**	⇑*i*PN	**Pn**	**23 47 15.3**	**+0.7**
				i SG	**Sg**	**23 48 18.1**	**-1.3**
	4.3nm,0.6s						

*IDC **22** 00:03:53.0±2.5,25.01N×96.35E,mb3.3/3,mb1 3.6/4, mb1mx3.4/19,ML4.1/1,Error ellipse: s-maj=76.5km s-min=21.5km az=82.0*

ISC 22 00:03:52.0±0.8,**24.9N**±0.1×**96.1E**±0.1,**h10**km,**n12,**
σ0§**90**/14,**mb3.4**/3,**1D,Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**2.00**	**269**	⇓*i*P	**Pn**	**00 04 31.0**	**+4.8**
SHL	**Shillong**	**3.91**	**281**	*e*PN	**Pn**	**00 04 58.0**	**+4.5**
SHL				*e*SN	**Sn**	**00 05 46.0**	**+6.0**
CMAR	**Chiang Mai Arr** 1.0nm,0.3s,baz=333,slow=13,SNR=9.1	**6.88**	**157**	Pn	**Pn**	**00 05 35.0**	**-0.4**
CMAR	0.5nm,0.3s,baz=337,slow=16,SNR=12			Pg	**Pg**	**00 06 01.5**	**-7.8**
CMAR	0.3nm,0.3s,baz=336,slow=29,SNR=5.2			Lg		00 07 33.2	
GUN	**Gumba** 15nm,0.4s	**9.68**	**291**	*e*P	**P**	**00 06 15.9**	**+1.4**
PKI	**Pulchoki** 12nm,0.5s	**10.00**	**288**	*e*P	**P**	**00 06 19.0**	**+0.1**
KKN	**Kakani** 9.4nm,0.4s	**10.16**	**289**	*e*P	**P**	**00 06 21.0**	**-0.1**
DMN	**Daman** 7.5nm,0.5s	**10.27**	**288**	*e*P	**P**	**00 06 22.3**	**-0.3**
GKN	**Gorkha** 12nm,0.4s	**10.77**	**289**	*e*P	**P**	**00 06 29.7**	**+0.3**
KOLN	**Koldanda** 3.1nm,0.3s	**11.61**	**287**	*e*P	**P**	**00 06 39.2**	**-1.7**
SONM	**Songino Array** 0.5nm,0.8s,mb3.0,baz=212,slow=14,SNR=4.2	**24.34**	**17**	P	**P**	**00 09 10.7**	**-0.3**
WRA	**Warramunga Arr** 0.5nm,1.0s,mb3.5,baz=326,slow=7.5,SNR=3.9	**58.00**	**137**	P	**P**	**00 13 46.9**	**-0.6**
ASAR	**Alice Springs** 0.4nm,0.7s,mb3.7,baz=322,slow=6.7,SNR=4.0	**60.55**	**140**	P	**P**	**00 14 06.6**	**+1.4**

*IDC **22** 00:24:07.6±2.9,23.70N×142.54E,h60km±27km,mb3.8/5, mb1 3.9/6,mb1mx3.5/22,Error ellipse: s-maj=102.0km s-min=15.9km az=87.0*

ISC 22 00:24:07.2±2.0,**23.8N**±0.1×**142.7E**±0.6,**h87**km±20km,**n16,**
σ1§**32**/21,**mb3.9**/6,**Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**2.87**	**351**	P	**P**	**00 24 52.9**	**+1.0**
JHHJ				S	**S**	**00 25 26.4**	**+0.9**
CBIJ	**Chichi jima**	**3.33**	**352**	P	**P**	**00 24 59.3**	**+1.0**
CBIJ				S	**S**	**00 25 37.5**	**+0.6**
CBIJ	**Chichi jima**	**3.33**	**352**	P	**P**	**00 24 59.6**	**+1.3**
CBIJ				*e*S	**S**	**00 25 36.9**	**+0.1**
BSO1	**Boso 1**	**10.93**	**353**	P	**P**	**00 26 41.1**	**-1.1**
JOD2	**Odawara 2**	**11.86**	**346**	P	**P**	**00 26 54.2**	**-0.4**
JAO	**Obara**	**12.37**	**339**	P	**P**	**00 27 01.8**	**+0.3**
JHU	**Hanno**	**12.38**	**347**	P	**P**	**00 26 59.5**	**-2.1**
JRY	**Ryogami san**	**12.62**	**346**	P	**P**	**00 27 03.3**	**-1.5**
JAG	**Ashikaga**	**12.90**	**348**	P	**P**	**00 27 05.7**	**-2.7**
JHO	**Hitachi**	**12.91**	**352**	P	**P**	**00 27 06.8**	**-1.8**
WRA	**Warramunga Arr** 2.1nm,0.6s,mb4.0,baz=13,slow=8.6,SNR=46	**44.22**	**191**	P	**P**	**00 32 09.6**	**-0.1**
WRA	0.2nm,0.4s,baz=3.1,slow=3.2,SNR=4.6			PcP	PcP	00 33 54.2	+0.8
WRA	0.2nm,0.6s,baz=9.3,slow=13,SNR=3.0			S	**S**	**00 38 33.5**	**-2.4**
FITZ	**Fitzroy Crossi** 1.1nm,0.4s,mb3.9,baz=12,slow=9.5,SNR=7.0	**44.84**	**203**	P	**P**	**00 32 14.9**	**+0.3**
ASAR	**Alice Springs** 0.6nm,0.5s,mb3.7,baz=16,slow=12,SNR=7.6	**47.94**	**191**	P	**P**	**00 32 39.4**	**+0.4**
ASAR	0.4nm,0.6s,baz=18,slow=18,SNR=3.4			S	**S**	**00 39 28.1**	**-0.6**
BVAR	**Borovoye Array** 0.5nm,0.4s,mb3.9,baz=94,slow=8.6,SNR=4.8	**60.80**	**319**	P	**P**	**00 34 13.2**	**+1.0**
ARCES	**ARCESS Array B** 1.6nm,0.8s,mb3.8,baz=74,slow=6.6,SNR=6.0	**76.81**	**341**	P	**P**	**00 35 53.3**	**+2.8**
FINES	**FINESS Array B** 3.4nm,1.0s,mb4.2,baz=72,slow=4.4,SNR=7.5	**81.11**	**334**	P	**P**	**00 36 15.8**	**+1.8**

ISC 22 01:11:46.4±0.9,**45.04N**±0.04×**13.06E**±0.05,**h10**km,**n8,**
σ0§**70**/16,**3C,Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEOL	**Teolo**	**1.03**	**289**	*e*Pg	**Pg**	**01 12 08.2**	**+1.2**
TEOL				Sg	**Sg**	**01 12 20.4**	**-0.4**
JAVS	**Javornik**	**1.11**	**39**	⇑*i*Pg	**Pg**	**01 12 08.9**	**+0.3**
JAVS	comp=Z,5.0nm,0.1s			*i* Sg	**Sg**	**01 12 24.1**	**+0.6**
**V

IDC 22 02:55:47.4±4.5, 11.69S×167.16E, mb3.6/4, mb1 3.9/4, mb1mx3.6/14, Error ellipse: s-maj=213.0km s-min=31.8km az=141.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.58**	**251**	P	P	03 02 20.6	-2.2
	0.5nm,0.4s,baz=82,slow=8.9,SNR=14						
ASAR	**Alice Springs**	**33.76**	**245**	P	P	03 02 31.9	-1.1
	0.6nm,0.8s,baz=78,slow=8.3,SNR=5.5						
FITZ	**Fitzroy Crossi**	**40.56**	**256**	P	P	03 03 28.0	-2.4
	0.9nm,1.0s,baz=148,slow=9.5,SNR=5.1						
ILAR	**Eielson Array**	**83.69**	**18**	P	P	03 08 17.8	-1.2
	0.4nm,0.7s,baz=224,slow=5.3,SNR=5.7						

HRVD ***22*** *03:15:54.7±0.6,29.54S×176.08W,h27km±2km, MW5.0/40, Centroid moment Tensor Solution. LP body waves: s14,c16;Mantle waves: s40,c55; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.76±.43; Mθθ-2.10±.33; Mφφ3.86±.31; Mrθ-1.81±.67; Mθφ1.57±.28; Mφr1.19±.43; Best double couple: M0 4.28×10^16 NP1:φs52°, δ57°, λ-26°. NP2:φs156°, δ69°, λ-144°. Principal axes: T 4.34, Plg7°, Azm282°; N -.12, Plg49°, Azm183°; P -4.22, Plg40°, Azm18°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***22*** *03:15:54.7,29.10S×176.50W,h41km,mb5.3*

NEIC ***22*** *03:15:54.7±0.2,29.14S×176.46W,mb5.0/7, Error ellipse: s-maj=11.1km s-min=7.4km az=134.0*

SYO ***22*** *03:15:54.5,29.15S×176.49W,h40km,MB4.9*

IDC ***22*** *03:15:55.0±0.5,29.16S×176.35W,h44km±4km,mb4.2/11, mb1 4.4/14,mb1mx4.4/17, ML4.3/3,MS4.1/8,Ms1 4.1/8, ms1mx3.8/19, Error ellipse: s-maj=18.3km s-min=13.5km az=155.0*

ISC 22 03:15:51.9±0.3, 29.77S±0.06×176.35W±0.09, h42km, h42km±1.2km:pP-P,n75,σ1§30/64, mb4.6/18, MS4.1/8, 2C-5D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**8.95**	**208**	P	P	**03 17 59.2**	**-2.3**
MXZ				S	**S**	**03 19 44.1**	**+2.0**
PUZ	**Puketiti**	**9.41**	**207**	P	**P**	**03 18 05.6**	**-2.2**
PUZ				S	**S**	**03 19 53.7**	**+0.3**
MWZ	**Matawai**	**9.93**	**209**	P	**P**	**03 18 12.2**	**-2.8**
MWZ				S	**S**	**03 20 07.2**	**+0.9**
URZ	**Urewera**	**10.05**	**211**	P	**P**	**03 18 14.6**	**-2.1**
	0.8nm,0.3s,baz=5.7,slow=4.0,SNR=5.0						
URZ				S	**S**	**03 20 10.6**	**+1.4**
	6.9nm,0.3s,baz=183,slow=20,SNR=12						
PWZ	**Pawanui**	**11.64**	**207**	P	**P**	**03 18 36.1**	**-2.2**
MRZ	**Mangatainoka R**	**12.70**	**209**	P	**P**	**03 18 48.1**	**-4.4**
KIW	**Kapiti Island**	**13.15**	**210**	S	**S**	**03 21 21.9**	**-2.4**
THZ	**Tophouse**	**14.79**	**213**	P	**P**	**03 19 14.1**	**-5.7**
RPZ	**Rata Peaks**	**17.16**	**212**	P	**P**	**03 19 50.4**	**+0.3**
	2.2nm,0.3s,baz=286,slow=1.9,SNR=4.2						
RPZ				S	**S**	**03 22 53.4**	**-4.6**
	1.2nm,0.3s,baz=17,slow=22,SNR=6.1						
RAR	**Rarotonga**	**17.21**	**64**	P	**P**	**03 19 41.7**	**-9.2**
	1.4nm,0.3s,baz=212,slow=4.8,SNR=3.0						
RAR				LR	LR	03 24 16.9	
	comp=Z,389nm,19.6s,baz=87,slow=30						
NOUC	**Port Laguerre**	**17.36**	**292**	*e*P	**P**	**03 19 56.6**	**+3.9**
JCZ	**Jackson Bay**	**18.54**	**216**	*e*P	**P**	**03 20 05.2**	**-2.1**
TBI	**Tubuai**	**24.86**	**81**	*e*L		03 25 33.2	
TBI				*e*R		03 26 47.6	
	948nm,29.2s,baz=248						
PPT	**Papeete**	**27.29**	**70**	*e*L		03 26 45.1	
PPT				*e*R		03 27 48.3	
	861nm,28.2s,baz=240						
CTA	**Charters Tower**	**35.12**	**277**	LR	LR	03 36 14.7	
	comp=Z,520nm,18.1s,MS4.3,baz=46,slow=35						
CTAO	**Charters Tower**	**35.12**	**277**	*e*P	**P**	**03 22 43.3**	**-0.2**
	9.3nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**36.01**	**256**	P	**P**	**03 22 53.0**	**+2.1**
	13nm,0.9s,mb4.9,baz=89,slow=8.6,SNR=19						
PMG	**Port Moresby**	**39.65**	**293**	LR	LR	03 37 30.2	
	comp=Z,182nm,18.1s,MS4.0,baz=235,slow=33						
ASAR	**Alice Springs**	**44.57**	**266**	P	**P**	**03 24 02.9**	**+1.1**
	3.4nm,0.7s,mb4.3,baz=104,slow=7.1,SNR=40						
ASAR				pP	pP	03 24 15.1	+1.6
	3.4nm,0.6s,baz=95,slow=7.4,SNR=9.6						
ASAR				S	**S**	**03 30 37.5**	**+3.4**
	2.5nm,1.3s,baz=104,slow=15,SNR=3.4						
WRAB	**Tennant Creek**	**45.50**	**271**	P	**P**	**03 24 10.3**	**+1.0**
	56nm,0.9s,mb5.5,SNR=9.6						
WRAB	**Tennant Creek**	**45.50**	**271**	*e*P	**P**	**03 24 07.8**	**-1.5**
	13nm,0.9s,mb4.8						
WRA	**Warramunga Arr**	**45.51**	**271**	P	**P**	**03 24 09.3**	**0.0**
	4.5nm,0.5s,mb4.7,baz=110,slow=7.9,SNR=42						
WRA				pP	pP	03 24 23.6	+2.6
	8.4nm,0.8s,baz=110,slow=8.1,SNR=10						
WRA				S	**S**	**03 30 46.5**	**-1.0**
	0.3nm,0.7s,baz=109,slow=14,SNR=3.1						
SBA	**Scott Base**	**48.77**	**185**	*e*P	**P**	**03 24 41.3**	**+7.2**
	28nm,1.7s,mb5.0						
VNDA	**Vanda**	**48.86**	**186**	P	**P**	**03 24 41.0**	**+6.2**
	2.4nm,1.0s,mb4.2,baz=15,slow=6.6,SNR=10						
VNDA				pP	pP	03 24 54.2	+7.6
	4.3nm,1.1s,baz=12,slow=6.5,SNR=8.9						
VNDA	**Vanda**	**48.86**	**186**	P	**P**	**03 24 41.0**	**+6.2**
VNDA				pP	pP	03 24 54.2	+7.6
CASY	**Casey**	**56.36**	**208**	*e*P	**P**	**03 25 33.8**	**+3.0**
QSPA	**South Pole Qui**	**60.34**	**180**	*e*P	**P**	**03 26 02.6**	**+4.2**
	14nm,1.0s,mb4.9						
QSPA				*e*pP	pP	03 26 14.7	+4.3
MAW	**Mawson**	**73.39**	**200**	P	**P**	**03 27 25.5**	**+4.7**
	8.5nm,1.1s,mb4.6,baz=107,slow=6.2,SNR=14						
SYO	**Syowa Base**	**78.04**	**192**	⇓P	**P**	**03 27 49.3**	**+2.1**
SYO	**Syowa Base**	**78.04**	**192**	⇓PcP	PcP	03 28 01.1	+4.0
SYO	**Syowa Base**	**78.04**	**192**	⇓pP	pP	03 28 03.6	+4.0
SNAA	**Sanae**	**78.73**	**178**	*e*	pP	03 28 05.4	+2.0
SNAA	**Sanae**	**78.73**	**178**	P	**P**	**03 27 54.3**	**+3.3**
	1.3nm,0.9s,mb3.9,baz=181,slow=4.0,SNR=9.5						
SNAA	**Sanae**	**78.73**	**178**	⇑*i*P	**P**	**03 27 54.0**	**+3.0**
SNAA				*e*	pP	03 28 05.4	+2.0
VNA3	**Neumayer Olymp**	**78.83**	**176**	⇓*i*P	**P**	**03 27 56.5**	**+5.0**
VNA3				*e*	pP	03 28 07.4	+3.5
VNA2	**Neumayer--Watz**	**79.28**	**176**	⇓*i*P	**P**	**03 27 59.5**	**+5.5**
VNA2				*e*	pP	03 28 10.2	+3.8
VNA1	**Neumayer--Stat**	**79.50**	**176**	⇓*i*P	**P**	**03 28 00.9**	**+5.7**
VNA1				*e*	pP	03 28 12.1	+4.5
SAC	**San Andreas**	**83.88**	**40**	P	**P**	**03 28 16.5**	**-2.1**
CMB	**Columbia Colle**	**85.35**	**41**	*e*P	**P**	**03 28 25.5**	**-0.4**
CMB				*e*pP	pP	03 28 38.0	-0.5
NVAR	**Mina Array Bea**	**86.82**	**42**	P	**P**	**03 28 33.1**	**0.0**
	3.1nm,0.9s,mb4.5,baz=214,slow=6.6,SNR=16						
NVAR				pP	pP	03 28 46.1	+0.3
	3.1nm,0.8s,baz=221,slow=7.7,SNR=8.8						
NVAR				LR	LR	04 02 35.6	
	comp=Z,106nm,18.3s,MS4.3,baz=120,slow=32						
MSU	**Marysvale**	**90.53**	**45**	*e*P	**P**	**03 28 51.8**	**+1.0**
GNW	**Green Mountain**	**90.77**	**33**	*e*P	**P**	**03 28 51.1**	**-0.5**
LTX	**Lajitas**	**90.85**	**56**	P	**P**	**03 28 53.1**	**+0.6**
TXAR	**Lajitas Array**	**90.85**	**56**	P	**P**	**03 28 52.8**	**+0.2**
	1.1nm,0.9s,mb4.2,baz=217,slow=6.3,SNR=8.4						
TXAR				pP	pP	03 29 05.5	+0.3
	1.2nm,0.9s,baz=211,slow=7.3,SNR=4.4						
TXAR				LR	LR	04 04 59.5	
	comp=Z,90nm,18.6s,MS4.2,baz=310,slow=32						
RMW	**Rattlesnake Mo**	**91.19**	**34**	*e*P	**P**	**03 28 53.7**	**+0.1**
HAWA	**Hanford**	**91.56**	**35**	*e*P	**P**	**03 28 54.9**	**-0.5**
HAWA				*e*pP	pP	03 29 07.7	-0.4
TMUT	**Trail Mountain**	**91.61**	**45**	P	**P**	**03 28 55.7**	**-0.1**
SRU	**San Rafael**	**91.92**	**45**	*e*P	**P**	**03 28 56.6**	**-0.5**
SRU				*e*pP	pP	03 29 09.6	-0.3
ANMO	**Albuquerque**	**92.08**	**51**	*e*P	**P**	**03 28 57.8**	**-0.2**
HLID	**Hailey**	**92.41**	**40**	*e*P	**P**	**03 28 59.1**	**-0.3**
	3.3nm,1.0s,mb4.6						
HLID				*e*pP	pP	03 29 11.5	-0.6
ENH	**Enshi**	**92.44**	**304**	*e*P	**P**	**03 29 00.6**	**+0.8**
	37nm,1.3s,mb5.5						
ENH				*e*pP	pP	03 29 13.8	+1.2
PV01	**Paradox Valley**	**92.55**	**47**	*e*P	**P**	**03 29 00.3**	**+0.1**
TCUT	**Toone Canyon**	**92.61**	**43**	P	**P**	**03 29 01.2**	**+0.9**
MCMT	**McKenzie Canyo**	**94.08**	**40**	*e*P	**P**	**03 29 07.0**	**+0.2**
SDCO	**Great Sand Dun**	**94.31**	**49**	P	**P**	**03 29 07.6**	**-0.5**
BW06	**Boulder Array**	**94.70**	**43**	P	**P**	**03 29 10.4**	**+0.6**
PDAR	**Pinedale Array**	**94.70**	**43**	P	**P**	**03 29 09.2**	**-0.6**
	0.7nm,0.9s,mb4.1,baz=225,slow=4.2,SNR=5.2						
PDAR				LR	LR	04 07 03.6	
	comp=Z,88nm,19.3s,MS4.2,baz=15,slow=33						
KMI	**Kunming**	**94.82**	**296**	*e*P	**P**	**03 29 11.1**	**+0.3**
	9.0nm,0.5s,mb5.5						
KMI				sP	sP	03 29 29.6	+1.8
KMI				S	S	03 40 18.4	+0.2
KMI				SS	SS	03 46 45.8	-1.3
KMI				LR	LR		
	comp=Z,40nm,34.3s,MS3.6						
QLMT	**Earthquake Lak**	**94.87**	**40**	*e*P	**P**	**03 29 11.1**	**+0.5**
MCK	**McKinley**	**95.68**	**12**	*e*P	**P**	**03 29 11.9**	**-1.9**
ILAR	**Eielson Array**	**97.00**	**12**	P	**P**	**03 29 18.2**	**-1.5**
	comp=Z,1.2nm,0.7s,mb4.4,baz=221,slow=5.5,SNR=17						
ILAR				pP	pP	03 29 31.6	-0.9
	comp=Z,1.1nm,0.8s,baz=214,slow=6.1,SNR=5.8						
LPAZ	**La Paz**	**97.09**	**113**	P	**P**	**03 29 24.4**	**+3.1**
	comp=Z,0.9nm,0.9s,mb4.2,baz=211,slow=4.7,SNR=4.3						
LPAZ				pP	pP	03 29 37.4	+3.4
	comp=Z,1.5nm,0.9s,baz=200,slow=4.8,SNR=4.2						
LPAZ				LR	LR	04 04 59.2	
	comp=Z,39nm,18.8s,MS3.9,baz=94,slow=30						
WMOK	**Wichita Mounta**	**97.25**	**54**	P	**P**	**03 29 22.7**	**+1.1**
RSSD	**Black Hills**	**98.78**	**44**	*e*P	**P**	**03 29 28.3**	**+0.1**
CPUP	**Villa Florida**	**99.24**	**127**	LR	LR	04 10 43.3	
	comp=Z,66nm,19.3s,MS4.2,baz=324,slow=33						
ZAL	**Zalesovo**	**118.52**	**318**	PKP	PKPdf	03 34 36.3	+1.4
	comp=Z,0.9nm,0.3s,baz=59,slow=3.1,SNR=4.0						
BVAR	**Borovoye Array**	**126.95**	**316**	PKP	PKPdf	03 34 53.0	+1.8
	comp=Z,2.7nm,0.7s,baz=63,slow=3.3,SNR=10						
BVAR				pPKP		03 35 05.9	
	comp=Z,1.0nm,0.5s,baz=108,slow=4.7,SNR=4.1						
ARCES	**ARCESS Array B**	**138.27**	**349**	PKP	PKPdf	03 35 12.1	+0.1
	comp=Z,32nm,1.4s,baz=333,slow=2.7,SNR=6.8						
FINES	**FINESS Array B**	**145.03**	**341**	PKP	PKPdf	03 35 24.5	+0.5
	comp=Z,5.9nm,0.7s,baz=69,slow=2.8,SNR=26						
FINES				pPKP		03 35 37.1	
	comp=Z,2.9nm,0.6s,baz=50,slow=4.8,SNR=3.8						
NB2	**NORSAR Subarra**	**148.33**	**353**	PKPdf	PKPdf	03 35 34.1	+4.7
	comp=Z,1.8nm,0.7s,baz=46,slow=1.9						
NOA	**NORSAR Array B**	**148.33**	**353**	PKPbc	PKPdf	03 35 34.3	+4.8
	comp=Z,3.9nm,0.7s,baz=14,slow=4.5,SNR=7.1						
MALT	**Malatya**	**150.09**	**296**	*e*PKPbc	PKPdf	03 35 41.5	+8.5
AKASG	**Malin Array Be**	**151.64**	**325**	PKPbc	PKPdf	03 35 43.0	+8.0
	comp=Z,13nm,0.7s,baz=42,slow=2.7,SNR=29						
AKASG				PKPab	PKPab	03 35 51.5	-0.8
	comp=Z,1.0nm,0.4s,baz=35,slow=2.7,SNR=6.4						
AKASG				pPKPbc		03 35 55.9	
	comp=Z,4.6nm,0.5s,baz=44,slow=2.9,SNR=9.1						
BRTR	**Keskin Array B**	**153.54**	**300**	PKPbc	PKPdf	03 35 48.2	+10
	comp=Z,1.0nm,0.6s,baz=162,slow=3.9,SNR=5.7						
BRTR				PKPab	PKPab	03 36 00.5	-0.1
	comp=Z,1.2nm,0.8s,baz=90,slow=4.9,SNR=3.8						
GERES	**GERESS Array B**	**159.46**	**341**	PKPbc	PKPdf	03 35 59.3	+14
	comp=Z,1.0nm,1.1s,baz=90,slow=2.7,SNR=3.7						
GERES				PKPab	PKPab	03 36 24.6	-1.1
	comp=Z,1.9nm,1.2s,baz=27,slow=6.0,SNR=3.1						

ATH ***22*** *03:18:25.6,38.71N×23.74E,h2km,MD2.8/3*

NEIC ***22*** *03:18:25.6,38.71N×23.74E,h2km,MD2.8(ATH),After ATH.*

CSEM ***22*** *03:18:25.7±0.1,38.74N×23.84E,h25km,ML2.7, Error ellipse: s-maj=5.0km s-min=2.4km az=91.0*

THE ***22*** *03:18:27.7,38.86N×23.81E,h19km,ML2.7*

ISC 22 03:18:24.0±0.9, 38.74N±0.04×23.9E±0.1, h2km, n11, σ0§87/12, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AOS	**Alonnisos**	**0.43**	**3**	*e*Pg	**Pg**	**03 18 34.3**	**+1.6**
LKR	**Lokris**	**0.67**	**263**	*e*PG	**Pg**	**03 18 36.8**	**-0.6**
PTL	**Penteli**	**0.69**	**179**	*e*PG	**Pg**	**03 18 38.0**	**+0.3**
NEO	**Neokhori**	**0.75**	**320**	*e*PG	**Pg**	**03 18 39.3**	**+0.3**
XOR	**Xorichti**	**0.81**	**321**	*e*Pg	**Pg**	**03 18 40.7**	**+0.5**
XOR				*e*Sg	**Sg**	**03 18 51.4**	**+0.4**
NSAL	**Nisos Salamina**	**0.88**	**200**	*e*PB	**Pb**	**03 18 41.5**	**-0.2**
NAIG	**Nisos Aigina**	**1.02**	**196**	*e*PG	**Pg**	**03 18 44.5**	**+0.2**
PAIG	**Paliouri**	**1.20**	**354**	*e*Pg	**Pg**	**03 18 47.0**	**-0.9**
AGG	**Agios Georgios**	**1.22**	**284**	*e*Pg	**Pg**	**03 18 48.7**	**+0.4**
	comp=Z,3.0nm,0.3s						
OUR	**Ouranopolis**	**1.60**	**4**	*e*Pb	**Pb**	**03 18 53.1**	**-0.9**
LIT	**Litokhoron**	**1.72**	**323**	*e*Pb	**Pb**	**03 18 52.9**	**-3.1**

CSEM ***22*** *03:34:14.3±0.1,46.25N×15.51E,h2km,ML1.3, Error ellipse: s-maj=2.0km s-min=1.1km az=86.0*

LJU 22 03:34:13.8,46.25N×15.51E,h9km,ML1.2,3C-4D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DOBS	**Dobrina**	**0.10**	**193**	⇓*i*Pg	Pg	03 34 16.5	+0.1
DOBS				*i* Sg	Sg	03 34 18.2	+0.1
	comp=Z,36nm,0.1s						
DOBS	**Dobrina**	**0.10**	**193**	⇓*i*Pg	Pg	03 34 16.5	+0.1
DOBS				*i* Sg	Sg	03 34 18.2	+0.1
	comp=Z,36nm,0.1s						
GROS	**Grobnik**	**0.21**	**0**	⇓*i*Pg	Pg	03 34 18.6	+0.3
GROS				*i* Sg	Sg	03 34 21.9	+0.4
	comp=Z,25nm,0.1s						
GROS	**Grobnik**	**0.21**	**0**	⇓*i*Pg	Pg	03 34 18.6	+0.2
GROS				*i* Sg	Sg	03 34 21.9	+0.5
	comp=Z,25nm,0.1s						
GOLS	**Golise**	**0.25**	**160**	*i* Pg	Pg	03 34 19.1	0.0
GOLS				*i* Sg	Sg	03 34 22.5	-0.1
	comp=Z,17nm,0.1s						
GOLS	**Golise**	**0.25**	**160**	*i* Pg	Pg	03 34 19.1	0.0
GOLS				*i* Sg	Sg	03 34 22.5	-0.1
	comp=Z,33nm,0.1s						
PDKS	**Podkum**	**0.39**	**245**	⇑*i*Pg	Pg	03 34 22.0	+0.3
PDKS				*i* Sg	Sg	03 34 27.4	+0.4
	comp=Z,3.0nm,0.1s						
PDKS	**Podkum**	**0.39**	**245**	⇑*i*Pg	Pg	03 34 22.0	+0.3
PDKS				*i* Sg	Sg	03 34 27.4	+0.4
	comp=Z,5.0nm,0.1s						
PERS	**Pernice**	**0.47**	**326**	*i* Sg	Sg	03 34 29.5	-0.2
OBKA	**Obir**	**0.71**	**292**	⇑*i*PG	Pg	03 34 27.8	-0.3
OBKA				*i* SG	Sg	03 34 37.5	-0.1
	comp=Z,1.0nm,0.2s						

MAN 22 03:36:41.0,9.86N×123.47E,h30km,mb4.2,ML3.1,MS2.8, 1C-1D,Negros

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TBP	**Tagbilaran**	**0.42**	**114**	*e*P	Pb	03 36 51.1	+1.0
TBP				*e*S	Sb	03 36 59.4	+2.9
SNPH	**Sibulan**	**0.56**	**204**	⇓*i*P	Pb	03 36 53.0	+0.6
SNPH				*i* S	Sb	03 37 03.0	+2.7
LLP	**Lapu-Lapu**	**0.67**	**47**	*e*P	Pb	03 36 54.9	+0.8
LLP				*e*S	Sb	03 37 03.7	+0.6
GUIM	**Jordan**	**1.16**	**311**	*e*P	Pn	03 37 00.7	-0.6
GUIM				*e*S	Sn	03 37 15.9	-0.3
MSLP	**Maasin**	**1.39**	**79**	*e*P	Pn	03 37 07.9	+3.1
RCP	**Roxas**	**1.83**	**337**	⇑*e*P	Pn	03 37 13.1	+2.0
RCP				*e*S	Sn	03 37 37.9	+4.4

CSEM ***22*** *03:40:07.9,79.88N×22.11E,h15km,ML3.2*

BER ***22*** *03:40:07.9±2.4,79.88N×22.11E,h15km±167km, ML3.2(NAO)*

NAO ***22*** *03:40:16.3±6.6,79.16N×19.40E,ML3.2*

ISC 22 03:40:15.0±3.0, 79.0N±0.2×21.7E±0.7, h10km, n10, σ0§75/13, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPA0	**Spitsbergen Ar**	**1.37**	**233**	Pn	**Pn**	**03 40 39.6**	**-0.7**
	baz=39,slow=11						
SPA0	**Spitsbergen Ar**	**1.37**	**233**	Pn	**Pn**	**03 40 39.6**	**-0.8**
	baz=39,slow=11,SNR=55						
HSP	**Hornsund**	**2.42**	**215**	*e*P1	**Pn**	**03 40 55.8**	**+0.5**
HSP	**Hornsund**	**2.42**	**215**	*e*P2	**Pg**	**03 41 03.3**	**-0.1**
HSP				*e*(S)	**Sg**	**03 41 45.2**	**+10**
ARA0	**ARCESS Array S**	**9.61**	**172**	Pn	**P**	**03 42 35.1**	**-1.2**
	baz=359,slow=11						
ARA0				Sn	**Sn**	**03 44 25.4**	**0.0**
	baz=359,slow=22						
ARA0	**ARCESS Array S**	**9.61**	**172**	Pn	**P**	**03 42 35.1**	**-1.2**
	baz=359,slow=11,SNR=55						
ARA0				Sn	**Sn**	**03 44 25.5**	**0.0**
	baz=359,slow=20,SNR=55						
APA0	**Apatity Array**	**11.90**	**159**	Pn	**P**	**03 43 07.7**	**+0.1**
	baz=348,slow=12						
APA0	**Apatity Array**	**11.90**	**159**	Pn	**P**	**03 43 07.7**	**+0.1**
	baz=348,slow=12,SNR=55						
HFS	**Hagfors**	**19.17**	**192**	P	**P**	**03 44 42.1**	**+1.3**
	baz=17,slow=6.9						
HFS	**Hagfors**	**19.17**	**192**	P	**P**	**03 44 42.1**	**+1.3**
	baz=17,slow=6.7,SNR=51						

JMA ***22*** *03:55:00.8±0.4,33.87N×141.73E,h18km±4km*

IDC ***22*** *03:55:07.2±9.5,33.58N×140.30E,mb3.5/3,mb1 3.7/3, mb1mx3.5/21, Error ellipse: s-maj=354.0km s-min=31.8km az=65.0*

ISC 22 03:55:04.5±1.1, 34.14N±0.07×141.8E±0.1, h33km, n11, σ0§77/14, mb3.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.83**	**308**	P	**P**	**03 55 19.2**	**-0.5**
BSO1				*e*S	**S**	**03 55 32.6**	**+1.7**
BSO3	**Boso 3**	**1.23**	**303**	P	**P**	**03 55 25.5**	**0.0**
BSO4	**Boso 4**	**1.45**	**306**	P	**P**	**03 55 29.1**	**+0.4**
JHJ	**Hachijo jima 2**	**1.95**	**239**	Sn	**Sn**	**03 55 59.2**	**-0.3**
	158nm,0.3s,baz=55,slow=22,SNR=6.2						
JAG	**Ashikaga**	**2.96**	**321**	P	**P**	**03 55 50.1**	**-0.2**
JYN	**Shimob**	**2.98**	**298**	P	**P**	**03 55 50.1**	**-0.4**
JYN				*e*S	**S**	**03 56 26.1**	**+0.6**
JRY	**Ryogami san**	**3.00**	**309**	P	**P**	**03 55 50.5**	**-0.4**
MAT	**Matsushiro**	**3.77**	**310**	P	**P**	**03 56 01.7**	**-0.1**
MAT				S	**S**	**03 56 44.1**	**-1.5**
SONM	**Songino Array**	**29.72**	**308**	P	**P**	**04 01 09.8**	**+0.2**
	0.5nm,0.6s,mb3.4,baz=107,slow=8.1,SNR=5.1						
WRA	**Warramunga Arr**	**54.25**	**189**	P	**P**	**04 04 28.9**	**-0.8**
	0.3nm,0.4s,mb3.6,baz=5.4,slow=7.5,SNR=13						
ASAR	**Alice Springs**	**57.97**	**189**	P	**P**	**04 04 57.6**	**+1.3**
	0.2nm,0.5s,mb3.4,baz=11,slow=9.2,SNR=2.9						

JMA ***22*** *03:55:28.4±0.5,34.14N×141.67E,h33km±3km,M3.7*

IDC ***22*** *03:55:30.1±8.7,33.55N×140.44E,mb3.8/3,mb1 3.9/3, mb1mx3.6/20, Error ellipse: s-maj=323.0km s-min=31.3km az=65.0*

ISC 22 03:55:27.6±2.0, 34.14N±0.06×141.8E±0.1, h33km±19km, n10, σ0§39/12, mb3.7/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.85**	**307**	P	**P**	**03 55 42.8**	**-0.4**
JHJ2	**Mitsune**	**1.95**	**239**	P	**P**	**03 55 59.6**	**+0.7**
JHJ2				*e*S	**S**	**03 56 22.4**	**0.0**
JHJ	**Hachijo jima 2**	**1.97**	**240**	Sn	**S**	**03 56 22.4**	**-0.4**
	128nm,0.3s,baz=49,slow=22,SNR=6.0						
JIZS	**Izushimoda**	**2.49**	**284**	P	**P**	**03 56 06.5**	**-0.1**
JAG	**Ashikaga**	**2.98**	**321**	P	**P**	**03 56 13.9**	**+0.2**
JAG				*e*S	**S**	**03 56 48.3**	**-0.5**
JYN	**Shimob**	**3.00**	**298**	*e*S	**S**	**03 56 49.6**	**+0.3**
JRY	**Ryogami san**	**3.03**	**309**	P	**P**	**03 56 14.4**	**0.0**
SONM	**Songino Array**	**29.74**	**308**	P	**P**	**04 01 33.6**	**+0.7**
	1.0nm,0.6s,mb3.7,baz=104,slow=8.5,SNR=7.2						
WRA	**Warramunga Arr**	**54.24**	**189**	P	**P**	**04 04 52.4**	**-0.4**
	0.5nm,0.4s,mb3.8,baz=5.6,slow=7.6,SNR=6.1						
ASAR	**Alice Springs**	**57.97**	**189**	P	**P**	**04 05 19.2**	**-0.2**
	0.2nm,0.4s,mb3.5,baz=4.1,slow=7.0,SNR=2.7						

IDC 22 04:02:53.4±4.8, 27.93S×176.95W, mb3.6/3, mb1 3.8/3, mb1mx3.6/12, Error ellipse: s-maj=205.0km s-min=56.2km az=152.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**36.00**	**253**	P	P	04 09 55.9	-2.2
	0.7nm,0.6s,baz=99,slow=13,SNR=4.5						
ASAR	**Alice Springs**	**44.22**	**264**	P	P	04 11 04.5	-1.8
	0.4nm,0.7s,baz=96,slow=7.0,SNR=7.7						
WRA	**Warramunga Arr**	**44.99**	**269**	P	P	04 11 10.9	-1.6
	1.0nm,0.9s,baz=110,slow=7.5,SNR=36						
AKASG	**Malin Array Be**	**149.83**	**326**	PKPbc	PKPdf	04 22 44.8	+2.8
	0.3nm,0.4s,baz=44,slow=2.6,SNR=4.3						

IDC ***22*** *04:05:25.6±18.0, 18.94S×169.46E,h304km±177km, mb3.2/3,mb1 3.5/3,mb1mx3.1/12, Error ellipse: s-maj=212.0km s-min=63.4km az=159.0*

**ISC 22 04:05:20.2±1.5, 19.0S±0.2

MD3.6/14,**4C-8D**,**Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSB	**Colonia Sabana**	**0.86**	**183**	⇓*i*P	Pb	04 14 56.9	-2.2
CBYP	**Canovanas**	**0.91**	**164**	⇑*e*P	Pb	04 14 57.5	-2.5
CBYP				*e*S	Sb	04 15 08.8	-2.8
AOPR	**Arecibo Observ**	**1.00**	**217**	⇓*i*P	Pb	04 14 59.1	-2.4
AOPR				*e*S	Sb	04 15 11.8	-2.5
HUMP	**Col San Antoni**	**1.03**	**166**	⇑*e*P	Pb	04 14 59.5	-2.6
HUMP				*e*S	Sb	04 15 12.3	-2.9
SJG	**San Juan**	**1.03**	**182**	*e*S	Sb	04 15 12.8	-2.5
SJG	**San Juan**	**1.03**	**182**	⇑*i*P	Pb	04 14 59.8	-2.2
SJG				*e*S	Sb	04 15 12.0	-3.3
SJG	**San Juan**	**1.03**	**182**	⇓*i*P	Pb	04 14 59.8	-2.3
SJG				*e*S	Sb	04 15 12.8	-2.5
LRS	**Lares**	**1.10**	**219**	⇓*e*P	Pn	04 15 00.2	-2.8
LRS				*e*S	Sb	04 15 13.6	-3.5
CPD	**Cerro la Pandu**	**1.12**	**170**	⇑*e*P	Pn	04 15 01.0	-2.4
CPD				*e*S	Sb	04 15 15.0	-2.7
CELP	**Cerrillos**	**1.16**	**202**	⇓*i*P	Pn	04 15 01.4	-2.5
CELP				*e*S	Sb	04 15 15.2	-3.6
MTP	**Monte Pirata**	**1.18**	**153**	⇑*e*P	Pn	04 15 01.4	-2.8
MTP				*e*S	Sb	04 15 16.1	-3.3
OBIP	**Obispado Ponce**	**1.20**	**203**	⇓*i*P	Pn	04 15 02.0	-2.5
OBIP				*e*S	Sb	04 15 16.7	-3.2
PORP	**Portuguez**	**1.20**	**205**	⇓*i*P	Pn	04 15 02.0	-2.5
AGP	**Aguadilla**	**1.22**	**233**	*e*P	Pn	04 15 00.6	-4.2
LSP	**Las Mesas**	**1.34**	**224**	⇑*i*P	Pn	04 15 04.0	-2.4
MPR	**Mayaguez**	**1.35**	**226**	⇓*i*P	Pn	04 15 03.9	-2.7
MPR				*e*S	Sn	04 15 20.2	-3.7

IDC ***22*** *04:18:46.1±0.5, 14.47N×146.93E, mb4.4/20, mb1 4.6/22, mb1mx4.5/28, MS3.7/7, Ms1 3.8/7, ms1mx3.3/28, Error ellipse: s-maj=18.9km s-min=12.4km az=101.0*
MOS ***22*** *04:18:49.6±1.2, 14.55N×146.74E, h33km, mb4.8/19, Error ellipse: s-maj=24.2km s-min=13.0km az=101.4*
NEIC ***22*** *04:18:52.0±0.8, 14.42N×146.86E, h42km±7km, mb4.9/11, Error ellipse: s-maj=8.4km s-min=5.1km az=97.0*
BJI ***22*** *04:18:55.4, 15.12N×146.37E, h42km, mB5.3, mb4.8, Ms4.5, Msz4.0*

ISC 22 04:18:51.7±0.9,14.45N±0.05×146.82E±0.06,h54km±7km, h53km±8.2km;pP-P,n98,σ0s87/89,mb4.7/47,MS3.8/12,

2C-14D,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.08**	**246**	*e*P	**P**	**04 19 24.4**	**-0.5**
GUMO				*e*S	**S**	**04 19 50.7**	**+1.1**
ANA2	**Anatahan**	**2.17**	**330**	⇓*e*P	**P**	**04 19 26.7**	**+0.5**
ANAT	**Anatahan**	**2.21**	**329**	⇓*e*P	**P**	**04 19 26.9**	**+0.2**
SARN	**Sarigan**	**2.46**	**336**	⇓*e*P	**P**	**04 19 30.2**	**-0.1**
JOW	**Kunigami**	**21.25**	**308**	P	**P**	**04 23 35.0**	**-0.4**
	20nm,0.6s,mb4.6,baz=119,slow=13,SNR=8.8						
JOW				LR	LR	04 31 40.8	
	comp=Z,240nm,19.4s,MS3.6,baz=91,slow=36						
MAJO	**Matsushiro**	**23.32**	**342**	P	**P**	**04 23 56.2**	**+0.5**
PMG	**Port Moresby**	**23.70**	**179**	P	**P**	**04 23 60.0**	**+0.3**
	9.6nm,0.7s,mb4.3,baz=338,slow=5.6,SNR=4.8						
PMG	**Port Moresby**	**23.70**	**179**	P	**P**	**04 24 00.0**	**+0.4**
PMG				pmax	pmax		
	comp=Z,10.0nm,0.7s						
SSE	**Sheshan**	**28.76**	**310**	*e*P	**P**	**04 24 40.6**	**-5.9**
SSE				S	**S**	**04 29 30.9**	**+0.2**
SSE				XS		04 29 46.0	
SSE				AMB	AMB		
	comp=Z,51nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,124nm,4.8s						
SSE				LR	LR		
	comp=N,60nm,17.7s,MS3.4						
SSE				LR	LR		
	comp=E,66nm,17.7s,MS3.4						
SSE				LR	LR		
	comp=Z,92nm,17.9s,MS3.4						
SSE	**Sheshan**	**28.76**	**310**	*e*P	**P**	**04 24 40.6**	**-5.9**
	comp=Z,51nm,0.7s,mb5.4						
SSE				S	**S**	**04 29 30.9**	**+0.2**
SSE				sS		04 29 46.0	
SSE				PcS		04 31 31.0	
SSE				LR	LR		
	comp=Z,90nm,17.9s,MS3.4						
ASAJ	**Asahikawa**	**29.79**	**354**	P	**P**	**04 24 55.7**	**+0.1**
	comp=Z,6.0nm,0.3s,mb4.8,baz=193,slow=18,SNR=3.1						
ASAJ	**Asahikawa**	**29.79**	**354**	P	**P**	**04 24 55.7**	**+0.1**
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
NJ2	**Nanjing**	**30.96**	**309**	*e*P	**P**	**04 25 04.6**	**-1.5**
NJ2				AP	pP	04 25 15.1	-4.8
NJ2				XP	sP	04 25 18.4	-8.2
NJ2				S	**S**	**04 30 07.0**	**+1.5**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,280nm,4.8s						
NJ2				LR	LR		
	comp=N,410nm,22.1s,MS4.2						
NJ2				LR	LR		
	comp=E,350nm,17.2s,MS4.2						
NJ2				LR	LR		
	comp=Z,730nm,22.7s						
CTA	**Charters Tower**	**34.32**	**181**	LR	LR	04 37 52.4	
	comp=Z,52nm,19.0s,MS3.3,baz=227,slow=33						
WRAB	**Tennant Creek**	**36.30**	**200**	*e*P	**P**	**04 25 50.1**	**-2.1**
	comp=Z,6.8nm,0.7s,mb4.7						
WRA	**Warramunga Arr**	**36.31**	**200**	P	**P**	**04 25 51.9**	**-0.4**
	comp=Z,5.2nm,0.9s,mb4.5,baz=22,slow=9.7,SNR=34						
WRA	**Warramunga Arr**	**36.31**	**200**	P	**P**	**04 25 51.9**	**-0.4**
WRA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BJI	**Beijing**	**36.99**	**319**	P	**P**	**04 25 57.6**	**-0.2**
BJI				AMB	AMB		
	comp=Z,16nm,1.2s,mb4.7						
BJI				LR	LR		
	comp=Z,67nm,17.8s,MS3.5						
BJI	**Beijing**	**36.99**	**319**	P	**P**	**04 25 57.6**	**-0.2**
	comp=Z,16nm,1.2s,mb4.7						
BJI				LR	LR		
	comp=Z,70nm,17.8s,MS3.5						
ENH	**Enshi**	**37.75**	**301**	*e*P	**P**	**04 26 03.9**	**-0.3**
	comp=Z,27nm,1.1s,mb4.9						
FITZ	**Fitzroy Crossi**	**38.50**	**214**	P	**P**	**04 26 11.1**	**+0.5**
	comp=Z,5.1nm,0.7s,mb4.4,baz=18,slow=7.4,SNR=16						
XAN	**Xi'an**	**39.38**	**306**	P	**P**	**04 26 17.9**	**+0.1**
XAN				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.3						
ASAR	**Alice Springs**	**39.93**	**199**	P	**P**	**04 26 22.4**	**0.0**
	comp=Z,1.3nm,0.7s,mb3.8,baz=24,slow=9.5,SNR=17						
HHC	**Hu-ho-hao-te**	**40.39**	**317**	*e*P	**P**	**04 26 26.6**	**+0.5**
HHC				AMB	AMB		
	comp=Z,18nm,1.3s,mb4.6						
HHC				AMB	AMB		
	comp=Z,98nm,5.7s						
KMI	**Kunming**	**42.65**	**291**	*e*P	**P**	**04 26 41.8**	**-3.1**
KMI				S	**S**	**04 33 04.0**	**+0.3**
KMI				SS	SS	04 36 03.9	-5.2
KMI				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.5						
KMI				AMB	AMB		
	comp=Z,102nm,4.4s						
KMI				LR	LR		
	comp=N,167nm,20.9s,MS4.1						
KMI				LR	LR		
	comp=E,168nm,21.3s,MS4.1						
KMI				LR	LR		
	comp=Z,158nm,15.9s						
KMI	**Kunming**	**42.65**	**291**	*e*P	**P**	**04 26 41.7**	**-3.2**
	comp=Z,7.0nm,0.7s,mb4.5						
KMI				pP	pP	04 26 58.6	-0.5
KMI				sP	sP	04 27 04.6	-1.0
KMI				S	**S**	**04 33 04.0**	**+0.3**
KMI				SS	SS	04 36 03.9	-5.2
KMI				LR	LR		
	comp=Z,160nm,15.9s,MS4.0						
LZH	**Lanzhou**	**43.99**	**307**	⇓P	**P**	**04 26 57.0**	**+1.4**
LZH				AMB	AMB		
	comp=Z,60nm,1.2s,mb5.2						
LZH	**Lanzhou**	**43.99**	**307**	⇓P	**P**	**04 26 57.0**	**+1.4**
	comp=Z,60nm,1.2s,mb5.2						
LZH				pP	pP	04 27 12.0	+2.1
LZH				sP	sP	04 27 23.0	+6.7
CMAR	**Chiang Mai Arr**	**45.99**	**282**	P	**P**	**04 27 13.0**	**+1.2**
	comp=Z,7.7nm,1.0s,mb4.6,baz=83,slow=6.3,SNR=27						
CMAR				PcP	PcP	04 28 50.5	+2.2
	comp=Z,1.7nm,0.4s,baz=89,slow=2.4,SNR=5.5						
CMAR				LR	LR	04 46 28.4	
	comp=Z,56nm,18.8s,MS3.5,baz=267,slow=36						
CMAR	**Chiang Mai Arr**	**45.99**	**282**	P	**P**	**04 27 13.0**	**+1.2**
CMAR						04 28 50.5	
CMAR				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
CMAR				MLR	MLR		
	comp=Z,56nm,18.8s						
STKA	**Stephens Creek**	**46.33**	**186**	P	**P**	**04 27 13.8**	**-0.5**
	comp=Z,2.3nm,0.8s,mb4.2,baz=354,slow=7.1,SNR=4.4						
STKA	**Stephens Creek**	**46.33**	**186**	P	**P**	**04 27 13.8**	**-0.6**
SONM	**Songino Array**	**47.15**	**323**	P	**P**	**04 27 21.1**	**+0.5**
	comp=Z,5.5nm,0.6s,mb4.7,baz=136,slow=7.9,SNR=36						
GTA	**Gaotai**	**48.05**	**310**	*e*P	**P**	**04 27 28.8**	**+1.1**
GTA				AP	pP	04 27 35.3	-6.7
GTA				XP	sP	04 27 39.3	-9.0
GTA				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.7						
YAK	**Yakutsk**	**49.08**	**349**	*i* P	**P**	**04 27 33.6**	**-1.7**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.4s,mb5.0						
YAK				MLR	MLR		
	comp=Z,100nm,6.0s						
ZAK	**Zakamensk**	**50.21**	**325**	*e*P	**P**	**04 27 43.5**	**-0.7**
SHL	**Shillong**	**52.48**	**291**	*e*P	**P**	**04 28 02.0**	**+0.4**
GUN	**Gumba**	**57.87**	**294**	*e*P	**P**	**04 28 41.2**	**+0.5**
	comp=Z,70nm,0.8s,mb5.8						
WMQ	**Urumqi**	**57.94**	**313**	P	**P**	**04 28 41.5**	**+0.6**
WMQ				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.9						
WMQ				LR	LR		
	comp=Z,65nm,18.0s,MS3.8						
TIXI	**Tiksi**	**58.19**	**353**	⇑*i*P	**P**	**04 28 40.3**	**-2.0**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
TIXI				MLR	MLR		
	comp=Z,100nm,6.0s						
PKI	**Pulchoki**	**58.29**	**294**	*e*P	**P**	**04 28 43.6**	**0.0**
	comp=Z,27nm,0.7s,mb5.4						
KKN	**Kakani**	**58.40**	**294**	*e*P	**P**	**04 28 44.4**	**0.0**
	comp=Z,24nm,0.6s,mb5.4						
DMN	**Daman**	**58.56**	**294**	*e*P	**P**	**04 28 45.5**	**+0.1**
	comp=Z,40nm,0.8s,mb5.5						
GKN	**Gorkha**	**58.97**	**294**	*e*P	**P**	**04 28 48.3**	**0.0**
	comp=Z,50nm,0.6s,mb5.7						
KOLN	**Koldanda**	**59.89**	**294**	*e*P	**P**	**04 28 54.7**	**0.0**
	comp=Z,34nm,0.8s,mb5.4						
ZAL	**Zalesovo**	**62.06**	**324**	P	**P**	**04 29 08.2**	**-0.6**
	comp=Z,3.7nm,0.7s,mb4.6,baz=5.1,slow=7.5,SNR=20						
ZAL	**Zalesovo**	**62.06**	**324**	P	**P**	**04 29 08.3**	**-0.6**
ZAL				pmax	pmax		
	comp=Z,4.0nm,0.7s						
NVS	**Novosibirsk**	**63.16**	**325**	*e*P	**P**	**04 29 13.5**	**-2.8**
NVS				*e*		04 29 57.5	
NVS				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb5.1						
NVS				pmax	pmax		
	comp=N,3.0nm,0.6s						
NVS				pmax	pmax		
	comp=E,9.0nm,0.9s						
RAR	**Rarotonga**	**63.27**	**123**	LR	LR	04 53 35.8	
	comp=E,160nm,18.7s,MS4.2,baz=0.7,slow=33						
KURK	**Kurchatov**	**65.16**	**319**	*e*P	**P**	**04 29 28.8**	**-0.5**
KURK	**Kurchatov**	**65.16**	**319**	*e*P	**P**	**04 29 28.6**	**-0.7**
	comp=E,41nm,0.8s,mb5.5						
ILAR	**Eielson Array**	**66.99**	**25**	P	**P**	**04 29 39.3**	**-1.4**
	comp=E,2.9nm,0.5s,mb4.5,baz=255,slow=6.4,SNR=57						
ILAR	**Eielson Array**	**66.99**	**25**	P	**P**	**04 29 39.3**	**-1.4**
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
THY	**Trims Highway**	**67.12**	**27**	*e*P	**P**	**04 29 41.7**	**+0.1**
AAK	**Ala-Archa**	**67.40**	**310**	⇓*i*P	**P**	**04 29 42.1**	**-1.5**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.8s,mb4.4						
BVAR	**Borovoye Array**	**70.44**	**321**	P	**P**	**04 30 01.9**	**-0.2**
	comp=Z,26nm,0.8s,mb5.2,baz=101,slow=7.6,SNR=87						
BRVK	**Borovoye**	**70.50**	**321**	*e*P	**P**	**04 30 02.5**	**-0.1**
	comp=Z,23nm,0.8s,mb5.2						
INK	**Inuvik**	**72.86**	**23**	P	**P**	**04 30 16.0**	**-0.2**
	comp=Z,4.7nm,0.7s,mb4.5,baz=265,slow=5.7,SNR=23						
INK	**Inuvik**	**72.86**	**23**	P	**P**	**04 30 16.0**	**-0.3**
INK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
INK	**Inuvik**	**72.86**	**23**	*e*P	**P**	**04 30 15.4**	**-0.8**
	comp=Z,5.9nm,0.9s,mb4.5						
DLBC	**Dease Lake**	**74.24**	**33**	P	**P**	**04 30 24.9**	**+0.4**
	comp=Z,2.0nm,0.9s,mb4.2,baz=265,slow=11,SNR=3.3						
SVE	**Sverdlovsk**	**75.97**	**326**	⇑*e*P	**P**	**04 30 35.0**	**+0.5**
ARU	**Arti**	**77.15**	**325**	⇓*i*P	**P**	**04 30 40.8**	**-0.3**
ARU				*e*		04 30 49.4	
ARU				*e*		04 33 35.2	
ARU				*e*PPP	PPP	04 35 20.0	-5.1
ARU				*e*S	S	04 40 29.0	+4.3
ARU				*e*SS	SS	04 45 29.7	+3.8
ARU				pmax	pmax		
	comp=Z,15nm,1.5s,mb4.7						
YBH	**Yreka Blue Hor**	**80.88**	**49**	P	**P**	**04 31 02.7**	**+1.0**
	comp=Z,1.6nm,0.9s,mb3.9,baz=315,slow=14,SNR=3.1						
YBH	**Yreka Blue Hor**	**80.88**	**49**	P	**P**	**04 31 02.7**	**+1.0**
YBH				pmax	pmax		
	comp=Z,2.0nm,0.9s						
YKA	**Yellowknife Ar**	**81.23**	**28**	P	**P**	**04 31 03.2**	**+0.1**
	comp=Z,2.7nm,0.6s,mb4.3,baz=282,slow=5.7,SNR=5.0						
YKA				LR	LR	05 08 49.1	
	comp=Z,40nm,18.3s,MS3.8,baz=280,slow=37						
YKA	**Yellowknife Ar**	**81.23**	**28**	P	**P**	**04 31 03.2**	**+0.1**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
YKA				MLR	MLR		
	comp=Z,40nm,18.3s						
YKA	**Yellowknife Ar**	**81.23**	**28**	P	**P**	**04 31 03.2**	**+0.1**
YKA				LR	LR	05 08 49.1	
NEW	**Newport**	**83.33**	**42**	P	**P**	**04 31 15.4**	**+1.2**
	comp=Z,1.4nm,0.5s,mb4.3,baz=278,slow=5.9,SNR=4.7						
NEW	**Newport**	**83.33**	**42**	P	**P**	**04 31 15.4**	**+1.2**
NEW				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NEW	**Newport**	**83.33**	**42**	*e*P	**P**	**04 31 14.8**	**+0.6**
	comp=Z,1.8nm,0.5s,mb4.4						
CASY	**Casey**	**84.88**	**194**	*e*P	**P**	**04 31 21.1**	**-0.5**
NVAR	**Mina Array Bea**	**84.91**	**52**	P	**P**	**04 31 24.1**	**+1.8**
	comp=Z,1.0nm,0.7s,mb4.0,baz=268,slow=4.5,SNR=8.2						
NVAR				LR	LR	05 00 43.9	
	comp=Z,26nm,21.9s,MS3.6,baz=105,slow=30						
HLID	**Hailey**	**86.39**	**46**	*e*P	**P**	**04 31 30.1**	**+0.6**
	comp=Z,0.9nm,0.7s,mb4.1						
ARCES	**ARCESS Array B**	**86.85**	**342**	P	**P**	**04 31 31.5**	**+0.4**
	comp=Z,3.6nm,0.8s,mb4.7,baz=82,slow=7.3,SNR=14						
ARCES	**ARCESS Array B**	**86.85**	**342**	P	**P**	**04 31 31.5**	**+0.3**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ARCES	**ARCESS Array B**	**86.85**	**342**	P	**P**	**04 31 31.5**	**+0.4**
HRY	**Holter Researc**	**87.21**	**42**	*e*P	**P**	**04 31 34.7**	**+1.3**
BW06	**Boulder Array**	**90.02**	**46**	P	**P**	**04 31 47.5**	**+0.6**
PDAR	**Pinedale Array**	**90.02**	**46**	P	**P**	**04 31 47.0**	**+0.2**
	comp=Z,1.1nm,1.1s,mb4.1,slow=1.5,SNR=4.0						
FINES	**FINESS Array B**	**91.18**	**336**	P	**P**	**04 31 51.0**	**-0.9**
	comp=Z,3.1nm,0.6s,mb4.8,baz=75,slow=5.1,SNR=12						
FINES	**FINESS Array B**	**91.18**	**336**	P	**P**	**04 31 51.0**	**-0.9**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
VNDA	**Vanda**	**92.20**	**177**	P	**P**	**04 31 56.7**	**+0.5**
	comp=Z,0.7nm,0.9s,mb4.0,baz=294,slow=8.1,SNR=3.2						
VNDA	**Vanda**	**92.20**	**177**	P	**P**	**04 31 56.7**	**+0.4**
VNDA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
VNDA	**Vanda**	**92.20**	**177**	P	**P**	**04 31 56.7**	**+0.4**
TXAR	**Lajitas Array**	**99.31**	**57**	LR	LR	05 13 10.6	
	comp=Z,72nm,20.0s,MS4.2,baz=310,slow=33						
SNAA	**Sanae**	**119.98**	**191**	⇓*i*P	PKPdf	04 37 36.6	+0.7
VNA2	**Neumayer--Watz**	**121.39**	**190**	⇓*i*P	PKPdf	04 37 42.3	+3.7
VNA3	**Neumayer Olymp**	**121.46**	**189**	⇓*i*P	PKPdf	04 37 42.4	+3.6
DBIC	**Dimbokro**	**144.94**	**305**	PKPbc	PKPbc	04 38 25.6	+1.6
	comp=Z,23nm,0.5s,baz=34,slow=3.9,SNR=55						
DBIC	**Dimbokro**	**144.94**	**305**	PKIKP	PKPdf	04 38 25.6	+1.7
DBIC				pmax	pmax		
	comp=Z,23nm,0.5s						
KIC	**Kosan Boka**	**145.03**	**304**	⇓*i*PKP1	PKPbc	04 38 26.1	+1.8
	comp=Z,128nm,0.7s						
TIC	**Toumodi**	**145.08**	**305**	⇓*i*PKP1	PKPbc	04 38 26.0	+1.6
LVC	**Limon Verde**	**145.23**	**109**	*e*PKP	PKPdf	04 38 26.6	+2.5
LIC	**Lamto**	**145.34**	**304**	⇓*i*PKP1	PKPbc	04 38 26.9	+1.8
	comp=Z,167nm,0.7s						
LPAZ	**La Paz**	**146.27**	**98**	PKPbc	PKPbc	04 38 29.9	+2.7
	comp=Z,2.8nm,0.9s,baz=314,slow=5.8,SNR=9.3						
LPAZ	**La Paz**	**146.27**	**98**	PKP2	PKPab	04 38 30.0	-0.2
LPAZ				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SAML	**Samuel**	**150.13**	**83**	*e*PKPdf	PKPdf	04 38 34.6	+2.2
SAML				*e*PKPbc	PKPdf	04 38 39.5	+7.1

MOS ***22*** *04:23:04.5±3.0, 51.65N×16.07E, h10km, mb4.0/1, Error ellipse: s-maj=15.3km s-min=6.5km az=77.8*
NEIC ***22*** *04:23:04.9±1.4, 51.55N×16.14E, h5km, ML3.1(VIE), ML3.0(SZGRF), ML2.9(BRG), ML2.7(CLL), Error ellipse: s-maj=15.3km s-min=5.9km az=208.0*
IPEC ***22*** *04:23:04.1±0.3, 51.60N×16.22E, ML2.3/3, Error ellipse: s-maj=1.9km s-min=1.4km az=26.0*
IDC ***22*** *04:23:06.2±1.1, 51.46N×15.95E, mb1 3.4/6, mb1mx3.3/20, ML3.0/6, Error ellipse: s-maj=16.2km s-min=9.4km az=120.0*
BGR ***22*** *04:23:06.5±0.8, 51.44N×16.13E, h1km, ML3.0/4, Error ellipse: s-maj=11.1km s-min=7.8km az=168.0*
WAR ***22*** *04:23:06.3, 51.51N×16.08E, ML3.0, Mining Induced*
CSEM ***22*** *04:23:06.6±0.1, 51.46N×16.10E, h0km, ML3.3/4, Error ellipse: s-maj=2.5km s-min=1.4km az=9.0*
PRU ***22*** *04:23:06.3, 51.48N×16.08E, Felt In Harrachov*

ISC 22 04:23:05.1±0.6,51.40N±0.03×16.03E±0.03,n56,σ1s17/97,

3C-1D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.59**	**163**	*i* PG	**Pg**	**04 23 18.8**	**+2.0**
KSP				*e*SG	**Sg**	**04 23 28.8**	**+4.2**
KSP	**Ksiaz**	**0.59**	**163**	⇓*i*Pg	**Pg**	**04 23 18.8**	**+2.0**
KSP				*e*Sg	**Sg**	**04 23 27.6**	**+3.0**
KSP	**Ksiaz**	**0.59**	**163**	*e*Pg	**Pg**	**04 23 18.9**	**+2.1**
KSP				*e*Sg	**Sg**	**04 23 28.2**	**+3.6**
UPC	**Upice**	**0.90**	**181**	*e*PG	**Pg**	**04 23 24.8**	**+1.8**
DPC	**Dobruska-Polom**	**1.07**	**170**	*e*P	**Pg**	**04 23 27.5**	**+1.0**
DPC				*e*		04 23 42.6	
DPC				smax			
	comp=N,34nm,0.3s						
DPC	**Dobruska-Polom**	**1.07**	**170**	*e*PG	**Pg**	**04 23 27.5**	**+1.0**
DPC				*e*SG	**Sg**	**04 23 42.6**	**+1.8**
	comp=N,34nm,0.3s						
DPC	**Dobruska-Polom**	**1.07**	**170**	*e*Pg	**Pg**	**04 23 27.5**	**+1.0**
DPC				*e*Sg	**Sg**	**04 23 43.0**	**+2.2**
PVCC	**Panska Ves**	**1.27**	**227**	*e*PG	**Pg**	**04 23 31.3**	**+0.8**
PVCC	**Panska Ves**	**1.27**	**227**	*e*Sg	**Sg**	**04 23 51.9**	**+4.4**
PVCC	**Panska Ves**	**1.27**	**227**	*e*Pn	**Pn**	**04 23 31.4**	**+1.3**
BRG	**Berggiesshubel**	**1.42**	**249**	*e*Pg	**Pg**	**04 23 33.3**	**-0.1**
BRG				*e*Sg	**Sg**	**04 23 54.1**	**+1.8**
BRG	**Berggiesshubel**	**1.42**	**249**	*e*P	**Pn**	**04 23 32.2**	**0.0**
BRG				*i*		04 23 54.0	
BRG	**Berggiesshubel**	**1.42**	**249**	*e*Pn	**Pn**	**04 23 32.2**	**0.0**
BRG				*i* Pg	**Pg**	**04 23 33.7**	**+0.3**
BRG				*i* Sg	**Sg**	**04 23 54.0**	**+1.7**
BRG	**Berggiesshubel**	**1.42**	**249**	*i* Pg	**Pg**	**04 23 33.7**	**+0.3**
BRG				Sg	**Sg**	**04 23 54.1**	**+1.8**
PRU	**Pruhonice**	**1.70**	**214**	P	**Pn**	**04 23 37.0**	**+0.7**
PRU						04 24 03.0	
PRU				smax			
	comp=N,25nm,0.4s						
PRU	**Pruhonice**	**1.70**	**214**	PN	**Pn**	**04 23 37.0**	**+0.7**
PRU				PG	**Pg**	**04 23 38.9**	**-0.2**
PRU				*i* x	x	04 23 42.8	
PRU				*ex*	x	04 23 56.0	
PRU				SG	**Sg**	**04 24 03.0**	**+1.2**
	comp=N,25nm,0.4s						
MORC	**Moravsky Berou**	**1.89**	**149**	*e*Pn	**Pn**	**04 23 39.1**	**+0.2**
MORC				*e*Sn	**Sn**	**04 24 04.2**	**+0.3**
MORC				*e*Sg	**Sg**	**04 24 07.6**	**-0.5**
MORC	**Moravsky Berou**	**1.89**	**149**	*e*Pn	**Pn**	**04 23 39.1**	**+0.1**
MORC				*e*Sn	**Sn**	**04 24 04.2**	**+0.3**
MORC				*e*Sg	**Sg**	**04 24 07.1**	**-1.0**
	comp=N,21nm,0.3s						
CLL	**Collm**	**1.90**	**268**	*i* PN	**Pn**	**04 23 38.7**	**-0.4**
CLL				*i* PG	**Pg**	**04 23 41.9**	**-1.1**
CLL				*i*		04 23 44.7	
CLL				*i* SG	**Sg**	**04 24 08.0**	**-0.4**
CLL	**Collm**	**1.90**	**268**	*i* P	**Pn**	**04 23 38.7**	**-0.4**
CLL				*i*		04 24 08.0	
CLL	**Collm**	**1.90**	**268**	*i* Pn	**Pn**	**04 23 38.7**	**-0.4**
CLL				*i* Pg	**Pg**	**04 23 41.9**	**-1.1**
CLL				*i* Sg	**Sg**	**04 24 08.0**	**-0.4**
OKC	**Ostrava-Krasne**	**2.07**	**138**	*e*PG	**Pg**	**04 23 45.2**	**-1.2**
OKC				*e*SG	**Sg**	**04 24 12.7**	**-1.3**
VRAC	**Vranov**	**2.13**	**170**	Pn	**Pn**	**04 23 43.1**	**+0.7**
	comp=N,1.3nm,0.3s,baz=322,slow=17,SNR=6.4						
VRAC				Lg		04 24 15.5	
	comp=N,4.6nm,0.3s,baz=82,slow=18,SNR=12						
VRAC	**Vranov**	**2.13**	**170**	Pn	**Pn**	**04 23 43.1**	**+0.7**
VR

ARCES	**ARCESS Array B**	**18.74**	**10**	Pn	**P**		**04 27 19.6**	**-7.5**
	comp=Z,0.1nm,0.3s,baz=192,slow=13,SNR=4.0							

IDC 22 04:40:19.3±38.0, 23.59S×175.75W, h342km±117km, mb3.4/4, mb1 3.5/4, mb1mx3.2/15, Error ellipse: s-maj=489.0km s-min=98.9km az=78.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**35.37**	**268**	P	P	04 46 44.0	-1.1
	4.6nm,0.4s,baz=94,slow=9.8,SNR=13						
STKA	**Stephens Creek**	**38.45**	**248**	P	P	04 47 08.3	-2.2
	0.8nm,0.3s,baz=96,slow=10,SNR=2.7						
ASAR	**Alice Springs**	**45.92**	**259**	P	P	04 48 09.3	-1.4
	0.8nm,0.6s,baz=92,slow=9.5,SNR=7.4						
WRA	**Warramunga Arr**	**46.31**	**264**	P	P	04 48 12.3	-1.4
	1.0nm,0.3s,baz=99,slow=6.9,SNR=29						
WRA				ScP		04 53 00.7	
	0.4nm,1.1s,baz=101,slow=3.6,SNR=4.8						

BJI 22 04:49:16.3, 25.20N×100.21E, h21km, ML3.6, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**2.29**	**91**	*e*P	Pn	04 49 54.1	+0.4
KMI				PG	Pn	04 49 57.3	+3.6
KMI				SG	Sn	04 50 28.0	+6.4
KMI				Smax			
	comp=N,482nm,0.8s						
KMI				Smax			
	comp=E,367nm,0.8s						
CD2	**Chengdu**	**6.49**	**28**	*e*PG	Pn	04 51 11.3	+18

IDC 22 04:54:37.9±1.2, 14.50N×147.01E, mb3.5/4, mb1 3.8/5, mb1mx3.7/19, Error ellipse: s-maj=50.9km s-min=23.4km az=99.0
NEIC 22 04:54:43.0±0.9, 14.50N×147.01E, h35km, mb4.5/2, Error ellipse: s-maj=34.2km s-min=12.4km az=94.0
ISC 22 04:54:40.8±1.2, 14.5N±0.1×147.0E±0.3, h33km, n9, σ0§49/8, mb3.8/7, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**36.45**	**200**	P	**P**	**05 01 43.8**	**-0.9**
	0.5nm,0.9s,mb3.5,baz=22,slow=9.5,SNR=5.7						
ASAR	**Alice Springs**	**40.06**	**199**	P	**P**	**05 02 15.3**	**+0.5**
	0.1nm,0.4s,mb2.9,baz=14,slow=7.4,SNR=2.7						
MBWA	**Marble Bar**	**44.44**	**218**	*e*P	**P**	**05 02 51.2**	**+0.5**
SONM	**Songino Array**	**47.20**	**323**	P	**P**	**05 03 12.4**	**+0.2**
	0.5nm,0.6s,mb3.6,baz=137,slow=7.8,SNR=4.1						
KURK	**Kurchatov**	**65.22**	**319**	*e*P	**P**	**05 05 20.6**	**-0.6**
	3.7nm,0.7s,mb4.5						
ILAR	**Eielson Array**	**66.84**	**25**	P	**P**	**05 05 31.2**	**+0.1**
	0.4nm,0.4s,mb3.8,baz=254,slow=5.8,SNR=13						
BVAR	**Borovoye Array**	**70.49**	**321**	P	**P**	**05 05 54.5**	**+0.5**
	1.8nm,0.5s,mb4.3,baz=100,slow=8.8,SNR=11						
BRVK	**Borovoye**	**70.56**	**321**	*e*P	**P**	**05 05 54.0**	**-0.3**
	2.5nm,0.8s,mb4.2						
DBIC	**Dimbokro**	**145.04**	**305**	PKPbc	PKPbc	05 14 17.7	+1.7
	2.5nm,0.5s,baz=12,slow=5.8,SNR=8.9						

NEIC 22 05:02:21.7, 38.89S×175.17E, h233km, After WEL.
WEL 22 05:02:21.1±0.2, 38.88S×175.16E, h238km±1km, ML4.0/10, 1C, Error ellipse: s-maj=2.4km s-min=2.0km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWVZ	**Taurewa**	**0.28**	**132**	P	P	05 02 51.6	-0.7
TWVZ				S	S	05 03 15.1	-1.4
TWVZ	**Taurewa**	**0.28**	**132**	PN	P	05 02 51.6	-0.6
TWVZ				SN	S	05 03 15.1	-1.3
MGZ	**Maungaku**	**0.32**	**112**	P	P	05 02 51.9	-0.4
MGZ	**Maungaku**	**0.32**	**112**	PN	P	05 02 51.9	-0.5
WTVZ	**West Tongariro**	**0.41**	**125**	P	P	05 02 52.2	-0.3
WTVZ				S	S	05 03 15.7	-1.3
WTVZ	**West Tongariro**	**0.41**	**125**	PN	P	05 02 51.9	-0.6
WTVZ				SN	S	05 03 15.7	-1.3
KATZ	**Kakaramea**	**0.42**	**103**	P	P	05 02 52.0	-0.6
KATZ	**Kakaramea**	**0.42**	**103**	PN	P	05 02 52.2	-0.4
KATZ				SN	S	05 03 16.7	-0.4
KAVZ	**Karewarewa**	**0.43**	**120**	P	P	05 02 52.2	-0.4
KAVZ	**Karewarewa**	**0.43**	**120**	PN	P	05 02 52.2	-0.4
CNZ	**Chateau**	**0.43**	**137**	P	P	05 02 52.3	-0.3
CNZ	**Chateau**	**0.43**	**137**	PN	P	05 02 52.2	-0.4
WPVZ	**Whakapapa**	**0.44**	**137**	P	P	05 02 52.3	-0.3
WPVZ	**Whakapapa**	**0.44**	**137**	⇑PN	P	05 02 52.3	-0.3
WPVZ				SN	S	05 03 15.9	-1.3
NGZ	**Ngauruhoe**	**0.45**	**131**	P	P	05 02 52.4	-0.3
NGZ	**Ngauruhoe**	**0.45**	**131**	PN	P	05 02 52.3	-0.3
NGZ				SN	S	05 03 16.1	-1.1
DRZ	**Dome Shelter**	**0.50**	**142**	PN	P	05 02 53.1	+0.3
TUVZ	**Tukino**	**0.54**	**135**	P	P	05 02 52.9	0.0
TUVZ	**Tukino**	**0.54**	**135**	PN	P	05 02 52.7	-0.3
TUVZ				SN	S	05 03 16.4	-1.3
WNVZ	**Wahianoa**	**0.56**	**143**	P	P	05 02 52.6	-0.4
WNVZ	**Wahianoa**	**0.56**	**143**	PN	P	05 02 52.6	-0.4
MOVZ	**Moawhango**	**0.70**	**139**	P	P	05 02 52.9	-0.6
MOVZ				S	S	05 03 16.3	-2.4
MOVZ	**Moawhango**	**0.70**	**139**	PN	P	05 02 52.9	-0.6
MOVZ				SN	S	05 03 16.3	-2.4
RAEZ	**Rainy Point**	**0.72**	**236**	PN	P	05 02 52.9	-0.7
WAZ	**Wanganui**	**0.88**	**189**	P	P	05 02 54.3	0.0
WAZ	**Wanganui**	**0.88**	**189**	PN	P	05 02 54.3	0.0
WAZ				SN	S	05 03 19.4	-0.8
NEZ	**North Egmont**	**0.92**	**245**	P	P	05 02 54.3	-0.2
NEZ	**North Egmont**	**0.92**	**245**	PN	P	05 02 54.2	-0.3
DFE	**Dawson Falls**	**0.94**	**241**	P	P	05 02 54.4	-0.2
DFE	**Dawson Falls**	**0.94**	**241**	PN	P	05 02 54.4	-0.2
PKE	**Pukeiti**	**0.97**	**251**	P	P	05 02 54.3	-0.5
PKE	**Pukeiti**	**0.97**	**251**	PN	P	05 02 54.3	-0.5
NRZ	**Ngariki Road**	**1.06**	**244**	P	P	05 02 54.9	-0.4
NRZ	**Ngariki Road**	**1.06**	**244**	PN	P	05 02 54.9	-0.4
BKZ	**Black Stump Fm**	**1.07**	**106**	PN	P	05 02 54.8	-0.6
TSZ	**Takapari Road**	**1.33**	**153**	P	P	05 02 57.1	-0.1
TSZ	**Takapari Road**	**1.33**	**153**	PN	P	05 02 57.1	-0.1
TSZ				SN	S	05 03 24.3	-1.0
URZ	**Urewera**	**1.65**	**68**	P	P	05 02 57.4	-2.3
URZ	**Urewera**	**1.65**	**68**	PN	P	05 02 57.4	-2.3
URZ				SN	S	05 03 24.7	-5.0
PWZ	**Pawanui**	**1.74**	**132**	*e*P	P	05 03 00.1	-0.5
PWZ	**Pawanui**	**1.74**	**132**	PN	P	05 03 00.1	-0.5
PWZ				SN	S	05 03 26.1	-5.0
MRZ	**Mangatainoka R**	**1.81**	**170**	P	P	05 03 00.3	-0.8
MRZ	**Mangatainoka R**	**1.81**	**170**	PN	P	05 03 00.3	-0.8
MRZ				SN	S	05 03 30.5	-1.5
MWZ	**Matawai**	**1.93**	**74**	P	P	05 03 00.3	-1.9
MWZ	**Matawai**	**1.93**	**74**	PN	P	05 03 00.3	-1.9
MWZ				SN	S	05 03 28.5	-5.5
KNZ	**Kokohu**	**1.96**	**95**	P	P	05 03 01.5	-1.0
KNZ	**Kokohu**	**1.96**	**95**	PN	P	05 03 01.4	-1.0
BFZ	**Birch Farm**	**1.98**	**155**	*e*P	P	05 03 01.9	-0.7
BFZ	**Birch Farm**	**1.98**	**155**	PN	P	05 03 01.9	-0.7
BFZ				SN	S	05 03 33.7	-1.0
KIW	**Kapiti Island**	**1.99**	**186**	P	P	05 03 01.8	-0.9
KIW	**Kapiti Island**	**1.99**	**186**	PN	P	05 03 01.8	-0.9
KIW				SN	S	05 03 33.2	-1.7
CAW	**Cannon Point**	**2.22**	**182**	P	P	05 03 04.0	-1.0
CAW	**Cannon Point**	**2.22**	**182**	PN	P	05 03 04.0	-1.0
CAW				SN	S	05 03 37.9	-1.2
MTW	**Mount Morrison**	**2.29**	**174**	P	P	05 03 04.5	-1.2
MTW	**Mount Morrison**	**2.29**	**174**	PN	P	05 03 04.5	-1.2
MRW	**Makara Radio**	**2.37**	**188**	P	P	05 03 05.3	-1.2
MRW	**Makara Radio**	**2.37**	**188**	PN	P	05 03 05.3	-1.2
MRW				SN	S	05 03 40.1	-1.6
WEL	**Wellington**	**2.42**	**187**	P	P	05 03 06.1	-0.9
WEL	**Wellington**	**2.42**	**187**	PN	P	05 03 06.1	-0.9
PAWZ	**Paruwai Farm**	**2.50**	**175**	PN	P	05 03 06.7	-1.2
MSWZ	**Moikau Station**	**2.53**	**179**	P	P	05 03 06.8	-1.4
MSWZ	**Moikau Station**	**2.53**	**179**	PN	P	05 03 06.8	-1.4
BHW	**Baring Head**	**2.53**	**185**	P	P	05 03 06.5	-1.7
BHW	**Baring Head**	**2.53**	**185**	PN	P	05 03 06.5	-1.7
PUZ	**Puketiti**	**2.56**	**73**	*e*P	P	05 03 06.2	-2.3
PUZ	**Puketiti**	**2.56**	**73**	PN	P	05 03 06.2	-2.3
PUZ				SN	S	05 03 40.2	-5.0
NNZ	**Nelson**	**2.71**	**210**	PN	P	05 03 08.3	-1.7
NNZ				SN	S	05 03 45.4	-2.6
TUWZ	**Tuamarina**	**2.71**	**200**	PN	P	05 03 08.9	-1.2
MXZ	**Matakaoa Point**	**2.80**	**63**	P	P	05 03 08.6	-2.5
MXZ	**Matakaoa Point**	**2.80**	**63**	PN	P	05 03 08.6	-2.5
QRZ	**Quartz Range**	**2.81**	**225**	P	P	05 03 08.5	-2.6
QRZ	**Quartz Range**	**2.81**	**225**	PN	P	05 03 08.5	-2.6
BSWZ	**Blackbirch Sta**	**3.00**	**199**	P	P	05 03 12.1	-1.1
BSWZ	**Blackbirch Sta**	**3.00**	**199**	PN	P	05 03 12.1	-1.0
THZ	**Tophouse**	**3.36**	**210**	P	P	05 03 15.1	-2.2
THZ	**Tophouse**	**3.36**	**210**	PN	P	05 03 15.1	-2.2
THZ				SN	S	05 03 58.4	-2.5
KHZ	**Kahutara**	**3.74**	**199**	PN	P	05 03 20.0	-1.8
DSZ	**Denniston Nort**	**3.84**	**221**	PN	P	05 03 19.9	-3.1
LTZ	**Lake Taylor**	**4.47**	**208**	*e*P	P	05 03 27.9	-2.7
LTZ	**Lake Taylor**	**4.47**	**208**	PN	P	05 03 27.9	-2.7
MQZ	**McQueen's Vall**	**5.18**	**201**	*e*P	P	05 03 35.7	-3.6
MQZ	**McQueen's Vall**	**5.18**	**201**	PN	P	05 03 35.7	-3.6
WVZ	**Waitaha Valley**	**5.36**	**217**	PN	P	05 03 38.0	-3.6
FOZ	**Fox Glacier**	**6.24**	**220**	PN	P	05 03 48.3	-4.3
LBZ	**Lake Benmore**	**6.64**	**213**	PN	P	05 03 53.8	-3.9
ODZ	**Otahua Downs**	**7.02**	**207**	*e*P	P	05 03 59.8	-2.7
ODZ	**Otahua Downs**	**7.02**	**207**	PN	P	05 03 59.8	-2.8
JCZ	**Jackson Bay**	**7.07**	**221**	PN	P	05 03 59.1	-4.1

IDC 22 05:05:54.4±59.0, 20.44S×179.85E, mb4.1/3, mb1 4.3/3, mb1mx3.8/13, Error ellipse: s-maj=1057.0km s-min=146.8km az=82.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**36.01**	**244**	P	P	05 12 57.2	-2.1
	1.9nm,0.7s,baz=76,slow=9.5,SNR=5.2						
ASAR	**Alice Springs**	**42.57**	**257**	P	P	05 13 52.0	-1.9
	1.7nm,0.5s,baz=100,slow=8.1,SNR=21						
WRA	**Warramunga Arr**	**42.62**	**262**	P	P	05 13 53.0	-1.3
	0.9nm,0.3s,baz=96,slow=7.8,SNR=18						

PRU 22 05:23:22.0, 51.53N×16.03E
WAR 22 05:23:23.0, 51.56N×16.01E, ML2.8, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.74**	**166**	*e*PG	Pg	05 23 37.0	-0.8
KSP				*i* SG	Sg	05 23 46.0	-1.7
UPC	**Upice**	**1.06**	**180**	*e*PG	Pg	05 23 41.7	-2.4
DPC	**Dobruska-Polom**	**1.23**	**171**	*e*PG	Pg	05 23 44.8	-2.7
DPC				*e*SG	Sg	05 24 00.7	-3.2
PVCC	**Panska Ves**	**1.38**	**222**	*e*PG	Pg	05 23 48.1	-2.4
PRU	**Pruhonice**	**1.83**	**211**	*e*PG	Pg	05 23 54.4	-5.1
PRU				SG	Sg	05 24 18.1	-5.8
	11nm,0.4s						
CLL	**Collm**	**1.90**	**263**	*e*PN	Pn	05 23 54.0	-2.9
CLL				*e*PG	Pg	05 23 57.0	-3.9
CLL				*e*SG	Sg	05 24 23.0	-3.2
NKC	**Novy Kostel**	**2.62**	**241**	*e*SG	Sg	05 24 46.7	-3.4
KHC	**Kasperske Hory**	**2.89**	**214**	*ex*	x	05 24 14.0	
KHC				*e*SG	Sg	05 24 53.8	-5.4

SOF 22 05:36:58.7, 44.90N×22.35E, h10km, MD3.2
BUC 22 05:36:59.3±1.8, 44.72N×22.02E, MD4.6/4, Error ellipse: s-maj=35.9km s-min=17.1km az=77.0
PRU 22 05:37:18.4, 48.22N×23.49E
ISC 22 05:37:00.3±0.3, 44.87N±0.02×22.46E±0.03, h10km, n47, σ1§29/65, 10C-9D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DJES	**Djerdap**	**0.24**	**169**	⇑*i*Pg	**Pg**	**05 37 07.3**	**+1.8**
DJES				Sg	**Sg**	**05 37 10.6**	**+1.7**
SVIS	**Svilajnac**	**1.06**	**237**	⇑*i*Pg	**Pg**	**05 37 22.9**	**+1.4**
SVIS				Sg	**Sg**	**05 37 36.4**	**+0.8**
CRAR	**CRAIOVA**	**1.10**	**119**	⇑*i*P	**Pg**	**05 37 23.8**	**+1.5**
BOLS	**Boljevac**	**1.10**	**199**	⇑*i*Pg	**Pg**	**05 37 22.9**	**+0.6**
BOLS				Sg	**Sg**	**05 37 37.7**	**+0.6**
BEO	**Belgrade**	**1.43**	**269**	⇓*i*Pn	**Pg**	**05 37 30.3**	**+1.4**
BEO				Sg	**Sg**	**05 37 49.9**	**+2.0**
GRUS	**Gruza**	**1.59**	**232**	⇓*i*Pn	**Pg**	**05 37 32.1**	**0.0**
GRUS				Sn	**Sg**	**05 37 53.1**	**-0.3**
MTUR	**Matau**	**1.88**	**78**	⇓*i*P	**Pg**	**05 37 36.9**	**-0.9**
MTUR				*i* S	**Sg**	**05 38 05.4**	**+2.6**
DIVS	**Divcibare**	**1.93**	**247**	⇓*i*Pn	**Pn**	**05 37 34.7**	**+1.1**
DIVS				Sg	**Sn**	**05 37 57.4**	**-0.7**
BARS	**Barje**	**2.10**	**193**	⇑*i*Pn	**Pn**	**05 37 39.8**	**+3.8**
BARS				Sn	**Sn**	**05 38 05.2**	**+2.8**
SNX	**Sinaia**	**2.21**	**76**	⇓*i*P	**Pg**	**05 37 44.3**	**-0.2**
SNX				*i* S	**Sg**	**05 38 16.5**	**+2.4**
SNX	**Sinaia**	**2.21**	**76**	⇓*i*P	**Pg**	**05 37 44.3**	**-0.2**
SNX				S	**Sg**	**05 38 16.4**	**+2.3**
VTS	**Vitosha**	**2.34**	**166**	*i* P	**Pn**	**05 37 39.8**	**+0.3**
VTS				Pg	**Pg**	**05 37 45.3**	**-1.8**
VTS	**Vitosha**	**2.34**	**166**	⇑*i*P	**Pn**	**05 37 39.9**	**+0.4**
NVSS	**Nova Varos 2**	**2.41**	**236**	⇑*i*Pn	**Pn**	**05 37 41.0**	**+0.6**
NVSS				Sn	**Sn**	**05 38 00.7**	**-1.7**
MLR	**Muntele Rosu**	**2.54**	**75**	⇓*i*P	**Pn**	**05 37 45.2**	**+2.9**
MLR				S	**Sg**	**05 38 23.5**	**-1.4**
PGB	**Panagyurishte**	**2.63**	**151**	P	**Pn**	**05 37 44.0**	**+0.4**
PGB				Pg	**Pg**	**05 37 51.5**	**-1.3**
PVL	**Pavlikeni**	**2.65**	**128**	*e*P	**Pn**	**05 37 43.5**	**-0.4**
ISR	**Istrita**	**2.91**	**84**	⇓*i*P	**Pn**	**05 37 53.1**	**+5.6**
ISR				*i* S	**Sg**	**05 38 31.7**	**-5.4**
SKO	**Skopje**	**2.99**	**195**	*i* Pn	**Pn**	**05 37 50.0**	**+1.2**
KKB	**Krupnik**	**3.04**	**171**	P	**Pn**	**05 37 50.0**	**+0.6**
VRI	**Vrincioaia**	**3.17**	**70**	⇑*i*P	**Pn**	**05 37 56.7**	**+5.5**
BURAR	**Bucovina Array**	**3.34**	**34**	⇓*i*P	**Pn**	**05 37 58.2**	**+4.5**
MMB	**Musomiste**	**3.41**	**164**	P	**Pn**	**05 37 55.0**	**+0.3**
PSZ	**Piszkesteto**	**3.53**	**331**	⇑*i*P	**Pn**	**05 37 56.4**	**+0.1**
PSZ				*e*S	**Sn**	**05 38 35.1**	**-3.4**
PSZ	**Piszkesteto**	**3.53**	**331**	⇑*i*P	**Pn**	**05 37 56.4**	**+0.1**
PSZ				S	**Sn**	**05 38 35.5**	**-3.0**
BUD	**Budapest**	**3.54**	**319**	*e*S	**Sn**	**05 38 39.2**	**+0.4**
RZN	**Rozhen**	**3.58**	**152**	P	**Pn**	**05 37 57.0**	**-0.1**
KNT	**Kendrikon**	**3.72**	**175**	*e*P	**Pn**	**05 37 58.0**	**+1.2**
SRS	**Serrai**	**3.84**	**167**	*e*P	**Pn**	**05 38 00.3**	**-0.5**
KECS	**Kecovo**	**3.86**	**340**	*i* PN	**Pn**	**05 38 01.9**	**+0.9**
KECS				*e*SN	**Sn**	**05 38 44.0**	**-2.9**
KDZ	**Kurdzhali**	**3.88**	**145**	*e*P	**Pn**	**05 38 01.5**	**+0.2**
GRG	**Griva**	**3.92**	**181**	*e*P	**Pn**	**05 38 01.3**	**-0.5**
PRD	**Provadia**	**3.93**	**113**	*e*P	**Pn**	**05 38 02.0**	**-0.1**
KOLS	**Kolonicke sedl**	**4.06**	**358**	*i* PN	**Pn**	**05 38 04.9**	**+1.0**
SOH	**Sokhos**	**4.10**	**170**	*e*P	**Pn**	**05 38 03.3**	**-1.2**
SRO	**Srobarova**	**4.11**	**317**	*e*SN	**Sn**	**05 38 54.7**	**+1.4**
FNA	**Florina**	**4.17**	**191**	*e*P	**Pn**	**05 38 04.6**	**-0.8**
VYHS	**Vyhne**	**4.40**	**327**	*i* PN	**Pn**	**05 38 09.0**	**+0.3**
OUR	**Ouranopolis**	**4.67**	**166**	*e*P	**Pn**	**05 38 11.6**	**-1.0**
ALN	**Alexandroupoli**	**4.77**	**145**	*e*P	**Pn**	**05 38 12.9**	**-1.1**
LIT	**Litokhoron**	**4.77**	**180**	*e*P	**Pn**	**05 38 12.9**	**-1.0**
PAIG	**Paliouri**	**5.02**	**169**	*e*P	**Pn**	**05 38 16.2**	**-1.4**
XOR	**Xorichti**	**5.53**	**174**	*e*P	**Pn**	**05 38 22.8**	**-1.9**
AOS	**Alonnisos**	**5.80**	**169**	*e*P	**Pn**	**05 38 25.9**	**-2.6**
AGG	**Agios Georgios**	**5.85**	**181**	*e*P	**Pn**	**05 38 27.9**	**-1.2**
DPC	**Dobruska-Polom**	**6.87**	**325**	*e*SN	**Sn**	**05 40 01.4**	**-1.3**
KHC	**Kasperske Hory**	**7.42**	**308**	*e*SN	**Sn**	**05 40 13.6**	**-2.7**

IDC 22 06:49:52.1±0.5, 14.60N×147.20E, h45km±4km, mb3.8/14, mb1 4.0/15, mb1mx3.9/24, MS3.0/1, Ms1 3.0/1, ms1mx2.5/25, Error ellipse: s-maj=19.3km s-min=11.2km az=106.0
NEIC 22 06:49:52.0±0.3, 14.61N×147.25E, mb4.4/4, Error ellipse: s-maj=16.3km s-min=9.1km az=102.0
ISC 22 06:49:50.4±0.5, 14.60N±0.07×147.2E±0.1, h48km, h48km±1.5km: pP-P, n35, σ1§00/24, mb4.1/19, MS3.0/1, 1C-1D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**23.85**	**180**	P	**P**	**06 55 00.9**	**+0.5**
	14nm,0.9s,mb4.4,baz=344,slow=7.8,SNR=5.5						
PMG	**Port Moresby**	**23.85**	**180**	P	**P**	**06 55 00.9**	**+0.5**
CTA	**Charters Tower**	**34.48**	**182**	P	**P**	**06 56 35.2**	**-0.8**
	0.7nm,0.3s,mb4.0,baz=15,slow=10,SNR=2.5						
CTA	**Charters Tower**	**34.48**	**182**	P	**P**	**06 56 35.2**	**-0.8**
WRAB	**Tennant Creek**	**36.57**	**201**	P	**P**	**06 56 53.8**	**0.0**
	5.1nm,0.8s,mb4.4						
WRAB				*e*	pP	06 57 09.7	+3.1
WRA	**Warramunga Arr**	**36.58**	**201**	P	**P**	**06 56 53.7**	**-0.2**
	1.3nm,0.7s,mb3.9,baz=22,slow=9.3,SNR=6.6						
WRA				sP	sP	06 57 10.2	-2.5
	3.0nm,0.8s,baz=22,slow=9.3,SNR=9.0						
WRA				PcP	PcP	06 59 17.3	+0.5
	0.4nm,0.7s,baz=14,slow=3.7,SNR=4.7						
WRA				pPcP		06 59 30.9	
	0.6nm,0.7s,baz=0.4,slow=3.0,SNR=4.8						
WRA				LR	LR	07 11 50.9	
	comp=Z,25nm,19.8s,MS3.0,baz=215,slow=36						
FITZ	**Fitzroy Crossi**	**38.82**	**214**	P	**P**	**06 57 13.1**	**+0.5**
	1.8nm,0.7s,mb3.9,baz=7.3,slow=13,SNR=3.8						
ASAR	**Alice Springs**	**40.19**	**199**	P	**P**	**06 57 24.4**	**+0.5**
	0.6nm,0.7s,mb3.4,baz=26,slow=9.1,SNR=5.8						
ASAR				pP	pP	06 57 37.0	+0.2
	0.8nm,0.6s,baz=17,slow=11,SNR=4.8						
CMAR	**Chiang Mai Arr**	**46.31**	**282**	P	**P**	**06 58 14.0**	**+0.3**
	1.7nm,0.5s,mb4.2,baz=78,slow=6.0,SNR=6.6						
CMAR				pP	pP	06 58 26.9	+0.2
	1.9nm,0.6s,baz=82,slow=5.9,SNR=4.1						
STKA	**Stephens Creek**	**46.52**	**187**	P	**P**	**06 58 14.1**	**-1.0**
	0.8nm,0.6s,mb3.9,baz=18,slow=16,SNR=2.7						
STKA				pP	pP	06 58 27.4	-0.8
	0.8nm,0.4s,baz=349,slow=21,SNR=2.3						
SONM	**Songino Array**	**47.24**	**323**	P	**P**	**06 58 20.7**	**+0.1**
	1.8nm,0.6s,mb4.2,baz=136,slow=7.4,SNR=8.5						
SONM				pP	pP	06 58 33.4	-0.3
	2.9nm,0.7s,baz=135,slow=6.7,SNR=9.3						
NWAO	**Narrogin (SRO)**	**55.25**	**211**	P	**P**	**06 59 21.2**	**-0.1**
	3.3nm,0.7s,mb4.5,baz=51,slow=14,SNR=2.6						
KURK	**Kurchatov**	**65.28**	**319**	*e*P	**P**	**07 00 27.9**	**-1.5**
	5.2nm,0.9s,mb4.6						
ILAR	**Eielson Array**	**66.70**	**25**	P	**P**	**07 00 36.8**	**-1.5**
	1.0nm,0.8s,mb3.9,baz=254,slow=5.2,SNR=10						
ILAR				pP	pP	07 00 50.3	-1.7
	1.9nm,1.0s,baz=251,slow=5.7,SNR=5.9						
BRVK	**Borovoye**	**70.61**	**321**	*e*P	**P**	**07 01 03.1**	**+0.5**
	3.1nm,0.7s,mb4.3						
BRVK				*e*pP	pP	07 01 15.9	-0.5
INK	**Inuvik**	**72.58**	**23**	P	**P**	**07 01 14.2**	**+0.2**
	1.2nm,0.7s,mb3.9						
INK	**Inuvik**	**72.58**	**23**	*e*P	**P**	**07 01 13.9**	**-0.1**
	1.3nm,0.7s,mb4.0						
YBH	**Yreka Blue Hor**	**80.51**	**49**	P	**P**	**07 01 59.4**	**+0.2**
	0.7nm,0.7s,mb3.7,baz=180,slow=6.1,SNR=2.9						
YBH				pP	pP	07 02 13.8	+0.5
	0.8nm,0.7s,baz=242,slow=2.6,SNR=3.3						
NEW	**Newport**	**82.98**	**42**	P	**P**	**07 02 09.5**	**-2.3**
NVAR	**Mina Array Bea**	**84.53**	**52**	P	**P**	**07 02 21.7**	**+1.8**
	1.2nm,0.8s,mb4.1,baz=267,slow=3.8,SNR=9.0						
NVAR				pP	pP	07 02 35.1	+1.1
	1.8nm,0.8s,baz=284,slow=3.5,SNR=9.7						
ARCES	**ARCESS Array B**	**86.81**	**343**	P	**P**	**07 02 32.1**	**+1.7**
	4.6nm,1.0s,mb4.7,baz=56,slow=4.4,SNR=4.2						
PDAR	**Pinedale Array**	**89.65**	**46**	P	**P**	**07 02 45.9**	**+1.4**
	0.5nm,0.9s,mb3.9,baz=288,slow=4.7,SNR=3.7						
FINES	**FINESS Array B**	**91.19**	**336**	P	**P**	**07 02 50.6**	**-0.7**
	3.1nm,0.9s,mb4.6,baz=117,slow=3.1,SNR=3.4						
FINES				pP	pP	07 03 05.0	-0.7
	1.6nm,0.8s,baz=108,slow=6.0,SNR=1.7						
FINES	**FINESS Array B**	**91.19**	**336**	P	**P**	**07 02 50.6**	**-0.7**
FINES				pP	pP	07 03 05.0	-0.7
SNAA	**Sanae**	**120.19**	**191**	⇑*i*		07 08 50.2	
SNAA	**Sanae**	**120.19**	**191**	PKP	PKPdf	07 08 37.1	+1.3
	0.2nm,0.5s,baz=191,slow=5.5,SNR=7.1						
SNAA				pPKP		07 08 50.6	
	0.2nm,0.5s,baz=268,slow=5.1,SNR=2.7						
VNA2	**Neumayer--Watz**	**121.60**	**190**	*e*		07 08 55.7	
VNA2	**Neumayer--Watz**	**121.60**	**190**	⇓*i*P	PKP

	comp=N,2µm,0.3s							
SPCH	**San Pedro de A**	**0.49**	**111**	⇓*i*P	P		07 24 15.8	+0.6
SPCH				*i* S	S		07 24 28.6	+1.4
SPCH				AMP			07 24 29.4	
	comp=E,1µm,0.5s							
ANCH	**Antofagasta**	**1.84**	**239**	*e*P	P		07 24 31.6	+1.5
ANCH				*i* S	S		07 24 54.7	+1.5
CPN1	**Cerro Paranal**	**2.45**	**219**	*e*P	P		07 24 39.1	+0.7
CPN1				*i* S	S		07 25 09.8	+2.1
CPN1				AMP			07 25 13.2	
	comp=E,115nm,0.5s							

NAO ***22*** *07:53:04.5±3.1, 60.82N×29.09E, ML2.6*
HEL ***22*** *07:53:05.6±0.2, 60.86N×29.20E, ML1.4, ML2.6(NAO), Explosion*
IDC ***22*** *07:53:07.5±1.9, 60.96N×29.02E, mb1 3.4/3, mb1mx3.2/18, ML3.0/3, Error ellipse: s-maj=16.7km s-min=11.1km az=161.0*
BER ***22*** *07:53:10.3±2.2, 60.85N×28.77E, h16km±22km, ML2.6(NAO)*

ISC 22 07:53:03.5±1.0, 60.86N±0.05×29.20E±0.09, n16, σ1§48/30, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
VJF	**Virojoki**	**0.87**	**249**	*e*P		**Pg**	**07 53 21.4**	**+0.5**
VJF				*e*S		**Sg**	**07 53 32.6**	**+0.1**
FIA0	**FINESS Array S**	**1.62**	**292**	*e*P		**Pn**	**07 53 33.4**	**-0.1**
FIA0				*e*S		**Sb**	**07 53 54.8**	**-0.3**
FIA0	**FINESS Array S**	**1.62**	**292**	Pn		**Pn**	**07 53 33.3**	**-0.3**
	baz=115,slow=16							
FIA0				Lg			07 53 54.8	
	baz=102,slow=37							
FIA0				Rg			07 54 03.1	
	baz=116,slow=37							
FINES	**FINESS Array B**	**1.62**	**292**	Pg		**Pg**	**07 53 33.3**	**-2.6**
	3.8nm,0.3s,baz=113,slow=15,SNR=66							
FINES				Lg			07 53 54.8	
	9.2nm,0.3s,baz=104,slow=30,SNR=44							
FINES				Rg			07 54 03.0	
	27nm,0.7s,baz=108,slow=26,SNR=23							
PVF	**Pernaja**	**1.67**	**260**	*e*P		**Pn**	**07 53 34.5**	**+0.3**
PVF				*e*S		**Sb**	**07 53 58.0**	**+1.5**
KAF	**Kangasniemi**	**1.87**	**313**	*e*P		**Pn**	**07 53 38.3**	**+1.2**
KAF				*e*S		**Sn**	**07 54 02.4**	**+0.7**
KAF				*e*SG		**Sg**	**07 54 03.6**	**-2.2**
JOF	**Joensuu**	**2.29**	**25**	*e*P		**Pn**	**07 53 44.5**	**+1.4**
JOF				*e*S		**Sn**	**07 54 13.0**	**+0.5**
SUF	**Sumiainen**	**2.36**	**323**	*e*P		**Pn**	**07 53 46.1**	**+2.0**
SUF				*e*S		**Sn**	**07 54 16.3**	**+2.1**
KEF	**Keuruu**	**2.45**	**304**	*e*P		**Pn**	**07 53 46.8**	**+1.4**
KEF				*e*S		**Sn**	**07 54 16.9**	**+0.4**
KEF				*e*SB		**Sb**	**07 54 19.8**	**+0.6**
KEF				MSG			07 54 20.6	
	comp=Z,1.2nm,0.1s							
HFS	**Hagfors**	**7.69**	**271**	*e*P		**Pn**	**07 54 57.5**	**-2.0**
HFS				*e*SG		**Sg**	**07 57 01.6**	**-18**
HFS	**Hagfors**	**7.69**	**271**	Pn		**Pn**	**07 54 57.5**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=84,slow=13,SNR=5.1							
HFS				Sn		**Sn**	**07 56 23.3**	**-5.1**
	comp=Z,0.0nm,0.3s,baz=110,slow=34,SNR=2.4							
HFS				Lg			07 57 01.3	
	comp=Z,0.1nm,0.3s,baz=82,slow=29,SNR=3.7							
HFS	**Hagfors**	**7.69**	**271**	Pn		**Pn**	**07 54 57.5**	**-2.0**
	baz=85,slow=14							
HFS				Lg			07 57 01.6	
	baz=81,slow=37							
NOA	**NORSAR Array B**	**8.75**	**279**	Pn		**P**	**07 55 11.8**	**-2.5**
	comp=Z,0.3nm,0.3s,baz=93,slow=13,SNR=2.4							
ARA0	**ARCESS Array S**	**8.85**	**352**	Pn		**P**	**07 55 13.2**	**-2.4**
	baz=164,slow=14							
ARA0				Sn		**Sn**	**07 56 49.5**	**-7.7**
	baz=169,slow=22							
ARA0				Lg			07 57 42.9	
	baz=173,slow=37							
ARA0	**ARCESS Array S**	**8.85**	**352**	*e*P		**P**	**07 55 13.2**	**-2.4**
ARA0				*e*S		**Sn**	**07 56 49.5**	**-7.7**
ARA0				*e*			07 57 42.9	
ARCES	**ARCESS Array B**	**8.85**	**352**	Pn		**P**	**07 55 13.0**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=173,slow=12,SNR=7.2							
ARCES				Sn		**Sn**	**07 56 48.4**	**-8.8**
	comp=Z,0.2nm,0.3s,baz=178,slow=24,SNR=3.6							

IDC ***22*** *08:08:03.4±0.6, 55.25S×28.86W, mb4.4/8, mb1 4.4/9, mb1mx4.4/12, ML4.5/1, MS3.6/7, Ms1 3.6/7, ms1mx3.4/14, Error ellipse: s-maj=28.2km s-min=16.5km az=58.0*
BJI ***22*** *08:08:11.8, 55.20S×28.90W, h63km*
NEIC ***22*** *08:08:11.9±0.3, 55.25S×28.88W, mb4.6/4, Error ellipse: s-maj=11.3km s-min=7.1km az=59.0*
SYO ***22*** *08:08:11.6, 55.23S×28.82W, h64km, MB4.6*

ISC 22 08:08:09.5±0.5, 55.22S±0.08×28.8W±0.2, h64km, n48, σ1§25/25, mb4.5/11, 3C-3D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
EFI	**East Falkland**	**17.75**	**269**	P		**P**	**08 12 14.8**	**+1.3**
VNA1	**Neumayer--Stat**	**17.90**	**158**	⇑*i*P		**P**	**08 12 21.4**	**+6.3**
VNA1				*e*			08 12 34.7	
VNA3	**Neumayer Olymp**	**18.07**	**160**	⇓*i*P		**P**	**08 12 19.6**	**+2.4**
VNA3				*e*			08 12 32.8	
VNA2	**Neumayer--Watz**	**18.29**	**158**	⇑*i*P		**P**	**08 12 20.6**	**+0.6**
VNA2				*e*			08 12 34.0	
PMSA	**Palmer Station**	**19.80**	**227**	*e*P		**P**	**08 12 35.0**	**-1.9**
	25nm,0.8s							
SNAA	**Sanae**	**19.86**	**156**	*e*			08 12 49.0	
SNAA	**Sanae**	**19.86**	**156**	P		**P**	**08 12 35.6**	**-1.9**
	1.5nm,0.3s,baz=4.7,slow=7.2,SNR=249							
SNAA	**Sanae**	**19.86**	**156**	⇑*i*P		**P**	**08 12 35.5**	**-2.0**
SNAA				*e*			08 12 49.0	
SYO	**Syowa Base**	**32.78**	**142**	⇓P		**P**	**08 14 35.6**	**-2.5**
SYO	**Syowa Base**	**32.78**	**142**	⇓pP		pP	08 14 51.3	-2.6
QSPA	**South Pole Qui**	**35.03**	**180**	*e*P		**P**	**08 14 57.6**	**+0.3**
	6.8nm,0.5s,mb4.8							
CPUP	**Villa Florida**	**35.60**	**312**	P		**P**	**08 15 01.7**	**-1.0**
	7.3nm,0.8s,mb4.7,baz=174,slow=7.3,SNR=12							
CPUP				LR		LR	08 28 54.9	
	comp=Z,107nm,20.9s,baz=186,slow=35							
SUR	**Sutherland**	**41.30**	**77**	P		**P**	**08 15 52.4**	**+2.3**
	4.7nm,0.8s,mb4.2,baz=209,slow=14,SNR=4.6							
SUR				LR		LR	08 27 57.2	
	comp=Z,78nm,19.4s,baz=28,slow=29							
MAW	**Mawson**	**41.34**	**145**	P		**P**	**08 15 49.6**	**-0.4**
	3.0nm,0.8s,mb4.0,baz=269,slow=7.2,SNR=11							
MAW				LR		LR	08 30 25.4	
	comp=Z,31nm,18.5s,baz=64,slow=32							
BDFB	**Brasilia**	**42.21**	**332**	P		**P**	**08 15 58.5**	**+0.9**
	3.1nm,0.6s,mb4.1,baz=66,slow=9.2,SNR=5.1							
BDFB				LR		LR	08 32 43.9	
	comp=Z,106nm,18.6s,baz=291,slow=35							
LVC	**Limon Verde**	**44.12**	**301**	*e*P		**P**	**08 16 13.5**	**+0.4**
	8.2nm,0.6s,mb4.6							
SBA	**Scott Base**	**46.84**	**184**	*e*P		**P**	**08 16 34.5**	**+0.5**
VNDA	**Vanda**	**47.36**	**183**	P		**P**	**08 16 39.3**	**+1.2**
	3.8nm,0.7s,mb4.4,baz=189,slow=6.4,SNR=27							
VNDA				LR		LR	08 33 39.3	
	comp=Z,62nm,19.4s,baz=66,slow=32							
LPAZ	**La Paz**	**49.18**	**306**	P		**P**	**08 16 54.0**	**+1.0**
	5.6nm,0.6s,mb4.8,baz=154,slow=5.9,SNR=26							
LPAZ				LR		LR	08 36 28.6	
	comp=Z,43nm,18.6s,baz=298,slow=35							
LPAZ	**La Paz**	**49.18**	**306**	P		**P**	**08 16 54.0**	**+1.0**
LPAZ				LR		LR	08 36 28.6	
SAML	**Samuel**	**53.59**	**316**	*e*P		**P**	**08 17 24.5**	**-1.8**
	4.8nm,0.9s,mb4.4							
SAML				*e*pP		pP	08 17 41.1	-1.9
CASY	**Casey**	**54.98**	**161**	P		**P**	**08 17 34.7**	**-1.1**
DBIC	**Dimbokro**	**64.80**	**26**	P		**P**	**08 18 42.9**	**-0.8**
	6.8nm,1.0s,mb4.6,baz=163,slow=6.8,SNR=3.4							
DBIC				LR		LR	08 41 10.4	
	comp=Z,71nm,18.7s,baz=101,slow=31							
DBIC	**Dimbokro**	**64.80**	**26**	P		**P**	**08 18 42.9**	**-0.8**
DBIC				LR		LR	08 41 10.4	
OTAV	**Otavalo**	**68.46**	**305**	P		**P**	**08 19 07.1**	**+0.3**
SDV	**Santo Domingo**	**72.80**	**316**	*e*P		**P**	**08 19 32.4**	**-0.6**
STKA	**Stephens Creek**	**92.86**	**172**	P		**P**	**08 21 16.3**	**+0.3**
	0.8nm,0.6s,mb4.3,baz=135,slow=6.5,SNR=3.9							
ASAR	**Alice Springs**	**100.04**	**164**	P		P	08 21 48.7	-0.1
	1.1nm,0.7s,baz=178,slow=3.6,SNR=7.7							
MSU	**Marysvale**	**117.18**	**299**	PKP		PKPdf	08 26 50.2	+3.4
PDAR	**Pinedale Array**	**119.15**	**304**	PKP		PKPdf	08 26 52.4	+1.8
	0.4nm,0.6s,baz=155,slow=4.9,SNR=4.3							
NVAR	**Mina Array Bea**	**120.25**	**295**	PKP		PKPdf	08 26 55.7	+2.8
	0.4nm,0.6s,baz=140,slow=3.9,SNR=4.2							
FINES	**FINESS Array B**	**124.07**	**28**	PKP		PKPdf	08 27 01.9	+2.2
	2.4nm,0.6s,baz=135,slow=2.7,SNR=7.7							
CMAR	**Chiang Mai Arr**	**126.19**	**111**	PKP		PKPdf	08 27 07.6	+2.9
	0.8nm,0.6s,baz=211,slow=3.3,SNR=6.3							
ARCES	**ARCESS Array B**	**130.50**	**22**	PKP		PKPdf	08 27 13.8	+2.1
	5.5nm,0.7s,baz=270,slow=2.4,SNR=7.9							
AAK	**Ala-Archa**	**130.54**	**71**	PKP		PKPdf	08 27 13.9	+1.4
KMI	**Kunming**	**133.64**	**110**	*e*PKP		PKPdf	08 27 20.8	+2.0
KMI	**Kunming**	**133.64**	**110**	*e*PKP		PKPdf	08 27 20.7	+1.9
KMI				LR		LR		
	comp=Z,30nm,25.5s							
BRVK	**Borovoye**	**135.05**	**58**	*e*PKP		PKPdf	08 27 23.3	+2.7
BVAR	**Borovoye Array**	**135.08**	**58**	PKP		PKPdf	08 27 24.0	+3.3
	comp=Z,6.7nm,1.0s,baz=270,slow=1.5,SNR=12							
ZAL	**Zalesovo**	**142.78**	**64**	PKP		PKPdf	08 27 37.9	+3.7
	comp=Z,1.6nm,0.5s,baz=158,slow=3.3,SNR=4.3							
ZAL	**Zalesovo**	**142.78**	**64**	PKP		PKPdf	08 27 37.9	+3.7
INK	**Inuvik**	**144.60**	**322**	*e*PKP		PKPdf	08 27 38.1	+1.1
DAWY	**Dawson**	**145.58**	**313**	*e*PKP		PKPdf	08 27 41.0	+2.2
ILAR	**Eielson Array**	**148.90**	**313**	PKPbc		PKPdf	08 27 51.1	+6.8
	comp=Z,12nm,0.8s,baz=130,slow=1.8,SNR=72							
COLA	**College**	**149.33**	**313**	*e*PKPbc		PKPdf	08 27 51.7	+6.7
MCK	**McKinley**	**149.56**	**311**	*e*PKPbc		PKPdf	08 27 52.8	+7.4
SONM	**Songino Array**	**151.56**	**86**	PKPbc		PKPdf	08 27 58.4	+10
	comp=Z,9.3nm,0.8s,baz=221,slow=3.4,SNR=33							
IMA	**Indian Mountai**	**151.90**	**315**	*e*PKPbc		PKPdf	08 27 58.8	+10

MAN 22 08:11:06.0, 11.77N×124.66E, h14km, mb4.3, ML3.2, MS3.1, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
OCLP	**Ormoc**	**0.71**	**184**	*e*P		Pb	08 11 20.2	+0.5
BESP	**Borongan**	**0.78**	**102**	*e*P		Pb	08 11 20.8	-0.1
BESP				*e*S		Sb	08 11 32.6	+1.6
LLP	**Lapu-Lapu**	**1.59**	**205**	*i* P		Pn	08 11 32.9	-1.1
LLP				*e*S		Sn	08 11 52.6	-1.9
MSLP	**Maasin**	**1.63**	**173**	*e*P		Pn	08 11 35.3	+0.7
MSLP	**Maasin**	**1.63**	**173**	*e*P		Pn	08 11 36.3	+1.7
RCP	**Roxas**	**1.89**	**264**	⇑*e*P		Pn	08 11 37.7	-0.5
TBP	**Tagbilaran**	**2.20**	**201**	*e*P		Pn	08 11 42.0	-0.8
GUIM	**Jordan**	**2.32**	**241**	*e*P		Pn	08 11 44.5	0.0

IDC 22 08:52:30.2±65.0, 23.42S×179.56E, h654km±368km, mb3.1/5, mb1 3.2/5, mb1mx2.9/14, Error ellipse: s-maj=773.0km s-min=96.9km az=80.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
CTA	**Charters Tower**	**31.07**	**270**	P		P	08 57 59.1	-0.8
	3.8nm,0.3s,baz=93,slow=11,SNR=13							
STKA	**Stephens Creek**	**34.53**	**247**	P		P	08 58 26.6	-2.1
	1.6nm,0.9s,baz=102,slow=13,SNR=4.2							
ASAR	**Alice Springs**	**41.71**	**260**	P		P	08 59 25.2	-1.6
	1.2nm,0.5s,baz=97,slow=7.4,SNR=22							
WRA	**Warramunga Ar**	**42.03**	**266**	P		P	08 59 27.7	-1.7
	1.9nm,0.3s,baz=96,slow=8.4,SNR=26							
FITZ	**Fitzroy Crossi**	**50.46**	**265**	P		P	09 00 31.1	-1.7
	2.9nm,1.0s,baz=79,slow=7.5,SNR=6.3							

KRSC 22 09:02:12.8±1.0, 55.78N×162.52E, h53km±5km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
KBTR	**Krutoberegovo**	**0.46**	**21**	*e*P		P	09 02 24.4	+0.5
KBTR				*e*S		S	09 02 32.8	+0.9
KBG	**Krutoberegovo**	**0.49**	**12**	*i* P		P	09 02 24.5	+0.3
KBG				*i* S		S	09 02 33.0	+0.6
KBG				Smax				
	5µm,0.7s							
ZLN	**Zelenaya**	**0.99**	**285**	*i* P		P	09 02 31.1	+0.4
ZLN				*e*S		S	09 02 43.5	-0.5
CIRR	**Tsirk**	**1.05**	**289**	*i* P		P	09 02 31.8	+0.2
CIRR				*e*S		S	09 02 44.7	-0.7
LGNR	**Loginova**	**1.07**	**287**	*e*P		P	09 02 32.3	+0.4
LGNR				*e*S		S	09 02 45.7	+0.3
SVLR	**Shiveluch**	**1.08**	**318**	*i* P		P	09 02 32.9	+1.0
SVLR				*e*S		S	09 02 46.9	+0.8
KLY	**Klyuchi**	**1.18**	**298**	*i* P		P	09 02 32.0	-1.2
KLY				*e*S		S	09 02 45.8	-2.7
KRSR	**Krestovskiy**	**1.18**	**293**	*e*P		P	09 02 33.2	-0.1
KRSR				*e*S		S	09 02 47.5	-1.1
KMNR	**Kamenistaya**	**1.29**	**270**	*e*P		P	09 02 35.5	+0.6
KMNR				*e*S		S	09 02 52.2	+0.8
MKZ	**Mys Kozlova**	**1.31**	**201**	*i* P		P	09 02 35.4	+0.1
MKZ				*e*S		S	09 02 51.6	-0.3
KPT	**Kopyto**	**1.31**	**279**	*e*P		P	09 02 35.7	+0.4
KPT				*e*S		S	09 02 52.5	+0.6
TUMR	**Tumrok**	**1.44**	**251**	*i* P		P	09 02 38.1	+1.0
TUMR				*e*S		S	09 02 56.6	+1.6
KOZ	**Kozyrevsk**	**1.52**	**282**	*e*P		P	09 02 39.5	+1.4
KOZ				*e*S		S	09 02 58.9	+2.0
SRDR	**Sredinnyy**	**1.66**	**290**	*e*P		P	09 02 41.5	+1.4
SRDR				*e*S		S	09 03 02.2	+1.8
KII	**Karymskiy**	**2.49**	**227**	*e*P		P	09 02 52.7	+0.9
KII				*e*S		S	09 03 21.1	0.0
SPN	**Mys Shipunski**	**3.06**	**210**	*e*P		P	09 02 59.1	-0.8
SPN				*e*S		S	09 03 33.7	-1.8
NLC	**Nalytchevo**	**3.20**	**217**	*e*P		P	09 03 01.9	-0.1
NLC				*e*S		S	09 03 37.9	-1.3
SDLR	**Sedlovina**	**3.28**	**222**	*e*P		P	09 03 03.7	+0.6
SDLR				*e*S		S	09 03 41.8	+0.6
SMAR	**Somma**	**3.33**	**222**	*e*P		P	09 03 04.5	+0.8
SMAR				*e*S		S	09 03 42.5	+0.3
AVH	**Avacha**	**3.35**	**223**	*e*P		P	09 03 04.8	+0.8
AVH				*e*S		S	09 03 42.9	+0.1
KOK	**Koryaka**	**3.37**	**224**	*e*P		P	09 03 05.8	+1.6
KOK				*e*S		S	09 03 44.4	+1.1
GNL	**Ganaly**	**3.38**	**234**	*e*P		P	09 03 04.9	+0.5
RUS	**Russkaya**	**4.10**	**217**	*e*P		P	09 03 14.7	+0.1
RUS				*e*S		S	09 04 00.1	-1.7
GRL	**Gorelyy**	**4.16**	**221**	*e*P		P	09 03 16.5	+1.1
GRL				*e*S		S	09 04 03.7	+0.5

HEL ***22*** *09:04:09.7±0.3, 64.76N×30.73E, ML1.9, ML2.0(UPP), Explosion*
IDC ***22*** *09:04:10.4±2.8, 64.66N×31.01E, mb1 3.1/3, mb1mx3.0/15, ML2.2/2, Error ellipse: s-maj=38.5km s-min=9.5km az=101.0*

ISC 22 09:04:07.4±0.7, 64.76N±0.03×30.7E±0.1, n28, σ1§28/40, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
KJN	**Kajaani**	**1.47**	**244**	*e*P		**Pn**	**09 04 35.5**	**+0.3**
KJN				*e*S		**Sb**	**09 04 54.4**	**0.0**
JOF	**Joensuu**	**1.87**	**172**	*e*P		**Pn**	**09 04 41.4**	**+0.5**
JOF				*e*S		**Sn**	**09 05 07.3**	**+1.7**
OUL	**Oulu**	**2.08**	**281**	*e*P		**Pn**	**09 04 46.6**	**+2.7**
OUL				*e*S		**Sn**	**09 05 12.9**	**+2.1**
SUF	**Sumiainen**	**2.88**	**227**	*e*P		**Pn**	**09 04 57.4**	**+1.9**
SUF				*e*S		**Sn**	**09 05 31.5**	**+0.2**
SUF				*e*SB		**Sb**	**09 05 36.8**	**+1.3**
SGF	**Sodankyl**	**3.19**	**330**	*e*P		**Pn**	**09 05 01.4**	**+1.7**
SGF				*e*S		**Sn**	**09 05 40.2**	**+1.2**
KEF	**Keuruu**	**3.69**	**228**	*e*P		**Pn**	**09 05 08.8**	**+1.9**
KEF				*e*S		**Sn**	**09 05 50.5**	**-1.3**
KEF				*e*SB		**Sb**	**09 06 00.1**	**+1.0**
KEF				MSG			09 06 02.0	
	comp=Z,1.8nm,0.1s							
FINES	**FINESS Array B**	**3.94**	**214**	Pn		**Pn**	**09 05 11.5**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=29,slow=14,SNR=3.0							
FINES				Lg			09 06 12.0	
	comp=Z,0.8nm,0.3s,baz=36,slow=25,SNR=8.5							
BURU	**Burvik**	**4.01**	**272**	*e*P		**Pn**	**09 05 11.9**	**+0.4**
UMAU	**Umeaa**	**4.45**	**263**	*e*P		**Pn**	**09 05 17.7**	**-0.1**
VJF	**Virojoki**	**4.48**	**200**	*e*P		**Pn**	**09 05 19.8**	**+1.7**
VJF				*e*S		**Sn**	**09 06 09.3**	**-2.5**
LILU	**Lilltraesk**	**4.64**	**281**	*e*P		**Pn**	**09 05 20.9**	**+0.6**
SVAU	**Svanoeiden**	**4.80**	**272**	*e*P		**Pn**	**09 05 22.9**	**+0.3**
ARCES	**ARCESS Array B**	**5.20**	**339**	Pn		**Pn**	**09 05 28.9**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=155,slow=13,SNR=17							
ARCES				Sn		**Sn**	**09 06 28.8**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=152,slow=25,SNR=2.7			Lg			09 06 56.5	
ARCES								
	comp=Z,0.5nm,0.3s,baz=144,slow=34,SNR=4.4							
KEV	**Kevo**	**5.22**	**346**	*e*P		**Pn**	**09 05 28.8**	**+0.3**
KEV				*e*S		**Sn**	**09 06 28.5**	**-1.9**
HUSU	**Husum**	**5.25**	**259**	*e*P		**Pn**	**09 05 29.0**	**+0.1**
HUSU				*e*S		**Sn**	**09 06 31.3**	**+0.2**
BREU	**Bredtraesk**	**5.35**	**266**	*e*P		**Pn**	**09 05 29.7**	**-0.7**
KIF	**Kilpisjarvi**	**5.77**	**322**	*e*P		**Pn**	**09 05 36.6**	**+0.2**
ARNU	**Arnoeviken**	**6.76**	**249**	*e*P		**Pn**	**09 05 50.1**	**-0.2**
AAL	**Aland**	**6.76**	**232**	*e*P		**Pn**	**09 05 48.7**	**-1.6**
GRAU	**Graesoe**	**7.16**	**237**	*e*P		**Pn**	**09 05 54.2**	**-1.8**
IGGU	**Iggoen**	**7.26**	**244**	*e*P		**Pn**	**09 05 56.8**	**-0.6**
ROTU	**Roteberg**	**7.54**	**250**	*e*P		**Pn**	**09 06 01.7**	**+0.5**
FLYU	**Flymyra**	**7.54**	**238**	*e*P		**Pn**	**09 05 59.4**	**-1.9**
NRTU	**Norrtaelje**	**7.60**	**233**	*e*P		**Pn**	**09 05 59.8**	**-2.3**
OSTU	**Oestervaala**	**7.75**	**240**	*e*P		**Pn**	**09 06 02.6**	**-1.6**
BACU	**Backbrunna**	**8.01**	**238**	*e*P		**P**	**09 06 06.3**	**-1.6**
NYNU	**Nynaeshamn**	**8.32**	**232**	*e*P		**P**	**09 06 10.5**	**-1.6**
NOA	**NORSAR Array B**	**9.63**	**256**	Pn		**P**	**09 06 28.9**	**-1.2**
	baz=42,slow=9.3,SNR=2.2							

IDC ***22*** *09:05:38.3±1.4, 42.61N×140.34E, h146km±14km, mb3.4/9, mb1 3.7/12, mb1mx3.5/25, Error ellipse: s-maj=20.3km s-min=13.1km az=95.0*
NEIC ***22*** *09:05:38.9±1.6, 42.63N×140.35E, h152km±15km, mb4.2/1, Error ellipse: s-maj=15.3km s-min=10.8km az=76.0*
JMA ***22*** *09:05:39.6±0.1, 42.69N×140.43E, h153km±1km, M3.2*

ISC 22 09:05:38.1±0.3, 42.64N±0.05×140.40E±0.06, h161km±3km, n32, σ0§72/42, mb3.8/11, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
JSH	**Shimam**	**0.26**	**271**	P		**P**	**09 06 00.6**	**+0.4**
JSH				*e*S		**S**	**09 06 16.6**	**-0.6**
JNB	**Noboribetsu**	**0.50**	**110**	P		**P**	**09 06 01.2**	**+0.1**
JNB				*e*S		**S**	**09 06 17.8**	**-1.0**
JYM2	**Yakumo 2**	**0.52**	**183**	P		**P**	**09 06 01.7**	**+0.5**
JYM2				*e*S		**S**	**09 06 18.3**	**-0.6**
JSK	**Shakotan**	**0.72**	**4**	P		**P**	**09 06 02.3**	**+0.1**
JSK				*e*S		**S**	**09 06 19.6**	**-1.1**
JEW	**Eniwo**	**0.80**	**75**	P		**P**	**09 06 03.3**	**+0.6**
JEW				*e*S		**S**	**09 06 21.3**	**-0.3**
JOSM	**Okushiri--Mats**	**0.88**	**231**	P		**P**	**09 06 04.0**	**+0.8**
JOSM				*e*S		**S**	**09 06 22.4**	**-0.1**
JKB	**Kayabe**	**0.89**	**148**	P		**P**	**09 06 04.0**	**+0.8**
JSR	**Shiriuchi**	**1.11**	**179**	P		**P**	**09 06 06.2**	**+1.2**
JOT	**Ohata**	**1.34**	**159**	P		**P**	**09 06 08.0**	**+0.7**
JBT2	**Biratori 2**	**1.45**	**84**	P		**P**	**09 06 08.8**	**+0.5**
JBT2				*e*S		**S**	**09 06 31.3**	**-0.4**
JHR	**Hokuryu**	**1.47**	**41**	P		**P**	**09 06 09.1**	**+0.6**
JFR	**Furan**	**1.69**	**71**	P		**P**	**09 06 11.0**	**+0.2**
JNBK	**Urakawa-nobuka**	**1.78**	**101**	P		**P**	**09 06 12.1**	**+0.4**
JKK2	**Kamakawa 2**	**2.11**	**53**	P		**P**	**09 06 16.3**	**+0.8**
JKK2				*e*S		**S**	**09 06 44.1**	**-0.3**
ERM	**Erimo**	**2.14**	**106**	Pn		**P**	**09 06 17.4**	**+1.6**
	626nm,0.3s,SNR=23							
ASAJ	**Asahikawa**	**2.18**	**47**	P		**P**	**09 06 16.9**	**+0.6**
	6.5nm,0.3s,baz=239,slow=12,SNR=33							
ASAJ				S		**S**	**09 06 45.1**	**-0.7**
	2.0nm,0.3s,baz=139,slow=32,SNR=4.2							
JCH	**Churui**	**2.19**	**90**	P		**P**	**09 06 16.3**	**-0.1**
JCH				*e*S		**S**	**09 06 44.6**	**-1.3**
MAJO	**Matsushiro**	**6.32**	**196**	P		**P**	**09 07 09.5**	**-0.5**
JHJ	**Hachijo jima 2**	**9.52**	**183**	P		**P**	**09 07 50.4**	**-1.9**
	6.0nm,0.3s,baz=227,slow=22,SNR=5.5							
SONM	**Songino Array**	**24.38**	**294**	P		**P**	**09 10 42.7**	**+0.4**
	0.4nm,0.4s,mb3.3,baz=101,slow=7.3,SNR=3.8							
ZAL	**Zalesovo**	**37.74**	**307**	P		**P**	**09 12 39.9**	**+0.4**
	2.0nm,0.4s,mb4.1,baz=52,slow=7.6,SNR

KEDI	**Kedomdong**	**13.67**	**103**	⇓*i*P		**P**		**09 15 12.2**	**-4.2**
CMAR	**Chiang Mai Arr**	**24.21**	**351**	P		**P**		**09 17 16.6**	**-0.2**
	18nm,0.8s,mb4.6,baz=183,slow=8.8,SNR=90								
CMAR				LR		LR		09 27 25.9	
	comp=Z,162nm,19.3s,MS3.5,baz=180,slow=38								
SHL	**Shillong**	**32.72**	**342**	*e*P		**P**		**09 18 33.0**	**-0.8**
WRA	**Warramunga Arr**	**33.94**	**118**	P		**P**		**09 18 43.3**	**-1.1**
	2.4nm,1.0s,mb4.1,baz=290,slow=10,SNR=5.1								
WRAB	**Tennant Creek**	**33.95**	**118**	P		**P**		**09 18 43.5**	**-0.9**
ASAR	**Alice Springs**	**35.03**	**124**	P		**P**		**09 18 53.1**	**-0.6**
	3.6nm,1.1s,mb4.2,baz=296,slow=7.8,SNR=12								
PKI	**Pulchoki**	**36.97**	**334**	*e*P		**P**		**09 19 10.8**	**+0.8**
GUN	**Gumba**	**37.06**	**335**	*e*P		**P**		**09 19 11.9**	**+1.1**
	21nm,0.5s,mb5.2								
DMN	**Daman**	**37.13**	**334**	*e*P		**P**		**09 19 12.2**	**+0.8**
	22nm,1.0s,mb5.0								
KKN	**Kakani**	**37.21**	**334**	*e*P		**P**		**09 19 13.0**	**+0.9**
	20nm,0.8s,mb5.0								
GKN	**Gorkha**	**37.68**	**333**	*e*P		**P**		**09 19 17.1**	**+1.1**
	35nm,1.0s,mb5.1								
KOLN	**Koldanda**	**37.95**	**332**	*e*P		**P**		**09 19 19.5**	**+1.2**
	25nm,0.8s,mb5.0								
XAN	**Xi'an**	**39.89**	**8**	P		**P**		**09 19 34.0**	**-0.3**
XAN				AMB		AMB			
	comp=Z,17nm,0.9s,mb4.8								
LZH	**Lanzhou**	**41.51**	**1**	*e*P		**P**		**09 19 48.5**	**+0.8**
LZH				AP		pP		09 19 58.0	-1.8
LZH				XP		sP		09 20 03.0	-2.2
LZH				AMB		AMB			
	comp=Z,30nm,1.5s,mb4.7								
LZH				AMB		AMB			
	comp=Z,243nm,4.6s								
LZH				LR		LR			
	comp=N,770nm,15.8s								
LZH				LR		LR			
	comp=Z,970nm,16.4s,MS4.8								
LZH	**Lanzhou**	**41.51**	**1**	*e*P		**P**		**09 19 48.5**	**+0.8**
	comp=Z,30nm,1.5s,mb4.7								
LZH				pP		pP		09 19 58.0	-1.8
LZH				sP		sP		09 20 03.0	-2.2
LZH				LR		LR			
	comp=Z,970nm,16.4s,MS4.8								
NDI	**New Delhi**	**41.99**	**326**	*e*P		**P**		**09 19 51.0**	**-0.7**
PMG	**Port Moresby**	**44.27**	**98**	LR		LR		09 37 55.1	
	comp=Z,256nm,20.9s,MS4.1,baz=71,slow=35								
PMG	**Port Moresby**	**44.27**	**98**	*e*P		**P**		**09 20 09.1**	**-1.4**
	comp=Z,12nm,0.8s,mb4.7								
CTA	**Charters Tower**	**44.72**	**113**	P		**P**		**09 20 14.4**	**+0.4**
	comp=Z,6.7nm,1.0s,mb4.4,baz=302,slow=8.0,SNR=4.7								
CTAO	**Charters Tower**	**44.72**	**113**	*e*P		**P**		**09 20 13.7**	**-0.3**
STKA	**Stephens Creek**	**44.80**	**131**	P		**P**		**09 20 14.8**	**+0.3**
	comp=Z,1.7nm,0.5s,mb4.1,baz=306,slow=10,SNR=3.2								
GTA	**Gaotai**	**44.89**	**357**	*e*P		**P**		**09 20 15.3**	**+0.2**
GTA				AP		pP		09 20 25.4	-1.9
GTA				AMB		AMB			
	comp=Z,9.0nm,0.9s,mb4.6								
GTA				LR		LR			
	comp=N,307nm,17.9s								
GTA				LR		LR			
	comp=E,269nm,12.9s								
GTA				LR		LR			
	comp=Z,350nm,17.1s,MS4.3								
SONM	**Songino Array**	**53.33**	**3**	P		**P**		**09 21 20.7**	**+0.6**
	comp=Z,25nm,0.8s,mb5.2,baz=180,slow=9.0,SNR=122								
KURK	**Kurchatov**	**59.82**	**343**	*e*P		**P**		**09 22 05.1**	**-1.1**
	comp=Z,7.5nm,0.9s,mb4.7								
ZAL	**Zalesovo**	**61.21**	**348**	P		**P**		**09 22 15.1**	**-0.6**
	comp=Z,3.4nm,0.7s,mb4.6,baz=316,slow=5.5,SNR=13								
ZAL				LR		LR		09 52 34.7	
	comp=Z,151nm,21.3s,MS4.1,baz=282,slow=40								
BVAR	**Borovoye Array**	**64.48**	**339**	P		**P**		**09 22 35.5**	**-1.7**
	comp=Z,5.1nm,0.9s,mb4.5,baz=143,slow=7.4,SNR=15								
BRVK	**Borovoye**	**64.55**	**339**	P		**P**		**09 22 36.1**	**-1.5**
BRTR	**Keskin Array B**	**77.70**	**313**	P		**P**		**09 23 57.5**	**+0.5**
	comp=Z,0.7nm,0.5s,mb3.9,baz=112,slow=7.8,SNR=3.5								
BRTR				LR		LR		10 02 23.8	
	comp=Z,31nm,19.1s,MS3.6,slow=39								
BRTR	**Keskin Array B**	**77.70**	**313**	P		**P**		**09 23 57.5**	**+0.5**
BRTR				LR		LR		10 02 23.8	
AKASG	**Malin Array Be**	**83.94**	**322**	P		**P**		**09 24 30.4**	**+0.7**
	comp=Z,0.2nm,0.3s,mb3.7,baz=82,slow=4.6,SNR=4.8								
SNAA	**Sanae**	**89.52**	**198**	⇑*i*		**P**		**09 24 58.1**	**+1.7**
VNA2	**Neumayer--Watz**	**91.15**	**198**	⇓*i*		**P**		**09 25 05.9**	**+1.8**
VNA1	**Neumayer--Stat**	**91.52**	**198**	⇑*i*		**P**		**09 25 05.4**	**-0.4**
VNA3	**Neumayer Olymp**	**91.72**	**197**	⇓*i*		**P**		**09 25 06.4**	**-0.3**
LTX	**Lajitas**	**145.74**	**43**	*e*PKPbc		PKPbc		09 31 40.1	+1.8
TXAR	**Lajitas Array**	**145.74**	**43**	PKPbc		PKPbc		09 31 40.6	+2.3
	comp=Z,9.8nm,0.9s,baz=294,slow=1.7,SNR=97								
WCI	**Wyandotte Cave**	**146.55**	**13**	*e*PKPbc		PKPbc		09 31 41.4	+1.5
JCT	**Junction City**	**147.49**	**38**	*e*PKPbc		PKPdf		09 31 44.4	+4.1
WVT	**Waverly**	**148.16**	**16**	*e*PKPbc		PKPdf		09 31 45.9	+4.7

CSEM ***22*** *09:17:08.4±0.5,45.60N×26.51E,h146km±4km,MD3.4/5, Error ellipse: s-maj=5.3km s-min=3.1km az=32.0,After BUC*

BUC ***22*** *09:17:08.1±0.9,45.59N×26.50E,h149km±9km,MD3.5/6, Error ellipse: s-maj=10.7km s-min=4.6km az=47.0*

ISC 22 09:17:08.8±1.5,45.58N±0.07×26.57E±0.09,h142km±11km, n8,σ0§66/15,6C-2D,Romania

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
VRI	**Vrincioaia**	**0.30**	**21**	⇑*i*P			**P**	**09 17 28.4**	**-0.6**
VRI					S		**S**	**09 17 43.7**	**-0.7**
BRD	**Bordesti**	**0.32**	**95**	⇑*i*P			**P**	**09 17 30.0**	**+0.9**
MLR	**Muntele Rosu**	**0.45**	**258**	⇑*i*P			**P**	**09 17 29.1**	**-0.5**
MLR				*i*S			**S**	**09 17 44.7**	**-0.8**
ISR	**Istrita**	**0.46**	**182**	⇑*i*P			**P**	**09 17 30.1**	**+0.4**
ISR				*i*S			**S**	**09 17 46.8**	**+1.2**
MTUR	**Matau**	**1.12**	**252**	⇑*i*P			**P**	**09 17 33.8**	**-0.5**
MTUR				S			**S**	**09 17 54.1**	**+0.3**
CFR	**Carcaliu**	**1.18**	**110**	⇓*i*P			**P**	**09 17 35.0**	**+0.2**
CFR				*i*S			**S**	**09 17 55.0**	**+0.2**
TIRR	**Tirgusor**	**1.72**	**130**	⇑*i*P			**P**	**09 17 41.0**	**+0.3**
TIRR				S			**S**	**09 18 04.3**	**-0.8**
BURAR	**Bucovina Array**	**2.24**	**336**	⇓*i*P			**P**	**09 17 46.2**	**-0.7**
BURAR				S			**S**	**09 18 16.9**	**+1.0**

BJI ***22*** *09:26:12.0,7.41S×130.80E,h31km,mB5.3,mb5.0,Ms5.1, Msz4.7*

HRVD ***22*** *09:26:13.7±0.5,7.26S×130.45E,h20km±3km,MW5.0/46, Centroid moment Tensor Solution. LP body waves: s13,c13;Mantle waves: s46,c57; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.06±.16; Mθθ-0.08±.12; Mφφ0.02±.15; Mr0.21±.57; Mθφ0.22±.09; Mθr2.90±.74; Best double couple: M0 3.53×10^16 NP1:φs78°,δ1°,λ-47°. NP2:φs215°,δ89°,λ-91°. Principal axes: T 3.66, Plg44°, Azm305°; N -.25, Plg1°, Azm215°; P -3.4, Plg46°, Azm124°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

SYO ***22*** *09:26:13.2,7.22S×130.31E,h10km,MB5.0*

NEIC ***22*** *09:26:13.7±0.2,7.23S×130.37E,h10km,mb5.0/16,Error ellipse: s-maj=8.5km s-min=5.8km az=67.0*

NEIC Felt [II] at Saumlaki.

MOS ***22*** *09:26:15.8±1.2,7.13S×130.48E,h33km,mb5.0/12,Error ellipse: s-maj=20.7km s-min=12.8km az=121.7*

IDC ***22*** *09:26:18.2±2.6,7.20S×130.47E,h38km±21km,mb4.6/11, mb1 4.8/16,mb1mx4.8/18,ML4.9/4,MS3.8/11,Ms1 3.8/11, ms1mx3.6/19,Error ellipse: s-maj=25.1km s-min=13.3km az=70.0*

DJA ***22*** *09:26:18.2±1.2,7.77S×130.59E,h100km,mb4.8/4, MD5.1/2,Error ellipse: s-maj=178.0km s-min=7.4km az=6.0*

ISC 22 09:26:13.3±2.0,7.15S±0.04×130.45E±0.04,h18km±14km, h30km±.4km:pP-P,n119,σ1§00/105,mb5.0/41,MS3.9/12, 12C-9D,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
FITZ	**Fitzroy Crossi**	**11.86**	**203**	Pn			**P**	**09 28 59.6**	**-5.1**
	18nm,0.3s,baz=20,slow=9.2,SNR=174								
FITZ					Sn		**S**	**09 31 01.8**	**-16**
	77nm,0.3s,baz=180,slow=18,SNR=12								
FITZ					LR		LR	09 34 25.1	
	comp=Z,127nm,18.0s,baz=50,slow=41								
WRAB	**Tennant Creek**	**13.26**	**164**	Pn			**P**	**09 29 17.6**	**-5.8**
	835nm,0.4s,SNR=16								
WRAB	**Tennant Creek**	**13.26**	**164**	*e*P			**P**	**09 29 16.1**	**-7.3**
	114nm,0.5s								
WRAB					*e*S		**S**	**09 31 30.9**	**-20**
WRA	**Warramunga Arr**	**13.27**	**164**	Pn			**P**	**09 29 16.5**	**-7.0**
	11nm,0.3s,baz=339,slow=13,SNR=401								
WRA					Sn		**S**	**09 31 34.9**	**-17**
	40nm,0.3s,baz=348,slow=22,SNR=17								
KEDI	**Kedomdong**	**14.27**	**264**	⇑*e*P			**P**	**09 29 37.7**	**+0.8**
	145nm,0.4s								
KEDI					⇑*i*S		**S**	**09 32 15.2**	**-0.4**
RATI	**Rata**	**14.86**	**263**	⇑*e*P			**P**	**09 29 46.0**	**+1.4**
	269nm,0.3s								
KELI	**Kelakatan**	**15.86**	**265**	⇑*e*P			**P**	**09 29 58.6**	**+1.1**
	147nm,0.4s								
WAU	**Wau**	**16.13**	**92**	*e*P			**P**	**09 30 01.4**	**+0.3**
SRDI	**Scrawed**	**16.22**	**264**	⇓*e*P			**P**	**09 30 01.5**	**-0.6**
	118nm,0.3s								
PMG	**Port Moresby**	**16.68**	**99**	Pn			**P**	**09 30 08.0**	**0.0**
	2.7nm,0.3s,baz=317,slow=4.6,SNR=20								
PMG					Sn		**S**	**09 33 00.7**	**-11**
	1.1nm,0.3s,baz=201,slow=19,SNR=5.8								
PMG	**Port Moresby**	**16.68**	**99**	*e*P			**P**	**09 30 08.0**	**0.0**
	80nm,0.8s								
ASAR	**Alice Springs**	**16.75**	**169**	Pn			**P**	**09 30 03.4**	**-5.5**
	1.7nm,0.3s,baz=348,slow=14,SNR=81								
ASAR					Sn		**S**	**09 32 59.3**	**-14**
	13nm,0.3s,baz=354,slow=29,SNR=9.8								
ASAR					LR		LR	09 36 59.7	
	comp=Z,270nm,19.2s,baz=345,slow=38								
MBWA	**Marble Bar**	**17.36**	**216**	*e*P			**P**	**09 30 12.9**	**-3.7**
	9.4nm,0.5s								
KKM	**Kota Kinabalu**	**19.33**	**312**	⇑*e*P			**P**	**09 30 40.2**	**-0.4**
CTA	**Charters Tower**	**20.00**	**132**	P			**P**	**09 30 48.2**	**+0.1**
	1.7nm,0.3s,baz=309,slow=12,SNR=36								
CTA					S		**S**	**09 34 28.6**	**+1.9**
	1.7nm,0.3s,baz=64,slow=23,SNR=3.2								
CTA	**Charters Tower**	**20.00**	**132**	P			**P**	**09 30 48.2**	**+0.1**
CTA					S		**S**	**09 34 28.7**	**+2.0**
CTA					pmax		pmax		
	comp=Z,2.0nm,0.3s								
CTA					smax				
	comp=N,2.0nm,0.3s								
CTA	**Charters Tower**	**20.00**	**132**	P			**P**	**09 30 48.2**	**+0.1**
CTA					S		**S**	**09 34 28.6**	**+1.9**
CTAO	**Charters Tower**	**20.00**	**132**	*e*P			**P**	**09 30 47.8**	**-0.3**
	comp=N,147nm,1.4s								
STKA	**Stephens Creek**	**26.71**	**159**	P			**P**	**09 31 52.9**	**-0.8**
	comp=N,47nm,0.7s,mb5.1,baz=333,slow=8.7,SNR=94								
STKA					S		S	09 36 45.0	+19
	comp=N,2.5nm,0.4s,baz=12,slow=20,SNR=2.5								
STKA					LR		LR	09 43 18.8	
	comp=N,348nm,19.4s,MS3.9,baz=117,slow=38								
NWAO	**Narrogin (SRO)**	**28.44**	**204**	P			**P**	**09 32 08.3**	**-1.0**
	comp=N,4.3nm,0.4s,mb4.4,baz=35,slow=9.9,SNR=7.0								
NWAO					S		S	09 37 19.4	+25
	comp=N,5.9nm,0.7s,baz=40,slow=17,SNR=1.7								
ADE	**Adelaide**	**28.71**	**166**	P			**P**	**09 32 11.2**	**-0.5**
JOW	**Kunigami**	**33.84**	**357**	P			**P**	**09 32 58.5**	**+1.5**
	comp=N,39nm,0.8s,mb5.4,baz=154,slow=8.8,SNR=5.0								
JOW					LR		LR	09 44 40.1	
	comp=N,239nm,21.0s,MS3.9,baz=107,slow=32								
SSE	**Sheshan**	**39.05**	**347**	P			**P**	**09 33 41.0**	**0.0**
SSE					S		**S**	**09 39 35.9**	**-3.1**
SSE					AMB		AMB		
	comp=Z,36nm,0.6s,mb5.3								
SSE					AMB		AMB		
	comp=Z,76nm,4.7s								
SSE	**Sheshan**	**39.05**	**347**	P			**P**	**09 33 41.0**	**0.0**
	comp=Z,36nm,0.6s,mb5.3								
SSE					S		**S**	**09 39 35.9**	**-3.1**
SSE					sS			09 40 12.9	
SSE					SS		SS	09 42 34.3	+11
SSE					LR		LR		
	comp=Z,80nm,31.1s,MS3.4								
CMAR	**Chiang Mai Arr**	**40.17**	**310**	P			**P**	**09 33 50.6**	**+0.2**
	comp=Z,20nm,0.8s,mb4.9,baz=140,slow=7.4,SNR=90								
CMAR					PcP		PcP	09 35 56.1	+0.9
	comp=Z,5.1nm,0.7s,baz=165,slow=2.8,SNR=9.1								
CMAR					ScP			09 39 40.5	
	comp=Z,2.3nm,1.0s,baz=148,slow=3.3,SNR=6.3								
CMAR					LR		LR	09 49 02.0	
	comp=Z,200nm,20.5s,MS4.0,baz=135,slow=34								
CMAR	**Chiang Mai Arr**	**40.17**	**310**	P			**P**	**09 33 50.6**	**+0.2**
CMAR								09 35 56.1	
CMAR					pmax		pmax		
	comp=Z,21nm,0.8s								
CMAR					pmax		pmax		
	comp=Z,5.0nm,0.7s								
CMAR					pmax		pmax		
	comp=Z,2.0nm,1.0s								
NJ2	**Nanjing**	**40.52**	**345**	*e*P			**P**	**09 33 54.3**	**+1.1**
NJ2					PP		PP	09 35 34.3	+4.3
NJ2					S		**S**	**09 40 01.0**	**-0.1**
NJ2					AMB		AMB		
	comp=Z,40nm,0.5s,mb5.3								
NJ2					AMB		AMB		
	comp=Z,280nm,4.2s								
NJ2					LR		LR		
	comp=N,510nm,14.4s,MS4.6								
NJ2					LR		LR		
	comp=E,390nm,16.5s,MS4.6								
NJ2					LR		LR		
	comp=Z,410nm,15.6s,MS4.4								
WHN	**Wuhan**	**40.53**	**338**	⇓P			**P**	**09 33 54.5**	**+1.2**
GYA	**Guiyang**	**40.60**	**326**	⇑*i*P			**P**	**09 33 54.3**	**+0.4**
GYA					PCP		PcP	09 35 57.5	+1.0
GYA					AMB		AMB		
	comp=Z,20nm,0.9s,mb4.8								
KMI	**Kunming**	**41.91**	**321**	*e*P			**P**	**09 34 06.1**	**+1.3**
KMI					AMB		AMB		
	comp=Z,18nm,1.0s,mb4.7								
KMI	**Kunming**	**41.91**	**321**	*e*P			**P**	**09 34 06.1**	**+1.3**
	comp=Z,18nm,1.0s,mb4.7								
ENH	**Enshi**	**42.30**	**333**	*e*P			**P**	**09 34 07.3**	**-0.6**
	comp=Z,11nm,0.6s,mb4.7								
MAJO	**Matsushiro**	**44.06**	**9**	*e*P			**P**	**09 34 22.0**	**-0.1**
	comp=Z,27nm,1.1s,mb4.9								
MAT	**Matsushiro**	**44.06**	**9**	P			**P**	**09 34 22.0**	**-0.2**
CD2	**Chengdu**	**45.67**	**327**	*e*P			**P**	**09 34 34.6**	**-0.5**
CD2					AMB		AMB		
	comp=Z,10.0nm,0.9s,mb4.8								
XAN	**Xi'an**	**45.76**	**335**	P			**P**	**09 34 34.8**	**-1.0**
XAN					AP		pP	09 34 43.8	+2.7
XAN					AMB		AMB		
	comp=Z,13nm,1.0s,mb4.8								
BJT	**Baijiatuan**	**48.75**	**345**	*e*P			**P**	**09 34 57.2**	**-1.9**
	comp=Z,25nm,0.6s,mb5.4								
LZH	**Lanzhou**	**49.75**	**332**	*e*P			**P**	**09 35 07.0**	**+0.1**
LZH					AP		pP	09 35 16.5	+4.2
LZH					XP		sP	09 35 21.5	+7.1
LZH					AMB		AMB		
	comp=Z,42nm,1.5s,mb5.2								
LZH	**Lanzhou**	**49.75**	**332**	*e*P			**P**	**09 35 07.0**	**+0.1**
	comp=Z,42nm,1.5s,mb5.2								
LZH					pP		pP	09 35 16.5	+4.2
LZH					sP		sP	09 35 21.5	+7.1
HHC	**Hu-ho-hao-te**	**50.82**	**342**	*e*P			**P**	**09 35 12.3**	**-2.7**
HHC					AMB		AMB		
	comp=Z,16nm,1.1s,mb4.9								
HHC					AMB		AMB		
	comp=Z,132nm,4.9s								
RPZ	**Rata Peaks**	**50.84**	**143**	LR			LR	09 57 22.2	
	comp=Z,173nm,20.3s,MS4.1,baz=347,slow=37								
CN2	**Changchun**	**50.91**	**355**	*e*P			**P**	**09 35 15.8**	**+0.2**
CN2					AMB		AMB		
	comp=Z,20nm,0.6s,mb5.2								
URZ	**Urewera**	**52.23**	**134**	P			**P**	**09 35 24.5**	**-1.2**
	comp=Z,8.4nm,0.5s,mb4.9,baz=272,slow=8.0,SNR=14								
URZ					LR		LR	09 57 10.2	
	comp=Z,134nm,20.3s,MS4.0,baz=266,slow=36								
GTA	**Gaotai**	**54.32**	**331**	*e*P			**P**	**09 35 41.4**	**+0.3**
GTA					AP		pP	09 35 50.6	+4.1
GTA					XP		sP	09 35 56.3	+7.7
GTA					AMB		AMB		
	comp=Z,16nm,1.2s,mb4.8								
GUN	**Gumba**	**55.39**	**311**	*e*P			**P**	**09 35 48.3**	**-0.8**
	comp=Z,63nm,0.6s,mb5.8								
PKI	**Pulchoki**	**55.56**	**310**	*e*P			**P**	**09 35 49.1**	**-1.3**
	comp=Z,16nm,0.5s,mb5.3								
KKN	**Kakani**	**55.77**	**311**	*e*P			**P**	**09 35 50.7**	**-1.2**
	comp=Z,25nm,0.7s,mb5.4								
DMN	**Daman**	**55.81**	**310**	*e*P			**P**	**09 35 51.2**	**-0.9**
	comp=Z,33nm,0.6s,mb5.5								
GKN	**Gorkha**	**56.37**	**310**	*e*P			**P**	**09 35 55.0**	**-1.2**
	comp=Z,35nm,0.4s,mb5.7								
HYB	**Hyderabad**	**56.78**	**296**	*i*P			**P**	**09 35 58.0**	**-1.2**
HYB	**Hyderabad**	**56.78**	**296**	*e*P			**P**	**09 35 58.0**	**-1.2**
KOLN	**Koldanda**	**57.04**	**310**	*e*P			**P**	**09 36 00.0**	**-1.0**
	comp=Z,32nm,0.6s,mb5.5								
SONM	**Songino Array**	**58.72**	**341**	P			**P**	**09 36 12.4**	**-0.1**
	comp=Z,5.5nm,0.7s,mb4.7,baz=160,slow=6.7,SNR=43								
SONM					ScP			09 40 57.8	
	comp=Z,2.4nm,1.2s,baz=180,slow=2.5,SNR=5.8								
CASY	**Casey**	**60.63**	**189**	*e*P			**P**	**09 36 23.7**	**-1.6**
	comp=Z,9.8nm,1.1s,mb4.8								
ZAK	**Zakamensk**	**61.95**	**341**	*e*P			**P**	**09 36 34.6**	**+0.1**
ZAK				*e*				09 37 14.6	
WMQ	**Urumqi**	**63.76**	**327**	⇓*i*P			**P**	**09 36 47.0**	**+0.4**
WMQ					AMB		AMB		
	comp=Z,41nm,0.8s,mb5.5								
WMQ					LR		LR		
	comp=Z,86nm,24.0s,MS3.9								
YAK	**Yakutsk**	**68.97**	**360**	*c i*P			**P**	**09 37 19.5**	**+0.1**
YAK					pmax		pmax		
	comp=Z,43nm,0.7s,mb5.5								
YAK	**Yakutsk**	**68.97**	**360**	*e*P			**P**	**09 37 19.3**	**-0.1**
	comp=Z,31nm,0.7s,mb5.3								
ULHL	**Ulahol**	**69.63**	**320**	P			**P**	**09 37 24.4**	**+0.6**
	SNR=8.4								
KZA	**Kyzart**	**70.18**	**319**	P			**P**	**09 37 29.0**	**+1.9**
	SNR=5.0								
TKM2	**Tokmak 2**	**70.38**	**320**	P			**P**	**09 37 29.0**	**+0.6**
	SNR=38								
UCH	**Uchtor**	**70.73**	**319**	P			**P**	**09 37 31.8**	**+1.3**
	SNR=33								
AAK	**Ala-Archa**	**70.94**	**320**	P			**P**	**09 37 32.8**	**+1.0**
	SNR=22								
AAK	**Ala-Archa**	**70.94**	**320**	*c i*P			**P**	**09 37 31.5**	**-0.3**
AAK					pmax		pmax		
	comp=Z,39nm,1.3s,mb5.2								
AAK	**Ala-Archa**	**70.94**	**320**	*e*P			**P**	**09 37 31.1**	**-0.7**
	comp=Z,34nm,1.0s,mb5.2								
CHMS	**Chumysh**	**70.96**	**320**	P			**P**	**09 37 32.4**	**+0.5**
	SNR=6.8								
AML	**Almayashu**	**71.22**	**319**	P			**P**	**09 37 34.4**	**+1.0**
	SNR=38								
USP	**Ospenovka**	**71.25**	**320**	P			**P**	**09 37 34.1**	**+0.5**
	SNR=35								
EKS2	**Erkin-Say**	**71.42**	**319**	P			**P**	**09 37 35.7**	**+1.0**
	SNR=28								
ZAL	**Zalesovo**	**71.92**	**334**	P			**P**	**09 37 37.0**	**-0.4**
	comp=Z,3.7nm,0.6s,mb4.5,baz=33,slow=5.0,SNR=8.7								
ZAL	**Zalesovo**	**71.92**	**334**	*i* P			**P**	**09 37 37.4**	**0.0**
ZAL					pmax		pmax		
	comp=Z,4.0nm,0.6s								
VNDA	**Vanda**	**72.25**	**173**	P			**P**	**09 37 38.5**	**-0.6**
	comp=Z,3.1nm,0.5s,mb4.5,baz=319,slow=7.0,SNR=63								
VNDA					LR		LR	10 09 53.1	
	comp=Z,64nm,18.1s,MS3.9,baz=340,slow=36								
VNDA	**Vanda**	**72.25**	**173**	P			**P**	**09 37 38.5**	**-0.6**
VNDA					pmax		pmax		
	comp=Z,3.0nm,0.5s								
VNDA					MLR		MLR		
	comp=Z,65nm,18.1s								
KURK	**Kurchatov**	**72.88**	**328**	*c i*P			**P**	**09 37 43.0**	**-0.2**
KURK	**Kurchatov**	**72.88**	**328**	*e*P			**P**	**09 37 42.7**	**-0.4**
	comp=Z,16nm,0.8s,mb5.0								
SBA	**Scott Base**	**73.13**	**172**	*e*P			**P**	**09 37 44.0**	**-0.2**
	comp=Z,2.1nm,0.5s,mb4.3								
NVS	**Novosibirsk**	**73.20**	**334**	*e*P			**P**	**09 37 43.0**	**-2.0**
NVS					*e*S		S	09 47 05.4	-5.4
NVS					pmax		pmax		
	comp=Z,14nm,1.5s,mb4.7								
NVS					pmax		pmax		
	comp=N,21nm,1.8s								
NVS					pmax		pmax		
	comp=E,14nm,1.7s								
NVS					smax				
	comp=N,21nm,2.1s								
NVS					smax				
	comp=E,23nm,2.0s								
MAW	**Mawson**	**74.98**	**202**	P			**P**	**09 37 55.3**	**+0.2**
	comp=E,3.4nm,0.7s,mb4.4,baz=61,slow=6.9,SNR=15								
MAW					LR		LR	10 08 30.1	
	comp=E,78nm,19.3s,MS4.0,baz=250,slow=34								
BRVK	**Borovoye**	**78.50**	**328**	*e*P			**P**	**09 38 14.6**	**-0.4**
	comp=E,12nm,0.9s,mb4.8								
TIXI	**Tiksi**	**78.64**	**359**	*e i*P			**P**	**09 38 15.2**	**-0.2**
TIXI				*e*				09 38 24.3	
TIXI				*e*S		S		09 48 05.2	-5.0
TIXI				*e*SS		SS		09 53 11.7	-5.6
TIXI				pmax		pmax			
	comp=Z,14nm,0.6s,mb5.1								
SYO	**Syowa Base**	**83.69**	**201**	⇓P			**

LPAZ	**La Paz**	**150.33**	**142**	PKPbc	PKPdf	09 46 07.6	+4.4
OTAV	**Otavalo**	**150.37**	**102**	PKPab	PKPab	09 46 12.8	-0.7

MAN 22 09:26:56.5, 11.32N×125.84E, h1^{km}, mb3.9, ML2.7, MS2.4, 1C, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**0.48**	**305**	*eP*		Pg 09 27 05.2	-0.8
BESP				*eS*		Sg 09 27 13.0	+0.5
OCLP	**Ormoc**	**1.23**	**257**	*eP*		Pb 09 27 20.7	+0.4
MSLP	**Maasin**	**1.52**	**219**	*eP*		Pn 09 27 25.1	+0.1
MSLP				*eS*		Sb 09 27 46.9	+1.9
SCPH	**Surigao**	**1.57**	**193**⇑	*eP*		Pn 09 27 25.6	0.0

IDC 22 09:33:52.5±2.9, 49.14N×29.00W, mb4.1/3, mb1 4.3/3, mb1mx3.6/21, MS3.5/3, Ms1 3.5/3, ms1mx2.8/23, Error ellipse: s-maj=128.0km s-min=30.9km az=173.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NOA	**NORSAR Array B**	**25.46**	**47**	LR	LR	09 47 25.3	
	comp=Z,85nm,18.1s,baz=295,slow=32						
FINES	**FINESS Array B**	**32.65**	**47**	P	P	09 40 25.5	-2.3
	17nm,1.3s,baz=254,slow=10,SNR=4.4						
FINES				LR	LR	09 51 21.3	
	comp=Z,42nm,18.6s,baz=186,slow=32						
AKASG	**Malin Array Be**	**36.69**	**65**	P	P	09 41 00.8	-1.7
	0.9nm,0.5s,baz=296,slow=8.1,SNR=6.0						
PDAR	**Pinedale Array**	**53.88**	**296**	P	P	09 43 17.4	-1.8
	0.5nm,0.6s,baz=50,slow=7.0,SNR=6.1						
SUR	**Sutherland**	**92.48**	**140**	LR	LR	10 27 06.1	
	comp=Z,36nm,20.9s,baz=83,slow=34						
WRA	**Warramunga Arr**	**147.95**	**31**	PKPbc	PKPdf	09 53 38.9	+0.5
	0.5nm,1.1s,baz=336,slow=2.7,SNR=7.6						
ASAR	**Alice Springs**	**151.23**	**34**	PKPbc	PKPdf	09 53 47.5	+4.2
	2.1nm,0.7s,baz=342,slow=2.0,SNR=24						

IDC 22 09:56:01.6±2.0, 17.47S×173.16W, mb4.0/4, mb1 4.2/4, mb1mx3.8/16, Error ellipse: s-maj=62.5km s-min=32.8km az=122.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**22.40**	**200**	P	P	10 01 01.8	-1.3
	9.5nm,0.9s,baz=3.3,slow=7.6,SNR=4.8						
WRA	**Warramunga Arr**	**49.63**	**258**	P	P	10 04 55.0	-2.2
	0.6nm,0.4s,baz=97,slow=6.9,SNR=39						
ASAR	**Alice Springs**	**49.72**	**254**	P	P	10 04 56.0	-1.8
	3.1nm,0.6s,baz=90,slow=8.6,SNR=76						
ILAR	**Eielson Array**	**84.42**	**11**	P	P	10 08 35.5	-1.3
	0.4nm,0.8s,baz=218,slow=5.9,SNR=6.0						

*CASC **22** 10:04:39.2±2.3, 13.98N×92.44W, h44^{km}±97^{km}, MD4.2, ML4.2*
*IDC **22** 10:04:47.6±3.7, 12.77N×96.57W, mb3.4/2, mb1 3.8/3, mb1mx3.7/17, ML3.5/1, Error ellipse: s-maj=261.0km s-min=73.9km az=64.0*
ISC 22 10:04:38.0±1.6, 13.8N±0.1×92.43W±0.05, h25^{km}±11^{km}, n16, σ0^{s}98/26, mb3.5/2, 1C, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.92**	**57**⇑	*eP*		**Pb**	**10 04 55.2**	**0.0**
JAT				*eS*		**Sb**	**10 05 06.7**	**-0.2**
JAT				AML	AML	10 05 09.4	
	comp=N,4μm,0.3s						
FUG	**Fuego 3**	**1.67**	**68**	*eP*		**Pn**	**10 05 04.7**	**-1.3**
PCG	**Pacaya**	**1.86**	**72**	*eP*		**Pn**	**10 05 07.1**	**-1.8**
PCG				*eS*		**Sn**	**10 05 31.3**	**-0.5**
IXG	**Ixpaco**	**1.95**	**79**	*eP*		**Pn**	**10 05 09.6**	**-0.5**
IXG				*eS*		**Sn**	**10 05 35.0**	**+0.9**
IXG				AML	AML	10 05 38.8	
	comp=E,5μm,0.6s						
NBG	**Las Nubes**	**2.16**	**69**	*eP*		**Pn**	**10 05 13.4**	**+0.2**
NBG				*eS*		**Sn**	**10 05 40.2**	**+0.8**
CUSS	**Cusmapa**	**2.42**	**88**	*eP*		**Pn**	**10 05 16.8**	**0.0**
CUSS				*eS*		**Sn**	**10 05 46.5**	**+0.6**
RTR	**El Retiro**	**2.71**	**88**	*eP*		**Pn**	**10 05 21.6**	**+0.6**
RTR				*eS*		**Sn**	**10 05 53.9**	**+0.5**
SBLS	**San Blas**	**2.73**	**89**	*eP*		**Pn**	**10 05 21.9**	**+0.6**
SBLS				*eS*		**Sn**	**10 05 55.3**	**+1.4**
SNJE	**San Jose**	**2.75**	**89**	*eP*		**Pn**	**10 05 21.6**	**+0.1**
SNJE				*eS*		**Sn**	**10 05 54.1**	**-0.2**
BOQS	**Boqueron**	**3.07**	**91**	*eP*		**Pn**	**10 05 26.7**	**+0.7**
BOQS				*eS*		**Sn**	**10 06 02.5**	**+0.1**
LFRS	**El Faro**	**3.28**	**93**	*eP*		**Pn**	**10 05 29.7**	**+0.6**
LFRS				*eS*		**Sn**	**10 06 05.5**	**-2.4**
LCBS	**La Ceiba**	**3.36**	**92**	*eP*		**Pn**	**10 05 30.7**	**+0.5**
LCBS				*eS*		**Sn**	**10 06 08.0**	**-1.9**
TXAR	**Lajitas Array**	**18.61**	**328**	P		**P**	**10 08 57.0**	**+1.1**
	comp=E,0.0nm,0.3s,baz=145,slow=11,SNR=5.2						
NVAR	**Mina Array Bea**	**33.55**	**322**	P		**P**	**10 11 15.2**	**-2.8**
	comp=E,0.4nm,0.6s,mb3.5,baz=128,slow=8.8,SNR=4.3						
ILAR	**Eielson Array**	**62.84**	**337**	P		**P**	**10 15 11.8**	**+8.0**
	comp=E,0.3nm,0.7s,mb3.5,baz=95,slow=6.5,SNR=5.0						
CMAR	**Chiang Mai Arr**	**146.02**	**340**	PKPbc	PKPbc	10 24 27.4	+11
	comp=E,0.7nm,0.4s,baz=332,slow=4.1,SNR=5.4						

*HEL **22** 10:05:29.9±0.2, 61.68N×31.09E, ML2.0, ML2.6(NAO), Explosion*
*CSEM **22** 10:05:30.6±0.2, 61.71N×30.89E, h2^{km}, ML2.0, Error ellipse: s-maj=4.5km s-min=2.3km az=116.0, Mining explosion.*
*BER **22** 10:05:33.4±3.4, 61.89N×30.58E, ML2.6(NAO), Suspected explosion*
*IDC **22** 10:05:34.8±2.5, 61.88N×30.32E, mb1 3.4/4, mb1mx3.2/18, ML2.8/4, Error ellipse: s-maj=27.0km s-min=9.5km az=139.0*
*NAO **22** 10:05:34.9±3.5, 62.05N×30.20E, ML2.6*
ISC 22 10:05:28.9±1.1, 61.73N±0.04×31.0E±0.1, n23, σ1^{s}15/45, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOF	**Joensuu**	**1.20**	**6**	*eP*		**Pb**	**10 05 52.4**	**+0.2**
JOF				*eS*		**Sb**	**10 06 08.1**	**0.0**
JOF	**Joensuu**	**1.20**	**6**	P		**Pb**	**10 05 52.3**	**+0.1**
VJF	**Virojoki**	**2.07**	**236**	*eP*		**Pn**	**10 06 05.7**	**+0.5**
VJF				*eS*		**Sn**	**10 06 31.9**	**-0.2**
VJF	**Virojoki**	**2.07**	**236**	P		**Pn**	**10 06 05.7**	**+0.5**
VJF				*eS*		**Sn**	**10 06 31.8**	**-0.3**
KAF	**Kangasniemi**	**2.27**	**282**	*eP*		**Pn**	**10 06 08.9**	**+0.8**
KAF				*eS*		**Sn**	**10 06 35.9**	**-1.3**
KAF	**Kangasniemi**	**2.27**	**282**	P		**Pn**	**10 06 08.9**	**+0.8**
KAF				S		**Sn**	**10 06 35.8**	**-1.3**
FIA0	**FINESS Array S**	**2.38**	**265**	*eP*		**Pn**	**10 06 10.4**	**+0.6**
FIA0				*eS*		**Sn**	**10 06 39.8**	**-0.4**
FIA0	**FINESS Array S**	**2.38**	**265**	Pn		**Pn**	**10 06 10.6**	**+0.8**
	baz=91,slow=16						
FIA0				Lg			10 06 39.6	
	baz=78,slow=37						
FINES	**FINESS Array B**	**2.38**	**265**	Pg		**Pn**	**10 06 10.6**	**+0.8**
	6.1nm,0.3s,baz=89,slow=16,SNR=218						
FINES				Pn		**Pn**	**10 06 11.0**	**+1.2**
	6.1nm,0.3s,baz=83,slow=15,SNR=221						
FINES				Lg			10 06 40.0	
	4.6nm,0.3s,baz=75,slow=26,SNR=22						
FINES				Rg			10 06 52.4	
	4.4nm,0.6s,baz=87,slow=32,SNR=6.2						
SUF	**Sumiainen**	**2.49**	**296**	*eP*		**Pn**	**10 06 12.4**	**+1.1**
SUF				*eS*		**Sn**	**10 06 43.3**	**+0.4**
SUF				*eSB*		**Sb**	**10 06 46.1**	**+0.5**
SUF				MSG			10 06 46.5	
	comp=Z,5.8nm,0.1s						
SUF	**Sumiainen**	**2.49**	**296**	P		**Pn**	**10 06 12.3**	**+1.0**
SUF				S		**Sn**	**10 06 43.2**	**+0.4**
PVF	**Pernaja**	**2.77**	**247**	*eP*		**Pn**	**10 06 15.0**	**-0.3**
PVF				*eS*		**Sn**	**10 06 49.7**	**-0.3**
PVF	**Pernaja**	**2.77**	**247**	P		**Pn**	**10 06 14.9**	**-0.4**
PVF				S		**Sn**	**10 06 49.7**	**-0.3**
KJN	**Kajaani**	**2.81**	**329**	*eP*		**Pn**	**10 06 17.4**	**+1.6**
KJN				*eS*		**Sn**	**10 06 51.1**	**+0.2**
KJN				*eSB*		**Sb**	**10 06 54.5**	**-0.3**
KJN	**Kajaani**	**2.81**	**329**	P		**Pn**	**10 06 17.4**	**+1.6**
KJN				S		**Sn**	**10 06 51.1**	**+0.2**
KEF	**Keuruu**	**2.94**	**281**	*eP*		**Pn**	**10 06 19.3**	**+1.6**
KEF				*eS*		**Sn**	**10 06 54.0**	**-0.3**
ARA0	**ARCESS Array S**	**8.16**	**346**	Pn		**P**	**10 07 28.0**	**-3.4**
	baz=157,slow=16						
ARA0				Sn		**Sn**	**10 08 56.0**	**-9.5**
	baz=162,slow=28						
ARA0				Lg			10 09 36.9	
	baz=158,slow=37						
ARA0	**ARCESS Array S**	**8.16**	**346**	*eP*		**P**	**10 07 28.0**	**-3.4**
ARA0				*eS*		**Sn**	**10 08 56.0**	**-9.5**
ARA0				*e*			10 09 36.9	
ARCES	**ARCESS Array B**	**8.16**	**346**	Pn		**P**	**10 07 28.0**	**-3.4**
	comp=Z,0.1nm,0.3s,baz=158,slow=14,SNR=7.4						
ARCES				Sn		**Sn**	**10 08 55.5**	**-10**
	comp=Z,0.1nm,0.3s,baz=164,slow=25,SNR=2.7						
ARCES				Lg			10 09 40.1	
	comp=Z,0.3nm,0.3s,baz=159,slow=23,SNR=4.0						
HFS	**Hagfors**	**8.59**	**267**	Pn		**P**	**10 07 33.9**	**-3.5**
	baz=79,slow=14						
HFS				Sn		**Sn**	**10 09 05.7**	**-10**
	baz=73,slow=28						
HFS	**Hagfors**	**8.59**	**267**	*eP*		**P**	**10 07 33.9**	**-3.5**
HFS				*eS*		**Sn**	**10 09 05.7**	**-10**
HFS	**Hagfors**	**8.59**	**267**	Pn		**P**	**10 07 33.7**	**-3.7**
	comp=Z,0.0nm,0.3s,baz=79,slow=14,SNR=3.8						
HFS				Sn		**Sn**	**10 09 03.9**	**-12**
	comp=Z,0.1nm,0.3s,baz=82,slow=29,SNR=5.2						
NOA	**NORSAR Array B**	**9.53**	**275**	Pn		**P**	**10 07 46.3**	**-3.8**
	comp=Z,0.1nm,0.3s,baz=52,slow=12,SNR=2.3						

DJA 22 10:52:08.9±0.9, 9.57S×115.26E, h15^{km}±25^{km}, MD4.9/3, ML4.3/2, 2C-6D, Error ellipse: s-maj=53.1km s-min=8.1km az=175.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RATI	**Rata**	**0.88**	**18**⇑	*i*	Pn	10 52 23.8	-2.8
	1μm,0.2s						
RATI				⇓*i*	Sn	10 52 34.4	-4.7
KEDI	**Kedomdong**	**1.36**	**38**⇑	*i*	Pn	10 52 31.0	-2.5
	115nm,0.2s						
KEDI				⇓*i*	Sn	10 52 47.1	-4.2
KELI	**Kelakatan**	**1.54**	**330**	⇓*i*	Pn	10 52 33.7	-2.4
KELI				⇓*i*	Sn	10 52 52.2	-3.6
SRDI	**Scrawed**	**1.54**	**314**	⇓*i*	Pn	10 52 33.3	-2.8
SRDI				⇓*i*	Sn	10 52 51.1	-4.8

IDC 22 11:22:00.3±2.6, 17.30S×172.52W, mb3.8/5, mb1 4.2/5, mb1mx4.0/15, MS3.8/7, Ms1 3.8/7, ms1mx3.6/21, Error ellipse: s-maj=190.0km s-min=23.0km az=154.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**39.08**	**259**	LR	LR	11 44 21.0	
	comp=Z,74nm,18.3s,baz=234,slow=34						
PMG	**Port Moresby**	**39.94**	**276**	LR	LR	11 43 25.4	
	comp=Z,137nm,18.6s,baz=108,slow=32						
STKA	**Stephens Creek**	**43.86**	**242**	LR	LR	11 47 49.5	
	comp=Z,83nm,18.2s,baz=26,slow=35						
WRA	**Warramunga Arr**	**50.26**	**258**	P	P	11 30 57.6	-3.1
	0.6nm,0.6s,baz=90,slow=7.1,SNR=10.0						
ASAR	**Alice Springs**	**50.35**	**253**	P	P	11 30 59.9	-1.5
	4.6nm,0.7s,baz=86,slow=7.9,SNR=41						
ASAR				LR	LR	11 51 43.0	
	comp=Z,91nm,18.0s,baz=90,slow=35						
VNDA	**Vanda**	**61.59**	**186**	LR	LR	11 55 09.6	
	comp=Z,81nm,18.6s,baz=13,slow=32						
NVAR	**Mina Array Bea**	**75.18**	**41**	P	P	11 33 44.1	-2.4
	0.8nm,0.7s,baz=229,slow=13,SNR=6.3						
TXAR	**Lajitas Array**	**80.97**	**56**	P	P	11 34 17.6	-1.0
	0.3nm,0.7s,baz=225,slow=10,SNR=3.3						
TXAR				LR	LR	12 02 46.1	
	comp=Z,47nm,18.2s,baz=185,slow=30						
PDAR	**Pinedale Array**	**83.11**	**41**	P	P	11 34 28.0	-1.4
	0.4nm,0.7s,baz=243,slow=3.3,SNR=3.7						
PDAR				LR	LR	12 05 34.7	
	comp=Z,45nm,18.3s,baz=114,slow=32						
GERES	**GERESS Array B**	**148.13**	**352**	PKPbc	PKPdf	11 41 49.1	+2.6
	1.0nm,0.7s,baz=31,slow=5.7,SNR=3.5						
BRTR	**Keskin Array B**	**148.15**	**320**	PKPbc	PKPdf	11 41 48.4	+1.6
	2.2nm,1.0s,baz=81,slow=1.8,SNR=6.4						

*NIED **22** 11:31:00, 33.10N×137.10E, h23^{km}, Mw3.5 Best double couple: M$_0$1.81×10^{14} NP1:φ$_s$76°, δ52°, λ106°. NP2:φ$_s$231°, δ40°, λ70°.*
*JMA **22** 11:31:36.9±0.1, 33.15N×137.05E, h40^{km}±4^{km}, M3.7*
ISC 22 11:31:36.5±0.8, 33.12N±0.05×137.06E±0.03, h48^{km}±20^{km}, n17, σ0^{s}69/31, 9D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TK01	**Tokai 1**	**0.78**	**35**	*eS*		**S**	**11 32 01.3**	**-0.8**
TK02	**Tokai 2**	**1.01**	**35**	⇓P		**P**	**11 31 54.5**	**+0.1**
TK02				*eS*		**S**	**11 32 07.6**	**-0.1**
JWZ	**Kozaga**	**1.20**	**290**	⇓P		**P**	**11 31 57.3**	**+0.2**
JWZ				S		**S**	**11 32 11.4**	**-1.0**
TK03	**Tokai 3**	**1.28**	**36**	P		**P**	**11 31 58.6**	**+0.2**
TK03				S		**S**	**11 32 14.5**	**-0.2**
JIE	**Ise**	**1.30**	**347**	⇓P		**P**	**11 31 59.0**	**+0.4**
JIE				S		**S**	**11 32 15.8**	**+0.7**
TK04	**Tokai 4**	**1.43**	**28**	⇓P		**P**	**11 32 00.8**	**+0.3**
TK04				S		**S**	**11 32 18.2**	**-0.1**
JWM	**Minabe**	**1.60**	**297**	⇓P		**P**	**11 32 03.1**	**+0.3**
JWM				S		**S**	**11 32 21.5**	**-0.9**
JWY	**Kouya**	**1.64**	**312**	⇓P		**P**	**11 32 04.2**	**+0.8**
JWY				S		**S**	**11 32 23.3**	**-0.1**
TSUJ	**Tsu 2**	**1.67**	**342**	⇓P		**P**	**11 32 04.2**	**+0.4**
TSUJ				S		**S**	**11 32 25.6**	**+1.4**
JAI	**Aioi**	**2.28**	**288**	P		**P**	**11 32 12.9**	**+0.4**
JAI				S		**S**	**11 32 37.8**	**-1.7**
JHJ2	**Mitsune**	**2.31**	**90**	P		**P**	**11 32 13.2**	**+0.2**
JHJ2				*eS*		**S**	**11 32 39.3**	**-1.0**
JIM2	**Oshima 3**	**2.53**	**50**	*eS*		**S**	**11 32 45.7**	**-0.2**
JWT	**Wachi**	**2.55**	**328**	⇓P		**P**	**11 32 16.9**	**+0.5**
JWT				S		**S**	**11 32 46.3**	**-0.1**
JGM	**Miyama**	**2.58**	**354**	⇓P		**P**	**11 32 17.3**	**+0.5**
JGM				S		**S**	**11 32 46.9**	**-0.3**
JYN	**Shimob**	**2.67**	**27**	P		**P**	**11 32 18.5**	**+0.5**
JYN				*eS*		**S**	**11 32 48.3**	**-1.0**
JOD2	**Odawara 2**	**2.72**	**38**	P		**P**	**11 32 19.8**	**+1.1**
MAT	**Matsushiro**	**3.54**	**15**	P		**P**	**11 32 31.2**	**+0.8**
MAT				S		**S**	**11 33 10.4**	**-1.0**

CASC 22 11:41:46.0±2.9, 11.60N×87.67W, h2^{km}±13^{km}, MD4.0, 4C-2D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LEON	**Leon**	**1.11**	**43**⇑	*eP*		Pb	11 42 07.7	0.0
MIRN	**Miramar**	**1.26**	**48**⇓	*eP*		Pb	11 42 09.4	-0.7
MIRN				*eS*		Sb	11 42 27.6	+0.9
TELN	**Telica**	**1.29**	**39**	*eP*		Pb	11 42 09.7	-1.1
TELN				*eS*		Sb	11 42 28.6	+0.9
CNGN	**Cerro Negro**	**1.31**	**46**⇑	*eP*		Pb	11 42 10.0	-1.0
CNGN				*eS*		Sb	11 42 29.1	+1.1
MOMJ	**Momotombo**	**1.37**	**54**⇓	*eP*		Pb	11 42 10.7	-1.3
MOMJ				*eS*		Sb	11 42 31.3	+1.4
XAVN	**Gruta Xavier**	**1.43**	**67**	*eP*		Pn	11 42 11.5	-1.5
XAVN				*eS*		Sb	11 42 32.4	+0.9
APYN	**Apoyeque**	**1.44**	**64**	*eP*		Pn	11 42 11.3	-1.8
TICN	**Ticuantepe**	**1.47**	**73**	*eP*		Pn	11 42 13.1	-0.6
MGAN	**Managua**	**1.50**	**68**	*eS*		Sb	11 42 34.8	+1.2
WILN	**Americas 2**	**1.56**	**69**⇑	*eP*		Pn	11 42 11.7	-3.2
WILN				*eS*		Sb	11 42 36.9	+1.6
APON	**Apoyo**	**1.60**	**78**	*eP*		Pn	11 42 14.4	-1.0
APON				*eS*		Sb	11 42 37.8	+1.2
CNCH	**Conchagua**	**1.68**	**355**	*eP*		Pn	11 42 17.1	+0.5
CNCH				*eS*		Sb	11 42 38.6	-0.3
PYTN	**Playitas**	**1.83**	**59**⇑	*eP*		Pn	11 42 16.6	-2.2
PYTN				*eS*		Sn	11 42 45.4	+2.5
LCBS	**La Ceiba**	**2.41**	**328**	*eP*		Pn	11 42 28.2	+1.1
LCBS				*eS*		Sn	11 42 56.2	-1.5
LFRS	**El Faro**	**2.43**	**326**	*eP*		Pn	11 42 28.7	+1.3
LFRS				*eS*		Sn	11 42 57.4	-0.7
BOQS	**Boqueron**	**2.65**	**324**	*eP*		Pn	11 42 32.0	+1.6
BOQS				*eS*		Sn	11 43 04.3	+0.8

WEL 22 11:41:56.0±0.3, 37.83S×176.65E, h155^{km}±2^{km}, ML3.6/8, 1C, Error ellipse: s-maj=3.2km s-min=3.0km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.56**	**140**	⇑P		P	11 42 18.3	-0.3
URZ					S	S	11 42 35.2	-0.8
MWZ	**Matawai**	**0.85**	**126**	PN		P	11 42 20.2	-0.1
MWZ					SN	S	11 42 39.5	+0.5
PUZ	**Puketiti**	**1.29**	**101**	PN		P	11 42 23.8	-0.3
PUZ					SN	S	11 42 44.0	-1.8
BKZ	**Black Stump Fm**	**1.34**	**185**	PN		P	11 42 24.1	-0.4
BKZ					SN	S	11 42 45.7	-1.0
MXZ	**Matakaoa Point**	**1.34**	**79**	PN		P	11 42 24.4	-0.2
MXZ					SN	S	11 42 45.7	-1.0
KNZ	**Kokohu**	**1.43**	**146**	PN		P	11 42 25.6	0.0
MGZ	**Maungaku**	**1.46**	**217**	PN		P	11 42 26.0	+0.1
NGZ	**Ngauruhoe**	**1.57**	**211**	PN		P	11 42 26.8	-0.2
CNZ	**Chateau**	**1.62**	**212**	PN		P	11 42 27.2	-0.2
TUVZ	**Tukino**	**1.63**	**208**	PN		P	11 42 27.6	-0.1
WNVZ	**Wahianoa**	**1.71**	**209**	PN		P	11 42 28.2	-0.2
MOVZ	**Moawhango**	**1.72**	**204**	PN		P	11 42 27.8	-0.8
PWZ	**Pawanui**	**2.20**	**176**	PN		P	11 42 32.9	-1.3
TSZ	**Takapari Road**	**2.29**	**193**	PN		P	11 42 33.9	-1.4
WAZ	**Wanganui**	**2.32**	**214**	PN		P	11 42 34.6	-1.0
BFZ	**Birch Farm**	**2.86**	**186**	PN		P	11 42 40.1	-2.4
MRZ	**Mangatainoka R**	**2.94**	**196**	PN		P	11 42 40.7	-2.8
KIW	**Kapiti Island**	**3.31**	**204**	PN		P	11 42 44.9	-3.3
MTW	**Mount Morrison**	**3.44**	**195**	PN		P	11 42 46.2	-3.7
CAW	**Cannon Point**	**3.49**	**200**	PN		P	11 42 47.1	-3.5
MRW	**Makara Radio**	**3.71**	**203**	PN		P	11 42 49.6	-3.8
MSWZ	**Moikau Station**	**3.74**	**196**	PN		P	11 42 49.6	-4.1
BHW	**Baring Head**	**3.83**	**201**	PN		P	11 42 50.8	-4.1
TUWZ	**Tuamarina**	**4.16**	**209**	PN		P	11 42 54.8	-4.5
NNZ	**Nelson**	**4.22**	**216**	PN		P	11 42 56.0	-4.1
NNZ					SN	S	11 43 43.6	-5.9
QRZ	**Quartz Range**	**4.38**	**226**	PN		P	11 42 57.3	-4.8
QRZ					SN	S	11 43 46.6	-6.5
THZ	**Tophouse**	**4.87**	**215**	PN		P	11 43 04.5	-4.1
THZ					SN	S	11 43 59.0	-5.7
KHZ	**Kahutara**	**5.16**	**207**	PN		P	11 43 07.5	-5.0
KHZ					SN	S	11 44 05.0	-6.6
DSZ	**Denniston Nort**	**5.41**	**222**	SN		S	11 44 09.9	-7.6
LTZ	**Lake Taylor**	**5.97**	**213**	PN		P	11 43 18.3	-4.9
MQZ	**McQueen's Vall**	**6.61**	**206**	SN		S	11 44 34.5	-12

*DHMR **22** 12:00:05.6±0.2, 14.07N×40.11E, h4km±38km, mb5.2*
*DUSS **22** 12:00:05.2±0.3, 13.92N×43.40E, h15km, MS5.7*
*BJI **22** 12:00:09.1, 14.03N×40.02E, h22km, mB5.6, mb5.3, Ms5.4, Msz5.2*
*STR **22** 12:00:11.6±0.0, 14.10N×40.10E, Mb5.3, Ms5.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*IDC **22** 12:00:11.4±0.6, 14.21N×40.32E, mb5.3/22, mb1 5.3/25, mb1mx5.3/25, ML3.7/2, MS4.7/13, Ms1 4.8/13, ms1mx4.5/24, Error ellipse: s-maj=18.4km s-min=14.1km az=51.0*
*HRVD **22** 12:00:12.4±0.1, 14.41N×40.25E, h12km, MW5.4/76, Centroid moment Tensor Solution. LP body waves: s58,c103; Mantle waves: s76,c165; Half duration: 1s3 Moment tensor: Scale 10^{17}Nm; M$_{rr}$-1.65±.03; M$_{\theta\theta}$0.20±.02; M$_{\phi\phi}$1.45±.03; M$_{r\theta}$0.50±.08; M$_{r\phi}$-0.59±.02; M$_{\theta\phi}$-0.22±.07; Best double couple: M$_0$1.75×10^{17} NP1: φ$_s$170°, δ40°, λ-71°. NP2:φ$_s$326°, δ53°, λ-105°. Principal axes: T 1.73, Plg7°, Azm67°; N .04, Plg12°, Azm336°; P -1.78, Plg76°, Azm185°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SYO **22** 12:00:12.2, 14.21N×40.34E, h8km, MB5.5, MS5.1*
*NEIC **22** 12:00:12.4±0.2, 14.17N×40.30E, h10km, mb5.4/121, MS5.1/99, MW5.3, Error ellipse: s-maj=4.5km s-min=3.0km az=49.0, Moment Tensor Solution. s9 Moment tensor: Scale 10^{16}Nm; M$_{rr}$-9.49; M$_{\theta\theta}$7.94; M$_{\phi\phi}$1.55; M$_{r\theta}$1.44; M$_{r\phi}$-3.20; M$_{\theta\phi}$1.33; Best double couple: M$_0$9.6×10^{16} NP1: φ$_s$122°, δ43°, λ-75°. NP2:φ$_s$283°, δ48°, λ-103°. Principal axes: T 9.3, Plg3°, Azm22°; N .54, Plg10°, Azm292°; P -9.84, Plg80°, Azm126°;*
NEIC Felt at Mekele.
*CSEM **22** 12:00:13.9±0.1, 14.21N×40.28E, h30km, mb5.4/99, Ms5.1, Mw5.5 Error ellipse: s-maj=2.3km s-min=1.9km az=7.0*
*MOS **22** 12:00:14.6±0.8, 14.23N×40.26E, h33km, mb5.7/38, MS4.7/15, Error ellipse: s-maj=12.2km s-min=4.5km az=101.5*
*SNSN **22** 12:00:15.4, 14.52N×40.30E, Ml4.8*
ISC 22 12:00:11.9±0.2, 14.11N±0.03×40.26E±0.02, h18^{km}, h18^{km}±2.5km: pP-P, n832, σ0^{s}98/761, mb5.3/193, MS5.0/138, 41C-75D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FRSS	**Farasan al Kab**	**3.17**	**34**	P		**Pn**	**12 01 00.8**	**-1.2**
HAJJ	**Hajjah**	**3.60**	**64**	*eP*		**Pn**	**12 01 06.8**	**-1.3**
HAJ

COBT Iskenderun 22.60 352 *i* P P **12 05 14.5 +1.6**
IKL Isikli 22.81 346 *e*P P **12 05 15.6 +0.6**
GAZ Gaziantep 23.13 354 *e*P P **12 05 20.9 +2.9**
CEYT Ceyhan 23.16 351 *e*P P **12 05 20.4 +2.1**
GZT Gaziantep 23.27 355 *i* P P **12 05 21.5 +2.0**
HKR Hakkari 23.58 7 *e*P P **12 05 23.3 +0.9**
BEST Besiri 23.70 2 *i* P P **12 05 25.5 +1.9**
HDMB Hadim 23.79 344 *e*P P **12 05 27.2 +2.7**
BTMT Batman 24.01 2 *e*P P **12 05 29.1 +2.5**
MALT Malatya 24.16 356 *e*P P **12 05 29.9 +1.8**
MALT Malatya 24.16 356 *e*P P **12 05 29.1 +1.0**
comp=Z,109nm,1.5s,mb5.1
MYA Malatya 24.17 356 *e*P P **12 05 30.1 +1.9**
ELZG Elazig 24.32 358 *i* P P **12 05 31.5 +1.9**
NIG Nigde 24.42 349 *e*P P **12 05 32.5 +1.9**
TVAN Van 24.48 6 *i* P P **12 05 34.9 +3.7**
VANB Van 24.54 6 *e*P P **12 05 35.2 +3.4**
ARG Arkhangelos 24.55 336 P P **12 05 33.6 +1.7**
BINT Bingol 24.67 0 *e*P P **12 05 36.3 +3.3**
PTK Pertek 24.70 358 *e*P P **12 05 34.9 +1.6**
KONT Konya--Tatoy 24.75 345 *e*P P **12 05 34.9 +1.1**
DALT Dalyan (Mudla) 24.84 337 *e*P P **12 05 36.0 +1.4**
VRT Varto 24.95 2 *i* P P **12 05 36.3 +0.7**
BNN Bunyan 24.95 352 *e*P P **12 05 36.8 +1.1**
AVNT Avonos 25.03 350 *i* P P **12 05 37.2 +0.8**
ISP Isparta 25.17 342 *e*P P **12 05 37.3 -0.5**
IDI Anoyia 25.22 329 P P **12 05 39.2 +0.9**
comp=Z,107nm,1.0s,mb5.3,baz=157,slow=10,SNR=20
IDI S S **12 10 17.0 +17**
comp=Z,17nm,1.2s,baz=119,slow=19,SNR=2.2
GVD Gavdhos 25.28 328 *e*P P **12 05 38.3 -0.6**
GVD Gavdhos 25.28 328 *e*P P **12 05 38.3 -0.5**
EZC Erzincan 25.54 359 *e*P P **12 05 43.1 +1.8**
BDRM Kayabasi 25.56 336 *i* P P **12 05 44.1 +2.7**
DENT Denizli 25.57 339 *e*P P **12 05 45.5 +3.9**
MLSB Milas 25.63 337 *e*P P **12 05 42.6 +0.5**
ERZM Erzurum 25.71 2 *i* P P **12 05 45.2 +2.4**
EZM Erzurum 25.71 2 *e*P P **12 05 46.5 +3.6**
KIZT Kizilcal 25.76 345 *i* P P **12 05 44.5 +1.2**
KAMT Kaman 25.81 348 *i* P P **12 05 45.0 +1.2**
SANT Santorini 25.82 332 *e*P P **12 05 43.5 -0.5**
comp=Z,114nm,1.1s,mb5.3
SANT Santorini 25.82 332 *e*P P **12 05 43.5 -0.4**
comp=Z,114nm,1.1s,mb5.3
BRTR Keskin Array B 26.17 348 P P **12 05 47.9 +0.8**
comp=Z,48nm,1.0s,mb5.0,baz=173,slow=10.0,SNR=88
BRTR PcP PcP 12 09 14.6 0.0
comp=Z,16nm,1.0s,baz=153,slow=3.2,SNR=9.8
BRTR LR LR 12 15 10.6
comp=Z,556nm,19.7s,MS4.1,baz=175,slow=34
BRTR Keskin Array B 26.17 348 PcP PcP 12 09 14.6 0.0
GUMT Gumushane 26.26 359 *e*P P **12 05 49.4 +1.5**
MANT Manisa 26.40 339 *i* P P **12 05 49.8 +0.6**
ANTO Ankara 26.48 347 *e*P P **12 05 49.4 -0.6**
ANTO Ankara 26.48 347 P P **12 05 51.2 +1.2**
ESKT Eskisehir 26.63 344 *i* P P **12 05 51.7 +0.3**
IZM Izmir 26.79 337 *e*P P **12 05 52.7 -0.1**
KDAG Bornova 26.79 337 *i* P P **12 05 55.0 +2.2**
CTKT Corum 26.84 351 *i* P P **12 05 54.4 +1.1**
ELDT Eldivan 26.95 348 *i* P P **12 05 54.9 +0.6**
AKS Akhisar 27.01 338 *e*P P **12 05 56.1 +1.3**
KVT Kavak 27.12 353 *e*P P **12 05 56.1 +0.3**
BCA Borcka 27.26 2 *e*P P **12 05 56.6 -0.5**
SGKT Sivrigoynuk 27.32 346 *i* P P **12 05 58.5 +0.9**
TOS Tosya 27.37 350 P P **12 05 59.3 +1.2**
MDU Mudurnu 27.42 345 *e*P P **12 05 58.5 0.0**
BOYT Boyabat 27.61 351 *i* P P **12 06 00.9 +0.7**
BALB Balikesir 27.66 339 *e*P P **12 06 00.5 -0.3**
ULDT Uludag 27.70 341 *i* P P **12 06 02.3 +1.2**
BTOK Tokmak 27.72 339 *i* P P **12 06 02.7 +1.4**
TI2 Plekhanov 27.80 7 *i* P P **12 06 04.6 +2.6**
TI2 *i* *i* 12 11 57.0
TI2 pmax pmax
comp=N,2μm,12.0s
AYVA Ayvalik 27.80 337 *i* P P **12 06 03.2 +1.2**
HENT Hendek 27.84 345 *i* P P **12 06 02.6 +0.2**
BALT Daday 27.97 349 *i* P P **12 06 03.4 -0.1**
HRT Hereke 28.17 343 *e*P P **12 06 05.8 +0.4**
ITM Ithomi 28.19 328 P P **12 06 06.8 +1.2**
BOZC Bozcaada 28.51 337 *i* P P **12 06 09.6 +1.3**
VAN Vannovskaya 28.55 30 *i* P P **12 06 08.3 -0.4**
SOC Sochi 29.37 359 *e*P P **12 06 15.8 -0.4**
SOC *e* 12 07 12.3
SOC *e*S S **12 11 04.4 -3.1**
SOC *e*SSS SSS 12 13 02.3 +2.3
SOC pmax pmax
comp=Z,43nm,1.3s,mb5.0
SOC pmax pmax
comp=N,28nm,0.7s
SOC pmax pmax
comp=E,20nm,0.7s
SOC MLR MLR
comp=Z,1μm,12.0s,MS4.8
SOC MLR MLR
comp=N,1μm,16.0s,MS4.9
SOC MLR MLR
comp=E,2μm,12.0s,MS4.9
MAK Makhachkala 29.42 11 *e*P P **12 06 09.5 -7.1**
MAK pmax pmax
comp=Z,2μm,8.0s
MAK MLR MLR
comp=N,4μm,13.0s,MS5.4
MAK MLR MLR
comp=E,4μm,13.0s,MS5.4
MAK MLR MLR
comp=Z,4μm,13.0s,MS5.2
AGG Agios Georgios 29.43 331 *e*P P **12 06 15.4 -1.2**
ALN Alexandroupoli 29.43 338 *e*P P **12 06 17.2 +0.5**
PAIG Paliouri 29.55 334 *e*P P **12 06 16.4 -1.4**
OUR Ouranopolis 29.76 334 *e*P P **12 06 19.3 -0.4**
KIV Kislovodsk 29.82 4 K *i*P P **12 06 20.2 +0.1**
KIV *i* 12 06 31.7
KIV *i* 12 07 17.2
KIV *e* 12 09 23.8
KIV pmax pmax
comp=Z,144nm,1.2s,mb5.6
KIV MLR MLR
comp=Z,1μm,12.0s,MS4.8
KIV Kislovodsk 29.82 4 *e*P P **12 06 18.9 -1.2**
comp=Z,163nm,1.3s,mb5.6
KIV LR LR
comp=Z,258nm,20.0s
KIV Kislovodsk 29.82 4 *e*P P **12 06 18.9 -1.2**
comp=Z,163nm,1.3s,mb5.6
RDO Rodhopi 29.83 337 P P **12 06 21.0 +0.7**
LKD Levkas 30.01 328 *e*P P **12 06 20.9 -1.0**
EDRB Edirne 30.02 340 *e*P P **12 06 22.6 +0.6**
LIT Litokhoron 30.21 332 *e*P P **12 06 22.5 -1.2**
KDZ Kurdzhali 30.32 338 *e*P P **12 06 25.0 +0.5**
MEV Metsovon 30.55 330 *e*P P **12 06 26.3 -0.3**
SRS Serrai 30.57 335 *e*P P **12 06 25.8 -1.0**
RZN Rozhen 30.61 337 *e*P P **12 06 27.8 +0.7**
ANN Anapa 30.68 356 *e*P P **12 06 28.0 +0.3**
ANN *e*PP pP 12 06 43.4 +10
ANN *e*S S **12 11 34.3 +6.1**
ANN pmax pmax
comp=Z,90nm,1.7s,mb5.3
ANN MLR MLR
comp=N,1μm,12.0s,MS4.7
ANN MLR MLR
comp=E,491nm,12.0s,MS4.7
ANN MLR MLR
comp=Z,917nm,12.0s,MS4.7
IGT Igoumenitsa 30.79 329 *e*P P **12 06 27.8 -1.0**
KNT Kendrikon 30.90 334 *e*P P **12 06 28.6 -1.1**
KNT Kendrikon 30.90 334 *e*P P **12 06 28.6 -1.1**
MMB Musomiste 30.91 335 *e*P P **12 06 29.0 -0.8**
GOF Gofitskoye 30.93 4 *e*P P **12 06 24.0 -6.0**
GOF MLR MLR
comp=Z,3μm,8.0s
GRG Griva 30.95 333 *e*P P **12 06 29.0 -1.2**
PLD Plovdiv 30.98 337 *e*P P **12 06 31.0 +0.7**
SIM Simferopol' 31.18 352 *c*P P **12 06 32.2 +0.1**
SIM *e*S S **12 11 39.4 +3.4**
SIM pmax pmax
comp=Z,40nm,1.1s,mb5.2
FNA Florina 31.27 332 *e*P P **12 06 31.7 -1.3**
KKB Krupnik 31.41 335 *e*P P **12 06 34.0 -0.2**
LSZ Lusaka 31.54 203 *e*P P **12 06 35.7 +0.1**
comp=Z,144nm,2.3s,mb5.4
LSZ LR LR
comp=Z,8μm,19.0s,MS5.4
LSZ Lusaka 31.54 203 *e*P P **12 06 35.7 +0.1**
comp=Z,144nm,2.3s,mb5.4
BOM Bombay 31.55 77 *e* P **12 06 23.4 -12**
SZH Strazhica 31.55 340 *e*P P **12 06 36.0 +0.6**
PGB Panagyurishte 31.56 337 *e*P P **12 06 35.0 -0.5**
PVL Pavlikeni 31.71 339 *e*P P **12 06 37.0 +0.1**
OHR Ohrid 31.80 331 *i*P P **12 06 36.5 -1.1**
OHR *i* 12 07 13.3
VTS Vitosha 31.97 336 P P **12 06 39.0 -0.1**
SOI Samo 32.09 322 *e*P P **12 06 40.6 +0.4**
SOI Samo 32.09 322 *e*P P **12 06 40.6 +0.4**
SKO Skopje 32.19 333 *i*P P **12 06 40.8 -0.2**
comp=Z,0.1nm,1.2s
MTTG Motta San Giov 32.26 322 *e*P P **12 06 42.3 +0.6**
MTTG Motta San Giov 32.26 322 *e*P P **12 06 42.3 +0.7**
SCLL Scilla 32.41 322 *e*P P **12 06 43.8 +0.8**
SCLL Scilla 32.41 322 *e*P P **12 06 43.8 +0.8**
POO Poona 32.51 78 *e*P P **12 06 44.0 0.0**
CFR Carcaliu 32.63 344 *i*P P **12 06 44.7 -0.1**
CFR Carcaliu 32.63 344 *i*P P **12 06 44.7 -0.1**
VAE Valguarnera 32.71 320 P P **12 06 47.6 +2.1**
comp=Z,23nm,0.5s,mb5.4,baz=277,slow=4.0,SNR=8.5
BARS Barje 32.72 335 *i*P P **12 06 47.8 +2.2**
TDS Terranova Siba 33.00 325 *e*P P **12 06 48.7 +0.6**
TDS Terranova Siba 33.00 325 *e*P P **12 06 48.7 +0.6**
ISR Istrita 33.02 342 *i*P P **12 06 49.8 +1.6**
ISR Istrita 33.02 342 *i*P P **12 06 49.8 +1.6**
ULC Ulcinj 33.19 331 *i*P P **12 06 49.7 +0.1**
CSLB Castelbuono 33.21 320 *e*P P **12 06 51.2 +1.3**
CSLB Castelbuono 33.21 320 *e*P P **12 06 51.2 +1.2**
GIB Gibilmanna 33.26 320 *e*P P **12 06 51.3 +0.9**
GIB Gibilmanna 33.26 320 *e*P P **12 06 51.3 +0.9**
BRD Bordesti 33.28 343 *i*P P **12 06 52.7 +2.2**
BRD Bordesti 33.28 343 *i*P P **12 06 52.7 +2.2**
PVY Plav 33.34 332 *i*P P **12 06 51.2 +0.1**
BOLS Boljevac 33.50 336 *i*P P **12 06 50.3 -2.2**
CLTB Caltabellotta 33.52 319 *e*P P **12 06 53.1 +0.5**
CLTB Caltabellotta 33.52 319 *e*P P **12 06 53.1 +0.5**
MLR Muntele Rosu 33.54 342 P P **12 06 53.8 +1.1**
comp=Z,36nm,1.0s,mb5.3,baz=149,slow=4.7,SNR=35
MLR PcP PcP 12 09 33.1 -0.4
comp=Z,9.1nm,0.9s,baz=107,slow=19,SNR=2.4
MLR Muntele Rosu 33.54 342 PcP PcP 12 09 33.1 -0.3
TTG Podgorica 33.54 331 *i*P P **12 06 52.7 -0.1**
IVA Berane 33.60 332 *i*P P **12 06 53.0 -0.2**
BUM Brajici-Budva 33.61 331 *i*P P **12 06 53.6 +0.2**
VRI Vrincioaia 33.65 343 *i*P P **12 06 54.5 +0.8**
VRI Vrincioaia 33.65 343 *i*P P **12 06 54.5 +0.8**
VRI Vrincioaia 33.65 343 *i*P P **12 06 54.7 +1.0**
MGR Morigerati 33.77 325 *e*P P **12 06 54.3 -0.4**
MGR Morigerati 33.77 325 *e*P P **12 06 54.3 -0.5**
SLCN Sala Consilina 33.90 325 *e*P P **12 06 56.9 +1.0**
SLCN Sala Consilina 33.90 325 *e*P P **12 06 56.9 +1.0**
HCY Herceg Novi 33.91 331 *i*P P **12 06 56.1 +0.1**
DJES Djerdap 33.96 337 *e*P P **12 06 56.1 -0.3**
NKY Niksic 33.96 331 *i*P P **12 06 56.7 +0.3**
GRUS Gruza 34.06 334 *i*P P **12 06 56.2 -1.1**
KIS Kishinev 34.16 346 *e*P P **12 06 58.0 0.0**
KIS *e* 12 09 14.0
KIS eSS SS 12 14 26.0 -5.2
PLE Pljevlja 34.19 332 *i*P P **12 06 58.2 -0.2**
SVIS Svilajnac 34.19 335 *e*P P **12 06 57.6 -0.8**
NVSS Nova Varos 2 34.19 333 *i*P P **12 06 56.6 -1.7**
SGO Sicignano 34.20 325 *e*P P **12 06 58.6 +0.1**
SGO Sicignano 34.20 325 *e*P P **12 06 58.6 +0.2**
USI Ustica 34.23 321 *e*P P **12 06 59.9 +1.1**
BRY Bratogost 34.24 331 *i*P P **12 06 58.9 +0.1**
UPM Unac-Piva 34.31 332 *i*P P **12 06 59.6 +0.2**
AJM Ajmer 34.41 64 *e*P P **12 06 59.9 -0.5**
AJM *e* pP 12 07 03.7 -2.2
comp=Z,24nm,0.9s
DIVS Divcibare 34.54 334 *i*P P **12 07 00.3 -1.0**
CSSN Cassano Irpino 34.56 325 *e*P P **12 07 01.7 +0.1**
FGMS Monte Sant'Ang 34.65 327 *e*P P **12 07 02.8 +0.5**
FGMS Monte Sant'Ang 34.65 327 *e*P P **12 07 02.8 +0.5**
BEO Belgrade 34.93 335 *i*P P **12 07 04.0 -0.7**
RFI Roccamonfina 35.43 325 *e*P P **12 07 09.9 +0.9**
RFI Roccamonfina 35.43 325 *e*P P **12 07 09.9 +0.9**
SDI San Donato 35.80 325 *e*P P **12 07 12.3 +0.1**
SDI San Donato 35.80 325 *e*P P **12 07 12.3 +0.1**
INTR Introdacqua 35.96 326 *e*P P **12 07 13.4 -0.1**
INTR Introdacqua 35.96 326 *e*P P **12 07 13.4 -0.1**
PTQR Pietraquaria 36.24 325 *e*P P **12 07 16.7 +0.9**
PTQR Pietraquaria 36.24 325 *e*P P **12 07 16.7 +0.8**
TRD Trivandrum 36.39 95 *e*P P **12 07 16.7 -0.6**
TRD *e* pP 12 07 23.7 +0.9
comp=Z,58nm,1.6s
TRD *i* 12 12 45.4
AQU L'Aquila 36.46 326 *e*P P **12 07 18.0 +0.3**
AQU pmax pmax
comp=Z,100nm,1.1s,mb5.7
AQU L'Aquila 36.46 326 *e*P P **12 07 18.6 +0.9**
PKSM Moragy 36.80 335 *i*P P **12 07 20.4 -0.1**
MNS Montasola 36.88 325 *e*P P **12 07 21.4 +0.2**
MNS Montasola 36.88 325 *e*P P **12 07 21.4 +0.2**
RHK1 Bakonya 36.95 334 *i*P P **12 07 22.2 +0.4**
HYB Hyderabad 36.96 80 *i* P P **12 07 22.0 -0.2**
HYB *e*PP PP 12 08 50.0 +1.5
HYB *e*PcP PcP 12 09 44.0 +0.3
HYB eS S **12 13 10.0 +4.1**
HYB LR LR 12 20 36.0
comp=Z,4.2nm,20.0s
HYB Hyderabad 36.96 80 *e*P P **12 07 22.0 -0.2**
HYB eS S **12 13 12.0 +6.1**
HYB Hyderabad 36.96 80 eS S **12 13 12.0 +6.1**
VSL Villasalto 37.08 319 *e*P P **12 07 23.1 +0.2**
comp=Z,58nm,1.0s,mb5.4
VSL Villasalto 37.08 319 *e*P P **12 07 23.1 +0.2**
comp=Z,58nm,1.0s,mb5.4
NDI New Delhi 37.17 61 *e*P P **12 07 24.0 +0.2**
comp=Z,40nm,1.0s,mb5.2
SISC Sisak 37.21 332 *i* P P **12 07 28.1 +4.1**
PKS9 Tamasi 37.26 335 *i*P P **12 07 25.1 +0.8**
PKS8 Sarbogard 37.33 335 *i*P P **12 07 25.3 +0.4**
ARV Arcevia 37.49 327 *e*P P **12 07 25.9 -0.5**
ARV Arcevia 37.49 327 *e*P P **12 07 25.9 -0.4**
VOR Voronezh 37.53 359 *i*P P **12 07 26.1 -0.5**
VOR *e*PP pP 12 07 33.5 +1.4
VOR pmax pmax
comp=Z,240nm,1.4s,mb5.7
VOR pmax pmax
comp=N,270nm,1.3s
VOR pmax pmax
comp=E,110nm,1.3s
MURB Monte Urbino 37.55 326 P P **12 07 26.7 -0.2**
KIEV Kiev 37.57 348 P P **12 07 26.0 -0.9**
AKASG Malin Array Be 37.58 349 P P **12 07 25.8 -1.2**
comp=E,69nm,0.9s,mb5.4,baz=166,slow=7.0,SNR=51
AKASG PcP PcP 12 09 44.5 -0.7
comp=E,12nm,0.9s,baz=175,slow=3.0,SNR=6.2
AKASG LR LR 12 25 23.4
comp=E,218nm,18.6s,MS4.0,baz=185,slow=40
FSSB Fossombrone 37.71 327 *e*P P **12 07 28.0 -0.1**
FSSB Fossombrone 37.71 327 *e*P P **12 07 28.0 -0.2**
PSZ Piszkesteto 37.71 338 *i*P P **12 07 28.4 +0.3**
PSZ Piszkesteto 37.71 338 *e*P P **12 07 27.5 -0.6**
PSZ pmax pmax
comp=Z,130nm,1.1s,mb5.6
PSZ Piszkesteto 37.71 338 *i*P P **12 07 28.4 +0.3**
KOLS Kolonicke sedl 37.75 341 *i* P P **12 07 29.6 +1.1**
BOJS Bojanci 37.76 331 *e*P P **12 07 28.8 +0.2**
PKSG 37.86 336 *i*P P **12 07 30.0 +0.6**
CRES Cresnjev 37.90 331 P P **12 07 30.6 +0.8**
GOLS Golise 37.96 332 P P **12 07 31.2 +0.9**
KECS Kecovo 37.97 339 *i* P P **12 07 31.2 +0.9**
LEGS Legarje 38.06 331 P P **12 07 31.8 +0.7**
DOBS Dobrina 38.14 332 P P **12 07 32.6 +0.8**
KWP Kalwaria 38.23 342 *e*P P **12 07 32.7 +0.2**
KWP pmax pmax
comp=Z,220nm,1.1s,mb5.8
KWP Kalwaria 38.23 342 *e*P P **12 07 33.0 +0.5**
SRO Srobarova 38.23 336 *e*P P **12 07 33.4 +0.9**
PDKS Podkum 38.30 331 P P **12 07 33.9 +0.7**
DDI Dehra Dun 38.32 59 P P **12 07 35.2 +1.7**
CEY Cerknica 38.32 331 *e*P P **12 07 33.7 +0.4**
CEY *e*PP PP 12 09 03.5 -1.0
GRFL Gerfalco 38.33 325 P P **12 07 33.8 +0.4**
SFI Santa Sofia 38.35 326 P P **12 07 33.7 +0.2**
GROS Grobnik 38.36 332 P P **12 07 34.4 +0.8**
DGAR Diego Garcia 38.45 122 PFAKE 12 07 50.0 +15
DGAR LR LR
comp=Z,351nm,20.0s,MS4.2
LJU Ljubljana 38.50 331 *e*P P **12 07 35.1 +0.3**
VYHS Vyhne 38.58 337 *e*P P **12 07 35.9 +0.4**
PERS Pernice 38.67 332 *e*P P **12 07 36.6 +0.5**
VOY Vojsko 38.79 330 *e*P P **12 07 37.5 +0.3**
KOLL Kolacno 38.82 337 *i* P P **12 07 38.6 +1.2**
NIE Niedzica 38.82 339 *e*P P **12 07 38.3 +0.8**
OBKA Obir 38.83 331 *i*P P **12 07 38.6 +1.0**
comp=Z,628nm,2.7s,mb5.9
SOP Sopron 38.84 334 P P **12 07 38.3 +0.7**
ARSA Arzberg 38.95 333 *i*P P **12 07 39.3 +0.7**
comp=Z,237nm,1.6s,mb5.7
DRE Drenchia 39.01 330 *i*P P **12 07 39.0 -0.1**
ZST Bratislava 39.02 335 *i* P P **12 07 39.8 +0.7**
PGF Pioggiola 39.09 323 *e*P P **12 07 39.5 -0.3**
comp=Z,115nm,1.4s,mb5.1
COLI Coloredo 39.11 330 *e*P P **12 07 40.0 +0.1**
ROBS Robic 39.13 330 P P **12 07 40.3 +0.2**
SMOL Smolenice 39.15 336 *e*P P **12 07 40.6 +0.4**
BAD Bernadia 39.25 330 *e*P P **12 07 41.0 -0.1**
GMNA Gemona 39.28 330 *e*P P **12 07 41.9 +0.6**
SARO Sassorosso 39.32 326 P P **12 07 41.0 -0.6**
SARO Sassorosso 39.32 326 P P **12 07 41.0 -0.6**
PTCC Patocco-Chiusa 39.32 330 *e*P P **12 07 41.9 +0.3**
GSCL Gusciola 39.32 326 P P **12 07 41.4 -0.3**
JAVC Velka Javorina 39.33 336 P P **12 07 42.9 +1.2**
BOO Bordano 39.38 330 *e*P P **12 07 42.0 -0.1**
VKA Vienna 39.40 335 *i*P P **12 07 42.4 +0.1**
comp=Z,1μm,3.5s
VINC Vinca 39.43 325 P P **12 07 41.1 -1.4**
VINC Vinca 39.43 325 P P **12 07 41.1 -1.4**
PLRO Paularo 39.52 330 *e*P P **12 07 44.0 +0.7**
BACM 39.56 325 P P **12 07 42.8 -0.9**
BACM 39.56 325 P P **12 07 42.8 -0.8**
ZOU Zoufplan 39.61 330 *e*P P **12 07 45.0 +0.9**
OJC Ojcow 39.68 339 *e*P P **12 07 44.0 -0.6**
GRAM 39.70 326 P P **12 07 43.5 -1.4**
GRAM 39.70 326 P P **12 07 43.5 -1.3**
FVI Forni Avoltri 39.73 330 *e*P P **12 07 46.0 +0.9**
FVI Forni Avoltri 39.73 330 *e*P P **12 07 46.0 +0.9**
CSMI Casera Mimoias 39.73 330 *i*P P **12 07 46.0 +0.9**
CODM 39.75 325 P P **12 07 44.1 -1.1**
CODM 39.75 325 P P **12 07 44.2 -1.1**
KBA Koelnbreinsper 39.81 331 *i*P P **12 07 46.3 +0.6**
comp=Z,472nm,3.1s
CTI Castel Tesino 39.91 329 *e*P P **12 07 47.1 +0.6**
CTI Castel Tesino 39.91 329 *e*P P **12 07 47.1 +0.6**
LGTI Lohaghat 39.93 61 *e*P P **12 07 47.3 +0.4**
OKC Ostrava-Krasne 39.95 338 *i*P P **12 07 46.5 -0.3**
OKC AMS AMS 12 28 40.0
comp=Z,600nm,14.7s
MOA Molln 39.96 333 *i*P P **12 07 47.3 +0.4**
comp=Z,645nm,3.4s
AFL Alpe Faloria 39.98 330 *e*P P **12 07 48.0 +0.9**
VRAC Vranov 40.11 336 P P **12 07 48.7 +0.6**
comp=Z,51nm,1.0s,mb5.2,baz=136,slow=7.8,SNR=32
VRAC Vranov 40.11 336 *i* P P **12 07 48.3 +0.2**
MORC Moravsky Berou 40.12 337 *e*P P **12 07 47.8 -0.4**
MORC pmax pmax
comp=Z,36nm,1.1s,mb5.0
MORC Moravsky Berou 40.12 337 *e*P P **12 07 47.8 -0.5**
comp=Z,36nm,1.1s,mb5.0
MORC Moravsky Berou 40.12 337 *i* P P **12 07 48.3 +0.1**
RAC Raciborz 40.13 338 *e*P P **12 07 48.7 +0.4**
AML Almayashu 40.17 39 P P **12 07 50.4 +1.7**
SNR=95
PALK Pallekele 40.28 95 *e*P P **12 07 48.2 -1.7**
comp=Z,22nm,1.2s,mb4.8
PALK LR LR
comp=Z,563nm,22.0s,MS4.4
PALK Pallekele 40.28 95 *e*P P **12 07 48.2 -1.7**
comp=Z,22nm,1.2s,mb4.8
KSH Kashi 40.28 44 *i*P P **12 07 51.4 +1.7**
KSH eAP pP 12 07 55.6 +0.4
KSH ePCP PcP 12 09 55.8 +1.9
KSH eSCP 12 13 40.0
KSH ePCS 12 13 44.6
KSH eS S **12 14 00.1 +4.1**
KSH eSS SS 12 16 51.0 +2.2
KSH eSCS ScS 12 17 54.4 +1.2
MABI Malga Bissina 40.49 328 *e*P P **12 07 52.1 +0.8**
EKS2 Erkin-Say 40.52 39 P P **12 07 53.1 +1.5**
SNR=15
FIN Finale Ligure 40.56 324 *e*P P **12 07 51.4 -0.5**
FIN Finale Ligure 40.56 324 *e*P P **12 07 51.4 -0.5**
PCP Pian Castagno 40.57 325 P P **12 07 51.5 -0.5**
PCP Pian Castagno 40.57 325 P P **12 07 51.5 -0.5**
RORO 40.58 324 P P **12 07 51.8 -0.3**
RORO 40.58 324 P P **12 07 51.8 -0.3**
NEGI Negi 40.63 323 P P **12 07 52.2 -0.3**
NEGI Negi 40.63 323 P P **12 07 52.2 -0.3**
UCH Uchtor 40.73 40 P P **12 07 55.6 +2.3**
SNR=40
MONE Monesi 40.74 324 P P **12 07 53.2 -0.2**
MONE Monesi 40.74 324 P P **12 07 53.2 -0.2**
WTTA Wattenberg 40.76 330 *i*P P **12 07 53.8 +0.3**
comp=Z,308nm,2.1s,mb5.6
REVF Revere 40.76 323 *e*P P **12 07 53.7 +0.2**
SBF Sospel 40.80 323 *e*P P **12 07 53.4 -0.4**
comp=Z,81nm,1.1s,mb5.0
SAOF Saorge 40.80 323 *e*P P **12 07 54.2 +0.4**
ROB Roburent 40.80 324 P P **12 07 53.1 -0.8**
WATA Walderalm 40.84 330 *i*P P **12 07 54.2 +0.1**
comp=Z,87nm,1.3s,mb5.2
BRMO Bormio 40.85 328 *e*P P **12 07 55.6 +1.4**
BRMO Bormio 40.85 328 *e*P P **12 07 55.6 +1.4**
AURF Auriere 40.87 323 *e*P P **12 07 53.8 -0.6**
AUTN L'Aution 40.88 323 *e*P P **12 07 53.3 -1.2**
SQTA Sankt Quirin 40.94 330 *i*P P **12 07 55.2 +0.3**
comp=Z,82nm,1.2s,mb5.2
AAK Ala-Archa 40.94 39 P P **12 07 57.0 +2.0**
SNR=10
AAK Ala-Archa 40.94 39 *e*P P **12 07 55.1 +0.1**
comp=Z,32nm,1.3s,mb4.8
AAK LR LR
comp=Z,1μm,19.0s,MS4.8
AAK Ala-Archa 40.94 39 *e*P P **12 07 55.1 +0.1**
comp=Z,32nm,1.3s,mb4.8
GEC2 GERESS Array S 40.96 333 *e*P P **12 07 55.3 +0.2**
GEC2 pmax pmax
comp=Z,123nm,1.3s,mb5.4
GEC2 GERESS Array S 40.96 333 *e*P P **12 07 55.3 +0.2**
comp=Z,123nm,1.3s,mb5.4
GERES GERESS Array B 40.96 333 P P **12 07 55.1 0.0**
comp=Z,50nm,1.0s,mb5.1,baz=135,slow=7.5,SNR=107
MVIF Mont Vial 40.98 323 *e*P P **12 07 53.3 -2.0**
TOUF Mont Tournerai 40.99 323 *e*P P **12 07 53.0 -2.4**
OBN Obninsk 41.01 357 K *i*P P **12 07 55.3 -0.2**
OBN *i* 12 09 34.3
OBN *i* 12 09 55.7
OBN eS S **12 14 09.4 +2.7**
OBN pmax pmax
comp=Z,157nm,1.2s,mb5.5
OBN MLR MLR
comp=Z,600nm,20.0s,MS4.5
OBN Obninsk 41.01 357 *e*P P **12 07 55.0 -0.5**
comp=Z,168nm,1.3s,mb5.5
OBN LR LR
comp=Z,155nm,20.0s
OBN Obninsk 41.01 357 *e*P P **12 07 55.0 -0.5**
comp=Z,168nm,1.3s,mb5.5
ENR Entracque 41.02 324 P P **12 07 56.1 +0.4**
ENR Entracque 41.02 324 P P **12 07 56.1 +0.4**
WAR Warsaw 41.03 342 *e*P P **12 07 51.8 -3.9**
LMR La Mourre 41.03 322 *e*P P **12 07 55.2 -0.6**
comp=Z,77nm,1.2s,mb4.9
DPC Dobruska-Polom 41.05 337 *i*P P **12 07 55.7 -0.1**
DPC AMS AMS 12 27 40.0
comp=Z,500nm,15.7s
MOTA Moosalm 41.08 330 *i*P P **12 07 55.9 -0.2**
comp=Z,64nm,1.4s,mb5.1
FRF La Foret Royal 41.08 322 *e*P P **12 07 55.7 -0.5**
comp=Z,145nm,1.1s,mb5.2
STV Sta Anna Valdi 41.09 324 P P **12 07 55.9 -0.3**
STV Sta Anna Valdi 41.09 324 P P **12 07 55.9 -0.3**
STV2 Anna di Valdie 41.09 324 P P **12 07 55.8 -0.4**
STV2 Anna di Valdie 41.09 324 P P **12 07 55.8 -0.4**
FRU Bishkek 41.13 39 *e*P P **12 07 58.0 +1.5**
FRU pmax pmax
comp=Z,70nm,2.0s,mb4.9
FRU MLR MLR
comp=Z,4μm,16.0s,MS5.4
KHC Kasperske Hory 41.23 333 *i*P P **12 07 56.4 -0.9**

KHC AMS AMS 12 25 20.0
comp=Z,500nm,17.1s
KBK Karagaybulak 41.23 40 P **P** **12 07 59.7 +2.3**
SNR=14
VAI Varese 41.29 326 P **P** **12 07 57.6 -0.2**
UPC Upice 41.30 337⇓ *i* P **P** **12 07 57.4 -0.4**
USP Ospenovka 41.30 39 P **P** **12 07 58.9 +0.9**
SNR=8.8
CHMS Chumysh 41.30 39 P **P** **12 07 58.9 +1.0**
SNR=8.3
DAVOX Davos 41.30 328 P **P** **12 07 58.2 +0.2**
comp=Z,49nm,1.3s,mb5.0,baz=205,slow=7.1,SNR=11
DAVOX PcP PcP 12 09 57.1 +0.1
comp=Z,21nm,1.1s,baz=237,slow=3.2,SNR=4.0
DAVOX Davos 41.30 328 P **P** **12 07 58.2 +0.2**
DAVOX PcP PcP 12 09 57.1 +0.1
DAVOX Davos 41.30 328 PcP PcP 12 09 57.2 +0.1
PZZ Prazzo 41.37 324 P **P** **12 07 57.6 -0.9**
PZZ Prazzo 41.37 324 P **P** **12 07 57.6 -0.9**
KSP Ksiaz 41.46 337⇓ *e*P **P** **12 07 59.0 -0.2**
KSP *e*PP PP 12 09 36.0 -2.1
KSP *e*S **S** **12 14 16.0 +2.7**
KSP *e*SS SS 12 17 25.0 +12
KSP Ksiaz 41.46 337 *e*P **P** **12 07 59.2 0.0**
TAVF Tavernes 41.47 322 *e*P **P** **12 07 56.3 -3.0**
PRU Pruhonice 41.47 335⇓ *i* P **P** **12 07 58.5 -0.8**
PRU pmax pmax
comp=Z,80nm,1.4s,mb5.2
PRU Pruhonice 41.47 335⇓ *i* P **P** **12 07 58.5 -0.8**
comp=Z,80nm,1.4s,mb5.2
PRU AMS AMS 12 28 10.0
BHB Bricherasio 41.48 324 P **P** **12 07 57.7 -1.7**
BERF Bertagne 41.52 321 *e*P **P** **12 07 56.5 -3.3**
SURF Saint Ours 41.52 323 *e*P **P** **12 08 01.3 +1.5**
WET Wettzell 41.54 333 *e*P **P** **12 07 59.3 -0.6**
WET pmax pmax
comp=Z,62nm,1.3s,mb5.1
WET Wettzell 41.54 333 *e*P **P** **12 07 59.3 -0.6**
comp=Z,62nm,1.3s,mb5.1
ORO Oropa 41.56 326 P **P** **12 07 59.2 -0.9**
ORX Oropa 41.56 326 P **P** **12 07 58.6 -1.5**
ORX Oropa 41.56 326 P **P** **12 07 58.6 -1.5**
FUR Furstenfeldbru 41.57 331 *e*P **P** **12 07 59.4 -0.7**
FUR pmax pmax
comp=Z,58nm,0.9s,mb5.2
FUR Furstenfeldbru 41.57 331 *e*P **P** **12 07 59.4 -0.7**
comp=Z,58nm,0.9s,mb5.2
MOS Moscow 41.59 358K *i* P **P** **12 08 00.5 +0.3**
MOS *e* 12 09 37.8
MOS *e*PPP PPP 12 10 07.6 -2.6
MOS *e* 12 14 13.4
MOS pmax pmax
comp=Z,286nm,1.4s,mb5.7
MOS pmax pmax
comp=N,118nm,0.9s
MOS MLR MLR
comp=Z,1μm,18.8s,MS4.8
TRAV 41.62 325 P **P** **12 07 58.9 -1.7**
TRAV 41.62 325 P **P** **12 07 58.9 -1.7**
PUYF Puyloubier 41.63 322 *e*P **P** **12 07 59.6 -1.1**
DAVA Damuels 41.64 329⇓ *i* P **P** **12 08 00.5 -0.2**
comp=Z,218nm,1.6s,mb5.5
RSP Reno Superiore 41.67 325 P **P** **12 07 59.8 -1.2**
MBDF Montbardon 41.69 324 *e*P **P** **12 08 01.6 +0.4**
comp=Z,261nm,1.3s,mb5.4
FENE Fenestrelle 41.71 324 P **P** **12 08 00.6 -0.7**
FENE Fenestrelle 41.71 324 P **P** **12 08 00.6 -0.7**
GELF Grande-Etoile 41.72 321 *e*P **P** **12 08 01.7 +0.3**
MCGN Macugnaga 41.77 326 P **P** **12 08 02.2 +0.4**
STOF St-Etienne Org 41.77 322 *e*P **P** **12 08 03.8 +2.0**
TKM2 Tokmak 2 41.78 40 P **P** **12 08 02.8 +0.9**
SNR=7.7
LLS Linth-Limmern 41.80 328⇓ P **P** **12 08 01.9 -0.1**
UBR Uberruh 41.80 329 *e*P **P** **12 08 01.6 -0.4**
RRL Cesana Torines 41.80 324 P **P** **12 08 02.1 0.0**
RRL Cesana Torines 41.80 324 P **P** **12 08 02.1 0.0**
VILF Villemus 41.80 322 *e*P **P** **12 08 01.9 -0.2**
ULHL Ulahol 41.83 41 P **P** **12 08 04.3 +2.0**
SNR=22
MMK Mattmark 41.84 326⇓ P **P** **12 08 02.4 +0.1**
TREF Trevaresse 41.88 322 *e*P **P** **12 07 59.6 -3.1**
PVCC Panska Ves 41.88 336⇓ *i* P **P** **12 08 02.1 -0.5**
LSD Ceresole Reale 41.91 325 P **P** **12 08 02.5 -0.5**
LSD Ceresole Reale 41.91 325 P **P** **12 08 02.5 -0.5**
BNI Bardonecchia 41.94 324 *e*P **P** **12 08 02.0 -1.2**
BNI pmax pmax
comp=Z,49nm,1.1s,mb5.0
BNI Bardonecchia 41.94 324 *e*P **P** **12 08 02.0 -1.2**
comp=Z,49nm,1.1s,mb5.0
SMRF Simiane la Rot 41.96 322 *e*P **P** **12 08 03.4 0.0**
comp=Z,90nm,1.2s,mb5.0
SUW Suwalki 42.02 345 *e*P **P** **12 08 02.9 -0.8**
SUW pmax pmax
comp=Z,660nm,1.1s,mb6.2
SUW Suwalki 42.02 345 *e*P **P** **12 08 03.6 -0.1**
MUO Muotathal 42.07 328⇓ P **P** **12 08 04.1 -0.1**
PRAF Pradon 42.10 322 *e*P **P** **12 08 03.8 -0.8**
DIX Grande Dixence 42.16 326⇓ P **P** **12 08 04.8 -0.2**
LPG La Plagne 42.16 325 *e*P **P** **12 08 04.0 -1.1**
comp=Z,152nm,1.3s,mb5.2
LPL La Plagne 42.19 325 *e*P **P** **12 08 04.2 -1.0**
comp=Z,140nm,1.2s,mb5.2
WILA Wila 42.22 328⇑ P **P** **12 08 05.3 -0.2**
LKBD Leukerbad 42.23 326⇓ P **P** **12 08 05.3 -0.3**
EIBI Ibiza 42.27 313 P **P** **12 08 04.9 -1.1**
comp=Z,24nm,1.0s,mb4.8
EIBI Ibiza 42.27 313 P **P** **12 08 04.9 -1.1**
comp=Z,24nm,1.0s,mb4.8
ORIF Oris-en-Rattie 42.32 323 *e*P **P** **12 08 05.9 -0.4**
comp=Z,247nm,1.3s,mb5.4
ORIF *e*R
comp=Z,554nm,22.0s
GDM Grand'Maison 42.35 324 *e*P **P** **12 08 06.3 -0.3**
ZUR Zurich 42.36 328⇓ P **P** **12 08 06.2 -0.4**
HDH Heidenheim 42.37 330 *e*P **P** **12 08 06.3 -0.4**
HDH Heidenheim 42.37 330 P **P** **12 08 06.6 -0.1**
SISB Singen-Sch Ber 42.37 329 P **P** **12 08 07.0 +0.3**
BRG Berggiesshubel 42.40 335 *i* P **P** **12 08 06.8 -0.1**
BRG *e*S **S** **12 14 30.0 +2.8**
BRG pmax pmax
comp=Z,68nm,1.3s,mb5.1
BRG MLR MLR
comp=N,580nm,16.0s,MS4.7
BRG MLR MLR
comp=E,440nm,16.0s,MS4.7
BRG MLR MLR
comp=Z,880nm,16.0s,MS4.7
BRG Berggiesshubel 42.40 335 *i* P **P** **12 08 06.8 -0.1**
comp=Z,68nm,1.3s,mb5.1
BRG *e*S **S** **12 14 30.0 +2.8**
BRG *e*SS SS 12 17 52.0 +21
BRG LR LR
comp=Z,880nm,16.0s,MS4.7
BRG Berggiesshubel 42.40 335 *i* P **P** **12 08 06.8 -0.1**
comp=Z,68nm,1.3s,mb5.1
BRG *e*S **S** **12 14 30.0 +2.8**
EMV Vieux Emosson 42.43 325⇓ P **P** **12 08 05.9 -1.3**
IDID Didziasalis 42.44 349 *e*P **P** **12 08 06.8 -0.3**
IDID AMPb AMB 12 08 09.4
comp=Z,47nm,1.0s,mb5.1
KOLN Koldanda 42.48 64 *e*P **P** **12 08 07.8 -0.1**
comp=Z,221nm,1.0s,mb5.7
BERN Bernov 42.51 334⇓ P **P** **12 07 56.7 -11**
NKC Novy Kostel 42.54 334⇓ *i* P **P** **12 08 07.0 -1.0**
GUT Gutenstein 42.55 329 *e*P **P** **12 08 08.1 -0.1**
GUT Gutenstein 42.55 329 P **P** **12 08 08.3 +0.1**
IIGN Ignalina 42.57 348 *e*P **P** **12 08 07.9 -0.3**
IIGN AMPb AMB 12 08 10.6
comp=Z,52nm,1.1s,mb5.2
GRN Grenoble 42.58 324 *e*P **P** **12 08 08.1 -0.4**
GRA1 Grafenberg Arr 42.58 332 *e*P **P** **12 08 08.7 -0.5**
comp=Z,80nm,1.3s,mb5.3
GRA1 LR LR
comp=Z,500nm,20.5s,MS4.4
GRF Grafenberg Arr 42.68 332 *e*P **P** **12 08 08.7 -0.5**
GRF pmax pmax
comp=Z,80nm,1.3s,mb5.3
GRF MLR MLR
comp=Z,500nm,20.5s,MS4.4
BUCH Bad Urach 42.69 330 *e*P **P** **12 08 09.5 +0.2**
BUCH Bad Urach 42.69 330 P **P** **12 08 09.8 +0.5**
SULZ Sulz-Cheisache 42.70 328⇑ P **P** **12 08 09.1 -0.3**
SPAK Spaichingen 42.74 329 *e*P **P** **12 08 09.8 +0.1**
SPAK Spaichingen 42.74 329 *e*P **P** **12 08 10.2 +0.5**

ISAL Salakas 42.80 348 *e*P **P** **12 08 09.6 -0.5**
ISAL AMPb AMB 12 08 12.4
comp=Z,39nm,1.0s,mb5.1
EJON La Jonquera 42.81 319 P **P** **12 08 10.5 +0.1**
comp=Z,32nm,1.0s,mb5.0
EJON La Jonquera 42.81 319 P **P** **12 08 10.5 +0.1**
comp=Z,32nm,1.0s,mb5.0
IZAR Zarasai 42.94 348 *e*P **P** **12 08 10.7 -0.6**
IZAR AMPb AMB 12 08 13.6
comp=Z,49nm,1.1s,mb5.2
BBS Basel-Blauen 42.98 327 *e*P **P** **12 08 11.3 -0.4**
BBS Basel-Blauen 42.98 327 *e*P **P** **12 08 09.0 -2.7**
FELD Feldberg 42.98 328 *e*P **P** **12 08 11.2 -0.5**
VIVF Saint-Julien-I 42.99 323 *e*P **P** **12 08 11.2 -0.6**
comp=Z,102nm,1.2s,mb5.1
LASF Ste Croix 43.05 321 *e*P **P** **12 08 11.9 -0.4**
comp=Z,190nm,1.2s,mb5.4
FILF Fillols 43.07 319 *e*P **P** **12 08 13.3 +0.8**
KIZ Kirchzarten 43.08 328 *e*P **P** **12 08 12.1 -0.4**
KIZ Kirchzarten 43.08 328 P **P** **12 08 12.4 -0.1**
GKP Gorka Klasztor 43.11 340 *e*P **P** **12 08 12.0 -0.7**
LBG Lerchenberg 43.11 330 *e*P **P** **12 08 12.0 -0.7**
CLL Collm 43.11 335⇓ P **P** **12 08 11.8 -0.9**
comp=Z,logA/T=1.7,mb5.2
CLL *e*PP PP 12 09 59.0 +3.8
CLL *i* PCP PcP 12 10 04.9 +1.9
CLL Collm 43.11 335⇓ *i* P **P** **12 08 11.8 -0.9**
CLL pmax pmax
comp=Z,67nm,1.3s,mb5.2
CLL Collm 43.11 335⇓ *i* P **P** **12 08 11.8 -0.9**
comp=Z,67nm,1.3s,mb5.2
BFO Black Forest 43.12 329 *e*P **P** **12 08 12.4 -0.4**
BFO pmax pmax
comp=Z,58nm,1.3s,mb5.2
BFO Black Forest 43.12 329 *e*P **P** **12 08 12.4 -0.4**
comp=Z,58nm,1.3s,mb5.2
SIND Sindeldorf 43.19 331 *e*P **P** **12 08 12.5 -0.8**
SIND Sindeldorf 43.19 331 P **P** **12 08 12.8 -0.5**
MOX Moxa 43.20 334 *i* P **P** **12 08 12.6 -0.8**
comp=Z,logA/T=1.9,mb5.4
MOX PP PP 12 10 03.0 +6.9
MOX SS SS 12 18 11.0 +26
MOX L 12 33 06.0
MOX Moxa 43.20 334 *e*P **P** **12 08 12.6 -0.8**
MOX *e* 12 10 03.3
MOX pmax pmax
comp=Z,118nm,1.4s,mb5.4
MOX MLR MLR
comp=Z,400nm,16.0s,MS4.4
MOX Moxa 43.20 334 *e*P **P** **12 08 12.6 -0.8**
comp=Z,118nm,1.4s,mb5.4
MOX *e* 12 10 03.3
MOX LR LR
comp=Z,400nm,16.0s,MS4.4
CABF La Chapelle 43.21 326 *e*P **P** **12 08 12.4 -1.1**
comp=Z,154nm,1.0s,mb5.4
OG05 Jujurieux 43.22 325 *e*P **P** **12 08 12.2 -1.4**
EBEN Beniarda 43.26 312 P **P** **12 08 14.2 +0.1**
comp=Z,33nm,0.8s,mb5.1
EBEN Beniarda 43.26 312 P **P** **12 08 14.2 +0.1**
comp=Z,33nm,0.8s,mb5.1
LOMF Lomont 43.26 327 *e*P **P** **12 08 12.8 -1.2**
VALF Valcebollere 43.35 318 *e*P **P** **12 08 15.8 +1.1**
LIBD Limburg 43.37 328 *e*P **P** **12 08 14.9 +0.1**
LIBD Limburg 43.37 328 P **P** **12 08 15.3 +0.5**
MOF Molkenrain 43.42 328 *e*P **P** **12 08 14.4 -0.8**
GKN Gorkha 43.42 64 *e*P **P** **12 08 14.9 -0.7**
comp=Z,136nm,1.1s,mb5.6
EMIR Miracle 43.44 317 P **P** **12 08 15.1 -0.4**
comp=Z,56nm,0.9s,mb5.3
EPOB Poblet 43.47 316 P **P** **12 08 14.9 -0.9**
comp=Z,44nm,0.9s,mb5.2
EPOB Poblet 43.47 316 P **P** **12 08 14.9 -0.9**
comp=Z,44nm,0.9s,mb5.2
HINF Hinteralfeld 43.54 327 *e*P **P** **12 08 15.4 -0.8**
comp=Z,173nm,1.3s,mb5.3
ECH Echery 43.64 328 *e*P **P** **12 08 16.8 -0.2**
WLS Welschbruch 43.66 328 *e*P **P** **12 08 16.3 -0.9**
EMUR La Murta 43.67 311 P **P** **12 08 17.1 -0.3**
comp=Z,34nm,0.9s,mb5.1
EMUR La Murta 43.67 311 P **P** **12 08 17.1 -0.3**
comp=Z,34nm,0.9s,mb5.1
MTLF Montolieu 43.68 319 *e*P **P** **12 08 16.9 -0.5**
comp=Z,43nm,1.0s,mb4.8
CDF Champ du Feu 43.70 328 *e*P **P** **12 08 16.8 -0.7**
comp=Z,100nm,1.2s,mb5.1
SWS Schriesheim 43.71 330 *e*P **P** **12 08 17.0 -0.6**
SWS Schriesheim 43.71 330 P **P** **12 08 17.7 +0.1**
RUE Ruedersdorf 43.71 337 *e*P **P** **12 08 16.1 -1.4**
RUE Ruedersdorf 43.71 337 *e*P **P** **12 08 16.1 -1.4**
TOD Tromm 43.74 331⇓ *e*P **P** **12 08 17.5 -0.3**
TOD Tromm 43.74 331 *e*P **P** **12 08 17.7 -0.1**
DMN Daman 43.77 65 *e*P **P** **12 08 17.9 -0.5**
comp=Z,124nm,1.0s,mb5.6
LANF Langenberg 43.81 329 *e*P **P** **12 08 17.7 -0.7**
ZAI Zaio 43.87 306 *i* P **P** **12 08 15.0 -4.1**
KTD Kalmit 43.90 330 *e*P **P** **12 08 18.4 -0.7**
KTD Kalmit 43.90 330 *e*P **P** **12 08 18.6 -0.5**
HAU Haudompre 43.92 327 *e*P **P** **12 08 18.4 -0.9**
comp=Z,154nm,1.4s,mb5.2
HAU *e*R
comp=Z,574nm,17.0s
KKN Kakani 43.95 65 *e*P **P** **12 08 19.3 -0.6**
comp=Z,182nm,1.3s,mb5.7
PKI Pulchoki 44.04 65 *e*P **P** **12 08 19.5 -1.0**
comp=Z,87nm,1.0s,mb5.4
LBL Lubilhac 44.04 322 *e*P **P** **12 08 21.0 +0.7**
SALF Salau 44.05 318 *e*P **P** **12 08 21.3 +0.8**
EMOS Mosqueruela 44.10 314 P **P** **12 08 22.4 +1.5**
comp=Z,27nm,1.0s,mb4.9
EMOS Mosqueruela 44.10 314 P **P** **12 08 22.4 +1.5**
comp=Z,27nm,1.0s,mb4.9
MLS Moulis 44.21 318 *e*P **P** **12 08 22.0 +0.2**
THEF They Montfort 44.25 327 *e*P **P** **12 08 21.5 -0.5**
EGRA Graus 44.36 317 P **P** **12 08 23.0 -0.1**
comp=Z,40nm,1.0s,mb5.1
EGRA Graus 44.36 317 P **P** **12 08 23.0 0.0**
comp=Z,40nm,1.0s,mb5.1
MELF Melles 44.39 318 *e*P **P** **12 08 24.4 +1.2**
ZFT Errachidia 44.39 302 *i* P **P** **12 08 19.0 -4.4**
PYM Petit Puy Mans 44.46 323 *e*P **P** **12 08 24.2 +0.5**
SMF Signal de Mont 44.48 324 *e*P **P** **12 08 22.6 -1.3**
comp=Z,76nm,1.3s,mb5.0
GUN Gumba 44.50 64 *e*P **P** **12 08 23.7 -0.6**
comp=Z,162nm,1.0s,mb5.7
ARU Arti 44.51 14⇓ *i* P **P** **12 08 24.2 +0.2**
ARU *e* 12 10 05.1
ARU *i* 12 10 08.9
ARU *e*PPP PPP 12 10 51.2 +3.0
ARU *e*S **S** **12 14 58.9 +1.1**
ARU *e*SS SS 12 18 09.6 +0.5
ARU *e* 12 18 21.6
ARU *e*SSS SSS 12 19 02.6 -3.1
ARU pmax pmax
comp=Z,101nm,0.9s,mb5.7
ARU MLR MLR
comp=Z,2μm,18.5s,MS5.0
ARU MLR MLR
comp=N,1μm,19.0s,MS5.0
ARU MLR MLR
comp=E,1μm,18.0s,MS5.0
ABH Alteburg 44.53 330⇓ *e*P **P** **12 08 23.0 -1.3**
ABH Alteburg 44.53 330 *e*P **P** **12 08 21.9 -2.4**
EBER Berja 44.58 309 P **P** **12 08 25.7 +0.9**
comp=E,39nm,1.0s,mb5.2
EBER Berja 44.58 309 P **P** **12 08 25.7 +0.9**
comp=E,39nm,1.0s,mb5.2
CAF Calviac 44.58 321 *e*P **P** **12 08 24.7 -0.1**
comp=E,139nm,1.2s,mb5.4
CLZ Clausthal 44.61 334 *e*P **P** **12 08 23.5 -1.4**
comp=E,35nm,1.3s,mb5.0
RESF Ens 44.63 318 *e*P **P** **12 08 25.7 +0.5**
RUP Ruppelstein 44.65 330⇓ *e*P **P** **12 08 24.7 -0.5**
RUP Ruppelstein 44.65 330 P **P** **12 08 25.2 0.0**
ESAC San Caprasio 44.68 316 P **P** **12 08 25.4 -0.2**
comp=E,52nm,0.8s,mb5.4
ESAC San Caprasio 44.68 316 P **P** **12 08 25.4 -0.2**
comp=E,52nm,0.8s,mb5.4
EBIE Bielsa 44.70 318 P **P** **12 08 26.1 +0.4**
comp=E,60nm,1.0s,mb5.4
EBIE Bielsa 44.70 318 P **P** **12 08 26.1 +0.4**
comp=E,60nm,1.0s,mb5.4
EPF Esparros 44.73 318 *e*P **P** **12 08 25.4 -0.6**
comp=E,52nm,1.1s,mb5.0
TZK Tazeka 44.76 304 *i* P **P** **12 08 21.0 -5.3**

VERF Verneugheol 44.77 322 *e*P **P** **12 08 25.5 -0.7**
LOR Lormes 44.83 325 *e*P **P** **12 08 25.6 -1.1**
comp=E,184nm,1.2s,mb5.5
LOR *e*R
comp=E,506nm,18.0s
KIC Kosan Boka 44.88 265 *e*P **P** **12 08 26.4 -1.1**
comp=E,285nm,1.1s,mb6.0
EVIA Vianos 44.88 311 P **P** **12 08 27.8 +0.5**
comp=E,19nm,0.8s,mb5.0
EVIA Vianos 44.88 311 P **P** **12 08 27.8 +0.5**
comp=E,19nm,0.8s,mb5.0
SSF Saint Saulge 44.90 325 *e*P **P** **12 08 26.0 -1.3**
comp=E,45nm,1.1s,mb5.2
MEZF Maizieres J'vi 44.91 327 *e*P **P** **12 08 26.9 -0.4**
comp=E,408nm,1.4s,mb5.8
LABF Labassere 44.91 318 *e*P **P** **12 08 28.5 +1.1**
DBIC Dimbokro 44.92 265 P **P** **12 08 27.8 -0.1**
comp=E,68nm,1.1s,mb5.4,baz=60,slow=9.5,SNR=28
DBIC LR LR 12 27 23.4
comp=E,2μm,18.7s,MS5.1,baz=68,slow=36
DBIC Dimbokro 44.92 265 P **P** **12 08 27.6 -0.3**
BGF Bois d'Agland 45.00 324 *e*P **P** **12 08 27.4 -0.6**
comp=E,175nm,1.1s,mb5.5
EQES Quesada 45.01 310 P **P** **12 08 28.5 +0.2**
comp=E,48nm,1.0s,mb5.3
EQES Quesada 45.01 310 P **P** **12 08 28.5 +0.2**
comp=E,48nm,1.0s,mb5.3
WLF Walferdange 45.08 329 P **P** **12 08 28.5 -0.1**
comp=E,48nm,1.7s,mb5.0
TIC Toumodi 45.08 265 *e*P **P** **12 08 28.6 -0.6**
comp=E,1μm,0.8s
RJF Les Rejaudoux 45.11 321 *e*P **P** **12 08 28.7 -0.3**
comp=E,73nm,1.1s,mb5.1
RJF *e*R
comp=E,469nm,17.8s
LIC Lamto 45.19 265 *e*P **P** **12 08 29.0 -1.0**
comp=E,210nm,1.1s,mb5.9
LIC Lamto 45.19 265 *e*P **P** **12 08 29.8 -0.2**
comp=E,90nm,1.1s,mb5.5
TCF Toulx Ste Croi 45.22 323 *e*P **P** **12 08 29.3 -0.5**
comp=E,86nm,1.5s,mb5.1
REYF Montagne du Re 45.23 318 *e*P **P** **12 08 30.4 +0.5**
FDAF Les Forges d'A 45.23 317 *e*P **P** **12 08 30.7 +0.8**
ETSF Etsaut 45.26 317 *e*P **P** **12 08 30.6 +0.4**
comp=E,129nm,1.0s,mb5.4
ERON Agron 45.31 308 P **P** **12 08 31.7 +1.1**
comp=E,47nm,0.9s,mb5.3
ERON Agron 45.31 308 P **P** **12 08 31.7 +1.0**
comp=E,47nm,0.9s,mb5.3
SVE Sverdlovsk 45.38 16⇓ *i* P **P** **12 08 31.0 +0.1**
SVE *e* 12 10 10.4
SVE *e* 12 15 19.0
SVE pmax pmax
comp=Z,260nm,2.3s,mb5.7
SVE MLR MLR
comp=Z,2μm,17.0s,MS5.0
SVE MLR MLR
comp=N,600nm,18.0s,MS4.9
SVE MLR MLR
comp=E,1μm,18.0s,MS4.9
ETOR Torete 45.39 314 P **P** **12 08 32.2 +1.0**
comp=E,26nm,0.9s,mb5.1
LFF La Frestale 45.40 321 *e*P **P** **12 08 31.2 -0.1**
comp=E,185nm,1.2s,mb5.5
VSU Vasula 45.42 350 *i* P **P** **12 08 30.8 -0.4**
MIF Mishlifen 45.43 303 *i* P **P** **12 08 27.0 -4.7**
BRVK Borovoye 45.56 25 *e*P **P** **12 08 31.9 -0.5**
comp=E,26nm,1.1s,mb5.1
BRVK LR LR
comp=Z,323nm,20.0s,MS4.3
BRVK Borovoye 45.56 25 *e*P **P** **12 08 31.9 -0.5**
comp=Z,26nm,1.1s,mb5.1
BVA0 Borovoye Array 45.58 25 *i* P **P** **12 08 32.8 +0.3**
BVA0 pmax pmax
comp=Z,2.0nm,1.0s
BVAR Borovoye Array 45.58 25 P **P** **12 08 32.4 -0.1**
comp=Z,29nm,1.1s,mb5.1,baz=207,slow=6.6,SNR=54
BVAR PcP PcP 12 10 11.3 -0.1
comp=Z,9.4nm,0.8s,baz=207,slow=3.3,SNR=7.0
BVAR Borovoye Array 45.58 25 PcP PcP 12 10 11.3 -0.1
LARF Larrau 45.60 317 *e*P **P** **12 08 33.4 +0.5**
ELOJ Sierra Loja 45.62 309 P **P** **12 08 33.0 -0.1**
comp=Z,20nm,0.9s,mb5.0
MEM Membach 45.76 330 P **P** **12 08 33.9 -0.1**
comp=Z,68nm,1.3s,mb5.4
SJPF Ste Jean 45.79 317 *e*P **P** **12 08 34.9 +0.5**
comp=Z,245nm,1.0s,mb5.8
ELUQ Luque 45.83 309 P **P** **12 08 34.4 -0.4**
comp=Z,16nm,0.8s,mb5.0
ELUQ Luque 45.83 309 P **P** **12 08 34.4 -0.4**
comp=Z,16nm,0.8s,mb5.0
HGN Heimansgroeve 45.89 330⇑ *e*P **P** **12 08 35.3 +0.3**
comp=Z,37nm,1.3s,mb5.2
EMIJ Mijas 45.91 308 P **P** **12 08 35.7 +0.3**
comp=Z,64nm,1.0s,mb5.5
EMIJ Mijas 45.91 308 P **P** **12 08 35.7 +0.3**
comp=Z,64nm,1.0s,mb5.5
GIVF Givet 46.02 329 *e*P **P** **12 08 35.2 -0.9**
comp=Z,171nm,1.2s,mb5.6
EALK Alkurruntz 46.02 317 P **P** **12 08 36.1 -0.1**
comp=Z,63nm,1.0s,mb5.5
EALK Alkurruntz 46.02 317 P **P** **12 08 36.1 -0.1**
comp=Z,63nm,1.0s,mb5.5
DKH Dar Kharkhour 46.07 306 *i* P **P** **12 08 31.0 -5.6**
DOU Dourbes 46.13 329 P **P** **12 08 36.4 -0.5**
BSEG Bad Segeberg 46.17 336 *e*P **P** **12 08 36.7 -0.5**
BSEG pmax pmax
comp=Z,183nm,1.4s,mb5.8
EADA Adamuz 46.26 310 P **P** **12 08 37.4 -0.8**
comp=Z,17nm,0.9s,mb5.0
EADA Adamuz 46.26 310 P **P** **12 08 37.4 -0.7**
comp=Z,17nm,0.9s,mb5.0
RSA Sarsar 46.27 305 *i* P **P** **12 08 34.5 -3.8**
WTSB Winterswijk 46.28 332⇑ *e*P **P** **12 08 38.2 +0.2**
comp=Z,57nm,1.4s,mb5.3
BAIF Baives 46.30 328 *e*P **P** **12 08 37.1 -1.2**
comp=Z,66nm,1.1s,mb5.2
ESDC Sonseca Array 46.31 312 P **P** **12 08 38.9 +0.4**
comp=Z,29nm,0.9s,mb5.2,baz=111,slow=8.0,SNR=55
ESDC LR LR 12 31 34.0
comp=Z,690nm,18.3s,MS4.6,baz=120,slow=41
ESDC Sonseca Array 46.31 312 P **P** **12 08 38.3 -0.3**
comp=Z,29nm,0.9s,mb5.2
ESDC Sonseca Array 46.31 312 P **P** **12 08 38.3 -0.2**
comp=Z,29nm,0.9s,mb5.2
SNF Seneffe 46.54 329 P **P** **12 08 39.8 -0.4**
MFF Saint Martin d 46.77 322 *e*P **P** **12 08 41.0 -1.1**
comp=Z,79nm,1.3s,mb5.2
OUK Oukaimeden 47.17 300 *i* P **P** **12 08 42.0 -3.4**
ELAN Lanestosa 47.30 317 P **P** **12 08 46.6 +0.3**
comp=Z,64nm,1.0s,mb5.5
ELAN Lanestosa 47.30 317 P **P** **12 08 46.7 +0.4**
comp=Z,64nm,1.0s,mb5.5
EMIN Mina Concepcio 47.71 309 P **P** **12 08 49.4 -0.2**
comp=Z,42nm,1.0s,mb5.4
EMIN Mina Concepcio 47.71 309 P **P** **12 08 49.4 -0.2**
comp=Z,42nm,1.0s,mb5.4
LDF La Druitiere 47.79 325 *e*P **P** **12 08 48.4 -1.7**
comp=Z,141nm,1.4s,mb5.5
MKAR Makanchi Array 47.84 38 *i* P **P** **12 08 50.6 +0.1**
MKAR pmax pmax
comp=Z,24μm,1.1s
KURK Kurchatov 47.89 32 *e*P **P** **12 08 50.4 -0.4**
comp=Z,106nm,1.0s,mb5.8
KURK LR LR
comp=Z,334nm,21.0s,MS4.3
CIA Chichaoua 47.98 300 *i* P **P** **12 08 47.0 -4.8**
FLN La Foliniere 48.08 325 *e*P **P** **12 08 50.7 -1.6**
comp=Z,102nm,1.2s,mb5.4
FLN *e*R
comp=Z,543nm,17.2s
PALC Alcoutim 48.24 308 *e*P **P** **12 08 53.3 -0.4**
comp=Z,116nm,1.3s,mb5.8
EBAD Badajoz 48.26 310 P **P** **12 08 53.8 -0.1**
comp=Z,51nm,0.9s,mb5.5
EBAD Badajoz 48.26 310 P **P** **12 08 53.8 0.0**
comp=Z,51nm,0.9s,mb5.5
FINES FINESS Array B 48.36 351 P **P** **12 08 52.9 -1.4**
comp=Z,13nm,0.9s,mb5.0,baz=153,slow=4.3,SNR=12
EARI Arriondas 48.52 316 P **P** **12 08 56.7 +0.9**
comp=Z,21nm,0.9s,mb5.2
EARI Arriondas 48.52 316 P **P** **12 08 56.7 +0.9**
comp=Z,21nm,0.9s,mb5.2
PBEJ Beja 48.69 308 *e*P **P** **12 08 57.0 -0.2**
comp=Z,59nm,1.2s,mb5.5
PBEJ Beja 48.69 308 *e*P **P** **12 08 56.9 -0.3**
PCBR Castelo Branco 48.93 311 *e*P **P** **12 08 58.7 -0.3**

comp=Z,66nm,1.3s,mb5.5
PCBR Castelo Branco 48.93 311 *e*P P 12 08 58.6 -0.4
EVO Evora 48.94 309 *e*P P 12 08 59.6 +0.5
comp=Z,186nm,1.2s,mb5.7
EVO *e*R
comp=Z,1μm,20.5s
KAF Kangasniemi 48.96 351 *e*p P 12 08 57.9 -1.0
comp=Z,20nm,1.1s,mb5.0,baz=160,slow=7.8
KAF Kangasniemi 48.96 351 *e*P P 12 08 57.9 -1.0
KAF pmax pmax
comp=Z,20nm,1.1s,mb5.1
SGMF Saint Gilles 49.01 323 *e*P P 12 08 58.7 -0.8
comp=Z,152nm,1.5s,mb5.5
PBRG Braganca 49.03 314 *e*P P 12 09 01.3 +1.5
MTE Manteigas 49.15 312 *e*P P 12 09 00.5 -0.2
comp=Z,50nm,1.1s,mb5.5
MTE *e*LQ 12 21 31.3
MTE *e*LR LR 12 25 04.1
comp=Z,955nm,20.0s
JOF Joensuu 49.15 355 *e*p P 12 08 59.2 -1.2
comp=Z,39nm,1.1s,mb5.3
JOF Joensuu 49.15 355 *e*P P 12 08 59.2 -1.2
JOF pmax pmax
comp=Z,39nm,1.1s,mb5.3
MOE Montemor 49.20 309 *e*P P 12 09 01.3 +0.2
QUIF Quistinic 49.21 322 *e*P P 12 09 00.4 -0.6
comp=Z,428nm,1.9s,mb5.8
PTEO Sao Teotonio 49.22 308 *e*P P 12 09 01.1 -0.2
comp=Z,82nm,1.1s,mb5.7
PTEO Sao Teotonio 49.22 308 *e*P P 12 09 00.7 -0.6
LSA Lhasa 49.32 63 P P 12 09 03.0 +0.9
ROSF Rostrenen 49.47 323 *e*P P 12 09 02.2 -0.9
comp=Z,62nm,1.1s,mb5.2
PVIS Viseu 49.50 312 *e*P P 12 09 03.2 -0.2
comp=Z,54nm,1.2s,mb5.5
PVIS Viseu 49.50 312 *e*P P 12 09 03.1 -0.3
ERUA La Rua 49.52 314 P P 12 09 03.6 +0.1
comp=Z,30nm,0.8s,mb5.4
PTOM Tomar 49.55 310 *e*P P 12 09 03.5 -0.3
comp=Z,50nm,1.1s,mb5.5
PVRL Vila Real 49.55 313 *e*P P 12 09 03.2 -0.6
comp=Z,50nm,1.3s,mb5.4
SHL Shillong 49.61 68 *e*P P 12 09 04.0 -0.5
SHL *e*P 12 09 04.0
SUR Sutherland 49.83 202 *e*P P 12 09 07.4 +1.3
SUR LR LR
comp=Z,812nm,19.0s,MS4.8
SUR Sutherland 49.83 202 *e*P P 12 09 07.4 +1.3
HFS Hagfors 49.90 343 P P 12 09 04.8 -1.4
comp=Z,22nm,0.9s,mb5.2,baz=143,slow=7.4,SNR=12
ELOB Lobios 49.98 313 P P 12 09 07.0 -0.1
comp=Z,26nm,0.9s,mb5.3
ELOB Lobios 49.98 313 P P 12 09 07.0 -0.1
comp=Z,26nm,0.9s,mb5.3
WMQ Urumqi 50.05 44 P P 12 09 08.0 +0.5
WMQ PP PP 12 11 04.0 +0.4
WMQ S **S 12 16 18.0 +1.6**
WMQ SS SS 12 19 47.0 +0.6
WMQ AMB AMB
comp=Z,40nm,1.2s,mb5.3
WMQ LR LR
comp=N,3μm,20.0s,MS5.4
WMQ LR LR
comp=E,3μm,20.0s,MS5.4
WMQ LR LR
comp=Z,4μm,21.0s,MS5.4
EMAZ Mazaricos 50.98 314 P P 12 09 15.2 +0.6
comp=Z,58nm,0.9s,mb5.5
EMAZ Mazaricos 50.98 314 P P 12 09 15.1 +0.5
comp=Z,58nm,0.9s,mb5.5
NB2 NORSAR Subarra 51.36 342 P P 12 09 15.5 -1.7
comp=Z,2.6nm,0.8s,mb4.2,baz=136,slow=7.9
NOA NORSAR Array B 51.36 342 P P 12 09 15.9 -1.4
comp=Z,65nm,1.0s,mb5.5,baz=140,slow=7.7,SNR=40
NVS Novosibirsk 52.54 30 *i*P P 12 09 24.8 -1.5
NVS *e* 12 10 36.3
NVS pmax pmax
comp=Z,99nm,1.3s,mb5.6
NVS pmax pmax
comp=N,74nm,1.4s
NVS pmax pmax
comp=E,28nm,1.2s
ZAL Zalesovo 52.83 31 P P 12 09 27.6 -0.9
comp=E,44nm,0.9s,mb5.4,baz=230,slow=7.1,SNR=144
ZAL Zalesovo 52.83 31 P P 12 09 27.5 -0.9
ESK Eskdalemuir 53.03 331 *e*P P 12 09 28.5 -1.5
comp=E,67nm,1.2s,mb5.5
ESK *e* 12 09 38.3
ESK Eskdalemuir 53.03 331 *e*P P 12 09 28.5 -1.4
APA Apatity 53.60 357⇓*i*P P 12 09 32.7 -1.2
APA *i* 12 09 45.5
APA *i* 12 10 34.5
APA pmax pmax
comp=Z,61nm,1.2s,mb5.4
DLF Lyons Farm 53.66 327 *e*P P 12 09 33.9 -0.7
LVZ Lovozero 53.87 357 *e*P P 12 09 35.2 -0.7
LVZ *i* 12 10 40.4
LVZ *e*S **S 12 17 07.7 -0.7**
LVZ pmax pmax
comp=Z,78nm,1.1s,mb5.5
LVZ pmax pmax
comp=N,32nm,1.2s
LVZ pmax pmax
comp=E,14nm,1.4s
LVZ smax
comp=Z,22nm,5.3s
LVZ smax
comp=N,64nm,7.1s
LVZ smax
comp=E,167nm,11.1s
LVZ Lovozero 53.87 357 *i*P P 12 09 35.4 -0.5
DCN Croghan 54.08 327 *e*P P 12 09 37.3 -0.3
ARCES ARCESS Array B 56.17 354 P P 12 09 51.1 -1.5
comp=E,9.6nm,0.7s,mb4.9,baz=164,slow=4.7,SNR=17
KEV Kevo 56.23 354 *e*p P 12 09 50.4 -2.7
CMAR Chiang Mai Arr 56.30 77 P P 12 09 53.4 -0.8
comp=E,31nm,1.0s,mb5.3,baz=277,slow=7.9,SNR=94
CMAR PcP PcP 12 10 51.3 -0.1
comp=E,9.9nm,1.0s,baz=273,slow=5.5,SNR=5.6
CMAR LR LR 12 33 44.0
comp=E,422nm,19.0s,MS4.5,baz=275,slow=36
CMAR Chiang Mai Arr 56.30 77 PcP PcP 12 10 51.3 -0.1
NST Nakhon Sawan 57.72 80 P P 12 10 03.0 -1.3
GTA Gaotai 57.72 52 P P 12 10 02.8 -1.3
GTA PCP PcP 12 10 57.5 +0.8
GTA PP PP 12 12 10.4 -3.4
GTA S **S 12 17 59.8 -0.3**
GTA AMB AMB
comp=Z,481nm,6.5s
GTA LR LR
comp=N,1μm,17.5s,MS5.2
GTA LR LR
comp=E,2μm,22.4s,MS5.2
GTA LR LR
comp=Z,2μm,24.3s,MS5.2
KMI Kunming 59.43 69 *e*P P 12 10 15.3 -0.9
KMI PP PP 12 12 28.6 -0.7
KMI S **S 12 18 21.5 -1.1**
KMI LR LR
comp=N,518nm,19.1s,MS5.0
KMI LR LR
comp=E,824nm,18.5s,MS5.0
KMI LR LR
comp=Z,799nm,18.8s,MS4.9
KMI Kunming 59.43 69 *e*P P 12 10 15.2 -1.0
comp=Z,14nm,1.3s,mb4.8
KMI sP sP 12 10 21.7 -2.2
KMI PP PP 12 12 28.6 -0.7
KMI PPP PPP 12 13 51.3 -3.1
KMI S **S 12 18 21.5 -1.1**
KMI LR LR
comp=Z,800nm,18.8s,MS4.9
KMI Kunming 59.43 69 *e*P P 12 10 15.2 -1.0
KMI S **S 12 18 21.5 -1.1**
KKTK Khon Kaen 60.21 79 P P 12 10 21.0 -0.6
comp=Z,432nm,0.8s
CD2 Chengdu 60.27 62 *e*P P 12 10 20.5 -1.4
CD2 S **S 12 18 30.4 -2.9**
CD2 SS SS 12 22 29.3 -2.8
CD2 AMB AMB
comp=Z,100nm,6.8s
CD2 LR LR
comp=N,770nm,17.2s
CD2 LR LR
comp=Z,650nm,17.0s,MS4.8
LZH Lanzhou 60.55 56⇓P P 12 10 23.5 -0.2
LZH AP pP 12 10 32.6 +3.2
LZH XP sP 12 10 38.9 +7.4
LZH XS 12 18 56.0
LZH AMB AMB
comp=Z,120nm,1.4s,mb5.8
LZH AMB AMB
comp=Z,280nm,4.0s
LZH LR LR
comp=Z,4μm,18.8s,MS5.6
LZH Lanzhou 60.55 56⇓P P 12 10 23.5 -0.2
comp=Z,120nm,1.4s,mb5.8
LZH pP pP 12 10 32.6 +3.2
LZH sP sP 12 10 38.9 +7.4
LZH PP PP 12 12 44.0 +4.7
LZH S **S 12 18 47.2 +10**
LZH sS 12 18 56.0
LZH SS SS 12 22 53.5 +17
LZH LR LR
comp=Z,4μm,18.8s,MS5.6
LZH Lanzhou 60.55 56 S S 12 18 47.2 +10
COCO West Island 61.86 112 *e*P P 12 10 32.2 -0.6
comp=Z,114nm,0.9s,mb6.0
COCO LR LR
comp=Z,437nm,20.0s,MS4.6
COCO West Island 61.86 112 *e*P P 12 10 32.2 -0.6
comp=Z,114nm,0.9s,mb6.0
ZAK Zakamensk 62.10 40⇓*i*P P 12 10 33.8 -0.2
GYA Guiyang 62.91 67⇓*i*P P 12 10 38.6 -1.0
GYA S **S 12 19 10.3 +3.5**
GYA PS PS 12 19 26.3 -0.8
GYA AMB AMB
comp=Z,50nm,1.3s,mb5.5
GYA AMB AMB
comp=Z,330nm,3.7s
GYA LR LR
comp=N,620nm,18.6s,MS5.0
GYA LR LR
comp=E,790nm,19.5s,MS5.0
GYA LR LR
comp=Z,730nm,21.8s,MS4.8
IRK Irkutsk 63.10 38 *e*P P 12 10 39.6 -0.9
SONM Songino Array 63.68 43 P P 12 10 44.8 +0.3
comp=Z,40nm,0.9s,mb5.4,baz=259,slow=6.3,SNR=138
ULN Ulaanbaatar 64.12 43 PFAKE 12 11 00.0 +13
ULN LR LR
comp=Z,2μm,19.0s,MS5.4
XAN Xi'an 64.66 59 P P 12 10 50.3 -0.8
XAN AMB AMB
comp=Z,19nm,1.2s,mb5.0
ENH Enshi 65.22 63 *e*P P 12 10 54.0 -0.8
comp=Z,28nm,1.0s,mb5.2
ENH *e* 12 11 02.3
ENH Enshi 65.22 63 *e*P P 12 10 54.0 -0.8
BORG Borgarnes 65.36 335 P P 12 10 56.2 +1.1
comp=Z,35nm,0.9s,mb5.4,baz=120,slow=5.9,SNR=5.3
BORG Borgarnes 65.36 335 *e*P P 12 10 55.3 +0.3
BORG Borgarnes 65.36 335 *e*P P 12 10 55.3 +0.2
QIZ Qiongzhong 66.51 75 P P 12 11 01.1 -2.1
QIZ S S 12 19 52.5 +1.1
QIZ SS SS 12 24 12.8 +2.7
QIZ AMB AMB
comp=Z,164nm,5.8s
QIZ LR LR
comp=E,632nm,27.4s
QIZ LR LR
comp=Z,802nm,28.8s,MS4.8
HHC Hu-ho-hao-te 66.81 51⇓P P 12 11 05.3 +0.5
HHC AP pP 12 11 09.8 -0.7
HHC PCP PcP 12 11 34.3 +0.7
HHC PP PP 12 13 34.8 +1.0
HHC SCP 12 15 28.3
HHC PCS 12 15 35.3
HHC S S 12 19 59.0 +4.2
HHC XS 12 20 10.0
HHC PS PS 12 20 26.3 +6.7
HHC SCS ScS 12 20 59.3 +1.8
HHC AMB AMB
comp=Z,47nm,1.3s,mb5.4
HHC AMB AMB
comp=Z,478nm,4.2s
HHC LR LR
comp=N,485nm,19.2s,MS4.9
HHC LR LR
comp=E,551nm,18.8s,MS4.9
HHC LR LR
comp=Z,636nm,19.8s,MS4.8
TIY Taiyuan 67.48 55⇓P P 12 11 10.0 +1.0
TIY S S 12 20 11.0 +8.2
TIY LR LR
comp=N,1μm,15.0s
TIY LR LR
comp=Z,1μm,17.0s,MS5.2
WHN Wuhan 69.40 62 *e*P P 12 11 20.0 -1.1
WHN LR LR
comp=Z,2μm,36.0s,MS5.2
DAG Danmarks Havn 69.44 348⇑*i*P P 12 11 19.3 -1.3
comp=Z,28nm,1.2s,mb5.1
BJT Baijiatuau 70.33 52 *e*P P 12 11 26.9 +0.3
comp=Z,45nm,1.2s,mb5.3
BJT Baijiatuau 70.33 52 *e*P P 12 11 27.0 +0.4
comp=Z,45nm,1.2s,mb5.3
BJI Beijing 70.34 52 P P 12 11 27.3 +0.7
BJI S S 12 20 39.9 +3.2
BJI AMB AMB
comp=Z,23nm,1.1s,mb5.0
BJI AMB AMB
comp=Z,412nm,4.6s
BJI LR LR
comp=N,650nm,17.5s,MS5.3
BJI LR LR
comp=E,1μm,17.5s,MS5.3
BJI LR LR
comp=Z,2μm,26.6s
BJI Beijing 70.34 52 P P 12 11 27.2 +0.6
comp=Z,23nm,1.1s,mb5.0
BJI S S 12 20 39.9 +3.2
BJI SS SS 12 25 14.9 +5.8
BJI LR LR
comp=Z,2μm,26.6s,MS5.3
TIA Tai'an 71.29 56 *e*P P 12 11 32.3 -0.2
HIA Hailar 72.60 42 *e*P P 12 11 40.0 -0.1
comp=Z,39nm,1.0s,mb5.3
HIA Hailar 72.60 42 *e*P P 12 11 40.0 -0.1
comp=Z,39nm,1.0s,mb5.3
NJ2 Nanjing 73.09 60 *e*P P 12 11 43.1 -0.2
NJ2 AP pP 12 11 47.8 -1.3
NJ2 PCP PcP 12 12 02.3 +2.0
NJ2 S S 12 21 09.0 +0.5
NJ2 AMB AMB
comp=Z,60nm,0.9s,mb5.5
NJ2 AMB AMB
comp=Z,540nm,7.9s
NJ2 LR LR
comp=N,2μm,20.4s,MS5.4
NJ2 LR LR
comp=E,1μm,18.8s,MS5.4
NJ2 LR LR
comp=Z,1μm,21.6s,MS5.2
SUMG Summit 73.25 342 *e*P P 12 11 43.0 -0.4
comp=Z,75nm,1.0s,mb5.6
SUMG Summit 73.25 342 *e*P P 12 11 43.0 -0.4
comp=Z,75nm,1.0s,mb5.6
DL2 Dalian 74.63 53 *e*P P 12 11 52.0 -0.1
DL2 *e*S S 12 21 29.8 +4.2
DL2 AMB AMB
comp=Z,20nm,1.0s,mb5.0
DL2 LR LR
comp=N,530nm,20.4s
DL2 LR LR
comp=E,440nm,26.7s
DL2 LR LR
comp=Z,840nm,17.8s,MS5.1
SSE Sheshan 75.19 61 P P 12 11 53.8 -1.7
SSE S S 12 21 32.3 +0.4
SSE SCS ScS 12 22 05.8 +2.0
SSE AMB AMB
comp=Z,48nm,0.9s,mb5.4
SSE AMB AMB
comp=Z,168nm,3.5s
SSE LR LR
comp=N,406nm,24.2s,MS4.7
SSE LR LR
comp=E,300nm,24.1s,MS4.7
SSE LR LR
comp=Z,431nm,29.4s
SSE Sheshan 75.19 61 P P 12 11 53.7 -1.8
comp=Z,48nm,0.9s,mb5.4
SSE sP sP 12 11 58.3 -4.9
SSE S S 12 21 32.3 +0.4
SSE sS 12 21 37.7
SSE ScS ScS 12 22 05.7 +1.9
SSE LR LR
comp=Z,430nm,29.4s,MS4.6
CLNS Chul'man 75.39 34 *e*P P 12 11 56.7 +0.6
CLNS *e* 12 12 10.6
CLNS *e* 12 14 40.9
CLNS *e*PPP PPP 12 16 26.5 -6.4
CLNS *e*S S 12 21 31.3 -2.3
CLNS *e*SS SS 12 26 24.3 -2.3
CLNS pmax pmax
comp=N,5.0nm,0.8s
CLNS pmax pmax
comp=Z,2.0nm,0.8s
CLNS pmax pmax
comp=E,20nm,1.2s
CLNS pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
CLNS pmax pmax
comp=N,7.0nm,0.8s
CLNS pmax pmax
comp=E,14nm,1.1s
CLNS smax
comp=N,5.0nm,0.8s
CLNS smax
comp=Z,5.0nm,0.8s
CLNS smax
comp=E,3.0nm,0.7s
CLNS MLR MLR
comp=N,600nm,15.0s,MS5.1
CLNS MLR MLR
comp=E,300nm,15.0s,MS5.1
CLNS MLR MLR
comp=Z,1μm,15.0s,MS5.3
SNY Shenyang 75.80 50⇑P P 12 11 59.3 +0.6
SNY AMB AMB
comp=Z,20nm,1.1s,mb5.0
SNY LR LR
comp=E,1μm,21.0s
SNY LR LR
comp=Z,2μm,19.2s,MS5.3
TIXI Tiksi 76.28 19*d i*P P 12 12 00.5 -0.3
TIXI *e* 12 12 18.2
TIXI S S 12 21 42.7 -0.4
TIXI *e*SS SS 12 26 37.0 -3.2
TIXI pmax pmax
comp=Z,56nm,1.7s,mb5.2
TIXI MLR MLR
comp=Z,900nm,17.0s,MS5.2
TIXI Tiksi 76.28 19 *i* Pr 12 12 00.6
TIXI LR LR
comp=Z,1μm,20.0s,MS5.2
TATO Taipei 76.35 67 PFAKE 12 12 10.0 +7.8
TATO LR LR
comp=Z,966nm,19.0s,MS5.1
CN2 Changchun 76.94 48 *e*P P 12 12 05.0 -0.1
CN2 *e*AP pP 12 12 10.0 -0.9
CN2 PPP PPP 12 16 46.9 -0.8
CN2 *e*S S 12 21 50.1 -0.7
CN2 PS PS 12 22 30.6 -1.5
CN2 AMB AMB
comp=Z,40nm,1.1s,mb5.3
CN2 AMB AMB
comp=Z,670nm,4.0s
CN2 LR LR
comp=N,800nm,17.0s,MS5.2
CN2 LR LR
comp=E,800nm,17.0s,MS5.2
CN2 LR LR
comp=Z,900nm,20.0s,MS5.1
YAK Yakutsk 77.39 29 *e*P P 12 12 06.3 -0.9
comp=Z,66nm,1.0s,mb5.5
YAK LR LR
comp=Z,1μm,20.0s,MS5.2
YAK Yakutsk 77.39 29 *e*P P 12 12 06.3 -0.9
comp=Z,66nm,1.0s,mb5.5
RCBR Riachuelo 78.08 261 *e*P P 12 12 13.0 +1.0
comp=Z,32nm,1.1s,mb5.2
RCBR LR LR
comp=Z,818nm,21.0s,MS5.0
RCBR Riachuelo 78.08 261 *e*P P 12 12 13.0 +1.1
comp=Z,32nm,1.1s,mb5.2
INCN Inchon 78.72 54 *e*P P 12 12 15.1 +0.1
comp=Z,73nm,1.3s,mb5.5
INCN LR LR
comp=Z,869nm,20.0s,MS5.1
INCN Inchon 78.72 54 *e*P P 12 12 15.1 +0.1
comp=Z,73nm,1.3s,mb5.5
MDJ Mudanjiang 79.77 47 P P 12 12 19.8 -0.7
MDJ PCP PcP 12 12 27.3 -1.4
MDJ PP PP 12 15 18.4 -5.0
MDJ S S 12 22 25.3 +4.2
MDJ SCS ScS 12 22 43.3 +2.6
MDJ SS SS 12 27 33.8 +0.7
MDJ AMB AMB
comp=Z,17nm,1.2s,mb4.8
MDJ AMB AMB
comp=Z,143nm,5.8s
MDJ LR LR
comp=N,1μm,22.6s,MS5.2
MDJ LR LR
comp=E,449nm,21.5s,MS5.2
MDJ LR LR
comp=Z,698nm,20.4s,MS5.0
MDJ Mudanjiang 79.77 47 *e*P P 12 12 20.2 -0.3
comp=Z,30nm,1.1s,mb5.1
MDJ Mudanjiang 79.77 47 *e*P P 12 12 20.2 -0.3
comp=Z,30nm,1.1s,mb5.1
SYO Syowa Base 82.90 180⇑P P 12 12 38.2 +1.7
SYO Syowa Base 82.90 180⇓pP pP 12 12 42.0 -0.3
MAW Mawson 83.14 171 P P 12 12 40.2 +2.4
comp=Z,14nm,0.9s,mb5.0,baz=348,slow=5.4,SNR=24
MAW LR LR 12 46 17.0
comp=Z,520nm,19.7s,MS4.9,baz=47,slow=33
MBWA Marble Bar 85.50 113 *e*P P 12 12 50.8 +0.2
comp=Z,40nm,1.0s,mb5.5
MBWA LR LR
comp=Z,946nm,22.0s,MS5.1
MBWA Marble Bar 85.50 113 *e*P P 12 12 50.8 +0.2
comp=Z,40nm,1.0s,mb5.5
NVL N'lazarevskaya 86.89 189⇓*e*P P 12 12 59.0 +2.6
NVL pmax pmax
comp=Z,561nm,3.5s
NWAO Narrogin (SRO) 86.97 125 *e*P P 12 12 58.4 +0.7
NWAO LR LR
comp=Z,713nm,20.0s,MS5.1
NWAO Narrogin (SRO) 86.97 125 *e*P P 12 12 58.3 +0.7
RES Resolute Bay 87.09 349 *e*P P 12 12 57.9 +0.6
RES pmax pmax
comp=Z,32nm,1.2s,mb5.4
RES Resolute Bay 87.09 349 *e*P P 12 12 57.9 +0.6
comp=Z,32nm,1.3s,mb5.4
SEY Seymchan 87.23 25 *e*P P 12 13 01.7 +3.5
SEY *e* 12 29 26.9
SEY pmax pmax
comp=Z,110nm,1.5s,mb5.9
SEY pmax pmax
comp=N,20nm,1.2s
SEY pmax pmax
comp=E,50nm,1.2s
MAJO Matsushiro 87.96 53 *e*P P 12 13 00.3 -2.0
comp=E,26nm,1.1s,mb5.4
MAJO LR LR
comp=Z,1μm,20.0s,MS5.3
MAJO Matsushiro 87.96 53 *e*P P 12 13 00.3 -2.0
comp=Z,26nm,1.1s,mb5.4
MAT Matsushiro 87.96 53 P P 12 13 01.9 -0.4
MA2 Magadan 87.97 28 *e*P P 12 13 01.9 +0.1
comp=Z,49nm,1.2s,mb5.6
MA2 LR LR
comp=Z,844nm,19.0s,MS5.2
MA2 Magadan 87.97 28 *e*P P 12 13 01.9 +0.2
comp=Z,49nm,1.2s,mb5.6
SCHQ Schefferville 88.13 326 P P 12 13 03.5 +0.8
comp=Z,25nm,1.0s,mb5.4,baz=90,slow=20
YSS Yuzh-Sakhalins 88.13 42 PFAKE 12 13 10.0 +7.2
YSS LR LR
comp=Z,1μm,21.0s,MS5.3
ASAJ Asahikawa 88.93 45 LR LR 12 57 57.1
comp=Z,1μm,19.1s,MS5.3,baz=297,slow=39
MIR Mirnyy 89.26 161⇑*e*P P 12 13 10.0 +2.2
MIR pmax pmax

comp=Z,90nm,2.5s,mb5.7
MIR MLR MLR
FITZ Fitzroy Crossi 90.03 109 LR LR 12 51 48.3
comp=Z,191nm,18.2s,MS4.6,baz=276,slow=34
JHJ Hachijo jima 2 90.17 56 LR LR 12 58 50.6
comp=Z,842nm,18.9s,MS5.2,baz=278,slow=39
SNAA Sanae 90.32 192 *e*P **P** **12 13 14.3 +1.6**
SNAA pmax pmax
comp=Z,24nm,1.2s
SNAA Sanae 90.32 192 ⇓*i*P **P** **12 13 14.7 +2.0**
SNAA *e* 12 18 07.1
VNA2 Neumayer--Watz 90.80 194 *e*P **P** **12 13 19.2 +4.4**
VNA2 *e* 12 18 12.3
VNA1 Neumayer--Stat 90.81 194 ⇓*i*P **P** **12 13 19.5 +4.6**
VNA1 *e* 12 18 13.1
VNA3 Neumayer Olymp 91.56 194 ⇓*i*P **P** **12 13 21.9 +3.6**
VNA3 *e* 12 18 14.9
PQI Presque Isle 91.94 319 PFAKE 12 13 30.0 +9.4
PQI LR LR
comp=Z,9μm,22.0s
BDFB Brasilia 92.10 255 P **P** **12 13 24.9 +2.8**
comp=Z,7.6nm,0.7s,mb5.1,baz=135,slow=2.3,SNR=7.1
BDFB LR LR 12 50 07.2
comp=Z,2μm,20.9s,MS5.5,baz=270,slow=32
EMMW East Machias 92.33 317 PFAKE 12 13 30.0 +7.5
EMMW LR LR
comp=Z,3μm,20.0s,MS5.7
WVL Waterville 93.83 318 PFAKE 12 13 40.0 +11
WVL LR LR
comp=Z,4μm,20.0s,MS5.8
BBSR BB Station 94.75 305 PFAKE 12 13 50.0 +16
BBSR LR LR
comp=Z,928nm,21.0s,MS5.2
PET Petropavlovsk 94.92 32 PFAKE 12 13 50.0 +16
PET LR LR
comp=Z,1μm,22.0s,MS5.2
CASY Casey 95.11 158 P **P** **12 13 34.6 -0.2**
CASY LR LR
comp=Z,350nm,20.0s,MS4.8
CASY Casey 95.11 158 P **P** **12 13 34.6 -0.2**
HRV Harvard--Oak R 95.94 316 PFAKE 12 13 50.0 +11
HRV LR LR
comp=Z,527nm,22.0s,MS5.0
NCB Newcomb 97.05 319 PFAKE 12 14 00.0 +16
NCB LR LR
comp=Z,661nm,20.0s,MS5.1
INK Inuvik 97.68 358 *e*P **P** **12 13 46.5 +0.1**
INK pmax pmax
comp=Z,16nm,1.0s
INK Inuvik 97.68 358 *e*P **P** **12 13 46.5 +0.2**
comp=Z,16nm,1.0s,mb5.5
INK Inuvik 97.68 358 *e*P **P** **12 13 46.5 +0.1**
comp=Z,16nm,1.0s,mb5.5
TNA Tin City 97.79 11 PFAKE 12 14 00.0 +13
TNA LR LR
comp=Z,474nm,19.0s,MS5.0
WRA Warramunga Arr 98.46 108 P **P** **12 13 51.4 +0.4**
comp=Z,14nm,1.1s,mb5.4,baz=296,slow=3.4,SNR=44
WRA LR LR 12 56 10.1
comp=Z,424nm,19.2s,MS5.0,baz=190,slow=34
WRAB Tennant Creek 98.47 108 *e*P **P** **12 13 51.5 +0.5**
comp=Z,32nm,1.1s,mb5.8
WRAB LR LR
comp=Z,236nm,20.0s,MS4.7
ASAR Alice Springs 98.82 112 P **P** **12 13 53.7 +1.2**
comp=Z,6.0nm,1.1s,mb5.0,baz=275,slow=3.8,SNR=22
ASAR PKKPbc 12 30 22.6
comp=Z,1.3nm,1.2s,baz=118,slow=4.1,SNR=3.9
ASAR LR LR 12 54 58.0
comp=Z,528nm,18.5s,MS5.1,baz=303,slow=33
BINY Binghamton 99.01 318 PFAKE 12 14 00.0 +7.0
BINY LR LR
comp=Z,650nm,20.0s,MS5.1
SJG San Juan 100.70 292 PFAKE 12 14 10.0 +8.8
SJG LR LR
comp=Z,602nm,20.0s,MS5.1
COLA College 101.01 4 *e*Pdif P 12 14 01.9 +0.4
COLA LR LR
comp=Z,418nm,19.0s,MS5.0
SSPA Standing Stone 101.02 317 PFAKE 12 14 10.0 +7.9
SSPA LR LR
comp=Z,149nm,20.0s,MS4.5
YKA Yellowknife Ar 101.14 348 PP PP 12 18 06.1 -7.7
comp=Z,5.4nm,1.0s,baz=20,slow=7.4,SNR=5.3
ILAR Eielson Array 101.17 3 P P 12 14 02.5 +0.2
comp=Z,2.5nm,0.9s,baz=338,slow=4.5,SNR=18
ILAR PP PP 12 18 11.5 -2.5
comp=Z,4.4nm,1.0s,baz=352,slow=6.5,SNR=15
ILAR PKKPbc 12 30 13.7
comp=Z,1.2nm,1.1s,baz=195,slow=2.8,SNR=5.7
ILAR Eielson Array 101.17 3 PP PP 12 18 11.5 -2.5
CBN Corbin 101.84 315 PFAKE 12 14 20.0 +14
CBN LR LR
comp=Z,835nm,19.0s,MS5.3
MCK McKinley 102.08 4 *e*Pdif Pdif 12 14 06.8 +0.4
MCK LR LR
comp=Z,237nm,20.0s,MS4.7
SMY Shemya 102.50 27 PFAKE 12 14 20.0 +12
SMY LR LR
comp=Z,1μm,19.0s,MS5.5
MCWV Mont Chateau 102.81 317 PFAKE 12 14 20.0 +10
MCWV LR LR
comp=Z,779nm,20.0s,MS5.2
AAM Ann Arbor 103.83 321 PFAKE 12 14 30.0 +15
AAM LR LR
comp=Z,631nm,19.0s,MS5.2
FFC Flin Flon 104.33 338 PFAKE 12 14 30.0 +13
FFC LR LR
comp=Z,140nm,19.0s,MS4.5
BLA Blacksburg 104.44 315 PFAKE 12 14 30.0 +13
BLA LR LR
comp=Z,648nm,20.0s,MS5.2
FIB Fire Island 104.52 5 PFAKE 12 14 30.0 +13
FIB LR LR
comp=Z,1μm,22.0s,MS5.4
ACSO Alum Creek Sta 104.55 319 PFAKE 12 14 30.0 +12
ACSO LR LR
comp=Z,562nm,20.0s,MS5.1
DIV Divide 104.86 3 PFAKE 12 14 30.0 +11
DIV LR LR
comp=Z,1μm,19.0s,MS5.5
SAML Samuel 105.08 264 *e*PKP 12 18 34.8
SAML LR LR
comp=Z,917nm,19.0s,MS5.3
SAML Samuel 105.08 264 *e*PKIKP 12 18 34.8
NHSC New Hope 106.31 311 PFAKE 12 18 50.0
NHSC LR LR
comp=Z,759nm,20.0s,MS5.2
JFWS Jewell Farm 107.37 324 PFAKE 12 18 50.0
JFWS LR LR
comp=Z,538nm,20.0s,MS5.1
KDAK Kodiak Island 107.59 7 PFAKE 12 18 50.0
KDAK LR LR
comp=Z,180nm,21.0s,MS4.6
SDV Santo Domingo 107.74 284 PFAKE 12 18 50.0
SDV LR LR
comp=Z,503nm,20.0s,MS5.1
WCI Wyandotte Cave 107.80 318 PFAKE 12 18 50.0
WCI LR LR
comp=Z,183nm,19.0s,MS4.7
TRQA Tornquist 108.12 234 PFAKE 12 18 50.0
TRQA LR LR
comp=Z,2μm,21.0s,MS5.6
PMG Port Moresby 108.52 95 PFAKE 12 18 50.0
PMG LR LR
comp=Z,237nm,19.0s,MS4.8
CTAO Charters Tower 109.52 107 PFAKE 12 19 00.0
CTAO LR LR
comp=Z,902nm,21.0s,MS5.3
DWPF Disney 109.67 307 PFAKE 12 19 00.0
DWPF LR LR
comp=Z,192nm,19.0s,MS4.7
WVT Waverly 110.02 317 PFAKE 12 19 00.0 +14
WVT LR LR
comp=Z,694nm,19.0s,MS5.2
DGMT Dagmar 110.15 336 PFAKE 12 19 00.0 +14
DGMT LR LR
comp=Z,541nm,19.0s,MS5.1
VNDA Vanda 110.31 169 PKKPab 12 29 56.8
comp=Z,1.5nm,1.0s,baz=98,slow=4.5,SNR=5.7
CCM Cathedral Cave 111.03 321 SKKSac 12 36 34.5
CCM Cathedral Cave 111.03 321 PFAKE 12 19 00.0 +12
CCM LR LR
comp=Z,134nm,19.0s,MS4.5
SBA Scott Base 111.04 169 PFAKE 12 19 00.0 +12
SBA LR LR
comp=Z,483nm,19.0s,MS5.1
LRAL Lakeview Retre 111.22 314 PFAKE 12 19 00.0 +11
LRAL LR LR
comp=Z,783nm,21.0s,MS5.3
OXF Oxford 112.01 317 PFAKE 12 19 00.0 +10
OXF LR LR
comp=Z,449nm,20.0s,MS5.0
LAO LASA Array 112.40 336 *e*PKP PKPdf 12 18 49.4 -1.4
LAO LR LR
comp=Z,533nm,21.0s,MS5.1
LVC Limon Verde 112.77 251 PFAKE 12 19 00.0 +7.9
LVC LR LR
comp=Z,920nm,22.0s,MS5.3
MIAR Mount Ida 114.70 319 *e*PKP PKPdf 12 18 53.1 -2.4
MIAR LR LR
comp=Z,618nm,19.0s,MS5.2
MIAR Mount Ida 114.70 319 *e*PKIKP PKPdf 12 18 53.1 -2.5
NEW Newport 114.72 344 PFAKE 12 19 00.0 +4.7
NEW LR LR
comp=Z,454nm,21.0s,MS5.0
MSO Missoula 115.06 341 PFAKE 12 19 10.0 +14
MSO LR LR
comp=Z,360nm,20.0s,MS5.0
CBKS Cedar Bluff 115.43 326 PFAKE 12 19 10.0 +13
CBKS LR LR
comp=Z,654nm,19.0s,MS5.3
LKWY Lake 115.79 337 PFAKE 12 19 10.0 +12
LKWY LR LR
comp=Z,887nm,21.0s,MS5.3
MOOW Moose Ponds 116.62 337 *e*PKPdf PKPdf 12 18 57.7 -1.5
OCWA Octopus Mounta 116.87 348 PFAKE 12 19 10.0 +10
OCWA LR LR
comp=Z,513nm,19.0s,MS5.2
TPAW Teton Pass 116.92 337 *e*PKPdf PKPdf 12 18 58.3 -1.4
BW06 Boulder Array 116.98 335 PFAKE 12 19 10.0 +10
BW06 LR LR
comp=Z,697nm,21.0s,MS5.2
PDAR Pinedale Array 116.98 335 PKP PKPdf 12 18 57.6 -2.2
comp=Z,3.2nm,1.1s,baz=45,slow=2.1,SNR=11
PDAR PP PP 12 20 04.1 -6.1
comp=Z,2.0nm,1.0s,baz=49,slow=8.3,SNR=5.5
PDAR PKKPbc 12 29 26.6
comp=Z,1.4nm,1.0s,baz=180,slow=4.4,SNR=5.7
HAWA Hanford 117.09 344 PFAKE 12 19 10.0 +10
HAWA LR LR
comp=Z,375nm,20.0s,MS5.0
NATX Nacogdoches 117.17 317 PFAKE 12 19 10.0 +10
NATX LR LR
comp=Z,633nm,22.0s,MS5.2
RRI2 Red Ridge 117.18 337 *e*PKPdf PKPdf 12 18 59.0 -1.2
AHID Auburn Hatcher 117.59 337 PFAKE 12 19 10.0 +9.0
AHID LR LR
comp=Z,479nm,19.0s,MS5.1
ISCO Idaho Springs 117.66 331 PFAKE 12 19 10.0 +8.8
ISCO LR LR
comp=Z,648nm,19.0s,MS5.3
OTAV Otavalo 117.71 278 PFAKE 12 19 10.0 +8.1
OTAV LR LR
comp=Z,475nm,20.0s,MS5.1
WMOK Wichita Mounta 117.77 322 *e*PKPdf PKPdf 12 18 59.5 -2.0
WMOK LR LR
comp=Z,707nm,21.0s,MS5.3
HLID Hailey 118.11 339 PFAKE 12 19 10.0 +8.0
HLID LR LR
comp=Z,525nm,21.0s,MS5.1
HWUT Hardware Ranch 118.76 336 *e*PKPdf PKPdf 12 19 00.9 -2.4
HWUT LR LR
comp=Z,587nm,19.0s,MS5.2
NNA Nana 118.84 264 PFAKE 12 19 10.0 +5.9
NNA LR LR
comp=Z,194nm,19.0s,MS4.8
HKT Hockley 119.10 316 PFAKE 12 19 10.0 +5.7
HKT LR LR
comp=Z,135nm,20.0s,MS4.6
SDCO Great Sand Dun 119.22 329 *e*PKPdf PKPdf 12 19 02.1 -2.2
SDCO LR LR
comp=Z,595nm,20.0s,MS5.2
DUG Dugway 120.45 336 *e*PKPdf PKPdf 12 19 04.6 -2.1
DUG LR LR
comp=Z,470nm,21.0s,MS5.1
MOD Modoc 121.45 343 *e*PKPdf PKPdf 12 19 06.4 -2.2
MOD LR LR
comp=Z,459nm,19.0s,MS5.1
HUMO Hull Mountain 121.49 346 PFAKE 12 19 20.0 +11
HUMO LR LR
comp=Z,374nm,20.0s,MS5.0
MVU Marysvale 121.66 335 *e*PKPdf PKPdf 12 19 08.0 -1.0
MVU LR LR
comp=Z,492nm,21.0s,MS5.1
BMN Battle Mountai 121.84 340 *e*PKPdf PKPdf 12 19 07.4 -2.0
BMN LR LR
comp=Z,444nm,19.0s,MS5.1
ANMO Albuquerque 121.88 328 *e*PKPdf PKPdf 12 19 08.2 -1.4
ANMO LR LR
comp=Z,710nm,21.0s,MS5.3
YBH Yreka Blue Hor 122.25 345 *e*PKPdf PKPdf 12 19 07.5 -2.5
YBH LR LR
comp=Z,512nm,19.0s,MS5.2
WDC Whiskeytown Da 123.29 344 PFAKE 12 19 20.0 +7.9
WDC LR LR
comp=Z,385nm,21.0s,MS5.0
TPH Tonopah 123.95 339 *e*PKPdf PKPdf 12 19 12.6 -0.9
TPH LR LR
comp=Z,737nm,21.0s,MS5.3
NVAR Mina Array Bea 124.01 340 PKP PKPdf 12 19 12.4 -1.2
comp=Z,7.0nm,0.9s,baz=59,slow=1.1,SNR=28
NVAR PKKPbc 12 28 58.2
comp=Z,1.5nm,1.0s,baz=198,slow=5.3,SNR=5.9
LTX Lajitas 124.52 321 *e*PKPdf PKPdf 12 19 12.7 -2.1
LTX LR LR
comp=Z,583nm,21.0s,MS5.2
TXAR Lajitas Array 124.52 321 PKP PKPdf 12 19 12.8 -2.1
comp=Z,3.2nm,0.9s,baz=70,slow=1.5,SNR=22
TXAR PKKPbc 12 28 55.9
comp=Z,0.2nm,0.8s,baz=214,slow=4.5,SNR=3.5
HOPS Hopland 124.92 344 PFAKE 12 19 20.0 +4.6
HOPS LR LR
comp=Z,380nm,19.0s,MS5.1
CMB Columbia Colle 125.04 341 *e*PKPdf PKPdf 12 19 13.9 -1.7
CMB LR LR
comp=Z,441nm,20.0s,MS5.1
NEN Nelson 125.18 335 *e*PKPdf PKPdf 12 19 15.1 -0.9
DAC Darwin (Calif) 125.69 338 PFAKE 12 19 30.0 +13
DAC LR LR
comp=Z,480nm,20.0s,MS5.2
TUC Tucson 126.16 329 *e*PKPdf PKPdf 12 19 16.3 -1.6
TUC LR LR
comp=Z,695nm,22.0s,MS5.3
SAO San Andreas Ge 126.54 342 PFAKE 12 19 30.0 +12
SAO LR LR
comp=Z,496nm,21.0s,MS5.2
PFO Pinyon Flat Ob 127.61 335 PFAKE 12 19 30.0 +9.3
PFO LR LR
comp=Z,124nm,19.0s,MS4.6
PAYG Puerto Ayora 129.30 281 PFAKE 12 19 30.0 +5.5
PAYG LR LR
comp=Z,325nm,21.0s,MS5.0
AFI Afiamalu 148.93 94 *e*PKPab PKPab 12 20 05.2 -0.6

*DHMR **22** 12:28:22.8±1.1, 14.36N×39.82E, h20km±306km, ML4.3*
*IDC **22** 12:28:23.4±9.0, 14.02N×40.11E, mb3.9/5, mb1 4.1/5, mb1mx3.9/16, Error ellipse: s-maj=193.0km s-min=40.4km az=22.0*
ISC 22 12:28:22.2±2.0, 13.9N±0.3×39.78E±0.09, h10km, n11, σ1§08/16, mb3.8/5, 3C-2D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
UDYN	**Al 'Udayn**	**4.08**	**89**	⇑*e*P		**Pn**	**Pn**	**12 29 26.5**	**+0.3**
UDYN				*i* S		**Sn**	**Sn**	**12 30 16.4**	**+1.8**
UDYN				AML	AML	12 30 30.4			
	comp=E,2μm,0.6s								
HAJJ	**Hajjah**	**4.09**	**64**	⇓*e*P		**Pn**	**Pn**	**12 29 24.3**	**-2.0**
HAJJ				AML	AML	12 30 44.8			
	comp=N,629nm,0.5s								
DHBB	**Dhamar BB**	**4.51**	**81**	⇓*i*P		**Pn**	**Pn**	**12 29 31.8**	**-0.4**
DHBB				*i* S		**Sn**	**Sn**	**12 30 25.3**	**0.0**
DHBB				AML	AML	12 30 41.9			
	comp=E,670nm,0.8s								
LBOS		**5.31**	**90**	*i* P		**Pn**	**Pn**	**12 29 43.5**	**0.0**
LBOS				*i* S		**Sn**	**Sn**	**12 30 45.4**	**0.0**
BDHA	**Al Bayda'**	**5.61**	**89**	⇑*i*P		**Pn**	**Pn**	**12 29 46.9**	**-0.9**
BDHA				*i* S		**Sn**	**Sn**	**12 30 53.6**	**+0.5**
BDHA				AML	AML	12 31 23.3			
	comp=N,683nm,0.7s								
BDHA	**Al Bayda'**	**5.61**	**89**	⇑*i*P		**Pn**	**Pn**	**12 29 46.8**	**-1.0**
BDHA				*i* S		**Sn**	**Sn**	**12 30 53.6**	**+0.5**
BRTR	**Keskin Array B**	**26.27**	**349**	P		**P**	**P**	**12 34 01.2**	**+1.7**
	comp=N,0.6nm,0.5s,mb3.4,baz=166,slow=12,SNR=5.5								
AKASG	**Malin Array Be**	**37.68**	**349**	P		**P**	**P**	**12 35 39.1**	**-0.2**
	comp=N,0.6nm,0.4s,mb3.7,baz=164,slow=6.7,SNR=7.6								
GERES	**GERESS Array B**	**40.93**	**334**	P		**P**	**P**	**12 36 08.0**	**+1.7**
	comp=N,1.6nm,0.7s,mb3.8,baz=129,slow=6.3,SNR=6.5								
ZAL	**Zalesovo**	**53.23**	**31**	P		**P**	**P**	**12 37 41.5**	**-1.5**
	comp=N,1.7nm,0.8s,mb4.1,baz=248,slow=8.1,SNR=8.5								
SONM	**Songino Array**	**64.13**	**43**	P		**P**	**P**	**12 38 58.1**	**-0.9**
	comp=N,1.2nm,0.8s,mb4.0,baz=266,slow=6.6,SNR=11								

DJA 22 12:47:59.8±1.0, 9.77S×114.21E, h15km, MD4.9/4, ML4.2/4, 2C-5D, Error ellipse: s-maj=22.5km s-min=11.4km az=34.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.29**	**357**	⇑*e*P		**Pn**	**Pn**	**12 48 20.4**	**-2.9**
	504nm,0.2s								
SRDI				⇓*i*S		**Sn**	**Sn**	**12 48 35.6**	**-4.6**
KELI	**Kelakatan**	**1.57**	**10**	⇓*e*P		**Pn**	**Pn**	**12 48 25.3**	**-2.1**
	296nm,0.2s								
KELI				⇓*i*S		**Sn**	**Sn**	**12 48 43.4**	**-4.1**
RATI	**Rata**	**1.67**	**52**	⇓*e*P		**Pn**	**Pn**	**12 48 25.9**	**-2.9**
	286nm,0.2s								
RATI				⇓*i*S		**Sn**	**Sn**	**12 48 45.3**	**-4.7**
KEDI	**Kedomdong**	**2.27**	**56**	⇑*e*P		**Pn**	**Pn**	**12 48 34.7**	**-2.7**
	32nm,0.2s								

*MOS **22** 12:50:36.9±0.9, 28.89N×139.36E, h428km, mb4.3/17, Error ellipse: s-maj=19.3km s-min=10.1km az=100.9*
*SYO **22** 12:50:36.3, 28.86N×139.43E, h405km, MB4.4*
*IDC **22** 12:50:37.0±0.7, 28.79N×139.51E, h414km±7km, mb3.8/20, mb1 4.0/23, mb1mx3.9/27, Error ellipse: s-maj=10.7km s-min=7.1km az=92.0*
*BJI **22** 12:50:37.1, 28.86N×139.36E, h421km, mB4.7, mb4.7*
*JMA **22** 12:50:37.3±0.2, 28.97N×139.91E, h427km, M4.2*
*NEIC **22** 12:50:38.0±1.0, 28.89N×139.41E, h424km±10km, mb4.4/33, Error ellipse: s-maj=8.3km s-min=6.2km az=129.0*
ISC 22 12:50:36.0±0.3, 28.88N±0.03×139.43E±0.04, h411km±3km, h407km±5.3km; pP-P, n157, σ0§95/170, mb4.4/66, 8C-3D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.02**	**126**	P		**P**	**P**	**12 51 40.5**	**0.0**
	baz=90,slow=11								
CBIJ				S		**S**	**S**	**12 52 31.4**	**-0.1**
	baz=90,slow=19								
CBIJ	**Chichi jima**	**3.02**	**126**	P		**P**	**P**	**12 51 40.9**	**+0.3**
CBIJ				S		**S**	**S**	**12 52 32.0**	**+0.6**
JHHJ	**Haha-jima-NKT**	**3.31**	**132**	P		**P**	**P**	**12 51 43.3**	**+0.2**
JHHJ				S		**S**	**S**	**12 52 35.7**	**-0.2**
JHJ2	**Mitsune**	**4.23**	**4**	P		**P**	**P**	**12 51 50.5**	**-0.9**
JHJ2				*e*S		**S**	**S**	**12 52 50.5**	**-0.2**
JHJ	**Hachijo jima 2**	**4.23**	**4**	P		**P**	**P**	**12 51 49.4**	**-2.1**
	6.1nm,0.3s,baz=214,slow=15,SNR=3.0								
JHJ				S		**S**	**S**	**12 52 50.8**	**0.0**
	53nm,0.3s,baz=300,slow=23,SNR=7.8								
BSO1	**Boso 1**	**5.90**	**13**	P		**P**	**P**	**12 52 08.7**	**+0.2**
BSO1				*e*S		**S**	**S**	**12 53 19.9**	**-1.4**
JIE	**Ise**	**5.96**	**338**	P		**P**	**P**	**12 52 12.9**	**+3.7**
JIE				*e*S		**S**	**S**	**12 53 27.2**	**+4.7**
JOD2	**Odawara 2**	**6.37**	**357**	P		**P**	**P**	**12 52 15.8**	**+2.2**
JTO	**Tosashimizu**	**6.94**	**306**	P		**P**	**P**	**12 52 23.9**	**+3.9**
JRY	**Ryogami san**	**7.13**	**357**	P		**P**	**P**	**12 52 22.3**	**+0.2**
JRY				*S*		**S**	**S**	**12 53 44.9**	**-1.0**
MAJO	**Matsushiro**	**7.71**	**353**	*e*P		**P**	**P**	**12 52 28.3**	**-0.4**
	30nm,0.6s								
MAT	**Matsushiro**	**7.71**	**353**	P		**P**	**P**	**12 52 28.5**	**-0.2**
MAT				S		**S**	**S**	**12 53 59.0**	**+1.4**
MAT	**Matsushiro**	**7.71**	**353**	P		**P**	**P**	**12 52 28.4**	**-0.3**
MAT				*e*S		**S**	**S**	**12 53 58.9**	**+1.3**
JHS	**Saijyo**	**8.12**	**320**	P		**P**	**P**	**12 52 36.6**	**+3.2**
JOW	**Kunigami**	**10.08**	**261**	P		**P**	**P**	**12 52 58.6**	**+2.7**
	baz=99,slow=8.9								
ASAJ	**Asahikawa**	**15.41**	**9**	P		**P**	**P**	**12 53 54.5**	**+0.3**
	3.8nm,0.3s,baz=222,slow=15,SNR=20								
ASAJ	**Asahikawa**	**15.41**	**9**	P		**P**	**P**	**12 53 54.5**	**+0.3**
ASAJ				pmax	pmax				
	comp=Z,4.0nm,0.3s								
SSE	**Sheshan**	**15.96**	**282**	*e*P		**P**	**P**	**12 53 58.8**	**-1.0**
SSE				AMB	AMB				
	comp=Z,23nm,0.7s								
SSE	**Sheshan**	**15.96**	**282**	*e*P		**P**	**P**	**12 53 58.8**	**-1.0**
	comp=Z,23nm,0.7s								
MDJ	**Mudanjiang**	**17.55**	**336**	P		**P**	**P**	**12 54 16.3**	**+0.5**
MDJ				AMB	AMB				
	comp=Z,13nm,1.2s								
MDJ	**Mudanjiang**	**17.55**	**336**	*e*P		**P**	**P**	**12 54 15.4**	**-0.4**
	comp=Z,11nm,0.8s								
YSS	**Yuzh-Sakhalins**	**18.23**	**7**	⇑*e*P		**P**	**P**	**12 54 23.1**	**+0.5**
YSS				pmax	pmax				
	comp=Z,200nm,0.8s								
YSS	**Yuzh-Sakhalins**	**18.23**	**7**	*e*P		**P**	**P**	**12 54 23.4**	**+0.8**
	comp=Z,20nm,0.7s								
SNY	**Shenyang**	**18.23**	**319**	⇑P		**P**	**P**	**12 54 24.5**	**+1.8**
SNY				AMB	AMB				
	comp=Z,100nm,0.7s								
CN2	**Changchun**	**18.63**	**327**	*e*P		**P**	**P**	**12 54 27.3**	**+0.8**
CN2				*e*XP				12 56 12.8	
CN2				*e*S		**S**	**S**	**12 57 30.3**	**-2.8**
CN2				AMB	AMB				
	comp=Z,40nm,0.8s								
CN2				AMB	AMB				
	comp=Z,650nm,10.0s								
WHN	**Wuhan**	**21.84**	**281**	*e*P		**P**	**P**	**12 54 59.0**	**+1.5**
BJI	**Beijing**	**22.10**	**306**	P		**P**	**P**	**12 54 58.3**	**-1.7**
BJI				AMB	AMB				
	comp=Z,9.0nm,1.2s,mb4.1								
BJI	**Beijing**	**22.10**	**306**	P		**P**	**P**	**12 54 58.2**	**-1.8**
	comp=Z,9.0nm,1.2s,mb4.1								
HIA	**Hailar**	**25.31**	**329**	*e*P		**P**	**P**	**12 55 28.9**	**-0.1**
	comp=Z,7.4nm,0.7s,mb4.2								
ENH	**Enshi**	**26.04**	**280**	*e*P		**P**	**P**	**12 55 35.4**	**-0.3**
	comp=Z,57nm,0.8s,mb5.1								
XAN	**Xi'an**	**26.47**	**289**	P		**P**	**P**	**12 55 39.0**	**-0.5**
XAN				AMB	AMB				
	comp=Z,24nm,0.7s,mb4.7								
GYA	**Guiyang**	**29.07**	**273**	⇓P		**P**	**P**	**12 56 02.6**	**+0.2**
GYA				XP		sP	sP	12 58 01.3	-3.1
GYA				S		**S**	**S**	**13 00 21.8**	**-2.1**
GYA				AMB	AMB				
	comp=Z,40nm,0.8s,mb4.8								
GYA				AMB	AMB				
	comp=Z,160nm,4.4s								
LZH	**Lanzhou**	**30.74**	**293**	*e*P		**P**	**P**	**12 56 17.1**	**+0.4**
LZH				AP	pP			12 57 32.3	+0.1
LZH				AMB	AMB				
	comp=Z,80nm,1.2s,mb4.9								
LZH	**Lanzhou**	**30.74**	**293**	*e*P		**P**	**P**	**12 56 17.1**	**+0.4**
	comp=Z,80nm,1.2s,mb4.9								
LZH				pP	pP			12 57 32.2	0.0
LZH				sP	sP			12 58 15.3	-4.1
CD2	**Chengdu**	**30.91**	**283**	⇑*i*P		**P**	**P**	**12 56 18.5**	**+0.2**
CD2				AMB	AMB				
	comp=Z,40nm,0.8s,mb4.8								
MA2	**Magadan**	**31.65**	**11**	*e*P		**P**	**P**	**12 56 23.9**	**-0.4**
	comp=Z,19nm,0.8s,mb4.5								
SONM	**Songino Array**	**31.74**	**316**	P		**P**	**P**	**12 56 25.5**	**+0.3**
	comp=Z,6.8nm,0.9s,mb4.0,baz=122,slow=7.2,SNR=44								
SONM				PcP	PcP			12 59 04.7	-1.0
	comp=Z,0.5nm,0.5s,baz=132,slow=3.2,SNR=4.9								
KMI	**Kunming**	**32.82**	**272**	*e*P		**P**	**P**	**12 56 35.5**	**+0.8**
KMI				PP	PP			12 58 04.1	+3.9
KMI				AMB	AMB				
	comp=Z,18nm,0.9s,mb4.4								
KMI	**Kunming**	**32.82**	**272**	*e*P		**P**	**P**	**12 56 35.5**	**+0.8**
	comp=Z,18nm,0.9s,mb4.4								
KMI				PP	PP			12 58 04.1	+3.9
KMI				sP	sP			12 58 27.3	-10
GTA	**Gaotai**	**34.18**	**298**	P		**P**	**P**	**12 56 46.3**	**+0.2**
GTA				AP	pP			12 58 04.0	+0.8
GTA				S		**S**	**S**	**13 01 40.9**	**-1.9**
GTA				SCP				13 02 16.5	
GTA				AMB	AMB				
	comp=Z,31nm,0.9s,mb4.6								

FX1	**Attu Island--F**	**34.49**	**36**	P	**P**	**12 56 48.8**	**+0.3**
	comp=Z,149nm,1.0s,mb5.3,baz=33,slow=1.8,SNR=13						
FX1	**Attu Island--F**	**34.49**	**36**	P	**P**	**12 56 48.8**	**+0.3**
FX1				pmax	pmax		
	comp=Z,149nm,1.0s						
ZAK	**Zakamensk**	**34.66**	**318**	*i* P	**P**	**12 56 50.4**	**+0.4**
CMAR	**Chiang Mai Arr**	**38.34**	**263**	P	**P**	**12 57 21.6**	**+0.8**
	comp=Z,3.5nm,0.6s,mb3.9,baz=77,slow=5.0,SNR=22						
CMAR				PcP	PcP	12 59 25.4	0.0
	comp=Z,1.7nm,0.8s,baz=31,slow=2.0,SNR=6.9						
CMAR				ScP		13 02 32.5	
	comp=Z,5.2nm,1.2s,baz=29,slow=3.0,SNR=9.0						
CMAR	**Chiang Mai Arr**	**38.34**	**263**	P	**P**	**12 57 21.6**	**+0.8**
CMAR						12 59 25.5	
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CMAR				pmax	pmax		
	comp=Z,5.0nm,1.2s						
TIXI	**Tiksi**	**43.21**	**355**	*i* P	**P**	**12 57 59.2**	**-0.4**
TIXI				*i* S	**S**	**13 03 53.5**	**-2.1**
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.0						
TIXI				MLR	MLR		
	comp=Z,100nm,22.0s						
WMQ	**Urumqi**	**43.56**	**304**	P	**P**	**12 58 03.4**	**+0.7**
WMQ				AP	pP	12 59 24.4	+1.4
WMQ				XP	sP	13 00 09.4	+1.2
WMQ				SCP		13 02 53.4	
WMQ				S	**S**	**13 04 02.4**	**+1.5**
WMQ				AMB	AMB		
	comp=Z,27nm,1.2s,mb4.5						
ZAL	**Zalesovo**	**46.55**	**318**	P	**P**	**12 58 25.2**	**-0.8**
	comp=Z,3.1nm,0.8s,mb3.7,baz=22,slow=8.4,SNR=19						
ZAL				PcP	PcP	12 59 51.7	-1.0
	comp=Z,1.5nm,0.6s,baz=355,slow=5.2,SNR=4.5						
ZAL	**Zalesovo**	**46.55**	**318**	P	**P**	**12 58 25.2**	**-0.8**
ZAL						12 59 51.7	
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZAL	**Zalesovo**	**46.55**	**318**	P	**P**	**12 58 25.2**	**-0.8**
ZAL				PcP	PcP	12 59 51.7	-1.0
GUN	**Gumba**	**46.77**	**282**	*e*P	**P**	**12 58 28.9**	**+0.8**
	comp=Z,62nm,1.0s,mb4.9						
PKI	**Pulchoki**	**47.26**	**282**	*e*P	**P**	**12 58 31.8**	**0.0**
	comp=Z,30nm,1.1s,mb4.5						
KKN	**Kakani**	**47.32**	**282**	*e*P	**P**	**12 58 32.4**	**+0.2**
	comp=Z,47nm,1.1s,mb4.7						
MKAR	**Makanchi Array**	**47.46**	**308**	*i* P	**P**	**12 58 32.7**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,144nm,0.3s						
DMN	**Daman**	**47.51**	**282**	*e*P	**P**	**12 58 34.0**	**+0.3**
	comp=Z,31nm,1.1s,mb4.6						
GKN	**Gorkha**	**47.81**	**283**	*e*P	**P**	**12 58 36.1**	**+0.1**
	comp=Z,60nm,1.1s,mb4.8						
FITZ	**Fitzroy Crossi**	**48.57**	**198**	P	**P**	**12 58 41.5**	**-0.4**
	comp=Z,1.9nm,0.7s,mb3.5,baz=11,slow=14,SNR=5.6						
KOLN	**Koldanda**	**48.76**	**283**	*e*P	**P**	**12 58 43.4**	**+0.2**
	comp=Z,42nm,0.9s,mb4.8						
WRAB	**Tennant Creek**	**48.78**	**186**	P	**P**	**12 58 42.0**	**-1.4**
	comp=Z,90nm,0.5s,mb5.3,SNR=21						
WRAB	**Tennant Creek**	**48.78**	**186**	*e*P	**P**	**12 58 42.3**	**-1.1**
	comp=Z,9.4nm,0.5s,mb4.4						
WRA	**Warramunga Arr**	**48.79**	**186**	P	**P**	**12 58 42.8**	**-0.8**
	comp=Z,7.3nm,0.4s,mb4.4,baz=2.9,slow=7.7,SNR=219						
WRA				PcP	PcP	13 00 00.7	-0.7
	comp=Z,3.9nm,0.6s,baz=358,slow=3.8,SNR=11						
WRA				ScP		13 03 13.4	
	comp=Z,2.4nm,0.8s,baz=0.4,slow=4.5,SNR=8.4						
WRA				S	**S**	**13 05 09.7**	**-4.5**
	comp=Z,1.1nm,0.6s,baz=8.5,slow=14,SNR=18						
WRA	**Warramunga Arr**	**48.79**	**186**	P	**P**	**12 58 42.8**	**-0.7**
WRA					pP	13 00 00.7	-5.1
WRA				S	**S**	**13 05 09.7**	**-4.5**
WRA				pmax	pmax		
	comp=Z,7.0nm,0.4s						
WRA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
WRA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WRA				smax			
	comp=N,1.0nm,0.6s						
KURK	**Kurchatov**	**49.99**	**314**	*d i*P	**P**	**12 58 51.5**	**-0.7**
KURK	**Kurchatov**	**49.99**	**314**	*e*P	**P**	**12 58 50.8**	**-1.4**
	comp=N,27nm,0.8s,mb4.6						
ULHL	**Ulahol**	**52.00**	**303**	P	**P**	**12 59 07.3**	**+0.2**
	SNR=8.4						
TKM2	**Tokmak 2**	**52.40**	**304**	P	**P**	**12 59 10.4**	**+0.4**
	SNR=14						
ASAR	**Alice Springs**	**52.52**	**186**	P	**P**	**12 59 09.8**	**-1.4**
	comp=N,3.0nm,0.5s,mb3.8,baz=4.2,slow=7.5,SNR=121						
ASAR				PcP	PcP	13 00 14.8	-0.3
	comp=N,2.5nm,0.9s,baz=6.4,slow=3.7,SNR=11						
ASAR				ScP		13 03 28.8	
	comp=N,0.8nm,0.7s,baz=3.2,slow=2.6,SNR=5.2						
ASAR				S	**S**	**13 06 01.9**	**-2.9**
	comp=N,0.7nm,0.7s,baz=18,slow=19,SNR=10						
KSH	**Kashi**	**52.58**	**299**	*e*P	**P**	**12 59 13.3**	**+1.9**
KSH				*e*PCP	PcP	13 00 16.0	+0.8
KSH				*e*AP	pP	13 00 36.3	+1.1
KSH				*e*PP	PP	13 01 19.4	+3.7
KSH				*e*XP	sP	13 01 21.3	+1.7
KSH				*e*SCP		13 03 34.3	
KSH				AMB	AMB		
	comp=Z,200nm,5.0s						
KBK	**Karagaybulak**	**52.91**	**303**	P	**P**	**12 59 13.8**	**+0.1**
	SNR=12						
USP	**Ospenovka**	**53.16**	**304**	P	**P**	**12 59 15.2**	**-0.4**
	SNR=6.8						
AAK	**Ala-Archa**	**53.24**	**303**	P	**P**	**12 59 16.0**	**-0.1**
	SNR=12						
AAK	**Ala-Archa**	**53.24**	**303**	*i* P	**P**	**12 59 14.9**	**-1.3**
AAK				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.2						
AAK	**Ala-Archa**	**53.24**	**303**	*e*P	**P**	**12 59 14.2**	**-1.9**
	comp=Z,5.4nm,0.6s,mb4.0						
MBWA	**Marble Bar**	**53.26**	**203**	*e*P	**P**	**12 59 15.1**	**-1.5**
	comp=Z,4.4nm,0.6s,mb3.9						
UCH	**Uchtor**	**53.28**	**303**	P	**P**	**12 59 17.4**	**+1.0**
	SNR=24						
EKS2	**Erkin-Say**	**53.76**	**304**	P	**P**	**12 59 19.6**	**-0.4**
	SNR=7.9						
AML	**Almayashu**	**53.90**	**303**	P	**P**	**12 59 21.3**	**+0.5**
	SNR=34						
BVAR	**Borovoye Array**	**55.08**	**317**	P	**P**	**12 59 28.3**	**-0.8**
	comp=Z,11nm,0.5s,mb4.3,baz=90,slow=8.9,SNR=18						
BRVK	**Borovoye**	**55.14**	**317**	*e*P	**P**	**12 59 28.4**	**-1.1**
	comp=Z,22nm,0.9s,mb4.4						
MCK	**McKinley**	**56.41**	**30**	*e*P	**P**	**12 59 37.0**	**-1.3**
	comp=Z,12nm,1.0s,mb4.2						
SML	**Sawmill**	**56.64**	**33**	*e*P	**P**	**12 59 38.5**	**-1.3**
COLA	**College**	**56.92**	**29**	*i* P	**P**	**12 59 41.4**	**-0.4**
COLA	**College**	**56.92**	**29**	*e*P	**P**	**12 59 41.1**	**-0.7**
	comp=Z,6.1nm,0.8s,mb4.0						
ILAR	**Eielson Array**	**57.33**	**29**	P	**P**	**12 59 42.6**	**-1.9**
	comp=Z,5.7nm,0.8s,mb3.9,baz=246,slow=4.9,SNR=62						
ILAR	**Eielson Array**	**57.33**	**29**	P	**P**	**12 59 42.7**	**-1.9**
ILAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
THY	**Trims Highway**	**57.83**	**31**	*e*P	**P**	**12 59 47.0**	**-1.0**
STKA	**Stephens Creek**	**60.46**	**178**	P	**P**	**13 00 04.2**	**-1.9**
	comp=Z,3.6nm,0.8s,mb3.9,baz=331,slow=9.0,SNR=8.3						
ARU	**Arti**	**61.52**	**321**	⇑ *i*P	**P**	**13 00 11.5**	**-1.1**
ARU				*e*		13 02 28.8	
ARU				*e*S	**S**	**13 08 01.0**	**+0.3**
ARU				pmax	pmax		
	comp=Z,21nm,0.7s,mb4.8						
INK	**Inuvik**	**62.43**	**25**	P	**P**	**13 00 17.4**	**-1.1**
	comp=Z,6.1nm,0.7s,mb4.3,baz=294,slow=6.1,SNR=79						
INK	**Inuvik**	**62.43**	**25**	P	**P**	**13 00 17.4**	**-1.1**
INK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
INK	**Inuvik**	**62.43**	**25**	*e*P	**P**	**13 00 17.1**	**-1.4**
	comp=Z,5.2nm,0.6s,mb4.2						
KEV	**Kevo**	**70.48**	**340**	*ep*	**P**	**13 01 07.5**	**-1.0**
RES	**Resolute Bay**	**70.89**	**13**	*e*P	**P**	**13 01 10.4**	**-0.4**
	comp=Z,7.5nm,0.7s,mb4.3						
ARCES	**ARCESS Array B**	**71.05**	**340**	P	**P**	**13 01 11.8**	**+0.1**
	comp=Z,1.9nm,0.4s,mb4.0,baz=81,slow=8.7,SNR=34						
ARCES	**ARCESS Array B**	**71.05**	**340**	P	**P**	**13 01 11.9**	**+0.1**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
YKA	**Yellowknife Ar**	**71.72**	**28**	P	**P**	**13 01 14.9**	**-1.0**
	comp=Z,2.9nm,0.6s,mb4.0,baz=292,slow=6.2,SNR=5.9						
YKA	**Yellowknife Ar**	**71.72**	**28**	P	**P**	**13 01 14.9**	**-1.0**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
JOF	**Joensuu**	**72.40**	**333**	*ep*	**P**	**13 01 18.6**	**-1.2**
OBN	**Obninsk**	**73.67**	**324**	*e*P	**P**	**13 01 27.2**	**0.0**
OBN				pmax	pmax		
	comp=Z,19nm,1.0s,mb4.7						
KAF	**Kangasniemi**	**74.80**	**333**	*ep*	**P**	**13 01 30.2**	**-3.2**
KIV	**Kislovodsk**	**75.05**	**312**	*e*P	**P**	**13 01 35.4**	**+0.2**
KIV				*e*		13 01 45.3	
KIV				*e*		13 11 28.2	
KIV				pmax	pmax		
	comp=Z,22nm,0.8s,mb4.8						
KIV	**Kislovodsk**	**75.05**	**312**	*e*P	**P**	**13 01 35.6**	**+0.5**
	comp=Z,20nm,0.7s,mb4.9						
FINES	**FINESS Array B**	**75.26**	**333**	P	**P**	**13 01 35.8**	**-0.2**
	comp=Z,2.0nm,0.3s,mb4.2,baz=73,slow=5.1,SNR=30						
FINES	**FINESS Array B**	**75.26**	**333**	P	**P**	**13 01 35.8**	**-0.2**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
YBH	**Yreka Blue Hor**	**76.77**	**50**	P	**P**	**13 01 45.7**	**+0.9**
	comp=Z,4.1nm,0.7s,mb4.2,baz=117,slow=7.7,SNR=14						
YBH	**Yreka Blue Hor**	**76.77**	**50**	P	**P**	**13 01 45.7**	**+0.9**
YBH				pmax	pmax		
	comp=Z,4.0nm,0.7s						
DPW	**Davenport**	**76.77**	**42**	*e*P	**P**	**13 01 44.6**	**-0.1**
SOC	**Sochi**	**77.14**	**313**	*i* P	**P**	**13 01 49.8**	**+3.0**
SOC				*e*		13 01 59.2	
SOC				*e*		13 04 53.5	
SOC				*e*		13 11 27.4	
SOC				*e*SSS	SSS	13 19 37.7	+4.0
SOC				pmax	pmax		
	comp=Z,25nm,0.7s,mb5.0						
SOC				pmax	pmax		
	comp=N,23nm,0.8s						
SOC				pmax	pmax		
	comp=E,18nm,0.7s						
NEW	**Newport**	**77.22**	**42**	P	**P**	**13 01 47.4**	**+0.3**
	comp=E,18nm,1.0s,mb4.7,baz=282,slow=4.1,SNR=19						
NEW	**Newport**	**77.22**	**42**	P	**P**	**13 01 47.4**	**+0.3**
NEW				pmax	pmax		
	comp=E,18nm,1.0s						
NEW	**Newport**	**77.22**	**42**	*e*P	**P**	**13 01 47.0**	**-0.1**
	comp=Z,13nm,0.9s,mb4.5						
LNOR	**Lincton Mounta**	**77.68**	**44**	*e*P	**P**	**13 01 49.6**	**-0.1**
UMR	**Umm Al-Rimmam**	**77.70**	**297**	*e*P	**P**	**13 01 50.3**	**+0.2**
UMR				AMb	AMB	13 01 51.0	
	comp=Z,95nm,0.5s						
KBD	**Kabd**	**77.89**	**297**	*e*P	**P**	**13 01 51.2**	**0.0**
QRN	**Al-Qurain**	**77.90**	**296**	*e*P	**P**	**13 01 51.0**	**-0.2**
QRN				AMb	AMB	13 01 59.0	
	comp=Z,92nm,1.3s,mb5.2						
RDF	**Al-Radifah**	**78.11**	**296**	*e*P	**P**	**13 01 52.9**	**+0.6**
RDF				AMb	AMB	13 01 53.6	
	comp=Z,102nm,0.5s						
RST	**Umm Al-Ruwaisa**	**78.29**	**297**	*e*P	**P**	**13 01 52.8**	**-0.5**
RST				AMb	AMB	13 01 54.1	
	comp=Z,88nm,0.8s,mb5.4						
AKASG	**Malin Array Be**	**79.73**	**323**	P	**P**	**13 01 59.9**	**-0.5**
	comp=Z,1.2nm,0.4s,mb3.9,baz=45,slow=5.8,SNR=13						
AKASG	**Malin Array Be**	**79.73**	**323**	P	**P**	**13 01 59.9**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CMB	**Columbia Colle**	**80.07**	**52**	*e*P	**P**	**13 02 02.4**	**-0.1**
	comp=Z,12nm,1.0s,mb4.5						
MALT	**Malatya**	**80.50**	**308**	*e*P	**P**	**13 02 05.3**	**+0.6**
	comp=Z,8.5nm,0.8s,mb4.5						
NB2	**NORSAR Subarra**	**81.04**	**337**	P	**P**	**13 02 06.0**	**-1.1**
	comp=Z,1.7nm,0.7s,mb3.9,baz=49,slow=4.3						
NOA	**NORSAR Array B**	**81.04**	**337**	P	**P**	**13 02 06.8**	**-0.2**
	comp=Z,0.8nm,0.9s,mb3.4,baz=52,slow=4.3,SNR=2.8						
NOA	**NORSAR Array B**	**81.04**	**337**	P	**P**	**13 02 06.8**	**-0.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
HRY	**Holter Researc**	**81.10**	**41**	*e*P	**P**	**13 02 08.2**	**+0.5**
HLID	**Hailey**	**81.22**	**45**	*e*P	**P**	**13 02 08.9**	**+0.6**
	comp=Z,3.6nm,0.8s,mb4.2						
NVAR	**Mina Array Bea**	**81.31**	**51**	P	**P**	**13 02 09.6**	**+0.6**
	comp=Z,6.3nm,0.6s,mb4.5,baz=293,slow=4.5,SNR=72						
NVAR	**Mina Array Bea**	**81.31**	**51**	P	**P**	**13 02 09.6**	**+0.6**
MTUM	**Tungsten Hills**	**81.67**	**52**	*e*P	**P**	**13 02 11.6**	**+0.8**
TPH	**Tonopah**	**82.22**	**51**	*e*P	**P**	**13 02 14.1**	**+0.5**
	comp=Z,16nm,1.2s,mb4.6						
BRTR	**Keskin Array B**	**83.00**	**312**	P	**P**	**13 02 18.1**	**+0.5**
	comp=Z,10nm,1.1s,mb4.5,baz=90,slow=3.7,SNR=22						
BRTR	**Keskin Array B**	**83.00**	**312**	P	**P**	**13 02 18.1**	**+0.6**
BRTR				pmax	pmax		
	comp=Z,10.0nm,1.1s						
HVU	**Hansel Valley**	**83.19**	**46**	*e*P	**P**	**13 02 19.5**	**+1.1**
RRI2	**Red Ridge**	**83.24**	**44**	*e*P	**P**	**13 02 20.0**	**+1.4**
MOOW	**Moose Ponds**	**83.36**	**43**	*e*P	**P**	**13 02 20.2**	**+1.0**
TPAW	**Teton Pass**	**83.38**	**44**	*e*P	**P**	**13 02 20.8**	**+1.4**
SNOW	**Snow King Moun**	**83.52**	**44**	*e*P	**P**	**13 02 20.9**	**+0.9**
DUG	**Dugway**	**84.03**	**47**	*e*P	**P**	**13 02 23.1**	**+0.5**
	comp=Z,9.2nm,0.7s,mb4.6						
HWUT	**Hawaree Ranch**	**84.05**	**45**	*e*P	**P**	**13 02 23.4**	**+0.7**
	comp=Z,15nm,0.9s,mb4.7						
TCUT	**Toone Canyon**	**84.42**	**46**	*e*P	**P**	**13 02 22.9**	**-1.7**
BW06	**Boulder Array**	**84.63**	**44**	*e*P	**P**	**13 02 26.0**	**+0.4**
	comp=Z,4.3nm,0.9s,mb4.2						
PDAR	**Pinedale Array**	**84.63**	**44**	P	**P**	**13 02 26.0**	**+0.4**
	comp=Z,7.5nm,1.1s,mb4.3,baz=308,slow=2.2,SNR=21						
PDAR				PP	PP	13 05 47.7	-1.0
	comp=Z,0.1nm,0.4s,baz=326,slow=5.3,SNR=3.9						
JLU	**Jordanelle**	**84.68**	**46**	*e*P	**P**	**13 02 26.6**	**+0.8**
CSS	**Prodhromos**	**85.73**	**308**	*e*P	**P**	**13 02 32.2**	**+1.2**
	comp=Z,16nm,0.9s,mb4.7						
SRU	**San Rafael**	**86.10**	**47**	*e*P	**P**	**13 02 33.0**	**+0.3**
RSSD	**Black Hills**	**87.07**	**40**	*e*P	**P**	**13 02 37.5**	**+0.3**
	comp=Z,5.8nm,0.8s,mb4.4						
PV10	**Paradox Valley**	**87.47**	**47**	*e*P	**P**	**13 02 39.5**	**+0.3**
ISCO	**Idaho Springs**	**88.78**	**44**	*e*P	**P**	**13 02 46.4**	**+1.0**
	comp=Z,1.3nm,0.7s,mb3.8						
TUC	**Tucson**	**89.76**	**53**	*e*P	**P**	**13 02 50.9**	**+0.7**
	comp=Z,2.5nm,1.0s,mb4.0						
ANMO	**Albuquerque**	**91.16**	**49**	*e*P	**P**	**13 02 57.4**	**+0.9**
	comp=Z,4.5nm,1.0s,mb4.2						
TXAR	**Lajitas Array**	**96.45**	**52**	P	**P**	**13 03 21.5**	**+0.6**
	comp=Z,1.1nm,0.5s,mb4.2,baz=297,slow=2.8,SNR=8.7						
DBIC	**Dimbokro**	**130.68**	**310**	SKPbc		13 11 43.1	
	comp=Z,4.2nm,0.6s,baz=50,slow=6.3,SNR=11						
SNAA	**Sanae**	**132.48**	**195**	⇑ *i*P	PKPdf	13 08 59.2	-2.3
VNA2	**Neumayer--Watz**	**134.04**	**194**	⇑ *i*P	PKPdf	13 09 04.3	-0.2
VNA3	**Neumayer Olymp**	**134.28**	**193**	⇑ *i*P	PKPdf	13 09 06.3	+1.4
VNA1	**Neumayer--Stat**	**134.44**	**194**	⇑ *i*P	PKPdf	13 09 04.3	-0.9
LPAZ	**La Paz**	**151.72**	**70**	PKPbc	PKPdf	13 09 43.5	+7.4
	comp=Z,0.6nm,0.5s,baz=26,slow=18,SNR=3.9						
LPAZ				PKPab	PKPab	13 09 54.1	-1.9
	comp=Z,1.4nm,0.7s,baz=328,slow=5.6,SNR=4.2						

*IDC **22** 13:00:47.3±2.7,36.60N×71.66E,mb4.1/7,mb1 4.3/9, mb1mx3.9/20,ML4.0/2,Error ellipse: s-maj=56.8km s-min=35.3km az=163.0*

*NEIC **22** 13:01:03.1±5.5,37.29N×71.46E,h94km±28km,mb4.2/1, Error ellipse: s-maj=66.2km s-min=19.7km az=170.0*

ISC 22 13:01:04.2±0.6,37.26N±0.04×71.82E±0.09,h130km±8km, n33,σ1§02/34,mb3.9/7,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**3.43**	**179**	P	**P**	**13 01 58.4**	**+1.0**
CHCP	**Chirah Chowk**	**3.79**	**161**	P	**P**	**13 02 04.4**	**+2.3**
THW	**Thamme Wali**	**4.46**	**181**	P	**P**	**13 02 11.4**	**+0.3**
SBDP	**Sheikh Budin**	**5.02**	**190**	P	**P**	**13 02 18.0**	**-0.6**
AML	**Almayashu**	**5.07**	**16**	P	**P**	**13 02 18.9**	**-0.4**
	SNR=50						
UCH	**Uchtor**	**5.38**	**22**	P	**P**	**13 02 24.6**	**+1.2**
	SNR=12						
EKS2	**Erkin-Say**	**5.60**	**15**	P	**P**	**13 02 25.8**	**-0.5**
	SNR=6.0						
DRP	**Derazinda**	**5.66**	**194**	P	**P**	**13 02 25.7**	**-1.5**
AAK	**Ala-Archa**	**5.75**	**20**	P	**P**	**13 02 28.6**	**+0.3**
	SNR=16						
AAK	**Ala-Archa**	**5.75**	**20**	*e*P	**P**	**13 02 27.2**	**-1.1**
	12nm,0.4s						
THN	**Thein Dam**	**5.79**	**145**	*e*P	**P**	**13 02 30.1**	**+1.2**
THN				*e*S	**S**	**13 03 34.6**	**0.0**
ULHL	**Ulahol**	**6.03**	**33**	P	**P**	**13 02 32.1**	**-0.1**
	SNR=11						
CHMS	**Chumysh**	**6.15**	**21**	P	**P**	**13 02 33.8**	**-0.1**
	SNR=7.5						
USP	**Ospenovka**	**6.34**	**18**	P	**P**	**13 02 35.4**	**-1.0**
	SNR=7.7						
TKM2	**Tokmak 2**	**6.35**	**26**	P	**P**	**13 02 37.1**	**+0.6**
	SNR=10.0						
DDI	**Dehra Dun**	**8.65**	**141**	*e*P	**P**	**13 03 09.0**	**+1.5**
DDI				*e*		13 04 49.7	
NDI	**New Delhi**	**9.68**	**151**	*e*S	**S**	**13 05 03.0**	**-5.5**
KOLN	**Koldanda**	**13.72**	**130**	*e*P	**P**	**13 04 13.3**	**-0.8**
	11nm,0.4s						
GKN	**Gorkha**	**14.20**	**127**	*e*P	**P**	**13 04 19.9**	**-0.4**
	24nm,0.4s						
KKN	**Kakani**	**14.76**	**126**	*e*P	**P**	**13 04 25.8**	**-1.6**
	16nm,0.5s						
DMN	**Daman**	**14.77**	**127**	*e*P	**P**	**13 04 26.8**	**-0.8**
	11nm,0.5s						
PKI	**Pulchoki**	**14.99**	**126**	*e*P	**P**	**13 04 29.5**	**-0.9**
	15nm,0.5s						
GUN	**Gumba**	**15.07**	**124**	*e*P	**P**	**13 04 30.7**	**-0.7**
	37nm,0.8s						
BVAR	**Borovoye Array**	**15.79**	**357**	Pn	**P**	**13 04 35.9**	**-4.3**
	0.4nm,0.3s,baz=156,slow=9.1,SNR=2.6						
ZAL	**Zalesovo**	**18.93**	**24**	P	**P**	**13 05 17.5**	**+0.2**
	1.5nm,0.3s,baz=254,slow=7.0,SNR=10.0						
FINES	**FINESS Array B**	**37.22**	**325**	P	**P**	**13 08 03.3**	**-0.9**
	1.9nm,0.9s,mb3.7,baz=127,slow=9.5,SNR=5.0						
ARCES	**ARCESS Array B**	**40.69**	**337**	P	**P**	**13 08 33.1**	**+0.2**
	11nm,1.1s,mb4.4,baz=109,slow=7.8,SNR=14						
NB2	**NORSAR Subarra**	**44.17**	**323**	P	**P**	**13 09 00.4**	**-0.8**
	1.8nm,0.5s,mb4.0,baz=93,slow=7.4						
NOA	**NORSAR Array B**	**44.17**	**323**	P	**P**	**13 09 00.6**	**-0.5**
	1.8nm,0.5s,mb4.0,baz=95,slow=7.8,SNR=7.5						
ESDC	**Sonseca Array**	**57.68**	**298**	P	**P**	**13 10 42.2**	**-1.0**
	0.7nm,0.6s,mb3.7,baz=49,slow=7.8,SNR=5.1						
INK	**Inuvik**	**73.05**	**10**	P	**P**	**13 12 23.0**	**+2.0**
	1.1nm,0.5s,mb3.9,baz=356,slow=5.0,SNR=22						
ILAR	**Eielson Array**	**73.87**	**16**	P	**P**	**13 12 26.9**	**+1.1**
	0.8nm,0.8s,mb3.5,baz=344,slow=4.0,SNR=7.6						
YKA	**Yellowknife Ar**	**80.45**	**3**	P	**P**	**13 13 04.0**	**+1.7**
	1.8nm,0.7s,mb3.8,baz=352,slow=5.5,SNR=4.3						

*NIED **22** 13:44:00.25.10N×128.10E,h5km,Mw4.8 Best double couple: M0 1.66×10^16 NP1:φs40°,δ68°,λ-95°. NP2:φs234°, δ23°,λ-77°.*

*IDC **22** 13:44:11.5±0.6,25.03N×128.05E,mb4.5/20,mb1 4.7/21, mb1mx4.7/25,MS4.0/13,Ms1 4.1/13,ms1mx3.8/25,Error ellipse: s-maj=21.1km s-min=13.6km az=76.0*

*JMA **22** 13:44:14.1±0.3,25.07N×128.06E,h70km,M4.7*

*BJI **22** 13:44:15.8,24.95N×128.17E,h50km,mB4.8,mb4.7, Ms4.4,Msz4.2*

*HRVD **22** 13:44:17.7±0.4,24.95N×127.99E,h14km±1km,MW4.8/51, Centroid moment Tensor Solution. LP body waves: s16,c17;Mantle waves: s51,c77; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.71±.15; Mθθ0.97±.10; Mφφ0.75±.09; Mrθ-1.17±.25; Mθφ0.73±.05; Mφr-0.50±.22; Best double couple: M0 2.08×10^16 NP1:φs221°,δ27°, λ-107°. NP2:φs59°,δ64°,λ-82°. Principal axes: T 2, Plg18°, Azm143°; N .17, Plg8°, Azm236°; P -2.17, Plg70°, Azm347°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **22** 13:44:17.7±0.3,25.04N×128.06E,mb4.9/21,MS4.7/1, MW4.8(NIED) Error ellipse: s-maj=8.5km s-min=7.5km az=82.0*

*MOS **22** 13:44:22.0±0.8,25.90N×127.38E,h36km,mb5.3/12,Error ellipse: s-maj=28.4km s-min=9.7km az=120.6*

ISC 22 13:44:16.3±0.3,25.11N±0.03×128.02E±0.03,h43km, h43km±9km:pP-P,n164,σ1§36/196,mb4.8/57,MS4.3/25, 8C-6D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JJT2	**Tamagusuku 2**	**1.05**	**347**	P	**P**	**13 44 34.2**	**-0.6**
JJT2				S	**S**	**13 44 49.6**	**+1.1**
NAH1	**Naha**	**1.12**	**345**	P	**P**	**13 44 35.0**	**-0.8**
NAH1				S	**S**	**13 44 49.8**	**-0.6**
JAGN	**Aguni-jima**	**1.63**	**335**	P	**P**	**13 44 42.3**	**-0.7**
JAGN				S	**S**	**13 45 03.5**	**+0.6**
JKE	**Kume jima 2**	**1.64**	**318**	P	**P**	**13 44 42.3**	**-0.9**
JKE				S	**S**	**13 45 02.9**	**-0.4**
JOW	**Kunigami**	**1.73**	**8**	Pn	**P**	**13 44 43.1**	**-1.4**
	baz=176,slow=13						
JOW				Sn	**S**	**13 45 02.1**	**-3.3

SNY LR LR
comp=N,1μm,15.7s
SNY LR LR
comp=Z,2μm,16.7s
ENH Enshi 17.19 292 *e*P **P 13 48 15.2 +0.3**
comp=Z,42nm,1.3s
BJT Baijiatuan 17.88 329 *e*P **P 13 48 23.6 +0.1**
comp=Z,59nm,1.2s
QIZ Qiongzhong 17.89 254 P **P 13 48 23.9 +0.1**
QIZ *e*S **S 13 51 35.6 -3.4**
QIZ LR LR
comp=E,593nm,17.6s
QIZ LR LR
comp=Z,607nm,16.6s
BJI Beijing 17.89 329 P **P 13 48 23.8 +0.2**
BJI AP 13 48 32.8
BJI AMB AMB
comp=Z,34nm,1.6s
BJI AMB AMB
comp=Z,333nm,3.9s
BJI LR LR
comp=N,603nm,16.4s
BJI LR LR
comp=E,426nm,18.9s
BJI LR LR
comp=Z,458nm,24.0s
BJI Beijing 17.89 329 P **P 13 48 23.7 +0.1**
comp=Z,34nm,1.6s
BJI pP 13 48 32.8
BJI S **S 13 51 53.8 +15**
TIY Taiyuan 18.26 317 ⇑P **P 13 48 28.6 +0.3**
TIY LR LR
comp=N,659nm,12.0s
TIY LR LR
comp=Z,403nm,11.0s
CN2 Changchun 18.76 354 *e*P **P 13 48 34.3 0.0**
CN2 *e*AP 13 48 44.8
CN2 *e*S **S 13 52 01.8 +3.3**
CN2 AMB AMB
comp=Z,50nm,1.2s
CN2 AMB AMB
comp=Z,130nm,10.0s
CN2 LR LR
comp=N,700nm,16.0s
CN2 LR LR
comp=E,700nm,16.0s
CN2 LR LR
comp=Z,500nm,17.0s
XAN Xi'an 18.82 303 P **P 13 48 33.0 -2.0**
XAN AP 13 48 44.0
XAN AMB AMB
comp=Z,27nm,1.0s
GYA Guiyang 19.27 279 P **P 13 48 39.9 -0.4**
GYA AP 13 48 52.0
GYA XP 13 48 58.8
GYA S **S 13 52 19.0 +8.9**
GYA AMB AMB
comp=Z,10.0nm,1.3s
GYA AMB AMB
comp=Z,160nm,4.0s
GYA LR LR
comp=N,500nm,15.3s
GYA LR LR
comp=E,920nm,15.0s
GYA LR LR
comp=Z,1μm,14.7s
MDJ Mudanjiang 19.50 3 P **P 13 48 42.6 0.0**
MDJ XP 13 48 57.3
MDJ S **S 13 52 21.8 +6.8**
MDJ PCP PcP 13 52 59.4 -2.4
HHC Hu-ho-hao-te 20.84 323 ⇑P **P 13 49 00.8 +4.0**
HHC AP 13 49 12.0
HHC XP 13 49 16.8
HHC SCP 13 56 30.8
HHC PCS 13 56 39.1
HHC AMB AMB
comp=Z,27nm,1.3s
HHC AMB AMB
comp=Z,213nm,7.2s
HHC LR LR
comp=N,362nm,13.7s,MS4.1
HHC LR LR
comp=E,425nm,12.3s,MS4.1
HHC LR LR
comp=Z,474nm,13.3s,MS4.0
BTO Baotou 21.55 320 *e*P **P 13 49 04.8 +0.9**
BTO S **S 13 53 03.8 +8.6**
BTO AMB AMB
comp=Z,19nm,1.4s,mb4.3
BTO LR LR
comp=N,484nm,10.3s,MS4.3
BTO LR LR
comp=E,558nm,14.2s,MS4.3
CD2 Chengdu 22.16 291 P **P 13 49 09.1 -1.0**
CD2 AP 13 49 20.9
CD2 PP PP 13 49 38.8 +1.6
CD2 S **S 13 53 02.4 -4.1**
CD2 AMB AMB
comp=Z,30nm,0.8s,mb4.8
CD2 AMB AMB
comp=Z,60nm,4.0s
CD2 LR LR
comp=N,700nm,11.9s
CD2 LR LR
comp=Z,600nm,14.9s,MS4.1
KMI Kunming 22.88 275 *e*P **P 13 49 18.5 +1.3**
KMI AP 13 49 29.8
KMI PP PP 13 49 45.4 -2.0
KMI S **S 13 53 20.8 +1.2**
KMI SS SS 13 54 04.9 -0.2
KMI AMB AMB
comp=Z,58nm,1.3s,mb4.8
KMI AMB AMB
comp=Z,244nm,4.0s
KMI LR LR
comp=N,349nm,12.7s,MS4.2
KMI LR LR
comp=E,552nm,14.5s,MS4.2
KMI LR LR
comp=Z,642nm,14.9s,MS4.2
KMI Kunming 22.88 275 *e*P **P 13 49 18.5 +1.3**
comp=Z,58nm,1.3s,mb4.8
KMI pP 13 49 29.7
KMI PP PP 13 49 45.4 -2.0
KMI S **S 13 53 20.7 +1.1**
KMI SS SS 13 54 04.9 -0.2
KMI SSS SSS 13 54 20.4 -0.6
KMI LR LR
comp=Z,640nm,14.9s,MS4.2
LZH Lanzhou 23.44 304 *e*P **P 13 49 23.0 +0.4**
LZH AP 13 49 33.6
LZH XP 13 49 42.3
LZH PP PP 13 49 58.0 +2.8
LZH S **S 13 53 34.3 +4.9**
LZH XS 13 53 50.0
LZH AMB AMB
comp=Z,62nm,1.1s,mb5.0
LZH AMB AMB
comp=Z,380nm,5.8s
LZH LR LR
comp=E,2μm,14.8s
LZH LR LR
comp=Z,3μm,16.4s,MS4.8
LZH Lanzhou 23.44 304 *e*P **P 13 49 23.0 +0.4**
comp=Z,62nm,1.1s,mb5.0
LZH pP 13 49 33.6
LZH sP 13 49 42.3
LZH PP PP 13 49 58.0 +2.8
LZH S **S 13 53 34.2 +4.8**
LZH sS 13 53 50.0
LZH SS SS 13 54 27.0 +8.5
LZH LR LR
comp=Z,3μm,16.4s,MS4.8
YSS Yuzh-Sakhalins 24.76 25⇑ *e*P **P 13 49 36.9 +1.6**
YSS *e* 13 49 48.0
YSS pmax pmax
comp=Z,70nm,1.1s,mb5.1
YSS Yuzh-Sakhalins 24.76 25 *e*P **P 13 49 36.3 +1.0**
GTA Gaotai 27.64 308 *e*P **P 13 50 00.4 -1.8**
GTA PP PP 13 50 56.6 +5.3
GTA AMB AMB
comp=Z,23nm,1.1s,mb4.7
GTA AMB AMB
comp=Z,211nm,4.9s
GTA LR LR
comp=N,352nm,16.0s,MS4.3
GTA LR LR
comp=E,586nm,16.7s,MS4.3
GTA LR LR
comp=Z,728nm,17.9s,MS4.3
CMAR Chiang Mai Arr 27.76 262 P **P 13 50 03.0 -0.4**
comp=Z,1.5nm,0.7s,mb3.7,baz=60,slow=7.8,SNR=14
CMAR LR LR 14 02 38.2
comp=Z,229nm,18.4s,MS3.8,baz=65,slow=40
SONM Songino Array 28.39 329 P **P 13 50 07.0 -1.8**
comp=Z,2.4nm,0.5s,mb4.1,baz=142,slow=8.4,SNR=16
ZAK Zakamensk 31.64 329 *e*P **P 13 50 36.5 -1.0**
SHL Shillong 32.60 279 *e*P **P 13 50 46.3 +0.1**
LSA Lhasa 32.95 286 P **P 13 50 50.0 +0.8**
PET Petropavlovsk 36.14 31 *e*P **P 13 51 15.1 -1.2**
comp=Z,55nm,1.2s,mb5.4
YAK Yakutsk 36.92 1 *d i*P **P 13 51 22.2 -0.5**
YAK pmax pmax
comp=Z,44nm,0.8s,mb5.3
YAK Yakutsk 36.92 1 *e*P **P 13 51 21.9 -0.8**
comp=Z,23nm,0.8s,mb5.1
WMQ Urumqi 37.67 310 P **P 13 51 29.0 -0.2**
WMQ XP sP 13 51 47.0 +0.8
WMQ PP PP 13 52 59.0 +0.5
WMQ S **S 13 57 16.0 +0.2**
WMQ SS SS 13 59 53.0 +1.3
WMQ AMB AMB
comp=Z,16nm,1.0s,mb4.7
WMQ LR LR
comp=N,311nm,18.0s,MS4.3
WMQ LR LR
comp=E,350nm,19.0s,MS4.3
WMQ LR LR
comp=Z,362nm,18.0s,MS4.2
GUN Gumba 37.68 284 *e*P **P 13 51 30.1 +0.7**
comp=Z,72nm,1.0s,mb5.3
PKI Pulchoki 38.13 283 *e*P **P 13 51 33.4 +0.2**
comp=Z,18nm,0.6s,mb5.0
KKN Kakani 38.22 284 *e*P **P 13 51 34.3 +0.4**
comp=Z,35nm,0.7s,mb5.2
DMN Daman 38.39 283 *e*P **P 13 51 35.7 +0.4**
comp=Z,30nm,0.8s,mb5.1
GKN Gorkha 38.76 284 *e*P **P 13 51 38.6 +0.2**
comp=Z,14nm,0.4s,mb5.0
KOLN Koldanda 39.70 284 *e*P **P 13 51 46.8 +0.6**
comp=Z,48nm,1.0s,mb5.2
ZAL Zalesovo 43.03 324 P **P 13 52 12.8 -0.5**
comp=Z,5.1nm,0.5s,mb4.5,baz=7.5,slow=7.1,SNR=28
ZAL LR LR 14 12 30.4
comp=Z,410nm,18.0s,MS4.4,baz=268,slow=39
ZAL Zalesovo 43.03 324 P **P 13 52 12.8 -0.5**
ZAL LR LR 14 12 30.4
NVS Novosibirsk 44.23 324 *e*P **P 13 52 22.0 -1.0**
NVS pmax pmax
comp=Z,26nm,2.3s,mb4.5
NVS pmax pmax
comp=E,37nm,2.2s
NDI New Delhi 45.17 286 *e*P **P 13 52 30.0 -0.9**
WRAB Tennant Creek 45.20 172 P **P 13 52 29.0 -2.2**
comp=E,148nm,1.0s,mb5.8,SNR=23
WRAB Tennant Creek 45.20 172 *e*P **P 13 52 28.8 -2.5**
comp=E,35nm,0.8s,mb5.2
WRAB *e*pP pP 13 52 41.0 -2.1
WRA Warramunga Arr 45.20 172 P **P 13 52 29.0 -2.3**
comp=E,24nm,1.1s,mb5.0,baz=352,slow=9.0,SNR=63
WRA LR LR 14 11 24.5
comp=E,105nm,18.2s,MS3.8,slow=36
KURK Kurchatov 45.50 317 *i* P **P 13 52 32.3 -1.0**
KURK Kurchatov 45.50 317 *e*P **P 13 52 31.7 -1.6**
comp=E,27nm,1.4s,mb5.0
KURK *e*pP pP 13 52 43.8 -1.4
ULHL Ulahol 45.63 305 P **P 13 52 35.1 +0.7**
SNR=9.2
KSH Kashi 45.67 301 *e*P **P 13 52 37.3 +2.6**
KSH *e*AP pP 13 52 49.9 +3.3
KSH *e*XP sP 13 52 54.1 +2.4
KSH *e*PCP PcP 13 54 14.3 +1.5
KSH *e*PP PP 13 54 24.3 +2.0
TKM2 Tokmak 2 46.17 306 P **P 13 52 39.5 +0.8**
SNR=13
HYB Hyderabad 46.52 271 *i* P **P 13 52 42.0 +0.3**
HYB *e* pP 13 52 54.0 +0.4
HYB Hyderabad 46.52 271 *e*P **P 13 52 42.0 +0.3**
TIXI Tiksi 46.57 0 *i* P **P 13 52 41.4 0.0**
TIXI *e* 13 54 14.4
TIXI *i* S **S 13 59 23.9 -2.4**
TIXI pmax pmax
comp=Z,17nm,1.9s,mb4.7
TIXI MLR MLR
comp=Z,200nm,15.0s,MS4.2
TIXI Tiksi 46.57 0 *i* P **P 13 52 41.5 +0.1**
KBK Karagaybulak 46.62 306 P **P 13 52 43.3 +1.1**
SNR=7.6
MBWA Marble Bar 46.69 191 *e*P **P 13 52 40.4 -2.7**
comp=Z,7.3nm,0.8s,mb4.7
MBWA *e*pP pP 13 52 52.6 -2.3
CHMS Chumysh 46.79 306 P **P 13 52 44.3 +0.7**
SNR=6.0
UCH Uchtor 46.91 305 P **P 13 52 46.1 +1.6**
SNR=25
AAK Ala-Archa 46.95 306 *i* P **P 13 52 44.2 -0.6**
AAK pmax pmax
comp=Z,5.0nm,1.4s,mb4.2
AAK MLR MLR
comp=Z,400nm,15.0s,MS4.5
AAK Ala-Archa 46.95 306 *e*P **P 13 52 43.8 -1.1**
comp=Z,2.8nm,0.9s,mb4.2
AAK *e*pP pP 13 52 55.4 -1.3
AML Almayashu 47.52 305 P **P 13 52 50.6 +1.3**
SNR=9.0
CTAO Charters Tower 48.30 157 *e*P **P 13 52 53.8 -1.9**
comp=Z,13nm,0.9s,mb5.0
CTAO *e*pP pP 13 53 05.7 -1.9
ASAR Alice Springs 48.83 173 P **P 13 52 57.5 -2.1**
comp=Z,3.2nm,0.6s,mb4.6,baz=2.0,slow=14,SNR=56
ASAR PcP PcP 13 54 24.6 +0.4
comp=Z,1.8nm,1.0s,baz=357,slow=3.0,SNR=1.8
ASAR LR LR 14 10 57.0
comp=Z,126nm,19.2s,MS3.9,baz=35,slow=33
POO Poona 50.44 274 *e* **P 13 53 10.0 -2.1**
BVAR Borovoye Array 50.98 319 P **P 13 53 15.4 -0.3**
comp=Z,21nm,1.0s,mb5.0,baz=90,slow=7.4,SNR=41
BRVK Borovoye 51.05 319 *e*P **P 13 53 16.2 -0.1**
comp=Z,59nm,1.2s,mb5.4
BRVK *e*pP pP 13 53 28.8 +0.6
SVE Sverdlovsk 57.02 323 *e*P **P 13 54 00.0 -0.1**
SVE pmax pmax
comp=Z,80nm,2.9s,mb5.2
SVE MLR MLR
comp=Z,1μm,18.0s,MS5.0
SVE MLR MLR
comp=N,400nm,17.0s,MS4.8
SVE MLR MLR
comp=E,600nm,17.0s,MS4.8
STKA Stephens Creek 58.14 166 P **P 13 54 05.5 -2.8**
comp=E,4.6nm,0.7s,mb4.6,baz=336,slow=8.2,SNR=9.2
STKA LR LR 14 17 10.0
comp=E,157nm,19.6s,MS4.1,baz=25,slow=34
ARU Arti 58.15 322 ⇑*i*P **P 13 54 06.8 -1.2**
ARU *e* 13 56 14.9
ARU *e*S **S 14 02 02.5 -1.9**
ARU *e*SS SS 14 05 55.3 -2.6
ARU pmax pmax
comp=Z,19nm,1.1s,mb5.0
ARU MLR MLR
comp=Z,500nm,18.5s,MS4.7
ARU MLR MLR
comp=N,200nm,19.0s,MS4.5
ARU MLR MLR
comp=E,300nm,18.0s,MS4.5
MCK McKinley 64.74 29 *e*P **P 13 54 52.4 +0.3**
comp=E,4.9nm,0.8s,mb4.6
MCK *e*pP pP 13 55 04.3 -0.2
ILAR Eielson Array 65.51 28 P **P 13 54 56.5 -0.6**
comp=E,8.8nm,0.8s,mb3.8,baz=258,slow=5.2,SNR=9.3
DAWY Dawson 68.84 28 *e*P **P 13 55 17.8 -0.2**
KIV Kislovodsk 69.80 310ĸ *i*P **P 13 55 25.4 +1.1**
KIV *i* pP 13 55 37.8 +1.0
KIV *e* 13 55 47.7
KIV pmax pmax
comp=Z,57nm,1.2s,mb5.4
KIV MLR MLR
comp=Z,100nm,17.0s,MS4.1
KIV Kislovodsk 69.80 310 *e*P **P 13 55 24.3 0.0**
comp=Z,84nm,1.3s,mb5.5
MOS Moscow 69.84 323 *e*P **P 13 55 22.9 -1.4**
INK Inuvik 69.99 23 P **P 13 55 25.2 +0.2**
comp=Z,4.0nm,0.8s,mb4.4,baz=280,slow=5.9,SNR=15
INK Inuvik 69.99 23 *e*P **P 13 55 23.9 -1.1**
comp=Z,13nm,1.2s,mb4.7
VOR Voronezh 69.99 319 *e*P **P 13 55 24.0 -1.3**
VOR pmax pmax
comp=Z,100nm,1.3s,mb5.6
OBN Obninsk 70.59 322 *i* P **P 13 55 28.7 -0.2**
OBN *i* pP 13 55 42.0 +0.6
OBN *e* 13 55 51.0
OBN *i* S S 14 04 36.8 -1.3
OBN *i* 14 05 17.8
OBN pmax pmax
comp=Z,50nm,1.2s,mb5.3
OBN MLR MLR
comp=Z,100nm,14.0s,MS4.2
OBN Obninsk 70.59 322 *i* P **P 13 55 28.6 -0.3**
OBN LR LR
comp=Z,100nm,14.0s,MS4.2
ARCES ARCESS Array B 70.97 339 P **P 13 55 30.6 -0.3**
comp=Z,5.3nm,0.9s,mb4.5,baz=72,slow=7.7,SNR=7.8
ARCES LR LR 14 32 48.7
comp=Z,142nm,19.1s,MS4.2,baz=201,slow=41
ANN Anapa 73.15 312 *de*P **P 13 55 44.0 -0.3**
ANN *e**PP pP 13 56 10.8 +14
ANN *e*S S 14 05 04.3 -3.4
ANN pmax pmax
comp=Z,53nm,1.5s,mb5.2
FINES FINESS Array B 73.74 331 LR LR 14 32 10.6
comp=Z,378nm,18.8s,MS4.7,baz=326,slow=39
MZLS Mizel 74.06 289 P **P 13 55 50.8 +0.8**
SIM Simferopol' 75.32 313 *e*P **P 13 55 57.5 +0.6**
SIM *e* 13 56 14.0
SIM pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
AFFS 'Afif 75.98 290 P **P 13 56 01.9 +0.9**
AKASG Malin Array Be 76.25 320 P **P 13 56 01.6 -0.5**
comp=Z,3.1nm,0.5s,mb4.5,baz=54,slow=5.8,SNR=28
AKASG LR LR 14 33 15.9
comp=Z,215nm,18.1s,MS4.5,baz=10.0,slow=39
DAG Danmarks Havn 76.33 353⇓ *i*P **P 13 56 02.0 0.0**
comp=Z,2.2nm,0.8s,mb4.1
DAG Danmarks Havn 76.33 353⇓ *e*P **P 13 56 02.0 0.0**
comp=Z,2.2nm,0.8s,mb4.1
BRTR Keskin Array B 77.57 308 P **P 13 56 10.3 +0.7**
comp=Z,7.0nm,1.0s,mb4.5,baz=108,slow=3.9,SNR=22
BRTR LR LR 14 32 33.8
comp=Z,58nm,18.8s,MS3.9,slow=37
ASF Jabal al Asfar 77.96 300 P **P 13 56 13.3 +1.3**
comp=Z,9.9nm,1.0s,mb4.7,baz=36,slow=1.3,SNR=12
SUW Suwalki 78.25 324 *e*P **P 13 56 14.0 +1.0**
SUW Suwalki 78.25 324 *e*P **P 13 56 14.0 +1.0**
KBRS Khaybar 78.44 293 P **P 13 56 16.3 +1.6**
BLJS Baljurashi 78.70 287 P **P 13 56 17.1 +0.9**
YKA Yellowknife Ar 79.62 25 P **P 13 56 21.6 +1.2**
comp=Z,2.0nm,0.7s,mb4.2,baz=298,slow=5.3,SNR=3.2
HFS Hagfors 79.72 332 P **P 13 56 21.1 +0.1**
comp=Z,3.3nm,0.8s,mb4.3,baz=63,slow=3.3,SNR=4.3
JMQS Jabal Moqyreh 80.03 297 P **P 13 56 24.4 +1.1**
NB2 NORSAR Subarra 80.23 334 P **P 13 56 23.6 -0.1**
comp=Z,2.8nm,0.6s,mb4.4,baz=54,slow=5.3
NOA NORSAR Array B 80.23 334 P **P 13 56 23.6 -0.1**
comp=Z,3.9nm,0.7s,mb4.5,baz=53,slow=5.2,SNR=9.6
NOA LR LR 14 35 36.8
comp=Z,216nm,20.8s,MS4.5,baz=40,slow=38
MLR Muntele Rosu 80.41 316 P **P 13 56 26.3 +1.3**
comp=Z,5.5nm,0.8s,mb4.5,baz=56,slow=8.9,SNR=6.3
JMOS Jabal al Moail 80.53 298 P **P 13 56 27.2 +1.2**
DBAS Duba 80.60 296 P **P 13 56 28.1 +1.7**
HAQS Haql 80.72 298 P **P 13 56 28.3 +1.3**
AYUS 'Aynunah 80.79 297 P **P 13 56 28.9 +1.5**
TAYS Tayyib Ism 80.97 297 P **P 13 56 29.4 +1.1**
OJC Ojcow 81.87 322 *e*P **P 13 56 33.8 +1.3**
OJC Ojcow 81.87 322 *e*P **P 13 56 33.8 +1.3**
NIE Niedzica 81.97 321 *e*P **P 13 56 35.0 +1.9**
SUMG Summit 82.13 356 *e*P **P 13 56 34.5 +1.0**
comp=Z,22nm,1.0s,mb5.0
SUMG *e*pP pP 13 56 47.5 +1.3
KSP Ksiaz 83.47 324 *e*P **P 13 56 43.0 +2.3**
VTS Vitosha 83.48 314 *e*P **P 13 56 42.5 +1.6**
MMB Musomiste 83.61 313 *e*P **P 13 56 43.0 +1.4**
DPC Dobruska-Polom 83.72 323 *e*P **P 13 56 44.8 +2.9**
KKB Krupnik 83.91 313 *e*P **P 13 56 44.5 +1.4**
VRAC Vranov 84.12 322 P **P 13 56 46.0 +2.0**
comp=Z,2.3nm,0.4s,mb4.7,baz=32,slow=11,SNR=8.7
PVCC Panska Ves 84.57 324 *e*P **P 13 56 47.9 +1.7**
BRG Berggiesshubel 84.71 324 *e*P **P 13 56 48.9 +2.0**
BRG pmax pmax
comp=Z,23nm,1.6s,mb5.1
BRG Berggiesshubel 84.71 324 *e*P **P 13 56 48.9 +2.0**
comp=Z,23nm,1.6s,mb5.1
PRU Pruhonice 84.88 324 *e*P **P 13 56 49.9 +2.2**
CLL Collm 84.95 325 P **P 13 56 50.0 +1.9**
comp=Z,logA/T=1.1,mb5.0
CLL *e**PP pP 13 57 01.0 +0.1
CLL Collm 84.95 325 *e*P **P 13 56 50.0 +1.9**
CLL *e* pP 13 57 01.0 +0.1
IDI Anoyia 85.74 307 P **P 13 56 53.1 +0.7**
comp=Z,8.4nm,1.0s,mb4.9,baz=16,slow=15,SNR=3.7
NKC Novy Kostel 85.86 324 *e*P **P 13 56 54.3 +1.8**
KHC Kasperske Hory 85.88 323 *e*P **P 13 56 55.0 +2.3**
GERES GERESS Array B 85.97 323 P **P 13 56 55.4 +2.2**
comp=Z,1.8nm,0.8s,mb4.4,baz=45,slow=3.8,SNR=16
MOX Moxa 86.05 325 *e*P **P 13 56 56.0 +2.5**
MOX QM 14 34 13.0
MOX RM 14 39 41.0
GRA1 Grafenberg Arr 86.81 325 *e*P **P 13 56 59.7 +2.4**
comp=Z,7.0nm,1.0s,mb4.8
GRA1 *e*pP pP 13 57 12.2 +2.1
GRA1 LR LR
comp=Z,300nm,19.9s,MS4.7
GRF Grafenberg Arr 86.81 325 *e*P **P 13 56 59.7 +2.4**
GRF *e**PP pP 13 57 12.2 +2.1
GRF pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
GRF MLR MLR
comp=Z,300nm,19.9s,MS4.7
NVAR Mina Array Bea 91.42 46 P **P 13 57 21.1 +1.7**
comp=Z,1.0nm,0.8s,mb4.2,baz=268,slow=3.4,SNR=7.8
NVAR LR LR 14 35 36.9
comp=Z,52nm,19.7s,MS4.0,baz=25,slow=34
NVAR Mina Array Bea 91.42 46 P **P 13 57 21.1 +1.7**
NVAR LR LR 14 35 36.9
VNA2 Neumayer--Watz 127.65 197 P PKPdf 14 03 19.8 +3.2
VNA2 Neumayer--Watz 127.65 197⇑ *i* PKPdf 14 03 31.8 +15
VNA3 Neumayer Olymp 128.04 196⇑ *i*P PKPdf 14 03 19.1 +1.8
VNA3 Neumayer Olymp 128.04 196⇑ *i* PKPdf 14 03 31.9 +15

GUC ***22*** *13:44:21.4±1.3,28.54S×70.10W,h131km±12km,ML4.6*
NEIC ***22*** *13:44:22.8±0.4,28.59S×69.73W,h90km±5km,mb4.3/4,*
Error ellipse: s-maj=10.0km s-min=5.6km az=99.0
IDC ***22*** *13:44:23.2±4.9,28.63S×69.67W,h94km±43km,mb3.6/6,*
mb1 3.8/8,mb1mx3.8/15,Error ellipse: s-maj=41.5km
s-min=20.1km az=76.0

ISC 22 13:44:21.8±0.5,28.59S±0.03×69.70W±0.09,h94km±7km,
n32,σ0°89/36,mb3.9/8,6C-2D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.93**	**271**	⇑*i*P		**P**	**13 44 41.9**	**+0.7**
VACH				*i* S		**S**	**13 44 55.9**	**+0.1**
VACH				AMP			13 44 56.3	
	comp=N,67μm,0.1s							
CPCH	**Copiapo**	**1.36**	**335**	⇑*i*P		**P**	**13 44 47.0**	**+0.6**
CPCH				*i* S		**S**	**13 45 05.5**	**+0.8**
CPCH				AMP			13 45 07.6	
	comp=E,29μm,0.1s							
TLL	**Tololo Astrono**	**1.84**	**211**	⇑*i*P		**P**	**13 44 53.6**	**+1.1**
TLL				*i* S		**S**	**13 45 17.8**	**+2.6**
TLL				AMP			13 45 25.4	
	comp=E,1μm,0.7s							
LSCH	**La Serena**	**1.88**	**226**	⇑*i*P		**P**	**13 44 52.7**	**-0.4**
LSCH				*i* S		**S**	**13 45 15.0**	**-1.2**
LSCH				AMP			13 45 23.8	
	comp=E,1μm,0.7s							
CMCH	**Combarbala**	**2.81**	**203**	*i* P		**P**	**13 45 05.2**	**-0.6**
CMCH				*i* S		**S**	**13 45 38.7**	**-0.1**
CMCH				AMP			13 46 04.8	
	comp=E,3μm,0.7s							
CPN1	**Cerro Paranal**	**4.00**	**351**	⇓*i*P		**P**	**13 45 21.7**	**-0.4**
CPN1				*i* S		**S**	**13 46 06.4**	**-1.8**
JACH	**Jahuel**	**4.15**	**190**	*i* P		**P**	**13 45 23.9**	**-0.3**

JACH				*i* S		**S**	13 46 12.4	+0.6
PACH	**Papudo**	**4.21**	**200**	*i* S		**S**	13 46 11.7	-1.6
FCH	**Farellones**	**4.75**	**186**	*i* P		**P**	13 45 32.7	+0.3
RCDM	**Rinconada Maip**	**4.97**	**191**	*i* P		**P**	13 45 34.6	-0.9
LVC	**Limon Verde**	**6.00**	**7**	*e*Pn		**P**	13 45 48.2	-1.3
	comp=E,21nm,0.3s							
LVC				*e*Sn		**S**	13 47 05.2	+7.8
CPUP	**Villa Florida**	**11.21**	**81**	P		**P**	13 47 00.3	-0.1
	comp=E,0.3nm,0.3s,baz=287,slow=11,SNR=4.7							
TRQA	**Tornquist**	**11.43**	**148**	*e*Pn		**P**	13 47 03.0	-0.2
LPAZ	**La Paz**	**12.33**	**7**	P		**P**	13 47 16.4	+1.2
	comp=E,0.5nm,0.3s,baz=147,slow=1.2,SNR=11							
LPAZ	**La Paz**	**12.33**	**7**	P		**P**	13 47 16.4	+1.2
SAML	**Samuel**	**20.48**	**19**	*e*P		**P**	13 48 54.4	+0.1
	comp=E,9.8nm,1.2s							
BDFB	**Brasilia**	**23.82**	**62**	P		**P**	13 49 27.1	+0.1
	comp=E,1.6nm,0.4s,mb3.7,baz=249,slow=11,SNR=3.2							
VNA3	**Neumayer Olymp**	**53.66**	**160**	*i*		**P**	13 53 36.8	+1.3
VNA2	**Neumayer--Watz**	**54.27**	**159**	*i*		**P**	13 53 41.3	+1.4
SNAA	**Sanae**	**55.88**	**159**	*i*		**P**	13 53 50.2	-1.4
SNAA	**Sanae**	**55.88**	**159**	P		**P**	13 53 49.9	-1.7
	comp=E,0.8nm,0.5s,mb4.0,baz=285,slow=9.4,SNR=19							
SNAA	**Sanae**	**55.88**	**159**	*e*P		**P**	13 53 50.0	-1.6
	comp=E,2.1nm,0.5s,mb4.4							
QSPA	**South Pole Qui**	**61.63**	**180**	*e*P		**P**	13 54 30.6	-0.7
	comp=E,6.4nm,0.6s,mb4.8							
VNDA	**Vanda**	**69.77**	**190**	P		**P**	13 55 23.4	+0.1
	comp=E,0.3nm,0.5s,mb3.4,baz=142,slow=6.4,SNR=4.5							
MAW	**Mawson**	**77.77**	**163**	P		**P**	13 56 09.7	+0.1
	comp=E,2.6nm,0.5s,mb4.2,baz=212,slow=6.0,SNR=23							
PDAR	**Pinedale Array**	**79.92**	**331**	P		**P**	13 56 21.9	+0.1
	comp=E,0.4nm,0.6s,mb3.4,baz=129,slow=5.8,SNR=3.1							
NVAR	**Mina Array Bea**	**80.68**	**323**	P		**P**	13 56 26.3	+0.4
	comp=E,0.5nm,0.8s,mb3.4,baz=135,slow=3.8,SNR=3.7							
CASY	**Casey**	**85.43**	**180**	*e*P		**P**	13 56 49.5	+0.1
	comp=E,2.0nm,0.7s,mb4.2							
ASAR	**Alice Springs**	**123.29**	**206**	PKP		PKPdf	14 03 08.3	+0.1
	comp=E,0.4nm,0.5s,baz=166,slow=2.1,SNR=10							
WRA	**Warramunga Arr**	**126.45**	**208**	PKP		PKPdf	14 03 14.9	+0.5
	comp=E,1.1nm,0.5s,baz=158,slow=1.7,SNR=39							
AAK	**Ala-Archa**	**147.95**	**54**	*e*PKPbc		PKPdf	14 03 57.3	+4.5
ZAL	**Zalesovo**	**148.57**	**29**	PKPbc		PKPdf	14 03 59.3	+5.9
	comp=E,2.9nm,0.7s,baz=183,slow=2.0,SNR=14							

IDC 22 13:46:29.4±2.9, 21.88S×70.92W, mb4.3/1, mb1 4.5/2, mb1mx3.9/13, ML4.0/1, Error ellipse: s-maj=161.0km s-min=49.4km az=116.0, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**6.15**	**26**	Pn	Pn	13 48 02.2	-1.6
	1.9nm,0.3s,baz=190,slow=3.7,SNR=15						
YKA	**Yellowknife Ar**	**90.93**	**341**	P	P	13 59 34.6	-1.4
	0.8nm,0.5s,baz=133,slow=4.9,SNR=6.2						
WRA	**Warramunga Arr**	**131.66**	**212**	PKP	PKPdf	14 05 44.8	-2.2
	0.1nm,0.4s,baz=167,slow=1.4,SNR=4.6						

JMA 22 14:28:28.5±0.2, 43.68N×147.18E, h24km±5km, M3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.09**	**254**	P	Pn	14 28 48.3	-0.2
NEM2				*e*S	Sb	14 29 02.6	+0.1
JRA	**Rausu**	**1.51**	**281**	P	Pn	14 28 54.3	-0.2
JRA				*e*S	Sn	14 29 13.5	-0.1
JNK	**Nakash**	**1.79**	**268**	P	Pn	14 28 58.5	+0.1
JNK				*e*S	Sn	14 29 20.6	0.0
JAK	**Akkeshi**	**1.94**	**250**	P	Pn	14 29 00.5	0.0
JAK				*e*S	Sn	14 29 24.0	-0.3
JTKR	**Abashiri--Toko**	**2.39**	**278**	P	Pn	14 29 07.3	+0.3
JAR	**Ashorobuto**	**2.51**	**262**	P	Pn	14 29 09.5	+0.7
JAR				*e*S	Sn	14 29 39.9	+0.9
JOB	**Onbets**	**2.56**	**254**	P	Pn	14 29 09.9	+0.4
JOB				*e*S	Sn	14 29 40.2	-0.1
JCH	**Churui**	**2.99**	**250**	P	Pn	14 29 15.5	-0.1
JCH				*e*S	Sn	14 29 50.3	-0.8
JFR	**Furan**	**3.38**	**263**	P	Pn	14 29 22.4	+1.3
JFR				*e*S	Sn	14 30 01.9	+0.9
JNBK	**Urakawa-nobuka**	**3.54**	**248**	P	Pn	14 29 23.0	-0.3

IDC 22 14:42:40.3±3.0, 35.47S×179.75E, mb4.0/3, mb1 4.0/5, mb1mx3.8/14, ML3.3/2, MS3.8/2, Ms1 3.8/2, ms1mx3.0/20, Error ellipse: s-maj=62.1km s-min=30.7km az=108.0

ISC 22 14:42:31.6±1.8, 35.7S±0.1×179.0W±0.3, h10km, n16, σ1§23/16, mb3.8/3, MS3.9/2, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.84**	**229**	P	**Pn**	**14 43 19.5**	**+1.7**
PUZ	**Puketiti**	**3.21**	**222**	P	**Pn**	**14 43 24.8**	**+1.6**
PUZ				S	**Sn**	**14 44 02.9**	**+1.0**
MWZ	**Matawai**	**3.81**	**226**	P	**Pn**	**14 43 32.9**	**+1.3**
URZ	**Urewera**	**4.01**	**230**	Pn	**Pn**	**14 43 35.9**	**+1.3**
	3.7nm,0.3s,baz=44,slow=5.1,SNR=20						
URZ				Sn	**Sn**	**14 44 20.4**	**-1.7**
	3.0nm,0.3s,baz=341,slow=22,SNR=6.2						
URZ	**Urewera**	**4.01**	**230**	P	**Pn**	**14 43 35.4**	**+0.9**
BKZ	**Black Stump Fm**	**4.96**	**225**	P	**Pn**	**14 43 48.1**	**+0.1**
PWZ	**Pawanui**	**5.40**	**216**	P	**Pn**	**14 43 53.2**	**-1.0**
BFZ	**Birch Farm**	**6.20**	**216**	P	**Pn**	**14 44 04.9**	**-0.6**
MRZ	**Mangatainoka R**	**6.52**	**219**	P	**Pn**	**14 44 07.2**	**-2.7**
RPZ	**Rata Peaks**	**11.05**	**221**	Pn	**P**	**14 45 11.6**	**-1.2**
	0.2nm,0.3s,baz=326,slow=18,SNR=2.0						
RPZ				Sn	**S**	**14 47 03.5**	**-14**
	0.2nm,0.3s,baz=18,slow=19,SNR=2.8						
CTA	**Charters Tower**	**34.22**	**288**	P	**P**	**14 49 18.6**	**-1.1**
	4.2nm,1.0s,mb4.3,baz=126,slow=9.0,SNR=4.1						
ASAR	**Alice Springs**	**42.28**	**273**	P	**P**	**14 50 27.4**	**+0.4**
	0.4nm,0.6s,mb3.2,baz=114,slow=7.8,SNR=6.1						
WRA	**Warramunga Arr**	**43.74**	**278**	P	**P**	**14 50 39.2**	**+0.2**
	1.4nm,0.5s,mb4.0,baz=119,slow=7.7,SNR=36						
FITZ	**Fitzroy Crossi**	**51.73**	**275**	LR	LR	15 15 19.1	
	comp=Z,34nm,19.9s,MS3.4,baz=162,slow=39						
JOW	**Kunigami**	**79.67**	**314**	LR	LR	15 22 01.1	
	comp=Z,176nm,21.0s,MS4.4,baz=121,slow=30						
FINES	**FINESS Array B**	**149.76**	**336**	PKPbc	PKPdf	15 02 29.3	+10
	4.5nm,1.0s,baz=72,slow=6.0,SNR=4.3						

IDC 22 14:46:54.3±4.6, 5.05S×150.67E, h168km±32km, mb3.4/4, mb1 3.5/5, mb1mx3.3/14, Error ellipse: s-maj=73.9km s-min=28.8km az=113.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.55**	**219**	P	P	14 48 14.4	-1.7
	2.7nm,0.3s,baz=349,slow=7.0,SNR=12						
PMG				S	S	14 49 20.6	+1.0
	9.5nm,0.3s,baz=159,slow=21,SNR=21						
WRA	**Warramunga Arr**	**21.72**	**226**	P	P	14 51 31.8	-1.0
	1.1nm,0.4s,baz=49,slow=10,SNR=20						
ASAR	**Alice Springs**	**24.57**	**220**	P	P	14 51 58.4	-1.9
	0.9nm,0.6s,baz=55,slow=9.0,SNR=16						
FITZ	**Fitzroy Crossi**	**27.69**	**240**	P	P	14 52 27.8	-1.2
	1.3nm,0.3s,baz=39,slow=5.1,SNR=20						
SONM	**Songino Array**	**65.42**	**329**	P	P	14 57 19.3	-1.9
	1.1nm,1.1s,baz=148,slow=5.3,SNR=3.3						

IDC 22 14:49:32.2±3.9, 2.08N×127.22E, h43km±35km, mb3.8/8, mb1 4.0/9, mb1mx3.9/16, Error ellipse: s-maj=49.7km s-min=13.2km az=70.0

NEIC 22 14:49:34.4±5.2, 2.00N×127.16E, h64km±50km, mb4.5/2, Error ellipse: s-maj=27.6km s-min=11.6km az=65.0

ISC 22 14:49:29.3±0.6, 2.07N±0.09×127.1E±0.2, h33km, n15, σ0§57/16, mb4.1/10, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.10**	**184**	P	**P**	**14 54 02.5**	**-0.6**
	3.3nm,0.3s,baz=13,slow=8.7,SNR=17						
WRAB	**Tennant Creek**	**22.99**	**162**	P	**P**	**14 54 33.0**	**+0.7**
	106nm,0.3s,mb5.8,SNR=40						
WRAB	**Tennant Creek**	**22.99**	**162**	*e*P	**P**	**14 54 32.8**	**+0.5**
	9.3nm,0.6s,mb4.4						
WRA	**Warramunga Arr**	**22.99**	**162**	P	**P**	**14 54 33.0**	**+0.6**
	6.9nm,0.4s,mb4.5,baz=338,slow=11,SNR=56						
WRA				S	**S**	**14 58 41.6**	**+5.3**
	0.3nm,0.6s,baz=333,slow=21,SNR=3.5						
MBWA	**Marble Bar**	**24.19**	**197**	P	**P**	**14 54 44.0**	**-0.1**
ASAR	**Alice Springs**	**26.42**	**166**	P	**P**	**14 55 04.6**	**-0.5**
	1.4nm,0.4s,mb3.9,baz=346,slow=8.0,SNR=31						
ASAR				PcP	PcP	14 58 29.9	-0.6
	0.8nm,0.7s,baz=344,slow=1.9,SNR=6.9						
CMAR	**Chiang Mai Arr**	**32.07**	**302**	P	**P**	**14 55 55.4**	**-0.2**
	1.3nm,0.9s,mb3.7,baz=114,slow=6.4,SNR=7.5						
STKA	**Stephens Creek**	**36.45**	**159**	P	**P**	**14 56 33.2**	**+0.1**
	6.1nm,0.5s,mb4.8,baz=331,slow=8.1,SNR=16						
SONM	**Songino Array**	**48.99**	**342**	P	**P**	**14 58 16.0**	**+1.3**
	0.6nm,0.5s,mb3.9,baz=153,slow=7.9,SNR=6.3						
YAK	**Yakutsk**	**59.85**	**1**	*e*P	**P**	**14 59 33.3**	**-0.6**
KURK	**Kurchatov**	**63.34**	**328**	*e*P	**P**	**14 59 57.8**	**+0.3**
	4.4nm,0.8s,mb4.6						
BVAR	**Borovoye Array**	**68.92**	**327**	P	**P**	**15 00 32.8**	**-0.2**
	0.8nm,0.6s,mb3.8,baz=135,slow=4.2,SNR=4.8						
VNDA	**Vanda**	**81.74**	**173**	P	**P**	**15 01 45.7**	**0.0**
	0.8nm,0.8s,mb3.7,baz=326,slow=7.1,SNR=5.7						
VNDA	**Vanda**	**81.74**	**173**	P	**P**	**15 01 45.7**	**0.0**
ILAR	**Eielson Array**	**86.43**	**25**	P	**P**	**15 02 08.6**	**-0.8**
	0.1nm,0.5s,mb3.3,baz=233,slow=5.1,SNR=5.4						

PRE 22 14:52:17.5±1.2, 26.35S×27.44E, h2km, ML3.5

ISC 22 14:52:16.7±2.5, 26.34S±0.04×27.42E±0.05, h11km±16km, n9, σ0§98/14, 2C-1D, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSR	**Koster**	**0.67**	**315**	*e*P	**Pb**	**14 52 30.4**	**+0.5**
KSR				*e*S	**Sb**	**14 52 39.3**	**+0.4**
KSR				*e*		14 52 41.5	
	comp=Z,903nm,0.2s						
SLR	**Silverton**	**0.98**	**52**	*e*P	**Pb**	**14 52 34.8**	**-0.4**
SLR				*e*S	**Sb**	**14 52 47.5**	**-0.4**
SLR				*e*		14 52 53.7	
	comp=Z,951nm,0.2s						
NWL	**Newcastle**	**2.64**	**122**	*e*P	**Pn**	**14 52 59.6**	**-0.4**
NWL				*e*S	**Sn**	**14 53 32.5**	**+0.2**
NWL				*e*		14 53 41.1	
	comp=Z,2µm,0.5s						
LEP	**Lephalale**	**2.70**	**6**	*e*P	**Pn**	**14 53 17.0**	**+16**
LEP				*e*S	**Sn**	**14 53 33.1**	**-0.6**
LEP				*e*		14 53 42.7	
	comp=Z,125nm,0.5s						
BOSA	**Boshof**	**2.97**	**220**	*e*P	**Pn**	**14 53 04.6**	**-0.1**
BOSA				*e*S	**Sn**	**14 53 39.2**	**-1.4**
CVNA	**Calvinia**	**8.44**	**231**	*e*P	**P**	**14 54 19.0**	**-2.8**
VNA1	**Neumayer--Stat**	**48.77**	**195**	*i*	**P**	**15 01 04.9**	**+1.8**
VNA2	**Neumayer--Watz**	**48.77**	**194**	*i*	**P**	**15 01 04.5**	**+1.4**
VNA3	**Neumayer Olymp**	**49.52**	**195**	*i*	**P**	**15 01 09.3**	**+0.4**

IDC 22 15:15:43.4±20.0, 3.51N×126.37E, mb3.9/3, mb1 4.1/3, mb1mx3.6/16, Error ellipse: s-maj=342.0km s-min=157.8km az=159.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.58**	**162**	P	P	15 21 05.2	-1.3
	1.9nm,0.4s,baz=342,slow=10.0,SNR=36						
ASAR	**Alice Springs**	**27.99**	**165**	P	P	15 21 35.8	-2.3
	0.7nm,0.4s,baz=342,slow=7.0,SNR=18						
STKA	**Stephens Creek**	**38.05**	**159**	P	P	15 23 04.2	-1.2
	0.7nm,0.5s,baz=321,slow=6.5,SNR=3.5						

CSEM 22 16:07:55.1±0.1, 67.11N×20.99E, h2km, ML1.7, Error ellipse: s-maj=2.9km s-min=2.3km az=120.0, Mining explosion.

UPP 22 16:07:55.8, 67.06N×20.95E, h1km, ML2.5, Mining explosion.

HEL 22 16:07:56.3±0.0, 67.08N×20.93E, ML1.7, ML2.5(UPP), Explosion

ISC 22 16:07:55.2±0.4, 67.09N±0.03×21.06E±0.07, n25, σ1§10/38, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.20**	**281**	*i* P	**Pg**	**16 07 58.8**	**-0.2**
DUNU				*i* S	**Sg**	**16 08 01.3**	**-0.4**
MASU	**Masugnsbyn**	**0.52**	**44**	*i* P	**Pg**	**16 08 06.4**	**+0.8**
MASU	**Masugnsbyn**	**0.52**	**44**	P	**Pg**	**16 08 06.3**	**+0.7**
ERTU	**Ertsjaerv**	**0.70**	**139**	*i* P	**Pg**	**16 08 08.6**	**-0.5**
PAJU	**Pajala**	**0.81**	**93**	*i* P	**Pg**	**16 08 11.5**	**+0.2**
KUA	**Kurravaara**	**0.92**	**343**	*e*P	**Pg**	**16 08 12.4**	**-1.0**
NIKU	**Nikkaluokta**	**1.11**	**316**	*e*P	**Pb**	**16 08 15.5**	**-1.4**
SJUU	**Sjulsmark**	**1.60**	**172**	*e*P	**Pn**	**16 08 24.8**	**0.0**
SJUU				*e*S	**Sb**	**16 08 47.4**	**+1.4**
LILU	**Lilltraesk**	**1.87**	**196**	*e*P	**Pn**	**16 08 28.7**	**0.0**
KIF	**Kilpisjarvi**	**1.93**	**357**	*e*P	**Pn**	**16 08 31.0**	**+1.4**
KIF				*e*S	**Sn**	**16 08 57.5**	**+2.6**
SGF	**Sodankyl**	**2.15**	**78**	*e*P	**Pn**	**16 08 34.4**	**+1.6**
SGF				*e*S	**Sn**	**16 09 01.9**	**+1.3**
SGF				*e*SG	**Sg**	**16 09 04.8**	**-2.1**
SGF				MSG		16 09 05.7	
	comp=Z,3.1nm,0.2s						
SGF	**Sodankyl**	**2.15**	**78**	P	**Pn**	**16 08 34.3**	**+1.5**
SGF				S	**Sn**	**16 09 01.9**	**+1.3**
BURU	**Burvik**	**2.52**	**177**	*e*P	**Pn**	**16 08 38.6**	**+0.6**
BURU	**Burvik**	**2.52**	**177**	P	**Pn**	**16 08 38.5**	**+0.5**
SVAU	**Svanoeiden**	**2.67**	**194**	*e*P	**Pn**	**16 08 40.2**	**0.0**
OUL	**Oulu**	**2.81**	**133**	*e*P	**Pn**	**16 08 43.1**	**+0.9**
OUL				*e*S	**Sn**	**16 09 17.6**	**+0.3**
UMAU	**Umeaa**	**3.22**	**183**	*e*P	**Pn**	**16 08 47.8**	**-0.2**
MSF	**Maaselka**	**3.41**	**107**	*e*P	**Pn**	**16 08 51.3**	**+0.6**
MSF				*e*S	**Sn**	**16 09 32.3**	**-0.2**
MSF	**Maaselka**	**3.41**	**107**	P	**Pn**	**16 08 51.3**	**+0.6**
MSF				S	**Sn**	**16 09 32.2**	**-0.2**
KEV	**Kevo**	**3.47**	**37**	*e*P	**Pn**	**16 08 51.0**	**-0.5**
KEV				*e*S	**Sn**	**16 09 32.1**	**-1.8**
KJN	**Kajaani**	**4.09**	**134**	*e*P	**Pn**	**16 09 00.6**	**+0.3**
KJN				*e*S	**Sn**	**16 09 46.1**	**-3.4**
KJN	**Kajaani**	**4.09**	**134**	P	**Pn**	**16 09 00.5**	**+0.2**
SUJF	**Sumiainen**	**4.89**	**151**	*e*P	**Pn**	**16 09 11.5**	**-0.2**
SUJF				*e*S	**Sn**	**16 10 06.9**	**-3.0**
SUJF	**Sumiainen**	**4.89**	**151**	P	**Pn**	**16 09 11.4**	**-0.3**
KEF	**Keuruu**	**5.20**	**160**	*e*P	**Pn**	**16 09 15.9**	**-0.2**
KEF				*e*S	**Sn**	**16 10 14.2**	**-3.6**

NEIC 22 16:09:24.3, 16.96N×94.20W, h146km, MD3.9(MEX), After MEX.

MEX 22 16:09:24.1±1.0, 16.97N×94.20W, h147km±11km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.66**	**281**	*i* P	P	16 09 45.1	-1.4
CMIG				*i* S	S	16 10 00.4	-3.2
EVV	**El Vigia**	**1.84**	**324**	*e*P	P	16 09 49.5	-8.0
EVV				*e*S	S	16 10 16.5	-6.8
CCIG	**Comitan**	**2.09**	**109**	*e*P	P	16 09 59.6	-0.9
CCIG				*i* S	S	16 10 25.6	-2.9
HUIG	**Huatulco**	**2.18**	**237**	*i* P	P	16 09 59.1	-2.6
HUIG				*i* S	S	16 10 28.6	-1.9
OXX	**Oaxaca**	**2.42**	**273**	*e*P	P	16 10 03.5	-1.1
OXX				*e*S	S	16 10 33.0	-2.6
VHO	**Vista Hermosa**	**2.42**	**273**	*e*P	P	16 10 03.2	-1.5
VHO				*i* S	S	16 10 33.0	-2.8
VHO	**Vista Hermosa**	**2.42**	**273**	*i* P	P	16 10 03.5	-1.2
VHO				*i* S	S	16 10 33.0	-2.8

IDC 22 16:27:47.2±3.2, 1.63S×140.11E, mb3.5/3, mb1 3.9/5, mb1mx3.7/14, ML3.8/2, Error ellipse: s-maj=69.1km s-min=27.4km az=67.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.05**	**197**	P	P	16 32 10.7	-2.8
	0.3nm,0.3s,baz=19,slow=12,SNR=21						
CTA	**Charters Tower**	**19.30**	**162**	P	P	16 32 13.9	-2.6
	0.1nm,0.3s,baz=1.3,slow=14,SNR=2.5						
FITZ	**Fitzroy Crossi**	**21.67**	**220**	P	P	16 32 39.3	-2.3
	2.5nm,0.7s,baz=36,slow=6.6,SNR=9.0						
ASAR	**Alice Springs**	**22.71**	**195**	P	P	16 32 51.0	-1.1
	1.6nm,0.5s,baz=20,slow=9.3,SNR=21						
CMAR	**Chiang Mai Arr**	**45.14**	**298**	P	P	16 36 06.0	-1.6
	0.2nm,0.6s,baz=128,slow=5.5,SNR=3.4						

IDC 22 16:29:32.5±0.9, 24.00S×179.94E, h541km±8km, mb3.8/16, mb1 4.0/19, mb1mx4.0/21, Error ellipse: s-maj=13.9km s-min=9.6km az=152.0

BJI 22 16:29:35.0, 24.00S×179.90E, h574km, mB4.9, mb4.6

NEIC 22 16:29:35.0±1.6, 23.99S×179.93E, h574km±18km, mb4.9/6, Error ellipse: s-maj=13.1km s-min=12.7km az=214.0

ISC 22 16:29:29.3±1.1, 24.07S±0.04×179.97W±0.08, h517km±13km, h526km±5.9km: pP-P, n138, σ1§12/69, mb4.5/22, 7D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOUC	**Port Laguerre**	**12.79**	**276**	*e*P	**P**	**16 32 21.6**	**+4.8**
MXZ	**Matakaoa Point**	**13.53**	**186**	P	**P**	**16 32 28.0**	**+3.6**
PUZ	**Puketiti**	**14.04**	**186**	P	**P**	**16 32 29.6**	**0.0**
PUZ				S	**S**	**16 34 53.7**	**-1.1**
URZ	**Urewera**	**14.37**	**189**	P	**P**	**16 32 32.1**	**-0.7**
	4.7nm,0.3s,baz=313,slow=1.4,SNR=24						
URZ				S	**S**	**16 35 00.4**	**-0.5**
	2.7nm,0.3s,baz=76,slow=20,SNR=7.9						
MWZ	**Matawai**	**14.38**	**188**	P	**P**	**16 32 33.1**	**+0.1**
MWZ				S	**S**	**16 35 05.8**	**+4.7**
BKZ	**Black Stump Fm**	**15.35**	**190**	P	**P**	**16 32 42.1**	**-0.6**
BKZ				S	**S**	**16 35 18.2**	**-0.7**
MGZ	**Maungaku**	**15.37**	**193**	P	**P**	**16 32 45.4**	**+2.5**
NGZ	**Ngauruhoe**	**15.52**	**193**	P	**P**	**16 32 45.3**	**+0.9**
PWZ	**Pawanui**	**16.14**	**189**	S	**S**	**16 35 31.2**	**-1.9**
BFZ	**Birch Farm**	**16.87**	**190**	P	**P**	**16 32 57.5**	**-0.1**
BFZ				S	**S**	**16 35 46.0**	**-0.1**
MRZ	**Mangatainoka R**	**16.96**	**192**	P	**P**	**16 32 57.7**	**-0.8**
CAW	**Cannon Point**	**17.49**	**193**	P	**P**	**16 33 02.9**	**-0.8**
QRZ	**Quartz Range**	**17.86**	**199**	P	**P**	**16 33 09.4**	**+2.1**
QRZ				S	**S**	**16 36 06.6**	**+3.4**
NNZ	**Nelson**	**17.98**	**196**	P	**P**	**16 33 08.4**	**-0.1**
NNZ				S	**S**	**16 36 08.1**	**+2.7**
THZ	**Tophouse**	**18.62**	**197**	P	**P**	**16 33 15.4**	**+0.8**
THZ				S	**S**	**16 36 15.8**	**-0.5**
RAR	**Rarotonga**	**18.86**	**85**	P	**P**	**16 33 16.3**	**-0.7**
	0.6nm,0.3s,baz=277,slow=11,SNR=3.3						
DSZ	**Denniston Nort**	**18.92**	**199**	P	**P**	**16 33 19.2**	**+1.8**
KHZ	**Kahutara**	**19.08**	**195**	P	**P**	**16 33 19.3**	**+0.3**
LTZ	**Lake Taylor**	**19.74**	**197**	P	**P**	**16 33 24.7**	**-0.5**
LTZ				S	**S**	**16 36 38.9**	**+3.8**
WVZ	**Waitaha Valley**	**20.45**	**200**	P	**P**	**16 33 30.8**	**-1.1**
RPZ	**Rata Peaks**	**20.94**	**198**	P	**P**	**16 33 36.3**	**-0.1**
	15nm,0.4s,baz=5.5,slow=2.6,SNR=37						
RPZ				S	**S**	**16 36 57.2**	**+2.0**
	11nm,1.1s,baz=52,slow=8.3,SNR=3.0						
FOZ	**Fox Glacier**	**21.23**	**201**	P	**P**	**16 33 37.5**	**-1.5**
JCZ	**Jackson Bay**	**21.99**	**202**	P	**P**	**16 33 45.2**	**-0.9**
CTA	**Charters Tower**	**31.50**	**271**	P	**P**	**16 35 10.5**	**+0.6**
	44nm,0.5s,mb5.2,baz=95,slow=11,SNR=112						
CTAO	**Charters Tower**	**31.50**	**271**	*e*P	**P**	**16 35 11.0**	**+1.0**
	54nm,0.7s,mb5.2						
PMG	**Port Moresby**	**34.57**	**289**	P	**P**	**16 35 35.9**	**+0.1**
	57nm,0.7s,mb5.2,baz=102,slow=4.3,SNR=23						
PMG	**Port Moresby**	**34.57**	**289**	*e*P	**P**	**16 35 35.9**	**+0.1**
	69nm,0.9s,mb5.2						
STKA	**Stephens Creek**	**34.69**	**248**	P	**P**	**16 35 38.0**	**+1.4**
	3.7nm,0.4s,mb4.3,baz=96,slow=9.7,SNR=17						
WAU	**Wau**	**35.98**	**292**	*e*P	**P**	**16 35 48.3**	**+0.8**
ASAR	**Alice Springs**	**42.03**	**261**	P	**P**	**16 36 36.5**	**-0.1**
	12nm,0.6s,mb4.6,baz=96,slow=7.0,SNR=132						
ASAR				pP	pP	16 38 11.8	+0.3
	1.9nm,0.7s,baz=98,slow=6.9,SNR=2.5						
ASAR				ScP		16 41 21.4	
	5.0nm,0.9s,baz=116,slow=3.9,SNR=15						
ASAR				S	**S**	**16 42 15.3**	**-3.3**
	4.1nm,0.7s,baz=98,slow=16,SNR=22						
WRAB	**Tennant Creek**	**42.41**	**266**	P	**P**	**16 36 39.0**	**-0.6**
	306nm,0.4s,SNR=59						
WRAB	**Tennant Creek**	**42.41**	**266**	*e*P	**P**	**16 36 39.2**	**-0.4**
	40nm,0.8s,mb5.0						
WRA	**Warramunga Arr**	**42.42**	**266**	P	**P**	**16 36 39.5**	**-0.1**
	31nm,0.5s,mb5.1,baz=97,slow=8.3,SNR=133						
WRA				pP	pP	16 38 14.7	0.0
	1.3nm,0.6s,baz=106,slow=7.0,SNR=2.0						
WRA				ScP		16 41 23.7	
	3.4nm,0.7s,baz=99,slow=4.0,SNR=12						
WRA				S	**S**	**16 42 19.6**	**-4.7**
	3.1nm,0.8s,baz=98,slow=14,SNR=9.8						
FITZ	**Fitzroy Crossi**	**50.84**	**266**	P	**P**	**16 37 43.1**	**-0.8**
	25nm,0.8s,mb4.6,baz=137,slow=5.3,SNR=37						
FITZ				pP	pP	16 39 25.5	+2.2

CTKT	**Corum**	**146.58**	**308**	*i* P	PKPdf	16 48 13.8	+4.1
ASF	**Jabal al Asfar**	**146.62**	**292**	PKPbc	PKPbc	16 48 14.4	+2.3
	comp=Z,10nm,0.8s,baz=314,slow=2.0,SNR=21						
TBKS	**Tabuk**	**147.04**	**285**	P	PKPdf	16 48 16.0	+5.1
AVNT	**Avonos**	**147.08**	**305**	*i* P	PKPdf	16 48 14.8	+4.3
BALT	**Daday**	**147.26**	**310**	*i* P	PKPdf	16 48 10.8	+0.1
KSHT	**Keshet**	**147.46**	**294**	P	PKPdf	16 48 16.8	+5.4
DBAS	**Duba**	**147.51**	**283**	P	PKPdf	16 48 17.0	+5.4
ELDT	**Eldivan**	**147.60**	**308**	*i* P	PKPdf	16 48 16.3	+5.0
JMQS	**Jabal Moqyreh**	**147.63**	**286**	P	PKPdf	16 48 17.4	+5.6
BRTR	**Keskin Array B**	**147.70**	**307**	PKPbc	PKPdf	16 48 16.1	+4.6
	comp=Z,4.0nm,0.7s,baz=132,slow=3.5,SNR=18						
BRTR				PKPab	PKPab	16 48 21.1	-0.7
	comp=Z,5.4nm,0.6s,baz=80,slow=2.9,SNR=17						
HMDT	**Nahal Hemdat**	**147.77**	**293**	P	PKPdf	16 48 17.6	+5.7
HMDT	**Nahal Hemdat**	**147.77**	**293**	⇓P	PKPdf	16 48 17.6	+5.7
MMLI	**Mount Malkishu**	**147.84**	**293**	P	PKPdf	16 48 17.9	+5.9
MMLI	**Mount Malkishu**	**147.84**	**293**	⇓P	PKPdf	16 48 17.9	+5.9
DRGI	**Dragot**	**147.94**	**291**	P	PKPdf	16 48 17.7	+5.5
AYUS	**'Aynunah**	**148.16**	**285**	P	PKPdf	16 48 18.5	+5.9
SLTI	**Sal'it**	**148.18**	**293**	P	PKPdf	16 48 18.5	+5.9
SLTI	**Sal'it**	**148.18**	**293**	⇓P	PKPdf	16 48 18.5	+5.9
OFRI	**'Ofer**	**148.19**	**293**	P	PKPdf	16 48 17.9	+5.3
ZFRI	**Zfri**	**148.20**	**290**	P	PKPdf	16 48 18.5	+5.9
JMOS	**Jabal al Moall**	**148.30**	**287**	P	PKPdf	16 48 18.9	+6.1
BDAS	**Al Bad'**	**148.31**	**286**	P	PKPdf	16 48 18.7	+5.9
ALWS	**Ilw as Safayha**	**148.34**	**287**	P	PKPdf	16 48 18.9	+6.0
AQBJ	**Aqaba**	**148.34**	**288**	P	PKPdf	16 48 18.9	+6.0
PRNI	**Paran**	**148.36**	**289**	P	PKPdf	16 48 18.9	+6.0
PRNI	**Paran**	**148.36**	**289**	⇓P	PKPdf	16 48 18.9	+6.0
EIL	**Elat**	**148.43**	**288**	P	PKPdf	16 48 19.1	+6.1
MBH	**Mount Berech**	**148.46**	**288**	P	PKPdf	16 48 19.3	+6.2
MBH	**Mount Berech**	**148.46**	**288**	⇓P	PKPdf	16 48 19.3	+6.2
HAQS	**Haql**	**148.46**	**287**	P	PKPdf	16 48 19.2	+6.1
TAYS	**Tayyib Ism**	**148.52**	**286**	P	PKPdf	16 48 19.4	+6.2
SGKT	**Sivrigoynuk**	**148.54**	**309**	*i* P	PKPdf	16 48 16.3	+3.4
KMTI	**Karmit**	**148.61**	**289**	P	PKPdf	16 48 19.2	+5.9
KWP	**Kalwaria**	**148.93**	**331**	*e*P	PKPdf	16 48 19.0	+5.8
KWP	**Kalwaria**	**148.93**	**331**	*e*PKP	PKPdf	16 48 19.0	+5.8
CSS	**Prodhromos**	**149.18**	**298**	*e*PKPbc	PKPdf	16 48 19.5	+5.4
HENT	**Hendek**	**149.26**	**310**	*i* P	PKPdf	16 48 15.4	+1.3
KOLS	**Kolonicke sedl**	**149.63**	**330**	*i* PKP	PKPdf	16 48 21.3	+7.0
KOLS				*i*		16 48 28.8	
OJC	**Ojcow**	**149.70**	**334**	*e*P	PKPdf	16 48 20.3	+5.9
OJC	**Ojcow**	**149.70**	**334**	*e*PKP	PKPdf	16 48 20.3	+5.9
MLR	**Muntele Rosu**	**150.06**	**322**	PKPbc	PKPdf	16 48 20.5	+5.4
	comp=Z,3.5nm,0.6s,baz=122,slow=2.9,SNR=6.1						
NIE	**Niedzica**	**150.12**	**333**	*e*PKP	PKPdf	16 48 22.7	+7.6
KSP	**Ksiaz**	**150.45**	**339**	*e*P	PKPdf	16 48 22.6	+7.0
KSP	**Ksiaz**	**150.45**	**339**	*e*PKP	PKPdf	16 48 22.9	+7.3
OKC	**Ostrava-Krasne**	**150.64**	**336**	*e*PKPbc	PKPdf	16 48 22.8	+6.9
OKC				*e*PKPab	PKPab	16 48 32.5	-0.9
ULDT	**Uludag**	**150.77**	**310**	*i* P	PKPdf	16 48 23.9	+7.5
UPC	**Upice**	**150.83**	**339**	*e*PKPbc	PKPdf	16 48 23.5	+7.4
UPC				*e*PKPab	PKPab	16 48 33.1	-1.1
DPC	**Dobruska-Polom**	**150.86**	**338**	*e*PKPbc	PKPdf	16 48 23.3	+7.1
DPC				*e*PKPab	PKPab	16 48 33.7	-0.7
CLL	**Collm**	**151.02**	**343**	⇓*i*PKP1	PKPdf	16 48 23.7	+7.3
CLL				*i* PKP2	PKPab	16 48 33.5	-1.5
PVCC	**Panska Ves**	**151.27**	**341**	*e*PKPbc	PKPdf	16 48 24.6	+7.8
PVCC				*e*PKPab	PKPab	16 48 35.6	-0.5
VYHS	**Vyhne**	**151.45**	**333**	*e*PKP	PKPdf	16 48 25.0	+7.9
VYHS				*e*		16 48 36.2	
PRU	**Pruhonice**	**151.75**	**340**	*e*PKPbc	PKPdf	16 48 25.1	+7.6
PRU				*e*PKPab	PKPab	16 48 36.5	-1.6
KHC	**Kasperske Hory**	**152.81**	**340**	*e*PKPbc	PKPdf	16 48 27.6	+8.6
KHC				*e*PKPab	PKPab	16 48 41.7	-0.9
GRA1	**Grafenberg Arr**	**152.96**	**344**	*e*PKP	PKPab	16 48 42.6	-0.6
GERES	**GERESS Array B**	**153.02**	**340**	PKPbc	PKPdf	16 48 27.9	+8.6
	comp=Z,1.0nm,0.7s,slow=2.7,SNR=8.6						
GERES				PKPab	PKPab	16 48 42.5	-0.9
	comp=Z,0.8nm,0.7s,baz=34,slow=4.8,SNR=5.6						
CDF	**Champ du Feu**	**155.04**	**349**	*e*PKP2	PKPab	16 48 49.9	-2.0
	comp=Z,7.8nm,0.8s						
HAU	**Haudompre**	**155.59**	**350**	*e*PKP2	PKPab	16 48 52.3	-2.0
SSF	**Saint Saulge**	**156.89**	**354**	*e*PKP2	PKPab	16 48 58.0	-2.0
	comp=Z,19nm,1.0s						
SMF	**Signal de Mont**	**157.26**	**353**	*e*PKP2	PKPab	16 48 59.7	-1.9
	comp=Z,24nm,1.0s						
LPL	**La Plagne**	**157.92**	**347**	*e*PKP2	PKPab	16 49 03.6	-0.9
LPG	**La Plagne**	**157.94**	**347**	*e*PKP2	PKPab	16 49 03.8	-0.7
	comp=Z,5.4nm,0.8s						
ORIF	**Oris-en-Rattie**	**158.66**	**349**	*e*PKP2	PKPab	16 49 06.5	-1.2
	comp=Z,12nm,0.9s						
SBF	**Sospel**	**159.34**	**345**	*e*PKP2	PKPab	16 49 09.7	-0.9
	comp=Z,67nm,1.1s						

*IDC **22** 16:34:27.9±0.9,8.35S×158.85E,mb4.2/9,mb1 4.4/9, mb1mx4.3/14,MS3.2/1,Ms1 3.2/1,ms1mx2.5/23,Error ellipse: s-maj=36.7km s-min=19.2km az=129.0*
*NEIC **22** 16:34:45.8±0.6,8.48S×158.65E,h150km,mb4.1/2,Error ellipse: s-maj=26.0km s-min=14.0km az=135.0*
ISC 22 16:34:55.3±0.7,8.5S±0.2×158.4E±0.2,h250km,n13, σ0§88/12,mb3.8/10,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**16.42**	**224**	LR	LR	16 43 36.8	
	comp=Z,86nm,20.2s,baz=236,slow=32						
CTAO	**Charters Tower**	**16.42**	**224**	P	**P**	**16 38 34.3**	**+0.9**
	12nm,1.3s						
WRAB	**Tennant Creek**	**25.86**	**241**	P	**P**	**16 40 05.8**	**-0.4**
WRA	**Warramunga Arr**	**25.87**	**241**	P	**P**	**16 40 06.3**	**+0.1**
	1.9nm,0.5s,mb4.0,baz=64,slow=8.6,SNR=8.6						
ASAR	**Alice Springs**	**27.85**	**234**	P	**P**	**16 40 23.1**	**-1.0**
	1.0nm,0.3s,mb3.9,baz=63,slow=9.9,SNR=7.4						
STKA	**Stephens Creek**	**27.99**	**212**	P	**P**	**16 40 24.9**	**-0.4**
	2.5nm,0.3s,mb4.3,baz=44,slow=14,SNR=16						
FITZ	**Fitzroy Crossi**	**33.19**	**250**	P	**P**	**16 41 10.7**	**-0.1**
	2.4nm,0.7s,mb3.9,baz=51,slow=7.7,SNR=6.0						
VNDA	**Vanda**	**69.00**	**179**	P	**P**	**16 45 35.0**	**0.0**
	0.4nm,0.4s,mb3.4,baz=339,slow=6.6,SNR=4.5						
SONM	**Songino Array**	**72.44**	**326**	P	**P**	**16 45 57.3**	**+1.1**
	1.7nm,0.7s,mb3.8,baz=136,slow=5.2,SNR=11						
QSPA	**South Pole Qui**	**81.47**	**180**	*e*P	**P**	**16 46 46.0**	**+0.7**
	2.6nm,0.7s,mb4.0						
ILAR	**Eielson Array**	**83.58**	**21**	P	**P**	**16 46 55.5**	**-0.8**
	0.8nm,0.5s,mb3.7,baz=256,slow=5.1,SNR=12						
NVAR	**Mina Array Bea**	**90.05**	**51**	P	**P**	**16 47 29.6**	**+1.5**
	1.2nm,0.8s,mb3.8,baz=247,slow=6.9,SNR=7.8						
PDAR	**Pinedale Array**	**97.23**	**48**	P	**P**	**16 47 59.2**	**-1.7**
	0.5nm,0.9s,mb3.7,baz=225,slow=2.1,SNR=3.5						

*IDC **22** 16:37:13.4±1.7,10.29S×108.84E,mb4.0/5,mb1 4.1/7, mb1mx4.0/14,ML4.3/1,MS3.1/1,Ms1 3.1/1,ms1mx2.6/19, Error ellipse: s-maj=77.7km s-min=20.6km az=48.0*
*NEIC **22** 16:37:15.4±6.1,10.32S×108.93E,h8km±39km,mb4.4/1, Error ellipse: s-maj=27.6km s-min=9.8km az=210.0*
*DJA **22** 16:37:17.1±0.7,10.31S×108.91E,h29km±3km,MD4.9/5, ML5.2/5,Error ellipse: s-maj=22.7km s-min=3.7km az=16.0*
ISC 22 16:37:17.6±0.7,10.12S±0.09×109.08E±0.04,h33km,n25, σ1§11/32,mb4.2/11,MS3.0/1,1C-6D,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACI	**Pancar Gunung**	**4.11**	**328**	⇑*e*P	**P**	**16 38 19.9**	**+0.3**
PASI	**Pasiripis**	**4.85**	**314**	⇓*i*Pn	**Pn**	**16 38 29.4**	**-0.9**
	241nm,0.2s						
PASI				*e*Sn	**Sn**	**16 39 21.5**	**-4.5**
SRDI	**Scrawed**	**5.25**	**72**	*e*P	**P**	**16 38 38.4**	**+2.6**
SRDI				*e*Sn	**Sn**	**16 39 35.1**	**-1.1**
SRDI	**Scrawed**	**5.25**	**72**	*e*Pn	**Pn**	**16 38 37.2**	**+1.2**
SRDI				*e*Sn	**Sn**	**16 39 35.1**	**-1.1**
KELI	**Kelakatan**	**5.67**	**71**	⇓*e*Pn	**Pn**	**16 38 44.5**	**+2.7**
	402nm,0.2s						
KELI	**Kelakatan**	**5.67**	**71**	*e*P	**P**	**16 38 46.2**	**+4.6**
KELI				*e*Sn	**Sn**	**16 39 47.4**	**+0.9**
KELI	**Kelakatan**	**5.67**	**71**	⇓*e*Pn	**Pn**	**16 38 44.5**	**+2.7**
KELI				*e*Sn	**Sn**	**16 39 47.4**	**+0.9**
PENI	**Pendagan**	**5.95**	**319**	⇓*e*Pn	**Pn**	**16 38 45.0**	**-0.8**
	77nm,0.2s						
PENI				*e*Sn	**Sn**	**16 39 48.3**	**-5.3**
RATI	**Rata**	**6.51**	**78**	⇓*e*Pn	**Pn**	**16 38 54.4**	**+0.6**
	378nm,0.2s						
RATI				*e*Sn	**Sn**	**16 40 06.4**	**-1.3**
KEDI	**Kedomdong**	**7.13**	**77**	⇓*e*Pn	**Pn**	**16 39 02.1**	**-0.3**
	86nm,0.2s						
KEDI				*e*Sn	**Sn**	**16 40 21.2**	**-1.8**

MBWA	**Marble Bar**	**15.01**	**138**	*e*P	**P**	**16 40 42.7**	**-6.5**
	5.6nm,0.3s						
FITZ	**Fitzroy Crossi**	**17.90**	**118**	P	**P**	**16 41 24.9**	**-0.9**
	0.7nm,0.3s,baz=316,slow=5.6,SNR=9.7						
WRA	**Warramunga Arr**	**26.24**	**115**	P	**P**	**16 42 52.9**	**+1.1**
	0.7nm,0.6s,mb3.4,baz=286,slow=12,SNR=2.5						
ASAR	**Alice Springs**	**27.25**	**123**	PcP	PcP	16 46 20.1	-0.5
	1.0nm,0.9s,baz=297,slow=1.6,SNR=7.1						
ASAR				LR	LR	16 53 04.0	
	comp=Z,45nm,20.4s,MS3.0,baz=221,slow=35						
CMAR	**Chiang Mai Arr**	**30.10**	**341**	P	**P**	**16 43 26.4**	**-0.1**
	0.7nm,0.5s,mb3.6,baz=174,slow=8.4,SNR=7.9						
STKA	**Stephens Creek**	**37.05**	**131**	P	**P**	**16 44 25.4**	**-1.0**
	2.5nm,0.8s,mb4.1,baz=282,slow=11,SNR=3.0						
PKI	**Pulchoki**	**43.93**	**329**	*e*P	**P**	**16 45 23.6**	**+0.2**
GUN	**Gumba**	**43.97**	**330**	*e*P	**P**	**16 45 24.3**	**+0.6**
	18nm,0.7s,mb4.9						
DMN	**Daman**	**44.11**	**329**	*e*P	**P**	**16 45 25.1**	**+0.2**
	9.8nm,0.8s,mb4.6						
KKN	**Kakani**	**44.17**	**329**	*e*P	**P**	**16 45 24.8**	**-0.5**
	7.4nm,0.9s,mb4.4						
KOLN	**Koldanda**	**45.03**	**327**	*e*P	**P**	**16 45 32.3**	**+0.1**
	8.8nm,0.8s,mb4.7						
SONM	**Songino Array**	**57.74**	**358**	P	**P**	**16 47 07.4**	**-0.3**
	0.7nm,0.5s,mb4.0,baz=176,slow=8.3,SNR=8.1						
KURK	**Kurchatov**	**66.12**	**339**	*e*P	**P**	**16 48 06.2**	**+2.5**
	2.1nm,0.8s,mb4.2						
BVAR	**Borovoye Array**	**71.02**	**336**	P	**P**	**16 48 32.7**	**-1.3**
	1.2nm,0.6s,mb4.0,baz=141,slow=9.5,SNR=5.7						
BRTR	**Keskin Array B**	**85.42**	**312**	P	**P**	**16 49 53.0**	**-0.3**
	1.3nm,0.7s,mb4.2,baz=129,slow=6.0,SNR=3.5						

*IDC **22** 16:45:50.5±0.5,15.25S×74.64W,h59km±3km,mb4.3/19, mb1 4.4/21,mb1mx4.4/23,MS3.9/14,Ms1 3.9/14, ms1mx3.8/21,Error ellipse: s-maj=19.7km s-min=11.8km az=63.0*
*HRVD **22** 16:45:50.6±0.5,15.32S×74.52W,h78km±6km,MW4.9/54, Centroid moment Tensor Solution. LP body waves: s22,c26;Mantle waves: s54,c72; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; M_{rr}1.26±.19; $M_{\theta\theta}$0.19±.17; $M_{\phi\phi}$-1.45±.19; $M_{r\theta}$-1.58±.09; $M_{r\phi}$0.20±.22; $M_{\theta\phi}$1.34±.13; Best double couple: M_o2.47×10¹⁶ NP1:ϕs195°,δ24°,λ142°. NP2:ϕs320°,δ75°,λ70°. Principal axes: T:2.64, Plg55°, Azm206°; N:-.33, Plg19°, Azm326°; P:-2.31, Plg28°, Azm66°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **22** 16:45:50.6,15.20S×74.60W,h55km,mB5.4,Msz4.9*
*SYO **22** 16:45:50.2,15.28S×74.54W,h54km,MB4.8*
*NEIC **22** 16:45:50.6±0.2,15.24S×74.65W,mb4.9/20,Error ellipse: s-maj=9.7km s-min=5.3km az=53.0*
NEIC Felt [III] at Nazca.
ISC 22 16:45:48.9±0.3,15.17S±0.05×74.57W±0.07,h55km, h55km±.7km:pP-P,n114,σ1§02/82,mb4.8/41,MS4.0/14, 11C-4D,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**3.23**	**114**	⇑*i*P	**P**	**16 46 40.6**	**+2.2**
ARE				*e*S	**S**	**16 47 21.0**	**+5.1**
NNA	**Nana**	**3.86**	**325**	*e*Pn	**P**	**16 46 48.0**	**+0.7**
NNA				*e*Sn	**S**	**16 47 35.4**	**+3.5**
LPAZ	**La Paz**	**6.30**	**101**	P	**P**	**16 47 25.2**	**+3.9**
	16nm,0.3s,baz=292,slow=8.9,SNR=88						
LPAZ				S	**S**	**16 48 40.4**	**+7.6**
	5.2nm,0.3s,baz=97,slow=18,SNR=2.1						
LPAZ				LR	LR	16 50 25.6	
	comp=Z,790nm,19.0s,baz=278,slow=43						
LVC	**Limon Verde**	**9.13**	**145**	*e*Pn	**P**	**16 47 57.7**	**-2.8**
	2.4nm,0.6s						
LVC				*e*Sn	**S**	**16 49 31.0**	**-12**
SAML	**Samuel**	**12.73**	**62**	*e*Pn	**P**	**16 48 49.1**	**-0.4**
	0.2nm,0.6s						
OTAV	**Otavalo**	**15.79**	**346**	*e*P	**P**	**16 49 35.2**	**+6.0**
	20nm,0.7s						
OTAV				Sn	**S**	**16 52 19.0**	**-3.4**
CPUP	**Villa Florida**	**19.55**	**127**	P	**P**	**16 50 13.8**	**-1.0**
	0.3nm,0.3s,baz=336,slow=11,SNR=9.9						
CPUP	**Villa Florida**	**19.55**	**127**	P	**P**	**16 50 13.8**	**-1.0**
SDV	**Santo Domingo**	**24.22**	**10**	P	**P**	**16 51 04.9**	**+3.1**
	10nm,0.3s,mb4.7						
TRQA	**Tornquist**	**25.37**	**156**	*e*P	**P**	**16 51 10.9**	**-1.6**
	16nm,0.8s,mb4.6						
BDFB	**Brasilia**	**25.60**	**95**	P	**P**	**16 51 15.1**	**+0.2**
	8.7nm,0.5s,mb4.5,baz=266,slow=11,SNR=12						
BDFB				LR	LR	17 02 31.8	
	comp=Z,389nm,20.0s,MS3.9,baz=271,slow=39						
BDFB	**Brasilia**	**25.60**	**95**	P	**P**	**16 51 15.1**	**+0.2**
BDFB				LR	LR	17 02 31.8	
BAO	**Brasilia Array**	**25.62**	**95**	*e*P	**P**	**16 51 16.5**	**+1.3**
BAO				*i*		16 51 22.6	
BAO				*e*		16 51 56.0	
BAO				*e*		16 52 28.6	
CPD	**Cerro la Pandu**	**34.09**	**15**	P	**P**	**16 52 30.1**	**-0.3**
SJG	**San Juan**	**34.10**	**14**	P	**P**	**16 52 29.8**	**-0.7**
	6.6nm,0.3s,mb5.1,baz=336,slow=23,SNR=2.9						
SJG				LR	LR	17 07 21.4	
	comp=Z,157nm,20.1s,MS3.7,baz=282,slow=38						
SJG	**San Juan**	**34.10**	**14**	P	**P**	**16 52 29.8**	**-0.7**
SJG				LR	LR	17 07 21.4	
LRAL	**Lakeview Retre**	**49.39**	**346**	*e*P	**P**	**16 54 35.8**	**+0.6**
	13nm,0.9s,mb5.0						
LRAL				*e*	pP	16 54 48.7	-1.1
LTX	**Lajitas**	**52.41**	**328**	*e*P	**P**	**16 54 57.9**	**-0.2**
	7.8nm,0.9s,mb4.6						
LTX				*e*	pP	16 55 13.1	+0.1
TXAR	**Lajitas Array**	**52.41**	**328**	P	**P**	**16 54 58.0**	**-0.2**
	4.0nm,0.4s,mb4.7,baz=146,slow=9.0,SNR=19						
TXAR				pP	pP	16 55 12.5	-0.4
	5.0nm,0.5s,baz=146,slow=9.0,SNR=8.9						
TXAR				LR	LR	17 16 29.6	
	comp=Z,38nm,19.4s,MS3.5,baz=95,slow=35						
TXAR	**Lajitas Array**	**52.41**	**328**	P	**P**	**16 54 58.0**	**-0.2**
TXAR				pP	pP	16 55 12.5	-0.4
TXAR				LR	LR	17 16 29.6	
WVT	**Waverly**	**52.54**	**346**	*e*P	**P**	**16 54 58.0**	**-1.0**
	8.5nm,1.0s,mb4.6						
WVT				*e*pP	pP	16 55 11.6	-2.2
WCI	**Wyandotte Cave**	**54.25**	**349**	*e*P	**P**	**16 55 10.1**	**-1.5**
	31nm,0.8s,mb5.3						
WCI				*e*pP	pP	16 55 25.1	-1.4
WMOK	**Wichita Mounta**	**54.71**	**336**	*e*P	**P**	**16 55 13.3**	**-1.7**
	10nm,1.1s,mb4.8						
WMOK				*e*	pP	16 55 28.6	-1.3
GDL2	**Guadalupe Moun**	**55.08**	**329**	*e*P	**P**	**16 55 17.7**	**0.0**
GDL2				*e*pP	pP	16 55 32.6	-0.1
CPRX	**Cap Rock**	**55.51**	**330**	*e*P	**P**	**16 55 20.8**	**-0.1**
CPRX				*e*pP	pP	16 55 35.9	+0.1
BINY	**Binghamton**	**57.10**	**359**	*e*P	**P**	**16 55 32.2**	**+0.1**
	12nm,0.7s,mb5.0						
BINY				*e*pP	pP	16 55 47.5	+0.3
LAZ	**Ladron**	**58.23**	**328**	*e*P	**P**	**16 55 40.4**	**+0.3**
LAZ				*e*pP	pP	16 55 55.0	-0.1
ANMO	**Albuquerque**	**58.32**	**329**	*e*P	**P**	**16 55 40.6**	**-0.1**
	4.1nm,1.0s,mb4.4						
ANMO				*e*pP	pP	16 55 55.5	-0.3
TUC	**Tucson**	**58.58**	**324**	*e*P	**P**	**16 55 42.5**	**-0.1**
	1.9nm,0.4s,mb4.5						
TUC				*e*pP	pP	16 55 56.3	-1.3
CBKS	**Cedar Bluff**	**58.64**	**337**	*e*P	**P**	**16 55 42.9**	**0.0**
	14nm,0.4s,mb5.4						
SADO	**Sadowa**	**59.80**	**356**	P	**P**	**16 55 49.2**	**-1.6**
	2.4nm,0.4s,mb4.5,baz=195,slow=4.9,SNR=4.7						
SADO				pP	pP	16 56 04.9	-1.0
	2.2nm,0.3s,baz=188,slow=8.1,SNR=4.3						
SDCO	**Great Sand Dun**	**60.13**	**332**	*e*P	**P**	**16 55 53.0**	**-0.2**
SDCO				*e*pP	pP	16 56 07.9	-0.5
PV10	**Paradox Valley**	**62.30**	**330**	*e*P	**P**	**16 56 07.8**	**0.0**
ARUT	**Antelope Range**	**64.09**	**326**	*e*P	**P**	**16 56 20.6**	**+1.0**
ARUT				*e*pP	pP	16 56 35.8	+0.8
EYMN	**Ely**	**64.63**	**347**	*e*P	**P**	**16 56 22.2**	**-0.7**
	19nm,1.3s,mb5.0						
JLU	**Jordanelle**	**65.20**	**330**	*e*P	**P**	**16 56 27.3**	**+0.5**
JLU				*e*pP	pP	16 56 42.3	+0.2
DUG	**Dugway**	**65.56**	**329**	*e*P	**P**	**16 56 29.9**	**+0.7**
	22nm,1.2s,mb5.1						
DUG				*e*pP	pP	16 56 44.7	+0.2
TCUT	**Toone Canyon**	**65.58**	**330**	*e*P	**P**	**16 56 27.7**	**-1.5**
TCUT				*e*pP	pP	16 56 42.7	-1.9
PDAR	**Pinedale Array**	**66.01**	**332**	P	**P**	**16 56 30.5**	**-1.4**
	1.2nm,0.6s,mb4.1,baz=135,slow=8.4,SNR=7.3						
PDAR	**Pinedale Array**	**66.01**	**332**	P	**P**	**16 56 30.5**	**-1.4**

HWUT	**Hardware Ranch**	**66.03**	**330**	*e*P	**P**	**16 56 31.4**	**-0.7**
	11nm,1.0s,mb4.8						
MTUM	**Tungsten Hills**	**66.65**	**323**	*e*P	**P**	**16 56 36.9**	**+0.8**
OMM	**Old Mammoth Mi**	**67.08**	**323**	*e*P	**P**	**16 56 39.5**	**+0.8**
OMM				*e*pP	pP	16 56 55.1	+0.9
LOHW	**Long Hollow**	**67.15**	**332**	*e*P	**P**	**16 56 39.2**	**+0.2**
NVAR	**Mina Array Bea**	**67.23**	**324**	P	**P**	**16 56 39.7**	**0.0**
	0.9nm,0.5s,mb4.1,baz=144,slow=7.7,SNR=7.9						
NVAR				LR	LR	17 26 21.7	
	comp=Z,46nm,20.9s,MS3.7,baz=195,slow=36						
RRI2	**Red Ridge**	**67.26**	**332**	*e*P	**P**	**16 56 40.2**	**+0.4**
RRI2				*e*pP	pP	16 56 55.5	+0.2
VNA3	**Neumayer Olymp**	**67.75**	**162**	⇑*i*P	**P**	**16 56 44.1**	**+1.7**
VNA3	**Neumayer Olymp**	**67.75**	**162**	⇓*i*	pP	16 56 59.8	+2.0
VNA3	**Neumayer Olymp**	**67.75**	**162**		sP	16 57 05.8	+1.9
ULM	**Lac du Bonnet**	**67.78**	**345**	P	**P**	**16 56 36.3**	**-6.6**
	2.0nm,0.4s,mb4.5,baz=164,slow=6.0,SNR=4.1						
ULM				pP	pP	16 56 52.0	-6.4
	8.9nm,0.7s,baz=160,slow=3.8,SNR=10						
LAO	**LASA Array**	**67.84**	**337**	*e*P	**P**	**16 56 43.2**	**-0.2**
VNA1	**Neumayer--Stat**	**68.00**	**161**	⇑*i*P	**P**	**16 56 46.3**	**+2.3**
VNA1	**Neumayer--Stat**	**68.00**	**161**	⇑*i*	pP	16 57 01.3	+1.9
VNA1	**Neumayer--Stat**	**68.00**	**161**	⇑*i*	sP	16 57 06.6	+1.2
VNA2	**Neumayer--Watz**	**68.36**	**161**	⇑*i*P	**P**	**16 56 48.0**	**+1.8**
VNA2	**Neumayer--Watz**	**68.36**	**161**	⇑*i*	pP	16 57 03.9	+2.3
VNA2	**Neumayer--Watz**	**68.36**	**161**	⇑*i*	sP	16 57 09.3	+1.7
HLID	**Hailey**	**68.88**	**330**	*e*P	**P**	**16 56 50.6**	**+0.7**
	3.1nm,0.6s,mb4.4						
HLID				*e*pP	pP	16 57 06.0	+0.7
MCMT	**McKenzie Canyo**	**69.11**	**332**	*e*P	**P**	**16 56 52.0**	**+0.8**
OHCM	**Honcut**	**69.68**	**323**	*e*P	**P**	**16 56 55.5**	**+0.6**
SNAA	**Sanae**	**69.97**	**161**	⇑*i*P	**P**	**16 56 55.3**	**-0.8**
SNAA	**Sanae**	**69.97**	**161**	⇓*i*	pP	16 57 11.0	-0.6
SNAA	**Sanae**	**69.97**	**161**	⇑*i*	sP	16 57 18.6	+1.1
SNAA	**Sanae**	**69.97**	**161**	P	**P**	**16 56 55.2**	**-0.9**
	7.7nm,0.7s,mb4.7,baz=282,slow=6.2,SNR=84						
SNAA				pP	pP	16 57 11.2	-0.3
	4.8nm,0.9s,baz=295,slow=7.0,SNR=7.7						
SNAA				LR	LR	17 24 38.9	
	comp=Z,47nm,18.8s,MS3.8,baz=103,slow=33						
SCHQ	**Schefferville**	**70.04**	**5**	P	**P**	**16 56 57.1**	**+0.4**
	7.3nm,1.0s,mb4.5,baz=216,slow=8.7,SNR=3.3						
SCHQ				LR	LR	17 25 20.9	
	comp=Z,118nm,18.4s,MS4.2,baz=261,slow=34						
MOD	**Modoc**	**70.73**	**326**	*e*P	**P**	**16 57 01.7**	**+0.5**
	18nm,1.4s,mb4.8						
PPT	**Papeete**	**71.56**	**256**	*e*L		17 15 41.7	
PPT				*e*R		17 18 44.8	
	204nm,26.8s						
YBH	**Yreka Bl

HHC	**Hu-ho-hao-te**	**153.87**	**349**	*e*PKP	PKPdf	17 05 32.5	-1.5
HHC				PP	PP		
	comp=Z,153nm,5.1s						
NJ2	**Nanjing**	**159.21**	**326**	*e*PKP	PKPdf	17 05 44.6	+3.4
GYA	**Guiyang**	**168.71**	**354**	PKP	PKPdf	17 05 52.4	+2.6
GYA				APKP		17 06 02.8	
GYA				XPKP		17 06 09.4	
GYA				PP	PP		
	comp=Z,280nm,5.6s						
CMAR	**Chiang Mai Arr**	**172.98**	**61**	PKP	PKPdf	17 05 53.6	+1.1
	comp=Z,0.8nm,0.9s,baz=268,slow=0.3,SNR=5.1						

CASC 22 16:46:17.0±2.2, 12.88N×90.33W, h26km±29km, MD3.9, ML3.7, 10C-1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SBLS	**San Blas**	**1.18**	**36**↑	*e*P	Pn	16 46 37.5	-0.5
SBLS				*e*S	Sn	16 46 54.5	+1.1
SNJE	**San Jose**	**1.21**	**36**↑	*e*P	Pn	16 46 38.1	-0.5
SNJE				*e*S	Sn	16 46 56.0	+1.8
RTR	**El Retiro**	**1.21**	**33**↑	*i*P	Pn	16 46 38.2	-0.3
RTR				*e*S	Sn	16 46 56.0	+1.8
IXG	**Ixpaco**	**1.29**	**355**↑	*e*P	Pn	16 46 38.7	-1.0
IXG				*e*S	Sn	16 46 55.5	-0.7
IXG				AML	AML	16 47 00.8	
	comp=N,7μm,0.4s						
BOQS	**Boqueron**	**1.33**	**50**↑	*e*P	Pn	16 46 39.8	-0.5
BOQS				*e*S	Sn	16 46 58.2	+0.9
LFRS	**El Faro**	**1.44**	**59**↑	*e*P	Pn	16 46 40.9	-0.9
LFRS				*e*S	Sn	16 46 59.7	-0.3
LBRS	**Las Brisas**	**1.52**	**56**	*e*P	Pn	16 46 42.6	-0.3
LBRS				*e*S	Sn	16 47 03.2	+1.2
LCBS	**La Ceiba**	**1.53**	**60**	*e*P	Pn	16 46 42.7	-0.3
LCBS				*e*S	Sn	16 47 01.7	-0.5
SNVI	**San Vicente**	**1.63**	**63**↑	*e*P	Pn	16 46 43.7	-0.8
SNVI				*e*S	Sn	16 47 05.5	+0.7
NBG	**Las Nubes**	**1.70**	**360**↑	*e*P	Pn	16 46 46.0	+0.5
NBG				*e*S	Sn	16 47 09.7	+3.1
NBG				AML	AML	16 47 15.8	
	comp=N,3μm,0.5s						
MTO2	**Montecristo 2**	**1.78**	**32**↑	*e*P	Pn	16 46 46.7	0.0
MTO2				*e*S	Sn	16 47 08.8	+0.1
JAT	**Jato**	**1.91**	**319**	*e*P	Pn	16 46 48.5	-0.1
TP2	**Tecpan 2**	**2.01**	**341**↑	*e*P	Pn	16 46 49.7	-0.2
TP2				*e*S	Sn	16 47 14.9	+0.4
TP2				AML	AML	16 47 21.6	
	comp=E,465nm,0.4s						
BLLM	**Bellamira**	**2.12**	**74**	*e*P	Pn	16 46 51.8	+0.3
BLLM				*e*S	Sn	16 47 17.3	+0.1
MRL	**Marmol**	**2.26**	**16**↓	*e*P	Pn	16 46 54.1	+0.5
MRL				*e*S	Sn	16 47 24.8	+3.9
MRL				AML	AML	16 47 27.7	
	comp=N,76nm,0.6s						

*IDC **22** 16:58:36.6±1.7, 13.99N×121.33E, mb3.9/3, mb1 4.2/3, mb1mx3.7/17, Error ellipse: s-maj=62.6km s-min=30.8km az=53.0*

ISC 22 16:58:35.2±1.5, 14.8N±0.2×122.2E±0.2, h33km, n10, σ0§68/10, mb4.4/9, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**2.18**	**240**↑	*e*P	**P**	**16 59 10.2**	**+0.4**
CMAR	**Chiang Mai Arr**	**22.55**	**282**	P	**P**	**17 03 32.2**	**-1.7**
	3.8nm,0.7s,mb3.9,baz=95,slow=7.9,SNR=32						
GUN	**Gumba**	**36.08**	**297**	*e*P	**P**	**17 05 36.3**	**+0.4**
	11nm,0.5s,mb5.1						
PKI	**Pulchoki**	**36.41**	**296**	*e*P	**P**	**17 05 38.9**	**+0.2**
	9.6nm,0.7s,mb4.8						
KKN	**Kakani**	**36.57**	**297**	*e*P	**P**	**17 05 40.1**	**0.0**
	22nm,1.2s,mb4.9						
DMN	**Daman**	**36.68**	**296**	*e*P	**P**	**17 05 41.3**	**+0.3**
	2.8nm,0.4s,mb4.5						
GKN	**Gorkha**	**37.17**	**297**	*e*P	**P**	**17 05 45.0**	**-0.1**
	4.5nm,0.6s,mb4.5						
KOLN	**Koldanda**	**38.02**	**296**	*e*P	**P**	**17 05 52.7**	**+0.5**
	4.6nm,0.8s,mb4.3						
ASAR	**Alice Springs**	**39.95**	**163**	P	**P**	**17 06 08.2**	**-0.1**
	0.3nm,0.5s,mb3.2,baz=334,slow=7.4,SNR=4.5						
ARCES	**ARCESS Array B**	**78.53**	**339**	P	**P**	**17 10 42.3**	**+7.8**
	5.2nm,1.0s,mb4.4,baz=59,slow=7.1,SNR=5.3						

TIF 22 17:18:31.6, 42.49N×43.82E, h3km, Mpv3.8, 5D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONI	**Oni**	**0.29**	**288**↓	*i*P	Pg	17 18 37.1	-0.3
ONI				*i* S	Sg	17 18 41.6	+0.4
AMRG		**0.51**	**273**↓	*i*P	Pg	17 18 44.8	+3.1
AMRG				*i* S	Sg	17 18 53.8	+5.3
	comp=E,70nm,0.4s						
DUS	**Dusheti**	**0.77**	**121**↓	*i*P	Pg	17 18 47.7	+0.8
DUS				*i* S	Sg	17 18 59.3	+2.2
AKH	**Akhalkalaki**	**1.11**	**193**↓	*i*P	Pb	17 18 51.2	-1.8
	comp=Z,30nm,0.3s						
AKH				*i* S	Sb	17 19 06.8	-0.8
	comp=E,40nm,0.3s						
DGRG	**David-gareji**	**1.56**	**131**↓	*i*P	Pn	17 19 02.7	+2.4
DGRG				*i* S	Sb	17 19 25.2	+4.5

*NEIC **22** 17:20:18.3±1.1, 31.77S×177.67W, mb4.8/2, Error ellipse: s-maj=27.9km s-min=15.6km az=114.0*
*IDC **22** 17:20:20.0±1.2, 31.24S×177.95W, h46km±6km, mb3.8/4, mb1 4.0/6, mb1mx3.8/16, ML3.7/2, Error ellipse: s-maj=39.5km s-min=24.3km az=18.0*

ISC 22 17:20:21.3±1.0, 31.53S±0.09×178.4W±0.2, h44km, h44km±1.7km:pP-P, n28, σ0§99/15, mb4.2/6, 10C-2D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.68**	**208**	P	**P**	**17 22 09.8**	**-3.5**
	0.8nm,0.3s,baz=78,slow=20,SNR=4.5						
URZ				S	**S**	**17 23 40.5**	**+0.7**
	2.4nm,0.3s,baz=121,slow=19,SNR=13						
RPZ	**Rata Peaks**	**14.76**	**212**	P	**P**	**17 23 44.3**	**-4.5**
	0.4nm,0.3s,baz=244,slow=21,SNR=2.2						
RPZ				S	**S**	**17 26 23.1**	**-8.5**
	0.3nm,0.3s,baz=72,slow=21,SNR=2.9						
CTAO	**Charters Tower**	**33.69**	**281**	*e*P	**P**	**17 27 01.3**	**+1.0**
	6.3nm,0.7s,mb4.7						
CTAO				*e*pP	pP	17 27 13.0	+0.7
STKA	**Stephens Creek**	**33.93**	**259**	P	**P**	**17 27 02.6**	**+0.3**
	1.7nm,0.6s,mb4.2,baz=67,slow=7.1,SNR=5.6						
STKA				pP	pP	17 27 15.6	+1.2
	4.3nm,0.9s,baz=95,slow=11,SNR=4.3						
STKA	**Stephens Creek**	**33.93**	**259**	P	**P**	**17 27 02.6**	**+0.3**
STKA				pP	pP	17 27 15.6	+1.2
ASAR	**Alice Springs**	**42.75**	**268**	P	**P**	**17 28 15.8**	**-0.3**
	4.8nm,1.1s,mb4.1,baz=106,slow=7.6,SNR=36						
ASAR				pP	pP	17 28 28.1	-0.3
	9.5nm,0.5s,baz=106,slow=7.4,SNR=25						
WRAB	**Tennant Creek**	**43.83**	**274**	*e*P	**P**	**17 28 25.0**	**0.0**
	17nm,0.6s,mb5.0						
WRAB				*e*pP	pP	17 28 36.3	-0.9
WRA	**Warramunga Arr**	**43.84**	**274**	P	**P**	**17 28 24.4**	**-0.7**
	2.8nm,0.4s,mb4.3,baz=112,slow=8.0,SNR=40						
WRA				pP	pP	17 28 36.8	-0.5
	13nm,0.6s,baz=112,slow=7.9,SNR=23						
SNAA	**Sanae**	**77.04**	**179**↑	*i*	**P**	**17 32 10.8**	**0.0**
SNAA	**Sanae**	**77.04**	**179**↓	*i*	pP	17 32 18.8	-5.0
SNAA	**Sanae**	**77.04**	**179**↓	*i*	sP	17 32 28.7	0.0
SNAA	**Sanae**	**77.04**	**179**	P	**P**	**17 32 09.2**	**-1.6**
	0.2nm,0.8s,mb3.1,baz=166,slow=8.3,SNR=3.5						
SNAA				sP	sP	17 32 28.6	-0.1
	1.6nm,1.0s,baz=200,slow=5.3,SNR=7.6						
VNA3	**Neumayer Olymp**	**77.21**	**176**↑	*i*	**P**	**17 32 12.7**	**+1.0**
VNA3	**Neumayer Olymp**	**77.21**	**176**↑	*i*	pP	17 32 21.9	-2.8
VNA3	**Neumayer Olymp**	**77.21**	**176**↑	*i*	Px	17 32 33.0	
VNA2	**Neumayer--Watz**	**77.64**	**177**↑	*i*	**P**	**17 32 14.2**	**+0.1**
VNA2	**Neumayer--Watz**	**77.64**	**177**↑	*i*	pP	17 32 24.3	-2.8
VNA2	**Neumayer--Watz**	**77.64**	**177**↑	*i*	Px	17 32 35.5	
VNA1	**Neumayer--Stat**	**77.87**	**177**↑	*i*	**P**	**17 32 15.5**	**+0.2**
VNA1	**Neumayer--Stat**	**77.87**	**177**↑	*i*	pP	17 32 24.7	-3.7
VNA1	**Neumayer--Stat**	**77.87**	**177**↑	*i*	Px	17 32 36.3	
KAF	**Kangasniemi**	**145.50**	**340**	*e*pkp	PKPdf	17 39 50.2	-3.6
	5.6nm,0.6s,baz=41,slow=3.2						
FINES	**FINESS Array B**	**146.09**	**339**	PKPbc	PKPbc	17 39 53.2	-2.7
	4.1nm,0.6s,baz=53,slow=4.3,SNR=18						
FINES	**FINESS Array B**	**146.09**	**339**	PKPbc	PKPbc	17 39 53.2	-2.7
NOA	**NORSAR Array B**	**149.81**	**351**	PKPbc	PKPdf	17 40 04.7	+3.9
	1.0nm,0.8s,baz=138,slow=1.7,SNR=3.1						
NOA	**NORSAR Array B**	**149.81**	**351**	PKPbc	PKPdf	17 40 04.7	+3.9
AKASG	**Malin Array Be**	**151.99**	**321**	PKPbc	PKPdf	17 40 08.0	+3.5
	1.2nm,0.6s,baz=48,slow=2.5,SNR=8.6						
BRTR	**Keskin Array B**	**152.84**	**296**	PKPbc	PKPdf	17 40 12.9	+6.9
	0.7nm,0.7s,baz=135,slow=3.5,SNR=3.0						

*NEIC **22** 17:24:54.5, 30.86S×71.31W, h59km, MD3.5(GUC), After GUC.*

GUC 22 17:24:54.5±0.9, 30.86S×71.31W, h59km±5km, MD3.5, ML3.8, 1C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OVCH	**Ovalle**	**0.27**	**20**↓	*i*P	P	17 25 04.5	+0.2
OVCH				*i* S	S	17 25 12.3	+0.7
OVCH				AMP		17 25 12.8	
	comp=N,5μm,0.3s						
CMCH	**Combarbala**	**0.41**	**140**↓	*i*P	P	17 25 05.7	+0.2
CMCH				*i* S	S	17 25 14.1	+0.5
CMCH				AMP		17 25 14.4	
	comp=N,15μm,0.1s						
TLL	**Tololo Astrono**	**0.82**	**32**↓	*i*P	P	17 25 11.2	+0.9
TLL				*i* S	S	17 25 23.4	+1.4
TLL				AMP		17 25 25.8	
	comp=E,5μm,0.5s						
LSCH	**La Serena**	**0.95**	**3**	*i*P	P	17 25 12.0	-0.1
LSCH				*i* S	S	17 25 25.6	+0.4
LSCH				AMP		17 25 29.6	
	comp=N,1μm,0.4s						
JACH	**Jahuel**	**1.91**	**162**↑	*i*P	P	17 25 25.7	+0.3
JACH				*i* S	S	17 25 49.2	+0.9
PEL	**Peldehue**	**2.33**	**167**	*i*P	P	17 25 31.4	+0.1
PEL				*i* S	S	17 25 59.5	+0.6
PEL				AMP		17 26 07.7	
	comp=N,1μm,0.3s						
FCH	**Farellones**	**2.60**	**161**	*i*P	P	17 25 35.4	+0.2
FCH				*i* S	S	17 26 06.6	+0.9
FCH				AMP		17 26 15.1	
	comp=E,470nm,0.4s						
CLCH	**Cerro Calan**	**2.61**	**166**	AMP		17 26 17.8	
	comp=E,513nm,0.7s						
CLCH				AMP		17 26 18.3	
	comp=E,645nm,0.6s						
RCDM	**Rinconada Maip**	**2.65**	**171**	*e*P	P	17 25 35.0	-0.9
RCDM				*i* S	S	17 26 06.8	-0.1
RCDM				AMP		17 26 15.1	
	comp=E,647nm,0.1s						
TACH	**Talagante**	**2.80**	**174**	*i*P	P	17 25 37.0	-1.0
TACH				*i* S	S	17 26 10.2	-0.4
PCH	**Pirque**	**2.83**	**166**	*i*P	P	17 25 37.9	-0.6
PCH				*i* S	S	17 26 10.8	-0.6
CHCH	**Chadas Angostu**	**3.11**	**170**	*i*P	P	17 25 41.3	-1.0
LMEL	**Las Melosas**	**3.12**	**163**↓	*i*P	P	17 25 42.6	+0.1
LMEL				AMP		17 26 24.7	
	comp=N,446nm,0.1s						
CICH	**Cipreses**	**3.53**	**168**	*i*P	P	17 25 47.4	-0.8

TIF 22 17:36:20.8, 42.45N×43.79E, h5km, Mpv3.6, 1C-3D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONI	**Oni**	**0.28**	**297**↓	*i*P	Pg	17 36 26.4	-0.1
ONI				*i* S	Sg	17 36 30.9	+0.6
AMRG		**0.49**	**278**	*e*P	Pg	17 36 33.6	+3.0
AMRG				*i* S	Sg	17 36 42.6	+5.5
	comp=N,50nm,0.4s						
DUS	**Dusheti**	**0.77**	**118**↓	*i*P	Pg	17 36 36.2	+0.1
DUS				*i* S	Sg	17 36 47.7	+1.3
AKH	**Akhalkalaki**	**1.06**	**192**↑	*i*P	Pb	17 36 40.9	-0.4
	comp=Z,30nm,0.3s						
AKH				*i* S	Sb	17 36 56.4	+1.0
	comp=E,30nm,0.3s						
DGRG	**David-gareji**	**1.55**	**130**↓	*i*P	Pn	17 36 52.0	+2.8
DGRG				*i* S	Sb	17 37 14.7	+5.3

*IDC **22** 17:49:40.1±1.9, 13.88S×166.67E, mb4.0/8, mb1 4.2/8, mb1mx4.1/16, MS3.6/7, Ms1 3.6/7, ms1mx3.4/22, Error ellipse: s-maj=69.3km s-min=23.0km az=136.0*
*NEIC **22** 17:49:47.3±0.9, 14.03S×166.67E, h55km, mb4.1/2, Error ellipse: s-maj=40.6km s-min=11.5km az=143.0*

ISC 22 17:49:45.4±1.0, 13.7S±0.1×166.3E±0.1, h33km, n24, σ0§92/11, mb4.0/8, MS3.5/6, 1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKM	**Butte a Klehm**	**4.36**	**154**↓	*i*P	**P**	**17 50 51.2**	**+0.2**
PMG	**Port Moresby**	**19.20**	**281**	LR	LR	17 59 58.3	
	comp=Z,150nm,18.8s,baz=307,slow=32						
CTA	**Charters Tower**	**20.16**	**249**	P	**P**	**17 54 20.2**	**+0.5**
	4.4nm,0.7s,baz=79,slow=15,SNR=8.1						
CTA				LR	LR	18 00 52.2	
	comp=Z,120nm,20.9s,MS3.2,baz=82,slow=33						
CTAO	**Charters Tower**	**20.16**	**249**	*e*P	**P**	**17 54 20.3**	**+0.5**
	5.6nm,0.9s						
STKA	**Stephens Creek**	**28.93**	**227**	P	**P**	**17 55 44.3**	**+0.5**
	1.8nm,0.6s,mb4.0,baz=76,slow=8.3,SNR=7.2						
STKA				LR	LR	18 07 10.9	
	comp=Z,140nm,18.1s,MS3.6,baz=196,slow=36						
WRAB	**Tennant Creek**	**31.14**	**254**	P	**P**	**17 56 02.7**	**-0.8**
	6.7nm,1.1s,mb4.4						
WRA	**Warramunga Arr**	**31.15**	**254**	P	**P**	**17 56 02.7**	**-0.9**
	1.4nm,1.0s,mb3.7,baz=86,slow=9.3,SNR=13						
WRA				LR	LR	18 07 29.4	
	comp=Z,107nm,21.3s,MS3.5,baz=85,slow=34						
ASAR	**Alice Springs**	**32.15**	**247**	P	**P**	**17 56 11.1**	**-1.2**
	2.6nm,1.0s,mb4.0,baz=72,slow=9.9,SNR=25						
ASAR				LR	LR	18 09 06.0	
	comp=Z,67nm,19.1s,MS3.3,baz=285,slow=36						
FITZ	**Fitzroy Crossi**	**39.26**	**258**	P	**P**	**17 57 13.4**	**+0.7**
	2.2nm,0.8s,mb4.0,baz=234,slow=5.2,SNR=4.0						
FITZ				LR	LR	18 12 07.1	
	comp=Z,48nm,20.6s,MS3.3,baz=90,slow=34						
CMAR	**Chiang Mai Arr**	**73.66**	**294**	P	**P**	**18 01 19.1**	**+1.1**
	0.4nm,0.4s,mb3.7,baz=100,slow=5.5,SNR=3.6						
SONM	**Songino Array**	**81.11**	**324**	P	**P**	**18 02 00.1**	**+1.2**
	0.5nm,1.0s,mb3.4,baz=124,slow=5.2,SNR=2.5						
ILAR	**Eielson Array**	**85.87**	**18**	P	**P**	**18 02 21.2**	**-1.4**
	1.1nm,0.4s,mb4.4,baz=245,slow=4.6,SNR=26						
NVAR	**Mina Array Bea**	**87.35**	**50**	LR	LR	18 34 01.4	
	comp=Z,59nm,21.5s,MS4.0,baz=175,slow=30						
ARCES	**ARCESS Array B**	**119.04**	**345**	PKP	PKPdf	18 08 29.9	-0.5
	4.4nm,0.9s,baz=41,slow=6.6,SNR=5.8						
ARCES	**ARCESS Array B**	**119.04**	**345**	PKP	PKPdf	18 08 29.9	-0.5
LPL	**La Plagne**	**143.88**	**335**	*e*PKP1	PKPbc	18 09 17.2	+0.8
	2.8nm,0.7s						
LPG	**La Plagne**	**143.89**	**335**	*e*PKP1	PKPbc	18 09 17.2	+0.8
	3.6nm,0.8s						
MBDF	**Montbardon**	**144.51**	**335**	*e*PKP1	PKPbc	18 09 18.5	+0.3
	16nm,1.2s						
ORIF	**Oris-en-Rattie**	**144.72**	**336**	*e*PKP1	PKPbc	18 09 19.8	+1.0
	16nm,0.9s						
SBF	**Sospel**	**144.91**	**333**	*e*PKP1	PKPbc	18 09 19.6	+0.2
	23nm,0.8s						
PGF	**Pioggiola**	**145.20**	**330**	*e*PKP1	PKPbc	18 09 19.0	-1.2
	22nm,1.3s						
FRF	**La Foret Royal**	**145.50**	**333**	*e*PKP1	PKPbc	18 09 20.0	-0.9
LMR	**La Mourre**	**145.74**	**333**	*e*PKP1	PKPbc	18 09 20.4	-1.1
MTLF	**Montolieu**	**147.45**	**338**	*e*PKP1	PKPdf	18 09 25.8	+2.2

*IDC **22** 17:52:17.3±1.1, 61.20S×23.13W, mb4.0/3, mb1 4.1/4, mb1mx3.9/11, ML4.1/1, Error ellipse: s-maj=99.0km s-min=29.2km az=51.0*
*NEIC **22** 17:52:21.7±0.8, 60.87S×22.19W, h30km, mb4.2/1, Error ellipse: s-maj=27.2km s-min=11.0km az=57.0*

ISC 22 17:52:16.8±1.1, 60.9S±0.1×22.2W±0.3, h10km, n14, σ1§01/12, mb4.1/4, 2C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**11.31**	**156**↑	*i*P	**P**	**17 55 02.1**	**+0.8**
VNA3	**Neumayer Olymp**	**11.54**	**160**↑	*i*P	**P**	**17 55 04.2**	**-0.3**
VNA2	**Neumayer--Watz**	**11.71**	**156**	P	**P**	**17 55 06.4**	**-0.3**
SNAA	**Sanae**	**13.24**	**153**↓	*i*P	**P**	**17 55 25.4**	**-1.8**
SNAA	**Sanae**	**13.24**	**153**	Pn	**P**	**17 55 25.4**	**-1.9**
	0.9nm,0.3s,baz=331,slow=12,SNR=150						
SNAA	**Sanae**			Sn	**S**	**17 57 42.5**	**-13**
	0.1nm,0.3s,baz=144,slow=21,SNR=3.8						
SNAA	**Sanae**	**13.24**	**153**	*e*Pn	**P**	**17 55 25.2**	**-2.0**
PMSA	**Palmer Station**	**19.25**	**240**	P	**P**	**17 56 43.1**	**-0.3**
QSPA	**South Pole Qui**	**29.36**	**180**	P	**P**	**17 58 23.3**	**+1.9**
	4.7nm,1.1s,mb4.1						
BDFB	**Brasilia**	**48.86**	**326**	P	**P**	**18 01 04.7**	**+0.4**
	1.1nm,0.4s,mb4.2,baz=154,slow=3.9,SNR=3.2						
LPAZ	**La Paz**	**55.27**	**303**	P	**P**	**18 01 51.5**	**-1.0**
	0.8nm,0.4s,mb4.1,baz=135,slow=4.3,SNR=0.8						
ASAR	**Alice Springs**	**93.55**	**158**	P	**P**	**18 05 34.5**	**+0.7**
	0.3nm,0.7s,mb3.9,baz=182,slow=4.6,SNR=5.6						
SONM	**Songino Array**	**148.21**	**91**	PKPbc	PKPdf	18 12 04.8	+3.4
	2.0nm,0.7s,baz=233,slow=2.8,SNR=15						
INK	**Inuvik**	**151.15**	**314**	PKPbc	PKPdf	18 12 09.5	+4.2
	1.2nm,0.7s,baz=124,slow=3.6,SNR=4.8						
INK	**Inuvik**	**151.15**	**314**	PKPbc	PKPdf	18 12 09.5	+4.1

DJA 22 18:16:36.7±0.4, 9.59S×115.59E, h15km, MD4.5/2, ML4.4/3, 3C-1D, Error ellipse: s-maj=15.5km s-min=7.0km az=24.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RATI	**Rata**	**0.87**	**356**	*e*Pg	Pg	18 16 47.7	-6.5
	2μm,0.2s						
RATI				*i*Sg	Sg	18 17 03.0	-2.9
KELI	**Kelakatan**	**1.75**	**321**↑	*e*Pn	Pn	18 17 04.3	-2.5
	175nm,0.2s						
KELI				*e*Sn	Sn	18 17 32.5	+3.6
SRDI	**Scrawed**	**1.81**	**308**↓	*i*Pn	Pn	18 17 04.9	-2.8
	125nm,0.2s						
SRDI	**Scrawed**	**1.81**	**308**	*e*P	Pn	18 17 07.8	+0.1
SRDI				*e*Sn	Sn	18 17 36.8	+6.3
MENI	**Mendum Tagoi**	**25.65**	**76**↑	*i*P	P	18 22 06.5	-1.3
YOMI	**Yo Moklole**	**25.75**	**76**	*e*P	P	18 22 09.5	+0.7

*NEIC **22** 18:55:09.5±1.0, 19.10S×177.57W, h558km±12km, mb4.5/6, Error ellipse: s-maj=12.8km s-min=10.0km az=135.0*
*IDC **22** 18:55:12.8±2.0, 19.28S×177.65W, h595km±23km, mb3.4/12, mb1 3.7/14, mb1mx3.6/19, Error ellipse: s-maj=16.9km s-min=12.2km az=165.0*

ISC 22 18:55:08.1±1.2, 19.19S±0.10×177.64W±0.10, h549km±16km, n59, σ1§06/32, mb4.1/17, 4C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.69**	**48**	*e*P	**P**	**18 57 03.4**	**-0.1**
	157nm,0.4s						
URZ	**Urewera**	**19.55**	**192**	P	**P**	**18 58 59.8**	**-1.1**
	3.1nm,0.3s,baz=314,slow=2.1,SNR=18						
RPZ	**Rata Peaks**	**26.24**	**199**	P	**P**	**19 00 00.5**	**-0.7**
	4.9nm,0.7s,mb4.2,baz=33,slow=17,SNR=3.6						
CTA	**Charters Tower**	**33.98**	**262**	P	**P**	**19 01 08.7**	**+1.1**
	2.6nm,0.4s,mb4.1,baz=87,slow=11,SNR=7.0						
CTAO	**Charters Tower**	**33.98**	**262**	*e*P	**P**	**19 01 08.4**	**+0.8**
	3.1nm,0.5s,mb4.1						
PMG	**Port Moresby**	**35.40**	**281**	P	**P**	**19 01 21.4**	**+1.9**
	17nm,1.0s,mb4.5,baz=79,slow=4.6,SNR=3.9						
PMG	**Port Moresby**	**35.40**	**281**	*e*P	**P**	**19 01 21.6**	**+2.1**
STKA	**Stephens Creek**	**38.68**	**243**	P	**P**	**19 01 46.8**	**+0.7**
	14nm,0.9s,mb4.5,baz=83,slow=8.7,SNR=20						
WRAB	**Tennant Creek**	**45.12**	**261**	*e*P	**P**	**19 02 36.8**	**-0.7**
	16nm,1.1s,mb4.5						
WRA	**Warramunga Arr**	**45.13**	**261**	P	**P**	**19 02 36.9**	**-0.6**
	4.2nm,0.7s,mb4.1,baz=98,slow=8.0,SNR=66						
WRA				PcP	PcP	19 04 05.5	-1.1
	1.4nm,0.5s,baz=86,slow=3.9,SNR=10						
WRA				S	**S**	**19 08 33.6**	**-3.7**
	1.7nm,0.9s,baz=95,slow=14,SNR=5.5						
ASAR	**Alice Springs**	**45.16**	**255**	P	**P**	**19 02 38.1**	**+0.5**
	18nm,0.9s,mb4.6,baz=87,slow=8.6,SNR=111						
ASAR				PcP	PcP	19 04 05.7	-0.9
	3.6nm,0.8s,baz=100,slow=4.2,SNR=12						
ASAR				S	**S**	**19 08 34.2**	**-3.5**
	1.8nm,0.8s,baz=90,slow=16,SNR=9.5						
FITZ	**Fitzroy Crossi**	**53.55**	**261**	P	**P**	**19 03 39.5**	**-0.3**
	5.0nm,0.7s,mb4.0,baz=169,slow=6.6,SNR=9.2						
MBWA	**Marble Bar**	**58.48**	**257**	*e*P	**P**	**19 04 12.7**	**-1.1**
	17nm,1.1s,mb4.2						
SBA	**Scott Base**	**59.20**	**184**	*e*P	**P**	**19 04 19.1**	**+1.2**
VNDA	**Vanda**	**59.24**	**185**	P	**P**	**19 04 18.3**	**+0.1**
	4.3nm,1.1s,mb3.6,baz=4.1,slow=7.1,SNR=12						
CASY	**Casey**	**65.29**	**205**	*e*P	**P**	**19 04 56.0**	**-1.2**
QSPA	**South Pole Qui**	**70.88**	**180**	*e*P	**P**	**19 05 31.0**	**+0.3**
	20nm,1.0s,mb4.6						
MAW	**Mawson**	**82.91**	**200**	P	**P**	**19 06 35.7**	**-0.2**
	2.3nm,0.7s,mb3.8,baz=104,slow=4.8,SNR=10						
ENH	**Enshi**	**85.59**	**304**	*e*P	**P**	**19 06 50.0**	**+0.2**
	10nm,1.0s,mb4.4						
LTX

WRA				S	S	19 06 26.6	+1.6	
	0.4nm,0.3s,baz=318,slow=25,SNR=9.1							
ASAR	**Alice Springs**	**17.70**	**145**	P	P	19 04 09.9	-0.4	
	0.3nm,0.3s,baz=332,slow=14,SNR=9.7							
ASAR				S	S	19 07 25.9	+5.3	
	0.1nm,0.3s,baz=310,slow=21,SNR=5.3							
STKA	**Stephens Creek**	**28.34**	**145**	P	P	19 05 51.2	-3.1	
	1.0nm,0.5s,baz=318,slow=12,SNR=3.4							

MAN 22 19:06:40.8, 16.52N×122.39E, h14km, mb4.3, ML3.2, MS2.9, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAUP	**Cauayan**	**0.69**	**308**	*e*P	Pb	19 06 53.7	-0.3
BALP	**Baler**	**1.10**	**225**	*e*P	Pb	19 06 58.5	-2.6
CVP	**Callao Caves**	**1.30**	**335**	*e*P	Pb	19 07 04.0	-0.5
CVP				*e*S	Sb	19 07 21.0	+0.2
APYP	**Conner**	**1.73**	**321**	*e*P	Pn	19 07 10.0	-0.8
APYP				*e*S	Sn	19 07 34.5	+1.8
BCPH	**Baguio City Da**	**1.74**	**266**	⇑*i*P	Pn	19 07 10.3	-0.7
BCPH				*i* S	Sn	19 07 32.7	-0.3
POLP	**Polilio Island**	**1.83**	**194**	*e*P	Sn	19 07 31.6	-3.8
ABRA	**Dolores**	**1.96**	**305**	*e*P	Pn	19 07 13.1	-0.9

*MOS **22** 19:09:11.3±1.6,51.68N×16.01E,h10km,mb4.0/1, Error ellipse: s-maj=11.7km s-min=5.9km az=82.8*
*IPEC **22** 19:09:11.3±0.2,51.65N×16.14E,ML2.4/4, Error ellipse: s-maj=1.7km s-min=1.4km az=25.0*
*BGR **22** 19:09:11.8±0.8,51.65N×16.08E,h1km,ML3.2/5, Error ellipse: s-maj=13.3km s-min=5.6km az=164.0*
*NEIC **22** 19:09:12.4±0.4,51.59N×16.09E,h5km,ML2.9(BRG), ML2.7(CLL),ML3.2(SZGRF),ML3.1(VIE), Error ellipse: s-maj=4.9km s-min=3.9km az=49.0*
*PRU **22** 19:09:13.6,51.52N×16.03E, Felt In Harrachov*
*WAR **22** 19:09:13,51.56N×16.01E,ML3.2, Mining Induced*
*CSEM **22** 19:09:13.5±0.2,51.54N×16.03E,ML3.5/4, Error ellipse: s-maj=2.5km s-min=1.4km az=21.0*
*IDC **22** 19:09:14.0±0.8,51.51N×15.98E,mb1 3.3/6, mb1mx3.2/18,ML3.1/5, Error ellipse: s-maj=13.4km s-min=6.9km az=112.0*

ISC 22 19:09:11.5±0.4, 51.51N±0.02×16.01E±0.03, n73, σ1º24/130, 3C-4D, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.69**	**165**	⇓*i*P	Pg	**19 09 27.0**	**+1.8**
KSP				*i*		19 09 40.8	
KSP	**Ksiaz**	**0.69**	**165**	⇓*i*Pg	Pg	**19 09 27.0**	**+1.8**
KSP				*e*		19 09 28.9	
KSP				*i* Sg	Sg	**19 09 36.6**	**+2.3**
KSP				*i*		19 09 40.8	
KSP	**Ksiaz**	**0.69**	**165**	⇓*i*Pg	Pg	**19 09 27.0**	**+1.8**
KSP				*i* Sg	Sg	**19 09 36.6**	**+2.3**
KSP	**Ksiaz**	**0.69**	**165**	*e*Pg	Pg	**19 09 27.1**	**+1.9**
KSP				*e*Sg	Sg	**19 09 36.7**	**+2.4**
UPC	**Upice**	**1.00**	**180**	*e*Pg	Pg	**19 09 32.7**	**+1.3**
DPC	**Dobruska-Polom**	**1.17**	**170**	*e*P	Pg	**19 09 35.7**	**+0.8**
DPC				*e*		19 09 51.4	
DPC				smax			
	comp=N,47nm,0.3s						
DPC	**Dobruska-Polom**	**1.17**	**170**	*e*PG	Pg	**19 09 35.7**	**+0.8**
DPC				*e*SG	Sg	**19 09 51.4**	**+0.9**
	comp=N,46nm,0.3s						
PVCC	**Panska Ves**	**1.34**	**224**	*e*PG	Pg	**19 09 39.0**	**+0.8**
PVCC	**Panska Ves**	**1.34**	**224**	*e*Pn	Pn	**19 09 38.8**	**+1.4**
PVCC				*e*Sg	Sg	**19 09 58.6**	**+2.6**
BRG	**Berggiesshubel**	**1.45**	**245**	*e*Pn	Pn	**19 09 39.7**	**+0.7**
BRG				*e*Sg	Sg	**19 10 00.9**	**+1.2**
BRG	**Berggiesshubel**	**1.45**	**245**	*e*P	Pn	**19 09 39.6**	**+0.6**
BRG				*i*		19 10 00.9	
BRG	**Berggiesshubel**	**1.45**	**245**	*e*Pn	Pn	**19 09 39.6**	**+0.6**
BRG				*i* Pg	Pg	**19 09 40.9**	**+0.5**
BRG				*i* Sg	Sg	**19 10 00.9**	**+1.2**
BRG	**Berggiesshubel**	**1.45**	**245**	*i* Pg	Pg	19 09 40.9	+0.5
BRG				Sg	Sg	**19 10 00.9**	**+1.2**
RUE	**Ruedersdorf**	**1.69**	**306**	*e*Pn	Pn	**19 09 42.1**	**-0.3**
RUE				*e*Sn	Sn	**19 10 05.0**	**-0.1**
RUE	**Ruedersdorf**	**1.69**	**306**	*e*Pn	Pn	19 09 42.2	-0.3
RUE				*e*Sn	Sn	**19 10 05.0**	**-0.1**
PRU	**Pruhonice**	**1.78**	**212**	P	Pn	**19 09 44.8**	**+1.0**
PRU						19 10 10.3	
PRU				smax			
	comp=N,49nm,0.4s						
PRU	**Pruhonice**	**1.78**	**212**	PN	Pn	**19 09 44.8**	**+1.0**
PRU				PG	Pg	**19 09 46.6**	**-0.5**
PRU				*i* x	x	19 09 48.6	
PRU				*i* x	x	19 10 03.7	
PRU				SG	Sg	**19 10 10.3**	**-0.6**
	comp=N,49nm,0.4s						
CLL	**Collm**	**1.90**	**265**	*e*Pn	Pn	**19 09 45.7**	**+0.3**
CLL				*e*Sg	Sg	**19 10 14.2**	**-0.4**
CLL	**Collm**	**1.90**	**265**	*i* PN	Pn	**19 09 45.7**	**+0.3**
	comp=N,logA/T=1.7						
CLL				*i* PG	Pg	**19 09 48.6**	**-0.7**
CLL				*i*		19 09 52.8	
CLL				*i* SG	Sg	**19 10 14.6**	**0.0**
CLL				*i*		19 10 21.7	
CLL	**Collm**	**1.90**	**265**	*i* P	Pn	**19 09 45.7**	**+0.3**
CLL				*i*		19 10 14.6	
CLL				pmax	pmax		
	comp=Z,23nm,0.5s						
CLL	**Collm**	**1.90**	**265**	*i* Pn	Pn	**19 09 45.7**	**+0.3**
CLL				*i* Pg	Pg	**19 09 48.6**	**-0.7**
CLL				*i* Sg	Sg	**19 10 14.6**	**0.0**
CLL	**Collm**	**1.90**	**265**	*i* Pg	Pg	**19 09 48.6**	**-0.7**
CLL				Sg	Sg	**19 10 14.2**	**-0.4**
MORC	**Moravsky Berou**	**1.99**	**150**	*e*Pn	Pn	**19 09 47.3**	**+0.6**
MORC				*e*Pg	Pg	**19 09 51.7**	**+0.5**
MORC				*e*Sn	Sn	**19 10 13.5**	**+0.9**
MORC				*e*Sg	Sg	**19 10 18.7**	**+1.1**
MORC	**Moravsky Berou**	**1.99**	**150**	*e*Pn	Pn	**19 09 47.3**	**+0.6**
MORC	**Moravsky Berou**	**1.99**	**150**	*e*Pg	Pg	**19 09 51.7**	**+0.6**
MORC				*e*Sg	Sg	**19 10 15.9**	**-1.7**
	comp=Z,25nm,0.2s						
RAC	**Raciborz**	**1.99**	**135**	*e*P	Pn	**19 09 51.0**	**+4.3**
RAC				*e*S	Sn	**19 10 17.0**	**+4.4**
OKC	**Ostrava-Krasne**	**2.15**	**140**	*e*P	Pn	**19 09 49.0**	**-0.1**
OKC				*e*		19 10 21.0	
OKC	**Ostrava-Krasne**	**2.15**	**140**	*e*PN	Pn	**19 09 49.0**	**-0.1**
OKC				*e*PG	Pg	**19 09 52.7**	**-1.8**
OKC				*e*SG	Sg	**19 10 21.0**	**-2.1**
OKC	**Ostrava-Krasne**	**2.15**	**140**	*e*Pg	Pg	**19 09 52.7**	**-1.8**
OKC				*e*Sg	Sg	**19 10 21.1**	**-2.0**
VRAC	**Vranov**	**2.23**	**170**	Pn	Pn	**19 09 51.2**	**+1.0**
	comp=Z,2.4nm,0.3s,baz=326,slow=15,SNR=9.9						
VRAC				Pg	Pg	**19 09 56.4**	**+0.4**
	comp=Z,4.8nm,0.3s,baz=343,slow=16,SNR=9.8						
VRAC				Lg		19 10 24.0	
	comp=Z,8.3nm,0.3s,baz=79,slow=20,SNR=8.8						
VRAC	**Vranov**	**2.23**	**170**	*e*Pn	Pn	**19 09 51.2**	**+1.0**
VRAC	**Vranov**	**2.23**	**170**	Pg	Pg	**19 09 56.4**	**+0.4**
VRAC				*e*Sg	Sg	**19 10 25.3**	**-0.5**
	comp=Z,16nm,0.2s						
KRUC	**Moravsky**	**2.46**	**174**	*e*Pn	Pn	**19 09 55.1**	**+1.6**
KRUC				*e*Sg	Sg	**19 10 32.4**	**-0.9**
	comp=Z,12nm,0.3s						
TANN	**Tannenbergstha**	**2.50**	**245**	*e*Pn	Pn	**19 09 55.5**	**+1.5**
TANN				*e*Sg	Sg	**19 10 34.1**	**-0.5**
WERD	**Werda**	**2.57**	**247**	*e*Pn	Pn	**19 09 55.7**	**+0.7**
NKC	**Novy Kostel**	**2.59**	**242**	*e*P	Pn	**19 09 56.3**	**+0.9**
NKC				*e*		19 10 36.7	
NKC	**Novy Kostel**	**2.59**	**242**	*e*PN	Pn	**19 09 56.3**	**+0.9**
NKC				*e*PG	Pg	**19 10 02.7**	**-0.6**
NKC				*e*SG	Sg	**19 10 36.7**	**-1.1**
NKC	**Novy Kostel**	**2.59**	**242**	*e*Pg	Pg	**19 10 02.7**	**-0.6**
NKC				*e*Sg	Sg	**19 10 36.7**	**-1.1**
GUNZ	**Gunzen**	**2.59**	**245**	*e*Pn	Pn	**19 09 56.1**	**+0.7**
GUNZ				*e*Sg	Sg	**19 10 36.9**	**-1.0**
OJC	**Ojcow**	**2.72**	**117**	*e*PG	Pg	**19 10 04.0**	**-1.8**
OJC				*e*SG	Sg	**19 10 40.0**	**-2.1**
OJC	**Ojcow**	**2.72**	**117**	*e*Pg	Pg	**19 10 03.8**	**-2.0**
OJC				*e*Sg	Sg	**19 10 40.4**	**-1.7**
OJC	**Ojcow**	**2.72**	**117**	*e*Pg	Pg	**19 10 03.8**	**-2.0**
OJC				*e*Sg	Sg	**19 10 40.4**	**-1.7**
KHC	**Kasperske Hory**	**2.84**	**214**	*e*P	Pn	**19 09 59.6**	**+0.6**
KHC				*e*		19 10 35.4	
KHC	**Kasperske Hory**	**2.84**	**214**	*e*PN	Pn	**19 09 59.6**	**+0.6**
KHC				*e*PG	Pg	**19 10 05.9**	**-2.4**
KHC				*e*SN	Sn	**19 10 35.4**	**+1.0**
KHC				*e*SG	Sg	**19 10 44.4**	**-1.8**
MOX	**Moxa**	**2.91**	**254**	*i* P	Pn	**19 10 00.1**	**+0.3**
MOX				Pg	Pg	**19 10 08.0**	**-1.5**
MOX				Sg	Sg	**19 10 47.0**	**-1.2**
MOX	**Moxa**	**2.91**	**254**	*e*Pn	Pn	**19 10 00.1**	**+0.3**
MOX				*e*Pg	Pg	**19 10 08.4**	**-1.1**
MOX				*e*Sg	Sg	**19 10 47.3**	**-0.9**
MOX	**Moxa**	**2.91**	**254**	*e*Pg	Pg	**19 10 08.4**	**-1.1**
MOX				Sg	Sg	**19 10 47.0**	**-1.2**
GEC2	**GERESS Array S**	**3.05**	**210**	*e*Pn	Pn	**19 10 03.7**	**+1.8**
GEC2	**GERESS Array S**	**3.05**	**210**	*e*Pn	Pn	**19 10 03.7**	**+1.8**
GERES	**GERESS Array B**	**3.05**	**210**	Pn	Pn	**19 10 03.5**	**+1.6**
	comp=Z,2.3nm,0.3s,baz=29,slow=13,SNR=7.4						
GERES				Pg	Pg	**19 10 09.8**	**-2.6**
	comp=Z,5.7nm,0.3s,baz=34,slow=16,SNR=3.3						
GERES				Sn	Sn	**19 10 38.5**	**-1.2**
	comp=Z,2.2nm,0.3s,baz=32,slow=25,SNR=4.9						
GERES				Lg		19 10 49.4	
	comp=Z,4.4nm,0.3s,baz=37,slow=27,SNR=7.6						
GERES	**GERESS Array B**	**3.05**	**210**	Pg	Pg	**19 10 09.8**	**-2.6**
WET	**Wettzell**	**3.10**	**222**	*e*Pn	Pn	**19 10 03.7**	**+1.0**
WET	**Wettzell**	**3.10**	**222**	*e*Pn	Pn	**19 10 03.7**	**+1.1**
SMOL	**Smolenice**	**3.13**	**162**	*e*PG	Pg	**19 10 12.9**	**-1.1**
SMOL				*e*SG	Sg	**19 10 55.7**	**0.0**
LIKS	**Likavka**	**3.16**	**140**	*e*SG	Sg	**19 10 58.2**	**+1.6**
VKA	**Vienna**	**3.25**	**176**	⇓*i*PG	Pg	**19 10 14.8**	**-1.6**
VKA				*i* SG	Sg	**19 10 59.4**	**-0.3**
ZST	**Bratislava**	**3.39**	**168**	*e*SB	Sb	**19 11 01.2**	**+7.0**
NIE	**Niedzica**	**3.45**	**126**	*e*P	Pn	**19 10 18.1**	**+11**
NIE				*e*S	Sn	**19 11 04.1**	**+14**
VYHS	**Vyhne**	**3.52**	**148**	*e*Pn	Pn	**19 10 08.2**	**-0.4**
GRA1	**Grafenberg Arr**	**3.55**	**241**	Sg	Sg	**19 11 08.4**	**-1.3**
GRF	**Grafenberg Arr**	**3.55**	**241**	*e*Sg	Sg	**19 11 08.4**	**-1.3**
BSD	**Bornholm Skovb**	**3.67**	**350**	*i* P	Pn	**19 10 09.1**	**-1.7**
BSD				*i* S	Sn	**19 10 50.9**	**-4.5**
MOA	**Molln**	**3.83**	**198**	⇑*i*PN	Pn	**19 10 13.9**	**+0.9**
MOA				*i* SG	Sg	**19 11 18.1**	**-0.9**
	comp=Z,13nm,0.6s						
ARSA	**Arzberg**	**4.27**	**184**	⇑*i*PN	Pn	**19 10 20.6**	**+1.4**
ARSA				*i* SG	Sg	**19 11 26.6**	**-7.1**
	comp=Z,9.2nm,0.5s						
CRVS	**Cervenica-Dubn**	**4.36**	**125**	*e*Pn	Pn	**19 10 23.1**	**+2.6**
CRVS				*e*Sg	Sg	**19 11 33.7**	**-3.0**
KBA	**Koelnbreinsper**	**4.76**	**203**	⇑*i*PN	Pn	**19 10 27.1**	**+0.9**
KBA				*i* SG	Sg	**19 11 47.7**	**-2.3**
	comp=Z,11nm,0.6s						
KOLS	**Kolonicke sedl**	**4.77**	**120**	*e*PN	Pn	**19 10 25.8**	**-0.6**
DAVOS	**Davos**	**6.20**	**224**	P	Pn	**19 10 46.9**	**+0.4**
DAVOX	**Davos**	**6.21**	**223**	Pn	Pn	**19 10 46.9**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=29,slow=13,SNR=3.0						
DAVOX				Lg		19 12 34.9	
	comp=Z,0.5nm,0.3s,baz=294,slow=20,SNR=3.1						
AKASG	**Malin Array Be**	**8.36**	**90**	Pn	P	**19 11 13.7**	**-3.0**
	comp=Z,0.6nm,0.3s,baz=277,slow=12,SNR=4.8						
AKASG	**Malin Array Be**	**8.36**	**90**	P	P	**19 11 13.7**	**-3.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
HFS	**Hagfors**	**8.75**	**352**	Pn	P	**19 11 18.1**	**-4.0**
	comp=Z,0.0nm,0.3s,baz=160,slow=17,SNR=3.1						
FINES	**FINESS Array B**	**11.39**	**25**	Pn	P	**19 11 53.5**	**-4.9**
	comp=Z,0.2nm,0.3s,baz=219,slow=11,SNR=8.0						
FINES				Sn	S	**19 13 55.3**	**-12**
	comp=Z,0.1nm,0.3s,baz=233,slow=21,SNR=3.5						

*LDG **22** 19:20:48.2±0.5,42.90N×0.74W,h2km,Md2.1/2, Error ellipse: s-maj=23.3km s-min=2.5km az=12.0*

MDD 22 19:20:48.8±0.3, 42.92N×0.72W, mbLg1.1/6, Error ellipse: s-maj=4.5km s-min=1.8km az=23.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ETSF	**Etsaut**	**0.12**	**99**	*e*Pg	Pg	19 20 50.9	-0.3
ETSF				*e*Sg	Sg	19 20 52.2	-0.6
	29nm,0.3s						
ATE	**Arette**	**0.17**	**5**	P	Pg	19 20 52.0	-0.1
ATE				S	Sg	19 20 55.1	+0.7
LARF	**Larrau**	**0.23**	**301**	P	Pg	19 20 52.8	-0.6
LARF				S	Sg	19 20 56.6	+0.1
SJPF	**Ste Jean**	**0.42**	**298**	*e*Pg	Pg	19 20 56.3	-0.9
SJPF				*e*Sg	Sg	19 21 01.3	-1.4
	6.2nm,0.2s						
EALK	**Alkurruntz**	**0.65**	**298**	Pg	Pg	19 21 01.0	-0.8
	0.5nm,0.1s,SNR=7.9						
EALK				Lg		19 21 09.8	
	2.8nm,0.1s,SNR=9.4						
EBIE	**Bielsa**	**0.68**	**110**	Pg	Pg	19 21 00.9	-1.4
	0.2nm,0.1s,SNR=7.5						
EBIE				Lg		19 21 09.8	
	1.3nm,0.1s,SNR=7.9						
EPF	**Esparros**	**0.79**	**81**	*e*Pg	Pg	19 21 03.3	-1.2
EPF				*e*Sg	Sg	19 21 14.0	-1.0
	2.6nm,0.2s						
ESAC	**San Caprasio**	**1.21**	**171**	Pg	Pg	19 21 12.9	-0.1
	2.4nm,0.1s,SNR=7.9						
ESAC				Lg		19 21 28.7	
	7.4nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**1.94**	**120**	Pg	Pg	19 21 26.2	-1.4
	2.5nm,0.2s,SNR=4.0						

*STR **22** 19:26:03.9±0.2,48.19N×7.76E,h5km±1km,Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **22** 19:26:03.6±0.1,48.20N×7.80E,h6km,Md2.5/2,Ml2.2/7, Error ellipse: s-maj=1.0km s-min=0.8km az=108.0*
*BGR **22** 19:26:03.9±0.3,48.20N×7.78E,h10km,ML1.0/1, Error ellipse: s-maj=3.3km s-min=2.2km az=22.0*
*LEDBW **22** 19:26:04.7±1.1,48.13N×7.77E,h10km,ML1.7, Error ellipse: s-maj=26.0km s-min=10.0km az=112.0*
*ZUR **22** 19:26:04.1,48.03N×7.80E,h1km,ML1.3/9*

ISC 22 19:26:03.3±0.3, 48.18N±0.02×7.71E±0.02, h12km±3km, n34, σ0º85/58, 2C-8D, France

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LIBD	**Limburg**	**0.08**	**245**	*e*Pg	Pg	**19 26 06.8**	**+0.8**
	SNR=3.2						
KIZ	**Kirchzarten**	**0.27**	**149**	⇓*i*P	Pg	**19 26 08.8**	**-0.2**
KIZ				*i* S	Sg	**19 26 12.2**	**-0.7**
WLS	**Welschbruch**	**0.33**	**314**	*e*Pg	Pg	**19 26 10.9**	**+0.6**
	SNR=5.7						
WLS				*e*Sg	Sg	**19 26 15.6**	**+0.6**
	SNR=2.7						
WLS	**Welschbruch**	**0.33**	**314**	Pg	Pg	**19 26 10.7**	**+0.4**
WLS				Sg	Sg	**19 26 15.8**	**+0.9**
FELD	**Feldberg**	**0.36**	**147**	*e*Pg	Pg	**19 26 10.7**	**-0.3**
	SNR=3.8						
FELD				*e*Sg	Sg	**19 26 15.4**	**-0.6**
	SNR=5.0						
CDF	**Champ du Feu**	**0.37**	**308**	*e*Pg	Pg	**19 26 11.6**	**+0.6**
CDF				*e*Sg	Sg	**19 26 16.9**	**+0.8**
	10nm,0.2s						
ECH	**Echery**	**0.37**	**275**	*e*Pg	Pg	**19 26 11.9**	**+0.9**
	SNR=1.4						
ECH				*e*Sg	Sg	**19 26 17.0**	**+0.8**
	SNR=9.8						
ECH	**Echery**	**0.37**	**275**	Pg	Pg	**19 26 12.3**	**+1.2**
ECH				Sg	Sg	**19 26 17.0**	**+0.8**
BFO	**Black Forest**	**0.44**	**70**	*e*Pg	Pg	**19 26 11.4**	**-0.9**
	SNR=4.6						
BFO				*e*Sg	Sg	**19 26 16.5**	**-1.8**
	SNR=7.2						
MOF	**Molkenrain**	**0.51**	**230**	Pg	Pg	**19 26 15.1**	**+1.3**
MOF				Sg	Sg	**19 26 22.1**	**+1.4**
SLE	**Schleitheim**	**0.67**	**128**	⇓*i*P*P	Pb	**19 26 16.1**	**-0.4**
	0.9nm,0.5s						
HINF	**Hinteralfeld**	**0.68**	**238**	*e*Pg	Pg	**19 26 17.8**	**+0.6**
HINF				*e*Sg	Sg	**19 26 26.8**	**+0.4**
	13nm,0.2s						
SULZ	**Sulz-Cheisache**	**0.71**	**157**	⇓*i*P*P	Pb	**19 26 17.3**	**+0.1**
	0.8nm,0.3s						
BBS	**Basel-Blauen**	**0.73**	**191**	*e*Pg	Pg	**19 26 18.3**	**+0.1**
	SNR=1.3						
BBS				*e*Sg	Sg	**19 26 28.0**	**0.0**
	SNR=3.5						
LANF	**Langenberg**	**0.80**	**4**	Pg	Pg	**19 26 18.9**	**-0.5**
LANF				Sg	Sg	**19 26 30.4**	**+0.2**
FLACH	**Flaach**	**0.84**	**136**	*e*P*P	Pb	**19 26 19.8**	**+0.4**
	0.8nm,0.4s						
TRULL	**Truellikon**	**0.84**	**129**	*e*P*P	Pb	**19 26 19.9**	**+0.4**
	1.1nm,0.4s						
BALST	**Balsthal**	**0.85**	**181**	⇓*i*P*P	Pb	**19 26 20.3**	**+0.7**
	1.9nm,0.4s						
BOURR	**Bourrignon**	**0.85**	**203**	*e*P*P	Pb	**19 26 20.6**	**+0.9**
	0.8nm,0.4s						
LBG	**Lerchenberg**	**0.87**	**56**	⇓*e*P	Pb	**19 26 19.9**	**0.0**
LBG				S	Sb	**19 26 30.7**	**-0.5**
LBG				S	Sb	**19 26 31.8**	**+0.6**
HAU	**Haudompre**	**0.93**	**259**	*e*Pg	Pg	**19 26 22.4**	**+0.3**
HAU				*e*Sg	Sg	**19 26 34.9**	**+0.3**
	16nm,0.2s						
STEIN	**Stein am Rhein**	**0.93**	**123**	⇓*i*P*P	Pb	**19 26 21.5**	**+0.5**
	0.8nm,0.8s						
GUT	**Gutenstein**	**0.95**	**96**	⇑*e*P	Pb	**19 26 21.2**	**-0.1**
GUT				⇓*e*P		19 26 21.6	
SISB	**Singen-Sch Ber**	**0.98**	**120**	⇑*i*P	Pb	**19 26 22.3**	**+0.5**
SISB				*e*S	Sb	**19 26 34.7**	**+0.3**
LOMF	**Lomont**	**1.02**	**216**	*e*Pg	Pg	**19 26 24.0**	**+0.1**
	SNR=8.2						
WEIN	**Weingarten**	**1.08**	**127**	*e*P*P	Pb	**19 26 24.3**	**+0.8**
	0.5nm,0.3s						
WILA	**Wila**	**1.11**	**133**	⇑*i*P*P	Pb	**19 26 24.9**	**+0.8**
	0.8nm,0.7s						
BUCH	**Bad Urach**	**1.13**	**76**	⇓*e*P	Pb	**19 26 24.6**	**+0.3**
BUCH				S	Sb	**19 26 38.0**	**-0.8**
BUCH				S	Sb	**19 26 39.5**	**+0.8**
THEF	**They Montfort**	**1.16**	**273**	Pg	Pg	**19 26 26.6**	**+0.1**
THEF				Sg	Sg	**19 26 42.0**	**0.0**
SFTF	**Sexfontaines**	**1.79**	**272**	*e*Pg	Pg	**19 26 37.8**	**-1.3**
SFTF				*e*Sn	Sn	**19 26 56.5**	**-0.7**
SFTF				*e*Sg	Sg	**19 27 01.7**	**-1.3**
	3.8nm,0.3s						
MEZF	**Maizieres J'vi**	**1.80**	**281**	*e*Sg	Sg	**19 27 02.2**	**-1.3**
	5.6nm,0.4s						
CABF	**La Chapelle**	**1.92**	**216**	*e*Pn	Pn	**19 26 35.9**	**-0.4**
CABF				*e*Sg	Sg	**19 27 05.8**	**-1.6**
	0.5nm,0.2s						
LOR	**Lormes**	**2.76**	**252**	*e*Pn	Pn	**19 26 47.3**	**-1.0**
LOR				*e*Pg	Pg	**19 26 55.8**	**-2.6**
LOR				*e*Sg	Sg	**19 27 32.0**	**-3.2**
	2.2nm,0.2s						
SMF	**Signal de Mont**	**3.05**	**241**	*e*Sg	Sg	**19 27 41.1**	**-3.7**
	1.0nm,0.2s						

KRSC 22 19:26:32.3±1.4, 54.81N×164.33E, h40km±19km, ML3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**1.02**	**67**	*i* P	P	19 26 49.0	-1.4
BKI				*i* S	S	19 27 01.6	-2.2
MKZ	**Mys Kozlova**	**1.53**	**261**	*i* P	P	19 26 57.4	-0.2
MKZ				*e*S	S	19 27 15.5	-1.0
KBTR	**Krutoberegovo**	**1.64**	**329**	*i* P	P	19 26 56.9	-2.3
KBTR				*e*S	S	19 27 17.1	-2.2
KBG	**Krutoberegovo**	**1.72**	**328**	P	P	19 27 02.9	+2.6
KBG				*e*S	S	19 27 21.1	-0.1
KBG				Smax			
	400nm,0.7s						
ZLN	**Zelenaya**	**2.35**	**302**	*e*P	P	19 27 09.3	0.0
ZLN				*e*S	S	19 27 36.3	-0.8
CIRR	**Tsirk**	**2.42**	**304**	*e*P	P	19 27 10.2	-0.2
CIRR				*e*S	S	19 27 37.4	-1.6
LGNR	**Loginova**	**2.44**	**303**	*e*P	P	19 27 10.9	+0.4
LGNR				*e*S	S	19 27 38.0	-1.3
TUMR	**Tumrok**	**2.45**	**283**	*e*P	P	19 27 10.7	-0.1
TUMR				*e*S	S	19 27 39.1	-0.7
SVLR	**Shiveluch**	**2.50**	**316**	*e*P	P	19 27 12.0	+0.6
SVLR				*e*S	S	19 27 42.0	+1.1
KMNR	**Kamenistaya**	**2.53**	**294**	*e*P	P	19 27 12.4	+0.6
KMNR				*e*S	S	19 27 42.5	+0.9
KRSR	**Krestovskiy**	**2.56**	**305**	*e*P	P	19 27 11.5	-0.9
KRSR				*e*S	S	19 27 41.3	-1.3
KLY	**Klyuchi**	**2.58**	**307**	*e*P	P	19 27 10.7	-1.8
KLY				*e*S	S	19 27 39.9	-3.0
KPT	**Kopyto**	**2.61**	**298**	*e*P	P	19 27 13.7	+0.6
KPT				*e*S	S	19 27 45.0	+1.1
KOZ	**Kozyrevsk**	**2.83**	**298**	*e*P	P	19 27 17.3	+1.1
KOZ				*e*S	S	19 27 49.6	+0.2
KII	**Karymskiy**	**2.96**	**257**	*e*P	P	19 27 16.9	-1.0
KII				*e*S	S	19 27 50.2	-2.3
SRDR	**Sredinnyy**	**3.02**	**302**	*e*P	P	19 27 19.1	+0.2
SRDR				*e*S	S	19 27 53.7	-0.6
SPN	**Mys Shipunski**	**3.07**	**238**	*e*P	P	19 27 18.4	-1.2
SPN				*e*S	S	19 27 53.1	-2.3
NLC	**Nalytchevo**	**3.37**	**243**	*e*P	P	19 27 24.4	+0.6
NLC				*e*S	S	19 28 01.6	-1.5
SDLR	**Sedlovina**	**3.56**	**247**	*e*P	P	19 27 26.8	+0.3
SDLR				*e*S	S	19 28 06.8	-1.0
SMAR	**Somma**	**3.61**	**247**	*e*P	P	19 27 28.2	+1.0
SMAR				*e*S	S	19 28 08.0	-1.1
AVH	**Avacha**	**3.64**	**247**

	SNR=18						
KOLN	**Kolodanda**	**13.84**	**125**	*e*P	**P**	**19 57 21.8**	**+1.6**
GKN	**Gorkha**	**14.39**	**121**	*e*P	**P**	**19 57 28.4**	**+0.9**
	5.7nm,0.3s						
DMN	**Daman**	**14.96**	**122**	*e*P	**P**	**19 57 34.4**	**-0.6**
KKN	**Kakani**	**14.96**	**121**	*e*P	**P**	**19 57 35.1**	**0.0**
	2.1nm,0.2s						
PKI	**Pulchoki**	**15.19**	**121**	*e*P	**P**	**19 57 37.0**	**-1.0**
	1.8nm,0.2s						
GUN	**Gumba**	**15.31**	**119**	*e*P	**P**	**19 57 38.6**	**-1.0**
	4.7nm,0.4s						

JMA ***22*** *20:19:18.5±0.3,23.98N×121.83E,h72km,M2.5*
TAP 22 20:19:17.3,23.93N×121.80E,h46km,ML3.4,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**1.23**	**64**	P	P	20 19 39.5	+1.2
YOJ				S	S	20 19 55.3	+1.3
IRIF	**Iriomote-Funau**	**1.81**	**77**	P	P	20 19 47.3	+0.7
IRIF				S	S	20 20 09.4	+1.0
HATJ	**Hateruma jima**	**1.84**	**86**	P	P	20 19 48.1	+1.1
HATJ				S	S	20 20 10.5	+1.3
JKRS	**Kuro-shima**	**2.04**	**81**	P	P	20 19 51.0	+1.1
JKRS				S	S	20 20 15.5	+1.2
JIJ	**Ishigaki jima**	**2.18**	**78**	P	P	20 19 52.2	+0.3
JIJ				S	S	20 20 17.2	-0.6
JTJ	**Tarama**	**2.74**	**74**	S	S	20 20 32.3	+0.3

IDC ***22*** *20:24:37.4±1.8,0.05N×17.42W,mb3.9/6,mb1 4.2/7, mb1mx4.0/19,ML3.9/1,MS3.4/5,Ms1 3.5/5,ms1mx3.2/26, Error ellipse: s-maj=54.9km s-min=36.8km az=149.0*
NEIC ***22*** *20:24:38.5±0.8,0.09S×17.34W,h10km,mb4.1/1,Error ellipse: s-maj=33.4km s-min=13.6km az=155.0*
ISC 22 20:24:40.9±0.7,0.8N±0.1×17.4W±0.2,h10km,n17, σ1§04/14,mb4.0/7,MS3.5/5,2C,North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DBIC	**Dimbokro**	**13.82**	**65**	Pn	**P**	**20 27 58.7**	**-0.8**
	0.5nm,0.3s,baz=238,slow=15,SNR=19						
DBIC				Sn	**S**	**20 30 22.2**	**-12**
	0.3nm,0.3s,baz=201,slow=19,SNR=3.2						
DBIC	**Dimbokro**	**13.82**	**65**	Pn	**P**	**20 27 58.7**	**-0.8**
DBIC				Sn	**S**	**20 30 22.2**	**-12**
BDFB	**Brasilia**	**34.36**	**240**	LR	LR	20 42 58.2	
	comp=Z,99nm,19.8s,MS3.5,baz=112,slow=32						
SAML	**Samuel**	**46.61**	**257**	P	**P**	**20 33 06.2**	**-5.3**
	1.6nm,0.9s,mb4.0						
CPUP	**Villa Florida**	**46.99**	**232**	LR	LR	20 50 03.6	
	comp=Z,54nm,18.5s,MS3.5,baz=255,slow=33						
LPAZ	**La Paz**	**52.83**	**249**	LR	LR	20 55 20.4	
	comp=Z,36nm,21.6s,MS3.4,baz=257,slow=35						
GERES	**GERESS Array B**	**54.84**	**25**	P	**P**	**20 34 14.6**	**+1.0**
	1.2nm,0.8s,mb4.0,baz=211,slow=7.8,SNR=12						
EIL	**Elat**	**57.44**	**55**	LR	LR	21 01 22.8	
	comp=Z,32nm,20.2s,MS3.4,baz=28,slow=38						
BRTR	**Keskin Array B**	**60.43**	**44**	P	**P**	**20 34 53.6**	**+0.5**
	0.9nm,0.7s,mb3.9,baz=231,slow=7.9,SNR=5.9						
AKASG	**Malin Array Be**	**63.43**	**31**	P	**P**	**20 35 12.2**	**-0.9**
	0.4nm,0.5s,mb3.9,baz=234,slow=6.5,SNR=7.8						
NOA	**NORSAR Array B**	**63.94**	**15**	P	**P**	**20 35 16.4**	**+0.1**
	0.8nm,0.7s,mb3.9,baz=247,slow=15,SNR=3.3						
NOA				LR	LR	21 05 06.7	
	comp=Z,24nm,19.2s,MS3.4,baz=340,slow=38						
FINES	**FINESS Array B**	**68.86**	**21**	P	**P**	**20 35 48.5**	**+0.9**
	2.3nm,0.6s,mb4.3,baz=191,slow=7.1,SNR=9.3						
VNA1	**Neumayer--Stat**	**71.58**	**177**	⇑*i*	**P**	**20 36 05.2**	**+1.2**
VNA2	**Neumayer--Watz**	**71.90**	**177**		**P**	**20 36 07.0**	**+1.0**
VNA3	**Neumayer Olymp**	**72.10**	**177**	⇑*i*	**P**	**20 36 05.2**	**-1.9**
TXAR	**Lajitas Array**	**86.34**	**299**	P	**P**	**20 37 23.9**	**-1.2**
	1.2nm,0.8s,mb4.2,baz=90,slow=6.3,SNR=3.1						
WRA	**Warramunga Arr**	**146.45**	**126**	PKPbc	PKPbc	20 44 19.2	-4.0
	0.4nm,0.9s,baz=240,slow=2.9,SNR=4.6						

IDC ***22*** *20:49:51.4±2.3,3.91S×101.98E,mb3.9/8,mb1 4.1/8, mb1mx3.9/16,Error ellipse: s-maj=107.0km s-min=16.2km az=56.0*
DJA ***22*** *20:49:51.1±1.2,3.57S×101.40E,h80km,MD4.8/2, ML4.9/2,Error ellipse: s-maj=43.5km s-min=21.9km az=60.0*
NEIC ***22*** *20:49:57.4±5.6,3.94S×101.99E,h46km±51km,mb4.3/2, Error ellipse: s-maj=36.9km s-min=9.5km az=60.0*
ISC 22 20:49:53.2±0.8,4.1S±0.1×101.48E±0.10,h33km,n15, σ1§30/16,mb4.0/10,4C,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSI	**Kapahiang**	**1.18**	**71**	*e*Pn	**Pn**	**20 50 11.5**	**-2.1**
PENI	**Pendagan**	**3.98**	**112**	⇑*e*Pn	**Pn**	**20 50 54.9**	**+1.4**
	223nm,0.2s						
PENI				⇑*i*Sn	**Sn**	**20 51 40.5**	**+0.9**
PASI	**Pasiripis**	**4.86**	**123**	⇑*e*Pn	**Pn**	**20 51 07.1**	**+1.0**
	132nm,0.3s						
PASI				⇑*i*Sn	**Sn**	**20 52 03.0**	**+1.1**
CMAR	**Chiang Mai Arr**	**22.50**	**354**	P	**P**	**20 54 52.3**	**+0.8**
	0.5nm,0.6s,mb3.1,baz=186,slow=9.3,SNR=4.8						
FITZ	**Fitzroy Crossi**	**27.46**	**122**	P	**P**	**20 55 37.0**	**-1.6**
	1.3nm,0.7s,mb3.6,baz=349,slow=10,SNR=3.1						
WRA	**Warramunga Arr**	**35.70**	**119**	P	**P**	**20 56 48.1**	**-2.8**
	1.0nm,0.5s,mb4.0,baz=301,slow=9.0,SNR=19						
WRAB	**Tennant Creek**	**35.71**	**119**	*e*P	**P**	**20 56 47.3**	**-3.6**
	2.2nm,0.4s,mb4.4						
ASAR	**Alice Springs**	**36.87**	**125**	P	**P**	**20 56 59.0**	**-1.6**
	0.9nm,0.3s,mb4.0,baz=299,slow=7.8,SNR=12						
STKA	**Stephens Creek**	**46.70**	**131**	P	**P**	**20 58 20.3**	**-0.6**
	3.2nm,0.8s,mb4.3,baz=320,slow=11,SNR=6.9						
SONM	**Songino Array**	**51.84**	**4**	P	**P**	**20 59 00.0**	**-0.3**
	0.4nm,0.6s,mb3.5,baz=188,slow=8.8,SNR=5.6						
KURK	**Kurchatov**	**57.98**	**343**	P	**P**	**20 59 45.5**	**+0.6**
ZAL	**Zalesovo**	**59.44**	**349**	P	**P**	**20 59 55.3**	**+0.3**
	0.9nm,0.4s,mb4.2,baz=332,slow=4.7,SNR=3.4						
CASY	**Casey**	**62.44**	**176**	*e*P	**P**	**21 00 15.5**	**+0.3**
	0.7nm,0.3s,mb4.3						
BVAR	**Borovoye Array**	**62.60**	**339**	P	**P**	**21 00 18.1**	**+1.6**
	1.8nm,0.7s,mb4.3,baz=218,slow=42,SNR=4.0						
TXAR	**Lajitas Array**	**145.35**	**41**	PKP	PKPdf	21 09 29.1	+0.6
	0.5nm,0.4s,baz=315,slow=1.3,SNR=5.1						

LDG ***22*** *20:50:59.0±0.1,42.32N×2.18E,h4km,MI1.8/6,Error ellipse: s-maj=2.4km s-min=1.7km az=64.0*
MDD 22 20:50:59.6±0.3,42.33N×2.16E,mbLg1.2/11,Error ellipse: s-maj=2.7km s-min=2.6km az=20.0,PRXIMO AftershockPLICA,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBRU	**Bruguera**	**0.04**	**160**	Pg	Pg	20 51 00.2	-0.3
VALF	**Valcebollere**	**0.13**	**305**	P	Pg	20 51 01.7	-0.4
VALF				S	Sg	20 51 03.6	-0.2
CLLI	**Llivia**	**0.20**	**318**	Pg	Pg	20 51 03.1	-0.6
CARF	**Carcanieres**	**0.39**	**354**	P	Pg	20 51 06.9	-0.5
CARF				S	Sg	20 51 11.9	-0.6
EJON	**La Jonquera**	**0.55**	**77**	Pg	Pg	20 51 10.2	-0.4
	0.6nm,0.1s,SNR=7.9						
EJON				Lg		20 51 17.1	
	1.2nm,0.1s,SNR=7.9						
CFON	**Fontmartina**	**0.60**	**160**	Pg	Pg	20 51 10.3	-1.3
EMIR	**Miracle**	**0.63**	**229**	Pg	Pg	20 51 10.9	-1.2
	1.3nm,0.2s,SNR=7.9						
EMIR				Lg		20 51 19.7	
	4.8nm,0.1s,SNR=7.9						
CORG	**Organya**	**0.63**	**261**	Pg	Pg	20 51 11.4	-0.8
MTLF	**Montolieu**	**1.01**	**2**	*e*Pg	Pg	20 51 18.5	-1.3
MTLF				*e*Sg	Sg	20 51 31.8	-1.5
	2.2nm,0.2s						
EPOB	**Poblet**	**1.27**	**220**	Pg	Pg	20 51 23.1	-1.7
	0.4nm,0.1s,SNR=7.9						
EPOB				Lg		20 51 39.3	
	1.6nm,0.1s,SNR=7.9						
EPF	**Esparros**	**1.52**	**298**	*e*Pg	Pg	20 51 27.8	-2.0
EPF				*e*Sg	Sg	20 51 46.8	-3.2
	1.7nm,0.3s						
EBIE	**Bielsa**	**1.53**	**284**	Pg	Pg	20 51 28.9	-1.2
	0.3nm,0.1s,SNR=7.9						
EBIE				Lg		20 51 50.1	
	1.2nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**2.05**	**254**	Pg	Pg	20 51 38.3	-2.2
	1.5nm,0.1s,SNR=4.0						
ESAC				Lg		20 52 04.5	
	3.8nm,0.2s,SNR=7.9						
ETSF	**Etsaut**	**2.09**	**287**	*e*Pg	Pg	20 51 38.1	-3.1
ETSF				*e*Sg	Sg	20 52 04.9	-4.1
	1.8nm,0.3s						
LASF	**Ste Croix**	**2.14**	**35**	*e*Sg	Sg	20 52 08.3	-2.6
	0.5nm,0.2s						
CAF	**Calviac**	**2.60**	**359**	*e*Sg	Sg	20 52 20.9	-5.2
	1.2nm,0.2s						
SJPF	**Ste Jean**	**2.62**	**289**	*e*Sg	Sg	20 52 21.5	-5.1
	0.9nm,0.3s						

CSEM ***22*** *21:06:37.8±0.4,45.53N×26.40E,h120km±3km,MD3.5/8, Error ellipse: s-maj=4.6km s-min=3.4km az=144.0*
BUC ***22*** *21:06:37.3±0.8,45.47N×26.39E,h136km±7km,MD3.5/8, Error ellipse: s-maj=5.9km s-min=4.8km az=51.0*
ISC 22 21:06:37.5±1.2,45.51N±0.05×26.43E±0.07,h131km±8km, n12,σ0§77/23,7C-2D,Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MLR	**Muntele Rosu**	**0.34**	**267**	⇑*i*P	**P**	**21 06 56.4**	**+0.4**
MLR				*i* S	**S**	**21 07 10.2**	**0.0**
ISR	**Istrita**	**0.40**	**168**	⇑*i*P	**P**	**21 06 56.9**	**+0.6**
ISR				*i* S	**S**	**21 07 10.4**	**-0.2**
VRI	**Vrincioaia**	**0.41**	**30**	⇑*i*P	**P**	**21 06 57.1**	**+0.7**
VRI				S	**S**	**21 07 11.3**	**+0.6**
BRD	**Bordesti**	**0.42**	**84**	⇑*i*P	**P**	**21 06 58.3**	**+1.9**
BRD				S	**S**	**21 07 15.0**	**+4.2**
SNX	**Sinaia**	**0.66**	**257**	⇑*i*P	**P**	**21 06 58.6**	**+0.7**
SNX				*i* S	**S**	**21 07 13.2**	**-0.2**
MTUR	**Matau**	**1.00**	**254**	⇓*i*P	**P**	**21 07 00.3**	**-0.5**
MTUR				*i* S	**S**	**21 07 17.5**	**-0.9**
BUC	**Bucharest**	**1.12**	**192**	*i* S	**S**	**21 07 21.1**	**+0.6**
BUC1	**Bucharest**	**1.20**	**194**	⇑*i*P	**P**	**21 07 02.5**	**-0.2**
BUC1				*i* S	**S**	**21 07 21.1**	**-0.8**
CFR	**Carcaliu**	**1.25**	**105**	⇓*i*P	**P**	**21 07 03.6**	**+0.3**
CFR				*i* S	**S**	**21 07 22.8**	**-0.1**
TIRR	**Tirgusor**	**1.76**	**126**	⇑*i*P	**P**	**21 07 09.2**	**+0.2**
TIRR				S	**S**	**21 07 31.6**	**-1.5**
KIS	**Kishinev**	**2.23**	**47**	*e*P	**P**	**21 07 14.5**	**-0.4**
KIS				*e*S	**S**	**21 07 42.5**	**-0.8**
	200nm,1.0s						
BURAR	**Bucovina Array**	**2.26**	**339**	P	**P**	**21 07 16.1**	**+0.8**
BURAR				*i* S	**S**	**21 07 42.8**	**-1.3**

NEIC ***22*** *21:10:13.9,38.08N×15.30E,h10km,MD3.5(ROM),After ROM.*
CSEM ***22*** *21:10:14.0±0.1,38.06N×15.32E,h12km,ML3.2/6,Error ellipse: s-maj=2.1km s-min=1.4km az=140.0*
ROM 22 21:10:13.9±0.1,38.08N×15.30E,h10km±3km,MD3.5/4, ML3.2/6,11C-6D,Error ellipse: s-maj=1.9km s-min=1.2km az=0.0,Sicily

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATN	**Antennamare**	**0.15**	**58**	*e*Pg	Pg	21 10 18.5	+1.1
ATN	**Antennamare**	**0.15**	**58**	*e*Pg	Pg	21 10 18.5	+1.1
MSI	**Messina ING**	**0.23**	**58**	⇓*i*Pg	Pg	21 10 19.9	+1.0
MSI	**Messina ING**	**0.23**	**58**	⇓*i*Pg	Pg	21 10 19.9	+1.0
MTTG	**Motta San Giov**	**0.32**	**104**	⇑*i*Pg	Pg	21 10 21.1	+0.6
MTTG	**Motta San Giov**	**0.32**	**104**	⇑*i*Pg	Pg	21 10 21.1	+0.6
SCLL	**Scilla**	**0.37**	**61**	⇓*i*Pg	Pg	21 10 21.9	+0.4
SCLL	**Scilla**	**0.37**	**61**	⇓*i*Pg	Pg	21 10 21.9	+0.4
GMB	**Gambarie**	**0.42**	**78**	⇓*i*Pg	Pg	21 10 23.0	+0.5
GMB				SG	Sg	21 10 29.3	+1.0
GMB	**Gambarie**	**0.42**	**78**	⇓*i*Pg	Pg	21 10 23.0	+0.4
GMB				*e*Sg	Sg	21 10 29.3	+1.0
MNO	**Monte Soro**	**0.50**	**253**	⇑*i*PG	Pg	21 10 24.8	+0.7
MNO	**Monte Soro**	**0.50**	**253**	⇑*i*Pg	Pg	21 10 24.8	+0.6
SOI	**Samo**	**0.59**	**91**	⇑*i*PG	Pg	21 10 25.6	-0.3
SOI	**Samo**	**0.59**	**91**	⇑*i*Pg	Pg	21 10 25.6	-0.3
AGST	**Augusta-Monte**	**0.82**	**184**	⇑*i*PG	Pg	21 10 29.9	-0.6
AGST				SG	Sg	21 10 42.8	+1.2
	627nm,0.4s						
AGST	**Augusta-Monte**	**0.82**	**184**	⇑*i*Pg	Pg	21 10 29.9	-0.6
AGST				*e*Sg	Sg	21 10 42.8	+1.3
AGST	**Augusta-Monte**	**0.82**	**184**	⇑*i*Pg	Pg	21 10 29.9	-0.6
	627nm,0.4s						
AGST				Sg	Sg	21 10 42.8	+1.2
PLLN	**Pollina**	**0.92**	**265**	*e*PG	Pg	21 10 31.7	-0.7
CSLB	**Castelbuono**	**0.99**	**262**	*e*PG	Pg	21 10 32.6	-1.2
CSLB				SG	Sg	21 10 47.7	+0.5
CSLB	**Castelbuono**	**0.99**	**262**	*e*Pg	Pg	21 10 32.6	-1.2
CSLB				*e*Sg	Sg	21 10 47.7	+0.5
GIB	**Gibilmanna**	**1.01**	**265**	*e*PG	Pg	21 10 32.9	-1.3
GIB				SG	Sg	21 10 49.5	+1.7
GIB	**Gibilmanna**	**1.01**	**265**	*e*Pg	Pg	21 10 32.9	-1.3
GIB				*e*Sg	Sg	21 10 49.5	+1.7
MEU	**Monte Lauro**	**1.02**	**197**	*e*PN	Pn	21 10 33.8	-0.3
MEU	**Monte Lauro**	**1.02**	**197**	*e*Pg	Pg	21 10 33.8	-0.6
GRI	**Girifalco**	**1.15**	**49**	*e*PN	Pn	21 10 34.7	-1.2
GRI	**Girifalco**	**1.15**	**49**	*e*Pg	Pg	21 10 34.7	-2.2
TDS	**Terranova Siba**	**1.77**	**27**	*e*PN	Pn	21 10 43.0	-1.8
TDS	**Terranova Siba**	**1.77**	**27**	*e*Pn	Pn	21 10 43.0	-1.9
USI	**Ustica**	**1.78**	**291**	⇑*i*PN	Pn	21 10 42.8	-2.2
USI	**Ustica**	**1.78**	**291**	⇑*i*Pn	Pn	21 10 42.8	-2.2
CRJA	**Costa Raja**	**1.84**	**262**	*e*PN	Pn	21 10 46.4	+0.6
CRJA	**Costa Raja**	**1.84**	**262**	*e*Pn	Pn	21 10 46.4	+0.5
MFNL	**Monte Finestre**	**1.91**	**262**	*e*PN	Pn	21 10 47.5	+0.7
MFNL	**Monte Finestre**	**1.91**	**262**	*e*Pn	Pn	21 10 47.5	+0.7
ERC	**Erice**	**2.15**	**270**	*e*PN	Pn	21 10 50.4	+0.2
	408nm,0.7s						
ERC	**Erice**	**2.15**	**270**	*e*Pn	Pn	21 10 50.4	+0.2
ERC	**Erice**	**2.15**	**270**	*e*Pn	Pn	21 10 50.4	+0.2
	408nm,0.7s						
ORI	**Oriolo Calabro**	**2.17**	**24**	*e*PN	Pn	21 10 50.3	-0.3
	148nm,0.4s						
ORI	**Oriolo Calabro**	**2.17**	**24**	*e*Pn	Pn	21 10 50.2	-0.3
ORI	**Oriolo Calabro**	**2.17**	**24**	*e*Pn	Pn	21 10 50.2	-0.4
SLCN	**Sala Consilina**	**2.32**	**6**	*e*PN	Pn	21 10 51.4	-1.3
SLCN				SN	Sn	21 11 20.5	-1.0
	99nm,0.3s						
SLCN	**Sala Consilina**	**2.32**	**6**	*e*Pn	Pn	21 10 51.4	-1.3
SLCN				*e*Sn	Sn	21 11 20.5	-1.1
SLCN	**Sala Consilina**	**2.32**	**6**	*e*Pn	Pn	21 10 51.4	-1.3
	99nm,0.3s						
SLCN				Sn	Sn	21 11 20.5	-1.0
LVI	**Isola Levanzo**	**2.34**	**269**	*e*PN	Pn	21 10 52.7	-0.3
LVI	**Isola Levanzo**	**2.34**	**269**	*e*Pn	Pn	21 10 52.7	-0.3
SGO	**Sicignano**	**2.48**	**0**	*e*PN	Pn	21 10 53.3	-1.6
	63nm,0.4s						
SGO	**Sicignano**	**2.48**	**0**	*e*Pn	Pn	21 10 53.3	-1.6
SGO	**Sicignano**	**2.48**	**0**	*e*Pn	Pn	21 10 53.3	-1.6
	63nm,0.4s						
MRLC	**Muro Lucano**	**2.68**	**3**	*e*PN	Pn	21 10 57.4	-0.4
	32nm,0.4s						
MRLC	**Muro Lucano**	**2.68**	**3**	*e*Pn	Pn	21 10 57.4	-0.4
MRLC	**Muro Lucano**	**2.68**	**3**	*e*Pn	Pn	21 10 57.4	-0.4
	32nm,0.4s						
CDT	**Castel del Mon**	**3.09**	**14**	*e*Pn	Pn	21 11 02.1	-1.6
PE1	**Pezze di Greco**	**3.18**	**30**	*e*Pn	Pn	21 11 02.9	-2.0
MS1	**Monte Sant'Ang**	**3.65**	**8**	*e*Pn	Pn	21 11 10.2	-1.5
PUK	**Puka**	**5.30**	**40**	*i* Pn	Pn	21 11 33.3	-1.7
PUK				*i* Sn	Sn	21 11 31.6	-5.2
PGF	**Pioggiola**	**6.56**	**315**	*e*Pn	Pn	21 11 50.7	-2.2
PGF				*e*Sn	Sn	21 13 05.2	-3.4
	2.8nm,0.5s						
LMR	**La Mourre**	**8.49**	**311**	*e*Pn	P	21 12 15.5	-4.3
FRF	**La Foret Royal**	**8.54**	**313**	*e*Pn	P	21 12 17.9	-2.7
MBDF	**Montbardon**	**9.22**	**319**	*e*Pn	P	21 12 27.6	-2.4
LPG	**La Plagne**	**9.78**	**322**	*e*P	P	21 12 40.1	+2.5
LPL	**La Plagne**	**9.80**	**322**	*e*P	P	21 12 40.4	+2.5

IDC ***22*** *21:15:14.4±0.9,79.38N×3.04E,mb3.8/6,mb1 4.1/9, mb1mx3.8/20,ML3.5/3,MS3.3/10,Ms1 3.3/10, ms1mx3.1/21,Error ellipse: s-maj=41.5km s-min=14.8km az=53.0*
CSEM ***22*** *21:15:14.0±0.1,79.31N×2.44E,h10km,mb4.1/3,Error ellipse: s-maj=9.3km s-min=3.0km az=41.0*
NEIC ***22*** *21:15:15.7±0.6,79.24N×2.76E,h10km,mb4.2/3,Error ellipse: s-maj=16.8km s-min=8.7km az=210.0*
NAO ***22*** *21:15:19.2±4.1,79.31N×5.66E,ML2.5*
BER ***22*** *21:15:19.6±2.1,79.38N×5.68E,h3km±29km,ML2.5(NAO)*
ISC 22 21:15:13.5±0.5,79.16N±0.09×2.7E±0.3,h10km,n41, σ1§23/35,mb3.9/9,MS3.3/7,5C,Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPA0	**Spitsbergen Ar**	**2.87**	**103**	Pn	**Pn**	**21 15 59.0**	**-1.2**
	baz=305,slow=7.4						
SPA0				Lg		21 16 33.9	
	baz=309,slow=37						
DAG	**Danmarks Havn**	**5.05**	**253**	⇑*i*P	**Pn**	**21 16 30.3**	**-0.9**
	3.4nm,0.4s						
DAG				*i*		21 17 24.1	
ARA0	**ARCESS Array S**	**11.32**	**136**	Pn	**P**	**21 17 56.6**	**-1.5**
	baz=352,slow=14						
ARA0				Sn	**S**	**21 19 55.2**	**-11**
	baz=346,slow=22						
ARCES	**ARCESS Array B**	**11.32**	**136**	Pn	**P**	**21 17 56.4**	**-1.7**
	0.5nm,0.3s,baz=340,slow=11,SNR=11						
ARCES				Sn	**S**	**21 19 55.3**	**-10**
	0.2nm,0.3s,baz=348,slow=21,SNR=3.2						
ARCES				LR	LR	21 21 50.0	
	comp=Z,124nm,21.5s,baz=191,slow=35						
ARCES	**ARCESS Array B**	**11.32**	**136**	Pn	**P**	**21 17 56.4**	**-1.7**
ARCES				Sn	**S**	**21 19 55.3**	**-10**
ARCES				LR	LR	21 21 50.0	
ARCES	**ARCESS Array B**	**11.32**	**136**	Sn	**S**	**21 19 55.3**	**-10**
SUMG	**Summit**	**11.70**	**258**	*e*P	**P**	**21 18 00.7**	**-2.6**
	13nm,0.6s						
NOA	**NORSAR Array B**	**18.40**	**167**	LR	LR	21 25 17.0	
	comp=Z,72nm,18.9s,baz=345,slow=32						
FIA0	**FINESS Array S**	**19.16**	**145**	P	**P**	**21 19 40.8**	**+1.6**
	baz=334,slow=10						
FINES	**FINESS Array B**	**19.16**	**145**	P	**P**	**21 19 40.2**	**+1.1**
	0.2nm,0.3s,baz=349,slow=9.7,SNR=10						
FINES				LR	LR	21 26 38.1	
	comp=Z,97nm,18.6s,baz=54,slow=35						
HFS	**Hagfors**	**19.43**	**163**	P	**P**	**21 19 44.5**	**+2.2**
	baz=349,slow=5.6						
HFS	**Hagfors**	**19.43**	**163**	P	**P**	**21 19 43.1**	**+0.8**
	0.1nm,0.3s,slow=8.9,SNR=10						
FRB	**Frobisher Bay**	**24.97**	**274**	LR	LR	21 30 36.0	
	comp=Z,86nm,18.6s,MS3.3,baz=320,slow=37						
AKASG	**Malin Array Be**	**30.06**	**145**	P	**P**	**21 21 25.5**	**+1.0**
	0.6nm,0.6s,mb3.5,baz=348,slow=9.4,SNR=5.0						
INK	**Inuvik**	**30.60**	**330**	P	**P**	**21 21 27.2**	**-1.9**
	2.2nm,0.9s,mb4.0,baz=13,slow=9.6,SNR=5.1						
INK				LR	LR	21 33 05.5	
	comp=Z,37nm,18.8s,MS3.1,baz=187,slow=35						
SCHQ	**Schefferville**	**32.95**	**265**	LR	LR	21 34 59.4	
	comp=Z,31nm,18.2s,MS3.1,baz=84,slow=36						
YKA	**Yellowknife Ar**	**33.97**	**312**	LR	LR	21 35 56.7	
	comp=Z,62nm,19.3s,MS3.4,slow=37						
BRVK	**Borovoye**	**34.26**	**98**	*e*P	**P**	**21 22 02.0**	**+0.8**
	2.6nm,0.9s,mb4.2						
BRVK	**Borovoye**	**34.26**	**98**	*e*P	**P**	**21 22 02.0**	**+0.8**
	2.6nm,0.9s,mb4.2						
ILAR	**Eielson Array**	**35.19**	**338**	P	**P**	**21 22 08.8**	**-0.2**
	0.7nm,0.8s,mb3.6,baz=2.2,slow=7.2,SNR=8.8						
KURK	**Kurchatov**	**38.07**	**91**	*e*P	**P**	**21 22 33.0**	**-0.4**
	8.5nm,1.3s,mb4.3						
KURK	**Kurchatov**	**38.07**	**91**	*e*P	**P**	**21 22 33.0**	**-0.4**
	8.5nm,1.3s,mb4.3						
BRTR	**Keskin Array B**	**41.39**	**143**	P	**P**	**21 23 04.3**	**+3.3**
	1.0nm,0.9s,mb3.4,baz=350,slow=8.8,SNR=3.1						
BRTR				LR	LR	21 41 33.8	
	comp=Z,27nm,21.8s,MS3.1,baz=240,slow=38						
BRTR	**Keskin Array B**	**41.39**	**143**	P	**P**	**21 23 04.3**	**+3.3**
MALT	**Malatya**	**43.36**	**138**	P	**P**	**21 23 17.8**	**+0.8**
	1.1nm,0.4s,mb3.9						
MALT	**Malatya**	**43.36**	**138**	P	**P**	**21 23 17.8**	**+0.8**
	1.1nm,0.4s,mb3.9						
PV10	**Paradox Valley**	**56.50**	**299**	*e*P	**P**	**21 24 59.2**	**+1.6**
PV10	**Paradox Valley**	**56.50**	**299**	*e*P	**P**	**21 24 59.2**	**+1.6**
PV01	**Paradox Valley**	**56.66**	**298**	*e*P	**P**	**21 24 59.0**	**+0.2**
PV01	**Paradox Valley**	**56.66**	**298**	*e*P	**P**	**21 24 59.0**	**+0.3**
MSU	**Marysvale**	**56.88**	**302**	*e*P	**P**	**21 25 01.2**	**+0.9**
MSU	**Marysvale**	**56.88**	**302**	*e*P	**P**	**21 25 01.2**	**+0.9**
MVU	**Marysvale**	**56.89**	**302**	P	**P**	**21 25 01.4**	**+1.0**
MVU	**Marysvale**	**56.89**	**302**	P	**P**	**21 25 01.4**	**+1.0**
NVAR	**Mina Array Bea**	**57.91**	**307**	LR	LR	21 47 41.9

12nm,1.1s,mb4.8
DMN Daman 48.61 278 *e*P P **22 08 24.8 -0.5**
GKN Gorkha 48.84 279 *e*P P **22 08 26.9 -0.2**
14nm,1.0s,mb4.9
KOLN Koldanda 49.78 279 *e*P P **22 08 34.1 -0.3**
11nm,1.1s,mb4.8
WRA Warramunga Arr 54.30 189 P P **22 09 08.6 +0.2**
0.3nm,0.4s,mb3.6,baz=5.8,slow=7.4,SNR=13
ASAR Alice Springs 58.02 189 P P **22 09 36.0 +1.0**
0.5nm,0.7s,mb3.6,baz=14,slow=13,SNR=6.2

IDC 22 22:17:30.9±1.3, 55.14S×28.50W, mb3.7/3, mb1 4.0/3, mb1mx3.8/9, Error ellipse: s-maj=66.0km s-min=29.8km az=59.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPUP	**Villa Florida**	**35.65 312**		P	P	22 24 29.9	-2.5
	1.8nm,0.6s,baz=160,slow=9.8,SNR=3.8						
VNDA	**Vanda**	**47.44 183**		P	P	22 26 06.3	-2.0
	0.5nm,0.7s,baz=191,slow=8.8,SNR=6.7						
LPAZ	**La Paz**	**49.24 306**		P	P	22 26 21.8	-1.1
	0.5nm,0.5s,baz=218,slow=7.6,SNR=4.4						
ILAR	**Eielson Array**	**148.95 313**		PKPbc	PKPdf	22 37 18.9	+2.1
	1.1nm,0.6s,baz=118,slow=1.6,SNR=26						
SONM	**Songino Array**	**151.41 86**		PKPbc	PKPdf	22 37 25.4	+4.3
	0.3nm,0.7s,baz=192,slow=1.8,SNR=2.8						

IDC 22 22:36:00.2±36.0, 12.58N×58.38E, mb3.7/3, mb1 3.9/3, mb1mx3.5/16, Error ellipse: s-maj=1109.0km s-min=49.6km az=89.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**53.14 39**		P	P	22 45 19.9	-2.1
	0.4nm,1.0s,baz=239,slow=8.4,SNR=3.6						
WRA	**Warramunga Arr**	**81.41 113**		P	P	22 48 19.6	-1.4
	0.6nm,0.7s,baz=297,slow=4.4,SNR=5.4						
ASAR	**Alice Springs**	**82.10 116**		P	P	22 48 23.4	-1.2
	0.7nm,0.6s,baz=294,slow=5.0,SNR=8.8						

*GUC **22** 22:47:56.1±0.7, 28.12S×68.68W, h120km±30km, ML4.2*
*NEIC **22** 22:47:56.1±1.0, 28.12S×68.51W, h101km±32km, mb4.1/3, Error ellipse: s-maj=26.6km s-min=10.0km az=86.0*
ISC 22 22:47:55.2±1.1, 28.10S±0.04×68.6W±0.2, h113km±31km, n9, σ0s85/16, 2C-3D, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPCH	**Copiapo**	**1.76 294**	⇑	*i*P	**P**	**22 48 26.2**	**+0.5**
CPCH				*i*S	**S**	**22 48 48.1**	**-0.6**
CPCH				AMP		22 48 50.5	
	comp=E,6μm,0.1s						
VACH	**Vallenar**	**2.00 256**		*i*P	**P**	**22 48 28.7**	**-0.1**
VACH				*i*S	**S**	**22 48 53.0**	**-0.9**
VACH				AMP		22 48 56.5	
	comp=E,2μm,0.1s						
TLL	**Tololo Astrono**	**2.85 223**	⇓	*i*P	**P**	**22 48 41.5**	**+1.4**
TLL				*i*S	**S**	**22 49 15.4**	**+1.3**
TLL				AMP		22 49 24.3	
	comp=N,292nm,0.3s						
CMCH	**Combarbala**	**3.73 214**	⇓	*i*P	**P**	**22 48 51.5**	**-0.6**
CMCH				*i*S	**S**	**22 49 34.1**	**-1.3**
CPN1	**Cerro Paranal**	**3.84 334**	⇑	*i*P	**P**	**22 48 54.4**	**+0.8**
CPN1				*i*S	**S**	**22 49 39.0**	**+0.9**
FCH	**Farellones**	**5.42 196**	⇓	*i*P	**P**	**22 49 15.6**	**+0.7**
FCH				*i*S	**S**	**22 50 16.2**	**-0.4**
LVC	**Limon Verde**	**5.47 357**		*e*Pn	**P**	**22 49 16.0**	**+0.4**
	comp=N,5.0nm,0.3s						
LVC				*e*Sn	**S**	**22 50 16.3**	**-1.6**
TRQA	**Tornquist**	**11.35 153**		*e*Pn	**P**	**22 50 34.5**	**-0.4**
	comp=N,4.0nm,0.7s						
SAML	**Samuel**	**19.71 16**		P	**P**	**22 52 17.8**	**-0.3**
	comp=N,1.5nm,0.6s						

*IDC **22** 22:51:44.4±0.7, 0.66S×145.74E, mb4.6/12, mb1 4.7/15, mb1mx4.7/17, ML4.4/1, MS3.9/12, Ms1 3.9/12, ms1mx3.8/20, Error ellipse: s-maj=28.2km s-min=15.0km az=103.0*
*NEIC **22** 22:51:51.6±2.0, 0.65S×145.56E, h52km±18km, mb4.6/10, Error ellipse: s-maj=17.5km s-min=11.6km az=91.0*
*BJI **22** 22:51:52.9, 1.46S×145.27E, h79km, mb4.8, Msz3.7*
ISC 22 22:51:50.7±2.3, 0.66S±0.07×145.6E±0.1, h59km±21km, n53, σ0s92/51, mb4.8/34, MS3.9/12, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WAU	**Wau**	**6.74 170**		*e*P	**P**	**22 53 30.6**	**+1.2**
PMG	**Port Moresby**	**8.84 170**		Pn	**P**	**22 53 56.1**	**-2.1**
	0.9nm,0.3s,baz=330,slow=8.4,SNR=6.2						
PMG				Sn	**S**	**22 55 38.4**	**+1.1**
	0.4nm,0.3s,baz=299,slow=20,SNR=1.7						
PMG				LR	LR	22 57 01.4	
	comp=Z,710nm,18.4s,baz=347,slow=36						
PMG	**Port Moresby**	**8.84 170**		*e*P	**P**	**22 53 55.0**	**-3.2**
	12nm,0.8s						
CTA	**Charters Tower**	**19.32 178**		P	**P**	**22 56 14.0**	**0.0**
	0.8nm,0.3s,baz=352,slow=11,SNR=45						
CTAO	**Charters Tower**	**19.32 178**		*e*P	**P**	**22 56 11.8**	**-2.1**
	50nm,0.9s						
WRAB	**Tennant Creek**	**22.08 209**		P	**P**	**22 56 41.0**	**-1.2**
	2μm,0.6s						
WRAB	**Tennant Creek**	**22.08 209**		*e*P	**P**	**22 56 41.5**	**-0.7**
	319nm,0.7s,mb5.9						
WRA	**Warramunga Arr**	**22.09 209**		P	**P**	**22 56 41.9**	**-0.5**
	203nm,0.8s,mb5.6,baz=31,slow=11,SNR=259						
WRA				S	**S**	**23 00 42.2**	**+5.1**
	1.5nm,0.8s,baz=32,slow=16,SNR=3.5						
ASAR	**Alice Springs**	**25.51 205**		P	**P**	**22 57 15.8**	**+0.2**
	58nm,0.8s,mb5.2,baz=37,slow=8.3,SNR=180						
ASAR				LR	LR	23 07 24.6	
	comp=Z,233nm,20.4s,MS3.7,baz=271,slow=37						
FITZ	**Fitzroy Crossi**	**26.14 227**		P	**P**	**22 57 21.0**	**-0.5**
	24nm,0.7s,mb4.8,baz=37,slow=6.0,SNR=58						
FITZ				LR	LR	23 06 49.7	
	comp=Z,123nm,21.4s,MS3.4,baz=71,slow=34						
FITZ	**Fitzroy Crossi**	**26.14 227**		P	**P**	**22 57 21.0**	**-0.5**
FITZ				LR	LR	23 06 49.7	
STKA	**Stephens Creek**	**31.28 186**		P	**P**	**22 58 06.5**	**-0.9**
	6.5nm,0.8s,mb4.5,baz=353,slow=8.4,SNR=9.8						
STKA				LR	LR	23 12 05.0	
	comp=Z,634nm,18.0s,MS4.3,baz=7.8,slow=39						
NWAO	**Narrogin (SRO)**	**41.71 217**		P	**P**	**22 59 35.3**	**-0.3**
	36nm,1.3s,mb4.8,baz=46,slow=12,SNR=3.9						
NWAO				PP	PP	23 01 11.8	-4.1
	23nm,1.1s,baz=37,slow=8.5,SNR=4.1						
MDJ	**Mudanjiang**	**47.26 344**		P	**P**	**23 00 31.0**	**+11**
MDJ				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.8						
RPZ	**Rata Peaks**	**48.53 155**		P	**P**	**23 00 31.7**	**+1.8**
	comp=Z,7.4nm,1.0s,mb4.7,baz=315,slow=4.3,SNR=2.2						
BJI	**Beijing**	**48.58 330**		P	**P**	**23 00 34.8**	**+4.5**
BJI				S	**S**	**23 07 34.8**	**+8.5**
BJI				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.4						
BJI				LR	LR		
	comp=Z,73nm,19.0s,MS3.7						
BJI	**Beijing**	**48.58 330**		P	**P**	**23 00 34.8**	**+4.5**
	comp=Z,40nm,1.0s,mb5.4						
BJI				S	**S**	**23 07 34.7**	**+8.4**
BJI				LR	LR		
	comp=Z,70nm,19.0s,MS3.7						
XAN	**Xi'an**	**48.70 319**		P	**P**	**23 00 30.9**	**-0.4**
XAN				AMB	AMB		
	comp=Z,6.0nm,1.4s,mb4.4						
CMAR	**Chiang Mai Arr**	**49.58 295**		P	**P**	**23 00 39.8**	**+1.5**
	comp=Z,15nm,0.9s,mb5.0,baz=111,slow=5.7,SNR=67						
CMAR				LR	LR	23 19 32.9	
	comp=Z,72nm,19.3s,MS3.7,baz=275,slow=34						
CD2	**Chengdu**	**50.59 312**		*e*P	**P**	**23 00 46.0**	**+0.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
LZH	**Lanzhou**	**53.28 318**		*e*P	**P**	**23 01 05.0**	**-1.0**
LZH				AMB	AMB		
	comp=Z,23nm,1.6s,mb4.9						
LZH	**Lanzhou**	**53.28 318**		*e*P	**P**	**23 01 05.0**	**-1.0**
	comp=Z,23nm,1.6s,mb4.9						
LZH				pP	pP	23 01 13.5	-8.2
LZH				sP	sP	23 01 18.5	-10
GTA	**Gaotai**	**57.76 319**		*e*P	**P**	**23 01 38.8**	**+0.6**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GTA				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.5						
SHL	**Shillong**	**57.98 301**		*e*P	**P**	**23 01 41.0**	**+1.0**
SONM	**Songino Array**	**59.07 330**		P	**P**	**23 01 47.5**	**+0.3**
	comp=Z,0.8nm,0.9s,mb3.8,baz=150,slow=6.7,SNR=6.3						
GUN	**Gumba**	**63.80 302**		*e*P	**P**	**23 02 19.7**	**+0.3**
	comp=Z,63nm,0.9s,mb5.7						
PKI	**Pulchoki**	**64.11 301**		*e*P	**P**	**23 02 21.6**	**+0.2**
	comp=Z,55nm,1.5s,mb5.3						
KKN	**Kakani**	**64.28 301**		*e*P	**P**	**23 02 22.9**	**+0.4**
	comp=Z,32nm,0.9s,mb5.4						
DMN	**Daman**	**64.38 301**		*e*P	**P**	**23 02 23.7**	**+0.5**
	comp=Z,61nm,1.0s,mb5.6						
GKN	**Gorkha**	**64.89 301**		*e*P	**P**	**23 02 26.8**	**+0.4**
	comp=Z,51nm,1.2s,mb5.5						
KOLN	**Koldanda**	**65.71 301**		*e*P	**P**	**23 02 31.8**	**0.0**
	comp=Z,24nm,0.9s,mb5.2						
CASY	**Casey**	**70.02 194**		*e*P	**P**	**23 02 56.3**	**-1.6**
	comp=Z,8.5nm,1.1s,mb4.6						
DDI	**Dehra Dun**	**71.03 302**		*e*	**P**	**23 03 04.5**	**-0.1**
ZAL	**Zalesovo**	**73.76 327**		P	**P**	**23 03 20.3**	**0.0**
	comp=Z,0.8nm,0.3s,mb4.1,baz=90,slow=4.4,SNR=4.5						
ZAL				LR	LR	23 36 57.1	
	comp=Z,61nm,18.7s,MS3.9,baz=81,slow=37						
KURK	**Kurchatov**	**76.10 323**		*e*P	**P**	**23 03 32.9**	**-0.9**
	comp=Z,5.3nm,0.9s,mb4.5						
AAK	**Ala-Archa**	**76.60 314**		*e*P	**P**	**23 03 36.8**	**0.0**
	comp=Z,2.9nm,0.8s,mb4.3						
VNDA	**Vanda**	**77.30 176**		P	**P**	**23 03 40.5**	**+0.4**
	comp=Z,1.4nm,0.8s,mb4.0,baz=324,slow=5.6,SNR=8.5						
VNDA				LR	LR	23 35 50.8	
	comp=Z,83nm,19.4s,MS4.1,baz=346,slow=34						
SML	**Sawmill**	**79.50 26**		*e*P	**P**	**23 03 51.8**	**-0.6**
MCK	**McKinley**	**79.97 24**		*e*P	**P**	**23 03 54.0**	**-0.9**
	comp=Z,5.4nm,1.0s,mb4.4						
ILAR	**Eielson Array**	**81.18 24**		P	**P**	**23 03 59.9**	**-1.4**
	comp=Z,2.0nm,0.8s,mb4.1,baz=251,slow=5.6,SNR=14						
ILAR				LR	LR	23 34 21.9	
	comp=Z,54nm,20.0s,MS3.9,baz=260,slow=32						
BVAR	**Borovoye Array**	**81.63 324**		P	**P**	**23 04 04.7**	**+0.8**
	comp=Z,3.6nm,0.9s,mb4.3,baz=117,slow=6.6,SNR=13						
BRVK	**Borovoye**	**81.70 324**		*e*P	**P**	**23 04 03.6**	**-0.6**
	comp=Z,3.9nm,0.8s,mb4.4						
MAW	**Mawson**	**86.60 202**		P	**P**	**23 04 29.7**	**+1.3**
	comp=Z,1.0nm,0.6s,mb4.2,baz=60,slow=11,SNR=3.6						
MAW				LR	LR	23 43 25.5	
	comp=Z,96nm,18.0s,MS4.2,baz=235,slow=36						
INK	**Inuvik**	**87.25 22**		P	**P**	**23 04 31.6**	**0.0**
	comp=Z,3.5nm,1.0s,mb4.5,baz=269,slow=4.8,SNR=5.2						
INK				LR	LR	23 38 10.6	
	comp=Z,66nm,21.2s,MS4.0,baz=260,slow=32						
INK	**Inuvik**	**87.25 22**		*e*P	**P**	**23 04 30.8**	**-0.8**
	comp=Z,2.3nm,0.8s,mb4.5						
QSPA	**South Pole Qui**	**89.28 180**		P	**P**	**23 04 40.8**	**-0.3**
	comp=Z,3.2nm,0.7s,mb4.8						
YKA	**Yellowknife Ar**	**95.13 27**		LR	LR	23 42 55.3	
	comp=Z,61nm,19.9s,MS4.1,baz=310,slow=32						
NVAR	**Mina Array Bea**	**95.22 52**		P	**P**	**23 05 11.5**	**+2.1**
	comp=Z,0.7nm,0.7s,mb4.2,baz=268,slow=4.1,SNR=7.2						
NVAR				LR	LR	23 37 48.4	
	comp=Z,52nm,22.0s,MS4.0,baz=30,slow=29						
PDAR	**Pinedale Array**	**101.35 47**		P	P	23 05 37.4	+0.4
	comp=Z,0.2nm,0.4s,baz=307,slow=4.5,SNR=3.5						
GERES	**GERESS Array B**	**116.70 327**		PKP	PKPdf	23 10 32.1	+3.7
	comp=Z,0.6nm,0.9s,baz=31,slow=5.7,SNR=2.9						
LPAZ	**La Paz**	**142.74 118**		PKP	PKPdf	23 11 20.8	+2.4
	comp=Z,0.7nm,0.5s,baz=238,slow=10,SNR=3.9						
LPAZ	**La Paz**	**142.74 118**		PKP	PKPdf	23 11 20.8	+2.4
DBIC	**Dimbokro**	**149.89 282**		PKPbc	PKPdf	23 11 39.0	+8.6
	comp=Z,2.9nm,0.6s,baz=81,slow=3.0,SNR=6.4						

IDC 22 23:03:13.0±3.5, 5.78S×145.77E, mb3.4/2, mb1 3.6/5, mb1mx3.5/14, ML3.5/2, Error ellipse: s-maj=75.9km s-min=30.6km az=67.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.86 159**		Pn	Pn	23 04 13.3	-1.6
	2.9nm,0.3s,baz=299,slow=8.8,SNR=4.1						
PMG				Sn	Sn	23 04 51.7	-10
	6.1nm,0.3s,baz=152,slow=20,SNR=13						
PMG				Lg		23 05 12.3	
	2.6nm,0.3s,baz=355,slow=20,SNR=3.5						
CTA	**Charters Tower**	**14.23 178**		Pn	P	23 06 38.1	-0.1
	0.7nm,0.3s,baz=1.0,slow=15,SNR=6.5						
WRA	**Warramunga Arr**	**17.94 217**		P	P	23 07 23.5	-2.1
	0.1nm,0.3s,baz=42,slow=12,SNR=3.3						
ASAR	**Alice Springs**	**21.14 212**		P	P	23 07 59.5	-2.6
	0.2nm,0.5s,baz=49,slow=8.5,SNR=3.3						
CMAR	**Chiang Mai Arr**	**52.07 299**		P	P	23 12 25.1	-2.1
	0.9nm,0.4s,baz=124,slow=6.3,SNR=4.5						

*IDC **22** 23:04:17.7±1.6, 0.54N×122.86E, mb3.9/4, mb1 4.1/5, mb1mx3.9/16, ML4.3/1, Error ellipse: s-maj=128.0km s-min=23.4km az=71.0*
ISC 22 23:04:20.2±0.9, 0.4N±0.2×122.4E±0.3, h33km, n11, σ0s46/11, mb4.0/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.68 170**		P	**P**	**23 08 39.0**	**+0.9**
	0.6nm,0.3s,baz=5.0,slow=7.2,SNR=14						
WRA	**Warramunga Arr**	**23.36 151**		P	**P**	**23 09 27.0**	**+0.1**
	2.7nm,0.7s,mb3.8,baz=329,slow=10,SNR=24						
ASAR	**Alice Springs**	**26.41 156**		P	**P**	**23 09 55.4**	**-0.6**
	0.8nm,0.5s,mb3.5,baz=342,slow=15,SNR=18						
STKA	**Stephens Creek**	**36.89 152**		P	**P**	**23 11 27.1**	**-0.6**
	3.2nm,0.6s,mb4.3,baz=314,slow=8.0,SNR=7.3						
GUN	**Gumba**	**44.42 311**		*e*P	**P**	**23 12 30.1**	**+0.2**
	16nm,0.6s						
PKI	**Pulchoki**	**44.60 310**		*e*P	**P**	**23 12 31.2**	**-0.1**
KKN	**Kakani**	**44.81 311**		*e*P	**P**	**23 12 33.0**	**0.0**
DMN	**Daman**	**44.85 310**		*e*P	**P**	**23 12 33.5**	**+0.2**
	8.4nm,0.7s						
GKN	**Gorkha**	**45.41 310**		*e*P	**P**	**23 12 37.2**	**-0.6**
	9.7nm,0.6s,mb4.8						
KOLN	**Koldanda**	**46.09 310**		*e*P	**P**	**23 12 43.1**	**-0.1**
	8.8nm,0.6s						
SONM	**Songino Array**	**49.23 346**		P	**P**	**23 13 08.2**	**+0.7**
	0.6nm,0.9s,mb3.6,baz=168,slow=9.6,SNR=5.4						

IDC 22 23:18:45.3±37.0, 13.05S×163.99E, mb4.0/4, mb1 4.2/4, mb1mx3.8/15, Error ellipse: s-maj=630.0km s-min=88.5km az=64.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**27.82 224**		P	P	23 24 36.3	-2.1
	2.1nm,0.7s,baz=21,slow=8.6,SNR=5.6						
WRA	**Warramunga Arr**	**29.22 252**		P	P	23 24 49.1	-2.0
	1.0nm,0.8s,baz=83,slow=9.2,SNR=7.4						
ASAR	**Alice Springs**	**30.39 245**		P	P	23 24 59.5	-2.0
	1.4nm,0.7s,baz=70,slow=9.5,SNR=17						
FITZ	**Fitzroy Crossi**	**37.24 257**		P	P	23 25 58.8	-1.8
	2.4nm,1.0s,baz=89,slow=4.7,SNR=7.1						

BJI 22 23:22:50.3, 39.46N×97.52E, h15km, ML3.8, Gansu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GTA	**Gaotai**	**1.78 91**		PG	Pg	23 23 20.6	-5.3
GTA				SG	Sg	23 23 45.9	-3.7
GTA				Smax			
	comp=N,491nm,0.6s						
GTA				Smax			
	comp=E,400nm,0.4s						

*STR **23** 00:08:28.0±0.3, 42.85N×0.26W, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **23** 00:08:28.3±0.1, 42.85N×0.26W, h2km, Md2.3/2, Ml1.7/4, Error ellipse: s-maj=2.3km s-min=0.9km az=167.0*
MDD 23 00:08:28.5±0.3, 42.85N×0.27W, h8km±4km, mbLg1.4/10, 1C, Error ellipse: s-maj=2.6km s-min=1.4km az=18.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VIEF	**Viey**	**0.21 81**		P	Pg	00 08 32.6	-0.4
VIEF				S	Sg	00 08 35.5	-0.4
ETSF	**Etsaut**	**0.22 283**		*e*Pg	Pg	00 08 32.5	-0.6
ETSF				*e*Sg	Sg	00 08 35.6	-0.6
	25nm,0.3s						

FDAF	**Les Forges d'A**	**0.23 262**		Pg	Pg	00 08 32.8	-0.4
FDAF				Sg	Sg	00 08 35.9	-0.4
FDAF	**Les Forges d'A**	**0.23 262**		P	Pg	00 08 32.7	-0.4
FDAF				S	Sg	00 08 35.9	-0.4
REYF	**Montagne du Re**	**0.24 337**		Pg	Pg	00 08 32.9	-0.5
REYF				Sg	Sg	00 08 36.5	-0.2
REYF	**Montagne du Re**	**0.24 337**		P	Pg	00 08 33.0	-0.4
REYF				S	Sg	00 08 36.5	-0.2
LABF	**Labassere**	**0.32 51**		Pg	Pg	00 08 34.6	-0.3
LABF				Sg	Sg	00 08 39.0	-0.3
LABF	**Labassere**	**0.32 51**		P	Pg	00 08 34.6	-0.3
LABF				S	Sg	00 08 39.1	-0.2
EBIE	**Bielsa**	**0.34 119**	⇑	Pg	Pg	00 08 34.9	-0.5
	1.7nm,0.1s,SNR=18						
EBIE				Lg		00 08 39.5	
	8.2nm,0.1s,SNR=7.9						
ATE	**Arette**	**0.40 307**		P	Pg	00 08 35.8	-0.7
ATE				S	Sg	00 08 41.3	-0.6
EPF	**Esparros**	**0.48 68**		*e*Pg	Pg	00 08 37.5	-0.6
EPF				*e*Sg	Sg	00 08 44.0	-0.6
	8.1nm,0.2s						
LARF	**Larrau**	**0.56 290**		Pg	Pg	00 08 39.2	-0.6
LARF				Sg	Sg	00 08 47.6	+0.3
LARF	**Larrau**	**0.56 290**		P	Pg	00 08 39.2	-0.6
LARF				S	Sg	00 08 46.8	-0.6
SJPF	**Ste Jean**	**0.75 291**		*e*Pg	Pg	00 08 43.0	-0.5
SJPF				*e*Sg	Sg	00 08 52.9	-0.7
	5.6nm,0.3s						
EALK	**Alkurruntz**	**0.98 292**		Pg	Pg	00 08 47.4	-0.8
	0.5nm,0.0s,SNR=4.0						
EALK				Lg		00 09 00.1	
	1.6nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**1.14 188**		Pg	Pg	00 08 51.6	+0.4
	SNR=7.9						
ESAC				Lg		00 09 06.6	
	32nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**1.62 125**		Pg	Pg	00 08 59.5	-1.4
	SNR=4.0						
EMIR				Lg		00 09 21.3	
	1.0nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**1.80 146**		Pg	Pg	00 09 01.9	-2.5
	SNR=7.9						
EPOB				Lg		00 09 25.7	
	0.5nm,0.1s,SNR=7.9						
MTLF	**Montolieu**	**1.88 74**		*e*Pg	Pg	00 09 03.0	-3.1
MTLF				*e*Sg	Sg	00 09 27.9	-3.3
	1.2nm,0.2s						
LFF	**La Frestale**	**2.21 19**		*e*Pn	Pn	00 09 04.2	-1.9
LFF				*e*Sn	Sn	00 09 30.2	-3.7
	0.4nm,0.2s						
LFF				*e*Sg	Sg	00 09 38.0	-4.1
EJON	**La Jonquera**	**2.36 99**		Pn	Pn	00 09 06.0	-2.2
	SNR=4.0						
EJON				Lg		00 09 43.9	
	0.9nm,0.1s,SNR=4.0						
ETOR	**Torete**	**2.43 214**		Pg	Pg	00 09 11.7	-5.3
	SNR=7.9						
ETOR				Lg		00 09 46.3	
	SNR=4.0						
EMOS	**Mosqueruela**	**2.49 184**		Pg	Pg	00 09 12.5	-5.7
	SNR=4.0						
EMOS				Lg		00 09 48.7	
	0.1nm,0.1s,SNR=4.0						
CAF	**Calviac**	**2.67 38**		*e*Pn	Pn	00 09 10.6	-2.0
CAF				*e*Sn	Sn	00 09 41.6	-4.0
CAF				*e*Sg	Sg	00 09 51.5	-6.0
	0.6nm,0.2s						
RJF	**Les Rejaudoux**	**2.77 27**		*e*Pn	Pn	00 09 11.6	-2.4
RJF				*e*Sn	Sn	00 09 43.6	-4.5
	0.6nm,0.2s						
RJF				*e*Sg	Sg	00 09 55.1	-5.6

KRSC 23 00:19:22.7±1.3, 52.74N×160.36E, h16km±2km, ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.41 330**		*e*P	Pb	00 19 32.1	+0.9
SPN				*e*S	Sb	00 19 38.9	+2.0
NLC	**Nalytchevo**	**0.75 306**		*e*P	Pb	00 19 37.7	+0.8
NLC				*e*S	Sb	00 19 48.6	+1.9
SDLR	**Sedlovina**	**1.04 302**		*e*P	Pb	00 19 42.6	+0.7
SDLR				*e*S	Sb	00 19 57.3	+2.2
PET	**Petropavlovsk**	**1.07 286**		*e*P	Pb	00 19 43.0	+0.6
PET				*e*S	Sb	00 19 57.9	+1.9
SMAR	**Somma**	**1.08 300**		*e*P	Pb	00 19 43.7	+1.2
SMAR				*e*S	Sb	00 19 58.5	+2.4
AVH	**Avacha**	**1.11 299**		*e*P	Pb	00 19 43.6	+0.5
AVH				*e*S	Sb	00 19 58.6	+1.5
RUS	**Russkaya**	**1.17 255**		*e*P	Pb	00 19 44.6	+0.6
RUS				*e*S	Sb	00 20 00.7	+1.9
KOK	**Koryaka**	**1.18 299**		*e*P	Pb	00 19 44.9	+0.7
KOK				*e*S	Sb	00 19 59.7	+0.6
GRL	**Gorelyy**	**1.41 263**		*e*P	Pn	00 19 48.4	+0.6
GRL				*e*S	Sb	00 20 07.5	+1.9
KII	**Karymskiy**	**1.41 338**		*e*P	Pn	00 19 47.9	0.0
KII				*e*S	Sb	00 20 05.7	0.0
GNL	**Ganaly**	**1.74 304**		*i* P	Pn	00 19 53.8	+1.2
GNL				*e*S	Sn	00 20 16.4	+1.8
APC	**Apacha**	**1.95 277**		*e*P	Pn	00 19 54.1	-1.5
APC				*e*S	Sn	00 20 18.8	-1.1
APC				Smax			
	120nm,0.7s						
MKZ	**Mys Kozlova**	**1.99 24**		*i* P	Pn	00 19 54.3	-1.9
MKZ				*e*S	Sn	00 20 19.1	-1.9
MIPR	**Malaya Ipel'ka**	**2.25 260**		*e*P	Pn	00 19 59.9	0.0
PAU	**Pauz

SDLR				eS	Sb	00 43 14.5	-1.1
SMAR	**Somma**	**1.13**	**298**	eP	**Pb**	**00 43 02.2**	**-0.2**
SMAR				eS	**Sb**	**00 43 19.0**	**+2.4**
PET	**Petropavlovsk**	**1.13**	**285**	P	**Pb**	**00 43 01.6**	**-0.9**
PET				S	**Sb**	**00 43 16.3**	**-0.4**
PET	**Petropavlovsk**	**1.13**	**285**	i P	**Pb**	**00 43 01.7**	**-0.8**
PET				eS	**Sb**	**00 43 16.4**	**-0.3**
PET	**Petropavlovsk**	**1.13**	**285**	⇓iPN	**Pb**	**00 43 01.7**	**-0.8**
PET				eS	**Sb**	**00 43 16.3**	**-0.4**
PET				pmax	pmax		
	comp=Z,181nm,0.4s						
PET				smax			
	comp=N,1µm,0.6s						
AVH	**Avacha**	**1.16**	**297**	eP	**Pb**	**00 43 02.4**	**-0.6**
AVH				eS	**Sb**	**00 43 18.1**	**+0.4**
KOK	**Koryaka**	**1.23**	**297**	eP	**Pn**	**00 43 03.3**	**-0.8**
KOK				eS	**Sb**	**00 43 20.0**	**+0.4**
RUS	**Russkaya**	**1.23**	**256**	P	**Pn**	**00 43 03.2**	**-1.0**
RUS				S	**Sb**	**00 43 19.2**	**-0.5**
RUS	**Russkaya**	**1.23**	**256**	eP	**Pn**	**00 43 03.3**	**-0.9**
RUS				eS	**Sb**	**00 43 19.4**	**-0.3**
KII	**Karymskiy**	**1.42**	**335**	eP	**Pn**	**00 43 06.1**	**-0.8**
KII				eS	**Sn**	**00 43 24.4**	**-0.8**
GRL	**Gorelyy**	**1.47**	**263**	eP	**Pn**	**00 43 07.3**	**-0.3**
GRL				eS	**Sn**	**00 43 26.1**	**-0.3**
GNL	**Ganaly**	**1.79**	**303**	eP	**Pn**	**00 43 12.3**	**+0.2**
GNL				eS	**Sn**	**00 43 34.8**	**+0.4**
MKZ	**Mys Kozlova**	**1.96**	**22**	P	**Pn**	**00 43 12.9**	**-1.7**
MKZ				S	**Sn**	**00 43 35.6**	**-3.2**
MKZ	**Mys Kozlova**	**1.96**	**22**	i P	**Pn**	**00 43 13.0**	**-1.6**
MKZ				eS	**Sn**	**00 43 37.3**	**-1.5**
APC	**Apacha**	**2.01**	**276**	eP	**Pn**	**00 43 15.2**	**-0.1**
APC				eS	**Sn**	**00 43 41.0**	**+0.8**
MIPR	**Malaya Ipel'ka**	**2.31**	**260**	eP	**Pn**	**00 43 20.3**	**+0.6**
TUMR	**Tumrok**	**2.54**	**356**	eP	**Pn**	**00 43 22.9**	**0.0**
TUMR				eS	**Sn**	**00 43 52.9**	**-0.8**
PAU	**Pauzhetka**	**2.59**	**242**	eP	**Pn**	**00 43 23.7**	**0.0**
PAU				eS	**Sn**	**00 43 53.9**	**-1.1**
PAU				Smax			
	comp=N,240nm,0.6s						
KMNR	**Kamenistaya**	**3.01**	**358**	eP	**Pn**	**00 43 30.1**	**+0.5**
KMNR				eS	**Sn**	**00 44 05.6**	**0.0**
KPT	**Kopyto**	**3.22**	**358**	eP	**Pn**	**00 43 33.5**	**+0.9**
KPT				eS	**Sn**	**00 44 12.1**	**+1.2**
ZLN	**Zelenaya**	**3.28**	**3**	eP	**Pn**	**00 43 34.1**	**+0.7**
ZLN				eS	**Sn**	**00 44 12.7**	**+0.4**
KOZ	**Kozyrevsk**	**3.33**	**354**	P	**Pn**	**00 43 34.7**	**+0.6**
KOZ				S	**Sn**	**00 44 14.1**	**+0.5**
KOZ	**Kozyrevsk**	**3.33**	**354**	eP	**Pn**	**00 43 34.3**	**+0.2**
KOZ				eS	**Sn**	**00 44 13.5**	**-0.1**
KOZR	**Kozyr**	**3.34**	**355**	PN	**Pn**	**00 43 34.7**	**+0.5**
KOZR				S	**Sn**	**00 44 14.1**	**+0.3**
LGNR	**Loginova**	**3.34**	**2**	eP	**Pn**	**00 43 35.1**	**+0.8**
LGNR				eS	**Sn**	**00 44 14.5**	**+0.6**
CIRR	**Tsirk**	**3.38**	**3**	eP	**Pn**	**00 43 34.9**	**+0.1**
CIRR				eS	**Sn**	**00 44 13.8**	**-0.9**
SKR	**Severo-Kuril's**	**3.41**	**234**	ePN	**Pn**	**00 43 36.0**	**+0.8**
KRSR	**Krestovskiy**	**3.47**	**1**	eP	**Pn**	**00 43 36.7**	**+0.5**
KRSR				eS	**Sn**	**00 44 16.8**	**-0.4**
KLY	**Klyuchi**	**3.57**	**2**	P	**Pn**	**00 43 38.8**	**+1.3**
KLY	**Klyuchi**	**3.57**	**2**	eP	**Pn**	**00 43 38.7**	**+1.2**
KLY				eS	**Sn**	**00 44 20.9**	**+1.2**
ALID	**Alaid**	**3.58**	**240**	eP	**Pn**	**00 43 39.3**	**+1.6**
SRDR	**Sredinnyy**	**3.60**	**353**	eP	**Pn**	**00 43 38.3**	**+0.3**
SRDR				eS	**Sn**	**00 44 18.9**	**-1.5**
KBTR	**Krutoberegovo**	**3.73**	**21**	P	**Pn**	**00 43 40.3**	**+0.5**
KBTR				S	**Sn**	**00 44 22.5**	**-1.1**
KBTR	**Krutoberegovo**	**3.73**	**21**	eP	**Pn**	**00 43 40.0**	**+0.2**
KBTR				eS	**Sn**	**00 44 22.3**	**-1.3**
KBG	**Krutoberegovo**	**3.75**	**20**	P	**Pn**	**00 43 40.0**	**0.0**
KBG				Smax			
	comp=N,500nm,1.3s						

*IDC **23** 00:50:57.7±6.3, 18.46S×178.02W, h448^{km}±68^{km}, mb3.3/9, mb1 3.6/9, mb1mx3.4/16, Error ellipse: s-maj=26.7km s-min=23.6km az=159.0*
*NEIC **23** 00:50:58.6±5.5, 18.57S×178.01W, h463^{km}±59^{km}, mb4.0/3, Error ellipse: s-maj=23.6km s-min=15.1km az=82.0*
ISC 23 00:51:00.9±0.6**, 18.6S**±0.1×**178.1W**±0.1**, h500^{km}, n23, σ0^{s}83**/20**, mb3.8**/12**, 3C-2D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.60**	**261**	P	**P**	**00 57 00.8**	**+0.6**
	2.8nm,0.6s,mb3.9,baz=80,slow=11,SNR=5.9						
CTA	**Charters Tower**	**33.60**	**261**	P	**P**	**00 57 00.8**	**+0.6**
STKA	**Stephens Creek**	**38.54**	**242**	P	**P**	**00 57 41.4**	**+0.4**
	6.8nm,0.9s,mb4.1,baz=94,slow=8.8,SNR=10						
WRAB	**Tennant Creek**	**44.76**	**260**	eP	**P**	**00 58 30.3**	**-0.5**
	3.4nm,0.7s,mb3.9						
WRA	**Warramunga Arr**	**44.77**	**260**	P	**P**	**00 58 30.4**	**-0.5**
	1.2nm,0.5s,mb3.5,baz=98,slow=6.3,SNR=5.0						
WRA				PcP	PcP	01 00 02.3	-0.6
	0.4nm,0.9s,baz=289,slow=5.4,SNR=4.6						
ASAR	**Alice Springs**	**44.86**	**255**	P	**P**	**00 58 31.8**	**+0.2**
	9.9nm,0.5s,mb4.5,baz=90,slow=8.4,SNR=201						
ASAR				PcP	PcP	01 00 03.5	+0.3
	0.4nm,0.5s,baz=108,slow=4.3,SNR=3.9						
FITZ	**Fitzroy Crossi**	**53.17**	**261**	P	**P**	**00 59 34.1**	**+0.5**
	2.0nm,0.7s,mb3.6,baz=112,slow=5.4,SNR=9.1						
SBA	**Scott Base**	**59.77**	**184**	P	**P**	**01 00 16.7**	**-1.6**
VNDA	**Vanda**	**59.80**	**185**	P	**P**	**01 00 18.6**	**+0.1**
	0.5nm,0.7s,mb3.1,baz=359,slow=5.7,SNR=10						
CASY	**Casey**	**65.64**	**205**	eP	**P**	**01 00 55.3**	**-0.9**
	1.3nm,0.6s,mb3.7						
QSPA	**South Pole Qui**	**71.48**	**180**	eP	**P**	**01 01 31.2**	**0.0**
	5.1nm,0.2s,mb4.7						
NVAR	**Mina Array Bea**	**79.73**	**44**	P	**P**	**01 02 17.2**	**-0.2**
	0.6nm,0.6s,mb3.3,baz=225,slow=7.7,SNR=6.8						
NVAR	**Mina Array Bea**	**79.73**	**44**	P	**P**	**01 02 17.2**	**-0.2**
TXAR	**Lajitas Array**	**86.14**	**57**	P	**P**	**01 02 50.5**	**+0.8**
	0.7nm,0.8s,mb3.4,baz=217,slow=7.0,SNR=9.1						
TXAR	**Lajitas Array**	**86.14**	**57**	P	**P**	**01 02 50.5**	**+0.8**
ILAR	**Eielson Array**	**86.48**	**13**	P	**P**	**01 02 49.4**	**-1.0**
	0.8nm,1.0s,mb3.3,baz=219,slow=5.3,SNR=5.1						
SNAA	**Sanae**	**89.92**	**179**	⇓i	**P**	**01 03 05.5**	**-0.9**
VNA3	**Neumayer Olymp**	**90.06**	**176**	⇑i	**P**	**01 03 08.4**	**+1.4**
VNA2	**Neumayer--Watz**	**90.50**	**177**	⇑i	**P**	**01 03 10.9**	**+1.8**
VNA1	**Neumayer--Stat**	**90.73**	**177**	⇑i	**P**	**01 03 10.0**	**-0.1**
BRTR	**Keskin Array B**	**145.43**	**314**	PKPbc	PKPbc	01 09 45.5	+3.1
	0.5nm,0.6s,baz=18,slow=3.9,SNR=3.9						
CLL	**Collm**	**146.17**	**347**	⇓iPKP1	PKPbc	01 09 46.8	+3.0
GERES	**GERESS Array B**	**148.32**	**345**	PKPbc	PKPdf	01 09 52.0	+6.3
	0.4nm,0.7s,baz=27,slow=3.0,SNR=4.7						

*IDC **23** 01:17:36.8±0.9, 2.95N×127.12E, mb4.0/11, mb1 4.2/12, mb1mx4.1/18, Error ellipse: s-maj=63.6km s-min=14.3km az=68.0*
*NEIC **23** 01:17:44.2±4.8, 2.87N×127.00E, h56^{km}±45^{km}, mb4.6/3, Error ellipse: s-maj=36.7km s-min=9.5km az=67.0*
ISC 23 01:17:40.1±0.7**, 2.9N**±0.1×**126.9E**±0.2**, h33^{km}, n22, σ0^{s}76**/22**, mb4.3**/18**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.90**	**183**	P	**P**	**01 22 22.0**	**-0.2**
	1.4nm,0.5s,baz=10.0,slow=10,SNR=11						
WRAB	**Tennant Creek**	**23.83**	**162**	eP	**P**	**01 22 51.5**	**+0.2**
	4.2nm,0.8s,mb3.9						
WRA	**Warramunga Arr**	**23.83**	**163**	P	**P**	**01 22 51.8**	**+0.4**
	1.9nm,0.5s,mb3.8,baz=333,slow=11,SNR=15						
ASAR	**Alice Springs**	**27.26**	**166**	P	**P**	**01 23 23.1**	**-0.6**
	0.6nm,0.5s,mb3.4,baz=350,slow=7.3,SNR=10.0						
ASAR				PcP	PcP	01 26 43.4	+0.2
	0.3nm,0.4s,baz=333,slow=2.0,SNR=4.4						
CMAR	**Chiang Mai Arr**	**31.46**	**301**	P	**P**	**01 24 01.2**	**+0.1**
	0.9nm,0.4s,mb3.9,baz=125,slow=7.6,SNR=5.9						
STKA	**Stephens Creek**	**37.28**	**159**	P	**P**	**01 24 50.7**	**-0.3**
	3.3nm,0.7s,mb4.3,baz=320,slow=5.2,SNR=6.5						
BJI	**Beijing**	**38.24**	**347**	P	**P**	**01 24 59.1**	**+0.2**
	25nm,0.9s,mb4.9						
GUN	**Gumba**	**46.37**	**307**	eP	**P**	**01 26 05.7**	**+0.3**
	19nm,0.6s,mb5.2						
PKI	**Pulchoki**	**46.61**	**306**	eP	**P**	**01 26 06.9**	**-0.3**
KKN	**Kakani**	**46.80**	**306**	eP	**P**	**01 26 08.3**	**-0.5**
	6.5nm,0.5s,mb4.9						
DMN	**Daman**	**46.87**	**306**	eP	**P**	**01 26 09.2**	**-0.1**
	13nm,0.9s,mb4.9						
GKN	**Gorkha**	**47.41**	**306**	eP	**P**	**01 26 13.0**	**-0.6**
SONM	**Songino Array**	**48.15**	**342**	P	**P**	**01 26 19.7**	**+0.7**
	2.5nm,0.6s,mb4.4,baz=152,slow=8.7,SNR=15						
KOLN	**Koldanda**	**48.16**	**305**	eP	**P**	**01 26 19.6**	**+0.2**
	26nm,0.7s,mb5.3						
ZAL	**Zalesovo**	**61.42**	**333**	P	**P**	**01 27 55.0**	**-0.4**
	1.3nm,0.3s,mb4.5,baz=17,slow=10,SNR=4.2						
KURK	**Kurchatov**	**62.54**	**328**	eP	**P**	**01 28 01.6**	**-1.4**
	2.5nm,0.5s,mb4.6						
BVAR	**Borovoye Array**	**68.12**	**327**	P	**P**	**01 28 38.9**	**+0.1**
	0.9nm,0.5s,mb4.1,baz=135,slow=6.3,SNR=9.4						
VNDA	**Vanda**	**82.58**	**173**	P	**P**	**01 30 00.9**	**+0.1**
	0.3nm,0.5s,mb3.6,baz=338,slow=7.3,SNR=3.2						
ASF	**Jabal al Asfar**	**88.50**	**302**	P	**P**	**01 30 33.8**	**+2.8**
	1.4nm,0.7s,mb4.3,baz=24,slow=3.4,SNR=4.4						
BRTR	**Keskin Array B**	**90.70**	**310**	P	**P**	**01 30 42.8**	**+1.6**
	0.7nm,0.7s,mb4.1,baz=136,slow=6.4,SNR=5.1						
FINES	**FINESS Array B**	**92.66**	**332**	P	**P**	**01 30 48.7**	**-1.0**
	0.7nm,0.6s,mb4.2,baz=276,slow=19,SNR=3.0						
FINES	**FINESS Array B**	**92.66**	**332**	P	**P**	**01 30 48.7**	**-1.0**

CSEM 23 01:40:26.1, 36.52N×7.13E, ML3.5, After ALG, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CGMA	**Guelma**	**0.24**	**107**	P	Pg	01 40 34.0	+3.1
CMAH	**Djebel Manchou**	**0.26**	**66**	P	Pg	01 40 32.0	+0.8
CAEH	**'Ain El Ouahch**	**0.34**	**319**	P	Pg	01 40 34.0	+1.1
ABSA	**Djebel Ababsia**	**0.38**	**131**	P	Pg	01 40 34.5	+0.9
CASM	**Ain Smara**	**0.58**	**243**	P	Pg	01 40 37.0	-0.6
CTEI	**Djebel Teioual**	**0.74**	**232**	P	Pg	01 40 36.0	-4.9
DFRA	**Djebel Bou Aff**	**1.01**	**272**	P	Pb	01 40 47.0	+0.9
CKHR	**Kef el Ahmar**	**1.40**	**249**	P	Pb	01 40 45.0	-7.8
SET	**Setif**	**1.43**	**258**	P	Pb	01 40 45.0	-8.4

*CSEM **23** 01:41:38.9±0.8, 39.17N×29.03W, h10^{km}, ML2.7, Error ellipse: s-maj=9.0km s-min=8.4km az=54.0, After PDA*
*PDA **23** 01:41:38.9±0.8, 39.17N×29.03W, h10^{km}, MD3.5, ML2.7, Error ellipse: s-maj=9.0km s-min=8.4km az=54.0*
SVSA 23 01:41:38.9±0.8**, 39.17N×29.03W, h10^{km}, MD3.5, ML2.7, Error ellipse: s-maj=9.0km s-min=8.4km az=54.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CALA	**Caldeira**	**0.64**	**157**	eP	Pb	01 41 49.7	-2.0
CALA				eS	Sb	01 41 57.3	-3.2
ROSA	**Rosais**	**0.76**	**126**	eP	Pb	01 41 51.1	-2.7
ROSA				eS	Sb	01 41 59.7	-4.2
PICO	**Pico**	**0.82**	**145**	eP	Pb	01 41 51.5	-3.2
PICO				eS	Sb	01 42 00.7	-4.9
PMAN	**Manadas**	**0.91**	**126**	eS	Sb	01 42 03.9	-4.3
PID	**Ribeirinha**	**1.02**	**135**	e-		01 42 00.8	

*ATH **23** 01:56:01.4, 36.64N×27.32E, h26^{km}, MD3.1/4*
*ISK **23** 01:56:01.2, 36.74N×27.28E, h5^{km}, MD3.3*
*NEIC **23** 01:56:01.4, 36.64N×27.32E, h26^{km}, MD3.1(ATH), After ATH.*
*CSEM **23** 01:56:01.8±0.2, 36.73N×27.36E, h10^{km}, MD3.3, Error ellipse: s-maj=4.0km s-min=2.7km az=49.0*
ISC 23 01:56:01.1±1.0**, 36.67N**±0.04×**27.31E**±0.05**, h7^{km}**±6^{km}**, n18, σ0^{s}87**/27**, 1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NISR	**Nisiros**	**0.16**	**248**	ePB	**Pb**	**01 56 06.8**	**+0.9**
BDRM	**Kayabasi**	**0.41**	**15**	i P	**Pg**	**01 56 09.0**	**-0.3**
BDRM				i S	**Sg**	**01 56 15.4**	**+0.6**
MLSB	**Milas**	**0.72**	**31**	PG	**Pg**	**01 56 15.0**	**-0.6**
MLSB				SG	**Sg**	**01 56 25.3**	**0.0**
ARG	**Arkhangelos**	**0.80**	**124**	ePN	**Pn**	**01 56 16.8**	**-1.7**
YER	**Yerkesik**	**0.91**	**59**	i PG	**Pg**	**01 56 18.7**	**-0.5**
YER				i SG	**Sg**	**01 56 31.5**	**+0.2**
DALT	**Dalyan (Mudla)**	**1.07**	**84**	ePN	**Pn**	**01 56 21.6**	**-0.8**
DALT				eSN	**Sn**	**01 56 38.5**	**+0.9**
AYDN	**Tasoluk**	**1.09**	**24**	⇑iP	**Pb**	**01 56 21.5**	**-0.3**
AYDN				i S	**Sb**	**01 56 35.5**	**-0.5**
SMG	**Samos**	**1.10**	**340**	ePN	**Pn**	**01 56 23.0**	**+0.1**
KARP	**Karpathos**	**1.13**	**186**	ePN	**Pn**	**01 56 22.5**	**-0.7**
DNZL	**Cakiroluk**	**1.72**	**53**	i P	**Pn**	**01 56 31.5**	**-0.1**
DNZL				i S	**Sn**	**01 56 53.6**	**-0.4**
IZM	**Izmir**	**1.72**	**359**	ePN	**Pn**	**01 56 32.4**	**+0.7**
BLCB	**Balcova**	**1.73**	**353**	ePN	**Pn**	**01 56 30.8**	**-1.0**
BLCB				eSN	**Sn**	**01 56 53.3**	**-0.9**
KDAG	**Bornova**	**1.73**	**359**	i P	**Pn**	**01 56 34.1**	**+2.3**
KDAG				i S	**Sn**	**01 56 59.6**	**+5.3**
DENT	**Denizli**	**1.75**	**51**	ePN	**Pn**	**01 56 31.9**	**-0.2**
MANT	**Manisa**	**2.07**	**28**	i P	**Pn**	**01 56 41.4**	**+4.7**
MANT				i S	**Sn**	**01 57 08.9**	**+6.0**
ELL	**Elmali**	**2.09**	**87**	PN	**Pn**	**01 56 38.6**	**+1.7**
AKS	**Akhisar**	**2.24**	**10**	ePN	**Pn**	**01 56 39.0**	**-0.1**
BCK	**Bucak**	**2.74**	**72**	ePN	**Pn**	**01 56 47.6**	**+1.4**

*MDD **23** 01:57:45.7±0.4, 35.74N×3.19W, mbLg2.1/11, Error ellipse: s-maj=6.8km s-min=3.2km az=65.0, PRXIMO*
INMG 23 01:57:46.1±0.9**, 35.74N×3.09W, h13^{km}**±10^{km}**, ML2.0, 1D, Error ellipse: s-maj=4.4km s-min=3.1km az=159.0, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EMEL	**Melilla**	**0.45**	**166**	⇓P	Pb	01 57 54.7	-0.7
	3µm,0.1s,SNR=18						
EMEL				S	Sg	01 58 00.9	-0.7
	1µm,0.1s,SNR=7.9						
EBER	**Berja**	**1.17**	**8**	P	Pb	01 58 06.5	-1.2
	8.8nm,0.4s,SNR=15						
EBER				S	Sb	01 58 23.1	+0.5
	9.1nm,0.2s,SNR=7.9						
ERON	**Agron**	**1.40**	**336**	P	Pn	01 58 10.2	-1.3
	1.6nm,0.3s,SNR=7.9						
ERON				S	Sb	01 58 29.0	-0.3
	8.2nm,0.4s						
EMIJ	**Mijas**	**1.59**	**302**	P	Pn	01 58 11.3	-2.9
	2.6nm,0.1s,SNR=18						
EMIJ				S	Sn	01 58 31.9	-2.8
	10nm,0.2s,SNR=7.9						
ELOJ	**Sierra Loja**	**1.65**	**329**	P	Pn	01 58 12.9	-2.1
	SNR=4.0						
ELOJ				S	Sn	01 58 36.6	+0.6
	3.2nm,0.3s,SNR=4.0						
ELUQ	**Luque**	**2.05**	**333**	P	Pn	01 58 20.8	+0.1
	SNR=7.9						
ELUQ				S	Sn	01 58 45.6	-0.7
	4.4nm,0.3s,SNR=4.0						
EQES	**Quesada**	**2.06**	**1**	P	Pn	01 58 21.3	+0.4
	11nm,0.5s,SNR=36						
EQES				S	Sn	01 58 47.9	+1.2
	16nm,0.3s,SNR=7.9						
ESPR	**Espera**	**2.50**	**298**	P	Pn	01 58 26.5	-0.7
	SNR=4.0						
ESPR				S	Sn	01 58 54.7	-3.1
	4.4nm,0.3s,SNR=4.0						
EMUR	**La Murta**	**2.57**	**35**	P	Pn	01 58 26.3	-1.9
	SNR=4.0						
EMUR				S	Sn	01 58 59.2	-0.5
	6.2nm,0.4s,SNR=4.0						
EADA	**Adamuz**	**2.70**	**334**	P	Pn	01 58 28.6	-1.5
	1.1nm,0.2s,SNR=18						
EADA				S	Sn	01 59 01.5	-1.3
	3.9nm,0.2s,SNR=4.0						
EMIN	**Mina Concepcio**	**3.52**	**306**	P	Pn	01 58 39.1	-2.6
	1.0nm,0.3s,SNR=18						
EMIN				S	Sn	01 59 18.1	-5.5
	0.8nm,0.1s,SNR=7.9						
PALC	**Alcoutim**	**3.92**	**297**	ePn	Pn	01 58 44.9	-2.5
PALC				eSn	Sn	01 59 29.4	-4.4
	1.7nm,0.2s						
PALC	**Alcoutim**	**3.92**	**297**	Pn	Pn	01 58 44.9	-2.5
PALC				Sn	Sn	01 59 29.4	-4.4
	0.9nm,0.2s						
ESDC	**Sonseca Array**	**3.99**	**350**	P	Pn	01 58 47.4	-1.0
	0.2nm,0.2s,baz=172,slow=12,SNR=4.6						
EBAD	**Badajoz**	**4.34**	**315**	P	Pn	01 58 50.8	-2.6
	0.9nm,0.3s,SNR=10						
EBAD				S	Sn	01 59 39.4	-5.0
	2.6nm,0.2s,SNR=4.0						
PBEJ	**Beja**	**4.46**	**302**	ePn	Pn	01 58 52.3	-2.7
EIBI	**Ibiza**	**4.82**	**46**	P	Pn	01 58 57.9	-2.4
	SNR=7.9						
EIBI				S	Sn	01 59 52.9	-3.7
	0.4nm,0.1s,SNR=4.0						
PTEO	**Sao Teotonio**	**4.87**	**293**	ePn	Pn	01 58 58.6	-2.3
PTEO				eSn	Sn	01 59 52.5	-5.4
PCBR	**Castelo Branco**	**5.37**	**321**	ePn	Pn	01 59 05.3	-2.6
PLOU	**Loures**	**5.76**	**305**	ePn	Pn	01 59 10.8	-2.6
PBRG	**Braganca**	**6.69**	**336**	ePn	Pn	01 59 24.3	-2.3

*IDC **23** 02:29:32.7±1.2, 44.56S×76.20W, mb4.0/6, mb1 4.2/6, mb1mx4.0/14, MS3.5/3, Ms1 3.5/3, ms1mx3.2/13, Error ellipse: s-maj=43.3km s-min=22.2km az=103.0*
ISC 23 02:29:32.7±1.0**, 44.5S**±0.1×**76.4W**±0.3**, h10^{km}, n10, σ1^{s}20**/10**, mb3.9**/6**, MS3.5**/3**, 1C-3D, Off coast of southern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CPUP	**Villa Florida**	**23.79**	**47**	P	**P**	**02 34 46.8**	**+0.4**
	19nm,0.7s,mb4.7,baz=243,slow=12,SNR=44						
CPUP				LR	LR	02 44 13.5	
	comp=Z,67nm,20.4s,MS3.1,baz=68,slow=37						
BDFB	**Brasilia**	**37.48**	**49**	P	**P**	**02 36 47.5**	**-0.8**
	7.0nm,1.0s,mb4.5,baz=215,slow=6.4,SNR=4.8						
BDFB				LR	LR	02 53 24.2	
	comp=Z,88nm,19.5s,MS3.6,baz=23,slow=38						
VNA3	**Neumayer Olymp**	**41.22**	**153**	⇓i	**P**	**02 37 25.7**	**+6.8**
VNA1	**Neumayer--Stat**	**41.66**	**152**	⇓i	**P**	**02 37 24.9**	**+2.6**
VNA2	**Neumayer--Watz**	**41.95**	**153**	⇑i	**P**	**02 37 25.3**	**+0.6**
SNAA	**Sanae**	**43.41**	**154**	⇓i	**P**	**02 37 33.1**	**-3.5**
SNAA	**Sanae**	**43.41**	**154**	P	**P**	**02 37 34.7**	**-1.9**
	1.0nm,1.0s,mb3.5,baz=297,slow=9.2,SNR=6.6						
VNDA	**Vanda**	**53.14**	**193**	P	**P**	**02 38 52.2**	**-0.1**
	0.6nm,1.0s,mb3.5,baz=131,slow=6.0,SNR=3.6						
MAW	**Mawson**	**64.08**	**164**	P	**P**	**02 40 07.1**	**-1.4**
	2.3nm,0.9s,mb4.2,baz=252,slow=4.8,SNR=4.2						
MAW				LR	LR	03 05 51.8	
	comp=Z,63nm,20.0s,MS3.8,baz=62,slow=34						
TXAR	**Lajitas Array**	**77.57**	**336**	P	**P**	**02 41 30.9**	**+0.4**
	0.4nm,0.8s,mb3.4,baz=153,slow=6.0,SNR=4.8						

WEL 23 03:05:41.6±0.4**, 35.97S×178.53E, h221^{km}**±4^{km}**, ML3.9**/6**, Error ellipse: s-maj=10.5km s-min=6.2km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.60**	**186**	PN	P	03 06 18.2	-0.2
MXZ				SN	S	03 06 46.1	-0.7
PUZ	**Puketiti**	**2.11**	**186**	PN	P	03 06 23.0	-0.2
PUZ				SN	S	03 06 54.9	-0.2
MWZ	**Matawai**	**2.49**	**198**	PN	P	03 06 27.0	-0.2
MWZ				SN	S	03 07 01.9	-0.6
URZ	**Urewera**	**2.55**	**206**	PN	P	03 06 26.9	-0.9
URZ				SN	S	03 07 03.7	+0.1
KNZ	**Kokohu**	**3.12**	**192**	PN	P	03 06 33.6	-0.6
KNZ				SN	S	03 07 13.9	-1.0
BKZ	**Black Stump Fm**	**3.58**	**206**	PN	P	03 06 38.7	-0.9
WNVZ	**Wahianoa**	**4.08**	**214**	PN	P	03 06 44.5	-1.2
TSZ	**Takapari Road**	**4.56**	**206**	PN	P	03 06 49.3	-2.3
BFZ	**Birch Farm**	**5.03**	**200**	ePN	P	03 06 55.7	-1.8
MRZ	**Mangatainoka R**	**5.23**	**205**	PN	P	03 06 57.2	-2.8
KIW	**Kapiti Island**	**5.65**	**209**	PN	P	03 07 02.4	-3.0
KIW				eSN	S	03 08 05.2	-5.4
MTW	**Mount Morrison**	**5.70**	**204**	PN	P	03 07 02.6	-3.4
TUWZ	**Tuamarina**	**6.52**	**212**	ePN	P	03 07 13.2	-3.3

*CSEM **23** 03:06:14.5±0.1, 34.92N×3.70W, h2^{km}, MD2.8, Error ellipse: s-maj=4.2km s-min=3.4km az=119.0*
*CNRM **23** 03:06:14.8, 35.09N×3.76W, MD2.8*
*MDD **23** 03:06:18.3±2.8, 34.92N×3.81W, h14^{km}±48^{km}, mb3.8/3, Error ellipse: s-maj=71.2km s-min=13.0km az=160.0, PRXIMO*
ISC 23 03:06:16.5±1.7**, 35.04N**±0.04×**3.90W**±0.05**, h8^{km}**±12^{km}**, n16, σ1^{s}15**/25**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.14**	**122**	i P	**Pg**	**03 06 16.0**	**-3.7**
EMEL	**Melilla**	**0.82**	**71**	P	**Pb**	**03 06 32.7**	**+0.2**
	39nm,0.1s,SNR=7.9						
EMEL				S	**Sb**	**03 06 43.4**	**-0.1**
	137nm,0.1s,SNR=7.9						
EMLI	**Melilla**	**0.82**	**71**	S	**Sb**	**03 06 43.4**	**-0.2**
	137nm,0.1s,SNR=7.9						
EMLI	**Melilla**	**0.82**	**71**	P	**Pb**	**03 06 32.7**	**+0.1**
	39nm,0.1s,SNR=7.9						
ZAI	**Zaio**	**0.95**	**94**	i P	**Pb**	**03 06 31.0**	**-3.8**
TZK	**Tazeka**	**0.97**	**194**	i P	**Pb**	**03 06 34.0**	**-1.2**
TZK				i S	**Sb**	**03 06 49.0**	**+1.0**
EMIJ	**Mijas**	**1.68**	**335**	P	**Pn**	**03 06 47.9**	**+1.6**
	0.6nm,0.1s,SNR=4.0						
EMIJ				S	**Sn**	**03 07 07.0**	**-1.3**
	1.4nm,0.1s,SNR=7.9						
EMIJ	**Mijas**	**1.68**	**335**	P	**Pn**	**03 06 49.7**	**+3.3**
	0.6nm,0.1s,SNR=4.0						
EBER	**Berja**	**2.03**	**24**	P	**Pn**	**03 06 52.0**	**+0.6**
	0.2nm,0.1s,SNR=4.0						
EBER				S	**Sn**	**03 07 16.5**	**-0.6**
	1.0nm,0.2s,SNR=7.9						
EBER	**Berja**	**2.03**	**24**	P	**Pn**	**03 06 52.0**	**+0.6**
	0.2nm,0.1s,SNR=4.0						
EBER				S	**Sn**	**03 07 16.5**	**-0.6**
	1.0nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.84**	**13**	P	**Pn**	**03 07 04.4**	**+1.5**
	0.9nm,0.3s,SNR=5.5						
EQES				S	**Sn**	**03 07 37.3**	**-0.4**
	0.4nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.84**	**13**	P	**Pn**	**03 07 04.4**	**+1.4**
	0.9nm,0.3s,SNR=5.5						
EQES				S	**Sn**	**03 07 37.3**	**-0.4**
	0.4nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.17**	**350**	P	**Pn**	**03 07 08.9**	**+1.3**
	SNR=7.9						
EADA				S	**Sn**	**03 07 46.3**	**+0.2**
	0.4nm,0.1s,SNR=4.0						
EADA	**Adamuz**	**3.17**	**350**	S	**Sn**	**03 07 48.3**	**+2.2**
	0.4nm,0.1s,SNR=4.0						
EADA	**Adamuz**	**3.17**	**350**	P	**Pn**	**03 07 08.9**	**+1.2**
	SNR=7.9						
EMIN	**Mina Concepcio**	**3.52**	**321**	P	**Pn**	**03 07 12.5**	**-0.1**
	0.2nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**03 07 53.3**	**-1.7**
	0.4nm,0.2s,SNR=7.9						

JMA 23 03:07:21.4±0.4**, 44.51N×146.40E, h167^{km}, M3.5, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.24**	**203**	P	P	03 07 49.6	-0.5
NEM2				eS	S	03 08 11.4	-0.9
JAK	**Akkeshi**	**1.95**	**220**	P	P	03 07 57.2	-0.2
JAK				eS	S	03 08 24.6	-0.5
JOB	**Onbets**	**2.46**	**230**	P	P	03 08 03.8	+0.4
JOB				eS	S	03 08 35.4	-0.3
JCH	**Churui**	**2.91**	**230**	P	P	03 08 08.7	-0.3
JCH				eS	S	03 08 43.8	-1.7

*BJI **23** 03:08:44.0, 40.92N×78.01E, h15^{km}, ML3.3*
*NNC **23** 03:08:53.4±3.2, 41.71N×77.88E, mpv3.3, Error ellipse: s-maj=42.0km s-min=16.8km az=161.0*
ISC 23 03:08:45.8±1.6**, 40.78N**±0.10×**78.4E**±0.1**, h33^{km}, n13, σ1^{s}24**/15**, 3C-2D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**2.20**	**312**	P	**P**	**03 09 16.1**	**-4.6**
	SNR=61						
KSH	**Kashi**	**2.26**	**237**	ePG	**P**	**03 09 21.3**	**-0.3**
KSH				SG	**S**	**03 09 48.9**	**+0.3**
KSH				Smax			
	comp=N,130nm,0.4s						
KSH				Smax			
	comp=E,140nm,0.4s						
KZA	**Kyzart**	**2.72**	**300**	P	**P**	**03 09 23.9**	**-4.2**
	SNR=78						
TKM2	**Tokmak 2**	**3.01**	**316**	P	**P**	**03 09 29.1**	**-3.1**
	SNR=12						
KBK	**Karagaybulak**	**3.21**	**307**	P	**P**	**03 09 34.5**	**-0.6**
	SNR=7.9						
UCH	**Uchtor**	**3.27**	**297**	P	**P**	**03 09 34.5**	**-1.6**

SNR=14
AAK Ala-Archa 3.48 303 ⇓Pn **Pn 03 09 38.1 -1.0**
comp=E,14nm,0.4s
AAK ⇑Lg 03 10 18.5
comp=E,91nm,0.7s
AAK Ala-Archa 3.48 303 P **P 03 09 38.5 -0.4**
SNR=36
CHMS Chumysh 3.53 310 P **P 03 09 40.2 +0.6**
SNR=14
AML Almayashu 3.80 292 P **P 03 09 44.9 +1.4**
SNR=22
USP Ospenovka 3.84 312 P **P 03 09 45.8 +1.8**
SNR=7.8
EKS2 Erkin-Say 3.95 300 P **P 03 09 48.0 +2.4**
SNR=18
MK31 Makanchi Array 6.63 24 ⇑Pn **Pn 03 10 23.4 -0.2**
comp=E,0.5nm,0.3s,baz=198,slow=15,SNR=12
MK31 ⇑Sn **Sn 03 11 39.2 +0.4**
MK31 ⇓Lg 03 12 04.4
comp=E,3.0nm,0.5s,baz=213,slow=28,SNR=2.6

*ATH **23** 03:25:52.8, 39.84N× 20.61E, h10km, MD3.0/3*
*CSEM **23** 03:25:52.8± 0.2, 39.85N× 20.62E, h10km, ML2.7, Error ellipse: s-maj=3.7km s-min=2.2km az=148.0*
*THE **23** 03:25:53.1, 39.83N× 20.63E, h3km, ML2.7*
ISC 23 03:25:53.0±0.5, 39.82N±0.03× 20.63E±0.04, h9km±6km, n12, σ1§07/21, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAN	**Janina**	**0.23**	**133**	*e*PG	**Pg**	**03 25 57.5**	**-0.4**
LSK	**Leskovik**	**0.33**	**356**	*e*Pg	**Pg**	**03 25 59.6**	**-0.3**
LSK				*i* Sg	**Sg**	**03 26 06.9**	**+2.4**
IGT	**Igoumenitsa**	**0.36**	**219**	*e*Pg	**Pg**	**03 25 59.9**	**-0.5**
IGT				*e*Sg	**Sg**	**03 26 06.4**	**+1.0**
MEV	**Metsovon**	**0.46**	**94**	*e*Pg	**Pg**	**03 26 02.0**	**-0.4**
	comp=Z,10.0nm,0.3s						
MEV				*e*Sg	**Sg**	**03 26 09.0**	**+0.4**
SRN	**Sarande**	**0.49**	**278**	*i* Pg	**Pg**	**03 26 02.8**	**-0.1**
SRN				*i* Sg	**Sg**	**03 26 10.8**	**+1.3**
KEK	**Kerkira**	**0.65**	**261**	*e*PB	**Pb**	**03 26 05.0**	**-1.1**
LKD	**Levkas**	**1.11**	**179**	*e*Pg	**Pg**	**03 26 13.7**	**-1.5**
LKD				*e*Sg	**Sg**	**03 26 30.3**	**+0.3**
FNA	**Florina**	**1.12**	**30**	*e*Pg	**Pg**	**03 26 13.6**	**-1.9**
FNA				*e*Sg	**Sg**	**03 26 30.6**	**+0.1**
EVR	**Evrytania**	**1.28**	**134**	*e*PB	**Pb**	**03 26 18.0**	**+1.1**
LIT	**Litokhoron**	**1.46**	**78**	*e*Pb	**Pb**	**03 26 19.9**	**0.0**
	comp=Z,2.1nm,0.2s						
LIT				*e*Sb	**Sb**	**03 26 39.7**	**+1.2**
AGG	**Agios Georgios**	**1.54**	**121**	*e*Pb	**Pb**	**03 26 20.2**	**-1.1**
AGG				*e*Sb	**Sb**	**03 26 42.7**	**+2.0**
GRG	**Griva**	**1.77**	**49**	*e*Pb	**Pb**	**03 26 23.8**	**-1.4**
GRG				*e*Sb	**Sb**	**03 26 47.2**	**-0.3**

*IDC **23** 03:53:30.5± 1.2, 14.47N× 147.00E, mb3.4/4, mb1 3.7/5, mb1mx3.7/20, MS4.0/2, Ms1 4.0/2, ms1mx3.3/15, Error ellipse: s-maj=52.3km s-min=21.6km az=97.0*
ISC 23 03:53:33.5±1.2, 14.5N±0.1× 147.1E±0.4, h33km, n10, σ0§45/5, mb3.6/5, MS4.0/2, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**34.33**	**181**	LR	LR	04 13 33.5	
	comp=Z,152nm,20.4s,MS3.7,baz=38,slow=35						
WRA	**Warramunga Arr**	**36.39**	**200**	P	**P**	**04 00 36.5**	**-0.5**
	0.2nm,0.3s,mb3.5,baz=20,slow=8.1,SNR=10.0						
ASAR	**Alice Springs**	**40.01**	**199**	P	**P**	**04 01 07.5**	**+0.4**
	0.2nm,0.6s,mb3.0,baz=24,slow=8.9,SNR=3.6						
STKA	**Stephens Creek**	**46.36**	**186**	LR	LR	04 23 13.2	
	comp=Z,258nm,18.5s,MS4.2,baz=27,slow=38						
SONM	**Songino Array**	**47.28**	**323**	P	**P**	**04 02 05.4**	**-0.2**
	0.4nm,0.4s,mb3.7,baz=135,slow=8.2,SNR=5.4						
ILAR	**Eielson Array**	**66.89**	**25**	P	**P**	**04 04 24.1**	**0.0**
	0.4nm,0.8s,mb3.5,baz=252,slow=5.9,SNR=8.9						
BVAR	**Borovoye Array**	**70.57**	**321**	P	**P**	**04 04 47.5**	**+0.3**
	1.5nm,0.4s,mb4.2,baz=111,slow=7.7,SNR=10						
KIC	**Kosan Boka**	**145.21**	**305**	*e*PKP1	PKPbc	04 13 10.7	+1.5
	149nm,1.8s						
TIC	**Toumodi**	**145.26**	**305**	*e*PKP1	PKPbc	04 13 10.5	+1.2
	19nm,0.7s						
LIC	**Lamto**	**145.52**	**305**	*e*PKP1	PKPbc	04 13 11.3	+1.3
	33nm,0.9s						

*IDC **23** 03:57:35.1± 6.0, 19.22S× 177.24W, h538km± 63km, mb3.6/6, mb1 3.8/7, mb1mx3.4/16, Error ellipse: s-maj=38.7km s-min=28.5km az=23.0*
*NEIC **23** 03:57:38.1± 1.2, 19.22S× 177.26W, h588km± 31km, mb4.0/2, Error ellipse: s-maj=33.9km s-min=23.8km az=203.0*
ISC 23 03:57:36.7±1.3, 19.3S±0.2× 177.5W±0.2, h560km±22km, n19, σ1§20/13, mb4.1/8, 1C-2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.63**	**46**	*e*P	**P**	**03 59 32.1**	**+0.2**
URZ	**Urewera**	**19.49**	**193**	P	**P**	**04 01 27.8**	**-0.7**
	1.6nm,0.3s,baz=336,slow=19,SNR=6.9						
CTA	**Charters Tower**	**34.12**	**262**	P	**P**	**04 03 37.4**	**+0.5**
	7.2nm,0.7s,mb4.3,baz=88,slow=9.0,SNR=14						
STKA	**Stephens Creek**	**38.77**	**243**	P	**P**	**04 04 16.2**	**+1.3**
	9.7nm,0.5s,mb4.6,baz=93,slow=9.5,SNR=36						
WRAB	**Tennant Creek**	**45.26**	**261**	*e*P	**P**	**04 05 05.2**	**-1.2**
	9.6nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**45.27**	**261**	P	**P**	**04 05 05.9**	**-0.6**
	7.0nm,0.6s,mb4.4,baz=98,slow=7.7,SNR=149						
WRA				PcP	PcP	04 06 34.1	-0.6
	1.0nm,0.6s,baz=90,slow=3.5,SNR=5.2						
ASAR	**Alice Springs**	**45.29**	**255**	P	**P**	**04 05 06.5**	**-0.2**
	10nm,0.5s,mb4.6,baz=88,slow=7.7,SNR=206						
ASAR				PcP	PcP	04 06 33.9	-0.9
	1.2nm,0.5s,baz=97,slow=3.9,SNR=6.3						
CASY	**Casey**	**65.28**	**205**	*e*P	**P**	**04 07 24.8**	**-0.2**
	1.6nm,0.6s,mb3.6						
ILAR	**Eielson Array**	**87.02**	**13**	P	**P**	**04 09 22.4**	**-1.1**
	0.2nm,0.4s,mb3.1,baz=239,slow=5.1,SNR=10						
SNAA	**Sanae**	**89.21**	**178**	⇓*i*	**P**	**04 09 31.4**	**-2.2**
VNA3	**Neumayer Olymp**	**89.32**	**176**	⇑*i*	**P**	**04 09 36.1**	**+1.9**
VNA2	**Neumayer--Watz**	**89.77**	**177**	⇓*i*	**P**	**04 09 39.6**	**+3.4**
CMAR	**Chiang Mai Arr**	**90.18**	**289**	P	**P**	**04 09 40.5**	**+1.2**
	1.0nm,0.4s,mb4.0,baz=122,slow=3.7,SNR=7.6						
BVAR	**Borovoye Array**	**118.46**	**320**	PKP	PKPdf	04 15 20.8	+0.1
	0.8nm,0.3s,baz=82,slow=2.4,SNR=4.4						
ARCES	**ARCESS Array B**	**127.81**	**350**	PKP	PKPdf	04 15 38.0	-0.3
	5.1nm,0.9s,slow=2.4,SNR=6.4						
BRTR	**Keskin Array B**	**146.37**	**314**	PKPbc	PKPbc	04 16 15.8	+1.2
	1.1nm,0.5s,baz=135,slow=2.0,SNR=7.1						
MLR	**Muntele Rosu**	**147.46**	**329**	PKPbc	PKPdf	04 16 18.1	+3.9
	0.9nm,0.5s,baz=269,slow=5.9,SNR=5.1						
KHC	**Kasperske Hory**	**148.92**	**346**	*e*PKPbc	PKPdf	04 16 21.5	+5.1
GERES	**GERESS Array B**	**149.16**	**346**	PKPbc	PKPdf	04 16 23.2	+6.4
	0.9nm,0.5s,baz=63,slow=3.0,SNR=8.5						

*IDC **23** 04:01:40.6± 6.4, 56.06S× 27.53W, h92km± 59km, mb3.9/6, mb1 4.0/7, mb1mx4.0/11, ML4.3/1, MS2.8/1, Ms1 2.8/1, ms1mx2.7/11, Error ellipse: s-maj=35.2km s-min=16.0km az=61.0*
*NEIC **23** 04:01:42.2± 3.0, 56.08S× 27.59W, h109km± 28km, mb4.2/3, Error ellipse: s-maj=24.3km s-min=9.9km az=50.0*
ISC 23 04:01:41.1±3.4, 56.1S±0.1× 27.7W±0.3, h115km±34km, n21, σ1§09/17, mb4.2/9, 2C-3D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**16.87**	**158**	⇑*i*P	**P**	**04 05 31.6**	**+0.6**
VNA3	**Neumayer Olymp**	**17.05**	**160**	⇓*i*P	**P**	**04 05 33.5**	**+0.2**
VNA2	**Neumayer--Watz**	**17.27**	**157**	⇓*i*P	**P**	**04 05 36.5**	**+0.5**
EFI	**East Falkland**	**18.38**	**271**	P	**P**	**04 05 48.4**	**-0.7**
SNAA	**Sanae**	**18.82**	**156**	⇑*i*P	**P**	**04 05 50.9**	**-3.0**
SNAA	**Sanae**	**18.82**	**156**	P	**P**	**04 05 51.7**	**-2.2**
	0.9nm,0.3s,baz=306,slow=10,SNR=281						
SNAA				LR	LR	04 11 22.5	
	comp=Z,29nm,18.8s,baz=217,slow=31						
QSPA	**South Pole Qui**	**34.17**	**180**	⇓*i*P	**P**	**04 08 17.1**	**+0.5**
	6.5nm,0.7s,mb4.6						
CPUP	**Villa Florida**	**36.63**	**312**	P	**P**	**04 08 36.3**	**-1.6**
	2.6nm,1.0s,mb4.1,baz=275,slow=6.3,SNR=2.7						
MAW	**Mawson**	**40.28**	**144**	P	**P**	**04 09 07.6**	**-0.2**
	1.1nm,0.5s,mb4.0,baz=256,slow=4.3,SNR=6.4						
BDFB	**Brasilia**	**43.26**	**331**	P	**P**	**04 09 34.7**	**+2.1**
	2.2nm,0.8s,mb4.0,baz=146,slow=18,SNR=3.1						

VNDA Vanda 46.53 183 P **P 04 09 59.0 +1.1**
2.2nm,0.6s,mb4.1,baz=189,slow=6.4,SNR=22
VNDA Vanda 46.53 183 P **P 04 09 59.0 +1.0**
LPAZ La Paz 50.18 306 P **P 04 10 28.3 +1.5**
1.3nm,0.2s,mb4.4,baz=140,slow=5.3,SNR=4.4
CASY Casey 53.97 161 *e*P **P 04 10 53.5 -1.0**
1.7nm,0.7s,mb4.2
SAML Samuel 54.64 315 *e*P **P 04 10 59.4 -0.7**
0.9nm,0.6s,mb4.0
DBIC Dimbokro 65.30 25 P **P 04 12 12.6 -0.3**
5.7nm,0.9s,mb4.4,baz=216,slow=12,SNR=7.5
DBIC Dimbokro 65.30 25 P **P 04 12 12.6 -0.4**
FINES FINESS Array B 124.53 28 PKP PKPdf 04 20 25.9 +0.4
13nm,1.4s,baz=259,slow=9.7,SNR=4.1
KAF Kangasniemi 125.15 28 *e*p PKPdf 04 20 26.6 -0.1
3.2nm,0.8s
ILAR Eielson Array 149.94 312 PKPbc PKPdf 04 21 18.3 +7.2
1.6nm,0.6s,baz=127,slow=3.6,SNR=18
SONM Songino Array 150.99 87 PKPbc PKPdf 04 21 21.4 +8.2
1.0nm,0.4s,baz=221,slow=3.7,SNR=8.4

*BJI **23** 04:03:59.0, 4.74S× 154.36E, h388km, mB4.8, mb4.7*
*IDC **23** 04:04:00.4± 0.6, 5.06S× 154.26E, h403km± 5km, mb4.2/18, mb1 4.4/20, mb1mx4.4/21, Error ellipse: s-maj=13.3km s-min=8.7km az=96.0*
*HRVD **23** 04:04:00.6± 0.4, 5.13S× 154.25E, h406km± 2km, MW5.2/47, Centroid moment Tensor Solution. LP body waves: s47,c65; Half duration: 1s0 Moment tensor: Scale 10^26 Nm; Mrr=6.55±.31; Mθθ=0.74±.50; Mφφ=5.81±.48; Mrθ=1.07±.63; Mθφ=-2.18±.47; Mφr=2.48±.56; Best double couple: Mo=7.11×10^26 NP1:φs=326°, δ=38°, λ=-113°. NP2: φs=174°, δ=55°, λ=-73°. Principal axes: T 6.91, Plg9°, Azm252°; N .39, Plg14°, Azm344°; P -7.31, Plg74°, Azm131°; nsta1 refers to body waves, cutoff=40s.*
*NEIC **23** 04:04:00.6± 0.1, 5.03S× 154.28E, mb4.9/18 Error ellipse: s-maj=6.2km s-min=4.8km az=111.0*
*SYO **23** 04:04:00.4, 4.99S× 154.21E, h405km, MB4.9*
*MOS **23** 04:04:02.8± 0.6, 4.47S× 153.99E, h409km, mb4.8/7, Error ellipse: s-maj=42.0km s-min=15.6km az=111.5*
ISC 23 04:03:59.7±0.7, 5.03S±0.05× 154.27E±0.05, h407km±7km, h406km±2.4km: pP-P, n190, σ0§89/116, mb4.7/58, 4C-11D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAB	**Rabaul**	**2.26**	**292**	*e*P	**P**	**04 04 58.1**	**-0.3**
WAU	**Wau**	**7.86**	**253**	*e*P	**P**	**04 05 55.8**	**+1.7**
PMG	**Port Moresby**	**8.29**	**238**	*e*P	**P**	**04 06 00.0**	**+1.0**
CTA	**Charters Tower**	**16.88**	**207**	P	**P**	**04 07 33.6**	**+0.4**
	5.1nm,0.3s,baz=32,slow=11,SNR=71						
CTA				S	**S**	**04 10 28.9**	**+3.0**
	baz=216,slow=24,SNR=13						
NOUC	**Port Laguerre**	**20.58**	**147**	⇑*e*P	**P**	**04 08 10.1**	**+0.5**
NOUC	**Port Laguerre**	**20.58**	**147**	⇑*e*P	**P**	**04 08 10.1**	**+0.4**
WRAB	**Tennant Creek**	**24.40**	**231**	P	**P**	**04 08 44.0**	**-1.2**
	193nm,0.8s,mb5.6,SNR=24						
WRAB	**Tennant Creek**	**24.40**	**231**	*e*P	**P**	**04 08 43.2**	**-2.0**
	66nm,1.0s,mb5.0						
WRA	**Warramunga Arr**	**24.41**	**231**	P	**P**	**04 08 43.9**	**-1.4**
	15nm,0.5s,mb4.7,baz=55,slow=9.4,SNR=52						
WRA				PcP	PcP	04 12 11.2	-1.0
	4.7nm,0.5s,baz=60,slow=2.6,SNR=6.7						
WRA				S	**S**	**04 12 29.6**	**-5.1**
	4.6nm,0.8s,baz=55,slow=14,SNR=4.9						
WRA				ScP		04 15 11.6	
	6.1nm,1.2s,baz=54,slow=2.9,SNR=5.6						
WRA	**Warramunga Arr**	**24.41**	**231**	P	**P**	**04 08 43.9**	**-1.4**
WRA				PcP	PcP	04 12 11.2	-1.0
WRA				S	**S**	**04 12 29.6**	**-5.2**
WRA				ScP		04 15 11.6	
ASAR	**Alice Springs**	**26.99**	**225**	P	**P**	**04 09 06.2**	**-2.2**
	4.4nm,0.3s,mb4.4,baz=57,slow=9.3,SNR=47						
ASAR				pP		04 10 18.8	
	2.6nm,0.6s,baz=52,slow=7.3,SNR=1.7						
ASAR				PcP	PcP	04 12 18.2	+0.2
	7.6nm,1.1s,baz=40,slow=4.3,SNR=5.5						
ASAR				S	**S**	**04 13 11.1**	**-4.8**
	3.1nm,0.5s,baz=55,slow=15,SNR=6.9						
ASAR				ScP		04 15 19.9	
	3.4nm,0.9s,baz=49,slow=3.4,SNR=7.8						
STKA	**Stephens Creek**	**29.23**	**202**	P	**P**	**04 09 26.1**	**-1.8**
	4.1nm,0.4s,mb4.1,baz=38,slow=13,SNR=27						
STKA				PcP	PcP	04 12 22.1	-1.5
	3.4nm,1.0s,baz=50,slow=3.8,SNR=3.6						
STKA				ScP		04 15 26.7	
	6.6nm,1.1s,baz=36,slow=7.2,SNR=4.3						
TAU	**Tasmania Unive**	**38.22**	**188**	*e*P	**P**	**04 10 42.5**	**-1.3**
URZ	**Urewera**	**39.06**	**151**	P	**P**	**04 10 51.4**	**+0.6**
	10nm,0.3s,mb4.6,baz=263,slow=5.0,SNR=31						
KKM	**Kota Kinabalu**	**39.56**	**286**	⇓*e*P	**P**	**04 10 54.6**	**-0.5**
RPZ	**Rata Peaks**	**41.27**	**161**	P	**P**	**04 11 08.4**	**-0.3**
	35nm,0.8s,mb4.8,baz=311,slow=2.6,SNR=18						
MAJO	**Matsushiro**	**44.01**	**341**	*e*P	**P**	**04 11 29.1**	**-1.6**
	27nm,0.6s,mb4.8						
MAT	**Matsushiro**	**44.01**	**341**	P	**P**	**04 11 29.6**	**-1.0**
MAT	**Matsushiro**	**44.01**	**341**	*e*P	**P**	**04 11 30.0**	**-0.6**
SSE	**Sheshan**	**47.84**	**321**	P	**P**	**04 11 59.8**	**-0.7**
SSE				S	**S**	**04 18 27.1**	**+1.4**
SSE				SCS	ScS	04 21 10.9	+3.7
SSE				AMB	AMB		
	comp=Z,51nm,0.6s,mb5.0						
SSE	**Sheshan**	**47.84**	**321**	P	**P**	**04 11 59.7**	**-0.8**
	comp=Z,51nm,0.6s,mb5.0						
SSE				S	**S**	**04 18 27.1**	**+1.4**
SSE				sS		04 20 53.0	
SSE				ScS	ScS	04 21 10.9	+3.7
SSE				LR	LR		
	comp=Z,40nm,23.3s						
NJ2	**Nanjing**	**49.96**	**320**	*e*P	**P**	**04 12 17.5**	**+1.0**
NJ2				PP	PP	04 14 20.8	+4.7
NJ2				S	**S**	**04 18 55.0**	**+0.3**
NJ2				AMB	AMB		
	comp=Z,40nm,1.1s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,2μm,5.8s						
ASAJ	**Asahikawa**	**50.04**	**349**	P	**P**	**04 12 17.2**	**+0.3**
	comp=Z,44nm,0.8s,mb4.8,baz=209,slow=9.6,SNR=8.4						
MDJ	**Mudanjiang**	**54.16**	**338**	P	**P**	**04 12 46.9**	**-0.2**
MDJ				AMB	AMB		
	comp=Z,22nm,1.2s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,239nm,4.9s						
CN2	**Changchun**	**55.12**	**335**	*e*P	**P**	**04 12 53.8**	**-0.1**
CN2				PCP	PcP	04 13 48.0	-1.2
CN2				*e*AP	pP	04 14 18.3	+0.3
CN2				*e*XP	sP	04 15 00.8	-0.9
CN2				*e*S	**S**	**04 20 01.8**	**-2.0**
CN2				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.3						
CN2				AMB	AMB		
	comp=Z,380nm,5.0s						
ENH	**Enshi**	**55.39**	**312**	*e*P	**P**	**04 12 55.0**	**-0.9**
TIAR	**Tiarei**	**56.47**	**108**	*e*P	**P**	**04 13 03.8**	**+0.2**
	comp=Z,99nm,1.0s,mb5.1						
PMOR	**Pomariorio Ree**	**57.66**	**104**	*e*P	**P**	**04 13 12.9**	**+1.1**
	comp=Z,92nm,1.3s,mb5.0						
XAN	**Xi'an**	**57.81**	**316**	P	**P**	**04 13 11.6**	**-1.0**
XAN				AMB	AMB		
	comp=Z,27nm,0.7s,mb4.7						
VAH	**Vaihoa**	**57.93**	**105**	*e*P	**P**	**04 13 12.9**	**-0.7**
	comp=Z,61nm,1.2s,mb4.8						
PET	**Petropavlovsk**	**57.96**	**3**	*d* iP	**P**	**04 13 12.5**	**-0.8**
PET				pmax	pmax		
	comp=Z,74nm,1.8s,mb4.7						
PET	**Petropavlovsk**	**57.96**	**3**	*e*P	**P**	**04 13 12.1**	**-1.3**
	comp=Z,18nm,0.7s,mb4.5						
KMI	**Kunming**	**58.34**	**303**	*e*P	**P**	**04 13 16.9**	**+0.7**
KMI				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.0						
KMI	**Kunming**	**58.34**	**303**	*e*P	**P**	**04 13 16.9**	**+0.7**
	comp=Z,7.0nm,0.9s,mb4.0						
CMAR	**Chiang Mai Arr**	**59.31**	**295**	P	**P**	**04 13 23.3**	**+0.5**
	comp=Z,6.6nm,0.8s,mb4.0,baz=125,slow=6.1,SNR=24						
HHC	**Hu-ho-hao-te**	**60.10**	**324**	⇑P	**P**	**04 13 28.3**	**+0.5**
HHC				AMB	AMB		
	comp=Z,17nm,1.3s,mb4.3						
HHC				AMB	AMB		
	comp=Z,80nm,5.7s						
HIA	**Hailar**	**61.85**	**335**	*e*P	**P**	**04 13 38.8**	**-0.5**
	comp=Z,35nm,0.8s,mb4.9						
LZH	**Lanzhou**	**62.42**	**315**	*e*P	**P**	**04 13 44.0**	**+0.8**
LZH				AP	pP	04 15 12.4	+1.9
LZH				PP	PP	04 16 09.5	+1.9
LZH				*e*S	**S**	**04 21 38.1**	**+1.1**
LZH				*e*SS	SS	04 25 52.3	+0.9
LZH				AMB	AMB		
	comp=Z,58nm,1.5s,mb4.9						
LZH				AMB	AMB		
	comp=Z,273nm,4.5s						
LZH	**Lanzhou**	**62.42**	**315**	*e*P	**P**	**04 13 44.0**	**+0.8**
	comp=Z,58nm,1.5s,mb4.9						
LZH				pP	pP	04 15 12.4	+1.9
LZH				sP	sP	04 15 55.8	+2.6
LZH				PP	PP	04 16 09.5	+1.9
LZH				*e*S	**S**	**04 21 38.1**	**+1.1**
LZH				sS		04 24 12.2	
LZH				*e*SS	SS	04 25 52.3	+0.9
MA2	**Magadan**	**64.47**	**358**	*d* iP	**P**	**04 13 55.4**	**-0.6**
MA2				pmax	pmax		
	comp=Z,113nm,1.5s,mb5.2						
GTA	**Gaotai**	**66.83**	**317**	P	**P**	**04 14 12.3**	**+1.1**
GTA				S	S	04 22 29.8	-0.4
GTA				AMB	AMB		
	comp=Z,23nm,0.9s,mb4.8						
SONM	**Songino Array**	**67.31**	**327**	P	**P**	**04 14 14.7**	**+0.7**
	comp=Z,20nm,0.8s,mb4.8,baz=131,slow=6.2,SNR=122						
SHL	**Shillong**	**67.69**	**300**	⇑*i*P	**P**	**04 14 16.7**	**0.0**
SHL				*e*S	S	04 22 40.7	+0.1
CASY	**Casey**	**68.23**	**198**	*e*P	**P**	**04 14 18.4**	**-0.9**
YAK	**Yakutsk**	**69.50**	**348**	*d* iP	**P**	**04 14 27.3**	**+0.2**
YAK				pmax	pmax		
	comp=Z,129nm,1.4s,mb5.3						
ZAK	**Zakamensk**	**70.46**	**328**	⇓*e*P	**P**	**04 14 33.7**	**+0.7**
ZAK				*e*		04 14 52.0	
ZAK				*e*	pP	04 16 06.0	+3.2
VNDA	**Vanda**	**72.55**	**178**	P	**P**	**04 14 44.4**	**-0.4**
	comp=Z,8.0nm,0.8s,mb4.3,baz=334,slow=6.9,SNR=43						
VNDA	**Vanda**	**72.55**	**178**	P	**P**	**04 14 44.4**	**-0.4**
SBA	**Scott Base**	**73.07**	**177**	*e*P	**P**	**04 14 48.6**	**+0.8**
	comp=Z,52nm,1.8s,mb4.8						
GUN	**Gumba**	**73.50**	**301**	*e*P	**P**	**04 14 51.8**	**+0.6**
	comp=Z,57nm,0.7s,mb5.2						
PKI	**Pulchoki**	**73.81**	**300**	*e*P	**P**	**04 14 53.0**	**-0.1**
	comp=Z,18nm,0.7s,mb4.8						
KKN	**Kakani**	**73.98**	**301**	*e*P	**P**	**04 14 54.3**	**+0.3**
	comp=Z,32nm,0.7s,mb5.1						
DMN	**Daman**	**74.08**	**300**	*e*P	**P**	**04 14 55.3**	**+0.7**
	comp=Z,63nm,0.8s,mb5.3						
MIR	**Mirnyy**	**74.24**	**201**	⇑*e*P	**P**	**04 14 55.2**	**+0.5**
MIR				pmax	pmax		
	comp=Z,55nm,1.2s,mb5.1						
GKN	**Gorkha**	**74.58**	**301**	*e*P	**P**	**04 14 57.4**	**0.0**
	comp=Z,55nm,0.7s,mb5.3						
KOLN	**Koldanda**	**75.42**	**300**	*e*P	**P**	**04 15 01.5**	**-0.6**
	comp=Z,48nm,0.8s,mb5.2						
WMQ	**Urumqi**	**76.91**	**317**	P	**P**	**04 15 10.0**	**0.0**
WMQ				AP	pP	04 16 43.0	+1.6
WMQ				S	S	04 24 23.0	-0.2
WMQ				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.5						
TIXI	**Tiksi**	**78.33**	**352**	*e*P	**P**	**04 15 16.3**	**-0.8**
TIXI				*e*		04 18 19.3	
TIXI				*i*		04 24 39.7	
TIXI				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.3						
SML	**Sawmill**	**79.73**	**24**	*e*P	**P**	**04 15 24.2**	**-0.5**
SML				*e*pP	pP	04 16 54.6	-2.1
IMA	**Indian Mountai**	**80.19**	**19**	*e*P	**P**	**04 15 27.3**	**+0.3**
	comp=Z,117nm,0.9s,mb5.5						
DIV	**Divide**	**80.45**	**25**	*e*P	**P**	**04 15 28.0**	**-0.4**
	comp=Z,56nm,0.9s,mb5.2						
MCK	**McKinley**	**80.52**	**22**	*e*P	**P**	**04 15 27.3**	**-1.5**
	comp=Z,32nm,0.9s,mb5.0						
MCK				*e*pP	pP	04 17 00.9	-0.1
MKAR	**Makanchi Array**	**81.47**	**319**	*i* P	**P**	**04 15 34.1**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,18nm,0.8s						
COLA	**College**	**81.53**	**21**	*d* iP	**P**	**04 15 33.0**	**-0.9**
COLA	**College**	**81.53**	**21**	*e*P	**P**	**04 15 32.6**	**-1.3**
	comp=Z,32nm,0.8s,mb5.1						
ILAR	**Eielson Array**	**81.83**	**22**	P	**P**	**04 15 34.1**	**-1.3**
	comp=Z,13nm,0.7s,mb4.8,baz=246,slow=5.5,SNR=171						
ILAR				pP	pP	04 17 05.3	-2.7
	comp=Z,1.6nm,0.8s,baz=258,slow=4.4,SNR=3.1						
ZAL	**Zalesovo**	**82.17**	**326**	P	**P**	**04 15 37.0**	**-0.4**
	comp=Z,8.7nm,0.8s,mb4.6,baz=11,slow=6.5,SNR=37						
ZAL				S	S	04 25 13.3	-3.9
	comp=Z,0.7nm,0.5s,baz=235,slow=23,SNR=11						
POO	**Poona**	**82.55**	**289**	⇓*i*P	**P**	**04 15 38.0**	**-2.1**
NVS	**Novosibirsk**	**83.33**	**327**	*i* P	**P**	**04 15 42.5**	**-0.8**
NVS				*e*S	S	04 25 16.0	-13
NVS				pmax	pmax		
	comp=N,22nm,1.4s						
NVS				pmax	pmax		
	comp=E,30nm,1.4s						
NVS				pmax	pmax		
	comp=Z,37nm,1.4s,mb4.9						
NVS				smax			
	comp=E,29nm,1.9s						
KSH	**Kashi**	**84.20**	**310**	*i* PR		04 15 50.5	
KSH				*e*AP	pP	04 17 22.5	+1.4
KSH				*e*PP	PP	04 19 14.8	+5.0
KSH				AMB	AMB		
	comp=Z,180nm,4.4s						

comp=Z,2.2nm,0.7s,mb4.2,baz=236,slow=6.0,SNR=4.5
NEW Newport 92.79 42 eP P 04 16 28.0 -0.2
NEN Nelson 93.62 55 eP P 04 16 33.1 +0.8
SYO Syowa Base 93.93 199 ⇓P P 04 16 32.7 -0.2
HLID Hailey 94.38 47 eP P 04 16 35.9 +0.3
ARUT Antelope Range 94.86 53 eP P 04 16 39.3 +1.4
YKA Yellowknife Ar 94.95 28 P P 04 16 38.0 +0.3
comp=Z,5.7nm,1.0s,mb4.5,baz=269,slow=4.9,SNR=6.3
YKA pP pP 04 18 11.6 -0.6
comp=Z,2.0nm,0.8s,baz=277,slow=5.3,SNR=3.8
YKA Yellowknife Ar 94.95 28 P P 04 16 38.0 +0.3
YKA pP pP 04 18 11.6 -0.6
EDM Edmonton 95.42 37 eP P 04 16 40.3 +0.2
BW06 Boulder Array 97.92 48 eP P 04 16 51.2 -0.6
PDAR Pinedale Array 97.92 48 P P 04 16 51.2 -0.6
comp=Z,1.3nm,0.8s,mb4.2,baz=270,slow=3.0,SNR=8.7
PV10 Paradox Valley 98.34 52 eP P 04 16 54.0 +0.2
TXAR Lajitas Array 102.96 61 PP PP 04 21 33.6 -2.7
comp=Z,0.3nm,0.9s,baz=180,slow=1.3,SNR=3.6
TXAR PKKPbc 04 33 11.4
comp=Z,0.4nm,0.9s,baz=135,slow=3.8,SNR=4.8
SOC Sochi 111.15 315 i PKIKP PKPdf 04 21 44.7 -1.0
SOC e 04 22 36.1
SOC ePPP PPP 04 24 56.8 -3.3
SOC eSS SS 04 37 33.9 -0.8
SOC eSSS SSS 04 41 41.7 -8.3
SOC pmax pmax
comp=Z,21nm,0.9s
SOC pmax pmax
comp=N,8.0nm,0.6s
SOC pmax pmax
comp=E,6.0nm,0.5s
FINES FINESS Array B 111.87 336 PKiKP 04 21 47.0
comp=E,3.5nm,0.9s,baz=113,slow=3.7,SNR=8.1
AKASG Malin Array Be 115.54 325 PKP PKPdf 04 21 54.5 +0.4
comp=E,2.4nm,0.6s,baz=59,slow=2.1,SNR=14
BRTR Keskin Array B 116.55 312 PKP PKPdf 04 21 56.5 +0.2
comp=E,0.6nm,0.5s,baz=135,slow=3.5,SNR=5.5
HFS Hagfors 117.43 339 PKP PKPdf 04 21 58.0 +0.6
comp=E,2.7nm,0.9s,baz=18,slow=4.6,SNR=6.3
HFS Hagfors 117.43 339 PKP PKPdf 04 21 58.0 +0.6
NOA NORSAR Array B 117.62 341 PKP PKPdf 04 21 57.9 +0.1
comp=E,0.7nm,0.8s,baz=70,slow=5.5,SNR=3.7
MLR Muntele Rosu 119.77 321 PKP PKPdf 04 22 02.8 +0.4
comp=E,2.9nm,0.9s
KOLS Kolonicke sedl 120.34 325 i PKP PKPdf 04 22 05.6 +2.2
CRVS Cervenica-Dubn 120.81 326 i PKP PKPdf 04 22 06.5 +2.1
VYHS Vyhne 122.50 326 i PKP PKPdf 04 22 09.6 +2.0
DPC Dobruska-Polom 122.74 329 ePKPdf PKPdf 04 22 10.0 +2.0
UPC Upice 122.80 330 ePKPdf PKPdf 04 22 10.2 +2.1
BSEG Bad Segeberg 123.13 335 ePKIKP PKPdf 04 22 10.8 +2.1
VRAC Vranov 123.23 328 PKP PKPdf 04 22 10.9 +1.9
comp=E,1.7nm,0.5s,baz=99,slow=20,SNR=4.2
PVCC Panska Ves 123.51 330 ePKPdf PKPdf 04 22 11.4 +1.9
BRG Berggiesshubel 123.59 331 i PKIKP PKPdf 04 22 11.6 +1.9
BRG pmax pmax
comp=Z,12nm,0.9s
CLL Collm 123.76 332 i PKIKP PKPdf 04 22 11.4 +1.4
comp=Z,logA/T=1.1
CLL Collm 123.76 332 i PKIKP PKPdf 04 22 11.4 +1.4
CLL pmax pmax
comp=Z,13nm,1.0s
PRU Pruhonice 123.86 330 ePKPdf PKPdf 04 22 11.6 +1.3
PKSM Moragy 123.87 324 ⇓eP PKPdf 04 22 11.3 +0.9
CLZ Clausthal 124.59 334 ePKP PKPdf 04 22 13.6 +2.0
NKC Novy Kostel 124.73 331 ePKPdf PKPdf 04 22 13.8 +1.9
MOX Moxa 124.85 332 i P PKPdf 04 22 13.8 +1.7
KHC Kasperske Hory 124.89 330 ePKPdf PKPdf 04 22 14.1 +1.8
GEC2 GERESS Array S 125.01 329 ePKIKP PKPdf 04 22 14.0 +1.5
GERES GERESS Array B 125.01 329 PKP PKPdf 04 22 13.5 +1.0
comp=Z,7.7nm,0.9s,baz=90,slow=1.3,SNR=51
WET Wettzell 125.24 330 ePKIKP PKPdf 04 22 14.8 +1.9
PERS Pernice 125.62 326 ePKPdf PKPdf 04 22 14.9 +1.2
GRA1 Grafenberg Arr 125.69 331 ePKP PKPdf 04 22 15.4 +1.7
GRF Grafenberg Arr 125.69 331 ePKIKP PKPdf 04 22 15.4 +1.7
BOJS Bojanci 126.22 325 ePKPdf PKPdf 04 22 16.8 +1.9
LJU Ljubljana 126.31 326 ePKPdf PKPdf 04 22 16.7 +1.7
BFO Black Forest 128.00 332 ePKIKP PKPdf 04 22 19.7 +1.4
GIVF Givet 128.25 335 ePKIKP PKPdf 04 22 20.0 +1.3
DAVOX Davos 128.31 329 PKP PKPdf 04 22 20.2 +1.3
comp=Z,4.2nm,0.5s,baz=226,slow=1.6,SNR=8.4
CDF Champ du Feu 128.44 332 ePKIKP PKPdf 04 22 20.0 +0.9
comp=Z,27nm,1.3s
HINF Hinteralfeld 129.06 332 ePKIKP PKPdf 04 22 21.2 +0.9
comp=Z,31nm,1.3s
MEZF Maizieres J'vi 129.37 334 ePKIKP PKPdf 04 22 22.6 +1.7
CABF La Chapelle 130.30 332 ePKIKP PKPdf 04 22 24.2 +1.5
comp=Z,55nm,1.3s
LPL La Plagne 130.77 330 ePKIKP PKPdf 04 22 24.5 +0.9
comp=Z,7.4nm,0.8s
LPG La Plagne 130.77 330 ePKIKP PKPdf 04 22 24.8 +1.2
comp=Z,7.6nm,0.7s
LOR Lormes 130.83 334 ePKIKP PKPdf 04 22 25.2 +1.5
SSF Saint Saulge 131.14 334 ePKIKP PKPdf 04 22 25.9 +1.6
comp=Z,37nm,1.3s
MBDF Montbardon 131.31 329 ePKIKP PKPdf 04 22 26.3 +1.6
comp=Z,4.6nm,0.8s
SMF Signal de Mont 131.31 333 ePKIKP PKPdf 04 22 26.1 +1.5
comp=Z,10.0nm,0.8s
SBF Sospel 131.56 328 ePKIKP PKPdf 04 22 26.2 +1.0
comp=Z,14nm,0.9s
PGF Pioggiola 131.59 326 ePKIKP PKPdf 04 22 26.6 +1.3
comp=Z,14nm,0.7s
ORIF Oris-en-Rattie 131.62 330 ePKIKP PKPdf 04 22 26.7 +1.4
comp=Z,11nm,0.7s
BGF Bois d'Agland 131.82 334 ePKIKP PKPdf 04 22 27.2 +1.6
comp=Z,36nm,1.2s
FRF La Foret Royal 132.18 328 ePKIKP PKPdf 04 22 27.6 +1.3
comp=Z,20nm,1.0s
VIVF Saint-Julien-l 132.25 331 ePKIKP PKPdf 04 22 28.2 +1.8
comp=Z,21nm,1.1s
TCF Toulx Ste Croi 132.31 334 ePKIKP PKPdf 04 22 28.2 +1.7
comp=Z,54nm,1.4s
LMR La Mourre 132.41 328 ePKIKP PKPdf 04 22 28.2 +1.4
comp=Z,25nm,1.1s
SMRF Simiane la Rot 132.44 329 ePKIKP PKPdf 04 22 28.8 +2.0
comp=Z,29nm,1.1s
LPAZ La Paz 133.01 118 PKP PKPdf 04 22 30.9 +2.4
comp=Z,2.6nm,0.6s,baz=42,slow=1.8,SNR=12
LPAZ SKP 04 25 23.1
comp=Z,1.4nm,0.7s,baz=250,slow=0.5,SNR=4.5
LASF Ste Croix 133.22 331 ePKIKP PKPdf 04 22 29.1 +0.9
comp=Z,64nm,1.3s
RJF Les Rejaudoux 133.38 334 ePKIKP PKPdf 04 22 29.8 +1.3
comp=Z,46nm,1.4s
CAF Calviac 133.43 333 ePKIKP PKPdf 04 22 29.1 +0.5
LFF La Frestale 134.01 334 ePKIKP PKPdf 04 22 30.4 +0.7
MTLF Montolieu 134.56 331 ePKIKP PKPdf 04 22 31.6 +0.8
comp=Z,3.9nm,0.7s
SDV Santo Domingo 135.28 82 ePKP PKPdf 04 22 34.7 +1.9
EPF Esparros 135.68 333 ePKIKP PKPdf 04 22 33.0 +0.2
comp=Z,15nm,1.2s
ETSF Etsaut 136.19 333 ePKIKP PKPdf 04 22 35.8 +2.1
comp=Z,14nm,0.8s
CPUP Villa Florida 136.30 137 PKP PKPdf 04 22 35.9 +1.5
comp=Z,5.7nm,0.9s,baz=268,slow=1.3,SNR=6.0
CPUP SKP 04 25 31.1
comp=Z,1.8nm,0.9s,baz=289,slow=7.3,SNR=3.3
SJPF Ste Jean 136.32 334 ePKIKP PKPdf 04 22 35.0 +1.0
EMOS Mosqueruela 138.13 331 PKP PKPdf 04 22 42.9 +5.5
ETOR Torete 138.52 333 PKP PKPdf 04 22 43.0 +4.9
SAML Samuel 140.16 110 ePKPdf PKPdf 04 22 43.0 +1.3
PVIS Viseu 141.03 338 eP PKPdf 04 22 43.8 +1.2
EQES Quesada 141.39 331 PKP PKPdf 04 22 40.9 -2.4
ELUQ Luque 142.16 332 PKP PKPdf 04 22 43.0 -1.6
PTOM Tomar 142.18 338 eP PKPdf 04 22 43.2 -1.4
ERON Agron 142.37 331 PKP PKPdf 04 22 42.4 -2.6
ELOJ Sierra Loja 142.43 331 PKP PKPdf 04 22 43.3 -1.8
EMIN Mina Concepcio 143.07 334 PKPdf PKPdf 04 22 45.9 -0.2
PBEJ Beja 143.35 336 eP PKPbc 04 22 46.6 +1.2
PALC Alcoutim 143.67 335 eP PKPbc 04 22 47.6 +1.2
PTEO Sao Teotonio 144.11 337 eP PKPbc 04 22 49.5 +1.8
BDFB Brasilia 149.85 133 PKP PKPdf 04 22 59.7 +1.7
comp=Z,20nm,0.5s,baz=118,slow=3.2,SNR=8.4
BDFB PKPbc PKPdf 04 23 04.7 +6.7
comp=Z,20nm,0.5s,baz=242,slow=1.1,SNR=29
BAO Brasilia Array 149.87 133 PKP PKPdf 04 23 00.7 +2.6
BAO e 04 23 04.7
DBIC Dimbokro 159.18 275 PKPab PKPab 04 23 50.9 -1.6
comp=Z,2.7nm,0.9s,baz=131,slow=5.8,SNR=4.8

CASC 23 04:28:51.0±4.9, 13.87N×91.16W, h8km±31km, MD3.5, ML3.8, 2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAT	Jato	0.64	314	⇓eP	Pg	04 29 04.6	+0.8
JAT				eS	Sg	04 29 16.2	+3.8
JAT				AML	AML	04 29 17.1	
	comp=N,3μm,0.4s						
FUG	Fuego 3	0.65	28	eP	Pg	04 29 04.5	+0.3
PCG	Pacaya	0.75	46	eP	Pb	04 29 06.1	+0.3
PCG				eS	Sb	04 29 18.9	+2.9
IXG	Ixpaco	0.75	66	eP	Pb	04 29 06.4	+0.6
IXG				eS	Sb	04 29 18.5	+2.6
IXG				eS	Sb	04 29 18.6	+2.6
IXG				AML	AML	04 29 20.0	
	comp=E,9μm,0.5s						
IXG				AML	AML	04 29 21.9	
	comp=N,10μm,0.4s						
TP2	Tecpan 2	0.92	9	⇓eP	Pb	04 29 07.6	-1.1
TP2				eS	Sb	04 29 20.5	-0.3
TP2				eS	Sb	04 29 20.6	-0.2
TP2				AML	AML	04 29 21.9	
	comp=N,2μm,0.4s						
TP2				AML	AML	04 29 25.5	
	comp=E,1μm,0.6s						
NBG	Las Nubes	1.06	48	eP	Pb	04 29 10.3	-0.9
NBG				eS	Sb	04 29 26.7	+1.6
NBG				eS	Sb	04 29 26.8	+1.7
NBG				AML	AML	04 29 27.6	
	comp=N,2μm,0.3s						
NBG				AML	AML	04 29 30.5	
	comp=E,2μm,0.3s						
RTR	El Retiro	1.47	89	eP	Pn	04 29 16.6	-1.4
RTR				eS	Sb	04 29 38.6	+1.6
SBLS	San Blas	1.50	91	eP	Pn	04 29 17.0	-1.3
SBLS				eS	Sb	04 29 38.4	+0.8
SNJE	San Jose	1.51	90	eP	Pn	04 29 17.5	-1.0
SNJE				eS	Sb	04 29 39.1	+1.0
MTO2	Montecristo 2	1.82	73	eP	Pn	04 29 29.3	+6.3
MTO2				eS	Sn	04 29 49.1	+2.7
BOQS	Boqueron	1.83	94	eP	Pn	04 29 21.6	-1.5
BOQS				eS	Sn	04 29 46.6	0.0
MRL	Marmol	1.86	50	eP	Pn	04 29 20.2	-3.2
LFRS	El Faro	2.06	97	eP	Pn	04 29 24.6	-1.7
LFRS				eP		04 29 24.6	
LFRS				eS	Sn	04 29 51.5	-0.9
LFRS				eS	Sn	04 29 51.7	-0.6
LCBS	La Ceiba	2.13	96	eP	Pn	04 29 25.9	-1.4
LCBS				eS	Sn	04 29 53.9	-0.4

*NEIC **23** 04:42:38.7±0.8, 19.81S×68.79W, h140km±9km, mb3.9/1, Error ellipse: s-maj=13.6km s-min=9.2km az=75.0*
*IDC **23** 04:42:39.7±3.7, 19.76S×68.73W, h149km±29km, mb3.5/3, mb1 3.6/5, mb1mx3.3/15, Error ellipse: s-maj=40.8km s-min=22.0km az=43.0*
ISC 23 04:42:37.5±0.8, 19.82S±0.06×68.9W±0.1, h151km±11km, n14, σ1º06/15, mb3.6/2, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	Limon Verde	2.78	181	eP	P	04 43 22.6	-0.1
LPAZ	La Paz	3.59	11	P	P	04 43 34.7	+1.5
	1.6nm,0.3s,baz=217,slow=6.3,SNR=10						
LPAZ				S	S	04 44 16.2	+0.3
	0.9nm,0.3s,baz=3.7,slow=25,SNR=4.1						
LPAZ	La Paz	3.59	11	P	P	04 43 34.7	+1.5
LPAZ				S	S	04 44 16.2	+0.3
ARE	Arequipa	4.17	323	eP	P	04 43 38.0	-2.8
ARE				eS	S	04 44 25.0	-4.5
NNA	Nana	10.93	314	P	P	04 45 11.7	+1.1
SAML	Samuel	12.13	28	P	P	04 45 25.4	-0.9
CPUP	Villa Florida	12.44	124	P	P	04 45 29.6	-0.6
	0.3nm,0.3s,baz=317,slow=15,SNR=7.3						
TRQA	Tornquist	19.13	163	P	P	04 46 52.1	+0.9
	5.6nm,1.0s						
BDFB	Brasilia	20.30	82	P	P	04 47 03.6	+0.3
	7.0nm,0.5s,baz=263,slow=9.7,SNR=14						
TXAR	Lajitas Array	59.28	325	P	P	04 52 25.9	+0.2
	0.3nm,0.9s,mb3.1,baz=166,slow=11,SNR=2.9						
TXAR	Lajitas Array	59.28	325	P	P	04 52 25.9	+0.2
DBIC	Dimbokro	68.23	74	P	P	04 53 23.5	-0.8
	2.2nm,0.6s,mb4.1,baz=215,slow=7.7,SNR=7.8						
ASAR	Alice Springs	131.40	208	PKP	PKPdf	05 01 34.8	+2.1
	0.2nm,0.6s,baz=114,slow=1.6,SNR=5.4						
WRA	Warramunga Arr	134.40	211	PKP	PKPdf	05 01 41.9	+3.5
	0.2nm,0.3s,baz=148,slow=1.8,SNR=6.6						

*NEIC **23** 05:02:26.0, 41.24S×172.67E, h185km, After WEL.*
WEL 23 05:02:26.0±0.2, 41.26S×172.70E, h185km±1km, ML4.2/7, 4C-7D, Error ellipse: s-maj=2.0km s-min=1.8km az=0.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QRZ	Quartz Range	0.45	343	P	P	05 02 51.2	-0.4
QRZ				S	S	05 03 09.4	-1.9
QRZ	Quartz Range	0.45	343	⇓PN	P	05 02 51.2	-0.4
QRZ				SN	S	05 03 09.4	-1.9
NNZ	Nelson	0.51	86	P	P	05 02 51.5	-0.3
NNZ				S	S	05 03 10.5	-1.2
NNZ	Nelson	0.51	86	⇓PN	P	05 02 51.5	-0.3
NNZ				SN	S	05 03 10.5	-1.3
THZ	Tophouse	0.53	163	P	P	05 02 51.9	0.0
THZ				S	S	05 03 10.8	-1.1
THZ	Tophouse	0.53	163	⇓PN	P	05 02 51.9	0.0
THZ				SN	S	05 03 10.8	-1.1
DSZ	Denniston Nort	0.83	234	P	P	05 02 52.7	-0.7
DSZ				S	S	05 03 12.0	-2.5
DSZ	Denniston Nort	0.83	234	⇓PN	P	05 02 52.7	-0.7
DSZ				SN	S	05 03 12.0	-2.5
TUWZ	Tuamarina	0.95	101	⇓PN	P	05 02 54.3	+0.2
TUWZ				SN	S	05 03 14.9	-0.9
BSWZ	Blackbirch Sta	0.99	118	P	P	05 02 54.6	+0.2
BSWZ	Blackbirch Sta	0.99	118	PN	P	05 02 54.6	+0.3
BSWZ				SN	S	05 03 16.1	-0.2
CMWZ	Cape Campbell	1.24	114	SN	S	05 03 19.7	-0.3
KHZ	Kahutara	1.32	152	P	P	05 02 57.0	-0.2
KHZ	Kahutara	1.32	152	⇓PN	P	05 02 57.0	-0.2
KHZ				SN	S	05 03 19.5	-1.7
MRW	Makara Radio	1.51	90	P	P	05 02 58.4	-0.5
MRW	Makara Radio	1.51	90	PN	P	05 02 58.4	-0.5
MRW				SN	S	05 03 22.4	-1.9
LTZ	Lake Taylor	1.56	192	P	P	05 02 58.9	-0.5
LTZ	Lake Taylor	1.56	192	⇓PN	P	05 02 58.9	-0.5
LTZ				SN	S	05 03 22.6	-2.5
WEL	Wellington	1.56	92	P	P	05 02 58.9	-0.5
WEL	Wellington	1.56	92	PN	P	05 02 58.9	-0.4
WEL				SN	S	05 03 23.2	-1.9
BHW	Baring Head	1.64	96	P	P	05 02 59.6	-0.6
BHW	Baring Head	1.64	96	PN	P	05 02 59.6	-0.5
BHW				SN	S	05 03 24.2	-2.3
KIW	Kapiti Island	1.72	77	PN	P	05 03 00.4	-0.5
KIW				SN	S	05 03 26.1	-1.7
CAW	Cannon Point	1.79	86	PN	P	05 03 01.1	-0.6
CAW				SN	S	05 03 27.4	-1.8
MSWZ	Moikau Station	1.93	96	P	P	05 03 02.5	-0.5
MSWZ	Moikau Station	1.93	96	PN	P	05 03 02.5	-0.5
MSWZ				SN	S	05 03 29.3	-2.2
PAWZ	Paruwai Farm	2.06	94	PN	P	05 03 03.8	-0.6
PAWZ				SN	S	05 03 31.6	-2.5
MTW	Mount Morrison	2.12	88	P	P	05 03 04.5	-0.6
MTW	Mount Morrison	2.12	88	⇑PN	P	05 03 04.5	-0.6
MTW				SN	S	05 03 33.0	-2.2
NRZ	Ngariki Road	2.14	27	P	P	05 03 04.4	-0.9
NRZ	Ngariki Road	2.14	27	PN	P	05 03 04.4	-0.9
NWEZ	Newall Road	2.17	25	P	P	05 03 04.7	-1.0
NWEZ	Newall Road	2.17	25	PN	P	05 03 04.7	-1.0
NEZ	North Egmont	2.25	29	P	P	05 03 05.2	-1.4
NEZ	North Egmont	2.25	29	PN	P	05 03 05.2	-1.4
MRZ	Mangatainoka R	2.26	76	P	P	05 03 05.7	-1.0
MRZ	Mangatainoka R	2.26	76	⇑PN	P	05 03 05.7	-1.0
MRZ				SN	S	05 03 35.7	-2.4
PKE	Pukeiti	2.28	26	P	P	05 03 05.8	-1.2
PKE	Pukeiti	2.28	26	PN	P	05 03 05.8	-1.2
WAZ	Wanganui	2.30	50	P	P	05 03 06.5	-0.7
WAZ	Wanganui	2.30	50	PN	P	05 03 06.5	-0.7
WAZ				SN	S	05 03 39.0	+0.1
WVZ	Waitaha Valley	2.33	218	P	P	05 03 05.9	-1.7
WVZ	Waitaha Valley	2.33	218	⇑PN	P	05 03 05.9	-1.7
WVZ				SN	S	05 03 35.0	-4.6
MQZ	McQueen's Vall	2.45	181	P	P	05 03 06.9	-2.0
MQZ	McQueen's Vall	2.45	181	PN	P	05 03 06.9	-2.0
MQZ				SN	S	05 03 37.6	-4.4
VRZ	Vera Road	2.65	37	P	P	05 03 09.2	-2.1
VRZ	Vera Road	2.65	37	PN	P	05 03 09.2	-2.1
RPZ	Rata Peaks	2.74	206	P	P	05 03 10.9	-1.5
RPZ	Rata Peaks	2.74	206	PN	P	05 03 10.9	-1.4
RPZ				SN	S	05 03 44.2	-3.9
BFZ	Birch Farm	2.75	79	P	P	05 03 11.5	-0.9
BFZ	Birch Farm	2.75	79	⇑PN	P	05 03 11.5	-0.9
BFZ				SN	S	05 03 45.5	-2.7
TSZ	Takapari Road	2.75	65	P	P	05 03 11.1	-1.4
TSZ	Takapari Road	2.75	65	PN	P	05 03 11.1	-1.4
TSZ				SN	S	05 03 47.3	-1.1
WNVZ	Wahianoa	2.94	50	P	P	05 03 13.0	-1.7
WNVZ	Wahianoa	2.94	50	PN	P	05 03 13.0	-1.7
FWVZ	Far West T-bar	2.96	48	P	P	05 03 13.3	-1.7
FWVZ	Far West T-bar	2.96	48	ePN	P	05 03 12.9	-2.0
FWVZ				SN	S	05 03 51.1	-1.6
MOVZ	Moawhango	2.98	53	PN	P	05 03 13.1	-2.1
WPVZ	Whakapapa	2.99	48	P	P	05 03 13.4	-1.9
WPVZ	Whakapapa	2.99	48	PN	P	05 03 13.4	-1.9
CNZ	Chateau	3.00	48	PN	P	05 03 13.4	-2.0
TUVZ	Tukino	3.01	50	P	P	05 03 13.8	-1.7
TUVZ	Tukino	3.01	50	PN	P	05 03 13.9	-1.7
TWVZ	Taurewa	3.03	45	P	P	05 03 13.5	-2.3
TWVZ	Taurewa	3.03	45	ePN	P	05 03 13.5	-2.3
NGZ	Ngauruhoe	3.04	48	P	P	05 03 13.9	-2.1
NGZ	Ngauruhoe	3.04	48	ePN	P	05 03 14.0	-2.0
WTVZ	West Tongariro	3.08	47	PN	P	05 03 14.2	-2.2
KAVZ	Karewarewa	3.12	47	P	P	05 03 14.7	-2.2
KAVZ	Karewarewa	3.12	47	PN	P	05 03 14.7	-2.2
MGZ	Maungaku	3.13	45	P	P	05 03 14.9	-2.2
MGZ	Maungaku	3.13	45	PN	P	05 03 14.9	-2.2
HIZ	Hauiti	3.20	32	P	P	05 03 15.2	-2.7
HIZ	Hauiti	3.20	32	PN	P	05 03 15.2	-2.7
FOZ	Fox Glacier	3.21	223	PN	P	05 03 14.2	-3.9
FOZ				SN	S	05 03 50.4	-7.8
KATZ	Kakaramea	3.23	46	P	P	05 03 16.2	-2.1
KATZ	Kakaramea	3.23	46	PN	P	05 03 16.2	-2.1
PWZ	Pawanui	3.40	70	P	P	05 03 19.0	-1.4
PWZ	Pawanui	3.40	70	PN	P	05 03 19.0	-1.3
PWZ				SN	S	05 04 00.2	-2.1
BKZ	Black Stump Fm	3.58	56	PN	P	05 03 20.0	-2.6
BKZ				SN	S	05 04 03.8	-2.5
LBZ	Lake Benmore	3.64	210	eP	P	05 03 20.9	-2.5
LBZ	Lake Benmore	3.64	210	PN	P	05 03 20.9	-2.5
LBZ				SN	S	05 04 01.5	-6.1
JCZ	Jackson Bay	4.05	225	P	P	05 03 25.3	-3.3
JCZ	Jackson Bay	4.05	225	PN	P	05 03 25.2	-3.3
JCZ				SN	S	05 04 09.7	-7.4
ODZ	Otahua Downs	4.08	201	eP	P	05 03 26.7	-2.2
ODZ	Otahua Downs	4.08	201	PN	P	05 03 26.7	-2.2
ODZ				SN	S	05 04 13.8	-3.7
KNZ	Kokohu	4.42	61	P	P	05 03 30.4	-2.9
KNZ	Kokohu	4.42	61	PN	P	05 03 30.4	-2.9
WKZ	Wanaka	4.48	216	P	P	05 03 30.6	-3.5
WKZ	Wanaka	4.48	216	PN	P	05 03 30.6	-3.4
URZ	Urewera	4.53	50	eP	P	05 03 30.6	-4.1
URZ	Urewera	4.53	50	PN	P	05 03 30.6	-4.1
MWZ	Matawai	4.72	53	eP	P	05 03 33.8	-3.5
MWZ	Matawai	4.72	53	PN	P	05 03 33.5	-3.8
MSZ	Milford Sound	4.89	224	PN	P	05 03 35.2	-4.2
TUZ	Tuapeka	5.20	204	eP	P	05 03 40.9	-2.5
TUZ	Tuapeka	5.20	204	PN	P	05 03 40.6	-2.8
TUZ				SN	S	05 04 37.3	-6.1
MLZ	Mavora Lakes	5.26	217	eP	P	05 03 41.5	-2.6
MLZ	Mavora Lakes	5.26	217	PN	P	05 03 41.5	-2.6
PUZ	Puketiti	5.34	55	eP	P	05 03 41.5	-3.7
PUZ	Puketiti	5.34	55	PN	P	05 03 41.5	-3.7
MXZ	Matakaoa Point	5.70	51	P	P	05 03 45.9	-3.9
MXZ	Matakaoa Point	5.70	51	PN	P	05 03 45.9	-3.9
WHZ	Wether Hill Ro	5.78	215	P	P	05 03 47.4	-3.6
WHZ	Wether Hill Ro	5.78	215	PN	P	05 03 47.4	-3.6

*IDC **23** 05:11:47.9±1.4, 8.10S×124.67E, h22km±7km, mb5.0/13, mb1 5.1/17, mb1mx5.1/18, ML5.3/3, MS5.0/13, Ms1 5.0/13, ms1mx4.7/20, Error ellipse: s-maj=11.2km s-min=6.6km az=65.0*
*HRVD **23** 05:11:47.8±0.2, 8.04S×124.88E, h17km, MW5.6/70, Centroid moment Tensor Solution. LP body waves: s69,c127;Mantle waves: s70,c154; Half duration: 1s5 Moment tensor: Scale 10^17^Nm; Mrr 1.69±.04; Mθθ -2.01±.03; Mφφ 0.32±.04; Mrθ -1.80±.09; Mθφ -0.73±.03; Mφr -1.09±.12; Best double couple: M0 2.88×10^17^ NP1: φs91°, δ24°, λ118°. NP2: φs241°, δ69°, λ78°. Principal axes: T 2.67, Plg64°, Azm132°; N .42, Plg11°, Azm245°; P -3.09, Plg23°, Azm340°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **23** 05:11:47.2, 8.71S×124.95E, h52km, mB5.6, mb5.2, Ms5.1, Msz4.8*
*NEIC **23** 05:11:47.8±0.2, 8.17S×124.81E, mb5.3/25, MS4.8/10, MW5.6, Error ellipse: s-maj=9.5km s-min=5.7km az=69.0, Moment Tensor Solution. s18 Moment tensor: Scale 10^17^ Nm; Mrr 2.71; Mθθ -3.33; Mφφ 0.62; Mrθ -0.57; Mθφ -0.06; Mφr -0.99; Best double couple: M0 3.3×10^17^ NP1: φs110°, δ43°, λ121°. NP2: φs249°, δ54°, λ64°. Principal axes: T 3.14, Plg68°, Azm102°; N .25, Plg21°, Azm266°; P -3.39, Plg6°, Azm358°;*
*SYO **23** 05:11:47.7, 8.14S×124.65E, h27km, MB5.3, MS4.8*
*MOS **23** 05:11:48.7±1.3, 7.91S×124.58E, h33km, mb5.5/16, Error ellipse: s-maj=31.3km s-min=12.5km az=106.2*
*DJA **23** 05:11:52.3±0.2, 8.02S×124.66E, h100km, mb5.0/2, Error ellipse: s-maj=11.2km s-min=5.2km az=179.0*
ISC 23 05:11:48.0±0.7, 8.20S±0.03×124.75E±0.04, h36km±5km, h26km±3.7km: pP-P, n224, σ1º23/210, mb5.3/71, MS4.9/32, 16C-23D, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NINI	Niniconang	6.22	307	⇓iP	P	05 13 21.0	+1.2
NINI				⇓iS	S	05 14 29.5	-1.1
BUNI	Buntu Taipa	6.30	315	⇓iP	P	05 13 21.2	+0.2
	230nm,0.3s						
BUNI				⇓iS	S	05 14 31.1	-1.6
RATI	Rata	9.13	266	⇓iP	P	05 14 01.1	+0.8
FITZ	Fitzroy Crossi	9.88	175	Pn	P	05 14 07.5	-3.3
	14nm,0.3s,baz=7.5,slow=10,SNR=151						
FITZ				Sn	S	05 15 51.8	-10
	10nm,0.3s,baz=346,slow=9.5,SNR=3.1						
FITZ				LR	LR	05 18 20.5	
	comp=Z,4μm,19.6s,baz=348,slow=39						
KELI	Kelakatan	10.15

PMG S **S** **05 20 48.6 +9.0**
3.3nm,0.3s,baz=196,slow=23,SNR=3.0
PMG Port Moresby 22.18 95 *e*P **P** **05 16 43.5 +0.9**
TGY Tagaytay City 22.48 350 P **P** **05 16 45.1 -0.5**
206nm,0.3s,mb6.0,baz=128,slow=6.8,SNR=2.5
TGY S **S** **05 20 52.9 +7.8**
105nm,0.3s,baz=139,slow=12,SNR=1.8
KGM Kluang 23.66 294⇓ *e*P **P** **05 17 00.5 +3.2**
CTA Charters Tower 23.93 122 P **P** **05 17 01.3 +1.5**
45nm,0.8s,mb4.9,baz=297,slow=11,SNR=60
CTA S **S** **05 21 21.4 +11**
8.5nm,0.9s,baz=27,slow=18,SNR=2.1
CTA LR LR 05 27 12.5
comp=Z,5μm,19.4s,MS5.0,baz=300,slow=38
CTA Charters Tower 23.93 122 P **P** **05 17 01.3 +1.5**
CTA S **S** **05 21 21.4 +11**
CTA LR LR 05 27 12.5
CTAO Charters Tower 23.93 122 *e*P **P** **05 17 00.8 +0.9**
160nm,1.3s,mb5.3
CTAO LR LR
comp=Z,5μm,19.0s,MS5.0
NWAO Narrogin (SRO) 25.57 195 P **P** **05 17 15.9 +0.4**
comp=Z,28nm,0.6s,mb4.9,baz=22,slow=11,SNR=16
NWAO S **S** **05 21 47.1 +8.7**
comp=Z,6.4nm,0.7s,baz=52,slow=11,SNR=2.0
NWAO Narrogin (SRO) 25.57 195 *e*P **P** **05 17 14.6 -0.9**
comp=Z,169nm,1.4s,mb5.4
CVP Callao Caves 25.90 354⇑ *i*P **P** **05 17 21.0 +2.3**
comp=Z,10μm,1.0s
IPM Ipoh 26.86 297⇓ *e*P **P** **05 17 33.0 +5.4**
STKA Stephens Creek 28.29 149 P **P** **05 17 40.4 0.0**
comp=Z,15nm,0.4s,mb4.9,baz=316,slow=8.7,SNR=42
STKA S **S** **05 22 30.7 +8.0**
comp=Z,3.3nm,0.7s,baz=272,slow=20,SNR=1.7
STKA LR LR 05 30 36.6
comp=Z,11μm,18.1s,MS5.5,baz=326,slow=40
STKA Stephens Creek 28.29 149 P **P** **05 17 40.4 0.0**
STKA S **S** **05 22 30.7 +8.0**
STKA LR LR 05 30 36.6
SNG Songkhla 28.50 302 P **P** **05 17 46.0 +3.6**
comp=Z,184nm,0.8s,mb5.8
QIZ Qiongzhong 30.79 332 P **P** **05 18 00.5 -2.3**
QIZ S **S** **05 22 58.3 -4.1**
QIZ LR LR
comp=E,1μm,18.5s
QIZ LR LR
comp=Z,2μm,32.4s
KKTK Khon Kaen 32.64 318 P **P** **05 18 19.7 +0.7**
comp=Z,247nm,0.9s,mb6.1
GZH Guangzhou 33.04 340 P **P** **05 18 21.3 -1.1**
GZH S **S** **05 23 35.5 -2.0**
GZH LR LR
comp=N,1μm,20.2s
GZH LR LR
comp=E,1μm,14.1s
GZH LR LR
comp=Z,3μm,28.9s
NST Nakhon Sawan 34.02 314 P **P** **05 18 31.7 +0.8**
BDT Bhumibol Dam 35.87 315 P **P** **05 18 48.0 +1.2**
CMAR Chiang Mai Arr 36.74 316 P **P** **05 18 54.6 +0.5**
comp=Z,14nm,0.8s,mb4.8,baz=140,slow=6.8,SNR=67
CMAR PcP PcP 05 21 16.1 -0.2
comp=Z,8.8nm,0.7s,baz=169,slow=2.8,SNR=8.8
CMAR S **S** **05 24 38.4 +3.6**
comp=Z,0.6nm,0.3s,baz=231,slow=30,SNR=3.0
CMAR ScP 05 24 59.9
comp=Z,1.1nm,0.6s,baz=178,slow=2.8,SNR=6.0
CMAR LR LR 05 36 44.2
comp=Z,1μm,18.7s,MS4.7,baz=125,slow=41
GYA Guiyang 38.67 334⇑ *i*P **P** **05 19 10.8 +0.7**
GYA PP PP 05 20 49.8 +7.1
GYA S **S** **05 25 06.1 +2.0**
GYA AMB AMB
comp=Z,30nm,1.1s,mb4.9
GYA AMB AMB
comp=Z,290nm,6.6s
GYA LR LR
comp=N,560nm,17.1s,MS4.7
GYA LR LR
comp=E,930nm,18.0s,MS4.7
GYA LR LR
comp=Z,1μm,18.9s,MS4.7
CBIJ Chichi jima 38.95 25 P **P** **05 19 12.0 -0.4**
comp=Z,51nm,0.6s,mb5.4
SSE Sheshan 39.22 355 P **P** **05 19 16.8 +2.2**
SSE PP PP 05 20 47.3 -1.5
SSE S **S** **05 25 17.6 +5.3**
SSE AMB AMB
comp=Z,33nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,571nm,7.2s
SSE LR LR
comp=N,752nm,20.0s,MS4.6
SSE LR LR
comp=E,351nm,20.0s,MS4.6
SSE LR LR
comp=Z,1μm,20.0s,MS4.7
SSE Sheshan 39.22 355 P **P** **05 19 16.7 +2.1**
comp=Z,33nm,0.7s,mb5.2
SSE PP PP 05 20 47.3 -1.5
SSE S **S** **05 25 17.6 +5.3**
SSE sS P 05 25 32.8
SSE LR LR
comp=Z,1μm,20.0s,MS4.7
KMI Kunming 39.46 328⇑ *e*P **P** **05 19 18.1 +1.5**
KMI PP PP 05 20 50.8 -0.5
KMI S **S** **05 25 16.8 +0.9**
KMI SS SS 05 28 07.3 +3.4
KMI AMB AMB
comp=Z,27nm,1.5s,mb4.8
KMI AMB AMB
comp=Z,774nm,7.8s
KMI LR LR
comp=N,1μm,17.4s,MS5.0
KMI LR LR
comp=E,2μm,18.2s,MS5.0
KMI LR LR
comp=Z,2μm,26.1s
KMI Kunming 39.46 328⇑ *e*P **P** **05 19 18.1 +1.5**
comp=Z,27nm,1.5s,mb4.8
KMI pP pP 05 19 23.6 -3.5
KMI sP sP 05 19 26.8 -4.9
KMI PP PP 05 20 50.7 -0.6
KMI ScP 05 25 10.9
KMI S **S** **05 25 16.7 +0.8**
KMI sS 05 25 30.9
KMI SS SS 05 28 07.2 +3.3
KMI LR LR
comp=Z,2μm,26.1s,MS4.8
WHN Wuhan 39.79 346 ⇑P **P** **05 19 20.8 +1.4**
WHN LR LR
comp=Z,5μm,48.6s,MS5.0
TAU Tasmania Unive 39.85 154 *e*P **P** **05 19 21.1 +1.4**
NJ2 Nanjing 40.42 352 *e*P **P** **05 19 25.5 +0.9**
NJ2 AP pP 05 19 35.6 +0.5
NJ2 PP PP 05 21 02.0 +0.8
NJ2 PPP PPP 05 21 37.3 +8.4
NJ2 PCS 05 25 17.0
NJ2 S **S** **05 25 31.0 +0.7**
NJ2 AMB AMB
comp=Z,120nm,1.1s,mb5.5
NJ2 LR LR
comp=N,8μm,17.5s,MS5.6
NJ2 LR LR
comp=E,3μm,20.1s,MS5.6
NJ2 LR LR
comp=Z,4μm,16.0s,MS5.3
ENH Enshi 40.97 340 *e*P **P** **05 19 28.6 -0.5**
comp=Z,34nm,1.0s,mb4.9
NOUC Port Laguerre 42.27 114 *e*P **P** **05 19 40.2 +0.2**
NOUC Port Laguerre 42.27 114 *e*P **P** **05 19 40.2 +0.2**
JHJ Hachijo jima 2 43.51 18 LR LR 05 35 43.8
comp=Z,1μm,18.3s,MS4.8,baz=220,slow=33
CD2 Chengdu 43.79 334⇑ *i*P **P** **05 19 52.6 +0.3**
CD2 S **S** **05 26 21.1 +1.2**
CD2 SS SS 05 29 38.4 +10
CD2 AMB AMB
comp=Z,20nm,1.1s,mb4.8
CD2 AMB AMB
comp=Z,320nm,4.4s
CD2 LR LR
comp=E,1μm,16.6s
CD2 LR LR
comp=Z,750nm,25.0s
XAN Xi'an 44.61 341 P **P** **05 19 57.8 -1.0**
XAN PP PP 05 21 44.9 +0.8
XAN S **S** **05 26 28.4 -3.3**
XAN AMB AMB
comp=Z,581nm,8.6s
XAN LR LR
comp=N,412nm,16.1s,MS4.7
XAN LR LR
comp=E,650nm,20.0s,MS4.7
XAN LR LR
comp=Z,1μm,16.1s,MS4.8
AGT Agartala 45.69 315 *i*P **P** **05 20 07.0 -0.6**
AGT *i* 05 20 22.1
MAJO Matsushiro 46.27 15 *e*P **P** **05 20 10.3 -1.7**
comp=Z,142nm,1.4s,mb5.7
MAJO LR LR
comp=Z,847nm,20.0s,MS4.7
MAT Matsushiro 46.27 15 P **P** **05 20 11.1 -0.9**
MAT S **S** **05 26 57.0 +1.6**
MAT Matsushiro 46.27 15 *e*P **P** **05 20 11.0 -1.0**
comp=Z,111nm,1.5s,mb5.6
MAT eS **S** **05 26 57.0 +1.6**
SHL Shillong 46.36 317 *e*P **P** **05 20 12.2 -0.6**
SHL *e* 05 25 40.2
DL2 Dalian 46.95 357 P **P** **05 20 22.0 +4.7**
DL2 S **S** **05 27 07.0 +1.9**
DL2 AMB AMB
comp=Z,340nm,6.1s
DL2 LR LR
comp=E,380nm,13.9s
DL2 LR LR
comp=Z,610nm,19.6s
CAL Calcutta 46.97 311 *e* **P** **05 20 08.8 -8.8**
CAL eS **S** **05 27 05.2 -0.3**
CAL *e* 05 27 12.5
LZH Lanzhou 48.24 337 *e*P **P** **05 20 28.3 +0.8**
LZH PP PP 05 22 19.3 -0.1
LZH S **S** **05 27 24.1 +0.7**
LZH SS SS 05 30 55.0 +7.2
LZH AMB AMB
comp=Z,70nm,1.6s,mb5.4
LZH AMB AMB
comp=Z,170nm,5.7s
LZH LR LR
comp=N,2μm,16.2s
LZH LR LR
comp=Z,2μm,17.0s,MS5.2
LZH Lanzhou 48.24 337 *e*P **P** **05 20 28.2 +0.7**
comp=Z,70nm,1.6s,mb5.4
LZH pP pP 05 20 35.7 -2.4
LZH sP sP 05 20 40.3 -2.3
LZH PP PP 05 22 19.2 -0.2
LZH S **S** **05 27 24.1 +0.7**
LZH sS 05 27 40.2
LZH SS SS 05 30 55.0 +7.2
LZH LR LR
comp=Z,2μm,17.0s,MS5.2
VIS Vishakhapatnam 48.34 302 *e*P **P** **05 20 27.5 -1.0**
BJT Baijiatuan 48.63 351 *e*P **P** **05 20 28.5 -1.9**
comp=Z,15nm,0.7s,mb5.1
BJI Beijing 48.65 351 P **P** **05 20 28.6 -1.9**
BJI PP PP 05 22 25.9 +2.5
BJI S **S** **05 27 29.3 +0.3**
BJI AMB AMB
comp=Z,17nm,0.9s,mb5.1
BJI AMB AMB
comp=Z,643nm,7.4s
BJI Beijing 48.65 351 P **P** **05 20 28.6 -1.9**
comp=Z,17nm,0.9s,mb5.1
BJI pP Px 05 21 01.8
BJI PP PP 05 22 25.9 +2.5
BJI S **S** **05 27 29.2 +0.2**
BJI SS SS 05 31 11.9 +17
LSA Lhasa 49.64 321 P **P** **05 20 39.6 +1.2**
HHC Hu-ho-hao-te 50.30 347 *e*P **P** **05 20 43.8 +0.6**
HHC PCP PcP 05 22 00.0 -1.9
HHC PP PP 05 22 44.0 +4.5
HHC PCS 05 25 55.8
HHC S **S** **05 27 56.3 +4.4**
HHC SS SS 05 31 29.8 +7.2
HHC AMB AMB
comp=Z,21nm,1.1s,mb5.1
HHC AMB AMB
comp=Z,487nm,7.3s
HHC LR LR
comp=N,420nm,16.7s,MS4.7
HHC LR LR
comp=E,403nm,15.2s,MS4.7
HHC LR LR
comp=Z,332nm,16.8s,MS4.4
TRD Trivandrum 50.43 288 *e*P **P** **05 20 45.1 +0.5**
TRD AMb AMB 05 20 47.3
comp=Z,51nm,0.6s,mb5.7
VLA Vladivostok 51.49 7 *e*P **P** **05 20 52.0 -0.2**
VLA *i* 05 28 00.0
CN2 Changchun 51.76 1 *e*P **P** **05 20 56.1 +1.9**
CN2 PCP PcP 05 22 06.3 -0.9
CN2 eS **S** **05 28 10.3 -1.8**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
CN2 AMB AMB
comp=Z,790nm,6.0s
CN2 LR LR
comp=N,700nm,20.0s,MS4.8
CN2 LR LR
comp=E,400nm,20.0s,MS4.8
CN2 LR LR
comp=Z,800nm,20.0s,MS4.8
GUN Gumba 51.97 315 *e*P **P** **05 20 55.5 -0.5**
comp=Z,227nm,1.1s,mb6.0
PKI Pulchoki 52.09 315 *e*P **P** **05 20 56.3 -0.6**
comp=Z,31nm,0.5s,mb5.5
HYB Hyderabad 52.26 299 *i*P **P** **05 20 57.5 -0.8**
HYB eS **S** **05 28 16.0 -3.3**
HYB Hyderabad 52.26 299 *e*P **P** **05 20 57.5 -0.8**
HYB eS **S** **05 28 16.0 -3.3**
KKN Kakani 52.32 315 *e*P **P** **05 20 57.8 -0.8**
comp=Z,82nm,1.0s,mb5.6
DMN Daman 52.33 314 *e*P **P** **05 20 58.0 -0.7**
comp=Z,109nm,1.1s,mb5.7
GTA Gaotai 52.71 336 *e*P **P** **05 21 01.1 -0.3**
GTA PP PP 05 23 01.3 -0.7
GTA S **S** **05 28 23.6 -1.6**
GTA SS SS 05 32 04.6 +1.9
GTA AMB AMB
comp=Z,29nm,1.2s,mb5.1
GTA AMB AMB
comp=Z,790nm,6.8s
GTA LR LR
comp=N,418nm,14.8s
GTA LR LR
comp=E,893nm,20.1s
GTA LR LR
comp=Z,597nm,22.1s
ERM Erimo 52.74 17 P **P** **05 20 59.0 -2.5**
comp=Z,4.1nm,0.9s,mb4.4
MDJ Mudanjiang 52.75 4 P **P** **05 21 01.8 +0.2**
MDJ PCP PcP 05 22 13.8 +2.9
MDJ S **S** **05 28 26.5 +0.9**
MDJ SS SS 05 32 01.9 -1.4
MDJ AMB AMB
comp=Z,49nm,1.2s,mb5.3
MDJ AMB AMB
comp=Z,654nm,8.5s
MDJ LR LR
comp=N,593nm,36.0s,MS4.6
MDJ LR LR
comp=E,750nm,33.8s,MS4.6
MDJ LR LR
comp=Z,805nm,33.1s,MS4.5
MDJ Mudanjiang 52.75 4 *e*P **P** **05 21 00.9 -0.7**
comp=Z,42nm,0.9s,mb5.4
MDJ LR LR
comp=Z,767nm,22.0s,MS4.7
GKN Gorkha 52.90 314 *e*P **P** **05 21 02.1 -0.9**
comp=Z,95nm,1.0s,mb5.7
KOLN Koldanda 53.50 314 *e*P **P** **05 21 06.7 -0.7**
comp=Z,86nm,1.0s,mb5.6
ASAJ Asahikawa 54.52 16 P **P** **05 21 14.2 -0.5**
comp=Z,51nm,0.7s,mb5.7,baz=227,slow=12,SNR=5.2
URZ Urewera 55.72 131 LR LR 05 45 45.7
comp=Z,1μm,20.5s,MS5.0,baz=239,slow=36
BHPL Bhopal 55.83 305 *e*P **P** **05 21 19.8 -4.6**
BHPL *e* 05 21 36.0
comp=Z,36nm,1.8s
KAD Karad 56.03 297 *e*P **P** **05 21 27.9 +1.9**
KAD *e* 05 21 31.7
comp=Z,92nm,1.6s
POO Poona 56.80 298⇓ *i*P **P** **05 21 29.0 -2.5**
YSS Yuzh-Sakhalins 57.20 15 *e*P **P** **05 21 29.0 -5.0**
HIA Hailar 57.39 356 *e*P **P** **05 21 34.0 -1.3**
comp=Z,46nm,1.0s,mb5.5
SONM Songino Array 58.11 346 P **P** **05 21 38.8 -1.5**
comp=Z,14nm,1.0s,mb4.9,baz=162,slow=8.1,SNR=30
SONM S **S** **05 29 38.6 +1.6**
comp=Z,0.4nm,0.9s,baz=22,slow=20,SNR=1.7
NDI New Delhi 58.70 311 *e*P **P** **05 21 44.0 -0.7**
CASY Casey 58.81 187 *e*P **P** **05 21 43.9 -1.1**
comp=Z,23nm,0.8s,mb5.3
CASY LR LR
comp=Z,2μm,19.0s,MS5.2
DDI Dehra Dun 58.94 313 *e* **P** **05 21 47.4 +1.0**
DRV Dumont d'Urvil 59.31 173 P **P** **05 21 44.0 -4.4**
DRV SP Px 05 30 31.0
DRV SS SS 05 33 49.0 +0.1
DRV R 05 40 00.0
AJM Ajmer 59.59 307 *e*P **P** **05 21 48.0 -2.9**
AJM *e* pP 05 21 57.0 -4.8
comp=Z,22nm,1.5s
ZAK Zakamensk 61.25 344 *e*P **P** **05 22 01.0 -0.9**
WMQ Urumqi 61.70 330⇓ *i*P **P** **05 22 05.0 0.0**
WMQ PP PP 05 24 23.0 -0.1
WMQ S **S** **05 30 24.0 +0.6**
WMQ SS SS 05 34 27.0 +0.2
WMQ AMB AMB
comp=Z,27nm,1.2s,mb5.2
WMQ AMB AMB
comp=Z,124nm,7.5s
WMQ LR LR
comp=N,685nm,22.0s,MS4.9
WMQ LR LR
comp=E,594nm,22.0s,MS4.9
WMQ LR LR
comp=Z,587nm,24.0s,MS4.7
MIR Mirnyy 62.17 194⇓ *e*P **P** **05 22 08.6 +0.8**
MIR pmax pmax
comp=Z,225nm,2.4s,mb5.9
MIR MLR MLR
comp=Z,2μm,1.6s
CLNS Chul'man 64.81 0*d* *i*P **P** **05 22 25.5 +0.3**
CLNS pmax pmax
comp=Z,13nm,0.9s,mb5.0
CLNS pmax pmax
comp=N,11nm,1.1s
CLNS pmax pmax
comp=E,12nm,1.2s
KSH Kashi 65.49 320 *e*P **P** **05 22 31.6 +1.6**
KSH *e*PCP PcP 05 23 02.3 +0.8
KSH *e*PP PP 05 24 58.3 +1.9
KSH PPP PPP 05 26 33.4 +2.5
KSH *e*PCS 05 27 05.3
KSH S S 05 31 15.0 +4.4
KSH SCS ScS 05 32 22.5 +3.8
KSH *e*SS SS 05 35 31.5 +5.4
KSH AMB AMB
comp=Z,490nm,3.7s
KSH LR LR
comp=N,240nm,5.6s
KSH LR LR
comp=E,320nm,4.7s
MKAR Makanchi Array 66.50 330 *i*P **P** **05 22 35.4 -0.8**
MKAR pmax pmax
comp=Z,17nm,0.6s
KZA Kyzart 67.42 322 P **P** **05 22 43.1 +1.0**
SNR=7.7
PET Petropavlovsk 67.46 21 *e*P **P** **05 22 41.4 -0.7**
PET *e*S S 05 31 38.6 +4.5
PET *e* 05 32 32.8
PET pmax pmax
comp=Z,41nm,1.4s,mb5.3
PET pmax pmax
comp=N,34nm,1.6s
PET pmax pmax
comp=Z,300nm,13.1s
PET pmax pmax
comp=N,200nm,14.4s
PET pmax pmax
comp=E,100nm,14.7s
PET smax
comp=E,1μm,18.1s
TKM2 Tokmak 2 67.70 323 P **P** **05 22 43.9 +0.1**
SNR=12
AAK Ala-Archa 68.19 322 P **P** **05 22 47.3 +0.3**
SNR=27
AAK Ala-Archa 68.19 322*c* *i*P **P** **05 22 46.3 -0.6**
AAK pmax pmax
comp=Z,19nm,1.0s,mb5.1
AAK Ala-Archa 68.19 322 *e*P **P** **05 22 45.7 -1.3**
comp=Z,22nm,0.6s,mb5.4
AAK LR LR
comp=Z,193nm,19.0s,MS4.3
FRU Bishkek 68.24 323 *e*P **P** **05 22 49.0 +1.8**
FRU pmax pmax
comp=Z,60nm,2.0s,mb5.3
FRU MLR MLR
comp=Z,700nm,16.0s,MS5.0
AML Almayashu 68.40 322 P **P** **05 22 48.4 +0.1**
SNR=50
USP Ospenovka 68.56 323 P **P** **05 22 49.3 +0.1**
SNR=14
EKS2 Erkin-Say 68.65 322 P **P** **05 22 49.8 0.0**
SNR=13
YAK Yakutsk 70.12 2 *e*P **P** **05 22 55.8 -2.6**
YAK eS S 05 32 07.7 +2.1
YAK pmax pmax
comp=Z,16nm,0.9s,mb5.0
YAK pmax pmax
comp=N,7.0nm,1.1s
YAK Yakutsk 70.12 2 *e*P **P** **05 22 57.2 -1.2**
comp=N,41nm,0.8s,mb5.4
YAK LR LR
comp=Z,432nm,21.0s,MS4.7
ZAL Zalesovo 70.46 336 P **P** **05 22 59.5 -1.1**
comp=Z,18nm,0.5s,mb5.2,baz=342,slow=5.1,SNR=65
ZAL S S 05 32 08.1 -1.6
comp=Z,1.1nm,0.3s,baz=100,slow=22,SNR=8.2
ZAL LR LR 05 57 23.5
comp=Z,414nm,21.6s,MS4.7,baz=190,slow=39
MA2 Magadan 70.68 14 *e*P **P** **05 23 02.7 +0.8**
MA2 eS S 05 32 15.9 +3.7
MA2 eSS SS 05 36 43.5 -2.7
MA2 pmax pmax
comp=Z,30nm,0.9s,mb5.2
MA2 MLR MLR
comp=Z,500nm,22.0s,MS4.7
KURK Kurchatov 70.93 331 *i*P **P** **05 23 02.5 -1.0**
KURK pmax pmax
comp=Z,30nm,0.9s,mb5.2
KURK Kurchatov 70.93 331 *e*P **P** **05 23 02.0 -1.5**
comp=Z,68nm,0.9s,mb5.6
NVS Novosibirsk 71.75 336 *e*P **P** **05 23 06.0 -2.3**
NVS *i*S S 05 32 22.1 -2.5
NVS pmax pmax
comp=N,52nm,1.4s
NVS pmax pmax
comp=Z,53nm,1.4s,mb5.3
NVS pmax pmax
comp=E,35nm,1.3s
NVS smax
comp=N,123nm,2.2s
NVS smax
comp=E,87nm,2.1s
VNDA Vanda 71.94 172 P **P** **05 23 09.7 +0.6**
comp=E,20nm,0.6s,mb5.2,baz=322,slow=6.0,SNR=232
VNDA S S 05 32 27.1 +0.7
comp=E,1.0nm,1.2s,baz=240,slow=6.6,SNR=2.1
VNDA LR LR 05 52 45.4
comp=E,2μm,20.5s,MS5.4,baz=324,slow=34
MAW Mawson 71.96 201 P **P** **05 23 09.8 +0.4**
comp=E,14nm,0.8s,mb5.0,baz=76,slow=7.0,SNR=29
MAW S S 05 32 29.6 +2.7
comp=E,0.5nm,0.6s,baz=241,slow=17,SNR=1.7
MAW LR LR 05 50 36.4
comp=E,2μm,21.9s,MS5.2,baz=57,slow=32
MAW Mawson 71.96 201 P **P** **05 23 09.8 +0.4**
MAW S S 05 32 29.6 +2.7
MAW LR LR 05 50 36.4
SBA Scott Base 72.88 171 *e*P **P** **05 23 15.8 +1.1**
comp=E,19nm,0.8s,mb5.1
SBA LR LR
comp=Z,908nm,22.0s,MS5.0
BVA0 Borovoye Array 76.38 330 P **P** **05 23 35.1 -0.2**
BVAR Borovoye Array 76.38 330 P **P** **05 23 34.8 -0.5**

comp=Z,7.8nm,0.6s,mb4.8,baz=127,slow=7.4,SNR=37
BVAR S S 05 33 17.7 +1.2
comp=Z,0.4nm,0.4s,baz=235,slow=42,SNR=2.6
BRVK Borovoye 76.45 330 *eP* **P 05 23 34.9 -0.8**
comp=Z,38nm,1.3s,mb5.2
TIXI Tiksi 79.73 1⇑ *eP* **P 05 23 52.2 -1.2**
TIXI *e* 05 24 00.3
TIXI *e* 05 26 50.8
TIXI *e* 05 33 53.4
TIXI pmax pmax
comp=Z,32nm,1.4s,mb5.1
SYO Syowa Base 80.66 201 ⇓ *P* **P 05 23 58.6 +0.2**
SYO Syowa Base 80.66 201 ⇑ *PcP* PcP 05 24 04.8 -0.6
SYO Syowa Base 80.66 201 ⇑ *pP* pP 05 24 07.9 -1.8
QSPA South Pole Qui 81.79 180 ⇓ *iP* **P 05 24 05.9 +1.8**
comp=Z,77nm,0.7s,mb5.7
TBI Tubuai 82.95 113 *eSS* SS 05 39 59.1 +5.8
TBI *eL* 05 47 33.3
TBI *eR* 05 51 00.0
comp=Z,1μm,24.8s
SVE Sverdlovsk 83.15 330⇑ *eP* **P 05 24 11.0 -0.5**
SVE *ePS* S 05 34 27.0 -0.3
SVE pmax pmax
comp=Z,100nm,2.5s,mb5.4
PPT Papeete 83.47 107 *eSS* SS 05 40 05.0 +4.4
PPT *eL* 05 47 47.4
PPT *eR* 05 50 52.9
comp=Z,1μm,29.5s
ARU Arti 84.02 329⇑ *iP* **P 05 24 15.3 -0.6**
ARU *e* 05 27 30.4
ARU *eS* S 05 34 33.8 -2.2
ARU *eSS* SS 05 40 09.2 +1.6
ARU pmax pmax
comp=Z,19nm,1.1s,mb5.1
ARU Arti 84.02 329 *eP* **P 05 24 14.8 -1.2**
comp=Z,7.9nm,0.7s,mb5.0
DJNS Zahran al Janu 84.18 289 P **P 05 24 19.2 +1.5**
TATS Tathlith 84.58 291 P **P 05 24 20.8 +1.2**
PMOR Pomariorio Ree 85.38 104 *eP* **P 05 24 25.0 +1.4**
comp=Z,53nm,1.3s,mb5.5
AFFS 'Afif 85.82 295 P **P 05 24 27.1 +1.4**
MAK Makhachkala 86.32 314 *d iP* **P 05 24 33.0 +5.4**
MAK *e* 05 35 02.0
MAK *ePS* PS 05 36 21.0 +17
MAK pmax pmax
comp=Z,1μm,4.0s
MAK pmax pmax
comp=N,11μm,6.0s
BLJS Baljurashi 86.38 291 P **P 05 24 30.0 +1.6**
KMBO Kilima Mbogo 87.36 269 P **P 05 24 34.2 +0.8**
KMBO Kilima Mbogo 87.36 269 *eP* **P 05 24 32.6 -0.8**
comp=N,19nm,1.4s,mb5.1
KMBO LR LR
comp=Z,740nm,21.0s,MS5.1
HILS Ha'il 87.53 298 P **P 05 24 35.6 +1.6**
KBRS Khaybar 89.49 296 P **P 05 24 43.6 +0.3**
NVL N'lazarevskaya 89.66 198 ⇓ *eP* **P 05 24 48.0 +5.0**
NVL *eS* S 05 35 19.0 -10
NVL pmax pmax
comp=Z,132nm,2.2s,mb5.9
GOF Gofitskoye 89.94 315 *eP* **P 05 24 43.0 -1.9**
GOF pmax pmax
comp=Z,50nm,1.3s,mb5.7
KIV Kislovodsk 89.96 314 *eP* **P 05 24 45.6 +0.5**
KIV pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
SOC Sochi 92.01 314 *eP* **P 05 24 52.3 -2.3**
SOC *e* 05 28 32.1
SOC *ePPP* PPP 05 30 34.3 -3.7
SOC *eS* S 05 35 48.9 -2.1
SOC *eSS* SS 05 41 57.9 -5.9
SOC *eSSS* SSS 05 45 43.5 +1.7
SOC pmax pmax
comp=Z,16nm,0.6s,mb5.5
SOC pmax pmax
comp=N,23nm,0.8s
SOC pmax pmax
comp=E,31nm,0.9s
MALT Malatya 92.15 308 *eP* **P 05 24 55.3 -0.1**
comp=E,5.7nm,0.9s,mb4.9
MALT *epP* pP 05 25 05.5 -1.4
ASF Jabal al Asfar 92.50 302 P **P 05 24 57.7 +0.6**
comp=E,4.2nm,0.9s,mb4.8
ASF S 05 35 30.3
comp=E,1.1nm,0.3s,baz=72,slow=11,SNR=1.8
SNAA Sanae 93.25 195 *e* **P 05 25 05.4 +5.8**
SNAA Sanae 93.25 195 *e* **P 05 25 07.8 +8.2**
SNAA Sanae 93.25 195 *eS* S 05 36 08.7 +7.5
SNAA Sanae 93.25 195⇑ *iP* **P 05 25 01.4 +1.8**
SNAA *e* 05 25 05.4
SNAA *e* 05 25 07.8
SNAA *e* 05 28 47.3
SNAA *e* 05 29 41.7
SNAA *eS* S 05 36 08.7 +7.5
MBAR Mbarara 93.89 269 P **P 05 25 02.5 -1.4**
comp=E,6.2nm,0.9s,mb5.0
MBAR LR LR
comp=Z,145nm,22.0s,MS4.4
LSZ Lusaka 94.13 254 *eP* **P 05 25 03.3 -1.6**
comp=Z,6.0nm,0.8s,mb5.1
LBTB Lobatse 94.78 244 P **P 05 25 09.0 +1.4**
VNA2 Neumayer--Watz 94.85 194 *e* **P 05 25 15.8 +8.9**
VNA2 Neumayer--Watz 94.85 194 *e* **P 05 25 18.2 +11**
VNA2 Neumayer--Watz 94.85 194 *eS* S 05 36 18.7 +3.8
VNA2 Neumayer--Watz 94.85 194 ⇓ *iP* **P 05 25 11.8 +4.9**
VNA2 *e* 05 25 15.8
VNA2 *e* 05 25 18.2
VNA2 *e* 05 28 57.4
VNA2 *e* 05 29 51.6
VNA2 *eS* S 05 36 18.7 +3.8
VNA3 Neumayer Olymp 95.17 193 *e* **P 05 25 16.1 +7.7**
VNA3 Neumayer Olymp 95.17 193 *e* **P 05 25 18.6 +10**
VNA3 Neumayer Olymp 95.17 193 *eS* S 05 36 19.2 +1.6
VNA3 Neumayer Olymp 95.17 193⇑ *iP* **P 05 25 12.1 +3.7**
VNA3 *e* 05 25 16.1
VNA3 *e* 05 25 18.6
VNA3 *e* 05 28 57.7
VNA3 *e* 05 29 51.9
VNA3 *eS* S 05 36 19.2 +1.6
VNA1 Neumayer--Stat 95.25 194 *e* **P 05 25 18.2 +9.4**
VNA1 Neumayer--Stat 95.25 194 *e* **P 05 25 20.6 +12**
VNA1 Neumayer--Stat 95.25 194 *eS* S 05 36 20.0 +1.7
VNA1 Neumayer--Stat 95.25 194⇑ *iP* **P 05 25 14.2 +5.4**
VNA1 *e* 05 25 18.2
VNA1 *e* 05 25 20.6
VNA1 *e* 05 28 59.2
VNA1 *e* 05 29 54.0
VNA1 *eS* S 05 36 20.0 +1.7
OBN Obninsk 95.62 325 ⇓ *eP* **P 05 25 10.2 -0.6**
OBN *eSS* SS 05 42 58.9 +3.9
OBN pmax pmax
comp=Z,37nm,1.5s,mb5.6
OBN MLR MLR
comp=Z,400nm,22.0s,MS4.8
BRTR Keskin Array B 96.03 309 P **P 05 25 12.2 -0.8**
comp=Z,1.8nm,0.7s,mb4.6,baz=147,slow=7.9,SNR=9.1
BRTR PP PP 05 29 01.3 -6.9
comp=Z,0.3nm,0.4s,baz=63,slow=6.4,SNR=2.6
SIM Simferopol' 96.17 314 *eP* **P 05 25 13.2 -0.3**
SIM *e* 05 29 10.0
SIM *ePS* PS 05 37 58.0 +1.4
SIM pmax pmax
comp=Z,10.0nm,0.7s,mb5.3
SIM MLR MLR
comp=Z,240nm,19.0s,MS4.7
ILAR Eielson Array 96.66 26 P **P 05 25 12.8 -2.4**
comp=Z,0.6nm,0.6s,mb4.2,baz=248,slow=5.1,SNR=10
ILAR PP PP 05 29 00.7 -12
comp=Z,0.7nm,0.9s,baz=276,slow=7.4,SNR=4.1
ILAR PKKPbc 05 41 59.6
comp=Z,0.4nm,0.7s,baz=337,slow=4.5,SNR=4.5
ILAR LR LR 06 08 19.7
comp=Z,195nm,18.9s,MS4.6,baz=92,slow=35
AKASG Malin Array Be 99.79 320 P **P 05 25 28.4 -1.4**
comp=Z,2.0nm,0.5s,mb4.8,baz=72,slow=4.5,SNR=9.1
AKASG PP PP 05 29 33.6 -3.4
comp=Z,0.2nm,0.2s,baz=84,slow=5.6,SNR=3.9
AKASG LR LR 06 19 39.5
comp=Z,400nm,20.1s,MS4.9,baz=80,slow=41
ARCES ARCESS Array B 100.87 339 P P 05 25 32.6 -1.6
comp=Z,2.4nm,0.8s,baz=72,slow=3.8,SNR=7.5
FINES FINESS Array B 101.30 331 P P 05 25 34.0 -2.3
comp=Z,2.7nm,0.9s,baz=194,slow=16,SNR=3.6
MLR Muntele Rosu 101.97 315 P P 05 25 38.4 -1.4
comp=Z,2.5nm,0.8s,baz=127,slow=4.8,SNR=5.5
CLL Collm 109.91 322 *ePKIKP* 05 30 18.0
CLL *ePPS* PPS 05 41 18.0 -5.7
GERES GERESS Array B 109.95 319 PKiKP 05 30 16.3
comp=Z,0.4nm,0.6s,baz=135,slow=1.4,SNR=2.9
GERES PP PP 05 30 50.4 -3.0
comp=Z,0.2nm,0.2s,baz=79,slow=5.0,SNR=2.4
GERES PKKPbc 05 41 24.5
comp=Z,0.2nm,0.3s,baz=270,slow=2.0,SNR=3.7
GERES PKKP PKKP 05 41 37.1 +8.6
comp=Z,0.3nm,0.3s,baz=252,slow=3.1,SNR=4.0
NVAR Mina Array Bea 116.11 51 PKP PKPdf 05 30 29.2 +1.5
comp=Z,0.6nm,0.7s,baz=8.9,slow=1.0,SNR=6.9
NVAR PKKPbc 05 41 01.5
comp=Z,1.1nm,0.6s,baz=109,slow=4.5,SNR=11
NVAR Mina Array Bea 116.11 51 PKP PKPdf 05 30 29.2 +1.5
NVAR PKKPbc 05 41 01.5
MCMT McKenzie Canyo 118.49 43 *ePKP* PKPdf 05 30 34.0 +1.8
NEN Nelson 119.36 54 *ePKP* PKPdf 05 30 35.4 +1.2
DUG Dugway 119.86 48 *ePKP* PKPdf 05 30 36.7 +1.7
REDW Red Top Meadow 120.32 44 *ePKP* PKPdf 05 30 36.8 +1.0
WUWY Wally Ulrich 120.34 44 *ePKP* PKPdf 05 30 37.7 +1.9
HWUT Hardware Ranch 120.36 46 *ePKP* PKPdf 05 30 37.5 +1.6
LOHW Long Hollow 120.41 44 *ePKP* PKPdf 05 30 37.0 +1.0
MSU Marysvale 120.78 50 *ePKP* PKPdf 05 30 38.6 +1.8
TMUT Trail Mountain 121.29 49 *ePKP* PKPdf 05 30 39.6 +1.8
PDAR Pinedale Array 121.41 44 PKP PKPdf 05 30 39.0 +1.0
comp=Z,1.7nm,0.8s,baz=224,slow=0.8,SNR=11
PDAR PKKPab 05 40 41.5
comp=Z,1.5nm,0.6s,baz=111,slow=5.6,SNR=14
SRU San Rafael 121.85 49 *ePKP* PKPdf 05 30 40.2 +1.3
LAO LASA Array 122.13 39 *ePKP* PKPdf 05 30 40.0 +0.8
PV10 Paradox Valley 123.18 49 *ePKP* PKPdf 05 30 43.3 +1.8
PV01 Paradox Valley 123.60 49 *ePKP* PKPdf 05 30 43.4 +1.1
ESDC Sonseca Array 124.61 313 PKP PKPdf 05 30 45.4 +1.1
comp=Z,0.7nm,0.7s,slow=1.5,SNR=4.9
RSSD Black Hills 124.61 41 *ePKP* PKPdf 05 30 44.5 +0.4
ULM Lac du Bonnet 126.23 31 PKP PKPdf 05 30 46.7 -0.3
comp=Z,3.7nm,0.7s,baz=290,slow=7.1,SNR=4.5
ULM Lac du Bonnet 126.23 31 PKP PKPdf 05 30 46.7 -0.3
TXAR Lajitas Array 130.00 58 PKP PKPdf 05 30 56.2 +1.3
comp=Z,0.7nm,0.8s,baz=203,slow=2.6,SNR=10
TXAR SKPbc 05 34 15.5
comp=Z,0.6nm,0.8s,baz=270,slow=3.6,SNR=4.5
TXAR Lajitas Array 130.00 58 PKP PKPdf 05 30 56.2 +1.3
TXAR SKPbc 05 34 15.5
DBIC Dimbokro 130.03 272 PKP PKPdf 05 30 57.0 +1.7
comp=Z,3.1nm,0.5s,baz=80,slow=3.1,SNR=13
DBIC SKPbc 05 34 17.4
comp=Z,9.2nm,1.0s,baz=70,slow=6.9,SNR=4.5
JCT Junction City 132.88 56 *ePKP* PKPdf 05 31 01.3 +1.0
CCM Cathedral Cave 135.99 42 *ePKP* PKPdf 05 31 07.6 +1.8
CPUP Villa Florida 145.62 177 PKPbc PKPbc 05 31 25.5 +1.5
comp=Z,16nm,0.6s,baz=176,slow=1.8,SNR=31
CPUP Villa Florida 145.62 177 PKPdf PKPdf 05 31 26.3 +3.0
COW Cow Castle Cre 145.64 40 *ePKP* PKPdf 05 31 23.9 +0.7
LVC Limon Verde 146.58 157 *ePKP* PKPdf 05 31 27.1 +2.1
CAM4 Nova Friburgo 147.19 202 *eP* PKPdf 05 31 31.2 +5.2
CAM4 *i* 05 31 33.4
CAM4 *i* 05 31 39.9
CAM4 *i* 05 31 47.3
CAM4 Nova Friburgo 147.19 202 *eP* PKPdf 05 31 31.2 +5.2
CAM4 *i* 05 31 33.4
CAM4 *i* 05 31 39.9
CAM4 *i* 05 31 47.3
NNA Nana 150.62 133 *ePKP* PKPdf 05 31 34.1 +2.4
ARE Arequipa 150.69 147 *eP* PKPdf 05 31 41.0 +9.3
LPAZ La Paz 152.53 152 PKPbc PKPdf 05 31 44.9 +10
comp=Z,5.4nm,0.4s,baz=166,slow=1.2,SNR=5.3
LPAZ PP PP 05 35 27.7 -0.2
comp=Z,2.1nm,0.3s,baz=219,slow=4.4,SNR=4.4
LPAZ La Paz 152.53 152 PKPbc PKPdf 05 31 44.9 +10
LPAZ PP PP 05 35 27.7 -0.2
BDFB Brasilia 155.25 197 PKP PKPdf 05 31 40.8 +2.6
comp=Z,3.2nm,0.8s,baz=241,slow=9.7,SNR=4.3
OTAV Otavalo 155.56 108 *ePKPab* PKPab 05 32 05.9 -1.3
SAML Samuel 161.22 155 *ePKPdf* PKPdf 05 31 46.4 +1.0
SAML *ePKPab* PKPab 05 32 31.2 -0.2

IDC 23 05:40:45.7±2.4, 16.32S×175.11E, mb3.7/4, mb1 4.1/4, mb1mx3.9/13, 2C, Error ellipse: s-maj=241.0km s-min=27.5km az=157.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**38.85**	**258**	P	P	05 48 11.9	-2.6
	1.1nm,1.2s,baz=92,slow=8.6,SNR=5.0						
ASAR	**Alice Springs**	**39.30**	**252**	P	P	05 48 17.4	-0.9
	2.1nm,1.1s,baz=83,slow=8.9,SNR=10						
NVAR	**Mina Array Bea**	**82.71**	**47**	P	P	05 53 11.5	-1.4
	0.6nm,0.6s,baz=229,slow=8.3,SNR=3.9						
TXAR	**Lajitas Array**	**90.47**	**60**	P	P	05 53 50.2	-0.9
	0.2nm,0.9s,baz=243,slow=2.0,SNR=3.5						
VNA3	**Neumayer Olymp**	**92.60**	**178** ⇑	*i*	P	05 53 43.5	-16
VNA2	**Neumayer--Watz**	**92.97**	**179** ⇑	*i*	P	05 53 45.6	-16

*BJI **23** 06:20:14.2, 1.97S×140.25E, h33km, mb4.7*
*NEIC **23** 06:20:14.8±2.2, 2.48S×140.01E, h51km±20km, mb4.3/7, Error ellipse: s-maj=15.0km s-min=12.6km az=65.0*
NEIC Felt at Jayapura.
*IDC **23** 06:20:16.7±3.2, 2.64S×139.88E, h60km±29km, mb4.1/9, mb1 4.3/13, mb1mx4.2/17, ML4.6/2, MS3.4/5, Ms1 3.4/5, ms1mx3.2/16, Error ellipse: s-maj=18.0km s-min=11.9km az=97.0*

ISC 23 06:20:09.4±3.1, 2.47S±0.07×140.0E±0.1, h20km±22km, n32, σ1s05/27, mb4.3/15, MS3.2/3, 1C, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**9.89**	**135**	P	P	06 22 34.3	+0.6
	0.9nm,0.3s,baz=308,slow=11,SNR=5.8						
PMG	**Port Moresby**	**9.89**	**135**	*eP*	P	06 22 34.4	+0.7
	33nm,1.2s						
WRAB	**Tennant Creek**	**18.23**	**197**	P	P	06 24 23.0	-0.2
	300nm,0.6s,SNR=34						
WRAB	**Tennant Creek**	**18.23**	**197**	*eP*	P	06 24 22.8	-0.3
	49nm,0.7s						
WRA	**Warramunga Arr**	**18.24**	**197**	P	P	06 24 21.5	-1.8
	4.6nm,0.3s,baz=22,slow=12,SNR=166						
WRA				S	S	06 27 34.0	-9.1
	baz=20,slow=23,SNR=3.4						
WRA				LR	LR	06 31 55.9	
	comp=Z,127nm,20.6s,baz=10.0,slow=39						
CTA	**Charters Tower**	**18.54**	**161**	P	P	06 24 28.8	+1.8
	0.3nm,0.3s,baz=339,slow=13,SNR=8.5						
CTA				LR	LR	06 31 38.5	
	comp=Z,132nm,21.3s,baz=302,slow=37						
CTAO	**Charters Tower**	**18.54**	**161**	*eP*	P	06 24 27.9	+0.9
	6.0nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.99**	**221**	P	P	06 24 54.3	+0.2
	15nm,0.7s,baz=42,slow=6.0,SNR=47						
FITZ				S	S	06 28 41.7	-0.5
	5.0nm,0.9s,baz=180,slow=19,SNR=3.3						
FITZ				LR	LR	06 32 52.8	
	comp=Z,59nm,19.5s,MS3.0,baz=64,slow=36						
ASAR	**Alice Springs**	**21.89**	**195**	P	P	06 25 03.6	+0.5
	12nm,0.6s,mb4.5,baz=27,slow=10,SNR=162						
ASAR				S	S	06 29 00.3	+1.3
	2.4nm,1.1s,baz=20,slow=17,SNR=3.0						
ASAR				LR	LR	06 33 01.3	
	comp=Z,57nm,21.6s,MS3.0,baz=19,slow=35						
MBWA	**Marble Bar**	**27.13**	**225**	*eP*	P	06 25 53.6	+0.3
	6.6nm,0.7s,mb4.3						
STKA	**Stephens Creek**	**29.29**	**177**	P	P	06 26 10.8	-2.0
	4.3nm,0.8s,mb4.2,baz=347,slow=7.0,SNR=5.8						
STKA				LR	LR	06 39 51.0	
	comp=Z,214nm,18.2s,MS3.8,baz=208,slow=40						
STKA	**Stephens Creek**	**29.29**	**177**	P	P	06 26 10.8	-2.0
STKA				LR	LR	06 39 51.0	
CMAR	**Chiang Mai Arr**	**45.47**	**299**	P	P	06 28 30.9	+1.5
	2.5nm,0.9s,mb4.1,baz=123,slow=6.7,SNR=12						
URZ	**Urewera**	**49.17**	**141**	P	P	06 28 57.4	-0.7
	1.9nm,0.5s,mb4.4,baz=94,slow=21,SNR=2.2						
RPZ	**Rata Peaks**	**49.44**	**151**	P	P	06 29 01.2	+1.1
	5.9nm,0.7s,mb4.8,baz=316,slow=3.9,SNR=3.4						
GTA	**Gaotai**	**55.67**	**323**	*eP*	P	06 29 48.0	+1.3
GTA				AP	pP	06 30 02.0	+9.1
GTA				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.5						
ZAL	**Zalesovo**	**72.40**	**329**	P	P	06 31 35.2	-0.8
	comp=Z,1.1nm,0.3s,mb4.2,baz=71,slow=2.6,SNR=5.5						
KURK	**Kurchatov**	**74.28**	**325**	P	P	06 31 45.2	-1.9
	comp=Z,2.1nm,0.7s,mb4.2						
VNDA	**Vanda**	**75.91**	**175**	P	P	06 31 55.5	-0.5
	comp=Z,2.3nm,0.7s,mb4.2,baz=326,slow=7.2,SNR=32						
SBA	**Scott Base**	**76.66**	**174**	*eP*	P	06 32 00.4	+0.3
	comp=Z,2.3nm,1.0s,mb4.1						
BVAR	**Borovoye Array**	**79.87**	**325**	P	P	06 32 19.1	+0.9
	comp=Z,1.8nm,0.5s,mb4.3,baz=104,slow=6.1,SNR=12						
BRVK	**Borovoye**	**79.94**	**325**	*eP*	P	06 32 18.9	+0.3
	comp=Z,1.8nm,0.6s,mb4.2						
ILAR	**Eielson Array**	**85.07**	**24**	P	P	06 32 43.2	-1.5
	comp=Z,0.9nm,0.6s,mb4.0,baz=261,slow=4.2,SNR=13						
QSPA	**South Pole Qui**	**87.48**	**180** ⇑	*iP*	P	06 32 56.5	+0.2
	comp=Z,6.0nm,0.6s,mb5.0						
QSPA				*i*		07 00 13.5	
KIC	**Kosan Boka**	**144.67**	**277**	*ePKP2*	PKPab	06 39 46.3	-0.3
	comp=Z,24nm,0.7s						
DBIC	**Dimbokro**	**144.76**	**278**	PKP	PKPdf	06 39 46.7	-3.5
	comp=Z,4.7nm,0.5s,baz=83,slow=2.7,SNR=17						
TIC	**Toumodi**	**144.93**	**278**	*ePKP2*	PKPab	06 39 45.5	-2.0
	comp=Z,100nm,1.3s						
LIC	**Lamto**	**144.97**	**277**	*ePKP2*	PKPab	06 39 47.0	-0.7
	comp=Z,54nm,1.4s						
LPAZ	**La Paz**	**146.51**	**125**	PKPbc	PKPbc	06 39 53.3	+3.1
	comp=Z,2.2nm,0.2s,baz=255,slow=1.5,SNR=5.8						
CPUP	**Villa Florida**	**146.81**	**151**	PKPbc	PKPbc	06 39 52.2	+1.6
	comp=Z,2.8nm,0.9s,baz=217,slow=4.4,SNR=7.0						
SDV	**Santo Domingo**	**148.84**	**77**	*ePKPbc*	PKPdf	06 39 57.2	+0.3
BDFB	**Brasilia**	**160.33**	**156**	PKPab	PKPab	06 40 52.3	+0.9
	comp=Z,1.4nm,0.7s,baz=180,slow=4.0,SNR=3.3						

IGQ 23 06:46:08.2, 1.07S×78.36W, h11km±1km, mb4.0, 8C-6D, Error ellipse: s-maj=1.2km s-min=0.7km az=8.9, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PISA	**Pisayambo**	**0.03**	**299**	⇑ P	Pg	06 46 10.9	+0.5
MARY	**Rancho Maria**	**0.36**	**340**	P	Pg	06 46 15.8	+0.1
TAMB	**Tambo**	**0.38**	**359**	P	Pg	06 46 16.3	+0.3
RETU	**Refugio**	**0.39**	**193**	P	Pg	06 46 16.7	+0.5
RETU				S	Sg	06 46 22.1	+0.5
VC1	**Cotopaxi 1**	**0.43**	**355**	⇓ P	Pg	06 46 17.6	+0.6
PATA	**Patacocha**	**0.43**	**189**	⇓ P	Pg	06 46 17.5	+0.3
ARRY	**Arrayan**	**0.44**	**192**	⇓ P	Pg	06 46 17.0	-0.3
NAS1	**Nasa**	**0.45**	**345**	⇑ P	Pg	06 46 18.2	+0.7
IGUA	**Igualata**	**0.50**	**214**	⇓ P	Pg	06 46 18.9	+0.5
IGUA				S	Sg	06 46 26.2	+1.0
QIL1	**Quilotoa**	**0.61**	**291**	⇑ P	Pb	06 46 21.5	+1.0
ANTI	**Antisana**	**0.65**	**18**	⇓ P	Pb	06 46 20.8	-0.3
GGP	**Refugio Guagua**	**0.92**	**345**	P	Pb	06 46 26.6	+0.8
CGGP	**Crater GGP**	**0.92**	**345**	⇑ P	Pb	06 46 26.6	+0.9
CGGP				S	Sb	06 46 39.6	+1.8
PINO	**Pino**	**0.94**	**345**	⇑ P	Pb	06 46 26.9	+0.8
YANA	**Yana**	**0.97**	**348**	⇑ P	Pb	06 46 27.2	+0.6
YANA				S	Sb	06 46 40.3	+1.1
EPALM	**Reventador vol**	**1.06**	**37**	⇓ P	Pb	06 46 29.0	+0.9
EPALM				S	Sb	06 46 42.9	+1.0
JOR1	**San Jorge 1**	**1.10**	**345**	⇑ P	Pb	06 46 25.8	-3.0
CAYR	**Refugio Cayamb**	**1.14**	**18**	P	Pb	06 46 30.3	+0.8
CAYA	**Cayambe**	**1.20**	**18**	P	Pb	06 46 31.6	+1.2
CONE	**Cono NE Rev Vo**	**1.23**	**36**	⇑ P	Pb	06 46 32.1	+1.1
CONE				S	Sb	06 46 48.2	+1.5
COTA	**Cotacachi**	**1.40**	**1**	P	Pn	06 46 35.2	+1.4
COTA				S	Sb	06 46 54.2	+2.6

*SYO **23** 06:49:38.3, 25.35S×176.95W, h28km, MB4.8*
*IDC **23** 06:49:45.6±0.8, 25.35S×177.00W, h91km±6km, mb4.1/13, mb1 4.3/15, mb1mx4.3/18, MS3.7/4, Ms1 3.8/4, ms1mx3.4/20, Error ellipse: s-maj=22.2km s-min=14.4km az=147.0*
*NEIC **23** 06:49:45.3±2.4, 25.33S×176.95W, h91km±21km, mb4.7/6, Error ellipse: s-maj=15.1km s-min=10.9km az=154.0*
*BJI **23** 06:49:48.2, 25.30S×177.00W, h90km, mb5.1*

ISC 23 06:49:43.1±2.0, 26.18S±0.06×176.76W±0.09, h95km±19km, n77, σ1s24/47, mb4.5/19, 4C-2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**12.10**	**199**	S	S	06 54 50.4	+3.8
PUZ	**Puketiti**	**12.59**	**198**	P	P	06 52 39.6	-0.2
PUZ				S	S	06 54 59.4	+1.2
AFI	**Afiamalu**	**13.07**	**22**	*eP*	P	06 52 32.2	-14
URZ	**Urewera**	**13.11**	**202**	P	P	06 52 58.4	+12
	11nm,0.3s,baz=304,slow=3.8,SNR=31						
URZ				S	S	06 55 10.0	-0.6
	2.4nm,0.3s,baz=251,slow=6.9,SNR=4.6						
PWZ	**Pawanui**	**14.80**	**200**	S	S	06 55 49.9	-0.5
MRZ	**Mangatainoka R**	**15.79**	**202**	S	S	06 56 12.3	-0.6
NOUC	**Port Laguerre**	**15.99**	**281**	*eP*	P	06 53 25.5	+1.9
NOUC	**Port Laguerre**	**15.99**	**281**	*eP*	P	06 53 25.5	+1.9
RAR	**Rarotonga**	**16.32**	**76**	P	P	06 53 27.2	-0.5
	0.7nm,0.3s,baz=170,slow=4.8,SNR=2.5						
RAR				S	S	06 56 09.3	-16
	0.9nm,0.3s,baz=142,slow=18,SNR=3.3						
RAR				LR	LR	06 57 49.9	
	comp=Z,208nm,20.6s,baz=253,slow=30						
CAW	**Cannon Point**	**16.36**	**202**	S	S	06 56 24.4	-1.6
THZ	**Tophouse**	**17.73**	**206**	P	P	06 53 45.4	+0.3
KHZ	**Kahutara**	**18.05**	**204**	P	P	06 53 46.4	-2.5
RPZ	**Rata Peaks**	**20.11**	**206**	P	P	06 54 12.8	+1.4
	4.0nm,0.6s,baz=208,slow=17,SNR=2.8						
RPZ				S	S	06 57 46.5	-0.4
	2.4nm,0.4s,baz=15,slow=22,SNR=3.8						
RPZ				LR	LR	07 02 26.4	
	comp=Z,59nm,18.2s,baz=218,slow=37						
CTA	**Charters Tower**	**34.47**	**272**	P	P	06 56 23.6	-0.2
	8.2nm,0.8s,mb4.6,baz=112,slow=10.0,SNR=13						
CTAO	**Charters Tower**	**34.47**	**272**	*eP*	P	06 56 23.7	-0.1
	7.8nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**36.69**	**251**	P	P	06 56 44.1	+1.6
	3.7nm,0.6s,mb4.5,baz=91,slow=10,SNR=11						
STKA				PcP	PcP	06 59 05.0	+1.3
	4.2nm,1.0s,baz=133,slow=9.2,SNR=3.3						
ASAR	**Alice Springs**	**44.60**	**262**	P	P	06 57 46.9	-0.9
	9.9nm,0.8s,mb4.6,baz=104,slow=7.9,SNR=77						
ASAR				PcP	PcP	06 59 30.1	+0.5
	2.2nm,0.7s,baz=118,slow=3.9,SNR=7.9						
ASAR				S	S	07 04 11.2	-4.6
	0.4nm,0.9s,baz=127,slow=14,SNR=2.2						
WRAB	**Tennant Creek**	**45.21**	**267**	*eP*	P	06 57 52.3	-0.2
	4.1nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**45.22**	**267**	P	P	06 57 51.4	-1.2
	1.9nm,0.5s,mb4.1,baz=103,slow=8.1,SNR=31						
WRA				PcP	PcP	06 59 32.0	+0.4
	3.9nm,0.8s,baz=101,slow=3.6,SNR=14						
WRA				ScP		07 03 17.9	
	1.0nm,1.1s,baz=93,slow=4.0,SNR=4.6						
WRA				S	S	07 04 19.8	-4.8
	0.4nm,0.8s,baz=98,slow=15,SNR=4.0						
WRA				LR	LR	07 14 48.4	
	comp=Z,277nm,18.8s,baz=40,slow=33						
SBA	**Scott Base**	**52.31**	**184**	*eP*	P	06 58 54.2	+7.6
	12nm,1.0s,mb4.9						
VNDA	**Vanda**	**52.39**	**186**	P	P	06 58 54.2	+7.0
	3.1nm,0.9s,mb4.4,baz=359,slow=9.1,SNR=11						
FITZ	**Fitzroy Crossi**	**53.60**	**266**	P	P	06 58 57.0	+0.1
	3.8nm,0.7s,mb4.5,baz=178,slow=8.5,SNR=9.6						
FITZ				PcP	PcP	07 00 02.8	+0.6
	2.2nm,0.7s,baz=133,slow=2.1,SNR=2.7						
MBWA	**Marble Bar**	**57.89**	**261**	P	P	06 59 26.5	-1.1
	3.1nm

TXAR	**Lajitas Array**	**89.18**	**57**	P		**P**	**07 02 30.1**	**+0.6**	
	comp=Z,0.9nm,0.9s,mb3.8,baz=204,slow=7.8,SNR=8.7								
TXAR				pP		pP	07 02 55.3	+0.3	
	comp=Z,0.7nm,1.0s,baz=146,slow=4.5,SNR=2.9								
MCMT	**McKenzie Canyo**	**91.55**	**40**	*e*P		**P**	**07 02 40.3**	**+0.1**	
PDAR	**Pinedale Array**	**92.32**	**43**	P		**P**	**07 02 43.5**	**-0.2**	
	comp=Z,1.5nm,0.8s,mb4.3,baz=245,slow=2.7,SNR=12								
PDAR				pP		pP	07 03 07.6	-1.8	
	comp=Z,0.6nm,0.8s,baz=217,slow=4.5,SNR=2.8								
XAN	**Xi'an**	**92.46**	**307**	P		**P**	**07 02 44.6**	**-0.1**	
XAN				AMB		AMB			
	comp=Z,12nm,0.9s,mb5.1								
CMAR	**Chiang Mai Arr**	**93.06**	**289**	P		**P**	**07 02 49.2**	**+1.5**	
	comp=Z,2.2nm,0.8s,mb4.6,baz=135,slow=3.2,SNR=14								
ILAR	**Eielson Array**	**93.58**	**12**	P		**P**	**07 02 46.9**	**-2.2**	
	comp=Z,1.3nm,1.1s,mb4.2,baz=211,slow=6.1,SNR=6.9								
LPAZ	**La Paz**	**98.82**	**113**	LR		LR	07 37 05.8		
	comp=Z,52nm,19.5s,baz=25,slow=29								
BVAR	**Borovoye Array**	**124.09**	**318**	PKP		PKPdf	07 08 30.6	+0.3	
	comp=Z,0.9nm,0.5s,baz=90,slow=3.0,SNR=5.8								
ZRNK	**Zerenda**	**124.93**	**318**	*e*P		PKPdf	07 08 31.7	-0.1	
ARCES	**ARCESS Array B**	**134.69**	**349**	PKP		PKPdf	07 08 49.8	-0.1	
	comp=Z,1.9nm,0.7s,baz=14,slow=5.0,SNR=5.7								
FINES	**FINESS Array B**	**141.52**	**343**	PKP		PKPdf	07 09 02.5	+0.1	
	comp=Z,3.6nm,1.0s,baz=117,slow=4.3,SNR=4.3								
AFFS	**'Afif**	**144.01**	**275**	P		PKPbc	07 09 12.8	+5.6	
BLJS	**Baljurashi**	**144.24**	**268**	P		PKPbc	07 09 13.2	+5.3	
NB2	**NORSAR Subarra**	**144.73**	**353**	PKP			07 09 06.4		
	comp=Z,2.4nm,0.6s,baz=11,slow=3.5								
NOA	**NORSAR Array B**	**144.73**	**353**	PKP		PKPdf	07 09 06.9	-1.1	
	comp=Z,4.1nm,0.8s,baz=11,slow=2.3,SNR=11								
HFS	**Hagfors**	**145.30**	**351**	PKP		PKPdf	07 09 08.4	-0.6	
	comp=Z,7.5nm,0.6s,baz=63,slow=3.3,SNR=19								
LTHS	**Al Lith**	**145.43**	**268**	P		PKPdf	07 09 15.6	+5.1	
HILS	**Ha'il**	**145.66**	**281**	P		PKPdf	07 09 16.6	+5.9	
BEST	**Besiri**	**145.94**	**300**	*i* P		PKPdf	07 09 13.3	+2.5	
ELZG	**Elazig**	**147.60**	**301**	*i* P		PKPdf	07 09 19.6	+6.0	
MALT	**Malatya**	**148.07**	**301**	*e*PKPbc		PKPdf	07 09 19.8	+5.4	
AKASG	**Malin Array Be**	**148.47**	**328**	PKPbc		PKPdf	07 09 18.1	+3.6	
	comp=Z,1.9nm,0.6s,baz=39,slow=3.9,SNR=12								
AKASG				pPKPbc			07 09 43.6		
	comp=Z,1.9nm,0.6s,baz=37,slow=3.9,SNR=1.7								
YNBS	**Yanbu' al Bahr**	**148.57**	**274**	P		PKPdf	07 09 21.6	+6.1	
GZT	**Gaziantep**	**148.93**	**299**	*i* P		PKPdf	07 09 22.2	+6.5	
UMJS	**Umm Lajj**	**149.34**	**276**	P		PKPdf	07 09 23.2	+6.4	
KAHT	**Ahir Dag**	**149.41**	**300**	*i* P		PKPdf	07 09 23.4	+6.9	
ASF	**Jabal al Asfar**	**150.10**	**289**	PKPbc		PKPdf	07 09 24.8	+7.1	
	comp=Z,4.1nm,0.5s,baz=230,slow=1.9,SNR=4.4								
ASF				PKPab		PKPab	07 09 31.3	0.0	
	comp=Z,4.3nm,0.5s,baz=301,slow=2.1,SNR=7.7								
COBT	**Iskenderun**	**150.11**	**298**	*i* P		PKPdf	07 09 25.0	+7.4	
AVNT	**Avonos**	**150.61**	**303**	*i* P		PKPdf	07 09 25.6	+7.2	
DBAS	**Duba**	**150.78**	**279**	P		PKPdf	07 09 26.1	+7.2	
BALT	**Daday**	**150.84**	**309**	*i* P		PKPdf	07 09 26.2	+7.6	
JMQS	**Jabal Moqyreh**	**150.99**	**283**	P		PKPdf	07 09 26.9	+7.7	
ELDT	**Eldivan**	**151.19**	**307**	*i* P		PKPdf	07 09 26.7	+7.6	
BRTR	**Keskin Array B**	**151.29**	**306**	PKPbc		PKPdf	07 09 26.8	+7.4	
	comp=Z,2.8nm,0.7s,baz=117,slow=2.8,SNR=13								
BRTR				PKPab		PKPab	07 09 34.4	-1.7	
	comp=Z,2.6nm,0.8s,baz=98,slow=2.2,SNR=8.7								
AYUS	**'Aynunah**	**151.49**	**281**	P		PKPdf	07 09 27.7	+7.7	
BDAS	**Al Bad'**	**151.65**	**282**	P		PKPdf	07 09 27.9	+7.8	
JMOS	**Jabal al Moall**	**151.67**	**283**	P		PKPdf	07 09 28.2	+8.0	
HAQS	**Haql**	**151.82**	**283**	P		PKPdf	07 09 28.5	+8.1	
TAYS	**Tayyib Ism**	**151.85**	**282**	P		PKPdf	07 09 28.4	+7.9	
CLL	**Collm**	**153.83**	**346**	*e*PKP1		PKPdf	07 09 32.0	+10	
GERES	**GERESS Array B**	**155.95**	**343**	PKPab		PKPab	07 09 54.6	-0.8	
	comp=Z,0.1nm,0.3s,baz=27,slow=2.2,SNR=3.5								

NIED ***23*** *07:00:00.24.70N×121.90E,h35km,Mw4.2 Best double couple: M₀2.59×10¹⁵ NP1:φs115°,δ88°,λ102°. NP2: φs215°,δ12°,λ10°.*

TAP 23 07:00:58.2,24.83N×122.01E,h4km±1km,ML3.7,Taiwan region

MOS ***23*** *07:02:02.4±0.9,5.15S×145.40E,h62km,mb5.2/12,Error ellipse: s-maj=24.9km s-min=10.7km az=97.5*
BJI ***23*** *07:02:03.8,5.44S×145.90E,h106km,mB5.4,mb5.1*
SYO ***23*** *07:02:03.8,5.17S×145.39E,h66km,MB5.1*
IDC ***23*** *07:02:05.5±2.6,5.25S×145.31E,h73km±23km,mb4.7/12, mb1 4.9/16,mb1mx4.9/17,MS3.9/11,Ms1 3.9/11, ms1mx3.7/16,Error ellipse: s-maj=16.1km s-min=9.8km az=104.0*
NEIC ***23*** *07:02:06.0±0.8,5.23S×145.40E,h82km±7km,mb5.1/20, Error ellipse: s-maj=8.0km s-min=5.3km az=101.0*
HRVD ***23*** *07:02:06.0±0.4,5.27S×145.47E,h89km±7km,MW4.9/51, Centroid moment Tensor Solution. LP body waves: s18,c21;Mantle waves: s51,c68; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.75±.29; Mθθ0.56±.28; Mφφ0.19±.26; Mrθ-2.39±.09; Mθφ-0.52±.29; Mφr1.54±.14; Best double couple: M₀2.96×10¹⁶ NP1:φs308°,δ8°,λ-85°. NP2:φs123°,δ82°,λ-91°. Principal axes: T 3.05, Plg37°, Azm214°; N -.17, Plg1°, Azm123°; P -2.88, Plg53°, Azm32°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 23 07:02:02.5±1.1,5.19S±0.04×145.41E±0.06,h62km±10km, h64km±2.2km:pP-P,n107,σθ90/99,mb5.0/49,10C-8D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAU	**Wau**	**2.50**	**149**	*e*P	**P**	**07 02 44.9**	**+3.0**
PMG	**Port Moresby**	**4.53**	**158**	P	**P**	**07 03 10.8**	**+0.5**
	328nm,0.3s,baz=4.5,slow=5.7,SNR=403						
PMG				S	**S**	**07 03 57.6**	**-4.7**
	99nm,0.3s,baz=31,slow=11,SNR=3.5						
PMG				LR	LR	07 04 46.9	
	comp=Z,1μm,20.4s,baz=156,slow=36						
PMG	**Port Moresby**	**4.53**	**158**	P	**P**	**07 03 10.8**	**+0.5**
PMG				S	**S**	**07 03 57.6**	**-4.7**
PMG				pmax	pmax		
	comp=Z,328nm,0.3s						
PMG				smax			
	comp=N,99nm,0.3s						
PMG				MLR	MLR		
	comp=Z,1μm,20.4s						
PMG	**Port Moresby**	**4.53**	**158**	⇑*i*P	**P**	**07 03 10.9**	**+0.6**
RAB	**Rabaul**	**6.81**	**82**	P	**P**	**07 03 44.0**	**+2.0**
CTA	**Charters Tower**	**14.83**	**177**	P	**P**	**07 05 31.2**	**+1.0**
	comp=Z,3.8nm,0.3s,baz=351,slow=14,SNR=30						
CTA				S	**S**	**07 08 07.8**	**-5.6**
	comp=Z,0.7nm,0.3s,baz=275,slow=20,SNR=2.2						
CTA	**Charters Tower**	**14.83**	**177**	P	**P**	**07 05 31.2**	**+1.0**
CTA				S	**S**	**07 08 07.8**	**-5.6**
CTA				pmax	pmax		
	comp=Z,4.0nm,0.3s						
CTA				smax			
	comp=N,1.0nm,0.3s						
CTAO	**Charters Tower**	**14.83**	**177**	*e*P	**P**	**07 05 30.5**	**+0.3**
	comp=N,67nm,0.9s						
WRAB	**Tennant Creek**	**18.18**	**215**	Pn	**P**	**07 06 11.0**	**-1.3**
	comp=N,1μm,0.7s						
WRAB	**Tennant Creek**	**18.18**	**215**	*e*P	**P**	**07 06 11.3**	**-1.0**
	comp=N,171nm,0.6s						
WRA	**Warramunga Arr**	**18.19**	**215**	P	**P**	**07 06 11.6**	**-1.0**
	comp=N,8.7nm,0.3s,baz=44,slow=11,SNR=219						
WRA				S	**S**	**07 09 33.2**	**+3.1**
	comp=N,0.6nm,0.3s,baz=28,slow=20,SNR=3.4						
WRA	**Warramunga Arr**	**18.19**	**215**	P	**P**	**07 06 11.6**	**-0.9**
WRA				S	**S**	**07 09 33.2**	**+3.1**
WRA				pmax	pmax		
	comp=Z,9.0nm,0.3s						
WRA				smax			
	comp=N,1.0nm,0.3s						
ASAR	**Alice Springs**	**21.45**	**210**	P	**P**	**07 06 47.4**	**-0.3**
	comp=N,36nm,0.4s,mb5.0,baz=41,slow=8.3,SNR=266						
ASAR				S	**S**	**07 10 39.9**	**+3.0**
	comp=N,5.8nm,1.0s,baz=30,slow=22,SNR=3.1						
FITZ	**Fitzroy Crossi**	**23.19**	**235**	P	**P**	**07 07 04.6**	**-0.1**
	comp=N,244nm,0.6s,mb5.8,baz=39,slow=6.7,SNR=309						
FITZ				LR	LR	07 16 42.7	
	comp=N,180nm,21.3s,baz=79,slow=38						
STKA	**Stephens Creek**	**26.79**	**187**	P	**P**	**07 07 38.3**	**-0.5**
	comp=N,49nm,0.7s,mb5.2,baz=353,slow=8.0,SNR=84						
STKA				LR	LR	07 19 03.4	
	comp=N,282nm,20.9s,baz=18,slow=38						
MBWA	**Marble Bar**	**29.53**	**235**	*e*P	**P**	**07 08 02.8**	**-0.8**
	comp=N,31nm,0.6s,mb5.2						
CBIJ	**Chichi jima**	**32.25**	**355**	P	**P**	**07 08 26.3**	**-1.2**
	comp=N,43nm,0.5s,mb5.5						
NWAO	**Narrogin (SRO)**	**38.09**	**220**	*e*P	**P**	**07 09 15.6**	**-1.5**
	comp=N,13nm,0.6s,mb4.8						
MAJO	**Matsushiro**	**42.06**	**351**	*e*P	**P**	**07 09 48.7**	**-1.2**
	comp=N,13nm,0.8s,mb4.6						
MAT	**Matsushiro**	**42.06**	**351**	P	**P**	**07 09 49.6**	**-0.3**
MAT	**Matsushiro**	**42.06**	**351**	*e*P	**P**	**07 09 50.0**	**+0.1**
	comp=N,14nm,0.5s,mb4.8						
SSE	**Sheshan**	**42.86**	**329**	P	**P**	**07 09 56.9**	**+0.3**
SSE				S	**S**	**07 16 17.5**	**+1.3**
SSE				SS	SS	07 19 30.8	+8.2
SSE				AMB	AMB		
	comp=Z,27nm,0.8s,mb5.0						
SSE	**Sheshan**	**42.86**	**329**	P	**P**	**07 09 56.9**	**+0.3**
	comp=Z,27nm,0.8s,mb5.0						
SSE				S	**S**	**07 16 17.5**	**+1.3**
SSE				sS		07 16 47.5	
SSE				SS	SS	07 19 30.8	+8.2
SSE				LR	LR		
	comp=Z,110nm,20.0s						
URZ	**Urewera**	**43.74**	**143**	P	**P**	**07 10 04.2**	**+0.5**
	comp=Z,7.7nm,0.4s,mb4.8,baz=275,slow=7.6,SNR=18						
URZ				LR	LR	07 25 00.4	
	comp=Z,154nm,21.2s,baz=268,slow=31						
PUZ	**Puketiti**	**44.31**	**142**	P	**P**	**07 10 08.1**	**-0.2**
RPZ	**Rata Peaks**	**44.53**	**153**	P	**P**	**07 10 09.9**	**0.0**
	comp=Z,32nm,0.6s,mb5.3,baz=216,slow=0.9,SNR=22						
RPZ				LR	LR	07 26 13.5	
	comp=Z,174nm,21.9s,baz=276,slow=32						
NJ2	**Nanjing**	**44.84**	**327**	*e*P	**P**	**07 10 13.1**	**+0.5**
NJ2				PP	PP	07 11 59.8	+0.8
NJ2				S	**S**	**07 16 47.0**	**+2.1**
NJ2				XS		07 17 24.0	
NJ2				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.4						
WHN	**Wuhan**	**46.32**	**322**	⇑P	**P**	**07 10 26.5**	**+2.2**
KMI	**Kunming**	**51.25**	**308**	*e*P	**P**	**07 11 03.1**	**+0.6**
	comp=Z,6.0nm,0.6s,mb4.7						
KMI				S	**S**	**07 18 15.4**	**+0.4**
KMI				LR	LR		
	comp=Z,70nm,23.6s						
CMAR	**Chiang Mai Arr**	**51.47**	**298**	P	**P**	**07 11 05.1**	**+0.9**
	comp=Z,4.0nm,0.5s,mb4.6,baz=119,slow=6.1,SNR=16						
CMAR				LR	LR	07 34 35.7	
	comp=Z,42nm,18.7s,baz=318,slow=38						
CMAR	**Chiang Mai Arr**	**51.47**	**298**	P	**P**	**07 11 05.1**	**+0.9**
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
CMAR				MLR	MLR		
	comp=Z,43nm,18.7s						
MDJ	**Mudanjiang**	**51.58**	**346**	*e*P	**P**	**07 11 04.0**	**-0.7**
YSS	**Yuzh-Sakhalins**	**51.97**	**358**	⇑*i*P	**P**	**07 11 07.2**	**-0.4**
CN2	**Changchun**	**51.99**	**342**	*e*P	**P**	**07 11 07.8**	**+0.1**
CN2				*e*S	**S**	**07 18 25.4**	**+0.5**
CN2				SS	SS	07 22 03.0	+2.5
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
CN2				AMB	AMB		
	comp=Z,310nm,5.0s						
XAN	**Xi'an**	**52.06**	**321**	P	**P**	**07 11 08.9**	**+0.5**
XAN				AMB	AMB		
	comp=Z,18nm,0.9s,mb5.0						
BJI	**Beijing**	**52.44**	**332**	P	**P**	**07 11 11.3**	**+0.1**
BJI	**Beijing**	**52.44**	**332**	P	**P**	**07 11 11.2**	**0.0**
	comp=Z,5.0nm,0.9s,mb4.4						
CD2	**Chengdu**	**53.58**	**315**	*e*P	**P**	**07 11 21.1**	**+1.3**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
LZH	**Lanzhou**	**56.57**	**320**	*e*P	**P**	**07 11 42.5**	**+1.1**
LZH				PP	PP	07 13 50.8	+1.6
LZH				*e*S	**S**	**07 19 29.3**	**+2.7**
LZH				*e*SS	SS	07 23 19.0	+3.5
LZH				AMB	AMB		
	comp=Z,26nm,1.0s,mb5.2						
LZH				AMB	AMB		
	comp=Z,163nm,4.5s						
LZH	**Lanzhou**	**56.57**	**320**	*e*P	**P**	**07 11 42.5**	**+1.1**
	comp=Z,26nm,1.0s,mb5.2						
LZH				pP	pP	07 11 58.5	+0.7
LZH				sP	sP	07 12 05.5	+0.7
LZH				PP	PP	07 13 50.7	+1.5
LZH				*e*S	**S**	**07 19 29.2**	**+2.6**
LZH				sS		07 19 56.6	
LZH				*e*SS	SS	07 23 19.0	+3.5
LZH				LR	LR		
	comp=Z,1μm,17.9s						
SHL	**Shillong**	**60.25**	**303**	*e*P	**P**	**07 12 07.2**	**0.0**
GTA	**Gaotai**	**61.11**	**321**	*e*P	**P**	**07 12 13.8**	**+1.0**
GTA				S	**S**	**07 20 26.3**	**+0.8**
GTA				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.8						
GTA				AMB	AMB		
	comp=Z,90nm,6.5s						
SONM	**Songino Array**	**62.94**	**332**	P	**P**	**07 12 25.1**	**+0.2**
	comp=Z,2.7nm,0.7s,mb4.5,baz=162,slow=6.8,SNR=15						
CLNS	**Chul'man**	**64.05**	**348**	*e*P	**P**	**07 12 29.7**	**-2.3**
CLNS				pmax	pmax		
	comp=N,19nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,36nm,0.8s,mb5.5						
CLNS				pmax	pmax		
	comp=E,5.0nm,0.6s						
MA2	**Magadan**	**64.70**	**3**	*d*P	**P**	**07 12 36.2**	**0.0**
MA2				pmax	pmax		
	comp=Z,58nm,1.5s,mb5.4						
CASY	**Casey**	**65.62**	**195**	*e*P	**P**	**07 12 41.1**	**-0.9**
	comp=Z,24nm,0.8s,mb5.3						
GUN	**Gumba**	**66.10**	**303**	*e*P	**P**	**07 12 45.1**	**-0.7**
	comp=Z,34nm,0.8s,mb5.4						
ZAK	**Zakamensk**	**66.18**	**332**	*e*P	**P**	**07 12 45.6**	**-0.3**
PKI	**Pulchoki**	**66.38**	**303**	*e*P	**P**	**07 12 48.2**	**+0.7**
KKN	**Kakani**	**66.56**	**303**	*e*P	**P**	**07 12 48.2**	**-0.5**
	comp=Z,22nm,0.8s,mb5.2						
DMN	**Daman**	**66.64**	**303**	*e*P	**P**	**07 12 49.5**	**+0.3**
	comp=Z,24nm,0.8s,mb5.3						
GKN	**Gorkha**	**67.17**	**303**	*e*P	**P**	**07 12 51.2**	**-1.3**
	comp=Z,17nm,0.7s,mb5.2						
KOLN	**Koldanda**	**67.96**	**303**	*e*P	**P**	**07 12 57.3**	**-0.1**
	comp=Z,12nm,0.7s,mb5.0						
YAK	**Yakutsk**	**68.12**	**352**	*d i*P	**P**	**07 12 57.3**	**-0.5**
YAK				pmax	pmax		
	comp=Z,31nm,0.7s,mb5.5						
SEY	**Seymchan**	**68.14**	**3**	*e*P	**P**	**07 12 59.2**	**+1.3**
SEY				*e*	pP	07 13 17.7	+2.9
WMQ	**Urumqi**	**71.15**	**320**	P	**P**	**07 13 17.6**	**+1.0**
WMQ				PP	PP	07 15 58.0	+0.8
WMQ				S	S	07 22 28.0	+0.7
VNDA	**Vanda**	**72.81**	**176**	P	**P**	**07 13 26.1**	**+0.2**
	comp=Z,9.7nm,0.8s,mb4.8,baz=325,slow=6.1,SNR=71						
VNDA				LR	LR	07 46 11.7	
	comp=Z,55nm,18.4s,baz=18,slow=36						
VNDA	**Vanda**	**72.81**	**176**	P	**P**	**07 13 26.1**	**+0.2**
VNDA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VNDA				MLR	MLR		
	comp=Z,55nm,18.4s						
SBA	**Scott Base**	**73.48**	**175**	*e*P	**P**	**07 13 30.0**	**+0.2**
	comp=Z,7.0nm,1.0s,mb4.5						
TIXI	**Tiksi**	**77.46**	**355**	⇑*e*P	**P**	**07 13 51.5**	**-1.1**
TIXI				*e**PP	pP	07 14 09.1	-0.6
TIXI				*e*S	S	07 23 35.0	-2.1
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
ZAL	**Zalesovo**	**77.50**	**328**	P	**P**	**07 13 53.0**	**-0.1**
	comp=Z,4.1nm,0.8s,mb4.4,baz=3.9,slow=6.1,SNR=18						
ZAL				LR	LR	07 47 51.6	
	comp=Z,106nm,21.6s,baz=38,slow=35						
ZAL	**Zalesovo**	**77.50**	**328**	P	**P**	**07 13 53.0**	**-0.1**
ZAL				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ZAL				MLR	MLR		
	comp=Z,106nm,21.6s						
NVS	**Novosibirsk**	**78.72**	**329**	*e*P	**P**	**07 13 58.4**	**-1.4**
NVS				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
NVS				pmax	pmax		
	comp=E,7.0nm,0.9s						
KURK	**Kurchatov**	**79.62**	**324**	⇑*e*P	**P**	**07 14 04.8**	**0.0**
KURK	**Kurchatov**	**79.62**	**324**	*e*P	**P**	**07 14 04.2**	**-0.7**
	comp=E,6.4nm,0.9s,mb4.5						
AAK	**Ala-Archa**	**79.65**	**315**	⇑*e*P	**P**	**07 14 05.2**	**+0.1**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.5s,mb4.4						
AAK	**Ala-Archa**	**79.65**	**315**	*e*P	**P**	**07 14 04.3**	**-0.8**
	comp=Z,2.1nm,0.8s,mb4.1						
MAW	**Mawson**	**82.38**	**203**	P	**P**	**07 14 19.1**	**+0.2**
	comp=Z,13nm,0.7s,mb5.0,baz=78,slow=5.6,SNR=29						
MAW				PP	PP	07 17 26.3	-3.8
	comp=Z,12nm,1.3s,baz=83,slow=8.1,SNR=3.8						
MAW				LR	LR	07 46 07.4	
	comp=Z,67nm,20.8s,baz=328,slow=32						
MAW	**Mawson**	**82.38**	**203**	P	**P**	**07 14 19.1**	**+0.1**
MAW						07 17 26.3	
MAW				pmax	pmax		
	comp=Z,13nm,0.7s						
MAW				pmax	pmax		
	comp=Z,12nm,1.3s						
IMA	**Indian Mountai**	**83.37**	**21**	*e*P	**P**	**07 14 24.1**	**+0.1**
	comp=Z,55nm,1.0s,mb5.5						
SML	**Sawmill**	**83.61**	**26**	*e*P	**P**	**07 14 24.9**	**-0.4**
MCK	**McKinley**	**84.14**	**24**	*e*P	**P**	**07 14 26.7**	**-1.2**
	comp=Z,20nm,1.0s,mb5.2						
DIV	**Divide**	**84.49**	**27**	*e*P	**P**	**07 14 29.8**	**+0.1**
	comp=Z,78nm,1.0s,mb5.8						
QSPA	**South Pole Qui**	**84.77**	**180**	⇓*i*P	**P**	**07 14 31.0**	**+0.2**
	comp=Z,30nm,1.1s,mb5.3						
COLA	**College**	**85.03**	**23**	*c i*P	**P**	**07 14 31.9**	**-0.4**
COLA	**College**	**85.03**	**23**	*e*P	**P**	**07 14 30.8**	**-1.5**
	comp=Z,24nm,0.8s,mb5.4						
COLA				LR	LR		
	comp=Z,186nm,19.0s						
BVAR	**Borovoye Array**	**85.19**	**324**	P	**P**	**07 14 33.2**	**-0.2**
	comp=Z,5.1nm,0.6s,mb4.8,baz=117,slow=6.6,SNR=29						
BRVK	**Borovoye**	**85.26**	**324**	*e*P	**P**	**07 14 33.7**	**0.0**
	comp=Z,3.2nm,0.7s,mb4.6						
THY	**Trims Highway**	**85.33**	**25**	*e*P	**P**	**07 14 34.3**	**+0.5**
ILAR	**Eielson Array**	**85.37**	**23**	P	**P**	**07 14 33.0**	**-1.0**
	comp=Z,20nm,0.7s,mb5.3,baz=257,slow=5.0,SNR=177						
ILAR				PKKPbc		07 32 36.8	
	comp=Z,0.4nm,0.7s,baz=25,slow=1.1,SNR=8.4						
ZRNK	**Zerenda**	**85.98**	**324**	*e*P	**P**	**07 14 36.4**	**-0.8**
	comp=Z,45nm,1.4s,mb5.5						
SYO	**Syowa Base**	**90.80**	**200**	⇓P	**P**	**07 15 00.4**	**+0.5**
SYO	**Syowa Base**	**90.80**	**200**	⇑PcP	PcP	07 15 02.6	+1.5
SYO	**Syowa Base**	**90.80**	**200**	⇓PP	PP	07 18 34.8	-3.6
ARU	**Arti**	**92.54**	**326**	⇑*i*P	**P**	**07 15 03.0**	**-5.2**
ARU				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.8						
NVAR	**Mina Array Bea**	**98.13**	**52**	P	**P**	**07 15 34.2**	**+0.2**
	comp=Z,0.5nm,0.8s,mb4.1,baz=264,slow=4.2,SNR=4.2						
NVAR				LR	LR	07 51 25.7	
	comp=Z,58nm,20.7s,baz=270,slow=30						
YKA	**Yellowknife Ar**	**99.20**	**28**	PKKPbc		07 32 03.0	
	comp=Z,1.4nm,0.6s,baz=103,slow=3.1,SNR=5.5						
YKA				LR	LR	08 02 36.5	
	comp=Z,62nm,18.9s,baz=290,slow=37						
SNAA	**Sanae**	**100.53**	**190**	⇑*i*Pdif	P	07 15 39.4	-4.8
SNAA				*e*		07 19 49.3	
SNAA				*e*		07 20 01.2	
VNA2	**Neumayer--Watz**	**101.91**	**189**	⇓*i*Pdif	P	07 15 50.9	+0.6
VNA2				*e*		07 20 00.7	
VNA2				*e*		07 20 11.9	
VNA3	**Neumayer Olymp**	**101.95**	**188**	⇓*i*Pdif	P	07 15 42.6	-7.9
VNA3				*e*		07 19 51.7	
VNA3				*e*		07 20 02.9	
VNA1	**Neumayer--Stat**	**102.28**	**189**	⇓*i*Pdif	Pdif	07 15 52.4	+0.3
VNA1				*e*		07 20 02.2	
VNA1				*e*		07 20 13.1	
ARCES	**ARCESS Array B**	**105.00**	**342**	PKKPbc		07 31 45.7	
	comp=Z,1.7nm,0.5s,baz=252,slow=2.9,SNR=13						
TXAR	**Lajitas Array**	**110.76**	**61**	PKKPbc		07 31 28.9	
	comp=Z,0.4nm,0.9s,baz=79,slow=4.6,SNR=3.8						
TXAR				PKKPab		07 31 40.6	
	comp=Z,0.6nm,0.9s,baz=106,slow=6.6,SNR=6.2						
CLL	**Collm**	**119.44**	**328**	*e*PKIKP	PKPdf	07 20 48.0	+2.8
SDV	**Santo Domingo**	**144.06**	**82**	*e*PKP	PKPdf	07 21 30.1	-2.1
CPD	**Cerro la Pandu**	**146.84**	**65**	*e*PKP	PKPdf	07 21 37.9	+1.0
HUMP	**Col San Antoni**	**146.87**	**65**	*e*PKP	PKPdf	07 21 38.0	+1.1
SAML	**Samuel**	**148.23**	**116**	*e*PKPdf	PKPdf	07 21 39.4	+0.1
KIC	**Kosan Boka**	**150.28**	**274**	*e*PKIKP	PKPdf	07 21 49.7	+7.1
	comp=Z,38nm,0.8s						
DBIC	**Dimbokro**	**150.39**	**274**	PKPbc	PKPdf	07 21 49.1	+6.4
	comp=Z,9.3nm,0.8s,baz=184,slow=3.1,SNR=9.0						
DBIC	**Dimbokro**	**150.39**	**274**	PKIKP	PKPdf	07 21 49.2	+6.5
DBIC				pmax	pmax		
	comp=Z,9.0nm,0.8s						
TIC	**Toumodi**	**150.55**	**274**	*e*PKIKP	PKPdf	07 21 50.3	+7.3
	comp=Z,63nm,0.8s			

CHN1	Nanshi	1.68	224	eP	Pn	07 21 28.5 +2.9
TWG	Pinlang	1.71	203	eP	Pn	07 21 27.5 +1.4
SGST	Jiashian	1.72	221	eP	Pn	07 21 28.8 +2.6
SSD	Sandimen	1.96	213	eP	Pn	07 21 32.0 +2.3
TWM1	Shoushan	2.02	219	eP	Pn	07 21 33.4 +2.9
EAST	Anshuo	2.19	204	eP	Pn	07 21 34.7 +1.8
PNG	Penghu	2.21	248	eP	Pn	07 21 35.6 +2.3
WDGT	Dungji	2.27	240	eP	Pn	07 21 36.9 +2.9
SCZT	Fangliau	2.29	208	eP	Pn	07 21 37.9 +3.5

NEIC ***23*** *07:29:25.4±3.5,36.76N×71.64E,h102km±28km,mb4.3/2, Error ellipse: s-maj=30.4km s-min=20.0km az=198.0*

IDC ***23*** *07:29:26.4±9.3,36.83N×71.82E,h109km±82km,mb3.6/8, mb1 3.8/10,mb1mx3.5/20,ML4.0/1,Error ellipse: s-maj=42.7km s-min=24.1km az=17.0*

ISC 23 07:29:25.8±0.6,36.79N±0.04×71.80E±0.09,h124km±8km, n33,σ0s98/35,mb3.8/8,2C-1D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.96	178	⇓P		P	07 30 14.0	+1.4
CEP				S		S	07 30 46.0	-2.0
CHCP	Chirah Chowk	3.34	159	⇑P		P	07 30 20.7	+3.0
CHCP				S		S	07 30 58.0	+0.8
THW	Thamme Wali	3.98	181	⇑P		P	07 30 26.6	+0.3
SBDP	Sheikh Budin	4.55	191	P		P	07 30 33.7	-0.2
SARP	Sargodha	4.91	171	P		P	07 30 38.7	0.0
AML	Almayashu SNR=79	5.53	15	P		P	07 30 46.7	-0.4
KZA	Kyzart SNR=9.5	5.92	26	P		P	07 30 53.2	+0.9
AAK	Ala-Archa SNR=35	6.20	19	P		P	07 30 56.4	+0.3
AAK	Ala-Archa 25nm,0.4s	6.20	19	eP		P	07 30 54.9	-1.2
ULHL	Ulahol SNR=9.9	6.44	31	P		P	07 30 59.9	+0.5
CHMS	Chumysh SNR=16	6.60	19	P		P	07 31 01.5	-0.2
TKM2	Tokmak 2 SNR=30	6.79	24	P		P	07 31 04.8	+0.7
USP	Ospenovka SNR=20	6.79	17	P		P	07 31 03.3	-1.0
KOLN	Koldanda 4.9nm,0.4s	13.43	129	eP		P	07 32 31.3	-1.0
GKN	Gorkha 4.7nm,0.3s	13.93	125	eP		P	07 32 38.5	-0.3
KKN	Kakani	14.49	124	eP		P	07 32 45.5	-0.5
PKI	Pulchoki 3.4nm,0.4s	14.73	125	eP		P	07 32 48.2	-0.8
KURK	Kurchatov 4.4nm,0.8s	14.76	17	eP		P	07 32 51.9	+2.7
GUN	Gumba	14.82	123	eP		P	07 32 50.1	0.0
BVAR	Borovoye Array 0.5nm,0.3s,baz=160,slow=12,SNR=5.7	16.27	357	P		P	07 33 06.3	-1.8
ZAL	Zalesovo 1.3nm,0.3s,baz=263,slow=7.8,SNR=8.1	19.37	24	P		P	07 33 43.6	-0.4
BRTR	Keskin Array B 0.6nm,0.4s,mb3.6,baz=124,slow=8.9,SNR=4.4	29.96	287	P		P	07 35 24.0	-0.5
AKASG	Malin Array Be 0.3nm,0.3s,mb3.6,baz=71,slow=6.3,SNR=4.1	33.27	308	P		P	07 35 54.8	+1.6
JOF	Joensuu	35.94	330	ep		P	07 36 14.9	-0.9
FINES	FINESS Array B 3.3nm,0.9s,mb4.2,baz=126,slow=8.5,SNR=14	37.61	326	P		P	07 36 29.8	0.0
FINES	FINESS Array B	37.61	326	P		P	07 36 29.8	0.0
ARCES	ARCESS Array B 3.3nm,0.8s,mb4.2,baz=79,slow=6.2,SNR=3.9	41.13	337	P		P	07 36 59.1	+0.4
HFS	Hagfors 1.5nm,0.4s,mb4.1,baz=98,slow=10,SNR=14	43.24	322	P		P	07 37 15.5	-0.5
NB2	NORSAR Subarra 0.8nm,0.4s,mb3.8,baz=96,slow=7.9	44.54	323	P		P	07 37 25.8	-0.6
NOA	NORSAR Array B 0.8nm,0.4s,mb3.8,baz=96,slow=7.7,SNR=4.7	44.54	323	P		P	07 37 26.1	-0.3
YKA	Yellowknife Ar 0.9nm,0.8s,mb3.7,baz=351,slow=5.4,SNR=2.9	80.93	3	P		P	07 41 28.1	+0.9
YKA	Yellowknife Ar	80.93	3	P		P	07 41 28.1	+0.9
WRA	Warramunga Arr 0.3nm,0.7s,mb3.2,baz=325,slow=4.9,SNR=7.0	81.60	122	P		P	07 41 32.4	+0.8

CASC 23 08:50:38.4±1.9,13.20N×89.86W,MD3.6,2C-1D,El Salvador

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SBLS	San Blas	0.68	20	eP		Pg	08 50 52.3	+0.4
SBLS				eS		Sg	08 51 05.3	+4.2
SNJE	San Jose	0.71	20	eP		Pg	08 50 52.9	+0.3
SNJE				eS		Sg	08 51 04.8	+2.7
RTR	El Retiro	0.73	17⇑	eP		Pg	08 50 53.0	+0.1
RTR				eS		Sg	08 51 06.3	+3.7
BOQS	Boqueron	0.78	46	eP		Pg	08 50 54.6	+0.7
BOQS				eS		Sg	08 51 07.0	+2.7
LFRS	El Faro	0.89	61⇓	eP		Pg	08 50 56.0	0.0
LFRS				eS		Sg	08 51 09.7	+1.8
LCBS	La Ceiba	0.97	62⇑	eP		Pg	08 50 57.4	-0.4
LCBS				eS		Sg	08 51 11.6	+0.9
SNVI	San Vicente	1.08	67	eP		Pb	08 51 01.2	+1.6

IDC ***23*** *08:55:57.8±0.3,37.28N×138.74E,mb5.9/30,mb1 6.0/35, mb1mx6.0/36,ML4.8/3,MS6.4/25,Ms1 6.4/25, ms1mx6.3/32,Error ellipse: s-maj=12.6km s-min=9.3km az=95.0*

BJI ***23*** *08:55:57.8,37.11N×139.02E,h28km,mB6.6,mb6.0, Ms6.7,Msz6.7*

NIED ***23*** *08:56:00,37.30N×138.80E,h5km,Mw6.6 Best double couple: M0 7.53×10^18 NP1:φs212°,δ47°,λ.93°. NP2:φs27°, δ43°,λ87°.*

NEIC ***23*** *08:56:00.9±0.1,37.23N×138.78E,h16km,mb6.4/235, ME6.5,MS6.3/122,MW6.4,MW6.7(MOS),MW6.6(NIED), Error ellipse: s-maj=3.6km s-min=2.7km az=177.0 Broadband fault plane solution: P waves. NP1:φs220°, δ55°,λ90°. NP2:φs40°,δ35°,λ90°. Principal axes: T Plg80°, Azm130°; N Plg0°, Azm0°; P Plg10°, Azm310°; Moment Tensor Solution. s71 Moment tensor: Scale 10^18 Nm; Mrr3.70; Mθθ-1.68; Mφφ-2.03; Mrθ-0.63; Mθφ-1.92; Mrφ0.37; Best double couple: M0 3.8×10^18 NP1: φs32°,δ45°,λ75°. NP2:φs233°,δ47°,λ105°. Principal axes: T 3.84, Plg79°, Azm216°; N -.06, Plg11°, Azm43°; P -3.79, Plg1°, Azm313°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC At least 40 people killed, 3,183 injured and 6,000 buildings destroyed or damaged in Niigata Prefecture. A high-speed train derailed; several roads, bridges and rail lines damaged; at least 1,300 landslides and 11 fires occurred; several gas, water and power lines damaged in Niigata Prefecture. Felt in Chiba, Fukushima, Gumma, Kanagawa, Miyagi, Saitama and Tokyo Prefectures.

HRVD ***23*** *08:56:00.9±0.1,37.31N×138.83E,h13km,MW6.6/77, Centroid moment Tensor Solution. LP body waves: s75,c190;Mantle waves: s77,c169; Half duration: 4s8 Moment tensor: Scale 10^19Nm; Mrr0.78; Mθθ-0.15; Mφφ-0.63; Mrθ-0.22±.01; Mθφ-0.36; Mφr-0.25±.01; Best double couple: M0.86×10^19 NP1:φs23°,δ34°,λ81°. NP2: φs214°,δ56°,λ96°. Principal axes: T .84, Plg78°, Azm144°; N .04, Plg5°, Azm30°; P -.88, Plg11°, Azm299°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to mantle waves, cutoff=125s.*

JMA ***23*** *08:56:00.3±0.1,37.29N×138.87E,h13km±2km,M6.8 Broadband fault plane solution: P waves. NP1:φs28°,δ32°, λ86°. NP2:φs213°,δ58°,λ92°. Principal axes: T Plg77°, Azm130°; N Plg2°, Azm31°; P Plg13°, Azm301°;*

JMA Felt VII J1.

SYO ***23*** *08:56:00.8,37.23N×138.75E,h16km,MB6.4,MS6.3*

IGIL ***23*** *08:56:01.7,37.20N×138.81E,h2km,MS6.9*

MOS ***23*** *08:56:03.6±1.0,37.66N×138.73E,h33km,mb6.6/90, MS6.9/38,Error ellipse: s-maj=7.0km s-min=4.3km az=94.5 Broadband fault plane solution: P waves. M0 1.3×10^19 NP1:φs360°,δ50°,λ58°. NP2:φs224°,δ50°, λ122°. Principal axes: T Plg66°, Azm202°; N Plg24°, Azm22°; P Plg0°, Azm292°;*

BGS ***23*** *08:56:05.0,37.50N×136.46E,h15km,mb6.4*

ISC 23 08:55:58.6±0.5,37.30N±0.02×138.77E±0.02,h8km±3km, h13km±.9km:pP-P,n1392,σ1s11/1352,mb6.3/320, MS6.4/164,159C-84D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JHK	Hiroka	0.20	106	⇓P		Pg	08 56 03.5	+0.5
JIZZ	Izumozaki	0.23	348	⇓P		Pg	08 56 06.2	+2.7
JKT	Katashina	0.66	144	⇓P		Pb	08 56 11.9	0.0
JNS	Sasagawa	0.67	40	⇑P		Pb	08 56 12.0	-0.1
JGK	Kuni	0.75	188	⇓P		Pb	08 56 14.5	+1.1
JFY	Yanaizu	0.75	82	S		Sb	08 56 23.3	-0.3
JSD	Sado	0.84	331	⇓P		Pb	08 56 15.6	+0.7
MAJO	Matsushiro	0.88	211	eP		Pb	08 56 16.2	+0.5
MAT	Matsushiro	0.88	211	⇑P		Pb	08 56 16.8	+1.1
MAT				S		Sb	08 56 31.1	+3.7
MAT	Matsushiro	0.88	211	⇑ iP		Pb	08 56 16.8	+1.1
MAT				eS		Sb	08 56 31.0	+3.6
JSB	Shiboa	0.98	110	⇓P		Pb	08 56 17.8	+0.5
JAG	Ashikaga	1.03	148	⇑P		Pb	08 56 18.7	+0.4
JSZ	Suzu	1.13	278	⇓P		Pb	08 56 20.9	+0.9
JFT	Otama	1.27	80	S		Sb	08 56 39.7	+1.2
JYS	Shirataka	1.38	48	⇑P		Pn	08 56 24.0	-0.2
JYA	Atsumi	1.49	30	⇑P		Pn	08 56 25.4	-0.4
JHG	Hegura jima	1.57	291	⇓P		Pn	08 56 27.1	+0.2
JHO	Hitachi	1.60	115	⇓P		Pn	08 56 27.3	0.0
ONAJ	Iwakimizuishiy	1.63	96	P		Pn	08 56 28.0	+0.2
JFK	Kawauchi	1.68	87	⇑P		Pn	08 56 28.7	+0.2
JFK				S		Sn	08 56 51.2	+0.9
JMM	Marumori	1.70	70	⇑P		Pn	08 56 28.9	+0.1
JOU	Okura	1.84	54	⇑P		Pn	08 56 30.9	+0.2
JYK	Kaneyama	2.04	37	⇑P		Pn	08 56 33.6	-0.1
JGM	Miyama	2.30	227	P		Pn	08 56 39.0	+1.6
JIO	Ouri	2.34	60	⇑P		Pn	08 56 37.8	-0.2
JYW	Yuwa	2.50	26	P		Pn	08 56 40.4	+0.1
JMK	Ichinoseki	2.54	49	P		Pn	08 56 40.6	-0.2
JRG	Rokugo	2.55	34	P		Pn	08 56 41.2	+0.2
JFM	Mihama	2.86	233	P		Pn	08 56 48.0	+2.6
OFUJ	Ofunato	2.89	51	P		Pn	08 56 45.9	+0.1
JEG	Eigenji	2.90	222	P		Pn	08 56 48.4	+2.5
JOM	Ohasama	2.94	42	P		Pn	08 56 46.6	+0.1
JAH	Hinai	3.23	26	P		Pn	08 56 50.7	+0.1
MIYJ	Miyakonagasawa	3.30	46	P		Pn	08 56 51.9	+0.3
JKZ	Kuzumaki	3.34	36	P		Pn	08 56 52.5	+0.2
JKY	Yasaka	3.40	242	P		Pn	08 56 54.4	+1.4
JTH	Tanohata	3.58	42	P		Pn	08 56 56.5	+0.9
JSI2	Shiura 2	3.96	18	P		Pn	08 57 01.2	+0.2
JHJ	Hachijo jima 2 696nm,0.3s,baz=100,slow=2.9,SNR=52	4.26	168	Pn		Pn	08 57 05.2	0.0
JHJ				Sn		Sn	08 57 55.9	+0.2
	baz=238,slow=23,SNR=2.6							
JHJ				LR		LR	08 58 43.3	
	comp=Z,894μm,18.1s,baz=12,slow=39							
JJG	Jouge	5.27	241	P		Pn	08 57 22.5	+2.9
ERM	Erimo 20μm,1.0s,SNR=47	5.80	34	Pn		Pn	08 57 27.4	+0.4
JKD	Kudamatsu	6.48	242	P		Pn	08 57 39.0	+2.3
JTY	Toyota	6.96	246	P		Pn	08 57 45.6	+2.2
ASAJ	Asahikawa 38nm,0.3s,baz=236,slow=7.8,SNR=96	7.40	22	Pn		Pn	08 57 50.0	+0.4
ASAJ				LR		LR	09 00 50.5	
	comp=Z,242μm,18.7s,baz=216,slow=39							
ASAJ	Asahikawa	7.40	22	P		Pn	08 57 50.0	+0.4
ASAJ				pmax		pmax		
	comp=Z,38nm,0.3s							
ASAJ				MLR		MLR		
	comp=Z,242μm,18.7s							
JFA	Akaike	7.42	244	P		Pn	08 57 51.5	+1.6
JNU	Nakatsue	7.69	239	P		Pn	08 57 55.1	+1.5
VLA	Vladivostok	7.84	320	⇑ iP		Pn	08 57 54.0	-1.7
JNAR	Kushima--Naru	8.46	229	P		P	08 58 05.9	+1.6
JZO	Okuchi	8.47	235	P		P	08 58 05.9	+1.4
JHD	Hondo	8.58	238	P		P	08 58 07.5	+1.5
YUK	Yuzh-Kuril'sk	8.61	36	P		P	08 58 00.5	-6.0
YUK				eS		Sn	08 59 31.0	-14
YUK				pmax		pmax		
	comp=N,28μm,2.4s							
YUK				pmax		pmax		
	comp=Z,16μm,2.4s							
YUK				pmax		pmax		
	comp=E,11μm,4.0s							
YUK				pmax		pmax		
	comp=N,2μm,0.5s							
YUK				pmax		pmax		
	comp=Z,2μm,0.5s							
YUK				pmax		pmax		
	comp=E,2μm,0.7s							
YUK				smax				
	comp=E,82μm,11.0s							
YUK				smax				
	comp=N,135μm,16.0s							
YUK				smax				
	comp=N,10μm,1.0s							
YUK				smax				
	comp=E,3μm,1.0s							
YUK				MLR		MLR		
	comp=N,523μm,16.0s							
YUK				MLR		MLR		
	comp=Z,262μm,16.0s							
INCN	Inchon	9.66	275	⇓eP		P	08 58 21.6	+0.7
MDJ	Mudanjiang	10.07	319	Pn		P	08 58 26.6	0.0
MDJ	Mudanjiang comp=Z,2μm,1.8s	10.07	319	eP		P	08 58 26.1	-0.4
YSS	Yuzh-Sakhalins	10.09	16	i P		P	08 58 26.4	-0.4
YSS				eS		S	09 00 20.0	-1.2
YSS				pmax		pmax		
	comp=N,1μm,1.3s							
YSS				pmax		pmax		
	comp=Z,1μm,1.3s							
YSS				pmax		pmax		
	comp=E,530nm,1.2s							
YSS				pmax		pmax		
	comp=N,22μm,10.0s							
YSS				pmax		pmax		
	comp=E,4μm,10.0s							
YSS				pmax		pmax		
	comp=Z,18μm,10.0s							
YSS				smax				
	comp=E,21μm,12.0s							
YSS				smax				
	comp=N,19μm,11.0s							
YSS				MLR		MLR		
	comp=N,119μm,12.0s							
YSS				MLR		MLR		
	comp=Z,258μm,12.0s							
YSS	Yuzh-Sakhalins	10.09	16	eP		P	08 58 26.1	-0.7
KUR	Kuril'sk	10.46	38	i P		P	08 58 26.0	-6.0
KUR				eS		S	09 00 21.0	-9.5
KUR				pmax		pmax		
	comp=N,31μm,3.5s							
KUR				pmax		pmax		
	comp=E,24μm,3.5s							
KUR				pmax		pmax		
	comp=Z,38μm,3.5s							
KUR				pmax		pmax		
	comp=N,1μm,1.2s							
KUR				pmax		pmax		
	comp=E,890nm,1.2s							
KUR				pmax		pmax		
	comp=Z,8μm,1.2s							
KUR				smax				
	comp=N,4μm,1.5s							
KUR				smax				
	comp=E,1μm,1.5s							
KUR				smax				
	comp=E,65μm,6.0s							
KUR				MLR		MLR		
	comp=N,420μm,16.0s							
KUR				MLR		MLR		
	comp=E,105μm,16.0s							
KUR				MLR		MLR		
	comp=Z,314μm,16.0s							
CBIJ	Chichi jima baz=90,slow=13	10.58	163	Pn		P	08 58 28.9	-4.7
CBIJ				Sn		S	09 00 30.4	-2.9
UGL	Uglegorsk	12.01	10	eP		P	08 58 49.0	-4.0
UGL				pmax		pmax		
	comp=Z,590nm,0.9s							
UGL				pmax		pmax		
	comp=N,450nm,1.0s							
UGL				pmax		pmax		
	comp=E,720nm,1.0s							
UGL				pmax		pmax		
	comp=N,18μm,10.0s							
UGL				pmax		pmax		
	comp=E,12μm,10.0s							
UGL				pmax		pmax		
	comp=Z,18μm,10.0s							
UGL				MLR		MLR		
	comp=N,121μm,14.0s							
UGL				MLR		MLR		
	comp=E,189μm,14.0s							
UGL				MLR		MLR		
	comp=Z,133μm,14.0s							
CN2	Changchun	12.03	307	⇑P		P	08 58 54.1	+0.9
CN2				eS		S	09 01 09.1	+0.5
CN2				AMB		AMB		
	comp=Z,350nm,1.3s							
SNY	Shenyang	12.56	296	⇓P		P	08 59 01.5	+1.1
SNY				LR		LR		
	comp=Z,477μm,16.5s							
JMZ	Minamidaito 2	13.13	211	P		P	08 59 12.3	+4.3
DL2	Dalian	13.60	282	i PR			08 59 15.9	
DL2				AMB		AMB		
	comp=Z,950nm,1.2s							
DL2				AMB		AMB		
	comp=Z,15μm,11.0s							
DL2				LR		LR		
	comp=Z,398μm,12.4s							
JOW	Kunigami	13.71	223	Pn		P	08 59 18.1	+2.4
	comp=Z,2.0nm,0.3s,baz=133,slow=9.9,SNR=4.9							
TYV	Tymovskoe	13.84	10	eP		P	08 59 13.9	-3.3
TYV				pmax		pmax		
	comp=Z,966nm,1.0s							
JKE	Kume jima 2	14.94	226	P		P	08 59 32.9	+1.1
SSE	Sheshan	15.80	252	P		P	08 59 46.1	+3.1
SSE				S		S	09 02 41.9	+3.3
SSE				AMB		AMB		
	comp=Z,48μm,10.1s							
SSE				LR		LR		
	comp=N,209μm,20.7s							
SSE				LR		LR		
	comp=E,220μm,21.1s							
SSE				LR		LR		
	comp=Z,362μm,16.5s							
SSE	Sheshan	15.80	252	P		P	08 59 46.1	+3.1
	comp=Z,170nm,1.0s							
SSE				S		S	09 02 41.9	+3.3
OKH	Okha	16.50	9	i P		P	08 59 52.2	+0.4
OKH				i S		S	09 02 54.4	-0.3
OKH				pmax		pmax		
	comp=Z,16μm,10.0s							
OKH				smax				
	comp=Z,26μm,9.0s							
NJ2	Nanjing	17.19	258	eP		P	09 00 04.5	+3.8
NJ2				AP			09 00 08.1	
NJ2				XP			09 00 11.4	
NJ2				PP		PP	09 00 19.8	+4.7
NJ2				PPP		PPP	09 00 28.1	+4.8
NJ2				S		S	09 03 15.0	+4.3
NJ2				XS			09 03 22.0	
NJ2				AMB		AMB		
	comp=Z,460nm,0.8s							
TIA	Tai'an	17.38	273	⇓P		P	09 00 06.5	+3.5
TIA				AP			09 00 12.5	
TIA				AMB		AMB		
	comp=Z,745nm,1.2s							
BJI	Beijing	17.85	286	P		P	09 00 10.8	+2.0
BJI				AMB		AMB		
	comp=Z,835nm,1.9s							
BJI				LR		LR		
	comp=Z,174μm,24.3s							
BJI	Beijing	17.85	286	P		P	09 00 10.8	+2.0
	comp=Z,835nm,1.9s							
BJI				S		S	09 03 43.1	+18
BJT	Baijiatuau comp=Z,3μm,1.4s	17.85	286	eP		P	09 00 10.8	+1.9
JIJ	Ishigaki jima	17.97	228	P		P	09 00 11.2	+0.7
SKR	Severo-Kuril's	18.23	37	⇓ iP		P	09 00 11.0	-2.5
SKR				i S		S	09 03 36.0	+1.8
SKR				pmax		pmax		
	comp=N,270nm,1.0s							
SKR				pmax		pmax		
	comp=E,310nm,1.0s							
SKR				pmax		pmax		
	comp=Z,630nm,1.0s							
SKR				pmax		pmax		
	comp=E,25μm,14.0s							
SKR				pmax		pmax		
	comp=Z,27μm,14.0s							
SKR				pmax		pmax		
	comp=N,21μm,12.0s							
SKR				smax				
	comp=N,800nm,1.5s							
SKR				smax				
	comp=E,640nm,1.5s							
SKR				smax				
	comp=N,17μm,8.0s							
SKR				smax				
	comp=E,39μm,10.0s							
SKR				MLR		MLR		
	comp=N,52μm,16.0s							
SKR				MLR		MLR		
	comp=Z,197μm,16.0s							
HIA	Hailar	18.24	317	eP		P	09 00 14.3	+0.6
	comp=Z,525nm,1.1s							
TATO	Taipei	19.19	235	eP		P	09 00 23.0	-2.4
	comp=Z,454nm,1.3s							
TIY	Taiyuan	20.88	279	⇑P		P	09 00 43.0	-0.5
PET	Petropavlovsk	20.95	35	i P		P	09 00 42.5	-1.7
PET				e			09 01 09.5	
PET				pmax		pmax		
	comp=E,483nm,0.9s							
PET				pmax		pmax		
	comp=Z,907nm,0.9s							
PET				pmax		pmax		
	comp=N,689nm,1.0s							
PET				pmax		pmax		
	comp=Z,37μm,10.2s							
PET				pmax		pmax		
	comp=N,21μm,11.1s							
PET				pmax		pmax		
	comp=E,17μm,11.3s							
PET				pmax		pmax		
	comp=Z,33μm,13.8s							
PET				pmax		pmax		
	comp=N,17μm,14.9s							
PET				pmax		pmax		
	comp=E,14μm,14.8s							
PET				pmax		pmax		
	comp=Z,24μm,8.2s							
PET				MLR		MLR		
	comp=E,129μm,17.0s,MS6.6							
PET				MLR		MLR		
	comp=Z,157μm,17.0s,MS6.5							
PET				MLR		MLR		
	comp=N,147μm,15.0s,MS6.6							
PET				MLR		MLR		
	comp=E,117μm,17.0s							
PET				MLR		MLR		
	comp=Z,151μm,17.0s							
PET				MLR		MLR		
	comp=N,157μm,15.0s							
PET	Petropavlovsk	20.95	35⇑	eP		P	09 00 42.3	-1.8
	comp=N,845nm,1.1s							
PET				LR		LR		
	comp=Z,85μm,19.0s,MS6.1							
QZH	Quanzhou	21.17	240	⇑ iP		P	09 00 44.5	-2.1
QZH				LR		LR		
	comp=Z,250μm,13.7s,MS6.8							
WHN	Wuhan	21.32	259	eP		P	09 00 47.3	-0.8
WHN				S		S	09 04 36.3	-3.8
HHC	Hu-ho-hao-te	21.38	288	⇓P		P	09 00 48.0	-0.6
HHC				AP			09 00 53.1	
HHC				PP		PP	09 01 09.0	-3.5
HHC				LR		LR		
	comp=N,115μm,12.3s,MS6.7							
HHC				LR		LR		
	comp=E,147μm,11.8s,MS6.7							
HHC				LR		LR		
	comp=Z,145μm,10.7s,MS6.6							
SARN	Sarigan	21.43	161	⇓eP		P	09 00 48.5	-0.8
CLNS	Chui'man	21.63	339	eP		P	09 00 49.2	-1.8
CLNS				ePPP		PPP	09 01 09.6	-16
CLNS				eS		S	09 04 33.0	-13
CLNS				e			09 04 51.5	
CLNS				eSSS		SSS	09 05 20.4	-15
CLNS				pmax		pmax		
	comp=Z,681nm,1.1s,mb6.0							
CLNS				pmax		pmax		

comp=N,196nm,0.7s
CLNS pmax pmax
comp=E,88nm,0.8s
CLNS smax
comp=N,171nm,1.1s
CLNS smax
comp=E,56nm,1.1s
CLNS smax
comp=Z,61nm,1.4s
CLNS MLR MLR
comp=Z,224µm,16.0s,MS6.7
CLNS MLR MLR
comp=N,171µm,14.0s,MS6.7
CLNS MLR MLR
comp=E,53µm,11.0s,MS6.7
BBP Basco 22.28 226 *e*P **P 09 00 58.4 +0.7**
BTO Baotou 22.56 287 *e*P **P 09 01 00.4 +0.1**
BTO S **S 09 05 11.4 +8.6**
MA2 Magadan 23.59 15*c i*P **P 09 01 09.1 -1.1**
MA2 pmax pmax
comp=Z,1µm,1.0s,mb6.3
MA2 MLR MLR
comp=Z,79µm,15.0s,MS6.3
MA2 Magadan 23.59 15⇑ *e*P **P 09 01 09.1 -1.2**
comp=Z,919nm,0.9s,mb6.2
MA2 LR LR
comp=Z,36µm,19.0s,MS5.9
GUMO Guam 24.24 165⇑ *e*P **P 09 01 14.4 -2.5**
comp=Z,2µm,1.1s,mb6.4
GUMO LR LR
comp=Z,158µm,22.0s,MS6.5
XAN Xi'an 24.42 271 P **P 09 01 16.9 -1.7**
XAN S **S 09 05 38.3 +2.8**
XAN LR LR
comp=N,97µm,13.7s,MS6.5
XAN LR LR
comp=E,89µm,16.5s,MS6.5
CVP Callao Caves 24.57 222 *e*P **P 09 01 20.0 -0.2**
APYP Conner 24.75 223 *e*P **P 09 01 19.4 -2.5**
CAUP Cauayan 25.20 221 *e*P **P 09 01 32.4 +6.2**
ABRA Dolores 25.21 224 *e*P **P 09 01 27.1 +0.8**
ENH Enshi 25.26 263 P **P 09 01 25.0 -1.7**
ENH SKiKP 09 17 21.9
ENH Enshi 25.26 263 *e*P **P 09 01 25.2 -1.5**
comp=E,1µm,0.9s,mb6.5
YAK Yakutsk 25.39 350⇑ *i*P **P 09 01 25.5 -2.1**
comp=E,2µm,1.4s,mb6.5
YAK *e*S **S 09 05 54.1 +2.5**
YAK LR LR
comp=Z,133µm,20.0s,MS6.5
SONM Songino Array 25.89 304 P **P 09 01 31.8 -0.6**
comp=Z,342nm,1.4s,mb5.7,baz=108,slow=3.9,SNR=106
SONM PcP PcP 09 05 01.1 -0.9
comp=Z,15nm,0.7s,baz=162,slow=4.6,SNR=4.5
GZH Guangzhou 26.05 244 P **P 09 01 27.1 -7.0**
GZH S **S 09 05 56.4 -6.5**
BALP Baler 26.33 220 *e*P **P 09 01 37.1 +0.4**
SEY Seymchan 26.98 14 *e*P **P 09 01 43.9 +1.6**
SEY *e* 09 02 36.8
SEY 09 05 01.4
SEY *e*S **S 09 06 20.6 +2.7**
SEY pmax pmax
comp=Z,2µm,0.9s,mb6.6
SEY pmax pmax
comp=N,800nm,1.0s
SEY pmax pmax
comp=E,900nm,1.0s
LQP Lukban 27.73 218 *e*P **P 09 01 50.0 +0.4**
LZH Lanzhou 27.94 278⇑ P **P 09 01 51.0 -0.3**
LZH PP PP 09 02 38.0 -2.8
LZH S **S 09 06 35.4 +1.8**
LZH AMB AMB
comp=Z,2µm,1.4s,mb6.5
LZH AMB AMB
comp=Z,11µm,6.0s
LZH Lanzhou 27.94 278⇑ P **P 09 01 51.0 -0.3**
comp=Z,2µm,1.4s,mb6.5
LZH pP pP 09 02 04.4 +11
LZH sP sP 09 02 08.7 +14
LZH PP PP 09 02 38.0 -2.8
LZH S **S 09 06 35.4 +1.8**
LZH sS 09 06 41.0
LZH SS SS 09 07 42.0 -13
LZH LR LR
comp=Z,363µm,16.2s,MS7.0
TGY Tagaytay City 28.04 219 P **P 09 01 51.0 -1.4**
comp=Z,116nm,0.3s,mb5.9,baz=96,slow=10,SNR=2.6
TGY Tagaytay City 28.04 219 P **P 09 01 51.0 -1.4**
TGY pmax pmax
comp=Z,116nm,0.3s
IRK Irkutsk 28.36 313 *e*P **P 09 01 52.9 -2.0**
ZAK Zakamensk 28.45 309 *e*P **P 09 01 54.7 -1.0**
FX1 Attu Island--F 28.50 46 P **P 09 01 54.3 -1.9**
comp=Z,183nm,0.9s
FX1 LR LR 09 14 27.2
comp=Z,1µm,18.3s,baz=212,slow=39
SMY Shemya 28.99 47 P **P 09 02 02.0 +1.4**
comp=Z,611nm,1.2s,mb6.2
SMY LR LR
comp=Z,54µm,19.0s,MS6.2
GYA Guiyang 29.20 258⇑ *i*P **P 09 02 01.1 -1.6**
GYA AP pP 09 02 05.4 +0.2
GYA XP sP 09 02 08.6 +2.3
GYA S **S 09 06 51.4 -2.6**
GYA XS 09 07 06.3
GYA AMB AMB
comp=Z,7µm,11.1s
CD2 Chengdu 29.57 268 P **P 09 02 04.3 -1.7**
CD2 PP PP 09 02 59.8 -2.2
CD2 S **S 09 06 53.6 -6.2**
CD2 AMB AMB
comp=Z,5µm,11.0s
MOY Mondy 30.16 311 *e*P **P 09 02 10.2 -0.8**
WAKE Wake Island 30.25 119 PFAKE 09 02 20.0 +7.8
WAKE LR LR
comp=Z,54µm,19.0s,MS6.2
GTA Gaotai 30.46 286 P **P 09 02 12.0 -1.9**
GTA AP pP 09 02 16.4 0.0
GTA PP PP 09 03 14.3 +0.7
GTA S **S 09 07 15.5 +1.6**
GTA AMB AMB
comp=Z,4µm,6.5s
GTA LR LR
comp=Z,146µm,16.3s,MS6.7
QIZ Qiongzhong 31.15 242 P **P 09 02 20.8 +0.7**
QIZ AP pP 09 02 24.1 +1.5
QIZ XP sP 09 02 28.9 +5.2
QIZ S **S 09 07 27.9 +3.0**
QIZ AMB AMB
comp=Z,7µm,7.0s
QIZ LR LR
comp=Z,149µm,13.2s,MS6.8
QIZ Qiongzhong 31.15 242 *e*P **P 09 02 20.4 +0.3**
comp=Z,204nm,1.4s,mb5.8
DAV Davao City (W) 32.40 205 P **P 09 02 30.0 -1.1**
PPR Puerto Princes 32.84 219 *e*P **P 09 02 31.6 -3.4**
comp=Z,8µm,10.0s
KMI Kunming 32.93 259⇑ *e*P **P 09 02 34.5 -1.1**
KMI AP pP 09 02 38.6 +0.5
KMI PP PP 09 03 43.8 -2.0
KMI PCP PcP 09 05 19.3 -0.8
KMI AMB AMB
comp=Z,315nm,1.6s,mb6.0
KMI AMB AMB
comp=Z,5µm,6.4s
KMI Kunming 32.93 259⇑ *e*P **P 09 02 34.5 -1.1**
comp=Z,315nm,1.6s,mb6.0
KMI pP pP 09 02 38.6 +0.5
KMI sP sP 09 02 40.5 +1.3
KMI PP PP 09 03 43.7 -2.1
KMI PcP PcP 09 05 19.2 -0.9
KMI S **S 09 07 49.7 -2.9**
KMI sS 09 07 59.6
KMI SS SS 09 09 49.1 -2.4
KMI LR LR
comp=Z,236µm,17.1s,MS7.0
TIXI Tiksi 34.80 355*c i*P **P 09 02 49.0 -2.3**
TIXI *e* 09 04 10.9
TIXI *e* 09 05 23.0
TIXI *i*S **S 09 08 20.7 -0.3**
TIXI pmax pmax
comp=Z,719nm,2.3s,mb6.2
TIXI MLR MLR
comp=Z,74µm,14.0s,MS6.6
TIXI Tiksi 34.80 355⇑ *i*P **P 09 02 49.0 -2.3**
TIXI LR LR
comp=Z,41µm,19.0s,MS6.2
UBT Ubonrachathani 37.09 243 P **P 09 03 12.0 +0.7**
KKM Kota Kinabalu 37.30 219⇓ *e*P **P 09 03 16.2 +3.2**
MIDW Midway 37.70 91 P **P 09 03 16.0 -0.3**
comp=Z,1µm,1.6s,mb6.4
MIDW LR LR
comp=Z,67µm,20.0s,MS6.4
KKTK Khon Kaen 37.95 246 P **P 09 03 18.0 -0.5**
comp=Z,1µm,1.0s,mb6.6
WMQ Urumqi 38.83 296⇓ *i*P **P 09 03 25.6 0.0**
WMQ XP sP 09 03 33.0 +3.8
WMQ PP PP 09 04 58.0 -0.4
WMQ S **S 09 09 23.0 -0.1**
WMQ AMB AMB
comp=Z,5µm,9.0s
WMQ LR LR
comp=Z,130µm,22.0s,MS6.7
CMAR Chiang Mai Arr 39.54 253 P **P 09 03 30.7 -1.0**
comp=Z,19nm,0.8s,baz=46,slow=6.3,SNR=42
CMAR PP PP 09 05 02.4 -4.1
comp=Z,6.6nm,0.9s,baz=23,slow=6.9,SNR=2.3
CMAR PcP PcP 09 05 39.6 -0.2
comp=Z,36nm,1.1s,baz=26,slow=2.2,SNR=6.6
CMAR LR LR 09 21 50.1
comp=Z,83µm,18.3s,MS6.6,baz=55,slow=39
MENI Mendum Tagoi 39.64 177 *e*P **P 09 03 32.3 -0.3**
comp=Z,252nm,1.3s,mb5.8
YOMI Yo Mokiole 39.78 177⇑ *e*P **P 09 03 34.0 +0.2**
comp=Z,1µm,0.8s,mb6.7
IMP Imphal 40.05 265 *e*P **P 09 03 34.0 -1.9**
IMP *e* 09 10 47.0
ZAL Zalesovo 40.18 312 P **P 09 03 36.6 -0.1**
comp=Z,13nm,0.7s,baz=18,slow=8.9,SNR=21
ZAL PcP PcP 09 05 39.8 -1.7
comp=Z,26nm,0.7s,baz=25,slow=4.4,SNR=6.4
ZAL LR LR 09 21 26.5
comp=Z,141µm,21.3s,MS6.8,baz=19,slow=38
BDT Bhumibol Dam 40.23 251 P **P 09 03 38.0 +0.6**
comp=Z,24nm,0.8s
NST Nakhon Sawan 40.36 248 P **P 09 03 39.0 +0.5**
UNV Unalaska Valle 40.63 48 PFAKE 09 03 50.0 +10
UNV LR LR
comp=Z,50µm,21.0s,MS6.3
NVS Novosibirsk 41.13 314 *i*P **P 09 03 42.6 -1.8**
NVS *e* 09 05 21.0
NVS *e* 09 12 42.8
NVS pmax pmax
comp=E,1µm,3.0s
NVS pmax pmax
comp=Z,1µm,3.0s
NVS pmax pmax
comp=Z,694nm,2.4s,mb5.9
NVS pmax pmax
comp=E,944nm,2.6s
SHL Shillong 41.30 267⇑ *i*P **P 09 03 45.0 -1.2**
SHL *e* 09 11 01.0
TNA Tin City 41.67 30 *e*P **P 09 03 49.0 +0.3**
comp=E,367nm,1.0s,mb6.0
TNA LR LR
comp=Z,33µm,19.0s,MS6.2
MKAR Makanchi Array 42.18 301 P **P 09 03 51.6 -1.5**
ANM Nome 42.48 32 *e*P **P 09 03 57.8 +2.5**
AGT Agartala 42.62 266 *i*P **P 09 03 56.0 -1.0**
AGT *i* 09 05 30.0
KURK Kurchatov 44.10 308⇑ *e*P **P 09 04 06.5 -2.2**
KURK pmax pmax
comp=Z,260nm,0.9s,mb6.0
KURK Kurchatov 44.10 308⇑ *e*P **P 09 04 06.5 -2.2**
comp=Z,262nm,0.9s,mb6.0
KURK *e*pP pP 09 04 11.2 0.0
KURK LR LR
comp=Z,32µm,19.0s,MS6.2
SDPT Sand Point 44.12 46 *e*P **P 09 04 07.6 -1.2**
SDPT LR LR
comp=Z,16µm,21.0s,MS5.9
GUN Gumba 45.03 274 *e*P **P 09 04 16.3 -0.2**
comp=Z,2µm,1.1s,mb6.8
WAU Wau 45.03 169 *e*P **P 09 04 15.6 -1.1**
PKI Pulchoki 45.55 274 *e*P **P 09 04 19.8 -0.9**
comp=Z,1µm,1.6s,mb6.5
KKN Kakani 45.56 274 *e*P **P 09 04 19.5 -1.2**
comp=Z,802nm,1.2s,mb6.5
CAL Calcutta 45.61 266 *e*P **P 09 04 20.6 -0.6**
CAL *e* 09 11 11.4
DMN Daman 45.78 274 *e*P **P 09 04 21.8 -0.6**
comp=Z,847nm,1.5s,mb6.5
SNG Songkhla 45.81 239 P **P 09 04 22.0 -0.8**
comp=Z,310nm,1.0s,mb6.2
GKN Gorkha 45.98 275 *e*P **P 09 04 22.8 -1.2**
comp=Z,2µm,1.4s,mb6.7
AAA Alma-Ata 46.59 298*d i*P **P 09 04 31.0 +2.3**
AAA *e*S **S 09 11 26.0 +9.1**
AAA pmax pmax
comp=Z,7µm,10.0s
AAA MLR MLR
comp=Z,380µm,16.0s,MS7.5
KOLN Koldanda 46.90 275 *e*P **P 09 04 30.4 -0.9**
comp=Z,2µm,1.7s,mb6.7
BOK Bokaro 46.93 269 *i*P **P 09 04 28.4 -3.2**
BOK *i* 09 11 40.3
PMG Port Moresby 47.12 169 P **P 09 04 32.4 -0.8**
comp=Z,54nm,0.7s,mb5.6,baz=5.7,slow=6.4,SNR=14
PMG LR LR 09 22 56.5
comp=Z,44µm,19.3s,MS6.4,baz=160,slow=34
PMG Port Moresby 47.12 169⇑ *e*P **P 09 04 31.1 -2.1**
PMG pmax pmax
comp=Z,310nm,1.3s
PMG Port Moresby 47.12 169 *e*P **P 09 04 29.7 -3.5**
ULHL Ulahol 47.36 296⇑ P **P 09 04 34.1 -0.7**
comp=Z,2µm,3.4s,SNR=18
IPM Ipoh 47.44 236⇑ *e*P **P 09 04 35.0 -0.7**
comp=Z,24nm,0.5s,mb5.4
IMA Indian Mountai 47.53 31 P **P 09 04 34.9 -0.9**
IMA pmax pmax
comp=Z,2µm,1.2s,mb7.1
IMA Indian Mountai 47.53 31 *e*P **P 09 04 35.0 -0.8**
TKM2 Tokmak 2 47.64 297⇑ P **P 09 04 37.0 0.0**
comp=Z,55nm,0.6s,mb5.8,SNR=79
KGM Kluang 47.91 231⇓ *i*P **P 09 04 38.5 -1.0**
comp=Z,305nm,1.0s,mb6.3
RSO Redoubt South 48.00 38 *e*P **P 09 04 38.8 -0.7**
KZA Kyzart 48.12 296⇑ P **P 09 04 40.7 0.0**
comp=Z,6µm,3.2s,SNR=24
KBK Karagaybulak 48.17 297⇑ P **P 09 04 40.4 -0.7**
comp=Z,3µm,3.1s,SNR=23
CHMS Chumysh 48.22 298⇑ P **P 09 04 40.5 -0.9**
comp=Z,3µm,3.3s,SNR=18
SPU Mount Spurr 48.30 37 *e*P **P 09 04 41.4 -0.4**
KDAK Kodiak Island 48.31 42⇑ *e*P **P 09 04 40.5 -1.4**
comp=Z,725nm,1.0s,mb6.7
KDAK LR LR
comp=Z,8µm,20.0s,MS5.7
USP Ospenovka 48.32 298⇑ P **P 09 04 40.6 -1.7**
comp=Z,2µm,3.3s,SNR=31
FRU Bishkek 48.36 298⇑ *i*P **P 09 04 43.0 +0.5**
FRU *e* 09 06 34.0
FRU *i*S **S 09 11 50.0 +8.2**
FRU pmax pmax
comp=Z,2µm,2.6s,mb6.7
FRU pmax pmax
comp=Z,8µm,8.0s
KSH Kashi 48.36 293⇑ *i*P **P 09 04 43.5 +0.9**
KSH AP pP 09 04 47.8 +2.6
KSH XP sP 09 04 50.3 +4.1
KSH PP PP 09 06 36.8 +1.9
KSH SCP 09 10 02.3
KSH PCS 09 10 04.8
KSH S **S 09 11 41.6 -0.4**
KSH AMB AMB
comp=Z,380nm,1.8s,mb6.1
AAK Ala-Archa 48.50 297⇑ P **P 09 04 42.6 -1.0**
comp=Z,2µm,3.3s,SNR=31
AAK Ala-Archa 48.50 297*c i*P **P 09 04 41.7 -1.9**
AAK pmax pmax
comp=Z,144nm,1.2s,mb5.9
AAK MLR MLR
comp=Z,287µm,18.0s,MS7.3
AAK Ala-Archa 48.50 297 *e*P **P 09 04 41.9 -1.8**
comp=Z,251nm,1.4s,mb6.0
AAK LR LR
comp=Z,79µm,19.0s,MS6.7
BVA0 Borovoye Array 48.82 312 P **P 09 04 44.3 -1.7**
BVAR Borovoye Array 48.82 312 P **P 09 04 44.6 -1.4**
comp=Z,43nm,1.0s,mb5.4,baz=79,slow=7.6,SNR=76
BVAR PcP PcP 09 06 09.7 -1.4
comp=Z,34nm,0.5s,baz=107,slow=3.6,SNR=10
LGTI Lohaghat 48.83 279 *e*P **P 09 04 49.0 +2.7**
LGTI *e* 09 06 17.5
BRVK Borovoye 48.88 312 P **P 09 04 45.1 -1.3**
BRVK pmax pmax
comp=Z,1µm,2.1s,mb6.6
BRVK Borovoye 48.88 312 *e*P **P 09 04 44.9 -1.5**
comp=Z,1µm,2.1s,mb6.6
BRVK LR LR
comp=Z,21µm,20.0s,MS6.1
JOSI Joshimath 48.90 280 *e*P **P 09 04 47.1 +0.2**
JOSI *e*S **S 09 11 54.1 +4.4**
EKS2 Erkin-Say 49.00 298⇑ P **P 09 04 46.5 -1.0**
comp=Z,2µm,3.9s,SNR=19
FIB Fire Island 49.21 37 PFAKE 09 05 00.0 +11
FIB LR LR
comp=Z,8µm,20.0s,MS5.7
AML Almayashu 49.21 297⇓ P **P 09 04 47.6 -1.5**
comp=Z,3µm,3.3s,SNR=115
SLKM Skilak Lake 49.25 38 P **P 09 04 48.0 -1.1**
SLKM Skilak Lake 49.25 38 *e*P **P 09 04 47.4 -1.7**
PWA Palmer West 49.31 37 *e*P **P 09 04 48.6 -1.0**
ALBI Allahabad 49.45 273 *e*P **P 09 04 48.5 -2.7**
KLP Kalpa 49.52 282 *e*P **P 09 04 51.8 +0.1**
KLP *e* pP 09 04 55.3 +1.0
comp=Z,419nm,0.8s
MCK McKinley 49.59 34 P **P 09 04 50.6 -1.1**
MCK pmax pmax
comp=Z,610nm,0.6s,mb6.8
MCK McKinley 49.59 34 *e*P **P 09 04 50.4 -1.3**
comp=Z,136nm,1.0s,mb5.9
MCK LR LR
comp=Z,14µm,19.0s,MS6.0
ZRNK Zerenda 49.66 312 *e*P **P 09 04 50.6 -1.8**
comp=Z,505nm,1.4s,mb6.4
PMR Palmer 49.67 37 *e*P **P 09 04 51.0 -1.4**
PMR LR LR
comp=Z,20µm,19.0s,MS6.2
COLA College 49.98 32 P **P 09 04 54.2 -0.5**
COLA pmax pmax
comp=Z,1µm,1.8s,mb6.7
COLA College 49.98 32 *e*P **P 09 04 54.0 -0.7**
COLA LR LR
comp=Z,34µm,18.0s,MS6.4
SML Sawmill 50.03 36 P **P 09 04 54.2 -0.9**
SML Sawmill 50.03 36 *e*P **P 09 04 54.1 -1.0**
DDI Dehra Dun 50.18 281 *e*P **P 09 04 55.3 -1.4**
DDI *e*S **S 09 12 09.3 +1.9**
KEDI Kedomdong 50.25 210⇓ *e*P **P 09 04 54.7 -2.8**
comp=Z,362nm,1.0s,mb6.4
ILAR Eielson Array 50.40 32 P **P 09 04 56.3 -1.6**
comp=Z,104nm,0.8s,mb5.9,baz=275,slow=5.6,SNR=362
ILAR LR LR 09 29 46.8
comp=Z,26µm,18.6s,MS6.3,baz=360,slow=40
ILAR Eielson Array 50.40 32 P **P 09 04 56.3 -1.6**
ILAR pmax pmax
comp=Z,104nm,0.8s
ILAR MLR MLR
comp=Z,26µm,18.6s
KELI Kelakatan 50.67 212⇓ *i*P **P 09 04 58.5 -2.1**
comp=Z,214nm,1.0s,mb6.0
RATI Rata 50.70 210⇓ *e*P **P 09 04 59.1 -1.7**
BLSP Bilaspur 50.76 269 *i*P **P 09 05 00.0 -1.2**
BHK Bhakra 51.00 283 *e* **P 09 05 10.6 +7.7**
BHK *e*S **S 09 12 21.8 +3.1**
THY Trims Highway 51.03 34 *e*P **P 09 05 01.2 -1.5**
SRDI Scrawed 51.05 212⇓ *e*P **P 09 05 00.5 -3.0**
comp=Z,67nm,0.9s,mb5.6
ASOR Ausora 51.08 279 *e*P **P 09 05 04.5 +1.0**
THN Thein Dam 51.12 284 *e*P **P 09 05 01.0 -2.9**
KKR Kurukshetra 51.30 281 *e*P **P 09 05 04.4 -0.8**
KKR *e* pP 09 05 07.6 -0.2
comp=Z,520nm,1.0s
KKR *e* 09 12 18.5
DIV Divide 51.33 37 *e*P **P 09 05 04.4 -0.7**
comp=Z,1µm,0.9s,mb6.9
DIV LR LR
comp=Z,78µm,21.0s,MS6.7
EYAK Cordova Ski Ar 51.44 38 *e*P **P 09 05 05.1 -0.7**
NDI New Delhi 51.55 279 *e*P **P 09 05 04.5 -2.6**
NDI *e* 09 12 19.0
AGRA Agra 51.63 277 *e*P **P 09 05 05.9 -1.8**
AGRA *e* 09 05 13.3
comp=Z,437nm,1.7s
AGRA *e* 09 12 20.4
AYAN Aya Nagar 51.71 279 *e*P **P 09 05 06.5 -1.8**
AYAN *e* 09 05 14.8
BHGR Bahadurgarh 51.76 280 *e*P **P 09 05 07.7 -1.0**
BHGR *e* pP 09 05 11.5 +0.1
comp=Z,605nm,0.8s
SONA Sohna 51.85 279 *e*P **P 09 05 08.0 -1.4**
SONA *e* pP 09 05 12.0 0.0
comp=Z,422nm,0.8s
VIS Vishakhapatnam 52.14 264 *i*P **P 09 05 09.8 -2.0**
KUDL Kundal 52.36 279 *e*P **P 09 05 11.7 -1.6**
KUDL *e* 09 12 28.0
PENI Pendagan 52.92 224⇑ *e*P **P 09 05 14.6 -3.0**
KHET Khetri 52.93 279 *e*P **P 09 05 16.1 -1.4**
KHET *e* pP 09 05 20.1 0.0
comp=Z,456nm,1.3s
KHET *e* 09 12 30.5
SVE Sverdlovsk 53.54 318 *i*P **P 09 05 21.0 -0.6**
SVE pmax pmax
comp=Z,10µm,6.0s
SVE pmax pmax
comp=Z,3µm,2.5s,mb6.8
SVE MLR MLR
comp=Z,115µm,15.0s,MS7.0
SVE MLR MLR
comp=N,50µm,13.0s,MS6.9
SVE MLR MLR
comp=E,55µm,13.0s,MS6.9
PASI Pasiripis 53.62 222⇓ *e*P **P 09 05 20.6 -2.2**
NGP Nagpur 53.72 270 *e*P **P 09 05 21.8 -1.7**
NGP *e* 09 12 53.5
BHPL Bhopal 53.95 273 *e*P **P 09 05 23.0 -2.0**
BHPL *e* 09 05 34.5
BHPL *i* 09 12 38.4
AJM Ajmer 54.59 278 *i*P **P 09 05 27.0 -2.7**
ARU Arti 54.75 318⇑ *i*P **P 09 05 28.6 -1.9**
ARU *i* 09 06 27.6
ARU *i* 09 07 31.6
ARU *i* PPP PPP 09 08 44.9 -1.4
ARU *i*S **S 09 13 10.8 +1.3**
ARU *e* 09 15 16.5
ARU pmax pmax
comp=Z,414nm,1.5s,mb6.2
ARU MLR MLR
comp=Z,137µm,17.0s,MS7.1
ARU MLR MLR
comp=N,45µm,16.5s,MS7.0
ARU MLR MLR
comp=E,110µm,18.0s,MS7.0
ARU Arti 54.75 318 *e*P **P 09 05 28.2 -2.3**
comp=E,346nm,1.0s,mb6.3
VJD Vijayawada 54.94 264 *e*P **P 09 05 32.0 -0.4**
INK Inuvik 55.11 27 P **P 09 05 31.4 -1.5**
comp=E,197nm,0.8s,mb6.2,baz=293,slow=6.7,SNR=149
INK LR LR 09 32 24.0
comp=E,32µm,18.2s,MS6.4,baz=283,slow=40
INK Inuvik 55.11 27 P **P 09 05 31.5 -1.5**
INK pmax pmax
comp=Z,197nm,0.8s
INK MLR MLR
comp=Z,32µm,18.2s
INK Inuvik 55.11 27 *e*P **P 09 05 31.4 -1.6**
comp=Z,346nm,1.0s,mb6.3
AKL Akola 55.57 271 *e* **P 09 05 43.3 +6.3**
AKL *e* 09 12 56.5
HYB Hyderabad 56.11 267⇓ *i*P **P 09 05 39.0 -1.8**
comp=Z,394nm,1.2s,mb6.3
HYB *e*PP PP 09 07 46.0 -1.5
HYB *e*PPP PPP 09 09 04.0 +0.8
HYB *e*S **S 09 13 30.0 +1.9**
HYB LR LR 09 33 08.0
comp=Z,53nm,18.0s
HYB Hyderabad 56.11 267 *e*P **P 09 05 39.0 -1.8**
comp=Z,394nm,1.2s,mb6.3
HYB *e*S **S 09 13 30.0 +1.9**
KIP Kipapa 56.36 88 P **P 09 05 42.2 -0.4**
KIP pmax pmax
comp=Z,360nm,0.8s,mb6.5
KIP Kipapa 56.36 88 *e*P **P 09 05 42.1 -0.5**
comp=Z,437nm,0.9s,mb6.5
KIP LR LR

comp=Z,20µm,21.0s,MS6.2
HON Honolulu 56.42 88 P **P 09 05 39.8 -3.3**
HON Honolulu 56.42 88 *e*P **P 09 05 40.7 -2.4**
FITZ Fitzroy Crossi 56.48 195 P **P 09 05 41.1 -2.4**
comp=Z,125nm,1.2s,mb5.8,baz=10.0,slow=8.3,SNR=60
WRAB Tennant Creek 57.08 185 P **P 09 05 45.0 -2.8**
comp=Z,2µm,0.9s,mb7.2
WRAB Tennant Creek 57.08 185 *e*P **P 09 05 44.7 -3.1**
comp=Z,679nm,1.1s,mb6.6
WRAB LR LR
comp=Z,11µm,21.0s,MS6.0
WRA Warramunga Arr 57.09 185 P **P 09 05 44.4 -3.5**
comp=Z,150nm,0.8s,mb6.1,baz=0.4,slow=7.3,SNR=254
WRA Warramunga Arr 57.09 185 P **P 09 05 44.4 -3.5**
WRA pmax pmax
comp=Z,150nm,0.8s
LATR Latur 57.15 269 *e*P **P 09 05 46.5 -1.8**
MDRS Chennai 57.23 261 *i*P **P 09 05 48.0 -0.9**
MDRS *i* 09 09 20.0
MDRS *e*S **S 09 13 44.0 +1.1**
JASL Jaisalmer 57.32 281 *e*P **P 09 05 47.8 -1.7**
JASL *e* 09 05 57.4
CTA Charters Tower 57.52 172 P **P 09 05 48.5 -2.4**
comp=Z,49nm,1.0s,mb5.5,baz=356,slow=7.9,SNR=26
CTA LR LR 09 29 59.1
comp=Z,20µm,19.7s,MS6.2,baz=356,slow=36
CTAO Charters Tower 57.52 172 P **P 09 05 48.0 -2.8**
CTAO PKiKP 09 13 01.4
CTAO S **S 09 13 50.9 +4.2**
CTAO SKiKP 09 21 44.3
CTAO Charters Tower 57.52 172 P **P 09 05 48.4 -2.5**
CTAO pmax pmax
comp=Z,740nm,1.8s,mb6.4
CTAO Charters Tower 57.52 172 *e*P **P 09 05 48.2 -2.6**
comp=Z,736nm,1.8s,mb6.4
CTAO LR LR
comp=Z,21µm,20.0s,MS6.2
SIT Sitka 57.55 40 P **P 09 05 50.5 -0.1**
SIT pmax pmax
comp=Z,790nm,1.3s,mb6.6
SIT Sitka 57.55 40 *e*P **P 09 05 51.7 +1.1**
SIT LR LR
comp=Z,21µm,19.0s,MS6.3
HKL Haleakala 58.13 87 P **P 09 05 56.5 +1.3**
HKL Haleakala 58.13 87 *e*P **P 09 05 56.8 +1.7**
KKH Kailua Kona 58.88 88 P **P 09 06 05.9 +5.5**
KKH Kailua Kona 58.88 88 *e*P **P 09 06 01.8 +1.4**
WKH Waikii 59.06 88 *e*P **P 09 06 01.7 +0.1**
KIH Kanekii 59.16 88⇑ *e*P **P 09 06 02.0 -0.3**
POHA Pohakuloa 59.21 88 *e*P **P 09 06 02.5 -0.2**
comp=Z,692nm,0.9s,mb6.7
POHA LR LR
comp=Z,21µm,20.0s,MS6.3
POO Poona 59.25 271⇑ *i*P **P 09 06 00.0 -3.0**
comp=Z,430nm,1.0s,mb6.4
POO *i*S **S 09 14 10.0 +0.6**
HPU Hale Pohaku 59.26 88⇑ *e*P **P 09 06 03.0 0.0**
KKU Keanakolu 59.29 87⇓ *e*P **P 09 06 03.2 0.0**
MWH Mokuaweoweo 59.30 88⇑ *e*P **P 09 06 03.2 -0.2**
DAH Dandelion 59.32 88⇑ *e*P **P 09 06 03.2 -0.3**
RCO Red Cone 59.32 88⇑ *e*P **P 09 06 03.2 -0.2**
WIH Wilkes Camp 59.32 88⇑ *e*P **P 09 06 03.3 -0.2**
PLL Puu Ulaula 59.39 88⇑ *e*P **P 09 06 03.4 -0.6**
MLH Mauna Loa 59.47 88⇑ *e*P **P 09 06 04.6 +0.1**
WOH Wood Valley 59.51 88⇑ *e*P **P 09 06 04.7 -0.1**
HPO Honuapo 59.55 88 *e*P **P 09 06 05.3 +0.3**
CPK Cone Peak 59.57 88⇑ *e*P **P 09 06 04.6 -0.6**
NGH National Guard 59.64 87⇑ *e*P **P 09 06 05.0 -0.7**
KAD Karad 59.65 269 *e*P **P 09 06 03.8 -2.0**
KAD *e* 09 06 10.8
DLBC Dease Lake 59.71 38 P **P 09 06 05.0 -0.6**
comp=Z,58nm,0.7s,mb5.7,baz=293,slow=7.2,SNR=64
DLBC Dease Lake 59.71 38 *e*P **P 09 06 05.3 -0.3**
BOM Bombay 59.88 272 *e* **P 09 06 00.9 -6.5**
comp=Z,421nm,1.3s,mb6.3
BOM *e*S **S 09 14 17.8 +0.3**
BHJ Bhuj 60.11 278 *e*P **P 09 06 07.9 -1.0**
BHJ *e*S **S 09 14 23.3 +2.8**
PALK Pallekele 60.38 256 *e*P **P 09 06 10.2 -0.6**
comp=Z,276nm,1.3s,mb6.1
PALK LR LR
comp=Z,11µm,22.0s,MS6.0
HSP Hornsund 60.73 347 *e*P **P 09 06 11.9 -0.5**
ASAR Alice Springs 60.81 185 P **P 09 06 11.1 -2.6**
comp=Z,56nm,0.9s,mb5.7,baz=6.7,slow=5.2,SNR=137
ASAR LR LR 09 33 32.1
comp=Z,7µm,18.5s,MS5.8,baz=5.4,slow=37
ASAR PKP2bc 09 35 34.1
comp=Z,9.7nm,0.9s,baz=160,slow=3.1,SNR=9.2
ASAR Alice Springs 60.81 185 P **P 09 06 11.1 -2.6**
ASAR LR LR 09 33 32.1
ASAR ⇑*e* 09 35 34.1
MBWA Marble Bar 60.85 200 *e*P **P 09 06 10.9 -3.0**
comp=Z,332nm,1.3s,mb6.3
MBWA LR LR
comp=Z,12µm,21.0s,MS6.0
GOA Goa 60.94 268 *e*P **P 09 06 15.7 +1.1**
GOA *e*S **S 09 14 32.9 +1.8**
LVZ Lovozero 60.99 335*c*e*P **P 09 06 12.5 -1.7**
LVZ *i* 09 08 27.4
LVZ *i* PPP PPP 09 09 57.4 -1.4
LVZ *e*S **S 09 14 29.7 -1.4**
LVZ *i* 09 16 02.3
LVZ *i* SS SS 09 18 27.8 -4.2
LVZ pmax pmax
comp=Z,193nm,1.0s,mb6.2
LVZ pmax pmax
comp=N,66nm,1.1s
LVZ pmax pmax
comp=E,58nm,1.2s
LVZ smax
comp=Z,4µm,15.6s
LVZ smax
comp=N,8µm,18.9s
LVZ smax
comp=E,9µm,18.8s
LVZ MLR MLR
comp=Z,98µm,19.0s,MS7.0
LVZ MLR MLR
comp=N,28µm,17.0s,MS6.9
LVZ MLR MLR
comp=E,75µm,20.0s,MS6.9
LVZ Lovozero 60.99 335⇓ *e*P **P 09 06 13.7 -0.5**
APA Apatity 61.57 335*k* *i*P **P 09 06 16.3 -1.9**
APA *i* 09 06 59.9
APA *i* 09 08 36.1
APA *i* PPP PPP 09 09 58.0 -6.5
APA *i*S **S 09 14 36.0 -2.4**
APA *i* 09 15 56.0
APA pmax pmax
comp=Z,8µm,9.0s
APA MLR MLR
comp=Z,92µm,18.0s,MS7.0
MNGI Mangalore 61.59 265 *e*P **P 09 06 16.3 -2.8**
MNGI *e*S **S 09 14 37.1 -2.3**
BJO Bjornoya 61.61 345 *e*P **P 09 06 19.9 +1.5**
BJO AMb AMB 09 06 25.4
comp=Z,155nm,1.2s,mb6.0
BJO *e*S **S 09 14 41.8 +2.9**
BJO *e*SS SS 09 18 44.4 +2.5
BJO1 Bjornoya 61.66 345 *e*P **P 09 06 19.9 +1.2**
comp=Z,155nm,1.2s,mb6.0
VAN Vannovskaya 61.85 298 *e*P **P 09 06 18.8 -1.7**
PECR Pechory 62.30 321⇑ *i*P **P 09 06 22.0 -1.3**
PECR *e*S **S 09 14 48.4 +0.5**
PECR pmax pmax
comp=Z,8µm,3.0s
PECR pmax pmax
comp=N,2µm,6.0s
PECR pmax pmax
comp=E,3µm,4.0s
PECR smax
comp=N,12µm,12.4s
PECR smax
comp=E,10µm,12.4s
KEV Kevo 62.43 339 *e*p **P 09 06 21.7 -2.3**
TRD Trivandrum 62.53 259 *e*P **P 09 06 26.4 +1.1**
TRD *e* pP 09 06 30.2 +2.2
comp=Z,228nm,1.2s
ARCES ARCESS Array B 62.99 339 P **P 09 06 26.0 -1.6**
comp=Z,79nm,0.7s,mb6.0,baz=59,slow=7.1,SNR=62
ARCES PKP2bc 09 35 28.6
comp=Z,6.1nm,0.8s,baz=270,slow=1.2,SNR=4.1
ARCES LR LR 09 37 05.6
comp=Z,66µm,19.2s,MS6.8,baz=62,slow=39
ARCES ARCESS Array B 62.99 339 P **P 09 06 26.0 -1.6**
ARCES ⇑*e* 09 35 28.6
ARCES LR LR 09 37 05.6
COCO West Island 63.04 227 *e*P **P 09 06 27.5 -1.1**
comp=Z,375nm,1.1s,mb6.4
COCO LR LR
comp=Z,4µm,20.0s,MS5.6
KTK1 Kautokeino 63.95 339⇓ *i*P **P 09 06 33.9 0.0**
KTK1 AMb AMB 09 06 40.5
comp=Z,716nm,1.4s,mb6.5
KTK1 Kautokeino 63.95 339 *e*P **P 09 06 33.7 -0.1**
comp=Z,716nm,1.4s,mb6.5
NOUC Port Laguerre 64.53 152 *e*P **P 09 06 37.2 -1.2**
NOUC Port Laguerre 64.53 152 *e*P **P 09 06 37.2 -1.2**
YKW3 Yellowknife Ar 64.58 29 *e*P **P 09 06 36.3 -1.8**
YKA Yellowknife Ar 64.62 29 P **P 09 06 36.5 -1.8**
comp=Z,59nm,0.7s,mb5.7,baz=304,slow=6.6,SNR=68
YKA PKP2bc 09 35 25.7
comp=Z,4.0nm,1.0s,baz=105,slow=1.7,SNR=5.9
YKA Yellowknife Ar 64.62 29 P **P 09 06 36.5 -1.8**
YKA ⇑*e* 09 35 25.8
JOF Joensuu 64.72 331 *e*p **P 09 06 36.5 -2.4**
TRO Tromso 64.77 340 *e*P **P 09 06 36.6 -2.5**
TRO AMb AMB 09 06 44.9
comp=Z,510nm,1.4s,mb6.3
TRO *e*S **S 09 15 19.5 +1.2**
TRO *e*SS SS 09 19 31.1 -0.1
TRO Tromso 64.77 340 *e*P **P 09 06 36.6 -2.5**
comp=Z,510nm,1.4s,mb6.4
MOS Moscow 65.77 323 *e*P **P 09 06 44.7 -1.1**
MOS *e* 09 07 14.0
MOS *e* 09 09 10.7
MOS *e*PPP PPP 09 10 44.8 -2.8
MOS *i*S S 09 15 31.6 +0.8
MOS pmax pmax
comp=Z,1µm,1.9s,mb6.6
MOS pmax pmax
comp=N,204nm,1.6s
MOS pmax pmax
comp=E,262nm,1.2s
MOS pmax pmax
comp=Z,7µm,3.9s
MOS smax
comp=E,6µm,5.3s
MOS MLR MLR
comp=E,90µm,15.7s
MOS MLR MLR
comp=Z,146µm,15.7s,MS7.3
MOS Moscow 65.77 323 *i*P **P 09 06 44.3 -1.5**
OBN Obninsk 66.61 322*c* *i*P **P 09 06 49.8 -1.3**
OBN *i* 09 07 24.2
OBN *i* 09 09 16.0
OBN *i*S S 09 15 41.3 +0.3
OBN *e*SS SS 09 20 00.9 +1.0
OBN pmax pmax
comp=Z,840nm,2.0s,mb6.4
OBN pmax pmax
comp=Z,6µm,4.7s
OBN MLR MLR
comp=Z,136µm,15.0s,MS7.3
OBN Obninsk 66.61 322 *e*P **P 09 06 49.1 -2.0**
comp=Z,527nm,1.3s,mb6.4
OBN P pP 09 06 52.2 -1.6
OBN LR LR
comp=Z,25µm,20.0s,MS6.4
MAK Makhachkala 66.62 307 *e*P **P 09 06 50.0 -1.5**
MAK *e* 09 09 21.0
MAK *i*PPP PPP 09 10 53.0 -3.4
MAK *i*S S 09 15 45.0 +3.6
MAK *i*PS PS 09 16 11.0 +6.4
MAK pmax pmax
comp=E,3µm,9.8s
MAK pmax pmax
comp=Z,13µm,9.8s
MAK pmax pmax
comp=N,3µm,8.0s
MAK pmax pmax
comp=Z,2µm,2.5s,mb6.6
MAK pmax pmax
comp=Z,4µm,8.0s
MAK smax
comp=N,8µm,11.0s
MAK smax
comp=E,8µm,11.0s
MAK MLR MLR
comp=N,208µm,13.0s
MAK MLR MLR
comp=Z,231µm,13.0s,MS7.6
PUL Pulkovo 66.88 329*c*e*P **P 09 06 53.6 +0.8**
PUL *i* 09 09 17.2
PUL *e*S S 09 15 39.6 -4.6
PUL *e*SS SS 09 19 56.4 -7.7
PUL pmax pmax
comp=N,1µm,2.1s
PUL pmax pmax
comp=E,1µm,1.6s
PUL pmax pmax
comp=N,352nm,1.1s
PUL pmax pmax
comp=Z,418nm,1.1s,mb6.4
PUL pmax pmax
comp=E,501nm,0.8s
PUL smax
comp=E,5µm,5.6s
PUL smax
comp=Z,1µm,3.5s
PUL smax
comp=N,5µm,18.3s
PUL smax
comp=Z,6µm,16.2s
PUL Pulkovo 66.88 329⇑ *e*P **P 09 06 53.8 +1.0**
VOR Voronezh 67.04 318 *e*P **P 09 06 53.5 -0.5**
VOR *e* 09 07 29.0
VOR *e* 09 15 47.5
VOR pmax pmax
comp=N,300nm,1.7s
VOR pmax pmax
comp=E,330nm,1.7s
VOR pmax pmax
comp=Z,1µm,1.7s,mb6.6
KAF Kangasniemi 67.09 332 *e*p **P 09 06 51.3 -2.8**
comp=Z,107nm,0.6s,mb6.0,baz=51,slow=6.0
KAF Kangasniemi 67.09 332 *e*P **P 09 06 51.3 -2.8**
KAF pmax pmax
comp=Z,107nm,0.6s,mb6.0
LOF Lofoten 67.22 341⇓ *i*P **P 09 06 56.3 +1.5**
LOF AMb AMB 09 07 03.4
comp=Z,268nm,1.8s,mb6.0
LOF Lofoten 67.22 341 *e*P **P 09 06 56.4 +1.5**
comp=Z,268nm,1.8s,mb6.0
FINES FINESS Array B 67.58 331 P **P 09 06 55.2 -2.0**
comp=Z,148nm,0.8s,mb6.1,baz=68,slow=6.1,SNR=78
FINES PKP2bc 09 35 16.7
comp=Z,5.6nm,1.0s,baz=180,slow=11,SNR=4.3
FINES LR LR 09 38 16.4
comp=Z,52µm,20.8s,MS6.7,baz=58,slow=38
FINES FINESS Array B 67.58 331 P **P 09 06 55.2 -2.0**
FINES ⇑*e* 09 35 16.7
FINES LR LR 09 38 16.4
PGC Sidney 67.66 45 *e*P **P 09 06 57.1 -0.8**
comp=Z,763nm,0.9s,mb6.7
OCWA Octopus Mounta 67.71 46 *e*P **P 09 06 58.9 +0.6**
comp=Z,450nm,1.0s,mb6.5
OCWA LR LR
comp=Z,11µm,20.0s,MS6.1
STW Striped Peak 67.80 46 P **P 09 06 58.9 0.0**
MCW Mount Constitu 68.00 45 P **P 09 07 00.5 +0.4**
MELS Mels 68.08 340 *e*P **P 09 06 58.6 -1.7**
GOF Gofitskoye 68.33 311⇓ *i*P **P 09 07 03.0 +0.8**
GOF *i*S S 09 16 03.0 +1.1
GOF pmax pmax
comp=Z,250nm,1.3s,mb6.1
GOF pmax pmax
comp=Z,15µm,6.0s
GOF smax
comp=N,13µm,10.0s
GOF MLR MLR
comp=N,98µm,16.0s,MS7.3
GOF MLR MLR
comp=E,104µm,16.0s,MS7.3
GOF MLR MLR
comp=Z,118µm,16.0s,MS7.2
MOR8 Moi Rana 68.36 339 *e*P **P 09 06 59.3 -2.8**
MOR8 AMb AMB 09 07 07.1
comp=Z,695nm,1.7s,mb6.4
MOR8 Moi Rana 68.36 339 *e*P **P 09 06 59.3 -2.8**
comp=Z,695nm,1.7s,mb6.4
GNW Green Mountain 68.59 46 *e*P **P 09 07 03.6 -0.2**
STOK Stokkvaagen 68.65 339 *e*P **P 09 07 02.3 -1.5**
STOK AMb AMB 09 07 10.2
comp=Z,461nm,1.5s,mb6.2
STOK Stokkvaagen 68.65 339 *e*P **P 09 07 02.3 -1.5**
comp=Z,461nm,1.5s,mb6.2
JCW Jim Creek 68.76 45 P **P 09 07 04.4 -0.4**
RPW Rockport 68.86 45 *e*P **P 09 07 04.6 -0.8**
STKA Stephens Creek 68.87 177 P **P 09 07 03.8 -2.0**
comp=Z,75nm,0.7s,mb5.7,baz=346,slow=7.1,SNR=55
STKA PKP2bc 09 35 17.0
comp=Z,5.2nm,0.9s,baz=114,slow=7.8,SNR=5.3
STKA LR LR 09 36 53.9
comp=Z,26µm,20.2s,MS6.5,baz=0.2,slow=36
STKA Stephens Creek 68.87 177 P **P 09 07 03.8 -2.0**
STKA ⇑*e* 09 35 17.0
STKA LR LR 09 36 53.9
BMW Boistfort Moun 68.94 47 P **P 09 07 06.2 +0.3**
BMW Boistfort Moun 68.94 47 P **P 09 07 06.1 +0.2**
AFI Afiamalu 68.95 128 P **P 09 07 09.3 +2.8**
AFI pmax pmax
comp=Z,230nm,1.2s,mb6.0
AFI Afiamalu 68.95 128 *e*P **P 09 07 02.8 -3.7**
comp=Z,226nm,1.3s,mb5.9
AFI LR LR
comp=Z,27µm,20.0s,MS6.5
TI2 Plekhanov 69.00 307 *i*P **P 09 07 06.4 0.0**
TI2 *i*S S 09 16 10.4 +0.5
TI2 MLR MLR
comp=N,48µm,16.0s,MS7.1
TI2 MLR MLR
comp=E,70µm,16.0s,MS7.1
TI2 MLR MLR
comp=Z,50µm,16.0s,MS6.8
KIV Kislovodsk 69.12 310*c* *i*P **P 09 07 06.6 -0.5**
KIV *e* 09 07 27.9
KIV *e* 09 09 38.2
KIV *i*S S 09 16 12.9 +1.6
KIV *e*SS SS 09 20 39.7 +0.4
KIV pmax pmax
comp=Z,1µm,2.8s,mb6.4
KIV pmax pmax
comp=Z,8µm,3.5s
KIV MLR MLR
comp=Z,69µm,17.0s,MS7.0
KIV Kislovodsk 69.12 310 *e*P **P 09 07 06.6 -0.5**
comp=Z,355nm,0.9s,mb6.3
KIV LR LR
comp=Z,6µm,19.0s,MS5.9
VSU Vasula 69.14 329 P **P 09 07 07.8 +0.8**
KMOR Kings Mountain 69.23 48 P **P 09 07 07.8 0.0**
JMIC Jan Mayen 69.50 349 *e*S S 09 16 13.8 -1.5
FMW Mount Fremont 69.56 46 P **P 09 07 09.8 -0.1**
LON Longmire 69.61 46 *e*P **P 09 07 09.8 -0.3**
LON Longmire 69.61 46 P **P 09 07 09.8 -0.3**
NLW Nelson Butte 69.72 45 *e*P **P 09 07 10.3 -0.4**
GNI Garni 69.84 305*c* *i*P **P 09 07 11.4 -0.2**
GNI pmax pmax
comp=Z,432nm,1.6s
GNI MLR MLR
comp=Z,75µm,18.0s
GNI Garni 69.84 305 *e*P **P 09 07 13.6 +2.0**
comp=Z,340nm,1.4s,mb6.1
GNI LR LR
comp=Z,71µm,19.0s,MS6.9
COR Corvallis 69.91 49 P **P 09 07 12.1 +0.2**
COR pmax pmax
comp=Z,1µm,1.1s,mb6.7
COR Corvallis 69.91 49 *e*P **P 09 07 11.9 0.0**
comp=Z,1µm,1.1s,mb6.7
COR LR LR
comp=Z,3µm,20.0s,MS5.6
ASR Mount Adams--S 70.06 47 P **P 09 07 12.5 -0.3**
WTV Waterville 70.15 45 P **P 09 07 12.4 -0.9**
NAC Naches 70.19 46 P **P 09 07 13.3 -0.2**
KEBM Edson Butte 70.20 51 *e*P **P 09 07 13.6 -0.2**
EBG Ellensburg 70.24 46 P **P 09 07 13.7 -0.1**
SSOR Sweet Springs 70.26 48 P **P 09 07 14.5 +0.4**
SSOR Sweet Springs 70.26 48 P **P 09 07 14.1 0.0**
NSS Namsos 70.27 338 *e*P **P 09 07 12.1 -1.7**
NSS AMb AMB 09 07 20.0
comp=Z,438nm,2.1s,mb6.0
NSS *e*S S 09 16 25.2 +0.7
NSS *e*SKSa 09 17 14.0
NSS *i* 09 21 10.2
NSS Namsos 70.27 338 *e*P **P 09 07 12.1 -1.7**
comp=Z,438nm,2.1s,mb6.0
SUMG Summit 70.40 359 *e*P **P 09 07 13.7 -0.7**
comp=Z,569nm,0.9s,mb6.5
EDM Edmonton 70.43 37 P **P 09 07 13.7 -1.2**
EDM Edmonton 70.43 37 *e*P **P 09 07 13.6 -1.3**
SAW Saint Andrews 70.45 45 P **P 09 07 14.3 -0.8**
MXC Moxie City 70.58 46 P **P 09 07 15.7 -0.3**
HSO Harness Mounta 70.61 50 P **P 09 07 17.3 +1.1**
HSO Harness Mounta 70.61 50 *e*P **P 09 07 17.1 +0.9**
WAH2 Wahluke Slope 70.89 45 P **P 09 07 17.4 -0.5**
DPW Davenport 71.03 44 P **P 09 07 18.1 -0.5**
DPW Davenport 71.03 44 P **P 09 07 18.2 -0.5**
IZAR Zarasai 71.03 326 *e*P **P 09 07 16.9 -1.7**
IZAR AMPb AMB 09 07 24.6
comp=Z,97nm,1.6s,mb5.5
CROR Criterion Ridg 71.06 48 P **P 09 07 18.6 -0.3**
IDID Didziasalis 71.09 326 *e*P **P 09 07 17.6 -1.3**
IDID AMPb AMB 09 07 26.6
comp=Z,110nm,1.2s,mb5.7
MNK Minsk 71.10 325 *e*P **P 09 07 16.0 -3.0**
MNK *e* 09 09 50.0
MNK *e*PPP PPP 09 11 32.0 -7.8
MNK *e*S S 09 16 32.0 -2.3
MNK *e*PS PS 09 17 04.0 +0.4
MNK *e*SS SS 09 21 06.0 -3.7
MNK pmax pmax
comp=N,320nm,1.2s
MNK pmax pmax
comp=Z,550nm,1.0s,mb6.4
MNK pmax pmax
comp=E,570nm,1.6s
MNK MLR MLR
comp=E,82µm,16.0s,MS7.2
MNK MLR MLR
comp=N,44µm,14.0s,MS7.2
MNK MLR MLR
comp=Z,73µm,14.0s,MS7.1
WRD Warden 71.11 45 P **P 09 07 18.0 -1.2**
HAWA Hanford 71.12 46 *e*P **P 09 07 18.5 -0.7**
comp=Z,476nm,1.2s,mb6.3
HAWA LR LR
comp=Z,11µm,20.0s,MS6.1
SOC Sochi 71.13 311 *i*P **P 09 07 18.3 -1.1**
SOC *e* 09 07 38.7
SOC *e* 09 09 51.4
SOC *e*PPP PPP 09 11 44.2 +3.8
SOC *e*S S 09 16 34.4 -0.5
SOC *e*PS PS 09 17 02.2 -2.1
SOC *e* 09 17 20.1
SOC *e*SS SS 09 21 08.3 -2.1
SOC *e*SSS SSS 09 24 07.4 -9.4
SOC pmax pmax
comp=Z,334nm,1.2s,mb6.1
SOC pmax pmax
comp=N,449nm,2.4s
SOC pmax pmax
comp=E,366nm,2.2s
SOC pmax pmax
comp=Z,5µm,3.6s
SOC pmax pmax
comp=N,2µm,2.6s
SOC pmax pmax
comp=E,821nm,2.1s
SOC smax
comp=N,1µm,5.2s
SOC smax
comp=E,3µm,5.3s
SOC MLR MLR
comp=Z,71µm,20.0s,MS6.9
SOC MLR MLR
comp=N,22µm,17.0s,MS6.8
SOC MLR MLR
comp=E,39µm,18.0s,MS6.8
BCA Borcka 71.14 308 P **P 09 07 20.3 +0.9**
HUMO Hull Mountain 71.20 51 *e*P **P 09 07 19.5 -0.3**
comp=E,393nm,1.4s,mb6.2
HUMO LR LR

comp=Z,13µm,21.0s,MS6.2
ISAL Salakas 71.20 326 *e*P **P 09 07 18.0 -1.5**
ISAL AMPb AMB 09 07 26.8
comp=Z,163nm,1.0s,mb5.9
KRMB Red Mountain 71.20 52 *e*P **P 09 07 20.2 +0.3**
IIGN Ignalina 71.30 326 *e*P **P 09 07 18.6 -1.5**
IIGN AMPb AMB 09 07 27.9
comp=Z,142nm,0.9s,mb5.9
NEW Newport 71.39 43 P **P 09 07 20.2 -0.7**
comp=Z,404nm,0.8s,mb6.4,baz=308,slow=5.0,SNR=145
NEW Newport 71.39 43 P **P 09 07 20.2 -0.7**
NEW pmax pmax
comp=Z,404nm,0.8s
NEW Newport 71.39 43 *e*P **P 09 07 20.0 -0.9**
comp=Z,529nm,0.9s,mb6.5
NEW LR LR
comp=Z,16µm,19.0s,MS6.3
TRON Trondheim 71.53 338 *e*P **P 09 07 21.4 0.0**
VIPM Ingram Point 71.55 48 P **P 09 07 21.4 -0.5**
VANB Van 71.56 305 *e*P **P 09 07 20.6 -1.5**
TVAN Van 71.59 305 *i*P **P 09 07 23.6 +1.4**
SCO Scoresbysund 71.62 353 *i*P **P 09 07 23.3 +1.5**
comp=Z,68nm,0.8s,mb5.6
KHMM Horse Mountain 71.67 52 *e*P **P 09 07 23.1 +0.4**
ANN Anapa 71.81 313*c i*P **P 09 07 21.6 -1.8**
ANN *e**PP pP 09 07 27.7 +1.6
ANN *e*S S 09 16 43.2 +0.5
ANN *e*SP SP 09 17 12.0 -0.7
ANN pmax pmax
comp=Z,2µm,6.9s
ANN pmax pmax
comp=N,1µm,10.3s
ANN pmax pmax
comp=E,580nm,7.7s
ANN pmax pmax
comp=Z,581nm,1.6s,mb6.3
ANN pmax pmax
comp=N,71nm,0.7s
ANN pmax pmax
comp=E,172nm,1.7s
ANN smax
comp=Z,3µm,13.2s
ANN smax
comp=N,4µm,11.1s
ANN smax
comp=E,6µm,12.9s
YBH Yreka Blue Hor 71.83 51 P **P 09 07 23.4 -0.2**
comp=E,163nm,0.9s,mb6.0,baz=359,slow=4.2,SNR=145
YBH Yreka Blue Hor 71.83 51 P **P 09 07 23.9 +0.3**
YBH pmax pmax
comp=Z,350nm,1.2s
YBH Yreka Blue Hor 71.83 51 *e*P **P 09 07 23.6 0.0**
comp=Z,352nm,1.2s,mb6.2
YBH LR LR
comp=Z,12µm,22.0s,MS6.1
HKR Hakkari 71.89 304 P **P 09 07 25.1 +1.1**
ADE Adelaide 71.90 180 *e*P **P 09 07 22.1 -2.1**
LNOR Lincton Mounta 72.13 46 P **P 09 07 24.8 -0.5**
LNOR Lincton Mounta 72.13 46 P **P 09 07 25.0 -0.3**
ERZM Erzurum 72.15 307 *i*P **P 09 07 26.0 +0.4**
EZM Erzurum 72.15 307 *e*P **P 09 07 28.1 +2.5**
WDC Whiskeytown Da 72.59 52 P **P 09 07 27.8 -0.3**
WDC pmax pmax
comp=Z,880nm,1.6s,mb6.4
WDC Whiskeytown Da 72.59 52 *e*P **P 09 07 27.6 -0.4**
comp=Z,877nm,1.6s,mb6.4
WDC LR LR
comp=Z,9µm,20.0s,MS6.0
WALA Waterton Lakes 72.64 41 *e*P **P 09 07 27.5 -0.7**
comp=Z,610nm,1.3s,mb6.4
NWAO Narrogin (SRO) 72.70 199 P **P 09 07 25.7 -3.2**
NWAO pmax pmax
comp=Z,410nm,1.3s
NWAO Narrogin (SRO) 72.70 199 *e*P **P 09 07 25.9 -3.0**
comp=Z,413nm,1.4s,mb6.2
NWAO LR LR
comp=Z,12µm,22.0s,MS6.1
AKASG Malin Array Be 72.78 321 P **P 09 07 27.2 -1.7**
comp=Z,95nm,0.8s,mb5.8,baz=44,slow=6.0,SNR=96
AKASG LR LR 09 42 15.4
comp=Z,165µm,18.8s,MS7.3,baz=50,slow=38
AKASG Malin Array Be 72.78 321 P **P 09 07 27.3 -1.7**
AKASG pmax pmax
comp=Z,95nm,0.8s
AKASG MLR MLR
comp=Z,165µm,18.8s
DOMB Dombas 73.01 338 *e*P **P 09 07 28.9 -1.3**
DOMB AMb AMB 09 07 37.3
comp=Z,592nm,1.5s,mb6.3
DOMB Dombas 73.01 338 *e*P **P 09 07 28.9 -1.3**
comp=Z,592nm,1.5s,mb6.3
GUMT Gumushane 73.03 308 P **P 09 07 31.7 +1.0**
MOL Molde 73.05 339 *e*P **P 09 07 32.8 +2.4**
MOL AMb AMB 09 07 41.5
comp=Z,736nm,1.8s,mb6.3
MOL Molde 73.05 339 *e*P **P 09 07 32.8 +2.4**
comp=Z,736nm,1.8s,mb6.3
NB2 NORSAR Subarra 73.11 336 P **P 09 07 29.0 -1.7**
comp=Z,488nm,1.2s,mb6.3,baz=40,slow=5.8
NB2 NORSAR Subarra 73.11 336 P **P 09 07 29.0 -1.7**
baz=40,slow=6.2
NOA NORSAR Array B 73.11 336 P **P 09 07 29.1 -1.6**
comp=Z,124nm,0.7s,mb5.9,baz=40,slow=5.9,SNR=165
NOA PP PP 09 10 14.5 -1.1
comp=Z,83nm,1.1s,baz=41,slow=8.6,SNR=5.2
NOA LR LR 09 42 07.3
comp=Z,44µm,18.8s,MS6.8,baz=45,slow=38
NOA NORSAR Array B 73.11 336 P **P 09 07 29.1 -1.6**
NOA 09 10 14.5
NOA pmax pmax
comp=Z,124nm,0.7s
NOA pmax pmax
comp=Z,83nm,1.1s
NOA MLR MLR
comp=Z,44µm,18.8s
HOPS Hopland 73.14 54 *e*P **P 09 07 30.6 -0.7**
comp=Z,284nm,1.3s,mb6.0
HOPS LR LR
comp=Z,16µm,20.0s,MS6.3
MOD Modoc 73.22 50 *e*P **P 09 07 31.6 -0.2**
comp=Z,216nm,0.9s,mb6.1
MOD LR LR
comp=Z,13µm,20.0s,MS6.2
EZC Erzincan 73.22 307 *e*P **P 09 07 35.7 +3.9**
BINT Bingol 73.29 306 *e*P **P 09 07 37.5 +5.2**
BEST Besiri 73.34 305 *i*P **P 09 07 33.0 +0.5**
KELT Kelkit 73.35 308 *i*P **P 09 07 30.7 -1.9**
NAO NORSAR Subarra 73.39 336 P **P 09 07 33.3 +0.9**
SUW Suwalki 73.51 326 *e*P **P 09 07 32.0 -1.2**
SUW *e* 09 07 41.4
SUW *e* 09 10 17.1
SUW Suwalki 73.51 326 *e*P **P 09 07 32.0 -1.2**
SUW *e*pP pP 09 07 37.6 +1.8
SUW *e*PcP PcP 09 07 41.4 -8.1
SUW *e*PP PP 09 10 17.1 -1.9
SUW Suwalki 73.51 326 *e*S S 09 17 00.6 -1.1
SUW Suwalki 73.51 326 *e*P **P 09 07 32.0 -1.2**
SUW *e*pP pP 09 07 37.6 +1.8
SUW *e*PcP PcP 09 07 41.4 -8.1
SUW *e*PP PP 09 10 17.1 -1.9
SUW *e*S S 09 17 00.6 -1.1
SUW MLR MLR 09 39 39.2
comp=Z,50µm,26.0s
UMR Umm Al-Rimmam 73.54 295 *e*P **P 09 07 33.1 -0.8**
SIM Simferopol' 73.64 314 *e*P **P 09 07 33.2 -0.9**
SIM *e*S S 09 17 02.9 -0.5
SIM pmax pmax
comp=Z,200nm,0.9s,mb6.0
SIM MLR MLR
comp=Z,57µm,18.2s,MS6.9
NSHM Saint Helena R 73.71 54 *e*P **P 09 07 34.7 0.0**
KBD Kabd 73.77 294 *e*P **P 09 07 34.3 -0.9**
QRN Al-Qurain 73.84 294 *e*P **P 09 07 34.0 -1.7**
OHCM Honcut 73.96 53 *e*P **P 09 07 35.6 -0.5**
MSO Missoula 73.98 43 *e*P **P 09 07 35.0 -1.0**
comp=Z,301nm,1.2s,mb6.1
MSO LR LR
comp=Z,8µm,22.0s,MS6.0
PTK Pertek 73.98 307 *i*P **P 09 07 37.0 +0.8**
RDF Al-Radifah 74.01 294 *e*P **P 09 07 35.4 -1.2**
RDF AMb AMB 09 07 44.6
comp=Z,1µm,1.5s,mb6.6
DIY Diyarbakir 74.02 306 *e*P **P 09 07 39.4 +3.0**
RST Umm Al-Ruwaisa 74.09 295 *e*P **P 09 07 35.5 -1.5**
RST AMb AMB 09 07 44.8
comp=Z,645nm,1.1s,mb6.5
OSL Oslo 74.10 336 *e*P **P 09 07 36.6 +0.1**
OSL AMb AMB 09 07 43.3
comp=Z,555nm,1.7s,mb6.2
OSL Oslo 74.10 336 *e*P **P 09 07 36.6 +0.1**
comp=Z,111nm,1.8s,mb5.5
CHMT Chamberlain Mo 74.30 43 *e*P **P 09 07 37.0 -0.9**
BEKR Beckwourth 74.36 52 *e*P **P 09 07 37.7 -0.7**
comp=Z,464nm,0.9s,mb6.4
SAC San Andreas 74.37 55 P **P 09 07 38.1 -0.4**
SAC San Andreas 74.37 55 *e*P **P 09 07 37.9 -0.6**
ELZG Elazig 74.47 307 *i*P **P 09 07 40.2 +1.2**
LKC Lake Chabot 74.51 54 *e*P **P 09 07 38.9 -0.4**
HASS Wahat al Ahsa' 74.51 290 P **P 09 07 38.2 -1.4**
HASS P 09 14 53.7
FOO Floro 74.55 339 *e*P **P 09 07 38.1 -0.9**
FOO AMb AMB 09 07 46.3
comp=Z,482nm,1.5s,mb6.2
FOO Floro 74.55 339 *e*P **P 09 07 38.1 -0.9**
comp=Z,482nm,1.5s,mb6.2
HYA Hoyanger 74.56 338 *e*P **P 09 07 40.4 +1.3**
HYA AMb AMB 09 07 47.8
comp=Z,665nm,1.5s,mb6.3
HYA Hoyanger 74.56 338 *e*P **P 09 07 40.4 +1.3**
comp=Z,665nm,1.5s,mb6.3
FFC Flin Flon 74.60 32 P **P 09 07 38.2 -1.3**
FFC pmax pmax
comp=Z,190nm,0.9s,mb6.0
FFC Flin Flon 74.60 32 *e*P **P 09 07 38.1 -1.4**
comp=Z,187nm,0.9s,mb6.0
FFC LR LR
comp=Z,3µm,19.0s,MS5.5
FCC Fort Churchill 74.69 26 P **P 09 07 39.2 -0.7**
FCC pmax pmax
comp=Z,700nm,1.1s,mb6.5
FCC Fort Churchill 74.69 26 *e*P **P 09 07 38.5 -1.4**
comp=Z,700nm,1.1s,mb6.5
KONO Kongsberg 74.69 336 PFAKE
KONO LR LR 09 07 50.0 +10
comp=Z,22µm,21.0s,MS6.4
KVT Kavak 74.80 310 *e*P **P 09 07 40.6 -0.3**
MYA Malatya 74.93 307 *e*P **P 09 07 42.0 +0.2**
MALT Malatya 74.93 307 *i*P **P 09 07 41.7 -0.1**
SUE Sulen 75.06 339 *e*P **P 09 07 42.3 +0.3**
SUE AMb AMB 09 07 49.5
comp=Z,496nm,1.6s,mb6.2
SUE Sulen 75.06 339 *e*P **P 09 07 42.3 +0.3**
comp=Z,496nm,1.6s,mb6.2
PAHR Pah Rah Range 75.07 51 *e*P **P 09 07 41.5 -1.0**
comp=Z,278nm,1.0s,mb6.1
WCN Washoe City 75.07 52 P **P 09 07 41.3 -1.2**
WCN pmax pmax
comp=Z,2µm,1.9s,mb6.7
WCN Washoe City 75.07 52 *e*P **P 09 07 42.5 0.0**
comp=Z,2µm,1.9s,mb6.7
HRY Holter Researc 75.19 42 *e*P **P 09 07 42.8 -0.3**
KIS Kishinev 75.31 318⇑ *i*P **P 09 07 43.0 -0.7**
KIS *i* 09 10 40.0
KIS *i*S S 09 17 20.0 -1.9
KIS *i*SS SS 09 22 04.0 -10
KIS pmax pmax
comp=N,600nm,2.0s
KIS pmax pmax
comp=E,800nm,2.0s
KIS pmax pmax
comp=Z,2µm,2.0s,mb6.6
KIS pmax pmax
comp=Z,7µm,9.0s
KIS pmax pmax
comp=N,2µm,16.0s
KIS pmax pmax
comp=E,2µm,14.0s
KIS pmax pmax
comp=Z,5µm,12.0s
KIS smax
comp=N,4µm,14.0s
KIS smax
comp=E,6µm,17.0s
KIS MLR MLR
comp=Z,143µm,16.0s,MS7.4
BYBT Boyabat 75.34 311 *e*P **P 09 07 45.5 +1.5**
ASK Askoy 75.40 338 *e*P **P 09 07 43.3 -0.6**
ASK AMb AMB 09 07 51.9
comp=Z,1µm,2.5s,mb6.3
ASK Askoy 75.40 338 *e*P **P 09 07 43.3 -0.6**
comp=Z,4µm,2.0s,mb7.0
RUND Rundenannen 75.41 338 *e*P **P 09 07 44.2 +0.2**
RUND AMb AMB 09 07 51.9
comp=Z,943nm,1.1s,mb6.6
CMB Columbia Colle 75.42 53 P **P 09 07 44.2 -0.4**
CMB S S 09 17 26.6 +3.2
CMB SPn 09 19 15.5
CMB PKKPdf 09 23 40.8
CMB Columbia Colle 75.42 53 P **P 09 07 44.0 -0.5**
CMB pmax pmax
comp=Z,300nm,0.8s,mb6.3
CMB Columbia Colle 75.42 53 *e*P **P 09 07 43.9 -0.7**
comp=Z,302nm,0.8s,mb6.3
CMB LR LR
comp=Z,10µm,19.0s,MS6.2
ODD1 Odda 75.42 337 *e*P **P 09 07 43.2 -0.9**
ODD1 AMb AMB 09 07 50.9
comp=Z,436nm,1.5s,mb6.2
ODD1 Odda 75.42 337 *e*P **P 09 07 43.2 -0.9**
comp=Z,436nm,1.5s,mb6.2
BER Bergen 75.44 338 *e*P **P 09 07 44.6 +0.4**
SAO San Andreas Ge 75.47 55 P **P 09 07 44.7 -0.2**
SAO pmax pmax
comp=Z,120nm,0.9s,mb5.8
SAO San Andreas Ge 75.47 55 *e*P **P 09 07 44.0 -0.8**
comp=Z,121nm,0.9s,mb5.8
SAO LR LR
comp=Z,10µm,21.0s,MS6.1
BZK Bozkurt 75.50 312 *e*P **P 09 07 45.7 +0.8**
EGD Espegrend 75.56 338 *e*P **P 09 07 46.1 +1.2**
EGD AMb AMB 09 07 53.0
comp=Z,734nm,1.9s,mb6.3
EGD Espegrend 75.56 338 *e*P **P 09 07 46.1 +1.2**
comp=Z,3µm,2.1s,mb6.8
WAR Warsaw 75.67 326 *e*P **P 09 07 46.0 +0.4**
WAR *e* 09 07 56.0
WAR *e* 09 10 39.2
WAR Warsaw 75.67 326 *e*P **P 09 07 46.0 +0.4**
WAR *e*pP pP 09 07 50.5 +2.2
WAR *e*PcP PcP 09 07 56.0 -2.8
WAR *e*PP PP 09 10 39.2 +1.9
WAR Warsaw 75.67 326 *e*S S 09 17 23.5 -2.3
WAR Warsaw 75.67 326 *e*P **P 09 07 46.0 +0.4**
WAR *e*pP pP 09 07 50.5 +2.2
WAR *e*PcP PcP 09 07 56.0 -2.8
WAR *e*PP PP 09 10 39.2 +1.9
WAR *e*S S 09 17 23.5 -2.3
WAR MLR MLR 09 42 01.0
comp=Z,49µm,23.2s
HLID Hailey 75.72 46 *e*P **P 09 07 46.2 0.0**
comp=Z,475nm,1.3s,mb6.3
HLID LR LR
comp=Z,18µm,19.0s,MS6.4
MCMT McKenzie Canyo 75.82 44 *e*P **P 09 07 45.8 -0.8**
CTKT Corum 75.83 310 *i*P **P 09 07 46.4 -0.5**
IAS Iasi 75.84 319 P **P 09 07 49.3 +2.5**
BLS5 Blasjo 75.87 337 *e*P **P 09 07 48.0 +1.4**
BLS5 AMb AMB 09 07 55.7
comp=Z,198nm,2.2s,mb5.7
BLS5 Blasjo 75.87 337 *e*P **P 09 07 48.0 +1.4**
comp=Z,198nm,2.2s,mb5.7
LVV L'vov 75.90 323 *i*P **P 09 07 48.0 +1.0**
LVV *i*S S 09 17 27.0 -1.4
LRV Little Rabbit 75.95 55 *e*P **P 09 07 47.6 0.0**
BMN Battle Mountai 75.97 50 P **P 09 07 47.9 +0.3**
BMN pmax pmax
comp=Z,470nm,1.0s,mb6.4
BMN Battle Mountai 75.97 50 *e*P **P 09 07 47.8 +0.2**
comp=Z,466nm,1.0s,mb6.4
BMN LR LR
comp=Z,11µm,19.0s,MS6.2
BOZ Bozeman (W) 75.97 43 *e*P **P 09 07 47.5 0.0**
comp=Z,694nm,1.0s,mb6.5
BOZ LR LR
comp=Z,15µm,19.0s,MS6.3
TOS Tosya 76.05 311 *e*P **P 09 07 48.2 +0.1**
GZT Gaziantep 76.05 306 *i*P **P 09 07 48.5 +0.3**
DGAR Diego Garcia 76.09 249 *e*P **P 09 07 48.6 -0.3**
comp=Z,2µm,1.6s,mb6.7
DGAR LR LR
comp=Z,6µm,22.0s,MS5.8
BALT Daday 76.13 312 *i*P **P 09 07 48.4 -0.1**
BSD Bornholm Skovb 76.19 331 *i*P **P 09 07 48.8 +0.2**
BSD Bornholm Skovb 76.19 331 *i*S S 09 17 28.6 -2.9
BSD Bornholm Skovb 76.19 331 *i*S S 09 17 28.6 -2.9
BNN Bunyan 76.25 308 *e*P **P 09 07 49.7 +0.4**
KAHT Ahir Dag 76.33 307 *i*P **P 09 07 50.9 +1.2**
GAZ Gaziantep 76.38 306 P **P 09 07 52.1 +2.0**
KMY Karmoy 76.41 337⇓ *i*P **P 09 07 50.7 +1.0**
KMY AMb AMB 09 07 58.0
comp=Z,446nm,1.9s,mb6.1
KMY Karmoy 76.41 337 *e*P **P 09 07 50.6 +1.0**
comp=Z,446nm,1.9s,mb6.1
STAV Stavanger 76.49 337 *e*P **P 09 07 50.3 +0.1**
STAV AMb AMB 09 07 57.6
comp=Z,424nm,1.7s,mb6.1
STAV Stavanger 76.49 337 *e*P **P 09 07 50.3 +0.1**
comp=Z,424nm,1.7s,mb6.1
NVAR Mina Array Bea 76.50 52 P **P 09 07 50.3 -0.3**
comp=Z,298nm,0.8s,mb6.3,baz=310,slow=4.0,SNR=304
NVAR LR LR 09 40 57.7
comp=Z,9µm,19.8s,MS6.1,baz=315,slow=35
OMM Old Mammoth Mi 76.55 53 *e*P **P 09 07 51.1 +0.1**
CANT Cankiri 76.55 311 *e*P **P 09 07 52.6 +1.7**
GKP Gorka Klasztor 76.59 328 *e*P **P 09 07 50.4 -0.4**
GKP *e*pP pP 09 07 55.7 +2.2
GKP *e*PcP PcP 09 08 00.4 -2.4
GKP *e*PP PP 09 10 47.4 +2.8
GKP Gorka Klasztor 76.59 328 *e*S S 09 17 32.3 -3.5
GKP Gorka Klasztor 76.59 328 *e*P **P 09 07 50.4 -0.4**
GKP *e*pP pP 09 07 55.7 +2.2
GKP *e*PcP PcP 09 08 00.4 -2.4
GKP *e*PP PP 09 10 47.4 +2.8
GKP *e*S S 09 17 32.3 -3.5
GKP MLR MLR 09 43 08.0
comp=Z,61µm,21.4s
MNV Mina 76.59 52 P **P 09 07 50.9 -0.3**
MNV pmax pmax
comp=Z,230nm,1.0s,mb6.1
MNV Mina 76.59 52 *e*P **P 09 07 50.8 -0.4**
comp=Z,225nm,1.0s,mb6.0
MNV LR LR
comp=Z,11µm,21.0s,MS6.2
QLMT Earthquake Lak 76.60 43 *e*P **P 09 07 51.1 +0.1**
KWP Kalwaria 76.67 323 P **P 09 07 50.8 -0.5**
KWP pmax pmax
comp=Z,4µm,1.8s,mb7.0
KWP Kalwaria 76.67 323 *e*P **P 09 07 51.1 -0.2**
KWP Kalwaria 76.67 323 *e*S S 09 17 39.3 +2.6
KWP Kalwaria 76.67 323 *e*P **P 09 07 51.1 -0.2**
KWP *e*S S 09 17 39.3 +2.6
KWP MLR MLR 09 43 34.9
comp=Z,90µm,20.4s
COP Copenhagen 76.72 332⇓ *i*P **P 09 07 52.7 +1.2**
comp=Z,219nm,0.8s,mb6.1
COP *i* 09 10 44.7
COP *i*S S 09 17 40.4 +3.2
COP *e* 09 22 01.0
comp=Z,29µm,18.0s
ELDT Eldivan 76.74 311 *i*P **P 09 07 51.6 -0.3**
CFR Carcaliu 76.83 317⇑ *i*P **P 09 07 53.2 +0.9**
CFR Carcaliu 76.83 317⇑ *i*P **P 09 07 53.2 +0.8**
AVNT Avonos 76.91 309 *i*P **P 09 07 52.0 -1.0**
GCMT Greycliff 76.93 42 *e*P **P 09 07 53.3 +0.4**
YMR Madison River 76.96 43 *e*P **P 09 07 53.2 +0.1**
MTUM Tungsten Hills 76.98 53 *e*P **P 09 07 53.1 -0.3**
BRTR Keskin Array B 77.08 310 P **P 09 07 53.1 -0.7**
comp=Z,57nm,1.0s,mb5.5,baz=88,slow=4.2,SNR=55
BRTR LR LR 09 46 21.2
comp=Z,32µm,18.6s,MS6.7,baz=105,slow=39
BRTR Keskin Array B 77.08 310 P **P 09 07 53.2 -0.7**
BRTR pmax pmax
comp=Z,57nm,1.0s
BRTR MLR MLR
comp=Z,32µm,18.7s
YNR Norris Junctio 77.08 43 *e*P **P 09 07 54.9 +1.2**
BORG Borgarnes 77.09 351 *e*P **P 09 07 56.0 +2.7**
comp=Z,229nm,0.9s,mb6.1
BORG LR LR
comp=Z,4µm,20.0s,MS5.8
YEL1 Yell 77.09 341 *e*P **P 09 07 53.0 -0.4**
VRI Vrincioaia 77.14 318 P **P 09 07 55.0 +0.9**
TIRR Tirgusor 77.14 316 P **P 09 07 55.2 +1.1**
YFT Old Faithful 77.17 44 *e*P **P 09 07 56.4 +2.1**
BRD Bordesti 77.18 318⇑ *i*P **P 09 07 57.1 +2.8**
BRD Bordesti 77.18 318⇑ *i*P **P 09 07 57.1 +2.8**
RGN Rugen 77.23 331 *e*P **P 09 07 53.0 -1.4**
comp=Z,590nm,1.1s,mb6.4
KAMT Kaman 77.25 310 *e*P **P 09 07 54.7 -0.1**
MUD Monsted U'grnd 77.31 334⇓ *i*P **P 09 07 56.2 +1.5**
comp=Z,152nm,1.0s,mb5.9
MUD *i* 09 10 50.2
MUD *i*S S 09 17 45.6 +2.0
comp=Z,54µm,20.0s
LKWY Lake 77.33 43 P **P 09 07 57.4 +2.3**
LKWY pmax pmax
comp=Z,670nm,1.1s,mb6.5
LKWY Lake 77.33 43 *e*P **P 09 07 57.0 +1.8**
comp=Z,674nm,1.1s,mb6.5
LKWY LR LR
comp=Z,30µm,19.0s,MS6.6
KOLS Kolonicke sedl 77.35 323 *i*P **P 09 07 56.8 +1.7**
RYDS Riyadh 77.36 291 P **P 09 07 54.7 -1.0**
RYDS D 09 15 06.1
COBT Iskenderun 77.39 306 *i*P **P 09 07 56.2 +0.6**
TPH Tonopah 77.39 52 P **P 09 07 55.8 +0.2**
TPH pmax pmax
comp=Z,680nm,1.0s,mb6.5
TPH Tonopah 77.39 52 *e*P **P 09 07 55.6 0.0**
comp=Z,685nm,1.0s,mb6.5
TPH LR LR
comp=Z,11µm,20.0s,MS6.2
CEYT Ceyhan 77.42 307 *e*P **P 09 07 56.8 +1.0**
NIG Nigde 77.47 308 *i*P **P 09 07 57.1 +1.1**
LRW Lerwick 77.47 341 *e*P **P 09 07 55.0 -0.5**
ANTO Ankara 77.50 311 P **P 09 07 55.7 -0.5**
LOD Lodumlu 77.51 311 *e*P **P 09 07 57.7 +1.5**
SGKT Sivrigoynuk 77.51 312 *i*P **P 09 07 56.4 +0.1**
RRI2 Red Ridge 77.61 45 *e*P **P 09 07 57.2 +0.5**
OJC Ojcow 77.62 325 *e*P **P 09 07 56.2 -0.4**
OJC *e*S S 09 17 48.6 +1.5
OJC MLR MLR
comp=Z,62µm,21.3s,MS6.9
OJC Ojcow 77.62 325 *e*P **P 09 07 56.1 -0.5**
OJC *e*S S 09 17 48.6 +1.5
OJC LR LR
comp=Z,62µm,21.3s,MS6.9
OJC Ojcow 77.62 325 *e*P **P 09 07 56.1 -0.5**
OJC *e*S S 09 17 48.6 +1.5
OJC MLR MLR 09 44 36.4
comp=Z,62µm,21.3s
MOOW Moose Ponds 77.67 44 *e*P **P 09 07 57.7 +0.7**
HTY Hatay 77.70 306 P **P 09 07 59.0 +1.6**
TPAW Teton Pass 77.72 44 *e*P **P 09 07 58.0 +0.7**
ISR Istrita 77.73 318⇑ *i*P **P 09 07 58.0 +0.7**
ISR Istrita 77.73 318⇑ *i*P **P 09 07 58.0 +0.7**
CRVS Cervenica-Dubn 77.76 323 *e*P **P 09 07 57.7 +0.3**
CRVS *e* pP 09 07 59.1 -1.0
CRVS *i*S S 09 17 48.7 +0.1
CRVS *e*SS SS 09 22 48.1 -3.5
CRVS Cervenica-Dubn 77.76 323 *e*P **P 09 07 57.7 +0.3**
CRVS *i*S S 09 17 48.7 +0.1
CRVS *e*SS SS 09 22 48.1 -3.5
CRVS *e* 09 35 45.5
HVU Hansel Valley 77.78 47 P **P 09 07 58.0 +0.4**
HVU Hansel Valley 77.78 47 *e*P **P 09 07 57.7 +0.1**
MLR Muntele Rosu 77.80 318 P **P 09 07 57.3 -0.4**
comp=Z,222nm,1.3s,mb5.9,baz=17,slow=4.0,SNR=14
MLR LR LR 09 45 18.0
comp=Z,102µm,18.2s,MS7.2,baz=46,slow=38
MLR Muntele Rosu 77.80 318 P **P 09 07 57.3 -0.4**
MLR pmax pmax
comp=Z,222nm,1.3s
MLR MLR MLR
comp=Z,102µm,18.3s
MLR Muntele Rosu 77.80 318⇓ *i*P **P 09 08 00.3 +2.6**
WUWY Wally Ulrich 77.80 44 *e*P **P 09 07 58.1 +0.3**
LOHW Long Hollow 77.83 44 *e*P **P 09 07 58.2 +0.3**
SNOW Snow King Moun 77.85 44 *e*P **P 09 07 58.5 +0.5**
REDW Red Top Meadow 77.86 44 *e*P **P 09 07 58.3 +0.2**
DGMT Dagmar 77.92 37 *e*P **P 09 07 57.5 -0.8**
comp=Z,604nm,0.9s,mb6.5
DGMT LR LR

comp=Z,11µm,19.0s,MS6.2
NIE Niedzica 77.94 324 *e*P **P 09 07 58.9 +0.5**
HENT Hendek 78.04 312 *i* P **P 09 07 58.2 -0.9**
MDU Mudurnu 78.08 312 *e*P **P 09 07 59.5 +0.1**
AHID Auburn Hatcher 78.10 45 *e*P **P 09 07 59.5 +0.1**
comp=Z,228nm,0.9s,mb6.1
AHID LR LR
comp=Z,10µm,19.0s,MS6.2
LAO LASA Array 78.13 40 *e*P **P 09 07 59.0 -0.5**
comp=Z,902nm,1.0s,mb6.7
LAO LR LR
comp=Z,24µm,20.0s,MS6.5
BGU Big Grassy Mou 78.17 47 *e*P **P 09 07 59.8 0.0**
TRCR Troy Canyon 78.24 51 *e*P **P 09 08 00.5 +0.2**
DAC Darwin (Calif) 78.25 53 P **P 09 08 00.6 +0.2**
DAC pmax pmax
comp=Z,190nm,0.9s,mb6.0
DAC Darwin (Calif) 78.25 53 *e*P **P 09 08 00.0 -0.4**
comp=Z,189nm,0.9s,mb6.0
DAC LR LR
comp=Z,8µm,20.0s,MS6.0
SPUT South Promonto 78.26 47 *e*P **P 09 08 01.9 +1.6**
MTUR Matau 78.44 319⇓ *i*P **P 09 08 03.3 +2.1**
RAC Raciborz 78.45 326 *e*P **P 09 08 01.5 +0.3**
RAC *e* 09 08 06.6
RAC *e* 09 10 59.7
RAC *e*S S 09 17 57.8 +1.8
RAC MLR MLR
comp=N,94µm,16.9s
RAC MLR MLR
comp=Z,40µm,19.4s,MS6.8
RAC MLR MLR
comp=Z,119µm,16.5s
RAC Raciborz 78.45 326 *e*P **P 09 08 01.5 +0.3**
RAC *e*PP pP 09 08 06.6 +2.8
RAC *e*PP PP 09 10 59.7 -0.9
RAC *e*S S 09 17 57.8 +1.8
RAC *e*SS SS 09 23 00.8 -1.2
RAC LR LR
comp=Z,40µm,19.4s,MS6.8
RAC Raciborz 78.45 326 *e*P **P 09 08 01.5 +0.3**
RAC *e*pP pP 09 08 06.6 +2.8
RAC *e*PP PP 09 10 59.7 -0.9
RAC *e*S S 09 17 57.8 +1.8
RAC *e*SS SS 09 23 00.8 -1.2
RAC LMN 09 42 09.3
comp=Z,94µm,16.9s
RAC MLR MLR 09 45 27.4
comp=Z,40µm,19.4s
RAC LME 09 46 25.1
comp=Z,117µm,15.9s
RAC MLR MLR 09 46 28.5
comp=Z,119µm,16.5s
BUC1 Bucharest 78.51 318⇓ *i*P **P 09 08 02.6 +1.0**
BUC1 Bucharest 78.51 318⇓ *i*P **P 09 08 02.6 +1.0**
PRD Provadia 78.52 316 *i* P **P 09 08 03.5 +1.8**
KECS Kecovo 78.52 323 *i* P **P 09 08 04.4 +2.8**
MZLS Mizel 78.52 291 P **P 09 08 01.3 -0.7**
MZLS P 09 15 15.0
HWUT Hardware Ranch 78.58 46 *e*P **P 09 08 02.2 +0.1**
comp=Z,663nm,1.2s,mb6.4
HWUT LR LR
comp=Z,15µm,19.0s,MS6.3
RUE Ruedersdorf 78.59 329 *e*P **P 09 08 03.7 +1.8**
comp=Z,1µm,1.8s,mb6.6
OKC Ostrava-Krasne 78.65 325⇑ *i*P **P 09 08 03.1 +0.9**
OKC *e*PP PP 09 11 03.3 +1.1
OKC *e*S S 09 18 00.0 +1.9
OKC AMS AMS 09 46 30.0
comp=Z,106µm,15.1s
OWE Westray 78.66 341⇑ *e*P **P 09 08 02.1 0.0**
KIZT Kizilcal 78.67 310 *e*P **P 09 08 03.1 +0.4**
OST Stronsay 78.73 341 *e*P **P 09 08 02.3 -0.2**
KSP Ksiaz 78.74 327⇑ *e*P **P 09 08 02.3 -0.5**
KSP *e**PP pP 09 08 07.1 +1.7
KSP *e* 09 10 55.0
KSP *e*S S 09 17 56.0 -3.1
KSP *e*SS SS 09 22 56.0 -10
KSP MLR MLR
comp=Z,147µm,16.6s,MS7.4
KSP Ksiaz 78.74 327⇑ *e*P **P 09 08 02.3 -0.5**
KSP *e* pP 09 08 04.3 -1.1
KSP *e*PP PcP 09 08 07.1 -5.0
KSP *e*PP PP 09 10 55.0 -7.9
KSP *e*S S 09 17 56.0 -3.1
KSP *e*SS SS 09 22 56.0 -10
KSP LR LR
comp=Z,147µm,16.6s,MS7.4
KSP Ksiaz 78.74 327 *e*P **P 09 08 03.3 +0.5**
KSP *e*pP pP 09 08 08.5 +3.1
KSP *e*PcP PcP 09 08 13.1 +1.0
KSP *e*PP PP 09 11 06.6 +3.7
KSP *e*S S 09 18 02.8 +3.7
KSP MLR MLR 09 43 27.1
comp=Z,83µm,21.6s
DUG Dugway 78.76 48 P **P 09 08 03.4 +0.3**
DUG Dugway 78.76 48 *e*P **P 09 08 03.2 +0.1**
comp=Z,680nm,1.4s,mb6.4
DUG LR LR
comp=Z,13µm,21.0s,MS6.2
HRT Hereke 78.76 313 P **P 09 08 04.6 +1.5**
BSEG Bad Segeberg 78.85 332 *e*P **P 09 08 02.4 -0.9**
BSEG pmax pmax
comp=Z,528nm,1.4s,mb6.3
NOQ North Oquirrh 78.87 47 *e*P **P 09 08 04.0 +0.3**
ARSS Ar Rass 78.89 294 P **P 09 08 03.3 -0.8**
ARSS P 09 15 17.3
ESKT Eskisehir 78.89 311 *i* P **P 09 08 03.5 -0.3**
ISK Istanbul-Kandi 78.96 314 *e*P **P 09 08 04.7 +0.5**
MORC Moravsky Berou 78.96 326 P **P 09 08 03.4 -0.6**
MORC pmax pmax
comp=Z,1µm,1.8s,mb6.5
MORC Moravsky Berou 78.96 326 *e*P **P 09 08 03.4 -0.6**
comp=Z,1µm,1.8s,mb6.5
BW06 Boulder Array 78.97 44 *e*P **P 09 08 03.6 -0.5**
comp=Z,741nm,0.9s,mb6.6
BW06 LR LR
comp=Z,15µm,20.0s,MS6.3
KONT Konya--Tatoy 78.97 309 *e*P **P 09 08 06.5 +2.2**
PDAR Pinedale Array 78.97 44 P **P 09 08 03.8 -0.4**
comp=Z,244nm,0.8s,mb6.2,baz=280,slow=2.3,SNR=233
TCUT Toone Canyon 78.99 46 *e*P **P 09 08 01.7 -2.7**
CTU Camp Tracy 79.06 47 *e*P **P 09 08 04.5 -0.2**
DPC Dobruska-Polom 79.09 327⇑ *i*P **P 09 08 04.4 -0.3**
DPC *e*PP PP 09 11 07.8 +2.1
DPC *e*S S 09 18 03.8 +1.0
DPC AMS AMS 09 47 20.0
comp=Z,75µm,14.2s
UPC Upice 79.11 327⇑ *e*P **P 09 08 04.4 -0.4**
UPC *e*PP PP 09 11 07.9 +2.0
OHO Hoy 79.13 341⇑ *e*P **P 09 08 03.5 -1.2**
PSZ Piszkesteto 79.19 323⇑ *e*P **P 09 08 05.8 +0.5**
PSZ Piszkesteto 79.19 323 P **P 09 08 05.0 -0.3**
PSZ pmax pmax
comp=Z,900nm,1.5s,mb6.5
IKL Isikli 79.20 307 P **P 09 08 05.0 -0.6**
MWC Mount Wilson 79.21 55 *e*P **P 09 08 04.6 -1.1**
CTT Catalca 79.27 314 *e*P **P 09 08 07.0 +1.1**
SZH Strazhica 79.28 317 *i* P **P 09 08 05.5 -0.3**
VYHS Vyhne 79.29 324 *i* P **P 09 08 08.2 +2.4**
VYHS *e*PP PP 09 11 12.2 +4.9
VYHS *i* S S 09 18 06.3 +1.4
VYHS *e*SS SS 09 23 09.0 -5.6
JLU Jordanelle 79.30 47 *e*P **P 09 08 06.0 0.0**
NLU North Lily Min 79.35 48 *e*P **P 09 08 06.2 -0.1**
KOLL Kolacno 79.43 324 P **P 09 08 08.4 +1.9**
HDMB Hadim 79.50 309 P **P 09 08 05.1 -2.1**
ULDT Uludag 79.51 313 *i* P **P 09 08 06.8 -0.3**
ORE Reay 79.52 341 *e*P **P 09 08 06.0 -0.8**
DAU Daniels Canyon 79.53 47 P **P 09 08 07.8 +0.5**
DAU Daniels Canyon 79.53 47 *e*P **P 09 08 07.5 +0.2**
JAVC Velka Javorina 79.57 325 P **P 09 08 08.4 +1.1**
MPU Maple Canyon 79.57 47 *e*P **P 09 08 07.6 +0.1**
MLA1 Latheron 79.62 341 *e*P **P 09 08 07.2 -0.2**
ALT Altintas 79.63 311 *e*P **P 09 08 09.6 +1.8**
HRI Mount Hermon 79.70 304 P **P 09 08 08.0 -0.4**
PVCC Panska Ves 79.72 328⇑ *i*P **P 09 08 07.7 -0.4**
PVCC *e*S S 09 18 10.0 +0.6
PVCC AMS AMS 09 46 10.0
comp=Z,68µm,17.7s
BRG Berggiesshubel 79.73 328 *i* P **P 09 08 08.9 +0.8**
BRG *i* pP 09 08 12.4 +1.6
BRG *e* 09 11 14.0
BRG *i* S S 09 18 12.0 +2.5
BRG *i* PS PS 09 19 04.0 +9.0
BRG *e* 09 26 37.6
BRG pmax pmax
comp=Z,799nm,1.7s,mb6.4
BRG MLR MLR
comp=N,80µm,16.5s,MS7.2
BRG MLR MLR
comp=E,45µm,16.5s,MS7.2
BRG MLR MLR
comp=Z,64µm,16.5s,MS7.0
BRG Berggiesshubel 79.73 328 *i* P **P 09 08 08.9 +0.8**
comp=Z,799nm,1.7s,mb6.4
BRG *i* pP 09 08 12.4 +1.6
BRG *e* 09 08 37.9
BRG *e*PP PP 09 11 14.0 +3.2
BRG *i* S S 09 18 12.0 +2.5
BRG *i* PS PS 09 19 04.0 +9.0
BRG *i* SS SS 09 23 39.0 +18
BRG *e*PKKP PKKP 09 26 37.6 -0.8
BRG *e*P'P' 09 34 43.0
BRG LR LR
comp=Z,64µm,16.5s,MS7.0
VRAC Vranov 79.73 326 P **P 09 08 08.7 +0.6**
PHNC Paralimni 79.74 306 P **P 09 08 09.8 +1.3**
EDRB Edirne 79.77 315 P **P 09 08 06.9 -1.6**
CLL Collm 79.79 329 P **P 09 08 07.3 -1.1**
CLL *i* pP 09 08 09.5 -1.6
CLL *i**PP pP 09 08 12.5 +1.4
CLL *e* 09 08 31.0
CLL *i* 09 09 08.7
CLL *e*PP PP 09 11 14.0 +2.7
CLL *e*S S 09 18 08.0 -2.2
CLL *e*PS PS 09 18 59.0 +3.3
CLL *e*SS SS 09 23 18.0 -4.1
CLL *e*SSS SSS 09 26 54.0 +11
CLL *e*PKPPKP 09 34 54.0
CLL Collm 79.79 329⇓ *i*P **P 09 08 09.5 +1.1**
CLL *i* pP 09 08 12.5 +1.4
CLL *e*S S 09 18 08.0 -2.2
CLL pmax pmax
comp=Z,432nm,1.3s,mb6.2
CLL MLR MLR
comp=Z,61µm,17.6s,MS7.0
CLL Collm 79.79 329⇓ *i*P **P 09 08 09.5 +1.1**
comp=Z,432nm,1.3s,mb6.2
CLL *i* pP 09 08 12.5 +1.4
CLL *e*S S 09 18 08.0 -2.2
CLL PP' 09 34 54.0
CLL LR LR
comp=Z,61µm,17.6s,MS7.0
KSHT Keshet 79.83 304 P **P 09 08 08.8 -0.2**
ARUT Antelope Range 79.91 50 P **P 09 08 09.5 +0.1**
ARUT Antelope Range 79.91 50 *e*P **P 09 08 08.5 -0.9**
BUD Budapest 79.92 323⇑ *e*P **P 09 08 11.3 +2.1**
SMOL Smolenice 79.93 325 *i* P **P 09 08 12.0 +2.8**
KRUC Moravsky 80.00 326 P **P 09 08 11.8 +2.2**
SRO Srobarova 80.02 324 *i* P **P 09 08 12.7 +3.0**
BNT Bandirma 80.08 314 *e*P **P 09 08 12.1 +1.9**
EDC Edincik 80.12 314 *e*P **P 09 08 11.8 +1.4**
PRU Pruhonice 80.13 327⇑ *i*P **P 09 08 09.4 -0.9**
PRU *e* 09 11 10.5
PRU *e*S S 09 18 15.1 +1.4
PRU pmax pmax
comp=Z,501nm,1.5s,mb6.2
PRU MLR MLR
comp=Z,75µm,13.0s,MS7.2
PRU Pruhonice 80.13 327⇑ *i*P **P 09 08 09.4 -0.9**
comp=Z,501nm,1.5s,mb6.2
PRU *e*PP PP 09 11 10.5 -3.7
PRU *e*S S 09 18 15.1 +1.4
PRU AMS AMS 09 48 10.0
comp=Z,75µm,13.0s
MFT Murefte 80.16 314 *e*P **P 09 08 12.1 +1.4**
ISP Isparta 80.16 310 *e*P **P 09 08 10.4 -0.3**
ISP Isparta 80.16 310 P **P 09 08 12.0 +1.3**
ISP pmax pmax
comp=Z,140nm,1.1s,mb5.8
MVH1 Achvaich 80.17 341 *e*P **P 09 08 09.8 -0.6**
HNTI Hanita 80.19 304 P **P 09 08 10.6 -0.3**
MVU Marysvale 80.20 49 *e*P **P 09 08 11.6 +0.7**
comp=Z,181nm,1.0s,mb6.0
MVU LR LR
comp=Z,12µm,21.0s,MS6.2
MSU Marysvale 80.21 49 P **P 09 08 11.8 +0.8**
MSU Marysvale 80.21 49 *e*P **P 09 08 11.6 +0.6**
TAU Tasmania Unive 80.21 174 PFAKE 09 08 20.0 +9.1
TAU LR LR
comp=Z,4µm,20.0s,MS5.8
CSS Prodhromos 80.22 307 P **P 09 08 12.4 +1.3**
comp=Z,5.6nm,1.7s
MCD Coleburn Disti 80.22 340 *e*P **P 09 08 10.6 0.0**
REB Eisghbrachaidh 80.28 342⇑ *e*P **P 09 08 10.5 -0.4**
TMUT Trail Mountain 80.28 48 *e*P **P 09 08 11.6 +0.2**
PKSG 80.28 324⇑ *e*P **P 09 08 13.2 +2.0**
ZST Bratislava 80.31 325 *i* P **P 09 08 14.2 +2.9**
ZST *e*PP PP 09 11 23.4 +7.6
ZST *i* S S 09 18 14.2 -1.4
ZST Bratislava 80.31 325 *i* P **P 09 08 14.2 +2.9**
ZST *i* S S 09 18 14.2 -1.4
DIM Dimitrovgrad 80.31 316 *i* P **P 09 08 13.3 +1.9**
BCK Bucak 80.36 310 *e*P **P 09 08 14.0 +2.3**
KGT Karabiga 80.37 314 *e*P **P 09 08 13.2 +1.5**
MME1 Meikle Cairn 80.38 340 *e*P **P 09 08 10.7 -0.8**
NEN Nelson 80.39 52 *e*P **P 09 08 11.9 -0.1**
BTOK Tokmak 80.40 313 *i* P **P 09 08 12.2 +0.2**
ULM Lac du Bonnet 80.42 32 P **P 09 08 10.6 -1.2**
comp=Z,139nm,0.9s,mb5.9,baz=318,slow=6.3,SNR=66
ULM LR LR 09 47 45.5
comp=Z,16µm,18.1s,MS6.4,baz=326,slow=39
MMLI Mount Malkishu 80.42 303 P **P 09 08 12.3 +0.1**
CLZ Clausthal 80.44 330 *e*P **P 09 08 11.2 -0.7**
comp=Z,786nm,1.5s,mb6.4
HMDT Nahal Hemdat 80.46 303 P **P 09 08 12.3 -0.1**
HAF Haifa 80.47 304 P **P 09 08 11.9 -0.6**
ALFC Alevga 80.56 307 P **P 09 08 13.2 +0.3**
comp=Z,2.6nm,0.8s
BALB Balikesir 80.57 313 *e*P **P 09 08 11.4 -1.5**
LDFC Landfair 80.58 53 *e*P **P 09 08 12.6 -0.4**
OFRI 'Ofer 80.60 304 P **P 09 08 12.7 -0.4**
VKA Vienna 80.62 325⇑ *i*P **P 09 08 13.7 +0.8**
comp=Z,4µm,4.0s
PFO Pinyon Flat Ob 80.63 55 P **P 09 08 12.6 -0.7**
comp=Z,1µm,0.9s,mb6.9
PFO Pinyon Flat Ob 80.63 55 P **P 09 08 12.6 -0.7**
PFO pmax pmax
comp=Z,220nm,0.9s,mb6.1
PFO Pinyon Flat Ob 80.63 55 *e*P **P 09 08 12.8 -0.5**
comp=Z,224nm,0.9s
PFO LR LR
comp=Z,1µm,20.0s
SZAC Souni-Zanaja 80.64 307 P **P 09 08 14.7 +1.4**
MDO Dochfour 80.64 341 *e*P **P 09 08 11.9 -0.9**
RRR Rubha Reidh 80.64 342 *e*P **P 09 08 12.5 -0.3**
ANTB Antalya 80.68 309 *e*P **P 09 08 17.2 +3.7**
PGB Panagyurishte 80.72 317 *i* P **P 09 08 15.5 +1.9**
PLD Plovdiv 80.73 316 P **P 09 08 15.5 +1.9**
ALN Alexandroupoli 80.79 315 *e*P **P 09 08 12.8 -1.2**
SLTI Sal'it 80.79 303 P **P 09 08 13.9 -0.3**
RRH Rhenigidale 80.81 342 *e*P **P 09 08 13.4 -0.3**
SRU San Rafael 80.81 47 P **P 09 08 14.0 -0.1**
SRU San Rafael 80.81 47 *e*P **P 09 08 13.9 -0.2**
NKC Novy Kostel 80.84 328⇑ *i*P **P 09 08 13.6 -0.4**
NKC *e*S S 09 18 21.7 +0.6
NKC AMS AMS 09 46 10.0
comp=Z,42µm,19.6s
MOX Moxa 80.87 329⇓ *i*P **P 09 08 13.7 -0.5**
comp=Z,logA/T=2.7,mb6.4
MOX S S 09 18 25.0 +3.6
MOX SS SS 09 23 39.0 +0.8
MOX L 09 46 59.0
MOX Moxa 80.87 329 *e*P **P 09 08 13.7 -0.5**
MOX pmax pmax
comp=Z,950nm,1.9s,mb6.4
MOX MLR MLR
comp=Z,35µm,22.0s,MS6.7
MOX Moxa 80.87 329 *e*P **P 09 08 13.7 -0.5**
comp=Z,950nm,1.9s,mb6.4
MOX LR LR
comp=Z,35µm,22.0s,MS6.7
PPCY Paphos 80.90 307 P **P 09 08 16.0 +1.3**
RDO Rodhopi 80.91 315⇑ *i*P **P 09 08 15.0 +0.4**
PKS9 Tamasi 80.92 323⇑ *e*P **P 09 08 16.3 +1.8**
MANT Manisa 80.92 312 *i* P **P 09 08 14.1 -0.6**
SOP Sopron 80.93 325⇑ *e*P **P 09 08 15.1 +0.5**
SOP *i* PP PP 09 11 19.4 -2.0
DRGI Dragot 80.96 303 P **P 09 08 14.8 -0.3**
RWWY Rawlins 80.98 44 *e*P **P 09 08 14.6 -0.4**
RZN Rozhen 81.00 316 *i* P **P 09 08 15.5 +0.4**
PKSM Moragy 81.01 323⇑ *e*P **P 09 08 14.7 -0.3**
RSSD Black Hills 81.02 40 P **P 09 08 14.7 -0.4**
RSSD pmax pmax
comp=Z,450nm,1.3s,mb6.2
RSSD Black Hills 81.02 40 *e*P **P 09 08 14.6 -0.5**
comp=Z,455nm,1.4s,mb6.2
RSSD LR LR
comp=Z,3µm,20.0s,MS5.6
BAR Barrett 81.07 56 *e*P **P 09 08 15.0 -0.6**
SVIS Svilajnac 81.08 320⇑ *i*P **P 09 08 16.8 +1.4**
WIT Witteveen 81.08 333⇑ *e*P **P 09 08 17.7 +2.5**
comp=Z,767nm,1.1s,mb6.5
WIT *ex* x 09 08 22.6
WIT *e*P 09 15 28.7
WIT *i* x x 09 15 31.6
comp=Z,1µm,1.5s
WIT *e*P 09 24 12.5
comp=Z,398nm,1.3s
WIT *ex* x 09 24 17.9
BEO Belgrade 81.10 321⇓ *i*P **P 09 08 15.5 0.0**
AKS Akhisar 81.11 312 P **P 09 08 15.7 0.0**
DENT Denizli 81.11 311 *e*P **P 09 08 17.9 +2.1**
DNZL Cakiroluk 81.15 311 *i* P **P 09 08 16.3 +0.4**
MZDA Masada 81.15 303 P **P 09 08 15.8 -0.3**
KAMS Al Khamasin 81.17 289 P **P 09 08 16.6 +0.2**
KAMS P 09 15 30.1
HOPOS Hopovo Monaste 81.19 321⇑ *i*P **P 09 08 17.7 +1.7**
KHC Kasperske Hory 81.19 327⇑ *i*P **P 09 08 14.9 -1.0**
KHC *e*PP PP 09 11 16.2 -7.3
KHC *e*S S 09 18 25.2 +0.5
KHC AMS AMS 09 48 20.0
comp=Z,95µm,15.5s
VTS Vitosha 81.21 318 *i* P **P 09 08 16.5 +0.4**
ELL Elmali 81.23 310 *e*P **P 09 08 17.4 +1.0**
GEC2 GERESS Array S 81.35 327 *e*P **P 09 08 15.9 -0.8**
GEC2 pmax pmax
comp=Z,1µm,2.5s,mb6.4
GEC2 GERESS Array S 81.35 327 *e*P **P 09 08 15.9 -0.8**
comp=Z,1µm,2.5s,mb6.4
GERES GERESS Array B 81.35 327 P **P 09 08 15.9 -0.9**
comp=Z,71nm,0.8s,mb5.7,baz=45,slow=3.8,SNR=74
GERES PKKPbc 09 26 51.3
comp=Z,1.4nm,0.8s,baz=180,slow=1.3,SNR=3.6
AYVA Ayvalik 81.48 313 *i* P **P 09 08 18.8 +1.1**
WET Wettzell 81.48 327 *e*P **P 09 08 17.0 -0.4**
WET pmax pmax
comp=Z,842nm,1.9s,mb6.3
WET Wettzell 81.48 327 *e*P **P 09 08 17.0 -0.4**
comp=Z,842nm,1.9s,mb6.3
BOZC Bozcaada 81.49 314 *i* P **P 09 08 19.5 +1.8**
MMB Musomiste 81.61 317 *i* P **P 09 08 18.0 -0.3**
GRUS Gruza 81.62 320⇓ *i*P **P 09 08 17.5 -0.8**
EDI Edinburgh 81.65 339 *e*P **P 09 08 18.1 -0.1**
WTSB Winterswijk 81.71 332⇑ *e*P **P 09 08 19.8 +1.2**
comp=Z,115nm,1.2s,mb5.7
WTSB *ex* x 09 08 24.8
WTSB *e*P 09 15 30.0
comp=Z,6.0nm,0.7s
WTSB *i* x x 09 15 33.8
comp=Z,155nm,1.4s
WTSB *e*P 09 24 14.4
comp=Z,43nm,1.1s
WTSB Winterswijk 81.71 332 P **P 09 08 20.6 +2.1**
ARSA Arzberg 81.73 325⇑ *i*P **P 09 08 18.4 -0.3**
comp=Z,3µm,3.6s
MASH Mash'abbe Sade 81.74 303 P **P 09 08 19.7 +0.6**
KDAG Bornova 81.74 312 *i* P **P 09 08 18.9 0.0**
ZFRI Zfri 81.75 302 P **P 09 08 19.0 -0.2**
IZM Izmir 81.75 312 *e*P **P 09 08 19.2 +0.1**
PRK Paraskevi 81.76 314 *e*P **P 09 08 20.0 +0.9**
GRA1 Grafenberg Arr 81.76 329 *e*P **P 09 08 18.6 -0.3**
comp=Z,1µm,1.4s,mb6.7
GRA1 *e*S S 09 18 31.8 +1.2
GRA1 *e*SS SS 09 23 36.7 -15
GRA1 LR LR
comp=Z,42µm,21.6s,MS6.8
GRF Grafenberg Arr 81.76 329 *e*P **P 09 08 18.6 -0.3**
GRF *e*S S 09 18 31.8 +1.2
GRF pmax pmax
comp=Z,1µm,1.4s,mb6.7
GRF MLR MLR
comp=Z,42µm,21.6s,MS6.8
GRFO Grafenberg 81.76 329 P **P 09 08 18.6 -0.2**
GRFO sPKiKP 09 15 31.5
GRFO S S 09 18 32.0 +1.4
GRFO PKKPdf 09 24 15.2
RTMM Retamin 81.77 303 P **P 09 08 20.2 +0.9**
KKB Krupnik 81.78 317 *i* P **P 09 08 20.0 +0.9**
BARS Barje 81.79 318⇑ *i*P **P 09 08 23.7 +4.6**
KSL Kastellorizon 81.82 309 *e*P **P 09 08 21.0 +1.6**
NRS Narsarsuaq 81.83 2 *i* P **P 09 08 18.0 -0.9**
NRS *i* S S 09 18 29.7 -1.3
DIVS Divcibare 81.84 320⇓ *i*P **P 09 08 18.6 -0.8**
MOA Molln 81.85 326⇑ *i*P **P 09 08 19.6 +0.3**
comp=Z,3µm,3.5s
AYDN Tasoluk 81.87 311 *i* P **P 09 08 19.9 +0.3**
LOS Limnos 81.98 315 *e*P **P 09 08 20.5 +0.3**
PRNI Paran 81.99 302 P **P 09 08 20.4 0.0**
PRNI Paran 81.99 302⇑ P **P 09 08 20.4 0.0**
DALT Dalyan (Mudla) 82.00 310 *e*P **P 09 08 20.8 +0.5**
SRS Serrai 82.01 316 *e*P **P 09 08 20.3 -0.1**
RAR Rarotonga 82.04 124 LR LR 09 41 01.1
comp=Z,16µm,20.8s,MS6.3,baz=243,slow=33
RAR Rarotonga 82.04 124 PFAKE 09 08 30.0 +9.1
RAR LR LR
comp=Z,21µm,22.0s,MS6.5
KZIT Kziot 82.05 303 P **P 09 08 20.3 -0.5**
PV10 Paradox Valley 82.16 47 *e*P **P 09 08 21.7 +0.5**
MLSB Milas 82.17 311 *e*P **P 09 08 22.1 +0.8**
LCP Cassop 82.18 338⇑ *e*P **P 09 08 20.7 -0.2**
ESK Eskdalemuir 82.18 339 P **P 09 08 22.5 +1.6**
comp=Z,351nm,0.7s,mb6.4,SNR=12
ESK Eskdalemuir 82.18 339 *e*P **P 09 08 19.6 -1.3**
ESK AMb AMB 09 08 28.5
comp=Z,748nm,1.8s,mb6.3
ESK Eskdalemuir 82.18 339 P **P 09 08 22.7 +1.8**
ESK pmax pmax
comp=Z,170nm,1.1s,mb5.9
ESK Eskdalemuir 82.18 339 *e*P **P 09 08 22.6 +1.7**
comp=Z,170nm,1.1s,mb5.9
ESK LR LR
comp=Z,12µm,19.0s,MS6.3
PHWY Pilot Hill 82.21 43 *e*P **P 09 08 21.3 0.0**
OUR Ouranopolis 82.33 316 *e*P **P 09 08 21.9 -0.1**
KMTI Karmit 82.33 302 P **P 09 08 21.8 -0.4**
AQBJ Aqaba 82.34 302 P **P 09 08 22.0 -0.3**
SOH Sokhos 82.34 316 *e*P **P 09 08 21.3 -0.8**
BISS Bistriski jare 82.36 325 *i* P **P 09 08 21.3 -0.7**
KNT Kendrikon 82.36 317 *e*P **P 09 08 22.0 -0.1**
PERS Pernice 82.37 325 *e*P **P 09 08 21.4 -0.6**
PERS *e*S S 09 18 36.5 -0.4
BHH Howats Hill 82.38 339 *e*P **P 09 08 20.9 -1.1**
BTA Talkin 82.39 339 *e*P **P 09 08 21.2 -0.7**
MBH Mount Berech 82.40 302 P **P 09 08 22.3 -0.3**
NVSS Nova Varos 2 82.41 320⇓ *i*P **P 09 08 21.9 -0.5**
BWH Wardlaw 82.43 339 *e*P **P 09 08 21.8 -0.4**
VAY Valandovo 82.43 317⇑ *i*P **P 09 08 21.8 -0.7**
EIL Elat 82.45 302 P **P 09 08 22.5 -0.3**
SMG Samos 82.45 312 *e*P **P 09 08 23.0 +0.3**
TATS Tathlith 82.46 289 P **P 09 08 22.8 -0.2**
TATS P 09 15 36.4
BDRM Kayabasi 82.52 311 *i* P **P 09 08 22.6 -0.4**
BDL Dobcross Hall 82.55 339 *e*P **P 09 08 22.1 -0.7**
DOBS Dobrina 82.56 324 P **P 09 08 23.5 +0.4**
SKO Skopje 82.59 318⇑ *i*P **P 09 08 24.0 +0.7**
SKO *i* 09 08 29.0
comp=Z,0.4nm,1.0s
SKO *i* PP Px 09 12 02.2
SKO Skopje 82.59 318⇑ *i*P **P 09 08 24.0 +0.7**
comp=Z,385nm,1.0s,mb6.4
SKO *i* 09 08 29.0
SKO *i* PP Px 09 12 02.2
GOLS Golise 82.59 324 P **P 09 08 22.6 -0.7**
PV01 Paradox Valley 82.60 47 *e*P **P 09 08 23.7 +0.3**
PLG Polygyros 82.60 316⇑ *i*P **P 09 08 22.5 -0.9**
SISC Sisak 82.64 323 *i* P **P 09 08 23.1 -0.4**
JMOS Jabal al Moall 82.65 301 P **P 09 08 24.0 +0.1**

JMOS P 09 15 37.9
ARG Arkhangelos 82.67 310 *e*P **P 09 08 25.0 +1.1**
ARG Arkhangelos 82.67 310 P **P 09 08 25.7 +1.8**
THE Thessaloniki 82.69 316 *e*P **P 09 08 22.9 -1.0**
PLE Pljevlja 82.69 320⇓*i*P **P 09 08 24.2 +0.4**
SIND Sindeldorf 82.69 329⇓*e*P **P 09 08 24.9 +1.2**
SIND Sindeldorf 82.69 329 P **P 09 08 25.5 +1.8**
BBO1 Bothel 82.70 339⇑*e*P **P 09 08 23.1 -0.5**
OBKA Obir 82.72 325⇑*i*P **P 09 08 24.0 +0.1**
comp=Z,3µm,4.0s
IVA Berane 82.76 320⇓*i*P **P 09 08 23.9 -0.3**
GRG Griva 82.77 317 *e*P **P 09 08 22.6 -1.7**
PAIG Paliouri 82.78 315 *e*P **P 09 08 24.1 -0.2**
LEGS Legarje 82.78 324 P **P 09 08 23.6 -0.6**
CRES Cresnjev 82.81 324 P **P 09 08 24.9 +0.5**
GMK Mull of Kintyr 82.81 340⇑*e*P **P 09 08 23.2 -1.0**
TOD Tromm 82.82 330 *e*P **P 09 08 25.6 +1.3**
TOD Tromm 82.82 330 *e*P **P 09 08 25.5 +1.2**
KBA Koelnbreinsper 82.84 326⇑*i*P **P 09 08 23.9 -0.6**
comp=Z,2µm,2.1s,mb6.8
KBA P pP 09 08 27.1 -0.1
FUR Furstenfeldbru 82.92 328 *e*P **P 09 08 24.4 -0.5**
FUR pmax pmax
comp=Z,734nm,1.1s,mb6.6
FUR Furstenfeldbru 82.92 328 *e*P **P 09 08 24.4 -0.5**
comp=Z,734nm,1.1s,mb6.6
PVY Plav 82.92 319⇓*i*P **P 09 08 24.3 -0.7**
SWS Schriesheim 82.95 330⇓*e*P **P 09 08 26.2 +1.2**
SWS Schriesheim 82.95 330 P **P 09 08 26.3 +1.3**
GAL1 Galloway 83.00 340⇑*e*P **P 09 08 24.2 -1.0**
HGN Heimansgroeve 83.00 332⇓*e*P **P 09 08 26.2 +0.9**
comp=Z,103nm,1.0s,mb5.8
HGN *e*x x 09 08 28.8
HGN *e*x x 09 10 47.5
HGN *e*P 09 15 36.9
comp=Z,5.5nm,0.6s
HGN *i*x x 09 15 40.7
comp=Z,141nm,1.4s
HGN *i*S S 09 18 44.9 +1.6
HGN *e*P 09 24 20.7
comp=Z,27nm,1.2s
HGN *e*x x 09 24 26.5
comp=Z,8.9nm,0.7s
HGN Heimansgroeve 83.00 332 P **P 09 08 27.4 +2.1**
UPM Unac-Piva 83.03 320⇓*i*P **P 09 08 24.9 -0.7**
HDH Heidenheim 83.04 328⇓*e*P **P 09 08 26.4 +0.9**
HDH Heidenheim 83.04 328 P **P 09 08 27.1 +1.6**
LJU Ljubljana 83.08 325 *e*P **P 09 08 25.1 -0.7**
LJU *e*PcP PcP 09 08 30.0 -0.9
LJU *e*PP PP 09 11 39.1 +0.3
LJU *e*S S 09 18 42.3 -1.9
LJU *e*SS SS 09 24 10.3 -1.1
ABH Alteburg 83.09 331 *e*P **P 09 08 27.0 +1.2**
ABH Alteburg 83.09 331 *e*P **P 09 08 26.4 +0.6**
BDAS Al Bad' 83.12 300 P **P 09 08 26.1 -0.2**
BDAS P 09 15 39.0
VISS Visnje 83.12 324 *e*P **P 09 08 24.7 -1.3**
VISS *e*S S 09 18 44.6 0.0
VISS *e* 09 19 40.7
VISS *e*SS SS 09 24 05.7 -6.2
VISS *e*SSS SSS 09 27 53.5 +16
BOJS Bojanci 83.15 324 *e*P **P 09 08 25.3 -0.8**
BOJS *i*PcP PcP 09 08 30.8 -0.4
BOJS *e*PP PP 09 11 38.9 -0.4
BOJS *e* 09 12 49.9
BOJS *e* 09 15 15.8
BOJS *e*S S 09 18 44.0 -0.8
ISCO Idaho Springs 83.16 44 P **P 09 08 27.3 +1.0**
ISCO pmax pmax
comp=Z,650nm,1.4s,mb6.5
ISCO Idaho Springs 83.16 44 *e*P **P 09 08 27.2 +0.9**
comp=Z,648nm,1.5s,mb6.4
ISCO LR LR
comp=Z,15µm,21.0s,MS6.3
AOS Alonnisos 83.18 315 *e*P **P 09 08 26.0 -0.4**
GCL Cushendall 83.19 341⇑*e*P **P 09 08 25.2 -1.0**
TAYS Tayyib Ism 83.20 301 P **P 09 08 27.3 +0.5**
TAYS P 09 15 39.6
NKY Niksic 83.27 320⇓*i*P **P 09 08 25.9 -0.9**
STU Stuttgart 83.31 329 P **P 09 08 26.6 -0.3**
STU pmax pmax
comp=Z,270nm,0.8s,mb6.3
STU Stuttgart 83.31 329 *e*P **P 09 08 26.4 -0.5**
comp=Z,269nm,0.8s,mb6.3
BIA Bitola 83.31 317 *i*P **P 09 08 29.0 +1.9**
LHO Holmfirth 83.32 338⇑*e*P **P 09 08 26.4 -0.4**
LIT Litokhoron 83.32 316 *e*P **P 09 08 25.9 -1.3**
KTD Kalmit 83.33 330 *e*P **P 09 08 27.9 +0.9**
KTD Kalmit 83.33 330 *e*P **P 09 08 27.1 +0.1**
PTCC Patocco-Chiusa 83.35 325 *e*P **P 09 08 26.2 -0.9**
CEY Cerknica 83.36 324 P **P 09 08 27.7 +0.5**
FWVZ Far West T-bar 83.36 152 P **P 09 08 29.7 +2.3**
VOY Vojsko 83.38 325 *e*P **P 09 08 24.9 -2.4**
ROBS Robic 83.40 325 *e*P **P 09 08 26.4 -2.0**
TTG Podgorica 83.41 320⇓*i*P **P 09 08 26.5 -1.0**
KSY Syston 83.42 337 *e*P **P 09 08 26.7 -0.6**
WATA Walderalm 83.43 327⇑*i*P **P 09 08 27.3 -0.2**
comp=Z,823nm,1.9s,mb6.4
RUP Ruppelstein 83.43 331⇓*e*P **P 09 08 28.8 +1.3**
RUP Ruppelstein 83.43 331 *e*P **P 09 08 28.5 +1.0**
BRY Bratogost 83.44 320⇓*i*P **P 09 08 26.5 -1.2**
XOR Xorichti 83.44 315 *e*P **P 09 08 27.5 -0.2**
FNA Florina 83.45 317 *e*P **P 09 08 26.8 -1.0**
WTTA Wattenberg 83.45 327⇑*i*P **P 09 08 29.7 +2.0**
comp=Z,3µm,2.9s,mb6.8
NEO Neokhori 83.46 315 *e*P **P 09 08 34.0 +6.1**
FVI Forni Avoltri 83.46 326 *e*P **P 09 08 27.5 -0.2**
KBI1 Birley Grange 83.47 337 *e*P **P 09 08 26.5 -1.1**
GMNA Gemona 83.50 325 *e*P **P 09 08 28.1 +0.2**
BUCH Bad Urach 83.50 329⇓*e*P **P 09 08 29.2 +1.4**
BUCH Bad Urach 83.50 329 P **P 09 08 27.7 -0.1**
OHR Ohrid 83.53 318⇑*i*P **P 09 08 27.5 -0.7**
UMJS Umm Lajj 83.55 297 P **P 09 08 28.7 +0.1**
UMJS P 09 15 41.9
LBG Lerchenberg 83.56 329⇓*e*P **P 09 08 29.6 +1.5**
LBG Lerchenberg 83.56 329 P **P 09 08 27.9 -0.2**
KZN Kozani 83.57 317 *e*P **P 09 08 29.8 +1.4**
WIM Isle of Man 83.62 339⇑*e*P **P 09 08 28.7 +0.4**
WIM AMb AMb 09 08 36.8
comp=Z,878nm,1.9s,mb6.6
MOTA Moosalm 83.62 327⇑*i*P **P 09 08 29.3 +0.8**
comp=Z,320nm,1.5s,mb6.2
APE Apeiranthos 83.66 312 *e*P **P 09 08 27.0 -1.9**
APE Apeiranthos 83.66 312⇑*i*P **P 09 08 29.9 +1.0**
SQTA Sankt Quirin 83.67 327⇑*i*P **P 09 08 28.8 +0.1**
comp=Z,653nm,2.0s,mb6.4
BUM Brajici-Budva 83.69 320⇓*i*P **P 09 08 28.6 -0.3**
TRI Trieste 83.69 325 *e*P **P 09 08 29.2 +0.4**
KARP Karpathos 83.70 310 *e*P **P 09 08 30.0 +0.8**
LANF Langenberg 83.71 330 *e*P **P 09 08 29.7 +0.8**
QSH Qafa e Shtames 83.72 319 *i*p **P 09 08 30.0 +0.9**
ULC Ulcinj 83.75 319⇓*i*P **P 09 08 28.8 -0.5**
KWE Weaver Farm 83.77 337 *e*P **P 09 08 28.2 -0.9**
HCY Herceg Novi 83.79 320⇓*i*P **P 09 08 28.3 -1.1**
UBR Uberruh 83.79 328⇓*e*P **P 09 08 30.6 +1.3**
UBR Uberruh 83.79 328 P **P 09 08 29.2 -0.1**
WLF Walferdange 83.81 331 P **P 09 08 31.1 +1.7**
WLF pmax pmax
comp=Z,1µm,1.7s,mb6.8
WLF Walferdange 83.81 331 *e*P **P 09 08 31.1 +1.7**
comp=Z,1µm,1.8s,mb6.7
TIR Tirane 83.86 318 *e*p **P 09 08 30.6 +0.8**
STON Ston 83.89 321⇑*i*P **P 09 08 27.9 -2.0**
GMM Mts of Mourne 83.89 340⇑*e*P **P 09 08 29.2 -0.4**
GUT Gutenstein 83.90 329⇓*e*P **P 09 08 31.0 +1.1**
GUT Gutenstein 83.90 329 P **P 09 08 31.4 +1.6**
GIVF Givet 83.95 332 *e*P **P 09 08 28.9 -1.2**
comp=Z,742nm,1.4s,mb6.3
MPAR Parnis Oros 83.96 314 *e*P **P 09 08 31.0 +0.6**
SPAK Spaichingen 84.01 329⇓*e*P **P 09 08 31.6 +1.2**
SPAK Spaichingen 84.01 329 *e*P **P 09 08 31.3 +0.9**
BFO Black Forest 84.02 329 *e*P **P 09 08 29.5 -0.9**
comp=Z,513nm,1.1s,mb6.6
NVLJ Novalja 84.03 323⇑*i*P **P 09 08 29.4 -1.2**
EYMN Ely 84.03 31 *e*P **P 09 08 29.6 -0.9**
comp=Z,687nm,1.0s,mb6.7
EYMN LR LR
comp=Z,19µm,19.0s,MS6.5
STR Strasbourg 84.04 330 *e*P **P 09 08 32.5 +1.9**
ATH Athens Observa 84.10 314 *e*P **P 09 08 30.0 -1.1**
AGG Agios Georgios 84.16 315 *e*P **P 09 08 30.4 -1.0**
SANT Santorini 84.17 312 *e*P **P 09 08 31.6 +0.1**
comp=Z,780nm,1.5s,mb6.6
THR1 Thera Island 84.17 312 *e*P **P 09 08 30.3 -1.2**
WME Myndd Eilian 84.17 339 *e*P **P 09 08 31.7 +0.6**
WME AMb AMb 09 08 39.6
comp=Z,772nm,1.9s,mb6.5
WPM1 Penmaenmawr 84.18 339 *e*P **P 09 08 30.9 -0.2**
WPM1 AMb AMb 09 08 39.8
comp=Z,738nm,1.7s,mb6.5
DAVA Damuels 84.19 328⇑*i*P **P 09 08 30.9 -0.5**
comp=Z,1µm,1.7s,mb6.8
THR6 Thira Island, 84.22 312 *e*P **P 09 08 30.3 -1.4**
BAIF Baives 84.22 333 *e*P **P 09 08 30.1 -1.3**
comp=Z,129nm,0.9s,mb5.7
MEV Metsovon 84.23 317 *e*P **P 09 08 31.2 -0.5**
SISB Singen-Sch Ber 84.26 329 P **P 09 08 33.7 +2.0**
NSAL Nisos Salamina 84.29 314 *e*P **P 09 08 31.0 -1.1**
WLF1 Llynfaes 84.29 339 *e*P **P 09 08 32.0 +0.3**
WLF1 AMb AMb 09 08 40.3
comp=Z,860nm,2.0s,mb6.5
NNZ Nelson 84.32 154 P **P 09 08 34.0 +1.9**
WLS Welschbruch 84.34 330 *e*P **P 09 08 33.0 +0.9**
YLL Llanberis 84.36 339 *e*P **P 09 08 32.5 +0.4**
YLL AMb AMb 09 08 39.9
comp=Z,721nm,1.6s,mb6.6
NAIG Nisos Aigina 84.37 314 *e*P **P 09 08 32.0 -0.5**
CDF Champ du Feu 84.38 330 *e*P **P 09 08 31.2 -1.0**
comp=Z,2µm,1.4s,mb6.7
YRC Rhoscolyn 84.38 339 *e*P **P 09 08 31.6 -0.5**
CTI Castel Tesino 84.38 326 *e*P **P 09 08 32.5 +0.1**
SLE Schleitheim 84.40 329⇑P **P 09 08 32.0 -0.4**
DMUB Kingscourt 84.45 340 *e*P **P 09 08 32.8 +0.3**
LIBD Limburg 84.45 330⇓*e*P **P 09 08 34.1 +1.5**
LIBD Limburg 84.45 330 *e*P **P 09 08 33.2 +0.6**
LBOS 84.48 283⇑*e*P **P 09 08 33.1 -0.4**
KIZ Kirchzarten 84.48 329⇓*e*P **P 09 08 33.7 +0.9**
KIZ Kirchzarten 84.48 329 P **P 09 08 31.9 -0.9**
WILA Wila 84.50 328⇓P **P 09 08 33.8 +0.9**
FELD Feldberg 84.51 329⇓*e*P **P 09 08 33.9 +1.0**
HLM1 Long Mynd 84.52 338⇑*e*P **P 09 08 33.3 +0.5**
HLM1 AMb AMb 09 08 41.6
comp=Z,766nm,2.0s,mb6.5
EVR Evrytania 84.52 316 *e*P **P 09 08 34.0 +0.8**
JAN Janina 84.53 317 *e*P **P 09 08 33.0 -0.2**
YRE Yr Eifl 84.57 339⇑*e*P **P 09 08 33.5 +0.4**
YRE AMb AMb 09 08 41.9
comp=Z,1µm,1.8s,mb6.7
ECH Echery 84.58 330 *e*P **P 09 08 34.1 +0.8**
BRMO Bormio 84.61 327 *e*P **P 09 08 35.0 +1.5**
SDCO Great Sand Dun 84.64 46 *e*P **P 09 08 34.1 +0.3**
comp=Z,269nm,1.1s,mb6.3
SDCO LR LR
comp=Z,17µm,20.0s,MS6.4
THZ Tophouse 84.64 155 P **P 09 08 35.4 +1.6**
ZUR Zurich 84.67 329⇓P **P 09 08 34.8 +1.0**
SSP1 Stoney Pound 84.68 338⇑*e*P **P 09 08 33.3 -0.4**
DHBB Dhamar BB 84.74 284⇓*e*P **P 09 08 35.9 +1.1**
SULZ Sulz-Cheisache 84.74 329⇑P **P 09 08 33.2 -0.9**
NPS Neapolis 84.83 311 *e*P **P 09 08 34.0 -0.8**
HAE Alders End 84.83 337⇑*e*P **P 09 08 33.7 -0.7**
HAE AMb AMb 09 08 43.0
comp=Z,978nm,1.8s,mb6.6
MOF Molkenrain 84.88 330 *e*P **P 09 08 34.1 -0.7**
DLF Lyons Farm 84.89 340 *e*P **P 09 08 34.7 0.0**
DSB Dublin 84.89 340 *e*P **P 09 08 35.7 +1.0**
comp=Z,617nm,1.8s,mb6.4
IGT Igoumenitsa 84.90 317 *e*P **P 09 08 33.2 -1.9**
LLS Linth-Limmern 84.91 328⇓P **P 09 08 34.5 -0.4**
MUO Muotathal 84.97 328⇑P **P 09 08 35.4 +0.2**
VDL Val di Lei 85.00 328⇑P **P 09 08 35.0 -0.4**
MCH1 Michaelchurch 85.01 337⇑*e*P **P 09 08 35.1 -0.2**
MCH1 *e*P 09 08 35.3
MCH1 Michaelchurch 85.01 337 P **P 09 08 35.3 0.0**
HTR Trewern Hill 85.02 338 *e*P **P 09 08 35.1 -0.2**
HINF Hinteralfeld 85.02 330 *e*P **P 09 08 34.0 -1.5**
comp=Z,211nm,0.9s,mb6.0
THEF They Montfort 85.04 330 *e*P **P 09 08 36.5 +1.0**
BBS Basel-Blauen 85.04 329⇓*e*P **P 09 08 36.7 +1.1**
BBS Basel-Blauen 85.04 329 *e*P **P 09 08 36.0 +0.4**
DCN Croghan 85.05 340 *e*P **P 09 08 35.7 +0.2**
KEK Kerkira 85.06 317 *e*P **P 09 08 37.5 +1.6**
HAU Haudompre 85.07 330⇑*i*P **P 09 08 34.1 -1.6**
comp=Z,227nm,0.7s,mb6.1
HAU *e*R
comp=Z,57µm,21.8s
TUC Tucson 85.12 53 P **P 09 08 36.4 0.0**
TUC Tucson 85.12 53 P **P 09 08 36.0 -0.3**
TUC pmax pmax
comp=Z,110nm,1.0s,mb5.9
TUC Tucson 85.12 53 *e*P **P 09 08 35.8 -0.5**
comp=Z,111nm,0.9s,mb6.0
TUC LR LR
comp=Z,8µm,19.0s,MS6.1
MEZF Maizieres J'vi 85.18 331⇑*i*P **P 09 08 35.3 -0.9**
comp=Z,524nm,1.0s,mb6.3
IDI Anoyia 85.24 311 P **P 09 08 35.0 -1.9**
comp=Z,288nm,0.8s,mb6.4,baz=23,slow=6.6,SNR=56
IDI Anoyia 85.24 311 P **P 09 08 35.0 -1.9**
IDI P pP 09 08 39.1 -0.5
FOZ Fox Glacier 85.25 158 P **P 09 08 35.9 -0.8**
HGH Gray Hill 85.26 337⇑*e*P **P 09 08 35.5 -1.1**
HGH AMb AMb 09 08 44.8
comp=Z,480nm,0.9s,mb6.6
LKD Levkas 85.31 316 *e*P **P 09 08 35.8 -1.4**
LOMF Lomont 85.41 330 *e*P **P 09 08 38.1 +0.7**
VLI Veliai 85.41 313 *e*P **P 09 08 32.0 -5.7**
PESA Pesaro 85.45 324 P **P 09 08 38.4 +0.7**
LCI Lecce 85.51 319 *e*P **P 09 08 39.7 +1.6**
VAM Vamos 85.57 312 *e*P **P 09 08 38.0 -0.6**
HSA Swansea 85.58 338 *e*P **P 09 08 37.7 -0.4**
BRT Bari-Castellan 85.59 320 P **P 09 08 39.5 +1.0**
HPE Pembroke 85.59 338 *e*P **P 09 08 38.8 +0.6**
FGMS Monte Sant'Ang 85.62 321 *e*P **P 09 08 39.2 +0.6**
SCHQ Schefferville 85.63 15 P **P 09 08 37.8 -0.5**
comp=Z,176nm,0.8s,mb6.3,baz=347,slow=5.2,SNR=104
SCHQ LR LR 09 51 08.9
comp=Z,17µm,18.1s,MS6.5,baz=343,slow=39
RSM Repubblica di 85.64 324 *e*P **P 09 08 39.0 +0.4**
KYTH Kithira 85.66 313 *e*P **P 09 08 38.0 -0.9**
ITM Ithomi 85.67 314 *e*P **P 09 08 38.0 -1.0**
FSSB Fossombrone 85.67 324 *e*P **P 09 08 38.6 -0.3**
CING Cingoli 85.72 324 *e*P **P 09 08 41.9 +2.9**
VLS Valsamata 85.72 316 *e*P **P 09 08 39.0 -0.2**
ARV Arcevia 85.74 324 *e*P **P 09 08 38.8 -0.4**
VAI Varese 85.78 328 *e*P **P 09 08 38.1 -1.2**
RGNG Rignano Grg 85.83 321 *e*P **P 09 08 40.4 +0.7**
LKBD Leukerbad 85.85 328⇑P **P 09 08 39.7 0.0**
LKBD ⇓P 09 08 40.1
SFI Santa Sofia 85.94 325 *e*P **P 09 08 40.8 +0.6**
LAZ Ladron 85.97 49 *e*P **P 09 08 41.5 +1.0**
MMK Mattmark 85.98 328⇓P **P 09 08 41.0 +0.7**
LTRZ Laterza 85.99 320 *e*P **P 09 08 41.7 +1.2**
ZCCA Zocca 86.00 325 *e*P **P 09 08 42.0 +1.5**
ANMO Albuquerque 86.00 48 P **P 09 08 41.2 +0.5**
ANMO pmax pmax
comp=Z,320nm,1.4s
ANMO Albuquerque 86.00 48 *e*P **P 09 08 41.0 +0.3**
comp=Z,315nm,1.4s,mb6.3
ANMO LR LR
comp=Z,7µm,19.0s,MS6.0
PGD Poggio Sodo 86.02 325 *e*P **P 09 08 41.0 +0.4**
GVD Gavdhos 86.03 311 *e*P **P 09 08 40.4 -0.4**
comp=Z,435nm,0.9s,mb6.7
VMG Vicchio 86.04 325 *e*P **P 09 08 41.5 +0.9**
MCGN Macugnaga 86.04 328 *e*P **P 09 08 40.4 -0.3**
SEI Scarperia 86.05 325 *e*P **P 09 08 41.7 +0.9**
HEX Exmoor 86.07 337 *e*P **P 09 08 40.2 -0.4**
FNVD Fontana Vidola 86.07 325 *e*P **P 09 08 43.2 +2.4**
CRE Caprese Michel 86.11 324 *e*P **P 09 08 41.0 0.0**
NRCA Norcia 86.17 323 *e*P **P 09 08 41.0 -0.3**
GSCL Gusciola 86.17 326 *e*P **P 09 08 42.1 +0.8**
CIGN Sant'Elia a Pi 86.18 321 P **P 09 08 42.5 +1.1**
DIX Grande Dixence 86.19 328⇓P **P 09 08 42.1 +0.8**
ERBM Eremo 86.20 326 *e*P **P 09 08 42.4 +0.9**
PMOR Pomariorio Ree 86.23 112 *e*P **P 09 08 44.1 +1.9**
comp=Z,370nm,1.5s,mb6.4
LENM Lemitar 86.23 49 *e*P **P 09 08 41.3 -0.6**
FG5 Orsara di Pugl 86.28 321 *e*P **P 09 08 43.3 +1.4**
GRAM 86.30 326 P **P 09 08 42.7 +0.8**
CABF La Chapelle 86.31 329 *e*P **P 09 08 40.7 -1.2**
comp=Z,147nm,0.9s,mb5.9
ORX Oropa 86.31 328 P **P 09 08 41.9 -0.1**
ORO Oropa 86.31 328 *e*P **P 09 08 42.3 +0.4**
VALM 86.33 326 P **P 09 08 43.2 +1.1**
HTL Hartland 86.34 338 *e*P **P 09 08 41.1 -0.8**
HTL Hartland 86.34 338 P **P 09 08 44.0 +2.0**
LPM Los Pinos Moun 86.34 49 *e*P **P 09 08 32.7 +0.1**
BOB Bobbio (Coli) 86.36 326 *e*P **P 09 08 41.6 -0.6**
SARO Sassorosso 86.39 326 P **P 09 08 42.5 +0.1**
AQU L'Aquila 86.39 323 P **P 09 08 42.9 +0.5**
AQU pmax pmax
comp=Z,660nm,1.3s,mb6.7
AQU L'Aquila 86.39 323 *e*P **P 09 08 43.8 +1.3**
BDI Bagni Di Lucca 86.39 325 *e*P **P 09 08 42.5 +0.1**
INTR Introdacqua 86.41 322 *e*P **P 09 08 43.8 +1.3**
VLC Villacollenand 86.41 326 *e*P **P 09 08 44.7 +2.2**
comp=Z,586nm,1.8s,mb6.5
EMV Vieux Emosson 86.41 329⇑P **P 09 08 42.6 +0.1**
CII Carovilli 86.43 322 *e*P **P 09 08 44.0 +1.4**
BNM Barren Site 86.45 49 *e*P **P 09 08 43.3 +0.4**
BACM 86.46 326 P **P 09 08 42.6 -0.1**
CODM 86.47 326 P **P 09 08 43.1 +0.3**
TRAV 86.50 328 P **P 09 08 42.5 -0.3**
CPI2 Carpinone 86.53 322 *e*P **P 09 08 43.6 +0.5**
VINC Vinca 86.53 326 P **P 09 08 43.0 -0.1**
CSNT Castellina Chi 86.53 325 *e*P **P 09 08 42.6 -0.5**
MRB1 Monte Rocchett 86.54 321 *e*P **P 09 08 43.1 -0.1**
MAIM 86.56 325 P **P 09 08 42.9 -0.3**
MRLC Muro Lucano 86.56 320 *e*P **P 09 08 43.4 +0.1**
VAH Vaihoa 86.58 112 *e*P **P 09 08 43.8 -0.1**
comp=Z,201nm,1.4s,mb6.2
ORI Oriolo Calabro 86.58 319 *e*P **P 09 08 45.0 +1.6**
PTQR Pietraquaria 86.65 323 *e*P **P 09 08 44.4 +0.7**
LOR Lormes 86.65 331⇑*i*P **P 09 08 42.1 -1.5**
comp=Z,1µm,1.4s,mb6.6
LOR *e*R
comp=Z,63µm,20.8s
PPT Papeete 86.65 115 *e*P **P 09 08 46.4 +2.1**
comp=Z,175nm,1.6s,mb6.0
PPT Papeete 86.65 115 *e*SS SS 09 25 00.8 -3.2
PPT *e*R 09 35 06.8
comp=Z,141µm,30.8s,baz=313
VVLD Villa Vallelon 86.65 322 P **P 09 08 44.1 +0.4**
SDI San Donato 86.68 322 *e*P **P 09 08 43.5 -0.4**
PII Pisa 86.69 325 *e*P **P 09 08 43.5 -0.4**
PAE Paea 86.71 115 *e*P **P 09 08 46.5 +2.0**
comp=Z,231nm,1.3s,mb6.3
MNS Montasola 86.72 323 *e*P **P 09 08 43.0 -1.1**
CSSN Cassano Irpino 86.72 321 *e*P **P 09 08 44.4 +0.4**
SLCN Sala Consilina 86.76 320 *e*P **P 09 08 45.6 +1.4**
LSD Ceresole Reale 86.79 328 P **P 09 08 45.5 +1.1**
SGO Sicignano 86.80 320 *e*P **P 09 08 44.6 +0.1**
TIAR Tiarei 86.81 115 *e*P **P 09 08 47.0 +2.0**
comp=Z,277nm,1.1s,mb6.4
GENL Genova Univers 86.85 327 P **P 09 08 44.5 -0.1**
ODZ Otahua Downs 86.88 158 P **P 09 08 44.8 +0.1**
RFI Roccamonfina 86.91 322 *e*P **P 09 08 46.4 +1.5**
LPL La Plagne 86.92 328 *e*P **P 09 08 44.1 -0.9**
comp=Z,305nm,1.1s,mb6.2
PCP Pian Castagno 86.93 327 P **P 09 08 44.3 -0.7**
GRFL Gerfalco 86.93 325 *e*P **P 09 08 44.0 -1.0**
LPG La Plagne 86.93 328 *e*P **P 09 08 43.9 -1.1**
comp=Z,84nm,0.6s,mb5.9
TDS Terranova Siba 86.94 319 *e*P **P 09 08 45.0 -0.2**
SSF Saint Saulge 86.95 331 *e*P **P 09 08 43.6 -1.5**
comp=Z,247nm,0.8s,mb6.2
FLN La Foliniere 86.98 334 *e*P **P 09 08 43.5 -1.6**
comp=Z,306nm,1.0s,mb6.2
FLN *e*R
comp=Z,89µm,20.2s
MGR Morigerati 86.99 320 *e*P **P 09 08 43.4 -2.0**
RSP Reno Superiore 87.00 328 P **P 09 08 45.3 -0.1**
LDF La Druitiere 87.00 334 *e*P **P 09 08 43.5 -1.7**
comp=Z,346nm,0.8s,mb6.3
TVO Taravao 87.03 115 *e*P **P 09 08 48.4 +2.3**
comp=Z,250nm,1.1s,mb6.3
HYF Humbligny 87.11 332 *e*P **P 09 08 45.0 -0.8**
JLP Les Platons 87.11 336⇑*e*P **P 09 08 44.8 -1.0**
JQE Queens East 87.13 335 *e*P **P 09 08 44.6 -1.3**
JRS Jersey 87.15 336⇑*e*P **P 09 08 45.4 -0.6**
JVM Valle D.L. Mar 87.17 336⇑*e*P **P 09 08 45.7 -0.3**
SMF Signal de Mont 87.17 331⇑*i*P **P 09 08 44.6 -1.5**
comp=Z,204nm,0.8s,mb6.1
FENE Fenestrelle 87.18 328 P **P 09 08 46.6 +0.4**
JSA Saint Aubin 87.18 336⇑*e*P **P 09 08 45.7 -0.4**
MA9 Marino 87.20 323 P **P 09 08 47.8 +1.4**
BHB Bricherasio 87.24 328 P **P 09 08 45.5 -1.1**
CRQ2 Rosemanowes 2 87.27 338⇑*e*P **P 09 08 47.2 +0.6**
CCA1 Carnmenellis 87.28 338⇑*e*P **P 09 08 47.2 +0.7**
BNI Bardonecchia 87.32 328 P **P 09 08 44.0 -2.9**
BNI pmax pmax
comp=Z,97nm,1.1s,mb6.0
BNI Bardonecchia 87.32 328 *e*P **P 09 08 47.2 +0.3**
comp=Z,97nm,1.1s,mb6.0
FIN Finale Ligure 87.34 327 *e*P **P 09 08 46.4 -0.6**
RRL Cesana Torines 87.38 328 P **P 09 08 47.5 +0.4**
OG22 Abries 87.39 328 *e*P **P 09 08 47.7 +0.5**
CPZ Penzance 87.41 338⇑*e*P **P 09 08 46.8 -0.4**
ROB Roburent 87.42 327 P **P 09 08 46.9 -0.5**
GRR Gorron 87.43 334 *e*P **P 09 08 46.2 -1.1**
comp=Z,298nm,0.8s,mb6.3
RORO 87.48 327 P **P 09 08 47.0 -0.7**
GRI Girifalco 87.51 319 *e*P **P 09 08 49.7 +1.8**
MBDF Montbardon 87.54 328 *e*P **P 09 08 46.5 -1.5**
comp=Z,98nm,0.8s,mb5.8
VENT Ventotene 87.57 322 P **P 09 08 48.5 +0.3**
PZZ Prazzo 87.58 328 P **P 09 08 47.5 -0.7**
BGF Bois d'Agland 87.63 331 *e*P **P 09 08 47.0 -1.3**
comp=Z,104nm,1.1s,mb5.7
MONE Monesi 87.64 327 P **P 09 08 48.1 -0.4**
ENR Entracque 87.67 327 P **P 09 08 48.0 -0.6**
STV2 Anna di Valdie 87.69 327 P **P 09 08 48.1 -0.6**
STV Sta Anna Valdi 87.69 327 P **P 09 08 47.9 -0.8**
IMI Imperia 87.72 327 *e*P **P 09 08 48.6 -0.2**
ORIF Oris-en-Rattie 87.76 329 *e*P **P 09 08 47.6 -1.4**
comp=Z,319nm,1.3s,mb6.1
ORIF *e*R
comp=Z,36µm,20.8s
SAOF Saorge 87.80 327 *e*P **P 09 08 48.9 -0.3**
NEGI Negi 87.85 327 P **P 09 08 48.9 -0.5**
AUTN L'Aution 87.85 327 *e*P **P 09 08 49.4 0.0**
TOUF Mont Tournerai 87.91 327 *e*P **P 09 08 49.6 -0.1**
RENF Rennes 87.93 335 P **P 09 08 51.7 +2.0**
AGO Saint Agoulin 87.94 331 *e*P **P 09 08 52.0 +2.2**
MEH Mehetia 87.94 114 *e*P **P 09 08 52.6 +2.1**
comp=Z,165nm,1.4s,mb6.1
SBF Sospel 87.95 327 *e*P **P 09 08 47.8 -2.1**
comp=Z,128nm,0.7s,mb6.0
AURF Auriere 87.98 327 *e*P **P 09 08 50.1 0.0**
MVIF Mont Vial 88.05 327 *e*P **P 09 08 50.4 0.0**
REVF Revere 88.08 327 *e*P **P 09 08 50.8 +0.2**
TCF Toulx Ste Croi 88.09 332 *e*P **P 09 08 49.6 -1.0**
SGMF Saint Gilles 88.12 335 *e*P **P 09 08 49.6 -1.0**
comp=Z,308nm,1.0s,mb6.2
COLF Collangettes 88.16 330 *e*P **P 09 08 51.5 +0.6**
CEL Celeste 88.20 319 P **P 09 08 53.0 +1.7**
PYM Petit Puy Mans 88.23 331 *e*P **P 09 08 52.8 +1.6**
SOI Samo 88.26 318 *e*P **P 09 08 50.7 -0.9**
CALF Calern 88.26 327 P **P 09 08 53.1 +1.7**
OCF Saint Nazaire 88.28 329 *e*P **P 09 08 52.3 +0.8**
OG26 St.-Nazaire-De 88.28 329 *e*P **P 09 08 52.3 +0.8**
ROSF Rostrenen 88.28 336 *e*P **P 09 08 50.5 -0.9**
comp=Z,291nm,0.8s,mb6.2
SCLL Scilla 88.30 319 *e*P **P 09 08 51.3 -0.4**
PGF Pioggiola 88.30 325 *e*P **P 09 08 49.7 -2.0**
comp=Z,162nm,0.9s,mb6.0
VIVF Saint-Julien-l 88.31 329 *e*P **P 09 08 50.0 -1.6**
comp=Z,135nm,0.9s,mb5.9
VERF Verneugheol 88.44 331 *e*P **P 09 08 53.2 +1.0**
KSU1 Kansas State U 88.48 40 *e*P **P 09 08 52.0 -0.6**
STOF St-Etienne Org 88.50 328 *e*P **P 09 08 53.0 +0.5**
MTTG Motta San Giov 88.50 319 *e*P **P 09 08 53.4 +0.7**
FRF La Foret Royal 88.53 327 *e*P **P 09 08 50.7 -2.0**
comp=Z,78nm,0.8s,mb5.8
JFWS Jewell Farm 88.56 34 P **P 09 08 52.5 -0.4**
JFWS pmax pmax
comp=Z,330nm,0.9s,mb6.7
JFWS Jewell Farm 88.56 34 *e*P **P 09 08 52.0 -0.8**
comp=Z,326nm,0.9s,mb6.7
JFWS LR LR
comp=Z,20µm,19.0s,MS6.5
LBL Lubilhac 88.57 330 *e*P **P 09 08 55.1 +2.2**
QUIF Quistinic 88.61 335 *e*P **P 09 08 51.9 -1.1**
comp=Z,123nm,1.0s,mb5.9
SMRF Simiane la Rot 88.66 328 *e*P **P 09 08 51.9 -1.4**
VILF Villemus 88.70 328 *e*P **P 09 08 54.9 +1.4**
MFF Saint Martin d 88.70 333 *e*P **P 09 08 52.4 -1.1**

comp=Z,836nm,1.4s,mb6.6
FRNF Fournols 88.71 331 *e*P **P 09 08 54.8 +1.3**
TAVF Tavernes 88.74 328 *e*P **P 09 08 54.4 +0.7**
LMR La Mourre 88.78 327 *e*P **P 09 08 52.1 -1.8**
comp=Z,693nm,1.6s,mb6.4
AMTX Amarillo 88.84 46 *e*P **P 09 08 54.4 0.0**
comp=Z,254nm,0.9s,mb6.5
LCHF La Chataignera 88.86 333 *e*P **P 09 08 53.7 -0.5**
CPRX Cap Rock 88.88 48 *e*P **P 09 08 54.0 -0.7**
PUYF Puyloubier 88.96 328 *e*P **P 09 08 55.6 +0.8**
PRAF Pradon 88.97 328 *e*P **P 09 08 55.8 +1.0**
TREF Trevaresse 89.02 328 *e*P **P 09 08 56.0 +0.9**
MNO Monte Soro 89.08 319 P **P 09 08 56.7 +1.2**
BERF Bertagne 89.14 328 *e*P **P 09 08 56.8 +1.1**
GDL2 Guadalupe Moun 89.17 49 *e*P **P 09 08 55.8 -0.3**
RJF Les Rejaudoux 89.18 331 *e*P **P 09 08 54.9 -0.9**
RJF *e*R
comp=Z,46µm,18.5s
GELF Grande-Etoile 89.20 328 *e*P **P 09 08 57.0 +1.1**
USI Ustica 89.27 320 *e*P **P 09 08 56.8 +0.5**
LASF Ste Croix 89.28 329 *e*P **P 09 08 55.2 -1.1**
comp=Z,1µm,1.9s,mb6.5
CAF Calviac 89.29 331 *e*P **P 09 08 55.5 -0.8**
comp=Z,102nm,0.9s,mb5.9
AGST Augusta-Monte 89.30 318 *e*P **P 09 08 57.1 +0.6**
CSLB Castelbuono 89.40 319 P **P 09 08 58.3 +1.3**
CLNB Carlsbad 89.42 49 *e*P **P 09 08 56.9 -0.3**
VAE Valguarnera 89.56 319 P **P 09 09 01.6 +3.8**
comp=Z,15nm,0.6s,mb5.5,baz=48,slow=10,SNR=5.2
VAE LR LR 09 52 40.0
comp=Z,35µm,19.8s,MS6.8,baz=47,slow=38
MEU Monte Lauro 89.58 318 *e*P **P 09 08 59.5 +1.7**
DGI Dorgali Grotta 89.78 324 P **P 09 08 59.2 +0.5**
LFF La Frestale 89.79 332 *e*P **P 09 08 57.7 -0.9**
comp=Z,168nm,0.8s,mb6.1
LVI Isola Levanzo 90.25 321 *e*P **P 09 09 01.8 +0.8**
TBI Tubuai 90.49 119 *e*P **P 09 09 04.4 +2.0**
comp=Z,264nm,1.4s,mb6.4
TBI *e*SS SS 09 25 57.1 -2.5
TBI *e*R 09 36 23.1
comp=Z,74µm,33.0s,baz=316
VSL Villasalto 90.53 323 *e*P **P 09 09 01.2 -1.0**
comp=Z,98nm,1.1s,mb6.0
MTLF Montolieu 90.56 330 *e*P **P 09 09 01.3 -0.9**
comp=Z,347nm,1.3s,mb6.2
WMOK Wichita Mounta 90.58 44 P **P 09 09 02.4 -0.2**
WMOK pmax pmax
comp=Z,400nm,1.5s,mb6.5
WMOK Wichita Mounta 90.58 44 *e*P **P 09 09 02.2 -0.4**
comp=Z,398nm,1.5s,mb6.5
WMOK LR LR
comp=Z,14µm,20.0s,MS6.4
WDD Wield Dalam 90.72 318 P **P 09 09 04.8 +1.6**
LRDF Laroque-de-Fa 90.76 329 *e*P **P 09 09 03.5 +0.3**
EJON La Jonquera 91.03 329 P **P 09 09 05.3 +0.8**
comp=Z,378nm,1.5s,mb6.5
FILF Fillols 91.07 329 *e*P **P 09 09 03.2 -1.4**
CARF Carcanieres 91.12 330 *e*P **P 09 09 03.7 -1.2**
MLS Moulis 91.32 330 *e*P **P 09 09 06.9 +1.1**
SADO Sadowa 91.41 26 LR LR 09 58 36.1
comp=Z,14µm,18.2s,MS6.4,baz=253,slow=41
VALF Valcebollere 91.42 329 *e*P **P 09 09 06.5 +0.3**
SALF Salau 91.45 330 *e*P **P 09 09 07.0 +0.6**
MELF Melles 91.53 331 *e*P **P 09 09 08.2 +1.5**
EPF Esparros 91.56 331 *e*P **P 09 09 05.5 -1.3**
comp=Z,252nm,1.5s,mb6.0
LTX Lajitas 91.61 51 P **P 09 09 07.4 0.0**
LTX pmax pmax
comp=Z,240nm,1.3s,mb6.4
LTX Lajitas 91.61 51 *e*P **P 09 09 07.1 -0.3**
comp=Z,238nm,1.4s,mb6.3
LTX LR LR
comp=Z,12µm,19.0s,MS6.3
TXAR Lajitas Array 91.61 51 P **P 09 09 07.3 -0.1**
comp=Z,64nm,0.8s,mb6.0,baz=294,slow=3.1,SNR=196
TXAR PP PP 09 12 43.8 -4.5
comp=Z,17nm,1.1s,baz=304,slow=4.5,SNR=4.0
TXAR PKKPbc 09 26 28.8
comp=Z,1.1nm,0.6s,baz=151,slow=5.4,SNR=5.2
TXAR LR LR 09 50 21.9
comp=Z,8µm,19.5s,MS6.2,baz=10.0,slow=36
LABF Labassere 91.64 331 *e*P **P 09 09 08.6 +1.3**
RESF Ens 91.75 331 *e*P **P 09 09 09.5 +1.8**
VIEF Viey 91.80 331 *e*P **P 09 09 09.1 +1.1**
AAM Ann Arbor 91.83 30 P **P 09 09 09.3 +1.2**
AAM pmax pmax
comp=Z,630nm,1.6s,mb6.7
AAM Ann Arbor 91.83 30 *e*P **P 09 09 08.9 +0.8**
comp=Z,627nm,1.6s,mb6.7
AAM LR LR
comp=Z,18µm,20.0s,MS6.5
ORDF Ordiarp 91.89 332 *e*P **P 09 09 08.8 +0.4**
EBIE Bielsa 91.92 331 P **P 09 09 09.5 +0.9**
comp=Z,649nm,2.2s,mb6.6
CCM Cathedral Cave 91.95 37 P **P 09 09 08.3 -0.5**
CCM pmax pmax
comp=Z,310nm,1.0s,mb6.6
CCM Cathedral Cave 91.95 37 *e*P **P 09 09 08.2 -0.6**
comp=Z,306nm,1.0s,mb6.6
CCM LR LR
comp=Z,3µm,20.0s,MS5.7
SLM Saint Louis 91.97 36 P **P 09 09 08.7 -0.2**
SLM pmax pmax
comp=Z,420nm,1.0s,mb6.7
SLM Saint Louis 91.97 36 *e*P **P 09 09 09.1 +0.2**
comp=Z,424nm,1.0s,mb6.7
LPD Lampedusa 92.01 319 P **P 09 09 10.8 +1.7**
ETSF Etsaut 92.02 331 *e*P **P 09 09 08.3 -0.7**
comp=Z,82nm,0.8s,mb5.8
EMIR Miracle 92.03 330 P **P 09 09 09.1 0.0**
comp=Z,369nm,1.6s,mb6.5
LARF Larrau 92.06 332 *e*P **P 09 09 10.4 +1.2**
SJPF Ste Jean 92.08 332 *e*P **P 09 09 08.5 -0.8**
comp=Z,75nm,1.0s,mb5.7
FDAF Les Forges d'A 92.09 331 *e*P **P 09 09 09.9 +0.6**
EALK Alkurruntz 92.10 332 P **P 09 09 08.4 -0.9**
comp=Z,268nm,2.0s,mb6.2
EGRA Graus 92.27 330 P **P 09 09 10.2 0.0**
comp=Z,160nm,1.1s,mb6.3
FVM French Village 92.40 37 P **P 09 09 10.8 -0.1**
FVM pmax pmax
comp=Z,180nm,1.0s,mb6.4
FVM French Village 92.40 37 *e*P **P 09 09 10.6 -0.3**
comp=Z,180nm,0.9s,mb6.4
MSNY Massena 92.63 23 *e*P **P 09 09 12.6 +0.8**
EPOB Poblet 92.68 330 P **P 09 09 12.9 +0.8**
comp=Z,523nm,1.8s,mb6.7
ELAN Lanestosa 92.79 333 P **P 09 09 13.7 +1.2**
comp=Z,736nm,2.1s,mb6.7
PTN Potsdam (NY) 92.97 23 P **P 09 09 15.9 +2.6**
PTN Potsdam (NY) 92.97 23 *e*P **P 09 09 15.1 +1.8**
ESAC San Caprasio 92.98 331 P **P 09 09 14.4 +0.9**
comp=Z,1µm,1.9s,mb7.0
LOZ Lake Ozonia 93.05 23 *e*P **P 09 09 15.3 +1.6**
JCT Junction City 93.12 48 P **P 09 09 13.8 -0.5**
JCT pmax pmax
comp=Z,230nm,1.0s,mb6.6
JCT Junction City 93.12 48 *e*P **P 09 09 13.7 -0.6**
comp=Z,235nm,1.0s,mb6.6
JCT LR LR
comp=Z,9µm,20.0s,MS6.2
BLO Bloomington 93.23 34 P **P 09 09 15.2 +0.5**
BLO pmax pmax
comp=Z,200nm,1.1s,mb6.5
BLO Bloomington 93.23 34 *e*P **P 09 09 14.9 +0.3**
comp=Z,205nm,1.1s,mb6.5
EARI Arriondas 93.35 335 P **P 09 09 15.9 +0.8**
comp=Z,538nm,2.0s,mb6.6
EBR Ebro Roquetas 93.37 330 *e*P **P 09 09 14.5 -0.7**
EBR *e*PCP PcP 09 09 16.3 +0.2
EBR Ebro Roquetas 93.37 330 P **P 09 09 16.7 +1.5**
MIAR Mount Ida 93.53 41 *e*P **P 09 09 16.0 -0.1**
comp=Z,250nm,1.0s,mb6.6
MIAR LR LR
comp=Z,15µm,19.0s,MS6.5
GENY Geneseo 93.63 26 *e*P **P 09 09 17.1 +0.7**
USIN University of 93.71 35 *e*P **P 09 09 18.6 +1.8**
comp=Z,298nm,1.3s,mb6.6
NCB Newcomb 93.75 23 *e*P **P 09 09 16.5 -0.4**
comp=Z,618nm,1.8s,mb6.7
NCB LR LR
comp=Z,14µm,20.0s,MS6.4
ALLY Alegheny Colle 93.75 28 *e*P **P 09 09 18.4 +1.4**
ACSO Alum Creek Sta 93.85 31 *e*P **P 09 09 17.6 +0.1**
comp=Z,168nm,0.9s,mb6.5
ACSO LR LR
comp=Z,13µm,19.0s,MS6.4
MIV Mineville/With 93.87 23 *e*P **P 09 09 18.8 +1.3**
EPON Pontenova 93.98 336 P **P 09 09 18.8 +0.8**
comp=Z,765nm,1.6s,mb6.9
PVMO Portageville 94.00 37 *e*P **P 09 09 19.7 +1.4**
MDV Middlebury 94.05 23 *e*P **P 09 09 18.2 0.0**
WCI Wyandotte Cave 94.11 34 P **P 09 09 18.1 -0.6**
WCI pmax pmax
comp=Z,200nm,1.0s,mb6.5
WCI Wyandotte Cave 94.11 34 *e*P **P 09 09 18.0 -0.7**
comp=Z,204nm,0.9s,mb6.5
WCI LR LR
comp=Z,3µm,19.0s,MS5.8
EMOS Mosqueruela 94.14 330 P **P 09 09 20.7 +1.9**
comp=Z,547nm,1.8s,mb6.7
HBAR Harrisburg 94.22 38 *e*P **P 09 09 20.9 +1.6**
GLAT Glass 94.32 37 *e*P **P 09 09 21.1 +1.4**
ETOR Torete 94.37 331 P **P 09 09 21.5 +1.7**
comp=Z,916nm,2.9s,mb6.7
ACCN Adirondack Com 94.45 23 *e*P **P 09 09 21.5 +1.4**
UTMT University of 94.46 37 *e*P **P 09 09 21.6 +1.2**
comp=Z,424nm,1.0s,mb6.8
EIBI Ibiza 94.53 328 P **P 09 09 22.2 +1.6**
comp=Z,854nm,3.3s
WVL Waterville 94.55 20 *e*P **P 09 09 22.6 +2.1**
comp=Z,2µm,1.7s,mb7.2
WVL LR LR
comp=Z,39µm,20.0s,MS6.9
HALT Halls 94.58 37 *e*P **P 09 09 22.3 +1.4**
HNH Hanover 94.58 22 *e*P **P 09 09 22.9 +2.2**
comp=Z,31nm,1.8s,mb5.4
BINY Binghamton 94.76 25 *e*P **P 09 09 22.2 +0.6**
comp=Z,715nm,1.9s,mb6.8
BINY LR LR
comp=Z,18µm,20.0s,MS6.5
ERUA La Rua 94.81 335 P **P 09 09 23.4 +1.6**
comp=Z,16nm,0.8s,mb5.5
STS Santiago 94.83 337 P **P 09 09 21.3 -0.6**
FFD Franklin Falls 94.99 22 *e*P **P 09 09 23.4 +0.8**
comp=Z,554nm,1.8s,mb6.7
ECAL Calabor 95.08 335 P **P 09 09 24.4 +1.3**
comp=Z,290nm,1.8s,mb6.4
NATX Nacogdoches 95.08 43 *e*P **P 09 09 25.5 +2.2**
comp=Z,152nm,1.1s,mb6.3
NATX LR LR
comp=Z,13µm,20.0s,MS6.4
WVT Waverly 95.12 36 P **P 09 09 22.8 -0.6**
WVT pmax pmax
comp=Z,120nm,0.9s,mb6.3
WVT Waverly 95.12 36 *e*P **P 09 09 22.7 -0.7**
comp=Z,120nm,0.8s,mb6.4
WVT LR LR
comp=Z,12µm,20.0s,MS6.4
PBRG Braganca 95.20 335 *e*P **P 09 09 24.0 +0.4**
PBRG *i* PP PP 09 13 18.0 +2.3
EBEN Beniarda 95.45 329 P **P 09 09 25.9 +1.0**
comp=Z,284nm,1.9s,mb6.4
SSPA Standing Stone 95.47 27 *e*P **P 09 09 26.3 +1.4**
comp=Z,66nm,0.9s,mb6.1
SSPA LR LR
comp=Z,3µm,20.0s,MS5.7
EZAM Zamans 95.54 336 P **P 09 09 24.1 -1.1**
comp=Z,12nm,0.7s,mb5.4
MCWV Mont Chateau 95.59 29 *e*P **P 09 09 27.1 +1.6**
comp=Z,111nm,1.0s,mb6.2
MCWV LR LR
comp=Z,29µm,19.0s,MS6.8
OXF Oxford 95.67 38 *e*P **P 09 09 25.6 -0.3**
comp=Z,256nm,1.0s,mb6.6
OXF LR LR
comp=Z,14µm,19.0s,MS6.4
HKT Hockley 95.80 45 P **P 09 09 27.9 +1.2**
HKT pmax pmax
comp=Z,170nm,1.8s,mb6.2
HKT Hockley 95.80 45 *e*P **P 09 09 27.8 +1.1**
comp=Z,174nm,1.8s,mb6.2
HKT LR LR
comp=Z,3µm,19.0s,MS5.8
HRV Harvard--Oak R 95.90 22 PFAKE 09 09 40.0 +13
HRV LR LR
comp=Z,2µm,20.0s,MS5.5
PVRL Vila Real 96.00 335 *e*P **P 09 09 29.3 +2.0**
WES Weston 96.08 22 PFAKE 09 09 40.0 +12
WES LR LR
comp=Z,15µm,21.0s,MS6.4
ESDC Sonseca Array 96.09 332 P **P 09 09 28.3 +0.5**
comp=Z,7.8nm,0.8s,mb5.2,baz=16,slow=4.3,SNR=20
ESDC PP PP 09 13 20.6 -2.3
comp=Z,10nm,1.1s,baz=32,slow=8.0,SNR=5.3
ESDC LR LR 09 55 28.9
comp=Z,35µm,19.1s,MS6.9,baz=45,slow=37
ESDC Sonseca Array 96.09 332 P **P 09 09 27.3 -0.5**
comp=Z,7.1nm,0.8s,mb5.2
LUPA Lehigh Univers 96.39 25 *e*P **P 09 09 29.9 +0.7**
EVIA Vianos 96.43 330 P **P 09 09 30.5 +1.2**
comp=Z,30nm,0.6s,mb5.9
BRYW Bryant College 96.44 22 *e*P **P 09 09 30.2 +0.9**
PAL Palisades 96.52 24 P **P 09 09 35.0 +5.3**
PAL pmax pmax
comp=Z,240nm,1.6s,mb6.4
PAL Palisades 96.52 24 *e*P **P 09 09 31.7 +2.0**
comp=Z,238nm,1.6s,mb6.4
PVIS Viseu 96.56 335 *i* PP PP 09 13 29.1 +2.4
EMUR La Murta 96.61 329 P **P 09 09 30.2 +0.1**
comp=Z,26nm,0.9s,mb5.7
CART Cartagena 96.73 329 *e*P **P 09 09 30.4 -0.3**
comp=Z,20nm,0.8s,mb5.6
MTE Manteigas 96.73 335 *e*P **P 09 09 32.3 +1.7**
MTE *e*SKS SKS 09 20 11.1 +0.1
MTE *e*LQ 09 38 26.8
MTE *e*LR LR 09 42 37.2
comp=Z,14µm,21.1s
MTE Manteigas 96.73 335 *e*P **P 09 09 32.0 +1.3**
comp=Z,92nm,1.4s,mb6.0
SWET Sewanee 96.76 35 *e*P **P 09 09 31.4 +0.5**
FWV Forest Hill 97.00 31 *e*P **P 09 09 32.8 +0.9**
PWV Princeton 97.11 31 *e*P **P 09 09 33.5 +1.1**
PCBR Castelo Branco 97.20 334 *e*P **P 09 09 34.3 +1.5**
PCBR *i* PP PP 09 13 31.9 +0.1
CPCT Cooper Cave 97.21 34 *e*P **P 09 09 35.2 +2.3**
ELN Prospectdale 97.32 31 *e*P **P 09 09 34.2 +0.8**
EQES Quesada 97.37 330 P **P 09 09 34.3 +0.7**
comp=Z,153nm,2.2s,mb6.0
BLA Blacksburg 97.47 31 P **P 09 09 36.1 +2.0**
BLA pmax pmax
comp=Z,170nm,1.3s,mb6.3
BLA Blacksburg 97.47 31 *e*P **P 09 09 35.8 +1.7**
comp=Z,166nm,1.4s,mb6.3
BLA LR LR
comp=Z,18µm,20.0s,MS6.6
EADA Adamuz 97.64 332 P **P 09 09 36.6 +1.8**
comp=Z,147nm,1.7s,mb6.2
PTOM Tomar 97.72 335 *e*P **P 09 09 35.8 +0.7**
PTOM *i* PP PP 09 13 37.1 +1.1
CBN Corbin 97.80 28 *e*P **P 09 09 35.6 +0.1**
comp=Z,15nm,0.6s,mb5.7
CBN LR LR
comp=Z,21µm,19.0s,MS6.7
EBAD Badajoz 98.01 334 P **P 09 09 37.2 +0.8**
comp=Z,137nm,2.7s,mb6.0
LRAL Lakeview Retre 98.04 37 *e*P **P 09 09 37.0 +0.3**
comp=Z,52nm,1.3s,mb5.9
LRAL LR LR
comp=Z,16µm,19.0s,MS6.5
ELUQ Luque 98.05 331 P **P 09 09 38.1 +1.4**
comp=Z,15nm,0.7s,mb5.6
EBER Berja 98.08 330 P **P 09 09 38.0 +1.2**
comp=Z,32nm,0.8s,mb5.9
ERON Agron 98.34 331 P **P 09 09 39.0 +1.0**
comp=Z,16nm,0.8s,mb5.6
ELOJ Sierra Loja 98.37 331 P **P 09 09 38.6 +0.5**
comp=Z,15nm,1.0s,mb5.5
EVO Evora 98.56 334 *e*P **P 09 09 37.6 -1.3**
comp=Z,20nm,1.1s,mb5.3
EVO *e*R
comp=Z,55µm,21.0s
EMIN Mina Concepcio 98.77 333 P **P 09 09 41.1 +1.3**
comp=Z,156nm,1.8s,mb6.2
LIS Lisbon 98.78 335 *e*P **P 09 09 45.0 +5.1**
LIS *e*SS SS 09 28 01.1 +4.8
LIS *e*SS SS 09 28 02.4 +6.0
LIS AMS AMS 09 56 52.5
comp=Z,53µm,27.1s,MS6.9
LIS Lisbon 98.78 335 *e*P **P 09 09 45.0 +5.1**
LIS *e*SS SS 09 28 01.1 +4.7
comp=Z,53µm,27.1s
PBEJ Beja 98.96 334 *e*P **P 09 09 42.2 +1.5**
PBEJ *i* PP PP 09 13 36.2 -8.8
EMIJ Mijas 99.12 331 P **P 09 09 40.4 -1.0**
comp=Z,20nm,0.7s,mb5.8
ESPR Espera 99.26 332 P **P 09 09 43.9 +1.8**
comp=Z,89nm,1.5s,mb6.1
PALC Alcoutim 99.33 333 *e*P **P 09 09 43.4 +1.0**
PALC *e*PP PP 09 13 45.1 -2.8
JSC Jenkinsville 99.63 33 P **P 09 09 45.2 +1.3**
JSC Jenkinsville 99.63 33 *e*P **P 09 09 45.0 +1.1**
PTEO Sao Teotonio 99.69 334 *e*P **P 09 09 43.9 -0.2**
PTEO *i* PP PP 09 13 49.5 -1.3
KMBO Kilima Mbogo 99.84 276 P **P 09 09 44.5 -0.9**
comp=Z,4.1nm,0.9s,baz=17,slow=6.2,SNR=9.6
KMBO PP PP 09 13 50.2 -2.3
comp=Z,6.8nm,1.1s,baz=33,slow=9.1,SNR=5.9
KMBO Kilima Mbogo 99.84 276 *e*P **P 09 09 44.3 -1.1**
comp=Z,39nm,1.4s,mb5.6
KMBO LR LR
comp=Z,23µm,19.0s,MS6.7
COW Cow Castle Cre 100.64 33 *e*P P 09 09 48.2 -0.3
NHSC New Hope 101.10 33 PFAKE 09 10 00.0 +9.4
NHSC LR LR
comp=Z,14µm,19.0s,MS6.5
OPO Ambohidratompo 102.23 256 P Pdif 09 09 53.5 -2.5
ADH Angra Heroismo 103.32 349 *e*- 09 23 42.5
ADH *e*- 09 29 42.5
ADH Angra Heroismo 103.32 349 *e*LQ 09 47 00.0
DRV Dumont d'Urvil 103.65 179 Pdif Pdif 09 09 59.0 -2.1
DRV Dumont d'Urvil 103.65 179 PP PP 09 14 09.0 -11
DRV SKS SKS 09 20 43.0 -1.4
DRV SKKS 09 21 48.0
DRV SS SS 09 28 54.0 -9.2
PDA Ponta Delgada 103.95 347 *e*LQ 09 48 12.0
PDA *i* LR LR 09 50 53.0
MBAR Mbarara 104.66 281 Pdif Pdif 09 10 07.9 +1.0
comp=Z,16nm,1.4s
MBAR LR LR
comp=Z,6µm,20.0s,MS6.1
DWPF Disney 104.78 36 PFAKE 09 10 20.0 +13
DWPF LR LR
comp=Z,4µm,19.0s,MS6.0
CASY Casey 105.52 191 Pdiff Pdif 09 10 10.3 +0.9
CASY pPKiKP 09 14 31.7
CASY Casey 105.52 191 Pdif Pdif 09 10 10.4 +1.0
comp=Z,75nm,2.3s
CASY *e*Pdif 09 14 25.1
CASY LR LR
comp=Z,9µm,22.0s,MS6.3
PTCN Pitcairn Islan 105.58 110 PFAKE 09 14 30.0
PTCN LR LR
comp=Z,19µm,22.0s,MS6.6
BBSR BB Station 107.30 21 PFAKE 09 14 40.0
BBSR LR LR
comp=Z,8µm,20.0s,MS6.3
MIR Mirnyy 109.29 198↑ *e*P Pdif 09 10 26.0 +0.1
MIR pmax pmax
comp=Z,1µm,9.0s
MIR MLR MLR
comp=N,3µm,20.0s,MS6.0
MIR MLR MLR
comp=E,2µm,20.0s,MS6.0
MIR MLR MLR
comp=Z,10µm,20.0s,MS6.4
LSZ Lusaka 115.38 270 PKIKP PKPdf 09 14 44.6 +0.5
LSZ Lusaka 115.38 270 *e*PKPdf PKPdf 09 14 42.7 -1.4
VNDA Vanda 115.43 175 PKP PKPdf 09 14 40.0 -2.9
comp=Z,5.5nm,0.8s,baz=315,slow=4.6,SNR=26
VNDA PP PP 09 15 45.2 -1.2
comp=Z,7.2nm,1.1s,baz=328,slow=5.3,SNR=3.5
VNDA PKKPbc 09 25 18.9
comp=Z,3.8nm,0.9s,baz=204,slow=5.0,SNR=5.8
SBA Scott Base 116.14 174 PKIKP PKPdf 09 14 42.6 -1.7
SBA Scott Base 116.14 174 *e*PKPdf PKPdf 09 14 41.3 -3.0
SBA LR LR
comp=Z,6µm,21.0s,MS6.2
MAW Mawson 118.88 205 PKP PKPdf 09 14 47.4 -2.4
comp=Z,7.5nm,0.7s,baz=88,slow=1.9,SNR=13
MAW PKKPbc 09 25 04.4
comp=Z,6.2nm,0.9s,baz=271,slow=6.1,SNR=8.7
SJG San Juan 120.09 28 *e*PKPdf PKPdf 09 14 50.8 -2.3
HUMP Col San Antoni 120.17 27 *e*PKPdf PKPdf 09 14 50.1 -3.2
CPD Cerro la Pandu 120.24 27 *e*PKPdf PKPdf 09 14 50.3 -3.2
MTP Monte Pirata 120.32 27 *e*PKPdf PKPdf 09 14 52.3 -1.3
PAYG Puerto Ayora 121.98 63 PFAKE 09 15 10.0 +13
PAYG LR LR
comp=Z,8µm,22.0s,MS6.3
RPN Rapa Nui 122.59 101 PFAKE 09 15 10.0 +12
RPN LR LR
comp=Z,5µm,22.0s,MS6.2
DBIC Dimbokro 124.62 314 PKP PKPdf 09 14 57.9 -4.3
comp=Z,33nm,0.7s,baz=353,slow=0.2,SNR=19
DBIC PP PP 09 16 47.0 -3.6
comp=Z,13nm,0.7s,baz=6.7,slow=8.7,SNR=4.7
TIC Toumodi 124.73 314 *e*PKP2 PKPdf 09 14 59.8 -2.6
KIC Kosan Boka 124.81 314 *e*PKP2 PKPdf 09 15 00.6 -2.0
comp=Z,210nm,0.8s
LIC Lamto 125.08 314 *e*PKIKP PKPdf 09 15 00.2 -2.9
comp=Z,115nm,0.9s
LIC Lamto 125.08 314 *e*PKP2 PKPdf 09 14 59.3 -3.8
comp=Z,167nm,0.9s
SDV Santo Domingo 126.43 37 *e*PKPdf PKPdf 09 15 02.8 -2.8
SDV LR LR
comp=Z,8µm,20.0s,MS6.4
QSPA South Pole Qui 127.05 180 *e*P PKPdf 09 15 03.6 -1.4
SYO Syowa Base 127.50 207 ||Pdiff Pdif 09 11 48.3 +2.4
SYO Syowa Base 127.50 207 ||P PP 09 17 09.1 +1.2
OTAV Otavalo 129.23 51 PKPdf PKPdf 09 15 09.5 -1.6
OTAV PP PP 09 17 19.7 -1.6
OTAV Otavalo 129.23 51 *e*PKPdf PKPdf 09 15 10.4 -0.7
OTAV *e*PP PP 09 17 18.8 -2.5
OTAV *e*SKP 09 18 31.6
SUR Sutherland 129.64 256 *e*PKPdf PKPdf 09 15 10.0 -1.3
SUR LR LR
comp=Z,4µm,22.0s,MS6.1
MAIT Maitri 136.76 203 *e*PKP PKPdf 09 15 22.7 -0.8
NNA Nana 139.36 61 *e*PKPpre 09 15 18.7
SNAA Sanae 140.37 198 *e* PP 09 18 26.2 -3.3
SNAA Sanae 140.37 198 PKHKP 09 15 18.2
SNAA Sanae 140.37 198|| *i* PKPdf PKPdf 09 15 20.2 -10
SNAA *e* 09 18 26.2
VNA2 Neumayer--Watz 141.97 197 *e* PP 09 18 36.4 -2.6
VNA2 Neumayer--Watz 141.97 197|| *i* PKPdf PKPdf 09 15 29.5 -3.3
VNA2 *e* 09 18 36.4
VNA3 Neumayer Olymp 142.26 196 *e* PP 09 18 35.5 -5.3
VNA3 Neumayer Olymp 142.26 196|| *i* PKPdf PKPdf 09 15 28.6 -4.7
VNA3 *e* 09 18 35.5
VNA1 Neumayer--Stat 142.37 197 *e* PP 09 18 37.4 -4.0
VNA1 Neumayer--Stat 142.37 197↑ *i* PKPdf PKPdf 09 15 30.5 -3.0
VNA1 *e* 09 18 37.4
SAML Samuel 145.48 41 *e*PKPdf PKPdf 09 15 37.8 -2.8
SAML LR LR
comp=Z,10µm,22.0s,MS6.5
ARE Arequipa 146.18 60 *e*P PKPbc 09 15 41.0 +1.1
ARE *i* 09 15 43.3
RCBR Riachuelo 148.30 350 *e*PKPdf PKPdf 09 15 44.6 -0.7
RCBR LR LR
comp=Z,10µm,20.0s,MS6.6
LPAZ La Paz 148.34 56 PKPbc PKPdf 09 15 45.7 +0.5
comp=Z,114nm,0.8s,baz=356,slow=3.0,SNR=49
LPAZ PP PP 09 19 22.7 +4.3
comp=Z,9.3nm,0.7s,baz=332,slow=8.1,SNR=3.5
LPAZ La Paz 148.34 56 PKPdf PKPdf 09 15 46.0 +0.8
LPAZ La Paz 148.34 56 PKPbc PKPdf 09 15 45.7 +0.5
LPAZ PP PP 09 19 22.7 +4.3
PMSA Palmer Station 149.34 161 *e*PKPbc PKPdf 09 15 49.5 +4.1
PMSA LR LR
comp=Z,9µm,22.0s,MS6.5
LVC Limon Verde 152.03 66 *e*PKPbc PKPdf 09 15 52.1 +1.3
LVC *e*PKPab PKPab 09 15 56.7 -10
LVC LR LR
comp=Z,10µm,21.0s,MS6.6
TLL Tololo Astrono 154.47 83 *e*P PKPdf 09 15 50.2 -3.7
PEL Peldehue 155.63 89 *e*P PKPdf 09 15 57.1 +1.7
CLCH Cerro Calan 155.82 90 *e*P PKPdf 09 15 48.2 -7.4
FCH Farellones 156.00 89 *e*P PKPdf 09 15 51.0 -4.8
TRIS Tristan da Cun 157.00 262 PFAKE 09 16 10.0 +13
TRIS LR LR
comp=Z,9µm,19.0s,MS6.6
BAO Brasilia Array 157.60 17 PKP PKPdf 09 15 58.5 +0.1
BAO *i* 09 16 31.2
BAO *e* 09 20 04.3
BDFB Brasilia 157.60 17 PKP PKPdf 09 15 57.7 -0.7

comp=Z,18nm,0.9s,baz=43,slow=3.1,SNR=18
BDFB PKPab PKPab 09 16 30.0 -0.1
comp=Z,136nm,0.8s,baz=0.6,slow=3.1,SNR=34
BDFB PP PP 09 20 07.3 -3.1
comp=Z,27nm,1.1s,baz=54,slow=8.8,SNR=3.5
EFI East Falkland 161.34 146 PFAKE 09 16 10.0 +8.5
EFI LR LR
comp=Z,2μm,19.0s
CPUP Villa Florida 162.51 56 PKP PKPdf 09 16 03.2 -0.3
comp=Z,9.6nm,1.0s,baz=311,slow=0.8,SNR=9.3
CPUP PKPab PKPab 09 16 50.6 -0.5
comp=Z,25nm,1.1s,baz=328,slow=4.5,SNR=7.2
CPUP PP PP 09 20 35.2 -0.9
comp=Z,11nm,1.0s,baz=273,slow=2.7,SNR=4.7
CPUP Villa Florida 162.51 56 PKPdf PKPdf 09 16 03.1 -0.4
CPUP PKPdf PKPdf 09 16 03.1 -0.4
CPUP PKPab PKPab 09 16 50.9 -0.1
CPUP PKPab PKPab 09 16 51.0 -0.1
TRQA Tornquist 163.55 99 *e*PKPdf PKPdf 09 15 59.8 -4.4
TRQA LR LR
comp=Z,11μm,22.0s
CAM4 Nova Friburgo 165.06 5 (P) PKPdf 09 15 55.9 -10
CAM4 *i* 09 17 02.5
CAM4 *i* 09 17 07.0
CAM4 Nova Friburgo 165.06 5 *i* P PKPab 09 17 07.0 +4.8
LPA La Plata 166.28 85 *ce*PKP PKPdf 09 16 04.0 -2.9
LPA *es*PKP 09 17 13.0
LPA *e*SKP 09 19 33.0
LPA *e*PP PP 09 20 52.0 -3.7
comp=Z,16μm,20.0s

IDC ***23*** *08:59:34.6±0.6,37.30N×138.69E,mb5.0/19,mb1 5.2/20, mb1mx5.1/29,ML4.8/1,Error ellipse: s-maj=19.8km s-min=16.1km az=92.0*
MOS ***23*** *08:59:37.6±1.4,37.12N×138.81E,h33km,mb5.2/13,Error ellipse: s-maj=32.8km s-min=15.9km az=93.7*
BJI ***23*** *08:59:37.3,37.30N×138.90E,h10km,mB5.8,mb5.5*
JMA ***23*** *08:59:37.6,37.31N×138.86E,h16km±2km,M5.3*
SYO ***23*** *08:59:37.2,37.20N×138.94E,h10km,MB5.8*
NEIC ***23*** *08:59:37.4±0.2,37.27N×138.87E,h10km,mb5.7/21,Error ellipse: s-maj=6.7km s-min=4.1km az=136.0*
ISC 23 08:59:37.3±0.4,37.32N±0.03×138.85E±0.04,h20km±2km, n106,σ1§04/114,mb5.3/42,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.15**	**117**	P	**Pb**	**08 59 41.1**	**-0.7**
JHK				*e*S	**Sb**	**08 59 44.0**	**-0.9**
JIZZ	**Izumozaki**	**0.24**	**333**	P	**Pb**	**08 59 43.1**	**0.0**
JIZZ				*e*S	**Sb**	**08 59 47.8**	**+0.8**
JNS	**Sasagawa**	**0.62**	**36**	P	**Pb**	**08 59 49.4**	**0.0**
JNS				*e*S	**Sb**	**08 59 57.8**	**+0.1**
JKT	**Katashina**	**0.63**	**150**	P	**Pb**	**08 59 49.6**	**0.0**
JKT				*e*S	**Sb**	**08 59 58.3**	**+0.3**
JFY	**Yanaizu**	**0.69**	**82**	P	**Pb**	**08 59 50.6**	**+0.2**
JFY				*e*S	**Sb**	**08 59 59.7**	**+0.2**
MAJO	**Matsushiro**	**0.93**	**214**	*e*P	**Pb**	**08 59 54.5**	**0.0**
MAT	**Matsushiro**	**0.93**	**214**	*e*P	**Pb**	**08 59 55.0**	**+0.4**
MAT				*e*S	**Sb**	**09 00 07.0**	**+0.6**
JHJ	**Hachijo jima 2**	**4.26**	**169**	Pn	**Pn**	**09 00 42.5**	**-0.1**
	134nm,0.3s,baz=249,slow=20,SNR=8.7						
JHJ				Sn	**Sn**	**09 01 33.8**	**+1.4**
	61nm,0.3s,baz=342,slow=24,SNR=2.4						
YSS	**Yuzh-Sakhalins**	**10.06**	**15**	*e*P	**P**	**09 02 03.3**	**-0.5**
	96nm,0.7s						
BJT	**Baijiatuan**	**17.91**	**286**	*e*P	**P**	**09 03 50.5**	**+3.7**
HIA	**Hailar**	**18.27**	**317**	P	**P**	**09 03 52.0**	**+0.7**
HHC	**Hu-ho-hao-te**	**21.44**	**288**	*e*P	**P**	**09 04 28.0**	**+1.8**
HHC				AMB	AMB		
	comp=Z,3μm,10.0s						
ENH	**Enshi**	**25.33**	**263**	*e*P	**P**	**09 05 02.4**	**-1.9**
	comp=Z,160nm,0.8s,mb5.6						
KMI	**Kunming**	**32.99**	**259**	*e*P	**P**	**09 06 14.3**	**+1.2**
KMI				AP	pP	09 06 17.1	-2.0
KMI				PP	PP	09 07 26.9	+3.1
KMI				AMB	AMB		
	comp=Z,2μm,9.9s						
KMI	**Kunming**	**32.99**	**259**	*e*P	**P**	**09 06 14.2**	**+1.1**
	comp=Z,44nm,1.4s,mb5.2						
KMI				pP	pP	09 06 17.1	-2.0
KMI				PP	PP	09 07 26.9	+3.1
KMI				S	**S**	**09 11 31.5**	**+2.2**
KMI				SS	SS	09 13 30.7	+1.2
TIXI	**Tiksi**	**34.79**	**354**	*e*P	**P**	**09 06 29.7**	**+1.5**
TIXI				*e*		09 07 47.0	
TIXI				pmax	pmax		
	comp=Z,101nm,2.2s,mb5.4						
RSO	**Redoubt South**	**47.95**	**38**	*e*P	**P**	**09 08 16.2**	**+0.1**
SPU	**Mount Spurr**	**48.25**	**37**	*e*P	**P**	**09 08 18.6**	**+0.3**
KDAK	**Kodiak Island**	**48.26**	**42**	*e*P	**P**	**09 08 17.6**	**-0.8**
	comp=Z,85nm,0.8s,mb5.8						
BVAR	**Borovoye Array**	**48.86**	**312**	P	**P**	**09 08 22.2**	**-0.9**
	comp=Z,21nm,1.0s,mb5.1,baz=90,slow=7.2,SNR=3.0						
BVAR				PcP	PcP	09 09 46.1	-1.9
	comp=Z,3.6nm,0.7s,baz=111,slow=3.6,SNR=5.1						
MCK	**McKinley**	**49.54**	**34**	*e*P	**P**	**09 08 28.2**	**0.0**
	comp=Z,18nm,0.9s,mb5.1						
COLA	**College**	**49.94**	**32**	*e*P	**P**	**09 08 30.1**	**-1.1**
	comp=Z,22nm,0.9s,mb5.2						
ILAR	**Eielson Array**	**50.35**	**32**	P	**P**	**09 08 34.0**	**-0.4**
	comp=Z,16nm,0.8s,mb5.1,baz=276,slow=6.4,SNR=5.7						
ILAR	**Eielson Array**	**50.35**	**32**	P	**P**	**09 08 34.0**	**-0.4**
ILAR				pmax	pmax		
	comp=Z,16nm,0.8s						
DIV	**Divide**	**51.29**	**37**	*e*P	**P**	**09 08 41.7**	**+0.1**
	comp=Z,162nm,1.1s,mb5.9						
EYAK	**Cordova Ski Ar**	**51.39**	**38**	*e*P	**P**	**09 08 42.0**	**-0.3**
INK	**Inuvik**	**55.07**	**27**	P	**P**	**09 09 08.3**	**-1.2**
	comp=Z,28nm,0.8s,mb5.4,baz=279,slow=7.6,SNR=4.9						
INK	**Inuvik**	**55.07**	**27**	P	**P**	**09 09 08.4**	**-1.2**
INK				pmax	pmax		
	comp=Z,28nm,0.8s						
INK	**Inuvik**	**55.07**	**27**	*e*P	**P**	**09 09 08.6**	**-1.0**
	comp=Z,39nm,0.9s,mb5.4						
HYB	**Hyderabad**	**56.17**	**267**	*i* P	**P**	**09 09 20.0**	**+1.9**
KIP	**Kipapa**	**56.30**	**88**	*e*P	**P**	**09 09 19.9**	**+0.9**
WRAB	**Tennant Creek**	**57.10**	**185**	*e*P	**P**	**09 09 22.7**	**-2.1**
WRA	**Warramunga Arr**	**57.11**	**185**	P	**P**	**09 09 21.7**	**-3.1**
	comp=Z,54nm,1.1s,mb5.5,baz=0.5,slow=7.5,SNR=9.4						
WRA	**Warramunga Arr**	**57.11**	**185**	P	**P**	**09 09 21.7**	**-3.2**
WRA				pmax	pmax		
	comp=Z,54nm,1.1s						
POHA	**Pohakuloa**	**59.15**	**88**	*e*P	**P**	**09 09 39.7**	**+0.6**
DLBC	**Dease Lake**	**59.66**	**38**	P	**P**	**09 09 40.0**	**-2.1**
	comp=Z,5.8nm,0.8s,mb4.6,baz=304,slow=11,SNR=1.9						
ASAR	**Alice Springs**	**60.83**	**185**	P	**P**	**09 09 48.8**	**-1.9**
	comp=Z,10nm,1.0s,mb4.9,baz=359,slow=5.7,SNR=6.2						
MBWA	**Marble Bar**	**60.89**	**200**	P	**P**	**09 09 48.6**	**-2.4**
	comp=Z,49nm,1.3s,mb5.5						
ARCES	**ARCESS Array B**	**63.00**	**339**	P	**P**	**09 10 03.6**	**-0.9**
	comp=Z,5.2nm,0.8s,mb4.7,baz=54,slow=7.8,SNR=4.2						
ARCES	**ARCESS Array B**	**63.00**	**339**	P	**P**	**09 10 03.6**	**-0.9**
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.8s						
YKA	**Yellowknife Ar**	**64.58**	**30**	P	**P**	**09 10 13.9**	**-1.0**
	comp=Z,6.3nm,0.7s,mb4.7,baz=304,slow=6.5,SNR=4.2						
YKA	**Yellowknife Ar**	**64.58**	**30**	P	**P**	**09 10 13.9**	**-1.0**
YKA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
OBN	**Obninsk**	**66.63**	**322**	*e*P	**P**	**09 10 29.0**	**+0.9**
OBN				pmax	pmax		
	comp=Z,78nm,1.8s,mb5.4						
FINES	**FINESS Array B**	**67.60**	**331**	P	**P**	**09 10 32.1**	**-2.1**
	comp=Z,16nm,0.9s,mb5.0,baz=39,slow=7.6,SNR=6.0						
FINES	**FINESS Array B**	**67.60**	**331**	P	**P**	**09 10 32.1**	**-2.1**
FINES				pmax	pmax		
	comp=Z,16nm,1.0s						
PGC	**Sidney**	**67.61**	**45**	*e*P	**P**	**09 10 34.3**	**-0.1**
	comp=Z,85nm,0.8s,mb5.8						
GNW	**Green Mountain**	**68.53**	**46**	*e*P	**P**	**09 10 40.2**	**0.0**
RPW	**Rockport**	**68.81**	**45**	*e*P	**P**	**09 10 41.8**	**-0.1**
AFI	**Afiamalu**	**68.91**	**128**	*e*P	**P**	**09 10 39.7**	**-3.4**
KIV	**Kislovodsk**	**69.17**	**310**	*e*P	**P**	**09 10 45.4**	**+1.2**
KIV				pmax	pmax		
	comp=Z,140nm,1.2s,mb5.8						
KIV	**Kislovodsk**	**69.17**	**310**	P	**P**	**09 10 44.4**	**+0.2**
NLW	**Nelson Butte**	**69.67**	**45**	*e*P	**P**	**09 10 47.3**	**+0.1**
COR	**Corvallis**	**69.85**	**49**	*e*P	**P**	**09 10 49.6**	**+1.2**
	comp=Z,118nm,1.1s,mb5.7						
GNI	**Garni**	**69.89**	**305**	*e*P	**P**	**09 10 55.0**	**+6.4**
KEBM	**Edson Butte**	**70.15**	**51**	*e*P	**P**	**09 10 51.4**	**+1.2**
DPW	**Davenport**	**70.97**	**44**	*e*P	**P**	**09 10 55.3**	**+0.1**
NEW	**Newport**	**71.34**	**43**	P	**P**	**09 10 57.2**	**-0.1**
	comp=Z,53nm,0.8s,mb5.5,baz=319,slow=4.5,SNR=9.1						
NEW	**Newport**	**71.34**	**43**	P	**P**	**09 10 57.3**	**-0.1**
NEW				pmax	pmax		
	comp=Z,53nm,0.8s						
NEW	**Newport**	**71.34**	**43**	*e*P	**P**	**09 10 57.5**	**+0.1**
KHMM	**Horse Mountain**	**71.61**	**52**	*e*P	**P**	**09 11 00.5**	**+1.4**
YBH	**Yreka Blue Hor**	**71.78**	**51**	P	**P**	**09 11 00.6**	**+0.5**
	comp=Z,21nm,0.9s,mb5.0,baz=338,slow=3.2,SNR=4.2						
YBH	**Yreka Blue Hor**	**71.78**	**51**	P	**P**	**09 11 00.6**	**+0.5**
YBH				pmax	pmax		
	comp=Z,21nm,0.9s						
YBH	**Yreka Blue Hor**	**71.78**	**51**	*e*P	**P**	**09 11 01.1**	**+1.0**
WDC	**Whiskeytown Da**	**72.53**	**52**	*e*P	**P**	**09 11 05.0**	**+0.5**
AKASG	**Malin Array Be**	**72.81**	**321**	P	**P**	**09 11 04.3**	**-1.7**
	comp=Z,6.0nm,0.6s,mb4.7,baz=46,slow=6.1,SNR=4.1						
AKASG	**Malin Array Be**	**72.81**	**321**	P	**P**	**09 11 04.3**	**-1.7**
AKASG				pmax	pmax		
	comp=Z,6.0nm,0.6s						
NOA	**NORSAR Array B**	**73.12**	**336**	P	**P**	**09 11 05.5**	**-2.0**
	comp=Z,9.3nm,0.8s,mb4.8,baz=40,slow=5.9,SNR=3.4						
NOA	**NORSAR Array B**	**73.12**	**336**	P	**P**	**09 11 05.6**	**-2.0**
NOA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MOD	**Modoc**	**73.17**	**50**	*e*P	**P**	**09 11 06.6**	**-1.6**
MSO	**Missoula**	**73.93**	**43**	*e*P	**P**	**09 11 12.6**	**+0.1**
BEKR	**Beckwourth**	**74.31**	**52**	*e*P	**P**	**09 11 15.5**	**+0.6**
LKC	**Lake Chabot**	**74.45**	**54**	*e*P	**P**	**09 11 16.5**	**+0.7**
WCN	**Washoe City**	**75.01**	**52**	*e*P	**P**	**09 11 20.0**	**+1.0**
CMB	**Columbia Colle**	**75.36**	**53**	*e*P	**P**	**09 11 21.6**	**+0.6**
	comp=Z,62nm,1.0s,mb5.5						
SAO	**San Andreas Ge**	**75.42**	**55**	*e*P	**P**	**09 11 21.1**	**-0.3**
BMN	**Battle Mountai**	**75.91**	**50**	*e*P	**P**	**09 11 24.9**	**+0.8**
	comp=Z,63nm,1.1s,mb5.5						
BOZ	**Bozeman (W)**	**75.92**	**43**	*e*P	**P**	**09 11 24.8**	**+0.8**
	comp=Z,79nm,1.0s,mb5.6						
NVAR	**Mina Array Bea**	**76.44**	**52**	P	**P**	**09 11 27.8**	**+0.7**
	comp=Z,34nm,0.8s,mb5.3,baz=280,slow=7.0,SNR=12						
QLMT	**Earthquake Lak**	**76.55**	**44**	*e*P	**P**	**09 11 27.0**	**-0.6**
GCMT	**Greycliff**	**76.88**	**42**	*e*P	**P**	**09 11 29.2**	**-0.2**
YFT	**Old Faithful**	**77.11**	**44**	*e*P	**P**	**09 11 33.2**	**+2.5**
BRTR	**Keskin Array B**	**77.12**	**310**	P	**P**	**09 11 29.6**	**-1.2**
	comp=Z,12nm,1.0s,mb4.8,baz=90,slow=4.3,SNR=3.7						
BRTR	**Keskin Array B**	**77.12**	**310**	P	**P**	**09 11 29.7**	**-1.2**
BRTR				pmax	pmax		
	comp=Z,12nm,1.0s						
LKWY	**Lake**	**77.28**	**43**	*e*P	**P**	**09 11 32.6**	**+1.0**
	comp=Z,66nm,1.0s,mb5.5						
TPH	**Tonopah**	**77.34**	**52**	*e*P	**P**	**09 11 32.8**	**+0.7**
	comp=Z,126nm,1.2s,mb5.7						
RRI2	**Red Ridge**	**77.55**	**45**	*e*P	**P**	**09 11 34.8**	**+1.7**
RRI2				*e*pP	pP	09 11 38.3	-1.3
MOOW	**Moose Ponds**	**77.61**	**44**	*e*P	**P**	**09 11 33.7**	**+0.2**
TPAW	**Teton Pass**	**77.67**	**44**	*e*P	**P**	**09 11 33.5**	**-0.3**
HVU	**Hansel Valley**	**77.72**	**47**	*e*P	**P**	**09 11 35.0**	**+0.9**
LAO	**LASA Array**	**78.08**	**40**	*e*P	**P**	**09 11 36.7**	**+0.7**
	comp=Z,83nm,1.0s,mb5.6						
DUG	**Dugway**	**78.70**	**48**	*e*P	**P**	**09 11 40.4**	**+0.8**
	comp=Z,46nm,1.1s,mb5.3						
PDAR	**Pinedale Array**	**78.91**	**44**	P	**P**	**09 11 39.8**	**-0.9**
	comp=Z,21nm,0.7s,mb5.2,baz=278,slow=2.2,SNR=10						
TCUT	**Toone Canyon**	**78.93**	**46**	*e*P	**P**	**09 11 39.1**	**-1.7**
CTU	**Camp Tracy**	**79.01**	**47**	*e*P	**P**	**09 11 40.4**	**-0.8**
ULM	**Lac du Bonnet**	**80.37**	**32**	P	**P**	**09 11 46.8**	**-1.5**
	comp=Z,22nm,0.9s,mb5.1,baz=269,slow=5.7,SNR=3.5						
BAR	**Barrett**	**81.01**	**56**	*e*P	**P**	**09 11 51.3**	**-0.8**
GERES	**GERESS Array B**	**81.38**	**327**	P	**P**	**09 11 53.2**	**-0.4**
	comp=Z,6.1nm,1.0s,mb4.5,baz=45,slow=7.5,SNR=3.3						
GERES	**GERESS Array B**	**81.38**	**327**	P	**P**	**09 11 53.2**	**-0.4**
GERES				pmax	pmax		
	comp=Z,6.0nm,1.0s						
EYMN	**Ely**	**83.99**	**31**	*e*P	**P**	**09 12 06.4**	**-0.7**
	comp=Z,64nm,1.0s,mb5.7						
SDCO	**Great Sand Dun**	**84.58**	**46**	*e*P	**P**	**09 12 11.9**	**+1.6**
	comp=Z,30nm,1.1s,mb5.3						
TUC	**Tucson**	**85.06**	**53**	*e*P	**P**	**09 12 13.9**	**+1.0**
IDI	**Anoyia**	**85.28**	**311**	P	**P**	**09 12 11.9**	**-2.0**
	comp=Z,30nm,1.0s,mb5.4,baz=32,slow=9.5,SNR=4.3						
KSU1	**Kansas State U**	**88.43**	**40**	*e*P	**P**	**09 12 29.4**	**+0.3**
LTX	**Lajitas**	**91.55**	**51**	*e*P	**P**	**09 12 43.9**	**0.0**
	comp=Z,71nm,1.4s,mb5.8						
CCM	**Cathedral Cave**	**91.91**	**37**	*e*P	**P**	**09 12 45.8**	**+0.4**
JCT	**Junction City**	**93.06**	**48**	*e*P	**P**	**09 12 50.9**	**+0.1**
	comp=Z,125nm,1.3s,mb6.2						

JMA 23 09:00:54.1±0.2,37.26N×138.90E,h1km±3km,M4.4,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIZZ	**Izumozaki**	**0.31**	**331**	P	Pg	09 01 00.6	+0.3
JIZZ				*e*S	Sg	09 01 05.9	+1.5
JKT	**Katashina**	**0.57**	**150**	*e*S	Sg	09 01 13.2	+0.3
JNS	**Sasagawa**	**0.65**	**31**	P	Pg	09 01 07.4	+0.4
JNS				*e*S	Sg	09 01 14.8	-0.9
JFY	**Yanaizu**	**0.66**	**77**	P	Pg	09 01 07.3	+0.1
JFY				*e*S	Sg	09 01 15.9	-0.1
MAT	**Matsushiro**	**0.91**	**218**	P	Pg	09 01 12.1	-0.1
MAT				*e*S	Sg	09 01 23.2	-1.1

JMA 23 09:02:26.8±0.1,37.35N×138.94E,h6km±2km,M3.5,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.12**	**149**	P	Pg	09 02 29.4	0.0
JHK				*e*S	Sg	09 02 31.3	+0.2
JIZZ	**Izumozaki**	**0.26**	**315**	*e*S	Sg	09 02 36.3	+0.7
JNS	**Sasagawa**	**0.56**	**33**	*e*S	Sg	09 02 45.0	-0.4
JFY	**Yanaizu**	**0.61**	**84**	*e*S	Sg	09 02 46.1	-1.1

NIED ***23*** *09:03:00,37.30N×139.00E,h5km,Mw5.9 Best double couple: M◎9.33×10¹⁷ NP1:φs218°,δ47°,λ107°. NP2:φs14°, δ45°,λ73°.*
BJI ***23*** *09:03:07.1,37.20N×139.49E,h10km,mB6.3,mb5.8, Ms6.6,Msz6.3*
IDC ***23*** *09:03:10.5±0.3,37.30N×138.86E,mb5.6/29,mb1 5.7/34, mb1mx5.7/35,ML5.0/2,Error ellipse: s-maj=12.7km s-min=9.2km az=91.0*
HRVD ***23*** *09:03:12.5±0.8,37.42N×138.92E,h12km,MW6.1/36, Centroid moment Tensor Solution. LP body waves: s15,c17;Mantle waves: s36,c45; Half duration: 2s5 Moment tensor: Scale 10¹⁸Nm; Mrr1.78±.13; Mθθ-0.54±.17; Mφφ-1.23±.19; Mrθ-0.19±.50; Mθφ-0.89±.14; Mφr-0.17±.67; Best double couple: M◎1.83×10¹⁸ NP1: φs32°,δ41°,λ87°. NP2:φs216°,δ49°,λ93°. Principal axes: T 1.8, Plg86°, Azm151°; N .07, Plg2°, Azm35°; P -1.86, Plg4°, Azm305°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.*
NEIC ***23*** *09:03:12.5±0.1,37.32N×138.82E,mb6.1/187, MW5.9(NIED) Error ellipse: s-maj=3.5km s-min=2.6km az=168.0*
SYO ***23*** *09:03:12.4,37.31N×138.84E,h11km,MB6.1*
JMA ***23*** *09:03:12.6,37.35N×138.98E,h9km±1km,M6.3*
BGS ***23*** *09:03:13.8,37.31N×138.34E,h15km,mb6.2*
MOS ***23*** *09:03:14.6±0.9,37.31N×138.83E,h33km,mb6.3/53, MS6.5/8,Error ellipse: s-maj=8.4km s-min=5.0km az=93.5*
ISC 23 09:03:11.9±0.5,37.36N±0.02×138.89E±0.02,h14km±3km, h12km±1.3km:pP-P,n1002,o§96/975,mb6.0/256,MS6.5/16, 135C-31D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.15**	**136**	P	**Pg**	**09 03 15.2**	**-0.6**
JHK				*e*S	**Sg**	**09 03 17.4**	**-1.0**
JIZZ	**Izumozaki**	**0.23**	**321**	P	**Pg**	**09 03 18.7**	**+1.6**
JNS	**Sasagawa**	**0.57**	**36**	P	**Pb**	**09 03 22.7**	**-0.5**
JNS				*e*S	**Sb**	**09 03 30.0**	**-0.9**
JFY	**Yanaizu**	**0.65**	**85**	P	**Pb**	**09 03 23.6**	**-0.9**
JFY				*e*S	**Sb**	**09 03 31.8**	**-1.3**
JKT	**Katashina**	**0.65**	**154**	P	**Pb**	**09 03 24.4**	**-0.1**
JKT				*e*S	**Sb**	**09 03 33.0**	**-0.2**
JSD	**Sado**	**0.84**	**324**	P	**Pb**	**09 03 28.9**	**+1.1**
MAJO	**Matsushiro**	**0.98**	**214**	↑*i*P	**Pb**	**09 03 31.2**	**+1.1**
MAT	**Matsushiro**	**0.98**	**214**	*e*P	**Pb**	**09 03 31.0**	**+0.9**
MAT				*e*S	**Sb**	**09 03 45.0**	**+2.4**
JAG	**Ashikaga**	**1.03**	**154**	↓P	**Pb**	**09 03 31.7**	**+0.7**
JMM	**Marumori**	**1.59**	**71**	P	**Pn**	**09 03 39.9**	**0.0**
JYK	**Kaneyama**	**1.94**	**36**	P	**Pn**	**09 03 45.1**	**+0.2**
JMK	**Ichinoseki**	**2.43**	**48**	P	**Pn**	**09 03 52.0**	**+0.1**
JSI2	**Shiura 2**	**3.88**	**17**	P	**Pn**	**09 04 12.6**	**+0.1**
JHJ	**Hachijo jima 2**	**4.29**	**170**	Pn	**Pn**	**09 04 18.4**	**+0.1**
	471nm,0.3s,baz=199,slow=3.5,SNR=26						
JHJ				Sn	**Sn**	**09 05 07.7**	**-1.0**
	baz=41,slow=21,SNR=3.5						
JKR	**Kurayoshi**	**4.54**	**246**	P	**Pn**	**09 04 24.0**	**+2.1**
JNM	**Ikuma**	**5.08**	**250**	P	**Pn**	**09 04 31.1**	**+1.7**
ERM	**Erimo**	**5.70**	**34**	Pn	**Pn**	**09 04 40.8**	**+2.6**
	8μm,1.3s,SNR=11						
JKI	**Kunimi**	**7.03**	**240**	P	**Pn**	**09 04 59.3**	**+2.3**
ASAJ	**Asahikawa**	**7.32**	**21**	Pn	**Pn**	**09 05 01.4**	**+0.4**
	19nm,0.3s,baz=234,slow=15,SNR=22						
ASAJ	**Asahikawa**	**7.32**	**21**	P	**Pn**	**09 05 01.4**	**+0.4**
ASAJ				pmax	pmax		
	comp=Z,19nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**8.52**	**36**	*e*P	**P**	**09 05 12.1**	**-5.6**
YUK				*e*S	**Sn**	**09 06 46.0**	**-8.5**
YUK				pmax	pmax		
	comp=N,770nm,0.5s						
YUK				pmax	pmax		
	comp=E,370nm,0.5s						
YUK				pmax	pmax		
	comp=Z,770nm,0.5s						
YUK				pmax	pmax		
	comp=Z,10μm,1.0s						
YUK				smax			
	comp=E,920nm,0.6s						
YUK				smax			
	comp=N,770nm,0.5s						
YUK				MLR	MLR		
	comp=Z,84μm,11.0s						
YUK				MLR	MLR		
	comp=N,106μm,12.0s						
YUK				MLR	MLR		
	comp=E,91μm,10.0s						
INCN	**Inchon**	**9.75**	**274**	*e*P	**P**	**09 05 34.6**	**-0.2**
	comp=E,340nm,1.1s						
YSS	**Yuzh-Sakhalins**	**10.01**	**15**	↑*i*P	**P**	**09 05 37.8**	**-0.5**
YSS				*e*		09 07 26.0	
YSS				pmax	pmax		
	comp=N,610nm,1.0s						
YSS				pmax	pmax		
	comp=Z,590nm,1.0s						
YSS	**Yuzh-Sakhalins**	**10.01**	**15**	*e*P	**P**	**09 05 37.9**	**-0.4**
MDJ	**Mudanjiang**	**10.10**	**319**	*e*P	**P**	**09 05 38.9**	**-0.5**
KUR	**Kuril'sk**	**10.37**	**38**	*e*P	**P**	**09 05 37.8**	**-5.4**
KUR				*e*S	**S**	**09 07 33.0**	**-7.1**
KUR				pmax	pmax		
	comp=N,1μm,1.1s						
KUR				pmax	pmax		
	comp=E,990nm,1.1s						
KUR				pmax	pmax		
	comp=Z,6μm,1.1s						
KUR				smax			
	comp=N,2μm,1.5s						
CBIJ	**Chichi jima**	**10.60**	**164**	Pn	**P**	**09 05 41.9**	**-4.6**
	baz=90,slow=15						
CBIJ				Sn	**S**	**09 07 42.0**	**-4.0**
UGL	**Uglegorsk**	**11.94**	**10**	*e*P	**P**	**09 06 02.0**	**-2.6**
UGL				pmax	pmax		
	comp=Z,730nm,1.2s						
CN2	**Changchun**	**12.07**	**306**	*e*P	**P**	**09 06 06.4**	**0.0**
CN2				AMB	AMB		
	comp=Z,270nm,1.3s						
SSE	**Sheshan**	**15.91**	**252**	*e*P	**P**	**09 06 56.8**	**-0.1**
SSE				AMB	AMB		
	comp=Z,841nm,1.2s						
SSE	**Sheshan**	**15.91**	**252**	*e*P	**P**	**09 06 56.8**	**-0.1**
	comp=Z,841nm,1.2s						
NJ2	**Nanjing**	**17.30**	**258**	*e*P	**P**	**09 07 19.3**	**+4.8**
NJ2				AP		09 07 23.0	
NJ2				PP	PP	09 07 33.9	+4.9
NJ2				S	**S**	**09 10 31.0**	**+6.0**
NJ2				XS		09 10 37.0	
NJ2				AMB	AMB		
	comp=Z,650nm,1.2s						
NJ2				AMB	AMB		
	comp=Z,3μm,4.5s						
NJ2				LR	LR		
	comp=N,11μm,14.6s						
NJ2				LR	LR		
	comp=E,20μm,18.2s						
NJ2				LR	LR		
	comp=Z,38μm,16.8s						
TIA	**Tai'an**	**17.47**	**273**	P	**P**	**09 07 19.6**	**+2.9**
TIA				AMB	AMB		
	comp=Z,447nm,1.2s						
BJI	**Beijing**	**17.93**	**286**	P	**P**	**09 07 23.8**	**+1.5**
BJI				AMB	AMB		
	comp=Z,492nm,1.5s						
BJI	**Beijing**	**17.93**	**286**	P	**P**	**09 07 23.8**	**+1.5**
	comp=Z,492nm,1.5s						
BJT	**Baijiatuan**	**17.93**	**286**	*e*P	**P**	**09 07 24.2**	**+1.9**
	comp=Z,2μm,1.5s						
SKR	**Severo-Kuril's**	**18.13**	**37**	*e*P	**P**	**09 07 21.0**	**-3.8**
SKR				pmax	pmax		
	comp=N,220nm,1.0s						
SKR				pmax	pmax		
	comp=E,220nm,1.0s						
SKR				pmax	pmax		
	comp=Z,450nm,1.0s						
HIA	**Hailar**	**18.27**	**317**	*e*P	**P**	**09 07 27.1**	**+0.6**
	comp=Z,622nm,1.4s					

LZH S **S** **09 13 50.0 +3.3**
LZH XS 09 13 59.0
LZH AMB AMB
comp=Z,720nm,1.5s,mb6.1
LZH AMB AMB
comp=Z,3μm,4.6s
LZH LR LR
comp=E,69μm,14.5s
LZH LR LR
comp=Z,75μm,15.2s,MS6.4
LZH Lanzhou 28.03 278 ⇑P **P** **09 09 06.0 +1.6**
comp=Z,720nm,1.5s,mb6.1
LZH pP pP 09 09 14.2 +5.6
LZH sP sP 09 09 19.4 +8.9
LZH PP PP 09 09 57.0 +2.5
LZH S **S** **09 13 50.0 +3.3**
LZH sS 09 13 59.0
LZH SS SS 09 15 15.0 +6.1
LZH LR LR
comp=Z,75μm,15.2s,MS6.4
FX1 Attu Island--F 28.40 46 P **P** **09 09 06.6 -1.0**
comp=Z,44nm,0.6s,mb5.3,baz=34,slow=5.2,SNR=4.5
FX1 Attu Island--F 28.40 46 P **P** **09 09 06.6 -1.0**
FX1 pmax pmax
comp=Z,44nm,0.6s
GYA Guiyang 29.30 258 ⇑P **P** **09 09 15.5 -0.6**
GYA AP pP 09 09 19.6 -0.7
GYA XP sP 09 09 22.8 +0.7
GYA PP PP 09 10 09.4 -1.8
GYA S **S** **09 14 07.3 0.0**
GYA AMB AMB
comp=Z,200nm,1.5s,mb5.6
GYA LR LR
comp=N,62μm,14.1s,MS6.5
GYA LR LR
comp=E,42μm,13.2s,MS6.5
GYA LR LR
comp=Z,50μm,12.0s,MS6.4
GTA Gaotai 30.54 286 P **P** **09 09 26.8 -0.1**
GTA AP pP 09 09 31.8 +0.7
GTA XP sP 09 09 34.6 +1.6
GTA PCP PcP 09 12 25.5 -0.3
GTA S **S** **09 14 29.4 +2.6**
GTA LR LR
comp=N,31μm,11.0s,MS6.4
GTA LR LR
comp=E,38μm,13.7s,MS6.4
GTA LR LR
comp=Z,21μm,11.8s,MS6.0
KMI Kunming 33.03 259 ⇑*i*P **P** **09 09 50.4 +1.5**
KMI AP pP 09 09 54.4 +1.3
KMI AMB AMB
comp=Z,146nm,1.5s,mb5.7
KMI LR LR
comp=N,79μm,14.0s,MS6.7
KMI LR LR
comp=E,53μm,13.6s,MS6.7
KMI LR LR
comp=Z,56μm,14.0s,MS6.4
KMI Kunming 33.03 259 ⇑*i*P **P** **09 09 50.4 +1.5**
comp=Z,146nm,1.5s,mb5.7
KMI pP pP 09 09 54.4 +1.3
KMI S **S** **09 15 05.9 0.0**
KMI LR LR
comp=Z,56μm,14.0s,MS6.4
TIXI Tiksi 34.75 354 ⇓*e*P **P** **09 10 03.6 +0.3**
TIXI *e* 09 11 19.0
TIXI *e* 09 12 35.7
TIXI pmax pmax
comp=Z,139nm,1.4s,mb5.7
TIXI MLR MLR
comp=Z,9μm,12.0s,MS5.7
UBT Ubonrachathani 37.20 243 P **P** **09 10 24.5 0.0**
KKM Kota Kinabalu 37.40 219 *e*P **P** **09 10 28.9 +2.7**
WMQ Urumqi 38.89 296 P **P** **09 10 37.0 -1.5**
WMQ XP sP 09 10 45.0 +0.4
WMQ PP PP 09 12 10.0 -1.6
WMQ S **S** **09 16 34.0 -1.7**
WMQ AMB AMB
comp=Z,140nm,1.2s,mb5.6
WMQ AMB AMB
comp=Z,4μm,8.0s
WMQ LR LR
comp=N,30μm,18.0s,MS6.3
WMQ LR LR
comp=E,35μm,20.0s,MS6.3
WMQ LR LR
comp=Z,31μm,20.0s,MS6.1
CMAR Chiang Mai Arr 39.65 253 P **P** **09 10 44.9 -0.1**
comp=Z,12nm,1.0s,baz=44,slow=7.6,SNR=9.8
CMAR PcP PcP 09 12 52.8 +0.2
comp=Z,33nm,1.0s,baz=26,slow=2.2,SNR=9.1
CMAR PKKPbc 09 35 22.6
comp=Z,0.6nm,0.5s,baz=287,slow=4.6,SNR=4.2
ZAL Zalesovo 40.22 312 P **P** **09 10 48.5 -0.9**
comp=Z,12nm,0.5s,baz=18,slow=8.9,SNR=11
ZAL PcP PcP 09 12 53.6 -0.4
comp=Z,20nm,0.8s,baz=18,slow=1.8,SNR=6.3
ZAL Zalesovo 40.22 312 P **P** **09 10 48.5 -0.9**
ZAL 09 12 53.6
ZAL pmax pmax
comp=Z,13nm,0.5s
BDT Bhumibol Dam 40.33 251 P **P** **09 10 51.0 +0.4**
TNA Tin City 41.58 30 *e*P **P** **09 11 00.9 +0.7**
comp=Z,126nm,1.1s,mb5.5
ANM Nome 42.38 32 *e*P **P** **09 11 09.4 +2.5**
NNT Nongplab 42.77 245 P **P** **09 11 11.0 +0.3**
KURK Kurchatov 44.14 308 *o*P **P** **09 11 19.9 -1.5**
KURK Kurchatov 44.14 308 *e*P **P** **09 11 20.0 -1.4**
comp=Z,188nm,0.9s,mb5.8
GUN Gumba 45.12 274 *e*P **P** **09 11 29.1 -0.5**
comp=Z,610nm,1.0s,mb6.4
PKI Pulchoki 45.64 274 *e*P **P** **09 11 32.9 -0.8**
comp=Z,168nm,1.1s,mb5.9
KKN Kakani 45.65 274 *e*P **P** **09 11 32.8 -1.0**
comp=Z,378nm,0.9s,mb6.3
DMN Daman 45.87 274 *e*P **P** **09 11 34.9 -0.6**
comp=Z,472nm,1.4s,mb6.2
SNG Songkhla 45.91 239 P **P** **09 11 36.0 0.0**
comp=Z,150nm,0.8s,mb6.0
GKN Gorkha 46.07 275 *e*P **P** **09 11 36.4 -0.7**
comp=Z,966nm,1.3s,mb6.6
KOLN Koldanda 46.99 275 *e*P **P** **09 11 44.0 -0.4**
comp=Z,1μm,1.6s,mb6.5
PMG Port Moresby 47.16 169 P **P** **09 11 44.1 -1.8**
comp=Z,19nm,0.8s,mb5.1,baz=206,slow=3.0,SNR=4.3
PMG PcP PcP 09 13 15.0 -2.9
comp=Z,48nm,0.9s,baz=235,slow=8.2,SNR=2.4
PMG Port Moresby 47.16 169 P **P** **09 11 44.1 -1.8**
PMG 09 13 15.0
PMG pmax pmax
comp=Z,19nm,0.8s
PMG Port Moresby 47.16 169 *e*P **P** **09 11 43.6 -2.2**
comp=Z,39nm,0.9s,mb5.3
IMA Indian Mountai 47.44 31 *e*P **P** **09 11 49.1 +1.7**
IMA pmax pmax
comp=Z,750nm,1.1s,mb6.5
IMA Indian Mountai 47.44 31 *e*P **P** **09 11 47.8 +0.4**
IPM Ipoh 47.54 236 ⇓*e*P **P** **09 11 50.0 +1.1**
TKM2 Tokmak 2 47.70 297 P **P** **09 11 50.2 +0.4**
SNR=28
RSO Redoubt South 47.90 38 *e*P **P** **09 11 51.0 -0.1**
KGM Kluang 48.02 231 ⇓*e*P **P** **09 11 52.0 -0.7**
comp=Z,133nm,1.0s,mb5.9
KZA Kyzart 48.18 296 P **P** **09 11 56.2 +2.7**
SNR=16
SPU Mount Spurr 48.20 37 *e*P **P** **09 11 53.7 +0.3**
KBK Karagaybulak 48.23 297 P **P** **09 11 50.4 -3.6**
SNR=22
CHMS Chumysh 48.27 298 P **P** **09 11 54.2 -0.1**
SNR=9.7
USP Ospenovka 48.38 298 P **P** **09 11 55.6 +0.5**
SNR=14
KSH Kashi 48.43 293 *e*P **P** **09 11 55.1 -0.4**
KSH AP pP 09 12 00.0 +0.2
KSH XP sP 09 12 02.4 +0.8
KSH *e*PCP PcP 09 13 22.3 +0.1
KSH *e*PP PP 09 13 47.8 -0.1
KSH *e*PPP PPP 09 14 37.3 -2.4
KSH *e*SCP 09 17 16.8
KSH *e*PCS 09 17 20.0
KSH *e*S **S** **09 18 54.3 -0.3**
KSH AMB AMB
comp=Z,3μm,7.0s
KSH LR LR
comp=N,21μm,11.0s,MS6.7
KSH LR LR
comp=E,47μm,15.3s,MS6.7
AAK Ala-Archa 48.56 297 P **P** **09 11 59.1 +2.6**
SNR=12
AAK Ala-Archa 48.56 297 ⇑*e*P **P** **09 11 55.7 -0.7**
AAK Ala-Archa 48.56 297 *e*P **P** **09 11 55.0 -1.4**
BVAR Borovoye Array 48.86 312 P **P** **09 11 57.7 -0.9**
comp=E,39nm,0.8s,mb5.5,baz=79,slow=8.3,SNR=21
BVAR PcP PcP 09 13 22.8 -0.7
comp=E,32nm,0.7s,baz=96,slow=4.5,SNR=8.9
BRVK Borovoye 48.92 312 *e*P **P** **09 11 57.5 -1.5**
EKS2 Erkin-Say 49.06 298 P **P** **09 12 00.9 +0.6**
SNR=5.3
SLKM Skilak Lake 49.15 38 *e*P **P** **09 12 01.7 +1.0**
SLKM Skilak Lake 49.15 38 *e*P **P** **09 12 01.1 +0.4**
AML Almayashu 49.27 297 P **P** **09 12 02.7 +0.8**
SNR=38
MCK McKinley 49.49 34 *e*P **P** **09 12 02.5 -0.8**
comp=E,56nm,1.0s,mb5.5
PMR Palmer 49.57 37 *e*P **P** **09 12 03.1 -0.9**
COLA College 49.88 32 *e*P **P** **09 12 05.5 -0.8**
COLA pmax pmax
comp=Z,210nm,1.5s,mb6.0
COLA College 49.88 32 *e*P **P** **09 12 06.8 +0.5**
SML Sawmill 49.93 36 P **P** **09 12 07.1 +0.4**
SML Sawmill 49.93 36 *e*P **P** **09 12 05.7 -1.1**
ILAR Eielson Array 50.30 32 P **P** **09 12 08.3 -1.2**
comp=Z,54nm,0.9s,mb5.6,baz=281,slow=6.6,SNR=30
ILAR Eielson Array 50.30 32 P **P** **09 12 08.4 -1.1**
ILAR pmax pmax
comp=Z,54nm,0.9s
THY Trims Highway 50.94 34 *e*P **P** **09 12 17.2 +2.9**
DIV Divide 51.23 37 *e*P **P** **09 12 15.4 -1.2**
comp=Z,1μm,1.3s,mb6.7
EYAK Cordova Ski Ar 51.34 38 *e*P **P** **09 12 16.8 -0.6**
SVE Sverdlovsk 53.57 318 ⇑*i*P **P** **09 12 33.5 -0.7**
SVE pmax pmax
comp=Z,1μm,2.2s,mb6.4
ARU Arti 54.78 318 ⇑*i*P **P** **09 12 41.8 -1.3**
ARU *i* 09 13 44.5
ARU *e* 09 14 44.7
ARU *e*PPP PPP 09 15 57.8 -1.4
ARU *i*S **S** **09 20 22.8 +1.3**
ARU pmax pmax
comp=Z,783nm,1.4s,mb6.5
INK Inuvik 55.02 27 P **P** **09 12 43.5 -1.2**
comp=Z,54nm,0.8s,mb5.7,baz=296,slow=6.1,SNR=22
INK Inuvik 55.02 27 P **P** **09 12 43.5 -1.2**
INK pmax pmax
comp=Z,54nm,0.8s
INK Inuvik 55.02 27 *e*P **P** **09 12 43.5 -1.2**
HYB Hyderabad 56.20 267 *i*P **P** **09 12 53.0 -0.9**
comp=Z,303nm,1.2s,mb6.2
HYB Hyderabad 56.20 267 *e*P **P** **09 12 53.0 -0.9**
comp=Z,303nm,1.2s,mb6.2
KIP Kipapa 56.27 88 P **P** **09 12 54.7 +0.4**
KIP pmax pmax
comp=Z,170nm,0.9s,mb6.1
KIP Kipapa 56.27 88 *e*P **P** **09 12 54.1 -0.2**
comp=Z,186nm,0.9s,mb6.1
FITZ Fitzroy Crossi 56.55 195 P **P** **09 12 54.3 -2.1**
comp=Z,110nm,1.0s,mb5.9,baz=9.2,slow=8.9,SNR=18
FITZ PcP PcP 09 13 51.2 -1.6
comp=Z,50nm,1.1s,baz=18,slow=8.1,SNR=1.4
WRAB Tennant Creek 57.14 185 P **P** **09 12 58.2 -2.4**
comp=Z,1μm,1.0s,mb6.9,SNR=36
WRAB Tennant Creek 57.14 185 *e*P **P** **09 12 58.1 -2.5**
WRA Warramunga Arr 57.15 185 P **P** **09 12 58.3 -2.4**
comp=Z,202nm,1.0s,mb6.1,baz=359,slow=7.3,SNR=59
WRA PcP PcP 09 13 54.0 -1.2
comp=Z,40nm,0.8s,baz=357,slow=4.2,SNR=5.9
WRA Warramunga Arr 57.15 185 P **P** **09 12 58.3 -2.3**
WRA 09 13 54.0
WRA pmax pmax
comp=Z,202nm,1.0s
CTA Charters Tower 57.55 172 P **P** **09 13 01.5 -2.0**
comp=Z,25nm,0.8s,mb5.3,baz=349,slow=8.5,SNR=11
CTA Charters Tower 57.55 172 P **P** **09 13 01.5 -2.0**
CTA pmax pmax
comp=Z,25nm,0.8s
CTAO Charters Tower 57.55 172 *e*P **P** **09 13 01.6 -1.9**
CTAO pmax pmax
comp=Z,71nm,1.2s,mb5.6
CTAO Charters Tower 57.55 172 *e*P **P** **09 13 01.1 -2.3**
comp=Z,72nm,1.3s,mb5.5
POHA Pohakuloa 59.12 88 *e*P **P** **09 13 14.7 +0.3**
comp=Z,291nm,0.9s,mb6.3
DLBC Dease Lake 59.61 38 P **P** **09 13 17.6 +0.4**
comp=Z,11nm,0.6s,mb5.0,baz=298,slow=5.6,SNR=14
DLBC Dease Lake 59.61 38 *e*P **P** **09 13 18.0 +0.7**
KAD Karad 59.74 269 *e*P **P** **09 13 16.8 -1.9**
PALK Pallekele 60.48 256 *e*P **P** **09 13 22.3 -1.6**
comp=Z,288nm,1.4s,mb6.1
ASAR Alice Springs 60.88 185 P **P** **09 13 24.2 -2.1**
comp=Z,52nm,0.9s,mb5.6,baz=8.4,slow=6.5,SNR=30
ASAR PcP PcP 09 14 06.1 -3.7
comp=Z,22nm,0.9s,slow=4.5,SNR=3.1
MBWA Marble Bar 60.94 201 *e*P **P** **09 13 24.5 -2.3**
comp=Z,88nm,1.0s,mb5.8
LVZ Lovozero 60.98 335 *i*P **P** **09 13 27.1 +0.6**
LVZ *i* 09 14 11.6
LVZ pmax pmax
comp=Z,199nm,1.1s,mb6.2
LVZ pmax pmax
comp=N,66nm,1.3s
LVZ pmax pmax
comp=E,62nm,1.2s
LVZ Lovozero 60.98 335 ⇓*e*P **P** **09 13 25.1 -1.4**
APA Apatity 61.56 335 ⇑*i*P **P** **09 13 29.3 -1.1**
APA *i* 09 14 08.7
APA *e* 09 22 05.0
APA pmax pmax
comp=Z,420nm,1.4s,mb6.4
APA MLR MLR
comp=Z,46μm,12.0s,MS6.8
KEV Kevo 62.42 339 *e*p **P** **09 13 34.3 -1.9**
ARCES ARCESS Array B 62.98 339 P **P** **09 13 38.0 -1.8**
comp=Z,124nm,1.1s,mb6.0,baz=58,slow=6.1,SNR=55
ARCES PcP PcP 09 14 14.5 -3.2
comp=Z,41nm,1.1s,baz=90,slow=4.5,SNR=3.8
ARCES ARCESS Array B 62.98 339 P **P** **09 13 38.0 -1.9**
ARCES 09 14 14.5
ARCES pmax pmax
comp=Z,124nm,1.1s
KTK1 Kautokeino 63.94 339 *e*P **P** **09 13 44.6 -1.5**
KTK1 AMb AMB 09 13 50.7
comp=Z,439nm,1.4s,mb6.3
KTK1 Kautokeino 63.94 339 *e*P **P** **09 13 44.6 -1.5**
comp=Z,439nm,1.4s,mb6.3
YKW3 Yellowknife Ar 64.49 29 *e*P **P** **09 13 48.8 -1.0**
NOUC Port Laguerre 64.53 152 ⇑*e*P **P** **09 13 50.3 -0.4**
YKA Yellowknife Ar 64.53 30 P **P** **09 13 49.0 -1.1**
comp=Z,7.3nm,0.7s,baz=304,slow=6.4,SNR=10
YKA PKPPKP 09 42 30.0
comp=Z,4.9nm,1.0s,baz=142,slow=2.2,SNR=5.7
YKA Yellowknife Ar 64.53 30 P **P** **09 13 49.0 -1.1**
YKA P'P' 09 42 30.0
JOF Joensuu 64.72 331 *e*p **P** **09 13 49.8 -1.5**
TRO Tromso 64.75 340 *e*P **P** **09 13 49.2 -2.1**
TRO AMb AMB 09 13 54.3
comp=Z,318nm,1.6s,mb6.1
TRO Tromso 64.75 340 *e*P **P** **09 13 49.2 -2.1**
comp=Z,318nm,1.6s,mb6.1
DAG Danmarks Havn 65.27 354 ⇑*i*P **P** **09 13 54.0 -0.6**
comp=Z,316nm,1.5s,mb6.1
MOS Moscow 65.78 323 *e*P **P** **09 13 55.1 -3.1**
MOS *e* 09 14 25.0
MOS *e*S S 09 22 42.6 0.0
MOS pmax pmax
comp=Z,1μm,1.6s,mb6.6
MOS smax
comp=E,2μm,3.5s
MOS smax
comp=N,2μm,4.1s
MNCY Minicoy 65.86 262 ⇑*i*P **P** **09 13 57.0 -2.4**
MNCY *i* 09 14 57.0
OBN Obninsk 66.62 322 *c*i P **P** **09 14 02.9 -0.7**
OBN pmax pmax
comp=Z,620nm,1.4s,mb6.5
OBN MLR MLR
comp=Z,36μm,16.0s,MS6.7
OBN Obninsk 66.62 322 *e*P **P** **09 14 01.7 -1.9**
MAK Makhachkala 66.66 307 *d*i P **P** **09 14 06.8 +2.7**
MAK pmax pmax
comp=Z,6μm,8.0s
PUL Pulkovo 66.88 329 *e*P **P** **09 14 07.7 +2.6**
PUL pmax pmax
comp=Z,405nm,0.9s,mb6.5
PUL pmax pmax
comp=N,444nm,1.0s
PUL pmax pmax
comp=E,1μm,1.4s
PUL Pulkovo 66.88 329 ⇑*e*P **P** **09 14 05.7 +0.6**
VOR Voronezh 67.06 318 *e*P **P** **09 14 05.0 -1.5**
VOR *e* 09 14 22.5
VOR *e* 09 22 57.0
VOR pmax pmax
comp=N,240nm,1.4s
VOR pmax pmax
comp=E,270nm,1.4s
VOR pmax pmax
comp=Z,540nm,1.4s,mb6.4
KAF Kangasniemi 67.09 332 *e*p **P** **09 14 03.8 -2.6**
comp=Z,129nm,0.9s,mb6.0,baz=51,slow=6.0
KAF Kangasniemi 67.09 332 *e*P **P** **09 14 03.8 -2.6**
KAF pmax pmax
comp=Z,129nm,0.9s,mb6.0
LOF Lofoten 67.20 341 *e*P **P** **09 14 08.3 +1.3**
LOF AMb AMB 09 14 11.4
comp=Z,124nm,1.2s,mb5.8
LOF Lofoten 67.20 341 *e*P **P** **09 14 08.3 +1.3**
comp=Z,124nm,1.2s,mb5.8
PGC Sidney 67.56 45 *e*P **P** **09 14 09.2 -0.4**
comp=Z,85nm,0.8s,mb5.8
FINES FINESS Array B 67.58 331 P **P** **09 14 08.0 -1.5**
comp=Z,184nm,0.9s,mb6.1,baz=62,slow=5.3,SNR=59
FINES FINESS Array B 67.58 331 P **P** **09 14 08.0 -1.5**
FINES pmax pmax
comp=Z,184nm,0.9s
FINES FINESS Array B 67.58 331 P **P** **09 14 08.0 -1.5**
MELS Mels 68.06 340 *e*P **P** **09 14 11.0 -1.5**
MOR8 Moi Rana 68.35 339 *e*P **P** **09 14 11.5 -2.8**
MOR8 AMb AMB 09 14 16.7
comp=Z,489nm,1.4s,mb6.4
MOR8 Moi Rana 68.35 339 *e*P **P** **09 14 11.5 -2.8**
comp=Z,489nm,1.4s,mb6.3
GOF Gofitskoye 68.37 311 ⇓*i*P **P** **09 14 15.0 +0.2**
GOF pmax pmax
comp=Z,600nm,1.3s,mb6.5
STOK Stokkvaagen 68.64 339 *e*P **P** **09 14 15.1 -1.0**
STOK AMb AMB 09 14 19.6
comp=Z,305nm,1.6s,mb6.0
STOK Stokkvaagen 68.64 339 *e*P **P** **09 14 15.1 -1.0**
comp=Z,305nm,1.6s,mb6.0
RPW Rockport 68.76 45 *e*P **P** **09 14 16.4 -0.7**
BMW Boistfort Moun 68.83 47 *e*P **P** **09 14 19.3 +1.7**
BMW Boistfort Moun 68.83 47 *e*P **P** **09 14 18.6 +1.0**
AFI Afiamalu 68.90 128 *e*P **P** **09 14 19.2 +0.7**
STKA Stephens Creek 68.92 178 P **P** **09 14 16.6 -1.8**
comp=Z,63nm,0.9s,mb5.5,baz=330,slow=6.8,SNR=22
STKA PKP2bc 09 42 30.1
comp=Z,3.4nm,1.0s,baz=188,slow=3.5,SNR=5.4
STKA Stephens Creek 68.92 178 P **P** **09 14 16.6 -1.8**
STKA ⇑*e* 09 42 30.1
RMW Rattlesnake Mo 69.12 46 P **P** **09 14 19.7 +0.3**
RMW Rattlesnake Mo 69.12 46 *e*P **P** **09 14 19.6 +0.2**
KIV Kislovodsk 69.16 310 *c*i P **P** **09 14 19.4 -0.3**
KIV pmax pmax
comp=Z,881nm,1.7s,mb6.4
KIV MLR MLR
comp=Z,20μm,16.0s,MS6.5
KIV Kislovodsk 69.16 310 *e*P **P** **09 14 17.3 -2.4**
comp=Z,800nm,1.3s,mb6.5
NLW Nelson Butte 69.62 45 *e*P **P** **09 14 22.1 -0.2**
COR Corvallis 69.80 49 P **P** **09 14 25.4 +1.8**
COR pmax pmax
comp=Z,510nm,1.5s,mb6.2
COR Corvallis 69.80 49 *e*P **P** **09 14 25.0 +1.4**
comp=Z,210nm,1.1s,mb6.0
GNI Garni 69.89 305 *e*P **P** **09 14 23.7 -0.5**
GNI Garni 69.89 305 P **P** **09 14 24.4 +0.2**
comp=Z,66nm,1.0s,mb5.5,baz=266,slow=7.0,SNR=18
GNI Garni 69.89 305 *e*P **P** **09 14 24.9 +0.7**
GNI pmax pmax
comp=Z,830nm,1.6s
SSOR Sweet Springs 70.16 48 *e*P **P** **09 14 26.7 +1.0**
SSOR Sweet Springs 70.16 48 *e*P **P** **09 14 25.7 0.0**
NSS Namsos 70.26 338 *e*P **P** **09 14 24.3 -1.7**
NSS AMb AMB 09 14 28.8
comp=Z,250nm,1.6s,mb5.9
NSS Namsos 70.26 338 *e*P **P** **09 14 24.3 -1.7**
comp=Z,250nm,1.6s,mb5.9
EDM Edmonton 70.33 37 P **P** **09 14 27.2 +0.6**
EDM Edmonton 70.33 37 *e*P **P** **09 14 26.6 0.0**
SUMG Summit 70.35 359 *e*P **P** **09 14 25.9 -0.6**
comp=Z,290nm,1.1s,mb6.1
HSO Harness Mounta 70.50 50 P **P** **09 14 30.1 +2.2**
HSO Harness Mounta 70.50 50 *e*P **P** **09 14 29.7 +1.8**
DPW Davenport 70.92 44 *e*P **P** **09 14 29.8 -0.5**
DPW Davenport 70.92 44 *e*P **P** **09 14 29.7 -0.6**
HAWA Hanford 71.01 46 *e*P **P** **09 14 29.2 -1.7**
comp=Z,192nm,1.5s,mb5.8
IZAR Zarasai 71.04 327 *e*P **P** **09 14 29.9 -1.1**
IZAR AMPb AMB 09 14 36.5
comp=Z,136nm,1.4s,mb5.7
HUMO Hull Mountain 71.09 51 *e*P **P** **09 14 31.9 +0.5**
comp=Z,113nm,1.4s,mb5.6
IDID Didziasalis 71.10 326 *e*P **P** **09 14 30.4 -0.9**
IDID AMPb AMB 09 14 36.9
comp=Z,120nm,1.3s,mb5.7
SOC Sochi 71.17 311 *e*P **P** **09 14 31.8 -0.1**
SOC *e* 09 14 52.4
SOC *e*PPP PPP 09 18 48.5 -4.6
SOC *e*S S 09 23 44.7 -2.3
SOC *e* 09 24 30.8
SOC *e*SS SS 09 28 24.1 +1.3
SOC *e*SSS SSS 09 31 29.2 -0.1
SOC pmax pmax
comp=Z,376nm,1.5s,mb6.1
SOC pmax pmax
comp=N,221nm,2.2s
SOC smax
comp=N,311nm,3.1s
SOC smax
comp=E,1μm,5.8s
SOC MLR MLR
comp=Z,26μm,16.0s,MS6.6
SOC MLR MLR
comp=N,17μm,15.0s,MS6.6
SOC MLR MLR
comp=E,13μm,13.0s,MS6.6
BCA Borcka 71.18 308 *e*P **P** **09 14 32.0 0.0**
ISAL Salakas 71.21 326 *i*P **P** **09 14 31.0 -0.9**
ISAL AMPb AMB 09 14 37.6
comp=Z,204nm,1.4s,mb5.8
NEW Newport 71.29 43 P **P** **09 14 32.0 -0.6**
comp=Z,34nm,0.8s,mb5.3,baz=302,slow=4.9,SNR=21
NEW Newport 71.29 43 P **P** **09 14 32.0 -0.6**
NEW pmax pmax
comp=Z,34nm,0.8s
NEW Newport 71.29 43 *e*P **P** **09 14 31.4 -1.2**
comp=Z,492nm,2.1s,mb6.1
IIGN Ignalina 71.31 326 *e*P **P** **09 14 31.6 -0.9**
IIGN AMPb AMB 09 14 38.2
comp=Z,130nm,1.3s,mb5.7
TRON Trondheim 71.51 338 *e*P **P** **09 14 33.4 -0.3**
TRON *e*pP pP 09 14 37.4 -0.8
KHMM Horse Mountain 71.56 52 *e*P **P** **09 14 36.3 +2.0**
VANB Van 71.61 305 *e*P **P** **09 14 34.0 -0.7**
YBH Yreka Blue Hor 71.73 51 P **P** **09 14 35.0 -0.3**
comp=Z,85nm,1.3s,mb5.5,baz=269,slow=2.0,SNR=13
YBH Yreka Blue Hor 71.73 51 P **P** **09 14 36.3 +1.0**
YBH pmax pmax
comp=Z,180nm,1.4s
YBH Yreka Blue Hor 71.73 51 *e*P **P** **09 14 35.9 +0.6**
comp=Z,128nm,1.3s,mb5.7
ANN Anapa 71.84 313 *c*i P **P** **09 14 34.8 -1.1**
ANN *e* 09 15 00.2
ANN *e*S S 09 23 54.6 -0.1
ANN pmax pmax
comp=Z,536nm,1.6s,mb6.2
ANN pmax pmax
comp=N,62nm,0.8s
ANN pmax pmax
comp=E,50nm,0.6s
ANN MLR MLR
comp=E,9μm,13.0s
ANN MLR MLR
comp=Z,16μm,13.0s,MS6.5

ANN MLR MLR
comp=N,23µm,20.0s
HKR Hakkari 71.94 304 *eP* **P 09 14 37.2 +0.5**
ADE Adelaide 71.95 180 *eP* **P 09 14 36.8 0.0**
LNOR Lincton Mounta 72.02 46 *eP* **P 09 14 37.8 +0.8**
LNOR Lincton Mounta 72.02 46 *eP* **P 09 14 37.9 +0.9**
EZM Erzurum 72.20 307 *i P* **P 09 14 39.3 +1.2**
WDC Whiskeytown Da 72.48 52 *eP* **P 09 14 39.8 0.0**
WDC pmax pmax
comp=Z,210nm,1.5s,mb5.8
WDC Whiskeytown Da 72.48 52 *eP* **P 09 14 39.6 -0.2**
comp=Z,214nm,1.6s,mb5.8
VRT Varto 72.52 306 *i P* **P 09 14 40.9 +0.9**
WALA Waterton Lakes 72.54 41 *eP* **P 09 14 39.6 -0.3**
comp=Z,127nm,1.3s,mb5.7
NWAO Narrogin (SRO) 72.78 199 *eP* **P 09 14 40.1 -1.6**
AKASG Malin Array Be 72.80 321 P **P 09 14 40.2 -1.2**
comp=Z,169nm,1.0s,mb5.9,baz=46,slow=6.2,SNR=65
AKASG Malin Array Be 72.80 321 P **P 09 14 40.2 -1.2**
AKASG pmax pmax
comp=Z,169nm,1.0s
DOMB Dombas 73.00 338 *eP* **P 09 14 41.4 -0.9**
DOMB *epP* *pP* 09 14 45.4 -1.5
DOMB AMb AMB 09 14 47.6
comp=Z,496nm,1.5s,mb6.2
DOMB Dombas 73.00 338 *eP* **P 09 14 41.4 -0.9**
comp=Z,496nm,1.5s,mb6.2
HOPS Hopland 73.04 54 *eP* **P 09 14 44.2 +1.1**
comp=Z,190nm,1.6s,mb5.8
MOL Molde 73.04 339 *eP* **P 09 14 44.5 +1.9**
MOL AMb AMB 09 14 49.2
comp=Z,484nm,1.6s,mb6.2
MOL Molde 73.04 339 *eP* **P 09 14 44.5 +1.9**
comp=Z,484nm,1.6s,mb6.2
BTMT Batman 73.08 305 *eP* **P 09 14 43.7 +0.4**
GUMT Gumushane 73.08 308 *eP* **P 09 14 43.9 +0.6**
NB2 NORSAR Subarra 73.10 336 P **P 09 14 41.8 -1.1**
comp=Z,279nm,1.0s,mb6.2,baz=40,slow=6.2
NB2 NORSAR Subarra 73.10 336 P **P 09 14 41.8 -1.1**
baz=40,slow=6.2
NOA NORSAR Array B 73.10 336 P **P 09 14 41.9 -1.0**
comp=Z,122nm,0.8s,mb5.9,baz=40,slow=5.9,SNR=55
NOA PP PP 09 17 24.7 -3.2
comp=Z,20nm,0.9s,baz=43,slow=8.6,SNR=8.4
NOA NORSAR Array B 73.10 336 P **P 09 14 41.9 -1.0**
NOA 09 17 24.7
NOA pmax pmax
comp=Z,122nm,0.9s
NOA pmax pmax
comp=Z,20nm,0.9s
MOD Modoc 73.11 50 *eP* **P 09 14 43.5 0.0**
comp=Z,152nm,1.5s,mb5.7
EZC Erzincan 73.27 307 *eP* **P 09 14 47.5 +3.1**
BINT Bingol 73.33 306 *eP* **P 09 14 47.7 +2.9**
SUW Suwalki 73.52 326 *eP* **P 09 14 46.3 +0.8**
SUW *epP* *pP* 09 14 48.9 -1.1
UMR Umm Al-Rimmam 73.61 295 *eP* **P 09 14 46.2 -0.4**
SIM Simferopol' 73.67 314 *ceP* **P 09 14 45.9 -0.7**
SIM pmax pmax
comp=Z,210nm,1.1s,mb6.0
KBD Kabd 73.83 294 *eP* **P 09 14 47.2 -0.7**
OHCM Honcut 73.86 53 *eP* **P 09 14 47.5 -0.3**
MSO Missoula 73.88 43 *eP* **P 09 14 47.3 -0.4**
comp=Z,156nm,1.5s,mb5.7
QRN Al-Qurain 73.91 294 *eP* **P 09 14 47.8 -0.5**
PTK Pertek 74.03 307 *eP* **P 09 14 50.9 +2.1**
RDF Al-Radifah 74.08 294 *eP* **P 09 14 49.2 -0.1**
RST Umm Al-Ruwaisa 74.15 295 *eP* **P 09 14 48.8 -0.9**
CHMT Chamberlain Mo 74.20 43 *eP* **P 09 14 48.8 -0.9**
BEKR Beckwourth 74.26 52 *eP* **P 09 14 50.1 0.0**
comp=Z,276nm,1.5s,mb6.0
LKC Lake Chabot 74.40 54 *eP* **P 09 14 50.9 -0.1**
FFC Flin Flon 74.51 32 *eP* **P 09 14 51.5 +0.2**
FFC pmax pmax
comp=Z,92nm,1.2s,mb5.6
FFC Flin Flon 74.51 32 *eP* **P 09 14 50.1 -1.1**
comp=Z,92nm,1.2s,mb5.6
FOO Floro 74.53 339 *eP* **P 09 14 50.7 -0.5**
FOO AMb AMB 09 14 56.6
comp=Z,359nm,1.4s,mb6.1
FOO Floro 74.53 339 *eP* **P 09 14 50.7 -0.5**
comp=Z,359nm,1.4s,mb6.1
HYA Hoyanger 74.55 338 *eP* **P 09 14 51.5 +0.2**
HYA AMb AMB 09 14 57.1
comp=Z,467nm,1.5s,mb6.2
HYA Hoyanger 74.55 338 *eP* **P 09 14 51.5 +0.2**
comp=Z,467nm,1.5s,mb6.2
FCC Fort Churchill 74.60 26 P **P 09 14 52.5 +0.8**
FCC pmax pmax
comp=Z,330nm,1.6s,mb6.0
FCC Fort Churchill 74.60 26 *eP* **P 09 14 51.5 -0.2**
comp=Z,164nm,1.4s,mb5.8
KVT Kavak 74.84 310 *eP* **P 09 14 53.1 -0.3**
PAHR Pah Rah Range 74.96 51 *eP* **P 09 14 53.7 -0.5**
PAHR ⇓*epP* *pP* 09 14 57.3 -1.4
WCN Washoe City 74.97 52 *eP* **P 09 14 54.7 +0.5**
WCN pmax pmax
comp=Z,320nm,1.6s,mb6.0
WCN Washoe City 74.97 52 *eP* **P 09 14 54.4 +0.2**
comp=Z,322nm,1.6s,mb6.0
MALT Malatya 74.98 307 *eP* **P 09 14 56.7 +2.3**
SUE Sulen 75.05 339 *eP* **P 09 14 53.9 -0.4**
SUE AMb AMB 09 14 59.1
comp=Z,311nm,1.4s,mb6.0
SUE Sulen 75.05 339 *eP* **P 09 14 53.9 -0.4**
comp=Z,311nm,1.4s,mb6.0
HRY Holter Researc 75.09 42 *eP* **P 09 14 54.6 -0.2**
CMB Columbia Colle 75.31 53 *eP* **P 09 14 56.3 +0.1**
CMB pmax pmax
comp=Z,370nm,1.4s,mb6.1
CMB Columbia Colle 75.31 53 *eP* **P 09 14 56.3 0.0**
comp=Z,365nm,1.5s,mb6.1
KIS Kishinev 75.33 318 ⇑*iP* **P 09 14 56.0 -0.1**
KIS pmax pmax
comp=Z,2µm,8.0s
KIS MLR MLR
comp=N,23µm,16.0s,MS6.8
KIS MLR MLR
comp=E,34µm,16.0s,MS6.8
KIS MLR MLR
comp=Z,53µm,16.0s,MS6.9
KIS MLR MLR
comp=Z,53µm,16.0s
ARNS Arna 75.33 338 *eP* **P 09 14 54.8 -1.1**
SAO San Andreas Ge 75.37 55 *eP* **P 09 14 56.9 +0.3**
SAO pmax pmax
comp=Z,47nm,0.9s,mb5.4
SAO San Andreas Ge 75.37 55 *eP* **P 09 14 54.7 -1.9**
comp=Z,46nm,0.9s,mb5.4
BYBT Boyabat 75.38 311 *eP* **P 09 14 58.0 +1.5**
ASK Askoy 75.39 338 *eP* **P 09 14 55.6 -0.6**
ASK AMb AMB 09 15 01.3
comp=Z,3µm,1.5s,mb7.0
ASK Askoy 75.39 338 *eP* **P 09 14 55.6 -0.6**
comp=Z,3µm,1.5s,mb7.0
RUND Rundenannen 75.39 338 *eP* **P 09 14 56.3 +0.1**
RUND AMb AMB 09 15 02.0
comp=Z,709nm,1.5s,mb6.4
ODD1 Odda 75.41 337 *eP* **P 09 14 55.2 -1.1**
ODD1 AMb AMB 09 15 00.4
comp=Z,340nm,1.5s,mb6.0
ODD1 Odda 75.41 337 *eP* **P 09 14 55.2 -1.1**
comp=Z,340nm,1.5s,mb6.1
BER Bergen 75.43 338 *eP* **P 09 14 56.4 0.0**
BER AMb AMB 09 15 01.1
comp=Z,1464µm,1.6s
BER Bergen 75.43 338 *eP* **P 09 14 56.4 0.0**
comp=Z,146nm,1.6s,mb5.7
BZK Bozkurt 75.54 312 *eP* **P 09 14 57.7 +0.2**
EGD Espegrend 75.55 338 *eP* **P 09 14 56.9 -0.2**
EGD AMb AMB 09 15 02.2
comp=Z,2µm,1.6s,mb6.8
EGD Espegrend 75.55 338 *eP* **P 09 14 56.9 -0.2**
comp=Z,2µm,1.6s,mb6.8
WAR Warsaw 75.67 326 *eP* **P 09 15 00.4 +2.4**
WAR LR LR
comp=Z,49µm,23.2s,MS6.8
MCMT McKenzie Canyo 75.71 44 *eP* **P 09 14 58.1 -0.3**
LRV Little Rabbit 75.85 55 *eP* **P 09 15 00.1 +0.8**
BLS5 Blasjo 75.86 337 *eP* **P 09 15 00.1 +1.2**
BLS5 AMb AMB 09 15 05.2
comp=Z,154nm,1.6s,mb5.7
BLS5 Blasjo 75.86 337 *eP* **P 09 15 00.1 +1.2**
comp=Z,154nm,1.6s,mb5.7
BMN Battle Mountai 75.86 50 *eP* **P 09 15 00.1 +0.8**
BMN pmax pmax
comp=Z,260nm,1.5s,mb5.9
BMN Battle Mountai 75.86 50 *eP* **P 09 14 59.6 +0.3**
comp=Z,126nm,1.2s,mb5.7
BOZ Bozeman (W) 75.87 43 *eP* **P 09 14 59.5 +0.3**
BOZ pmax pmax
comp=Z,400nm,1.4s,mb6.2
BOZ Bozeman (W) 75.87 43 *eP* **P 09 14 59.3 +0.1**
comp=Z,174nm,1.1s,mb5.9
CTKT Corum 75.87 310 *i P* **P 09 15 00.3 +0.9**
LVV L'vov 75.92 323 *eP* **P 09 15 01.0 +1.6**
TOS Tosya 76.09 311 P **P 09 15 01.8 +1.2**
GZT Gaziantep 76.09 306 *i P* **P 09 15 01.6 +0.9**
BALT Daday 76.16 312 *i P* **P 09 15 01.3 +0.3**
BSD Bornholm Skovb 76.19 331 ⇑*iP* **P 09 15 00.5 -0.4**
comp=Z,411nm,1.1s,mb6.3
BSD *i* 09 22 33.1
comp=Z,34µm,17.0s
BSD Bornholm Skovb 76.19 331 ⇑*eP* **P 09 15 00.5 -0.4**
comp=Z,411nm,1.1s,mb6.3
BSD *i* 09 22 33.1
DGAR Diego Garcia 76.20 249 *eP* **P 09 15 00.5 -1.2**
comp=Z,1µm,1.8s,mb6.6
BNN Bunyan 76.29 308 *eP* **P 09 15 03.1 +1.3**
KAHT Ahir Dag 76.37 307 *i P* **P 09 15 03.4 +1.1**
NVAR Mina Array Bea 76.39 52 P **P 09 15 03.0 +0.6**
comp=Z,75nm,1.1s,mb5.5,baz=286,slow=5.6,SNR=39
KMY Karmoy 76.40 337 *eP* **P 09 15 01.2 -0.8**
KMY AMb AMB 09 15 07.6
comp=Z,293nm,1.7s,mb5.9
KMY Karmoy 76.40 337 *eP* **P 09 15 01.2 -0.8**
comp=Z,293nm,1.7s,mb5.9
GAZ Gaziantep 76.43 306 *eP* **P 09 15 04.3 +1.7**
OMM Old Mammoth Mi 76.44 53 *eP* **P 09 15 02.8 +0.2**
STAV Stavanger 76.48 337 *eP* **P 09 15 02.0 -0.4**
STAV AMb AMB 09 15 07.9
comp=Z,342nm,1.4s,mb6.1
STAV Stavanger 76.48 337 *eP* **P 09 15 02.0 -0.4**
comp=Z,342nm,1.4s,mb6.1
MNV Mina 76.49 52 *eP* **P 09 15 03.5 +0.6**
MNV pmax pmax
comp=Z,170nm,1.4s,mb5.8
MNV Mina 76.49 52 *eP* **P 09 15 03.2 +0.4**
comp=Z,62nm,1.1s,mb5.5
QLMT Earthquake Lak 76.49 44 *eP* **P 09 15 03.2 +0.4**
CANT Cankiri 76.59 311 *eP* **P 09 15 07.2 +3.7**
GKP Gorka Klasztor 76.59 328 *eP* **P 09 15 02.6 -0.5**
GKP *epP* *pP* 09 15 05.6 -2.1
KWP Kalwaria 76.68 323 *eP* **P 09 15 03.6 -0.1**
KWP pmax pmax
comp=Z,2µm,1.3s,mb6.8
KWP Kalwaria 76.68 323 *eP* **P 09 15 03.8 +0.1**
COP Copenhagen 76.72 332 *i P* **P 09 15 05.7 +1.9**
comp=Z,175nm,0.8s,mb6.0
SAFT Safranbolu 76.76 312 *eP* **P 09 15 04.4 +0.1**
ELDT Eldivan 76.78 311 *i P* **P 09 15 04.6 +0.2**
GCMT Greycliff 76.83 42 *eP* **P 09 15 05.2 +0.5**
YMR Madison River 76.85 43 *eP* **P 09 15 05.3 +0.5**
CFR Carcaliu 76.86 317 ⇑*iP* **P 09 15 05.4 +0.6**
MTUM Tungsten Hills 76.88 53 *eP* **P 09 15 04.8 -0.3**
AVNT Avonos 76.95 309 *i P* **P 09 15 05.3 -0.1**
YNR Norris Junctio 76.98 43 *eP* **P 09 15 06.9 +1.4**
BORG Borgarnes 77.05 351 *eP* **P 09 15 05.2 -0.2**
comp=Z,165nm,1.1s,mb5.9
YFT Old Faithful 77.06 44 *eP* **P 09 15 07.2 +1.3**
YEL1 Yell 77.07 341 *eP* **P 09 15 05.6 -0.1**
BRTR Keskin Array B 77.12 310 P **P 09 15 06.3 -0.1**
comp=Z,71nm,0.9s,mb5.6,baz=102,slow=3.4,SNR=32
BRTR Keskin Array B 77.12 310 P **P 09 15 06.3 -0.1**
BRTR pmax pmax
comp=Z,71nm,1.0s
BRD Bordesti 77.21 318 ⇑*iP* **P 09 15 09.2 +2.5**
BRD Bordesti 77.21 318 ⇑*iP* **P 09 15 09.3 +2.6**
LKWY Lake 77.23 43 *eP* **P 09 15 10.8 +3.9**
LKWY pmax pmax
comp=Z,430nm,1.5s,mb6.2
LKWY Lake 77.23 43 *eP* **P 09 15 09.3 +2.4**
comp=Z,256nm,1.3s,mb6.0
TPH Tonopah 77.29 52 *eP* **P 09 15 07.8 +0.5**
TPH pmax pmax
comp=Z,420nm,1.5s,mb6.2
TPH Tonopah 77.29 52 *eP* **P 09 15 07.6 +0.3**
comp=Z,169nm,1.1s,mb5.9
KAMT Kaman 77.29 310 P **P 09 15 07.4 +0.1**
KOLS Kolonicke sedl 77.36 323 *i P* **P 09 15 08.3 +0.8**
COBT Iskenderun 77.43 306 *i P* **P 09 15 08.6 +0.4**
LRW Lerwick 77.45 341 ⇑*eP* **P 09 15 07.0 -0.8**
CEYT Ceyhan 77.46 307 *eP* **P 09 15 10.1 +1.8**
WAL1 Walls 77.46 341 ⇑*eP* **P 09 15 08.3 +0.4**
RRI2 Red Ridge 77.50 45 *eP* **P 09 15 09.1 +0.6**
NIG Nigde 77.51 308 P **P 09 15 09.8 +1.2**
ANTO Ankara 77.54 311 *eP* **P 09 15 08.2 -0.5**
SGKT Sivrigoynuk 77.55 312 *i P* **P 09 15 09.4 +0.6**
LOD Lodumlu 77.55 311 *eP* **P 09 15 08.6 -0.1**
MOOW Moose Ponds 77.56 44 *eP* **P 09 15 09.6 +0.8**
SAN1 Sandwick 77.57 341 *eP* **P 09 15 08.5 +0.1**
TPAW Teton Pass 77.62 44 *eP* **P 09 15 10.2 +1.2**
OJC Ojcow 77.64 325 *eP* **P 09 15 09.0 0.0**
OJC Ojcow 77.64 325 *eP* **P 09 15 09.0 0.0**
HVU Hansel Valley 77.67 47 *eP* **P 09 15 10.7 +1.3**
HVU Hansel Valley 77.67 47 *eP* **P 09 15 10.1 +0.8**
WUWY Wally Ulrich 77.70 44 *eP* **P 09 15 10.6 +1.1**
LOHW Long Hollow 77.73 44 *eP* **P 09 15 10.1 +0.4**
SNOW Snow King Moun 77.74 44 *eP* **P 09 15 09.2 -0.5**
HTY Hatay 77.75 306 P **P 09 15 10.8 +0.9**
ISR Istrita 77.75 318 ⇑*iP* **P 09 15 11.0 +1.3**
ISR Istrita 77.75 318 ⇑*iP* **P 09 15 11.0 +1.3**
REDW Red Top Meadow 77.75 44 *eP* **P 09 15 10.4 +0.6**
CRVS Cervenica-Dubn 77.78 323 *i P* **P 09 15 09.7 -0.1**
CRVS *eS* S 09 25 01.7 +1.3
PSN Preselentsi 77.80 316 P **P 09 15 11.0 +1.0**
MLR Muntele Rosu 77.82 318 P **P 09 15 10.9 +0.8**
comp=Z,376nm,1.3s,mb6.2,baz=357,slow=7.5,SNR=17
MLR PKKPbc 09 34 10.3
comp=Z,1.2nm,0.4s,baz=207,slow=9.4,SNR=3.6
MLR Muntele Rosu 77.82 318 ⇑*iP* **P 09 15 11.6 +1.5**
MLR Muntele Rosu 77.82 318 ⇑*iP* **P 09 15 11.6 +1.5**
DGMT Dagmar 77.83 37 *eP* **P 09 15 08.2 -1.9**
comp=Z,135nm,1.2s,mb5.8
NIE Niedzica 77.96 324 *eP* **P 09 15 11.3 +0.5**
AHID Auburn Hatcher 78.00 45 *eP* **P 09 15 11.0 -0.2**
comp=Z,227nm,1.7s,mb5.8
LAO LASA Array 78.03 40 *eP* **P 09 15 12.8 +1.6**
comp=Z,195nm,1.2s,mb5.9
BGU Big Grassy Mou 78.06 47 *eP* **P 09 15 12.1 +0.5**
HENT Hendek 78.07 312 *i P* **P 09 15 11.8 +0.2**
MDU Mudurnu 78.11 312 *eP* **P 09 15 11.6 -0.3**
DAC Darwin (Calif) 78.15 53 *eP* **P 09 15 12.8 +0.7**
DAC pmax pmax
comp=Z,64nm,1.0s,mb5.5
DAC Darwin (Calif) 78.15 53 *eP* **P 09 15 11.2 -0.9**
comp=Z,71nm,1.1s,mb5.5
SPUT South Promonto 78.16 47 *eP* **P 09 15 13.4 +1.4**
RAC Raciborz 78.46 326 *eP* **P 09 15 13.7 +0.2**
RAC Raciborz 78.46 326 *eP* **P 09 15 13.7 +0.2**
MTUR Matau 78.47 319 ⇑*iP* **P 09 15 14.8 +1.1**
MTUR Matau 78.47 319 ⇑*iP* **P 09 15 14.8 +1.1**
HWUT Hardware Ranch 78.48 46 *eP* **P 09 15 14.4 +0.6**
comp=Z,446nm,1.6s,mb6.2
KECS Kecovo 78.53 323 *i P* **P 09 15 14.9 +1.0**
BUC1 Bucharest 78.54 318 ⇑*iP* **P 09 15 13.8 -0.3**
BUC1 Bucharest 78.54 318 ⇑*iP* **P 09 15 13.8 -0.3**
PRD Provadia 78.54 316 *i P* **P 09 15 15.3 +1.2**
RUE Ruedersdorf 78.60 329 *eP* **P 09 15 14.2 -0.1**
comp=Z,836nm,1.6s,mb6.4
DUG Dugway 78.65 48 *eP* **P 09 15 15.4 +0.6**
DUG pmax pmax
comp=Z,3µm,1.5s,mb7.0
DUG Dugway 78.65 48 *eP* **P 09 15 15.1 +0.3**
comp=Z,94nm,1.1s,mb5.6
OKC Ostrava-Krasne 78.66 325 *eP* **P 09 15 14.6 0.0**
EYL Eskiyayla 78.67 313 *eP* **P 09 15 15.9 +1.0**
KIZT Kizilcal 78.71 310 P **P 09 15 11.4 -3.8**
OST Stronsay 78.72 341 ⇑*eP* **P 09 15 14.5 -0.2**
KSP Ksiaz 78.75 327 ⇑*eP* **P 09 15 14.8 -0.3**
KSP *e*PP *pP* 09 15 18.8 -0.9
KSP Ksiaz 78.75 327 *eP* **P 09 15 14.9 -0.2**
KSP *epP* *pP* 09 15 19.0 -0.7
NOQ North Oquirrh 78.77 47 *eP* **P 09 15 16.1 +0.7**
LIKS Likavka 78.78 324 *i P* **P 09 15 19.6 +4.3**
HRT Hereke 78.80 313 *i P* **P 09 15 16.5 +1.0**
BSEG Bad Segeberg 78.84 332 *eP* **P 09 15 15.2 -0.4**
BSEG pmax pmax
comp=Z,440nm,1.2s,mb6.3
PDAR Pinedale Array 78.86 44 P **P 09 15 15.9 +0.1**
comp=Z,29nm,0.7s,mb5.3,baz=259,slow=1.8,SNR=26
PDAR PKKPbc 09 34 08.8
comp=Z,2.0nm,0.9s,baz=117,slow=3.3,SNR=9.5
PDAR PKP2bc 09 42 02.9
comp=Z,1.4nm,1.1s,baz=153,slow=3.3,SNR=4.1
PDAR Pinedale Array 78.86 44 P **P 09 15 15.9 +0.1**
PDAR PKKPbc 09 34 08.8
PDAR ⇑*e* 09 42 02.9
TCUT Toone Canyon 78.88 46 *eP* **P 09 15 13.7 -2.3**
ESKT Eskisehir 78.93 311 *eP* **P 09 15 16.5 +0.2**
ESKT Eskisehir 78.93 311 *i P* **P 09 15 15.4 -1.0**
CTU Camp Tracy 78.96 47 *eP* **P 09 15 16.8 +0.3**
MORC Moravsky Berou 78.97 326 *eP* **P 09 15 16.8 +0.5**
MORC pmax pmax
comp=Z,540nm,1.4s,mb6.3
MORC Moravsky Berou 78.97 326 *eP* **P 09 15 16.5 +0.2**
comp=Z,389nm,1.3s,mb6.2
KONT Konya--Tatoy 79.00 309 *eP* **P 09 15 16.6 -0.2**
BADT Buyukada 79.09 313 *eP* **P 09 15 17.5 +0.3**
DPC Dobruska-Polom 79.10 327 *eP* **P 09 15 17.1 +0.1**
MWC Mount Wilson 79.10 55 *eP* **P 09 15 17.3 -0.1**
MWC Mount Wilson 79.10 55 *eP* **P 09 15 17.2 -0.2**
HILS Ha'il 79.11 296 P **P 09 15 19.2 +1.7**
HILS P 09 08 04.4
OHO Hoy 79.12 341 ⇑*eP* **P 09 15 17.0 0.0**
UPC Upice 79.12 327 *eP* **P 09 15 17.0 -0.1**
JLU Jordanelle 79.19 47 *eP* **P 09 15 18.3 +0.5**
PSZ Piszkesteto 79.21 323 *eP* **P 09 15 17.1 -0.6**
PSZ pmax pmax
comp=Z,950nm,1.4s,mb6.5
PSZ Piszkesteto 79.21 323 *eP* **P 09 15 16.6 -1.0**
comp=Z,833nm,1.3s,mb6.5
NLU North Lily Min 79.24 48 *eP* **P 09 15 18.4 +0.3**
IKL Isikli 79.24 307 *i P* **P 09 15 18.1 -0.1**
CTT Catalca 79.30 314 *eP* **P 09 15 19.0 +0.7**
VYHS Vyhne 79.30 324 *i P* **P 09 15 18.6 +0.4**
SZH Strazhica 79.31 317 *i P* **P 09 15 19.0 +0.7**
DAU Daniels Canyon 79.43 47 *eP* **P 09 15 19.8 +0.8**
DAU Daniels Canyon 79.43 47 *eP* **P 09 15 19.6 +0.6**
MPU Maple Canyon 79.46 47 *eP* **P 09 15 19.9 +0.6**
ULDT Uludag 79.54 313 *i P* **P 09 15 19.7 0.0**
HDMB Hadim 79.54 309 *eP* **P 09 15 21.2 +1.4**
MLA1 Latheron 79.60 341 ⇑*eP* **P 09 15 19.9 +0.3**
PVL Pavlikeni 79.67 317 *i P* **P 09 15 21.7 +1.5**
ALT Altintas 79.67 311 *eP* **P 09 15 20.7 +0.4**
PVCC Panska Ves 79.73 328 *eP* **P 09 15 20.5 +0.1**
HRI Mount Hermon 79.75 304 P **P 09 15 21.1 +0.2**
HRI Mount Hermon 79.75 304 ⇑P **P 09 15 21.1 +0.2**
PHNC Paralimni 79.79 306 P **P 09 15 19.8 -1.3**
CLL Collm 79.80 329 P **P 09 15 20.3 -0.5**
comp=Z,logA/T=2.1,mb5.8
CLL *i* *PP pP 09 15 24.0 -1.3
CLL *i* 09 15 59.4
CLL *e* 09 18 13.0
CLL Collm 79.80 329 *i P* **P 09 15 21.3 +0.5**
CLL *i* pP 09 15 24.0 -1.3
CLL pmax pmax
comp=Z,628nm,1.4s,mb6.3
CLL Collm 79.80 329 *i P* **P 09 15 21.3 +0.5**
comp=Z,628nm,1.4s,mb6.3
CLL *i* pP 09 15 24.0 -1.3
EDRB Edirne 79.80 315 *eP* **P 09 15 19.4 -1.6**
ARUT Antelope Range 79.81 50 P **P 09 15 22.1 +1.0**
ARUT Antelope Range 79.81 50 *eP* **P 09 15 21.3 +0.2**
QURS Qurayyt al Mil 79.83 302 D 09 15 23.1
KSHT Keshet 79.88 304 P **P 09 15 22.0 +0.4**
KSHT Keshet 79.88 304 ⇑P **P 09 15 22.0 +0.4**
BUD Budapest 79.93 323 ⇑*eP* **P 09 15 23.0 +1.4**
SMOL Smolenice 79.94 325 *i P* **P 09 15 23.2 +1.6**
SRO2 Moca 80.03 324 *eP* **P 09 15 23.8 +1.7**
SRO Srobarova 80.03 324 *eP* **P 09 15 24.1 +2.0**
MVU Marysvale 80.09 49 *eP* **P 09 15 23.7 +1.1**
comp=Z,91nm,1.3s,mb5.5
MSU Marysvale 80.11 49 P **P 09 15 23.8 +1.1**
MSU Marysvale 80.11 49 *eP* **P 09 15 23.7 +1.0**
BNT Bandirma 80.11 314 *eP* **P 09 15 23.6 +0.9**
PRU Pruhonice 80.14 327 P **P 09 15 22.4 -0.2**
PRU pmax pmax
comp=Z,407nm,1.3s,mb6.2
PRU Pruhonice 80.14 327 P **P 09 15 22.4 -0.2**
comp=Z,407nm,1.3s,mb6.2
TMUT Trail Mountain 80.18 48 *eP* **P 09 15 23.8 +0.7**
PKS7 Kunszentmiklos 80.18 323 ⇑*eP* **P 09 15 23.1 +0.2**
DST Dursunbey 80.19 313 P **P 09 15 23.7 +0.6**
MFT Murefte 80.19 314 *eP* **P 09 15 23.1 0.0**
ISP Isparta 80.20 310 *eP* **P 09 15 26.1 +2.9**
ISP pmax pmax
comp=Z,240nm,1.2s,mb6.0
ISP Isparta 80.20 310 *eP* **P 09 15 23.9 +0.7**
comp=Z,282nm,1.2s,mb6.1
MCD Coleburn Disti 80.20 340 ⇑*eP* **P 09 15 22.8 0.0**
HNTI Hanita 80.23 304 P **P 09 15 23.8 +0.3**
HNTI Hanita 80.23 304 ⇑P **P 09 15 23.8 +0.3**
REB Eisghbrachaidh 80.26 342 ⇑*eP* **P 09 15 23.4 +0.3**
CSS Prodhromos 80.27 307 P **P 09 15 23.2 -0.4**
comp=Z,3.3nm,1.3s
AFFS 'Afif 80.28 293 P **P 09 15 24.1 +0.2**
NEN Nelson 80.28 52 *eP* **P 09 15 24.0 +0.3**
ULM Lac du Bonnet 80.32 32 P **P 09 15 23.6 0.0**
comp=Z,40nm,1.0s,mb5.3,baz=320,slow=5.5,SNR=11
DIM Dimitrovgrad 80.34 316 P **P 09 15 26.5 +2.6**
MME1 Meikle Cairn 80.36 340 ⇑*eP* **P 09 15 23.4 -0.3**
BCK Bucak 80.40 310 *eP* **P 09 15 27.0 +2.7**
KGT Karabiga 80.40 314 *eP* **P 09 15 25.3 +1.1**
BTOK Tokmak 80.43 313 *i P* **P 09 15 25.3 +0.9**
CLZ Clausthal 80.45 331 *eP* **P 09 15 24.1 -0.1**
comp=Z,676nm,1.3s,mb6.4
MMLI Mount Malkishu 80.47 304 P **P 09 15 25.4 +0.6**
MMLI Mount Malkishu 80.47 304 ⇑P **P 09 15 25.4 +0.6**
LDFC Landfair 80.47 53 *eP* **P 09 15 24.9 +0.1**
KHL Karahalli 80.49 311 *eP* **P 09 15 26.9 +2.1**
HMDT Nahal Hemdat 80.51 303 P **P 09 15 25.4 +0.4**
HMDT Nahal Hemdat 80.51 303 ⇑P **P 09 15 25.4 +0.4**
HAF Haifa 80.52 304 P **P 09 15 25.0 0.0**
HAF Haifa 80.52 304 ⇑P **P 09 15 25.0 0.0**
PFO Pinyon Flat Ob 80.53 55 P **P 09 15 25.0 0.0**
comp=Z,446nm,0.9s,mb6.4,SNR=36
PFO Pinyon Flat Ob 80.53 55 P **P 09 15 25.1 +0.1**
PFO pmax pmax
comp=Z,220nm,1.4s,mb5.9
PFO Pinyon Flat Ob 80.53 55 *eP* **P 09 15 24.9 -0.1**
comp=Z,79nm,1.0s,mb5.6
BALB Balikesir 80.60 313 *eP* **P 09 15 24.7 -0.6**
ALFC Alevga 80.61 307 P **P 09 15 25.2 -0.2**
comp=Z,4.7nm,1.4s
MDO Dochfour 80.62 341 ⇑*eP* **P 09 15 25.0 0.0**
RRR Rubha Reidh 80.62 342 ⇑*eP* **P 09 15 24.6 -0.5**
VKA Vienna 80.63 325 ⇓*iP* **P 09 15 26.6 +1.3**
OFRI 'Ofer 80.65 304 P **P 09 15 25.8 +0.1**
OFRI 'Ofer 80.65 304 ⇑P **P 09 15 25.8 +0.1**
SZAC Souni-Zanaja 80.68 307 P **P 09 15 26.2 +0.4**
SRU San Rafael 80.70 48 P **P 09 15 26.5 +0.7**
SRU San Rafael 80.70 48 *eP* **P 09 15 26.3 +0.5**
PGB Panagyurishte 80.75 317 *i P* **P 09 15 27.5 +1.5**
PLD Plovdiv 80.76 317 P **P 09 15 27.0 +0.9**
RRH Rhenigidale 80.78 342 ⇑*eP* **P 09 15 26.0 +0.2**
ALN Alexandroupoli 80.82 315 *eP* **P 09 15 25.6 -0.8**
NKC Novy Kostel 80.84 328 *eP* **P 09 15 26.1 -0.3**
SLTI Sal'it 80.84 304 P **P 09 15 27.0 +0.3**
SLTI Sal'it 80.84 304 ⇑P **P 09 15 27.0 +0.3**
MOX Moxa 80.87 329 *i P* **P 09 15 26.3 -0.2**
comp=Z,logA/T=2.5,mb6.2
MOX Moxa 80.87 329 *eP* **P 09 15 26.3 -0.2**
MOX pmax pmax
comp=Z,498nm,1.6s,mb6.2
MOX Moxa 80.87 329 *eP* **P 09 15 26.3 -0.2**
comp=Z,498nm,1.6s,mb6.2
RSSD Black Hills 80.91 40 *eP* **P 09 15 26.8 -0.1**
RSSD pmax pmax
comp=Z,200nm,1.5s,mb5.8
RSSD Black Hills 80.91 40 *eP* **P 09 15 26.6 -0.3**
comp=Z,220nm,1.5s,mb5.9
PKS9 Tamasi 80.93 323 ⇑*eP* **P 09 15 27.2 +0.3**
RDO Rodhopi 80.94 315 ⇑*iP* **P 09 15 27.8 +0.7**
PPCY Paphos 80.94 307 P **P 09 15 27.4 +0.2**
SOP Sopron 80.94 325 ⇑*eP* **P 09 15 27.6 +0.7**
SOP *i* PP PP 09 18 22.3 -12
MANT Manisa 80.96 312 *i P* **P 09 15 27.0 -0.2**
BAR Barrett 80.96 56 *eP* **P 09 15 27.0 -0.4**
DRGI Dragot 81.01 303 P **P 09 15 27.9 +0.3**

DRGI Dragot 81.01 303 ⇑P P 09 15 27.9 +0.3
PKSM Moragy 81.03 323⇑ eP P 09 15 26.7 -0.7
RZN Rozhen 81.03 316 i P P 09 15 28.3 +0.8
SVIS Svilajnac 81.10 320⇑ iP P 09 15 28.5 +0.7
BEO Belgrade 81.12 321 ⇓ iP P 09 15 26.8 -1.1
DENT Denizli 81.15 311 eP P 09 15 28.9 +0.6
DNZL Cakiroluk 81.19 311 i P P 09 15 28.7 +0.2
KHC Kasperske Hory 81.20 327 eP P 09 15 28.2 0.0
KHC epP pP 09 15 32.0 -0.8
MZDA Masada 81.20 303 P P 09 15 28.9 +0.2
HOPOS Hopovo Monaste 81.21 321⇑ iP P 09 15 28.5 +0.1
VTS Vitosha 81.23 318 i P P 09 15 29.3 +0.7
ELL Elmali 81.27 310 eP P 09 15 29.5 +0.6
GEC2 GERESS Array S 81.36 327 eP P 09 15 28.8 -0.3
GEC2 pmax pmax
comp=Z,175nm,1.1s,mb5.9
GEC2 GERESS Array S 81.36 327 eP P 09 15 28.8 -0.3
comp=Z,175nm,1.1s,mb5.9
GERES GERESS Array B 81.36 327 P P 09 15 29.1 0.0
comp=Z,45nm,0.8s,mb5.5,baz=38,slow=5.6,SNR=75
GERES PKKPbc 09 34 02.5
comp=Z,0.7nm,0.4s,baz=207,slow=3.0,SNR=5.9
RHK1 Bakonya 81.39 323⇑ eP P 09 15 29.0 -0.3
WET Wettzell 81.49 328 eP P 09 15 29.9 +0.1
WET pmax pmax
comp=Z,354nm,1.4s,mb6.1
WET Wettzell 81.49 328 eP P 09 15 29.9 +0.1
comp=Z,354nm,1.4s,mb6.1
AYVA Ayvalik 81.51 313 i P P 09 15 30.2 +0.2
MMB Musomiste 81.64 317 i P P 09 15 31.3 +0.6
MMB Musomiste 81.64 317 ⇓ iP P 09 15 31.3 +0.6
GRUS Gruza 81.64 320⇑ iP P 09 15 30.4 -0.2
ARSA Arzberg 81.74 325⇑ iP P 09 15 31.6 +0.5
comp=Z,545nm,1.7s,mb6.2
GRA1 Grafenberg Arr 81.77 329 eP P 09 15 31.5 +0.3
comp=Z,1µm,1.4s,mb6.7
GRF Grafenberg Arr 81.77 329 eP P 09 15 31.5 +0.3
GRF pmax pmax
comp=Z,1µm,1.4s,mb6.7
KDAG Bornova 81.78 312 i P P 09 15 30.8 -0.6
IZM Izmir 81.78 312 eP P 09 15 31.8 +0.3
MASH Mash'abbe Sade 81.79 303 P P 09 15 31.7 0.0
PRK Paraskevi 81.80 314⇑ iP P 09 15 31.5 -0.1
ZFRI Zfri 81.80 302 P P 09 15 32.1 +0.3
ZFRI Zfri 81.80 302 ⇑P P 09 15 32.1 +0.3
KKB Krupnik 81.80 317 i P P 09 15 32.0 +0.5
BARS Barje 81.81 319 ⇓ iP P 09 15 37.0 +5.4
PCOU Corrie 81.83 340⇑ eP P 09 15 31.3 -0.1
KSL Kastellorizon 81.86 310 eP P 09 15 24.0 -8.0
MOA Molln 81.86 326⇑ iP P 09 15 31.9 +0.2
comp=Z,2µm,5.2s
DIVS Divcibare 81.86 320 ⇓ iP P 09 15 31.6 -0.2
KBRS Khaybar 81.88 296 P P 09 15 32.9 +0.7
KBRS P 09 08 19.5
AYDN Tasoluk 81.90 312 i P P 09 15 32.7 +0.5
LOS Limnos 82.01 315 eP P 09 15 30.9 -1.8
DALT Dalyan (Mudla) 82.03 310 eP P 09 15 33.2 +0.3
SRS Serrai 82.04 316 eP P 09 15 31.6 -1.2
PRNI Paran 82.04 302 P P 09 15 33.5 +0.5
PRNI Paran 82.04 302 ⇑P P 09 15 33.5 +0.5
PV10 Paradox Valley 82.06 47 eP P 09 15 34.0 +1.1
KZIT Kziot 82.10 303 P P 09 15 33.5 +0.2
PHWY Pilot Hill 82.11 43 eP P 09 15 34.9 +1.7
PCA1 Carrot 82.12 340⇑ eP P 09 15 32.8 -0.1
PMSU Muirshiel 82.13 340⇑ eP P 09 15 33.1 +0.2
ESK Eskdalemuir 82.17 339 P P 09 15 33.9 +0.8
comp=Z,702nm,1.4s,mb6.4,SNR=9.4
ESK Eskdalemuir 82.17 339⇑ eP P 09 15 32.4 -0.8
ESK AMb AMB 09 15 38.1
comp=Z,279nm,1.5s,mb6.0
ESK Eskdalemuir 82.17 339 P P 09 15 33.8 +0.7
ESK pmax pmax
comp=Z,240nm,1.3s,mb6.0
ESK Eskdalemuir 82.17 339 eP P 09 15 32.5 -0.6
comp=Z,242nm,1.4s,mb5.9
LCP Cassop 82.17 338⇑ eP P 09 15 34.0 +0.8
MLSB Milas 82.21 311 eP P 09 15 35.4 +1.7
LWH Whinny Nab 82.27 337⇑ eP P 09 15 34.0 +0.3
TBKS Tabuk 82.30 300 P P 09 15 35.9 +1.5
TBKS D 09 08 24.1
JMQS Jabal Moqyreh 82.36 300 P P 09 15 34.9 +0.3
JMQS P 09 08 21.8
OUR Ouranopolis 82.36 316 eP P 09 15 34.1 -0.4
BHH Howats Hill 82.36 339⇑ eP P 09 15 34.4 +0.2
SOH Sokhos 82.37 316 eP P 09 15 34.5 -0.1
BTA Talkin 82.37 339⇑ eP P 09 15 34.7 +0.5
KMTI Karmit 82.38 302 P P 09 15 34.9 +0.1
KMTI Karmit 82.38 302 ⇑P P 09 15 34.9 +0.1
KNT Kendrikon 82.39 317 eP P 09 15 34.3 -0.3
AQBJ Aqaba 82.40 302 P P 09 15 35.2 +0.3
BWH Wardlaw 82.42 339⇑ eP P 09 15 34.0 -0.5
NVSS Nova Varos 2 82.43 320⇑ iP P 09 15 35.0 +0.2
MBH Mount Berech 82.45 302 P P 09 15 35.5 +0.3
MBH Mount Berech 82.45 302 ⇑P P 09 15 35.5 +0.3
SMG Samos 82.49 312 eP P 09 15 35.0 -0.2
PV01 Paradox Valley 82.49 47 eP P 09 15 35.7 +0.5
EIL Elat 82.50 302 P P 09 15 35.7 +0.3
BDL Dobcross Hall 82.54 339 eP P 09 15 35.6 +0.6
BDRM Kayabasi 82.56 311 i P P 09 15 35.5 0.0
SKO Skopje 82.61 318⇑ iP P 09 15 36.4 +0.7
comp=Z,0.2nm,1.0s
SKO i PP PP 09 18 44.6 -2.8
PLG Polygyros 82.63 316⇑ iP P 09 15 36.5 +0.6
ALWS Ilw as Safayha 82.65 301 P P 09 15 36.6 +0.4
ALWS P 09 08 23.4
SISC Sisak 82.65 323 i P P 09 15 33.4 -2.5
BBO1 Bothel 82.68 339⇑ eP P 09 15 35.6 -0.2
SIND Sindeldorf 82.70 329 eP P 09 15 35.6 -0.4
ARG Arkhangelos 82.71 310 eP P 09 15 37.5 +1.1
PLE Pljevlja 82.72 320 ⇓ iP P 09 15 36.8 +0.6
OBKA Obir 82.74 325⇑ iP P 09 15 36.0 -0.3
comp=Z,2µm,5.5s
IVA Berane 82.78 320 ⇓ iP P 09 15 36.7 +0.1
GMK Mull of Kintyr 82.80 340⇑ eP P 09 15 36.7 +0.3
GRG Griva 82.80 317 eP P 09 15 34.6 -2.1
PAIG Paliouri 82.81 315 eP P 09 15 35.4 -1.4
TOD Tromm 82.82 330 eP P 09 15 36.5 -0.1
KBA Koelnbreinsper 82.85 326⇑ iP P 09 15 36.9 0.0
comp=Z,662nm,1.7s,mb6.4
HAQS Haql 82.90 301 P P 09 15 37.8 +0.3
HAQS P 09 08 24.7
LMK Market Rasen 82.91 337 eP P 09 15 37.7 +0.7
FUR Furstenfeldbru 82.92 328 eP P 09 15 37.2 0.0
FUR pmax pmax
comp=Z,772nm,1.3s,mb6.6
FUR Furstenfeldbru 82.92 328 eP P 09 15 37.2 0.0
comp=Z,772nm,1.3s,mb6.6
PVY Plav 82.94 319 ⇓ iP P 09 15 36.9 -0.5
SWS Schriesheim 82.96 330 eP P 09 15 37.2 -0.2
GAL1 Galloway 82.98 340⇑ eP P 09 15 36.7 -0.7
HDH Heidenheim 83.05 329 eP P 09 15 37.1 -0.8
UPM Unac-Piva 83.05 320 ⇓ iP P 09 15 37.3 -0.7
ISCO Idaho Springs 83.05 44 eP P 09 15 39.6 +1.5
ISCO pmax pmax
comp=Z,180nm,1.5s,mb5.9
ISCO Idaho Springs 83.05 44 eP P 09 15 39.1 +1.0
comp=Z,111nm,1.4s,mb5.7
LJU Ljubljana 83.09 325 eP P 09 15 37.5 -0.6
ABH Alteburg 83.10 331 eP P 09 15 37.8 -0.3
ABH Alteburg 83.10 331 eP P 09 15 38.1 0.0
BOJS Bojanci 83.16 324 eP P 09 15 38.0 -0.5
GCL Cushendall 83.18 341⇑ eP P 09 15 37.9 -0.5
NKY Niksic 83.29 320 ⇓ iP P 09 15 37.8 -1.4
LHO Holmfirth 83.31 338⇑ eP P 09 15 38.5 -0.6
STU Stuttgart 83.32 329 eP P 09 15 39.2 0.0
STU pmax pmax
comp=Z,510nm,1.1s,mb6.5
STU Stuttgart 83.32 329 eP P 09 15 39.1 -0.2
comp=Z,537nm,1.2s,mb6.5
DBAS Duba 83.33 299 P P 09 15 39.8 0.0
KTD Kalmit 83.33 330 eP P 09 15 38.8 -0.5
KTD Kalmit 83.33 330 eP P 09 15 39.3 0.0
LIT Litokhoron 83.35 316 eP P 09 15 38.2 -1.3
PTCC Patocco-Chiusa 83.36 325 eP P 09 15 38.6 -0.9
VOY Vojsko 83.39 325 eP P 09 15 38.1 -1.6
TTG Podgorica 83.43 320 ⇓ iP P 09 15 38.9 -1.0
RUP Ruppelstein 83.43 331 eP P 09 15 39.1 -0.7
RUP Ruppelstein 83.43 331 eP P 09 15 40.0 +0.2
WATA Walderalm 83.43 327⇑ iP P 09 15 39.7 -0.2
comp=Z,308nm,1.6s,mb6.1
BRY Bratogost 83.46 320 ⇓ iP P 09 15 38.6 -1.5
KBI1 Birley Grange 83.46 337⇑ eP P 09 15 40.0 +0.2
WTTA Wattenberg 83.46 327 ⇓ iP P 09 15 39.4 -0.6
comp=Z,695nm,1.9s,mb6.4
XOR Xorichti 83.47 315 eP P 09 15 38.5 -1.7
FVI Forni Avoltri 83.47 326 eP P 09 15 39.5 -0.6
FNA Florina 83.48 317 eP P 09 15 38.7 -1.5
NEO Neokhori 83.49 315 eP P 09 15 40.0 -0.3
BUCH Bad Urach 83.51 329 eP P 09 15 40.1 -0.1
GMNA Gemona 83.51 325 eP P 09 15 39.6 -0.6
LBG Lerchenberg 83.56 329 eP P 09 15 40.3 -0.1
DJNS Zahran al Janu 83.58 287 P P 09 15 42.4 +1.2
DJNS P 09 08 28.9
KZN Kozani 83.60 317 eP P 09 15 41.2 +0.4
WIM Isle of Man 83.60 339⇑ eP P 09 15 40.8 +0.3
WIM AMb AMB 09 15 45.5
comp=Z,301nm,1.4s,mb6.2
MOTA Moosalm 83.63 327 ⇓ iP P 09 15 40.6 -0.2
comp=Z,228nm,1.3s,mb6.1
YNBS Yanbu' al Bahr 83.67 296 P P 09 15 42.1 +0.5
YNBS P 09 08 28.6
SQTA Sankt Quirin 83.68 327⇑ iP P 09 15 40.8 -0.3
comp=Z,244nm,1.5s,mb6.1
TRI Trieste 83.70 325 eP P 09 15 40.4 -0.8
BUM Brajici-Budva 83.71 320 ⇓ iP P 09 15 41.0 -0.3
NAMS An Nimas 83.71 289 P P 09 15 43.0 +1.2
NAMS P 09 08 29.3
LANF Langenberg 83.71 330 eP P 09 15 41.0 -0.2
KARP Karpathos 83.74 310 eP P 09 15 42.0 +0.4
BLJS Baljurashi 83.74 290 P P 09 15 42.8 +0.8
BLJS P 09 08 29.5
QSH Qafa e Shtames 83.74 319 ep P 09 15 42.0 +0.5
KWE Weaver Farm 83.76 337 eP P 09 15 41.1 -0.2
ULC Ulcinj 83.77 319 ⇓ iP P 09 15 41.0 -0.7
UBR Uberruh 83.80 328 eP P 09 15 41.2 -0.4
HCY Herceg Novi 83.81 320 ⇓ iP P 09 15 40.9 -0.9
WLF Walferdange 83.81 331 eP P 09 15 42.6 +0.9
WLF pmax pmax
comp=Z,600nm,1.5s,mb6.5
WLF Walferdange 83.81 331 eP P 09 15 42.3 +0.6
comp=Z,617nm,1.5s,mb6.5
GMM Mts of Mourne 83.87 340⇑ eP P 09 15 41.1 -0.7
TIR Tirane 83.89 319 ep P 09 15 42.5 +0.2
GUT Gutenstein 83.90 329 eP P 09 15 41.7 -0.5
EYMN Ely 83.94 31 eP P 09 15 42.8 +0.4
comp=Z,238nm,1.3s,mb6.2
GIVF Givet 83.95 332 eP P 09 15 41.5 -0.9
comp=Z,710nm,1.5s,mb6.3
MPAR Parnis Oros 83.99 314 eP P 09 15 43.0 +0.1
SPAK Spaichingen 84.02 329 eP P 09 15 42.6 -0.1
BFO Black Forest 84.02 329 eP P 09 15 42.4 -0.4
BFO pmax pmax
comp=Z,855nm,1.4s,mb6.7
BFO Black Forest 84.02 329 eP P 09 15 42.4 -0.4
comp=Z,855nm,1.4s,mb6.7
ATH Athens Observa 84.13 314 eP P 09 15 40.0 -3.6
WME Myndd Eilan 84.16 339 eP P 09 15 43.4 +0.1
WPM1 Penmaenmawr 84.17 339⇑ eP P 09 15 43.0 -0.3
WPM1 AMb AMB 09 15 49.3
comp=Z,375nm,1.5s,mb6.3
AGG Agios Georgios 84.19 316 eP P 09 15 42.0 -1.9
DAVA Damuels 84.20 328⇑ iP P 09 15 43.7 0.0
comp=Z,778nm,1.8s,mb6.5
SANT Santorini 84.20 312 eP P 09 15 43.5 -0.5
comp=Z,1µm,1.4s,mb6.8
BAIF Baives 84.22 333 eP P 09 15 43.0 -0.7
comp=Z,478nm,1.4s,mb6.1
MEV Metsovon 84.26 317 eP P 09 15 43.8 -0.4
WLF1 Llynfaes 84.28 339⇑ eP P 09 15 44.2 +0.3
WLF1 AMb AMB 09 15 49.8
comp=Z,412nm,1.5s,mb6.3
NSAL Nisos Salamina 84.32 314 eP P 09 15 43.0 -1.5
NNZ Nelson 84.33 155 P P 09 15 43.4 -1.1
WLS Welschbruch 84.35 330 eP P 09 15 43.6 -0.8
CDF Champ du Feu 84.38 330⇑ iP P 09 15 44.2 -0.4
comp=Z,2µm,1.4s,mb6.7
LTHS Al Lith 84.39 291 P P 09 15 45.8 +0.5
LTHS P 09 08 32.5
CTI Castel Tesino 84.39 326 eP P 09 15 43.6 -1.1
NAIG Nisos Aigina 84.41 314 eP P 09 15 41.0 -4.0
DMUB Kingscourt 84.43 340 eP P 09 15 45.1 +0.4
LIBD Limburg 84.46 330 eP P 09 15 44.1 -0.9
LIBD Limburg 84.46 330 eP P 09 15 45.0 0.0
KIZ Kirchzarten 84.48 329 eP P 09 15 44.6 -0.5
FELD Feldberg 84.51 329 eP P 09 15 44.8 -0.4
SDCO Great Sand Dun 84.53 46 eP P 09 15 46.8 +1.2
comp=Z,108nm,1.2s,mb5.8
EVR Evrytania 84.55 316 eP P 09 15 45.0 -0.7
JAN Janina 84.56 317 eP P 09 15 45.0 -0.7
LBOS 84.56 283 eP P 09 15 47.1 +0.9
ECH Echery 84.58 330 eP P 09 15 47.2 -0.4
BRMO Bormio 84.62 327 eP P 09 15 46.5 +0.7
THZ Tophouse 84.65 155 P P 09 15 45.4 -0.7
DHBB Dhamar BB 84.81 284⇑ eP P 09 15 49.2 +1.8
HAE Alders End 84.82 337⇑ eP P 09 15 47.1 +0.4
HAE AMb AMB 09 15 51.8
comp=Z,343nm,1.4s,mb6.3
NPS Neapolis 84.86 311 eP P 09 15 47.0 -0.3
DLF Lyons Farm 84.87 340 eP P 09 15 47.6 +0.7
MOF Molkenrain 84.89 330 eP P 09 15 46.4 -0.7
IGT Igoumenitsa 84.93 317 eP P 09 15 46.0 -1.5
MCH1 Michaelchurch 85.00 337⇑ eP P 09 15 48.0 +0.5
TUC Tucson 85.01 53 eP P 09 15 48.6 +0.5
comp=Z,30nm,1.0s,mb5.4
HINF Hinteralfeld 85.03 330⇑ iP P 09 15 46.9 -0.9
comp=Z,514nm,1.3s,mb6.2
DCN Croghan 85.03 340 eP P 09 15 47.9 +0.2
THEF They Montfort 85.04 331 eP P 09 15 47.1 -0.7
BBS Basel-Blauen 85.04 329 eP P 09 15 47.6 -0.3
BBS Basel-Blauen 85.04 329 eP P 09 15 48.0 +0.1
HAU Haudompre 85.08 330⇑ iP P 09 15 47.2 -0.8
comp=Z,498nm,1.1s,mb6.2
KEK Kerkira 85.09 317 eP P 09 15 48.5 +0.2
MEZF Maizieres J'vi 85.18 331⇑ iP P 09 15 48.2 -0.3
comp=Z,1µm,1.3s,mb6.6
SAL Salo 85.23 326 eP P 09 15 49.0 +0.1
FRSS Farasan al Kab 85.25 287 P P 09 15 50.8 +1.2
FRSS P 09 08 37.1
HGH Gray Hill 85.25 337⇑ eP P 09 15 48.3 -0.5
HGH AMb AMB 09 15 53.1
comp=Z,323nm,0.9s,mb6.4
IDI Anoyia 85.28 311 P P 09 15 48.5 -0.8
comp=Z,350nm,1.0s,mb6.4,baz=20,slow=9.0,SNR=36
LKD Levkas 85.34 316 eP P 09 15 48.6 -1.0
LOMF Lomont 85.41 330 eP P 09 15 49.5 -0.2
VLI Veliai 85.44 314 eP P 09 15 49.0 -1.2
LCI Lecce 85.54 319 eP P 09 15 51.0 +0.5
SCHQ Schefferville 85.56 15 P P 09 15 50.2 0.0
comp=Z,43nm,0.8s,mb5.7,baz=5.8,slow=5.3,SNR=13
HSA Swansea 85.56 338⇑ eP P 09 15 50.6 +0.3
HPE Pembroke 85.58 338⇑ eP P 09 15 50.1 -0.4
VAM Vamos 85.61 312 eP P 09 15 52.0 +1.0
FGMS Monte Sant'Ang 85.64 321 eP P 09 15 50.7 -0.3
RSM Repubblica di 85.66 324 eP P 09 15 51.4 +0.4
FSSB Fossombrone 85.69 324 eP P 09 15 50.9 -0.3
KYTH Kithira 85.69 313 eP P 09 15 50.0 -1.4
ITM Ithomi 85.70 314 eP P 09 15 51.5 +0.1
VLS Valsamata 85.75 316 eP P 09 15 52.0 +0.3
ARV Arcevia 85.76 324 eP P 09 15 51.4 -0.2
VAI Varese 85.79 328 eP P 09 15 50.2 -1.5
RGNG Rignano Grg 85.85 321 eP P 09 15 52.4 +0.3
LAZ Ladron 85.87 49 eP P 09 15 53.3 +0.9
ANMO Albuquerque 85.90 48⇑ iP P 09 15 53.6 +1.1
ANMO Albuquerque 85.90 48 eP P 09 15 53.4 +0.9
comp=Z,190nm,1.7s,mb6.0
SFI Santa Sofia 85.96 325 eP P 09 15 53.1 +0.5
ZCCA Zocca 86.01 325 eP P 09 15 54.7 +1.9
LTRZ Laterza 86.01 320 eP P 09 15 53.1 +0.2
PGD Poggio Sodo 86.04 325 eP P 09 15 53.5 +0.6
MCGN Macugnaga 86.05 328 eP P 09 15 51.9 -1.1
VMG Vicchio 86.05 325 eP P 09 15 53.8 +0.7
HEX Exmoor 86.06 337 eP P 09 15 52.5 -0.4
GVD Gavdhos 86.06 312 eP P 09 15 52.6 -0.7
comp=Z,250nm,0.9s,mb6.4
SEI Scarperia 86.07 325 eP P 09 15 54.5 +1.4
LENM Lemitar 86.13 49 eP P 09 15 55.9 +2.2
LBZ Lake Benmore 86.16 158 P P 09 15 54.0 +0.5
PMOR Pomariorio Ree 86.16 112 eP P 09 15 55.3 +1.1
comp=Z,136nm,1.1s,mb6.1
NRCA Norcia 86.18 323 eP P 09 15 53.3 -0.4
GSCL Gusciola 86.18 326 eP P 09 15 54.5 +0.8
ERBM Eremo 86.21 326 eP P 09 15 54.7 +0.9
LPM Los Pinos Moun 86.23 49 eP P 09 15 54.9 +0.8
FG4 Candela 86.28 321 eP P 09 15 55.5 +1.3
FG5 Orsara di Pugl 86.30 321 eP P 09 15 54.9 +0.6
CABF La Chapelle 86.31 330⇑ iP P 09 15 53.7 -0.5
comp=Z,412nm,1.3s,mb6.2
GRAM 86.31 326 P P 09 15 53.9 -0.4
ORX Oropa 86.31 328 P P 09 15 54.1 -0.1
HTL Hartland 86.33 338 eP P 09 15 54.6 +0.5
VALM 86.34 326 P P 09 15 54.3 -0.1
BNM Barren Site 86.35 49 eP P 09 15 55.2 +0.5
BOB Bobbio (Coli) 86.36 327 eP P 09 15 54.4 -0.2
SARO Sassorosso 86.40 326 P P 09 15 54.7 0.0
AQU L'Aquila 86.41 323 eP P 09 15 55.0 +0.2
AQU pmax pmax
comp=Z,670nm,1.5s,mb6.7
AQU L'Aquila 86.41 323 eP P 09 15 55.6 +0.8
VLC Villacollemand 86.42 326 eP P 09 15 55.1 +0.2
comp=Z,70nm,0.9s,mb5.9
CII Carovilli 86.45 322 eP P 09 15 55.7 +0.7
BACM 86.47 326 P P 09 15 53.7 -1.4
CODM 86.48 326 P P 09 15 54.6 -0.5
TRAV 86.51 328 P P 09 15 54.6 -0.6
VINC Vinca 86.54 326 P P 09 15 54.1 -1.3
CSNT Castellina Chi 86.55 325 eP P 09 15 54.7 -0.8
MAIM 86.57 325 P P 09 15 53.9 -1.7
MRLC Muro Lucano 86.58 321 eP P 09 15 54.4 -1.3
PPT Papeete 86.59 115 eP P 09 15 57.4 +1.2
comp=Z,88nm,1.2s,mb5.9
ORI Oriolo Calabro 86.60 320 eP P 09 15 56.3 +0.5
PAE Paea 86.65 115 eP P 09 15 57.5 +1.0
comp=Z,145nm,1.1s,mb6.1
LOR Lormes 86.65 331 eP P 09 15 55.0 -0.9
LOR Lormes 86.65 331⇑ iP P 09 15 55.1 -0.8
comp=Z,932nm,1.3s,mb6.6
PTQR Pietraquaria 86.66 323 eP P 09 15 55.9 -0.2
SDI San Donato 86.70 322 eP P 09 15 56.1 -0.1
PII Pisa 86.70 325 eP P 09 15 55.0 -1.2
MNS Montasola 86.73 323 eP P 09 15 55.7 -0.7
TIAR Tiarei 86.75 115 eP P 09 15 58.2 +1.2
comp=Z,241nm,1.1s,mb6.3
SLCN Sala Consilina 86.78 320 eP P 09 15 57.1 +0.4
LSD Ceresole Reale 86.80 328 P P 09 15 56.8 +0.1
SGO Sicignano 86.82 321 eP P 09 15 55.7 -1.2
GENL Genova Univers 86.86 327 P P 09 15 56.3 -0.7
ODZ Otahua Downs 86.89 158 P P 09 15 57.3 +0.2
RFI Roccamonfina 86.92 322 eP P 09 15 56.6 -0.8
LPL La Plagne 86.93 329 eP P 09 15 57.0 -0.3
comp=Z,241nm,1.2s,mb6.0
LPG La Plagne 86.94 329 eP P 09 15 57.1 -0.2
comp=Z,416nm,1.3s,mb6.2
PCP Pian Castagno 86.94 327 P P 09 15 56.0 -1.3
GRFL Gerfalco 86.94 325 eP P 09 15 56.6 -0.8
SSF Saint Saulge 86.95 331⇑ iP P 09 15 56.6 -0.8
comp=Z,398nm,1.1s,mb6.3
TVO Taravao 86.96 115 eP P 09 15 59.5 +1.4
comp=Z,196nm,1.0s,mb6.3
FLN La Foliniere 86.97 334 eP P 09 15 56.6 -0.8
comp=Z,680nm,1.3s,mb6.4
LDF La Druitiere 86.99 334 eP P 09 15 56.6 -0.9
RSP Reno Superiore 87.00 328 P P 09 15 57.9 +0.3
MGR Morigerati 87.01 320 eP P 09 15 56.6 -1.2
CSA1 St Austell 87.01 338⇑ eP P 09 15 57.0 -0.5
JLP Les Platons 87.11 336⇑ eP P 09 15 57.6 -0.4
HYF Humbligny 87.11 332 eP P 09 15 57.9 -0.2
JQE Queens East 87.12 336⇑ eP P 09 15 57.4 -0.7
JRS Jersey 87.14 336⇑ eP P 09 15 57.8 -0.4
SMF Signal de Mont 87.17 331⇑ iP P 09 15 57.6 -0.8
comp=Z,670nm,1.4s,mb6.4
JSA Saint Aubin 87.17 336⇑ eP P 09 15 58.6 +0.2
FENE Fenestrelle 87.18 328 P P 09 15 57.8 -0.7
BHB Bricherasio 87.25 328 P P 09 15 57.6 -1.2
CCA1 Carnmenellis 87.26 338⇑ eP P 09 15 58.4 -0.4
CRQ2 Rosemanowes 2 87.26 338⇑ eP P 09 15 58.1 -0.6
BNI Bardonecchia 87.33 328 eP P 09 15 58.3 -0.9
comp=Z,154nm,1.5s,mb6.0
BNI epP pP 09 16 01.6 -2.2
FIN Finale Ligure 87.35 327 eP P 09 15 58.4 -0.9
RRL Cesana Torines 87.39 328 P P 09 15 59.2 -0.3
CPZ Penzance 87.40 338⇑ eP P 09 15 59.6 +0.2
CPZ AMb AMB 09 16 04.3
comp=Z,418nm,1.4s,mb6.5
OG22 Abries 87.40 328 eP P 09 15 59.7 +0.1
GRR Gorron 87.42 334⇑ iP P 09 15 59.0 -0.6
comp=Z,852nm,1.2s,mb6.5
TUZ Tuapeka 87.42 159 P P 09 16 01.2 +1.5
ROB Roburent 87.43 327 P P 09 15 58.0 -1.7
RORO 87.49 327 P P 09 15 58.4 -1.6
GRI Girifalco 87.53 319 eP P 09 16 00.9 +0.5
MBDF Montbardon 87.55 328 eP P 09 15 59.2 -1.1
comp=Z,60nm,0.8s,mb5.6
PZZ Prazzo 87.59 328 P P 09 15 59.9 -0.6
BGF Bois d'Agland 87.63 331 eP P 09 16 00.2 -0.4
comp=Z,355nm,1.4s,mb6.1
MONE Monesi 87.65 327 P P 09 15 59.6 -1.2
ENR Entracque 87.67 327 P P 09 15 59.7 -1.2
STV2 Anna di Valdie 87.70 327 P P 09 15 58.8 -2.3
STV Sta Anna Valdi 87.70 327 P P 09 15 59.2 -1.8
IMI Imperia 87.72 327 eP P 09 16 00.4 -0.8
ORIF Oris-en-Rattie 87.77 329⇑ iP P 09 16 00.5 -0.8
comp=Z,446nm,1.6s,mb6.2
SAOF Saorge 87.81 327 eP P 09 16 02.3 +0.8
NEGI Negi 87.86 327 P P 09 16 00.6 -1.2
AUTN L'Aution 87.86 327 eP P 09 16 01.1 -0.7
MEH Mehetia 87.88 114 eP P 09 16 03.6 +1.1
comp=Z,23nm,1.2s,mb6.0
TOUF Mont Tournerai 87.92 327 eP P 09 16 01.4 -0.7
AGO Saint Agoulin 87.94 331 eP P 09 16 03.8 +1.7
SBF Sospel 87.96 327 eP P 09 16 00.9 -1.4
comp=Z,138nm,0.8s,mb5.9
MVIF Mont Vial 88.06 327 eP P 09 16 00.8 -1.9
REVF Revere 88.09 327 eP P 09 16 02.4 -0.5
TCF Toulx Ste Croi 88.09 332 eP P 09 16 02.4 -0.4
comp=Z,652nm,1.6s,mb6.3
SGMF Saint Gilles 88.11 335⇑ iP P 09 16 02.6 -0.3
comp=Z,678nm,1.3s,mb6.4
COLF Collangettes 88.16 330 eP P 09 16 03.8 +0.6
PYM Petit Puy Mans 88.24 331 eP P 09 16 04.0 +0.5
ROSF Rostrenen 88.28 336⇑ iP P 09 16 03.4 -0.3
comp=Z,536nm,1.2s,mb6.4
SOI Samo 88.28 318 eP P 09 16 03.4 -0.5
OCF Saint Nazaire 88.28 329 eP P 09 16 03.8 0.0
OG26 St.-Nazaire-De 88.28 329 eP P 09 16 03.8 0.0
VIVF Saint-Julien-l 88.31 329 eP P 09 16 03.2 -0.7
comp=Z,139nm,1.0s,mb5.9
PGF Pioggiola 88.31 325 eP P 09 16 02.9 -1.1
comp=Z,113nm,0.9s,mb5.8
KSU1 Kansas State U 88.38 40 eP P 09 16 04.0 -0.4
STOF St-Etienne Org 88.50 328 eP P 09 16 04.5 -0.4
MTTG Motta San Giov 88.52 319 eP P 09 16 04.6 -0.5
FRF La Foret Royal 88.54 327 eP P 09 16 04.0 -1.1
comp=Z,220nm,1.2s,mb6.0
LBL Lubilhac 88.57 330 eP P 09 16 06.2 +1.0
QUIF Quistinic 88.61 336⇑ iP P 09 16 04.7 -0.6
comp=Z,505nm,1.4s,mb6.4
SMRF Simiane la Rot 88.66 328 eP P 09 16 05.1 -0.5
comp=Z,267nm,1.6s,mb6.0
MFF Saint Martin d 88.70 333⇑ iP P 09 16 05.5 -0.2
comp=Z,655nm,1.3s,mb6.5
VILF Villemus 88.70 328 eP P 09 16 06.7 +0.9
FRNF Fournols 88.71 331 eP P 09 16 05.6 -0.2
AMTX Amarillo 88.73 46 eP P 09 16 06.5 +0.3
comp=Z,53nm,1.0s,mb5.8
TAVF Tavernes 88.75 328 eP P 09 16 05.9 -0.2
CPRX Cap Rock 88.78 48 eP P 09 16 06.0 -0.5
LMR La Mourre 88.78 327 eP P 09 16 04.9 -1.3
comp=Z,593nm,1.5s,mb6.4
LCHF La Chataignera 88.86 334 eP P 09 16 05.6 -0.9
PUYF Puyloubier 88.97 328 eP P 09 16 06.7 -0.4
PRAF Pradon 88.97 328 eP P 09 16 05.2 -1.9
TREF Trevaresse 89.03 328 eP P 09 16 05.5 -1.9
GDL2 Guadalupe Moun 89.06 49 eP P 09 16 09.4 +1.5
BERF Bertagne 89.15 328 eP P 09 16 07.8 -0.2
RJF Les Rejaudoux 89.18 331 eP P 09 16 07.7 -0.4
comp=Z,568nm,1.5s,mb6.4
GELF Grande-Etoile 89.20 328 eP P 09 16 06.2 -2.0
LASF Ste Croix 89.29 329⇑ iP P 09 16 08.0 -0.6
comp=Z,328nm,1.6s,mb6.1
CAF Calviac 89.29 331 eP P 09 16 07.4 -1.2
comp=Z,506nm,1.7s,mb6.3
USI Ustica 89.29 321 eP P 09 16 08.3 -0.5
CLNB Carlsbad 89.31 49 eP P 09 16 10.2 +1.2
LFF La Frestale 89.78 332 eP P 09 16 09.5 -1.4
comp=Z,331nm,1.2s,mb6.2
TBI Tubuai 90.43 119 eP P 09 16 15.7 +1.3
comp=Z,175nm,1.1s,mb6.3

VSL	**Villasalto**	**90.55**	**323**	*e*P		**P**	**09 16 14.3**	**-0.3**
	comp=Z,116nm,1.4s,mb6.0								
MTLF	**Montolieu**	**90.56**	**330**	⇑*i*P		**P**	**09 16 14.3**	**-0.2**
	comp=Z,194nm,1.1s,mb6.0								
LRDF	**Laroque-de-Fa**	**90.77**	**330**	*e*P		**P**	**09 16 16.3**	**+0.8**
LPEF	**Le Peyrat**	**91.01**	**330**	*e*P		**P**	**09 16 16.9**	**+0.3**
EJON	**La Jonquera**	**91.03**	**329**	P		**P**	**09 16 16.8**	**+0.1**
	comp=Z,153nm,1.4s,mb6.1								
FILF	**Fillols**	**91.07**	**329**	*e*P		**P**	**09 16 16.6**	**-0.3**
MLS	**Moulis**	**91.32**	**330**	*e*P		**P**	**09 16 17.6**	**-0.5**
VALF	**Valcebollere**	**91.42**	**330**	*e*P		**P**	**09 16 18.2**	**-0.3**
SALF	**Salau**	**91.45**	**330**	*e*P		**P**	**09 16 18.2**	**-0.5**
LTX	**Lajitas**	**91.50**	**51**	*e*P		**P**	**09 16 19.3**	**+0.1**
	comp=Z,70nm,1.3s,mb5.8								
TXAR	**Lajitas Array**	**91.50**	**51**	P		**P**	**09 16 19.5**	**+0.2**
	comp=Z,13nm,0.7s,mb5.4,baz=277,slow=1.8,SNR=19								
TXAR				PP	PP		09 19 57.0	-2.8	
	comp=Z,2.2nm,1.0s,baz=270,slow=2.5,SNR=3.6								
TXAR				PKKPbc			09 33 39.8		
	comp=Z,1.1nm,0.6s,baz=148,slow=5.5,SNR=17								
EPF	**Esparros**	**91.56**	**331**	*e*P		**P**	**09 16 18.4**	**-0.7**
	comp=Z,233nm,1.5s,mb6.0								
AAM	**Ann Arbor**	**91.74**	**30**	*e*P		**P**	**09 16 22.0**	**+1.9**
	comp=Z,330nm,1.9s,mb6.3								
RESF	**Ens**	**91.75**	**331**	*e*P		**P**	**09 16 21.0**	**+1.0**
VIEF	**Viey**	**91.80**	**331**	*e*P		**P**	**09 16 21.7**	**+1.4**
CCM	**Cathedral Cave**	**91.85**	**37**	*e*P		**P**	**09 16 20.7**	**0.0**
	comp=Z,99nm,1.4s,mb6.0								
SLM	**Saint Louis**	**91.88**	**36**	*e*P		**P**	**09 16 20.6**	**-0.1**
	comp=Z,187nm,1.4s,mb6.2								
EBIE	**Bielsa**	**91.93**	**331**	P		**P**	**09 16 21.4**	**+0.6**
	comp=Z,347nm,1.8s,mb6.4								
ETSF	**Etsaut**	**92.02**	**331**	*e*P		**P**	**09 16 20.9**	**-0.3**
	comp=Z,221nm,1.2s,mb6.1								
EMIR	**Miracle**	**92.03**	**330**	P		**P**	**09 16 22.1**	**+0.7**
	comp=Z,120nm,1.0s,mb6.2								
LARF	**Larrau**	**92.06**	**332**	*e*P		**P**	**09 16 22.4**	**+1.0**
SJPF	**Ste Jean**	**92.08**	**332**	*e*P		**P**	**09 16 19.9**	**-1.7**
	comp=Z,67nm,1.1s,mb5.6								
FDAF	**Les Forges d'A**	**92.09**	**331**	*e*P		**P**	**09 16 22.8**	**+1.2**
EGRA	**Graus**	**92.28**	**331**	P		**P**	**09 16 23.2**	**+0.7**
	comp=Z,457nm,1.5s,mb6.6								
FVM	**French Village**	**92.30**	**37**	*e*P		**P**	**09 16 22.0**	**-0.7**
	comp=Z,194nm,1.7s,mb6.2								
MSNY	**Massena**	**92.54**	**23**	*e*P		**P**	**09 16 24.9**	**+1.3**
EPOB	**Poblet**	**92.69**	**330**	P		**P**	**09 16 24.6**	**+0.3**
	comp=Z,256nm,1.4s,mb6.5								
ELAN	**Lanestosa**	**92.79**	**333**	P		**P**	**09 16 25.6**	**+0.8**
	comp=Z,271nm,1.8s,mb6.4								
ESAC	**San Caprasio**	**92.98**	**331**	P		**P**	**09 16 26.9**	**+1.2**
	comp=Z,675nm,1.6s,mb6.8								
JCT	**Junction City**	**93.01**	**48**	*e*P		**P**	**09 16 26.6**	**+0.5**
	comp=Z,585nm,1.9s,mb6.7								
BLO	**Bloomington**	**93.14**	**34**	*e*P		**P**	**09 16 27.7**	**+1.2**
	comp=Z,52nm,1.3s,mb5.8								
EARI	**Arriondas**	**93.35**	**335**	P		**P**	**09 16 28.6**	**+1.2**
	comp=Z,277nm,1.6s,mb6.4								
EBR	**Ebro Roquetas**	**93.37**	**330**	*e*P		**P**	**09 16 28.2**	**+0.7**
MIAR	**Mount Ida**	**93.42**	**41**	*e*P		**P**	**09 16 27.8**	**-0.1**
	comp=Z,42nm,0.9s,mb5.9								
MIAR				*e*pP		pP	09 16 30.9	-1.7	
GENY	**Geneseo**	**93.54**	**26**	*e*P		**P**	**09 16 29.1**	**+0.8**
ACSO	**Alum Creek Sta**	**93.76**	**31**	*e*P		**P**	**09 16 30.9**	**+1.5**
	comp=Z,61nm,1.1s,mb5.9								
MDV	**Middlebury**	**93.96**	**23**	*e*P		**P**	**09 16 31.3**	**+1.1**
EPON	**Pontenova**	**93.97**	**336**	P		**P**	**09 16 31.1**	**+0.9**
	comp=Z,407nm,1.8s,mb6.5								
WCI	**Wyandotte Cave**	**94.02**	**34**	*e*P		**P**	**09 16 30.1**	**-0.5**
	comp=Z,21nm,0.8s,mb5.6								
EMOS	**Mosqueruela**	**94.14**	**330**	P		**P**	**09 16 32.0**	**+0.9**
	comp=Z,343nm,2.1s,mb6.4								
ETOR	**Torete**	**94.37**	**331**	P		**P**	**09 16 32.7**	**+0.5**
	comp=Z,319nm,2.3s,mb6.3								
EIBI	**Ibiza**	**94.53**	**328**	P		**P**	**09 16 35.1**	**+2.1**
	comp=Z,102nm,1.3s,mb6.1								
ERUA	**La Rua**	**94.80**	**335**	P		**P**	**09 16 34.2**	**+0.2**
	comp=Z,38nm,1.0s,mb5.8								
EMAZ	**Mazaricos**	**94.89**	**337**	P		**P**	**09 16 35.5**	**+1.0**
	comp=Z,48nm,0.9s,mb5.9								
WVT	**Waverly**	**95.03**	**36**	*e*P		**P**	**09 16 34.8**	**-0.4**
	comp=Z,33nm,0.9s,mb5.8								
SSPA	**Standing Stone**	**95.38**	**27**	P		**P**	**09 16 36.6**	**-0.2**
EBEN	**Beniarda**	**95.46**	**329**	P		**P**	**09 16 37.2**	**0.0**
	comp=Z,21nm,1.0s,mb5.5								
ELOB	**Lobios**	**95.58**	**336**	P		**P**	**09 16 40.9**	**+3.3**
	comp=Z,173nm,1.5s,mb6.3								
HKT	**Hockley**	**95.70**	**45**	*e*P		**P**	**09 16 39.9**	**+1.3**
	comp=Z,104nm,1.9s,mb5.9								
ESDC	**Sonseca Array**	**96.09**	**332**	P		**P**	**09 16 38.9**	**-1.2**
	comp=Z,5.4nm,0.9s,mb5.0,baz=19,slow=5.9,SNR=6.2								
ESDC				PP	PP		09 20 32.6	-2.7	
	comp=Z,70nm,1.5s,baz=32,slow=7.0,SNR=7.3								
ESDC	**Sonseca Array**	**96.09**	**332**	P		**P**	**09 16 40.1**	**+0.1**
	comp=Z,3.4nm,0.8s								
EVIA	**Vianos**	**96.43**	**331**	P		**P**	**09 16 42.2**	**+0.6**
	comp=Z,153nm,1.5s,mb6.2								
SWET	**Sewanee**	**96.66**	**36**	*e*P		**P**	**09 16 43.4**	**+0.6**
EQES	**Quesada**	**97.38**	**331**	P		**P**	**09 16 47.4**	**+1.5**
	comp=Z,134nm,1.7s,mb6.1								
EADA	**Adamuz**	**97.64**	**332**	P		**P**	**09 16 50.7**	**+3.6**
	comp=Z,173nm,1.9s,mb6.3								
ELUQ	**Luque**	**98.05**	**331**	P		**P**	**09 16 51.3**	**+2.3**
	comp=Z,45nm,0.9s,mb6.0								
EBER	**Berja**	**98.09**	**330**	P		**P**	**09 16 51.8**	**+2.7**
	comp=Z,17nm,0.9s,mb5.6								
ERON	**Agron**	**98.34**	**331**	P		**P**	**09 16 54.3**	**+4.0**
	comp=Z,2.2nm,0.3s,mb5.2								
ELOJ	**Sierra Loja**	**98.37**	**331**	P		**P**	**09 16 53.3**	**+2.9**
	comp=Z,3.2nm,0.3s,mb5.3								
EVO	**Evora**	**98.56**	**334**	*e*P		**P**	**09 16 50.3**	**-0.9**
	comp=Z,55nm,1.2s,mb5.7								
EMIN	**Mina Concepcio**	**98.76**	**333**	P		**P**	**09 16 55.0**	**+2.8**
	comp=Z,173nm,2.5s,mb6.1								
EMIJ	**Mijas**	**99.12**	**331**	P		**P**	**09 16 57.4**	**+3.6**
	comp=Z,21nm,1.0s,mb5.6								
KMBO	**Kilima Mbogo**	**99.93**	**276**	P		**P**	**09 16 57.2**	**-0.9**
	comp=Z,13nm,1.0s,mb5.3,baz=38,slow=6.7,SNR=14								
KMBO				PP	PP		09 21 04.3	-1.4	
	comp=Z,27nm,1.4s,baz=29,slow=9.2,SNR=11								
KMBO	**Kilima Mbogo**	**99.93**	**276**	*e*Pdif		**P**	**09 16 58.8**	**+0.7**
	comp=Z,21nm,1.2s,mb5.5								
MBAR	**Mbarara**	**104.75**	**281**	*e*Pdif	Pdif		09 17 21.8	+2.3	
CASY	**Casey**	**105.59**	**192**	*e*PKiKP			09 21 34.6		
LSZ	**Lusaka**	**115.47**	**270**	*e*PKPdf	PKPdf		09 21 54.0	-3.3	
VNDA	**Vanda**	**115.47**	**175**	PKP	PKPdf		09 21 52.2	-3.7	
	comp=Z,4.7nm,0.8s,baz=295,slow=3.9,SNR=14								
VNDA	**Vanda**	**115.47**	**175**	PKIKP	PKPdf		09 21 52.3	-3.7	
VNDA				pmax	pmax				
	comp=Z,5.0nm,0.8s								
MAW	**Mawson**	**118.97**	**205**	PKP	PKPdf		09 21 58.8	-4.1	
	comp=Z,19nm,0.9s,baz=323,slow=1.7,SNR=17								
MAW	**Mawson**	**118.97**	**205**	PKIKP	PKPdf		09 21 58.8	-4.1	
MAW				pmax	pmax				
	comp=Z,19nm,0.9s								
SJG	**San Juan**	**120.00**	**28**	PKP	PKPdf		09 22 05.4	-0.5	
	comp=Z,6.6nm,0.3s,baz=307,slow=10,SNR=3.0								
SJG	**San Juan**	**120.00**	**28**	PKIKP	PKPdf		09 22 05.4	-0.5	
SJG				pmax	pmax				
	comp=Z,7.0nm,0.3s								
SJG	**San Juan**	**120.00**	**28**	PKP	PKPdf		09 22 05.4	-0.5	
HUMP	**Col San Antoni**	**120.08**	**27**	*e*PKPdf	PKPdf		09 22 03.7	-2.4	
CPD	**Cerro la Pandu**	**120.15**	**27**	*e*PKPdf	PKPdf		09 22 01.9	-4.3	
DBIC	**Dimbokro**	**124.65**	**314**	PKP	PKPdf		09 22 12.1	-3.1	
	comp=Z,34nm,0.9s,baz=70,slow=1.6,SNR=17								
DBIC				PP	PP		09 23 58.4	-4.7	
	comp=Z,29nm,1.1s,baz=356,slow=10,SNR=4.8								
DBIC	**Dimbokro**	**124.65**	**314**	PKIKP	PKPdf		09 22 12.1	-3.1	
DBIC							09 23 58.4		
DBIC				pmax	pmax				
	comp=Z,34nm,1.0s								
DBIC				pmax	pmax				
	comp=Z,29nm,1.1s								
DBIC	**Dimbokro**	**124.65**	**314**	PKP	PKPdf		09 22 12.1	-3.1	
DBIC				PP	PP		09 23 58.4	-4.7	
TIC	**Toumodi**	**124.77**	**315**	*e*PKIKP	PKPdf		09 22 13.2	-2.2	
	comp=Z,19nm,0.5s								
KIC	**Kosan Boka**	**124.84**	**314**	*e*PKIKP	PKPdf		09 22 13.2	-2.4	
	comp=Z,228nm,1.1s								
LIC	**Lamto**	**125.11**	**314**	*e*PKIKP	PKPdf		09 22 12.3	-3.8	
	comp=Z,216nm,1.3s								
LIC	**Lamto**	**125.11**	**314**	*e*PKIKP	PKPdf		09 22 13.8	-2.3	
	comp=Z,208nm,1.3s								
SDV	**Santo Domingo**	**126.33**	**37**	*e*PKPdf	PKPdf		09 22 15.1	-3.2	
QSPA	**South Pole Qui**	**127.10**	**180**	*e*P	PKPdf		09 22 15.0	-3.1	
SYO	**Syowa Base**	**127.59**	**207**	⇓Pdiff	Pdif		09 19 00.8	+2.2	
SYO	**Syowa Base**	**127.59**	**207**	⇓PKPdf	PKPdf		09 22 16.0	-3.4	
SUR	**Sutherland**	**129.74**	**256**	PKP	PKPdf		09 22 22.0	-2.5	
	comp=Z,18nm,1.0s,baz=22,slow=2.9,SNR=6.5								
SNAA	**Sanae**	**140.45**	**198**	*e*	PKPdf		09 22 38.2	-5.1	
SNAA	**Sanae**	**140.45**	**198**	PKhKP			09 22 31.7		
	comp=Z,18nm,1.1s,baz=96,slow=5.2,SNR=18								
SNAA				PP	PP		09 25 37.8	-4.6	
	comp=Z,16nm,1.1s,baz=102,slow=9.3,SNR=9.1								
SNAA	**Sanae**	**140.45**	**198**	*i* PKHKP			09 22 31.7		
SNAA							09 25 37.8		
SNAA				pmax	pmax				
	comp=Z,18nm,1.1s								
SNAA				pmax	pmax				
	comp=Z,17nm,1.1s								
SNAA	**Sanae**	**140.45**	**198**	⇓*i* PKPdf	PKPdf		09 22 33.0	-10	
SNAA				*e*			09 22 38.2		
SNAA				*e*			09 25 37.5		
VNA2	**Neumayer--Watz**	**142.04**	**197**	*e*	PKPdf		09 22 45.0	-0.9	
VNA2	**Neumayer--Watz**	**142.04**	**197**	⇑*i* PKPdf	PKPdf		09 22 39.7	-6.2	
VNA2				*e*			09 22 45.0		
VNA2				*e*			09 25 49.0		
VNA3	**Neumayer Olymp**	**142.34**	**196**	*e*	PKPdf		09 22 46.1	-0.3	
VNA3	**Neumayer Olymp**	**142.34**	**196**	⇓*i* PKPdf	PKPdf		09 22 40.4	-6.0	
VNA3				*e*			09 22 46.1		
VNA3				*e*			09 25 47.5		
VNA1	**Neumayer--Stat**	**142.44**	**197**	*e*	PKPdf		09 22 46.1	-0.5	
VNA1	**Neumayer--Stat**	**142.44**	**197**	⇓*i* PKPdf	PKPdf		09 22 40.8	-5.8	
VNA1				*e*			09 22 46.1		
VNA1				*e*			09 25 53.0		
ARE	**Arequipa**	**146.07**	**60**	*e*P	PKPbc		09 22 54.0	+2.0	
LPAZ	**La Paz**	**148.23**	**56**	PKPbc	PKPdf		09 22 55.8	-2.2	
	comp=Z,11nm,0.9s,baz=6.8,slow=3.0,SNR=5.6								
LPAZ	**La Paz**	**148.23**	**56**	PKIKP	PKPdf		09 22 55.8	-2.2	
LPAZ				pmax	pmax				
	comp=Z,11nm,0.9s								
PMSA	**Palmer Station**	**149.36**	**161**	*e*PKPbc	PKPdf		09 23 00.2	+1.8	
LVC	**Limon Verde**	**151.92**	**66**	*e*PKPbc	PKPdf		09 23 08.6	+5.1	
BAO	**Brasilia Array**	**157.52**	**18**	PKP	PKPdf		09 23 10.2	-1.1	
BAO				*e*			09 23 42.4		
BDFB	**Brasilia**	**157.52**	**18**	PKP	PKPdf		09 23 10.4	-0.9	
	comp=Z,19nm,1.0s,baz=26,slow=8.9,SNR=5.1								
BDFB				PKPab	PKPab		09 23 41.8	-0.3	
	comp=Z,30nm,0.9s,baz=327,slow=7.5,SNR=7.3								
BDFB				PP	PP		09 27 19.0	-3.3	
	comp=Z,10.0nm,0.9s,baz=145,slow=3.7,SNR=3.2								
BDFB	**Brasilia**	**157.52**	**18**	PKIKP	PKPdf		09 23 10.4	-0.9	
BDFB							09 27 19.0		
BDFB				pmax	pmax				
	comp=Z,19nm,1.0s								
BDFB				pmax	pmax				
	comp=Z,10.0nm,0.9s								
CPUP	**Villa Florida**	**162.40**	**56**	PKP	PKPdf		09 23 14.4	-2.0	
	comp=Z,19nm,1.2s,baz=268,slow=4.1,SNR=5.1								
CPUP				PKPab	PKPab		09 24 00.1	-2.9	
	comp=Z,7.1nm,1.1s,baz=5.0,slow=0.9,SNR=3.1								
CPUP	**Villa Florida**	**162.40**	**56**	PKIKP	PKPdf		09 23 14.4	-2.0	
CPUP							09 24 00.1		
CPUP				pmax	pmax				
	comp=Z,19nm,1.2s								
CPUP				pmax	pmax				
	comp=Z,7.0nm,1.1s								

JMA 23 09:05:29.1±0.1, 37.27N×139.03E, h10km±1km, M3.5, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.02**	**206**	P	Pg	09 05 30.9	-0.1
JHK				*e*S	Sg	09 05 32.1	-0.1
JKT	**Katashina**	**0.53**	**161**	*e*S	Sg	09 05 46.9	-0.2
JFY	**Yanaizu**	**0.56**	**76**	*e*S	Sg	09 05 47.7	-0.1
JAG	**Ashikaga**	**0.91**	**158**	P	Pb	09 05 45.8	-0.7
JAG				*e*S	Sb	09 05 58.6	+0.2
JSD	**Sado**	**0.98**	**322**	*e*S	Sb	09 06 00.6	+0.1
MAT	**Matsushiro**	**0.98**	**223**	P	Pb	09 05 42.8	-4.9
MAT				*e*S	Sb	09 05 56.0	-4.5

JMA 23 09:06:42.8±0.1, 37.29N×138.92E, h10km±2km, M3.8, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.09**	**118**	P	Pg	09 06 45.1	-0.2
JHK				S	Sg	09 06 47.5	+0.5
JIZZ	**Izumozaki**	**0.29**	**325**	*e*S	Sg	09 06 53.6	+0.6

*NIED **23** 09:07:00, 37.30N×138.90E, h11km, Mw5.3 Best double couple: M0 1.19×10^17 NP1: φs 37°, δs 59°, λ 110°. NP2: φs 182°, δ 36°, λ 61°.*
*IDC **23** 09:07:28.8±0.5, 37.30N×138.66E, mb4.9/24, mb1 5.1/26, mb1mx5.0/31, ML4.5/2, Error ellipse: s-maj=17.4km s-min=12.4km az=96.0*
*JMA **23** 09:07:30.9, 37.35N×138.87E, h15km±1km, M5.7*
*SYO **23** 09:07:30.9, 37.27N×138.81E, h10km, MB5.4*
*BJI **23** 09:07:31.2, 37.30N×138.80E, h10km, mb5.4*
*NEIC **23** 09:07:31.3±0.1, 37.29N×138.77E, h10km, mb5.4/46, MW5.4(NIED), Error ellipse: s-maj=4.2km s-min=3.0km az=141.0*
*MOS **23** 09:07:32.0±1.6, 37.36N×139.19E, h33km, mb5.0/10, Error ellipse: s-maj=20.5km s-min=7.9km az=79.7*
ISC 23 09:07:30.4±0.5, 37.34N±0.02×138.79E±0.03, h14km±3km, n228, s0892/225, mb5.2/67, 1C-5D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.20**	**116**	P	**Pg**	**09 07 34.5**	**-0.6**
JHK				S	**Sg**	**09 07 37.6**	**-0.6**
JIZZ	**Izumozaki**	**0.20**	**342**	P	**Pg**	**09 07 35.9**	**+0.8**
JIZZ				S	**Sg**	**09 07 39.5**	**+1.2**
JNS	**Sasagawa**	**0.64**	**41**	P	**Pb**	**09 07 42.3**	**-0.4**
JNS				S	**Sb**	**09 07 50.6**	**-0.6**
JKT	**Katashina**	**0.68**	**147**	⇓P	**Pb**	**09 07 43.5**	**+0.1**
JFY	**Yanaizu**	**0.73**	**84**	⇓P	**Pb**	**09 07 43.8**	**-0.6**
JFY				*e*S	**Sb**	**09 07 52.9**	**-1.1**
JSD	**Sado**	**0.81**	**329**	P	**Pb**	**09 07 45.4**	**-0.4**
JSD				*e*S	**Sb**	**09 07 56.4**	**0.0**
MAJO	**Matsushiro**	**0.92**	**211**	*e*P	**Pb**	**09 07 48.4**	**+0.8**
MAT	**Matsushiro**	**0.92**	**211**	P	**Pb**	**09 07 48.5**	**+0.9**
MAT	**Matsushiro**	**0.92**	**211**	*e*P	**Pb**	**09 07 48.0**	**+0.4**
MAT				*e*S	**Sb**	**09 08 01.0**	**+1.5**
JAG	**Ashikaga**	**1.05**	**150**	⇓P	**Pb**	**09 07 50.4**	**+0.5**
JHJ	**Hachijo jima 2**	**4.29**	**169**	Pn	**Pn**	**09 08 37.6**	**+0.9**
	229nm,0.3s,baz=188,slow=5.4,SNR=16						
ASAJ	**Asahikawa**	**7.36**	**22**	Pn	**Pn**	**09 09 19.1**	**-1.0**
	4.3nm,0.3s,baz=244,slow=11,SNR=7.1						
ASAJ	**Asahikawa**	**7.36**	**22**	P	**Pn**	**09 09 19.2**	**-0.9**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**8.58**	**37**	*e*P	**P**	**09 09 30.5**	**-6.6**
YUK				*e*S	**Sn**	**09 11 06.5**	**-8.1**
YUK				pmax	pmax		
	comp=Z,370nm,0.5s						
YUK				pmax	pmax		
	comp=N,440nm,0.8s						
YUK				pmax	pmax		
	comp=E,310nm,0.6s						
YUK				smax			
	comp=E,2μm,1.0s						
YUK				smax			
	comp=N,230nm,0.5s						
YSS	**Yuzh-Sakhalins**	**10.05**	**16**	⇓*i* P	**P**	**09 09 56.5**	**-0.8**
YSS				pmax	pmax		
	comp=N,180nm,0.9s						
YSS				pmax	pmax		
	comp=E,50nm,0.9s						
YSS				pmax	pmax		
	comp=Z,160nm,0.9s						
YSS	**Yuzh-Sakhalins**	**10.05**	**16**	*e*P	**P**	**09 09 56.8**	**-0.6**
	comp=Z,189nm,0.9s						
MDJ	**Mudanjiang**	**10.06**	**319**	P	**P**	**09 09 56.5**	**-0.9**
KUR	**Kuril'sk**	**10.43**	**38**	*e*P	**P**	**09 09 57.0**	**-5.5**
KUR				*e*S	**S**	**09 11 52.0**	**-8.2**
KUR				pmax	pmax		
	comp=Z,860nm,1.1s						
KUR				smax			
	comp=N,640nm,1.2s						
CBIJ	**Chichi jima**	**10.61**	**163**	Pn	**P**	**09 10 01.7**	**-3.4**
UGL	**Uglegorsk**	**11.97**	**10**	P	**P**	**09 10 19.5**	**-4.1**
UGL				pmax	pmax		
	comp=Z,110nm,0.9s						
CN2	**Changchun**	**12.02**	**307**	*e*P	**P**	**09 10 31.3**	**+7.1**
BJT	**Baijiatuan**	**17.86**	**286**	*e*P	**P**	**09 11 40.8**	**+0.8**
	comp=Z,64nm,0.9s						
SKR	**Severo-Kuril's**	**18.19**	**37**	*e*P	**P**	**09 11 41.2**	**-2.9**
SKR				pmax	pmax		
	comp=E,70nm,0.8s						
SKR				pmax	pmax		
	comp=Z,100nm,0.8s						
HIA	**Hailar**	**18.23**	**317**	*e*P	**P**	**09 11 45.8**	**+1.2**
	comp=Z,23nm,0.8s						
PET	**Petropavlovsk**	**20.91**	**35**	*e*P	**P**	**09 12 13.9**	**-0.9**
MA2	**Magadan**	**23.55**	**15**	*e*P	**P**	**09 12 40.0**	**-0.9**
	comp=Z,136nm,1.0s,mb5.3						
ENH	**Enshi**	**25.28**	**262**	*e*P	**P**	**09 12 56.0**	**-1.8**
	comp=Z,148nm,1.0s,mb5.5						
SONM	**Songino Array**	**25.88**	**304**	P	**P**	**09 13 02.1**	**-1.1**
	comp=Z,55nm,1.3s,mb4.9,baz=108,slow=8.8,SNR=4.2						
KMI	**Kunming**	**32.95**	**259**	*e*P	**P**	**09 14 06.3**	**-0.4**
KMI	**Kunming**	**32.95**	**259**	*e*P	**P**	**09 14 06.2**	**-0.5**
	comp=Z,20nm,1.6s,mb4.8						
KMI				sP	sP	09 14 10.5	-2.0
TIXI	**Tiksi**	**34.76**	**355**	*e*P	**P**	**09 14 20.7**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,31nm,1.4s,mb5.0						
KURK	**Kurchatov**	**44.09**	**308**	*e*P	**P**	**09 15 38.5**	**-1.0**
	comp=Z,67nm,1.1s,mb5.3						
IMA	**Indian Mountai**	**47.49**	**31**	*e*P	**P**	**09 16 06.7**	**+0.3**
RSO	**Redoubt South**	**47.96**	**38**	*e*P	**P**	**09 16 10.3**	**+0.1**
SPU	**Mount Spurr**	**48.26**	**37**	*e*P	**P**	**09 16 12.5**	**+0.1**
BVAR	**Borovoye Array**	**48.81**	**312**	P	**P**	**09 16 14.4**	**-2.4**
	comp=Z,8.9nm,0.9s,mb4.8,baz=98,slow=7.1,SNR=4.4						
BVAR				PcP	PcP	09 17 39.8	-2.1
	comp=Z,1.7nm,0.4s,baz=106,slow=4.4,SNR=5.5						
BRVK	**Borovoye**	**48.87**	**312**	*e*P	**P**	**09 16 15.3**	**-1.9**
	comp=Z,21nm,0.9s,mb5.2						
MCK	**McKinley**	**49.55**	**34**	*e*P	**P**	**09 16 22.1**	**-0.2**
	comp=Z,16nm,0.9s,mb5.0						
PMR	**Palmer**	**49.63**	**37**	*e*P	**P**	**09 16 22.3**	**-0.7**
COLA	**College**	**49.94**	**32**	*e*P	**P**	**09 16 26.6**	**+1.3**
SML	**Sawmill**	**49.99**	**36**	*e*P	**P**	**09 16 25.2**	**-0.6**
ILAR	**Eielson Array**	**50.36**	**32**	P	**P**	**09 16 27.3**	**-1.2**
	comp=Z,16nm,0.8s,mb5.1,baz=289,slow=6.7,SNR=18						
ILAR	**Eielson Array**	**50.36**	**32**	P	**P**	**09 16 27.3**	**-1.2**
ILAR				pmax	pmax		
	comp=Z,16nm,0.8s						
EYAK	**Cordova Ski Ar**	**51.40**	**38**	*e*P	**P**	**09 16 36.2**	**-0.2**
ARU	**Arti**	**54.74**	**318**	*e*P	**P**	**09 16 59.5**	**-1.8**
	comp=Z,82nm,0.9s,mb5.8						
INK	**Inuvik**	**55.07**	**27**	P	**P**	**09 17 02.6**	**-1.0**
	comp=Z,36nm,0.8s,mb5.5,baz=301,slow=7.9,SNR=19						
INK	**Inuvik**	**55.07**	**27**	P	**P**	**09 17 02.7**	**-0.9**
INK				pmax	pmax		
	comp=Z,36nm,0.8s						
INK	**Inuvik**	**55.07**	**27**	*e*P	**P**	**09 17 02.7**	**-0.9**
	comp=Z,50nm,0.9s,mb5.5						
HYB	**Hyderabad**	**56.12**	**267**	*i* P	**P**	**09 17 14.5**	**+2.7**
FITZ	**Fitzroy Crossi**	**56.52**	**195**	P	**P**	**09 17 13.5**	**-1.1**
	comp=Z,14nm,1.1s,mb4.9,baz=351,slow=13,SNR=3.4						
WRAB	**Tennant Creek**	**57.12**	**185**	*e*P	**P**	**09 17 17.2**	**-1.7**
	comp=Z,79nm,1.1s,mb5.7						
WRA	**Warramunga Arr**	**57.12**	**185**	P	**P**	**09 17 16.2**	**-2.8**
	comp=Z,25nm,1.2s,mb5.1,baz=16,slow=7.2,SNR=23						
WRA	**Warramunga Arr**	**57.12**	**185**	P	**P**	**09 17 16.2**	**-2.8**
WRA				pmax	pmax		
	comp=Z,25n

LTIM	**Timbered Crate**	**72.87**	**51**	P	**P**	**09 19 00.7**	**+0.1**
BURN	**Burns**	**72.93**	**48**	P	**P**	**09 19 02.1**	**+1.2**
NB2	**NORSAR Subarra**	**73.08**	**336**	P	**P**	**09 18 59.9**	**-1.5**
	comp=Z,9.7nm,0.7s,mb4.8,baz=41,slow=5.8						
NOA	**NORSAR Array B**	**73.08**	**336**	P	**P**	**09 19 00.4**	**-1.0**
	comp=Z,5.6nm,0.8s,mb4.5,baz=45,slow=5.6,SNR=13						
NOA				PP	PP	09 21 41.8	-4.5
	comp=Z,6.0nm,1.0s,baz=42,slow=8.9,SNR=4.5						
NOA	**NORSAR Array B**	**73.08**	**336**	P	**P**	**09 19 00.4**	**-1.0**
NOA						09 21 41.8	
NOA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
NOA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
LBCM	**Butte Creek Ri**	**73.15**	**51**	P	**P**	**09 19 01.5**	**-0.8**
OHCM	**Honcut**	**73.93**	**53**	*eP*	**P**	**09 19 06.2**	**-0.6**
MSO	**Missoula**	**73.94**	**43**	*eP*	**P**	**09 19 06.6**	**-0.1**
	comp=Z,17nm,0.9s,mb5.0						
CHMT	**Chamberlain Mo**	**74.26**	**43**	*eP*	**P**	**09 19 07.9**	**-0.7**
BEKR	**Beckwourth**	**74.33**	**52**	*eP*	**P**	**09 19 09.1**	**0.0**
	comp=Z,42nm,0.9s,mb5.4						
LKC	**Lake Chabot**	**74.48**	**54**	*eP*	**P**	**09 19 09.7**	**-0.3**
FFC	**Flin Flon**	**74.56**	**32**	*eP*	**P**	**09 19 09.6**	**-0.5**
MALT	**Malatya**	**74.93**	**307**	*eP*	**P**	**09 19 12.1**	**-0.4**
WCN	**Washoe City**	**75.04**	**52**	*eP*	**P**	**09 19 14.0**	**+0.8**
	comp=Z,47nm,1.1s,mb5.3						
HRY	**Holter Researc**	**75.15**	**42**	*eP*	**P**	**09 19 13.6**	**-0.1**
CMB	**Columbia Colle**	**75.38**	**53**	*eP*	**P**	**09 19 14.8**	**-0.4**
	comp=Z,29nm,0.8s,mb5.3						
SAO	**San Andreas Ge**	**75.44**	**55**	*eP*	**P**	**09 19 16.0**	**+0.4**
	comp=Z,11nm,0.7s,mb4.9						
MCMT	**McKenzie Canyo**	**75.78**	**44**	*eP*	**P**	**09 19 14.8**	**-2.5**
BMN	**Battle Mountai**	**75.93**	**50**	*eP*	**P**	**09 19 18.1**	**-0.2**
	comp=Z,30nm,0.8s,mb5.3						
BOZ	**Bozeman (W)**	**75.93**	**43**	*eP*	**P**	**09 19 18.1**	**0.0**
	comp=Z,43nm,0.9s,mb5.4						
NVAR	**Mina Array Bea**	**76.47**	**52**	P	**P**	**09 19 22.1**	**+0.7**
	comp=Z,24nm,0.8s,mb5.2,baz=304,slow=3.5,SNR=29						
OMM	**Old Mammoth Mi**	**76.52**	**53**	*eP*	**P**	**09 19 22.4**	**+0.8**
MNV	**Mina**	**76.56**	**52**	*eP*	**P**	**09 19 21.7**	**-0.2**
	comp=Z,14nm,0.9s,mb4.9						
QLMT	**Earthquake Lak**	**76.56**	**44**	*eP*	**P**	**09 19 22.2**	**+0.5**
KWP	**Kalwaria**	**76.65**	**323**	*eP*	**P**	**09 19 21.6**	**-0.5**
	comp=Z,97nm,1.1s,mb5.6						
GCMT	**Greycliff**	**76.90**	**42**	*eP*	**P**	**09 19 24.5**	**+1.0**
YMR	**Madison River**	**76.92**	**43**	*eP*	**P**	**09 19 24.5**	**+0.8**
MTUM	**Tungsten Hills**	**76.95**	**53**	*eP*	**P**	**09 19 24.8**	**+0.8**
YNR	**Norris Junctio**	**77.05**	**43**	*eP*	**P**	**09 19 26.8**	**+2.4**
BRTR	**Keskin Array B**	**77.07**	**310**	P	**P**	**09 19 25.0**	**+0.3**
	comp=Z,3.9nm,0.6s,mb4.5,baz=82,slow=4.0,SNR=5.4						
BRTR	**Keskin Array B**	**77.07**	**310**	P	**P**	**09 19 25.0**	**+0.3**
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
YFT	**Old Faithful**	**77.13**	**44**	*eP*	**P**	**09 19 26.3**	**+1.5**
TPH	**Tonopah**	**77.36**	**52**	*eP*	**P**	**09 19 26.8**	**+0.5**
	comp=Z,90nm,1.2s,mb5.6						
RRI2	**Red Ridge**	**77.57**	**45**	*eP*	**P**	**09 19 28.3**	**+1.0**
OJC	**Ojcow**	**77.60**	**325**	*eP*	**P**	**09 19 27.4**	**0.0**
OJC	**Ojcow**	**77.60**	**325**	*eP*	**P**	**09 19 27.4**	**0.0**
TPAW	**Teton Pass**	**77.68**	**44**	*eP*	**P**	**09 19 28.8**	**+0.9**
HVU	**Hansel Valley**	**77.74**	**47**	*eP*	**P**	**09 19 28.8**	**+0.5**
SNOW	**Snow King Moun**	**77.81**	**44**	*eP*	**P**	**09 19 30.2**	**+1.5**
REDW	**Red Top Meadow**	**77.82**	**44**	*eP*	**P**	**09 19 28.0**	**-0.7**
DGMT	**Dagmar**	**77.89**	**37**	*eP*	**P**	**09 19 28.8**	**-0.2**
	comp=Z,57nm,1.0s,mb5.5						
NIE	**Niedzica**	**77.93**	**324**	*eP*	**P**	**09 19 31.5**	**+2.4**
AHID	**Auburn Hatcher**	**78.07**	**45**	*eP*	**P**	**09 19 30.2**	**+0.1**
	comp=Z,56nm,1.2s,mb5.4						
LAO	**LASA Array**	**78.10**	**40**	*eP*	**P**	**09 19 30.8**	**+0.7**
	comp=Z,114nm,1.1s,mb5.7						
BGU	**Big Grassy Mou**	**78.13**	**47**	*eP*	**P**	**09 19 30.6**	**+0.1**
HWUT	**Hardware Ranch**	**78.55**	**46**	*eP*	**P**	**09 19 33.3**	**+0.5**
	comp=Z,40nm,1.0s,mb5.3						
OKC	**Ostrava-Krasne**	**78.63**	**325**	*eP*	**P**	**09 19 34.5**	**+1.5**
DUG	**Dugway**	**78.72**	**48**	*eP*	**P**	**09 19 34.1**	**+0.4**
	comp=Z,21nm,0.8s,mb5.1						
NOQ	**North Oquirrh**	**78.84**	**47**	*eP*	**P**	**09 19 34.6**	**+0.3**
PDAR	**Pinedale Array**	**78.93**	**44**	P	**P**	**09 19 34.6**	**-0.2**
	comp=Z,24nm,0.8s,mb5.2,baz=274,slow=1.6,SNR=30						
MORC	**Moravsky Berou**	**78.94**	**326**	*eP*	**P**	**09 19 35.1**	**+0.4**
	comp=Z,24nm,1.0s,mb5.1						
TCUT	**Toone Canyon**	**78.95**	**46**	*eP*	**P**	**09 19 32.3**	**-2.7**
CTU	**Camp Tracy**	**79.03**	**47**	*eP*	**P**	**09 19 36.1**	**+0.7**
PSZ	**Piszkesteto**	**79.18**	**323**	*eP*	**P**	**09 19 37.0**	**+1.0**
	comp=Z,43nm,1.0s,mb5.3						
JLU	**Jordanelle**	**79.26**	**47**	*eP*	**P**	**09 19 37.4**	**+0.7**
NLU	**North Lily Min**	**79.31**	**48**	*eP*	**P**	**09 19 37.1**	**+0.2**
DAU	**Daniels Canyon**	**79.50**	**47**	*eP*	**P**	**09 19 39.2**	**+1.3**
MPU	**Maple Canyon**	**79.53**	**47**	*eP*	**P**	**09 19 38.0**	**-0.1**
PVCC	**Panska Ves**	**79.70**	**328**	*eP*	**P**	**09 19 40.1**	**+1.3**
CLL	**Collm**	**79.77**	**329**	P	**P**	**09 19 39.9**	**+0.7**
	comp=Z,logA/T=1.7,mb5.4						
CLL	**Collm**	**79.77**	**329**	*i* P	**P**	**09 19 38.6**	**-0.6**
CLL				pmax	pmax		
	comp=Z,84nm,1.6s,mb5.4						
CLL	**Collm**	**79.77**	**329**	*i* P	**P**	**09 19 38.6**	**-0.6**
	comp=Z,84nm,1.6s,mb5.4						
ARUT	**Antelope Range**	**79.88**	**50**	*eP*	**P**	**09 19 41.1**	**+1.1**
PRU	**Pruhonice**	**80.11**	**327**	*eP*	**P**	**09 19 40.5**	**-0.5**
MVU	**Marysvale**	**80.16**	**49**	*eP*	**P**	**09 19 42.4**	**+0.8**
	comp=Z,34nm,0.9s,mb4.9						
MSU	**Marysvale**	**80.18**	**49**	*eP*	**P**	**09 19 43.1**	**+1.5**
TMUT	**Trail Mountain**	**80.25**	**48**	*eP*	**P**	**09 19 42.4**	**+0.4**
NEN	**Nelson**	**80.36**	**52**	*eP*	**P**	**09 19 42.9**	**+0.3**
ULM	**Lac du Bonnet**	**80.38**	**32**	P	**P**	**09 19 41.1**	**-1.4**
	comp=Z,21nm,1.1s,mb5.0,baz=317,slow=5.2,SNR=5.1						
LDFC	**Landfair**	**80.55**	**53**	*eP*	**P**	**09 19 43.4**	**-0.3**
PFO	**Pinyon Flat Ob**	**80.60**	**55**	*eP*	**P**	**09 19 43.7**	**-0.3**
	comp=Z,27nm,0.9s,mb5.2						
SRU	**San Rafael**	**80.77**	**48**	*eP*	**P**	**09 19 44.8**	**0.0**
NKC	**Novy Kostel**	**80.82**	**328**	*eP*	**P**	**09 19 45.6**	**+0.8**
RSSD	**Black Hills**	**80.98**	**40**	*eP*	**P**	**09 19 45.3**	**-0.4**
	comp=Z,18nm,0.9s,mb5.0						
BAR	**Barrett**	**81.04**	**56**	*eP*	**P**	**09 19 45.9**	**-0.4**
KHC	**Kasperske Hory**	**81.17**	**327**	*eP*	**P**	**09 19 47.0**	**+0.4**
GERES	**GERESS Array B**	**81.33**	**327**	P	**P**	**09 19 47.0**	**-0.5**
	comp=Z,2.8nm,0.8s,mb4.2,baz=34,slow=4.8,SNR=3.6						
GERES	**GERESS Array B**	**81.33**	**327**	P	**P**	**09 19 47.0**	**-0.5**
GERES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GRA1	**Grafenberg Arr**	**81.74**	**329**	*eP*	**P**	**09 19 48.9**	**-0.7**
	comp=Z,105nm,1.3s,mb5.6						
GRF	**Grafenberg Arr**	**81.74**	**329**	*eP*	**P**	**09 19 48.9**	**-0.7**
GRF				pmax	pmax		
	comp=Z,105nm,1.3s,mb5.6						
PV10	**Paradox Valley**	**82.13**	**47**	*eP*	**P**	**09 19 52.5**	**+0.7**
PV01	**Paradox Valley**	**82.56**	**47**	*eP*	**P**	**09 19 54.5**	**+0.4**
ISCO	**Idaho Springs**	**83.12**	**44**	*eP*	**P**	**09 19 58.6**	**+1.6**
	comp=Z,26nm,1.3s,mb5.1						
EYMN	**Ely**	**83.99**	**31**	*eP*	**P**	**09 20 00.5**	**-0.7**
	comp=Z,66nm,1.2s,mb5.6						
SDCO	**Great Sand Dun**	**84.60**	**46**	*eP*	**P**	**09 20 05.7**	**+1.2**
	comp=Z,39nm,1.2s,mb5.4						
SCHQ	**Schefferville**	**85.60**	**15**	P	**P**	**09 20 08.8**	**-0.2**
	comp=Z,11nm,0.8s,mb5.1,baz=342,slow=5.2,SNR=4.8						
SCHQ	**Schefferville**	**85.60**	**15**	P	**P**	**09 20 08.8**	**-0.2**
LAZ	**Ladron**	**85.94**	**49**	*eP*	**P**	**09 20 10.3**	**-0.9**
KSU1	**Kansas State U**	**88.44**	**40**	*eP*	**P**	**09 20 22.5**	**-0.8**
AMTX	**Amarillo**	**88.80**	**46**	*eP*	**P**	**09 20 24.6**	**-0.5**
	comp=Z,24nm,1.0s,mb5.5						
GDL2	**Guadalupe Moun**	**89.13**	**49**	*eP*	**P**	**09 20 26.7**	**0.0**
TXAR	**Lajitas Array**	**91.57**	**51**	P	**P**	**09 20 38.4**	**+0.3**
	comp=Z,5.5nm,0.8s,mb4.9,baz=286,slow=2.1,SNR=11						
TXAR				PP	PP	09 24 13.0	-6.0
	comp=Z,0.7nm,0.8s,baz=288,slow=5.7,SNR=2.4						
CCM	**Cathedral Cave**	**91.92**	**37**	*eP*	**P**	**09 20 39.6**	**+0.2**
JCT	**Junction City**	**93.08**	**48**	*eP*	**P**	**09 20 45.7**	**+0.7**
	comp=Z,28nm,1.2s,mb5.6						
MIAR	**Mount Ida**	**93.49**	**41**	*eP*	**P**	**09 20 47.8**	**+1.0**
	comp=Z,29nm,1.1s,mb5.6						
WCI	**Wyandotte Cave**	**94.08**	**34**	P	**P**	**09 20 48.9**	**-0.5**
SYO	**Syowa Base**	**127.54**	**207**	⇓pPKiKP		09 26 41.2	
SYO	**Syowa Base**	**127.54**	**207**	⇑PP	PP	09 28 41.2	+2.2
SNAA	**Sanae**	**140.41**	**198**	PKhKP		09 26 51.3	
	comp=Z,1.2nm,0.8s,baz=186,slow=9.2,SNR=4.9						
SNAA	**Sanae**	**140.41**	**198**	PKHKP		09 26 51.3	
SNAA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SAML	**Samuel**	**145.44**	**41**	*e*PKPdf	PKPdf	09 27 08.9	-3.1
LPAZ	**La Paz**	**148.30**	**56**	PKPbc	PKPdf	09 27 18.6	+2.1
	comp=Z,16nm,0.8s,baz=320,slow=2.7,SNR=8.7						
LPAZ	**La Paz**	**148.30**	**56**	PKP2	PKPab	09 27 18.7	-3.1
LPAZ				pmax	pmax		
	comp=Z,16nm,0.9s						
BDFB	**Brasilia**	**157.56**	**17**	PKPab	PKPab	09 27 59.9	-0.9
	comp=Z,13nm,1.0s,baz=170,slow=2.6,SNR=4.1						
BDFB	**Brasilia**	**157.56**	**17**	PKP2	PKPab	09 27 59.9	-0.9
BDFB				pmax	pmax		
	comp=Z,13nm,1.0s						
CPUP	**Villa Florida**	**162.48**	**56**	PKPab	PKPab	09 28 20.8	-1.0
	comp=Z,2.8nm,0.9s,baz=207,slow=0.6,SNR=2.3						
CPUP	**Villa Florida**	**162.48**	**56**	PKP2	PKPab	09 28 20.8	-1.0
CPUP				pmax	pmax		
	comp=Z,3.0nm,0.9s						

JMA 23 09:08:02.7±0.1,37.22N×138.88E,h11km±1km, M4.7, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.11**	**75**	P	Pg	09 08 05.5	-0.2
JHK				*e*S	Sg	09 08 07.9	+0.2
JIZZ	**Izumozaki**	**0.34**	**336**	*e*S	Sg	09 08 15.3	+0.8
JKT	**Katashina**	**0.54**	**147**	*e*S	Sg	09 08 20.8	-0.2
JFY	**Yanaizu**	**0.68**	**74**	*e*S	Sb	09 08 24.9	-0.4
JNS	**Sasagawa**	**0.69**	**30**	*e*S	Sb	09 08 24.4	-1.1
JAG	**Ashikaga**	**0.92**	**150**	P	Pb	09 08 20.1	0.0
JAG				*e*S	Sb	09 08 32.6	+0.5
JSD	**Sado**	**0.95**	**329**	P	Pb	09 08 19.7	-1.1
JSD				*e*S	Sb	09 08 32.5	-0.6

JMA 23 09:08:40.3±0.1,37.30N×138.91E,h9km±1km, M3.8, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.10**	**121**	P	Pg	09 08 42.7	-0.2
JHK				*e*S	Sg	09 08 44.7	+0.1
JIZZ	**Izumozaki**	**0.28**	**325**	*e*S	Sg	09 08 50.7	+0.7
JKT	**Katashina**	**0.60**	**153**	*e*S	Sg	09 09 00.1	-0.3
JNS	**Sasagawa**	**0.61**	**32**	*e*S	Sg	09 08 59.5	-1.3

JMA 23 09:09:15.8±0.1, 37.29N×138.89E, h9km±2km, M3.6
JMA Felt II J1.

ISC 23 09:09:15.7±0.7,37.26N±0.04×138.89E±0.08,h12km±7km, n6,σ0s51/9,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.10**	**94**	P	**Pg**	**09 09 18.6**	**-0.1**
JHK				*e*S	**Sg**	**09 09 20.7**	**+0.1**
JIZZ	**Izumozaki**	**0.31**	**333**	P	**Pg**	**09 09 21.1**	**-1.1**
JIZZ				*e*S	**Sg**	**09 09 27.4**	**+0.8**
JKT	**Katashina**	**0.57**	**149**	*e*S	**Sg**	**09 09 35.1**	**+0.2**
JFY	**Yanaizu**	**0.67**	**77**	P	**Pb**	**09 09 29.0**	**+0.2**
MAT	**Matsushiro**	**0.90**	**218**	P	**Pb**	**09 09 32.3**	**-0.4**
MAT				*e*S	**Sb**	**09 09 44.8**	**+0.4**
JSD	**Sado**	**0.92**	**328**	*e*S	**Sb**	**09 09 45.2**	**0.0**

JMA 23 09:10:02.9±0.1, 37.28N×138.88E, h18km±2km, M4.4
JMA Felt IV J1.

ISC 23 09:10:03.0±0.5,37.29N±0.02×138.84E±0.04,h18km±10km, n13,σ0s78/24,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.14**	**106**	P	**Pb**	**09 10 06.5**	**-0.7**
JHK				S	**Sb**	**09 10 09.2**	**-0.9**
JIZZ	**Izumozaki**	**0.27**	**336**	P	**Pb**	**09 10 09.4**	**+0.3**
JIZZ				S	**Sb**	**09 10 14.6**	**+1.5**
JJN	**Nakama**	**0.57**	**251**	P	**Pb**	**09 10 14.2**	**0.0**
JJN				S	**Sb**	**09 10 22.9**	**+1.0**
JKT	**Katashina**	**0.61**	**148**	P	**Pb**	**09 10 14.7**	**-0.2**
JKT				S	**Sb**	**09 10 23.2**	**+0.2**
JNS	**Sasagawa**	**0.65**	**35**	P	**Pb**	**09 10 15.1**	**-0.4**
JNS				S	**Sb**	**09 10 24.1**	**0.0**
JSD	**Sado**	**0.88**	**328**	P	**Pb**	**09 10 19.2**	**-0.2**
JSD				S	**Sb**	**09 10 30.2**	**-0.5**
MAT	**Matsushiro**	**0.90**	**215**	P	**Pb**	**09 10 16.1**	**-3.7**
MAT				S	**Sb**	**09 10 28.2**	**-3.1**
MAT	**Matsushiro**	**0.90**	**215**	P	**Pb**	**09 10 19.6**	**-0.2**
JAG	**Ashikaga**	**0.99**	**150**	P	**Pb**	**09 10 21.6**	**+0.3**
JAG				S	**Sb**	**09 10 34.7**	**+0.8**
JSZ	**Suzu**	**1.19**	**278**	P	**Pb**	**09 10 24.1**	**-0.6**
JSZ				S	**Sb**	**09 10 39.7**	**0.0**
JAW	**Awa shima**	**1.21**	**15**	P	**Pb**	**09 10 24.8**	**-0.2**
JAW				S	**Sb**	**09 10 41.1**	**+0.8**
JRY	**Ryogami san**	**1.27**	**178**	P	**Pb**	**09 10 26.5**	**+0.4**
JRY				S	**Sb**	**09 10 42.9**	**+0.9**
JHG	**Hegura jima**	**1.63**	**291**	P	**Pn**	**09 10 30.0**	**-1.1**

JMA 23 09:11:16.4, 37.23N×138.83E, h12km±1km, M3.6

ISC 23 09:11:16.4±0.8,37.21N±0.04×138.84E±0.06,h14km±5km, n6,σ0s51/10,1D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.15**	**76**	⇓P	**Pg**	**09 11 19.9**	**-0.3**
JHK				S	**Sg**	**09 11 22.6**	**-0.2**
JIZZ	**Izumozaki**	**0.33**	**342**	P	**Pg**	**09 11 23.1**	**-0.4**
JIZZ				S	**Sg**	**09 11 29.2**	**+1.0**
JKT	**Katashina**	**0.56**	**143**	P	**Pb**	**09 11 27.6**	**+0.3**
JKT				S	**Sb**	**09 11 35.5**	**+0.7**
JNS	**Sasagawa**	**0.71**	**32**	S	**Sb**	**09 11 39.0**	**-0.5**
JFY	**Yanaizu**	**0.72**	**74**	S	**Sb**	**09 11 39.7**	**+0.1**
MAT	**Matsushiro**	**0.84**	**217**	P	**Pb**	**09 11 31.4**	**-0.8**
MAT				*e*S	**Sb**	**09 11 43.2**	**+0.1**

BJI 23 09:11:49.3, 37.05N×139.57E, h18km, mB6.0, mb5.6, Ms6.2, Msz6.0
IDC 23 09:11:54.0±0.3, 37.22N×138.69E, mb5.4/32, mb1 5.5/38, mb1mx5.5/39, ML4.4/3, MS5.4/1, Ms1 5.4/1, ms1mx3.5/39, Error ellipse: s-maj=12.2km s-min=9.2km az=96.0
BGS 23 09:11:55.5±2.0, 37.20N×138.68E, h10km, mb5.9
JMA 23 09:11:56.7, 37.25N×138.83E, h12km±3km, M6.0
Broadband fault plane solution: P waves. NP1:φs69°, δ52°, λ154°. NP2:φs176°, δ70°, λ41°. Principal axes: T Plg43°, Azm39°; N Plg45°, Azm198°; P Plg11°, Azm299°;
HRVD 23 09:11:57.4±0.3, 37.38N×138.74E, h17km±1km, MW5.8/62, Centroid moment Tensor Solution. LP body waves: s2,c2; Mantle waves: s62,c137; Half duration: 1s9 Moment tensor: Scale 10^17Nm; Mrr4.95±.42; Mθθ-0.89±.22; Mφφ-4.06±.24; Mrθ-2.80±.76; Mθφ-2.39±.11; Mφr-0.47±.49; Best double couple: M0.5.87×10^17 NP1:φs9°, δ39°, λ57°. NP2:φs229°, δ58°, λ114°. Principal axes: T 6.1, Plg67°, Azm187°; N -.45, Plg20°, Azm36°; P -5.65, Plg10°, Azm302°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
NEIC 23 09:11:57.4±0.1, 37.24N×138.61E, mb5.8/152, MW5.7(NIED) Error ellipse: s-maj=3.4km s-min=2.5km az=168.0
SYO 23 09:11:57.2, 37.20N×138.68E, h17km, MB5.9
MOS 23 09:11:58.1±1.0, 37.26N×138.59E, h33km, mb6.0/68, Error ellipse: s-maj=8.0km s-min=4.9km az=93.3
NIED 23 09:12:00, 37.20N×138.80E, h8km, Mw5.7 Best double couple: M0.4.11×10^17 NP1:φs20°, δ58°, λ70°. NP2:φs234°, δ37°, λ118°.
CSEM 23 09:12:00.4, 37.74N×138.66E, h33km, mb5.9

ISC 23 09:11:56.0±0.1,37.27N±0.02×138.70E±0.02,h18km, h18km±.4km:pP-P,n856,σ0s96/838,mb5.7/209,MS6.1/12, 58C-38D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.25**	**96**	P	**Pb**	**09 12 00.1**	**-1.7**
JIZZ	**Izumozaki**	**0.26**	**1**	P	**Pb**	**09 12 02.7**	**+0.8**
JKT	**Katashina**	**0.67**	**139**	⇓P	**Pb**	**09 12 08.1**	**-0.7**
JKT				S	**Sb**	**09 12 16.8**	**-0.8**
JGK	**Kuni**	**0.71**	**184**	P	**Pb**	**09 12 10.5**	**+0.9**
JNS	**Sasagawa**	**0.73**	**42**	P	**Pb**	**09 12 09.7**	**-0.2**
JNS				S	**Sb**	**09 12 18.9**	**-0.5**
MAJO	**Matsushiro**	**0.83**	**209**	⇑*i*P	**Pb**	**09 12 12.6**	**+1.1**
MAJO				*e*S	**Sb**	**09 12 23.6**	**+1.3**
MAT	**Matsushiro**	**0.83**	**209**	P	**Pb**	**09 12 12.5**	**+0.9**
MAT				S	**Sb**	**09 12 23.6**	**+1.3**
MAT	**Matsushiro**	**0.83**	**209**	*e*P	**Pb**	**09 12 13.0**	**+1.4**
MAT				*e*S	**Sb**	**09 12 24.0**	**+1.7**
JSD	**Sado**	**0.84**	**335**	P	**Pb**	**09 12 12.2**	**+0.5**
JSD				S	**Sb**	**09 12 25.1**	**+2.6**
JAG	**Ashikaga**	**1.04**	**144**	⇓P	**Pb**	**09 12 14.9**	**-0.3**
JAG				S	**Sb**	**09 12 28.3**	**0.0**
JIE	**Ise**	**3.30**	**210**	⇓P	**Pn**	**09 12 49.9**	**+1.9**
JHJ	**Hachijo jima 2**	**4.24**	**168**	Pn	**Pn**	**09 13 00.8**	**-0.5**
	322nm,0.3s,baz=237,slow=1.7,SNR=22						
JHJ				Sn	**Sn**	**09 13 49.0**	**-1.9**
	baz=76,slow=23,SNR=3.9						
ERM	**Erimo**	**5.85**	**35**	Pn	**Pn**	**09 13 25.4**	**+1.3**
	8µm,0.9s,SNR=19						
JKD	**Kudamatsu**	**6.42**	**242**	P	**Pn**	**09 13 34.5**	**+2.4**
JUS	**Usuki**	**7.07**	**236**	P	**Pn**	**09 13 43.2**	**+1.9**
ASAJ	**Asahikawa**	**7.45**	**22**	Pn	**Pn**	**09 13 47.2**	**+0.6**
	11nm,0.3s,baz=231,slow=10,SNR=25						
ASAJ				Sn	**Sn**	**09 15 31.1**	**+20**
	baz=183,slow=32,SNR=1.8						
ASAJ	**Asahikawa**	**7.45**	**22**	P	**Pn**	**09 13 47.2**	**+0.6**
ASAJ				pmax	pmax		
	comp=Z,11nm,0.3s						
JKIT	**Kitakata**	**7.54**	**234**	P	**Pn**	**09 13 49.8**	**+1.9**
JFI	**Itaya**	**7.80**	**243**	P	**Pn**	**09 13 53.4**	**+1.9**
JNAR	**Kushima--Naru**	**8.40**	**229**	P	**P**	**09 14 01.5**	**+1.7**
JZO	**Okuchi**	**8.41**	**235**	P	**P**	**09 14 01.8**	**+1.8**
YUK	**Yuzh-Kuril'sk**	**8.67**	**37**	*eP*	**P**	**09 13 57.7**	**-5.9**
YUK				pmax	pmax		
	comp=Z,7µm,1.0s						
YUK				pmax	pmax		
	comp=Z,620nm,0.5s						
YUK				pmax	pmax		
	comp=N,950nm,0.6s						
YUK				pmax	pmax		
	comp=E,2µm,0.9s						
JTSR	**Tashiro 2**	**8.86**	**229**	P	**P**	**09 14 07.3**	**+1.0**
INCN	**Inchon**	**9.61**	**275**	*eP*	**P**	**09 14 15.4**	**-1.2**
	comp=E,198nm,1.2s						
MDJ	**Mudanjiang**	**10.06**	**320**	P	**P**	**09 14 23.1**	**+0.4**
YSS	**Yuzh-Sakhalins**	**10.13**	**16**	⇓*i*P	**P**	**09 14 23.4**	**-0.3**
YSS	**Yuzh-Sakhalins**	**10.13**	**16**	⇓*e*P	**P**	**09 14 23.9**	**+0.2**
KUR	**Kuril'sk**	**10.52**	**38**	*eP*	**P**	**09 14 23.5**	**-5.5**
KUR				*e*S	**S**	**09 16 19.5**	**-7.9**
KUR				pmax	pmax		
	comp=N,440nm,1.1s						
KUR				pmax	pmax		
	comp=E,490nm,1.1s						
KUR				pmax	pmax		
	comp=Z,3µm,1.1s						
KUR				smax			
	comp=N,950nm,1.2s						
KUR				smax			
	comp=E,950nm,1.2s						
CBIJ	**Chichi jima**	**10.57**	**163**	Pn	**P**	**09 14 24.6**	**-5.2**
CBIJ				Sn	**S**	**09 16 20.6**	**-8.0**
CN2	**Changchun**	**12.00**	**307**	*eP*	**P**	**09 14 52.1**	**+2.9**
UGL	**Uglegorsk**	**12.05**	**11**	*eP*	**P**	**09 14 45.0**	**-4.8**
UGL				pmax	pmax		
	comp=Z,100nm,0.8s						
JOW	**Kunigami**	**13.65**	**223**	Pn	**P**	**09 15 07.1**	**-4.1**
	comp=Z,1.0nm,0.3s,baz=121,slow=18,SNR=3.1						
JKE	**Kume jima 2**	**14.88**	**226**	P	**P**	**09 15 32.9**	**+5.6**
SSE	**Sheshan**	**15.74**	**252**	*eP*	**P**	**09 15 40.5**	**+2.0**
SSE				AMB	AMB		
	comp=Z,421nm,1.1s						
SSE				AMB	AMB		
	comp=Z,13µm,12.0s						
SSE	**Sheshan**	**15.74**	**252**	*eP*	**P**	**09 15 40.5**	**+2.0**
	comp=Z,421nm,1.1s						
NJ2	**Nanjing**	**17.13**	**258**	*eP*	**P**	**09 15 58.6**	**+2.5**
NJ2				AP		09 16 03.0	
NJ2				PP	PP	09 16 12.6	+2.1
NJ2				S	**S**	**09 19 09.0**	**+4.2**
NJ2				AMB	AMB		
	comp=Z,690nm,0.9s						
NJ2				LR	LR		
	comp=N,45µm,14.6s						
NJ2				LR	LR		
	comp=E,51µm,16.0s						
NJ2				LR	LR		
	comp=Z,54µm,17.0s						
TIA	**Tai'an**	**17.33**	**273**	P	**P**	**09 16 02.0**	**+3.5**
TIA				AMB	AMB		
	comp=Z,234nm,1.2s			

LZH LR LR
comp=N,10µm,13.4s
LZH LR LR
comp=Z,19µm,15.0s,MS5.8
LZH Lanzhou 27.89 278 *e*P **P 09 17 47.5 +0.7**
comp=Z,250nm,1.5s,mb5.6
LZH pP pP 09 17 53.8 +1.7
LZH sP sP 09 17 58.4 +3.9
LZH PP PP 09 18 38.0 +1.7
LZH *e*S **S 09 22 31.0 +3.2**
LZH sS 09 22 42.0
LZH SS SS 09 23 56.0 +7.0
LZH LR LR
comp=Z,19µm,15.0s,MS5.8
TGY Tagaytay City 27.98 219 P **P 09 17 47.3 -0.5**
comp=Z,116nm,0.3s,mb5.9,baz=107,slow=13,SNR=1.9
TGY Tagaytay City 27.98 219 P **P 09 17 47.3 -0.6**
TGY pmax pmax
comp=Z,116nm,0.4s
ZAK Zakamensk 28.43 309 *e*P **P 09 17 50.5 -1.0**
FX1 Attu Island--F 28.56 46 P **P 09 17 51.6 -1.1**
comp=Z,41nm,0.7s,mb5.3,baz=269,slow=6.2,SNR=7.2
FX1 Attu Island--F 28.56 46 P **P 09 17 51.6 -1.1**
FX1 pmax pmax
comp=Z,41nm,0.7s
GYA Guiyang 29.14 258 ⇑P **P 09 17 57.4 -0.8**
GYA AP pP 09 18 01.6 -1.9
GYA S **S 09 22 44.9 -3.1**
GYA AMB AMB
comp=Z,150nm,1.1s,mb5.6
GYA LR LR
comp=N,16µm,13.5s,MS6.1
GYA LR LR
comp=E,23µm,12.9s,MS6.1
GYA LR LR
comp=Z,25µm,12.3s,MS6.0
GTA Gaotai 30.42 286 *e*P **P 09 18 08.1 -1.3**
GTA AP pP 09 18 13.8 -1.0
GTA XP sP 09 18 16.4 -0.7
GTA PCP PcP 09 21 06.6 -2.4
GTA S **S 09 23 10.9 +2.8**
GTA LR LR
comp=N,27µm,12.2s,MS6.2
GTA LR LR
comp=E,26µm,12.9s,MS6.2
GTA LR LR
comp=Z,16µm,14.5s,MS5.8
KMI Kunming 32.87 259 ⇑ *i*P **P 09 18 30.8 -0.2**
KMI S **S 09 23 47.5 +0.9**
KMI AMB AMB
comp=Z,75nm,1.6s,mb5.4
KMI LR LR
comp=N,16µm,13.9s,MS6.0
KMI LR LR
comp=E,14µm,12.1s,MS6.0
KMI LR LR
comp=Z,18µm,12.5s,MS6.0
KMI Kunming 32.87 259 ⇑ *i*P **P 09 18 30.7 -0.3**
comp=Z,75nm,1.6s,mb5.4
KMI pP pP 09 18 33.4 -3.0
KMI sP sP 09 18 35.8 -2.9
KMI S **S 09 23 47.5 +0.9**
KMI LR LR
comp=Z,18µm,12.5s,MS6.0
TIXI Tiksi 34.82 355 ⇑ *e*P **P 09 18 45.6 -1.9**
TIXI *e* 09 20 06.9
TIXI *e*S **S 09 24 18.5 +2.2**
TIXI pmax pmax
comp=Z,50nm,1.1s,mb5.4
TIXI MLR MLR
comp=Z,8µm,15.0s,MS5.6
TIXI Tiksi 34.82 355 ⇑ *e*P **P 09 18 45.7 -1.8**
WMQ Urumqi 38.79 296 P **P 09 19 21.0 -0.2**
WMQ XP sP 09 19 29.0 +0.1
WMQ PP PP 09 20 53.0 -1.0
WMQ S **S 09 25 18.0 +0.5**
WMQ AMB AMB
comp=Z,102nm,1.1s,mb5.5
WMQ LR LR
comp=N,14µm,16.0s,MS5.9
WMQ LR LR
comp=E,7µm,15.0s,MS5.9
WMQ LR LR
comp=Z,8µm,15.0s,MS5.6
CMAR Chiang Mai Arr 39.48 253 P **P 09 19 26.6 -0.6**
comp=Z,6.7nm,0.6s,baz=49,slow=6.5,SNR=20
CMAR PcP PcP 09 21 35.5 0.0
comp=Z,15nm,1.0s,baz=27,slow=2.8,SNR=10
ZAL Zalesovo 40.16 312 P **P 09 19 31.7 -0.8**
comp=Z,8.9nm,0.5s,mb4.7,baz=17,slow=8.2,SNR=11
ZAL PcP PcP 09 21 36.1 -1.1
comp=Z,8.3nm,0.7s,baz=343,slow=2.1,SNR=4.7
ZAL Zalesovo 40.16 312 P **P 09 19 31.7 -0.8**
ZAL PcP PcP 09 21 36.1 -1.1
BDT Bhumibol Dam 40.16 251 P **P 09 19 32.0 -0.8**
NVS Novosibirsk 41.11 314 *e*P **P 09 19 39.8 -0.4**
NVS pmax pmax
comp=Z,50nm,1.3s,mb5.0
TNA Tin City 41.72 30 *e*P **P 09 19 45.8 +0.7**
MKAR Makanchi Array 42.15 301 *i* P **P 09 19 48.1 -0.7**
MKAR pmax pmax
comp=Z,16nm,0.9s
ANM Nome 42.53 32 *e*P **P 09 19 53.8 +2.1**
NNT Nongplab 42.60 245 P **P 09 19 53.0 +0.1**
KURK Kurchatov 44.08 308 *i* P **P 09 20 02.6 -1.8**
KURK pmax pmax
comp=Z,121nm,1.1s,mb5.5
KURK Kurchatov 44.08 308 *e*P **P 09 20 02.9 -1.5**
comp=Z,230nm,1.0s,mb5.9
GUN Gumba 44.98 274 *e*P **P 09 20 11.5 -0.5**
comp=Z,479nm,0.9s,mb6.3
WAU Wau 45.01 169 *e*P **P 09 20 11.4 -1.1**
PKI Pulchoki 45.50 274 *e*P **P 09 20 15.3 -0.9**
comp=Z,153nm,0.9s,mb6.0
KKN Kakani 45.51 274 *e*P **P 09 20 15.8 -0.4**
comp=Z,308nm,0.7s,mb6.3
DMN Daman 45.72 274 *e*P **P 09 20 17.2 -0.7**
comp=Z,121nm,0.9s,mb5.8
GKN Gorkha 45.92 275 *e*P **P 09 20 18.4 -1.1**
comp=Z,428nm,0.8s,mb6.4
KOLN Koldanda 46.85 275 *e*P **P 09 20 25.5 -1.3**
comp=Z,194nm,1.0s,mb6.0
PMG Port Moresby 47.10 169 P **P 09 20 27.7 -1.4**
comp=Z,15nm,0.8s,mb5.0,baz=317,slow=7.8,SNR=3.5
PMG PcP PcP 09 21 59.6 -1.6
comp=Z,88nm,1.3s,baz=350,slow=14,SNR=3.2
PMG Port Moresby 47.10 169 P **P 09 20 27.7 -1.3**
PMG 09 21 59.6
PMG pmax pmax
comp=Z,15nm,0.8s
IPM Ipoh 47.38 236 ⇓ *e*P **P 09 20 31.0 -0.2**
IMA Indian Mountai 47.59 31 *e*P **P 09 20 32.8 +0.7**
IMA pmax pmax
comp=Z,630nm,1.0s,mb6.6
IMA Indian Mountai 47.59 31 *e*P **P 09 20 32.6 +0.5**
TKM2 Tokmak 2 47.60 297 P **P 09 20 34.5 +2.0**
SNR=18
KGM Kluang 47.85 231 ⇓ *e*P **P 09 20 34.0 -0.9**
comp=Z,119nm,0.9s,mb5.9
RSO Redoubt South 48.06 38 *e*P **P 09 20 35.9 0.0**
KZA Kyzart 48.08 296 P **P 09 20 39.0 +2.6**
SNR=9.9
KBK Karagaybulak 48.14 297 P **P 09 20 33.1 -3.6**
SNR=15
CHMS Chumysh 48.18 298 P **P 09 20 38.5 +1.4**
SNR=7.5
USP Ospenovka 48.28 298 P **P 09 20 38.9 +1.0**
SNR=9.9
KSH Kashi 48.32 293 *e*P **P 09 20 40.1 +1.9**
KSH *e*AP pP 09 20 45.8 +2.0
KSH *e*XP sP 09 20 47.1 +1.2
KSH *e*PP PP 09 22 32.3 +1.9
KSH *e*S **S 09 27 38.0 +1.7**
KSH *e*SCS ScS 09 30 30.0 +2.4
KSH *e*SS SS 09 31 02.3 +1.3
KSH AMB AMB
comp=Z,2µm,8.0s
KSH LR LR
comp=N,11µm,9.9s
KSH LR LR
comp=E,7µm,10.7s
SPU Mount Spurr 48.36 37 *e*P **P 09 20 38.6 +0.4**
KDAK Kodiak Island 48.37 42 *e*P **P 09 20 37.5 -0.8**
comp=E,163nm,0.9s,mb6.1
AAK Ala-Archa 48.46 297 P **P 09 20 40.4 +1.2**
SNR=9.8
AAK Ala-Archa 48.46 297 ⇑ *e*P **P 09 20 38.8 -0.5**
AAK pmax pmax
comp=Z,45nm,1.3s,mb5.3
AAK Ala-Archa 48.46 297 *e*P **P 09 20 39.0 -0.2**
comp=Z,23nm,0.8s,mb5.3
LGTI Lohaghat 48.78 279 *e*P **P 09 20 43.0 +1.1**
LGTI *e* 09 22 07.5
BVAR Borovoye Array 48.80 312 P **P 09 20 41.1 -0.6**
comp=Z,52nm,1.0s,mb5.5,baz=76,slow=6.1,SNR=37
BVAR PcP PcP 09 22 04.5 -2.3
comp=Z,13nm,0.6s,baz=101,slow=4.3,SNR=12
BRVK Borovoye 48.86 312 P **P 09 20 42.1 -0.1**
BRVK pmax pmax
comp=Z,87nm,1.4s,mb5.6
BRVK Borovoye 48.86 312 *e*P **P 09 20 41.7 -0.4**
comp=Z,65nm,0.9s,mb5.7
EKS2 Erkin-Say 48.96 298 P **P 09 20 44.2 +1.1**
SNR=7.1
AML Aluvayshu 49.18 297 P **P 09 20 46.8 +2.1**
SNR=31
SLKM Skilak Lake 49.30 38 P **P 09 20 45.2 -0.3**
SLKM Skilak Lake 49.30 38 *e*P **P 09 20 44.7 -0.8**
PWA Palmer West 49.37 37 *e*P **P 09 20 45.5 -0.4**
MCK McKinley 49.64 34 *e*P **P 09 20 47.5 -0.6**
comp=Z,30nm,0.9s,mb5.3
PMR Palmer 49.73 37 *e*P **P 09 20 48.1 -0.6**
COLA College 50.03 32 P **P 09 20 51.3 +0.3**
COLA pmax pmax
comp=Z,71nm,1.2s,mb5.6
COLA College 50.03 32 *e*P **P 09 20 51.2 +0.2**
SML Sawmill 50.08 36 *e*P **P 09 20 51.5 +0.1**
SML Sawmill 50.08 36 *e*P **P 09 20 50.9 -0.6**
DDI Dehra Dun 50.13 281 *e*P **P 09 20 51.2 -1.1**
ILAR Eielson Array 50.45 32 P **P 09 20 53.3 -0.9**
comp=Z,26nm,0.8s,mb5.3,baz=276,slow=6.2,SNR=63
ILAR Eielson Array 50.45 32 P **P 09 20 53.3 -0.9**
ILAR pmax pmax
comp=Z,26nm,0.8s
THN Thein Dam 51.08 284 *e*P **P 09 20 55.7 -3.7**
comp=Z,50nm,0.8s,mb5.5
THY Trims Highway 51.09 34 *e*P **P 09 20 57.9 -1.1**
DIV Divide 51.39 37 *e*P **P 09 21 01.0 -0.4**
comp=Z,812nm,1.2s,mb6.5
EYAK Cordova Ski Ar 51.49 38 *e*P **P 09 21 01.7 -0.4**
SVE Sverdlovsk 53.53 318 ⇑ *i*P **P 09 21 11.7 -5.7**
ARU Arti 54.74 318 ⇑ *i*P **P 09 21 25.2 -1.1**
ARU *e* 09 23 29.8
ARU *e*S **S 09 29 07.6 +3.5**
ARU *e*SS SS 09 32 44.0 -3.1
ARU pmax pmax
comp=Z,347nm,1.0s,mb6.3
INK Inuvik 55.16 27 P **P 09 21 28.6 -0.6**
comp=Z,52nm,0.9s,mb5.6,baz=285,slow=7.6,SNR=34
INK PcP PcP 09 22 28.3 -2.0
comp=Z,12nm,0.7s,baz=336,slow=7.5,SNR=1.7
INK Inuvik 55.16 27 P **P 09 21 28.7 -0.6**
INK 09 22 28.3
INK pmax pmax
comp=Z,52nm,0.9s
INK Inuvik 55.16 27 *e*P **P 09 21 28.4 -0.9**
comp=Z,132nm,1.2s,mb5.8
HYB Hyderabad 56.05 267 *i* P **P 09 21 35.5 -0.8**
comp=Z,180nm,1.0s,mb6.1
HYB *e* pP 09 21 41.0 -0.9
HYB *e*PP PP 09 23 41.5 -1.4
HYB Hyderabad 56.05 267 *e*P **P 09 21 35.5 -0.8**
comp=Z,180nm,1.0s,mb6.1
FITZ Fitzroy Crossi 56.44 195 P **P 09 21 37.3 -1.8**
comp=Z,61nm,1.0s,mb5.6,baz=9.5,slow=8.7,SNR=23
WRAB Tennant Creek 57.05 185 *e*P **P 09 21 40.7 -2.7**
WRA Warramunga Arr 57.06 185 P **P 09 21 40.9 -2.6**
comp=Z,171nm,1.0s,mb6.0,baz=1.3,slow=7.6,SNR=98
WRA PcP PcP 09 22 36.8 -1.5
comp=Z,21nm,0.8s,baz=359,slow=5.2,SNR=4.7
WRA Warramunga Arr 57.06 185 P **P 09 21 40.9 -2.6**
WRA 09 22 36.8
WRA pmax pmax
comp=Z,171nm,1.0s
LATR Latur 57.09 269 *e*P **P 09 21 42.0 -1.8**
MDRS Chennai 57.17 261 *e* PP 09 23 51.0 -2.0
CTA Charters Tower 57.49 172 P **P 09 21 44.3 -2.3**
comp=Z,12nm,0.7s,mb5.0,baz=351,slow=6.9,SNR=10
CTA Charters Tower 57.49 172 P **P 09 21 44.3 -2.3**
CTA pmax pmax
comp=Z,12nm,0.7s
CTAO Charters Tower 57.49 172 P **P 09 21 44.1 -2.5**
CTAO pmax pmax
comp=Z,80nm,1.4s,mb5.6
CTAO Charters Tower 57.49 172 *e*P **P 09 21 44.1 -2.5**
comp=Z,80nm,1.4s,mb5.6
POHA Pohakuloa 59.27 88 *e*P **P 09 21 59.6 +0.6**
comp=Z,223nm,1.1s,mb6.1
DLBC Dease Lake 59.76 37 P **P 09 22 01.9 +0.1**
comp=Z,18nm,0.7s,mb5.2,baz=287,slow=7.6,SNR=22
PALK Pallekele 60.32 256 *e*P **P 09 22 05.1 -1.2**
comp=Z,94nm,1.2s,mb5.7
ASAR Alice Springs 60.78 185 P **P 09 22 07.3 -2.0**
comp=Z,36nm,0.9s,mb5.5,baz=6.7,slow=5.0,SNR=56
MBWA Marble Bar 60.81 200 *e*P **P 09 22 07.0 -2.5**
comp=Z,52nm,0.8s,mb5.7
LVZ Lovozero 60.99 335 *e*P **P 09 22 09.3 -0.8**
LVZ pmax pmax
comp=Z,105nm,1.5s,mb5.8
LVZ pmax pmax
comp=N,45nm,1.4s
LVZ pmax pmax
comp=E,30nm,1.1s
LVZ Lovozero 60.99 335 ⇑ *e*P **P 09 22 09.1 -1.0**
APA Apatity 61.57 335 ⇑ *i*P **P 09 22 13.0 -1.1**
APA *i* 09 22 30.8
APA *i* 09 24 28.9
APA pmax pmax
comp=Z,65nm,1.0s,mb5.7
KEV Kevo 62.44 339 *e*p **P 09 22 16.5 -3.4**
ARCES ARCESS Array B 63.00 339 P **P 09 22 22.1 -1.4**
comp=Z,61nm,1.1s,mb5.7,baz=58,slow=8.2,SNR=31
ARCES PP PP 09 24 45.3 +1.5
comp=Z,9.8nm,1.1s,baz=45,slow=8.6,SNR=3.7
ARCES ARCESS Array B 63.00 339 P **P 09 22 22.1 -1.4**
ARCES 09 24 45.3
ARCES pmax pmax
comp=Z,61nm,1.1s
ARCES pmax pmax
comp=Z,10.0nm,1.1s
KTK1 Kautokeino 63.96 339 *e*P **P 09 22 28.4 -1.4**
KTK1 *e*pP pP 09 22 34.9 -0.5
KTK1 AMb AMB 09 22 35.9
comp=Z,188nm,1.4s,mb5.9
KTK1 Kautokeino 63.96 339 *e*P **P 09 22 28.4 -1.4**
comp=Z,188nm,1.4s,mb5.9
NOUC Port Laguerre 64.53 152 *e*P **P 09 22 33.4 -0.8**
NOUC Port Laguerre 64.53 152 *e*P **P 09 22 33.4 -0.8**
YKA Yellowknife Ar 64.68 29 P **P 09 22 33.4 -1.1**
comp=Z,16nm,0.7s,mb5.2,baz=305,slow=6.7,SNR=32
YKA Yellowknife Ar 64.68 29 P **P 09 22 33.4 -1.1**
YKA pmax pmax
comp=Z,16nm,0.7s
JOF Joensuu 64.72 331 *e*p **P 09 22 32.5 -2.3**
TRO Tromso 64.77 340 *e*P **P 09 22 32.8 -2.3**
TRO AMb AMB 09 22 41.8
comp=Z,113nm,2.0s,mb5.6
TRO Tromso 64.77 340 *e*P **P 09 22 32.8 -2.3**
comp=Z,113nm,2.0s,mb5.5
DAG Danmarks Havn 65.34 354 ⇓ *i*P **P 09 22 37.3 -1.3**
comp=Z,143nm,1.6s,mb5.8
MOS Moscow 65.75 323 *e*P **P 09 22 39.7 -1.9**
MOS *e* 09 23 09.4
MOS *e*S S 09 31 26.7 +1.3
MOS pmax pmax
comp=Z,506nm,1.5s,mb6.3
OBN Obninsk 66.59 322 ⇑ *e*P **P 09 22 45.9 -1.0**
OBN *i* pP 09 22 51.1 -1.5
OBN *i* 09 23 15.6
OBN *e* 09 25 10.2
OBN *e*S S 09 31 39.2 +3.5
OBN pmax pmax
comp=Z,155nm,1.4s,mb5.8
OBN MLR MLR
comp=Z,10µm,11.0s,MS6.3
OBN Obninsk 66.59 322 *e*P **P 09 22 45.8 -1.1**
comp=Z,183nm,1.0s,mb6.1
PUL Pulkovo 66.87 329 ⇑ *i*P **P 09 22 47.0 -1.6**
PUL pmax pmax
comp=E,290nm,1.0s
PUL pmax pmax
comp=Z,263nm,1.0s,mb6.2
PUL pmax pmax
comp=N,208nm,0.9s
PUL Pulkovo 66.87 329 ⇓ *e*P **P 09 22 48.3 -0.3**
VOR Voronezh 67.03 318 *e*P **P 09 22 49.0 -0.8**
VOR 09 23 00.0
VOR pmax pmax
comp=N,120nm,1.4s
VOR pmax pmax
comp=Z,300nm,1.4s,mb6.1
VOR pmax pmax
comp=E,300nm,1.3s
KAF Kangasniemi 67.09 332 *e*p **P 09 22 47.4 -2.6**
comp=E,63nm,0.7s,mb5.8,baz=51,slow=6.0
KAF Kangasniemi 67.09 332 *e*P **P 09 22 47.4 -2.6**
KAF pmax pmax
comp=Z,63nm,0.7s,mb5.8
LOF Lofoten 67.23 341 *e*P **P 09 22 50.7 -0.1**
LOF AMb AMB 09 22 54.1
comp=Z,108nm,1.8s,mb5.6
LOF Lofoten 67.23 341 *e*P **P 09 22 50.7 -0.1**
comp=Z,108nm,1.8s,mb5.6
FINES FINESS Array B 67.58 331 P **P 09 22 51.7 -1.4**
comp=Z,90nm,1.1s,mb5.7,baz=56,slow=6.9,SNR=44
FINES FINESS Array B 67.58 331 P **P 09 22 51.7 -1.4**
FINES pmax pmax
comp=Z,90nm,1.1s
PGC Sidney 67.72 45 *e*P **P 09 22 54.0 -0.2**
comp=Z,296nm,1.2s,mb6.2
STW Striped Peak 67.86 46 P **P 09 22 55.6 +0.6**
GOF Gofitskoye 68.31 311 ⇑ *i*P **P 09 22 57.5 -0.5**
GOF pmax pmax
comp=Z,260nm,1.3s,mb6.1
MOR8 Moi Rana 68.37 339 *e*P **P 09 22 55.6 -2.4**
MOR8 *e*pP pP 09 23 00.9 -2.7
MOR8 AMb AMB 09 23 02.7
comp=Z,172nm,1.3s,mb5.9
MOR8 Moi Rana 68.37 339 *e*P **P 09 22 55.4 -2.6**
comp=Z,172nm,1.3s,mb5.9
GNW Green Mountain 68.65 46 *e*P **P 09 23 00.9 +0.9**
STOK Stokkvaagen 68.66 339 *e*P **P 09 22 58.3 -1.5**
STOK AMb AMB 09 23 05.6
comp=Z,154nm,1.6s,mb5.7
STOK Stokkvaagen 68.66 339 *e*P **P 09 22 58.3 -1.5**
comp=Z,154nm,1.6s,mb5.7
JCW Jim Creek 68.82 45 P **P 09 23 01.4 +0.3**
STKA Stephens Creek 68.84 177 P **P 09 23 00.2 -1.2**
comp=Z,32nm,0.8s,mb5.3,baz=348,slow=6.8,SNR=30
RPW Rockport 68.92 45 *e*P **P 09 22 56.8 -4.8**
BMW Boistfort Moun 69.00 47 P **P 09 23 00.3 -1.9**
BMW Boistfort Moun 69.00 47 *e*P **P 09 22 59.2 -2.9**
KIV Kislovodsk 69.10 310 *c* *i*P **P 09 23 02.2 -0.7**
KIV *e* 09 23 23.3
KIV pmax pmax
comp=Z,241nm,1.2s,mb6.0
KIV Kislovodsk 69.10 310 *e*P **P 09 23 02.6 -0.2**
comp=Z,366nm,1.2s,mb6.2
RMW Rattlesnake Mo 69.29 46 P **P 09 23 04.1 +0.2**
RMW Rattlesnake Mo 69.29 46 *e*P **P 09 23 03.9 -0.1**
KMOR Kings Mountain 69.29 48 P **P 09 23 04.8 +0.9**
FMW Mount Fremont 69.65 46 P **P 09 23 06.7 +0.6**
LON Longmire 69.67 46 P **P 09 23 07.1 +0.8**
LON Longmire 69.67 46 *e*P **P 09 23 06.2 -0.1**
NLW Nelson Butte 69.78 45 *e*P **P 09 23 07.2 +0.2**
GNI Garni 69.81 305 P **P 09 23 07.8 +0.6**
comp=Z,11nm,0.5s,mb5.1,baz=264,slow=2.8,SNR=9.7
GNI Garni 69.81 305 ⇑ *e*P **P 09 23 07.9 +0.6**
GNI pmax pmax
comp=Z,135nm,1.5s
GNI Garni 69.81 305 *e*P **P 09 23 07.2 -0.1**
comp=Z,199nm,1.4s,mb5.8
COR Corvallis 69.97 49 P **P 09 23 09.5 +1.4**
COR pmax pmax
comp=Z,240nm,1.1s,mb6.0
COR Corvallis 69.97 49 *e*P **P 09 23 09.4 +1.3**
comp=Z,241nm,1.1s,mb6.0
ASR Mount Adams--S 70.12 47 P **P 09 23 09.6 +0.6**
WTV Waterville 70.20 45 P **P 09 23 09.5 0.0**
KEBM Edson Butte 70.26 51 *e*P **P 09 23 10.7 +0.8**
NSS Namsos 70.28 338 *e*P **P 09 23 07.3 -2.4**
NSS AMb AMB 09 23 14.6
comp=Z,99nm,1.6s,mb5.5
NSS Namsos 70.28 338 *e*P **P 09 23 07.3 -2.4**
comp=Z,99nm,1.6s,mb5.5
EBG Ellensburg 70.30 46 P **P 09 23 10.4 +0.4**
SSOR Sweet Springs 70.32 48 *e*P **P 09 23 11.4 +1.1**
SSOR Sweet Springs 70.32 48 P **P 09 23 11.3 +1.1**
SUMG Summit 70.43 359 *e*P **P 09 23 10.1 -0.4**
comp=Z,187nm,1.1s,mb5.9
EDM Edmonton 70.49 37 P **P 09 23 10.9 -0.2**
EDM Edmonton 70.49 37 *e*P **P 09 23 10.5 -0.6**
SAW Saint Andrews 70.51 45 P **P 09 23 11.2 -0.2**
HSO Harness Mounta 70.67 50 P **P 09 23 14.2 +1.8**
HSO Harness Mounta 70.67 50 *e*P **P 09 23 13.7 +1.3**
WAH2 Wahluke Slope 70.95 45 P **P 09 23 14.0 -0.1**
IZAR Zarasai 71.03 326 *e*P **P 09 23 13.2 -1.2**
IZAR AMPb AMB 09 23 21.4
comp=Z,40nm,1.2s,mb5.2
IDID Didziasalis 71.08 326 *e*P **P 09 23 14.0 -0.7**
IDID AMPb AMB 09 23 20.8
comp=Z,137µm,1.9s
DPW Davenport 71.08 44 *e*P **P 09 23 14.8 -0.1**
DPW Davenport 71.08 44 P **P 09 23 15.2 +0.4**
SOC Sochi 71.11 311 *i* P **P 09 23 14.2 -0.9**
SOC *e* 09 23 34.2
SOC *e* 09 25 49.3
SOC *e*S S 09 32 29.6 +0.2
SOC *e*SS SS 09 36 58.7 -6.4
SOC pmax pmax
comp=Z,1µm,3.9s
SOC pmax pmax
comp=N,177nm,1.6s
SOC pmax pmax
comp=E,226nm,3.0s
SOC pmax pmax
comp=N,72nm,2.0s
SOC pmax pmax
comp=Z,139nm,2.0s,mb5.5
SOC pmax pmax
comp=E,39nm,0.8s
SOC MLR MLR
comp=Z,13µm,14.0s,MS6.3
SOC MLR MLR
comp=N,5µm,15.0s,MS6.0
SOC MLR MLR
comp=E,2µm,13.0s,MS6.0
CROR Criterion Ridg 71.12 48 P **P 09 23 15.7 +0.6**
HAWA Hanford 71.18 46 *e*P **P 09 23 15.7 +0.2**
comp=E,148nm,1.2s,mb5.8
ISAL Salakas 71.19 326 *e*P **P 09 23 14.6 -0.8**
ISAL AMPb AMB 09 23 22.5
comp=Z,68nm,1.1s,mb5.5
HUMO Hull Mountain 71.26 50 *e*P **P 09 23 16.5 +0.5**
comp=Z,44nm,1.1s,mb5.3
IIGN Ignalina 71.29 326 *e*P **P 09 23 15.1 -0.9**
IIGN AMPb AMB 09 23 23.1
comp=Z,54nm,1.3s,mb5.3
NEW Newport 71.45 43 P **P 09 23 16.8 -0.3**
comp=Z,101nm,0.8s,mb5.8,baz=313,slow=4.7,SNR=74
NEW Newport 71.45 43 P **P 09 23 16.8 -0.3**
NEW pmax pmax
comp=Z,101nm,0.8s
NEW Newport 71.45 43 *e*P **P 09 23 17.1 0.0**
comp=Z,149nm,1.0s,mb5.9
TRON Trondheim 71.53 338 *e*P **P 09 23 17.4 +0.2**
TRON *e*pP pP 09 23 23.2 +0.2
TVAN Van 71.56 305 *i* P **P 09 23 16.8 -1.1**
VIPM Ingram Point 71.61 48 P **P 09 23 18.7 +0.6**
ANN Anapa 71.79 313 *c* *i*P **P 09 23 17.9 -1.3**
ANN *e**PP pP 09 23 24.1 -0.7
ANN *e* 09 23 39.8
ANN *e*S S 09 32 37.8 +0.6
ANN pmax pmax
comp=Z,172nm,1.6s,mb5.7
ANN pmax pmax
comp=N,47nm,1.4s
ANN pmax pmax
comp=E,37nm,1.7s
HKR Hakkari 71.86 304 *e*P **P 09 23 19.7 0.0**
ADE Adelaide 71.87 180 *e*P **P 09 23 19.5 -0.3**
YBH Yreka Blue Hor 71.90 51 P **P 09 23 20.3 +0.4**
comp=E,40nm,0.9s,mb5.3,baz=22,slow=1.5,SNR=37

YBH	**Yreka Blue Hor**	**71.90**	**51**	P	**P**	**09 23 20.9**	**+1.1**
YBH				pmax	pmax		
comp=Z,77nm,1.1s							
YBH	**Yreka Blue Hor**	**71.90**	**51**	*e*P	**P**	**09 23 20.5**	**+0.7**
comp=Z,84nm,1.2s,mb5.5							
ERZM	**Erzurum**	**72.12**	**307**	*i* P	**P**	**09 23 22.0**	**+0.8**
EZM	**Erzurum**	**72.12**	**307**	*e*P	**P**	**09 23 21.6**	**+0.3**
LNOR	**Lincton Mounta**	**72.19**	**46**	*e*P	**P**	**09 23 22.1**	**+0.6**
LNOR	**Lincton Mounta**	**72.19**	**46**	P	**P**	**09 23 21.9**	**+0.4**
VRT	**Varto**	**72.45**	**306**	*e*P	**P**	**09 23 23.6**	**+0.5**
WDC	**Whiskeytown Da**	**72.65**	**52**	P	**P**	**09 23 24.8**	**+0.5**
WDC				pmax	pmax		
comp=Z,140nm,1.3s,mb5.7							
WDC	**Whiskeytown Da**	**72.65**	**52**	*e*P	**P**	**09 23 24.6**	**+0.3**
comp=Z,157nm,1.4s,mb5.8							
NWAO	**Narrogin (SRO)**	**72.66**	**199**	P	**P**	**09 23 22.7**	**-1.8**
NWAO				pmax	pmax		
comp=Z,130nm,1.2s							
NWAO	**Narrogin (SRO)**	**72.66**	**199**	*e*P	**P**	**09 23 22.7**	**-1.8**
comp=Z,134nm,1.2s,mb5.8							
WALA	**Waterton Lakes**	**72.70**	**41**	*e*P	**P**	**09 23 24.5**	**+0.1**
comp=Z,362nm,1.6s,mb6.0							
AKASG	**Malin Array Be**	**72.77**	**321**	P	**P**	**09 23 23.7**	**-1.1**
comp=Z,65nm0,0.9s,mb5.5,baz=46,slow=6.2,SNR=60							
AKASG	**Malin Array Be**	**72.77**	**321**	P	**P**	**09 23 23.7**	**-1.1**
AKASG				pmax	pmax		
comp=Z,65nm,0.9s							
GUMT	**Gumushane**	**73.01**	**308**	*e*P	**P**	**09 23 27.0**	**+0.6**
DOMB	**Dombas**	**73.02**	**338**	*e*P	**P**	**09 23 25.4**	**-0.7**
DOMB				AMb	AMB	09 23 33.4	
comp=Z,152nm,1.5s,mb5.7							
DOMB	**Dombas**	**73.02**	**338**	*e*P	**P**	**09 23 25.4**	**-0.7**
comp=Z,152nm,1.5s,mb5.7							
MOL	**Molde**	**73.06**	**339**	*e*P	**P**	**09 23 27.7**	**+1.5**
MOL				AMb	AMB	09 23 36.0	
comp=Z,181nm,1.5s,mb5.8							
MOL	**Molde**	**73.06**	**339**	*e*P	**P**	**09 23 27.7**	**+1.5**
comp=Z,181nm,1.5s,mb5.8							
NB2	**NORSAR Subarra**	**73.11**	**336**	P	**P**	**09 23 25.4**	**-1.2**
comp=Z,100nm,1.0s,mb5.7,baz=41,slow=5.8							
NB2	**NORSAR Subarra**	**73.11**	**336**	P	**P**	**09 23 25.4**	**-1.2**
baz=41,slow=5.9							
NOA	**NORSAR Array B**	**73.11**	**336**	P	**P**	**09 23 25.6**	**-1.0**
comp=Z,41nm,0.9s,mb5.4,baz=40,slow=6.0,SNR=52							
NOA				PP	PP	09 26 08.2	-3.3
comp=Z,17nm,1.0s,baz=41,slow=8.6,SNR=5.5							
NOA	**NORSAR Array B**	**73.11**	**336**	P	**P**	**09 23 25.6**	**-1.0**
NOA						09 26 08.2	
NOA				pmax	pmax		
comp=Z,41nm,0.9s							
NOA				pmax	pmax		
comp=Z,17nm,1.0s							
EZC	**Erzincan**	**73.20**	**307**	*e*P	**P**	**09 23 29.6**	**+2.1**
MOD	**Modoc**	**73.28**	**50**	*e*P	**P**	**09 23 28.2**	**+0.2**
comp=Z,68nm,1.1s,mb5.5							
BEST	**Besiri**	**73.31**	**305**	*i* P	**P**	**09 23 28.3**	**+0.1**
SUW	**Suwalki**	**73.50**	**326**	*e*P	**P**	**09 23 28.5**	**-0.5**
SUW	**Suwalki**	**73.50**	**326**	*e*P	**P**	**09 23 28.5**	**-0.5**
UMR	**Umm Al-Rimmam**	**73.50**	**295**	*e*P	**P**	**09 23 29.6**	**+0.1**
SIM	**Simferopol'**	**73.62**	**314**	*e*P	**P**	**09 23 29.5**	**-0.4**
SIM				pmax	pmax		
comp=Z,120nm,0.7s,mb5.9							
QRN	**Al-Qurain**	**73.81**	**294**	*e*P	**P**	**09 23 31.2**	**0.0**
RDF	**Al-Radifah**	**73.97**	**294**	*e*P	**P**	**09 23 32.9**	**+0.7**
OHCM	**Honcut**	**74.02**	**53**	*e*P	**P**	**09 23 32.2**	**-0.1**
MSO	**Missoula**	**74.04**	**43**	*e*P	**P**	**09 23 32.2**	**0.0**
comp=Z,83nm,1.2s,mb5.5							
RST	**Umm Al-Ruwaisa**	**74.05**	**295**	*e*P	**P**	**09 23 32.1**	**-0.6**
CHMT	**Chamberlain Mo**	**74.36**	**43**	*e*P	**P**	**09 23 33.8**	**-0.3**
BEKR	**Beckwourth**	**74.42**	**52**	*e*P	**P**	**09 23 35.0**	**+0.4**
comp=Z,89nm,0.9s,mb5.7							
SAC	**San Andreas**	**74.43**	**55**	P	**P**	**09 23 35.3**	**+0.6**
SAC	**San Andreas**	**74.43**	**55**	*e*P	**P**	**09 23 34.6**	**-0.1**
ELZG	**Elazig**	**74.44**	**307**	*i* P	**P**	**09 23 35.5**	**+0.7**
HASS	**Wahat al Ahsa'**	**74.47**	**290**	P	**P**	**09 23 34.5**	**-0.6**
FOO	**Floro**	**74.55**	**339**	*e*P	**P**	**09 23 34.2**	**-0.7**
FOO				AMb	AMB	09 23 41.7	
comp=Z,117nm,1.4s,mb5.6							
FOO	**Floro**	**74.55**	**339**	*e*P	**P**	**09 23 34.2**	**-0.7**
comp=Z,117nm,1.4s,mb5.6							
HYA	**Hoyanger**	**74.57**	**338**	*e*P	**P**	**09 23 35.1**	**+0.1**
HYA				*ep*P	pP	09 23 41.1	+0.4
HYA				AMb	AMB	09 23 43.1	
comp=Z,179nm,1.7s,mb5.7							
HYA	**Hoyanger**	**74.57**	**338**	*e*P	**P**	**09 23 35.1**	**+0.1**
comp=Z,179nm,1.7s,mb5.7							
LKC	**Lake Chabot**	**74.57**	**54**	*e*P	**P**	**09 23 36.3**	**+0.8**
FFC	**Flin Flon**	**74.66**	**32**	P	**P**	**09 23 35.4**	**-0.2**
FFC				pmax	pmax		
comp=Z,97nm,1.2s,mb5.6							
FFC	**Flin Flon**	**74.66**	**32**	*e*P	**P**	**09 23 35.1**	**-0.5**
comp=Z,68nm,1.1s,mb5.5							
FCC	**Fort Churchill**	**74.74**	**25**	P	**P**	**09 23 36.0**	**0.0**
FCC				pmax	pmax		
comp=Z,170nm,1.1s,mb5.9							
FCC	**Fort Churchill**	**74.74**	**25**	*e*P	**P**	**09 23 35.1**	**-0.9**
comp=Z,182nm,1.2s,mb5.9							
MYA	**Malatya**	**74.90**	**307**	*e*P	**P**	**09 23 38.4**	**+0.9**
MALT	**Malatya**	**74.91**	**307**	*e*P	**P**	**09 23 38.2**	**+0.8**
comp=Z,35nm,1.0s,mb5.2							
SUE	**Sulen**	**75.07**	**339**	*e*P	**P**	**09 23 37.9**	**0.0**
SUE				*ep*P	pP	09 23 44.0	+0.4
SUE				AMb	AMB	09 23 44.9	
comp=Z,124nm,1.6s,mb5.6							
SUE	**Sulen**	**75.07**	**339**	*e*P	**P**	**09 23 36.8**	**-1.1**
comp=Z,124nm,1.6s,mb5.6							
PAHR	**Pah Rah Range**	**75.13**	**51**	*e*P	**P**	**09 23 39.8**	**+1.1**
comp=Z,81nm,1.2s,mb5.5							
WCN	**Washoe City**	**75.13**	**52**	*e*P	**P**	**09 23 39.4**	**+0.7**
comp=Z,188nm,1.4s,mb5.8							
HRY	**Holter Researc**	**75.25**	**42**	*e*P	**P**	**09 23 39.6**	**+0.4**
KIS	**Kishinev**	**75.29**	**318**	*e*P	**P**	**09 23 38.0**	**-1.5**
KIS				MLR	MLR		
comp=Z,21μm,16.0s,MS6.5							
KIS				MLR	MLR		
comp=N,6μm,14.0s,MS6.5							
KIS				MLR	MLR		
comp=E,17μm,14.0s,MS6.5							
KIS				MLR	MLR		
comp=Z,22μm,16.0s							
BYBT	**Boyabat**	**75.32**	**311**	*e*P	**P**	**09 23 40.1**	**+0.3**
ASK	**Askoy**	**75.41**	**338**	*e*P	**P**	**09 23 39.1**	**-0.7**
ASK				AMb	AMB	09 23 46.4	
comp=Z,1μm,1.5s,mb6.6							
ASK	**Askoy**	**75.41**	**338**	*e*P	**P**	**09 23 39.1**	**-0.7**
comp=Z,1μm,1.5s,mb6.6							
RUND	**Rundenannen**	**75.41**	**338**	*e*P	**P**	**09 23 39.8**	**0.0**
RUND				AMb	AMB	09 23 47.2	
comp=Z,204nm,1.1s,mb6.0							
ODD1	**Odda**	**75.43**	**337**	*e*P	**P**	**09 23 38.5**	**-1.4**
ODD1				AMb	AMB	09 23 40.1	
comp=Z,98nm,1.2s,mb5.6							
ODD1	**Odda**	**75.43**	**337**	*e*P	**P**	**09 23 38.5**	**-1.4**
comp=Z,98nm,1.2s,mb5.6							
BER	**Bergen**	**75.44**	**338**	*e*P	**P**	**09 23 39.7**	**-0.3**
CMB	**Columbia Colle**	**75.48**	**53**	P	**P**	**09 23 40.6**	**-0.1**
CMB				pmax	pmax		
comp=Z,340nm,1.4s,mb6.1							
CMB	**Columbia Colle**	**75.48**	**53**	*e*P	**P**	**09 23 40.7**	**-0.1**
comp=Z,205nm,1.3s,mb5.9							
SAO	**San Andreas Ge**	**75.54**	**55**	P	**P**	**09 23 41.4**	**+0.3**
SAO				pmax	pmax		
comp=Z,80nm,1.2s,mb5.5							
SAO	**San Andreas Ge**	**75.54**	**55**	*e*P	**P**	**09 23 41.2**	**+0.1**
comp=Z,80nm,1.2s,mb5.5							
EGD	**Espegrend**	**75.57**	**338**	*e*P	**P**	**09 23 40.5**	**-0.2**
EGD	**Espegrend**	**75.57**	**338**	*e*P	**P**	**09 23 38.1**	**-2.7**
HLID	**Hailey**	**75.78**	**46**	*e*P	**P**	**09 23 43.1**	**+0.8**
comp=Z,55nm,1.0s,mb5.4							
CTKT	**Corum**	**75.81**	**310**	*i* P	**P**	**09 23 43.2**	**+0.6**
BLS5	**Blasjo**	**75.87**	**337**	*e*P	**P**	**09 23 43.2**	**+0.7**
BLS5				AMb	AMB	09 23 50.5	
comp=Z,47nm,1.7s,mb5.1							
BLS5	**Blasjo**	**75.87**	**337**	*e*P	**P**	**09 23 43.2**	**+0.7**
comp=Z,47nm,1.7s,mb5.1							
MCMT	**McKenzie Canyo**	**75.88**	**44**	*e*P	**P**	**09 23 43.0**	**+0.1**
LVV	**L'vov**	**75.89**	**323**	*e*P	**P**	**09 23 43.0**	**+0.2**
LVV				*e*S	S	09 33 18.0	-5.0
LRV	**Little Rabbit**	**76.01**	**55**	*e*P	**P**	**09 23 44.7**	**+0.9**
GZT	**Gaziantep**	**76.02**	**306**	*i* P	**P**	**09 23 44.6**	**+0.8**
TOS	**Tosya**	**76.03**	**311**	*e*P	**P**	**09 23 44.7**	**+1.0**
BMN	**Battle Mountai**	**76.03**	**50**	P	**P**	**09 23 44.3**	**+0.5**
BMN				pmax	pmax		
comp=Z,380nm,1.6s,mb6.1							
BMN	**Battle Mountai**	**76.03**	**50**	*e*P	**P**	**09 23 44.0**	**+0.2**
comp=Z,89nm,1.0s,mb5.7							
BOZ	**Bozeman (W)**	**76.03**	**43**	P	**P**	**09 23 44.7**	**+1.0**
BOZ				pmax	pmax		
comp=Z,180nm,1.1s,mb5.9							
BOZ	**Bozeman (W)**	**76.03**	**43**	*e*P	**P**	**09 23 44.0**	**+0.3**
comp=Z,167nm,1.1s,mb5.9							
BALT	**Daday**	**76.11**	**312**	*i* P	**P**	**09 23 44.8**	**+0.5**
BSD	**Bornholm Skovb**	**76.19**	**331**	*i* P	**P**	**09 23 43.3**	**-1.1**
comp=Z,109nm,0.9s,mb5.8							
BSD	**Bornholm Skovb**	**76.19**	**331**	*e*P	**P**	**09 23 43.3**	**-1.1**
comp=Z,109nm,0.9s,mb5.8							
BNN	**Bunyan**	**76.22**	**308**	*e*P	**P**	**09 23 45.3**	**+0.4**
KAHT	**Ahir Dag**	**76.30**	**307**	*i* P	**P**	**09 23 46.2**	**+0.8**
GAZ	**Gaziantep**	**76.36**	**306**	*e*P	**P**	**09 23 46.7**	**+1.0**
STAV	**Stavanger**	**76.50**	**337**	*e*P	**P**	**09 23 46.1**	**+0.1**
STAV				AMb	AMB	09 23 53.6	
comp=Z,133nm,1.9s,mb5.5							
STAV	**Stavanger**	**76.50**	**337**	*e*P	**P**	**09 23 46.1**	**+0.1**
comp=Z,133nm,1.9s,mb5.5							
CANT	**Cankiri**	**76.53**	**311**	*e*P	**P**	**09 23 47.0**	**+0.4**
NVAR	**Mina Array Bea**	**76.56**	**52**	P	**P**	**09 23 47.2**	**+0.4**
comp=Z,64nm,0.9s,mb5.6,baz=302,slow=3.6,SNR=94							
GKP	**Gorka Klasztor**	**76.58**	**328**	*e*P	**P**	**09 23 46.3**	**-0.3**
GKP				LR	LR		
comp=Z,61μm,21.4s,MS6.9							
OMM	**Old Mammoth Mi**	**76.61**	**53**	*e*P	**P**	**09 23 47.3**	**+0.1**
MNV	**Mina**	**76.65**	**52**	P	**P**	**09 23 47.6**	**+0.2**
MNV				pmax	pmax		
comp=Z,160nm,1.3s,mb5.8							
MNV	**Mina**	**76.65**	**52**	*e*P	**P**	**09 23 47.5**	**+0.1**
comp=Z,150nm,1.3s,mb5.8							
KWP	**Kalwaria**	**76.66**	**323**	*e*P	**P**	**09 23 47.4**	**+0.3**
KWP	**Kalwaria**	**76.66**	**323**	*e*P	**P**	**09 23 47.4**	**+0.3**
QLMT	**Earthquake Lak**	**76.66**	**43**	*e*P	**P**	**09 23 48.1**	**+0.9**
SAFT	**Safranbolu**	**76.70**	**312**	*e*P	**P**	**09 23 48.0**	**+0.5**
COP	**Copenhagen**	**76.72**	**332**	*i* P	**P**	**09 23 50.0**	**+2.7**
COP	**Copenhagen**	**76.72**	**332**	*e*P	**P**	**09 23 50.0**	**+2.7**
ELDT	**Eldivan**	**76.72**	**311**	*i* P	**P**	**09 23 48.1**	**+0.4**
AVNT	**Avonos**	**76.88**	**309**	*i* P	**P**	**09 23 49.0**	**+0.4**
GCMT	**Greycliff**	**76.99**	**42**	*e*P	**P**	**09 23 49.9**	**+0.8**
YMR	**Madison River**	**77.01**	**43**	*e*P	**P**	**09 23 50.5**	**+1.3**
MTUM	**Tungsten Hills**	**77.04**	**53**	*e*P	**P**	**09 23 50.1**	**+0.5**
BRTR	**Keskin Array B**	**77.06**	**310**	P	**P**	**09 23 49.8**	**+0.2**
comp=Z,37nm,1.0s,mb5.3,baz=90,slow=3.7,SNR=51							
BRTR	**Keskin Array B**	**77.06**	**310**	P	**P**	**09 23 49.8**	**+0.2**
BRTR				pmax	pmax		
comp=Z,37nm,1.0s							
YNR	**Norris Junctio**	**77.14**	**43**	*e*P	**P**	**09 23 52.2**	**+2.3**
YFT	**Old Faithful**	**77.22**	**43**	*e*P	**P**	**09 23 52.6**	**+2.3**
KAMT	**Kaman**	**77.23**	**310**	P	**P**	**09 23 50.5**	**-0.1**
MUD	**Monsted U'grnd**	**77.31**	**334**	⇑*i*P	**P**	**09 23 50.8**	**+0.2**
comp=Z,78nm,1.2s,mb5.5							
RYDS	**Riyadh**	**77.32**	**291**	D		09 23 49.4	
KOLS	**Kolonicke sedl**	**77.34**	**323**	*i* P	**P**	**09 23 51.4**	**+0.5**
COBT	**Iskenderun**	**77.36**	**306**	*i* P	**P**	**09 23 52.2**	**+0.9**
LKWY	**Lake**	**77.39**	**43**	P	**P**	**09 23 54.6**	**+3.3**
LKWY				pmax	pmax		
comp=Z,190nm,1.1s,mb5.9							
LKWY	**Lake**	**77.39**	**43**	*e*P	**P**	**09 23 54.0**	**+2.7**
comp=Z,250nm,1.2s,mb6.0							
CEYT	**Ceyhan**	**77.39**	**307**	*e*P	**P**	**09 23 52.8**	**+1.3**
NIG	**Nigde**	**77.44**	**308**	*e*P	**P**	**09 23 52.2**	**+0.5**
TPH	**Tonopah**	**77.45**	**52**	P	**P**	**09 23 52.9**	**+1.1**
TPH				pmax	pmax		
comp=Z,160nm,1.0s,mb5.9							
TPH	**Tonopah**	**77.45**	**52**	*e*P	**P**	**09 23 52.6**	**+0.8**
comp=Z,188nm,1.2s,mb5.9							
LOD	**Lodumlu**	**77.49**	**311**	*e*P	**P**	**09 23 52.2**	**+0.2**
SGKT	**Sivrigoynuk**	**77.49**	**312**	*i* P	**P**	**09 23 52.6**	**+0.7**
OJC	**Ojcow**	**77.61**	**325**	*e*P	**P**	**09 23 52.6**	**+0.2**
OJC	**Ojcow**	**77.61**	**325**	*e*P	**P**	**09 23 52.6**	**+0.2**
RRI2	**Red Ridge**	**77.66**	**45**	*e*P	**P**	**09 23 53.8**	**+1.0**
ISR	**Istrita**	**77.71**	**318**	⇓*i*P	**P**	**09 23 54.2**	**+1.1**
MOOW	**Moose Ponds**	**77.73**	**44**	*e*P	**P**	**09 23 54.4**	**+1.3**
CRVS	**Cervenica-Dubn**	**77.75**	**323**	*i* P	**P**	**09 23 53.8**	**+0.6**
TPAW	**Teton Pass**	**77.78**	**44**	*e*P	**P**	**09 23 54.9**	**+1.5**
MLR	**Muntele Rosu**	**77.79**	**318**	P	**P**	**09 23 53.7**	**+0.2**
comp=Z,57nm,1.1s,mb5.4,baz=327,slow=1.1,SNR=19							
MLR	**Muntele Rosu**	**77.79**	**318**	P	**P**	**09 23 53.7**	**+0.2**
MLR				pmax	pmax		
comp=Z,57nm,1.1s							
HVU	**Hansel Valley**	**77.83**	**47**	P	**P**	**09 23 55.2**	**+1.4**
HVU	**Hansel Valley**	**77.83**	**47**	*e*P	**P**	**09 23 54.8**	**+1.0**
WUWY	**Wally Ulrich**	**77.86**	**44**	*e*P	**P**	**09 23 55.0**	**+1.1**
LOHW	**Long Hollow**	**77.89**	**44**	*e*P	**P**	**09 23 55.1**	**+1.0**
SNOW	**Snow King Moun**	**77.91**	**44**	*e*P	**P**	**09 23 55.3**	**+1.2**
REDW	**Red Top Meadow**	**77.92**	**44**	*e*P	**P**	**09 23 55.4**	**+1.2**
NIE	**Niedzica**	**77.94**	**324**	*e*P	**P**	**09 23 55.2**	**+1.0**
DGMT	**Dagmar**	**77.98**	**37**	*e*P	**P**	**09 23 54.3**	**-0.1**
comp=Z,262nm,1.2s,mb6.0							
HENT	**Hendek**	**78.02**	**312**	*i* P	**P**	**09 23 53.9**	**-0.9**
MDU	**Mudurnu**	**78.06**	**312**	*e*P	**P**	**09 23 54.9**	**-0.1**
AHID	**Auburn Hatcher**	**78.16**	**45**	*e*P	**P**	**09 23 56.4**	**+0.8**
comp=Z,181nm,1.9s,mb5.7							
LAO	**LASA Array**	**78.19**	**40**	*e*P	**P**	**09 23 55.5**	**-0.1**
BGU	**Big Grassy Mou**	**78.23**	**47**	*e*P	**P**	**09 23 56.7**	**+0.8**
DAC	**Darwin (Calif)**	**78.31**	**53**	P	**P**	**09 23 57.7**	**+1.1**
DAC				pmax	pmax		
comp=Z,59nm,1.0s,mb5.5							
DAC	**Darwin (Calif)**	**78.31**	**53**	*e*P	**P**	**09 23 57.3**	**+0.8**
comp=Z,41nm,0.9s,mb5.4							
DAC				*ep*P	pP	09 24 02.0	-0.3
SPUT	**South Promonto**	**78.32**	**47**	*e*P	**P**	**09 23 58.2**	**+1.7**
MTUR	**Matau**	**78.43**	**319**	⇓*i*P	**P**	**09 23 58.0**	**+1.0**
RAC	**Raciborz**	**78.44**	**325**	*e*P	**P**	**09 23 55.8**	**-1.2**
RAC	**Raciborz**	**78.44**	**325**	*e*P	**P**	**09 23 55.8**	**-1.2**
MZLS	**Mizel**	**78.48**	**291**	P	**P**	**09 23 58.2**	**+0.5**
PRD	**Provadia**	**78.50**	**316**	*i* P	**P**	**09 23 58.3**	**+0.9**
KECS	**Kecovo**	**78.51**	**323**	*i* P	**P**	**09 23 58.4**	**+1.1**
EYL	**Eskiyayla**	**78.62**	**313**	*e*P	**P**	**09 23 58.4**	**+0.2**
OKC	**Ostrava-Krasne**	**78.64**	**325**	*e*P	**P**	**09 23 57.7**	**-0.3**
OKC				*ep*P	pP	09 24 03.9	+0.1
HWUT	**Hardware Ranch**	**78.64**	**46**	*e*P	**P**	**09 23 59.3**	**+1.0**
comp=Z,144nm,1.2s,mb5.8							
HWUT				*ep*P	pP	09 24 04.3	+0.3
KIZT	**Kizilcal**	**78.65**	**310**	*e*P	**P**	**09 23 57.6**	**-0.7**
KSP	**Ksiaz**	**78.74**	**327**	*e*P	**P**	**09 23 58.6**	**0.0**
KSP				*e**PP	pP	09 24 03.6	-0.7
KSP	**Ksiaz**	**78.74**	**327**	*e*P	**P**	**09 23 58.8**	**+0.2**
HRT	**Hereke**	**78.74**	**313**	*e*P	**P**	**09 23 58.5**	**-0.4**
DUG	**Dugway**	**78.82**	**48**	P	**P**	**09 24 00.5**	**+1.3**
DUG				pmax	pmax		
comp=Z,1μm,1.1s,mb6.7							
DUG	**Dugway**	**78.82**	**48**	*e*P	**P**	**09 24 00.2**	**+1.0**
comp=Z,131nm,1.3s,mb5.7							
BSEG	**Bad Segeberg**	**78.85**	**332**	*e*P	**P**	**09 23 58.6**	**-0.5**
BSEG				*e**PP	pP	09 24 04.8	-0.1
BSEG				pmax	pmax		
comp=Z,146nm,1.2s,mb5.8							
ARSS	**Ar Rass**	**78.85**	**294**	P	**P**	**09 23 59.5**	**-0.2**
ESKT	**Eskisehir**	**78.87**	**311**	*e*P	**P**	**09 23 59.0**	**-0.5**
ESKT	**Eskisehir**	**78.87**	**311**	*i* P	**P**	**09 23 59.1**	**-0.4**
NOQ	**North Oquirrh**	**78.93**	**47**	*e*P	**P**	**09 24 00.9**	**+1.1**
KONT	**Konya--Tatoy**	**78.94**	**309**	*e*P	**P**	**09 23 60.0**	**0.0**
MORC	**Moravsky Berou**	**78.96**	**326**	*e*P	**P**	**09 23 59.0**	**-0.8**
MORC				pmax	pmax		
comp=Z,150nm,1.2s,mb5.8							
MORC	**Moravsky Berou**	**78.96**	**326**	*e*P	**P**	**09 23 58.9**	**-0.9**
comp=Z,127nm,1.2s,mb5.7							
HILS	**Ha'il**	**79.02**	**296**	P	**P**	**09 24 01.3**	**+0.7**
BW06	**Boulder Array**	**79.02**	**44**	*e*P	**P**	**09 24 00.7**	**+0.4**
comp=Z,63nm,0.9s,mb5.5							
PDAR	**Pinedale Array**	**79.02**	**44**	P	**P**	**09 24 00.7**	**+0.3**
comp=Z,36nm,0.8s,mb5.4,baz=286,slow=1.5,SNR=71							
TCUT	**Toone Canyon**	**79.05**	**46**	*e*P	**P**	**09 23 58.4**	**-2.1**
DPC	**Dobruska-Polom**	**79.08**	**327**	*e*P	**P**	**09 24 00.9**	**+0.4**
DPC				*ep*P	pP	09 24 06.6	+0.4
UPC	**Upice**	**79.11**	**327**	*e*P	**P**	**09 24 01.7**	**+1.1**
UPC				*ep*P	pP	09 24 07.0	+0.6
CTU	**Camp Tracy**	**79.12**	**47**	*e*P	**P**	**09 24 01.6**	**+0.7**
IKL	**Isikli**	**79.17**	**307**	*e*P	**P**	**09 24 00.3**	**-1.0**
PSZ	**Piszkesteto**	**79.19**	**323**	*e*P	**P**	**09 24 01.3**	**+0.2**
PSZ				pmax	pmax		
comp=Z,160nm,1.1s,mb5.9							
PSZ	**Piszkesteto**	**79.19**	**323**	*e*P	**P**	**09 24 01.1**	**0.0**
comp=Z,181nm,1.2s,mb5.9							
SZH	**Strazhica**	**79.26**	**317**	*i* P	**P**	**09 24 02.0**	**+0.4**
VYHS	**Vyhne**	**79.28**	**324**	*i* P	**P**	**09 24 02.4**	**+0.8**
JLU	**Jordanelle**	**79.36**	**47**	*e*P	**P**	**09 24 02.8**	**+0.6**
NLU	**North Lily Min**	**79.41**	**48**	*e*P	**P**	**09 24 03.0**	**+0.6**
ULDT	**Uludag**	**79.49**	**313**	*i* P	**P**	**09 24 03.2**	**+0.3**
DAU	**Daniels Canyon**	**79.59**	**47**	P	**P**	**09 24 04.6**	**+1.2**
DAU	**Daniels Canyon**	**79.59**	**47**	*e*P	**P**	**09 24 04.3**	**+0.9**
ALT	**Altintas**	**79.61**	**311**	*e*P	**P**	**09 24 03.9**	**+0.4**
PVL	**Pavlikeni**	**79.62**	**317**	*i* P	**P**	**09 24 04.0**	**+0.5**
MPU	**Maple Canyon**	**79.63**	**47**	*e*P	**P**	**09 24 04.7**	**+1.1**
HRI	**Mount Hermon**	**79.67**	**304**	P	**P**	**09 24 04.1**	**+0.1**
PVCC	**Panska Ves**	**79.72**	**328**	*e*P	**P**	**09 24 04.1**	**+0.2**
PVCC				*ep*P	pP	09 24 09.8	+0.2
CLL	**Collm**	**79.79**	**329**	⇑P	**P**	**09 24 03.5**	**-0.8**
comp=Z,logA/T=2.1,mb5.8							
CLL				*i* *PP	pP	09 24 09.4	-0.6
CLL				*i*		09 24 15.5	
CLL				*e*		09 24 31.0	
CLL				*e*PP	PP	09 27 07.0	-0.2
CLL	**Collm**	**79.79**	**329**	⇑*i*P	**P**	**09 24 03.5**	**-0.8**
CLL				*i*	pP	09 24 09.4	-0.6
CLL				pmax	pmax		
comp=Z,149nm,1.2s,mb5.8							
CLL				MLR	MLR		
comp=Z,18μm,15.5s,MS6.5							
CLL	**Collm**	**79.79**	**329**	⇑*i*P	**P**	**09 24 03.5**	**-0.8**
comp=Z,149nm,1.2s,mb5.8							
CLL				*i*	pP	09 24 09.4	-0.6
CLL				LR	LR		
comp=Z,18μm,15.5s,MS6.5							
KSHT	**Keshet**	**79.80**	**304**	P	**P**	**09 24 04.9**	**+0.2**
KSHT	**Keshet**	**79.80**	**304**	⇑P	**P**	**09 24 04.9**	**+0.2**
BUD	**Budapest**	**79.91**	**323**	⇓*e*P	**P**	**09 24 06.6**	**+1.6**
SMOL	**Smolenice**	**79.92**	**325**	*i* P	**P**	**09 24 06.7**	**+1.7**
ARUT	**Antelope Range**	**79.97**	**50**	*e*P	**P**	**09 24 05.8**	**+0.2**
ARUT				*ep*P	pP	09 24 11.8	+0.5
SRO	**Srobarova**	**80.01**	**324**	*e*P	**P**	**09 24 06.8**	**+1.3**
PRU	**Pruhonice**	**80.13**	**327**	P	**P**	**09 24 05.8**	**-0.3**
PRU				*PP	pP	09 24 11.8	-0.1
PRU				pmax	pmax		
comp=Z,112nm,1.3s,mb5.6							
PRU	**Pruhonice**	**80.13**	**327**	P	**P**	**09 24 05.8**	**-0.3**
comp=Z,112nm,1.3s,mb5.6							
PRU				pP	pP	09 24 11.8	-0.1
MFT	**Murefte**	**80.14**	**314**	*e*P	**P**	**09 24 06.9**	**+0.5**
PKS7	**Kunszentmiklos**	**80.15**	**323**	⇓*e*P	**P**	**09 24 07.1**	**+0.8**
HNTI	**Hanita**	**80.16**	**304**	P	**P**	**09 24 06.7**	**+0.1**
HNTI	**Hanita**	**80.16**	**304**	⇑P	**P**	**09 24 06.7**	**+0.1**
AFFS	**'Afif**	**80.17**	**292**	P	**P**	**09 24 07.3**	**+0.4**
CSS	**Prodhromos**	**80.19**	**307**	*e*P	**P**	**09 24 06.8**	**0.0**
comp=Z,64nm,0.8s,mb5.6							
MVU	**Marysvale**	**80.26**	**49**	*e*P	**P**

PCOU Corrie 81.85 340⇑ eP P 09 24 15.0 0.0
PRNI Paran 81.96 302 P P 09 24 16.5 +0.4
PRNI Paran 81.96 302 ⇑P P 09 24 16.5 +0.4
SRS Serrai 81.99 316 eP P 09 24 14.6 -1.4
KZIT Kziot 82.02 303 P P 09 24 16.5 +0.1
KZIT Kziot 82.02 303 ⇑P P 09 24 16.5 +0.1
PCA1 Carrot 82.15 340⇑ eP P 09 24 16.5 0.0
TBKS Tabuk 82.21 299 P P 09 24 18.5 +1.0
PV10 Paradox Valley 82.22 47 eP P 09 24 19.0 +1.6
JMQS Jabal Moqyreh 82.27 300 P P 09 24 18.7 +0.9
PHWY Pilot Hill 82.27 43 eP P 09 24 18.4 +0.9
KMTI Karmit 82.30 302 P P 09 24 17.9 0.0
KMTI Karmit 82.30 302 ⇑P P 09 24 17.9 0.0
OUR Ouranopolis 82.31 316 eP P 09 24 15.1 -2.7
AQBJ Aqaba 82.31 301 P P 09 24 18.1 +0.1
SOH Sokhos 82.33 316 eP P 09 24 13.2 -4.6
KNT Kendrikon 82.34 317 eP P 09 24 16.0 -1.9
PERS Pernice 82.36 325 eP P 09 24 18.1 +0.3
PERS e pP 09 24 24.0 +0.4
MBH Mount Berech 82.36 302 P P 09 24 18.5 +0.3
MBH Mount Berech 82.36 302 ⇑P P 09 24 18.5 +0.3
NVSS Nova Varos 2 82.40 320 ⇓iP P 09 24 18.4 +0.2
TATS Tathlith 82.42 289 P P 09 24 19.4 +0.7
EIL Elat 82.42 301 P P 09 24 18.6 +0.1
EIL Elat 82.42 301 ⇑P P 09 24 18.6 +0.1
BDRM Kayabasi 82.50 311 iP P 09 24 18.9 +0.2
ALWS Ilw as Safayha 82.56 301 P P 09 24 20.2 +0.9
SKO Skopje 82.57 318⇑ iP P 09 24 19.8 +0.7
comp=Z,0.1nm,0.8s
PLG Polygyros 82.58 316⇑ iP P 09 24 20.0 +0.8
JMOS Jabal al Moall 82.62 301 P P 09 24 20.3 +0.8
SISC Sisak 82.63 323 iP P 09 24 19.3 0.0
ARG Arkhangelos 82.64 310 eP P 09 24 20.0 +0.4
PV01 Paradox Valley 82.66 47 eP P 09 24 20.1 +0.5
PLE Pljevlja 82.68 320 ⇓iP P 09 24 20.1 +0.5
SIND Sindeldorf 82.69 329 eP P 09 24 19.4 -0.1
OBKA Obir 82.72 325⇑ iP P 09 24 19.6 -0.1
comp=Z,607nm,3.2s
IVA Berane 82.75 320 ⇓iP P 09 24 20.1 +0.2
GRG Griva 82.76 317 eP P 09 24 18.9 -1.2
HAQS Haql 82.81 301 P P 09 24 21.5 +0.9
TOD Tromm 82.81 330 eP P 09 24 20.0 -0.1
TOD Tromm 82.81 330 eP P 09 24 19.9 -0.2
GMK Mull of Kintyr 82.82 340⇑ eP P 09 24 19.9 -0.2
KBA Koelnbreinsper 82.83 326⇑ iP P 09 24 20.6 +0.3
comp=Z,819nm,4.3s
PVY Plav 82.91 319 ⇓iP P 09 24 21.1 +0.3
FUR Furstenfeldbru 82.91 328 eP P 09 24 20.8 +0.1
FUR e*PP pP 09 24 27.2 +0.7
FUR pmax pmax
comp=Z,167nm,1.1s,mb6.0
FUR Furstenfeldbru 82.91 328 eP P 09 24 20.8 +0.1
comp=Z,167nm,1.1s,mb6.0
FUR epP pP 09 24 27.2 +0.7
SWS Schriesheim 82.95 330 eP P 09 24 21.1 +0.2
GAL1 Galloway 83.00 340⇑ eP P 09 24 20.7 -0.3
UPM Unac-Piva 83.02 320 ⇓iP P 09 24 21.1 -0.3
HDH Heidenheim 83.04 328 eP P 09 24 21.1 -0.2
LJU Ljubljana 83.07 325 eP P 09 24 21.2 -0.3
LJU e pP 09 24 27.1 -0.3
BDAS Al Bad' 83.08 300 P P 09 24 22.7 +0.7
ABH Alteburg 83.09 331 eP P 09 24 21.5 -0.1
URZ Urewera 83.09 150 P P 09 24 19.7 -2.2
comp=Z,6.3nm,1.1s,mb4.6,baz=292,slow=19,SNR=2.5
BOJS Bojanci 83.14 324 eP P 09 24 21.8 -0.1
AOS Alonnisos 83.16 315 eP P 09 24 20.4 -1.8
TAYS Tayyib Ism 83.17 301 P P 09 24 23.2 +0.7
GCL Cushendall 83.20 341⇑ eP P 09 24 22.1 0.0
ISCO Idaho Springs 83.22 44 P P 09 24 24.0 +1.6
ISCO pmax pmax
comp=Z,93nm,1.4s,mb5.6
ISCO Idaho Springs 83.22 44 eP P 09 24 23.6 +1.2
comp=Z,39nm,1.1s,mb5.3
DBAS Duba 83.23 299 P P 09 24 23.4 +0.6
NKY Niksic 83.25 320 ⇓iP P 09 24 21.9 -0.6
LIT Litokhoron 83.30 316 eP P 09 24 21.4 -1.5
STU Stuttgart 83.31 329 P P 09 24 23.2 +0.5
STU pmax pmax
comp=Z,160nm,1.0s,mb6.0
STU Stuttgart 83.31 329 eP P 09 24 23.1 +0.3
comp=Z,139nm,0.9s,mb6.0
STU epP pP 09 24 28.9 +0.3
KTD Kalmit 83.33 330 eP P 09 24 22.7 -0.1
PTCC Patocco-Chiusa 83.34 325 eP P 09 24 21.8 -1.2
TTG Podgorica 83.39 320 ⇓iP P 09 24 23.0 -0.2
XOR Xorichti 83.42 315 eP P 09 24 21.7 -1.8
BRY Bratogost 83.42 320 ⇓iP P 09 24 22.7 -0.8
RUP Ruppelstein 83.43 331 eP P 09 24 22.9 -0.4
RUP Ruppelstein 83.43 331 eP P 09 24 23.1 -0.2
FNA Florina 83.44 317 eP P 09 24 22.3 -1.2
NEO Neokhori 83.44 315 eP P 09 24 23.5 -0.1
WTTA Wattenberg 83.45 327 ⇓iP P 09 24 23.5 0.0
comp=Z,889nm,3.5s
FVI Forni Avoltri 83.45 326 eP P 09 24 23.1 -0.4
DJNS Zahran al Janu 83.46 287 P P 09 24 25.7 +1.6
GMNA Gemona 83.49 325 eP P 09 24 21.8 -1.9
BUCH Bad Urach 83.50 329 eP P 09 24 24.1 +0.4
UMJS Umm Lajj 83.51 297 P P 09 24 25.2 +0.9
KZN Kozani 83.55 317 eP P 09 24 23.0 -1.1
LBG Lerchenberg 83.56 329 eP P 09 24 24.1 +0.2
YNBS Yanbu' al Bahr 83.57 296 P P 09 24 25.2 +0.6
NAMS An Nimas 83.59 289 P P 09 24 26.3 +1.5
MOTA Moosalm 83.62 327⇑ iP P 09 24 24.5 +0.2
comp=Z,77nm,1.4s,mb5.6
BLJS Baljurashi 83.63 290 P P 09 24 26.4 +1.4
SQTA Sankt Quirin 83.67 327⇑ iP P 09 24 24.0 -0.5
comp=Z,96nm,1.6s,mb5.7
BUM Brajici-Budva 83.67 320 ⇓iP P 09 24 25.1 +0.4
KARP Karpathos 83.67 310 eP P 09 24 25.0 +0.1
TRI Trieste 83.68 325 eP P 09 24 24.1 -0.6
QSH Qafa e Shtames 83.70 319 ip P 09 24 25.2 +0.3
LANF Langenberg 83.71 330 eP P 09 24 24.5 -0.2
ULC Ulcinj 83.73 319 ⇓iP P 09 24 24.8 -0.2
HCY Herceg Novi 83.77 320 ⇓iP P 09 24 25.1 -0.1
UBR Uberruh 83.78 328 eP P 09 24 24.9 -0.2
GUT Gutenstein 83.89 329 eP P 09 24 25.6 -0.1
GMM Mts of Mourne 83.90 340⇑ eP P 09 24 25.3 -0.2
MPAR Parnis Oros 83.94 314 eP P 09 24 26.0 -0.2
GIVF Givet 83.96 332 eP P 09 24 25.3 -0.6
SPAK Spaichingen 84.01 329 eP P 09 24 26.1 -0.1
SPAK Spaichingen 84.01 329 eP P 09 24 25.0 -1.2
BFO Black Forest 84.01 329 eP P 09 24 25.9 -0.4
BFO e*PP pP 09 24 31.9 -0.2
BFO pmax pmax
comp=Z,211nm,1.4s,mb6.1
BFO Black Forest 84.01 329 eP P 09 24 25.9 -0.4
comp=Z,211nm,1.4s,mb6.1
BFO epP pP 09 24 31.9 -0.2
EYMN Ely 84.08 31 eP P 09 24 26.5 -0.1
comp=Z,191nm,1.1s,mb6.1
AGG Agios Georgios 84.14 315 eP P 09 24 25.0 -2.1
SANT Santorini 84.15 312 eP P 09 24 25.4 -1.8
comp=Z,178nm,1.2s,mb6.1
DAVA Damuels 84.19 328⇑ iP P 09 24 27.5 +0.3
comp=Z,882nm,3.3s
MEV Metsovon 84.22 317 eP P 09 24 25.9 -1.6
BAIF Baives 84.22 332 eP P 09 24 26.5 -0.7
comp=Z,96nm,1.3s,mb5.5
NSAL Nisos Salamina 84.27 314 eP P 09 24 27.0 -0.8
LTHS Al Lith 84.28 291 P P 09 24 29.3 +1.1
SBD Saint Breward 84.30 338⇑ eP P 09 24 27.8 +0.2
WLS Welschbruch 84.34 330 eP P 09 24 28.0 +0.1
CDF Champ du Feu 84.37 330 eP P 09 24 27.7 -0.4
comp=Z,367nm,1.2s,mb6.1
CTI Castel Tesino 84.38 326 eP P 09 24 26.2 -1.9
LBOS 84.43 283 eP P 09 24 30.3 +1.2
LIBD Limburg 84.45 330 eP P 09 24 28.5 0.0
LIBD Limburg 84.45 330 eP P 09 24 28.2 -0.3
KIZ Kirchzarten 84.48 329 eP P 09 24 28.4 -0.2
EVR Evrytania 84.50 316 eP P 09 24 28.0 -1.0
FELD Feldberg 84.51 329 eP P 09 24 28.2 -0.5
JAN Janina 84.51 317 eP P 09 24 29.0 0.0
HLM1 Long Mynd 84.53 338 eP P 09 24 29.1 +0.3
ECH Echery 84.58 330 eP P 09 24 28.2 -0.9
BRMO Bormio 84.61 327 eP P 09 24 29.8 +0.5
SSP1 Stoney Pound 84.68 338 eP P 09 24 30.2 +0.7
DHBB Dhamar BB 84.69 284 eP P 09 24 32.7 +2.3
NPS Neapolis 84.80 311 eP P 09 24 30.0 -0.5
HAE Alders End 84.84 337⇑ eP P 09 24 30.3 0.0
HAE AMb AMB 09 24 38.4
comp=Z,260nm,1.7s,mb6.1
MOF Molkenrain 84.88 330 eP P 09 24 30.4 -0.2
IGT Igoumenitsa 84.88 317 eP P 09 24 30.0 -0.9
DLF Lyons Farm 84.90 340 eP P 09 24 29.6 -0.9
MCH1 Michaelchurch 85.01 337⇑ eP P 09 24 30.7 -0.5
HINF Hinteralfeld 85.02 330 eP P 09 24 30.4 -0.9
comp=Z,72nm,1.0s,mb5.5
THEF They Montfort 85.03 330 eP P 09 24 30.8 -0.6
BBS Basel-Blauen 85.04 329 eP P 09 24 31.4 0.0
BBS Basel-Blauen 85.04 329 eP P 09 24 30.9 -0.5
KEK Kerkira 85.05 317 eP P 09 24 32.0 +0.4
DCN Croghan 85.06 340 eP P 09 24 30.7 -0.6
HAU Haudompre 85.07 330 eP P 09 24 30.8 -0.7
comp=Z,94nm,0.9s,mb5.6
FRSS Farasan al Kab 85.13 287 P P 09 24 33.7 +1.2
MEZF Maizieres J'vi 85.17 331 eP P 09 24 31.9 -0.2
comp=Z,270nm,1.1s,mb6.0
TUC Tucson 85.18 53 P P 09 24 33.5 +1.0
TUC pmax pmax
comp=Z,63nm,1.2s,mb5.6
TUC Tucson 85.18 53 eP P 09 24 33.1 +0.6
comp=Z,42nm,1.1s,mb5.5
SAL Salo 85.22 326 eP P 09 24 32.0 -0.3
IDI Anoyia 85.22 311 P P 09 24 31.7 -0.9
comp=Z,161nm,1.1s,mb6.1,baz=30,slow=7.8,SNR=26
HGH Gray Hill 85.27 337⇑ eP P 09 24 32.2 -0.2
HGH AMb AMB 09 24 34.9
comp=Z,154nm,1.4s,mb6.0
LKD Levkas 85.29 316 eP P 09 24 32.1 -0.8
VLI Veliai 85.39 313 eP P 09 24 32.0 -1.4
LOMF Lomont 85.41 329 eP P 09 24 30.6 -2.6
VAM Vamos 85.55 312 eP P 09 24 34.0 -0.3
FGMS Monte Sant'Ang 85.61 321 eP P 09 24 34.2 -0.2
KYTH Kithira 85.64 313 eP P 09 24 34.0 -0.7
RSM Repubblica di 85.64 324 eP P 09 24 35.5 +1.0
ITM Ithomi 85.65 314 eP P 09 24 34.0 -0.7
FSSB Fossombrone 85.66 324 eP P 09 24 34.7 +0.1
SCHQ Schefferville 85.67 14 P P 09 24 34.2 -0.1
comp=Z,50nm,1.1s,mb5.7,baz=353,slow=6.2,SNR=16
VLS Valsamata 85.70 316 eP P 09 24 34.0 -1.0
ARV Arcevia 85.73 324 eP P 09 24 35.5 +0.5
VAI Varese 85.78 328 eP P 09 24 34.0 -1.1
SFI Santa Sofia 85.94 325 eP P 09 24 36.6 +0.6
GVD Gavdhos 86.01 311 eP P 09 24 36.1 -0.5
comp=Z,279nm,1.1s,mb6.4
PGD Poggio Sodo 86.02 325 eP P 09 24 37.9 +1.5
LAZ Ladron 86.03 49 eP P 09 24 37.9 +1.2
VMG Vicchio 86.03 325 eP P 09 24 37.7 +1.3
MCGN Macugnaga 86.04 328 eP P 09 24 36.4 -0.1
SEI Scarperia 86.05 325 eP P 09 24 37.9 +1.3
ANMO Albuquerque 86.06 48 P P 09 24 38.3 +1.5
ANMO pmax pmax
comp=Z,120nm,1.4s
ANMO Albuquerque 86.06 48 eP P 09 24 37.8 +0.9
comp=Z,164nm,1.6s,mb6.0
GSCL Gusciola 86.17 326 eP P 09 24 38.0 +0.9
ERBM Eremo 86.19 326 eP P 09 24 38.2 +1.0
LENM Lemitar 86.29 49 eP P 09 24 39.4 +1.4
CABF La Chapelle 86.30 329 eP P 09 24 37.0 -0.7
comp=Z,80nm,1.2s,mb5.5
BOB Bobbio (Coli) 86.35 326 eP P 09 24 38.1 +0.1
AQU L'Aquila 86.38 323 eP P 09 24 39.1 +0.9
AQU pmax pmax
comp=Z,200nm,1.3s,mb6.2
AQU L'Aquila 86.38 323 eP P 09 24 39.3 +1.1
BDI Bagni Di Lucca 86.39 325 eP P 09 24 37.5 -0.7
LPM Los Pinos Moun 86.40 49 eP P 09 24 39.3 +0.8
VLC Villacollemand 86.41 326 eP P 09 24 39.0 +0.7
BNM Barren Site 86.51 49 eP P 09 24 39.7 +0.6
CPI2 Carpinone 86.51 322 eP P 09 24 39.5 +0.7
CSNT Castellina Chi 86.53 325 eP P 09 24 38.3 -0.6
MRLC Muro Lucano 86.55 320 eP P 09 24 39.0 -0.1
ORI Oriolo Calabro 86.57 319 eP P 09 24 40.0 +0.8
PTQR Pietraquaria 86.64 322 eP P 09 24 39.8 +0.3
LOR Lormes 86.65 331 eP P 09 24 38.6 -0.8
comp=Z,160nm,1.0s,mb5.9
SDI San Donato 86.67 322 eP P 09 24 39.4 -0.3
MNS Montasola 86.71 323 eP P 09 24 39.3 -0.5
SGO Sicignano 86.78 320 eP P 09 24 39.9 -0.4
RFI Roccamonfina 86.89 322 eP P 09 24 42.7 +2.0
LPL La Plagne 86.92 328 eP P 09 24 40.6 -0.2
comp=Z,74nm,1.2s,mb5.5
TDS Terranova Siba 86.92 319 eP P 09 24 41.5 +0.6
GRFL Gerfalco 86.92 325 eP P 09 24 40.0 -0.8
LPG La Plagne 86.93 328 eP P 09 24 40.7 -0.1
comp=Z,114nm,1.1s,mb5.7
SSF Saint Saulge 86.95 331 eP P 09 24 40.2 -0.7
comp=Z,113nm,1.0s,mb5.8
MGR Morigerati 86.97 320 eP P 09 24 39.9 -1.2
FLN La Foliniere 86.98 334 eP P 09 24 40.2 -0.8
comp=Z,100nm,0.9s,mb5.8
LDF La Druitiere 87.00 334 eP P 09 24 40.1 -1.0
comp=Z,76nm,0.8s,mb5.7
HYF Humbligny 87.11 332 eP P 09 24 41.4 -0.2
SMF Signal de Mont 87.17 331 eP P 09 24 41.3 -0.6
comp=Z,90nm,0.9s,mb5.7
GRR Gorron 87.43 334 eP P 09 24 42.6 -0.6
comp=Z,266nm,1.2s,mb6.0
MBDF Montbardon 87.54 328 eP P 09 24 42.6 -1.2
comp=Z,22nm,0.8s,mb5.2
BGF Bois d'Agland 87.62 331 eP P 09 24 43.6 -0.5
comp=Z,230nm,1.7s,mb5.8
IMI Imperia 87.71 327 eP P 09 24 43.9 -0.8
ORIF Oris-en-Rattie 87.76 329 eP P 09 24 43.9 -0.9
comp=Z,28nm,0.8s,mb5.3
SAOF Saorge 87.80 327 eP P 09 24 43.9 -1.1
AUTN L'Aution 87.84 327 eP P 09 24 44.3 -0.9
TOUF Mont Tournerai 87.91 327 eP P 09 24 45.9 +0.4
SBF Sospel 87.95 327 eP P 09 24 44.3 -1.4
comp=Z,74nm,0.9s,mb5.6
AURF Aurel 87.97 327 eP P 09 24 45.0 -0.9
MVIF Mont Vial 88.04 327 eP P 09 24 45.3 -0.9
REVF Revere 88.08 327 eP P 09 24 45.7 -0.7
TCF Toulx Ste Croi 88.09 331 eP P 09 24 46.1 -0.3
comp=Z,144nm,1.5s,mb5.7
SGMF Saint Gilles 88.12 335 eP P 09 24 45.9 -0.6
comp=Z,101nm,1.1s,mb5.7
SOI Samo 88.24 318 eP P 09 24 47.4 0.0
ROSF Rostrenen 88.29 336 eP P 09 24 46.8 -0.5
comp=Z,149nm,1.1s,mb5.8
PGF Pioggiola 88.30 325 eP P 09 24 46.3 -1.1
comp=Z,37nm,0.8s,mb5.3
VIVF Saint-Julien-l 88.31 329 eP P 09 24 46.5 -0.9
comp=Z,19nm,0.7s,mb5.1
MTTG Motta San Giov 88.49 318 eP P 09 24 47.9 -0.5
FRF La Foret Royal 88.53 327 eP P 09 24 47.1 -1.4
comp=Z,18nm,0.8s,mb5.2
KSU1 Kansas State U 88.54 40 eP P 09 24 48.7 0.0
JFWS Jewell Farm 88.61 34 P P 09 24 49.2 +0.3
JFWS pmax pmax
comp=Z,170nm,1.3s,mb6.2
JFWS Jewell Farm 88.61 34 eP P 09 24 49.0 0.0
comp=Z,123nm,1.3s,mb6.1
QUIF Quistinic 88.62 335 eP P 09 24 47.8 -1.1
SMRF Simiane la Rot 88.65 328 eP P 09 24 48.3 -0.8
comp=Z,60nm,1.3s,mb5.5
VILF Villemus 88.69 328 eP P 09 24 49.2 -0.1
MFF Saint Martin d 88.70 333 eP P 09 24 48.7 -0.6
comp=Z,194nm,1.3s,mb6.0
TAVF Tavernes 88.74 328 eP P 09 24 48.5 -1.0
LMR La Mourre 88.77 327 eP P 09 24 48.6 -1.1
comp=Z,160nm,1.4s,mb5.9
AMTX Amarillo 88.90 46 eP P 09 24 51.1 +0.6
comp=Z,62nm,1.0s,mb5.9
CPRX Cap Rock 88.94 48 eP P 09 24 50.8 0.0
PUYF Puyloubier 88.96 328 eP P 09 24 48.0 -2.6
PRAF Pradon 88.96 328 eP P 09 24 49.7 -0.9
TREF Trevaresse 89.02 328 eP P 09 24 49.9 -1.0
RJF Les Rejaudoux 89.18 331 eP P 09 24 50.7 -0.9
comp=Z,194nm,1.5s,mb5.9
GELF Grande-Etoile 89.19 328 eP P 09 24 50.9 -0.8
GDL2 Guadalupe Moun 89.23 49 eP P 09 24 52.6 +0.5
LASF Ste Croix 89.28 329 eP P 09 24 51.4 -0.7
CAF Calviac 89.29 331 eP P 09 24 51.4 -0.7
comp=Z,77nm,1.3s,mb5.6
CLNB Carlsbad 89.48 49 eP P 09 24 53.6 +0.2
LFF La Frestale 89.79 332 eP P 09 24 53.5 -1.0
comp=Z,27nm,0.7s,mb5.4
VSL Villasalto 90.52 323 eP P 09 24 57.1 -1.0
comp=Z,23nm,1.0s,mb5.5
MTLF Montolieu 90.55 330 eP P 09 24 57.1 -0.9
comp=Z,72nm,1.1s,mb5.6
LRDF Laroque-de-Fa 90.76 329 eP P 09 24 59.3 +0.3
EJON La Jonquera 91.02 329 P P 09 24 59.2 -1.0
comp=Z,672nm,5.3s
FILF Fillols 91.06 329 eP P 09 25 00.5 +0.1
MLS Moulis 91.32 330 eP P 09 25 01.9 +0.3
VALF Valcebollere 91.42 329 eP P 09 25 02.5 +0.5
EPF Esparros 91.56 331 eP P 09 25 01.2 -1.5
comp=Z,38nm,1.1s,mb5.3
LTX Lajitas 91.67 51 P P 09 25 04.3 +0.8
LTX pmax pmax
comp=Z,110nm,1.5s,mb6.0
LTX Lajitas 91.67 51 eP P 09 25 04.0 +0.5
comp=Z,45nm,1.0s,mb5.8
TXAR Lajitas Array 91.67 51 P P 09 25 03.8 +0.3
comp=Z,18nm,1.1s,mb5.3,baz=288,slow=4.0,SNR=24
TXAR PP PP 09 28 41.3 -3.4
comp=Z,4.8nm,1.0s,baz=307,slow=6.3,SNR=5.2
RESF Ens 91.75 331 eP P 09 25 04.6 +1.1
EBIE Bielsa 91.92 331 P P 09 25 05.1 +0.7
comp=Z,693nm,5.7s
ETSF Etsaut 92.01 331 eP P 09 25 03.5 -1.3
comp=Z,47nm,1.0s,mb5.5
EMIR Miracle 92.03 329 P P 09 25 04.7 -0.2
comp=Z,779nm,5.7s
SLM Saint Louis 92.03 36 P P 09 25 05.9 +0.9
SLM pmax pmax
comp=Z,130nm,1.2s,mb6.1
SLM Saint Louis 92.03 36 eP P 09 25 05.8 +0.8
comp=Z,100nm,1.2s,mb6.0
SJPF Ste Jean 92.08 332 eP P 09 25 03.5 -1.6
EGRA Graus 92.27 330 P P 09 25 05.4 -0.6
comp=Z,28nm,0.8s,mb5.7
FVM French Village 92.46 37 P P 09 25 07.4 +0.5
FVM pmax pmax
comp=Z,47nm,1.0s,mb5.8
FVM French Village 92.46 37 eP P 09 25 07.3 +0.3
comp=Z,46nm,0.9s,mb5.8
EPOB Poblet 92.68 329 P P 09 25 07.8 0.0
comp=Z,159nm,1.5s,mb6.2
ESAC San Caprasio 92.98 331 P P 09 25 10.0 +0.7
comp=Z,225nm,1.6s,mb6.3
JCT Junction City 93.18 47 P P 09 25 10.8 +0.4
JCT pmax pmax
comp=Z,190nm,1.6s,mb6.3
JCT Junction City 93.18 47 eP P 09 25 10.6 +0.1
comp=Z,31nm,0.8s,mb5.8
EBR Ebro Roquetas 93.36 330 eP P 09 25 09.3 -1.7
EBR eTs PcP 09 25 10.8 -1.1
MIAR Mount Ida 93.58 41 eP P 09 25 12.7 +0.5
MIAR pmax pmax
comp=Z,59nm,1.0s,mb6.0
MIAR Mount Ida 93.58 41 eP P 09 25 12.4 +0.2
comp=Z,53nm,1.0s,mb5.9
ACSO Alum Creek Sta 93.91 31 eP P 09 25 14.4 +0.8
comp=Z,57nm,1.3s,mb5.8
MDV Middlebury 94.09 22 eP P 09 25 16.6 +2.3
EMOS Mosqueruela 94.14 330 P P 09 25 14.7 +0.1
comp=Z,327nm,3.0s
HBAR Harrisburg 94.28 38 P P 09 25 15.2 -0.1
ETOR Torete 94.37 331 P P 09 25 15.7 0.0
EIBI Ibiza 94.53 328 P P 09 25 16.7 +0.3
WVT Waverly 95.18 36 P P 09 25 19.3 -0.2
WVT pmax pmax
comp=Z,23nm,0.8s,mb5.7
WVT Waverly 95.18 36 eP P 09 25 19.4 -0.1
comp=Z,26nm,0.9s,mb5.7
OXF Oxford 95.72 38 P P 09 25 22.6 +0.6
OXF pmax pmax
comp=Z,53nm,1.0s,mb5.9
OXF Oxford 95.72 38 eP P 09 25 20.8 -1.2
comp=Z,86nm,1.1s,mb6.1
ESDC Sonseca Array 96.09 332 P P 09 25 23.0 -0.6
comp=Z,2.8nm,0.9s,mb4.7,baz=8.9,slow=4.5,SNR=5.4
ESDC PP PP 09 29 13.4 -5.4
comp=Z,5.2nm,1.1s,baz=34,slow=7.7,SNR=5.8
ESDC Sonseca Array 96.09 332 P P 09 25 22.2 -1.4
comp=Z,2.2nm,0.8s,mb4.6
EVIA Vianos 96.42 330 P P 09 25 23.6 -1.5
comp=Z,11nm,0.8s,mb5.3
CPCT Cooper Cave 97.26 34 eP P 09 25 31.5 +2.5
EQES Quesada 97.37 330 P P 09 25 29.8 +0.4
comp=Z,8.6nm,0.9s,mb5.2
EVO Evora 98.56 334 eP P 09 25 33.3 -1.4
comp=Z,16nm,1.0s,mb5.2
KMBO Kilima Mbogo 99.79 276 P P 09 25 39.0 -2.0
comp=Z,5.2nm,1.0s,mb4.9,baz=34,slow=8.5,SNR=7.8
CASY Casey 105.48 191 ePKiKP 09 30 18.7
VNDA Vanda 115.41 175 PKP PKPdf 09 30 34.5 -5.2
comp=Z,1.8nm,0.8s,baz=304,slow=5.3,SNR=5.8
VNDA PP PP 09 31 35.6 -6.5
comp=Z,1.1nm,0.8s,baz=318,slow=8.7,SNR=3.0
VNDA Vanda 115.41 175 PKIKP PKPdf 09 30 34.5 -5.2
VNDA 09 31 35.7
VNDA pmax pmax
comp=Z,2.0nm,0.8s
VNDA pmax pmax
comp=Z,1.0nm,0.8s
MAW Mawson 118.83 205 PKP PKPdf 09 30 43.0 -3.5
comp=Z,5.1nm,0.8s,baz=336,slow=3.9,SNR=5.0
MAW Mawson 118.83 205 PKIKP PKPdf 09 30 43.0 -3.5
MAW pmax pmax
comp=Z,5.0nm,0.9s
DBIC Dimbokro 124.60 314 PKP PKPdf 09 30 54.9 -4.1
comp=Z,16nm,1.0s,baz=32,slow=3.4,SNR=14
DBIC PP PP 09 32 38.2 -8.1
comp=Z,15nm,1.1s,baz=14,slow=7.7,SNR=3.2
DBIC Dimbokro 124.60 314 PKIKP PKPdf 09 30 54.9 -4.1
DBIC 09 32 38.3
DBIC pmax pmax
comp=Z,16nm,1.0s
DBIC pmax pmax
comp=Z,15nm,1.1s
TIC Toumodi 124.72 314 ePKIKP PKPdf 09 30 55.5 -3.8
comp=Z,99nm,1.0s
KIC Kosan Boka 124.79 314 ePKIKP PKPdf 09 30 55.7 -3.7
comp=Z,105nm,1.1s
LIC Lamto 125.06 314 ePKIKP PKPdf 09 30 55.7 -4.2
comp=Z,66nm,1.2s
LIC Lamto 125.06 314 ePKIKP PKPdf 09 30 56.1 -3.8
comp=Z,73nm,1.2s
SDV Santo Domingo 126.49 37 ePKPdf PKPdf 09 30 59.4 -3.2
SYO Syowa Base 127.45 207 ⇓Pdiff Pdif 09 27 44.9 +3.4
SYO Syowa Base 127.45 207 ⇑P PKPdf 09 30 59.3 -3.7
SYO Syowa Base 127.45 207 ⇓pPPKPdf 09 31 07.2
SNAA Sanae 140.33 198 e PKPdf 09 31 17.9 -9.1
SNAA Sanae 140.33 198 e PP 09 34 27.8 +2.6
SNAA Sanae 140.33 198 PKhKP 09 31 14.2
comp=Z,3.1nm,0.7s,baz=128,slow=4.9,SNR=16
SNAA PP PP 09 34 12.6 -13
comp=Z,4.4nm,1.4s,baz=28,slow=10,SNR=4.3
SNAA Sanae 140.33 198 i PKHKP 09 31 14.2
SNAA pmax pmax
comp=Z,3.0nm,0.7s
SNAA Sanae 140.33 198 ⇓iPKPdf PKPdf 09 31 14.9 -12
SNAA e 09 31 17.9
SNAA e 09 34 27.8
VNA2 Neumayer--Watz 141.92 197 e PKPdf 09 31 25.6 -4.0
VNA2 Neumayer--Watz 141.92 197 e PP 09 34 35.8 +1.1
VNA2 Neumayer--Watz 141.92 197 ⇑iPKPdf PKPdf 09 31 22.7 -6.9
VNA2 e 09 31 25.6
VNA2 e 09 34 35.8
VNA3 Neumayer Olymp 142.22 196 e PKPdf 09 31 26.4 -3.7
VNA3 Neumayer Olymp 142.22 196 e PP 09 34 36.6 +0.2
VNA3 Neumayer Olymp 142.22 196 ⇑iPKPdf PKPdf 09 31 23.5 -6.6
VNA3 e 09 31 26.4
VNA3 e 09 34 36.6
VNA1 Neumayer--Stat 142.32 197 e PKPdf 09 31 27.5 -2.8
VNA1 Neumayer--Stat 142.32 197 e PP 09 34 37.7 +0.6
VNA1 Neumayer--Stat 142.32 197 ⇓iPKPdf PKPdf 09 31 24.6 -5.7
VNA1 e 09 31 27.5
VNA1 e 09 34 37.7
SAML Samuel 145.54 41 ePKPdf PKPdf 09 31 34.6 -2.9
ARE Arequipa 146.24 60 ePKPbc PKPdf 09 31 37.0 +1.1
LPAZ La Paz 148.40 56 PKPbc PKPdf 09 31 41.0 -1.2
comp=Z,12nm,0.6s,baz=356,slow=4.7,SNR=20
LPAZ La Paz 148.40 56 PKIKP PKPdf 09 31 41.0 -1.2
LPAZ pmax pmax
comp=Z,12nm,0.6s
LVC Limon Verde 152.09 66 ePKPbc PKPdf 09 31 52.4 +4.7
BAO Brasilia Array 157.64 17 PKP PKPdf 09 31 54.1 -1.2
BAO e 09 32 26.2
BAO i 09 32 31.9
BAO e 09 32 39.0
BDFB Brasilia 157.65 17 PKP PKPdf 09 31 51.8 -3.6
comp=Z,6.5nm,0.7s,baz=108,slow=2.9,SNR=5.4
BDFB PKPab PKPab 09 32 25.4 -0.7
comp=Z,34nm,1.1s,baz=32,slow=4.7,SNR=8.5
CPUP Villa Florida 162.57 56 PKP PKPdf 09 31 58.1 -2.4

comp=Z,6.7nm,1.1s,baz=31,slow=1.0,SNR=3.1

CPUP				PKPab	PKPab	09 32 44.7	-2.5

comp=Z,11nm,1.1s,baz=4.9,slow=3.9,SNR=3.0

CPUP				PP	PP	09 36 31.6	-0.8

comp=Z,13nm,1.2s,baz=94,slow=3.9,SNR=3.4

CPUP	**Villa Florida**	**162.57**	**56**	PKIKP	PKPdf	09 31 58.1	-2.4
CPUP						09 32 44.7	
CPUP						09 36 31.6	
CPUP				pmax	pmax		

comp=Z,7.0nm,1.1s

CPUP				pmax	pmax		

comp=Z,11nm,1.1s

CPUP				pmax	pmax		

comp=Z,13nm,1.3s

JMA 23 09:13:30.6±0.1, 37.39N×138.95E, h9km±2km, M4.8, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.15**	**159**	P	Pg	09 13 34.1	+0.1
JHK				eS	Sg	09 13 36.6	+0.3
JNS	**Sasagawa**	**0.52**	**34**	P	Pg	09 13 40.3	-0.8
JNS				eS	Sg	09 13 47.0	-1.0
JFY	**Yanaizu**	**0.60**	**88**	P	Pg	09 13 42.0	-0.7
JFY				S	Sg	09 13 49.5	-1.3
JKT	**Katashina**	**0.67**	**159**	eS	Sg	09 13 52.4	-0.6

JMA 23 09:13:49.7±0.1, 37.32N×138.97E, h7km±2km, M3.8, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.08**	**152**	P	Pg	09 13 51.7	0.0
JHK				eS	Sg	09 13 53.9	+0.8
JIZZ	**Izumozaki**	**0.30**	**316**	P	Pg	09 13 56.2	+0.5
JIZZ				eS	Sg	09 14 00.4	+0.6
JFY	**Yanaizu**	**0.59**	**81**	eS	Sg	09 14 09.5	0.0
JKT	**Katashina**	**0.60**	**158**	eS	Sg	09 14 08.4	-1.2

JMA 23 09:14:19.2, 37.28N×138.85E, h14km±1km, M4.5
ISC 23 09:14:19.0±0.8, 37.28N±0.04×138.87E±0.06, h18km±11km, n6, σ0§39/11, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.12**	**104**	P	**Pb**	**09 14 22.7**	**-0.2**
JHK				S	**Sb**	**09 14 25.4**	**-0.2**
JIZZ	**Izumozaki**	**0.28**	**334**	P	**Pb**	**09 14 25.2**	**-0.1**
JIZZ				eS	**Sb**	**09 14 30.3**	**+0.8**
JKT	**Katashina**	**0.59**	**149**	P	**Pb**	**09 14 30.8**	**+0.3**
JKT				eS	**Sb**	**09 14 39.1**	**+0.6**
JNS	**Sasagawa**	**0.65**	**33**	P	**Pb**	**09 14 31.2**	**-0.2**
JNS				eS	**Sb**	**09 14 39.6**	**-0.4**
JFY	**Yanaizu**	**0.68**	**79**	eS	**Sb**	**09 14 41.0**	**+0.1**
MAT	**Matsushiro**	**0.91**	**216**	P	**Pb**	**09 14 35.3**	**-0.5**
MAT				S	**Sb**	**09 14 47.3**	**-0.1**

JMA 23 09:14:48.1±0.1, 37.31N×138.91E, h11km±1km, M3.7, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.10**	**126**	P	Pg	09 14 50.8	-0.2
JHK				eS	Sg	09 14 53.1	+0.2
JIZZ	**Izumozaki**	**0.27**	**324**	eS	Sg	09 14 57.8	0.0
JKT	**Katashina**	**0.61**	**153**	eS	Sb	09 15 08.0	-0.5
JFY	**Yanaizu**	**0.64**	**81**	P	Pb	09 15 00.4	-0.4
JFY				eS	Sb	09 15 08.9	-0.6

JMA 23 09:15:47.0, 37.21N×138.88E, h10km±1km, M3.7
ISC 23 09:15:46.7±0.8, 37.19N±0.04×138.88E±0.06, h13km±6km, n5, σ0§35/9, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.13**	**61**	P	**Pg**	**09 15 49.8**	**-0.4**
JHK				S	**Sg**	**09 15 52.2**	**-0.3**
JIZZ	**Izumozaki**	**0.37**	**339**	S	**Sg**	**09 16 00.1**	**+0.5**
JKT	**Katashina**	**0.51**	**145**	P	**Pb**	**09 15 57.4**	**+0.4**
JKT				S	**Sg**	**09 16 04.7**	**+0.4**
JFY	**Yanaizu**	**0.69**	**71**	P	**Pb**	**09 16 00.2**	**+0.1**
JFY				S	**Sb**	**09 16 09.2**	**-0.1**
MAT	**Matsushiro**	**0.84**	**220**	P	**Pb**	**09 16 02.4**	**-0.2**
MAT				eS	**Sb**	**09 16 13.2**	**-0.3**

JMA 23 09:16:00.8, 37.24N×138.87E, h11km±1km, M3.9, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.12**	**86**	P	Pg	09 16 03.5	-0.4
JHK				eS	Sg	09 16 06.2	+0.3
JIZZ	**Izumozaki**	**0.32**	**336**	P	Pg	09 16 07.5	+0.1
JIZZ				eS	Sg	09 16 13.0	+1.1
JKT	**Katashina**	**0.56**	**147**	eS	Sg	09 16 19.5	-0.3
JJN	**Nakama**	**0.58**	**257**	P	Pb	09 16 11.6	-0.9
JJN				eS	Sg	09 16 20.1	-0.3
JNS	**Sasagawa**	**0.68**	**31**	eS	Sb	09 16 22.4	-0.9
JFY	**Yanaizu**	**0.69**	**76**	P	Pb	09 16 14.2	-0.1
JFY				eS	Sb	09 16 23.1	-0.4

JMA 23 09:17:01.3±0.1, 37.38N×138.95E, h15km±2km, M3.5
JMA Felt II J1.
ISC 23 09:16:58.9±1.1, 37.28N±0.06×138.90E±0.07, h28km±9km, n5, σ0§88/7, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.10**	**111**	S	**Sb**	**09 17 06.8**	**-0.6**
JIZZ	**Izumozaki**	**0.29**	**328**	P	**Pb**	**09 17 06.7**	**+0.6**
JIZZ				eS	**Sb**	**09 17 11.1**	**+0.2**
JNS	**Sasagawa**	**0.63**	**32**	S	**Sb**	**09 17 18.9**	**-0.9**
JFY	**Yanaizu**	**0.65**	**79**	S	**Sb**	**09 17 21.4**	**+0.9**
MAT	**Matsushiro**	**0.93**	**217**	P	**Pn**	**09 17 15.7**	**-0.5**
MAT				S	**Sb**	**09 17 28.4**	**+0.2**

JMA 23 09:18:12.5, 37.24N×138.87E, h11km±1km, M3.5, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.12**	**86**	P	Pg	09 18 15.2	-0.4
JHK				S	Sg	09 18 17.8	+0.2
JIZZ	**Izumozaki**	**0.32**	**336**	P	Pg	09 18 19.0	-0.1
JIZZ				S	Sg	09 18 24.3	+0.7
JKT	**Katashina**	**0.56**	**147**	S	Sg	09 18 31.3	-0.2
JNS	**Sasagawa**	**0.68**	**31**	P	Pb	09 18 24.9	-1.0
JNS				S	Sb	09 18 34.0	-1.0
JFY	**Yanaizu**	**0.69**	**76**	P	Pb	09 18 25.8	-0.2
JFY				S	Sb	09 18 34.8	-0.4

JMA 23 09:19:24.0±0.1, 37.36N×138.96E, h2km±2km, M4.2, 1C-1D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.12**	**158**	P	Pg	09 19 27.0	+0.6
JHK				eS	Sg	09 19 29.3	+1.2
JIZZ	**Izumozaki**	**0.26**	**311**	P	Pg	09 19 29.8	+0.5
JIZZ				eS	Sg	09 19 34.4	+1.6
JNS	**Sasagawa**	**0.54**	**32**	⇑P	Pg	09 19 34.2	-0.6
JNS				eS	Sg	09 19 41.7	-0.2
JFY	**Yanaizu**	**0.59**	**85**	P	Pg	09 19 35.4	-0.5
JFY				eS	Sg	09 19 43.6	-0.2
JKT	**Katashina**	**0.64**	**159**	P	Pg	09 19 36.2	-0.5
JKT				S	Sg	09 19 45.0	-0.2
JSD	**Sado**	**0.88**	**321**	P	Pg	09 19 39.5	-2.0
JAG	**Ashikaga**	**1.01**	**157**	⇓P	Pb	09 19 43.4	-0.5
MAT	**Matsushiro**	**1.01**	**217**	P	Pb	09 19 42.7	-1.2

JMA 23 09:22:21.9, 37.24N×138.85E, h8km±2km, M3.6, 1C-2D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.13**	**86**	P	Pg	09 22 25.0	+0.1
JHK				S	Sg	09 22 27.8	+0.8
JIZZ	**Izumozaki**	**0.31**	**339**	P	Pg	09 22 28.5	+0.2
JIZZ				S	Sg	09 22 34.1	+1.5
JKT	**Katashina**	**0.57**	**146**	P	Pg	09 22 33.0	-0.4
JKT				S	Sg	09 22 40.8	-0.2
JNS	**Sasagawa**	**0.69**	**33**	⇑P	Pg	09 22 34.6	-1.1
JNS				S	Sg	09 22 43.6	-1.3
JFY	**Yanaizu**	**0.70**	**76**	⇓P	Pg	09 22 35.0	-0.9
JFY				S	Sg	09 22 44.6	-0.8
MAT	**Matsushiro**	**0.87**	**217**	P	Pb	09 22 37.8	-1.0
JSD	**Sado**	**0.92**	**330**	P	Pb	09 22 37.9	-1.8
JAG	**Ashikaga**	**0.95**	**149**	⇓P	Pb	09 22 39.9	-0.2

JMA 23 09:23:37.2, 37.40N×138.97E, h10km±1km, M3.7, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.16**	**166**	P	Pg	09 23 40.7	-0.1
JHK				S	Sg	09 23 42.9	-0.3
JNS	**Sasagawa**	**0.50**	**33**	P	Pg	09 23 47.1	-0.2
JNS				eS	Sg	09 23 53.8	-0.3
JFY	**Yanaizu**	**0.58**	**89**	eS	Sg	09 23 56.1	-0.8
JKT	**Katashina**	**0.67**	**160**	eS	Sb	09 23 58.6	-1.0

IDC 23 09:24:55.6±0.8, 37.22N×138.41E, mb3.9/8, mb1 4.1/10, mb1mx4.0/23, ML3.8/1, Error ellipse: s-maj=29.2km s-min=19.3km az=80.0
JMA 23 09:24:57.1, 37.22N×138.85E, h10km±2km, M4.4
JMA Felt IV J1.
NEIC 23 09:24:58.5±0.6, 37.22N×138.54E, h10km, mb4.7/1, Error ellipse: s-maj=18.6km s-min=9.4km az=103.0
ISC 23 09:24:56.5±0.4, 37.24N±0.03×138.85E±0.06, h23km±4km, n24, σ0§87/30, mb3.9/10, 2C-3D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.13**	**85**	⇓P	**Pb**	**09 25 00.3**	**-0.8**
JHK				eS	**Sb**	**09 25 03.1**	**-1.2**
JIZZ	**Izumozaki**	**0.32**	**339**	⇑P	**Pb**	**09 25 04.1**	**+0.5**
JIZZ				eS	**Sb**	**09 25 10.1**	**+1.7**
JKT	**Katashina**	**0.57**	**146**	⇓P	**Pb**	**09 25 07.8**	**+0.1**
JKT				eS	**Sb**	**09 25 15.6**	**+0.3**
JNS	**Sasagawa**	**0.69**	**32**	P	**Pb**	**09 25 10.1**	**+0.4**
MAJO	**Matsushiro**	**0.86**	**217**	eP	**Pb**	**09 25 12.4**	**-0.4**
MAJO				eS	**Sb**	**09 25 23.9**	**0.0**
MAT	**Matsushiro**	**0.86**	**217**	P	**Pb**	**09 25 12.3**	**-0.4**
MAT				S	**Sb**	**09 25 23.5**	**-0.4**
MAT	**Matsushiro**	**0.86**	**217**	P	**Pb**	**09 25 12.5**	**-0.2**
MAT	**Matsushiro**	**0.86**	**217**	eP	**Pb**	**09 25 12.0**	**-0.7**
MAT				eS	**Sb**	**09 25 24.0**	**+0.1**
JSD	**Sado**	**0.93**	**330**	⇑P	**Pb**	**09 25 13.5**	**-0.3**
JAG	**Ashikaga**	**0.94**	**149**	⇓P	**Pb**	**09 25 14.8**	**+0.7**
JHJ	**Hachijo jima 2**	**4.18**	**169**	Pn	**Pn**	**09 26 02.3**	**+1.7**

16nm,0.3s,baz=89,slow=22,SNR=2.8

ENH	**Enshi**	**25.32**	**263**	eP	**P**	**09 30 22.7**	**-0.4**

20nm,1.1s,mb4.6

SONM	**Songino Array**	**25.98**	**304**	P	**P**	**09 30 29.0**	**-0.1**

1.5nm,0.8s,mb3.6,baz=98,slow=8.7,SNR=4.9

KURK	**Kurchatov**	**44.19**	**308**	P	**P**	**09 33 05.3**	**+0.1**
BVAR	**Borovoye Array**	**48.92**	**312**	P	**P**	**09 33 41.8**	**-0.7**

0.8nm,0.6s,mb4.0,baz=68,slow=8.0,SNR=3.8

ILAR	**Eielson Array**	**50.42**	**32**	P	**P**	**09 33 54.0**	**+0.2**

0.6nm,0.7s,mb3.7,baz=274,slow=5.6,SNR=5.6

WRAB	**Tennant Creek**	**57.02**	**185**	P	**P**	**09 34 45.0**	**+1.9**
WRA	**Warramunga Arr**	**57.03**	**185**	P	**P**	**09 34 41.6**	**-1.6**

4.6nm,1.1s,mb4.4,baz=0.7,slow=7.5,SNR=6.9

ASAR	**Alice Springs**	**60.76**	**185**	P	**P**	**09 35 09.5**	**+0.6**

0.4nm,0.6s,mb3.8,baz=22,slow=4.9,SNR=3.8

AKASG	**Malin Array Be**	**72.87**	**321**	P	**P**	**09 36 24.1**	**-1.1**

1.1nm,0.6s,mb4.0,baz=43,slow=5.9,SNR=4.3

NOA	**NORSAR Array B**	**73.19**	**336**	P	**P**	**09 36 26.0**	**-0.8**

1.3nm,0.8s,mb3.9,baz=38,slow=6.0,SNR=3.5

NOA	**NORSAR Array B**	**73.19**	**336**	P	**P**	**09 36 26.0**	**-0.8**
NVAR	**Mina Array Bea**	**76.49**	**52**	P	**P**	**09 36 51.1**	**+4.9**

0.8nm,0.8s,mb3.7,baz=300,slow=4.4,SNR=4.2

PDAR	**Pinedale Array**	**78.97**	**44**	P	**P**	**09 37 04.2**	**+4.4**

0.7nm,0.8s,mb3.6,baz=333,slow=3.3,SNR=3.5

IDC 23 09:28:45.7±0.6, 37.19N×138.63E, mb4.2/17, mb1 4.5/20, mb1mx4.4/27, ML3.9/2, Error ellipse: s-maj=19.3km s-min=15.4km az=83.0
NEIC 23 09:28:48.2±0.2, 37.22N×138.71E, h10km, mb4.5/10, Error ellipse: s-maj=6.1km s-min=4.0km az=116.0
JMA 23 09:28:48.2, 37.22N×138.83E, h11km±2km, M4.6
JMA Felt IV J1.
ISC 23 09:28:46.3±0.3, 37.26N±0.02×138.75E±0.04, h11km, n47, σ1§12/56, mb4.3/26, 1D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.22**	**94**	⇓P	**Pg**	**09 28 51.5**	**+0.5**
JHK				S	**Sg**	**09 28 54.5**	**+0.3**
JIZZ	**Izumozaki**	**0.27**	**354**	P	**Pg**	**09 28 55.2**	**+3.2**
JIZZ				S	**Sg**	**09 29 00.8**	**+5.0**
JKT	**Katashina**	**0.64**	**141**	P	**Pb**	**09 28 59.2**	**+0.3**
JKT				S	**Sb**	**09 29 07.2**	**-0.4**
JGK	**Kuni**	**0.70**	**187**	P	**Pb**	**09 29 01.2**	**+1.1**
JGK				eS	**Sb**	**09 29 10.9**	**+1.4**
JNS	**Sasagawa**	**0.72**	**39**	P	**Pb**	**09 29 01.4**	**+1.1**
JNS				S	**Sb**	**09 29 10.9**	**+1.0**
MAJO	**Matsushiro**	**0.84**	**211**	eP	**Pb**	**09 29 02.6**	**+0.3**
MAJO				eS	**Sb**	**09 29 14.1**	**+0.7**
MAT	**Matsushiro**	**0.84**	**211**	P	**Pb**	**09 29 03.5**	**+1.2**
MAT				S	**Sb**	**09 29 14.6**	**+1.2**
MAT	**Matsushiro**	**0.84**	**211**	eP	**Pb**	**09 29 04.0**	**+1.7**
MAT				eS	**Sb**	**09 29 15.0**	**+1.6**
JHJ	**Hachijo jima 2**	**4.22**	**168**	Pn	**Pn**	**09 29 51.1**	**-0.9**

20nm,0.3s,baz=281,slow=23,SNR=3.1

JHJ				Sn	**Sn**	**09 30 39.4**	**-2.5**

16nm,0.3s,baz=71,slow=23,SNR=1.9

ASAJ	**Asahikawa**	**7.45**	**22**	Pn	**Pn**	**09 30 38.7**	**+1.2**

1.7nm,0.3s,baz=211,slow=6.7,SNR=9.2

MDJ	**Mudanjiang**	**10.09**	**320**	P	**P**	**09 31 15.2**	**+1.0**

24nm,1.4s

YSS	**Yuzh-Sakhalins**	**10.13**	**16**	eP	**P**	**09 31 14.7**	**0.0**

26nm,0.7s

BJT	**Baijiatuan**	**17.84**	**286**	eP	**P**	**09 32 58.3**	**+2.3**

36nm,1.4s

HIA	**Hailar**	**18.26**	**317**	P	**P**	**09 33 01.5**	**+0.4**

9.3nm,0.9s

ENH	**Enshi**	**25.24**	**263**	eP	**P**	**09 34 13.4**	**-0.3**

30nm,1.0s,mb4.8

SONM	**Songino Array**	**25.89**	**304**	P	**P**	**09 34 19.6**	**-0.1**

4.0nm,0.9s,mb3.9,baz=105,slow=9.1,SNR=12

KMI	**Kunming**	**32.90**	**259**	eP	**P**	**09 35 25.1**	**+2.5**

12nm,0.5s,mb5.1

KURK	**Kurchatov**	**44.11**	**308**	P	**P**	**09 36 54.5**	**-1.5**

6.1nm,1.0s,mb4.3

BVAR	**Borovoye Array**	**48.84**	**312**	P	**P**	**09 37 32.6**	**-0.7**

5.0nm,1.1s,mb4.5,baz=79,slow=7.6,SNR=5.4

BRVK	**Borovoye**	**48.89**	**312**	eP	**P**	**09 37 32.2**	**-1.5**

1.8nm,0.6s,mb4.3

ZRNK	**Zerenda**	**49.67**	**312**	eP	**P**	**09 37 39.0**	**-0.8**

9.0nm,1.0s,mb4.8

COLA	**College**	**50.02**	**32**	P	**P**	**09 37 42.1**	**-0.1**

1.8nm,0.7s,mb4.2

ILAR	**Eielson Array**	**50.44**	**32**	P	**P**	**09 37 45.3**	**-0.2**

1.1nm,0.7s,mb4.0,baz=268,slow=4.6,SNR=17

INK	**Inuvik**	**55.15**	**27**	P	**P**	**09 38 20.4**	**-0.1**

4.0nm,1.1s,mb4.3,baz=280,slow=7.1,SNR=4.9

WRAB	**Tennant Creek**	**57.04**	**185**	eP	**P**	**09 38 32.6**	**-2.2**

19nm,1.2s,mb5.0

WRA	**Warramunga Arr**	**57.05**	**185**	P	**P**	**09 38 32.7**	**-2.1**

5.5nm,0.9s,mb4.6,baz=0.9,slow=7.5,SNR=27

ASAR	**Alice Springs**	**60.77**	**185**	P	**P**	**09 38 59.3**	**-1.3**

1.0nm,0.9s,mb4.0,baz=15,slow=14,SNR=6.0

ARCES	**ARCESS Array B**	**63.02**	**339**	P	**P**	**09 39 14.4**	**-0.6**

1.4nm,0.6s,mb4.3,baz=51,slow=7.8,SNR=6.4

YKA	**Yellowknife Ar**	**64.67**	**29**	P	**P**	**09 39 25.4**	**-0.4**

1.3nm,0.7s,mb4.1,baz=307,slow=6.6,SNR=5.4

JOF	**Joensuu**	**64.75**	**331**	ep	**P**	**09 39 24.7**	**-1.6**
KAF	**Kangasniemi**	**67.11**	**332**	ep	**P**	**09 39 40.0**	**-1.5**

2.7nm,0.5s,mb4.5

FINES	**FINESS Array B**	**67.61**	**331**	P	**P**	**09 39 43.4**	**-1.2**

3.2nm,0.8s,mb4.4,baz=45,slow=8.1,SNR=7.9

DPW	**Davenport**	**71.07**	**44**	eP	**P**	**09 40 06.4**	**+0.3**
NEW	**Newport**	**71.44**	**43**	P	**P**	**09 40 08.8**	**+0.5**

3.9nm,1.0s,mb4.3,baz=299,slow=6.7,SNR=5.2

NEW	**Newport**	**71.44**	**43**	P	**P**	**09 40 08.8**	**+0.5**
AKASG	**Malin Array Be**	**72.80**	**321**	P	**P**	**09 40 15.2**	**-1.1**

3.4nm,0.7s,mb4.4,baz=47,slow=6.2,SNR=13

NB2	**NORSAR Subarra**	**73.14**	**336**	P	**P**	**09 40 17.6**	**-0.5**

1.5nm,0.7s,mb4.0,baz=41,slow=5.8

NOA	**NORSAR Array B**	**73.14**	**336**	P	**P**	**09 40 17.2**	**-0.8**

2.1nm,0.7s,mb4.2,baz=40,slow=5.9,SNR=7.0

NVAR	**Mina Array Bea**	**76.54**	**52**	P	**P**	**09 40 39.2**	**+1.1**

1.8nm,0.7s,mb4.1,baz=311,slow=3.0,SNR=11

BRTR	**Keskin Array B**	**77.09**	**310**	P	**P**	**09 40 41.8**	**+0.6**

2.6nm,0.9s,mb4.2,baz=90,slow=4.9,SNR=8.8

MLR	**Muntele Rosu**	**77.82**	**318**	P	**P**	**09 40 45.5**	**+0.5**

6.8nm,1.3s,mb4.4,baz=105,slow=9.5,SNR=3.8

PDAR	**Pinedale Array**	**79.01**	**44**	P	**P**	**09 40 52.1**	**+0.6**

1.1nm,0.7s,mb3.9,baz=315,slow=2.1,SNR=7.4

KHC	**Kasperske Hory**	**81.21**	**327**	eP	**P**	**09 41 01.5**	**-1.7**
KHC				x	x	09 41 41.0	
GERES	**GERESS Array B**	**81.38**	**327**	P	**P**	**09 41 03.9**	**-0.1**

1.3nm,0.7s,mb4.0,baz=34,slow=4.8,SNR=6.7

PV10	**Paradox Valley**	**82.20**	**47**	eP	**P**	**09 41 09.8**	**+1.2**
TXAR	**Lajitas Array**	**91.65**	**51**	P	**P**	**09 41 55.2**	**+0.4**

3.4nm,1.3s,mb4.5,baz=288,slow=2.9,SNR=6.6

TXAR	**Lajitas Array**	**91.65**	**51**	P	**P**	**09 41 55.2**	**+0.4**

JMA 23 09:29:06.6±0.1, 37.41N×138.97E, h9km±1km, M4.1, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.17**	**167**	P	Pg	09 29 10.2	-0.1
JHK				S	Sg	09 29 12.8	+0.1
JNS	**Sasagawa**	**0.49**	**34**	eS	Sg	09 29 22.7	-0.5
JKT	**Katashina**	**0.68**	**161**	S	Sg	09 29 28.5	-0.9
JGK	**Kuni**	**0.89**	**197**	eS	Sb	09 29 35.5	+0.1

JMA 23 09:30:13.9, 37.27N×138.90E, h10km±2km, M3.8
JMA Felt IV J1.
ISC 23 09:30:13.9±0.7, 37.27N±0.03×138.91E±0.06, h10km, n6, σ0§60/10, 1C, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.09**	**101**	P	**Pg**	**09 30 16.4**	**0.0**
JHK				S	**Sg**	**09 30 18.7**	**+0.7**
JIZZ	**Izumozaki**	**0.31**	**329**	S	**Sg**	**09 30 25.7**	**+1.1**
JKT	**Katashina**	**0.57**	**151**	S	**Sg**	**09 30 33.3**	**+0.3**
JNS	**Sasagawa**	**0.64**	**30**	⇑P	**Pb**	**09 30 26.0**	**-0.7**
JNS				S	**Sb**	**09 30 34.7**	**-0.7**
JGK	**Kuni**	**0.73**	**197**	P	**Pb**	**09 30 28.7**	**+0.4**
JGK				eS	**Sb**	**09 30 38.3**	**+0.2**
MAT	**Matsushiro**	**0.92**	**218**	P	**Pb**	**09 30 30.6**	**-0.8**
MAT				S	**Sb**	**09 30 42.9**	**-0.5**

JMA 23 09:30:40.8, 37.27N×138.96E, h8km±1km, M3.9, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.05**	**115**	P	Pg	09 30 42.5	-0.1
JHK				S	Sg	09 30 44.1	+0.4
JIZZ	**Izumozaki**	**0.33**	**323**	P	Pg	09 30 47.8	+0.3
JIZZ				eS	Sg	09 30 53.4	+1.4
JKT	**Katashina**	**0.55**	**155**	S	Sg	09 30 59.3	-0.1
JNS	**Sasagawa**	**0.62**	**27**	eS	Sg	09 31 00.2	-1.3
JGK	**Kuni**	**0.75**	**200**	eS	Sb	09 31 05.4	-0.5

JMA 23 09:31:29.0, 37.30N×138.89E, h11km±1km, M3.6, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.11**	**117**	P	Pg	09 31 32.1	+0.1
JHK				S	Sg	09 31 34.4	+0.4
JIZZ	**Izumozaki**	**0.27**	**328**	P	Pg	09 31 34.9	+0.1
JIZZ				eS	Sg	09 31 39.8	+1.2
JKT	**Katashina**	**0.60**	**152**	P	Pb	09 31 40.7	-0.4
JKT				S	Sb	09 31 49.0	-0.3
JNS	**Sasagawa**	**0.62**	**33**	P	Pb	09 31 40.6	-0.7
JNS				S	Sb	09 31 49.0	-0.8
JGK	**Kuni**	**0.76**	**195**	eS	Sb	09 31 53.7	-0.2

IDC 23 09:31:54.1±0.7, 37.40N×139.09E, mb3.8/11, mb1 4.1/13, mb1mx4.0/25, ML3.8/2, Error ellipse: s-maj=26.5km s-min=16.4km az=83.0
NEIC 23 09:31:56.7±0.6, 37.33N×138.99E, h10km, Error ellipse: s-maj=18.8km s-min=8.1km az=118.0
*JM

BGS ***23*** *09:34:02.5,36.87N×138.95E,h10km,mb6.0*
BJI ***23*** *09:34:04.5,37.25N×139.29E,h39km,mB6.2,mb5.8, Ms6.4,Msz6.3*
NEIC ***23*** *09:34:05.0±0.1,37.32N×138.81E,h10km,mb6.0/205, MS6.0/50,MW6.3(NIED),Error ellipse: s-maj=3.2km s-min=2.5km az=169.0*
NEIC Felt in Kanagawa and Tokyo Prefectures.
SYO ***23*** *09:34:04.7,37.26N×138.82E,h10km,MB6.1,MS6.0*
HRVD ***23*** *09:34:05.0±0.1,37.33N×138.63E,h27km±1km,MW6.3/68, Centroid moment Tensor Solution. LP body waves: s68,c163;Mantle waves: s68,c127; Half duration: 3s6 Moment tensor: Scale 10^18 Nm; Mrr 2.80±.04; Mθθ-0.91±.04; Mϕϕ-1.89±.05; Mrθ-1.07±.14; Mθϕ-1.30±.04; Mϕr-1.47±.15; Best double couple: M◎3.33×10^18 NP1: ϕs34°,δ28°,λ89°. NP2:ϕs215°,δ62°,λ91°. Principal axes: T 3.34, Plg73°, Azm127°; N -.01, Plg1°, Azm35°; P -3.33, Plg17°, Azm305°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.*
JMA ***23*** *09:34:05.6,37.31N×138.93E,h14km±2km,M6.5 Broadband fault plane solution: P waves. NP1:ϕs28°,δ18°, λ95°. NP2:ϕs203°,δ72°,λ88°. Principal axes: T Plg63°, Azm110°; N Plg2°, Azm203°; P Plg27°, Azm294°;*
MOS ***23*** *09:34:07.6±1.0,37.43N×138.79E,h33km,mb6.2/82, MS6.3/23 Error ellipse: s-maj=7.5km s-min=4.7km az=95.9*

ISC 23 09:34:05.7±0.3,**37.34N**±0.02×**138.90E**±0.02,**h23**km±2km, **h24**km±1.3km:**pP-P,n1121,**σ0**97**/1102,**mb5.9**/281, **MS6.2**/89,**118C-43D,Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.13**	**132**	⇓P	**Pb**	**09 34 08.6**	**-1.7**
JIZZ	**Izumozaki**	**0.24**	**323**	⇑P	**Pb**	**09 34 12.1**	**+0.3**
JNS	**Sasagawa**	**0.59**	**35**	⇑P	**Pb**	**09 34 16.8**	**-0.4**
JNS				S	**Sb**	**09 34 24.9**	**-0.2**
JKT	**Katashina**	**0.64**	**154**	⇓P	**Pb**	**09 34 17.1**	**-1.0**
JFY	**Yanaizu**	**0.65**	**84**	⇓P	**Pb**	**09 34 17.5**	**-0.8**
JFY				S	**Sb**	**09 34 26.2**	**-0.7**
JSD	**Sado**	**0.86**	**324**	⇓P	**Pb**	**09 34 21.3**	**-0.6**
JSD				S	**Sb**	**09 34 35.2**	**+2.2**
MAJO	**Matsushiro**	**0.97**	**215**	*e*P	**Pb**	**09 34 23.1**	**-0.5**
MAJO				*e*S	**Sb**	**09 34 36.4**	**+0.4**
MAT	**Matsushiro**	**0.97**	**215**	P	**Pb**	**09 34 22.7**	**-0.9**
MAT				S	**Sb**	**09 34 36.2**	**+0.2**
MAT	**Matsushiro**	**0.97**	**215**	P	**Pb**	**09 34 23.0**	**-0.6**
MAT	**Matsushiro**	**0.97**	**215**	*e*P	**Pb**	**09 34 23.0**	**-0.6**
MAT				*e*S	**Sb**	**09 34 36.0**	**0.0**
JFT	**Otama**	**1.16**	**81**	⇑P	**Pn**	**09 34 26.7**	**0.0**
JYS	**Shirataka**	**1.28**	**46**	⇑P	**Pn**	**09 34 28.6**	**+0.2**
JYA	**Atsumi**	**1.41**	**27**	⇑P	**Pn**	**09 34 30.2**	**-0.1**
JTT	**Ttatey**	**1.45**	**240**	⇓P	**Pn**	**09 34 31.8**	**+0.9**
ONAJ	**Iwakimizuishiy**	**1.54**	**98**	⇑P	**Pn**	**09 34 32.6**	**+0.5**
JFK	**Kawauchi**	**1.58**	**88**	⇑P	**Pn**	**09 34 33.1**	**+0.4**
JMM	**Marumori**	**1.60**	**70**	⇑P	**Pn**	**09 34 33.5**	**+0.5**
JOU	**Okura**	**1.74**	**53**	⇑P	**Pn**	**09 34 35.6**	**+0.6**
JYK	**Kaneyama**	**1.96**	**36**	⇑P	**Pn**	**09 34 38.4**	**+0.3**
JIO	**Ouri**	**2.24**	**59**	⇑P	**Pn**	**09 34 42.4**	**+0.2**
JYW	**Yuwa**	**2.43**	**25**	⇑P	**Pn**	**09 34 45.3**	**+0.4**
JMK	**Ichinoseki**	**2.44**	**48**	⇑P	**Pn**	**09 34 45.3**	**+0.2**
JRG	**Rokugo**	**2.47**	**33**	⇑P	**Pn**	**09 34 46.0**	**+0.5**
OFUJ	**Ofunato**	**2.79**	**51**	⇑P	**Pn**	**09 34 50.5**	**+0.4**
JOM	**Ohasama**	**2.84**	**41**	⇑P	**Pn**	**09 34 51.3**	**+0.5**
JEG	**Eigenji**	**2.99**	**223**	P	**Pn**	**09 34 54.6**	**+1.7**
JAH	**Hinai**	**3.16**	**25**	⇑P	**Pn**	**09 34 55.5**	**+0.3**
MIYJ	**Miyakonagasawa**	**3.20**	**45**	P	**Pn**	**09 34 56.6**	**+0.7**
JKZ	**Kuzumaki**	**3.26**	**35**	P	**Pn**	**09 34 57.2**	**+0.5**
JIW	**Iwasaki**	**3.37**	**15**	P	**Pn**	**09 34 58.0**	**-0.2**
JWT	**Wachi**	**3.49**	**235**	P	**Pn**	**09 35 01.3**	**+1.3**
JKSM	**Kasumi**	**3.83**	**244**	P	**Pn**	**09 35 01.4**	**+0.6**
JSI2	**Shiura 2**	**3.90**	**17**	P	**Pn**	**09 35 05.8**	**0.0**
JHJ	**Hachijo jima 2**	**4.27**	**170**	Pn	**Pn**	**09 35 10.9**	**-0.2**
	758nm,0.3s,baz=18,slow=6.8,SNR=44						
JHJ				Sn	**Sn**	**09 36 01.9**	**+1.1**
	647nm,0.3s,baz=79,slow=21,SNR=6.3						
JHJ				LR	LR	09 36 47.6	
	comp=Z,429μm,18.2s,baz=9.8,slow=39						
JWZ	**Kozaga**	**4.60**	**215**	P	**Pn**	**09 35 15.8**	**0.0**
JJS	**Sakaide**	**5.00**	**235**	P	**Pn**	**09 35 23.2**	**+1.8**
JNM	**Ikuma**	**5.08**	**251**	P	**Pn**	**09 35 23.0**	**+0.5**
ERM	**Erimo**	**5.71**	**34**	Pn	**Pn**	**09 35 32.5**	**+1.1**
	12μm,0.8s,SNR=20						
JHT	**Toyohira**	**5.89**	**245**	P	**Pn**	**09 35 35.4**	**+1.5**
JHM	**Kurahashi**	**6.08**	**240**	P	**Pn**	**09 35 38.1**	**+1.4**
JKD	**Kudamatsu**	**6.59**	**242**	P	**Pn**	**09 35 44.9**	**+1.1**
JKI	**Kunimi**	**7.03**	**240**	P	**Pn**	**09 35 51.0**	**+1.0**
JTY	**Toyota**	**7.06**	**247**	P	**Pn**	**09 35 52.1**	**+1.6**
JUS	**Usuki**	**7.24**	**236**	P	**Pn**	**09 35 53.9**	**+1.0**
ASAJ	**Asahikawa**	**7.33**	**21**	Pn	**Pn**	**09 35 55.4**	**+1.1**
	7.8nm,0.3s,baz=211,slow=11,SNR=31						
ASAJ				LR	LR	09 38 56.1	
	comp=Z,123μm,19.1s,baz=38,slow=40						
ASAJ	**Asahikawa**	**7.33**	**21**	P	**Pn**	**09 35 55.4**	**+1.2**
ASAJ				pmax	pmax		
	comp=Z,8.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,123μm,19.1s						
JFA	**Akaike**	**7.53**	**244**	P	**Pn**	**09 35 57.7**	**+0.7**
JNU	**Nakatsue**	**7.79**	**240**	P	**Pn**	**09 36 01.2**	**+0.6**
JFI	**Itaya**	**7.97**	**243**	P	**Pn**	**09 36 04.6**	**+1.5**
JTA	**Tamana**	**8.12**	**240**	P	**P**	**09 36 06.1**	**+0.9**
JIU2	**Izumi 2**	**8.18**	**237**	P	**P**	**09 36 06.9**	**+0.9**
YUK	**Yuzh-Kuril'sk**	**8.53**	**36**	P	**P**	**09 36 04.7**	**-6.2**
YUK				*e*S	**Sn**	**09 37 38.7**	**-8.7**
YUK				pmax	pmax		
	comp=N,1μm,0.5s						
YUK				pmax	pmax		
	comp=Z,1μm,0.5s						
YUK				pmax	pmax		
	comp=E,1μm,0.7s						
YUK				pmax	pmax		
	comp=Z,15μm,2.0s						
YUK				pmax	pmax		
	comp=N,10μm,1.0s						
YUK				pmax	pmax		
	comp=E,7μm,1.4s						
YUK				smax			
	comp=N,3μm,0.9s						
YUK				smax			
	comp=E,3μm,0.9s						
YUK				MLR	MLR		
	comp=N,213μm,17.0s						
YUK				MLR	MLR		
	comp=Z,170μm,17.0s						
YUK				MLR	MLR		
	comp=E,70μm,13.0s						
JZO	**Okuchi**	**8.57**	**235**	P	**P**	**09 36 12.4**	**+0.9**
INCN	**Inchon**	**9.76**	**275**	*e*P	**P**	**09 36 27.5**	**-0.4**
	comp=E,151nm,0.8s						
YSS	**Yuzh-Sakhalins**	**10.03**	**15**	⇑*i*P	**P**	**09 36 30.0**	**-1.5**
YSS				*e*S	**S**	**09 38 27.0**	**+2.6**
YSS				pmax	pmax		
	comp=Z,420nm,1.2s						
YSS				pmax	pmax		
	comp=N,420nm,1.1s						
YSS				smax			
	comp=N,680nm,1.6s						
YSS				MLR	MLR		
	comp=Z,125μm,12.0s						
YSS				MLR	MLR		
	comp=N,121μm,13.0s						
YSS	**Yuzh-Sakhalins**	**10.03**	**15**	*e*P	**P**	**09 36 30.8**	**-0.7**
	comp=N,741nm,0.9s						
MDJ	**Mudanjiang**	**10.11**	**319**	*e*P	**P**	**09 36 32.0**	**-0.7**
	comp=N,1μm,1.1s						
MDJ				*e*		09 36 36.2	
KUR	**Kuril'sk**	**10.38**	**38**	*e*P	**P**	**09 36 29.5**	**-6.8**
KUR				*e*S	**S**	**09 38 23.5**	**-9.4**
KUR				pmax	pmax		
	comp=N,2μm,1.2s						
KUR				pmax	pmax		
	comp=E,640nm,1.2s						
KUR				pmax	pmax		
	comp=Z,8μm,1.2s						
KUR				smax			
	comp=E,990nm,1.1s						
CBIJ	**Chichi jima**	**10.58**	**164**	Pn	**P**	**09 36 34.3**	**-4.9**
	baz=90,slow=15						
CBIJ				Sn	**S**	**09 38 33.8**	**-4.3**
UGL	**Uglegorsk**	**11.96**	**10**	*e*P	**P**	**09 36 55.0**	**-2.9**
UGL				pmax	pmax		
	comp=Z,410nm,0.9s						
CN2	**Changchun**	**12.09**	**306**	⇑P	**P**	**09 37 00.3**	**+0.7**
CN2				*e*S	**S**	**09 39 15.5**	**+0.8**
CN2				AMB	AMB		
	comp=Z,340nm,1.3s						
SNY	**Shenyang**	**12.64**	**296**	⇓P	**P**	**09 37 08.0**	**+1.0**
SNY				S	**S**	**09 39 29.8**	**+1.8**
SNY				LR	LR		
	comp=Z,247μm,14.1s						
JMZ	**Minamidaito 2**	**13.21**	**212**	P	**P**	**09 37 17.4**	**+2.8**
DL2	**Dalian**	**13.69**	**282**	P	**P**	**09 37 24.0**	**+3.2**
DL2				S	**S**	**09 40 03.4**	**+10**
DL2				LR	LR		
	comp=Z,179μm,12.7s						
JOW	**Kunigami**	**13.80**	**224**	Pn	**P**	**09 37 25.9**	**+3.5**
	comp=Z,3.1nm,0.3s,baz=34,slow=9.7,SNR=17						
JKE	**Kume jima 2**	**15.03**	**227**	P	**P**	**09 37 36.8**	**-1.7**
SSE	**Sheshan**	**15.91**	**252**	P	**P**	**09 37 48.4**	**-1.5**
SSE				S	**S**	**09 40 44.0**	**-1.5**
SSE				AMB	AMB		
	comp=Z,738nm,1.0s						
SSE				LR	LR		
	comp=N,116μm,12.3s						
SSE				LR	LR		
	comp=E,79μm,12.2s						
SSE				LR	LR		
	comp=Z,149μm,12.5s						
SSE	**Sheshan**	**15.91**	**252**	P	**P**	**09 37 48.4**	**-1.5**
	comp=Z,738nm,1.0s						
SSE				S	**S**	**09 40 44.0**	**-1.5**
NJ2	**Nanjing**	**17.30**	**258**	*e*P	**P**	**09 38 09.3**	**+1.9**
NJ2				AP		09 38 13.0	
NJ2				PP	PP	09 38 22.9	+1.1
NJ2				PPP	PPP	09 38 31.8	+1.7
NJ2				S	**S**	**09 41 20.0**	**+2.6**
NJ2				AMB	AMB		
	comp=Z,1μm,1.2s						
NJ2				LR	LR		
	comp=N,32μm,14.2s						
NJ2				LR	LR		
	comp=E,40μm,15.2s						
NJ2				LR	LR		
	comp=Z,21μm,16.2s						
TIA	**Tai'an**	**17.48**	**273**	⇑P	**P**	**09 38 11.0**	**+1.4**
TIA				AP		09 38 17.5	
TIA				S	**S**	**09 41 32.0**	**+10**
TIA				AMB	AMB		
	comp=Z,801nm,1.6s						
BJI	**Beijing**	**17.94**	**286**	P	**P**	**09 38 16.0**	**+0.7**
BJI				S	**S**	**09 41 44.8**	**+13**
BJI				LR	LR		
	comp=N,58μm,13.9s						
BJI				LR	LR		
	comp=E,117μm,13.9s						
BJI				LR	LR		
	comp=Z,52μm,15.2s						
BJI	**Beijing**	**17.94**	**286**	P	**P**	**09 38 16.0**	**+0.7**
	comp=Z,115nm,1.3s						
BJI				S	**S**	**09 41 44.8**	**+13**
BJT	**Baijiatuau**	**17.94**	**286**	*e*P	**P**	**09 38 16.0**	**+0.7**
	comp=Z,4μm,1.4s						
JIJ	**Ishigaki jima**	**18.07**	**228**	P	**P**	**09 38 18.1**	**+1.0**
SKR	**Severo-Kuril's**	**18.14**	**37**	*e*P	**P**	**09 38 14.5**	**-3.3**
SKR				pmax	pmax		
	comp=N,240nm,1.2s						
SKR				pmax	pmax		
	comp=E,320nm,1.2s						
SKR				pmax	pmax		
	comp=Z,480nm,1.2s						
HIA	**Hailar**	**18.28**	**317**	*e*P	**P**	**09 38 19.7**	**+0.1**
	comp=Z,298nm,0.8s						
TATO	**Taipei**	**19.30**	**235**	P	**P**	**09 38 34.7**	**+2.9**
	comp=Z,236nm,1.0s						
PET	**Petropavlovsk**	**20.87**	**35**	⇑*i*P	**P**	**09 38 46.8**	**-1.7**
PET				*e*S	**S**	**09 42 41.2**	**+6.0**
PET				pmax	pmax		
	comp=Z,456nm,1.1s						
PET				pmax	pmax		
	comp=N,351nm,0.9s						
PET				pmax	pmax		
	comp=E,275nm,1.3s						
PET				smax			
	comp=E,37μm,16.1s						
PET				smax			
	comp=N,25μm,16.0s						
PET				smax			
	comp=N,25μm,14.1s						
PET				smax			
	comp=E,30μm,14.8s						
PET				MLR	MLR		
	comp=E,29μm,19.0s,MS5.9						
PET				MLR	MLR		
	comp=Z,79μm,19.0s,MS6.1						
PET				MLR	MLR		
	comp=N,39μm,20.0s,MS5.9						
PET				MLR	MLR		
	comp=N,33μm,19.0s						
PET				MLR	MLR		
	comp=Z,64μm,19.0s						
PET				MLR	MLR		
	comp=E,25μm,17.0s						
PET	**Petropavlovsk**	**20.87**	**35**	*e*P	**P**	**09 38 47.1**	**-1.4**
	comp=E,505nm,1.0s						
PET				LR	LR		
	comp=Z,23μm,20.0s,MS5.5						
TIY	**Taiyuan**	**20.97**	**279**	⇑P	**P**	**09 38 50.3**	**+0.6**
TIY				LR	LR		
	comp=N,52μm,12.0s						
QZH	**Quanzhou**	**21.27**	**240**	⇓*i*P	**P**	**09 38 52.4**	**-0.3**
QZH				S	**S**	**09 42 49.6**	**+6.6**
QZH				AMB	AMB		
	comp=Z,350nm,1.1s,mb5.6						
WHN	**Wuhan**	**21.43**	**259**	⇓P	**P**	**09 38 53.8**	**-0.5**
WHN				S	**S**	**09 42 53.3**	**+7.3**
SARN	**Sarigan**	**21.43**	**162**	⇓*e*P	**P**	**09 38 53.9**	**-0.5**
HHC	**Hu-ho-hao-te**	**21.47**	**288**	*e*P	**P**	**09 38 55.1**	**+0.5**
HHC				PP	PP	09 39 21.3	+2.3
HHC				S	**S**	**09 42 52.3**	**+5.7**
HHC				PCP	PcP	09 42 54.3	-3.4
HHC				SS	SS	09 43 25.8	+3.6
HHC				PCS		09 46 35.5	
HHC				LR	LR		
	comp=N,58μm,12.4s,MS6.3						
HHC				LR	LR		
	comp=E,63μm,12.9s,MS6.3						
HHC				LR	LR		
	comp=Z,68μm,13.7s,MS6.2						
CLNS	**Chul'man**	**21.63**	**339**	*e*P	**P**	**09 38 49.9**	**-6.3**
CLNS				*e**PP		09 38 59.7	
CLNS				*e*PPP	PPP	09 39 17.1	-14
CLNS				*e*		09 43 03.3	
CLNS				*e*SSS	SSS	09 43 26.3	-14
CLNS				pmax	pmax		
	comp=Z,90nm,0.8s,mb5.2						
CLNS				pmax	pmax		
	comp=N,50nm,0.7s						
CLNS				pmax	pmax		
	comp=E,15nm,0.7s						
CLNS				MLR	MLR		
	comp=Z,37μm,17.0s,MS5.9						
CLNS				MLR	MLR		
	comp=N,20μm,12.0s,MS6.0						
CLNS				MLR	MLR		
	comp=E,25μm,11.0s,MS6.0						
BBP	**Basco**	**22.37**	**226**	*e*P	**P**	**09 38 56.8**	**-7.0**
BTO	**Baotou**	**22.64**	**287**	*e*P	**P**	**09 39 07.8**	**+1.5**
BTO				S	**S**	**09 43 18.4**	**+10**
MA2	**Magadan**	**23.53**	**15**	⇑*e*P	**P**	**09 39 14.1**	**-0.7**
MA2				pmax	pmax		
	comp=Z,654nm,1.1s,mb6.0						
MA2				MLR	MLR		
	comp=Z,44μm,15.0s,MS6.0						
MA2	**Magadan**	**23.53**	**15**	*e*P	**P**	**09 39 14.1**	**-0.7**
	comp=Z,827nm,1.1s,mb6.1						
GUMO	**Guam**	**24.24**	**166**	P	**P**	**09 39 21.9**	**-0.2**
GUMO				pmax	pmax		
	comp=Z,2μm,1.1s,mb6.4						
GUMO	**Guam**	**24.24**	**166**	*e*P	**P**	**09 39 21.3**	**-0.8**
	comp=Z,3μm,1.2s,mb6.6						
CVP	**Callao Caves**	**24.66**	**222**	*e*P	**P**	**09 39 23.7**	**-2.4**
APYP	**Conner**	**24.84**	**223**	*e*P	**P**	**09 39 25.7**	**-2.2**
CAUP	**Cauayan**	**25.29**	**221**	*e*P	**P**	**09 39 38.4**	**+6.3**
ENH	**Enshi**	**25.37**	**263**	P	**P**	**09 39 31.8**	**-1.0**
ENH				S	**S**	**09 43 56.7**	**+1.5**
ENH	**Enshi**	**25.37**	**263**	*e*P	**P**	**09 39 31.5**	**-1.2**
	comp=Z,3μm,0.9s,mb6.8						
ENH				LR	LR		
	comp=Z,55μm,19.0s,MS6.1						
YAK	**Yakutsk**	**25.38**	**350**	*e*P	**P**	**09 39 30.3**	**-2.2**
YAK				*e*		09 40 08.2	
YAK				*e*PPP	PPP	09 40 15.4	-7.5
YAK				*e*		09 43 00.3	
YAK				*i*S	**S**	**09 43 56.9**	**+1.9**
YAK				*e*SS	SS	09 44 55.2	-2.1
YAK				*e*SSS	SSS	09 45 11.0	-3.0
YAK				*e*		09 50 26.1	
YAK				pmax	pmax		
	comp=Z,213nm,1.0s,mb5.6						
YAK				pmax	pmax		
	comp=N,180nm,1.1s						
YAK				pmax	pmax		
	comp=E,38nm,0.9s						
YAK				pmax	pmax		
	comp=Z,128nm,1.4s,mb5.3						
YAK				pmax	pmax		
	comp=N,117nm,1.1s						
YAK				pmax	pmax		
	comp=E,55nm,1.1s						
YAK				smax			
	comp=E,96nm,1.5s						
YAK				smax			
	comp=N,53nm,1.2s						
YAK				smax			
	comp=Z,50nm,1.2s						
YAK				MLR	MLR		
	comp=N,48μm,15.0s,MS6.2						
YAK				MLR	MLR		
	comp=Z,57μm,15.0s,MS6.2						
YAK				MLR	MLR		
	comp=E,29μm,12.0s,MS6.2						
YAK	**Yakutsk**	**25.38**	**350**	*e*P	**P**	**09 39 31.1**	**-1.4**
	comp=E,395nm,0.8s,mb6.0						
YAK				LR	LR		
	comp=Z,11μm,21.0s,MS5.3						
SONM	**Songino Array**	**25.95**	**304**	P	**P**	**09 39 36.7**	**-1.3**
	comp=Z,235nm,1.2s,mb5.6,baz=106,slow=8.8,SNR=154						
SEY	**Seymchan**	**26.93**	**14**	*e*P	**P**	**09 39 46.7**	**-0.1**
SEY				*e*		09 40 27.4	
SEY				*e*		09 43 13.6	
SEY				*e*S	**S**	**09 44 21.5**	**+0.9**
SEY				*e*SS	SS	09 45 36.9	+2.4
SEY				*e*SSS	SSS	09 45 52.3	-0.3
SEY				pmax	pmax		
	comp=N,300nm,1.1s						
SEY				pmax	pmax		
	comp=Z,800nm,1.1s,mb6.2						
SEY				pmax	pmax		
	comp=E,400nm,1.2s						
SEY				MLR	MLR		
	comp=Z,117μm,19.0s,MS6.5						
SEY				MLR	MLR		
	comp=N,79μm,17.0s,MS6.4						
SEY				MLR	MLR		
	comp=E,8μm,13.0s,MS6.4						
LZH	**Lanzhou**	**28.04**	**278**	⇑P	**P**	**09 39 57.5**	**+0.3**
LZH				AP	pP	09 40 04.8	+0.9
LZH				XP	sP	09 40 10.8	+3.9
LZH				PP	PP	09 40 48.0	+0.7
LZH				S	**S**	**09 44 41.3**	**+2.5**
LZH				SS	SS	09 46 05.0	+3.7
LZH				AMB	AMB		
	comp=Z,280nm,1.0s,mb5.8						
LZH				AMB	AMB		
	comp=Z,2μm,4.6s						
LZH				LR	LR		
	comp=E,39μm,14.5s						
LZH				LR	LR		
	comp=Z,51μm,15.2s,MS6.2						
LZH	**Lanzhou**	**28.04**	**278**	⇑P	**P**	**09 39 57.5**	**+0.3**
	comp=Z,280nm,1.0s,mb5.8						
LZH				pP	pP	09 40 04.8	+0.9
LZH				sP	sP	09 40 10.8	+3.9
LZH				PP	PP	09 40 48.0	+0.7
LZH				S	**S**	**09 44 41.3**	**+2.5**
LZH				sS		09 44 50.0	
LZH				SS	SS	09 46 05.0	+3.7
LZH				LR	LR		
	comp=Z,51μm,15.2s,MS6.2						
FX1	**Attu Island--F**	**28.41**	**46**	P	**P**	**09 39 59.6**	**-0.7**
	comp=Z,87nm,0.9s,mb5.4,baz=281,slow=3.1,SNR=6.7						
FX1	**Attu Island--F**	**28.41**	**46**	P	**P**	**09 39 59.6**	**-0.8**
FX1				pmax	pmax		
	comp=Z,87nm,0.9s						
IRK	**Irkutsk**	**28.41**	**313**	*e*P	**P**	**09 40 00.0**	**-0.4**
IRK				*e*		09 43 18.4	
ZAK	**Zakamensk**	**28.51**	**309**	*e*P	**P**	**09 39 59.8**	**-1.5**
GYA	**Guiyang**	**29.30**	**258**	⇑*i*P	**P**	**09 40 07.1**	**-1.6**
GYA				S	**S**	**09 44 59.0**	**-0.2**
GYA				AMB	AMB		
	comp=Z,3μm,7.8s						
GYA				LR	LR		
	comp=N,33μm,14.6s,MS6.2						
GYA				LR	LR		
	comp=E,38μm,16.4s,MS6.2						
GYA				LR	LR		
	comp=Z,48μm,18.8s,MS6.1						
CD2	**Chengdu**	**29.67**	**268**	P	**P**	**09 40 11.8**	**-0.2**
CD2				S	**S**	**09 45 03.8**	**-1.2**
MOY	**Mondy**	**30.21**	**311**	*e*P	**P**	**09 40 15.2**	**-1.3**
BUSP	**Coron**	**30.29**	**218**	*e*P	**P**	**09 40 18.4**	**+0.8**
GTA	**Gaotai**	**30.55**	**286**	*e*P	**P**	**09 40 17.8**	**-1.9**
GTA				PP	PP	09 41 19.8	-0.2
GTA				PCP	PcP	09 43 16.3	-2.0
GTA				S	**S**	**09 45 22.8**	**+4.0**
GTA				PCS		09 46 53.4	
GTA				AMB	AMB		
	comp=Z,9μm,9.5s						
GTA				LR	LR		
	comp=Z,65μm,16.3s,MS6.4						
QIZ	**Qiongzhong**	**31.25**	**242**	P	**P**	**09 40 26.0**	**-0.1**
QIZ				AP	pP	09 40 33.9	+1.1
QIZ				PP	PP	09 41 30.0	+0.6
QIZ				S	**S**	**09 45 29.4**	**-0.7**
KMI	**Kunming**	**33.03**	**259**	*e*P	**P**	**09 40 40.8**	**-0.7**
KMI				AP	pP	09 40 48.9	+0.6
KMI				XP	sP	09 40 51.4	+0.1
KMI				PP	PP	09 41 52.0	-0.4
KMI				PPP	PPP	09 42 09.0	+0.5
KMI				PcP	PcP	09 43 25.1	0.0
KMI				S	**S**	**09 45 55.8**	**-1.9**
KMI				sS		09 46 09.6	
KMI				SS	SS	09 47 55.1	-3.3
KMI				AMB	AMB		
	comp=Z,104nm,1.0s,mb5.7						
KMI				AMB	AMB		
	comp=Z,3μm,7.5s						
KMI				LR	LR		
	comp=Z,78μm,16.8s,MS6.5						
KMI	**Kunming**	**33.03**	**259**	*e*P	**P**	**09 40 40.7**	**-0.8**
	comp=Z,104nm,1.0s,mb5.7						
KMI				pP	pP	09 40 48.9	+0.6
KMI				sP	sP	09 40 51.4	+0.1
KMI				PP	PP	09 41 52.0	-0.4
KMI				PPP	PPP	09 42 09.0	+0.5
KMI				PcP	PcP	09 43 25.1	0.0
KMI				S	**S**	**09 45 55.8**	**-1.9**
KMI				sS		09 46 09.6	
KMI				SS	SS	09 47 55.1	-3.3
KMI				LR	LR		
	comp=Z,78μm,16.8s,MS6.5						
TIXI	**Tiksi**	**34.77**	**354**	⇑*e*P	**P**	**09 40 54.1**	**-2.0**
TIXI				*i*	pP	09 40 59.2	-3.7
TIXI				*i*		09 42 18.3	
TIXI				*e*		09 43 27.3	
TIXI				*e*S	**S**	**09 46 24.4**	**+0.2**
TIXI				pmax	pmax		
	comp=Z,77nm,0.8s,mb5.7						
TIXI				MLR	MLR		
	comp=Z,21μm,12.0s,MS6.1						
TIXI	**Tiksi**	**34.77**	**354**	⇑*e*P	**P**	**09 40 54.2**	**-1.9**
KKM	**Kota Kinabalu**	**37.39**	**219**	⇓*e*P	**P**	**09 41 18.1**	**-0.7**
KKTK	**Khon Kaen**	**38.06**	**246**	P	**P**	**09 41 24.0**	**-0.4**
	comp=Z,1μm,0.8s,mb6.7						
WMQ	**Urumqi**	**38.91**	**296**	P	**P**	**09 41 32.0**	**+0.8**
WMQ				AP	pP	09 41 40.0	+1.9
WMQ				PP	PP	09 43 04.0	-0.4
WMQ				S	**S**	**09 47 29.0**	**+1.2**
WMQ				AMB	AMB		

WMQ LR LR
comp=N,35µm,16.0s,MS6.3
WMQ LR LR
comp=E,21µm,16.0s,MS6.3
WMQ LR LR
comp=Z,31µm,16.0s,MS6.2
CMAR Chiang Mai Arr 39.65 253 P **P** **09 41 36.5 -1.1**
comp=Z,3.7nm,0.6s,baz=39,slow=7.3,SNR=19
CMAR PcP PcP 09 43 43.8 -1.1
comp=Z,13nm,0.8s,baz=17,slow=2.9,SNR=5.8
CMAR LR LR 09 58 49.4
comp=Z,23µm,18.0s,MS6.1,baz=45,slow=38
IMP Imphal 40.15 265 *eP* **P** **09 41 40.0 -1.7**
LSA Lhasa 40.18 274 P **P** **09 41 44.6 +2.7**
ZAL Zalesovo 40.24 312 P **P** **09 41 41.3 -0.8**
comp=Z,18nm,0.6s,mb5.0,baz=16,slow=8.6,SNR=35
ZAL PcP PcP 09 43 44.8 -1.7
comp=Z,20nm,0.6s,baz=354,slow=4.1,SNR=11
ZAL LR LR 09 59 11.5
comp=Z,13µm,19.3s,MS5.8,baz=6.2,slow=38
BDT Bhumibol Dam 40.33 251 P **P** **09 41 42.0 -1.3**
comp=Z,18nm,0.7s,mb4.9
NST Nakhon Sawan 40.47 248 P **P** **09 41 44.3 -0.1**
UNV Unalaska Valle 40.53 48 PFAKE 09 42 00.0 +15
UNV LR LR
comp=Z,26µm,21.0s,MS6.1
NVS Novosibirsk 41.18 313 *eP* **P** **09 41 48.2 -1.6**
NVS pmax pmax
comp=Z,115nm,1.5s,mb5.3
SHL Shillong 41.41 267⇑ *iP* **P** **09 41 50.5 -1.5**
SHL *e* 09 48 13.5
TNA Tin City 41.59 30 *eP* **P** **09 41 51.7 -1.3**
comp=Z,166nm,1.0s,mb5.6
TNA LR LR
comp=Z,18µm,19.0s,MS6.0
MKAR Makanchi Array 42.25 301 *i* P **P** **09 41 57.7 -1.0**
ANM Nome 42.40 32 *eP* **P** **09 42 01.0 +1.4**
AGT Agartala 42.72 266 *i* P **P** **09 42 03.0 +0.2**
AGT *i* 09 43 01.0
NNT Nongplab 42.77 245 P **P** **09 42 03.3 0.0**
KURK Kurchatov 44.16 308 P **P** **09 42 12.9 -1.3**
KURK pmax pmax
comp=Z,497nm,1.7s,mb6.0
KURK Kurchatov 44.16 308 PFAKE 09 42 20.0 +5.8
KURK LR LR
comp=Z,7µm,20.0s,MS5.6
WAU Wau 45.05 169⇑ *eP* **P** **09 42 21.3 -0.5**
GUN Gumba 45.13 274 *eP* **P** **09 42 22.2 -0.1**
comp=Z,1µm,1.2s,mb6.7
PKI Pulchoki 45.65 274 *eP* **P** **09 42 26.1 -0.3**
comp=Z,627nm,1.4s,mb6.4
KKN Kakani 45.66 274 *eP* **P** **09 42 26.2 -0.2**
comp=Z,721nm,1.0s,mb6.5
CAL Calcutta 45.72 266 *eP* **P** **09 42 28.8 +1.8**
DMN Daman 45.88 274 *eP* **P** **09 42 27.8 -0.4**
comp=Z,1µm,1.6s,mb6.6
SNG Songkhla 45.91 239 P **P** **09 42 38.0 +9.4**
comp=Z,244nm,0.9s,mb6.1
GKN Gorkha 46.07 275 *eP* **P** **09 42 29.0 -0.7**
comp=Z,2µm,1.4s,mb6.9
KOLN Koldanda 47.00 275 *eP* **P** **09 42 35.7 -1.4**
comp=Z,2µm,1.6s,mb6.8
PMG Port Moresby 47.14 169 P **P** **09 42 37.3 -1.0**
comp=Z,56nm,1.1s,mb5.4,baz=293,slow=8.9,SNR=8.9
PMG LR LR 10 01 08.5
comp=Z,21µm,18.4s,MS6.1,baz=134,slow=34
PMG Port Moresby 47.14 169 *eP* **P** **09 42 36.0 -2.3**
comp=Z,140nm,1.0s,mb5.8
PMG LR LR
comp=Z,16µm,19.0s,MS6.0
ULHL Ulahol 47.44 296 P **P** **09 42 42.2 +1.9**
SNR=12
IMA Indian Mountai 47.45 31 P **P** **09 42 40.4 +0.3**
IMA Indian Mountai 47.45 31 *eP* **P** **09 42 39.3 -0.8**
IPM Ipoh 47.54 236⇓ *eP* **P** **09 42 41.0 -0.5**
TKM2 Tokmak 2 47.71 297 P **P** **09 42 44.7 +2.2**
SNR=79
RSO Redoubt South 47.91 38 *eP* **P** **09 42 44.0 +0.2**
KGM Kluang 48.01 231⇓ *eP* **P** **09 42 45.0 -0.2**
KZA Kyzart 48.20 296 P **P** **09 42 47.7 +1.5**
SNR=16
SPU Mount Spurr 48.21 37 *eP* **P** **09 42 46.3 +0.2**
KDAK Kodiak Island 48.22 42 *eP* **P** **09 42 45.2 -1.0**
comp=Z,376nm,0.7s,mb6.5
KDAK LR LR
comp=Z,4µm,20.0s,MS5.4
KBK Karagaybulak 48.24 297 P **P** **09 42 44.8 -1.8**
SNR=30
CHMS Chumysh 48.29 298 P **P** **09 42 48.2 +1.3**
SNR=24
USP Ospenovka 48.39 298 P **P** **09 42 49.0 +1.3**
SNR=35
KSH Kashi 48.44 293 *eP* **P** **09 42 50.3 +2.1**
KSH AP pP 09 42 57.0 +1.8
KSH XP sP 09 42 59.3 +1.4
KSH *e*PCP PcP 09 44 17.0 +2.4
KSH *e*PP PP 09 44 42.1 +1.5
KSH *e*PCS 09 48 11.6
KSH *e*S **S** **09 49 50.1 +3.5**
KSH *e*SS SS 09 53 13.1 +1.5
AAK Ala-Archa 48.57 297 P **P** **09 42 50.6 +1.5**
SNR=37
AAK Ala-Archa 48.57 297⇑ *eP* **P** **09 42 48.5 -0.6**
AAK pmax pmax
comp=Z,76nm,1.3s,mb5.6
AAK MLR MLR
comp=Z,80µm,16.0s,MS6.8
AAK Ala-Archa 48.57 297 *eP* **P** **09 42 47.7 -1.4**
comp=Z,97nm,1.0s,mb5.8
BVA0 Borovoye Array 48.88 312 P **P** **09 42 49.7 -1.6**
BVAR Borovoye Array 48.88 312 P **P** **09 42 49.8 -1.5**
comp=Z,40nm,0.6s,baz=80,slow=9.0,SNR=79
BVAR PcP PcP 09 44 14.6 -1.4
comp=Z,30nm,0.5s,baz=105,slow=2.6,SNR=12
BVAR LR LR 10 04 22.4
comp=Z,295nm,18.1s,baz=160,slow=37
LGTI Lohaghat 48.92 279 *eP* **P** **09 42 52.7 +0.7**
LGTI *e* 09 44 17.0
BRVK Borovoye 48.93 312 *eP* **P** **09 42 50.5 -1.3**
comp=Z,132nm,1.0s,mb5.9
BRVK LR LR
comp=Z,6µm,19.0s,MS5.6
JOSI Joshimath 49.00 280 *eP* **P** **09 42 52.6 0.0**
EKS2 Erkin-Say 49.07 298 P **P** **09 42 54.4 +1.4**
SNR=16
SLKM Skilak Lake 49.16 38 P **P** **09 42 53.6 +0.2**
SLKM Skilak Lake 49.16 38 *eP* **P** **09 42 53.3 -0.1**
AML Almayashu 49.29 297 P **P** **09 42 55.4 +0.8**
SNR=112
MCK McKinley 49.50 34 P **P** **09 42 55.5 -0.5**
MCK pmax pmax
comp=Z,95nm,1.0s,mb5.8
MCK McKinley 49.50 34 *eP* **P** **09 42 55.4 -0.6**
comp=Z,62nm,0.9s,mb5.6
MCK LR LR
comp=Z,7µm,19.0s,MS5.7
ALBI Allahabad 49.55 273 *e* **P** **09 42 51.0 -5.9**
PMR Palmer 49.58 37 *eP* **P** **09 42 55.0 -1.7**
ZRNK Zerenda 49.71 312⇑ *eP* **P** **09 42 56.5 -1.2**
comp=Z,259nm,0.9s,mb6.3
COLA College 49.90 32 *eP* **P** **09 42 58.7 -0.3**
COLA MLR MLR
comp=Z,16µm,21.0s,MS6.0
SML Sawmill 49.94 36 P **P** **09 42 58.9 -0.5**
SML Sawmill 49.94 36 *eP* **P** **09 42 58.6 -0.8**
DDI Dehra Dun 50.27 281 *eP* **P** **09 43 02.0 -0.4**
ILAR Eielson Array 50.32 32 P **P** **09 43 01.2 -1.0**
comp=Z,42nm,0.8s,mb5.5,baz=275,slow=4.0,SNR=99
ILAR LR LR 10 07 52.1
comp=Z,12µm,18.4s,MS5.9,baz=360,slow=40
ILAR Eielson Array 50.32 32 P **P** **09 43 01.2 -1.0**
ILAR pmax pmax
comp=Z,42nm,0.8s
ILAR MLR MLR
comp=Z,12µm,18.4s
BLSP Bilaspur 50.86 269 *i* P **P** **09 43 06.0 -0.9**
THY Trims Highway 50.95 34 *eP* **P** **09 43 07.4 +0.4**
BHK Bhakra 51.09 283 *e* **P** **09 43 17.4 +8.8**
BHK *e*S **S** **09 50 27.6 +4.2**
ASOR Ausora 51.17 279 *eP* **P** **09 43 08.5 -0.7**
THN Thein Dam 51.21 284 *eP* **P** **09 43 07.5 -2.0**
comp=Z,77nm,0.9s,mb5.6
DIV Divide 51.25 37 *eP* **P** **09 43 09.3 0.0**
comp=Z,1µm,1.0s,mb6.8
DIV LR LR
comp=Z,27µm,20.0s,MS6.3

EYAK Cordova Ski Ar 51.35 38 *eP* **P** **09 43 10.0 -0.1**
EYAK *e* 09 43 41.7
KKR Kurukshetra 51.39 281 *eP* **P** **09 43 08.7 -2.2**
NDI New Delhi 51.64 279 *eP* **P** **09 43 11.5 -1.3**
AGRA Agra 51.72 277 *eP* **P** **09 43 12.4 -1.1**
AYAN Aya Nagar 51.80 279 *eP* **P** **09 43 13.4 -0.6**
AYAN *e* 09 43 24.0
comp=Z,695nm,1.5s
BHGR Bahadurgarh 51.86 280 *eP* **P** **09 43 13.5 -0.9**
JHNI Jhansi 52.08 275⇑ *iP* **P** **09 43 12.0 -4.1**
JHNI *e* pP 09 43 21.0 -2.2
VIS Vishakhapatnam 52.25 264 *iP* **P** **09 43 16.0 -1.5**
KUDL Kundal 52.45 279 *eP* **P** **09 43 19.1 +0.2**
KUDL *e* 09 43 29.1
comp=Z,442nm,1.6s
KHET Khetri 53.02 279 *eP* **P** **09 43 22.6 -0.6**
SVE Sverdlovsk 53.59 318⇓ *eP* **P** **09 43 13.5 -13**
SVE MLR MLR
comp=Z,65µm,16.0s,MS6.8
SVE MLR MLR
comp=N,35µm,14.0s,MS6.8
SVE MLR MLR
comp=E,42µm,14.0s,MS6.8
DAWY Dawson 53.64 33 *eP* **P** **09 43 25.7 -1.4**
BHPL Bhopal 54.05 273 *eP* **P** **09 43 29.6 -1.2**
BHPL *e* 09 43 39.9
comp=Z,453nm,1.4s
AJM Ajmer 54.68 278 *eP* **P** **09 43 34.0 -1.3**
AJM *e* 09 43 45.0
comp=Z,1µm,1.4s
ARU Arti 54.80 318⇑ *iP* **P** **09 43 35.5 -0.3**
ARU *e* 09 45 35.7
ARU *e*S **S** **09 51 16.3 +2.8**
ARU *e* 09 53 23.2
ARU *e*SS SS 09 54 54.7 -1.8
ARU pmax pmax
comp=Z,372nm,1.0s,mb6.4
ARU MLR MLR
comp=N,13µm,16.5s,MS6.5
ARU MLR MLR
comp=Z,42µm,16.5s,MS6.6
ARU MLR MLR
comp=E,34µm,16.0s,MS6.5
ARU Arti 54.80 318 *eP* **P** **09 43 34.2 -1.6**
comp=E,1µm,1.6s,mb6.7
INK Inuvik 55.03 27 P **P** **09 43 36.5 -0.8**
comp=E,91nm,1.0s,mb5.8,baz=282,slow=7.3,SNR=69
INK LR LR 10 08 37.3
comp=E,15µm,20.4s,MS6.0,baz=276,slow=38
INK Inuvik 55.03 27 P **P** **09 43 36.6 -0.8**
INK pmax pmax
comp=Z,91nm,1.0s
INK MLR MLR
comp=Z,15µm,20.4s
INK Inuvik 55.03 27 *eP* **P** **09 43 36.6 -0.8**
comp=Z,182nm,1.0s,mb6.1
VJD Vijayawada 55.04 264 *eP* **P** **09 43 38.0 -0.1**
AKL Akola 55.67 271 *e* **P** **09 43 49.2 +6.6**
AKL *e* 09 44 12.6
HYB Hyderabad 56.21 267 *iP* **P** **09 43 45.0 -1.5**
comp=Z,750nm,1.4s,mb6.5
HYB *e* pP 09 43 53.0 -0.6
HYB *e*PP PP 09 45 55.0 +1.7
HYB *e*S **S** **09 51 33.0 +0.1**
HYB Hyderabad 56.21 267 *eP* **P** **09 43 45.0 -1.5**
comp=Z,750nm,1.4s,mb6.5
KIP Kipapa 56.26 88 P **P** **09 43 45.8 -1.0**
KIP pmax pmax
comp=Z,150nm,1.0s,mb6.0
KIP Kipapa 56.26 88 *eP* **P** **09 43 45.4 -1.4**
comp=Z,165nm,0.9s,mb6.1
WRAB Tennant Creek 57.12 185 P **P** **09 43 50.0 -3.0**
comp=Z,2µm,1.3s,mb7.0
WRAB Tennant Creek 57.12 185 *eP* **P** **09 43 50.5 -2.6**
comp=Z,1µm,1.0s,mb6.8
WRA Warramunga Arr 57.13 185 P **P** **09 43 50.3 -2.8**
comp=Z,232nm,1.0s,mb6.2,baz=0.4,slow=7.5,SNR=155
WRA LR LR 10 07 46.8
comp=Z,12µm,20.2s,MS6.0,baz=20,slow=36
WRA PKP2bc 10 13 54.0
comp=Z,3.4nm,0.8s,baz=199,slow=2.0,SNR=7.9
WRA Warramunga Arr 57.13 185 P **P** **09 43 50.3 -2.8**
WRA LR LR 10 07 46.8
WRA ⇑*e* 10 13 54.0
LATR Latur 57.25 269 *eP* **P** **09 43 52.0 -1.9**
JASL Jaisalmer 57.41 281 *eP* **P** **09 43 54.2 -0.8**
SIT Sitka 57.46 40 P **P** **09 43 55.0 +0.1**
SIT pmax pmax
comp=Z,590nm,1.5s,mb6.4
SIT Sitka 57.46 40 *eP* **P** **09 43 55.9 +1.0**
CTA Charters Tower 57.53 172 P **P** **09 43 53.8 -2.1**
comp=Z,27nm,0.7s,mb5.4,baz=351,slow=7.5,SNR=31
CTA LR LR 10 07 27.0
comp=Z,10µm,18.8s,MS6.0,baz=356,slow=35
CTA PKP2bc 10 13 51.6
comp=Z,3.6nm,0.9s,baz=262,slow=2.7,SNR=4.0
CTA Charters Tower 57.53 172 P **P** **09 43 53.8 -2.1**
CTA LR LR 10 07 27.0
CTA ⇑*e* 10 13 51.6
CTAO Charters Tower 57.53 172 P **P** **09 43 54.3 -1.6**
CTAO Charters Tower 57.53 172 P **P** **09 43 53.3 -2.6**
CTAO pmax pmax
comp=Z,68nm,1.0s,mb5.6
CTAO Charters Tower 57.53 172⇑ *eP* **P** **09 43 53.1 -2.9**
comp=Z,146nm,1.2s,mb5.9
CTAO LR LR
comp=Z,10µm,20.0s,MS5.9
POHA Pohakuloa 59.11 88 *eP* **P** **09 44 07.2 +0.3**
comp=Z,543nm,1.2s,mb6.5
POO Poona 59.35 271⇑ *iP* **P** **09 44 06.0 -2.6**
POO *i* S **S** **09 52 17.0 +2.9**
DLBC Dease Lake 59.62 38 *eP* **P** **09 44 10.2 +0.3**
KAD Karad 59.75 269 *eP* **P** **09 44 10.3 -1.1**
KAD *e* 09 44 21.1
comp=Z,859nm,1.9s
HSP Hornsund 60.72 347 *eP* **P** **09 44 16.2 -1.0**
ASAR Alice Springs 60.86 185 P **P** **09 44 16.6 -2.3**
comp=Z,42nm,1.0s,mb5.5,baz=20,slow=2.2,SNR=71
ASAR LR LR 10 09 53.1
comp=Z,11µm,20.1s,MS6.0,baz=354,slow=35
ASAR PKPPKP 10 13 30.1
comp=Z,2.4nm,0.8s,baz=156,slow=2.6,SNR=7.4
ASAR PKP2bc 10 13 42.1
comp=Z,2.2nm,0.8s,baz=159,slow=3.0,SNR=7.2
ASAR Alice Springs 60.86 185 P **P** **09 44 16.6 -2.3**
ASAR LR LR 10 09 53.1
ASAR P'P' 10 13 30.1
ASAR ⇑*e* 10 13 42.1
MBWA Marble Bar 60.92 201⇑ *eP* **P** **09 44 17.2 -2.1**
comp=Z,571nm,1.5s,mb6.5
MBWA *e* pP 09 44 25.4 -1.0
MBWA LR LR
comp=Z,10µm,21.0s,MS6.0
LVZ Lovozero 61.00 335⇑ *eP* **P** **09 44 17.9 -1.3**
LVZ pmax pmax
comp=Z,97nm,1.1s,mb5.8
LVZ pmax pmax
comp=N,101nm,1.2s
LVZ pmax pmax
comp=E,38nm,0.9s
LVZ Lovozero 61.00 335⇑ *eP* **P** **09 44 18.4 -0.8**
APA Apatity 61.58 335⇑ *iP* **P** **09 44 20.8 -2.3**
APA *i* 09 44 31.3
APA *i* 09 46 35.1
APA *e*S **S** **09 52 44.0 +2.1**
APA pmax pmax
comp=Z,250nm,1.4s,mb6.2
APA MLR MLR
comp=Z,35µm,12.0s,MS6.7
BJO Bjornoya 61.61 345 *eP* **P** **09 44 23.4 +0.1**
BJO AMb AMB 09 44 27.7
comp=Z,90nm,1.4s,mb5.7
BJO1 Bjornoya 61.65 345 *eP* **P** **09 44 23.4 -0.1**
comp=Z,90nm,1.4s,mb5.7
KEV Kevo 62.44 339 *ep* **P** **09 44 26.8 -2.1**
comp=Z,88nm,0.8s,mb5.9
KEV Kevo 62.44 339 *eP* **P** **09 44 26.8 -2.1**
KEV pmax pmax
comp=Z,88nm,0.8s,mb5.9
ARCES ARCESS Array B 63.00 339 P **P** **09 44 31.3 -1.3**
comp=Z,56nm,0.9s,mb5.7,baz=49,slow=8.4,SNR=97
ARCES PKP2bc 10 13 37.7
comp=Z,3.8nm,0.8s,baz=68,slow=6.5,SNR=4.3
ARCES LR LR 10 14 56.3
comp=Z,23µm,18.4s,MS6.4,baz=320,slow=39

ARCES ARCESS Array B 63.00 339 P **P** **09 44 31.3 -1.3**
ARCES ⇑*e* 10 13 37.7
ARCES LR LR 10 14 56.3
KTK1 Kautokeino 63.96 339 *eP* **P** **09 44 37.4 -1.4**
KTK1 AMb AMB 09 44 42.1
comp=Z,305nm,1.6s,mb6.1
KTK1 *e*PP PP 09 46 58.9 -2.4
KTK1 Kautokeino 63.96 339 *eP* **P** **09 44 37.4 -1.4**
comp=Z,305nm,1.6s,mb6.1
YKW3 Yellowknife Ar 64.51 29 *eP* **P** **09 44 41.4 -1.1**
YKW3 *e*PcP PcP 09 45 19.5 +3.1
NOUC Port Laguerre 64.51 152⇑ *eP* **P** **09 44 43.4 +0.2**
NOUC Port Laguerre 64.51 152⇑ *eP* **P** **09 44 43.4 +0.2**
YKA Yellowknife Ar 64.55 30 P **P** **09 44 41.5 -1.2**
comp=Z,23nm,0.6s,mb5.4,baz=305,slow=6.6,SNR=74
YKA PKP2bc 10 13 29.4
comp=Z,8.1nm,1.2s,baz=137,slow=2.1,SNR=5.9
YKA LR LR 10 16 44.0
comp=Z,6µm,18.0s,MS5.8,baz=315,slow=40
YKA Yellowknife Ar 64.55 30 P **P** **09 44 41.5 -1.2**
YKA ⇑*e* 10 13 29.4
YKA LR LR 10 16 44.0
JOF Joensuu 64.74 331 *ep* **P** **09 44 41.4 -2.5**
comp=Z,39nm,0.5s,mb5.7
JOF Joensuu 64.74 331 *eP* **P** **09 44 41.4 -2.5**
JOF pmax pmax
comp=Z,39nm,0.5s,mb5.7
TRO Tromso 64.77 340 *eP* **P** **09 44 41.9 -2.1**
TRO AMb AMB 09 44 46.5
comp=Z,227nm,1.7s,mb5.9
TRO Tromso 64.77 340 *eP* **P** **09 44 41.9 -2.1**
comp=Z,227nm,1.7s,mb5.9
DAG Danmarks Havn 65.29 354⇓ *iP* **P** **09 44 45.9 -1.4**
comp=Z,184nm,1.3s,mb6.0
DAG *i* 09 46 03.3
MOS Moscow 65.80 323 *eP* **P** **09 44 49.5 -1.4**
MOS *e*S S 09 53 33.8 -0.7
MOS pmax pmax
comp=Z,715nm,1.6s,mb6.5
MOS pmax pmax
comp=N,216nm,1.2s
MOS pmax pmax
comp=E,240nm,1.2s
MOS MLR MLR
comp=Z,69µm,14.6s,MS7.0
MOS MLR MLR
comp=E,53µm,13.1s
MNCY Minicoy 65.87 262⇓ *iP* **P** **09 44 49.0 -3.0**
MNCY *i* 09 45 55.0
OBN Obninsk 66.64 322⇓ *eP* **P** **09 44 55.5 -0.7**
OBN *e*S S 09 53 45.6 +0.8
OBN pmax pmax
comp=Z,467nm,1.6s,mb6.3
OBN pmax pmax
comp=Z,6µm,5.0s
OBN MLR MLR
comp=Z,50µm,14.0s,MS6.9
OBN Obninsk 66.64 322 *eP* **P** **09 44 54.7 -1.5**
comp=Z,176nm,0.9s,mb6.1
MAK Makhachkala 66.68 307 *eP* **P** **09 44 57.0 +0.3**
MAK pmax pmax
comp=Z,1µm,2.0s,mb6.6
PUL Pulkovo 66.90 329 *eP* **P** **09 44 56.0 -1.8**
PUL pmax pmax
comp=Z,177nm,0.6s,mb6.3
PUL pmax pmax
comp=N,213nm,0.7s
PUL pmax pmax
comp=E,526nm,1.1s
VOR Voronezh 67.08 318 *eP* **P** **09 44 58.0 -1.1**
VOR *e* 09 53 52.0
VOR pmax pmax
comp=Z,800nm,2.0s,mb6.4
VOR pmax pmax
comp=N,270nm,1.8s
VOR pmax pmax
comp=E,500nm,1.4s
KAF Kangasniemi 67.11 332 *ep* **P** **09 44 56.7 -2.4**
comp=E,64nm,0.5s,mb5.9,baz=51,slow=6.0
KAF Kangasniemi 67.11 332 *eP* **P** **09 44 56.7 -2.4**
KAF pmax pmax
comp=Z,64nm,0.5s,mb5.9
LOF Lofoten 67.22 341 *eP* **P** **09 45 00.2 +0.5**
LOF AMb AMB 09 45 05.2
comp=Z,85nm,1.6s,mb5.5
LOF Lofoten 67.22 341 *eP* **P** **09 45 00.2 +0.5**
comp=Z,85nm,1.6s,mb5.5
PGC Sidney 67.57 45 *eP* **P** **09 45 01.5 -0.7**
comp=Z,333nm,1.0s,mb6.3
FINES FINESS Array B 67.60 331 P **P** **09 45 00.8 -1.4**
comp=Z,52nm,0.6s,mb5.8,baz=66,slow=6.8,SNR=112
FINES LR LR 10 16 55.3
comp=Z,13µm,18.1s,MS6.2,baz=243,slow=38
FINES FINESS Array B 67.60 331 P **P** **09 45 00.8 -1.4**
FINES pmax pmax
comp=Z,52nm,0.6s
FINES MLR MLR
comp=Z,13µm,18.1s
OCWA Octopus Mounta 67.62 46 *eP* **P** **09 45 02.9 +0.4**
comp=Z,129nm,1.2s,mb5.8
OCWA LR LR
comp=Z,7µm,20.0s,MS5.9
MOR8 Moi Rana 68.37 339⇑ *iP* **P** **09 45 04.4 -2.5**
MOR8 AMb AMB 09 45 08.9
comp=Z,313nm,1.4s,mb6.2
MOR8 Moi Rana 68.37 339 *eP* **P** **09 45 04.4 -2.5**
comp=Z,313nm,1.4s,mb6.2
GOF Gofitskoye 68.39 311⇓ *iP* **P** **09 45 07.5 +0.1**
GOF pmax pmax
comp=Z,500nm,1.3s,mb6.4
GNW Green Mountain 68.49 46 *eP* **P** **09 45 08.3 +0.3**
STOK Stokkvaagen 68.66 339 *eP* **P** **09 45 06.4 -2.3**
STOK AMb AMB 09 45 31.8
comp=Z,278nm,1.4s,mb6.0
STOK Stokkvaagen 68.66 339 *eP* **P** **09 45 06.4 -2.3**
comp=Z,278nm,1.4s,mb6.0
RPW Rockport 68.77 45 *eP* **P** **09 45 09.6 -0.2**
BMW Boistfort Moun 68.84 47 P **P** **09 45 10.6 +0.4**
BMW Boistfort Moun 68.84 47 *eP* **P** **09 45 10.3 +0.2**
STKA Stephens Creek 68.90 178 P **P** **09 45 09.3 -1.5**
comp=Z,48nm,0.7s,mb5.5,baz=343,slow=7.0,SNR=37
STKA LR LR 10 13 56.5
comp=Z,14µm,20.9s,MS6.2,baz=349,slow=35
STKA Stephens Creek 68.90 178 P **P** **09 45 09.3 -1.5**
STKA LR LR 10 13 56.5
RMW Rattlesnake Mo 69.13 46 P **P** **09 45 12.3 +0.3**
RMW Rattlesnake Mo 69.13 46 *eP* **P** **09 45 12.1 +0.1**
KIV Kislovodsk 69.18 310⇑ *eP* **P** **09 45 11.8 -0.5**
KIV pmax pmax
comp=Z,558nm,1.3s,mb6.3
KIV pmax pmax
comp=Z,5µm,4.0s
JMIC Jan Mayen 69.48 349 LR LR 10 17 10.2
comp=Z,8µm,19.6s,MS6.0,baz=62,slow=37
LON Longmire 69.52 46 P **P** **09 45 15.3 +1.0**
LON Longmire 69.52 46 *eP* **P** **09 45 13.9 -0.5**
NLW Nelson Butte 69.63 45 *eP* **P** **09 45 14.9 -0.1**
COR Corvallis 69.81 49 P **P** **09 45 18.4 +2.2**
COR pmax pmax
comp=Z,240nm,1.0s,mb6.1
COR Corvallis 69.81 49 *eP* **P** **09 45 17.1 +0.9**
comp=Z,325nm,0.9s,mb6.3
COR LR LR
comp=Z,7µm,19.0s,MS5.9
GNI Garni 69.90 306 LR LR 10 18 27.9
comp=Z,15µm,19.4s,MS6.2,baz=49,slow=38
GNI Garni 69.90 306⇑ *eP* **P** **09 45 17.0 +0.2**
GNI MLR MLR
comp=Z,18µm,13.0s
KEBM Edson Butte 70.10 51 *eP* **P** **09 45 19.3 +1.3**
SSOR Sweet Springs 70.17 48 P **P** **09 45 19.5 +1.2**
SSOR Sweet Springs 70.17 48 *eP* **P** **09 45 18.9 +0.5**
NSS Namsos 70.28 338 *eP* **P** **09 45 16.2 -2.5**
NSS AMb AMB 09 45 20.9
comp=Z,158nm,1.5s,mb5.7
NSS Namsos 70.28 338 *eP* **P** **09 45 16.2 -2.5**
comp=Z,158nm,1.5s,mb5.7
EDM Edmonton 70.34 37 *eP* **P** **09 45 18.7 -0.6**
EDM Edmonton 70.34 37 *eP* **P** **09 45 18.5 -0.8**
SUMG Summit 70.37 359 *eP* **P** **09 45 19.1 0.0**
comp=Z,664nm,1.0s,mb6.5
HSO Harness Mounta 70.51 50 P **P** **09 45 21.9 +1.4**
HSO Harness Mounta 70.51 50 *eP* **P** **09 45 21.3 +0.9**
KBO Bosley Butte 70.53 51 *eP* **P** **09 45 21.5 +0.9**
DPW Davenport 70.93 44 P **P** **09 45 22.9 0.0**

DPW Davenport 70.93 44 *e*P **P** 09 45 23.0 +0.1
HAWA Hanford 71.02 46 *e*P **P** 09 45 23.6 +0.1
comp=Z,111nm,1.3s,mb5.6
HAWA LR LR
comp=Z,6µm,19.0s,MS5.9
IZAR Zarasai 71.06 327 *e*P **P** 09 45 22.4 -1.2
IZAR AMPb AMB 09 45 28.5
comp=Z,68nm,1.1s,mb5.5
HUMO Hull Mountain 71.10 51 *e*P **P** 09 45 24.5 +0.4
comp=Z,244nm,1.5s,mb5.9
HUMO LR LR
comp=Z,5µm,20.0s,MS5.8
KRMB Red Mountain 71.10 52 *e*P **P** 09 45 24.8 +0.7
IDID Didziasalis 71.12 326 *e*P **P** 09 45 23.0 -0.9
IDID AMPb AMB 09 45 28.8
comp=Z,55nm,1.1s,mb5.4
SOC Sochi 71.19 311 *e*P **P** 09 45 25.5 +0.9
SOC *e* 09 45 43.6
SOC *e*S S 09 54 43.0 +4.1
SOC *e*SSS SSS 10 02 11.1 -10
SOC pmax pmax
comp=N,189nm,1.6s
SOC pmax pmax
comp=Z,367nm,1.6s,mb6.1
SOC pmax pmax
comp=E,222nm,1.4s
SOC pmax pmax
comp=Z,1µm,2.1s,mb6.5
SOC pmax pmax
comp=N,846nm,2.5s
SOC pmax pmax
comp=E,448nm,1.6s
SOC MLR MLR
comp=N,19µm,14.0s,MS6.6
SOC MLR MLR
comp=E,16µm,14.0s,MS6.6
SOC MLR MLR
comp=Z,18µm,14.0s,MS6.5
BCA Borcka 71.20 308 *e*P **P** 09 45 24.6 -0.1
ISAL Salakas 71.23 326 *e*P **P** 09 45 23.8 -0.8
ISAL AMPb AMB 09 45 29.5
comp=Z,94nm,1.1s,mb5.6
NEW Newport 71.30 43 P **P** 09 45 25.1 -0.1
comp=Z,117nm,0.8s,mb5.9,baz=310,slow=5.0,SNR=98
NEW Newport 71.30 43 P **P** 09 45 25.2 0.0
NEW pmax pmax
comp=Z,170nm,0.9s
NEW Newport 71.30 43 *e*P **P** 09 45 25.1 -0.1
comp=Z,238nm,1.0s,mb6.1
NEW LR LR
comp=Z,8µm,19.0s,MS6.0
IIGN Ignalina 71.32 326 *e*P **P** 09 45 24.2 -1.0
IIGN AMPb AMB 09 45 30.2
comp=Z,65nm,1.2s,mb5.4
AGRT Agri 71.33 306 *e*P **P** 09 45 27.8 +2.3
TRON Trondheim 71.53 338 *e*P **P** 09 45 26.5 +0.2
KHMM Horse Mountain 71.57 52 *e*P **P** 09 45 27.7 +0.8
SCO Scoresbysund 71.59 353 *i* P **P** 09 45 26.6 0.0
SCO Scoresbysund 71.59 353 *e*P **P** 09 45 26.6 0.0
TVAN Van 71.65 305 *i* P **P** 09 45 28.8 +1.3
YBH Yreka Blue Hor 71.74 51 P **P** 09 45 28.3 +0.4
comp=Z,72nm,1.1s,mb5.5,baz=341,slow=1.1,SNR=53
YBH Yreka Blue Hor 71.74 51 P **P** 09 45 28.9 +1.0
YBH pmax pmax
comp=Z,200nm,1.3s
YBH Yreka Blue Hor 71.74 51 *e*P **P** 09 45 28.7 +0.8
comp=Z,268nm,1.4s,mb6.0
ANN Anapa 71.86 313 *c i*P **P** 09 45 27.5 -1.1
ANN *e**PP pP 09 45 35.4 -0.4
ANN *e* 09 45 47.8
ANN *e*S S 09 54 49.5 +2.9
ANN pmax pmax
comp=Z,492nm,1.6s,mb6.2
ANN pmax pmax
comp=N,104nm,1.4s
ANN pmax pmax
comp=E,102nm,1.4s
ADE Adelaide 71.94 180 *e*P **P** 09 45 28.9 -0.3
HKR Hakkari 71.95 304 *e*P **P** 09 45 30.4 +1.2
LNOR Lincton Mounta 72.03 46 P **P** 09 45 30.3 +0.7
LNOR Lincton Mounta 72.03 46 *e*P **P** 09 45 29.9 +0.3
ERZM Erzurum 72.21 307 *i* P **P** 09 45 31.2 +0.5
EZM Erzurum 72.21 307 P **P** 09 45 32.4 +1.6
WDC Whiskeytown Da 72.49 52 P **P** 09 45 32.5 +0.1
WDC pmax pmax
comp=Z,220nm,1.4s,mb5.9
WDC Whiskeytown Da 72.49 52 *e*P **P** 09 45 32.5 +0.1
comp=Z,217nm,1.4s,mb5.9
VRT Varto 72.54 306 *e*P **P** 09 45 35.2 +2.5
WALA Waterton Lakes 72.55 41 *e*P **P** 09 45 32.7 +0.2
comp=Z,125nm,1.1s,mb5.8
NWAO Narrogin (SRO) 72.77 199 LR LR 10 18 57.2
comp=Z,36nm,18.8s,baz=28,slow=37
NWAO Narrogin (SRO) 72.77 199 P **P** 09 45 32.7 -1.4
NWAO pmax pmax
comp=Z,160nm,1.4s
NWAO Narrogin (SRO) 72.77 199 *e*P **P** 09 45 32.5 -1.7
comp=Z,232nm,1.0s,mb6.1
NWAO LR LR
comp=Z,5µm,20.0s,MS5.8
AKASG Malin Array Be 72.82 321 P **P** 09 45 32.9 -1.2
comp=Z,34nm,0.5s,mb5.6,baz=49,slow=6.2,SNR=125
AKASG LR LR 10 20 16.2
comp=Z,34µm,19.0s,MS6.6,baz=45,slow=38
AKASG Malin Array Be 72.82 321 P **P** 09 45 32.9 -1.1
AKASG pmax pmax
comp=Z,34nm,0.5s
AKASG MLR MLR
comp=Z,34µm,19.0s
DOMB Dombas 73.02 338 ⇑ *i*P **P** 09 45 34.2 -0.8
DOMB AMb AMB 09 45 38.8
comp=Z,279nm,1.5s,mb6.0
DOMB Dombas 73.02 338 *e*P **P** 09 45 34.2 -0.8
comp=Z,279nm,1.5s,mb6.0
HOPS Hopland 73.04 54 *e*P **P** 09 45 35.5 -0.2
comp=Z,53nm,0.9s,mb5.5
HOPS LR LR
comp=Z,9µm,19.0s,MS6.1
MOL Molde 73.06 339 *e*P **P** 09 45 36.7 +1.5
MOL AMb AMB 09 45 49.8
comp=Z,294nm,2.2s,mb5.8
MOL Molde 73.06 339 *e*P **P** 09 45 36.9 +1.7
comp=Z,294nm,2.2s,mb5.8
BTMT Batman 73.09 305 *e*P **P** 09 45 39.0 +3.0
GUMT Gumushane 73.09 308 P **P** 09 45 37.8 +1.9
NB2 NORSAR Subarra 73.12 336 P **P** 09 45 34.7 -0.9
comp=Z,611nm,1.7s,mb6.3,baz=42,slow=5.8
NB2 NORSAR Subarra 73.12 336 P **P** 09 45 34.7 -0.9
baz=42,slow=6.2
NOA NORSAR Array B 73.12 336 P **P** 09 45 34.7 -0.9
comp=Z,75nm,0.9s,mb5.6,baz=40,slow=6.0,SNR=172
NOA PP PP 09 48 17.4 -3.1
comp=Z,30nm,1.1s,baz=43,slow=8.6,SNR=4.9
NOA LR LR 10 20 27.2
comp=Z,16µm,18.2s,MS6.3,baz=45,slow=38
NOA NORSAR Array B 73.12 336 P **P** 09 45 34.7 -0.9
NOA 09 48 17.4
NOA pmax pmax
comp=Z,75nm,0.9s
NOA pmax pmax
comp=Z,30nm,1.1s
NOA MLR MLR
comp=Z,16µm,18.2s
NOA NORSAR Array B 73.12 336 P **P** 09 45 34.7 -0.9
NOA PP PP 09 48 17.4 -3.1
NOA LR LR 10 20 27.2
MOD Modoc 73.12 50 *e*P **P** 09 45 36.6 +0.5
comp=Z,139nm,1.2s,mb5.8
MOD LR LR
comp=Z,5µm,20.0s,MS5.8
EZC Erzincan 73.28 307 *e*P **P** 09 45 41.1 +4.1
BINT Bingol 73.35 306 *e*P **P** 09 45 39.5 +2.0
BEST Besiri 73.40 305 *i* P **P** 09 45 39.4 +1.7
KELT Kelkit 73.41 308 *i* P **P** 09 45 39.5 +1.8
SUW Suwalki 73.54 326 P **P** 09 45 37.2 -1.0
SUW pmax pmax
comp=Z,250nm,1.0s,mb6.1
SUW Suwalki 73.54 326 *e*P **P** 09 45 37.5 -0.7
SUW *e* 09 48 29.8
SUW Suwalki 73.54 326 *e*P **P** 09 45 37.5 -0.7
SUW *e* 09 48 29.8
NSHM Saint Helena R 73.61 54 *e*P **P** 09 45 38.9 0.0
UMR Umm Al-Rimmam 73.62 295 *e*P **P** 09 45 38.7 -0.5
UMR AMb AMB 09 45 42.6
comp=Z,334nm,1.0s,mb6.2

SIM Simferopol' 73.69 314 *e*P **P** 09 45 39.1 -0.2
SIM pmax pmax
comp=Z,190nm,0.9s,mb6.0
KBD Kabd 73.84 294 *e*P **P** 09 45 40.9 +0.4
OHCM Honcut 73.86 53 *e*P **P** 09 45 39.8 -0.6
MSO Missoula 73.89 43 *e*P **P** 09 45 39.4 -0.9
comp=Z,65nm,1.1s,mb5.5
QRN Al-Qurain 73.92 294 *e*P **P** 09 45 40.8 -0.1
DIY Diyarbakir 74.08 306 *e*P **P** 09 45 44.0 +2.4
RDF Al-Radifah 74.09 294 *e*P **P** 09 45 42.6 +0.7
RDF AMb AMB 09 45 46.0
comp=Z,1µm,1.1s,mb6.7
OSL Oslo 74.11 336 *e*P **P** 09 45 40.6 -0.8
OSL AMb AMB 09 45 45.8
comp=Z,236nm,1.4s,mb5.9
OSL Oslo 74.11 336 *e*P **P** 09 45 40.6 -0.8
comp=Z,48nm,1.6s,mb5.2
RST Umm Al-Ruwaisa 74.17 295 *e*P **P** 09 45 42.0 -0.3
RST AMb AMB 09 45 45.1
comp=Z,517nm,1.1s,mb6.4
CHMT Chamberlain Mo 74.21 43 *e*P **P** 09 45 42.0 -0.2
BEKR Beckwourth 74.26 52 *e*P **P** 09 45 43.1 +0.4
comp=Z,116nm,0.8s,mb5.9
SAC San Andreas 74.27 55 P **P** 09 45 43.0 +0.2
SAC San Andreas 74.27 55 *e*P **P** 09 45 42.1 -0.6
LKC Lake Chabot 74.41 54 *e*P **P** 09 45 43.8 +0.2
FFC Flin Flon 74.52 32 P **P** 09 45 43.5 -0.4
FFC pmax pmax
comp=Z,78nm,0.9s,mb5.6
FFC Flin Flon 74.52 32 *e*P **P** 09 45 43.3 -0.6
comp=Z,100nm,0.9s,mb5.7
ELZG Elazig 74.53 307 *i* P **P** 09 45 45.9 +1.6
FOO Floro 74.55 339 *e*P **P** 09 45 43.3 -0.6
FOO AMb AMB 09 45 47.0
comp=Z,193nm,1.6s,mb5.8
FOO Floro 74.55 339 *e*P **P** 09 45 43.3 -0.6
comp=Z,193nm,1.6s,mb5.8
HYA Hoyanger 74.57 338 *e*P **P** 09 45 44.2 +0.2
HYA AMb AMB 09 45 48.9
comp=Z,285nm,1.5s,mb6.0
HYA Hoyanger 74.57 338 *e*P **P** 09 45 44.2 +0.2
comp=Z,285nm,1.5s,mb6.0
HASS Wahat al Ahsa' 74.59 290 P **P** 09 45 44.3 -0.6
FCC Fort Churchill 74.61 26 P **P** 09 45 44.2 -0.1
FCC pmax pmax
comp=Z,240nm,1.1s,mb6.0
FCC Fort Churchill 74.61 26 *e*P **P** 09 45 43.5 -0.8
comp=Z,291nm,1.1s,mb6.1
PAHR Pah Rah Range 74.97 51 *e*P **P** 09 45 44.8 -2.0
comp=Z,54nm,0.7s,mb5.6
WCN Washoe City 74.97 52 P **P** 09 45 47.7 +0.9
WCN pmax pmax
comp=Z,140nm,1.5s,mb5.7
WCN Washoe City 74.97 52 *e*P **P** 09 45 47.6 +0.8
comp=Z,124nm,0.9s,mb5.8
MYA Malataya 74.99 307 *e*P **P** 09 45 49.4 +2.4
MALT Malataya 75.00 307 *e*P **P** 09 45 47.4 +0.4
comp=Z,438nm,1.7s,mb6.1
SVST Sivas 75.07 309 *i* P **P** 09 45 49.3 +1.9
SUE Sulen 75.07 339 *e*P **P** 09 45 46.5 -0.4
SUE AMb AMB 09 45 49.4
comp=Z,192nm,1.7s,mb5.8
SUE Sulen 75.07 339 *e*P **P** 09 45 46.5 -0.4
comp=Z,192nm,1.7s,mb5.8
HRY Holter Researc 75.10 42 *e*P **P** 09 45 47.9 +0.5
CMB Columbia Colle 75.32 53 P **P** 09 45 49.1 +0.3
CMB SKKPdf 10 09 11.2
CMB Columbia Colle 75.32 53 P **P** 09 45 48.9 +0.1
CMB pmax pmax
comp=Z,120nm,0.8s,mb5.9
CMB Columbia Colle 75.32 53 *e*P **P** 09 45 48.9 +0.1
comp=Z,138nm,0.7s,mb6.0
CMB *e*PP PP 09 48 34.8 -4.8
CMB LR LR
comp=Z,9µm,19.0s,MS6.1
KIS Kishinev 75.35 318 ⇑ *i*P **P** 09 45 48.0 -0.8
KIS pmax pmax
comp=Z,700nm,1.4s,mb6.4
KIS MLR MLR
comp=N,32µm,16.0s,MS7.0
KIS MLR MLR
comp=E,47µm,16.0s,MS7.0
KIS MLR MLR
comp=Z,59µm,16.0s,MS7.0
KIS MLR MLR
comp=Z,53µm,16.0s
SAO San Andreas Ge 75.37 55 P **P** 09 45 49.3 +0.1
SAO pmax pmax
comp=Z,45nm,0.8s,mb5.5
SAO San Andreas Ge 75.37 55 *e*P **P** 09 45 49.1 -0.1
comp=Z,54nm,0.8s,mb5.5
SAO LR LR
comp=Z,5µm,19.0s,MS5.8
BYBT Boyabat 75.39 311 *e*P **P** 09 45 51.0 +1.8
ASK Askoy 75.41 338 *e*P **P** 09 45 48.5 -0.4
ASK AMb AMB 09 46 04.1
comp=Z,405nm,1.7s,mb6.1
ASK Askoy 75.41 338 *e*P **P** 09 45 48.5 -0.4
comp=Z,2µm,1.7s,mb6.7
RUND Rundenannen 75.41 338 *e*P **P** 09 45 48.7 -0.2
RUND AMb AMB 09 45 52.2
comp=Z,486nm,2.2s,mb6.0
ODD1 Odda 75.43 337 *e*P **P** 09 45 48.0 -0.9
ODD1 AMb AMB 09 45 50.7
comp=Z,178nm,1.6s,mb5.7
ODD1 Odda 75.43 337 *e*P **P** 09 45 46.8 -2.2
comp=Z,178nm,1.6s,mb5.8
BER Bergen 75.44 338 *e*P **P** 09 45 48.3 -0.7
comp=Z,90nm,1.1s,mb5.6
BZK Bozkurt 75.55 312 *e*P **P** 09 45 50.5 +0.5
EGD Espegrend 75.57 338 *e*P **P** 09 45 49.4 -0.3
EGD AMb AMB 09 45 53.7
comp=Z,379nm,1.3s,mb6.2
EGD Espegrend 75.57 338 *e*P **P** 09 45 49.4 -0.3
comp=Z,2µm,1.5s,mb6.7
HLID Hailey 75.62 46 *e*P **P** 09 45 51.1 +0.7
comp=Z,72nm,0.7s,mb5.7
HLID LR LR
comp=Z,7µm,19.0s,MS6.0
WAR Warsaw 75.69 326 *e*P **P** 09 45 51.2 +0.6
WAR *e*pP pP 09 45 53.0 -4.9
WAR Warsaw 75.69 326 *e*P **P** 09 45 51.2 +0.6
WAR *e*pP pP 09 45 53.0 -4.9
MCMT McKenzie Canyo 75.72 44 *e*P **P** 09 45 50.9 -0.1
LRV Little Rabbit 75.85 55 *e*P **P** 09 45 52.4 +0.5
BMN Battle Mountai 75.87 50 P **P** 09 45 53.0 +1.1
BMN pmax pmax
comp=Z,99nm,0.7s,mb5.8
BMN Battle Mountai 75.87 50 *e*P **P** 09 45 52.9 +1.0
comp=Z,124nm,0.7s,mb6.0
BMN *e*PP PP 09 48 38.1 -5.9
BLS5 Blasjo 75.88 337 *e*P **P** 09 45 52.2 +0.7
BLS5 AMb AMB 09 46 02.7
comp=Z,111nm,1.1s,mb5.7
BLS5 Blasjo 75.88 337 *e*P **P** 09 45 52.2 +0.7
comp=Z,111nm,1.1s,mb5.7
BOZ Bozeman (W) 75.88 43 P **P** 09 45 52.2 +0.4
BOZ pmax pmax
comp=Z,150nm,0.7s,mb6.0
BOZ Bozeman (W) 75.88 43 *e*P **P** 09 45 52.5 +0.6
comp=Z,298nm,1.1s,mb6.1
BOZ *e*PP PP 09 48 37.6 -6.4
BOZ LR LR
comp=Z,8µm,19.0s,MS6.0
CTKT Corum 75.89 310 *i* P **P** 09 45 51.8 -0.3
TOS Tosya 76.10 311 P **P** 09 45 54.6 +1.4
GZT Gaziantep 76.11 306 *i* P **P** 09 45 53.7 +0.4
BALT Daday 76.18 312 *i* P **P** 09 45 53.7 +0.1
DGAR Diego Garcia 76.20 249 *e*P **P** 09 45 52.7 -1.6
comp=Z,301nm,1.0s,mb6.2
BSD Bornholm Skovb 76.21 331 *i* P **P** 09 45 52.5 -1.0
comp=Z,196nm,0.9s,mb6.0
BNN Bunyan 76.31 308 *e*P **P** 09 45 55.7 +1.3
KAHT Ahir Dag 76.39 307 *i* P **P** 09 45 55.6 +0.7
NVAR Mina Array Bea 76.40 52 P **P** 09 45 55.4 +0.5
comp=Z,65nm,0.7s,mb5.7,baz=309,slow=3.4,SNR=184
NVAR PP PP 09 48 42.0 -6.4
comp=Z,8.0nm,0.6s,baz=284,slow=5.5,SNR=3.8
KMY Karmoy 76.42 337 *e*P **P** 09 45 53.9 -0.6
KMY AMb AMB 09 46 04.1
comp=Z,166nm,1.3s,mb5.8
KMY Karmoy 76.42 337 *e*P **P** 09 45 53.9 -0.6
comp=Z,166nm,1.3s,mb5.8
GAZ Gaziantep 76.44 306 *e*P **P** 09 45 57.4 +2.1
OMM Old Mammoth Mi 76.45 53 *e*P **P** 09 45 56.0 +0.8

MNV Mina 76.49 52 P **P** 09 45 56.2 +0.7
MNV pmax pmax
comp=Z,210nm,1.3s,mb5.9
MNV Mina 76.49 52 *e*P **P** 09 45 56.0 +0.6
comp=Z,217nm,1.2s,mb6.0
MNV *e*PP PP 09 48 41.5 -7.6
MNV LR LR
comp=Z,7µm,19.0s,MS6.0
STAV Stavanger 76.50 337 *e*P **P** 09 45 54.6 -0.4
STAV AMb AMB 09 46 03.3
comp=Z,154nm,1.2s,mb5.8
STAV Stavanger 76.50 337 *e*P **P** 09 45 54.6 -0.4
comp=Z,154nm,1.2s,mb5.8
QLMT Earthquake Lak 76.50 44 *e*P **P** 09 45 55.9 +0.5
CANT Cankiri 76.61 311 *e*P **P** 09 45 58.1 +2.1
GKP Gorka Klasztor 76.61 328 *e*P **P** 09 45 56.2 +0.4
GKP *e* 09 48 56.9
GKP Gorka Klasztor 76.61 328 *e*P **P** 09 45 56.2 +0.4
GKP *e* 09 48 56.9
KWP Kalwaria 76.70 323 P **P** 09 45 56.2 -0.2
KWP pmax pmax
comp=Z,360nm,1.0s,mb6.3
KWP Kalwaria 76.70 323 *e*P **P** 09 45 57.7 +1.3
KWP Kalwaria 76.70 323 *e*P **P** 09 45 57.7 +1.3
SAFT Safranbolu 76.77 312 P **P** 09 45 57.0 0.0
ELDT Eldivan 76.79 311 *i* P **P** 09 45 57.2 +0.1
GCMT Greycliff 76.84 42 *e*P **P** 09 45 57.8 +0.6
YMR Madison River 76.86 43 *e*P **P** 09 45 58.3 +0.9
CFR Carcaliu 76.87 317 ⇑ *i*P **P** 09 45 57.8 +0.4
CFR Carcaliu 76.87 317 ⇑ *i*P **P** 09 45 57.8 +0.4
MTUM Tungsten Hills 76.88 53 *e*P **P** 09 45 58.2 +0.5
AVNT Avonos 76.97 309 *i* P **P** 09 45 57.7 -0.3
YNR Norris Junctio 76.99 43 *e*P **P** 09 45 59.6 +1.5
YFT Old Faithful 77.07 44 *e*P **P** 09 46 01.1 +2.6
YEL1 Yell 77.09 341 *e*P **P** 09 45 58.0 -0.3
BRTR Keskin Array B 77.14 310 P **P** 09 45 58.8 -0.2
comp=Z,291nm,1.3s,mb6.0,baz=74,slow=3.2,SNR=99
BRTR PP PP 09 48 48.1 -6.2
comp=Z,17nm,0.9s,baz=90,slow=2.5,SNR=3.9
BRTR Keskin Array B 77.14 310 P **P** 09 45 58.8 -0.2
BRTR 09 48 48.2
BRTR pmax pmax
comp=Z,291nm,1.3s
BRTR pmax pmax
comp=Z,17nm,1.0s
VRI Vrincioaia 77.18 318 ⇓ *i*P **P** 09 45 59.9 +0.8
VRI Vrincioaia 77.18 318 ⇓ *i*P **P** 09 45 59.9 +0.8
BRD Bordesti 77.23 318 ⇑ *i*P **P** 09 46 01.6 +2.2
LKWY Lake 77.24 43 P **P** 09 46 02.6 +3.1
LKWY pmax pmax
comp=Z,420nm,1.4s,mb6.2
LKWY Lake 77.24 43 *e*P **P** 09 46 01.7 +2.3
comp=Z,367nm,1.2s,mb6.2
TPH Tonopah 77.29 52 P **P** 09 46 00.7 +0.8
TPH pmax pmax
comp=Z,370nm,1.3s,mb6.2
TPH Tonopah 77.29 52 *e*P **P** 09 46 00.6 +0.7
comp=Z,216nm,1.0s,mb6.0
TPH *e*PP PP 09 48 46.6 -9.2
TPH LR LR
comp=Z,8µm,19.0s,MS6.0
KAMT Kaman 77.31 310 P **P** 09 46 00.2 +0.3
MUD Monsted U'grnd 77.32 334 *i* P **P** 09 46 01.4 +1.7
comp=Z,135nm,0.9s,mb5.9
KOLS Kolonicke sedl 77.38 323 *i* P **P** 09 46 00.9 +0.7
RYDS Riyadh 77.44 291 P **P** 09 45 59.5 -1.5
COBT Iskenderun 77.45 306 *i* P **P** 09 46 01.8 +1.0
CEYT Ceyhan 77.48 307 *e*P **P** 09 46 03.2 +2.3
NIG Nigde 77.53 308 P **P** 09 46 02.1 +0.9
SGKT Sivrigoynuk 77.56 312 *i* P **P** 09 46 01.3 -0.1
LOD Lodumlu 77.56 311 *e*P **P** 09 46 02.0 +0.7
MOOW Moose Ponds 77.57 44 *e*P **P** 09 46 02.5 +1.1
SAN1 Sandwick 77.59 341 *e*P **P** 09 46 01.6 +0.5
TPAW Teton Pass 77.63 44 *e*P **P** 09 46 02.7 +1.1
OJC Ojcow 77.65 325 *e*P **P** 09 46 01.7 +0.1
OJC Ojcow 77.65 325 *e*P **P** 09 46 01.7 +0.1
HVU Hansel Valley 77.68 47 P **P** 09 46 03.1 +1.2
HVU Hansel Valley 77.68 47 *e*P **P** 09 46 02.9 +1.0
HVU *e*PP PP 09 48 48.5 -11
LOHW Long Hollow 77.74 44 *e*P **P** 09 46 03.3 +1.0
SNOW Snow King Moun 77.75 44 *e*P **P** 09 46 03.4 +1.1
SNOW *e* 09 46 15.9
REDW Red Top Meadow 77.76 44 *e*P **P** 09 46 02.2 -0.2
HTY Hatay 77.77 306 P **P** 09 46 03.5 +1.0
ISR Istrita 77.77 318 ⇓ *i*P **P** 09 46 03.3 +1.0
ISR Istrita 77.77 318 ⇓ *i*P **P** 09 46 03.3 +0.9
CRVS Cervenica-Dubn 77.79 323 *i* P **P** 09 46 02.6 +0.2
PSN Preselentsi 77.81 316 *i* P **P** 09 46 04.7 +2.1
DGMT Dagmar 77.84 37 *e*P **P** 09 46 02.5 -0.2
comp=Z,234nm,0.9s,mb6.1
DGMT LR LR
comp=Z,8µm,21.0s,MS6.0
MLR Muntele Rosu 77.84 319 P **P** 09 46 03.2 +0.4
comp=Z,114nm,1.0s,mb5.7,baz=12,slow=4.0,SNR=49
MLR LR LR 10 23 28.4
comp=Z,28µm,18.3s,MS6.6,baz=39,slow=38
MLR Muntele Rosu 77.84 319 P **P** 09 46 03.2 +0.4
MLR pmax pmax
comp=Z,114nm,1.0s
MLR MLR MLR
comp=Z,28µm,18.3s
NIE Niedzica 77.98 324 *e*P **P** 09 46 03.8 +0.4
AHID Auburn Hatcher 78.01 45 *e*P **P** 09 46 04.3 +0.6
comp=Z,65nm,0.9s,mb5.6
AHID LR LR
comp=Z,7µm,19.0s,MS6.0
LAO LASA Array 78.04 40 *e*P **P** 09 46 04.2 +0.4
comp=Z,402nm,1.1s,mb6.3
LAO *e*PP PP 09 48 49.9 -12
LAO LR LR
comp=Z,11µm,19.0s,MS6.2
BGU Big Grassy Mou 78.07 47 *e*P **P** 09 46 04.8 +0.6
HENT Hendek 78.09 312 *i* P **P** 09 46 03.5 -0.7
MDU Mudurnu 78.13 312 P **P** 09 46 04.7 +0.2
DAC Darwin (Calif) 78.15 53 P **P** 09 46 05.7 +1.0
DAC pmax pmax
comp=Z,190nm,1.4s,mb5.8
DAC Darwin (Calif) 78.15 53 *e*P **P** 09 46 03.3 -1.4
comp=Z,69nm,1.0s,mb5.5
DAC LR LR
comp=Z,5µm,19.0s,MS5.9
SPUT South Promonto 78.17 47 *e*P **P** 09 46 06.2 +1.6
RAC Raciborz 78.48 326 *e*P **P** 09 46 06.5 +0.3
RAC MLR MLR
comp=Z,55µm,15.0s,MS7.0
RAC Raciborz 78.48 326 *e*P **P** 09 46 06.5 +0.3
RAC MLR MLR 10 24 38.2
comp=Z,55µm,15.0s
MTUR Matau 78.48 319 ⇑ *i*P **P** 09 46 08.3 +2.1
MTUR Matau 78.48 319 ⇑ *i*P **P** 09 46 08.3 +2.0
HWUT Hardware Ranch 78.49 46 *e*P **P** 09 46 07.2 +0.8
comp=Z,370nm,1.3s,mb6.2
HWUT *e*PP PP 09 48 47.5 -18
HWUT LR LR
comp=Z,7µm,20.0s,MS6.0
KECS Kecovo 78.55 323 *i* P **P** 09 46 07.0 +0.4
BUC1 Bucharest 78.55 318 ⇓ *i*P **P** 09 46 08.7 +2.0
MZLS Mizel 78.60 291 P **P** 09 46 07.2 -0.2
RUE Ruedersdorf 78.62 329 *e*P **P** 09 46 06.6 -0.3
comp=Z,248nm,1.2s,mb6.0
DUG Dugway 78.66 48 *e*P **P** 09 46 08.2 +0.8
comp=Z,331nm,1.4s,mb6.1
DUG LR LR
comp=Z,7µm,21.0s,MS6.0
OKC Ostrava-Krasne 78.68 325 ⇑ *i*P **P** 09 46 07.0 -0.2
KIZT Kizilcal 78.73 310 P **P** 09 46 09.7 +1.9
KSP Ksiaz 78.77 327 ⇑ *e*P **P** 09 46 07.8 +0.1
KSP *e* pP 09 46 17.0 +2.0
KSP MLR MLR
comp=Z,82µm,14.9s,MS7.2
KSP Ksiaz 78.77 327 ⇑ *e*P **P** 09 46 07.8 +0.1
KSP *e*PP pP 09 46 09.5 -5.5
KSP *e*PcP PcP 09 46 17.0 +0.1
KSP LR LR
comp=Z,82µm,14.9s,MS7.2
KSP Ksiaz 78.77 327 *e*P **P** 09 46 07.9 +0.2
NOQ North Oquirrh 78.78 47 *e*P **P** 09 46 08.7 +0.7
LIKS Likavka 78.80 324 *e*P **P** 09 46 10.1 +2.2
HRT Hereke 78.81 313 *e*P **P** 09 46 09.4 +1.2
BSEG Bad Segeberg 78.86 332 *e*P **P** 09 46 08.0 -0.2
BSEG pmax pmax
comp=Z,340nm,1.5s,mb6.1
BW06 Boulder Array 78.87 44 *e*P **P** 09 46 08.7 +0.3
comp=Z,73nm,0.7s,mb5.7

PDAR Pinedale Array 78.87 44 P **P** 09 46 08.8 +0.3
comp=Z,39nm,0.8s,mb5.4,baz=268,slow=1.6,SNR=137
PDAR PP PP 09 48 54.8 -14
comp=Z,7.9nm,0.8s,baz=284,slow=3.7,SNR=6.5
PDAR PKKPbc 10 05 00.1
comp=Z,1.5nm,0.9s,baz=114,slow=4.6,SNR=7.2
TCUT Toone Canyon 78.89 46 *eP* **P** **09 46 06.7 -1.9**
ESKT Eskisehir 78.94 311 *eP* **P** **09 46 09.9 +0.9**
ESKT Eskisehir 78.94 311 *i P* **P** **09 46 07.9 -1.0**
CTU Camp Tracy 78.97 47 *eP* **P** **09 46 09.8 +0.7**
ARSS Ar Rass 78.97 294 P **P** **09 46 08.5 -0.8**
MORC Moravsky Berou 78.99 326 P **P** **09 46 09.1 +0.1**
MORC pmax pmax
comp=Z,100nm,0.9s,mb5.8
MORC Moravsky Berou 78.99 326 *eP* **P** **09 46 08.8 -0.2**
comp=Z,124nm,0.9s,mb5.8
KONT Konya--Tatoy 79.02 309 P **P** **09 46 09.9 +0.5**
MWC Mount Wilson 79.11 55 P **P** **09 46 10.2 +0.3**
MWC Mount Wilson 79.11 55 *eP* **P** **09 46 10.0 +0.1**
BADT Buyukada 79.11 313 *eP* **P** **09 46 10.6 +0.8**
DPC Dobruska-Polom 79.12 327 *eP* **P** **09 46 09.8 +0.2**
HILS Ha'il 79.13 296 D 09 46 11.3
OHO Hoy 79.14 341 *eP* **P** **09 46 09.0 -0.5**
UPC Upice 79.14 327⇑ *iP* **P** **09 46 09.9 +0.1**
JLU Jordanelle 79.20 47 *eP* **P** **09 46 10.9 +0.6**
PSZ Piszkesteto 79.23 323⇑ *eP* **P** **09 46 10.6 +0.3**
PSZ Piszkesteto 79.23 323 P **P** **09 46 11.8 +1.5**
NLU North Lily Min 79.25 48 *eP* **P** **09 46 11.4 +0.8**
NLU *eP*P PP 09 48 57.4 -15
IKL Isikli 79.26 307 P **P** **09 46 10.1 -0.6**
OBR Brabster 79.30 341 *eP* **P** **09 46 10.8 +0.4**
CTT Catalca 79.32 314 *i P* **P** **09 46 02.0 -8.9**
VYHS Vyhne 79.32 324 *i P* **P** **09 46 11.0 +0.2**
VYHS *eP*P PP 09 49 10.8 -1.7
SZH Strazhica 79.32 317 *i P* **P** **09 46 11.5 +0.6**
DAU Daniels Canyon 79.44 47 P **P** **09 46 13.2 +1.6**
DAU Daniels Canyon 79.44 47 *eP* **P** **09 46 12.5 +0.9**
MPU Maple Canyon 79.47 47 *eP* **P** **09 46 12.7 +0.9**
ULDT Uludag 79.56 313 *i P* **P** **09 46 12.1 -0.1**
MLA1 Latheron 79.62 341⇑ *eP* **P** **09 46 12.0 -0.2**
PVL Pavilkeni 79.68 317 *i P* **P** **09 46 14.0 +1.1**
ALT Altintas 79.68 311 *eP* **P** **09 46 13.4 +0.4**
PVCC Panska Ves 79.75 328⇑ *eP* **P** **09 46 13.1 +0.1**
BRG Berggiesshubel 79.75 328 *i P* **P** **09 46 12.9 -0.2**
BRG *i* pP 09 46 21.5 +1.1
BRG pmax pmax
comp=Z,382nm,1.9s,mb6.0
BRG MLR MLR
comp=N,10μm,12.9s,MS6.8
BRG MLR MLR
comp=E,28μm,12.9s,MS6.8
BRG MLR MLR
comp=Z,40μm,12.9s,MS6.9
BRG Berggiesshubel 79.75 328 *i P* **P** **09 46 12.9 -0.2**
comp=Z,382nm,1.9s,mb6.0
BRG *i* pP 09 46 21.5 +1.1
BRG *e* 09 48 58.8
BRG *e* 10 09 35.9
BRG LR LR
comp=Z,40μm,12.9s,MS6.9
HRI Mount Hermon 79.77 304 P **P** **09 46 14.5 +1.0**
ARUT Antelope Range 79.81 50 P **P** **09 46 14.1 +0.4**
ARUT Antelope Range 79.81 50 *eP* **P** **09 46 14.5 +0.8**
CLL Collm 79.82 329 P **P** **09 46 12.9 -0.5**
comp=Z,logA/T=1.8,mb5.5
CLL *i* 09 46 15.0
CLL *i* *PP pP 09 46 20.1 -0.6
CLL *e* 09 48 59.0
CLL *e*PP PP 09 49 12.0 -4.4
CLL Collm 79.82 329 *i P* **P** **09 46 12.9 -0.5**
CLL *i* pP 09 46 20.1 -0.6
CLL pmax pmax
comp=Z,217nm,1.2s,mb6.0
CLL MLR MLR
comp=Z,36μm,12.7s,MS6.9
CLL Collm 79.82 329 *i P* **P** **09 46 12.9 -0.5**
comp=Z,217nm,1.2s,mb6.0
CLL *i* pP 09 46 20.1 -0.6
CLL LR LR
comp=Z,36μm,12.7s,MS6.9
QURS Qurayyt al Mil 79.85 302 D 09 46 16.3
KSHT Keshet 79.89 304 P **P** **09 46 15.3 +1.1**
BUD Budapest 79.95 323 *eP* **P** **09 46 16.0 +1.8**
SMOL Smolenice 79.96 325 *eP* **P** **09 46 17.5 +3.3**
PKSN Nyarlorinc 79.96 322⇓ *eP* **P** **09 46 16.5 +2.2**
SRO Srobarova 80.05 324 *eP* **P** **09 46 17.0 +2.3**
MVU Marysvale 80.10 49 *eP* **P** **09 46 16.6 +1.4**
comp=Z,168nm,1.4s,mb5.8
MSU Marysvale 80.11 49 P **P** **09 46 16.8 +1.5**
MSU Marysvale 80.11 49 *eP* **P** **09 46 16.7 +1.5**
BNT Bandirma 80.13 314 *eP* **P** **09 46 16.1 +0.8**
PRU Pruhonice 80.16 327⇑ *iP* **P** **09 46 14.9 -0.4**
PRU *PP pP 09 46 22.2 -0.4
PRU pmax pmax
comp=Z,234nm,1.3s,mb6.0
PRU Pruhonice 80.16 327⇑ *iP* **P** **09 46 14.9 -0.4**
comp=Z,234nm,1.3s,mb6.0
PRU pP pP 09 46 22.2 -0.4
MVH1 Achvaich 80.17 341⇑ *eP* **P** **09 46 15.2 0.0**
TMUT Trail Mountain 80.19 48 *eP* **P** **09 46 16.3 +0.7**
PKS7 Kunszentmiklos 80.20 323⇑ *eP* **P** **09 46 16.7 +1.2**
DST Dursunbey 80.20 313 *eP* **P** **09 46 17.6 +1.8**
ISP Isparta 80.22 310 P **P** **09 46 17.3 +1.5**
ISP pmax pmax
comp=Z,69nm,0.9s,mb5.6
ISP Isparta 80.22 310 *eP* **P** **09 46 16.0 +0.2**
comp=Z,85nm,0.9s,mb5.7
MCD Coleburn Disti 80.22 340⇑ *eP* **P** **09 46 15.4 0.0**
HNTI Hanita 80.25 304 P **P** **09 46 16.1 0.0**
CSS Prodhromos 80.28 307 *eP* **P** **09 46 15.1 -1.1**
comp=Z,144nm,0.8s,mb6.0
NEN Nelson 80.29 52 *eP* **P** **09 46 16.7 +0.4**
AFFS 'Afif 80.29 293 P **P** **09 46 16.2 -0.3**
PKSG 80.32 324⇓ *eP* **P** **09 46 16.8 +0.6**
ULM Lac du Bonnet 80.34 32 P **P** **09 46 15.7 -0.5**
comp=Z,34nm,0.8s,mb5.4,baz=318,slow=6.5,SNR=27
ULM PKKPbc 10 04 57.2
comp=Z,1.2nm,0.6s,baz=127,slow=14,SNR=3.5
ULM LR LR 10 26 01.6
comp=Z,10μm,19.3s,MS6.2,baz=333,slow=39
ULM Lac du Bonnet 80.34 32 P **P** **09 46 15.7 -0.5**
ULM PKKPbc 10 04 57.2
ULM LR LR 10 26 01.6
ZST Bratislava 80.34 325 *i P* **P** **09 46 18.1 +1.9**
ZST *eP*P PP 09 49 22.3 +1.4
DIM Dimitrovgrad 80.35 316 P **P** **09 46 18.5 +2.0**
MME1 Meikle Cairn 80.38 340⇑ *eP* **P** **09 46 15.6 -0.7**
SCK Bucak 80.42 310 *eP* **P** **09 46 18.5 +1.6**
KGT Karabiga 80.42 314 *eP* **P** **09 46 18.7 +1.9**
BTOK Tokmak 80.45 313 *i P* **P** **09 46 16.9 -0.2**
CLZ Clausthal 80.47 331 *eP* **P** **09 46 16.8 0.0**
comp=Z,328nm,1.4s,mb6.1
MMLI Mount Malkishu 80.48 304 P **P** **09 46 17.7 +0.3**
KHL Karahalli 80.50 311 *eP* **P** **09 46 19.2 +1.9**
HMDT Nahal Hemdat 80.53 303 P **P** **09 46 17.7 +0.1**
PFO Pinyon Flat Ob 80.53 55 P **P** **09 46 17.0 -0.6**
comp=Z,434nm,0.9s,mb6.4,SNR=72
HAF Haifa 80.54 304 P **P** **09 46 18.4 +0.8**
PKS8 Sarbogard 80.55 323⇓ *eP* **P** **09 46 17.6 +0.2**
MDO Dochfour 80.64 341⇑ *eP* **P** **09 46 16.9 -0.7**
VKA Vienna 80.65 325⇑ *iP* **P** **09 46 19.6 +1.7**
VKA MLRZ 09 48 30.0
comp=Z,33nm,13.0s
OFRI 'Ofer 80.66 304 P **P** **09 46 18.1 -0.2**
KDZ Kurdzhali 80.69 316 *i P* **P** **09 46 18.5 +0.3**
SRU San Rafael 80.71 48 P **P** **09 46 19.1 +0.7**
SRU San Rafael 80.71 48 *eP* **P** **09 46 19.0 +0.6**
PGB Panagyurishte 80.77 317 *i P* **P** **09 46 20.0 +1.4**
PLD Plovdiv 80.77 317 *i P* **P** **09 46 21.0 +2.3**
ALN Alexandroupoli 80.84 315 *eP* **P** **09 46 19.7 +0.7**
SLTI Sal'it 80.86 304 P **P** **09 46 19.4 0.0**
NKC Novy Kostel 80.86 328⇑ *eP* **P** **09 46 18.8 -0.2**
MOX Moxa 80.89 329 *i P* **P** **09 46 18.8 -0.3**
comp=Z,logA/T=2.2,mb5.9
MOX L 10 24 54.0
MOX Moxa 80.89 329 *eP* **P** **09 46 18.8 -0.3**
MOX pmax pmax
comp=Z,253nm,1.6s,mb5.9
MOX MLR MLR
comp=Z,9μm,19.0s,MS6.1
MOX Moxa 80.89 329 *eP* **P** **09 46 18.8 -0.3**
comp=Z,253nm,1.6s,mb5.9
MOX LR LR
comp=Z,9μm,19.0s,MS6.1
RSSD Black Hills 80.92 41 P **P** **09 46 19.5 +0.1**
RSSD pmax pmax
comp=Z,62nm,0.7s,mb5.7
RSSD Black Hills 80.92 41 *eP* **P** **09 46 19.4 0.0**
comp=Z,80nm,0.7s,mb5.8
RSSD LR LR
comp=Z,8μm,21.0s,MS6.0
PKS9 Tamasi 80.95 323⇑ *eP* **P** **09 46 19.7 +0.2**
RDO Rodhopi 80.96 315⇑ *iP* **P** **09 46 20.0 +0.3**
MANT Manisa 80.97 312 *i P* **P** **09 46 18.9 -0.9**
DRGI Dragot 81.03 303 P **P** **09 46 20.3 +0.1**
RZN Rozhen 81.05 316 *i P* **P** **09 46 20.3 +0.2**
WIT Witteveen 81.10 333 *eP* **P** **09 46 21.0 +0.8**
WIT *i* x x 09 46 22.6
comp=Z,471nm,1.4s
SVIS Svilajnac 81.11 320⇑ *iP* **P** **09 46 20.6 +0.1**
BEO Belgrade 81.14 321⇑ *iP* **P** **09 46 20.9 +0.4**
AKS Akhisar 81.16 313 P **P** **09 46 22.7 +1.9**
DENT Denizli 81.17 311 *eP* **P** **09 46 23.3 +2.5**
DNZL Cakiroluk 81.20 311 *i P* **P** **09 46 21.4 +0.4**
KHC Kasperske Hory 81.22 327⇑ *iP* **P** **09 46 20.6 -0.3**
KHC *eP*P pP 09 46 26.5 -1.7
MZDA Masada 81.22 303 P **P** **09 46 21.3 0.0**
HOPOS Hopovo Monaste 81.22 321⇑ *iP* **P** **09 46 21.7 +0.7**
VTS Vitosha 81.25 318 *i P* **P** **09 46 21.7 +0.5**
KAMS Al Khamasin 81.25 289 P **P** **09 46 21.6 0.0**
ELL Elmali 81.29 310 *eP* **P** **09 46 21.4 -0.1**
GEC2 GERESS Array S 81.38 327 *eP* **P** **09 46 21.5 -0.2**
GEC2 pmax pmax
comp=Z,304nm,2.1s,mb5.9
GEC2 GERESS Array S 81.38 327 *eP* **P** **09 46 21.5 -0.2**
comp=Z,304nm,2.1s,mb5.9
GERES GERESS Array B 81.38 327 P **P** **09 46 21.4 -0.3**
comp=Z,22nm,0.6s,mb5.3,baz=36,slow=5.6,SNR=110
GERES PKKPbc 10 04 55.1
comp=Z,0.8nm,0.6s,baz=180,slow=1.3,SNR=5.5
RHK1 Bakonya 81.40 323⇑ *eP* **P** **09 46 21.5 -0.4**
WET Wettzell 81.51 328 *eP* **P** **09 46 22.6 +0.2**
WET pmax pmax
comp=Z,293nm,1.7s,mb5.9
WET Wettzell 81.51 328 *eP* **P** **09 46 22.6 +0.2**
comp=Z,293nm,1.7s,mb5.9
AYVA Ayvalik 81.53 313 *i P* **P** **09 46 23.7 +1.0**
BOZC Bozcaada 81.54 314 *i P* **P** **09 46 23.5 +0.7**
MMB Musomiste 81.66 317 *i P* **P** **09 46 23.5 +0.2**
GRUS Gruza 81.66 320⇓ *iP* **P** **09 46 22.9 -0.4**
WTSB Winterswijk 81.73 332 *eP* **P** **09 46 22.2 -1.2**
WTSB *i* x x 09 46 24.5
comp=Z,74nm,1.3s
ARSA Arzberg 81.76 325⇑ *iP* **P** **09 46 23.8 +0.1**
comp=Z,125nm,1.7s,mb5.6
GRA1 Grafenberg Arr 81.79 329 *eP* **P** **09 46 24.2 +0.4**
comp=Z,755nm,1.5s,mb6.4
GRF Grafenberg Arr 81.79 329 *eP* **P** **09 46 24.2 +0.4**
GRF pmax pmax
comp=Z,755nm,1.5s,mb6.4
KDAG Bornova 81.79 312 *i P* **P** **09 46 22.9 -1.1**
IZM Izmir 81.80 312 P **P** **09 46 25.0 +0.9**
MASH Mash'abbe Sade 81.80 303 P **P** **09 46 24.1 -0.2**
PRK Paraskevi 81.81 314 *eP* **P** **09 46 25.5 +1.3**
ZFRI Zfri 81.81 302 P **P** **09 46 24.4 0.0**
KKB Krupnik 81.82 317 *i P* **P** **09 46 24.7 +0.6**
BARS Barje 81.83 319⇑ *iP* **P** **09 46 28.5 +4.3**
RTMM Retamin 81.83 303 P **P** **09 46 24.2 -0.3**
PCOU Corrie 81.85 340⇑ *eP* **P** **09 46 23.7 -0.3**
KSL Kastellorizon 81.88 310 *eP* **P** **09 46 24.5 -0.1**
MOA Molln 81.88 326⇑ *iP* **P** **09 46 24.4 +0.1**
comp=Z,145nm,1.3s,mb5.8
DIVS Divcibare 81.88 320⇓ *iP* **P** **09 46 24.1 -0.3**
KBRS Khaybar 81.89 296 P **P** **09 46 25.1 +0.3**
RAR Rarotonga 81.98 124 LR LR 10 15 03.4
comp=Z,6μm,21.3s,MS5.9,baz=302,slow=30
LOS Limnos 82.03 315 *eP* **P** **09 46 24.9 -0.4**
DALT Dalyan (Mudla) 82.05 310 *eP* **P** **09 46 28.7 +3.3**
PRNI Paran 82.06 302 P **P** **09 46 25.8 +0.2**
SRS Serrai 82.06 316 *eP* **P** **09 46 24.8 -0.6**
POB1 Observatory 82.06 340 *eP* **P** **09 46 25.1 0.0**
PV10 Paradox Valley 82.07 47 *eP* **P** **09 46 27.0 +1.5**
PHWY Pilot Hill 82.12 43 *eP* **P** **09 46 26.2 +0.5**
KZIT Kziot 82.12 303 P **P** **09 46 25.8 -0.1**
PCA1 Carrot 82.14 340 *eP* **P** **09 46 25.8 +0.3**
ESK Eskdalemuir 82.19 339⇑ *eP* **P** **09 46 24.9 -0.8**
ESK AMb AMb 09 46 28.4
comp=Z,118nm,1.5s,mb5.6
BBH Bruntsheil 82.27 339 *eP* **P** **09 46 26.5 +0.3**
TBKS Tabuk 82.32 300 D 09 46 28.8
JMQS Jabal Moqyreh 82.37 300 P **P** **09 46 27.6 +0.3**
OUR Ouranopolis 82.38 316 *eP* **P** **09 46 25.3 -1.8**
BHH Howats Hill 82.38 339⇑ *eP* **P** **09 46 26.3 -0.5**
SOH Sokhos 82.39 316 *eP* **P** **09 46 27.1 0.0**
BTA Talkin 82.39 339⇑ *eP* **P** **09 46 26.6 -0.2**
KMTI Karmit 82.40 302 P **P** **09 46 27.2 -0.2**
PERS Pernice 82.40 325 *eP* **P** **09 46 27.1 +0.1**
KNT Kendrikon 82.41 317 *eP* **P** **09 46 26.7 -0.5**
AQBJ Aqaba 82.41 302 P **P** **09 46 27.4 -0.1**
NVSS Nova Varos 2 82.45 320⇓ *iP* **P** **09 46 27.5 +0.1**
MBH Mount Berech 82.47 302 P **P** **09 46 27.8 0.0**
PV01 Paradox Valley 82.50 47 *eP* **P** **09 46 28.8 +1.0**
EIL Elat 82.52 302 P **P** **09 46 28.0 0.0**
TATS Tathlith 82.54 289 P **P** **09 46 29.8 +1.5**
BDL Dobcross Hall 82.56 339⇑ *eP* **P** **09 46 27.4 -0.3**
BDRM Kayabasi 82.57 311 *i P* **P** **09 46 28.2 0.0**
SKO Skopje 82.63 318 *i P* **P** **09 46 29.8 +1.5**
comp=Z,0.2nm,1.0s
PLG Polygyros 82.65 316⇑ *iP* **P** **09 46 28.0 -0.5**
ALWS Ilw as Safayha 82.66 301 P **P** **09 46 29.2 +0.4**
BBO1 Bothel 82.70 339⇑ *iP* **P** **09 46 28.4 -0.1**
SIND Sindeldorf 82.72 329 *eP* **P** **09 46 28.1 -0.5**
JMOS Jabal al Moall 82.72 301 P **P** **09 46 29.4 +0.3**
ARG Arkhangelos 82.72 310 *eP* **P** **09 46 29.0 0.0**
PLE Pljevlja 82.73 320⇓ *iP* **P** **09 46 28.1 -0.7**
THE Thessaloniki 82.73 316 *eP* **P** **09 46 25.5 -3.4**
OBKA Obir 82.75 325⇑ *iP* **P** **09 46 28.5 -0.4**
comp=Z,99nm,1.9s,mb5.5
IVA Berane 82.80 320⇓ *iP* **P** **09 46 28.0 -1.2**
GMK Mull of Kintyr 82.81 340⇑ *eP* **P** **09 46 29.4 +0.4**
GRG Griva 82.82 317 *eP* **P** **09 46 28.6 -0.7**
PAIG Paliouri 82.82 315 *eP* **P** **09 46 28.6 -0.8**
TOD Tromm 82.84 330 *eP* **P** **09 46 29.1 -0.2**
TOD Tromm 82.84 330 *eP* **P** **09 46 28.8 -0.5**
KBA Koelnbreinsper 82.87 326⇑ *iP* **P** **09 46 29.4 -0.1**
comp=Z,189nm,1.2s,mb6.0
HAQS Haql 82.92 301 P **P** **09 46 30.3 +0.2**
LMK Market Rasen 82.93 337 *eP* **P** **09 46 30.1 +0.5**
FUR Furstenfeldbru 82.94 328 *eP* **P** **09 46 29.9 +0.1**
FUR pmax pmax
comp=Z,368nm,1.2s,mb6.3
FUR Furstenfeldbru 82.94 328 *eP* **P** **09 46 29.9 +0.1**
comp=Z,368nm,1.2s,mb6.3
PVY Plav 82.96 319⇓ *iP* **P** **09 46 29.2 -0.8**
SWS Schriesheim 82.97 330 *eP* **P** **09 46 29.7 -0.3**
GAL1 Galloway 83.00 340⇑ *iP* **P** **09 46 29.5 -0.5**
HGN Heimansgroeve 83.02 332⇑ *eP* **P** **09 46 29.5 -0.7**
HGN *i* x x 09 46 31.2
comp=Z,72nm,1.2s
ISCO Idaho Springs 83.06 44 P **P** **09 46 31.9 +1.2**
ISCO pmax pmax
comp=Z,120nm,1.3s,mb5.8
ISCO Idaho Springs 83.06 44 *eP* **P** **09 46 31.6 +1.0**
comp=Z,204nm,1.4s,mb6.0
ISCO LR LR
comp=Z,8μm,19.0s,MS6.1
HDH Heidenheim 83.07 329 *eP* **P** **09 46 30.0 -0.5**
UPM Unac-Piva 83.07 320⇓ *iP* **P** **09 46 29.9 -0.7**
LJU Ljubljana 83.11 325 *eP* **P** **09 46 31.5 +0.7**
ABH Alteburg 83.11 331 *eP* **P** **09 46 30.4 -0.3**
ABH Alteburg 83.11 331 *eP* **P** **09 46 30.2 -0.5**
VISS Visnje 83.15 324 *eP* **P** **09 46 30.3 -0.7**
BOJS Bojanci 83.18 324 *eP* **P** **09 46 30.5 -0.7**
BDAS Al Bad' 83.19 301 P **P** **09 46 31.5 0.0**
GCL Cushendall 83.20 341⇑ *eP* **P** **09 46 30.9 -0.1**
AOS Alonnisos 83.23 315 *eP* **P** **09 46 31.2 -0.3**
TAYS Tayyib Ism 83.27 301 P **P** **09 46 31.4 -0.5**
NKY Niksic 83.31 320⇓ *iP* **P** **09 46 30.9 -0.9**
LHO Holmfirth 83.33 338⇑ *eP* **P** **09 46 31.3 -0.4**
STU Stuttgart 83.34 329 P **P** **09 46 31.8 -0.1**
STU pmax pmax
comp=Z,170nm,0.9s,mb6.1
STU Stuttgart 83.34 329 *eP* **P** **09 46 31.6 -0.2**
comp=Z,279nm,0.9s,mb6.3
KTD Kalmit 83.35 330 *eP* **P** **09 46 31.5 -0.4**
KTD Kalmit 83.35 330 *eP* **P** **09 46 32.3 +0.4**
LIT Litokhoron 83.36 316 *eP* **P** **09 46 30.9 -1.3**
PTCC Patocco-Chiusa 83.38 325 *eP* **P** **09 46 31.0 -1.1**
KSY Syston 83.43 337⇑ *eP* **P** **09 46 31.5 -0.7**
TTG Podgorica 83.45 320⇓ *iP* **P** **09 46 31.4 -1.2**
RUP Ruppelstein 83.45 331 *eP* **P** **09 46 32.1 -0.3**
RUP Ruppelstein 83.45 331 *eP* **P** **09 46 32.0 -0.4**
WATA Walderalm 83.45 327⇓ *iP* **P** **09 46 32.9 +0.4**
comp=Z,322nm,2.0s,mb6.0
BRY Bratogost 83.47 320⇓ *iP* **P** **09 46 32.0 -0.7**
KBI1 Birley Grange 83.48 337⇑ *eP* **P** **09 46 31.9 -0.5**
WTTA Wattenberg 83.48 327⇑ *iP* **P** **09 46 32.7 +0.1**
comp=Z,90nm,1.2s,mb5.7
XOR Xorichti 83.48 315 *eP* **P** **09 46 30.3 -2.5**
FVI Forni Avoltri 83.49 326 *eP* **P** **09 46 32.3 -0.4**
FNA Florina 83.50 317 *eP* **P** **09 46 32.6 -0.2**
NEO Neokhori 83.51 315 *eP* **P** **09 46 34.0 +1.1**
BUCH Bad Urach 83.53 329 *eP* **P** **09 46 32.1 -0.7**
GMNA Gemona 83.53 325 *eP* **P** **09 46 32.3 -0.5**
LBG Lerchenberg 83.58 329 *eP* **P** **09 46 33.1 0.0**
DJNS Zahran al Janu 83.59 287 P **P** **09 46 35.8 +2.0**
KZN Kozani 83.61 317 *eP* **P** **09 46 33.8 +0.4**
UMJS Umm Lajj 83.62 297 P **P** **09 46 34.4 +0.6**
WIM Isle of Man 83.62 339 *eP* **P** **09 46 33.0 -0.1**
WIM AMb AMb 09 46 36.0
comp=Z,204nm,1.1s,mb6.2
MOTA Moosalm 83.65 327⇑ *iP* **P** **09 46 33.2 -0.2**
comp=Z,147nm,1.4s,mb5.9
YNBS Yanbu' al Bahr 83.69 296 P **P** **09 46 34.7 +0.5**
SQTA Sankt Quirin 83.70 327⇑ *iP* **P** **09 46 33.6 -0.1**
comp=Z,201nm,1.6s,mb6.0
TRI Trieste 83.72 325 *eP* **P** **09 46 32.7 -1.1**
NAMS An Nimas 83.72 289 P **P** **09 46 35.1 +0.7**
BUM Brajici-Budva 83.72 320⇓ *iP* **P** **09 46 32.9 -1.0**
LANF Langenberg 83.73 330 *eP* **P** **09 46 33.7 -0.1**
BLJS Baljurashi 83.75 290 P **P** **09 46 35.2 +0.7**
KARP Karpathos 83.75 310 *eP* **P** **09 46 35.0 +0.8**
QSH Qafa e Shtames 83.76 319 *i p* **P** **09 46 35.0 +0.9**
KWE Weaver Farm 83.78 337⇑ *eP* **P** **09 46 34.1 +0.2**
ULC Ulcinj 83.78 319⇓ *iP* **P** **09 46 33.4 -0.9**
UBR Uberruh 83.81 328 *eP* **P** **09 46 33.8 -0.4**
HCY Herceg Novi 83.83 320⇓ *iP* **P** **09 46 33.9 -0.6**
WLF Walferdange 83.83 331 P **P** **09 46 34.6 +0.3**
WLF pmax pmax
comp=Z,260nm,1.4s,mb6.2
WLF Walferdange 83.83 331 *eP* **P** **09 46 34.0 -0.3**
comp=Z,180nm,1.2s,mb6.1
GMM Mts of Mourne 83.89 340⇑ *iP* **P** **09 46 34.1 -0.3**
TIR Tirane 83.90 319 *ep* **P** **09 46 35.7 +0.8**
GUT Gutenstein 83.92 329 *eP* **P** **09 46 34.2 -0.6**
EYMN Ely 83.95 31 *eP* **P** **09 46 34.9 0.0**
comp=Z,174nm,0.7s,mb6.3
GIVF Givet 83.97 332 *eP* **P** **09 46 34.3 -0.7**
comp=Z,101nm,0.8s,mb5.7
MPAR Parnis Oros 84.01 314 *eP* **P** **09 46 34.0 -1.5**
SPAK Spaichingen 84.03 329 *eP* **P** **09 46 35.2 -0.1**
SPAK Spaichingen 84.03 329 *eP* **P** **09 46 35.1 -0.2**
BFO Black Forest 84.04 329 *eP* **P** **09 46 35.1 -0.3**
BFO pmax pmax
comp=Z,321nm,1.2s,mb6.3
BFO Black Forest 84.04 329 *eP* **P** **09 46 35.1 -0.3**
comp=Z,321nm,1.2s,mb6.3
ATH Athens Observa 84.14 314 *eP* **P** **09 46 33.0 -3.2**
WME Myndd Eilian 84.18 339⇑ *eP* **P** **09 46 36.1 +0.1**
WME AMb AMb 09 46 39.4
comp=Z,214nm,1.6s,mb6.0
WPM1 Penmaenmawr 84.19 339 *eP* **P** **09 46 36.7 +0.8**
WPM1 AMb AMb 09 46 39.7
comp=Z,259nm,1.7s,mb6.1
AGG Agios Georgios 84.20 316 *eP* **P** **09 46 34.3 -2.2**
DAVA Damuels 84.22 328⇑ *iP* **P** **09 46 36.3 0.0**
comp=Z,271nm,1.0s,mb6.3
SANT Santorini 84.22 312 *eP* **P** **09 46 36.1 -0.5**
comp=Z,629nm,1.4s,mb6.5
THR1 Thera Island 84.22 312 *eP* **P** **09 46 34.9 -1.7**
BAIF Baives 84.23 333 *eP* **P** **09 46 35.6 -0.7**
comp=Z,84nm,0.9s,mb5.5
MEV Metsovon 84.28 317 *eP* **P** **09 46 36.1 -0.6**
WLF1 Llynfaes 84.30 339⇑ *eP* **P** **09 46 36.8 +0.2**
WLF1 AMb AMb 09 46 41.0
comp=Z,234nm,1.5s,mb6.1
SBD Saint Breward 84.30 338⇑ *eP* **P** **09 46 36.6 0.0**
NSAL Nisos Salamina 84.34 314 *eP* **P** **09 46 36.0 -1.1**
YLL Llanberis 84.36 339⇑ *eP* **P** **09 46 36.6 -0.2**
YLL AMb AMb 09 46 45.5
comp=Z,296nm,1.2s,mb6.3
WLS Welschbruch 84.37 330 *eP* **P** **09 46 36.7 -0.3**
CDF Champ du Feu 84.40 330 *eP* **P** **09 46 37.1 -0.1**
comp=Z,441nm,1.1s,mb6.2
LTHS Al Lith 84.40 291 P **P** **09 46 39.3 +1.5**
CTI Castel Tesino 84.41 326 *eP* **P** **09 46 36.6 -0.7**
NAIG Nisos Aigina 84.42 314 *eP* **P** **09 46 37.0 -0.6**
LIBD Limburg 84.48 330 *eP* **P** **09 46 37.5 -0.1**
LIBD Limburg 84.48 330 *eP* **P** **09 46 37.4 -0.2**
KIZ Kirchzarten 84.50 329 *eP* **P** **09 46 37.0 -0.7**
FELD Feldberg 84.53 329 *eP* **P** **09 46 37.4 -0.5**
SDCO Great Sand Dun 84.54 46 *eP* **P** **09 46 38.9 +0.7**
comp=Z,195nm,1.4s,mb6.0
SDCO LR LR
comp=Z,8μm,21.0s,MS6.1
EVR Evrytania 84.57 316 *eP* **P** **09 46 36.8 -1.5**
JAN Janina 84.57 317 *eP* **P** **09 46 40.0 +1.7**
YRE Yr Eifl 84.58 339⇑ *eP* **P** **09 46 38.1 +0.2**
YRE AMb AMb 09 46 42.5
comp=Z,355nm,1.6s,mb6.2
ECH Echery 84.60 330 *eP* **P** **09 46 37.7 -0.5**
DAVOX Davos 84.61 328 P **P** **09 46 38.4 +0.1**
comp=Z,45nm,0.6s,mb5.8,baz=24,slow=1.6,SNR=45
BRMO Bormio 84.64 327 *eP* **P** **09 46 38.7 +0.2**
HAE Alders End 84.84 337 *eP* **P** **09 46 39.2 -0.1**
HAE AMb AMb 09 46 42.8
comp=Z,368nm,1.8s,mb6.2
NPS Neapolis 84.88 311 *eP* **P** **09 46 39.5 -0.4**
DLF Lyons Farm 84.89 340 *eP* **P** **09 46 39.6 +0.1**
DSB Dublin 84.89 340 *eP* **P** **09 46 39.2 -0.3**
comp=Z,141nm,1.1s,mb6.0
MOF Molkenrain 84.91 330 *eP* **P** **09 46 39.1 -0.6**
IGT Igoumenitsa 84.94 317 *eP* **P** **09 46 38.8 -1.3**
MCH1 Michaelchurch 85.02 337⇑ *eP* **P** **09 46 40.6 +0.4**
TUC Tucson 85.02 53 PFAKE 09 46 50.0 +9.3
TUC LR LR
comp=Z,5μm,19.0s,MS5.9
HTR Trewern Hill 85.03 338 *eP* **P** **09 46 40.7 +0.5**
HINF Hinteralfeld 85.05 330 *eP* **P** **09 46 39.7 -0.7**
comp=Z,177nm,1.0s,mb5.8
DCN Croghan 85.05 340 *eP* **P** **09 46 40.7 +0.4**
THEF They Montfort 85.06 331 *eP* **P** **09 46 40.0 -0.5**
BBS Basel-Blauen 85.06 329 *eP* **P** **09 46 40.1 -0.4**
BBS Basel-Blauen 85.06 329 *eP* **P** **09 46 40.2 -0.3**
HAU Haudompre 85.09 330 *eP* **P** **09 46 40.1 -0.5**
comp=Z,151nm,0.7s,mb6.0
HAU *eR*
comp=Z,10μm,18.8s
KEK Kerkira 85.11 317 *eP* **P** **09 46 40.5 -0.4**
MEZF Maizieres J'vi 85.20 331 *eP* **P** **09 46 41.0 -0.1**
comp=Z,220nm,0.8s,mb6.0
SAL Salo 85.25 326 *eP* **P** **09 46 41.4 -0.1**
FRSS Farasan al Kab 85.26 287 P **P** **09 46 43.9 +1.8**
HGH Gray Hill 85.27 337⇑ *eP* **P** **09 46 41.0 -0.4**
HGH AMb AMb 09 46 56.0
comp=Z,234nm,1.1s,mb6.2
LKD Levkas 85.36 316 *eP* **P** **09 46 40.5 -1.7**
LOMF Lomont 85.43 330 *eP* **P** **09 46 41.9 -0.4**
VLI Veliai 85.46 314 *eP* **P** **09 46 43.0 +0.2**
LCI Lecce 85.56 319 *eP* **P** **09 46 43.4 +0.2**
SCHQ Schefferville 85.58 15 P **P** **09 46 43.4 +0.5**
comp=Z,45nm,0.8s,mb5.8,baz=358,slow=5.7,SNR=50
SCHQ PKKPbc 10 04 44.8
comp=Z,3.8nm,0.7s,baz=164,slow=3.5,SNR=4.5
SCHQ LR LR 10 27 23.9
comp=Z,9μm,19.6s,MS6.2,baz=232,slow=37
HSA Swansea 85.58 338 *eP* **P** **09 46 42.9 -0.1**
HPE Pembroke 85.60 338⇑ *eP* **P** **09 46 42.4 -0.7**
VAM Vamos 85.62 312 *eP* **P** **09 46 44.0 +0.4**
FGMS Monte Sant'Ang 85.66 321 *eP* **P** **09 46 43.1 -0.5**
RSM Repubblica di 85.68 324 *eP* **P** **09 46 44.4 +0.7**
FSSB Fossombrone 85.70 324 *eP* **P** **09 46 43.8 0.0**
KYTH Kithira 85.71 313 *eP* **P** **09 46 43.0 -1.0**
ITM Ithomi 85.72 314 *eP* **P** **09 46 43.0 -1.0**
VLS Valsamata 85.77 316 *eP* **P** **09 46 40.0 -4.3**
ARV Arcevia 85.78 324 *eP* **P** **09 46 44.0 -0.1**
RPZ Rata Peaks 85.79 157 LR LR 10 18 58.3
comp=Z,13μm,21.6s,MS6.3,baz=322,slow=31

VAI Varese 85.81 328 eP P 09 46 43.4 -0.9
RGNG Rignano Grg 85.86 321 eP P 09 46 44.5 -0.1
ANMO Albuquerque 85.91 48 eP P 09 46 46.1 +1.1
ANMO Albuquerque 85.91 48 PFAKE 09 47 00.0 +15
ANMO LR LR
comp=Z,6μm,19.0s,MS6.0
SFI Santa Sofia 85.97 325 eP P 09 46 45.9 +0.7
ZCCA Zocca 86.03 325 eP P 09 46 47.2 +1.8
PGD Poggio Sodo 86.06 325 eP P 09 46 46.4 +0.9
MCGN Macugnaga 86.07 328 eP P 09 46 45.6 0.0
VMG Vicchio 86.07 325 eP P 09 46 46.7 +1.1
HEX Exmoor 86.08 337⇓eP P 09 46 45.2 -0.3
GVD Gavdhos 86.08 312 eP P 09 46 45.4 -0.5
comp=Z,395nm,1.0s,mb6.6
GVD e 09 46 57.2
SEI Scarperia 86.08 325 eP P 09 46 47.0 +1.3
PMOR Pomariorio Ree 86.15 112 eP P 09 46 47.8 +1.2
comp=Z,62nm,1.0s,mb5.8
NRCA Norcia 86.20 323 eP P 09 46 46.4 +0.1
GSCL Gusciola 86.20 326 eP P 09 46 46.7 +0.5
ERBM Eremo 86.23 326 eP P 09 46 46.9 +0.5
CABF La Chapelle 86.33 330 eP P 09 46 46.2 -0.6
comp=Z,69nm,0.8s,mb5.6
GRAM 86.33 326 P P 09 46 46.8 -0.1
ORX Oropa 86.33 328 P P 09 46 46.1 -0.7
BNM Barren Site 86.35 49 eP P 09 46 48.1 +0.8
VALM 86.36 326 P P 09 46 47.0 0.0
BOB Bobbio (Coli) 86.38 327 eP P 09 46 45.4 -1.8
SARO Sassorosso 86.42 326 P P 09 46 47.3 0.0
BDI Bagni Di Lucca 86.42 325 eP P 09 46 46.9 -0.5
AQU L'Aquila 86.43 323 P P 09 46 48.0 +0.6
AQU pmax pmax
comp=Z,160nm,1.0s,mb6.2
AQU L'Aquila 86.43 323 eP P 09 46 47.9 +0.5
VLC Villacollemand 86.44 326 eP P 09 46 47.7 +0.2
comp=Z,87nm,0.9s,mb6.0
CII Carovilli 86.47 322 eP P 09 46 48.2 +0.6
BACM 86.49 326 P P 09 46 47.9 +0.2
CODM 86.50 326 P P 09 46 47.2 -0.6
TRAV 86.53 328 P P 09 46 46.9 -1.0
CPI2 Carpinone 86.56 322 eP P 09 46 48.8 +0.7
VINC Vinca 86.56 326 P P 09 46 46.8 -1.2
CSNT Castellina Chi 86.56 325 eP P 09 46 46.9 -1.1
MAIM 86.59 325 P P 09 46 46.8 -1.4
MRLC Muro Lucano 86.60 321 eP P 09 46 48.1 -0.2
ORI Oriolo Calabro 86.62 320 eP P 09 46 49.1 +0.7
LOR Lormes 86.67 331 eP P 09 46 47.8 -0.7
comp=Z,135nm,0.7s,mb6.0
LOR eR
comp=Z,20μm,17.5s
PTQR Pietraquaria 86.68 323 eP P 09 46 48.5 -0.2
SDI San Donato 86.72 322 eP P 09 46 48.2 -0.7
PII Pisa 86.72 325 eP P 09 46 47.4 -1.4
TIAR Tiarei 86.73 115 eP P 09 46 50.7 +1.2
comp=Z,106nm,0.9s,mb6.1
MNS Montasola 86.75 323 eP P 09 46 48.0 -1.0
CSSN Cassano Irpino 86.75 321 eP P 09 46 49.1 +0.1
SLCN Sala Consilina 86.80 320 eP P 09 46 50.1 +0.8
LSD Ceresole Reale 86.82 328 P P 09 46 49.7 +0.5
SGO Sicignano 86.84 321 eP P 09 46 49.2 -0.3
RFI Roccamonfina 86.94 322 eP P 09 46 50.5 +0.6
LPL La Plagne 86.95 329 eP P 09 46 49.6 -0.3
comp=Z,36nm,0.6s,mb5.5
TVO Taravao 86.95 115 eP P 09 46 52.1 +1.6
comp=Z,85nm,0.8s,mb6.0
LPG La Plagne 86.95 329 eP P 09 46 49.5 -0.4
comp=Z,46nm,0.5s,mb5.7
PCP Pian Castagno 86.96 327 P P 09 46 48.8 -1.1
GRFL Gerfalco 86.96 325 eP P 09 46 48.9 -1.1
SSF Saint Saulge 86.97 331 eP P 09 46 49.3 -0.7
comp=Z,168nm,0.8s,mb6.0
TDS Terranova Siba 86.98 319 eP P 09 46 50.1 0.0
FLN La Foliniere 86.99 334 eP P 09 46 49.2 -0.8
comp=Z,123nm,0.7s,mb6.0
FLN eR
comp=Z,16μm,17.8s
LDF La Druitiere 87.01 334 eP P 09 46 49.3 -0.8
comp=Z,169nm,0.7s,mb6.1
RSP Reno Superiore 87.02 328 P P 09 46 49.1 -1.2
MGR Morigerati 87.03 320 eP P 09 46 49.1 -1.3
CSA1 St Austell 87.03 338 eP P 09 46 49.7 -0.5
JLP Les Platons 87.12 336⇑eP P 09 46 50.0 -0.7
HYF Humbligny 87.13 332 eP P 09 46 50.6 -0.1
JQE Queens East 87.14 336 eP P 09 46 50.3 -0.5
JRS Jersey 87.16 336⇑eP P 09 46 50.9 +0.1
JVM Valle D.L. Mar 87.18 336 eP P 09 46 51.1 +0.2
SMF Signal de Mont 87.19 331 eP P 09 46 50.2 -0.8
comp=Z,101nm,0.8s,mb5.8
FENE Fenestrelle 87.20 328 P P 09 46 50.8 -0.3
BHB Bricherasio 87.27 328 P P 09 46 49.3 -2.1
CCA1 Carmmenellis 87.28 338⇑eP P 09 46 51.6 +0.2
BNI Bardonecchia 87.34 328 P P 09 46 52.2 +0.4
BNI pmax pmax
comp=Z,170nm,1.7s,mb6.0
BNI Bardonecchia 87.34 328 eP P 09 46 51.6 -0.2
comp=Z,30nm,0.7s,mb5.6
CGW Gweek 87.36 338⇑eP P 09 46 52.0 +0.2
FIN Finale Ligure 87.37 327 eP P 09 46 51.1 -0.8
RRL Cesana Torines 87.41 328 P P 09 46 51.8 -0.3
CPZ Penzance 87.42 338 eP P 09 46 51.3 -0.7
CPZ AMb AMB 09 47 00.9
comp=Z,346nm,2.5s,mb6.1
OG22 Abries 87.42 328 eP P 09 46 51.9 -0.3
GRR Gorron 87.44 334 eP P 09 46 51.6 -0.6
comp=Z,115nm,0.6s,mb6.0
ROB Roburent 87.44 327 P P 09 46 50.7 -1.6
RORO 87.51 327 P P 09 46 51.2 -1.4
GRI Girifalco 87.55 319 eP P 09 46 53.5 +0.6
MBDF Montbardon 87.57 328 eP P 09 46 51.8 -1.1
comp=Z,43nm,0.7s,mb5.5
PZZ Prazzo 87.61 328 P P 09 46 51.3 -1.8
BGF Bois d'Agland 87.64 331 eP P 09 46 52.7 -0.5
MONE Monesi 87.67 327 P P 09 46 53.3 0.0
ENR Entracque 87.69 327 P P 09 46 52.0 -1.5
STV2 Anna di Valdie 87.72 327 P P 09 46 51.6 -2.0
STV Sta Anna Valdi 87.72 327 P P 09 46 51.2 -2.4
IMI Imperia 87.74 327 eP P 09 46 53.3 -0.5
ORIF Oris-en-Rattie 87.79 329 eP P 09 46 53.2 -0.7
comp=Z,45nm,0.7s,mb5.5
ORIF eR
comp=Z,17μm,18.2s
SAOF Saorge 87.83 327 eP P 09 46 53.7 -0.5
MEH Mehetia 87.87 114 eP P 09 46 56.3 +1.4
comp=Z,48nm,1.1s,mb5.6
NEGI Negi 87.88 327 P P 09 46 53.2 -1.2
AUTN L'Aution 87.88 327 eP P 09 46 54.0 -0.4
TOUF Mont Tournerai 87.94 327 eP P 09 46 54.9 +0.2
AGO Saint Agoulin 87.96 331 eP P 09 46 55.6 +0.9
SBF Sospel 87.98 327 eP P 09 46 53.4 -1.5
comp=Z,114nm,0.7s,mb5.9
AURF Auriere 88.01 327 eP P 09 46 54.6 -0.4
MVIF Mont Vial 88.07 327 eP P 09 46 54.0 -1.3
REVF Revere 88.11 327 eP P 09 46 55.0 -0.5
TCF Toulx Ste Croi 88.11 332 eP P 09 46 55.0 -0.4
comp=Z,139nm,1.1s,mb5.8
SGMF Saint Gilles 88.13 335 eP P 09 46 55.4 -0.1
COLF Collangettes 88.18 330 eP P 09 46 56.0 +0.2
PYM Petit Puy Mans 88.25 331 eP P 09 46 56.3 +0.2
ROSF Rostrenen 88.30 336 eP P 09 46 56.3 0.0
comp=Z,251nm,0.9s,mb6.1
SOI Samo 88.30 318 eP P 09 46 56.2 -0.4
OG26 St.-Nazaire-De 88.30 329 eP P 09 46 56.6 +0.2
OCF Saint Nazaire 88.30 329 eP P 09 46 56.6 +0.2
VIVF Saint-Julien-l 88.33 329 eP P 09 46 55.7 -0.8
comp=Z,61nm,0.7s,mb5.6
PGF Pioggiola 88.33 325 eP P 09 46 55.5 -1.1
comp=Z,64nm,0.9s,mb5.6
SCLL Scilla 88.34 319 eP P 09 46 55.3 -1.4
JFWS Jewell Farm 88.47 34 P P 09 46 57.5 +0.2
JFWS pmax pmax
comp=Z,110nm,1.0s,mb6.0
JFWS Jewell Farm 88.47 34 eP P 09 46 56.2 -1.0
comp=Z,78nm,0.8s,mb6.0
STOF St-Etienne Org 88.52 328 eP P 09 46 57.5 0.0
MTTG Motta San Giov 88.54 319 eP P 09 46 57.5 -0.2
FRF La Foret Royal 88.56 327 eP P 09 46 56.3 -1.4
comp=Z,51nm,0.8s,mb5.6
LBL Lubilhac 88.59 330 eP P 09 46 59.6 +1.8
QUIF Quistinic 88.63 336 eP P 09 46 57.4 -0.5
comp=Z,64nm,0.8s,mb5.7
SMRF Simiane la Rot 88.68 328 eP P 09 46 57.4 -0.8
comp=Z,40nm,0.9s,mb5.5
MFF Saint Martin d 88.72 333 eP P 09 46 58.1 -0.2
comp=Z,451nm,1.4s,mb6.3
VILF Villemus 88.72 328 eP P 09 46 59.1 +0.7
FRNF Fournols 88.73 331 eP P 09 46 58.9 +0.5
AMTX Amarillo 88.74 46 eP P 09 46 59.1 +0.4
comp=Z,73nm,0.8s,mb6.1
TAVF Tavernes 88.77 328 eP P 09 46 57.9 -0.8
LMR La Mourre 88.80 327 eP P 09 46 57.6 -1.2
comp=Z,58nm,0.8s,mb5.7
PUYF Puyloubier 88.99 328 eP P 09 46 59.6 -0.1
PRAF Pradon 88.99 328 eP P 09 46 57.5 -2.2
TREF Trevaresse 89.05 328 eP P 09 47 00.3 +0.3
BERF Bertagne 89.17 328 eP P 09 46 58.2 -2.4
RJF Les Rejaudoux 89.20 331 eP P 09 47 00.3 -0.4
comp=Z,126nm,1.1s,mb5.9
RJF eR
comp=Z,19μm,18.5s
GELF Grande-Etoile 89.22 328 eP P 09 46 59.6 -1.2
LASF Ste Croix 89.31 329 eP P 09 47 00.7 -0.5
comp=Z,44nm,1.0s,mb5.5
CAF Calviac 89.31 331 eP P 09 47 01.2 0.0
comp=Z,61nm,0.9s,mb5.7
USI Ustica 89.31 321 eP P 09 47 00.4 -1.0
VAE Valguarnera 89.61 319 P P 09 47 04.8 +2.0
comp=Z,20nm,0.4s,mb5.8,baz=0.9,slow=2.4,SNR=3.5
MEU Monte Lauro 89.62 318 eP P 09 47 04.0 +1.2
LFF La Frestale 89.81 332 eP P 09 47 03.4 -0.1
comp=Z,95nm,0.9s,mb5.8
LVI Isola Levanzo 90.29 321 eP P 09 47 06.5 +0.6
WMOK Wichita Mounta 90.48 44 P P 09 46 59.2 -7.7
WMOK pmax pmax
comp=Z,390nm,1.3s,mb6.6
WMOK Wichita Mounta 90.48 44 eP P 09 47 06.7 -0.2
comp=Z,42nm,0.8s,mb5.8
WMOK LR LR
comp=Z,7μm,20.0s,MS6.1
VSL Villasalto 90.57 323 eP P 09 47 05.6 -1.6
comp=Z,33nm,0.9s,mb5.7
MTLF Montolieu 90.58 330 eP P 09 47 07.1 0.0
comp=Z,88nm,0.9s,mb5.8
LRDF Laroque-de-Fa 90.78 330 eP P 09 47 08.0 -0.1
LPEF Le Peyrat 91.03 330 eP P 09 47 09.9 +0.7
EJON La Jonquera 91.05 329 P P 09 47 08.6 -0.8
comp=Z,130nm,1.3s,mb6.1
FILF Fillols 91.09 329 eP P 09 47 09.3 -0.2
SADO Sadowa 91.34 26 LR LR 10 32 01.4
comp=Z,12μm,18.7s,MS6.4,baz=350,slow=38
MLS Moulis 91.34 330 eP P 09 47 10.4 -0.3
VALF Valcebollere 91.44 330 eP P 09 47 11.2 +0.1
SALF Salau 91.47 330 eP P 09 47 11.4 +0.1
LTX Lajitas 91.51 51 P P 09 47 12.4 +0.6
LTX pmax pmax
comp=Z,120nm,1.5s,mb6.0
LTX Lajitas 91.51 51 eP P 09 47 12.2 +0.4
comp=Z,34nm,0.9s,mb5.7
LTX LR LR
comp=Z,7μm,20.0s,MS6.1
TXAR Lajitas Array 91.51 51 P P 09 47 12.2 +0.4
comp=Z,20nm,0.9s,mb5.4,baz=295,slow=2.9,SNR=89
TXAR PP PP 09 50 46.1 -6.3
comp=Z,3.8nm,1.1s,baz=326,slow=6.5,SNR=2.4
TXAR PKKPbc 10 04 33.0
comp=Z,0.8nm,0.6s,baz=149,slow=5.0,SNR=12
TXAR Lajitas Array 91.51 51 eP P 09 47 12.2 +0.4
TXAR PP PP 09 50 46.1 -6.3
TXAR PKKPbc 10 04 33.0
MELF Melles 91.55 331 eP P 09 47 11.6 0.0
EPF Esparros 91.58 331 eP P 09 47 10.9 -0.8
comp=Z,58nm,1.0s,mb5.6
AAM Ann Arbor 91.76 30 P P 09 47 14.6 +2.0
AAM pmax pmax
comp=Z,210nm,1.3s,mb6.3
AAM Ann Arbor 91.76 30 eP P 09 47 13.0 +0.5
comp=Z,211nm,1.4s,mb6.3
RESF Ens 91.77 331 eP P 09 47 13.4 +0.8
VIEF Viey 91.82 331 eP P 09 47 13.4 +0.5
CCM Cathedral Cave 91.87 37 P P 09 47 13.4 +0.2
CCM pmax pmax
comp=Z,110nm,1.1s,mb6.1
CCM Cathedral Cave 91.87 37 eP P 09 47 13.1 -0.1
comp=Z,83nm,0.9s,mb6.1
SLM Saint Louis 91.89 36 P P 09 47 13.7 +0.4
SLM pmax pmax
comp=Z,320nm,1.5s,mb6.4
SLM Saint Louis 91.89 36 eP P 09 47 13.4 +0.1
comp=Z,309nm,1.4s,mb6.4
EBIE Bielsa 91.94 331 P P 09 47 14.0 +0.6
comp=Z,402nm,1.8s,mb6.5
ETSF Etsaut 92.03 331 eP P 09 47 13.3 -0.5
comp=Z,109nm,0.9s,mb5.9
EMIR Miracle 92.05 330 P P 09 47 14.1 +0.2
comp=Z,550nm,2.4s,mb6.5
SJPF Ste Jean 92.10 332 eP P 09 47 14.0 -0.1
comp=Z,46nm,0.9s,mb5.5
FDAF Les Forges d'A 92.11 331 eP P 09 47 14.9 +0.7
EALK Alkuntz 92.11 332 P P 09 47 14.4 +0.2
comp=Z,17nm,0.9s,mb5.4
EGRA Graus 92.30 331 P P 09 47 15.7 +0.7
comp=Z,178nm,1.3s,mb6.2
EPOB Poblet 92.70 330 P P 09 47 17.1 +0.2
comp=Z,243nm,1.6s,mb6.4
ELAN Lanestosa 92.81 333 P P 09 47 18.8 +1.4
comp=Z,784nm,3.4s
ESAC San Caprasio 93.00 331 P P 09 47 17.3 -1.0
comp=Z,444nm,1.4s,mb6.7
JCT Junction City 93.02 48 P P 09 47 18.8 +0.1
JCT pmax pmax
comp=Z,200nm,1.4s,mb6.3
JCT Junction City 93.02 48 eP P 09 47 18.9 +0.2
comp=Z,48nm,0.7s,mb6.0
JCT LR LR
comp=Z,7μm,20.0s,MS6.1
BLO Bloomington 93.15 34 P P 09 47 19.5 +0.4
BLO pmax pmax
comp=Z,120nm,1.4s,mb6.1
BLO Bloomington 93.15 34 eP P 09 47 18.2 -0.9
comp=Z,95nm,1.2s,mb6.1
EARI Arriondas 93.36 335 P P 09 47 20.1 +0.1
comp=Z,410nm,2.4s,mb6.4
EBR Ebro Roquetas 93.39 330 ePCP PcP 09 47 21.0 0.0
MIAR Mount Ida 93.44 41 P P 09 47 20.9 +0.4
MIAR pmax pmax
comp=Z,120nm,1.3s,mb6.2
MIAR Mount Ida 93.44 41 eP P 09 47 20.6 +0.1
comp=Z,110nm,1.2s,mb6.2
ALLY Alegeny Colle 93.68 28 eP P 09 47 22.5 +1.1
NCB Newcomb 93.68 23 eP P 09 47 21.4 0.0
comp=Z,129nm,1.3s,mb6.2
ACSO Alum Creek Sta 93.77 31 eP P 09 47 22.0 +0.1
comp=Z,49nm,0.9s,mb5.9
EPON Pontenova 93.99 336 P P 09 47 23.3 +0.4
comp=Z,272nm,1.5s,mb6.5
WCI Wyandotte Cave 94.03 34 P P 09 47 22.8 -0.3
WCI pmax pmax
comp=Z,56nm,1.0s,mb6.0
WCI Wyandotte Cave 94.03 34 eP P 09 47 23.4 +0.2
comp=Z,60nm,0.9s,mb6.0
EMOS Mosqueruela 94.16 330 P P 09 47 24.4 +0.7
comp=Z,91nm,1.0s,mb6.2
UTMT University of 94.38 37 eP P 09 47 24.9 +0.2
comp=Z,173nm,1.3s,mb6.3
ETOR Torete 94.39 331 P P 09 47 26.3 +1.6
comp=Z,12nm,0.6s,mb5.5
WVL Waterville 94.48 20 eP P 09 47 26.3 +1.2
comp=Z,144nm,0.9s,mb6.4
EIBI Ibiza 94.55 328 P P 09 47 26.3 +0.7
comp=Z,11nm,0.9s,mb5.3
BINY Binghamton 94.69 25 eP P 09 47 26.5 +0.5
comp=Z,59nm,1.0s,mb6.0
ERUA La Rua 94.82 335 P P 09 47 26.8 +0.1
comp=Z,52nm,1.5s,mb5.7
STS Santiago 94.84 337 P P 09 47 26.8 +0.1
NATX Nacogdoches 94.99 43 PFAKE 09 47 40.0 +12
NATX LR LR
comp=Z,7μm,19.0s,MS6.2
WVT Waverly 95.04 36 P P 09 47 27.9 +0.1
WVT pmax pmax
comp=Z,23nm,0.8s,mb5.7
WVT Waverly 95.04 36 eP P 09 47 27.8 0.0
comp=Z,31nm,0.7s,mb5.8
SSPA Standing Stone 95.40 27 eP P 09 47 30.3 +1.0
comp=Z,38nm,1.1s,mb5.7
EBEN Beniarda 95.48 329 P P 09 47 29.5 -0.3
comp=Z,565nm,2.8s,mb6.5
MCWV Mont Chateau 95.51 29 eP P 09 47 31.2 +1.3
comp=Z,53nm,1.0s,mb5.9
OXF Oxford 95.58 38 P P 09 47 31.3 +0.9
OXF pmax pmax
comp=Z,46nm,0.9s,mb5.9
OXF Oxford 95.58 38 eP P 09 47 30.2 -0.1
comp=Z,140nm,1.2s,mb6.3
HKT Hockley 95.71 45 P P 09 47 32.6 +1.5
HKT pmax pmax
comp=Z,120nm,2.1s,mb6.0
HKT Hockley 95.71 45 eP P 09 47 32.4 +1.3
comp=Z,55nm,1.6s,mb5.7
HKT LR LR
comp=Z,8μm,19.0s,MS6.2
ESDC Sonseca Array 96.11 332 P P 09 47 31.7 -0.9
comp=Z,2.6nm,0.6s,baz=26,slow=4.0,SNR=13
ESDC PP PP 09 51 24.5 -3.4
comp=Z,7.6nm,1.0s,baz=30,slow=8.4,SNR=6.5
ESDC LR LR 10 31 48.4
comp=Z,8μm,19.2s,MS6.2,baz=20,slow=36
ESDC Sonseca Array 96.11 332 P P 09 47 31.8 -0.9
comp=Z,2.8nm,0.6s,mb4.9
EVIA Vianos 96.45 331 P P 09 47 34.8 +0.5
comp=Z,30nm,0.7s,mb5.8
EMUR La Murta 96.63 329 P P 09 47 35.2 +0.2
comp=Z,11nm,0.8s,mb5.3
SWET Sewanee 96.67 36 eP P 09 47 34.6 -0.7
ELN Prospectdale 97.24 31 eP P 09 47 37.6 -0.2
BLA Blacksburg 97.39 31 P P 09 47 39.9 +1.4
BLA pmax pmax
comp=Z,42nm,1.1s,mb5.8
BLA Blacksburg 97.39 31 eP P 09 47 39.0 +0.5
comp=Z,92nm,1.4s,mb6.0
EQES Quesada 97.39 331 P P 09 47 39.8 +1.3
comp=Z,373nm,3.1s
EADA Adamuz 97.66 332 P P 09 47 40.3 +0.6
comp=Z,13nm,1.1s,mb5.4
LRAL Lakeview Retre 97.95 38 PFAKE 09 47 50.0 +8.9
LRAL LR LR
comp=Z,7μm,20.0s,MS6.2
ELUQ Luque 98.07 331 P P 09 47 42.6 +1.0
comp=Z,7.1nm,0.6s,mb5.4
EBER Berja 98.11 330 P P 09 47 41.1 -0.6
comp=Z,17nm,0.9s,mb5.6
ERON Agron 98.36 331 P P 09 47 42.2 -0.6
comp=Z,3.0nm,0.4s,mb5.2
EVO Evora 98.57 334 eP P 09 47 42.6 -1.2
comp=Z,18nm,1.0s,mb5.2
EVO eR
comp=Z,14μm,20.5s
EMIN Mina Concepcio 98.78 333 P P 09 47 43.8 -0.9
comp=Z,6.3nm,0.8s,mb5.2
EMIJ Mijas 99.14 331 P P 09 47 45.3 -1.0
comp=Z,12nm,0.8s,mb5.5
ESPR Espera 99.28 332 P P 09 47 47.2 +0.2
comp=Z,15nm,1.2s,mb5.4
VNDA Vanda 115.45 175 PKP PKPdf 09 52 44.9 -4.4
comp=Z,4.0nm,0.6s,baz=320,slow=4.2,SNR=25
VNDA PP PP 09 53 47.0 -4.5
comp=Z,4.6nm,1.0s,baz=221,slow=4.4,SNR=4.0
VNDA PKKPbc 10 03 21.2
comp=Z,1.5nm,0.9s,baz=140,slow=1.3,SNR=5.3
VNDA Vanda 115.45 175 PKIKP PKPdf 09 52 44.9 -4.4
VNDA 09 53 47.0
VNDA 10 03 21.2
VNDA pmax pmax
comp=Z,4.0nm,0.6s
VNDA pmax pmax
comp=Z,5.0nm,1.0s
VNDA Vanda 115.45 175 PKP PKPdf 09 52 44.9 -4.4
VNDA PP PP 09 53 47.0 -4.5
VNDA PKKPbc 10 03 21.2
SBA Scott Base 116.16 174 PKIKP PKPdf 09 52 47.6 -3.1
SBA Scott Base 116.16 174 ePKPdf PKPdf 09 52 46.2 -4.5
MAW Mawson 118.95 205 PKP PKPdf 09 52 51.1 -5.1
comp=Z,10nm,0.8s,baz=331,slow=2.5,SNR=18
MAW PP PP 09 54 13.7 -2.3
comp=Z,5.3nm,1.1s,baz=92,slow=4.6,SNR=1.3
MAW PKKPbc 10 03 07.5
comp=Z,4.5nm,0.7s,baz=229,slow=4.2,SNR=9.8
HUMP Col San Antoni 120.09 27 ePKPdf PKPdf 09 52 53.8 -5.7
CPD Cerro la Pandu 120.17 28 PKIKP PKPdf 09 52 56.7 -3.0
CPD Cerro la Pandu 120.17 28 ePKPdf PKPdf 09 52 56.3 -3.3
DBIC Dimbokro 124.67 314 PKP PKPdf 09 53 03.8 -4.8
comp=Z,20nm,0.6s,baz=5.7,slow=2.4,SNR=44
DBIC PP PP 09 54 53.5 -2.3
comp=Z,44nm,1.4s,baz=30,slow=11,SNR=4.1
DBIC Dimbokro 124.67 314 PKIKP PKPdf 09 53 03.8 -4.8
DBIC 09 54 53.5
DBIC pmax pmax
comp=Z,21nm,0.6s
DBIC pmax pmax
comp=Z,45nm,1.4s
DBIC Dimbokro 124.67 314 PKP PKPdf 09 53 03.8 -4.8
DBIC PP PP 09 54 53.5 -2.3
TIC Toumodi 124.78 315 ePKIKP PKPdf 09 53 05.2 -3.6
comp=Z,57nm,0.7s
KIC Kosan Boka 124.86 314 ePKIKP PKPdf 09 53 04.5 -4.5
comp=Z,116nm,0.8s
LIC Lamto 125.13 314 ePKIKP PKPdf 09 53 04.3 -5.2
comp=Z,62nm,0.8s
LIC Lamto 125.13 314 ePKIKP PKPdf 09 53 04.5 -5.0
comp=Z,96nm,0.8s
SDV Santo Domingo 126.34 37 ePKPdf PKPdf 09 53 08.1 -3.6
QSPA South Pole Qui 127.08 180⇓iP PKPdf 09 53 07.7 -3.8
SYO Syowa Base 127.57 207 ⇓PKPdf PKPdf 09 53 08.2 -4.5
SYO Syowa Base 127.57 207 ⇑PKiKP 09 53 09.8
SYO Syowa Base 127.57 207 ⇓PP PP 09 55 09.2 -4.1
MAIT Maitri 136.83 203 ePKP PKPdf 09 53 26.9 -3.1
NNA Nana 139.26 61 PKPdf PKPdf 09 53 24.4 -12
SNAA Sanae 140.43 198 e PKPdf 09 53 30.3 -6.3
SNAA Sanae 140.43 198 e PP 09 56 31.0 -3.8
SNAA Sanae 140.43 198 PKHKP 09 53 24.6
SNAA Sanae 140.43 198 ePKPdf PKPdf 09 53 24.3 -12
VNA2 Neumayer--Watz 142.03 197 e PKPdf 09 53 41.8 +2.6
VNA2 Neumayer--Watz 142.03 197 e PP 09 56 41.3 -3.0
VNA3 Neumayer Olymp 142.32 196 e PKPdf 09 53 39.6 -0.1
VNA3 Neumayer Olymp 142.32 196 e PP 09 56 40.7 -5.3
VNA1 Neumayer--Stat 142.43 197 e PKPdf 09 53 40.8 +0.9
VNA1 Neumayer--Stat 142.43 197 e PP 09 56 41.8 -4.9
SAML Samuel 145.39 41 ePKPdf PKPdf 09 53 42.8 -4.0
LPAZ La Paz 148.23 56 PKPbc PKPdf 09 53 50.9 -0.4
comp=Z,48nm,0.6s,baz=267,slow=3.5,SNR=59
LPAZ La Paz 148.23 56 PKP2 PKPab 09 53 50.9 -4.5
LPAZ pmax pmax
comp=Z,48nm,0.6s
LPAZ La Paz 148.23 56 PKPbc PKPdf 09 53 50.9 -0.4
RCBR Riachuelo 148.28 350 ePKP PKPdf 09 53 49.3 -2.3
PMSA Palmer Station 149.34 161 ePKPbc PKPdf 09 53 53.5 +1.8
LVC Limon Verde 151.92 66 ePKPbc PKPdf 09 54 01.4 +4.4
FCH Farellones 155.90 89 eP PKPdf 09 54 08.3 +6.3
BAO Brasilia Array 157.54 18 PKP PKPdf 09 54 03.2 -1.5
BAO i 09 54 39.2
BAO i 09 54 39.6
BAO e 09 54 55.1
BDFB Brasilia 157.54 18 PKP PKPdf 09 54 03.0 -1.7
comp=Z,10nm,0.9s,baz=232,slow=1.6,SNR=9.6
BDFB PKPab PKPab 09 54 34.9 +0.3
comp=Z,50nm,0.9s,baz=114,slow=2.3,SNR=10
BDFB PP PP 09 58 04.8 -10
comp=Z,6.9nm,0.8s,baz=274,slow=15,SNR=1.8
CPUP Villa Florida 162.41 56 PKP PKPdf 09 54 07.4 -2.3
comp=Z,12nm,1.1s,baz=330,slow=1.9,SNR=4.7
CPUP PKPab PKPab 09 54 52.7 -2.7
comp=Z,7.4nm,0.8s,baz=348,slow=5.4,SNR=3.0
CPUP PP PP 09 58 35.8 -4.7
comp=Z,11nm,1.1s,baz=15,slow=1.2,SNR=3.8
CPUP Villa Florida 162.41 56 PKIKP PKPdf 09 54 07.4 -2.3
CPUP 09 54 52.7
CPUP 09 58 35.8
CPUP pmax pmax
comp=Z,12nm,1.1s
CPUP pmax pmax
comp=Z,7.0nm,0.9s
CPUP pmax pmax
comp=Z,11nm,1.1s
CAM4 Nova Friburgo 165.02 5 (P) PKPdf 09 54 10.3 -2.2
CAM4 i 09 55 06.1
CAM4 i 09 55 10.4
CAM4 Nova Friburgo 165.02 5 P PKPdf 09 54 10.3 -2.2
CAM4 i 09 55 06.1
CAM4 i 09 55 10.4

JMA ***23*** *09:36:50.9, 37.26N×138.94E, h7km±1km, M5.1*
ISC 23 09:36:50.5±0.8, 37.26N±0.04×138.93E±0.05, h7km, n7,
σ0§60/11, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.07**	**96**	P	**Pg**	**09 36 52.7**	**+0.3**
JHK				*eS*	**Sg**	**09 36 54.6**	**+1.0**
JIZZ	**Izumozaki**	**0.33**	**328**	P	**Pg**	**09 36 58.2**	**+1.1**
JKT	**Katashina**	**0.55**	**152**	P	**Pg**	**09 37 01.4**	**-0.1**
JKT				*eS*	**Sg**	**09 37 09.0**	**+0.1**
JFY	**Yanaizu**	**0.64**	**76**	P	**Pg**	**09 37 03.2**	**0.0**
JFY				*eS*	**Sg**	**09 37 11.1**	**-0.7**
JNS	**Sasagawa**	**0.64**	**29**	*eS*	**Sg**	**09 37 11.1**	**-0.8**
MAT	**Matsushiro**	**0.92**	**219**	P	**Pb**	**09 37 07.8**	**-0.5**
MAT				S	**Sb**	**09 37 19.9**	**-0.5**
JAG	**Ashikaga**	**0.93**	**153**	P	**Pb**	**09 37 08.7**	**+0.2**

JMA 23 09:37:58.8±0.1, 37.28N×138.89E, h15km±1km, M4.0, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.11**	**107**	P	Pb	09 38 02.1	+0.1
JHK				*eS*	Sb	09 38 04.5	+0.4
JIZZ	**Izumozaki**	**0.29**	**330**	P	Pb	09 38 05.4	+0.3
JKT	**Katashina**	**0.59**	**151**	*eS*	Sb	09 38 18.4	+0.3
JNS	**Sasagawa**	**0.64**	**32**	*eS*	Sb	09 38 18.8	-0.7
JFY	**Yanaizu**	**0.66**	**79**	P	Pb	09 38 11.5	0.0
JFY				*eS*	Sb	09 38 20.0	-0.2
JSD	**Sado**	**0.91**	**327**	*eS*	Sb	09 38 27.3	0.0

JMA 23 09:39:01.0, 37.26N×138.94E, h11km±1km, M3.7
ISC 23 09:39:00.6±0.8, 37.24N±0.04×138.93E±0.06, h11km, n5, σ0§59/8, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.07**	**83**	P	**Pg**	**09 39 03.3**	**+0.3**
JHK				*eS*	**Sg**	**09 39 04.8**	**+0.2**
JIZZ	**Izumozaki**	**0.34**	**329**	*eS*	**Sg**	**09 39 13.4**	**+0.9**
JKT	**Katashina**	**0.54**	**152**	P	**Pg**	**09 39 11.7**	**+0.2**
JKT				*eS*	**Sg**	**09 39 19.2**	**+0.4**
JNS	**Sasagawa**	**0.65**	**28**	*eS*	**Sb**	**09 39 21.3**	**-1.1**
MAT	**Matsushiro**	**0.91**	**220**	P	**Pb**	**09 39 17.4**	**-0.5**
MAT				S	**Sb**	**09 39 29.3**	**-0.5**

JMA 23 09:39:27.1, 37.27N×138.90E, h13km±2km, M3.8, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.10**	**103**	P	Pg	09 39 30.2	+0.1
JHK				*eS*	Sg	09 39 32.5	+0.4
JIZZ	**Izumozaki**	**0.30**	**330**	P	Pg	09 39 33.3	-0.3
JIZZ				*eS*	Sg	09 39 38.7	+0.8
JKT	**Katashina**	**0.57**	**151**	P	Pb	09 39 38.3	-0.2
JKT				*eS*	Sb	09 39 46.4	+0.1
JNS	**Sasagawa**	**0.64**	**31**	*eS*	Sb	09 39 47.3	-0.9
JFY	**Yanaizu**	**0.66**	**78**	P	Pb	09 39 40.0	+0.1
JFY				*eS*	Sb	09 39 48.1	-0.5

JMA 23 09:40:42.7±0.2, 37.38N×138.98E, h15km±3km, M3.8
JMA Felt II J1.
ISC 23 09:40:42.7±0.8, 37.37N±0.04×138.98E±0.05, h17km±11km, n6, σ0§61/11, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.12**	**164**	P	**Pb**	**09 40 46.4**	**-0.2**
JHK				S	**Sb**	**09 40 49.0**	**-0.2**
JIZZ	**Izumozaki**	**0.27**	**308**	P	**Pb**	**09 40 49.0**	**+0.2**
JIZZ				S	**Sb**	**09 40 53.5**	**+0.7**
JNS	**Sasagawa**	**0.53**	**31**	S	**Sb**	**09 40 59.0**	**-1.2**
JFY	**Yanaizu**	**0.58**	**86**	P	**Pb**	**09 40 54.9**	**+0.8**
JFY				S	**Sb**	**09 41 02.2**	**+0.4**
JKT	**Katashina**	**0.64**	**160**	P	**Pb**	**09 40 54.3**	**-0.7**
JKT				S	**Sb**	**09 41 04.1**	**+0.7**
MAT	**Matsushiro**	**1.03**	**217**	P	**Pb**	**09 41 01.6**	**-0.1**
MAT				S	**Sb**	**09 41 14.2**	**-0.5**

JMA 23 09:41:34.2±0.2, 37.38N×139.00E, h1km±3km, M3.7, 1C-1D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.13**	**174**	P	Pg	09 41 37.1	+0.3
JHK				*eS*	Sg	09 41 39.4	+0.8
JIZZ	**Izumozaki**	**0.28**	**303**	P	Pg	09 41 40.3	+0.6
JIZZ				*eS*	Sg	09 41 45.4	+2.0
JNS	**Sasagawa**	**0.51**	**30**	P	Pg	09 41 43.9	-0.4
JNS				S	Sg	09 41 50.8	-0.2
JFY	**Yanaizu**	**0.56**	**87**	⇓P	Pg	09 41 45.1	-0.3
JFY				*eS*	Sg	09 41 52.8	-0.1
JSB	**Shiboa**	**0.84**	**119**	⇑P	Pg	09 41 50.9	-0.1
JSB				S	Sg	09 42 01.1	-1.1

JMA 23 09:41:44.2±0.1, 37.24N×138.91E, h9km±1km, M4.2
ISC 23 09:41:43.8±0.8, 37.23N±0.04×138.92E±0.05, h9km, n6, σ0§68/9, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.08**	**78**	P	**Pg**	**09 41 46.4**	**+0.2**
JHK				*eS*	**Sg**	**09 41 48.4**	**+0.7**
JIZZ	**Izumozaki**	**0.34**	**331**	S	**Sg**	**09 41 56.6**	**+1.0**
JKT	**Katashina**	**0.53**	**150**	P	**Pg**	**09 41 54.6**	**0.0**
JKT				S	**Sg**	**09 42 02.4**	**+0.6**
JFY	**Yanaizu**	**0.65**	**74**	S	**Sg**	**09 42 05.4**	**-0.3**
JNS	**Sasagawa**	**0.67**	**28**	S	**Sg**	**09 42 05.0**	**-1.2**
MAT	**Matsushiro**	**0.89**	**220**	P	**Pb**	**09 42 00.9**	**-0.1**
MAT				S	**Sb**	**09 42 12.0**	**-0.8**

IDC 23 09:41:57.6±0.8, 37.16N×137.90E, mb4.1/7, mb1 4.3/8, mb1mx4.0/23, ML4.4/1, Error ellipse: s-maj=40.1km s-min=17.8km az=84.0
JMA 23 09:41:59.5, 37.26N×138.94E, h9km±1km, M4.0
ISC 23 09:41:56.6±1.3, 37.35N±0.06×138.82E±0.08, h11km±6km, n12, σ1§11/15, mb4.1/7, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.19**	**122**	P	**Pg**	**09 42 01.5**	**+0.6**
JHK				*eS*	**Sg**	**09 42 02.9**	**-0.8**
JKT	**Katashina**	**0.68**	**149**	*eS*	**Sb**	**09 42 17.9**	**-1.1**
JFY	**Yanaizu**	**0.71**	**85**	P	**Pb**	**09 42 11.8**	**+1.3**
JFY				*eS*	**Sb**	**09 42 19.7**	**-0.3**
JHJ	**Hachijo jima 2** 60nm,0.3s,baz=222,slow=22,SNR=5.9	**4.29**	**169**	Pn	**Pn**	**09 43 04.8**	**+1.3**
JHJ	4.5nm,0.3s,baz=97,slow=23,SNR=2.4			Sn	**Sn**	**09 43 55.4**	**+1.3**
INK	**Inuvik** 1.5nm,0.8s,mb4.1,baz=315,slow=1.4,SNR=3.0	**55.05**	**27**	P	**P**	**09 51 35.9**	**+5.7**
WRA	**Warramunga Arr** 1.8nm,0.6s,mb4.3,baz=360,slow=7.6,SNR=8.1	**57.14**	**185**	P	**P**	**09 51 43.8**	**-2.0**
ASAR	**Alice Springs** 0.3nm,0.5s,mb3.6,baz=11,slow=9.2,SNR=3.3	**60.86**	**185**	P	**P**	**09 52 11.2**	**-0.4**
ARCES	**ARCESS Array B** 3.1nm,0.8s,mb4.5,baz=50,slow=9.5,SNR=4.1	**62.96**	**339**	P	**P**	**09 52 25.2**	**+0.2**
FINES	**FINESS Array B** 5.3nm,1.0s,mb4.5,baz=37,slow=6.9,SNR=3.1	**67.56**	**331**	P	**P**	**09 52 53.1**	**-1.5**
NB2	**NORSAR Subarra** 2.4nm,1.0s,mb4.1,baz=40,slow=5.8	**73.08**	**336**	P	**P**	**09 53 29.1**	**+1.0**
NOA	**NORSAR Array B** 1.0nm,0.7s,mb3.8,baz=24,slow=5.2,SNR=3.3	**73.08**	**336**	P	**P**	**09 53 28.8**	**+0.7**
NVAR	**Mina Array Bea** 1.5nm,0.8s,mb4.0,baz=297,slow=6.0,SNR=3.7	**76.44**	**52**	P	**P**	**09 53 52.0**	**+4.1**

JMA 23 09:42:37.7, 37.18N×138.90E, h12km±1km, M3.9, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.12**	**54**	P	Pg	09 42 40.7	-0.2
JHK				*eS*	Sg	09 42 42.9	-0.1
JIZZ	**Izumozaki**	**0.38**	**337**	*eS*	Sg	09 42 52.2	+1.3
JKT	**Katashina**	**0.50**	**146**	P	Pg	09 42 47.4	-0.5
JKT				*eS*	Sg	09 42 54.2	-0.5

IDC 23 09:44:25.3±0.8, 37.32N×138.58E, mb3.8/8, mb1 4.1/9, mb1mx3.9/22, ML3.8/1, MS5.0/1, Ms1 5.0/1, ms1mx4.0/41, Error ellipse: s-maj=37.3km s-min=18.2km az=90.0
JMA 23 09:44:27.4, 37.32N×138.98E, h6km±2km, M4.1
ISC 23 09:44:26.8±0.5, 37.32N±0.04×139.00E±0.05, h17km±4km, n15, σ1§15/20, mb3.8/8, 1D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.07**	**170**	P	**Pb**	**09 44 29.3**	**-0.8**
JHK				S	**Sb**	**09 44 30.9**	**-1.4**
JIZZ	**Izumozaki**	**0.31**	**312**	P	**Pb**	**09 44 33.7**	**+0.1**
JIZZ				S	**Sb**	**09 44 39.1**	**+0.9**
JNS	**Sasagawa**	**0.56**	**27**	S	**Sb**	**09 44 45.5**	**+0.3**
JFY	**Yanaizu**	**0.57**	**81**	⇓P	**Pb**	**09 44 38.5**	**+0.6**
JKT	**Katashina**	**0.59**	**160**	P	**Pb**	**09 44 38.7**	**+0.4**
JKT				*eS*	**Sb**	**09 44 46.8**	**+0.7**
JJN	**Nakama**	**0.70**	**252**	P	**Pb**	**09 44 40.5**	**+0.3**
JJN				*eS*	**Sb**	**09 44 50.3**	**+0.9**
JHJ	**Hachijo jima 2** 14nm,0.3s,baz=73,slow=16,SNR=2.2	**4.24**	**171**	Pn	**Pn**	**09 45 32.6**	**+0.3**
JHJ	13nm,0.3s,baz=56,slow=22,SNR=2.5			Sn	**Sn**	**09 46 25.1**	**+3.0**
ILAR	**Eielson Array** 0.4nm,0.7s,mb3.6,baz=288,slow=5.7,SNR=3.3	**50.28**	**32**	P	**P**	**09 53 26.3**	**+2.4**
WRA	**Warramunga Arr** 1.2nm,0.9s,mb3.9,baz=0.1,slow=7.5,SNR=6.1	**57.12**	**185**	P	**P**	**09 54 13.0**	**-2.1**
ASAR	**Alice Springs** 1.3nm,1.2s,mb4.0,baz=359,slow=5.9,SNR=3.3	**60.85**	**185**	P	**P**	**09 54 39.8**	**-1.0**
FINES	**FINESS Array B** 3.6nm,0.9s,mb4.4,baz=51,slow=12,SNR=4.4	**67.65**	**331**	P	**P**	**09 55 22.9**	**-1.7**
NOA	**NORSAR Array B** 0.7nm,0.5s,mb3.8,baz=40,slow=6.0,SNR=3.6	**73.17**	**336**	P	**P**	**09 55 56.4**	**-1.5**
NVAR	**Mina Array Bea** 0.6nm,0.8s,mb3.6,baz=321,slow=3.7,SNR=4.1	**76.34**	**52**	P	**P**	**09 56 17.9**	**+1.3**
PDAR	**Pinedale Array** 1.0nm,1.0s,mb3.7,baz=324,slow=7.8,SNR=3.7	**78.82**	**44**	P	**P**	**09 56 30.1**	**-0.1**
GERES	**GERESS Array B** 0.3nm,0.6s,mb3.4,baz=27,slow=6.0,SNR=4.5	**81.44**	**327**	P	**P**	**09 56 43.4**	**-0.6**

JMA 23 09:44:34.2, 37.26N×138.90E, h14km±1km, M4.2, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.09**	**97**	P	Pb	09 44 37.3	0.0
JHK				*eS*	Sb	09 44 39.5	+0.2
JKT	**Katashina**	**0.57**	**150**	P	Pb	09 44 45.2	-0.2
JKT				*eS*	Sb	09 44 53.1	+0.1
JJN	**Nakama**	**0.61**	**255**	P	Pb	09 44 45.9	-0.2
JJN				*eS*	Sb	09 44 54.4	+0.2
JNS	**Sasagawa**	**0.65**	**31**	*eS*	Sb	09 44 55.1	-0.3
JFY	**Yanaizu**	**0.66**	**77**	P	Pb	09 44 46.3	-0.6
JFY				*eS*	Sb	09 44 55.8	+0.2
JSD	**Sado**	**0.93**	**327**	*eS*	Sb	09 45 03.6	+0.1
JAG	**Ashikaga**	**0.94**	**152**	P	Pb	09 44 52.4	+0.6

JMA 23 09:45:36.4, 37.38N×138.97E, h7km±2km, M3.5
ISC 23 09:45:36.2±0.7, 37.36N±0.04×139.00E±0.05, h12km±5km, n9, σ0§38/13, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.12**	**172**	P	**Pg**	**09 45 39.4**	**0.0**
JHK				S	**Sg**	**09 45 41.7**	**+0.2**
JIZZ	**Izumozaki**	**0.28**	**307**	P	**Pg**	**09 45 42.2**	**-0.1**
JNS	**Sasagawa**	**0.52**	**29**	P	**Pb**	**09 45 46.4**	**-0.4**
JFY	**Yanaizu**	**0.57**	**85**	P	**Pb**	**09 45 47.9**	**+0.4**
JFY				S	**Sb**	**09 45 55.5**	**+0.2**
JKT	**Katashina**	**0.63**	**161**	P	**Pb**	**09 45 48.7**	**+0.1**
JKT				*eS*	**Sb**	**09 45 56.5**	**-0.5**
JJN	**Nakama**	**0.71**	**249**	S	**Sb**	**09 46 00.0**	**+0.5**
JGK	**Kuni**	**0.85**	**200**	S	**Sb**	**09 46 04.1**	**+0.6**
JSD	**Sado**	**0.89**	**319**	*eS*	**Sb**	**09 46 04.8**	**+0.1**
MAT	**Matsushiro**	**1.03**	**218**	P	**Pb**	**09 45 54.9**	**-0.7**
MAT				S	**Sb**	**09 46 08.5**	**-0.3**

JMA 23 09:46:31.5, 37.35N×138.96E, h12km±1km, M3.8, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.11**	**156**	P	Pg	09 46 34.6	0.0
JHK				*eS*	Sg	09 46 36.8	+0.1
JIZZ	**Izumozaki**	**0.27**	**312**	P	Pg	09 46 37.5	+0.2
JIZZ				*eS*	Sg	09 46 42.6	+1.4

IDC 23 09:46:59.5±0.8, 37.29N×138.75E, mb4.2/10, mb1 4.4/11, mb1mx4.2/24, ML4.0/1, MS4.9/1, Ms1 4.9/1, ms1mx3.9/35, Error ellipse: s-maj=35.0km s-min=18.1km az=100.0
NEIC 23 09:47:01.9±0.3, 37.18N×138.94E, h10km, mb4.5/3, Error ellipse: s-maj=11.9km s-min=5.7km az=129.0
JMA 23 09:47:01.4, 37.30N×138.90E, h7km±2km, M4.3
JMA Felt IV J1.
ISC 23 09:47:01.0±0.5, 37.29N±0.04×138.92E±0.06, h17km±4km, n28, σ1§07/31, mb4.2/13, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.09**	**116**	P	**Pb**	**09 47 04.1**	**-0.4**
JHK				*eS*	**Sb**	**09 47 06.5**	**-0.4**
JIZZ	**Izumozaki**	**0.29**	**326**	P	**Pb**	**09 47 07.2**	**-0.2**
JIZZ				*eS*	**Sb**	**09 47 12.1**	**+0.3**
MAJO	**Matsushiro**	**0.94**	**218**	*eP*	**Pb**	**09 47 18.5**	**+0.1**
MAJO				*eS*	**Sb**	**09 47 31.4**	**+1.1**
MAT	**Matsushiro**	**0.94**	**218**	X		09 46 35.1	
MAT	**Matsushiro**	**0.94**	**218**	P	**Pb**	**09 47 18.4**	**0.0**
MAT				S	**Sb**	**09 47 31.0**	**+0.7**
MAT	**Matsushiro**	**0.94**	**218**	*eP*	**Pb**	**09 47 18.0**	**-0.4**
MAT				*eS*	**Sb**	**09 47 31.0**	**+0.7**
JHJ	**Hachijo jima 2** 24nm,0.3s,baz=78,slow=20,SNR=3.1	**4.22**	**170**	Pn	**Pn**	**09 48 07.2**	**+1.1**
ASAJ	**Asahikawa** comp=Z,8μm,18.3s,baz=40,slow=42	**7.37**	**21**	LR	LR	09 52 11.8	
ENH	**Enshi** 7.7nm,0.7s,mb4.3	**25.38**	**263**	*eP*	**P**	**09 52 27.2**	**-1.6**
KURK	**Kurchatov**	**44.20**	**308**	P	**P**	**09 55 11.6**	**+1.1**
ZRNK	**Zerenda**	**49.76**	**312**	P	**P**	**09 55 53.7**	**-0.5**
ILAR	**Eielson Array** 0.7nm,1.0s,mb3.6,baz=268,slow=4.7,SNR=5.0	**50.35**	**32**	P	**P**	**09 55 57.1**	**-1.4**
INK	**Inuvik** 2.8nm,0.8s,mb4.3,baz=292,slow=10,SNR=3.8	**55.07**	**27**	P	**P**	**09 56 32.9**	**-0.8**
WRAB	**Tennant Creek** 5.0nm,0.8s,mb4.6	**57.08**	**185**	*eP*	**P**	**09 56 46.5**	**-2.3**
WRA	**Warramunga Arr** 2.5nm,0.7s,mb4.4,baz=0.2,slow=7.5,SNR=16	**57.09**	**185**	P	**P**	**09 56 47.0**	**-1.9**
ASAR	**Alice Springs** 0.6nm,0.8s,mb3.8,baz=4.9,slow=5.6,SNR=5.0	**60.81**	**185**	P	**P**	**09 57 12.9**	**-1.7**
FINES	**FINESS Array B** 3.4nm,0.9s,mb4.4,baz=67,slow=11,SNR=5.0	**67.65**	**331**	P	**P**	**09 57 57.9**	**-0.7**
NEW	**Newport** 3.0nm,0.8s,mb4.3,baz=304,slow=5.9,SNR=8.4	**71.33**	**43**	P	**P**	**09 58 21.5**	**+0.1**
NB2	**NORSAR Subarra** 1.3nm,0.7s,mb4.0,baz=43,slow=5.8	**73.17**	**336**	P	**P**	**09 58 31.2**	**-0.8**
NOA	**NORSAR Array B** 2.5nm,0.8s,mb4.2,baz=41,slow=6.0,SNR=6.4	**73.17**	**336**	P	**P**	**09 58 31.4**	**-0.5**
HRY	**Holter Researc**	**75.12**	**42**	*eP*	**P**	**09 58 44.5**	**+0.8**
NVAR	**Mina Array Bea** 2.6nm,0.7s,mb4.2,baz=289,slow=6.7,SNR=15	**76.42**	**52**	P	**P**	**09 58 52.4**	**+1.3**
NVAR	**Mina Array Bea**	**76.42**	**52**	P	**P**	**09 58 52.4**	**+1.3**
MNV	**Mina** 3.5nm,1.2s,mb4.2	**76.51**	**52**	*eP*	**P**	**09 58 53.0**	**+1.3**
PDAR	**Pinedale Array** 2.4nm,0.7s,mb4.2,baz=312,slow=1.9,SNR=17	**78.89**	**44**	P	**P**	**09 59 05.6**	**+0.9**
PV10	**Paradox Valley**	**82.09**	**47**	*eP*	**P**	**09 59 23.4**	**+1.7**
PV01	**Paradox Valley**	**82.52**	**47**	*eP*	**P**	**09 59 25.3**	**+1.3**
TXAR	**Lajitas Array** 0.5nm,0.6s,mb4.0,baz=294,slow=2.5,SNR=6.0	**91.53**	**51**	P	**P**	**10 00 08.6**	**+0.6**

JMA 23 09:47:40.0, 37.30N×138.88E, h9km±2km, M3.8, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.12**	**115**	P	Pg	09 47 42.6	-0.3
JHK				*eS*	Sg	09 47 44.8	0.0
JIZZ	**Izumozaki**	**0.27**	**330**	P	Pg	09 47 45.3	-0.3
JIZZ				*eS*	Sg	09 47 49.3	0.0

JMA 23 09:48:54.3, 37.27N×138.90E, h12km±1km, M3.5
JMA Felt II J1.
ISC 23 09:48:53.6±1.3, 37.27N±0.06×138.87E±0.09, h13km±6km, n5, σ0§15/8, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.12**	**102**	P	**Pg**	**09 48 57.0**	**0.0**
JHK				S	**Sg**	**09 48 59.2**	**0.0**
JKT	**Katashina**	**0.59**	**149**	P	**Pb**	**09 49 05.3**	**+0.1**
JKT				S	**Sb**	**09 49 13.1**	**-0.1**
JNS	**Sasagawa**	**0.65**	**33**	*eS*	**Sb**	**09 49 14.9**	**0.0**
JFY	**Yanaizu**	**0.68**	**78**	P	**Pb**	**09 49 06.9**	**+0.1**
MAT	**Matsushiro**	**0.90**	**216**	P	**Pb**	**09 49 10.4**	**-0.2**
MAT				S	**Sb**	**09 49 22.4**	**+0.1**

IDC 23 09:49:31.7±0.9, 37.40N×138.33E, mb3.6/6, mb1 3.9/7, mb1mx3.7/23, ML3.8/1, Error ellipse: s-maj=37.1km s-min=20.9km az=98.0
NEIC 23 09:49:34.3±0.6, 37.44N×138.42E, h10km, Error ellipse: s-maj=26.6km s-min=8.0km az=103.0
ISC 23 09:49:37.0±1.8, 37.3N±0.1×138.3E±0.3, h53km±17km, n9, σ0§93/11, mb3.6/6, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAJO	**Matsushiro**	**0.74**	**188**	*eP*	**P**	**09 49 52.1**	**+0.6**
MAJO				*eS*	**S**	**09 50 02.2**	**0.0**
MAT	**Matsushiro**	**0.74**	**188**	*eP*	**P**	**09 49 52.0**	**+0.5**
MAT				*eS*	**S**	**09 50 02.0**	**-0.2**
JHJ	**Hachijo jima 2** 12nm,0.3s,baz=46,slow=21,SNR=2.1	**4.31**	**164**	Pn	**P**	**09 50 40.9**	**-0.9**
BVAR	**Borovoye Array** 0.6nm,0.6s,mb3.8,baz=90,slow=5.8,SNR=2.7	**48.59**	**312**	P	**P**	**09 58 16.4**	**-0.4**
ILAR	**Eielson Array** 0.3nm,0.7s,mb3.3,baz=268,slow=4.2,SNR=3.6	**50.60**	**32**	P	**P**	**09 58 29.9**	**-2.3**
WRA	**Warramunga Arr** 2.4nm,1.1s,mb4.1,baz=0.1,slow=7.5,SNR=6.0	**57.04**	**184**	P	**P**	**09 59 19.3**	**-0.8**
ASAR	**Alice Springs** 0.3nm,0.8s,mb3.5,baz=10,slow=4.4,SNR=3.6	**60.76**	**185**	P	**P**	**09 59 46.6**	**+0.7**
NVAR	**Mina Array Bea** 0.4nm,0.7s,mb3.5,baz=288,slow=5.7,SNR=4.0	**76.78**	**52**	P	**P**	**10 01 25.6**	**+1.1**
PDAR	**Pinedale Array** 0.4nm,0.8s,mb3.4,baz=297,slow=2.0,SNR=2.5	**79.22**	**44**	P	**P**	**10 01 39.1**	**+1.2**

IDC 23 09:49:40.4±1.9, 37.37N×138.18E, mb3.7/4, mb1 4.1/6, mb1mx3.8/23, ML3.8/2, Error ellipse: s-maj=95.5km s-min=20.6km az=106.0
NEIC 23 09:49:43.8±1.2, 37.26N×138.77E, h10km, Error ellipse: s-maj=77.2km s-min=11.5km az=123.0
JMA 23 09:49:43.6, 37.23N×138.85E, h10km±2km, M4.2
JMA Felt III J1.
ISC 23 09:49:43.4±0.5, 37.24N±0.04×138.87E±0.04, h21km±4km, n16, σ0§87/20, mb3.8/4, 1D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.12**	**85**	P	**Pb**	**09 49 46.9**	**-0.8**
JHK				S	**Sb**	**09 49 49.5**	**-1.1**
JIZZ	**Izumozaki**	**0.32**	**337**	S	**Sb**	**09 49 55.9**	**+0.7**
JKT	**Katashina**	**0.56**	**147**	S	**Sb**	**09 50 02.2**	**+0.2**
JJN	**Nakama**	**0.58**	**257**	⇓P	**Pb**	**09 49 54.2**	**-0.5**
JJN				*eS*	**Sb**	**09 50 02.8**	**+0.4**
JNS	**Sasagawa**	**0.68**	**32**	S	**Sb**	**09 50 05.7**	**+0.3**
JFY	**Yanaizu**	**0.69**	**76**	P	**Pb**	**09 49 57.2**	**+0.6**
JFY				*eS*	**Sb**	**09 50 06.4**	**+0.7**
MAT	**Matsushiro**	**0.87**	**218**	*eP*	**Pb**	**09 50 00.0**	**+0.3**
MAT				*eS*	**Sb**	**09 50 11.0**	**+0.1**
JHJ	**Hachijo jima 2** 27nm,0.3s,baz=250,slow=23,SNR=4.7	**4.18**	**169**	Pn	**Pn**	**09 50 49.4**	**+1.9**
ASAJ	**Asahikawa** 1.3nm,0.3s,baz=38,slow=11,SNR=6.0	**7.43**	**21**	Pn	**Pn**	**09 51 33.0**	**-0.4**
ILAR	**Eielson Array** 0.6nm,0.7s,mb3.8,baz=272,slow=5.5,SNR=8.0	**50.41**	**32**	P	**P**	**09 58 40.0**	**-0.8**
WRA	**Warramunga Arr** 1.6nm,0.7s,mb4.2,baz=1.2,slow=7.6,SNR=11	**57.03**	**185**	P	**P**	**09 59 28.0**	**-2.2**
WRA	**Warramunga Arr**	**57.03**	**185**	P	**P**	**09 59 28.0**	**-2.2**
ASAR	**Alice Springs** 0.2nm,0.5s,mb3.5,baz=16,slow=13,SNR=4.1	**60.76**	**185**	P	**P**	**09 59 55.6**	**-0.4**
ASAR	**Alice Springs**	**60.76**	**185**	P	**P**	**09 59 55.6**	**-0.4**
NVAR	**Mina Array Bea** 0.6nm,0.7s,mb3.6,baz=281,slow=4.6,SNR=2.8	**76.48**	**52**	P	**P**	**10 01 34.1**	**+0.8**
NVAR	**Mina Array Bea**	**76.48**	**52**	P	**P**	**10 01 34.0**	**+0.8**

JMA 23 09:50:02.1±0.1, 37.36N×138.94E, M3.5
ISC 23 09:50:02.1±1.3, 37.36N±0.06×138.92E±0.09, n3, σ1§06/5, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.14**	**143**	P	**Pg**	**09 50 04.5**	**-0.3**
JHK				*eS*	**Sg**	**09 50 06.8**	**+0.2**
JNS	**Sasagawa**	**0.56**	**35**	*eS*	**Sg**	**09 50 20.5**	**-0.2**
MAT	**Matsushiro**	**0.99**	**215**	P	**Pb**	**09 50 23.2**	**+1.4**
MAT				S	**Sg**	**09 50 34.2**	**-0.9**

IDC 23 09:50:37.4±1.9, 37.57N×137.89E, mb3.8/6, mb1 4.2/8, mb1mx3.9/23, ML3.5/2, Error ellipse: s-maj=95.8km s-min=21.1km az=107.0
NEIC 23 09:50:40.3±1.8, 37.51N×138.24E, h10km, Error ellipse: s-maj=96.6km s-min=11.3km az=103.0
JMA 23 09:50:42.0, 37.30N×138.90E, h13km±1km, M4.0
ISC 23 09:50:41.4±0.7, 37.29N±0.05×138.90E±0.08, h22km±5km, n12, σ1§12/15, mb3.8/6, 1D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.10**	**114**	⇓P	**Pb**	**09 50 45.2**	**-0.4**
JHK				*eS*	**Sb**	**09 50 47.3**	**-1.1**
JIZZ	**Izumozaki**	**0.29**	**328**	P	**Pb**	**09 50 48.2**	**+0.2**
JKT	**Katashina**	**0.59**	**152**	P	**Pb**	**09 50 53.6**	**+0.6**
JKT				*eS*	**Sb**	**09 51 01.8**	**+0.9**
MAT	**Matsushiro**	**0.93**	**217**	*eP*	**Pb**	**09 50 59.0**	**+0.2**
MAT

MAJO Matsushiro 0.90 217 *eP* **Pb 09 51 17.9 +0.1**
MAT Matsushiro 0.90 217 P **Pb 09 51 18.1 +0.3**
MAT S **Sb 09 51 29.9 +0.5**
MAT Matsushiro 0.90 217 P **Pb 09 51 18.0 +0.2**
MAT *eS* **Sb 09 51 30.0 +0.6**
JHJ Hachijo jima 2 4.21 170 Pn **Pn 09 52 06.7 +1.2**
34nm,0.3s,baz=236,slow=14,SNR=4.0
ASAJ Asahikawa 7.40 21 Pn **Pn 09 52 52.0 +1.5**
0.7nm,0.3s,baz=351,slow=5.2,SNR=2.7
SONM Songino Array 25.98 304 P **P 09 56 34.2 +0.6**
1.7nm,0.8s,mb3.6,baz=98,slow=8.7,SNR=5.3
ILAR Eielson Array 50.38 32 P **P 09 59 57.5 -0.6**
0.9nm,0.8s,mb3.9,baz=269,slow=5.2,SNR=7.8
INK Inuvik 55.10 27 P **P 10 00 33.0 -0.2**
0.9nm,0.6s,mb4.0,baz=283,slow=6.6,SNR=3.4
FITZ Fitzroy Crossi 56.47 195 P **P 10 00 41.6 -2.2**
1.0nm,0.8s,mb3.9,baz=24,slow=12,SNR=2.0
WRAB Tennant Creek 57.05 185 *eP* **P 10 00 46.3 -1.6**
3.9nm,0.8s,mb4.5
WRA Warramunga Arr 57.06 185 P **P 10 00 45.7 -2.3**
2.1nm,0.6s,mb4.3,baz=360,slow=7.5,SNR=8.0
ASAR Alice Springs 60.79 185 P **P 10 01 12.1 -1.6**
0.8nm,0.8s,mb3.9,baz=3.8,slow=5.5,SNR=5.2
NEW Newport 71.36 43 P **P 10 02 21.1 +0.3**
3.2nm,0.8s,mb4.3,baz=305,slow=4.7,SNR=5.3
AKASG Malin Array Be 72.86 321 P **P 10 02 31.2 +1.5**
0.4nm,0.5s,mb3.6,baz=39,slow=6.1,SNR=4.1
NVAR Mina Array Bea 76.45 52 P **P 10 02 51.8 +1.2**
1.8nm,0.7s,mb4.1,baz=288,slow=6.4,SNR=8.4
PDAR Pinedale Array 78.93 44 P **P 10 03 04.5 +0.3**
1.2nm,0.7s,mb3.9,baz=286,slow=3.2,SNR=6.4
TXAR Lajitas Array 91.56 51 P **P 10 04 07.5 +0.1**
0.3nm,0.7s,mb3.8,baz=14,slow=0.5,SNR=3.7

JMA 23 09:51:36.3,37.24N×138.90E,h7km±2km,M3.9,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.09**	**85**	P	Pg	09 51 38.6	0.0
JHK				*eS*	Sg	09 51 40.6	+0.5
JIZZ	**Izumozaki**	**0.33**	**333**	P	Pg	09 51 43.1	+0.1
JIZZ				*eS*	Sg	09 51 49.0	+1.6
JKT	**Katashina**	**0.55**	**149**	*eS*	Sg	09 51 54.8	+0.1
JNS	**Sasagawa**	**0.67**	**30**	P	Pg	09 51 48.5	-1.2
JNS				*eS*	Sg	09 51 57.7	-0.9

JMA 23 09:52:29.4±0.1,37.27N×138.87E,h14km±2km,M3.7,1D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.12**	**100**	*eS*	Sg	09 52 35.1	-0.1
JIZZ	**Izumozaki**	**0.29**	**334**	*eS*	Sg	09 52 40.6	+0.7
JKT	**Katashina**	**0.59**	**149**	*eS*	Sb	09 52 49.2	+0.4
JNS	**Sasagawa**	**0.65**	**33**	⇓P	Pb	09 52 41.5	-0.5
JNS				*eS*	Sb	09 52 50.2	-0.5
JGK	**Kuni**	**0.73**	**195**	*eS*	Sb	09 52 53.8	+0.9
MAT	**Matsushiro**	**0.90**	**216**	P	Pb	09 52 46.0	-0.3
MAT				*eS*	Sb	09 52 57.5	-0.4
JSD	**Sado**	**0.91**	**328**	P	Pb	09 52 45.8	-0.6
JSD				*eS*	Sb	09 52 57.9	-0.1

*IDC **23** 09:53:50.3±0.6,37.30N×138.67E,mb4.2/17,mb1 4.4/19, mb1mx4.4/26,ML3.5/2,Error ellipse: s-maj=20.0km s-min=16.5km az=87.0*
*NEIC **23** 09:53:52.8±0.3,37.32N×138.72E,h10km,mb4.5/7,Error ellipse: s-maj=8.2km s-min=5.2km az=123.0*
*JMA **23** 09:53:52.5,37.31N×138.91E,h8km±2km,M4.5*
JMA Felt III J1.
ISC 23 09:53:52.1±0.4,37.31N±0.02×138.86E±0.04,h20km±3km, n57,σ0°96/58,mb4.2/22,4C-3D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.14**	**117**	⇓P	Pb	09 53 55.2	-1.2
JHK				S	Sb	09 53 57.5	-1.9
JIZZ	**Izumozaki**	**0.25**	**331**	P	Pb	09 53 58.3	+0.3
JIZZ				*eS*	Sb	09 54 03.2	+1.3
JNS	**Sasagawa**	**0.62**	**35**	⇓P	Pb	09 54 03.9	-0.2
JNS				*eS*	Sb	09 54 12.0	-0.3
JKT	**Katashina**	**0.63**	**150**	P	Pb	09 54 04.0	-0.2
JKT				*eS*	Sb	09 54 12.6	+0.1
JFY	**Yanaizu**	**0.68**	**82**	P	Pb	09 54 04.7	-0.4
JFY				*eS*	Sb	09 54 13.5	-0.4
JSD	**Sado**	**0.87**	**327**	*eS*	Sb	09 54 19.4	0.0
MAJO	**Matsushiro**	**0.93**	**215**	*eP*	Pb	09 54 09.7	+0.4
MAT	**Matsushiro**	**0.93**	**215**	P	Pb	09 54 09.7	+0.3
MAT				S	Sb	09 54 21.7	+0.4
MAT	**Matsushiro**	**0.93**	**215**	P	Pb	09 54 09.9	+0.5
MAT				*eS*	Sb	09 54 22.4	+1.1
MAT	**Matsushiro**	**0.93**	**215**	*eP*	Pb	09 54 10.0	+0.6
MAT				*eS*	Sb	09 54 22.0	+0.7
JAG	**Ashikaga**	**1.00**	**152**	⇓P	Pb	09 54 11.3	+0.7
JAG				*eS*	Sb	09 54 24.4	+1.0
JAW	**Awa shima**	**1.18**	**15**	P	Pb	09 54 13.6	0.0
JAW				*eS*	Sb	09 54 29.8	+1.3
JHJ	**Hachijo jima 2**	**4.25**	**170**	Pn	Pn	09 54 58.7	+1.3
	38nm,0.3s,baz=244,slow=22,SNR=5.6						
ASAJ	**Asahikawa**	**7.36**	**21**	Pn	Pn	09 55 41.2	-0.1
	0.4nm,0.3s,baz=229,slow=19,SNR=2.4						
BJT	**Baijiatuan**	**17.92**	**286**	P	P	09 58 01.5	-0.2
ENH	**Enshi**	**25.34**	**263**	*eP*	P	09 59 18.8	-0.4
	15nm,0.9s,mb4.5						
SONM	**Songino Array**	**25.94**	**304**	P	P	09 59 23.9	-0.7
	1.8nm,0.8s,mb3.6,baz=112,slow=6.7,SNR=5.3						
RSO	**Redoubt South**	**47.95**	**38**	*eP*	P	10 02 31.9	+1.1
BVAR	**Borovoye Array**	**48.87**	**312**	P	P	10 02 36.9	-1.2
	1.8nm,1.0s,mb4.1,baz=83,slow=12,SNR=4.0						
BRVK	**Borovoye**	**48.93**	**312**	*eP*	P	10 02 36.6	-1.9
	2.8nm,1.1s,mb4.2						
ZRNK	**Zerenda**	**49.71**	**312**	*eP*	P	10 02 43.4	-1.1
	4.4nm,1.0s,mb4.4						
ILAR	**Eielson Array**	**50.35**	**32**	P	P	10 02 49.0	-0.2
	1.0nm,1.0s,mb3.8,baz=281,slow=5.6,SNR=6.3						
INK	**Inuvik**	**55.07**	**27**	P	P	10 03 23.9	-0.4
	3.7nm,0.9s,mb4.4,baz=298,slow=4.2,SNR=5.6						
INK	**Inuvik**	**55.07**	**27**	*eP*	P	10 03 24.6	+0.2
	3.0nm,0.7s,mb4.4						
WRA	**Warramunga Arr**	**57.10**	**185**	P	P	10 03 37.7	-1.9
	2.5nm,0.6s,mb4.4,slow=7.6,SNR=21						
ASAR	**Alice Springs**	**60.83**	**185**	P	P	10 04 04.1	-1.3
	1.4nm,1.0s,mb4.1,baz=13,slow=5.6,SNR=7.4						
FINES	**FINESS Array B**	**67.61**	**331**	P	P	10 04 48.2	-0.9
	5.5nm,0.9s,mb4.6,baz=45,slow=2.7,SNR=6.8						
EDM	**Edmonton**	**70.38**	**37**	P	P	10 05 06.6	+0.4
DPW	**Davenport**	**70.97**	**44**	*eP*	P	10 05 11.0	+1.1
NEW	**Newport**	**71.34**	**43**	P	P	10 05 12.6	+0.4
	5.9nm,0.8s,mb4.6,baz=295,slow=6.6,SNR=12						
NEW	**Newport**	**71.34**	**43**	*eP*	P	10 05 13.0	+0.9
	4.8nm,0.8s,mb4.5						
AKASG	**Malin Array Be**	**72.82**	**321**	P	P	10 05 19.6	-1.2
	0.5nm,0.4s,mb3.8,baz=41,slow=6.3,SNR=6.7						
NB2	**NORSAR Subarra**	**73.13**	**336**	P	P	10 05 21.8	-0.6
	2.5nm,0.7s,mb4.2,baz=40,slow=5.8						
NOA	**NORSAR Array B**	**73.13**	**336**	P	P	10 05 21.8	-0.7
	3.3nm,0.7s,mb4.4,baz=40,slow=5.9,SNR=9.4						
NVAR	**Mina Array Bea**	**76.44**	**52**	P	P	10 05 42.4	+0.5
	2.9nm,0.8s,mb4.3,baz=287,slow=5.9,SNR=15						
NVAR	**Mina Array Bea**	**76.44**	**52**	P	P	10 05 42.4	+0.5
MNV	**Mina**	**76.53**	**52**	*eP*	P	10 05 43.5	+1.1
	6.4nm,1.3s,mb4.4						
BRTR	**Keskin Array B**	**77.13**	**310**	P	P	10 05 44.2	-1.5
	1.8nm,1.0s,mb4.0,baz=90,slow=7.4,SNR=4.6						
OJC	**Ojcow**		**77.66**	**325**	*eP*	P	10 05 48.0	-0.4
OJC	**Ojcow**		**77.66**	**325**	*eP*	P	10 05 48.0	-0.4
DGMT	**Dagmar**		**77.87**	**37**	*eP*	P	10 05 48.5	-1.1
	13nm,1.2s,mb4.7							
NIE	**Niedzica**		**77.98**	**324**	*eP*	P	10 05 51.5	+1.3
PDAR	**Pinedale Array**		**78.91**	**44**	P	P	10 05 56.7	+1.3
	3.1nm,0.8s,mb4.3,baz=314,slow=2.2,SNR=14							
VRAC	**Vranov**		**79.76**	**326**	P	P	10 06 00.9	+1.0
	2.3nm,0.7s,mb4.2,baz=274,slow=9.1,SNR=3.3							
GERES	**GERESS Array B**		**81.39**	**327**	P	P	10 06 08.9	+0.4
	0.9nm,0.6s,mb3.9,baz=104,slow=5.5,SNR=5.6							
PV10	**Paradox Valley**		**82.10**	**47**	*eP*	P	10 06 14.5	+2.1
SCHQ	**Schefferville**		**85.61**	**15**	P	P	10 06 29.6	-0.3
	2.5nm,0.6s,mb4.6,baz=15,slow=5.6,SNR=3.5							
TXAR	**Lajitas Array**		**91.55**	**51**	P	P	10 06 60.0	+1.2
	1.1nm,0.9s,mb4.2,baz=294,slow=2.6,SNR=5.0							
SNAA	**Sanae**		**140.40**	**198**	P	PKPdf	10 13 19.5	-3.5
SNAA	**Sanae**		**140.40**	**198**	P	PKPdf	10 13 19.5	-3.5
VNA2	**Neumayer--Watz**		**142.00**	**197**	P	PKPdf	10 13 21.0	-4.7
VNA2	**Neumayer--Watz**		**142.00**	**197**	P	PKPdf	10 13 21.0	-4.7
VNA3	**Neumayer Olymp**		**142.29**	**196**	⇑*i*P	PKPdf	10 13 20.9	-5.3
VNA3	**Neumayer Olymp**		**142.29**	**196**	⇑*i*P	PKPdf	10 13 20.9	-5.3
VNA1	**Neumayer--Stat**		**142.40**	**197**	⇑*i*P	PKPdf	10 13 21.4	-5.0
VNA1	**Neumayer--Stat**		**142.40**	**197**	⇑*i*P	PKPdf	10 13 21.4	-5.0
LPAZ	**La Paz**		**148.27**	**56**	PKPbc	PKPdf	10 13 40.0	+2.1
	1.6nm,0.2s,baz=15,slow=4.9,SNR=5.0							

*IDC **23** 09:54:32.8±0.4,37.36N×138.74E,mb4.3/26,mb1 4.5/29, mb1mx4.4/34,ML4.2/2,Error ellipse: s-maj=15.2km s-min=11.7km az=95.0*
*NEIC **23** 09:54:35.3±0.3,37.36N×138.81E,h10km,mb4.8/13,Error ellipse: s-maj=9.7km s-min=6.3km az=109.0*
*JMA **23** 09:54:35.4,37.39N×138.96E,h8km±2km,M4.7*
JMA Felt III J1.
ISC 23 09:54:35.0±0.3,37.38N±0.02×138.93E±0.04,h23km±2km, n93,σ0°98/93,mb4.4/44,4C-2D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.14**	**152**	P	Pb	09 54 38.5	-1.3
JHK				*eS*	Sb	09 54 41.1	-1.9
JIZZ	**Izumozaki**	**0.24**	**311**	P	Pb	09 54 40.8	-0.2
JIZZ				*eS*	Sb	09 54 45.3	+0.3
JNS	**Sasagawa**	**0.54**	**35**	P	Pb	09 54 45.2	-0.5
JNS				*eS*	Sb	09 54 52.5	-0.5
JFY	**Yanaizu**	**0.62**	**87**	⇓P	Pb	09 54 46.8	-0.3
JFY				*eS*	Sb	09 54 54.9	-0.4
JKT	**Katashina**	**0.66**	**157**	P	Pb	09 54 47.9	+0.1
JKT				*eS*	Sb	09 54 56.9	+0.4
JSD	**Sado**	**0.85**	**321**	P	Pb	09 54 51.5	+0.5
JSD				*eS*	Sb	09 55 03.4	+1.5
MAT	**Matsushiro**	**1.01**	**215**	P	Pb	09 54 54.4	+0.6
MAT	**Matsushiro**	**1.01**	**215**	*eP*	Pb	09 54 54.0	+0.2
MAT				*eS*	Sb	09 55 08.0	+1.3
JAG	**Ashikaga**	**1.04**	**156**	⇓P	Pb	09 54 54.9	+0.7
JAG				*eS*	Sb	09 55 08.7	+1.3
JAW	**Awa shima**	**1.11**	**13**	P	Pn	09 54 55.3	0.0
JAW				*eS*	Sb	09 55 10.9	+1.5
JHJ	**Hachijo jima 2**	**4.30**	**170**	Pn	Pn	09 55 41.4	+0.5
	43nm,0.3s,baz=278,slow=7.1,SNR=3.4						
JHJ				Sn	Sn	09 56 33.9	+2.8
	17nm,0.3s,baz=57,slow=22,SNR=3.5						
ASAJ	**Asahikawa**	**7.28**	**21**	Pn	Pn	09 56 23.6	+0.7
	3.4nm,0.3s,baz=266,slow=15,SNR=12						
YSS	**Yuzh-Sakhalins**	**9.98**	**15**	*eP*	P	09 56 59.6	-0.6
ENH	**Enshi**	**25.40**	**263**	*eP*	P	10 00 01.7	-0.7
	15nm,0.9s,mb4.5						
SONM	**Songino Array**	**25.95**	**304**	P	P	10 00 06.4	-1.0
	5.1nm,1.0s,mb4.0,baz=112,slow=6.7,SNR=6.0						
FX1	**Attu Island--F**	**28.36**	**46**	P	P	10 00 30.0	+0.7
	15nm,0.7s,mb4.7,baz=262,slow=15,SNR=2.3						
CMAR	**Chiang Mai Arr**	**39.69**	**253**	P	P	10 02 04.8	-2.5
	0.5nm,0.4s,mb3.6,baz=49,slow=9.6,SNR=2.5						
CMAR				PcP	PcP	10 04 14.1	-0.3
	0.9nm,0.6s,baz=3.3,slow=1.4,SNR=4.8						
ZAL	**Zalesovo**	**40.23**	**312**	P	P	10 02 10.7	-0.8
	1.4nm,0.8s,mb3.8,baz=59,slow=5.9,SNR=2.5						
ZAL				PcP	PcP	10 04 14.9	-0.9
	2.2nm,0.5s,baz=286,slow=2.3,SNR=5.2						
GUN	**Gumba**	**45.15**	**274**	*eP*	P	10 02 51.9	+0.1
	14nm,0.7s,mb4.9						
PKI	**Pulchoki**	**45.68**	**274**	*eP*	P	10 02 55.7	-0.3
KKN	**Kakani**	**45.68**	**274**	*eP*	P	10 02 55.0	-1.0
GKN	**Gorkha**	**46.10**	**275**	*eP*	P	10 02 58.3	-1.0
	13nm,0.7s,mb4.9						
KOLN	**Koldanda**	**47.02**	**275**	*eP*	P	10 03 06.5	-0.1
	11nm,1.0s,mb4.8						
BVAR	**Borovoye Array**	**48.87**	**312**	P	P	10 03 19.0	-1.7
	1.5nm,0.6s,mb4.2,baz=90,slow=8.9,SNR=8.1						
BVAR				PcP	PcP	10 04 44.4	-1.0
	3.1nm,0.6s,baz=98,slow=2.6,SNR=9.6						
ZRNK	**Zerenda**	**49.71**	**312**	*eP*	P	10 03 25.3	-1.8
	5.5nm,0.9s,mb4.6						
ILAR	**Eielson Array**	**50.27**	**32**	P	P	10 03 30.1	-1.1
	1.0nm,0.7s,mb3.9,baz=280,slow=7.3,SNR=7.0						
ILAR				PcP	PcP	10 04 47.3	-2.9
	0.5nm,0.9s,baz=257,slow=3.0,SNR=4.3						
INK	**Inuvik**	**54.98**	**27**	P	P	10 04 06.2	-0.1
	2.0nm,0.6s,mb4.3,baz=280,slow=4.0,SNR=4.5						
FITZ	**Fitzroy Crossi**	**56.58**	**195**	P	P	10 04 17.7	-0.8
	2.2nm,0.7s,mb4.3,baz=30,slow=7.9,SNR=5.5						
WRA	**Warrunga Arr**	**57.17**	**185**	P	P	10 04 20.9	-1.8
	4.1nm,0.9s,mb4.5,slow=7.5,SNR=19						
ASAR	**Alice Springs**	**60.90**	**185**	P	P	10 04 47.4	-1.1
	2.0nm,0.8s,mb4.3,baz=358,slow=4.6,SNR=11						
ARCES	**ARCESS Array B**	**62.97**	**339**	P	P	10 04 59.8	-2.0
	3.2nm,1.0s,mb4.4,baz=56,slow=8.7,SNR=6.0						
FINES	**FINESS Array B**	**67.58**	**331**	P	P	10 05 30.2	-1.2
	8.3nm,0.8s,mb4.8,baz=72,slow=6.0,SNR=11						
STKA	**Stephens Creek**	**68.94**	**178**	P	P	10 05 38.1	-2.3
	2.5nm,0.8s,mb4.2,baz=359,slow=4.6,SNR=4.0						
NEW	**Newport**	**71.25**	**43**	P	P	10 05 54.7	+0.5
	2.5nm,0.8s,mb4.2,baz=282,slow=4.6,SNR=3.0						
NEW	**Newport**	**71.25**	**43**	P	P	10 05 54.7	+0.5
YBH	**Yreka Blue Hor**	**71.69**	**51**	P	P	10 05 58.0	+1.1
	3.4nm,1.1s,mb4.2,baz=168,slow=22,SNR=3.0						
AKASG	**Malin Array Be**	**72.80**	**321**	P	P	10 06 02.7	-0.6
	4.4nm,0.7s,mb4.5,baz=49,slow=6.1,SNR=12						
NWAO	**Narrogin (SRO)**	**72.81**	**199**	P	P	10 06 02.5	-1.3
	3.6nm,0.8s,mb4.3,baz=47,slow=12,SNR=2.3						
HFS	**Hagfors**	**72.95**	**335**	P	P	10 06 02.3	-1.6
	3.6nm,0.9s,mb4.3,baz=72,slow=4.7,SNR=4.5						
NOA	**NORSAR Array B**	**73.09**	**336**	P	P	10 06 04.4	-0.4
	4.9nm,0.8s,mb4.5,baz=40,slow=5.9,SNR=9.4						
NVAR	**Mina Array Bea**	**76.36**	**52**	P	P	10 06 25.4	+1.3
	2.2nm,0.7s,mb4.2,baz=289,slow=6.7,SNR=6.8						
NVAR	**Mina Array Bea**	**76.36**	**52**	P	P	10 06 25.4	+1.3
BRTR	**Keskin Array B**	**77.13**	**310**	P	P	10 06 27.9	-0.4
	3.0nm,0.6s,mb4.4,baz=90,slow=4.9,SNR=9.8						
KOLS	**Kolonicke sedl**	**77.37**	**327**	*eP*	P	10 06 34.2	+4.8
CRVS	**Cervenica-Dubn**	**77.78**	**323**	*eP*	P	10 06 32.6	+0.9
MZLS	**Mizel**	**78.61**	**291**	P	P	10 06 37.7	+0.9
PDAR	**Pinedale Array**	**78.82**	**44**	P	P	10 06 38.6	+1.1
	1.4nm,0.8s,mb4.0,baz=288,slow=2.6,SNR=5.1						
VYHS	**Vyhne**	**79.30**	**324**	*eP*	P	10 06 40.9	+0.8
VRAC	**Vranov**	**79.74**	**326**	P	P	10 06 42.5	+0.1
	2.3nm,0.6s,mb4.3,baz=16,slow=7.4,SNR=2.5						
CLL	**Collm**	**79.80**	**329**	P	P	10 06 43.0	+0.3
CLL	**Collm**	**79.80**	**329**	*eP*	P	10 06 43.0	+0.3
PRU	**Pruhonice**	**80.14**	**327**	*eP*	P	10 06 45.5	+1.0
AFFS	**'Afif**	**80.30**	**293**	P	P	10 06 46.0	+0.1
KHC	**Kasperske Hory**	**81.20**	**327**	*eP*	P	10 06 51.0	+0.9
GERES	**GERESS Array B**	**81.36**	**327**	P	P	10 06 50.8	-0.2
	1.4nm,0.5s,mb4.1,baz=35,slow=6.0,SNR=8.5						
KBRS	**Khaybar**	**81.90**	**296**	P	P	10 06 55.6	+1.4
PV10	**Paradox Valley**	**82.02**	**47**	*eP*	P	10 06 56.9	+2.3
EKA	**Eskdalemuir Ar**	**82.13**	**339**	P	P	10 06 55.4	+0.5
	1.7nm,0.8s,mb4.0,baz=31,slow=4.9,SNR=3.5						
TATS	**Tathlith**	**82.56**	**289**	P	P	10 06 58.8	+1.0
BDAS	**Al Bad'**	**83.19**	**301**	P	P	10 07 02.0	+1.1
DJNS	**Zahran al Janu**	**83.60**	**287**	P	P	10 07 04.9	+1.7
UMJS	**Umm Lajj**	**83.63**	**297**	P	P	10 07 04.9	+1.7
YNBS	**Yanbu' al Bahr**	**83.69**	**296**	P	P	10 07 03.8	+0.3
NAMS	**An Nimas**	**83.73**	**289**	P	P	10 07 05.1	+1.2
BLJS	**Baljurashi**	**83.76**	**290**	P	P	10 07 05.2	+1.2
GIVF	**Givet**	**83.95**	**332**	*eP*	P	10 07 03.9	-0.3
CDF	**Champ du Feu**	**84.38**	**330**	*eP*	P	10 07 06.5	+0.1
	22nm,1.0s,mb4.9						
LTHS	**Al Lith**	**84.41**	**291**	P	P	10 07 06.5	-0.7
DAVOX	**Davos**	**84.60**	**328**	P	P	10 07 08.1	+0.5
	4.9nm,0.7s,mb4.7,baz=46,slow=7.5,SNR=5.0						
HINF	**Hinteralfeld**	**85.03**	**330**	*eP*	P	10 07 09.2	-0.5
HAU	**Haudompre**	**85.07**	**330**	*eP*	P	10 07 09.5	-0.4
	11nm,0.7s,mb4.8						
MEZF	**Maizieres J'vi**	**85.17**	**331**	*eP*	P	10 07 10.5	+0.1
	16nm,0.8s,mb4.9						
CABF	**La Chapelle**	**86.31**	**330**	*eP*	P	10 07 16.2	+0.1
	5.3nm,0.6s,mb4.5						
LOR	**Lormes**	**86.65**	**331**	*eP*	P	10 07 17.4	-0.3
	11nm,0.7s,mb4.9						
LPL	**La Plagne**	**86.93**	**329**	*eP*	P	10 07 19.4	+0.3
	1.5nm,0.4s,mb4.3						
LPG	**La Plagne**	**86.94**	**329**	*eP*	P	10 07 19.2	0.0
	6.4nm,0.7s,mb4.7						
SSF	**Saint Saulge**	**86.95**	**331**	*eP*	P	10 07 18.8	-0.4
	20nm,1.1s,mb5.0						
SMF	**Signal de Mont**	**87.17**	**331**	*eP*	P	10 07 19.6	-0.7
	7.2nm,0.7s,mb4.7						
GRR	**Gorron**	**87.42**	**334**	*eP*	P	10 07 21.4	0.0
	11nm,0.6s,mb5.0						
MBDF	**Montbardon**	**87.55**	**328**	*eP*	P	10 07 21.9	-0.3
	4.8nm,0.7s,mb4.5						
ORIF	**Oris-en-Rattie**	**87.77**	**329**	*eP*	P	10 07 22.9	-0.3
PGF	**Pioggiola**	**88.32**	**325**	*eP*	P	10 07 25.0	-0.9
	4.3nm,0.8s,mb4.5						
TXAR	**Lajitas Array**	**91.46**	**51**	P	P	10 07 41.8	+0.8
	1.0nm,0.8s,mb4.2,baz=289,slow=3.5,SNR=5.6						
DBIC	**Dimbokro**	**124.66**	**314**	PKP	PKPdf	10 13 34.4	-3.6
	3.4nm,1.1s,slow=9.1,SNR=2.5						
SNAA	**Sanae**	**140.48**	**198**	PKhKP		10 13 56.4	
	0.4nm,0.8s,baz=76,slow=0.8,SNR=4.6						
VNA2	**Neumayer--Watz**	**142.08**	**197**	⇑*i*P	PKPdf	10 14 03.3	-5.4
VNA2	**Neumayer--Watz**	**142.08**	**197**	⇑*i*P	PKPdf	10 14 03.3	-5.4
VNA3	**Neumayer Olymp**	**142.37**	**196**	P	PKPdf	10 14 03.8	-5.3
VNA3	**Neumayer Olymp**	**142.37**	**196**	P	PKPdf	10 14 03.8	-5.3
VNA1	**Neumayer--Stat**	**142.47**	**197**	⇑*i*P	PKPdf	10 14 03.9	-5.4
VNA1	**Neumayer--Stat**	**142.47**	**197**	⇑*i*P	PKPdf	10 14 03.9	-5.4
LPAZ	**La Paz**	**148.19**	**56**	PKPbc	PKPdf	10 14 22.2	+1.6
	2.3nm,0.4s,baz=307,slow=1.5,SNR=3.5						
CPUP	**Villa Florida**	**162.36**	**56**	PKPab	PKPab	10 15 22.9	-1.6
	1.2nm,0.3s,baz=339,slow=2.1,SNR=11						

JMA 23 09:56:14.3±0.1,37.19N×138.83E,h11km±2km,M3.4,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKT	**Katashina**	**0.54**	**141**	P	Pg	09 56 24.8	-0.4
JKT				*eS*	Sg	09 56 32.5	-0.1
MAT	**Matsushiro**	**0.82**	**218**	P	Pb	09 56 29.1	-0.9
MAT				S	Sb	09 56 39.5	-1.3

*NAO **23** 09:57:03.9±2.5,67.67N×33.88E,ML2.5*
*CSEM **23** 09:57:03.5±0.7,67.63N×33.95E,h2km,ML2.5,Error ellipse: s-maj=17.1km s-min=8.9km az=96.0,Mining explosion.*
*HEL **23** 09:57:05.0±0.4,67.67N×33.83E,ML2.5,ML2.5(NAO),Explosion*
ISC 23 09:57:02.7±1.5,67.68N±0.05×34.0E±0.2,n22,σ1s27/38, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.38**	**259**	*i* P	**Pg**	**09 57 10.4**	**+0.2**
APA0				*i* S	**Sg**	**09 57 15.1**	**-0.1**
APA0				*e*RG		09 57 17.1	
APA0	**Apatity Array**	**0.38**	**259**	Pg	**Pg**	**09 57 10.4**	**+0.2**
	baz=92,slow=16						
APA0				Lg		09 57 15.1	
	baz=86,slow=37						
APA0				Rg		09 57 17.1	
	baz=87,slow=37						
MSF	**Maaselka**	**2.63**	**230**	*eP*	**Pn**	**09 57 48.6**	**+1.4**
MSF				*eS*	**Sn**	**09 58 20.2**	**-0.1**
MSF	**Maaselka**	**2.63**	**230**	P	**Pn**	**09 57 48.5**	**+1.4**
MSF				S	**Sn**	**09 58 20.2**	**-0.1**
SGF	**Sodankyl**	**2.86**	**269**	*eP*	**Pn**	**09 57 51.4**	**+1.1**
SGF				*eS*	**Sn**	**09 58 26.4**	**+0.4**
SGF				MSG		09 58 34.5	
	comp=Z,15nm,0.4s						
SGF	**Sodankyl**	**2.86**	**269**	P	**Pn**	**09 57 51.4**	**+1.0**
SGF				S	**Sn**	**09 58 26.4**	**+0.4**
	comp=Z,15nm,0.4s						
KEV	**Kevo**	**3.28**	**313**	*eP*	**Pn**	**09 57 57.6**	**+1.2**
KEV

1.8nm,0.7s,mb4.1,baz=49,slow=6.2,SNR=4.8
NOA NORSAR Array B 73.22 336 P **P** **10 08 34.2 0.0**
1.2nm,0.7s,mb4.0,baz=41,slow=5.9,SNR=3.6
NOA NORSAR Array B 73.22 336 P **P** **10 08 34.2 0.0**
NVAR Mina Array Bea 76.52 52 P **P** **10 08 55.4 +1.8**
0.9nm,0.7s,mb3.8,baz=299,slow=3.6,SNR=4.0
BRTR Keskin Array B 77.19 310 P **P** **10 08 58.0 +0.8**
0.9nm,0.7s,mb3.8,baz=67,slow=9.4,SNR=3.8
PDAR Pinedale Array 79.00 44 P **P** **10 09 08.8 +1.6**
0.9nm,0.9s,mb3.7,baz=291,slow=3.3,SNR=3.9
VNA2 Neumayer--Watz 141.89 197 P PKPdf 10 16 31.8 -5.4
VNA3 Neumayer Olymp 142.18 196 P PKPdf 10 16 30.4 -7.3
VNA1 Neumayer--Stat 142.29 197⇑*i*P PKPdf 10 16 35.5 -2.4

NIED ***23*** *09:57:00,37.20N×138.90E,h5km,Mw5.1 Best double couple: M₀4.86×10¹⁶ NP1:φs222°,δ55°,λ98°. NP2:φs29°, δ36°,λ79°.*
BJI ***23*** *09:57:19.2,36.93N×139.39E,h10km,mb5.0,Ms5.6, Msz5.0*
IDC ***23*** *09:57:24.1±0.4,37.21N×138.68E,mb4.7/30,mb1 4.9/33, mb1mx4.8/35,ML4.5/2,Error ellipse: s-maj=14.0km s-min=10.5km az=89.0*
HRVD ***23*** *09:57:26.4±1.1,37.25N×138.91E,h32km±1km,MW5.5/29, Centroid moment Tensor Solution. LP body waves: s11,c17;Mantle waves: s29,c40; Half duration: 1s4 Moment tensor: Scale 10¹⁷Nm; Mrr2.95±.42; Mθθ-1.36±.23; Mφφ-1.59±.23; Mrθ-0.08±.30; Mθφ-0.40±.10; Mφr0.51±.24; Best double couple: M₀2.47×10¹⁷ NP1: φs221°,δ41°,λ98°. NP2:φs30°,δ50°,λ83°. Principal axes: T 3.01, Plg83°, Azm256°; N -1.09, Plg5°, Azm35°; P -1.92, Plg4°, Azm125°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
JMA ***23*** *09:57:26.2±0.1,37.21N×138.86E,h8km±3km,M5.3*
NEIC ***23*** *09:57:26.4±0.1,37.19N×138.75E,h10km,mb5.2/36, MW5.1(NIED),Error ellipse: s-maj=3.5km s-min=2.9km az=137.0*
MOS ***23*** *09:57:29.6±0.9,37.57N×138.61E,h33km,mb5.1/29,Error ellipse: s-maj=13.0km s-min=6.9km az=102.0*
ISC 23 09:57:26.0±0.4,37.21N±0.02×138.84E±0.03,h20km±2km, h17km±5.1km:pP-P,n279,σ1$96/263,mb5.0/79,MS5.5/3, 11C-12D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.15**	**74**	P		**Pb**		**09 57 29.1**	**-1.4**
JHK				S		**Sb**		**09 57 31.5**	**-2.1**
JIZZ	**Izumozaki**	**0.34**	**343**	S		**Sb**		**09 57 40.0**	**+1.8**
JJN	**Nakama**	**0.55**	**259**	P		**Pb**		**09 57 37.9**	**+1.1**
JJN				S		**Sb**		**09 57 46.6**	**+2.4**
JKT	**Katashina**	**0.55**	**143**	P		**Pb**		**09 57 36.7**	**-0.1**
JKT				S		**Sb**		**09 57 44.1**	**-0.1**
JNS	**Sasagawa**	**0.72**	**32**	P		**Pb**		**09 57 39.6**	**-0.1**
JNS				S		**Sb**		**09 57 48.7**	**-0.4**
JFY	**Yanaizu**	**0.72**	**74**	P		**Pb**		**09 57 39.5**	**-0.2**
JFY				S		**Sb**		**09 57 48.8**	**-0.3**
MAJO	**Matsushiro**	**0.83**	**217**	*e*P		**Pb**		**09 57 41.6**	**0.0**
MAJO				*e*S		**Sb**		**09 57 53.5**	**+1.1**
MAT	**Matsushiro**	**0.83**	**217**	*e*P		**Pb**		**09 57 42.0**	**+0.4**
MAT				*e*S		**Sb**		**09 57 53.0**	**+0.6**
JHJ	**Hachijo jima 2**	**4.15**	**169**	Pn		**Pn**		**09 58 31.2**	**+1.4**
	352nm,0.3s,baz=54,slow=5.0,SNR=27								
JHJ				Sn		**Sn**		**09 59 19.7**	**+1.2**
	64nm,0.3s,baz=46,slow=21,SNR=4.4								
ASAJ	**Asahikawa**	**7.47**	**21**	Pn		**Pn**		**09 59 18.7**	**+2.0**
	3.7nm,0.3s,baz=242,slow=13,SNR=14								
ASAJ	**Asahikawa**	**7.47**	**21**	P		**Pn**		**09 59 18.7**	**+2.0**
ASAJ				pmax		pmax			
	comp=Z,4.0nm,0.3s								
YSS	**Yuzh-Sakhalins**	**10.16**	**15**⇑	*e*P		**P**		**09 59 53.0**	**-0.9**
YSS				pmax		pmax			
	comp=Z,50nm,0.9s								
YSS	**Yuzh-Sakhalins**	**10.16**	**15**	*e*P		**P**		**09 59 53.9**	**0.0**
	comp=Z,88nm,0.8s								
MDJ	**Mudanjiang**	**10.18**	**320**	*e*P		**P**		**09 59 54.5**	**+0.4**
	comp=Z,165nm,1.5s								
CBIJ	**Chichi jima**	**10.47**	**163**	Pn		**P**		**09 59 54.5**	**-3.7**
CN2	**Changchun**	**12.13**	**307**	*e*P		**P**		**10 00 23.4**	**+2.8**
NJ2	**Nanjing**	**17.22**	**259**	*e*P		**P**		**10 01 25.8**	**-1.2**
NJ2				AP				10 01 29.3	
NJ2				XP				10 01 33.0	
NJ2				PP		PP		10 01 40.0	-1.4
NJ2				S		**S**		**10 04 36.0**	**-0.5**
NJ2				LR		LR			
	comp=N,2μm,14.2s								
NJ2				LR		LR			
	comp=E,3μm,15.3s								
NJ2				LR		LR			
	comp=Z,2μm,15.3s								
TIA	**Tai'an**	**17.44**	**273**	P		**P**		**10 01 31.8**	**+2.1**
TIA				AMB		AMB			
	comp=Z,202nm,1.8s								
BJI	**Beijing**	**17.93**	**286**	P		**P**		**10 01 37.3**	**+1.6**
BJI				AMB		AMB			
	comp=Z,128nm,1.5s								
BJI	**Beijing**	**17.93**	**286**	P		**P**		**10 01 37.3**	**+1.6**
	comp=Z,128nm,1.5s								
BJT	**Baijiatuan**	**17.93**	**286**	*e*P		**P**		**10 01 37.1**	**+1.3**
	comp=Z,140nm,1.0s								
HIA	**Hailar**	**18.35**	**317**	*e*P		**P**		**10 01 41.3**	**+0.4**
	comp=Z,52nm,1.1s								
PET	**Petropavlovsk**	**21.00**	**35**	*e*P		**P**		**10 02 09.1**	**-1.3**
PET				pmax		pmax			
	comp=N,40nm,1.1s								
PET				pmax		pmax			
	comp=Z,41nm,1.1s,mb4.7								
PET				pmax		pmax			
	comp=E,31nm,1.2s								
WHN	**Wuhan**	**21.36**	**259**	⇑P		**P**		**10 02 14.8**	**+0.6**
CLNS	**Chul'man**	**21.73**	**339**	*e*P		**P**		**10 02 19.6**	**+1.8**
CLNS				pmax		pmax			
	comp=Z,28nm,1.1s,mb4.6								
CLNS				pmax		pmax			
	comp=N,14nm,1.2s								
CLNS				pmax		pmax			
	comp=E,12nm,0.9s								
MA2	**Magadan**	**23.67**	**15**	⇓*e*P		**P**		**10 02 36.9**	**+0.2**
MA2				pmax		pmax			
	comp=Z,56nm,0.9s,mb5.0								
XAN	**Xi'an**	**24.48**	**272**	P		**P**		**10 02 43.6**	**-1.2**
XAN				AP				10 02 52.4	
ENH	**Enshi**	**25.30**	**263**	*e*P		**P**		**10 02 51.6**	**-1.2**
	comp=Z,100nm,0.8s,mb5.4								
YAK	**Yakutsk**	**25.50**	**350**	⇓*e*P		**P**		**10 02 53.2**	**-1.1**
YAK				pmax		pmax			
	comp=Z,73nm,1.8s,mb4.9								
YAK	**Yakutsk**	**25.50**	**350**	*e*P		**P**		**10 02 52.3**	**-1.9**
	comp=Z,112nm,1.1s,mb5.3								
SONM	**Songino Array**	**25.98**	**304**	P		**P**		**10 02 57.9**	**-1.0**
	comp=Z,13nm,0.8s,mb4.5,baz=108,slow=7.8,SNR=35								
LZH	**Lanzhou**	**28.01**	**278**	*e*P		**P**		**10 03 16.8**	**-0.8**
LZH				AP		pP		10 03 23.3	-0.2
LZH				XP		sP		10 03 27.8	+1.7
LZH				AMB		AMB			
	comp=Z,150nm,1.7s,mb5.3								
LZH	**Lanzhou**	**28.01**	**278**	*e*P		**P**		**10 03 16.7**	**-0.9**
	comp=Z,150nm,1.7s,mb5.3								
LZH				pP		pP		10 03 23.2	-0.3
LZH				sP		sP		10 03 27.8	+1.7
ZAK	**Zakamensk**	**28.55**	**309**	*e*P		**P**		**10 03 19.9**	**-2.4**
ZAK				*e*				10 06 41.8	
GYA	**Guiyang**	**29.23**	**258**	⇓P		**P**		**10 03 27.3**	**-1.4**
GYA				AMB		AMB			
	comp=Z,20nm,1.6s,mb4.6								
GTA	**Gaotai**	**30.54**	**286**	*e*P		**P**		**10 03 40.9**	**+0.7**
GTA				AP		pP		10 03 50.3	+4.1
KMI	**Kunming**	**32.96**	**259**	*e*P		**P**		**10 04 01.1**	**-0.4**
KMI				AMB		AMB			
	comp=Z,23nm,1.4s,mb4.9								
KMI	**Kunming**	**32.96**	**259**	*e*P		**P**		**10 04 01.1**	**-0.4**
	comp=Z,23nm,1.4s,mb4.9								
TIXI	**Tiksi**	**34.90**	**354**	⇓*e*P		**P**		**10 04 16.4**	**-1.4**
TIXI				*e*				10 05 35.2	
TIXI				*e*				10 06 47.1	
TIXI				pmax		pmax			
	comp=Z,10.0nm,0.8s,mb4.8								
TIXI				MLR		MLR			
	comp=Z,3μm,13.0s,MS5.2								
WMQ	**Urumqi**	**38.92**	**296**	*e*P		**P**		**10 04 50.6**	**-1.4**
CMAR	**Chiang Mai Arr**	**39.56**	**253**	P		**P**		**10 04 56.2**	**-1.4**
	comp=Z,0.9nm,0.4s,mb3.8,baz=46,slow=7.9,SNR=5.6								
CMAR				PcP		PcP		10 07 05.2	-0.2
	comp=Z,2.7nm,1.0s,baz=6.0,slow=1.9,SNR=4.6								
CMAR	**Chiang Mai Arr**	**39.56**	**253**	P		**P**		**10 04 56.2**	**-1.4**
CMAR								10 07 05.2	
CMAR				pmax		pmax			
	comp=Z,1.0nm,0.4s								
CMAR				pmax		pmax			
	comp=Z,3.0nm,1.0s								
ZAL	**Zalesovo**	**40.29**	**312**	P		**P**		**10 05 01.7**	**-1.5**
	comp=Z,2.1nm,0.5s,mb4.1,baz=16,slow=11,SNR=5.9								
ZAL				PcP		PcP		10 07 05.6	-1.7
	comp=Z,2.3nm,0.6s,baz=240,slow=3.3,SNR=4.4								
ZAL	**Zalesovo**	**40.29**	**312**	P		**P**		**10 05 01.7**	**-1.5**
ZAL								10 07 05.6	
ZAL				pmax		pmax			
	comp=Z,2.0nm,0.5s								
ZAL				pmax		pmax			
	comp=Z,2.0nm,0.6s								
KURK	**Kurchatov**	**44.20**	**308**	⇓*e*P		**P**		**10 05 33.7**	**-1.4**
KURK	**Kurchatov**	**44.20**	**308**	*e*P		**P**		**10 05 33.6**	**-1.5**
	comp=Z,27nm,1.1s,mb4.9								
WAU	**Wau**	**44.93**	**169**	*e*P		**P**		**10 05 41.3**	**-0.2**
GUN	**Gumba**	**45.09**	**274**	*e*P		**P**		**10 05 42.2**	**-0.4**
	comp=Z,81nm,0.9s,mb5.6								
PKI	**Pulchoki**	**45.61**	**274**	*e*P		**P**		**10 05 46.3**	**-0.4**
	comp=Z,15nm,0.8s,mb5.0								
KKN	**Kakani**	**45.62**	**274**	*e*P		**P**		**10 05 46.0**	**-0.8**
	comp=Z,31nm,0.8s,mb5.3								
DMN	**Daman**	**45.84**	**274**	*e*P		**P**		**10 05 48.3**	**-0.2**
GKN	**Gorkha**	**46.04**	**275**	*e*P		**P**		**10 05 49.3**	**-0.8**
	comp=Z,65nm,0.9s,mb5.6								
KOLN	**Koldanda**	**46.96**	**275**	*e*P		**P**		**10 05 56.4**	**-1.0**
	comp=Z,109nm,1.6s,mb5.5								
IMA	**Indian Mountai**	**47.59**	**31**	*e*P		**P**		**10 06 02.9**	**+1.1**
RSO	**Redoubt South**	**48.04**	**38**	*e*P		**P**		**10 06 05.0**	**-0.4**
SPU	**Mount Spurr**	**48.34**	**37**	*e*P		**P**		**10 06 07.0**	**-0.7**
KDAK	**Kodiak Island**	**48.35**	**42**	*e*P		**P**		**10 06 06.9**	**-0.9**
	comp=Z,39nm,0.7s,mb5.5								
AAK	**Ala-Archa**	**48.59**	**298**	P		**P**		**10 06 08.6**	**-1.3**
AAK				pmax		pmax			
	comp=Z,220nm,2.6s,mb5.7								
AAK	**Ala-Archa**	**48.59**	**298**	*e*P		**P**		**10 06 08.4**	**-1.5**
	comp=Z,14nm,1.0s,mb5.0								
BVAR	**Borovoye Array**	**48.93**	**312**	P		**P**		**10 06 11.2**	**-1.2**
	comp=Z,8.2nm,0.9s,mb4.7,baz=79,slow=7.6,SNR=13								
BVAR				PcP		PcP		10 07 34.7	-2.2
	comp=Z,2.4nm,0.5s,baz=123,slow=4.3,SNR=4.8								
BRVK	**Borovoye**	**48.98**	**312**	*e*P		**P**		**10 06 11.6**	**-1.2**
BRVK	**Borovoye**	**48.98**	**312**	*e*P		**P**		**10 06 11.2**	**-1.6**
	comp=Z,31nm,1.2s,mb5.2								
PWA	**Palmer West**	**49.35**	**37**	*e*P		**P**		**10 06 16.3**	**+0.7**
PMR	**Palmer**	**49.72**	**37**	*e*P		**P**		**10 06 17.8**	**-0.5**
ZRNK	**Zerenda**	**49.76**	**312**	*e*P		**P**		**10 06 17.1**	**-1.7**
	comp=Z,38nm,1.1s,mb5.3								
COLA	**College**	**50.03**	**32**	*e*P		**P**		**10 06 21.7**	**+1.0**
SML	**Sawmill**	**50.07**	**36**	P		**P**		**10 06 21.3**	**+0.2**
SML	**Sawmill**	**50.07**	**36**	*e*P		**P**		**10 06 21.0**	**0.0**
ILAR	**Eielson Array**	**50.45**	**32**	P		**P**		**10 06 23.2**	**-0.7**
	comp=Z,5.5nm,0.7s,mb4.7,baz=274,slow=5.4,SNR=33								
ILAR	**Eielson Array**	**50.45**	**32**	P		**P**		**10 06 23.2**	**-0.7**
ILAR				pmax		pmax			
	comp=Z,6.0nm,0.7s								
DAWY	**Dawson**	**53.77**	**33**	*e*P		**P**		**10 06 48.3**	**-0.5**
ARU	**Arti**	**54.86**	**318**	⇑*i*P		**P**		**10 06 55.1**	**-1.8**
ARU				*e*				10 08 54.9	
ARU				*e*S		**S**		**10 14 38.3**	**+3.1**
ARU				pmax		pmax			
	comp=Z,33nm,0.7s,mb5.5								
INK	**Inuvik**	**55.17**	**27**	P		**P**		**10 06 58.5**	**-0.5**
	comp=Z,7.0nm,0.5s,mb4.9,baz=305,slow=6.9,SNR=20								
INK	**Inuvik**	**55.17**	**27**	P		**P**		**10 06 58.5**	**-0.5**
INK				pmax		pmax			
	comp=Z,7.0nm,0.5s								
HYB	**Hyderabad**	**56.15**	**267**	*i* P		**P**		**10 07 05.0**	**-1.8**
HYB	**Hyderabad**	**56.15**	**267**	*e*P		**P**		**10 07 05.0**	**-1.8**
FITZ	**Fitzroy Crossi**	**56.40**	**195**	P		**P**		**10 07 07.3**	**-1.3**
	comp=Z,5.8nm,0.9s,mb4.6,baz=8.4,slow=7.4,SNR=11								
WRAB	**Tennant Creek**	**56.99**	**185**	P		**P**		**10 07 11.0**	**-1.8**
	comp=Z,295nm,1.8s,mb6.0,SNR=15								
WRAB	**Tennant Creek**	**56.99**	**185**	*e*P		**P**		**10 07 10.7**	**-2.1**
	comp=Z,37nm,0.8s,mb5.5								
WRA	**Warramunga Arr**	**57.00**	**185**	P		**P**		**10 07 10.7**	**-2.2**
	comp=Z,20nm,0.6s,mb5.3,baz=0.4,slow=7.5,SNR=36								
WRA				PcP		PcP		10 08 06.6	-1.1
	comp=Z,5.1nm,0.8s,baz=359,slow=4.2,SNR=3.3								
WRA	**Warramunga Arr**	**57.00**	**185**	P		**P**		**10 07 10.7**	**-2.1**
WRA								10 08 06.6	
WRA				pmax		pmax			
	comp=Z,20nm,0.6s								
WRA				pmax		pmax			
	comp=Z,5.0nm,0.8s								
CTA	**Charters Tower**	**57.41**	**172**	P		**P**		**10 07 14.9**	**-0.8**
	comp=Z,4.0nm,0.8s,mb4.5,baz=0.8,slow=8.8,SNR=6.5								
CTA	**Charters Tower**	**57.41**	**172**	P		**P**		**10 07 14.9**	**-0.8**
CTA				pmax		pmax			
	comp=Z,4.0nm,0.8s								
CTAO	**Charters Tower**	**57.41**	**172**	*e*P		**P**		**10 07 15.4**	**-0.4**
	comp=Z,6.5nm,0.9s,mb4.7								
DLBC	**Dease Lake**	**59.75**	**38**	P		**P**		**10 07 32.2**	**+0.7**
	comp=Z,5.1nm,0.7s,mb4.7,baz=293,slow=6.1,SNR=15								
DLBC	**Dease Lake**	**59.75**	**38**	P		**P**		**10 07 32.2**	**+0.7**
ASAR	**Alice Springs**	**60.72**	**185**	P		**P**		**10 07 37.0**	**-1.6**
	comp=Z,3.1nm,0.7s,mb4.6,baz=15,slow=12,SNR=18								
MBWA	**Marble Bar**	**60.78**	**200**	*e*P		**P**		**10 07 37.0**	**-2.0**
KEV	**Kevo**	**62.54**	**339**	*e*p		**P**		**10 07 48.4**	**-1.8**
ARCES	**ARCESS Array B**	**63.10**	**339**	P		**P**		**10 07 52.9**	**-1.0**
	comp=Z,20nm,1.1s,mb5.2,baz=50,slow=9.5,SNR=11								
ARCES	**ARCESS Array B**	**63.10**	**339**	P		**P**		**10 07 52.9**	**-1.0**
ARCES				pmax		pmax			
	comp=Z,20nm,1.1s								
YKA	**Yellowknife Ar**	**64.68**	**29**	P		**P**		**10 08 03.4**	**-0.8**
	comp=Z,5.9nm,0.6s,mb4.8,baz=305,slow=6.6,SNR=24								
YKA	**Yellowknife Ar**	**64.68**	**29**	P		**P**		**10 08 03.4**	**-0.9**
YKA				pmax		pmax			
	comp=Z,6.0nm,0.6s								
YKA	**Yellowknife Ar**	**64.68**	**29**	P		**P**		**10 08 03.4**	**-0.8**
JOF	**Joensuu**	**64.83**	**331**	*e*p		**P**		**10 08 03.1**	**-2.1**
	comp=Z,5.2nm,0.6s,mb4.7								
JOF	**Joensuu**	**64.83**	**331**	*e*P		**P**		**10 08 03.1**	**-2.1**
JOF				pmax		pmax			
	comp=Z,5.0nm,0.6s,mb4.7								
DAG	**Danmarks Havn**	**65.41**	**354**	⇑*i*P		**P**		**10 08 08.0**	**-0.8**
	comp=Z,19nm,1.3s,mb5.0								
MOS	**Moscow**	**65.87**	**323**	*e*P		**P**		**10 08 09.4**	**-2.6**
MOS				pmax		pmax			
	comp=Z,71nm,0.8s,mb5.8								
OBN	**Obninsk**	**66.71**	**322**	⇓*e*P		**P**		**10 08 16.9**	**-0.5**
OBN				*e*				10 08 43.5	
OBN				*e*				10 10 41.9	
OBN				pmax		pmax			
	comp=Z,25nm,1.0s,mb5.2								
OBN				MLR		MLR			
	comp=Z,3μm,15.0s,MS5.6								
VOR	**Voronezh**	**67.15**	**318**	P		**P**		**10 08 19.0**	**-1.2**
VOR				pmax		pmax			
	comp=Z,110nm,2.0s,mb5.5								
KAF	**Kangasniemi**	**67.20**	**332**	*e*p		**P**		**10 08 17.5**	**-2.9**
	comp=Z,8.0nm,0.7s,mb4.9,baz=51,slow=6.0								
KAF	**Kangasniemi**	**67.20**	**332**	*e*P		**P**		**10 08 17.5**	**-2.9**
KAF				pmax		pmax			
	comp=Z,8.0nm,0.7s,mb4.9								
FINES	**FINESS Array B**	**67.69**	**331**	P		**P**		**10 08 22.1**	**-1.3**
	comp=Z,8.9nm,0.7s,mb4.9,baz=76,slow=7.9,SNR=15								
FINES	**FINESS Array B**	**67.69**	**331**	P		**P**		**10 08 22.1**	**-1.4**
FINES				pmax		pmax			
	comp=Z,9.0nm,0.7s								
GOF	**Gofitskoye**	**68.44**	**311**	*e*P		**P**		**10 08 28.0**	**-0.4**
STKA	**Stephens Creek**	**68.77**	**177**	P		**P**		**10 08 29.8**	**-0.9**
	comp=Z,7.0nm,0.7s,mb4.7,baz=322,slow=2.3,SNR=7.9								
RPW	**Rockport**	**68.89**	**45**	*e*P		**P**		**10 08 31.1**	**-0.1**
KIV	**Kislovodsk**	**69.23**	**310**	*e*P		**P**		**10 08 32.8**	**-0.5**
	comp=Z,70nm,1.4s,mb5.4								
RMW	**Rattlesnake Mo**	**69.26**	**46**	P		**P**		**10 08 35.2**	**+1.8**
RMW	**Rattlesnake Mo**	**69.26**	**46**	*e*P		**P**		**10 08 35.3**	**+1.9**
GNI	**Garni**	**69.94**	**306**	P		**P**		**10 08 37.4**	**-0.3**
	comp=Z,17nm,1.0s,mb4.9,baz=152,slow=19,SNR=4.8								
GNI	**Garni**	**69.94**	**306**	P		**P**		**10 08 37.4**	**-0.3**
GNI				pmax		pmax			
	comp=Z,17nm,1.0s								
GNI	**Garni**	**69.94**	**306**	*e*P		**P**		**10 08 39.2**	**+1.5**
	comp=Z,78nm,1.4s,mb5.4								
EDM	**Edmonton**	**70.47**	**37**	P		**P**		**10 08 40.8**	**+0.1**
EDM	**Edmonton**	**70.47**	**37**	*e*P		**P**		**10 08 40.7**	**0.0**
SUMG	**Summit**	**70.50**	**359**	*e*P		**P**		**10 08 40.9**	**+0.3**
	comp=Z,22nm,0.8s,mb5.1								
DPW	**Davenport**	**71.06**	**44**	P		**P**		**10 08 45.1**	**+0.7**
DPW	**Davenport**	**71.06**	**44**	*e*P		**P**		**10 08 44.8**	**+0.4**
SOC	**Sochi**	**71.24**	**311**	*e*P		**P**		**10 08 45.5**	**0.0**
SOC				*e*				10 09 11.4	
SOC				*e*S		S		10 17 58.4	-2.0
SOC				*e*				10 18 41.4	
SOC				*e*SS		SS		10 22 28.0	-8.4
SOC				pmax		pmax			
	comp=Z,15nm,0.8s,mb5.0								
SOC				pmax		pmax			
	comp=N,3.0nm,0.4s								
SOC				pmax		pmax			
	comp=E,7.0nm,0.5s								
SOC				MLR		MLR			
	comp=Z,2μm,14.0s,MS5.6								
SOC				MLR		MLR			
	comp=N,2μm,15.0s,MS5.6								
SOC				MLR		MLR			
	comp=E,700nm,14.0s,MS5.6								
NEW	**Newport**	**71.43**	**43**	P		**P**		**10 08 46.8**	**+0.2**
	comp=E,12nm,0.8s,mb4.9,baz=323,slow=3.6,SNR=12								
NEW	**Newport**	**71.43**	**43**	P		**P**		**10 08 46.8**	**+0.2**
NEW				pmax		pmax			
	comp=Z,12nm,0.8s								
YBH	**Yreka Blue Hor**	**71.85**	**51**	P		**P**		**10 08 49.3**	**0.0**
	comp=Z,4.0nm,0.8s,mb4.4,baz=323,slow=9.9,SNR=6.1								
YBH	**Yreka Blue Hor**	**71.85**	**51**	P		**P**		**10 08 49.3**	**0.0**
YBH				pmax		pmax			
	comp=Z,4.0nm,0.8s								
ANN	**Anapa**	**71.91**	**313**	*e*P		**P**		**10 08 48.4**	**-1.2**
ANN				*e*				10 09 08.2	
ANN				*e*S		S		10 18 11.8	+3.7
ANN				pmax		pmax			
	comp=Z,47nm,1.6s,mb5.2								
ANN				pmax		pmax			
	comp=N,11nm,1.2s								
ANN				pmax		pmax			
	comp=E,9.0nm,0.8s								
LNOR	**Lincton Mounta**	**72.16**	**46**	P		**P**		**10 08 52.8**	**+1.8**
LNOR	**Lincton Mounta**	**72.16**	**46**	*e*P		**P**		**10 08 51.0**	**+0.1**
AKASG	**Malin Array Be**	**72.89**	**321**	P		**P**		**10 08 53.6**	**-1.5**
	comp=E,35nm,1.1s,mb5.2,baz=43,slow=6.1,SNR=31								
AKASG	**Malin Array Be**	**72.89**	**321**	P		**P**		**10 08 53.6**	**-1.5**
AKASG				pmax		pmax			
	comp=Z,35nm,1.1s								
HFS	**Hagfors**	**73.07**	**335**	P		**P**		**10 08 55.2**	**-0.8**
	comp=Z,5.6nm,0.8s,mb4.5,baz=72,slow=4.7,SNR=9.5								
HFS	**Hagfors**	**73.07**	**335**	P		**P**		**10 08 55.2**	**-0.8**
HFS				pmax		pmax			
	comp=Z,6.0nm,0.8s								
NB2	**NORSAR Subarra**	**73.22**	**336**	P		**P**		**10 08 55.2**	**-1.6**
	comp=Z,19nm,1.0s,mb5.0,baz=41,slow=5.8								
NB2	**NORSAR Subarra**	**73.22**	**336**	P		**P**		**10 08 55.2**	**-1.6**
	baz=41,slow=6.2								
NOA	**NORSAR Array B**	**73.22**	**336**	P		**P**		**10 08 55.5**	**-1.3**
	comp=Z,9.4nm,0.8s,mb4.8,baz=40,slow=5.9,SNR=17								
NOA				PP		PP		10 11 37.5	-4.5
	comp=Z,4.2nm,1.0s,baz=42,slow=8.4,SNR=3.5								
NOA	**NORSAR Array B**	**73.22**	**336**	P		**P**		**10 08 55.5**	**-1.3**
NOA								10 11 37.5	
NOA				pmax		pmax			
	comp=Z,9.0nm,0.8s								
NOA				pmax		pmax			
	comp=Z,4.0nm,1.0s								
LKC	**Lake Chabot**	**74.52**	**54**	*e*P		**P**		**10 09 06.6**	**+1.6**
HRY	**Holter Researc**	**75.23**	**42**	*e*P		**P**		**10 09 09.4**	**+0.6**
MCMT	**McKenzie Canyo**	**75.85**	**44**	*e*P		**P**		**10 09 12.6**	**+0.3**
NVAR	**Mina Array Bea**	**76.52**	**52**	P		**P**		**10 09 17.0**	**+0.7**
	comp=Z,9.0nm,0.7s,mb4.8,baz=282,slow=6.9,SNR=23								
NVAR	**Mina Array Bea**	**76.52**	**52**	P		**P**		**10 09 17.0**	**+0.7**
MNV	**Mina**	**76.61**	**52**	*e*P		**P**		**10 09 17.6**	**+0.8**
	comp=Z,27nm,1.4s,mb5.0								
QLMT	**Earthquake Lak**	**76.63**	**44**	*e*P		**P**		**10 09 17.8**	**+1.0**
KWP	**Kalwaria**	**76.77**	**323**	*e*P		**P**		**10 09 17.8**	**+0.4**
KWP	**Kalwaria**	**76.77**	**323**	*e*P		**P**		**10 09 17.8**	**+0.4**
GCMT	**Greyclifff**	**76.97**	**42**

BDAS	**Al Bad'**	**83.21**	**301**	P	**P**	**10 09 53.7**	**+1.4**
VISS	**Visnje**	**83.22**	**324**	*e*P	**P**	**10 09 50.9**	**-1.1**
BOJS	**Bojanci**	**83.25**	**324**	*i* P	**P**	**10 09 51.9**	**-0.3**
TAYS	**Tayyib Ism**	**83.29**	**301**	P	**P**	**10 09 54.1**	**+1.4**
DJNS	**Zahran al Janu**	**83.58**	**287**	P	**P**	**10 09 55.4**	**+1.0**
UMJS	**Umm Lajj**	**83.64**	**297**	P	**P**	**10 09 55.3**	**+0.7**
YNBS	**Yanbu' al Bahr**	**83.70**	**296**	P	**P**	**10 09 55.6**	**+0.7**
NAMS	**An Nimas**	**83.72**	**289**	P	**P**	**10 09 56.4**	**+1.3**
BLJS	**Baljurashi**	**83.75**	**290**	P	**P**	**10 09 57.3**	**+2.0**
GIVF	**Givet**	**84.06**	**332**	*e*P	**P**	**10 09 55.6**	**-0.5**
DAVA	**Damuels**	**84.30**	**328**	⇓*i*P	**P**	**10 09 57.9**	**+0.5**
	comp=Z,22nm,0.9s,mb5.3						
CDF	**Champ du Feu**	**84.48**	**330**	*e*P	**P**	**10 09 57.9**	**-0.4**
	comp=Z,40nm,1.1s,mb5.2						
DAVOX	**Davos**	**84.70**	**328**	P	**P**	**10 09 59.9**	**+0.5**
	comp=Z,4.1nm,0.6s,mb4.7,baz=33,slow=12,SNR=7.2						
BRMO	**Bormio**	**84.72**	**327**	*e*P	**P**	**10 10 00.1**	**+0.6**
HINF	**Hinteralfeld**	**85.13**	**330**	*e*P	**P**	**10 10 00.8**	**-0.7**
HAU	**Haudompre**	**85.18**	**330**	*e*P	**P**	**10 10 01.1**	**-0.7**
	comp=Z,16nm,0.7s,mb5.0						
MEZF	**Maizieres J'vi**	**85.28**	**331**	*e*P	**P**	**10 10 02.1**	**-0.2**
	comp=Z,52nm,0.9s,mb5.3						
SCHQ	**Schefferville**	**85.71**	**15**	P	**P**	**10 10 04.8**	**+0.5**
	comp=Z,6.0nm,0.8s,mb4.9,baz=343,slow=8.5,SNR=6.0						
RSM	**Repubblica di**	**85.75**	**324**	*e*P	**P**	**10 10 05.9**	**+1.1**
FSSB	**Fossombrone**	**85.78**	**324**	*e*P	**P**	**10 10 04.8**	**0.0**
ARV	**Arcevia**	**85.85**	**324**	*e*P	**P**	**10 10 05.9**	**+0.6**
LAZ	**Ladron**	**86.00**	**49**	*e*P	**P**	**10 10 08.7**	**+2.5**
ANMO	**Albuquerque**	**86.03**	**48**	*e*P	**P**	**10 10 07.7**	**+1.4**
SFI	**Santa Sofia**	**86.05**	**325**	*e*P	**P**	**10 10 07.0**	**+0.7**
PGD	**Poggio Sodo**	**86.13**	**325**	*e*P	**P**	**10 10 07.9**	**+1.3**
VMG	**Vicchio**	**86.15**	**325**	*e*P	**P**	**10 10 08.5**	**+1.8**
NRCA	**Norcia**	**86.28**	**323**	*e*P	**P**	**10 10 07.7**	**+0.3**
CABF	**La Chapelle**	**86.41**	**330**	*e*P	**P**	**10 10 07.4**	**-0.5**
BNM	**Barren Site**	**86.47**	**49**	P	**P**	**10 10 09.8**	**+1.3**
LOR	**Lormes**	**86.76**	**331**	*e*P	**P**	**10 10 08.8**	**-0.8**
	comp=Z,38nm,1.0s,mb5.3						
RFI	**Roccamonfina**	**87.01**	**322**	*e*P	**P**	**10 10 12.0**	**+1.0**
LPL	**La Plagne**	**87.03**	**329**	*e*P	**P**	**10 10 10.9**	**-0.1**
	comp=Z,3.0nm,0.6s,mb4.4						
LPG	**La Plagne**	**87.04**	**328**	*e*P	**P**	**10 10 11.0**	**0.0**
	comp=Z,4.1nm,0.6s,mb4.5						
TDS	**Terranova Siba**	**87.04**	**319**	*e*P	**P**	**10 10 12.1**	**+0.9**
SSF	**Saint Saulge**	**87.06**	**331**	*e*P	**P**	**10 10 10.2**	**-0.9**
	comp=Z,11nm,0.8s,mb4.8						
LDF	**La Druitiere**	**87.11**	**334**	*e*P	**P**	**10 10 10.3**	**-1.0**
	comp=Z,20nm,0.8s,mb5.1						
HYF	**Humbligny**	**87.22**	**332**	*e*P	**P**	**10 10 11.7**	**-0.1**
SMF	**Signal de Mont**	**87.28**	**331**	*e*P	**P**	**10 10 11.4**	**-0.7**
	comp=Z,9.9nm,0.8s,mb4.8						
MBDF	**Montbardon**	**87.65**	**328**	*e*P	**P**	**10 10 13.1**	**-0.9**
ORIF	**Oris-en-Rattie**	**87.87**	**329**	*e*P	**P**	**10 10 14.3**	**-0.7**
SBF	**Sospel**	**88.06**	**327**	*e*P	**P**	**10 10 14.5**	**-1.5**
	comp=Z,7.4nm,0.5s,mb4.9						
PGF	**Pioggiola**	**88.41**	**325**	*e*P	**P**	**10 10 16.5**	**-1.2**
	comp=Z,6.9nm,0.8s,mb4.6						
VIVF	**Saint-Julien-l**	**88.42**	**329**	*e*P	**P**	**10 10 16.8**	**-0.8**
FRF	**La Foret Royal**	**88.64**	**327**	*e*P	**P**	**10 10 17.5**	**-1.3**
SMRF	**Simiane la Rot**	**88.76**	**328**	*e*P	**P**	**10 10 18.7**	**-0.6**
LMR	**La Mourre**	**88.89**	**327**	*e*P	**P**	**10 10 18.9**	**-1.0**
GDL2	**Guadalupe Moun**	**89.19**	**49**	*e*P	**P**	**10 10 22.4**	**+0.8**
MTLF	**Montolieu**	**90.66**	**330**	*e*P	**P**	**10 10 28.0**	**-0.2**
TXAR	**Lajitas Array**	**91.63**	**51**	P	**P**	**10 10 34.0**	**+1.0**
	comp=Z,1.7nm,0.7s,mb4.5,baz=301,slow=3.1,SNR=18						
TXAR				PP	PP	10 14 10.8	-3.2
	comp=Z,0.8nm,1.2s,baz=301,slow=5.3,SNR=3.5						
ETSF	**Etsaut**	**92.12**	**331**	*e*P	**P**	**10 10 35.1**	**+0.2**
JCT	**Junction City**	**93.14**	**48**	*e*P	**P**	**10 10 40.9**	**+1.0**
JCT				pmax	pmax		
	comp=Z,47nm,1.6s,mb5.7						
JCT	**Junction City**	**93.14**	**48**	*e*P	**P**	**10 10 40.3**	**+0.4**
	comp=Z,47nm,1.6s,mb5.7						
DBIC	**Dimbokro**	**124.72**	**314**	PKP	PKPdf	10 16 24.9	-4.2
	comp=Z,4.4nm,1.0s,baz=60,slow=4.5,SNR=3.4						
DBIC	**Dimbokro**	**124.72**	**314**	PKIKP	PKPdf	10 16 24.9	-4.2
DBIC				pmax	pmax		
	comp=Z,4.0nm,1.0s						
QSPA	**South Pole Qui**	**126.95**	**180**	*e*P	PKPdf	10 16 38.3	+6.7
SNAA	**Sanae**	**140.30**	**198**	P	Pdif	10 14 06.0	-1.6
SNAA	**Sanae**	**140.30**	**198**	P	Pdif	10 14 06.0	-1.6
SNAA	**Sanae**	**140.30**	**198**		PKPdf	10 16 51.7	-5.1
SNAA	**Sanae**	**140.30**	**198**	⇑*i*	PKPdf	10 16 53.3	-3.5
SNAA	**Sanae**	**140.30**	**198**	PKhKP		10 16 47.3	
	comp=Z,0.4nm,0.5s,baz=194,slow=5.0,SNR=14						
SNAA	**Sanae**	**140.30**	**198**	PKPdf	PKPdf	10 16 48.3	-8.5
SNAA			⇑*i*P			10 16 53.3	
VNA2	**Neumayer--Watz**	**141.89**	**197**		PKPdf	10 16 53.3	-6.1
VNA2	**Neumayer--Watz**	**141.89**	**197**		PKPdf	10 16 57.0	-2.4
VNA2	**Neumayer--Watz**	**141.89**	**197**	⇑*i*	PKPdf	10 16 58.3	-1.1
VNA2	**Neumayer--Watz**	**141.89**	**197**	⇑*i*	PKPdf	10 17 01.6	+2.2
VNA2	**Neumayer--Watz**	**141.89**	**197**	⇑*i*P	PKPdf	10 16 58.3	-1.1
VNA3	**Neumayer Olymp**	**142.18**	**196**		PKPdf	10 16 53.8	-6.1
VNA3	**Neumayer Olymp**	**142.18**	**196**		PKPdf	10 16 57.7	-2.2
VNA3	**Neumayer Olymp**	**142.18**	**196**	⇑*i*	PKPdf	10 16 59.4	-0.5
VNA3	**Neumayer Olymp**	**142.18**	**196**		PKPdf	10 17 01.1	+1.2
VNA3	**Neumayer Olymp**	**142.18**	**196**	⇑*i*P	PKPdf	10 16 59.4	-0.5
VNA1	**Neumayer--Stat**	**142.29**	**197**		PKPdf	10 16 54.8	-5.3
VNA1	**Neumayer--Stat**	**142.29**	**197**		PKPdf	10 16 58.2	-1.9
VNA1	**Neumayer--Stat**	**142.29**	**197**		PKPdf	10 17 00.7	+0.6
VNA1	**Neumayer--Stat**	**142.29**	**197**	P	PKPdf	10 16 58.2	-1.9
SAML	**Samuel**	**145.52**	**41**	*e*PKPdf	PKPdf	10 17 03.7	-3.7
LPAZ	**La Paz**	**148.34**	**56**	PKPbc	PKPdf	10 17 13.3	+1.4
	comp=Z,4.9nm,0.6s,baz=336,slow=2.2,SNR=4.4						
LPAZ	**La Paz**	**148.34**	**56**	PKP2	PKPab	10 17 13.4	-3.2
LPAZ				pmax	pmax		
	comp=Z,5.0nm,0.6s						

JMA ***23*** *09:58:18.8,37.33N×138.92E,h14km±1km,M4.3*
JMA Felt IV J1.
ISC 23 09:58:18.0±1.0,**37.35N**±0.05×**138.89E**±0.08,**h18**km±9km,
n7,σ0°**61**/11,**mb4.3**/**1,Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.14**	**135**	P	**Pb**	**09 58 21.9**	**-0.4**
JHK				S	**Sb**	**09 58 24.2**	**-0.9**
JNS	**Sasagawa**	**0.58**	**36**	S	**Sb**	**09 58 37.8**	**+0.8**
JKT	**Katashina**	**0.65**	**154**	P	**Pb**	**09 58 30.7**	**+0.2**
JKT				S	**Sb**	**09 58 38.8**	**-0.2**
JFY	**Yanaizu**	**0.65**	**85**	S	**Sb**	**09 58 39.0**	**-0.1**
MAT	**Matsushiro**	**0.97**	**215**	P	**Pb**	**09 58 36.6**	**+0.5**
MAT				S	**Sb**	**09 58 48.6**	**+0.1**
JAG	**Ashikaga**	**1.03**	**154**	P	**Pb**	**09 58 37.6**	**+0.7**
JAG				S	**Sb**	**09 58 50.4**	**+0.4**
NB2	**NORSAR Subarra**	**73.11**	**336**	P	**P**	**10 09 47.3**	**-1.2**
	2.2nm,0.6s,mb4.3,baz=41,slow=6.2						

JMA ***23*** *09:59:17.9,37.36N×138.84E,h14km±1km,M4.0*
JMA Felt I J1.
ISC 23 09:59:18.0±0.7,**37.36N**±0.04×**138.87E**±0.06,**h15**km±5km,
n5,σ0°**29**/**9,Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.16**	**132**	P	**Pg**	**09 59 22.0**	**-0.2**
JHK				S	**Sg**	**09 59 25.0**	**0.0**
JIZZ	**Izumozaki**	**0.21**	**324**	P	**Pg**	**09 59 22.6**	**-0.4**
JIZZ				S	**Sg**	**09 59 26.9**	**+0.5**
JNS	**Sasagawa**	**0.58**	**38**	P	**Pb**	**09 59 29.2**	**-0.2**
JNS				S	**Sb**	**09 59 37.2**	**0.0**
JKT	**Katashina**	**0.67**	**152**	S	**Sb**	**09 59 40.0**	**+0.4**
MAT	**Matsushiro**	**0.97**	**213**	P	**Pb**	**09 59 35.8**	**-0.2**
MAT				S	**Sb**	**09 59 48.4**	**0.0**

JMA ***23*** *10:01:05.6±0.1,37.30N×138.94E,h14km±2km,M3.8*
JMA Felt III J1.
ISC 23 10:01:05.9±0.9,**37.32N**±0.04×**139.02E**±0.08,**h11**km±6km,
n5,σ0°**90**/**8,Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.07**	**181**	P	**Pg**	**10 01 08.3**	**-0.1**
JHK				*e*S	**Sg**	**10 01 10.3**	**+0.2**
JIZZ	**Izumozaki**	**0.32**	**311**	P	**Pg**	**10 01 12.0**	**-0.7**
JIZZ				*e*S	**Sg**	**10 01 17.2**	**0.0**
JNS	**Sasagawa**	**0.55**	**25**	S	**Sg**	**10 01 24.7**	**+0.2**
JKT	**Katashina**	**0.58**	**162**	*e*S	**Sb**	**10 01 25.1**	**-0.5**
MAT	**Matsushiro**	**1.01**	**220**	P	**Pb**	**10 01 26.5**	**+1.5**
MAT				S	**Sb**	**10 01 37.6**	**-0.5**

JMA ***23*** *10:03:45.2,37.09N×139.56E,h28km,mb4.4*
JMA ***23*** *10:03:49.9,37.31N×138.90E,h11km±1km,M4.3*
JMA Felt III J1.
NEIC ***23*** *10:03:50.5±0.4,37.17N×138.95E,h10km,mb4.2/1,Error ellipse: s-maj=13.0km s-min=6.5km az=133.0*
IDC ***23*** *10:03:58.2±3.9,37.20N×138.87E,h76km±37km,mb3.7/12, mb1 3.9/13,mb1mx3.8/26,ML4.0/1,Error ellipse: s-maj=22.2km s-min=20.3km az=44.0*
ISC 23 10:03:49.6±0.5,**37.30N**±0.03×**138.90E**±0.05,**h15**km±4km,
n31,σ0°**88**/36,**mb4.0**/13,**1D,Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.11**	**118**	P	**Pb**	**10 03 52.7**	**-0.1**
JHK				S	**Sb**	**10 03 54.9**	**0.0**
JIZZ	**Izumozaki**	**0.28**	**327**	P	**Pb**	**10 03 55.7**	**0.0**
JIZZ				S	**Sb**	**10 04 00.5**	**+0.7**
JKT	**Katashina**	**0.60**	**152**	P	**Pb**	**10 04 01.6**	**+0.3**
JKT				S	**Sb**	**10 04 09.9**	**+0.7**
JNS	**Sasagawa**	**0.61**	**33**	P	**Pb**	**10 04 01.2**	**-0.3**
JNS				S	**Sb**	**10 04 09.6**	**-0.1**
JFY	**Yanaizu**	**0.65**	**80**	⇓P	**Pb**	**10 04 02.2**	**+0.1**
JFY				S	**Sb**	**10 04 10.9**	**+0.2**
MAJO	**Matsushiro**	**0.94**	**217**	*e*P	**Pb**	**10 04 06.8**	**-0.2**
MAT	**Matsushiro**	**0.94**	**217**	P	**Pb**	**10 04 07.0**	**0.0**
MAT				S	**Sb**	**10 04 19.4**	**+0.4**
MAT	**Matsushiro**	**0.94**	**217**	*e*P	**Pb**	**10 04 07.0**	**0.0**
MAT				*e*S	**Sb**	**10 04 19.0**	**0.0**
JHJ	**Hachijo jima 2**	**4.23**	**170**	P	**Pn**	**10 04 59.2**	**+4.1**
	24nm,0.3s,baz=252,slow=20,SNR=3.2						
SONM	**Songino Array**	**25.97**	**304**	P	**P**	**10 09 24.4**	**+1.2**
	1.3nm,0.8s,mb3.5,baz=121,slow=8.4,SNR=4.9						
KURK	**Kurchatov**	**44.18**	**308**	P	**P**	**10 11 56.5**	**-2.8**
BVAR	**Borovoye Array**	**48.90**	**312**	P	**P**	**10 12 36.5**	**0.0**
	0.3nm,0.4s,mb3.7,baz=80,slow=8.8,SNR=3.2						
ZRNK	**Zerenda**	**49.74**	**312**	P	**P**	**10 12 43.9**	**+0.9**
ILAR	**Eielson Array**	**50.35**	**32**	P	**P**	**10 12 47.2**	**-0.3**
	0.6nm,0.9s,mb3.6,baz=252,slow=4.2,SNR=4.8						
INK	**Inuvik**	**55.06**	**27**	P	**P**	**10 13 21.7**	**-0.9**
	0.9nm,0.6s,mb4.0,baz=259,slow=5.2,SNR=2.7						
INK	**Inuvik**	**55.06**	**27**	P	**P**	**10 13 21.8**	**-0.9**
WRA	**Warramunga Arr**	**57.09**	**185**	P	**P**	**10 13 35.5**	**-2.4**
	1.7nm,0.5s,mb4.3,baz=0.5,slow=7.5,SNR=27						
FINES	**FINESS Array B**	**67.63**	**331**	P	**P**	**10 14 46.3**	**-1.2**
	2.4nm,0.9s,mb4.2,baz=45,slow=8.1,SNR=3.7						
NEW	**Newport**	**71.33**	**43**	P	**P**	**10 15 09.2**	**-1.2**
	2.9nm,0.9s,mb4.2,baz=311,slow=4.3,SNR=5.2						
AKASG	**Malin Array Be**	**72.85**	**321**	P	**P**	**10 15 19.8**	**+0.5**
	0.5nm,0.5s,mb3.7,baz=49,slow=6.5,SNR=4.3						
NB2	**NORSAR Subarra**	**73.15**	**336**	P	**P**	**10 15 19.6**	**-1.2**
	1.1nm,0.7s,mb3.9,baz=41,slow=5.8						
NOA	**NORSAR Array B**	**73.15**	**336**	P	**P**	**10 15 20.2**	**-0.6**
	1.6nm,0.8s,mb4.0,baz=40,slow=5.9,SNR=5.9						
NVAR	**Mina Array Bea**	**76.42**	**52**	P	**P**	**10 15 41.2**	**+1.1**
	1.3nm,0.7s,mb4.0,baz=298,slow=5.0,SNR=12						
NVAR	**Mina Array Bea**	**76.42**	**52**	P	**P**	**10 15 41.2**	**+1.1**
MNV	**Mina**	**76.52**	**52**	P	**P**	**10 15 40.4**	**-0.2**
	2.1nm,0.9s,mb4.1						
PDAR	**Pinedale Array**	**78.90**	**44**	P	**P**	**10 15 54.4**	**+0.7**
	3.2nm,1.1s,mb4.2,baz=293,slow=2.1,SNR=11						
PV10	**Paradox Valley**	**82.09**	**47**	*e*P	**P**	**10 16 12.0**	**+1.3**
PV01	**Paradox Valley**	**82.53**	**47**	*e*P	**P**	**10 16 14.1**	**+1.1**
AMTX	**Amarillo**	**88.77**	**46**	PFAKE		10 17 00.0	+16
AMTX				LR	LR		
	comp=Z,8μm,20.0s						
TXAR	**Lajitas Array**	**91.53**	**51**	P	**P**	**10 16 57.3**	**+0.4**
	comp=Z,0.7nm,0.9s,mb4.0,baz=278,slow=2.3,SNR=5.3						
SAML	**Samuel**	**145.42**	**41**	*e*PKPdf	PKPdf	10 23 28.1	-3.0

JMA ***23*** *10:04:54.9±0.1,37.24N×138.86E,h14km±1km,M3.7*
JMA Felt II J1.
ISC 23 10:04:54.1±3.9,**37.23N**±0.05×**138.86E**±0.06,**h9**km±30km,
n5,σ0°**52**/**8,1D,Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.12**	**80**	P	**Pb**	**10 04 58.3**	**0.0**
JHK				S	**Sb**	**10 05 01.1**	**+0.2**
JIZZ	**Izumozaki**	**0.33**	**338**	S	**Sb**	**10 05 07.1**	**+0.3**
JKT	**Katashina**	**0.55**	**146**	⇓P	**Pb**	**10 05 05.8**	**+0.2**
JKT				S	**Sb**	**10 05 13.7**	**+0.4**
JFY	**Yanaizu**	**0.69**	**75**	S	**Sb**	**10 05 16.8**	**-0.6**
MAT	**Matsushiro**	**0.86**	**218**	P	**Pb**	**10 05 10.6**	**-0.3**
MAT				S	**Sb**	**10 05 22.1**	**-0.2**

BJI ***23*** *10:07:30.5,37.06N×138.78E,h8km,mb4.6*
NEIC ***23*** *10:07:32.7±0.5,37.11N×138.85E,h10km,mb4.3/5,Error ellipse: s-maj=16.0km s-min=9.0km az=125.0*
JMA ***23*** *10:07:32.6,37.39N×138.99E,h10km±2km,M4.3*
JMA Felt III J1.
IDC ***23*** *10:07:36.8±3.1,37.33N×138.90E,h40km±28km,mb3.8/11, mb1 4.0/14,mb1mx3.9/25,ML3.6/2,Error ellipse: s-maj=22.7km s-min=16.2km az=85.0*
ISC 23 10:07:31.8±1.0,**37.37N**±0.04×**138.93E**±0.06,**h15**km±6km,
n29,σ0°**96**/31,**mb4.1**/18,**Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.14**	**151**	*e*S	**Sg**	**10 07 38.1**	**-0.1**
JNS	**Sasagawa**	**0.54**	**34**	P	**Pb**	**10 07 42.5**	**+0.1**
JNS				*e*S	**Sb**	**10 07 48.9**	**-0.8**
JFY	**Yanaizu**	**0.62**	**87**	P	**Pb**	**10 07 43.7**	**0.0**
JFY				*e*S	**Sb**	**10 07 51.5**	**-0.3**
JKT	**Katashina**	**0.66**	**157**	*e*S	**Sb**	**10 07 53.7**	**+0.7**
MAJO	**Matsushiro**	**1.01**	**215**	*e*P	**Pb**	**10 07 45.6**	**-4.9**
MAT	**Matsushiro**	**1.01**	**215**	*e*P	**Pb**	**10 07 46.0**	**-4.5**
MAT				*e*S	**Sb**	**10 07 57.0**	**-6.3**
JHJ	**Hachijo jima 2**	**4.30**	**170**	P	**Pn**	**10 08 38.9**	**+0.7**
	58nm,0.3s,baz=68,slow=16,SNR=7.2						
ASAJ	**Asahikawa**	**7.29**	**21**	P	**Pn**	**10 09 20.8**	**+0.4**
	0.4nm,0.3s,baz=261,slow=13,SNR=2.6						
HHC	**Hu-ho-hao-te**	**21.48**	**288**	*e*P	**P**	**10 12 21.6**	**-0.3**
HHC				AMB	AMB		
	comp=Z,26nm,1.1s,mb4.5						
ENH	**Enshi**	**25.40**	**263**	*e*P	**P**	**10 12 59.4**	**-0.8**
	comp=Z,14nm,0.9s,mb4.5						
SONM	**Songino Array**	**25.95**	**304**	P	**P**	**10 13 06.7**	**+1.6**
	comp=Z,1.1nm,0.7s,mb3.5,baz=106,slow=9.0,SNR=4.2						
BVAR	**Borovoye Array**	**48.88**	**312**	P	**P**	**10 16 19.0**	**+0.6**
	comp=Z,1.7nm,0.9s,mb4.1,baz=80,slow=9.0,SNR=5.8						
BVAR				PcP	PcP	10 17 41.0	-2.3
	comp=Z,1.1nm,0.8s,baz=108,slow=4.6,SNR=3.2						
BRVK	**Borovoye**	**48.93**	**312**	*e*P	**P**	**10 16 20.2**	**+1.3**
	comp=Z,2.4nm,0.9s,mb4.2						
ZRNK	**Zerenda**	**49.71**	**312**	*e*P	**P**	**10 16 24.4**	**-0.5**
	comp=Z,3.7nm,0.9s,mb4.4						
ILAR	**Eielson Array**	**50.27**	**32**	P	**P**	**10 16 28.2**	**-0.9**
	comp=Z,1.1nm,1.0s,mb3.8,baz=284,slow=7.4,SNR=5.4						
INK	**Inuvik**	**54.99**	**27**	P	**P**	**10 17 03.8**	**-0.5**
	comp=Z,1.3nm,0.8s,mb4.0						
WRAB	**Tennant Creek**	**57.16**	**185**	*e*P	**P**	**10 17 17.4**	**-3.1**
	comp=Z,2.6nm,0.7s,mb4.4						
WRA	**Warramunga Arr**	**57.17**	**185**	P	**P**	**10 17 19.0**	**-1.6**
	comp=Z,2.4nm,0.7s,mb4.4,baz=1.3,slow=7.5,SNR=30						
ASAR	**Alice Springs**	**60.90**	**185**	P	**P**	**10 17 45.0**	**-1.2**
	comp=Z,1.0nm,0.7s,mb4.0,baz=6.0,slow=4.6,SNR=8.4						
FINES	**FINESS Array B**	**67.58**	**331**	P	**P**	**10 18 28.4**	**-1.0**
	comp=Z,2.0nm,0.8s,mb4.2,baz=27,slow=6.2,SNR=4.4						
AKASG	**Malin Array Be**	**72.81**	**321**	P	**P**	**10 19 00.2**	**-1.0**
	comp=Z,1.3nm,0.7s,mb4.0,baz=55,slow=5.7,SNR=6.8						
NB2	**NORSAR Subarra**	**73.10**	**336**	P	**P**	**10 18 55.7**	**-7.0**
	comp=Z,1.7nm,0.8s,mb4.0,baz=41,slow=6.2						
NOA	**NORSAR Array B**	**73.10**	**336**	P	**P**	**10 19 02.2**	**-0.5**
	comp=Z,1.7nm,0.8s,mb4.0,baz=39,slow=6.0,SNR=4.6						
NVAR	**Mina Array Bea**	**76.36**	**52**	P	**P**	**10 19 23.1**	**+1.2**
	comp=Z,1.1nm,0.8s,mb3.9,baz=297,slow=5.0,SNR=7.9						
BRTR	**Keskin Array B**	**77.14**	**310**	P	**P**	**10 19 26.9**	**+0.6**
	comp=Z,1.4nm,0.6s,mb4.0,baz=79,slow=6.3,SNR=6.5						
PDAR	**Pinedale Array**	**78.83**	**44**	P	**P**	**10 19 36.5**	**+1.0**
	comp=Z,1.1nm,0.9s,mb3.8,baz=288,slow=4.7,SNR=6.1						
PV10	**Paradox Valley**	**82.02**	**47**	*e*P	**P**	**10 19 54.1**	**+1.5**
TXAR	**Lajitas Array**	**91.47**	**51**	P	**P**	**10 20 39.5**	**+0.7**
	comp=Z,0.4nm,0.7s,mb3.9,baz=290,slow=2.7,SNR=6.2						
SAML	**Samuel**	**145.35**	**41**	*e*PKPdf	PKPdf	10 27 10.7	-2.5

JMA ***23*** *10:08:46.6,37.30N×138.93E,h12km,M3.6*

JMA Felt II J1.
ISC 23 10:08:46.3±4.1,**37.30N**±0.06×**138.93E**±0.08,**h15**km±31km,
n4,σ0°**94**/**7,Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.09**	**126**	P	**Pb**	**10 08 49.2**	**0.0**
JHK				S	**Sb**	**10 08 51.1**	**0.0**
JKT	**Katashina**	**0.59**	**154**	P	**Pb**	**10 08 57.8**	**0.0**
JKT				S	**Sb**	**10 09 05.7**	**0.0**
JNS	**Sasagawa**	**0.60**	**31**	S	**Sb**	**10 09 06.1**	**0.0**
MAT	**Matsushiro**	**0.95**	**218**	P	**Pb**	**10 09 04.1**	**+0.1**
MAT				S	**Sb**	**10 09 16.2**	**0.0**

JMA 23 10:21:10.7±0.2,**37.38N**×**138.98E,M3.5,Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.14**	**167**	P	Pg	10 21 13.6	+0.2
JHK				*e*S	Sg	10 21 16.2	+1.0
JIZZ	**Izumozaki**	**0.26**	**305**	*e*S	Sg	10 21 21.2	+1.7
JNS	**Sasagawa**	**0.51**	**31**	*e*S	Sg	10 21 27.7	-0.1
JFY	**Yanaizu**	**0.58**	**87**	*e*S	Sg	10 21 30.0	+0.1
JKT	**Katashina**	**0.65**	**161**	*e*S	Sg	10 21 32.0	-0.3

JMA ***23*** *10:30:17.5±0.1,37.22N×138.86E,h15km±2km,M3.9*
JMA Felt III J1.
ISC 23 10:30:17.4±0.7,**37.22N**±0.04×**138.86E**±0.06,**h16**km±12km,
n6,σ0°**45**/**12,1C-1D,Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.13**	**76**	⇑P	**Pb**	**10 30 21.0**	**-0.1**
JHK				S	**Sb**	**10 30 23.6**	**-0.1**
JIZZ	**Izumozaki**	**0.34**	**339**	P	**Pb**	**10 30 24.7**	**+0.2**
JIZZ				S	**Sb**	**10 30 30.2**	**+0.9**
JKT	**Katashina**	**0.55**	**145**	P	**Pb**	**10 30 28.3**	**+0.2**
JKT				S	**Sb**	**10 30 36.2**	**+0.8**
JFY	**Yanaizu**	**0.70**	**74**	⇓P	**Pb**	**10 30 30.6**	**-0.1**
JFY				S	**Sb**	**10 30 39.8**	**0.0**
JNS	**Sasagawa**	**0.70**	**31**	P	**Pb**	**10 30 30.2**	**-0.5**
JNS				S	**Sb**	**10 30 39.3**	**-0.5**
MAT	**Matsushiro**	**0.85**	**218**	P	**Pb**	**10 30 32.9**	**-0.4**
MAT				S	**Sb**	**10 30 43.9**	**-0.4**

IDC ***23*** *10:32:54.0±1.3,29.66N×137.32E,mb3.8/4,mb1 4.1/4, mb1mx3.7/20,Error ellipse: s-maj=50.3km s-min=33.5km az=92.0*
JMA ***23*** *10:33:28.6,37.31N×138.89E,h13km±1km,M3.3*
JMA Felt III J1.
ISC 23 10:33:28.8±0.8,**37.32N**±0.03×**138.88E**±0.04,**h15**km±6km,
n13,σ0°**71**/**22,mb3.6**/**3,3D,Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.13**	**125**	⇓P	**Pb**	**10 33 31.6**	**-0.8**
JHK				*e*S	**Sb**	**10 33 34.0**	**-0.8**
JIZZ	**Izumozaki**	**0.25**	**327**	⇓P	**Pg**	**10 33 34.4**	**-0.1**
JIZZ				*e*S	**Sg**	**10 33 39.4**	**+1.1**
JNS	**Sasagawa**	**0.60**	**35**	P	**

JFY eS **Sb** **10 37 09.7 -1.0**
JSD Sado 0.88 336 ⇑P **Pb** **10 37 02.2 +0.6**
JHJ Hachijo jima 2 4.19 168 Pn **Pn** **10 37 51.0 +1.0**
84nm,0.3s,baz=28,slow=2.8,SNR=12
JHJ Sn **Sn** **10 38 42.0 +2.8**
63nm,0.3s,baz=73,slow=19,SNR=4.0
ASAJ Asahikawa 7.48 22 Pn **Pn** **10 38 37.0 +0.7**
6.6nm,0.3s,baz=241,slow=10,SNR=27
ASAJ Asahikawa 7.48 22 P **Pn** **10 38 37.1 +0.8**
ASAJ pmax pmax
comp=Z,7.0nm,0.3s
MDJ Mudanjiang 10.10 320 *e*P **P** **10 39 11.7 -0.9**
comp=Z,115nm,1.3s
YSS Yuzh-Sakhalins 10.17 16⇑*i*P **P** **10 39 12.9 -0.6**
YSS pmax pmax
comp=Z,140nm,1.0s
YSS Yuzh-Sakhalins 10.17 16 *e*P **P** **10 39 11.7 -1.7**
comp=Z,98nm,0.6s
CBIJ Chichi jima 10.52 163 Pn **P** **10 39 14.2 -4.1**
baz=90,slow=19
CN2 Changchun 12.04 307 *e*P **P** **10 39 40.8 +1.8**
CN2 *e*S **S** **10 41 56.3 +2.5**
CN2 LR LR
comp=N,5μm,13.0s
CN2 LR LR
comp=E,8μm,13.0s
CN2 LR LR
comp=Z,6μm,13.0s
JOW Kunigami 13.63 223 Pn **P** **10 40 05.8 +5.6**
comp=Z,1.6nm,0.3s,baz=36,slow=19,SNR=2.5
SSE Sheshan 15.74 252 P **P** **10 40 26.3 -1.5**
SSE S **S** **10 43 20.0 -2.1**
SSE AMB AMB
comp=Z,131nm,1.0s
SSE AMB AMB
comp=Z,809nm,12.0s
SSE LR LR
comp=N,4μm,21.4s
SSE LR LR
comp=E,3μm,21.4s
SSE LR LR
comp=Z,4μm,17.0s
SSE Sheshan 15.74 252 P **P** **10 40 26.3 -1.5**
comp=Z,131nm,1.0s
SSE S **S** **10 43 20.0 -2.1**
NJ2 Nanjing 17.14 258 *e*P **P** **10 40 46.3 +0.8**
NJ2 AP 10 40 50.1
NJ2 XP 10 40 53.9
NJ2 PP PP 10 41 00.6 +0.7
NJ2 S **S** **10 43 56.0 +1.7**
NJ2 AMB AMB
comp=Z,70nm,1.1s
NJ2 LR LR
comp=N,620nm,14.2s
NJ2 LR LR
comp=E,1μm,12.4s
NJ2 LR LR
comp=Z,2μm,16.4s
TIA Tai'an 17.34 273 P **P** **10 40 51.0 +2.9**
TIA AMB AMB
comp=Z,179nm,1.4s
BJI Beijing 17.83 286 P **P** **10 40 55.6 +1.5**
BJI AMB AMB
comp=Z,153nm,0.9s
BJI Beijing 17.83 286 P **P** **10 40 55.6 +1.5**
comp=Z,153nm,0.9s
BJT Baijiatuan 17.83 286 *e*P **P** **10 40 55.7 +1.6**
comp=Z,191nm,1.0s
HIA Hailar 18.27 317 *e*P **P** **10 40 59.5 +0.1**
comp=Z,64nm,0.9s
PET Petropavlovsk 21.04 35*d i*P **P** **10 41 29.5 -0.9**
PET pmax pmax
comp=Z,67nm,0.8s,mb5.0
PET MLR MLR
comp=Z,4μm,11.0s,MS5.1
PET Petropavlovsk 21.04 35 *e*P **P** **10 41 29.1 -1.2**
comp=Z,49nm,0.8s,mb4.9
WHN Wuhan 21.27 259 ⇓P **P** **10 41 32.5 -0.4**
HHC Hu-ho-hao-te 21.37 288 *e*P **P** **10 41 35.1 +1.3**
HHC PP PP 10 42 01.9 +4.0
HHC S **S** **10 45 32.6 +7.2**
HHC PCP PcP 10 45 35.4 -2.6
HHC XS 10 45 39.4
HHC LR LR
comp=N,1μm,12.3s,MS4.8
HHC LR LR
comp=E,2μm,12.3s,MS4.8
HHC LR LR
comp=Z,2μm,14.7s,MS4.5
CLNS Chul'man 21.68 339 *e*P **P** **10 41 28.6 -8.3**
CLNS pmax pmax
comp=Z,34nm,1.0s,mb4.7
CLNS pmax pmax
comp=N,24nm,1.2s
CLNS pmax pmax
comp=E,11nm,0.8s
MA2 Magadan 23.67 15*c i*P **P** **10 41 55.7 -0.7**
MA2 pmax pmax
comp=Z,148nm,1.2s,mb5.3
MA2 MLR MLR
comp=Z,2μm,12.0s,MS4.8
MA2 Magadan 23.67 15 *e*P **P** **10 41 55.4 -1.0**
comp=Z,124nm,1.1s,mb5.2
GUMO Guam 24.18 165 P **P** **10 42 01.0 -0.7**
GUMO pmax pmax
comp=Z,310nm,1.0s,mb5.7
GUMO Guam 24.18 165 *e*P **P** **10 42 00.6 -1.1**
comp=Z,306nm,1.0s,mb5.7
XAN Xi'an 24.38 271 P **P** **10 42 02.6 -1.0**
XAN AMB AMB
comp=Z,40nm,1.3s,mb4.7
XAN LR LR
comp=N,4μm,14.0s,MS5.0
XAN LR LR
comp=E,1μm,16.5s,MS5.0
XAN LR LR
comp=Z,5μm,12.2s,MS5.2
ENH Enshi 25.21 263 *e*P **P** **10 42 10.6 -0.9**
comp=Z,284nm,1.0s,mb5.8
YAK Yakutsk 25.46 350 *e*P **P** **10 42 10.7 -2.8**
YAK pmax pmax
comp=Z,32nm,1.0s,mb4.8
YAK pmax pmax
comp=N,21nm,1.1s
YAK pmax pmax
comp=E,9.0nm,1.1s
YAK Yakutsk 25.46 350 P **P** **10 42 12.5 -1.0**
YAK pmax pmax
comp=Z,57nm,0.8s,mb5.2
YAK Yakutsk 25.46 350 *e*P **P** **10 42 11.9 -1.6**
comp=Z,73nm,0.9s,mb5.2
SONM Songino Array 25.89 304 P **P** **10 42 17.0 -0.8**
comp=Z,32nm,0.9s,mb4.8,baz=106,slow=9.0,SNR=116
SONM PcP PcP 10 45 46.3 -1.0
comp=Z,2.3nm,0.7s,baz=101,slow=1.0,SNR=3.7
SEY Seymchan 27.06 14 *e*P **P** **10 42 30.7 +2.4**
SEY *e* 10 43 13.7
SEY pmax pmax
comp=Z,200nm,1.1s,mb5.6
LZH Lanzhou 27.91 278 ⇑P **P** **10 42 35.1 -1.2**
LZH PP PP 10 43 30.0 +4.1
LZH *e*S **S** **10 47 19.0 +1.4**
LZH XS 10 47 29.0
LZH AMB AMB
comp=Z,210nm,1.6s,mb5.5
LZH AMB AMB
comp=Z,520nm,5.0s
LZH LR LR
comp=E,8μm,13.3s
LZH LR LR
comp=Z,15μm,16.9s,MS5.6
LZH Lanzhou 27.91 278 ⇑P **P** **10 42 35.1 -1.2**
comp=Z,210nm,1.6s,mb5.5
LZH pP pP 10 42 40.2 -1.1
LZH sP sP 10 42 42.5 -1.0
LZH PP PP 10 43 30.0 +4.1
LZH *e*S **S** **10 47 19.0 +1.4**
LZH sS 10 47 29.0
LZH *e*SS SS 10 48 45.0 +6.1
LZH LR LR
comp=Z,15μm,16.9s,MS5.6
ZAK Zakamensk 28.46 309 *e*P **P** **10 42 39.2 -2.0**
FX1 Attu Island--F 28.59 46 P **P** **10 42 41.2 -1.0**
comp=Z,16nm,0.6s,mb4.9,baz=283,slow=3.2,SNR=5.0
FX1 Attu Island--F 28.59 46 P **P** **10 42 41.2 -1.0**
FX1 pmax pmax
comp=Z,16nm,0.6s
GYA Guiyang 29.14 258⇑*i*P **P** **10 42 45.9 -1.7**
GYA S **S** **10 47 32.3 -5.2**
GYA AMB AMB
comp=Z,50nm,1.2s,mb5.1
GYA LR LR
comp=N,1μm,13.2s,MS4.9
GYA LR LR
comp=E,2μm,15.2s,MS4.9
GYA LR LR
comp=Z,2μm,16.7s,MS4.8
CD2 Chengdu 29.52 268 *e*P **P** **10 42 49.3 -1.6**
GTA Gaotai 30.45 286 *e*P **P** **10 42 57.5 -1.5**
GTA PCP PcP 10 45 57.9 -0.6
GTA S **S** **10 48 01.1 +3.1**
GTA AMB AMB
comp=Z,1μm,5.3s
GTA LR LR
comp=N,3μm,13.3s,MS5.3
GTA LR LR
comp=E,3μm,14.1s,MS5.3
GTA LR LR
comp=Z,3μm,14.1s,MS5.1
KMI Kunming 32.88 259 *e*P **P** **10 43 19.4 -1.0**
KMI S **S** **10 48 34.3 -1.8**
KMI AMB AMB
comp=Z,33nm,1.7s,mb5.0
KMI LR LR
comp=N,2μm,15.7s,MS5.0
KMI LR LR
comp=E,1μm,17.9s,MS5.0
KMI LR LR
comp=Z,2μm,26.2s
KMI Kunming 32.88 259 *e*P **P** **10 43 19.4 -1.0**
comp=Z,33nm,1.7s,mb5.0
KMI pP pP 10 43 23.4 -2.0
KMI sP sP 10 43 27.2 -0.4
KMI S **S** **10 48 34.2 -1.9**
KMI LR LR
comp=Z,2μm,26.2s,MS4.6
TIXI Tiksi 34.87 355⇑*e*P **P** **10 43 35.2 -2.0**
TIXI *i* pP 10 43 40.5 -1.7
TIXI *i* 10 44 55.2
TIXI *e* 10 46 08.6
TIXI *e*S **S** **10 49 05.2 -1.3**
TIXI pmax pmax
comp=Z,25nm,1.4s,mb5.0
TIXI MLR MLR
comp=Z,1μm,14.0s,MS4.8
WMQ Urumqi 38.83 296 *e*P **P** **10 44 10.0 -0.9**
WMQ AP pP 10 44 17.0 +1.1
WMQ PP PP 10 45 42.0 -1.7
WMQ S **S** **10 50 06.0 -1.4**
WMQ AMB AMB
comp=Z,17nm,1.0s,mb4.7
WMQ LR LR
comp=N,2μm,18.0s,MS5.1
WMQ LR LR
comp=E,2μm,20.0s,MS5.1
WMQ LR LR
comp=Z,1μm,20.0s,MS4.7
CMAR Chiang Mai Arr 39.48 253 P **P** **10 44 15.7 -0.8**
comp=Z,2.5nm,0.8s,baz=38,slow=6.3,SNR=15
CMAR PcP PcP 10 46 24.7 -0.1
comp=Z,4.2nm,0.8s,baz=354,slow=2.6,SNR=10
CMAR Chiang Mai Arr 39.48 253 P **P** **10 44 15.7 -0.8**
CMAR 10 46 24.7
CMAR pmax pmax
comp=Z,3.0nm,0.8s
CMAR pmax pmax
comp=Z,4.0nm,0.8s
ZAL Zalesovo 40.20 312 P **P** **10 44 20.4 -1.7**
comp=Z,4.0nm,0.8s,mb4.2,baz=20,slow=9.0,SNR=18
ZAL PcP PcP 10 46 25.8 -1.0
comp=Z,5.1nm,0.7s,baz=18,slow=3.9,SNR=8.8
ZAL Zalesovo 40.20 312 P **P** **10 44 20.4 -1.7**
ZAL 10 46 25.8
ZAL pmax pmax
comp=Z,4.0nm,0.8s
ZAL pmax pmax
comp=Z,5.0nm,0.7s
NVS Novosibirsk 41.15 314 *e*P **P** **10 44 27.4 -2.5**
NVS pmax pmax
comp=N,5.0nm,0.7s
NVS pmax pmax
comp=E,5.0nm,0.7s
NVS pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
SHL Shillong 41.26 267 *i* P **P** **10 44 31.5 +0.4**
KURK Kurchatov 44.11 308⇑*e*P **P** **10 44 52.3 -1.8**
KURK Kurchatov 44.11 308 *e*P **P** **10 44 52.2 -1.8**
comp=Z,72nm,1.2s,mb5.3
GUN Gumba 44.99 274 *e*P **P** **10 45 01.3 -0.2**
comp=Z,138nm,1.0s,mb5.8
PKI Pulchoki 45.52 274 *e*P **P** **10 45 04.7 -0.9**
comp=Z,38nm,1.0s,mb5.3
KKN Kakani 45.52 274 *e*P **P** **10 45 05.2 -0.5**
comp=Z,162nm,1.2s,mb5.8
DMN Daman 45.74 274 *e*P **P** **10 45 06.9 -0.5**
comp=Z,156nm,1.6s,mb5.7
GKN Gorkha 45.94 275 *e*P **P** **10 45 08.4 -0.6**
comp=Z,136nm,1.0s,mb5.8
KOLN Kolanda 46.87 275 *e*P **P** **10 45 15.7 -0.6**
comp=Z,124nm,1.3s,mb5.7
PMG Port Moresby 47.06 169 P **P** **10 45 17.0 -1.0**
comp=Z,11nm,0.8s,mb4.9,baz=248,slow=5.4,SNR=2.9
PMG Port Moresby 47.06 169 P **P** **10 45 17.0 -1.0**
PMG pmax pmax
comp=Z,11nm,0.8s
IMA Indian Mountai 47.62 31 P **P** **10 45 22.1 +0.4**
IMA pmax pmax
comp=Z,170nm,1.0s,mb6.0
IMA Indian Mountai 47.62 31 *e*P **P** **10 45 21.9 +0.2**
TKM2 Tokmak 2 47.64 298 P **P** **10 45 22.0 -0.2**
SNR=27
RSO Redoubt South 48.08 38 *e*P **P** **10 45 25.6 +0.1**
KBK Karagaybulak 48.17 297 P **P** **10 45 26.4 +0.1**
SNR=15
USP Ospenovka 48.32 298 P **P** **10 45 26.5 -0.9**
SNR=8.8
FRU Bishkek 48.35 298 *e*P **P** **10 45 27.0 -0.8**
FRU pmax pmax
comp=Z,80nm,1.6s,mb5.5
KSH Kashi 48.35 293 P **P** **10 45 28.6 +0.8**
KSH XP sP 10 45 35.9 +1.0
KSH *e*PCP PcP 10 46 54.8 0.0
KSH *e*PP PP 10 47 20.4 +0.3
KSH PPP PPP 10 48 10.0 -1.7
KSH *e*SCP 10 50 49.3
KSH *e*S **S** **10 52 26.3 +0.1**
KSH AMB AMB
comp=Z,200nm,4.4s
KSH LR LR
comp=N,2μm,13.9s,MS5.5
KSH LR LR
comp=E,3μm,13.2s,MS5.5
SPU Mount Spurr 48.38 37 *e*P **P** **10 45 27.9 +0.2**
KDAK Kodiak Island 48.39 42 *e*P **P** **10 45 27.1 -0.7**
comp=E,74nm,0.8s,mb5.8
AAK Ala-Archa 48.50 297 P **P** **10 45 28.4 -0.5**
SNR=9.8
AAK Ala-Archa 48.50 297*c i*P **P** **10 45 27.0 -1.9**
AAK pmax pmax
comp=Z,17nm,1.1s,mb5.0
AAK MLR MLR
comp=Z,2μm,16.0s,MS5.2
AAK Ala-Archa 48.50 297 *e*P **P** **10 45 27.0 -1.9**
comp=Z,21nm,1.2s,mb5.0
PTH Pithoragarh 48.78 279 *e*P **P** **10 45 28.7 -2.5**
PTH *e* 10 46 54.0
BVAR Borovoye Array 48.84 312 PcP PcP 10 46 55.1 -1.2
baz=63,slow=3.2
BRVK Borovoye 48.90 312 P **P** **10 45 31.2 -0.6**
BRVK pmax pmax
comp=Z,36nm,1.1s,mb5.3
BRVK Borovoye 48.90 312 *e*P **P** **10 45 31.0 -0.8**
comp=Z,28nm,1.0s,mb5.2
EKS2 Erkin-Say 49.00 298 P **P** **10 45 32.4 -0.3**
SNR=7.2
AML Almayashu 49.21 297 P **P** **10 45 34.5 +0.2**
SNR=32
SLKM Skilak Lake 49.33 38 P **P** **10 45 33.3 -1.7**
MCK McKinley 49.67 34 P **P** **10 45 37.7 +0.1**
MCK pmax pmax
comp=Z,38nm,1.5s,mb5.2
MCK McKinley 49.67 34 *e*P **P** **10 45 37.3 -0.3**
comp=Z,12nm,0.9s,mb4.9
ZRNK Zerenda 49.68 312 *e*P **P** **10 45 36.6 -1.2**
comp=Z,70nm,1.1s,mb5.6
PMR Palmer 49.75 37 *e*P **P** **10 45 40.9 +2.6**
COLA College 50.06 32 *e*P **P** **10 45 40.7 +0.1**
SML Sawmill 50.11 36 *e*P **P** **10 45 41.2 +0.2**
SML Sawmill 50.11 36 *e*P **P** **10 45 40.7 -0.3**
DDI Dehra Dun 50.15 281 *e*P **P** **10 45 39.5 -2.3**
DDI Dehra Dun 50.15 281 *e* **P** **10 45 39.5 -2.3**
DDI *e* 10 54 51.7
ILAR Eielson Array 50.48 32 P **P** **10 45 42.9 -0.9**
comp=Z,11nm,0.7s,mb5.0,baz=280,slow=6.7,SNR=109
ILAR Eielson Array 50.48 32 P **P** **10 45 42.9 -0.9**
ILAR pmax pmax
comp=Z,11nm,0.7s
DIV Divide 51.42 37 *e*P **P** **10 45 50.8 -0.1**
comp=Z,155nm,0.9s,mb5.9
EYAK Cordova Ski Ar 51.52 38 *e*P **P** **10 45 51.8 0.0**
SVE Sverdlovsk 53.57 318⇑*i*P **P** **10 46 06.2 -0.9**
SVE pmax pmax
comp=Z,200nm,1.3s,mb5.9
DAWY Dawson 53.80 33 *e*P **P** **10 46 07.8 -0.9**
ARU Arti 54.78 318⇑*i*P **P** **10 46 14.8 -1.2**
ARU *e* 10 47 14.9
ARU *i* 10 48 23.1
ARU *i* PPP PPP 10 49 31.9 -0.3
ARU *e*S **S** **10 53 57.0 +2.8**
ARU *e* 10 56 03.4
ARU pmax pmax
comp=Z,127nm,1.3s,mb5.8
ARU Arti 54.78 318 *e*P **P** **10 46 14.8 -1.2**
comp=Z,140nm,1.3s,mb5.8
INK Inuvik 55.19 27 P **P** **10 46 18.4 -0.5**
INK pmax pmax
comp=Z,45nm,1.3s
INK Inuvik 55.19 27 *e*P **P** **10 46 18.1 -0.8**
comp=Z,18nm,0.8s,mb5.2
HYB Hyderabad 56.06 267 *i* P **P** **10 46 24.5 -1.3**
HYB *e* pP 10 46 28.0 -2.9
HYB Hyderabad 56.06 267 *e*P **P** **10 46 24.5 -1.3**
WRAB Tennant Creek 57.00 185 P **P** **10 46 30.6 -1.9**
comp=Z,455nm,1.1s,SNR=72
WRAB Tennant Creek 57.00 185 *e*P **P** **10 46 30.3 -2.2**
comp=Z,451nm,1.6s,mb6.2
WRA Warramunga Arr 57.01 185 P **P** **10 46 30.6 -2.0**
comp=Z,64nm,1.0s,mb5.6,baz=1.9,slow=7.3,SNR=159
WRA PcP PcP 10 47 26.7 -0.7
comp=Z,6.9nm,0.8s,baz=358,slow=4.9,SNR=6.4
WRA Warramunga Arr 57.01 185 P **P** **10 46 30.6 -2.0**
WRA 10 47 26.7
WRA pmax pmax
comp=Z,64nm,1.0s
WRA pmax pmax
comp=Z,7.0nm,0.8s
CTAO Charters Tower 57.45 172 *e*P **P** **10 46 33.9 -1.8**
comp=Z,26nm,1.2s,mb5.1
POO Poona 59.21 271⇓*i*P **P** **10 46 45.0 -3.0**
KAD Karad 59.61 269 *e*P **P** **10 46 48.4 -2.3**
ASAR Alice Springs 60.74 185 P **P** **10 46 56.8 -1.6**
comp=Z,12nm,0.9s,mb5.0,baz=4.8,slow=4.8,SNR=82
MBWA Marble Bar 60.77 200 *e*P **P** **10 46 55.6 -3.0**
comp=Z,34nm,1.2s,mb5.3
APA Apatity 61.62 335⇓*i*P **P** **10 47 02.3 -1.4**
APA pmax pmax
comp=Z,31nm,1.0s,mb5.4
KEV Kevo 62.49 339 *e*p **P** **10 47 05.9 -3.6**
comp=Z,19nm,0.9s,mb5.2
KEV Kevo 62.49 339 *e*P **P** **10 47 05.9 -3.6**
KEV pmax pmax
comp=Z,19nm,0.9s,mb5.2
ARCES ARCESS Array B 63.05 339 P **P** **10 47 12.1 -1.1**
comp=Z,12nm,0.7s,mb5.2,baz=56,slow=8.7,SNR=26
ARCES ARCESS Array B 63.05 339 P **P** **10 47 12.1 -1.1**
ARCES pmax pmax
comp=Z,13nm,0.7s
YKA Yellowknife Ar 64.71 29 P **P** **10 47 23.1 -1.0**
comp=Z,8.1nm,0.6s,mb4.9,baz=305,slow=6.5,SNR=29
YKA Yellowknife Ar 64.71 29 P **P** **10 47 23.1 -1.0**
YKA pmax pmax
comp=Z,8.0nm,0.6s
YKA Yellowknife Ar 64.71 29 P **P** **10 47 23.1 -1.0**
JOF Joensuu 64.77 331 *e*p **P** **10 47 21.6 -2.9**
comp=Z,9.7nm,0.6s,mb5.0
JOF Joensuu 64.77 331 *e*P **P** **10 47 21.6 -2.9**
JOF pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
MOS Moscow 65.80 323 *e*P **P** **10 47 28.8 -2.4**
MOS *e*S S 10 56 17.9 +2.4
MOS pmax pmax
comp=Z,171nm,1.5s,mb5.9
OBN Obninsk 66.64 322⇑*e*P **P** **10 47 35.5 -1.1**
OBN *e* 10 48 03.3
OBN *e*S S 10 56 25.2 -0.5
OBN pmax pmax
comp=Z,37nm,0.8s,mb5.5
OBN MLR MLR
comp=Z,700nm,17.0s,MS4.9
OBN Obninsk 66.64 322 *e*P **P** **10 47 35.3 -1.2**
comp=Z,56nm,1.1s,mb5.5
VOR Voronezh 67.07 318 *e*P **P** **10 47 38.3 -1.1**
VOR pmax pmax
comp=Z,160nm,1.8s,mb5.8
KAF Kangasniemi 67.13 332 *e*p **P** **10 47 37.4 -2.2**
comp=Z,18nm,0.6s,mb5.3,baz=50,slow=6.0
KAF Kangasniemi 67.13 332 *e*P **P** **10 47 37.4 -2.2**
KAF pmax pmax
comp=Z,18nm,0.6s,mb5.3
FINES FINESS Array B 67.62 331 P **P** **10 47 41.5 -1.3**
comp=Z,23nm,0.8s,mb5.3,baz=63,slow=8.5,SNR=44
FINES FINESS Array B 67.62 331 P **P** **10 47 41.5 -1.2**
FINES pmax pmax
comp=Z,23nm,0.8s
FINES FINESS Array B 67.62 331 P **P** **10 47 41.5 -1.3**
VDB Vedder Mountai 68.30 44 P **P** **10 47 46.7 -0.5**
GOF Gofitskoye 68.35 311⇑*i*P **P** **10 47 47.5 -0.1**
GOF pmax pmax
comp=Z,50nm,1.5s,mb5.3
MBW Mount Baker 68.54 45 P **P** **10 47 49.0 +0.3**
STKA Stephens Creek 68.80 177 P **P** **10 47 49.6 -1.0**
comp=Z,10.0nm,0.9s,mb4.8,baz=354,slow=8.0,SNR=17
JCW Jim Creek 68.84 45 P **P** **10 47 50.9 +0.4**
RPW Rockport 68.94 45 P **P** **10 47 50.9 -0.2**
KIV Kislovodsk 69.14 310 *e*P **P** **10 47 52.3 -0.1**
comp=Z,103nm,1.1s,mb5.7
NLW Nelson Butte 69.80 45 *e*P **P** **10 47 56.9 +0.5**
GNI Garni 69.85 305*c i*P **P** **10 47 57.4 +0.6**
GNI pmax pmax
comp=Z,73nm,1.5s
GNI Garni 69.85 305 *e*P **P** **10 47 55.2 -1.7**
comp=Z,61nm,1.3s,mb5.4
TWW Teanaway 70.02 46 P **P** **10 47 58.4 +0.6**
TBM Table Mountain 70.16 45 P **P** **10 47 59.1 +0.5**
WTV Waterville 70.23 45 P **P** **10 47 58.8 -0.2**
EBG Ellensburg 70.32 46 P **P** **10 48 00.1 +0.6**
SSOR Sweet Springs 70.34 48 P **P** **10 48 00.9 +1.2**
SSOR Sweet Springs 70.34 48 *e*P **P** **10 48 00.1 +0.4**
SUMG Summit 70.47 359 *e*P **P** **10 48 00.1 0.0**
comp=Z,81nm,1.1s,mb5.6
EDM Edmonton 70.51 37 *e*P **P** **10 47 59.9 -0.7**
EDM Edmonton 70.51 37 *e*P **P** **10 47 59.3 -1.4**
SAW Saint Andrews 70.53 45 P **P** **10 48 00.8 -0.1**
EPH Ephrata 70.62 45 P **P** **10 48 01.3 -0.1**
MXC Moxie City 70.66 46 P **P** **10 48 02.1 +0.4**
OD2 Odessa Site #2 71.10 45 P **P** **10 48 04.1 -0.2**
DPW Davenport 71.11 44 P **P** **10 48 04.6 +0.3**
MNK Minsk 71.14 325 *e*P **P** **10 48 03.0 -1.4**
SOC Sochi 71.15 311 *e*P **P** **10 48 03.9 -0.8**
SOC *e* 10 48 23.8
SOC *e*S S 10 57 16.3 -3.1
SOC *e* 10 57 53.9
SOC *e*SSS SSS 11 05 00.4 -1.2
SOC pmax pmax
comp=Z,41nm,1.5s,mb5.1
SOC pmax pmax
comp=N,38nm,1.6s
SOC pmax pmax
comp=E,18nm,1.0s
SOC MLR MLR
comp=Z,762nm,16.0s,MS5.0
SOC MLR MLR
comp=N,815nm,19.0s,MS5.2
SOC MLR MLR
comp=E,853nm,15.0s,MS5.2
HAWA Hanford 71.20 46 *e*P **P** **10 48 05.0 +0.1**
comp=E,30nm,1.1s,mb5.1

NEW **Newport** 71.47 43 P P 10 48 06.7 +0.1
comp=E,27nm,0.8s,mb5.2,baz=310,slow=5.2,SNR=50
NEW **Newport** 71.47 43 P P 10 48 06.4 -0.2
NEW pmax pmax
comp=Z,35nm,1.0s
NEW **Newport** 71.47 43 *e*P P 10 48 06.4 -0.1
comp=Z,30nm,0.9s,mb5.2
TVAN **Van** 71.59 305 *i* P P 10 48 08.2 +0.7
VIPM **Ingram Point** 71.63 48 P P 10 48 08.1 +0.6
YPT **Yellepit** 71.72 46 P P 10 48 08.6 +0.5
ANN **Anapa** 71.83 313 *e*P P 10 48 07.4 -1.4
ANN *e**PP pP 10 48 16.0 +2.0
ANN *e* 10 48 26.9
ANN *e*S S 10 57 30.1 +2.9
ANN pmax pmax
comp=Z,71nm,1.5s,mb5.4
ANN pmax pmax
comp=N,22nm,1.6s
ANN pmax pmax
comp=E,21nm,1.6s
BUOR **Burton Butte** 71.89 50 P P 10 48 10.0 +0.8
YBH **Yreka Blue Hor** 71.91 51 P P 10 48 10.1 +0.8
comp=E,7.0nm,0.9s,mb4.6,baz=322,slow=3.3,SNR=11
YBH **Yreka Blue Hor** 71.91 51 P P 10 48 10.1 +0.8
YBH pmax pmax
comp=Z,7.0nm,0.9s
LAMM **Antelope Mount** 72.03 51 P P 10 48 10.8 +0.8
LNOR **Lincton Mounta** 72.21 46 P P 10 48 11.7 +0.7
LNOR **Lincton Mounta** 72.21 46 P P 10 48 11.6 +0.7
VRT **Varto** 72.49 306 *e*P P 10 48 11.7 -1.0
NWAO **Narrogin (SRO)** 72.62 199 P P 10 48 12.1 -1.5
NWAO pmax pmax
comp=Z,46nm,1.3s
NWAO **Narrogin (SRO)** 72.62 199 *e*P P 10 48 11.9 -1.7
comp=Z,25nm,1.0s,mb5.1
AKASG **Malin Array Be** 72.81 321 P P 10 48 13.4 -1.0
comp=Z,28nm,0.7s,mb5.3,baz=44,slow=6.1,SNR=100
AKASG **Malin Array Be** 72.81 321 P P 10 48 13.4 -1.0
AKASG pmax pmax
comp=Z,28nm,0.7s
LTIM **Timbered Crate** 72.98 51 P P 10 48 16.3 +0.7
HFS **Hagfors** 73.01 335 P P 10 48 14.6 -0.8
comp=Z,16nm,1.0s,mb4.9,baz=90,slow=5.9,SNR=16
BURN **Burns** 73.04 48 P P 10 48 17.2 +1.3
GUMT **Gumushane** 73.05 308 *e*P P 10 48 16.1 +0.1
NB2 **NORSAR Subarra** 73.16 336 P P 10 48 15.2 -1.0
comp=Z,76nm,1.4s,mb5.4,baz=40,slow=6.2
NB2 **NORSAR Subarra** 73.16 336 P P 10 48 15.2 -1.0
baz=40,slow=6.2
NOA **NORSAR Array B** 73.16 336 P P 10 48 15.4 -0.7
comp=Z,18nm,0.8s,mb5.1,baz=40,slow=5.9,SNR=51
NOA PP PP 10 50 56.8 -4.5
comp=Z,7.8nm,0.9s,baz=43,slow=8.6,SNR=6.3
SUW **Suwalki** 73.55 326 *e*P P 10 48 17.9 -0.7
SUW **Suwalki** 73.55 326 *e*P P 10 48 17.9 -0.7
SIM **Simferopol'** 73.67 314 *e*P P 10 48 19.1 -0.4
SIM pmax pmax
comp=Z,40nm,0.7s,mb5.5
OHCM **Honcut** 74.04 53 *e*P P 10 48 21.4 -0.4
CHMT **Chamberlain Mo** 74.38 43 *e*P P 10 48 23.4 -0.2
BEKR **Beckwourth** 74.44 52 *e*P P 10 48 24.4 +0.3
comp=Z,22nm,0.9s,mb5.1
ELZG **Elazig** 74.48 307 *i* P P 10 48 25.0 +0.6
LKC **Lake Chabot** 74.58 54 *e*P P 10 48 25.4 +0.5
MALT **Malatya** 74.94 307 *e*P P 10 48 27.8 +0.7
comp=Z,39nm,1.4s,mb5.1
HRY **Holter Researc** 75.27 42 *e*P P 10 48 29.3 +0.6
KIS **Kishinev** 75.33 318 *e*P P 10 48 28.0 -1.1
CMB **Columbia Colle** 75.49 53 P P 10 48 30.6 +0.4
CMB P 10 57 41.3
CTKT **Corum** 75.85 310 *i* P P 10 48 32.7 +0.5
MCMT **McKenzie Canyo** 75.90 44 *e*P P 10 48 32.2 -0.1
LRV **Little Rabbit** 76.03 55 *e*P P 10 48 30.9 -2.3
BOZ **Bozeman (W)** 76.05 43 P P 10 48 33.8 +0.6
BOZ pmax pmax
comp=Z,75nm,1.3s,mb5.5
BOZ **Bozeman (W)** 76.05 43 *e*P P 10 48 33.6 +0.5
comp=Z,87nm,1.4s,mb5.5
GZT **Gaziantep** 76.06 306 *i* P P 10 48 34.2 +0.8
BALT **Daday** 76.14 312 *i* P P 10 48 34.1 +0.3
BNN **Bunyan** 76.26 308 *e*P P 10 48 35.0 +0.5
KAHT **Ahir Dag** 76.34 307 *i* P P 10 48 35.6 +0.6
GAZ **Gaziantep** 76.39 306 *e*P P 10 48 36.3 +1.0
NVAR **Mina Array Bea** 76.58 52 P P 10 48 37.3 +1.0
comp=Z,14nm,0.8s,mb4.9,baz=294,slow=4.4,SNR=79
MNV **Mina** 76.67 52 P P 10 48 37.6 +0.8
MNV pmax pmax
comp=Z,24nm,1.1s,mb5.0
MNV **Mina** 76.67 52 *e*P P 10 48 37.5 +0.6
comp=Z,32nm,1.3s,mb5.1
QLMT **Earthquake Lak** 76.68 43 *e*P P 10 48 37.5 +0.8
KWP **Kalwaria** 76.70 323 *e*P P 10 48 37.1 +0.4
KWP **Kalwaria** 76.70 323 *e*P P 10 48 37.1 +0.4
SAFT **Safranbolu** 76.74 312 *e*P P 10 48 36.8 -0.3
ELDT **Eldivan** 76.76 311 *i* P P 10 48 37.7 +0.4
CFR **Carcaliu** 76.86 317 ⇑*i*P P 10 48 37.3 -0.4
CFR **Carcaliu** 76.86 317 ⇑*i*P P 10 48 37.3 -0.4
AVNT **Avonos** 76.92 309 *i* P P 10 48 38.3 +0.1
GCMT **Greycliff** 77.02 42 *e*P P 10 48 39.3 +0.7
YMR **Madison River** 77.04 43 *e*P P 10 48 39.7 +1.0
FRB **Frobisher Bay** 77.05 12 P P 10 48 37.9 -0.5
comp=Z,38nm,0.9s,mb5.3,baz=348,slow=5.8,SNR=8.9
FRB **Frobisher Bay** 77.05 12 P P 10 48 37.9 -0.5
FRB pmax pmax
comp=Z,38nm,0.9s
MTUM **Tungsten Hills** 77.06 53 *e*P P 10 48 39.8 +0.8
BRTR **Keskin Array B** 77.10 310 P P 10 48 39.0 -0.1
comp=Z,16nm,0.9s,mb5.0,baz=90,slow=3.7,SNR=61
BRTR **Keskin Array B** 77.10 310 P P 10 48 39.0 -0.1
BRTR pmax pmax
comp=Z,16nm,0.9s
YNR **Norris Junctio** 77.16 43 *e*P P 10 48 41.4 +2.0
VRI **Vrincioaia** 77.17 318 ⇓*i*P P 10 48 40.1 +0.7
VRI **Vrincioaia** 77.17 318 ⇓*i*P P 10 48 40.1 +0.7
BRD **Bordesti** 77.21 318 ⇓*i*P P 10 48 41.5 +1.8
BRD **Bordesti** 77.21 318 ⇓*i*P P 10 48 41.5 +1.8
KAMT **Kaman** 77.27 310 *e*P P 10 48 40.2 +0.1
KOLS **Kolonicke sedl** 77.38 323 *i* P P 10 48 41.0 +0.5
COBT **Iskenderun** 77.40 306 *i* P P 10 48 41.4 +0.5
TPH **Tonopah** 77.47 52 P P 10 48 42.2 +1.0
TPH pmax pmax
comp=Z,47nm,1.1s,mb5.3
TPH **Tonopah** 77.47 52 *e*P P 10 48 42.0 +0.7
comp=Z,69nm,1.3s,mb5.4
NIG **Nigde** 77.48 308 P P 10 48 42.5 +1.2
SGKT **Sivrigoynuk** 77.53 312 *i* P P 10 48 41.4 -0.1
OJC **Ojcow** 77.66 325 *e*P P 10 48 42.1 +0.1
OJC **Ojcow** 77.66 325 *e*P P 10 48 42.1 +0.1
RRI2 **Red Ridge** 77.69 45 *e*P P 10 48 43.7 +1.4
HTY **Hatay** 77.71 306 *e*P P 10 48 43.0 +0.4
MOOW **Moose Ponds** 77.75 44 *e*P P 10 48 43.8 +1.1
ISR **Istrita** 77.75 318 ⇓*i*P P 10 48 43.7 +1.1
PSN **Preselentsi** 77.79 316 P P 10 48 43.5 +0.6
CRVS **Cervenica-Dubn** 77.79 323 *i* P P 10 48 43.1 +0.3
MLR **Muntele Rosu** 77.83 318 P P 10 48 43.5 +0.5
comp=Z,18nm,1.0s,mb5.0,baz=1.1,slow=5.6,SNR=23
MLR **Muntele Rosu** 77.83 318 P P 10 48 43.5 +0.5
MLR pmax pmax
comp=Z,18nm,1.0s
REDW **Red Top Meadow** 77.94 44 *e*P P 10 48 44.8 +1.1
NIE **Niedzica** 77.98 324 ⇑*i*P P 10 48 44.6 +0.8
DGMT **Dagmar** 78.01 37 *e*P P 10 48 43.7 -0.2
comp=Z,50nm,1.0s,mb5.4
HENT **Hendek** 78.06 312 *i* P P 10 48 49.1 +4.7
MDU **Mudurnu** 78.10 312 P P 10 48 44.6 0.0
LAO **LASA Array** 78.22 40 *e*P P 10 48 45.6 +0.5
comp=Z,69nm,1.1s,mb5.5
MTUR **Matau** 78.47 319 ⇓*i*P P 10 48 45.7 -0.9
MTUR **Matau** 78.47 319 ⇓*i*P P 10 48 45.7 -0.9
MZLS **Mizel** 78.51 291 P P 10 48 47.5 +0.2
BUC1 **Bucharest** 78.54 318 ⇓*i*P P 10 48 47.8 +0.9
BUC1 **Bucharest** 78.54 318 ⇓*i*P P 10 48 47.8 +0.8
HWUT **Hardware Ranch** 78.66 46 *e*P P 10 48 48.5 +0.8
comp=Z,101nm,1.7s,mb5.5
OKC **Ostrava-Krasne** 78.68 325 ⇑*i*P P 10 48 47.5 -0.1
OKC AMS AMS 11 36 40.0
comp=Z,2µm,12.7s
KIZT **Kizilcal** 78.69 310 *e*P P 10 48 47.7 -0.2
KSP **Ksiaz** 78.78 327 *e*P P 10 48 47.9 -0.3
KSP *e**PP pP 10 48 51.6 -1.9
KSP **Ksiaz** 78.78 327 *e*P P 10 48 48.5 +0.3
ARSS **Ar Rass** 78.88 294 P P 10 48 49.0 -0.3
BSEG **Bad Segeberg** 78.89 332 *e*P P 10 48 48.5 -0.2
BSEG pmax pmax
comp=Z,59nm,1.4s,mb5.3
ESKT **Eskisehir** 78.91 311 *i* P P 10 48 49.0 -0.2
NOQ **North Oquirrh** 78.95 47 *e*P P 10 48 50.3 +0.9
KONT **Konya--Tatoy** 78.98 309 *e*P P 10 48 50.2 +0.7
MORC **Moravsky Berou** 79.00 326 P P 10 48 49.6 +0.2
MORC pmax pmax
comp=Z,50nm,1.2s,mb5.3
MORC **Moravsky Berou** 79.00 326 *e*P P 10 48 49.7 +0.3
comp=Z,50nm,1.3s,mb5.3
PDAR **Pinedale Array** 79.05 44 P P 10 48 50.2 +0.4
comp=Z,11nm,0.9s,mb4.8,baz=290,slow=2.3,SNR=71
HILS **Ha'il** 79.05 296 P P 10 48 50.5 +0.3
TCUT **Toone Canyon** 79.07 46 *e*P P 10 48 48.0 -1.9
DPC **Dobruska-Polom** 79.13 327 ⇑*i*P P 10 48 50.6 +0.5
DPC AMS AMS 11 37 50.0
comp=Z,2µm,13.0s
UPC **Upice** 79.15 327 ⇑*i*P P 10 48 50.7 +0.5
IKL **Isikli** 79.21 307 *i* P P 10 48 51.3 +0.4
PSZ **Piszkesteto** 79.23 323 ⇑*i*P P 10 48 51.3 +0.6
PSZ **Piszkesteto** 79.23 323 P P 10 48 51.3 +0.6
PSZ pmax pmax
comp=Z,59nm,1.1s,mb5.4
MWC **Mount Wilson** 79.28 55 P P 10 48 51.6 +0.3
MWC **Mount Wilson** 79.28 55 *e*P P 10 48 50.5 -0.7
SZH **Strazhica** 79.30 317 P P 10 48 51.7 +0.5
VYHS **Vyhne** 79.32 324 *i* P P 10 48 51.8 +0.6
ULDT **Uludag** 79.53 313 *i* P P 10 48 52.6 +0.2
ASF **Jabal al Asfar** 79.60 302 P P 10 48 53.8 +0.8
comp=Z,15nm,0.9s,mb4.9,baz=298,slow=3.3,SNR=23
DAU **Daniels Canyon** 79.61 47 P P 10 48 54.5 +1.6
DAU **Daniels Canyon** 79.61 47 *e*P P 10 48 54.1 +1.2
ALT **Altintas** 79.65 311 *e*P P 10 48 53.0 -0.1
PVCC **Panska Ves** 79.76 328 ⇑*i*P P 10 48 53.8 +0.3
PVCC AMS AMS 11 38 30.0
comp=Z,2µm,14.4s
VRAC **Vranov** 79.77 326 P P 10 48 54.4 +0.8
comp=Z,21nm,1.0s,mb5.0,baz=38,slow=8.6,SNR=22
VRAC **Vranov** 79.77 326 P P 10 48 54.4 +0.9
VRAC pmax pmax
comp=Z,21nm,1.0s
BRG **Berggiesshubel** 79.77 328 *i* P P 10 48 53.6 +0.1
BRG pmax pmax
comp=Z,23nm,1.1s,mb5.0
BRG **Berggiesshubel** 79.77 328 *i* P P 10 48 53.6 +0.1
comp=Z,23nm,1.0s,mb5.1
KSHT **Keshet** 79.83 304 P P 10 48 55.1 +0.8
KSHT **Keshet** 79.83 304 ⇑P P 10 48 55.1 +0.8
CLL **Collm** 79.84 329 ⇑P P 10 48 53.6 -0.3
comp=Z,logA/T=1.7,mb5.4
CLL *i* *PP pP 10 48 56.8 -2.4
CLL *e*PCP PcP 10 49 00.0 -2.0
CLL **Collm** 79.84 329 ⇑*i*P P 10 48 53.6 -0.3
CLL *i* 10 48 56.8
CLL pmax pmax
comp=Z,72nm,1.4s,mb5.4
CLL **Collm** 79.84 329 ⇑*i*P P 10 48 53.6 -0.3
comp=Z,72nm,1.4s,mb5.4
CLL *i* 10 48 56.8
SMOL **Smolenice** 79.96 325 *i* P P 10 48 56.1 +1.5
ARUT **Antelope Range** 79.99 50 P P 10 48 56.8 +1.8
ARUT **Antelope Range** 79.99 50 *e*P P 10 48 56.6 +1.7
PRU **Pruhonice** 80.17 327 ⇑*i*P P 10 48 55.9 +0.2
PRU pmax pmax
comp=Z,51nm,1.3s,mb5.3
PRU **Pruhonice** 80.17 327 ⇑*i*P P 10 48 55.9 +0.2
comp=Z,51nm,1.3s,mb5.3
PRU pP pP 10 48 58.7 -2.3
PRU AMS AMS 11 39 00.0
MFT **Murefte** 80.18 314 *e*P P 10 48 56.3 +0.3
HNTI **Hanita** 80.19 304 P P 10 48 56.5 +0.3
HNTI **Hanita** 80.19 304 ⇑P P 10 48 56.5 +0.3
AFFS **'Afif** 80.20 292 P P 10 48 56.7 +0.3
CSS **Prodhromos** 80.23 307 *e*P P 10 48 56.3 0.0
comp=Z,38nm,0.8s,mb5.4
MSU **Marysvale** 80.29 49 P P 10 48 58.5 +1.9
MSU **Marysvale** 80.29 49 *e*P P 10 48 57.7 +1.1
ZST **Bratislava** 80.34 325 *i* P P 10 48 58.0 +1.4
TMUT **Trail Mountain** 80.36 48 *e*P P 10 48 57.9 +1.0
MMLI **Mount Malkishu** 80.43 303 P P 10 48 58.3 +0.9
MMLI **Mount Malkishu** 80.43 303 ⇑P P 10 48 58.3 +0.9
NEN **Nelson** 80.47 52 *e*P P 10 48 58.1 +0.5
HMDT **Nahal Hemdat** 80.47 303 P P 10 48 58.2 +0.5
HMDT **Nahal Hemdat** 80.47 303 ⇑P P 10 48 58.2 +0.5
CLZ **Clausthal** 80.49 330 *e*P P 10 48 57.4 +0.1
comp=Z,85nm,1.4s,mb5.5
ULM **Lac du Bonnet** 80.50 32 P P 10 48 57.1 -0.3
comp=Z,18nm,0.9s,mb5.0,baz=320,slow=6.6,SNR=12
OFRI **'Ofer** 80.60 304 P P 10 48 58.7 +0.3
OFRI **'Ofer** 80.60 304 ⇑P P 10 48 58.7 +0.3
LDFC **Landfair** 80.66 53 *e*P P 10 48 58.7 +0.1
KDZ **Kurdzhali** 80.67 316 *i* P P 10 48 59.7 +1.2
PFO **Pinyon Flat Ob** 80.71 55 P P 10 48 59.0 +0.1
comp=Z,101nm,0.9s,mb5.8,SNR=15
SLTI **Sal'it** 80.80 303 P P 10 49 00.1 +0.7
SLTI **Sal'it** 80.80 303 ⇑P P 10 49 00.1 +0.7
NKC **Novy Kostel** 80.88 328 ⇑*e*P P 10 48 59.0 -0.4
NKC AMS AMS 11 39 30.0
comp=Z,1µm,12.4s
SRU **San Rafael** 80.89 47 P P 10 49 01.0 +1.3
SRU **San Rafael** 80.89 47 *e*P P 10 49 00.5 +0.8
MOX **Moxa** 80.91 329 *i* P P 10 48 59.6 0.0
comp=Z,logA/T=1.4,mb5.1
MOX **Moxa** 80.91 329 *e*P P 10 48 59.6 0.0
MOX pmax pmax
comp=Z,38nm,1.5s,mb5.1
MOX **Moxa** 80.91 329 *e*P P 10 48 59.6 0.0
comp=Z,38nm,1.5s,mb5.1
RZN **Rozhen** 81.03 316 *i* P P 10 49 01.3 +0.9
PKSM **Moragy** 81.04 323 ⇑*i*P P 10 49 00.0 -0.4
BEO **Belgrade** 81.13 321 ⇑*i*P P 10 49 01.1 +0.3
BAR **Barrett** 81.14 56 *e*P P 10 48 58.6 -2.6
KAMS **Al Khamasin** 81.16 289 P P 10 49 01.7 +0.2
KHC **Kasperske Hory** 81.23 327 ⇑*i*P P 10 49 01.4 +0.1
KHC AMS AMS 11 38 50.0
comp=Z,2µm,12.6s
VTS **Vitosha** 81.24 318 *i* P P 10 49 02.3 +0.8
ELL **Elmali** 81.25 310 *e*P P 10 49 01.8 +0.1
GEC2 **GERESS Array S** 81.39 327 *e*P P 10 49 02.0 -0.1
GEC2 pmax pmax
comp=Z,51nm,2.0s,mb5.1
GEC2 **GERESS Array S** 81.39 327 *e*P P 10 49 02.0 -0.1
comp=Z,51nm,2.0s,mb5.1
GERES **GERESS Array B** 81.39 327 P P 10 49 02.2 0.0
comp=Z,6.3nm,0.7s,mb4.7,baz=34,slow=4.8,SNR=42
GERES **GERESS Array B** 81.39 327 P P 10 49 02.2 +0.1
GERES pmax pmax
comp=Z,6.0nm,0.7s
RHK1 **Bakonya** 81.40 323 ⇑*i*P P 10 49 02.3 0.0
WET **Wettzell** 81.52 327 *e*P P 10 49 03.1 +0.3
WET pmax pmax
comp=Z,43nm,1.6s,mb5.1
WET **Wettzell** 81.52 327 *e*P P 10 49 03.1 +0.3
comp=Z,43nm,1.6s,mb5.1
MMB **Musomiste** 81.64 317 *i* P P 10 49 04.5 +0.9
GRUS **Gruza** 81.65 320 ⇓*i*P P 10 49 03.6 0.0
ZFRI **Zfri** 81.75 302 P P 10 49 04.9 +0.5
ZFRI **Zfri** 81.75 302 ⇑P P 10 49 04.9 +0.5
ARSA **Arzberg** 81.76 325 ⇑*i*P P 10 49 03.8 -0.3
comp=Z,27nm,1.6s,mb4.9
IZM **Izmir** 81.77 312 *i* P P 10 49 04.7 +0.4
KKB **Krupnik** 81.80 317 *i* P P 10 49 05.3 +0.9
GRA1 **Grafenberg Arr** 81.80 329 *e*P P 10 49 04.8 +0.5
comp=Z,164nm,1.6s,mb5.7
GRF **Grafenberg Arr** 81.80 329 *e*P P 10 49 04.8 +0.5
GRF pmax pmax
comp=Z,164nm,1.6s,mb5.7
KBRS **Khaybar** 81.81 296 P P 10 49 05.6 +0.8
DIVS **Divcibare** 81.87 320 ⇓*i*P P 10 49 04.6 -0.1
MOA **Molln** 81.89 326 ⇑*i*P P 10 49 04.9 +0.2
comp=Z,32nm,1.4s,mb5.1
PRNI **Paran** 81.99 302 P P 10 49 06.4 +0.7
PRNI **Paran** 81.99 302 ⇑P P 10 49 06.4 +0.7
EKA **Eskdalemuir Ar** 82.21 339 P P 10 49 06.3 +0.1
comp=Z,5.7nm,0.8s,mb4.6,baz=40,slow=4.2,SNR=17
EKA **Eskdalemuir Ar** 82.21 339 P P 10 49 06.3 +0.1
EKA pmax pmax
comp=Z,6.0nm,0.8s
PV10 **Paradox Valley** 82.24 47 *e*P P 10 49 08.1 +1.3
JMQS **Jabal Moqyreh** 82.30 300 P P 10 49 08.0 +0.7
KMTI **Karmit** 82.34 302 P P 10 49 07.5 +0.1
KMTI **Karmit** 82.34 302 ⇑P P 10 49 07.5 +0.1
AQBJ **Aqaba** 82.35 301 P P 10 49 08.3 +0.8
MBH **Mount Berech** 82.40 302 P P 10 49 08.6 +0.8
MBH **Mount Berech** 82.40 302 ⇑P P 10 49 08.6 +0.8
PERS **Pernice** 82.41 325 *e*P P 10 49 07.7 +0.3
TATS **Tathlith** 82.44 289 P P 10 49 08.9 +0.7
EIL **Elat** 82.45 301 P P 10 49 08.7 +0.6
EIL **Elat** 82.45 301 ⇑P P 10 49 08.7 +0.6
ALWS **Ilw as Safayha** 82.60 301 P P 10 49 09.5 +0.6
SKO **Skopje** 82.61 318 *i* P P 10 49 09.8 +1.2
JMOS **Jabal al Moall** 82.66 301 P P 10 49 09.7 +0.5
PV01 **Paradox Valley** 82.68 47 *e*P P 10 49 09.9 +0.9
OBKA **Obir** 82.76 325 ⇑*i*P P 10 49 09.3 0.0
comp=Z,11nm,0.9s,mb4.9
HAQS **Haql** 82.85 301 P P 10 49 10.7 +0.6
TOD **Tromm** 82.86 330 ⇑*e*P P 10 49 09.6 -0.1
KBA **Koelnbreinsper** 82.88 326 ⇑*i*P P 10 49 10.1 +0.2
comp=Z,25nm,1.1s,mb5.2
FUR **Furstenfeldbru** 82.96 328 *e*P P 10 49 10.5 +0.2
FUR pmax pmax
comp=Z,63nm,1.0s,mb5.6
FUR **Furstenfeldbru** 82.96 328 *e*P P 10 49 10.5 +0.2
comp=Z,63nm,1.0s,mb5.6
LJU **Ljubljana** 83.12 325 *e*P P 10 49 10.8 -0.4
BDAS **Al Bad'** 83.12 300 P P 10 49 12.0 +0.4
ABH **Alteburg** 83.14 331 ⇑*e*P P 10 49 11.1 -0.1
VISS **Visnje** 83.15 324 *e*P P 10 49 11.0 -0.4
BOJS **Bojanci** 83.18 324 *e*P P 10 49 11.3 -0.2
TAYS **Tayyib Ism** 83.20 301 P P 10 49 12.3 +0.3
DBAS **Duba** 83.27 299 P P 10 49 12.6 +0.2
STU **Stuttgart** 83.36 329 P P 10 49 12.4 +0.1
STU pmax pmax
comp=Z,33nm,0.9s,mb5.4
STU **Stuttgart** 83.36 329 *e*P P 10 49 12.3 0.0
comp=Z,64nm,1.0s,mb5.6
PTCC **Patocco-Chiusa** 83.38 325 *e*P P 10 49 11.3 -1.2
VOY **Vojsko** 83.42 325 *e*P P 10 49 11.4 -1.3
DJNS **Zahran al Janu** 83.48 287 P P 10 49 14.9 +1.3
WTTA **Wettenberg** 83.49 327 ⇑*i*P P 10 49 13.2 +0.1
comp=Z,22nm,1.1s,mb5.1
FVI **Forni Avoltri** 83.50 326 *e*P P 10 49 11.9 -1.1
UMJS **Umm Lajj** 83.55 297 P P 10 49 14.7 +0.9
OHR **Ohrid** 83.56 318 ⇑*i*P P 10 49 13.6 +0.1
YNBS **Yanbu' al Bahr** 83.61 296 P P 10 49 14.7 +0.6
NAMS **An Nimas** 83.62 289 P P 10 49 15.5 +1.2
BLJS **Baljurashi** 83.65 290 P P 10 49 15.5 +1.1
MOTA **Moosalm** 83.66 327 ⇓*i*P P 10 49 14.0 +0.1
comp=Z,27nm,1.3s,mb5.2
QSH **Qafa e Shtames** 83.75 319 *e*p P 10 49 10.8 -3.6
LANF **Langenberg** 83.75 330 ⇑*e*P P 10 49 14.3 0.0
GIVF **Givet** 84.00 332 *e*P P 10 49 15.1 -0.4
SPAK **Spaichingen** 84.05 329 ⇑*e*P P 10 49 15.9 +0.1
BFO **Black Forest** 84.06 329 *e*P P 10 49 15.7 -0.1
BFO pmax pmax
comp=Z,42nm,0.9s,mb5.6
BFO **Black Forest** 84.06 329 *e*P P 10 49 15.7 -0.1
comp=Z,42nm,0.9s,mb5.6
EYMN **Ely** 84.11 31 *e*P P 10 49 16.0 -0.1
DAVA **Damuels** 84.23 328 ⇑*i*P P 10 49 17.1 +0.4
comp=Z,47nm,0.9s,mb5.6
BAIF **Baives** 84.27 332 *e*P P 10 49 16.2 -0.6
comp=Z,47nm,1.3s,mb5.2
LTHS **Al Lith** 84.31 291 P P 10 49 18.4 +0.7
WLS **Welschbruch** 84.39 330 ⇑*e*P P 10 49 17.6 +0.1
CDF **Champ du Feu** 84.42 330 *e*P P 10 49 17.6 -0.1
comp=Z,89nm,1.0s,mb5.5
CTI **Castel Tesino** 84.42 326 *e*P P 10 49 16.6 -1.1
LIBD **Limburg** 84.50 330 ⇑*e*P P 10 49 18.0 0.0
FELD **Feldberg** 84.55 329 ⇑*e*P P 10 49 18.2 -0.1
ECH **Echery** 84.62 330 ⇑*e*P P 10 49 18.5 -0.2
DAVOX **Davos** 84.63 327 P P 10 49 19.5 +0.7
comp=Z,14nm,0.8s,mb5.2,baz=49,slow=3.8,SNR=15
BRMO **Bormio** 84.65 327 *e*P P 10 49 19.2 +0.3
NPS **Neapolis** 84.84 311 *e*P P 10 49 20.0 -0.1
MOF **Molkenrain** 84.92 330 ⇑*e*P P 10 49 20.0 -0.2
HINF **Hinteralfeld** 85.07 330 *e*P P 10 49 20.5 -0.4
comp=Z,30nm,1.0s,mb5.1
THEF **They Montfort** 85.08 330 ⇑*e*P P 10 49 20.6 -0.3
BBS **Basel-Blauen** 85.08 329 ⇑*e*P P 10 49 20.8 -0.2
KEK **Kerkira** 85.09 317 *e*P P 10 49 20.0 -1.2
DCN **Croghan** 85.10 340 *e*P P 10 49 21.4 +0.5
HAU **Haudompre** 85.12 330 *e*P P 10 49 20.8 -0.3
comp=Z,34nm,0.7s,mb5.3
MEZF **Maizieres J'vi** 85.22 331 *e*P P 10 49 21.7 +0.1
comp=Z,69nm,1.0s,mb5.5
VLI **Veliai** 85.43 313 *e*P P 10 49 09.0 -14
RSM **Repubblica di** 85.68 324 *e*P P 10 49 24.8 +0.7
ITM **Ithomi** 85.69 314 *e*P P 10 49 24.0 -0.3
FSSB **Fossombrone** 85.71 324 *e*P P 10 49 24.5 +0.3
SCHQ **Schefferville** 85.71 14 P P 10 49 24.0 +0.1
comp=Z,13nm,0.8s,mb5.2,baz=331,slow=4.0,SNR=11
SCHQ **Schefferville** 85.71 14 P P 10 49 24.0 +0.1
VLS **Valsamata** 85.74 316 *e*P P 10 49 24.0 -0.5
ARV **Arcevia** 85.78 324 *e*P P 10 49 24.6 0.0
VAI **Varese** 85.82 328 *e*P P 10 49 24.0 -0.8
SFI **Santa Sofia** 85.98 325 *e*P P 10 49 26.5 +0.9
ZCCA **Zocca** 86.03 325 *e*P P 10 49 27.2 +1.4
LAZ **Ladron** 86.05 49 *e*P P 10 49 26.2 +0.1
PGD **Poggio Sodo** 86.06 325 *e*P P 10 49 27.1 +1.2
ANMO **Albuquerque** 86.08 48 ⇑*e*P P 10 49 27.6 +1.3
MCGN **Macugnaga** 86.08 328 *e*P P 10 49 25.8 -0.2
NRCA **Norcia** 86.20 323 *e*P P 10 49 27.1 +0.4
GSCL **Gusciola** 86.21 326 *e*P P 10 49 27.5 +0.8
CABF **La Chapelle** 86.35 329 *e*P P 10 49 26.4 -0.9
comp=Z,17nm,0.8s,mb5.0
BOB **Bobbio (Coli)** 86.39 326 *e*P P 10 49 27.5 -0.1
AQU **L'Aquila** 86.43 323 P P 10 49 28.9 +1.1
AQU pmax pmax
comp=Z,49nm,1.0s,mb5.7
AQU **L'Aquila** 86.43 323 *e*P P 10 49 28.8 +1.0
CII **Carovilli** 86.46 322 *e*P P 10 49 29.1 +1.1
BNM **Barren Site** 86.53 49 *e*P P 10 49 29.7 +1.2
CPI2 **Carpinone** 86.56 322 *e*P P 10 49 28.5 0.0
MRLC **Muro Lucano** 86.59 320 *e*P P 10 49 28.5 -0.1
PTQR **Pietraquaria** 86.68 322 *e*P P 10 49 29.3 +0.2
LOR **Lormes** 86.69 331 *e*P P 10 49 28.6 -0.4
comp=Z,53nm,0.9s,mb5.5
SDI **San Donato** 86.72 322 *e*P P 10 49 28.6 -0.6
SGO **Sicignano** 86.83 320 *e*P P 10 49 29.5 -0.3
RFI **Roccamonfina** 86.94 322 *e*P P 10 49 31.4 +1.1
LPL **La Plagne** 86.97 328 *e*P P 10 49 30.3 0.0
comp=Z,4.6nm,0.5s,mb4.7
TDS **Terranova Siba** 86.97 319 *e*P P 10 49 30.9 +0.4
LPG **La Plagne** 86.97 328 *e*P P 10 49 30.5 +0.1
comp=Z,11nm,0.7s,mb4.9
SSF **Saint Saulge** 87.00 331 *e*P P 10 49 30.1 -0.4
comp=Z,34nm,0.9s,mb5.3
MGR **Morigerati** 87.02 320 *e*P P 10 49 29.4 -1.3
FLN **La Foliniere** 87.03 334 *e*P P 10 49 29.9 -0.7
LDF **La Druitiere** 87.05 334 *e*P P 10 49 29.9 -0.8
comp=Z,27nm,0.7s,mb5.3
HYF **Humbligny** 87.16 332 *e*P P 10 49 31.3 +0.1
SMF **Signal de Mont** 87.21 331 *e*P P 10 49 31.1 -0.4
comp=Z,19nm,0.8s,mb5.1
GRR **Gorron** 87.48 334 *e*P P 10 49 32.8 +0.1
comp=Z,225nm,1.4s,mb5.9
MBDF **Montbardon** 87.58 328 *e*P P 10 49 32.5 -0.8
ORIF **Oris-en-Rattie** 87.80 329 *e*P P 10 49 33.9 -0.5
comp=Z,4.8nm,0.7s,mb4.5
SBF **Sospel** 87.99 327 *e*P P 10 49 34.2 -1.1
comp=Z,17nm,0.6s,mb5.1
TCF **Toulx Ste Croi** 88.14 331 *e*P P 10 49 35.6 -0.4
comp=Z,25nm,1.1s,mb5.1
SGMF **Saint Gilles** 88.17 335 *e*P P 10 49 35.8 -0.2
comp=Z,55nm,1.0s,mb5.4
SOI **Samo** 88.28 318 *e*P P 10 49 36.6 -0.3
ROSF **Rostrenen** 88.33 336 *e*P P 10 49 37.0 +0.2
comp=Z,45nm,0.8s,mb5.4
PGF **Pioggiola** 88.34 325 *e*P P 10 49 36.3 -0.7
comp=Z,18nm,0.8s,mb5.1
VIVF **Saint-Julien-l** 88.35 329 *e*P P 10 49 36.6 -0.4
comp=Z,9.6nm,0.7s,mb4.8
MTTG **Motta San Giov** 88.53 319 *e*P P 10 49 37.6 -0.4
KSU1 **Kansas State U** 88.56 40 *e*P P 10 49 38.2 0.0
FRF **La Foret Royal** 88.58 327 *e*P P 10 49 37.4 -0.7
comp=Z,16nm,0.8s,mb5.1
QUIF **Quistinic** 88.67 335 *e*P P 10 49 38.2 -0.2
SMRF **Simiane la Rot** 88.69 328 *e*P P 10 49 38.8 +0.1
comp=Z,12nm,0.9s,mb5.0
MFF **Saint Martin d** 88.75 333 *e*P P 10 49 38.7 -0.2
LMR **La Mourre** 88.82 327 *e*P P 10 49 38.4 -0.9
comp=Z,20nm,0.9s,mb5.1
CPRX **Cap Rock** 88.96 48 *e*P P 10 49 40.1 -0.1
RJF **Les Rejaudoux** 89.23 331 *e*P P 10 49 41.4 +0.2
GDL2 **Guadalupe Moun** 89.25 49 *e*P P 10 49 42.3 +0.6

LASF	**Ste Croix**	**89.33**	**329**	*eP*	**P**	**10 49 41.4**	**-0.3**	
	comp=Z,9.7nm,0.9s,mb4.8							
CAF	**Calviac**	**89.33**	**331**	*eP*	**P**	**10 49 41.9**	**+0.2**	
	comp=Z,10nm,0.8s,mb4.9							
LFF	**La Frestale**	**89.83**	**332**	*eP*	**P**	**10 49 44.2**	**+0.2**	
	comp=Z,17nm,0.7s,mb5.2							
MTLF	**Montolieu**	**90.60**	**330**	*eP*	**P**	**10 49 47.7**	**+0.1**	
	comp=Z,37nm,1.2s,mb5.3							
EPF	**Esparros**	**91.60**	**331**	*eP*	**P**	**10 49 51.5**	**-0.7**	
TXAR	**Lajitas Array**	**91.69**	**51**	P	**P**	**10 49 53.5**	**+0.6**	
	comp=Z,3.4nm,0.8s,mb4.7,baz=293,slow=3.1,SNR=37							
TXAR				PP	PP	10 53 23.4	-11	
	comp=Z,0.4nm,0.9s,baz=352,slow=6.4,SNR=2.8							
TXAR				PKKPbc		11 07 11.4		
	comp=Z,0.4nm,0.7s,baz=146,slow=3.3,SNR=3.4							
ETSF	**Etsaut**	**92.06**	**331**	*eP*	**P**	**10 49 54.8**	**+0.5**	
	comp=Z,11nm,0.8s,mb4.9							
EBR	**Ebro Roquetas**	**93.41**	**330**	*eP*	**P**	**10 49 57.5**	**-3.1**	
VNDA	**Vanda**	**115.36**	**175**	PKP	PKPdf	10 55 25.5	-3.4	
	comp=Z,1.1nm,0.8s,baz=347,slow=4.4,SNR=2.7							
SBA	**Scott Base**	**116.07**	**174**	*e*PKPdf	PKPdf	10 55 27.1	-3.1	
MAW	**Mawson**	**118.79**	**205**	PKP	PKPdf	10 55 33.2	-2.5	
	comp=Z,2.8nm,0.9s,baz=42,slow=3.4,SNR=5.4							
DBIC	**Dimbokro**	**124.64**	**314**	PKP	PKPdf	10 55 44.5	-3.9	
	comp=Z,3.1nm,0.7s,baz=4.6,slow=1.3,SNR=8.4							
TIC	**Toumodi**	**124.76**	**314**	*e*PKIKP	PKPdf	10 55 44.6	-4.0	
	comp=Z,10nm,0.2s							
KIC	**Kosan Boka**	**124.83**	**314**	*e*PKIKP	PKPdf	10 55 44.9	-3.8	
	comp=Z,35nm,0.9s							
LIC	**Lamto**	**125.10**	**314**	*e*PKIKP	PKPdf	10 55 45.2	-4.0	
	comp=Z,35nm,1.2s							
SDV	**Santo Domingo**	**126.51**	**37**	*eP*	PKPdf	10 55 48.8	-3.0	
QSPA	**South Pole Qui**	**126.97**	**180**	P	PKPdf	10 55 48.2	-2.8	
SYO	**Syowa Base**	**127.42**	**207**	⇑pPdiff		10 52 35.9		
SYO	**Syowa Base**	**127.42**	**207**	⇑PKPdf	PKPdf	10 55 49.2	-3.0	
SYO	**Syowa Base**	**127.42**	**207**	⇓PKiKP		10 55 52.5		
SNAA	**Sanae**	**140.29**	**198**	⇑*i*	PKPdf	10 56 07.8	-8.3	
SNAA	**Sanae**	**140.29**	**198**		PKPdf	10 56 09.7	-6.4	
SNAA	**Sanae**	**140.29**	**198**		PKPdf	10 56 11.4	-4.7	
SNAA	**Sanae**	**140.29**	**198**	⇓*i*	PKPdf	10 56 12.1	-4.0	
SNAA	**Sanae**	**140.29**	**198**		PKPdf	10 56 14.8	-1.3	
SNAA	**Sanae**	**140.29**	**198**	PKhKP		10 56 04.5		
	comp=Z,2.9nm,1.1s,baz=85,slow=5.5,SNR=10							
SNAA				PP	PP	10 59 10.2	-4.1	
	comp=Z,2.2nm,1.1s,baz=130,slow=5.0,SNR=5.9							
SNAA	**Sanae**	**140.29**	**198**	⇑*i*PKPdf	PKPdf	10 56 04.3	-12	
SNAA				⇓*iP*		10 56 12.1		
VNA2	**Neumayer--Watz**	**141.89**	**197**	⇑*i*	PKPdf	10 56 16.6	-2.2	
VNA2	**Neumayer--Watz**	**141.89**	**197**	⇑*i*	PKPdf	10 56 18.4	-0.4	
VNA2	**Neumayer--Watz**	**141.89**	**197**	⇑*i*	PKPdf	10 56 20.1	+1.3	
VNA2	**Neumayer--Watz**	**141.89**	**197**	⇑*i*	PKPdf	10 56 21.6	+2.8	
VNA2	**Neumayer--Watz**	**141.89**	**197**		PKPdf	10 56 23.8	+5.0	
VNA2	**Neumayer--Watz**	**141.89**	**197**	⇑*i*PKPdf	PKPdf	10 56 13.3	-5.5	
VNA2				⇑*iP*		10 56 16.6		
VNA3	**Neumayer Olymp**	**142.18**	**196**		PKPdf	10 56 17.5	-1.8	
VNA3	**Neumayer Olymp**	**142.18**	**196**	⇓*i*	PKPdf	10 56 19.9	+0.6	
VNA3	**Neumayer Olymp**	**142.18**	**196**		PKPdf	10 56 21.9	+2.6	
VNA3	**Neumayer Olymp**	**142.18**	**196**	⇓*i*	PKPdf	10 56 22.4	+3.1	
VNA3	**Neumayer Olymp**	**142.18**	**196**	⇑*i*	PKPdf	10 56 24.9	+5.6	
VNA3	**Neumayer Olymp**	**142.18**	**196**	PKPdf	PKPdf	10 56 14.6	-4.7	
VNA3				P		10 56 17.5		
VNA1	**Neumayer--Stat**	**142.28**	**197**	⇑*iP*	PKPdf	10 56 15.5	-4.0	
VNA1	**Neumayer--Stat**	**142.28**	**197**	⇓*i*	PKPdf	10 56 18.8	-0.7	
VNA1	**Neumayer--Stat**	**142.28**	**197**	⇑*i*	PKPdf	10 56 20.7	+1.2	
VNA1	**Neumayer--Stat**	**142.28**	**197**	⇑*i*	PKPdf	10 56 22.7	+3.2	
VNA1	**Neumayer--Stat**	**142.28**	**197**	⇓*i*	PKPdf	10 56 24.2	+4.7	
VNA1	**Neumayer--Stat**	**142.28**	**197**		PKPdf	10 56 25.9	+6.4	
SAML	**Samuel**	**145.56**	**41**	*e*PKPdf	PKPdf	10 56 24.0	-2.8	
LPAZ	**La Paz**	**148.41**	**56**	PKPbc	PKPdf	10 56 33.6	+2.2	
	comp=Z,7.1nm,0.8s,baz=335,slow=3.4,SNR=8.7							
BDFB	**Brasilia**	**157.68**	**17**	PKPab	PKPab	10 57 15.3	-0.4	
	comp=Z,7.3nm,0.9s,baz=37,slow=1.3,SNR=5.1							

JMA 23 10:43:39.0, 37.25N×138.90E, h10km±2km, M3.8, 4C-3D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.09**	**91**	⇓P	Pg	10 43 41.4	-0.2
JHK				*e*S	Sg	10 43 43.5	+0.2
JIZZ	**Izumozaki**	**0.32**	**332**	P	Pg	10 43 45.7	+0.1
JIZZ				*e*S	Sg	10 43 51.2	+1.1
JKT	**Katashina**	**0.56**	**150**	⇑P	Pg	10 43 49.8	-0.5
JKT				*e*S	Sg	10 43 57.7	-0.1
JNS	**Sasagawa**	**0.66**	**30**	⇑P	Pb	10 43 51.1	-1.0
JNS				*e*S	Sb	10 44 00.1	-0.9
JFY	**Yanaizu**	**0.66**	**76**	⇓P	Pb	10 43 51.5	-0.6
JFY				*e*S	Sb	10 44 00.4	-0.7
JGK	**Kuni**	**0.72**	**197**	⇑P	Pb	10 43 52.6	-0.5
MAT	**Matsushiro**	**0.90**	**218**	P	Pb	10 43 55.4	-0.8
JAG	**Ashikaga**	**0.94**	**152**	⇑P	Pb	10 43 57.0	+0.1
JSD	**Sado**	**0.94**	**327**	⇓P	Pb	10 43 55.2	-1.7

IDC 23 10:45:40.8±1.2, 55.21S×28.14W, mb4.3/3, mb1 4.4/4, mb1mx4.1/11, ML4.0/1, 3C-1D, Error ellipse: s-maj=66.9km s-min=23.4km az=59.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**17.78**	**158**	⇑*iP*	P	10 49 56.2	+5.3
VNA1	**Neumayer--Stat**	**17.78**	**158**	⇑*i*		10 50 08.3	
VNA3	**Neumayer Olymp**	**17.97**	**161**	P	P	10 49 54.9	+1.7
VNA3	**Neumayer Olymp**	**17.97**	**161**			10 50 06.2	
VNA2	**Neumayer--Watz**	**18.18**	**158**	P	P	10 49 57.7	+1.8
VNA2	**Neumayer--Watz**	**18.18**	**158**			10 50 09.9	
SNAA	**Sanae**	**19.73**	**156**	⇓*iP*	P	10 50 10.1	-4.4
SNAA	**Sanae**	**19.73**	**156**	⇑*i*		10 50 22.9	
SNAA	**Sanae**	**19.73**	**156**	P	P	10 50 11.3	-3.1
	0.4nm,0.3s,baz=318,slow=12,SNR=34						
CPUP	**Villa Florida**	**35.85**	**312**	P	P	10 52 41.1	-2.9
	3.2nm,0.7s,baz=167,slow=9.6,SNR=3.9						
VNDA	**Vanda**	**47.39**	**183**	P	P	10 54 15.9	-1.9
	1.4nm,0.7s,baz=188,slow=6.6,SNR=8.2						
LPAZ	**La Paz**	**49.45**	**306**	P	P	10 54 33.4	-1.1
	2.1nm,0.2s,baz=108,slow=4.8,SNR=3.1						
INK	**Inuvik**	**144.81**	**322**	PKP	PKPdf	11 05 19.4	-0.4
	1.5nm,0.8s,baz=117,slow=6.8,SNR=4.9						
ILAR	**Eielson Array**	**149.15**	**313**	PKPbc	PKPdf	11 05 29.0	+1.9
	3.3nm,0.8s,baz=119,slow=1.8,SNR=48						
SONM	**Songino Array**	**151.21**	**86**	PKPbc	PKPdf	11 05 34.6	+3.8
	0.9nm,0.6s,baz=260,slow=3.1,SNR=4.8						

*BJI **23** 10:45:47.8, 37.09N×139.67E, h10km, mB5.8, mb5.4, Ms5.5, Msz5.3*
*IDC **23** 10:45:55.0±0.3, 37.27N×138.68E, mb5.4/34, mb1 5.5/39, mb1mx5.5/40, ML4.3/3, MS5.0/7, Ms1 5.0/7, ms1mx4.4/35, Error ellipse: s-maj=12.3km s-min=10.1km az=100.0*
*SYO **23** 10:45:56.9, 37.30N×138.66E, h10km, MB5.8*
*HRVD **23** 10:45:57.0±0.5, 37.25N×138.74E, h22km±1km, MW5.7/69, Centroid moment Tensor Solution. LP body waves: s6,c7; Mantle waves: s69,c106; Half duration: 1s7. Moment tensor: Scale 10^17Nm; Mrr3.89±.45; Mθθ-0.96±.24; Mφφ-2.93±.27; Mrθ0.93±.46; Mrφ-1.39±.13; Mθφ-1.34±.37; Best double couple: M0 4.07×10^17 NP1:φs43°, δ41°, λ116°. NP2:φs190°, δ53°, λ69°. Principal axes: T 4.41, Plg72°, Azm44°; N -.68, Plg17°, Azm203°; P -3.73, Plg6°, Azm295°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **23** 10:45:57.0±0.1, 37.31N×138.66E, h10km, mb5.7/161, MW5.5(NIED) Error ellipse: s-maj=3.6km s-min=2.5km az=169.0*
NEIC Felt in Tokyo Prefecture.
*JMA **23** 10:45:57.1, 37.30N×138.88E, h12km±2km, M5.7 Broadband fault plane solution: P waves. NP1:φs215°, δ40°, λ100°. NP2:φs22°, δ50°, λ82°. Principal axes: T Plg82°, Azm245°; N Plg6°, Azm27°; P Plg5°, Azm118°;*
*MOS **23** 10:45:59.8±0.9, 37.59N×138.59E, h30km, mb5.9/63, MS5.3/16 Error ellipse: s-maj=7.6km s-min=4.8km az=88.0*
*NIED **23** 10:46:00, 37.30N×138.90E, h8km, Mw5.5 Best double couple: M0 1.78×10^17 NP1:φs16°, δ52°, λ76°. NP2:φs217°, δ40°, λ107°.*
ISC 23 10:45:56.2±0.6, 37.31N±0.02×138.71E±0.02, h14km±3km, h16km±1.6km: pP-P, n847, σθ95/829, mb5.6/222, MS5.3/29, 116C-38D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIZZ	**Izumozaki**	**0.22**	**359**	⇓P	Pg	**10 46 02.8**	**+1.5**
JIZZ				*e*S	Sg	**10 46 08.3**	**+3.6**
JHK	**Hiroka**	**0.25**	**104**	⇓P	Pg	**10 46 00.1**	**-1.6**
JKT	**Katashina**	**0.69**	**141**	⇓P	Pb	**10 46 08.8**	**-0.6**
JKT				*e*S	Sb	**10 46 17.3**	**-1.2**
JNS	**Sasagawa**	**0.70**	**43**	⇓P	Pb	**10 46 08.6**	**-1.0**
JNS				*e*S	Sb	**10 46 18.3**	**-0.5**
JGK	**Kuni**	**0.75**	**185**	P	Pb	**10 46 11.7**	**+1.3**
JFY	**Yanaizu**	**0.80**	**83**	⇓P	Pb	**10 46 09.7**	**-1.6**
JFY				*e*S	Sb	**10 46 19.6**	**-2.0**
JSD	**Sado**	**0.81**	**334**	⇓P	Pb	**10 46 12.5**	**+1.0**
MAO	**Matsushiro**	**0.86**	**208**	⇓*eP*	Pb	**10 46 14.0**	**+1.5**
MAT	**Matsushiro**	**0.86**	**208**	⇑P	Pb	**10 46 14.0**	**+1.5**
MAT				S	Sb	**10 46 26.3**	**+2.7**
MAT	**Matsushiro**	**0.86**	**208**	⇑*iP*	Pb	**10 46 14.0**	**+1.5**
MAT				*e*S	Sb	**10 46 26.0**	**+2.4**
JAG	**Ashikaga**	**1.06**	**146**	⇓P	Pb	**10 46 15.8**	**0.0**
JHJ	**Hachijo jima 2**	**4.27**	**168**	Pn	Pn	**10 47 03.6**	**+1.3**
	401nm,0.3s,baz=235,slow=5.7,SNR=24						
JHJ				Sn	Sn	**10 47 54.1**	**+1.6**
	121nm,0.3s,baz=96,slow=22,SNR=7.5						
ASAJ	**Asahikawa**	**7.41**	**22**	Pn	Pn	**10 47 46.3**	**-0.3**
	6.2nm,0.3s,baz=212,slow=9.6,SNR=24						
ASAJ				LR	LR	10 50 45.1	
	comp=Z,5μm,21.1s,baz=218,slow=39						
ASAJ	**Asahikawa**	**7.41**	**22**	P	Pn	**10 47 46.3**	**-0.3**
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,5μm,21.1s						
YUK	**Yuzh-Kuril'sk**	**8.64**	**37**	*eP*	**P**	**10 48 03.5**	**-0.2**
YUK				S	**Sn**	**10 49 39.0**	**-2.9**
YUK				pmax	pmax		
	comp=N,190nm,0.5s						
YUK				pmax	pmax		
	comp=E,280nm,0.5s						
YUK				pmax	pmax		
	comp=Z,350nm,0.5s						
YUK				smax			
	comp=N,1μm,1.0s						
YUK				smax			
	comp=E,1μm,1.0s						
INCN	**Inchon**	**9.62**	**275**	*eP*	**P**	**10 48 18.9**	**+1.7**
	comp=E,362nm,1.5s						
MDJ	**Mudanjiang**	**10.04**	**319**	*eP*	**P**	**10 48 25.2**	**+2.2**
	comp=E,235nm,1.1s						
YSS	**Yuzh-Sakhalins**	**10.09**	**16**	⇑*iP*	**P**	**10 48 23.6**	**-0.2**
YSS				S	**S**	**10 50 17.0**	**-0.8**
YSS				pmax	pmax		
	comp=Z,80nm,0.9s						
YSS				MLR	MLR		
	comp=Z,12μm,11.0s						
YSS				MLR	MLR		
	comp=N,14μm,12.0s						
YSS				MLR	MLR		
	comp=E,10μm,14.0s						
YSS	**Yuzh-Sakhalins**	**10.09**	**16**	*eP*	**P**	**10 48 22.9**	**-0.8**
	comp=E,110nm,0.7s						
CBIJ	**Chichi jima**	**10.60**	**163**	Pn	**P**	**10 48 27.1**	**-3.6**
	baz=90,slow=19						
CBIJ				Sn	**S**	**10 50 24.8**	**-5.4**
	baz=270,slow=20						
CN2	**Changchun**	**11.99**	**307**	*eP*	**P**	**10 48 51.6**	**+2.0**
CN2				*e*S	**S**	**10 51 06.8**	**+2.7**
CN2				AMB	AMB		
	comp=Z,3μm,10.0s						
CN2				LR	LR		
	comp=N,12μm,13.0s						
CN2				LR	LR		
	comp=E,9μm,13.0s						
CN2				LR	LR		
	comp=Z,11μm,16.0s						
JOW	**Kunigami**	**13.68**	**223**	Pn	**P**	**10 49 16.6**	**+4.4**
	comp=Z,0.9nm,0.3s,baz=138,slow=12,SNR=3.8						
SSE	**Sheshan**	**15.76**	**252**	P	**P**	**10 49 37.1**	**-2.3**
SSE				S	**S**	**10 52 32.3**	**-1.7**
SSE				AMB	AMB		
	comp=Z,403nm,1.0s						
SSE				LR	LR		
	comp=N,4μm,21.4s						
SSE				LR	LR		
	comp=E,3μm,21.4s						
SSE				LR	LR		
	comp=Z,4μm,17.0s						
SSE	**Sheshan**	**15.76**	**252**	P	**P**	**10 49 37.1**	**-2.3**
	comp=Z,403nm,1.0s						
SSE				S	**S**	**10 52 32.2**	**-1.8**
NJ2	**Nanjing**	**17.15**	**258**	*eP*	**P**	**10 49 59.1**	**+2.1**
NJ2				AP		10 50 03.3	
NJ2				XP		10 50 06.1	
NJ2				PP	PP	10 50 13.1	+1.7
NJ2				S	**S**	**10 53 10.0**	**+4.0**
NJ2				AMB	AMB		
	comp=Z,140nm,1.0s						
NJ2				AMB	AMB		
	comp=Z,2μm,4.2s						
NJ2				LR	LR		
	comp=N,2μm,14.2s						
NJ2				LR	LR		
	comp=E,3μm,15.3s						
NJ2				LR	LR		
	comp=Z,2μm,15.3s						
TIA	**Tai'an**	**17.34**	**273**	P	**P**	**10 50 02.8**	**+3.5**
TIA				AMB	AMB		
	comp=Z,417nm,2.0s						
BJI	**Beijing**	**17.80**	**286**	P	**P**	**10 50 07.3**	**+2.2**
BJI				S	**S**	**10 53 27.6**	**+6.7**
BJI				AMB	AMB		
	comp=Z,3μm,5.9s						
BJI				LR	LR		
	comp=N,4μm,11.7s						
BJI				LR	LR		
	comp=E,5μm,11.7s						
BJI				LR	LR		
	comp=Z,52μm,15.2s						
BJI	**Beijing**	**17.80**	**286**	P	**P**	**10 50 07.3**	**+2.2**
	comp=Z,135nm,1.5s						
BJI				S	**S**	**10 53 27.6**	**+6.7**
BJT	**Baijiatuau**	**17.81**	**286**	*eP*	**P**	**10 50 07.2**	**+2.1**
	comp=Z,285nm,1.1s						
HIA	**Hailar**	**18.20**	**317**	*eP*	**P**	**10 50 11.1**	**+1.0**
	comp=Z,54nm,1.0s						
SKR	**Severo-Kuril's**	**18.25**	**37**	*eP*	**P**	**10 50 09.0**	**-1.7**
SKR				pmax	pmax		
	comp=N,100nm,0.8s						
SKR				pmax	pmax		
	comp=E,100nm,0.8s						
SKR				pmax	pmax		
	comp=Z,120nm,0.8s						
TIY	**Taiyuan**	**20.83**	**279**	⇑P	**P**	**10 50 39.4**	**-0.4**
TIY				LR	LR		
	comp=E,6μm,12.0s						
TIY				LR	LR		
	comp=Z,7μm,13.0s,MS5.2						
PET	**Petropavlovsk**	**20.97**	**35**	*eP*	**P**	**10 50 39.2**	**-1.9**
PET				*e*S	**S**	**10 54 25.5**	**-4.0**
PET				pmax	pmax		
	comp=Z,144nm,1.1s						
PET				pmax	pmax		
	comp=N,95nm,0.8s						
PET				pmax	pmax		
	comp=E,68nm,1.0s						
PET				MLR	MLR		
	comp=Z,6μm,16.0s,MS5.1						
PET				MLR	MLR		
	comp=E,5μm,17.0s,MS5.2						
PET				MLR	MLR		
	comp=N,7μm,12.0s,MS5.2						
PET	**Petropavlovsk**	**20.97**	**35**	*eP*	**P**	**10 50 38.8**	**-2.3**
	comp=N,164nm,1.2s						
QZH	**Quanzhou**	**21.13**	**240**	*eP*	**P**	**10 50 42.4**	**-0.5**
QZH				*e*S	**S**	**10 54 39.0**	**+6.3**
QZH				LR	LR		
	comp=N,3μm,8.1s						
QZH				LR	LR		
	comp=E,8μm,10.8s						
QZH				LR	LR		
	comp=Z,8μm,13.2s,MS5.3						
WHN	**Wuhan**	**21.28**	**259**	⇓P	**P**	**10 50 44.5**	**+0.1**
WHN				S	**S**	**10 54 43.0**	**+7.5**
WHN				AMB	AMB		
	comp=Z,285nm,1.5s,mb5.4						
WHN				LR	LR		
	comp=N,1μm,9.4s						
WHN				LR	LR		
	comp=E,12μm,11.0s						
WHN				LR	LR		
	comp=Z,12μm,10.2s,MS5.6						
HHC	**Hu-ho-hao-te**	**21.34**	**288**	⇓P	**P**	**10 50 45.9**	**+1.0**
HHC				AP		10 50 50.8	
HHC				XP		10 50 52.9	
HHC				PP	PP	10 51 10.8	+2.0
HHC				S	**S**	**10 54 43.6**	**+7.1**
HHC				PCP	PcP	10 54 46.3	-3.1
HHC				PCS		10 58 22.6	
HHC				LR	LR		
	comp=N,4μm,11.6s,MS5.1						
HHC				LR	LR		
	comp=E,3μm,11.4s,MS5.1						
HHC				LR	LR		
	comp=Z,3μm,12.3s,MS4.9						
CLNS	**Chul'man**	**21.61**	**339**	*eP*	**P**	**10 50 39.9**	**-7.6**
CLNS				*e**PP		10 50 47.6	
CLNS				*e*PPP	PPP	10 51 03.7	-18
CLNS				*e*S	**S**	**10 54 28.1**	**-13**
CLNS				*e*		10 54 51.1	
CLNS				*e*SSS	SSS	10 55 23.9	-8.1
CLNS				smax			
	comp=N,1μm,10.3s						
CLNS				smax			
	comp=Z,2μm,10.9s						
CLNS				smax			
	comp=E,732nm,11.5s						
CLNS				MLR	MLR		
	comp=E,6μm,14.0s,MS5.2						
CLNS				MLR	MLR		
	comp=N,4μm,18.0s						
CLNS				MLR	MLR		
	comp=E,2μm,11.0s						
MA2	**Magadan**	**23.60**	**15**	P	**P**	**10 51 06.3**	**-0.7**
MA2				pmax	pmax		
	comp=Z,270nm,1.1s,mb5.6						
MA2	**Magadan**	**23.60**	**15**	*eP*	**P**	**10 51 06.2**	**-0.9**
	comp=Z,460nm,1.4s,mb5.7						
GUMO	**Guam**	**24.25**	**165**	P	**P**	**10 51 15.2**	**+1.3**
GUMO				pmax	pmax		
	comp=Z,440nm,1.1s,mb5.8						
GUMO	**Guam**	**24.25**	**165**	*eP*	**P**	**10 51 13.4**	**-0.5**
	comp=Z,619nm,1.3s,mb5.9						
XAN	**Xi'an**	**24.37**	**271**	P	**P**	**10 51 13.3**	**-1.6**
XAN				AP		10 51 20.8	
ENH	**Enshi**	**25.22**	**262**	*eP*	**P**	**10 51 22.2**	**-0.8**
	comp=Z,257nm,1.0s,mb5.7						
ENH				LR	LR		
	comp=Z,4μm,22.0s,MS4.9						
YAK	**Yakutsk**	**25.38**	**350**	*eP*	**P**	**10 51 22.8**	**-1.4**
YAK				*e*		10 52 09.9	
YAK				*e*S	**S**	**10 55 51.6**	**+4.1**
YAK				pmax	pmax		
	comp=E,12nm,0.9s						
YAK				pmax	pmax		
	comp=Z,47nm,0.9s,mb5.0						
YAK				pmax	pmax		
	comp=N,59nm,1.1s						
YAK				smax			
	comp=N,10.0nm,0.9s						
YAK				smax			
	comp=E,9.0nm,1.2s						
YAK	**Yakutsk**	**25.38**	**350**	*eP*	**P**	**10 51 23.1**	**-1.1**
	comp=E,87nm,0.9s,mb5.3						
SONM	**Songino Array**	**25.85**	**304**	P	**P**	**10 51 28.1**	**-0.6**
	comp=E,68nm,1.1s,mb5.1,baz=108,slow=7.8,SNR=83						
SONM				PcP	PcP	10 54 57.9	-0.7
	comp=E,16nm,1.3s,baz=153,slow=3.2,SNR=4.2						
SEY	**Seymchan**	**26.99**	**14**	*eP*	**P**	**10 51 39.5**	**+0.4**
SEY				pmax	pmax		
	comp=E,100nm,0.9s						
SEY				pmax	pmax		
	comp=Z,200nm,0.9s,mb5.7						
LZH	**Lanzhou**	**27.89**	**278**	*eP*	**P**	**10 51 46.6**	**-1.0**
LZH				AP	pP	10 51 58.9	+7.2
LZH				PP	PP	10 52 37.6	+0.5
LZH				*e*S	**S**	**10 56 30.6**	**+1.6**
LZH				XS		10 56 40.0	
LZH				SS	SS	10 57 56.0	+5.9
LZH				AMB	AMB		
	comp=Z,120nm,1.2s,mb5.4						
LZH				AMB	AMB		
	comp=Z,320nm,5.0s						
LZH				LR	LR		
	comp=N,10μm,13.4s						
LZH				LR	LR		
	comp=Z,16μm,18.0s,MS5.7						
LZH	**Lanzhou**	**27.89**	**278**	*eP*	**P**	**10 51 46.6**	**-1.0**
	comp=Z,120nm,1.2s,mb5.4						
LZH				pP	pP	10 51 58.9	+7.2
LZH				sP	sP	10 52 05.2	+12
LZH				PP	PP	10 52 37.6	+0.5
LZH				*e*S	**S**	**10 56 30.6**	**+1.6**
LZH				sS		10 56 40.0	
LZH				SS	SS	10 57 56.0	+5.9
LZH				LR	LR		
	comp=Z,16μm,18.0s,MS5.7						
ZAK	**Zakamensk**	**28.41**	**309**	*eP*	**P**	**10 51 50.0**	**-2.1**
FX1	**Attu Island--F**	**28.53**	**46**	P	**P**	**10 51 52.4**	**-0.8**
	comp=Z,61nm,1.0s,mb5.3,baz=359,slow=7.5,SNR=4.9						
FX1	**Attu Island--F**	**28.53**	**46**	P	**P**	**10 51 52.4**	**-0.8**
FX1				pmax	pmax		
	comp=Z,61nm,1.0s						
GYA	**Guiyang**	**29.16**	**258**	⇑*iP*	**P**	**10 51 57.6**	**-1.5**
GYA				AP	pP	10 52 01.9	-1.3
GYA				S	**S**	**10 56 44.5**	**-4.9**
GYA				AMB	AMB		
	comp=Z,90nm,1.4s,mb5.3						
GYA				LR	LR		
	comp=N,3μm,16.5s,MS5.2						
GYA				LR	LR		
	comp=E,3μm,16.5s,MS5.2						
GYA				LR	LR		
	comp=Z,4μm,19.2s,MS5.0						
CD2	**Chengdu**	**29.52**	**268**	*eP*	**P**	**10 52 00.6**	**-1.7**
CD2				S	**S**	**10 56 52.4**	**-2.7**
CD2				LR	LR		
	comp=N,4μm,12.4s						
CD2				LR	LR		
	comp=Z,2μm,14.2s,MS4.9						
GTA	**Gaotai**	**30.42**	**286**	*eP*	**P**	**10 52 08.3**	**-1.9**
GTA				AP	pP	10 52 14.3	0.0
GTA				XP	sP	10 52 17.5	+1.4
GTA				PCP	PcP	10 55 09.4	-0.5
GTA				S	**S**	**10 57 11.6**	**+2.3**
GTA				PCS		10 58 52.3	
GTA				AMB	AMB		
	comp=Z,1μm,5.3s						
GTA				LR	LR		
	comp=N,4μm,13.3s,MS5.3						
GTA				LR	LR		
	comp=E,3μm,12.6s,MS5.3						
GTA				LR	LR		
	comp=Z,5μm,12.5s,MS5.3						
KMI	**Kunming**	**32.88**	**259**	⇓*iP*	**P**	**10 52 31.3**	**-0.6**
KMI				AP	pP	10 52 35.9	-0.1
KMI		

WMQ PP PP 10 54 54.0 -0.6
WMQ S **S** **10 59 18.0 -0.5**
WMQ LR LR
comp=N,3μm,17.0s,MS5.2
WMQ LR LR
comp=E,3μm,21.0s,MS5.2
WMQ LR LR
comp=Z,3μm,20.0s,MS5.1
CMAR Chiang Mai Arr 39.50 253 P **P 10 53 27.3 -0.8**
comp=Z,2.4nm,0.7s,baz=43,slow=6.1,SNR=12
CMAR PcP PcP 10 55 36.2 -0.1
comp=Z,4.8nm,0.9s,baz=23,slow=2.5,SNR=7.2
CMAR LR LR 11 10 47.7
comp=Z,2μm,18.1s,MS5.0,baz=60,slow=38
IMP Imphal 40.00 265 *e*P **P 10 53 32.0 -0.2**
LSA Lhasa 40.04 273 P **P 10 53 33.8 +1.3**
ZAL Zalesovo 40.15 312 P **P 10 53 31.5 -1.6**
comp=Z,5.2nm,1.0s,baz=14,slow=8.0,SNR=16
ZAL PcP PcP 10 55 36.8 -1.3
comp=Z,4.4nm,0.8s,baz=354,slow=2.7,SNR=5.2
ZAL LR LR 11 10 29.4
comp=Z,1μm,19.5s,MS4.8,baz=218,slow=37
NVS Novosibirsk 41.09 314 *e*P **P 10 53 38.9 -1.9**
NVS pmax pmax
comp=N,16nm,1.3s
NVS pmax pmax
comp=E,32nm,1.3s
NVS pmax pmax
comp=Z,39nm,1.3s,mb4.9
SHL Shillong 41.26 267 *e*P **P 10 53 44.0 +1.5**
TNA Tin City 41.69 30 *e*P **P 10 53 47.0 +1.5**
comp=Z,104nm,1.1s,mb5.4
ANM Nome 42.50 32 *e*P **P 10 53 52.8 +0.6**
AGT Agartala 42.57 266 *e*P **P 10 53 51.0 -2.3**
KURK Kurchatov 44.06 308⇓*e*P **P 10 54 03.9 -1.2**
KURK Kurchatov 44.06 308 *e*P **P 10 54 03.6 -1.5**
comp=Z,95nm,1.0s,mb5.5
GUN Gumba 44.98 274 *e*P **P 10 54 12.6 -0.2**
comp=Z,158nm,0.9s,mb5.8
WAU Wau 45.05 169 *e*P **P 10 54 12.6 -0.9**
PKI Pulchoki 45.51 274 *e*P **P 10 54 16.2 -0.8**
comp=Z,44nm,1.0s,mb5.4
KKN Kakani 45.51 274 *e*P **P 10 54 16.5 -0.5**
comp=Z,112nm,0.9s,mb5.8
DMN Daman 45.73 274 *e*P **P 10 54 18.3 -0.5**
comp=Z,153nm,1.6s,mb5.7
GKN Gorkha 45.93 275 *e*P **P 10 54 19.8 -0.5**
comp=Z,247nm,1.3s,mb6.0
KOLN Koldanda 46.86 275 *e*P **P 10 54 27.2 -0.4**
comp=Z,239nm,1.5s,mb5.9
PMG Port Moresby 47.14 169 P **P 10 54 29.3 -0.7**
comp=Z,7.2nm,0.8s,mb4.6,baz=96,slow=20,SNR=3.8
PMG LR LR 11 11 00.1
comp=Z,2μm,19.2s,MS5.0,baz=130,slow=32
IMA Indian Mountai 47.55 31 P **P 10 54 32.7 +0.1**
IMA pmax pmax
comp=Z,450nm,1.1s,mb6.4
IMA Indian Mountai 47.55 31 *e*P **P 10 54 32.4 -0.2**
TKM2 Tokmak 2 47.60 297 P **P 10 54 33.3 0.0**
SNR=28
KGM Kluang 47.88 231⇑*e*P **P 10 54 35.0 -0.9**
RSO Redoubt South 48.02 38 *e*P **P 10 54 36.3 -0.1**
KBK Karagaybulak 48.13 297 P **P 10 54 37.7 +0.3**
SNR=12
CHMS Chumysh 48.17 298 P **P 10 54 38.4 +0.6**
SNR=7.0
USP Ospenovka 48.28 298 P **P 10 54 38.3 -0.3**
SNR=11
FRU Bishkek 48.31 298 *e*P **P 10 54 39.0 +0.1**
FRU pmax pmax
comp=Z,120nm,1.6s,mb5.7
KSH Kashi 48.32 293 P **P 10 54 40.8 +1.8**
KSH *e*AP pP 10 54 45.0 +1.8
KSH *e*XP sP 10 54 47.1 +2.2
KSH *e*PP PP 10 56 32.4 +1.2
KSH *e*PPP PPP 10 57 23.4 +0.9
KSH *e*SCP 11 00 00.3
KSH *e*S **S** **11 01 38.8 +1.4**
KSH *e*SCS ScS 11 04 29.8 +1.0
KSH AMB AMB
comp=Z,440nm,5.3s
KSH LR LR
comp=N,3μm,12.2s,MS5.7
KSH LR LR
comp=E,4μm,11.9s,MS5.7
SPU Mount Spurr 48.32 37 *e*P **P 10 54 38.2 -0.4**
KDAK Kodiak Island 48.34 42 *e*P **P 10 54 37.5 -1.3**
comp=E,239nm,1.1s,mb6.1
AAK Ala-Archa 48.46 297 P **P 10 54 40.0 0.0**
SNR=7.5
AAK Ala-Archa 48.46 297⇑*e*P **P 10 54 38.4 -1.6**
AAK pmax pmax
comp=Z,26nm,1.4s,mb5.1
AAK MLR MLR
comp=Z,4μm,18.0s,MS5.4
AAK Ala-Archa 48.46 297 *e*P **P 10 54 38.1 -1.9**
comp=Z,35nm,1.4s,mb5.2
PTH Pithoragarh 48.76 279 *e*P **P 10 54 40.7 -1.8**
PTH *e* 10 56 04.2
BVAR Borovoye Array 48.79 312 P **P 10 54 41.0 -1.4**
comp=Z,16nm,0.9s,mb5.0,baz=90,slow=7.4,SNR=32
BVAR PcP PcP 10 56 06.0 -1.6
comp=Z,4.9nm,0.5s,baz=104,slow=3.6,SNR=8.9
BRVK Borovoye 48.84 312 P **P 10 54 40.7 -2.1**
BRVK pmax pmax
comp=Z,43nm,1.1s,mb5.4
BRVK Borovoye 48.84 312 *e*P **P 10 54 41.3 -1.5**
comp=Z,35nm,1.0s,mb5.3
EKS2 Erkin-Say 48.96 298 P **P 10 54 43.7 -0.1**
SNR=6.3
AML Almayashu 49.17 297 P **P 10 54 45.9 +0.4**
SNR=37
SLKM Skilak Lake 49.27 38 P **P 10 54 46.6 +0.6**
SLKM Skilak Lake 49.27 38 *e*P **P 10 54 45.5 -0.5**
PWA Palmer West 49.33 37 *e*P **P 10 54 46.4 -0.1**
MCK McKinley 49.61 34 P **P 10 54 48.3 -0.2**
MCK pmax pmax
comp=Z,29nm,1.0s,mb5.3
MCK McKinley 49.61 34 *e*P **P 10 54 47.7 -0.9**
comp=Z,36nm,1.1s,mb5.3
ZRNK Zerenda 49.62 312 *e*P **P 10 54 47.6 -1.2**
comp=Z,111nm,1.2s,mb5.8
PMR Palmer 49.69 37 *e*P **P 10 54 48.4 -0.8**
COLA College 50.00 32 *e*P **P 10 54 49.9 -1.6**
SML Sawmill 50.05 36 P **P 10 54 51.8 -0.2**
SML Sawmill 50.05 36 *e*P **P 10 54 51.2 -0.8**
ILAR Eielson Array 50.42 32 P **P 10 54 53.4 -1.3**
comp=Z,48nm,1.1s,mb5.5,baz=273,slow=4.9,SNR=122
ILAR Eielson Array 50.42 32 P **P 10 54 53.4 -1.3**
ILAR pmax pmax
comp=Z,48nm,1.1s
THY Trims Highway 51.05 34 *e*P **P 10 54 58.9 -0.6**
THN Thein Dam 51.08 284 *e*P **P 10 54 57.7 -2.5**
comp=Z,25nm,0.7s,mb5.2
DIV Divide 51.36 37 *e*P **P 10 55 01.4 -0.5**
comp=Z,720nm,1.3s,mb6.4
EYAK Cordova Ski Ar 51.46 38 *e*P **P 10 55 02.4 -0.3**
NDI New Delhi 51.50 279 *e*P **P 10 55 01.0 -2.5**
SVE Sverdlovsk 53.51 318⇑*i*P **P 10 55 17.9 -0.2**
SVE pmax pmax
comp=Z,300nm,1.7s,mb6.0
DAWY Dawson 53.74 33 *e*P **P 10 55 18.4 -1.3**
BHPL Bhopal 53.91 273 *e*P **P 10 55 19.5 -1.9**
BHPL *e* pP 10 55 22.3 -3.4
comp=Z,75nm,1.3s
AJM Ajmer 54.54 278 *e*P **P 10 55 24.3 -1.8**
AJM *e* pP 10 55 27.6 -2.7
comp=Z,208nm,1.5s
ARU Arti 54.72 318⇑*i*P **P 10 55 25.6 -1.3**
ARU *i* 10 56 25.1
ARU *e* 10 57 26.4
ARU *i* PPP PPP 10 58 40.8 -2.0
ARU *e*S **S** **11 03 08.1 +3.0**
ARU *e* 11 05 14.8
ARU pmax pmax
comp=Z,183nm,1.3s,mb6.0
ARU MLR MLR
comp=Z,2μm,17.0s,MS5.2
ARU MLR MLR
comp=N,500nm,13.0s,MS5.3
ARU MLR MLR
comp=E,2μm,16.0s,MS5.3
ARU Arti 54.72 318 *e*P **P 10 55 25.8 -1.1**
comp=E,250nm,1.3s,mb6.1
INK Inuvik 55.12 27 P **P 10 55 28.7 -1.1**
comp=E,56nm,0.8s,mb5.6,baz=288,slow=6.8,SNR=85
INK Inuvik 55.12 27 P **P 10 55 28.7 -1.1**
INK pmax pmax
comp=Z,57nm,0.9s
INK Inuvik 55.12 27 *e*P **P 10 55 28.6 -1.2**
comp=Z,104nm,1.1s,mb5.8
HYB Hyderabad 56.06 267 *i* P **P 10 55 36.0 -1.2**
HYB Hyderabad 56.06 267 *e*P **P 10 55 36.0 -1.2**
KIP Kipapa 56.41 87 P **P 10 55 41.1 +1.5**
KIP Kipapa 56.41 87 *e*P **P 10 55 41.6 +1.9**
comp=Z,81nm,0.9s,mb5.8
FITZ Fitzroy Crossi 56.47 195 P **P 10 55 38.5 -1.7**
comp=Z,65nm,1.2s,mb5.5,baz=10,slow=7.5,SNR=38
WRAB Tennant Creek 57.08 185 *e*P **P 10 55 42.1 -2.4**
comp=Z,390nm,1.3s,mb6.3
WRA Warramunga Arr 57.09 185 P **P 10 55 42.1 -2.4**
comp=Z,53nm,0.8s,mb5.7,baz=0.8,slow=7.8,SNR=320
WRA PKPPKP 11 25 34.2
comp=Z,1.6nm,0.9s,baz=156,slow=1.9,SNR=5.9
CTAO Charters Tower 57.53 172 P **P 10 55 45.2 -2.4**
CTAO pmax pmax
comp=Z,28nm,1.1s,mb5.2
CTAO Charters Tower 57.53 172 *e*P **P 10 55 45.0 -2.6**
comp=Z,40nm,1.2s,mb5.3
POO Poona 59.20 271⇑*i*P **P 10 55 56.0 -3.3**
POHA Pohakuloa 59.26 88 *e*P **P 10 56 00.4 +0.8**
comp=Z,284nm,1.1s,mb6.2
DLBC Dease Lake 59.73 38 P **P 10 56 02.6 +0.2**
comp=Z,15nm,0.8s,mb5.1,baz=302,slow=7.2,SNR=17
DLBC Dease Lake 59.73 38 *e*P **P 10 56 02.6 +0.2**
ASAR Alice Springs 60.82 185 P **P 10 56 08.3 -2.0**
comp=Z,19nm,0.8s,mb5.3,baz=9.4,slow=6.0,SNR=98
ASAR PKPPKP 11 25 23.2
comp=Z,0.8nm,0.8s,baz=155,slow=2.3,SNR=6.0
MBWA Marble Bar 60.84 200 *e*P **P 10 56 08.0 -2.6**
comp=Z,48nm,1.0s,mb5.6
LVZ Lovozero 60.97 335 *e*P **P 10 56 11.1 +0.4**
APA Apatity 61.54 335⇑*i*P **P 10 56 12.9 -1.8**
APA *i* 10 56 56.6
APA pmax pmax
comp=Z,90nm,1.2s,mb5.8
APA MLR MLR
comp=Z,2μm,14.0s,MS5.5
KEV Kevo 62.41 339 *e*p **P 10 56 20.3 -0.2**
ARCES ARCESS Array B 62.97 339 P **P 10 56 24.0 -0.2**
comp=Z,25nm,0.8s,mb5.4,baz=65,slow=6.6,SNR=23
ARCES ARCESS Array B 62.97 339 P **P 10 56 24.0 -0.1**
ARCES pmax pmax
comp=Z,25nm,0.8s
KTK1 Kautokeino 63.93 339 *e*P **P 10 56 29.7 -0.7**
KTK1 AMb AMB 10 56 33.0
comp=Z,170nm,1.2s,mb5.9
KTK1 Kautokeino 63.93 339 *e*P **P 10 56 29.7 -0.7**
comp=Z,170nm,1.2s,mb6.0
NOUC Port Laguerre 64.56 152 *e*P **P 10 56 32.9 -2.3**
NOUC Port Laguerre 64.56 152 *e*P **P 10 56 32.9 -2.3**
YKW3 Yellowknife Ar 64.60 29 *e*P **P 10 56 32.8 -2.0**
YKA Yellowknife Ar 64.64 29 P **P 10 56 33.8 -1.3**
comp=Z,12nm,0.7s,mb5.0,baz=305,slow=6.7,SNR=22
YKA PKPPKP 11 25 20.8
comp=Z,1.7nm,1.0s,baz=112,slow=3.3,SNR=3.8
YKA Yellowknife Ar 64.64 29 P **P 10 56 33.9 -1.2**
YKA P'P' 11 25 20.8
JOF Joensuu 64.69 331 *e*p **P 10 56 32.8 -2.6**
TRO Tromso 64.75 340 *e*P **P 10 56 35.8 +0.1**
TRO AMb AMB 10 56 39.6
comp=Z,85nm,1.4s,mb5.6
TRO Tromso 64.75 340 *e*P **P 10 56 35.8 +0.1**
comp=Z,85nm,1.4s,mb5.6
DAG Danmarks Havn 65.30 354⇓*i*P **P 10 56 37.8 -1.4**
comp=Z,58nm,1.2s,mb5.5
MOS Moscow 65.73 322 *e*P **P 10 56 39.9 -2.3**
MOS *e*S S 11 05 26.2 -0.2
MOS pmax pmax
comp=Z,219nm,1.7s,mb5.9
MOS MLR MLR
comp=N,2μm,13.4s,MS5.7
MOS MLR MLR
comp=Z,3μm,13.4s,MS5.6
MOS MLR MLR
comp=E,2μm,13.1s,MS5.7
OBN Obninsk 66.57 322⇑*e*P **P 10 56 46.4 -1.2**
OBN *i* 10 57 14.2
OBN *i* S S 11 05 38.6 +2.0
OBN *e*SS SS 11 09 55.2 -0.4
OBN pmax pmax
comp=Z,108nm,1.3s,mb5.7
OBN MLR MLR
comp=Z,2μm,12.0s,MS5.6
OBN Obninsk 66.57 322 *e*P **P 10 56 46.4 -1.2**
comp=Z,219nm,1.8s,mb5.9
VOR Voronezh 67.01 318 *e*P **P 10 56 48.5 -1.9**
VOR pmax pmax
comp=E,140nm,1.5s
VOR pmax pmax
comp=Z,150nm,1.5s,mb5.8
VOR pmax pmax
comp=N,110nm,1.3s
KAF Kangasniemi 67.06 332 *e*p **P 10 56 48.3 -2.3**
comp=N,27nm,0.7s,mb5.4
KAF Kangasniemi 67.06 332 *e*P **P 10 56 48.3 -2.3**
KAF pmax pmax
comp=Z,27nm,0.7s,mb5.4
FINES FINESS Array B 67.55 331 P **P 10 56 52.5 -1.2**
comp=Z,36nm,0.9s,mb5.4,baz=69,slow=4.6,SNR=32
FINES FINESS Array B 67.55 331 P **P 10 56 52.6 -1.1**
FINES pmax pmax
comp=Z,36nm,0.9s
PGC Sidney 67.69 45 *e*P **P 10 56 54.1 -0.7**
comp=Z,192nm,0.9s,mb6.1
STW Striped Peak 67.83 46 P **P 10 56 57.1 +1.4**
GOF Gofitskoye 68.30 311⇓*i*P **P 10 56 58.5 -0.1**
GOF pmax pmax
comp=Z,130nm,1.3s,mb5.8
MOR8 Moi Rana 68.34 339 *e*P **P 10 56 56.0 -2.6**
MOR8 AMb AMB 10 56 59.7
comp=Z,168nm,1.1s,mb6.0
MOR8 Moi Rana 68.34 339 *e*P **P 10 56 56.0 -2.6**
comp=Z,168nm,1.1s,mb6.0
GNW Green Mountain 68.62 46 *e*P **P 10 57 01.0 +0.4**
JCW Jim Creek 68.79 45 P **P 10 57 01.7 0.0**
STKA Stephens Creek 68.88 177 P **P 10 57 01.1 -1.3**
comp=Z,15nm,0.7s,mb5.1,baz=348,slow=5.9,SNR=33
RPW Rockport 68.89 45 *e*P **P 10 57 01.7 -0.6**
BMW Boistfort Moun 68.97 47 P **P 10 57 04.2 +1.4**
BMW Boistfort Moun 68.97 47 *e*P **P 10 57 02.2 -0.5**
KIV Kislovodsk 69.09 310 *e*P **P 10 57 03.0 -0.6**
comp=Z,196nm,1.3s,mb5.9
RMW Rattlesnake Mo 69.26 46 *e*P **P 10 57 05.2 +0.7**
FMW Mount Fremont 69.62 46 P **P 10 57 07.1 +0.4**
LON Longmire 69.64 46 P **P 10 57 08.4 +1.5**
LON Longmire 69.64 46 *e*P **P 10 57 06.6 -0.3**
NLW Nelson Butte 69.75 45 *e*P **P 10 57 07.1 -0.5**
GNI Garni 69.80 305 *e*P **P 10 57 07.2 -0.7**
GNI Garni 69.80 305 P **P 10 57 08.3 +0.3**
comp=Z,24nm,1.0s,mb5.1,baz=348,slow=4.2,SNR=14
GNI Garni 69.80 305⇓*e*P **P 10 57 07.1 -0.9**
GNI MLR MLR
comp=Z,2μm,15.0s
COR Corvallis 69.94 49 P **P 10 57 10.0 +1.3**
COR pmax pmax
comp=Z,230nm,1.0s,mb6.1
COR Corvallis 69.94 49 *e*P **P 10 57 09.9 +1.2**
comp=Z,230nm,1.0s,mb6.1
ASR Mount Adams--S 70.09 47 P **P 10 57 09.9 +0.3**
WTV Waterville 70.17 45 P **P 10 57 09.7 -0.4**
KEBM Edson Butte 70.23 51 *e*P **P 10 57 11.4 +0.9**
NSS Namsos 70.25 338 *e*P **P 10 57 08.1 -2.2**
NSS AMb AMB 10 57 10.5
comp=Z,77nm,1.5s,mb5.4
NSS Namsos 70.25 338 *e*P **P 10 57 08.1 -2.2**
comp=Z,77nm,1.5s,mb5.4
EBG Ellensburg 70.27 46 P **P 10 57 10.9 +0.2**
SSOR Sweet Springs 70.29 48 *e*P **P 10 57 11.7 +0.8**
SSOR Sweet Springs 70.29 48 P **P 10 57 10.8 -0.1**
SUMG Summit 70.39 359 *e*P **P 10 57 10.9 -0.1**
comp=Z,168nm,1.0s,mb5.9
EDM Edmonton 70.45 37 P **P 10 57 11.0 -0.7**
EDM Edmonton 70.45 37 *e*P **P 10 57 10.6 -1.1**
SAW Saint Andrews 70.48 45 P **P 10 57 11.6 -0.4**
HSO Harness Mounta 70.64 50 P **P 10 57 14.2 +1.2**
HSO Harness Mounta 70.64 50 *e*P **P 10 57 13.2 +0.2**
KBO Bosley Butte 70.66 51 *e*P **P 10 57 15.0 +1.8**
WAH2 Wahluke Slope 70.92 45 P **P 10 57 15.0 +0.3**
DPW Davenport 71.05 44 P **P 10 57 15.3 -0.2**
DPW Davenport 71.05 44 P **P 10 57 15.4 0.0**
MNK Minsk 71.07 325 *e*P **P 10 57 12.0 -3.4**
CROR Criterion Ridg 71.09 48 P **P 10 57 15.9 +0.1**
SOC Sochi 71.10 311 *i* P **P 10 57 12.8 -3.0**
SOC *e* 10 57 33.2
SOC *e*PPP PPP 11 01 35.1 -1.6
SOC *e*S S 11 06 28.5 -2.0
SOC *e* 11 07 15.4
SOC *e*SSS SSS 11 14 14.5 +2.2
SOC pmax pmax
comp=Z,104nm,2.0s,mb5.4
SOC pmax pmax
comp=N,29nm,1.1s
SOC pmax pmax
comp=E,29nm,1.0s
SOC MLR MLR
comp=Z,2μm,16.0s,MS5.4
SOC MLR MLR
comp=N,295nm,13.0s,MS5.3
SOC MLR MLR
comp=E,1μm,17.0s,MS5.3
HAWA Hanford 71.14 46 *e*P **P 10 57 15.9 -0.1**
comp=E,126nm,1.1s,mb5.8
HUMO Hull Mountain 71.23 50 *e*P **P 10 57 16.4 -0.2**
comp=E,43nm,1.1s,mb5.3
KRMB Red Mountain 71.24 52 *e*P **P 10 57 18.2 +1.5**
NEW Newport 71.42 43 P **P 10 57 17.4 -0.2**
comp=E,105nm,0.8s,mb5.8,baz=313,slow=5.0,SNR=97
NEW Newport 71.42 43 P **P 10 57 17.3 -0.4**
NEW pmax pmax
comp=Z,130nm,0.9s
NEW Newport 71.42 43 *e*P **P 10 57 17.2 -0.4**
comp=Z,136nm,0.9s,mb5.9
TVAN Van 71.55 305 *i* P **P 10 57 19.6 +0.9**
VIPM Ingram Point 71.58 48 P **P 10 57 18.9 +0.2**
KHMM Horse Mountain 71.70 52 *e*P **P 10 57 19.7 +0.2**
ANN Anapa 71.77 313*c* *i*P **P 10 57 18.7 -1.1**
ANN *e**PP pP 10 57 26.5 +2.3
ANN *e* 10 57 36.6
ANN *e*S S 11 06 41.4 +3.1
ANN pmax pmax
comp=E,25nm,1.5s
ANN pmax pmax
comp=Z,95nm,1.5s,mb5.5
ANN pmax pmax
comp=N,15nm,1.3s
YBH Yreka Blue Hor 71.87 51 P **P 10 57 20.6 +0.1**
comp=N,48nm,0.9s,mb5.4,baz=12,slow=2.9,SNR=44
YBH Yreka Blue Hor 71.87 51 P **P 10 57 20.6 +0.1**
YBH pmax pmax
comp=Z,48nm,0.9s
YBH Yreka Blue Hor 71.87 51 *e*P **P 10 57 20.9 +0.5**
comp=Z,113nm,1.2s,mb5.7
ERZM Erzurum 72.11 307 *i* P **P 10 57 23.0 +1.0**
EZM Erzurum 72.11 307 *e*P **P 10 57 23.1 +1.1**
LNOR Lincton Mounta 72.16 46 P **P 10 57 22.6 +0.5**
LNOR Lincton Mounta 72.16 46 *e*P **P 10 57 22.1 0.0**
VRT Varto 72.44 306 *e*P **P 10 57 24.6 +0.7**
WDC Whiskeytown Da 72.62 52 P **P 10 57 24.9 0.0**
WDC pmax pmax
comp=Z,100nm,1.2s,mb5.6
WDC Whiskeytown Da 72.62 52 *e*P **P 10 57 24.8 -0.2**
comp=Z,130nm,1.4s,mb5.7
WALA Waterton Lakes 72.67 41 *e*P **P 10 57 24.8 -0.2**
comp=Z,138nm,1.1s,mb5.8
NWAO Narrogin (SRO) 72.69 199 P **P 10 57 23.9 -1.5**
comp=Z,38nm,0.8s,mb5.4,baz=26,slow=8.9,SNR=22
NWAO Narrogin (SRO) 72.69 199 P **P 10 57 24.0 -1.5**
NWAO pmax pmax
comp=Z,38nm,0.8s
NWAO Narrogin (SRO) 72.69 199 *e*P **P 10 57 23.9 -1.6**
comp=Z,72nm,1.1s,mb5.5
AKASG Malin Array Be 72.75 321 P **P 10 57 24.4 -1.0**
comp=Z,26nm,0.8s,mb5.2,baz=41,slow=5.9,SNR=72
AKASG LR LR 11 31 48.3
comp=Z,2μm,19.5s,MS5.4,baz=65,slow=38
AKASG Malin Array Be 72.75 321 P **P 10 57 24.4 -1.0**
AKASG pmax pmax
comp=Z,26nm,0.8s
AKASG MLR MLR
comp=Z,2μm,19.5s
HFS Hagfors 72.94 335 P **P 10 57 25.5 -0.8**
comp=Z,37nm,0.9s,mb5.3,baz=31,slow=8.6,SNR=18
HFS Hagfors 72.94 335 P **P 10 57 25.5 -0.8**
HFS pmax pmax
comp=Z,37nm,0.9s
GUMT Gumushane 72.99 308 *e*P **P 10 57 27.5 +0.4**
MOL Molde 73.03 339⇑*i*P **P 10 57 27.3 +0.4**
MOL *e*pP pP 10 57 30.0 -1.3
MOL AMb AMB 10 57 32.1
comp=Z,139nm,1.7s,mb5.6
MOL Molde 73.03 339⇑*i*P **P 10 57 27.3 +0.4**
comp=Z,139nm,1.7s,mb5.6
NB2 NORSAR Subarra 73.08 336 P **P 10 57 26.0 -1.2**
comp=Z,124nm,1.1s,mb5.8,baz=40,slow=6.2
NB2 NORSAR Subarra 73.08 336 P **P 10 57 26.0 -1.2**
baz=40,slow=6.2
NOA NORSAR Array B 73.08 336 P **P 10 57 26.3 -0.9**
comp=Z,60nm,1.0s,mb5.5,baz=40,slow=5.9,SNR=48
NOA PP PP 11 00 08.2 -4.0
comp=Z,7.5nm,1.1s,baz=42,slow=7.2,SNR=3.0
NOA LR LR 11 35 41.0
comp=Z,743nm,18.5s,MS5.0,baz=210,slow=41
NOA NORSAR Array B 73.08 336 P **P 10 57 26.3 -0.9**
NOA 11 00 08.2
NOA pmax pmax
comp=Z,60nm,1.0s
NOA pmax pmax
comp=Z,8.0nm,1.2s
NOA NORSAR Array B 73.08 336 P **P 10 57 26.3 -0.9**
NOA PP PP 11 00 08.2 -4.0
NOA LR LR 11 35 41.0
EZC Erzincan 73.19 307 *e*P **P 10 57 30.7 +2.5**
MOD Modoc 73.25 50 *e*P **P 10 57 28.7 +0.1**
comp=Z,103nm,1.2s,mb5.6
SUW Suwalki 73.48 326 *e*P **P 10 57 29.1 -0.5**
SUW Suwalki 73.48 326 *e*P **P 10 57 29.1 -0.5**
UMR Umm Al-Rimmam 73.50 295 *e*P **P 10 57 30.4 +0.1**
SIM Simferopol' 73.61 314 *e*P **P 10 57 31.1 +0.5**
SIM pmax pmax
comp=Z,50nm,0.9s,mb5.4
KBD Kabd 73.72 294 *e*P **P 10 57 32.2 +0.6**
QRN Al-Qurain 73.80 294 *e*P **P 10 57 32.0 0.0**
RDF Al-Radifah 73.97 294 *e*P **P 10 57 33.7 +0.7**
OHCM Honcut 74.00 53 *e*P **P 10 57 32.9 -0.1**
MSO Missoula 74.01 43 *e*P **P 10 57 32.4 -0.5**
comp=Z,90nm,1.2s,mb5.6
RST Umm Al-Ruwaisa 74.05 295 *e*P **P 10 57 32.9 -0.6**
RST *i* P 10 59 18.2
CHMT Chamberlain Mo 74.33 43 *e*P **P 10 57 34.4 -0.3**
BEKR Beckwourth 74.40 52 *e*P **P 10 57 35.6 +0.3**
comp=Z,183nm,1.1s,mb5.9
SAC San Andreas 74.40 55 P **P 10 57 36.2 +0.9**
SAC San Andreas 74.40 55 *e*P **P 10 57 36.1 +0.7**
ELZG Elazig 74.43 307 *i* P **P 10 57 36.3 +0.8**
FOO Floro 74.53 339 *e*P **P 10 57 36.3 +0.7**
FOO AMb AMB 10 57 38.9
comp=Z,118nm,1.7s,mb5.5
FOO Floro 74.53 339 *e*P **P 10 57 36.3 +0.7**
comp=Z,118nm,1.7s,mb5.5
HYA Hoyanger 74.54 338 *e*P **P 10 57 37.5 +1.9**
HYA AMb AMB 10 57 39.5
comp=Z,140nm,1.3s,mb5.7
HYA Hoyanger 74.54 338 *e*P **P 10 57 37.5 +1.9**
comp=Z,140nm,1.3s,mb5.7
LKC Lake Chabot 74.54 54 *e*P **P 10 57 36.4 +0.2**
FFC Flin Flon 74.62 32 P **P 10 57 35.7 -0.5**
FFC pmax pmax
comp=Z,81nm,1.1s,mb5.6
FFC Flin Flon 74.62 32 *e*P **P 10 57 35.6 -0.7**
comp=Z,65nm,1.0s,mb5.5
FCC Fort Churchill 74.70 25 P **P 10 57 36.5 -0.1**
FCC Fort Churchill 74.70 25 *e*P **P 10 57 35.7 -1.0**
comp=Z,211nm,1.2s,mb6.0
MYA Malatya 74.89 307 P **P 10 57 39.8 +1.6**
MALT Malatya 74.89 307 *e*P **P 10 57 39.8 +1.6**
PAHR Pah Rah Range 75.10 51 *e*P **P 10 57 39.6 +0.3**
comp=Z,102nm,1.3s,mb5.6
WCN Washoe City 75.10 52 P **P 10 57 39.8 +0.4**
WCN pmax pmax
comp=Z,110nm,1.2s,mb5.7
WCN Washoe City 75.10 52 *e*P **P 10 57 39.6 +0.2**
comp=Z,89nm,1.1s,mb5.6
HRY Holter Researc 75.22 42 *e*P **P 10 57 40.0 +0.1**
KIS Kishinev 75.27 318 *e*P **P 10 57 38.0 -2.1**
KIS *i* pP 10 57 44.0 -0.5

KIS pmax pmax
comp=Z,180nm,1.6s,mb5.8
KIS MLR MLR
comp=Z,2µm,15.0s,MS5.5
KIS MLR MLR
comp=Z,2µm,16.0s
CMB Columbia Colle 75.45 53 P **P 10 57 41.5 +0.1**
CMB pmax pmax
comp=Z,220nm,1.2s,mb6.0
CMB Columbia Colle 75.45 53 *eP* **P 10 57 41.2 -0.2**
comp=Z,125nm,1.0s,mb5.8
SAO San Andreas Ge 75.51 55 P **P 10 57 41.5 -0.2**
SAO pmax pmax
comp=Z,42nm,1.0s,mb5.3
SAO San Andreas Ge 75.51 55 *eP* **P 10 57 41.1 -0.6**
comp=Z,78nm,1.2s,mb5.5
HLID Hailey 75.75 46 *eP* **P 10 57 43.4 +0.4**
comp=Z,75nm,1.0s,mb5.6
CTKT Corum 75.80 310 *i* P **P 10 57 43.5 +0.2**
BLS5 Blasjo 75.84 337 *eP* **P 10 57 44.5 +1.4**
BLS5 AMb AMB 10 57 47.6
comp=Z,53nm,1.4s,mb5.3
BLS5 Blasjo 75.84 337 *eP* **P 10 57 44.5 +1.4**
comp=Z,53nm,1.4s,mb5.3
MCMT McKenzie Canyo 75.84 44 *eP* **P 10 57 43.2 -0.2**
LRV Little Rabbit 75.99 55 *eP* **P 10 57 44.6 +0.1**
BOZ Bozeman (W) 76.00 43 P **P 10 57 44.5 +0.2**
BOZ pmax pmax
comp=Z,310nm,1.2s,mb6.1
BOZ Bozeman (W) 76.00 43 *eP* **P 10 57 44.4 +0.1**
comp=Z,308nm,1.2s,mb6.1
BMN Battle Mountai 76.00 50 P **P 10 57 45.2 +0.8**
BMN pmax pmax
comp=Z,120nm,1.0s,mb5.8
BMN Battle Mountai 76.00 50 *eP* **P 10 57 45.2 +0.8**
comp=Z,123nm,1.0s,mb5.8
GZT Gaziantep 76.01 306 *i* P **P 10 57 45.4 +0.8**
TOS Tosya 76.01 311 *eP* **P 10 57 45.8 +1.3**
BALT Daday 76.09 312 *i* P **P 10 57 45.3 +0.4**
BSD Bornholm Skovb 76.17 331⇑*iP* **P 10 57 44.1 -0.9**
comp=Z,121nm,1.1s,mb5.7
BSD Bornholm Skovb 76.17 331⇑*eP* **P 10 57 44.1 -0.9**
comp=Z,122nm,1.1s,mb5.7
BNN Bunyan 76.21 308 P **P 10 57 46.7 +1.0**
KAHT Ahir Dag 76.29 307 *i* P **P 10 57 46.8 +0.6**
NVAR Mina Array Bea 76.53 52 P **P 10 57 48.0 +0.6**
comp=Z,80nm,0.8s,mb5.7,baz=306,slow=3.9,SNR=160
OMM Old Mammoth Mi 76.58 53 *eP* **P 10 57 48.5 +0.8**
QLMT Earthquake Lak 76.62 43 *eP* **P 10 57 48.7 +0.9**
MNV Mina 76.63 52 P **P 10 57 48.4 +0.4**
MNV pmax pmax
comp=Z,120nm,1.2s,mb5.7
MNV Mina 76.63 52 *eP* **P 10 57 48.2 +0.2**
comp=Z,121nm,1.2s,mb5.7
KWP Kalwaria 76.63 323 *eP* **P 10 57 48.1 +0.3**
KWP Kalwaria 76.63 323 *eP* **P 10 57 48.1 +0.3**
SAFT Safranbolu 76.69 312 *eP* **P 10 57 49.0 +0.7**
COP Copenhagen 76.69 332 *i* P **P 10 57 50.0 +2.0**
comp=Z,85nm,0.8s,mb5.7
ELDT Eldivan 76.70 311 *i* P **P 10 57 48.6 +0.2**
CFR Carcaliu 76.80 317⇓*iP* **P 10 57 48.7 -0.1**
CFR Carcaliu 76.80 317⇓*iP* **P 10 57 48.7 -0.1**
AVNT Avonos 76.87 309 *i* P **P 10 57 49.4 +0.1**
GCMT Greyclift 76.96 42 *eP* **P 10 57 50.2 +0.5**
YMR Madison River 76.98 43 *eP* **P 10 57 50.8 +1.0**
MTUM Tungsten Hills 77.02 53 *eP* **P 10 57 50.7 +0.5**
BRTR Keskin Array B 77.04 310 P **P 10 57 50.3 0.0**
comp=Z,26nm,1.1s,mb5.1,baz=108,slow=3.9,SNR=44
BRTR Keskin Array B 77.04 310 P **P 10 57 50.3 0.0**
BRTR pmax pmax
comp=Z,26nm,1.1s
BORG Borgarnes 77.08 351 P **P 10 57 51.1 +1.1**
comp=Z,65nm,1.0s,mb5.5,baz=6.9,slow=4.2,SNR=7.0
VRI Vrincioaia 77.11 318⇑*iP* **P 10 57 52.0 +1.5**
VRI Vrincioaia 77.11 318⇑*iP* **P 10 57 52.0 +1.5**
YNR Norris Junctio 77.11 43 *eP* **P 10 57 52.3 +1.7**
YFT Old Faithful 77.19 43 *eP* **P 10 57 53.5 +2.5**
KAMT Kaman 77.22 313 *eP* **P 10 57 51.7 +0.5**
MUD Monsted U'grnd 77.28 334 *i* P **P 10 57 51.6 +0.4**
comp=Z,78nm,1.1s,mb5.5
MUD Monsted U'grnd 77.28 334 *eP* **P 10 57 51.6 +0.4**
comp=Z,78nm,1.1s,mb5.5
KOLS Kolonicke sedl 77.32 323 *i* P **P 10 57 51.9 +0.3**
KOLS *e*PP PP 11 00 44.1 -3.5
COBT Iskenderun 77.35 306 *i* P **P 10 57 52.4 +0.3**
LKWY Lake 77.36 43 P **P 10 57 54.8 +2.9**
LKWY pmax pmax
comp=Z,190nm,1.1s,mb5.9
LKWY Lake 77.36 43 *eP* **P 10 57 54.5 +2.5**
comp=Z,193nm,1.1s,mb5.9
CEYT Ceyhan 77.38 307 *eP* **P 10 57 53.8 +1.6**
TPH Tonopah 77.43 52 *eP* **P 10 57 53.0 +0.5**
comp=Z,206nm,1.1s,mb6.0
NIG Nigde 77.43 308 P **P 10 57 53.7 +1.3**
ANTO Ankara 77.47 311 *eP* **P 10 57 52.7 0.0**
LOD Lodumlu 77.47 311 *eP* **P 10 57 53.2 +0.6**
SGKT Sivrigoynuk 77.47 312 *i* P **P 10 57 53.0 +0.4**
OJC Ojcow 77.59 325 *eP* **P 10 57 52.9 -0.2**
OJC Ojcow 77.59 325 *eP* **P 10 57 52.9 -0.2**
RRI2 Red Ridge 77.63 45 *eP* **P 10 57 54.4 +0.9**
HTY Hatay 77.67 306 *eP* **P 10 57 54.8 +1.0**
ISR Istrita 77.69 318⇓*iP* **P 10 57 55.0 +1.3**
ISR Istrita 77.69 318⇓*iP* **P 10 57 55.0 +1.3**
MOOW Moose Ponds 77.70 44 *eP* **P 10 57 54.8 +1.0**
CRVS Cervenica-Dubn 77.73 323 *i* P **P 10 57 54.5 +0.1**
CRVS *e*PP PP 11 00 45.3 -6.0
TPAW Teton Pass 77.75 44 *eP* **P 10 57 55.1 +1.0**
MLR Muntele Rosu 77.77 318 P **P 10 57 54.8 +0.7**
comp=Z,80nm,1.3s,mb5.5,baz=29,slow=4.3,SNR=38
MLR Muntele Rosu 77.77 318 P **P 10 57 54.8 +0.7**
MLR pmax pmax
comp=Z,80nm,1.3s
HVU Hansel Valley 77.80 47 P **P 10 57 55.8 +1.4**
HVU Hansel Valley 77.80 47 *eP* **P 10 57 55.1 +0.7**
WUWY Wally Ulrich 77.83 44 *eP* **P 10 57 54.9 +0.4**
LOHW Long Hollow 77.86 44 *eP* **P 10 57 55.3 +0.6**
SNOW Snow King Moun 77.88 44 *eP* **P 10 57 55.9 +1.1**
REDW Red Top Meadow 77.89 44 *eP* **P 10 57 55.5 +0.7**
NIE Niedzica 77.91 324 *eP* **P 10 57 56.0 +1.1**
DGMT Dagmar 77.95 37 *eP* **P 10 57 54.7 -0.4**
comp=Z,178nm,1.0s,mb6.0
HENT Hendek 78.00 312 *i* P **P 10 58 00.1 +4.5**
MDU Mudurnu 78.04 312 *eP* **P 10 57 55.9 +0.2**
AHID Auburn Hatcher 78.13 45 *eP* **P 10 57 56.8 +0.6**
comp=Z,83nm,1.0s,mb5.6
LAO LASA Array 78.16 40 *eP* **P 10 57 56.4 +0.2**
comp=Z,276nm,1.0s,mb6.1
BGU Big Grassy Mou 78.20 47 *eP* **P 10 57 56.8 +0.2**
DAC Darwin (Calif) 78.29 53 P **P 10 57 57.9 +0.7**
DAC pmax pmax
comp=Z,67nm,1.1s,mb5.5
DAC Darwin (Calif) 78.29 53 *eP* **P 10 57 57.3 +0.1**
comp=Z,67nm,1.1s,mb5.5
SPUT South Promonto 78.29 47 *eP* **P 10 57 59.0 +1.8**
MTUR Matau 78.41 319⇑*iP* **P 10 57 59.8 +2.1**
RAC Raciborz 78.42 325 *eP* **P 10 57 58.4 +0.8**
RAC MLR MLR
comp=Z,2µm,17.1s,MS5.5
RAC Raciborz 78.42 325 *eP* **P 10 57 58.4 +0.8**
RAC MLR MLR 11 36 10.9
comp=Z,2µm,17.1s
BUC1 Bucharest 78.48 318⇓*iP* **P 10 57 58.9 +0.9**
BUC1 Bucharest 78.48 318⇓*iP* **P 10 57 58.9 +0.8**
MZLS Mizel 78.48 291 P **P 10 57 58.7 +0.2**
KECS Kecovo 78.48 323 *i* P **P 10 57 59.2 +1.2**
RUE Ruedersdorf 78.57 329 *eP* **P 10 57 58.4 0.0**
comp=Z,92nm,1.3s,mb5.5
HWUT Hardware Ranch 78.61 46 *eP* **P 10 57 59.2 +0.3**
comp=Z,216nm,1.3s,mb5.9
OKC Ostrava-Krasne 78.62 325⇑*iP* **P 10 57 59.0 +0.3**
KIZT Kizilcal 78.64 310 P **P 10 57 59.2 +0.1**
KSP Ksiaz 78.72 327⇑*eP* **P 10 57 59.4 +0.2**
KSP Ksiaz 78.72 327 *eP* **P 10 57 59.3 +0.1**
HRT Hereke 78.72 313 *eP* **P 10 58 00.1 +0.6**
DUG Dugway 78.79 48 P **P 10 58 00.6 +0.7**
DUG Dugway 78.79 48 *eP* **P 10 58 00.3 +0.5**
comp=Z,123nm,1.2s,mb5.7
BSEG Bad Segeberg 78.82 332 *eP* **P 10 57 59.4 -0.3**
BSEG pmax pmax
comp=Z,106nm,1.2s,mb5.7
ARSS Ar Rass 78.85 294 P **P 10 58 00.6 +0.1**
ESKT Eskisehir 78.85 311 *i* P **P 10 57 60.0 -0.3**
NOQ North Oquirrh 78.90 47 *eP* **P 10 58 01.4 +0.9**
KONT Konya--Tatoy 78.93 309 *eP* **P 10 58 01.1 +0.4**

MORC Moravsky Berou 78.93 326 P **P 10 58 00.5 0.0**
MORC pmax pmax
comp=Z,92nm,1.2s,mb5.6
MORC Moravsky Berou 78.93 326 *eP* **P 10 58 00.5 0.0**
comp=Z,92nm,1.2s,mb5.6
BW06 Boulder Array 78.99 44 *eP* **P 10 58 00.9 -0.1**
comp=Z,86nm,0.9s,mb5.7
PDAR Pinedale Array 78.99 44 P **P 10 58 00.9 0.0**
comp=Z,68nm,0.8s,mb5.6,baz=265,slow=1.6,SNR=170
HILS Ha'il 79.01 296 P **P 10 58 01.7 +0.4**
TCUT Toone Canyon 79.02 46 *eP* **P 10 57 58.4 -2.7**
DPC Dobruska-Polom 79.06 327⇑*iP* **P 10 58 01.7 +0.6**
UPC Upice 79.08 327⇑*iP* **P 10 58 01.2 -0.1**
CTU Camp Tracy 79.09 47 *eP* **P 10 58 02.2 +0.7**
IKL Isikli 79.16 307 *eP* **P 10 58 02.5 +0.5**
PSZ Piszkesteto 79.16 323⇑*ie* **P 10 58 02.2 +0.4**
PSZ Piszkesteto 79.16 323 P **P 10 58 02.3 +0.5**
PSZ pmax pmax
comp=Z,140nm,1.1s,mb5.8
MWC Mount Wilson 79.24 55 P **P 10 58 02.5 0.0**
MWC Mount Wilson 79.24 55 *eP* **P 10 58 02.4 -0.1**
SZH Strazhica 79.24 317 P **P 10 58 03.0 +0.7**
VYHS Vyhne 79.26 324 *i* P **P 10 58 02.8 +0.6**
JLU Jordanelle 79.33 47 *eP* **P 10 58 03.3 +0.5**
NLU North Lily Min 79.38 48 *eP* **P 10 58 03.6 +0.5**
KOLL Kolacno 79.40 324 *i* P **P 10 58 04.1 +1.1**
ULDT Uludag 79.47 313 *i* P **P 10 58 03.5 -0.1**
ASF Jabal al Asfar 79.55 302 P **P 10 58 04.2 0.0**
comp=Z,26nm,1.1s,mb5.1,baz=194,slow=0.9,SNR=40
DAU Daniels Canyon 79.56 47 P **P 10 58 05.4 +1.3**
DAU Daniels Canyon 79.56 47 *eP* **P 10 58 04.5 +0.5**
ALT Altintas 79.59 311 *eP* **P 10 58 04.5 +0.3**
MPU Maple Canyon 79.60 47 *eP* **P 10 58 04.9 +0.6**
HRI Mount Hermon 79.66 304 P **P 10 58 05.2 +0.4**
PVCC Panska Ves 79.69 328⇑*iP* **P 10 58 05.0 +0.5**
BRG Berggiesshubel 79.70 328 *i* P **P 10 58 04.9 +0.3**
BRG pmax pmax
comp=Z,86nm,1.5s,mb5.5
BRG MLR MLR
comp=N,2µm,16.4s,MS5.7
BRG MLR MLR
comp=E,2µm,16.4s,MS5.7
BRG MLR MLR
comp=Z,1µm,16.4s,MS5.4
BRG Berggiesshubel 79.70 328 *i* P **P 10 58 04.9 +0.3**
comp=Z,86nm,1.5s,mb5.5
BRG LR LR
comp=Z,1µm,16.4s,MS5.4
VRAC Vranov 79.70 326 P **P 10 58 05.0 +0.4**
comp=Z,118nm,1.3s,mb5.7,baz=44,slow=6.4,SNR=40
VRAC Vranov 79.70 326 P **P 10 58 05.0 +0.4**
VRAC pmax pmax
comp=Z,118nm,1.3s
CLL Collm 79.77 329⇑P **P 10 58 04.4 -0.5**
comp=Z,logA/T=2.0,mb5.7
CLL *i* *PP pP 10 58 09.7 +0.3
CLL *e* 10 58 34.0
CLL Collm 79.77 329⇑*iP* **P 10 58 04.4 -0.5**
CLL *i* pP 10 58 09.7 +0.3
CLL pmax pmax
comp=Z,116nm,1.2s,mb5.7
CLL Collm 79.77 329⇑*iP* **P 10 58 04.4 -0.5**
comp=Z,116nm,1.2s,mb5.7
CLL *i* pP 10 58 09.7 +0.3
KSHT Keshet 79.79 304 P **P 10 58 06.0 +0.6**
PKSN Nyarlorinc 79.90 322 *eP* **P 10 58 07.2 +1.5**
SMOL Smolenice 79.90 325 *i* P **P 10 58 07.2 +1.5**
ARUT Antelope Range 79.94 50 P **P 10 58 06.9 +0.7**
ARUT Antelope Range 79.94 50 *eP* **P 10 58 06.7 +0.6**
BNT Bandirma 80.04 314 *eP* **P 10 58 07.5 +0.8**
PRU Pruhonice 80.10 327⇑*iP* **P 10 58 06.9 +0.1**
MFT Murefte 80.13 314 *eP* **P 10 58 07.8 +0.7**
PKS7 Kunszentmiklos 80.13 323⇓*eP* **P 10 58 07.8 +0.8**
HNTI Hanita 80.15 304 P **P 10 58 07.7 +0.3**
HNTI Hanita 80.15 304⇑P **P 10 58 07.7 +0.3**
AFFS 'Afif 80.17 292 P **P 10 58 07.8 +0.2**
CSS Prodhromos 80.18 307 *eP* **P 10 58 07.7 +0.1**
comp=Z,73nm,1.4s,mb5.4
MVU Marysvale 80.23 49 *eP* **P 10 58 08.7 +1.0**
comp=Z,66nm,1.2s,mb5.4
MSU Marysvale 80.24 49 *eP* **P 10 58 09.1 +1.3**
MSU Marysvale 80.24 49 *eP* **P 10 58 09.0 +1.2**
PKSG 80.25 323⇓*eP* **P 10 58 08.2 +0.6**
ZST Bratislava 80.28 325 *i* P **P 10 58 09.2 +1.5**
TMUT Trail Mountain 80.31 48 *eP* **P 10 58 08.9 +0.8**
BTOK Tokmak 80.36 313 *i* P **P 10 58 13.0 +4.7**
MMLI Mount Malkishu 80.38 303 P **P 10 58 09.5 +0.9**
MMLI Mount Malkishu 80.38 303⇑P **P 10 58 09.5 +0.9**
CLZ Clausthal 80.42 330 *eP* **P 10 58 08.2 -0.2**
comp=Z,154nm,1.4s,mb5.7
HMDT Nahal Hemdat 80.42 303 P **P 10 58 09.4 +0.5**
HMDT Nahal Hemdat 80.42 303⇑P **P 10 58 09.4 +0.5**
NEN Nelson 80.42 52 *eP* **P 10 58 09.0 +0.2**
ULM Lac du Bonnet 80.44 32 P **P 10 58 07.8 -0.8**
comp=Z,74nm,1.1s,mb5.5,baz=319,slow=6.6,SNR=29
OFRI 'Ofer 80.56 304 P **P 10 58 09.8 +0.3**
VKA Vienna 80.59 325⇑*iP* **P 10 58 10.3 +0.9**
KDZ Kurdzhali 80.61 316 *i* P **P 10 58 11.5 +1.9**
LDFC Landfair 80.61 53 *eP* **P 10 58 10.1 +0.3**
PFO Pinyon Flat Ob 80.67 55 P **P 10 58 10.2 +0.1**
PFO pmax pmax
comp=Z,88nm,1.1s,mb5.6
PFO Pinyon Flat Ob 80.67 55 *eP* **P 10 58 10.0 -0.1**
comp=Z,88nm,1.1s,mb5.6
SLTI Sal'it 80.75 303 P **P 10 58 11.1 +0.5**
ALN Alexandroupoli 80.76 315 *eP* **P 10 58 08.8 -1.6**
NKC Novy Kostel 80.81 328⇑*iP* **P 10 58 10.5 0.0**
SRU San Rafael 80.84 47 P **P 10 58 12.0 +1.1**
SRU San Rafael 80.84 47 *eP* **P 10 58 11.4 +0.5**
MOX Moxa 80.84 329 *i* P **P 10 58 09.4 -1.3**
comp=Z,logA/T=1.8,mb5.5
MOX *e* 10 58 54.0
MOX Moxa 80.84 329 *eP* **P 10 58 09.4 -1.3**
MOX pmax pmax
comp=Z,101nm,1.5s,mb5.5
MOX Moxa 80.84 329 *eP* **P 10 58 09.4 -1.3**
comp=Z,101nm,1.5s,mb5.5
MOX *e* 10 58 53.5
RDO Rodhopi 80.88 315⇑*iP* **P 10 58 11.5 +0.4**
PKS9 Tamasi 80.88 323⇓*eP* **P 10 58 11.2 +0.2**
RZN Rozhen 80.97 316 *i* P **P 10 58 12.3 +0.8**
PKSM Moragy 80.98 323⇑*eP* **P 10 58 11.1 -0.4**
RWWY Rawlins 81.01 44 *eP* **P 10 58 13.2 +1.4**
RSSD Black Hills 81.04 40 P **P 10 58 11.9 0.0**
RSSD pmax pmax
comp=Z,89nm,1.1s,mb5.6
RSSD Black Hills 81.04 40 *eP* **P 10 58 11.8 -0.1**
comp=Z,89nm,1.1s,mb5.6
WIT Witteveen 81.06 333 *eP* **P 10 58 12.3 +0.5**
comp=Z,341nm,1.7s,mb6.0
BEO Belgrade 81.07 321⇑*iP* **P 10 58 12.1 +0.1**
AKS Akhisar 81.07 312 *eP* **P 10 58 12.8 +0.7**
DENT Denizli 81.08 311 *eP* **P 10 58 12.7 +0.6**
BAR Barrett 81.10 56 *eP* **P 10 58 12.2 -0.2**
DNZL Cakiroluk 81.11 311 *i* P **P 10 58 13.1 +0.7**
MZDA Masada 81.11 303 P **P 10 58 13.1 +0.6**
KAMS Al Khamasin 81.12 289 P **P 10 58 13.7 +0.9**
KHC Kasperske Hory 81.16 327⇑*iP* **P 10 58 12.4 0.0**
KHC *e* pP 10 58 18.5 +1.7
KHC Kasperske Hory 81.16 327⇑*iP* **P 10 58 12.4 0.0**
KHC pP pP 10 58 18.5 +1.7
VTS Vitosha 81.18 318 *i* P **P 10 58 13.5 +0.9**
ELL Elmali 81.19 310 *eP* **P 10 58 12.4 -0.5**
GEC2 GERESS Array S 81.32 327 *eP* **P 10 58 12.9 -0.3**
GEC2 pmax pmax
comp=Z,62nm,1.5s,mb5.3
GEC2 GERESS Array S 81.32 327 *eP* **P 10 58 12.9 -0.3**
comp=Z,62nm,1.5s,mb5.3
GERES GERESS Array B 81.32 327 P **P 10 58 13.1 -0.1**
comp=Z,8.2nm,0.7s,mb4.8,baz=45,slow=3.8,SNR=32
GERES GERESS Array B 81.32 327 P **P 10 58 13.1 -0.1**
GERES pmax pmax
comp=Z,8.0nm,0.7s
RHK1 Bakonya 81.34 323⇑*eP* **P 10 58 13.2 -0.2**
WET Wettzell 81.45 327 *eP* **P 10 58 14.0 +0.1**
WET pmax pmax
comp=Z,73nm,1.4s,mb5.4
WET Wettzell 81.45 327 *eP* **P 10 58 14.0 +0.1**
comp=Z,73nm,1.4s,mb5.4
MMB Musomiste 81.58 317 *i* P **P 10 58 15.0 +0.3**
GRUS Gruza 81.59 320⇓*iP* **P 10 58 14.4 -0.3**
WTSB Winterswijk 81.69 332⇑*eP* **P 10 58 14.3 -0.7**
comp=Z,34nm,1.5s,mb5.1

ARSA Arzberg 81.70 325⇑*iP* **P 10 58 15.7 +0.5**
comp=Z,56nm,1.1s,mb5.4
KDAG Bornova 81.70 312 *i* P **P 10 58 15.1 -0.4**
ZFRI Zfri 81.70 302 P **P 10 58 16.2 +0.6**
ZFRI Zfri 81.70 302⇑P **P 10 58 16.2 +0.6**
IZM Izmir 81.71 312 *eP* **P 10 58 16.0 +0.6**
PRK Paraskevi 81.73 314 *eP* **P 10 58 17.0 +1.5**
GRA1 Grafenberg Arr 81.73 329 *eP* **P 10 58 15.7 +0.4**
comp=Z,304nm,1.5s,mb6.0
GRF Grafenberg Arr 81.73 329 *eP* **P 10 58 15.7 +0.4**
GRF pmax pmax
comp=Z,304nm,1.5s,mb6.0
KKB Krupnik 81.74 317 *i* P **P 10 58 16.3 +0.8**
BARS Barje 81.76 318⇑*iP* **P 10 58 20.1 +4.5**
KBRS Khaybar 81.77 296 P **P 10 58 16.7 +0.6**
DIVS Divcibare 81.81 320⇓*iP* **P 10 58 15.7 -0.2**
MOA Molln 81.82 326⇑*iP* **P 10 58 15.4 -0.4**
comp=Z,67nm,1.4s,mb5.4
AYDN Tasoluk 81.83 311 *i* P **P 10 58 16.8 +0.7**
PRNI Paran 81.95 302 P **P 10 58 17.6 +0.7**
PRNI Paran 81.95 302⇑P **P 10 58 17.6 +0.7**
SRS Serrai 81.98 316 *eP* **P 10 58 15.0 -1.8**
KZIT Kziot 82.01 303 P **P 10 58 17.6 +0.4**
EKA Eskdalemuir Ar 82.13 339 P **P 10 58 17.1 -0.2**
comp=Z,15nm,0.9s,mb4.9,baz=22,slow=4.5,SNR=18
EKA Eskdalemuir Ar 82.13 339 P **P 10 58 17.1 -0.2**
EKA pmax pmax
comp=Z,15nm,0.9s
ESK Eskdalemuir 82.16 339 *eP* **P 10 58 16.9 -0.6**
ESK AMb AMB 10 58 20.8
comp=Z,87nm,1.6s,mb5.4
PV10 Paradox Valley 82.19 47 *eP* **P 10 58 19.2 +1.2**
TBKS Tabuk 82.20 299 P **P 10 58 19.3 +1.1**
PHWY Pilot Hill 82.24 43 *eP* **P 10 58 19.0 +0.9**
JMQS Jabal Moqyreh 82.26 300 P **P 10 58 18.9 +0.4**
KMTI Karmit 82.29 302 P **P 10 58 19.0 +0.4**
KMTI Karmit 82.29 302⇑P **P 10 58 19.0 +0.4**
KNT Kendrikon 82.33 317 *eP* **P 10 58 17.9 -0.7**
PERS Pernice 82.34 325 *eP* **P 10 58 18.6 +0.1**
MBH Mount Berech 82.36 302 P **P 10 58 19.5 +0.5**
MBH Mount Berech 82.36 302⇑P **P 10 58 19.5 +0.5**
NVSS Nova Varos 2 82.38 320⇓*iP* **P 10 58 18.7 -0.1**
EIL Elat 82.41 301 P **P 10 58 19.7 +0.4**
EIL Elat 82.41 301⇑P **P 10 58 19.7 +0.4**
TATS Tathlith 82.41 289 P **P 10 58 20.2 +0.7**
SKO Skopje 82.55 318⇑*iP* **P 10 58 20.6 +0.8**
ALWS Ilw as Safayha 82.55 301 P **P 10 58 21.0 +1.0**
PLG Polygyros 82.57 316⇑*iP* **P 10 58 20.0 +0.1**
JMOS Jabal al Moall 82.61 301 P **P 10 58 20.9 +0.6**
PV01 Paradox Valley 82.63 47 *eP* **P 10 58 20.7 +0.4**
PLE Pljevlja 82.66 320⇑*iP* **P 10 58 21.2 +0.9**
SIND Sindeldorf 82.67 329 *eP* **P 10 58 20.0 -0.2**
OBKA Obir 82.69 325⇑*iP* **P 10 58 20.3 -0.1**
comp=Z,35nm,1.1s,mb5.3
IVA Berane 82.73 320⇑*iP* **P 10 58 20.6 -0.1**
GRG Griva 82.74 317 *eP* **P 10 58 18.4 -2.3**
TOD Tromm 82.79 330 *eP* **P 10 58 20.7 -0.1**
TOD Tromm 82.79 330⇑*eP* **P 10 58 20.9 +0.1**
HAQS Haql 82.81 301 P **P 10 58 21.7 +0.4**
KBA Koelnbreinsper 82.81 326⇑*iP* **P 10 58 21.1 +0.1**
comp=Z,75nm,1.1s,mb5.6
PVY Plav 82.89 319⇑*iP* **P 10 58 20.9 -0.6**
FUR Furstenfeldbru 82.89 328 *eP* **P 10 58 21.3 -0.1**
FUR pmax pmax
comp=Z,277nm,1.6s,mb6.0
FUR Furstenfeldbru 82.89 328 *eP* **P 10 58 21.3 -0.1**
comp=Z,277nm,1.6s,mb6.0
SWS Schriesheim 82.93 330 *eP* **P 10 58 21.5 0.0**
GAL1 Galloway 82.98 340⇑*eP* **P 10 58 20.8 -0.9**
HGN Heimansgroeve 82.98 332⇑*eP* **P 10 58 21.2 -0.6**
comp=Z,23nm,1.5s,mb5.0
UPM Unac-Piva 83.00 320⇑*iP* **P 10 58 22.0 -0.1**
HDH Heidenheim 83.02 328 *eP* **P 10 58 21.5 -0.5**
LJU Ljubljana 83.05 325 *eP* **P 10 58 21.9 -0.4**
ABH Alteburg 83.07 331 *eP* **P 10 58 21.5 -0.8**
ABH Alteburg 83.07 331⇑*eP* **P 10 58 22.0 -0.3**
BDAS Al Bad' 83.08 300 P **P 10 58 23.1 +0.4**
VISS Visnje 83.09 324 *eP* **P 10 58 22.1 -0.3**
BOJS Bojanci 83.11 324 *eP* **P 10 58 22.3 -0.3**
AOS Alonnisos 83.15 315 *eP* **P 10 58 20.9 -2.0**
TAYS Tayyib Ism 83.16 301 P **P 10 58 23.7 +0.5**
GCL Cushendall 83.17 341 *eP* **P 10 58 22.9 +0.2**
ISCO Idaho Springs 83.19 44 P **P 10 58 24.1 +1.0**
ISCO pmax pmax
comp=Z,74nm,1.2s,mb5.6
ISCO Idaho Springs 83.19 44 *eP* **P 10 58 23.8 +0.7**
comp=Z,74nm,1.3s,mb5.5
AWH Whinburgh 83.19 336 *eP* **P 10 58 22.8 -0.1**
DBAS Duba 83.23 299 P **P 10 58 23.7 +0.2**
NKY Niksic 83.23 320⇑*iP* **P 10 58 22.6 -0.7**
LIT Litokhoron 83.28 316 *eP* **P 10 58 21.4 -2.2**
STU Stuttgart 83.29 329 P **P 10 58 23.9 +0.5**
STU pmax pmax
comp=Z,110nm,1.0s,mb5.8
STU Stuttgart 83.29 329 *eP* **P 10 58 23.8 +0.4**
comp=Z,113nm,0.9s,mb5.9
LHO Holmfirth 83.30 338⇑*eP* **P 10 58 22.8 -0.5**
KTD Kalmit 83.30 330 *eP* **P 10 58 22.9 -0.6**
PTCC Patocco-Chiusa 83.32 325 *eP* **P 10 58 22.2 -1.4**
TTG Podgorica 83.37 320⇑*iP* **P 10 58 23.4 -0.6**
XOR Xorichti 83.40 315 *eP* **P 10 58 22.3 -1.9**
RUP Ruppelstein 83.40 331 *eP* **P 10 58 23.4 -0.6**
RUP Ruppelstein 83.40 331⇑*eP* **P 10 58 23.9 -0.1**
BRY Bratogost 83.40 320⇑*iP* **P 10 58 23.4 -0.7**
FNA Florina 83.42 317 *eP* **P 10 58 22.3 -1.9**
WTTA Wattenberg 83.43 327⇑*iP* **P 10 58 24.6 +0.4**
comp=Z,51nm,1.3s,mb5.4
FVI Forni Avoltri 83.43 326 *eP* **P 10 58 22.8 -1.4**
KBI1 Birley Grange 83.45 337 *eP* **P 10 58 23.5 -0.6**
DJNS Zahran al Janu 83.46 287 P **P 10 58 26.0 +1.1**
GMNA Gemona 83.47 325 *eP* **P 10 58 23.6 -0.8**
BUCH Bad Urach 83.47 329 *eP* **P 10 58 24.5 +0.1**
OHR Ohrid 83.50 318⇑*iP* **P 10 58 24.6 -0.1**
UMJS Umm Lajj 83.50 297 P **P 10 58 26.1 +1.1**
LBG Lerchenberg 83.53 329 *eP* **P 10 58 24.7 +0.1**
KZN Kozani 83.54 317 *eP* **P 10 58 24.5 -0.3**
YNBS Yanbu' al Bahr 83.57 296 P **P 10 58 25.9 +0.5**
NAMS An Nimas 83.59 289 P **P 10 58 26.7 +1.1**
MOTA Moosalm 83.59 327⇑*iP* **P 10 58 25.5 +0.5**
comp=Z,59nm,1.3s,mb5.6
WIM Isle of Man 83.60 339⇑*eP* **P 10 58 24.8 0.0**
WIM AMb AMB 10 58 30.8
comp=Z,129nm,1.1s,mb6.0
BLJS Baljurashi 83.62 290 P **P 10 58 26.7 +1.0**
SQTA Sankt Quirin 83.65 327⇓*iP* **P 10 58 26.1 +0.9**
comp=Z,41nm,1.2s,mb5.4
BUM Brajici-Budva 83.65 320⇑*iP* **P 10 58 24.6 -0.8**
TRI Trieste 83.66 325 *eP* **P 10 58 24.4 -0.9**
QSH Qafa e Shtames 83.68 319 *i* p **P 10 58 26.0 +0.4**
LANF Langenberg 83.68 330⇑*eP* **P 10 58 25.0 -0.4**
ULC Ulcinj 83.71 319⇑*iP* **P 10 58 25.5 -0.2**
KWE Weaver Farm 83.75 337⇑*eP* **P 10 58 25.5 -0.1**
HCY Herceg Novi 83.75 320⇑*iP* **P 10 58 25.4 -0.5**
UBR Uberruh 83.76 328 *eP* **P 10 58 26.2 +0.4**
WLF Walferdange 83.78 331 P **P 10 58 27.2 +1.3**
WLF Walferdange 83.78 331 *eP* **P 10 58 26.9 +1.1**
GMM Mts of Mourne 83.87 340⇑*eP* **P 10 58 25.9 -0.3**
GUT Gutenstein 83.87 329 *eP* **P 10 58 26.2 -0.1**
GIVF Givet 83.93 332 *eP* **P 10 58 26.2 -0.4**
SPAK Spaichingen 83.98 329 *eP* **P 10 58 26.8 -0.1**
SPAK Spaichingen 83.98 329⇑*eP* **P 10 58 26.8 -0.1**
BFO Black Forest 83.99 329 *eP* **P 10 58 26.6 -0.3**
BFO pmax pmax
comp=Z,170nm,1.2s,mb6.0
BFO Black Forest 83.99 329 *eP* **P 10 58 26.6 -0.3**
comp=Z,170nm,1.2s,mb6.0
EYMN Ely 84.05 31 *eP* **P 10 58 27.3 0.0**
comp=Z,206nm,1.0s,mb6.2
AGG Agios Georgios 84.12 315 *eP* **P 10 58 25.3 -2.5**
WPM1 Penmaenmawr 84.16 338 *eP* **P 10 58 27.6 0.0**
WPM1 AMb AMB 10 58 30.8
comp=Z,113nm,1.4s,mb5.8
DAVA Damuels 84.17 328⇑*iP* **P 10 58 28.0 +0.2**
comp=Z,121nm,0.9s,mb6.0
BAIF Baives 84.19 332 *eP* **P 10 58 27.5 -0.4**
comp=Z,77nm,1.2s,mb5.4
MEV Metsovon 84.20 317 *eP* **P 10 58 27.4 -0.8**
LTHS Al Lith 84.27 291 P **P 10 58 29.6 +0.6**
SBD Saint Breward 84.28 338⇑*eP* **P 10 58 28.2 0.0**
WLS Welschbruch 84.32 330⇑*eP* **P 10 58 28.5 -0.1**
CDF Champ du Feu 84.35 330 *eP* **P 10 58 28.7 0.0**
comp=Z,194nm,1.1s,mb5.9

CTI Castel Tesino 84.36 326 eP P 10 58 27.8 -1.0
LIBD Limburg 84.43 330 eP P 10 58 29.2 +0.1
LIBD Limburg 84.43 330⇑eP P 10 58 29.4 +0.3
DMUB Kingscourt 84.43 340 eP P 10 58 29.9 +0.9
LBOS 84.44 283⇑eP P 10 58 30.7 +0.8
KIZ Kirchzarten 84.45 329⇑eP P 10 58 28.8 -0.5
FELD Feldberg 84.48 329 eP P 10 58 29.1 -0.3
EVR Evrytania 84.49 316 eP P 10 58 28.5 -1.2
JAN Janina 84.50 317 eP P 10 58 30.0 +0.3
ECH Echery 84.55 330⇑eP P 10 58 29.4 -0.4
DAVOX Davos 84.56 327 P P 10 58 30.5 +0.7
comp=Z,36nm,0.9s,mb5.5,baz=331,slow=2.9,SNR=19
SDCO Great Sand Dun 84.67 46 eP P 10 58 31.2 +0.6
comp=Z,91nm,1.2s,mb5.8
NPS Neapolis 84.79 311 eP P 10 58 30.0 -1.3
HAE Alders End 84.81 337⇑eP P 10 58 31.0 0.0
HAE AMb AMB 10 58 33.9
comp=Z,176nm,1.2s,mb6.0
MOF Molkenrain 84.86 330⇑eP P 10 58 30.9 -0.4
IGT Igoumenitsa 84.87 317 eP P 10 58 29.2 -2.3
MCH1 Michaelchurch 84.99 337 eP P 10 58 31.8 0.0
HINF Hinteralfeld 85.00 330 eP P 10 58 31.4 -0.6
comp=Z,64nm,1.0s,mb5.4
THEF They Montfort 85.01 330⇑eP P 10 58 31.7 -0.3
BBS Basel-Blauen 85.01 329 eP P 10 58 32.0 -0.1
BBS Basel-Blauen 85.01 329⇑eP P 10 58 31.9 -0.2
KEK Kerkira 85.03 317 eP P 10 58 32.5 +0.2
DCN Croghan 85.03 340 eP P 10 58 32.8 +0.8
HAU Haudompre 85.05 330 eP P 10 58 31.7 -0.5
comp=Z,74nm,0.9s,mb5.5
FRSS Farasan al Kab 85.13 287 P P 10 58 34.4 +1.0
MEZF Maizieres J'vi 85.15 331 eP P 10 58 32.8 +0.1
comp=Z,256nm,1.3s,mb5.9
TUC Tucson 85.15 53 P P 10 58 33.1 0.0
TUC pmax pmax
comp=Z,52nm,1.2s,mb5.5
TUC Tucson 85.15 53 eP P 10 58 33.5 +0.3
comp=Z,52nm,1.2s,mb5.5
HGH Gray Hill 85.24 337⇑eP P 10 58 32.5 -0.6
HGH AMb AMB 10 58 35.8
comp=Z,122nm,1.1s,mb5.9
LKD Levkas 85.28 316 eP P 10 58 31.3 -2.3
VLI Veliai 85.37 313 eP P 10 58 32.0 -2.2
VAM Vamos 85.54 312 eP P 10 58 34.0 -1.0
HSA Swansea 85.56 338 eP P 10 58 34.2 -0.4
RSM Repubblica di 85.61 324 eP P 10 58 35.6 +0.4
KYTH Kithira 85.62 313 eP P 10 58 39.0 +3.6
ITM Ithomi 85.63 314 eP P 10 58 34.6 -0.8
SCHQ Schefferville 85.64 14 P P 10 58 35.2 +0.2
comp=Z,49nm,0.8s,mb5.8,baz=353,slow=5.5,SNR=39
FSSB Fossombrone 85.64 324 eP P 10 58 35.4 0.0
VLS Valsamata 85.68 316 eP P 10 58 35.0 -0.7
ARV Arcevia 85.71 324 eP P 10 58 35.6 -0.1
SFI Santa Sofia 85.91 325 eP P 10 58 37.6 +0.9
LTRZ Laterza 85.96 320 eP P 10 58 37.0 0.0
ZCCA Zocca 85.97 325 eP P 10 58 37.4 +0.5
GVD Gavdhos 85.99 311 eP P 10 58 37.0 -0.2
comp=Z,197nm,1.1s,mb6.2
PGD Poggio Sodo 85.99 325 eP P 10 58 37.5 +0.4
LAZ Ladron 86.00 49 eP P 10 58 38.2 +0.9
VMG Vicchio 86.01 325 eP P 10 58 38.3 +1.1
MCGN Macugnaga 86.02 328 eP P 10 58 36.8 -0.3
SEI Scarperia 86.02 325 eP P 10 58 38.4 +1.2
ANMO Albuquerque 86.03 48c iP P 10 58 38.4 +0.9
ANMO Albuquerque 86.03 48 eP P 10 58 38.1 +0.6
comp=Z,75nm,1.3s,mb5.8
HEX Exmoor 86.05 337⇑eP P 10 58 36.6 -0.5
CRE Caprese Michel 86.08 324 eP P 10 58 37.9 +0.3
NRCA Norcia 86.14 323 eP P 10 58 38.0 +0.2
GSCL Gusciola 86.14 326 eP P 10 58 37.9 +0.1
ERBM Eremo 86.17 326 eP P 10 58 38.8 +0.9
FG5 Orsara di Pugl 86.25 321 eP P 10 58 39.0 +0.6
LENM Lemitar 86.26 49 eP P 10 58 39.1 +0.4
CABF La Chapelle 86.28 329 eP P 10 58 38.1 -0.3
comp=Z,53nm,1.0s,mb5.4
ORO Oropa 86.28 328 eP P 10 58 37.8 -0.6
BOB Bobbio (Coli) 86.33 326 eP P 10 58 35.5 -3.2
AQU L'Aquila 86.36 323 P P 10 58 39.4 +0.5
AQU pmax pmax
comp=Z,89nm,1.0s,mb6.0
AQU L'Aquila 86.36 323 eP P 10 58 39.7 +0.7
BDI Bagni Di Lucca 86.36 325 eP P 10 58 37.8 -1.1
LPM Los Pinos Moun 86.37 49 eP P 10 58 39.9 +0.7
VLC Villacollemand 86.38 326 eP P 10 58 40.0 +1.0
comp=Z,25nm,0.9s,mb5.4
CII Carovilli 86.40 322 eP P 10 58 40.0 +0.9
BNM Barren Site 86.48 49 eP P 10 58 40.4 +0.7
CPI2 Carpinone 86.49 322 eP P 10 58 39.7 +0.1
CSNT Castellina Chi 86.50 325 eP P 10 58 38.5 -1.1
ORI Oriolo Calabro 86.55 319 eP P 10 58 40.6 +0.7
PTQR Pietraquaria 86.61 322 eP P 10 58 40.4 +0.2
LOR Lormes 86.62 331 eP P 10 58 39.5 -0.6
comp=Z,137nm,1.0s,mb5.8
SDI San Donato 86.65 322 eP P 10 58 39.3 -1.0
PII Pisa 86.66 325 eP P 10 58 39.6 -0.7
CSSN Cassano Irpino 86.68 321 eP P 10 58 39.6 -1.0
MNS Montasola 86.69 323 eP P 10 58 39.7 -0.8
SLCN Sala Consilina 86.73 320 eP P 10 58 40.7 0.0
SGO Sicignano 86.77 320 eP P 10 58 40.5 -0.4
RFI Roccamonfina 86.87 322 eP P 10 58 41.6 +0.2
LPL La Plagne 86.90 328 eP P 10 58 41.4 0.0
comp=Z,79nm,1.4s,mb5.5
GRFL Gerfalco 86.90 325 eP P 10 58 40.8 -0.7
LPG La Plagne 86.90 328 eP P 10 58 41.5 0.0
comp=Z,65nm,1.0s,mb5.5
TDS Terranova Siba 86.90 319 eP P 10 58 41.8 +0.2
SSF Saint Saulge 86.93 331 eP P 10 58 41.2 -0.4
comp=Z,90nm,1.0s,mb5.7
FLN La Foliniere 86.95 334 eP P 10 58 41.1 -0.5
comp=Z,56nm,0.9s,mb5.5
MGR Morigerati 86.95 320 eP P 10 58 40.5 -1.4
LDF La Druitiere 86.97 334 eP P 10 58 40.9 -0.8
comp=Z,125nm,1.2s,mb5.7
HYF Humbligny 87.09 332 eP P 10 58 42.5 +0.2
SMF Signal de Mont 87.14 331 eP P 10 58 42.1 -0.5
comp=Z,54nm,1.0s,mb5.5
BNI Bardonecchia 87.29 328 P P 10 58 44.7 +1.3
BNI pmax pmax
comp=Z,10.0nm,0.8s,mb5.1
BNI Bardonecchia 87.29 328 eP P 10 58 44.1 +0.7
comp=Z,10nm,0.8s,mb5.1
GRR Gorron 87.40 334 eP P 10 58 43.6 -0.2
comp=Z,191nm,1.1s,mb6.0
GRI Girifalco 87.48 319 eP P 10 58 44.5 +0.1
MBDF Montbardon 87.52 328 eP P 10 58 43.9 -0.6
BGF Bois d'Agland 87.60 331 eP P 10 58 44.6 -0.2
comp=Z,85nm,1.3s,mb5.6
IMI Imperia 87.69 327 eP P 10 58 45.2 -0.1
ORIF Oris-en-Rattie 87.73 329 eP P 10 58 44.9 -0.6
comp=Z,22nm,0.9s,mb5.1
SAOF Saorge 87.77 327 eP P 10 58 46.2 +0.5
SBF Sospel 87.92 327 eP P 10 58 45.1 -1.3
comp=Z,31nm,0.8s,mb5.3
AURF Auriere 87.95 327 eP P 10 58 45.3 -1.3
MVIF Mont Vial 88.02 327 eP P 10 58 46.2 -0.7
TCF Toulx Ste Croi 88.07 331 eP P 10 58 46.9 -0.2
comp=Z,164nm,1.6s,mb5.7
SGMF Saint Gilles 88.10 335 eP P 10 58 47.0 -0.1
comp=Z,119nm,1.0s,mb5.8
SOI Samo 88.22 318 eP P 10 58 47.7 -0.3
ROSF Rostrenen 88.26 336 eP P 10 58 47.9 0.0
comp=Z,260nm,1.4s,mb6.0
PGF Pioggiola 88.27 325 eP P 10 58 47.2 -0.9
comp=Z,28nm,0.8s,mb5.2
VIVF Saint-Julien-l 88.28 329 eP P 10 58 47.4 -0.7
comp=Z,61nm,1.2s,mb5.4
MTTG Motta San Giov 88.47 318 eP P 10 58 48.8 -0.3
KSU1 Kansas State U 88.50 40 eP P 10 58 49.1 -0.3
FRF La Foret Royal 88.51 327 eP P 10 58 48.0 -1.2
comp=Z,20nm,0.9s,mb5.2
JFWS Jewell Farm 88.58 34 P P 10 58 49.7 +0.1
JFWS pmax pmax
comp=Z,81nm,0.9s,mb6.0
JFWS Jewell Farm 88.58 34 eP P 10 58 49.2 -0.4
comp=Z,81nm,0.9s,mb6.0
QUIF Quistinic 88.59 335 eP P 10 58 49.2 -0.3
SMRF Simiane la Rot 88.63 328 eP P 10 58 49.0 -0.8
MFF Saint Martin d 88.68 333 eP P 10 58 49.7 -0.3
comp=Z,97nm,1.1s,mb5.8
LMR La Mourre 88.75 327 eP P 10 58 49.6 -0.8
comp=Z,116nm,1.4s,mb5.7
AMTX Amarillo 88.87 46 eP P 10 58 51.9 +0.7
comp=Z,60nm,0.9s,mb5.9

CPRX Cap Rock 88.91 48 eP P 10 58 52.0 +0.5
RJF Les Rejaudoux 89.16 331 eP P 10 58 52.3 0.0
comp=Z,100nm,1.2s,mb5.7
GDL2 Guadalupe Moun 89.20 49 eP P 10 58 52.9 0.0
LASF Ste Croix 89.26 329 eP P 10 58 52.5 -0.3
comp=Z,50nm,1.4s,mb5.3
CAF Calviac 89.26 331 eP P 10 58 52.8 0.0
comp=Z,45nm,1.1s,mb5.4
CLNB Carlsbad 89.45 49 eP P 10 58 54.5 +0.5
MEU Monte Lauro 89.54 318 eP P 10 58 54.9 +0.6
LFF La Frestale 89.76 332 eP P 10 58 54.0 -1.1
comp=Z,117nm,1.4s,mb5.7
VSL Villasalto 90.50 323 eP P 10 58 58.7 0.0
comp=Z,16nm,1.0s,mb5.3
MTLF Montolieu 90.53 330 eP P 10 58 58.7 0.0
comp=Z,55nm,1.1s,mb5.5
WMOK Wichita Mounta 90.60 44 P P 10 58 59.3 0.0
WMOK pmax pmax
comp=Z,71nm,1.3s,mb5.8
WMOK Wichita Mounta 90.60 44 eP P 10 58 59.2 -0.2
comp=Z,71nm,1.3s,mb5.8
EJON La Jonquera 91.00 329 P P 10 58 60.0 -0.9
comp=Z,16nm,1.0s,mb5.3
FILF Fillols 91.04 329⇑eP P 10 59 01.1 0.0
MLS Moulis 91.30 330⇑eP P 10 59 02.0 -0.3
VALF Valcebollere 91.39 329⇑eP P 10 59 02.7 0.0
SADO Sadowa 91.42 26 P P 10 59 03.4 +0.6
comp=Z,26nm,0.9s,mb5.5,baz=322,slow=6.9,SNR=7.5
SADO Sadowa 91.42 26 P P 10 59 03.4 +0.6
EPF Esparros 91.53 331 eP P 10 59 03.0 -0.3
comp=Z,52nm,1.3s,mb5.4
LTX Lajitas 91.64 51 P P 10 59 05.0 +0.8
LTX pmax pmax
comp=Z,55nm,1.2s,mb5.8
LTX Lajitas 91.64 51 eP P 10 59 04.8 +0.6
comp=Z,54nm,1.2s,mb5.8
TXAR Lajitas Array 91.64 51 P P 10 59 04.4 +0.2
comp=Z,17nm,0.8s,mb5.4,baz=299,slow=2.7,SNR=98
TXAR PP PP 11 02 42.7 -2.6
comp=Z,2.7nm,1.0s,baz=315,slow=7.1,SNR=4.4
TXAR Lajitas Array 91.64 51 P P 10 59 04.4 +0.2
TXAR PP PP 11 02 42.7 -2.6
VIEF Viey 91.78 331⇑eP P 10 59 04.8 +0.3
AAM Ann Arbor 91.85 30 P P 10 59 07.0 +2.1
AAM pmax pmax
comp=Z,140nm,1.3s,mb6.1
AAM Ann Arbor 91.85 30 eP P 10 59 06.9 +2.1
comp=Z,135nm,1.3s,mb6.1
EBIE Bielsa 91.90 331 P P 10 59 03.1 -1.9
comp=Z,12nm,0.9s,mb5.2
CCM Cathedral Cave 91.98 37 P P 10 59 05.2 -0.3
CCM pmax pmax
comp=Z,74nm,1.0s,mb6.0
CCM Cathedral Cave 91.98 37 eP P 10 59 05.1 -0.4
comp=Z,74nm,0.9s,mb6.0
ETSF Etsaut 91.99 331 eP P 10 59 04.8 -0.7
comp=Z,38nm,1.0s,mb5.4
SLM Saint Louis 92.00 36 P P 10 59 06.2 +0.6
SLM pmax pmax
comp=Z,130nm,1.0s,mb6.2
SLM Saint Louis 92.00 36 eP P 10 59 06.0 +0.4
comp=Z,132nm,1.0s,mb6.2
EMIR Miracle 92.00 330 P P 10 59 05.4 -0.2
comp=Z,10nm,0.6s,mb5.3
SJPF Ste Jean 92.06 332 eP P 10 59 06.1 +0.3
comp=Z,54nm,1.3s,mb5.4
EGRA Graus 92.25 330 P P 10 59 07.6 +0.9
comp=Z,72nm,1.2s,mb5.9
FVM French Village 92.43 37 P P 10 59 08.2 +0.6
FVM pmax pmax
comp=Z,42nm,0.9s,mb5.8
FVM French Village 92.43 37 eP P 10 59 08.0 +0.4
comp=Z,42nm,0.9s,mb5.8
EPOB Poblet 92.66 329 P P 10 59 07.8 -0.8
comp=Z,23nm,1.0s,mb5.6
ESAC San Caprasio 92.96 331 P P 10 59 08.8 -1.2
comp=Z,13nm,0.6s,mb5.5
JCT Junction City 93.15 48 P P 10 59 11.5 +0.4
JCT pmax pmax
comp=Z,98nm,1.3s,mb6.1
JCT Junction City 93.15 48 eP P 10 59 10.8 -0.3
comp=Z,98nm,1.3s,mb6.1
BLO Bloomington 93.26 34 P P 10 59 12.6 +1.2
BLO pmax pmax
comp=Z,59nm,1.1s,mb5.9
BLO Bloomington 93.26 34 eP P 10 59 12.3 +1.0
comp=Z,59nm,1.1s,mb5.9
EBR Ebro Roquetas 93.34 330 ePCP PcP 10 59 11.5 -1.2
MIAR Mount Ida 93.55 41 P P 10 59 13.4 +0.5
MIAR pmax pmax
comp=Z,76nm,1.0s,mb6.1
MIAR Mount Ida 93.55 41⇑eP P 10 59 13.0 +0.1
comp=Z,76nm,1.0s,mb6.1
USIN University of 93.73 35 eP P 10 59 14.8 +1.2
comp=Z,56nm,1.1s,mb5.9
ALLY Alegheny Colle 93.77 28 eP P 10 59 13.8 +0.1
ACSO Alum Creek Sta 93.87 31 eP P 10 59 14.2 0.0
comp=Z,50nm,0.9s,mb5.9
EPON Pontenova 93.96 336 P P 10 59 11.9 -2.6
comp=Z,151nm,1.7s,mb6.2
EMOS Mosqueruela 94.12 330 P P 10 59 15.8 +0.5
comp=Z,28nm,1.2s,mb5.6
WCI Wyandotte Cave 94.13 34 P P 10 59 16.1 +0.7
WCI pmax pmax
comp=Z,54nm,1.0s,mb5.9
WCI Wyandotte Cave 94.13 34 eP P 10 59 16.4 +1.0
comp=Z,54nm,1.0s,mb5.9
WVT Waverly 95.15 36 P P 10 59 20.5 +0.3
WVT pmax pmax
comp=Z,29nm,0.9s,mb5.7
WVT Waverly 95.15 36 eP P 10 59 20.5 +0.4
comp=Z,29nm,0.8s,mb5.8
MCWV Mont Chateau 95.61 29 eP P 10 59 23.5 +1.3
comp=Z,53nm,1.3s,mb5.8
OXF Oxford 95.69 38 P P 10 59 24.1 +1.4
OXF e 10 59 34.7
OXF Oxford 95.69 38 eP P 10 59 22.8 +0.1
ESDC Sonseca Array 96.06 332 P P 10 59 24.0 -0.3
comp=Z,2.6nm,0.9s,mb4.7,baz=14,slow=5.3,SNR=5.9
ESDC PP PP 11 03 17.2 -2.2
comp=Z,0.3nm,0.3s,baz=33,slow=7.0,SNR=4.1
ESDC Sonseca Array 96.06 332 P P 10 59 23.1 -1.2
comp=Z,1.3nm,0.8s
SWET Sewanee 96.78 35 eP P 10 59 27.8 +0.2
FWV Forest Hill 97.01 31 eP P 10 59 29.5 +0.9
PWV Princeton 97.13 31 eP P 10 59 30.3 +1.1
CPCT Cooper Cave 97.23 34 eP P 10 59 32.5 +2.8
ELN Prospectdale 97.34 31 eP P 10 59 30.3 +0.2
EVO Evora 98.54 334 eP P 10 59 34.4 -1.0
KMBO Kilima Mbogo 99.80 276 P P 10 59 40.4 -1.4
comp=Z,1.5nm,0.8s,baz=19,slow=9.6,SNR=3.4
KMBO PP PP 11 03 45.7 -3.2
comp=Z,1.6nm,0.8s,baz=37,slow=11,SNR=3.8
VNDA Vanda 115.44 175 PKP PKPdf 11 04 37.5 -2.7
comp=Z,1.0nm,0.8s,baz=330,slow=5.9,SNR=8.1
VNDA PP PP 11 05 38.0 -5.1
comp=Z,1.0nm,0.9s,baz=337,slow=5.5,SNR=5.3
VNDA Vanda 115.44 175 PKP PKPdf 11 04 37.5 -2.7
VNDA PP PP 11 05 38.0 -5.1
MAW Mawson 118.86 205 PKP PKPdf 11 04 44.6 -2.4
comp=Z,5.6nm,1.0s,baz=326,slow=3.1,SNR=5.9
MAW Mawson 118.86 205 PKIKP PKPdf 11 04 44.6 -2.4
MAW pmax pmax
comp=Z,6.0nm,1.0s
DBIC Dimbokro 124.58 314 PKP PKPdf 11 04 55.7 -3.7
comp=Z,12nm,1.0s,baz=245,slow=2.1,SNR=7.0
DBIC PP PP 11 06 42.3 -4.7
comp=Z,6.3nm,0.9s,baz=8.8,slow=10.0,SNR=3.3
DBIC Dimbokro 124.58 314 PKIKP PKPdf 11 04 55.7 -3.7
DBIC 11 06 42.3
DBIC pmax pmax
comp=Z,12nm,1.0s
DBIC pmax pmax
comp=Z,6.0nm,0.9s
TIC Toumodi 124.70 314 ePKP1 PKPdf 11 04 56.0 -3.6
comp=Z,112nm,1.2s
KIC Kosan Boka 124.77 314 ePKP1 PKPdf 11 04 56.2 -3.5
comp=Z,81nm,1.1s
LIC Lamto 125.04 314 ePKIKP PKPdf 11 04 56.5 -3.8
comp=Z,48nm,1.1s
LIC Lamto 125.04 314 ePKP1 PKPdf 11 04 55.4 -4.9
comp=Z,56nm,1.1s
SDV Santo Domingo 126.45 37 ePKPdf PKPdf 11 05 00.1 -2.8
QSPA South Pole Qui 127.05 180 ↓iP PKPdf 11 05 00.0 -2.3
SYO Syowa Base 127.48 207 ⇑PKPdf PKPdf 11 05 00.8 -2.7
SYO Syowa Base 127.48 207 ↓pPKPdf 11 05 07.5

SNAA Sanae 140.36 198 P PKPdf 11 05 15.6 -12
SNAA Sanae 140.36 198 PKPdf 11 05 17.9 -10
SNAA Sanae 140.36 198 PKPdf 11 05 19.7 -7.7
SNAA Sanae 140.36 198⇑i PKPdf 11 05 21.2 -6.2
SNAA Sanae 140.36 198 PKPdf 11 05 22.4 -5.0
SNAA Sanae 140.36 198↓i PKPdf 11 05 24.8 -2.6
SNAA Sanae 140.36 198 PKhKP 11 05 15.8
comp=Z,3.5nm,1.1s,baz=89,slow=4.5,SNR=13
SNAA PP PP 11 08 21.8 -4.4
comp=Z,5.3nm,1.2s,baz=122,slow=6.8,SNR=12
SNAA Sanae 140.36 198⇑iP PKPdf 11 05 21.2 -6.2
SNAA ↓iP 11 05 24.8
VNA2 Neumayer--Watz 141.96 197⇑i PKPdf 11 05 26.9 -3.2
VNA2 Neumayer--Watz 141.96 197↓i PKPdf 11 05 29.2 -0.9
VNA2 Neumayer--Watz 141.96 197↓i PKPdf 11 05 31.2 +1.1
VNA2 Neumayer--Watz 141.96 197⇑i PKPdf 11 05 32.4 +2.3
VNA2 Neumayer--Watz 141.96 197⇑i PKPdf 11 05 33.2 +3.1
VNA2 Neumayer--Watz 141.96 197↓iPKPdf PKPdf 11 05 24.9 -5.2
VNA2 ↓iP 11 05 29.2
VNA3 Neumayer Olymp 142.25 196⇑i PKPdf 11 05 27.8 -2.8
VNA3 Neumayer Olymp 142.25 196⇑i PKPdf 11 05 29.2 -1.4
VNA3 Neumayer Olymp 142.25 196⇑i PKPdf 11 05 31.9 +1.3
VNA3 Neumayer Olymp 142.25 196 PKPdf 11 05 33.1 +2.5
VNA3 Neumayer Olymp 142.25 196⇑i PKPdf 11 05 34.3 +3.7
VNA3 Neumayer Olymp 142.25 196⇑iPKPdf PKPdf 11 05 25.2 -5.4
VNA3 ⇑iP 11 05 27.8
VNA1 Neumayer--Stat 142.36 197⇑i PKPdf 11 05 28.5 -2.3
VNA1 Neumayer--Stat 142.36 197⇑i PKPdf 11 05 30.1 -0.7
VNA1 Neumayer--Stat 142.36 197⇑i PKPdf 11 05 31.6 +0.8
VNA1 Neumayer--Stat 142.36 197⇑i PKPdf 11 05 33.8 +3.0
VNA1 Neumayer--Stat 142.36 197↓i PKPdf 11 05 35.2 +4.4
VNA1 Neumayer--Stat 142.36 197⇑iPKPdf PKPdf 11 05 26.1 -4.7
VNA1 ⇑iP 11 05 28.5
SAML Samuel 145.51 41 ePKPdf PKPdf 11 05 35.2 -2.7
ARE Arequipa 146.22 60 ePKPdf PKPbc 11 05 39.0 +2.3
RCBR Riachuelo 148.28 350 ePKPdf PKPdf 11 05 40.3 -2.2
LPAZ La Paz 148.37 56 PKPbc PKPdf 11 05 43.6 +1.1
comp=Z,18nm,0.5s,baz=350,slow=0.9,SNR=23
LVC Limon Verde 152.07 66 ePKPbc PKPdf 11 05 53.1 +5.0
BAO Brasilia Array 157.61 17 PKP PKPdf 11 05 56.0 +0.3
BAO i 11 06 28.2
BDFB Brasilia 157.61 17 PKP PKPdf 11 05 54.7 -1.0
comp=Z,9.7nm,0.9s,baz=69,slow=14,SNR=6.0
BDFB PKPab PKPab 11 06 25.3 -1.5
comp=Z,34nm,0.8s,baz=349,slow=4.0,SNR=18
BDFB PP PP 11 10 02.1 -5.1
comp=Z,8.9nm,1.0s,baz=128,slow=5.3,SNR=3.6
BDFB Brasilia 157.61 17 PKIKP PKPdf 11 05 54.7 -1.0
BDFB 11 10 02.1
BDFB pmax pmax
comp=Z,10.0nm,0.9s
BDFB pmax pmax
comp=Z,9.0nm,1.0s
CPUP Villa Florida 162.54 56 PKP PKPdf 11 05 57.9 -2.9
comp=Z,10.0nm,1.2s,baz=44,slow=7.3,SNR=3.0
CPUP PKPab PKPab 11 06 46.8 -1.1
comp=Z,7.1nm,0.8s,baz=349,slow=5.7,SNR=5.3
CPUP Villa Florida 162.54 56 PKIKP PKPdf 11 05 57.9 -2.9
CPUP 11 06 46.8
CPUP pmax pmax
comp=Z,10.0nm,1.2s
CPUP pmax pmax
comp=Z,7.0nm,0.8s

*JMA **23** 10:46:50.2±0.1,37.35N×138.91E,h15km±2km,M4.7*
JMA Felt IV J1.
ISC 23 10:46:50.3±0.6,37.36N±0.03×138.93E±0.05,h15km,n8,
σ0°38/14,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	Hiroka	0.13	147	P	Pb	10 46 53.6	-0.3
JHK				eS	Sb	10 46 56.2	0.0
JIZZ	Izumozaki	0.25	315	P	Pb	10 46 55.6	-0.4
JIZZ				eS	Sb	10 47 00.3	+0.5
JNS	Sasagawa	0.56	33	P	Pb	10 47 00.8	-0.4
JNS				eS	Sb	10 47 08.5	-0.2
JFY	Yanaizu	0.62	85	P	Pb	10 47 02.2	-0.1
JFY				eS	Sb	10 47 10.6	+0.1
JKT	Katashina	0.64	156	P	Pb	10 47 02.7	0.0
JKT				eS	Sb	10 47 11.4	+0.3
JSD	Sado	0.86	322	eS	Sb	10 47 17.8	+0.2
MAT	Matsushiro	1.00	216	P	Pb	10 47 09.1	+0.3
MAT				S	Sb	10 47 20.7	-0.8
JAG	Ashikaga	1.02	156	P	Pb	10 47 09.8	+0.7

*JMA **23** 10:48:35.9,37.30N×138.84E,h14km±2km,M4.4*
ISC 23 10:48:35.8±1.3,37.31N±0.05×138.85E±0.10,h14km±5km,
n6,σ0°14/10,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	Hiroka	0.14	113	P	Pg	10 48 39.5	-0.1
JHK				S	Sg	10 48 42.1	0.0
JIZZ	Izumozaki	0.25	334	P	Pg	10 48 41.6	+0.2
JKT	Katashina	0.62	149	P	Pb	10 48 48.0	0.0
JKT				S	Sb	10 48 56.3	-0.1
JNS	Sasagawa	0.63	36	P	Pb	10 48 48.0	-0.2
JNS				S	Sb	10 48 56.4	-0.2
JFY	Yanaizu	0.69	81	P	Pb	10 48 49.3	+0.2
JFY				S	Sb	10 48 58.4	+0.2
MAT	Matsushiro	0.92	214	P	Pb	10 48 47.6	-5.5

*IDC **23** 10:49:23.3±0.7,37.33N×138.78E,mb4.3/15,mb1 4.6/17,*
mb1mx4.4/25,ML3.7/2,Error ellipse: s-maj=26.6km
s-min=18.6km az=96.0
*NEIC **23** 10:49:25.7±0.3,37.31N×138.82E,h10km,Error ellipse:*
s-maj=15.7km s-min=6.8km az=117.0
*JMA **23** 10:49:26.1,37.29N×138.89E,h18km±1km,M4.8*
JMA Felt IV J1.
ISC 23 10:49:25.6±0.4,37.29N±0.03×138.89E±0.05,h25km±3km,
n30,σ0°87/36,mb4.3/15,1D,Near west coast of eastern
Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	Hiroka	0.11	112	P	Pb	10 49 29.5	-0.8
JHK				S	Sb	10 49 32.0	-1.5
JIZZ	Izumozaki	0.28	329	P	Pb	10 49 32.6	+0.3
JIZZ				S	Sb	10 49 38.0	+1.0
JKT	Katashina	0.59	151	P	Pb	10 49 37.6	+0.3
JKT				S	Sb	10 49 45.9	+0.6
JNS	Sasagawa	0.63	32	P	Pb	10 49 37.9	+0.1
JNS				S	Sb	10 49 46.2	0.0
JFY	Yanaizu	0.66	79	↓P	Pb	10 49 38.6	+0.3
JFY				S	Sb	10 49 47.4	+0.3
MAT	Matsushiro	0.93	217	P	Pb	10 49 42.9	+0.1
MAT				S	Sb	10 49 55.1	+0.4
MAT	Matsushiro	0.93	217	eP	Pb	10 49 43.0	+0.2
MAT				eS	Sb	10 49 55.0	+0.3
JHJ	Hachijo jima 2	4.22	170	Pn	Pn	10 50 36.0	+0.5
	30nm,0.3s,baz=86,slow=20,SNR=2.5						
ASAJ	Asahikawa	7.38	21	Pn	Pn	10 51 18.3	+3.8
	0.9nm,0.3s,baz=320,slow=24,SNR=2.0						
ILAR	Eielson Array	50.36	32	P	P	10 58 21.8	-0.3
	1.5nm,0.7s,mb4.1,baz=272,slow=5.6,SNR=5.6						
INK	Inuvik	55.08	27	P	P	10 58 56.2	-1.1
	3.0nm,0.8s,mb4.4,baz=287,slow=9.8,SNR=3.6						
INK	Inuvik	55.08	27	P	P	10 58 56.2	-1.1
WRA	Warramunga Arr	57.08	185	P	P	10 59 10.5	-1.8
	5.1nm,0.8s,mb4.6,baz=0.2,slow=7.6,SNR=6.8						
ASAR	Alice Springs	60.81	185	P	P	10 59 38.3	+0.3
	0.8nm,0.7s,mb4.0,baz=9.5,slow=5.5,SNR=2.9						
ARCES	ARCESS Array B	63.04	339	P	P	10 59 51.0	-1.4
	3.9nm,0.8s,mb4.6,baz=68,slow=13,SNR=4.2						
YKA	Yellowknife Ar	64.59	30	P	P	11 00 01.8	-0.7
	1.6nm,0.6s,mb4.2,baz=307,slow=6.8,SNR=4.2						
YKA	Yellowknife Ar	64.59	30	P	P	11 00 01.8	-0.7
FINES	FINESS Array B	67.64	331	P	P	11 00 20.8	-1.2
	2.5nm,0.8s,mb4.3,baz=59,slow=8.1,SNR=3.0						
NEW	Newport	71.34	43	P	P	11 00 45.1	+0.2
	8.3nm,1.0s,mb4.6,baz=304,slow=5.6,SNR=5.2						
AKASG	Malin Array Be	72.85	321	P	P	11 00 53.1	-0.7
	1.9nm,0.7s,mb4.2,baz=49,slow=5.9,SNR=4.4						
NB2	NORSAR Subarra	73.16	336	P	P	11 00 54.3	-1.1
	3.7nm,0.8s,mb4.4,baz=40,slow=5.8						
NOA	NORSAR Array B	73.16	336	P	P	11 00 54.8	-0.6
	2.6nm,0.7s,mb4.3,baz=40,slow=5.9,SNR=3.4						
NVAR	Mina Array Bea	76.43	52	P	P	11 01 16.0	+1.4

3.5nm,0.7s,mb4.4,baz=305,slow=4.3,SNR=7.9
NVAR **Mina Array Bea** 76.43 52 P P 11 01 16.0 +1.4
BRTR **Keskin Array B** 77.16 310 P P 11 01 19.5 +0.8
2.2nm,0.9s,mb4.1,baz=117,slow=2.8,SNR=2.8
PDAR **Pinedale Array** 78.91 44 P P 11 01 29.2 +1.0
2.7nm,0.8s,mb4.2,baz=331,slow=2.1,SNR=4.7
SCHQ **Schefferville** 85.62 15 P P 11 02 03.4 +0.7
7.0nm,1.0s,mb4.9,baz=339,slow=8.6,SNR=3.4
TXAR **Lajitas Array** 91.54 51 P P 11 02 33.0 +1.5
0.9nm,0.7s,mb4.2,baz=270,slow=3.6,SNR=3.6
TXAR **Lajitas Array** 91.54 51 P P 11 02 33.0 +1.5
LPAZ **La Paz** 148.26 56 PKPbc PKPdf 11 09 10.4 -0.7
2.3nm,0.2s,baz=328,slow=0.9,SNR=3.8

*JMA **23** 10:50:58.1,37.33N×138.89E,h14km±1km,M3.5*
JMA Felt II J1.
ISC 23 10:50:58.1±0.6,**37.34N**±0.03×**138.91E**±0.05,**h14**km±4km, **n9,**σ0⁕**36**/17,**1C-1D,Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JHK	**Hiroka**	**0.13**	**136**	⇓P		**Pg**	**10 51 01.4**	**-0.3**
JHK				*eS*		**Sg**	**10 51 03.9**	**-0.2**
JIZZ	**Izumozaki**	**0.25**	**321**	P		**Pg**	**10 51 03.5**	**-0.1**
JIZZ				*eS*		**Sg**	**10 51 08.1**	**+0.8**
JNS	**Sasagawa**	**0.58**	**34**	P		**Pb**	**10 51 09.2**	**-0.3**
JNS				*eS*		**Sb**	**10 51 17.0**	**-0.2**
JKT	**Katashina**	**0.64**	**154**	P		**Pb**	**10 51 10.3**	**-0.1**
JKT				*eS*		**Sb**	**10 51 18.9**	**+0.1**
JFY	**Yanaizu**	**0.64**	**84**	⇑P		**Pb**	**10 51 10.5**	**0.0**
JFY				*eS*		**Sb**	**10 51 19.1**	**+0.1**
JGK	**Kuni**	**0.81**	**195**	*eS*		**Sb**	**10 51 23.9**	**+0.1**
MAT	**Matsushiro**	**0.97**	**215**	P		**Pb**	**10 51 15.7**	**-0.5**
MAT				S		**Sb**	**10 51 28.2**	**-0.4**
MAT	**Matsushiro**	**0.97**	**215**	P		**Pb**	**10 51 15.8**	**-0.4**
MAT				*eS*		**Sb**	**10 51 28.3**	**-0.3**
JAG	**Ashikaga**	**1.01**	**154**	P		**Pb**	**10 51 17.2**	**+0.3**
JAG				*eS*		**Sb**	**10 51 30.6**	**+0.8**

*JMA **23** 10:51:54.2,37.27N×138.90E,h10km±2km,M3.7*
JMA Felt III J1.
ISC 23 10:51:54.2±0.6,**37.27N**±0.03×**138.92E**±0.05,**h13**km±4km, **n7,**σ0⁕**40**/14,**2D,Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JHK	**Hiroka**	**0.08**	**108**	P		**Pg**	**10 51 56.6**	**-0.3**
JHK				S		**Sg**	**10 51 58.8**	**0.0**
JIZZ	**Izumozaki**	**0.31**	**327**	P		**Pg**	**10 52 00.5**	**-0.2**
JIZZ				S		**Sg**	**10 52 06.0**	**+0.9**
JKT	**Katashina**	**0.57**	**153**	P		**Pb**	**10 52 05.4**	**-0.1**
JKT				S		**Sb**	**10 52 13.5**	**+0.3**
JNS	**Sasagawa**	**0.63**	**30**	⇓P		**Pb**	**10 52 06.0**	**-0.5**
JNS				S		**Sb**	**10 52 14.7**	**-0.2**
JFY	**Yanaizu**	**0.64**	**78**	⇓P		**Pb**	**10 52 06.7**	**+0.1**
JFY				S		**Sb**	**10 52 15.6**	**+0.4**
JGK	**Kuni**	**0.74**	**198**	P		**Pb**	**10 52 08.4**	**-0.1**
JGK				S		**Sb**	**10 52 18.9**	**+0.6**
MAT	**Matsushiro**	**0.93**	**218**	P		**Pb**	**10 52 11.0**	**-0.6**
MAT				S		**Sb**	**10 52 23.4**	**-0.2**

JMA 23 10:52:29.8,37.33N×138.95E,h15km±1km,M4.3,1D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JHK	**Hiroka**	**0.10**	**147**	⇓P		Pb	10 52 32.7	-0.2
JHK				S		Sb	10 52 34.9	+0.1
JIZZ	**Izumozaki**	**0.28**	**317**	P		Pb	10 52 36.0	+0.1
JIZZ				S		Sb	10 52 40.9	+0.8
JNS	**Sasagawa**	**0.57**	**31**	P		Pb	10 52 40.2	-0.7
JNS				S		Sb	10 52 48.1	-0.4
JFY	**Yanaizu**	**0.61**	**83**	P		Pb	10 52 41.4	-0.2
JFY				S		Sb	10 52 49.7	+0.1
JKT	**Katashina**	**0.61**	**157**	P		Pb	10 52 41.5	-0.1
JKT				S		Sb	10 52 49.9	+0.2
JGK	**Kuni**	**0.81**	**198**	P		Pb	10 52 45.2	+0.2

*JMA **23** 10:55:18.6,37.33N×138.95E,h11km±2km,M3.9*
JMA Felt III J1.
*NEIC **23** 10:55:19.2±0.4,37.31N×138.80E,h10km,mb3.9/1,Error ellipse: s-maj=11.8km s-min=5.8km az=115.0*
*IDC **23** 10:55:24.2±4.4,37.26N×138.66E,h55km±41km,mb3.7/12, mb1 3.9/13,mb1mx3.8/22,ML4.0/1,Error ellipse: s-maj=30.0km s-min=20.0km az=65.0*
ISC 23 10:55:18.2±0.4,**37.34N**±0.03×**138.93E**±0.05,**h19**km±3km, **n23,**σ1⁕**07**/29,**mb3.9**/13,**3D,Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JHK	**Hiroka**	**0.12**	**145**	P		**Pb**	**10 55 21.1**	**-1.1**
JHK				*eS*		**Sb**	**10 55 23.2**	**-1.7**
JIZZ	**Izumozaki**	**0.26**	**317**	P		**Pb**	**10 55 24.4**	**+0.2**
JIZZ				*eS*		**Sb**	**10 55 29.3**	**+1.1**
JNS	**Sasagawa**	**0.56**	**33**	⇓P		**Pb**	**10 55 29.3**	**0.0**
JNS				*eS*		**Sb**	**10 55 37.0**	**+0.2**
JFY	**Yanaizu**	**0.62**	**84**	⇓P		**Pb**	**10 55 30.3**	**+0.1**
JKT	**Katashina**	**0.63**	**156**	⇓P		**Pb**	**10 55 30.4**	**0.0**
JKT				*eS*		**Sb**	**10 55 38.9**	**+0.2**
JGK	**Kuni**	**0.81**	**197**	P		**Pb**	**10 55 34.6**	**+1.0**
JGK				*eS*		**Sb**	**10 55 45.2**	**+1.1**
MAJO	**Matsushiro**	**0.99**	**216**	*eP*		**Pb**	**10 55 36.3**	**-0.2**
MAT	**Matsushiro**	**0.99**	**216**	*eP*		**Pb**	**10 55 37.0**	**+0.5**
MAT				*eS*		**Sb**	**10 55 49.0**	**-0.1**
JHJ	**Hachijo jima 2**	**4.27**	**170**	P		**Pn**	**10 56 26.4**	**+2.5**
	25nm,0.3s,baz=236,slow=23,SNR=3.4							
ENH	**Enshi**	**25.40**	**263**	P		**P**	**11 00 45.1**	**-1.0**
SONM	**Songino Array**	**25.97**	**304**	P		**P**	**11 00 50.2**	**-1.1**
	1.0nm,0.8s,mb3.4,baz=101,slow=7.3,SNR=3.6							
WRA	**Warramunga Arr**	**57.14**	**185**	P		**P**	**11 05 04.0**	**-2.3**
	1.2nm,0.8s,mb4.0,slow=7.4,SNR=9.2							
ASAR	**Alice Springs**	**60.87**	**185**	P		**P**	**11 05 30.7**	**-1.3**
	0.4nm,0.8s,mb3.6,baz=349,slow=4.6,SNR=2.7							
ARCES	**ARCESS Array B**	**63.00**	**339**	P		**P**	**11 05 45.0**	**-0.8**
	1.7nm,0.8s,mb4.2,baz=41,slow=8.3,SNR=3.1							
FINES	**FINESS Array B**	**67.61**	**331**	P		**P**	**11 06 14.6**	**-0.9**
	2.5nm,0.7s,mb4.3,baz=56,slow=6.9,SNR=7.4							
AKASG	**Malin Array Be**	**72.83**	**321**	P		**P**	**11 06 46.1**	**-1.2**
	0.9nm,0.4s,mb4.1,baz=47,slow=5.9,SNR=7.5							
NOA	**NORSAR Array B**	**73.12**	**336**	P		**P**	**11 06 48.3**	**-0.5**
	4.1nm,1.0s,mb4.3,baz=40,slow=5.8,SNR=10							
HLID	**Hailey**	**75.60**	**46**	*eP*		**P**	**11 07 05.5**	**+2.1**
	1.2nm,1.0s,mb3.8							
NVAR	**Mina Array Bea**	**76.38**	**52**	P		**P**	**11 07 08.6**	**+0.7**
	0.7nm,0.8s,mb3.6,baz=279,slow=6.7,SNR=4.3							
BRTR	**Keskin Array B**	**77.15**	**310**	P		**P**	**11 07 12.1**	**-0.2**
	4.1nm,1.2s,mb4.2,baz=63,slow=2.8,SNR=5.5							
PDAR	**Pinedale Array**	**78.85**	**44**	P		**P**	**11 07 22.9**	**+1.3**
	0.7nm,0.8s,mb3.7,baz=315,slow=4.2,SNR=4.9							
GERES	**GERESS Array B**	**81.39**	**327**	P		**P**	**11 07 35.0**	**+0.1**
	1.3nm,0.8s,mb3.9,slow=4.0,SNR=5.8							
TXAR	**Lajitas Array**	**91.48**	**51**	P		**P**	**11 08 26.7**	**+1.9**
	0.2nm,0.6s,mb3.7,baz=349,slow=4.6,SNR=2.2							

*NEIC **23** 10:59:26.5±0.6,37.36N×138.84E,h10km,Error ellipse: s-maj=23.2km s-min=9.4km az=112.0*
*JMA **23** 10:59:26.4,37.37N×138.93E,h16km±1km,M3.7*
JMA Felt II J1.
*IDC **23** 10:59:32.0±3.1,37.34N×138.69E,h59km±29km,mb3.6/7, mb1 3.9/9,mb1mx3.6/23,ML3.5/2,Error ellipse: s-maj=37.5km s-min=21.0km az=89.0*
ISC 23 10:59:26.1±0.5,**37.37N**±0.03×**138.93E**±0.05,**h22**km±4km, **n20,**σ0⁕**94**/27,**mb3.9**/7,**1C-2D,Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JHK	**Hiroka**	**0.14**	**150**	P		**Pb**	**10 59 29.9**	**-0.8**
JHK				*eS*		**Sb**	**10 59 32.5**	**-1.3**
JIZZ	**Izumozaki**	**0.24**	**313**	⇓P		**Pb**	**10 59 31.9**	**-0.1**
JIZZ				*eS*		**Sb**	**10 59 36.5**	**+0.5**
JNS	**Sasagawa**	**0.54**	**34**	⇑P		**Pb**	**10 59 36.6**	**-0.2**
JNS				*eS*		**Sb**	**10 59 43.9**	**-0.3**
JFY	**Yanaizu**	**0.62**	**86**	⇓P		**Pb**	**10 59 38.4**	**+0.3**
JFY				*eS*		**Sb**	**10 59 46.6**	**+0.2**
JKT	**Katashina**	**0.65**	**157**	P		**Pb**	**10 59 38.9**	**+0.2**
JKT				*eS*		**Sb**	**10 59 47.8**	**+0.5**
JGK	**Kuni**	**0.84**	**196**	P		**Pb**	**10 59 43.1**	**+1.3**
MAT	**Matsushiro**	**1.01**	**215**	P		**Pb**	**10 59 44.5**	**-0.2**
MAT				S		**Sb**	**10 59 58.1**	**+0.5**
MAT	**Matsushiro**	**1.01**	**215**	*eP*		**Pb**	**10 59 45.0**	**+0.3**
MAT				*eS*		**Sb**	**10 59 58.0**	**+0.4**
JHJ	**Hachijo jima 2**	**4.30**	**170**	P		**Pn**	**11 00 36.0**	**+4.1**
	13nm,0.3s,baz=49,slow=20,SNR=2.3							
ASAJ	**Asahikawa**	**7.29**	**21**	P		**Pn**	**11 01 16.1**	**+2.0**
	0.5nm,0.3s,baz=256,slow=33,SNR=3.0							
WRA	**Warramunga Arr**	**57.17**	**185**	P		**P**	**11 09 11.8**	**-2.0**
	0.5nm,0.5s,mb3.8,baz=0.4,slow=7.6,SNR=5.9							
ARCES	**ARCESS Array B**	**62.98**	**339**	P		**P**	**11 09 52.0**	**-0.9**
	1.8nm,0.7s,mb4.3,baz=50,slow=7.0,SNR=3.5							
FINES	**FINESS Array B**	**67.58**	**331**	P		**P**	**11 10 21.8**	**-0.9**
	1.5nm,0.7s,mb4.1,baz=45,slow=2.7,SNR=4.4							
NB2	**NORSAR Subarra**	**73.10**	**336**	P		**P**	**11 10 54.6**	**-1.4**
	1.0nm,0.5s,mb4.0,baz=41,slow=5.8							
NOA	**NORSAR Array B**	**73.10**	**336**	P		**P**	**11 10 54.9**	**-1.1**
	1.2nm,0.6s,mb4.0,baz=40,slow=5.9,SNR=6.4							
NOA	**NORSAR Array B**	**73.10**	**336**	P		**P**	**11 10 54.9**	**-1.1**
NVAR	**Mina Array Bea**	**76.36**	**52**	P		**P**	**11 11 16.7**	**+1.5**
	0.8nm,0.8s,mb3.7,baz=308,slow=4.0,SNR=5.7							
NVAR	**Mina Array Bea**	**76.36**	**52**	P		**P**	**11 11 16.7**	**+1.5**
PDAR	**Pinedale Array**	**78.83**	**44**	P		**P**	**11 11 29.4**	**+0.6**
	0.5nm,0.6s,mb3.6,baz=270,slow=5.9,SNR=4.6							
GERES	**GERESS Array B**	**81.37**	**327**	P		**P**	**11 11 42.0**	**-0.2**
	0.3nm,0.4s,mb3.6,baz=45,slow=3.8,SNR=2.7							

*NEIC **23** 11:02:39.3±0.7,37.20N×138.84E,h10km,mb4.2/3,Error ellipse: s-maj=25.5km s-min=11.3km az=125.0*
*BJI **23** 11:02:40.5,37.04N×138.79E,h15km,mb4.4*
*JMA **23** 11:02:40.0,37.23N×138.89E,h9km±2km,M4.3*
JMA Felt IV J1.
*IDC **23** 11:02:44.7±2.6,37.21N×138.68E,h47km±25km,mb3.7/13, mb1 4.0/14,mb1mx3.9/24,ML4.5/1,MS4.8/1,Ms1 4.8/1, ms1mx3.5/30,Error ellipse: s-maj=22.4km s-min=16.0km az=97.0*
ISC 23 11:02:39.7±0.4,**37.24N**±0.03×**138.89E**±0.05,**h19**km±3km, **n33,**σ0⁕**96**/37,**mb4.0**/15,**MS4.7**/1,**Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JHK	**Hiroka**	**0.11**	**85**	P		**Pb**	**11 02 42.5**	**-1.1**
JHK				S		**Sb**	**11 02 44.6**	**-1.6**
JIZZ	**Izumozaki**	**0.32**	**335**	P		**Pb**	**11 02 46.9**	**+0.2**
JIZZ				S		**Sb**	**11 02 52.4**	**+1.0**
JKT	**Katashina**	**0.55**	**148**	P		**Pb**	**11 02 50.7**	**+0.1**
JKT				S		**Sb**	**11 02 58.7**	**+0.7**
JFY	**Yanaizu**	**0.68**	**75**	P		**Pb**	**11 02 52.8**	**+0.2**
JFY				S		**Sb**	**11 03 01.7**	**+0.2**
JGK	**Kuni**	**0.70**	**196**	P		**Pb**	**11 02 53.4**	**+0.3**
MAJO	**Matsushiro**	**0.88**	**218**	*eP*		**Pb**	**11 02 56.5**	**+0.4**
MAT	**Matsushiro**	**0.88**	**218**	*eP*		**Pb**	**11 02 56.0**	**-0.2**
MAT				*eS*		**Sb**	**11 03 08.0**	**+0.5**
JHJ	**Hachijo jima 2**	**4.18**	**170**	P		**Pn**	**11 03 46.0**	**+1.9**
	70nm,0.3s,baz=102,slow=8.5,SNR=9.4							
ASAJ	**Asahikawa**	**7.43**	**21**	P		**Pn**	**11 04 31.6**	**+1.7**
	baz=256,slow=19							
BJI	**Beijing**	**17.95**	**286**	P		**P**	**11 06 50.4**	**+0.5**
BJI				AMB	AMB			
	comp=Z,11nm,1.0s							
BJI	**Beijing**	**17.95**	**286**	P		**P**	**11 06 50.4**	**+0.5**
	comp=Z,11nm,1.0s							
BJT	**Baijiatuao**	**17.96**	**286**	*eP*		**P**	**11 06 50.6**	**+0.7**
	comp=Z,15nm,0.9s							
HHC	**Hu-ho-hao-te**	**21.49**	**288**	*eP*		**P**	**11 07 33.8**	**+4.5**
HHC				AMB	AMB			
	comp=Z,19nm,1.2s,mb4.3							
ENH	**Enshi**	**25.34**	**263**	*eP*		**P**	**11 08 05.6**	**-1.4**
	comp=Z,21nm,0.9s,mb4.7							
SONM	**Songino Array**	**26.00**	**304**	*eP*		**P**	**11 08 12.3**	**-0.7**
	comp=Z,1.5nm,0.7s,mb3.7,baz=106,slow=9.0,SNR=6.2							
FX1	**Attu Island--F**	**28.48**	**46**	LR		LR	11 17 47.7	
	comp=Z,2μm,21.0s,MS4.7,baz=117,slow=32							
ILAR	**Eielson Array**	**50.40**	**32**	P		**P**	**11 11 37.7**	**+0.3**
	comp=Z,1.0nm,0.7s,mb3.9,baz=279,slow=6.8,SNR=16							
INK	**Inuvik**	**55.12**	**27**	P		**P**	**11 12 11.8**	**-0.8**
	comp=Z,1.4nm,0.7s,mb4.1,baz=285,slow=7.1,SNR=3.8							
INK	**Inuvik**	**55.12**	**27**	P		**P**	**11 12 13.8**	**+1.2**
WRA	**Warramunga Arr**	**57.03**	**185**	P		**P**	**11 12 25.1**	**-1.8**
	comp=Z,3.4nm,0.9s,mb4.3,baz=1.2,slow=7.5,SNR=12							
ASAR	**Alice Springs**	**60.76**	**185**	P		**P**	**11 12 51.4**	**-1.3**
	comp=Z,0.4nm,0.6s,mb3.7,baz=4.4,slow=6.2,SNR=6.8							
FINES	**FINESS Array B**	**67.68**	**331**	P		**P**	**11 13 35.5**	**-1.8**
	comp=Z,5.2nm,1.2s,mb4.4,baz=52,slow=7.1,SNR=5.5							
DPW	**Davenport**	**71.01**	**44**	*eP*		**P**	**11 13 58.2**	**+0.2**
NEW	**Newport**	**71.38**	**43**	P		**P**	**11 14 00.1**	**-0.1**
	comp=Z,0.4nm,0.3s,mb3.8,baz=302,slow=9.5,SNR=3.7							
AKASG	**Malin Array Be**	**72.89**	**321**	P		**P**	**11 14 07.7**	**-1.3**
	comp=Z,1.0nm,0.5s,mb4.0,baz=50,slow=6.5,SNR=6.4							
NB2	**NORSAR Subarra**	**73.20**	**336**	P		**P**	**11 14 02.1**	**-8.6**
	comp=Z,0.9nm,0.7s,mb3.8,baz=41,slow=6.2							
NOA	**NORSAR Array B**	**73.20**	**336**	P		**P**	**11 14 09.8**	**-0.8**
	comp=Z,1.7nm,0.8s,mb4.0,baz=40,slow=6.0,SNR=4.5							
NOA	**NORSAR Array B**	**73.20**	**336**	P		**P**	**11 14 09.8**	**-0.9**
NVAR	**Mina Array Bea**	**76.47**	**52**	P		**P**	**11 14 31.2**	**+1.3**
	comp=Z,1.5nm,0.9s,mb3.9,baz=313,slow=4.3,SNR=9.4							
BRTR	**Keskin Array B**	**77.19**	**310**	P		**P**	**11 14 33.9**	**0.0**
	comp=Z,2.0nm,1.0s,mb4.0,baz=90,slow=4.9,SNR=5.3							
PDAR	**Pinedale Array**	**78.95**	**44**	P		**P**	**11 14 43.9**	**+0.4**
	comp=Z,0.7nm,0.7s,mb3.7,baz=315,slow=2.1,SNR=6.5							
PV10	**Paradox Valley**	**82.14**	**47**	P		**P**	**11 15 00.3**	**-0.2**
TXAR	**Lajitas Array**	**91.58**	**51**	P		**P**	**11 15 47.8**	**+1.1**
	comp=Z,0.3nm,0.7s,mb3.7,baz=304,slow=3.3,SNR=2.8							

*JMA **23** 11:03:24.6,37.38N×138.97E,h8km±2km,M3.6*
JMA Felt I J1.
ISC 23 11:03:24.2±1.0,**37.39N**±0.05×**138.98E**±0.08,**h11**km±7km, **n5,**σ0⁕**11**/9,**1D,Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JHK	**Hiroka**	**0.14**	**169**	⇓P		**Pg**	**11 03 27.5**	**-0.1**
JHK				*eS*		**Sg**	**11 03 30.0**	**+0.1**
JNS	**Sasagawa**	**0.51**	**31**	P		**Pg**	**11 03 34.5**	**-0.1**
JNS				*eS*		**Sg**	**11 03 41.4**	**0.0**
JFY	**Yanaizu**	**0.57**	**88**	P		**Pb**	**11 03 36.1**	**+0.2**
JFY				*eS*		**Sg**	**11 03 43.6**	**-0.1**
JKT	**Katashina**	**0.65**	**161**	*eS*		**Sb**	**11 03 45.9**	**-0.1**
MAT	**Matsushiro**	**1.05**	**217**	P		**Pb**	**11 03 44.0**	**+0.1**
MAT				S		**Sb**	**11 03 57.4**	**0.0**

*NEIC **23** 11:03:30.7,45.15N×167.37E,h134km,After WEL.*
WEL 23 11:03:31.4±0.3,**45.18S×167.30E,h125km±2km,ML4.0**/13, **2C-4D,Error ellipse: s-maj=2.9km s-min=1.7km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DCZ	**Deep Cove**	**0.31**	**199**	⇑PN		P	11 03 48.5	-0.5
DCZ				SN		S	11 04 01.3	-1.3
MLZ	**Mavora Lakes**	**0.64**	**105**	P		P	11 03 50.5	-0.4
MLZ				S		S	11 04 05.0	-0.8
MLZ	**Mavora Lakes**	**0.64**	**105**	⇑PN		P	11 03 50.5	-0.4
MLZ				SN		S	11 04 05.0	-0.9
MSZ	**Milford Sound**	**0.68**	**41**	PN		P	11 03 51.1	-0.1
MSZ				SN		S	11 04 05.4	-0.9
WHZ	**Wether Hill Ro**	**0.84**	**148**	*eP*		P	11 03 52.4	-0.2
WHZ				S		S	11 04 08.3	-0.4
WHZ	**Wether Hill Ro**	**0.84**	**148**	PN		P	11 03 52.4	-0.2
WHZ				SN		S	11 04 08.3	-0.4
WKZ	**Wanaka**	**1.27**	**74**	P		P	11 03 56.5	-0.5
WKZ				S		S	11 04 14.8	-1.4
WKZ	**Wanaka**	**1.27**	**74**	⇓PN		P	11 03 56.5	-0.5
WKZ				SN		S	11 04 14.8	-1.5
JCZ	**Jackson Bay**	**1.52**	**44**	P		P	11 03 58.7	-1.1
JCZ	**Jackson Bay**	**1.52**	**44**	⇓PN		P	11 03 58.7	-1.2
TUZ	**Tuapeka**	**1.81**	**116**	P		P	11 04 02.4	-0.8
TUZ	**Tuapeka**	**1.81**	**116**	⇓PN		P	11 04 02.4	-0.8
TUZ				SN		S	11 04 24.1	-3.3
LBZ	**Lake Benmore**	**2.20**	**70**	P		P	11 04 05.7	-2.5
LBZ	**Lake Benmore**	**2.20**	**70**	PN		P	11 04 05.7	-2.5
LBZ				SN		S	11 04 31.7	-4.3
FOZ	**Fox Glacier**	**2.35**	**47**	PN		P	11 04 08.2	-2.0
FOZ				SN		S	11 04 37.0	-2.6
ODZ	**Otahua Downs**	**2.37**	**88**	*eP*		P	11 04 08.2	-2.2
ODZ	**Otahua Downs**	**2.37**	**88**	PN		P	11 04 08.2	-2.2
ODZ				SN		S	11 04 35.4	-4.5
RPZ	**Rata Peaks**	**3.06**	**63**	⇓PN		P	11 04 15.9	-3.6
RPZ				SN		S	11 04 50.5	-5.6
WVZ	**Waitaha Valley**	**3.25**	**51**	PN		P	11 04 17.8	-4.3
WVZ				SN		S	11 04 53.9	-6.6
MQZ	**McQueen's Vall**	**4.11**	**71**	PN		P	11 04 30.5	-3.0
MQZ				SN		S	11 05 12.9	-8.2
LTZ	**Lake Taylor**	**4.31**	**58**	PN		P	11 04 31.8	-4.5
DSZ	**Denniston Nort**	**4.75**	**45**	PN		P	11 04 38.0	-4.2
DSZ				SN		S	11 05 28.3	-8.2
KHZ	**Kahutara**	**5.29**	**61**	PN		P	11 04 46.0	-3.5
THZ	**Tophouse**	**5.32**	**52**	PN		P	11 04 45.3	-4.5
QRZ	**Quartz Range**	**5.80**	**43**	PN		P	11 04 52.5	-3.8

JMA 23 11:06:38.5,37.23N×138.89E,h10km±2km,M3.6,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JHK	**Hiroka**	**0.10**	**80**	P		Pg	11 06 40.9	-0.3
JHK				*eS*		Sg	11 06 43.5	+0.4
JIZZ	**Izumozaki**	**0.33**	**335**	P		Pg	11 06 45.8	+0.4
JIZZ				*eS*		Sg	11 06 50.8	+0.8
JKT	**Katashina**	**0.54**	**148**	P		Pg	11 06 49.2	-0.3
JKT				*eS*		Sg	11 06 56.8	-0.1
JFY	**Yanaizu**	**0.67**	**75**	P		Pb	11 06 51.1	-0.8
JFY				*eS*		Sb	11 07 00.0	-1.0
JNS	**Sasagawa**	**0.68**	**30**	P		Pb	11 06 50.7	-1.3
JNS				*eS*		Sb	11 06 59.5	-1.6
JGK	**Kuni**	**0.70**	**197**	P		Pb	11 06 52.1	-0.2

*JMA **23** 11:08:07.1±0.1,37.33N×138.90E,h7km±3km,M3.6*
JMA Felt II J1.
ISC 23 11:08:05.4±0.8,**37.29N**±0.04×**138.81E**±0.06,**h15**km±16km, **n6,**σ1⁕**05**/12,**1C,Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JHK	**Hiroka**	**0.17**	**103**	P		**Pb**	**11 08 09.9**	**+0.2**
JHK				S		**Sb**	**11 08 11.9**	**-0.6**
JIZZ	**Izumozaki**	**0.26**	**342**	P		**Pb**	**11 08 11.4**	**+0.1**
JIZZ				*eS*		**Sb**	**11 08 16.4**	**+1.3**
JKT	**Katashina**	**0.63**	**146**	P		**Pb**	**11 08 19.2**	**+1.7**
JKT				S		**Sb**	**11 08 27.6**	**+1.8**
JNS	**Sasagawa**	**0.67**	**37**	P		**Pb**	**11 08 18.2**	**0.0**
JNS				S		**Sb**	**11 08 26.1**	**-0.9**
JFY	**Yanaizu**	**0.72**	**80**	⇑P		**Pb**	**11 08 19.2**	**0.0**
JFY				S		**Sb**	**11 08 27.4**	**-1.2**
MAT	**Matsushiro**	**0.89**	**213**	P		**Pb**	**11 08 21.3**	**-0.7**
MAT				*eS*		**Sb**	**11 08 31.6**	**-1.8**

JMA 23 11:15:26.0,37.36N×138.95E,h11km±1km,M3.8,1C-3D Broadband fault plane solution: P waves. NP1:φ**244°,** δ**81°,**λ**174°. **NP2:**φ**336°,**δ**84°,**λ**9°. Principal axes:** T Plg11°, Azm200°; N Plg79°, Azm10°; P Plg2°, Azm110°; **Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JHK	**Hiroka**	**0.12**	**154**	⇓P		Pg	11 15 28.8	-0.4
JHK				S		Sg	11 15 31.0	-0.3
JIZZ	**Izumozaki**	**0.26**	**312**	⇓P		Pg	11 15 31.7	+0.2
JIZZ				S		Sg	11 15 36.6	+1.4
JNS	**Sasagawa**	**0.54**	**32**	⇑P		Pg	11 15 36.2	-0.8
JNS				S		Sg	11 15 43.9	-0.5
JFY	**Yanaizu**	**0.60**	**85**	P		Pb	11 15 37.5	-0.6
JFY				S		Sb	11 15 45.6	-0.7
JKT	**Katashina**	**0.64**	**158**	P		Pb	11 15 38.2	-0.5
JKT				S		Sb	11 15 46.7	-0.6
JSD	**Sado**	**0.87**	**321**	⇓P		Pb	11 15 41.4	-1.2
MAT	**Matsushiro**	**1.01**	**216**	P		Pb	11 15 44.3	-0.7
JAG	**Ashikaga**	**1.02**	**156**	P		Pb	11 15 45.3	+0.1

*BJI **23** 11:16:51.8,37.06N×139.43E,h32km,mb4.4*
*MOS **23** 11:16:55.5±1.1,37.10N×138.71E,h33km,mb4.4/9,Error ellipse: s

WRAB Tennant Creek 57.00 185 *e*P **P** **11 26 40.4 -1.1**
comp=Z,27nm,1.2s,mb5.2
WRA Warramunga Arr 57.01 185 P **P** **11 26 40.1 -1.4**
comp=Z,12nm,1.1s,mb4.8,baz=1.2,slow=7.5,SNR=35
WRA PcP PcP 11 27 35.9 -0.4
comp=Z,1.2nm,0.6s,baz=357,slow=4.4,SNR=4.7
WRA Warramunga Arr 57.01 185 P **P** **11 26 40.1 -1.4**
WRA 11 27 35.9
WRA pmax pmax
comp=Z,12nm,1.1s
WRA pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 60.74 185 P **P** **11 27 06.5 -0.8**
comp=Z,1.0nm,0.8s,mb4.0,baz=15,slow=13,SNR=10
YKA Yellowknife Ar 64.67 29 P **P** **11 27 31.5 -1.3**
comp=Z,1.4nm,0.7s,mb4.1,baz=305,slow=6.5,SNR=4.5
YKA Yellowknife Ar 64.67 29 P **P** **11 27 31.5 -1.3**
YKA pmax pmax
comp=Z,1.0nm,0.7s
JOF Joensuu 64.82 331 *e*p **P** **11 27 31.7 -2.0**
KAF Kangasniemi 67.19 332 *e*p **P** **11 27 47.4 -1.5**
FINES FINESS Array B 67.68 331 P **P** **11 27 50.5 -1.6**
comp=Z,4.2nm,0.9s,mb4.5,baz=90,slow=1.9,SNR=7.9
FINES FINESS Array B 67.68 331 P **P** **11 27 50.5 -1.5**
FINES pmax pmax
comp=Z,4.0nm,0.9s
DPW Davenport 71.05 44 *e*P **P** **11 28 13.8 +0.9**
NEW Newport 71.42 43 P **P** **11 28 16.3 +1.1**
baz=338,slow=11
AKASG Malin Array Be 72.88 321 P **P** **11 28 23.4 -0.3**
comp=Z,2.9nm,0.7s,mb4.3,baz=48,slow=6.3,SNR=12
AKASG Malin Array Be 72.88 321 P **P** **11 28 23.4 -0.3**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
NB2 NORSAR Subarra 73.20 336 P **P** **11 28 24.4 -1.0**
comp=Z,5.7nm,1.1s,mb4.4,baz=41,slow=6.2
NOA NORSAR Array B 73.20 336 P **P** **11 28 25.1 -0.3**
comp=Z,1.8nm,0.7s,mb4.1,baz=40,slow=5.9,SNR=7.1
NOA NORSAR Array B 73.20 336 P **P** **11 28 25.1 -0.3**
NOA pmax pmax
comp=Z,2.0nm,0.7s
NVAR Mina Array Bea 76.51 52 P **P** **11 28 46.9 +2.0**
comp=Z,2.2nm,0.8s,mb4.1,baz=303,slow=3.6,SNR=11
BRTR Keskin Array B 77.17 310 P **P** **11 28 49.2 +0.7**
comp=Z,2.7nm,0.9s,mb4.2,baz=90,slow=2.5,SNR=7.9
BRTR Keskin Array B 77.17 310 P **P** **11 28 49.2 +0.7**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
TPH Tonopah 77.41 52 *e*P **P** **11 28 51.8 +1.9**
comp=Z,3.6nm,1.0s,mb4.3
MLR Muntele Rosu 77.90 318 P **P** **11 28 52.5 +0.2**
comp=Z,1.1nm,0.5s,mb4.1,baz=90,slow=12,SNR=2.7
MLR Muntele Rosu 77.90 318 P **P** **11 28 52.5 +0.2**
MLR pmax pmax
comp=Z,1.0nm,0.5s
PDAR Pinedale Array 78.99 44 P **P** **11 29 00.1 +1.6**
comp=Z,2.9nm,1.1s,mb4.1,baz=309,slow=3.0,SNR=7.8
KHC Kasperske Hory 81.29 327 *e*P **P** **11 29 11.0 +0.5**
GERES GERESS Array B 81.45 327 P **P** **11 29 11.7 +0.3**
comp=Z,2.0nm,1.0s,mb4.0,baz=27,slow=3.0,SNR=5.6
GERES GERESS Array B 81.45 327 P **P** **11 29 11.7 +0.3**
GERES pmax pmax
comp=Z,2.0nm,1.0s
PV10 Paradox Valley 82.18 47 *e*P **P** **11 29 17.9 +2.5**
VNA2 Neumayer--Watz 141.90 197 ⇑*i* PKPdf 11 36 32.1 +3.7
VNA2 Neumayer--Watz 141.90 197 ⇓*i*P PKPdf 11 36 22.7 -5.7
VNA2 ⇑*i*P 11 36 32.1
VNA3 Neumayer Olymp 142.19 196 ⇑*i* PKPdf 11 36 32.2 +3.3
VNA3 Neumayer Olymp 142.19 196 P PKPdf 11 36 22.8 -6.1
VNA3 ⇑*i*P 11 36 32.2
VNA1 Neumayer--Stat 142.30 197 ⇑*i* PKPdf 11 36 32.2 +3.1
VNA1 Neumayer--Stat 142.30 197 ⇑*i*P PKPdf 11 36 22.7 -6.4
VNA1 ⇑*i*P 11 36 32.2

MOS ***23*** *11:20:44.4±1.2,37.31N×138.82E,h33km,mb4.3/12,Error ellipse: s-maj=37.4km s-min=14.0km az=91.4*
NEIC ***23*** *11:20:44.2±0.3,37.31N×138.89E,h10km,mb4.2/4,Error ellipse: s-maj=10.6km s-min=5.7km az=123.0*
JMA ***23*** *11:20:44.3,37.36N×138.91E,h16km±2km,M4.1*
Broadband fault plane solution: P waves. NP1:φ=67°,δ=34°,λ=131°. NP2:φ=201°,δ=65°,λ=66°. Principal axes: T Plg62°,Azm73°; N Plg22°, Azm211°; P Plg17°, Azm308°;
JMA Felt III J1.
IDC ***23*** *11:20:48.6±2.6,37.31N×138.79E,h48km±25km,mb3.8/16,mb1 4.0/18,mb1mx3.9/25,ML3.7/2 Error ellipse: s-maj=20.5km s-min=15.2km az=89.0*
ISC 23 11:20:43.9±0.4,**37.36N**±0.03×**138.90E**±0.04,**h21**km±3km,
n54,σ0=**95**/59,**mb4.0**/20,**1C-2D**,**Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.15**	**138**	⇓P	**Pb**	**11 20 47.8**	**-0.7**
JHK				*e*S	**Sb**	**11 20 50.3**	**-1.3**
JIZZ	**Izumozaki**	**0.23**	**320**	⇓P	**Pb**	**11 20 49.7**	**+0.2**
JIZZ				*e*S	**Sb**	**11 20 54.4**	**+1.0**
JNS	**Sasagawa**	**0.57**	**36**	⇑P	**Pb**	**11 20 54.8**	**-0.3**
JNS				*e*S	**Sb**	**11 21 02.4**	**-0.3**
JFY	**Yanaizu**	**0.65**	**85**	P	**Pb**	**11 20 56.3**	**-0.1**
JFY				*e*S	**Sb**	**11 21 04.9**	**0.0**
JKT	**Katashina**	**0.65**	**154**	P	**Pb**	**11 20 56.7**	**+0.2**
JKT				*e*S	**Sb**	**11 21 05.9**	**+0.8**
JGK	**Kuni**	**0.82**	**195**	P	**Pb**	**11 20 59.5**	**+0.2**
MAJO	**Matsushiro**	**0.98**	**214**	*e*P	**Pb**	**11 21 02.2**	**+0.1**
MAT	**Matsushiro**	**0.98**	**214**	P	**Pb**	**11 21 02.2**	**+0.1**
MAT				S	**Sb**	**11 21 15.3**	**+0.7**
MAT	**Matsushiro**	**0.98**	**214**	*e*P	**Pb**	**11 21 02.0**	**-0.1**
MAT				*e*S	**Sb**	**11 21 15.0**	**+0.4**
JHJ	**Hachijo jima 2**	**4.29**	**170**	P	**Pn**	**11 21 50.6**	**+0.9**
	38nm,0.3s,baz=239,slow=22,SNR=5.2						
ASAJ	**Asahikawa**	**7.31**	**21**	P	**Pn**	**11 22 33.5**	**+1.2**
	0.9nm,0.3s,baz=305,slow=20,SNR=4.6						
ASAJ	**Asahikawa**	**7.31**	**21**	P	**Pn**	**11 22 33.5**	**+1.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ENH	**Enshi**	**25.37**	**263**	*e*P	**P**	**11 26 11.1**	**-0.1**
SONM	**Songino Array**	**25.94**	**304**	P	**P**	**11 26 17.6**	**+1.3**
	comp=Z,0.5nm,0.4s,mb3.4,baz=90,slow=7.2,SNR=2.8						
TIXI	**Tiksi**	**34.75**	**354**	*e*P	**P**	**11 27 30.8**	**-3.5**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
ZAL	**Zalesovo**	**40.22**	**312**	PcP	PcP	11 30 22.2	-2.6
	comp=Z,0.6nm,0.3s,baz=215,slow=2.4,SNR=4.5						
KURK	**Kurchatov**	**44.15**	**308**	*e*P	**P**	**11 28 51.6**	**-0.9**
BVAR	**Borovoye Array**	**48.86**	**312**	PcP	PcP	11 30 52.0	-2.4
	comp=Z,2.1nm,0.8s,baz=72,slow=4.7,SNR=5.1						
ILAR	**Eielson Array**	**50.30**	**32**	P	**P**	**11 29 39.9**	**-0.6**
	comp=Z,1.1nm,1.0s,mb3.8,baz=270,slow=5.5,SNR=7.7						
ILAR				PcP	PcP	11 30 58.0	-1.4
	comp=Z,0.4nm,0.7s,baz=280,slow=4.7,SNR=4.1						
ILAR	**Eielson Array**	**50.30**	**32**	P	**P**	**11 29 39.9**	**-0.6**
ILAR						11 30 58.1	
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
INK	**Inuvik**	**55.01**	**27**	P	**P**	**11 30 15.2**	**-0.4**
	comp=Z,1.3nm,0.7s,mb4.1,baz=261,slow=3.8,SNR=4.1						
INK	**Inuvik**	**55.01**	**27**	P	**P**	**11 30 15.2**	**-0.4**
INK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
INK	**Inuvik**	**55.01**	**27**	*e*P	**P**	**11 30 15.4**	**-0.3**
	comp=Z,1.1nm,0.6s,mb4.1						
WRA	**Warramunga Arr**	**57.15**	**185**	P	**P**	**11 30 29.6**	**-2.1**
	comp=Z,1.9nm,0.7s,mb4.2,baz=0.2,slow=7.6,SNR=41						
WRA	**Warramunga Arr**	**57.15**	**185**	P	**P**	**11 30 29.6**	**-2.0**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ASAR	**Alice Springs**	**60.88**	**185**	P	**P**	**11 30 56.3**	**-1.1**
	comp=Z,0.4nm,0.5s,mb3.8,baz=357,slow=5.0,SNR=8.4						
ARCES	**ARCESS Array B**	**62.98**	**339**	P	**P**	**11 31 10.0**	**-0.8**
	comp=Z,7.1nm,1.0s,mb4.8,baz=52,slow=7.7,SNR=7.5						
ARCES	**ARCESS Array B**	**62.98**	**339**	P	**P**	**11 31 10.0**	**-0.8**
ARCES				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KAF	**Kangasniemi**	**67.09**	**332**	*e*p	**P**	**11 31 35.3**	**-2.1**
	comp=Z,1.7nm,0.6s,mb4.2						
KAF	**Kangasniemi**	**67.09**	**332**	*e*P	**P**	**11 31 35.3**	**-2.1**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
FINES	**FINESS Array B**	**67.58**	**331**	P	**P**	**11 31 39.4**	**-1.1**
	comp=Z,2.9nm,0.8s,mb4.4,baz=90,slow=9.5,SNR=5.9						
FINES	**FINESS Array B**	**67.58**	**331**	P	**P**	**11 31 39.4**	**-1.1**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AKASG	**Malin Array Be**	**72.80**	**321**	P	**P**	**11 32 10.7**	**-1.6**
	comp=Z,1.0nm,0.5s,mb4.0,baz=49,slow=6.2,SNR=6.7						
AKASG	**Malin Array Be**	**72.80**	**321**	P	**P**	**11 32 10.7**	**-1.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
HFS	**Hagfors**	**72.95**	**335**	P	**P**	**11 32 12.2**	**-0.8**
	comp=Z,2.4nm,0.7s,mb4.2,baz=56,slow=5.3,SNR=6.0						
HFS	**Hagfors**	**72.95**	**335**	P	**P**	**11 32 12.2**	**-0.9**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NB2	**NORSAR Subarra**	**73.10**	**336**	P	**P**	**11 32 13.0**	**-0.9**
	comp=Z,2.7nm,0.7s,mb4.3,baz=40,slow=6.2						
NOA	**NORSAR Array B**	**73.10**	**336**	P	**P**	**11 32 13.3**	**-0.6**
	comp=Z,2.5nm,0.6s,mb4.3,baz=40,slow=5.9,SNR=14						
NOA	**NORSAR Array B**	**73.10**	**336**	P	**P**	**11 32 13.3**	**-0.6**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
NOA	**NORSAR Array B**	**73.10**	**336**	P	**P**	**11 32 13.3**	**-0.6**
HLID	**Hailey**	**75.61**	**46**	*e*P	**P**	**11 32 29.9**	**+1.1**
	comp=Z,0.5nm,0.5s,mb3.7						
NVAR	**Mina Array Bea**	**76.39**	**52**	P	**P**	**11 32 34.7**	**+1.4**
	comp=Z,1.4nm,0.7s,mb4.0,baz=305,slow=4.1,SNR=9.6						
MNV	**Mina**	**76.48**	**52**	*e*P	**P**	**11 32 34.8**	**+1.0**
	comp=Z,2.9nm,1.1s,mb4.1						
BRTR	**Keskin Array B**	**77.12**	**310**	P	**P**	**11 32 38.2**	**+0.9**
	comp=Z,0.8nm,0.5s,mb4.0,baz=68,slow=7.8,SNR=3.3						
BRTR	**Keskin Array B**	**77.12**	**310**	P	**P**	**11 32 38.2**	**+0.9**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
PDAR	**Pinedale Array**	**78.86**	**44**	P	**P**	**11 32 47.5**	**+0.7**
	comp=Z,1.7nm,0.6s,mb4.2,baz=307,slow=3.6,SNR=14						
CLL	**Collm**	**79.80**	**329**	P	**P**	**11 32 52.0**	**+0.3**
GERES	**GERESS Array B**	**81.36**	**327**	P	**P**	**11 33 00.4**	**+0.4**
	comp=Z,0.7nm,0.6s,mb3.8,baz=34,slow=4.8,SNR=5.2						
GERES	**GERESS Array B**	**81.36**	**327**	P	**P**	**11 33 00.4**	**+0.4**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PV10	**Paradox Valley**	**82.05**	**47**	*e*P	**P**	**11 33 05.5**	**+1.7**
EKA	**Eskdalemuir Ar**	**82.14**	**339**	P	**P**	**11 33 03.3**	**-0.6**
	comp=Z,1.0nm,0.8s,mb3.8,baz=37,slow=4.2,SNR=3.6						
EKA	**Eskdalemuir Ar**	**82.14**	**339**	P	**P**	**11 33 03.3**	**-0.6**
EKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
PV01	**Paradox Valley**	**82.49**	**47**	P	**P**	**11 33 06.7**	**+0.6**
TXAR	**Lajitas Array**	**91.50**	**51**	P	**P**	**11 33 51.2**	**+1.1**
	comp=Z,0.4nm,0.8s,mb3.8,baz=282,slow=3.5,SNR=6.7						

JMA 23 11:27:32.7,37.29N×138.84E,h14km±2km,M3.5,1D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.15**	**106**	⇓P	Pg	11 27 36.2	-0.4
JHK				S	Sg	11 27 39.0	-0.1
JIZZ	**Izumozaki**	**0.26**	**337**	P	Pg	11 27 38.5	0.0
JIZZ				S	Sg	11 27 43.6	+1.2
JKT	**Katashina**	**0.62**	**148**	P	Pb	11 27 44.6	-0.1
JKT				S	Sb	11 27 53.1	+0.2
JNS	**Sasagawa**	**0.65**	**36**	P	Pb	11 27 44.8	-0.5
JFY	**Yanaizu**	**0.70**	**80**	S	Sb	11 27 55.2	-0.1

JMA ***23*** *11:34:03.6,37.23N×138.83E,h11km±2km,M3.6*
JMA Felt IV J1.
ISC 23 11:34:03.9±1.3,**37.23N**±0.05×**138.83E**±0.09,**h15**km±14km,
n6,σ0=**33**/10,**4D**,**Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.15**	**83**	⇓P	**Pb**	**11 34 07.0**	**-0.9**
JHK				S	**Sb**	**11 34 09.8**	**-0.7**
JIZZ	**Izumozaki**	**0.32**	**343**	⇓P	**Pb**	**11 34 10.3**	**-0.4**
JIZZ				S	**Sg**	**11 34 15.9**	**+0.6**
JKT	**Katashina**	**0.57**	**144**	P	**Pb**	**11 34 14.5**	**-0.6**
JGK	**Kuni**	**0.68**	**193**	P	**Pb**	**11 34 16.7**	**-0.3**
JNS	**Sasagawa**	**0.70**	**33**	⇓P	**Pb**	**11 34 16.5**	**-0.8**
JNS				S	**Sb**	**11 34 25.8**	**-0.7**
JFY	**Yanaizu**	**0.72**	**76**	⇓P	**Pb**	**11 34 17.3**	**-0.3**
JFY				S	**Sb**	**11 34 26.7**	**-0.3**

JMA 23 11:46:20.5,37.29N×138.94E,h12km±1km,M3.6,1C-1D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.07**	**124**	⇓P	Pg	11 46 23.0	-0.1
JHK				*e*S	Sg	11 46 24.9	0.0
JIZZ	**Izumozaki**	**0.30**	**323**	P	Pg	11 46 27.0	+0.1
JIZZ				*e*S	Sg	11 46 32.3	+1.1
JKT	**Katashina**	**0.58**	**155**	P	Pb	11 46 31.6	-0.5
JKT				*e*S	Sb	11 46 39.6	-0.3
JNS	**Sasagawa**	**0.61**	**29**	⇑P	Pb	11 46 31.8	-0.7
JNS				*e*S	Sb	11 46 39.8	-0.9
JFY	**Yanaizu**	**0.62**	**79**	*e*S	Sb	11 46 40.7	-0.5
MAT	**Matsushiro**	**0.95**	**218**	*e*S	Sb	11 46 50.5	-0.2
JAG	**Ashikaga**	**0.96**	**154**	*e*S	Sb	11 46 51.3	+0.4

JMA ***23*** *11:53:44.3,37.34N×138.91E,h16km±1km,M3.5*
Broadband fault plane solution: P waves. NP1:φ=209°,δ=39°,λ=55°. NP2:φ=70°,δ=59°,λ=115°. Principal axes: T Plg66°, Azm27°; N Plg21°, Azm237°; P Plg11°, Azm143°;
JMA Felt II J1.
ISC 23 11:53:44.3±0.6,**37.34N**±0.03×**138.92E**±0.05,**h16**km,**n8**,
σ0=**48**/14,**1C-5D**,**Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.12**	**140**	⇓P	**Pb**	**11 53 47.6**	**-0.4**
JHK				S	**Sb**	**11 53 49.9**	**-0.5**
JIZZ	**Izumozaki**	**0.26**	**319**	⇓P	**Pb**	**11 53 50.2**	**+0.1**
JIZZ				S	**Sb**	**11 53 55.0**	**+0.9**
JNS	**Sasagawa**	**0.57**	**33**	⇑P	**Pb**	**11 53 55.1**	**-0.4**
JNS				S	**Sb**	**11 54 03.1**	**0.0**
JFY	**Yanaizu**	**0.63**	**83**	⇓P	**Pb**	**11 53 56.6**	**+0.2**
JFY				S	**Sb**	**11 54 05.1**	**+0.4**
JKT	**Katashina**	**0.63**	**155**	⇓P	**Pb**	**11 53 56.5**	**+0.1**
JKT				S	**Sb**	**11 54 05.1**	**+0.4**
JGK	**Kuni**	**0.81**	**196**	P	**Pb**	**11 53 59.8**	**+0.3**
JSD	**Sado**	**0.87**	**323**	⇓P	**Pb**	**11 53 59.6**	**-1.0**
MAT	**Matsushiro**	**0.98**	**216**	P	**Pb**	**11 54 02.2**	**-0.2**
MAT				S	**Sb**	**11 54 14.9**	**0.0**

BJI ***23*** *11:55:14.3,37.20N×138.70E,h10km,mb4.2,Ms4.5,Msz4.2*
JMA ***23*** *11:55:15.8,37.21N×138.80E,h10km±3km,M4.5*
JMA Felt IV J1.
MOS ***23*** *11:55:16.6±1.1,37.08N×138.78E,h33km,mb4.2/8,Error ellipse: s-maj=32.3km s-min=15.7km az=95.3*
NEIC ***23*** *11:55:16.3±0.3,37.18N×138.73E,h10km,mb4.2/6,Error ellipse: s-maj=8.1km s-min=5.9km az=127.0*
IDC ***23*** *11:55:20.3±2.8,37.15N×138.57E,h44km±27km,mb3.7/14,mb1 3.9/17,mb1mx3.9/25,ML3.7/2,Error ellipse: s-maj=21.5km s-min=16.0km az=86.0*
ISC 23 11:55:15.8±0.4,**37.22N**±0.03×**138.79E**±0.04,**h20**km±3km,
n54,σ1=**07**/58,**mb4.0**/20,**2C-4D**,**Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.18**	**79**	⇓P	**Pb**	**11 55 19.6**	**-1.1**
JHK				S	**Sb**	**11 55 23.0**	**-1.1**
JIZZ	**Izumozaki**	**0.32**	**349**	⇑P	**Pb**	**11 55 22.8**	**0.0**
JIZZ				S	**Sb**	**11 55 28.8**	**+1.2**
JKT	**Katashina**	**0.58**	**140**	⇓P	**Pb**	**11 55 27.0**	**-0.1**
JKT				S	**Sb**	**11 55 35.6**	**+0.8**
JGK	**Kuni**	**0.66**	**191**	⇑P	**Pb**	**11 55 28.9**	**+0.4**
JNS	**Sasagawa**	**0.73**	**35**	P	**Pb**	**11 55 29.3**	**-0.4**
JNS				S	**Sb**	**11 55 39.2**	**-0.1**
JFY	**Yanaizu**	**0.75**	**75**	P	**Pb**	**11 55 29.8**	**-0.3**
JFY				S	**Sb**	**11 55 40.0**	**+0.1**
MAJO	**Matsushiro**	**0.82**	**215**	*e*P	**Pb**	**11 55 31.1**	**-0.1**
MAT	**Matsushiro**	**0.82**	**215**	P	**Pb**	**11 55 31.0**	**-0.1**
MAT				S	**Sb**	**11 55 42.2**	**+0.5**
MAT	**Matsushiro**	**0.82**	**215**	*e*P	**Pb**	**11 55 31.0**	**-0.1**
MAT				*e*S	**Sb**	**11 55 42.0**	**+0.3**
JHJ	**Hachijo jima 2**	**4.17**	**168**	P	**Pn**	**11 56 21.8**	**+1.9**
	21nm,0.3s,baz=51,slow=23,SNR=2.7						

ASAJ Asahikawa 7.48 22 P **Pn** **11 57 07.9 +1.4**
0.9nm,0.3s,baz=158,slow=11,SNR=5.1
ASAJ Asahikawa 7.48 22 P **Pn** **11 57 07.9 +1.4**
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
BJI Beijing 17.89 286 P **P** **11 59 26.4 +1.4**
BJI AMB AMB
comp=Z,15nm,1.2s
BJI Beijing 17.89 286 P **P** **11 59 26.4 +1.4**
comp=Z,15nm,1.2s
BJT Baijiatuau 17.89 286 *e*P **P** **11 59 26.2 +1.1**
comp=Z,6.5nm,0.5s
HIA Hailar 18.32 317 P **P** **11 59 30.3 0.0**
HHC Hu-ho-hao-te 21.43 288 *e*P **P** **12 00 00.8 -3.8**
HHC AMB AMB
comp=Z,17nm,1.1s,mb4.3
ENH Enshi 25.27 263 *e*P **P** **12 00 41.3 -0.9**
comp=Z,21nm,1.1s,mb4.6
SONM Songino Array 25.95 304 P **P** **12 00 47.7 -0.8**
comp=Z,4.1nm,1.1s,mb3.9,baz=98,slow=8.7,SNR=9.5
TIXI Tiksi 34.88 355 *e*P **P** **12 02 11.9 +4.4**
TIXI pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
ZAL Zalesovo 40.26 312 P **P** **12 02 54.5 +1.8**
comp=Z,0.5nm,0.3s,mb3.7,baz=93,slow=12,SNR=3.8
ZAL Zalesovo 40.26 312 P **P** **12 02 54.5 +1.8**
ZAL pmax pmax
comp=Z,1.0nm,0.3s
KURK Kurchatov 44.17 308 *e*P **P** **12 03 24.0 -0.7**
comp=Z,5.8nm,1.1s,mb4.2
BVAR Borovoye Array 48.90 312 P **P** **12 04 01.2 -0.7**
comp=Z,1.2nm,0.8s,mb4.0,baz=63,slow=6.6,SNR=5.2
BRVK Borovoye 48.95 312 *e*P **P** **12 04 01.8 -0.6**
ILAR Eielson Array 50.46 32 P **P** **12 04 13.6 -0.2**
comp=Z,0.9nm,1.0s,mb3.8,baz=275,slow=7.3,SNR=7.6
ILAR Eielson Array 50.46 32 P **P** **12 04 13.6 -0.2**
ILAR pmax pmax
comp=Z,1.0nm,1.0s
SVE Sverdlovsk 53.62 318 ⇓*e*P **P** **12 04 36.0 -1.6**
ARU Arti 54.83 318 *e*P **P** **12 04 45.7 -0.8**
INK Inuvik 55.18 27 P **P** **12 04 49.4 +0.5**
comp=Z,6.2nm,1.4s,mb4.5,baz=290,slow=4.8,SNR=3.2
INK Inuvik 55.18 27 P **P** **12 04 49.4 +0.5**
INK pmax pmax
comp=Z,6.0nm,1.4s
INK Inuvik 55.18 27 *e*P **P** **12 04 48.7 -0.2**
comp=Z,3.9nm,1.1s,mb4.3
WRA Warramunga Arr 57.00 185 P **P** **12 05 00.7 -2.0**
comp=Z,3.1nm,0.8s,mb4.4,baz=1.3,slow=7.6,SNR=20
WRA Warramunga Arr 57.00 185 P **P** **12 05 00.7 -1.9**
WRA pmax pmax
comp=Z,3.0nm,0.8s
ASAR Alice Springs 60.73 185 P **P** **12 05 26.4 -2.0**
comp=Z,2.3nm,1.2s,mb4.2,baz=13,slow=4.6,SNR=6.8
FINES FINESS Array B 67.67 331 P **P** **12 06 11.7 -1.4**
comp=Z,2.5nm,0.9s,mb4.3,baz=45,slow=5.9,SNR=4.7
FINES FINESS Array B 67.67 331 P **P** **12 06 11.7 -1.4**
FINES pmax pmax
comp=Z,3.0nm,0.9s
DPW Davenport 71.08 44 *e*P **P** **12 06 33.8 -0.5**
AKASG Malin Array Be 72.86 321 P **P** **12 06 43.5 -1.3**
comp=Z,0.4nm,0.3s,mb3.8,baz=45,slow=5.9,SNR=8.3
NB2 NORSAR Subarra 73.19 336 P **P** **12 06 40.2 -6.3**
comp=Z,3.5nm,1.0s,mb4.2,baz=43,slow=5.8
NOA NORSAR Array B 73.19 336 P **P** **12 06 45.8 -0.7**
comp=Z,1.9nm,0.9s,mb4.0,baz=41,slow=6.0,SNR=4.9
NOA NORSAR Array B 73.19 336 P **P** **12 06 45.8 -0.7**
NOA pmax pmax
comp=Z,2.0nm,0.9s
HRY Holter Researc 75.25 42 *e*P **P** **12 06 57.3 -1.3**
NVAR Mina Array Bea 76.54 52 P **P** **12 07 07.4 +1.2**
comp=Z,1.4nm,0.9s,mb3.9,baz=287,slow=4.1,SNR=7.6
BRTR Keskin Array B 77.15 310 P **P** **12 07 09.9 +0.4**
comp=Z,1.3nm,0.9s,mb3.9,baz=90,slow=2.5,SNR=6.5
BRTR Keskin Array B 77.15 310 P **P** **12 07 10.0 +0.5**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
DUG Dugway 78.81 48 *e*P **P** **12 07 19.9 +1.3**
comp=Z,1.8nm,1.0s,mb4.0
PDAR Pinedale Array 79.02 44 P **P** **12 07 20.9 +1.2**
comp=Z,0.5nm,0.7s,mb3.5,baz=315,slow=4.2,SNR=6.5
GERES GERESS Array B 81.44 327 P **P** **12 07 32.8 +0.4**
comp=Z,0.2nm,0.3s,mb3.5,baz=270,slow=1.3,SNR=3.6
PV10 Paradox Valley 82.21 47 *e*P **P** **12 07 38.7 +2.0**
TXAR Lajitas Array 91.65 51 P **P** **12 08 25.4 +2.5**
comp=Z,0.1nm,0.6s,mb3.3,baz=315,slow=2.6,SNR=3.3
VNA2 Neumayer--Watz 141.89 197 ⇓*i* PKPdf 12 14 43.6 -5.6
VNA3 Neumayer Olymp 142.18 196 PKPdf 12 14 44.5 -5.2
SAML Samuel 145.54 41 *e*PKPdf PKPdf 12 14 54.7 -2.5

JMA ***23*** *11:56:12.0,37.23N×138.83E,h11km±2km,M3.6*
JMA Felt IV J1.
ISC 23 11:56:12.0±0.8,**37.22N**±0.04×**138.87E**±0.09,**h15**km±14km,
n6,σ0=**36**/10,**1D**,**Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.12**	**77**	P	**Pb**	**11 56 15.4**	**-0.1**
JHK				S	**Sb**	**11 56 18.1**	**+0.4**
JIZZ	**Izumozaki**	**0.33**	**338**	P	**Pb**	**11 56 18.9**	**-0.2**
JIZZ				S	**Sb**	**11 56 24.4**	**+0.5**
JKT	**Katashina**	**0.55**	**146**	⇓P	**Pb**	**11 56 22.9**	**+0.2**
JGK	**Kuni**	**0.68**	**196**	S	**Sb**	**11 56 34.7**	**+0.7**
JNS	**Sasagawa**	**0.69**	**31**	P	**Pb**	**11 56 25.1**	**-0.2**
JNS				S	**Sb**	**11 56 34.2**	**-0.1**
MAT	**Matsushiro**	**0.86**	**218**	P	**Pb**	**11 56 27.6**	**-0.5**
MAT				S	**Sb**	**11 56 38.7**	**-0.5**

JMA ***23*** *11:56:57.1±0.1,37.24N×138.79E,h19km±3km,M3.5*
JMA Felt I J1.
ISC 23 11:56:57.5±0.6,**37.25N**±0.03×**138.81E**±0.05,**h19**km,**n6**,
σ0=**48**/11,**Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIZZ	**Izumozaki**	**0.29**	**344**	S	**Sb**	**11 57 09.5**	**+1.2**
JKT	**Katashina**	**0.60**	**144**	P	**Pb**	**11 57 08.6**	**-0.5**
JKT				S	**Sb**	**11 57 17.4**	**+0.4**
JNS	**Sasagawa**	**0.70**	**35**	P	**Pb**	**11 57 10.4**	**-0.4**
JNS				S	**Sb**	**11 57 19.9**	**0.0**
JFY	**Yanaizu**	**0.73**	**77**

FITZ **Fitzroy Crossi** 19.97 223 P P 12 07 07.8 +1.2
33nm,1.0s,baz=29,slow=8.9,SNR=29
FITZ S S 12 10 41.7 -2.0
7.9nm,0.7s,baz=182,slow=15,SNR=3.3
FITZ Lg 12 13 16.9
18nm,0.8s,baz=176,slow=19,SNR=2.1
ASAR **Alice Springs** 20.65 196 P P 12 07 14.1 +0.4
85nm,0.6s,baz=28,slow=8.0,SNR=216
ASAR S S 12 11 05.5 +8.5
4.4nm,0.8s,baz=5.9,slow=27,SNR=3.7
ASAR Lg 12 13 39.5
15nm,1.1s,baz=13,slow=28,SNR=4.1
ASAR LR LR 12 15 43.8
comp=Z,745nm,18.0s,MS4.1,baz=97,slow=38
MBWA **Marble Bar** 26.16 227 *e*P P 12 08 08.6 +1.2
12nm,0.9s,mb4.4
STKA **Stephens Creek** 28.05 177 P P 12 08 25.9 +1.3
2.4nm,0.9s,mb3.8,baz=24,slow=12,SNR=1.7
CMAR **Chiang Mai Arr** 45.95 300 P P 12 10 55.4 -0.7
2.5nm,1.0s,mb4.1,baz=119,slow=6.3,SNR=16
GUN **Gumba** 60.72 305 *e*P P 12 12 46.0 +1.2
PKI **Pulchoki** 60.98 304 *e*P P 12 12 46.5 -0.1
KKN **Kakani** 61.17 304 *e*P P 12 12 48.2 +0.3
DMN **Daman** 61.25 304 *e*P P 12 12 48.8 +0.4
8.5nm,0.6s,mb5.1
GKN **Gorkha** 61.78 304 *e*P P 12 12 52.0 +0.1
KOLN **Koldanda** 62.55 304 *e*P P 12 12 57.2 +0.1
24nm,1.2s,mb5.2
VNDA **Vanda** 74.68 175 P P 12 14 11.0 -0.3
2.3nm,0.9s,mb4.1,baz=320,slow=6.0,SNR=16
VNDA **Vanda** 74.68 175 P P 12 14 11.0 -0.3
SBA **Scott Base** 75.43 174 *e*P P 12 14 16.5 +0.8
3.8nm,1.0s,mb4.3
BVAR **Borovoye Array** 80.81 325 P P 12 14 44.6 -1.1
0.8nm,0.5s,mb4.0,baz=112,slow=6.8,SNR=6.5
MAW **Mawson** 81.63 202 P P 12 14 49.3 -0.4
2.9nm,0.8s,mb4.3,baz=77,slow=9.3,SNR=4.0
QSPA **South Pole Qui** 86.23 180⇑*i*P P 12 15 13.7 +1.1
17nm,0.5s,mb5.5
ILAR **Eielson Array** 86.27 24 P P 12 15 10.8 -2.2
1.1nm,0.8s,mb4.2,baz=262,slow=4.4,SNR=16
KIC **Kosan Boka** 144.67 276 *e*PKP1 PKPbc 12 22 08.3 +0.3
51nm,0.9s
DBIC **Dimbokro** 144.77 276 PKP PKPdf 12 22 09.5 +1.2
3.8nm,0.6s,baz=245,slow=3.3,SNR=4.3
TIC **Toumodi** 144.93 276 *e*PKP1 PKPbc 12 22 09.5 +0.7
50nm,0.9s
LIC **Lamto** 144.96 275 *e*PKP1 PKPbc 12 22 08.3 -0.5
42nm,1.2s
CPUP **Villa Florida** 145.79 152 PKPbc PKPbc 12 22 12.3 +1.8
3.3nm,0.9s,baz=210,slow=8.1,SNR=2.8
LPAZ **La Paz** 145.91 126 PKPbc PKPbc 12 22 14.7 +3.6
1.7nm,0.3s,baz=275,slow=0.9,SNR=4.1

DJA 23 12:13:28.5±1.6, 9.45S×112.98E, h15km, MD5.3/3, ML4.1/3, 3C-1D, Error ellipse: s-maj=44.5km s-min=28.3km az=92.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.49**	**50**	⇑*e*P*n*	Pn	12 13 51.6	-3.4
	65nm,0.2s						
KELI	**Kelakatan**	**1.93**	**51**	⇑*e*P*n*	Pn	12 13 59.5	-1.7
	154nm,0.2s						
KELI				⇓*e*S*n*	Sn	12 14 20.6	-4.6
RATI	**Rata**	**2.62**	**74**	*e*P*n*	Pn	12 14 07.7	-3.4
	205nm,0.2s						
KEDI	**Kedomdong**	**3.24**	**73**	⇑*e*P*n*	Pn	12 14 17.6	-2.2

IDC 23 12:18:07.3±32.0, 16.54S×174.66W, h230km±246km, mb2.9/3, mb1 3.2/3, mb1mx3.0/14, Error ellipse: s-maj=533.0km s-min=63.6km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.42**	**258**	P	P	12 26 26.3	-2.1
	0.3nm,0.9s,baz=100,slow=5.1,SNR=2.6						
ASAR	**Alice Springs**	**48.62**	**253**	P	P	12 26 28.5	-1.4
	0.8nm,0.6s,baz=86,slow=8.0,SNR=4.7						
ILAR	**Eielson Array**	**83.79**	**12**	P	P	12 30 10.3	-1.2
	0.4nm,1.1s,baz=213,slow=7.1,SNR=4.0						
BRTR	**Keskin Array B**	**146.25**	**319**	PKPbc	PKPbc	12 37 20.4	-0.4
	0.6nm,0.6s,baz=180,slow=3.7,SNR=3.6						

*IDC **23** 12:20:58.1±5.4, 37.81N×137.17E, mb3.6/4, mb1 3.9/4, mb1mx3.6/21, Error ellipse: s-maj=332.0km s-min=27.9km az=113.0*
*JMA **23** 12:21:02.1, 37.29N×138.89E, h15km±2km, M3.6*
JMA Felt III J1.

ISC 23 12:21:02.1±1.1, 37.30N±0.03×138.88E±0.05, h15km±8km, n13, σ0°64/21, mb3.6/4, 2C-4D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIZZ	**Izumozaki**	**0.27**	**329**	⇑P	Pg	12 21 08.4	+0.4
JKT	**Katashina**	**0.61**	**151**	⇓P	Pb	12 21 13.6	-0.3
JKT				*e*S	Sb	12 21 21.6	-0.4
JNS	**Sasagawa**	**0.62**	**34**	⇓P	Pb	12 21 13.8	-0.3
JNS				*e*S	Sb	12 21 22.3	0.0
JFY	**Yanaizu**	**0.67**	**81**	⇓P	Pb	12 21 14.5	-0.3
JFY				*e*S	Sb	12 21 23.5	-0.1
JGK	**Kuni**	**0.76**	**195**	P	Pb	12 21 16.6	+0.1
JGK				*e*S	Sb	12 21 26.7	+0.3
JSD	**Sado**	**0.88**	**326**	⇑P	Pb	12 21 18.0	-0.6
JSD				*e*S	Sb	12 21 29.8	-0.1
MAT	**Matsushiro**	**0.93**	**216**	P	Pb	12 21 19.2	-0.2
MAT				S	Sb	12 21 31.3	0.0
MAT	**Matsushiro**	**0.93**	**216**	P	Pb	12 21 19.2	-0.2
MAT				*e*S	Sb	12 21 31.4	+0.1
JAG	**Ashikaga**	**0.99**	**152**	⇓P	Pb	12 21 20.7	+0.3
JAG				*e*S	Sb	12 21 33.2	+0.2
WRA	**Warramunga Arr**	**57.10**	**185**	P	P	12 30 47.7	-2.6
	0.4nm,0.5s,mb3.7,baz=0.4,slow=7.6,SNR=13						
ASAR	**Alice Springs**	**60.82**	**185**	P	P	12 31 16.5	+0.4
	0.3nm,0.8s,mb3.5,baz=18,slow=8.6,SNR=3.5						
NVAR	**Mina Array Bea**	**76.43**	**52**	P	P	12 32 53.8	+1.2
	0.6nm,0.8s,mb3.6,baz=281,slow=4.6,SNR=3.6						
PDAR	**Pinedale Array**	**78.90**	**44**	P	P	12 33 07.1	+0.9
	0.6nm,0.9s,mb3.5,baz=326,slow=5.3,SNR=4.0						

JMA 23 12:21:19.2±0.1, 37.36N×138.91E, h18km±2km, M3.6, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIZZ	**Izumozaki**	**0.23**	**317**	S	Sb	12 21 29.3	+0.9
JNS	**Sasagawa**	**0.56**	**35**	S	Sb	12 21 37.3	-0.4
JFY	**Yanaizu**	**0.64**	**86**	P	Pb	12 21 31.5	0.0
JFY				S	Sb	12 21 39.9	+0.1
JKT	**Katashina**	**0.65**	**155**	P	Pb	12 21 31.8	+0.1
JKT				S	Sb	12 21 40.4	+0.1

*IDC **23** 12:28:57.6±4.3, 37.83N×136.31E, mb3.5/4, mb1 3.8/4, mb1mx3.5/21, Error ellipse: s-maj=273.0km s-min=26.2km az=110.0*
*JMA **23** 12:29:02.5, 37.22N×138.85E, h15km±2km, M3.5*
JMA Felt II J1.
*NEIC **23** 12:29:03.1±1.4, 37.32N×138.03E, h10km, Error ellipse: s-maj=56.9km s-min=12.0km az=92.0*

ISC 23 12:29:02.4±0.5, 37.23N±0.03×138.85E±0.04, h24km±6km, n16, σ0°48/25, mb3.5/4, 6D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKT	**Katashina**	**0.56**	**145**	⇓P	Pb	12 29 13.2	-0.3
JKT				S	Sb	12 29 20.7	-0.4
JJN	**Nakama**	**0.56**	**258**	⇓P	Pb	12 29 13.3	-0.3
JGK	**Kuni**	**0.68**	**194**	P	Pb	12 29 15.6	0.0
JNS	**Sasagawa**	**0.70**	**32**	⇓P	Pb	12 29 15.7	-0.1
JNS				S	Sb	12 29 25.1	+0.1
JFY	**Yanaizu**	**0.70**	**75**	P	Pb	12 29 15.8	-0.1
JFY				S	Sb	12 29 25.3	+0.1
MAJO	**Matsushiro**	**0.85**	**217**	*e*P	Pb	12 29 18.4	-0.1
MAT	**Matsushiro**	**0.85**	**217**	P	Pb	12 29 18.3	-0.2
MAT				S	Sb	12 29 29.5	0.0
MAT	**Matsushiro**	**0.85**	**217**	P	Pb	12 29 18.4	-0.1
MAT				S	Sb	12 29 29.9	+0.4
MAT	**Matsushiro**	**0.85**	**217**	*e*P	Pb	12 29 19.0	-0.5
MAT				*e*S	Sb	12 29 30.0	+0.5
JAG	**Ashikaga**	**0.93**	**149**	⇓P	Pb	12 29 20.3	+0.5
JAG				S	Sb	12 29 32.5	+0.7
JSD	**Sado**	**0.94**	**330**	⇓P	Pb	12 29 19.5	-0.3
JSD				S	Sb	12 29 32.1	+0.3
JSZ	**Suzu**	**1.21**	**281**	⇓P	Pn	12 29 24.0	0.0
JSZ				S	Sn	12 29 40.2	+0.5
ILAR	**Eielson Array**	**50.43**	**32**	P	P	12 38 00.1	+0.4
	0.2nm,0.7s,mb3.3,baz=273,slow=4.5,SNR=4.2						
WRA	**Warramunga Arr**	**57.02**	**185**	P	P	12 38 47.3	-1.6
	1.0nm,1.0s,mb3.8,baz=0.9,slow=7.5,SNR=9.6						
ASAR	**Alice Springs**	**60.74**	**185**	P	P	12 39 15.3	+0.6
	0.4nm,0.9s,mb3.5,baz=22,slow=9.7,SNR=3.0						
NVAR	**Mina Array Bea**	**76.50**	**52**	P	P	12 40 57.3	+5.2
	0.4nm,0.8s,mb3.4,baz=301,slow=5.3,SNR=3.6						

*JMA **23** 12:32:24.9, 37.31N×138.96E, h14km±3km, M3.5*
Broadband fault plane solution: P waves. NP1:φs16°, δ39°, λ66°. NP2:φs226°, δ55°, λ108°. Principal axes: T Plg73°, Azm186°; N Plg15°, Azm35°; P Plg8°, Azm303°;
JMA Felt II J1.

ISC 23 12:32:24.3±2.8, 37.31N±0.04×138.96E±0.05, h12km±23km, n6, σ0°18/11, 3D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNS	**Sasagawa**	**0.58**	**30**	P	Pb	12 32 35.9	0.0
JNS				S	Sb	12 32 43.7	-0.1
JKT	**Katashina**	**0.59**	**157**	⇓P	Pb	12 32 36.3	+0.1
JKT				S	Sb	12 32 44.2	-0.1
JFY	**Yanaizu**	**0.60**	**81**	⇓P	Pb	12 32 36.4	+0.1
JFY				S	Sb	12 32 44.5	0.0
JGK	**Kuni**	**0.79**	**199**	P	Pb	12 32 39.8	+0.2
JSD	**Sado**	**0.91**	**323**	⇓P	Pb	12 32 41.2	-0.4
JSD				S	Sb	12 32 53.7	+0.3
MAT	**Matsushiro**	**0.98**	**218**	P	Pb	12 32 42.7	0.0
MAT				S	Sb	12 32 55.2	-0.2

*NIED **23** 12:44:00, 37.30N×139.00E, h5km, Mw4.9 Best double couple: M0 2.31×10^16 NP1:φs230°, δ55°, λ94°. NP2:φs42°, δ35°, λ84°.*
*BJI **23** 12:44:22.6, 37.13N×139.44E, h10km, mB5.2, mb4.8, Ms4.8, Msz4.6*
*IDC **23** 12:44:26.1±0.4, 37.29N×138.85E, mb4.7/33, mb1 4.8/35, mb1mx4.8/37, ML5.1/1, MS4.3/12, Ms1 4.3/12, ms1mx3.8/31, Error ellipse: s-maj=14.7km s-min=10.5km az=85.0*
*JMA **23** 12:44:27.6, 37.27N×138.94E, h15km±2km, M5.0*
Broadband fault plane solution: P waves. NP1:φs49°, δ26°, λ91°. NP2:φs228°, δ64°, λ90°. Principal axes: T Plg71°, Azm137°; N Plg0°, Azm48°; P Plg19°, Azm318°;
JMA Felt IV J1.
*SYO **23** 12:44:27.5, 37.18N×138.94E, h10km, MB5.0*
*HRVD **23** 12:44:28.4±0.7, 37.44N×138.90E, h19km±2km, MW5.2/45, Centroid moment Tensor Solution. LP body waves: s6,c6; Mantle waves: s45,c65; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr5.79±1.00; Mθθ-2.33±.56; Mφφ-3.46±.56; Mrθ-3.73±1.23; Mθφ-2.41±.27; Mφr-1.16±.93; Best double couple: Mo6.77×10^16 NP1:φs25°, δ31°, λ64°. NP2:φs236°, δ62°, λ105°. Principal axes: T 7.25, Plg69°, Azm177°; N -.95, Plg13°, Azm48°; P -6.29, Plg16°, Azm315°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **23** 12:44:28.4±0.2, 37.24N×138.90E, mb5.0/56, MS4.7/2, MW4.9(NIED) Error ellipse: s-maj=5.0km s-min=3.8km az=148.0*
*MOS **23** 12:44:29.6±1.2, 37.30N×138.92E, h33km, mb5.1/27, MS4.5/15, Error ellipse: s-maj=15.6km s-min=7.3km az=103.1*

ISC 23 12:44:26.3±0.7, 37.28N±0.03×138.88E±0.03, h9km±4km, h11km±1.2km: pP-P, n264, σ1°13/249, mb4.8/96, MS4.6/20, 29C-10D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKT	**Katashina**	**0.59**	**150**	P	Pg	12 44 38.4	+0.3
JKT				S	Sg	12 44 46.2	+0.1
JNS	**Sasagawa**	**0.64**	**33**	P	Pg	12 44 39.2	0.0
JNS				S	Sg	12 44 47.8	0.0
JFY	**Yanaizu**	**0.67**	**79**	⇑P	Pg	12 44 39.3	-0.4
JFY				S	Sg	12 44 48.0	-0.7
JGK	**Kuni**	**0.74**	**195**	⇑P	Pb	12 44 42.0	+1.1
MAJO	**Matsushiro**	**0.91**	**217**	⇑*e*P	Pb	12 44 45.0	+1.2
MAT	**Matsushiro**	**0.91**	**217**	P	Pb	12 44 44.8	+1.0
MAT				S	Sb	12 44 57.3	+1.4
MAT	**Matsushiro**	**0.91**	**217**	*e*P	Pb	12 44 45.0	+1.2
MAT				*e*S	Sb	12 44 57.0	+1.1
JHJ	**Hachijo jima 2**	**4.21**	**170**	Pn	Pn	12 45 33.8	+1.5
	320nm,0.3s,baz=124,slow=1.8,SNR=16						
JHJ				Sn	Sn	12 46 26.1	+3.8
	53nm,0.3s,baz=70,slow=20,SNR=2.8						
JHJ				LR	LR	12 47 08.1	
	comp=Z,3μm,19.2s,baz=9.0,slow=38						
YSS	**Yuzh-Sakhalins**	**10.09**	**15**	*e*P	P	12 46 54.0	-0.4
YSS	**Yuzh-Sakhalins**	**10.09**	**15**	P	P	12 46 54.2	-0.2
MDJ	**Mudanjiang**	**10.15**	**319**	*e*P	P	12 46 57.2	+2.0
	77nm,1.0s						
CBIJ	**Chichi jima**	**10.53**	**164**	Pn	P	12 46 58.0	-2.6
CN2	**Changchun**	**12.11**	**307**	*e*P	P	12 47 24.9	+2.9
SSE	**Sheshan**	**15.88**	**252**	P	P	12 48 08.8	-2.8
SSE				S	S	12 51 05.6	-2.4
SSE				AMB	AMB		
	comp=Z,35nm,0.8s						
SSE				AMB	AMB		
	comp=Z,167nm,5.3s						
SSE				LR	LR		
	comp=N,739nm,20.4s						
SSE				LR	LR		
	comp=E,695nm,20.5s						
SSE				LR	LR		
	comp=Z,578nm,17.6s						
SSE	**Sheshan**	**15.88**	**252**	P	P	12 48 08.7	-2.9
	comp=Z,35nm,0.8s						
SSE				S	S	12 51 05.6	-2.4
NJ2	**Nanjing**	**17.27**	**258**	*e*P	P	12 48 28.1	-1.2
NJ2				AP		12 48 32.1	
NJ2				XP		12 48 35.8	
NJ2				PP	PP	12 48 43.1	-0.7
NJ2				PPP	PPP	12 48 51.1	-0.9
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s						
NJ2				AMB	AMB		
	comp=Z,820nm,5.2s						
NJ2				LR	LR		
	comp=N,2μm,14.2s						
NJ2				LR	LR		
	comp=E,3μm,15.3s						
NJ2				LR	LR		
	comp=Z,2μm,15.3s						
TIA	**Tai'an**	**17.47**	**273**	*e*P	P	12 48 34.8	+3.1
BJI	**Beijing**	**17.94**	**286**	P	P	12 48 39.3	+1.7
BJI				S	S	12 52 07.8	+13
BJI				AMB	AMB		
	comp=Z,29nm,1.0s						
BJI				AMB	AMB		
	comp=Z,699nm,4.9s						
BJI				LR	LR		
	comp=N,1μm,13.3s						
BJI				LR	LR		
	comp=E,439nm,14.5s						
BJI				LR	LR		
	comp=Z,454nm,20.6s						
BJI	**Beijing**	**17.94**	**286**	P	P	12 48 39.2	+1.6
	comp=Z,29nm,1.0s						
BJI				S	S	12 52 07.7	+12
BJT	**Baijiatuau**	**17.94**	**286**	*e*P	P	12 48 40.2	+2.5
	comp=Z,35nm,1.0s						
HIA	**Hailar**	**18.32**	**317**	*e*P	P	12 48 44.4	+2.1
	comp=Z,21nm,0.8s						
PET	**Petropavlovsk**	**20.92**	**35**	⇓*e*P	P	12 49 13.2	+1.7
PET				pmax	pmax		
	comp=Z,39nm,1.4s						
PET				MLR	MLR		
	comp=Z,300nm,7.0s						
WHN	**Wuhan**	**21.41**	**259**	P	P	12 49 20.3	+3.7
WHN				S	S	12 53 16.0	+6.7
WHN				LR	LR		
	comp=Z,3μm,14.6s,MS4.9						
BTO	**Baotou**	**22.65**	**287**	*e*P	P	12 49 32.3	+3.4
BTO				AMB	AMB		
	comp=Z,7.0nm,0.4s,mb4.4						
XAN	**Xi'an**	**24.51**	**271**	P	P	12 49 48.8	+1.7
ENH	**Enshi**	**25.35**	**263**	*e*P	P	12 49 54.1	-1.0
	comp=Z,53nm,0.9s,mb5.1						
YAK	**Yakutsk**	**25.43**	**350**	*e*P	P	12 49 53.5	-2.1
YAK				*e*S	S	12 54 22.5	+2.6
YAK				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.4						
YAK				smax			
	comp=N,3.0nm,1.1s						
YAK				smax			
	comp=E,3.0nm,1.1s						
YAK				MLR	MLR		
	comp=Z,510nm,16.0s,MS4.1						
YAK				MLR	MLR		
	comp=N,395nm,15.0s,MS4.2						
YAK				MLR	MLR		
	comp=E,162nm,11.0s,MS4.2						
YAK	**Yakutsk**	**25.43**	**350**	*e*P	P	12 49 53.5	-2.0
	comp=E,19nm,0.6s,mb4.8						
SONM	**Songino Array**	**25.97**	**304**	P	P	12 49 59.3	-1.5
	comp=E,16nm,0.9s,mb4.5,baz=100,slow=7.5,SNR=30						
SONM				ScP		12 57 09.7	
	comp=E,0.7nm,0.7s,baz=34,slow=4.5,SNR=3.6						
LZH	**Lanzhou**	**28.03**	**278**	*e*P	P	12 50 22.4	+2.7
LZH				AP	pP	12 50 27.9	+5.7
LZH				XP	sP	12 50 31.6	+8.3
LZH				*e*S	S	12 55 03.0	+0.3
LZH				XS		12 55 14.0	
LZH				AMB	AMB		
	comp=Z,50nm,1.4s,mb5.0						
LZH				AMB	AMB		
	comp=Z,170nm,4.0s						
LZH				LR	LR		
	comp=E,3μm,14.6s						
LZH				LR	LR		
	comp=Z,4μm,16.4s,MS5.1						
LZH	**Lanzhou**	**28.03**	**278**	*e*P	P	12 50 22.4	+2.7
	comp=Z,50nm,1.4s,mb5.0						
LZH				pP	pP	12 50 27.9	+5.7
LZH				sP	sP	12 50 31.6	+8.3
LZH				*e*S	S	12 55 03.0	+0.3
LZH				sS		12 55 14.0	
LZH				SS	SS	12 56 26.0	+1.6
LZH				LR	LR		
	comp=Z,4μm,16.4s,MS5.1						
ZAK	**Zakamensk**	**28.53**	**309**	*e*P	P	12 50 20.8	-3.3
GYA	**Guiyang**	**29.28**	**258**	P	P	12 50 30.3	-0.8
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
KMI	**Kunming**	**33.01**	**259**	*e*P	P	12 51 04.5	+0.6
KMI				AP	pP	12 51 07.3	+0.8
KMI				S	S	12 56 21.6	+0.2
KMI				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.7						
KMI				LR	LR		
	comp=N,638nm,13.2s,MS4.6						
KMI				LR	LR		
	comp=E,753nm,17.3s,MS4.6						
KMI				LR	LR		
	comp=Z,852nm,15.2s,MS4.6						
KMI	**Kunming**	**33.01**	**259**	*e*P	P	12 51 04.5	+0.6
	comp=Z,8.0nm,0.9s,mb4.7						
KMI				pP	pP	12 51 07.2	+0.7
KMI				sP	sP	12 51 08.7	+1.2
KMI				S	S	12 56 21.6	+0.2
KMI				LR	LR		
	comp=Z,850nm,15.2s,MS4.6						
TIXI	**Tiksi**	**34.83**	**354**	⇑*e*P	P	12 51 17.4	-1.8
TIXI				*e*		12 51 27.2	
TIXI				*e*		12 52 35.8	
TIXI				*e*S	S	12 56 51.3	+2.1
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
TIXI				MLR	MLR		
	comp=Z,500nm,15.0s,MS4.4						
CMAR	**Chiang Mai Arr**	**39.62**	**253**	P	P	12 52 00.3	+0.3
	comp=Z,1.7nm,1.0s,baz=43,slow=6.0,SNR=7.1						
CMAR				LR	LR	13 09 18.5	
	comp=Z,369nm,18.1s,baz=45,slow=38						
CMAR	**Chiang Mai Arr**	**39.62**	**253**	P	P	12 52 00.3	+0.3
CMAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
CMAR				MLR	MLR		
	comp=Z,369nm,18.1s						
ZAL	**Zalesovo**	**40.27**	**312**	P	P	12 52 05.7	+0.7
	comp=Z,2.3nm,0.9s,mb3.9,baz=13,slow=8.7,SNR=10						
ZAL				LR	LR	13 10 15.8	
	comp=Z,542nm,18.2s,MS4.4,baz=57,slow=38						
ZAL	**Zalesovo**	**40.27**	**312**	P	P	12 52 05.7	+0.7
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ZAL				MLR	MLR		
	comp=Z,542nm,18.2s						
KURK	**Kurchatov**	**44.19**	**308**	⇑*e*P	P	12 52 36.4	-0.6
KURK	**Kurchatov**	**44.19**	**308**	*e*P	P	12 52 36.2	-0.8
	comp=Z,20nm,1.0s,mb4.8						
GUN	**Gumba**	**45.12**	**274**	*e*P	P	12 52 44.8	0.0
	comp=Z,60nm,1.0s,mb5.4						
PKI	**Pulchoki**	**45.64**	**274**	*e*P	P	12 52 47.8	-1.2
	comp=Z,16nm,1.0s,mb4.9						
KKN	**Kakani**	**45.65**	**274**	*e*P	P	12 52 47.8	-1.2
	comp=Z,30nm,0.9s,mb5.2						
DMN	**Daman**	**45.87**	**274**	*e*P	P	12 52 49.6	-1.2
	comp=Z,17nm,1.1s,mb4.9						
GKN	**Gorkha**	**46.07**	**275**	*e*P	P	12 52 51.7	-0.6
	comp=Z,42nm,1.0s,mb5.3						
KOLN	**Koldanda**	**46.99**	**275**	*e*P	P	12 52 57.2	-2.5
	comp=Z,18nm,1.0s,mb5.0						
PMG	**Port Moresby**	**47.08**	**169**	LR	LR	13 11 13.1	
	comp=Z,353nm,19.8s,MS4.3,baz=44,slow=34						
SPU	**Mount Spurr**	**48.27**	**37**	*e*P	P	12 53 10.2	+1.0
AAK	**Ala-Archa**	**48.59**	**297**	⇑*e*P	P	12 53 12.0	+0.1
AAK				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb4.3						
AAK				MLR	MLR		
	comp=Z,1μm,18.0s,MS4.9						
AAK	**Ala-Archa**	**48.59**	**297**	*e*P	P	12 53 12.0	+0.1
	comp=Z,6.4nm,1.1s,mb4.6						
BVAR	**Borovoye Array**	**48.91**	**312**	P	P	12 53 13.0	-1.2
	comp=Z,16nm,1.0s,mb5.0,baz=90,slow=10,SNR=20						
BVAR				PcP	PcP	12 54 37.4	-1.6
	comp=Z,2.3nm,0.6s,baz=101,slow=4.7,SNR=6.2						
BVAR				LR	LR	13 14 57.0	
	comp=Z,6.5nm,19.2s,baz=115,slow=38						
BRVK	**Borovoye**	**48.96**	**312**	*e*P	P	12 53 14.1	-0.5
	comp=Z,16nm,0.9s,mb5.0						
MCK	**McKinley**	**49.56**	**34**	*e*P	P	12 53 18.6	-0.5
COLA	**College**	**49.95**	**32**	⇑*e*P	P	12 53 21.7	-0.4
COLA	**College**	**49.95**	**32**	*e*P	P	12 53 19.1	-3.0
	comp=Z,12nm,1.4s,mb4.7						
ILAR	**Eielson Array**	**50.37**	**32**	P	P	12 53 24.6	-0.7
	comp=Z,17nm,1.3s,mb4.9,baz=271,slow=5.1,SNR=30						
ILAR	**Eielson Array**	**50.37**	**32**	P	P	12 53 24.6	-0.7
ILAR				pmax	pmax		
	comp=Z,17nm,1.3s						
DIV	**Divide**	**51.30**	**37**	*e*P	P	12 53 31.7	-0.7
	comp=Z,114nm,1.4s,mb5.6						
SVE	**Sverdlovsk**	**53.62**	**318**	⇓*e*P	P	12 53 47.0	-2.8
SVE				*e*S	S	13 01 25.0	+3.2
SVE				MLR	MLR		
	comp=Z,1μm,18.0s,MS4.9						
SVE				MLR	MLR		
	comp=N,200nm,17.0s,MS4.8						
SVE				MLR	MLR		
	comp=E,700nm,17.0s,MS4.8						
DAWY	**Dawson**	**53.69**	**33**	*e*P	P	12 53 50.1	-0.1
ARU	**Arti**	**54.83**	**318**	⇑*i*P	P	12 53 57.5	-1.2
ARU				*e*		12 54 59.9	
ARU				*e*		12 56 02.8	
ARU				*e*S	S	13 01 39.4	+1.3
ARU				*e*SS	SS	13 05 20.2	-1.0
ARU				pmax	pmax		
	comp=Z,39nm,1.0s,mb5.4						
ARU				MLR	MLR		
	comp=Z,600nm,18.0s,MS4.7						
ARU				MLR	MLR		
	comp=N,100nm,15.0s,MS4.6						
ARU				MLR	MLR		
	comp=E,400nm,17.0s,MS

	comp=E,58nm,1.2s,mb5.5									
INK	**Inuvik**	**55.09**	**27**	P		**P**		**12 53 59.0**	**-1.5**
	comp=E,4.2nm,0.9s,mb4.5,baz=290,slow=6.3,SNR=8.6									
INK	**Inuvik**	**55.09**	**27**	P		**P**		**12 53 59.0**	**-1.5**
INK				pmax		pmax				
	comp=Z,4.0nm,0.9s									
INK	**Inuvik**	**55.09**	**27**	*e*P		**P**		**12 53 59.7**	**-0.8**
	comp=Z,10nm,1.1s,mb4.8									
HYB	**Hyderabad**	**56.19**	**267**	*i* P		**P**		**12 54 10.5**	**+1.4**
FITZ	**Fitzroy Crossi**	**56.48**	**195**	P		**P**		**12 54 09.4**	**-1.8**
	comp=Z,3.4nm,0.7s,mb4.5,baz=39,slow=3.6,SNR=6.9									
WRAB	**Tennant Creek**	**57.06**	**185**	*e*P		**P**		**12 54 12.7**	**-2.6**
	comp=Z,33nm,1.1s,mb5.3									
WRA	**Warramunga Arr**	**57.07**	**185**	P		**P**		**12 54 13.0**	**-2.4**
	comp=Z,8.6nm,0.7s,mb4.9,baz=360,slow=7.3,SNR=74									
WRA	**Warramunga Arr**	**57.07**	**185**	P		**P**		**12 54 13.0**	**-2.4**
WRA				pmax		pmax				
	comp=Z,9.0nm,0.7s									
CTA	**Charters Tower**	**57.48**	**172**	P		**P**		**12 54 17.8**	**-0.5**
	comp=Z,3.4nm,0.9s,mb4.4,baz=330,slow=8.1,SNR=2.9									
CTA				LR		LR		13 15 22.0		
	comp=Z,341nm,21.4s,MS4.4,baz=19,slow=32									
ASAR	**Alice Springs**	**60.80**	**185**	P		**P**		**12 54 39.1**	**-2.0**
	comp=Z,2.6nm,0.8s,mb4.4,baz=9.1,slow=7.5,SNR=20									
MBWA	**Marble Bar**	**60.86**	**201**	*e*P		**P**		**12 54 42.7**	**+1.1**
KEV	**Kevo**	**62.49**	**339**	*e*p		**P**		**12 54 50.3**	**-1.6**
	comp=Z,14nm,0.8s,mb5.2									
KEV	**Kevo**	**62.49**	**339**	*e*P		**P**		**12 54 50.3**	**-1.6**
KEV				pmax		pmax				
	comp=Z,15nm,0.8s,mb5.2									
ARCES	**ARCESS Array B**	**63.05**	**339**	P		**P**		**12 54 54.2**	**-1.4**
	comp=Z,13nm,0.8s,mb5.1,baz=59,slow=7.1,SNR=14									
ARCES				LR		LR		13 25 56.9		
	comp=Z,279nm,18.0s,MS4.5,baz=21,slow=40									
ARCES	**ARCESS Array B**	**63.05**	**339**	P		**P**		**12 54 54.3**	**-1.3**
ARCES				pmax		pmax				
	comp=Z,13nm,0.8s									
ARCES				MLR		MLR				
	comp=Z,279nm,18.0s									
YKA	**Yellowknife Ar**	**64.61**	**30**	P		**P**		**12 55 04.4**	**-1.4**
	comp=Z,2.3nm,0.9s,mb4.2,baz=294,slow=7.5,SNR=3.5									
YKA	**Yellowknife Ar**	**64.61**	**30**	P		**P**		**12 55 04.4**	**-1.4**
YKA				pmax		pmax				
	comp=Z,2.0nm,0.9s									
JOF	**Joensuu**	**64.78**	**331**	*e*p		**P**		**12 55 04.7**	**-2.3**
OBN	**Obninsk**	**66.68**	**322**⇑	*e*P		**P**		**12 55 20.6**	**+1.4**
OBN				*e*				12 57 45.2		
OBN				pmax		pmax				
	comp=Z,30nm,1.2s,mb5.2									
OBN				MLR		MLR				
	comp=Z,600nm,13.0s,MS5.0									
KAF	**Kangasniemi**	**67.15**	**332**	*e*p		**P**		**12 55 20.1**	**-2.0**
	comp=Z,13nm,0.8s,mb5.0									
KAF	**Kangasniemi**	**67.15**	**332**	*e*P		**P**		**12 55 20.1**	**-2.0**
KAF				pmax		pmax				
	comp=Z,13nm,0.8s,mb5.0									
FINES	**FINESS Array B**	**67.64**	**331**	P		**P**		**12 55 24.0**	**-1.2**
	comp=Z,19nm,0.8s,mb5.2,baz=61,slow=6.7,SNR=22									
FINES				LR		LR		13 27 45.3		
	comp=Z,162nm,18.4s,MS4.3,baz=222,slow=38									
FINES	**FINESS Array B**	**67.64**	**331**	P		**P**		**12 55 24.0**	**-1.3**
FINES				pmax		pmax				
	comp=Z,19nm,0.8s									
FINES				MLR		MLR				
	comp=Z,162nm,18.4s									
FINES	**FINESS Array B**	**67.64**	**331**	P		**P**		**12 55 24.0**	**-1.2**
FINES				LR		LR		13 27 45.3		
RPW	**Rockport**	**68.82**	**45**	*e*P		**P**		**12 55 31.7**	**-1.0**
STKA	**Stephens Creek**	**68.84**	**178**	P		**P**		**12 55 32.3**	**-0.9**
	comp=Z,3.6nm,0.7s,mb4.4,baz=332,slow=8.5,SNR=5.9									
STKA				LR		LR		13 22 32.9		
	comp=Z,222nm,19.6s,MS4.4,baz=22,slow=33									
KIV	**Kislovodsk**	**69.21**	**310**	*e*P		**P**		**12 55 34.9**	**-0.3**
	comp=Z,34nm,0.9s,mb5.3									
NLW	**Nelson Butte**	**69.68**	**45**	*e*P		**P**		**12 55 38.5**	**+0.5**
WTV	**Waterville**	**70.10**	**45**	P		**P**		**12 55 40.7**	**+0.1**
EBG	**Ellensburg**	**70.19**	**46**	P		**P**		**12 55 42.0**	**+0.8**
EPH	**Ephrata**	**70.50**	**45**	P		**P**		**12 55 43.2**	**+0.1**
MXC	**Moxie City**	**70.53**	**46**	P		**P**		**12 55 43.6**	**+0.3**
OD2	**Odessa Site #2**	**70.97**	**45**	P		**P**		**12 55 45.6**	**-0.3**
DPW	**Davenport**	**70.98**	**44**	*e*P		**P**		**12 55 46.0**	**-0.1**
HAWA	**Hanford**	**71.07**	**46**	*e*P		**P**		**12 55 47.1**	**+0.5**
	comp=Z,5.3nm,0.8s,mb4.5									
SOC	**Sochi**	**71.22**	**311**	*e*P		**P**		**12 55 49.7**	**+2.2**
SOC				*e*				12 56 07.5		
SOC				*e*PPP		PPP		13 00 11.0	+2.3	
SOC				*e*S		S		13 05 03.8	+0.3	
SOC				*e*				13 05 43.2		
SOC				*e*SS		SS		13 09 39.5	+0.2	
SOC				*e*SSS		SSS		13 12 44.7	-1.2	
SOC				pmax		pmax				
	comp=Z,9.0nm,0.8s,mb4.8									
SOC				pmax		pmax				
	comp=N,4.0nm,0.3s									
SOC				pmax		pmax				
	comp=E,2.0nm,0.4s									
SOC				MLR		MLR				
	comp=Z,303nm,23.0s,MS4.5									
SOC				MLR		MLR				
	comp=N,215nm,22.0s,MS4.5									
SOC				MLR		MLR				
	comp=E,177nm,19.0s,MS4.5									
NEW	**Newport**	**71.35**	**43**	P		**P**		**12 55 47.6**	**-0.7**
	comp=E,8.9nm,0.8s,mb4.7,baz=313,slow=4.4,SNR=12									
NEW	**Newport**	**71.35**	**43**	P		**P**		**12 55 47.6**	**-0.6**
NEW				pmax		pmax				
	comp=Z,9.0nm,0.8s									
NEW	**Newport**	**71.35**	**43**	*e*P		**P**		**12 55 47.8**	**-0.5**
	comp=Z,19nm,1.2s,mb4.9									
ANN	**Anapa**	**71.89**	**313**	*e*P		**P**		**12 55 51.0**	**-0.5**
ANN				pmax		pmax				
	comp=Z,40nm,1.6s,mb5.1									
LNOR	**Lincton Mounta**	**72.08**	**46**	*e*P		**P**		**12 55 52.7**	**+0.1**
LASM	**Arnica Sink**	**72.56**	**51**	P		**P**		**12 55 56.6**	**+1.1**
NWAO	**Narrogin (SRO)**	**72.70**	**199**	P		**P**		**12 55 55.6**	**-0.9**
	comp=Z,4.5nm,0.7s,mb4.5,baz=22,slow=13,SNR=4.4									
NWAO	**Narrogin (SRO)**	**72.70**	**199**	P		**P**		**12 55 55.6**	**-1.0**
NWAO				pmax		pmax				
	comp=Z,5.0nm,0.7s									
AKASG	**Malin Array Be**	**72.85**	**321**	P		**P**		**12 55 56.0**	**-1.0**
	comp=Z,34nm,1.1s,mb5.2,baz=45,slow=6.2,SNR=14									
AKASG				LR		LR		13 30 49.1		
	comp=Z,662nm,18.0s,MS5.0,baz=50,slow=38									
AKASG	**Malin Array Be**	**72.85**	**321**	P		**P**		**12 55 56.0**	**-1.0**
AKASG				pmax		pmax				
	comp=Z,34nm,1.1s									
AKASG				MLR		MLR				
	comp=Z,662nm,18.0s									
LTIM	**Timbered Crate**	**72.86**	**51**	P		**P**		**12 55 57.9**	**+0.7**
HFS	**Hagfors**	**73.02**	**335**	P		**P**		**12 55 56.6**	**-1.3**
	comp=Z,11nm,0.8s,mb4.8,baz=27,slow=9.9,SNR=4.1									
HFS	**Hagfors**	**73.02**	**335**	P		**P**		**12 55 56.6**	**-1.2**
HFS				pmax		pmax				
	comp=Z,11nm,0.8s									
LBCM	**Butte Creek Ri**	**73.13**	**51**	P		**P**		**12 55 59.2**	**+0.3**
NB2	**NORSAR Subarra**	**73.17**	**336**	P		**P**		**12 55 57.7**	**-0.9**
	comp=Z,18nm,0.8s,mb5.0,baz=41,slow=5.8									
NB2	**NORSAR Subarra**	**73.17**	**336**	P		**P**		**12 55 57.7**	**-0.9**
	baz=41,slow=6.2									
NOA	**NORSAR Array B**	**73.17**	**336**	P		**P**		**12 55 58.0**	**-0.6**
	comp=Z,14nm,0.7s,mb5.0,baz=40,slow=5.9,SNR=23									
NOA				PP		PP		12 58 41.6	-2.1	
	comp=Z,3.6nm,0.9s,baz=43,slow=8.6,SNR=4.4									
NOA				LR		LR		13 31 19.4		
	comp=Z,261nm,18.6s,MS4.5,baz=20,slow=38									
NOA	**NORSAR Array B**	**73.17**	**336**	P		**P**		**12 55 58.0**	**-0.6**
NOA								12 58 41.6		
NOA				pmax		pmax				
	comp=Z,14nm,0.7s									
NOA				pmax		pmax				
	comp=Z,4.0nm,0.9s									
NOA				MLR		MLR				
	comp=Z,261nm,18.6s									
MOD	**Modoc**	**73.17**	**50**	*e*P		**P**		**12 55 59.5**	**+0.4**
	comp=Z,5.9nm,1.0s,mb4.5									
SUW	**Suwalki**	**73.58**	**326**	*e*P		**P**		**12 56 04.0**	**+2.8**
SUW	**Suwalki**	**73.58**	**326**	*e*P		**P**		**12 56 04.0**	**+2.8**
SIM	**Simferopol'**	**73.72**	**314**	*e*P		**P**		**12 56 05.3**	**+3.1**
SIM				pmax		pmax				
	comp=Z,30nm,1.0s,mb5.2									
SIM				MLR		MLR				
	comp=Z,290nm,19.1s,MS4.6									
MSO	**Missoula**	**73.94**	**43**	*e*P		**P**		**12 56 03.2**	**-0.2**
	comp=Z,14nm,1.4s,mb4.7									
BEKR	**Beckwourth**	**74.31**	**52**	*e*P		**P**		**12 56 06.1**	**+0.3**
	comp=Z,12nm,0.9s,mb4.8									
CMB	**Columbia Colle**	**75.36**	**53**	*e*P		**P**		**12 56 12.0**	**+0.2**
	comp=Z,14nm,0.9s,mb4.9									
HLID	**Hailey**	**75.67**	**46**	*e*P		**P**		**12 56 14.2**	**+0.7**
	comp=Z,8.7nm,1.0s,mb4.6									
BOZ	**Bozeman (W)**	**75.93**	**43**	*e*P		**P**		**12 56 15.5**	**+0.6**
	comp=Z,28nm,1.2s,mb5.1									
NVAR	**Mina Array Bea**	**76.45**	**52**	P		**P**		**12 56 18.9**	**+0.9**
	comp=Z,8.6nm,0.9s,mb4.7,baz=311,slow=4.0,SNR=57									
MNV	**Mina**	**76.54**	**52**	*e*P		**P**		**12 56 19.1**	**+0.6**
	comp=Z,12nm,1.1s,mb4.7									
KWP	**Kalwaria**	**76.74**	**323**	*e*P		**P**		**12 56 20.0**	**+0.6**
KWP	**Kalwaria**	**76.74**	**323**	*e*P		**P**		**12 56 20.0**	**+0.6**
FRB	**Frobisher Bay**	**76.98**	**12**	P		**P**		**12 56 20.1**	**-0.3**
	comp=Z,19nm,0.8s,mb5.1,baz=5.9,slow=8.4,SNR=5.5									
FRB	**Frobisher Bay**	**76.98**	**12**	P		**P**		**12 56 20.1**	**-0.3**
FRB				pmax		pmax				
	comp=Z,19nm,0.8s									
BRTR	**Keskin Array B**	**77.16**	**310**	P		**P**		**12 56 21.1**	**-0.8**
	comp=Z,4.4nm,0.9s,mb4.4,baz=90,slow=3.7,SNR=10									
BRTR	**Keskin Array B**	**77.16**	**310**	P		**P**		**12 56 21.1**	**-0.8**
BRTR				pmax		pmax				
	comp=Z,4.0nm,0.9s									
KOLS	**Kolonicke sedl**	**77.42**	**323**	*i* P		**P**		**12 56 24.7**	**+1.5**
RRI2	**Red Ridge**	**77.56**	**45**	*e*P		**P**		**12 56 25.0**	**+0.9**
MOOW	**Moose Ponds**	**77.63**	**44**	*e*P		**P**		**12 56 23.3**	**-1.1**
TPAW	**Teton Pass**	**77.68**	**44**	*e*P		**P**		**12 56 25.9**	**+1.2**
OJC	**Ojcow**	**77.69**	**325**	*e*P		**P**		**12 56 23.7**	**-0.9**
OJC	**Ojcow**	**77.69**	**325**	*e*P		**P**		**12 56 23.7**	**-0.9**
HVU	**Hansel Valley**	**77.73**	**47**	*e*P		**P**		**12 56 25.5**	**+0.5**
SNOW	**Snow King Moun**	**77.80**	**44**	*e*P		**P**		**12 56 26.6**	**+1.3**
CRVS	**Cervenica-Dubn**	**77.83**	**323**	*i* P		**P**		**12 56 25.9**	**+0.5**
MLR	**Muntele Rosu**	**77.88**	**319**	P		**P**		**12 56 25.3**	**-0.4**
	comp=Z,6.6nm,0.9s,mb4.6,baz=97,slow=7.3,SNR=6.0									
MLR	**Muntele Rosu**	**77.88**	**319**	P		**P**		**12 56 25.3**	**-0.4**
MLR				pmax		pmax				
	comp=Z,7.0nm,0.9s									
DGMT	**Dagmar**	**77.89**	**37**	*e*P		**P**		**12 56 25.8**	**0.0**
	comp=Z,38nm,1.3s,mb5.2									
NIE	**Niedzica**	**78.02**	**324**	*e*P		**P**		**12 56 27.2**	**+0.8**
LAO	**LASA Array**	**78.10**	**40**	*e*P		**P**		**12 56 27.2**	**+0.3**
	comp=Z,36nm,1.1s,mb5.2									
TRCR	**Troy Canyon**	**78.19**	**51**	*e*P		**P**		**12 56 28.9**	**+1.3**
HWUT	**Hardware Ranch**	**78.54**	**46**	*e*P		**P**		**12 56 30.5**	**+1.1**
	comp=Z,24nm,1.4s,mb4.9									
DUG	**Dugway**	**78.71**	**48**	*e*P		**P**		**12 56 31.3**	**+0.9**
	comp=Z,7.4nm,1.0s,mb4.6									
OKC	**Ostrava-Krasne**	**78.72**	**325**	*e*P		**P**		**12 56 31.2**	**+0.9**
OKC				*e*pP		pP		12 56 34.6	+1.6	
PDAR	**Pinedale Array**	**78.92**	**44**	P		**P**		**12 56 31.8**	**+0.3**
	comp=Z,3.4nm,0.8s,mb4.3,baz=287,slow=2.5,SNR=25									
TCUT	**Toone Canyon**	**78.94**	**46**	*e*P		**P**		**12 56 29.9**	**-1.8**
DPC	**Dobruska-Polom**	**79.16**	**327**	*e*P		**P**		**12 56 33.4**	**+0.7**
DPC				*e*pP		pP		12 56 36.6	+1.2	
UPC	**Upice**	**79.18**	**327**	*e*P		**P**		**12 56 32.6**	**-0.2**
PSZ	**Piszkesteto**	**79.27**	**323**⇓	*e*P		**P**		**12 56 34.0**	**+0.7**
VYHS	**Vyhne**	**79.36**	**324**	*e*P		**P**		**12 56 34.8**	**+1.0**
ASF	**Jabal al Asfar**	**79.68**	**303**	P		**P**		**12 56 36.3**	**+0.4**
	comp=Z,7.2nm,0.8s,mb4.7,baz=91,slow=2.4,SNR=8.0									
PVCC	**Panska Ves**	**79.79**	**328**	*e*P		**P**		**12 56 36.7**	**+0.6**
PVCC				*e*pP		pP		12 56 39.7	+0.9	
BRG	**Berggiesshubel**	**79.80**	**328**	*e*P		**P**		**12 56 35.7**	**-0.4**
BRG				*e*		pP		12 56 39.3	+0.5	
BRG				pmax		pmax				
	comp=Z,11nm,0.9s,mb4.8									
BRG	**Berggiesshubel**	**79.80**	**328**	*e*P		**P**		**12 56 35.7**	**-0.4**
	comp=Z,10nm,0.9s,mb4.8									
BRG				*e*		pP		12 56 39.3	+0.5	
VRAC	**Vranov**	**79.80**	**326**	P		**P**		**12 56 36.4**	**+0.2**
	comp=Z,8.9nm,0.8s,mb4.8,baz=46,slow=3.4,SNR=4.2									
VRAC	**Vranov**	**79.80**	**326**	P		**P**		**12 56 36.4**	**+0.3**
VRAC				pmax		pmax				
	comp=Z,9.0nm,0.8s									
CLL	**Collm**	**79.86**	**329**	⇓P		**P**		**12 56 36.3**	**-0.1**
	comp=Z,logA/T=1.1,mb4.8									
CLL				*i* *PP		pP		12 56 39.4	+0.3	
CLL	**Collm**	**79.86**	**329**⇓	*i*P		**P**		**12 56 36.3**	**-0.1**	
CLL				*i*		pP		12 56 39.4	+0.3	
CLL				pmax		pmax				
	comp=Z,11nm,0.8s,mb4.8									
CLL	**Collm**	**79.86**	**329**⇓	*i*P		**P**		**12 56 36.3**	**-0.1**	
	comp=Z,11nm,0.8s,mb4.8									
CLL				*i*		pP		12 56 39.4	+0.3	
PRU	**Pruhonice**	**80.20**	**327**	*e*P		**P**		**12 56 38.8**	**+0.5**
PRU				pmax		pmax				
	comp=Z,16nm,1.0s,mb4.9									
PRU	**Pruhonice**	**80.20**	**327**	*e*P		**P**		**12 56 38.8**	**+0.5**
	comp=Z,16nm,1.0s,mb4.9									
PRU				*e*pP		pP		12 56 41.6	+0.6	
NEN	**Nelson**	**80.34**	**52**	*e*P		**P**		**12 56 39.6**	**+0.3**
ULM	**Lac du Bonnet**	**80.39**	**32**	P		**P**		**12 56 39.0**	**-0.3**
	comp=Z,5.2nm,0.9s,mb4.5,baz=346,slow=5.6,SNR=3.2									
LDFC	**Landfair**	**80.53**	**53**	*e*P		**P**		**12 56 40.8**	**+0.5**
SRU	**San Rafael**	**80.76**	**48**	*e*P		**P**		**12 56 42.2**	**+0.7**
NKC	**Novy Kostel**	**80.91**	**328**	*e*P		**P**		**12 56 42.8**	**+0.8**
NKC				*e*pP		pP		12 56 45.5	+0.8	
MOX	**Moxa**	**80.94**	**329**	*e*P		**P**		**12 56 44.0**	**+1.9**
RSSD	**Black Hills**	**80.98**	**40**	*e*P		**P**		**12 56 42.4**	**-0.1**
	comp=Z,7.7nm,0.9s,mb4.6									
PKSM	**Moragy**	**81.08**	**323**	*e*P		**P**		**12 56 45.8**	**+2.8**
KHC	**Kasperske Hory**	**81.26**	**327**	*e*P		**P**		**12 56 43.9**	**0.0**
KHC				*e*pP		pP		12 56 47.2	+0.6	
GERES	**GERESS Array B**	**81.42**	**327**	P		**P**		**12 56 44.8**	**0.0**
	comp=Z,4.5nm,0.8s,mb4.5,baz=36,slow=4.8,SNR=16									
GERES	**GERESS Array B**	**81.42**	**327**	P		**P**		**12 56 44.8**	**+0.1**
GERES				pmax		pmax				
	comp=Z,5.0nm,0.8s									
GRA1	**Grafenberg Arr**	**81.83**	**329**	*e*P		**P**		**12 56 46.8**	**0.0**
	comp=Z,34nm,1.0s,mb5.2									
GRF	**Grafenberg Arr**	**81.83**	**329**	*e*P		**P**		**12 56 46.8**	**0.0**
GRF				pmax		pmax				
	comp=Z,34nm,1.0s,mb5.2									
RAR	**Rarotonga**	**81.95**	**124**	LR		LR		13 26 44.9		
	comp=Z,262nm,19.6s,MS4.6,baz=106,slow=31									
PV10	**Paradox Valley**	**82.11**	**47**	*e*P		**P**		**12 56 49.8**	**+1.3**
EKA	**Eskdalemuir Ar**	**82.21**	**339**	P		**P**		**12 56 48.8**	**+0.1**
	comp=Z,4.3nm,0.8s,mb4.4,baz=27,slow=5.6,SNR=7.4									
EKA	**Eskdalemuir Ar**	**82.21**	**339**	P		**P**		**12 56 48.8**	**+0.1**
EKA				pmax		pmax				
	comp=Z,4.0nm,0.9s									
PERS	**Pernice**	**82.44**	**325**	*e*P		**P**		**12 56 49.8**	**-0.2**
EIL	**Elat**	**82.54**	**302**	P		**P**		**12 56 51.2**	**+0.3**
	comp=Z,6.9nm,0.9s,mb4.7,baz=212,slow=4.3,SNR=5.1									
PDKS	**Podkum**	**82.91**	**324**	*e*P		**P**		**12 56 52.2**	**-0.3**
ISCO	**Idaho Springs**	**83.11**	**44**	*e*P		**P**		**12 56 55.3**	**+1.5**
	comp=Z,12nm,1.4s,mb4.8									
BAIF	**Baives**	**84.28**	**333**	*e*P		**P**		**12 56 58.0**	**-1.3**
CDF	**Champ du Feu**	**84.44**	**330**	*e*P		**P**		**12 56 59.2**	**-1.0**
	comp=Z,35nm,0.9s,mb5.2									
SDCO	**Great Sand Dun**	**84.59**	**46**	*e*P		**P**		**12 57 02.5**	**+1.3**
	comp=Z,10nm,1.3s,mb4.8									
DAVOX	**Davos**	**84.66**	**328**	P		**P**		**12 57 01.3**	**0.0**
	comp=Z,8.4nm,0.8s,mb4.9,baz=26,slow=18,SNR=4.0									
DLF	**Lyons Farm**	**84.94**	**340**	*e*P		**P**		**12 57 05.9**	**+3.3**
TUC	**Tucson**	**85.06**	**53**	*e*P		**P**		**12 57 03.7**	**0.0**
	comp=Z,6.2nm,1.0s,mb4.7									
HINF	**Hinteralfeld**	**85.09**	**330**	*e*P		**P**		**12 57 02.0**	**-1.4**
	comp=Z,11nm,0.8s,mb4.7									
DCN	**Croghan**	**85.10**	**340**	*e*P		**P**		**12 57 06.8**	**+3.4**
HAU	**Haudompre**	**85.14**	**330**	*e*P		**P**		**12 57 02.9**	**-0.8**
	comp=Z,15nm,0.7s,mb4.9									
HAU				*e*R						
	comp=Z,312nm,18.8s									
MEZF	**Maizieres J'vi**	**85.24**	**331**	*e*P		**P**		**12 57 03.3**	**-0.9**
	comp=Z,34nm,0.9s,mb5.2									
IDI	**Anoyia**	**85.33**	**311**	P		**P**		**12 57 05.4**	**+0.4**
	comp=Z,22nm,1.0s,mb5.2,baz=48,slow=11,SNR=5.1									
SCHQ	**Schefferville**	**85.64**	**15**	P		**P**		**12 57 06.4**	**+0.4**
	comp=Z,6.9nm,0.9s,mb4.9,baz=11,slow=7.7,SNR=5.3									
RSM	**Repubblica di**	**85.72**	**324**	*e*P		**P**		**12 57 07.7**	**+1.0**
FSSB	**Fossombrone**	**85.75**	**324**	*e*P		**P**		**12 57 06.9**	**+0.1**
ARV	**Arcevia**	**85.82**	**324**	*e*P		**P**		**12 57 07.3**	**+0.2**
ANMO	**Albuquerque**	**85.95**	**48**⇑	*e*P		**P**		**12 57 09.2**	**+1.1**
SFI	**Santa Sofia**	**86.02**	**325**	*e*P		**P**		**12 57 08.9**	**+0.7**
PGD	**Poggio Sodo**	**86.10**	**325**	*e*P		**P**		**12 57 09.5**	**+0.9**
NRCA	**Norcia**	**86.24**	**323**	*e*P		**P**		**12 57 09.7**	**+0.4**
GSCL	**Gusciola**	**86.24**	**326**	*e*P		**P**		**12 57 09.3**	**0.0**
CABF	**La Chapelle**	**86.37**	**330**	*e*P		**P**		**12 57 09.2**	**-0.6**
	comp=Z,19nm,1.0s,mb5.0									
AQU	**L'Aquila**	**86.47**	**323**	*e*P		**P**		**12 57 13.4**	**+3.0**
LOR	**Lormes**	**86.71**	**331**	*e*P		**P**		**12 57 10.0**	**-1.5**
	comp=Z,43nm,1.1s,mb5.3									
LOR				*e*R						
	comp=Z,294nm,20.8s									
LPL	**La Plagne**	**86.99**	**329**	*e*P		**P**		**12 57 13.0**	**+0.1**
	comp=Z,9.9nm,0.8s,mb4.8									
LPG	**La Plagne**	**87.00**	**329**	*e*P		**P**		**12 57 13.1**	**+0.2**
	comp=Z,7.0nm,0.7s,mb4.7									
SSF	**Saint Saulge**	**87.02**	**331**	*e*P		**P**		**12 57 11.7**	**-1.3**
	comp=Z,27nm,0.9s,mb5.2									
SMF	**Signal de Mont**	**87.23**	**331**	*e*P		**P**		**12 57 13.2**	**-0.8**
	comp=Z,9.9nm,0.8s,mb4.8									
GRR	**Gorron**	**87.49**	**334**	*e*P		**P**		**12 57 14.1**	**-1.1**
ORIF	**Oris-en-Rattie**	**87.83**	**329**	*e*P		**P**		**12 57 16.2**	**-0.7**
ORIF				*e*R						
	comp=Z,217nm,22.8s									
TCF	**Toulx Ste Croi**	**88.16**	**332**	*e*P		**P**		**12 57 17.6**	**-0.9**
	comp=Z,19nm,1.1s,mb4.9									
PGF	**Pioggiola**	**88.37**	**325**	*e*P		**P**		**12 57 18.8**	**-0.8**
	comp=Z,9.6nm,0.9s,mb4.7									
KSU1	**Kansas State U**	**88.44**	**40**	*e*P		**P**		**12 57 19.6**	**-0.5**
MFF	**Saint Martin d**	**88.77**	**333**	*e*P		**P**		**12 57 20.5**	**-0.9**
LMR	**La Mourre**	**88.85**	**327**	*e*P		**P**		**12 57 21.0**	**-0.9**
CAF	**Calviac**	**89.35**	**331**	*e*P		**P**		**12 57 23.4**	**-0.8**
MTLF	**Montolieu**	**90.62**	**330**	*e*P		**P**		**12 57 29.2**	**-1.0**
	comp=Z,13nm,1.0s,mb4.9									
TXAR	**Lajitas Array**	**91.56**	**51**	P		**P**		**12 57 35.1**	**+0.3**
	comp=Z,1.4nm,0.8s,mb4.4,baz=290,slow=3.4,SNR=12									
EPF	**Esparros**	**91.62**	**331**	*e*P		**P**		**12 57 33.5**	**-1.3**
CCM	**Cathedral Cave**	**91.92**	**37**	*e*P		**P**		**12 57 36.4**	**+0.2**
	comp=Z,21nm,1.6s,mb5.2									
JCT	**Junction City**	**93.07**	**48**	*e*P		**P**		**12 57 41.0**	**-0.7**
	comp=Z,9.2nm,1.3s,mb5.0									
MIAR	**Mount Ida**	**93.49**	**41**	*e*P		**P**		**12 57 44.2**	**+0.6**
	comp=Z,11nm,1.2s,mb5.2									
SBA	**Scott Base**	**116.11**	**174**	*e*P		PKPdf		13 03 10.0	-1.9	
DBIC	**Dimbokro**	**124.70**	**314**	PKP		PKPdf		13 03 28.0	-2.0	
	comp=Z,2.2nm,0.7s,baz=149,slow=8.4,SNR=4.0									
DBIC	**Dimbokro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJN	**Nakama**	**0.54**	**246**	⇓P	**Pb**	**13 26 59.5**	**+0.6**
JJN				S	**Sb**	**13 27 08.1**	**+1.8**
JNS	**Sasagawa**	**0.66**	**40**	P	**Pb**	**13 27 00.4**	**-0.5**
JNS				S	**Sb**	**13 27 09.2**	**-0.4**
JKT	**Katashina**	**0.67**	**146**	⇓P	**Pb**	**13 27 00.5**	**-0.6**
JKT				S	**Sb**	**13 27 09.5**	**-0.5**
JFY	**Yanaizu**	**0.74**	**83**	⇓P	**Pb**	**13 27 01.6**	**-0.7**
JFY				S	**Sb**	**13 27 11.0**	**-1.0**
JGK	**Kuni**	**0.77**	**189**	⇓P	**Pb**	**13 27 02.9**	**+0.2**
JSD	**Sado**	**0.83**	**330**	⇓P	**Pb**	**13 27 03.6**	**-0.1**
JSD				S	**Sb**	**13 27 14.8**	**+0.3**
MAJO	**Matsushiro**	**0.90**	**211**	*eP*	**Pb**	**13 27 05.2**	**+0.1**
MAT	**Matsushiro**	**0.90**	**211**	P	**Pb**	**13 27 05.2**	**+0.2**
MAT				S	**Sb**	**13 27 17.0**	**+0.3**
MAT	**Matsushiro**	**0.90**	**211**	P	**Pb**	**13 27 05.0**	**0.0**
MAT	**Matsushiro**	**0.90**	**211**	*eP*	**Pb**	**13 27 05.0**	**0.0**
MAT				*eS*	**Sb**	**13 27 17.0**	**+0.3**
JSB	**Shiboa**	**0.98**	**111**	⇓P	**Pb**	**13 27 06.5**	**+0.2**
JSB				S	**Sb**	**13 27 18.9**	**+0.1**
JHJ	**Hachijo jima 2**	**4.27**	**169**	P	**Pn**	**13 27 55.0**	**+1.7**
	25nm,0.3s,baz=58,slow=8.1,SNR=3.2						
HHC	**Hu-ho-hao-te**	**21.39**	**288**	*eP*	**P**	**13 31 40.5**	**+4.5**
HHC				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.1						
HHC				AMB	AMB		
	comp=Z,106nm,5.2s						
ENH	**Enshi**	**25.27**	**263**	*eP*	**P**	**13 32 13.3**	**-0.8**
	comp=Z,24nm,0.9s,mb4.7						
SONM	**Songino Array**	**25.88**	**304**	P	**P**	**13 32 19.4**	**-0.2**
	comp=Z,2.9nm,0.8s,mb3.8,baz=108,slow=9.1,SNR=8.5						
GYA	**Guiyang**	**29.21**	**258**	P	**P**	**13 32 48.3**	**-1.8**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
KURK	**Kurchatov**	**44.10**	**308**	*eP*	**P**	**13 34 55.0**	**-0.8**
	comp=Z,5.3nm,1.1s,mb4.2						
GUN	**Gumba**	**45.04**	**274**	*eP*	**P**	**13 35 04.4**	**+0.7**
PKI	**Pulchoki**	**45.56**	**274**	*eP*	**P**	**13 35 07.6**	**-0.2**
KKN	**Kakani**	**45.57**	**274**	*eP*	**P**	**13 35 08.0**	**+0.1**
DMN	**Daman**	**45.78**	**274**	*eP*	**P**	**13 35 09.2**	**-0.4**
GKN	**Gorkha**	**45.98**	**275**	*eP*	**P**	**13 35 09.2**	**-2.0**
	comp=Z,7.6nm,0.7s,mb4.8						
KOLN	**Koldanda**	**46.91**	**275**	*eP*	**P**	**13 35 12.1**	**-6.4**
BVAR	**Borovoye Array**	**48.82**	**312**	P	**P**	**13 35 31.8**	**-1.3**
	comp=Z,0.8nm,0.5s,mb4.0,baz=90,slow=10,SNR=5.4						
BVAR				PcP	PcP	13 36 57.1	-0.8
	comp=Z,0.5nm,0.4s,baz=90,slow=5.8,SNR=3.6						
ILAR	**Eielson Array**	**50.38**	**32**	P	**P**	**13 35 45.4**	**+0.5**
	comp=Z,1.5nm,0.8s,mb4.1,baz=275,slow=4.8,SNR=25						
ARU	**Arti**	**54.75**	**318**	*eP*	**P**	**13 36 16.8**	**-0.8**
	comp=Z,9.4nm,1.1s,mb4.7						
INK	**Inuvik**	**55.09**	**27**	P	**P**	**13 36 20.5**	**+0.5**
	comp=Z,1.4nm,0.6s,mb4.1,baz=263,slow=6.1,SNR=6.1						
FITZ	**Fitzroy Crossi**	**56.50**	**195**	P	**P**	**13 36 30.8**	**+0.1**
	comp=Z,1.9nm,0.9s,mb4.1,baz=146,slow=2.3,SNR=3.5						
WRAB	**Tennant Creek**	**57.10**	**185**	*eP*	**P**	**13 36 33.1**	**-1.9**
	comp=Z,5.7nm,0.6s,mb4.8						
WRA	**Warramunga Arr**	**57.11**	**185**	P	**P**	**13 36 33.5**	**-1.6**
	comp=Z,4.4nm,0.6s,mb4.7,baz=0.1,slow=7.6,SNR=74						
ASAR	**Alice Springs**	**60.83**	**185**	P	**P**	**13 37 00.0**	**-0.8**
	comp=Z,0.9nm,0.6s,mb4.0,baz=15,slow=12,SNR=11						
KAF	**Kangasniemi**	**67.08**	**332**	*ep*	**P**	**13 37 39.7**	**-1.4**
FINES	**FINESS Array B**	**67.57**	**331**	P	**P**	**13 37 43.5**	**-0.7**
	comp=Z,1.2nm,0.7s,mb4.0,baz=45,slow=11,SNR=6.7						
STKA	**Stephens Creek**	**68.89**	**177**	P	**P**	**13 37 51.9**	**-1.0**
	comp=Z,1.2nm,0.5s,mb4.0,baz=297,slow=12,SNR=4.4						
NLW	**Nelson Butte**	**69.72**	**45**	P	**P**	**13 37 58.8**	**+1.2**
AKASG	**Malin Array Be**	**72.77**	**321**	P	**P**	**13 38 15.4**	**-0.5**
	comp=Z,3.2nm,0.9s,mb4.2,baz=48,slow=6.1,SNR=7.4						
NB2	**NORSAR Subarra**	**73.09**	**336**	P	**P**	**13 38 16.2**	**-1.4**
	comp=Z,5.3nm,1.1s,mb4.4,baz=40,slow=6.2						
NOA	**NORSAR Array B**	**73.09**	**336**	P	**P**	**13 38 16.8**	**-0.9**
	comp=Z,0.9nm,1.0s,mb3.7,baz=75,slow=14,SNR=3.2						
CMB	**Columbia Colle**	**75.40**	**53**	*eP*	**P**	**13 38 32.8**	**+1.4**
	comp=Z,3.5nm,0.7s,mb4.4						
NVAR	**Mina Array Bea**	**76.48**	**52**	P	**P**	**13 38 39.6**	**+2.1**
	comp=Z,2.1nm,0.7s,mb4.2,baz=314,slow=4.3,SNR=19						
MNV	**Mina**	**76.58**	**52**	P	**P**	**13 38 39.1**	**+1.0**
	comp=Z,1.7nm,0.8s,mb4.0						
BRTR	**Keskin Array B**	**77.08**	**310**	P	**P**	**13 38 41.5**	**+0.7**
	comp=Z,1.0nm,0.8s,mb3.8,baz=112,slow=6.7,SNR=3.7						
TPH	**Tonopah**	**77.38**	**52**	*eP*	**P**	**13 38 43.9**	**+1.4**
	comp=Z,7.1nm,1.2s,mb4.5						
PDAR	**Pinedale Array**	**78.95**	**44**	P	**P**	**13 38 52.5**	**+1.5**
	comp=Z,1.6nm,0.7s,mb4.1,baz=315,slow=2.1,SNR=10						
PV10	**Paradox Valley**	**82.14**	**47**	*eP*	**P**	**13 39 10.3**	**+2.2**
PV01	**Paradox Valley**	**82.58**	**47**	*eP*	**P**	**13 39 12.3**	**+1.9**
TXAR	**Lajitas Array**	**91.59**	**51**	P	**P**	**13 39 55.2**	**+0.9**
	comp=Z,0.4nm,0.6s,mb3.9,baz=300,slow=3.0,SNR=8.2						
TXAR	**Lajitas Array**	**91.59**	**51**	P	**P**	**13 39 55.2**	**+0.9**
SAML	**Samuel**	**145.46**	**41**	*eP*	PKPbc	13 46 25.5	+0.4

*NIED **23** 13:28:00,37.30N×138.90E,h8km,Mw3.9 Best double couple: M0 7.09×10 14 NP1:φs23°,δ50°,λ88°. NP2:φs207°,δ40°,λ93°.*
*IDC **23** 13:28:16.5±0.7,37.33N×138.69E,mb4.0/11,mb1 4.2/12, mb1mx4.1/22,ML4.2/1,Error ellipse: s-maj=31.9km s-min=18.5km az=82.0*
*NEIC **23** 13:28:18.5±0.4,37.27N×138.76E,h10km,mb4.3/2,Error ellipse: s-maj=16.6km s-min=7.2km az=114.0*
*JMA **23** 13:28:18.2,37.27N×138.94E,h15km±3km,M4.2*
JMA Felt III J1.

ISC 23 13:28:18.3±0.4,37.28N±0.03×138.92E±0.03,h23km±4km, n34,σ0 94/45,mb4.0/13,1C-1D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKT	**Katashina**	**0.57**	**152**	P	**Pb**	**13 28 29.2**	**-0.4**
JKT				*eS*	**Sb**	**13 28 36.9**	**-0.4**
JJN	**Nakama**	**0.63**	**254**	P	**Pb**	**13 28 30.8**	**+0.3**
JJN				*eS*	**Sb**	**13 28 40.1**	**+1.3**
JNS	**Sasagawa**	**0.63**	**30**	P	**Pb**	**13 28 29.9**	**-0.6**
JNS				*eS*	**Sb**	**13 28 38.2**	**-0.7**
JFY	**Yanaizu**	**0.64**	**78**	⇓P	**Pb**	**13 28 30.2**	**-0.5**
JFY				S	**Sb**	**13 28 38.5**	**-0.7**
JSD	**Sado**	**0.92**	**326**	P	**Pb**	**13 28 34.6**	**-0.9**
MAJO	**Matsushiro**	**0.93**	**218**	*eP*	**Pb**	**13 28 35.3**	**-0.3**
MAT	**Matsushiro**	**0.93**	**218**	P	**Pb**	**13 28 35.1**	**-0.5**
MAT				S	**Sb**	**13 28 47.3**	**-0.2**
MAT	**Matsushiro**	**0.93**	**218**	P	**Pb**	**13 28 35.3**	**-0.3**
MAT				S	**Sb**	**13 28 47.4**	**-0.1**
MAT	**Matsushiro**	**0.93**	**218**	*eP*	**Pb**	**13 28 35.0**	**-0.6**
MAT				*eS*	**Sb**	**13 28 47.0**	**-0.5**
JAG	**Ashikaga**	**0.95**	**153**	P	**Pb**	**13 28 36.4**	**+0.4**
JAG				*eS*	**Sb**	**13 28 48.5**	**+0.3**
JFT	**Otama**	**1.16**	**77**	*eS*	**Sb**	**13 28 54.6**	**+0.6**
JAW	**Awa shima**	**1.21**	**12**	P	**Pn**	**13 28 40.1**	**+0.1**
JAW				*eS*	**Sn**	**13 28 56.6**	**+1.1**
JSZ	**Suzu**	**1.25**	**278**	P	**Pn**	**13 28 40.5**	**-0.1**
JSZ				*eS*	**Sn**	**13 28 56.9**	**+0.1**
JYS	**Shirataka**	**1.31**	**44**	P	**Pn**	**13 28 42.2**	**+0.8**
JYS				*eS*	**Sn**	**13 28 59.4**	**+1.1**
JTT	**Ttatey**	**1.43**	**243**	⇑P	**Pn**	**13 28 44.7**	**+1.5**
JHG	**Hegura jima**	**1.69**	**290**	*eS*	**Sn**	**13 29 07.8**	**-0.1**
JHJ	**Hachijo jima 2**	**4.21**	**170**	Pn	**Pn**	**13 29 24.6**	**+1.9**
	34nm,0.3s,baz=226,slow=18,SNR=3.2						
ENH	**Enshi**	**25.38**	**263**	*eP*	**P**	**13 33 42.1**	**-3.3**
	2.8nm,0.5s,mb4.0						
ILAR	**Eielson Array**	**50.36**	**32**	P	**P**	**13 37 14.3**	**-0.8**
	0.2nm,0.7s,mb3.2,baz=248,slow=5.3,SNR=3.5						
WRAB	**Tennant Creek**	**57.06**	**185**	*eP*	**P**	**13 38 02.1**	**-3.0**
	2.7nm,0.7s,mb4.4						
WRA	**Warramunga Arr**	**57.07**	**185**	P	**P**	**13 38 03.4**	**-1.8**
	2.2nm,0.7s,mb4.3,baz=0.4,slow=7.4,SNR=9.3						
ASAR	**Alice Springs**	**60.80**	**185**	P	**P**	**13 38 31.2**	**+0.3**
	0.4nm,0.7s,mb3.7,baz=15,slow=13,SNR=4.7						
ARCES	**ARCESS Array B**	**63.06**	**339**	P	**P**	**13 38 44.7**	**-0.8**
	2.0nm,0.6s,mb4.4,baz=62,slow=8.9,SNR=7.2						
FINES	**FINESS Array B**	**67.66**	**331**	P	**P**	**13 39 13.8**	**-1.3**
	3.9nm,1.0s,mb4.4,baz=101,slow=9.7,SNR=4.8						
FINES	**FINESS Array B**	**67.66**	**331**	P	**P**	**13 39 13.8**	**-1.3**
AKASG	**Malin Array Be**	**72.87**	**321**	P	**P**	**13 39 45.8**	**-1.2**
	1.0nm,0.6s,mb4.0,baz=43,slow=6.0,SNR=5.9						
NB2	**NORSAR Subarra**	**73.18**	**336**	P	**P**	**13 39 47.8**	**-0.7**
	1.3nm,0.6s,mb4.0,baz=41,slow=6.2						
NOA	**NORSAR Array B**	**73.18**	**336**	P	**P**	**13 39 48.1**	**-0.3**
	1.9nm,0.7s,mb4.1,baz=40,slow=5.9,SNR=6.5						
NVAR	**Mina Array Bea**	**76.43**	**52**	P	**P**	**13 40 09.4**	**+1.8**
	1.1nm,0.7s,mb3.9,baz=311,slow=3.4,SNR=6.7						
BRTR	**Keskin Array B**	**77.19**	**310**	P	**P**	**13 40 12.2**	**+0.3**
	1.0nm,0.9s,mb3.8,baz=100,slow=7.5,SNR=4.7						
PDAR	**Pinedale Array**	**78.90**	**44**	P	**P**	**13 40 22.5**	**+1.3**
	0.8nm,0.7s,mb3.8,baz=298,slow=1.5,SNR=3.8						
KHC	**Kasperske Hory**	**81.28**	**327**	*eP*	**P**	**13 40 33.5**	**-0.2**
GERES	**GERESS Array B**	**81.44**	**327**	P	**P**	**13 40 34.7**	**+0.1**
	0.6nm,0.6s,mb3.7,baz=45,slow=5.7,SNR=4.4						
PV10	**Paradox Valley**	**82.09**	**47**	*eP*	**P**	**13 40 39.0**	**+0.9**

MOS 23 13:31:00.6±2.1,52.83N×107.49E,h14km,mb4.4/1,Error ellipse: s-maj=46.4km s-min=23.4km az=61.6,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRG	**Tyrgan**	**0.70**	**265**	*e*PG	Pg	13 31 13.7	-1.0
TRG				*e*		13 31 23.6	
TRG				pmax	pmax		
	comp=Z,96nm,0.1s						
TRG				smax			
	comp=N,695nm,0.1s						
OGRR	**Ongureny**	**0.82**	**4**	*e*PG	Pg	13 31 16.1	-1.0
OGRR				*eS*	Sb	13 31 27.0	+0.3
KAB	**Kabansk**	**0.93**	**214**	*e*PG	Pg	13 31 18.2	-1.2
KAB				*e*		13 31 31.2	
KAB				pmax	pmax		
	comp=Z,201nm,0.3s						
KAB				smax			
	comp=E,2μm,0.4s						
SYVR	**Suvo**	**1.72**	**60**	*e*PN	Pn	13 31 30.6	+0.2
SYVR				*e*		13 31 32.0	
SYVR				*e*		13 31 52.5	
ARS	**Arshan**	**3.24**	**256**	*e*PN	Pn	13 31 57.0	+4.9
ARS				*e*		13 32 39.0	
ARS				pmax	pmax		
	comp=Z,23nm,0.2s						
ARS				smax			
	comp=E,223nm,0.2s						

*JMA **23** 13:34:56.2,37.27N×138.93E,h17km±3km,M4.4 Broadband fault plane solution: P waves. NP1:φs330°, δ63°,λ8°. NP2:φs236°,δ83°,λ153°. Principal axes: T Plg24°, Azm190°; N Plg62°, Azm42°; P Plg13°, Azm286°;*
JMA Felt IV J1.
*NEIC **23** 13:34:57.5±0.4,37.12N×138.86E,h10km,mb4.7/9, MW4.3(NIED) Error ellipse: s-maj=11.1km s-min=7.7km az=113.0*
*BJI **23** 13:34:59.5,37.25N×138.50E,h10km,mB4.9,mb4.5, Ms4.3,Msz4.4*
*NIED **23** 13:35:00,37.30N×138.90E,h11km,Mw4.3 Best double couple: M0 3.04×10 15 NP1:φs340°,δ72°,λ39°. NP2:φs236°, δ53°,λ157°.*
*IDC **23** 13:35:03.1±3.8,37.07N×138.79E,h59km±35km,mb3.9/16, mb1 4.1/18,mb1mx4.0/25,ML4.6/1,MS3.4/2,Ms1 3.5/2, ms1mx3.0/29,Error ellipse: s-maj=22.8km s-min=14.6km az=71.0*

ISC 23 13:34:55.0±0.8,37.29N±0.03×138.88E±0.05,h3km±6km, n49,σ1 9 20/53,mb4.3/24,MS3.3/1,3C-1D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKT	**Katashina**	**0.60**	**150**	⇑P	**Pg**	**13 35 07.3**	**+0.4**
JKT				*eS*	**Sg**	**13 35 14.8**	**-0.1**
JNS	**Sasagawa**	**0.64**	**33**	⇑P	**Pg**	**13 35 07.9**	**+0.2**
JNS				*eS*	**Sg**	**13 35 16.2**	**0.0**
JFY	**Yanaizu**	**0.67**	**79**	⇓P	**Pg**	**13 35 08.2**	**-0.2**
JFY				*eS*	**Sg**	**13 35 16.7**	**-0.6**
JGK	**Kuni**	**0.75**	**195**	⇑P	**Pg**	**13 35 10.5**	**+0.6**
MAJO	**Matsushiro**	**0.92**	**216**	*eP*	**Pb**	**13 35 13.2**	**+0.1**
MAT	**Matsushiro**	**0.92**	**216**	P	**Pb**	**13 35 13.4**	**+0.3**
MAT				S	**Sb**	**13 35 25.3**	**-0.1**
MAT	**Matsushiro**	**0.92**	**216**	*eP*	**Pb**	**13 35 13.0**	**-0.1**
MAT				*eS*	**Sb**	**13 35 25.0**	**-0.4**
JHJ	**Hachijo jima 2**	**4.22**	**170**	P	**Pn**	**13 36 01.6**	**-0.1**
	110nm,0.3s,baz=50,slow=5.0,SNR=16						
JHJ				S	**Sn**	**13 36 53.5**	**+1.3**
	18nm,0.3s,baz=257,slow=23,SNR=3.8						
JHJ				LR	LR	13 37 43.5	
	comp=Z,618nm,18.6s,baz=241,slow=40						
MDJ	**Mudanjiang**	**10.14**	**319**	*eP*	**P**	**13 37 24.2**	**-0.3**
	18nm,1.2s						
BJI	**Beijing**	**17.94**	**286**	P	**P**	**13 39 08.0**	**+1.1**
BJI				AMB	AMB		
	comp=Z,11nm,1.3s						
BJI	**Beijing**	**17.94**	**286**	P	**P**	**13 39 08.0**	**+1.1**
	comp=Z,11nm,1.3s						
BJT	**Baijiatuau**	**17.94**	**286**	P	**P**	**13 39 04.6**	**-2.4**
HHC	**Hu-ho-hao-te**	**21.47**	**288**	*eP*	**P**	**13 39 48.8**	**+2.2**
HHC				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.0						
HHC				AMB	AMB		
	comp=Z,122nm,4.8s						
ENH	**Enshi**	**25.34**	**263**	*eP*	**P**	**13 40 22.2**	**-2.4**
	comp=Z,16nm,1.1s,mb4.5						
SONM	**Songino Array**	**25.97**	**304**	P	**P**	**13 40 31.2**	**+1.0**
	comp=Z,18nm,1.4s,mb4.4,baz=106,slow=9.0,SNR=11						
CMAR	**Chiang Mai Arr**	**39.62**	**253**	LR	LR	14 01 23.0	
	comp=Z,38nm,18.2s,MS3.3,baz=85,slow=40						
ZAL	**Zalesovo**	**40.26**	**312**	P	**P**	**13 42 34.7**	**+0.3**
	comp=Z,0.6nm,0.5s,mb3.6,baz=11,slow=5.6,SNR=3.1						
ZAL	**Zalesovo**	**40.26**	**312**	P	**P**	**13 42 34.7**	**+0.3**
KURK	**Kurchatov**	**44.18**	**308**	*eP*	**P**	**13 43 05.2**	**-1.3**
	comp=Z,3.3nm,0.8s,mb4.1						
BVAR	**Borovoye Array**	**48.90**	**312**	P	**P**	**13 43 43.8**	**+0.1**
	comp=Z,4.7nm,1.1s,mb4.4,baz=76,slow=6.1,SNR=7.1						
ILAR	**Eielson Array**	**50.37**	**32**	P	**P**	**13 43 56.9**	**+2.1**
	comp=Z,0.3nm,0.7s,mb3.5,baz=268,slow=4.6,SNR=10.0						
ARU	**Arti**	**54.82**	**318**	*eP*	**P**	**13 44 28.8**	**+0.6**
	comp=Z,14nm,1.1s,mb4.9						
WRAB	**Tennant Creek**	**57.07**	**185**	*eP*	**P**	**13 44 41.0**	**-3.8**
	comp=Z,9.5nm,1.1s,mb4.7						
WRA	**Warramunga Arr**	**57.08**	**185**	P	**P**	**13 44 41.4**	**-3.6**
	comp=Z,4.1nm,0.9s,mb4.5,baz=0.3,slow=7.6,SNR=44						
ASAR	**Alice Springs**	**60.80**	**185**	P	**P**	**13 45 08.0**	**-2.8**
	comp=Z,0.8nm,0.8s,mb3.9,baz=6.0,slow=5.7,SNR=10						
ARCES	**ARCESS Array B**	**63.04**	**339**	P	**P**	**13 45 23.3**	**-1.8**
	comp=Z,5.8nm,1.0s,mb4.7,baz=39,slow=7.8,SNR=6.4						
KAF	**Kangasniemi**	**67.14**	**332**	*ep*	**P**	**13 45 50.6**	**-1.0**
	comp=Z,3.9nm,0.7s,mb4.5,baz=51,slow=6.0						
FINES	**FINESS Array B**	**67.64**	**331**	P	**P**	**13 45 53.0**	**-1.8**
	comp=Z,7.0nm,0.8s,mb4.7,baz=76,slow=7.9,SNR=12						
FINES	**FINESS Array B**	**67.64**	**331**	P	**P**	**13 45 53.0**	**-1.8**
STKA	**Stephens Creek**	**68.85**	**178**	P	**P**	**13 46 00.1**	**-2.7**
	comp=Z,1.0nm,0.7s,mb3.9,baz=358,slow=23,SNR=2.9						
SUMG	**Summit**	**70.42**	**359**	*eP*	**P**	**13 46 11.5**	**-0.2**
	comp=Z,11nm,1.0s,mb4.7						
NEW	**Newport**	**71.35**	**43**	P	**P**	**13 46 17.3**	**-0.4**
	comp=Z,1.7nm,0.8s,mb4.0,baz=62,slow=4.0,SNR=3.7						
NEW	**Newport**	**71.35**	**43**	*eP*	**P**	**13 46 17.2**	**-0.5**
	comp=Z,4.5nm,1.2s,mb4.3						
AKASG	**Malin Array Be**	**72.85**	**321**	P	**P**	**13 46 27.1**	**+0.6**
	comp=Z,3.2nm,0.6s,mb4.4,baz=45,slow=6.3,SNR=14						
HFS	**Hagfors**	**73.01**	**335**	P	**P**	**13 46 28.0**	**+0.7**
	comp=Z,6.0nm,1.1s,mb4.4,baz=22,slow=7.8,SNR=4.2						
NB2	**NORSAR Subarra**	**73.16**	**336**	P	**P**	**13 46 26.0**	**-2.1**
	comp=Z,5.2nm,0.7s,mb4.6,baz=41,slow=5.8						
NOA	**NORSAR Array B**	**73.16**	**336**	P	**P**	**13 46 28.5**	**+0.4**
	comp=Z,3.8nm,0.6s,mb4.5,baz=40,slow=5.9,SNR=18						
NOA	**NORSAR Array B**	**73.16**	**336**	P	**P**	**13 46 28.5**	**+0.4**
BRTR	**Keskin Array B**	**77.16**	**310**	P	**P**	**13 46 51.0**	**-0.4**
	comp=Z,1.1nm,0.5s,mb4.0,baz=90,slow=4.9,SNR=9.8						
PDAR	**Pinedale Array**	**78.92**	**44**	P	**P**	**13 47 00.9**	**-0.1**
	comp=Z,0.5nm,0.4s,mb3.8,baz=270,slow=1.5,SNR=4.3						
PSZ	**Piszkesteto**	**79.26**	**323**	*eP*	**P**	**13 47 03.0**	**+0.3**
CLL	**Collm**	**79.85**	**329**	P	**P**	**13 47 08.0**	**+2.1**
CLL	**Collm**	**79.85**	**329**	*eP*	**P**	**13 47 08.0**	**+2.1**
PRU	**Pruhonice**	**80.19**	**327**	*eP*	**P**	**13 47 10.0**	**+2.2**
KHC	**Kasperske Hory**	**81.25**	**327**	*eP*	**P**	**13 47 15.5**	**+2.1**
GERES	**GERESS Array B**	**81.41**	**327**	P	**P**	**13 47 13.2**	**-1.0**
	comp=Z,3.1nm,1.0s,mb4.2,baz=18,slow=4.2,SNR=9.3						
PV10	**Paradox Valley**	**82.11**	**47**	*eP*	**P**	**13 47 19.0**	**+0.9**
TXAR	**Lajitas Array**	**91.55**	**51**	P	**P**	**13 48 04.6**	**+0.2**
	comp=Z,0.5nm,0.8s,mb3.9,baz=270,slow=3.8,SNR=4.9						
SAML	**Samuel**	**145.44**	**41**	*e*PKPdf	PKPdf	13 54 35.2	-1.9

IDC 23 13:40:21.3±62.0,15.68S×177.93W,mb4.4/3,mb1 4.6/3, mb1mx3.9/14,Error ellipse: s-maj=1152.0km s-min=166.9km az=76.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.14**	**239**	P	P	13 47 58.7	-2.0
	1.0nm,0.4s,baz=89,slow=7.3,SNR=4.9						
WRA	**Warramunga Arr**	**45.53**	**257**	P	P	13 48 43.3	-1.5
	3.4nm,0.6s,baz=90,slow=7.5,SNR=10.0						
ASAR	**Alice Springs**	**45.87**	**252**	P	P	13 48 45.7	-1.8
	6.3nm,0.4s,baz=86,slow=7.9,SNR=61						

IDC 23 13:44:19.8±2.4,7.38S×130.35E,mb3.7/2,mb1 4.2/5, mb1mx4.0/11,ML4.0/3,Error ellipse: s-maj=70.5km s-min=26.6km az=62.0,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.60**	**203**	Pn	P	13 47 07.5	-2.3
	1.1nm,0.3s,baz=19,slow=7.5,SNR=70						
FITZ				Sn	S	13 49 09.0	-12
	3.0nm,0.3s,baz=202,slow=10,SNR=6.6						
WRA	**Warramunga Arr**	**13.07**	**163**	Pn	P	13 47 24.8	-4.8
	1.0nm,0.3s,baz=345,slow=14,SNR=49						
WRA				Sn	S	13 49 42.5	-14
	3.8nm,0.3s,baz=334,slow=22,SNR=16						
ASAR	**Alice Springs**	**16.55**	**168**	Pn	P	13 48 13.0	-2.0
	0.7nm,0.3s,baz=353,slow=14,SNR=36						
ASAR				Sn	S	13 51 06.5	-13
	1.2nm,0.3s,baz=353,slow=28,SNR=12						
STKA	**Stephens Creek**	**26.53**	**158**	P	P	13 49 60.0	-1.1
	1.4nm,0.6s,baz=338,slow=10,SNR=3.2						
CMAR	**Chiang Mai Arr**	**40.24**	**310**	P	P	13 51 58.4	-1.8
	0.7nm,0.8s,baz=121,slow=6.7,SNR=4.0						

IDC 23 13:46:29.5±1.6,4.74S×145.29E,mb3.8/3,mb1 4.1/4, mb1mx3.8/12,Error ellipse: s-maj=45.7km s-min=29.6km az=86.0,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.99**	**158**	Pn	Pn	13 47 45.5	-1.9
	7.1nm,0.3s,baz=28,slow=5.6,SNR=24						
PMG				Sn	Sn	13 48 38.0	-8.8
	22nm,0.3s,baz=319,slow=23,SNR=18						
ASAR	**Alice Springs**	**21.79**	**209**	P	P	13 51 23.2	-1.9
	3.7nm,0.5s,baz=28,slow=12,SNR=8.9						
CMAR	**Chiang Mai Arr**	**51.16**	**298**	P	P	13 55 35.0	-1.8
	1.1nm,0.9s,baz=116,slow=6.5,SNR=4.7						
ILAR	**Eielson Array**	**85.00**	**23**	P	P	13 59 06.5	-1.3
	0.3nm,0.8s,baz=258,slow=5.3,SNR=5.3						

JMA 23 13:55:30.0±0.3,26.16N×124.33E,h173km,M3.8, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTJ	**Tarama**	**1.55**	**167**	P	P	13 56 02.3	+0.1
JTJ				S	S	13 56 26.2	-0.9
JMJ	**Miyako jima 2**	**1.60**	**147**	P	P	13 56 02.9	+0.2
JMJ				S	S	13 56 27.2	-0.8
JOGS	**Gusukube**	**1.70**	**145**	P	P	13 56 04.1	+0.4
JOGS				S	S	13 56 28.8	-1.0
JIJ	**Ishigaki jima**	**1.80**	**185**	P	P	13 56 04.1	-0.6
JIJ				S	S	13 56 29.5	-2.0
IRIF	**Iriomote-Funau**	**1.90**	**197**	P	P	13 56 05.1	-0.7
IRIF				*eS*	S	13 56 33.3	-0.1
JKRS	**Kuro-shima**	**1.94**	**189**	P	P	13 56 05.9	-0.3
JKRS				*eS*	S	13 56 32.5	-1.6
YOJ	**Yonaguni jima**	**2.07**	**216**	P	P	13 56 08.2	+0.5
YOJ				*eS*	S	13 56 37.6	+0.8
HATJ	**Hateruma jima**	**2.15**	**193**	P	P	13 56 08.2	-0.4
HATJ				*eS*	S	13 56

FINES	**FINESS Array B**	**67.56**	**331**	P	**P**	**14 08 56.7**	**+1.5**
	comp=Z,1.7nm,0.8s,mb4.1,baz=56,slow=10.0,SNR=2.9						
AKASG	**Malin Array Be**	**72.79**	**321**	P	**P**	**14 09 27.8**	**+0.6**
	comp=Z,0.4nm,0.3s,mb3.9,baz=46,slow=5.8,SNR=4.5						
NB2	**NORSAR Subarra**	**73.06**	**336**	P	**P**	**14 09 26.3**	**-2.2**
	comp=Z,2.5nm,1.0s,mb4.1,baz=40,slow=6.2						
NOA	**NORSAR Array B**	**73.06**	**336**	P	**P**	**14 09 27.8**	**-0.7**
	comp=Z,1.0nm,0.8s,mb3.8,baz=41,slow=5.8,SNR=3.9						
NVAR	**Mina Array Bea**	**76.29**	**52**	P	**P**	**14 09 48.6**	**+1.1**
	comp=Z,0.9nm,0.7s,mb3.8,baz=304,slow=4.2,SNR=7.1						
PDAR	**Pinedale Array**	**78.75**	**44**	P	**P**	**14 10 02.2**	**+1.1**
	comp=Z,0.6nm,0.4s,mb3.9,baz=333,slow=2.0,SNR=3.8						
GERES	**GERESS Array B**	**81.34**	**327**	P	**P**	**14 10 14.9**	**+0.1**
	comp=Z,0.2nm,0.3s,mb3.5,baz=27,slow=6.0,SNR=4.0						
PV10	**Paradox Valley**	**81.95**	**47**	*eP*	**P**	**14 10 20.1**	**+2.0**
TXAR	**Lajitas Array**	**91.39**	**51**	P	**P**	**14 11 05.2**	**+0.7**
	comp=Z,0.3nm,0.8s,mb3.7,baz=333,slow=4.0,SNR=3.7						
SAML	**Samuel**	**145.28**	**41**	*e*PKPdf	PKPdf	14 17 35.5	-3.8
LPAZ	**La Paz**	**148.12**	**56**	PKPbc	PKPdf	14 17 42.6	-1.3
	comp=Z,1.9nm,0.3s,baz=256,slow=0.5,SNR=3.6						

*TAP **23** 14:04:27.5,25.01N×121.56E,h10km,ML3.7*
TAP Felt II J at Mucha, IV J at Taipai, II J at Kuangyinshan.
*JMA **23** 14:04:27.3±0.3,24.11N×121.65E,M3.2*
ISC 23 14:04:27.9±0.3,25.01N±0.02×121.62E±0.02,h9km±2km, n44,σ1§11/74,4C-11D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TWA	**Mucha**	**0.04**	**231**	⇑*iP*		**Pg**	**14 04 29.7**	**-0.1**
TWA				S		**Sg**	**14 04 31.3**	**+0.3**
TAP1	**Taipei**	**0.09**	**291**	⇑*iP*		**Pg**	**14 04 29.8**	**-0.6**
TAP	**Taipei**	**0.11**	**289**	⇑*iP*		**Pg**	**14 04 29.8**	**-0.8**
TAP				S		**Sg**	**14 04 31.7**	**-0.8**
NWF	**Wu-fen Shan**	**0.16**	**66**	⇓*iP*		**Pg**	**14 04 32.5**	**+0.9**
NWF				S		**Sg**	**14 04 35.8**	**+1.8**
TWS1	**Kuangyinshan**	**0.20**	**298**	⇓*iP*		**Pg**	**14 04 32.0**	**-0.3**
TWS1				S		**Sg**	**14 04 35.1**	**-0.2**
ILA	**Ilan**	**0.27**	**154**	⇓*iP*		**Pg**	**14 04 34.2**	**+0.7**
ILA				S		**Sg**	**14 04 38.9**	**+1.7**
TWY	**Chenhua**	**0.27**	**357**	⇓*iP*		**Pg**	**14 04 33.7**	**+0.1**
TWY				S		**Sg**	**14 04 37.9**	**+0.6**
TWE	**Neicheng**	**0.29**	**171**	⇓*iP*		**Pg**	**14 04 34.2**	**+0.4**
TWE				S		**Sg**	**14 04 38.5**	**+0.7**
ENTT	**Nioudou**	**0.37**	**187**	⇓*iP*		**Pg**	**14 04 35.3**	**-0.1**
ENT				S		**Sg**	**14 04 40.0**	**-0.1**
NCU	**National Centr**	**0.39**	**265**	⇓P		**Pg**	**14 04 35.6**	**-0.3**
NCU				S		**Sg**	**14 04 41.2**	**0.0**
NSK	**Sanguang**	**0.40**	**216**	⇓*iP*		**Pg**	**14 04 35.2**	**-0.9**
NSK				S		**Sg**	**14 04 40.0**	**-1.7**
TWC	**Suao**	**0.45**	**152**	⇓*iP*		**Pg**	**14 04 37.1**	**+0.1**
TWC				S		**Sg**	**14 04 44.7**	**+1.6**
ENA	**Nanau**	**0.59**	**169**	⇓*iP*		**Pg**	**14 04 39.2**	**-0.5**
ENA				S		**Sg**	**14 04 48.6**	**+1.0**
NNS	**Nan Shan**	**0.60**	**202**	⇓*iP*		**Pg**	**14 04 39.1**	**-1.0**
NNS				S		**Sg**	**14 04 46.0**	**-2.2**
HSN	**Hsinchu**	**0.62**	**251**	*eP*		**Pg**	**14 04 39.0**	**-1.4**
HSN				S		**Sg**	**14 04 47.4**	**-1.4**
NSTT	**Nanjuang**	**0.67**	**236**	*eP*		**Pb**	**14 04 40.7**	**-0.6**
NSTT				S		**Sg**	**14 04 51.3**	**+0.8**
PCYT	**Pengchaiyu**	**0.74**	**33**	⇑P		**Pb**	**14 04 43.2**	**+0.7**
PCYT				S		**Sb**	**14 04 54.4**	**+1.9**
TWT	**Tachien**	**0.85**	**208**	*eP*		**Pb**	**14 04 43.5**	**-0.8**
TWT				S		**Sb**	**14 04 53.2**	**-2.4**
TWD	**Chiawan**	**0.92**	**181**	*eP*		**Pb**	**14 04 44.3**	**-1.2**
TWD				S		**Sb**	**14 04 56.4**	**-1.3**
NSY	**Sanyi**	**0.97**	**233**	*eP*		**Pb**	**14 04 46.4**	**-0.1**
NSY				S		**Sb**	**14 05 00.3**	**+1.1**
TWQ1	**Liyutan**	**1.01**	**230**	*eP*		**Pb**	**14 04 46.7**	**-0.4**
TWQ1				S		**Sb**	**14 05 01.0**	**+0.8**
HWA	**Hwalien**	**1.02**	**181**	*eP*		**Pb**	**14 04 47.1**	**-0.2**
ESL	**Shilin**	**1.20**	**188**	*eP*		**Pb**	**14 04 49.8**	**-0.5**
ESL				S		**Sb**	**14 05 06.4**	**+0.7**
TCU	**Taichung**	**1.21**	**225**	*eP*		**Pb**	**14 04 50.6**	**+0.1**
SMLT	**Sun Moon Lake**	**1.29**	**210**	*eP*		**Pb**	**14 04 51.5**	**-0.5**
SMLT				S		**Sb**	**14 05 09.8**	**+1.3**
TYC	**Yuchr**	**1.30**	**212**	*eP*		**Pb**	**14 04 51.5**	**-0.5**
YOJ	**Yonaguni jima**	**1.38**	**113**	P		**Pn**	**14 04 52.0**	**-1.3**
YOJ				*eS*		**Sb**	**14 05 09.3**	**-1.6**
WNT	**Mingjian**	**1.41**	**217**	*eP*		**Pn**	**14 04 55.7**	**+2.0**
EHY	**Hungye**	**1.52**	**190**	*eP*		**Pn**	**14 04 55.2**	**-0.1**
EHY				S		**Sb**	**14 05 14.1**	**-0.8**
CHN5	**Tsauling**	**1.64**	**212**	*eP*		**Pn**	**14 04 57.1**	**0.0**
ALS	**Alishan**	**1.66**	**207**	*eP*		**Pn**	**14 04 58.6**	**+1.2**
ALS				S		**Sn**	**14 05 20.6**	**+1.6**
TWF1	**Yuli**	**1.67**	**190**	*eP*		**Pn**	**14 04 57.8**	**+0.3**
TWF1				S		**Sn**	**14 05 20.2**	**+1.0**
ELDTW	**Lidau**	**1.89**	**197**	*eP*		**Pn**	**14 05 00.5**	**-0.1**
ELDTW				S		**Sn**	**14 05 26.0**	**+1.2**
CHN4	**Tsaushan**	**1.89**	**210**	*eP*		**Pn**	**14 05 01.9**	**+1.1**
STYT	**Tauyuan**	**2.00**	**203**	*eP*		**Pn**	**14 05 04.3**	**+2.1**
TWK	**Hsinying**	**2.02**	**211**	*eP*		**Pn**	**14 05 05.0**	**+2.6**
IRIF	**Iriomote-Funau**	**2.04**	**109**	P		**Pn**	**14 05 01.3**	**-1.4**
IRIF				*eS*		**Sn**	**14 05 26.9**	**-1.6**
CHN1	**Nanshi**	**2.07**	**209**	*eP*		**Pn**	**14 05 02.9**	**-0.3**
HATJ	**Hateruma jima**	**2.21**	**115**	*eS*		**Sn**	**14 05 28.3**	**-4.5**
TWG	**Pinlang**	**2.23**	**193**	*eP*		**Pn**	**14 05 05.4**	**-0.1**
JKRS	**Kuro-shima**	**2.31**	**109**	P		**Pn**	**14 05 05.6**	**-1.0**
JKRS				*eS*		**Sn**	**14 05 32.9**	**-2.5**
JIJ	**Ishigaki jima**	**2.38**	**105**	P		**Pn**	**14 05 07.2**	**-0.5**
JIJ				*eS*		**Sn**	**14 05 35.5**	**-1.8**
ECL	**Taimali**	**2.47**	**194**	*eP*		**Pn**	**14 05 10.4**	**+1.4**
EAST	**Anshuo**	**2.70**	**195**	*eP*		**Pn**	**14 05 14.5**	**+2.2**

IDC 23 14:09:21.0±16.0,10.04N×92.47E,h126km±193km, mb3.3/2,mb1 3.5/3,mb1mx3.1/17,ML3.7/1,Error ellipse: s-maj=156.0km s-min=109.4km az=138.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.45**	**36**	P		P	14 11 47.5	-0.9
	0.2nm,0.3s,baz=228,slow=14,SNR=6.9							
CMAR				S		S	14 13 43.4	-0.4
	0.1nm,0.3s,baz=238,slow=40,SNR=3.1							
WRA	**Warramunga Arr**	**50.86**	**126**	P		P	14 18 09.2	-2.0
	0.6nm,0.4s,baz=305,slow=8.6,SNR=30							
ASAR	**Alice Springs**	**52.56**	**130**	P		P	14 18 21.8	-2.2
	0.3nm,0.4s,baz=308,slow=7.1,SNR=9.2							

JMA 23 14:14:42.6±0.1,37.29N×138.90E,h13km±2km,M2.1, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JKT	**Katashina**	**0.59**	**152**	P		Pb	14 14 54.0	-0.3
JKT				S		Sb	14 15 02.2	-0.1
JFY	**Yanaizu**	**0.65**	**79**	S		Sb	14 15 03.4	-0.6
MAT	**Matsushiro**	**0.93**	**217**	S		Sb	14 15 14.1	+2.0

*NIED **23** 14:15:00,37.30N×139.00E,h5km,Mw3.8 Best double couple: M0 5.42×10¹⁴ NP1:φs30°,δ50°,λ93°. NP2:φs205°, δ40°,λ87°.*
*JMA **23** 14:15:57.1,37.35N×138.97E,h15km±2km,M3.7*
JMA Felt II J1.
ISC 23 14:15:56.5±1.6,37.34N±0.07×139.0E±0.2,h8km±30km,n4, σ0§08/7,2D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JNS	**Sasagawa**	**0.56**	**31**	P		**Pg**	**14 16 07.6**	**-0.1**
JNS				S		**Sg**	**14 16 15.3**	**+0.1**
JFY	**Yanaizu**	**0.60**	**83**	⇓P		**Pg**	**14 16 08.5**	**0.0**
JFY				S		**Sg**	**14 16 16.6**	**0.0**
JKT	**Katashina**	**0.62**	**158**	⇓P		**Pg**	**14 16 08.9**	**0.0**
MAT	**Matsushiro**	**0.99**	**217**	⇓P		**Pb**	**14 16 15.5**	**0.0**
MAT				*eS*		**Sb**	**14 16 28.6**	**0.0**

*NIED **23** 14:23:00,37.30N×138.90E,h5km,Mw3.8 Best double couple: M0 5.92×10¹⁴ NP1:φs44°,δ57°,λ94°. NP2:φs217°, δ33°,λ83°.*
*JMA **23** 14:23:03.7,37.35N×138.97E,h15km±2km,M3.8*
JMA Felt II J1.
*NEIC **23** 14:23:04.4±0.5,37.28N×138.90E,h10km,Error ellipse: s-maj=16.9km s-min=7.0km az=115.0*
*IDC **23** 14:23:10.2±4.2,37.27N×138.81E,h62km±39km,mb3.4/9, mb1 3.7/10,mb1mx3.5/23,ML3.9/1,Error ellipse: s-maj=32.4km s-min=19.3km az=80.0*
ISC 23 14:23:03.6±0.6,37.35N±0.04×138.97E±0.06,h22km±5km, n18,σ0§81/24,mb3.7/9,2D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JNS	**Sasagawa**	**0.54**	**31**	P		**Pb**	**14 23 14.1**	**-0.2**
JNS				S		**Sb**	**14 23 21.5**	**-0.2**
JFY	**Yanaizu**	**0.59**	**85**	⇓P		**Pb**	**14 23 15.1**	**0.0**
JFY				S		**Sb**	**14 23 23.3**	**+0.2**
JKT	**Katashina**	**0.63**	**159**	⇓P		**Pb**	**14 23 15.5**	**-0.3**
JKT				S		**Sb**	**14 23 23.8**	**-0.3**
JJN	**Nakama**	**0.69**	**249**	P		**Pb**	**14 23 17.0**	**+0.2**
JGK	**Kuni**	**0.83**	**198**	P		**Pb**	**14 23 19.3**	**+0.1**
JGK				S		**Sb**	**14 23 30.6**	**+0.6**
MAJO	**Matsushiro**	**1.01**	**217**	*eP*		**Pb**	**14 23 22.1**	**-0.2**
MAT	**Matsushiro**	**1.01**	**217**	P		**Pb**	**14 23 22.1**	**-0.2**
MAT				S		**Sb**	**14 23 35.3**	**+0.1**
MAT	**Matsushiro**	**1.01**	**217**	*eP*		**Pb**	**14 23 22.0**	**-0.3**
MAT				*eS*		**Sb**	**14 23 35.0**	**-0.2**
JHJ	**Hachijo jima 2**	**4.28**	**171**	P		**Pn**	**14 24 12.1**	**+3.0**
	19nm,0.3s,baz=61,slow=20,SNR=3.0							
SONM	**Songino Array**	**25.99**	**304**	P		**P**	**14 28 36.6**	**+0.3**
	0.8nm,0.7s,mb3.4,baz=83,slow=12,SNR=3.2							
INK	**Inuvik**	**54.99**	**27**	P		**P**	**14 32 35.2**	**+0.2**
	0.4nm,0.4s,mb3.8,baz=315,slow=1.4,SNR=2.3							
WRA	**Warramunga Arr**	**57.15**	**185**	P		**P**	**14 32 49.7**	**-1.5**
	1.5nm,0.9s,mb4.0,baz=0.8,slow=7.6,SNR=22							
ASAR	**Alice Springs**	**60.88**	**185**	P		**P**	**14 33 15.5**	**-1.4**
	0.3nm,0.6s,mb3.6,baz=12,slow=13,SNR=6.4							
FINES	**FINESS Array B**	**67.61**	**331**	P		**P**	**14 33 59.5**	**-0.7**
	2.0nm,1.0s,mb4.1,baz=18,slow=6.0,SNR=4.3							
AKASG	**Malin Array Be**	**72.84**	**321**	P		**P**	**14 34 31.4**	**-0.7**
	0.3nm,0.4s,mb3.6,baz=46,slow=6.6,SNR=4.6							
NOA	**NORSAR Array B**	**73.12**	**336**	P		**P**	**14 34 33.8**	**+0.1**
	0.7nm,0.8s,mb3.6,baz=46,slow=9.1,SNR=3.6							
BRTR	**Keskin Array B**	**77.17**	**310**	P		**P**	**14 34 58.5**	**+1.4**
	0.6nm,0.6s,mb3.7,baz=153,slow=5.5,SNR=3.8							
PDAR	**Pinedale Array**	**78.82**	**44**	P		**P**	**14 35 07.7**	**+1.6**
	0.3nm,0.7s,mb3.3,slow=3.0,SNR=2.7							

JMA 23 14:33:31.7,37.33N×138.87E,h15km±2km,M2.6,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JNS	**Sasagawa**	**0.60**	**36**	*eS*		Sb	14 33 51.7	+0.3
JKT	**Katashina**	**0.64**	**152**	P		Pb	14 33 44.0	0.0
JKT				*eS*		Sb	14 33 52.5	+0.1
JFY	**Yanaizu**	**0.67**	**83**	*eS*		Sb	14 33 53.4	+0.1
MAT	**Matsushiro**	**0.95**	**214**	P		Pb	14 33 49.2	-0.1
MAT				*eS*		Sb	14 34 01.2	-0.2

*NIED **23** 14:34:00,37.30N×138.90E,h11km,Mw5.0 Best double couple: M0 4.14×10¹⁶ NP1:φs223°,δ55°,λ106°. NP2:φs17°, δ38°,λ69°.*
*BJI **23** 14:34:40.7,37.24N×139.38E,h14km,mB5.2,mb5.1, Ms5.0,Ms2.4.8*
*BGS **23** 14:34:45.8±1.9,37.29N×138.71E,h15km,mb5.7*
*JMA **23** 14:34:45.6,37.32N×138.91E,h20km±2km,M5.3 Broadband fault plane solution: P waves. NP1:φs14°,δ32°, λ68°. NP2:φs220°,δ61°,λ103°. Principal axes: T Plg71°, Azm159°; N Plg11°, Azm33°; P Plg15°, Azm300°;*
JMA Felt IV J1.
*NEIC **23** 14:34:46.0±0.1,37.29N×138.73E,mb5.4/146,MS4.5/4, MW5.0(NIED) Error ellipse: s-maj=3.7km s-min=2.6km az=171.0*
NEIC Felt in Tokyo Prefecture.
*SYO **23** 14:34:45.6,37.29N×138.71E,h14km,MB5.5*
*IDC **23** 14:34:46.1±4.1,37.29N×138.74E,h18km±25km,mb5.1/33, mb1 5.3/36,mb1mx5.3/37,ML4.5/2,MS4.3/20,Ms1 4.3/20, ms1mx4.0/39,Error ellipse: s-maj=12.8km s-min=9.4km az=89.0*
*HRVD **23** 14:34:46.0±0.3,37.42N×138.76E,h19km,MW5.2/61, Centroid moment Tensor Solution. LP body waves: s37,c50;Mantle waves: s61,c110; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr5.27±.30; Mθθ-1.08±.18; Mφφ-4.19±.20; Mre-3.07±.43; Mθφ-2.32±.12; Mφr-2.19±.37; Best double couple: M0 6.54×10¹⁶ NP1: φs14°,δ30°,λ65°. NP2:φs223°,δ63°,λ104°. Principal axes: T 6.65, Plg69°, Azm161°; N -.21, Plg12°, Azm36°; P -6.44, Plg17°, Azm302°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **23** 14:34:47.4±0.9,37.36N×138.68E,h33km,mb5.6/70, MS4.8/24 Error ellipse: s-maj=8.0km s-min=4.9km az=90.0*
ISC 23 14:34:45.4±0.4,37.32N±0.02×138.80E±0.02,h20km±2km, h16km±1.0km:pP-P,n743,σ0§89/724,mb5.4/203,MS4.7/45, 113C-34D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JJN	**Nakama**	**0.55**	**247**	⇓P		**Pb**	**14 34 58.0**	**+1.7**
JNS	**Sasagawa**	**0.65**	**39**	⇑P		**Pb**	**14 34 57.0**	**-0.8**
JNS				S		**Sb**	**14 35 05.3**	**-1.1**
JKT	**Katashina**	**0.66**	**147**	⇓P		**Pb**	**14 34 57.6**	**-0.4**
JKT				S		**Sb**	**14 35 05.9**	**-0.8**
JFY	**Yanaizu**	**0.72**	**83**	⇓P		**Pb**	**14 34 58.0**	**-1.2**
JFY				S		**Sb**	**14 35 06.7**	**-2.0**
JGK	**Kuni**	**0.77**	**190**	⇑P		**Pb**	**14 35 00.6**	**+0.7**
JSD	**Sado**	**0.84**	**329**	⇓P		**Pb**	**14 35 01.3**	**+0.2**
JSD				*eS*		**Sb**	**14 35 13.1**	**+1.2**
MAJO	**Matsushiro**	**0.91**	**212**	*eP*		**Pb**	**14 35 02.5**	**+0.2**
MAT	**Matsushiro**	**0.91**	**212**	P		**Pb**	**14 35 03.0**	**+0.7**
MAT				S		**Sb**	**14 35 15.2**	**+1.2**
MAT	**Matsushiro**	**0.91**	**212**	P		**Pb**	**14 35 03.1**	**+0.8**
MAT	**Matsushiro**	**0.91**	**212**	*eP*		**Pb**	**14 35 03.0**	**+0.7**
MAT				*eS*		**Sb**	**14 35 15.0**	**+1.0**
JAG	**Ashikaga**	**1.03**	**149**	⇑P		**Pb**	**14 35 04.5**	**+0.1**
JAG				*eS*		**Sb**	**14 35 17.4**	**-0.2**
JSZ	**Suzu**	**1.15**	**277**	⇓P		**Pb**	**14 35 07.2**	**+0.7**
JSZ				*eS*		**Sb**	**14 35 23.6**	**+2.6**
JAW	**Awa shima**	**1.19**	**17**	⇓P		**Pn**	**14 35 06.7**	**-0.3**
JFT	**Otama**	**1.24**	**80**	⇓P		**Pn**	**14 35 07.1**	**-0.6**
JYS	**Shirataka**	**1.35**	**48**	⇑P		**Pn**	**14 35 09.1**	**-0.2**
JTT	**Ttatey**	**1.38**	**239**	⇓P		**Pn**	**14 35 11.8**	**+2.1**
JYA	**Atsumi**	**1.46**	**29**	⇓P		**Pn**	**14 35 14.4**	**-0.6**
JHG	**Hegura jima**	**1.59**	**290**	⇓P		**Pn**	**14 35 13.2**	**+0.5**
JHG				*eS*		**Sn**	**14 35 34.2**	**+1.4**
JHJ	**Hachijo jima 2**	**4.27**	**169**	Pn		**Pn**	**14 35 51.2**	**+0.3**
	648nm,0.3s,baz=338,slow=1.9,SNR=28							
JHJ				Sn		**Sn**	**14 36 42.6**	**+1.9**
	133nm,0.3s,baz=74,slow=21,SNR=3.8							
JHJ				LR		LR	14 37 26.3	
	comp=Z,6μm,19.1s,baz=330,slow=38							
ASAJ	**Asahikawa**	**7.38**	**22**	Pn		**Pn**	**14 36 35.4**	**+0.6**
	2.5nm,0.3s,baz=204,slow=17,SNR=15							
ASAJ				LR		LR	14 39 32.0	
	comp=Z,3μm,20.2s,baz=198,slow=38							
ASAJ	**Asahikawa**	**7.38**	**22**	P		**Pn**	**14 36 35.4**	**+0.6**
ASAJ				pmax		pmax		
	comp=Z,3.0nm,0.3s							
ASAJ				MLR		MLR		
	comp=Z,3μm,20.2s							
INCN	**Inchon**	**9.69**	**275**	*eP*		**P**	**14 37 02.9**	**-3.9**
	comp=Z,93nm,1.2s							
YSS	**Yuzh-Sakhalins**	**10.06**	**16**	⇓*iP*		**P**	**14 37 11.0**	**-0.9**
YSS				pmax		pmax		
	comp=Z,60nm,1.0s							
YSS				MLR		MLR		
	comp=Z,3μm,11.0s							
YSS				MLR		MLR		
	comp=N,3μm,12.0s							
YSS	**Yuzh-Sakhalins**	**10.06**	**16**	*eP*		**P**	**14 37 11.5**	**-0.5**
	comp=N,166nm,1.0s							
MDJ	**Mudanjiang**	**10.08**	**319**	*eP*		**P**	**14 37 11.2**	**-0.9**
	comp=N,374nm,1.1s							
CBIJ	**Chichi jima**	**10.59**	**163**	Pn		**P**	**14 37 13.6**	**-5.6**
SNY	**Shenyang**	**12.58**	**296**	⇑P		**P**	**14 37 48.3**	**+2.2**
SNY				S		**S**	**14 40 10.0**	**+3.4**
SNY				LR		LR		
	comp=E,4μm,14.1s							
SNY				LR		LR		
	comp=Z,4μm,14.5s							
DL2	**Dalian**	**13.62**	**282**	P		**P**	**14 38 02.8**	**+2.9**
DL2				S		**S**	**14 40 41.5**	**+10**
DL2				AMB		AMB		
	comp=Z,60nm,1.3s							
DL2				AMB		AMB		
	comp=Z,180nm,3.8s							
DL2				LR		LR		
	comp=N,1μm,10.8s							
DL2				LR		LR		
	comp=E,3μm,13.3s							
DL2				LR		LR		
	comp=Z,3μm,12.9s							
SSE	**Sheshan**	**15.83**	**252**	P		**P**	**14 38 27.3**	**-1.5**
SSE				S		**S**	**14 41 22.5**	**-1.3**
SSE				AMB		AMB		
	comp=Z,176nm,1.0s							
SSE				AMB		AMB		
	comp=Z,608nm,6.3s							
SSE				LR		LR		
	comp=N,2μm,12.1s							
SSE				LR		LR		
	comp=E,1μm,12.1s							
SSE				LR		LR		
	comp=Z,2μm,11.2s							
SSE	**Sheshan**	**15.83**	**252**	P		**P**	**14 38 27.2**	**-1.6**
	comp=Z,176nm,1.0s							
SSE				S		**S**	**14 41 22.5**	**-1.3**
NJ2	**Nanjing**	**17.22**	**258**	*eP*		**P**	**14 38 47.9**	**+1.5**
NJ2				AP			14 38 51.4	
NJ2				XP			14 38 55.8	
NJ2				PP		PP	14 39 01.3	+0.5
NJ2				PPP		PPP	14 39 10.0	+1.0
NJ2				S		**S**	**14 41 58.0**	**+2.2**
NJ2				LR		LR		
	comp=N,3μm,13.4s							
NJ2				LR		LR		
	comp=E,6μm,14.8s							
TIA	**Tai'an**	**17.41**	**273**	*eP*		**P**	**14 38 52.0**	**+3.3**
TIA				LR		LR		
	comp=N,3μm,12.0s							
TIA				LR		LR		
	comp=E,5μm,12.0s							
BJI	**Beijing**	**17.87**	**286**	P		**P**	**14 38 55.9**	**+1.5**
BJI				AMB		AMB		
	comp=Z,503nm,3.6s							
BJI				LR		LR		
	comp=N,1μm,13.8s							
BJI				LR		LR		
	comp=E,1μm,12.0s							
BJI				LR		LR		
	comp=Z,834nm,13.8s							
BJI	**Beijing**	**17.87**	**286**	P		**P**	**14 38 55.9**	**+1.5**
	comp=Z,67nm,1.6s							
BJI				S		**S**	**14 42 26.6**	**+16**
BJT	**Baijiatuau**	**17.87**	**286**	*eP*		**P**	**14 38 56.0**	**+1.6**
	comp=Z,146nm,1.4s							
SKR	**Severo-Kuril's**	**18.20**	**37**	*eP*		**P**	**14 39 01.2**	**+2.7**
SKR				pmax		pmax		
	comp=Z,130nm,0.9s							
SKR				pmax		pmax		
	comp=N,180nm,1.0s							
SKR				pmax		pmax		
	comp=E,130nm,1.0s							
HIA	**Hailar**	**18.25**	**317**	*eP*		**P**	**14 38 58.9**	**-0.2**
	comp=E,61nm,1.0s							
TIY	**Taiyuan**	**20.90**	**279**	⇑P		**P**	**14 39 34.0**	**+5.1**
TIY				LR		LR		
	comp=E,5μm,14.0s							
TIY				LR		LR		
	comp=Z,5μm,14.0s,MS5.1							
PET	**Petropavlovsk**	**20.93**	**35**	*eP*		**P**	**14 39 27.4**	**-1.6**
PET				pmax		pmax		
	comp=Z,77nm,1.2s							
PET				pmax		pmax		
	comp=Z,200nm,11.2s							
PET				MLR		MLR		
	comp=Z,1μm,19.0s,MS4.3							
HHC	**Hu-ho-hao-te**	**21.40**	**288**	*eP*		**P**	**14 39 36.3**	**+2.3**
HHC				AP			14 39 40.4	
HHC				XP			14 39 44.3	
HHC				PP		PP	14 40 01.3	+3.2
HHC				S		**S**	**14 43 34.3**	**+8.7**
HHC				XS			14 43 39.6	
HHC				SS		SS	14 44 07.3	+6.6
HHC				SCP			14 47 13.3	
HHC				LR		LR		
	comp=N,1μm,12.0s,MS4.7							
HHC				LR		LR		
	comp=E,1μm,11.4s,MS4.7							
HHC				LR		LR		
	comp=Z,1μm,11.1s,MS4.5							
CLNS	**Chul'man**	**21.62**	**339**	*eP*		**P**	**14 39 30.9**	**-5.2**
CLNS				*e*			14 39 48.5	
CLNS				*e*PPP		PPP	14 39 59.5	-11
CLNS				*eS*		**S**	**14 43 26.3**	**-3.3**
CLNS				*e*SS		SS	14 44 03.0	-3.1
CLNS				*e*SSS		SSS	14 44 17.0	-3.6
CLNS				smax				
	comp=N,900nm,12.0s							
CLNS				smax				
	comp=Z,100nm,10.7s							
CLNS				smax				
	comp=E,300nm,10.0s							
CLNS				MLR		MLR		
	comp=Z,800nm,10.0s,MS4.4							
CLNS				MLR		MLR		
	comp=N,800nm,12.0s,MS4.4							
CLNS				MLR		MLR		
	comp=E,200nm,11.0s,MS4.4							
BTO	**Baotou**	**22.58**	**287**	*eP*		**P**	**14 39 51.5**	**+5.8**
BTO				LR		LR		
	comp=N,1μm,11.3s,MS4.8							
BTO				LR		LR		
	comp=E,2μm,13.2s,MS4.8							
MA2	**Magadan**	**23.57**	**15**	*eP*		**P**	**14 39 53.8**	**-1.3**
MA2				pmax		pmax		
	comp=Z,82nm,1.0s,mb5.1							
MA2	**Magadan**	**23.57**	**15**	*eP*		**P**	**

SEY pmax pmax
comp=E,30nm,0.8s
SEY smax
comp=N,500nm,6.7s
SEY smax
comp=E,700nm,8.9s
SEY MLR MLR
comp=Z,2µm,17.0s,MS4.7
SEY MLR MLR
comp=E,900nm,14.0s
LZH Lanzhou 27.96 278 *e*P **P 14 40 36.4 -0.2**
LZH AP pP 14 40 45.5 +3.0
LZH XP sP 14 40 49.8 +4.6
LZH PP PP 14 41 33.0 +6.6
LZH S **S 14 45 21.0 +3.2**
LZH XS 14 45 32.0
LZH SS SS 14 46 45.0 +5.2
LZH AMB AMB
comp=Z,50nm,1.0s,mb5.1
LZH AMB AMB
comp=Z,120nm,5.0s
LZH LR LR
comp=E,4µm,12.9s
LZH LR LR
comp=Z,6µm,14.9s,MS5.3
LZH Lanzhou 27.96 278 *e*P **P 14 40 36.4 -0.2**
comp=Z,50nm,1.0s,mb5.1
LZH pP pP 14 40 45.5 +3.0
LZH sP sP 14 40 49.8 +4.6
LZH PP PP 14 41 33.0 +6.6
LZH S **S 14 45 21.0 +3.2**
LZH sS 14 45 32.0
LZH SS SS 14 46 45.0 +5.2
LZH LR LR
comp=Z,6µm,14.9s,MS5.3
ZAK Zakamensk 28.46 309 *e*P **P 14 40 39.9 -1.0**
ZAK *e* 14 43 50.6
FX1 Attu Island--F 28.48 46 P **P 14 40 40.7 -0.3**
comp=Z,42nm,1.1s,mb5.0,baz=281,slow=23,SNR=3.4
FX1 Attu Island--F 28.48 46 P **P 14 40 40.7 -0.3**
FX1 pmax pmax
comp=Z,42nm,1.1s
GYA Guiyang 29.23 258 ⇑P **P 14 40 46.1 -2.0**
GYA AP pP 14 40 49.9 -4.1
GYA S **S 14 45 44.5 +6.3**
GYA XS 14 45 50.1
GYA AMB AMB
comp=Z,390nm,6.0s
GYA LR LR
comp=N,1µm,14.4s,MS4.7
GYA LR LR
comp=E,620nm,15.6s,MS4.7
GYA LR LR
comp=Z,1µm,15.8s,MS4.7
CD2 Chengdu 29.59 268 *e*P **P 14 40 50.9 -0.4**
CD2 S **S 14 45 39.8 -4.2**
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.8
CD2 LR LR
comp=N,1µm,12.3s
CD2 LR LR
comp=Z,2µm,13.7s,MS4.8
GTA Gaotai 30.48 286 *e*P **P 14 40 57.5 -1.6**
GTA AP pP 14 41 01.9 -3.2
GTA XP sP 14 41 04.5 -3.2
GTA PP PP 14 41 59.8 +0.7
GTA PCP PcP 14 43 56.3 -1.9
GTA S **S 14 46 03.5 +5.5**
GTA XS 14 46 12.6
GTA PCS 14 47 39.0
GTA AMB AMB
comp=Z,149nm,5.7s
GTA LR LR
comp=N,903nm,12.9s,MS4.8
GTA LR LR
comp=E,995nm,14.8s,MS4.8
GTA LR LR
comp=Z,790nm,14.5s,MS4.5
QIZ Qiongzhong 31.18 242 P **P 14 41 06.9 +1.5**
QIZ S **S 14 46 08.8 -0.3**
QIZ LR LR
comp=N,1µm,21.3s,MS4.7
QIZ LR LR
comp=E,1µm,20.6s,MS4.7
QIZ LR LR
comp=Z,1µm,12.7s
KMI Kunming 32.96 259⇑*e*P **P 14 41 19.1 -1.8**
KMI AP pP 14 41 24.3 -2.6
KMI XP sP 14 41 26.9 -2.6
KMI PP PP 14 42 29.4 -2.0
KMI S **S 14 46 34.5 -2.3**
KMI AMB AMB
comp=Z,140nm,5.1s
KMI LR LR
comp=N,1µm,13.4s,MS4.9
KMI LR LR
comp=E,873nm,16.4s,MS4.9
KMI LR LR
comp=Z,1µm,16.3s,MS4.6
KMI Kunming 32.96 259⇑*e*P **P 14 41 19.1 -1.8**
comp=Z,0.1nm,5.1s
KMI pP pP 14 41 24.2 -2.7
KMI sP sP 14 41 26.9 -2.6
KMI PP PP 14 42 29.4 -2.0
KMI S **S 14 46 34.5 -2.3**
KMI sS 14 46 44.3
KMI SS SS 14 48 34.0 -2.7
KMI LR LR
comp=Z,1µm,16.3s,MS4.6
TIXI Tiksi 34.78 355*c i*P **P 14 41 34.5 -1.7**
TIXI *e* 14 42 49.9
TIXI *e* 14 44 07.9
TIXI *e*S **S 14 47 03.9 -0.8**
TIXI pmax pmax
comp=Z,21nm,0.8s,mb5.1
WMQ Urumqi 38.85 296 *e*P **P 14 42 11.6 +0.8**
WMQ AP pP 14 42 19.0 +2.1
WMQ PP PP 14 43 44.0 +0.3
WMQ S **S 14 48 08.0 +0.9**
WMQ LR LR
comp=N,614nm,18.0s,MS4.5
WMQ LR LR
comp=E,377nm,20.0s,MS4.5
WMQ LR LR
comp=Z,356nm,20.0s,MS4.2
CMAR Chiang Mai Arr 39.57 253 P **P 14 42 16.1 -1.0**
comp=Z,0.8nm,0.7s,baz=27,slow=6.4,SNR=6.5
CMAR PcP PcP 14 44 23.4 -1.4
comp=Z,5.2nm,0.9s,baz=359,slow=3.0,SNR=9.5
CMAR LR LR 14 59 17.3
comp=Z,363nm,18.5s,baz=75,slow=37
ZAL Zalesovo 40.19 312 P **P 14 42 20.8 -1.0**
comp=Z,4.2nm,0.8s,baz=13,slow=8.8,SNR=23
ZAL PcP PcP 14 44 24.9 -1.6
comp=Z,6.0nm,0.8s,baz=8.3,slow=2.3,SNR=8.2
ZAL LR LR 15 00 12.8
comp=Z,372nm,21.0s,baz=14,slow=38
ZAL Zalesovo 40.19 312 P **P 14 42 20.8 -1.0**
ZAL 14 44 24.9
ZAL pmax pmax
comp=Z,4.0nm,0.8s
ZAL MLR MLR
comp=Z,372nm,21.0s
ZAL Zalesovo 40.19 312 P **P 14 42 20.8 -1.0**
ZAL PcP PcP 14 44 24.9 -1.6
ZAL LR LR 15 00 12.8
NVS Novosibirsk 41.13 314 *i*P **P 14 42 28.1 -1.4**
NVS *e* 14 44 25.5
NVS pmax pmax
comp=N,5.0nm,1.0s
NVS pmax pmax
comp=E,11nm,1.0s
NVS pmax pmax
comp=Z,17nm,1.0s,mb4.6
SHL Shillong 41.33 267 *e*P **P 14 42 30.5 -0.9**
SHL *e*S **S 14 48 45.0 +0.5**
MKAR Makanchi Array 42.20 301 *i*P **P 14 42 37.4 -0.9**
KURK Kurchatov 44.11 308⇑*e*P **P 14 42 52.2 -1.6**
KURK pmax pmax
comp=Z,22nm,1.3s,mb4.7
KURK Kurchatov 44.11 308 *e*P **P 14 42 52.0 -1.8**
comp=Z,21nm,0.8s,mb4.9
WAU Wau 45.04 169 *e*P **P 14 42 59.0 -2.8**
GUN Gumba 45.05 274 *e*P **P 14 43 01.3 -0.4**
comp=Z,82nm,1.0s,mb5.5

PKI Pulchoki 45.58 274 *e*P **P 14 43 05.0 -0.8**
comp=Z,23nm,0.9s,mb5.1
KKN Kakani 45.58 274 *e*P **P 14 43 05.3 -0.6**
comp=Z,56nm,0.8s,mb5.5
DMN Daman 45.80 274 *e*P **P 14 43 07.2 -0.4**
comp=Z,24nm,0.8s,mb5.2
GKN Gorkha 46.00 275 *e*P **P 14 43 08.6 -0.6**
comp=Z,109nm,1.1s,mb5.7
KOLN Koldanda 46.93 275 *e*P **P 14 43 16.0 -0.5**
comp=Z,38nm,0.9s,mb5.3
BOK Bokaro 46.96 269 *e*P **P 14 43 15.6 -1.2**
PMG Port Moresby 47.13 169 P **P 14 43 16.6 -1.7**
comp=Z,5.3nm,0.7s,mb4.6,baz=351,slow=19,SNR=2.3
PMG LR LR 15 01 47.3
comp=Z,457nm,18.1s,MS4.5,baz=133,slow=34
PMG Port Moresby 47.13 169 P **P 14 43 17.9 -0.4**
IMA Indian Mountai 47.51 31 *e*P **P 14 43 20.1 -0.5**
IMA Indian Mountai 47.51 31 *e*P **P 14 43 20.5 -0.1**
RSO Redoubt South 47.97 38 *e*P **P 14 43 24.0 -0.3**
SPU Mount Spurr 48.27 37 *e*P **P 14 43 26.6 0.0**
KDAK Kodiak Island 48.28 42 *e*P **P 14 43 25.2 -1.5**
comp=Z,59nm,0.9s,mb5.6
FRU Bishkek 48.37 298 *e*P **P 14 43 30.0 +2.4**
FRU pmax pmax
comp=Z,40nm,1.4s,mb5.3
FRU MLR MLR
comp=Z,1µm,16.0s,MS4.9
KSH Kashi 48.38 293 *e*P **P 14 43 29.6 +1.9**
KSH AP pP 14 43 35.3 +1.4
KSH XP sP 14 43 38.3 +1.9
KSH *e*PCP PcP 14 44 56.5 +2.0
KSH PP PP 14 45 22.0 +2.0
KSH *e*PPP PPP 14 46 12.5 +0.7
KSH *e*SCP 14 48 48.0
KSH *e*PCS 14 48 51.0
KSH *e*S **S 14 50 28.1 +2.1**
KSH *e*SCS ScS 14 53 18.8 +2.1
KSH *e*SS SS 14 53 52.8 +2.0
KSH AMB AMB
comp=Z,160nm,4.8s
KSH LR LR
comp=N,640nm,12.3s
KSH LR LR
comp=E,770nm,9.7s
AAK Ala-Archa 48.51 297⇓*e*P **P 14 43 28.0 -0.7**
AAK pmax pmax
comp=Z,4.0nm,1.4s,mb4.3
AAK MLR MLR
comp=Z,1µm,16.0s,MS5.0
AAK Ala-Archa 48.51 297 *e*P **P 14 43 27.7 -1.0**
comp=Z,13nm,1.1s,mb4.9
BVA0 Borovoye Array 48.83 312 *i*P **P 14 43 30.2 -0.8**
BVAR Borovoye Array 48.83 312 P **P 14 43 29.7 -1.3**
comp=Z,15nm,0.9s,mb5.0,baz=79,slow=7.6,SNR=13
BVAR PcP PcP 14 44 53.7 -2.2
comp=Z,8.2nm,0.6s,baz=109,slow=3.3,SNR=12
BRVK Borovoye 48.89 312 P **P 14 43 30.4 -1.1**
BRVK pmax pmax
comp=Z,26nm,1.0s,mb5.2
BRVK Borovoye 48.89 312 *e*P **P 14 43 30.2 -1.2**
comp=Z,27nm,1.1s,mb5.2
JOSI Joshimath 48.92 280 *e*P **P 14 43 31.7 -0.4**
JOSI *e* 14 43 35.1
comp=Z,136nm,1.1s
MCK McKinley 49.56 34 P **P 14 43 35.8 -0.7**
MCK pmax pmax
comp=Z,51nm,1.7s,mb5.3
MCK McKinley 49.56 34 *e*P **P 14 43 35.6 -0.9**
comp=Z,52nm,1.7s,mb5.3
PMR Palmer 49.64 37 *e*P **P 14 43 36.5 -0.7**
PMR LR LR
comp=Z,200nm,19.0s,MS4.1
COLA College 49.95 32 *e*P **P 14 43 39.1 -0.4**
COLA MLR MLR
comp=Z,300nm,17.0s,MS4.4
SML Sawmill 50.00 36 P **P 14 43 39.9 0.0**
SML Sawmill 50.00 36 *e*P **P 14 43 39.4 -0.5**
SML *e*PcP PcP 14 44 59.2 -0.8
KALG Kalgarh 50.00 280 *e* **P 14 43 29.7 -11**
comp=Z,18nm,0.4s,mb5.4
DDI Dehra Dun 50.20 281 *e*P **P 14 43 40.5 -1.4**
ILAR Eielson Array 50.37 32 P **P 14 43 41.6 -1.1**
comp=Z,9.3nm,0.8s,mb4.8,baz=278,slow=4.2,SNR=78
ILAR PcP PcP 14 44 59.6 -1.7
comp=Z,9.6nm,1.1s,baz=254,slow=4.0,SNR=3.6
ILAR LR LR 15 04 36.3
comp=Z,290nm,20.2s,MS4.3,baz=268,slow=36
ILAR Eielson Array 50.37 32 P **P 14 43 41.6 -1.1**
ILAR 14 44 59.6
ILAR pmax pmax
comp=Z,9.0nm,0.8s
ILAR MLR MLR
comp=Z,290nm,20.2s
BLSP Bilaspur 50.78 269 *e*P **P 14 43 44.0 -2.4**
THY Trims Highway 51.01 34 *e*P **P 14 43 46.2 -1.3**
DIV Divide 51.31 37 *e*P **P 14 43 49.4 -0.4**
comp=Z,134nm,0.9s,mb5.9
EYAK Cordova Ski Ar 51.41 38 *e*P **P 14 43 50.5 -0.1**
NDI New Delhi 51.57 279 *e*P **P 14 43 50.5 -1.8**
AGRA Agra 51.65 277 *e*P **P 14 43 51.3 -1.6**
AYAN Aya Nagar 51.73 279 *e*P **P 14 43 52.6 -0.9**
AYAN *e* 14 43 54.0
comp=Z,28nm,0.9s
SONA Sohna 51.87 279 *e*P **P 14 43 53.9 -0.7**
SONA *e* 14 43 55.3
comp=Z,25nm,0.7s
KUDL Kundal 52.38 279 *e*P **P 14 43 57.5 -1.0**
KUDL *e* 14 43 58.3
comp=Z,9.2nm,1.1s
KHET Khetri 52.95 279 *e*P **P 14 44 01.8 -0.9**
KHET *e* 14 44 04.0
comp=Z,31nm,1.7s
SVE Sverdlovsk 53.55 318⇑*i*P **P 14 44 06.0 -0.6**
SVE *e*S **S 14 51 42.0 +5.0**
SVE pmax pmax
comp=Z,140nm,2.1s,mb5.5
SVE MLR MLR
comp=N,500nm,16.0s,MS5.0
SVE MLR MLR
comp=E,1µm,16.0s,MS5.0
SVE MLR MLR
comp=Z,2µm,16.0s,MS5.1
DAWY Dawson 53.69 33 *e*P **P 14 44 06.3 -1.3**
DAWY *e*PcP PcP 14 45 13.2 -0.5
AJM Ajmer 54.61 278 *e*P **P 14 44 13.3 -1.5**
AJM *e* 14 46 30.1
ARU Arti 54.76 318⇑*i*P **P 14 44 14.6 -0.9**
ARU *i* 14 45 13.5
ARU *e* 14 46 12.9
ARU *e*PPP PPP 14 47 27.5 -4.2
ARU *e*S **S 14 51 57.6 +4.3**
ARU *e*SS SS 14 55 40.7 +4.4
ARU pmax pmax
comp=Z,84nm,1.1s,mb5.7
ARU MLR MLR
comp=N,300nm,16.5s,MS4.8
ARU MLR MLR
comp=E,600nm,16.0s,MS4.8
ARU MLR MLR
comp=Z,600nm,16.0s,MS4.8
ARU Arti 54.76 318 *e*P **P 14 44 14.2 -1.4**
comp=Z,116nm,1.2s,mb5.8
INK Inuvik 55.08 27 P **P 14 44 17.0 -0.8**
comp=Z,20nm,0.8s,mb5.2,baz=289,slow=7.7,SNR=47
INK PcP PcP 14 45 17.8 -1.2
comp=Z,5.7nm,0.7s,baz=236,slow=6.2,SNR=2.3
INK Inuvik 55.08 27 P **P 14 44 17.0 -0.8**
INK 14 45 17.8
INK pmax pmax
comp=Z,20nm,0.8s
INK Inuvik 55.08 27 P **P 14 44 17.0 -0.8**
INK PcP PcP 14 45 17.8 -1.2
HYB Hyderabad 56.13 267 *i*P **P 14 44 24.5 -1.5**
HYB Hyderabad 56.13 267 *e*P **P 14 44 24.5 -1.5**
FITZ Fitzroy Crossi 56.50 195 P **P 14 44 27.1 -1.5**
comp=Z,37nm,1.1s,mb5.3,baz=9.5,slow=7.5,SNR=23
WRAB Tennant Creek 57.10 185 P **P 14 44 30.0 -2.9**
comp=Z,441nm,1.3s,mb6.3,SNR=60
WRAB Tennant Creek 57.10 185 *e*P **P 14 44 30.0 -2.9**
comp=Z,119nm,1.0s,mb5.9
WRA Warramunga Arr 57.11 185 P **P 14 44 30.4 -2.5**
comp=Z,23nm,0.4s,mb5.5,baz=0.5,slow=7.6,SNR=115
WRA PcP PcP 14 45 26.0 -1.5
comp=Z,11nm,0.8s,baz=357,slow=3.8,SNR=6.5
WRA LR LR 15 06 22.9

comp=Z,132nm,21.9s,MS4.0,slow=33
CTA Charters Tower 57.53 172 P **P 14 44 34.0 -1.9**
comp=Z,34nm,1.4s,mb5.2,baz=359,slow=8.2,SNR=8.6
CTA LR LR 15 06 00.9
comp=Z,269nm,20.9s,MS4.3,baz=352,slow=33
CTAO Charters Tower 57.53 172 *e*P **P 14 44 32.9 -3.0**
CTAO pmax pmax
comp=Z,24nm,1.3s,mb5.1
CTAO Charters Tower 57.53 172 *e*P **P 14 44 32.9 -3.0**
comp=Z,24nm,1.4s,mb5.0
BHV Bhavnagar 58.93 275 *i* **P 14 44 51.5 +5.8**
BHV *e* 14 45 23.0
POO Poona 59.27 271 *e*P **P 14 44 46.0 -2.1**
POO *e* 14 46 54.0
KAD Karad 59.67 269 *e*P **P 14 44 49.4 -1.5**
ASAR Alice Springs 60.83 185 P **P 14 44 56.6 -2.1**
comp=Z,27nm,1.2s,mb5.3,baz=9.0,slow=5.3,SNR=72
ASAR LR LR 15 10 33.3
comp=Z,158nm,18.7s,MS4.2,baz=356,slow=35
MBWA Marble Bar 60.88 200 *e*P **P 14 44 56.6 -2.4**
comp=Z,12nm,0.8s,mb5.1
APA Apatity 61.56 335⇑*i*P **P 14 45 01.8 -1.3**
APA *i* 14 45 14.1
APA pmax pmax
comp=Z,40nm,0.9s,mb5.5
KEV Kevo 62.43 339 *e*p **P 14 45 05.5 -3.4**
comp=Z,31nm,0.8s,mb5.5
KEV Kevo 62.43 339 *e*P **P 14 45 05.5 -3.4**
KEV pmax pmax
comp=Z,31nm,0.8s,mb5.5
ARCES ARCESS Array B 62.99 339 P **P 14 45 11.1 -1.4**
comp=Z,21nm,0.7s,mb5.4,baz=48,slow=8.6,SNR=48
ARCES LR LR 15 15 51.2
comp=Z,427nm,18.3s,MS4.7,baz=201,slow=39
ARCES ARCESS Array B 62.99 339 P **P 14 45 11.1 -1.4**
ARCES pmax pmax
comp=Z,21nm,0.7s
ARCES MLR MLR
comp=Z,427nm,18.3s
ARCES ARCESS Array B 62.99 339 P **P 14 45 11.1 -1.5**
ARCES LR LR 15 15 51.2
YKW3 Yellowknife Ar 64.56 29 *e*P **P 14 45 21.6 -1.2**
YKA Yellowknife Ar 64.60 30 P **P 14 45 20.8 -2.3**
comp=Z,9.3nm,0.8s,mb4.8,baz=297,slow=6.6,SNR=11
YKA PcP PcP 14 45 56.0 -0.9
comp=Z,5.9nm,0.8s,baz=303,slow=4.3,SNR=5.9
YKA LR LR 15 17 38.1
comp=Z,124nm,18.8s,MS4.1,baz=5.0,slow=40
YKA Yellowknife Ar 64.60 30 P **P 14 45 20.8 -2.3**
YKA 14 45 56.0
YKA pmax pmax
comp=Z,9.0nm,0.9s
YKA MLR MLR
comp=Z,124nm,18.8s
YKA Yellowknife Ar 64.60 30 P **P 14 45 20.8 -2.3**
YKA PcP PcP 14 45 56.0 -0.9
YKA LR LR 15 17 38.1
JOF Joensuu 64.72 331 *e*p **P 14 45 20.8 -3.1**
DAG Danmarks Havn 65.30 354⇓*i*P **P 14 45 24.1 -3.3**
comp=Z,15nm,0.6s,mb5.2
MOS Moscow 65.77 323 *e*P **P 14 45 29.4 -1.3**
MOS *e*S S 14 54 12.7 -1.8
MOS pmax pmax
comp=Z,82nm,1.6s,mb5.5
MOS MLR MLR
comp=Z,1µm,15.4s,MS5.3
OBN Obninsk 66.61 322*c i*P **P 14 45 34.6 -1.5**
OBN *e* 14 46 04.0
OBN *e*S S 14 54 25.1 +0.4
OBN pmax pmax
comp=Z,38nm,1.0s,mb5.4
OBN MLR MLR
comp=Z,1µm,15.0s,MS5.2
OBN Obninsk 66.61 322 *e*P **P 14 45 34.8 -1.3**
comp=Z,54nm,1.2s,mb5.5
KAF Kangasniemi 67.09 332 *e*p **P 14 45 36.6 -2.4**
comp=Z,30nm,0.6s,mb5.5,baz=51,slow=6.0
KAF Kangasniemi 67.09 332 *e*P **P 14 45 36.6 -2.4**
KAF pmax pmax
comp=Z,30nm,0.6s,mb5.5
FINES FINESS Array B 67.58 331 P **P 14 45 40.8 -1.4**
comp=Z,39nm,0.8s,mb5.5,baz=63,slow=8.5,SNR=101
FINES LR LR 15 17 22.0
comp=Z,315nm,18.3s,MS4.6,baz=224,slow=38
FINES FINESS Array B 67.58 331 P **P 14 45 40.8 -1.3**
FINES pmax pmax
comp=Z,39nm,0.8s
FINES MLR MLR
comp=Z,315nm,18.3s
GOF Gofitskoye 68.34 311⇑*i*P **P 14 45 47.0 -0.2**
GOF pmax pmax
comp=Z,80nm,1.2s,mb5.6
GNW Green Mountain 68.56 46 *e*P **P 14 45 48.7 +0.2**
JCW Jim Creek 68.73 45 P **P 14 45 49.7 +0.1**
RPW Rockport 68.83 45 *e*P **P 14 45 49.6 -0.6**
STKA Stephens Creek 68.89 177 P **P 14 45 49.2 -1.6**
comp=Z,18nm,0.9s,mb5.0,baz=350,slow=7.2,SNR=20
STKA LR LR 15 14 35.6
comp=Z,238nm,21.9s,MS4.4,baz=20,slow=35
STKA Stephens Creek 68.89 177 P **P 14 45 49.2 -1.6**
STKA LR LR 15 14 35.6
BMW Boistfort Moun 68.91 47 P **P 14 45 51.2 +0.5**
BMW Boistfort Moun 68.91 47 *e*P **P 14 45 51.1 +0.4**
KIV Kislovodsk 69.13 310 *e*P **P 14 45 52.2 +0.1**
comp=Z,54nm,0.9s,mb5.5
RMW Rattlesnake Mo 69.20 46 *e*P **P 14 45 53.4 +1.0**
JMIC Jan Mayen 69.49 349 LR LR 15 20 05.7
comp=Z,97nm,19.0s,MS4.1,baz=265,slow=39
FMW Mount Fremont 69.56 46 P **P 14 45 54.9 +0.2**
LON Longmire 69.58 46 P **P 14 45 54.8 0.0**
NLW Nelson Butte 69.69 45 *e*P **P 14 45 55.3 -0.1**
TWW Teanaway 69.91 46 P **P 14 45 57.4 +0.7**
WTV Waterville 70.12 45 P **P 14 45 57.7 -0.3**
KEBM Edson Butte 70.17 51 *e*P **P 14 45 59.6 +1.1**
EBG Ellensburg 70.21 46 P **P 14 45 59.0 +0.4**
SSOR Sweet Springs 70.23 48 P **P 14 45 57.0 -1.8**
SSOR Sweet Springs 70.23 48 P **P 14 45 59.4 +0.7**
SUMG Summit 70.39 359 *e*P **P 14 45 59.1 -0.1**
comp=Z,121nm,0.9s,mb5.8
EDM Edmonton 70.40 37 P **P 14 45 59.5 -0.2**
EDM Edmonton 70.40 37 *e*P **P 14 45 58.8 -0.8**
SAW Saint Andrews 70.43 45 P **P 14 45 59.5 -0.4**
EPH Ephrata 70.51 45 P **P 14 46 00.2 -0.2**
MXC Moxie City 70.55 46 P **P 14 46 00.9 +0.2**
BROR Big Rock Looko 70.56 49 P **P 14 46 01.2 +0.4**
HSO Harness Mounta 70.58 50 P **P 14 46 02.8 +1.9**
HSO Harness Mounta 70.58 50 *e*P **P 14 46 02.5 +1.6**
WAH2 Wahluke Slope 70.86 45 P **P 14 46 02.5 -0.1**
HBO Huckleberry Mo 70.87 49⇑P **P 14 46 03.3 +0.5**
OD2 Odessa Site #2 70.99 45 P **P 14 46 03.0 -0.3**
DPW Davenport 71.00 44 P **P 14 46 03.4 0.0**
DPW Davenport 71.00 44 P **P 14 46 03.3 -0.1**
CROR Criterion Ridg 71.03 48 P **P 14 46 03.9 +0.2**
HAWA Hanford 71.09 46 *e*P **P 14 46 03.8 -0.2**
comp=Z,76nm,1.2s,mb5.5
MNK Minsk 71.10 325 *e*P **P 14 46 02.0 -1.9**
SOC Sochi 71.14 311 *i*P **P 14 46 02.5 -1.9**
SOC *e* 14 46 27.0
SOC *e* 14 48 36.4
SOC *e*S S 14 55 17.2 -1.4
SOC *e* 14 56 04.7
SOC *e*SS SS 14 59 54.3 -0.1
SOC *e*SSS SSS 15 03 02.0 +1.2
SOC pmax pmax
comp=Z,7.0nm,0.4s,mb4.9
SOC pmax pmax
comp=N,2.0nm,0.3s
SOC pmax pmax
comp=E,3.0nm,0.3s
HUMO Hull Mountain 71.17 51 *e*P **P 14 46 05.0 +0.5**
comp=E,46nm,1.4s,mb5.2
KRMB Red Mountain 71.17 52 *e*P **P 14 46 05.3 +0.7**
BBOR Butler Butte 71.18 50 P **P 14 46 05.2 +0.6**
NEW Newport 71.37 43 P **P 14 46 05.3 -0.3**
comp=E,59nm,0.9s,mb5.5,baz=304,slow=5.4,SNR=77
NEW Newport 71.37 43 P **P 14 46 05.5 -0.1**
NEW pmax pmax
comp=Z,76nm,1.0s
NEW Newport 71.37 43 *e*P **P 14 46 05.4 -0.2**
comp=Z,64nm,0.9s,mb5.5
VIPM Ingram Point 71.52 48 P **P 14 46 07.0 +0.4**
TVAN Van 71.60 305 *i*P **P 14 46 04.7 -2.5**
KHMM Horse Mountain 71.64 52 *e*P **P 14 46 08.3 +0.9**
YBH Yreka Blue Hor 71.81 51 P **P 14 46 09.2 +0.8**

YBH pmax pmax
comp=Z,50nm,1.2s
YBH Yreka Blue Hor 71.81 51 *e*P **P 14 46 09.0 +0.7**
comp=Z,36nm,1.1s,mb5.2
ANN Anapa 71.82 313 *e*P **P 14 46 06.8 -1.6**
ANN *e**PP pP 14 46 13.5 -1.3
ANN *e* 14 46 28.4
ANN *e*S S 14 55 28.7 +2.3
ANN pmax pmax
comp=Z,40nm,1.3s,mb5.2
LAMM Antelope Mount 71.93 51 P **P 14 46 09.7 +0.6**
LNOR Lincton Mounta 72.10 46 P **P 14 46 10.7 +0.7**
LNOR Lincton Mounta 72.10 46 P **P 14 46 10.2 +0.2**
HOG Hogback Mounta 72.14 50 P **P 14 46 11.1 +0.8**
ERZM Erzurum 72.16 307 *i*P **P 14 46 11.4 +0.9**
LHEM Herd Peak 72.17 51 ⇑P **P 14 46 11.0 +0.5**
WDC Whiskeytown Da 72.56 52 P **P 14 46 13.2 +0.4**
WDC pmax pmax
comp=Z,62nm,1.4s,mb5.3
WDC Whiskeytown Da 72.56 52 *e*P **P 14 46 13.0 +0.2**
comp=Z,73nm,1.4s,mb5.4
WALA Waterton Lakes 72.61 41 *e*P **P 14 46 13.1 +0.1**
comp=Z,51nm,1.1s,mb5.2
NWAO Narrogin (SRO) 72.72 199 P **P 14 46 12.6 -1.3**
NWAO pmax pmax
comp=Z,72nm,1.4s
NWAO Narrogin (SRO) 72.72 199 *e*P **P 14 46 12.4 -1.5**
comp=Z,37nm,1.0s,mb5.3
AKASG Malin Array Be 72.78 321 P **P 14 46 12.9 -1.0**
comp=Z,19nm,0.7s,mb5.2,baz=48,slow=6.1,SNR=5.0
AKASG LR LR 15 20 52.4
comp=Z,516nm,19.5s,MS4.8,baz=65,slow=38
AKASG Malin Array Be 72.78 321 P **P 14 46 12.9 -1.0**
AKASG pmax pmax
comp=Z,19nm,0.7s
AKASG MLR MLR
comp=Z,516nm,19.5s
LTIM Timbered Crate 72.88 51 P **P 14 46 15.2 +0.6**
HFS Hagfors 72.96 335 P **P 14 46 13.4 -1.4**
comp=Z,20nm,0.8s,mb5.1,baz=63,slow=6.6,SNR=24
HFS Hagfors 72.96 335 P **P 14 46 13.4 -1.3**
HFS pmax pmax
comp=Z,20nm,0.8s
NB2 NORSAR Subarra 73.10 336 P **P 14 46 14.9 -0.7**
comp=Z,37nm,0.7s,mb5.4,baz=41,slow=5.8
NB2 NORSAR Subarra 73.10 336 P **P 14 46 14.9 -0.7**
baz=41,slow=5.9
NOA NORSAR Array B 73.10 336 P **P 14 46 14.6 -1.0**
comp=Z,29nm,0.6s,mb5.3,baz=40,slow=5.9,SNR=141
NOA LR LR 15 21 30.1
comp=Z,293nm,18.1s,MS4.6,baz=15,slow=38
NOA NORSAR Array B 73.10 336 P **P 14 46 14.6 -1.0**
NOA pmax pmax
comp=Z,29nm,0.6s
NOA MLR MLR
comp=Z,293nm,18.1s
MOD Modoc 73.19 50 *e*P **P 14 46 16.4 -0.1**
comp=Z,0.9nm,0.4s
SUW Suwalki 73.51 326 *e*P **P 14 46 17.2 -0.9**
SUW Suwalki 73.51 326 *e*P **P 14 46 17.2 -0.9**
SIM Simferopol' 73.65 314 *d*↓P **P 14 46 19.1 0.0**
SIM *e*S S 14 55 46.9 -0.2
SIM pmax pmax
comp=Z,40nm,1.0s,mb5.3
SIM MLR MLR
comp=Z,170nm,14.5s,MS4.5
OHCM Honcut 73.93 53 P **P 14 46 20.4 -0.4**
MSO Missoula 73.95 43 *e*P **P 14 46 20.4 -0.4**
comp=Z,32nm,1.1s,mb5.2
CHMT Chamberlain Mo 74.27 43 *e*P **P 14 46 22.3 -0.3**
BEKR Beckwourth 74.33 52 *e*P **P 14 46 23.3 +0.2**
comp=Z,80nm,1.0s,mb5.6
LKC Lake Chabot 74.48 54 *e*P **P 14 46 24.7 +0.6**
ELZG Elazig 74.48 307 *i*P **P 14 46 24.7 +0.6**
FFC Flin Flon 74.58 32 P **P 14 46 23.1 -1.1**
FFC pmax pmax
comp=Z,13nm,0.7s,mb5.0
FFC Flin Flon 74.58 32 *e*P **P 14 46 23.2 -1.0**
comp=Z,23nm,0.8s,mb5.2
FCC Fort Churchill 74.66 26 *e*P **P 14 46 24.2 -0.5**
comp=Z,66nm,1.1s,mb5.5
MALT Malatya 74.94 307 *e*P **P 14 46 27.9 +1.1**
comp=Z,22nm,1.2s,mb5.0
PAHR Pah Rah Range 75.04 51 *e*P **P 14 46 27.3 0.0**
comp=Z,34nm,1.0s,mb5.2
WCN Washoe City 75.04 52 P **P 14 46 28.1 +0.8**
WCN pmax pmax
comp=Z,26nm,0.9s,mb5.2
WCN Washoe City 75.04 52 *e*P **P 14 46 27.9 +0.6**
comp=Z,42nm,1.1s,mb5.3
HRY Holter Researc 75.16 42 *e*P **P 14 46 28.1 +0.3**
KIS Kishinev 75.31 318 *e*P **P 14 46 27.0 -1.6**
KIS *e* pP 14 46 32.0 -3.1
KIS *e* 14 46 41.0
KIS MLR MLR
comp=N,800nm,16.0s,MS5.3
KIS MLR MLR
comp=E,1μm,16.0s,MS5.3
KIS MLR MLR
comp=Z,1μm,16.0s,MS5.2
KIS MLR MLR
comp=Z,1μm,16.0s
CMB Columbia Colle 75.39 53 P **P 14 46 29.4 +0.1**
CMB pmax pmax
comp=Z,63nm,0.9s,mb5.5
CMB Columbia Colle 75.39 53 *e*P **P 14 46 29.4 +0.1**
comp=Z,75nm,1.0s,mb5.6
SAO San Andreas Ge 75.44 55 P **P 14 46 30.0 +0.4**
SAO pmax pmax
comp=Z,19nm,0.9s,mb5.0
SAO San Andreas Ge 75.44 55 *e*P **P 14 46 29.5 -0.1**
comp=Z,22nm,1.0s,mb5.0
HLID Hailey 75.69 46 *e*P **P 14 46 31.5 +0.6**
comp=Z,42nm,1.1s,mb5.3
MCMT McKenzie Canyo 75.79 44 *e*P **P 14 46 31.2 -0.2**
CTKT Corum 75.84 310 *i*P **P 14 46 32.2 +0.4**
BMN Battle Mountai 75.94 50 P **P 14 46 33.3 +1.0**
BMN pmax pmax
comp=Z,63nm,1.0s,mb5.5
BMN Battle Mountai 75.94 50 *e*P **P 14 46 33.1 +0.8**
comp=Z,69nm,1.0s,mb5.5
BOZ Bozeman (W) 75.94 43 P **P 14 46 32.9 +0.7**
BOZ pmax pmax
comp=Z,110nm,1.1s,mb5.7
BOZ Bozeman (W) 75.94 43 *e*P **P 14 46 32.7 +0.5**
comp=Z,113nm,1.1s,mb5.7
GZT Gaziantep 76.06 306 *i*P **P 14 46 33.8 +0.7**
BALT Daday 76.14 312 *i*P **P 14 46 33.6 +0.2**
BSD Bornholm Skovb 76.19 331 ⇑*i*P **P 14 46 32.7 -0.7**
comp=Z,87nm,0.9s,mb5.7
BSD *e*S S 14 56 05.3 -10
comp=Z,160nm,16.0s
KAHT Ahir Dag 76.34 307 *i*P **P 14 46 35.2 +0.6**
NVAR Mina Array Bea 76.47 52 P **P 14 46 35.8 +0.4**
comp=Z,44nm,0.8s,mb5.4,baz=302,slow=3.8,SNR=244
OMM Old Mammoth Mi 76.52 53 *e*P **P 14 46 36.2 +0.5**
MNV Mina 76.56 52 *e*P **P 14 46 36.6 +0.7**
MNV pmax pmax
comp=Z,49nm,1.1s,mb5.3
MNV Mina 76.56 52 *e*P **P 14 46 36.4 +0.5**
comp=Z,54nm,1.2s,mb5.3
QLMT Earthquake Lak 76.57 44 *e*P **P 14 46 36.5 +0.7**
KWP Kalwaria 76.67 323 *e*P **P 14 46 36.8 +0.6**
KWP Kalwaria 76.67 323 *e*P **P 14 46 36.8 +0.6**
COP Copenhagen 76.72 332 *i*P **P 14 46 35.9 -0.5**
comp=Z,86nm,0.8s,mb5.7
comp=Z,140nm,18.0s
ELDT Eldivan 76.75 311 ↓*i*P **P 14 46 37.2 +0.3**
CFR Carcaliu 76.84 317 ↓*i*P **P 14 46 37.3 0.0**
CFR Carcaliu 76.84 317 ↓*i*P **P 14 46 37.3 0.0**
GCMT Greycliff 76.91 42 *e*P **P 14 46 38.4 +0.8**
AVNT Avonos 76.92 309 *i*P **P 14 46 37.9 0.0**
YMR Madison River 76.93 43 *e*P **P 14 46 38.8 +1.0**
FRB Frobisher Bay 76.95 12 P **P 14 46 37.0 -0.5**
comp=Z,89nm,0.8s,mb5.8,baz=343,slow=6.3,SNR=29
FRB Frobisher Bay 76.95 12 P **P 14 46 37.1 -0.4**
FRB pmax pmax
comp=Z,89nm,0.8s
MTUM Tungsten Hills 76.95 53 *e*P **P 14 46 38.7 +0.6**
YNR Norris Junctio 77.05 43 *e*P **P 14 46 40.1 +1.6**
BORG Borgarnes 77.08 351 P **P 14 46 38.8 +0.7**
comp=Z,45nm,0.8s,mb5.4,baz=42,slow=4.4,SNR=8.6
BORG Borgarnes 77.08 351 *e*P **P 14 46 39.5 +1.3**
comp=Z,59nm,1.0s,mb5.5
BRTR Keskin Array B 77.09 310 P **P 14 46 38.4 -0.4**
comp=Z,20nm,1.0s,mb5.0,baz=90,slow=3.7,SNR=58
BRTR Keskin Array B 77.09 310 P **P 14 46 38.4 -0.4**
BRTR pmax pmax
comp=Z,20nm,1.0s
YFT Old Faithful 77.14 44 *e*P **P 14 46 41.3 +2.3**
VRI Vrincioaia 77.14 318 ↓*i*P **P 14 46 39.7 +0.7**
VRI Vrincioaia 77.14 318 ↓*i*P **P 14 46 39.7 +0.7**
LKWY Lake 77.30 43 *e*P **P 14 46 42.1 +2.2**
MUD Monsted U'grnd 77.31 334 *i*P **P 14 46 39.6 0.0**
comp=Z,58nm,1.1s,mb5.4
KOLS Kolonicke sedl 77.35 323 *i*P **P 14 46 40.4 +0.4**
KOLS *e*PP PP 14 49 33.7 -2.4
TPH Tonopah 77.36 52 P **P 14 46 41.2 +0.8**
TPH pmax pmax
comp=Z,130nm,1.1s,mb5.8
TPH Tonopah 77.36 52 *e*P **P 14 46 40.9 +0.5**
comp=Z,130nm,1.1s,mb5.8
COBT Iskenderun 77.40 306 *i*P **P 14 46 40.8 +0.2**
SGKT Sivrigoynuk 77.52 312 *i*P **P 14 46 41.2 +0.1**
RRI2 Red Ridge 77.58 45 *e*P **P 14 46 42.5 +1.1**
OJC Ojcow 77.63 325 *e*P **P 14 46 41.7 +0.2**
OJC Ojcow 77.63 325 *e*P **P 14 46 41.7 +0.2**
MOOW Moose Ponds 77.64 44 *e*P **P 14 46 42.9 +1.1**
TPAW Teton Pass 77.69 44 *e*P **P 14 46 43.2 +1.2**
ISR Istrita 77.73 318 ↓*i*P **P 14 46 43.5 +1.3**
ISR Istrita 77.73 318 ↓*i*P **P 14 46 43.5 +1.3**
HVU Hansel Valley 77.75 47 P **P 14 46 43.4 +1.0**
HVU Hansel Valley 77.75 47 *e*P **P 14 46 43.2 +0.9**
CRVS Cervenica-Dubn 77.76 323 *i*P **P 14 46 42.8 +0.5**
CRVS *e*PP PP 14 49 45.5 +5.7
WUWY Wally Ulrich 77.78 44 *e*P **P 14 46 43.6 +1.1**
LOHW Long Hollow 77.81 44 *e*P **P 14 46 43.7 +1.0**
MLR Muntele Rosu 77.81 318 P **P 14 46 42.8 +0.2**
comp=Z,16nm,1.0s,mb4.9,baz=350,slow=7.1,SNR=19
MLR Muntele Rosu 77.81 318 P **P 14 46 42.8 +0.2**
MLR pmax pmax
comp=Z,16nm,1.0s
MLR Muntele Rosu 77.81 318 ⇑*i*P **P 14 46 43.6 +1.0**
MLR Muntele Rosu 77.81 318 ⇑*i*P **P 14 46 43.6 +1.0**
SNOW Snow King Moun 77.82 44 *e*P **P 14 46 43.9 +1.2**
REDW Red Top Meadow 77.83 44 *e*P **P 14 46 43.5 +0.7**
DGMT Dagmar 77.90 37 *e*P **P 14 46 42.9 -0.1**
comp=Z,116nm,1.1s,mb5.7
NIE Niedzica 77.95 324 ⇑*e*P **P 14 46 44.1 +0.8**
HENT Hendek 78.05 312 *i*P **P 14 46 43.6 -0.4**
AHID Auburn Hatcher 78.07 45 *e*P **P 14 46 44.7 +0.5**
comp=Z,43nm,1.2s,mb5.3
LAO LASA Array 78.11 40 *e*P **P 14 46 44.7 +0.4**
comp=Z,216nm,1.2s,mb6.0
BGU Big Grassy Mou 78.14 47 *e*P **P 14 46 45.2 +0.6**
TRCR Troy Canyon 78.21 51 *e*P **P 14 46 45.8 +0.8**
DAC Darwin (Calif) 78.22 53 P **P 14 46 46.0 +0.9**
DAC pmax pmax
comp=Z,67nm,1.3s,mb5.4
DAC Darwin (Calif) 78.22 53 *e*P **P 14 46 45.2 +0.1**
comp=Z,45nm,1.0s,mb5.3
MTUR Matau 78.45 319 ⇑*i*P **P 14 46 48.1 +2.0**
MTUR Matau 78.45 319 ⇑*i*P **P 14 46 48.1 +2.0**
RAC Raciborz 78.45 326 *e*P **P 14 46 46.8 +0.7**
RAC MLR MLR
comp=Z,1μm,15.4s,MS5.3
RAC Raciborz 78.45 326 *e*P **P 14 46 46.8 +0.7**
RAC MLR MLR 15 25 14.6
comp=Z,1μm,15.4s
KECS Kecovo 78.52 323 *i*P **P 14 46 46.7 +0.2**
MZLS Mizel 78.54 291 P **P 14 46 47.3 +0.2**
HWUT Hardware Ranch 78.55 46 *e*P **P 14 46 47.5 +0.7**
comp=Z,105nm,1.2s,mb5.6
OKC Ostrava-Krasne 78.65 325 ⇑*i*P **P 14 46 47.2 +0.1**
OKC *e*pP pP 14 46 51.2 -2.4
OKC AMS AMS 15 25 20.0
comp=Z,1μm,12.8s
DUG Dugway 78.73 48 P **P 14 46 48.8 +1.0**
DUG Dugway 78.73 48 *e*P **P 14 46 48.7 +0.9**
comp=Z,51nm,1.0s,mb5.4
KSP Ksiaz 78.75 327 ⇑*e*P **P 14 46 47.8 +0.1**
KSP *e**PP pP 14 46 52.3 -1.8
KSP MLR MLR
comp=Z,2μm,14.9s,MS5.5
KSP Ksiaz 78.75 327 *e*P **P 14 46 47.7 0.0**
BSEG Bad Segeberg 78.84 332 *e*P **P 14 46 48.0 -0.1**
BSEG *e*pP pP 14 46 52.5 -2.1
NOQ North Oquirrh 78.84 47 *e*P **P 14 46 49.3 +0.9**
ESKT Eskisehir 78.90 311 *i*P **P 14 46 48.8 +0.1**
ARSS Ar Rass 78.91 294 P **P 14 46 48.7 -0.3**
BW06 Boulder Array 78.94 44 *e*P **P 14 46 49.0 +0.1**
comp=Z,57nm,1.1s,mb5.4
PDAR Pinedale Array 78.94 44 P **P 14 46 48.9 0.0**
comp=Z,29nm,0.8s,mb5.3,baz=297,slow=3.3,SNR=139
TCUT Toone Canyon 78.96 46 *e*P **P 14 46 46.9 -2.1**
MORC Moravsky Berou 78.97 326 P **P 14 46 49.2 +0.3**
MORC pmax pmax
comp=Z,32nm,1.0s,mb5.2
MORC Moravsky Berou 78.97 326 *e*P **P 14 46 48.8 -0.1**
comp=Z,46nm,1.1s,mb5.3
CTU Camp Tracy 79.03 47 *e*P **P 14 46 50.0 +0.5**
HILS Ha'il 79.07 296 P **P 14 46 50.1 +0.2**
DPC Dobruska-Polom 79.09 327 ⇑P **P 14 46 50.2 +0.6**
DPC AMS AMS 15 26 00.0
comp=Z,800nm,14.8s
UPC Upice 79.11 327 ⇑*i*P **P 14 46 50.1 +0.4**
UPC *e*pP pP 14 46 54.8 -1.3
MWC Mount Wilson 79.18 55 P **P 14 46 50.4 0.0**
MWC Mount Wilson 79.18 55 *e*P **P 14 46 50.5 +0.1**
PSZ Piszkesteto 79.20 323 ⇑*e*P **P 14 46 50.7 +0.5**
PSZ Piszkesteto 79.20 323 P **P 14 46 50.5 +0.3**
PSZ pmax pmax
comp=Z,62nm,1.0s,mb5.5
JLU Jordanelle 79.27 47 *e*P **P 14 46 51.5 +0.7**
SZH Strazhica 79.28 317 *i*P **P 14 46 51.0 +0.2**
VYHS Vyhne 79.29 324 *i*P **P 14 46 51.5 +0.8**
VYHS *e*PP PP 14 49 57.4 +5.1
NLU North Lily Min 79.32 48 *e*P **P 14 46 51.5 +0.5**
DAU Daniels Canyon 79.50 47 *e*P **P 14 46 53.1 +1.1**
DAU Daniels Canyon 79.50 47 *e*P **P 14 46 53.0 +1.0**
ULDT Uludag 79.52 313 *i*P **P 14 46 52.0 -0.1**
MPU Maple Canyon 79.54 47 *e*P **P 14 46 52.5 +0.3**
ASF Jabal al Asfar 79.61 302 P **P 14 46 53.0 +0.2**
comp=Z,13nm,0.9s,mb4.9,baz=323,slow=0.3,SNR=20
ASF LR LR 15 25 51.2
comp=Z,124nm,18.2s,MS4.3,baz=83,slow=38
HRI Mount Hermon 79.72 304 P **P 14 46 53.8 +0.5**
HRI Mount Hermon 79.72 304 ⇑P **P 14 46 53.8 +0.5**
PVCC Panska Ves 79.72 328 ⇑*i*P **P 14 46 53.4 +0.4**
PVCC *e*pP pP 14 46 57.6 -1.8
PVCC AMS AMS 15 28 20.0
comp=Z,600nm,13.6s
BRG Berggiesshubel 79.73 328 *i*P **P 14 46 53.1 +0.1**
BRG pmax pmax
comp=Z,29nm,1.0s,mb5.2
BRG MLR MLR
comp=N,460nm,13.3s,MS5.2
BRG MLR MLR
comp=E,570nm,13.3s,MS5.2
BRG MLR MLR
comp=Z,830nm,14.1s,MS5.2
BRG Berggiesshubel 79.73 328 *i*P **P 14 46 53.1 +0.1**
comp=Z,29nm,1.0s,mb5.2
BRG LR LR
comp=Z,830nm,14.1s,MS5.2
VRAC Vranov 79.73 326 P **P 14 46 53.3 +0.2**
comp=Z,28nm,0.9s,mb5.2,baz=50,slow=5.4,SNR=30
VRAC Vranov 79.73 326 P **P 14 46 53.3 +0.3**
VRAC pmax pmax
comp=Z,28nm,0.9s
CLL Collm 79.79 329 ⇑P **P 14 46 53.0 -0.3**
comp=Z,logA/T=1.8,mb5.5
CLL *i* *PP pP 14 46 57.7 -2.1
CLL *e* 14 47 10.0
CLL Collm 79.79 329 ⇑*i*P **P 14 46 53.0 -0.3**
CLL *i* pP 14 46 57.7 -2.1
CLL pmax pmax
comp=Z,55nm,0.9s,mb5.5
CLL Collm 79.79 329 ⇑*i*P **P 14 46 53.0 -0.3**
comp=Z,55nm,0.9s,mb5.5
CLL *i* pP 14 46 57.7 -2.1
KSHT Keshet 79.84 304 P **P 14 46 54.5 +0.5**
KSHT Keshet 79.84 304 ⇑P **P 14 46 54.5 +0.5**
ARUT Antelope Range 79.88 50 P **P 14 46 55.1 +1.0**
ARUT Antelope Range 79.88 50 *e*P **P 14 46 54.8 +0.7**
SMOL Smolenice 79.93 325 *i*P **P 14 46 55.4 +1.3**
PRU Pruhonice 80.13 327 *e*P **P 14 46 55.3 +0.1**
PRU pmax pmax
comp=Z,50nm,1.0s,mb5.4
PRU Pruhonice 80.13 327 ⇑*e*P **P 14 46 55.3 +0.1**
comp=Z,50nm,1.0s,mb5.4
PRU *e*pP pP 14 47 00.0 -1.7
PRU AMS AMS 15 26 50.0
MVU Marysvale 80.17 49 *e*P **P 14 46 56.9 +1.3**
comp=Z,33nm,1.1s,mb5.2
MSU Marysvale 80.18 49 P **P 14 46 57.1 +1.4**
MSU Marysvale 80.18 49 *e*P **P 14 46 57.0 +1.3**
HNTI Hanita 80.20 304 P **P 14 46 56.4 +0.5**
HNTI Hanita 80.20 304 ⇑P **P 14 46 56.4 +0.5**
AFFS 'Afif 80.23 293 P **P 14 46 56.4 +0.1**
CSS Prodhromos 80.23 307 *e*P **P 14 46 56.0 0.0**
comp=Z,27nm,0.9s,mb5.2
TMUT Trail Mountain 80.25 48 *e*P **P 14 46 56.9 +0.9**
ZST Bratislava 80.31 325 *i*P **P 14 46 57.3 +1.1**
NEN Nelson 80.36 52 *e*P **P 14 46 57.0 +0.3**
ULM Lac du Bonnet 80.39 32 P **P 14 46 55.6 -0.9**
comp=Z,22nm,0.9s,mb5.1,baz=307,slow=3.7,SNR=13
ULM LR LR 15 26 35.9
comp=Z,185nm,19.0s,MS4.5,baz=325,slow=39
MMLI Mount Malkishu 80.43 303 P **P 14 46 58.0 +0.9**
MMLI Mount Malkishu 80.43 303 ⇑P **P 14 46 58.0 +0.9**
CLZ Clausthal 80.44 330 *e*P **P 14 46 57.0 +0.2**
comp=Z,79nm,1.1s,mb5.6
HMDT Nahal Hemdat 80.48 303 P **P 14 46 58.0 +0.6**
HMDT Nahal Hemdat 80.48 303 ⇑P **P 14 46 58.0 +0.6**
LDFC Landfair 80.55 53 *e*P **P 14 46 58.0 +0.3**
PFO Pinyon Flat Ob 80.60 55 P **P 14 46 58.5 +0.5**
comp=Z,271nm,0.9s,mb6.2,SNR=23
PFO Pinyon Flat Ob 80.60 55 P **P 14 46 57.9 -0.1**
PFO pmax pmax
comp=Z,39nm,0.9s,mb5.3
PFO Pinyon Flat Ob 80.60 55 *e*P **P 14 46 58.0 -0.1**
comp=Z,34nm,0.9s,mb5.3
PGB Panagyurishte 80.73 317 *i*P **P 14 46 59.5 +1.0**
SRU San Rafael 80.78 48 P **P 14 46 59.6 +0.8**
SRU San Rafael 80.78 48 *e*P **P 14 46 59.5 +0.6**
SLTI Sal'it 80.81 304 P **P 14 46 59.7 +0.6**
SLTI Sal'it 80.81 304 ⇑P **P 14 46 59.7 +0.6**
NKC Novy Kostel 80.84 328 ⇑*e*P **P 14 46 59.2 +0.3**
NKC *e*pP pP 14 47 03.8 -1.6
MOX Moxa 80.87 329 *i*P **P 14 46 58.3 -0.8**
comp=Z,logA/T=1.6,mb5.3
MOX L 15 25 43.0
MOX Moxa 80.87 329 *e*P **P 14 46 58.3 -0.8**
MOX pmax pmax
comp=Z,39nm,1.1s,mb5.2
MOX MLR MLR
comp=Z,300nm,16.0s,MS4.7
MOX Moxa 80.87 329 *e*P **P 14 46 58.3 -0.8**
comp=Z,39nm,1.1s,mb5.2
MOX LR LR
comp=Z,300nm,16.0s,MS4.7
RDO Rodhopi 80.92 315 *e*P **P 14 47 00.0 +0.5**
SOP Sopron 80.93 325 ⇑*e*P **P 14 47 00.2 +0.7**
DRGI Dragot 80.97 303 P **P 14 47 00.5 +0.5**
DRGI Dragot 80.97 303 ⇑P **P 14 47 00.5 +0.5**
RSSD Black Hills 80.99 40 P **P 14 46 59.9 +0.1**
RSSD pmax pmax
comp=Z,56nm,1.2s,mb5.4
RSSD Black Hills 80.99 40 *e*P **P 14 46 59.7 -0.1**
comp=Z,25nm,0.8s,mb5.2
RZN Rozhen 81.01 316 *i*P **P 14 47 01.0 +1.0**
PKSM Moragy 81.01 323 ⇑*e*P **P 14 46 59.5 -0.4**
BAR Barrett 81.04 56 *e*P **P 14 46 59.9 -0.5**
WIT Witteveen 81.08 333 *e*P **P 14 47 01.6 +1.5**
comp=Z,259nm,1.1s,mb6.1
WIT *ex* x 14 47 05.4
SVIS Svilajnac 81.08 320 *e*P **P 14 46 59.8 -0.6**
BEO Belgrade 81.10 321 ⇑*i*P **P 14 47 00.6 +0.2**
KHC Kasperske Hory 81.19 327 ⇑*i*P **P 14 47 01.1 +0.3**
KHC MLR MLR
comp=Z,800nm,15.7s,MS5.2
KHC Kasperske Hory 81.19 327 ⇑*i*P **P 14 47 01.1 +0.3**
KHC *e*pP pP 14 47 05.6 -1.7
KHC AMS AMS 15 27 00.0
comp=Z,800nm,15.7s
VTS Vitosha 81.22 318 *i*P **P 14 47 02.3 +1.2**
GEC2 GERESS Array S 81.35 327 *e*P **P 14 47 01.6 0.0**
GEC2 pmax pmax
comp=Z,26nm,0.9s,mb5.2
GEC2 GERESS Array S 81.35 327 *e*P **P 14 47 01.6 0.0**
comp=Z,26nm,0.9s,mb5.2
GERES GERESS Array B 81.35 327 P **P 14 47 01.4 -0.2**
comp=Z,16nm,0.7s,mb5.1,baz=34,slow=4.8,SNR=133
GERES PKKPbc 15 05 33.2
comp=Z,0.2nm,0.2s,baz=270,slow=4.0,SNR=4.1
RHK1 Bakonya 81.37 323 ↓*e*P **P 14 47 02.0 +0.2**
WET Wettzell 81.48 327 *e*P **P 14 47 02.6 +0.3**
WET pmax pmax
comp=Z,26nm,1.0s,mb5.1
WET Wettzell 81.48 327 *e*P **P 14 47 02.6 +0.3**
comp=Z,26nm,1.0s,mb5.1
AYVA Ayvalik 81.49 313 *i*P **P 14 47 02.0 -0.5**
MMB Musomiste 81.62 317 *i*P **P 14 47 04.0 +0.8**
MMB Musomiste 81.62 317 ↓*i*P **P 14 47 04.0 +0.8**
GRUS Gruza 81.63 320 ↓*i*P **P 14 47 03.2 0.0**
WTSB Winterswijk 81.71 332 *e*P **P 14 47 03.2 -0.3**
comp=Z,30nm,1.0s,mb5.2
WTSB *ex* x 14 47 07.7
ARSA Arzberg 81.73 325 ↓*i*P **P 14 47 03.6 0.0**
comp=Z,19nm,0.8s,mb5.1
KDAG Bornova 81.75 312 *i*P **P 14 47 03.8 -0.1**
ZFRI Zfri 81.76 302 P **P 14 47 04.7 +0.6**
ZFRI Zfri 81.76 302 ⇑P **P 14 47 04.7 +0.6**
GRA1 Grafenberg Arr 81.76 329 *e*P **P 14 47 04.3 +0.6**
comp=Z,101nm,0.9s,mb5.8
GRA1 *e*pP pP 14 47 08.8 -1.4
GRF Grafenberg Arr 81.76 329 *e*P **P 14 47 04.3 +0.6**
GRF pmax pmax
comp=Z,101nm,0.9s,mb5.8
PRK Paraskevi 81.77 314 *e*P **P 14 47 03.0 -1.0**
KKB Krupnik 81.78 317 *i*P **P 14 47 05.0 +1.0**
KBRS Khaybar 81.83 296 P **P 14 47 05.0 +0.4**
PCOU Corrie 81.84 340 ⇑*e*P **P 14 47 04.2 +0.2**
DIVS Dvcibare 81.85 320 ↓*i*P **P 14 47 04.3 0.0**
MOA Molln 81.85 326 ⇑*i*P **P 14 47 04.5 +0.3**
comp=Z,17nm,0.8s,mb5.0
AYDN Tasoluk 81.88 312 *i*P **P 14 47 05.9 +1.4**
PRNI Paran 82.00 302 P **P 14 47 06.1 +0.7**
PRNI Paran 82.00 302 ⇑P **P 14 47 06.1 +0.7**
KZIT Kziot 82.06 303 P **P 14 47 06.1 +0.4**
PCA1 Carrot 82.13 340 ⇑*e*P **P 14 47 05.6 +0.1**
PV10 Paradox Valley 82.13 47 *e*P **P 14 47 07.2 +1.3**
EKA Eskdalemuir Ar 82.15 339 P **P 14 47 05.5 -0.1**
comp=Z,12nm,0.8s,mb4.9,baz=38,slow=4.6,SNR=27
EKA Eskdalemuir Ar 82.15 339 P **P 14 47 05.5 -0.1**
EKA pmax pmax
comp=Z,12nm,0.8s
PHWY Pilot Hill 82.18 43 *e*P **P 14 47 06.7 +0.6**
TBKS Tabuk 82.26 300 P **P 14 47 07.7 +1.0**
JMQS Jabal Moqyreh 82.31 300 P **P 14 47 07.6 +0.6**
KMTI Karmit 82.34 302 P **P 14 47 07.5 +0.3**
KMTI Karmit 82.34 302 ⇑P **P 14 47 07.5 +0.3**
PERS Pernice 82.37 325 ⇑*e*P **P 14 47 07.2 +0.2**
MBH Mount Berech 82.41 302 P **P 14 47 08.1 +0.6**
MBH Mount Berech 82.41 302 ⇑P **P 14 47 08.1 +0.6**
EIL Elat 82.46 302 P **P 14 47 08.3 +0.5**
EIL Elat 82.46 302 ⇑P **P 14 47 08.3 +0.5**
TATS Tathlith 82.48 289 P **P 14 47 08.8 +0.7**
BDRM Kayabasi 82.53 311 *i*P **P 14 47 08.0 0.0**
PV01 Paradox Valley 82.57 47 *e*P **P 14 47 09.0 +0.8**
SKO Skopje 82.59 318 *i*P **P 14 47 09.2 +1.0**
PLG Polygyros 82.61 316 ⇑*i*P **P 14 47 08.5 +0.2**
ALWS Ilw as Safayha 82.61 301 P **P 14 47 09.5 +1.0**
JMOS Jabal al Moall 82.67 301 P **P 14 47 09.4 +0.6**
SIND Sindeldorf 82.69 329 *e*P **P 14 47 08.5 -0.1**
OBKA Obir 82.73 325 ⇑*i*P **P 14 47 08.6 -0.2**
comp=Z,14nm,0.8s,mb5.1
GMK Mull of Kintyr 82.81 340 ⇑*e*P **P 14 47 08.9 -0.2**
TOD Tromm 82.82 330 *e*P **P 14 47 09.4 +0.2**
TOD Tromm 82.82 330 ⇑*e*P **P 14 47 09.2 0.0**
KBA Koelnbreinsper 82.84 326 ⇑*i*P **P 14 47 09.6 +0.2**
comp=Z,33nm,0.9s,mb5.4
HAQS Haql 82.86 301 P **P 14 47 10.4 +0.5**
FUR Furstenfeldbru 82.92 328 *e*P **P 14 47 10.2 +0.4**
FUR pmax pmax
comp=Z,121nm,0.8s,mb6.0
FUR Furstenfeldbru 82.92 328 *e*P **P 14 47 10.2 +0.4**
comp=Z,121nm,0.8s,mb6.0
FUR *e*pP pP 14 47 14.9 -1.4
SWS Schriesheim 82.95 330 *e*P **P 14 47 09.8 -0.1**

GAL1	Galloway	82.99	340⇑	*eP*		P		14 47 09.8	-0.2
HGN	Heimansgroeve	83.00	332⇑	*eP*		P		14 47 09.7	-0.4
	comp=Z,21nm,1.0s,mb5.1								
HGN				*ex*		x		14 47 14.3	
HDH	Heidenheim	83.04	328	*eP*		P		14 47 10.3	-0.1
LJU	Ljubljana	83.08	325⇑	*eP*		P		14 47 10.3	-0.4
ABH	Alteburg	83.09	331	*eP*		P		14 47 10.6	0.0
ABH	Alteburg	83.09	331⇑	*eP*		P		14 47 10.5	-0.1
VISS	Visnje	83.12	324⇑	*eP*		P		14 47 10.5	-0.4
ISCO	Idaho Springs	83.13	44	P		P		14 47 04.0	-7.0
ISCO	Idaho Springs	83.13	44	*eP*		P		14 47 12.0	+0.9
	comp=Z,25nm,1.1s,mb5.2								
BDAS	Al Bad'	83.13	300	P		P		14 47 11.5	+0.2
BOJS	Bojanci	83.15	324⇑	*eP*		P		14 47 10.5	-0.5
AYUS	'Aynunah	83.17	300	P		P		14 47 11.8	+0.3
GCL	Cushendall	83.19	341⇑	*eP*		P		14 47 10.9	-0.1
TAYS	Tayyib Ism	83.21	301	P		P		14 47 12.5	+0.8
DBAS	Duba	83.28	299	P		P		14 47 12.2	+0.2
STU	Stuttgart	83.31	329	P		P		14 47 11.9	+0.1
STU				pmax		pmax			
	comp=Z,84nm,0.9s,mb5.8								
STU	Stuttgart	83.31	329	*eP*		P		14 47 11.7	-0.1
	comp=Z,118nm,1.1s,mb5.8								
KTD	Kalmit	83.33	330	*eP*		P		14 47 11.5	-0.4
PTCC	Patocco-Chiusa	83.35	325	*eP*		P		14 47 11.3	-0.7
RUP	Ruppelstein	83.43	331	*eP*		P		14 47 12.3	-0.1
WTTA	Wattenberg	83.46	327⇑	*iP*		P		14 47 12.5	-0.1
	comp=Z,25nm,1.1s,mb5.2								
FVI	Forni Avoltri	83.46	326	*eP*		P		14 47 11.7	-0.9
KBI1	Birley Grange	83.47	337⇑	*eP*		P		14 47 12.0	-0.5
GMNA	Gemona	83.50	325	*eP*		P		14 47 11.0	-1.7
BUCH	Bad Urach	83.50	329⇑	*eP*		P		14 47 13.1	+0.4
DJNS	Zahran al Janu	83.52	287	P		P		14 47 14.7	+1.2
LBG	Lerchenberg	83.56	329	*eP*		P		14 47 13.2	+0.2
UMJS	Umm Lajj	83.56	297	P		P		14 47 14.4	+0.8
MOTA	Moosalm	83.62	327⇑	*iP*		P		14 47 13.6	+0.2
	comp=Z,20nm,1.0s,mb5.2								
YNBS	Yanbu' al Bahr	83.63	296	P		P		14 47 14.4	+0.4
NAMS	An Nimas	83.66	289	P		P		14 47 15.4	+1.2
SQTA	Sankt Quirin	83.68	327⇑	*iP*		P		14 47 13.9	+0.3
	comp=Z,13nm,1.0s,mb5.0								
BLJS	Baljurashi	83.69	290	P		P		14 47 15.4	+1.1
TRI	Trieste	83.69	325	*eP*		P		14 47 12.8	-0.9
LANF	Langenberg	83.71	330⇑	*eP*		P		14 47 13.7	0.0
UBR	Uberruh	83.79	328	*eP*		P		14 47 14.1	-0.1
GMM	Mts of Mourne	83.89	340⇑	*eP*		P		14 47 14.3	-0.2
GUT	Gutenstein	83.90	329	*eP*		P		14 47 14.7	0.0
GIVF	Givet	83.95	332	*eP*		P		14 47 14.4	-0.6
EYMN	Ely	84.00	31	*eP*		P		14 47 15.2	-0.1
	comp=Z,105nm,1.0s,mb5.9								
SPAK	Spaichingen	84.01	329	*eP*		P		14 47 15.5	+0.2
SPAK	Spaichingen	84.01	329⇑	*eP*		P		14 47 15.2	-0.1
BFO	Black Forest	84.02	329	*eP*		P		14 47 15.4	+0.1
BFO				pmax		pmax			
	comp=Z,76nm,0.9s,mb5.8								
BFO	Black Forest	84.02	329	*eP*		P		14 47 15.4	+0.1
	comp=Z,76nm,0.9s,mb5.8								
BFO				*ep*	P		pP	14 47 19.9	-2.0
DAVA	Damuels	84.19	328⇑	*iP*		P		14 47 16.5	+0.3
	comp=Z,86nm,0.8s,mb5.9								
BAIF	Baives	84.22	333	*eP*		P		14 47 16.0	-0.3
	comp=Z,49nm,1.0s,mb5.3								
SBD	Saint Breward	84.29	338⇑	*eP*		P		14 47 16.9	+0.3
SBD				AMb		AMB		14 47 18.1	
	comp=Z,93nm,1.7s,mb5.7								
LTHS	Al Lith	84.33	291	P		P		14 47 18.6	+1.1
WLS	Welschbruch	84.34	330⇑	*eP*		P		14 47 16.9	-0.1
CDF	Champ du Feu	84.38	330	*eP*		P		14 47 17.2	+0.1
	comp=Z,152nm,1.0s,mb5.8								
CTI	Castel Tesino	84.39	326	*eP*		P		14 47 16.2	-1.1
DMUB	Kingscourt	84.44	340	*eP*		P		14 47 18.0	+0.7
LIBD	Limburg	84.45	330	*eP*		P		14 47 17.8	+0.3
LIBD	Limburg	84.45	330⇑	*eP*		P		14 47 17.6	+0.1
KIZ	Kirchzarten	84.48	329	*eP*		P		14 47 17.3	-0.4
FELD	Feldberg	84.51	329	*eP*		P		14 47 17.6	-0.2
HLM1	Long Mynd	84.52	338	*eP*		P		14 47 18.3	+0.6
EVR	Evrytania	84.53	316	*eP*		P		14 47 12.0	-6.1
ECH	Echery	84.58	330⇑	*eP*		P		14 47 18.0	-0.1
DAVOX	Davos	84.59	328	P		P		14 47 18.2	-0.1
	comp=Z,32nm,0.8s,mb5.5,baz=37,slow=3.2,SNR=36								
DAVOX	Davos	84.59	328	P		P		14 47 18.2	-0.1
SDCO	Great Sand Dun	84.61	46	*eP*		P		14 47 19.4	+0.9
	comp=Z,47nm,1.1s,mb5.5								
BRMO	Bormio	84.61	327	*eP*		P		14 47 18.6	+0.2
SSP1	Stoney Pound	84.67	338	*eP*		P		14 47 19.1	+0.7
HAE	Alders End	84.83	337⇑	*eP*		P		14 47 19.3	0.0
HAE				AMb		AMB		14 47 20.6	
	comp=Z,101nm,1.0s,mb5.9								
NPS	Neapolis	84.83	311	*eP*		P		14 47 18.5	-1.2
DLF	Lyons Farm	84.88	340	*eP*		P		14 47 19.7	+0.2
MOF	Molkenrain	84.88	330⇑	*eP*		P		14 47 19.5	-0.2
MCH1	Michaelchurch	85.00	337⇑	*eP*		P		14 47 20.3	+0.1
MCH1				AMb		AMB		14 47 21.8	
	comp=Z,98nm,0.8s,mb6.0								
HINF	Hinteralfeld	85.02	330	*eP*		P		14 47 20.0	-0.4
	comp=Z,57nm,0.9s,mb5.4								
THEF	They Montfort	85.04	331⇑	*eP*		P		14 47 20.0	-0.4
BBS	Basel-Blauen	85.04	329	*eP*		P		14 47 20.4	-0.1
BBS	Basel-Blauen	85.04	329	*eP*		P		14 47 20.2	-0.3
DCN	Croghan	85.04	340	*eP*		P		14 47 20.7	+0.4
KEK	Kerkira	85.07	317	*eP*		P		14 47 20.0	-0.8
HAU	Haudompre	85.07	330	*eP*		P		14 47 20.3	-0.3
	comp=Z,68nm,0.7s,mb5.6								
HAU				*eR*					
	comp=Z,413nm,16.0s								
TUC	Tucson	85.09	53	P		P		14 47 21.7	+0.6
TUC				pmax		pmax			
	comp=Z,22nm,1.0s,mb5.2								
TUC	Tucson	85.09	53	*eP*		P		14 47 21.7	+0.7
	comp=Z,18nm,0.9s,mb5.2								
MEZF	Maizieres J'vi	85.17	331	*eP*		P		14 47 21.3	+0.2
	comp=Z,131nm,0.9s,mb5.7								
IDI	Anoyia	85.25	311	P		P		14 47 21.1	-0.8
	comp=Z,60nm,0.8s,mb5.8,baz=19,slow=8.0,SNR=20								
HGH	Gray Hill	85.26	337⇑	*eP*		P		14 47 21.2	-0.3
HGH				AMb		AMB		14 47 26.1	
	comp=Z,157nm,2.2s,mb5.8								
VAM	Vamos	85.58	312	*eP*		P		14 47 25.0	+1.5
SCHQ	Schefferville	85.61	15	P		P		14 47 23.3	+0.2
	comp=Z,36nm,0.8s,mb5.7,baz=358,slow=5.1,SNR=35								
SCHQ				LR		LR		15 27 23.9	
	comp=Z,212nm,18.7s,MS4.6,baz=76,slow=37								
SCHQ	Schefferville	85.61	15	P		P		14 47 23.3	+0.1
SCHQ				LR		LR		15 27 23.9	
FGMS	Monte Sant'Ang	85.62	321	*eP*		P		14 47 23.4	-0.1
RSM	Repubblica di	85.65	324	*eP*		P		14 47 24.3	+0.7
FSSB	Fossombrone	85.68	324	*eP*		P		14 47 24.0	+0.3
ITM	Ithomi	85.68	314	*eP*		P		14 47 23.0	-0.9
VLS	Valsamata	85.73	316	*eP*		P		14 47 24.0	-0.1
ARV	Arcevia	85.75	324	*eP*		P		14 47 24.1	0.0
VAI	Varese	85.78	328	*eP*		P		14 47 23.2	-1.0
LAZ	Ladron	85.94	49	*eP*		P		14 47 26.4	+1.1
SFI	Santa Sofia	85.95	325	*eP*		P		14 47 26.0	+0.9
ANMO	Albuquerque	85.97	48	*eP*		P		14 47 26.4	+1.0
ANMO				pmax		pmax			
	comp=Z,42nm,1.3s								
ANMO	Albuquerque	85.97	48	*eP*		P		14 47 26.4	+0.9
	comp=Z,42nm,1.3s,mb5.5								
LTRZ	Laterza	86.00	320	*eP*		P		14 47 25.5	+0.1
ZCCA	Zocca	86.00	325	*eP*		P		14 47 26.9	+1.6
PGD	Poggio Sodo	86.03	325	*eP*		P		14 47 26.6	+1.1
GVD	Gavdhos	86.04	311	*eP*		P		14 47 25.7	0.0
	comp=Z,59nm,0.8s,mb5.9								
VMG	Vicchio	86.04	325	*eP*		P		14 47 27.0	+1.5
MCGN	Macugnaga	86.04	328	*eP*		P		14 47 25.3	-0.2
TERO	Teramo	86.09	323	*eP*		P		14 47 25.9	0.0
CRE	Caprese Michel	86.12	324	*eP*		P		14 47 26.2	+0.3
NRCA	Norcia	86.17	323	*eP*		P		14 47 26.5	+0.3
GSCL	Gusciola	86.17	326	*eP*		P		14 47 27.0	+0.8
ERBM	Eremo	86.20	326	*eP*		P		14 47 27.3	+1.0
LENM	Lemitar	86.20	49	*eP*		P		14 47 27.5	+0.9
PMOR	Pomariorio Ree	86.21	112	*eP*		P		14 47 28.1	+1.1
	comp=Z,41nm,1.0s,mb5.6								
CABF	La Chapelle	86.31	329	*eP*		P		14 47 26.5	-0.3
	comp=Z,35nm,1.0s,mb5.3								
LPM	Los Pinos Moun	86.31	49	*eP*		P		14 47 28.0	+0.8
BOB	Bobbio (Coli)	86.36	327	*eP*		P		14 47 26.6	-0.4
BDI	Bagni Di Lucca	86.40	325	*eP*		P		14 47 26.6	-0.7
AQU	L'Aquila	86.40	323	P		P		14 47 28.1	+0.8
AQU				pmax		pmax			
	comp=Z,88nm,1.0s,mb5.9								
AQU	L'Aquila	86.40	323	*eP*		P		14 47 28.1	+0.8
BNM	Barren Site	86.42	49	*eP*		P		14 47 28.6	+0.9
CII	Carovilli	86.43	322	*eP*		P		14 47 28.4	+0.8
CSNT	Castellina Chi	86.54	325	*eP*		P		14 47 27.1	-0.9
MRLC	Muro Lucano	86.56	321	*eP*		P		14 47 28.0	-0.2
ORI	Oriolo Calabro	86.58	319	*eP*		P		14 47 28.9	+0.6
LOR	Lormes	86.65	331	*eP*		P		14 47 28.0	-0.4
	comp=Z,94nm,0.9s,mb5.7								
LOR				*eR*					
	comp=Z,361nm,17.5s								
PTQR	Pietraquaria	86.65	323	*eP*		P		14 47 28.6	+0.1
SDI	San Donato	86.69	322	*eP*		P		14 47 28.6	-0.2
MNS	Montasola	86.72	323	*eP*		P		14 47 28.3	-0.6
SLCN	Sala Consilina	86.76	320	*eP*		P		14 47 29.0	-0.1
TIAR	Tiarei	86.80	115	*eP*		P		14 47 31.0	+1.2
	comp=Z,97nm,1.0s,mb6.0								
SGO	Sicignano	86.80	320	*eP*		P		14 47 28.8	-0.5
LPL	La Plagne	86.92	328	*eP*		P		14 47 29.8	0.0
	comp=Z,11nm,0.6s,mb5.0								
LPG	La Plagne	86.93	328	*eP*		P		14 47 29.9	0.0
	comp=Z,15nm,0.6s,mb5.1								
GRFL	Gerfalco	86.93	325	*eP*		P		14 47 28.9	-1.1
TDS	Terranova Siba	86.94	319	*eP*		P		14 47 30.6	+0.6
SSF	Saint Saulge	86.95	331	*eP*		P		14 47 29.6	-0.3
	comp=Z,62nm,0.9s,mb5.5								
FLN	La Foliniere	86.98	334	*eP*		P		14 47 29.5	-0.5
	comp=Z,52nm,0.8s,mb5.5								
FLN				*eR*					
	comp=Z,314nm,19.8s								
MGR	Morigerati	86.99	320	*eP*		P		14 47 29.4	-0.9
LDF	La Druitiere	87.00	334	*eP*		P		14 47 29.6	-0.5
	comp=Z,55nm,0.7s,mb5.6								
HYF	Humbligny	87.11	332	*eP*		P		14 47 30.9	+0.2
SMF	Signal de Mont	87.17	331	*eP*		P		14 47 30.5	-0.5
	comp=Z,33nm,0.7s,mb5.4								
BNI	Bardonecchia	87.32	328	P		P		14 47 32.9	+1.1
BNI				pmax		pmax			
	comp=Z,8.0nm,1.0s,mb4.9								
BNI	Bardonecchia	87.32	328	*eP*		P		14 47 31.8	0.0
	comp=Z,8.4nm,0.9s,mb5.0								
GRR	Gorron	87.43	334	*eP*		P		14 47 31.9	-0.3
	comp=Z,118nm,1.0s,mb5.8								
MBDF	Montbardon	87.54	328	*eP*		P		14 47 32.0	-0.8
	comp=Z,23nm,0.8s,mb5.2								
BGF	Bois d'Agland	87.62	331	*eP*		P		14 47 32.9	-0.3
ORIF	Oris-en-Rattie	87.76	329	*eP*		P		14 47 33.3	-0.6
	comp=Z,38nm,1.1s,mb5.2								
ORIF				*eR*					
	comp=Z,233nm,17.2s								
SBF	Sospel	87.95	327	*eP*		P		14 47 33.8	-1.0
	comp=Z,28nm,0.7s,mb5.3								
TCF	Toulx Ste Croi	88.09	332	*eP*		P		14 47 35.6	+0.2
SGMF	Saint Gilles	88.12	335	*eP*		P		14 47 35.5	0.0
	comp=Z,79nm,1.1s,mb5.6								
SOI	Samo	88.26	318	*eP*		P		14 47 36.3	-0.2
ROSF	Rostrenen	88.28	336	*eP*		P		14 47 35.8	-0.5
	comp=Z,114nm,1.1s,mb5.7								
PGF	Pioggiola	88.31	325	*eP*		P		14 47 35.9	-0.6
	comp=Z,38nm,0.9s,mb5.3								
VIVF	Saint-Julien-l	88.31	329	*eP*		P		14 47 35.9	-0.6
	comp=Z,22nm,0.7s,mb5.2								
KSU1	Kansas State U	88.45	40	*eP*		P		14 47 37.2	-0.1
FRF	La Foret Royal	88.54	327	*eP*		P		14 47 36.6	-1.0
	comp=Z,15nm,0.8s,mb5.1								
QUIF	Quintinic	88.61	336	*eP*		P		14 47 37.6	-0.3
SMRF	Simiane la Rot	88.66	328	*eP*		P		14 47 37.7	-0.5
MFF	Saint Martin d	88.70	333	*eP*		P		14 47 37.7	-0.6
	comp=Z,86nm,1.2s,mb5.7								
LMR	La Mourre	88.78	327	*eP*		P		14 47 37.5	-1.3
	comp=Z,58nm,1.1s,mb5.5								
CPRX	Cap Rock	88.85	48	*eP*		P		14 47 39.6	+0.2
GDL2	Guadalupe Moun	89.14	49	*eP*		P		14 47 41.1	+0.4
RJF	Les Rejaudoux	89.18	331	*eP*		P		14 47 40.4	-0.3
RJF				*eR*					
	comp=Z,371nm,19.2s								
LASF	Ste Croix	89.28	329	*eP*		P		14 47 40.8	-0.4
	comp=Z,24nm,1.2s,mb5.1								
CAF	Calviac	89.29	331	*eP*		P		14 47 41.3	+0.1
	comp=Z,29nm,1.0s,mb5.3								
CLNB	Carlsbad	89.39	49	*eP*		P		14 47 42.2	+0.3
LFF	La Frestale	89.78	332	*eP*		P		14 47 43.6	+0.1
	comp=Z,40nm,0.8s,mb5.5								
VSL	Villasalto	90.54	323	*eP*		P		14 47 46.5	-0.6
	comp=Z,6.1nm,0.8s,mb5.0								
WMOK	Wichita Mounta	90.55	44	P		P		14 47 47.6	+0.3
WMOK				pmax		pmax			
	comp=Z,32nm,1.2s,mb5.5								
WMOK	Wichita Mounta	90.55	44	*eP*		P		14 47 47.3	0.0
	comp=Z,32nm,1.3s,mb5.5								
MTLF	Montolieu	90.56	330	*eP*		P		14 47 47.1	0.0
	comp=Z,34nm,1.0s,mb5.3								
EJON	La Jonquera	91.03	329	P		P		14 47 48.5	-0.7
	comp=Z,11nm,0.9s,mb5.2								
MLS	Moulis	91.32	330⇑	*eP*		P		14 47 50.6	0.0
VALF	Valcebollere	91.42	330⇑	*eP*		P		14 47 51.4	+0.3
EPF	Esparros	91.56	331	*eP*		P		14 47 51.3	-0.4
	comp=Z,17nm,1.0s,mb5.0								
LTX	Lajitas	91.58	51	P		P		14 47 53.2	+1.1
LTX				pmax		pmax			
	comp=Z,32nm,1.2s,mb5.5								
LTX	Lajitas	91.58	51	*eP*		P		14 47 52.8	+0.6
	comp=Z,32nm,1.2s,mb5.5								
TXAR	Lajitas Array	91.58	51	P		P		14 47 52.5	+0.4
	comp=Z,12nm,0.8s,mb5.2,baz=295,slow=3.3,SNR=91								
TXAR						PKKPbc		15 05 11.6	
	comp=Z,0.4nm,0.8s,baz=117,slow=2.0,SNR=4.2								
TXAR	Lajitas Array	91.58	51	P		P		14 47 52.5	+0.4
TXAR						PKKPbc		15 05 11.6	
RESF	Ens	91.75	331⇑	*eP*		P		14 47 53.5	+0.9
EBIE	Bielsa	91.92	331	P		P		14 47 53.4	0.0
	comp=Z,11nm,1.0s,mb5.2								
CCM	Cathedral Cave	91.93	37	P		P		14 47 53.8	+0.3
CCM				pmax		pmax			
	comp=Z,61nm,1.1s,mb5.8								
CCM	Cathedral Cave	91.93	37	*eP*		P		14 47 53.6	0.0
	comp=Z,61nm,1.1s,mb5.8								
SLM	Saint Louis	91.95	36	P		P		14 47 54.2	+0.6
SLM				pmax		pmax			
	comp=Z,62nm,1.0s,mb5.9								
SLM	Saint Louis	91.95	36	*eP*		P		14 47 53.9	+0.3
	comp=Z,62nm,1.0s,mb5.9								
ETSF	Etsaut	92.01	331	*eP*		P		14 47 54.3	+0.5
	comp=Z,20nm,0.9s,mb5.2								
EMIR	Miracle	92.03	330	P		P		14 47 51.8	-2.1
	comp=Z,9.6nm,1.2s,mb5.0								
SJPF	Ste Jean	92.08	332	*eP*		P		14 47 53.6	-0.5
	comp=Z,27nm,1.1s,mb5.2								
EALK	Alkurruntz	92.10	332	P		P		14 47 54.0	-0.2
	comp=Z,12nm,1.4s,mb5.0								
EGRA	Graus	92.27	330	P		P		14 47 55.0	0.0
	comp=Z,19nm,0.7s,mb5.5								
FVM	French Village	92.38	37	P		P		14 47 55.6	0.0
FVM				pmax		pmax			
	comp=Z,38nm,1.1s,mb5.6								
FVM	French Village	92.38	37	*eP*		P		14 47 55.6	0.0
	comp=Z,38nm,1.1s,mb5.6								
EPOB	Poblet	92.68	330	P		P		14 47 56.5	-0.5
	comp=Z,10.0nm,0.9s,mb5.2								
ELAN	Lanestosa	92.79	333	P		P		14 47 55.5	-1.9
	comp=Z,13nm,1.1s,mb5.3								
ESAC	San Caprasio	92.98	331	P		P		14 47 58.2	-0.1
	comp=Z,22nm,0.6s,mb5.8								
JCT	Junction City	93.09	48	P		P		14 47 59.7	+0.6
JCT				pmax		pmax			
	comp=Z,38nm,1.1s,mb5.7								
JCT	Junction City	93.09	48	*eP*		P		14 47 59.0	-0.1
	comp=Z,38nm,1.1s,mb5.7								
EARI	Arriondas	93.35	335	P		P		14 47 58.5	-1.4
	comp=Z,14nm,1.1s,mb5.3								
EBR	Ebro Roquetas	93.37	330	*eP*		P		14 48 00.0	-0.1
MIAR	Mount Ida	93.50	41	P		P		14 48 01.6	+0.7
MIAR				pmax		pmax			
	comp=Z,48nm,1.1s,mb5.8								
MIAR	Mount Ida	93.50	41	*eP*		P		14 48 01.2	+0.4
	comp=Z,48nm,1.1s,mb5.8								
ACSO	Alum Creek Sta	93.83	31	*eP*		P		14 48 02.9	+0.7
	comp=Z,22nm,0.8s,mb5.6								
EPON	Pontenova	93.98	336	P		P		14 48 02.9	+0.1
	comp=Z,25nm,1.2s,mb5.5								
WCI	Wyandotte Cave	94.09	34	P		P		14 48 03.4	-0.1
WCI				pmax		pmax			
	comp=Z,30nm,1.0s,mb5.7								
WCI	Wyandotte Cave	94.09	34	*eP*		P		14 48 03.3	-0.2
	comp=Z,28nm,0.9s,mb5.7								
EMOS	Mosqueruela	94.14	330	P		P		14 48 03.8	+0.2
	comp=Z,13nm,0.7s,mb5.5								
ETOR	Torete	94.37	331	P		P		14 48 04.3	-0.4
	comp=Z,3.4nm,0.6s,mb5.0								
WVT	Waverly	95.10	36	P		P		14 48 08.4	+0.2
WVT				pmax		pmax			
	comp=Z,19nm,0.9s,mb5.5								
WVT	Waverly	95.10	36	*eP*		P		14 48 08.4	+0.2
	comp=Z,19nm,0.9s,mb5.5								
ESDC	Sonseca Array	96.09	332	P		P		14 48 11.4	-1.2
	comp=Z,6.5nm,1.2s,mb4.9,baz=25,slow=5.7,SNR=5.3								
ESDC				LR		LR		15 32 47.7	
	comp=Z,135nm,20.9s,MS4.4,baz=330,slow=36								
ESDC	Sonseca Array	96.09	332	P		P		14 48 10.9	-1.8
	comp=Z,0.8nm,0.8s								
EVIA	Vianos	96.43	330	P		P		14 48 14.2	0.0
	comp=Z,6.3nm,0.6s,mb5.2								
EMUR	La Murta	96.61	329	P		P		14 48 12.9	-2.1
	comp=Z,5.7nm,0.8s,mb5.0								
SWET	Sewanee	96.73	35	*eP*		P		14 48 15.3	-0.3
ELN	Prospectdale	97.30	31	P		P		14 48 18.5	+0.4
EQES	Quesada	97.37	330	P		P		14 48 17.7	-0.8
	comp=Z,4.5nm,0.8s,mb5.0								
EADA	Adamuz	97.64	332	P		P		14 48 16.6	-3.0
	comp=Z,4.1nm,1.3s,mb4.8								
EMIN	Mina Concepcio	98.77	333	P		P		14 48 22.6	-2.1
	comp=Z,5.3nm,1.1s,mb5.0								
EMIJ	Mijas	99.11	331	P		P		14 48 23.2	-3.1
	comp=Z,7.6nm,1.3s,mb5.1								
VNDA	Vanda	115.44	175	PKP		PKPdf		14 53 24.9	-4.2
	comp=Z,1.2nm,0.8s,baz=319,slow=4.2,SNR=5.9								
VNDA	Vanda	115.44	175	PKIKP		PKPdf		14 53 24.9	-4.2
VNDA				pmax		pmax			
	comp=Z,1.0nm,0.9s								
MAW	Mawson	118.90	205	PKP		PKPdf		14 53 32.3	-3.6
	comp=Z,6.5nm,1.1s,baz=359,slow=2.3,SNR=6.7								
MAW	Mawson	118.90	205	PKIKP		PKPdf		14 53 32.3	-3.6
MAW				pmax		pmax			
	comp=Z,7.0nm,1.1s								
DBIC	Dimbokro	124.63	314	PKP		PKPdf		14 53 44.1	-4.3
	comp=Z,13nm,0.8s,baz=55,slow=1.9,SNR=15								
DBIC	Dimbokro	124.63	314	PKIKP		PKPdf		14 53 44.1	-4.2
DBIC				pmax		pmax			
	comp=Z,13nm,0.9s								
TIC	Toumodi	124.74	314	*e*PKIKP		PKPdf		14 53 44.4	-4.2
	comp=Z,62nm,1.0s								
KIC	Kosan Boka	124.81	314	*e*PKIKP		PKPdf		14 53 44.6	-4.1
	comp=Z,53nm,0.9s								
LIC	Lamto	125.09	314	*e*PKIKP		PKPdf		14 53 44.4	-4.8
	comp=Z,42nm,1.0s								
LIC	Lamto	125.09	314	*e*PKIKP		PKPdf		14 53 45.0	-4.2
	comp=Z,54nm,1.0s								
SDV	Santo Domingo	126.40	37	*e*PKPdf		PKPdf		14 53 47.9	-3.8
QSPA	South Pole Qui	127.06	180	⇓*iP*		PKPdf		14 53 47.9	-3.3
SYO	Syowa Base	127.52	207	⇓pPdiff				14 50 39.3	
SYO	Syowa Base	127.52	207	⇓PKPdf		PKPdf		14 53 48.5	-3.9
SYO	Syowa Base	127.52	207	⇓pPKPdf				14 53 55.4	
S

JMA Felt II J1.
ISC 23 14:46:18.4±0.5, 37.25N±0.03×138.88E±0.05, h26^{km}±6^{km}, n12, σ0°52/19, mb3.7/3, 1C-3D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKT	**Katashina**	**0.56**	**149**	⇓P	**Pb**	**14 46 29.3**	**-0.3**
JKT				S	**Sb**	**14 46 36.8**	**-0.5**
JNS	**Sasagawa**	**0.67**	**31**	⇑P	**Pb**	**14 46 31.2**	**-0.1**
JNS				S	**Sb**	**14 46 40.4**	**+0.3**
JFY	**Yanaizu**	**0.67**	**76**	⇓P	**Pb**	**14 46 31.3**	**-0.1**
JFY				S	**Sb**	**14 46 40.4**	**0.0**
JGK	**Kuni**	**0.71**	**196**	P	**Pb**	**14 46 32.1**	**0.0**
JGK				S	**Sb**	**14 46 42.2**	**+0.7**
MAT	**Matsushiro**	**0.89**	**218**	P	**Pb**	**14 46 35.0**	**0.0**
MAT				S	**Sb**	**14 46 46.5**	**0.0**
MAT	**Matsushiro**	**0.89**	**218**	P	**Pb**	**14 46 34.9**	**-0.1**
MAT				S	**Sb**	**14 46 46.6**	**+0.1**
JSD	**Sado**	**0.93**	**328**	P	**Pb**	**14 46 35.3**	**-0.4**
JSD				S	**Sb**	**14 46 47.7**	**0.0**
JAG	**Ashikaga**	**0.94**	**151**	⇓P	**Pb**	**14 46 36.5**	**+0.6**
JHJ	**Hachijo jima 2**	**4.19**	**170**	Pn	**Pn**	**14 47 22.4**	**+0.2**
	30nm,0.3s,baz=234,slow=22,SNR=4.5						
ILAR	**Eielson Array**	**50.40**	**32**	P	**P**	**14 55 15.2**	**+0.1**
	0.4nm,0.7s,mb3.5,baz=274,slow=5.3,SNR=7.5						
WRA	**Warramunga Arr**	**57.04**	**185**	P	**P**	**14 56 03.2**	**-1.5**
	1.2nm,0.8s,mb4.0,baz=1.6,slow=7.3,SNR=9.0						
NVAR	**Mina Array Bea**	**76.46**	**52**	P	**P**	**14 58 08.6**	**+1.1**
	1.1nm,1.1s,mb3.7,baz=288,slow=5.7,SNR=3.6						

*NIED **23** 14:54:00, 37.40N×139.00E, h5^{km}, Mw4.1 Best double couple: M₀1.65×10^{15} NP1:φs353°, δ74°, λ61°. NP2:φs237°, δ33°, λ150°.*
*NEIC **23** 14:54:07.6±0.5, 37.40N×138.86E, h10^{km}, mb4.2/2, Error ellipse: s-maj=14.9km s-min=8.1km az=111.0*
*JMA **23** 14:54:07.3, 37.36N×139.00E, h11^{km}±2^{km}, M4.0 Broadband fault plane solution: P waves. NP1:φs179°, δ51°, λ36°. NP2:φs64°, δ63°, λ135°. Principal axes: T Plg50°, Azm26°; N Plg39°, Azm220°; P Plg7°, Azm124°;*
JMA Felt III J1.
*IDC **23** 14:54:11.8±2.6, 37.45N×138.88E, h47^{km}±26^{km}, mb3.6/13, mb1 3.8/16, mb1mx3.7/25, ML3.8/2, MS3.5/2, Ms1 3.6/2, ms1mx2.6/37 Error ellipse: s-maj=23.3km s-min=14.7km az=85.0*
ISC 23 14:54:06.9±0.5, 37.39N±0.03×138.97E±0.05, h22^{km}±5^{km}, n34, σ0°87/36, mb3.9/16, MS3.7/1, 4C-3D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNS	**Sasagawa**	**0.51**	**33**	⇑P	**Pb**	**14 54 17.0**	**-0.1**
JNS				S	**Sb**	**14 54 24.4**	**+0.4**
JFY	**Yanaizu**	**0.59**	**89**	⇓P	**Pb**	**14 54 18.2**	**-0.2**
JFY				S	**Sb**	**14 54 25.8**	**-0.5**
JKT	**Katashina**	**0.67**	**160**	⇓P	**Pb**	**14 54 19.0**	**-0.7**
JKT				S	**Sb**	**14 54 27.9**	**-0.6**
JSD	**Sado**	**0.85**	**319**	⇑P	**Pb**	**14 54 23.2**	**+0.3**
JGK	**Kuni**	**0.87**	**198**	P	**Pb**	**14 54 23.6**	**+0.4**
JAG	**Ashikaga**	**1.04**	**158**	⇓P	**Pb**	**14 54 26.2**	**+0.1**
JAG				S	**Sb**	**14 54 39.6**	**+0.2**
MAJO	**Matsushiro**	**1.05**	**216**	*e*P	**Pb**	**14 54 26.0**	**-0.2**
MAT	**Matsushiro**	**1.05**	**216**	P	**Pb**	**14 54 25.9**	**-0.3**
MAT				S	**Sb**	**14 54 39.9**	**+0.4**
MAT	**Matsushiro**	**1.05**	**216**	P	**Pb**	**14 54 26.0**	**-0.2**
MAT	**Matsushiro**	**1.05**	**216**	*e*P	**Pb**	**14 54 26.0**	**-0.2**
MAT				*e*S	**Sb**	**14 54 40.0**	**+0.5**
JHJ	**Hachijo jima 2**	**4.32**	**171**	P	**Pn**	**14 55 15.1**	**+2.1**
	35nm,0.3s,baz=236,slow=23,SNR=4.7						
ASAJ	**Asahikawa**	**7.26**	**21**	P	**Pn**	**14 55 55.4**	**+1.0**
	1.0nm,0.3s,baz=261,slow=19,SNR=5.5						
ASAJ				LR	LR	14 59 01.5	
	comp=Z,171nm,18.2s,baz=185,slow=40						
ENH	**Enshi**	**25.43**	**263**	*e*P	**P**	**14 59 35.5**	**+0.9**
	6.3nm,0.9s,mb4.2						
SONM	**Songino Array**	**25.97**	**304**	P	**P**	**14 59 38.8**	**-0.6**
	1.7nm,1.0s,mb3.5,baz=104,slow=12,SNR=2.8						
CMAR	**Chiang Mai Arr**	**39.72**	**253**	LR	LR	15 17 18.3	
	comp=Z,110nm,19.0s,MS3.7,baz=169,slow=35						
ZAL	**Zalesovo**	**40.24**	**312**	P	**P**	**15 01 43.5**	**+0.1**
	0.6nm,0.5s,mb3.6,baz=311,slow=5.4,SNR=3.7						
KURK	**Kurchatov**	**44.17**	**308**	*e*P	**P**	**15 02 14.3**	**-1.2**
	1.7nm,0.6s,mb4.0						
BVAR	**Borovoye Array**	**48.88**	**312**	P	**P**	**15 02 52.1**	**-0.5**
	0.9nm,0.7s,mb3.9,baz=72,slow=4.7,SNR=4.2						
ILAR	**Eielson Array**	**50.24**	**32**	P	**P**	**15 03 02.9**	**-0.1**
	0.3nm,0.6s,mb3.5,baz=280,slow=6.0,SNR=7.1						
FITZ	**Fitzroy Crossi**	**56.61**	**195**	P	**P**	**15 03 51.5**	**+0.9**
	1.3nm,0.8s,mb4.0,baz=45,slow=5.7,SNR=2.9						
WRA	**Warramunga Arr**	**57.19**	**185**	P	**P**	**15 03 53.5**	**-1.3**
	1.9nm,0.8s,mb4.2,baz=0.6,slow=7.4,SNR=23						
ASAR	**Alice Springs**	**60.92**	**185**	P	**P**	**15 04 20.4**	**-0.2**
	0.5nm,0.6s,mb3.8,baz=15,slow=12,SNR=8.9						
FINES	**FINESS Array B**	**67.58**	**331**	P	**P**	**15 05 02.1**	**-1.2**
	2.5nm,0.9s,mb4.2,baz=18,slow=6.0,SNR=4.6						
AKASG	**Malin Array Be**	**72.81**	**321**	P	**P**	**15 05 34.9**	**-0.4**
	0.5nm,0.4s,mb3.8,baz=46,slow=6.1,SNR=7.5						
NB2	**NORSAR Subarra**	**73.09**	**336**	P	**P**	**15 05 37.0**	**+0.3**
	0.7nm,0.6s,mb3.8,baz=41,slow=5.8						
NOA	**NORSAR Array B**	**73.09**	**336**	P	**P**	**15 05 34.3**	**-2.4**
	1.0nm,0.9s,mb3.8,baz=40,slow=5.9,SNR=4.2						
NVAR	**Mina Array Bea**	**76.32**	**52**	P	**P**	**15 05 57.5**	**+1.7**
	1.2nm,0.9s,mb3.8,baz=286,slow=6.3,SNR=6.1						
BRTR	**Keskin Array B**	**77.14**	**310**	P	**P**	**15 05 59.9**	**-0.4**
	1.5nm,0.9s,mb3.9,baz=108,slow=3.9,SNR=6.5						
PDAR	**Pinedale Array**	**78.79**	**44**	P	**P**	**15 06 08.6**	**-0.7**
	0.5nm,0.4s,mb3.8,slow=1.5,SNR=4.6						
GERES	**GERESS Array B**	**81.36**	**327**	P	**P**	**15 06 23.9**	**+1.0**
	0.5nm,0.6s,mb3.6,baz=45,slow=5.6,SNR=3.8						
PV10	**Paradox Valley**	**81.98**	**47**	*e*P	**P**	**15 06 29.5**	**+3.1**
SNAA	**Sanae**	**140.51**	**198**	⇑*i*		PKPdf	15 13 30.2	-7.6
VNA2	**Neumayer--Watz**	**142.10**	**197**			PKPdf	15 13 36.4	-4.2
VNA3	**Neumayer Olymp**	**142.39**	**196**	⇑*i*		PKPdf	15 13 37.5	-3.6

*NNC **23** 14:56:39.8±5.6, 43.89N×76.35E, mpv2.5, Error ellipse: s-maj=1396.9km s-min=41.1km az=138.0*
*KNET **23** 14:56:40.1±0.5, 43.61N×76.45E, h12^{km}±3^{km}, ml2.2, Error ellipse: s-maj=4.0km s-min=3.5km az=117.0*
ISC 23 14:56:39.1±1.0, 43.7N±0.1×76.6E±0.1, h10^{km}, n8, σ0°58/13, 5C-9D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TKM2	**Tokmak 2**	**1.06**	**226**	⇓P	**Pb**	**14 56 58.1**	**-0.9**
	6.9nm,0.1s,SNR=55						
TKM2				⇑S	**Sb**	**14 57 12.0**	**-0.7**
	58nm,0.1s						
ULHL	**Ulahol**	**1.44**	**192**	⇓P	**Pn**	**14 57 05.3**	**-0.1**
	8.8nm,0.1s,SNR=68						
CHMS	**Chumysh**	**1.52**	**245**	⇓P	**Pn**	**14 57 06.4**	**-0.2**
	6.4nm,0.1s,SNR=14						
CHMS				⇑S	**Sb**	**14 57 25.8**	**-0.5**
	64nm,0.2s						
KBK	**Karagaybulak**	**1.59**	**232**	⇓P	**Pn**	**14 57 07.7**	**+0.2**
	7.9nm,0.1s,SNR=29						
KBK				⇓S	**Sb**	**14 57 28.9**	**+0.7**
	41nm,0.2s						
USP	**Ospenovka**	**1.60**	**257**	⇓P	**Pn**	**14 57 07.6**	**-0.1**
	4.2nm,0.1s,SNR=12						
USP				⇑S	**Sb**	**14 57 28.3**	**-0.3**
	34nm,0.1s						
AAK	**Ala-Archa**	**1.87**	**238**	⇓P	**Pn**	**14 57 12.2**	**+0.7**
	1.5nm,0.3s						
AAK				⇓S	**Sn**	**14 57 36.5**	**+1.1**
	8.5nm,0.3s						
AAK	**Ala-Archa**	**1.87**	**238**	⇓P	**Pn**	**14 57 12.3**	**+0.8**
	4.6nm,0.2s,SNR=7.4						
MK31	**Makanchi Array**	**5.08**	**50**	⇑Pn	**Pn**	**14 57 57.1**	**0.0**
	0.2nm,0.3s,baz=233,slow=14,SNR=4.1						
MK31				⇑Lg		14 59 18.1	
	1.1nm,0.5s,baz=227,slow=29,SNR=3.0						

*IDC **23** 14:59:47.0±0.9, 8.45S×105.44E, mb4.0/9, mb1 4.2/10, mb1mx4.1/16, MS3.4/2, Ms1 3.4/2, ms1mx2.7/28, Error ellipse: s-maj=44.7km s-min=15.1km az=54.0*
*BJI **23** 14:59:48.4, 8.91S×106.21E, h59^{km}, mb4.7*
*DJA **23** 14:59:51.5±0.8, 6.32S×106.10E, h200^{km}, MD4.6/4, ML5.6/4, Error ellipse: s-maj=79.5km s-min=7.9km az=3.0*
*NEIC **23** 14:59:52.8±0.5, 8.32S×105.70E, h35^{km}, mb4.4/2, Error ellipse: s-maj=14.1km s-min=6.8km az=222.0*
ISC 23 14:59:54.5±1.4, 8.14S±0.10×106.04E±0.08, h62^{km}±11^{km}, n34, σ1°04/43, mb4.3/20, 7C-5D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PASI	**Pasiripis**	**1.51**	**343**	⇓*e*Pn	**P**	**15 00 19.3**	**-0.6**
	3μm,0.2s						
PASI				⇑*e*Sn	**S**	**15 00 39.2**	**+0.5**
SRDI	**Scrawed**	**8.03**	**93**	⇑*e*Pn	**P**	**15 01 51.8**	**+0.9**
	202nm,0.2s						
SRDI				⇓*e*Sn	**S**	**15 03 19.8**	**-1.3**
SRDI	**Scrawed**	**8.03**	**93**	*e*Pn	**P**	**15 01 51.8**	**+0.9**
SRDI				*e*Sn	**S**	**15 03 20.4**	**-0.7**
SRDI				*e*Sn	**S**	**15 03 20.9**	**-0.2**
KELI	**Kelakatan**	**8.37**	**91**	⇑*e*Pn	**P**	**15 01 56.6**	**+1.0**
	140nm,0.2s						
KELI				⇑*e*Sn	**S**	**15 03 26.0**	**-3.5**
KELI	**Kelakatan**	**8.37**	**91**	⇑*e*Pn	**P**	**15 01 57.0**	**+1.4**
KELI				*e*Sn	**S**	**15 03 31.5**	**+2.0**
KELI				*e*Sn	**S**	**15 03 33.7**	**+4.2**
RATI	**Rata**	**9.41**	**94**	⇑*e*Pn	**P**	**15 02 09.6**	**-0.2**
	412nm,0.2s						
RATI				⇓*e*Sn	**S**	**15 03 51.9**	**-3.2**
RATI	**Rata**	**9.41**	**94**	⇓*e*Pn	**P**	**15 02 09.6**	**-0.2**
RATI				*e*Sn	**S**	**15 03 48.5**	**-6.6**
RATI				*e*Sn	**S**	**15 03 52.1**	**-3.0**
KEDI	**Kedomdong**	**9.98**	**93**	⇑*e*Pn	**P**	**15 02 16.3**	**-1.4**
	58nm,0.2s						
KEDI	**Kedomdong**	**9.98**	**93**	⇓*e*Pn	**P**	**15 02 16.3**	**-1.4**
KEDI				*e*Sn	**S**	**15 03 52.9**	**-16**
MBWA	**Marble Bar**	**18.50**	**136**	*e*P	**P**	**15 04 07.1**	**-1.1**
FITZ	**Fitzroy Crossi**	**21.48**	**119**	P	**P**	**15 04 41.3**	**+1.4**
	4.6nm,0.7s,mb4.0,baz=273,slow=1.6,SNR=11						
FITZ				LR	LR	15 12 32.5	
	comp=Z,74nm,21.7s,baz=293,slow=35						
CMAR	**Chiang Mai Arr**	**27.34**	**345**	P	**P**	**15 05 34.7**	**-1.2**
	2.0nm,0.7s,mb3.8,baz=179,slow=8.6,SNR=22						
WRA	**Warramunga Arr**	**29.80**	**116**	P	**P**	**15 05 59.4**	**+1.4**
	1.3nm,0.7s,mb3.8,baz=290,slow=11,SNR=11						
WRAB	**Tennant Creek**	**29.81**	**116**	*e*P	**P**	**15 05 59.3**	**+1.2**
	3.2nm,1.0s,mb4.0						
ASAR	**Alice Springs**	**30.84**	**123**	P	**P**	**15 06 07.1**	**0.0**
	0.3nm,0.4s,mb3.4,baz=305,slow=8.1,SNR=9.2						
STKA	**Stephens Creek**	**40.61**	**131**	P	**P**	**15 07 30.7**	**+0.8**
	1.2nm,0.6s,mb3.7,baz=331,slow=11,SNR=4.1						
PMG	**Port Moresby**	**40.65**	**95**	LR	LR	15 25 11.5	
	comp=Z,74nm,18.9s,baz=93,slow=37						
PKI	**Pulchoki**	**40.73**	**331**	*e*P	**P**	**15 07 31.0**	**0.0**
GUN	**Gumba**	**40.80**	**332**	*e*P	**P**	**15 07 32.2**	**+0.7**
	29nm,0.7s,mb5.0						
DMN	**Daman**	**40.91**	**331**	*e*P	**P**	**15 07 32.5**	**+0.1**
	15nm,0.8s,mb4.7						
KKN	**Kakani**	**40.98**	**331**	*e*P	**P**	**15 07 33.2**	**+0.2**
	15nm,0.8s,mb4.7						
GKN	**Gorkha**	**41.46**	**331**	*e*P	**P**	**15 07 37.1**	**+0.1**
	6.8nm,0.3s,mb4.8						
KOLN	**Koldanda**	**41.78**	**329**	*e*P	**P**	**15 07 39.9**	**+0.2**
	21nm,0.7s,mb4.9						
XAN	**Xi'an**	**42.03**	**4**	P	**P**	**15 07 41.3**	**-0.4**
XAN				AP	pP	15 07 52.1	-5.5
XAN				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.0						
GTA	**Gaotai**	**47.66**	**353**	*e*P	**P**	**15 08 29.3**	**+2.7**
GTA				AP	pP	15 08 39.1	-3.6
GTA				XP	sP	15 08 43.6	-6.3
GTA				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.7						
CN2	**Changchun**	**54.61**	**17**	*e*P	**P**	**15 09 18.8**	**-0.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
SONM	**Songino Array**	**55.73**	**0**	P	**P**	**15 09 27.4**	**+0.3**
	comp=Z,0.8nm,0.4s,mb4.1,baz=177,slow=9.0,SNR=4.1						
KURK	**Kurchatov**	**63.25**	**341**	*e*P	**P**	**15 10 18.6**	**-0.2**
	comp=Z,6.9nm,0.9s,mb4.8						
ZAL	**Zalesovo**	**64.39**	**346**	P	**P**	**15 10 26.2**	**0.0**
	comp=Z,2.3nm,0.4s,mb4.6,baz=350,slow=3.6,SNR=8.2						
ZAL	**Zalesovo**	**64.39**	**346**	P	**P**	**15 10 26.2**	**0.0**
BVAR	**Borovoye Array**	**68.04**	**338**	P	**P**	**15 10 48.9**	**-0.5**
	comp=Z,2.3nm,0.5s,mb4.5,baz=147,slow=9.8,SNR=12						
VNDA	**Vanda**	**75.03**	**169**	P	**P**	**15 11 29.2**	**-1.5**
	comp=Z,0.6nm,1.0s,mb3.5,baz=268,slow=4.5,SNR=2.4						
BRTR	**Keskin Array B**	**81.87**	**312**	P	**P**	**15 12 06.6**	**-2.2**
	comp=Z,1.0nm,0.7s,mb3.8,baz=149,slow=7.2,SNR=5.8						
TXAR	**Lajitas Array**	**145.03**	**49**	PKPbc	PKPbc	15 19 29.1	+3.4
	comp=Z,0.8nm,0.8s,baz=283,slow=1.5,SNR=9.7						

*NIED **23** 15:05:00, 37.30N×138.90E, h5^{km}, Mw3.7 Best double couple: M₀3.93×10^{14} NP1:φs216°, δ49°, λ109°. NP2:φs9°, δ44°, λ70°.*
*IDC **23** 15:05:02.3±1.9, 37.46N×137.97E, mb3.6/4, mb1 4.0/5, mb1mx3.7/22, ML4.1/1, MS3.3/1, Ms1 3.3/1, ms1mx2.6/33, Error ellipse: s-maj=95.0km s-min=24.2km az=106.0*
*JMA **23** 15:05:05.6, 37.23N×138.89E, h14^{km}±3^{km}, M3.7 Broadband fault plane solution: P waves. NP1:φs354°, δ44°, λ21°. NP2:φs248°, δ75°, λ132°. Principal axes: T Plg43°, Azm199°; N Plg41°, Azm55°; P Plg19°, Azm308°;*
JMA Felt III J1.
ISC 23 15:05:05.4±0.6, 37.26N±0.03×138.88E±0.05, h20^{km}±7^{km}, n13, σ0°88/19, mb3.6/4, 3D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKT	**Katashina**	**0.57**	**149**	⇓P	**Pb**	**15 05 16.3**	**-0.3**
JKT				*e*S	**Sb**	**15 05 24.0**	**-0.3**
JNS	**Sasagawa**	**0.66**	**32**	P	**Pb**	**15 05 18.0**	**0.0**
JNS				*e*S	**Sb**	**15 05 27.0**	**+0.2**
JFY	**Yanaizu**	**0.68**	**77**	P	**Pb**	**15 05 17.9**	**-0.5**
JFY				*e*S	**Sb**	**15 05 27.3**	**+0.1**
JGK	**Kuni**	**0.72**	**195**	P	**Pb**	**15 05 19.1**	**0.0**
MAT	**Matsushiro**	**0.89**	**217**	P	**Pb**	**15 05 21.9**	**-0.1**
MAT				S	**Sb**	**15 05 33.6**	**+0.1**
MAT	**Matsushiro**	**0.89**	**217**	P	**Pb**	**15 05 21.9**	**-0.1**
MAT				*e*S	**Sb**	**15 05 33.5**	**0.0**
JSD	**Sado**	**0.92**	**328**	⇓P	**Pb**	**15 05 22.1**	**-0.3**
JSD				*e*S	**Sb**	**15 05 34.5**	**+0.3**
JAG	**Ashikaga**	**0.95**	**151**	⇓P	**Pb**	**15 05 23.5**	**+0.5**
JHJ	**Hachijo jima 2**	**4.20**	**170**	Pn	**Pn**	**15 06 11.7**	**+1.7**
	25nm,0.3s,baz=243,slow=23,SNR=5.4						
JHJ				LR	LR	15 07 45.1	
	comp=Z,357nm,19.9s,baz=184,slow=36						
ILAR	**Eielson Array**	**50.39**	**32**	P	**P**	**15 14 01.6**	**-1.3**
	0.5nm,0.9s,mb3.5,baz=265,slow=5.3,SNR=5.5						
WRA	**Warramunga Arr**	**57.05**	**185**	P	**P**	**15 14 50.4**	**-2.3**
	1.5nm,1.0s,mb4.0,baz=0.2,slow=7.6,SNR=16						
ASAR	**Alice Springs**	**60.78**	**185**	P	**P**	**15 15 18.6**	**+0.2**
	0.4nm,1.0s,mb3.5,baz=2.6,slow=6.2,SNR=3.5						
NVAR	**Mina Array Bea**	**76.46**	**52**	P	**P**	**15 16 57.5**	**+2.0**
	0.6nm,0.9s,mb3.5,baz=324,slow=3.9,SNR=3.9						

JMA 23 15:22:31.8, 37.34N×138.90E, h16^{km}±1^{km}, M1.8, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNS	**Sasagawa**	**0.58**	**35**	P	Pb	15 22 43.5	+0.4
JNS				*e*S	Sb	15 22 51.1	+0.3
JKT	**Katashina**	**0.64**	**154**	P	Pb	15 22 43.9	-0.2
JKT				*e*S	Sb	15 22 52.4	-0.1
JFY	**Yanaizu**	**0.65**	**84**	P	Pb	15 22 44.2	0.0
JFY				*e*S	Sb	15 22 52.7	0.0
MAT	**Matsushiro**	**0.97**	**215**	P	Pb	15 22 49.7	-0.1
MAT				S	Sb	15 23 01.9	-0.2

*NIED **23** 15:23:00, 37.30N×138.80E, h5^{km}, Mw3.8 Best double couple: M₀5.14×10^{14} NP1:φs47°, δ56°, λ108°. NP2:φs197°, δ38°, λ65°.*
*JMA **23** 15:23:36.3, 37.22N×138.81E, h9^{km}±2^{km}, M4.0 Broadband fault plane solution: P waves. NP1:φs168°, δ45°, λ11°. NP2:φs70°, δ82°, λ134°. Principal axes: T Plg37°, Azm18°; N Plg44°, Azm242°; P Plg24°, Azm127°;*
JMA Felt III J1.
*IDC **23** 15:23:42.1±4.5, 37.18N×138.72E, h67^{km}±41^{km}, mb3.4/7, mb1 3.7/8, mb1mx3.5/23, ML3.5/1 Error ellipse: s-maj=29.9km s-min=20.9km az=97.0*
ISC 23 15:23:36.0±0.5, 37.23N±0.03×138.80E±0.05, h28^{km}±5^{km}, n16, σ0°84/23, mb3.7/7, 2C-3D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKT	**Katashina**	**0.59**	**142**	⇓P	**Pb**	**15 23 47.4**	**-0.3**
JKT				S	**Sb**	**15 23 55.4**	**-0.3**
JGK	**Kuni**	**0.68**	**191**	P	**Pb**	**15 23 49.5**	**+0.3**
JNS	**Sasagawa**	**0.72**	**35**	⇑P	**Pb**	**15 23 49.5**	**-0.4**
JNS				S	**Sb**	**15 23 59.1**	**-0.3**
JFY	**Yanaizu**	**0.74**	**76**	⇓P	**Pb**	**15 23 50.0**	**-0.3**
JFY				S	**Sb**	**15 23 59.9**	**-0.2**
MAT	**Matsushiro**	**0.83**	**215**	P	**Pb**	**15 23 51.7**	**-0.1**
MAT				S	**Sb**	**15 24 02.9**	**+0.2**
MAT	**Matsushiro**	**0.83**	**215**	P	**Pb**	**15 23 51.8**	**0.0**
MAT				*e*S	**Sb**	**15 24 02.9**	**+0.2**
JSD	**Sado**	**0.91**	**332**	⇑P	**Pb**	**15 23 52.5**	**-0.6**
JSD				S	**Sb**	**15 24 05.0**	**+0.1**
JAG	**Ashikaga**	**0.96**	**147**	⇓P	**Pn**	**15 23 54.4**	**+0.6**
JAG				*e*S	**Sb**	**15 24 07.1**	**+0.8**
ASAJ	**Asahikawa**	**7.46**	**22**	P	**Pn**	**15 25 28.8**	**+2.9**
	0.7nm,0.3s,baz=203,slow=30,SNR=4.7						
SONM	**Songino Array**	**25.95**	**304**	P	**P**	**15 29 08.4**	**+0.7**
	1.1nm,0.7s,mb3.5,baz=112,slow=6.7,SNR=4.1						
ILAR	**Eielson Array**	**50.45**	**32**	P	**P**	**15 32 33.6**	**+0.7**
	0.5nm,0.8s,mb3.6,baz=270,slow=6.7,SNR=5.8						
FITZ	**Fitzroy Crossi**	**56.41**	**195**	P	**P**	**15 33 15.6**	**-2.0**
	1.0nm,0.8s,mb3.9,baz=191,slow=23,SNR=2.7						
WRA	**Warramunga Arr**	**57.02**	**185**	P	**P**	**15 33 21.0**	**-1.0**
	2.0nm,0.8s,mb4.2,baz=0.7,slow=7.5,SNR=14						
AKASG	**Malin Array Be**	**72.85**	**321**	P	**P**	**15 35 02.6**	**-1.3**
	0.6nm,0.5s,mb3.8,baz=48,slow=5.8,SNR=6.3						
BRTR	**Keskin Array B**	**77.14**	**310**	P	**P**	**15 35 29.5**	**+0.8**
	1.2nm,1.0s,mb3.8,baz=90,slow=1.2,SNR=4.2						
PDAR	**Pinedale Array**	**79.00**	**44**	P	**P**	**15 35 39.3**	**+0.5**
	0.4nm,0.9s,mb3.4,baz=42,slow=24,SNR=2.8						

*JMA **23** 15:35:16.6±0.3, 24.09N×121.85E, h22^{km}, M2.7*
TAP 23 15:35:16.7, 24.80N×121.89E, h12^{km}, ML3.1, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**1.07**	**108**	P	Pb	15 35 36.8	0.0
YOJ				*e*S	Sb	15 35 51.3	+0.7
IRIF	**Iriomote-Funau**	**1.74**	**105**	P	Pn	15 35 46.0	-1.1
IRIF				*e*S	Sn	15 36 07.3	-2.0
JKRS	**Kuro-shima**	**2.01**	**106**	P	Pn	15 35 49.9	-1.0
JKRS				*e*S	Sn	15 36 14.4	-1.8
JIJ	**Ishigaki jima**	**2.10**	**101**	P	Pn	15 35 51.2	-1.0
JIJ				*e*S	Sn	15 36 16.8	-1.6

*NEIC **23** 15:37:58.3, 15.94N×97.44W, h8^{km}, MD3.8(MEX), After MEX.*
MEX 23 15:37:57.6±1.2, 15.93N×97.45W, h3^{km}±15^{km}, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.80**	**305**	*i*P	Pg	15 38 11.7	-1.9
PNIG				*i*S	Sg	15 38 22.6	-1.7
HUIG	**Huatulco**	**1.30**	**97**	*e*P	Pb	15 38 19.3	-2.9
HUIG				*e*S	Sb	15 38 34.6	-4.6
VHO	**Vista Hermosa**	**1.32**	**31**	*e*P	Pb	15 38 18.9	-3.8
VHO				*e*S	Sb	15 38 36.3	-3.7
OXX	**Oaxaca**	**1.34**	**31**	*e*P	Pb	15 38 20.0	-2.9
CMIG	**Matias Romero**	**2.71**	**64**	*e*P	Pn	15 38 38.8	-4.0
CMIG				*e*S	Sn	15 39 13.0	-3.6

*IDC **23** 15:49:39.9±1.0, 12.71S×167.19E, mb4.1/7, mb1 4.2/7, mb1mx4.0/17, Error ellipse: s-maj=28.5km s-min=22.9km az=127.0*
*NEIC **23** 15:49:51.8±7.2, 12.80S×167.12E, h99^{km}±58^{km}, mb4.3/4, Error ellipse: s-maj=34.7km s-min=13.4km az=219.0*
ISC 23 15:49:51.4±1.1, 13.0S±0.2×167.0E±0.1, h100^{km}, n18, σ0°57/15, mb4.0/11, 2C-1D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**21.12**	**248**	P	**P**	**15 54 30.6**	**+0.8**
	1.2nm,0.6s,mb3.4,baz=77,slow=14,SNR=2.1						
URZ	**Urewera**	**26.71**	**162**	P	**P**	**15 55 23.2**	**-0.1**
	6.9nm,0.8s,mb4.3,baz=

BRTR	**Keskin Array B**	**77.08**	**310**	P	**P**	**16 05 16.2**	**+1.3**
	0.9nm,0.8s,mb3.7,baz=135,slow=1.7,SNR=6.3						
PDAR	**Pinedale Array**	**78.80**	**44**	P	**P**	**16 05 25.2**	**+0.9**
	0.5nm,0.8s,mb3.5,baz=284,slow=6.1,SNR=3.6						
TXAR	**Lajitas Array**	**91.45**	**51**	P	**P**	**16 06 28.2**	**+0.5**
	0.4nm,0.7s,mb3.8,baz=292,slow=4.5,SNR=4.9						

CASC 23 15:56:16.1±3.0, 14.82N×87.57W, MD4.1, 3C-7D, Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAHU	**Cacaucatique**	**1.21**	**211**	*e*P	Pb	15 56 38.1	-1.5
CAHU				*e*S	Sb	15 56 57.8	+2.1
BLLM	**Bellamira**	**1.51**	**205**	↑*i*P	Pn	15 56 42.2	-2.3
BLLM				*e*S	Sb	15 57 06.2	+1.8
VSM	**San Miguel**	**1.54**	**206**	↓*e*P	Pn	15 56 42.8	-2.1
VSM				*e*S	Sb	15 57 06.6	+1.4
CNCH	**Conchagua**	**1.55**	**190**	↑*e*P	Pn	15 56 42.5	-2.6
CNCH				*e*S	Sb	15 57 05.2	-0.3
SNVI	**San Vicente**	**1.72**	**226**	↑*e*P	Pn	15 56 46.3	-1.1
SNVI				*e*P		15 56 46.8	
SNVI				*e*S	Sb	15 57 12.8	+2.4
MTO2	**Montecristo 2**	**1.78**	**257**	↓*e*P	Pn	15 56 48.1	-0.3
MTO2				*e*S	Sn	15 57 15.3	+3.2
LBRS	**Las Brisas**	**1.79**	**233**	*e*P	Pn	15 56 47.5	-1.0
LCBS	**La Ceiba**	**1.79**	**230**	↓*e*P	Pn	15 56 47.5	-1.0
LCBS				*e*S	Sn	15 57 15.2	+3.0
LFRS	**El Faro**	**1.87**	**231**	↓*e*P	Pn	15 56 48.9	-0.7
LFRS				*e*S	Sn	15 57 16.7	+2.4
RBDL	**Robledal**	**2.17**	**251**	*e*P	Pn	15 56 54.4	+0.5
SNJE	**San Jose**	**2.19**	**245**	↓*e*P	Pn	15 56 54.6	+0.5
RTR	**El Retiro**	**2.21**	**246**	*e*P	Pn	15 56 54.8	+0.2
SBLS	**San Blas**	**2.21**	**244**	↓*e*P	Pn	15 56 55.2	+0.6
TELN	**Telica**	**2.31**	**162**	*e*P	Pn	15 56 54.9	+1.1
TELN				*e*S	Sn	15 57 26.4	+0.9
TEL3	**Telica 3**	**2.34**	**162**	↓*e*P	Pn	15 56 55.7	-0.6
TEL3				*e*S	Sn	15 57 27.3	+1.1
CNGN	**Cerro Negro**	**2.45**	**160**	*e*P	Pn	15 56 57.4	-0.6
CNGN				*e*S	Sn	15 57 30.6	+1.5
MIRN	**Miramar**	**2.50**	**160**	*e*P	Pn	15 56 57.8	-1.0
MIRN				*e*S	Sn	15 57 31.2	+0.8
MOMJ	**Momotombo**	**2.59**	**157**	*e*P	Pn	15 56 58.4	-1.6
MOMJ				*e*S	Sn	15 57 33.1	+0.4
PYTN	**Playitas**	**2.70**	**147**	*e*P	Pn	15 57 01.2	-0.3
PYTN				*e*S	Sn	15 57 35.3	-0.1
COPN	**Copaltepe**	**2.79**	**160**	*e*S	Sn	15 57 39.3	+1.7
APYN	**Apoyeque**	**2.83**	**155**	*e*P	Pn	15 57 04.4	+1.0
APYN				*e*S	Sn	15 57 41.0	+2.4

IDC ***23*** *15:58:14.5±1.3, 30.31N×130.16E, mb3.6/4, mb1 3.8/5, mb1mx3.6/21, Error ellipse: s-maj=48.4km s-min=29.7km az=72.0*

JMA ***23*** *15:58:14.7±0.1, 29.19N×130.13E, h64km±4km, M3.2*

ISC 23 15:58:14.8±0.7, 29.16N±0.05×130.2E±0.1, h55km±6km, n18, σ0§93/21, mb4.1/8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNN	**Nakanoshima**	**0.74**	**336**	P	**P**	**15 58 28.9**	**-0.5**
JNN				*e*S	**S**	**15 58 40.0**	**-0.2**
JZK	**Kikaishima**	**0.87**	**195**	P	**P**	**15 58 31.7**	**+0.6**
JAM	**Amami Oshima**	**0.93**	**216**	P	**P**	**15 58 31.4**	**-0.4**
JAM				S	**S**	**15 58 43.7**	**-0.8**
JKC	**Kuchinoerabu**	**1.30**	**359**	P	**P**	**15 58 36.9**	**-0.1**
JTN	**Tanegashima 3**	**1.62**	**24**	P	**P**	**15 58 41.7**	**+0.1**
JTN				*e*S	**S**	**15 59 02.5**	**+1.0**
JTK	**Tokunoshima**	**1.77**	**220**	P	**P**	**15 58 43.9**	**+0.2**
JTK				S	**S**	**15 59 05.6**	**+0.5**
JTSR	**Tashiro 2**	**2.09**	**17**	P	**P**	**15 58 48.2**	**+0.1**
JSU	**Suzuyama**	**2.34**	**5**	P	**P**	**15 58 51.9**	**+0.1**
GUN	**Gumba**	**38.81**	**279**	*e*P	**P**	**16 05 37.4**	**+1.5**
	6.6nm,0.4s,mb4.7						
PKI	**Pulchoki**	**39.29**	**279**	*e*P	**P**	**16 05 40.4**	**+0.4**
	4.7nm,0.7s,mb4.3						
KKN	**Kakani**	**39.35**	**279**	*e*P	**P**	**16 05 41.2**	**+0.7**
	2.6nm,0.4s,mb4.3						
DMN	**Daman**	**39.54**	**279**	*e*P	**P**	**16 05 43.0**	**+0.9**
GKN	**Gorkha**	**39.86**	**280**	*e*P	**P**	**16 05 42.7**	**-2.0**
	2.0nm,0.4s,mb4.2						
BVAR	**Borovoye Array**	**49.32**	**316**	P	**P**	**16 06 59.4**	**-0.8**
	2.0nm,0.7s,mb4.3,baz=90,slow=8.9,SNR=11						
ASAR	**Alice Springs**	**52.64**	**176**	P	pP	16 07 38.9	-1.5
	0.3nm,0.5s,baz=7.4,slow=14,SNR=5.4						
ILAR	**Eielson Array**	**61.03**	**29**	P	**P**	**16 08 23.1**	**-1.6**
	0.2nm,0.7s,mb3.4,baz=269,slow=5.5,SNR=4.2						
FINES	**FINESS Array B**	**71.19**	**331**	P	**P**	**16 09 27.7**	**-1.7**
	1.8nm,0.8s,mb4.0,baz=76,slow=7.9,SNR=4.1						
BRTR	**Keskin Array B**	**76.63**	**308**	P	**P**	**16 10 03.0**	**+1.6**
	0.4nm,0.6s,mb3.5,baz=96,slow=5.4,SNR=3.2						

JMA 23 15:58:56.8±0.1, 37.41N×138.93E, h18km±2km, M2.1, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNS	**Sasagawa**	**0.51**	**37**	P	Pb	15 59 06.9	0.0
JNS				S	Sb	15 59 14.1	+0.3
JFY	**Yanaizu**	**0.62**	**90**	S	Sb	15 59 16.9	0.0
JJN	**Nakama**	**0.68**	**244**	S	Sb	15 59 20.3	+1.4
JKT	**Katashina**	**0.69**	**158**	S	Sb	15 59 19.3	+0.2

NIED ***23*** *15:59:00, 37.30N×138.90E, h14km, Mw3.5 Best double couple: M₀2.3×10¹⁴ NP1:φs48°, δ54°, λ103°. NP2:φs207°, δ38°, λ73°.*

JMA 23 15:59:28.3, 37.26N×138.91E, h12km±3km, M3.8, 3D Broadband fault plane solution: P waves. NP1:φs32°, δ47°, λ59°. NP2:φs253°, δ51°, λ119°. Principal axes: T Plg68°, Azm228°; N Plg22°, Azm54°; P Plg2°, Azm323°; Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKT	**Katashina**	**0.56**	**151**	↓P	Pb	15 59 39.1	-0.5
JKT				*e*S	Sb	15 59 47.0	-0.3
JNS	**Sasagawa**	**0.65**	**30**	P	Pb	15 59 40.2	-0.8
JNS				S	Sb	15 59 48.8	-0.8
JFY	**Yanaizu**	**0.65**	**77**	P	Pb	15 59 40.6	-0.5
JFY				*e*S	Sb	15 59 49.2	-0.6
JGK	**Kuni**	**0.73**	**197**	P	Pb	15 59 42.2	-0.2
JGK				*e*S	Sb	15 59 52.1	0.0
MAT	**Matsushiro**	**0.91**	**218**	P	Pb	15 59 44.8	-0.8
MAT				*e*S	Sb	15 59 56.7	-0.7
JSD	**Sado**	**0.93**	**327**	↓P	Pb	15 59 45.7	-0.2
JSD				*e*S	Sb	15 59 58.3	+0.3
JAG	**Ashikaga**	**0.94**	**152**	↓P	Pb	15 59 46.2	+0.1
JAG				*e*S	Sb	15 59 58.7	+0.5

BGR ***23*** *16:00:44.4±0.9, 51.58N×16.29E, h1km, ML3.0/5 Error ellipse: s-maj=10.0km s-min=7.8km az=174.0*

MOS ***23*** *16:00:45.1±1.9, 51.45N×16.49E, h10km, mb4.0/1, Error ellipse: s-maj=14.4km s-min=7.1km az=74.9*

NEIC ***23*** *16:00:46.3±1.5, 51.56N×16.20E, h5km, ML3.0(SZGRF), ML2.8(VIE), Error ellipse: s-maj=16.8km s-min=6.7km az=208.0*

IDC ***23*** *16:00:47.7±1.1, 51.48N×16.11E, mb1 3.3/4, mb1mx3.3/17, ML2.9/4, Error ellipse: s-maj=15.5km s-min=9.1km az=119.0*

CSEM ***23*** *16:00:47.3±0.1, 51.51N×16.16E, h0km, ML3.1/4, Error ellipse: s-maj=2.4km s-min=1.2km az=8.0*

WAR ***23*** *16:00:47.6, 51.53N×16.14E, ML3.0, Mining Induced*

IPEC ***23*** *16:00:47.2±0.3, 51.52N×16.20E, h7km±1km, ML2.0/3, Error ellipse: s-maj=2.3km s-min=0.7km az=30.0*

PRU ***23*** *16:00:47.3, 51.50N×16.16E*

ISC 23 16:00:46.0±0.6, 51.43N±0.03×16.11E±0.03, n49, σ1§29/90, 2C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.59**	**169**	*i* PG	**Pg**	**16 01 00.3**	**+2.5**
KSP				*e*SG	**Sg**	**16 01 09.3**	**+3.5**
KSP	**Ksiaz**	**0.59**	**169**	↓*i*Pg	**Pg**	**16 01 00.3**	**+2.5**
KSP				*e*Sg	**Sg**	**16 01 09.4**	**+3.6**
KSP	**Ksiaz**	**0.59**	**169**	*e*Pg	**Pg**	**16 01 00.3**	**+2.5**
KSP				*e*Sg	**Sg**	**16 01 09.7**	**+3.9**
UPC	**Upice**	**0.92**	**184**	*e*PG	**Pg**	**16 01 06.4**	**+2.0**
DPC	**Dobruska-Polom**	**1.08**	**173**	*e*Pg	**Pg**	**16 01 09.1**	**+1.5**
DPC				*e*Sg	**Sg**	**16 01 24.4**	**+2.3**
DPC	**Dobruska-Polom**	**1.08**	**173**	*e*Pg	**Pg**	**16 01 09.1**	**+1.5**
DPC				Sg	**Sg**	**16 01 24.4**	**+2.3**
PVCC	**Panska Ves**	**1.32**	**228**	*e*PG	**Pg**	**16 01 13.1**	**+0.7**
PVCC	**Panska Ves**	**1.32**	**228**	*e*Pn	**Pn**	**16 01 13.8**	**+2.1**
PVCC				*e*Sg	**Sg**	**16 01 32.5**	**+2.5**
BRG	**Berggiesshubel**	**1.47**	**249**	*e*Pg	**Pg**	**16 01 15.8**	**+0.4**
BRG				*e*Sg	**Sg**	**16 01 36.5**	**+1.6**
BRG	**Berggiesshubel**	**1.47**	**249**	*e*P	**Pn**	**16 01 14.9**	**+1.1**
BRG				*i*		16 01 36.3	
BRG	**Berggiesshubel**	**1.47**	**249**	*e*Pn	**Pn**	**16 01 14.9**	**+1.1**
BRG				*i* Pg	**Pg**	**16 01 15.6**	**+0.3**
BRG				*i* Sg	**Sg**	**16 01 36.3**	**+1.4**
BRG	**Berggiesshubel**	**1.47**	**249**	Pg	**Pg**	**16 01 15.8**	**+0.5**
BRG				*e*Sg	**Sg**	**16 01 36.0**	**+1.1**
PRU	**Pruhonice**	**1.75**	**215**	*e*P	**Pn**	**16 01 18.6**	**+0.8**
PRU						16 01 45.1	
PRU				smax			
	comp=N,26nm,0.4s						
PRU	**Pruhonice**	**1.75**	**215**	*e*PN	**Pn**	**16 01 18.6**	**+0.8**
PRU				PG	**Pg**	**16 01 20.7**	**-0.2**
PRU				*i* x	x	16 01 24.5	
PRU				*i* x	x	16 01 37.8	
PRU				SG	**Sg**	**16 01 45.1**	**+0.9**
	comp=N,26nm,0.4s						
MORC	**Moravsky Berou**	**1.89**	**150**	*e*Pn	**Pn**	**16 01 20.2**	**+0.5**
MORC				*e*Sn	**Sn**	**16 01 40.1**	**-4.5**
MORC	**Moravsky Berou**	**1.89**	**150**	*e*Pn	**Pn**	**16 01 20.2**	**+0.5**
MORC				*e*Sg	**Sg**	**16 01 48.6**	**-0.2**
	comp=N,12nm,0.3s						
CLL	**Collm**	**1.95**	**268**	*e*Pn	**Pn**	**16 01 20.3**	**-0.4**
CLL				*e*Sg	**Sg**	**16 01 50.3**	**-0.6**
CLL	**Collm**	**1.95**	**268**	*i* PN	**Pn**	**16 01 20.2**	**-0.5**
CLL				*i* PG	**Pg**	**16 01 23.6**	**-1.3**
CLL				*i*		16 01 27.4	
CLL				*i* SG	**Sg**	**16 01 50.3**	**-0.6**
CLL	**Collm**	**1.95**	**268**	*i* P	**Pn**	**16 01 20.2**	**-0.5**
CLL				*i*		16 01 50.3	
CLL	**Collm**	**1.95**	**268**	*i* Pn	**Pn**	**16 01 20.2**	**-0.5**
CLL				*i* Pg	**Pg**	**16 01 23.6**	**-1.3**
CLL				*i* Sg	**Sg**	**16 01 50.3**	**-0.6**
CLL	**Collm**	**1.95**	**268**	*i* Pg	**Pg**	**16 01 23.6**	**-1.3**
CLL				Sg	**Sg**	**16 01 50.3**	**-0.6**
OKC	**Ostrava-Krasne**	**2.05**	**140**	*e*PG	**Pg**	**16 01 26.2**	**-0.7**
OKC				*e*SG	**Sg**	**16 01 53.2**	**-1.1**
VRAC	**Vranov**	**2.14**	**171**	Pn	**Pn**	**16 01 25.3**	**+1.9**
	comp=N,2.7nm,0.3s,baz=355,slow=17,SNR=14						
VRAC				Pg	**Pg**	**16 01 28.6**	**-0.2**
	comp=N,2.7nm,0.3s,baz=351,slow=16,SNR=14						
VRAC				Lg		16 01 58.7	
	comp=N,2.9nm,0.3s,baz=81,slow=22,SNR=6.4						
VRAC	**Vranov**	**2.14**	**171**	*e*Pn	**Pn**	**16 01 25.1**	**+1.7**
VRAC	**Vranov**	**2.14**	**171**	Pg	**Pg**	**16 01 28.6**	**-0.1**
VRAC				*e*Sg	**Sg**	**16 01 56.8**	**-0.5**
	comp=N,7.0nm,0.2s						
KRUC	**Moravsky**	**2.37**	**175**	*e*Pn	**Pn**	**16 01 28.6**	**+1.9**
KRUC	**Moravsky**	**2.37**	**175**	*e*Pg	**Pg**	**16 01 32.1**	**-1.2**
KRUC				*e*Sg	**Sg**	**16 02 04.4**	**-0.6**
	comp=N,5.5nm,0.3s						
TANN	**Tannenbergstha**	**2.52**	**248**	*e*Pn	**Pn**	**16 01 29.8**	**+1.0**
TANN				*e*Sg	**Sg**	**16 02 09.3**	**-0.5**
WERD	**Werda**	**2.60**	**249**	*e*Pn	**Pn**	**16 01 30.5**	**+0.6**
WERD				*e*Sg	**Sg**	**16 02 11.5**	**-0.9**
NKC	**Novy Kostel**	**2.61**	**244**	*e*P	**Pn**	**16 01 31.1**	**+1.0**
NKC				*e*		16 02 12.1	
NKC	**Novy Kostel**	**2.61**	**244**	*e*PN	**Pn**	**16 01 31.1**	**+1.0**
NKC				*e*PG	**Pg**	**16 01 38.0**	**-0.1**
NKC				*e*SG	**Sg**	**16 02 12.1**	**-0.7**
GUNZ	**Gunzen**	**2.62**	**248**	*e*Sg	**Sg**	**16 02 12.0**	**-1.0**
OJC	**Ojcow**	**2.63**	**116**	*e*Pg	**Pg**	**16 01 37.0**	**-1.5**
OJC				*e*Sg	**Sg**	**16 02 11.7**	**-1.9**
OJC	**Ojcow**	**2.63**	**116**	*e*Pg	**Pg**	**16 01 37.0**	**-1.5**
OJC				*e*Sg	**Sg**	**16 02 11.7**	**-1.9**
KHC	**Kasperske Hory**	**2.81**	**216**	*e*PN	**Pn**	**16 01 33.6**	**+0.6**
KHC				*e*PG	**Pg**	**16 01 40.2**	**-1.9**
KHC				*e*SN	**Sn**	**16 02 08.5**	**+0.4**
KHC				*e*SG	**Sg**	**16 02 18.7**	**-0.9**
MOX	**Moxa**	**2.94**	**256**	Pg	**Pg**	**16 01 43.0**	**-1.7**
MOX				Sg	**Sg**	**16 02 23.0**	**-0.9**
MOX	**Moxa**	**2.94**	**256**	*e*Pg	**Pg**	**16 01 42.7**	**-2.0**
MOX				Sg	**Sg**	**16 02 22.3**	**-1.6**
GEC2	**GERESS Array S**	**3.01**	**212**	*e*Pn	**Pn**	**16 01 37.6**	**+1.7**
GEC2				*e*Sg	**Sg**	**16 02 24.2**	**-2.0**
GEC2	**GERESS Array S**	**3.01**	**212**	*e*Pn	**Pn**	**16 01 37.6**	**+1.8**
GEC2				*e*Sg	**Sg**	**16 02 24.2**	**-2.0**
GERES	**GERESS Array B**	**3.01**	**212**	Pn	**Pn**	**16 01 37.6**	**+1.8**
	comp=N,0.8nm,0.3s,baz=28,slow=12,SNR=24						
GERES				Pg	**Pg**	**16 01 43.3**	**-2.7**
	comp=N,1.5nm,0.3s,baz=32,slow=17,SNR=25						
GERES				Lg		16 02 25.6	
	comp=N,3.0nm,0.3s,baz=41,slow=30,SNR=12						
ZST	**Bratislava**	**3.30**	**168**	*e*PB	**Pb**	**16 01 48.9**	**+3.8**
NIE	**Niedzica**	**3.36**	**125**	*e*P	**Pg**	**16 01 53.1**	**+0.1**
NIE				*e*S	**Sg**	**16 02 36.6**	**-1.1**
GRF	**Grafenberg Arr**	**3.57**	**243**	*e*Sg	**Sg**	**16 02 42.9**	**-1.8**
MOA	**Molln**	**3.77**	**199**	↑*i*PN	**Pn**	**16 01 47.7**	**+1.0**
MOA				*i* SG	**Sg**	**16 02 51.9**	**+0.3**
	comp=N,5.5nm,0.5s						
CRVS	**Cervenica-Dubn**	**4.27**	**124**	*e*PG	**Pg**	**16 02 09.9**	**-1.3**
KBA	**Koelnbreinsper**	**4.71**	**204**	↑*i*PN	**Pn**	**16 02 00.9**	**+0.9**
KBA				*i* SG	**Sg**	**16 03 21.1**	**-1.7**
	comp=N,3.9nm,0.7s						
AKASG	**Malin Array Be**	**8.30**	**90**	Pn	**P**	**16 02 45.3**	**-5.1**
	comp=N,0.7nm,0.3s,baz=279,slow=12,SNR=4.6						
AKASG	**Malin Array Be**	**8.30**	**90**	P	**P**	**16 02 45.3**	**-5.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FINES	**FINESS Array B**	**11.44**	**25**	Pn	**P**	**16 03 26.8**	**-6.7**
	comp=Z,0.1nm,0.3s,baz=220,slow=11,SNR=3.3						

NIED ***23*** *16:09:00, 37.20N×138.90E, h8km, Mw3.4 Best double couple: M₀1.57×10¹⁴ NP1:φs339°, δ54°, λ58°. NP2:φs206°, δ47°, λ127°.*

JMA ***23*** *16:09:09.7, 37.23N×138.85E, h10km, M3.6*

JMA Felt III J1.

ISC 23 16:09:09.1±1.0, 37.25N±0.03×138.86E±0.06, h9km±9km, n7, σ0§18/14, 1C-1D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKT	**Katashina**	**0.57**	**147**	P	**Pg**	**16 09 20.7**	**0.0**
JKT				S	**Sg**	**16 09 28.2**	**-0.2**
JNS	**Sasagawa**	**0.67**	**32**	P	**Pb**	**16 09 22.6**	**0.0**
JNS				S	**Sg**	**16 09 31.8**	**+0.1**
JFY	**Yanaizu**	**0.69**	**77**	↓P	**Pb**	**16 09 22.9**	**0.0**
JFY				S	**Sb**	**16 09 31.9**	**-0.3**
MAT	**Matsushiro**	**0.88**	**217**	P	**Pb**	**16 09 26.0**	**-0.1**
MAT				S	**Sb**	**16 09 37.4**	**-0.3**
MAT	**Matsushiro**	**0.88**	**217**	P	**Pb**	**16 09 26.1**	**0.0**
MAT				S	**Sb**	**16 09 37.6**	**-0.1**
JSD	**Sado**	**0.92**	**329**	P	**Pb**	**16 09 26.7**	**-0.1**
JSD				S	**Sb**	**16 09 39.0**	**+0.1**
JAG	**Ashikaga**	**0.95**	**150**	↑P	**Pb**	**16 09 27.7**	**+0.4**
JAG				S	**Sb**	**16 09 39.9**	**+0.2**

IDC ***23*** *16:14:45.6±1.3, 37.22N×138.50E, mb3.6/3, mb1 3.9/3, mb1mx3.5/21, Error ellipse: s-maj=63.6km s-min=30.3km az=96.0*

JMA ***23*** *16:14:48.2, 37.22N×138.82E, h10km, M3.1*

JMA Felt III J1.

ISC 23 16:14:47.8±0.8, 37.22N±0.06×138.82E±0.08, h29km±8km, n9, σ0§36/13, mb3.7/3, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKT	**Katashina**	**0.57**	**143**	P	**Pb**	**16 14 59.3**	**0.0**
JKT				S	**Sb**	**16 15 07.1**	**0.0**
JGK	**Kuni**	**0.68**	**193**	P	**Pb**	**16 15 00.9**	**-0.1**
JNS	**Sasagawa**	**0.71**	**33**	S	**Sb**	**16 15 10.8**	**-0.3**
JFY	**Yanaizu**	**0.73**	**75**	P	**Pb**	**16 15 02.2**	**+0.3**
JFY				S	**Sb**	**16 15 11.4**	**-0.1**
MAT	**Matsushiro**	**0.84**	**216**	P	**Pb**	**16 15 03.7**	**-0.1**
MAT				S	**Sb**	**16 15 14.9**	**+0.2**
MAT	**Matsushiro**	**0.84**	**216**	P	**Pb**	**16 15 03.8**	**0.0**
MAT				S	**Sb**	**16 15 14.9**	**+0.2**
ILAR	**Eielson Array**	**50.44**	**32**	P	**P**	**16 23 45.4**	**+0.9**
	0.4nm,0.7s,mb3.5,baz=273,slow=7.4,SNR=4.6						
WRA	**Warramunga Arr**	**57.01**	**185**	P	**P**	**16 24 32.9**	**-0.6**
	1.2nm,1.1s,mb3.9,baz=1.3,slow=7.5,SNR=14						
AKASG	**Malin Array Be**	**72.87**	**321**	P	**P**	**16 26 15.4**	**-0.2**
	0.5nm,0.5s,mb3.7,baz=48,slow=6.7,SNR=4.3						

NIED ***23*** *16:23:00, 37.30N×138.90E, h5km, Mw3.5 Best double couple: M₀2.22×10¹⁴ NP1:φs11°, δ58°, λ63°. NP2:φs235°, δ41°, λ126°.*

JMA 23 16:23:04.5, 37.26N×138.88E, h8km±3km, M3.8, 1D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKT	**Katashina**	**0.57**	**149**	S	Sg	16 23 23.2	-0.6
JNS	**Sasagawa**	**0.66**	**32**	P	Pg	16 23 16.7	-1.0
JNS				S	Sg	16 23 25.7	-0.8
JFY	**Yanaizu**	**0.67**	**77**	P	Pg	16 23 17.5	-0.5
JGK	**Kuni**	**0.72**	**196**	P	Pb	16 23 19.0	+0.1
MAT	**Matsushiro**	**0.90**	**217**	P	Pb	16 23 21.7	-0.2
MAT				S	Sb	16 23 33.1	-0.7
JSD	**Sado**	**0.92**	**328**	S	Sb	16 23 33.3	-1.1
JAG	**Ashikaga**	**0.95**	**151**	↓P	Pb	16 23 22.7	-0.1
JAG				S	Sb	16 23 35.0	-0.4

NEIC ***23*** *16:32:27.7, 34.44N×32.67E, h35km, ML3.6(NIC), After NIC.*

NIC 23 16:32:27.7±0.1, 34.44N×32.67E, h35km, ML3.6, MW3.0, 1C-1D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SZAC	**Souni-Zanaja**	**0.36**	**29**	P	P	16 32 36.3	0.0
SZAC				S	S	16 32 45.7	+3.3
PPCY	**Paphos**	**0.52**	**329**	↑P	P	16 32 38.6	+0.1
PPCY				S	S	16 32 49.1	+2.9
ALFC	**Alevga**	**0.71**	**355**	P	P	16 32 39.3	-2.0
	40nm,0.1s						
ALFC				S	S	16 32 52.3	+1.1
CSS	**Prodhromos**	**0.75**	**46**	↓P	P	16 32 41.9	+0.1
	14nm,0.3s						
CSS				S	S	16 32 52.7	+0.5
MAMC	**Mammari**	**0.85**	**32**	P	P	16 32 43.9	+0.6
MAMC				S	S	16 32 55.2	+0.4
PHNC	**Paralimni**	**1.25**	**63**	P	P	16 32 46.6	-2.4
PHNC				S	S	16 33 04.5	-0.5

NEIC ***23*** *16:35:44.0±0.3, 18.70N×101.88W, mb4.3/22, MD4.5(MEX), Error ellipse: s-maj=7.3km s-min=3.5km az=220.0*

MEX ***23*** *16:35:45.2±0.8, 18.64N×101.95W, h34km±19km, MD4.5*

IDC ***23*** *16:35:50.7±4.3, 18.96N×101.65W, h134km±37km, mb4.1/14, mb1 4.3/15, mb1mx4.1/22, MS3.6/7, Ms1 3.6/7, ms1mx3.3/21, Error ellipse: s-maj=35.2km s-min=11.7km az=51.0*

ISC 23 16:35:42.9±0.5, 18.66N±0.04×101.88W±0.03, h87km±4km, h78km±3.1km: pP-P, n95, σ1§11/103, mb4.4/30, 2D, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOIG	**Morelia**	**1.21**	**33**	*i* P	**P**	**16 36 04.4**	**-0.8**
MOIG				*i* S	**S**	**16 36 20.4**	**-1.5**
CGX	**Ciudad Guzman**	**1.85**	**304**	*e*P	**P**	**16 36 14.0**	**+0.5**
SFJM	**Santa Fe**	**2.12**	**329**	*e*P	**P**	**16 36 16.0**	**-1.2**
CAIG	**El Cayaco**	**2.22**	**136**	*e*P	**P**	**16 36 18.1**	**-0.5**
CAIG				*i* S	**S**	**16 36 42.8**	**-2.3**
PLIG	**Platanillo**	**2.27**	**96**	*i* P	**P**	**16 36 19.8**	**+0.4**
PLIG				*i* S	**S**	**16 36 45.9**	**-0.5**
ACX	**Acapulco**	**2.59**	**133**	*e*P	**P**	**16 36 24.0**	**+0.3**
UNM	**Universidad Na**	**2.65**	**75**	*e*P	**P**	**16 36 25.2**	**+0.7**
UNM				*e*P		16 36 26.5	
UNM				*i* S	**S**	**16 36 55.2**	**-0.4**
YAIG	**Yautepec**	**2.68**	**85**	*i* P	**P**	**16 36 25.7**	**+0.7**
YAIG				*i* S	**S**	**16 36 56.9**	**+0.5**
CJM	**Chamela**	**3.10**	**286**	*e*P	**P**	**16 36 29.7**	**-1.2**
CJM				*i* S	**S**	**16 37 04.4**	**-2.6**
PPM	**Popocatepetl**	**3.11**	**82**	*e*P	**P**	**16 36 32.0**	**+1.0**
PPM				*e*S	**S**	**16 37 11.0**	**+3.8**
PNIG	**Pinotepa**	**4.23**	**122**	*i* P	**P**	**16 36 46.6**	**+0.1**
PNIG				*i* S	**S**	**16 37 33.9**	**-1.1**
IISM	**Ciudad Serdan**	**4.28**	**85**	*e*P	**P**	**16 36 48.3**	**+1.2**
VHO	**Vista Hermosa**	**5.15**	**107**	↓*i*P	**P**	**16 37 00.5**	**+1.4**
VHO				*i* S	**S**	**16 37 58.7**	**+0.9**
OXX	**Oaxaca**	**5.16**	**107**	*e*P	**P**	**16 37 00.0**	**+0.8**
LVIG	**Laguna Verde**	**5.27**	**78**	*e*P	**P**	**16 37 00.4**	**-0.3**
LVIG				*i* S	**S**	**16 38 01.4**	**+0.6**
HUIG	**Huatulco**	**6.22**	**117**	*e*P	**P**	**16 37 14.8**	**+0.8**
HUIG				*i* S	**S**	**16 38 23.6**	**-0.6**
CMIG	**Matias Romero**	**6.84**	**102**	↓*i*P	**P**	**16 37 22.9**

SRU	**San Rafael**	**21.71 342**	*e*P	**P**	**16 40 28.6**	**+0.4**
SRU			*e*		16 40 45.5	
MSU	**Marysvale**	**21.72 338**	P	**P**	**16 40 29.6**	**+1.3**
MSU			*ep*P		16 40 46.2	
MVU	**Marysvale**	**21.72 338**	*e*P	**P**	**16 40 29.1**	**+0.8**
	40nm,1.2s,mb4.6					
MVU			*ep*P		16 40 46.0	
SWET	**Sewanee**	**21.73 37**	P	**P**	**16 40 27.9**	**-0.4**
TMUT	**Trail Mountain**	**22.10 340**	*e*P	**P**	**16 40 32.9**	**+0.9**
TMUT			*ep*P		16 40 50.4	
USIN	**University of**	**22.89 30**	*e*P	**P**	**16 40 39.4**	**-0.4**
	36nm,0.7s,mb4.8					
TPH	**Tonopah**	**23.52 328**	*e*P	**P**	**16 40 47.0**	**+1.2**
	13nm,1.1s,mb4.2					
TPH			*ep*P		16 41 03.4	
TPH			*es*P		16 41 12.8	
WCI	**Wyandotte Cave**	**23.77 32**	*e*P	**P**	**16 40 47.3**	**-0.8**
	19nm,0.6s,mb4.6					
OMM	**Old Mammoth Mi**	**24.10 325**	*e*P	**P**	**16 40 52.8**	**+1.4**
MNV	**Mina**	**24.27 328**	*e*P	**P**	**16 40 54.4**	**+1.4**
	12nm,0.9s,mb4.2					
MNV			*ep*P		16 41 11.6	
HWUT	**Hardware Ranch**	**24.32 342**	*e*P	**P**	**16 40 53.6**	**+0.1**
	7.2nm,0.8s,mb4.0					
HWUT			*ep*P		16 41 12.4	
NVAR	**Mina Array Bea**	**24.34 327**	P	**P**	**16 40 55.6**	**+1.9**
	13nm,0.8s,mb4.3,baz=135,slow=11,SNR=59					
BLO	**Bloomington**	**24.40 30**	*e*P	**P**	**16 40 54.0**	**-0.2**
	20nm,0.6s,mb4.6					
BLO			*ep*P		16 41 12.2	
BW06	**Boulder Array**	**24.90 346**	*e*P	**P**	**16 40 58.5**	**-0.6**
	8.1nm,0.8s,mb4.2					
PDAR	**Pinedale Array**	**24.90 346**	P	**P**	**16 40 58.7**	**-0.4**
	5.7nm,0.8s,mb4.0,baz=151,slow=10,SNR=30					
RSSD	**Black Hills**	**25.45 356**	*e*P	**P**	**16 41 04.1**	**-0.1**
	5.3nm,0.9s,mb4.0					
RSSD			*ep*P	pP	16 41 23.0	-0.6
REDW	**Red Top Meadow**	**25.77 345**	*e*P	**P**	**16 41 06.8**	**-0.4**
REDW			*ep*P	pP	16 41 23.8	-2.8
SNOW	**Snow King Moun**	**25.84 345**	*e*P	**P**	**16 41 07.5**	**-0.4**
SNOW			*ep*P	pP	16 41 25.4	-1.9
RRI2	**Red Ridge**	**25.87 344**	*e*P	**P**	**16 41 08.0**	**-0.1**
TPAW	**Teton Pass**	**25.91 345**	*e*P	**P**	**16 41 08.1**	**-0.4**
TPAW			*ep*P	pP	16 41 28.5	+0.5
LOHW	**Long Hollow**	**25.94 345**	*e*P	**P**	**16 41 08.5**	**-0.3**
LOHW			*ep*P	pP	16 41 25.5	-2.8
MOOW	**Moose Ponds**	**26.10 345**	*e*P	**P**	**16 41 06.2**	**-4.0**
MOOW			*ep*P	pP	16 41 27.2	-2.5
MOOW			*es*P	sP	16 41 35.9	-4.5
MCMT	**McKenzie Canyo**	**27.65 343**	*e*P	**P**	**16 41 24.7**	**+0.2**
YBH	**Yreka Blue Hor**	**29.05 327**	P	**P**	**16 41 34.9**	**-2.2**
	0.8nm,0.5s,mb3.6,baz=96,slow=10.0,SNR=4.1					
HRY	**Holter Researc**	**29.15 346**	*e*P	**P**	**16 41 36.8**	**-1.1**
OTAV	**Otavalo**	**29.40 126**	*e*P	**P**	**16 41 44.6**	**+4.2**
	4.6nm,0.9s,mb4.1					
CHMT	**Chamberlain Mo**	**29.69 344**	*e*P	**P**	**16 41 41.3**	**-1.3**
CHMT			*ep*P	pP	16 41 58.4	-4.2
SDV	**Santo Domingo**	**31.82 104**	*e*P	**P**	**16 42 01.9**	**+0.2**
	3.8nm,0.8s,mb4.2					
SDV			*ep*P	pP	16 42 19.5	-2.4
ULM	**Lac du Bonnet**	**31.88 7**	P	**P**	**16 41 59.0**	**-2.9**
	4.9nm,0.6s,mb4.4,baz=183,slow=13,SNR=5.7					
ULM			LR	LR	16 55 42.5	
	comp=Z,75nm,18.5s,baz=238,slow=38					
SJG	**San Juan**	**33.88 85**	P	**P**	**16 42 18.5**	**-1.0**
	9.3nm,0.3s,mb5.1,baz=295,slow=14,SNR=5.6					
SJG	**San Juan**	**33.88 85**	P	**P**	**16 42 18.5**	**-1.0**
EDM	**Edmonton**	**35.63 348**	*e*P	**P**	**16 42 32.3**	**-1.7**
BBB	**Bella Bella**	**39.27 335**	LR	LR	17 01 14.4	
	comp=Z,101nm,19.0s,baz=258,slow=39					
YKA	**Yellowknife Ar**	**44.68 352**	P	**P**	**16 43 47.2**	**-1.3**
	3.6nm,0.9s,mb4.1,baz=164,slow=7.6,SNR=6.4					
YKA			LR	LR	17 03 54.7	
	comp=Z,45nm,19.4s,baz=190,slow=38					
DLBC	**Dease Lake**	**44.75 339**	P	**P**	**16 43 50.0**	**+0.8**
	5.5nm,0.8s,mb4.4,baz=157,slow=5.8,SNR=8.4					
DLBC			LR	LR	17 04 26.9	
	comp=Z,92nm,18.6s,baz=117,slow=38					
DLBC	**Dease Lake**	**44.75 339**	P	**P**	**16 43 50.0**	**+0.8**
DLBC			LR	LR	17 04 26.9	
LPAZ	**La Paz**	**48.06 134**	P	**P**	**16 44 17.4**	**+1.6**
	4.7nm,0.6s,mb4.5,baz=325,slow=5.8,SNR=10					
INK	**Inuvik**	**53.47 346**	P	**P**	**16 44 55.0**	**-1.1**
	5.3nm,0.6s,mb4.7,baz=125,slow=7.6,SNR=8.1					
THY	**Trims Highway**	**53.73 337**	*e*P	**P**	**16 44 58.2**	**+0.1**
ILAR	**Eielson Array**	**54.93 338**	P	**P**	**16 45 05.7**	**-1.1**
	4.3nm,0.7s,mb4.6,baz=142,slow=5.5,SNR=64					
ILAR			PcP	PcP	16 46 07.3	-0.2
	1.4nm,0.6s,baz=152,slow=2.6,SNR=9.9					
RSO	**Redoubt South**	**55.06 332**	*e*P	**P**	**16 45 06.3**	**-1.5**
SPU	**Mount Spurr**	**55.08 333**	*e*P	**P**	**16 45 07.2**	**-0.8**
SPU			*ep*P	pP	16 45 24.9	-4.7
CPUP	**Villa Florida**	**62.22 135**	P	**P**	**16 45 58.4**	**+0.5**
	6.2nm,0.7s,mb4.8,baz=345,slow=6.7,SNR=11					
BDFB	**Brasilia**	**63.04 119**	P	**P**	**16 46 04.3**	**+0.8**
	7.4nm,0.9s,mb4.6,baz=323,slow=6.8,SNR=5.2					
BDFB			LR	LR	17 16 02.7	
	comp=Z,56nm,21.3s,baz=112,slow=38					
TRQA	**Tornquist**	**67.73 147**	*e*P	**P**	**16 46 32.8**	**-0.5**
	13nm,1.3s,mb4.6					
PET	**Petropavlovsk**	**80.84 323**	P	**P**	**16 47 48.9**	**+0.4**
ARCES	**ARCESS Array B**	**84.54 16**	P	**P**	**16 48 06.9**	**-0.1**
	2.1nm,0.7s,mb4.2,baz=315,slow=5.1,SNR=6.4					
ARCES			LR	LR	17 25 28.7	
	comp=Z,34nm,18.3s,baz=200,slow=35					
YAK	**Yakutsk**	**89.85 338**	*e*P	**P**	**16 48 33.5**	**+0.7**
	32nm,0.9s,mb5.5					
GERES	**GERESS Array B**	**91.82 37**	P	**P**	**16 48 42.8**	**+0.5**
	0.2nm,0.4s,mb3.7,baz=326,slow=4.8,SNR=3.7					
WRA	**Warramunga Arr**	**127.14 259**	PKP	PKPdf	16 54 40.0	+2.0
	0.7nm,0.6s,baz=83,slow=2.2,SNR=10.0					
ASAR	**Alice Springs**	**128.00 254**	PKP	PKPdf	16 54 41.8	+2.2
	0.5nm,0.8s,baz=164,slow=3.4,SNR=6.0					

NIED ***23*** *16:48:00,37.20N×138.90E,h11km,Mw3.3 Best double couple: M₀1.03×10¹⁴ NP1:φs49°, δ59°, λ99°. NP2:φs211°, δ32°, λ75°.*
JMA ***23*** *16:48:05.9,37.24N×138.87E,h16km±3km,M3.5*
JMA Felt II J1.

ISC 23 16:48:05.7±1.7,37.24N±0.03×138.86E±0.06,h23km±4km,
n7,σ0s26/14,2D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKT	**Katashina**	**0.57**	**146**	⇓P	**Pb**	**16 48 16.8**	**-0.2**
JKT				S	**Sb**	**16 48 24.3**	**-0.4**
JNS	**Sasagawa**	**0.68**	**33**	P	**Pb**	**16 48 18.3**	**-0.5**
JNS				S	**Sb**	**16 48 28.0**	**+0.2**
JFY	**Yanaizu**	**0.70**	**76**	P	**Pb**	**16 48 19.1**	**+0.1**
JFY				S	**Sb**	**16 48 28.4**	**+0.2**
JGK	**Kuni**	**0.70**	**194**	P	**Pb**	**16 48 19.0**	**-0.2**
JGK				S	**Sb**	**16 48 28.7**	**+0.3**
MAT	**Matsushiro**	**0.87**	**217**	P	**Pb**	**16 48 22.0**	**0.0**
MAT				S	**Sb**	**16 48 33.2**	**-0.1**
JSD	**Sado**	**0.92**	**329**	P	**Pb**	**16 48 22.6**	**-0.3**
JSD				S	**Sb**	**16 48 35.0**	**+0.3**
JAG	**Ashikaga**	**0.95**	**149**	⇓P	**Pb**	**16 48 23.7**	**+0.4**
JAG				S	**Sb**	**16 48 35.7**	**+0.3**

IDC 23 16:51:18.2±6.3,22.28S×178.87W,mb3.5/3,mb1 3.7/3,
mb1mx3.5/13,Error ellipse: s-maj=162.0km
s-min=99.4km az=140.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**36.31**	**246**	P	P	16 58 22.5	-3.1
	1.1nm,1.0s,baz=73,slow=11,SNR=2.6						
ASAR	**Alice Springs**	**43.35**	**259**	P	P	16 59 22.4	-1.7
	0.2nm,0.5s,baz=94,slow=7.0,SNR=5.6						
WRA	**Warramunga Arr**	**43.59**	**264**	P	P	16 59 25.3	-0.7
	0.3nm,0.4s,baz=98,slow=8.2,SNR=14						
HFS	**Hagfors**	**141.15**	**350**	PKP	PKPdf	17 10 50.2	-2.0
	2.3nm,1.0s,baz=27,slow=3.2,SNR=7.3						

NEIC ***23*** *17:15:35.8±3.0,21.73S×179.70W,h636km±35km,mb4.1/3, Error ellipse: s-maj=19.2km s-min=13.7km az=83.0*
IDC ***23*** *17:15:36.7±4.6,21.79S×179.71W,h648km±57km, mb3.1/10,mb1 3.4/10,mb1mx3.3/15,Error ellipse: s-maj=28.3km s-min=23.7km az=75.0*

ISC 23 17:15:35.7±0.6,21.8S±0.1×179.8W±0.1,h650km,n22,
σ0s74/16,mb3.7/12,1C,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**31.73**	**267**	P	**P**	**17 21 11.5**	**+0.2**
	6.0nm,0.5s,mb4.4,baz=98,slow=10,SNR=20						
CTAO	**Charters Tower**	**31.73**	**267**	*e*P	**P**	**17 21 11.5**	**+0.3**
	5.9nm,0.5s,mb4.4						
PMG	**Port Moresby**	**34.05**	**286**	P	**P**	**17 21 31.2**	**+0.7**
	8.7nm,0.7s,mb4.4,baz=204,slow=10.0,SNR=3.8						
STKA	**Stephens Creek**	**35.75**	**245**	P	**P**	**17 21 44.6**	**+0.3**
	2.5nm,0.4s,mb4.0,baz=93,slow=12,SNR=11						
ASAR	**Alice Springs**	**42.62**	**258**	P	**P**	**17 22 39.5**	**0.0**
	3.3nm,0.6s,mb4.0,baz=99,slow=8.1,SNR=88						
WRAB	**Tennant Creek**	**42.79**	**264**	*e*P	**P**	**17 22 40.3**	**-0.6**
	5.7nm,0.8s,mb4.0						
WRA	**Warramunga Arr**	**42.80**	**264**	P	**P**	**17 22 40.4**	**-0.5**
	1.7nm,0.4s,mb3.8,baz=95,slow=7.8,SNR=83						
VNDA	**Vanda**	**56.52**	**185**	P	**P**	**17 24 19.0**	**-1.2**
	0.3nm,0.5s,mb2.7,baz=348,slow=9.2,SNR=5.1						
QSPA	**South Pole Qui**	**68.31**	**180**	*e*P	**P**	**17 25 34.4**	**-0.9**
	2.6nm,0.7s,mb3.7						
NVAR	**Mina Array Bea**	**83.08**	**44**	P	**P**	**17 26 56.5**	**+0.1**
	0.9nm,0.8s,mb3.4,baz=225,slow=6.4,SNR=4.3						
VNA3	**Neumayer Olymp**	**86.99**	**177**	*i*	**P**	**17 27 15.8**	**+1.3**
VNA2	**Neumayer--Watz**	**87.41**	**178**		**P**	**17 27 17.9**	**+1.4**
TXAR	**Lajitas Array**	**89.13**	**58**	P	**P**	**17 27 25.9**	**+0.4**
	0.6nm,0.7s,mb3.4,baz=197,slow=5.1,SNR=7.2						
TXAR	**Lajitas Array**	**89.13**	**58**	P	**P**	**17 27 25.9**	**+0.4**
ILAR	**Eielson Array**	**89.91**	**13**	P	**P**	**17 27 27.5**	**-0.7**
	0.2nm,0.6s,mb3.1,baz=210,slow=4.0,SNR=4.5						
PDAR	**Pinedale Array**	**91.02**	**44**	P	**P**	**17 27 33.5**	**-0.4**
	0.2nm,0.4s,mb3.3,baz=135,slow=1.3,SNR=4.6						
BVAR	**Borovoye Array**	**118.96**	**320**	PKP	PKPdf	17 33 13.1	+1.0
	0.6nm,0.4s,baz=106,slow=3.1,SNR=5.0						
ARCES	**ARCESS Array B**	**129.84**	**349**	PKP	PKPdf	17 33 33.4	+0.8
	1.7nm,0.8s,baz=90,slow=1.8,SNR=3.7						
FINES	**FINESS Array B**	**136.49**	**342**	PKP	PKPdf	17 33 46.6	+1.5
	1.5nm,1.0s,baz=243,slow=4.3,SNR=3.3						
HFS	**Hagfors**	**140.49**	**348**	PKhKP		17 33 47.3	
	0.7nm,0.5s,baz=90,slow=5.9,SNR=6.9						
AKASG	**Malin Array Be**	**143.27**	**329**	PKP	PKPdf	17 33 57.3	0.0
	0.6nm,0.3s,baz=40,slow=4.1,SNR=9.2						
GERES	**GERESS Array B**	**150.91**	**342**	PKPbc	PKPdf	17 34 18.5	+8.7
	0.6nm,0.6s,baz=45,slow=3.8,SNR=5.6						

NEIC ***23*** *17:27:08.2,31.54S×71.71W,h26km,ML3.6(GUC),After GUC.*

GUC 23 17:27:08.2±0.9,31.54S×71.71W,h26km±4km,MD3.8,
ML3.6,3C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMCH	**Combarbala**	**0.71**	**59**	⇑*i*P	Pb	17 27 21.7	-0.2
CMCH				*i* S	Sb	17 27 31.5	+0.3
CMCH				AMP		17 27 33.4	
	comp=E,8μm,0.6s						
PACH	**Papudo**	**1.02**	**167**	*i* P	Pn	17 27 26.0	-1.0
PACH				*i* S	Sb	17 27 40.6	+0.4
JACH	**Jahuel**	**1.48**	**141**	*i* P	Pn	17 27 33.8	+0.3
JACH				*i* S	Sn	17 27 53.4	+1.2
TLL	**Tololo Astrono**	**1.57**	**30**	⇑*i*P	Pn	17 27 35.4	+0.5
TLL				*i* S	Sn	17 27 56.6	+2.1
TLL				AMP		17 28 02.0	
	comp=N,2μm,0.6s						
LSCH	**La Serena**	**1.67**	**14**	*i* P	Pn	17 27 37.0	+0.7
LSCH				*i* S	Sn	17 27 57.9	+0.9
LSCH				AMP		17 28 00.6	
	comp=N,920nm,0.4s						
PEL	**Peldehue**	**1.82**	**152**	AMP		17 28 06.9	
	comp=N,1μm,0.3s						
RCDM	**Rinconada Maip**	**2.09**	**159**	AMP		17 28 15.4	
	comp=E,368nm,0.6s						
CLCH	**Cerro Calan**	**2.10**	**152**	⇓*i*P	Pn	17 27 43.5	+1.1
CLCH				*i* S	Sn	17 28 09.8	+1.9
CLCH				AMP		17 28 16.7	
	comp=E,718nm,0.6s						
CLCH				AMP		17 28 17.2	
	comp=E,829nm,0.6s						
SAN	**Santiago**	**2.10**	**155**	AMP		17 28 17.9	
	comp=N,438nm,0.6s						
FCH	**Farellones**	**2.15**	**146**	*e*P	Pn	17 27 43.9	+0.8
FCH				*i* S	Sn	17 28 11.6	+2.4
FCH				AMP		17 28 14.0	
	comp=E,326nm,0.2s						
CHCH	**Chadas Angostu**	**2.55**	**160**	*e*P	Pn	17 27 49.2	+0.4
CHCH				*i* S	Sn	17 28 20.6	+1.3
LMEL	**Las Melosas**	**2.63**	**152**	*i* P	Pn	17 27 50.2	+0.2
LMEL				AMP		17 28 31.5	
	comp=N,306nm,0.2s						
CICH	**Cipreses**	**2.98**	**159**	⇑*i*P	Pn	17 27 55.3	+0.3
CICH				*i* S	Sn	17 28 31.2	+1.0

JMA 23 17:37:46.2,37.38N×138.92E,h18km±2km,M2.3,Near
west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNS	**Sasagawa**	**0.54**	**36**	P	Pb	17 37 56.7	-0.1
JNS				*e*S	Sb	17 38 04.3	+0.2
JJN	**Nakama**	**0.66**	**246**	P	Pb	17 37 58.9	0.0
JJN				*e*S	Sb	17 38 08.3	+0.6
JKT	**Katashina**	**0.67**	**157**	P	Pb	17 37 59.1	+0.1
JKT				*e*S	Sb	17 38 07.3	-0.4
JSD	**Sado**	**0.84**	**322**	P	Pb	17 38 01.1	-0.8
MAT	**Matsushiro**	**1.01**	**215**	P	Pb	17 38 04.5	-0.4
MAT				S	Sb	17 38 17.3	-0.5

NIED ***23*** *17:38:00,37.30N×138.80E,h8km,Mw3.6 Best double couple: M₀2.43×10¹⁴ NP1:φs166°, δ65°, λ76°. NP2:φs17°, δ29°, λ118°.*
IDC ***23*** *17:38:33.0±1.0,37.23N×138.29E,mb3.6/6,mb1 3.9/7, mb1mx3.7/22,ML3.5/1,Error ellipse: s-maj=52.0km s-min=20.9km az=105.0*
JMA ***23*** *17:38:35.1,37.25N×138.81E,h15km±1km,M3.8 Broadband fault plane solution: P waves. NP1:φs11°, δ18°, λ109°. NP2:φs171°, δ73°, λ84°. Principal axes: T Plg61°, Azm73°; N Plg6°, Azm173°; P Plg28°, Azm266°;*
JMA Felt III J1.

ISC 23 17:38:35.0±0.5,37.26N±0.03×138.80E±0.05,h25km±5km,
n14,σ0s73/21,mb3.6/6,2C-1D,Near west coast of
eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKT	**Katashina**	**0.61**	**144**	P	**Pb**	**17 38 46.6**	**-0.3**
JKT				S	**Sb**	**17 38 54.4**	**-0.7**
JNS	**Sasagawa**	**0.69**	**36**	⇑P	**Pb**	**17 38 48.2**	**-0.2**
JNS				S	**Sb**	**17 38 57.5**	**0.0**
JFY	**Yanaizu**	**0.73**	**78**	⇓P	**Pb**	**17 38 49.0**	**-0.1**
JFY				S	**Sb**	**17 38 58.5**	**-0.2**
MAT	**Matsushiro**	**0.86**	**214**	P	**Pb**	**17 38 51.0**	**-0.2**
MAT				S	**Sb**	**17 39 02.4**	**+0.2**
JSD	**Sado**	**0.89**	**331**	P	**Pb**	**17 38 51.6**	**-0.1**
JSD				S	**Sb**	**17 39 03.5**	**+0.3**
JAG	**Ashikaga**	**0.98**	**148**	⇑P	**Pb**	**17 38 53.6**	**+0.4**
JAG				S	**Sb**	**17 39 06.3**	**+0.5**
JRY	**Ryogami san**	**1.24**	**176**	P	**Pn**	**17 38 57.5**	**+0.4**
JRY				S	**Sn**	**17 39 14.1**	**+1.0**
ASAJ	**Asahikawa**	**7.43**	**22**	Pn	**Pn**	**17 40 25.9**	**+1.0**
	0.7nm,0.3s,baz=99,slow=13,SNR=4.5						
ILAR	**Eielson Array**	**50.42**	**32**	P	P	**17 47 32.1**	**0.0**
	0.3nm,0.6s,mb3.5,baz=289,slow=7.1,SNR=4.3						
WRA	**Warramunga Arr**	**57.05**	**185**	P	P	**17 48 20.1**	**-1.5**
	0.8nm,0.8s,mb3.8,baz=1.1,slow=7.5,SNR=24						
ASAR	**Alice Springs**	**60.77**	**185**	P	P	**17 48 46.2**	**-1.1**
	0.1nm,0.6s,mb3.1,baz=1.8,slow=5.9,SNR=4.6						
FINES	**FINESS Array B**	**67.63**	**331**	P	P	**17 49 30.4**	**-1.1**
	3.1nm,1.0s,mb4.3,baz=68,slow=7.5,SNR=4.7						
NVAR	**Mina Array Bea**	**76.51**	**52**	P	P	**17 50 28.5**	**+3.9**
	0.6nm,0.8s,mb3.6,baz=304,slow=6.5,SNR=3.4						
PDAR	**Pinedale Array**	**78.98**	**44**	P	P	**17 50 39.5**	**+1.4**
	0.2nm,0.5s,mb3.3,baz=323,slow=4.5,SNR=3.3						

STR ***23*** *17:42:45.0±0.3,42.82N×1.50W,h5km±1km,Ml3.4,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
INMG ***23*** *17:42:46.0±1.6,42.81N×1.55W,ML3.1,Error ellipse: s-maj=4.1km s-min=3.1km az=140.0*
LDG ***23*** *17:42:46.7±0.1,42.83N×1.46W,h7km,Md3.3/2,Ml3.4/24, Error ellipse: s-maj=3.2km s-min=2.3km az=167.0*
NEIC ***23*** *17:42:46.7,42.83N×1.46W,h7km,ML3.4(LDG), ML3.0(MDD),ML3.4(STR),MN3.0(MDD),After LDG.*
NEIC Felt [III] at Aoiz, Nagore and Urroz; [II] at Pamplona, Spain.
CSEM ***23*** *17:42:47.2±0.0,42.86N×1.43W,h5km,ML3.4/24,Error ellipse: s-maj=1.1km s-min=0.8km az=143.0*

MDD 23 17:42:47.0±0.2,42.87N×1.44W,h5km±2km,mbLg2.9/26,
6C-2D,Error ellipse: s-maj=2.2km s-min=1.8km az=27.0,
PRXIMO AftershockPLICA II PAMPLONA,Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SJPF	**Ste Jean**	**0.29**	**33**	*e*Pg	Pg	17 42 52.3	-0.5
SJPF				*e*Sg	Sg	17 42 56.6	-0.1
	1μm,0.3s						
EALK	**Alkurruntz**	**0.35**	**352**	⇑Pg	Pg	17 42 53.4	-0.7
	198nm,0.3s,SNR=18						
EALK				Lg		17 42 59.2	
	2μm,0.3s,SNR=7.9						
LARF	**Larrau**	**0.37**	**63**	Pg	Pg	17 42 53.7	-0.8
LARF				Sg	Sg	17 42 59.2	-0.3
LARF	**Larrau**	**0.37**	**63**	P	Pg	17 42 53.6	-0.8
LARF				S	Sg	17 42 59.2	-0.3
OSSF	**Osses**	**0.41**	**19**	Pg	Pg	17 42 54.2	-1.0
OSSF				Sg	Sg	17 43 00.2	-0.4
OSSF	**Osses**	**0.41**	**19**	P	Pg	17 42 54.3	-0.9
OSSF				S	Sg	17 42 59.9	-0.7
ORDF	**Ordiarp**	**0.50**	**47**	Pg	Pg	17 42 56.4	-0.7
ORDF				Sg	Sg	17 43 03.7	-0.1
ORDF	**Ordiarp**	**0.50**	**47**	P	Pg	17 42 56.3	-0.8
ORDF				S	Sg	17 43 04.1	+0.2
ATE	**Arette**	**0.58**	**68**	P	Pg	17 42 57.4	-1.3
ATE				S	Sg	17 43 06.1	-0.4
FDAF	**Les Forges d'A**	**0.64**	**94**	Pg	Pg	17 42 58.3	-1.6
FDAF				Sg	Sg	17 43 07.9	-0.6
FDAF	**Les Forges d'A**	**0.64**	**94**	P	Pg	17 42 58.5	-1.3
FDAF				S	Sg	17 43 08.6	+0.1
ETSF	**Etsaut**	**0.65**	**87**	*e*Pg	Pg	17 42 58.2	-1.8
ETSF				*e*Sg	Sg	17 43 08.3	-0.3
	367nm,0.5s						
REYF	**Montagne du Re**	**0.80**	**75**	Pg	Pg	17 43 00.9	-2.0
REYF				Sg	Sg	17 43 13.6	+0.1
REYF	**Montagne du Re**	**0.80**	**75**	P	Pg	17 43 00.8	-2.0
REYF				S	Sg	17 43 12.8	-0.7
VIEF	**Viey**	**1.08**	**89**	Pg	Pg	17 43 05.6	-2.9
VIEF	**Viey**	**1.08**	**89**	P	Pb	17 43 05.7	-2.1
VIEF				S	Sb	17 43 21.4	-0.5
LABF	**Labassere**	**1.13**	**80**	Pg	Pg	17 43 07.3	-2.2
LABF	**Labassere**	**1.13**	**80**	P	Pb	17 43 07.3	-1.3
LABF				S	Sb	17 43 23.6	+0.2
EBIE	**Bielsa**	**1.18**	**98**	⇑Pg	Pg	17 43 07.5	-3.1
	154nm,0.3s,SNR=18						
EBIE				Lg		17 43 24.9	
	14nm,0.1s,SNR=9.5						
EBIE	**Bielsa**	**1.18**	**98**	⇑Pg	Pg	17 43 07.5	-3.1
EBIE				Lg		17 43 24.9	
EBIE	**Bielsa**	**1.18**	**98**	Pg	Pg	17 43 07.5	-3.1
	154nm,0.3s,SNR=18						
RESF	**Ens**	**1.31**	**92**	Pg	Pg	17 43 10.7	-2.5
RESF				Sg	Sg	17 43 29.4	-1.2
RESF	**Ens**	**1.31**	**92**	P	Pb	17 43 09.5	-2.2
RESF				S	Sb	17 43 30.0	+1.3
EPF	**Esparros**	**1.32**	**82**	*e*Pn	Pn	17 43 10.4	-1.7
EPF				*e*Pg	Pg	17 43 12.4	-0.9
EPF				*e*Sn	Sn	17 43 27.4	-2.8
EPF				*e*Sg	Sg	17 43 29.9	-1.0
	119nm,0.3s						
ESAC	**San Caprasio**	**1.35**	**148**	⇑Pg	Pg	17 43 10.7	-3.3
	208nm,0.3s,SNR=18						
ESAC				Lg		17 43 31.2	
	560nm,0.3s,SNR=7.9						
ESAC	**San Caprasio**	**1.35**	**148**	Pg	Pg	17 43 10.7	-3.4
	208nm,0.3s,SNR=18						
ELAN	**Lanestosa**	**1.50**	**285**	Pn	Pn	17 43 13.6	-1.2
	5.2nm,0.4s,SNR=198						
ELAN				Pg	Pg	17 43 14.6	-2.5
	32nm,0.2s,SNR=7.9						
ELAN				Lg		17 43 35.7	
	117nm,0.4s,SNR=7.9						
ELAN	**Lanestosa**	**1.50**	**285**	Pn	Pn	17 43 13.6	-1.2
	5.2nm,0.4s,SNR=198						
ELAN	**Lanestosa**	**1.50**	**285**	Pg	Pg	17 43 14.6	-2.4
	32nm,0.2s,SNR=7.9						
MELF	**Melles**	**1.62**	**89**	Pg	Pg	17 43 16.4	-2.9
MELF				Sg	Sg	17 43 40.1	-0.7
MELF	**Melles**	**1.62**	**89**	P	Pn	17 43 15.9	-0.5
MLS	**Moulis**	**1.86**	**86**	Pg	Pg	17 43 20.7	-3.5
MLS				Sg	Sg	17 43 46.9	-2.2
SALF	**Salau**	**1.94**	**92**	Pg	Pg	17 43 22.6	-3.1
SALF				Sg	Sg	17 43 49.5	-2.0
SALF	**Salau**	**1.94**	**92**	P	Pn	17 43 21.1	+0.1
ETOR	**

	5.0nm,0.6s,SNR=4.0								
EJON	**La Jonquera**	**3.22**	**96**	Pg		Pg	17 43 45.4	-5.9	
	38nm,0.8s,SNR=15								
RJF	**Les Rejaudoux**	**3.23**	**40**	*e*Pn		Pn	17 43 37.1	-2.4	
RJF				*e*Sn		Sn	17 44 13.4	-5.5	
RJF				*e*Sg		Sg	17 44 29.4	-5.3	
	40nm,0.4s								
CAF	**Calviac**	**3.26**	**50**	*e*Pn		Pn	17 43 36.4	-3.5	
CAF				*e*Sn		Sn	17 44 14.3	-5.3	
	32nm,0.3s								
ESDC	**Sonseca Array**	**3.72**	**212**	Pn		Pn	17 43 43.0	-3.3	
	1.0nm,0.3s,baz=34,slow=13,SNR=4.0								
ESDC				Pg		Pg	17 43 55.0	-6.2	
	3.9nm,0.3s,baz=34,slow=18,SNR=13								
ESDC				Sn		Sn	17 44 23.8	-7.3	
	2.0nm,0.2s,baz=37,slow=25,SNR=5.2								
ESDC				Lg			17 44 42.1		
	10nm,0.3s,baz=32,slow=29,SNR=7.8								
ESDC	**Sonseca Array**	**3.72**	**212**	Pn		Pn	17 43 43.0	-3.3	
	1.0nm,0.3s,slow=13,SNR=4.0								
ESDC	**Sonseca Array**	**3.72**	**212**	Pg		Pg	17 43 55.0	-6.2	
	3.9nm,0.3s,slow=18,SNR=13								
ESDC				Sn		Sn	17 44 23.8	-7.3	
	2.0nm,0.2s,slow=25,SNR=5.2								
MFF	**Saint Martin d**	**3.84**	**13**	*e*Pn		Pn	17 43 45.4	-2.7	
MFF				*e*Sn		Sn	17 44 28.5	-5.8	
MFF				*e*Sg		Sg	17 44 47.1	-7.9	
	20nm,0.4s								
ECAL	**Calabor**	**4.03**	**258**	Pn		Pn	17 43 47.6	-3.1	
	12nm,0.3s,SNR=18								
ECAL				Pg		Pg	17 44 01.8	-5.6	
	13nm,0.3s,SNR=6.8								
ECAL				Sn		Sn	17 44 33.4	-5.7	
	10nm,0.2s,SNR=7.9								
ECAL				Lg			17 44 55.8		
	47nm,0.3s,SNR=7.9								
ECAL	**Calabor**	**4.03**	**258**	Pn		Pn	17 43 47.6	-3.1	
ECAL				Pg		Pg	17 44 01.8	-5.6	
ECAL				Sn		Sn	17 44 36.8	-2.3	
ECAL				Lg			17 44 51.4		
ECAL	**Calabor**	**4.03**	**258**	Pn		Pn	17 43 47.6	-3.2	
	12nm,0.3s,SNR=18								
ECAL	**Calabor**	**4.03**	**258**	Pg		Pg	17 44 01.8	-5.7	
	13nm,0.3s,SNR=6.8								
ECAL				Sn		Sn	17 44 36.8	-2.2	
	10nm,0.2s,SNR=7.9								
LASF	**Ste Croix**	**4.04**	**71**	*e*Pn		Pn	17 43 48.4	-2.5	
LASF				*e*Sn		Sn	17 44 33.6	-5.7	
LASF				*e*Sg		Sg	17 44 54.7	-6.8	
	11nm,0.4s								
PBRG	**Braganca**	**4.07**	**257**	*e*Pn		Pn	17 43 48.1	-3.3	
PBRG				*e*Sn		Sn	17 44 35.2	-4.9	
PBRG				*e*Sg		Sg	17 44 52.5	-10	
	31nm,0.4s								
PBRG	**Braganca**	**4.07**	**257**	*e*Pn		Pn	17 43 48.1	-3.3	
PBRG				*e*Sn		Sn	17 44 35.2	-4.9	
PBRG				*e*Sg		Sg	17 44 52.5	-10	
	31nm,0.4s								
EPON	**Pontenova**	**4.21**	**278**	⇓Pn		Pn	17 43 51.4	-1.9	
	7.7nm,0.3s,SNR=18								
EPON				Sn		Sn	17 44 38.2	-5.2	
	SNR=7.9								
EPON				Lg			17 45 02.5		
	2.2nm,0.2s,SNR=7.9								
EPON	**Pontenova**	**4.21**	**278**	⇓Pn		Pn	17 43 51.4	-1.9	
EPON				Sn		Sn	17 44 39.6	-3.9	
EPON				Lg			17 44 58.4		
EPON	**Pontenova**	**4.21**	**278**	Pn		Pn	17 43 51.4	-1.9	
	7.7nm,0.3s,SNR=18								
EPON				Sn		Sn	17 44 39.6	-3.9	
	SNR=7.9								
ERUA	**La Rua**	**4.23**	**265**	⇑Pn		Pn	17 43 50.6	-3.0	
	12nm,0.3s,SNR=18								
ERUA				Sn		Sn	17 44 38.7	-5.5	
	SNR=7.9								
ERUA				Lg			17 45 02.4		
	14nm,0.5s,SNR=7.9								
ERUA	**La Rua**	**4.23**	**265**	⇑Pn		Pn	17 43 50.6	-3.0	
ERUA				Sn		Sn	17 44 38.7	-5.5	
ERUA				Lg			17 44 58.7		
EBEN	**Beniarda**	**4.26**	**167**	Lg			17 45 01.8		
	SNR=4.0								
TCF	**Toulx Ste Croi**	**4.30**	**36**	*e*Pn		Pn	17 43 50.4	-4.2	
TCF				*e*Sn		Sn	17 44 39.1	-6.7	
	33nm,0.6s								
EVIA	**Vianos**	**4.30**	**191**	Pn		Pn	17 43 52.5	-2.1	
	SNR=7.9								
EVIA				Pg		Pg	17 44 06.3	-6.6	
	9.2nm,0.4s,SNR=5.7								
EVIA				Lg			17 45 03.4		
	21nm,0.5s,SNR=4.0								
EVIA	**Vianos**	**4.30**	**191**	Pn		Pn	17 43 52.5	-2.1	
EVIA				Pg		Pg	17 44 10.8	-2.1	
EVIA				Lg			17 44 59.7		
EVIA	**Vianos**	**4.30**	**191**	Pg		Pg	17 44 10.8	-2.1	
	9.2nm,0.4s,SNR=5.7								
EIBI	**Ibiza**	**4.38**	**150**	Pn		Pn	17 43 52.7	-3.0	
	SNR=7.9								
EIBI				Sn		Sn	17 44 40.7	-7.2	
	SNR=7.9								
EIBI	**Ibiza**	**4.38**	**150**	Pn		Pn	17 43 52.7	-3.1	
	SNR=7.9								
BGF	**Bois d'Agland**	**4.79**	**38**	*e*Pn		Pn	17 43 58.0	-3.5	
BGF				*e*Sn		Sn	17 44 50.1	-8.1	
BGF				*e*Sg		Sg	17 45 16.7	-10	
	55nm,0.4s								
VIVF	**Saint-Julien-l**	**4.84**	**64**	*e*Pn		Pn	17 43 58.7	-3.7	
VIVF				*e*Sn		Sn	17 44 52.5	-7.2	
	8.7nm,0.4s								
PVRL	**Vila Real**	**4.94**	**253**	*e*Sg		Sg	17 45 19.8	-11	
	40nm,0.4s								
PVRL	**Vila Real**	**4.94**	**253**	*e*Sg		Sg	17 45 19.8	-11	
	40nm,0.4s								
ELOB	**Lobios**	**5.01**	**261**	Pn		Pn	17 44 00.7	-4.0	
	5.6nm,0.4s,SNR=11								
ELOB				Sn		Sn	17 44 57.1	-6.6	
	SNR=7.9								
ELOB				Lg			17 45 26.9		
	35nm,0.6s,SNR=7.9								
ELOB	**Lobios**	**5.01**	**261**	Pn		Pn	17 44 00.7	-4.0	
ELOB				Lg			17 45 18.8		
ELOB	**Lobios**	**5.01**	**261**	Pn		Pn	17 44 00.7	-3.9	
	5.6nm,0.4s,SNR=11								
EMUR	**La Murta**	**5.03**	**178**	Lg			17 45 26.6		
	11nm,0.6s,SNR=4.0								
QUIF	**Quistinic**	**5.19**	**347**	*e*Pn		Pn	17 44 04.1	-3.1	
QUIF				*e*Sn		Sn	17 45 00.1	-8.2	
	16nm,0.3s								
MTE	**Manteigas**	**5.20**	**244**	*e*Sg		Sg	17 45 27.1	-13	
	48nm,0.4s								
MTE	**Manteigas**	**5.20**	**244**	*e*Sg		Sg	17 45 27.1	-13	
	48nm,0.4s								
EQES	**Quesada**	**5.21**	**194**	Pn		Pn	17 44 04.5	-3.0	
	1.9nm,0.3s,SNR=5.4								
EQES				Pg		Pg	17 44 22.1	-8.9	
	4.5nm,0.3s,SNR=6.4								
EQES				Lg			17 45 32.2		
	12nm,0.5s,SNR=7.9								
EQES	**Quesada**	**5.21**	**194**	Pn		Pn	17 44 04.5	-3.0	
	1.9nm,0.3s,SNR=5.4								
EQES	**Quesada**	**5.21**	**194**	Pg		Pg	17 44 22.1	-9.0	
	4.5nm,0.3s,SNR=6.4								
SMRF	**Simiane la Rot**	**5.23**	**75**	*e*Pn		Pn	17 44 06.5	-1.3	
HYF	**Humbligny**	**5.26**	**32**	*e*Pn		Pn	17 44 04.2	-4.0	
HYF				*e*Sn		Sn	17 45 02.4	-7.7	
EADA	**Adamuz**	**5.27**	**208**	Pn		Pn	17 44 04.6	-3.8	
	0.8nm,0.3s,SNR=9.6								
EADA				Pg		Pg	17 44 23.2	-9.1	
	1.1nm,0.3s,SNR=4.7								
EADA				Sn		Sn	17 45 03.1	-7.2	
	SNR=7.9								
EADA				Lg			17 45 34.7		
	0.7nm,0.2s,SNR=7.9								
EADA	**Adamuz**	**5.27**	**208**	Pn		Pn	17 44 04.6	-3.8	
EADA				Pg		Pg	17 44 27.4	-4.8	
EADA				Sn		Sn	17 45 03.1	-7.2	
EADA				Lg			17 45 33.3		
EADA	**Adamuz**	**5.27**	**208**	Pn		Pn	17 44 04.6	-3.8	
	0.8nm,0.3s,SNR=9.6								
EADA	**Adamuz**	**5.27**	**208**	Pg		Pg	17 44 27.4	-4.8	
	1.1nm,0.3s,SNR=4.7								
PVIS	**Viseu**	**5.28**	**248**	*e*Sg		Sg	17 45 29.6	-13	
	29nm,0.6s								
PVIS	**Viseu**	**5.28**	**248**	*e*Sg		Sg	17 45 29.6	-13	
	29nm,0.6s								
SMF	**Signal de Mont**	**5.33**	**43**	*e*Pn		Pn	17 44 06.5	-2.7	
SMF				*e*Sn		Sn	17 45 04.3	-7.5	
	6.7nm,0.6s								
SGMF	**Saint Gilles**	**5.44**	**352**	*e*Pn		Pn	17 44 04.3	-6.5	
SGMF				*e*Sn		Sn	17 45 05.9	-8.7	
	4.6nm,0.3s								
PCBR	**Castelo Branco**	**5.46**	**238**	*e*Pn		Pn	17 44 06.7	-4.3	
PCBR				*e*Sn		Sn	17 45 06.7	-8.4	
PCBR				*e*Sg		Sg	17 45 36.8	-12	
	20nm,0.6s								
SSF	**Saint Saulge**	**5.46**	**38**	*e*Pn		Pn	17 44 07.0	-4.1	
SSF				*e*Sn		Sn	17 45 05.7	-10	
	5.0nm,0.4s								
GRR	**Gorron**	**5.53**	**4**	*e*Pn		Pn	17 44 07.5	-4.6	
GRR				*e*Sn		Sn	17 45 09.2	-7.7	
	19nm,0.4s								
EMAZ	**Mazaricos**	**5.54**	**273**	Pn		Pn	17 44 08.7	-3.4	
	10.0nm,0.5s,SNR=4.0								
EMAZ				Sn		Sn	17 45 10.6	-6.4	
	SNR=4.0								
EMAZ	**Mazaricos**	**5.54**	**273**	Pn		Pn	17 44 08.7	-3.4	
EMAZ				Sn		Sn	17 45 10.6	-6.4	
ROSF	**Rostrenen**	**5.62**	**347**	*e*Pn		Pn	17 44 09.6	-3.6	
ROSF				*e*Sn		Sn	17 45 10.3	-8.7	
	3.2nm,0.2s								
ORIF	**Oris-en-Rattie**	**5.67**	**66**	*e*Pn		Pn	17 44 11.5	-2.5	
ORIF				*e*Sn		Sn	17 45 11.8	-8.6	
	3.7nm,0.4s								
LOR	**Lormes**	**5.78**	**39**	*e*Pn		Pn	17 44 12.4	-3.1	
LOR				*e*Sn		Sn	17 45 14.3	-8.8	
	7.7nm,0.3s								
LDF	**La Druitiere**	**5.80**	**9**	*e*Pn		Pn	17 44 11.5	-4.3	
LDF				*e*Sn		Sn	17 45 12.7	-11	
	2.2nm,0.2s								
EBAD	**Badajoz**	**5.90**	**228**	Pn		Pn	17 44 12.8	-4.4	
	1.5nm,0.3s,SNR=4.0								
EBAD				Lg			17 45 55.1		
	6.9nm,0.4s,SNR=4.0								
EBAD	**Badajoz**	**5.90**	**228**	Pn		Pn	17 44 12.8	-4.4	
EBAD				Lg			17 45 48.7		
EBAD	**Badajoz**	**5.90**	**228**	Pn		Pn	17 44 12.8	-4.4	
FLN	**La Foliniere**	**5.93**	**6**	*e*Pn		Pn	17 44 13.0	-4.7	
FLN				*e*Sn		Sn	17 45 17.9	-9.0	
	4.4nm,0.2s								
FRF	**La Foret Royal**	**5.95**	**81**	*e*Pn		Pn	17 44 14.8	-3.1	
EBER	**Berja**	**6.07**	**191**	Pn		Pn	17 44 18.0	-1.6	
	SNR=4.0								
EBER				Lg			17 46 01.3		
	0.1nm,0.1s,SNR=7.9								
EBER	**Berja**	**6.07**	**191**	Pn		Pn	17 44 18.0	-1.6	
PTOM	**Tomar**	**6.18**	**241**	*e*Sg		Sg	17 46 00.1	-13	
	23nm,0.4s								
MBDF	**Montbardon**	**6.23**	**70**	*e*Pn		Pn	17 44 17.5	-4.3	
MBDF				*e*Sn		Sn	17 45 25.0	-9.3	
	5.8nm,0.7s								
LPL	**La Plagne**	**6.44**	**63**	*e*Pn		Pn	17 44 21.1	-3.8	
LPG	**La Plagne**	**6.45**	**63**	*e*Pn		Pn	17 44 24.1	-0.9	
EMIN	**Mina Concepcio**	**6.48**	**220**	Pn		Pn	17 44 20.7	-4.6	
	SNR=4.0								
EMIN				Sn		Sn	17 45 32.6	-8.0	
	SNR=7.9								
EMIN				Lg			17 46 13.3		
	0.4nm,0.2s,SNR=7.9								
EMIN	**Mina Concepcio**	**6.48**	**220**	Pn		Pn	17 44 20.8	-4.6	
EMIN				Sn		Sn	17 45 32.6	-8.0	
MOE	**Montemor**	**6.81**	**233**	*e*Sn		Sn	17 45 38.9	-10	
PALC	**Alcoutim**	**7.11**	**223**	*e*Sg		Sg	17 46 30.3	-13	
PGF	**Pioggiola**	**7.70**	**89**	*e*Pn		Pn	17 44 37.3	-5.2	
BAIF	**Baives**	**8.18**	**26**	*e*Sn		Sn	17 46 11.9	-11	
	13nm,0.5s								
GIVF	**Givet**	**8.42**	**29**	*e*Sn		Sn	17 46 18.0	-11	
	16nm,0.5s								

*NEIC **23** 17:58:12.2, 36.78S×177.76E, h164km, After WEL.*
*WEL **23** 17:58:12.0±0.4, 36.76S×177.80E, h166km±3km, ML4.2/5, Error ellipse: s-maj=2.6km s-min=2.3km az=90.0*
*IDC **23** 17:58:13.1±2.0, 37.38S×177.86E, h206km±11km, mb3.4/2, mb1 3.6/3, mb1mx3.3/12, Error ellipse: s-maj=50.7km s-min=30.3km az=127.0*

ISC 23 17:58:10.2±0.8, 36.99S±0.05×177.76E±0.09, h200km±6km, n54, σ1§13/76, mb3.5/2, 1C-2D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.72**	**143**	*e*P		**P**	**S**	**17 58 37.4**	**-1.2**
MXZ				S		**S**	**S**	**17 58 57.0**	**-3.5**
MXZ	**Matakaoa Point**	**0.72**	**143**	PN		**P**	**S**	**17 58 37.4**	**-1.1**
MXZ				SN		**S**	**S**	**17 58 57.0**	**-3.5**
PUZ	**Puketiti**	**1.16**	**160**	P		**P**	**S**	**17 58 41.8**	**+0.5**
PUZ				S		**S**	**S**	**17 59 03.9**	**-1.5**
PUZ	**Puketiti**	**1.16**	**160**	PN		**P**	**S**	**17 58 41.8**	**+0.4**
PUZ				SN		**S**	**S**	**17 59 03.9**	**-1.5**
MWZ	**Matawai**	**1.36**	**188**	P		**P**	**S**	**17 58 43.4**	**+0.3**
MWZ				S		**S**	**S**	**17 59 08.3**	**-0.1**
MWZ	**Matawai**	**1.36**	**188**	PN		**P**	**S**	**17 58 43.4**	**+0.4**
MWZ				SN		**S**	**S**	**17 59 08.3**	**-0.1**
URZ	**Urewera**	**1.37**	**202**	P		**P**	**S**	**17 58 43.4**	**+0.3**
	23nm,0.3s,baz=336,slow=17,SNR=444								
URZ				S		**S**	**S**	**17 59 08.1**	**-0.5**
	101nm,0.3s,baz=150,slow=20,SNR=56								
URZ	**Urewera**	**1.37**	**202**	P		**P**	**S**	**17 58 43.4**	**+0.2**
URZ	**Urewera**	**1.37**	**202**	⇓PN		**P**	**S**	**17 58 43.4**	**+0.3**
URZ				SN		**S**	**S**	**17 59 08.0**	**-0.6**
KUZ	**Kuaotunu**	**1.66**	**278**	P		**P**	**S**	**17 58 43.8**	**-1.9**
KUZ	**Kuaotunu**	**1.66**	**278**	⇓PN		**P**	**S**	**17 58 43.8**	**-2.0**
KNZ	**Kokohu**	**2.03**	**182**	P		**P**	**S**	**17 58 50.8**	**+1.4**
KNZ	**Kokohu**	**2.03**	**182**	PN		**P**	**S**	**17 58 50.8**	**+1.3**
KNZ				SN		**S**	**S**	**17 59 21.0**	**+1.4**
MKAZ	**Moumakai**	**2.08**	**266**	P		**P**	**S**	**17 58 49.8**	**-0.1**
MKAZ	**Moumakai**	**2.08**	**266**	PN		**P**	**S**	**17 58 49.8**	**-0.2**
OTAZ	**Otara**	**2.27**	**270**	PN		**P**	**S**	**17 58 51.6**	**-0.5**
MTAZ	**Motutapu**	**2.30**	**274**	P		**P**	**S**	**17 58 51.8**	**-0.5**
MTAZ	**Motutapu**	**2.30**	**274**	PN		**P**	**S**	**17 58 51.8**	**-0.5**
BKZ	**Black Stump Fm**	**2.40**	**204**	PN		**P**	**S**	**17 58 54.2**	**+0.8**
BKZ				SN		**S**	**S**	**17 59 27.9**	**+1.1**
KAAZ	**Kauri Point**	**2.46**	**273**	P		**P**	**S**	**17 58 54.2**	**+0.1**
KAAZ	**Kauri Point**	**2.46**	**273**	PN		**P**	**S**	**17 58 54.2**	**+0.1**
WTAZ	**Waiatarua**	**2.56**	**270**	P		**P**	**S**	**17 58 55.4**	**+0.2**
WTAZ	**Waiatarua**	**2.56**	**270**	PN		**P**	**S**	**17 58 55.4**	**+0.2**
WTVZ	**West Tongariro**	**2.73**	**218**	*e*PN		**P**	**S**	**17 58 58.4**	**+1.1**
NGZ	**Ngauruhoe**	**2.77**	**217**	PN		**P**	**S**	**17 58 59.7**	**+1.9**
TUVZ	**Tukino**	**2.82**	**215**	PN		**P**	**S**	**17 58 59.9**	**+1.6**
FWVZ	**Far West T-bar**	**2.86**	**217**	PN		**P**	**S**	**17 59 00.3**	**+1.6**
MOVZ	**Moawhango**	**2.89**	**213**	PN		**P**	**S**	**17 58 59.7**	**+0.7**
MOVZ				*e*SN		**S**	**S**	**17 59 37.0**	**+0.2**
WNVZ	**Wahianoa**	**2.90**	**215**	*e*PN		**P**	**S**	**17 59 00.4**	**+1.3**
PWZ	**Pawanui**	**3.12**	**193**	PN		**P**	**S**	**17 59 02.6**	**+0.8**
PWZ				SN		**S**	**S**	**17 59 42.9**	**+1.2**
TSZ	**Takapari Road**	**3.38**	**204**	PN		**P**	**S**	**17 59 05.2**	**+0.3**
TSZ				SN		**S**	**S**	**17 59 48.1**	**+0.9**
WAZ	**Wanganui**	**3.52**	**217**	PN		**P**	**S**	**17 59 07.6**	**+0.9**
WAZ				SN		**S**	**S**	**17 59 53.2**	**+2.8**
BFZ	**Birch Farm**	**3.88**	**197**	PN		**P**	**S**	**17 59 11.6**	**+0.5**
BFZ				SN		**S**	**S**	**17 59 58.8**	**+0.6**
MRZ	**Mangatainoka R**	**4.05**	**204**	PN		**P**	**S**	**17 59 12.9**	**-0.3**
MRZ				SN		**S**	**S**	**18 00 01.4**	**-0.5**
KIW	**Kapiti Island**	**4.46**	**209**	PN		**P**	**S**	**17 59 18.2**	**-0.3**
KIW				*e*SN		**S**	**S**	**18 00 10.8**	**-0.6**
MTW	**Mount Morrison**	**4.52**	**202**	*e*PN		**P**	**S**	**17 59 19.0**	**-0.3**
CAW	**Cannon Point**	**4.62**	**206**	PN		**P**	**S**	**17 59 20.0**	**-0.5**
PAWZ	**Paruwai Farm**	**4.75**	**202**	PN		**P**	**S**	**17 59 21.5**	**-0.6**
MSWZ	**Moikau Station**	**4.83**	**203**	*e*PN		**P**	**S**	**17 59 22.5**	**-0.7**
MRW	**Makara Radio**	**4.86**	**208**	*e*PN		**P**	**S**	**17 59 23.0**	**-0.5**
NNZ	**Nelson**	**5.43**	**218**	PN		**P**	**S**	**17 59 29.6**	**-1.2**
NNZ				SN		**S**	**S**	**18 00 33.0**	**-0.5**
BSWZ	**Blackbirch Sta**	**5.60**	**211**	*e*PN		**P**	**S**	**17 59 32.5**	**-0.6**
THZ	**Tophouse**	**6.08**	**217**	*e*PN		**P**	**S**	**17 59 37.7**	**-1.5**
THZ				SN		**S**	**S**	**18 00 48.6**	**+0.2**
KHZ	**Kahutara**	**6.33**	**210**	PN		**P**	**S**	**17 59 41.1**	**-1.3**
KHZ				SN		**S**	**S**	**18 00 52.0**	**-2.3**
LTZ	**Lake Taylor**	**7.17**	**214**	PN		**P**	**S**	**17 59 51.7**	**-1.7**
LTZ				SN		**S**	**S**	**18 01 09.5**	**-4.4**
MQZ	**McQueen's Vall**	**7.76**	**209**	PN		**P**	**S**	**17 59 58.8**	**-2.4**
MQZ				SN		**S**	**S**	**18 01 23.5**	**-4.4**
RPZ	**Rata Peaks**	**8.45**	**215**	P		**P**	**S**	**18 00 09.0**	**-1.2**
	1.2nm,0.3s,baz=61,slow=3.7,SNR=5.4								
RPZ				S		**S**	**S**	**18 01 39.4**	**-4.5**
	2.2nm,0.3s,baz=11,slow=18,SNR=8.3								
ODZ	**Otahua Downs**	**9.68**	**212**	*e*PN		**P**	**S**	**18 00 24.4**	**-1.6**
ASAR	**Alice Springs**	**39.78**	**277**	P		**P**	**S**	**18 05 27.6**	**+2.4**
	1.1nm,0.6s,mb3.5,baz=120,slow=8.1,SNR=32								
WRA	**Warramunga Arr**	**41.39**	**282**	P		**P**		**18 05 40.3**	**+1.8**
	0.9nm,0.4s,mb3.6,baz=120,slow=7.8,SNR=35								
VNA3	**Neumayer Olymp**	**71.94**	**177**			**P**		**18 09 20.8**	**+7.9**
VNA2	**Neumayer--Watz**	**72.33**	**178**			**P**		**18 09 22.4**	**+7.2**
VNA1	**Neumayer--Stat**	**72.58**	**178**	⇑ *i*		**P**		**18 09 27.1**	**+11**
FINES	**FINESS Array B**	**149.78**	**333**	PKPbc		PKPdf		18 17 38.0	+7.7
	1.4nm,0.9s,baz=270,slow=3.8,SNR=3.9								

*KISR **23** 18:16:45.8±0.9, 32.77N×50.06E, h69km±999km, ML3.8*
*THR **23** 18:16:47.0±1.6, 32.57N×50.08E, h15km±15km, ML3.6*
*CSEM **23** 18:16:47.8±0.1, 32.46N×50.09E, h16km, ML4.4/2, Error ellipse: s-maj=3.1km s-min=1.6km az=138.0*

ISC 23 18:16:45.3±0.5, 32.73N±0.04×49.90E±0.05, h15km, n22, σ1§06/30, mb4.4/6, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**1.11**	**237**	*e*PG		**Pg**		**18 17 08.5**	**+0.8**
SHGR				*e*SG		**Sg**		**18 17 25.2**	**+2.5**
SHGR				AMP				18 17 28.6	
	comp=E,2μm,0.4s								
SHGR				AMP				18 17 32.3	
	comp=N,1μm,1.0s								
SHGR	**Shooshtar-Gavs**	**1.11**	**237**	*i* Pg		**Pg**		**18 17 08.4**	**+0.7**
SHGR				*i* Sg		**Sg**		**18 17 24.2**	**+1.5**
	comp=N,2μm,0.7s								
NASN	**Na'in**	**2.45**	**88**	*e*PN		**Pn**		**18 17 27.7**	**+2.2**
NASN				*e*SG		**Sg**		**18 17 59.8**	**-7.3**
NASN				AMP				18 18 06.4	
	comp=N,198nm,0.5s								
NASN				AMP				18 18 07.7	
	comp=E,231nm,0.7s								
NASN	**Na'in**	**2.45**	**88**	*i* Pn		**Pn**		**18 17 27.6**	**+2.1**
NASN				Sn		**Sn**		**18 17 56.0**	**+0.6**
	comp=E,188nm,0.4s								
THKV	**Tehran--Karaj**	**3.28**	**14**	*e*Pn		**Pn**		**18 17 44.0**	**+6.8**
	comp=E,117nm,0.6s								
DAMV	**Damavand**	**3.37**	**30**	*e*PN		**Pn**		**18 17 41.9**	**+3.4**
MIB	**Mutribah**	**3.65**	**218**	*e*P		**Pn**		**18 17 43.9**	**+1.4**
MIB				*e*S		**Sn**		**18 18 25.7**	**0.0**
MIB				AML		AML		18 18 31.4	
	comp=Z,173nm,0.6s								
UMR	**Umm Al-Rimmam**	**3.68**	**211**	*e*P		**Pn**		**18 17 43.6**	**+0.7**
UMR				AML		AML		18 18 33.3	
	comp=Z,165nm,0.4s								
KBD	**Kabd**	**4.02**	**209**	*e*P		**Pn**		**18 17 48.1**	**+0.4**
KBD				*e*S		**Sn**		**18 18 34.0**	**-1.0**
RST	**Umm Al-Ruwaisa**	**4.07**	**218**	*e*P		**Pn**		**18 17 48.6**	**+0.1**
RDF	**Al-Radifah**	**4.30**	**209**	*e*P		**Pn**		**18 17 52.4**	**+0.7**
RDF				*e*S		**Sn**		**18 18 41.2**	**-0.9**
RDF				AML		AML		18 18 46.8	
	comp=Z,91nm,0.3s								
QRN	**Al-Qurain**	**4.32**	**204**	*e*P		**Pn**		**18 17 51.9**	**-0.2**
QRN				*e*S		**Sn**		**18 18 41.6**	**-1.1**
QRN				AML		AML		18 18 44.1	
	comp=Z,80nm,0.3s								
GHIR	**Ghir-Karzin**	**5.17**	**148**	*e*PN		**Pn**		**18 18 02.4**	**-1.6**
GHIR	**Ghir-Karzin**	**5.17**	**148**	*e*Pn		**Pn**		**18 18 02.1**	**-1.9**
JOF	**Joensuu**	**32.42**	**344**	*e*p		**P**		**18 23 16.9**	**+0.4**
	comp=Z,1.9nm,0.6s,mb4.1								
KAF	**Kangasniemi**	**33.06**	**340**	*e*p		**P**		**18 23 21.0**	**-1.1**
MBDF	**Montbardon**	**35.32**	**303**	*e*P		**P**		**18 23 41.7**	**-0.1**
	comp=Z,7.4nm,0.8s,mb4.4								
LPG	**La Plagne**	**35.41**	**304**	*e*P		**P**		**18 23 42.3**	**-0.2**
	com

JFY	**Yanaizu**	**0.63**	**87**	P	Pb	18 31 25.9	+0.2
JFY				*e*S	Sb	18 31 34.1	+0.1
JJN	**Nakama**	**0.66**	**246**	P	Pb	18 31 26.1	-0.3
JJN				*e*S	Sb	18 31 35.8	+0.7
JKT	**Katashina**	**0.67**	**157**	P	Pb	18 31 26.3	-0.1
JKT				*e*S	Sb	18 31 35.2	+0.1
JSD	**Sado**	**0.84**	**322**	P	Pb	18 31 29.8	+0.5

NIED ***23*** *18:31:00,37.40N×138.90E,h5km,Mw3.6 Best double couple: M₀2.4×10¹⁴ NP1:φ₈204°, δ45°, λ94°. NP2:φ₈18°, δ45°, λ86°.*
JMA ***23*** *18:31:33.3,37.36N×138.92E,h14km±3km,M3.5 Broadband fault plane solution: P waves. NP1:φ₈341°, δ53°, λ-21°. NP2:φ₈84°, δ73°, λ-141°. Principal axes: T Plg13°, Azm208°; N Plg48°, Azm103°; P Plg39°, Azm309°;*
JMA Felt II J1.
IDC ***23*** *18:31:35.5±3.4,36.89N×135.53E,mb3.6/3,mb1 3.9/3, mb1mx3.4/21,MS4.1/4,Ms1 4.1/4,ms1mx3.2/26 Error ellipse: s-maj=296.0km s-min=31.7km az=79.0*

ISC 23 18:31:33.0±0.6,37.40N±0.03×138.92E±0.06,h27km±6km, n12,σ0²52/14,mb3.6/3,MS4.2/4,2D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNS	**Sasagawa**	**0.53**	**37**	P	**Pb**	**18 31 43.7**	**0.0**
JNS				S	**Sb**	**18 31 51.4**	**+0.4**
JFY	**Yanaizu**	**0.63**	**89**	⇓P	**Pb**	**18 31 45.2**	**-0.1**
JKT	**Katashina**	**0.68**	**157**	⇓P	**Pb**	**18 31 45.9**	**-0.4**
JKT				S	**Sb**	**18 31 54.8**	**-0.5**
JSD	**Sado**	**0.82**	**321**	P	**Pb**	**18 31 48.3**	**-0.3**
JSD				S	**Sb**	**18 31 58.9**	**-0.5**
JGK	**Kuni**	**0.86**	**195**	P	**Pb**	**18 31 50.0**	**+0.7**
JGK				S	**Sb**	**18 32 01.0**	**+0.6**
MAT	**Matsushiro**	**1.02**	**214**	P	**Pn**	**18 31 51.8**	**0.0**
MAT				S	**Sb**	**18 32 05.1**	**0.0**
PMG	**Port Moresby**	**47.19**	**169**	LR	LR	18 58 49.3	
	comp=Z,462nm,18.8s,MS4.5,baz=335,slow=34						
FITZ	**Fitzroy Crossi**	**56.60**	**195**	LR	LR	19 01 28.6	
	comp=Z,99nm,21.5s,MS3.9,baz=175,slow=32						
WRA	**Warramunga Arr**	**57.19**	**185**	P	**P**	**18 41 19.4**	**-0.9**
	1.0nm,0.8s,mb3.9,baz=0.2,slow=7.6,SNR=22						
WRA				LR	LR	19 02 46.8	
	comp=Z,158nm,21.4s,MS4.1,baz=285,slow=33						
ASAR	**Alice Springs**	**60.92**	**185**	P	**P**	**18 41 45.8**	**-0.2**
	0.1nm,0.4s,mb3.3,baz=358,slow=5.5,SNR=10						
STKA	**Stephens Creek**	**68.96**	**178**	LR	LR	19 10 18.8	
	comp=Z,161nm,18.5s,MS4.3,baz=199,slow=34						
NOA	**NORSAR Array B**	**73.07**	**336**	P	**P**	**18 43 03.2**	**+1.1**
	0.6nm,0.6s,mb3.7,baz=40,slow=6.0,SNR=3.9						

NEIC ***23*** *18:44:25.2,15.87N×97.45W,h10km,MD4.0(MEX),After MEX.*

MEX 23 18:44:25.2±0.9,15.86N×97.45W,h10km,MD4.1,Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.29**	**94**	*e*P	Pb	18 44 43.9	-5.3
HUIG				*i* S	Sb	18 45 02.4	-3.2
VHO	**Vista Hermosa**	**1.38**	**30**	*e*P	Pn	18 44 47.0	-3.6
VHO				*i* S	Sb	18 45 04.1	-4.2
OXX	**Oaxaca**	**1.40**	**30**	*e*P	Pn	18 44 47.0	-3.8
OXX				*e*S	Sb	18 45 04.0	-4.6
ACX	**Acapulco**	**2.57**	**293**	*e*P	Pn	18 45 05.0	-2.7
ACX				*e*S	Sn	18 45 35.5	-3.8
PLIG	**Platanillo**	**3.19**	**322**	*e*P	Pn	18 45 11.6	-4.9
PLIG				*e*S	Sn	18 45 49.6	-5.4
EVV	**El Vigia**	**3.27**	**38**	*e*P	Pn	18 45 11.0	-6.5
YAIG	**Yautepec**	**3.36**	**333**	*e*P	Pn	18 45 16.5	-2.4
YAIG				*e*S	Sn	18 45 53.8	-5.4
PPM	**Popocatepetl**	**3.38**	**341**	*e*P	Pn	18 45 17.0	-2.1

ISK ***23*** *18:44:53.0,39.68N×41.01E,h7km,MD3.5*
CSEM ***23*** *18:44:53.0±0.1,39.65N×41.05E,h10km,MD3.5,Error ellipse: s-maj=2.6km s-min=2.4km az=64.0*

ISC 23 18:44:54.0±0.5,39.69N±0.03×41.08E±0.04,h10km,n18, σ1²29/25,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZM	**Erzurum**	**0.30**	**45**	*i* PG	**Pg**	**18 45 00.4**	**+0.1**
ERZM	**Erzurum**	**0.30**	**45**	*i* P	**Pg**	**18 45 00.3**	**0.0**
ERZM				*i* S	**Sg**	**18 45 02.6**	**-2.0**
VRT	**Varto**	**0.66**	**148**	*i* PG	**Pg**	**18 45 05.9**	**-1.4**
VRT				*i* SG	**Sg**	**18 45 17.1**	**+1.0**
BINT	**Bingol**	**0.94**	**210**	*i* PG	**Pg**	**18 45 10.3**	**-2.5**
BINT				*i* SG	**Sg**	**18 45 23.7**	**-1.6**
EZC	**Erzincan**	**0.98**	**274**	*e*PN	**Pn**	**18 45 18.2**	**+4.5**
GUMT	**Gumushane**	**1.45**	**302**	*e*PN	**Pn**	**18 45 20.4**	**0.0**
KELT	**Kelkit**	**1.48**	**289**	*i* P	**Pn**	**18 45 20.9**	**+0.1**
KELT				*i* S	**Sb**	**18 45 42.5**	**+2.6**
BTMT	**Batman**	**1.53**	**168**	*e*PN	**Pn**	**18 45 21.6**	**0.0**
PTK	**Pertek**	**1.54**	**239**	*e*PN	**Pn**	**18 45 21.1**	**-0.6**
BCA	**Borcka**	**1.80**	**13**	*e*PN	**Pn**	**18 45 25.5**	**+0.1**
BEST	**Besiri**	**1.80**	**175**	*i* P	**Pn**	**18 45 26.4**	**+1.0**
BEST				*i* S	**Sn**	**18 45 52.3**	**+3.7**
DIY	**Diyarbakir**	**1.91**	**201**	*e*PN	**Pn**	**18 45 25.8**	**-1.3**
ELZG	**Elazig**	**2.02**	**235**	*i* P	**Pn**	**18 45 29.0**	**+0.3**
ELZG				*i* S	**Sn**	**18 46 01.3**	**+7.2**
VANB	**Van**	**2.10**	**121**	*e*PN	**Pn**	**18 45 29.7**	**0.0**
TVAN	**Van**	**2.15**	**122**	*i* P	**Pn**	**18 45 32.9**	**+2.5**
TVAN				*i* S	**Sn**	**18 46 03.2**	**+5.9**
MALT	**Malatya**	**2.48**	**237**	*e*PN	**Pn**	**18 45 34.3**	**-1.0**
GNI	**Garni**	**2.85**	**80**	*e*PN	**Pn**	**18 45 41.4**	**+0.9**
GZT	**Gaziantep**	**3.61**	**231**	*i* P	**Pn**	**18 46 01.6**	**+10**
GZT				*i* S	Sn	18 47 02.1	+28

IDC ***23*** *18:48:26.6±0.7,0.51S×135.28E,mb4.4/9,mb1 4.6/12, mb1mx4.5/18,ML4.0/3,MS3.8/3,Ms1 3.8/3,ms1mx3.2/20, Error ellipse: s-maj=30.1km s-min=16.8km az=73.0*
MOS ***23*** *18:48:29.7±0.8,0.55S×135.19E,h33km,mb4.5/9,Error ellipse: s-maj=28.5km s-min=12.2km az=117.4*
NEIC ***23*** *18:48:30.4±3.3,0.53S×135.27E,h26km±23km,mb4.6/13, Error ellipse: s-maj=9.9km s-min=7.2km az=67.0*
SYO ***23*** *18:48:30.6,0.55S×135.24E,h29km,MB4.6*
BJI ***23*** *18:48:31.4,0.50S×135.30E,h25km,mB5.1,mb4.6,Ms5.2, Msz4.7*

ISC 23 18:48:29.6±0.3,0.57S±0.06×135.21E±0.09,h33km, (h30km±2.7km:pP-P),n65,σ0²79/62,mb4.6/32,MS3.8/4, 3C-1D,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**14.78**	**127**	Pn	**P**	**18 51 58.0**	**-0.3**
	0.2nm,0.3s,baz=308,slow=17,SNR=2.4						
PMG	**Port Moresby**	**14.78**	**127**	*e*P	**P**	**18 51 57.8**	**-0.5**
	33nm,1.0s						
WRAB	**Tennant Creek**	**19.27**	**182**	P	**P**	**18 52 53.9**	**-0.4**
	176nm,0.8s,SNR=14						
WRAB	**Tennant Creek**	**19.27**	**182**	*e*P	**P**	**18 52 53.4**	**-1.0**
	27nm,0.6s						
WRA	**Warramunga Arr**	**19.27**	**182**	P	**P**	**18 52 53.7**	**-0.8**
	1.1nm,0.3s,baz=1.3,slow=12,SNR=97						
WRA	**Warramunga Arr**	**19.27**	**182**	P	**P**	**18 52 53.7**	**-0.7**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FITZ	**Fitzroy Crossi**	**19.80**	**208**	P	**P**	**18 53 00.8**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=24,slow=9.3,SNR=29						
TGY	**Tagaytay City**	**20.30**	**316**	P	**P**	**18 53 00.8**	**-4.7**
	comp=Z,97nm,1.0s,baz=94,slow=10,SNR=4.2						
TGY	**Tagaytay City**	**20.30**	**316**	P	**P**	**18 53 00.8**	**-4.8**
TGY				pmax	pmax		
	comp=Z,97nm,1.0s						
CTA	**Charters Tower**	**22.21**	**152**	P	**P**	**18 53 25.3**	**+0.5**
	comp=Z,4.0nm,0.8s,mb3.9,baz=328,slow=9.8,SNR=5.7						
CTA	**Charters Tower**	**22.21**	**152**	P	**P**	**18 53 25.3**	**+0.4**
CTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CTAO	**Charters Tower**	**22.21**	**152**	*e*P	**P**	**18 53 25.2**	**+0.3**
	comp=Z,12nm,0.9s,mb4.3						
ASAR	**Alice Springs**	**23.00**	**183**	P	**P**	**18 53 33.3**	**+0.6**
	comp=Z,25nm,0.8s,mb4.7,baz=9.4,slow=11,SNR=144						
MBWA	**Marble Bar**	**25.44**	**215**	*e*P	**P**	**18 53 56.8**	**+0.4**
	comp=Z,16nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**31.72**	**170**	P	**P**	**18 54 52.5**	**-0.3**
	comp=Z,19nm,1.2s,mb4.8,baz=340,slow=8.4,SNR=5.0						

CMAR	**Chiang Mai Arr**	**40.34**	**300**	P	**P**	**18 56 06.3**	**+0.3**
	comp=Z,3.9nm,0.8s,mb4.2,baz=118,slow=6.8,SNR=30						
CMAR				PcP	PcP	18 58 10.9	+1.3
	comp=Z,2.0nm,1.1s,baz=136,slow=2.6,SNR=4.9						
CMAR				LR	LR	19 11 41.2	
	comp=Z,45nm,20.3s,MS3.3,baz=85,slow=34						
CMAR	**Chiang Mai Arr**	**40.34**	**300**	P	**P**	**18 56 06.4**	**+0.4**
CMAR						18 58 11.0	
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CMAR				pmax	pmax		
	comp=Z,2.0nm,1.1s						
CMAR				MLR	MLR		
	comp=Z,45nm,20.3s						
KMI	**Kunming**	**40.48**	**311**	*e*P	**P**	**18 56 08.0**	**+0.8**
KMI				AP	pP	18 56 17.3	+0.3
KMI				XP	sP	18 56 20.9	-0.3
KMI				PP	PP	18 57 45.1	+1.3
KMI				PPP	PPP	18 58 13.8	+2.1
KMI				PCS		19 02 02.1	
KMI				S	**S**	**19 02 15.3**	**+1.8**
KMI				XS		19 02 29.3	
KMI				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.3						
KMI				AMB	AMB		
	comp=Z,100nm,5.1s						
KMI				LR	LR		
	comp=N,278nm,12.4s						
KMI				LR	LR		
	comp=E,180nm,18.2s						
KMI				LR	LR		
	comp=Z,154nm,19.9s						
KMI	**Kunming**	**40.48**	**311**	*e*P	**P**	**18 56 08.0**	**+0.8**
	comp=Z,10.0nm,1.4s,mb4.3						
KMI				pP	pP	18 56 17.2	+0.2
KMI				sP	sP	18 56 20.9	-0.3
KMI				PP	PP	18 57 45.1	+1.3
KMI				PPP	PPP	18 58 13.8	+2.1
KMI				PcS		19 02 02.1	
KMI				S	**S**	**19 02 15.3**	**+1.8**
KMI				sS		19 02 29.3	
KMI				SS	SS	19 05 07.8	-0.6
KMI				LR	LR		
	comp=Z,150nm,19.9s,MS3.9						
XAN	**Xi'an**	**42.35**	**327**	P	**P**	**18 56 22.4**	**-0.1**
XAN				AMB	AMB		
	comp=Z,5.0nm,1.6s,mb3.9						
BJI	**Beijing**	**43.99**	**339**	P	**P**	**18 56 42.8**	**+7.0**
BJI				AMB	AMB		
	comp=Z,8.0nm,1.3s,mb4.3						
BJI	**Beijing**	**43.99**	**339**	P	**P**	**18 56 42.7**	**+6.9**
	comp=Z,8.0nm,1.3s,mb4.3						
LZH	**Lanzhou**	**46.70**	**325**	*e*P	**P**	**18 56 58.5**	**+1.2**
LZH				AP	pP	18 57 08.5	+1.3
LZH				XP	sP	18 57 12.5	+1.2
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
LZH	**Lanzhou**	**46.70**	**325**	*e*P	**P**	**18 56 58.5**	**+1.2**
	comp=Z,20nm,1.0s,mb5.0						
LZH				pP	pP	18 57 08.5	+1.3
LZH				sP	sP	18 57 12.5	+1.2
SHL	**Shillong**	**49.25**	**305**	⇑*i*P	**P**	**18 57 16.8**	**-0.5**
GTA	**Gaotai**	**51.30**	**325**	*e*P	**P**	**18 57 33.5**	**+0.7**
GTA				AP	pP	18 57 41.9	-0.8
GTA				XP	sP	18 57 47.5	+0.7
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.4						
AFI	**Afiamalu**	**54.09**	**107**	P	**P**	**18 57 51.9**	**-2.0**
	comp=Z,138nm,1.2s,mb5.8						
GUN	**Gumba**	**55.10**	**305**	*e*P	**P**	**18 58 00.6**	**-0.5**
	comp=Z,14nm,0.7s,mb5.1						
PKI	**Pulchoki**	**55.36**	**305**	*e*P	**P**	**18 58 01.9**	**-1.1**
	comp=Z,3.8nm,0.7s,mb4.5						
KKN	**Kakani**	**55.55**	**305**	*e*P	**P**	**18 58 03.6**	**-0.8**
	comp=Z,16nm,1.1s,mb5.0						
DMN	**Daman**	**55.62**	**304**	*e*P	**P**	**18 58 04.3**	**-0.6**
	comp=Z,13nm,0.8s,mb5.0						
GKN	**Gorkha**	**56.15**	**305**	*e*P	**P**	**18 58 07.9**	**-0.8**
	comp=Z,27nm,1.2s,mb5.2						
KOLN	**Koldanda**	**56.93**	**304**	*e*P	**P**	**18 58 13.9**	**-0.4**
	comp=Z,28nm,1.0s,mb5.3						
ZAK	**Zakamensk**	**57.60**	**336**	*e*P	**P**	**18 58 18.6**	**-0.1**
WMQ	**Urumqi**	**61.18**	**322**	*e*P	**P**	**18 58 44.0**	**+0.5**
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.9						
DDI	**Dehra Dun**	**62.35**	**305**	*e*	**P**	**18 58 51.0**	**-0.5**
YAK	**Yakutsk**	**62.58**	**357**	⇓*e*P	**P**	**18 58 52.1**	**-0.5**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb5.0						
YAK	**Yakutsk**	**62.58**	**357**	*e*P	**P**	**18 58 52.0**	**-0.5**
	comp=Z,19nm,0.8s,mb5.3						
ZAL	**Zalesovo**	**68.35**	**331**	P	**P**	**18 59 29.6**	**-0.2**
	comp=Z,0.9nm,0.4s,mb4.1,baz=342,slow=8.5,SNR=4.1						
ZAL	**Zalesovo**	**68.35**	**331**	P	**P**	**18 59 29.6**	**-0.2**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AAK	**Ala-Archa**	**69.25**	**317**	*e*P	**P**	**18 59 34.7**	**-0.8**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.7s,mb4.2						
AAK	**Ala-Archa**	**69.25**	**317**	P	**P**	**18 59 34.6**	**-0.8**
	comp=Z,3.1nm,1.0s,mb4.2						
NVS	**Novosibirsk**	**69.62**	**331**	*e*P	**P**	**18 59 36.8**	**-0.7**
NVS				pmax	pmax		
	comp=N,4.0nm,2.0s						
NVS				pmax	pmax		
	comp=E,5.0nm,2.0s						
NVS				pmax	pmax		
	comp=Z,9.0nm,2.0s,mb4.3						
KURK	**Kurchatov**	**69.97**	**326**	⇑*e*P	**P**	**18 59 39.6**	**-0.1**
KURK	**Kurchatov**	**69.97**	**326**	*e*P	**P**	**18 59 38.9**	**-0.8**
	comp=Z,5.2nm,0.9s,mb4.5						
TIXI	**Tiksi**	**72.21**	**358**	*e*P	**P**	**18 59 54.0**	**+1.2**
TIXI				*e*		19 02 33.7	
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.7						
BRVK	**Borovoye**	**75.64**	**326**	*e*P	**P**	**19 00 13.1**	**-0.1**
	comp=Z,3.2nm,0.6s,mb4.4						
VNDA	**Vanda**	**78.23**	**174**	P	**P**	**19 00 27.7**	**+0.5**
	comp=Z,1.2nm,0.6s,mb4.0,baz=313,slow=5.5,SNR=7.1						
VNDA				LR	LR	19 33 01.8	
	comp=Z,62nm,18.1s,MS4.0,baz=346,slow=34						
VNDA	**Vanda**	**78.23**	**174**	P	**P**	**19 00 27.7**	**+0.5**
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
VNDA				MLR	MLR		
	comp=Z,62nm,18.1s						
MAW	**Mawson**	**82.80**	**202**	P	**P**	**19 00 52.8**	**+1.2**
	comp=Z,1.5nm,0.6s,mb4.2,baz=84,slow=5.0,SNR=6.7						
MAW	**Mawson**	**82.80**	**202**	P	**P**	**19 00 52.8**	**+1.2**
MAW				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ARU	**Arti**	**83.10**	**327**	*e*P	**P**	**19 00 52.4**	**-0.9**
ARU	**Arti**	**83.10**	**327**	*e*P	**P**	**19 00 53.0**	**-0.3**
	comp=Z,3.4nm,0.8s,mb4.4						
MCK	**McKinley**	**84.27**	**26**	*e*P	**P**	**19 00 59.7**	**+0.7**
	comp=Z,5.1nm,1.1s,mb4.6						
ILAR	**Eielson Array**	**85.36**	**25**	P	**P**	**19 01 04.9**	**+0.4**
	comp=Z,2.9nm,0.8s,mb4.5,baz=262,slow=5.0,SNR=27						
ILAR	**Eielson Array**	**85.36**	**25**	P	**P**	**19 01 04.9**	**+0.4**
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
DAWY	**Dawson**	**88.48**	**26**	*e*P	**P**	**19 01 21.5**	**+1.9**
QSPA	**South Pole Qui**	**89.36**	**180**	*e*P	**P**	**19 01 24.7**	**+1.1**
	comp=Z,3.8nm,0.7s,mb4.8						
SYO	**Syowa Base**	**91.50**	**201**	⇑P	**P**	**19 01 50.5**	**+17**
BBB	**Bella Bella**	**94.55**	**38**	LR	LR	19 44 42.1	
	comp=Z,80nm,18.7s,MS4.2,baz=245,slow=36						
OBN	**Obninsk**	**95.41**	**325**	*e*P	**P**	**19 01 51.7**	**-0.2**
OBN				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.4						
OTAV	**Otavalo**	**146.34**	**90**	*e*PKP	PKPdf	19 08 12.8	+5.8
CPUP	**Villa Florida**	**150.65**	**157**	PKP	PKPdf	19 08 15.3	+1.8
	comp=Z,2.1nm,0.9s,baz=207,slow=6.8,SNR=2.9						
CPUP				PKPbc	PKPdf	19 08 21.0	+7.4
	comp=Z,3.5nm,0.9s,baz=243,slow=2.3,SNR=3.7						
CPUP				PKPab	PKPab	19 08 26.9	-1.2
	comp=Z,3.9nm,1.0s,baz=198,slow=6.4,SNR=3.5						
CPUP	**Villa Florida**	**150.65**	**157**	PKP	PKPdf	19 08 15.3	+1.8
CPUP				PKPbc	PKPdf	19 08 21.0	+7.5
CPUP				PKPab	PKPab	19 08 26.9	-1.2
LPAZ	**La Paz**	**151.52**	**127**	PKPbc	PKPdf	19 08 25.1	+10
	comp=Z,2.3nm,0.2s,baz=224,slow=2.7,SNR=3.3						
LPAZ				PKPab	PKPab	19 08 32.4	+0.4
	comp=Z,5.3nm,0.8s,baz=267,slow=2.5,SNR=5.4						

CSEM ***23*** *18:53:25.9±0.7,46.37N×13.59E,h25km,ML1.6,Error ellipse: s-maj=24.8km s-min=4.8km az=22.0*
LJU ***23*** *18:53:28.3,46.31N×13.59E,h8km,ML1.6*

ISC 23 18:53:28.1±1.3,46.30N±0.04×13.59E±0.06,h12km±9km, n11,σ0²31/19,3C-6D,Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROBS	**Robic**	**0.08**	**225**	⇓*i*Pg	**Pg**	**18 53 30.6**	**-0.2**
ROBS				*i* Sg	**Sg**	**18 53 32.0**	**-0.5**
	comp=Z,93nm,0.1s						
ROBS	**Robic**	**0.08**	**225**	Pg	**Pg**	**18 53 30.6**	**-0.2**
ROBS				*i* Sg	**Sg**	**18 53 32.0**	**-0.6**
	comp=Z,93nm,0.1s						
CADS	**Cadrg**	**0.12**	**126**	⇓*i*Pg	**Pg**	**18 53 31.4**	**0.0**
CADS				*i* Sg	**Sg**	**18 53 33.6**	**+0.1**
	comp=Z,129nm,0.1s						
CADS	**Cadrg**	**0.12**	**126**	⇓*i*Pg	**Pg**	**18 53 31.4**	**+0.1**
CADS				*i* Sg	**Sg**	**18 53 33.6**	**+0.1**
	comp=Z,129nm,0.1s						
DRE	**Drenchia**	**0.13**	**165**	⇓*i*Pg	**Pg**	**18 53 31.5**	**0.0**
DRE				*i* Sg	**Sg**	**18 53 33.9**	**+0.2**
LSR	**Lussari**	**0.18**	**345**	⇓*i*Pg	**Pg**	**18 53 32.1**	**-0.2**
LSR				*e*Sg	**Sg**	**18 53 35.4**	**+0.3**
COLI	**Coloredo**	**0.23**	**222**	⇑*i*Pg	**Pg**	**18 53 33.3**	**+0.3**
BAD	**Bernadia**	**0.25**	**255**	⇓*e*Pg	**Pg**	**18 53 33.3**	**-0.2**
BAD				*e*Sg	**Sg**	**18 53 37.6**	**+0.5**
VOY	**Vojsko**	**0.34**	**142**	*e*Pg	**Pg**	**18 53 34.9**	**-0.3**
VOY				*e*Sg	**Sg**	**18 53 40.5**	**+0.5**
JAVS	**Javornik**	**0.52**	**141**	⇑*i*Pg	**Pg**	**18 53 38.4**	**-0.4**
JAVS	**Javornik**	**0.52**	**141**	⇑*i*Pg	**Pg**	**18 53 38.3**	**-0.4**

STR ***23*** *18:55:50.9±1.0,43.40N×0.71W,h5km±1km,Ml2.3,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***23*** *18:55:51.4±0.4,42.88N×1.51W,h5km,Md2.2/2,Ml1.8/4, Error ellipse: s-maj=5.6km s-min=3.9km az=56.0*

MDD 23 18:55:52.0±0.5,42.87N×1.44W,h8km±9km,mbLg1.4/9, Error ellipse: s-maj=4.2km s-min=3.0km az=32.0, PRXIMO AftershockPLICA,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.29**	**32**	*e*Pg	Pg	18 55 57.3	-0.6
SJPF				*e*Sg	Sg	18 56 01.5	-0.4
	39nm,0.3s						
EALK	**Alkurruntz**	**0.35**	**352**	Pg	Pg	18 55 58.7	-0.5
	1.1nm,0.2s,SNR=14						
EALK				Lg		18 56 04.2	
	19nm,0.2s,SNR=5.0						
LARF	**Larrau**	**0.37**	**63**	Pg	Pg	18 55 58.6	-0.9
LARF				Sg	Sg	18 56 05.0	+0.5
LARF	**Larrau**	**0.37**	**63**	P	Pg	18 55 58.7	-0.8
LARF				S	Sg	18 56 04.3	-0.3
OSSF	**Osses**	**0.41**	**18**	Pg	Pg	18 55 59.5	-0.8
OSSF				Sg	Sg	18 56 05.0	-0.8
OSSF	**Osses**	**0.41**	**18**	P	Pg	18 55 59.3	-0.9
OSSF				S	Sg	18 56 04.5	-1.3
ETSF	**Etsaut**	**0.65**	**87**	*e*Pg	Pg	18 56 03.2	-1.7
ETSF				*e*Sg	Sg	18 56 13.1	-0.5
	2.6nm,0.2s						
EBIE	**Bielsa**	**1.18**	**98**	Pg	Pg	18 56 13.8	-1.7
	3.5nm,0.2s,SNR=15						
EBIE				Lg		18 56 30.4	
	1.7nm,0.1s,SNR=5.0						
EBIE	**Bielsa**	**1.18**	**98**	Pg	Pg	18 56 13.8	-1.7
	3.5nm,0.2s,SNR=15						
EPF	**Esparros**	**1.31**	**82**	*e*Pn	Pn	18 56 15.5	-1.2
EPF				*e*Pg	Pg	18 56 17.5	-0.8
EPF				*e*Sg	Sg	18 56 34.9	-0.9
	2.9nm,0.2s						
ESAC	**San Caprasio**	**1.35**	**148**	Pg	Pg	18 56 16.2	-2.8
	5.5nm,0.2s,SNR=5.7						
ESAC				Lg		18 56 35.0	
	21nm,0.3s,SNR=5.0						
ELAN	**Lanestosa**	**1.51**	**285**	Pg	Pg	18 56 19.2	-2.9
	1.1nm,0.2s,SNR=6.4						
ELAN				Lg		18 56 40.7	
	2.8nm,0.4s						
ETOR	**Torete**	**2.10**	**193**	Pg	Pg	18 56 30.8	-3.1
	0.4nm,0.2s,SNR=7.9						
ETOR				Lg		18 56 54.5	
	0.8nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**2.60**	**36**	*e*Sg	Sg	18 57 14.3	-4.3
	1.7nm,0.3s						
EMOS	**Mosqueruela**	**2.60**	**164**	Pg	Pg	18 56 39.6	-4.4
	0.3nm,0.2s,SNR=7.9						
EMOS				Lg		18 57 13.3	
	0.4nm,0.2s,SNR=4.0						
MTLF	**Montolieu**	**2.72**	**79**	*e*Pn	Pn	18 56 36.1	-0.7
MTLF				*e*Sn	Sn	18 57 05.8	-4.4
	0.3nm,0.2s						
MTLF	**Montolieu**	**2.72**	**79**	Sn	Sn	18 57 05.8	-4.4
	0.2nm,0.2s						
LASF	**Ste Croix**	**4.04**	**71**	*e*Sg	Sg	18 57 59.6	-6.8
	0.2nm,0.2s						

JMA 23 18:57:54.4,37.38N×139.04E,h13km±2km,M2.2,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIZZ	**Izumozaki**	**0.30**	**300**	*e*S	Sg	18 58 07.1	+1.9
JNS	**Sasagawa**	**0.49**	**27**	P	Pb	18 58 04.0	-0.4
JNS				*e*S	Sb	18 58 10.9

1.4nm,0.8s,mb4.0,baz=0.7,slow=7.6,SNR=31
ASAR Alice Springs 60.86 185 P **P** **19 09 13.0 -1.2**
1.1nm,1.2s,mb3.9,slow=5.6,SNR=8.0
FINES FINESS Array B 67.59 331 P **P** **19 09 57.0 -0.5**
3.8nm,1.1s,mb4.3,baz=39,slow=8.9,SNR=3.5
NB2 NORSAR Subarra 73.11 336 P **P** **19 10 30.8 -0.1**
0.7nm,0.7s,mb3.7,baz=40,slow=5.8
NOA NORSAR Array B 73.11 336 P **P** **19 10 30.9 -0.1**
0.8nm,0.6s,mb3.8,baz=40,slow=5.9,SNR=5.0
NVAR Mina Array Bea 76.42 52 P **P** **19 10 51.1 +0.7**
0.7nm,0.8s,mb3.6,baz=292,slow=5.0,SNR=3.6
PDAR Pinedale Array 78.88 44 P **P** **19 11 05.7 +1.7**
0.6nm,0.7s,mb3.6,baz=308,slow=4.1,SNR=4.6
GERES GERESS Array B 81.36 327 P **P** **19 11 17.1 +0.1**
0.4nm,0.6s,mb3.5,baz=27,slow=6.6,SNR=4.3

NIED ***23*** *18:59:00,37.30N×138.80E,h5km,Mw4.3 Best double couple: M₀3.65×10¹⁵ NP1:φ≡1°,δ71°,λ84°. NP2:φ≡200°, δ20°,λ108°.*
IDC ***23*** *18:59:28.4±0.5,37.23N×138.63E,mb4.0/15,mb1 4.2/16, mb1mx4.1/24,ML4.0/1,MS3.8/3,Ms1 3.7/3,ms1mx3.1/27, Error ellipse: s-maj=23.2km s-min=13.3km az=86.0*
BJI ***23*** *18:59:29.2,37.11N×139.25E,h32km,mB4.7,mb4.3, Ms4.2,Msz4.0*
JMA ***23*** *18:59:29.7,37.17N×138.94E,h5km,M4.7*
JMA Felt II J1.
NEIC ***23*** *18:59:30.0±0.4,37.16N×138.85E,h10km,mb4.5/15, MW4.3(NIED),Error ellipse: s-maj=10.0km s-min=8.4km az=118.0*
NEIC Recorded [3 JMA] in Niigata and [1 JMA] in Gumma Prefectures.

ISC 23 18:59:30.0±0.7,37.14N±0.04×138.93E±0.04,h22km±4km, n46,σ1§18/50,mb4.3/27,MS3.8/3,1D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JFY	**Yanaizu**	**0.67**	**66**	⇓P	**Pb**		**18 59 42.3**	**-0.7**
JFY				S	**Sb**		**18 59 51.3**	**-0.6**
JNS	**Sasagawa**	**0.75**	**24**	P	**Pb**		**18 59 43.4**	**-0.8**
MAT	**Matsushiro**	**0.83**	**225**	P	**Pb**		**18 59 45.0**	**-0.7**
MAT				*e*S	**Sb**		**18 59 57.0**	**+0.6**
JSD	**Sado**	**1.05**	**330**	P	**Pb**		**18 59 48.7**	**-0.6**
JSD				S	**Sb**		**19 00 03.6**	**+1.0**
JHJ	**Hachijo jima 2**	**4.07**	**170**	Pn	**Pn**		**19 00 35.6**	**+3.0**
	26nm,0.3s,baz=102,slow=11,SNR=3.0							
JHJ				Sn	**Sn**		**19 01 24.4**	**+4.3**
	19nm,0.3s,baz=75,slow=20,SNR=3.2							
YSS	**Yuzh-Sakhalins**	**10.21**	**15**	*e*P	**P**		**19 02 00.7**	**+2.3**
MDJ	**Mudanjiang**	**10.28**	**320**	P	**P**		**19 01 57.0**	**-2.4**
MDJ				AMB	AMB			
	comp=Z,16nm,1.6s							
MDJ				AMB	AMB			
	comp=Z,123nm,4.8s							
MDJ	**Mudanjiang**	**10.28**	**320**	*e*P	**P**		**19 02 02.3**	**+2.9**
CN2	**Changchun**	**12.23**	**307**	*e*P	**P**		**19 02 27.6**	**+1.7**
TIA	**Tai'an**	**17.52**	**274**	*e*P	**P**		**19 03 36.0**	**+1.5**
BJI	**Beijing**	**18.02**	**286**	P	**P**		**19 03 41.4**	**+0.6**
BJI				S	**S**		**19 06 57.5**	**-0.8**
BJI				AMB	AMB			
	comp=Z,28nm,1.8s							
BJI				LR	LR			
	comp=N,196nm,11.9s							
BJI				LR	LR			
	comp=E,440nm,11.9s							
BJI				LR	LR			
	comp=Z,122nm,16.5s							
BJI	**Beijing**	**18.02**	**286**	P	**P**		**19 03 41.4**	**+0.6**
	comp=Z,28nm,1.8s							
BJI				S	**S**		**19 06 57.5**	**-0.8**
BJT	**Baijiatuau**	**18.02**	**286**	*e*P	**P**		**19 03 41.3**	**+0.4**
	comp=Z,34nm,1.1s							
HIA	**Hailar**	**18.45**	**317**	P	**P**		**19 03 47.1**	**+1.0**
	comp=Z,5.4nm,0.9s							
ENH	**Enshi**	**25.37**	**263**	*e*P	**P**		**19 04 55.5**	**-1.8**
	comp=Z,20nm,0.9s,mb4.6							
YAK	**Yakutsk**	**25.58**	**350**	*e*P	**P**		**19 04 56.8**	**-2.0**
	comp=Z,16nm,1.0s,mb4.5							
SONM	**Songino Array**	**26.09**	**305**	P	**P**		**19 05 00.5**	**-3.2**
	comp=Z,4.5nm,1.2s,mb3.9,baz=100,slow=7.5,SNR=6.0							
ZAL	**Zalesovo**	**40.39**	**312**	LR	LR		19 25 03.6	
	comp=Z,95nm,18.2s,MS3.7,baz=97,slow=38							
KURK	**Kurchatov**	**44.30**	**308**	*e*P	**P**		**19 07 38.3**	**-1.5**
	comp=Z,2.3nm,0.8s,mb4.0							
BRVK	**Borovoye**	**49.09**	**312**	*e*P	**P**		**19 08 16.8**	**-0.6**
	comp=Z,2.9nm,0.8s,mb4.4							
MCK	**McKinley**	**49.65**	**34**	P	**P**		**19 08 21.6**	**0.0**
	comp=Z,1.4nm,0.9s,mb4.0							
ILAR	**Eielson Array**	**50.47**	**32**	P	**P**		**19 08 27.4**	**-0.4**
	comp=Z,1.3nm,0.8s,mb4.0,baz=276,slow=6.5,SNR=11							
INK	**Inuvik**	**55.20**	**27**	P	**P**		**19 09 03.0**	**-0.1**
	comp=Z,1.9nm,1.0s,mb4.1,baz=262,slow=4.8,SNR=6.3							
INK	**Inuvik**	**55.20**	**27**	*e*P	**P**		**19 09 03.1**	**+0.1**
	comp=Z,3.1nm,0.9s,mb4.3							
FITZ	**Fitzroy Crossi**	**56.35**	**195**	P	**P**		**19 09 11.3**	**-0.7**
	comp=Z,2.8nm,1.0s,mb4.3,baz=36,slow=8.3,SNR=3.7							
WRAB	**Tennant Creek**	**56.92**	**185**	*e*P	**P**		**19 09 14.9**	**-1.1**
	comp=Z,54nm,1.2s,mb5.5							
WRA	**Warramunga Arr**	**56.93**	**185**	P	**P**		**19 09 15.0**	**-1.1**
	comp=Z,20nm,1.1s,mb5.1,baz=2.1,slow=7.6,SNR=53							
CTA	**Charters Tower**	**57.33**	**172**	P	**P**		**19 09 20.3**	**+1.3**
	comp=Z,1.7nm,0.8s,mb4.2,baz=348,slow=8.0,SNR=3.5							
CTA	**Charters Tower**	**57.33**	**172**	P	**P**		**19 09 20.3**	**+1.3**
ASAR	**Alice Springs**	**60.66**	**185**	P	**P**		**19 09 41.1**	**-0.8**
	comp=Z,2.3nm,0.9s,mb4.3,baz=5.3,slow=5.1,SNR=18							
FINES	**FINESS Array B**	**67.79**	**331**	P	**P**		**19 10 26.9**	**-1.0**
	comp=Z,1.3nm,0.9s,mb4.0,baz=97,slow=15,SNR=2.3							
STKA	**Stephens Creek**	**68.70**	**178**	P	**P**		**19 10 34.1**	**+0.1**
	comp=Z,1.6nm,0.8s,mb4.0,baz=344,slow=9.9,SNR=5.2							
AKASG	**Malin Array Be**	**72.39**	**321**	P	**P**		**19 10 58.4**	**-1.1**
	comp=Z,1.1nm,0.7s,mb3.9,baz=47,slow=6.2,SNR=9.7							
NOA	**NORSAR Array B**	**73.31**	**336**	P	**P**		**19 10 59.9**	**-1.3**
	comp=Z,2.4nm,0.9s,mb4.1,baz=47,slow=5.3,SNR=5.9							
FCC	**Fort Churchill**	**74.78**	**26**	*e*P	**P**		**19 11 11.9**	**+2.1**
	comp=Z,58nm,1.2s,mb5.4							
CMB	**Columbia Colle**	**75.41**	**53**	P	**P**		**19 11 13.0**	**-0.9**
	comp=Z,4.7nm,1.1s,mb4.3							
NVAR	**Mina Array Bea**	**76.50**	**52**	P	**P**		**19 11 21.2**	**+1.3**
	comp=Z,2.3nm,1.0s,mb4.1,baz=282,slow=5.4,SNR=10							
BRTR	**Keskin Array B**	**77.29**	**310**	P	**P**		**19 11 24.7**	**+0.4**
	comp=Z,2.6nm,1.0s,mb4.1,baz=90,slow=2.5,SNR=8.6							
TPH	**Tonopah**	**77.39**	**52**	*e*P	**P**		**19 11 27.1**	**+2.2**
	comp=Z,6.3nm,1.1s,mb4.5							
HWUT	**Hardware Ranch**	**78.61**	**46**	*e*P	**P**		**19 11 31.8**	**+0.3**
	comp=Z,14nm,1.6s,mb4.6							
PDAR	**Pinedale Array**	**79.00**	**44**	P	**P**		**19 11 35.0**	**+1.4**
	comp=Z,0.4nm,0.4s,mb3.7,baz=284,slow=3.7,SNR=6.0							
PDAR				LR	LR		19 46 51.4	
	comp=Z,54nm,18.9s,MS3.9,baz=241,slow=36							
PSZ	**Piszkesteto**	**79.41**	**323**	P	**P**		**19 11 35.7**	**0.0**
	comp=Z,12nm,1.5s,mb4.6							
ULM	**Lac du Bonnet**	**80.49**	**32**	LR	LR		19 50 19.7	
	comp=Z,50nm,19.1s,MS3.9,baz=37,slow=38							
KHC	**Kasperske Hory**	**81.40**	**327**	*e*P	**P**		**19 11 46.5**	**+0.2**
GERES	**GERESS Array B**	**81.56**	**327**	P	**P**		**19 11 46.8**	**-0.3**
	comp=Z,0.7nm,0.7s,mb3.7,baz=27,slow=6.0,SNR=5.9							
TXAR	**Lajitas Array**	**91.61**	**51**	P	**P**		**19 12 37.6**	**+0.9**
	comp=Z,0.3nm,0.8s,mb3.7,baz=270,slow=2.5,SNR=3.6							

STR ***23*** *19:06:20.7±0.1,43.12N×0.67W,h5km±1km,Ml2.2,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***23*** *19:06:20.9±0.1,43.13N×0.67W,h2km,Md2.3/2,Ml1.7/3, Error ellipse: s-maj=2.5km s-min=1.4km az=11.0*
MDD ***23*** *19:06:21.1±0.3,43.11N×0.68W,h11km±1km,mbLg1.5/11, Error ellipse: s-maj=3.6km s-min=1.6km az=20.0,PRXIMO*

ISC 23 19:06:19.8±0.5,43.17N±0.03×0.65W±0.03,h11km±5km, n29,σ1§07/46,1C,Pyrenees

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.10**	**203**	P	**Pg**		**19 06 23.4**	**+0.9**
ORDF	**Ordiarp**	**0.21**	**281**	Pg	**Pg**		**19 06 25.6**	**+1.1**
ORDF				Sg	**Sg**		**19 06 29.1**	**+1.5**
ORDF	**Ordiarp**	**0.21**	**281**	P	**Pg**		**19 06 25.6**	**+1.1**
ORDF				S	**Sg**		**19 06 29.2**	**+1.6**
REYF	**Montagne du Re**	**0.22**	**119**	Pg	**Pg**		**19 06 25.5**	**+1.0**
REYF				Sg	**Sg**		**19 06 28.6**	**+0.9**
REYF	**Montagne du Re**	**0.22**	**119**	P	**Pg**		**19 06 25.4**	**+0.9**
REYF				S	**Sg**		**19 06 28.7**	**+1.0**
LARF	**Larrau**	**0.28**	**241**	Pg	**Pg**		**19 06 26.3**	**+0.5**
LARF				Sg	**Sg**		**19 06 30.1**	**+0.4**
LARF	**Larrau**	**0.28**	**241**	P	**Pg**		**19 06 26.2**	**+0.5**
LARF				S	**Sg**		**19 06 29.8**	**+0.1**
ETSF	**Etsaut**	**0.28**	**166**	*e*Pg	**Pg**		**19 06 25.9**	**+0.1**
ETSF				*e*Sg	**Sg**		**19 06 28.9**	**-0.9**
	73nm,0.2s							
FDAF	**Les Forges d'A**	**0.36**	**170**	Pg	**Pg**		**19 06 27.0**	**-0.3**
FDAF				Sg	**Sg**		**19 06 31.3**	**-0.9**
FDAF	**Les Forges d'A**	**0.36**	**170**	P	**Pg**		**19 06 27.1**	**-0.2**
FDAF				S	**Sg**		**19 06 31.3**	**-1.0**
SJPF	**Ste Jean**	**0.42**	**262**	*e*Pg	**Pg**		**19 06 28.5**	**0.0**
SJPF				*e*Sg	**Sg**		**19 06 34.0**	**-0.3**
	12nm,0.2s							
OSSF	**Osses**	**0.45**	**281**	Pg	**Pg**		**19 06 29.1**	**0.0**
OSSF				Sg	**Sg**		**19 06 34.9**	**-0.4**
OSSF	**Osses**	**0.45**	**281**	P	**Pg**		**19 06 29.1**	**0.0**
OSSF				S	**Sg**		**19 06 35.2**	**-0.1**
LABF	**Labassere**	**0.55**	**103**	Pg	**Pg**		**19 06 31.0**	**+0.1**
LABF				Sg	**Sg**		**19 06 39.5**	**+1.2**
LABF	**Labassere**	**0.55**	**103**	P	**Pg**		**19 06 31.4**	**+0.5**
LABF				S	**Sg**		**19 06 39.8**	**+1.5**
VIEF	**Viey**	**0.57**	**120**	Pg	**Pg**		**19 06 31.3**	**-0.1**
VIEF				Sg	**Sg**		**19 06 38.5**	**-0.7**
VIEF	**Viey**	**0.57**	**120**	P	**Pb**		**19 06 31.2**	**-0.2**
VIEF				S	**Sg**		**19 06 39.4**	**+0.2**
EALK	**Alkurruntz**	**0.63**	**274**	Pg	**Pg**		**19 06 32.3**	**-0.2**
	SNR=7.9							
EALK				Lg			19 06 40.3	
	2.8nm,0.1s,SNR=6.3							
EPF	**Esparros**	**0.74**	**101**	*e*Pg	**Pg**		**19 06 34.9**	**+0.2**
EPF				*e*Sg	**Sg**		**19 06 45.6**	**+1.0**
	4.5nm,0.2s							
EBIE	**Bielsa**	**0.76**	**130**	⇑Pg	**Pg**		**19 06 34.6**	**-0.5**
	2.2nm,0.3s,SNR=18							
EBIE				Lg			19 06 44.0	
	6.5nm,0.1s,SNR=25							
RESF	**Ens**	**0.81**	**116**	S	**Sb**		**19 06 46.3**	**0.0**
MELF	**Melles**	**1.08**	**106**	S	**Sb**		**19 06 55.6**	**+1.7**
SALF	**Salau**	**1.41**	**106**	S	**Sb**		**19 07 05.2**	**+1.5**
ESAC	**San Caprasio**	**1.46**	**175**	Pg	**Pg**		**19 06 46.7**	**-2.3**
	6.0nm,0.3s,SNR=4.8							
ESAC				Lg			19 07 06.8	
	9.3nm,0.1s,SNR=12							
LFF	**La Frestale**	**2.03**	**29**	*e*Sg	**Sg**		**19 07 26.5**	**-1.0**
	2.8nm,0.4s							
EMIR	**Miracle**	**2.04**	**127**	Pg	**Pg**		**19 06 58.8**	**-1.8**
	SNR=7.9							
EMIR				Lg			19 07 25.4	
	1.7nm,0.1s,SNR=7.9							
MTLF	**Montolieu**	**2.10**	**84**	*e*Sg	**Sg**		**19 07 26.8**	**-3.1**
	0.5nm,0.2s							
EPOB	**Poblet**	**2.23**	**144**	Pg	**Pg**		**19 07 01.4**	**-3.0**
	SNR=7.9							
EPOB				Lg			19 07 30.4	
	1.1nm,0.1s,SNR=7.9							
RJF	**Les Rejaudoux**	**2.64**	**35**	*e*Sg	**Sg**		**19 07 45.2**	**-2.5**
	0.8nm,0.2s							

DJA 23 19:07:41.9±1.0,8.59S×116.46E,h166km±6km,MD4.5/3, ML3.6/1,6C,Error ellipse: s-maj=64.9km s-min=20.0km az=178.0,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**0.36**	**287**	*e*Pn	P		19 08 04.4	-0.6
	32nm,0.2s							
KEDI				⇑*e*Sn	S		19 08 21.1	-1.5
RATI	**Rata**	**0.93**	**262**	⇑*e*Pn	P		19 08 07.8	-0.1
RATI				⇑*e*Sn	S		19 08 27.4	-0.5
KELI	**Kelakatan**	**1.99**	**281**	⇑*e*Pn	P		19 08 18.7	+0.5
SRDI	**Scrawed**	**2.30**	**273**	⇑*e*Pn	P		19 08 21.6	-0.3
	28nm,0.1s							
SRDI				⇑*e*Sn	S		19 08 50.2	-2.5

CSEM ***23*** *19:09:26.3,37.69N×20.62E,h10km,MD3.6/3,After ATH*
ATH 23 19:09:26.3,37.69N×20.62E,h10km,MD3.6/3,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.49**	**357**	*e*PB	Pb		19 09 36.0	-0.5
ITM	**Ithomi**	**1.16**	**116**	*e*Pn	Pn		19 09 48.0	-0.5
KYTH	**Kithira**	**2.39**	**125**	*e*Pn	Pn		19 10 08.0	+1.8

NEIC ***23*** *19:16:10.4±0.8,18.01N×145.71E,h178km±6km,mb3.9/3, Error ellipse: s-maj=21.1km s-min=9.6km az=116.0*
IDC ***23*** *19:16:12.4±8.4,18.00N×145.66E,h196km±81km,mb3.5/8, mb1 3.7/8,mb1mx3.5/21,Error ellipse: s-maj=26.8km s-min=17.1km az=102.0*

ISC 23 19:16:09.7±1.1,18.0N±0.1×145.7E±0.2,h185km±9km,n16, σ0§72/16,mb3.8/11,1C,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**1.28**	**176**	⇑*e*P	**P**		**19 16 40.3**	**-0.3**
ANAT	**Anatahan**	**1.63**	**181**	*e*P	**P**		**19 16 43.9**	**+0.1**
GUMO	**Guam**	**4.45**	**190**	*e*P	**P**		**19 17 17.6**	**+0.2**
GUMO				*e*			19 17 26.8	
PMG	**Port Moresby**	**27.26**	**177**	P	**P**		**19 21 39.1**	**+0.1**
	4.7nm,0.8s,mb4.2,baz=294,slow=12,SNR=2.4							
WRAB	**Tennant Creek**	**39.29**	**197**	*e*P	**P**		**19 23 22.2**	**-0.1**
	11nm,1.1s,mb4.4							
WRA	**Warramunga Arr**	**39.31**	**197**	P	**P**		**19 23 22.7**	**+0.3**
	2.2nm,0.8s,mb3.9,baz=9.5,slow=8.5,SNR=38							
WRA				PcP	PcP		19 25 26.7	-1.1
	0.3nm,0.4s,baz=17,slow=3.4,SNR=6.3							
FITZ	**Fitzroy Crossi**	**40.92**	**210**	P	**P**		**19 23 36.2**	**+0.6**
	1.9nm,0.5s,mb4.0,baz=16,slow=7.3,SNR=37							
ASAR	**Alice Springs**	**42.97**	**196**	P	**P**		**19 23 51.6**	**-0.8**
	0.3nm,0.4s,mb3.3,baz=16,slow=6.5,SNR=17							
ASAR				PcP	PcP		19 25 39.0	-0.8
	0.2nm,0.5s,baz=15,slow=3.1,SNR=3.8							
CMAR	**Chiang Mai Arr**	**44.30**	**278**	P	**P**		**19 24 03.0**	**0.0**
	2.0nm,0.8s,mb3.8,baz=68,slow=7.9,SNR=8.8							
MBWA	**Marble Bar**	**46.48**	**214**	P	**P**		**19 24 20.5**	**+0.3**
STKA	**Stephens Creek**	**49.73**	**185**	P	**P**		**19 24 44.3**	**-0.9**
	0.4nm,0.3s,mb3.5,baz=1.5,slow=7.8,SNR=4.1							
ILAR	**Eielson Array**	**64.28**	**26**	P	**P**		**19 26 26.0**	**-1.0**
	0.3nm,0.4s,mb3.5,baz=249,slow=5.9,SNR=13							
INK	**Inuvik**	**70.03**	**23**	P	**P**		**19 27 02.9**	**0.0**
	1.4nm,0.7s,mb3.8							
CMB	**Columbia Colle**	**82.14**	**53**	P	**P**		**19 28 09.9**	**-1.3**
	1.1nm,0.7s,mb3.6							
NVAR	**Mina Array Bea**	**83.59**	**52**	P	**P**		**19 28 20.3**	**+1.7**
	1.0nm,0.4s,mb3.9,baz=271,slow=5.5,SNR=8.4							
TPH	**Tonopah**	**84.50**	**52**	P	**P**		**19 28 24.1**	**+1.0**

ATH ***23*** *19:22:18.5,36.71N×26.15E,h37km±10km,MD3.4/6*
ISK ***23*** *19:22:18.3,36.62N×26.12E,h3km,MD3.5*
NEIC ***23*** *19:22:18.5,36.71N×26.15E,h37km,MD3.5(ISK), MD3.4(ATH),After ATH.*
THE ***23*** *19:22:20.0,36.52N×26.25E,h14km*
CSEM ***23*** *19:22:20.0±0.1,36.69N×26.21E,h8km,MD3.5,Error ellipse: s-maj=2.2km s-min=1.0km az=166.0*

ISC 23 19:22:19.4±0.3,36.61N±0.04×26.19E±0.03,h8km,n37, σ1§29/54,3C,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
THR1	**Thera Island**	**0.64**	**248**	*e*Pg	**Pg**		**19 22 32.8**	**+0.6**
THR1				*e*Sg	**Sg**		**19 22 42.3**	**+1.5**
SANT	**Santorini**	**0.64**	**248**	*e*Pn	**Pn**		**19 22 32.2**	**-2.3**
SANT				*e*Sn	**Sn**		**19 22 40.6**	**-4.2**
SANT	**Santorini**	**0.64**	**248**	*e*Pn	**Pn**		**19 22 32.2**	**-2.2**
SANT	**Santorini**	**0.64**	**248**	*e*Sn	**Sn**		**19 22 40.6**	**-4.2**
THR4	**Thira Island,**	**0.66**	**257**	*e*Pg	**Pg**		**19 22 33.0**	**+0.3**
THR4				*e*Sg	**Sg**		**19 22 43.8**	**+2.3**
THR3	**Thira Island,**	**0.67**	**253**	*e*Pg	**Pg**		**19 22 33.1**	**+0.2**
THR6	**Thira Island,**	**0.69**	**249**	*e*Pg	**Pg**		**19 22 33.6**	**+0.4**
THR6				*e*Sg	**Sg**		**19 22 43.9**	**+1.4**
APE	**Apeiranthos**	**0.70**	**311**	*i* PG	**Pg**		**19 22 31.7**	**-1.8**
APE				*i* SG	**Sg**		**19 22 41.4**	**-1.5**
APE	**Apeiranthos**	**0.70**	**311**	Pg	**Pg**		**19 22 32.3**	**-1.2**
APE				Sg	**Sg**		**19 22 41.3**	**-1.6**
THR5	**Thira Island,**	**0.71**	**254**	*e*Pg	**Pg**		**19 22 34.2**	**+0.6**
NISR	**Nisiros**	**0.75**	**90**	*e*PN	**Pn**		**19 22 34.0**	**-2.1**
BDRM	**Kayabasi**	**1.10**	**65**	⇑*i*P	**Pb**		**19 22 38.4**	**-1.9**
BDRM				*i* S	**Sb**		**19 22 54.2**	**-0.4**
SMG	**Samos**	**1.21**	**25**	*e*PN	**Pn**		**19 22 40.0**	**-2.6**
KARP	**Karpathos**	**1.32**	**143**	*e*PB	**Pb**		**19 22 43.0**	**-1.0**
NPS	**Neapolis**	**1.43**	**199**	*e*PB	**Pb**		**19 22 45.0**	**-0.8**
MLSB	**Milas**	**1.44**	**61**	*e*PN	**Pn**		**19 22 46.0**	**+0.1**
MLSB				*e*SN	**Sn**		**19 23 06.7**	**+1.6**
MLSB	**Milas**	**1.44**	**61**	Pn	**Pn**		**19 22 46.3**	**+0.4**
MLSB				Sg	**Sg**		**19 23 07.3**	**-0.1**
MLSB	**Milas**	**1.44**	**61**	Pn	**Pn**		**19 22 46.3**	**+0.4**
MLSB				*e*Sn	**Sn**		**19 23 06.7**	**+1.6**
MLSB				Sg	**Sg**		**19 23 07.3**	**-0.1**
ARG	**Arkhangelos**	**1.61**	**104**	*e*PB	**Pb**		**19 22 48.0**	**-1.0**
AYDN	**Tasoluk**	**1.71**	**52**	⇑*i*P	**Pn**		**19 22 49.4**	**-0.3**
AYDN				*i* S	**Sn**		**19 23 14.2**	**+2.3**
YER	**Yerkesik**	**1.75**	**72**	*e*PN	**Pn**		**19 22 51.2**	**+0.8**
YER				*e*SN	**Sn**		**19 23 16.0**	**+2.9**
YER	**Yerkesik**	**1.75**	**72**	Pn	**Pn**		**19 22 51.2**	**+0.8**
BLCB	**Balcova**	**1.90**	**21**	PN	**Pn**		**19 22 53.1**	**+0.7**
DALT	**Dalyan (Mudla)**	**1.97**	**85**	*e*PN	**Pn**		**19 22 54.6**	**+1.1**
DALT	**Dalyan (Mudla)**	**1.97**	**85**	Pn	**Pn**		**19 22 54.6**	**+1.1**
IZM	**Izmir**	**1.98**	**25**	*e*PN	**Pn**		**19 22 53.7**	**+0.1**
IZM	**Izmir**	**1.98**	**25**	Pn	**Pn**		**19 22 53.7**	**+0.2**
KDAG	**Bornova**	**1.98**	**25**	⇑*i*P	**Pn**		**19 22 53.9**	**+0.2**
KDAG				*i* S	**Sn**		**19 23 21.9**	**+3.0**
VAM	**Vamos**	**2.01**	**234**	*e*PN	**Pn**		**19 22 52.5**	**-1.6**
GVD	**Gavdhos**	**2.46**	**225**	*e*Pn	**Pn**		**19 23 00.5**	**-0.1**
GVD	**Gavdhos**	**2.46**	**225**	*e*Pn	**Pn**		**19 23 00.5**	**0.0**
DNZL	**Cakiroluk**	**2.52**	**64**	*i* P	**Pn**		**19 23 06.2**	**+4.9**
DNZL				*i* S	**Sg**		**19 23 43.7**	**+0.3**
AKS	**Akhisar**	**2.60**	**29**	*e*PN	**Pn**		**19 23 03.5**	**+1.0**
PRK	**Paraskevi**	**2.63**	**1**	*e*PN	**Pn**		**19 22 59.0**	**-3.9**
MANT	**Manisa**	**2.66**	**44**	*i* P	**Pn**		**19 23 08.2**	**+4.9**
MANT				*i* S	**Sn**		**19 23 42.7**	**+6.7**
AGG	**Agios Georgios**	**3.89**	**309**	*e*Pn	**Pn**		**19 23 19.7**	**-1.2**
ULDT	**Uludag**	**4.22**	**32**	*i* P	**Pg**		**19 23 37.6**	**-6.0**
ULDT				*i* S	**Sg**		**19 24 34.2**	**-5.6**

JMA ***23*** *19:25:52.5±0.3,45.65N×143.64E,h319km,M3.2*
IDC ***23*** *19:26:05.6±1.4,51.76N×154.48E,mb3.4/4,mb1 3.7/4, mb1mx3.5/21,Error ellipse: s-maj=70.6km s-min=29.2km az=145.0*

ISC 23 19:25:52.2±1.0,45.6N±0.1×143.6E±0.1,h325km±10km, n16,σ0§72/19,mb3.1/1,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**1.25**	**260**	P	**P**		**19 26 36.2**	**-0.5**
JMP	**Maruseppu**	**1.56**	**188**	P	**P**		**19 26 39.3**	**+0.8**
JRR	**Rishiri**	**1.69**	**257**	P	**P**		**19 26 38.6**	**-0.8**
JAR	**Ashorobuto**	**2.25**	**178**	P	**P**		**19 26 45.3**	**+1.7**
NEM2	**Nemuro 2**	**2.65**	**145**	P	**P**		**19 26 46.9**	**0.0**
NEM2				*e*S	**S**		**19 27 28.8**	**-0.9**
JAK	**Akkeshi**	**2.66**	**163**	P	**P**		**19 26 46.9**	**-0.1**
JAK				*e*S	**S**		**19 27 30.4**	**+0.5**
JCH	**Churui**	**2.94**	**184**	P	**P**		**19 26 49.8**	**+0.2**
JCH				*e*S	**S**		**19 27 33.6**	**-0.8**
JNBK	**Urakawa-nobuka**	**3.33**	**191**	P	**P**		**19 26 54.0**	**+0.6**
JNBK				*e*S	**S**		**19 27 41.0**	**-0.2**
JKB	**Kayabe**	**4.12**	**208**	P	**P**		**19 27 02.1**	**+0.6**
JKB				*e*S	**S**		**19 27 55.5**	**-0.3**
JOT	**Ohata**	**4.57**	**205**	P	**P**		**19 27 06.9**	**+0.4**
JOT				*e*S	**S**		**19 28 03.6**	**-1.1**
JOSM	**Okushiri--Mats**	**4.59**	**223**	P	**P**		**19 27 07.1**	**+0.4**
JANG	**Nango**	**5.40**	**198**	P	**P**		**19 27 16.5**	**+0.6**
CMAR	**Chiang Mai Arr**	**45.73**	**249**	P	Px		19 35 35.1	
	0.3nm,0.6s,baz=32,slow=7.9,SNR=4.7							
WRA	**Warramunga Arr**	**65.72**	**190**	P	Px		19 37 40.1	
	0.5nm,0.9s,baz=16,slow=6.6,SNR=2.7							
ASAR	**Alice Springs**	**69.45**	**190**	P	Px		19 38 01.5	
	0.2nm,0.5s,baz=15,slow=6.0,SNR=5.7							
TXAR	**

JMA ***23*** *20:05:36.2, 37.31N×138.90E, h16km±2km, M3.5*
JMA Felt II J1.

ISC 23 20:05:35.9±1.0, 37.32N±0.05×138.89E±0.06, h29km±12km, n5, σ0°27/10, 1C-1D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIZZ	**Izumozaki**	**0.26**	**327**	P	**Pb**	**20 05 42.2**	**-0.5**
JIZZ				*eS*	**Sb**	**20 05 47.4**	**+0.1**
JNS	**Sasagawa**	**0.61**	**34**	P	**Pb**	**20 05 47.7**	**-0.3**
JNS				S	**Sb**	**20 05 56.7**	**+0.5**
JKT	**Katashina**	**0.62**	**152**	⇓P	**Pb**	**20 05 47.9**	**-0.3**
JKT				*eS*	**Sb**	**20 05 56.5**	**0.0**
JFY	**Yanaizu**	**0.66**	**82**	⇑P	**Pb**	**20 05 48.7**	**-0.1**
JFY				S	**Sb**	**20 05 57.8**	**+0.2**
MAT	**Matsushiro**	**0.94**	**216**	P	**Pn**	**20 05 53.4**	**+0.1**
MAT				*eS*	**Sb**	**20 06 06.1**	**+0.4**

STR ***23*** *20:23:25.3±2.0, 44.52N×7.42E, h2km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***23*** *20:23:25.2±0.1, 44.52N×7.23E, h2km, Md2.2/1, Ml1.8/7, Error ellipse: s-maj=2.7km s-min=1.3km az=78.0*

ISC 23 20:23:24.5±0.6, 44.50N±0.02×7.16E±0.05, h2km, n12, σ0°81/22, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBDF	**Montbardon**	**0.36**	**309**	*e*Pg	**Pg**	**20 23 33.2**	**+1.5**
MBDF				*e*Sg	**Sg**	**20 23 38.4**	**+2.0**
	11nm,0.2s						
TOUF	**Mont Tournerai**	**0.49**	**173**	Pg	**Pg**	**20 23 35.9**	**+1.5**
AUTN	**L'Aution**	**0.54**	**159**	Pg	**Pg**	**20 23 35.6**	**+0.3**
AUTN				Sg	**Sg**	**20 23 42.6**	**0.0**
AURF	**Auriere**	**0.63**	**169**	Pg	**Pg**	**20 23 35.9**	**-1.1**
AURF				Sg	**Sg**	**20 23 45.8**	**+0.4**
SBF	**Sospel**	**0.67**	**163**	*e*Pg	**Pg**	**20 23 38.3**	**+0.4**
SBF				*e*Sg	**Sg**	**20 23 46.5**	**-0.3**
	2.9nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.00**	**295**	*e*Pg	**Pg**	**20 23 44.9**	**+0.4**
ORIF				*e*Sg	**Sg**	**20 23 57.5**	**-0.4**
	1.3nm,0.2s						
FRF	**La Foret Royal**	**1.01**	**202**	*e*Pg	**Pg**	**20 23 44.7**	**0.0**
FRF				*e*Sg	**Sg**	**20 23 58.0**	**-0.2**
	5.2nm,0.2s						
LPG	**La Plagne**	**1.04**	**344**	*e*Pg	**Pg**	**20 23 45.1**	**-0.1**
LPG				*e*Sg	**Sg**	**20 23 58.3**	**-0.7**
	1.1nm,0.2s						
LPL	**La Plagne**	**1.06**	**343**	*e*Pg	**Pg**	**20 23 45.1**	**-0.5**
LPL				*e*Sg	**Sg**	**20 23 59.0**	**-0.7**
	1.0nm,0.2s						
SMRF	**Simiane la Rot**	**1.26**	**246**	*e*Pg	**Pg**	**20 23 49.9**	**+0.3**
SMRF				*e*Sg	**Sg**	**20 24 06.8**	**+0.5**
	2.2nm,0.3s						
LMR	**La Mourre**	**1.26**	**202**	*e*Pg	**Pg**	**20 23 49.2**	**-0.5**
LMR				*e*Sg	**Sg**	**20 24 05.4**	**-1.1**
	4.0nm,0.2s						
VIVF	**Saint-Julien-l**	**1.81**	**282**	*e*Sg	**Sg**	**20 24 23.6**	**-1.2**
	0.6nm,0.3s						

MAN ***23*** *21:25:46.3, 16.61N×119.84E, h10km, mb4.5, ML3.4, MS3.2*
IDC ***23*** *21:25:47.8±8.4, 16.95N×121.48E, h64km±67km, mb3.6/4, mb1 3.9/5, mb1mx3.5/19, ML4.4/1, Error ellipse: s-maj=75.6km s-min=25.8km az=49.0*

ISC 23 21:25:44.5±1.1, 16.65N±0.05×119.63E±0.10, h65km±8km, n16, σ1°20/22, mb3.7/3, 3D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOLP	**Bolinao**	**0.38**	**134**	*e*P	**P**	**21 25 55.2**	**-0.6**
BOLP				*e*S	**S**	**21 26 02.0**	**-2.2**
SCZP	**Santa Cruz**	**0.91**	**163**	*e*P	**P**	**21 26 01.9**	**+0.1**
BCPH	**Baguio City Da**	**0.95**	**106**	⇓*i*P	**P**	**21 26 01.7**	**-0.6**
BCPH				*i*S	**S**	**21 26 14.4**	**-1.1**
ABRA	**Dolores**	**1.44**	**46**	*e*P	**P**	**21 26 09.9**	**+0.9**
ABRA				*e*S	**S**	**21 26 27.0**	**-0.1**
PCPH	**Palayan**	**1.78**	**127**	⇓*e*P	**P**	**21 26 14.4**	**+0.8**
PCPH				*e*S	**S**	**21 26 35.7**	**+0.6**
APYP	**Conner**	**1.96**	**52**	*e*P	**P**	**21 26 16.7**	**+0.6**
APYP				*e*S	**S**	**21 26 38.4**	**-1.0**
BALP	**Baler**	**2.08**	**115**	*e*P	**P**	**21 26 19.2**	**+1.5**
CAUP	**Cauayan**	**2.12**	**82**	*e*P	**P**	**21 26 20.7**	**+2.3**
CVP	**Callao Caves**	**2.34**	**63**	⇓*e*P	**P**	**21 26 23.0**	**+1.4**
CVP				*i*S	**S**	**21 26 48.0**	**-1.2**
TGY	**Tagaytay City**	**2.83**	**153**	P	**P**	**21 26 31.1**	**+2.6**
	52nm,0.3s,baz=176,slow=6.2,SNR=6.0						
TGY				S	**S**	**21 27 05.6**	**+4.2**
	77nm,0.3s,baz=171,slow=22,SNR=5.5						
LUBP	**Lubang**	**2.96**	**168**	*e*P	**P**	**21 26 30.9**	**+0.6**
BUSP	**Coron**	**4.65**	**173**	*e*P	**P**	**21 26 53.6**	**-0.3**
CMAR	**Chiang Mai Arr**	**19.81**	**278**	P	Px	21 30 31.8	
	8.5nm,1.1s,baz=118,slow=21,SNR=6.0						
WRA	**Warramunga Arr**	**39.13**	**158**	P	**P**	**21 33 06.0**	**-1.5**
	1.0nm,0.7s,mb3.6,baz=340,slow=9.2,SNR=11						
ASAR	**Alice Springs**	**42.43**	**160**	P	**P**	**21 33 33.9**	**-0.8**
	0.9nm,1.0s,mb3.4,baz=337,slow=7.2,SNR=8.7						
STKA	**Stephens Creek**	**52.65**	**156**	P	**P**	**21 34 53.0**	**-1.4**
	1.3nm,0.6s,mb4.0,baz=339,slow=8.6,SNR=4.1						

BJI 23 21:27:00.1, 25.02N×99.10E, h12km, ML3.6, Ms3.5, 1C, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**3.30**	**87**	*e*P	Pn	21 27 51.9	-0.8
KMI				PG	Pg	21 28 01.3	-4.8
KMI				SG	Sg	21 28 42.6	-7.5
KMI				Smax			
	comp=N,139nm,0.9s						
KMI				Smax			
	comp=E,80nm,1.0s						
KMI				LR	LR		
	comp=N,361nm,5.2s						
KMI				LR	LR		
	comp=E,234nm,3.8s						
GYA	**Guiyang**	**6.97**	**77**	⇑P	Pn	21 28 42.0	-2.6

NIED ***23*** *21:44:00, 37.30N×138.90E, h5km, Mw3.5 Best double couple: M0.2.06×10¹⁴ NP1:φs180°, δ46°, λ76°. NP2:φs20°, δ45°, λ104°.*
JMA ***23*** *21:44:28.3, 37.32N×138.89E, h14km±1km, M3.7 Broadband fault plane solution: P waves. NP1:φs24°, δ41°, λ83°. NP2:φs213°, δ49°, λ96°. Principal axes: T Plg84°, Azm171°; N Plg5°, Azm29°; P Plg4°, Azm299°;*
JMA Felt II J1.

ISC 23 21:44:28.2±0.6, 37.32N±0.03×138.88E±0.05, h15km±12km, n10, σ0°45/18, 7D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.13**	**124**	⇓P	**Pb**	**21 44 31.4**	**-0.4**
JHK				*e*S	**Sb**	**21 44 33.8**	**-0.4**
JIZZ	**Izumozaki**	**0.25**	**327**	⇓P	**Pb**	**21 44 34.0**	**+0.2**
JIZZ				*e*S	**Sb**	**21 44 38.7**	**+1.1**
JNS	**Sasagawa**	**0.61**	**35**	⇓P	**Pb**	**21 44 39.7**	**-0.2**
JNS				*e*S	**Sb**	**21 44 47.9**	**-0.1**
JKT	**Katashina**	**0.63**	**152**	⇓P	**Pb**	**21 44 40.2**	**-0.1**
JKT				*e*S	**Sb**	**21 44 48.7**	**+0.1**
JFY	**Yanaizu**	**0.66**	**82**	⇓P	**Pb**	**21 44 40.8**	**+0.1**
JFY				*e*S	**Sb**	**21 44 49.8**	**+0.2**
JGK	**Kuni**	**0.78**	**194**	P	**Pb**	**21 44 43.1**	**+0.2**
JSD	**Sado**	**0.87**	**326**	⇓P	**Pb**	**21 44 43.6**	**-0.8**
JSD				*e*S	**Sb**	**21 44 54.9**	**-0.6**
MAT	**Matsushiro**	**0.95**	**215**	P	**Pb**	**21 44 45.5**	**-0.2**
MAT				S	**Sb**	**21 44 57.7**	**-0.1**
MAT	**Matsushiro**	**0.95**	**215**	P	**Pb**	**21 44 45.6**	**-0.1**
MAT				*e*S	**Sb**	**21 44 57.7**	**-0.1**
JAG	**Ashikaga**	**1.01**	**153**	⇓P	**Pb**	**21 44 47.2**	**+0.4**

JMA 23 22:07:57.7, 37.25N×138.92E, h13km±1km, M2.5, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.08**	**91**	P	Pg	22 08 00.1	-0.4
JHK				S	Sg	22 08 02.0	-0.4
JIZZ	**Izumozaki**	**0.33**	**329**	P	Pg	22 08 04.5	-0.1
JIZZ				S	Sg	22 08 10.0	+0.7
JKT	**Katashina**	**0.55**	**151**	P	Pb	22 08 08.4	-0.3
JKT				S	Sb	22 08 16.2	+0.1
JJN	**Nakama**	**0.62**	**257**	P	Pb	22 08 09.5	-0.4
JFY	**Yanaizu**	**0.65**	**76**	P	Pb	22 08 09.8	-0.5
JNS	**Sasagawa**	**0.65**	**29**	P	Pb	22 08 09.7	-0.7

NIED ***23*** *22:08:00, 37.30N×138.90E, h8km, Mw4.0 Best double couple: M0.1.29×10¹⁵ NP1:φs33°, δ61°, λ73°. NP2:φs245°, δ33°, λ118°.*
BJI ***23*** *22:08:10.3, 37.14N×139.28E, h31km, mB4.8, mb4.2, Ms4.1, Msz3.8*
NEIC ***23*** *22:08:11.4±0.3, 37.26N×138.88E, h10km, mb4.4/18, Error ellipse: s-maj=9.6km s-min=6.7km az=126.0*
NEIC Recorded [3 JMA] in Niigata; [2 JMA] in Fukushima and Gumma; [1 JMA] in Saitama Prefectures. Also recorded [1 JMA] on Sadoga-shima.
JMA ***23*** *22:08:12.4, 37.25N×138.91E, h13km±1km, M4.3*
JMA Felt III J1.
IDC ***23*** *22:08:16.7±3.8, 37.22N×138.75E, h50km±38km, mb3.8/13, mb1 4.1/14, mb1mx3.9/25, ML4.3/1, MS3.1/1, Ms1 3.1/1, ms1mx2.2/25, Error ellipse: s-maj=25.0km s-min=17.4km az=88.0*

ISC 23 22:08:10.9±0.3, 37.29N±0.03×138.84E±0.04, h13km, n55, σ1°12/64, mb4.3/27, MS3.4/2, 3C-1D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.14**	**105**	⇑P	**Pg**	**22 08 14.9**	**+0.3**
JHK				S	**Sg**	**22 08 16.9**	**-0.2**
JIZZ	**Izumozaki**	**0.27**	**337**	P	**Pg**	**22 08 19.3**	**+2.5**
JIZZ				S	**Sg**	**22 08 25.3**	**+4.7**
JKT	**Katashina**	**0.61**	**148**	P	**Pb**	**22 08 23.2**	**+0.2**
JKT				S	**Sb**	**22 08 30.9**	**-0.3**
JNS	**Sasagawa**	**0.65**	**35**	P	**Pb**	**22 08 24.4**	**+0.7**
JNS				S	**Sb**	**22 08 32.9**	**+0.5**
JFY	**Yanaizu**	**0.70**	**80**	⇑P	**Pb**	**22 08 24.9**	**+0.5**
JFY				S	**Sb**	**22 08 33.4**	**-0.3**
JSD	**Sado**	**0.88**	**329**	P	**Pb**	**22 08 28.9**	**+1.3**
JSD				S	**Sb**	**22 08 42.6**	**+3.6**
MAJO	**Matsushiro**	**0.90**	**215**	*e*Pg	**Pg**	**22 08 28.8**	**-0.3**
MAT	**Matsushiro**	**0.90**	**215**	P	**Pb**	**22 08 28.7**	**+0.8**
MAT				S	**Sb**	**22 08 40.2**	**+0.7**
MAT	**Matsushiro**	**0.90**	**215**	P	**Pb**	**22 08 28.8**	**+0.9**
MAT	**Matsushiro**	**0.90**	**215**	*e*P	**Pb**	**22 08 29.0**	**+1.1**
MAT				*e*S	**Sb**	**22 08 40.0**	**+0.5**
JAG	**Ashikaga**	**0.99**	**150**	⇓P	**Pb**	**22 08 30.3**	**+0.9**
JAG				S	**Sb**	**22 08 42.9**	**+0.8**
JHJ	**Hachijo jima 2**	**4.23**	**169**	P	**Pn**	**22 09 18.2**	**+1.6**
	54nm,0.3s,baz=78,slow=6.4,SNR=6.5						
YSS	**Yuzh-Sakhalins**	**10.09**	**15**	*e*P	**P**	**22 10 41.7**	**+3.2**
	25nm,0.7s						
MDJ	**Mudanjiang**	**10.12**	**319**	P	**P**	**22 10 38.9**	**-0.1**
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.7s						
MDJ				AMB	AMB		
	comp=Z,66nm,4.8s						
NJ2	**Nanjing**	**17.24**	**258**	*e*P	**P**	**22 12 13.3**	**+0.3**
BJI	**Beijing**	**17.91**	**286**	P	**P**	**22 12 22.9**	**+1.6**
BJI				AMB	AMB		
	comp=Z,10.0nm,1.0s						
BJI	**Beijing**	**17.91**	**286**	P	**P**	**22 12 22.9**	**+1.6**
	comp=Z,10.0nm,1.0s						
BJI				S	**S**	**22 15 33.0**	**-5.2**
BJT	**Baijiatuan**	**17.91**	**286**	*e*P	**P**	**22 12 22.9**	**+1.6**
	comp=Z,14nm,0.9s						
BJT				*e*		22 12 28.7	
GUMO	**Guam**	**24.20**	**166**	P	**P**	**22 13 28.9**	**+0.6**
ENH	**Enshi**	**25.32**	**263**	*e*P	**P**	**22 13 37.4**	**-1.4**
	comp=Z,16nm,0.8s,mb4.6						
YAK	**Yakutsk**	**25.42**	**350**	P	**P**	**22 13 38.2**	**-1.2**
	comp=Z,15nm,0.6s,mb4.7						
KMI	**Kunming**	**32.98**	**259**	*e*P	**P**	**22 14 48.8**	**+1.1**
KMI				AP	pP	22 15 01.6	+10
KMI				XP	sP	22 15 05.9	+13
KMI				PP	PP	22 15 57.8	-0.4
KMI				S	**S**	**22 19 57.8**	**-6.7**
KMI				XS		22 20 23.3	
KMI				AMB	AMB		
	comp=Z,2.0nm,0.6s,mb4.2						
KMI				AMB	AMB		
	comp=Z,128nm,5.5s						
KMI				LR	LR		
	comp=N,141nm,12.4s,MS4.0						
KMI				LR	LR		
	comp=E,127nm,14.0s,MS4.0						
KMI				LR	LR		
	comp=Z,71nm,14.6s,MS3.5						
KMI	**Kunming**	**32.98**	**259**	*e*P	**P**	**22 14 48.7**	**+1.0**
	comp=Z,2.0nm,0.6s,mb4.2						
KMI				pP	pP	22 15 01.6	+10
KMI				sP	sP	22 15 05.9	+13
KMI				PP	PP	22 15 57.8	-0.4
KMI				S	**S**	**22 19 57.7**	**-6.8**
KMI				sS		22 20 23.2	
KMI				SS	SS	22 21 58.9	-5.3
KMI				LR	LR		
	comp=Z,70nm,14.6s,MS3.5						
ZAL	**Zalesovo**	**40.24**	**312**	LR	LR	22 33 37.9	
	comp=Z,29nm,20.6s,MS3.1,baz=252,slow=38						
KURK	**Kurchatov**	**44.16**	**308**	*e*P	**P**	**22 16 18.7**	**-2.1**
	comp=Z,4.2nm,0.8s,mb4.2						
AAK	**Ala-Archa**	**48.56**	**297**	*e*P	**P**	**22 16 52.9**	**-2.8**
	comp=Z,5.8nm,1.3s,mb4.5						
BVAR	**Borovoye Array**	**48.88**	**312**	P	**P**	**22 16 57.2**	**-0.8**
	comp=Z,2.4nm,0.7s,mb4.3,baz=217,slow=37,SNR=4.4						
ILAR	**Eielson Array**	**50.38**	**32**	P	**P**	**22 17 08.7**	**-0.7**
	comp=Z,1.1nm,0.7s,mb4.0,baz=285,slow=8.3,SNR=10						
INK	**Inuvik**	**55.10**	**27**	P	**P**	**22 17 43.9**	**-0.6**
	comp=Z,0.9nm,0.4s,mb4.2,baz=174,slow=9.2,SNR=6.1						
INK	**Inuvik**	**55.10**	**27**	*e*P	**P**	**22 17 44.0**	**-0.5**
	comp=Z,1.9nm,0.7s,mb4.2						
WRAB	**Tennant Creek**	**57.07**	**185**	*e*P	**P**	**22 17 56.0**	**-3.3**
	comp=Z,14nm,1.2s,mb4.9						
WRAB				*e*		22 18 02.2	
WRA	**Warramunga Arr**	**57.08**	**185**	P	**P**	**22 17 57.1**	**-2.3**
	comp=Z,2.6nm,0.6s,mb4.4,baz=0.2,slow=7.4,SNR=18						
ASAR	**Alice Springs**	**60.80**	**185**	P	**P**	**22 18 23.3**	**-1.8**
	comp=Z,0.8nm,0.9s,mb3.9,baz=15,slow=12,SNR=9.5						
ARCES	**ARCESS Array B**	**63.03**	**339**	P	**P**	**22 18 38.2**	**-1.2**
	comp=Z,2.5nm,0.8s,mb4.4,baz=45,slow=8.9,SNR=4.4						
JOF	**Joensuu**	**64.76**	**331**	*ep*	**P**	**22 18 51.7**	**+0.9**
KAF	**Kangasniemi**	**67.13**	**332**	*ep*	**P**	**22 19 08.0**	**+2.1**
	comp=Z,2.1nm,0.6s,mb4.3						
FINES	**FINESS Array B**	**67.82**	**331**	P	**P**	**22 19 07.8**	**-1.3**
	comp=Z,2.3nm,0.7s,mb4.3,baz=45,slow=11,SNR=7.8						
KIV	**Kislovodsk**	**69.18**	**310**	P	**P**	**22 19 18.1**	**-0.9**
	comp=Z,14nm,1.3s,mb4.7						
NEW	**Newport**	**71.37**	**43**	*e*P	**P**	**22 19 31.8**	**-0.4**
	comp=Z,3.1nm,0.8s,mb4.3						
AKASG	**Malin Array Be**	**72.83**	**321**	P	**P**	**22 19 39.6**	**-1.3**
	comp=Z,2.1nm,0.7s,mb4.2,baz=45,slow=6.1,SNR=10						
NB2	**NORSAR Subarra**	**73.15**	**336**	P	**P**	**22 19 41.2**	**-1.3**
	comp=Z,1.4nm,0.6s,mb4.1,baz=41,slow=5.8						
NOA	**NORSAR Array B**	**73.15**	**336**	P	**P**	**22 19 42.1**	**-0.4**
	comp=Z,1.8nm,0.6s,mb4.2,baz=40,slow=5.9,SNR=9.3						
CMB	**Columbia Colle**	**75.38**	**53**	*e*P	**P**	**22 19 55.9**	**0.0**
	comp=Z,2.0nm,0.7s,mb4.2						
BOZ	**Bozeman (W)**	**75.94**	**43**	*e*P	**P**	**22 19 59.1**	**+0.2**
	comp=Z,4.3nm,1.0s,mb4.3						
MNV	**Mina**	**76.56**	**52**	P	**P**	**22 20 02.8**	**+0.2**
	comp=Z,7.0nm,1.7s,mb4.3						
BRTR	**Keskin Array B**	**77.14**	**310**	P	**P**	**22 20 05.8**	**0.0**
	comp=Z,1.8nm,1.0s,mb4.0,baz=90,slow=3.7,SNR=7.4						
TPH	**Tonopah**	**77.36**	**52**	*e*P	**P**	**22 20 06.2**	**-0.8**
	comp=Z,7.5nm,0.9s,mb4.6						
PDAR	**Pinedale Array**	**78.94**	**44**	P	**P**	**22 20 16.1**	**+0.5**
	comp=Z,1.0nm,0.6s,mb3.9,baz=317,slow=3.2,SNR=9.5						
CLL	**Collm**	**79.84**	**329**	*e**PP	pP	22 20 24.0	-0.4
RSSD	**Black Hills**	**80.99**	**40**	*e*P	**P**	**22 20 25.8**	**-0.7**
	comp=Z,1.3nm,0.7s,mb4.0						
KHC	**Kasperske Hory**	**81.24**	**327**	*e*P	**P**	**22 20 27.0**	**-0.7**
GERESS	**GERESS Array B**	**81.40**	**327**	P	**P**	**22 20 28.2**	**-0.3**
	comp=Z,1.0nm,0.6s,mb3.9,baz=37,slow=6.7,SNR=9.8						
PV10	**Paradox Valley**	**82.13**	**47**	*e*P	**P**	**22 20 33.8**	**+1.2**
TXAR	**Lajitas Array**	**91.58**	**51**	P	**P**	**22 21 19.1**	**+0.3**
	comp=Z,0.3nm,0.6s,mb3.8,baz=316,slow=3.0,SNR=5.7						
VNA2	**Neumayer--Watz**	**141.97**	**197**	⇑*i*	PKPdf	22 27 47.3	+2.4

NIED ***23*** *22:16:00, 37.40N×138.90E, h11km, Mw4.0 Best double couple: M0.1.15×10¹⁵ NP1:φs210°, δ46°, λ79°. NP2:φs45°, δ45°, λ101°.*
IDC ***23*** *22:16:04.2±0.8, 37.35N×138.54E, mb4.1/9, mb1 4.4/10, mb1mx4.1/24, ML4.2/1, Error ellipse: s-maj=35.1km s-min=17.9km az=98.0*
NEIC ***23*** *22:16:06.4±1.3, 37.33N×138.89E, h10km±9km, mb4.5/12, MW4.0(NIED), Error ellipse: s-maj=16.3km s-min=8.3km az=114.0*
NEIC Recorded [3 JMA] in Niigata, [2 JMA] in Gumma and [1 JMA] in Fukushima Prefectures.
JMA ***23*** *22:16:06.9±0.1, 37.37N×138.87E, h21km±2km, M4.3 Broadband fault plane solution: P waves. NP1:φs40°, δ44°, λ106°. NP2:φs199°, δ48°, λ75°. Principal axes: T Plg79°, Azm39°; N Plg11°, Azm209°; P Plg2°, Azm299°;*
JMA Felt III J1.

ISC 23 22:16:06.8±0.4, 37.37N±0.03×138.86E±0.04, h22km±3km, n40, σ0°95/48, mb4.4/20, 5D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.17**	**133**	⇓P	**Pb**	**22 16 11.2**	**-0.5**
JHK				S	**Sb**	**22 16 14.3**	**-0.8**
JIZZ	**Izumozaki**	**0.20**	**324**	P	**Pb**	**22 16 12.3**	**+0.1**
JIZZ				*e*S	**Sb**	**22 16 16.5**	**+0.7**
JNS	**Sasagawa**	**0.58**	**39**	⇓P	**Pb**	**22 16 18.0**	**-0.1**
JNS				S	**Sb**	**22 16 25.9**	**0.0**
JFY	**Yanaizu**	**0.67**	**86**	P	**Pb**	**22 16 19.8**	**+0.1**
JFY				S	**Sb**	**22 16 28.3**	**-0.3**
JKT	**Katashina**	**0.67**	**152**	⇓P	**Pb**	**22 16 19.7**	**0.0**
JKT				S	**Sb**	**22 16 29.1**	**+0.5**
JSD	**Sado**	**0.82**	**325**	⇓P	**Pb**	**22 16 21.4**	**-0.8**
MAJO	**Matsushiro**	**0.97**	**213**	*e*Pg	**Pb**	**22 16 24.8**	**0.0**
MAT	**Matsushiro**	**0.97**	**213**	P	**Pb**	**22 16 24.9**	**+0.1**
MAT	**Matsushiro**	**0.97**	**213**	*e*P	**Pb**	**22 16 25.0**	**+0.2**
MAT				*e*S	**Sb**	**22 16 37.0**	**-0.3**
JAG	**Ashikaga**	**1.05**	**153**	⇓P	**Pb**	**22 16 26.5**	**+0.3**
JAG				*e*S	**Sb**	**22 16 40.6**	**+1.1**
JAW	**Awa shima**	**1.13**	**16**	P	**Pn**	**22 16 26.9**	**-0.6**
JAW				S	**Sb**	**22 16 42.4**	**+0.6**
JHJ	**Hachijo jima 2**	**4.30**	**170**	Pn	**Pn**	**22 17 13.2**	**+0.5**
	36nm,0.3s,baz=36,slow=16,SNR=4.2						
YSS	**Yuzh-Sakhalins**	**10.01**	**16**	P	**P**	**22 18 30.0**	**-2.4**
	38nm,1.2s						
MDJ	**Mudanjiang**	**10.07**	**319**	P	**P**	**22 18 36.2**	**+2.8**
	9.5nm,0.8s						
BJT	**Baijiatuan**	**17.91**	**285**	P	**P**	**22 20 24.5**	**+8.4**
	19nm,1.6s						
GUMO	**Guam**	**24.28**	**166**	P	**P**	**22 21 16.6**	**-7.1**
	201nm,1.2s,mb5.4						
ENH	**Enshi**	**25.34**	**262**	P	**P**	**22 21 35.7**	**+2.0**
	8.1nm,1.1s,mb4.2						
ILAR	**Eielson Array**	**50.31**	**32**	P	**P**	**22 25 02.5**	**-0.9**
	2.0nm,1.1s,mb4.0,baz=281,slow=7.1,SNR=9.8						
INK	**Inuvik**	**55.02**	**27**	P	**P**	**22 25 38.5**	**0.0**
	2.0nm,0.6s,mb4.3,baz=296,slow=7.0,SNR=8.6						
INK	**Inuvik**	**55.02**	**27**	*e*P	**P**	**22 25 38.1**	**-0.4**
	3.2nm,0.8s,mb4.4						
WRAB	**Tennant Creek**	**57.15**	**185**	P	**P**	**22 25 53.2**	**-1.3**
	14nm,1.4s,mb4.8						
WRA	**Warramunga Arr**	**57.16**	**185**	P	**P**	**22 25 52.3**	**-2.2**
	0.8nm,0.3s,mb4.3,baz=0.3,slow=7.4,SNR=10						
CTAO	**Charters Tower**	**57.57**	**172**	*e*P	**P**	**22 25 51.3**	**-6.1**
	10nm,1.2s,mb4.7						
ASAR	**Alice Springs**	**60.88**	**185**	P	**P**	**22 26 18.0**	**-2.2**
	0.5nm,0.9s,mb3.6,baz=0.1,slow=5.1,SNR=4.6						
FINES	**FINESS Array B**	**67.56**	**331**	P	**P**	**22 27 01.6**	**-1.6**
	2.7nm,0.9s,mb4.3,baz=196,slow=10,SNR=3.6						
DPW	**Davenport**	**70.93**	**44**	*e*P	**P**	**22 27 24.1**	**-0.1**
DPW				*e*	pP	22 27 32.1	+1.1
NEW	**Newport**	**71.30**	**43**	*e*P	**P**	**22 27 26.1**	**-0.3**
	5.5nm,0.8s,mb4.5						
NOA	**NORSAR Array B**	**73.08**	**336**	P	**P**	**22 27 35.3**	**-1.3**
	0.5nm,0.7s,mb3.6,baz=41,slow=5.9,SNR=3.3						
CMB	**Columbia Colle**	**75.32**	**53**	*e*P	**P**	**22 27 50.3**	**+0.2**
	4.4nm,0.6s,mb4.6						
HLID	**Hailey**	**75.62**	**46**	*e*P	**P**	**22 27 51.9**	**+0.3**
	2.7nm,0.8s,mb4.2						
BOZ	**Bozeman (W)**	**75.88**	**43**	*e*P	**P**	**22 27 53.5**	**+0.5**
	4.6nm,0.7s,mb4.5						
NVAR	**Mina Array Bea**	**76.41**	**52**	P	**P**	**22 27 57.4**	**+1.2**
	2.8nm,0.6s,mb4.4,baz=287,slow=6.4,SNR=22						
HWUT	**Hardware Ranch**	**78.49**	**46**	*e*P	**P**	**22 28 08.1**	**+0.4**
	3.7nm,1.0s,mb4.3						
PDAR	**Pinedale Array**	**78.87**	**44**	P	**P**	**22 28 10.1**	**+0.4**
	2.4nm,0.6s,mb4.3,baz=306,slow=2.2,SNR=24						
SRU	**San Rafael**	**80.71**	**48**	*e*P	**P**	**22 28 20.0**	**+0.3**
PV10	**Paradox Valley**	**82.07**	**47**	*e*P	**P**	**22 28 28.0**	**+1.2**
PV01	**Paradox Valley**	**82.50**	**47**	P	**P**	**22 28 29.9**	**+0.8**
SDCO	**Great Sand Dun**	**84.54**	**46**	*e*P	**P**	**22 28 40.6**	**+1.2**
	2.4nm,1.0s,mb4.3						
WMOK	**Wichita Mounta**	**90.48**	**44**	P	**P**	**22 29 07.9**	**-0.3**
	1.8nm,0.9s,mb4.4		

ISC 23 22:48:01.9±5.8, 32.4N±0.1×141.7E±0.1, h7km±36km, n9, σ0°57/10, mb3.7/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**1.75**	**296**	Pn		**Pn**	**22 48 32.9**	**0.0**
	23nm,0.3s,baz=220,slow=23,SNR=7.8							
JHJ				Sn		**Sn**	**22 48 55.5**	**-0.1**
	67nm,0.3s,baz=68,slow=23,SNR=5.5							
WRA	**Warramunga Arr**	**52.48**	**189**	P		**P**	**22 57 17.5**	**-0.3**
	0.6nm,0.4s,mb3.9,baz=3.3,slow=7.5,SNR=6.5							
ILAR	**Eielson Array**	**53.37**	**30**	P		**P**	**22 57 23.9**	**+0.1**
	0.4nm,0.7s,mb3.5,baz=258,slow=5.8,SNR=7.7							
ASAR	**Alice Springs**	**56.21**	**189**	P		**P**	**22 57 45.1**	**+0.1**
	0.3nm,0.8s,mb3.4,baz=349,slow=4.6,SNR=3.9							
KAF	**Kangasniemi**	**72.55**	**334**	*ep*		**P**	**22 59 29.9**	**-1.1**
FINES	**FINESS Array B**	**73.04**	**333**	P		**P**	**22 59 33.7**	**-0.2**
	0.7nm,0.4s,mb3.9,baz=55,slow=7.0,SNR=12							
NB2	**NORSAR Subarra**	**78.57**	**338**	P		**P**	**23 00 05.1**	**0.0**
	0.4nm,0.5s,mb3.6,baz=41,slow=5.3							
NOA	**NORSAR Array B**	**78.57**	**338**	P		**P**	**23 00 05.2**	**+0.1**
	0.5nm,0.5s,mb3.7,baz=42,slow=5.5,SNR=4.6							
BRTR	**Keskin Array B**	**82.11**	**312**	P		**P**	**23 00 25.8**	**+1.3**
	0.9nm,0.6s,mb3.9,baz=124,slow=5.6,SNR=5.9							

*NIED **23** 23:02:00, 37.30N×138.90E, h8km, Mw3.8 Best double couple: M0 5.29×10^14 NP1:φs253°, δ50°, λ106°. NP2:φs48°, δ43°, λ72°.*
*JMA **23** 23:02:03.6, 37.26N×138.94E, h13km±1km, M4.0*
JMA Felt III J1.
*NEIC **23** 23:02:04.9±2.3, 37.16N×138.84E, h21km±16km, mb4.4/7, Error ellipse: s-maj=20.7km s-min=13.3km az=88.0*
NEIC Recorded [3 JMA] in Niigata and [1 JMA] in Gumma and Saitama Prefectures.
*IDC **23** 23:02:08.9±4.6, 37.13N×138.95E, h50km±43km, mb3.6/10, mb1 3.9/11, mb1mx3.7/22, ML4.0/1, MS3.1/1, Ms1 3.3/1, ms1mx2.6/29, Error ellipse: s-maj=30.4km s-min=20.2km az=94.0*

ISC 23 23:02:02.8±0.3, 37.24N±0.02×138.90E±0.04, h13km, n32, σ1°11/42, mb4.0/15, MS3.1/1, 1C-6D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.09**	**87**	⇓P		**Pg**	**23 02 05.9**	**+0.2**
JHK				S		**Sg**	**23 02 07.7**	**0.0**
JIZZ	**Izumozaki**	**0.33**	**332**	⇓P		**Pg**	**23 02 10.5**	**+0.8**
JIZZ				*eS*		**Sg**	**23 02 16.3**	**+2.0**
JKT	**Katashina**	**0.55**	**150**	⇓P		**Pb**	**23 02 14.3**	**+0.6**
JKT				*eS*		**Sb**	**23 02 22.1**	**+0.9**
JFY	**Yanaizu**	**0.66**	**75**	⇑P		**Pb**	**23 02 15.7**	**+0.1**
JFY				*eS*		**Sb**	**23 02 24.2**	**-0.2**
JNS	**Sasagawa**	**0.66**	**30**	⇓P		**Pb**	**23 02 15.3**	**-0.3**
JNS				*eS*		**Sb**	**23 02 23.9**	**-0.5**
MAJO	**Matsushiro**	**0.90**	**219**	*ePg*		**Pg**	**23 02 20.3**	**-0.5**
MAT	**Matsushiro**	**0.90**	**219**	P		**Pb**	**23 02 20.2**	**+0.6**
MAT				S		**Sb**	**23 02 32.0**	**+0.8**
MAT	**Matsushiro**	**0.90**	**219**	P		**Pb**	**23 02 20.1**	**+0.5**
MAT				*eS*		**Sb**	**23 02 31.7**	**+0.5**
MAT	**Matsushiro**	**0.90**	**219**	*eP*		**Pb**	**23 02 20.0**	**+0.4**
MAT				*eS*		**Sb**	**23 02 32.0**	**+0.8**
JAG	**Ashikaga**	**0.93**	**151**	⇓P		**Pb**	**23 02 21.4**	**+1.2**
JAG				*eS*		**Sb**	**23 02 33.9**	**+1.7**
JSD	**Sado**	**0.94**	**327**	⇓P		**Pb**	**23 02 19.9**	**-0.6**
JSD				*eS*		**Sb**	**23 02 33.7**	**+1.1**
JAW	**Awa shima**	**1.24**	**13**	P		**Pb**	**23 02 25.2**	**-0.4**
JAW				*eS*		**Sb**	**23 02 42.0**	**+0.7**
JHJ	**Hachijo jima 2**	**4.18**	**170**	P		**Pn**	**23 03 08.6**	**+0.9**
	24nm,0.3s,baz=256,slow=20,SNR=2.9							
BJI	**Beijing**	**17.97**	**286**	P		**P**	**23 06 18.4**	**+4.6**
	8.0nm,1.3s							
ENH	**Enshi**	**25.36**	**263**	*eP*		**P**	**23 07 29.7**	**-1.4**
	7.8nm,0.8s,mb4.3							
CMAR	**Chiang Mai Arr**	**39.62**	**253**	LR		LR	23 26 06.0	
	comp=Z,27nm,19.9s,MS3.1,baz=195,slow=36							
ILAR	**Eielson Array**	**50.39**	**32**	P		**P**	**23 11 00.9**	**-0.4**
	0.5nm,0.9s,mb3.5,baz=275,slow=5.5,SNR=4.1							
WRAB	**Tennant Creek**	**57.03**	**185**	*eP*		**P**	**23 11 48.2**	**-2.6**
	5.4nm,0.9s,mb4.6							
WRA	**Warramunga Arr**	**57.04**	**185**	P		**P**	**23 11 48.7**	**-2.2**
	1.9nm,0.8s,mb4.2,baz=0.3,slow=7.4,SNR=15							
CTAO	**Charters Tower**	**57.44**	**172**	P		**P**	**23 11 51.8**	**-2.0**
	11nm,1.4s,mb4.7							
ASAR	**Alice Springs**	**60.77**	**185**	P		**P**	**23 12 15.2**	**-1.6**
	0.4nm,0.7s,mb3.7,baz=16,slow=13,SNR=5.2							
KAF	**Kangasniemi**	**67.19**	**332**	*ep*		**P**	**23 12 59.2**	**+1.0**
	1.6nm,0.6s,mb4.2							
FINES	**FINESS Array B**	**67.68**	**331**	P		**P**	**23 12 59.8**	**-1.5**
	2.2nm,0.8s,mb4.3,baz=53,slow=9.5,SNR=6.0							
SUMG	**Summit**	**70.46**	**359**	*eP*		**P**	**23 13 17.1**	**-1.1**
	4.0nm,0.8s,mb4.4							
AKASG	**Malin Array Be**	**72.89**	**321**	P		**P**	**23 13 34.7**	**+1.7**
	0.4nm,0.4s,mb3.7,baz=39,slow=5.6,SNR=5.8							
NB2	**NORSAR Subarra**	**73.20**	**336**	P		**P**	**23 13 32.7**	**-1.9**
	1.4nm,0.6s,mb4.1,baz=41,slow=5.8							
NOA	**NORSAR Array B**	**73.20**	**336**	P		**P**	**23 13 36.7**	**+2.0**
	1.1nm,0.6s,mb4.0,baz=41,slow=5.9,SNR=5.9							
NOA	**NORSAR Array B**	**73.20**	**336**	P		**P**	**23 13 36.7**	**+2.0**
NVAR	**Mina Array Bea**	**76.45**	**52**	P		**P**	**23 13 54.4**	**+0.6**
	0.9nm,0.8s,mb3.8,baz=323,slow=4.7,SNR=7.3							
BRTR	**Keskin Array B**	**77.20**	**310**	P		**P**	**23 13 57.6**	**-0.3**
	0.5nm,0.6s,mb3.6,baz=59,slow=8.4,SNR=2.6							
PDAR	**Pinedale Array**	**78.93**	**44**	P		**P**	**23 14 07.2**	**-0.1**
	1.4nm,1.1s,mb3.8,baz=315,slow=4.2,SNR=4.1							
GERES	**GERESS Array B**	**81.46**	**327**	P		**P**	**23 14 19.7**	**-0.9**
	0.5nm,0.8s,mb3.5,slow=6.7,SNR=4.5							

*GUC **23** 23:16:11.3±0.9, 29.21S×67.13W, h135km, ML5.7*
*MOS **23** 23:16:12.7±1.0, 29.13S×66.95W, h124km, mb4.8/6, Error ellipse: s-maj=21.6km s-min=14.4km az=73.4*
*LDG **23** 23:16:12.8±0.7, 29.16S×67.01W, h127km, Mb5.1/13, Ms3.9/2, Error ellipse: s-maj=62.9km s-min=16.3km az=86.0*
*HRVD **23** 23:16:13.8±0.5, 29.35S×67.35W, h148km±4km, MW4.9/42, Centroid moment Tensor Solution. LP body waves: s19,c22;Mantle waves: s42,c54; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.53±.14; Mθθ1.21±.17; Mφφ1.32±.23; Mrθ0.50±.12; Mrφ-1.60±.13; Mθφ-0.08±.18; Best double couple: M0 2.75×10^16 NP1:φs144°, δ41°, λ-79°. NP2:φs309°, δ50°, λ-100°. Principal axes: T 2.9, Plg4°, Azm46°; N -.3, Plg8°, Azm315°; P -2.6, Plg81°, Azm165°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **23** 23:16:13.8±0.1, 29.23S×67.19W, mb5.0/57, MD4.5(SJA) Error ellipse: s-maj=4.6km s-min=3.3km az=102.0*
NEIC Felt [III] at Chilecito.
*IDC **23** 23:16:14.1±0.5, 29.11S×67.01W, h133km±4km, mb4.6/13, mb1 4.7/15, mb1mx4.7/16, MS3.7/4, Ms1 3.7/4, ms1mx3.4/15, Error ellipse: s-maj=17.0km s-min=11.6km az=78.0*
*SYO **23** 23:16:14.5, 29.07S×67.06W, h133km, MB5.0*
*BJI **23** 23:16:15.8, 29.20S×67.20W, h132km, mB5.3*

ISC 23 23:16:12.6±0.2, 29.21S±0.02×67.21W±0.03, h133km, h133km±.6km: pP-P, n264, σ0°92/191, mb4.9/64, 16C-14D, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**3.18**	**281**	⇑P	*i*	**P**	**23 17 02.5**	**0.0**
VACH				*i*	S	**S**	**23 17 40.5**	**0.0**
TLL	**Tololo Astrono**	**3.27**	**252**	*i*	S	**S**	**23 17 43.4**	**+0.6**
TLL					AMP		23 17 46.6	
	comp=N,9μm,0.6s							
CPCH	**Copiapo**	**3.33**	**303**	⇑P		**P**	**23 17 04.3**	**-0.3**
CPCH					AMP		23 17 43.2	
	comp=N,20μm,0.1s							
CPCH				*i*	S	**S**	**23 17 43.9**	**-0.2**
CPCH	**Copiapo**	**3.33**	**303**	⇑P	*i*	**P**	**23 17 04.3**	**-0.3**
CPCH				*i*	S	**S**	**23 17 43.9**	**-0.2**
LSCH	**La Serena**	**3.59**	**258**	⇑P		**P**	**23 17 06.7**	**-1.2**
LSCH					AMP		23 17 48.6	
	comp=N,3μm,0.3s							
LSCH				*i*	S	**S**	**23 17 49.9**	**-0.2**
LSCH	**La Serena**	**3.59**	**258**	⇑P		**P**	**23 17 06.7**	**-1.2**
LSCH				*i*	S	**S**	**23 17 49.9**	**-0.2**
CMCH	**Combarbala**	**3.83**	**238**	⇓P		**P**	**23 17 10.3**	**-0.7**
CMCH				*i*	S	**S**	**23 17 55.0**	**-0.8**
JACH	**Jahuel**	**4.52**	**219**	*eP*		**P**	**23 17 20.1**	**-0.3**
FCH	**Farellones**	**4.88**	**212**	⇑P		**P**	**23 17 25.3**	**+0.1**
PEL	**Peldehue**	**4.93**	**216**	⇓P		**P**	**23 17 24.6**	**-1.2**
CLCH	**Cerro Calan**	**5.05**	**213**	⇑P		**P**	**23 17 26.7**	**-0.8**
FSR	**Penalolen**	**5.12**	**213**	*i* P		**P**	**23 17 28.1**	**-0.2**
SAN	**Santiago**	**5.16**	**214**	⇑P		**P**	**23 17 28.3**	**-0.6**
SJCH	**San Jose de Ma**	**5.17**	**211**	*i* P		**P**	**23 17 28.5**	**-0.5**
PCH	**Pirque**	**5.23**	**212**	*eP*		**P**	**23 17 29.4**	**-0.4**
RCDM	**Rinconada Maip**	**5.26**	**215**	⇓P		**P**	**23 17 29.0**	**-1.2**
RCDM					*i* S	**S**	**23 18 28.9**	**-1.3**
LMEL	**Las Melosas**	**5.28**	**208**	⇑P		**P**	**23 17 30.3**	**-0.3**
CPN1	**Cerro Paranal**	**5.38**	**327**	*i* P		**P**	**23 17 31.4**	**-0.5**
CHCH	**Chadas Angostu**	**5.55**	**211**	⇓P		**P**	**23 17 32.9**	**-1.2**
CACH	**El Canelo**	**5.68**	**210**	*i* P		**P**	**23 17 35.3**	**-0.5**
CICH	**Cipreses**	**5.78**	**207**	*i* P		**P**	**23 17 36.9**	**-0.3**
ANCH	**Antofagasta**	**6.21**	**332**	*i* P		**P**	**23 17 41.6**	**-1.4**
ANCH					*i* S	**S**	**23 18 51.2**	**-2.0**
LVC	**Limon Verde**	**6.75**	**346**	⇑P		**P**	**23 17 49.9**	**-0.4**
LVC	**Limon Verde**	**6.75**	**346**	*ePn*		**P**	**23 17 49.7**	**-0.6**
LVC					*eS*	**S**	**23 19 01.8**	**-4.3**
CPUP	**Villa Florida**	**9.21**	**74**	P		**P**	**23 18 20.1**	**-3.2**
	comp=N,10.0nm,0.3s,baz=274,slow=11,SNR=169							
CPUP	**Villa Florida**	**9.21**	**74**	P		**P**	**23 18 20.1**	**-3.2**
CPUP					pmax	pmax		
	comp=Z,10.0nm,0.3s							
TRQA	**Tornquist**	**9.84**	**155**	*ePn*		**P**	**23 18 31.2**	**-0.5**
	comp=Z,37nm,0.6s							
LPAZ	**La Paz**	**12.89**	**356**	P		**P**	**23 19 10.5**	**-1.3**
	comp=Z,3.0nm,0.3s,baz=163,slow=6.5,SNR=19							
LPAZ					LR	LR	23 23 48.6	
	comp=Z,143nm,18.4s,baz=317,slow=36							
LPAZ	**La Paz**	**12.89**	**356**	P		**P**	**23 19 10.5**	**-1.3**
LPAZ					pmax	pmax		
	comp=Z,3.0nm,0.3s							
LPAZ					MLR	MLR		
	comp=Z,143nm,18.4s							
LPAZ	**La Paz**	**12.89**	**356**	P		**P**	**23 19 10.5**	**-1.3**
LPAZ					LR	LR	23 23 48.6	
ARE	**Arequipa**	**13.29**	**342**	*eP*		**P**	**23 19 18.0**	**+1.1**
SAML	**Samuel**	**20.51**	**11**	*eP*		**P**	**23 20 40.2**	**-1.8**
	comp=Z,186nm,1.0s							
BDFB	**Brasilia**	**22.25**	**57**	P		**P**	**23 20 57.3**	**-1.9**
	comp=Z,100nm,0.8s,mb5.3,baz=237,slow=8.0,SNR=92							
BDFB					LR	LR	23 30 34.2	
	comp=Z,268nm,20.4s,baz=41,slow=39							
BDFB	**Brasilia**	**22.25**	**57**	P		**P**	**23 20 57.3**	**-1.9**
BDFB					pmax	pmax		
	comp=Z,100nm,0.8s							
BDFB					MLR	MLR		
	comp=Z,268nm,20.4s							
BAO	**Brasilia Array**	**22.27**	**57**	P		**P**	**23 20 58.3**	**-1.1**
BAO				*e*			23 21 06.0	
BAO				*e*			23 21 15.3	
BAO				*e*			23 21 24.8	
CAM4	**Nova Friburgo**	**23.19**	**79**	*eP*		**P**	**23 21 06.6**	**-1.7**
CAM4				*i*			23 21 08.5	
CAM4				*i*			23 21 18.3	
CAM4				*i*			23 21 36.3	
CAM4	**Nova Friburgo**	**23.19**	**79**	*eP*		**P**	**23 21 06.6**	**-1.7**
CAM4				*i*			23 21 08.4	
CAM4				*i*			23 21 18.2	
CAM4				*i*			23 21 36.3	
EFI	**East Falkland**	**23.46**	**166**	*eP*		**P**	**23 21 11.3**	**+0.7**
	comp=Z,188nm,1.2s,mb5.4							
EFI					*ePcP*	PcP	23 24 53.8	-0.6
RCBR	**Riachuelo**	**37.62**	**58**	*eP*		**P**	**23 23 14.6**	**-1.7**
	comp=Z,35nm,1.2s,mb4.9							
SDV	**Santo Domingo**	**38.02**	**354**	*eP*		**P**	**23 23 17.6**	**-2.0**
	comp=Z,5.7nm,0.6s,mb4.4							
SDV					*epP*	pP	23 23 46.9	-2.3
SJG	**San Juan**	**47.05**	**1**	P		**P**	**23 24 32.9**	**+0.2**
	comp=Z,6.3nm,0.4s,mb4.6,baz=80,slow=11,SNR=4.4							
SJG					pmax	pmax		
	comp=Z,6.0nm,0.4s							
SJG	**San Juan**	**47.05**	**1**	P		**P**	**23 24 32.6**	**-0.1**
	comp=Z,25nm,1.0s,mb4.8							
VNA3	**Neumayer Olymp**	**52.32**	**160**	⇓*i*		**P**	**23 25 15.0**	**+2.7**
VNA3	**Neumayer Olymp**	**52.32**	**160**	⇑*i*		pP	23 25 45.5	+2.2
VNA1	**Neumayer--Stat**	**52.55**	**159**	⇓*i*		**P**	**23 25 17.2**	**+3.2**
VNA1	**Neumayer--Stat**	**52.55**	**159**	⇑*i*		pP	23 25 48.2	+3.1
VNA2	**Neumayer--Watz**	**52.91**	**159**	⇓*i*		**P**	**23 25 19.2**	**+2.5**
VNA2	**Neumayer--Watz**	**52.91**	**159**			pP	23 25 50.2	+2.4
SNAA	**Sanae**	**54.53**	**159**	⇓*i*		**P**	**23 25 27.9**	**-0.7**
SNAA	**Sanae**	**54.53**	**159**	⇑*i*		pP	23 25 58.0	-1.8
SNAA	**Sanae**	**54.53**	**159**	P		**P**	**23 25 28.1**	**-0.4**
	comp=Z,8.8nm,0.6s,mb4.7,baz=284,slow=7.2,SNR=236							
SNAA					pP	pP	23 25 58.4	-1.4
	comp=Z,3.1nm,0.8s,baz=258,slow=6.3,SNR=2.8							
SNAA					PcP	PcP	23 26 29.4	-0.6
	comp=Z,3.6nm,0.7s,baz=240,slow=8.4,SNR=5.0							
SNAA	**Sanae**	**54.53**	**159**	P		**P**	**23 25 28.1**	**-0.5**
SNAA					*PP	pP	23 25 58.4	-1.4
SNAA							23 26 29.4	
SNAA					pmax	pmax		
	comp=Z,9.0nm,0.6s							
SNAA					pmax	pmax		
	comp=Z,3.0nm,0.8s							
SNAA					pmax	pmax		
	comp=Z,4.0nm,0.7s							
MAIT	**Maitri**	**59.09**	**158**	⇓*i*	P	**P**	**23 26 00.6**	**-0.2**
QSPA	**South Pole Qui**	**61.02**	**180**	⇓*eP*		**P**	**23 26 14.3**	**+0.5**
	comp=Z,72nm,0.8s,mb5.5							
NATX	**Nacogdoches**	**66.01**	**335**	*eP*		**P**	**23 26 46.8**	**-0.5**
	comp=Z,92nm,0.7s,mb5.7							
NATX					*epP*	pP	23 27 17.3	-2.3
SWET	**Sewanee**	**66.47**	**343**	*eP*		**P**	**23 26 48.3**	**-1.7**
SWET					*epP*	pP	23 27 20.9	-1.5
JCT	**Junction City**	**66.99**	**330**	*eP*		**P**	**23 26 52.5**	**-0.9**
	comp=Z,44nm,0.8s,mb5.3							
JCT					*epP*	pP	23 27 25.1	-0.7
PWV	**Princeton**	**67.46**	**348**	*eP*		**P**	**23 26 55.1**	**-1.0**
PWV					*epP*	pP	23 27 26.6	-2.0
WVT	**Waverly**	**67.83**	**342**	*eP*		**P**	**23 26 56.5**	**-2.0**
	comp=Z,39nm,0.8s,mb5.2							
WVT					*epP*	pP	23 27 28.9	-2.0
WVT					*esP*	sP	23 27 43.1	-2.4
LTX	**Lajitas**	**67.83**	**326**	*eP*		**P**	**23 26 58.1**	**-0.5**
	comp=Z,12nm,0.7s,mb4.7							
TXAR	**Lajitas Array**	**67.83**	**326**	P		**P**	**23 26 58.1**	**-0.5**
	comp=Z,9.3nm,0.7s,mb4.6,baz=148,slow=7.7,SNR=129							
TXAR					PKPPKP		23 55 17.4	
	comp=Z,0.6nm,0.9s,baz=243,slow=2.8,SNR=5.1							
MIAR	**Mount Ida**	**68.13**	**337**	*eP*		**P**	**23 26 59.5**	**-0.9**
	comp=Z,42nm,1.2s,mb5.0							
MIAR					*epP*	pP	23 27 31.9	-1.0
SBA	**Scott Base**	**68.56**	**191**	*eP*		**P**	**23 27 03.0**	**+0.7**
	comp=Z,11nm,0.9s,mb4.6							
SYO	**Syowa Base**	**68.79**	**158**	⇑P		**P**	**23 27 03.6**	**-0.2**
SYO	**Syowa Base**	**68.79**	**158**	⇓PcP		PcP	23 27 27.2	-0.3
SYO	**Syowa Base**	**68.79**	**158**	⇑pP		pP	23 27 33.5	-2.9
SYO	**Syowa Base**	**68.79**	**158**	⇓sP		sP	23 27 49.0	-1.9
LIC	**Lamto**	**69.31**	**70**	*eP*		**P**	**23 27 05.6**	**-2.3**
	comp=Z,28nm,1.0s,mb4.7							
LIC	**Lamto**	**69.31**	**70**	*eP*		**P**	**23 27 06.0**	**-1.9**
	comp=Z,68nm,1.6s,mb5.1							
TIC	**Toumodi**	**69.55**	**70**	*eP*		**P**	**23 27 08.3**	**-1.1**
	comp=Z,24nm,0.7s,mb5.0							
VNDA	**Vanda**	**69.56**	**190**	P		**P**	**23 27 09.5**	**+1.0**
	comp=Z,9.4nm,0.8s,mb4.6,baz=134,slow=5.3,SNR=58							
VNDA					LR	LR	23 55 46.6	
	comp=Z,34nm,19.3s,baz=256,slow=34							
VNDA	**Vanda**	**69.56**	**190**	P		**P**	**23 27 09.5**	**+1.1**
VNDA					pmax	pmax		
	comp=Z,9.0nm,0.8s							
VNDA					MLR	MLR		
	comp=Z,34nm,19.3s							
KIC	**Kosan Boka**	**69.62**	**70**	*eP*		**P**	**23 27 08.2**	**-1.6**
	comp=Z,51nm,0.9s,mb5.3							
DBIC	**Dimbokro**	**69.70**	**70**	P		**P**	**23 27 09.1**	**-1.2**
	comp=Z,7.7nm,0.7s,mb4.5,baz=210,slow=5.7,SNR=15							
DBIC	**Dimbokro**	**69.70**	**70**	P		**P**	**23 27 09.1**	**-1.2**
DBIC					pmax	pmax		
	comp=Z,8.0nm,0.7s							
WMOK	**Wichita Mounta**	**70.24**	**333**	*eP*		**P**	**23 27 11.9**	**-1.3**
	comp=Z,11nm,0.7s,mb4.7							
WMOK					*ePcP*	PcP	23 27 34.0	-0.3
CLNB	**Carlsbad**	**70.36**	**328**	*eP*		**P**	**23 27 13.9**	**-0.1**
GDL2	**Guadalupe Moun**	**70.53**	**327**	*eP*		**P**	**23 27 15.0**	**-0.1**
GDL2					*epP*	pP	23 27 47.8	0.0
CCM	**Cathedral Cave**	**70.59**	**340**	*eP*		**P**	**23 27 13.7**	**-1.6**
	comp=Z,38nm,0.9s,mb5.1							
CCM					*epP*	pP	23 27 47.1	-1.0
CCM					*esP*	sP	23 28 00.5	-2.0
ACSO	**Alum Creek Sta**	**70.62**	**347**	*eP*		**P**	**23 27 14.0**	**-1.5**
	comp=Z,15nm,0.6s,mb4.9							
ACSO					*epP*	pP	23 27 46.5	-1.7
CPRX	**Cap Rock**	**70.99**	**328**	*eP*		**P**	**23 27 17.5**	**-0.2**
AMTX	**Amarillo**	**71.57**	**331**	*eP*		**P**	**23 27 20.5**	**-0.7**
	comp=Z,38nm,1.0s,mb5.1							
BNM	**Barren Site**	**73.21**	**327**	*eP*		**P**	**23 27 31.4**	**+0.5**
KSU1	**Kansas State U**	**73.28**	**336**	*eP*		**P**	**23 27 30.1**	**-1.0**
LPM	**Los Pinos Moun**	**73.35**	**327**	*eP*		**P**	**23 27 32.0**	**+0.3**
LENM	**Lemitar**	**73.39**	**326**	*eP*		**P**	**23 27 32.6**	**+0.7**
SUR	**Sutherland**	**73.48**	**118**	P		**P**	**23 27 33.0**	**+0.5**
	comp=Z,399nm,0.6s,SNR=64							
SUR	**Sutherland**	**73.48**	**118**	*eP*		**P**	**23 27 33.5**	**+1.1**
	comp=Z,40nm,0.6s,mb5.3							
SUR					*epP*	pP	23 28 04.7	-0.8
ANMO	**Albuquerque**	**73.79**	**327**	*eP*		**P**	**23 27 34.7**	**+0.5**
	comp=Z,17nm,0.8s,mb4.8							
ANMO					*epP*	pP	23 28 07.5	+0.3
ANMO					*e*		23 28 26.4	
TUC	**Tucson**	**73.86**	**323**	*eP*		**P**	**23 27 34.8**	**+0.1**
	comp=Z,17nm,1.3s,mb4.6							
TUC					*epP*	pP	23 28 09.3	+1.6
TUC					*esP*	sP	23 28 23.1	+0.9
SDCO	**Great Sand Dun**	**75.64**	**330**	*eP*		**P**	**23 27 45.5**	**+0.7**
	comp=Z,18nm,0.8s,mb4.8							
SDCO					*epP*	pP	23 28 18.1	+0.1
MAW	**Mawson**	**76.54**	**162**	P		**P**	**23 27 49.7**	**+0.5**
	comp=Z,19nm,0.8s,mb4.8,baz=221,slow=5.8,SNR=48							
MAW	**Mawson**	**76.54**	**162**	P		**P**	**23 27 49.7**	**+0.6**
MAW					pmax	pmax		
	comp=Z,19nm,0.8s							
PV01	**Paradox Valley**	**77.36**	**328**	*eP*		**P**	**23 27 55.3**	**+1.0**
ISCO	**Idaho Springs**	**77.39**	**331**	*eP*		**P**	**23 27 55.4**	**+0.9**
	comp=Z,19nm,0.8s,mb4.8							
ISCO					*epP*	pP	23 28 27.4	-0.4
PV10	**Paradox Valley**	**77.77**	**328**	*eP*		**P**	**23 27 56.6**	**+0.1**
PFO	**Pinyon Flat Ob**	**77.95**	**320**	P		**P**	**23 27 58.0**	**+0.4**
	comp=Z,91nm,1.1s,mb5.3,SNR=9.6							
PFO	**Pinyon Flat Ob**	**77.95**	**320**	*eP*		**P**	**23 27 58.4**	**+0.7**
	comp=Z,28nm,1.1s,mb4.8							
PFO					*epP*	pP	23 28 31.3	+0.3
LDFC	**Landfair**	**78.29**	**322**	*eP*		**P**	**23 28 00.6**	**+1.2**
NEN	**Nelson**	**78.58**	**322**	*eP*		**P**	**23 28 01.3**	**+0.3**
NEN					*epP*	pP	23 28 35.4	+0.9
SRU	**San Rafael**	**79.06**	**327**	*eP*		**P**	**23 28 03.9**	**+0.4**
MSU	**Marysvale**	**79.39**	**326**	*eP*		**P**	**23 28 06.2**	**+0.8**
MSU					*epP*	pP	23 28 39.9	+1.1
MVU	**Marysvale**	**79.40**	**326**	*eP*		**P**	**23 28 06.3**	**+0.9**
	comp=Z,33nm,1.1s,mb4.9							
MVU					*epP*	pP	23 28 39.5	+0.7
ARUT	**Antelope Range**	**79.46**	**324**	*eP*		**P**	**23 28 07.2**	**+1.5**
ARUT					*epP*	pP	23 28 41.0	+1.8
TMUT	**Trail Mountain**	**79.53**	**327**	*eP*		**P**	**23 28 06.9**	**+0.8**
MPU	**Maple Canyon**	**80.30**	**327**	*eP*		**P**	**23 28 10.7**	**+0.5**
MPU					*epP*	pP	23 28 44.2	+0.5
DAU	**Daniels Canyon**	**80.43**	**327**	*eP*		**P**	**23 28 11.9**	**+1.0**
DAU					*ePcP*	PcP	23 28 17.1	-0.6
DAU					*epP*	pP	23 28 45.1	+0.7
NLU	**North Lily Min**	**80.46**	**327**	*eP*		**P**	**23 28 11.6**	**+0.5**
NLU					*epP*	pP	23 28 45.2	+0.6
JLU	**Jordanelle**	**80.67**	**327**	*eP*		**P**	**23 28 12.7**	**+0.6**
JLU					*epP*	pP	23 28 46.3	+0.6
CTU	**Camp Tracy**	**80.88**	**327**	*eP*		**P**	**23 28 13.2**	**+0.1**
TRCR	**Troy Canyon**	**80.99**	**323**	*eP*		**P**	**23 28 14.6**	**+0.7**
TRCR					*epP*	pP	23 28 49.0	+1.5
DUG	**Dugway**	**81.00**	**

VIPM	**Ingram Point**	**88.07**	**325**	‖P		**P**		**23 28 50.2**	**+1.2**
WALA	**Waterton Lakes**	**88.36**	**331**	*e*P		**P**		**23 28 50.6**	**+0.3**
	comp=Z,34nm,0.8s,mb5.2								
WALA				*ep*P		pP		23 29 23.5	-0.9
HBO	**Huckleberry Mo**	**88.47**	**324**	P		**P**		**23 28 51.5**	**+0.6**
CROR	**Criterion Ridg**	**88.59**	**325**	P		**P**		**23 28 52.7**	**+1.3**
REDWA	**Red Mountain**	**88.78**	**327**	P		**P**		**23 28 53.1**	**+0.9**
ELUQ	**Luque**	**88.78**	**45**	P		**P**		**23 28 53.6**	**+1.1**
	comp=Z,5.2nm,0.6s,mb4.6								
FFC	**Flin Flon**	**88.79**	**341**	*e*P		**P**		**23 28 51.9**	**-0.2**
	comp=Z,14nm,0.9s,mb4.9								
FFC				*ep*P		pP		23 29 26.5	+0.2
PRW	**Prosser**	**88.83**	**327**	P		**P**		**23 28 53.7**	**+1.1**
RSW	**Rattlesnake Hi**	**88.92**	**327**	P		**P**		**23 28 54.0**	**+1.0**
DPW	**Davenport**	**89.34**	**328**	*e*P		**P**		**23 28 55.3**	**+0.4**
DPW				*ep*P		pP		23 29 30.5	+1.4
DPW				*es*P		sP		23 29 45.1	+1.4
EQES	**Quesada**	**89.67**	**45**	P		**P**		**23 28 57.0**	**+0.4**
	comp=Z,5.8nm,0.7s,mb4.6								
ASR	**Mount Adams--S**	**89.72**	**326**	P		**P**		**23 28 57.5**	**+0.9**
EBG	**Ellensburg**	**89.76**	**327**	P		**P**		**23 28 57.9**	**+1.1**
TBM	**Table Mountain**	**89.96**	**327**	P		**P**		**23 28 58.7**	**+0.9**
WTV	**Waterville**	**90.03**	**327**	P		**P**		**23 28 58.4**	**+0.3**
ESDC	**Sonseca Array**	**90.28**	**44**	P		**P**		**23 29 00.3**	**+0.8**
	comp=Z,2.4nm,0.7s,mb4.2,baz=238,slow=4.4,SNR=12								
ESDC				pP		pP		23 29 33.2	-0.6
	comp=Z,2.3nm,0.9s,baz=244,slow=3.5,SNR=4.1								
ESDC	**Sonseca Array**	**90.28**	**44**	P		**P**		**23 28 59.9**	**+0.4**
	comp=Z,1.5nm,0.6s,mb4.1								
EVIA	**Vianos**	**90.53**	**45**	P		**P**		**23 29 01.4**	**+0.7**
	comp=Z,8.4nm,0.6s,mb5.0								
RPW	**Rockport**	**91.30**	**327**	P		**P**		**23 29 03.5**	**-0.5**
JCW	**Jim Creek**	**91.32**	**327**	P		**P**		**23 29 03.7**	**-0.5**
EDM	**Edmonton**	**91.36**	**334**	*e*P		**P**		**23 29 02.8**	**-1.4**
EDM				*ep*P		pP		23 29 35.7	-2.8
ETOR	**Torete**	**92.14**	**44**	P		**P**		**23 29 08.1**	**0.0**
	comp=Z,5.1nm,0.6s,mb4.7								
SJPF	**Ste Jean**	**94.02**	**42**	*e*P		**P**		**23 29 16.3**	**-0.3**
	comp=Z,6.0nm,0.7s,mb4.5								
ETSF	**Etsaut**	**94.28**	**43**	*e*P		**P**		**23 29 17.6**	**-0.2**
	comp=Z,6.7nm,0.8s,mb4.5								
MTLF	**Montolieu**	**96.19**	**43**	*e*P		**P**		**23 29 26.8**	**+0.3**
LFF	**La Frestale**	**96.24**	**41**	*e*P		**P**		**23 29 25.6**	**-1.0**
	comp=Z,31nm,1.2s,mb5.2								
LMR	**La Mourre**	**98.81**	**45**	*e*P		**P**		**23 29 38.0**	**-0.4**
	comp=Z,10nm,0.9s,mb4.9								
YKA	**Yellowknife Ar**	**98.93**	**340**	P		**P**		**23 29 38.2**	**-0.2**
	comp=Z,2.9nm,0.6s,mb4.9,baz=140,slow=4.7,SNR=18								
YKA				PKKPbc				23 46 03.8	
	comp=Z,1.4nm,0.8s,baz=324,slow=3.4,SNR=4.7								
YKA	**Yellowknife Ar**	**98.93**	**340**	P		**P**		**23 29 38.2**	**-0.3**
YKA				pmax		pmax			
	comp=Z,3.0nm,0.6s								
YKA				pmax		pmax			
	comp=Z,1.0nm,0.9s								
YKA	**Yellowknife Ar**	**98.93**	**340**	P		**P**		**23 29 38.2**	**-0.2**
YKA				PKKPbc				23 46 03.8	
ORIF	**Oris-en-Rattie**	**99.26**	**44**	*e*P		**P**		**23 29 41.3**	**+0.9**
	comp=Z,10nm,1.0s,mb4.9								
LOR	**Lormes**	**99.34**	**41**	*e*P		**P**		**23 29 40.4**	**-0.3**
	comp=Z,59nm,1.6s,mb5.5								
LPL	**La Plagne**	**100.09**	**43**	*e*P		P		23 29 45.0	+0.9
	comp=Z,9.6nm,1.0s								
LPG	**La Plagne**	**100.09**	**43**	*e*P		P		23 29 45.1	+1.0
	comp=Z,13nm,1.2s								
BAIF	**Baives**	**101.05**	**38**	*e*P		P		23 29 48.2	-0.1
	comp=Z,49nm,1.5s								
GERES	**GERESS Array B**	**105.86**	**43**	PKiKP				23 34 21.3	
	comp=Z,0.7nm,0.7s,baz=205,slow=0.9,SNR=8.0								
GERES				PKKPbc				23 45 46.3	
	comp=Z,0.6nm,0.8s,baz=63,slow=3.0,SNR=4.8								
NOA	**NORSAR Array B**	**109.80**	**30**	PKKPab				23 45 42.2	
	comp=Z,0.6nm,0.6s,baz=63,slow=4.6,SNR=4.1								
HFS	**Hagfors**	**110.56**	**32**	PKKPab				23 45 39.5	
	comp=Z,0.9nm,0.4s,baz=90,slow=3.0,SNR=9.9								
ILAR	**Eielson Array**	**111.81**	**333**	PKiKP				23 34 31.9	
	comp=Z,0.6nm,0.7s,baz=265,slow=1.1,SNR=5.0								
ILAR				PKKPbc				23 45 24.7	
	comp=Z,0.5nm,0.7s,baz=306,slow=5.6,SNR=6.0								
ILAR	**Eielson Array**	**111.81**	**333**	*i* PKIKP		PKPdf		23 34 31.9	+1.0
ILAR				pmax		pmax			
	comp=Z,1.0nm,0.7s								
ILAR				pmax		pmax			
	comp=Z,1.0nm,0.7s								
STKA	**Stephens Creek**	**113.37**	**207**	PKiKP				23 34 36.6	
	comp=Z,1.3nm,0.4s,baz=199,slow=15,SNR=3.0								
TRO	**Tromso**	**115.73**	**23**	*e*P		Pdif		23 31 06.6	+14
BRTR	**Keskin Array B**	**115.84**	**57**	PKP		PKPdf		23 34 40.8	+1.3
	comp=Z,2.2nm,0.7s,baz=192,slow=2.7,SNR=17								
BRTR				pPKP				23 35 15.9	
	comp=Z,1.1nm,0.8s,baz=188,slow=3.9,SNR=4.5								
BRTR				PKKPab				23 45 18.6	
	comp=Z,0.9nm,0.9s,baz=98,slow=8.7,SNR=3.9								
BRTR	**Keskin Array B**	**115.84**	**57**	PKiKP		PKPdf		23 34 40.8	+1.4
BRTR								23 35 15.9	
BRTR								23 45 18.6	
BRTR				pmax		pmax			
	comp=Z,2.0nm,0.7s								
BRTR				pmax		pmax			
	comp=Z,1.0nm,0.8s								
BRTR				pmax		pmax			
	comp=Z,1.0nm,0.9s								
AKASG	**Malin Array Be**	**115.91**	**45**	PKP		PKPdf		23 34 39.6	+0.3
	comp=Z,4.8nm,0.7s,baz=263,slow=2.8,SNR=18								
AKASG	**Malin Array Be**	**115.91**	**45**	PKiKP		PKPdf		23 34 39.6	+0.3
AKASG				pmax		pmax			
	comp=Z,5.0nm,0.7s								
FINES	**FINESS Array B**	**116.73**	**32**	PKP		PKPdf		23 34 41.8	+1.2
	comp=Z,1.7nm,0.8s,baz=225,slow=2.7,SNR=5.9								
FINES				PKKPbc				23 45 08.0	
	comp=Z,1.6nm,0.9s,baz=108,slow=6.0,SNR=6.7								
FINES	**FINESS Array B**	**116.73**	**32**	PKiKP		PKPdf		23 34 41.8	+1.2
FINES				pmax		pmax			
	comp=Z,2.0nm,0.9s								
FINES				pmax		pmax			
	comp=Z,2.0nm,0.9s								
FINES	**FINESS Array B**	**116.73**	**32**	PKP		PKPdf		23 34 41.8	+1.2
FINES				PKKPbc				23 45 08.0	
KTK1	**Kautokeino**	**117.09**	**24**	*e*P		Pdif		23 31 03.5	+5.1
ARCES	**ARCESS Array B**	**117.97**	**23**	PKKPbc				23 45 04.7	
	comp=Z,3.0nm,0.8s,baz=76,slow=5.0,SNR=11								
OBN	**Obninsk**	**121.13**	**41**	‖ *i* PKIKP		PKPdf		23 34 50.4	+1.1
OBN				pmax		pmax			
	comp=Z,11nm,1.0s								
CTA	**Charters Tower**	**121.32**	**217**	PKP		PKPdf		23 34 51.6	+1.1
	comp=Z,4.9nm,0.7s,baz=264,slow=3.0,SNR=6.9								
CTA	**Charters Tower**	**121.32**	**217**	PKiKP		PKPdf		23 34 51.6	+1.1
CTA				pmax		pmax			
	comp=Z,5.0nm,0.7s								
KIV	**Kislovodsk**	**123.41**	**54**	*e*PKIKP		PKPdf		23 34 55.6	+1.6
KIV				pmax		pmax			
	comp=Z,10.0nm,0.9s								
ASAR	**Alice Springs**	**123.64**	**203**	PKP		PKPdf		23 34 55.5	+0.5
	comp=Z,7.6nm,0.5s,baz=137,slow=1.8,SNR=135								
ASAR				pPKP				23 35 31.1	
	comp=Z,1.4nm,0.8s,baz=139,slow=1.7,SNR=2.9								
ASAR				PKKPbc				23 44 44.3	
	comp=Z,1.1nm,0.8s,baz=344,slow=3.1,SNR=13								
ASAR				PKKP		PKKP		23 45 22.9	+17
	comp=Z,0.3nm,0.5s,baz=360,slow=2.0,SNR=4.3								
GNI	**Garni**	**124.21**	**59**	PKP		PKPdf		23 34 57.2	+1.5
	comp=Z,4.5nm,0.6s,baz=221,slow=0.8,SNR=5.0								
GNI	**Garni**	**124.21**	**59**	PKiKP		PKPdf		23 34 57.2	+1.6
GNI				pmax		pmax			
	comp=Z,5.0nm,0.6s								
WRA	**Warramunga Arr**	**126.90**	**206**	PKP		PKPdf		23 35 02.2	+0.9
	comp=Z,28nm,0.6s,baz=164,slow=1.6,SNR=157								
WRA	**Warramunga Arr**	**126.90**	**206**	PKiKP		PKPdf		23 35 02.2	+0.9
WRA				pmax		pmax			
	comp=Z,28nm,0.6s								
WRAB	**Tennant Creek**	**126.90**	**206**	*e*PKPdf		PKPdf		23 35 01.7	+0.4
FITZ	**Fitzroy Crossi**	**131.36**	**196**	PKP		PKPdf		23 35 11.1	+1.2
	comp=Z,5.5nm,0.6s,baz=185,slow=5.4,SNR=19								
ARU	**Arti**	**133.44**	**38**	*e*PKIKP		PKPdf		23 35 14.9	+2.2
ARU				*e*				23 35 49.5	
TIXI	**Tiksi**	**136.60**	**353**	*e*PKIKP		PKPdf		23 35 17.9	-0.3
TIXI				pmax		pmax			
	comp=Z,4.0nm,0.8s								
BVA0	**Borovoye Array**	**140.97**	**40**	PKIKP		PKPdf		23 35 28.6	+2.0
BVAR	**Borovoye Array**	**140.97**	**40**	PKP		PKPdf		23 35 28.6	+2.0
	comp=Z,3.6nm,0.5s,baz=327,slow=4.4,SNR=4.9								
YAK	**Yakutsk**	**145.34**	**346**	*d* PKIKP		PKPdf		23 35 35.2	+1.4
YAK				*e*				23 36 09.8	
YAK				pmax		pmax			
	comp=Z,74nm,0.9s								
YAK				pmax		pmax			
	comp=N,10.0nm,1.2s								
YAK				pmax		pmax			
	comp=E,6.0nm,1.1s								
YAK				pmax		pmax			
	comp=Z,23nm,0.9s								
YAK	**Yakutsk**	**145.34**	**346**	*e*PKPdf		PKPdf		23 35 35.5	+1.6
YAK				epPKPdf				23 36 10.1	
EKS2	**Erkin-Say**	**145.98**	**56**	P		PKPdf		23 35 38.6	+3.1
	SNR=59								
AML	**Almayashu**	**146.01**	**57**	P		PKPdf		23 35 39.7	+4.1
	SNR=6.8								
AJM	**Ajmer**	**146.25**	**85**	*e*PKP		PKPdf		23 35 38.7	+2.2
USP	**Ospenovka**	**146.38**	**55**	P		PKPdf		23 35 38.9	+2.8
	SNR=29								
AAK	**Ala-Archa**	**146.51**	**56**	P		PKPdf		23 35 39.7	+3.3
	SNR=49								
AAK	**Ala-Archa**	**146.51**	**56**	*e*PKPdf		PKPdf		23 35 38.5	+2.1
AAK				*ep*PKPdf				23 36 14.3	
AAK				*es*PKPdf				23 36 27.9	
FRU	**Bishkek**	**146.56**	**56**	*e*PKP2		PKPab		23 35 40.0	-1.7
FRU				pmax		pmax			
	comp=Z,80nm,1.4s								
HYB	**Hyderabad**	**146.56**	**103**	*i* PKP		PKPdf		23 35 39.5	+2.3
	comp=Z,80nm,1.0s								
HYB				*ep*PKP				23 36 14.0	
HYB	**Hyderabad**	**146.56**	**103**	*e*P		PKPdf		23 35 39.5	+2.3
HYB				*e*				23 36 14.0	
KURK	**Kurchatov**	**146.57**	**40**	PKP2		PKPab		23 35 38.6	-2.9
KURK				pmax		pmax			
	comp=Z,10.0nm,0.6s								
KURK	**Kurchatov**	**146.57**	**40**	*e*PKPdf		PKPdf		23 35 38.4	+2.2
KURK				*ep*PKPdf				23 36 13.0	
CHMS	**Chumysh**	**146.62**	**55**	P		PKPdf		23 35 41.0	+4.4
	SNR=21								
NVS	**Novosibirsk**	**146.71**	**31**	*e*PKIKP		PKPdf		23 35 37.7	+1.4
NVS				*e*				23 36 13.3	
NVS				pmax		pmax			
	comp=N,8.0nm,0.6s								
NVS				pmax		pmax			
	comp=E,13nm,0.6s								
NVS				pmax		pmax			
	comp=Z,67nm,0.6s								
KBK	**Karagaybulak**	**146.83**	**56**	P		PKPdf		23 35 40.4	+3.5
	SNR=33								
KZA	**Kyzart**	**147.16**	**57**	P		PKPdf		23 35 41.5	+4.0
	SNR=22								
TKM2	**Tokmak 2**	**147.24**	**55**	P		PKPdf		23 35 40.8	+3.2
	SNR=22								
KHET	**Khetri**	**147.60**	**83**	*e*PKP		PKPdf		23 35 41.8	+3.1
KHET				*e*				23 36 15.2	
KHET				*e*				23 36 15.6	
	comp=N,1.2nm,0.1s								
BHPL	**Bhopal**	**147.80**	**92**	*e*PKP		PKPdf		23 35 42.3	+3.1
ULHL	**Ulahol**	**147.85**	**56**	P		PKPdf		23 35 41.7	+3.0
	SNR=13								
ZAL	**Zalesovo**	**147.99**	**32**	PKPbc		PKPdf		23 35 40.9	+2.4
	comp=N,46nm,0.5s,baz=161,slow=3.0,SNR=112								
ZAL				PKPab		PKPab		23 35 44.4	-2.6
	comp=N,48nm,0.7s,baz=164,slow=2.8,SNR=129								
ZAL				pPKPbc				23 36 18.8	
	comp=N,15nm,0.8s,baz=165,slow=3.4,SNR=5.0								
ZAL	**Zalesovo**	**147.99**	**32**	PKP2		PKPab		23 35 44.4	-2.5
ZAL				pmax		pmax			
	comp=Z,48nm,0.7s								
ZAL				pmax		pmax			
	comp=Z,15nm,0.9s								
KSH	**Kashi**	**148.11**	**61**	PKP		PKPdf		23 35 43.0	+3.8
KSH				*e*APKP				23 36 19.6	
KSH				*e*PKS		PKS		23 39 16.0	+2.9
KSH				*e*SKS		SKS		23 42 33.0	+0.7
KSH				PP		PP			
	comp=Z,110nm,4.2s								
KUDL	**Kundal**	**148.21**	**83**	*e*PKP		PKPdf		23 35 41.0	+1.3
AYAN	**Aya Nagar**	**148.82**	**83**	*e*PKP		PKPdf		23 35 42.6	+1.9
NDI	**New Delhi**	**148.93**	**82**	*e*PKP		PKPdf		23 35 46.0	+5.2
MKAR	**Makanchi Array**	**150.49**	**45**	*i* PKIKP		PKPdf		23 35 49.8	+7.2
MKAR				pmax		pmax			
	comp=Z,4μm,0.6s								
YSS	**Yuzh-Sakhalins**	**150.76**	**316**	*e*PKPbc		PKPdf		23 35 50.3	+7.3
CLNS	**Chul'man**	**151.09**	**346**	*e*PKIKP		PKPdf		23 35 43.9	+0.7
CLNS				pmax		pmax			
	comp=Z,38nm,0.7s								
CLNS				pmax		pmax			
	comp=N,11nm,1.0s								
CLNS				pmax		pmax			
	comp=E,6.0nm,0.9s								
JOSI	**Joshimath**	**151.21**	**79**	*e*PKP		PKPdf		23 35 48.6	+4.4
JOSI				*e*				23 36 29.7	
ASAJ	**Asahikawa**	**152.03**	**310**	PKPbc		PKPdf		23 35 53.5	+8.6
	comp=E,22nm,0.8s,baz=63,slow=4.5,SNR=8.3								
ASAJ	**Asahikawa**	**152.03**	**310**	PKIKP		PKPdf		23 35 53.6	+8.6
ASAJ				pmax		pmax			
	comp=Z,23nm,0.8s								
ZAK	**Zakamensk**	**157.66**	**16**	*e*PKIKP		PKPdf		23 35 54.4	+2.0
ZAK				*e*				23 36 27.5	
SONM	**Songino Array**	**160.75**	**13**	PKP		PKPdf		23 35 57.8	+1.8
	comp=Z,4.1nm,1.0s,SNR=9.4								
SONM				PKPab		PKPab		23 36 41.2	+0.1
	comp=Z,3.3nm,0.8s,baz=304,slow=4.5,SNR=6.8								
SONM				pPKPab				23 37 15.3	
	comp=Z,3.2nm,0.8s,baz=342,slow=3.9,SNR=5.4								
CMAR	**Chiang Mai Arr**	**163.43**	**127**	PKP		PKPdf		23 36 01.8	+2.3
	comp=Z,3.7nm,1.0s,baz=265,slow=2.5,SNR=15								
CMAR				PKPab		PKPab		23 36 52.8	-0.8
	comp=Z,2.1nm,0.8s,baz=237,slow=3.4,SNR=7.5								
GTA	**Gaotai**	**165.23**	**43**	*e*PKP		PKPdf		23 36 03.3	+2.6
HHC	**Hu-ho-hao-te**	**168.34**	**5**	*e*PKP		PKPdf		23 36 05.6	+2.7
HHC				PP		PP			
	comp=Z,78nm,7.4s								
KMI	**Kunming**	**170.17**	**112**	*e*PKP		PKPdf		23 36 05.8	+1.4
KMI				PKP2		PKPab		23 37 21.6	-1.3
KMI				PP		PP		23 41 16.1	+2.2
KMI				PP		PP			
	comp=Z,106nm,9.9s								
KMI	**Kunming**	**170.17**	**112**	*e*PKP		PKPdf		23 36 05.7	+1.3
XAN	**Xi'an**	**174.16**	**33**	PKP		PKPdf		23 36 07.9	+1.9

*NEIC **23** 23:19:18.6±0.5, 32.49N×141.19E, h40km, mb4.6/6, Error ellipse: s-maj=20.6km s-min=12.1km az=95.0*
*IDC **23** 23:19:19.9±3.3, 32.42N×141.37E, h57km±28km, mb3.7/9, mb1 3.8/9, mb1mx3.7/21, Error ellipse: s-maj=28.3km s-min=18.6km az=79.0*

ISC 23 23:19:19.5±1.9, 32.40N±0.10×141.2E±0.1, h67km±14km, n24, σ1°01/25, mb4.1/16, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**1.41**	**301**	P	**P**	**23 19 42.1**	**-1.5**
	50nm,0.3s,baz=44,slow=20,SNR=8.5						
JHJ				S	**S**	**23 20 03.0**	**+1.6**
	75nm,0.3s,baz=67,slow=23,SNR=4.9						
PMG	**Port Moresby**	**41.95**	**171**	P	**P**	**23 27 13.8**	**+8.3**
	6.4nm,0.7s,mb4.5						
GUN	**Gumba**	**47.62**	**280**	*e*P	**P**	**23 27 50.6**	**-0.1**
	17nm,1.0s,mb4.8						
PKI	**Pulchoki**	**48.12**	**280**	*e*P	**P**	**23 27 54.0**	**-0.6**
	1.1nm,0.2s,mb4.3						
KKN	**Kakani**	**48.16**	**280**	*e*P	**P**	**23 27 55.2**	**+0.3**
GKN	**Gorkha**	**48.62**	**280**	*e*P	**P**	**23 27 58.3**	**-0.2**
KOLN	**Koldanda**	**49.56**	**281**	*e*P	**P**	**23 28 05.1**	**-0.6**
WRAB	**Tennant Creek**	**52.45**	**188**	*e*P	**P**	**23 28 29.2**	**+1.6**
	6.8nm,1.1s,mb4.6						
WRA	**Warramunga Arr**	**52.46**	**188**	P	**P**	**23 28 26.5**	**-1.2**
	1.0nm,0.5s,mb4.1,baz=5.2,slow=7.6,SNR=6.7						
AAK	**Ala-Archa**	**52.66**	**301**	P	**P**	**23 28 27.6**	**-1.3**
ILAR	**Eielson Array**	**53.53**	**30**	P	**P**	**23 28 33.5**	**-1.5**
	1.1nm,1.0s,mb3.8,baz=265,slow=6.1,SNR=9.3						
ASAR	**Alice Springs**	**56.18**	**188**	P	**P**	**23 28 55.0**	**+0.1**
	0.4nm,0.5s,mb3.7,baz=4.6,slow=7.6,SNR=7.6						
MBWA	**Marble Bar**	**57.08**	**204**	P	**P**	**23 29 01.4**	**0.0**
	17nm,1.3s,mb4.9						
KAF	**Kangasniemi**	**72.36**	**333**	*ep*	**P**	**23 30 36.8**	**-2.7**
FINES	**FINESS Array B**	**72.85**	**333**	P	**P**	**23 30 42.3**	**0.0**
	1.7nm,0.9s,mb3.9,baz=76,slow=7.9,SNR=12						
NEW	**Newport**	**73.59**	**43**	P	**P**	**23 30 48.1**	**+1.1**
	7.2nm,1.1s,mb4.3						
KIV	**Kislovodsk**	**73.85**	**312**	*e*P	**P**	**23 30 49.9**	**+1.3**
	6.9nm,0.7s,mb4.5						
AKASG	**Malin Array Be**	**77.88**	**323**	P	**P**	**23 31 11.1**	**-0.1**
	0.3nm,0.3s,mb3.5,baz=46,slow=5.8,SNR=4.3						
NVAR	**Mina Array Bea**	**77.92**	**52**	P	**P**	**23 31 12.6**	**+0.9**
	0.9nm,0.9s,mb3.5,baz=278,slow=6.4,SNR=4.3						
HFS	**Hagfors**	**78.25**	**336**	P	**P**	**23 31 13.2**	**+0.1**
	2.4nm,0.8s,mb4.0,baz=108,slow=4.7,SNR=8.5						
NB2	**NORSAR Subarra**	**78.40**	**338**	P	**P**	**23 31 13.9**	**0.0**
	1.0nm,0.6s,mb3.7,baz=42,slow=5.6						
NOA	**NORSAR Array B**	**78.40**	**338**	P	**P**	**23 31 14.2**	**+0.3**
	1.2nm,0.7s,mb3.8,baz=41,slow=5.5,SNR=5.9						
BRTR	**Keskin Array B**	**81.81**	**312**	P	**P**	**23 31 33.8**	**+1.2**
	1.6nm,0.7s,mb3.9,baz=101,slow=4.6,SNR=11						
CLL	**Collm**	**85.03**	**330**	P	**P**	**23 31 49.0**	**+0.5**

MAN 23 23:23:26.6, 18.32N×121.95E, h1km, mb4.3, ML3.1, MS2.9, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGCP	**Mt. Cagua**	**0.12**	**129**	*e*P	Pg	23 23 29.5	+0.7
CVP	**Callao Caves**	**0.62**	**191**	‖ *i*P	Pg	23 23 39.0	0.0
CVP				*i* S	Sg	23 23 55.0	+7.8
APYP	**Conner**	**0.81**	**236**	*e*P	Pg	23 23 42.6	-0.2
APYP				*e*S	Sg	23 23 58.4	+4.8
ABRA	**Dolores**	**1.35**	**241**	*e*P	Pb	23 23 51.8	-0.6
BALP	**Baler**	**2.58**	**188**	*e*P	Pn	23 24 09.7	-0.5

*NAO **23** 23:32:18.8±1.8, 67.85N×20.26E, ML2.3*
*HEL **23** 23:32:19.1±0.1, 67.84N×20.19E, ML1.8, ML2.2(UPP), ML1.6(BER), Explosion*
*BER **23** 23:32:19.6±3.2, 67.88N×20.07E, ML1.6, ML2.3(NAO), Suspected explosion*

ISC 23 23:32:16.8±0.5, 67.83N±0.03×19.98E±0.08, n23, σ1°22/38, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.18**	**47**	*i* P	**Pg**	**23 32 21.1**	**+0.7**
KUA				*i* S	**Sg**	**23 32 23.1**	**+0.3**
NIKU	**Nikkaluokta**	**0.36**	**276**	*i* P	**Pg**	**23 32 26.8**	**+2.8**
NIKU				*i* S	**Sg**	**23 32 33.0**	**+4.2**
DUNU	**Dundret**	**0.75**	**162**	*i* P	**Pg**	**23 32 31.9**	**+0.2**
MASU	**Masugnsbyn**	**0.86**	**115**	*i* P	**Pg**	**23 32 33.0**	**-0.9**
KIF	**Kilpisjarvi**	**1.22**	**14**	*e*P	**Pb**	**23 32 41.4**	**+1.1**
KIF				*e*S	**Sb**	**23 32 57.3**	**+0.8**
PAJU	**Pajala**	**1.46**	**122**	*e*P	**Pn**	**23 32 43.6**	**-0.7**
PAJU				*e*S	**Sb**	**23 33 02.5**	**-0.9**
KTK1	**Kautokeino**	**1.69**	**44**	*e*P	**Pn**	**23 32 47.9**	**+0.2**
KTK1				*e*SN	**Sn**	**23 33 10.6**	**+0.3**
KTK1				AML	AML	23 33 13.3	
	comp=Z,7.7nm,0.4s						
TRO	**Tromso**	**1.85**	**348**	*e*P	**Pn**	**23 32 51.4**	**+1.4**
TRO				*e*SG	**Sg**	**23 33 16.5**	**-1.9**
TRO				AML	AML	23 33 18.1	
	comp=Z,5.9nm,0.4s						
SJUU	**Sjulsmark**	**2.42**	**164**	*e*P	**Pn**	**23 32 59.8**	**+1.6**
LOF	**Lofoten**	**2.45**	**280**	*e*SG	**Sg**	**23 33 36.7**	**-1.6**
LOF				AML	AML	23 33 40.6	
	comp=Z,8.1nm,0.3s						
SGF	**Sodankyl**	**2.53**	**96**	*e*P	**Pn**	**23 33 01.4**	**+1.6**
SGF				*e*S	**Sn**	**23 33 31.8**	**-0.1**
SGF				MSG		23 33 36.6	
	comp=Z,2.2nm,0.2s						
LILU	**Lilltraesk**	**2.56**	**181**	*e*P	**Pn**	**23 33 02.2**	**+2.1**
ARA0	**ARCESS Array S**	**2.65**	**47**	Pn	**Pn**	**23 33 01.9**	**+0.5**
	baz=224,slow=16						
ARA0				Sn	**Sn**	**23 33 31.9**	**-2.8**
	baz=232,slow=28						
ARA0	**ARCESS Array S**	**2.65**	**47**	*e*P	**Pn**	**23 33 01.9**	**+0.5**
ARA0				*e*S	**Sn**	**23 33 31.9**	**-2.8**
MOR8	**Moi Rana**	**2.74**	**235**	*e*SG	**Sg**	**23 33 40.8**	**-7.2**

FITZ	**Fitzroy Crossi**	**40.39 261**	P		**P**		**23 51 28.3**	**+0.3**
	60nm,0.4s,mb5.3,baz=102,slow=4.3,SNR=322							
MBWA	**Marble Bar**	**45.77 256**	*e*P		**P**		**23 52 10.9**	**-0.3**
	55nm,0.5s,mb5.1							
NWAO	**Narrogin (SRO)**	**48.47 240**	P		**P**		**23 52 29.5**	**-2.5**
	14nm,1.1s,mb4.2							
CBIJ	**Chichi jima**	**50.00 330**	P		**P**		**23 52 42.3**	**-1.4**
	87nm,0.7s,mb5.2,baz=90,slow=19							
MAJO	**Matsushiro**	**59.73 332**	*e*P		**P**		**23 53 51.7**	**-1.9**
	43nm,1.1s,mb5.0							
VNDA	**Vanda**	**61.17 182**	P		**P**		**23 54 02.0**	**-0.8**
	2.8nm,0.5s,mb4.2,baz=360,slow=7.5,SNR=24							
SBA	**Scott Base**	**61.43 180**	*e*P		**P**		**23 54 04.4**	**-0.2**
	51nm,1.2s,mb5.0							
CASY	**Casey**	**62.21 203**	*e*P		**P**		**23 54 08.8**	**-1.0**
	12nm,0.7s,mb4.6							
ASAJ	**Asahikawa**	**64.57 340**	P		**P**		**23 54 26.2**	**+0.6**
	45nm,0.7s,mb5.2,baz=233,slow=8.5,SNR=25							
YSS	**Yuzh-Sakhalins**	**67.06 342**	*e*P		**P**		**23 54 41.5**	**+0.2**
	96nm,1.0s,mb5.4							
MDJ	**Mudanjiang**	**70.10 332**	*e*P		**P**		**23 55 00.2**	**+0.2**
	17nm,0.8s,mb4.7							
CN2	**Changchun**	**71.45 329**	*e*P		**P**		**23 55 08.0**	**-0.1**
CN2				AMB	AMB			
	comp=Z,10.0nm,0.6s,mb4.6							
ENH	**Enshi**	**72.97 310**	*e*P		**P**		**23 55 16.6**	**-0.8**
	comp=Z,30nm,0.8s,mb5.0							
QSPA	**South Pole Qui**	**73.59 180**⇑	*i*P		**P**		**23 55 20.3**	**+0.2**
	comp=Z,38nm,0.9s,mb5.0							
BJT	**Baijiatuau**	**74.01 321**	*e*P		**P**		**23 55 23.0**	**-0.3**
	comp=Z,15nm,1.0s,mb4.6							
XAN	**Xi'an**	**75.34 313**	P		**P**		**23 55 30.8**	**-0.1**
XAN				AMB	AMB			
	comp=Z,23nm,0.9s,mb4.8							
KMI	**Kunming**	**75.78 302**	*e*P		**P**		**23 55 34.8**	**+1.2**
KMI	**Kunming**	**75.78 302**	*e*P		**P**		**23 55 34.7**	**+1.1**
	comp=Z,0.1nm,3.1s							
CMAR	**Chiang Mai Arr**	**76.26 294**	P		**P**		**23 55 37.1**	**+0.8**
	comp=Z,4.9nm,0.7s,mb4.3,baz=134,slow=3.6,SNR=28							
MA2	**Magadan**	**77.03 351**	*e*P		**P**		**23 55 38.9**	**-0.9**
	comp=Z,34nm,1.2s,mb4.8							
HHC	**Hu-ho-hao-te**	**77.32 320**	*e*P		**P**		**23 55 42.5**	**+0.7**
HHC				AMB	AMB			
	comp=Z,15nm,1.0s,mb4.6							
HHC				AMB	AMB			
	comp=Z,156nm,5.4s							
CD2	**Chengdu**	**77.58 308**	*e*P		**P**		**23 55 44.5**	**+1.1**
CD2				AMB	AMB			
	comp=Z,20nm,0.9s,mb4.8							
HIA	**Hailar**	**78.10 330**	*e*P		**P**		**23 55 46.1**	**+0.2**
	comp=Z,15nm,1.1s,mb4.5							
LZH	**Lanzhou**	**79.97 312**	*e*P		**P**		**23 55 57.5**	**+1.3**
LZH				AMB	AMB			
	comp=Z,63nm,1.0s,mb5.2							
LZH	**Lanzhou**	**79.97 312**	*e*P		**P**		**23 55 57.5**	**+1.3**
	comp=Z,63nm,1.0s,mb5.2							
LZH			pP		Px		23 56 14.0	
LZH			sP		Px		23 56 24.5	
MAW	**Mawson**	**80.56 202**	P		**P**		**23 55 59.0**	**+0.3**
	comp=Z,2.2nm,0.6s,mb3.9,baz=114,slow=7.9,SNR=8.6							
YAK	**Yakutsk**	**83.86 343**	*e*P		**P**		**23 56 14.9**	**-0.7**
	comp=Z,33nm,0.8s,mb5.1							
SONM	**Songino Array**	**84.27 323**	P		**P**		**23 56 18.8**	**+0.8**
	comp=Z,8.4nm,0.9s,mb4.5,baz=135,slow=5.2,SNR=18							
SHL	**Shillong**	**84.97 298**⇓	*i*P		**P**		**23 56 22.5**	**+0.4**
YBH	**Yreka Blue Hor**	**86.15 45**	P		**P**		**23 56 27.5**	**0.0**
	comp=Z,2.1nm,0.9s,mb3.9,baz=53,slow=5.1,SNR=4.1							
CMB	**Columbia Colle**	**86.21 49**	*e*P		**P**		**23 56 26.1**	**-1.8**
	comp=Z,4.5nm,0.9s,mb4.2							
SYO	**Syowa Base**	**87.26 196**⇓	P		**P**		**23 56 31.9**	**-0.3**
SYO	**Syowa Base**	**87.26 196**⇑	PcP		PcP		23 56 35.5	+1.2
NVAR	**Mina Array Bea**	**87.88 49**	P		**P**		**23 56 36.6**	**+0.9**
	comp=Z,1.9nm,0.8s,mb4.0,baz=220,slow=6.9,SNR=15							
ILAR	**Eielson Array**	**87.94 18**	P		**P**		**23 56 33.9**	**-1.5**
	comp=Z,1.8nm,0.6s,mb4.1,baz=240,slow=5.0,SNR=58							
TPH	**Tonopah**	**88.53 50**	P		**P**		**23 56 39.5**	**+0.6**
	comp=Z,2.8nm,1.0s,mb4.0							
PMSA	**Palmer Station**	**89.94 160**	*e*P		**P**		**23 56 44.5**	**-0.3**
	comp=Z,27nm,1.0s,mb5.0							
GUN	**Gumba**	**90.81 299**	*e*P		**P**		**23 56 50.0**	**+0.2**
PKI	**Pulchoki**	**91.10 298**	*e*P		**P**		**23 56 51.0**	**-0.1**
	comp=Z,6.1nm,0.5s,mb4.8							
KKN	**Kakani**	**91.28 298**	*e*P		**P**		**23 56 51.7**	**-0.2**
	comp=Z,9.8nm,0.8s,mb4.8							
DMN	**Daman**	**91.37 298**	*e*P		**P**		**23 56 52.6**	**+0.2**
	comp=Z,11nm,0.7s,mb4.9							
SNAA	**Sanae**	**91.88 183**⇑	*i*		**P**		**23 56 52.9**	**-0.8**
GKN	**Gorkha**	**91.89 299**	*e*P		**P**		**23 56 54.1**	**-0.7**
	comp=Z,4.8nm,0.4s,mb4.8							
VNA3	**Neumayer Olymp**	**92.52 181**⇑	*i*		**P**		**23 56 58.9**	**+2.2**
KOLN	**Koldanda**	**92.69 298**	*e*P		**P**		**23 56 57.6**	**-0.9**
	comp=Z,3.6nm,0.6s,mb4.6							
VNA2	**Neumayer--Watz**	**92.80 182**⇑	*i*		**P**		**23 57 00.4**	**+2.4**
VNA1	**Neumayer--Stat**	**93.09 181**⇑	*i*		**P**		**23 57 00.9**	**+1.6**
HWUT	**Hardware Ranch**	**93.83 48**	P		**P**		**23 56 53.9**	**-9.4**
ZAL	**Zalesovo**	**99.17 324**	P		**P**		**23 57 27.4**	**+0.1**
	comp=Z,2.3nm,1.0s,mb4.5,baz=346,slow=6.2,SNR=11							
ARCES	**ARCESS Array B**	**122.07 345**	PKP		PKPdf		00 02 38.7	+0.8
	comp=Z,8.8nm,0.6s,baz=78,slow=1.4,SNR=17							
ARCES	**ARCESS Array B**	**122.07 345**	PKP		PKPdf		00 02 38.7	+0.8
SUR	**Sutherland**	**122.16 213**	PKP		PKPdf		00 02 40.0	+1.0
	comp=Z,5.9nm,1.1s,baz=8.3,slow=18,SNR=2.8							
FINES	**FINESS Array B**	**127.56 338**	PKP		PKPdf		00 02 49.6	+1.0
	comp=Z,0.4nm,0.3s,baz=101,slow=2.1,SNR=12							
NB2	**NORSAR Subarra**	**132.45 345**	PKPdf		PKPdf		00 02 58.4	+0.4
	comp=Z,1.4nm,0.8s,baz=33,slow=2.1							
NOA	**NORSAR Array B**	**132.45 345**	PKP		PKPdf		00 02 59.0	+1.0
	comp=Z,0.9nm,0.7s,baz=34,slow=2.1,SNR=5.4							
GERES	**GERESS Array B**	**141.47 333**	PKhKP				00 03 11.0	
	comp=Z,0.9nm,0.6s,baz=27,slow=3.0,SNR=11							
GERES				PKP	PKPdf		00 03 17.7	+3.0
	comp=Z,0.6nm,0.6s,baz=45,slow=1.9,SNR=6.1							
IDI	**Anoyia**	**142.13 307**	PKhKP				00 03 13.3	
	comp=Z,4.1nm,0.6s,baz=69,slow=22,SNR=12							
JAVS	**Javornik**	**143.44 329**	*i* P		PKPbc		00 03 17.2	+0.4
GIVF	**Givet**	**143.77 342**	*e*PKP1		PKPbc		00 03 18.6	+0.9
BAIF	**Baives**	**143.99 342**	*e*PKP1		PKPbc		00 03 20.2	+1.8
WLS	**Welschbruch**	**144.38 338**	*e*P		PKPbc		00 03 20.6	+1.1
CDF	**Champ du Feu**	**144.41 338**	*e*PKP1		PKPbc		00 03 20.4	+0.8
	comp=Z,80nm,0.9s							
CTI	**Castel Tesino**	**144.48 331**	*e*PKP		PKPdf		00 03 20.6	+0.6
FELD	**Feldberg**	**144.59 337**	*e*P		PKPdf		00 03 21.1	+1.0
ECH	**Echery**	**144.62 338**	*e*P		PKPdf		00 03 21.1	+1.0
BRMO	**Bormio**	**144.73 333**	*e*PKP		PKPdf		00 03 21.9	+1.5
MOF	**Molkenrain**	**144.93 337**	*e*P		PKPdf		00 03 21.5	+0.8
THEF	**They Montfort**	**145.03 339**	*e*P		PKPdf		00 03 22.8	+2.0
HINF	**Hinteralfeld**	**145.06 338**	*e*PKP1		PKPbc		00 03 22.3	+0.9
	comp=Z,21nm,0.7s							
HAU	**Haudompre**	**145.09 338**	*e*PKP1		PKPbc		00 03 22.6	+1.1
	comp=Z,49nm,0.7s							
MEZF	**Maizieres a'vi**	**145.10 340**	*e*PKP1		PKPbc		00 03 23.1	+1.6
	comp=Z,97nm,0.7s							
FSSB	**Fossombrone**	**145.64 327**	*e*PKP		PKPdf		00 03 24.7	+2.6
RSM	**Repubblica di**	**145.64 328**	*e*PKP		PKPdf		00 03 25.3	+3.3
ARV	**Arcevia**	**145.69 327**	*e*PKP		PKPdf		00 03 25.1	+3.0
ORI	**Oriolo Calabro**	**145.86 319**	*e*PKP		PKPdf		00 03 25.9	+3.4
VAI	**Varese**	**145.90 334**	*e*PKP		PKPdf		00 03 24.7	+2.3
SFI	**Santa Sofia**	**145.96 328**	*e*PKP		PKPdf		00 03 26.2	+3.6
MRLC	**Muro Lucano**	**146.04 321**	*e*PKP		PKPdf		00 03 25.7	+2.9
PGD	**Poggio Sodo**	**146.05 329**	*e*PKP		PKPdf		00 03 26.7	+4.0
NRCA	**Norcia**	**146.06 326**	*e*PKP		PKPdf		00 03 25.7	+2.9
ZCCA	**Zocca**	**146.07 330**	*e*PKP		PKPdf		00 03 26.8	+4.1
VMG	**Vicchio**	**146.07 329**	*e*PKP		PKPdf		00 03 26.7	+3.9
SEI	**Scarperia**	**146.10 329**	*e*PKP		PKPdf		00 03 27.0	+4.2
CII	**Carovilli**	**146.13 323**	*e*PKP		PKPdf		00 03 26.7	+3.8
TDS	**Terranova Siba**	**146.17 319**	*e*PKP		PKPdf		00 03 26.5	+3.4
AQU	**L'Aquila**	**146.22 325**	*e*PKP		PKPdf		00 03 26.7	+3.6
GSCL	**Gusciola**	**146.25 330**	*e*PKP		PKPdf		00 03 26.8	+3.8
SGO	**Sicignano**	**146.27 321**	*e*PKP		PKPdf		00 03 25.9	+2.7
CABF	**La Chapelle**	**146.36 337**	*e*PKP1		PKPbc		00 03 26.9	+2.3
	comp=Z,18nm,0.6s							
MGR	**Morigerati**	**146.38 320**	*e*PKP		PKPdf		00 03 25.6	+2.2
FLN	**La Foliniere**	**146.41 346**	*e*PKP1		PKPbc		00 03 26.2	+1.5
	comp=Z,40nm,0.6s							
SDI	**San Donato**	**146.42 324**	*e*PKP		PKPdf		00 03 26.2	+2.8
PTQR	**Pietraquaria**	**146.45 325**	*e*PKP		PKPdf		00 03 26.7	+3.2
BDI	**Bagni Di Lucca**	**146.46 330**	*e*PKP		PKPdf		00 03 25.3	+2.0
BOB	**Bobbio (Coli)**	**146.47 332**	*e*PKP		PKPdf		00 03 27.2	+3.8
LDF	**La Druitiere**	**146.49 346**	*e*PKP1		PKPbc		00 03 26.3	+1.4
	comp=Z,19nm,0.6s							
CSNT	**Castellina Chi**	**146.56 328**	*e*PKP		PKPdf		00 03 25.9	+2.3
LOR	**Lormes**	**146.57 340**	*e*PKP1		PKPbc		00 03 26.9	+1.8
	comp=Z,20nm,0.7s							
MNS	**Montasola**	**146.60 326**	*e*PKP		PKPdf		00 03 26.5	+2.8
GRR	**Gorron**	**146.85 346**	*e*PKP1		PKPbc		00 03 27.5	+1.8
	comp=Z,50nm,0.8s							
SSF	**Saint Saulge**	**146.87 340**	*e*PKP1		PKPbc		00 03 27.9	+2.1
	comp=Z,24nm,0.6s							
HYF	**Humbligny**	**146.95 342**	*e*PKP1		PKPbc		00 03 28.5	+2.5
LPL	**La Plagne**	**147.03 335**	*e*PKP1		PKPdf		00 03 28.7	+4.4
	comp=Z,22nm,0.7s							
LPG	**La Plagne**	**147.03 335**	*e*PKP1		PKPdf		00 03 28.9	+4.6
	comp=Z,33nm,0.7s							
SMF	**Signal de Mont**	**147.12 340**	*e*PKP1		PKPdf		00 03 28.3	+3.9
SOI	**Samo**	**147.24 317**	*e*PKP		PKPdf		00 03 29.2	+4.3
SGMF	**Saint Gilles**	**147.34 348**	*e*PKP1		PKPdf		00 03 28.1	+3.4
	comp=Z,35nm,0.7s							
BGF	**Bois d'Agland**	**147.52 341**	*e*PKP1		PKPdf		00 03 29.5	+4.4
	comp=Z,30nm,0.7s							
MBDF	**Montbardon**	**147.66 335**	*e*PKP1		PKPdf		00 03 29.8	+4.5
QUIF	**Quistinic**	**147.78 349**	*e*PKP1		PKPdf		00 03 29.9	+4.5
ORIF	**Oris-en-Rattie**	**147.86 336**	*e*PKP1		PKPdf		00 03 30.6	+4.9
	comp=Z,33nm,0.8s							
TCF	**Toulx Ste Croi**	**147.96 341**	*e*PKP1		PKPdf		00 03 30.7	+4.9
	comp=Z,14nm,0.7s							
SBF	**Sospel**	**148.07 333**	*e*PKP1		PKPdf		00 03 30.8	+4.8
	comp=Z,43nm,0.8s							
PYM	**Petit Puy Mans**	**148.19 340**⇑	*e*P		PKPdf		00 03 33.1	+6.9
MFF	**Saint Martin d**	**148.35 344**	*e*PKP1		PKPdf		00 03 31.6	+5.2
	comp=Z,26nm,0.6s							
PGF	**Pioggiola**	**148.37 330**	*e*PKP1		PKPdf		00 03 31.8	+5.2
	comp=Z,33nm,0.9s							
VIVF	**Saint-Julien-l**	**148.37 337**	*e*PKP1		PKPdf		00 03 31.9	+5.4
	comp=Z,21nm,0.9s							
LBL	**Lubilhac**	**148.56 339**⇑	*e*P		PKPdf		00 03 34.3	+7.5
VAE	**Valguarnera**	**148.65 317**	PKPab		PKPab		00 03 37.1	-0.6
	comp=Z,9.4nm,0.8s,baz=273,slow=4.9,SNR=4.7							
FRF	**La Foret Royal**	**148.66 333**	*e*PKP1		PKPdf		00 03 32.3	+5.3
	comp=Z,18nm,0.9s							
SMRF	**Simiane la Rot**	**148.76 335**	*e*PKP1		PKPdf		00 03 33.2	+6.1
	comp=Z,12nm,0.7s							
LMR	**La Mourre**	**148.90 333**	*e*PKP1		PKPdf		00 03 32.9	+5.5
	comp=Z,16nm,0.8s							
RJF	**Les Rejaudoux**	**149.06 341**	*e*PKP1		PKPdf		00 03 33.6	+6.0
	comp=Z,9.1nm,0.7s							
CAF	**Calviac**	**149.23 340**	*e*PKP1		PKPdf		00 03 34.1	+6.2
	comp=Z,6.0nm,0.7s							
LASF	**Ste Croix**	**149.34 337**	*e*PKP1		PKPdf		00 03 34.6	+6.5
LFF	**La Frestale**	**149.63 342**	*e*PKP1		PKPdf		00 03 35.0	+6.5
	comp=Z,26nm,0.8s							
MTLF	**Montolieu**	**150.57 339**	*e*PKP1		PKPdf		00 03 37.2	+7.2
	comp=Z,15nm,0.8s							
EPF	**Esparros**	**151.48 341**	*e*PKP1		PKPdf		00 03 39.8	+8.4
ETSF	**Etsaut**	**151.87 342**	*e*PKP1		PKPdf		00 03 40.7	+8.7
	comp=Z,13nm,0.8s							
PVRL	**Vila Real**	**154.98 352**	*e*PKPdf		PKPab		00 04 03.9	-0.1
ESDC	**Sonseca Array**	**155.81 345**	PKPab		PKPab		00 04 07.2	-0.4
	comp=Z,2.3nm,0.5s,baz=7.6,slow=4.2,SNR=28							
MTE	**Manteigas**	**155.81 352**	*e*PKPdf		PKPab		00 04 07.5	-0.1
PCBR	**Castelo Branco**	**156.35 351**	*e*PKPdf		PKPab		00 04 08.8	-1.2

*CSEM **23** 23:46:28.8±0.1, 40.38N×26.09E, h10km, MD2.9, Error ellipse: s-maj=2.5km s-min=2.2km az=95.0*
*ISK **23** 23:46:29.0, 40.39N×26.11E, h8km, MD2.9*
*THE **23** 23:46:30.5, 40.51N×25.72E, h3km, ML2.6*
ISC 23 23:46:27.9±0.6, 40.39N±0.03×26.02E±0.04, h4km±7km, n13, σ0s79/19, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ALN	**Alexandroupoli**	**0.51**	**3**	*e*Pg	**Pg**	**23 46 39.0**	**+0.9**
	comp=Z,5.0nm,0.2s						
ALN				*e*Sg	**Sg**	**23 46 45.9**	**+1.0**
EZN	**Ezine**	**0.61**	**157**	*e*PG	**Pg**	**23 46 40.8**	**+0.7**
EZN				*e*SG	**Sg**	**23 46 49.5**	**+1.2**
LOS	**Limnos**	**0.85**	**238**	*e*Pg	**Pg**	**23 46 45.1**	**+0.2**
LOS				*e*Sg	**Sg**	**23 46 55.4**	**-0.7**
KGT	**Karabiga**	**0.99**	**86**	*i* Pg	**Pg**	**23 46 47.0**	**-0.6**
KGT				*i* Sg	**Sg**	**23 46 59.5**	**-1.3**
MFT	**Murefte**	**1.04**	**67**	*e*Pg	**Pg**	**23 46 48.3**	**-0.5**
MFT				*e*Sg	**Sg**	**23 47 01.9**	**-0.8**
EDC	**Edincik**	**1.41**	**91**	*e*PN	**Pn**	**23 46 54.1**	**-0.4**
EDC				*e*SN	**Sn**	**23 47 13.9**	**+0.2**
BNT	**Bandirma**	**1.46**	**91**	*e*PN	**Pn**	**23 46 54.6**	**-0.5**
OUR	**Ouranopolis**	**1.55**	**269**	*e*Pb	**Pb**	**23 46 54.9**	**-2.0**
EDRB	**Edirne**	**1.56**	**20**	*e*PN	**Pn**	**23 46 57.2**	**+0.7**
BALB	**Balikesir**	**1.62**	**117**	*e*PN	**Pn**	**23 46 57.7**	**+0.3**
KCT	**Karacabey**	**1.79**	**93**	*e*PN	**Pn**	**23 46 59.9**	**0.0**
CTT	**Catalca**	**1.98**	**67**	*e*PN	**Pn**	**23 47 03.1**	**+0.5**
DST	**Dursunbey**	**2.15**	**110**	PN	**Pn**	**23 47 05.7**	**+0.6**

*NIED **23** 23:50:00, 33.20N×138.20E, h340km, Mw4.1 Best double couple: M0 1.72×10^15 NP1:φs185°, δ83°, λ-159°. NP2: φs93°, δ69°, λ-7°.*
*JMA **23** 23:50:29.4±0.1, 33.18N×138.23E, h339km, M3.8*
*IDC **23** 23:50:33.9±0.7, 33.11N×138.53E, h328km±9km, mb3.3/7, mb1 3.5/8, mb1mx3.2/23, Error ellipse: s-maj=36.7km s-min=12.8km az=77.0*
ISC 23 23:50:31.4±0.4, 33.24N±0.05×138.26E±0.08, h322km±4km, n31, σ1s14/39, mb3.6/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	**Tokai 1**	**0.77**	**313**	P	**P**	**23 51 13.0**	**-0.4**
TK02	**Tokai 2**	**0.82**	**329**	P	**P**	**23 51 13.7**	**+0.1**
TK03	**Tokai 3**	**0.95**	**345**	P	**P**	**23 51 14.6**	**+0.5**
TK03				S	**S**	**23 51 49.7**	**+2.2**
TK04	**Tokai 4**	**1.19**	**344**	P	**P**	**23 51 15.7**	**+0.5**
JKO	**Kozu shima**	**1.19**	**37**	P	**P**	**23 51 15.7**	**+0.5**
JHJ	**Hachijo jima 2**	**1.28**	**95**	P	**P**	**23 51 18.0**	**+2.3**
	14nm,0.3s,baz=78,slow=12,SNR=2.6						
JHJ				S	**S**	**23 51 53.0**	**+2.5**
	31nm,0.3s,baz=77,slow=22,SNR=3.9						
JHJ2	**Mitsune**	**1.31**	**95**	P	**P**	**23 51 15.7**	**-0.2**
JHJ2				S	**S**	**23 51 52.5**	**+1.8**
JIE	**Ise**	**1.73**	**312**	P	**P**	**23 51 17.8**	**-0.7**
JIM2	**Oshima 3**	**1.76**	**33**	P	**P**	**23 51 18.9**	**+0.2**
JOD2	**Odawara 2**	**2.13**	**18**	P	**P**	**23 51 21.6**	**+0.2**
JWZ	**Kozaga**	**2.15**	**278**	P	**P**	**23 51 20.2**	**-1.4**
JYN	**Shimodo**	**2.26**	**6**	P	**P**	**23 51 23.3**	**+0.8**
JWY	**Kouya**	**2.43**	**294**	P	**P**	**23 51 23.5**	**-0.4**
BSO1	**Boso 1**	**2.66**	**57**	P	**P**	**23 51 24.5**	**-1.4**
BSO1				S	**S**	**23 52 06.6**	**-1.9**
JGM	**Miyama**	**2.76**	**333**	P	**P**	**23 51 27.0**	**+0.1**
JRY	**Ryogami san**	**2.82**	**11**	P	**P**	**23 51 27.9**	**+0.6**
JRY				S	**S**	**23 52 10.8**	**-0.3**
JWT	**Wachi**	**3.12**	**311**	P	**P**	**23 51 29.7**	**-0.5**
JAI	**Aioi**	**3.23**	**281**	P	**P**	**23 51 30.2**	**-1.1**
MAT	**Matsushiro**	**3.29**	**359**	P	**P**	**23 51 31.8**	**-0.1**
MAT				S	**S**	**23 52 18.4**	**-0.9**
JAG	**Ashikaga**	**3.32**	**17**	P	**P**	**23 51 31.2**	**-1.0**
JAG				S	**S**	**23 52 17.6**	**-2.2**
JHS	**Saijyo**	**4.62**	**294**	P	**P**	**23 51 46.6**	**+0.7**
CBIJ	**Chichi jima**	**7.00**	**150**	P	**P**	**23 52 13.2**	**-0.6**
CBIJ				S	**S**	**23 53 30.8**	**-3.6**
ASAJ	**Asahikawa**	**11.37**	**16**	P	**P**	**23 53 07.3**	**+0.4**
	1.0nm,0.3s,baz=210,slow=8.1,SNR=5.6						
SONM	**Songino Array**	**28.03**	**311**	P	**P**	**23 55 58.1**	**+2.6**
	1.9nm,0.7s,mb3.5,baz=121,slow=8.4,SNR=5.9						
GTA	**Gaotai**	**31.41**	**292**	*e*P	**P**	**23 56 19.9**	**-5.1**
GTA				AMB	AMB		
	comp=Z,54nm,1.0s,mb4.7						
FITZ	**Fitzroy Crossi**	**52.46**	**195**	P	**P**	**23 59 13.2**	**-0.7**
	comp=Z,1.5nm,0.9s,mb3.3,baz=165,slow=13,SNR=2.5						
WRA	**Warramunga Arr**	**53.02**	**185**	P	**P**	**23 59 17.0**	**-1.0**
	comp=Z,2.1nm,0.3s,mb3.9,baz=0.3,slow=7.6,SNR=42						
ASAR	**Alice Springs**	**56.74**	**185**	P	**P**	**23 59 44.0**	**-0.4**
	comp=Z,1.4nm,0.6s,mb3.5,baz=15,slow=10,SNR=21						
STKA	**Stephens Creek**	**64.84**	**177**	P	**P**	**00 00 38.6**	**+0.4**
	comp=Z,0.6nm,0.6s,mb3.4,baz=348,slow=4.9,SNR=3.0						
FINES	**FINESS Array B**	**70.95**	**332**	P	**P**	**00 01 15.9**	**+0.5**
	comp=Z,0.9nm,0.9s,mb3.5,baz=36,slow=7.6,SNR=4.7						
TXAR	**Lajitas Array**	**94.50**	**51**	P	**P**	**00 03 18.6**	**+2.0**
	comp=Z,0.3nm,0.9s,mb3.3,baz=297,slow=2.0,SNR=3.5						

WEL 24 00:18:45.1±0.7, 36.69S×178.53E, h12km, ML3.6/3, Error ellipse: s-maj=7.1km s-min=4.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.89**	**192**	P*	Pb	00 18 59.9	-2.1
MXZ				S*	Sb	00 19 11.5	-2.2
PUZ	**Puketiti**	**1.40**	**189**	PN	Pn	00 19 09.8	-0.8
PUZ				SN	Sn	00 19 28.3	-0.7
MWZ	**Matawai**	**1.83**	**206**	P*	Pb	00 19 15.4	-2.7
MWZ				S*	Sb	00 19 36.8	-4.1
URZ	**Urewera**	**1.94**	**215**	P*	Pb	00 19 16.2	-3.7
URZ				S*	Sb	00 19 39.1	-4.8
KNZ	**Kokohu**	**2.43**	**196**	PN	Pn	00 19 23.6	-1.7
KNZ				SN	Sn	00 19 52.3	-2.9
MOVZ	**Moawhango**	**3.49**	**218**	P*	Pb	00 19 38.2	-8.3
MRZ	**Mangatainoka R**	**4.59**	**209**	PN	Pn	00 19 51.6	-4.4
MRZ				SN	Sn	00 20 44.5	-5.5

*IDC **24** 00:19:22.7±5.1, 5.22S×150.85E, h72km±43km, mb3.6/5, mb1 3.9/7, mb1mx3.7/15, ML3.7/1, Error ellipse: s-maj=53.9km s-min=28.9km az=123.0*
*NEIC **24** 00:19:23.6±1.0, 5.31S×150.90E, h87km±10km, mb4.0/2, Error ellipse: s-maj=29.1km s-min=10.4km az=133.0*
ISC 24 00:19:22.7±1.1, 5.3S±0.2×150.9E±0.2, h93km±12km, n13, σ0s77/13, mb3.7/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAB	**Rabaul**	**1.70**	**49**	*e*P	**P**	**00 19 51.3**	**-0.3**
WAU	**Wau**	**4.59**	**244**	*e*P	**P**	**00 20 33.0**	**+1.7**
PMG	**Port Moresby**	**5.49**	**222**	P	**P**	**00 20 42.4**	**-1.0**
	32nm,0.3s,baz=35,slow=3.8,SNR=78						
PMG				S	**S**	**00 21 45.4**	**-0.4**
	5.0nm,0.3s,baz=91,slow=18,SNR=7.4						
PMG	**Port Moresby**	**5.49**	**222**	*e*P	**P**	**00 20 42.1**	**-1.3**
CTA	**Charters Tower**	**15.36**	**197**	P	**P**	**00 22 56.5**	**+0.9**
	0.2nm,0.3s,baz=324,slow=22,SNR=3.5						
WRAB	**Tennant Creek**	**21.67**	**226**	*e*P	**P**	**00 24 06.3**	**-0.9**
	3.8nm,0.6s,mb3.9						
WRA	**Warramunga Arr**	**21.68**	**226**	P	**P**	**00 24 06.7**	**-0.6**
	1.8nm,0.5s,mb3.6,baz=52,slow=10,SNR=23						
ASAR	**Alice Springs**	**24.50**	**220**	P	**P**	**00 24 34.6**	**-0.1**
	2.0nm,0.5s,mb3.7,baz=59,slow=8.6,SNR=33						
FITZ	**Fitzroy Crossi**	**27.73**	**241**	P	**P**	**00 25 05.0**	**+0.3**
	1.9nm,0.5s,mb3.9,baz=38,slow=9.0,SNR=12						
STKA	**Stephens Creek**	**27.82**	**197**	P	**P**	**00 25 06.3**	**+0.8**
	0.5nm,0.3s,mb3.5,baz=162,slow=23,SNR=2.4						
MBWA	**Marble Bar**	**34.05**	**240**	P	**P**	**00 26 00.0**	**-0.2**
	1.0nm,0.4s,mb4.0						
ILAR	**Eielson Array**	**83.36**	**22**	P	**P**	**00 31 40.6**	**+0.1**
	0.3nm,0.5s,mb3.4,baz=253,slow=5.8,SNR=9.0						
GERES	**GERESS Array B**	**123.46**	**327**	PKP	PKPdf	00

TIA Tai'an 17.43 273 *e*P **P 00 32 09.5 +2.8**
TIA AMB AMB
comp=Z,34nm,1.2s
BJI Beijing 17.92 286 P **P 00 32 13.9 +1.2**
BJI AP 00 32 23.9
BJI AMB AMB
comp=Z,32nm,1.2s
BJI AMB AMB
comp=Z,374nm,6.1s
BJI LR LR
comp=N,423nm,10.7s
BJI LR LR
comp=E,198nm,11.1s
BJI LR LR
comp=Z,146nm,13.3s
BJI Beijing 17.92 286 P **P 00 32 13.9 +1.2**
comp=Z,32nm,1.2s
BJI pP 00 32 23.9
BJI sP 00 32 29.0
BJI S **S 00 35 45.9 +17**
BJI sS 00 36 07.3
BJT Baijiatuau 17.92 286 *e*P **P 00 32 13.9 +1.2**
comp=Z,66nm,1.4s
HIA Hailar 18.33 317 P **P 00 32 18.6 +0.8**
comp=Z,7.5nm,0.7s
WHN Wuhan 21.36 259 *e*P **P 00 32 51.0 -0.2**
MA2 Magadan 23.66 15 *e*P **P 00 33 13.0 -0.6**
XAN Xi'an 24.47 272 P **P 00 33 20.9 -0.9**
XAN AMB AMB
comp=Z,12nm,1.6s,mb4.1
ENH Enshi 25.30 263⇑ *e*P **P 00 33 28.5 -1.3**
comp=Z,85nm,0.8s,mb5.3
ENH *e* pP 00 33 34.1 -2.3
YAK Yakutsk 25.48 350⇓ *e*P **P 00 33 30.4 -0.7**
YAK pmax pmax
comp=Z,27nm,1.0s,mb4.7
YAK MLR MLR
comp=Z,400nm,13.0s,MS4.1
YAK Yakutsk 25.48 350 *e*P **P 00 33 29.1 -2.0**
comp=Z,16nm,0.5s,mb4.8
SONM Songino Array 25.97 304 P **P 00 33 34.6 -1.2**
comp=Z,6.8nm,0.9s,mb4.2,baz=108,slow=7.8,SNR=19
LZH Lanzhou 28.00 278 *e*P **P 00 33 53.3 -1.2**
LZH AP pP 00 33 58.5 -2.7
LZH XP sP 00 34 01.8 -2.4
LZH AMB AMB
comp=Z,30nm,1.0s,mb4.9
LZH AMB AMB
comp=Z,120nm,4.0s
LZH LR LR
comp=N,2μm,14.5s
LZH LR LR
comp=Z,2μm,15.7s,MS4.8
LZH Lanzhou 28.00 278 *e*P **P 00 33 53.3 -1.2**
comp=Z,30nm,1.0s,mb4.9
LZH pP pP 00 33 58.5 -2.7
LZH sP sP 00 34 01.7 -2.5
LZH PP PP 00 34 50.0 +5.5
LZH *e*S **S 00 38 49.0 +13**
LZH sS 00 39 03.2
LZH SS SS 00 40 23.1 +25
LZH LR LR
comp=Z,2μm,15.7s,MS4.8
ZAK Zakamensk 28.54 309 *e*P **P 00 34 00.8 +1.6**
GYA Guiyang 29.23 258 ⇓P **P 00 34 04.1 -1.6**
GYA AMB AMB
comp=Z,10.0nm,1.4s,mb4.3
GYA AMB AMB
comp=Z,180nm,3.5s
GTA Gaotai 30.53 286 *e*P **P 00 34 19.8 +2.7**
GTA AP pP 00 34 28.8 +5.0
GTA AMB AMB
comp=Z,6.0nm,1.0s,mb4.4
QIZ Qiongzhong 31.15 242 P **P 00 34 22.1 -0.7**
QIZ *e*S **S 00 39 23.6 -2.5**
QIZ LR LR
comp=N,409nm,20.3s,MS4.2
QIZ LR LR
comp=E,473nm,22.0s,MS4.2
KMI Kunming 32.96 259 *e*P **P 00 34 38.0 -0.5**
KMI AP pP 00 34 47.8 +2.5
KMI XP sP 00 34 51.9 +3.7
KMI S **S 00 39 46.3 -7.9**
KMI XS 00 40 04.0
KMI AMB AMB
comp=Z,11nm,1.1s,mb4.7
KMI LR LR
comp=N,279nm,14.1s,MS4.2
KMI LR LR
comp=E,268nm,14.7s,MS4.2
KMI LR LR
comp=Z,288nm,17.1s,MS4.0
KMI Kunming 32.96 259 *e*P **P 00 34 38.0 -0.5**
comp=Z,11nm,1.1s,mb4.7
KMI pP pP 00 34 47.7 +2.4
KMI sP sP 00 34 51.9 +3.7
KMI S **S 00 39 46.2 -8.0**
KMI sS 00 40 04.0
KMI SS SS 00 42 02.5 +8.2
KMI LR LR
comp=Z,290nm,17.1s,MS4.0
TIXI Tiksi 34.88 355⇓ *e*P **P 00 34 53.2 -1.5**
TIXI pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
TIXI MLR MLR
comp=Z,300nm,15.0s,MS4.2
CMAR Chiang Mai Arr 39.56 253 P **P 00 35 33.6 -0.9**
comp=Z,0.7nm,0.4s,mb3.7,baz=76,slow=5.9,SNR=6.3
CMAR PcP PcP 00 37 41.1 -1.1
comp=Z,1.1nm,0.8s,baz=21,slow=1.7,SNR=6.2
CMAR LR LR 00 52 34.7
comp=Z,82nm,18.3s,MS3.6,baz=60,slow=37
CMAR Chiang Mai Arr 39.56 253 P **P 00 35 33.6 -0.9**
CMAR 00 37 41.2
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR pmax pmax
comp=Z,1.0nm,0.8s
CMAR MLR MLR
comp=Z,82nm,18.3s
ZAL Zalesovo 40.27 312 P **P 00 35 38.8 -1.3**
comp=Z,1.4nm,0.8s,mb3.8,baz=17,slow=9.2,SNR=9.7
ZAL PcP PcP 00 37 42.8 -1.5
comp=Z,0.8nm,0.5s,baz=324,slow=4.8,SNR=3.2
ZAL Zalesovo 40.27 312 P **P 00 35 38.8 -1.3**
ZAL 00 37 42.8
ZAL pmax pmax
comp=Z,1.0nm,0.8s
ZAL pmax pmax
comp=Z,1.0nm,0.5s
SHL Shillong 41.35 268⇑ *i*P **P 00 35 48.5 -0.7**
KURK Kurchatov 44.19 308⇓ *e*P **P 00 36 11.3 -0.7**
KURK Kurchatov 44.19 308 *e*P **P 00 36 11.0 -1.0**
comp=Z,4.6nm,0.3s,mb4.7
GUN Gumba 45.08 274 *e*P **P 00 36 19.1 -0.4**
comp=Z,33nm,0.9s,mb5.2
PKI Pulchoki 45.60 274 *e*P **P 00 36 22.8 -0.9**
comp=Z,18nm,1.1s,mb4.9
KKN Kakani 45.61 274 *e*P **P 00 36 23.1 -0.6**
comp=Z,23nm,0.7s,mb5.2
DMN Daman 45.83 274 *e*P **P 00 36 24.9 -0.5**
GKN Gorkha 46.03 275 *e*P **P 00 36 26.4 -0.6**
comp=Z,43nm,0.9s,mb5.4
KOLN Koldanda 46.96 275 *e*P **P 00 36 33.8 -0.5**
comp=Z,36nm,1.0s,mb5.2
PMG Port Moresby 47.03 169 P **P 00 36 34.3 -0.8**
comp=Z,5.1nm,0.6s,mb4.6
RSO Redoubt South 48.04 38 *e*P **P 00 36 42.5 +0.1**
SPU Mount Spurr 48.34 37 P **P 00 36 44.8 +0.2**
KSH Kashi 48.44 293 P **P 00 36 44.1 -1.7**
KSH AP pP 00 36 50.6 -2.1
KSH *e*XP sP 00 36 54.8 -0.7
KSH AMB AMB
comp=Z,120nm,4.4s
AAK Ala-Archa 48.58 297⇓ *e*P **P 00 36 45.3 -1.5**
AAK pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
AAK MLR MLR
comp=Z,100nm,15.0s,MS3.9
AAK Ala-Archa 48.58 297 *e*P **P 00 36 45.9 -0.9**
comp=Z,6.3nm,1.2s,mb4.5
AAK *e* 00 36 50.5
BRVK Borovoye 48.97 312 *e*P **P 00 36 48.2 -1.4**
comp=Z,8.4nm,1.0s,mb4.7
BRVK *e* pP 00 36 53.5 -3.2

MCK McKinley 49.63 34 P **P 00 36 53.7 -0.9**
comp=Z,2.8nm,0.8s,mb4.3
COLA College 50.02 32⇓ *e*P **P 00 36 57.8 +0.2**
ILAR Eielson Array 50.44 32 P **P 00 37 00.2 -0.6**
comp=Z,3.6nm,0.8s,mb4.5,baz=281,slow=7.3,SNR=32
ILAR LR LR 01 00 26.9
comp=Z,59nm,18.6s,MS3.6,baz=266,slow=38
ILAR Eielson Array 50.44 32 P **P 00 37 00.2 -0.6**
ILAR pmax pmax
comp=Z,4.0nm,0.8s
ILAR MLR MLR
comp=Z,59nm,18.6s
DIV Divide 51.37 37 *e*P **P 00 37 08.0 0.0**
comp=Z,86nm,1.1s,mb5.6
SVE Sverdlovsk 53.64 318⇑ *e*P **P 00 37 24.5 -0.4**
SVE pmax pmax
comp=Z,40nm,1.7s,mb5.1
SVE MLR MLR
comp=Z,400nm,15.0s,MS4.6
SVE MLR MLR
comp=N,100nm,14.0s,MS4.5
SVE MLR MLR
comp=E,300nm,14.0s,MS4.5
ARU Arti 54.85 318⇓ *i*P **P 00 37 32.0 -1.8**
ARU *e* 00 38 33.0
ARU *e* 00 39 33.9
ARU *e*PPP PPP 00 40 46.6 -3.8
ARU *e*S **S 00 45 13.8 +2.0**
ARU *e*SS SS 00 48 50.6 -4.4
ARU pmax pmax
comp=Z,18nm,0.9s,mb5.1
ARU MLR MLR
comp=Z,80nm,15.0s,MS3.9
ARU MLR MLR
comp=N,30nm,19.0s,MS3.9
ARU MLR MLR
comp=E,70nm,14.0s,MS3.9
INK Inuvik 55.16 27 P **P 00 37 35.6 -0.3**
comp=E,4.9nm,0.7s,mb4.6,baz=288,slow=7.1,SNR=14
INK LR LR 01 02 52.3
comp=E,120nm,18.9s,MS4.0,baz=230,slow=38
INK Inuvik 55.16 27 P **P 00 37 35.6 -0.3**
INK pmax pmax
comp=Z,5.0nm,0.7s
INK MLR MLR
comp=Z,120nm,18.9s
INK Inuvik 55.16 27 *e*P **P 00 37 35.1 -0.8**
comp=Z,27nm,1.5s,mb5.1
HYB Hyderabad 56.15 267 *i*P **P 00 37 42.5 -1.2**
HYB Hyderabad 56.15 267 *e*P **P 00 37 42.5 -1.2**
FITZ Fitzroy Crossi 56.41 195 P **P 00 37 44.3 -1.3**
comp=Z,5.1nm,0.7s,mb4.7,baz=15,slow=7.4,SNR=9.8
WRAB Tennant Creek 57.00 185 P **P 00 37 48.0 -1.8**
comp=Z,160nm,1.1s,mb6.0,SNR=13
WRAB Tennant Creek 57.00 185 *e*P **P 00 37 47.8 -2.0**
comp=Z,57nm,1.1s,mb5.5
WRAB *e* 00 37 51.8
WRA Warramunga Arr 57.01 185 P **P 00 37 48.0 -1.9**
comp=Z,19nm,0.8s,mb5.2,baz=0.3,slow=7.5,SNR=133
WRA PcP PcP 00 38 44.3 -0.3
comp=Z,3.5nm,0.8s,baz=358,slow=4.6,SNR=5.7
WRA Warramunga Arr 57.01 185 P **P 00 37 48.0 -1.9**
WRA 00 38 44.3
WRA pmax pmax
comp=Z,19nm,0.8s
WRA pmax pmax
comp=Z,4.0nm,0.8s
CTA Charters Tower 57.43 172 P **P 00 37 51.7 -1.1**
comp=Z,2.7nm,0.6s,mb4.4,baz=8.7,slow=11,SNR=3.8
CTA Charters Tower 57.43 172 P **P 00 37 51.7 -1.1**
CTA pmax pmax
comp=Z,3.0nm,0.6s
CTA Charters Tower 57.43 172 P **P 00 37 51.7 -1.1**
CTAO Charters Tower 57.43 172 *e*P **P 00 37 51.7 -1.1**
comp=Z,4.7nm,0.9s,mb4.5
ASAR Alice Springs 60.74 185 P **P 00 38 14.2 -1.4**
comp=Z,4.2nm,0.8s,mb4.6,baz=9.9,slow=6.1,SNR=44
ASAR LR LR 01 03 45.2
comp=Z,66nm,18.1s,MS3.8,baz=26,slow=35
MBWA Marble Bar 60.79 200 *e*P **P 00 38 14.5 -1.5**
comp=Z,15nm,1.2s,mb5.0
KEV Kevo 62.53 339 *e*p **P 00 38 26.1 -1.0**
comp=Z,0.3nm,0.3s,mb3.9
ARCES ARCESS Array B 63.09 339 P **P 00 38 29.7 -1.1**
comp=Z,4.8nm,0.8s,mb4.7,baz=43,slow=7.8,SNR=5.4
ARCES LR LR 01 09 32.3
comp=Z,55nm,21.8s,MS3.7,baz=64,slow=39
ARCES ARCESS Array B 63.09 339 P **P 00 38 29.7 -1.1**
ARCES pmax pmax
comp=Z,5.0nm,0.8s
ARCES MLR MLR
comp=Z,55nm,21.8s
YKA Yellowknife Ar 64.67 29 P **P 00 38 40.7 -0.4**
comp=Z,3.1nm,0.7s,mb4.5,baz=304,slow=6.2,SNR=11
YKA Yellowknife Ar 64.67 29 P **P 00 38 40.7 -0.5**
YKA pmax pmax
comp=Z,3.0nm,0.7s
YKA Yellowknife Ar 64.67 29 P **P 00 38 40.7 -0.4**
JOF Joensuu 64.82 331 *e*p **P 00 38 39.2 -2.9**
comp=Z,0.7nm,0.3s,mb4.2
JOF Joensuu 64.82 331 *e*P **P 00 38 39.2 -2.9**
JOF pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
OBN Obninsk 66.70 322⇓ *i*P **P 00 38 53.3 -1.0**
OBN *i* 00 39 22.0
OBN *e* 00 48 38.4
OBN pmax pmax
comp=Z,26nm,2.0s,mb4.9
OBN MLR MLR
comp=Z,100nm,5.0s
KAF Kangasniemi 67.18 332 *e*p **P 00 38 52.6 -4.6**
baz=52,slow=6.0
FINES FINESS Array B 67.68 331 P **P 00 38 59.4 -1.0**
comp=Z,3.8nm,0.8s,mb4.5,baz=43,slow=8.1,SNR=16
FINES LR LR 01 08 33.4
comp=Z,39nm,19.3s,MS3.6,baz=312,slow=36
FINES FINESS Array B 67.68 331 P **P 00 38 59.4 -0.9**
FINES pmax pmax
comp=Z,4.0nm,0.8s
FINES MLR MLR
comp=Z,39nm,19.3s
GOF Gofitskoye 68.42 311 *e*P **P 00 39 02.0 -3.3**
STKA Stephens Creek 68.79 177 P **P 00 39 07.0 -0.8**
comp=Z,5.0nm,0.7s,mb4.5,baz=334,slow=7.8,SNR=12
STKA LR LR 01 08 48.6
comp=Z,82nm,20.6s,MS4.0,baz=291,slow=36
KIV Kislovodsk 69.21 310 *e*P **P 00 39 09.6 -0.6**
comp=Z,17nm,1.1s,mb4.9
NLW Nelson Butte 69.75 45 *e*P **P 00 39 13.7 +0.3**
NLW *e* 00 39 18.3
GNI Garni 69.93 306⇑ *e*P **P 00 39 14.6 0.0**
GNI pmax pmax
comp=Z,18nm,1.4s
GNI Garni 69.93 306 P **P 00 39 14.8 +0.2**
comp=Z,19nm,1.2s,mb4.9
EDM Edmonton 70.47 37 *e*P **P 00 39 16.9 -0.7**
SUMG Summit 70.48 359 *e*P **P 00 39 17.5 0.0**
comp=Z,19nm,1.0s,mb5.0
DPW Davenport 71.05 44 *e*P **P 00 39 21.6 +0.3**
SOC Sochi 71.22 311 *e*P **P 00 39 21.3 -1.1**
SOC *e* 00 39 38.4
SOC *e* 00 42 06.4
SOC *e*S S 00 48 36.9 0.0
SOC *e* 00 49 20.2
SOC *e*SS SS 00 53 16.4 +3.4
SOC *e*SSS SSS 00 56 14.3 -5.3
SOC pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
SOC pmax pmax
comp=N,15nm,0.9s
SOC pmax pmax
comp=E,5.0nm,0.5s
NEW Newport 71.42 43 *e*P **P 00 39 23.8 +0.3**
comp=E,10nm,1.0s,mb4.7
NEW *e* 00 39 27.5
ANN Anapa 71.90 313 *e*P **P 00 39 18.6 -7.9**
ANN pmax pmax
comp=Z,29nm,0.8s,mb5.3
LNOR Lincton Mounta 72.15 46 *e*P **P 00 39 29.0 +1.1**
NWAO Narrogin (SRO) 72.64 199 *e*P **P 00 39 29.5 -1.6**
comp=Z,37nm,1.5s,mb5.1
AKASG Malin Array Be 72.87 321 P **P 00 39 31.3 -0.8**
comp=Z,5.3nm,0.8s,mb4.5,baz=44,slow=6.0,SNR=27
AKASG LR LR 01 12 02.6
comp=Z,67nm,18.3s,MS4.0,baz=25,slow=36
AKASG Malin Array Be 72.87 321 P **P 00 39 31.3 -0.7**
AKASG pmax pmax
comp=Z,5.0nm,0.8s
AKASG MLR MLR
comp=Z,67nm,18.3s
NB2 NORSAR Subarra 73.20 336 P **P 00 39 33.0 -0.7**
comp=Z,3.4nm,0.9s,mb4.3,baz=41,slow=5.8
NOA NORSAR Array B 73.20 336 P **P 00 39 33.0 -0.8**
comp=Z,6.5nm,0.9s,mb4.5,baz=40,slow=5.9,SNR=16
NOA LR LR 01 15 19.8
comp=Z,48nm,20.9s,MS3.8,baz=50,slow=39
NOA NORSAR Array B 73.20 336 P **P 00 39 33.0 -0.7**
NOA pmax pmax
comp=Z,7.0nm,0.9s
NOA MLR MLR
comp=Z,49nm,20.9s
OHCM Honcut 73.97 53 *e*P **P 00 39 39.1 +0.4**
MSO Missoula 74.01 43 *e*P **P 00 39 37.9 -0.8**
comp=Z,5.0nm,1.1s,mb4.4
BEKR Beckwourth 74.38 52 *e*P **P 00 39 41.6 +0.6**
comp=Z,7.5nm,0.9s,mb4.6
BEKR *e* 00 39 46.4
MALT Malatya 75.02 307 *e*P **P 00 39 45.5 +0.8**
comp=Z,14nm,1.6s,mb4.7
WCN Washoe City 75.09 52 *e*P **P 00 39 46.1 +1.0**
comp=Z,5.1nm,0.9s,mb4.5
HRY Holter Researc 75.22 42 *e*P **P 00 39 45.6 -0.1**
CMB Columbia Colle 75.43 53 *e*P **P 00 39 47.1 0.0**
comp=Z,11nm,1.0s,mb4.8
HLID Hailey 75.74 46 *e*P **P 00 39 49.5 +0.7**
comp=Z,4.1nm,1.1s,mb4.3
GZT Gaziantep 76.14 306 *i*P **P 00 39 52.2 +1.1**
BALT Daday 76.22 312 *i*P **P 00 39 52.4 +0.9**
KAHT Ahir Dag 76.42 307 *i*P **P 00 39 54.4 +1.8**
NVAR Mina Array Bea 76.52 52 P **P 00 39 54.4 +1.2**
comp=Z,4.8nm,0.8s,mb4.5,baz=298,slow=4.0,SNR=32
KWP Kalwaria 76.76 323 *e*P **P 00 39 54.7 +0.4**
comp=Z,56nm,1.6s,mb5.2
ELDT Eldivan 76.83 311 *i*P **P 00 39 55.7 +0.8**
BRTR Keskin Array B 77.17 310 P **P 00 39 56.6 -0.2**
comp=Z,5.4nm,1.0s,mb4.5,baz=90,slow=4.9,SNR=30
BRTR LR LR 01 22 00.2
comp=Z,18nm,19.0s,MS3.4,baz=275,slow=42
TPH Tonopah 77.41 52 *e*P **P 00 39 59.1 +0.9**
comp=Z,11nm,1.0s,mb4.8
KOLS Kolonicke sedl 77.44 323 *e*P **P 00 39 58.7 +0.6**
OJC Ojcow 77.72 325 *e*P **P 00 39 59.6 0.0**
OJC Ojcow 77.72 325 *e*P **P 00 39 59.6 0.0**
TPAW Teton Pass 77.75 44 *e*P **P 00 40 01.6 +1.7**
CRVS Cervenica-Dubn 77.85 323 *i*P **P 00 40 00.9 +0.5**
LOHW Long Hollow 77.86 44 *e*P **P 00 40 01.2 +0.6**
DGMT Dagmar 77.96 37 *e*P **P 00 40 00.5 -0.5**
comp=Z,5.5nm,0.4s,mb5.0
NIE Niedzica 78.04 324 *e*P **P 00 40 02.4 +1.0**
LAO LASA Array 78.17 40 *e*P **P 00 40 02.4 +0.3**
comp=Z,23nm,1.1s,mb5.0
MZLS Mizel 78.59 291 P **P 00 40 05.2 +0.3**
HWUT Hardware Ranch 78.61 46 *e*P **P 00 40 05.6 +0.9**
comp=Z,9.7nm,1.2s,mb4.6
HWUT *e* 00 40 10.8
OKC Ostrava-Krasne 78.74 325 *e*P **P 00 40 06.3 +1.1**
BSEG Bad Segeberg 78.94 332 *e*P **P 00 40 05.9 -0.3**
BSEG pmax pmax
comp=Z,23nm,1.3s,mb5.0
ARSS Ar Rass 78.97 294 P **P 00 40 06.9 0.0**
ESKT Eskisehir 78.98 311 *i*P **P 00 40 06.3 -0.5**
PDAR Pinedale Array 78.99 44 P **P 00 40 07.3 +0.6**
comp=Z,2.7nm,0.8s,mb4.2,baz=309,slow=2.7,SNR=20
MORC Moravsky Berou 79.06 326 *e*P **P 00 40 06.3 -0.7**
comp=Z,11nm,1.2s,mb4.7
MORC *e* pP 00 40 11.9 -2.3
HILS Ha'il 79.13 296 P **P 00 40 08.2 +0.3**
DPC Dobruska-Polom 79.19 327 *e*P **P 00 40 07.8 +0.2**
DPC *e*pP pP 00 40 12.9 -2.0
UPC Upice 79.21 327 *e*P **P 00 40 06.7 -1.1**
PSZ Piszkesteto 79.29 323⇓ *e*P **P 00 40 09.2 +0.9**
VYHS Vyhne 79.38 324 *i*P **P 00 40 09.5 +0.7**
PVCC Panska Ves 79.81 328 *e*P **P 00 40 11.6 +0.6**
PVCC *e*pP pP 00 40 16.2 -2.1
BRG Berggiesshubel 79.82 328 *e*P **P 00 40 10.9 -0.2**
BRG *e* pP 00 40 16.6 -1.7
BRG pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
BRG Berggiesshubel 79.82 328 *e*P **P 00 40 10.9 -0.2**
comp=Z,7.7nm,1.1s,mb4.5
BRG *e* pP 00 40 16.6 -1.7
CLL Collm 79.89 329 P **P 00 40 10.7 -0.7**
comp=Z,logA/T=1.0,mb4.7
CLL *i* *PP pP 00 40 16.1 -2.6
CLL Collm 79.89 329 *i*P **P 00 40 10.7 -0.7**
CLL *i* pP 00 40 16.1 -2.6
CLL pmax pmax
comp=Z,12nm,1.1s,mb4.7
CLL Collm 79.89 329 *i*P **P 00 40 10.7 -0.7**
comp=Z,12nm,1.1s,mb4.7
CLL *i* pP 00 40 16.1 -2.6
PRU Pruhonice 80.23 327 *e*P **P 00 40 12.3 -1.0**
PRU *e**PP pP 00 40 18.8 -1.7
PRU pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
PRU Pruhonice 80.23 327 *e*P **P 00 40 12.3 -1.0**
comp=Z,9.2nm,1.0s,mb4.7
PRU *e*pP pP 00 40 18.8 -1.7
MSU Marysvale 80.23 49 *e*P **P 00 40 15.2 +1.7**
AFFS 'Afif 80.29 293 P **P 00 40 14.3 +0.2**
ZST Bratislava 80.40 325 *e*P **P 00 40 15.4 +1.2**
NEN Nelson 80.40 52 *e*P **P 00 40 14.8 +0.3**
ULM Lac du Bonnet 80.46 32 P **P 00 40 14.7 +0.1**
comp=Z,4.7nm,1.0s,mb4.4,baz=346,slow=5.5,SNR=3.0
ULM LR LR 01 18 35.6
comp=Z,68nm,18.0s,MS4.0,baz=339,slow=38
CLZ Clausthal 80.54 330 *e*P **P 00 40 15.2 +0.3**
comp=Z,19nm,1.2s,mb4.9
NKC Novy Kostel 80.93 328 *e*P **P 00 40 17.1 +0.1**
NKC *e*pP pP 00 40 22.6 -1.6
MOX Moxa 80.96 329 *e*P **P 00 40 16.0 -1.1**
KAMS Al Khamasin 81.24 289 P **P 00 40 18.9 -0.3**
KHC Kasperske Hory 81.29 327 *e*P **P 00 40 19.0 +0.2**
KHC *e*pP pP 00 40 24.5 -1.6
GEC2 GERESS Array S 81.45 327 *e*P **P 00 40 19.8 +0.1**
GEC2 pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
GEC2 GERESS Array S 81.45 327 *e*P **P 00 40 19.8 +0.1**
comp=Z,8.0nm,1.2s,mb4.5
GERES GERESS Array B 81.45 327 P **P 00 40 19.6 -0.1**
comp=Z,2.6nm,0.8s,mb4.2,baz=34,slow=4.8,SNR=24
GERES GERESS Array B 81.45 327 P **P 00 40 19.6 -0.1**
GERES pmax pmax
comp=Z,3.0nm,0.8s
KDAG Bornova 81.83 312 *i*P **P 00 40 22.1 +0.2**
GRA1 Grafenberg Arr 81.86 329 *e*P **P 00 40 22.5 +0.7**
comp=Z,24nm,1.3s,mb5.0
GRF Grafenberg Arr 81.86 329 *e*P **P 00 40 22.5 +0.7**
GRF pmax pmax
comp=Z,24nm,1.3s,mb5.0
KBRS Khaybar 81.89 296 P **P 00 40 23.5 +1.0**
PV10 Paradox Valley 82.18 47 *e*P **P 00 40 25.4 +1.7**
GROS Grobnik 82.42 324 *i*P **P 00 40 24.7 0.0**
PERS Pernice 82.46 325 *i*P **P 00 40 25.1 +0.1**
TATS Tathlith 82.53 289 P **P 00 40 26.7 +0.8**
PV01 Paradox Valley 82.62 47 *e*P **P 00 40 26.4 +0.4**
JMOS Jabal al Moall 82.74 301 P **P 00 40 27.6 +0.8**
FUR Furstenfeldbru 83.01 328 *e*P **P 00 40 28.6 +0.8**
FUR pmax pmax
comp=Z,22nm,0.7s,mb5.3
FUR Furstenfeldbru 83.01 328 *e*P **P 00 40 28.6 +0.8**
comp=Z,22nm,0.7s,mb5.3
RW3 Ridgway 83.06 47 *e*P **P 00 40 30.1 +1.8**
BDAS Al Bad' 83.20 301 P **P 00 40 30.0 +0.8**
VISS Visnje 83.21 324 *i*P **P 00 40 28.5 -0.4**
BOJS Bojanci 83.24 324 *i*P **P 00 40 29.4 +0.4**
CEY Cerknica 83.45 324 *i*P **P 00 40 29.8 -0.4**
DJNS Zahran al Janu 83.57 287 P **P 00 40 32.6 +1.3**
UMJS Umm Lajj 83.63 297 P **P 00 40 32.5 +1.0**
NAMS An Nimas 83.71 289 P **P 00 40 33.2 +1.2**
BLJS Baljurashi 83.74 290 P **P 00 40 33.3 +1.1**
BFO Black Forest 84.11 329 *e*P **P 00 40 33.4 0.0**
BFO pmax pmax
comp=Z,12nm,1.0s,mb5.0
BFO Black Forest 84.11 329 *e*P **P 00 40 33.4 0.0**
comp=Z,12nm,1.0s,mb5.0
SCHQ Schefferville 85.70 15 P **P 00 40 41.0 -0.1**
comp=Z,3.7nm,0.8s,mb4.7,baz=359,slow=8.0,SNR=4.1
ANMO Albuquerque 86.02 48⇓ *e*P **P 00 40 45.3 +2.0**
TXAR Lajitas Array 91.62 51 P **P 00 41 10.8 +0.9**

comp=Z,1.1nm,0.7s,mb4.3,baz=303,slow=3.2,SNR=16
ESDC Sonseca Array 96.18 332 LR LR 01 26 40.7
comp=Z,72nm,18.2s,MS4.2,baz=40,slow=36
QSPA South Pole Qui 126.96 180 *eP* PKPdf 00 47 06.4 -2.4
SNAA Sanae 140.31 198 *e* PKPdf 00 47 31.2 -2.8
SNAA Sanae 140.31 198 *e* PKPdf 00 47 31.2 -2.8
VNA2 Neumayer--Watz 141.90 197 *e* PKPdf 00 47 35.9 -0.7
VNA2 Neumayer--Watz 141.90 197 *e* PKPdf 00 47 35.9 -0.7
VNA3 Neumayer Olymp 142.19 196 *e* PKPdf 00 47 36.2 -0.9
VNA3 Neumayer Olymp 142.19 196 *e* PKPdf 00 47 36.2 -0.9
VNA1 Neumayer--Stat 142.30 197 *e* PKPdf 00 47 37.3 0.0
VNA1 Neumayer--Stat 142.30 197 *e* PKPdf 00 47 37.3 0.0
SAML Samuel 145.51 41 *e*PKPdf PKPdf 00 47 41.0 -3.5
SAML *e* 00 47 45.8
LPAZ La Paz 148.34 56 PKPbc PKPdf 00 47 50.7 +1.6
comp=Z,1.7nm,0.3s,baz=328,slow=3.4,SNR=8.5
LPAZ La Paz 148.34 56 PKPbc PKPdf 00 47 50.7 +1.5
CPUP Villa Florida 162.52 56 PKPab PKPab 00 48 53.5 0.0
comp=Z,2.8nm,0.9s,baz=178,slow=5.9,SNR=3.7

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*JMA **24** 00:29:00.0,37.21N×138.89E,h12km±1km,M3.7*
JMA Felt II J1.
ISC 24 00:28:59.8±0.8,37.19N±0.04×138.90E±0.06,h13km±6km, n5,σ0$37/9,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.11**	**59**	P	**Pg**	**00 29 02.8**	**-0.3**
JHK				S	**Sg**	**00 29 04.9**	**-0.4**
JIZZ	**Izumozaki**	**0.37**	**336**	S	**Sg**	**00 29 13.4**	**+0.5**
JKT	**Katashina**	**0.51**	**146**	P	**Pb**	**00 29 10.3**	**+0.3**
JKT				S	**Sg**	**00 29 17.7**	**+0.5**
JFY	**Yanaizu**	**0.68**	**71**	P	**Pb**	**00 29 13.0**	**0.0**
JFY				S	**Sb**	**00 29 21.9**	**-0.1**
MAT	**Matsushiro**	**0.85**	**221**	P	**Pb**	**00 29 15.8**	**-0.1**
MAT				S	**Sb**	**00 29 26.6**	**-0.4**

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*STR **24** 00:39:20.9±0.2,42.34N×2.18E,h5km±1km,Ml2.7,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **24** 00:39:20.8,42.34N×2.15E,h4km,ML2.7(LDG), ML2.7(STR),ML2.0(MRB),MN2.1(MDD),After MRB.*
*LDG **24** 00:39:21.0±0.1,42.32N×2.13E,h4km,Md2.7/1,Ml2.7/20, Error ellipse: s-maj=1.3km s-min=1.1km az=136.0*
*MDD **24** 00:39:21.2±0.2,42.34N×2.15E,h3km±3km,mbLg2.1/15, Error ellipse: s-maj=2.1km s-min=1.7km az=164.0, AftershockPLICA PRXIMO*
ISC 24 00:39:19.4±0.3,42.35N±0.02×2.19E±0.02,h12km±2km, n68,σ1$29/132,3C,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBRU	**Bruguera**	**0.06**	**189**	Pg	**Pg**	**00 39 22.2**	**+0.3**
CBRU	**Bruguera**	**0.06**	**189**	Pg	**Pg**	**00 39 22.2**	**+0.4**
CBRU				Sg	**Sg**	**00 39 23.4**	**-0.1**
VALF	**Valcebollere**	**0.14**	**292**	Pg	**Pg**	**00 39 24.3**	**+1.4**
VALF				Sg	**Sg**	**00 39 26.6**	**+1.4**
VALF	**Valcebollere**	**0.14**	**292**	P	**Pg**	**00 39 23.3**	**+0.4**
VALF				S	**Sg**	**00 39 25.0**	**-0.2**
CLLI	**Llivia**	**0.21**	**309**	Pg	**Pg**	**00 39 24.6**	**+0.5**
CLLI	**Llivia**	**0.21**	**309**	Pg	**Pg**	**00 39 24.7**	**+0.6**
CLLI				Sg	**Sg**	**00 39 27.4**	**+0.2**
FILF	**Fillols**	**0.34**	**52**	Pg	**Pg**	**00 39 26.6**	**0.0**
FILF				Sg	**Sg**	**00 39 30.7**	**-0.7**
FILF	**Fillols**	**0.34**	**52**	P	**Pg**	**00 39 26.7**	**+0.1**
FILF				S	**Sg**	**00 39 30.8**	**-0.6**
CARF	**Carcanieres**	**0.37**	**350**	Pg	**Pg**	**00 39 28.3**	**+1.2**
CARF				Sg	**Sg**	**00 39 33.5**	**+1.2**
CARF	**Carcanieres**	**0.37**	**350**	P	**Pg**	**00 39 28.4**	**+1.2**
CARF				S	**Sg**	**00 39 33.8**	**+1.5**
ALBA	**Albanya**	**0.40**	**95**	Pg	**Pg**	**00 39 28.9**	**+1.4**
ALBA				Sg	**Sg**	**00 39 34.9**	**+1.9**
PAND	**Andorre**	**0.51**	**290**	P	**Pg**	**00 39 30.0**	**+0.2**
PAND				S	**Sg**	**00 39 36.7**	**0.0**
EJON	**La Jonquera** 3.1nm,0.3s,SNR=18	**0.53**	**79**	⇑Pg	**Pg**	**00 39 31.4**	**+1.3**
EJON	23nm,0.5s,SNR=7.9			Lg		00 39 39.0	
CFON	**Fontmartina**	**0.61**	**163**	Pg	**Pg**	**00 39 32.2**	**+0.4**
CFON	**Fontmartina**	**0.61**	**163**	Pg	**Pg**	**00 39 32.2**	**+0.4**
CFON				Sg	**Sg**	**00 39 40.7**	**+0.6**
LPEF	**Le Peyrat**	**0.64**	**341**	Pg	**Pg**	**00 39 33.2**	**+0.9**
LPEF				Sg	**Sg**	**00 39 42.3**	**+1.5**
LPEF	**Le Peyrat**	**0.64**	**341**	P	**Pb**	**00 39 33.3**	**+1.3**
LPEF				S	**Sb**	**00 39 42.4**	**+1.9**
LRDF	**Laroque-de-Fa**	**0.64**	**23**	Pg	**Pg**	**00 39 33.7**	**+1.3**
LRDF				Sg	**Sg**	**00 39 43.0**	**+2.0**
LRDF	**Laroque-de-Fa**	**0.64**	**23**	P	**Pb**	**00 39 33.7**	**+1.6**
LRDF				S	**Sb**	**00 39 43.4**	**+2.7**
CORG	**Organya**	**0.66**	**260**	Pg	**Pg**	**00 39 32.4**	**-0.3**
CORG	**Organya**	**0.66**	**260**	Pg	**Pg**	**00 39 32.4**	**-0.3**
EMIR	**Miracle** 14nm,0.3s,SNR=18	**0.66**	**229**	⇑Pg	**Pg**	**00 39 32.6**	**-0.1**
EMIR	21nm,0.2s,SNR=7.9			Lg		00 39 41.8	
GRBF	**Gourbit**	**0.69**	**316**	P	**Pb**	**00 39 33.5**	**+0.6**
SALF	**Salau**	**0.85**	**299**	Pg	**Pg**	**00 39 36.2**	**-0.3**
SALF	**Salau**	**0.85**	**299**	P	**Pb**	**00 39 36.0**	**+0.4**
SALF				S	**Sb**	**00 39 47.0**	**+0.4**
MTLF	**Montolieu** 32nm,0.2s	**0.99**	**1**	*e*Pg	**Pg**	**00 39 39.6**	**+0.3**
MTLF				*e*Sg	**Sg**	**00 39 53.4**	**+0.8**
MLS	**Moulis**	**1.01**	**307**	S	**Sb**	**00 39 51.9**	**+0.4**
CAVN	**Les Avellanes**	**1.17**	**247**	Pg	**Pg**	**00 39 42.0**	**-0.9**
CAVN				Sg	**Sg**	**00 39 57.3**	**-1.2**
MELF	**Melles**	**1.18**	**297**	Pg	**Pg**	**00 39 43.1**	**0.0**
MELF	**Melles**	**1.18**	**297**	P	**Pb**	**00 39 42.6**	**+1.3**
MELF				S	**Sb**	**00 39 57.7**	**+1.4**
EPOB	**Poblet** 7.9nm,0.3s,SNR=18	**1.30**	**220**	⇑Pg	**Pg**	**00 39 44.3**	**-1.1**
EPOB	14nm,0.3s,SNR=7.9			Lg		00 40 00.8	
CGAR	**Garraf**	**1.32**	**217**	Pg	**Pg**	**00 39 40.5**	**-5.3**
CGAR				Sg	**Sg**	**00 39 54.4**	**-9.0**
RESF	**Ens**	**1.45**	**289**	Pg	**Pg**	**00 39 48.1**	**-0.2**
RESF				Sg	**Sg**	**00 40 08.2**	**+0.6**
RESF	**Ens**	**1.45**	**289**	S	**Sb**	**00 40 07.1**	**+3.1**
EPF	**Esparros**	**1.53**	**297**	*e*Pn	**Pn**	**00 39 46.8**	**+0.1**
EPF				*e*Pg	**Pg**	**00 39 49.1**	**-0.8**
EPF				*e*Sn	**Sn**	**00 40 05.9**	**-0.7**
EPF	14nm,0.2s			*e*Sg	**Sg**	**00 40 07.9**	**-2.4**
EBIE	**Bielsa** 6.1nm,0.4s,SNR=21	**1.55**	**283**	Pn	**Pn**	**00 39 49.2**	**+2.1**
EBIE	16nm,0.2s,SNR=7.9			Lg		00 40 11.6	
EBR	**Ebro Roquetas**	**1.99**	**220**	*e*P*	**Pb**	**00 39 57.7**	**+2.6**
EBR	**Ebro Roquetas**	**1.99**	**220**	*e*PG	**Pg**	**00 39 58.3**	**-0.9**
EBR				*e*SN	**Sn**	**00 40 22.0**	**+3.6**
ESAC	**San Caprasio** 3.4nm,0.1s,SNR=7.9	**2.08**	**253**	Pn	**Pn**	**00 39 56.4**	**+1.8**
ESAC	11nm,0.2s,SNR=7.9			Pg	**Pg**	**00 39 58.9**	**-2.1**
ESAC	38nm,0.2s,SNR=7.9			Lg		00 40 25.8	
ETSF	**Etsaut**	**2.10**	**286**	*e*Pn	**Pn**	**00 39 55.2**	**+0.2**
ETSF				*e*Pg	**Pg**	**00 39 59.2**	**-2.3**
ETSF	15nm,0.3s			*e*Sg	**Sg**	**00 40 25.0**	**-4.5**
LASF	**Ste Croix**	**2.11**	**35**	*e*Pn	**Pn**	**00 39 56.1**	**+1.0**
LASF				*e*Pg	**Pg**	**00 40 00.9**	**-0.7**
LASF	6.5nm,0.3s			*e*Sg	**Sg**	**00 40 29.5**	**-0.3**
CAF	**Calviac**	**2.58**	**358**	*e*Pn	**Pn**	**00 40 02.2**	**+0.5**
CAF				*e*Pg	**Pg**	**00 40 09.0**	**-1.9**
CAF				*e*Sn	**Sn**	**00 40 32.5**	**-0.8**
CAF	11nm,0.3s			*e*Sg	**Sg**	**00 40 42.1**	**-3.2**
SJPF	**Ste Jean**	**2.63**	**288**	*e*Pn	**Pn**	**00 40 02.0**	**-0.5**
SJPF				*e*Pg	**Pg**	**00 40 10.4**	**-1.6**
SJPF	6.8nm,0.4s			*e*Sg	**Sg**	**00 40 42.6**	**-4.5**
LFF	**La Frestale** 19nm,0.3s	**2.80**	**338**	*e*Pn	**Pn**	**00 40 04.9**	**0.0**
LFF				*e*Sg	**Sg**	**00 40 48.6**	**-4.0**
EMOS	**Mosqueruela** 0.5nm,0.2s,SNR=6.6	**2.82**	**226**	Pn	**Pn**	**00 40 06.8**	**+1.6**
EMOS	SNR=7.9			Pg	**Pg**	**00 40 13.4**	**-2.4**
EMOS	0.8nm,0.2s,SNR=7.9			Sn	**Sn**	**00 40 39.0**	**-0.5**
EMOS				Lg		00 40 50.3	
EMOS	**Mosqueruela** 2.2nm,0.2s,SNR=7.9	**2.82**	**226**	Pn	**Pn**	**00 40 06.8**	**+1.6**
EMOS				Pg	**Pg**	**00 40 13.4**	**-2.4**
EMOS				Sn	**Sn**	**00 40 39.0**	**-0.5**
EMOS				Lg		00 40 48.7	
EALK	**Alkurruntz** SNR=4.0	**2.86**	**289**	Pg	**Pg**	**00 40 14.5**	**-2.1**
EALK	0.6nm,0.1s,SNR=7.9			Lg		00 40 52.4	
SMRF	**Simiane la Rot**	**2.96**	**56**	*e*Pn	**Pn**	**00 40 08.7**	**+1.5**
SMRF	3.6nm,0.6s			*e*Sn	**Sn**	**00 40 42.2**	**-0.8**
RJF	**Les Rejaudoux** 5.7nm,0.3s	**3.00**	**351**	*e*Pn	**Pn**	**00 40 08.4**	**+0.7**
RJF				*e*Pg	**Pg**	**00 40 16.0**	**-3.2**
RJF				*e*Sg	**Sg**	**00 40 55.6**	**-3.6**
VIVF	**Saint-Julien-l** 3.3nm,0.3s	**3.09**	**35**	*e*Pn	**Pn**	**00 40 09.4**	**+0.4**
VIVF				*e*Pg	**Pg**	**00 40 18.5**	**-2.5**
VIVF				*e*Sn	**Sn**	**00 40 44.1**	**-2.1**
VIVF				*e*Sg	**Sg**	**00 41 00.0**	**-2.2**
LMR	**La Mourre** 2.2nm,0.2s	**3.32**	**71**	*e*Pn	**Pn**	**00 40 12.9**	**+0.5**
LMR				*e*Sn	**Sn**	**00 40 51.1**	**-1.1**
EIBI	**Ibiza** SNR=4.0	**3.38**	**191**	Pn	**Pn**	**00 40 13.4**	**+0.2**
EIBI	1.5nm,0.2s,SNR=4.0			Sn	**Sn**	**00 40 52.2**	**-1.5**
EIBI	**Ibiza**	**3.38**	**191**	Pn	**Pn**	**00 40 13.4**	**+0.2**
EIBI				Sn	**Sn**	**00 40 50.0**	**-3.6**
FRF	**La Foret Royal** 1.5nm,0.2s	**3.49**	**68**	*e*Pn	**Pn**	**00 40 15.5**	**+0.8**
FRF				*e*Sn	**Sn**	**00 40 55.6**	**-0.7**
ETOR	**Torete** 1.0nm,0.3s,SNR=8.8	**3.53**	**246**	Pn	**Pn**	**00 40 16.6**	**+1.2**
ETOR	SNR=7.9			Pg	**Pg**	**00 40 26.0**	**-4.0**
ETOR	1.3nm,0.2s,SNR=7.9			Sn	**Sn**	**00 40 56.9**	**-0.7**
ETOR	3.6nm,0.5s,SNR=7.9			Lg		00 41 12.5	
ORIF	**Oris-en-Rattie** 2.9nm,0.8s	**3.71**	**45**	*e*Sn	**Sn**	**00 40 59.7**	**-2.3**
TCF	**Toulx Ste Croi**	**3.94**	**0**	*e*Pn	**Pn**	**00 40 20.9**	**-0.2**
TCF				*e*Pg	**Pg**	**00 40 34.5**	**-3.5**
TCF	2.8nm,0.2s			*e*Sg	**Sg**	**00 41 25.8**	**-4.8**
SBF	**Sospel** 3.9nm,0.4s	**4.13**	**67**	*e*Pn	**Pn**	**00 40 24.5**	**+0.7**
SBF				*e*Sn	**Sn**	**00 41 11.2**	**-1.3**
BGF	**Bois d'Agland** 10nm,0.3s	**4.23**	**6**	*e*Pn	**Pn**	**00 40 25.0**	**-0.3**
BGF				*e*Pg	**Pg**	**00 40 40.6**	**-3.3**
BGF				*e*Sg	**Sg**	**00 41 34.6**	**-5.8**
ELAN	**Lanestosa** 1.2nm,0.2s	**4.23**	**284**	Pn	**Pn**	**00 40 27.3**	**+2.0**
ELAN				Sn	**Sn**	**00 41 15.7**	**+0.5**
SMF	**Signal de Mont** 2.0nm,0.2s,baz=60,slow=14,SNR=7.4	**4.45**	**15**	*e*Pn	**Pn**	**00 40 27.9**	**-0.5**
SMF				*e*Pg	**Pg**	**00 40 45.1**	**-3.2**
MFF	**Saint Martin d**	**4.57**	**339**	*e*Pn	**Pn**	**00 40 29.1**	**-1.0**
SSF	**Saint Saulge** 1.7nm,0.3s	**4.80**	**11**	*e*Pg	**Pg**	**00 40 50.5**	**-4.8**
SSF				*e*Sg	**Sg**	**00 41 52.6**	**-6.8**
PGF	**Pioggiola** 1.6nm,0.3s	**5.04**	**85**	*e*Pn	**Pn**	**00 40 36.1**	**-0.6**
PGF				*e*Sn	**Sn**	**00 41 30.3**	**-5.3**
ESDC	0.2nm,0.2s,baz=60,slow=24,SNR=4.1			Lg		00 42 06.4	
LOR	**Lormes** 1.2nm,0.2s	**5.06**	**13**	*e*Sg	**Sg**	**00 42 00.6**	**-7.3**
ESDC	**Sonseca Array** 0.4nm,0.3s,baz=31,slow=21,SNR=7.9	**5.37**	**242**	Pn	**Pn**	**00 40 40.6**	**-0.7**
ESDC				Sn	**Sn**	**00 41 40.1**	**-3.7**
EARI	**Arriondas** SNR=4.0	**5.53**	**282**	Pn	**Pn**	**00 40 44.6**	**+1.0**
EARI	SNR=4.0			Sn	**Sn**	**00 41 41.8**	**-6.1**
EARI	**Arriondas**	**5.53**	**282**	Pn	**Pn**	**00 40 44.6**	**+1.0**
EARI				Sn	**Sn**	**00 41 45.8**	**-2.0**

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*JMA **24** 01:05:51.7,37.24N×138.90E,h9km±1km,M3.5 Broadband fault plane solution: P waves. NP1:φs49°,δ48°, λ146°. NP2:φs164°,δ65°,λ47°. Principal axes: T Plg50°, Azm25°; N Plg38°, Azm185°; P Plg10°, Azm283°:*
ISC 24 01:05:51.1±0.6,37.23N±0.04×138.88E±0.05,h12km±5km, n11,σ0$81/16,3C-4D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.11**	**79**	⇓P	**Pg**	**01 05 54.0**	**-0.2**
JHK				*e*S	**Sg**	**01 05 56.1**	**-0.2**
JIZZ	**Izumozaki**	**0.33**	**336**	⇑P	**Pg**	**01 05 58.5**	**+0.4**
JIZZ				*e*S	**Sg**	**01 06 04.0**	**+1.2**
JKT	**Katashina**	**0.55**	**147**	⇓P	**Pb**	**01 06 02.4**	**+0.4**
JKT				*e*S	**Sb**	**01 06 10.2**	**+0.7**
JFY	**Yanaizu**	**0.68**	**74**	⇓P	**Pb**	**01 06 04.3**	**0.0**
JFY				*e*S	**Sb**	**01 06 12.6**	**-0.8**
JNS	**Sasagawa**	**0.68**	**30**	⇑P	**Pb**	**01 06 03.8**	**-0.6**
MAJO	**Matsushiro**	**0.87**	**219**	*e*Pg	**Pg**	**01 06 07.8**	**-0.8**
MAJO				*e*Sg	**Sg**	**01 06 17.1**	**-3.3**
MAT	**Matsushiro**	**0.87**	**219**	P	**Pb**	**01 06 08.0**	**+0.4**
MAT	**Matsushiro**	**0.87**	**219**	P	**Pb**	**01 06 08.2**	**+0.6**
MAT	**Matsushiro**	**0.87**	**219**	*e*P	**Pb**	**01 06 08.0**	**+0.4**
JAG	**Ashikaga**	**0.92**	**150**	⇓P	**Pb**	**01 06 09.5**	**+1.0**
JSD	**Sado**	**0.95**	**329**	⇑P	**Pb**	**01 06 08.0**	**-0.9**

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*IDC **24** 01:05:57.5±0.7,37.28N×138.61E,mb4.1/16,mb1 4.3/17, mb1mx4.2/25,MS3.3/4,Ms1 3.3/4,ms1mx2.9/35,Error ellipse: s-maj=20.0km s-min=18.7km az=68.0*
*NEIC **24** 01:05:58.4±0.3,37.07N×138.55E,h10km,mb4.6/14, MW4.2(NIED),Error ellipse: s-maj=9.6km s-min=6.4km az=119.0*
NEIC Recorded [3 JMA] in Niigata and [1 JMA] in Fukushima Prefectures.
*NIED **24** 01:06:00,37.30N×138.90E,h5km,Mw4.2 Best double couple: M0 1.89×10^15 NP1:φs26°,δ61°,λ102°. NP2:φs182°, δ31°,λ69°.*
*JMA **24** 01:06:00.3,37.31N×138.93E,h10km±2km,M4.5*
JMA Felt III J1.
ISC 24 01:05:57.4±1.1,37.32N±0.03×138.76E±0.06,h6km±6km, n76,σ0$93/69,mb4.3/29,MS3.2/2,2C-1D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.21**	**109**	*e*S	**Sg**	**01 06 04.5**	**-0.2**
JIZZ	**Izumozaki**	**0.22**	**349**	*e*S	**Sg**	**01 06 10.6**	**+5.8**
JNS	**Sasagawa**	**0.67**	**41**	*e*S	**Sg**	**01 06 19.3**	**-0.3**
JKT	**Katashina**	**0.67**	**145**	*e*S	**Sg**	**01 06 20.1**	**+0.3**
JFY	**Yanaizu**	**0.76**	**83**	*e*S	**Sb**	**01 06 20.7**	**-2.1**
JSD	**Sado**	**0.82**	**331**	*e*S	**Sb**	**01 06 26.9**	**+2.2**
MAT	**Matsushiro**	**0.89**	**210**	S	**Sb**	**01 06 19.9**	**-6.9**
MAT	**Matsushiro**	**0.89**	**210**	*e*S	**Sb**	**01 06 20.0**	**-6.8**
MAT	**Matsushiro**	**0.89**	**210**	*e*S	**Sn**	**01 06 30.0**	**+0.4**
JAG	**Ashikaga**	**1.05**	**148**	P	**Pb**	**01 06 19.1**	**+1.6**
JAG				*e*S	**Sb**	**01 06 31.6**	**+0.3**
ASAJ	**Asahikawa** comp=Z,90nm,21.4s,baz=112,slow=38	**7.39**	**22**	LR	LR	01 10 44.1	
ENH	**Enshi** 13nm,0.8s,mb4.5	**25.26**	**263**	*e*P	**P**	**01 11 25.8**	**+0.1**
SONM	**Songino Array** 2.2nm,0.8s,mb3.7,baz=79,slow=6.3,SNR=6.3	**25.87**	**304**	P	**P**	**01 11 30.6**	**-0.7**
CMAR	**Chiang Mai Arr** comp=Z,41nm,19.3s,MS3.3,baz=193,slow=40	**39.54**	**253**	LR	LR	01 31 54.0	
ZAL	**Zalesovo** comp=Z,32nm,20.9s,MS3.1,baz=173,slow=35	**40.17**	**312**	LR	LR	01 29 08.6	
KURK	**Kurchatov**	**44.09**	**308**	*e*P	**P**	**01 14 05.3**	**-2.4**
BVAR	**Borovoye Array** 0.6nm,0.4s,mb4.0,baz=59,slow=8.6,SNR=3.9	**48.81**	**312**	P	**P**	**01 14 44.1**	**-0.9**
BVAR	0.8nm,0.6s,baz=127,slow=7.4,SNR=4.4			PcP	PcP	01 16 07.7	-2.4
ILAR	**Eielson Array** 0.8nm,0.8s,mb3.8,baz=286,slow=8.2,SNR=7.2	**50.39**	**32**	P	**P**	**01 14 56.4**	**-0.6**
ARU	**Arti** 11nm,1.4s,mb4.7	**54.74**	**318**	*e*P	**P**	**01 15 28.8**	**-0.7**
INK	**Inuvik** 1.1nm,0.6s,mb4.1,baz=253,slow=6.8,SNR=8.7	**55.10**	**27**	P	**P**	**01 15 31.6**	**-0.4**
INK	**Inuvik**	**55.10**	**27**	*e*P	**P**	**01 15 31.6**	**-0.5**
WRAB	**Tennant Creek** 8.7nm,1.2s,mb4.7	**57.09**	**185**	P	**P**	**01 15 46.8**	**-0.2**
WRA	**Warramunga Arr** 2.8nm,0.8s,mb4.3,baz=2.0,slow=7.4,SNR=15	**57.10**	**185**	P	**P**	**01 15 44.9**	**-2.2**
ASAR	**Alice Springs** 0.6nm,0.8s,mb3.8,baz=358,slow=3.5,SNR=6.1	**60.83**	**185**	P	**P**	**01 16 11.6**	**-1.3**
ARCES	**ARCESS Array B** 2.4nm,0.7s,mb4.4,baz=58,slow=11,SNR=4.5	**62.98**	**339**	P	**P**	**01 16 25.7**	**-1.0**
KAF	**Kangasniemi** 2.1nm,0.7s,mb4.3,baz=50,slow=6.0	**67.07**	**332**	*e*p	**P**	**01 16 51.4**	**-1.8**
FINES	**FINESS Array B** 5.2nm,0.8s,mb4.6,baz=76,slow=7.9,SNR=12	**67.56**	**331**	P	**P**	**01 16 54.5**	**-1.7**
SUMG	**Summit**	**70.39**	**359**	*e*P	**P**	**01 17 13.6**	**+0.1**
DPW	**Davenport**	**71.02**	**44**	*e*P	**P**	**01 17 18.1**	**+0.4**
NEW	**Newport**	**71.39**	**43**	*e*P	**P**	**01 17 19.7**	**-0.3**
YBH	**Yreka Blue Hor** 1.6nm,0.9s,mb4.0,baz=354,slow=1.0,SNR=2.8	**71.83**	**51**	P	**P**	**01 17 22.4**	**-0.3**
AKASG	**Malin Array Be** 0.3nm,0.3s,mb3.7,baz=44,slow=5.8,SNR=11	**72.76**	**321**	P	**P**	**01 17 26.7**	**-1.4**
NB2	**NORSAR Subarra** 2.5nm,0.7s,mb4.2,baz=42,slow=5.8	**73.09**	**336**	P	**P**	**01 17 29.2**	**-0.5**
NOA	**NORSAR Array B** 3.8nm,0.8s,mb4.4,baz=40,slow=5.9,SNR=18	**73.09**	**336**	P	**P**	**01 17 29.5**	**-0.2**
NOA	**NORSAR Array B**	**73.09**	**336**	P	**P**	**01 17 29.5**	**-0.2**
HRY	**Holter Researc**	**75.18**	**42**	*e*P	**P**	**01 17 43.0**	**+0.9**
HLID	**Hailey** 2.9nm,1.0s,mb4.2	**75.71**	**46**	*e*P	**P**	**01 17 45.4**	**+0.1**
NVAR	**Mina Array Bea** 3.5nm,1.0s,mb4.3,baz=295,slow=3.7,SNR=16	**76.50**	**52**	P	**P**	**01 17 50.9**	**+1.1**
NVAR	**Mina Array Bea**	**76.50**	**52**	P	**P**	**01 17 50.9**	**+1.1**
MNV	**Mina** 4.6nm,1.1s,mb4.3	**76.59**	**52**	*e*P	**P**	**01 17 51.2**	**+0.9**
GCMT	**Greycliff**	**76.93**	**42**	*e*P	**P**	**01 17 53.2**	**+1.2**
BRTR	**Keskin Array B** 0.8nm,0.8s,mb3.7,baz=90,slow=2.5,SNR=5.7	**77.07**	**310**	P	**P**	**01 17 52.2**	**-0.7**
TPH	**Tonopah** 7.2nm,1.1s,mb4.5	**77.39**	**52**	*e*P	**P**	**01 17 56.0**	**+1.3**
CRVS	**Cervenica-Dubn**	**77.75**	**323**	*i* P	**P**	**01 17 56.3**	**-0.1**
CRVS				*e*PP	PP	01 20 45.6	-8.2
BW06	**Boulder Array** 3.8nm,0.8s,mb4.4	**78.96**	**44**	*e*P	**P**	**01 18 04.2**	**+1.0**
PDAR	**Pinedale Array** 3.1nm,0.8s,mb4.3,baz=311,slow=3.0,SNR=24	**78.96**	**44**	P	**P**	**01 18 04.0**	**+0.7**
VYHS	**Vyhne**	**79.27**	**324**	*e*P	**P**	**01 18 05.3**	**+0.5**
CLL	**Collm**	**79.78**	**329**	P	**P**	**01 18 07.9**	**+0.4**
KHC	**Kasperske Hory**	**81.18**	**327**	*e*P	**P**	**01 18 15.5**	**+0.5**
GERES	**GERESS Array B** 1.0nm,0.8s,mb3.8,baz=27,slow=3.0,SNR=11	**81.34**	**327**	P	**P**	**01 18 16.3**	**+0.5**
PV10	**Paradox Valley**	**82.16**	**47**	*e*P	**P**	**01 18 22.3**	**+2.0**
PERS	**Pernice**	**82.35**	**325**	*i* P	**P**	**01 18 21.9**	**+0.8**
RW3	**Ridgway**	**83.03**	**47**	P	**P**	**01 18 26.0**	**+1.2**
BOJS	**Bojanci**	**83.13**	**324**	*i* P	**P**	**01 18 25.7**	**+0.5**
CDF	**Champ du Feu**	**84.36**	**330**	*e*P	**P**	**01 18 31.4**	**+0.1**
HINF	**Hinteralfeld**	**85.01**	**330**	*e*P	**P**	**01 18 34.2**	**-0.3**
HAU	**Haudompre** 6.1nm,0.8s,mb4.5	**85.06**	**330**	*e*P	**P**	**01 18 34.5**	**-0.3**
MEZF	**Maizieres J'vi**	**85.16**	**331**	*e*P	**P**	**01 18 35.3**	**0.0**
SCHQ	**Schefferville** 2.3nm,0.7s,mb4.5,baz=338,slow=9.7,SNR=3.6	**85.62**	**15**	P	**P**	**01 18 37.1**	**-0.4**
CABF	**La Chapelle**	**86.29**	**329**	*e*P	**P**		
LOR	**Lormes** 16nm,1.1s,mb4.9	**86.63**	**331**	*e*P	**P**	**01 18 42.3**	**-0.3**
SSF	**Saint Saulge** 22nm,1.2s,mb5.0	**86.94**	**331**	*e*P	**P**	**01 18 43.5**	**-0.6**
FLN	**La Foliniere**	**86.96**	**334**	*e*P	**P**	**01 18 43.0**	**-1.2**
GRR	**Gorron** 114nm,1.5s	**87.41**	**334**	*e*P	**P**	**01 18 47.2**	**+0.8**
SBF	**Sospel** 9.9nm,0.9s,mb4.7	**87.94**	**327**	*e*P	**P**	**01 18 48.7**	**-0.3**
KSU1	**Kansas State U**	**88.47**	**40**	*e*P	**P**	**01 18 51.8**	**+0.1**
FRF	**La Foret Royal**	**88.52**	**327**	*e*P	**P**	**01 18 51.0**	**-0.8**
RJF	**Les Rejaudoux**	**89.17**	**331**	*e*P	**P**	**01 18 55.2**	**+0.3**
CAF	**Calviac**	**89.27**	**331**	*e*P	**P**	**01 18 55.6**	**+0.2**
LFF	**La Frestale**	**89.77**	**332**	*e*P	**P**	**01 18 58.9**	**+1.2**
TXAR	**Lajitas Array** 0.4nm,0.7s,mb3.9,baz=294,slow=3.9,SNR=6.8	**91.60**	**51**	P	**P**	**01 19 07.1**	**+0.6**
VNA2	**Neumayer--Watz**	**141.98**	**197**	⇑*i*	PKPdf	01 25 30.2	-1.5
VNA3	**Neumayer Olymp**	**142.27**	**196**	⇓*i*	PKPdf	01 25 29.5	-2.7
VNA1	**Neumayer--Stat**	**142.38**	**197**	⇑*i*	PKPdf	01 25 31.7	-0.7
SAML	**Samuel**	**145.47**	**41**	*e*PKPdf	PKPdf	01 25 37.5	-1.9
LPAZ	**La Paz** 1.4nm,0.6s,baz=309,slow=3.3,SNR=7.6	**148.33**	**56**	PKPbc	PKPdf	01 25 46.9	+2.8

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*GRAL **24** 01:17:35.4±2.7,33.30N×35.29E,h14km±999km,MD2.7*
*GII **24** 01:17:36.1±0.3,33.41N×35.46E,h2km±2km,ML2.4/8, Mw2.4/4*
ISC 24 01:17:36.8±0.5,33.38N±0.03×35.45E±0.05,h8km±8km, n15,σ0$90/21,Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATL	**Matirih**	**0.14**	**317**	*i* PG	**Pg**	**01 17 40.0**	**-0.1**
KSDI	**Kefar Szold**	**0.26**	**137**	Pg	**Pg**	**01 17

2.6nm,0.9s,mb3.7,baz=90,slow=11,SNR=6.8
CMAR Chiang Mai Arr 39.69 253 LR LR 01 52 49.1
comp=Z,16nm,18.8s,MS2.9,baz=188,slow=35
KURK Kurchatov 44.13 308 *eP* **P 01 37 28.4 +1.3**
3.2nm,0.7s,mb4.2
ILAR Eielson Array 50.24 32 P **P 01 38 14.1 -0.8**
0.7nm,0.7s,mb3.8,baz=284,slow=6.7,SNR=11
INK Inuvik 54.96 27 P **P 01 38 50.0 -0.1**
1.1nm,0.5s,mb4.2,baz=264,slow=6.1,SNR=17
INK Inuvik 54.96 27 *eP* **P 01 38 49.7 -0.3**
2.5nm,0.7s,mb4.3
FITZ Fitzroy Crossi 56.62 195 P **P 01 39 02.2 -0.5**
1.7nm,0.9s,mb4.1,baz=12,slow=21,SNR=6.2
WRAB Tennant Creek 57.20 185 *eP* **P 01 39 04.8 -2.1**
6.2nm,0.9s,mb4.6
WRA Warramunga Arr 57.21 185 P **P 01 39 05.0 -1.9**
2.4nm,0.7s,mb4.3,baz=360,slow=7.5,SNR=39
WRA PcP PcP 01 40 00.3 -0.9
1.0nm,0.6s,baz=358,slow=4.4,SNR=7.1
CTA Charters Tower 57.61 172 P **P 01 39 07.3 -2.3**
1.3nm,0.8s,mb4.0,baz=346,slow=11,SNR=2.4
CTA Charters Tower 57.61 172 P **P 01 39 07.3 -2.3**
ASAR Alice Springs 60.93 185 P **P 01 39 31.3 -1.3**
0.8nm,0.5s,mb4.1,baz=356,slow=4.5,SNR=21
ARCES ARCESS Array B 62.93 339 P **P 01 39 46.5 +1.2**
2.2nm,0.9s,mb4.3,baz=69,slow=7.7,SNR=2.7
FINES FINESS Array B 67.54 331 P **P 01 40 13.5 -1.6**
0.9nm,0.7s,mb3.9,baz=108,slow=6.0,SNR=4.7
FINES FINESS Array B 67.54 331 P **P 01 40 13.5 -1.6**
STKA Stephens Creek 68.97 178 P **P 01 40 23.7 -0.9**
2.1nm,0.6s,mb4.2,baz=1.6,slow=6.6,SNR=6.2
AKASG Malin Array Be 72.77 321 P **P 01 40 49.1 +2.0**
1.2nm,0.6s,mb4.0,baz=44,slow=6.9,SNR=5.5
NB2 NORSAR Subarra 73.06 336 P **P 01 40 46.2 -2.3**
4.0nm,1.1s,mb4.3,baz=40,slow=6.2
NOA NORSAR Array B 73.06 336 P **P 01 40 48.4 -0.1**
0.7nm,0.7s,mb3.7,baz=44,slow=5.5,SNR=3.9
HLID Hailey 75.56 46 *eP* **P 01 41 03.1 -0.2**
1.7nm,1.2s,mb3.9
BOZ Bozeman (W) 75.81 43 P **P 01 41 06.9 +2.2**
0.6nm,0.5s,mb3.8
NVAR Mina Array Bea 76.34 52 P **P 01 41 08.4 +0.6**
0.9nm,0.8s,mb3.8,baz=297,slow=3.6,SNR=6.0
BRTR Keskin Array B 77.10 310 P **P 01 41 12.4 +0.4**
0.7nm,0.9s,mb3.6,baz=76,slow=5.3,SNR=3.8
PDAR Pinedale Array 78.81 44 P **P 01 41 20.5 -0.9**
0.5nm,0.6s,mb3.6,slow=1.5,SNR=3.9
CLL Collm 79.76 329 P **P 01 41 20.8 -5.6**
GERES GERESS Array B 81.33 327 P **P 01 41 34.9 +0.2**
0.4nm,0.7s,mb3.4,baz=333,slow=3.0,SNR=4.7
PV10 Paradox Valley 82.00 47 *eP* **P 01 41 39.8 +1.3**
TXAR Lajitas Array 91.45 51 P **P 01 42 25.8 +1.0**
0.5nm,0.8s,mb3.9,baz=304,slow=3.4,SNR=6.6
VNA2 Neumayer--Watz 142.11 197⇓*i* PKPdf 01 48 46.4 -5.8
VNA3 Neumayer Olymp 142.40 196⇑*i* PKPdf 01 48 47.3 -5.4
VNA1 Neumayer--Stat 142.51 197⇑*i* PKPdf 01 48 46.8 -6.1
SAML Samuel 145.32 41 *e*PKPdf PKPdf 01 48 56.3 -3.1
LPAZ La Paz 148.18 56 PKPbc PKPdf 01 49 06.0 +2.0
1.5nm,0.7s,baz=351,slow=2.0,SNR=6.8

DJA 24 01:44:44.2±1.0, 9.53S×113.89E, h33km, MD5.2/3, ML3.6/2, 3C-2D, Error ellipse: s-maj=23.9km s-min=15.0km az=43.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.07**	**13**		*e*Pg		P	01 45 01.5	-1.4
	38nm,0.2s								
SRDI				⇑	*e*Sg		S	01 45 14.5	-2.3
KELI	**Kelakatan**	**1.43**	**24**	⇓	*e*Pn		Pn	01 45 07.0	-1.3
KELI				⇑	*e*Sn		Sn	01 45 23.6	-2.5
RATI	**Rata**	**1.81**	**64**	⇑	*e*Pn		Pn	01 45 11.8	-1.8
	99nm,0.2s								
RATI				⇓	*e*Sn		Sn	01 45 31.6	-4.0

WEL 24 01:55:54.9±0.3, 45.35S×166.82E, h12km, ML3.7/6, 1D, Error ellipse: s-maj=2.7km s-min=1.6km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.27**	**119**	⇓	P*		Pb	01 56 00.7	-0.4
DCZ					S*		Sb	01 56 04.6	-0.7
DCZ					S*		Sb	01 56 05.0	-0.4
MLZ	**Mavora Lakes**	**0.96**	**91**		P*		Pb	01 56 11.5	-1.4
MLZ					S*		Sb	01 56 24.0	-1.2
MLZ					S*		Sb	01 56 24.2	-1.1
WHZ	**Wether Hill Ro**	**0.96**	**125**		P*		Pb	01 56 12.1	-0.9
WHZ					S*		Sb	01 56 25.2	-0.3
WHZ					S*		Sb	01 56 25.3	-0.2
MSZ	**Milford Sound**	**1.04**	**50**		P*		Pb	01 56 12.7	-1.6
WKZ	**Wanaka**	**1.64**	**72**		PN		Pn	01 56 23.2	-0.6
JCZ	**Jackson Bay**	**1.88**	**48**		PN		Pn	01 56 26.5	-0.7
TUZ	**Tuapeka**	**2.07**	**108**		PN		Pn	01 56 28.8	-1.0
LBZ	**Lake Benmore**	**2.58**	**69**		PN		Pn	01 56 35.5	-1.7
FOZ	**Fox Glacier**	**2.72**	**50**	*e*	PN		Pn	01 56 38.6	-0.6
ODZ	**Otahua Downs**	**2.72**	**85**		PN		Pn	01 56 37.1	-2.1

INMG 24 02:09:25.0±0.8, 36.52N×7.57W, h31km±15km, ML1.5, Error ellipse: s-maj=7.9km s-min=4.9km az=15.0
MDD 24 02:09:24.7±1.9, 36.52N×7.58W, h43km±59km, mb3.2/4, Error ellipse: s-maj=19.1km s-min=9.3km az=28.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PALC	**Alcoutim**	**0.95**	**5**		*e*P		P	02 09 40.9	-0.8
PALC					*e*S		S	02 09 53.1	-1.2
	7.9nm,0.2s								
PALC	**Alcoutim**	**0.95**	**5**		P		P	02 09 40.9	-0.8
PALC					S		S	02 09 53.1	-1.2
	4.0nm,0.2s								
PTEO	**Sao Teotonio**	**1.37**	**319**		*e*S		S	02 10 03.0	-2.1
ESPR	**Espera**	**1.43**	**75**		P		P	02 09 47.6	-1.0
	1.0nm,0.1s,SNR=5.7								
ESPR					S		S	02 10 04.6	-1.9
	1.4nm,0.2s,SNR=7.9								
EMIN	**Mina Concepcio**	**1.44**	**30**		P		P	02 09 47.5	-1.3
	0.3nm,0.2s,SNR=7.9								
EMIN					S		S	02 10 04.4	-2.4
	0.4nm,0.2s,SNR=7.9								
PBEJ	**Beja**	**1.52**	**352**		*e*P		P	02 09 48.9	-1.0
PBEJ					*e*S		S	02 10 06.6	-2.1
	1.2nm,0.1s								
PBEJ	**Beja**	**1.52**	**352**		P		P	02 09 48.9	-1.0
PBEJ					S		S	02 10 06.6	-2.1
	0.6nm,0.1s								
EBAD	**Badajoz**	**2.28**	**11**		P		P	02 09 59.5	-1.2
	0.4nm,0.1s,SNR=7.9								
EBAD					S		S	02 10 23.8	-3.9
	0.7nm,0.1s,SNR=7.9								
EADA	**Adamuz**	**2.91**	**55**		P		P	02 10 08.2	-1.4
	0.3nm,0.1s,SNR=7.9								
EADA					S		S	02 10 39.3	-4.3
	0.3nm,0.1s,SNR=7.9								
PCBR	**Castelo Branco**	**3.32**	**1**		*e*Pn		P	02 10 13.4	-2.0
PCBR					*e*Sn		S	02 10 50.5	-3.6
	0.8nm,0.1s								
PCBR	**Castelo Branco**	**3.32**	**1**		Pn		P	02 10 13.4	-2.0
PCBR					Sn		S	02 10 50.5	-3.6
	0.4nm,0.1s								
EQES	**Quesada**	**3.83**	**69**		P		P	02 10 19.5	-3.1
	SNR=4.0								
EQES					S		S	02 11 02.5	-4.4
	SNR=4.0								

NIED 24 02:19:00, 33.10N×137.00E, h5km, Mw4.2 Best double couple: M0 2.58×10^15 NP1:φs183°, δ84°, λ-124°. NP2: φs83°, δ35°, λ-11°.
JMA 24 02:19:46.9±0.1, 33.10N×137.04E, h36km±3km, M3.5
IDC 24 02:19:47.4±0.8, 33.15N×137.12E, mb3.8/8, mb1 3.9/9, mb1mx3.7/24, ML3.3/1, MS3.3/7, Ms1 3.4/7, ms1mx3.0/33, Error ellipse: s-maj=31.4km s-min=21.7km az=62.0
NEIC 24 02:19:49.0±0.7, 33.17N×137.07E, h10km, mb4.2/1, Error ellipse: s-maj=30.6km s-min=14.4km az=91.0
ISC 24 02:19:46.7±1.9, 33.23N±0.05×136.99E±0.04, h8km±13km, n36, σ0s92/35, mb3.7/8, MS3.4/4, 6C-1D, Near south coast of western Honshu

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

TK01	**Tokai 1**	**0.73**	**43**		P		**Pb**	**02 20 01.8**	**+0.6**
TK02	**Tokai 2**	**0.95**	**42**	⇓	P		**Pb**	**02 20 05.1**	**0.0**
JWZ	**Kozaga**	**1.11**	**286**	⇑	P		**Pb**	**02 20 07.4**	**-0.4**
JIE	**Ise**	**1.18**	**348**	⇑	P		**Pb**	**02 20 10.0**	**+1.0**
TK03	**Tokai 3**	**1.23**	**41**		P		**Pb**	**02 20 09.4**	**-0.5**
TK04	**Tokai 4**	**1.36**	**32**		P		**Pb**	**02 20 11.5**	**-0.6**
JWM	**Minabe**	**1.50**	**295**	⇑	P		**Pn**	**02 20 13.5**	**-0.6**
JWM					*e*S		**Sb**	**02 20 32.2**	**-1.3**
JWY	**Kouya**	**1.53**	**310**	⇑	P		**Pn**	**02 20 14.8**	**+0.3**
JWY					*e*S		**Sb**	**02 20 34.2**	**-0.1**
TSUJ	**Tsu 2**	**1.55**	**342**	⇑	P		**Pn**	**02 20 15.1**	**+0.3**
TSUJ					*e*S		**Sb**	**02 20 34.7**	**-0.2**
JHE	**Heguri**	**1.79**	**323**		P		**Pn**	**02 20 18.6**	**+0.4**
SHZS	**Shizuoka 3**	**2.09**	**29**		P		**Pn**	**02 20 21.1**	**-0.4**
JAJ2	**Tsuna**	**2.12**	**305**	⇑	P		**Pn**	**02 20 23.1**	**+0.2**
JIZS	**Izushimoda**	**2.15**	**46**		P		**Pn**	**02 20 23.7**	**+0.2**
JAI	**Aioi**	**2.20**	**285**		P		**Pn**	**02 20 23.4**	**-0.7**
JHJ	**Hachijo jima 2**	**2.34**	**92**		Pn		**Pn**	**02 20 24.4**	**-1.7**
	17nm,0.3s,baz=67,slow=20,SNR=2.6								
JHJ					Sn		**Sn**	**02 20 49.6**	**-5.7**
	34nm,0.3s,baz=46,slow=21,SNR=5.6								
JHJ					LR		LR	02 20 53.1	
	comp=Z,383nm,19.1s,baz=155,slow=29								
MAJO	**Matsushiro**	**3.45**	**16**	*e*	Pn		**Pn**	**02 20 42.7**	**+0.8**
MAT	**Matsushiro**	**3.45**	**16**		P		**Pn**	**02 20 42.1**	**+0.2**
MAT					*e*S		**Sn**	**02 21 21.5**	**-2.0**
JOW	**Kunigami**	**9.89**	**232**		LR		LR	02 25 57.8	
	comp=Z,211nm,19.6s,baz=95,slow=37								
ASAJ	**Asahikawa**	**11.71**	**20**		LR		LR	02 27 39.1	
	comp=Z,151nm,20.6s,baz=177,slow=40								
BJI	**Beijing**	**18.02**	**298**		P		**P**	**02 24 09.8**	**+11**
	14nm,0.7s								
BJI					pP			02 24 18.8	
BJI					sP			02 24 25.6	
BJI					S		**S**	**02 27 38.9**	**+21**
SONM	**Songino Array**	**27.24**	**311**		P		**P**	**02 25 34.2**	**+1.2**
	1.3nm,0.9s,mb3.5,baz=130,slow=11,SNR=3.5								
CHG	**Chiang Mai**	**36.87**	**257**		P		**P**	**02 27 07.6**	**+10**
CMAR	**Chiang Mai Arr**	**37.05**	**256**		LR		LR	02 42 49.6	
	comp=Z,46nm,18.5s,MS3.3,baz=56,slow=37								
BDT	**Bhumibol Dam**	**37.63**	**254**		P		**P**	**02 27 16.0**	**+12**
ZAL	**Zalesovo**	**41.96**	**316**		LR		LR	02 46 25.5	
	comp=Z,98nm,19.0s,MS3.7,baz=178,slow=38								
WRA	**Warramunga Arr**	**52.94**	**183**		P		**P**	**02 29 03.1**	**-2.9**
	0.2nm,0.7s,mb3.2,baz=360,slow=7.7,SNR=4.1								
ASAR	**Alice Springs**	**56.66**	**183**		P		**P**	**02 29 33.0**	**0.0**
	0.3nm,0.8s,mb3.4,baz=12,slow=8.3,SNR=3.2								
STKA	**Stephens Creek**	**64.91**	**176**		P		**P**	**02 30 28.6**	**-0.4**
	8.0nm,1.4s,mb4.6,baz=326,slow=7.3,SNR=2.4								
FINES	**FINESS Array B**	**70.45**	**332**		LR		LR	03 05 52.7	
	comp=Z,13nm,19.9s,MS3.2,baz=74,slow=39								
AKASG	**Malin Array Be**	**75.03**	**321**		P		**P**	**02 31 31.4**	**+1.1**
	0.1nm,0.3s,mb3.2,baz=50,slow=6.1,SNR=3.9								
HFS	**Hagfors**	**76.00**	**334**		P		**P**	**02 31 37.2**	**+1.6**
	2.2nm,0.8s,mb4.1,baz=120,slow=12,SNR=2.0								
NOA	**NORSAR Array B**	**76.23**	**336**		LR		LR	03 05 07.7	
	comp=Z,22nm,19.5s,MS3.5,baz=25,slow=36								
GERES	**GERESS Array B**	**83.94**	**326**		P		**P**	**02 32 18.7**	**+0.4**
	0.4nm,0.6s,mb3.7,baz=37,slow=6.7,SNR=6.3								
TXAR	**Lajitas Array**	**95.32**	**50**		P		**P**	**02 33 14.5**	**+1.7**
	0.3nm,0.9s,mb3.7,baz=270,slow=3.8,SNR=3.4								
TXAR	**Lajitas Array**	**95.32**	**50**		P		**P**	**02 33 14.5**	**+1.7**
LPAZ	**La Paz**	**151.74**	**59**		PKPbc		PKPdf	02 39 46.0	+7.2
	0.3nm,0.5s,baz=241,slow=21,SNR=2.5								

NNC 24 02:21:21.9±3.8, 49.78N×87.86E, h11km±17km, mpv3.5, 3C-3D, Error ellipse: s-maj=25.6km s-min=22.2km az=80.0, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**4.77**	**233**	⇑	Pn		Pn	02 22 36.1	+0.6
	baz=49,slow=15								
MK31					Sn		Sn	02 23 34.9	+3.4
MK31				⇑	Lg			02 23 55.9	
	14μm,1.0s,baz=53,slow=28,SNR=9.7								
KURK	**Kurchatov**	**6.00**	**283**		Pn		Pn	02 22 50.7	-2.3
	3.9nm,0.9s,baz=110,slow=6.7,SNR=16								
KURK				⇓	Sn		Sn	02 24 02.0	-0.5
	3.7nm,0.7s,baz=9.6,slow=16,SNR=6.1								
KURK				⇑	Lg			02 24 31.2	
	8.1nm,0.6s,baz=11,slow=16,SNR=7.7								
BVA0	**Borovoye Array**	**11.39**	**293**	⇓	Pn		P	02 24 04.7	-2.9
	0.1nm,0.6s,baz=108,slow=15,SNR=5.7								
BVA0				⇓	Sn		S	02 26 08.4	-7.4
	0.4nm,0.8s								

ISK 24 02:23:35.8, 37.29N×28.17E, h8km, MD3.2
NEIC 24 02:23:35.8, 37.29N×28.17E, h8km, MD3.2(ISK), MD3.2(ATH), After ISK.
CSEM 24 02:23:35.8±0.1, 37.29N×28.18E, h10km, MD3.2, Error ellipse: s-maj=1.7km s-min=1.2km az=10.0
ATH 24 02:23:36.9, 37.36N×28.17E, h10km, MD3.2/3
ISC 24 02:23:36.4±0.4, 37.29N±0.03×28.18E±0.03, h6km±5km, n38, σ0s73/54, 4C, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.18**	**152**	*i*	PG		**Pg**	**02 23 39.3**	**-0.9**
YER				*i*	SG		**Sg**	**02 23 43.3**	**+0.6**
YER	**Yerkesik**	**0.18**	**152**		Pg		**Pg**	**02 23 39.4**	**-0.8**
YER					Sg		**Sg**	**02 23 43.4**	**+0.7**
YER	**Yerkesik**	**0.18**	**152**		Pg		**Pg**	**02 23 39.4**	**-0.8**
YER					Sg		**Sg**	**02 23 43.4**	**+0.7**
MLSB	**Milas**	**0.32**	**270**	*e*	PG		**Pg**	**02 23 42.7**	**-0.2**
MLSB				*e*	SG		**Sg**	**02 23 48.0**	**+0.8**
MLSB	**Milas**	**0.32**	**270**		Pg		**Pg**	**02 23 42.8**	**-0.1**
MLSB					Sg		**Sg**	**02 23 47.8**	**+0.5**
MLSB	**Milas**	**0.32**	**270**		Pg		**Pg**	**02 23 42.8**	**-0.1**
MLSB				*e*	Sg		**Sg**	**02 23 48.0**	**+0.8**
AYDN	**Tasoluk**	**0.44**	**327**	⇑	*i*P		**Pg**	**02 23 45.1**	**-0.1**
AYDN					*i*S		**Sg**	**02 23 51.7**	**+0.6**
BDRM	**Kayabasi**	**0.63**	**249**	⇑	*i*P		**Pg**	**02 23 48.1**	**-0.9**
BDRM					*i*S		**Sg**	**02 23 57.6**	**+0.2**
DALT	**Dalyan (Mudla)**	**0.64**	**145**		PG		**Pg**	**02 23 48.3**	**-0.9**
DALT	**Dalyan (Mudla)**	**0.64**	**145**		Pg		**Pg**	**02 23 49.3**	**+0.1**
DNZL	**Cakiroluk**	**0.80**	**60**	⇑	*i*P		**Pb**	**02 23 51.0**	**-1.2**
DNZL					*i*S		**Sb**	**02 24 04.5**	**+1.5**
DENT	**Denizli**	**0.82**	**56**	*i*	PG		**Pg**	**02 23 51.9**	**-0.9**
DENT				*i*	SG		**Sg**	**02 24 04.4**	**+0.6**
DENT	**Denizli**	**0.82**	**56**		Pg		**Pg**	**02 23 52.0**	**-0.8**
DENT					Sg		**Sg**	**02 24 05.0**	**+1.2**
DENT	**Denizli**	**0.82**	**56**		Pg		**Pg**	**02 23 52.0**	**-0.8**
DENT				*i*	Sg		**Sg**	**02 24 04.4**	**+0.6**
NISR	**Nisiros**	**1.08**	**231**	*e*	PB		**Pb**	**02 23 58.0**	**+0.9**
SMG	**Samos**	**1.15**	**292**	*e*	PB		**Pb**	**02 23 58.0**	**-0.2**
MANT	**Manisa**	**1.23**	**14**	*i*	P		**Pb**	**02 23 59.5**	**-0.2**
MANT				*i*	S		**Sb**	**02 24 15.8**	**+0.2**
IZM	**Izmir**	**1.32**	**327**		PN		**Pn**	**02 24 01.2**	**-0.2**
IZM					SN		**Sn**	**02 24 19.3**	**-0.1**
KDAG	**Bornova**	**1.32**	**327**	⇑	*i*P		**Pb**	**02 24 01.0**	**-0.2**
KDAG					*i*S		**Sb**	**02 24 19.3**	**+1.1**
BLCB	**Balcova**	**1.41**	**321**	*i*	PN		**Pn**	**02 24 02.4**	**-0.3**
KHL	**Karahalli**	**1.48**	**46**	*e*	PN		**Pn**	**02 24 02.8**	**-0.8**
KHL	**Karahalli**	**1.48**	**46**		Pn		**Pn**	**02 24 02.8**	**-0.8**
ELL	**Elmali**	**1.49**	**111**	*e*	PN		**Pn**	**02 24 03.2**	**-0.6**
ELL	**Elmali**	**1.49**	**111**		Pn		**Pn**	**02 24 03.3**	**-0.5**
ELL	**Elmali**	**1.49**	**111**		Pn		**Pn**	**02 24 03.3**	**-0.5**
KSL	**Kastellorizon**	**1.60**	**135**	*e*	PB		**Pb**	**02 24 08.0**	**+1.9**
AKS	**Akhisar**	**1.61**	**350**	*e*	PN		**Pn**	**02 24 04.8**	**-0.7**
AKS	**Akhisar**	**1.61**	**350**		Pn		**Pn**	**02 24 04.9**	**-0.6**
AKS	**Akhisar**	**1.61**	**350**		Pn		**Pn**	**02 24 04.9**	**-0.6**
BCK	**Bucak**	**1.93**	**84**	*e*	PN		**Pn**	**02 24 09.8**	**-0.2**
BCK	**Bucak**	**1.93**	**84**		Pn		**Pn**	**02 24 09.9**	**-0.2**
ISP	**Isparta**	**1.93**	**73**	*e*	PN		**Pn**	**02 24 09.9**	**-0.2**
ANTB	**Antalya**	**2.02**	**101**	*e*	PN		**Pn**	**02 24 11.4**	**+0.1**
ALT	**Altintas**	**2.33**	**40**		PN		**Pn**	**02 24 15.7**	**-0.1**
BALB	**Balikesir**	**2.35**	**354**	*e*	PN		**Pn**	**02 24 15.1**	**-1.1**
BALB	**Balikesir**	**2.35**	**354**		Pn		**Pn**	**02 24 15.2**	**-1.0**
ULDT	**Uludag**	**2.94**	**14**	*i*	P		**Pn**	**02 24 30.7**	**+6.1**
ULDT				*i*	S		**Sn**	**02 25 09.2**	**+8.6**
KIZT	**Kizilcal**	**3.32**	**60**	*e*	PN		**Pn**	**02 24 30.5**	**+0.5**

NIED 24 02:49:00, 37.40N×139.00E, h5km, Mw3.7 Best double couple: M0 3.86×10^14 NP1:φs30°, δ52°, λ100°. NP2:φs195°, δ39°, λ78°.
IDC 24 02:49:01.7±0.8, 37.32N×138.84E, mb3.6/10, mb1 3.8/10, mb1mx3.7/23, Error ellipse: s-maj=31.2km s-min=21.5km az=96.0
NEIC 24 02:49:03.6±2.2, 37.33N×138.86E, h13km±15km, Error ellipse: s-maj=25.6km s-min=16.0km az=102.0
JMA 24 02:49:03.2, 37.37N×139.02E, h6km±3km, M3.6
JMA Felt II J1.
ISC 24 02:49:02.6±0.5, 37.38N±0.03×138.99E±0.04, h14km±3km, n24, σ1s00/34, mb3.6/10, 1C-4D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.13**	**172**	⇓	P		**Pg**	**02 49 05.7**	**-0.5**
JHK					*e*S		**Sg**	**02 49 08.1**	**-0.5**
JIZZ	**Izumozaki**	**0.27**	**304**		P		**Pg**	**02 49 09.5**	**+0.9**
JIZZ					*e*S		**Sg**	**02 49 14.6**	**+2.0**
JNS	**Sasagawa**	**0.51**	**30**	⇑	P		**Pb**	**02 49 12.7**	**-0.1**
JNS					*e*S		**Sb**	**02 49 19.9**	**+0.1**
JFY	**Yanaizu**	**0.57**	**87**	⇓	P		**Pb**	**02 49 13.9**	**+0.1**
JFY					*e*S		**Sb**	**02 49 21.7**	**+0.2**
JKT	**Katashina**	**0.64**	**161**	⇓	P		**Pb**	**02 49 15.2**	**+0.1**
JKT					*e*S		**Sb**	**02 49 23.9**	**+0.3**
JGK	**Kuni**	**0.86**	**199**		P		**Pb**	**02 49 19.9**	**+1.1**
JGK					*e*S		**Sb**	**02 49 31.0**	**+1.0**
JSD	**Sado**	**0.88**	**319**		P		**Pb**	**02 49 18.9**	**-0.3**
JAG	**Ashikaga**	**1.02**	**159**	⇓	P		**Pb**	**02 49 22.4**	**+0.9**
JAG					*e*S		**Sb**	**02 49 35.9**	**+1.3**
MAJO	**Matsushiro**	**1.04**	**217**	*e*	Pg		**Pg**	**02 49 21.9**	**-1.7**
MAJO				*e*	Sg		**Sg**	**02 49 36.4**	**-1.2**
MAT	**Matsushiro**	**1.04**	**217**		P		**Pb**	**02 49 22.2**	**+0.2**
MAT					S		**Sb**	**02 49 36.0**	**+0.7**
MAT	**Matsushiro**	**1.04**	**217**		P		**Pb**	**02 49 22.0**	**0.0**
MAT					*e*S		**Sb**	**02 49 35.9**	**+0.6**
MAT	**Matsushiro**	**1.04**	**217**	*e*	P		**Pb**	**02 49 22.0**	**0.0**
MAT					*e*S		**Sb**	**02 49 36.0**	**+0.7**
ILAR	**Eielson Array**	**50.24**	**32**		P		**P**	**02 57 58.5**	**-1.4**
	0.4nm,0.9s,mb3.5,baz=270,slow=9.0,SNR=3.6								
INK	**Inuvik**	**54.96**	**27**		P		**P**	**02 58 35.2**	**+0.2**
	0.7nm,0.8s,mb3.8,baz=221,slow=5.8,SNR=2.8								
WRA	**Warramunga Arr**	**57.18**	**185**		P		**P**	**02 58 49.5**	**-2.1**
	0.5nm,0.6s,mb3.7,baz=1.6,slow=7.4,SNR=8.8								
ASAR	**Alice Springs**	**60.90**	**185**		P		**P**	**02 59 15.6**	**-1.8**
	0.2nm,0.5s,mb3.5,baz=11,slow=11,SNR=4.1								
FINES	**FINESS Array B**	**67.60**	**331**		P		**P**	**02 59 59.3**	**-1.2**
	1.4nm,0.8s,mb4.0,baz=53,slow=14,SNR=3.2								
AKASG	**Malin Array Be**	**72.83**	**321**		P		**P**	**03 00 32.2**	**-0.2**
	0.2nm,0.3s,mb3.5,baz=49,slow=7.0,SNR=3.9								
BRTR	**Keskin Array B**	**77.17**	**310**		P		**P**	**03 00 58.0**	**+0.6**
	0.7nm,0.9s,mb3.6,baz=72,slow=4.6,SNR=3.7								
PDAR	**Pinedale Array**	**78.79**	**44**		P		**P**	**03 01 06.8**	**+0.5**
	0.3nm,0.7s,mb3.3,baz=309,slow=5.8,SNR=3.2								
GERES	**GERESS Array B**	**81.39**	**327**		P		**P**	**03 01 19.1**	**-1.0**
	0.3nm,0.9s,mb3.2,baz=37,slow=6.7,SNR=4.5								
TXAR	**Lajitas Array**	**91.42**	**51**		P		**P**	**03 02 11.4**	**+1.7**
	0.2nm,0.9s,mb3.4,baz=315,slow=3.8,SNR=2.5								
TXAR	**Lajitas Array**	**91.42**	**51**		P		**P**	**03 02 11.4**	**+1.7**
LPAZ	**La Paz**	**148.15**	**56**		PKPbc		PKPdf	03 08 51.5	+2.9
	1.3nm,0.3s,baz=292,slow=0.5,SNR=9.3								

CASC 24 02:52:06.7±2.2, 10.26N×86.36W, MD3.8, 3C-1D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VCR	**Vista de Mar**	**0.73**	**100**		*e*S		Sg	02 52 33.9	+2.9
APON	**Apoyo**	**1.67**	**10**	⇑	*e*P		Pn	02 52 39.4	+2.1
TICN	**Ticuantepe**	**1.77**	**4**		*e*P		Pn	02 52 38.5	-0.3
XAVN	**Gruta Xavier**	**1.88**	**1**		*e*P		Pn	02 52 41.5	+1.2
MGAN	**Managua**	**1.88**	**3**		*e*P		Pn	02 52 38.9	-1.5
WILN	**Americas 2**	**1.90**	**5**		*e*P		Pn	02 52 41.1	+0.5
COPN	**Copaltepe**	**1.92**	**353**		*e*P		Pn	02 52 40.0	-0.9
APYN	**Apoyeque**	**1.96**	**0**		*e*P		Pn	02 52 40.4	-1.2
MOMJ	**Momotombo**	**2.14**	**355**		*e*P		Pn	02

MIF				*i* S		**Sn**	**03 05 14.5**	**-1.6**
EBER	**Berja**	**2.06**	**25**	P		**Pn**	**03 04 52.8**	**-0.1**
	0.6nm,0.2s,SNR=12							
EBER				S		**Sn**	**03 05 17.8**	**-1.9**
	SNR=7.9							
EBER	**Berja**	**2.06**	**25**	P		**Pn**	**03 04 52.8**	**-0.1**
EBER				S		**Sn**	**03 05 17.9**	**-1.8**
EBER	**Berja**	**2.06**	**25**	P		**Pn**	**03 04 52.8**	**-0.2**
	0.6nm,0.2s,SNR=12							
EBER				S		**Sn**	**03 05 17.9**	**-1.8**
	SNR=7.9							
ELOJ	**Sierra Loja**	**2.12**	**356**	P		**Pn**	**03 04 54.9**	**+1.1**
	SNR=7.9							
ELOJ				S		**Sn**	**03 05 21.5**	**+0.3**
	4.8nm,0.5s,SNR=4.0							
ELOJ	**Sierra Loja**	**2.12**	**356**	S		**Sn**	**03 05 25.7**	**+4.5**
	4.8nm,0.5s,SNR=4.0							
LIJA	**Lijar**	**2.21**	**329**	*e*P		**Pn**	**03 04 59.5**	**+4.4**
LIJA				*e*S		**Sn**	**03 05 30.8**	**+7.3**
ESPR	**Espera**	**2.40**	**321**	P		**Pn**	**03 04 56.3**	**-1.4**
	2.1nm,0.2s,SNR=7.9							
ESPR				S		**Sn**	**03 05 28.6**	**+0.4**
	SNR=7.9							
ESPR	**Espera**	**2.40**	**321**	P		**Pn**	**03 04 56.3**	**-1.4**
ESPR				S		**Sn**	**03 05 33.1**	**+4.9**
ESPR	**Espera**	**2.40**	**321**	S		**Sn**	**03 05 33.1**	**+4.9**
	SNR=7.9							
ESPR	**Espera**	**2.40**	**321**	P		**Pn**	**03 04 56.3**	**-1.4**
	2.1nm,0.2s,SNR=7.9							
ELUQ	**Luque**	**2.54**	**355**	P		**Pn**	**03 05 02.6**	**+2.7**
	1.6nm,0.2s,SNR=4.0							
ELUQ				S		**Sn**	**03 05 30.9**	**-0.9**
	SNR=4.0							
EQES	**Quesada**	**2.87**	**14**	P		**Pn**	**03 05 06.0**	**+1.6**
	1.3nm,0.2s,SNR=16							
EQES				S		**Sn**	**03 05 39.3**	**-0.7**
	SNR=7.9							
EQES	**Quesada**	**2.87**	**14**	P		**Pn**	**03 05 06.0**	**+1.6**
EQES				S		**Sn**	**03 05 40.4**	**+0.4**
EQES	**Quesada**	**2.87**	**14**	P		**Pn**	**03 05 06.0**	**+1.6**
	1.3nm,0.2s,SNR=16							
EQES				S		**Sn**	**03 05 40.4**	**+0.3**
	SNR=7.9							
ZFT	**Errachidia**	**3.00**	**186**	*i* P		**Pn**	**03 05 05.0**	**-1.3**
ZFT				*i* S		**Sn**	**03 05 39.0**	**-4.5**
EADA	**Adamuz**	**3.18**	**351**	P		**Pn**	**03 05 10.4**	**+1.5**
	0.1nm,0.1s,SNR=9.5							
EADA				S		**Sn**	**03 05 46.2**	**-1.7**
	SNR=7.9							
EADA	**Adamuz**	**3.18**	**351**	P		**Pn**	**03 05 10.4**	**+1.5**
EADA				S		**Sn**	**03 05 49.7**	**+1.7**
EADA	**Adamuz**	**3.18**	**351**	S		**Sn**	**03 05 49.7**	**+1.8**
	SNR=7.9							
EADA	**Adamuz**	**3.18**	**351**	P		**Pn**	**03 05 10.4**	**+1.6**
	0.1nm,0.1s,SNR=9.5							
EMIN	**Mina Concepcio**	**3.50**	**322**	P		**Pn**	**03 05 14.6**	**+1.1**
	0.3nm,0.2s,SNR=17							
EMIN				S		**Sn**	**03 05 54.7**	**-1.5**
	SNR=7.9							
EMIN	**Mina Concepcio**	**3.50**	**322**	P		**Pn**	**03 05 14.6**	**+1.1**
EMUR	**La Murta**	**3.57**	**37**	S		**Sn**	**03 05 52.6**	**-5.3**
	SNR=4.0							
PALC	**Alcoutim**	**3.74**	**312**	*e*Pn		**Pn**	**03 05 18.3**	**+1.4**
PALC				*e*Sn		**Sn**	**03 06 01.1**	**-1.1**
	6.5nm,0.6s							
PALC	**Alcoutim**	**3.74**	**312**	*e*Pn		**Pn**	**03 05 18.3**	**+1.4**
PALC				*e*Sn		**Sn**	**03 06 01.1**	**-1.1**
	6.5nm,0.6s							
PBEJ	**Beja**	**4.34**	**315**	*e*Sn		**Sn**	**03 06 15.9**	**-1.6**
	2.9nm,0.6s							
PBEJ	**Beja**	**4.34**	**315**	*e*Sn		**Sn**	**03 06 15.9**	**-1.6**
	2.9nm,0.6s							
EBAD	**Badajoz**	**4.46**	**328**	P		**Pn**	**03 05 27.7**	**+0.6**
	0.4nm,0.3s,SNR=6.5							
EBAD				S		**Sn**	**03 06 18.2**	**-2.1**
	SNR=7.9							
EBAD	**Badajoz**	**4.46**	**328**	P		**Pn**	**03 05 27.7**	**+0.7**
PTEO	**Sao Teotonio**	**4.60**	**305**	*e*Pn		**Pn**	**03 05 30.4**	**+1.4**
PTEO				*e*Sn		**Sn**	**03 06 22.5**	**-1.4**
	6.0nm,0.6s							
PTEO	**Sao Teotonio**	**4.60**	**305**	*e*Pn		**Pn**	**03 05 30.4**	**+1.4**
PTEO				*e*Sn		**Sn**	**03 06 22.5**	**-1.4**
	6.0nm,0.6s							
ESDC	**Sonseca Array**	**4.64**	**0**	P		**Pn**	**03 05 30.0**	**+0.3**
	1.9nm,0.2s,baz=176,slow=12,SNR=4.4							
ESDC	**Sonseca Array**	**4.64**	**0**	P		**Pn**	**03 05 30.0**	**+0.3**
CIA	**Chichaoua**	**5.29**	**231**	*e*P		**Pn**	**03 05 37.0**	**-1.9**
PCBR	**Castelo Branco**	**5.56**	**331**	*e*Pn		**Pn**	**03 05 43.5**	**+0.8**
PCBR				*e*Sn		**Sn**	**03 06 43.6**	**-4.6**
	1.7nm,0.6s							
PCBR	**Castelo Branco**	**5.56**	**331**	Pn		**Pn**	**03 05 43.5**	**+0.8**
PCBR				Sn		**Sn**	**03 06 43.6**	**-4.6**
	0.9nm,0.6s							
PTOM	**Tomar**	**5.79**	**324**	*e*Pn		**Pn**	**03 05 46.4**	**+0.4**

CSEM ***24*** *03:08:16.3±0.1,37.36N×4.22W, h30km, ML1.8, Error ellipse: s-maj=2.2km s-min=1.8km az=154.0*
SFS ***24*** *03:08:16.0, 37.31N×4.21W, ML1.8*
MDD 24 03:08:16.7±0.2, 37.32N×4.24W, h30km±1km, mbLg2.0/1Hz, 1C-1D, Error ellipse: s-maj=3.4km s-min=1.8km az=79.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ELOJ	**Sierra Loja**	**0.18**	**159**	⇑Pg		Pb	03 08 22.6	-0.2
	0.7nm,0.2s,SNR=18							
ELOJ				Lg			03 08 27.3	
	6.4nm,0.2s,SNR=7.9							
ELUQ	**Luque**	**0.24**	**354**	⇓Pg		Pb	03 08 23.2	-0.3
	4.4nm,0.2s,SNR=18							
ELUQ				Lg			03 08 28.7	
	42nm,0.1s,SNR=7.9							
ERON	**Agron**	**0.45**	**131**	Pg		Pb	03 08 25.8	-0.6
	2.7nm,0.2s,SNR=7.9							
ERON				Lg			03 08 32.1	
	13nm,0.3s,SNR=4.0							
EMAL	**Malaga-Limoner**	**0.57**	**196**	Pg		Pb	03 08 27.6	-0.7
	SNR=7.9							
EMAL				Lg			03 08 36.3	
	60nm,0.1s,SNR=7.9							
EMIJ	**Mijas**	**0.87**	**210**	Pg		Pn	03 08 32.1	-0.8
	4.5nm,0.2s,SNR=7.9							
EMIJ				Lg			03 08 44.9	
	11nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**0.89**	**342**	Pg		Pn	03 08 31.8	-1.5
	15nm,0.1s,SNR=147							
EADA				Lg			03 08 45.1	
	25nm,0.3s,SNR=7.9							
EADA	**Adamuz**	**0.89**	**342**	Pg		Pn	03 08 31.8	-1.5
	15nm,0.1s,SNR=147							
LIJA	**Lijar**	**1.02**	**247**	*e*P		Pn	03 08 35.5	+0.4
LIJA				*e*S		Sn	03 08 50.0	+1.5
EQES	**Quesada**	**1.04**	**62**	Pg		Pn	03 08 34.4	-1.1
	8.5nm,0.1s,SNR=7.9							
EQES				Lg			03 08 48.4	
	2.3nm,0.2s,SNR=7.9							
EQES	**Quesada**	**1.04**	**62**	Pg		Pn	03 08 34.4	-1.1
	8.5nm,0.1s,SNR=7.9							
EBER	**Berja**	**1.15**	**111**	Pg		Pn	03 08 37.6	+0.6
	0.5nm,0.1s,SNR=16							
EBER				Lg			03 08 53.9	
	26nm,0.6s,SNR=7.9							
EBER	**Berja**	**1.15**	**111**	Pg		Pn	03 08 37.6	+0.6
	0.5nm,0.1s,SNR=16							
ESPR	**Espera**	**1.37**	**251**	Pn		Pn	03 08 39.0	-1.2
	1.2nm,0.1s,SNR=7.9							
ESPR				Lg			03 08 58.5	
	2.6nm,0.2s,SNR=4.0							
ESPR	**Espera**	**1.37**	**251**	Pn		Pn	03 08 39.0	-1.1
	1.2nm,0.1s,SNR=7.9							
EVIA	**Vianos**	**1.90**	**46**	Pg		Pn	03 08 50.0	+2.3
	SNR=7.9							
EVIA				Sn		Sn	03 09 07.4	-3.5
	SNR=7.9							
EVIA				Lg			03 09 12.3	
	8.6nm,0.5s,SNR=4.0							
EMIN	**Mina Concepcio**	**1.99**	**284**	Pn		Pn	03 08 45.9	-3.1
	SNR=7.9							
EMIN				Pg		Pn	03 08 51.8	+2.8
	SNR=4.0							
EMIN				Sn		Sn	03 09 08.6	-4.5
	SNR=7.9							
EMIN	**Mina Concepcio**	**1.99**	**284**	Pg		Pn	03 08 51.8	+2.8
	SNR=4.0							
EMIN				Sn		Sn	03 09 08.6	-4.5
	SNR=7.9							
ESDC	**Sonseca Array**	**2.36**	**5**	Pg		Pn	03 08 58.9	+4.6
	baz=183,slow=16,SNR=7.9							
ESDC				Lg			03 09 27.9	
	5.8nm,0.4s,baz=184,slow=27,SNR=7.9							
EMUR	**La Murta**	**2.44**	**77**	Lg			03 09 29.5	
	1.9nm,0.3s,SNR=4.0							
PALC	**Alcoutim**	**2.58**	**274**	*e*Pn		Pn	03 08 54.1	-3.4
	3.8nm,0.1s							
PALC	**Alcoutim**	**2.58**	**274**	*e*Pn		Pn	03 08 54.1	-3.4
	3.8nm,0.1s							
EBAD	**Badajoz**	**2.62**	**304**	Pn		Pn	03 08 55.5	-2.5
	SNR=7.9							
EBAD				Sn		Sn	03 09 23.7	-5.5
	SNR=7.9							
EBAD				Lg			03 09 32.4	
	2.0nm,0.1s,SNR=7.9							
EBAD	**Badajoz**	**2.62**	**304**	Pn		Pn	03 08 55.5	-2.5
	SNR=7.9							
EBAD				Sn		Sn	03 09 23.7	-5.5
	SNR=7.9							
PBEJ	**Beja**	**2.97**	**285**	*e*Pn		Pn	03 09 00.5	-2.4
	2.8nm,0.1s							
PBEJ	**Beja**	**2.97**	**285**	*e*Pn		Pn	03 09 00.5	-2.4
	2.8nm,0.1s							
EBEN	**Beniarda**	**3.46**	**65**	Pn		Pn	03 09 07.1	-2.8
	SNR=4.0							
EBEN				Sn		Sn	03 09 45.0	-5.3
	SNR=7.9							
EBEN				Lg			03 10 01.1	
	1.3nm,0.3s,SNR=7.9							
EBEN	**Beniarda**	**3.46**	**65**	Pn		Pn	03 09 07.1	-2.8
	SNR=4.0							
EBEN				Sn		Sn	03 09 45.0	-5.3
	SNR=7.9							
PCBR	**Castelo Branco**	**3.58**	**316**	*e*Pn		Pn	03 09 09.5	-2.1
PCBR				*e*Sn		Sn	03 09 46.1	-7.3
ETOR	**Torete**	**3.89**	**25**	Pn		Pn	03 09 14.5	-1.5
	SNR=7.9							
ETOR				Pg		Pn	03 09 22.5	+6.5
	SNR=7.9							
ETOR				Sn		Sn	03 09 54.9	-6.3
	SNR=7.9							
ETOR				Lg			03 10 18.1	
	0.4nm,0.1s,SNR=7.9							
EMOS	**Mosqueruela**	**4.23**	**43**	Sn		Sn	03 10 03.6	-6.3
	SNR=7.9							
EMOS				Lg			03 10 29.5	
	0.8nm,0.3s,SNR=7.9							

JMA 24 03:16:00.0±0.1, 37.35N×138.94E, h9km±4km, M1.9, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHK	**Hiroka**	**0.12**	**149**	P		Pg	03 16 02.8	-0.1
JHK				S		Sg	03 16 04.9	+0.1
JIZZ	**Izumozaki**	**0.26**	**315**	P		Pg	03 16 04.4	-1.0
JIZZ				S		Sg	03 16 08.5	-0.5
JNS	**Sasagawa**	**0.56**	**33**	P		Pg	03 16 10.5	-0.7
JNS				S		Sg	03 16 18.2	-0.5
JKT	**Katashina**	**0.63**	**157**	P		Pg	03 16 12.2	-0.5

NIED ***24*** *03:16:00, 37.30N×138.90E, h5km, Mw3.5 Best double couple: M0 2.33×10^14 NP1:φs37°, δ46°, λ105°. NP2:φs196°, δ46°, λ75°.*
IDC ***24*** *03:16:12.3±2.6, 37.44N×137.96E, mb3.7/4, mb1 4.1/4, mb1mx3.6/23, Error ellipse: s-maj=176.0km s-min=27.1km az=109.0*
NEIC ***24*** *03:16:13.3±0.6, 37.47N×137.66E, h10km, mb4.3/1, Error ellipse: s-maj=21.9km s-min=8.3km az=71.0*
JMA ***24*** *03:16:15.3, 37.31N×138.90E, h12km±1km, M3.6 Broadband fault plane solution: P waves. NP1:φs48°, δ33°, λ100°. NP2:φs216°, δ57°, λ83°. Principal axes: T Plg77°, Azm105°; N Plg6°, Azm220°; P Plg12°, Azm311°;*
JMA Felt II J1.
ISC 24 03:16:15.1±0.5, 37.30N±0.03×138.90E±0.05, h15km±5km, n16, σ0§68/22, mb3.8/5, 1C-4D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHK	**Hiroka**	**0.10**	**120**	⇓P		**Pb**	**03 16 18.1**	**-0.5**
JHK				S		**Sb**	**03 16 20.5**	**-0.4**
JIZZ	**Izumozaki**	**0.28**	**326**	⇓P		**Pb**	**03 16 21.0**	**-0.3**
JIZZ				S		**Sb**	**03 16 26.1**	**+0.7**
JKT	**Katashina**	**0.60**	**152**	⇓P		**Pb**	**03 16 27.1**	**+0.3**
JKT				S		**Sb**	**03 16 35.6**	**+0.8**
JNS	**Sasagawa**	**0.61**	**32**	P		**Pb**	**03 16 26.6**	**-0.4**
JNS				S		**Sb**	**03 16 35.1**	**0.0**
JFY	**Yanaizu**	**0.65**	**80**	⇓P		**Pb**	**03 16 28.6**	**-0.5**
JFY				S		**Sb**	**03 16 36.5**	**+0.4**
MAJO	**Matsushiro**	**0.94**	**217**	⇑*e*Pg		**Pb**	**03 16 32.6**	**0.0**
MAJO				*e*S		**Sb**	**03 16 44.2**	**-0.4**
MAT	**Matsushiro**	**0.94**	**217**	P		**Pb**	**03 16 32.6**	**0.0**
MAT				S		**Sb**	**03 16 45.1**	**+0.5**
MAT	**Matsushiro**	**0.94**	**217**	*e*P		**Pb**	**03 16 33.0**	**+0.4**
MAT				*e*S		**Sb**	**03 16 45.0**	**+0.4**
AAK	**Ala-Archa**	**48.59**	**297**	*e*P		**P**	**03 24 49.3**	**-11**
	2.0nm,0.6s,mb4.3							
INK	**Inuvik**	**55.06**	**27**	P		**P**	**03 25 47.4**	**-0.7**
	1.1nm,1.1s,mb3.8,baz=350,slow=3.3,SNR=2.6							
INK	**Inuvik**	**55.06**	**27**	*e*P		**P**	**03 25 47.8**	**-0.3**
WRA	**Warramunga Arr**	**57.10**	**185**	P		**P**	**03 26 01.1**	**-2.3**
	0.8nm,0.9s,mb3.7,baz=0.9,slow=7.5,SNR=16							
NVAR	**Mina Array Bea**	**76.42**	**52**	P		**P**	**03 28 06.8**	**+1.2**
	0.6nm,0.9s,mb3.5,baz=286,slow=6.4,SNR=4.5							
PDAR	**Pinedale Array**	**78.89**	**44**	P		**P**	**03 28 19.4**	**+0.2**
	0.6nm,0.6s,mb3.7,baz=304,slow=3.2,SNR=6.9							
SAML	**Samuel**	**145.41**	**41**	*e*PKPdf		PKPdf	03 35 53.4	-3.2
LPAZ	**La Paz**	**148.25**	**56**	PKPbc		PKPdf	03 36 02.8	+1.6
	1.1nm,1.0s,baz=326,slow=4.0,SNR=3.9							

CSEM ***24*** *03:27:24.2±0.2, 34.91N×3.71W, h5km, ML2.8/2, Error ellipse: s-maj=5.9km s-min=4.2km az=108.0*
CNRM ***24*** *03:27:24.9, 35.07N×3.79W, h5km, MD3.1*
MDD ***24*** *03:27:27.0±1.9, 34.77N×3.78W, h24km±30km, mb3.8/5, Error ellipse: s-maj=34.4km s-min=7.4km az=4.0, PRXIMO*
NEIC ***24*** *03:27:27.5, 34.99N×3.87W, MG3.4(MDD), After MDD.*
ISC 24 03:27:25.3±0.4, 35.01N±0.02×3.94W±0.03, h5km, n33, σ1§36/56, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TOU	**Touzarine**	**0.16**	**107**	*i* P		**Pg**	**03 27 26.0**	**-2.7**
EMEL	**Melilla**	**0.86**	**70**	P		**Pb**	**03 27 42.2**	**-0.1**
	163nm,0.2s,SNR=25							
EMEL				S		**Sg**	**03 27 54.4**	**+0.4**
	58nm,0.3s,SNR=7.9							
EMLI	**Melilla**	**0.86**	**70**	P		**Pb**	**03 27 42.2**	**-0.2**
	163nm,0.2s,SNR=25							
EMLI				S		**Sb**	**03 27 54.4**	**+0.3**
	58nm,0.3s,SNR=7.9							
TZK	**Tazeka**	**0.94**	**192**	*i* P		**Pb**	**03 27 43.5**	**-0.2**
TZK				*i* S		**Sb**	**03 27 57.5**	**+1.2**
ZAI	**Zaio**	**0.98**	**92**	*i* P		**Pb**	**03 27 40.5**	**-4.0**
ZAI				*i* S		**Sb**	**03 27 52.5**	**-5.1**
TGT	**Taghat**	**1.31**	**225**	*i* P		**Pb**	**03 27 51.0**	**+0.9**
TGT				*i* S		**Sb**	**03 28 08.0**	**+1.0**
EMIJ	**Mijas**	**1.69**	**337**	P		**Pn**	**03 27 58.0**	**+2.3**
	0.8nm,0.1s,SNR=7.3							
EMIJ				S		**Sn**	**03 28 21.0**	**+2.9**
	3.0nm,0.2s,SNR=7.9							
EMIJ	**Mijas**	**1.69**	**337**	P		**Pn**	**03 27 58.0**	**+2.3**
EMIJ				S		**Sn**	**03 28 16.9**	**-1.1**
EMIJ	**Mijas**	**1.69**	**337**	S		**Sn**	**03 28 16.9**	**-1.1**
	3.0nm,0.2s,SNR=7.9							
MIF	**Mishlifen**	**1.92**	**214**	*i* P		**Pn**	**03 27 59.0**	**0.0**
MIF				*i* S		**Sn**	**03 28 22.0**	**-1.8**
EBER	**Berja**	**2.07**	**24**	P		**Pn**	**03 28 01.2**	**0.0**
	0.7nm,0.2s,SNR=8.0							
EBER				S		**Sn**	**03 28 26.2**	**-1.4**
	1.6nm,0.2s,SNR=7.9							
EBER	**Berja**	**2.07**	**24**	P		**Pn**	**03 28 01.2**	**0.0**
	0.7nm,0.2s,SNR=8.0							
EBER				S		**Sn**	**03 28 26.2**	**-1.4**
	1.6nm,0.2s,SNR=7.9							
ESPR	**Espera**	**2.42**	**321**	P		**Pn**	**03 28 07.5**	**+1.4**
	0.5nm,0.1s,SNR=4.0							
ESPR				S		**Sn**	**03 28 38.2**	**+1.7**
	1.0nm,0.3s,SNR=4.0							
ESPR	**Espera**	**2.42**	**321**	P		**Pn**	**03 28 11.9**	**+5.7**
ESPR				S		**Sn**	**03 28 38.2**	**+1.7**
EQES	**Quesada**	**2.88**	**14**	P		**Pn**	**03 28 14.4**	**+1.8**
	0.6nm,0.1s,SNR=10							
EQES				S		**Sn**	**03 28 49.0**	**+0.9**
	2.6nm,0.3s,SNR=7.9							
EQES	**Quesada**	**2.88**	**14**	P		**Pn**	**03 28 14.4**	**+1.7**
	0.6nm,0.1s,SNR=10							
EQES				S		**Sn**	**03 28 49.0**	**+0.9**
	2.6nm,0.3s,SNR=7.9							
ZFT	**Errachidia**	**2.99**	**187**	*e*P		**Pn**	**03 28 13.0**	**-1.3**
EADA	**Adamuz**	**3.19**	**351**	P		**Pn**	**03 28 18.6**	**+1.4**
	0.2nm,0.1s,SNR=7.7							
EADA				S		**Sn**	**03 28 56.7**	**+0.5**
	0.6nm,0.4s,SNR=7.9							
EADA	**Adamuz**	**3.19**	**351**	P		**Pn**	**03 28 18.6**	**+1.4**
EADA				S		**Sn**	**03 28 56.6**	**+0.5**
EADA	**Adamuz**	**3.19**	**351**	P		**Pn**	**03 28 18.5**	**+1.3**
EADA				S		**Sn**	**03 28 56.7**	**+0.6**
	0.6nm,0.4s,SNR=7.9							
EMIN	**Mina Concepcio**	**3.52**	**322**	P		**Pn**	**03 28 22.6**	**+0.8**
	0.3nm,0.1s,SNR=9.5							
EMIN				S		**Sn**	**03 29 02.3**	**-2.2**
	0.3nm,0.2s,SNR=7.9							
EMIN	**Mina Concepcio**	**3.52**	**322**	P		**Pn**	**03 28 22.6**	**+0.7**
	0.3nm,0.1s,SNR=9.5							
EMUR	**La Murta**	**3.57**	**37**	P		**Pn**	**03 28 21.5**	**-1.0**
	1.2nm,0.3s,SNR=7.9							
EMUR				S		**Sn**	**03 29 01.1**	**-4.6**
	5.3nm,0.8s,SNR=4.0							
PALC	**Alcoutim**	**3.76**	**312**	*e*Pn		**Pn**	**03 28 26.7**	**+1.4**
PALC				*e*Sn		**Sn**	**03 29 09.1**	**-1.4**
	3.7nm,0.5s							
PALC	**Alcoutim**	**3.76**	**312**	*e*Pn		**Pn**	**03 28 26.7**	**+1.4**
PALC				*e*Sn		**Sn**	**03 29 09.1**	**-1.4**
	3.7nm,0.5s							
PBEJ	**Beja**	**4.36**	**315**	*e*Sn		**Sn**	**03 29 23.9**	**-1.9**
	1.9nm,0.3s							
PBEJ	**Beja**	**4.36**	**315**	*e*Sn		**Sn**	**03 29 23.9**	**-1.9**
	1.9nm,0.3s							
EBAD	**Badajoz**	**4.48**	**328**	P		**Pn**	**03 28 36.2**	**+0.8**
	0.9nm,0.3s,SNR=4.0							
EBAD				S		**Sn**	**03 29 26.0**	**-2.6**
	SNR=7.9							
EBAD	**Badajoz**	**4.48**	**328**	P		**Pn**	**03 28 36.2**	**+0.8**
	0.9nm,0.3s,SNR=4.0							
PTEO	**Sao Teotonio**	**4.62**	**305**	*e*Sn		**Sn**	**03 29 30.2**	**-2.0**
ESDC	**Sonseca Array**	**4.66**	**360**	P		**Pn**	**03 28 38.3**	**+0.3**
	0.7nm,0.2s,baz=180,slow=12,SNR=3.8							
ESDC	**Sonseca Array**	**4.66**	**360**	P		**Pn**	**03 28 38.3**	**+0.3**
PCBR	**Castelo Branco**	**5.58**	**331**	*e*Pn		**Pn**	**03 28 51.9**	**+0.9**
PCBR				*e*Sn		**Sn**	**03 29 53.4**	**-3.0**

PRU ***24*** *03:29:45.9, 42.47N×19.52E*
TIR ***24*** *03:29:45.7, 42.40N×19.18E, h23km*
PDG ***24*** *03:29:46.6±0.1, 42.42N×19.21E, h20km*
PDG Felt at Podgorica IV MCS.
CSEM ***24*** *03:29:46.7±0.0, 42.43N×19.21E, h15km, ML2.8, Error ellipse: s-maj=1.1km s-min=0.9km az=42.0*
THE ***24*** *03:29:47.9, 42.33N×18.95E, h20km*
NEIC ***24*** *03:29:47.2±0.2, 42.40N×19.18E, h10km, MD3.4(ROM), ML3.0(PDG), Error ellipse: s-maj=3.9km s-min=2.9km az=39.0*
NEIC Felt [IV] at Podgorica.
ROM ***24*** *03:29:47.2±0.8, 42.34N×19.23E, h10km, MD3.4/10, ML3.0/11, Error ellipse: s-maj=6.3km s-min=4.9km az=90.0*
ISC 24 03:29:46.0±0.2, 42.41N±0.01×19.17E±0.02, h10km, n97, σ1§06/139, 11C-13D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TTG	**Podgorica**	**0.07**	**74**	⇑*i*Pg		**Pg**	**03 29 50.2**	**+1.8**
TTG				*e*Sg		**Sg**	**03 29 52.9**	**+3.1**
BUM	**Brajici-Budva**	**0.23**	**241**	⇓*i*Pg		**Pg**	**03 29 52.7**	**+1.8**
BUM				*e*Sg		**Sg**	**03 29 57.5**	**+3.4**
BUM	**Brajici-Budva**	**0.23**	**241**	⇓*i*Pg		**Pg**	**03 29 52.7**	**+1.8**
BUM				*e*Sg		**Sg**	**03 29 57.5**	**+3.4**
NKY	**Niksic**	**0.42**	**343**	⇑*i*Pg		**Pg**	**03 29 55.2**	**+0.5**
NKY				*e*Sg		**Sg**	**03 30 02.2**	**+1.8**
SDA	**Shkodra**	**0.43**	**145**	*i* Pg		**Pg**	**03 29 55.1**	**+0.2**
SDA				*i* Sg		**Sg**	**03 30 01.3**	**+0.5**
ULC	**Ulcinj**	**0.45**	**172**	⇓*i*Pg		**Pg**	**03 29 55.3**	**+0.2**
ULC				*e*Sg		**Sg**	**03 30 03.1**	**+1.9**
HCY	**Herceg Novi**	**0.50**	**275**	⇓*i*Pg		**Pg**	**03 29 56.8**	**+0.7**
HCY				*e*Sg		**Sg**	**03 30 05.4**	**+2.6**
PVY	**Plav**	**0.62**	**72**	⇓*i*Pg		**Pg**	**03 29 58.0**	**-0.6**
PVY				*e*Sg		**Sg**	**03 30 07.7**	**+0.7**
BRY	**Bratogost**	**0.67**	**317**	⇑*i*Pg		**Pg**	**03 29 59.6**	**+0.1**
BRY				*e*Sg		**Sg**	**03 30 10.9**	**+2.3**
TREB	**Trebinje**	**0.68**	**297**	Pg		**Pg**	**03 30 00.0**	**+0.4**
TREB				Sg		**Sg**	**03 30 10.2**	**+1.4**
IVA	**Berane**	**0.71**	**49**	⇓*i*Pg		**Pg**	**03 29 59.9**	**-0.4**
IVA				*e*Sg		**Sg**	**03 30 10.7**	**+0.9**
UPM	**Unac-Piva**	**0.81**	**347**	⇓*i*Pg		**Pg**	**03 30 01.8**	**-0.6**
UPM				*e*Sg		**Sg**	**03 30 14.8**	**+

SRS	**Serrai**	**3.55**	**110**	*e*Pn		**Pn**	**03 30 42.8**	**+0.3**
CII	**Carovilli**	**3.68**	**261**	*e*PN		**Pn**	**03 30 44.9**	**+0.6**
CII					SN	**Sn**	**03 31 26.2**	**-2.1**
	13nm,0.4s							
CII	**Carovilli**	**3.68**	**261**	*e*Pn		**Pn**	**03 30 44.9**	**+0.6**
CII					*e*Sn	**Sn**	**03 31 26.2**	**-2.1**
CII	**Carovilli**	**3.68**	**261**	*e*Pn		**Pn**	**03 30 44.9**	**+0.6**
	13nm,0.4s							
CII					Sn	**Sn**	**03 31 26.2**	**-2.1**
RHK1	**Bakonya**	**3.77**	**348**	⇑*i*P		**Pn**	**03 30 45.3**	**-0.2**
RHK1					*e*S	**Sn**	**03 31 29.0**	**-1.4**
	2.9nm,0.2s							
NVLJ	**Novalja**	**3.80**	**306**	*i* Pn		**Pn**	**03 30 46.0**	**+0.2**
NVLJ					*i* Sn	**Sn**	**03 31 31.1**	**0.0**
PKSM	**Moragy**	**3.82**	**355**	⇓*e*P		**Pn**	**03 30 45.4**	**-0.8**
PKSM					*e*S	**Sn**	**03 31 29.4**	**-2.3**
LKD	**Levkas**	**3.87**	**163**	*e*Pn		**Pn**	**03 30 45.3**	**-1.5**
LKD					*e*Sn	**Sn**	**03 31 29.0**	**-3.9**
RFI	**Roccamonfina**	**4.03**	**256**	*e*PN		**Pn**	**03 30 49.7**	**+0.6**
	15nm,0.5s							
RFI	**Roccamonfina**	**4.03**	**256**	*e*Pn		**Pn**	**03 30 49.6**	**+0.5**
RFI	**Roccamonfina**	**4.03**	**256**	*e*Pn		**Pn**	**03 30 49.7**	**+0.6**
	15nm,0.5s							
SDI	**San Donato**	**4.05**	**262**	*e*PN		**Pn**	**03 30 49.9**	**+0.4**
SDI					SN	**Sn**	**03 31 33.8**	**-3.7**
	17nm,0.5s							
SDI	**San Donato**	**4.05**	**262**	*e*Pn		**Pn**	**03 30 49.9**	**+0.4**
SDI					*e*Sn	**Sn**	**03 31 33.8**	**-3.7**
SDI	**San Donato**	**4.05**	**262**	*e*Pn		**Pn**	**03 30 49.9**	**+0.4**
	17nm,0.5s							
SDI					Sn	**Sn**	**03 31 33.8**	**-3.7**
AGG	**Agios Georgios**	**4.15**	**144**	*e*Pn		**Pn**	**03 30 50.0**	**-1.0**
AGG					*e*Sn	**Sn**	**03 31 38.4**	**-1.7**
OUR	**Ouranopolis**	**4.17**	**118**	*e*Pn		**Pn**	**03 30 51.4**	**+0.1**
BOJS	**Bojanci**	**4.19**	**319**	*i* Pn		**Pn**	**03 30 52.2**	**+0.7**
BOJS					*e*Sn	**Sn**	**03 31 41.2**	**+0.1**
PKS6	**Bocsa**	**4.20**	**4**	⇓*e*P		**Pn**	**03 30 49.3**	**-2.3**
PAIG	**Paliouri**	**4.21**	**125**	*e*Pn		**Pn**	**03 30 51.8**	**0.0**
XOR	**Xorichti**	**4.31**	**134**	*e*Pn		**Pn**	**03 30 51.8**	**-1.3**
PKS8	**Sarbogard**	**4.48**	**356**	⇓*e*P		**Pn**	**03 30 54.4**	**-1.2**
NRCA	**Norcia**	**4.49**	**277**	*e*PN		**Pn**	**03 30 55.0**	**-0.7**
	9.0nm,0.5s							
NRCA	**Norcia**	**4.49**	**277**	*e*Pn		**Pn**	**03 30 55.0**	**-0.7**
NRCA	**Norcia**	**4.49**	**277**	*e*Pn		**Pn**	**03 30 55.0**	**-0.7**
	9.0nm,0.5s							
LEGS	**Legarje**	**4.49**	**323**	*i* Pn		**Pn**	**03 30 57.1**	**+1.3**
VISS	**Visnje**	**4.61**	**319**	*e*Pn		**Pn**	**03 30 58.4**	**+1.0**
CEY	**Cerknica**	**4.77**	**316**	*i* Pn		**Pn**	**03 31 00.3**	**+0.7**
CEY	**Cerknica**	**4.77**	**316**	*i* Pn		**Pn**	**03 31 00.3**	**+0.6**
MNS	**Montasola**	**4.80**	**272**	*e*PN		**Pn**	**03 31 00.1**	**-0.1**
	12nm,0.5s							
MNS	**Montasola**	**4.80**	**272**	*e*Pn		**Pn**	**03 31 00.1**	**0.0**
MNS	**Montasola**	**4.80**	**272**	*e*Pn		**Pn**	**03 31 00.1**	**-0.1**
	12nm,0.5s							
FSSB	**Fossombrone**	**4.85**	**287**	*e*PN		**Pn**	**03 31 00.0**	**-0.9**
	5.0nm,0.3s							
FSSB	**Fossombrone**	**4.85**	**287**	*e*Pn		**Pn**	**03 30 60.0**	**-0.9**
FSSB	**Fossombrone**	**4.85**	**287**	*e*Pn		**Pn**	**03 31 00.0**	**-0.9**
	5.0nm,0.3s							
LJU	**Ljubljana**	**4.93**	**319**	*i* Pn		**Pn**	**03 31 02.8**	**+0.8**
LJU					*e*Sn	**Sn**	**03 31 59.2**	**-0.6**
JAVS	**Javornik**	**5.06**	**315**	*e*Pn		**Pn**	**03 31 03.7**	**-0.1**
PERS	**Pernice**	**5.12**	**327**	*e*Pn		**Pn**	**03 31 04.7**	**0.0**
VOY	**Vojsko**	**5.24**	**315**	*e*Pn		**Pn**	**03 31 06.0**	**-0.4**
VOY					*e*Sn	**Sn**	**03 32 06.9**	**-0.7**
OBKA	**Obir**	**5.26**	**323**	⇑*i*PN		**Pn**	**03 31 06.9**	**+0.2**
OBKA					*i* SN	**Sn**	**03 32 08.3**	**+0.1**
ALN	**Alexandroupoli**	**5.37**	**104**	*e*Pn		**Pn**	**03 31 08.2**	**0.0**
ARSA	**Arzberg**	**5.49**	**333**	⇑*i*PN		**Pn**	**03 31 10.1**	**+0.2**
ARSA					*i* SN	**Sn**	**03 32 11.1**	**-2.8**
MOA	**Molln**	**6.45**	**329**	⇑*i*PN		**Pn**	**03 31 24.5**	**+1.1**
MOA					*i* SN	**Sn**	**03 32 36.8**	**-1.1**
SQTA	**Sankt Quirin**	**7.42**	**313**	⇑*i*PN		**Pn**	**03 31 36.9**	**-0.2**
SQTA					*i* SN	**Sn**	**03 33 00.8**	**-1.5**
MOTA	**Moosalm**	**7.56**	**314**	⇓*i*PN		**Pn**	**03 31 38.5**	**-0.5**
MOTA					*i* SN	**Sn**	**03 33 05.4**	**-0.2**
KHC	**Kasperske Hory**	**7.77**	**332**	*e*Pn		**Pn**	**03 31 43.4**	**+1.4**
KHC					*e*Sn	**Sn**	**03 33 05.6**	**-5.4**

*INMG **24** 03:33:07.1±0.8,36.65N×7.10W,h24km±5km,ML1.7, Error ellipse: s-maj=4.4km s-min=2.7km az=31.0*

MDD 24 03:33:07.6±1.5,36.67N×7.10W,h29km±22km,mbLg2.2/5, 1D,Error ellipse: s-maj=15.0km s-min=6.0km az=26.0, PRXIMO,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERIP	**Rio Piedras**	**0.71**	**350**	⇓P	Pb	03 33 20.6	-0.8
	1.5nm,0.1s,SNR=18						
ERIP				S	Sb	03 33 30.5	-0.4
	87nm,0.1s,SNR=7.9						
PALC	**Alcoutim**	**0.85**	**339**	*e*P	Pn	03 33 22.6	-1.0
PALC				*e*S	Sb	03 33 33.7	-1.0
	26nm,0.2s						
PALC	**Alcoutim**	**0.85**	**339**	P	Pn	03 33 22.6	-1.0
PALC				S	Sb	03 33 33.7	-1.0
	13nm,0.2s						
ESPR	**Espera**	**1.02**	**79**	P	Pn	03 33 24.7	-1.4
	1.7nm,0.1s,SNR=7.9						
ESPR				S	Sn	03 33 37.4	-2.2
	2.5nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.15**	**17**	P	Pn	03 33 26.5	-1.4
	0.8nm,0.1s,SNR=7.9						
EMIN				S	Sn	03 33 40.2	-2.6
	0.6nm,0.3s,SNR=7.9						
PBEJ	**Beja**	**1.48**	**336**	*e*Pn	Pn	03 33 31.1	-1.6
PBEJ				*e*Sn	Sn	03 33 49.3	-2.0
	3.3nm,0.2s						
PBEJ	**Beja**	**1.48**	**336**	Pn	Pn	03 33 31.1	-1.6
PBEJ				Sn	Sn	03 33 49.3	-2.0
	1.6nm,0.2s						
PTEO	**Sao Teotonio**	**1.56**	**304**	*e*P	Pn	03 33 32.2	-1.7
PTEO				*e*S	Sn	03 33 50.7	-2.6
EMIJ	**Mijas**	**1.88**	**93**	S	Sn	03 33 58.9	-2.4
	0.3nm,0.1s,SNR=4.0						
EBAD	**Badajoz**	**2.08**	**2**	P	Pn	03 33 39.2	-2.1
	0.2nm,0.1s,SNR=7.9						
EBAD				S	Sn	03 34 02.5	-4.0
	4.1nm,0.1s,SNR=4.0						
EADA	**Adamuz**	**2.50**	**53**	P	Pn	03 33 46.1	-1.3
	0.5nm,0.3s,SNR=4.0						
EADA				S	Sn	03 34 13.5	-3.7
	1.7nm,0.1s,SNR=7.9						
PCBR	**Castelo Branco**	**3.18**	**355**	*e*Pn	Pn	03 33 54.6	-2.3
PCBR				*e*Sn	Sn	03 34 29.8	-4.5
	1.1nm,0.1s						
PCBR	**Castelo Branco**	**3.18**	**355**	Pn	Pn	03 33 54.6	-2.3
PCBR				Sn	Sn	03 34 29.8	-4.5
	0.6nm,0.1s						
EQES	**Quesada**	**3.41**	**69**	P	Pn	03 33 58.4	-1.8
	0.1nm,0.1s,SNR=7.9						
EQES				S	Sn	03 34 35.8	-4.3
	SNR=4.0						
PVIS	**Viseu**	**4.08**	**352**	*e*Sn	Sn	03 34 52.0	-5.3

*NNC **24** 03:39:18.4±9.2,40.05N×80.58E,mpv3.8, Error ellipse: s-maj=120.1km s-min=56.5km az=1.0*

ISC 24 03:39:14.3±1.6,37.23N±0.08×72.2E±0.3,h188km±18km, n16,σ0s76/18,3C,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.02**	**12**	P	**P**	**03 40 29.5**	**+0.1**
	SNR=129						
KZA	**Kyzart**	**5.37**	**25**	P	**P**	**03 40 34.4**	**+0.4**
	SNR=7.2						
EKS2	**Erkin-Say**	**5.55**	**12**	P	**P**	**03 40 37.8**	**+1.5**
	SNR=6.4						
THN	**Thein Dam**	**5.58**	**148**	*e*P	**P**	**03 40 36.7**	**0.0**
	203nm,0.3s						
THN				*e*S	**S**	**03 41 39.4**	**-1.2**
AAK	**Ala-Archa**	**5.66**	**17**	⇑P	**P**	**03 40 38.5**	**+0.7**
	5.4nm,0.4s						
AAK				⇑S	**S**	**03 41 41.0**	**-1.7**
	19nm,0.8s						
AAK	**Ala-Archa**	**5.66**	**17**	P	**P**	**03 40 38.7**	**+0.9**
	SNR=12						
CHMS	**Chumysh**	**6.07**	**18**	P	**P**	**03 40 43.6**	**+0.5**
	SNR=5.6						
KOLN	**Koldanda**	**13.44**	**131**	*e*P	**P**	**03 42 18.4**	**-0.2**
	17nm,0.3s						
GKN	**Gorkha**	**13.91**	**128**	*e*P	**P**	**03 42 24.5**	**0.0**
	23nm,0.3s						
KKN	**Kakani**	**14.47**	**127**	*e*P	**P**	**03 42 31.8**	**+0.4**
	8.6nm,0.3s						
DMN	**Daman**	**14.48**	**128**	*e*P	**P**	**03 42 31.9**	**+0.3**
	12nm,0.3s						
PKI	**Pulchoki**	**14.70**	**127**	*e*P	**P**	**03 42 34.5**	**+0.1**
	16nm,0.5s						
GUN	**Gumba**	**14.77**	**125**	*e*P	**P**	**03 42 35.8**	**+0.6**
	15nm,0.3s						
VOSK	**Vostochnaya**	**15.51**	**357**	P	**P**	**03 42 42.9**	**-1.3**
BVA0	**Borovoye Array**	**15.84**	**356**	P	**P**	**03 42 48.5**	**+0.1**
	0.4nm,0.8s,baz=150,slow=9.6,SNR=9.4						
ZRNK	**Zerenda**	**15.88**	**353**	⇑P	**P**	**03 42 48.2**	**-0.6**
	2.6nm,0.9s						

*MDD **24** 03:49:25.2±1.8,35.68N×4.79W,h25km±17km,mb3.7/2, Error ellipse: s-maj=14.8km s-min=7.7km az=10.0, PRXIMO*

*INMG **24** 03:49:25.0±1.2,35.70N×4.81W,h68km±8km,ML1.9, Error ellipse: s-maj=5.5km s-min=4.5km az=24.0*

*NEIC **24** 03:49:25.9,35.74N×4.75W,h68km,MG3.0(MDD), After MDD.*

*CSEM **24** 03:49:26.6±0.4,35.93N×4.90W,h67km±6km,mb3.0/3, Error ellipse: s-maj=8.6km s-min=4.7km az=171.0*

ISC 24 03:49:24.5±1.0,35.78N±0.06×4.83W±0.05,h68km,n28, σ1s18/50,1C,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIJ	**Mijas**	**0.78**	**4**	⇑P	**P**	**03 49 41.2**	**+0.9**
	SNR=18						
EMIJ				S	**S**	**03 49 53.6**	**+1.5**
	3.7nm,0.1s,SNR=7.9						
EMIJ	**Mijas**	**0.78**	**4**	P	**P**	**03 49 41.2**	**+0.9**
	1.9nm,0.1s,SNR=18						
EMIJ				S	**S**	**03 49 53.6**	**+1.5**
	3.7nm,0.1s,SNR=7.9						
ESPR	**Espera**	**1.36**	**323**	P	**P**	**03 49 50.5**	**+2.5**
	0.4nm,0.1s,SNR=5.1						
ESPR				S	**S**	**03 50 08.8**	**+3.3**
	2.0nm,0.1s,SNR=7.9						
ESPR	**Espera**	**1.36**	**323**	P	**P**	**03 49 50.5**	**+2.5**
ESPR				S	**S**	**03 50 10.1**	**+4.6**
ESPR	**Espera**	**1.36**	**323**	P	**P**	**03 49 50.5**	**+2.4**
	0.4nm,0.1s,SNR=5.1						
EMEL	**Melilla**	**1.60**	**107**	S	**S**	**03 50 08.8**	**-2.3**
	20nm,0.1s,SNR=7.9						
ELUQ	**Luque**	**1.83**	**14**	S	**S**	**03 50 17.7**	**+1.3**
	4.5nm,0.2s,SNR=4.0						
EADA	**Adamuz**	**2.39**	**5**	P	**P**	**03 50 02.5**	**+0.3**
	1.3nm,0.2s,SNR=23						
EADA				S	**S**	**03 50 29.4**	**-0.8**
	2.1nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**2.39**	**5**	P	**P**	**03 50 02.5**	**+0.3**
	1.3nm,0.2s,SNR=23						
EADA				S	**S**	**03 50 29.5**	**-0.8**
EQES	**Quesada**	**2.46**	**35**	P	**P**	**03 50 05.1**	**+1.8**
	SNR=4.0						
EQES				S	**S**	**03 50 32.1**	**-0.1**
	0.1nm,0.1s,SNR=4.0						
EQES	**Quesada**	**2.46**	**35**	P	**P**	**03 50 05.1**	**+1.9**
	SNR=4.0						
EQES				S	**S**	**03 50 32.1**	**-0.1**
	0.1nm,0.1s,SNR=4.0						
EMIN	**Mina Concepcio**	**2.47**	**324**	P	**P**	**03 50 04.1**	**+0.7**
	0.7nm,0.1s,SNR=35						
EMIN				S	**S**	**03 50 32.3**	**-0.1**
	3.1nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.47**	**324**	P	**P**	**03 50 04.1**	**+0.8**
	0.7nm,0.1s,SNR=35						
EMIN				S	**S**	**03 50 32.3**	**-0.1**
	3.1nm,0.1s,SNR=7.9						
PALC	**Alcoutim**	**2.71**	**309**	*e*P	**P**	**03 50 07.1**	**+0.4**
PALC				*e*S	**S**	**03 50 39.0**	**+0.6**
	6.3nm,0.1s						
PALC	**Alcoutim**	**2.71**	**309**	*e*P	**P**	**03 50 07.1**	**+0.4**
PALC				*e*S	**S**	**03 50 39.0**	**+0.6**
	6.3nm,0.1s						
PBEJ	**Beja**	**3.30**	**314**	*e*P	**P**	**03 50 15.3**	**+0.2**
PBEJ				*e*S	**S**	**03 50 52.3**	**-1.0**
	2.1nm,0.1s						
PBEJ	**Beja**	**3.30**	**314**	*e*P	**P**	**03 50 15.3**	**+0.2**
PBEJ				*e*S	**S**	**03 50 52.3**	**-1.0**
	2.1nm,0.1s						
EBAD	**Badajoz**	**3.44**	**330**	P	**P**	**03 50 17.2**	**+0.3**
	1.8nm,0.1s,SNR=15						
EBAD				S	**S**	**03 50 55.5**	**-1.2**
	1.6nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**3.44**	**330**	P	**P**	**03 50 17.2**	**+0.3**
	1.8nm,0.1s,SNR=15						
EBAD				S	**S**	**03 50 55.5**	**-1.2**
	1.6nm,0.1s,SNR=7.9						
PTEO	**Sao Teotonio**	**3.59**	**300**	*e*P	**P**	**03 50 19.4**	**+0.4**
PTEO				*e*S	**S**	**03 51 00.1**	**-0.3**
	3.5nm,0.2s						
PTEO	**Sao Teotonio**	**3.59**	**300**	*e*P	**P**	**03 50 19.4**	**+0.4**
PTEO				*e*S	**S**	**03 51 00.1**	**-0.3**
	3.5nm,0.2s						
ESDC	**Sonseca Array**	**3.94**	**10**	P	**P**	**03 50 22.2**	**-1.8**
	0.1nm,0.1s,baz=189,slow=14,SNR=4.0						
ESDC				S	**S**	**03 51 05.0**	**-4.4**
	0.4nm,0.1s,baz=189,slow=22,SNR=4.5						
ESDC	**Sonseca Array**	**3.94**	**10**	S	**S**	**03 51 05.0**	**-4.4**
ESDC	**Sonseca Array**	**3.94**	**10**	P	**P**	**03 50 22.2**	**-1.8**
	0.1nm,0.1s,SNR=4.0						
PCBR	**Castelo Branco**	**4.56**	**333**	*e*P	**P**	**03 50 32.3**	**-0.3**
PCBR				*e*S	**S**	**03 51 22.4**	**-2.4**
	0.8nm,0.2s						
PCBR	**Castelo Branco**	**4.56**	**333**	*e*P	**P**	**03 50 32.3**	**-0.3**
PCBR				*e*S	**S**	**03 51 22.4**	**-2.4**
	0.8nm,0.2s						
PTOM	**Tomar**	**4.76**	**325**	*e*P	**P**	**03 50 35.5**	**+0.1**
PVIS	**Viseu**	**5.48**	**335**	*e*P	**P**	**03 50 44.5**	**-0.8**
PVIS				*e*S	**S**	**03 51 44.2**	**-3.6**

*GUC **24** 03:49:52.6±0.7,40.38S×75.08W,h50km,ML4.9*

*HRVD **24** 03:49:54.8±0.6,40.47S×75.32W,h17km±1km,MW4.8/35, Centroid moment Tensor Solution. LP body waves: s13,c15;Mantle waves: s35,c42; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.79±.17; $M_{\theta\theta}$0.17±.09; $M_{\phi\phi}$1.61±.12; $M_{r\theta}$-0.41±.32; $M_{\theta\phi}$-0.20±.06; $M_{r\phi}$0.33±.22; Best double couple: $M_0$1.79×10^{16} NP1:φs2°,δ40°,λ-74°. NP2:φs162°,δ52°,λ-103°. Principal axes: T 1.68, Plg6°, Azm261°; N .21, Plg10°, Azm170°; P -1.9, Plg78°, Azm23°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **24** 03:49:54.8,40.30S×74.90W,h27km,mB5.2,Ms6.1, Msz5.7*

*NEIC **24** 03:49:54.8±0.2,40.28S×74.89W,mb4.9/27,ML4.9(GUC), Error ellipse: s-maj=6.7km s-min=4.8km az=59.0*

*SYO **24** 03:49:55,40.26S×74.89W,h27km,MB4.9*

*IDC **24** 03:50:01.5±5.6,40.26S×74.84W,h82km±47km,mb4.2/11, mb1 4.4/11,mb1mx4.4/13,MS4.0/5,Ms1 4.0/5, ms1mx3.7/12, Error ellipse: s-maj=26.2km s-min=15.3km az=88.0*

ISC 24 03:49:54.8±2.1,40.26S±0.04×74.85W±0.08,h33km±14km, h26km±.8km:pP-P,n121,σ0s95/84,mb4.8/35,MS4.0/6, 5C-7D,Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLCH	**Valdivia**	**1.31**	**70**	⇑*i*P	**Pn**	**03 50 17.7**	**+0.5**
VLCH				*i* S	**Sb**	**03 50 36.4**	**+1.0**
VLCH				AMP		03 50 38.7	
	comp=E,44μm,0.5s						
OSCH	**Osorno**	**1.35**	**104**	⇓*i*P	**Pn**	**03 50 17.7**	**0.0**
OSCH				*i* S	**Sb**	**03 50 36.9**	**+0.4**
OSCH				AMP		03 50 39.8	
	comp=E,15μm,0.5s						
PMCH	**Puerto Montt**	**1.92**	**130**	⇑*i*P	**Pn**	**03 50 24.4**	**-1.5**
PMCH				*i* S	**Sn**	**03 50 48.0**	**-1.2**
PMCH				AMP		03 50 55.0	
	comp=E,12μm,0.2s						
TMCH	**Temuco**	**2.30**	**50**	⇓*i*P	**Pn**	**03 50 30.2**	**-1.0**
TMCH				*i* S	**Sn**	**03 50 59.0**	**+0.3**
CCHI	**Chillan**	**4.25**	**32**	⇓*i*P	**Pn**	**03 50 57.6**	**-1.4**
CCHI				*i* S	**Sn**	**03 51 47.5**	**-0.8**
TRQA	**Tornquist**	**10.24**	**82**	*e*P	**P**	**03 52 20.8**	**-1.6**
EFI	**East Falkland**	**16.28**	**140**	*e*P	**P**	**03 53 43.0**	**+0.8**
	comp=E,30nm,0.5s						

LVC	**Limon Verde**	**18.30**	**18**	P		**P**	**03 54 06.4**	**-1.5**
	comp=E,28nm,1.0s							
CPUP	**Villa Florida**	**20.14**	**52**	P		**P**	**03 54 28.7**	**-0.1**
	comp=E,10nm,0.6s,baz=251,slow=9.7,SNR=22							
CPUP				LR	LR		04 03 03.9	
	comp=E,876nm,18.9s,MS4.1,baz=244,slow=39							
ARE	**Arequipa**	**23.89**	**8**	*e*P		**P**	**03 55 08.0**	**+1.6**
LPAZ	**La Paz**	**24.59**	**16**	P		**P**	**03 55 15.4**	**+2.2**
	comp=E,12nm,0.8s,mb4.5,baz=155,slow=9.0,SNR=28							
PMSA	**Palmer Station**	**25.34**	**169**	P		**P**	**03 55 18.6**	**-1.3**
	comp=E,10.0nm,1.0s,mb4.3							
SAML	**Samuel**	**32.87**	**22**	*e*P		**P**	**03 56 26.6**	**-1.4**
	comp=E,15nm,1.0s,mb4.9							
SAML				*e*pP	pP		03 56 35.5	-2.1
SAML				LR	LR			
	comp=Z,201nm,20.0s,MS3.8							
BDFB	**Brasilia**	**33.87**	**51**	P		**P**	**03 56 35.4**	**-1.1**
	comp=Z,17nm,0.9s,mb5.0,baz=213,slow=6.1,SNR=17							
BDFB				LR	LR		04 10 05.2	
	comp=Z,289nm,20.7s,MS4.0,baz=243,slow=36							
BAO	**Brasilia Array**	**33.89**	**51**	*i* P		**P**	**03 56 35.8**	**-0.9**
BAO				*i*			03 56 40.7	
BAO				*e*			03 56 48.1	
BAO				*e*			03 57 03.0	
OTAV	**Otavalo**	**40.44**	**354**	*e*P		**P**	**03 57 33.2**	**+1.4**
	comp=Z,9.8nm,0.8s,mb4.6							
VNA3	**Neumayer Olymp**	**44.52**	**155**	⇓*i*P		**P**	**03 58 04.5**	**+0.1**
VNA3				*e*	pP		03 58 14.1	-0.2
VNA3				*e*			03 58 19.3	
VNA3				*e*			03 59 43.6	
VNA3				*e*			03 59 50.2	
VNA1	**Neumayer--Stat**	**44.90**	**154**	*e*	pP		03 58 12.8	-4.6
VNA1	**Neumayer--Stat**	**44.90**	**154**	*e*	sP		03 58 18.0	-3.5
VNA1	**Neumayer--Stat**	**44.90**	**154**	⇑*i*P		**P**	**03 58 03.2**	**-4.3**
VNA1				*e*	pP		03 58 12.8	-4.6
VNA1				*e*			03 58 18.0	
VNA1				*e*			03 59 42.6	
VNA1				*e*			03 59 49.1	
VNA2	**Neumayer--Watz**	**45.22**	**155**	*e*	pP		03 58 19.8	-0.1
VNA2	**Neumayer--Watz**	**45.22**	**155**	*e*	sP		03 58 25.0	+1.0
VNA2	**Neumayer--Watz**	**45.22**	**155**	⇓*i*P		**P**	**03 58 10.2**	**+0.2**
VNA2				*e*	pP		03 58 19.8	-0.1
VNA2				*e*			03 58 25.0	
VNA2				*e*			03 59 49.6	
VNA2				*e*			03 59 56.1	
SNAA	**Sanae**	**46.73**	**156**	*e*	pP		03 58 29.1	-2.7
SNAA	**Sanae**	**46.73**	**156**	*e*	sP		03 58 34.3	-1.6
SNAA	**Sanae**	**46.73**	**156**	P		**P**	**03 58 21.2**	**-0.7**
	comp=Z,4.8nm,0.9s,mb4.4,baz=274,slow=6.2,SNR=43							
SNAA	**Sanae**	**46.73**	**156**	⇓*i*P		**P**	**03 58 19.5**	**-2.4**
SNAA				*e*	pP		03 58 29.1	-2.7
SNAA				*e*			03 58 34.3	
SNAA				*e*			03 59 58.2	
SNAA				*e*			04 00 04.3	
SDV	**Santo Domingo**	**49.05**	**6**	*e*P		**P**	**03 58 38.9**	**-2.0**
QSPA	**South Pole Qui**	**49.98**	**180**	*e*P		**P**	**03 58 46.2**	**-0.9**
	comp=Z,4.9nm,0.8s,mb4.6							
MAIT	**Maitri**	**51.50**	**155**	*e*P		**P**	**03 58 58.1**	**-0.6**
VNDA	**Vanda**	**57.52**	**192**	P		**P**	**03 59 43.6**	**+0.9**
	comp=Z,1.1nm,0.9s,mb3.9,baz=123,slow=4.1,SNR=6.1							
VNDA				LR		LR	04 20 07.0	
	comp=Z,46nm,20.4s,MS3.6,baz=143,slow=31							
SYO	**Syowa Base**	**60.90**	**158**	⇑pP		**P**	**04 00 06.3**	**+0.2**
SYO	**Syowa Base**	**60.90**	**158**	⇓sP		pP	04 00 12.4	-3.8
PPT	**Papeete**	**67.33**	**266**	*e*S		S	04 09 38.5	-1.7
PPT				*e*R			04 20 44.6	
	comp=Z,160nm,28.2s							
MAW	**Mawson**	**67.81**	**164**	P		**P**	**04 00 49.4**	**-1.5**
	comp=Z,2.6nm,0.8s,mb4.3,baz=228,slow=9.1,SNR=8.3							
MAW				LR	LR		04 29 38.9	
	comp=Z,76nm,18.7s,MS4.0,baz=66,slow=35							
NHSC	**New Hope**	**73.17**	**355**	P		**P**	**04 01 22.2**	**-1.8**
CASY	**Casey**	**73.71**	**182**	*e*P		**P**	**04 01 25.1**	**-1.3**
	comp=Z,4.9nm,0.8s,mb4.5							
NATX	**Nacogdoches**	**73.97**	**343**	*e*P		**P**	**04 01 27.5**	**-1.1**
	comp=Z,68nm,1.4s,mb5.4							
JCT	**Junction City**	**74.09**	**338**	*e*P		**P**	**04 01 28.2**	**-1.1**
	comp=Z,20nm,1.0s,mb5.0							
LTX	**Lajitas**	**74.23**	**334**	*e*P		**P**	**04 01 29.4**	**-0.8**
	comp=Z,4.8nm,0.8s,mb4.5							
TXAR	**Lajitas Array**	**74.23**	**334**	P		**P**	**04 01 29.4**	**-0.7**
	comp=Z,5.8nm,0.7s,mb4.6,baz=157,slow=8.2,SNR=91							
TXAR	**Lajitas Array**	**74.23**	**334**	P		**P**	**04 01 29.4**	**-0.8**
OXF	**Oxford**	**75.61**	**348**	*e*P		**P**	**04 01 36.0**	**-2.0**
SWET	**Sewanee**	**75.80**	**351**	*e*P		**P**	**04 01 37.9**	**-1.2**
SWET				*e*pP		pP	04 01 46.3	-3.0
MIAR	**Mount Ida**	**76.42**	**344**	*e*P		**P**	**04 01 40.8**	**-1.8**
	comp=Z,9

PDAR	**Pinedale Array**	**88.41**	**335**	P		**P**	**04 02 44.0**	**-0.4**
	comp=Z,3.4nm,0.9s,mb4.6,baz=141,slow=5.8,SNR=23							
LSZ	**Lusaka**	**89.89**	**110**	*e*P		**P**	**04 02 53.1**	**+1.1**
LSZ				*e*pP		pP	04 03 01.1	-1.4
MCMT	**McKenzie Canyo**	**91.33**	**334**	*e*P		**P**	**04 02 58.5**	**+0.5**
BOZ	**Bozeman (W)**	**91.65**	**335**	*e*P		**P**	**04 02 58.9**	**-0.6**
ULM	**Lac du Bonnet**	**92.01**	**347**	P		**P**	**04 02 59.2**	**-1.8**
	comp=Z,5.1nm,0.6s,mb5.0,baz=167,slow=3.2,SNR=5.9							
WRA	**Warramunga Arr**	**114.22**	**210**	PKP		PKPdf	04 08 30.0	-1.1
	comp=Z,0.4nm,1.1s,baz=159,slow=1.5,SNR=5.3							
GERES	**GERESS Array B**	**118.07**	**48**	PKP		PKPdf	04 08 38.0	+0.2
	comp=Z,2.8nm,1.0s,baz=180,slow=2.7,SNR=15							
ILAR	**Eielson Array**	**118.72**	**332**	PKP		PKPdf	04 08 38.3	-0.5
	comp=Z,1.0nm,0.8s,baz=164,slow=3.3,SNR=11							
NOA	**NORSAR Array B**	**122.47**	**35**	PKP		PKPdf	04 08 46.0	-0.2
	comp=Z,5.1nm,1.3s,baz=232,slow=1.8,SNR=3.0							
BRTR	**Keskin Array B**	**126.65**	**66**	PKP		PKPdf	04 08 55.1	+0.4
	comp=Z,1.4nm,0.6s,baz=199,slow=2.6,SNR=8.9							
AKASG	**Malin Array Be**	**127.97**	**51**	PKP		PKPdf	04 08 56.8	-0.2
	comp=Z,0.3nm,0.4s,baz=263,slow=2.4,SNR=5.5							
FINES	**FINESS Array B**	**129.37**	**38**	PKP		PKPdf	04 08 59.4	+0.1
	comp=Z,2.9nm,1.1s,baz=45,slow=2.7,SNR=4.5							
ARCES	**ARCESS Array B**	**130.62**	**27**	PKP		PKPdf	04 09 00.8	-0.6
	comp=Z,1.9nm,0.8s,baz=243,slow=2.0,SNR=3.4							
POO	**Poona**	**145.46**	**120**	*e*P		PKPbc	04 09 29.0	-1.2
HYB	**Hyderabad**	**147.65**	**127**	*i* PKP		PKPdf	04 09 36.5	+3.2
HYB	**Hyderabad**	**147.65**	**127**	*e*P		PKPdf	04 09 36.5	+3.2
ASAJ	**Asahikawa**	**152.15**	**290**	PKPbc		PKPdf	04 09 46.4	+6.8
	comp=Z,20nm,1.2s,baz=280,slow=19,SNR=4.1							
ZRNK	**Zerenda**	**152.43**	**50**	*e*PKPdf		PKPdf	04 09 40.3	+0.7
ZRNK				*e*PKPbc		PKPdf	04 09 47.8	+8.2
BRVK	**Borovoye**	**153.16**	**50**	*e*PKPbc		PKPdf	04 09 49.2	+8.6
BVAR	**Borovoye Array**	**153.23**	**50**	PKP		PKPdf	04 09 42.1	+1.3
	comp=Z,0.5nm,0.7s,baz=90,slow=1.5,SNR=3.5							
BVAR				PKPbc		PKPdf	04 09 49.8	+9.0
	comp=Z,1.9nm,0.8s,baz=297,slow=3.3,SNR=10							
AAK	**Ala-Archa**	**156.96**	**74**	PKPdf		PKPdf	04 09 46.0	-0.2
AAK				*e*PKPdif			04 09 57.2	
KOLN	**Koldanda**	**158.29**	**118**	*e*P		PKPab	04 10 22.5	-2.4
KURK	**Kurchatov**	**158.78**	**52**	*e*PKPdf		PKPdf	04 09 49.1	+1.0
GKN	**Gorkha**	**159.13**	**120**	*e*P		PKPab	04 10 26.3	-2.2
DMN	**Daman**	**159.18**	**121**	*e*P		PKPab	04 10 24.8	-3.9
PKI	**Pulchoki**	**159.35**	**122**	*e*P		PKPab	04 10 27.4	-2.1
KKN	**Kakani**	**159.42**	**121**	*e*P		PKPab	04 10 27.5	-2.3
ZAL	**Zalesovo**	**160.63**	**38**	PKP		PKPdf	04 09 51.1	+1.0
	comp=Z,0.7nm,0.3s,baz=221,slow=7.9,SNR=3.0							
ZAL				PKPab		PKPab	04 10 34.2	0.0
	comp=Z,1.4nm,0.4s,baz=156,slow=4.6,SNR=8.0							
ZAL	**Zalesovo**	**160.63**	**38**	PKP		PKPdf	04 09 51.1	+1.0
ZAL				PKPab		PKPab	04 10 34.2	0.0
SSE	**Sheshan**	**164.10**	**240**	PKP		PKPdf	04 09 54.8	+0.5
SSE				PP		PP		
	comp=Z,96nm,10.1s							
CN2	**Changchun**	**164.51**	**290**	*e*PKP		PKPdf	04 09 55.0	+0.7
KMI	**Kunming**	**164.77**	**172**	*e*PKP		PKPdf	04 09 56.1	+1.0
KMI				XPKP			04 10 05.3	
KMI	**Kunming**	**164.77**	**172**	*e*PKP		PKPdf	04 09 56.1	+1.0
KMI				sPKP			04 10 05.2	
KMI				LR		LR		
	comp=Z,40nm,21.7s							
GYA	**Guiyang**	**166.17**	**186**	⇑*i* PKP		PKPdf	04 09 58.9	+2.6
GYA				APKP			04 10 09.8	
GYA				XPKP			04 10 14.3	
GYA				PKS		PKS	04 13 29.8	+1.9
GYA				PP		PP		
	comp=Z,140nm,9.6s							
NJ2	**Nanjing**	**166.24**	**238**	*e*PKP		PKPdf	04 09 56.5	+0.3
NJ2				APKP			04 10 07.3	
NJ2				XPKP			04 10 10.9	
NJ2				PKS		PKS	04 13 28.0	+0.2
NJ2				PP		PP	04 14 49.0	+1.1
NJ2				SKS		SKS	04 16 55.0	+0.1
NJ2				PP		PP		
	comp=Z,380nm,10.3s							
NJ2				LR		LR		
	comp=N,870nm,24.6s							
NJ2				LR		LR		
	comp=E,3μm,22.2s							
NJ2				LR		LR		
	comp=Z,3μm,19.2s							
WMQ	**Urumqi**	**166.55**	**69**	*e*PKP		PKPdf	04 09 57.3	+1.2
SONM	**Songino Array**	**172.38**	**354**	PKP		PKPdf	04 09 59.8	+0.4
	comp=Z,0.4nm,0.4s,baz=45,slow=2.0,SNR=3.0							
SONM				PKPab		PKPab	04 11 25.1	-0.7
	comp=Z,1.9nm,0.9s,baz=342,slow=3.9,SNR=6.4							
LZH	**Lanzhou**	**175.71**	**166**	*e*PKP		PKPdf	04 10 01.3	+0.4
LZH				APKP			04 10 12.1	
LZH				XPKP			04 10 15.8	
LZH				*e*PP		PP	04 15 36.1	+1.0
LZH				SKKS			04 22 16.9	
LZH				*e*SS		SS	04 36 56.3	+1.3
LZH				PP		PP		
	comp=Z,120nm,6.5s							
LZH				LR		LR		
	comp=N,821nm,18.2s							
LZH				LR		LR		
	comp=Z,2μm,19.3s							
LZH	**Lanzhou**	**175.71**	**166**	*e*PKP		PKPdf	04 10 01.3	+0.4
LZH				pPKP			04 10 12.1	
LZH				sPKP			04 10 15.7	

NIED ***24*** *03:51:00, 37.30N× 139.00E, h5km, Mw3.7 Best double couple: M0 4.26×10^14 NP1:φs22°, δ64°, λ137°. NP2:φs134°, δ52°, λ33°.*

JMA ***24*** *03:51:11.7, 37.31N× 138.96E, h9km±2km, M3.7 Broadband fault plane solution: P waves. NP1:φs210°, δ6°, λ-81°. NP2:φs21°, δ84°, λ-91°. Principal axes: T Plg39°, Azm112°; N Plg1°, Azm21°; P Plg51°, Azm290°;*

JMA Felt II J1.

IDC ***24*** *03:51:12.2±0.9, 37.20N× 137.71E, mb3.6/5, mb1 3.9/7, mb1mx3.7/24, ML3.4/2 Error ellipse: s-maj=44.3km s-min=19.5km az=90.0*

NEIC ***24*** *03:51:13.7±0.8, 37.24N× 137.66E, h10km, Error ellipse: s-maj=38.0km s-min=12.0km az=65.0*

ISC 24 03:51:11.3±0.5, 37.33N±0.03×138.95E±0.04, h12km±3km, n21, σ0§91/29, mb3.7/5, 5C-2D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JHK	**Hiroka**	**0.09**	**147**	⇑P		**Pg**	**03 51 13.8**	**-0.4**
JHK				*e*S		**Sg**	**03 51 15.7**	**-0.4**
JIZZ	**Izumozaki**	**0.28**	**317**	P		**Pg**	**03 51 17.6**	**+0.2**
JIZZ				*e*S		**Sg**	**03 51 23.3**	**+1.9**
JNS	**Sasagawa**	**0.57**	**30**	⇑P		**Pb**	**03 51 22.5**	**-0.2**
JNS				*e*S		**Sb**	**03 51 30.7**	**+0.3**
JFY	**Yanaizu**	**0.60**	**82**	⇑P		**Pb**	**03 51 23.2**	**-0.1**
JFY				*e*S		**Sb**	**03 51 31.7**	**+0.3**
JKT	**Katashina**	**0.61**	**157**	⇑P		**Pb**	**03 51 23.0**	**-0.3**
JKT				*e*S		**Sb**	**03 51 31.5**	**0.0**
JGK	**Kuni**	**0.80**	**198**	P		**Pb**	**03 51 26.7**	**0.0**
JGK				*e*S		**Sb**	**03 51 37.7**	**+0.5**
JSD	**Sado**	**0.90**	**322**	⇓P		**Pb**	**03 51 27.5**	**-0.8**
JAG	**Ashikaga**	**0.98**	**156**	⇑P		**Pb**	**03 51 30.2**	**+0.4**
JAG				*e*S		**Sb**	**03 51 43.3**	**+0.8**
MAJO	**Matsushiro**	**0.98**	**218**	⇓*i* Pg		**Pg**	**03 51 29.5**	**-1.5**
MAT	**Matsushiro**	**0.98**	**218**	P		**Pb**	**03 51 29.6**	**-0.2**
MAT				S		**Sb**	**03 51 42.6**	**+0.1**
MAT	**Matsushiro**	**0.98**	**218**	P		**Pb**	**03 51 29.4**	**-0.4**
MAT				*e*S		**Sb**	**03 51 42.6**	**+0.1**
MAT	**Matsushiro**	**0.98**	**218**	*e*P		**Pb**	**03 51 30.0**	**+0.2**
MAT				*e*S		**Sb**	**03 51 43.0**	**+0.5**
JHJ	**Hachijo jima 2**	**4.25**	**171**	Pn		**Pn**	**03 52 20.1**	**+2.8**
	47nm,0.3s,baz=65,slow=23,SNR=5.0							
ASAJ	**Asahikawa**	**7.32**	**21**	Pn		**Pn**	**03 53 06.8**	**+6.1**
	0.2nm,0.3s,baz=142,slow=18,SNR=2.2							
ILAR	**Eielson Array**	**50.30**	**32**	P		**P**	**04 00 16.3**	**+7.1**
	0.4nm,1.0s,mb3.4,baz=297,slow=8.1,SNR=3.7							
WRA	**Warramunga Arr**	**57.12**	**185**	P		**P**	**04 00 58.4**	**-1.8**
	0.6nm,0.6s,mb3.8,baz=1.2,slow=7.5,SNR=15							
ASAR	**Alice Springs**	**60.85**	**185**	P		**P**	**04 01 26.9**	**+1.0**
	0.2nm,0.6s,mb3.4,baz=15,slow=10,SNR=3.6							
FINES	**FINESS Array B**	**67.63**	**331**	P		**P**	**04 02 08.1**	**-1.5**
	1.2nm,0.9s,mb3.9,baz=11,slow=9.7,SNR=3.6							
NOA	**NORSAR Array B**	**73.14**	**336**	P		**P**	**04 02 42.7**	**-0.2**
	1.6nm,1.0s,mb3.9,baz=40,slow=5.9,SNR=3.9							
SAML	**Samuel**	**145.37**	**41**	*e*PKPdf		PKPdf	04 10 51.7	-1.1
LPAZ	**La Paz**	**148.20**	**56**	PKPbc		PKPdf	04 11 01.4	+3.9
	1.5nm,0.3s,baz=64,slow=0.4,SNR=3.8							

MDD ***24*** *03:51:13.9±0.4, 42.84N× 1.43W, h6km±4km, mbLg1.5/11, Error ellipse: s-maj=3.2km s-min=2.5km az=49.0, PRXIMO AftershockPLICA*

STR ***24*** *03:51:13.5±0.3, 42.86N× 1.45W, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG ***24*** *03:51:14.7±0.5, 42.90N× 1.44W, h7km, Md2.4/2, Ml2.0/5, Error ellipse: s-maj=8.3km s-min=5.7km az=54.0*

ISC 24 03:51:12.1±0.5, 42.81N±0.03×1.45W±0.04, h13km±3km, n25, σ1§01/43, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SJPF	**Ste Jean**	**0.35**	**28**	*e*Pg		**Pg**	**03 51 19.6**	**+0.2**
SJPF				*e*Sg		**Sg**	**03 51 23.8**	**-0.5**
	78nm,0.3s							
LARF	**Larrau**	**0.41**	**56**	Pg		**Pg**	**03 51 21.2**	**+0.6**
LARF				Sg		**Sg**	**03 51 26.4**	**+0.2**
LARF	**Larrau**	**0.41**	**56**	P		**Pg**	**03 51 21.2**	**+0.6**
LARF				S		**Sg**	**03 51 26.6**	**+0.3**
EALK	**Alkurruntz**	**0.41**	**354**	Pg		**Pg**	**03 51 21.0**	**+0.3**
	5.3nm,0.2s,SNR=14							
EALK				Lg			03 51 26.8	
	13nm,0.2s,SNR=7.9							
OSSF	**Osses**	**0.47**	**17**	Pg		**Pg**	**03 51 21.6**	**-0.1**
OSSF				Sg		**Sg**	**03 51 27.8**	**-0.4**
OSSF	**Osses**	**0.47**	**17**	P		**Pb**	**03 51 21.6**	**0.0**
OSSF				S		**Sb**	**03 51 27.8**	**-0.4**
ORDF	**Ordiarp**	**0.55**	**43**	Pg		**Pg**	**03 51 23.5**	**+0.1**
ORDF				Sg		**Sg**	**03 51 30.9**	**0.0**
ORDF	**Ordiarp**	**0.55**	**43**	P		**Pb**	**03 51 23.5**	**+0.4**
ORDF				S		**Sb**	**03 51 30.1**	**-0.4**
ATE	**Arette**	**0.61**	**63**	P		**Pb**	**03 51 24.8**	**+0.7**
ATE				S		**Sb**	**03 51 32.9**	**+0.5**
ETSF	**Etsaut**	**0.66**	**82**	*e*Pg		**Pg**	**03 51 25.0**	**-0.4**
ETSF				*e*Sg		**Sg**	**03 51 35.2**	**+0.8**
	8.7nm,0.3s							
EBIE	**Bielsa**	**1.18**	**95**	Pg		**Pg**	**03 51 36.2**	**+0.5**
	0.8nm,0.1s,SNR=18							
EBIE				Lg			03 51 53.2	
	4.8nm,0.2s,SNR=7.9							
ESAC	**San Caprasio**	**1.30**	**146**	Pg		**Pg**	**03 51 37.9**	**-0.4**
	12nm,0.3s,SNR=13							
ESAC				Lg			03 51 56.0	
	8.7nm,0.2s,SNR=7.9							
EPF	**Esparros**	**1.33**	**80**	*e*Pn		**Pn**	**03 51 37.8**	**+1.4**
EPF				*e*Pg		**Pg**	**03 51 39.9**	**+1.1**
EPF				*e*Sn		**Sn**	**03 51 54.5**	**+0.5**
EPF				*e*Sg		**Sg**	**03 51 57.3**	**+0.7**
	8.8nm,0.3s							
ELAN	**Lanestosa**	**1.52**	**287**	Pg		**Pg**	**03 51 41.8**	**-0.7**
	0.4nm,0.1s,SNR=9.4							
ELAN				Lg			03 52 02.6	
	1.0nm,0.1s,SNR=7.9							
ETOR	**Torete**	**2.04**	**193**	Pn		**Pn**	**03 51 48.2**	**+1.7**
	0.6nm,0.2s,SNR=5.7							
ETOR				Pg		**Pg**	**03 51 52.6**	**-0.3**
	2.1nm,0.4s,SNR=7.7							
ETOR				Lg			03 52 19.2	
	0.9nm,0.2s,SNR=7.9							
EPOB	**Poblet**	**2.38**	**127**	Pn		**Pn**	**03 51 51.8**	**+0.4**
	0.4nm,0.2s,SNR=7.9							
EPOB				Pg		**Pg**	**03 51 56.8**	**-2.7**
	SNR=7.9							
EPOB				Sn		**Sn**	**03 52 20.1**	**-0.5**
	0.7nm,0.4s,SNR=4.0							
EPOB				Lg			03 52 29.5	
	0.6nm,0.1s,SNR=7.9							
EMIR	**Miracle**	**2.38**	**111**	Pg		**Pg**	**03 51 56.6**	**-3.0**
	0.4nm,0.1s,SNR=7.9							
EMIR				Lg			03 52 29.7	
	0.8nm,0.2s,SNR=4.0							
EMOS	**Mosqueruela**	**2.55**	**163**	Pg		**Pg**	**03 52 00.6**	**-2.4**
	0.4nm,0.2s,SNR=7.9							
EMOS				Lg			03 52 35.7	
	0.3nm,0.1s,SNR=7.9							
LFF	**La Frestale**	**2.65**	**36**	*e*Pn		**Pn**	**03 51 55.4**	**+0.1**
LFF				*e*Sg		**Sg**	**03 52 36.2**	**-4.3**
	1.7nm,0.3s							
MTLF	**Montolieu**	**2.74**	**78**	*e*Pn		**Pn**	**03 51 58.3**	**+1.8**
MTLF				*e*Sn		**Sn**	**03 52 28.0**	**-1.7**
	1.4nm,0.4s							
EARI	**Arriondas**	**2.80**	**281**	Sn		**Sn**	**03 52 32.4**	**+1.0**
	SNR=4.0							
RJF	**Les Rejaudoux**	**3.29**	**40**	*e*Pn		**Pn**	**03 52 04.6**	**+0.3**
RJF				*e*Sn		**Sn**	**03 52 40.7**	**-2.9**
	1.0nm,0.3s							
CAF	**Calviac**	**3.31**	**49**	*e*Pn		**Pn**	**03 52 03.4**	**-1.2**
MFF	**Saint Martin d**	**3.91**	**13**	*e*Sn		**Sn**	**03 52 55.8**	**-3.5**
	0.6nm,0.2s							
LASF	**Ste Croix**	**4.07**	**70**	*e*Pn		**Pn**	**03 52 15.8**	**+0.4**

MOS ***24*** *04:09:41.0±1.5, 54.70N× 162.71E, h31km, mb4.4/1, Error ellipse: s-maj=20.9km s-min=12.0km az=75.0*

KRSC 24 04:09:43.1±1.3, 54.77N×162.30E, h28km±3km, ML4.4, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MKZ	**Mys Kozlova**	**0.39**	**237**	*i* P		Pb	04 09 52.3	+0.5
MKZ				*e*S		Sb	04 09 58.5	+0.8
TUMR	**Tumrok**	**1.34**	**293**	*e*P		Pn	04 10 06.8	+0.5
TUMR				*e*S		Sn	04 10 23.9	+0.6
KBTR	**Krutoberegovo**	**1.47**	**11**	*e*P		Pn	04 10 08.8	+0.7
KBTR				*e*S		Sn	04 10 27.8	+1.2
KBG	**Krutoberegovo**	**1.51**	**9**	*i* P		Pn	04 10 09.7	+1.1
KBG				*i* S		Sn	04 10 28.7	+1.2
KBG				Smax				
	2μm,1.0s							
ZLN	**Zelenaya**	**1.51**	**326**	*i* P		Pn	04 10 09.5	+0.8
ZLN				*e*S		Sn	04 10 28.8	+1.1
KMNR	**Kamenistaya**	**1.54**	**311**	*e*P		Pn	04 10 09.5	+0.4
KMNR				*e*S		Sn	04 10 28.5	+0.2
LGNR	**Loginova**	**1.60**	**326**	*e*P		Pn	04 10 10.9	+0.9
LGNR				*e*S		Sn	04 10 30.6	+0.6
CIRR	**Tsirk**	**1.61**	**327**	*i* P		Pn	04 10 10.4	+0.4
CIRR				*e*S		Sn	04 10 30.5	+0.3
KPT	**Kopyto**	**1.69**	**316**	*e*P		Pn	04 10 11.8	+0.6
KPT				*e*S		Sn	04 10 32.6	+0.5
KRSR	**Krestovskiy**	**1.75**	**326**	*e*P		Pn	04 10 12.2	0.0
KRSR				*e*S		Sn	04 10 33.8	0.0
KLY	**Klyuchi**	**1.81**	**329**	P		Pn	04 10 12.0	-1.0
KLY				S		Sn	04 10 32.7	-2.5
KLY	**Klyuchi**	**1.81**	**329**	*e*P		Pn	04 10 11.9	-1.1
KLY				*e*S		Sn	04 10 32.6	-2.6
KII	**Karymskiy**	**1.82**	**247**	P		Pn	04 10 13.8	+0.6
KII				S		Sn	04 10 36.0	+0.5
KII	**Karymskiy**	**1.82**	**247**	*e*P		Pn	04 10 13.7	+0.5
KII				*e*S		Sn	04 10 36.0	+0.5
KOZR	**Kozyr**	**1.89**	**314**	PN		Pn	04 10 14.9	+0.8
KOZR				S		Sn	04 10 37.8	+0.6
KOZ	**Kozyrevsk**	**1.89**	**314**	P		Pn	04 10 14.9	+0.7
KOZ				S		Sn	04 10 37.8	+0.5
KOZ	**Kozyrevsk**	**1.89**	**314**	*e*P		Pn	04 10 14.8	+0.6
KOZ				*e*S		Sn	04 10 37.8	+0.5
SVLR	**Shiveluch**	**1.91**	**342**	*i* P		Pn	04 10 14.9	+0.5
SVLR				*e*S		Sn	04 10 38.0	+0.2
SRDR	**Sredinnyy**	**2.13**	**318**	*i* P		Pn	04 10 17.8	+0.1
SRDR				*e*S		Sn	04 10 43.3	-0.2
SPN	**Mys Shipunski**	**2.15**	**220**	P		Pn	04 10 16.5	-1.4
SPN				S		Sn	04 10 40.9	-2.9
SPN	**Mys Shipunski**	**2.15**	**220**	*e*P		Pn	04 10 16.5	-1.4
SPN				*e*S		Sn	04 10 42.6	-1.2
NLC	**Nalytchevo**	**2.37**	**229**	P		Pn	04 10 21.2	+0.2
NLC				S		Sn	04 10 49.1	-0.3
NLC	**Nalytchevo**	**2.37**	**229**	*e*P		Pn	04 10 21.2	+0.2
NLC				*e*S		Sn	04 10 49.2	-0.2
SDLR	**Sedlovina**	**2.51**	**235**	*e*P		Pn	04 10 23.6	+0.6
SDLR				*e*S		Sn	04 10 53.4	+0.4
SMAR	**Somma**	**2.56**	**235**	*e*P		Pn	04 10 24.5	+0.8
SMAR				*e*S		Sn	04 10 54.7	+0.5
AVH	**Avacha**	**2.59**	**236**	*e*P		Pn	04 10 25.0	+0.9
AVH				*e*S		Sn	04 10 56.0	+1.1
KOK	**Koryaka**	**2.62**	**237**	*e*P		Pn	04 10 25.4	+0.8
KOK				*e*S		Sn	04 10 56.3	+0.5
GNL	**Ganaly**	**2.78**	**249**	*e*P		Pn	04 10 27.8	+1.0
GNL				*e*S		Sn	04 11 00.2	+0.5
PET	**Petropavlovsk**	**2.78**	**232**	P		Pn	04 10 27.5	+0.7
PET				S		Sn	04 10 59.4	-0.4
PET	**Petropavlovsk**	**2.78**	**232**	*e*P		Pn	04 10 27.7	+0.9
PET				*e*S		Sn	04 10 59.4	-0.4
PET	**Petropavlovsk**	**2.78**	**232**	*e*PN		Pn	04 10 27.6	+0.8
PET				*e*S		Sn	04 11 00.7	+0.9
PET				smax				
	comp=N,305nm,0.5s							
PET				smax				
	comp=E,377nm,0.4s							
PET				MLR		MLR		
	comp=Z,100nm,17.0s							
RUS	**Russkaya**	**3.25**	**225**	P		Pn	04 10 33.6	+0.1
RUS				S		Sn	04 11 09.7	-2.1
RUS	**Russkaya**	**3.25**	**225**	*e*P		Pn	04 10 33.5	0.0
RUS				*e*S		Sn	04 11 09.2	-2.6
GRL	**Gorelyy**	**3.36**	**230**	*e*P		Pn	04 10 35.5	+0.5
GRL				*e*S		Sn	04 11 13.3	-1.1
APC	**Apacha**	**3.56**	**241**	*e*P		Pn	04 10 37.2	-0.8
APC				*e*S		Sn	04 11 17.8	-1.8
KAMR	**Kamenskoye**	**7.97**	**13**	*e*P		Pn	04 11 38.0	-2.1
KAMR				*e*S		Sn	04 13 06.3	-4.0
JOF	**Joensuu**	**56.59**	**336**	*e*p		P	04 19 21.4	-3.6
	comp=Z,0.7nm,0.3s							
JOF	**Joensuu**	**56.59**	**336**	*e*P		P	04 19 21.4	-3.6
JOF				pmax		pmax		
	comp=Z,1.0nm,0.3s							
KAF	**Kangasniemi**	**58.45**	**337**	*e*p		P	04 19 35.0	-3.1
	comp=Z,0.4nm,0.3s,baz=28,slow=6.6							

MOS ***24*** *04:31:38.4±1.8, 56.63N× 117.95E, h12km, mb4.4/1, Error ellipse: s-maj=17.9km s-min=10.3km az=59.2*

BYKL 24 04:31:38.6±0.2, 56.63N×117.93E, h12km±3km, 10C-11D, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CRS	**Chara**	**0.33**	**34**	⇓*i* Pg		Pg	04 31 44.7	-0.8
CRS				Pmax			04 31 44.9	
	2μm,0.7s							
CRS				*e*Sg		Sg	04 31 49.0	-1.1
CRS				Smax			04 31 49.2	
	7μm,0.8s							
CRS	**Chara**	**0.33**	**34**	*e*PG		Pg	04 31 44.7	-0.8
CRS				*e*			04 31 49.1	
CRS				pmax		pmax		
	comp=Z,2μm,0.2s							
CRS				smax				
	comp=E,7μm,0.5s							
NLYR	**Nelyaty**	**1.24**	**264**	⇑*i* Pg		Pg	04 32 00.8	-2.7
NLYR				*i* Pb		Pb	04 32 02.7	+1.2
NLYR				max			04 32 08.6	
	comp=E,315nm,0.3s							
NLYR				*e*Sg		Sg	04 32 17.1	-3.0
NLYR				*e*Sb		Sb	04 32 20.9	+3.6
NLYR				max			04 32 21.8	
	comp=E,4μm,0.6s							
NLYR	**Nelyaty**	**1.24**	**264**	⇑*i* PG		Pg	04 32 00.7	-2.8
NLYR				*e*			04 32 16.9	
NLYR				pmax		pmax		
	comp=Z,32nm,0.2s							
NLYR				smax				
	comp=N,4μm,0.8s							
BOD	**Bodaibo**	**2.44**	**301**	⇑*i* Pg		Pg	04 32 21.9	-5.6
	comp=N,137nm,0.8s							
BOD				⇓*i* Pg		Pg	04 32 21.9	-5.6
	comp=N,300nm,0.8s							
BOD				⇑*i* Pg		Pg	04 32 21.9	-5.6
	comp=N,235nm,0.8s							
BOD				Pmax			04 32 22.4	
	comp=N,365nm,0.7s							
BOD				*e*			04 32 26.3	
BOD				*i* Sg		Sg	04 32 53.4	-6.7
BOD				Smax			04 32 54.1	
	comp=N,2μm,1.2s							
BOD	**Bodaibo**	**2.44**	**301**	⇑*e*PN		Pn	04 32 18.6	-0.4
BOD				*i*			04 32 21.7	
SVKR	**Severomuysk**	**2.48**	**260**	*e*Pg		Pg	04 32 24.1	-4.2
SVKR				Pmax			04 32 28.5	
	comp=N,265nm,0.4s							
SVKR				*e*Sg		Sg	04 32 55.2	-6.2
SVKR				Smax			04 33 04.7	
	comp=N,2μm,0.6s							
TUP	**Tupik**	**2.49**	**152**	*e*Pn		Pn	04 32 19.7	0.0
TUP				*e*Pg		Pg	04 32 22.9	-5.5
TUP				Pmax			04 32 25.0	
	comp=N,583nm,0.8s							
TUP				*e*Sg		Sg	04 32 55.9	-5.7
TUP				*e*SgSg			04 33 06.4	
TUP				max			04 33 06.7	
	comp=N,1μm,1.0s							
TUP	**Tupik**	**2.49**	**152**	*e*PN		Pn	04 32 19.9	+0.2
TUP				*e*			04 32 23.0	
TUP				*e*S		Sn	04 32

TNDR				*e*Sg	Sg	04 33 45.9	-9.3
YLYR	**Ulyunkhan**	**4.21**	**248**	⇓*i*Pn	Pn	04 32 43.5	-0.6
YLYR				⇓*i*Pg	Pg	04 32 53.4	-9.2
YLYR				Pmax		04 32 55.9	
	comp=Z,42nm,0.7s						
YLYR				*e*Sn	Sn	04 33 28.9	-4.9
YLYR				*e*Sg	Sg	04 33 49.2	-10
YLYR				Smax		04 33 51.2	
	comp=Z,337nm,0.8s						
YLYR	**Ulyunkhan**	**4.21**	**248**	*e*PN	Pn	04 32 43.6	-0.5
YLYR				*e*		04 32 53.4	
NIZ	**Nizh Angarsk**	**4.76**	**263**	⇓*i*Pn	Pn	04 32 51.8	-0.2
NIZ				⇓*i*Pg	Pg	04 33 05.0	-8.7
NIZ				Pmax		04 33 14.6	
	comp=Z,36nm,0.9s						
NIZ				*e*Sg	Sg	04 34 05.7	-12
NIZ				Smax		04 34 10.2	
	comp=Z,286nm,1.4s						
NIZ	**Nizh Angarsk**	**4.76**	**263**	*e*PN	Pn	04 32 51.7	-0.3
NIZ				*e*		04 33 05.0	
NIZ				*e*		04 34 07.0	
NIZ				pmax	pmax		
	comp=Z,28nm,0.9s						
NIZ				smax			
	comp=N,200nm,0.6s						
CIT	**Chita**	**5.28**	**211**	*e*Pn	Pn	04 32 57.0	-2.3
CIT				*e*Pg	Pg	04 33 13.5	-11
CIT				Pmax		04 33 24.4	
	comp=N,25nm,0.5s						
CIT				*e*Sg	Sg	04 34 21.8	-13
CIT				Smax		04 34 35.1	
	comp=N,344nm,1.1s						
CIT	**Chita**	**5.28**	**211**	*e*PN	Pn	04 32 59.6	+0.3
CIT				*e*		04 33 15.0	
CIT				*e*		04 34 21.5	
CIT				pmax	pmax		
	comp=Z,25nm,0.4s						
CIT				smax			
	comp=E,339nm,0.5s						
SYVR	**Suvo**	**5.44**	**240**	⇓*i*Pn	Pn	04 33 00.1	-1.4
SYVR				*e*Pg	Pg	04 33 16.4	-11
SYVR				Pmax		04 33 20.3	
	comp=E,31nm,1.0s						
SYVR				*e*Sn	Sn	04 34 00.8	-3.9
SYVR				*e*Sg	Sg	04 34 26.1	-14
SYVR				Smax		04 34 35.3	
	comp=E,229nm,0.8s						
SYVR	**Suvo**	**5.44**	**240**	*e*PN	Pn	04 33 00.2	-1.3
SYVR				*e*		04 33 15.7	
SYVR				*e*		04 34 26.1	
SYVR				pmax	pmax		
	comp=Z,18nm,0.4s						
SYVR				smax			
	comp=N,202nm,0.7s						
KROS	**Kirovskiy**	**5.59**	**109**	*e*Pn	Pn	04 33 00.5	-3.1
KROS				⇑*i*Pg	Pg	04 33 16.4	-14
KROS				*e*Sn	Sn	04 34 01.5	-7.0
ZEA	**Zeya**	**6.07**	**115**	*e*Pn	Pn	04 33 09.2	-1.3
ZEA				*e*Pg	Pg	04 33 28.8	-11
ZEA				*e*Sn	Sn	04 34 15.8	-4.9
ZEA				*e*Sg	Sg	04 34 49.2	-12
OGRR	**Ongureny**	**6.64**	**248**	*e*Pg	Pg	04 33 38.5	-13
OGRR				Pmax		04 33 46.3	
	comp=N,3.0nm,0.1s						
OGRR				*e*Sn	Sn	04 34 27.5	-7.3
OGRR				*e*Sg	Sg	04 35 03.9	-16
OGRR				Smax		04 35 15.9	
	comp=N,64nm,1.2s						
TRTB	**Turuntaevo**	**7.45**	**238**	⇑*i*Pn	Pn	04 33 27.6	-2.2
TRTB				⇑*i*Pg	Pg	04 33 52.8	-15
TRTB				Pmax		04 34 04.9	
	comp=N,1.0nm,0.3s						
TRTB				*e*Sg	Sg	04 35 30.3	-16
TRTB				Smax		04 35 45.5	
	comp=N,97nm,1.4s						
ZRHB	**Zarechye**	**7.47**	**241**	*e*Sg	Sg	04 35 27.9	-20
ZRHB				Smax		04 35 55.8	
	comp=N,379nm,0.8s						
KPC	**Khapcheranga**	**7.70**	**208**	*e*Pn	Pn	04 33 29.5	-3.8
KPC				*e*Pg	Pg	04 33 57.9	-14
KPC				Pmax		04 34 04.9	
	comp=N,2.0nm,0.4s						
KPC				*e*Sg	Sg	04 35 36.2	-19
KPC				Smax		04 35 55.7	
	comp=N,155nm,1.5s						
KPC	**Khapcheranga**	**7.70**	**208**	*e*PN	Pn	04 33 29.6	-3.7
KPC				*e*		04 33 58.2	
KPC				*e*		04 35 36.1	
KPC				pmax	pmax		
	comp=Z,8.0nm,1.4s						
KPC				smax			
	comp=E,105nm,0.9s						
TRG	**Tyrgan**	**7.75**	**245**	*e*Pn	Pn	04 33 32.3	-1.7
TRG				max		04 33 38.4	
	comp=E,1.0nm,0.7s						
TRG				*e*Sg	Sg	04 35 38.3	-18
TRG				Smax		04 35 48.9	
	comp=E,60nm,1.8s						
TRG	**Tyrgan**	**7.75**	**245**	*e*PN	Pn	04 33 31.9	-2.1
TRG				*e*		04 33 57.7	
TRG				pmax	pmax		
	comp=Z,3.0nm,0.5s						
FFNB	**Fofonovo**	**7.97**	**240**	*e*Sg	Sg	04 35 46.0	-18
FFNB				Smax		04 36 00.5	
	comp=Z,210nm,1.0s						
YAK	**Yakutsk**	**8.08**	**43**	*e*PN	P	04 33 44.8	+6.2
YAK				*e*S	Sn	04 35 06.5	-4.3
YAK				smax			
	comp=N,9.0nm,1.0s						
YAK				smax			
	comp=E,10.0nm,1.0s						
YAK				smax			
	comp=N,48nm,0.7s						
YAK				smax			
	comp=Z,17nm,0.6s						
YAK				smax			
	comp=E,58nm,0.7s						
YAK				MLR	MLR		
	comp=Z,71nm,9.0s						
HRMR	**Khuramsha**	**8.16**	**237**	⇑*i*Pn	P	04 33 37.4	-2.3
HRMR				*e*		04 33 45.7	
HRMR				max		04 33 46.1	
	comp=Z,7.0nm,0.5s						
HRMR				⇑*e*Pg	P	04 34 05.3	+26
HRMR				*e*Sg	Sg	04 35 52.4	-18
HRMR				Smax		04 36 01.6	
	comp=Z,313nm,0.8s						
LSTR	**Listvyanka**	**9.03**	**244**	*e*Sg	Sg	04 36 17.3	-22
LSTR				Smax		04 37 00.1	
	comp=Z,43nm,1.6s						
TLY	**Talaya**	**9.73**	**245**	*e*Sg	Sg	04 36 38.7	-24
TLY				Smax		04 37 00.0	
	comp=Z,33nm,1.6s						
ARS	**Arshan**	**10.21**	**249**	*e*Sg	S	04 36 54.0	+51
ARS				Smax		04 37 35.3	
	comp=Z,118nm,1.2s						
ZAK	**Zakamensk**	**10.72**	**240**	*e*Sg	S	04 37 11.3	+55
ZAK				Smax		04 37 51.6	
	comp=Z,24nm,2.0s						
MOY	**Mondy**	**11.10**	**251**	*e*Sg	S	04 37 20.6	+56
MOY				Smax		04 37 54.8	
	comp=Z,49nm,1.3s						
ORL	**Orlik**	**11.28**	**256**	*e*	P	04 34 23.6	+1.1
ORL				*e*		04 36 56.5	
ORL				*e*Sg	S	04 37 27.2	+58
ORL				Smax		04 37 33.8	
	comp=Z,39nm,1.7s						

KRSC 24 04:32:28.9±0.7, 53.76N×160.89E, h36km±6km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.84**	**218**	*e*P	P	04 32 44.2	-0.1
SPN				*e*S	S	04 32 54.9	-0.8
KII	**Karymskiy**	**0.90**	**289**	*i*P	P	04 32 45.5	+0.4
KII				*e*S	S	04 32 57.3	+0.3
MKZ	**Mys Kozlova**	**0.94**	**31**	*i*P	P	04 32 44.8	-0.9
MKZ				*e*S	S	04 32 57.2	-0.9
NLC	**Nalytchevo**	**1.10**	**238**	*i*P	P	04 32 48.0	+0.1
NLC				*e*S	S	04 33 01.9	-0.2
SDLR	**Sedlovina**	**1.29**	**249**	*i*P	P	04 32 51.4	+0.7
SDLR				*e*S	S	04 33 07.5	+0.4
SMAR	**Somma**	**1.34**	**249**	*e*P	P	04 32 52.2	+0.7
SMAR				*e*S	S	04 33 08.9	+0.5
AVH	**Avacha**	**1.38**	**250**	*e*P	P	04 32 52.9	+0.9
AVH				*e*S	S	04 33 10.4	+1.1
KOK	**Koryaka**	**1.43**	**252**	*i*P	P	04 32 53.6	+0.9
KOK				*e*S	S	04 33 10.8	+0.3
PET	**Petropavlovsk**	**1.53**	**242**	*e*P	P	04 32 54.6	+0.4
PET				*e*S	S	04 33 13.1	0.0
TUMR	**Tumrok**	**1.59**	**344**	*e*P	P	04 32 55.5	+0.5
TUMR				*e*S	S	04 33 14.5	0.0
GNL	**Ganaly**	**1.75**	**269**	*e*P	P	04 32 58.5	+1.1
GNL				*e*S	S	04 33 19.8	+1.1
RUS	**Russkaya**	**1.96**	**228**	*e*P	P	04 33 01.5	+1.3
RUS				*e*S	S	04 33 24.3	+0.5
KMNR	**Kamenistaya**	**2.04**	**350**	*e*P	P	04 33 02.3	+0.9
KMNR				*e*S	S	04 33 26.7	+0.9
GRL	**Gorelyy**	**2.08**	**236**	*e*P	P	04 33 02.4	+0.3
GRL				*e*S	S	04 33 26.6	-0.5
KPT	**Kopyto**	**2.25**	**350**	*e*P	P	04 33 05.2	+0.8
KPT				*e*S	S	04 33 31.7	+0.6
ZLN	**Zelenaya**	**2.26**	**359**	*e*P	P	04 33 05.7	+1.0
ZLN				*e*S	S	04 33 32.8	+1.2
LGNR	**Loginova**	**2.33**	**357**	*e*P	P	04 33 07.0	+1.4
LGNR				*e*S	S	04 33 35.3	+2.0
CIRR	**Tsirk**	**2.36**	**358**	*e*P	P	04 33 07.3	+1.2
CIRR				*e*S	S	04 33 35.1	+1.0
KOZ	**Kozyrevsk**	**2.38**	**346**	*e*P	P	04 33 06.3	0.0
KOZ				*e*S	S	04 33 33.8	-0.7
APC	**Apacha**	**2.39**	**251**	*e*P	P	04 33 07.5	+1.0
APC				*e*S	S	04 33 35.8	+1.0
KRSR	**Krestovskiy**	**2.47**	**356**	*e*P	P	04 33 07.6	0.0
KRSR				*e*S	S	04 33 37.2	+0.3
ESO	**Esso**	**2.51**	**331**	*i*P	P	04 33 08.2	0.0
ESO				*e*S	S	04 33 37.0	-0.9
ESO				Smax			
	50nm,1.0s						
KLY	**Klyuchi**	**2.56**	**357**	*e*P	P	04 33 09.5	+0.6
KLY				*e*S	S	04 33 38.6	-0.6
SRDR	**Sredinnyy**	**2.65**	**346**	*e*P	P	04 33 09.9	-0.3
SRDR				*e*S	S	04 33 40.3	-1.2
KBTR	**Krutoberegovo**	**2.69**	**24**	*e*P	P	04 33 10.7	-0.1
KBTR				*e*S	S	04 33 42.4	-0.2
KBG	**Krutoberegovo**	**2.71**	**22**	*e*S	S	04 33 44.4	+1.4
KBG				Smax			
	220nm,0.7s						
SVLR	**Shiveluch**	**2.83**	**4**	*e*P	P	04 33 13.4	+0.6
SVLR				*e*S	S	04 33 45.3	-0.7

NIED ***24*** *04:54:00, 37.20N×138.90E, h5km, Mw3.7 Best double couple: M0 3.82×10^14 NP1:φs202°, δ47°, λ75°. NP2:φs43°, δ45°, λ105°.*
NEIC ***24*** *04:54:24.1±0.4, 37.18N×138.75E, h10km, mb3.9/2, Error ellipse: s-maj=16.9km s-min=7.3km az=118.0*
JMA ***24*** *04:54:24.2, 37.21N×138.87E, h10km±1km, M3.7*
JMA Felt III J1.
IDC ***24*** *04:54:30.2±2.5, 37.16N×138.61E, h56km±23km, mb3.5/9, mb1 3.8/11, mb1mx3.6/24, ML3.4/2, Error ellipse: s-maj=27.0km s-min=14.1km az=89.0*
ISC 24 04:54:23.1±0.4, 37.22N±0.02×138.81E±0.04, h10km, n26, σ1°09/37, mb3.7/11, 2C-6D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.16**	**81**	⇓P	**Pg**	**04 54 27.0**	**+0.2**
JHK				*e*S	**Sg**	**04 54 29.5**	**+0.2**
JIZZ	**Izumozaki**	**0.32**	**345**	⇓P	**Pg**	**04 54 31.4**	**+1.7**
JIZZ				*e*S	**Sg**	**04 54 37.4**	**+3.3**
JKT	**Katashina**	**0.57**	**143**	⇓P	**Pg**	**04 54 34.6**	**-0.1**
JKT				*e*S	**Sg**	**04 54 42.4**	**0.0**
JGK	**Kuni**	**0.68**	**192**	P	**Pb**	**04 54 37.0**	**+0.5**
JGK				*e*S	**Sb**	**04 54 46.7**	**+1.1**
JNS	**Sasagawa**	**0.72**	**34**	⇑P	**Pb**	**04 54 36.9**	**-0.3**
JNS				*e*S	**Sb**	**04 54 46.5**	**-0.3**
JFY	**Yanaizu**	**0.73**	**75**	⇓P	**Pb**	**04 54 37.3**	**-0.2**
JFY				*e*S	**Sb**	**04 54 46.6**	**-0.7**
MAJO	**Matsushiro**	**0.84**	**216**	⇑*i*Pn	**Pn**	**04 54 39.7**	**-1.0**
MAJO				*e*Sn	**Sn**	**04 54 50.7**	**-2.4**
MAT	**Matsushiro**	**0.84**	**216**	P	**Pb**	**04 54 39.8**	**+0.6**
MAT				*e*S	**Sb**	**04 54 51.0**	**+0.7**
MAT	**Matsushiro**	**0.84**	**216**	*e*P	**Pb**	**04 54 40.0**	**+0.8**
MAT				*e*S	**Sb**	**04 54 51.0**	**+0.7**
JSD	**Sado**	**0.92**	**332**	⇓P	**Pb**	**04 54 40.8**	**+0.1**
JSD				*e*S	**Sb**	**04 54 53.3**	**+0.5**
JAG	**Ashikaga**	**0.95**	**147**	⇓P	**Pb**	**04 54 41.7**	**+0.6**
JAG				*e*S	**Sb**	**04 54 54.0**	**+0.5**
JHJ	**Hachijo jima 2**	**4.17**	**169**	P	**Pn**	**04 55 31.7**	**+3.4**
	25nm,0.3s,baz=30,slow=5.9,SNR=2.9						
JHJ				S	**Sn**	**04 56 18.9**	**+1.2**
	10nm,0.3s,baz=64,slow=23,SNR=2.9						
ASAJ	**Asahikawa**	**7.46**	**21**	P	**Pn**	**04 56 18.1**	**+3.4**
	0.3nm,0.3s,baz=350,slow=26,SNR=2.7						
SONM	**Songino Array**	**25.96**	**304**	P	**P**	**04 59 57.0**	**-0.2**
	1.1nm,1.0s,mb3.3,baz=74,slow=9.0,SNR=4.1						
ILAR	**Eielson Array**	**50.45**	**32**	P	**P**	**05 03 22.3**	**-0.2**
	0.4nm,0.7s,mb3.6,baz=283,slow=5.9,SNR=8.1						
INK	**Inuvik**	**55.16**	**27**	*e*P	**P**	**05 03 56.0**	**-1.6**
	0.3nm,0.5s,mb3.6						
WRAB	**Tennant Creek**	**57.00**	**185**	*e*P	**P**	**05 04 09.2**	**-2.3**
	0.9nm,0.4s,mb4.2						
WRA	**Warramunga Arr**	**57.01**	**185**	P	**P**	**05 04 09.0**	**-2.6**
	1.4nm,0.8s,mb4.0,baz=1.3,slow=7.5,SNR=19						
ASAR	**Alice Springs**	**60.74**	**185**	P	**P**	**05 04 36.4**	**-1.0**
	0.4nm,0.9s,mb3.5,baz=12,slow=11,SNR=3.3						
FINES	**FINESS Array B**	**67.67**	**331**	P	**P**	**05 05 20.1**	**-1.9**
	4.3nm,1.2s,mb4.3,baz=76,slow=7.9,SNR=3.7						
NVAR	**Mina Array Bea**	**76.52**	**52**	P	**P**	**05 06 15.7**	**+0.7**
	0.6nm,0.6s,mb3.7,baz=296,slow=6.7,SNR=5.3						
PDAR	**Pinedale Array**	**79.00**	**44**	P	**P**	**05 06 29.5**	**+1.0**
	0.4nm,0.6s,mb3.5,baz=259,slow=1.4,SNR=4.5						
ULM	**Lac du Bonnet**	**80.47**	**32**	P	**P**	**05 06 36.4**	**+0.1**
	1.8nm,0.6s,mb4.2,baz=326,slow=3.6,SNR=2.3						
GERES	**GERESS Array B**	**81.44**	**327**	P	**P**	**05 06 41.1**	**-0.3**
	0.1nm,0.3s,mb3.2,baz=51,slow=6.3,SNR=2.6						
PV10	**Paradox Valley**	**82.19**	**47**	*e*P	**P**	**05 06 46.1**	**+0.5**
LPAZ	**La Paz**	**148.35**	**56**	PKPbc	PKPdf	05 14 12.1	+2.5
	1.6nm,0.4s,baz=142,slow=0.3,SNR=2.1						

LDG ***24*** *05:06:23.6±1.0, 42.88N×1.52W, h2km, Md1.9/2, Ml1.7/1, Error ellipse: s-maj=17.1km s-min=7.6km az=36.0*
MDD 24 05:06:24.8±0.6, 42.87N×1.45W, mbLg0.9/5, Error ellipse: s-maj=4.6km s-min=3.3km az=63.0, PRXIMO AftershockPLICA, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	**Ste Jean**	**0.29**	**35**	*e*Pg	Pg	05 06 29.8	-0.8
SJPF				*e*Sg	Sg	05 06 34.0	-0.5
	4.5nm,0.2s						
EALK	**Alkurruntz**	**0.35**	**353**	Pg	Pg	05 06 31.6	-0.1
	2.9nm,0.3s,SNR=4.0						
EALK				Lg		05 06 36.2	
	1.6nm,0.1s						
ETSF	**Etsaut**	**0.66**	**87**	*e*Pg	Pg	05 06 35.7	-2.2
ETSF				*e*Sg	Sg	05 06 45.8	-0.8
	2.8nm,0.3s						
EBIE	**Bielsa**	**1.19**	**98**	Pg	Pg	05 06 47.3	-1.2
	1.0nm,0.3s,SNR=7.3						
EBIE				Lg		05 07 04.5	
	0.7nm,0.1s						
EPF	**Esparros**	**1.32**	**83**	*e*Pg	Pg	05 06 50.2	-1.0
EPF				*e*Sg	Sg	05 07 07.4	-1.5
	1.6nm,0.3s						
ESAC	**San Caprasio**	**1.36**	**147**	Pg	Pg	05 06 50.1	-1.9
	SNR=7.9						
ESAC				Lg		05 07 07.3	
	3.5nm,0.1s,SNR=5.6						
ELAN	**Lanestosa**	**1.50**	**285**	Pg	Pg	05 06 51.0	-3.6
	SNR=4.0						
ELAN				Lg		05 07 14.1	
	0.4nm,0.1s,SNR=4.0						
ETOR	**Torete**	**2.10**	**193**	Pg	Pg	05 07 03.4	-3.3
	SNR=4.0						
ETOR				Lg		05 07 31.1	
	SNR=4.0						

IDC ***24*** *05:14:48.2±3.5, 62.19S×157.71W, mb3.7/4, mb1 3.8/5, mb1mx3.8/10, ML2.8/1, MS3.6/3, Ms1 3.6/3, ms1mx3.3/16, Error ellipse: s-maj=91.9km s-min=28.1km az=57.0*
NEIC ***24*** *05:14:51.4±0.9, 62.34S×158.34W, h10km, mb4.1/2, Error ellipse: s-maj=25.9km s-min=17.3km az=84.0*
ISC 24 05:14:45.6±1.6, 62.2S±0.2×157.2W±0.5, h10km, n14, σ0°85/11, mb3.8/5, MS3.4/3, 4C, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SBA	**Scott Base**	**19.36**	**202**	P	**P**	**05 19 12.3**	**-1.2**
	21nm,1.6s						
VNDA	**Vanda**	**20.10**	**205**	P	**P**	**05 19 22.4**	**+0.7**
	0.7nm,0.9s,baz=96,slow=8.5,SNR=2.7						
VNDA				LR	LR	05 25 09.4	
	comp=Z,74nm,20.7s,MS3.0,baz=240,slow=31						
RPZ	**Rata Peaks**	**26.19**	**300**	LR	LR	05 29 26.9	
	comp=Z,182nm,18.1s,MS3.7,baz=319,slow=34						
URZ	**Urewera**	**28.68**	**315**	LR	LR	05 29 20.3	
	comp=Z,163nm,21.2s,MS3.6,baz=12,slow=31						
PPT	**Papeete**	**44.90**	**10**	*e*L		05 33 11.8	
PPT				*e*R		05 35 03.4	
	211nm,27.2s,baz=184						
VNA3	**Neumayer Olymp**	**44.95**	**166**	⇑*i*	**P**	**05 23 01.8**	**+0.2**
SNAA	**Sanae**	**45.24**	**169**	⇑*i*	**P**	**05 23 17.4**	**+13**
SNAA	**Sanae**	**45.24**	**169**	P	**P**	**05 23 07.1**	**+3.1**
	0.5nm,1.0s,mb3.3,baz=233,slow=13,SNR=2.7						
VNA2	**Neumayer--Watz**	**45.50**	**167**	⇑*i*	**P**	**05 23 05.8**	**-0.2**
VNA1	**Neumayer--Stat**	**45.67**	**166**	⇑*i*	**P**	**05 23 06.5**	**-0.8**
MAW	**Mawson**	**47.30**	**200**	P	**P**	**05 23 21.3**	**+1.0**
	1.2nm,0.8s,mb3.9,baz=143,slow=11,SNR=3.4						
ASAR	**Alice Springs**	**59.52**	**277**	P	**P**	**05 24 51.9**	**+0.7**
	1.2nm,0.8s,mb4.0,baz=150,slow=7.2,SNR=9.1						
WRA	**Warramunga Arr**	**62.53**	**279**	P	**P**	**05 25 11.4**	**-0.2**
	1.0nm,0.8s,mb4.0,baz=155,slow=5.6,SNR=9.4						
WRAB	**Tennant Creek**	**62.53**	**279**	*e*P	**P**	**05 25 10.8**	**-0.8**
	0.7nm,0.5s,mb4.0						

NIED ***24*** *05:21:00, 37.30N×138.80E, h5km, Mw4.7 Best double couple: M0 1.36×10^16 NP1:φs20°, δ62°, λ84°. NP2:φs213°, δ28°, λ101°.*
BJI ***24*** *05:21:26.3, 37.09N×139.57E, h10km, mB4.9, mb4.8, Ms4.6, Msz4.4*
IDC ***24*** *05:21:33.1±0.4, 37.25N×138.59E, mb4.8/29, mb1 4.9/31, mb1mx4.9/33, ML4.1/2, MS4.0/11, Ms1 4.1/11, ms1mx3.6/34, Error ellipse: s-maj=14.8km s-min=10.6km az=99.0*
HRVD ***24*** *05:21:34.6±0.6, 37.29N×138.84E, h12km, MW4.7/48, Centroid moment Tensor Solution. LP body waves: s9,c9; Mantle waves: s48,c71; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.45±.07; Mtθ-0.31±.06; Mθφ-1.14±.05; Mrθ0.10±.28; Mθθ-0.49±.06; Mrr0.52±.23; Best double couple: M0 1.5×10^16 NP1:φs209°, δ35°, λ97°. NP2:φs20°, δ55°, λ85°. Principal axes: T 1.55, Plg79°, Azm272°; N -.09, Plg4°, Azm23°; P -1.45, Plg10°, Azm114°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***24*** *05:21:34.6±0.1, 37.27N×138.63E, h10km, mb5.0/83, MS4.2/6, MW4.7(NIED) Error ellipse: s-maj=4.0km s-min=3.0km az=161.0*
NEIC Recorded [5U JMA] in Niigata; [2 JMA] in Nagano, Saitama and Yamagata; [1 JMA] in Fukushima, Ishikawa, Miyagi, Tochigi and Tokyo Prefectures. Also recorded [1 JMA] on Sadoga-shima.
JMA ***24*** *05:21:34.9, 37.25N×138.83E, h11km±2km, M5.0 Broadband fault plane solution: P waves. NP1:φs235°, δ32°, λ105°. NP2:φs37°, δ59°, λ81°. Principal axes: T Plg74°, Azm284°; N Plg8°, Azm42°; P Plg14°, Azm134°;*
CSEM ***24*** *05:21:35.9, 37.64N×138.38E, h10km, mb5.5*
MOS ***24*** *05:21:37.7±0.9, 37.47N×138.56E, h33km, mb5.1/39, Error ellipse: s-maj=13.2km s-min=6.4km az=104.3*
ISC 24 05:21:34.6±0.3, 37.28N±0.02×138.74E±0.02, h18km±2km, h12km±1.9km:pP-P, n420, σ0°88/416, mb5.0/126, MS4.2/28, 36C-17D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.23**	**99**	⇓P	**Pb**	**05 21 38.4**	**-1.6**
JHK				S	**Sb**	**05 21 41.4**	**-2.3**
JIZZ	**Izumozaki**	**0.25**	**355**	⇓P	**Pb**	**05 21 41.4**	**+1.0**
JIZZ				*e*S	**Sb**	**05 21 47.1**	**+2.8**
JJN	**Nakama**	**0.49**	**249**	⇓P	**Pb**	**05 21 45.4**	**+0.9**
JKT	**Katashina**	**0.66**	**141**	⇓P	**Pb**	**05 21 46.2**	**-1.1**
JKT				*e*S	**Sb**	**05 21 54.7**	**-1.2**
JNS	**Sasagawa**	**0.70**	**41**	⇑P	**Pb**	**05 21 47.7**	**-0.4**
JNS				*e*S	**Sb**	**05 21 57.3**	**0.0**
JGK	**Kuni**	**0.72**	**186**	⇓P	**Pb**	**05 21 48.3**	**-0.1**
JGK				*e*S	**Sb**	**05 21 58.5**	**+0.6**
JFY	**Yanaizu**	**0.78**	**81**	⇓P	**Pb**	**05 21 48.4**	**-1.0**
JFY				*e*S	**Sb**	**05 21 58.3**	**-1.2**
JSD	**Sado**	**0.84**	**333**	⇑P	**Pb**	**05 21 50.7**	**+0.3**
JSD				*e*S	**Sb**	**05 22 02.5**	**+1.2**
MAJO	**Matsushiro**	**0.85**	**210**	*e*Pg	**Pb**	**05 21 50.5**	**-0.1**
MAJO				*e*Sg	**Sb**	**05 22 00.3**	**-1.3**
MAT	**Matsushiro**	**0.85**	**210**	P	**Pb**	**05 21 50.7**	**+0.1**
MAT				S	**Sb**	**05 22 02.2**	**+0.6**
MAT	**Matsushiro**	**0.85**	**210**	P	**Pb**	**05 21 50.5**	**-0.1**
MAT	**Matsushiro**	**0.85**	**210**	*e*P	**Pb**	**05 21 51.0**	**+0.4**
MAT				*e*S	**Sb**	**05 22 02.0**	**+0.4**
JSB	**Shiboa**	**0.99**	**108**	⇓P	**Pb**	**05 21 52.9**	**-0.1**
JNG	**Nsakai**	**1.01**	**211**	⇑P	**Pb**	**05 21 53.6**	**+0.3**
JAG	**Ashikaga**	**1.03**	**146**	⇓P	**Pb**	**05 21 53.2**	**-0.4**
JAG				*e*S	**Sb**	**05 22 06.2**	**-0.5**
JSZ	**Suzu**	**1.11**	**279**	⇑P	**Pb**	**05 21 55.6**	**+0.6**
JAW	**Awa shima**	**1.24**	**19**	⇑P	**Pb**	**05 21 56.8**	**-0.4**
JRY	**Ryogami san**	**1.27**	**174**	⇓P	**Pn**	**05 21 57.2**	**-0.4**
JFT	**Otama**	**1.29**	**79**	⇓P	**Pn**	**05 21 57.6**	**-0.4**
JTT	**Ttatey**	**1.31**	**239**	P	**Pn**	**05 21 59.7**	**+1.5**
JYS	**Shirataka**	**1.41**	**48**	⇑P	**Pn**	**05 21 59.8**	**+0.2**
JNT	**Takato**	**1.49**	**199**	P	**Pn**	**05 22 01.1**	**+1.4**
JYA	**Atsumi**	**1.52**	**30**	⇑P	**Pn**	**05 22 01.1**	**-0.1**
JHG	**Hegura jima**	**1.55**	**292**	⇑P	**Pn**	**05 22 01.8**	**+0.2**
JGN	**Niukaw**	**1.56**	**228**	⇑P	**Pn**	**05 22 03.2**	**+1.5**
JHO	**Hitachi**	**1.61**	**114**	⇓P	**Pn**	**05 22 02.2**	**-0.3**
ONAJ	**Iwakimizuishiy**	**1.66**	**96**	⇓P	**Pn**	**05 22 03.5**	**+0.4**
JFK	**Kawauchi**	**1.71**	**87**

YSS pmax pmax
comp=N,60nm,0.9s
YSS pmax pmax
comp=Z,60nm,0.9s
YSS MLR MLR
comp=Z,1μm,11.0s
YSS MLR MLR
comp=N,1μm,12.0s
YSS Yuzh-Sakhalins 10.11 16 *e*Pn **P** **05 24 01.8 -0.3**
comp=N,42nm,0.8s
CN2 Changchun 12.02 307 *e*P **P** **05 24 28.3 +0.3**
CN2 *e*S **S** **05 26 43.1 +0.5**
CN2 LR LR
comp=N,1μm,11.0s
CN2 LR LR
comp=E,900nm,11.0s
CN2 LR LR
comp=Z,800nm,13.0s
SSE Sheshan 15.77 252 P **P** **05 25 11.7 -5.8**
comp=Z,35nm,0.7s
SSE sP 05 25 20.1
SSE S **S** **05 28 05.2 -6.8**
NJ2 Nanjing 17.16 258 *e*P **P** **05 25 34.1 -1.0**
NJ2 PP PP 05 25 48.5 -1.0
NJ2 S **S** **05 28 43.0 -1.0**
NJ2 AMB AMB
comp=Z,20nm,0.7s
NJ2 LR LR
comp=N,2μm,15.4s
NJ2 LR LR
comp=E,2μm,14.4s
NJ2 LR LR
comp=Z,3μm,15.5s
TIA Tai'an 17.36 273 P **P** **05 25 40.3 +2.8**
TIA AMB AMB
comp=Z,29nm,1.2s
BJI Beijing 17.83 286 P **P** **05 25 44.9 +1.5**
BJI XP 05 25 57.3
BJI S **S** **05 29 06.9 +7.7**
BJI AMB AMB
comp=Z,62nm,1.6s
BJI AMB AMB
comp=Z,453nm,6.2s
BJI LR LR
comp=N,447nm,13.2s
BJI LR LR
comp=E,614nm,12.9s
BJI LR LR
comp=Z,354nm,20.3s
BJI Beijing 17.83 286 P **P** **05 25 44.9 +1.5**
comp=Z,62nm,1.6s
BJI sP 05 25 57.2
BJI S **S** **05 29 06.9 +7.7**
BJI sS 05 29 28.5
BJT Baijiatuau 17.83 286 *e*P **P** **05 25 44.4 +1.0**
comp=Z,51nm,0.9s
HIA Hailar 18.24 317 *e*P **P** **05 25 47.3 -1.1**
comp=Z,24nm,0.8s
PET Petropavlovsk 20.98 35 *e*P **P** **05 26 18.5 -0.6**
PET pmax pmax
comp=Z,90nm,1.5s
PET pmax pmax
comp=Z,100nm,11.1s
PET MLR MLR
comp=Z,400nm,16.0s,MS3.9
PET Petropavlovsk 20.98 35 *e*P **P** **05 26 18.5 -0.6**
comp=Z,115nm,1.3s
WHN Wuhan 21.30 259 *e*P **P** **05 26 24.3 +1.8**
HHC Hu-ho-hao-te 21.36 288 ⇓P **P** **05 26 27.6 +4.5**
HHC AP 05 26 31.6
HHC XP 05 26 34.8
HHC PP PP 05 26 52.1 +5.0
HHC PCP PcP 05 30 26.0 -1.2
HHC XS 05 30 33.3
HHC SCP 05 33 58.8
HHC PCS 05 34 02.4
HHC AMB AMB
comp=Z,202nm,4.8s
HHC LR LR
comp=N,243nm,11.2s,MS4.2
HHC LR LR
comp=E,453nm,11.2s,MS4.2
HHC LR LR
comp=Z,400nm,11.5s,MS4.0
CLNS Chul'man 21.64 339 *e*P **P** **05 26 26.0 +0.3**
CLNS pmax pmax
comp=Z,23nm,1.1s,mb4.5
CLNS pmax pmax
comp=N,13nm,1.0s
CLNS pmax pmax
comp=E,12nm,1.1s
CLNS MLR MLR
comp=Z,600nm,14.0s,MS4.2
CLNS MLR MLR
comp=N,500nm,15.0s,MS4.2
CLNS MLR MLR
comp=E,600nm,14.0s,MS4.2
BTO Baotou 22.54 287 *e*P **P** **05 26 34.4 -0.4**
MA2 Magadan 23.62 15 *e*P **P** **05 26 44.8 -0.3**
MA2 pmax pmax
comp=Z,40nm,1.1s,mb4.8
MA2 pmax pmax
comp=N,30nm,1.2s
MA2 pmax pmax
comp=E,10.0nm,1.1s
MA2 Magadan 23.62 15 *e*P **P** **05 26 44.3 -0.8**
comp=E,88nm,1.2s,mb5.1
XAN Xi'an 24.39 271 P **P** **05 26 52.1 -0.9**
XAN AP 05 26 59.3
XAN AMB AMB
comp=Z,15nm,1.3s,mb4.3
ENH Enshi 25.23 263 *e*P **P** **05 26 59.7 -1.4**
comp=Z,110nm,0.9s,mb5.4
ENH LR LR
comp=Z,581nm,19.0s,MS4.1
YAK Yakutsk 25.41 350 *e*P **P** **05 27 01.5 -0.8**
YAK *e*PPP PPP 05 27 43.3 -10
YAK *e* 05 30 40.7
YAK *e*S **S** **05 31 25.6 +0.2**
YAK *e*SS SS 05 32 20.9 -6.9
YAK *e*SSS SSS 05 32 37.1 -7.3
YAK pmax pmax
comp=Z,14nm,0.9s,mb4.5
YAK pmax pmax
comp=N,13nm,1.0s
YAK pmax pmax
comp=E,6.0nm,1.4s
YAK pmax pmax
comp=Z,10.0nm,0.9s,mb4.3
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK smax
comp=N,157nm,11.0s
YAK smax
comp=E,57nm,9.7s
YAK MLR MLR
comp=Z,239nm,15.0s,MS3.8
YAK MLR MLR
comp=N,230nm,14.0s,MS4.1
YAK MLR MLR
comp=E,243nm,11.0s,MS4.1
YAK Yakutsk 25.41 350 P **P** **05 27 00.7 -1.6**
comp=E,82nm,1.6s,mb5.0
YAK LR LR
comp=Z,369nm,22.0s,MS3.9
SONM Songino Array 25.88 304 P **P** **05 27 06.0 -0.8**
comp=Z,26nm,1.0s,mb4.7,baz=106,slow=9.0,SNR=68
SONM PcP PcP 05 30 35.8 -0.6
comp=Z,0.6nm,0.6s,baz=135,slow=1.7,SNR=3.8
LZH Lanzhou 27.92 278 *e*P **P** **05 27 24.4 -1.3**
LZH AMB AMB
comp=Z,30nm,1.0s,mb4.9
LZH AMB AMB
comp=Z,200nm,5.4s
LZH LR LR
comp=N,2μm,14.6s
LZH LR LR
comp=Z,3μm,15.7s,MS5.0
LZH Lanzhou 27.92 278 *e*P **P** **05 27 24.4 -1.3**
comp=Z,30nm,1.0s,mb4.9
LZH pP pP 05 27 30.1 -0.9
LZH sP sP 05 27 35.1 +1.6
LZH PP PP 05 28 29.1 +14
LZH S Sx 05 32 29.1
LZH sS 05 32 40.2
LZH SS 05 34 17.2
LZH LR LR
comp=Z,3μm,15.7s,MS5.0
ZAK Zakamensk 28.44 309 *e*P **P** **05 27 28.1 -2.1**
GYA Guiyang 29.17 258 ⇓*i*P **P** **05 27 35.8 -1.2**
GYA PP PP 05 28 28.6 -3.1
GYA AMB AMB
comp=Z,20nm,1.2s,mb4.7
GYA AMB AMB
comp=Z,170nm,6.3s
GYA LR LR
comp=N,520nm,13.5s,MS4.4
GYA LR LR
comp=E,430nm,13.2s,MS4.4
GYA LR LR
comp=Z,950nm,12.6s,MS4.6
CD2 Chengdu 29.54 268 *e*P **P** **05 27 38.1 -2.2**
CD2 AMB AMB
comp=Z,10.0nm,0.4s,mb4.9
GTA Gaotai 30.44 286 *e*P **P** **05 27 46.5 -1.8**
GTA S **S** **05 32 51.1 +4.0**
GTA AMB AMB
comp=Z,64nm,4.2s
GTA LR LR
comp=N,299nm,12.9s,MS4.3
GTA LR LR
comp=E,367nm,11.4s,MS4.3
GTA LR LR
comp=Z,414nm,12.9s,MS4.3
QIZ Qiongzhong 31.12 242 P **P** **05 27 57.1 +2.7**
QIZ S **S** **05 32 58.9 +1.0**
QIZ LR LR
comp=N,585nm,13.9s,MS4.5
QIZ LR LR
comp=E,558nm,14.4s,MS4.5
QIZ LR LR
comp=Z,492nm,15.0s,MS4.3
KMI Kunming 32.90 259 *e*P **P** **05 28 08.8 -1.1**
KMI AP pP 05 28 16.4 +1.1
KMI PP PP 05 29 21.6 +1.4
KMI S **S** **05 33 21.6 -4.0**
KMI AMB AMB
comp=Z,15nm,1.3s,mb4.8
KMI LR LR
comp=N,275nm,18.1s,MS4.1
KMI LR LR
comp=E,256nm,22.3s,MS4.1
KMI LR LR
comp=Z,512nm,15.0s
KMI Kunming 32.90 259 *e*P **P** **05 28 08.8 -1.1**
comp=Z,15nm,1.3s,mb4.8
KMI pP pP 05 28 16.4 +1.1
KMI sP sP 05 28 19.2 +1.5
KMI PP PP 05 29 21.6 +1.4
KMI S **S** **05 33 21.6 -4.0**
KMI sS 05 33 34.2
KMI LR LR
comp=Z,510nm,15.0s,MS4.3
TIXI Tiksi 34.81 355 *e*P **P** **05 28 24.0 -2.0**
TIXI pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
TIXI MLR MLR
comp=Z,300nm,16.0s,MS4.1
WMQ Urumqi 38.82 296 *e*P **P** **05 28 59.0 -1.0**
WMQ PP PP 05 30 31.0 -1.9
WMQ S **S** **05 34 55.0 -1.4**
WMQ LR LR
comp=N,249nm,16.0s,MS4.2
WMQ LR LR
comp=E,199nm,20.0s,MS4.2
WMQ LR LR
comp=Z,297nm,20.0s,MS4.1
CMAR Chiang Mai Arr 39.51 253 P **P** **05 29 05.3 -0.8**
comp=Z,1.2nm,0.4s,mb4.0,baz=58,slow=9.8,SNR=2.7
CMAR LR LR 05 46 58.9
comp=Z,164nm,18.1s,MS3.9,baz=65,slow=39
CMAR Chiang Mai Arr 39.51 253 P **P** **05 29 05.3 -0.7**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR MLR MLR
comp=Z,164nm,18.1s
ZAL Zalesovo 40.18 312 P **P** **05 29 10.2 -1.0**
comp=Z,3.0nm,0.8s,mb4.1,baz=19,slow=8.3,SNR=11
ZAL PcP PcP 05 31 14.5 -1.4
comp=Z,0.1nm,0.2s,baz=45,slow=2.4,SNR=7.2
ZAL LR LR 05 46 30.1
comp=Z,154nm,18.2s,MS3.9,baz=26,slow=37
ZAL Zalesovo 40.18 312 P **P** **05 29 10.2 -1.0**
ZAL 05 31 14.5
ZAL pmax pmax
comp=Z,3.0nm,0.8s
ZAL MLR MLR
comp=Z,154nm,18.2s
NVS Novosibirsk 41.12 314 *e*P **P** **05 29 16.6 -2.3**
NVS pmax pmax
comp=N,5.0nm,1.6s
NVS pmax pmax
comp=E,15nm,1.6s
NVS pmax pmax
comp=Z,16nm,1.6s,mb4.4
SHL Shillong 41.28 267 ⇑*i*P **P** **05 29 19.0 -1.5**
KURK Kurchatov 44.09 308 *e*P **P** **05 29 41.6 -1.6**
KURK Kurchatov 44.09 308 *e*P **P** **05 29 40.8 -2.4**
comp=Z,34nm,0.9s,mb5.1
GUN Gumba 45.01 274 *e*P **P** **05 29 50.5 -0.3**
comp=Z,62nm,1.0s,mb5.4
PKI Pulchoki 45.53 274 *e*P **P** **05 29 54.1 -0.9**
comp=Z,16nm,0.9s,mb4.9
KKN Kakani 45.53 274 *e*P **P** **05 29 54.5 -0.5**
comp=Z,21nm,0.7s,mb5.2
DMN Daman 45.75 274 *e*P **P** **05 29 55.9 -0.9**
comp=Z,17nm,0.9s,mb5.0
GKN Gorkha 45.95 275 *e*P **P** **05 29 57.5 -0.8**
comp=Z,76nm,1.0s,mb5.6
KOLN Koldanda 46.88 275 *e*P **P** **05 30 04.9 -0.8**
comp=Z,59nm,1.2s,mb5.4
IMA Indian Mountai 47.56 31 *e*P **P** **05 30 10.7 +0.2**
RSO Redoubt South 48.03 38 *e*P **P** **05 30 13.8 -0.5**
SPU Mount Spurr 48.33 37 *e*P **P** **05 30 16.9 +0.4**
FRU Bishkek 48.34 298 *e*P **P** **05 30 17.0 +0.1**
AAK Ala-Archa 48.48 297 *e*P **P** **05 30 16.2 -1.8**
AAK pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
AAK MLR MLR
comp=Z,700nm,21.0s,MS4.6
AAK Ala-Archa 48.48 297 *e*P **P** **05 30 16.0 -2.0**
comp=Z,8.2nm,1.1s,mb4.7
BRVK Borovoye 48.88 312 *e*P **P** **05 30 19.9 -0.9**
comp=Z,14nm,1.0s,mb5.0
BRVK LR LR
comp=Z,49nm,19.0s,MS3.5
PWA Palmer West 49.34 37 *e*P **P** **05 30 23.1 -1.2**
MCK McKinley 49.62 34 *e*P **P** **05 30 26.1 -0.3**
comp=Z,12nm,1.0s,mb4.9
ZRNK Zerenda 49.66 312⇑ *e*P **P** **05 30 25.5 -1.4**
comp=Z,34nm,1.0s,mb5.3
COLA College 50.01 32 *e*P **P** **05 30 29.7 +0.3**
COLA College 50.01 32 *e*P **P** **05 30 29.4 -0.1**
comp=Z,20nm,1.2s,mb5.0
ILAR Eielson Array 50.43 32 P **P** **05 30 32.2 -0.4**
comp=Z,8.8nm,0.8s,mb4.8,baz=276,slow=6.6,SNR=56
ILAR LR LR 05 53 06.7
comp=Z,52nm,19.6s,MS3.5,baz=180,slow=38
ILAR Eielson Array 50.43 32 P **P** **05 30 32.2 -0.4**
ILAR pmax pmax
comp=Z,9.0nm,0.8s
ILAR MLR MLR
comp=Z,52nm,19.6s
DIV Divide 51.37 37 *e*P **P** **05 30 40.1 +0.3**
comp=Z,63nm,0.8s,mb5.6
SVE Sverdlovsk 53.54 318⇑ *i*P **P** **05 30 55.0 -1.1**
SVE pmax pmax
comp=Z,80nm,1.6s,mb5.4
SVE MLR MLR
comp=N,400nm,16.0s,MS4.8
SVE MLR MLR
comp=E,500nm,16.0s,MS4.8
SVE MLR MLR
comp=Z,1μm,16.0s,MS5.0
ARU Arti 54.75 318⇑ *i*P **P** **05 31 03.8 -1.2**
ARU *e* 05 32 06.0
ARU *e* 05 33 05.7
ARU *e*S **S** **05 38 45.8 +2.9**
ARU *e*SS SS 05 42 24.2 -1.7
ARU pmax pmax
comp=Z,54nm,1.0s,mb5.5
ARU MLR MLR
comp=Z,300nm,17.0s,MS4.4
ARU MLR MLR
comp=N,200nm,16.0s,MS4.5
ARU MLR MLR
comp=E,300nm,16.5s,MS4.5
INK Inuvik 55.14 27 P **P** **05 31 07.2 -0.5**
comp=E,9.8nm,0.8s,mb4.9,baz=280,slow=6.0,SNR=19
INK Inuvik 55.14 27 P **P** **05 31 07.2 -0.5**
INK pmax pmax
comp=Z,10.0nm,0.8s
INK Inuvik 55.14 27 *e*P **P** **05 31 07.1 -0.6**
comp=Z,16nm,1.0s,mb5.0
HYB Hyderabad 56.08 267 *i* P **P** **05 31 14.0 -1.1**
HYB Hyderabad 56.08 267 *e*P **P** **05 31 14.0 -1.1**
WRAB Tennant Creek 57.06 185 P **P** **05 31 19.6 -2.5**
comp=Z,202nm,1.0s,mb6.1,SNR=28
WRAB Tennant Creek 57.06 185 *e*P **P** **05 31 19.7 -2.4**
comp=Z,64nm,1.1s,mb5.6
WRA Warramunga Arr 57.07 185 P **P** **05 31 19.8 -2.4**
comp=Z,46nm,1.2s,mb5.4,baz=1.2,slow=7.4,SNR=76
WRA PcP PcP 05 32 16.2 -0.7
comp=Z,4.9nm,0.8s,baz=359,slow=4.8,SNR=5.6
WRA Warramunga Arr 57.07 185 P **P** **05 31 19.8 -2.4**
WRA 05 32 16.2
WRA pmax pmax
comp=Z,47nm,1.2s
WRA pmax pmax
comp=Z,5.0nm,0.8s
CTA Charters Tower 57.50 172 P **P** **05 31 23.6 -1.6**
comp=Z,7.8nm,1.1s,mb4.7,baz=332,slow=6.8,SNR=4.5
CTA Charters Tower 57.50 172 P **P** **05 31 23.6 -1.6**
CTA pmax pmax
comp=Z,8.0nm,1.1s
CTAO Charters Tower 57.50 172 *e*P **P** **05 31 22.7 -2.5**
comp=Z,8.5nm,1.0s,mb4.7
DLBC Dease Lake 59.74 38 P **P** **05 31 40.6 +0.3**
comp=Z,5.0nm,0.7s,mb4.6,baz=266,slow=9.4,SNR=9.3
ASAR Alice Springs 60.79 185 P **P** **05 31 46.0 -2.0**
comp=Z,6.5nm,0.9s,mb4.8,baz=6.9,slow=4.9,SNR=28
ASAR PcP PcP 05 32 29.0 -2.6
comp=Z,2.1nm,0.9s,baz=1.2,slow=5.4,SNR=2.5
KEV Kevo 62.44 339 *e*p **P** **05 31 57.1 -1.4**
comp=Z,0.6nm,0.5s,mb4.0
KEV Kevo 62.44 339 *e*P **P** **05 31 57.1 -1.4**
KEV pmax pmax
comp=Z,1.0nm,0.5s,mb4.2
ARCES ARCESS Array B 63.00 339 P **P** **05 32 01.3 -0.9**
comp=Z,6.6nm,0.8s,mb4.8,baz=54,slow=10,SNR=7.6
ARCES LR LR 06 02 12.9
comp=Z,198nm,18.7s,MS4.3,baz=24,slow=39
ARCES ARCESS Array B 63.00 339 P **P** **05 32 01.3 -0.9**
ARCES pmax pmax
comp=Z,7.0nm,0.8s
ARCES MLR MLR
comp=Z,198nm,18.7s
ARCES ARCESS Array B 63.00 339 P **P** **05 32 01.3 -0.9**
ARCES LR LR 06 02 12.9
BBB Bella Bella 63.37 43 P **P** **05 32 05.0 +0.2**
comp=Z,16nm,0.9s,mb5.1,baz=282,slow=5.9,SNR=3.1
BBB Bella Bella 63.37 43 P **P** **05 32 05.0 +0.2**
YKA Yellowknife Ar 64.66 29 P **P** **05 32 12.8 -0.2**
comp=Z,5.5nm,0.6s,mb4.8,baz=305,slow=6.6,SNR=17
YKA Yellowknife Ar 64.66 29 P **P** **05 32 12.8 -0.2**
YKA pmax pmax
comp=Z,6.0nm,0.6s
JOF Joensuu 64.73 331 *e*p **P** **05 32 11.6 -1.8**
comp=Z,3.2nm,0.6s,mb4.5
JOF Joensuu 64.73 331 *e*P **P** **05 32 11.6 -1.8**
JOF pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
MOS Moscow 65.77 323 *e*P **P** **05 32 19.9 -0.3**
MOS pmax pmax
comp=Z,58nm,0.9s,mb5.6
OBN Obninsk 66.61 322α *i*P **P** **05 32 24.4 -1.2**
OBN *e* pP 05 32 31.5 +0.2
OBN *e* 05 32 58.8
OBN pmax pmax
comp=Z,42nm,1.8s,mb5.2
OBN MLR MLR
comp=Z,600nm,16.0s,MS4.9
KAF Kangasniemi 67.09 332 *e*p **P** **05 32 26.9 -1.7**
comp=Z,6.3nm,0.5s,mb4.9,baz=51,slow=6.0
KAF Kangasniemi 67.09 332 *e*P **P** **05 32 26.9 -1.7**
KAF pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
FINES FINESS Array B 67.59 331 P **P** **05 32 30.5 -1.2**
comp=Z,16nm,0.8s,mb5.1,baz=72,slow=6.0,SNR=29
FINES LR LR 06 03 44.8
comp=Z,133nm,18.3s,MS4.2,baz=139,slow=38
FINES FINESS Array B 67.59 331 P **P** **05 32 30.5 -1.2**
FINES pmax pmax
comp=Z,16nm,0.8s
FINES MLR MLR
comp=Z,133nm,18.3s
GOF Gofitskoye 68.33 311 ⇓*i*P **P** **05 32 36.5 -0.1**
GOF pmax pmax
comp=Z,60nm,1.6s,mb5.4
STKA Stephens Creek 68.85 177 P **P** **05 32 39.1 -1.0**
comp=Z,6.2nm,0.9s,mb4.5,baz=337,slow=7.4,SNR=14
RPW Rockport 68.89 45 *e*P **P** **05 32 39.4 -0.7**
KIV Kislovodsk 69.12 310 *e*P **P** **05 32 41.6 +0.1**
comp=Z,19nm,0.8s,mb5.1
RMW Rattlesnake Mo 69.26 46 P **P** **05 32 42.8 +0.4**
JMIC Jan Mayen 69.51 349 LR LR 06 05 39.5
comp=Z,59nm,19.2s,MS3.8,baz=91,slow=38
NLW Nelson Butte 69.75 45 *e*P **P** **05 32 45.7 +0.4**
GNI Garni 69.83 305 LR LR 06 05 56.3
comp=Z,186nm,19.0s,MS4.3,baz=55,slow=38
TWW Teanaway 69.97 46 P **P** **05 32 47.7 +1.1**
TBM Table Mountain 70.11 45 P **P** **05 32 48.2 +0.7**
WTV Waterville 70.18 45 P **P** **05 32 48.1 +0.2**
EBG Ellensburg 70.27 46 P **P** **05 32 49.4 +0.9**
SSOR Sweet Springs 70.30 48 *e*P **P** **05 32 49.5 +0.8**
SUMG Summit 70.42 359 *e*P **P** **05 32 48.2 -0.9**
comp=Z,26nm,0.9s,mb5.2
EDM Edmonton 70.46 37 *e*P **P** **05 32 49.0 -0.5**
EPH Ephrata 70.57 45 P **P** **05 32 50.3 -0.1**
MXC Moxie City 70.61 46 P **P** **05 32 51.2 +0.6**
BROR Big Rock Looko 70.62 49 P **P** **05 32 51.5 +0.8**
OD2 Odessa Site #2 71.05 45 P **P** **05 32 53.2 0.0**
DPW Davenport 71.06 44 P **P** **05 32 53.6 +0.3**
CROR Criterion Ridg 71.10 48 P **P** **05 32 54.4 +0.8**
SOC Sochi 71.13 311 *e*P **P** **05 32 52.5 -1.3**
SOC *e* 05 33 19.2
SOC *e*S S 05 42 07.8 -0.4
SOC *e* 05 42 50.5
SOC *e*SS SS 05 46 41.5 -2.4
SOC *e*SSS SSS 05 49 49.8 -0.5
SOC pmax pmax
comp=Z,20nm,1.1s,mb5.0
SOC pmax pmax
comp=N,15nm,0.9s
SOC pmax pmax
comp=E,14nm,0.8s
WRD Warden 71.14 45 P **P** **05 32 53.6 -0.1**
NEW Newport 71.43 43 P **P** **05 32 55.9 +0.4**
comp=E,19nm,0.7s,mb5.1,baz=305,slow=5.6,SNR=35
NEW Newport 71.43 43 P **P** **05 32 55.9 +0.4**
NEW pmax pmax
comp=Z,19nm,0.7s
NEW Newport 71.43 43 *e*P **P** **05 32 55.4 -0.1**
comp=Z,23nm,0.8s,mb5.2
VIPM Ingram Point 71.58 48 P **P** **05 32 57.4 +0.9**
ANN Anapa 71.81 313 *e*P **P** **05 32 46.3 -12**
ANN pmax pmax
comp=Z,27nm,0.8s,mb5.2
BUOR Burton Butte 71.85 50 P **P** **05 32 59.0 +0.9**
YBH Yreka Blue Hor 71.87 51 P **P** **05 32 59.5 +1.3**
comp=Z,5.7nm,0.8s,mb4.6,baz=214,slow=0.4,SNR=11
YBH Yreka Blue Hor 71.87 51 P **P** **05 32 59.5 +1.2**
YBH pmax pmax
comp=Z,6.0nm,0.8s
LNOR Lincton Mounta 72.16 46 *e*P **P** **05 32 59.4 -0.5**
WDC Whiskeytown Da 72.62 52 P **P** **05 33 03.5 +0.8**
comp=Z,26nm,1.4s,mb5.0
LASM Arnica Sink 72.64 51 P **P** **05 33 04.0 +1.1**
WALA Waterton Lakes 72.67 41 *e*P **P** **05 33 02.2 -0.7**
comp=Z,10.0nm,0.8s,mb4.8
NWAO Narrogin (SRO) 72.67 199 P **P** **05 33 02.0 -1.2**
comp=Z,24nm,1.1s,mb5.0,baz=97,slow=3.1,SNR=5.3
NWAO Narrogin (SRO) 72.67 199 P **P** **05 33 02.0 -1.2**
NWAO pmax pmax
comp=Z,24nm,1.1s
AKASG Malin Array Be 72.78 321 P **P** **05 33 02.4 -1.0**

comp=Z,12nm,0.7s,mb5.0,baz=47,slow=6.1,SNR=45
AKASG LR LR 06 07 34.4
comp=Z,373nm,19.1s,MS4.7,baz=50,slow=38
AKASG Malin Array Be 72.78 321 P **P 05 33 02.4 -1.0**
AKASG pmax pmax
comp=Z,12nm,0.7s
AKASG MLR MLR
comp=Z,373nm,19.1s
LTIM Timbered Crate 72.94 51 P **P 05 33 05.7 +1.1**
NB2 NORSAR Subarra 73.11 336 P **P 05 33 04.2 -1.0**
comp=Z,18nm,0.9s,mb5.0,baz=40,slow=6.2
NB2 NORSAR Subarra 73.11 336 P **P 05 33 04.2 -1.0**
baz=40,slow=6.2
NOA NORSAR Array B 73.11 336 P **P 05 33 04.4 -0.7**
comp=Z,8.5nm,0.7s,mb4.8,baz=40,slow=5.9,SNR=27
NOA PP PP 05 35 47.2 -3.0
comp=Z,3.2nm,0.9s,baz=43,slow=8.6,SNR=5.4
NOA LR LR 06 07 35.7
comp=Z,124nm,18.1s,MS4.2,baz=25,slow=38
NOA NORSAR Array B 73.11 336 P **P 05 33 04.4 -0.8**
NOA 05 35 47.2
NOA pmax pmax
comp=Z,9.0nm,0.7s
NOA pmax pmax
comp=Z,3.0nm,0.9s
NOA MLR MLR
comp=Z,124nm,18.1s
LBCM Butte Creek Ri 73.22 51 P **P 05 33 06.8 +0.6**
MOD Modoc 73.25 50 *e*P **P 05 33 06.3 -0.1**
comp=Z,7.9nm,0.9s,mb4.6
SUW Suwalki 73.51 326 *e*P **P 05 33 07.1 -0.5**
SUW Suwalki 73.51 326 *e*P **P 05 33 07.1 -0.5**
SIM Simferopol' 73.64 314 *e*P **P 05 33 08.2 -0.4**
SIM pmax pmax
comp=Z,34nm,0.8s,mb5.3
SIM MLR MLR
comp=Z,140nm,14.0s,MS4.4
OHCM Honcut 73.99 53 *e*P **P 05 33 10.8 0.0**
MSO Missoula 74.01 43 *e*P **P 05 33 10.2 -0.4**
comp=Z,17nm,1.4s,mb4.8
CHMT Chamberlain Mo 74.33 43 *e*P **P 05 33 12.0 -0.5**
BEKR Beckwourth 74.40 52 *e*P **P 05 33 13.3 +0.3**
comp=Z,15nm,0.8s,mb5.0
ELZG Elazig 74.46 307 *i* P **P 05 33 13.9 +0.4**
MALT Malatya 74.93 307 *e*P **P 05 33 16.6 +0.5**
comp=Z,26nm,1.7s,mb4.9
HRY Holter Researc 75.22 42 *e*P **P 05 33 17.9 +0.2**
CMB Columbia Colle 75.45 53 *e*P **P 05 33 19.4 +0.2**
comp=Z,18nm,1.0s,mb5.0
HLID Hailey 75.75 46 *e*P **P 05 33 21.3 +0.6**
comp=Z,12nm,0.9s,mb4.8
CTKT Corum 75.83 310 *i* P **P 05 33 21.5 +0.2**
MCMT McKenzie Canyo 75.85 44 *e*P **P 05 33 21.4 +0.1**
BMN Battle Mountai 76.00 50 *e*P **P 05 33 22.9 +0.6**
comp=Z,16nm,0.9s,mb4.9
BMN *e* 05 33 26.2
BOZ Bozeman (W) 76.00 43⇑*e*P **P 05 33 22.6 +0.4**
comp=Z,22nm,0.9s,mb5.1
GZT Gaziantep 76.04 306 *i* P **P 05 33 23.1 +0.6**
BALT Daday 76.12 312 *i* P **P 05 33 23.2 +0.4**
NVAR Mina Array Bea 76.53 52 P **P 05 33 26.3 +1.0**
comp=Z,9.2nm,0.8s,mb4.8,baz=279,slow=7.3,SNR=49
NVAR Mina Array Bea 76.53 52 P **P 05 33 26.3 +1.0**
OMM Old Mammoth Mi 76.58 53 *e*P **P 05 33 26.4 +0.9**
MNV Mina 76.63 52 *e*P **P 05 33 26.3 +0.5**
comp=Z,11nm,1.1s,mb4.7
KWP Kalwaria 76.67 323 *e*P **P 05 33 26.2 +0.4**
KWP Kalwaria 76.67 323 *e*P **P 05 33 26.2 +0.4**
ELDT Eldivan 76.73 311 *i* P **P 05 33 26.2 -0.1**
AVNT Avonos 76.90 309 *i* P **P 05 33 27.7 +0.4**
GCMT Greycliff 76.97 42 *e*P **P 05 33 28.4 +0.9**
FRB Frobisher Bay 77.00 12 P **P 05 33 26.6 -0.7**
comp=Z,30nm,0.9s,mb5.2,baz=345,slow=4.5,SNR=8.4
FRB Frobisher Bay 77.00 12 P **P 05 33 26.7 -0.6**
FRB pmax pmax
comp=Z,30nm,1.0s
MTUM Tungsten Hills 77.02 53 *e*P **P 05 33 28.8 +0.8**
BRTR Keskin Array B 77.07 310 P **P 05 33 28.3 0.0**
comp=Z,7.8nm,0.8s,mb4.7,baz=90,slow=3.7,SNR=31
BRTR Keskin Array B 77.07 310 P **P 05 33 28.3 0.0**
BRTR pmax pmax
comp=Z,8.0nm,0.8s
BORG Borgarnes 77.10 351 P **P 05 33 29.7 +1.9**
comp=Z,15nm,0.9s,mb4.9,baz=154,slow=5.0,SNR=2.6
YNR Norris Junctio 77.11 43 *e*P **P 05 33 29.6 +1.2**
YFT Old Faithful 77.20 43 *e*P **P 05 33 30.3 +1.5**
KOLS Kolonicke sedl 77.35 323 *i* P **P 05 33 29.5 -0.1**
TPH Tonopah 77.43 52 *e*P **P 05 33 30.5 +0.2**
comp=Z,60nm,1.4s,mb5.3
SGKT Sivrigoynuk 77.50 312 *i* P **P 05 33 30.5 -0.1**
OJC Ojcow 77.62 325 *e*P **P 05 33 30.9 -0.2**
OJC Ojcow 77.62 325 *e*P **P 05 33 30.9 -0.2**
MOOW Moose Ponds 77.70 44 *e*P **P 05 33 32.9 +1.3**
TPAW Teton Pass 77.75 44 *e*P **P 05 33 33.2 +1.3**
CRVS Cervenica-Dubn 77.76 323 *i* P **P 05 33 32.1 +0.3**
CRVS *e*PP PP 05 36 25.3 -4.0
HVU Hansel Valley 77.81 47 *e*P **P 05 33 33.1 +0.9**
LOHW Long Hollow 77.87 44 *e*P **P 05 33 33.5 +1.0**
SNOW Snow King Moun 77.88 44 *e*P **P 05 33 34.0 +1.4**
REDW Red Top Meadow 77.89 44 *e*P **P 05 33 33.8 +1.2**
NIE Niedzica 77.95 324⇑*e*P **P 05 33 33.4 +0.6**
DGMT Dagmar 77.96 37 *e*P **P 05 33 32.2 -0.7**
comp=Z,28nm,0.9s,mb5.2
HENT Hendek 78.03 312 *i* P **P 05 33 32.9 -0.6**
AHID Auburn Hatcher 78.14 45 *e*P **P 05 33 34.5 +0.5**
comp=Z,8.3nm,0.8s,mb4.7
LAO LASA Array 78.17 40 *e*P **P 05 33 34.5 +0.5**
comp=Z,37nm,1.0s,mb5.3
BGU Big Grassy Mou 78.20 47 *e*P **P 05 33 34.8 +0.4**
TRCR Troy Canyon 78.27 51 P **P 05 33 35.5 +0.6**
RAC Raciborz 78.45 326 *e*P **P 05 33 36.3 +0.7**
RAC Raciborz 78.45 326 *e*P **P 05 33 36.3 +0.7**
MZLS Mizel 78.50 291 P **P 05 33 36.6 +0.2**
HWUT Hardware Ranch 78.61 46 *e*P **P 05 33 36.9 +0.3**
comp=Z,29nm,1.4s,mb5.0
OKC Ostrava-Krasne 78.65 325 *e*P **P 05 33 37.2 +0.5**
OKC *ep*P pP 05 33 39.8 -2.7
KSP Ksiaz 78.75 327 *e*P **P 05 33 37.5 +0.3**
KSP *e**PP pP 05 33 40.0 -3.0
KSP Ksiaz 78.75 327 *e*P **P 05 33 37.7 +0.5**
DUG Dugway 78.79 48 *e*P **P 05 33 38.4 +0.8**
comp=Z,26nm,1.5s,mb4.9
BSEG Bad Segeberg 78.85 332 *e*P **P 05 33 37.4 -0.3**
BSEG pmax pmax
comp=Z,22nm,1.2s,mb5.0
ARSS Ar Rass 78.88 294 P **P 05 33 38.1 -0.3**
MORC Moravsky Berou 78.97 326 *e*P **P 05 33 38.3 -0.1**
comp=Z,25nm,1.3s,mb5.0
PDAR Pinedale Array 79.00 44 P **P 05 33 39.2 +0.4**
comp=Z,9.0nm,0.8s,mb4.8,baz=303,slow=2.2,SNR=51
TCUT Toone Canyon 79.02 46 *e*P **P 05 33 36.9 -2.1**
HILS Ha'il 79.04 296 P **P 05 33 40.0 +0.7**
DPC Dobruska-Polom 79.09 327 *e*P **P 05 33 39.7 +0.6**
DPC *ep*P pP 05 33 43.0 -2.0
UPC Upice 79.11 327 *e*P **P 05 33 39.8 +0.6**
UPC *ep*P pP 05 33 42.8 -2.3
PSZ Piszkesteto 79.19 323⇑*e*P **P 05 33 40.2 +0.5**
MWC Mount Wilson 79.24 55 *e*P **P 05 33 39.6 -0.7**
VYHS Vyhne 79.29 324 *i* P **P 05 33 41.0 +0.8**
JLU Jordanelle 79.33 47 *e*P **P 05 33 41.4 +0.8**
NLU North Lily Min 79.38 48 P **P 05 33 40.1 -0.8**
ULDT Uludag 79.50 313 *i* P **P 05 33 41.9 +0.3**
DAU Daniels Canyon 79.56 47 *e*P **P 05 33 42.9 +1.0**
MPU Maple Canyon 79.60 47 *e*P **P 05 33 42.4 +0.3**
PVCC Panska Ves 79.72 328 *e*P **P 05 33 42.9 +0.4**
PVCC *ep*P pP 05 33 46.5 -1.9
BRG Berggiesshubel 79.73 328 *e*P **P 05 33 42.8 +0.3**
BRG *e* 05 33 54.3
BRG pmax pmax
comp=Z,27nm,1.8s,mb4.9
BRG Berggiesshubel 79.73 328 *e*P **P 05 33 42.8 +0.3**
comp=Z,27nm,1.8s,mb4.9
BRG *e* 05 33 54.3
CLL Collm 79.80 329 ⇑P **P 05 33 42.5 -0.4**
comp=Z,logA/T=1.3,mb5.0
CLL *i* *PP pP 05 33 45.9 -2.8
CLL *e* 05 33 51.0
CLL Collm 79.80 329⇑*i*P **P 05 33 42.5 -0.4**
CLL *i* 05 33 45.9
CLL pmax pmax
comp=Z,25nm,1.3s,mb5.0
CLL Collm 79.80 329⇑*i*P **P 05 33 42.5 -0.4**
comp=Z,25nm,1.3s,mb5.0
CLL *i* 05 33 45.9

SMOL Smolenice 79.93 325 *i* P **P 05 33 45.0 +1.3**
ARUT Antelope Range 79.94 50 *e*P **P 05 33 44.3 +0.3**
PRU Pruhonice 80.14 327 P **P 05 33 44.9 +0.2**
PRU *e*PP pP 05 33 48.2 -2.4
PRU pmax pmax
comp=Z,17nm,1.0s,mb4.9
PRU Pruhonice 80.14 327 P **P 05 33 44.9 +0.2**
comp=Z,17nm,1.0s,mb4.9
PRU *ep*P pP 05 33 48.2 -2.4
AFFS 'Afif 80.20 292 P **P 05 33 46.1 +0.5**
MSU Marysvale 80.25 49 *e*P **P 05 33 47.0 +1.4**
BTOK Tokmak 80.40 313 *i* P **P 05 33 46.6 +0.3**
NEN Nelson 80.42 52 *e*P **P 05 33 46.8 +0.2**
ULM Lac du Bonnet 80.45 32 P **P 05 33 45.9 -0.5**
comp=Z,11nm,0.9s,mb4.8,baz=320,slow=9.2,SNR=5.3
CLZ Clausthal 80.45 330 *e*P **P 05 33 46.4 0.0**
comp=Z,18nm,1.1s,mb4.9
LDFC Landfair 80.61 53 *e*P **P 05 33 47.6 +0.1**
PFO Pinyon Flat Ob 80.67 55 *e*P **P 05 33 48.0 +0.1**
comp=Z,11nm,0.9s,mb4.8
SRU San Rafael 80.84 47 *e*P **P 05 33 49.3 +0.6**
NKC Novy Kostel 80.84 328 *e*P **P 05 33 48.8 +0.3**
NKC *ep*P pP 05 33 51.6 -2.7
MOX Moxa 80.87 329 *i* P **P 05 33 47.2 -1.4**
comp=Z,logA/T=1.1,mb4.8
MOX Moxa 80.87 329 *e*P **P 05 33 47.2 -1.4**
MOX pmax pmax
comp=Z,23nm,1.8s,mb4.8
MOX Moxa 80.87 329 *e*P **P 05 33 47.2 -1.4**
comp=Z,23nm,1.8s,mb4.8
RZN Rozhen 81.00 316 *i* P **P 05 33 50.3 +0.8**
RSSD Black Hills 81.05 40 *e*P **P 05 33 49.6 -0.1**
comp=Z,9.1nm,0.8s,mb4.8
BAR Barrett 81.10 56 *e*P **P 05 33 50.1 -0.1**
KHC Kasperske Hory 81.19 327 *e*P **P 05 33 50.5 +0.2**
KHC *ep*P pP 05 33 53.6 -2.6
VTS Vitosha 81.21 318 *i* P **P 05 33 51.0 +0.4**
GEC2 GERESS Array S 81.36 327 *e*P **P 05 33 51.2 0.0**
GEC2 pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
GEC2 GERESS Array S 81.36 327 *e*P **P 05 33 51.2 0.0**
comp=Z,7.0nm,1.2s,mb4.5
GERES GERESS Array B 81.36 327 P **P 05 33 51.2 0.0**
comp=Z,3.9nm,0.7s,mb4.4,baz=34,slow=4.8,SNR=26
GERES GERESS Array B 81.36 327 P **P 05 33 51.2 0.0**
GERES pmax pmax
comp=Z,4.0nm,0.7s
RHK1 Bakonya 81.37 323⇑*i*P **P 05 33 51.2 -0.1**
WET Wettzell 81.49 327 *e*P **P 05 33 51.8 -0.1**
WET pmax pmax
comp=Z,13nm,1.2s,mb4.7
WET Wettzell 81.49 327 *e*P **P 05 33 51.8 -0.1**
comp=Z,13nm,1.2s,mb4.7
MMB Musomiste 81.61 317 *i* P **P 05 33 53.5 +0.8**
ARSA Arzberg 81.73 325⇑*i*P **P 05 33 53.6 +0.4**
comp=Z,14nm,1.6s,mb4.7
KDAG Bornova 81.74 312 *i* P **P 05 33 51.8 -1.6**
GRA1 Grafenberg Arr 81.77 329 *e*P **P 05 33 53.9 +0.6**
comp=Z,31nm,1.1s,mb5.2
GRA1 *e* 05 33 57.2
GRF Grafenberg Arr 81.77 329 *e*P **P 05 33 53.9 +0.6**
GRF pmax pmax
comp=Z,31nm,1.1s,mb5.2
KKB Krupnik 81.77 317 *i* P **P 05 33 54.3 +0.8**
KBRS Khaybar 81.80 296 P **P 05 33 54.8 +0.8**
MOA Molln 81.85 326⇑*i*P **P 05 33 54.0 +0.2**
comp=Z,8.9nm,1.3s,mb4.5
PV10 Paradox Valley 82.19 47 *e*P **P 05 33 57.0 +1.3**
JMQS Jabal Moqyreh 82.29 300 P **P 05 33 57.3 +0.9**
PERS Pernice 82.37 325 *i* P **P 05 33 56.7 +0.2**
PERS *i* 05 33 59.6
EIL Elat 82.44 301 P **P 05 33 57.5 +0.3**
comp=Z,24nm,1.1s,mb5.0
TATS Tathlith 82.44 289 P **P 05 33 58.1 +0.7**
SKO Skopje 82.58 318 *e*P **P 05 33 58.0 +0.3**
PV01 Paradox Valley 82.63 47 *e*P **P 05 33 57.7 -0.4**
KBA Koelnbreinsper 82.84 326⇑*i*P **P 05 33 59.1 +0.1**
comp=Z,19nm,1.4s,mb4.9
FUR Furstenfeldbru 82.92 328 *e*P **P 05 33 59.7 +0.4**
FUR pmax pmax
comp=Z,24nm,0.9s,mb5.2
FUR Furstenfeldbru 82.92 328 *e*P **P 05 33 59.7 +0.4**
comp=Z,24nm,0.9s,mb5.2
RW3 Ridgway 83.07 47 *e*P **P 05 34 01.5 +1.2**
BDAS Al Bad' 83.11 300 P **P 05 34 01.0 +0.3**
AYUS 'Aynunah 83.14 300 P **P 05 34 01.3 +0.4**
BOJS Bojanci 83.15 324 *i* P **P 05 34 00.5 -0.1**
TAYS Tayyib Ism 83.19 301 P **P 05 34 01.8 +0.7**
ISCO Idaho Springs 83.19 44 *e*P **P 05 34 01.6 +0.7**
comp=Z,27nm,1.7s,mb5.0
STU Stuttgart 83.32 329 *e*P **P 05 34 01.2 -0.2**
comp=Z,24nm,0.9s,mb5.2
CEY Cernica 83.36 324 *i* P **P 05 34 00.9 -0.7**
ROBS Robic 83.40 325 *i* P **P 05 34 01.3 -0.6**
JAVS Javornik 83.41 325 *i* P **P 05 34 01.0 -0.9**
UMJS Umm Lajj 83.53 297 P **P 05 34 03.9 +1.0**
NAMS An Nimas 83.62 289 P **P 05 34 05.0 +1.5**
TRI Trieste 83.69 325 *e*P **P 05 34 02.6 -0.7**
GIVF Givet 83.96 332 *e*P **P 05 34 03.9 -0.6**
comp=Z,14nm,0.7s,mb4.9
BFO Black Forest 84.02 329 *e*P **P 05 34 04.8 -0.1**
BFO pmax pmax
comp=Z,31nm,1.3s,mb5.3
BFO Black Forest 84.02 329 *e*P **P 05 34 04.8 -0.1**
comp=Z,31nm,1.3s,mb5.3
DAVA Daruels 84.20 328⇑*i*P **P 05 34 06.1 +0.3**
comp=Z,21nm,0.8s,mb5.3
BAIF Baives 84.22 332 *e*P **P 05 34 05.4 -0.5**
CDF Champ du Feu 84.38 330 *e*P **P 05 34 06.5 -0.2**
comp=Z,48nm,1.0s,mb5.3
BRMO Bormio 84.62 327 *e*P **P 05 34 08.5 +0.5**
HINF Hinteralfeld 85.03 330 *e*P **P 05 34 09.2 -0.7**
comp=Z,14nm,0.9s,mb4.8
HAU Haudompre 85.08 330 *e*P **P 05 34 09.6 -0.6**
comp=Z,28nm,0.7s,mb5.2
HAU *e*R
comp=Z,138nm,21.5s
MEZF Maizieres J'vi 85.18 331 *e*P **P 05 34 10.6 -0.1**
comp=Z,46nm,0.9s,mb5.3
RSM Repubblica di 85.65 324 *e*P **P 05 34 14.0 +0.9**
SCHQ Schefferville 85.66 15 P **P 05 34 13.5 +0.6**
comp=Z,9.1nm,0.8s,mb5.1,baz=355,slow=4.9,SNR=7.7
SCHQ Schefferville 85.66 15 P **P 05 34 13.5 +0.6**
FSSB Fossombrone 85.67 324 *e*P **P 05 34 13.7 +0.4**
ARV Arcevia 85.75 324 *e*P **P 05 34 13.9 +0.3**
VAI Varese 85.79 328 *e*P **P 05 34 13.3 -0.4**
SFI Santa Sofia 85.94 325 *e*P **P 05 34 15.7 +1.1**
PGD Poggio Sodo 86.03 325 *e*P **P 05 34 16.3 +1.3**
VMG Vicchio 86.04 325 *e*P **P 05 34 16.5 +1.4**
NRCA Norcia 86.17 323 *e*P **P 05 34 16.1 +0.3**
GSCL Gusciola 86.18 326 *e*P **P 05 34 16.0 +0.2**
ERBM Eremo 86.20 326 *e*P **P 05 34 16.5 +0.6**
CABF La Chapelle 86.31 329 *e*P **P 05 34 16.0 -0.3**
AQU L'Aquila 86.39 323 P **P 05 34 14.7 -2.2**
comp=Z,14nm,0.9s,mb5.2
MRLC Muro Lucano 86.56 320 *e*P **P 05 34 17.5 -0.2**
LOR Lormes 86.65 331 *e*P **P 05 34 17.4 -0.6**
comp=Z,36nm,0.9s,mb5.3
LOR *e*R
comp=Z,176nm,21.5s
SDI San Donato 86.68 322 *e*P **P 05 34 17.6 -0.7**
MNS Montasola 86.72 323 *e*P **P 05 34 17.5 -1.0**
LPL La Plagne 86.93 328 *e*P **P 05 34 19.3 -0.1**
LPG La Plagne 86.94 328 *e*P **P 05 34 19.3 -0.1**
comp=Z,6.9nm,0.6s,mb4.8
SSF Saint Saulge 86.96 331 *e*P **P 05 34 18.9 -0.6**
comp=Z,22nm,0.8s,mb5.1
FLN La Foliniere 86.98 334 *e*P **P 05 34 18.7 -0.9**
comp=Z,14nm,0.7s,mb5.0
FLN *e*R
comp=Z,228nm,20.0s
LDF La Druitiere 87.00 334 *e*P **P 05 34 18.9 -0.8**
comp=Z,48nm,1.1s,mb5.3
SMF Signal de Mont 87.17 331 *e*P **P 05 34 19.9 -0.7**
comp=Z,18nm,0.9s,mb5.0
GRR Gorron 87.44 334 *e*P **P 05 34 21.4 -0.4**
MBDF Montbardon 87.55 328 *e*P **P 05 34 22.1 -0.3**
BGF Bois d'Agland 87.63 331 *e*P **P 05 34 22.4 -0.3**
ORIF Oris-en-Rattie 87.77 329 *e*P **P 05 34 22.7 -0.7**
comp=Z,5.0nm,0.7s,mb4.6
ORIF *e*R
comp=Z,98nm,19.5s
SBF Sospel 87.95 327 *e*P **P 05 34 23.0 -1.4**
TCF Toulx Ste Croi 88.10 331 *e*P **P 05 34 25.0 0.0**

PGF Pioggiola 88.31 325 *e*P **P 05 34 25.0 -1.1**
comp=Z,13nm,0.8s,mb4.9
VIVF Saint-Julien-l 88.31 329 *e*P **P 05 34 25.2 -0.9**
KSU1 Kansas State U 88.51 40 *e*P **P 05 34 26.6 -0.5**
FRF La Foret Royal 88.54 327 *e*P **P 05 34 26.4 -0.8**
comp=Z,11nm,0.8s,mb4.9
SMRF Simiane la Rot 88.66 328 *e*P **P 05 34 27.2 -0.5**
MFF Saint Martin d 88.71 333 *e*P **P 05 34 27.8 -0.1**
comp=Z,20nm,1.0s,mb5.1
LMR La Mourre 88.78 327 *e*P **P 05 34 27.5 -0.8**
comp=Z,3.6nm,0.6s,mb4.6
AMTX Amarillo 88.87 46 *e*P **P 05 34 28.2 -0.8**
comp=Z,6.5nm,0.8s,mb5.0
GDL2 Guadalupe Moun 89.20 49 P **P 05 34 30.8 +0.2**
CAF Calviac 89.30 331 *e*P **P 05 34 30.8 +0.1**
MTLF Montolieu 90.56 330 *e*P **P 05 34 36.5 -0.2**
comp=Z,21nm,1.2s,mb5.0
EPF Esparros 91.56 331 *e*P **P 05 34 40.8 -0.5**
TXAR Lajitas Array 91.64 51 P **P 05 34 42.5 +0.5**
comp=Z,1.6nm,0.7s,mb4.5,baz=295,slow=3.6,SNR=21
TXAR PP PP 05 38 23.5 +0.5
comp=Z,0.8nm,1.0s,baz=284,slow=5.2,SNR=4.5
TXAR Lajitas Array 91.64 51 P **P 05 34 42.5 +0.5**
TXAR PP PP 05 38 23.5 +0.5
CCM Cathedral Cave 91.98 37 *e*P **P 05 34 43.9 +0.5**
comp=Z,19nm,1.2s,mb5.3
ETSF Etsaut 92.02 331 *e*P **P 05 34 43.7 +0.3**
comp=Z,17nm,1.0s,mb5.0
JCT Junction City 93.15 48 *e*P **P 05 34 49.0 +0.1**
comp=Z,7.9nm,0.9s,mb5.1
ESDC Sonseca Array 96.09 332 LR LR 06 20 59.0
comp=Z,103nm,20.4s,MS4.3,baz=105,slow=37
KMBO Kilima Mbogo 99.82 276 P **P 05 35 19.1 -0.6**
comp=Z,0.6nm,0.5s,mb4.3,baz=69,slow=24,SNR=3.2
VNDA Vanda 115.41 175 PKP PKPdf 05 40 17.1 -1.2
comp=Z,0.5nm,0.6s,baz=344,slow=7.6,SNR=4.4
VNDA Vanda 115.41 175 PKIKP PKPdf 05 40 17.2 -1.2
VNDA pmax pmax
comp=Z,1.0nm,0.6s
MAW Mawson 118.85 205 PKP PKPdf 05 40 22.8 -2.4
comp=Z,3.4nm,1.1s,baz=249,slow=7.5,SNR=4.1
MAW Mawson 118.85 205 PKIKP PKPdf 05 40 22.8 -2.4
MAW pmax pmax
comp=Z,3.0nm,1.2s
DBIC Dimbokro 124.62 314 PKP PKPdf 05 40 36.7 -1.0
comp=Z,2.0nm,0.6s,baz=248,slow=8.9,SNR=6.5
DBIC Dimbokro 124.62 314 PKIKP PKPdf 05 40 36.7 -1.0
DBIC pmax pmax
comp=Z,2.0nm,0.6s
DBIC Dimbokro 124.62 314 PKP PKPdf 05 40 36.7 -1.0
SDV Santo Domingo 126.46 37 *e*PKPdf PKPdf 05 40 38.1 -3.0
SNAA Sanae 140.34 198 *e* 05 40 56.2
SNAA Sanae 140.34 198 PKhKP 05 40 53.6
comp=Z,0.7nm,0.8s,baz=96,slow=3.9,SNR=9.7
SNAA Sanae 140.34 198 *i* PKHKP 05 40 53.6
SNAA pmax pmax
comp=Z,1.0nm,0.9s
SNAA Sanae 140.34 198⇓*i* PKPdf 05 40 52.6
SNAA *e*PKPpre 05 40 55.8
SNAA *e* 05 40 56.2
VNA2 Neumayer--Watz 141.94 197 *e* PKPdf 05 41 05.0 -3.3
VNA2 Neumayer--Watz 141.94 197⇑*i* PKPdf 05 41 01.3
VNA2 *e* 05 41 05.0
VNA3 Neumayer Olymp 142.23 196 *e* PKPdf 05 41 05.5 -3.3
VNA3 Neumayer Olymp 142.23 196⇑*i* PKPdf 05 41 02.0
VNA3 *e* 05 41 05.5
VNA1 Neumayer--Stat 142.34 197 *e* PKPdf 05 41 06.6 -2.4
VNA1 Neumayer--Stat 142.34 197⇑*i* PKPdf 05 41 03.2
VNA1 *e* 05 41 06.6
SAML Samuel 145.51 41 *e*PKPdf PKPdf 05 41 13.1 -3.0
LPAZ La Paz 148.37 56 PKPbc PKPdf 05 41 22.2 +1.5
comp=Z,6.0nm,0.8s,baz=4.3,slow=4.0,SNR=7.8
LPAZ La Paz 148.37 56 PKP2 PKPab 05 41 22.2 -3.4
LPAZ pmax pmax
comp=Z,6.0nm,0.8s
BDFB Brasilia 157.63 17 PKPbc PKPdf 05 41 42.4 +8.4
comp=Z,2.8nm,1.1s,baz=207,slow=15,SNR=3.1
BDFB PKPab PKPab 05 42 02.8 -1.8
comp=Z,2.7nm,0.7s,baz=345,slow=7.2,SNR=3.0
BDFB Brasilia 157.63 17 PKP2 PKPab 05 42 02.8 -1.8
BDFB pmax pmax
comp=Z,3.0nm,0.7s
CPUP Villa Florida 162.54 56 PKPab PKPab 05 42 28.2 +2.6
comp=Z,4.8nm,1.2s,baz=332,slow=2.1,SNR=2.1
CPUP Villa Florida 162.54 56 PKP2 PKPab 05 42 28.2 +2.6
CPUP pmax pmax
comp=Z,5.0nm,1.2s

IDC ***24*** *05:32:50.1±2.7,23.83S×179.84E,h484km±25km,mb3.2/3, mb1 3.6/4,mb1mx3.2/13,Error ellipse: s-maj=41.2km s-min=26.9km az=170.0*
NEIC ***24*** *05:32:50.1±3.8,23.98S×179.91E,h482km±40km,mb4.3/2, Error ellipse: s-maj=40.3km s-min=19.9km az=208.0*
ISC 24 05:32:45.1±5.5,**23.7S**±0.1×**180.0E**±0.2,**h440**km±59km,**n8,** σ1§**11**/9,**mb3.8**/5,**2D,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
URZ	**Urewera**	**14.77**	**189**	P		**P**	**05 35 54.4**	**-1.0**
	3.2nm,0.3s,baz=277,slow=5.6,SNR=14							
URZ				S		**S**	**05 38 30.1**	**+1.2**
	0.9nm,0.3s,baz=191,slow=15,SNR=8.3							
CTAO	**Charters Tower**	**31.47**	**270**	*e*P		**P**	**05 38 32.2**	**+1.9**
	6.1nm,0.4s,mb4.3							
ASAR	**Alice Springs**	**42.07**	**260**	P		**P**	**05 39 58.3**	**+0.2**
	1.5nm,0.8s,mb3.4,baz=94,slow=7.0,SNR=16							
ASAR				ScP			05 44 45.3	
	0.5nm,0.8s,baz=112,slow=3.4,SNR=4.9							
WRAB	**Tennant Creek**	**42.41**	**266**	*e*P		**P**	**05 40 00.5**	**-0.4**
	3.6nm,0.6s,mb3.9							
WRA	**Warramunga Arr**	**42.42**	**266**	P		**P**	**05 39 59.6**	**-1.3**
	2.0nm,0.4s,mb3.8,baz=97,slow=8.4,SNR=95							
WRA				ScP			05 44 46.8	
	0.6nm,0.9s,baz=92,slow=4.2,SNR=4.1							
VNA3	**Neumayer Olymp**	**85.12**	**177**	⇓*i*		**P**	**05 44 32.6**	**-1.0**
VNA2	**Neumayer--Watz**	**85.54**	**178**	⇓*i*		**P**	**05 44 34.9**	**-0.7**
TXAR	**Lajitas Array**	**90.30**	**58**	P		**P**	**05 45 00.3**	**+1.3**
	0.5nm,0.8s,mb3.4,baz=202,slow=6.7,SNR=6.4							

BJI ***24*** *05:37:16.8,62.15S×154.68E,h12km,mB5.3,Ms5.0, Msz4.8*
SYO ***24*** *05:37:16.8,62.07S×155.29E,h10km,MB5.0,MS4.8*
IDC ***24*** *05:37:17.2±0.6,62.09S×154.42E,mb4.5/10,mb1 4.6/10, mb1mx4.6/11,ML5.1/1,MS4.8/12,Ms1 4.8/12, ms1mx4.6/15,Error ellipse: s-maj=29.1km s-min=16.3km az=85.0*
HRVD ***24*** *05:37:18.5±0.2,62.16S×154.96E,h12km,MW5.4/71, Centroid moment Tensor Solution. LP body waves: s63,c113;Mantle waves: s71,c131; Half duration: 1§3 Moment tensor: Scale 10¹⁷Nm; Mrr-0.18±.03; Mθθ 1.41±.03; Mϕϕ-1.24±.03; Mrθ-0.29±.06; Mϕθ-1.05±.03; Mϕr-0.02±.07; Best double couple: Mw1.71×10¹⁷ NP1: ϕs334°,δ81°,λ2°. NP2:ϕs244°,δ88°,λ171°. Principal axes: T 1.81, Plg8°, Azm199°; N -.2, Plg81°, Azm50°; P -1.61, Plg5°, Azm290°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***24*** *05:37:18.5±0.4,62.09S×154.62E,h10km,mb5.0/9, MS4.7/4 Error ellipse: s-maj=15.8km s-min=8.8km az=86.0*
ISC 24 05:37:17.0±0.5,**62.08S**±0.06×**154.5E**±0.3,**h10**km,**n81,** σ1§**12**/34,**mb4.7**/14,**MS4.7**/17,**7C-4D,Balleny Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VNDA	**Vanda**	**15.69**	**174**	Pn		**P**	**05 40 50.1**	**-9.2**
	7.4nm,0.3s,baz=344,slow=13,SNR=366							
VNDA				LR		LR	05 46 15.1	
	comp=Z,8μm,19.5s,baz=355,slow=34							
SBA	**Scott Base**	**16.32**	**171**	*e*P		**P**	**05 40 58.7**	**-8.6**
	112nm,0.8s							
CASY	**Casey**	**19.27**	**238**	*e*P		**P**	**05 41 43.4**	**-0.6**
	227nm,1.7s							
TAU	**Tasmania Unive**	**19.67**	**344**	P		**P**	**05 41 49.0**	**+0.4**
	44nm,1.1s							
RPZ	**Rata Peaks**	**20.82**	**36**	P		**P**	**05 41 59.3**	**-1.5**
	9.6nm,0.9s,baz=178,slow=16,SNR=3.7							
RPZ				LR		LR	05 48 40.6	
	comp=Z,5μm,18.2s,MS4.9,baz=184,slow=33							
URZ	**Urewera**	**27.61**	**41**	LR		LR	05 52 58.2	

comp=Z,2µm,19.9s,MS4.6,baz=188,slow=34
QSPA South Pole Qui 28.01 180⇑ iP P 05 43 07.5 -1.8
59nm,0.9s,mb5.2
STKA Stephens Creek 31.35 339 P P 05 43 38.0 -1.6
6.6nm,1.1s,mb4.4,baz=172,slow=9.1,SNR=6.1
STKA LR LR 05 55 48.9
comp=Z,773nm,18.6s,MS4.4,baz=161,slow=36
MAW Mawson 35.92 221 P P 05 44 19.4 +0.7
23nm,1.2s,mb5.0,baz=115,slow=10,SNR=29
MAW LR LR 05 59 11.7
comp=Z,4µm,18.6s,MS5.2,baz=118,slow=37
NWAO Narrogin (SRO) 37.59 303 P P 05 44 33.4 +0.3
38nm,1.4s,mb4.9
NWAO LR LR
comp=Z,1µm,21.0s,MS4.8
ASAR Alice Springs 40.87 330 P P 05 45 00.2 -0.3
comp=Z,5.1nm,1.0s,mb4.1,baz=164,slow=8.7,SNR=20
ASAR PcP PcP 05 47 03.0 +1.2
comp=Z,1.8nm,0.7s,baz=157,slow=3.7,SNR=4.4
ASAR LR LR 05 59 34.2
comp=Z,722nm,19.4s,MS4.5,baz=161,slow=33
SYO Syowa Base 41.27 210 ⇓P P 05 45 02.9 -0.4
SYO Syowa Base 41.27 210 ⇓pP pP 05 45 05.3 -1.0
CTA Charters Tower 42.35 348 P P 05 45 12.8 +0.2
comp=Z,5.6nm,0.8s,mb4.2,baz=173,slow=5.5,SNR=7.0
CTA LR LR 05 59 49.4
comp=Z,1µm,20.1s,MS4.9,baz=186,slow=32
CTA Charters Tower 42.35 348 P P 05 45 12.8 +0.2
CTA LR LR 05 59 49.4
CTAO Charters Tower 42.35 348 eP P 05 45 12.3 -0.3
comp=Z,14nm,1.0s,mb4.6
CTAO LR LR
comp=Z,1µm,20.0s,MS4.7
WRA Warramunga Arr 44.37 332 P P 05 45 28.5 -0.5
comp=Z,6.5nm,1.1s,mb4.3,baz=167,slow=7.0,SNR=19
WRA PcP PcP 05 47 14.1 +0.5
comp=Z,2.9nm,0.8s,baz=170,slow=3.0,SNR=8.1
WRA LR LR 06 01 36.2
comp=Z,861nm,19.5s,MS4.7,baz=140,slow=33
WRAB Tennant Creek 44.38 332 eP P 05 45 28.0 -1.1
comp=Z,24nm,1.1s,mb4.8
WRAB LR LR
comp=Z,414nm,20.0s,MS4.3
MAIT Maitri 44.90 197⇑ iP P 05 45 31.8 -0.8
SNAA Sanae 45.61 190 e P 05 45 43.2 +5.0
SNAA Sanae 45.61 190 P P 05 45 36.5 -1.7
comp=Z,4.0nm,0.8s,mb4.4,baz=172,slow=8.4,SNR=31
SNAA Sanae 45.61 190⇑ iP P 05 45 36.2 -2.0
SNAA e 05 45 43.2
SNAA e 05 47 28.3
VNA3 Neumayer Olymp 46.50 187 e P 05 45 52.6 +7.3
VNA3 Neumayer Olymp 46.50 187⇑ iP P 05 45 45.6 +0.3
VNA3 e 05 45 52.6
VNA3 e 05 47 41.7
VNA2 Neumayer--Watz 46.67 188 e P 05 45 53.8 +7.2
VNA2 Neumayer--Watz 46.67 188⇑ iP P 05 45 46.8 +0.2
VNA2 e 05 45 53.8
VNA2 e 05 47 42.6
VNA1 Neumayer--Stat 47.00 188 e P 05 45 57.2 +8.0
VNA1 Neumayer--Stat 47.00 188⇑ iP P 05 45 50.0 +0.8
VNA1 e 05 45 57.2
VNA1 e 05 47 44.5
MBWA Marble Bar 47.35 314 eP P 05 45 52.4 -0.3
comp=Z,18nm,1.1s,mb4.9
MBWA LR LR
comp=Z,1µm,22.0s,MS4.9
FITZ Fitzroy Crossi 48.35 322 LR LR 06 05 14.7
comp=Z,517nm,18.1s,MS4.5,baz=30,slow=35
PMG Port Moresby 52.85 351 LR LR 06 04 21.8
comp=Z,1µm,21.6s,MS5.0,baz=177,slow=31
SUR Sutherland 78.74 219 ePcP PcP 05 49 28.8 -1.3
QIZ Qiongzhong 88.23 318 P P **05 50 11.0 +1.7**
QIZ S S 06 00 53.1 +1.2
QIZ SS SS 06 06 41.8 -2.7
QIZ LR LR
comp=E,555nm,22.4s
QIZ LR LR
comp=Z,374nm,28.8s
CPUP Villa Florida 88.26 152 P P **05 50 10.2 +0.8**
comp=Z,2.0nm,0.7s,mb4.4,baz=32,slow=6.2,SNR=4.4
CMAR Chiang Mai Arr 91.42 308 P P **05 50 27.2 +3.0**
comp=Z,0.5nm,0.3s,mb4.2,baz=4.6,slow=30,SNR=1.0
CMAR LR LR 06 25 45.1
comp=Z,244nm,21.0s,MS4.6,baz=160,slow=32
LPAZ La Paz 94.97 139 P P **05 50 42.8 +2.2**
comp=Z,1.9nm,0.3s,mb5.0,baz=177,slow=3.5,SNR=4.8
LPAZ LR LR 06 26 47.1
comp=Z,121nm,19.3s,MS4.4,baz=7.5,slow=31
KMI Kunming 96.22 314 eP P 05 50 47.1 +0.9
KMI XP sP 05 50 53.3 +2.9
KMI S S 06 02 03.9 +1.7
KMI XS 06 02 15.8
KMI SS SS 06 08 44.4 +6.2
KMI LR LR
comp=N,268nm,27.8s,MS4.7
KMI LR LR
comp=E,263nm,29.5s,MS4.7
KMI LR LR
comp=Z,409nm,27.8s,MS4.8
KMI Kunming 96.22 314 eP P 05 50 47.1 +0.9
comp=Z,10.0nm,0.8s,mb5.3
KMI sP sP 05 50 53.3 +2.9
KMI PP PP 05 54 48.6 +6.8
KMI S S 06 02 03.9 +1.7
KMI sS 06 02 15.7
KMI SS SS 06 08 44.4 +6.2
KMI LR LR
comp=Z,410nm,27.8s,MS4.8
NJ2 Nanjing 98.11 330 eP P 05 50 55.6 +1.1
NJ2 AP pP 05 51 00.3 +2.6
NJ2 XP sP 05 51 02.5 +3.7
NJ2 PP PP 05 54 59.0 +2.4
NJ2 S S 06 02 21.0 +3.0
NJ2 XS 06 02 29.0
NJ2 LR LR
comp=Z,270nm,22.1s,MS4.7
CN2 Changchun 108.09 338 ePDIF Pdif 05 51 38.0 -0.7
CN2 ePP PP 05 56 13.4 +2.1
CN2 LR LR
comp=N,500nm,20.0s,MS5.3
CN2 LR LR
comp=E,600nm,20.0s,MS5.3
CN2 LR LR
comp=Z,700nm,22.0s,MS5.2
BTO Baotou 108.44 326 ePKP 05 55 43.0
WMQ Urumqi 118.33 311 ePKP PKPdf 05 56 05.0 -1.9
TXAR Lajitas Array 120.96 85 PKP PKPdf 05 56 08.8 -3.6
comp=Z,0.3nm,0.8s,baz=45,slow=25,SNR=2.8
NVAR Mina Array Bea 121.88 67 PKP PKPdf 05 56 12.8 -1.1
comp=Z,1.9nm,0.7s,baz=216,slow=6.0,SNR=10
DBIC Dimbokro 122.63 205 PKP PKPdf 05 56 14.8 -1.0
comp=Z,2.0nm,0.8s,baz=221,slow=9.0,SNR=3.6
ZAL Zalesovo 127.95 315 PKP PKPdf 05 56 24.1 -0.9
comp=Z,1.0nm,0.3s,baz=252,slow=3.5,SNR=4.4
ISCO Idaho Springs 128.67 76 PKPdf PKPdf 05 56 22.9 -4.0
PDAR Pinedale Array 129.26 71 PKP PKPdf 05 56 27.2 -0.7
comp=Z,5.3nm,1.4s,slow=1.5,SNR=3.1
BVAR Borovoye Array 132.37 306 PKP PKPdf 05 56 32.1 -1.4
comp=Z,0.6nm,0.6s,baz=153,slow=3.3,SNR=3.2
RSSD Black Hills 132.81 74 PKPdf PKPdf 05 56 30.4 -4.2
ZRNK Zerenda 132.84 305 PKPdf PKPdf 05 56 29.6 -4.8
ILAR Eielson Array 133.80 30 PKP PKPdf 05 56 36.0 +0.3
comp=Z,1.8nm,0.9s,baz=259,slow=2.4,SNR=12
WCI Wyandotte Cave 136.44 94 ePKPdf PKPdf 05 56 36.3 -5.1
BRTR Keskin Array B 138.40 266 PKP PKPdf 05 56 46.5 +1.5
comp=Z,0.5nm,0.6s,baz=180,slow=3.7,SNR=4.2
INK Inuvik 139.90 33 PKP PKPdf 05 56 44.9 -2.0
comp=Z,3.4nm,1.0s,baz=212,slow=0.7,SNR=6.2
INK Inuvik 139.90 33 PKP PKPdf 05 56 44.9 -2.0
YKA Yellowknife Ar 141.71 49 PKP PKPdf 05 56 48.8 -1.2
comp=Z,1.3nm,0.8s,baz=233,slow=2.7,SNR=3.0
CFR Carcaliu 145.19 266 ⇓iP PKPbc 05 56 54.1 +0.2
VAE Valguarnera 145.26 244 PKPbc PKPbc 05 56 58.0 +3.6
comp=Z,1.4nm,0.3s,baz=58,slow=18,SNR=2.4
QUA2 Belchertown 146.13 104 PKPdf PKPdf 05 56 52.5 -5.9
VRI Vrincioaia 146.36 266⇑ iP PKPbc 05 56 58.3 +1.5
ERC Erice 146.50 242 ePKP PKPdf 05 56 59.0 -0.1
NCB Newcomb 146.58 100 ePKPbc PKbc 05 56 55.4 -2.0
MGR Morigerati 146.99 248 ePKP PKPdf 05 56 58.4 -1.4
SGO Sicignano 147.44 248 ePKP PKPdf 05 57 00.4 -0.2
AKASG Malin Array Be 148.62 274 PKPbc PKPdf 05 57 02.1 0.0
comp=Z,3.9nm,0.8s,baz=94,slow=2.2,SNR=14
MNS Montasola 150.07 247 ePKP PKPdf 05 57 07.0 +2.3
NRCA Norcia 150.25 248 ePKP PKPdf 05 57 07.9 +3.0
PKSM Moragy 150.39 258⇓ eP PKPdf 05 57 07.9 +2.8
RHK1 Bakonya 150.56 257 eP PKPdf 05 57 08.5 +3.2
KWP Kalwaria 150.95 267 ePKPab PKPab 05 57 17.4 -0.9
OJC Ojcow 152.72 265 ePKP PKPdf 05 57 08.0 -0.3
OJC Ojcow 152.72 265 ePKP PKPdf 05 57 08.0 -0.3
ESDC Sonseca Array 154.01 220 PKPbc PKPdf 05 57 15.5 +5.0
comp=Z,1.6nm,0.8s,baz=142,slow=0.7,SNR=9.6
GERES GERESS Array B 154.59 257 PKP PKPdf 05 57 12.2 +1.2
comp=Z,0.1nm,0.4s,slow=21,SNR=5.0
GERES PKPbc PKPdf
comp=Z,1.5nm,0.8s,baz=180,slow=2.7,SNR=8.9 05 57 20.9 +10
KHC Kasperske Hory 154.85 257 ePKP PKPdf 05 57 30.0 +19
KHC x x 05 57 31.0
FINES FINESS Array B 156.10 292 PKPab PKPab 05 57 37.9 -1.7
comp=Z,1.9nm,0.9s,baz=270,slow=3.8,SNR=3.5
CLL Collm 156.63 260 ePKP2 PKPab 05 57 41.0 -1.2
CLL *i *PKP2 05 57 53.3
CLL Collm 156.63 260 P PKPdf 05 57 04.0 -10
CLL e 05 57 41.0
CLL i 05 57 53.3
ARCES ARCESS Array B 158.45 312 PKPab PKPab 05 57 49.2 -0.2
comp=Z,4.9nm,0.9s,baz=80,slow=15,SNR=2.4
ARCES ARCESS Array B 158.45 312 PKPab PKPab 05 57 49.2 -0.2

*NEIC **24** 05:57:15.4±2.4,6.75N×73.04W,h161km±24km,mb4.0/1, Error ellipse: s-maj=38.9km s-min=13.0km az=69.0*
*IDC **24** 05:57:18.6±26.0,6.78N×73.12W,h188km±218km,mb3.4/5, mb1 3.6/5,mb1mx3.2/20,Error ellipse: s-maj=103.0km s-min=48.0km az=141.0*
ISC 24 05:57:15.1±3.2,6.8N±0.2×72.9W±0.3,h178km±32km,n10, σ0s57/10,mb3.7/6,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDV	**Santo Domingo**	**3.05**	**47**	*e*Pn	**P**	**05 58 05.7**	**+0.7**
SDV				*e*Sn	**S**	**05 58 42.7**	**-0.5**
SAML	**Samuel**	**18.38**	**148**	*e*P	**P**	**06 01 19.0**	**-0.2**
CCM	**Cathedral Cave**	**35.30**	**335**	*e*P	**P**	**06 03 54.9**	**-0.1**
	1.8nm,0.6s,mb3.9						
TXAR	**Lajitas Array**	**36.66**	**312**	P	**P**	**06 04 06.4**	**-0.1**
	0.2nm,0.5s,mb3.0,baz=130,slow=9.8,SNR=3.8						
ULM	**Lac du Bonnet**	**47.40**	**340**	P	**P**	**06 05 32.5**	**-0.7**
	1.6nm,0.4s,mb4.0,baz=118,slow=3.2,SNR=3.0						
SCHQ	**Schefferville**	**48.15**	**5**	P	**P**	**06 05 39.9**	**+0.9**
	3.0nm,0.9s,mb3.9,baz=81,slow=17,SNR=2.5						
YKA	**Yellowknife Ar**	**63.38**	**340**	P	**P**	**06 07 26.8**	**-0.7**
	0.7nm,0.6s,mb3.7,baz=135,slow=6.7,SNR=4.3						
YKA	**Yellowknife Ar**	**63.38**	**340**	P	**P**	**06 07 26.8**	**-0.7**
INK	**Inuvik**	**73.14**	**340**	P	**P**	**06 08 28.2**	**+0.6**
	0.8nm,0.9s,mb3.5,baz=190,slow=3.8,SNR=2.6						
WRA	**Warramunga Arr**	**150.53**	**241**	PKPbc	PKPdf	06 16 48.0	+7.1
	0.2nm,0.3s,baz=108,slow=2.7,SNR=6.9						

*NEIC **24** 06:18:43.5,37.64S×176.09E,h283km, After WEL.*
WEL 24 06:18:43.6±0.2,37.50S×176.04E,h272km±3km,ML4.0/5, 1C,Error ellipse: s-maj=5.4km s-min=4.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**1.14**	**132**	*e*P	P	06 19 21.8	-0.2
URZ	**Urewera**	**1.14**	**132**	PN	P	06 19 21.8	-0.2
URZ				SN	S	06 19 51.2	-0.7
MWZ	**Matawai**	**1.45**	**126**	P	P	06 19 24.4	+0.4
MWZ				S	S	06 19 55.7	+0.3
MWZ	**Matawai**	**1.45**	**126**	PN	P	06 19 25.9	-0.1
MWZ				SN	S	06 19 55.2	-0.2
BKZ	**Black Stump Fm**	**1.71**	**168**	P	P	06 19 25.8	0.0
BKZ				S	S	06 19 57.9	-0.8
BKZ	**Black Stump Fm**	**1.71**	**168**	⇑PN	P	06 19 25.8	0.0
BKZ				SN	S	06 19 57.9	-0.8
FWVZ	**Far West T-bar**	**1.80**	**192**	PN	P	06 19 26.9	+0.4
PUZ	**Puketiti**	**1.85**	**109**	*e*P	P	06 19 26.6	-0.4
PUZ	**Puketiti**	**1.85**	**109**	PN	P	06 19 26.6	-0.3
PUZ				SN	S	06 19 59.3	-1.4
MOVZ	**Moawhango**	**1.92**	**187**	P	P	06 19 27.2	-0.3
MOVZ	**Moawhango**	**1.92**	**187**	PN	P	06 19 27.2	-0.3
MOVZ				SN	S	06 20 00.7	-1.0
KNZ	**Kokohu**	**2.00**	**140**	PN	P	06 19 27.6	-0.5
KNZ				SN	S	06 20 01.5	-1.2
TSZ	**Takapari Road**	**2.56**	**181**	P	P	06 19 32.2	-1.3
TSZ	**Takapari Road**	**2.56**	**181**	PN	P	06 19 32.2	-1.2
MRZ	**Mangatainoka R**	**3.18**	**186**	P	P	06 19 37.6	-2.2
MRZ	**Mangatainoka R**	**3.18**	**186**	PN	P	06 19 37.6	-2.2
MRZ				SN	S	06 20 20.5	-3.1
BFZ	**Birch Farm**	**3.19**	**177**	P	P	06 19 38.1	-1.8
BFZ	**Birch Farm**	**3.19**	**177**	PN	P	06 19 38.1	-1.8
KIW	**Kapiti Island**	**3.47**	**194**	P	P	06 19 40.6	-2.4
KIW	**Kapiti Island**	**3.47**	**194**	PN	P	06 19 40.5	-2.5
KIW				SN	S	06 20 26.0	-3.3
CAW	**Cannon Point**	**3.69**	**191**	P	P	06 19 42.7	-2.7
CAW	**Cannon Point**	**3.69**	**191**	PN	P	06 19 42.5	-2.8
CAW				SN	S	06 20 30.1	-3.4
MRW	**Makara Radio**	**3.87**	**195**	P	P	06 19 44.7	-2.8
MRW	**Makara Radio**	**3.87**	**195**	PN	P	06 19 44.6	-2.9
MRW				SN	S	06 20 33.5	-3.7
MSWZ	**Moikau Station**	**3.96**	**189**	SN	S	06 20 35.0	-4.0
NNZ	**Nelson**	**4.25**	**208**	*e*P	P	06 19 48.5	-3.3
NNZ	**Nelson**	**4.25**	**208**	PN	P	06 19 48.3	-3.5
NNZ				SN	S	06 20 40.9	-4.1
TUWZ	**Tuamarina**	**4.25**	**202**	PN	P	06 19 48.6	-3.2
TUWZ				SN	S	06 20 40.7	-4.3
QRZ	**Quartz Range**	**4.30**	**218**	*e*P	P	06 19 49.1	-3.3
QRZ	**Quartz Range**	**4.30**	**218**	PN	P	06 19 49.1	-3.3
BSWZ	**Blackbirch Sta**	**4.53**	**201**	P	P	06 19 52.1	-3.0
BSWZ	**Blackbirch Sta**	**4.53**	**201**	PN	P	06 19 52.1	-3.0
THZ	**Tophouse**	**4.90**	**209**	*e*P	P	06 19 55.8	-3.6
THZ	**Tophouse**	**4.90**	**209**	PN	P	06 19 55.4	-4.1
THZ				SN	S	06 20 54.1	-4.6
MQZ	**McQueen's Vall**	**6.72**	**201**	SN	S	06 21 30.5	-8.1

CASC 24 06:45:16.2±2.7,11.61N×85.86W,h22km±11km,MD3.6, 4C-3D,Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APON	**Apoyo**	**0.36**	**327**⇓	*e*P	Pb	06 45 22.9	-1.0
APON				*e*S	Sb	06 45 28.4	-0.8
MASN	**Masaya**	**0.47**	**323**	*e*P	Pb	06 45 24.8	-0.9
TICN	**Ticuantepe**	**0.55**	**319**	*e*P	Pb	06 45 26.3	-0.8
CRUN	**El Crucero**	**0.56**	**311**	*e*P	Pb	06 45 26.9	-0.4
CRUN				*e*S	Sb	06 45 35.9	+1.0
WILN	**Americas 2**	**0.63**	**330**⇓	*e*P	Pb	06 45 27.6	-0.8
MGAN	**Managua**	**0.65**	**325**⇑	*e*P	Pb	06 45 28.0	-0.8
MGAN				*e*P		06 45 28.1	
MGAN				*e*S	Sb	06 45 37.9	+0.5
XAVN	**Gruta Xavier**	**0.70**	**320**	*e*P	Pb	06 45 29.2	-0.3
APYN	**Apoyeque**	**0.78**	**322**⇓	*e*P	Pb	06 45 30.4	-0.6
APYN				*e*S	Sb	06 45 41.4	+0.3
PYTN	**Playitas**	**0.94**	**348**	*e*P	Pb	06 45 33.7	+0.1
PYTN				*e*S	Sb	06 45 47.4	+1.7
MOMJ	**Momotombo**	**1.03**	**320**⇑	*e*P	Pb	06 45 34.3	-0.9
MOMJ				*e*S	Sb	06 45 48.3	0.0
MIRN	**Miramar**	**1.17**	**315**⇑	*e*P	Pn	06 45 36.8	-0.6
MIRN				*e*S	Sb	06 45 56.6	+4.3
CNGN	**Cerro Negro**	**1.20**	**317**⇑	*e*P	Pn	06 45 37.1	-0.8
CNGN				*e*S	Sb	06 45 56.1	+2.9
LEON	**Leon**	**1.28**	**308**	*e*P	Pn	06 45 38.7	-0.4
LEON				*e*S	Sb	06 45 54.9	-0.7
QUIN	**Quiabu**	**1.60**	**340**	*e*P	Pn	06 45 43.1	-0.4
SOMN	**Somoto**	**1.94**	**338**	*e*P	Pn	06 45 50.2	+1.8

*IDC **24** 07:00:04.4±1.7,5.12S×152.70E,mb3.6/5,mb1 3.8/5, mb1mx3.7/14,MS3.7/1,Ms1 3.7/1,ms1mx2.7/21,Error ellipse: s-maj=71.9km s-min=28.2km az=125.0*

*NEIC **24** 07:00:14.0±2.7,5.09S×152.55E,h76km±21km,mb3.8/1, Error ellipse: s-maj=58.1km s-min=15.2km az=117.0*
ISC 24 07:00:12.2±3.3,5.2S±0.2×152.7E±0.3,h71km±28km,n9, σ0s46/9,mb3.3/6,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAB	**Rabaul**	**1.11**	**334**	*e*P	**P**	**07 00 32.2**	**-0.1**
PMG	**Port Moresby**	**6.86**	**232**	P	**P**	**07 01 52.7**	**+0.4**
PMG				*e*S	**S**	**07 03 09.5**	**-0.1**
WRAB	**Tennant Creek**	**23.06**	**229**	*e*P	**P**	**07 05 13.2**	**+1.0**
	3.5nm,0.8s,mb3.7						
WRA	**Warramunga Arr**	**23.07**	**229**	P	**P**	**07 05 11.6**	**-0.8**
	1.5nm,1.0s,mb3.3,baz=54,slow=9.7,SNR=8.1						
ASAR	**Alice Springs**	**25.76**	**223**	P	**P**	**07 05 37.8**	**-0.3**
	0.9nm,1.0s,mb3.2,baz=53,slow=9.5,SNR=8.5						
STKA	**Stephens Creek**	**28.49**	**200**	P	**P**	**07 06 02.8**	**-0.2**
	0.7nm,0.7s,mb3.3,baz=38,slow=15,SNR=2.6						
FITZ	**Fitzroy Crossi**	**29.34**	**242**	P	**P**	**07 06 10.7**	**+0.1**
	0.8nm,0.6s,mb3.5,baz=172,slow=1.5,SNR=4.4						
RPZ	**Rata Peaks**	**41.66**	**160**	LR	LR	07 21 05.3	
	comp=Z,99nm,18.5s,baz=49,slow=30						
ILAR	**Eielson Array**	**82.58**	**22**	P	**P**	**07 12 28.7**	**+0.2**
	0.1nm,0.5s,mb2.9,baz=258,slow=5.2,SNR=4.2						

*NIED **24** 07:04:00,37.30N×138.90E,h5km,Mw3.8 Best double couple: M0 5.55×10¹⁴ NP1:φ₀9°,δ59°,λ89°. NP2:φ₀192°, δ31°,λ92°.*
*IDC **24** 07:04:36.3±0.7,37.35N×138.50E,mb3.8/10,mb1 4.1/10, mb1mx3.9/23,Error ellipse: s-maj=28.0km s-min=19.9km az=100.0*
*NEIC **24** 07:04:38.2±0.4,37.36N×138.58E,h10km,Error ellipse: s-maj=17.0km s-min=6.2km az=111.0*
*JMA **24** 07:04:38.4,37.30N×138.89E,h12km±1km,M4.2 Broadband fault plane solution: P waves. NP1:φ₀203°, δ25°,λ79°. NP2:φ₀35°,δ65°,λ95°. Principal axes: T Plg69°, Azm315°; N Plg5°, Azm213°; P Plg20°, Azm121°; JMA Felt III J1.*
ISC 24 07:04:37.6±0.6,37.31N±0.03×138.84E±0.06,h14km±4km, n26,σ1s05/30,mb3.8/10,4C-3D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.15**	**114**	⇓P	**Pg**	**07 04 41.3**	**-0.3**
JHK				*e*S	**Sg**	**07 04 43.6**	**-0.6**
JIZZ	**Izumozaki**	**0.24**	**335**	⇑P	**Pg**	**07 04 44.4**	**+1.3**
JNS	**Sasagawa**	**0.63**	**37**	⇑P	**Pb**	**07 04 50.0**	**+0.1**
JNS				S	**Sb**	**07 04 58.6**	**+0.3**
JKT	**Katashina**	**0.64**	**149**	⇓P	**Pb**	**07 04 50.0**	**+0.1**
JKT				*e*S	**Sb**	**07 04 58.2**	**-0.2**
JGK	**Kuni**	**0.76**	**192**	P	**Pb**	**07 04 52.9**	**+0.8**
JSD	**Sado**	**0.86**	**328**	⇑P	**Pb**	**07 04 54.0**	**+0.2**
MAJO	**Matsushiro**	**0.92**	**214**⇑	*e*Pg	**Pg**	**07 04 55.3**	**-0.8**
MAT	**Matsushiro**	**0.92**	**214**	P	**Pb**	**07 04 55.3**	**+0.5**
MAT				S	**Sb**	**07 05 07.7**	**+1.1**
MAT	**Matsushiro**	**0.92**	**214**	P	**Pb**	**07 04 55.4**	**+0.6**
MAT	**Matsushiro**	**0.92**	**214**	*e*P	**Pb**	**07 04 55.0**	**+0.2**
MAT				*e*S	**Sb**	**07 05 08.0**	**+1.4**
JAG	**Ashikaga**	**1.01**	**151**	⇓P	**Pb**	**07 04 57.0**	**+0.6**
SONM	**Songino Array**	**25.93**	**304**	P	**P**	**07 10 08.2**	**-2.6**
	0.9nm,0.7s,mb3.4,baz=82,slow=8.7,SNR=3.5						
ILAR	**Eielson Array**	**50.36**	**32**	P	**P**	**07 13 34.8**	**-1.0**
	0.5nm,0.7s,mb3.6,baz=280,slow=7.4,SNR=6.7						
INK	**Inuvik**	**55.08**	**27**	P	**P**	**07 14 10.8**	**-0.1**
	2.3nm,1.0s,mb4.2,baz=265,slow=6.9,SNR=4.0						
WRA	**Warramunga Arr**	**57.10**	**185**	P	**P**	**07 14 24.0**	**-2.0**
	0.9nm,0.5s,mb4.1,baz=0.5,slow=7.6,SNR=28						
ASAR	**Alice Springs**	**60.83**	**185**	P	**P**	**07 14 51.1**	**-0.8**
	0.2nm,0.6s,mb3.4,baz=11,slow=12,SNR=3.2						
FINES	**FINESS Array B**	**67.60**	**331**	P	**P**	**07 15 34.0**	**-1.4**
	1.6nm,0.9s,mb4.0,slow=1.9,SNR=4.4						
FINES	**FINESS Array B**	**67.60**	**331**	P	**P**	**07 15 34.0**	**-1.4**
AKASG	**Malin Array Be**	**72.81**	**321**	P	**P**	**07 16 04.8**	**-2.5**
	0.4nm,0.5s,mb3.6,baz=47,slow=7.2,SNR=3.9						
HRY	**Holter Researc**	**75.15**	**42**	*e*P	**P**	**07 16 21.5**	**+0.6**
NVAR	**Mina Array Bea**	**76.45**	**52**	P	**P**	**07 16 29.7**	**+1.3**
	1.0nm,0.7s,mb3.9,baz=292,slow=6.3,SNR=9.4						
PDAR	**Pinedale Array**	**78.92**	**44**	P	**P**	**07 16 42.7**	**+0.7**
	1.0nm,0.8s,mb3.8,baz=304,slow=3.1,SNR=8.4						
PV10	**Paradox Valley**	**82.12**	**47**	*e*P	**P**	**07 17 00.3**	**+1.3**
TXAR	**Lajitas Array**	**91.56**	**51**	P	**P**	**07 17 46.5**	**+1.2**
	0.4nm,0.9s,mb3.8,baz=315,slow=1.8,SNR=4.6						
TXAR	**Lajitas Array**	**91.56**	**51**	P	**P**	**07 17 46.5**	**+1.2**
LPAZ	**La Paz**	**148.28**	**56**	PKPbc	PKPdf	07 24 25.1	+1.3
	1.4nm,0.2s,baz=183,slow=0.5,SNR=2.2						

JMA 24 07:06:00.2,37.30N×138.89E,h12km±1km,M2.4,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.11**	**117**	P	Pg	07 06 03.1	-0.2
JHK				S	Sg	07 06 05.3	-0.1
JIZZ	**Izumozaki**	**0.27**	**328**	*e*S	Sg	07 06 11.2	+1.2
JKT	**Katashina**	**0.60**	**152**	S	Sb	07 06 20.0	-0.4
JNS	**Sasagawa**	**0.62**	**33**	P	Pb	07 06 11.9	-0.6
JNS				*e*S	Sb	07 06 20.2	-0.6
JFY	**Yanaizu**	**0.66**	**80**	P	Pb	07 06 12.8	-0.3
JFY				*e*S	Sb	07 06 21.5	-0.4

*NIED **24** 07:06:00,37.30N×138.90E,h8km,Mw4.3 Best double couple: M0 3.31×10¹⁵ NP1:φ₀9°,δ58°,λ98°. NP2:φ₀174°, δ33°,λ78°.*
*BJI **24** 07:06:31.0,37.17N×139.28E,h43km,mB4.6,mb4.5, Ms4.1,Msz3.9*
*NEIC **24** 07:06:31.7±0.2,37.28N×138.77E,mb4.7/34, MW4.3(NIED),Error ellipse: s-maj=5.3km s-min=4.1km az=134.0*
NEIC Recorded [4 JMA] in Niigata, [2 JMA] in Gumma and [1 JMA] in Fukushima, Ishikawa, Miyagi, Nagano and Saitama Prefectures. Also recorded [2 JMA] on Sadoga-shima.
*JMA **24** 07:06:31.8,37.30N×138.89E,h12km±1km,M4.6 Broadband fault plane solution: P waves. NP1:φ₀205°, δ21°,λ100°. NP2:φ₀14°,δ69°,λ86°. Principal axes: T Plg66°, Azm277°; N Plg4°, Azm15°; P Plg24°, Azm107°; JMA Felt IV J1.*
*IDC **24** 07:06:37.1±2.2,37.29N×138.70E,h53km±20km,mb4.1/26, mb1 4.3/29,mb1mx4.3/31,ML4.0/2,MS3.6/1,Ms1 3.8/1, ms1mx2.5/35 Error ellipse: s-maj=15.9km s-min=10.2km az=83.0*
ISC 24 07:06:31.1±0.4,37.29N±0.03×138.82E±0.03,h19km±3km, h13km±.5km:pP-P,n145,σ0s98/144,mb4.5/63,MS3.7/2, 2C-4D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.16**	**104**	⇓P	**Pb**	**07 06 34.7**	**-1.0**
JHK				S	**Sb**	**07 06 36.9**	**-1.8**
JIZZ	**Izumozaki**	**0.26**	**340**	⇑P	**Pb**	**07 06 37.8**	**+0.7**
JIZZ				S	**Sb**	**07 06 42.8**	**+1.7**
JKT	**Katashina**	**0.62**	**146**	⇓P	**Pb**	**07 06 43.3**	**+0.1**
JKT				S	**Sb**	**07 06 51.5**	**+0.1**
JNS	**Sasagawa**	**0.66**	**37**	⇓P	**Pb**	**07 06 43.4**	**-0.4**
JNS				S	**Sb**	**07 06 51.9**	**-0.6**
JFY	**Yanaizu**	**0.72**	**80**	⇓P	**Pb**	**07 06 44.3**	**-0.5**
JFY				S	**Sb**	**07 06 53.0**	**-1.1**
MAJO	**Matsushiro**	**0.89**	**214**	*e*P	**Pb**	**07 06 48.7**	**+0.9**
MAT	**Matsushiro**	**0.89**	**214**	P	**Pb**	**07 06 48.7**	**+1.0**
MAT				S	**Sb**	**07 07 00.8**	**+1.6**
**M

NJ2	**Nanjing**	**17.23**	**258**	*e*P		**P**	**07 10 31.4**	**-0.9**
NJ2					AMB	AMB		
	comp=Z,20nm,0.5s							
TIA	**Tai'an**	**17.42**	**273**	*e*P		**P**	**07 10 37.8**	**+3.1**
BJI	**Beijing**	**17.89**	**286**	P		**P**	**07 10 42.4**	**+1.8**
BJI					AMB	AMB		
	comp=Z,24nm,0.9s							
BJI					LR	LR		
	comp=N,284nm,11.4s							
BJI					LR	LR		
	comp=E,278nm,11.4s							
BJI					LR	LR		
	comp=Z,69nm,11.6s							
BJI	**Beijing**	**17.89**	**286**	P		**P**	**07 10 42.4**	**+1.8**
	comp=Z,24nm,0.9s							
BJI				pP			07 10 45.7	
BJI				S		Sx	07 14 21.6	
BJT	**Baijiatuau**	**17.89**	**286**	*e*P		**P**	**07 10 42.4**	**+1.7**
	comp=Z,28nm,1.0s							
WHN	**Wuhan**	**21.36**	**259**	*e*P		**P**	**07 11 19.8**	**+0.2**
HHC	**Hu-ho-hao-te**	**21.42**	**288**	*e*P		**P**	**07 11 24.3**	**+4.2**
HHC					AMB	AMB		
	comp=Z,15nm,1.3s,mb4.2							
HHC					AMB	AMB		
	comp=Z,109nm,5.5s							
MA2	**Magadan**	**23.60**	**15**	*e*P		**P**	**07 11 40.8**	**-0.6**
	comp=Z,33nm,1.0s,mb4.7							
ENH	**Enshi**	**25.30**	**263**	*e*P		**P**	**07 11 56.9**	**-1.2**
	comp=Z,38nm,0.8s,mb5.0							
SONM	**Songino Array**	**25.93**	**304**	P		**P**	**07 12 03.2**	**-0.5**
	comp=Z,4.3nm,0.9s,mb4.0,baz=108,slow=7.8,SNR=11							
QIZ	**Qiongzhong**	**31.18**	**242**	P		**P**	**07 12 51.1**	**-0.3**
	comp=Z,94nm,1.6s,mb5.4							
KMI	**Kunming**	**32.96**	**259**	*e*P		**P**	**07 13 05.8**	**-1.1**
KMI				PP		PP	07 14 16.3	-1.1
KMI				S		**S**	**07 18 21.5**	**-1.5**
KMI				AMB		AMB		
	comp=Z,11nm,0.7s,mb4.9							
KMI				LR		LR		
	comp=N,158nm,14.2s,MS4.0							
KMI				LR		LR		
	comp=E,158nm,15.5s,MS4.0							
KMI				LR		LR		
	comp=Z,156nm,13.5s,MS3.9							
KMI	**Kunming**	**32.96**	**259**	*e*P		**P**	**07 13 05.8**	**-1.1**
	comp=Z,11nm,0.7s,mb4.9							
KMI				pP		pP	07 13 10.3	-2.1
KMI				sP		sP	07 13 12.2	-2.6
KMI				PP		PP	07 14 16.2	-1.2
KMI				S		**S**	**07 18 21.5**	**-1.5**
KMI				sS			07 18 29.3	
KMI				SS		SS	07 20 20.1	-2.8
KMI				LR		LR		
	comp=Z,160nm,13.5s,MS3.9							
WMQ	**Urumqi**	**38.87**	**296**	*e*P		**P**	**07 13 57.0**	**+0.1**
CMAR	**Chiang Mai Arr**	**39.57**	**253**	PcP		PcP	07 16 10.7	-0.1
	comp=Z,1.0nm,0.4s,baz=47,slow=2.2,SNR=4.3							
CMAR				LR		LR	07 32 23.0	
	comp=Z,75nm,18.3s,MS3.6,baz=70,slow=39							
ZAL	**Zalesovo**	**40.22**	**312**	P		**P**	**07 14 08.2**	**+0.1**
	comp=Z,0.9nm,0.6s,mb3.7,baz=360,slow=4.2,SNR=3.4							
ZAL				PcP		PcP	07 16 11.9	-0.6
	comp=Z,1.1nm,0.3s,baz=282,slow=1.3,SNR=3.2							
KURK	**Kurchatov**	**44.14**	**308**	*e*P		**P**	**07 14 37.7**	**-2.3**
	comp=Z,9.8nm,1.1s,mb4.5							
GUN	**Gumba**	**45.07**	**274**	*e*P		**P**	**07 14 47.6**	**-0.2**
	comp=Z,18nm,0.7s,mb5.0							
PKI	**Pulchoki**	**45.59**	**274**	*e*P		**P**	**07 14 51.0**	**-0.9**
	comp=Z,7.5nm,0.9s,mb4.6							
KKN	**Kakani**	**45.60**	**274**	*e*P		**P**	**07 14 51.7**	**-0.3**
	comp=Z,18nm,0.7s,mb5.1							
GKN	**Gorkha**	**46.02**	**275**	*e*P		**P**	**07 14 54.6**	**-0.7**
	comp=Z,20nm,0.8s,mb5.1							
KOLN	**Koldanda**	**46.94**	**275**	*e*P		**P**	**07 15 01.0**	**-1.6**
	comp=Z,14nm,1.1s,mb4.8							
IMA	**Indian Mountai**	**47.53**	**31**	*e*P		**P**	**07 15 06.9**	**+0.2**
	comp=Z,20nm,0.8s,mb5.2							
AAK	**Ala-Archa**	**48.54**	**297**	*e*P		**P**	**07 15 12.9**	**-2.0**
	comp=Z,1.6nm,0.9s,mb4.0							
BVAR	**Borovoye Array**	**48.86**	**312**	P		**P**	**07 15 16.7**	**-0.5**
	comp=Z,4.5nm,1.0s,mb4.5,baz=117,slow=6.6,SNR=7.5							
BRVK	**Borovoye**	**48.92**	**312**	*e*P		**P**	**07 15 16.9**	**-0.8**
MCK	**McKinley**	**49.58**	**34**	P		**P**	**07 15 22.2**	**-0.4**
	comp=Z,2.4nm,0.8s,mb4.3							
ILAR	**Eielson Array**	**50.39**	**32**	P		**P**	**07 15 28.1**	**-0.6**
	comp=Z,2.6nm,0.7s,mb4.4,baz=278,slow=6.6,SNR=29							
INK	**Inuvik**	**55.10**	**27**	P		**P**	**07 16 03.5**	**-0.4**
	comp=Z,5.6nm,0.8s,mb4.7,baz=276,slow=6.6,SNR=13							
INK	**Inuvik**	**55.10**	**27**	*e*P		**P**	**07 16 03.0**	**-0.9**
	comp=Z,3.2nm,0.7s,mb4.5							
FITZ	**Fitzroy Crossi**	**56.47**	**195**	P		**P**	**07 16 14.2**	**-0.3**
	comp=Z,1.4nm,0.6s,mb4.2,baz=56,slow=11,SNR=3.4							
WRAB	**Tennant Creek**	**57.07**	**185**	*e*P		**P**	**07 16 15.9**	**-2.8**
	comp=Z,28nm,1.4s,mb5.1							
WRA	**Warramunga Arr**	**57.08**	**185**	P		**P**	**07 16 16.8**	**-1.9**
	comp=Z,4.1nm,0.5s,mb4.7,baz=0.4,slow=7.5,SNR=68							
CTA	**Charters Tower**	**57.49**	**172**	P		**P**	**07 16 20.6**	**-1.0**
	comp=Z,0.9nm,0.4s,mb4.2,baz=316,slow=9.6,SNR=2.7							
ASAR	**Alice Springs**	**60.80**	**185**	P		**P**	**07 16 43.1**	**-1.3**
	comp=Z,0.6nm,0.4s,mb4.1,baz=0.6,slow=5.7,SNR=14							
MBWA	**Marble Bar**	**60.85**	**200**	*e*P		**P**	**07 16 43.0**	**-1.8**
	comp=Z,12nm,1.4s,mb4.8							
KEV	**Kevo**	**62.46**	**339**	*e*P		**P**	**07 16 58.3**	**+3.2**
	comp=Z,0.4nm,0.4s,mb3.9							
ARCES	**ARCESS Array B**	**63.02**	**339**	P		**P**	**07 16 57.2**	**-1.5**
	comp=Z,14nm,1.1s,mb5.0,baz=41,slow=6.7,SNR=6.7							
YKA	**Yellowknife Ar**	**64.62**	**30**	P		**P**	**07 17 08.6**	**-0.6**
	comp=Z,3.3nm,0.7s,mb4.5,baz=304,slow=6.7,SNR=11							
JOF	**Joensuu**	**64.75**	**331**	*ep*		**P**	**07 17 07.9**	**-2.2**
	comp=Z,0.7nm,0.4s,mb4.0							
KAF	**Kangasniemi**	**67.12**	**332**	*ep*		**P**	**07 17 23.7**	**-1.5**
	comp=Z,1.1nm,0.4s,mb4.2,baz=50,slow=6.0							
FINES	**FINESS Array B**	**67.61**	**331**	P		**P**	**07 17 27.1**	**-1.2**
	comp=Z,3.7nm,0.8s,mb4.5,baz=42,slow=8.1,SNR=18							
RPW	**Rockport**	**68.84**	**45**	*e*P		**P**	**07 17 36.4**	**+0.1**
STKA	**Stephens Creek**	**68.85**	**177**	P		**P**	**07 17 35.8**	**-0.8**
	comp=Z,1.3nm,0.8s,mb3.9,baz=328,slow=7.5,SNR=5.0							
NLW	**Nelson Butte**	**69.70**	**45**	*e*P		**P**	**07 17 41.8**	**+0.3**
SUMG	**Summit**	**70.42**	**359**	*e*P		**P**	**07 17 45.6**	**+0.1**
	comp=Z,17nm,0.9s,mb5.0							
EDM	**Edmonton**	**70.42**	**37**	*e*P		**P**	**07 17 44.7**	**-1.1**
DPW	**Davenport**	**71.01**	**44**	*e*P		**P**	**07 17 49.8**	**+0.4**
NEW	**Newport**	**71.38**	**43**	*e*P		**P**	**07 17 51.9**	**+0.2**
	comp=Z,12nm,0.8s,mb4.9							
AKASG	**Malin Array Be**	**72.81**	**321**	P		**P**	**07 17 59.1**	**-1.0**
	comp=Z,2.9nm,0.6s,mb4.4,baz=48,slow=6.0,SNR=15							
HFS	**Hagfors**	**72.99**	**335**	P		**P**	**07 17 59.9**	**-1.0**
NB2	**NORSAR Subarra**	**73.14**	**336**	P		**P**	**07 18 00.6**	**-1.1**
	comp=Z,9.8nm,1.1s,mb4.7,baz=40,slow=5.8							
NOA	**NORSAR Array B**	**73.14**	**336**	P		**P**	**07 18 01.0**	**-0.7**
	comp=Z,3.3nm,0.8s,mb4.3,baz=40,slow=5.9,SNR=13							
NOA	**NORSAR Array B**	**73.14**	**336**	P		**P**	**07 18 01.0**	**-0.7**
OHCM	**Honcut**	**73.94**	**53**	*e*P		**P**	**07 18 07.3**	**+0.4**
CHMT	**Chamberlain Mo**	**74.29**	**43**	*e*P		**P**	**07 18 09.2**	**+0.5**
BEKR	**Beckwourth**	**74.34**	**52**	*e*P		**P**	**07 18 09.4**	**+0.2**
	comp=Z,6.4nm,0.9s,mb4.5							
HRY	**Holter Researc**	**75.18**	**42**	*e*P		**P**	**07 18 14.8**	**+0.9**
CMB	**Columbia Colle**	**75.39**	**53**	*e*P		**P**	**07 18 16.0**	**+0.7**
	comp=Z,4.0nm,0.6s,mb4.5							
HLID	**Hailey**	**75.70**	**46**	*e*P		**P**	**07 18 17.9**	**+1.0**
	comp=Z,7.1nm,1.2s,mb4.5							
BOZ	**Bozeman (W)**	**75.96**	**43**	*e*P		**P**	**07 18 18.9**	**+0.5**
	comp=Z,8.1nm,0.8s,mb4.7							
NVAR	**Mina Array Bea**	**76.48**	**52**	P		**P**	**07 18 22.7**	**+1.3**
	comp=Z,7.0nm,0.9s,mb4.6,baz=291,slow=6.0,SNR=37							
OMM	**Old Mammoth Mi**	**76.53**	**53**	*e*P		**P**	**07 18 22.7**	**+1.0**
BRTR	**Keskin Array B**	**77.12**	**310**	P		**P**	**07 18 24.9**	**-0.1**
	comp=Z,2.8nm,0.9s,mb4.2,baz=90,slow=4.9,SNR=8.9							
TPH	**Tonopah**	**77.37**	**52**	*e*P		**P**	**07 18 27.6**	**+1.2**
	comp=Z,9.5nm,1.0s,mb4.7							
KOLS	**Kolonicke sedl**	**77.38**	**323**	*e*P		**P**	**07 18 26.7**	**+0.5**
OJC	**Ojcow**	**77.66**	**325**	*e*P		**P**	**07 18 27.2**	**-0.5**
OJC	**Ojcow**	**77.66**	**325**	*e*P		**P**	**07 18 27.2**	**-0.5**
CRVS	**Cervenica-Dubn**	**77.80**	**323**	*e*P		**P**	**07 18 28.6**	**+0.1**
MLR	**Muntele Rosu**	**77.84**	**318**	P		**P**	**07 18 29.1**	**+0.3**
	comp=Z,1.2nm,0.6s,mb4.0,baz=135,slow=20,SNR=3.6							
REDW	**Red Top Meadow**	**77.84**	**44**	*e*P		**P**	**07 18 30.2**	**+1.4**
NIE	**Niedzica**	**77.98**	**324**	*e*P		**P**	**07 18 30.5**	**+1.0**
LAO	**LASA Array**	**78.12**	**40**	*e*P		**P**	**07 18 31.0**	**+0.7**
	comp=Z,20nm,1.0s,mb5.0							
OKC	**Ostrava-Krasne**	**78.68**	**325**	*e*P		**P**	**07 18 35.4**	**+2.1**
DUG	**Dugway**	**78.74**	**48**	*e*P		**P**	**07 18 35.0**	**+1.1**
	comp=Z,3.3nm,0.8s,mb4.3							
PDAR	**Pinedale Array**	**78.95**	**44**	P		**P**	**07 18 35.6**	**+0.7**
	comp=Z,5.7nm,0.9s,mb4.5,baz=314,slow=2.3,SNR=28							
MORC	**Moravsky Berou**	**79.00**	**326**	*e*P		**P**	**07 18 34.8**	**-0.3**

DPC	**Dobruska-Polom**	**79.12**	**327**	*e*P		**P**	**07 18 36.3**	**+0.6**
DPC				*ep*P		pP	07 18 40.3	-1.3
UPC	**Upice**	**79.14**	**327**	*e*P		**P**	**07 18 36.9**	**+1.1**
VYHS	**Vyhne**	**79.32**	**324**	*e*P		**P**	**07 18 37.5**	**+0.7**
ASF	**Jabal al Asfar**	**79.63**	**302**	P		**P**	**07 18 39.4**	**+0.5**
	comp=Z,1.4nm,0.2s,mb4.5,baz=71,slow=10,SNR=3.2							
BRG	**Berggiesshubel**	**79.76**	**328**	P		**P**	**07 18 38.8**	**-0.4**
VRAC	**Vranov**	**79.76**	**326**	P		**P**	**07 18 40.5**	**+1.3**
	comp=Z,2.1nm,0.5s,mb4.3,baz=51,slow=7.0,SNR=4.7							
CLL	**Collm**	**79.83**	**329**	P		**P**	**07 18 38.9**	**-0.6**
	comp=Z,logA/T=1.0,mb4.7							
CLL				*e**PP		pP	07 18 43.0	-2.4
CLL	**Collm**	**79.83**	**329**	*i* P		**P**	**07 18 38.9**	**-0.6**
	comp=Z,13nm,1.3s,mb4.7							
CLL				*e*		pP	07 18 43.0	-2.4
PRU	**Pruhonice**	**80.17**	**327**	*e*P		**P**	**07 18 42.2**	**+0.9**
PRU				*ep*P		pP	07 18 46.0	-1.3
MSU	**Marysvale**	**80.19**	**49**	*e*P		**P**	**07 18 43.5**	**+1.7**
NEN	**Nelson**	**80.37**	**52**	P		**P**	**07 18 42.1**	**-0.6**
NEN				*e*		pP	07 18 46.7	-2.0
ULM	**Lac du Bonnet**	**80.41**	**32**	P		**P**	**07 18 42.9**	**+0.3**
	comp=Z,3.8nm,0.9s,mb4.3,baz=33,slow=4.6,SNR=3.0							
ULM	**Lac du Bonnet**	**80.41**	**32**	P		**P**	**07 18 42.9**	**+0.3**
SRU	**San Rafael**	**80.79**	**48**	*e*P		**P**	**07 18 45.4**	**+0.6**
SRU				*e*		pP	07 18 49.5	-1.3
MOX	**Moxa**	**80.90**	**329**	*e*P		**P**	**07 18 45.0**	**-0.2**
RSSD	**Black Hills**	**81.00**	**40**	*e*P		**P**	**07 18 46.2**	**+0.3**
	comp=Z,3.9nm,0.6s,mb4.5							
KHC	**Kasperske Hory**	**81.22**	**327**	*e*P		**P**	**07 18 47.5**	**+0.6**
KHC				*ep*P		pP	07 18 51.0	-1.9
GERES	**GERESS Array B**	**81.39**	**327**	P		**P**	**07 18 47.7**	**-0.1**
	comp=Z,1.5nm,0.8s,mb4.0,baz=34,slow=4.8,SNR=12							
GRA1	**Grafenberg Arr**	**81.80**	**329**	*e*P		**P**	**07 18 50.3**	**+0.4**
	comp=Z,13nm,1.0s,mb4.8							
PV10	**Paradox Valley**	**82.14**	**47**	*e*P		**P**	**07 18 53.5**	**+1.6**
PERS	**Pernice**	**82.40**	**325**	*i* P		**P**	**07 18 53.3**	**+0.2**
PV01	**Paradox Valley**	**82.58**	**47**	*e*P		**P**	**07 18 54.6**	**+0.4**
PDKS	**Podkum**	**82.87**	**324**	*i* P		**P**	**07 18 55.4**	**-0.1**
RW3	**Ridgway**	**83.02**	**47**	*e*P		**P**	**07 18 58.4**	**+1.9**
VISS	**Visnje**	**83.15**	**324**	*i* P		**P**	**07 18 56.8**	**-0.2**
BOJS	**Bojanci**	**83.18**	**324**	*i* P		**P**	**07 18 57.0**	**-0.1**
JAVS	**Javornik**	**83.44**	**325**	*i* P		**P**	**07 18 58.4**	**-0.1**
CDF	**Champ du Feu**	**84.41**	**330**	*e*P		**P**	**07 19 03.3**	**0.0**
	comp=Z,15nm,1.0s,mb4.8							
DAVOX	**Davos**	**84.62**	**328**	P		**P**	**07 19 04.6**	**+0.2**
	comp=Z,3.7nm,0.8s,mb4.5,baz=75,slow=7.7,SNR=4.3							
HINF	**Hinteralfeld**	**85.06**	**330**	*e*P		**P**	**07 19 06.2**	**-0.3**
HAU	**Haudompre**	**85.11**	**330**	*e*P		**P**	**07 19 06.4**	**-0.4**
	comp=Z,5.6nm,0.6s,mb4.5							
SCHQ	**Schefferville**	**85.64**	**15**	P		**P**	**07 19 09.2**	**0.0**
	comp=Z,4.0nm,0.7s,mb4.8,baz=354,slow=8.0,SNR=4.4							
LOR	**Lormes**	**86.68**	**331**	*e*P		**P**	**07 19 14.1**	**-0.5**
	comp=Z,11nm,0.9s,mb4.8							
LPG	**La Plagne**	**86.96**	**328**	*e*P		**P**	**07 19 15.9**	**-0.1**
SSF	**Saint Saulge**	**86.99**	**331**	*e*P		**P**	**07 19 15.8**	**-0.3**
	comp=Z,8.3nm,0.8s,mb4.7							
FLN	**La Foliniere**	**87.01**	**334**	*e*P		**P**	**07 19 15.6**	**-0.5**
LDF	**La Druitiere**	**87.03**	**334**	*e*P		**P**	**07 19 15.9**	**-0.3**
GRR	**Gorron**	**87.46**	**334**	*e*P		**P**	**07 19 18.5**	**+0.2**
ROSF	**Rostrenen**	**88.31**	**336**	*e*P		**P**	**07 19 22.6**	**+0.2**
KSU1	**Kansas State U**	**88.47**	**40**	*e*P		**P**	**07 19 23.4**	**0.0**
TXAR	**Lajitas Array**	**91.59**	**51**	P		**P**	**07 19 39.0**	**+0.8**
	comp=Z,1.0nm,0.7s,mb4.3,baz=295,slow=3.3,SNR=15							
MIAR	**Mount Ida**	**93.51**	**41**	*e*P		**P**	**07 19 47.4**	**+0.4**
	comp=Z,5.1nm,0.9s,mb5.0							
ESDC	**Sonseca Array**	**96.12**	**332**	P		**P**	**07 19 59.4**	**+0.7**
	comp=Z,0.1nm,0.3s,mb3.7,baz=16,slow=6.6,SNR=3.0							
SNAA	**Sanae**	**140.37**	**198**	*e*		PKPdf	07 25 55.3	-6.8
SNAA	**Sanae**	**140.37**	**198**	*e*		PKPdf	07 25 55.3	-6.8
SNAA				*e*			07 28 55.6	
VNA2	**Neumayer--Watz**	**141.96**	**197**	*e*		PKPdf	07 26 03.2	-1.6
VNA2	**Neumayer--Watz**	**141.96**	**197**	*e*PKPdf		PKPdf	07 25 58.4	-6.4
VNA2				*e*			07 26 03.2	
VNA2				*e*			07 29 03.4	
VNA3	**Neumayer Olymp**	**142.26**	**196**	*e*		PKPdf	07 25 59.9	-5.4
VNA3	**Neumayer Olymp**	**142.26**	**196**	*e*		PKPdf	07 25 59.9	-5.4
VNA3				*e*			07 28 59.4	
VNA1	**Neumayer--Stat**	**142.36**	**197**	*e*		PKPdf	07 26 05.3	-0.2
VNA1	**Neumayer--Stat**	**142.36**	**197**	⇑*i*PKPdf		PKPdf	07 26 00.5	-5.0
VNA1				*e*			07 26 05.3	
VNA1				*e*			07 29 05.1	
SAML	**Samuel**	**145.47**	**41**	*e*PKPdf		PKPdf	07 26 09.1	-3.4
SAML				*ep*PKPdf			07 26 13.1	
LPAZ	**La Paz**	**148.31**	**56**	PKPbc		PKPdf	07 26 18.8	+1.6
	comp=Z,1.9nm,0.2s,baz=125,slow=0.1,SNR=5.4							
BDFB	**Brasilia**	**157.60**	**18**	PKPab		PKPab	07 27 00.8	-0.1
	comp=Z,5.3nm,1.1s,baz=303,slow=4.6,SNR=3.9							

JMA 24 07:20:54.7±0.1, 43.06N×146.45E, h56km±1km, M3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.60**	**301**	P	P	07 21 07.6	+0.1
NEM2				S	S	07 21 16.8	-0.2
JAK	**Akkeshi**	**1.29**	**268**	P	P	07 21 16.7	-0.2
JAK				*e*S	S	07 21 32.9	-0.4
JRA	**Rausu**	**1.30**	**313**	P	P	07 21 17.0	-0.2
JRA				*e*S	S	07 21 33.5	-0.4
JNK	**Nakash**	**1.37**	**293**	P	P	07 21 17.5	-0.6
JNK				*e*S	S	07 21 34.3	-1.0
JOB	**Onbets**	**1.93**	**266**	P	P	07 21 25.6	-0.1
JOB				*e*S	S	07 21 48.2	-0.5
JAR	**Ashorobuto**	**1.98**	**278**	P	P	07 21 26.4	0.0
JAR				*e*S	S	07 21 50.0	+0.1
JTKR	**Abashiri--Toko**	**2.06**	**297**	P	P	07 21 28.2	+0.6
JTKR				*e*S	S	07 21 52.5	+0.4
JCH	**Churui**	**2.31**	**260**	P	P	07 21 30.9	-0.4
JCH				*e*S	S	07 21 57.3	-1.2
JMP	**Maruseppu**	**2.44**	**294**	P	P	07 21 33.5	+0.5

CSEM 24 07:26:24.0±0.3, 34.93N×3.81W, h2km, MD2.7, Error ellipse: s-maj=7.9km s-min=6.4km az=127.0
CNRM 24 07:26:24.0, 35.06N×3.80W, h1km, MD2.7
MDD 24 07:26:26.1±2.8, 34.87N×3.86W, mb3.1/5, Error ellipse: s-maj=28.2km s-min=9.0km az=4.0, PRXIMO
SFS 24 07:26:26.0, 34.86N×3.87W, ML3.0
NEIC 24 07:26:26.1, 34.86N×3.86W, MG3.1(MDD), After MDD.

ISC 24 07:26:24.5±0.6, 34.99N±0.03×3.95W±0.04, h1km, n15, σ1§29/25, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.16**	**98**	*i* P	**Pg**	**07 26 25.0**	**-2.7**
EMEL	**Melilla**	**0.87**	**69**	P	**Pg**	**07 26 41.6**	**-0.2**
	62nm,0.2s,SNR=9.1						
EMEL				S	**Sg**	**07 26 53.8**	**+0.3**
	183nm,0.2s,SNR=7.6						
EMLI	**Melilla**	**0.88**	**69**	P	**Pg**	**07 26 41.6**	**-0.3**
	62nm,0.2s,SNR=9.1						
EMLI				S	**Sg**	**07 26 53.8**	**+0.2**
	183nm,0.2s,SNR=7.6						
MELI	**Melilla**	**0.88**	**69**	*e*P	**Pg**	**07 26 41.2**	**-0.9**
MELI	**Melilla**	**0.88**	**69**	*e*S	**Sg**	**07 26 54.3**	**+0.4**
TZK	**Tazeka**	**0.92**	**192**	*i* P	**Pg**	**07 26 43.0**	**+0.2**
TZK				*i* S	**Sg**	**07 26 56.0**	**+1.0**
ZAI	**Zaio**	**0.98**	**91**	*i* P	**Pb**	**07 26 40.0**	**-4.0**
EMIJ	**Mijas**	**1.71**	**337**	P	**Pn**	**07 26 57.3**	**+1.6**
	1.9nm,0.6s,SNR=5.1						
EMIJ				S	**Sb**	**07 27 17.2**	**-1.3**
	3.0nm,0.2s,SNR=5.7						
MIF	**Mishlifen**	**1.90**	**214**	*e*P	**Pn**	**07 26 56.0**	**-2.3**
EQES	**Quesada**	**2.90**	**14**	P	**Pn**	**07 27 15.5**	**+2.8**
	1.7nm,0.5s,SNR=4.0						
EQES				S	**Sn**	**07 27 48.8**	**+0.2**
	106nm,1.7s,SNR=4.0						
EADA	**Adamuz**	**3.22**	**351**	P	**Pn**	**07 27 19.3**	**+2.1**
	2.1nm,0.7s,SNR=4.0						
EADA				S	**Sn**	**07 27 56.4**	**-0.3**
	49nm,1.4s,SNR=4.0						
EADA	**Adamuz**	**3.22**	**351**	P	**Pn**	**07 27 19.3**	**+2.2**
	2.1nm,0.7s,SNR=4.0						
EADA				S	**Sn**	**07 27 56.4**	**-0.3**
	49nm,1.4s,SNR=4.0						
EMIN	**Mina Concepcio**	**3.54**	**322**	P	**Pn**	**07 27 22.6**	**+0.8**
	2.1nm,0.6s,SNR=7.9						
EMIN				S	**Sn**	**07 28 04.5**	**-0.4**
	SNR=7.9						
EMIN	**Mina Concepcio**	**3.54**	**322**	P	**Pn**	**07 27 22.6**	**+0.8**
EMIN				S	**Sn**	**07 28 02.5**	**-2.4**
EMIN	**Mina Concepcio**	**3.54**	**322**	P	**Pn**	**07 27 22.6**	**+0.8**
EMIN				S	**Sn**	**07 28 02.5**	**-2.4**

IDC 24 07:31:01.6±1.2, 14.36N×147.21E, mb3.5/5, mb1 3.7/6, mb1mx3.6/21, Error ellipse: s-maj=50.4km s-min=19.9km az=100.0
NEIC 24 07:31:03.2±0.9, 14.37N×147.09E, h10km, Error ellipse: s-maj=24.6km s-min=14.1km az=107.0

ISC 24 07:31:00.9±5.7, 14.4N±0.1×147.2E±0.1, h9km±36km, n9, σ0§79/9, mb3.7/7, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.39**	**251**	*e*Pn	**Pn**	**07 31 40.7**	**-0.2**
GUMO				*e*Sn	**Sn**	**07 32 10.7**	**+0.1**
WRA	**Warramunga Arr**	**36.38**	**201**	P	**P**	**07 38 07.0**	**-0.7**
	0.3nm,0.6s,mb3.4,baz=21,slow=9.4,SNR=4.7						
FITZ	**Fitzroy Crossi**	**38.65**	**214**	P	**P**	**07 38 27.2**	**+0.4**
	0.8nm,0.9s,mb3.5,baz=28,slow=18,SNR=2.4						
ASAR	**Alice Springs**	**39.99**	**199**	P	**P**	**07 38 38.3**	**+0.5**
	0.2nm,0.5s,mb3.1,baz=24,slow=11,SNR=2.7						
SONM	**Songino Array**	**47.41**	**323**	P	**P**	**07 39 39.0**	**+1.5**
	0.8nm,0.6s,mb3.8,baz=129,slow=9.2,SNR=3.2						
KURK	**Kurchatov**	**65.44**	**319**	*e*P	**P**	**07 41 44.7**	**-1.6**
	2.4nm,0.6s,mb4.4						
ILAR	**Eielson Array**	**66.89**	**25**	P	**P**	**07 41 55.4**	**+0.1**
	0.3nm,0.7s,mb3.5,baz=255,slow=6.0,SNR=11						
BVAR	**Borovoye Array**	**70.70**	**321**	P	**P**	**07 42 18.8**	**-0.2**
	1.8nm,0.7s,mb4.1,baz=104,slow=5.9,SNR=5.9						
DBIC	**Dimbokro**	**145.26**	**305**	PKPbc	PKPbc	07 50 41.7	+1.2
	2.6nm,0.5s,baz=357,slow=1.8,SNR=7.3						

NIED 24 08:04:00, 37.30N×138.90E, h11km, Mw3.4 Best double couple: M0 1.44×10^14 NP1:φs50°, δ68°, λ103°. NP2:φs199°, δ26°, λ61°.
NEIC 24 08:04:09.2±0.6, 37.38N×138.50E, h10km, Error ellipse: s-maj=33.7km s-min=9.5km az=105.0
JMA 24 08:04:09.1, 37.31N×138.92E, h11km±1km, M3.8 Broadband fault plane solution: P waves. NP1:φs235°, δ2°, λ127°. NP2:φs19°, δ88°, λ89°. Principal axes: T Plg47°, Azm287°; N Plg1°, Azm19°; P Plg43°, Azm110°;
JMA Felt III J1.
IDC 24 08:04:16.6±4.5, 37.30N×138.37E, h68km±42km, mb3.5/5, mb1 3.8/6, mb1mx3.4/23, ML3.9/1 Error ellipse: s-maj=44.8km s-min=27.2km az=84.0

ISC 24 08:04:08.8±0.5, 37.31N±0.03×138.91E±0.05, h16km±5km, n21, σ0§93/26, mb3.8/5, 2C-4D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.11**	**128**	P	**Pb**	**08 04 11.7**	**-0.7**
JHK

NB2	**NORSAR Subarra**	**73.16**	**336**	P		**P**		**08 33 10.0**	**-1.1**
	0.5nm,0.6s,mb3.6,baz=41,slow=5.6								
NOA	**NORSAR Array B**	**73.16**	**336**	P		**P**		**08 33 10.1**	**-1.0**
	0.7nm,0.6s,mb3.8,baz=40,slow=5.9,SNR=5.0								
NVAR	**Mina Array Bea**	**76.44**	**52**	P		**P**		**08 33 32.0**	**+1.6**
	1.2nm,0.8s,mb3.9,baz=276,slow=7.3,SNR=4.7								
TPH	**Tonopah**	**77.33**	**52**	P		**P**		**08 33 36.8**	**+1.3**
	2.7nm,1.1s,mb4.1								
PDAR	**Pinedale Array**	**78.92**	**44**	P		**P**		**08 33 44.9**	**+0.9**
	0.6nm,0.7s,mb3.6,baz=246,slow=1.5,SNR=7.2								
GERES	**GERESS Array B**	**81.42**	**327**	P		**P**		**08 33 57.7**	**+0.5**
	0.6nm,0.7s,mb3.6,baz=27,slow=4.4,SNR=3.2								
PV10	**Paradox Valley**	**82.11**	**47**	*e*P		**P**		**08 34 03.0**	**+2.0**
SAML	**Samuel**	**145.44**	**41**	*e*PKPdf	PKPdf			08 41 18.7	-2.9
LPAZ	**La Paz**	**148.27**	**56**	PKPbc	PKPdf			08 41 28.6	+2.4
	1.8nm,0.2s,baz=200,slow=0.7,SNR=2.9								

MOS ***24*** *08:46:45.8±1.4,6.84S×126.72E,h410km,mb4.3/4, Error ellipse: s-maj=28.5km s-min=15.7km az=120.9*
BJI ***24*** *08:46:46.9,6.80S×126.80E,h406km,mB4.3,mb4.4*
NEIC ***24*** *08:46:46.9±1.1,6.84S×126.77E,h406km±13km,mb4.4/9, Error ellipse: s-maj=10.4km s-min=6.5km az=70.0*
IDC ***24*** *08:46:47.8±1.4,6.91S×126.75E,h414km±15km,mb3.7/10, mb1 3.7/16,mb1mx3.7/18,Error ellipse: s-maj=17.6km s-min=8.5km az=65.0*

ISC 24 08:46:44.5±1.4,6.83S±0.05×126.78E±0.08,h397km±16km, n53,σ90/54,mb4.2/30,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.26**	**186**	P		**P**	**08 49 18.6**	**+0.2**
	2.3nm,0.3s,baz=14,slow=8.3,SNR=76							
FITZ				S		**S**	**08 51 20.3**	**0.0**
	0.9nm,0.3s,baz=177,slow=17,SNR=6.8							
WRAB	**Tennant Creek**	**14.95**	**151**	P		**P**	**08 49 58.0**	**-1.0**
	21nm,0.4s,SNR=15							
WRAB	**Tennant Creek**	**14.95**	**151**	*e*P		**P**	**08 49 58.0**	**-1.1**
	5.0nm,0.8s							
WRA	**Warramunga Arr**	**14.96**	**151**	P		**P**	**08 49 58.0**	**-1.1**
	1.9nm,0.3s,baz=334,slow=9.8,SNR=101							
WRA				S		**S**	**08 52 33.2**	**-2.1**
	0.2nm,0.3s,baz=329,slow=19,SNR=8.7							
MBWA	**Marble Bar**	**15.79**	**205**	*e*P		**P**	**08 50 07.6**	**0.0**
	53nm,0.9s							
MBWA				*e*S		**S**	**08 52 51.2**	**0.0**
ASAR	**Alice Springs**	**18.09**	**159**	P		**P**	**08 50 31.6**	**+0.9**
	4.9nm,0.3s,baz=334,slow=8.9,SNR=94							
ASAR				pP			08 51 28.1	
	0.6nm,0.3s,baz=334,slow=11,SNR=6.3							
ASAR				S		**S**	**08 53 36.5**	**+2.8**
	baz=342,slow=21,SNR=8.3							
ASAR				ScP			08 57 39.5	
	baz=3.4,slow=2.1,SNR=4.0							
PMG	**Port Moresby**	**20.33**	**99**	P		**P**	**08 50 55.0**	**+2.2**
	21nm,0.7s,baz=292,slow=7.9,SNR=6.7							
PMG	**Port Moresby**	**20.33**	**99**	P		**P**	**08 50 55.0**	**+2.2**
CTA	**Charters Tower**	**23.03**	**127**	P		**P**	**08 51 19.9**	**+1.7**
	0.8nm,0.5s,mb3.4,baz=157,slow=0.9,SNR=2.5							
NWAO	**Narrogin (SRO)**	**27.44**	**198**	P		**P**	**08 51 57.9**	**0.0**
	27nm,0.7s,mb4.8,baz=30,slow=7.9,SNR=13							
NWAO	**Narrogin (SRO)**	**27.44**	**198**	*e*P		**P**	**08 51 57.7**	**-0.2**
	17nm,0.7s,mb4.6							
STKA	**Stephens Creek**	**28.50**	**153**	P		**P**	**08 52 07.0**	**0.0**
	3.7nm,0.4s,mb4.1,baz=329,slow=9.1,SNR=32							
STKA				pP			08 53 19.0	
	14nm,0.8s,baz=318,slow=9.8,SNR=17							
CMAR	**Chiang Mai Arr**	**37.22**	**313**	P		**P**	**08 53 23.2**	**+1.7**
	2.9nm,1.1s,mb3.5,baz=146,slow=5.5,SNR=7.4							
CMAR				ScP			08 58 40.5	
	1.7nm,0.7s,baz=157,slow=4.2,SNR=6.7							
WHN	**Wuhan**	**39.02**	**343**	P		**P**	**08 53 37.5**	**+1.4**
NJ2	**Nanjing**	**39.40**	**349**	*e*P		**P**	**08 53 44.6**	**+5.4**
NJ2				S		**S**	**08 59 15.0**	**+3.4**
NJ2				AMB	AMB			
	comp=Z,40nm,0.6s,mb4.9							
XAN	**Xi'an**	**44.03**	**339**	P		**P**	**08 54 15.5**	**-0.9**
XAN				AMB	AMB			
	comp=Z,13nm,0.8s,mb4.3							
MAT	**Matsushiro**	**44.45**	**13**	P		**P**	**08 54 18.9**	**-0.9**
MAT	**Matsushiro**	**44.45**	**13**	*e*P		**P**	**08 54 19.0**	**-0.8**
	comp=Z,22nm,0.8s,mb4.5							
BJI	**Beijing**	**47.65**	**349**	P		**P**	**08 54 43.3**	**-1.2**
BJI				AMB	AMB			
	comp=Z,12nm,0.9s,mb4.2							
BJI	**Beijing**	**47.65**	**349**	P		**P**	**08 54 43.3**	**-1.2**
	comp=Z,12nm,0.9s,mb4.2							
LZH	**Lanzhou**	**47.82**	**335**	*e*P		**P**	**08 54 46.5**	**+0.6**
LZH				AMB	AMB			
	comp=Z,26nm,1.2s,mb4.4							
LZH	**Lanzhou**	**47.82**	**335**	*e*P		**P**	**08 54 46.5**	**+0.6**
	comp=Z,26nm,1.2s,mb4.4							
LZH				pP		Px	08 54 50.5	
LZH				sP		Px	08 54 54.0	
GTA	**Gaotai**	**52.34**	**334**	*e*P		**P**	**08 55 20.3**	**+0.7**
GTA				AMB	AMB			
	comp=Z,14nm,0.7s,mb4.3							
GUN	**Gumba**	**52.47**	**313**	*e*P		**P**	**08 55 20.9**	**+0.2**
	comp=Z,14nm,0.6s,mb4.4							
PKI	**Pulchoki**	**52.62**	**312**	*e*P		**P**	**08 55 21.7**	**-0.1**
	comp=Z,4.4nm,0.3s,mb4.1							
KKN	**Kakani**	**52.84**	**313**	*e*P		**P**	**08 55 23.0**	**-0.4**
	comp=Z,9.9nm,0.6s,mb4.2							
DMN	**Daman**	**52.86**	**312**	*e*P		**P**	**08 55 23.7**	**+0.1**
GKN	**Gorkha**	**53.43**	**312**	*e*P		**P**	**08 55 27.7**	**0.0**
	comp=Z,9.5nm,0.3s,mb4.6							
KOLN	**Koldanda**	**54.06**	**312**	*e*P		**P**	**08 55 32.4**	**+0.2**
	comp=Z,5.3nm,0.3s,mb4.2							
URZ	**Urewera**	**55.12**	**132**	P		**P**	**08 55 39.3**	**-0.2**
	comp=Z,12nm,0.8s,mb4.2,baz=303,slow=5.0,SNR=2.7							
SONM	**Songino Array**	**57.33**	**344**	P		**P**	**08 55 54.8**	**+0.1**
	comp=Z,4.8nm,0.8s,mb3.9,baz=165,slow=7.4,SNR=23							
SONM				ScP			09 00 02.4	
	comp=Z,0.6nm,0.7s,baz=162,slow=7.8,SNR=3.7							
CASY	**Casey**	**60.41**	**187**	*e*P		**P**	**08 56 14.7**	**-0.6**
	comp=Z,2.9nm,0.8s,mb3.8							
AAK	**Ala-Archa**	**68.37**	**321**	*e*P		**P**	**08 57 06.6**	**+0.3**
AAK				pmax	pmax			
	comp=Z,3.0nm,1.1s,mb3.8							
AAK	**Ala-Archa**	**68.37**	**321**	*e*P		**P**	**08 57 06.0**	**-0.3**
YAK	**Yakutsk**	**68.69**	**1**	*e*P		**P**	**08 57 06.9**	**-1.0**
YAK				pmax	pmax			
	comp=Z,12nm,0.8s,mb4.6							
YAK				pmax	pmax			
	comp=N,6.0nm,1.0s							
ZAL	**Zalesovo**	**70.05**	**335**	P		**P**	**08 57 16.4**	**+0.1**
	comp=N,4.1nm,0.5s,mb4.2,baz=342,slow=3.9,SNR=22							
KURK	**Kurchatov**	**70.74**	**330**	*e*P		**P**	**08 57 20.6**	**+0.2**
KURK	**Kurchatov**	**70.74**	**330**	*e*P		**P**	**08 57 20.0**	**-0.4**
	comp=N,10.0nm,0.9s,mb4.3							
NVS	**Novosibirsk**	**71.34**	**335**	*e*P		**P**	**08 57 21.6**	**-2.2**
NVS				pmax	pmax			
	comp=N,6.0nm,1.1s							
NVS				pmax	pmax			
	comp=E,5.0nm,1.1s							
NVS				pmax	pmax			
	comp=Z,12nm,1.1s,mb4.3							
VNDA	**Vanda**	**73.02**	**172**	P		**P**	**08 57 33.2**	**-0.1**
	comp=Z,0.7nm,0.5s,mb3.5,baz=313,slow=6.0,SNR=7.2							
VNDA	**Vanda**	**73.02**	**172**	P		**P**	**08 57 33.2**	**-0.1**
MAW	**Mawson**	**73.95**	**201**	P		**P**	**08 57 39.1**	**+0.3**
	comp=Z,3.2nm,0.9s,mb4.0,baz=84,slow=3.3,SNR=7.1							
BVAR	**Borovoye Array**	**76.24**	**329**	P		**P**	**08 57 51.9**	**+0.1**
	comp=Z,8.6nm,1.1s,mb4.3,baz=143,slow=7.4,SNR=13							
BRVK	**Borovoye**	**76.31**	**329**	*e*P		**P**	**08 57 52.1**	**-0.1**
ZRNK	**Zerenda**	**76.92**	**328**	*e*P		**P**	**08 57 55.7**	**+0.1**
	comp=Z,8.4nm,1.1s,mb4.3							
TIXI	**Tiksi**	**78.33**	**1**	*e*P		**P**	**08 58 02.4**	**-0.5**
TIXI				pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.3							
KMBO	**Kilima Mbogo**	**89.40**	**269**	P		**P**	**08 58 58.9**	**-0.3**
	comp=Z,0.6nm,0.7s,mb3.4,baz=18,slow=8.7,SNR=5.0							
ILAR	**Eielson Array**	**94.56**	**25**	P		**P**	**08 59 21.4**	**-0.3**
	comp=Z,0.6nm,0.5s,mb3.9,baz=265,slow=4.4,SNR=7.3							
SNAA	**Sanae**	**95.06**	**194**	*e*P		**P**	**08 59 24.6**	**+0.7**
TXAR	**Lajitas Array**	**127.57**	**58**	PKP	PKPdf		09 05 05.9	+2.0
	comp=Z,0.2nm,0.6s,baz=298,slow=1.7,SNR=4.3							
TXAR				SKPab			09 07 45.4	
	comp=Z,0.9nm,1.1s,baz=207,slow=2.0,SNR=5.6							
SCHQ	**Schefferville**	**130.90**	**10**	SKPbc			09 07 56.9	
	comp=Z,4.9nm,1.0s,baz=330,slow=4.3,SNR=6.4							
CPUP	**Villa Florida**	**146.80**	**173**	PKPbc	PKPbc		09 05 42.8	+2.0
	comp=Z,2.3nm,0.9s,baz=49,slow=9.2,SNR=4.3							
LPAZ	**La Paz**	**152.70**	**147**	PKPbc	PKPdf		09 05 57.7	+10
	comp=Z,2.0nm,0.2s,baz=82,slow=0.8,SNR=4.4							
LPAZ				PKPab	PKPab		09 06 11.3	+0.8
	comp=Z,2.4nm,0.2s,baz=23,slow=0.5,SNR=2.1							

JMA ***24*** *09:03:00.8,37.33N×138.89E,h14km±1km,M3.4 Broadband fault plane solution: P waves. NP1:φ=229°, δ=44°,λ=107°. NP2:φ=26°,δ=48°,λ=74°. Principal axes: T Plg78°, Azm226°; N Plg12°, Azm37°; P Plg2°, Azm127°;*
JMA Felt II J1.
IDC ***24*** *09:03:50.4±13.0,35.99N×141.35E,h430km±152km, mb2.9/6,mb1 3.1/6,mb1mx2.9/22 Error ellipse: s-maj=41.8km s-min=21.6km az=87.0*

ISC 24 09:03:00.3±0.7,37.34N±0.04×138.87E±0.06,h14km±4km, n15,σ962/16,mb3.6/5,5D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHK	**Hiroka**	**0.15**	**127**	⇓P		**Pg**	**09 03 04.1**	**-0.2**
JHK				*e*S		**Sg**	**09 03 06.6**	**-0.3**
JIZZ	**Izumozaki**	**0.23**	**327**	⇓P		**Pg**	**09 03 06.2**	**+0.6**
JNS	**Sasagawa**	**0.60**	**37**	P		**Pb**	**09 03 11.9**	**-0.1**
JNS				*e*S		**Sb**	**09 03 20.1**	**+0.1**
JKT	**Katashina**	**0.65**	**152**	⇓P		**Pb**	**09 03 12.9**	**+0.1**
JKT				*e*S		**Sb**	**09 03 21.6**	**+0.2**
JSD	**Sado**	**0.85**	**326**	⇓P		**Pb**	**09 03 15.7**	**-0.6**
MAT	**Matsushiro**	**0.95**	**214**	P		**Pb**	**09 03 18.1**	**0.0**
MAT				S		**Sb**	**09 03 30.5**	**+0.2**
JAG	**Ashikaga**	**1.03**	**153**	⇓P		**Pb**	**09 03 19.8**	**+0.5**
FITZ	**Fitzroy Crossi**	**56.53**	**195**	P		**P**	**09 12 45.3**	**+0.7**
	1.6nm,0.9s,mb4.0,baz=196,slow=4.0,SNR=2.4							
WRA	**Warramunga Arr**	**57.13**	**185**	P		**P**	**09 12 45.5**	**-3.4**
	0.6nm,0.7s,mb3.7,baz=360,slow=7.5,SNR=9.9							
ASAR	**Alice Springs**	**60.86**	**185**	P		**P**	**09 13 13.5**	**-1.2**
	0.2nm,0.8s,mb3.3,baz=15,slow=10,SNR=3.2							
FINES	**FINESS Array B**	**67.59**	**331**	P		Px	09 14 15.2	
	0.4nm,0.4s,baz=18,slow=8.8,SNR=10							
NB2	**NORSAR Subarra**	**73.11**	**336**	P		Px	09 14 18.0	
	0.6nm,0.7s,baz=356,slow=6.5							
NVAR	**Mina Array Bea**	**76.42**	**52**	P		**P**	**09 14 51.7**	**+0.8**
	0.4nm,0.6s,mb3.5,baz=315,slow=6.4,SNR=4.6							
PDAR	**Pinedale Array**	**78.89**	**44**	P		**P**	**09 15 04.3**	**-0.1**
	0.6nm,0.8s,mb3.6,baz=274,slow=1.5,SNR=4.8							
LPAZ	**La Paz**	**148.25**	**56**	PKPbc	PKPdf		09 22 44.7	-1.7
	1.8nm,0.2s,baz=163,slow=0.2,SNR=3.3							

NEIC 24 09:03:44.0,54.42N×160.89W,h10km,ML3.5(AEIC), **After AEIC., Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DOL	**Dolgoi Island**	**0.92**	**322**	P		Pb	09 04 00.0	-1.7
DOL				S		Sb	09 04 12.7	-1.1
SDPT	**Sand Point**	**0.96**	**14**	P		Pb	09 04 00.9	-1.4
SDPT				S		Sb	09 04 13.9	-0.9
DRIA	**Deer Island**	**0.97**	**305**	P		Pb	09 04 00.5	-2.0
DT1	**Dutton Round H**	**1.06**	**311**	P		Pb	09 04 01.9	-2.1
HAG	**Hague Volcano**	**1.07**	**327**	P		Pb	09 04 02.9	-1.4
HAG				S		Sb	09 04 18.6	+0.4
DTNA	**Dutton South F**	**1.08**	**313**	P		Pb	09 04 02.4	-1.9
PVV	**Pavlof Volcano**	**1.09**	**332**	P		Pb	09 04 02.9	-1.6
PS1A	**Pavlof South-1**	**1.12**	**334**	P		Pb	09 04 03.7	-1.3
PS1A				S		Sb	09 04 19.2	-0.2
PN6	**Pavlof North-6**	**1.19**	**330**	P		Pb	09 04 05.5	-0.9
PN6				S		Sb	09 04 22.8	+1.1
PN7A	**Pavlof North-7**	**1.20**	**328**	P		Pb	09 04 05.3	-1.1
BALA	**Baldy Mountain**	**1.34**	**306**	P		Pb	09 04 07.6	-1.3
BLHA	**Black Hill**	**1.45**	**333**	P		Pn	09 04 08.7	-1.7
BLHA				S		Sb	09 04 28.8	-0.4
FALS	**False Pass**	**1.53**	**288**	P		Pn	09 04 09.4	-2.3
FALS				S		Sb	09 04 29.9	-1.6
SSLN	**Shishaldin Nor**	**1.85**	**283**	P		Pn	09 04 15.0	-1.2
WTUG	**Tugumak**	**2.08**	**283**	P		Pn	09 04 17.8	-1.7
WFAR	**Faris Peak**	**2.27**	**274**	P		Pn	09 04 21.0	-1.2
ANPK	**Aniakchak Peak**	**2.89**	**32**	P		Pn	09 04 28.6	-2.4
AHB	**Akutan Harbor**	**2.91**	**266**	P		Pn	09 04 28.6	-2.7
UNV	**Unalaska Valle**	**3.35**	**262**	P		Pn	09 04 33.9	-3.7
MSW	**Makushin Switc**	**3.50**	**264**	P		Pn	09 04 36.4	-3.3
KAHC	**Katmai Hardscr**	**5.34**	**35**	P		Pn	09 05 03.4	-2.4
DAWY	**Dawson**	**14.55**	**40**	P		P	09 07 11.2	-0.5

NIED ***24*** *09:06:00,38.20N×142.10E,h35km,Mw4.4 Best double couple: Mo3.95×10^15 NP1:φ=23°,δ79°,λ87°. NP2:φ=219°, δ12°,λ106°.*
BJI ***24*** *09:06:05.4,37.93N×141.91E,h38km,mB4.9,mb4.6, Ms4.3,Msz4.1*
JMA ***24*** *09:06:06.7±0.2,38.20N×142.11E,h40km±1km,M4.4*
JMA Felt I J1.
IDC ***24*** *09:06:07.9±0.6,38.10N×142.07E,h45km±5km,mb3.7/16, mb1 4.0/19,mb1mx3.9/25,ML3.9/2,MS3.5/7,Ms1 3.6/7, ms1mx3.1/33,Error ellipse: s-maj=17.7km s-min=9.3km az=96.0*
NEIC ***24*** *09:06:07.8±0.4,38.17N×142.13E,mb4.5/8,MW4.4(NIED), Error ellipse: s-maj=10.4km s-min=8.1km az=113.0*
NEIC Recorded [1 JMA] in Fukushima, Iwate and Miyagi Prefectures.
MOS ***24*** *09:06:07.6±1.0,38.43N×141.47E,h33km,mb4.2/16,Error ellipse: s-maj=23.5km s-min=10.5km az=104.6*

ISC 24 09:06:05.4±0.8,38.14N±0.03×142.17E±0.07,h43km±5km, h46km±2.7km:pP-P,n84,σ1903/90,mb4.4/37,MS3.7/9, 2C-7D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JIO	**Ouri**	**0.72**	**296**	⇓P		**P**	**09 06 19.7**	**+0.6**
JIO				*e*S		**S**	**09 06 28.7**	**-0.5**
OFUJ	**Ofunato**	**1.02**	**338**	⇓P		**P**	**09 06 23.4**	**0.0**
OFUJ				*e*S		**S**	**09 06 35.7**	**-1.1**
JMK	**Ichinoseki**	**1.10**	**318**	⇓P		**P**	**09 06 25.2**	**+0.6**
JMM	**Marumori**	**1.12**	**256**	⇓P		**P**	**09 06 25.3**	**+0.5**
JMM				*e*S		**S**	**09 06 39.3**	**0.0**
JOU	**Okura**	**1.21**	**281**	⇓P		**P**	**09 06 27.1**	**+1.1**
JFK	**Kawauchi**	**1.28**	**234**	⇓P		**P**	**09 06 27.5**	**+0.4**
JFK				*e*S		**S**	**09 06 42.8**	**-0.6**
MAJO	**Matsushiro**	**3.53**	**244**	*e*Pn		**P**	**09 07 01.6**	**+2.4**
MAT	**Matsushiro**	**3.53**	**244**	*e*P		**P**	**09 07 02.0**	**+2.8**
MAT				*e*S		**S**	**09 07 47.0**	**+6.7**
ERM	**Erimo**	**3.95**	**11**	Pn		**P**	**09 07 11.9**	**+6.8**
	4μm,0.7s,SNR=14							
JHJ	**Hachijo jima 2**	**5.37**	**202**	P		**P**	**09 07 23.9**	**-1.2**
	22nm,0.3s,baz=242,slow=21,SNR=9.7							
JHJ				S		**S**	**09 08 21.1**	**-5.4**
	47nm,0.3s,baz=251,slow=22,SNR=5.5							
ASAJ	**Asahikawa**	**5.98**	**3**	P		**P**	**09 07 33.1**	**-0.5**
	2.1nm,0.3s,baz=254,slow=10,SNR=14							
ASAJ				S		**S**	**09 08 40.5**	**-1.4**
	2.9nm,0.3s,baz=53,slow=24,SNR=4.1							
ASAJ				LR		LR	09 10 48.1	
	comp=Z,146nm,20.4s,baz=325,slow=46							
ASAJ	**Asahikawa**	**5.98**	**3**	P		**P**	**09 07 33.1**	**-0.5**
ASAJ				S		**S**	**09 08 40.5**	**-1.3**
ASAJ				pmax	pmax			
	comp=Z,2.0nm,0.3s							
ASAJ				MLR	MLR			
	comp=Z,146nm,20.4s							
YSS	**Yuzh-Sakhalins**	**8.82**	**3**	*e*P		**P**	**09 08 07.0**	**-6.2**
YSS	**Yuzh-Sakhalins**	**8.82**	**3**	*e*P		**P**	**09 08 12.8**	**-0.4**
CBIJ	**Chichi jima**	**11.01**	**180**	P		**P**	**09 08 40.8**	**-2.5**
CBIJ				S		**S**	**09 10 35.0**	**-11**
JOW	**Kunigami**	**16.24**	**230**	LR		LR	09 15 48.9	
	comp=Z,136nm,20.5s,baz=194,slow=36							
BJI	**Beijing**	**20.25**	**284**	P		**P**	**09 10 35.9**	**-3.7**
BJI				AMB	AMB			
	comp=Z,7.0nm,1.1s							
BJI	**Beijing**	**20.25**	**284**	P		**P**	**09 10 35.9**	**-3.7**
	comp=Z,7.0nm,1.1s							
CLNS	**Chul'man**	**21.94**	**334**	*e*P		**P**	**09 10 49.3**	**-7.3**
CLNS				*e*			09 10 58.1	
CLNS				*e*SS		**S**	**09 14 53.1**	**+1.9**
CLNS				pmax	pmax			
	comp=Z,6.0nm,1.0s,mb4.0							
CLNS				pmax	pmax			
	comp=N,5.0nm,0.9s							
CLNS				pmax	pmax			
	comp=E,2.0nm,0.8s							
CLNS				pmax	pmax			
	comp=Z,10.0nm,1.0s,mb4.2							
CLNS				pmax	pmax			
	comp=N,12nm,1.1s							
CLNS				pmax	pmax			
	comp=E,3.0nm,0.8s							
CLNS				MLR	MLR			
	comp=Z,200nm,14.0s,MS3.7							
CLNS				MLR	MLR			
	comp=N,200nm,15.0s,MS3.7							
CLNS				MLR	MLR			
	comp=E,50nm,14.0s,MS3.7							
MA2	**Magadan**	**22.15**	**12**	*e*P		**P**	**09 11 00.9**	**+2.2**
MA2				pmax	pmax			
	comp=Z,14nm,0.9s,mb4.4							
HHC	**Hu-ho-hao-te**	**23.71**	**286**	*e*P		**P**	**09 11 10.8**	**-3.3**
HHC				AMB	AMB			
	comp=Z,14nm,1.1s,mb4.3							
HHC				AMB	AMB			
	comp=Z,178nm,5.5s							
YAK	**Yakutsk**	**25.14**	**346**	*e*P		**P**	**09 11 28.4**	**+0.8**
YAK				pmax	pmax			
	comp=Z,16nm,0.8s,mb4.6							
YAK				MLR	MLR			
	comp=Z,100nm,16.0s,MS3.4							
SONM	**Songino Array**	**27.69**	**302**	P		**P**	**09 11 52.0**	**+0.6**
	comp=Z,1.2nm,0.5s,mb3.8,baz=112,slow=9.2,SNR=10							
ENH	**Enshi**	**28.04**	**264**	*e*P		**P**	**09 11 53.3**	**-1.4**
	comp=Z,27nm,0.8s,mb4.9							
ZAK	**Zakamensk**	**30.07**	**307**	*e*P		**P**	**09 12 09.0**	**-3.6**
GYA	**Guiyang**	**32.01**	**259**	P		**P**	**09 12 29.0**	**-0.9**
GYA				AMB	AMB			
	comp=Z,10.0nm,0.7s,mb4.8							
TIXI	**Tiksi**	**34.27**	**353**	*e*P		**P**	**09 12 47.9**	**-1.2**
TIXI				pmax	pmax			
	comp=Z,7.0nm,2.1s,mb4.2							
TIXI				MLR	MLR			
	comp=Z,100nm,17.0s,MS3.6							
ZAL	**Zalesovo**	**41.64**	**311**	P		**P**	**09 13 51.6**	**+0.8**
	comp=Z,3.1nm,0.6s,mb4.1,baz=26,slow=8.6,SNR=17							
ZAL				LR		LR	09 32 22.7	
	comp=Z,140nm,18.4s,MS3.9,baz=262,slow=38							
ZAL	**Zalesovo**	**41.64**	**311**	P		**P**	**09 13 51.6**	**+0.8**
ZAL				pmax	pmax			
	comp=Z,3.0nm,0.6s							
ZAL				MLR	MLR			
	comp=Z,140nm,18.4s							
CMAR	**Chiang Mai Arr**	**42.36**	**255**	P		**P**	**09 13 57.8**	**+0.6**
	comp=Z,1.0nm,0.3s,mb3.9,baz=51,slow=5.2,SNR=4.9							
CMAR	**Chiang Mai Arr**	**42.36**	**255**	P		**P**	**09 13 57.8**	**+0.6**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
SHL	**Shillong**	**44.02**	**269**	*e*		**P**	**09 14 10.5**	**-0.2**
KURK	**Kurchatov**	**45.73**	**307**	*e*P		**P**	**09 14 23.7**	**-0.3**
KURK	**Kurchatov**	**45.73**	**307**	*e*P		**P**	**09 14 23.7**	**-0.3**
KURK				*e*pP		pP	09 14 34.2	-1.6
PMG	**Port Moresby**	**47.52**	**173**	P		**P**	**09 14 37.9**	**-0.7**
	comp=Z,14nm,1.0s,mb4.9,baz=357,slow=14,SNR=2.8							
PMG	**Port Moresby**	**47.52**	**173**	P		**P**	**09 14 37.9**	**-0.6**
PMG				pmax	pmax			
	comp=Z,14nm,1.0s							
GUN	**Gumba**	**47.65**	**275**	*e*P		**P**	**09 14 39.9**	**+0.5**
	comp=Z,62nm,0.9s,mb5.6							
COLA	**College**	**47.83**	**33**	*e*P		**P**	**09 14 45.2**	**+4.9**
PKI	**Pulchoki**	**48.17**	**275**	*e*P		**P**	**09 14 43.4**	**-0.1**
	comp=Z,11nm,0.7s,mb5.0							
KKN	**Kakani**	**48.18**	**275**	*e*P		**P**	**09 14 43.9**	**+0.4**
	comp=Z,37nm,0.8s,mb5.5							
ILAR	**Eielson Array**	**48.24**	**33**	P		**P**	**09 14 43.8**	**+0.3**
	comp=Z,1.0nm,0.8s,mb3.9,baz=264,slow=6.0,SNR=11							
ILAR				pP		pP	09 14 57.1	+1.8
	comp=Z,1.3nm,0.7s,baz=265,slow=6.0,SNR=10.0							
ILAR	**Eielson Array**	**48.24**	**33**	P		**P**	**09 14 43.8**	**+0.3**
ILAR				*PP		pP	09 14 57.2	+1.8
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
DMN	**Daman**	**48.40**	**275**	*e*P		**P**	**09 14 45.5**	**+0.3**
GKN	**Gorkha**	**48.58**	**276**	*e*P		**P**	**09 14 46.9**	**+0.3**
	comp=Z,61nm,0.9s,mb5.6							
KOLN	**Koldanda**	**49.50**	**276**	*e*P		**P**	**09 14 54.0**	**+0.3**
	comp=Z

AKASG	**Malin Array Be**	**73.79**	**322**	P		**P**	**09 17 36.8**	**+0.1**
	comp=Z,0.6nm,0.4s,mb3.9,baz=44,slow=5.6,SNR=9.4							
AKASG	**Malin Array Be**	**73.79**	**322**	P		**P**	**09 17 36.8**	**+0.1**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.4s							
NVAR	**Mina Array Bea**	**73.85**	**54**	pP		pP	09 17 53.8	+3.9
	comp=Z,0.9nm,0.8s,baz=290,slow=9.8,SNR=6.3							
PDAR	**Pinedale Array**	**76.47**	**46**	P		**P**	**09 17 53.4**	**+1.1**
	comp=Z,0.4nm,0.7s,mb3.5,baz=315,slow=1.3,SNR=3.2							
PDAR				pP		pP	09 18 07.2	+2.4
	comp=Z,0.9nm,0.8s,baz=297,slow=3.3,SNR=5.2							
BRTR	**Keskin Array B**	**78.57**	**312**	P		**P**	**09 18 04.8**	**+0.8**
	comp=Z,0.6nm,0.5s,mb3.8,baz=63,slow=5.5,SNR=4.0							
BRTR	**Keskin Array B**	**78.57**	**312**	P		**P**	**09 18 04.8**	**+0.9**
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.5s							
PV10	**Paradox Valley**	**79.60**	**49**	*e*P		**P**	**09 18 12.2**	**+2.6**
PV10				*e*pP		pP	09 18 24.7	+2.4
KHC	**Kasperske Hory**	**81.92**	**329**	*e*P		**P**	**09 18 22.5**	**+0.9**
GERES	**GERESS Array B**	**82.09**	**329**	P		**P**	**09 18 22.3**	**-0.2**
	comp=Z,0.7nm,0.7s,mb3.7,baz=14,slow=4.0,SNR=3.2							
GERES				pP		pP	09 18 38.6	+3.4
	comp=Z,0.3nm,0.3s,baz=40,slow=7.7,SNR=2.6							
GERES	**GERESS Array B**	**82.09**	**329**	P		**P**	**09 18 22.3**	**-0.2**
GERES				*PP		pP	09 18 38.6	+3.4
GERES				pmax		pmax		
	comp=Z,1.0nm,0.7s							
TXAR	**Lajitas Array**	**88.98**	**53**	P		**P**	**09 18 58.5**	**+1.6**
	comp=Z,0.2nm,0.7s,mb3.6,baz=323,slow=4.5,SNR=3.5							
TXAR				pP		pP	09 19 12.1	+2.3
	comp=Z,0.3nm,0.6s,baz=295,slow=3.6,SNR=5.0							
TXAR	**Lajitas Array**	**88.98**	**53**	P		**P**	**09 18 58.5**	**+1.6**
TXAR				pP		pP	09 19 12.1	+2.3
LPAZ	**La Paz**	**145.62**	**59**	PKPbc		PKPbc	09 25 43.2	+3.1
	comp=Z,1.4nm,0.2s,baz=318,slow=0.5,SNR=2.5							
LPAZ	**La Paz**	**145.62**	**59**	PKIKP		PKPdf	09 25 43.2	+3.8
LPAZ				pmax		pmax		
	comp=Z,1.0nm,0.3s							

IDC 24 09:20:56.0±5.9, 6.26S×130.37E, h112km±63km, mb3.5/2, mb1 3.8/5, mb1mx3.5/14, MS3.1/2, Ms1 3.1/2, ms1mx2.6/15, Error ellipse: s-maj=51.8km s-min=33.9km az=96.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.64**	**201**	P		P	09 23 51.2	-1.7
	0.6nm,0.3s,baz=4.3,slow=7.6,SNR=18							
FITZ				S		S	09 26 10.6	-0.9
	0.2nm,0.3s,baz=356,slow=20,SNR=4.4							
WRA	**Warramunga Arr**	**14.14**	**165**	P		P	09 24 11.4	-0.9
	1.3nm,0.3s,baz=349,slow=10,SNR=58							
WRA				S		S	09 26 46.7	+0.1
	1.1nm,0.3s,baz=345,slow=22,SNR=11							
ASAR	**Alice Springs**	**17.64**	**169**	P		P	09 24 55.8	-0.4
	1.1nm,0.3s,baz=350,slow=9.3,SNR=89							
ASAR				S		S	09 28 12.4	+6.2
	0.2nm,0.3s,baz=356,slow=24,SNR=6.2							
ASAR				LR		LR	09 31 58.8	
	comp=Z,42nm,20.3s,baz=198,slow=38							
CTA	**Charters Tower**	**20.66**	**133**	P		P	09 25 27.8	-0.9
	1.7nm,0.7s,baz=318,slow=15,SNR=3.6							
TGY	**Tagaytay City**	**22.29**	**335**	LR		LR	09 35 48.0	
	comp=Z,92nm,21.2s,baz=25,slow=40							
STKA	**Stephens Creek**	**27.56**	**159**	P		P	09 26 31.6	-2.9
	1.0nm,0.3s,baz=340,slow=9.0,SNR=16							

*NEIC **24** 09:27:03.4±0.5, 51.47N×16.30E, h5km, ML2.7(VIE), Error ellipse: s-maj=5.8km s-min=4.8km az=74.0*
*IDC **24** 09:27:05.4±0.8, 51.41N×16.21E, mb1 3.1/4, mb1mx3.1/18, ML2.8/6, Error ellipse: s-maj=18.4km s-min=6.1km az=102.0*
*PRU **24** 09:27:05.5, 51.38N×16.24E*
*WAR **24** 09:27:05.5, 51.41N×16.24E, ML2.8, Mining Induced*
*MOS **24** 09:27:07.1±2.2, 51.28N×16.25E, h10km, mb4.0/1, Error ellipse: s-maj=14.8km s-min=6.9km az=85.8*

ISC 24 09:27:01.3±0.5, 51.50N±0.03×16.26E±0.04, n33, σ1§31/58, 1C, Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSP	**Ksiaz**	**0.65**	**178**	*e*PG		**Pg**	**09 27 16.0**	**+1.6**
KSP				*e*SG		**Sg**	**09 27 23.0**	**-0.1**
KSP	**Ksiaz**	**0.65**	**178**	*e*P		**Pg**	**09 27 15.8**	**+1.4**
KSP				*e*			09 27 23.5	
KSP	**Ksiaz**	**0.65**	**178**	*e*Pg		**Pg**	**09 27 15.8**	**+1.4**
KSP				*e*			09 27 18.5	
KSP				*e*Sg		**Sg**	**09 27 23.5**	**+0.4**
KSP	**Ksiaz**	**0.65**	**178**	*e*Pg		**Pg**	**09 27 15.8**	**+1.4**
KSP				*e*Sg		**Sg**	**09 27 24.0**	**+0.9**
UPC	**Upice**	**1.00**	**189**	*e*PG		**Pg**	**09 27 22.0**	**+0.7**
DPC	**Dobruska-Polom**	**1.15**	**178**	*e*P		**Pg**	**09 27 24.6**	**+0.4**
DPC				*e*			09 27 38.7	
DPC				smax				
	comp=N,26nm,0.3s							
DPC	**Dobruska-Polom**	**1.15**	**178**	*e*PG		**Pg**	**09 27 24.6**	**+0.4**
DPC				*e*SG		**Sg**	**09 27 38.7**	**-0.8**
	comp=N,26nm,0.3s							
PVCC	**Panska Ves**	**1.44**	**228**	*e*PG		**Pg**	**09 27 30.8**	**+0.7**
BRG	**Berggiesshubel**	**1.58**	**248**	*e*P		**Pn**	**09 27 33.0**	**+2.2**
BRG				*i*			09 27 54.6	
BRG	**Berggiesshubel**	**1.58**	**248**	*e*Pn		**Pn**	**09 27 33.0**	**+2.2**
BRG				*i* Pg		**Pg**	**09 27 33.7**	**+0.7**
BRG				*i* Sg		**Sg**	**09 27 54.6**	**+0.5**
RUE	**Ruedersdorf**	**1.82**	**304**	Pn		**Pn**	**09 27 35.9**	**+1.7**
PRU	**Pruhonice**	**1.86**	**217**	P		**Pg**	**09 27 37.7**	**-0.8**
PRU							09 28 01.1	
PRU				smax				
	comp=N,15nm,0.4s							
PRU	**Pruhonice**	**1.86**	**217**	PG		**Pg**	**09 27 37.7**	**-0.8**
PRU				*i* x		x	09 27 41.8	
PRU				SG		**Sg**	**09 28 01.1**	**-2.2**
	comp=N,15nm,0.4s							
MORC	**Moravsky Berou**	**1.91**	**154**	*e*Pn		**Pn**	**09 27 36.3**	**+0.9**
MORC				*e*Sn		**Sn**	**09 28 01.9**	**+1.4**
CLL	**Collm**	**2.05**	**266**	*i* Pg		**Pg**	**09 27 42.7**	**+0.5**
CLL				*i* SG		**Sg**	**09 28 09.4**	**-0.1**
OKC	**Ostrava-Krasne**	**2.05**	**143**	*e*PG		**Pg**	**09 27 41.9**	**-0.3**
OKC				*e*SG		**Sg**	**09 28 06.6**	**-3.0**
VRAC	**Vranov**	**2.20**	**174**	Pn		**Pn**	**09 27 41.7**	**+2.1**
	comp=N,2.4nm,0.3s,baz=349,slow=14,SNR=11							
VRAC				Lg			09 28 12.4	
	comp=N,2.7nm,0.3s,baz=79,slow=18,SNR=12							
OJC	**Ojcow**	**2.58**	**118**	*e*PG		**Pg**	**09 27 53.0**	**+0.1**
OJC				*e*SG		**Sg**	**09 28 28.0**	**+0.7**
OJC	**Ojcow**	**2.58**	**118**	*e*Pg		**Pg**	**09 27 53.5**	**+0.6**
OJC				*e*Sg		**Sg**	**09 28 27.7**	**+0.4**
OJC	**Ojcow**	**2.58**	**118**	*e*Pg		**Pg**	**09 27 53.5**	**+0.6**
OJC				*e*Sg		**Sg**	**09 28 27.7**	**+0.4**
NKC	**Novy Kostel**	**2.73**	**244**	*e*SG		**Sg**	**09 28 31.7**	**-0.4**
KHC	**Kasperske Hory**	**2.92**	**217**	*e*P		**Pn**	**09 27 51.2**	**+1.2**
KHC				*e*			09 28 25.5	
KHC	**Kasperske Hory**	**2.92**	**217**	*e*PN		**Pn**	**09 27 51.2**	**+1.2**
KHC				*e*Pg		**Pg**	**09 27 57.2**	**-2.5**
KHC				*e*SN		**Sn**	**09 28 25.5**	**-0.8**
KHC				*e*Sg		**Sg**	**09 28 35.1**	**-3.6**
MOX	**Moxa**	**3.05**	**256**	*e*Pg		**Pg**	**09 28 02.2**	**0.0**
MOX				*e*Sg		**Sg**	**09 28 42.3**	**-0.6**
GERES	**GERESS Array B**	**3.12**	**213**	Pn		**Pn**	**09 27 54.5**	**+1.7**
	comp=N,0.2nm,0.3s,baz=37,slow=15,SNR=4.7							
GERES				Pg		**Pg**	**09 28 00.8**	**-2.8**
	comp=N,2.3nm,0.3s,baz=35,slow=16,SNR=38							
GERES				Sn		**Sn**	**09 28 31.6**	**+0.3**
	comp=N,1.1nm,0.3s,baz=32,slow=25,SNR=4.0							
GERES				Lg			09 28 42.1	
	comp=N,2.9nm,0.3s,baz=27,slow=24,SNR=10.0							
GERES	**GERESS Array B**	**3.12**	**213**	P		**Pn**	**09 27 54.5**	**+1.7**
GERES							09 28 31.6	
GERES				pmax		pmax		
	comp=Z,2.0nm,0.3s							
GERES	**GERESS Array B**	**3.12**	**213**	Pn		**Pn**	**09 27 54.5**	**+1.7**
GERES				Pg		**Pg**	**09 28 00.8**	**-2.8**
GERES				Sn		**Sn**	**09 28 31.6**	**+0.3**
GERES				Lg			09 28 42.1	
VYHS	**Vyhne**	**3.43**	**150**	*e*PG		**Pg**	**09 28 06.5**	**-3.4**
VYHS				*e*SG		**Sg**	**09 28 52.6**	**-3.1**
MOA	**Molln**	**3.87**	**200**	*i*PN		**Pn**	**09 28 04.3**	**+0.9**
MOA				*i* SG		**Sg**	**09 29 06.5**	**-3.7**
	comp=Z,7.7nm,0.6s							
HFS	**Hagfors**	**8.78**	**352**	Pn		**P**	**09 29 11.7**	**-0.8**
	comp=Z,0.0nm,0.3s,baz=163,slow=15,SNR=4.1							
HFS				Sn		**Sn**	**09 30 48.6**	**-4.7**
	comp=Z,0.0nm,0.3s,baz=68,slow=43,SNR=2.7							
NOA	**NORSAR Array B**	**9.97**	**346**	Pn		**P**	**09 29 27.9**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=256,slow=18,SNR=2.5							
FINES	**FINESS Array B**	**11.34**	**25**	Pn		**P**	**09 29 46.2**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=207,slow=13,SNR=5.6							
FINES				Sn		**S**	**09 31 47.5**	**-8.6**
	comp=Z,0.1nm,0.3s,baz=204,slow=19,SNR=4.4							
ARCES	**ARCESS Array B**	**18.62**	**10**	Pn		**P**	**09 31 19.8**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=203,slow=14,SNR=3.4							

*NEIC **24** 09:37:06.6, 16.42N×96.21W, h20km, MD4.3(MEX), After MEX.*

MEX 24 09:37:05.7±1.1, 16.39N×96.24W, h50km±18km, MD4.3, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HUIG	**Huatulco**	**0.63**	**168**	*e*P		P	09 37 17.0	-1.6
HUIG				*i* S		S	09 37 26.3	-1.8
VHO	**Vista Hermosa**	**0.82**	**325**	*i* P		S	09 37 19.5	-1.6
VHO				*i* S		S	09 37 31.3	-1.2
OXX	**Oaxaca**	**0.83**	**326**	*e*P		S	09 37 19.7	-1.5
OXX				*i* S		S	09 37 29.5	-3.1
CMIG	**Matias Romero**	**1.47**	**62**	*e*P		S	09 37 27.7	-2.6
CMIG				*i* S		S	09 37 46.5	-2.2
PNIG	**Pinotepa**	**1.81**	**270**	*e*P		S	09 37 32.5	-2.6
PNIG				*i* S		S	09 37 53.0	-3.9
EVV	**El Vigia**	**2.22**	**22**	*e*P		S	09 37 39.0	-1.9
TUIG	**Tuzandepetl**	**2.38**	**47**	*e*P		S	09 37 41.2	-2.0
TUIG				*e*S		S	09 38 09.2	-2.1
LVIG	**Laguna Verde**	**3.32**	**357**	*i* P		S	09 37 55.7	-0.8
LVIG				*i* S		S	09 38 30.0	-5.0
PPM	**Popocatepetl**	**3.50**	**320**	*e*P		S	09 38 00.0	+1.0
YAIG	**Yautepec**	**3.65**	**313**	*e*P		S	09 38 01.4	+0.3
YAIG				*e*S		S	09 38 41.1	-2.2
PLIG	**Platanillo**	**3.69**	**303**	*e*P		S	09 38 01.2	-0.6
PLIG				*e*S		S	09 38 42.6	-1.9
CAIG	**El Cayaco**	**3.91**	**280**	*i* P		S	09 38 23.3	+18
CAIG				*i* S		S	09 38 53.1	+3.1
ZIIG	**Zihuatanejo**	**5.14**	**284**	*i* S		S	09 39 11.5	-9.5
MOIG	**Morelia**	**5.73**	**305**	*e*P		S	09 38 30.6	+0.3
MOIG				*e*S		S	09 39 26.1	-10

CASC 24 09:49:57.1±1.9, 12.28N×87.35W, h61km±13km, MD3.8, ML3.6, 11C-10D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LEON	**Leon**	**0.47**	**74**	*i*P		P	09 50 08.9	0.0
LEON				*e*S		S	09 50 18.1	+0.6
MIRN	**Miramar**	**0.65**	**76**	*e*P		S	09 50 10.9	+0.1
MIRN				*e*S		S	09 50 20.1	-0.9
CNGN	**Cerro Negro**	**0.68**	**71**	*e*P		S	09 50 11.7	+0.5
CNGN				*e*S		S	09 50 23.3	+1.6
MOMJ	**Momotombo**	**0.81**	**81**	*e*P		P	09 50 12.8	0.0
MOMJ				*e*S		S	09 50 25.0	+0.5
APYN	**Apoyeque**	**0.98**	**93**	*i*P		P	09 50 15.2	0.0
XAVN	**Gruta Xavier**	**1.01**	**98**	*e*P		P	09 50 15.6	-0.1
CRUN	**El Crucero**	**1.07**	**106**	*e*P		P	09 50 16.3	-0.1
MGAN	**Managua**	**1.09**	**97**	*e*P		P	09 50 16.5	-0.2
MGAN				*e*S		S	09 50 30.9	-0.2
	comp=N,873nm,0.3s							
CNCH	**Conchagua**	**1.09**	**335**	*e*P		P	09 50 16.8	+0.1
CNCH				*e*S		S	09 50 31.6	+0.5
TICN	**Ticuantepe**	**1.12**	**103**	*e*P		P	09 50 17.2	+0.1
TICN				*e*S		S	09 50 33.8	+1.9
WILN	**Americas 2**	**1.15**	**96**	*e*P		P	09 50 17.3	0.0
WILN				*e*S		S	09 50 32.8	+0.3
MASN	**Masaya**	**1.21**	**104**	*e*P		P	09 50 18.1	-0.2
MASN				*e*S		S	09 50 33.4	-0.7
QUIN	**Quiabu**	**1.24**	**47**	*e*P		P	09 50 18.5	-0.2
QUIN				*e*S		S	09 50 34.0	-0.7
PYTN	**Playitas**	**1.29**	**79**	*e*P		P	09 50 19.1	-0.3
PYTN				*e*S		S	09 50 35.2	-0.8
APON	**Apoyo**	**1.31**	**106**	*e*P		P	09 50 19.3	-0.5
APON				*e*S		S	09 50 36.2	-0.4
SOMN	**Somoto**	**1.34**	**33**	*e*P		P	09 50 22.5	+2.3
SOMN				*e*S		S	09 50 41.1	+3.9
BLLM	**Bellamira**	**1.44**	**323**	*e*P		P	09 50 21.6	+0.1
BLLM				*e*S		S	09 50 40.5	+0.9
VSM	**San Miguel**	**1.45**	**322**	*e*P		P	09 50 22.1	+0.5
VSM				*e*S		S	09 50 41.8	+2.0
CAHU	**Cacacuatique**	**1.70**	**331**	*e*P		P	09 50 25.2	+0.1
CAHU				*e*S		S	09 50 47.2	+1.5
SNVI	**San Vicente**	**1.96**	**313**	*e*P		P	09 50 29.2	+0.5
SNVI				*e*S		S	09 50 53.0	+1.0
LCBS	**La Ceiba**	**2.09**	**311**	*i*P		P	09 50 30.1	-0.4
LCBS				*e*S		S	09 50 54.8	-0.5
LFRS	**El Faro**	**2.13**	**309**	*e*P		P	09 50 30.9	-0.2
LFRS				*e*S		S	09 50 55.5	-0.8
LBRS	**Las Brisas**	**2.19**	**311**	*e*P		P	09 50 31.8	-0.1
LBRS				*e*S		S	09 50 57.3	-0.6
BOQS	**Boqueron**	**2.37**	**308**	*e*P		P	09 50 34.3	-0.2
BOQS				*e*S		S	09 51 01.9	-0.4
SBLS	**San Blas**	**2.70**	**305**	*i*P		P	09 50 39.1	0.0
SBLS				*e*S		S	09 51 11.5	+0.8
SNJE	**San Jose**	**2.70**	**306**	*e*P		P	09 50 38.6	-0.5
SNJE				*e*S		S	09 51 10.9	+0.2
RTR	**El Retiro**	**2.75**	**306**	*e*P		P	09 50 39.6	-0.3
RTR				*e*S		S	09 51 11.5	-0.5
RBDL	**Robledal**	**2.91**	**309**	*e*P		P	09 50 41.8	-0.3
RBDL				*e*S		S	09 51 16.6	+0.6
CUSS	**Cusmapa**	**3.00**	**303**	*e*P		P	09 50 43.0	-0.4
CUSS				*e*S		S	09 51 16.9	-1.4

*THE **24** 09:51:56.3, 37.68N×19.90E, h4km, ML3.6*
*ATH **24** 09:51:57.5, 37.90N×19.93E, h5km, MD3.7/9*
*NEIC **24** 09:51:57.5, 37.90N×19.93E, h5km, MD3.7(ATH), MD3.7(ROM), After ATH.*
*CSEM **24** 09:51:57.4±0.1, 37.82N×19.92E, h2km, MD3.7, Error ellipse: s-maj=3.0km s-min=2.0km az=16.0*
*IDC **24** 09:52:00.2±3.0, 38.44N×20.87E, mb3.4/4, mb1 3.5/7, mb1mx3.4/22, ML3.2/3, MS2.7/1, Ms1 2.7/1, ms1mx1.8/24, Error ellipse: s-maj=70.3km s-min=20.8km az=48.0*

ISC 24 09:51:55.4±0.5, 37.72N±0.04×19.89E±0.04, h5km, n40, σ1§10/48, mb3.4/4, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VLS	**Valsamata**	**0.72**	**50**	*e*PB		**Pb**	**09 52 09.0**	**-1.0**
LKD	**Levkas**	**1.16**	**31**	*e*Pb		**Pb**	**09 52 18.7**	**+1.2**
LKD				*e*Sb		**Sb**	**09 52 34.9**	**+2.3**
RLS	**Riolos of Patr**	**1.29**	**74**	*e*PG		**Pg**	**09 52 20.4**	**-0.8**
ITM	**Ithomi**	**1.71**	**108**	*e*PG		**Pg**	**09 52 29.3**	**-0.2**
IGT	**Igoumenitsa**	**1.85**	**11**	*e*Pb		**Pb**	**09 52 28.0**	**-1.3**
IGT				*e*Sb		**Sb**	**09 52 52.7**	**0.0**
EVR	**Evrytania**	**1.93**	**51**	*e*PN		**Pn**	**09 52 31.7**	**+2.5**
KEK	**Kerkira**	**2.00**	**358**	*e*PG		**Pg**	**09 52 31.2**	**-4.1**
JAN	**Janina**	**2.08**	**21**	*e*PN		**Pn**	**09 52 33.7**	**+2.3**
MEV	**Metsovon**	**2.32**	**26**	*e*Pn		**Pn**	**09 52 36.1**	**+1.3**
MEV				*e*Sn		**Sn**	**09 53 04.1**	**+0.1**
AGG	**Agios Georgios**	**2.32**	**55**	*e*Pn		**Pn**	**09 52 35.3**	**+0.5**
AGG				*e*Sn		**Sn**	**09 53 03.6**	**-0.5**
VLI	**Veliai**	**2.63**	**111**	*e*PG		**Pg**	**09 52 47.5**	**-0.4**
NSAL	**Nisos Salamina**	**2.83**	**85**	*e*PN		**Pg**	**09 52 47.0**	**+4.8**
NAIG	**Nisos Aigina**	**2.85**	**88**	*e*PG		**Pg**	**09 52 50.0**	**-2.4**
KYTH	**Kithira**	**2.90**	**119**	*e*PB		**Pb**	**09 52 46.5**	**-0.8**
SOI	**Samo**	**3.06**	**278**	*e*Pn		**Pn**	**09 52 46.6**	**+1.3**
SOI				*e*Sn		**Sn**	**09 53 22.8**	**0.0**
SOI	**Samo**	**3.06**	**278**	*e*Pn		**Pn**	**09 52 46.7**	**+1.4**
SOI				*e*Sn		**Sn**	**09 53 22.8**	**0.0**
NEO	**Neokhori**	**3.06**	**58**	*e*PB		**Pb**	**09 52 45.5**	**-4.6**
XOR	**Xorichti**	**3.07**	**56**	*e*Pn		**Pn**	**09 52 45.1**	**-0.4**
LIT	**Litokhoron**	**3.13**	**40**	*e*Pn		**Pn**	**09 52 46.7**	**+0.4**
FNA	**Florina**	**3.27**	**20**	*e*Pn		**Pn**	**09 52 48.5**	**0.0**
GRG	**Griva**	**3.78**	**30**	*e*Pn		**Pn**	**09 52 54.8**	**-0.8**
SG1	**Sgolgore (BA)**	**3.99**	**322**	*e*Pn		**Pn**	**09 52 57.7**	**-1.0**
SOH	**Sokhos**	**4.10**	**40**	*e*Pn		**Pn**	**09 53 00.2**	**-0.1**
OUR	**Ouranopolis**	**4.12**	**49**	*e*Pn		**Pn**	**09 53 00.0**	**-0.5**
KNT	**Kendrikon**	**4.16**	**33**	*e*Pn		**Pn**	**09 53 00.3**	**-0.7**
MGR	**Morigerati**	**4.16**	**307**	*e*Pn		**Pn**	**09 53 01.3**	**+0.3**
MGR				*e*Sn		**Sn**	**09 53 49.6**	**-1.0**
MGR	**Morigerati**	**4.16**	**307**	*e*Pn		**Pn**	**09 53 01.3**	**+0.3**
MGR				*e*Sn		**Sn**	**09 53 49.6**	**-1.1**
SLCN	**Sala Consilina**	**4.26**	**310**	*e*Pn		**Pn**	**09 53 04.1**	**+1.7**
SLCN	**Sala Consilina**	**4.26**	**310**	*e*Pn		**Pn**	**09 53 04.1**	**+1.7**
VAE	**Valguarnera**	**4.36**	**269**	LR		LR	09 55 32.7	
	comp=Z,84nm,20.5s,baz=288,slow=40							
IDI	**Anoyia**	**4.70**	**120**	Pn		**Pn**	**09 53 09.9**	**+1.2**
	0.4nm,0.3s,baz=236,slow=21,SNR=3.3							
IDI				Sn		**Sn**	**09 54 05.5**	**+1.2**
	1.2nm,0.3s,baz=344,slow=22,SNR=3.5							
CSS	**Prodhromos**	**11.18**	**100**	Pn		**P**	**09 54 33.1**	**-6.0**
DAVOX	**Davos**	**11.70**	**324**	Pn		**P**	**09 54 45.9**	**-0.1**
	0.2nm,0.3s,baz=151,slow=23,SNR=2.6							
DAVOX	**Davos**	**11.70**	**324**	Pn		**P**	**09 54 45.9**	**-0.1**
GERES	**GERESS Array B**	**12.00**	**340**	Pn		**P**	**09 54 47.3**	**-2.8**
	0.1nm,0.3s,baz=169,slow=14,SNR=4.5							
HFS	**Hagfors**	**22.78**	**352**	P		**P**	**09 56 59.6**	**-0.1**
	1.3nm,0.8s,mb3.4,baz=158,slow=16,SNR=4.0							
NOA	**NORSAR Array B**	**23.98**	**350**	P		**P**	**09 57 11.3**	**+0.1**
	0.2nm,0.8s,mb2.6,baz=154,slow=12,SNR=2.3							
NOA	**NORSAR Array B**	**23.98**	**350**	P		**P**	**09 57 11.3**	**+0.1**
FINES	**FINESS Array B**	**24.07**	**7**	P		**P**	**09 57 11.0**	**-1.2**
	0.7nm,0.7s,mb3.2,baz=159,slow=12,SNR=7.7							
ZAL	**Zalesovo**	**46.36**	**48**	P		**P**	**10 00 17.9**	**-6.1**
	1.1nm,0.4s,mb4.1,baz=203,slow=3.0,SNR=3.1							

*LDG **24** 10:00:39.7±0.1, 43.18N×1.70W, h3km, Md2.9/2, Ml2.7/11, Error ellipse: s-maj=1.8km s-min=0.9km az=47.0*
*NEIC **24** 10:00:39.7, 43.18N×1.70W, h3km, ML2.7(LDG), ML2.5(STR), MN2.2(MDD), After LDG.*
*MDD **24** 10:00:40.7±0.3, 43.26N×1.65W, h7km±2km, mbLg2.1/20, Error ellipse: s-maj=3.9km s-min=2.9km az=14.0, PRXIMO*
*STR **24** 10:00:40.1±0.8, 43.19N×1.65W, h5km±1km, Ml2.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 24 10:00:37.6±0.5, 43.33N±0.02×1.69W±0.03, h7km±3km, n44, σ1§26/85, 1C-1D, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EALK	**Alkurruntz**	**0.17**	**131**	Pg		**Pg**	**10 00 43.2**	**+1.9**
	103nm,0.1s,SNR=18							
EALK				Lg			10 00 45.3	
	339nm,0.1s,SNR=7.9							
OSSF	**Osses**	**0.32**	**104**	Pg		**Pg**	**10 00 46.0**	**+1.9**
OSSF				Sg		**Sg**	**10 00 50.1**	**+1.6**
OSSF	**Osses**	**0.32**	**104**	P		**Pg**	**10 00 46.0**	**+1.9**
OSSF				S		**Sg**	**10 00 50.0**	**+1.5**
SJPF	**Ste Jean**	**0.40**	**123**	*e*Pg		**Pg**	**10 00 46.8**	**+1.0**
SJPF				*e*Sg		**Sg**	**10 00 51.3**	**+0.1**
	480nm,0.3s							
ORDF	**Ordiarp**	**0.56**	**102**	Pg		**Pg**	**10 00 50.4**	**+1.5**
ORDF				Sg		**Sg**	**10 00 57.9**	**+1.5**
ORDF	**Ordiarp**	**0.56**	**102**	P		**Pg**	**10 00 50.3**	**+1.4**
ORDF				S		**Sg**	**10 00 58.0**	**+1.6**
LARF	**Larrau**	**0.59**	**120**	Pg		**Pg**	**10 00 50.2**	**+0.7**
LARF				Sg		**Sg**	**10 00 57.7**	**+0.3**
ATE	**Arette**	**0.76**	**109**	P		**Pb**	**10 00 53.6**	**+0.8**
ATE				S		**Sg**	**10 01 03.4**	**+0.3**
ETSF	**Etsaut**	**0.93**	**117**	*e*Pg		**Pg**	**10 00 56.1**	**-0.2**
ETSF				*e*Sg		**Sg**	**10 01 07.4**	**-1.4**
	37nm,0.2s							
REYF	**Montagne du Re**	**0.98**	**105**	S		**Sb**	**10 01 11.0**	**+1.4**
ELAN	**Lanestosa**	**1.28**	**266**	Pg		**Pg**	**10 01 03.9**	**+0.7**
	3.1nm,0.1s,SNR=18							
ELAN				Lg			10 01 21.3	
	7.0nm,0.2s,SNR=5.0							
LABF	**Labassere**	**1.32**	**102**	S		**Sb**	**10 01 22.0**	**+2.6**
VIEF	**Viey**	**1.33**	**109**	Pg		**Pg**	**10 01 03.5**	**-0.7**
VIEF				Sg		**Sg**	**

	7.8nm,0.3s							
QUIF	**Quistinic**	**4.70**	**348**	*e*Pn	**Pn**	**10 01 51.3**	**+0.6**	
QUIF				*e*Sn	**Sn**	**10 02 44.6**	**-1.7**	
VIVF	**Saint-Julien-l**	**4.83**	**69**	*e*Pn	**Pn**	**10 01 52.6**	**+0.1**	
GRR	**Gorron**	**5.09**	**6**	*e*Pn	**Pn**	**10 01 57.0**	**+0.8**	
GRR				*e*Sn	**Sn**	**10 02 52.4**	**-3.7**	
	2.5nm,0.2s							
ROSF	**Rostrenen**	**5.12**	**348**	*e*Sn	**Sn**	**10 02 54.3**	**-2.7**	
LDF	**La Druitiere**	**5.37**	**11**	*e*Pn	**Pn**	**10 02 00.6**	**+0.4**	
LDF				*e*Sn	**Sn**	**10 02 58.3**	**-4.9**	
FLN	**La Foliniere**	**5.50**	**8**	*e*Pn	**Pn**	**10 02 01.9**	**-0.1**	
FLN				*e*Sn	**Sn**	**10 03 02.3**	**-4.0**	
	1.0nm,0.2s							

IDC 24 10:05:45.4±1.3,17.69S×174.48W,mb3.8/5,mb1 4.1/5, mb1mx3.8/16,Error ellipse: s-maj=54.4km s-min=26.1km az=134.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**21.78**	**198**	P	P	10 10 38.9	-1.8
	21nm,1.2s,baz=38,slow=21,SNR=6.2						
WRA	**Warramunga Arr**	**48.35**	**259**	P	P	10 14 29.3	-1.8
	0.3nm,0.3s,baz=98,slow=7.0,SNR=17						
ASAR	**Alice Springs**	**48.45**	**254**	P	P	10 14 29.6	-2.1
	0.7nm,0.3s,baz=92,slow=8.0,SNR=0.4						
NVAR	**Mina Array Bea**	**76.71**	**42**	P	P	10 17 39.3	-1.0
	0.3nm,0.7s,baz=233,slow=9.0,SNR=4.5						
ILAR	**Eielson Array**	**84.88**	**11**	P	P	10 18 21.1	-1.9
	0.2nm,0.7s,baz=232,slow=6.9,SNR=5.0						

*CSEM **24** 10:12:10.9±1.4,38.59N×28.58W,h6km±10km,ML1.9, Error ellipse: s-maj=11.1km s-min=4.0km az=47.0,After PDA*

*PDA **24** 10:12:10.9±1.4,38.59N×28.58W,h6km±10km,MD3.1, ML1.9,Error ellipse: s-maj=11.1km s-min=4.0km az=47.0*

SVSA 24 10:12:10.9±1.4,38.59N×28.58W,h6km±10km,MD3.1, ML1.9,Error ellipse: s-maj=11.1km s-min=4.0km az=47.0,Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.11**	**293**	*e*P	Pg	10 12 13.1	-0.2
PCED				*e*S	Sg	10 12 15.1	+0.2
	120nm,0.1s						
PCED	**Cedros**	**0.11**	**293**	*e*P	Pg	10 12 13.1	-0.2
PCED				*e*S	Sg	10 12 15.1	+0.2
	120nm,0.1s						
PICO	**Pico**	**0.14**	**126**	*e*P	Pg	10 12 13.3	-0.7
PICO				*e*S	Sg	10 12 16.3	+0.2
ROSA	**Rosais**	**0.29**	**63**	*e*P	Pg	10 12 16.4	-0.4
ROSA				*e*S	Sg	10 12 20.3	-0.5
PMAN	**Manadas**	**0.38**	**83**	*e*P	Pg	10 12 17.3	-1.3
PMAN				*e*S	Sg	10 12 22.7	-1.1
	64nm,0.1s						
PMAN	**Manadas**	**0.38**	**83**	*e*P	Pg	10 12 17.3	-1.3
PMAN				*e*S	Sg	10 12 22.7	-1.1
	64nm,0.1s						
PID	**Ribeirinha**	**0.39**	**112**	*i* P	Pg	10 12 17.5	-1.2
PID				*e*S	Sg	10 12 23.4	-0.5

*BJI **24** 10:51:33.0,54.55N×163.76W,h70km,mB4.9,mb5.0, Ms4.8,Msz4.4*

*IDC **24** 10:51:36.2±0.6,54.54N×164.00W,h72km±5km,mb4.2/22, mb1 4.4/27,mb1mx4.4/28,MS3.5/12,Ms1 3.5/12, ms1mx3.4/26,Error ellipse: s-maj=15.0km s-min=9.3km az=5.0*

*MOS **24** 10:51:36.2±1.1,54.66N×163.89W,h86km,mb4.5/17, Error ellipse: s-maj=17.0km s-min=9.9km az=90.1*

*NEIC **24** 10:51:36.2±0.2,54.39N×163.85W,mb4.6/52,Error ellipse: s-maj=4.4km s-min=2.4km az=163.0*

ISC 24 10:51:35.9±0.2,54.46N±0.03×163.89W±0.03,h87km±1km, h72km±.8km:pP-P,n253,σ092/261,mb4.6/88,1C-5D, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSLS	**Shishaldin Sou**	**0.26**	**346**	P	**P**	**10 51 49.2**	**+0.3**
SSLW	**Shishaldin Wes**	**0.34**	**337**	P	**P**	**10 51 49.8**	**+0.5**
SSLN	**Shishaldin Nor**	**0.35**	**350**	P	**P**	**10 51 50.1**	**+0.7**
WESN	**West Dahl Nort**	**0.42**	**285**	P	**P**	**10 51 50.1**	**+0.2**
WTUG	**Tugumak**	**0.48**	**324**	P	**P**	**10 51 51.1**	**+0.8**
FALS	**False Pass**	**0.48**	**35**	P	**P**	**10 51 52.3**	**-0.1**
FALS				S	**S**	**10 52 01.5**	**+0.3**
WESS	**West Dahl Sout**	**0.48**	**272**	P	**P**	**10 51 50.5**	**+0.1**
WPOG	**Pogromni**	**0.52**	**286**	P	**P**	**10 51 51.0**	**+0.3**
WFAR	**Faris Peak**	**0.52**	**279**	P	**P**	**10 51 51.0**	**+0.2**
BALA	**Baldy Mountain**	**0.97**	**41**	P	**P**	**10 51 56.3**	**+0.9**
BALA				S	**S**	**10 52 11.0**	**+1.0**
DRIA	**Deer Island**	**1.07**	**61**	P	**P**	**10 51 56.0**	**-0.6**
DT1	**Dutton Round H**	**1.14**	**55**	P	**P**	**10 51 57.0**	**-0.3**
AKA	**Akutan**	**1.15**	**254**	P	**P**	**10 51 57.4**	**-0.1**
AKA				S	**S**	**10 52 14.3**	**+0.6**
DTNA	**Dutton South F**	**1.17**	**53**	P	**P**	**10 51 57.7**	**-0.2**
AHB	**Akutan Harbor**	**1.18**	**254**	P	**P**	**10 51 58.0**	**+0.1**
AKLV	**Akutan Long Va**	**1.25**	**257**	P	**P**	**10 51 58.6**	**-0.1**
AKLV				S	**S**	**10 52 15.3**	**-0.6**
AKGG	**Akutan Green G**	**1.26**	**259**	P	**P**	**10 51 59.0**	**+0.1**
AKGG				S	**S**	**10 52 16.5**	**+0.4**
LVA	**Lava Point**	**1.29**	**257**	P	**P**	**10 51 59.5**	**+0.1**
DOL	**Dolgoi Island**	**1.36**	**59**	P	**P**	**10 51 59.9**	**-0.3**
HAG	**Hague Volcano**	**1.43**	**52**	P	**P**	**10 52 01.6**	**+0.5**
PN7A	**Pavlof North-7**	**1.46**	**48**	P	**P**	**10 52 02.3**	**+0.7**
PN7A				S	**S**	**10 52 22.8**	**+2.3**
PN6	**Pavlof North-6**	**1.51**	**48**	P	**P**	**10 52 03.3**	**+1.2**
PVV	**Pavlof Volcano**	**1.52**	**52**	P	**P**	**10 52 02.6**	**+0.4**
PS1A	**Pavlof South-1**	**1.57**	**51**	P	**P**	**10 52 03.5**	**+0.6**
PS1A				S	**S**	**10 52 23.3**	**+0.4**
BLHA	**Black Hill**	**1.63**	**39**	P	**P**	**10 52 04.1**	**+0.4**
UNV	**Unalaska Valle**	**1.66**	**249**	P	**P**	**10 52 03.4**	**-0.6**
UNV				S	**S**	**10 52 23.8**	**-0.9**
MTBL	**Makushin Table**	**1.71**	**254**	P	**P**	**10 52 04.6**	**-0.1**
MNAT	**Makushin Natee**	**1.74**	**252**	P	**P**	**10 52 04.6**	**-0.6**
MNAT				S	**S**	**10 52 26.8**	**+0.1**
MSW	**Makushin Switc**	**1.79**	**253**	P	**P**	**10 52 05.3**	**-0.4**
MCIR	**Makushin Cirqu**	**1.83**	**255**	P	**P**	**10 52 06.5**	**+0.1**
MGOD	**Makushin Gods**	**1.88**	**250**	P	**P**	**10 52 06.7**	**-0.3**
SDPT	**Sand Point**	**2.16**	**64**	P	**P**	**10 52 10.3**	**-0.6**
SDPT				S	**S**	**10 52 35.5**	**-1.2**
OKER	**East Rim**	**2.66**	**249**	P	**P**	**10 52 17.6**	**-0.2**
OKCD	**Okmok Cone D**	**2.70**	**249**	P	**P**	**10 52 17.8**	**-0.6**
NIKO	**Nikolski**	**3.30**	**245**	P	**P**	**10 52 26.2**	**-0.5**
NIKO				S	**S**	**10 53 05.5**	**+0.5**
ANPK	**Aniakchak Peak**	**4.04**	**52**	P	**P**	**10 52 36.7**	**-0.2**
SPIA	**Saint Paul Isl**	**4.50**	**310**	P	**P**	**10 52 45.2**	**+2.0**
MGLS	**Mageik LS**	**6.07**	**48**	P	**P**	**10 53 05.0**	**+0.4**
KABR	**Katmai Barrier**	**6.18**	**50**	P	**P**	**10 53 06.3**	**+0.1**
KAWH	**Katmai**	**6.39**	**48**	P	**P**	**10 53 09.5**	**+0.3**
KAHC	**Katmai Hardscr**	**6.46**	**46**	P	**P**	**10 53 11.1**	**+1.0**
ATKA	**Atka Island**	**6.57**	**254**	P	**P**	**10 53 10.8**	**-0.9**
KDAK	**Kodiak Island**	**7.14**	**58**	P	**P**	**10 53 16.5**	**-3.1**
OPT	**Oil Point**	**7.79**	**44**	P	**P**	**10 53 29.1**	**+0.6**
ILW	**Iliamna West**	**8.09**	**42**	P	**P**	**10 53 32.0**	**-0.5**
ILIM	**Iliamna**	**8.17**	**42**	P	**P**	**10 53 34.2**	**+0.6**
KIKV	**Kanaga Island**	**8.39**	**257**	P	**P**	**10 53 36.4**	**-0.2**
KIMD	**Kanaga Island**	**8.47**	**257**	P	**P**	**10 53 36.9**	**-0.8**
NCT	**North Crescent**	**8.49**	**40**	P	**P**	**10 53 37.9**	**-0.1**
RSO	**Redoubt South**	**8.49**	**40**	*e*P	**P**	**10 53 37.4**	**-0.5**
RDN	**Redoubt North**	**8.52**	**40**	P	**P**	**10 53 39.6**	**+1.3**
CNPM	**China Poot**	**8.56**	**49**	P	**P**	**10 53 37.3**	**-1.7**
DFR	**Drift River**	**8.60**	**40**	P	**P**	**10 53 40.5**	**+1.1**
BRLK	**Bradley Lake**	**8.84**	**48**	P	**P**	**10 53 40.5**	**-2.2**
SPU	**Mount Spurr**	**9.22**	**38**	P	**P**	**10 53 48.6**	**+0.7**
TT01	**Tatalina**	**9.40**	**23**	P	**P**	**10 53 50.4**	**+0.1**
STLK	**Strandline Lak**	**9.51**	**37**	P	**P**	**10 53 52.5**	**+0.8**
SLKM	**Skilak Lake**	**9.52**	**45**	P	**P**	**10 53 51.5**	**-0.3**
SEW	**Seward**	**9.64**	**48**	P	**P**	**10 53 51.0**	**-2.3**
MPA	**Moose Pass**	**9.87**	**46**	P	**P**	**10 53 54.5**	**-1.9**
PWA	**Palmer West**	**10.33**	**40**	*e*P	**P**	**10 54 01.4**	**-1.2**
PMR	**Palmer**	**10.58**	**42**	*e*P	**P**	**10 54 04.8**	**-1.2**
CFI	**College Fiord**	**10.90**	**45**	P	**P**	**10 54 09.3**	**-1.0**
EYAK	**Cordova Ski Ar**	**11.48**	**51**	*e*P	**P**	**10 54 14.6**	**-3.5**
DIV	**Divide**	**11.72**	**48**	*e*P	**P**	**10 54 17.9**	**-3.4**
MCK	**McKinley**	**12.03**	**33**	*e*P	**P**	**10 54 23.5**	**-1.9**
IMA	**Indian Mountai**	**12.67**	**19**	P	**P**	**10 54 32.1**	**-1.8**
THY	**Trims Highway**	**12.92**	**39**	*e*P	**P**	**10 54 35.4**	**-1.8**
COLA	**College**	**13.16**	**31**	*e*P	**P**	**10 54 39.6**	**-0.8**
COLA	**College**	**13.16**	**31**	*e*P	**P**	**10 54 37.2**	**-3.1**
ILAR	**Eielson Array**	**13.39**	**33**	P	**P**	**10 54 39.9**	**-3.4**
	0.5nm,0.3s,baz=227,slow=12,SNR=60						
ILAR				S	**S**	**10 57 05.7**	**-4.7**
	0.2nm,0.3s,baz=194,slow=7.9,SNR=3.7						
ILAR				PcP	PcP	11 00 04.9	-1.3
	0.2nm,0.3s,baz=293,slow=3.2,SNR=11						
ILAR				ScP		11 03 31.0	
	0.0nm,0.3s,baz=263,slow=2.5,SNR=4.5						
FX1	**Attu Island--F**	**13.68**	**273**	P	**P**	**10 54 47.1**	**+0.2**
	4.7nm,0.3s,baz=147,slow=16,SNR=57						
FX1				S	**S**	**10 57 21.8**	**+4.7**
	0.6nm,0.3s,baz=277,slow=20,SNR=2.0						
FX1	**Attu Island--F**	**13.68**	**273**	P	**P**	**10 54 47.1**	**+0.1**
FX1				S	**S**	**10 57 21.8**	**+4.7**
FX1				pmax	pmax		
	comp=Z,5.0nm,0.3s						
FX1				smax			
	comp=N,1.0nm,0.3s						
DAWY	**Dawson**	**15.68**	**42**	*e*P	**P**	**10 55 10.5**	**-2.0**
DLBC	**Dease Lake**	**19.01**	**64**	P	**P**	**10 55 54.0**	**+1.1**
	comp=N,0.3nm,0.3s,baz=271,slow=14,SNR=19						
DLBC				LR	LR	11 02 36.1	
	comp=N,91nm,18.1s,baz=304,slow=35						
DLBC	**Dease Lake**	**19.01**	**64**	P	**P**	**10 55 50.8**	**-2.1**
INK	**Inuvik**	**19.79**	**34**	P	**P**	**10 55 59.0**	**-2.2**
	comp=N,0.6nm,0.3s,baz=246,slow=14,SNR=23						
INK				PcP	PcP	11 00 15.2	-0.7
	comp=N,1.0nm,0.3s,baz=295,slow=1.6,SNR=19						
INK				LR	LR	11 03 02.4	
	comp=N,143nm,21.1s,baz=208,slow=35						
INK				ScP		11 03 42.9	
	comp=N,0.1nm,0.3s,baz=312,slow=3.4,SNR=8.6						
INK	**Inuvik**	**19.79**	**34**	*e*P	**P**	**10 55 58.1**	**-3.0**
	comp=N,13nm,0.6s						
BBB	**Bella Bella**	**21.35**	**81**	P	**P**	**10 56 17.8**	**+0.5**
	comp=N,16nm,1.1s,mb4.3,baz=124,slow=22,SNR=4.5						
BBB	**Bella Bella**	**21.35**	**81**	P	**P**	**10 56 17.8**	**+0.5**
PET	**Petropavlovsk**	**22.03**	**282**	*e*P	**P**	**10 56 25.2**	**+1.2**
PET				pmax	pmax		
	comp=Z,83nm,0.8s,mb5.1						
PET				MLR	MLR		
	comp=Z,100nm,17.0s						
PET	**Petropavlovsk**	**22.03**	**282**	*e*P	**P**	**10 56 24.6**	**+0.6**
	comp=Z,42nm,0.6s,mb5.0						
MA2	**Magadan**	**24.81**	**300**	*e*P	**P**	**10 56 52.3**	**+1.6**
MA2				*e*S	**S**	**11 01 07.8**	**+3.8**
MA2				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.0						
YKA	**Yellowknife Ar**	**26.38**	**52**	P	**P**	**10 57 05.7**	**+0.5**
	comp=Z,2.4nm,0.5s,mb3.9,baz=273,slow=7.9,SNR=15						
YKA				PcP	PcP	11 00 28.5	-0.7
	comp=Z,3.0nm,0.6s,baz=277,slow=1.6,SNR=11						
YKA				LR	LR	11 08 58.9	
	comp=Z,84nm,18.1s,baz=280,slow=40						
YKA	**Yellowknife Ar**	**26.38**	**52**	P	**P**	**10 57 05.7**	**+0.4**
YKA						11 00 28.5	
YKA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
YKA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
YKA				MLR	MLR		
	comp=Z,84nm,18.1s						
YKA	**Yellowknife Ar**	**26.38**	**52**	P	**P**	**10 57 05.7**	**+0.5**
YKA				PcP	PcP	11 00 28.6	-0.7
YKA				LR	LR	11 08 58.9	
EDM	**Edmonton**	**29.33**	**71**	*e*P	**P**	**10 57 31.9**	**-0.1**
NEW	**Newport**	**29.40**	**83**	P	**P**	**10 57 32.8**	**+0.1**
	comp=Z,6.9nm,0.8s,mb4.4,baz=296,slow=6.0,SNR=14						
NEW				LR	LR	11 07 03.1	
	comp=Z,122nm,19.8s,baz=316,slow=32						
NEW	**Newport**	**29.40**	**83**	*e*P	**P**	**10 57 32.5**	**-0.2**
	comp=Z,7.9nm,0.9s,mb4.3						
YBH	**Yreka Blue Hor**	**29.86**	**98**	P	**P**	**10 57 38.3**	**+1.5**
	comp=Z,9.7nm,0.6s,mb4.6,baz=328,slow=4.9,SNR=52						
YBH				PcP	PcP	11 00 37.3	-0.7
	comp=Z,0.9nm,0.8s,baz=156,slow=10,SNR=3.0						
YBH	**Yreka Blue Hor**	**29.86**	**98**	P	**P**	**10 57 38.3**	**+1.5**
YBH						11 00 37.3	
YBH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
YBH				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YBH	**Yreka Blue Hor**	**29.86**	**98**	*e*P	**P**	**10 57 37.6**	**+0.8**
	comp=Z,8.7nm,0.8s,mb4.4						
WALA	**Waterton Lakes**	**30.86**	**79**	*e*P	**P**	**10 57 44.9**	**-0.7**
	comp=Z,5.9nm,0.8s,mb4.4						
MOD	**Modoc**	**31.14**	**96**	*e*P	**P**	**10 57 48.6**	**+0.5**
	comp=Z,4.5nm,0.6s,mb4.4						
NSHM	**Saint Helena R**	**32.04**	**103**	*e*P	**P**	**10 57 56.9**	**+0.9**
OHCM	**Honcut**	**32.13**	**100**	*e*P	**P**	**10 57 56.0**	**-0.7**
BEKR	**Beckwourth**	**32.42**	**99**	*e*P	**P**	**10 57 59.7**	**+0.4**
	comp=Z,7.9nm,0.8s,mb4.5						
TIXI	**Tiksi**	**32.69**	**327**	*e*P	**P**	**10 58 01.0**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
TIXI				MLR	MLR		
	comp=Z,100nm,18.0s						
LKC	**Lake Chabot**	**32.89**	**103**	*e*P	**P**	**10 58 03.8**	**+0.4**
WCN	**Washoe City**	**33.15**	**99**	*e*P	**P**	**10 58 06.0**	**+0.4**
	comp=Z,3.3nm,0.7s,mb4.5						
HRY	**Holter Researc**	**33.27**	**82**	*e*P	**P**	**10 58 06.3**	**-0.2**
CMB	**Columbia Colle**	**33.64**	**101**	*e*P	**P**	**10 58 10.0**	**+0.1**
	comp=Z,19nm,1.1s,mb4.8						
MCMT	**McKenzie Canyo**	**33.73**	**85**	*e*P	**P**	**10 58 10.5**	**-0.1**
YSS	**Yuzh-Sakhalins**	**33.88**	**280**	*e*P	**P**	**10 58 08.5**	**-3.4**
YSS				pmax	pmax		
	comp=Z,21nm,1.8s,mb4.7						
SAO	**San Andreas Ge**	**33.92**	**104**	*e*P	**P**	**10 58 12.3**	**0.0**
	comp=Z,18nm,1.0s,mb4.9						
BOZ	**Bozeman (W)**	**33.98**	**83**	*e*P	**P**	**10 58 11.7**	**-1.0**
	comp=Z,2.7nm,0.6s,mb4.2						
YAK	**Yakutsk**	**34.30**	**310**	*e*P	**P**	**10 58 14.1**	**-1.2**
YAK				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.9						
LRV	**Little Rabbit**	**34.41**	**104**	*e*P	**P**	**10 58 17.3**	**+0.9**
NVAR	**Mina Array Bea**	**34.57**	**99**	P	**P**	**10 58 18.9**	**+1.1**
	comp=Z,6.6nm,0.7s,mb4.6,baz=306,slow=7.3,SNR=71						
NVAR				PcP	PcP	11 00 50.7	-0.2
	comp=Z,1.3nm,0.6s,baz=326,slow=1.9,SNR=5.7						
NVAR				LR	LR	11 09 17.9	
	comp=Z,90nm,19.9s,baz=10.0,slow=31						
MNV	**Mina**	**34.66**	**98**	*e*P	**P**	**10 58 18.7**	**+0.1**
	comp=Z,25nm,1.8s,mb4.8						
OMM	**Old Mammoth Mi**	**34.73**	**100**	*e*P	**P**	**10 58 19.8**	**+0.7**
OMM				*e*pP	pP	10 58 36.8	-3.0
GCMT	**Greycliff**	**35.03**	**81**	*e*P	**P**	**10 58 21.9**	**+0.3**
MTUM	**Tungsten Hills**	**35.16**	**100**	*e*P	**P**	**10 58 24.0**	**+1.2**
TPH	**Tonopah**	**35.44**	**98**	*e*P	**P**	**10 58 25.4**	**+0.2**
	comp=Z,4.4nm,0.9s,mb4.3						
ASAJ	**Asahikawa**	**35.58**	**276**	P	**P**	**10 58 25.1**	**-1.2**
	comp=Z,22nm,0.8s,mb5.1,baz=359,slow=1.9,SNR=10						
ASAJ	**Asahikawa**	**35.58**	**276**	P	**P**	**10 58 25.2**	**-1.2**
ASAJ				pmax	pmax		
	comp=Z,22nm,0.8s						
LAO	**LASA Array**	**36.50**	**78**	*e*P	**P**	**10 58 34.6**	**+0.5**
	comp=Z,24nm,0.9s,mb5.1						
DUG	**Dugway**	**36.59**	**91**	*e*P	**P**	**10 58 34.6**	**-0.3**
DGMT	**Dagmar**	**36.68**	**74**	*e*P	**P**	**10 58 35.2**	**-0.3**
	comp=Z,14nm,0.9s,mb4.9						
BW06	**Boulder Array**	**36.88**	**86**	*e*P	**P**	**10 58 37.5**	**+0.2**
	comp=Z,3.5nm,0.7s,mb4.4						
PDAR	**Pinedale Array**	**36.88**	**86**	P	**P**	**10 58 37.9**	**+0.6**
	comp=Z,2.8nm,0.6s,mb4.4,baz=302,slow=4.8,SNR=32						
MWC	**Mount Wilson**	**37.67**	**103**	*e*P	**P**	**10 58 44.1**	**+0.2**
ARUT	**Antelope Range**	**37.82**	**95**	*e*P	**P**	**10 58 45.3**	**+0.1**
ARUT				*e*pP	pP	10 59 03.7	-2.4
ARUT				*e*sP	sP	10 59 13.1	-3.3
MSU	**Marysvale**	**38.07**	**93**	*e*P	**P**	**10 58 47.8**	**+0.5**
TMUT	**Trail Mountain**	**38.12**	**91**	*e*P	**P**	**10 58 48.7**	**+1.0**
NEN	**Nelson**	**38.49**	**99**	*e*P	**P**	**10 58 51.3**	**+0.5**
SRU	**San Rafael**	**38.64**	**91**	*e*P	**P**	**10 58 52.3**	**+0.3**
LDFC	**Landfair**	**38.74**	**100**	*e*P	**P**	**10 58 53.0**	**+0.2**
PFO	**Pinyon Flat Ob**	**39.03**	**103**	*e*P	**P**	**10 58 54.9**	**-0.3**
	comp=Z,12nm,0.9s,mb4.7						
RSSD	**Black Hills**	**39.25**	**80**	*e*P	**P**	**10 58 57.1**	**+0.1**
	comp=Z,20nm,1.0s,mb4.9						
BAR	**Barrett**	**39.58**	**104**	*e*P	**P**	**10 59 00.3**	**+0.4**
PV10	**Paradox Valley**	**39.99**	**91**	*e*P	**P**	**10 59 03.5**	**+0.2**
ULM	**Lac du Bonnet**	**40.29**	**67**	P	**P**	**10 59 05.7**	**+0.2**
	comp=Z,2.7nm,0.8s,mb4.1,baz=306,slow=9.4,SNR=2.5						
ULM				pP	pP	10 59 23.2	-3.2
	comp=Z,8.5nm,0.8s,baz=300,slow=7.2,SNR=6.1						
ULM				PcP	PcP	11 01 07.3	-1.0
	comp=Z,3.4nm,0.7s,baz=288,slow=8.0,SNR=3.1						
ULM				LR	LR	11 14 17.7	
	comp=Z,53nm,21.9s,baz=344,slow=34						
ULM	**Lac du Bonnet**	**40.29**	**67**	P	**P**	**10 59 05.7**	**+0.2**
ULM				pP	pP	10 59 23.2	-3.2
ULM				PcP	PcP	11 01 07.3	-1.0
ULM				LR	LR	11 14 17.7	
PV01	**Paradox Valley**	**40.43**	**90**	*e*P	**P**	**10 59 06.8**	**0.0**
RW3	**Ridgway**	**40.87**	**90**	*e*P	**P**	**10 59 10.5**	**+0.1**
RW3				*e*pP	pP	10 59 29.1	-2.3
ISCO	**Idaho Springs**	**41.05**	**86**	*e*P	**P**	**10 59 11.7**	**-0.3**
	comp=Z,2.4nm,0.7s,mb4.1						
SDCO	**Great Sand Dun**	**42.48**	**88**	*e*P	**P**	**10 59 23.7**	**+0.1**
	comp=Z,7.3nm,0.9s,mb4.4						
MAJO	**Matsushiro**	**43.02**	**270**	*e*P	**P**	**10 59 26.4**	**-1.6**
MAT	**Matsushiro**	**43.02**	**270**	P	**P**	**10 59 26.6**	**-1.4**
ANMO	**Albuquerque**	**43.85**	**92**	*e*P	**P**	**10 59 35.4**	**+0.6**
ANMO	**Albuquerque**	**43.85**	**92**	*e*P	**P**	**10 59 34.5**	**-0.3**
	comp=Z,2.1nm,0.8s,mb3.9						
BNM	**Barren Site**	**44.32**	**93**	*e*P	**P**	**10 59 39.2**	**+0.7**
CBKS	**Cedar Bluff**	**45.12**	**83**	*e*P	**P**	**10 59 44.6**	**-0.2**
CN2	**Changchun**	**45.58**	**287**	*e*P	**P**	**10 59 47.4**	**-1.0**
CN2				*e*AP	pP	11 00 06.0	-3.5
CN2				*e*S	**S**	**11 06 21.5**	**-1.8**
CN2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.0						
CN2				LR	LR		
	comp=N,700nm,21.0s						
CN2				LR	LR		
	comp=E,600nm,21.0s						
CN2				LR	LR		
	comp=Z,800nm,22.0s						
CPRX	**Cap Rock**	**46.73**	**92**	*e*P	**P**	**10 59 57.4**	**-0.3**
KSU1	**Kansas State U**	**46.73**	**80**	*e*P	**P**	**10 59 56.5**	**-1.1**
SUMG	**Summit**	**47.77**	**19**	*e*P	**P**	**11 00 05.6**	**+0.4**
	comp=Z,12nm,0.6s,mb4.9						
WMOK	**Wichita Mounta**	**48.48**	**86**	*e*P	**P**	**11 00 10.6**	**-0.7**
	comp=Z,23nm,0.8s,mb5.1						
WMOK				*e*pP	pP	11 00 29.4	-3.2
LTX	**Lajitas**	**49.54**	**95**	*e*P	**P**	**11 00 19.0**	**-0.6**
	comp=Z,27nm,1.2s,mb5.1						
TXAR	**Lajitas Array**	**49.54**	**95**	P	**P**	**11 00 19.5**	**0.0**
	comp=Z,11nm,0.7s,mb4.9,baz=304,slow=5.5,SNR=150						
TXAR				pP	pP	11 00 38.6	-2.4
	comp=Z,3.9nm,0.7s,baz=306,slow=6.0,SNR=6.6						
TXAR				PcP	PcP	11 01 40.0	-0.4
	comp=Z,1.3nm,0.6s,baz=250,slow=1.7,SNR=3.9						
TXAR				LR	LR	11 18 59.2	
	comp=Z,63nm,18.6s,baz=345,slow=33						
TXAR	**Lajitas Array**	**49.54**	**95**	P	**P**	**11 00 19.5**	**0.0**
TXAR				pP	pP	11 00 38.6	-2.4
TXAR				PcP	PcP	11 01 40.0	-0.4
TXAR				LR	LR	11 18 59.2	
JCT	**Junction City**	**50.95**	**91**	*e*P	**P**	**11 00 28.8**	**-1.5**
	comp=Z,51nm,1.1s,mb5.5						
FVM	**French Village**	**51.03**	**77**	*e*P	**P**	**11 00 28.4**	**-2.4**
	comp=Z,17nm,1.0s,mb5.0						
FVM				*e*pP	pP	11 00 45.9	-6.4
SCHQ	**Schefferville**	**51.63**	**47**	P	**P**	**11 00 34.6**	**-0.4**
	comp=Z,2.6nm,0.6s,mb4.5,baz=340,slow=9.6,SNR=7.4						
SONM	**Songino Array**	**52.99**	**302**	P	**P**	**11 00 44.7**	**-0.6**
	comp=Z,1.4nm,0.7s,mb4.1,baz=45,slow=8.5,SNR=12						
SONM				PcP	PcP	11 01 52.9	0.0
	comp=Z,1.8nm,0.6s,baz=80,slow=2.2,SNR=6.7						
WVT	**Waverly**	**53.81**	**77**	*e*P	**P**	**11 00 49.5**	**-2.0**
	comp=Z,16nm,0.7s,mb5.2						
WVT				*e*pP	pP	11 01 08.3	-4.9
OXF	**Oxford**	**54.06**	**79**	*e*P	**P**	**11 00 51.6**	**-1.8**
	comp=Z,37nm,0.5s						
OXF				*e*pP	pP	11 01 10.2	-5.0
OXF				*e*sP	sP	11 01 20.9	-4.1
KEV	**Kev

comp=Z,4.0nm,0.8s
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA MLR MLR
comp=Z,14nm,20.8s
GYA Guiyang 68.60 286 ⇓P **P 11 02 31.4 +0.2**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
GYA AMB AMB
comp=Z,350nm,6.9s
AAK Ala-Archa 71.21 318 *e*P **P 11 02 46.9 +0.1**
AAK pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
AAK Ala-Archa 71.21 318 *e*P **P 11 02 46.0 -0.8**
comp=Z,4.4nm,0.6s,mb4.5
KMI Kunming 71.84 288 *e*P **P 11 02 52.8 +1.9**
KMI AMB AMB
comp=Z,7.0nm,0.8s,mb4.5
KMI Kunming 71.84 288 *e*P **P 11 02 52.8 +1.9**
comp=Z,7.0nm,0.8s,mb4.5
CLL Collm 74.57 2 P **P 11 03 06.0 -0.2**
CLL Collm 74.57 2 *e*P **P 11 03 06.0 -0.2**
AKASG Malin Array Be 74.63 351 P **P 11 03 05.9 -0.7**
comp=Z,4.7nm,0.5s,mb4.5,baz=11,slow=5.8,SNR=19
AKASG Malin Array Be 74.63 351 P **P 11 03 05.9 -0.7**
AKASG pmax pmax
comp=Z,5.0nm,0.5s
BAIF Baives 75.37 8 *e*P **P 11 03 11.3 +0.5**
comp=Z,5.1nm,0.7s,mb4.1
GIVF Givet 75.38 7 *e*P **P 11 03 11.1 +0.2**
FLN La Foliniere 76.20 11 *e*P **P 11 03 15.6 0.0**
LDF La Druitiere 76.41 11 *e*P **P 11 03 16.8 +0.1**
SGMF Saint Gilles 76.45 13 *e*P **P 11 03 17.5 +0.5**
GRR Gorron 76.53 12 *e*P **P 11 03 17.7 +0.3**
comp=Z,8.0nm,0.6s,mb4.3
MEZF Maizieres J'vi 76.99 8 *e*P **P 11 03 20.6 +0.6**
GERES GERESS Array B 77.05 2 P **P 11 03 20.8 +0.5**
comp=Z,1.1nm,0.6s,mb3.8,slow=5.3,SNR=12
GERES GERESS Array B 77.05 2 P **P 11 03 20.8 +0.5**
GERES pmax pmax
comp=Z,1.0nm,0.6s
CDF Champ du Feu 77.23 6 *e*P **P 11 03 21.7 +0.4**
comp=Z,4.0nm,0.6s,mb4.0
HAU Haudompre 77.57 7 *e*P **P 11 03 23.6 +0.4**
HINF Hinteralfeld 77.80 6 *e*P **P 11 03 24.8 +0.4**
comp=Z,7.9nm,0.7s,mb4.2
HYF Humbligny 78.00 9 *e*P **P 11 03 26.3 +0.7**
LOR Lormes 78.11 8 *e*P **P 11 03 26.7 +0.5**
comp=Z,10nm,0.7s,mb4.3
SSF Saint Saulge 78.29 9 *e*P **P 11 03 27.7 +0.5**
comp=Z,19nm,0.7s,mb4.7
MFF Saint Martin d 78.37 11 *e*P **P 11 03 28.3 +0.7**
comp=Z,22nm,0.8s,mb4.7
GUN Gumba 78.50 302 *e*P **P 11 03 29.5 +0.8**
comp=Z,33nm,0.4s,mb5.4
BGF Bois d'Agland 78.73 9 *e*P **P 11 03 30.0 +0.4**
comp=Z,10nm,0.6s,mb4.5
SMF Signal de Mont 78.73 9 *e*P **P 11 03 30.0 +0.4**
comp=Z,15nm,0.7s,mb4.6
KKN Kakani 78.89 302 *e*P **P 11 03 31.3 +0.4**
comp=Z,11nm,0.4s,mb5.0
TCF Toulx Ste Croi 78.93 10 *e*P **P 11 03 31.1 +0.4**
CABF La Chapelle 78.94 7 *e*P **P 11 03 31.8 +1.0**
comp=Z,6.7nm,0.7s,mb4.3
PKI Pulchoki 79.01 302 *e*P **P 11 03 31.8 +0.2**
comp=Z,32nm,0.9s,mb5.1
GKN Gorkha 79.03 303 *e*P **P 11 03 31.9 +0.2**
comp=Z,41nm,0.7s,mb5.4
DMN Daman 79.13 302 *e*P **P 11 03 32.8 +0.6**
comp=Z,30nm,0.7s,mb5.2
CMAR Chiang Mai Arr 79.26 287 P **P 11 03 33.2 +0.2**
comp=Z,10nm,1.0s,mb4.6,baz=17,slow=5.6,SNR=44
CMAR LR LR 11 42 35.0
comp=Z,40nm,18.2s,baz=70,slow=39
CMAR Chiang Mai Arr 79.26 287 P **P 11 03 33.3 +0.2**
CMAR pmax pmax
comp=Z,11nm,1.0s
CMAR MLR MLR
comp=Z,40nm,18.2s
PERS Pernice 79.27 1 *i*P **P 11 03 33.9 +1.3**
KOLN Koldanda 79.73 304 *e*P **P 11 03 35.9 +0.4**
comp=Z,20nm,0.7s,mb5.1
RJF Les Rejaudoux 79.84 10 *e*P **P 11 03 36.6 +1.0**
comp=Z,3.8nm,0.6s,mb4.1
LPL La Plagne 80.08 7 *e*P **P 11 03 38.6 +1.7**
LPG La Plagne 80.10 7 *e*P **P 11 03 38.8 +1.8**
LFF La Frestale 80.11 11 *e*P **P 11 03 37.8 +0.7**
comp=Z,9.1nm,0.5s,mb4.6
CAF Calviac 80.27 10 *e*P **P 11 03 38.6 +0.6**
VIVF Saint-Julien-l 80.58 8 *e*P **P 11 03 40.5 +0.9**
comp=Z,15nm,0.8s,mb4.6
ORIF Oris-en-Rattie 80.61 7 *e*P **P 11 03 40.5 +0.7**
comp=Z,8.0nm,0.7s,mb4.4
MBDF Montbardon 80.87 7 *e*P **P 11 03 43.1 +2.0**
comp=Z,15nm,0.6s,mb4.7
SMRF Simiane la Rot 81.53 8 *e*P **P 11 03 46.2 +1.6**
MTLF Montolieu 81.85 10 *e*P **P 11 03 47.3 +1.0**
comp=Z,8.8nm,0.6s,mb4.5
ETSF Etsaut 81.97 12 *e*P **P 11 03 48.3 +1.4**
comp=Z,9.1nm,0.7s,mb4.4
FRF La Foret Royal 82.02 7 *e*P **P 11 03 48.3 +1.1**
PGF Pioggiola 83.17 5 *e*P **P 11 03 54.3 +1.2**
comp=Z,18nm,0.7s,mb4.7
ESDC Sonseca Array 84.66 15 P **P 11 04 01.9 +1.4**
comp=Z,1.5nm,0.5s,mb4.2,baz=343,slow=4.4,SNR=10.0
ESDC pP pP 11 04 20.9 -3.1
comp=Z,2.3nm,0.8s,baz=342,slow=6.2,SNR=4.1
SDV Santo Domingo 84.73 82 *e*P **P 11 04 01.1 -0.3**
comp=Z,6.9nm,0.9s,mb4.6
BRTR Keskin Array B 84.98 347 P **P 11 04 03.5 +1.5**
comp=Z,3.6nm,0.6s,mb4.5,baz=34,slow=2.0,SNR=22
BRTR pP pP 11 04 22.9 -2.6
comp=Z,2.0nm,0.8s,baz=5.7,slow=1.5,SNR=3.7
BRTR Keskin Array B 84.98 347 P **P 11 04 03.6 +1.5**
BRTR *PP pP 11 04 23.0 -2.6
BRTR pmax pmax
comp=Z,4.0nm,0.6s
BRTR pmax pmax
comp=Z,2.0nm,0.8s
WRAB Tennant Creek 90.87 236 *e*P **P 11 04 29.7 -1.0**
WRA Warramunga Arr 90.89 236 P **P 11 04 30.2 -0.6**
comp=Z,1.9nm,0.7s,mb4.3,baz=36,slow=5.7,SNR=22
WRA pP pP 11 04 50.4 -4.2
comp=Z,1.8nm,1.1s,baz=38,slow=5.6,SNR=4.3
WRA Warramunga Arr 90.89 236 P **P 11 04 30.2 -0.6**
WRA *PP pP 11 04 50.4 -4.2
WRA pmax pmax
comp=Z,2.0nm,0.7s
WRA pmax pmax
comp=Z,2.0nm,1.1s
HYB Hyderabad 90.94 302 *i*P **P 11 04 31.0 -0.1**
ASAR Alice Springs 94.27 234 P **P 11 04 45.9 -0.3**
comp=Z,63nm,0.3s,baz=32,slow=4.2,SNR=2.1
STKA Stephens Creek 97.95 224 P **P 11 05 03.1 +0.3**
comp=Z,0.9nm,0.7s,mb4.4,slow=6.1,SNR=2.6
KMBO Kilima Mbogo 124.08 334 PKP PKPdf 11 10 26.8 +2.5
comp=Z,2.3nm,0.9s,baz=32,slow=4.8,SNR=5.1
MAW Mawson 154.58 221 PKPbc PKPdf 11 11 29.0 +13
comp=Z,1.7nm,0.7s,baz=37,slow=2.7,SNR=4.1
MAW PKPab PKPab 11 11 42.1 +0.2
comp=Z,3.7nm,0.7s,baz=97,slow=6.2,SNR=7.8
MAW Mawson 154.58 221 PKP2 PKPab 11 11 42.1 +0.2
MAW pmax pmax
comp=Z,4.0nm,0.7s
VNA3 Neumayer Olymp 159.77 156 ⇓*i*P PKPdf 11 11 22.1 -0.3
VNA3 Neumayer Olymp 159.77 156 *e* PKPab 11 12 04.0 -0.1
VNA2 Neumayer--Watz 160.52 157 ⇑*i*P PKPdf 11 11 25.1 +1.9
VNA2 Neumayer--Watz 160.52 157 *e* PKPab 11 12 07.6 +0.3
SNAA Sanae 160.89 162 ⇓*i*P PKPdf 11 11 24.3 +0.8
SNAA Sanae 160.89 162 *e* PKPab 11 12 06.7 -2.2

NEIC ***24*** *11:06:59.8±1.2, 14.96S×178.05W, h363km±12km, mb4.5/7, Error ellipse: s-maj=15.4km s-min=8.5km az=132.0*
IDC ***24*** *11:07:02.4±2.8, 15.07S×178.05W, h386km±28km, mb3.8/11, mb1 3.9/11, mb1mx3.8/16, Error ellipse: s-maj=19.4km s-min=11.5km az=147.0*
ISC 24 11:06:58.8±1.4,**15.0S**±0.1×**178.1W**±0.1,**h364**km±15km, **n31**,σ0°**91**/**29**,**mb4.0**/19,**1C-6D**,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**6.23**	**81**	⇑*e*P		**P**	**11 08 33.2**	**-0.1**
	60nm,0.6s							
URZ	**Urewera**	**23.57**	**189**	P		**P**	**11 11 37.6**	**-2.1**
	8.6nm,0.4s,mb4.3,baz=273,slow=5.7,SNR=9.3							
RPZ	**Rata Peaks**	**30.09**	**196**	P		**P**	**11 12 36.0**	**-1.7**
	31nm,1.1s,mb4.4,baz=168,slow=17,SNR=5.2							
CTA	**Charters Tower**	**34.31**	**256**	P		**P**	**11 13 15.3**	**+1.3**
	3.5nm,0.4s,mb3.9,baz=90,slow=9.8,SNR=11							
CTA				PcP		PcP	11 15 41.0	-0.4
	2.7nm,1.0s,baz=224,slow=21,SNR=2.8							
CTA	**Charters Tower**	**34.31**	**256**	P		**P**	**11 13 15.3**	**+1.3**
CTA				PcP		PcP	11 15 41.0	-0.4
STKA	**Stephens Creek**	**40.35**	**238**	P		**P**	**11 14 04.9**	**+1.0**
	4.1nm,0.4s,mb4.0,baz=83,slow=8.2,SNR=19							
STKA				PcP		PcP	11 15 59.2	-0.7
	1.0nm,0.5s,baz=88,slow=7.0,SNR=3.2							
WRA	**Warramunga Arr**	**45.51**	**257**	P		**P**	**11 14 44.5**	**-0.9**
	1.0nm,0.3s,mb3.4,baz=95,slow=8.3,SNR=48							
WRA				PcP		PcP	11 16 17.4	-0.3
	0.6nm,0.5s,baz=87,slow=3.9,SNR=5.0							
ASAR	**Alice Springs**	**45.92**	**251**	P		**P**	**11 14 49.0**	**+0.5**
	296nm,0.4s,baz=85,slow=8.7,SNR=4.6							
ASAR				PcP		PcP	11 16 18.6	-0.4
	116nm,0.3s,baz=101,slow=3.7,SNR=3.1							
ASAR				S		**S**	**11 21 03.2**	**-1.6**
	663nm,0.4s,baz=82,slow=16,SNR=5.2							
FITZ	**Fitzroy Crossi**	**53.84**	**258**	P		**P**	**11 15 48.7**	**+0.8**
	1.5nm,0.7s,mb3.5,baz=162,slow=6.4,SNR=4.8							
NWAO	**Narrogin (SRO)**	**60.86**	**240**	P		**P**	**11 16 35.6**	**-0.4**
	12nm,0.5s,mb4.5,baz=120,slow=21,SNR=3.4							
SBA	**Scott Base**	**63.34**	**184**	⇓*e*P		**P**	**11 16 52.2**	**+0.7**
	23nm,1.2s,mb4.6							
VNDA	**Vanda**	**63.37**	**185**	P		**P**	**11 16 51.9**	**+0.2**
	3.1nm,0.6s,mb4.0,baz=354,slow=7.4,SNR=32							
VNDA	**Vanda**	**63.37**	**185**	P		**P**	**11 16 51.9**	**+0.2**
CASY	**Casey**	**68.90**	**204**	⇓*e*P		**P**	**11 17 26.0**	**-0.4**
	15nm,1.0s,mb4.7							
QSPA	**South Pole Qui**	**75.05**	**180**	⇓*i*P		**P**	**11 18 02.6**	**+0.3**
	16nm,1.0s,mb4.7							
YBH	**Yreka Blue Hor**	**76.09**	**39**	P		**P**	**11 18 09.1**	**+0.2**
	0.7nm,0.5s,mb3.6,baz=290,slow=7.7,SNR=4.2							
NVAR	**Mina Array Bea**	**77.13**	**44**	P		**P**	**11 18 14.9**	**+0.2**
	0.3nm,0.6s,mb3.2,baz=240,slow=8.9,SNR=4.2							
TPH	**Tonopah**	**77.68**	**45**	*e*P		**P**	**11 18 17.6**	**-0.1**
	0.5nm,0.4s,mb3.6							
MCK	**McKinley**	**81.64**	**13**	*e*P		**P**	**11 18 37.1**	**-0.8**
HLID	**Hailey**	**82.25**	**41**	*e*P		**P**	**11 18 41.6**	**+0.2**
	0.8nm,0.6s,mb3.7							
COLA	**College**	**82.87**	**13**	*e*P		**P**	**11 18 43.0**	**-1.1**
	5.8nm,0.7s,mb4.5							
ILAR	**Eielson Array**	**82.99**	**13**	P		**P**	**11 18 43.9**	**-0.8**
	110nm,0.3s,baz=215,slow=5.4,SNR=2.5							
TXAR	**Lajitas Array**	**84.20**	**58**	P		**P**	**11 18 52.2**	**+0.5**
	0.6nm,0.7s,mb3.5,baz=223,slow=6.8,SNR=11							
PDAR	**Pinedale Array**	**85.04**	**43**	P		**P**	**11 18 55.7**	**+0.2**
	0.2nm,0.5s,mb3.2,baz=188,slow=3.4,SNR=3.7							
MAW	**Mawson**	**86.69**	**200**	P		**P**	**11 19 03.4**	**+0.6**
	8.7nm,0.5s,mb4.8,baz=129,slow=5.8,SNR=73							
SNAA	**Sanae**	**93.50**	**179**	⇓*i*		**P**	**11 19 33.6**	**-0.8**
VNA3	**Neumayer Olymp**	**93.62**	**176**	⇓*i*		**P**	**11 19 36.1**	**+1.1**
VNA2	**Neumayer--Watz**	**94.07**	**177**	⇓*i*		**P**	**11 19 39.1**	**+2.1**
ARCES	**ARCESS Array B**	**123.50**	**350**	PKP		PKPdf	11 25 13.2	+0.3
	3.2nm,0.9s,baz=27,slow=2.7,SNR=3.9							
BRTR	**Keskin Array B**	**142.88**	**318**	PKP		PKPdf	11 25 49.5	-0.1
	0.5nm,0.6s,baz=27,slow=3.6,SNR=3.0							
GERES	**GERESS Array B**	**144.87**	**346**	PKP		PKPdf	11 25 53.7	+0.9
	0.4nm,0.5s,baz=18,slow=4.2,SNR=5.4							

IDC ***24*** *11:48:43.4±0.8, 26.70S×114.74W, mb4.0/7, mb1 4.3/7, mb1mx4.1/17, MS3.9/11, Ms1 3.9/11, ms1mx3.7/20, Error ellipse: s-maj=38.6km s-min=21.9km az=85.0*
NEIC ***24*** *11:48:45.0±0.4, 26.64S×114.81W, h10km, mb4.5/3, Error ellipse: s-maj=19.2km s-min=9.6km az=84.0*
BJI ***24*** *11:48:47.0, 26.60S×114.80W, h10km*
ISC 24 11:48:43.7±0.7,**26.56S**±0.10×**114.8W**±0.2,**h10**km,**n37**, σ0°**69**/**23**,**mb4.1**/10,**MS3.9**/11,**3D**,**Easter Island region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OTAV	**Otavalo**	**43.97**	**59**	*e*P		**P**	**11 56 53.6**	**+0.5**
	1.6nm,0.5s,mb4.0							
LPAZ	**La Paz**	**44.41**	**86**	P		**P**	**11 56 56.7**	**+0.1**
	2.1nm,0.3s,mb4.3,baz=326,slow=1.3,SNR=3.0							
LPAZ				LR		LR	12 11 19.0	
	comp=Z,76nm,18.4s,MS3.6,baz=294,slow=30							
LPAZ	**La Paz**	**44.41**	**86**	P		**P**	**11 56 56.7**	**+0.1**
LPAZ				LR		LR	12 11 19.0	
CPUP	**Villa Florida**	**51.05**	**103**	LR		LR	12 15 35.4	
	comp=Z,61nm,19.0s,MS3.6,baz=59,slow=32							
TXAR	**Lajitas Array**	**56.59**	**12**	P		**P**	**11 58 28.3**	**-0.9**
	0.5nm,0.8s,mb3.6,baz=194,slow=8.6,SNR=6.6							
TXAR				LR		LR	12 18 13.6	
	comp=Z,89nm,19.8s,MS3.9,baz=20,slow=31							
TXAR	**Lajitas Array**	**56.59**	**12**	P		**P**	**11 58 28.3**	**-0.9**
TXAR				LR		LR	12 18 13.6	
CPRX	**Cap Rock**	**60.16**	**11**	*e*P		**P**	**11 58 53.3**	**-0.7**
ANMO	**Albuquerque**	**61.68**	**8**	*e*P		**P**	**11 59 03.2**	**-1.2**
BDFB	**Brasilia**	**62.65**	**95**	LR		LR	12 22 20.2	
	comp=Z,116nm,20.3s,MS4.0,baz=30,slow=32							
VNDA	**Vanda**	**62.83**	**194**	LR		LR	12 19 07.8	
	comp=Z,91nm,21.9s,MS3.9,baz=101,slow=29							
TPH	**Tonopah**	**64.33**	**358**	*e*P		**P**	**11 59 22.5**	**+0.6**
NVAR	**Mina Array Bea**	**64.73**	**357**	P		**P**	**11 59 25.6**	**+1.1**
	3.7nm,1.1s,mb4.3,baz=172,slow=9.5,SNR=15							
NVAR				LR		LR	12 21 31.7	
	comp=Z,49nm,18.8s,MS3.7,baz=335,slow=30							
SRU	**San Rafael**	**65.45**	**4**	*e*P		**P**	**11 59 29.1**	**0.0**
JLU	**Jordanelle**	**66.89**	**3**	*e*P		**P**	**11 59 38.9**	**+0.6**
MOD	**Modoc**	**68.31**	**356**	*e*P		**P**	**11 59 47.6**	**+0.5**
	2.5nm,0.8s,mb4.3							
PDAR	**Pinedale Array**	**69.15**	**4**	P		**P**	**11 59 51.7**	**-0.6**
	0.8nm,0.7s,mb3.8,baz=177,slow=5.2,SNR=8.3							
HLID	**Hailey**	**69.78**	**0**	*e*P		**P**	**11 59 56.4**	**+0.3**
	17nm,1.5s,mb4.8							
VNA3	**Neumayer Olymp**	**69.80**	**161**	⇓*i*		**P**	**11 59 56.0**	**+0.2**
VNA2	**Neumayer--Watz**	**70.61**	**161**	⇓*i*		**P**	**12 00 00.9**	**+0.1**
MCMT	**McKenzie Canyo**	**71.06**	**1**	P		**P**	**12 00 03.3**	**-0.7**
SNAA	**Sanae**	**71.58**	**162**	⇓*i*		**P**	**12 00 09.8**	**+3.2**
SNAA	**Sanae**	**71.58**	**162**	P		**P**	**12 00 04.9**	**-1.7**
	0.4nm,0.8s,mb3.4,baz=213,slow=18,SNR=2.5							
DPW	**Davenport**	**74.15**	**358**	*e*P		**P**	**12 00 22.5**	**+0.4**
ULM	**Lac du Bonnet**	**78.29**	**12**	P		**P**	**12 00 45.6**	**+0.3**
	3.9nm,0.7s,mb4.5,baz=211,slow=4.9,SNR=4.4							
EDM	**Edmonton**	**79.45**	**1**	*e*P		**P**	**12 00 51.4**	**-0.2**
MAW	**Mawson**	**86.11**	**179**	P		**P**	**12 01 25.2**	**-0.3**
	0.7nm,0.8s,mb4.0,baz=152,slow=11,SNR=2.6							
MAW				LR		LR	12 35 52.1	
	comp=Z,73nm,18.9s,MS4.1,baz=240,slow=33							
STKA	**Stephens Creek**	**86.89**	**236**	LR		LR	12 34 42.0	
	comp=Z,104nm,20.1s,MS4.2,baz=27,slow=32							
YKA	**Yellowknife Ar**	**88.74**	**0**	LR		LR	12 35 50.6	
	comp=Z,31nm,19.2s,MS3.8,baz=110,slow=32							
ASAR	**Alice Springs**	**96.95**	**239**	LR		LR	12 42 44.6	
	comp=Z,102nm,18.5s,MS4.3,baz=207,slow=33							
WRA	**Warramunga Arr**	**98.59**	**243**	LR		LR	12 39 38.9	
	comp=Z,57nm,18.4s,MS4.1,baz=135,slow=31							
SONM	**Songino Array**	**141.52**	**315**	PKP		PKPdf	12 08 14.8	-3.3
	1.1nm,0.9s,baz=225,slow=1.7,SNR=5.4							
CMAR	**Chiang Mai Arr**	**147.89**	**263**	PKPbc		PKPdf	12 08 30.7	+0.9
	3.2nm,1.0s,baz=107,slow=0.7,SNR=16							
GTA	**Gaotai**	**148.47**	**303**	*e*PKP		PKPdf	12 08 31.9	+1.8
ZAL	**Zalesovo**	**149.05**	**337**	PKPbc		PKPdf	12 08 32.7	+2.2
	2.2nm,0.6s,baz=87,slow=3.0,SNR=16							
ZAL	**Zalesovo**	**149.05**	**337**	PKPbc		PKPdf	12 08 32.7	+2.2
BRTR	**Keskin Array B**	**150.65**	**55**	PKPbc		PKPdf	12 08 37.9	+4.4
	3.6nm,1.0s,baz=207,slow=2.8,SNR=8.6							
KURK	**Kurchatov**	**153.79**	**341**	*e*PKPbc		PKPdf	12 08 43.3	+5.6
KURK				*e*PKPab		PKPab	12 08 56.9	-1.1

IDC ***24*** *12:04:46.5±1.1, 54.96S×28.66W, mb3.5/4, mb1 3.7/4, mb1mx3.6/11, Error ellipse: s-maj=63.9km s-min=23.9km az=57.0*
ISC 24 12:04:57.8±1.9,**54.9S**±0.4×**28.9W**±0.8,**h100**km,**n12**, σ1°**01**/**7**,**mb3.6**/3,**1C-2D**,**South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VNA3	**Neumayer Olymp**	**18.38**	**160**	⇑*i*P		**P**	**12 09 07.9**	**+1.1**
VNA2	**Neumayer--Watz**	**18.61**	**158**	⇓*i*P		**P**	**12 09 10.1**	**+0.8**
VNA2	**Neumayer--Watz**	**18.61**	**158**	*e*			12 09 23.9	
SNAA	**Sanae**	**20.17**	**156**	⇓*i*P		**P**	**12 09 18.8**	**-7.2**
SNAA	**Sanae**	**20.17**	**156**	*e*			12 09 31.1	
SNAA	**Sanae**	**20.17**	**156**	P		**P**	**12 09 19.6**	**-6.4**
	0.4nm,0.4s,baz=313,slow=13,SNR=33							
MAW	**Mawson**	**41.63**	**145**	P		**P**	**12 12 35.8**	**-1.0**
	0.4nm,0.7s,mb3.3,baz=241,slow=19,SNR=2.1							
VNDA	**Vanda**	**47.66**	**183**	P		**P**	**12 13 23.6**	**-1.4**
	0.3nm,0.6s,mb3.3,baz=202,slow=8.3,SNR=6.0							
LPAZ	**La Paz**	**48.94**	**306**	P		**P**	**12 13 36.1**	**+0.5**
	1.2nm,0.3s,mb4.3,baz=162,slow=6.4,SNR=6.4							
INK	**Inuvik**	**144.32**	**322**	PKhKP			12 24 19.1	
	0.8nm,0.8s,baz=127,slow=2.3,SNR=3.1							
ILAR	**Eielson Array**	**148.64**	**313**	PKPbc		PKPdf	12 24 33.5	+5.8
	1.9nm,0.7s,baz=123,slow=1.8,SNR=32							
SONM	**Songino Array**	**151.60**	**86**	PKPbc		PKPdf	12 24 41.1	+8.4
	0.3nm,0.6s,baz=270,slow=1.4,SNR=2.7							

IDC 24 12:16:42.1±43.0,**30.34S**×**175.80W**,**mb3.6**/3,**mb1 3.8**/3, **mb1mx3.6**/13,**Error ellipse: s-maj=796.0km s-min=185.2km az=98.0**,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**36.34**	**256**	P		P	12 23 47.7	-1.9
	0.7nm,0.4s,baz=88,slow=11,SNR=4.8							
ASAR	**Alice Springs**	**45.01**	**266**	P		P	12 24 59.4	-1.9
	0.3nm,0.6s,baz=106,slow=7.3,SNR=4.8							
WRA	**Warramunga Arr**	**46.00**	**271**	P		P	12 25 07.4	-1.7
	0.3nm,0.3s,baz=111,slow=8.0,SNR=20							

IDC 24 12:23:00.5±12.0,**17.93S**×**178.25W**,**h414**km±124km, **mb3.0**/6,**mb1 3.2**/6,**mb1mx3.0**/15,**Error ellipse: s-maj=46.7km s-min=28.4km az=60.0**,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**38.75**	**241**	P		P	12 29 48.5	-0.1
	0.8nm,0.7s,baz=80,slow=12,SNR=2.5							
WRA	**Warramunga Arr**	**44.78**	**260**	P		P	12 30 34.6	-2.5
	0.2nm,0.3s,baz=93,slow=7.7,SNR=10							
ASAR	**Alice Springs**	**44.93**	**254**	P		P	12 30 37.0	-1.3
	1.6nm,0.4s,baz=90,slow=7.8,SNR=77							
ASAR				PcP		PcP	12 32 09.8	-2.1
	0.3nm,0.4s,baz=102,slow=4.0,SNR=5.2							
FITZ	**Fitzroy Crossi**	**53.17**	**261**	P		P	12 31 38.5	-1.9
	1.3nm,0.7s,baz=213,slow=17,SNR=4.4							
VNDA	**Vanda**	**60.44**	**185**	P		P	12 32 27.6	-2.1
	0.4nm,0.4s,baz=22,slow=7.3,SNR=9.4							
ILAR	**Eielson Array**	**85.87**	**13**	P		P	12 34 54.5	-0.9
	0.3nm,0.5s,baz=225,slow=5.4,SNR=7.9							
GERES	**GERESS Array B**	**147.67**	**345**	PKPbc		PKPdf	12 41 56.9	+3.4
	0.5nm,0.7s,baz=45,slow=1.4,SNR=4.9							

MOS ***24*** *12:58:52.9±2.6, 50.35N×156.48E, h48km, mb4.0/2, Error ellipse: s-maj=60.8km s-min=31.5km az=71.1*
KRSC ***24*** *12:58:53.4±1.9, 50.44N×156.79E, h7km±7km, ML4.1*
IDC ***24*** *12:59:16.3±4.7, 49.13N×155.29E, h180km±46km, mb3.1/5, mb1 3.5/5, mb1mx3.1/21, MS4.5/1, Ms1 4.5/1, ms1mx2.6/42, Error ellipse: s-maj=50.4km s-min=18.4km az=144.0*
ISC 24 12:58:54.2±1.0,**50.29N**±0.08×**156.8E**±0.1,**h69**km±12km, **n29**,σ0°**97**/**45**,**mb3.6**/3,**1D**,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.59**	**312**	*i*P		**P**	**12 59 03.1**	**-4.9**
SKR				*i*S		**S**	**12 59 11.9**	**-6.2**
SKR	**Severo-Kuril's**	**0.59**	**312**	⇓*i*PN		**P**	**12 59 03.1**	**-4.9**
SKR				*i*S		**S**	**12 59 11.9**	**-6.2**
SKR				pmax	pmax			
	comp=Z,360nm,0.4s							
SKR				pmax	pmax			
	comp=N,210nm,0.2s							
SKR				pmax	pmax			
	comp=E,240nm,0.2s							
SKR				smax				
	comp=E,8μm,0.2s							
SKR				smax				
	comp=N,9μm,0.5s							
SKR				smax				
	comp=N,8μm,1.0s							
SKR				smax				
	comp=E,10μm,1.0s							
ALID	**Alaid**	**0.98**	**306**	*e*P		**P**	**12 59 12.5**	**-0.2**
ALID				*e*S		**S**	**12 59 25.7**	**-0.8**
PAU	**Pauzhetka**	**1.18**	**0**	*i*P		**P**	**12 59 15.0**	**-0.2**
PAU				*e*S		**S**	**12 59 29.5**	**-1.4**
PAU				Smax				
	comp=E,2μm,0.3s							
MIPR	**Malaya Ipel'ka**	**1.98**	**359**	*e*P		**P**	**12 59 26.2**	**0.0**
MIPR				*e*S		**S**	**12 59 50.2**	**+0.3**
RUS	**Russkaya**	**2.40**	**26**	*e*P		**P**	**12 59 31.1**	**-0.9**
RUS				*e*S		**S**	**12 59 58.9**	**-1.3**
GRL	**Gorelyy**	**2.40**	**19**	*e*P		**P**	**12 59 32.6**	**+0.5**
GRL				*e*S		**S**	**13 00 00.9**	**+0.6**
APC	**Apacha**	**2.64**	**5**	*e*P		**P**	**12 59 37.4**	**+1.8**
APC				*e*S		**S**	**13 00 08.6**	**+2.1**
PET	**Petropavlovsk**	**2.97**	**22**	*e*P		**P**	**12 59 40.4**	**+0.3**
PET				*e*S		**S**	**13 00 14.2**	**-0.4**
PET	**Petropavlovsk**	**2.97**	**22**	*e*PN		**P**	**12 59 40.8**	**+0.7**
PET				*e*S		**S**	**13 00 14.9**	**+0.3**
PET				pmax	pmax			
	comp=Z,45nm,0.7s							
PET				smax				
	comp=N,163nm,0.4s							
AVH	**Avacha**	**3.21**	**21**	*e*P		**P**	**12 59 45.1**	**+1.6**
AVH				*e*S		**S**	**13 00 22.2**	**+1.5**
**

JNS	**Sasagawa**	**0.67**	**28**	P	**Pb**	**13 04 58.8**	**-0.9**
JNS				S	**Sg**	**13 05 07.9**	**-0.9**
JGK	**Kuni**	**0.70**	**199**	⇑P	**Pb**	**13 04 59.9**	**-0.2**
MAT	**Matsushiro**	**0.89**	**220**	P	**Pb**	**13 05 02.8**	**-0.6**
MAT				S	**Sb**	**13 05 14.5**	**-0.6**
MAT	**Matsushiro**	**0.89**	**220**	P	**Pb**	**13 05 02.8**	**-0.6**
MAT				S	**Sb**	**13 05 14.7**	**-0.4**

*IDC **24** 13:19:32.0±6.3, 9.40S×79.56W, h40km±57km, mb3.7/9, mb1 4.0/10, mb1mx3.8/20, ML3.7/1, MS3.3/2, Ms1 3.4/2, ms1mx3.1/25, Error ellipse: s-maj=112.0km s-min=34.8km az=36.0*

*NEIC **24** 13:19:31.6±1.9, 9.45S×79.52W, h40km±17km, mb4.2/5, Error ellipse: s-maj=28.9km s-min=9.9km az=68.0*

ISC 24 13:19:27.0±5.3, 9.4S±0.1×79.6W±0.2, h15km±38km, n33, σ1§27/28, mb4.1/12, **MS3.1**/1, **6C, Off coast of northern Peru**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**3.74**	**135**	*e*Pn	**Pn**	**13 20 24.2**	**-1.2**
NNA				Sn	**Sn**	**13 21 03.2**	**-6.4**
OTAV	**Otavalo**	**9.59**	**7**	*e*Pn	**P**	**13 21 49.7**	**+2.0**
	13nm,0.8s						
ARE	**Arequipa**	**10.57**	**133**	*e*P	**P**	**13 22 09.0**	**+7.9**
LPAZ	**La Paz**	**13.10**	**123**	Pn	**P**	**13 22 35.4**	**+0.2**
	0.2nm,0.3s,baz=13,slow=12,SNR=4.0						
LPAZ				LR	LR	13 27 53.6	
	comp=Z,122nm,18.1s,baz=99,slow=38						
LPAZ	**La Paz**	**13.10**	**123**	Pn	**P**	**13 22 35.4**	**+0.2**
LPAZ				LR	LR	13 27 53.6	
SAML	**Samuel**	**16.17**	**90**	*e*Pn	**P**	**13 23 09.4**	**-6.1**
	11nm,0.7s						
SDV	**Santo Domingo**	**20.18**	**26**	P	**P**	**13 24 03.4**	**-0.6**
	3.8nm,0.6s						
CPUP	**Villa Florida**	**26.99**	**132**	LR	LR	13 36 15.2	
	comp=Z,55nm,18.3s,MS3.1,baz=349,slow=37						
TXAR	**Lajitas Array**	**44.94**	**330**	P	**P**	**13 27 44.1**	**+0.7**
	0.7nm,0.8s,mb3.5,baz=150,slow=10,SNR=7.1						
TXAR				PcP	PcP	13 29 24.6	-0.6
	0.4nm,0.7s,baz=166,slow=5.2,SNR=4.5						
CPRX	**Cap Rock**	**48.09**	**332**	*e*P	**P**	**13 28 09.3**	**+1.1**
CCM	**Cathedral Cave**	**48.41**	**348**	*e*P	**P**	**13 28 09.6**	**-1.0**
	1.9nm,0.4s,mb4.5						
ANMO	**Albuquerque**	**50.89**	**331**	*e*P	**P**	**13 28 30.2**	**+0.6**
	1.6nm,0.6s,mb4.1						
PDAR	**Pinedale Array**	**58.66**	**334**	P	**P**	**13 29 24.3**	**-1.9**
	0.5nm,0.7s,mb3.6,baz=127,slow=7.4,SNR=5.1						
PDAR				PcP	PcP	13 30 14.1	-1.9
	0.7nm,0.6s,baz=121,slow=5.1,SNR=6.0						
NVAR	**Mina Array Bea**	**59.70**	**325**	P	**P**	**13 29 34.5**	**+1.1**
	1.2nm,0.6s,mb4.1,baz=132,slow=6.6,SNR=8.6						
YBH	**Yreka Blue Hor**	**64.42**	**325**	P	**P**	**13 30 03.7**	**-1.3**
	1.9nm,0.8s,mb4.2,baz=182,slow=8.3,SNR=3.5						
EDM	**Edmonton**	**68.65**	**339**	*e*P	**P**	**13 30 30.0**	**-1.6**
VNA3	**Neumayer Olymp**	**74.78**	**162**	⇑*i*	**P**	**13 31 10.8**	**+2.9**
VNA3	**Neumayer Olymp**	**74.78**	**162**		PcP	13 31 22.5	+0.1
VNA2	**Neumayer--Watz**	**75.41**	**161**	⇑*i*	**P**	**13 31 14.1**	**+2.6**
VNA2	**Neumayer--Watz**	**75.41**	**161**	⇑*i*	PcP	13 31 25.5	+0.4
YKA	**Yellowknife Ar**	**76.58**	**344**	P	**P**	**13 31 17.6**	**-0.7**
	1.5nm,0.6s,mb4.1,baz=143,slow=6.1,SNR=5.8						
YKA	**Yellowknife Ar**	**76.58**	**344**	P	**P**	**13 31 17.6**	**-0.7**
SNAA	**Sanae**	**77.00**	**162**	⇑*i*	**P**	**13 31 19.1**	**-1.4**
SNAA	**Sanae**	**77.00**	**162**	⇑*i*	PcP	13 31 31.6	-0.3
DLBC	**Dease Lake**	**78.87**	**336**	P	**P**	**13 31 30.5**	**-0.5**
	1.4nm,0.6s,mb4.1,baz=148,slow=15,SNR=4.6						
DLBC	**Dease Lake**	**78.87**	**336**	P	**P**	**13 31 30.5**	**-0.5**
QSPA	**South Pole Qui**	**80.76**	**180**	⇑*i*P	**P**	**13 31 41.6**	**+0.8**
	6.8nm,1.0s,mb4.5						
ESDC	**Sonseca Array**	**85.02**	**49**	P	**P**	**13 32 04.7**	**+1.3**
	0.3nm,0.6s,mb3.6,baz=259,slow=6.5,SNR=2.5						
INK	**Inuvik**	**86.22**	**342**	P	**P**	**13 32 08.7**	**-0.1**
	1.8nm,0.8s,mb4.3,baz=150,slow=3.1,SNR=12						
INK	**Inuvik**	**86.22**	**342**	*e*P	**P**	**13 32 08.3**	**-0.4**
ILAR	**Eielson Array**	**89.02**	**337**	P	**P**	**13 32 23.7**	**+1.4**
	0.6nm,0.7s,mb4.0,baz=163,slow=2.9,SNR=12						
ZAL	**Zalesovo**	**133.80**	**13**	PKP	PKPdf	13 38 43.7	-3.4
	0.6nm,0.3s,baz=203,slow=2.3,SNR=3.2						
SONM	**Songino Array**	**141.32**	**354**	PKhKP		13 38 51.6	
	0.2nm,0.4s,slow=1.2,SNR=3.6						

*IDC **24** 13:20:33.9±1.4, 38.05N×118.69W, mb1 3.5/3, mb1mx3.3/20, ML3.7/3, Error ellipse: s-maj=10.8km s-min=8.5km az=158.0*

NEIC 24 13:20:33.1, 38.03N×118.64W, h8km, ML3.5(REN), **2C-1D, After REN., California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NVAR	**Mina Array Bea**	**0.48**	**33**	Pg	Pg	13 20 42.4	-0.4
	436nm,0.3s,baz=217,slow=19						
NVAR				Lg		13 20 49.0	
	501nm,0.3s,baz=212,slow=32,SNR=36						
NVAR	**Mina Array Bea**	**0.48**	**33**	Pg	Pg	13 20 42.4	-0.4
NVAR				Lg		13 20 49.0	
MNV	**Mina**	**0.56**	**43**	⇓*i*P	Pg	13 20 43.8	-0.6
MNV				*e*S	Sg	13 20 51.2	-0.6
MTUM	**Tungsten Hills**	**0.67**	**175**	*e*P	Pg	13 20 45.8	-0.8
TPH	**Tonopah**	**1.12**	**87**	⇑*e*P	Pb	13 20 54.2	-0.1
CMB	**Columbia Colle**	**1.38**	**271**	⇑*e*P	Pb	13 20 58.0	-0.7
WCN	**Washoe City**	**1.54**	**326**	*e*P	Pn	13 21 01.4	+0.3
PAHR	**Pah Rah Range**	**1.77**	**341**	*e*P	Pn	13 21 05.0	+0.6
DAC	**Darwin (Calif)**	**1.94**	**154**	*e*P	Pn	13 21 06.5	-0.2
BEKR	**Beckwourth**	**2.27**	**324**	*e*Pn	Pn	13 21 11.6	+0.1
TRCR	**Troy Canyon**	**2.43**	**81**	*e*Pn	Pn	13 21 12.2	-1.5
LRV	**Little Rabbit**	**2.48**	**231**	*e*Pn	Pn	13 21 14.1	-0.3
SAO	**San Andreas Ge**	**2.56**	**241**	*e*Pn	Pn	13 21 15.2	-0.4
OHCM	**Honcut**	**2.58**	**301**	*e*Pn	Pn	13 21 15.2	-0.7
BMN	**Battle Mountai**	**2.64**	**24**	*e*Pn	Pn	13 21 15.1	-1.7
LKC	**Lake Chabot**	**2.72**	**265**	*e*Pn	Pn	13 21 16.0	-2.0
NSHM	**Saint Helena R**	**3.16**	**280**	*e*Pn	Pn	13 21 21.4	-2.7
MWC	**Mount Wilson**	**3.82**	**173**	*e*Pn	Pn	13 21 31.7	-1.9
NEN	**Nelson**	**3.86**	**127**	*e*Pn	Pn	13 21 33.5	-0.7
WDC	**Whiskeytown Da**	**3.96**	**311**	*e*Pn	Pn	13 21 33.1	-2.4
MOD	**Modoc**	**4.08**	**342**	*e*Pn	Pn	13 21 35.3	-1.9
LDFC	**Landfair**	**4.09**	**135**	Pn	Pn	13 21 33.1	-4.3
ARUT	**Antelope Range**	**4.12**	**92**	*e*Pn	Pn	13 21 36.4	-1.4
PFO	**Pinyon Flat Ob**	**4.75**	**157**	Pn	Pn	13 21 45.5	-1.3
YBH	**Yreka Blue Hor**	**4.85**	**321**	Pn	Pn	13 21 48.4	+0.3
	0.3nm,0.3s,baz=132,slow=8.2,SNR=6.2						
YBH				Lg		13 23 07.6	
	0.1nm,0.3s,baz=98,slow=22,SNR=1.6						
DUG	**Dugway**	**5.03**	**63**	*e*Pn	Pn	13 21 49.0	-1.6
MVU	**Marysvale**	**5.08**	**83**	*e*Pn	Pn	13 21 50.1	-1.3
MSU	**Marysvale**	**5.11**	**83**	Pn	Pn	13 21 50.6	-1.2
BGU	**Big Grassy Mou**	**5.22**	**55**	*e*Pn	Pn	13 21 48.5	-4.9
NLU	**North Lily Min**	**5.47**	**67**	*e*Pn	Pn	13 21 54.6	-2.3
HVU	**Hansel Valley**	**5.87**	**48**	Pn	Pn	13 22 00.9	-1.6
TMUT	**Trail Mountain**	**5.96**	**75**	Pn	Pn	13 22 00.8	-3.0
JLU	**Jordanelle**	**6.14**	**63**	Pn	Pn	13 22 05.5	-0.9
TCUT	**Toone Canyon**	**6.38**	**59**	Pn	Pn	13 22 05.2	-4.6
HLID	**Hailey**	**6.39**	**29**	Pn	Pn	13 22 09.1	-0.9
SRU	**San Rafael**	**6.45**	**78**	Pn	Pn	13 22 08.7	-2.1
MCMT	**McKenzie Canyo**	**8.07**	**31**	Pn	P	13 22 29.7	-3.7
PDAR	**Pinedale Array**	**8.39**	**53**	Pn	P	13 22 40.1	+2.2
	0.1nm,0.3s,baz=231,slow=13,SNR=7.5						
PDAR				Lg		13 25 00.8	
	0.1nm,0.3s,baz=243,slow=38,SNR=4.2						
PDAR	**Pinedale Array**	**8.39**	**53**	Pn	P	13 22 40.1	+2.2
PDAR				Lg		13 25 00.8	
TXAR	**Lajitas Array**	**15.17**	**120**	Pn	P	13 24 13.9	+4.5
	0.2nm,0.3s,baz=345,slow=12,SNR=4.6						

*DHMR **24** 13:31:06.8±3.0, 6.55S×130.38E, h10km, mb5.5*

*BJI **24** 13:31:10.0, 6.87S×130.53E, h78km, mB5.3, mb5.5, Ms5.3, Msz4.9*

*SYO **24** 13:31:14.8, 6.56S×130.23E, h84km, MB5.5*

*MOS **24** 13:31:15.1±1.0, 6.43S×130.00E, h89km, mb5.7/26, Error ellipse: s-maj=16.4km s-min=8.8km az=95.2*

*HRVD **24** 13:31:15.5±0.1, 6.58S×130.24E, h110km±1km, MW5.5/80, Centroid moment Tensor Solution. LP body waves: s71,c131;Mantle waves: s80,c172; Half duration: 1s4 Moment tensor: Scale 10^17 Nm; Mrr 1.04±.03; Mθθ -2.24±.03; Mφφ 1.20±.04; Mrθ -0.13±.03; Mrφ 0.00±.03; Mθφ 0.93±.02; Best double couple: M◎2.15×10^17 NP1:φ◎54°, δ59°, λ31°. NP2:φ◎306°, δ63°, λ145°. Principal axes: T 2.05, Plg43°, Azm268°; N .19, Plg47°, Azm93°; P -2.25, Plg2°, Azm1°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **24** 13:31:15.5±0.5, 6.57S×130.22E, h90km±4km, mb5.5/38, MW5.5 Error ellipse: s-maj=3.9km s-min=3.3km az=192.0, Moment Tensor Solution. s6 Moment tensor: Scale 10^17 Nm; Mrr 0.67; Mθθ -1.73; Mφφ 1.06; Mrθ 0.10; Mrφ 0.01; Mθφ 0.81; Best double couple: M◎1.7×10^17 NP1:φ◎308°, δ62°, λ153°. NP2:φ◎52°, δ66°, λ31°. Principal axes: T 1.69, Plg38°, Azm272°; N .04, Plg52°, Azm86°; P -1.73, Plg2°, Azm180°;*

NEIC Felt [II] at Saumlaki, Indonesia.

*DJA **24** 13:31:16.1±0.2, 7.25S×130.53E, h165km±3km, mb5.5/7 Error ellipse: s-maj=14.7km s-min=5.2km az=170.0*

*IDC **24** 13:31:19.4±1.1, 6.52S×130.28E, h120km±9km, mb5.3/20, mb1 5.3/25, mb1mx5.3/25, MS4.5/11, Ms1 4.5/11, ms1mx4.2/20, Error ellipse: s-maj=14.8km s-min=7.2km az=67.0*

ISC 24 13:31:13.0±0.2, 6.70S±0.02×130.28E±0.03, h81km, h81km±3.6km:pP-P, n625, σ1§13/355, mb5.5/94, 112C-33D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUNI	**Buntu Taipa**	**10.37**	**286**	⇓*e*P	**P**	**13 33 48.5**	**+7.7**
BUNI	**Buntu Taipa**	**10.37**	**286**	⇓*e*P	**P**	**13 33 47.4**	**+6.6**
	171nm,0.4s						
NINI	**Niniconang**	**10.71**	**282**	⇑*e*P	**P**	**13 33 51.3**	**+5.8**
	2µm,1.3s						
NINI	**Niniconang**	**10.71**	**282**	⇑*e*P	**P**	**13 33 51.2**	**+5.7**
	2µm,1.3s						
MENI	**Mendum Tagoi**	**10.93**	**68**	⇓*e*P	**P**	**13 33 48.1**	**-0.2**
MENI	**Mendum Tagoi**	**10.93**	**68**	⇓*e*P	**P**	**13 33 47.8**	**-0.5**
YOMI	**Yo Moklole**	**11.01**	**69**	⇑*e*P	**P**	**13 33 49.0**	**-0.4**
YOMI				*e*S	**S**	**13 35 50.1**	**-1.3**
YOMI	**Yo Moklole**	**11.01**	**69**	⇑*e*P	**P**	**13 33 49.1**	**-0.3**
TANI	**Tanete Lipujan**	**11.33**	**286**	⇑*e*P	**P**	**13 33 59.9**	**+6.2**
	1µm,0.5s						
TANI	**Tanete Lipujan**	**11.33**	**286**	⇑*e*P	**P**	**13 33 59.7**	**+6.0**
FITZ	**Fitzroy Crossi**	**12.21**	**201**	P	**P**	**13 34 03.4**	**-2.0**
	99nm,0.3s,baz=20,slow=9.6,SNR=357						
FITZ				S	**S**	**13 36 08.7**	**-11**
	112nm,0.3s,baz=222,slow=14,SNR=8.1						
FITZ				LR	LR	13 39 59.4	
	comp=Z,2µm,19.0s,baz=48,slow=42						
PIAM	**Paiam**	**12.86**	**85**	*e*P	**P**	**13 34 07.0**	**-7.0**
WRAB	**Tennant Creek**	**13.74**	**164**	Pn	**P**	**13 34 22.0**	**-3.5**
	12µm,0.9s						
WRAB	**Tennant Creek**	**13.74**	**164**	⇓*i*P	**P**	**13 34 22.6**	**-3.0**
	3µm,0.9s						
WRAB				*e*S	**S**	**13 36 46.3**	**-10**
WRA	**Warramunga Arr**	**13.74**	**164**	P	**P**	**13 34 21.9**	**-3.7**
	4.3nm,0.3s,baz=349,slow=10,SNR=324						
WRA				S	**S**	**13 36 45.8**	**-11**
	82nm,0.3s,baz=347,slow=22,SNR=12						
WRA				PKiKP		13 47 38.6	
	1.0nm,0.3s,baz=320,slow=0.8,SNR=8.0						
MATI	**Mati**	**14.13**	**343**	*e*P	**P**	**13 34 32.1**	**+1.3**
KEDI	**Kedomdong**	**14.15**	**262**	⇓*e*P	**P**	**13 34 31.8**	**+0.8**
KEDI	**Kedomdong**	**14.15**	**262**	⇓*e*P	**P**	**13 34 30.8**	**-0.2**
	633nm,0.3s						
DAV	**Davao City (W)**	**14.46**	**341**	⇑*e*P	**P**	**13 34 36.2**	**+1.2**
RATI	**Rata**	**14.75**	**261**	⇑*e*P	**P**	**13 34 39.3**	**+0.5**
	2µm,0.2s						
RATI				*e*S	**S**	**13 37 20.8**	**+0.3**
RATI	**Rata**	**14.75**	**261**	⇓*e*P	**P**	**13 34 39.4**	**+0.6**
	2µm,0.2s						
CTBH	**Cotabato--PC H**	**15.08**	**336**	⇓*e*P	**P**	**13 34 42.9**	**-0.1**
BUKP	**Musuan**	**15.39**	**340**	*e*P	**P**	**13 34 48.0**	**+1.1**
KELI	**Kelakatan**	**15.73**	**264**	⇓*e*P	**P**	**13 34 51.6**	**+0.4**
KELI	**Kelakatan**	**15.73**	**264**	⇑*e*P	**P**	**13 34 51.1**	**-0.1**
	2µm,0.4s						
PAGZ	**Pagadian**	**16.00**	**334**	*e*P	**P**	**13 34 54.8**	**+0.2**
CGP	**Cagayan de Oro**	**16.05**	**340**	⇑*e*P	**P**	**13 34 56.5**	**+1.2**
SRDI	**Scrawed**	**16.09**	**263**	⇓*e*P	**P**	**13 34 54.5**	**-1.3**
SRDI				*e*S	**S**	**13 37 52.2**	**+0.8**
SRDI	**Scrawed**	**16.09**	**263**	⇓*e*P	**P**	**13 34 54.6**	**-1.2**
BUTP	**Butuan**	**16.24**	**343**	*e*P	**P**	**13 34 59.0**	**-1.4**
IPIL	**Ipil**	**16.32**	**332**	*e*P	**P**	**13 35 00.8**	**+2.2**
WAU	**Wau**	**16.33**	**93**	⇓*e*P	**P**	**13 35 01.1**	**+2.4**
PMG	**Port Moresby**	**16.93**	**100**	P	**P**	**13 35 06.9**	**+0.7**
	31nm,0.3s,baz=290,slow=6.7,SNR=99						
PMG				S	**S**	**13 38 02.6**	**-7.7**
	5.6nm,0.3s,baz=38,slow=19,SNR=6.1						
PMG	**Port Moresby**	**16.93**	**100**	⇑*e*P	**P**	**13 35 07.1**	**+0.9**
PMG				pmax	pmax		
	comp=Z,200nm,0.8s						
PMG	**Port Moresby**	**16.93**	**100**	⇓*e*P	**P**	**13 35 08.5**	**+2.3**
SCPH	**Surigao**	**17.05**	**344**	*e*P	**P**	**13 35 08.9**	**+1.1**
ASAR	**Alice Springs**	**17.23**	**169**	P	**P**	**13 35 07.1**	**-2.8**
	comp=Z,61nm,0.3s,baz=347,slow=12,SNR=11						
ASAR				S	**S**	**13 38 16.6**	**-0.4**
	comp=Z,54nm,0.3s,baz=356,slow=25,SNR=5.1						
ASAR				LR	LR	13 43 06.1	
	comp=Z,1µm,18.1s,baz=340,slow=41						
ASAR				PKiKP		13 47 41.0	
	baz=356,slow=0.4,SNR=0.8						
TBP	**Tagbilaran**	**17.49**	**338**	*e*P	**P**	**13 35 13.9**	**+0.6**
MSLP	**Maasin**	**17.57**	**342**	*e*P	**P**	**13 35 15.1**	**+0.9**
MBWA	**Manobe Bar**	**17.63**	**214**	*e*P	**P**	**13 35 15.0**	**0.0**
	comp=Z,16nm,0.6s						
LLP	**Lapu-Lapu**	**18.03**	**340**	*e*P	**P**	**13 35 21.4**	**+1.6**
OCLP	**Ormoc**	**18.51**	**342**	*e*P	**P**	**13 35 25.7**	**+0.2**
PLP	**Palo**	**18.51**	**343**	*e*P	**P**	**13 35 26.1**	**+0.6**
BESP	**Borongan**	**18.81**	**345**	*e*P	**P**	**13 35 28.6**	**-0.2**
GUIM	**Jordan**	**18.84**	**336**	*e*P	**P**	**13 35 28.9**	**-0.3**
KKM	**Kota Kinabalu**	**18.90**	**312**	⇑*e*P	**P**	**13 35 30.1**	**+0.2**
	comp=Z,216nm,0.2s						
RCP	**Roxas**	**19.63**	**338**	⇑*e*P	**P**	**13 35 38.1**	**+0.4**
CUYO	**Cuyo Island**	**19.72**	**332**	*e*P	**P**	**13 35 39.7**	**+1.0**
BATP	**Bataraza**	**19.79**	**321**	*e*P	**P**	**13 35 40.2**	**+0.8**
CNP	**Catarman**	**19.88**	**344**	*e*P	**P**	**13 35 39.9**	**-0.5**
KALP	**Kalibo**	**19.89**	**337**	⇓*e*P	**P**	**13 35 42.2**	**+1.7**
PPR	**Puerto Princes**	**20.00**	**325**	⇑*e*P	**P**	**13 35 42.6**	**+0.9**
MMPH	**Masbate**	**20.05**	**341**	⇓*i*P	**P**	**13 35 43.7**	**+1.5**
CTA	**Charters Tower**	**20.43**	**132**	P	**P**	**13 35 47.8**	**+1.7**
	comp=Z,226nm,0.9s,baz=315,slow=12,SNR=209						
CTA				S	**S**	**13 39 30.6**	**+5.4**
	comp=Z,86nm,0.9s,baz=36,slow=19,SNR=3.6						
CTA				LR	LR	13 44 10.4	
	comp=Z,2µm,18.8s,baz=314,slow=38						
CTAO	**Charters Tower**	**20.43**	**132**	P	**P**	**13 35 47.8**	**+1.8**
CTAO	**Charters Tower**	**20.43**	**132**	*e*P	**P**	**13 35 47.4**	**+1.3**
CTAO				pmax	pmax		
	comp=Z,270nm,1.0s						
CTAO	**Charters Tower**	**20.43**	**132**	*e*P	**P**	**13 35 47.4**	**+1.3**
	comp=Z,275nm,0.9s						
OTRP	**Odiongan**	**20.64**	**337**	*e*P	**P**	**13 35 50.0**	**+1.7**
PVCP	**Virac**	**21.06**	**343**	*e*P	**P**	**13 35 53.0**	**+0.5**
SJMP	**San Jose**	**21.10**	**334**	*e*P	**P**	**13 35 53.5**	**+0.6**
BUSP	**Coron**	**21.11**	**332**	*e*P	**P**	**13 35 53.6**	**+0.6**
AUQP	**San Andres**	**21.28**	**339**	*e*P	**P**	**13 35 57.8**	**+3.1**
BOAC	**Boac**	**21.71**	**337**	*e*P	**P**	**13 36 00.5**	**+1.5**
GQP	**Guinayangan**	**21.90**	**339**	⇑*e*P	**P**	**13 36 01.7**	**+0.9**
LQP	**Lukban**	**22.42**	**337**	⇑*e*P	**P**	**13 36 07.8**	**+1.9**
LUBP	**Lubang**	**22.61**	**334**	*e*P	**P**	**13 36 10.7**	**+2.8**
LUBP	**Lubang**	**22.61**	**334**	*e*P	**P**	**13 36 09.6**	**+1.6**
TGY	**Tagaytay City**	**22.65**	**336**	⇓*e*P	**P**	**13 36 11.0**	**+2.7**
TGY	**Tagaytay City**	**22.65**	**336**	P	**P**	**13 36 10.0**	**+1.7**
	comp=Z,519nm,0.4s,mb6.3,baz=178,slow=6.5,SNR=14						
TGY				S	**S**	**13 40 06.0**	**0.0**
	comp=Z,170nm,0.5s,baz=163,slow=24,SNR=7.9						
POLP	**Polillo Island**	**22.84**	**339**	*e*P	**P**	**13 36 10.8**	**+0.8**
PACI	**Pancar Gunung**	**23.21**	**269**	⇑*e*P	**P**	**13 36 12.6**	**-1.1**
PACI	**Pancar Gunung**	**23.21**	**269**	⇑*e*P	**P**	**13 36 12.5**	**-1.2**
KALI	**Kaliastana**	**23.45**	**268**	⇓*e*P	**P**	**13 36 14.4**	**-1.6**
KALI	**Kaliastana**	**23.45**	**268**	⇓*e*P	**P**	**13 36 14.6**	**-1.4**
	comp=Z,15nm,0.6s						
BALP	**Baler**	**23.90**	**339**	*e*P	**P**	**13 36 21.3**	**+1.0**
PCPH	**Palayan**	**23.91**	**338**	⇓*e*P	**P**	**13 36 21.6**	**+1.1**
PASI	**Pasiripis**	**24.52**	**269**	⇑*e*P	**P**	**13 36 24.9**	**-1.5**
PASI	**Pasiripis**	**24.52**	**269**	⇓*e*P	**P**	**13 36 24.8**	**-1.6**
GUMO	**Guam**	**24.82**	**36**	*e*P	**P**	**13 36 28.7**	**-0.6**
GUMO				pmax	pmax		
	comp=Z,290nm,0.9s,mb5.7						
GUMO	**Guam**	**24.82**	**36**	*e*P	**P**	**13 36 28.7**	**-0.6**
	comp=Z,292nm,0.8s,mb5.8						
CAUP	**Cauayan**	**24.93**	**340**	*e*P	**P**	**13 36 32.7**	**+2.4**
PENI	**Pendagan**	**24.99**	**271**	⇓*e*P	**P**	**13 36 30.1**	**-0.8**
PENI	**Pendagan**	**24.99**	**271**	⇓*e*P	**P**	**13 36 29.6**	**-1.3**
	comp=Z,304nm,0.6s,mb5.6						
BOLP	**Bolinao**	**25.12**	**336**	*e*P	**P**	**13 36 32.0**	**-0.1**
CVP	**Callao Caves**	**25.64**	**341**	*e*P	**P**	**13 36 36.6**	**-0.4**

APYP	**Conner**	**25.98**	**340**	*e*P	**P**	**13 36 38.4**	**-1.7**
STKA	**Stephens Creek**	**27.19**	**159**	P	**P**	**13 36 51.7**	**+0.6**
	comp=Z,92nm,0.5s,mb5.5,baz=333,slow=8.4,SNR=298						
STKA				LR	LR	13 48 56.3	
	comp=Z,766nm,21.5s,baz=107,slow=39						
STKA	**Stephens Creek**	**27.19**	**159**	P	**P**	**13 36 51.7**	**+0.6**
STKA				LR	LR	13 48 56.3	
KGM	**Kluang**	**28.27**	**287**	⇓*i*P	**P**	**13 37 01.0**	**-0.1**
	comp=Z,12nm,0.4s,mb4.8						
NWAO	**Narrogin (SRO)**	**28.78**	**203**	P	**P**	**13 37 06.4**	**+1.0**
	comp=Z,106nm,0.7s,mb5.6,baz=34,slow=7.9,SNR=151						
NWAO				PcP	PcP	13 40 13.7	0.0
	comp=Z,143nm,0.6s,baz=100,slow=6.4,SNR=4.1						
NWAO				LR	LR	13 49 21.1	
	comp=Z,8.1nm,19.3s,baz=101,slow=37						
NWAO	**Narrogin (SRO)**	**28.78**	**203**	P	**P**	**13 37 06.5**	**+1.1**
NWAO	**Narrogin (SRO)**	**28.78**	**203**	*e*P	**P**	**13 37 05.9**	**+0.5**
NWAO				pmax	pmax		
	comp=Z,58nm,0.6s						
NWAO	**Narrogin (SRO)**	**28.78**	**203**	*e*P	**P**	**13 37 05.9**	**+0.5**
	comp=Z,58nm,0.6s,mb5.4						
ADE	**Adelaide**	**29.18**	**166**	⇓*i*P	**P**	**13 37 11.0**	**+2.0**
IPM	**Ipoh**	**31.28**	**290**	⇓*e*P	**P**	**13 37 26.5**	**-1.2**
	comp=Z,20nm,0.5s,mb5.1						
QIZ	**Qiongzhong**	**32.55**	**322**	P	**P**	**13 37 38.3**	**-0.4**
QIZ				S	**S**	**13 42 42.1**	**-4.8**
QIZ				AMB	AMB		
	comp=Z,112nm,1.2s,mb5.6						
QIZ				LR	LR		
	comp=N,817nm,21.1s						
QIZ				LR	LR		
	comp=E,798nm,17.9s						
QIZ	**Qiongzhong**	**32.55**	**322**	⇑*e*P	**P**	**13 37 37.8**	**-1.0**
	comp=E,159nm,1.2s,mb5.7						
SNG	**Songkhla**	**32.64**	**294**	P	**P**	**13 37 39.0**	**-0.6**
	comp=E,254nm,0.9s,mb6.0						
UBT	**Ubonrachathani**	**33.20**	**311**	⇑P	**P**	**13 37 44.0**	**-0.4**
	comp=E,556nm,1.0s,mb6.3						
JOW	**Kunigami**	**33.39**	**357**	P	**P**	**13 37 44.9**	**-1.1**
	comp=E,58nm,0.6s,mb5.6,baz=172,slow=12,SNR=14						
JOW				PcP	PcP	13 40 26.1	+0.2
	comp=E,38nm,0.6s,baz=193,slow=9.5,SNR=6.2						
JOW				ScP		13 43 59.0	
	comp=E,68nm,1.0s,baz=163,slow=8.4,SNR=4.8						
JOW				LR	LR	13 49 31.6	
	comp=E,548nm,21.1s,baz=182,slow=33						
COCO	**West Island**	**33.42**	**258**	P	**P**	**13 37 44.5**	**-1.8**
	comp=E,92nm,0.8s,mb5.7						
GZH	**Guangzhou**	**33.92**	**331**	P	**P**	**13 37 47.0**	**-3.5**
GZH				S	**S**	**13 43 04.3**	**-3.9**
GZH				LR	LR		
	comp=N,874nm,17.7s						
GZH				LR	LR		
	comp=E,630nm,14.9s						
GZH				LR	LR		
	comp=Z,875nm,15.9s						
CBIJ	**Chichi jima**	**35.52**	**18**	P	**P**	**13 38 01.4**	**-2.7**
	com

comp=Z,67nm,0.8s,mb5.4
MAT Matsushiro 43.65 9 P **P** **13 39 09.6 -1.8**
MAT S **S** **13 45 25.9 -8.6**
MAT Matsushiro 43.65 9 *e*P **P** **13 39 10.0 -1.4**
comp=Z,59nm,1.0s,mb5.3
MAT *e*S **S** **13 45 26.0 -8.5**
INCN Inchon 44.08 356 P **P** **13 39 13.7 -1.1**
comp=Z,38nm,1.0s,mb5.1
CD2 Chengdu 45.20 327⇑ *i*P **P** **13 39 22.8 -1.1**
CD2 PP PP 13 41 06.1 -5.4
CD2 S **S** **13 45 52.1 -4.8**
CD2 AMB AMB
comp=Z,40nm,1.2s,mb5.0
CD2 AMB AMB
comp=Z,200nm,5.1s
CD2 LR LR
comp=N,400nm,14.0s
CD2 LR LR
comp=Z,380nm,16.0s
XAN Xi'an 45.28 335 P **P** **13 39 23.3 -1.2**
XAN AMB AMB
comp=Z,73nm,1.1s,mb5.3
XAN LR LR
comp=N,210nm,9.5s
XAN LR LR
comp=E,226nm,7.0s
XAN LR LR
comp=Z,688nm,32.2s
DL2 Dalian 46.08 351 *e*P **P** **13 39 33.1 +2.4**
DL2 PPP PPP 13 41 57.3 -7.9
DL2 *e*S **S** **13 46 06.5 -2.8**
DL2 AMB AMB
comp=Z,30nm,1.3s,mb4.9
DL2 LR LR
comp=N,550nm,12.0s
DL2 LR LR
comp=E,1μm,12.3s
DL2 LR LR
comp=Z,2μm,12.7s
BJT Baijiatuau 48.27 345 *e*P **P** **13 39 47.0 -0.9**
comp=Z,66nm,0.6s,mb5.6
BJI Beijing 48.29 345 P **P** **13 39 47.4 -0.7**
comp=Z,55nm,0.6s,mb5.6
BJI sP sP 13 40 08.1 -9.2
BJI PcP PcP 13 41 13.7 -0.4
BJI ScP 13 44 57.0
BJI S **S** **13 46 34.2 -6.3**
BJI ScS ScS 13 49 28.5 -1.4
BJI AMB AMB
comp=Z,55nm,0.6s,mb5.6
BJI LR LR
comp=Z,249nm,23.0s
BJI Beijing 48.29 345 P **P** **13 39 47.4 -0.7**
comp=Z,55nm,0.6s,mb5.6
BJI sP sP 13 40 08.1 -9.2
BJI PcP PcP 13 41 13.7 -0.4
BJI ScP 13 44 57.0
BJI S **S** **13 46 34.2 -6.3**
BJI ScS ScS 13 49 28.5 -1.4
BJI LR LR
comp=Z,250nm,23.0s
SNY Shenyang 48.68 353 ⇓P **P** **13 39 50.8 -0.2**
SNY S **S** **13 46 39.1 -6.8**
SNY SCS ScS 13 49 29.5 -3.0
SNY AMB AMB
comp=Z,20nm,0.7s,mb5.2
SNY LR LR
comp=E,2μm,15.0s
SNY LR LR
comp=Z,2μm,12.9s
AGT Agartala 48.73 310⇓ *i*P **P** **13 39 50.0 -1.6**
AGT *i* 13 40 23.0
SHL Shillong 49.20 312 *i* P **P** **13 39 54.5 -0.8**
SHL *e* 13 46 47.0
LZH Lanzhou 49.27 332 ⇑P **P** **13 39 55.8 +0.1**
LZH AP pP 13 40 10.3 -5.5
LZH PCP PcP 13 41 15.0 -2.7
LZH PP PP 13 41 46.0 -4.5
LZH SCP 13 45 02.0
LZH S **S** **13 46 49.0 -5.3**
LZH SCS ScS 13 49 32.5 -4.0
LZH AMB AMB
comp=Z,170nm,1.2s,mb5.8
LZH AMB AMB
comp=Z,770nm,4.0s
LZH LR LR
comp=E,4μm,12.4s
LZH LR LR
comp=Z,8μm,17.0s
LZH Lanzhou 49.27 332 ⇑P **P** **13 39 55.7 0.0**
comp=Z,170nm,1.2s,mb5.8
LZH pP pP 13 40 10.3 -5.5
LZH sP sP 13 40 16.5 -8.4
LZH PcP PcP 13 41 15.0 -2.7
LZH PP PP 13 41 46.0 -4.5
LZH ScP 13 45 02.0
LZH PcS 13 45 19.0
LZH S **S** **13 46 49.0 -5.3**
LZH sS 13 47 16.0
LZH ScS ScS 13 49 32.5 -4.0
LZH SS SS 13 50 18.4 -4.2
LZH LR LR
comp=Z,8μm,17.0s
HHC Hu-ho-hao-te 50.34 342 ⇑P **P** **13 40 03.6 -0.2**
HHC PP PP 13 42 00.6 -0.1
HHC S **S** **13 47 05.6 -3.5**
HHC AMB AMB
comp=Z,44nm,1.3s,mb5.2
HHC AMB AMB
comp=Z,217nm,5.1s
HHC LR LR
comp=N,448nm,12.7s
HHC LR LR
comp=E,1μm,11.6s
HHC LR LR
comp=Z,851nm,12.1s
CN2 Changchun 50.45 355 *e*P **P** **13 40 04.4 -0.2**
CN2 *e*AP pP 13 40 26.9 +2.1
CN2 PCP PcP 13 41 20.4 -1.5
CN2 *e*S **S** **13 47 11.3 +0.8**
CN2 AMB AMB
comp=Z,20nm,1.0s,mb5.0
CN2 LR LR
comp=N,2μm,13.0s
CN2 LR LR
comp=E,2μm,13.0s
CN2 LR LR
comp=Z,2μm,15.0s
BTO Baotou 50.63 340 *e*P **P** **13 40 03.6 -2.4**
BTO AMB AMB
comp=Z,23nm,0.9s,mb5.2
MDJ Mudanjiang 51.08 359 P **P** **13 40 09.6 +0.2**
MDJ AP pP 13 40 26.4 -3.2
MDJ XP sP 13 40 33.8 -4.9
MDJ PCP PcP 13 41 20.5 -3.7
MDJ PP PP 13 42 10.3 +3.0
MDJ S **S** **13 47 17.3 -1.9**
MDJ SCS ScS 13 49 45.0 -3.6
MDJ AMB AMB
comp=Z,20nm,0.7s,mb5.3
MDJ AMB AMB
comp=Z,129nm,5.4s
MDJ LR LR
comp=N,2μm,17.0s
MDJ LR LR
comp=E,2μm,14.2s
MDJ LR LR
comp=Z,2μm,15.4s
MDJ Mudanjiang 51.08 359 *e*P **P** **13 40 08.9 -0.5**
comp=Z,13nm,0.6s,mb5.1
RPZ Rata Peaks 51.30 143 P **P** **13 40 12.7 +1.6**
comp=Z,50nm,0.8s,mb5.6,baz=278,slow=1.3,SNR=12
RPZ LR LR 14 01 26.6
comp=Z,882nm,18.8s,baz=317,slow=35
ASAJ Asahikawa 51.79 11 P **P** **13 40 14.1 -0.6**
comp=Z,16nm,0.4s,mb5.4,baz=223,slow=10,SNR=28
VIS Vishakhapatnam 52.32 298 *e*P **P** **13 40 19.0 0.0**
URZ Urewera 52.67 134 P **P** **13 40 22.6 +1.2**
comp=Z,8.8nm,0.6s,mb5.0,baz=337,slow=16,SNR=5.1
URZ LR LR 14 02 46.4
comp=Z,727nm,18.1s,baz=110,slow=36
MDRS Chennai 53.44 292 *e*P **P** **13 40 26.0 -1.4**
GTA Gaotai 53.84 331⇑ *i*P **P** **13 40 29.8 -0.2**
GTA AP pP 13 40 49.1 -1.3
GTA XP sP 13 40 57.3 -2.3
GTA PCP PcP 13 41 34.4 -0.2
GTA PP PP 13 42 33.5 +0.2
GTA PPP PPP 13 43 46.8 +2.6
GTA SCP 13 45 21.8
GTA PCS 13 45 32.0
GTA S **S** **13 47 49.4 -7.5**
GTA XS 13 48 32.0
GTA SCS ScS 13 50 07.0 -0.9
GTA SS SS 13 51 38.8 +0.5
GTA AMB AMB
comp=Z,77nm,1.0s,mb5.7
GTA AMB AMB
comp=Z,355nm,5.7s
GTA LR LR
comp=N,271nm,16.0s
GTA LR LR
comp=E,480nm,17.1s
GTA LR LR
comp=Z,585nm,19.0s
VJD Vijayawada 54.24 296 *e*P **P** **13 40 31.0 -2.2**
YSS Yuzh-Sakhalins 54.55 10 *e*P **P** **13 40 35.0 -0.1**
YSS *e* 13 41 03.3
YSS *e* 13 47 58.0
YSS pmax pmax
comp=Z,20nm,0.7s,mb5.3
YSS Yuzh-Sakhalins 54.55 10 *e*P **P** **13 40 33.4 -1.7**
comp=Z,14nm,0.4s,mb5.3
GUN Gumba 54.97 311 *e*P **P** **13 40 38.1 -0.2**
comp=Z,814nm,0.4s
PKI Pulchoki 55.14 310 *e*P **P** **13 40 39.0 -0.6**
comp=Z,510nm,0.5s
BLSP Bilaspur 55.17 303 *e*P **P** **13 40 38.9 -1.0**
TRD Trivandrum 55.26 285⇑ *e*P **P** **13 40 42.4 +1.7**
KKN Kakani 55.35 310 *e*P **P** **13 40 40.6 -0.6**
comp=Z,775nm,0.5s
DMN Daman 55.39 310 *e*P **P** **13 40 40.9 -0.5**
comp=Z,611nm,0.5s
GKN Gorkha 55.95 310 *e*P **P** **13 40 44.8 -0.6**
comp=Z,942nm,0.5s
HYB Hyderabad 56.43 296⇑ *i*P **P** **13 40 47.5 -1.5**
HYB *e* 13 40 52.5
HYB *e* 13 41 20.5
HYB *e* 13 41 32.5
HYB *e*PcP PcP 13 41 39.0 -5.8
HYB *e* 13 42 13.5
HYB *e*S **S** **13 48 24.0 -7.7**
HYB *e*ScS ScS 13 50 26.0 -0.6
HYB Hyderabad 56.43 296⇑ *e*P **P** **13 40 47.5 -1.5**
HIA Hailar 56.49 352 *e*P **P** **13 40 47.8 -1.2**
comp=Z,11nm,0.8s,mb4.9
KOLN Koldanda 56.62 309 *e*P **P** **13 40 49.8 -0.5**
comp=Z,723nm,0.6s
ALBI Allahabad 56.85 306 *e*P **P** **13 40 49.0 -2.9**
DGAR Diego Garcia 57.36 265 *e*P **P** **13 40 54.7 -1.0**
comp=Z,230nm,0.7s,mb6.3
SONM Songino Array 58.24 341 P **P** **13 41 01.2 -0.2**
comp=Z,26nm,0.4s,mb5.6,baz=160,slow=7.1,SNR=168
SONM ScP 13 45 40.7
comp=Z,5.3nm,0.9s,baz=180,slow=4.9,SNR=5.0
SONM S **S** **13 48 52.4 -2.7**
comp=Z,9.9nm,1.4s,baz=180,slow=1.2,SNR=4.6
SONM PKPPKP 14 10 42.4
comp=Z,2.9nm,1.0s,baz=283,slow=2.5,SNR=7.1
SONM PKP2bc 14 10 48.8
comp=Z,4.9nm,0.9s,baz=285,slow=2.5,SNR=5.8
SONM Songino Array 58.24 341 P **P** **13 41 01.2 -0.2**
SONM ScP 13 45 40.7
SONM S **S** **13 48 52.4 -2.7**
SONM P'P' 14 10 42.4
SONM ⇑ *e* 14 10 48.8
LATR Latur 58.56 296 *e*P **P** **13 41 01.5 -2.4**
AKL Akola 58.97 299 *e* **P** **13 41 12.6 +5.9**
AKL *e* 13 41 18.3
JHNI Jhansi 59.57 305⇑ *i*P **P** **13 41 07.0 -3.8**
JHNI *e* 13 41 14.0
BHPL Bhopal 59.59 302 *e*P **P** **13 41 09.4 -1.5**
BHPL *e* 13 41 12.0
comp=Z,224nm,1.1s
LGTI Lohaghat 60.01 309⇑ *i*P **P** **13 41 12.5 -1.3**
LGTI *e* 13 42 06.3
PTH Pithoragarh 60.08 310 *e*P **P** **13 41 10.6 -3.7**
KAD Karad 60.33 294 *e*P **P** **13 41 14.2 -1.9**
AGRA Agra 60.81 306 *e*P **P** **13 41 17.2 -2.1**
POO Poona 61.02 295⇑ *i*P **P** **13 41 18.0 -2.8**
CASY Casey 61.04 189⇑ *i*P **P** **13 41 20.6 +0.3**
comp=Z,60nm,1.1s,mb5.5
ZAK Zakamensk 61.47 341 *e*P **P** **13 41 22.1 -1.3**
SONA Sohna 61.94 307 *e*P **P** **13 41 24.9 -1.9**
AYAN Aya Nagar 62.01 307 AMb AMB 13 41 26.2
comp=Z,264nm,1.1s,mb6.2
NDI New Delhi 62.02 307 *e*P **P** **13 41 24.0 -3.4**
NDI *e* pP 13 41 46.0 -2.3
NDI *i* pP 13 41 46.0 -2.3
NDI *e* 13 49 34.0
DDI Dehra Dun 62.10 309⇑ *i*P **P** **13 41 26.2 -1.7**
BHGR Bahadurgarh 62.24 307 *e*P **P** **13 41 27.5 -1.4**
KUDL Kundal 62.37 306 *e*P **P** **13 41 27.7 -2.0**
IRK Irkutsk 62.77 342 *e*P **P** **13 41 22.7 -9.4**
IRK *e* 13 49 53.2
KHET Khetri 62.88 306 AMb AMB 13 41 33.2
comp=Z,265nm,1.4s,mb6.0
KKR Kurukshetra 62.89 308 *e*P **P** **13 41 32.0 -1.2**
AJM Ajmer 63.19 304 *e*P **P** **13 41 33.9 -1.3**
AJM *e* 13 41 35.1
comp=Z,171nm,1.4s
WMQ Urumqi 63.29 327⇑ *i*P **P** **13 41 35.3 -0.4**
WMQ AP pP 13 41 55.0 -1.7
WMQ XP sP 13 42 04.0 -1.8
WMQ PP PP 13 43 56.0 -1.2
WMQ S **S** **13 49 58.0 -1.6**
WMQ SS SS 13 54 07.0 -2.2
WMQ AMB AMB
comp=Z,178nm,1.0s,mb6.0
WMQ LR LR
comp=N,241nm,22.0s
WMQ LR LR
comp=E,263nm,22.0s
WMQ LR LR
comp=Z,308nm,24.0s
MOY Mondy 63.33 340 *e*P **P** **13 41 36.1 +0.3**
CLNS Chul'man 63.47 357 *e*P **P** **13 41 35.0 -1.6**
CLNS pmax pmax
comp=N,21nm,1.0s
CLNS pmax pmax
comp=Z,39nm,1.0s,mb5.3
CLNS pmax pmax
comp=E,15nm,0.8s
CLNS MLR MLR
comp=Z,600nm,15.0s
CLNS MLR MLR
comp=N,600nm,13.0s
CLNS MLR MLR
comp=E,300nm,13.0s
BHK Bhakra 63.85 310 *e* **P** **13 41 42.0 +2.5**
PET Petropavlovsk 64.18 19 *e*P **P** **13 41 41.8 +0.6**
PET *e* 13 42 14.6
PET *e*S **S** **13 50 08.7 -1.7**
PET *e* 13 51 18.4
PET pmax pmax
comp=Z,70nm,1.3s,mb5.3
PET smax
comp=N,300nm,13.1s
PET MLR MLR
comp=Z,200nm,17.0s
THN Thein Dam 64.84 310 *e*P **P** **13 41 43.8 -2.1**
comp=Z,168nm,0.8s,mb5.9
MIR Mirnyy 65.00 196⇑ *i*P **P** **13 41 47.3 +0.9**
MIR *e*S S 13 50 20.0 -0.3
MIR MLR MLR
comp=Z,1μm,14.0s
KSH Kashi 67.98 317⇑ *i*P **P** **13 42 07.0 +1.3**
KSH AP pP 13 42 24.6 -2.4
KSH XP sP 13 42 31.3 -4.4
KSH PCP PcP 13 42 35.4 +4.0
KSH PP PP 13 44 37.3 -1.3
KSH *e*PCS 13 46 37.0
KSH S S 13 50 56.4 -0.5
KSH SCS ScS 13 51 56.1 +2.7
KSH SS SS 13 55 18.8 -2.9
KSH LR LR
comp=N,440nm,14.1s
KSH LR LR
comp=E,590nm,9.3s
MA2 Magadan 68.05 11 *e*P **P** **13 42 05.6 -0.1**
MA2 *e*S S 13 50 54.4 -2.9
MA2 pmax pmax
comp=Z,20nm,1.0s,mb4.9
MA2 Magadan 68.05 11 *e*P **P** **13 42 05.2 -0.6**
comp=Z,27nm,0.9s,mb5.1
MKAR Makanchi Array 68.13 327 P **P** **13 42 06.4 0.0**
MKAR pmax pmax
comp=Z,52nm,0.4s
YAK Yakutsk 68.53 360*c* *i*P **P** **13 42 07.7 -0.9**
YAK *e* pP 13 42 28.8 -1.1
YAK *e**PP pP 13 42 37.9 +8.0
YAK *e* 13 44 36.5
YAK *e*PPP PPP 13 46 24.1 +3.4
YAK *i* S S 13 50 59.1 -3.8
YAK *e**SS 13 51 51.1
YAK *e* 13 51 53.7
YAK pmax pmax
comp=Z,108nm,1.0s,mb5.6
YAK pmax pmax
comp=N,46nm,1.1s
YAK pmax pmax
comp=E,16nm,1.0s
YAK pmax pmax
comp=Z,7.0nm,0.9s
YAK smax
comp=N,24nm,1.1s
YAK smax
comp=E,35nm,1.3s
YAK Yakutsk 68.53 360⇑ *i*P **P** **13 42 07.5 -1.1**
comp=E,150nm,0.8s,mb5.9
ULHL Ulahol 69.18 320 P **P** **13 42 14.0 +1.0**
SNR=12
FX1 Attu Island--F 69.58 26 P **P** **13 42 14.4 -0.9**
comp=E,26nm,0.6s,mb5.3,baz=293,slow=0.2,SNR=9.4
KZA Kyzart 69.73 319 P **P** **13 42 17.6 +1.3**
SNR=218
TKM2 Tokmak 2 69.93 320 P **P** **13 42 18.1 +0.6**
SNR=186
KBK Karagaybulak 70.21 320 P **P** **13 42 20.1 +0.8**
SNR=120
AAK Ala-Archa 70.49 320 P **P** **13 42 21.9 +0.9**
SNR=10
AAK Ala-Archa 70.49 320*c* *i*P **P** **13 42 20.8 -0.2**
AAK pmax pmax
comp=Z,270nm,1.0s,mb6.0
AAK MLR MLR
comp=Z,200nm,19.0s
AAK Ala-Archa 70.49 320⇑ *i*P **P** **13 42 20.6 -0.4**
comp=Z,215nm,0.9s,mb6.0
CHMS Chumysh 70.50 320 P **P** **13 42 21.1 +0.1**
SNR=59
FRU Bishkek 70.51 320⇑ *i*P **P** **13 42 22.0 +0.9**
FRU *e* pP 13 42 45.5 +3.0
FRU pmax pmax
comp=Z,220nm,1.9s,mb5.7
AML Almayashu 70.77 319 P **P** **13 42 24.0 +1.3**
SNR=11
USP Ospenovka 70.80 320 P **P** **13 42 22.7 -0.1**
SNR=226
EKS2 Erkin-Say 70.97 319 P **P** **13 42 24.8 +1.0**
SNR=220
ZAL Zalesovo 71.44 334 P **P** **13 42 25.7 -0.7**
comp=Z,39nm,1.0s,mb5.2,baz=344,slow=5.1,SNR=159
ZAL S S 13 51 31.4 -5.5
comp=Z,2.6nm,0.8s,baz=251,slow=24,SNR=32
ZAL Zalesovo 71.44 334 P **P** **13 42 25.7 -0.7**
ZAL S S 13 51 31.4 -5.5
SEY Seymchan 71.46 10 *e*P **P** **13 42 27.8 +1.4**
SEY *e* pP 13 42 48.2 +0.3
SEY 13 45 04.8
SEY *e*S S 13 51 39.1 +2.0
SEY 13 52 26.4
SEY *e*SS SS 13 56 18.0 +2.7
SEY pmax pmax
comp=Z,100nm,0.9s,mb5.7
SEY pmax pmax
comp=N,50nm,1.0s
SEY smax
comp=N,300nm,6.7s
SEY smax
comp=E,140nm,6.7s
SEY MLR MLR
comp=E,1μm,27.0s
SEY MLR MLR
comp=Z,2μm,27.0s
SEY MLR MLR
comp=N,1μm,25.0s
KURK Kurchatov 72.41 328 P **P** **13 42 32.0 -0.3**
KURK pmax pmax
comp=Z,170nm,1.1s,mb5.8
KURK Kurchatov 72.41 328⇑ *i*P **P** **13 42 31.9 -0.4**
comp=Z,172nm,1.1s,mb5.8
VNDA Vanda 72.71 173 P **P** **13 42 34.4 +0.8**
comp=Z,19nm,0.5s,mb5.2,baz=320,slow=6.7,SNR=169
VNDA LR LR 14 12 23.8
comp=Z,495nm,20.9s,baz=349,slow=34
NVS Novosibirsk 72.72 334 *i* P **P** **13 42 32.6 -1.4**
NVS *i* 13 43 04.0
NVS *i* S S 13 51 41.1 -11
NVS pmax pmax
comp=Z,83nm,1.0s,mb5.5
NVS smax
comp=N,114nm,1.9s
NVS smax
comp=E,188nm,2.0s
SBA Scott Base 73.59 172 P **P** **13 42 40.7 +2.0**
SBA pmax pmax
comp=Z,13nm,0.6s,mb4.8
SBA Scott Base 73.59 172⇑ *e*P **P** **13 42 40.5 +1.8**
comp=Z,13nm,0.6s,mb4.8
MAW Mawson 75.33 201 P **P** **13 42 50.3 +1.5**
comp=Z,131nm,0.6s,mb5.9,baz=77,slow=6.0,SNR=777
MAW PKiKP 13 48 37.7
comp=Z,2.7nm,0.7s,baz=59,slow=7.1,SNR=4.8
MAW PKKPbc 14 02 08.3
comp=Z,1.6nm,0.6s,baz=256,slow=8.3,SNR=6.7
MAW LR LR 14 13 45.3
comp=Z,392nm,20.5s,baz=61,slow=34
BVA0 Borovoye Array 77.96 328 *i* P **P** **13 43 03.5 -0.4**
BVA0 pmax pmax
comp=Z,5.0nm,0.9s
BVAR Borovoye Array 77.96 328 P **P** **13 43 03.5 -0.3**
comp=Z,52nm,0.8s,mb5.3,baz=135,slow=6.3,SNR=187
BVAR S S 13 52 43.8 -5.4
comp=Z,1.5nm,0.8s,baz=97,slow=12,SNR=5.5
BRVK Borovoye 78.03 328 P **P** **13 43 03.1 -1.1**
BRVK pmax pmax
comp=Z,92nm,0.9s,mb5.5
BRVK Borovoye 78.03 328⇑ *i*P **P** **13 43 03.8 -0.5**
comp=Z,92nm,0.8s,mb5.6
TIXI Tiksi 78.19 360*ce*P **P** **13 43 03.2 -1.6**
TIXI pmax pmax
comp=Z,56nm,1.0s,mb5.2
TIXI MLR MLR
comp=Z,300nm,16.0s
TIXI Tiksi 78.19 360⇑ *e*P **P** **13 43 03.3 -1.5**
TBI Tubuai 78.46 112 *e*L 14 04 32.2
TBI *e*R 14 08 20.6
comp=Z,380nm,39.5s
PPT Papeete 78.64 107 P **P** **13 43 10.0 +1.7**
comp=Z,16nm,0.5s,mb5.1,baz=193,slow=18,SNR=6.5
PPT Papeete 78.64 107 *e*S 13 53 34.0
PPT *e*L 14 04 48.8
PPT *e*R 14 08 09.6
comp=Z,388nm,29.8s
MUKL Al Mukalla 83.23 285⇑ *e*P **P** **13 43 34.0 +1.5**
MUKL AMb AMB 13 43 35.4
comp=Z,75nm,1.6s,mb5.3
SDPT Sand Point 83.92 32 *e*P **P** **13 43 34.9 -0.2**
SDPT LR LR
comp=Z,200nm,22.0s
SYO Syowa Base 84.04 201 ⇓P **P** **13 43 36.9 +1.4**
SYO Syowa Base 84.04 201 ⇓PcP PcP 13 43 43.5 +3.9
HASS Wahat al Ahsa' 84.37 296 P **P** **13 43 38.3 +0.2**
SVE Sverdlovsk 84.65 329⇑ *i*P **P** **13 43 38.0 -0.8**
SVE *e* pP 13 44 03.0 +2.2
SVE pmax pmax
comp=Z,260nm,1.2s,mb6.0
ARU Arti 85.60 328⇑ *i*P **P** **13 43 42.4 -1.1**
ARU *e* 13 47 00.7
ARU *e*S S 13 54 00.0 -7.1
ARU *e*SS SS 13 59 41.0 -6.8
ARU *e*SSS SSS 14 03 17.0 -0.1
ARU pmax pmax
comp=Z,89nm,0.8s,mb5.8
QRN Al-Qurain 86.53 299 *e*P **P** **13 43 49.0 +0.2**
QRN AMb AMB 13 43 50.2
comp=Z,279nm,0.8s,mb6.2

LBOS 86.79 284⇑ *e*P P 13 43 52.2 +1.9
KBD Kabd 86.80 300 *e*P P 13 43 49.7 -0.3
UMR Umm Al-Rimmam 86.84 300 *e*P P 13 43 50.7 +0.5
UMR AMb AMB 13 43 52.9
comp=Z,191nm,0.5s,mb6.3
RDF Al-Radifah 86.88 299 *e*P P 13 43 50.2 -0.2
RDF AMb AMB 13 43 51.4
comp=Z,198nm,0.5s,mb6.3
RYDS Riyadh 86.95 295 P P 13 43 51.5 +0.7
RST Umm Al-Ruwaisa 87.45 300 *e*P P 13 43 52.8 -0.4
RST AMb AMB 13 43 54.3
comp=Z,250nm,0.4s,mb6.5
DHBB Dhamar BB 87.71 285⇑ *e*P P 13 43 56.6 +1.9
MZLS Mizel 88.22 294 P P 13 43 57.7 +0.8
KDAK Kodiak Island 88.82 31 *e*P P 13 43 58.8 -0.2
comp=Z,65nm,1.1s,mb5.6
TATS Tathlith 89.21 290 P P 13 44 02.8 +1.1
MAK Makhachkala 89.25 313 *e*P P 13 44 01.0 -0.4
MAK *e*S S 13 54 40.0 -1.9
MAK pmax pmax
comp=Z,500nm,4.0s
MAK smax
comp=N,1µm,7.0s
MAK smax
comp=E,900nm,7.0s
SPU Mount Spurr 89.92 28 *e*P P 13 44 04.3 +0.2
AFFS 'Afif 90.20 294 P P 13 44 06.9 +0.6
ARSS Ar Rass 90.24 296 P P 13 44 06.9 +0.5
NAMS An Nimas 90.36 289 P P 13 44 08.7 +1.6
IMA Indian Mountai 90.46 23 P P 13 44 06.7 +0.2
IMA pmax pmax
comp=Z,77nm,1.2s,mb5.7
IMA Indian Mountai 90.46 23 *e*P P 13 44 06.1 -0.4
SLKM Skilak Lake 90.64 29 *e*P P 13 44 06.7 -0.7
GNI Garni 90.87 310 P P 13 44 10.0 +1.0
comp=Z,16nm,0.6s,mb5.4,baz=198,slow=5.0,SNR=7.3
GNI Garni 90.87 310*c* *i*P P 13 44 10.1 +1.0
GNI pmax pmax
comp=Z,69nm,1.6s
GNI MLR MLR
comp=Z,100nm,18.0s
GNI Garni 90.87 310 *e*P P 13 44 08.8 -0.3
comp=Z,32nm,0.9s,mb5.5
BLJS Baljurashi 91.01 290 P P 13 44 11.5 +1.3
TVAN Van 91.68 308 *i*P P 13 44 13.6 +0.7
HILS Ha'il 91.70 297 P P 13 44 14.1 +0.8
MCK McKinley 91.89 26 P P 13 44 12.4 -0.8
MCK pmax pmax
comp=Z,20nm,1.1s,mb5.3
MCK McKinley 91.89 26 *e*P P 13 44 12.1 -1.1
comp=Z,20nm,1.2s,mb5.2
LTHS Al Lith 92.17 290 P P 13 44 16.7 +1.2
COLA College 92.57 25 *e*P P 13 44 15.5 -0.8
COLA College 92.57 25 *e*P P 13 44 14.4 -1.8
comp=Z,13nm,1.0s,mb5.2
MAIT Maitri 92.75 197⇑ *i*P P 13 44 19.0 +2.0
GOF Gofitskoye 92.75 315 *e*P P 13 44 17.0 -0.6
GOF pmax pmax
comp=Z,30nm,1.2s,mb5.5
KMBO Kilima Mbogo 92.88 269 *e*P P 13 44 20.1 +1.2
comp=Z,53nm,1.4s,mb5.7
ILAR Eielson Array 92.96 25 P P 13 44 16.1 -1.9
comp=Z,12nm,0.8s,mb5.3,baz=284,slow=5.9,SNR=72
ILAR PKiKP 13 49 08.0
comp=Z,1.1nm,0.7s,baz=278,slow=3.6,SNR=6.9
ILAR PKKP PKKP 14 01 29.0 +16
comp=Z,8.6nm,0.8s,baz=318,slow=0.7,SNR=44
ILAR LR LR 14 19 03.9
comp=Z,155nm,22.0s,baz=87,slow=31
THY Trims Highway 93.24 27 *e*P P 13 44 17.9 -1.4
BEST Besiri 93.28 308 *i*P P 13 44 20.5 +0.3
ERZM Erzurum 93.41 310 *i*P P 13 44 22.2 +1.4
KBRS Khaybar 93.79 295 P P 13 44 23.6 +0.8
YNBS Yanbu' al Bahr 94.80 294 P P 13 44 28.2 +0.8
SOC Sochi 94.97 313 *i*P P 13 44 25.8 -2.0
SOC *e* 13 48 14.0
SOC *e*PPP PPP 13 50 18.4 -7.1
SOC *e* 13 54 51.4
SOC *e*S S 13 55 30.9 -1.1
SOC *e*SS SS 14 02 08.1 +5.3
SOC pmax pmax
comp=Z,11nm,0.6s,mb5.5
SOC pmax pmax
comp=N,7.0nm,0.9s
SOC pmax pmax
comp=E,1.0nm,0.2s
SOC MLR MLR
comp=Z,106nm,16.0s
SOC MLR MLR
comp=N,118nm,21.0s
SOC MLR MLR
comp=E,53nm,15.0s
KELT Kelkit 95.05 310 *i*P P 13 44 29.3 +1.1
ELZG Elazig 95.13 308 *i*P P 13 44 29.5 +0.9
UMJS Umm Lajj 95.49 295 P P 13 44 31.3 +0.7
MALT Malatya 95.56 308 *e*P P 13 44 30.6 0.0
comp=E,5.3nm,0.6s,mb5.2
SNAA Sanae 96.02 193⇑ *i*P P 13 44 33.2 +1.4
SNAA Sanae 96.02 193⇑ *i* pP 13 44 52.0 -2.3
SNAA Sanae 96.02 193 P P 13 44 32.6 +0.8
comp=E,21nm,0.7s,mb5.7,baz=153,slow=3.8,SNR=394
SNAA PKiKP 13 49 10.8
comp=E,1.2nm,0.7s,baz=208,slow=8.1,SNR=5.7
SNAA PKKPbc 14 01 19.3
comp=E,1.4nm,0.6s,baz=292,slow=1.8,SNR=21
SNAA Sanae 96.02 193 P P 13 44 33.4 +1.6
SNAA pmax pmax
comp=Z,53nm,0.8s
DAWY Dawson 96.12 26 *e*P P 13 44 32.5 +0.1
GZT Gaziantep 96.17 307 *i*P P 13 44 33.6 +0.3
ASF Jabal al Asfar 96.38 302 P P 13 44 34.9 +0.5
comp=Z,27nm,0.8s,mb5.7,baz=320,slow=3.0,SNR=33
TBKS Tabuk 96.41 298 P P 13 44 35.1 +0.5
MOS Moscow 96.98 325 *e*P P 13 44 35.0 -1.6
MOS pmax pmax
comp=Z,68nm,0.8s,mb6.1
JMQS Jabal Moqyreh 97.04 298 P P 13 44 37.7 +0.1
KSHT Keshet 97.34 302 P P 13 44 39.3 +0.5
HRI Mount Hermon 97.42 303 P P 13 44 39.5 +0.3
AYUS 'Aynunah 97.53 298 P P 13 44 39.8 0.0
HMDT Nahal Hemdat 97.54 302 P P 13 44 40.0 +0.3
HMDT Nahal Hemdat 97.54 302 ⇑P P 13 44 40.0 +0.3
OBN Obninsk 97.57 325*α* *i*P P 13 44 37.4 -1.9
OBN *e* pP 13 45 04.1 +2.4
OBN *e* 13 48 41.2
OBN *e*PS PS 13 57 18.3 -14
OBN *e* 14 06 16.0
OBN pmax pmax
comp=Z,28nm,0.7s,mb5.9
OBN MLR MLR
comp=Z,300nm,21.0s
OBN Obninsk 97.57 325 *e*P P 13 44 37.2 -2.0
comp=Z,8.7nm,0.5s,mb5.5
VNA2 Neumayer--Watz 97.59 193⇑ *i*P P 13 44 44.5 +5.5
VNA2 Neumayer--Watz 97.59 193⇑ *i* pP 13 45 03.1 +1.7
VNA2 Neumayer--Watz 97.59 193 ⇓ *i*S S 13 56 02.4 +8.9
MMLI Mount Malkishu 97.64 302 P P 13 44 40.7 +0.5
BDAS Al Bad' 97.69 298 P P 13 44 40.3 -0.2
JMOS Jabal al Moall 97.73 298 P P 13 44 40.9 +0.3
ZFRI Zfri 97.75 300 P P 13 44 41.0 +0.3
VNA3 Neumayer Olymp 97.84 192⇑ *i*P P 13 44 45.4 +5.3
VNA3 Neumayer Olymp 97.84 192⇑ *i* pP 13 45 04.8 +2.3
VNA3 Neumayer Olymp 97.84 192⇑ *i*S S 13 56 05.1 +10
HAQS Haql 97.88 298 P P 13 44 41.4 +0.1
PRNI Paran 97.89 300 P P 13 44 41.6 +0.3
PRNI Paran 97.89 300 ⇑P P 13 44 41.6 +0.3
EIL Elat 97.89 299 P P 13 44 41.4 0.0
comp=Z,12nm,0.9s,mb5.5,baz=339,slow=6.3,SNR=9.4
EIL PKiKP 13 49 16.4
comp=Z,9.9nm,1.1s,baz=33,slow=4.9,SNR=3.1
EIL PKKP PKKP 14 01 17.4 +12
comp=Z,3.8nm,0.8s,baz=207,slow=4.5,SNR=4.3
TAYS Tayyib Ism 97.90 298 P P 13 44 41.7 +0.3
MBH Mount Berech 97.93 299 P P 13 44 41.7 +0.2
MBH Mount Berech 97.93 299 ⇑P P 13 44 41.7 +0.2
VNA1 Neumayer--Stat 97.98 193⇑ *i*P P 13 44 46.3 +5.5
VNA1 Neumayer--Stat 97.98 193⇑ *i* pP 13 45 05.6 +2.4
KMTI Karmit 98.11 299 P P 13 44 42.2 -0.1
KMTI Karmit 98.11 299 ⇑P P 13 44 42.2 -0.1
AVNT Avonos 98.38 308 *i*P P 13 44 42.9 -0.5
INK Inuvik 98.48 22 PKiKP 13 49 15.2
comp=Z,2.3nm,0.6s,baz=234,slow=11,SNR=6.0
INK PKKPbc 14 01 10.8
comp=Z,16nm,0.5s,baz=78,slow=3.4,SNR=40
INK Inuvik 98.48 22 P P 13 44 42.4 -0.7
INK pmax pmax
comp=Z,27nm,1.2s
INK Inuvik 98.48 22 *e*P P 13 44 41.4 -1.6
comp=Z,26nm,1.3s,mb5.6
CTKT Corum 98.48 310 *i*P P 13 44 43.9 +0.1
SIM Simferopol' 99.05 314 *e*P P 13 44 45.4 -0.9
SIM pmax pmax
comp=Z,23nm,0.8s,mb5.8
BRTR Keskin Array B 99.34 309 P P 13 44 46.8 -1.0
comp=Z,6.6nm,0.9s,mb5.2,baz=117,slow=5.5,SNR=25
BRTR PKKPbc 14 01 11.1
comp=Z,0.5nm,0.5s,baz=225,slow=2.0,SNR=3.7
MBAR Mbarara 99.41 268⇑ *e*P P 13 44 47.8 -0.9
comp=Z,6.4nm,0.9s,mb5.2
BALT Daday 99.56 311 *i*P P 13 44 48.0 -0.7
LSZ Lusaka 99.81 253⇑ *e*P P 13 44 50.3 -0.1
LSZ pmax pmax
comp=Z,19nm,1.0s,mb5.7
LSZ Lusaka 99.81 253⇑ *e*P P 13 44 50.3 0.0
comp=Z,19nm,0.9s,mb5.7
BOSA Boshof 99.86 240 Pdiff P 13 44 50.8 +0.5
JOF Joensuu 100.01 333 *e*p P 13 44 48.6 -1.6
comp=Z,2.3nm,0.4s
JOF Joensuu 100.01 333 *e*p 13 49 13.3
comp=Z,0.6nm,0.4s
JOF Joensuu 100.01 333 *e*P P 13 44 48.6 -1.6
JOF pmax pmax
comp=Z,2.0nm,0.4s
DLBC Dease Lake 100.75 32 P P 13 44 53.2 -0.4
comp=Z,14nm,1.4s,baz=222,slow=12,SNR=3.5
KEV Kevo 100.84 340 *e*p P 13 44 53.0 -0.7
comp=Z,0.9nm,0.4s
KEV Kevo 100.84 340 *e*p 13 49 18.0
comp=Z,0.7nm,0.3s
KEV Kevo 100.84 340 *e*P P 13 44 53.0 -0.7
KEV pmax pmax
comp=Z,1.0nm,0.4s
ARCES ARCESS Array B 101.39 340 P P 13 44 54.9 -1.3
comp=Z,8.1nm,0.5s,baz=81,slow=5.7,SNR=35
ARCES PKiKP 13 49 19.7
comp=Z,2.1nm,0.5s,baz=104,slow=1.3,SNR=19
ARCES PKKPbc 14 01 05.0
comp=Z,1.2nm,0.5s,baz=270,slow=2.7,SNR=8.5
ARCES ARCESS Array B 101.39 340 P P 13 44 54.9 -1.3
AKASG Malin Array Be 102.15 320 P Pdif 13 44 57.8 -2.2
comp=Z,1.0nm,0.4s,baz=68,slow=4.5,SNR=12
AKASG PP PP 13 49 08.4 -6.6
comp=Z,1.4nm,0.5s,baz=82,slow=7.0,SNR=4.6
AKASG PKiKP 13 49 21.4
comp=Z,1.6nm,0.5s,baz=62,slow=2.3,SNR=7.4
AKASG PKKPbc 14 01 04.2
comp=Z,0.5nm,0.3s,baz=278,slow=4.0,SNR=5.7
BBB Bella Bella 102.38 38 P Pdif 13 45 00.3 -0.6
comp=Z,6.2nm,0.8s,baz=30,slow=4.3,SNR=3.0
BBB Bella Bella 102.38 38 P Pdif 13 45 00.3 -0.6
KAF Kangasniemi 102.42 332 *e*p Pdif 13 44 58.5 -2.4
comp=Z,1.6nm,0.4s
KAF Kangasniemi 102.42 332 *e*p 13 49 20.9
comp=Z,0.7nm,0.4s
KAF Kangasniemi 102.42 332 *e*P Pdif 13 44 58.5 -2.4
KAF pmax pmax
comp=Z,2.0nm,0.4s
FINES FINESS Array B 102.63 331 P Pdif 13 44 60.0 -1.9
comp=Z,5.6nm,0.7s,baz=59,slow=5.5,SNR=27
FINES PKiKP 13 49 21.8
comp=Z,3.2nm,0.6s,baz=108,slow=4.0,SNR=12
FINES PKKPbc 14 01 01.8
comp=Z,0.7nm,0.4s,baz=153,slow=6.2,SNR=12
FINES FINESS Array B 102.63 331 *i*P Pdif 13 45 00.2 -1.7
FINES pmax pmax
comp=Z,6.0nm,0.7s
MLR Muntele Rosu 104.79 315 Pdiff Pdif 13 45 11.3 -0.4
comp=Z,3.8nm,0.6s,baz=97,slow=5.7,SNR=8.0
MLR PKiKP 13 49 26.8
comp=Z,6.6nm,0.6s,baz=320,slow=0.9,SNR=5.3
IDI Anoyia 106.40 305 PKiKP 13 49 30.4
comp=Z,6.7nm,0.5s,baz=115,slow=8.7,SNR=11
YBH Yreka Blue Hor 107.12 48 PKiKP 13 49 32.1
comp=Z,0.7nm,0.4s,baz=236,slow=3.6,SNR=6.9
YBH PKKPbc 14 00 48.6
comp=Z,2.3nm,0.8s,baz=63,slow=6.8,SNR=4.3
YKA Yellowknife Ar 107.36 26 PKiKP 13 49 31.0
comp=Z,6.7nm,0.5s,baz=295,slow=1.9,SNR=39
YKA PKKPbc 14 00 47.1
comp=Z,8.1nm,0.6s,baz=113,slow=3.3,SNR=28
YKA PKKPab 14 01 01.5
comp=Z,3.2nm,0.7s,baz=104,slow=4.6,SNR=6.0
CRVS Cervenica-Dubn 107.37 319 PDIF Pdif 13 45 23.4 +0.4
CRVS *e* 13 49 11.4
CRVS *e*PP PP 13 49 53.9 -0.5
CRVS Cervenica-Dubn 107.37 319 *i*P Pdif 13 45 23.4 +0.4
CRVS *e* 13 49 53.9
CRVS Cervenica-Dubn 107.37 319 *e*Pdif Pdif 13 45 23.4 +0.4
CRVS *e* 13 49 11.4
CRVS *e*PP PP 13 49 53.9 -0.5
HFS Hagfors 108.83 332 PKiKP 13 49 33.2
comp=Z,2.5nm,0.6s,baz=108,slow=4.7,SNR=7.3
HFS PKKPbc 14 00 42.9
comp=Z,3.5nm,0.5s,baz=207,slow=3.3,SNR=27
VYHS Vyhne 109.15 319 *i*PP PP 13 50 08.1 +0.2
OKC Ostrava-Krasne 109.31 321 *e*PKP 13 49 35.4
OKC *ex* x 13 50 12.2
NB2 NORSAR Subarra1 109.64 333 P Pdif 13 45 31.0 -1.7
comp=Z,5.5nm,0.9s,baz=69,slow=4.5
NB2 NORSAR Subarra1 109.64 333 P Pdif 13 45 31.0 -1.7
baz=69,slow=4.4
NOA NORSAR Array B 109.64 333 Pdiff Pdif 13 45 31.4 -1.2
comp=Z,4.4nm,0.8s,baz=69,slow=4.4,SNR=17
NOA PKiKP 13 49 35.1
comp=Z,9.3nm,1.2s,baz=262,slow=3.2,SNR=9.5
NOA PKKPbc 14 00 40.9
comp=Z,1.4nm,0.5s,baz=236,slow=3.9,SNR=13
NOA PKKPab 14 00 53.8
comp=Z,1.2nm,0.7s,baz=250,slow=4.3,SNR=5.5
NOA NORSAR Array B 109.64 333 Pdif Pdif 13 45 31.4 -1.2
NOA PKPdif 13 49 35.1
NOA PKKPbc 14 00 40.9
NOA PKKPab 14 00 53.8
PKSM Moragy 109.74 317⇑ *i*P 13 49 35.6
PKSM *i* 13 50 12.2
KSP Ksiaz 110.22 322 *e*PKPdf PKPdf 13 49 36.8 +1.6
DPC Dobruska-Polom 110.33 321 *e*PKP PKPdf 13 49 37.6 +2.1
ZST Bratislava 110.34 319 *e*PKP PKPdf 13 49 38.8 +1.2
VRAC Vranov 110.41 320 PKiKP 13 49 37.4
baz=110,slow=0.8
UPC Upice 110.48 322 *e*PKP PKPdf 13 49 37.6 +1.8
JMIC Jan Mayen 110.76 347 PKiKP 13 49 36.6
comp=Z,415nm,1.3s,baz=176,slow=7.0,SNR=2.9
NVAR Mina Array Bea 110.89 52 Pdiff Pdif 13 45 43.0 +4.2
comp=Z,0.3nm,0.5s,baz=270,slow=4.5,SNR=4.3
NVAR PKiKP 13 49 39.9
comp=Z,1.6nm,0.6s,baz=236,slow=4.5,SNR=9.6
NVAR Mina Array Bea 110.89 52 Pdif Pdif 13 45 43.0 +4.2
NVAR PKPdf PKPdf 13 49 39.9 +3.0
EDM Edmonton 110.97 35 *e*PKIKP PKPdf 13 49 37.6 +0.9
EDM Edmonton 110.97 35 *e*PKiKP 13 49 38.0
PVCC Panska Ves 111.36 322 *e*PKP PKPdf 13 49 39.3 +1.8
PRU Pruhonice 111.53 321 *e*PKP PKPdf 13 49 39.1 +1.3
PRU *ex* x 13 50 25.9
ARSA Arzberg 111.60 318⇑ *i*P PKPdf 13 49 39.2 +1.2
BRG Berggiesshubel 111.64 322 *e*PKIKP PKPdf 13 49 39.8 +1.8
BRG *e* 13 50 15.4
BRG pmax pmax
comp=Z,7.0nm,1.1s
CLL Collm 112.08 323⇑ *i*PKIKP PKPdf 13 49 40.1 +1.2
comp=Z,logA/T=0.9
CLL *e**PPKP 13 49 57.0
CLL *i* PP PP 13 50 28.9 +0.5
CLL *e**PPP 13 50 41.0
CLL *e* 13 53 05.0
CLL Collm 112.08 323 *i*PKIKP PKPdf 13 49 40.1 +1.2
CLL pmax pmax
comp=Z,6.0nm,0.7s
KHC Kasperske Hory 112.37 321 *e*PKP PKPdf 13 49 40.7 +1.2
KHC *e* 13 49 48.5
KHC Kasperske Hory 112.37 321 *e*PKP PKPdf 13 49 40.7 +1.2
KHC x x 13 49 48.5
GEC2 GERESS Array S 112.37 320 *i*PKIKP PKPdf 13 49 40.8 +1.3
GEC2 GERESS Array S 112.37 320 *e*PKPdf PKPdf 13 49 40.8 +1.3
GERES GERESS Array B 112.37 320 PKIKP 13 49 41.1
comp=Z,6.5nm,0.5s,baz=72,slow=1.5,SNR=65
GERES SKiKP 13 53 06.1
comp=Z,1.5nm,0.5s,baz=63,slow=3.0,SNR=6.1
GERES PKKPab 14 00 40.8
comp=Z,1.1nm,0.8s,baz=236,slow=3.5,SNR=6.4
GERES GERESS Array B 112.37 320 PKPdf PKPdf 13 49 41.1 +1.6
GERES PKKPab 14 00 40.8
MSO Missoula 112.39 42 *e*PKiKP PKPdf 13 49 40.8 +1.2
BSEG Bad Segeberg 112.75 326 *i* PKIKP PKPdf 13 49 41.9 +1.8
BSEG Bad Segeberg 112.75 326 *e*PKPdf PKPdf 13 49 41.9 +1.8
WET Wettzell 112.80 321 *i* PKIKP PKPdf 13 49 41.6 +1.3
WET Wettzell 112.80 321 *e*PKPdf PKPdf 13 49 41.6 +1.3
CHMT Chamberlain Mo 112.82 42 *e*PKiKP PKPdf 13 49 41.9 +1.5
HLID Hailey 112.84 45 *e*PKiKP PKPdf 13 49 43.3 +2.7
PFO Pinyon Flat Ob 113.03 56 PKiKP PKPdf 13 49 43.6 +2.4
PFO Pinyon Flat Ob 113.03 56 *e*PKiKP PKPdf 13 49 43.5 +2.3
KBA Koelnbreinsper 113.08 319⇑ *i*P PKPdf 13 49 41.5 +0.5
MGR Morigerati 113.14 311 *e*P PKPdf 13 49 41.8 +0.5
PTCC Patocco-Chiusa 113.26 318 *e*P PKPdf 13 49 42.3 +1.0
CSSN Cassano Irpino 113.39 312 *e*P PKPdf 13 49 42.5 +0.8
CLZ Clausthal 113.46 324 *e*PKPdf PKPdf 13 49 42.9 +1.3
FVI Forni Avoltri 113.59 318 *e*P PKPdf 13 49 42.8 +0.9
MCMT McKenzie Canyo 113.63 44 *e*PKiKP PKPdf 13 49 44.2 +2.1
GRA1 Grafenberg Arr 113.67 322 *e*PKPdf PKPdf 13 49 42.9 +0.9
GRF Grafenberg Arr 113.67 322 *i* PKIKP PKPdf 13 49 42.9 +0.9
SUMG Summit 113.83 356 *e*PKiKP PKPdf 13 49 43.5 +1.6
NEN Nelson 114.05 54 *e*PKiKP PKPdf 13 49 45.6 +2.4
FUR Furstenfeldbru 114.11 320 *i* PKIKP PKPdf 13 49 44.1 +1.1
FUR Furstenfeldbru 114.11 320 *e*PKPdf PKPdf 13 49 44.1 +1.1
WTTA Wattenberg 114.15 319⇑ *i*P PKPdf 13 49 44.4 +1.3
WATA Walderalm 114.17 319⇓ *i*P PKPdf 13 49 44.0 +0.9
AQU L'Aquila 114.24 314 PKIKP PKPdf 13 49 51.7 +8.3
AQU L'Aquila 114.24 314 PKiKP PKPdf 13 49 43.6 +0.2
BOZ Bozeman (W) 114.25 43 PKIKP PKPdf 13 49 45.7 +2.4
BOZ Bozeman (W) 114.25 43 *e*PKiKP PKPdf 13 49 45.0 +1.6
ARV Arcevia 114.29 315 *e*P PKPdf 13 49 45.0 +1.5
HVU Hansel Valley 114.43 47 PKIKP PKPdf 13 49 46.3 +2.5
HVU Hansel Valley 114.43 47 *e*PKiKP PKPdf 13 49 45.5 +1.7
SQTA Sankt Quirin 114.44 319⇑ *i*P PKPdf 13 49 44.7 +1.0
VAE Valguarnera 114.52 308 PKP PKPdf 13 49 46.8 +2.7
comp=Z,8.7nm,0.3s,baz=42,slow=10.0,SNR=3.1
MNS Montasola 114.76 314 *e*P PKPdf 13 49 45.0 +0.6
DUG Dugway 114.76 49 PKIKP PKPdf 13 49 46.8 +2.3
DUG Dugway 114.76 49 *e*PKiKP PKPdf 13 49 46.5 +2.0
SFI Santa Sofia 114.95 315 *e*P PKPdf 13 49 46.2 +1.4
VMG Vicchio 115.15 316 *e*P PKPdf 13 49 46.2 +1.1
BRMO Bormio 115.21 319 *e*P PKPdf 13 49 46.2 +1.0
TPAW Teton Pass 115.30 45 *e*PKPdf PKPdf 13 49 47.7 +2.3
HWUT Hardware Ranch 115.35 47 *e*PKPdf PKPdf 13 49 47.2 +1.6
NLU North Lily Min 115.36 49 *e*PKPdf PKPdf 13 49 47.5 +1.9
MOOW Moose Ponds 115.38 45 *e*PKPdf PKPdf 13 49 47.5 +1.9
REDW Red Top Meadow 115.41 45 *e*PKPdf PKPdf 13 49 47.5 +1.9
WUWY Wally Ulrich 115.43 45 *e*PKPdf PKPdf 13 49 47.6 +1.9
WUWY *e*SKPdf 13 53 13.1
ZCCA Zocca 115.44 316 *e*P PKPdf 13 49 48.1 +2.4
DAVOX Davos 115.44 319 SKP 13 53 12.4
comp=Z,3.6nm,0.8s,baz=342,slow=8.0,SNR=5.5
DAVOX PKKPbc 14 00 22.9
comp=Z,3.7nm,0.6s,baz=218,slow=17,SNR=8.1
SNOW Snow King Moun 115.45 45 *e*PKPdf PKPdf 13 49 48.3 +2.6
LOHW Long Hollow 115.51 45 *e*PKPdf PKPdf 13 49 48.0 +2.2
TCUT Toone Canyon 115.58 48 *e*PKPdf PKPdf 13 49 44.7 -1.3
MSU Marysvale 115.61 50 PKIKP PKPdf 13 49 49.4 +3.2
MSU Marysvale 115.61 50 *e*PKPdf PKPdf 13 49 48.9 +2.7
JLU Jordanelle 115.68 48 *e*PKPdf PKPdf 13 49 48.0 +1.8
BDI Bagni Di Lucca 115.78 316 *e*P PKPdf 13 49 46.2 -0.2
BFO Black Forest 115.92 321 *i* PKIKP PKPdf 13 49 47.2 +0.7
BFO Black Forest 115.92 321 *e*PKPdf PKPdf 13 49 47.2 +0.7
TMUT Trail Mountain 116.17 49 *e*PKPdf PKPdf 13 49 49.5 +2.3
HGN Heimansgroeve 116.45 324 *e*P PKPdf 13 49 48.7 +1.3
comp=Z,16nm,1.3s
VAI Varese 116.46 318 *e*P PKPdf 13 49 47.9 +0.3
PDAR Pinedale Array 116.48 45 PKP PKPdf 13 49 49.4 +1.6
comp=Z,4.6nm,0.7s,baz=282,slow=0.8,SNR=32
PDAR SKP 13 53 14.7
comp=Z,1.6nm,0.8s,baz=59,slow=1.7,SNR=3.8
PDAR PKKPbc 14 00 18.0
comp=Z,4.2nm,0.7s,baz=120,slow=3.3,SNR=18
CDF Champ du Feu 116.54 321 *e*PKP1 PKPdf 13 49 48.2 +0.5
comp=Z,7.4nm,0.7s
SRU San Rafael 116.73 50 PKIKP PKPdf 13 49 50.4 +2.1
SRU San Rafael 116.73 50 *e*PKPdf PKPdf 13 49 50.0 +1.7
MCGN Macugnaga 116.95 319 *e*P PKPdf 13 49 49.6 +1.1
HINF Hinteralfeld 117.03 321⇑ *i*PKP1 PKPdf 13 49 49.3 +0.7
comp=Z,24nm,0.6s
HAU Haudompre 117.27 321⇑ *i*PKP1 PKPdf 13 49 50.0 +0.9
comp=Z,17nm,0.7s
HAU *e*R
comp=Z,215nm,19.2s
PGF Pioggiola 117.33 315⇑ *i*PKP1 PKPdf 13 49 50.4 +1.1
comp=Z,23nm,0.7s
GIVF Givet 117.37 324 *e*PKP1 PKPdf 13 49 50.6 +1.4
LAO LASA Array 117.48 40 *e*PKPdf PKPdf 13 49 51.5 +2.0
BAIF Baives 117.75 324⇑ *i*PKP1 PKPdf 13 49 51.4 +1.5
comp=Z,16nm,0.6s
LPG La Plagne 117.92 318⇑ *i*PKP1 PKPdf 13 49 51.9 +1.5
comp=Z,25nm,0.5s
LPL La Plagne 117.93 318⇑ *i*PKP1 PKPdf 13 49 51.8 +1.4
comp=Z,36nm,0.5s
TUC Tucson 117.94 57 PKIKP PKPdf 13 49 53.1 +2.4
TUC Tucson 117.94 57 *e*PKPdf PKPdf 13 49 52.5 +1.7
CABF La Chapelle 117.95 320⇑ *i*PKP1 PKPdf 13 49 51.8 +1.4
comp=Z,48nm,0.5s
FCC Fort Churchill 117.97 24 *e*PKPdf PKPdf 13 49 50.6 +0.5
SBF Sospel 118.01 317⇑ *i*PKP1 PKPdf 13 49 51.5 +0.9
comp=Z,36nm,0.7s
PV10 Paradox Valley 118.03 50 *e*PKPdf PKPdf 13 49 53.0 +2.2
DGMT Dagmar 118.07 38 *e*PKPdf PKPdf 13 49 51.6 +1.0
BNI Bardonecchia 118.12 318 PKiKP PKPdf 13 49 51.7 +0.9
BNI Bardonecchia 118.12 318 *e*PKPdf PKPdf 13 49 51.9 +1.1
MBDF Montbardon 118.17 318⇑ *i*PKP1 PKPdf 13 49 51.8 +0.9
comp=Z,22nm,0.6s
PV01 Paradox Valley 118.45 50 *e*PKPdf PKPdf 13 49 53.6 +2.0
FRF La Foret Royal 118.65 316⇑ *i*PKP1 PKPdf 13 49 52.9 +1.0
comp=Z,29nm,0.8s
ORIF Oris-en-Rattie 118.70 318⇑ *i*PKP1 PKPdf 13 49 53.0 +1.1
comp=Z,25nm,0.6s
ORIF *e*R
comp=Z,210nm,18.8s
LMR La Mourre 118.82 316⇑ *i*PKP1 PKPdf 13 49 53.0 +0.8
comp=Z,19nm,0.9s
EKA Eskdalemuir Ar 119.03 332 PKP PKPdf 13 49 53.1 +0.8
comp=Z,8.4nm,0.5s,baz=31,slow=2.5,SNR=50
EKA PKKPbc 14 00 09.3
comp=Z,2.4nm,0.7s,baz=242,slow=4.1,SNR=11
ESK Eskdalemuir 119.06 332 *e*P PKPdf 13 49 52.6 +0.2
RW3 Ridgway 119.09 50 PKIKP PKPdf 13 49 55.9 +3.0
RW3 Ridgway 119.09 50 *e*PKPdf PKPdf 13 49 55.2 +2.3
LOR Lormes 119.11 321⇑ *i*PKP1 PKPdf 13 49 53.6 +0.9
comp=Z,18nm,0.8s
LOR *e*R
comp=Z,230nm,22.0s
SMRF Simiane la Rot 119.24 317⇑ *i*PKP1 PKPdf 13 49 54.6 +1.6
comp=Z,19nm,0.7s
SMF Signal de Mont 119.37 321⇑ *i*PKP1 PKPdf 13 49 54.0 +0.8
comp=Z,22nm,0.7s
SSF Saint Saulge 119.41 321⇑ *i*PKP1 PKPdf 13 49 54.5 +1.2
comp=Z,32nm,0.6s
VIVF Saint-Julien-l 119.52 318⇑ *i*PKP1 PKPdf 13 49 54.6 +1.1
comp=Z,19nm,0.7s
RSSD Black Hills 119.85 42 PKIKP PKPdf 13 49 55.4 +1.2
RSSD Black Hills 119.85 42 *e*PKPdf PKPdf 13 49 54.8 +0.7
BGF Bois d'Agland 120.03 321⇑ *i*PKP1 PKPdf 13 49 55.8 +1.3
comp=Z,59nm,0.6s
ISCO Idaho Springs 120.20 48 PKIKP PKPdf 13 49 57.3 +2.3
ISCO Idaho Springs 120.20 48 *e*PKPdf PKPdf 13 49 57.0 +2.0
LASF Ste Croix 120.36 318 *e*PKP1 PKPdf 13 49 56.3 +1.1
TCF Toulx Ste Croi 120.54 321⇑ *i*PKP1 PKPdf 13 49 56.7 +1.2
comp=Z,23nm,0.6s
LENM Lemitar 120.68 54 *e*PKPdf PKPdf 13 49 58.2 +2.1
SDCO Great Sand Dun 120.89 50 *e*PKPdf PKPdf 13 49 58.6 +2.2
ANMO Albuquerque 120.90 53 *e*PKPdf PKPdf 13 49 58.6 +2.1
LPM Los Pinos Moun 120.92 54 *e*PKPdf PKPdf 13 49 58.6 +2.0
LDF La Druitiere 120.93 324 *e*PKP1 PKPdf 13 49 57.4 +1.2
BNM Barren Site 120.96 54 *e*PKPdf PKPdf 13 49 58.0 +1.3
FLN La Foliniere 121.06 324⇑ *i*PKP1 PKPdf 13 49 57.5 +1.0
comp=Z,21nm,0.7s
FLN *e*R
comp=Z,251nm,19.5s
CAF Calviac 121.20 319⇑ *i*PKP1 PKPdf 13 49 58.3 +1.5
comp=Z,13nm,0.6s
RJF Les Rejaudoux 121.40 320 *e*PKP1 PKPdf 13 49 58.6 +1.4
RJF *e*R
comp=Z,188nm,18.5s
GRR Gorron 121.46 324 *e*PKP1 PKPdf 13 49 58.2 +1.0
MTLF Montolieu 121.74 318⇑ *i*PKP1 PKPdf 13 49 58.9 +1.0
comp=Z,17nm,0.6s

MFF	**Saint Martin d**	**121.87**	**322**	⇑*i*	PKP1	PKPdf	13 49 59.1	+1.0	
	comp=Z,57nm,0.6s								
ULM	**Lac du Bonnet**	**122.04**	**33**		PKP	PKPdf	13 49 58.7	+0.4	
	comp=Z,14nm,0.6s,baz=306,slow=2.2,SNR=18								
ULM					PKKPbc		13 59 56.9		
	comp=Z,12nm,0.8s,baz=110,slow=2.5,SNR=12								
ULM	**Lac du Bonnet**	**122.04**	**33**		PKP	PKPdf	13 49 58.7	+0.4	
ULM					PKKPbc		13 59 56.9		
LFF	**La Frestale**	**122.05**	**320**	*e*	PKP1	PKPdf	13 49 59.9	+1.5	
	comp=Z,22nm,0.6s								
SGMF	**Saint Gilles**	**122.52**	**324**	⇑*i*	PKP1	PKPdf	13 50 00.1	+0.9	
	comp=Z,41nm,0.7s								
EMIR	**Miracle**	**122.76**	**316**		PKP	PKPdf	13 50 01.0	+1.1	
ROSF	**Rostrenen**	**122.89**	**325**	⇑*i*	PKP1	PKPdf	13 50 00.9	+1.0	
	comp=Z,13nm,0.6s								
QUIF	**Quistinic**	**123.04**	**324**	⇑*i*	PKP1	PKPdf	13 50 01.2	+0.9	
	comp=Z,29nm,0.6s								
EPF	**Esparros**	**123.12**	**318**	*e*	PKP1	PKPdf	13 50 01.7	+1.2	
	comp=Z,18nm,0.6s								
GDL2	**Guadalupe Moun**	**123.28**	**56**	*e*	PKPdf	PKPdf	13 50 02.8	+1.6	
EPOB	**Poblet**	**123.29**	**316**		PKP	PKPdf	13 50 02.2	+1.2	
EBIE	**Bielsa**	**123.39**	**318**		PKP	PKPdf	13 50 03.4	+2.2	
CPRX	**Cap Rock**	**123.47**	**55**	*e*	PKPdf	PKPdf	13 50 02.5	+1.0	
EGRA	**Graus**	**123.48**	**317**		PKP	PKPdf	13 50 03.2	+1.9	
CLNB	**Carlsbad**	**123.66**	**56**	*e*	PKPdf	PKPdf	13 50 03.4	+1.5	
ETSF	**Etsaut**	**123.77**	**318**	*e*	PKP1	PKPdf	13 50 03.8	+2.0	
	comp=Z,20nm,0.6s								
EBR	**Ebro Roquetas**	**123.91**	**315**	*e*	PKIKP	PKPdf	13 50 04.0	+1.8	
EIBI	**Ibiza**	**123.98**	**313**		PKP	PKPdf	13 50 04.0	+1.7	
SJPF	**Ste Jean**	**124.12**	**319**	*e*	PKP1	PKPdf	13 50 04.4	+1.9	
TRIS	**Tristan da Cun**	**124.16**	**216**		PKPdf	PKPdf	13 50 04.8	+2.0	
LTX	**Lajitas**	**124.53**	**59**		PKIKP	PKPdf	13 50 05.5	+1.8	
LTX	**Lajitas**	**124.53**	**59**	*e*	PKPdf	PKPdf	13 50 05.2	+1.5	
TXAR	**Lajitas Array**	**124.53**	**59**		PKP	PKPdf	13 50 05.4	+1.7	
	comp=Z,5.6nm,0.7s,baz=225,slow=1.3,SNR=56								
TXAR					PKKPbc		13 59 48.2		
	comp=Z,1.7nm,0.5s,baz=115,slow=5.3,SNR=25								
TXAR	**Lajitas Array**	**124.53**	**59**		PKP	PKPdf	13 50 05.4	+1.7	
TXAR					PKKPbc		13 59 48.2		
EMOS	**Mosqueruela**	**124.76**	**315**		PKP	PKPdf	13 50 04.3	+0.5	
CBKS	**Cedar Bluff**	**124.82**	**47**		PKIKP	PKPdf	13 50 05.9	+1.9	
CBKS	**Cedar Bluff**	**124.82**	**47**	*e*	PKPdf	PKPdf	13 50 04.7	+0.6	
EBEN	**Beniarda**	**125.23**	**313**		PKP	PKPdf	13 50 06.7	+1.9	
ELAN	**Lanestosa**	**125.50**	**320**		PKP	PKPdf	13 50 07.0	+1.8	
NRS	**Narsarsuaq**	**125.56**	**357**	*i*	P	PKPdf	13 50 05.2	+0.4	
	comp=Z,290nm,0.6s								
ETOR	**Torete**	**125.67**	**316**		PKP	PKPdf	13 50 06.0	+0.5	
EYMN	**Ely**	**125.72**	**33**	*e*	PKPdf	PKPdf	13 50 05.8	+0.3	
EMUR	**La Murta**	**126.30**	**313**		PKP	PKPdf	13 50 07.3	+0.4	
EARI	**Arriondas**	**126.61**	**320**		PKP	PKPdf	13 50 08.2	+1.0	
EVIA	**Vianos**	**126.90**	**314**		PKP	PKPdf	13 50 10.0	+2.1	
KSU1	**Kansas State U**	**126.94**	**45**	*e*	PKPdf	PKPdf	13 50 09.0	+1.0	
WMOK	**Wichita Mounta**	**126.99**	**51**	*e*	PKPdf	PKPdf	13 50 08.6	+0.3	
ESDC	**Sonseca Array**	**127.48**	**316**		PKP	PKPdf	13 50 10.1	+1.0	
	comp=Z,2.0nm,0.5s,baz=31,slow=2.1,SNR=14								
ESDC					PP	PP	13 52 12.2	-2.3	
	comp=Z,7.9nm,0.8s,baz=64,slow=6.7,SNR=17								
ESDC					SKPab		13 53 18.1		
	comp=Z,1.5nm,0.7s,baz=27,slow=3.6,SNR=4.1								
ESDC	**Sonseca Array**	**127.48**	**316**		PKP	PKPdf	13 50 09.5	+0.4	
JCT	**Junction City**	**127.50**	**57**		PKIKP	PKPdf	13 50 09.7	+0.3	
JCT	**Junction City**	**127.50**	**57**	*e*	PKPdf	PKPdf	13 50 10.4	+1.0	
EQES	**Quesada**	**127.65**	**313**		PKP	PKPdf	13 50 09.8	+0.3	
EPON	**Pontenova**	**127.81**	**321**		PKP	PKPdf	13 50 11.7	+2.1	
EBER	**Berja**	**127.88**	**312**		PKP	PKPdf	13 50 10.9	+0.9	
ERUA	**La Rua**	**128.29**	**320**		PKP	PKPdf	13 50 12.6	+2.0	
PBRG	**Braganca**	**128.33**	**319**	*e*	PKPdf	PKPdf	13 50 12.3	+1.6	
ERON	**Agron**	**128.50**	**313**		PKP	PKPdf	13 50 12.6	+1.4	
EADA	**Adamuz**	**128.57**	**314**		PKP	PKPdf	13 50 13.1	+1.8	
ELUQ	**Luque**	**128.61**	**314**		PKP	PKPdf	13 50 12.2	+0.9	
ELOJ	**Sierra Loja**	**128.70**	**313**		PKP	PKPdf	13 50 12.8	+1.2	
STS	**Santiago**	**128.91**	**322**		PKP	PKPdf	13 50 14.0	+2.3	
ELOB	**Lobios**	**129.15**	**320**		PKP	PKPdf	13 50 13.2	+0.9	
PVRL	**Vila Real**	**129.23**	**319**	*e*	PKPdf	PKPdf	13 50 15.0	+2.6	
EMIJ	**Mijas**	**129.40**	**313**		PKP	PKPdf	13 50 14.0	+1.1	
MTE	**Manteigas**	**129.56**	**318**	*e*	PKPdf	PKPdf	13 50 15.6	+2.5	
MTE				*i*	-		13 53 25.9		
PVIS	**Viseu**	**129.63**	**319**	*e*	PKPdf	PKPdf	13 50 15.5	+2.3	
PVIS				*i*	-		13 53 26.2		
PCBR	**Castelo Branco**	**129.80**	**318**	*e*	P	PKPdf	13 50 16.1	+2.6	
PCBR				*i*	-		13 53 26.9		
ESPR	**Espera**	**130.06**	**313**		PKP	PKPdf	13 50 17.7	+3.6	
SCHQ	**Schefferville**	**130.07**	**13**		PKP	PKPdf	13 50 15.4	+1.8	
	comp=Z,19nm,0.5s,baz=337,slow=2.1,SNR=55								
SCHQ					SKPbc		13 53 25.9		
	comp=Z,40nm,0.8s,baz=358,slow=4.7,SNR=22								
SCHQ					PKKP	PKKP	14 00 15.7	+11	
	comp=Z,6.9nm,0.4s,baz=221,slow=5.7,SNR=21								
SCHQ	**Schefferville**	**130.07**	**13**		PKP	PKPdf	13 50 15.4	+1.8	
SCHQ					SKPbc		13 53 25.9		
SCHQ					PKKP	PKKP	14 00 15.7	+11	
EMIN	**Mina Concepcio**	**130.23**	**315**		PKP	PKPdf	13 50 15.9	+1.4	
PTOM	**Tomar**	**130.53**	**318**	*i*	-		13 53 29.5		
EVO	**Evora**	**130.80**	**316**	*e*	PKP1	PKPdf	13 50 18.0	+2.5	
	comp=Z,22nm,0.8s								
EVO				*e*	R		13 53 32.1		
	comp=Z,212nm,21.5s								
PALC	**Alcoutim**	**130.94**	**315**	*e*	PKPdf	PKPdf	13 50 17.1	+1.3	
PALC				*i*	-		13 53 31.3		
PBEJ	**Beja**	**130.95**	**316**	*e*	PKPdf	PKPdf	13 50 17.6	+1.8	
PBEJ				*i*	-		13 53 31.3		
MOE	**Montemor**	**131.04**	**317**	*e*	PKPdf	PKPdf	13 50 18.4	+2.5	
MIAR	**Mount Ida**	**131.04**	**49**		PKIKP	PKPdf	13 50 18.5	+2.4	
MIAR	**Mount Ida**	**131.04**	**49**	*e*	PKPdf	PKPdf	13 50 18.3	+2.2	
MIAR				*e*	SKP		13 53 32.1		
CCM	**Cathedral Cave**	**131.16**	**44**		PKIKP	PKPdf	13 50 10.8	-5.4	
CCM	**Cathedral Cave**	**131.16**	**44**	*e*	PKPdf	PKPdf	13 50 16.7	+0.5	
CCM				*e*	SKP		13 53 31.3		
NATX	**Nacogdoches**	**131.27**	**53**	*i*	SKP		13 53 33.9		
SLM	**Saint Louis**	**131.56**	**43**	*e*	SKP		13 53 33.4		
FVM	**French Village**	**131.76**	**44**		PKIKP	PKPdf	13 50 18.0	+0.7	
FVM	**French Village**	**131.76**	**44**	*e*	PKPdf	PKPdf	13 50 17.9	+0.5	
FVM				*e*	SKPbc		13 53 33.6		
PTEO	**Sao Teotonio**	**131.77**	**316**	*i*	-		13 53 35.0		
HBAR	**Harrisburg**	**132.76**	**47**	*e*	SKP		13 53 38.2		
GLAT	**Glass**	**133.40**	**45**	*e*	SKP		13 53 39.9		
HALT	**Halls**	**133.53**	**46**	*e*	SKP		13 53 40.0		
AAM	**Ann Arbor**	**133.56**	**35**		PKIKP	PKPdf	13 50 22.4	+1.9	
AAM	**Ann Arbor**	**133.56**	**35**	*e*	PKPdf	PKPdf	13 50 21.5	+0.9	
AAM				*e*	SKPbc		13 53 39.8		
USIN	**University of**	**133.64**	**42**	*e*	PKPdf	PKPdf	13 50 22.0	+1.1	
UTMT	**University of**	**133.66**	**45**	*e*	SKP		13 53 40.5		
BLO	**Bloomington**	**133.72**	**40**	*e*	PKPpre		13 50 11.7		
BLO				*e*	PKPdf	PKPdf	13 50 22.6	+1.7	
BLO				*e*	SKP		13 53 40.0		
TRQA	**Tornquist**	**134.03**	**167**	*e*	PKPpre		13 50 12.1		
TRQA				*e*	PKPdf	PKPdf	13 50 23.9	+2.4	
OXF	**Oxford**	**134.15**	**47**		PKHKP		13 50 15.8		
OXF	**Oxford**	**134.15**	**47**	*e*	PKPpre		13 50 15.3		
OXF				*e*	PKPdf	PKPdf	13 50 22.6	+0.8	
OXF				*e*	SKPbc		13 53 42.1		
SADO	**Sadowa**	**134.23**	**29**		PKhKP		13 50 07.2		
	comp=Z,6.1nm,0.8s,baz=82,slow=5.4,SNR=2.9								
SADO					PKP	PKPdf	13 50 24.2	+2.4	
	comp=Z,20nm,0.7s,baz=341,slow=3.3,SNR=11								
SADO					SKPbc		13 53 41.8		
	comp=Z,37nm,0.7s,baz=335,slow=3.8,SNR=17								
SADO	**Sadowa**	**134.23**	**29**		PKP		13 50 07.2		
SADO					PKP	PKPdf	13 50 24.2	+2.4	
SADO					SKPbc		13 53 41.8		
WCI	**Wyandotte Cave**	**134.40**	**41**	*e*	PKHKP		13 50 12.4		
WCI				*e*			13 50 24.3		
WVT	**Waverly**	**134.49**	**44**		PKHKP		13 50 16.0		
WVT	**Waverly**	**134.49**	**44**	*e*	PKPpre		13 50 12.8		
WVT				*e*	PKPdf	PKPdf	13 50 23.4	+0.9	
WVT				*e*	SKPbc		13 53 43.1		
ACSO	**Alum Creek Sta**	**135.27**	**37**	*e*	PKPpre		13 50 10.8		
ACSO				*e*	PKPdf	PKPdf	13 50 24.9	+1.1	
ACSO				*e*	SKP		13 53 44.6		
DBIC	**Dimbokro**	**135.45**	**273**		PKhKP		13 50 13.7		
	comp=Z,12nm,1.0s,baz=85,slow=1.6,SNR=13								
DBIC					PKP	PKPdf	13 50 27.8	+3.0	
	comp=Z,24nm,0.4s,baz=60,slow=2.0,SNR=38								
DBIC					SKPbc		13 53 46.7		
	comp=Z,14nm,0.8s,baz=45,slow=2.8,SNR=6.8								
LIC	**Lamto**	**135.60**	**272**	*e*	PKIKP	PKPdf	13 50 27.7	+2.6	
	comp=Z,84nm,0.5s								
MSNY	**Massena**	**136.02**	**26**	*e*	PKPdf	PKPdf	13 50 27.3	+2.3	
MSNY				*e*	SKPbc		13 53 46.9		
SWET	**Sewanee**	**136.28**	**44**	*e*	PKPpre		13 50 12.8		
SWET				*i*	SKP		13 53 47.8		
LOZ	**Lake Ozonia**	**136.44**	**26**		PKPpre		13 50 17.0		
LOZ				*e*	SKPbc		13 53 48.8		
LRAL	**Lakeview Retre**	**136.62**	**48**	*e*	PKPdf	PKPdf	13 50 27.5	+1.1	
NCB	**Newcomb**	**137.12**	**26**		PKP	PKPdf	13 50 28.5	+1.5	
NCB				*e*	SKP		13 53 50.0		
CPCT	**Cooper Cave**	**137.12**	**43**	*e*	SKPbc		13 53 53.3		
MIV	**Mineville/With**	**137.33**	**25**	*e*	PKPdf	PKPdf	13 50 28.6	+1.2	
MCWV	**Mont Chateau**	**137.46**	**35**	*e*	SKPbc		13 53 51.6		
SSPA	**Standing Stone**	**137.86**	**32**	*e*	PKPdf	PKPdf	13 50 29.0	+0.5	
SSPA				*e*	SKP		13 53 52.3		
HNH	**Hanover**	**138.16**	**25**	*e*	PKPdf	PKPdf	13 50 30.4	+1.4	
BLA	**Blacksburg**	**138.73**	**38**		PKIKP	PKPdf	13 50 32.2	+2.0	
BLA	**Blacksburg**	**138.73**	**38**	*e*	PKPdf	PKPdf	13 50 31.5	+1.3	
BLA				*e*	SKP		13 53 55.8		
JSC	**Jenkinsville**	**139.99**	**42**		PKHKP		13 50 26.1		
JSC	**Jenkinsville**	**139.99**	**42**	*e*	PKPpre		13 50 25.5		
JSC				*e*	SKP		13 53 59.0		
NHSC	**New Hope**	**141.41**	**43**	*e*	PKPdf	PKPdf	13 50 36.9	+1.7	
LVC	**Limon Verde**	**145.34**	**148**	*e*	PKP	PKPdf	13 50 45.8	+3.5	
CPUP	**Villa Florida**	**146.35**	**168**		PKPbc	PKPbc	13 50 45.9	+0.7	
	comp=Z,48nm,0.6s,baz=218,slow=1.5,SNR=117								
CPUP					SKPbc		13 54 15.2		
	comp=Z,19nm,0.9s,baz=239,slow=3.1,SNR=3.7								
CPUP	**Villa Florida**	**146.35**	**168**		PKPbc	PKPbc	13 50 46.1	+0.9	
CPUP					PKPbc	PKPbc	13 50 46.2	+1.0	
NNA	**Nana**	**147.26**	**124**	*e*	PKPdf	PKPdf	13 50 48.0	+2.3	
ARE	**Arequipa**	**148.48**	**137**	⇑*i*	P	PKPdf	13 50 54.7	+7.1	
CAM4	**Nova Friburgo**	**150.29**	**193**	*e*	P	PKPdf	13 50 53.7	+3.4	
CAM4				*i*			13 50 58.8		
CAM4				*i*			13 50 59.9		
CAM4				*i*			13 51 05.0		
CAM4	**Nova Friburgo**	**150.29**	**193**	*e*	P	PKPdf	13 50 53.7	+3.4	
CAM4				*i*			13 50 58.8		
CAM4				*i*			13 50 59.9		
CAM4				*i*			13 51 05.0		
OTAV	**Otavalo**	**150.63**	**101**	*e*	PKPbc	PKPdf	13 50 58.8	+7.7	
LPAZ	**La Paz**	**150.78**	**142**		PKP	PKPdf	13 50 54.8	+3.6	
	comp=Z,11nm,1.0s,baz=180,slow=1.4,SNR=20								
LPAZ					PKPbc	PKPdf	13 51 00.5	+9.3	
	comp=Z,68nm,0.4s,baz=281,slow=1.2,SNR=135								
LPAZ	**La Paz**	**150.78**	**142**		PKPbc	PKPdf	13 50 54.7	+3.5	
LPAZ					PKIKP		13 51 00.5		
LPAZ	**La Paz**	**150.78**	**142**		PKP	PKPdf	13 50 54.8	+3.6	
LPAZ					PKPbc	PKPdf	13 51 00.5	+9.3	
BDFB	**Brasilia**	**157.74**	**184**		PKP	PKPdf	13 51 03.2	+2.5	
	comp=Z,28nm,0.7s,baz=189,slow=1.1,SNR=39								
BDFB					PKPab	PKPab	13 51 36.0	-0.1	
	comp=Z,22nm,1.1s,baz=120,slow=2.7,SNR=4.4								
BAO	**Brasilia Array**	**157.75**	**184**		PKP	PKPdf	13 51 03.3	+2.6	
BAO				*e*			13 51 08.9		
BAO				*e*			13 51 14.3		
BAO				*e*			13 51 20.6		
BAO				*e*			13 51 35.7		
SDV	**Santo Domingo**	**159.17**	**83**	*e*	PKPdf	PKPdf	13 51 04.0	+1.4	
SDV				*e*	PKPab	PKPab	13 51 42.4	+0.2	
SAML	**Samuel**	**159.47**	**139**	*e*	PKPdf	PKPdf	13 51 04.7	+1.8	
SAML				*e*	PKPab	PKPab	13 51 42.5	-1.1	
SJG	**San Juan**	**160.37**	**53**		PKP	PKPdf	13 51 04.9	+1.2	
	comp=Z,13nm,0.6s,baz=27,slow=3.8,SNR=4.3								
SJG					PKPab	PKPab	13 51 46.7	-0.6	
	comp=Z,26nm,0.9s,baz=272,slow=5.5,SNR=4.8								
SJG	**San Juan**	**160.37**	**53**		PKIKP	PKPdf	13 51 05.2	+1.5	
SJG	**San Juan**	**160.37**	**53**	*e*	PKPdf	PKPdf	13 51 05.1	+1.4	

*NEIC **24** 13:51:50.4±3.6, 17.76S×178.53W, h542km±44km, mb4.1/3, Error ellipse: s-maj=26.0km s-min=14.9km az=175.0*
*IDC **24** 13:51:54.4±2.4, 17.89S×178.59W, h588km±30km, mb3.5/12, mb1 3.8/13, mb1mx3.6/19, Error ellipse: s-maj=29.5km s-min=10.8km az=156.0*

ISC 24 13:51:52.5±2.6, 17.9S±0.2×178.6W±0.1, h582km±34km, n21, σ0=84/20, mb4.0/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.68**	**60**	P	**P**		**13 53 35.2**	**-13**
URZ	**Urewera**	**20.63**	**190**	P	**P**		**13 55 53.4**	**-0.5**
	12nm,1.0s,baz=53,slow=5.1,SNR=4.6							
CTAO	**Charters Tower**	**33.26**	**261**	*e*P	**P**		**13 57 44.0**	**-0.2**
	3.9nm,0.7s,mb4.2							
PMG	**Port Moresby**	**34.26**	**280**	P	**P**		**13 57 53.4**	**+0.8**
	25nm,0.8s,mb4.9,baz=90,slow=7.0,SNR=6.5							
PMG	**Port Moresby**	**34.26**	**280**	*e*P	**P**		**13 57 53.1**	**+0.4**
STKA	**Stephens Creek**	**38.46**	**241**	P	**P**		**13 58 28.2**	**+1.2**
	3.1nm,0.5s,mb4.1,baz=84,slow=9.2,SNR=7.7							
WRAB	**Tennant Creek**	**44.43**	**260**	*e*P	**P**		**13 59 13.3**	**-1.1**
	4.0nm,0.5s,mb4.2							
WRA	**Warramunga Arr**	**44.44**	**260**	P	**P**		**13 59 13.8**	**-0.7**
	3.5nm,0.5s,mb4.2,baz=92,slow=6.7,SNR=103							
WRA				S	**S**		**14 05 06.5**	**-1.7**
	0.4nm,0.8s,baz=91,slow=14,SNR=3.9							
ASAR	**Alice Springs**	**44.61**	**254**	P	**P**		**13 59 16.2**	**+0.5**
	28nm,0.5s,mb5.1,baz=89,slow=8.1,SNR=4.0							
ASAR				S	**S**		**14 05 11.3**	**+0.8**
	0.9nm,0.9s,baz=90,slow=17,SNR=6.9							
FITZ	**Fitzroy Crossi**	**52.84**	**261**	P	**P**		**14 00 16.7**	**-0.1**
	2.2nm,0.4s,mb3.9,baz=153,slow=5.1,SNR=24							
DRV	**Dumont d'Urvil**	**55.61**	**199**	R			14 00 00.0	
YBH	**Yreka Blue Hor**	**78.64**	**39**	P	**P**		**14 02 56.1**	**0.0**
	2.5nm,0.7s,mb3.6,baz=207,slow=9.0,SNR=5.6							
NVAR	**Mina Array Bea**	**79.55**	**44**	P	**P**		**14 03 01.2**	**+0.2**
	2.7nm,0.8s,mb3.7,baz=217,slow=7.3,SNR=5.3							
NEW	**Newport**	**85.62**	**36**	P	**P**		**14 03 31.0**	**-0.1**
	1.5nm,0.7s,mb3.8,baz=207,slow=9.0,SNR=3.8							
ILAR	**Eielson Array**	**85.92**	**13**	P	**P**		**14 03 30.6**	**-1.6**
	0.4nm,0.4s,mb3.4,baz=229,slow=5.3,SNR=4.7							
TXAR	**Lajitas Array**	**86.15**	**58**	P	**P**		**14 03 35.3**	**+1.1**
	2.4nm,0.7s,mb3.9,baz=180,slow=1.3,SNR=16							
BW06	**Boulder Array**	**87.48**	**44**	*e*P	**P**		**14 03 39.9**	**-0.2**
	1.0nm,0.5s,mb3.8							
PDAR	**Pinedale Array**	**87.48**	**44**	P	**P**		**14 03 39.8**	**-0.3**
	1.2nm,0.6s,mb3.8,baz=212,slow=3.3,SNR=5.2							
CMAR	**Chiang Mai Arr**	**88.69**	**290**	P	**P**		**14 03 47.9**	**+1.5**
	1.1nm,0.9s,mb3.7,baz=108,slow=3.5,SNR=7.4							
BRTR	**Keskin Array B**	**144.63**	**315**	PKP	PKPdf		14 10 25.6	+2.3
	1.0nm,0.4s,baz=117,slow=2.8,SNR=7.3							
GERES	**GERESS Array B**	**147.55**	**345**	PKPbc	PKPdf		14 10 33.7	+5.7
	0.2nm,0.5s,baz=27,slow=3.0,SNR=3.7							

*NIED **24** 14:00:00, 37.20N×138.90E, h5km, Mw4.8 Best double couple: Mo1.57×10¹⁶ NP1:φ=16°, δ=69°, λ=82°. NP2:φ=218°, δ=22°, λ=110°.*
*BJI **24** 14:00:30.4, 37.15N×139.10E, h21km, mB5.0, mb4.4, Ms4.8, Msz4.5*
*JMA **24** 14:00:30.0±0.1, 37.18N×138.95E, h2km±1km, M5.1*
JMA Felt IV J1.
*MOS **24** 14:00:31.8±1.2, 37.13N×138.96E, h33km, mb4.3/14, Error ellipse: s-maj=19.4km s-min=10.3km az=92.9*
*NEIC **24** 14:00:31.4±1.7, 37.05N×138.93E, h15km±10km, mb4.5/13, MW4.8(NIED), Error ellipse: s-maj=8.4km s-min=7.5km az=129.0*
NEIC Recorded [3 JMA] in Niigata and [1 JMA] in Fukushima, Gumma, Nagano and Saitama Prefectures.
*IDC **24** 14:00:36.1±2.3, 37.14N×138.90E, h51km±22km, mb3.8/20, mb1 4.0/23, mb1mx4.0/26, ML3.9/2, MS4.0/6, Ms1 4.0/6, ms1mx3.4/32, Error ellipse: s-maj=16.2km s-min=11.9km az=88.0*

ISC 24 14:00:29.6±0.5, 37.19N±0.02×138.92E±0.03, h11km±3km, n118, σ1=00/130, mb4.2/33, MS4.4/11, 15C-8D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.10**	**55**	⇓P		**Pg**	**14 00 31.9**	**-0.5**
JHK				S		**Sg**	**14 00 33.5**	**-0.7**
JIZZ	**Izumozaki**	**0.38**	**334**	⇑P		**Pg**	**14 00 38.5**	**+1.1**
JKT	**Katashina**	**0.50**	**148**	⇓P		**Pg**	**14 00 39.5**	**-0.3**
JKT				S		**Sg**	**14 00 46.4**	**-0.2**
JJN	**Nakama**	**0.61**	**262**	⇑P		**Pb**	**14 00 42.4**	**+0.6**
JFY	**Yanaizu**	**0.67**	**71**	⇓P		**Pb**	**14 00 42.5**	**-0.3**
JFY				S		**Sb**	**14 00 51.4**	**-0.3**
JGK	**Kuni**	**0.67**	**200**	⇑P		**Pb**	**14 00 42.7**	**-0.1**
JGK				S		**Sb**	**14 00 52.0**	**+0.2**
JNS	**Sasagawa**	**0.70**	**27**	⇑P		**Pb**	**14 00 43.1**	**-0.3**
JNS				S		**Sb**	**14 00 52.5**	**-0.3**
JSB	**Shiboa**	**0.83**	**105**	⇓P		**Pb**	**14 00 46.1**	**+0.4**
MAJO	**Matsushiro**	**0.86**	**221**	⇑*i*Pn		**Pn**	**14 00 46.0**	**-1.6**
MAT	**Matsushiro**	**0.86**	**221**	P		**Pb**	**14 00 46.0**	**-0.2**
MAT				S		**Sb**	**14 00 57.4**	**-0.1**
MAT	**Matsushiro**	**0.86**	**221**	P		**Pb**	**14 00 46.0**	**-0.2**
MAT				S		**Sb**	**14 00 57.5**	**0.0**
MAT	**Matsushiro**	**0.86**	**221**	*e*P		**Pb**	**14 00 46.0**	**-0.2**
MAT				*e*S		**Sb**	**14 00 57.0**	**-0.5**
JAG	**Ashikaga**	**0.88**	**150**	⇓P		**Pb**	**14 00 46.6**	**+0.2**
JAG				S		**Sb**	**14 00 58.1**	**+0.2**
JSD	**Sado**	**0.99**	**329**	⇑P		**Pb**	**14 00 48.0**	**-0.4**
JNG	**Nsakai**	**1.02**	**220**	⇑P		**Pb**	**14 00 48.9**	**0.0**
JRY	**Ryogami san**	**1.17**	**181**	⇑P		**Pb**	**14 00 51.5**	**0.0**
JFT	**Otama**	**1.18**	**74**	⇓P		**Pb**	**14 00 51.7**	**+0.1**
JSZ	**Suzu**	**1.26**	**282**	⇑P		**Pb**	**14 00 52.9**	**-0.1**
JYS	**Shirataka**	**1.37**	**41**	⇑P		**Pn**	**14 00 55.1**	**+0.2**
JTT	**Ttatey**	**1.40**	**246**	⇑P		**Pn**	**14 00 56.2**	**+1.0**
ONAJ	**Iwakimizuishiy**	**1.51**	**93**	⇓P		**Pn**	**14 00 57.3**	**+0.5**
JYA	**Atsumi**	**1.54**	**24**	P		**Pn**	**14 00 56.9**	**-0.3**
JFK	**Kawauchi**	**1.57**	**83**	P		**Pn**	**14 00 58.2**	**+0.5**
JGN	**Niukaw**	**1.61**	**234**	⇑P		**Pn**	**14 00 59.1**	**+0.9**
JMM	**Marumori**	**1.64**	**65**	⇓P		**Pn**	**14 00 59.2**	**+0.6**
JHG	**Hegura jima**	**1.72**	**293**	⇑P		**Pn**	**14 00 59.3**	**-0.5**
JYK	**Kaneyama**	**2.06**	**33**	P		**Pn**	**14 01 05.1**	**+0.3**
JMK	**Ichinoseki**	**2.53**	**45**	P		**Pn**	**14 01 12.0**	**+0.6**
JKSM	**Kasumi**	**3.79**	**246**	P		**Pn**	**14 01 30.0**	**+0.7**
JHJ	**Hachijo jima 2**	**4.12**	**170**	P		**Pn**	**14 01 35.0**	**+0.9**
	80nm,0.3s,baz=249,slow=12,SNR=12							
JHJ				S		**Sn**	**14 02 23.9**	**+1.0**
	28nm,0.3s,baz=66,slow=19,SNR=2.6							
JHJ				LR		LR	14 02 45.6	
	comp=Z,385nm,19.2s,baz=342,slow=32							
ASAJ	**Asahikawa**	**7.46**	**21**	P		**Pn**	**14 02 22.8**	**+1.6**
	1.1nm,0.3s,baz=175,slow=16,SNR=10.0							
ASAJ	**Asahikawa**	**7.46**	**21**	P		**Pn**	**14 02 22.8**	**+1

KOLN	**Koldanda**	**47.03**	**275**	*e*P		**P**		**14 09 02.6**	**-0.4**
AAK	**Ala-Archa**	**48.65**	**298**	*e*P		**P**		**14 09 12.6**	**-2.8**
AAK				pmax		pmax			
	comp=Z,3.0nm,1.7s,mb4.0								
BVAR	**Borovoye Array**	**48.98**	**312**	P		**P**		**14 09 17.6**	**-0.2**
	comp=Z,0.9nm,0.6s,mb4.0,baz=76,slow=6.1,SNR=7.2								
BRVK	**Borovoye**	**49.04**	**312**	*e*P		**P**		**14 09 17.4**	**-0.9**
ILAR	**Eielson Array**	**50.43**	**32**	P		**P**		**14 09 28.1**	**-0.6**
	comp=Z,1.6nm,0.7s,mb4.2,baz=272,slow=4.5,SNR=17								
ILAR	**Eielson Array**	**50.43**	**32**	P		**P**		**14 09 28.2**	**-0.6**
ILAR				pmax		pmax			
	comp=Z,2.0nm,0.7s								
SVE	**Sverdlovsk**	**53.70**	**318**⇑	*e*P		**P**		**14 09 54.2**	**+0.8**
SVE				MLR		MLR			
	comp=Z,1μm,17.0s,MS4.9								
SVE				MLR		MLR			
	comp=N,100nm,15.0s,MS4.8								
SVE				MLR		MLR			
	comp=E,600nm,15.0s,MS4.8								
ARU	**Arti**	**54.91**	**318**	*i* P		**P**		**14 10 01.1**	**-1.2**
ARU				*e*				14 11 00.2	
ARU				*e*				14 12 06.1	
ARU				*e*PPP		PPP		14 13 22.4	+3.5
ARU				*e*S		**S**		**14 17 45.1**	**+3.1**
ARU				MLR		MLR			
	comp=Z,500nm,17.0s,MS4.7								
ARU				MLR		MLR			
	comp=N,300nm,19.0s,MS4.7								
ARU				MLR		MLR			
	comp=E,500nm,18.0s,MS4.7								
INK	**Inuvik**	**55.15**	**27**	P		**P**		**14 10 02.5**	**-1.5**
	comp=E,2.6nm,0.8s,mb4.3,baz=306,slow=4.9,SNR=5.4								
INK	**Inuvik**	**55.15**	**27**	P		**P**		**14 10 02.5**	**-1.5**
INK				pmax		pmax			
	comp=Z,3.0nm,0.9s								
INK	**Inuvik**	**55.15**	**27**	*e*P		**P**		**14 10 03.1**	**-0.9**
	comp=Z,3.1nm,0.9s,mb4.3								
WRAB	**Tennant Creek**	**56.98**	**185**	P		**P**		**14 10 16.0**	**-1.7**
	comp=Z,96nm,0.8s,SNR=9.3								
WRAB	**Tennant Creek**	**56.98**	**185**	*e*P		**P**		**14 10 16.3**	**-1.4**
	comp=Z,25nm,1.0s,mb5.2								
WRA	**Warramunga Arr**	**56.99**	**185**	P		**P**		**14 10 15.2**	**-2.6**
	comp=Z,10nm,0.8s,mb4.9,baz=2.5,slow=7.4,SNR=66								
WRA	**Warramunga Arr**	**56.99**	**185**	P		**P**		**14 10 15.2**	**-2.6**
WRA				pmax		pmax			
	comp=Z,11nm,0.8s								
ASAR	**Alice Springs**	**60.72**	**185**	P		**P**		**14 10 42.4**	**-1.2**
	comp=Z,99nm,0.5s,baz=7.2,slow=5.0,SNR=6.6								
ASAR				LR		LR		14 36 27.9	
	comp=Z,106nm,21.8s,MS4.0,baz=18,slow=36								
ARCES	**ARCESS Array B**	**63.14**	**339**	P		**P**		**14 11 00.1**	**+0.9**
	comp=Z,3.0nm,1.0s,mb4.4,baz=49,slow=9.6,SNR=3.7								
ARCES	**ARCESS Array B**	**63.14**	**339**	P		**P**		**14 11 00.2**	**+1.0**
ARCES				pmax		pmax			
	comp=Z,3.0nm,1.0s								
YKA	**Yellowknife Ar**	**64.67**	**30**	P		**P**		**14 11 08.7**	**-0.5**
	comp=Z,1.1nm,0.7s,mb4.0,baz=302,slow=6.1,SNR=3.9								
YKA	**Yellowknife Ar**	**64.67**	**30**	P		**P**		**14 11 08.7**	**-0.5**
YKA				pmax		pmax			
	comp=Z,1.0nm,0.7s								
OBN	**Obninsk**	**66.76**	**322**	P		**P**		**14 11 21.0**	**-1.8**
OBN				*e*				14 11 46.0	
OBN				MLR		MLR			
	comp=Z,600nm,15.0s,MS4.9								
FINES	**FINESS Array B**	**67.73**	**331**	P		**P**		**14 11 26.4**	**-2.5**
	comp=Z,2.0nm,0.8s,mb4.2,baz=297,slow=4.3,SNR=4.5								
FINES				LR		LR		14 42 55.6	
	comp=Z,173nm,18.4s,MS4.3,baz=80,slow=38								
FINES	**FINESS Array B**	**67.73**	**331**	P		**P**		**14 11 26.4**	**-2.4**
FINES				pmax		pmax			
	comp=Z,2.0nm,0.8s								
FINES				MLR		MLR			
	comp=Z,173nm,18.4s								
STKA	**Stephens Creek**	**68.75**	**178**	P		**P**		**14 11 32.8**	**-3.0**
	comp=Z,1.6nm,0.6s,mb4.1,baz=330,slow=7.6,SNR=5.4								
DPW	**Davenport**	**71.02**	**44**	*e*P		**P**		**14 11 50.7**	**+1.4**
SOC	**Sochi**	**71.29**	**311**	*e*P		**P**		**14 11 44.7**	**-6.3**
SOC				*e*				14 12 05.5	
SOC				*e*				14 14 30.5	
SOC				*e*S		S		14 20 56.5	-11
SOC				*e*				14 21 38.1	
SOC				*e*PS		PS		14 21 43.5	+6.2
SOC				*e*SS		SS		14 25 42.5	-0.7
SOC				MLR		MLR			
	comp=Z,175nm,17.0s,MS4.4								
SOC				MLR		MLR			
	comp=N,256nm,18.0s,MS4.6								
SOC				MLR		MLR			
	comp=E,160nm,15.0s,MS4.6								
NEW	**Newport**	**71.40**	**43**	P		**P**		**14 11 50.1**	**-1.4**
	comp=E,0.8nm,0.5s,mb3.9,baz=247,slow=13,SNR=2.3								
NEW	**Newport**	**71.40**	**43**	P		**P**		**14 11 50.1**	**-1.4**
NEW				pmax		pmax			
	comp=Z,1.0nm,0.5s								
YBH	**Yreka Blue Hor**	**71.81**	**51**	P		**P**		**14 11 53.8**	**-0.3**
	comp=Z,0.6nm,0.5s,mb3.8,baz=352,slow=7.1,SNR=3.1								
YBH	**Yreka Blue Hor**	**71.81**	**51**	P		**P**		**14 11 53.8**	**-0.3**
YBH				pmax		pmax			
	comp=Z,1.0nm,0.5s								
AKASG	**Malin Array Be**	**72.94**	**321**	P		**P**		**14 11 58.5**	**-2.0**
	comp=Z,1.1nm,0.5s,mb4.0,baz=48,slow=5.9,SNR=6.1								
AKASG	**Malin Array Be**	**72.94**	**321**	P		**P**		**14 11 58.5**	**-2.0**
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.5s								
NB2	**NORSAR Subarra**	**73.25**	**336**	P		**P**		**14 12 00.5**	**-1.7**
	comp=Z,1.8nm,0.8s,mb4.0,baz=42,slow=5.8								
NOA	**NORSAR Array B**	**73.25**	**336**	P		**P**		**14 12 01.2**	**-0.9**
	comp=Z,1.8nm,0.9s,mb4.0,baz=40,slow=5.8,SNR=7.2								
NOA	**NORSAR Array B**	**73.25**	**336**	P		**P**		**14 12 01.3**	**-0.9**
NOA				pmax		pmax			
	comp=Z,2.0nm,0.9s								
OHCM	**Honcut**	**73.94**	**53**	*e*P		**P**		**14 12 06.1**	**-0.5**
HLID	**Hailey**	**75.71**	**46**	P		**P**		**14 12 15.5**	**-1.2**
	comp=Z,7.5nm,1.5s,mb4.4								
NVAR	**Mina Array Bea**	**76.48**	**52**	P		**P**		**14 12 21.9**	**+0.7**
	comp=Z,2.1nm,0.8s,mb4.1,baz=307,slow=4.5,SNR=7.2								
BRTR	**Keskin Array B**	**77.24**	**310**	P		**P**		**14 12 26.4**	**+1.0**
	comp=Z,1.1nm,0.7s,mb3.9,baz=104,slow=5.1,SNR=4.6								
BRTR	**Keskin Array B**	**77.24**	**310**	P		**P**		**14 12 26.4**	**+1.0**
BRTR				pmax		pmax			
	comp=Z,1.0nm,0.7s								
TPH	**Tonopah**	**77.37**	**52**	P		**P**		**14 12 26.8**	**+0.7**
	comp=Z,13nm,1.2s,mb4.8								
BW06	**Boulder Array**	**78.96**	**44**	*e*P		**P**		**14 12 35.0**	**+0.3**
	comp=Z,3.2nm,1.0s,mb4.2								
PDAR	**Pinedale Array**	**78.96**	**44**	P		**P**		**14 12 35.8**	**+1.0**
	comp=Z,1.2nm,0.7s,mb3.9,baz=315,slow=2.1,SNR=6.0								
ASF	**Jabal al Asfar**	**79.75**	**303**	LR		LR		14 52 46.9	
	comp=Z,102nm,18.4s,MS4.2,baz=300,slow=39								
MSU	**Marysvale**	**80.20**	**49**	P		**P**		**14 12 43.7**	**+2.2**
NEN	**Nelson**	**80.37**	**52**	*e*P		**P**		**14 12 43.5**	**+1.0**
KHC	**Kasperske Hory**	**81.35**	**327**	*e*P		**P**		**14 12 47.0**	**-0.3**
GERES	**GERESS Array B**	**81.51**	**327**	P		**P**		**14 12 48.3**	**+0.1**
	comp=Z,0.5nm,0.7s,mb3.6,baz=14,slow=11,SNR=4.3								
GERES	**GERESS Array B**	**81.51**	**327**	P		**P**		**14 12 48.3**	**+0.1**
GERES				pmax		pmax			
	comp=Z,1.0nm,0.7s								
PV10	**Paradox Valley**	**82.15**	**47**	*e*P		**P**		**14 12 53.6**	**+1.9**
RW3	**Ridgway**	**83.03**	**47**	P		**P**		**14 12 57.6**	**+1.3**
SCHQ	**Schefferville**	**85.71**	**15**	P		**P**		**14 13 09.6**	**+0.2**
	comp=Z,2.4nm,0.7s,mb4.5,baz=297,slow=9.0,SNR=3.0								
SCHQ	**Schefferville**	**85.71**	**15**	P		**P**		**14 13 09.6**	**+0.2**
TXAR	**Lajitas Array**	**91.59**	**51**	P		**P**		**14 13 39.3**	**+1.3**
	comp=Z,0.5nm,0.7s,mb3.9,baz=300,slow=2.9,SNR=5.3								
VNA2	**Neumayer--Watz**	**141.90**	**197**			PKPdf		14 20 03.5	-0.1
VNA2	**Neumayer--Watz**	**141.90**	**197**⇑	PKPdf		PKPdf		14 20 00.2	-3.4
VNA2				P				14 20 03.5	
LPAZ	**La Paz**	**148.30**	**56**	PKPbc		PKPdf		14 20 22.1	+6.0
	comp=Z,2.3nm,1.0s,baz=13,slow=12,SNR=7.0								
LPAZ	**La Paz**	**148.30**	**56**	PKP2		PKPab		14 20 22.1	+0.5
LPAZ				pmax		pmax			
	comp=Z,2.0nm,1.0s								

MEX 24 14:14:11.9±0.8, 16.47N×94.27W, h108km±13km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CMIG	**Matias Romero**	**0.85**	**316**	*i* P		P	14 14 30.5	-1.2
CMIG				*i* S		S	14 14 44.2	-2.4
HUIG	**Huatulco**	**1.90**	**249**	*i* P		P	14 14 41.7	-2.3
HUIG				*i* S		S	14 15 06.5	-1.5
VHO	**Vista Hermosa**	**2.44**	**285**	*i* P		P	14 14 49.8	-1.3
VHO				*i* S		S	14 15 18.5	-2.1

*ISK **24** 14:33:30.0,38.33N×38.70E,h9km,MD3.5*
*CSEM **24** 14:33:30.0,38.33N×38.70E,h9km,MD3.5,After ISK*
ISC 24 14:33:30.7±0.4, 38.33N±0.04×38.69E±0.03, h9km, n22, σ1s14/35, 5C, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MALT	**Malatya**	**0.20**	**267**	*i* PG		**Pg**	**14 33 34.6**	**-0.5**
MALT				*i* SG		**Sg**	**14 33 38.5**	**+0.5**
MALT	**Malatya**	**0.20**	**267**	*i* P		**Pg**	**14 33 34.6**	**-0.4**
MALT				*i* S		**Sg**	**14 33 38.6**	**+0.6**
MYA	**Malataya**	**0.21**	**270**	*i* PG		**Pg**	**14 33 35.1**	**0.0**
MYA				*i* SG		**Sg**	**14 33 38.7**	**+0.6**
ELZG	**Elazig**	**0.29**	**54**⇑	*i*P		**Pg**	**14 33 36.0**	**-0.7**
ELZG				*i* S		**Sg**	**14 33 41.8**	**+1.1**
PTK	**Pertek**	**0.79**	**44**	PG		**Pg**	**14 33 45.1**	**-1.5**
PTK				SG		**Sg**	**14 33 57.1**	**-0.1**
DIY	**Diyarbakir**	**1.29**	**109**	*i* PN		**Pn**	**14 33 54.1**	**-0.8**
DIY				*i* SN		**Sn**	**14 34 13.0**	**+0.6**
GZT	**Gaziantep**	**1.31**	**223**⇑	*i*P		**Pb**	**14 33 54.8**	**-0.3**
GZT				*i* S		**Sb**	**14 34 14.7**	**+2.8**
BINT	**Bingol**	**1.52**	**68**	*e*PN		**Pn**	**14 33 58.1**	**-0.1**
KAHT	**Ahir Dag**	**1.59**	**245**⇑	*i*P		**Pn**	**14 33 59.4**	**+0.1**
KAHT				*i* S		**Sb**	**14 34 24.2**	**+4.2**
GAZ	**Gaziantep**	**1.64**	**226**	*e*PN		**Pn**	**14 33 59.6**	**-0.4**
EZC	**Erzincan**	**1.67**	**31**	PN		**Pn**	**14 33 57.5**	**-2.9**
KELT	**Kelkit**	**1.87**	**13**	*i* P		**Pn**	**14 34 05.3**	**+2.0**
KELT				*i* S		**Sn**	**14 34 36.1**	**+8.8**
SVST	**Sivas**	**1.98**	**317**	*i* P		**Pn**	**14 34 07.0**	**+2.2**
SVST				S		**Sn**	**14 34 36.1**	**+6.2**
BEST	**Besiri**	**2.08**	**101**⇑	*i*P		**Pn**	**14 34 05.4**	**-0.9**
BEST				*i* S		**Sn**	**14 34 35.2**	**+2.6**
BTMT	**Batman**	**2.21**	**93**	*e*PN		**Pn**	**14 34 06.3**	**-1.8**
GUMT	**Gumushane**	**2.22**	**16**	*e*PN		**Pn**	**14 34 08.5**	**+0.3**
BNN	**Bunyan**	**2.29**	**284**	*e*PN		**Pn**	**14 34 08.5**	**-0.7**
VRT	**Varto**	**2.36**	**69**	*e*PN		**Pn**	**14 34 10.5**	**+0.2**
EZM	**Erzurum**	**2.61**	**52**	*e*PN		**Pn**	**14 34 13.6**	**-0.2**
ERZM	**Erzurum**	**2.61**	**52**	P		**Pn**	**14 34 14.6**	**+0.7**
COBT	**Iskenderun**	**2.65**	**228**⇑	*i*P		**Pn**	**14 34 13.3**	**-1.0**
COBT				*i* S		**Sn**	**14 34 52.5**	**+5.7**
AVNT	**Avonos**	**3.04**	**280**	P		**Pn**	**14 34 20.6**	**+0.7**
AVNT				S		**Sg**	**14 35 09.9**	**-1.9**

*IDC **24** 14:37:41.5±2.9,2.51N×128.40E,h103km±24km, mb3.8/10, mb1 4.0/11,mb1mx3.8/19,Error ellipse: s-maj=38.6km s-min=11.5km az=72.0*
*NEIC **24** 14:37:44.9±5.9,2.45N×128.34E,h136km±55km,mb4.4/5, Error ellipse: s-maj=32.2km s-min=9.9km az=60.0*
ISC 24 14:37:42.7±1.7, 2.49N±0.09×128.4E±0.2, h130km±14km, n32, σ0s74/33, mb4.4/18, 1C, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KCP	**Kidapawan**	**5.54**	**324**⇑	*e*P		**P**	**14 39 03.9**	**-0.1**
KCP				*e*S		**S**	**14 40 06.9**	**-0.2**
FITZ	**Fitzroy Crossi**	**20.64**	**187**	P		**P**	**14 42 12.3**	**-1.4**
	1.2nm,0.4s,baz=32,slow=8.0,SNR=10							
WRAB	**Tennant Creek**	**23.05**	**165**	P		**P**	**14 42 38.0**	**+0.6**
	152nm,0.4s,SNR=17							
WRAB	**Tennant Creek**	**23.05**	**165**	*e*P		**P**	**14 42 38.1**	**+0.7**
	21nm,0.4s,mb4.9							
WRA	**Warramunga Arr**	**23.06**	**165**	P		**P**	**14 42 38.2**	**+0.7**
	11nm,0.4s,mb4.7,baz=344,slow=10,SNR=211							
WRA				S		**S**	**14 46 42.3**	**+7.4**
	1.5nm,0.9s,baz=340,slow=20,SNR=4.9							
WRA				ScP			14 49 52.2	
	0.3nm,0.7s,baz=342,slow=2.9,SNR=4.9							
MBWA	**Marble Bar**	**24.98**	**199**	*e*P		**P**	**14 42 55.7**	**-0.1**
ASAR	**Alice Springs**	**26.56**	**169**	P		**P**	**14 43 09.7**	**-0.7**
	1.3nm,0.4s,mb3.9,baz=350,slow=7.5,SNR=1.6							
ASAR	**Alice Springs**	**26.56**	**169**	P		**P**	**14 43 09.7**	**-0.7**
CTA	**Charters Tower**	**28.50**	**143**	P		**P**	**14 43 32.6**	**+4.5**
	1.5nm,0.6s,mb3.9,baz=318,slow=11,SNR=4.3							
CMAR	**Chiang Mai Arr**	**32.89**	**301**	P		**P**	**14 44 06.8**	**+0.1**
	2.8nm,0.9s,mb4.0,baz=119,slow=7.4,SNR=17							
CMAR				PcP		PcP	14 46 49.9	+1.6
	0.7nm,0.9s,baz=140,slow=1.3,SNR=4.2							
KMI	**Kunming**	**33.40**	**315**	*e*P		**P**	**14 44 13.0**	**+2.1**
	9.0nm,1.1s,mb4.4							
STKA	**Stephens Creek**	**36.42**	**161**	P		**P**	**14 44 36.9**	**+0.4**
	2.9nm,0.3s,mb4.3,baz=345,slow=7.5,SNR=31							
STKA				PcP		PcP	14 46 58.4	+0.1
	1.4nm,0.7s,baz=352,slow=7.3,SNR=3.0							
STKA	**Stephens Creek**	**36.42**	**161**	P		**P**	**14 44 36.9**	**+0.4**
STKA				PcP		PcP	14 46 58.4	+0.1
SHL	**Shillong**	**41.91**	**307**	*e*P		**P**	**14 45 23.0**	**+0.9**
GUN	**Gumba**	**47.76**	**306**	*e*P		**P**	**14 46 09.4**	**+0.7**
	89nm,0.6s							
PKI	**Pulchoki**	**48.00**	**306**	*e*P		**P**	**14 46 10.8**	**+0.2**
	24nm,0.6s,mb5.0							
KKN	**Kakani**	**48.20**	**306**	*e*P		**P**	**14 46 12.1**	**0.0**
	52nm,0.8s,mb5.2							
DMN	**Daman**	**48.26**	**305**	*e*P		**P**	**14 46 12.9**	**+0.3**
	52nm,0.8s,mb5.2							
GKN	**Gorkha**	**48.80**	**306**	*e*P		**P**	**14 46 16.7**	**0.0**
	26nm,0.6s,mb5.0							
SONM	**Songino Array**	**48.99**	**340**	P		**P**	**14 46 18.1**	**+0.2**
	1.7nm,0.9s,mb3.7,baz=154,slow=6.8,SNR=9.3							
SONM				PcP		PcP	14 47 40.6	+0.4
	0.7nm,0.7s,baz=162,slow=2.6,SNR=4.1							
KOLN	**Koldanda**	**49.56**	**305**	*e*P		**P**	**14 46 23.2**	**+0.7**
	107nm,0.7s							
HYB	**Hyderabad**	**51.06**	**290**	*i* P		**P**	**14 46 33.5**	**-0.6**
HYB	**Hyderabad**	**51.06**	**290**	*e*P		**P**	**14 46 33.5**	**-0.6**
DDI	**Dehra Dun**	**55.00**	**306**	*e*		**P**	**14 47 02.4**	**-0.7**
KURK	**Kurchatov**	**63.65**	**327**	*e*P		**P**	**14 48 00.9**	**-1.3**
	3.4nm,0.6s,mb4.3							
BVAR	**Borovoye Array**	**69.23**	**327**	P		**P**	**14 48 36.5**	**-0.9**
	0.7nm,0.4s,mb3.7,baz=135,slow=8.4,SNR=7.2							
BRVK	**Borovoye**	**69.31**	**327**	P		**P**	**14 48 36.6**	**-1.2**
	4.6nm,1.1s,mb4.1							
CASY	**Casey**	**69.80**	**188**	*e*P		**P**	**14 48 32.9**	**-7.7**
	2.8nm,0.6s,mb4.2							
VNDA	**Vanda**	**82.00**	**173**	P		**P**	**14 49 49.7**	**+0.6**
	0.9nm,0.5s,mb3.6,baz=315,slow=6.1,SNR=14							
ILAR	**Eielson Array**	**85.52**	**25**	P		**P**	**14 50 07.1**	**+0.2**
	0.1nm,0.5s,baz=250,slow=4.9,SNR=7.4							
ARCES	**ARCESS Array B**	**92.16**	**340**	P		**P**	**14 50 37.8**	**-0.4**
	2.2nm,0.7s,mb4.3,baz=59,slow=7.1,SNR=4.5							
TXAR	**Lajitas Array**	**121.05**	**53**	PKP		PKPdf	14 56 23.5	+3.0
	0.3nm,0.8s,baz=288,slow=2.9,SNR=3.2							

MAN 24 14:46:57.3,13.58N×120.72E,h12km,mb4.2,ML3.1, MS2.8,1C-2D,Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LUBP	**Lubang**	**0.48**	**289**⇑	*e*P		Pg	14 47 07.0	-0.2
LUBP	**Lubang**	**0.48**	**289**	*e*P		Pg	14 47 07.0	-0.2
TGY	**Tagaytay City**	**0.57**	**22**⇓	*i*P		Pb	14 47 08.9	+0.2
TGY				*i* S		Sb	14 47 21.0	+4.6
LQP	**Lukban**	**0.96**	**56**⇓	*i*P		Pb	14 47 14.1	-1.3
BOAC	**Boac**	**1.10**	**96**	*e*P		Pb	14 47 17.7	-0.2
AUQP	**San Andres**	**1.92**	**97**	*e*P		Pn	14 47 29.7	-0.6

*IDC **24** 14:56:51.4±0.4, 4.87S×101.94E, mb4.8/26, mb1 4.9/27, mb1mx4.9/27, MS4.9/11, Ms1 5.0/11, ms1mx4.5/28, Error ellipse: s-maj=16.8km s-min=9.0km az=44.0*
*BJI **24** 14:56:52.8, 4.90S×101.97E, h30km, mB5.4, mb5.2, Ms5.4, Msz5.3*
*SYO **24** 14:56:52, 4.91S×102.00E, h10km, MB5.1, MS5.2*
*MOS **24** 14:56:55.0±1.1, 4.70S×102.21E, h33km, mb5.5/17, MS4.9/7, Error ellipse: s-maj=19.8km s-min=7.8km az=113.6*
*HRVD **24** 14:56:56.1±0.2, 5.13S×101.57E, h30km, MW5.3/62, Centroid moment Tensor Solution. LP body waves: s59,c107;Mantle waves: s62,c108; Half duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.71±.03; $M_{\theta\theta}$-0.42±.02; $M_{\phi\phi}$-0.29±.03; $M_{r\theta}$0.78±.03; $M_{\theta\phi}$0.51±.02; $M_{\phi r}$-0.54±.04; Best double couple: $M_0$1.23×10^{17} NP1: ϕ_s319°, δ20°, λ102°. NP2:ϕ_s126°, δ70°, λ86°. Principal axes: T 1.16, Plg64°, Azm29°; N .15, Plg4°, Azm127°; P -1.31, Plg25°, Azm219°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **24** 14:56:56.1±0.2, 4.89S×101.92E, mb5.1/33, MS5.2/88 Error ellipse: s-maj=8.4km s-min=6.7km az=63.0*
*DJA **24** 14:57:23.8±6.2, 5.66S×103.79E, h106km±5km, mb5.3/4, Error ellipse: s-maj=167.2km s-min=21.2km az=88.0*

ISC 24 14:56:53.9±0.2, 4.87S±0.03×101.89E±0.03, h28km, h28km±1.0km: pP-P, n326, σ1s21/230, mb5.1/93, MS5.1/118, 39C-7D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PENI	**Pendagan**	**3.34**	**102**⇑	*e*Pn		**Pn**	**14 57 48.6**	**+3.0**
PASI	**Pasiripis**	**4.10**	**116**⇑	*e*Pn		**Pn**	**14 57 57.0**	**+0.6**
KALI	**Kaliastana**	**5.24**	**115**⇓	*e*Pn		**Pn**	**14 58 14.2**	**+1.7**
KGM	**Kluang**	**6.98**	**12**⇑	*i*P		**Pn**	**14 58 39.3**	**+2.2**
	219nm,0.9s							
COCO	**West Island**	**8.83**	**214**	*e*P		**P**	**14 58 55.2**	**-7.6**
	273nm,0.4s							
IPM	**Ipoh**	**9.42**	**355**⇑	*e*P		**P**	**14 59 13.2**	**+2.2**
SRDI	**Scrawed**	**12.68**	**107**⇑	*e*P		**P**	**14 59 54.5**	**-1.0**
KELI	**Kelakatan**	**12.95**	**106**⇑	*e*P		**P**	**14 59 58.6**	**-0.4**
	238nm,0.2s							
RATI	**Rata**	**14.07**	**107**⇑	*e*P		**P**	**15 00 11.4**	**-2.5**
	468nm,0.2s							
NINI	**Niniconang**	**17.81**	**89**⇑	*e*P		**P**	**15 01 03.3**	**+1.6**
	916nm,1.1s							
KKM	**Kota Kinabalu**	**17.94**	**53**⇓	*e*P		**P**	**15 01 03.7**	**+0.3**
BUNI	**Buntu Taipa**	**18.42**	**87**⇓	*e*P		**P**	**15 01 12.1**	**+2.8**
	51nm,0.4s							
UBT	**Ubonrachathani**	**20.22**	**9**	P		**P**	**15 01 30.0**	**+0.3**
NST	**Nakhon Sawan**	**20.48**	**355**	P		**P**	**15 01 31.0**	**-1.4**
KKTK	**Khon Kaen**	**21.09**	**2**	P		**P**	**15 01 38.0**	**-0.7**
BDT	**Bhumibol Dam**	**22.15**	**353**	P		**P**	**15 01 49.0**	**-0.4**
PPR	**Puerto Princes**	**22.20**	**49**⇑	*i*P		**P**	**15 01 48.9**	**-1.0**
CMAR	**Chiang Mai Arr**	**23.36**	**353**	P		**P**	**15 02 00.4**	**-0.9**
	11nm,0.5s,mb4.5,baz=183,slow=9.1,SNR=75							
CMAR				PcP		PcP	15 05 49.6	+0.4
	1.6nm,0.7s,baz=194,slow=3.1,SNR=4.2							
CMAR				LR		LR	15 12 23.1	
	comp=Z,3μm,18.8s,MS4.8,baz=180,slow=40							
CHG	**Chiang Mai**	**23.71**	**353**	⇑P		**P**	**15 02 04.8**	**+0.1**
	24nm,0.8s,mb4.7							
MBWA	**Marble Bar**	**23.71**	**135**	*e*P		**P**	**15 02 01.3**	**-3.4**
	100nm,1.4s,mb5.1							
MBWA				LR		LR		
	comp=Z,3μm,20.0s,MS4.8							
CHRT	**Chiangrai**	**24.67**	**355**	⇑P		**P**	**15 02 15.0**	**+1.0**
	comp=Z,332nm,0.8s,mb5.9							
QIZ	**Qiongzhong**	**25.00**	**18**	P		**P**	**15 02 18.5**	**+1.3**
QIZ				S		**S**	**15 06 37.3**	**+0.8**
QIZ				AMB		AMB		
	comp=Z,55nm,1.3s,mb4.9							
QIZ				AMB		AMB		
	comp=Z,684nm,7.8s							
QIZ				LR		LR		
	comp=N,4μm,17.1s,MS5.0							
QIZ				LR		LR		
	comp=E,3μm,17.4s,MS5.0							
QIZ				LR		LR		
	comp=E,5μm,16.8s,MS5.1							
QIZ	**Qiongzhong**	**25.00**	**18**	*e*P		**P**	**15 02 17.3**	**+0.1**
	comp=Z,35nm,1.0s,mb4.8							
QIZ				LR		LR		
	comp=Z,3μm,19.0s,MS4.8							
DAV	**Davao City (W)**	**26.45**	**64**	*e*P		**P**	**15 02 33.0**	**+2.3**
FITZ	**Fitzroy Crossi**	**26.68**	**121**	P		**P**	**15 02 32.4**	**-0.4**
	comp=Z,41nm,0.8s,mb5.0,baz=308,slow=3.0,SNR=46							
TGY	**Tagaytay City**	**26.69**	**45**	P		**P**	**15 02 34.9**	**+2.1**
	comp=Z,156nm,0.5s,mb5.8,baz=51,slow=21,SNR=4.7							
TGY				LR		LR	15 13 13.3	
	comp=Z,3μm,21.8s,MS4.8,baz=51,slow=

comp=N,2μm,13.9s,MS5.3
XAN LR LR
comp=E,2μm,12.5s,MS5.3
XAN LR LR
comp=Z,4μm,14.4s,MS5.4
LGTI Lohaghat 39.95 330 ⇓ *i*P **P 15 04 28.5 +0.7**
PTH Pithoragarh 40.05 330 *e*P **P 15 04 28.0 -0.6**
PTH *e* 15 10 43.0
NJ2 Nanjing 40.11 23 *e*P **P 15 04 30.5 +1.5**
NJ2 PP PP 15 06 08.0 +3.0
NJ2 S **S 15 10 38.0 +4.7**
NJ2 AMB AMB
comp=Z,20nm,1.2s,mb4.7
NJ2 LR LR
comp=Z,6μm,21.6s,MS5.4
SSE Sheshan 40.23 26 P **P 15 04 30.3 +0.2**
SSE S **S 15 10 40.3 +5.2**
SSE AMB AMB
comp=Z,39nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,380nm,8.4s
SSE LR LR
comp=N,1μm,21.4s,MS4.8
SSE LR LR
comp=E,940nm,21.4s,MS4.8
SSE LR LR
comp=Z,1μm,19.1s,MS4.8
SSE Sheshan 40.23 26 P **P 15 04 30.2 +0.1**
comp=Z,39nm,0.8s,mb5.2
SSE pP pP 15 04 33.1 -5.4
SSE sP sP 15 04 34.7 -7.3
SSE S **S 15 10 40.2 +5.1**
SSE sS 15 10 47.1
SSE LR LR
comp=Z,1μm,19.1s,MS4.8
JOW Kunigami 40.55 38 P **P 15 04 33.5 +0.8**
comp=Z,24nm,0.6s,mb5.0,baz=247,slow=6.3,SNR=7.1
SONA Sohna 40.69 325 *e*P **P 15 04 33.9 +0.1**
SONA *e* 15 10 49.8
KALG Kalgarh 40.76 328 *e* **P 15 04 22.6 -12**
KALG *e* 15 10 25.1
LZH Lanzhou 40.78 2 ⇑P **P 15 04 35.3 +0.8**
LZH PP PP 15 06 14.1 +2.5
LZH S **S 15 10 51.0 +7.8**
LZH AMB AMB
comp=Z,100nm,1.0s,mb5.4
LZH Lanzhou 40.78 2 ⇑P **P 15 04 35.3 +0.8**
comp=Z,100nm,1.0s,mb5.4
LZH pP pP 15 04 41.0 -1.9
LZH sP sP 15 04 45.5 -0.9
LZH PP PP 15 06 14.1 +2.5
LZH S **S 15 10 51.0 +7.8**
LZH sS 15 11 02.0
LZH SS SS 15 13 54.0 +14
LZH LR LR
comp=Z,11μm,16.6s,MS5.8
AYAN Aya Nagar 40.84 326 *e*P **P 15 04 34.7 -0.4**
AYAN *e* 15 04 38.0
comp=Z,23nm,1.2s
NDI New Delhi 40.95 326 *e*P **P 15 04 36.0 0.0**
NDI *e*S **S 15 10 44.0 -1.8**
KUDL Kundal 40.95 325 *e*P **P 15 04 34.7 -1.3**
KUDL *e* 15 04 40.1
comp=Z,20nm,1.2s
JOSI Joshimath 41.20 330 *e*P **P 15 04 38.6 +0.6**
JOSI *e*S **S 15 10 47.8 -1.7**
KHET Khetri 41.29 324 *e*P **P 15 04 39.0 +0.2**
KHET *e* 15 04 50.2
comp=Z,24nm,1.6s
DDI Dehra Dun 41.77 328 *e*P **P 15 04 42.2 -0.6**
DDI *e* 15 10 46.0
GTA Gaotai 44.10 358 *e*P **P 15 05 02.3 +0.7**
GTA PP PP 15 06 45.8 -0.1
GTA S **S 15 11 35.4 +3.5**
GTA AMB AMB
comp=Z,44nm,0.9s,mb5.2
GTA AMB AMB
comp=Z,575nm,7.6s
GTA LR LR
comp=N,4μm,18.3s,MS5.4
GTA LR LR
comp=E,2μm,20.5s,MS5.4
GTA LR LR
comp=Z,5μm,19.8s,MS5.5
THN Thein Dam 44.66 328 *e*P **P 15 05 04.4 -1.9**
comp=Z,27nm,0.5s,mb5.3
PMG Port Moresby 45.12 98 *e*P **P 15 05 09.3 -0.9**
comp=Z,82nm,1.0s,mb5.5
PMG LR LR
comp=Z,1μm,22.0s,MS4.8
CTA Charters Tower 45.70 113 P **P 15 05 13.9 -0.8**
comp=Z,24nm,0.9s,mb5.1,baz=283,slow=9.8,SNR=21
CTA LR LR 15 25 49.8
comp=Z,2μm,20.4s,MS5.0,baz=284,slow=38
CTAO Charters Tower 45.70 113 *e*P **P 15 05 13.6 -1.1**
comp=Z,35nm,1.0s,mb5.2
CTAO LR LR
comp=Z,2μm,20.0s,MS5.0
STKA Stephens Creek 45.85 131 P **P 15 05 16.0 +0.2**
comp=Z,4.8nm,0.5s,mb4.7,baz=306,slow=7.8,SNR=19
STKA LR LR 15 25 02.7
comp=Z,3μm,21.9s,MS5.2,baz=295,slow=37
BTO Baotou 45.86 9 *e*P **P 15 05 16.0 +0.3**
BTO AMB AMB
comp=Z,38nm,1.9s,mb5.0
HHC Hu-ho-hao-te 46.35 10 ⇑P **P 15 05 20.3 +0.8**
HHC PCP PcP 15 06 54.6 -0.2
HHC PP PP 15 07 10.3 +1.9
HHC PCS 15 10 47.3
HHC S **S 15 12 10.9 +6.6**
HHC AMB AMB
comp=Z,52nm,1.3s,mb5.3
HHC AMB AMB
comp=Z,416nm,7.1s
HHC LR LR
comp=N,2μm,16.5s,MS5.2
HHC LR LR
comp=E,1μm,17.5s,MS5.2
HHC LR LR
comp=Z,2μm,15.9s,MS5.1
BJT Baijiatuau 46.56 15 *e*P **P 15 05 20.7 -0.5**
comp=Z,46nm,0.8s,mb5.5
BJT LR LR
comp=Z,4μm,20.0s,MS5.4
BJI Beijing 46.58 15 P **P 15 05 21.5 +0.1**
BJI AMB AMB
comp=Z,68nm,0.7s,mb5.7
BJI LR LR
comp=N,5μm,16.9s,MS5.6
BJI LR LR
comp=E,2μm,16.3s,MS5.6
BJI LR LR
comp=Z,5μm,17.7s,MS5.5
BJI Beijing 46.58 15 P **P 15 05 21.5 +0.1**
comp=Z,68nm,0.7s,mb5.7
BJI S Sx 15 12 31.6
BJI SS Sx 15 16 10.7
BJI LR LR
comp=Z,5μm,17.7s,MS5.5
INCN Inchon 48.02 27 PFAKE 15 05 40.0 +7.2
INCN LR LR
comp=Z,4μm,22.0s,MS5.4
WMQ Urumqi 50.13 347 P **P 15 05 49.4 +0.5**
WMQ PP PP 15 07 46.0 +1.0
WMQ S **S 15 13 00.0 +2.7**
WMQ SS SS 15 16 30.0 +2.6
WMQ AMB AMB
comp=Z,128nm,8.0s
WMQ LR LR
comp=N,1μm,20.0s,MS5.1
WMQ LR LR
comp=E,1μm,20.0s,MS5.1
WMQ LR LR
comp=Z,1μm,20.0s,MS5.0
KSH Kashi 50.22 334 ⇑ *i*P **P 15 05 50.1 +0.5**
KSH PP PP 15 07 46.0 +0.1
KSH S **S 15 13 01.8 +3.2**
KSH *e*SS SS 15 16 30.8 +1.8
KSH AMB AMB
comp=Z,460nm,6.0s
KSH LR LR
comp=N,1μm,20.0s
KSH LR LR
comp=E,420nm,8.4s
CBIJ Chichi jima 50.25 49 P **P 15 05 47.7 -2.4**
comp=E,171nm,1.2s,mb6.0
SNY Shenyang 50.50 21 ⇑P **P 15 05 51.0 -0.8**
SNY AMB AMB
comp=Z,50nm,2.2s,mb5.1
SNY LR LR
comp=N,3μm,18.3s
SNY LR LR
comp=Z,2μm,18.0s,MS5.2
ULHL Ulahol 52.37 336 P **P 15 06 05.7 -0.2**
SNR=5.4
SONM Songino Array 52.62 4 P **P 15 06 08.2 +0.4**
comp=Z,74nm,0.7s,mb5.7,baz=187,slow=8.0,SNR=192
KZA Kyzart 52.64 335 P **P 15 06 08.8 +0.9**
SNR=21
ULN Ulaanbaatar 52.70 4 PFAKE 15 06 20.0 +12
ULN LR LR
comp=Z,2μm,21.0s,MS5.1
CN2 Changchun 52.90 21 *e*P **P 15 06 07.3 -2.5**
CN2 *e*S **S 15 13 35.3 0.0**
CN2 AMB AMB
comp=Z,30nm,1.0s,mb5.2
CN2 LR LR
comp=N,700nm,19.0s,MS4.8
CN2 LR LR
comp=E,600nm,19.0s,MS4.8
CN2 LR LR
comp=Z,700nm,20.0s,MS4.7
AAA Alma-Ata 52.96 337 *e*P **P 15 06 09.0 -1.3**
AAA *e*S **S 15 13 40.0 +3.8**
AAA pmax pmax
comp=Z,500nm,4.0s
AAA smax
comp=E,600nm,7.0s
AAA MLR MLR
comp=Z,300nm,18.0s,MS4.4
TKM2 Tokmak 2 53.20 336 P **P 15 06 11.7 -0.4**
SNR=34
KBK Karagaybulak 53.24 335 P **P 15 06 12.6 +0.2**
SNR=20
AML Almayashu 53.35 334 P **P 15 06 13.2 +0.1**
SNR=8.6
MAJO Matsushiro 53.37 36 *e*P **P 15 06 10.9 -2.5**
comp=Z,22nm,0.8s,mb5.1
MAJO LR LR
comp=Z,365nm,20.0s,MS4.4
MAT Matsushiro 53.37 36 P **P 15 06 10.8 -2.6**
MAT Matsushiro 53.37 36 *e*P **P 15 06 11.0 -2.4**
comp=Z,38nm,1.2s,mb5.2
AAK Ala-Archa 53.41 335 P **P 15 06 13.5 -0.1**
SNR=9.9
AAK Ala-Archa 53.41 335 *c i*P **P 15 06 12.5 -1.2**
AAK pmax pmax
comp=Z,32nm,1.6s,mb5.0
AAK Ala-Archa 53.41 335 *e*P **P 15 06 11.8 -1.9**
comp=Z,21nm,1.1s,mb5.0
AAK LR LR
comp=Z,221nm,20.0s,MS4.2
FRU Bishkek 53.53 335 ⇑ *e*P **P 15 06 14.5 0.0**
FRU *e* 15 13 47.0
FRU pmax pmax
comp=Z,120nm,2.1s,mb5.5
CHMS Chumysh 53.61 335 P **P 15 06 14.3 -0.8**
SNR=8.3
EKS2 Erkin-Say 53.74 334 P **P 15 06 16.2 +0.1**
SNR=46
USP Ospenovka 53.93 335 P **P 15 06 16.7 -0.7**
SNR=21
MKAR Makanchi Array 54.29 344 *i* P **P 15 06 19.0 -0.9**
MKAR pmax pmax
comp=Z,16nm,0.6s
ZAK Zakamensk 55.04 1 *e*P **P 15 06 35.2 +10**
MDJ Mudanjiang 55.17 24 P **P 15 06 25.9 -0.6**
MDJ PCP PcP 15 07 25.8 -1.4
MDJ PP PP 15 08 30.3 -1.1
MDJ S **S 15 14 11.8 +5.8**
MDJ AMB AMB
comp=Z,41nm,0.9s,mb5.5
MDJ AMB AMB
comp=Z,194nm,7.1s
MDJ LR LR
comp=N,569nm,23.0s,MS4.7
MDJ LR LR
comp=E,594nm,25.6s,MS4.7
MDJ LR LR
comp=Z,1μm,22.6s,MS4.9
MDJ Mudanjiang 55.17 24 *e*P **P 15 06 25.1 -1.4**
comp=Z,45nm,0.9s,mb5.5
MDJ LR LR
comp=Z,4μm,19.0s,MS5.6
HIA Hailar 56.11 14 *e*P **P 15 06 31.4 -1.7**
comp=Z,35nm,0.9s,mb5.4
HIA LR LR
comp=Z,4μm,20.0s,MS5.5
MOY Mondy 56.32 359 *e*P **P 15 06 34.5 -0.1**
IRK Irkutsk 56.92 2 *e*P **P 15 06 28.8 -10**
KURK Kurchatov 58.88 343 *c i*P **P 15 06 51.4 -1.3**
KURK Kurchatov 58.88 343 *e*P **P 15 06 51.2 -1.5**
comp=Z,39nm,0.9s,mb5.4
KURK LR LR
comp=Z,347nm,20.0s,MS4.5
ZAL Zalesovo 60.32 348 P **P 15 07 01.8 -0.8**
comp=Z,29nm,0.6s,mb5.5,baz=299,slow=5.3,SNR=109
NVS Novosibirsk 61.49 348 *i* P **P 15 07 08.1 -2.4**
NVS *i* S **S 15 15 26.5 -1.7**
NVS pmax pmax
comp=N,51nm,1.7s
NVS pmax pmax
comp=E,18nm,1.7s
NVS pmax pmax
comp=Z,54nm,1.7s,mb5.4
NVS smax
comp=E,11nm,1.1s
NVS smax
comp=N,38nm,1.2s
CASY Casey 61.60 176 *e*P **P 15 07 09.5 -1.6**
comp=N,8.0nm,1.1s,mb4.8
CASY LR LR
comp=Z,1μm,21.0s,MS5.1
MIR Mirnyy 61.89 184 ⇑ *e*P **P 15 07 12.7 -0.3**
MIR pmax pmax
comp=Z,60nm,2.5s,mb5.3
UMR Umm Al-Rimmam 62.17 307 *e*P **P 15 07 15.1 -0.4**
UMR AMb AMB 15 07 32.9
comp=Z,32nm,0.9s,mb5.5
MIB Mutribah 62.57 307 *e*P **P 15 07 17.6 -0.5**
MIB AMb AMB 15 07 46.8
comp=Z,52nm,0.9s,mb5.7
RST Umm Al-Ruwaisa 62.73 307 *e*P **P 15 07 17.9 -1.2**
RST AMb AMB 15 07 36.7
comp=Z,26nm,0.7s,mb5.5
YSS Yuzh-Sakhalins 62.94 30 ⇑ *i*P **P 15 07 19.0 -1.3**
YSS *e* pP 15 07 26.6 -2.5
YSS *e* 15 16 03.0
YSS pmax pmax
comp=Z,60nm,0.8s,mb5.8
YSS pmax pmax
comp=E,40nm,1.0s
YSS MLR MLR
comp=Z,2μm,10.0s,MS5.6
YSS MLR MLR
comp=N,3μm,12.0s
YSS Yuzh-Sakhalins 62.94 30 *e*P **P 15 07 18.6 -1.7**
comp=N,54nm,0.8s,mb5.7
YSS LR LR
comp=Z,907nm,20.0s,MS4.9
BVA0 Borovoye Array 63.51 339 *i* P **P 15 07 22.4 -1.5**
BVAR Borovoye Array 63.51 339 P **P 15 07 22.3 -1.6**
comp=Z,9.4nm,0.6s,mb5.0,baz=149,slow=8.6,SNR=46
BRVK Borovoye 63.57 339 *e*P **P 15 07 22.1 -2.2**
comp=Z,56nm,1.5s,mb5.4
BRVK LR LR
comp=Z,176nm,20.0s,MS4.2
CLNS Chul'man 64.30 14 *e*P **P 15 07 28.1 -0.9**
CLNS pmax pmax
comp=Z,24nm,1.0s,mb5.2
CLNS pmax pmax
comp=N,11nm,0.9s
CLNS pmax pmax
comp=E,13nm,1.0s
KMBO Kilima Mbogo 64.64 271 P **P 15 07 32.7 +0.7**
comp=E,1.1nm,0.7s,mb4.0
KMBO Kilima Mbogo 64.64 271 *e*P **P 15 07 30.3 -1.7**
comp=E,2.7nm,0.9s,mb4.3
KMBO LR LR
comp=Z,645nm,20.0s,MS4.8
DRV Dumont d'Urvil 67.07 165 P **P 15 07 55.0 +8.3**
DRV S S 15 16 35.0 -2.2
MAW Mawson 68.01 195 P **P 15 07 51.6 -1.0**
comp=Z,5.3nm,1.0s,mb4.5,baz=30,slow=7.9,SNR=11
MAW LR LR 15 32 31.1
comp=Z,2μm,19.4s,MS5.4,baz=43,slow=32
MAK Makhachkala 68.36 320 *e*P **P 15 07 56.0 +0.8**
MAK *e* 15 08 22.0
MAK *i* S S 15 16 53.0 0.0
MAK *e* 15 17 51.0
MAK pmax pmax
comp=Z,600nm,7.0s
MAK smax
comp=N,1μm,6.0s
MAK smax
comp=E,500nm,6.0s
GNI Garni 68.89 316 P **P 15 08 00.4 +1.9**
comp=E,3.2nm,0.3s,mb4.7,baz=98,slow=13,SNR=2.5
GNI LR LR 15 39 27.3
comp=E,417nm,20.9s,MS4.7,baz=320,slow=37
SVE Sverdlovsk 70.03 337 ⇑ *i*P **P 15 08 04.5 -0.7**
SVE *e*S S 15 17 15.0 +2.5
SVE *e*SS SS 15 21 47.0 +3.4
SVE pmax pmax
comp=Z,140nm,2.0s,mb5.5
SVE MLR MLR
comp=Z,1μm,22.0s,MS5.0
SVE MLR MLR
comp=N,500nm,20.0s,MS4.9
SVE MLR MLR
comp=E,500nm,20.0s,MS4.9
YAK Yakutsk 70.04 14 ⇑ *i*P **P 15 08 03.4 -1.7**
YAK *e* 15 08 21.0
YAK *e**PP pP 15 08 30.3 +16
YAK *e*S S 15 17 07.8 -4.7
YAK *e**SS 15 17 35.3
YAK *e* 15 17 57.5
YAK pmax pmax
comp=Z,39nm,0.9s,mb5.3
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.0s
YAK smax
comp=N,4.0nm,1.1s
YAK smax
comp=E,4.0nm,1.1s
YAK Yakutsk 70.04 14 *e*P **P 15 08 03.1 -2.0**
comp=E,81nm,0.7s,mb5.8
YAK LR LR
comp=Z,2μm,19.0s,MS5.5
ARU Arti 70.57 336 ⇑ *i*P **P 15 08 07.4 -1.1**
ARU *i* 15 08 25.0
ARU *e* 15 10 42.0
ARU *e*PPP PPP 15 12 26.1 -1.3
ARU *e*S S 15 17 17.7 -1.1
ARU *e* 15 18 06.4
ARU pmax pmax
comp=Z,37nm,1.2s,mb5.2
ARU MLR MLR
comp=Z,1μm,23.0s,MS5.0
ARU MLR MLR
comp=N,700nm,24.0s,MS5.0
ARU MLR MLR
comp=E,600nm,22.0s,MS5.0
ERZM Erzurum 71.14 315 P **P 15 08 17.7 +5.5**
MBAR Mbarara 71.17 271 *e*P **P 15 08 12.1 -0.7**
comp=E,17nm,1.5s,mb4.8
MBAR LR LR
comp=Z,199nm,20.0s,MS4.4
RPZ Rata Peaks 71.64 134 P **P 15 08 17.8 +2.7**
comp=Z,12nm,0.8s,mb4.9,baz=148,slow=23,SNR=2.6
ASF Jabal al Asfar 71.79 306 P **P 15 08 17.0 +0.7**
comp=Z,6.4nm,0.9s,mb4.5,baz=35,slow=1.5,SNR=12
ASF LR LR 15 39 34.2
comp=Z,1μm,19.6s,MS5.1,baz=336,slow=36
KIV Kislovodsk 71.93 319 PFAKE 15 08 30.0 +13
KIV LR LR
comp=Z,138nm,20.0s,MS4.2
GOF Gofitskoye 72.19 320 *e*P **P 15 08 19.0 +0.6**
GOF *i* S S 15 17 37.0 -0.7
GOF pmax pmax
comp=Z,80nm,1.3s,mb5.5
GOF smax
comp=N,2μm,8.0s
ELZG Elazig 72.31 313 P **P 15 08 19.8 +0.6**
EIL Elat 72.65 303 LR LR 15 40 44.8
comp=N,1μm,18.6s,MS5.2,baz=91,slow=36
EIL Elat 72.65 303 P **P 15 08 19.6 -1.8**
MALT Malatya 72.65 312 *e*P **P 15 08 18.8 -2.5**
comp=N,4.2nm,0.6s,mb4.5
GZT Gaziantep 72.96 311 P **P 15 08 22.4 -0.7**
LSZ Lusaka 73.03 256 P **P 15 08 23.1 -0.8**
comp=N,11nm,1.4s,mb4.6
LSZ LR LR
comp=Z,922nm,19.0s,MS5.1
KAHT Ahir Dag 73.57 311 P **P 15 08 27.9 +1.2**
SOC Sochi 73.73 318 *i* P **P 15 08 24.7 -2.8**
SOC *e* 15 08 44.5
SOC *e* 15 11 15.3
SOC *e*S S 15 17 46.6 -8.6
SOC *e* 15 18 24.2
SOC *e*SS SS 15 22 37.4 -4.0
SOC *e*SSS SSS 15 25 50.7 -2.1
SOC pmax pmax
comp=Z,13nm,0.7s,mb5.0
SOC pmax pmax
comp=N,7.0nm,0.8s
SOC pmax pmax
comp=E,2.0nm,0.3s
SOC MLR MLR
comp=Z,450nm,21.0s,MS4.7
SOC MLR MLR
comp=N,388nm,22.0s,MS4.8
SOC MLR MLR
comp=E,269nm,19.0s,MS4.8
PET Petropavlovsk 74.76 32 *e*P **P 15 08 32.7 -0.5**
PET *e*PPP PPP 15 13 09.2 +1.6
PET *e*S 15 18 33.2
PET *e* 15 19 04.4
PET pmax pmax
comp=Z,75nm,0.7s,mb5.7
PET pmax pmax
comp=Z,100nm,8.6s
PET smax
comp=N,200nm,17.7s
PET smax
comp=E,200nm,18.4s
PET MLR MLR
comp=Z,2μm,17.0s,MS5.4
MA2 Magadan 74.87 23 *e*P **P 15 08 33.8 +0.1**
MA2 pmax pmax
comp=Z,31nm,0.9s,mb5.2
MA2 Magadan 74.87 23 PFAKE 15 08 50.0 +16
MA2 LR LR
comp=Z,541nm,19.0s,MS4.9
SYO Syowa Base 75.79 199 ⇑P **P 15 08 39.2 +0.4**
SYO Syowa Base 75.79 199 ⇓ pP pP 15 08 44.3 -3.4
BRTR Keskin Array B 76.64 313 P **P 15 08 42.9 -1.3**
comp=Z,4.0nm,0.8s,mb4.4,baz=132,slow=6.2,SNR=23
ELDT Eldivan 77.03 313 P **P 15 08 54.8 +8.5**
BALT Daday 77.38 314 P **P 15 08 47.2 -1.0**
VOR Voronezh 77.39 326 *e*P **P 15 08 49.0 +0.9**
VOR *e* pP 15 08 57.0 0.0
VOR pmax pmax
comp=Z,70nm,1.6s,mb5.3
SIM Simferopol' 77.98 318 *e*P **P 15 08 52.8 +1.4**
SIM S S 15 18 45.3 +3.6
SIM pmax pmax
comp=Z,93nm,18.0s
TIXI Tiksi 78.38 8 *c i*P **P 15 08 52.2 -0.9**
TIXI pmax pmax
comp=Z,21nm,0.9s,mb5.1
TIXI Tiksi 78.38 8 PFAKE 15 09 00.0 +6.9
TIXI LR LR
comp=Z,3μm,19.0s,MS5.6
VNDA Vanda 79.00 169 P **P 15 08 56.1 -0.4**
comp=Z,1.3nm,0.9s,baz=303,slow=6.0,SNR=7.9
VNDA LR LR 15 41 35.1
comp=Z,361nm,18.9s,MS4.7,baz=308,slow=34
SUR Sutherland 79.89 238 P **P 15 09 02.6 +0.5**
comp=Z,3.7nm,0.8s,mb4.4,baz=126,slow=10,SNR=2.6
SUR Sutherland 79.89 238 P **P 15 09 02.6 +0.5**
SUR LR LR
comp=Z,206nm,19.0s,MS4.5
MOS Moscow 79.91 329 *e*P **P 15 09 03.5 +1.8**
MOS *e* pP 15 09 10.8 +0.1

MOS					*e*S	S	15 19 02.6	+0.6		
MOS					pmax	pmax				
	comp=Z,50nm,0.8s,mb5.5									
SBA	**Scott Base**	**80.10**	**169**	*e*P	**P**		**15 09 00.5**	**-1.9**		
	comp=Z,5.6nm,0.9s,mb4.5									
SBA					LR	LR				
	comp=Z,550nm,21.0s,MS4.9									
OBN	**Obninsk**	**80.21**	**328**	⇓ *i*P	**P**		**15 09 03.6**	**+0.3**		
OBN				*i*	pP		15 09 13.1	+0.8		
OBN				*i*			15 19 03.5			
OBN				*e*SS	SS		15 24 23.3	+4.1		
OBN				pmax	pmax					
	comp=Z,49nm,1.9s,mb5.1									
OBN	**Obninsk**	**80.21**	**328**	P	**P**		**15 09 02.4**	**-0.9**		
	comp=Z,18nm,0.6s,mb5.2									
OBN				LR	LR					
	comp=Z,163nm,20.0s,MS4.4									
KIS	**Kishinev**	**82.12**	**319**	*e*P	**P**		**15 09 15.0**	**+1.5**		
KIS				*e*			15 09 33.0			
KIS				MLR	MLR					
	comp=Z,300nm,20.0s,MS4.7									
KIS				MLR	MLR					
	comp=Z,300nm,20.0s									
IDI	**Anoyia**	**82.25**	**306**	P	**P**		**15 09 15.2**	**+0.8**		
	comp=Z,3.4nm,0.6s,mb4.4,baz=103,slow=8.5,SNR=5.6									
AKASG	**Malin Array Be**	**82.89**	**322**	P	**P**		**15 09 16.6**	**-0.8**		
	comp=Z,3.4nm,0.7s,mb4.5,baz=87,slow=4.6,SNR=20									
VRI	**Vrincioaia**	**83.22**	**317**	⇓ *i*P	**P**		**15 09 21.3**	**+2.0**		
MLR	**Muntele Rosu**	**83.67**	**317**	P	**P**		**15 09 22.4**	**+0.9**		
	comp=Z,8.2nm,0.9s,mb4.9,baz=15,slow=3.4,SNR=11									
RZN	**Rozhen**	**83.69**	**313**	P	**P**		**15 09 22.0**	**+0.2**		
MMB	**Musomiste**	**84.40**	**312**	P	**P**		**15 09 24.5**	**-0.8**		
VTS	**Vitosha**	**84.98**	**313**	P	**P**		**15 09 27.0**	**-1.2**		
QSPA	**South Pole Qui**	**85.11**	**180**	*e*P	**P**		**15 09 29.6**	**+1.5**		
	comp=Z,3.3nm,0.7s,mb4.6									
QSPA				LR	LR					
	comp=Z,993nm,19.0s,MS5.2									
JOF	**Joensuu**	**85.60**	**334**	*e*p	**P**		**15 09 31.2**	**+0.4**		
	comp=Z,0.5nm,0.4s,mb4.1									
JOF	**Joensuu**	**85.60**	**334**	*e*P	**P**		**15 09 31.2**	**+0.4**		
JOF				pmax	pmax					
	comp=Z,1.0nm,0.4s,mb4.4									
APA	**Apatity**	**86.42**	**339**	*e*P	**P**		**15 09 38.0**	**+3.2**		
APA				*i*			15 09 56.5			
APA				*e*			15 20 10.0			
KOLS	**Kolonicke sedl**	**86.84**	**319**	*i* P	**P**		**15 09 38.8**	**+1.5**		
KOLS				*i* pP	pP		15 09 50.1	+3.8		
SUW	**Suwalki**	**87.30**	**325**	*e*P	**P**		**15 09 40.5**	**+1.1**		
SUW	**Suwalki**	**87.30**	**325**	*e*P	**P**		**15 09 40.5**	**+1.1**		
CRVS	**Cervenica-Dubn**	**87.36**	**319**	*i* P	**P**		**15 09 42.0**	**+2.2**		
FINES	**FINESS Array B**	**87.51**	**332**	P	**P**		**15 09 40.5**	**+0.3**		
	comp=Z,5.4nm,0.8s,mb4.8,baz=111,slow=6.5,SNR=18									
FINES	**FINESS Array B**	**87.51**	**332**	*i* P	**P**		**15 09 40.5**	**+0.3**		
FINES				pmax	pmax					
	comp=Z,5.0nm,0.8s									
FINES	**FINESS Array B**	**87.51**	**332**	P	**P**		**15 09 40.5**	**+0.3**		
KAF	**Kangasniemi**	**87.58**	**333**	*e*p	**P**		**15 09 41.0**	**+0.5**		
	comp=Z,0.8nm,0.4s,mb4.3									
KAF	**Kangasniemi**	**87.58**	**333**	*e*P	**P**		**15 09 41.0**	**+0.5**		
KAF				pmax	pmax					
	comp=Z,1.0nm,0.4s,mb4.4									
NIE	**Niedzica**	**88.20**	**320**	*e*P	**P**		**15 09 45.5**	**+1.7**		
NIE				*e*	pP		15 09 55.7	+2.9		
PSZ	**Piszkesteto**	**88.23**	**318**	⇑ *e*pP	pP		15 09 55.1	+2.1		
PSZ	**Piszkesteto**	**88.23**	**318**	*e*P	**P**		**15 09 43.7**	**-0.3**		
	comp=Z,14nm,1.1s,mb5.1									
OJC	**Ojcow**	**88.66**	**320**	*e*P	**P**		**15 09 55.8**	**+10**		
OJC	**Ojcow**	**88.66**	**320**	*e*P	**P**		**15 09 55.8**	**+10**		
VYHS	**Vyhne**	**89.01**	**319**	*e*P	**P**		**15 09 48.7**	**+1.0**		
VYHS				*i* pP	pP		15 09 59.1	+2.4		
KEV	**Kevo**	**89.34**	**340**	*e*p	**P**		**15 09 47.9**	**-0.9**		
	comp=Z,0.6nm,0.4s,mb4.3									
KEV	**Kevo**	**89.34**	**340**	*e*P	**P**		**15 09 47.9**	**-0.9**		
KEV				pmax	pmax					
	comp=Z,1.0nm,0.4s,mb4.5									
OKC	**Ostrava-Krasne**	**89.65**	**320**	*e*P	**P**		**15 09 52.5**	**+1.8**		
OKC				*e*pP	pP		15 10 02.3	+2.6		
ARCES	**ARCESS Array B**	**89.79**	**340**	P	**P**		**15 09 51.3**	**+0.4**		
	comp=Z,8.3nm,0.8s,mb5.1,baz=96,slow=4.1,SNR=13									
ARCES				LR	LR		15 58 26.4			
	comp=Z,742nm,18.2s,MS5.2,baz=292,slow=41									
SNAA	**Sanae**	**90.01**	**198**	⇑ *i*	pP		15 10 03.6	+2.7		
SNAA	**Sanae**	**90.01**	**198**	⇑ *i*P	**P**		**15 09 53.4**	**+1.5**		
SNAA				⇑ *i*P	pP		15 10 03.6	+2.7		
MORC	**Moravsky Berou**	**90.03**	**320**	*e*P	**P**		**15 09 51.0**	**-1.5**		
	comp=Z,3.8nm,0.8s,mb4.8									
ZST	**Bratislava**	**90.12**	**318**	*e*P	**P**		**15 09 54.7**	**+1.8**		
ZST				*i* pP	pP		15 10 04.2	+2.3		
DPC	**Dobruska-Polom**	**90.88**	**320**	*e*P	**P**		**15 09 58.7**	**+2.4**		
DPC				*e*pP	pP		15 10 08.3	+2.9		
VAE	**Valguarnera**	**90.93**	**307**	P	**P**		**15 09 58.0**	**+1.1**		
	comp=Z,7.1nm,0.3s,mb5.5,baz=197,slow=16,SNR=2.6									
KSP	**Ksiaz**	**90.96**	**321**	*e*P	**P**		**15 09 59.3**	**+2.6**		
KSP				*e**PP	pP		15 10 07.5	+1.8		
KSP				*e*S	S		15 20 43.0	-6.4		
KSP				MLR	MLR					
	comp=Z,800nm,22.7s,MS5.1									
UPC	**Upice**	**91.10**	**320**	*e*P	pP		15 10 08.8	+2.4		
UPC	**Upice**	**91.10**	**320**	*e*pP	pP		15 10 08.8	+2.4		
LJU	**Ljubljana**	**91.64**	**316**	*i* P	pP		15 10 10.0	+1.0		
VNA2	**Neumayer--Watz**	**91.64**	**198**	⇑ *i*	**P**		**15 10 05.3**	**+5.9**		
VNA2	**Neumayer--Watz**	**91.64**	**198**	⇑ *i*	pP		15 10 13.0	+4.6		
VNA2	**Neumayer--Watz**	**91.64**	**198**	⇑ *i*P	**P**		**15 10 04.3**	**+4.9**		
VNA2				⇑ *i*P			15 10 05.3			
VNA2				⇑ *i*P	pP		15 10 13.0	+4.6		
PRU	**Pruhonice**	**91.98**	**320**	*e*P	pP		15 10 12.7	+2.2		
PRU				*e*	P*x*		15 10 23.2			
PRU	**Pruhonice**	**91.98**	**320**	*e*pP	pP		15 10 12.7	+2.2		
PRU				*ex*	x		15 10 23.2			
VNA1	**Neumayer--Stat**	**92.01**	**198**		pP		15 10 15.8	+5.7		
VNA1	**Neumayer--Stat**	**92.01**	**198**	⇑ *i*P	**P**		**15 10 06.2**	**+5.1**		
VNA1				P	pP		15 10 15.8	+5.7		
PVCC	**Panska Ves**	**92.02**	**320**	*e*P	**P**		**15 10 03.5**	**+2.0**		
PVCC				*e*pP	pP		15 10 12.7	+2.1		
VOY	**Vojsko**	**92.08**	**316**	*e*P	**P**		**15 10 11.7**	**+10**		
VOY				*e*	pP		15 10 19.3	+8.3		
VNA3	**Neumayer Olymp**	**92.22**	**198**	⇑ *i*	pP		15 10 17.8	+6.7		
VNA3	**Neumayer Olymp**	**92.22**	**198**	⇑ *i*P	**P**		**15 10 08.3**	**+6.3**		
VNA3				⇑ *i*P	pP		15 10 17.8	+6.7		
GERES	**GERESS Array B**	**92.43**	**319**	P	**P**		**15 10 04.3**	**+0.8**		
	comp=Z,2.2nm,0.9s,mb4.5,baz=90,slow=2.7,SNR=15									
KHC	**Kasperske Hory**	**92.54**	**319**	*e*P	pP		15 10 14.2	+1.2		
KHC				*e*			15 10 22.4			
KHC	**Kasperske Hory**	**92.54**	**319**	*e*P	**P**		**15 10 05.0**	**+1.0**		
KHC				*e*pP	pP		15 10 14.2	+1.2		
KHC				*ex*	x		15 10 22.4			
CLL	**Collm**	**93.06**	**321**	*e**PP	pP		15 10 18.0	+2.6		
MOX	**Moxa**	**93.90**	**320**	*e*P	pP		15 10 22.0	+2.7		
TNA	**Tin City**	**94.47**	**25**	PFAKE			15 10 20.0	+7.5		
TNA				LR	LR					
	comp=Z,672nm,19.0s,MS5.1									
NB2	**NORSAR Subarra**	**94.55**	**331**	P	**P**		**15 10 13.0**	**0.0**		
	comp=Z,3.8nm,0.9s,mb4.8,baz=92,slow=4.6									
NOA	**NORSAR Array B**	**94.55**	**331**	P	**P**		**15 10 13.7**	**+0.7**		
	comp=Z,0.7nm,0.8s,mb4.2,baz=102,slow=4.2,SNR=6.9									
DAVOX	**Davos**	**94.89**	**316**	P	**P**		**15 10 17.1**	**+2.2**		
	comp=Z,2.0nm,0.9s,mb4.6,baz=351,slow=12,SNR=2.9									
ESK	**Eskdalemuir**	**102.56**	**326**	PFAKE			15 11 00.0	+11		
ESK				LR	LR					
	comp=Z,78nm,21.0s,MS4.2									
FIB	**Fire Island**	**102.85**	**28**	PFAKE			15 11 00.0	+10		
FIB				LR	LR					
	comp=Z,4μm,21.0s,MS5.9									
COLA	**College**	**102.91**	**24**	PFAKE			15 11 00.0	+9.4		
COLA				LR	LR					
	comp=Z,867nm,19.0s,MS5.3									
ILAR	**Eielson Array**	**103.34**	**24**	Pdiff	Pdif		15 10 53.9	+1.4		
	comp=Z,0.3nm,0.7s,baz=287,slow=3.6,SNR=5.7									
ILAR				PP	PP		15 15 12.3	+1.5		
	comp=Z,1.6nm,1.0s,baz=290,slow=8.7,SNR=6.3									
TBI	**Tubuai**	**105.05**	**116**	*e*S			15 22 59.2			
TBI				*e*SS	SS		15 30 12.9	-1.6		
TBI				*e*R			15 46 36.8			
	comp=Z,700nm,22.8s									
PPT	**Papeete**	**106.07**	**110**	*e*S			15 23 08.1			
PPT				*e*SS	SS		15 30 40.7	+12		
PPT				*e*R			15 47 32.0			
	comp=Z,698nm,23.2s									
PMSA	**Palmer Station**	**109.76**	**186**	PFAKE			15 15 30.0			
PMSA				LR	LR					
	comp=Z,1μm,19.0s,MS5.6									
HUMO	**Hull Mountain**	**125.34**	**40**	PFAKE			15 16 10.0	+12		
HUMO				LR	LR					
	comp=Z,341nm,19.0s,MS5.0									
NEW	**Newport**	**125.45**	**31**	PFAKE			15 16 10.0	+12		
NEW				LR	LR					
	comp=Z,654nm,20.0s,MS5.3									
YBH	**Yreka Blue Hor**	**125.94**	**40**	PKP	PKPdf		15 15 57.1	-1.7		
	comp=Z,1.0nm,0.7s,baz=45,slow=2.9									
YBH	**Yreka Blue Hor**	**125.94**	**40**	PKP	PKPdf		15 15 57.1	-1.7		
YBH				LR	LR					
	comp=Z,499nm,20.0s,MS5.2									
WDC	**Whiskeytown Da**	**126.62**	**42**	PFAKE			15 16 10.0	+10		
WDC				LR	LR					
	comp=Z,244nm,19.0s,MS4.9									
FFC	**Flin Flon**	**126.67**	**17**	PFAKE			15 16 10.0	+10		
FFC				LR	LR					
	comp=Z,185nm,20.0s,MS4.8									
MOD	**Modoc**	**127.38**	**39**	PFAKE			15 16 10.0	+8.4		
MOD				LR	LR					
	comp=Z,230nm,21.0s,MS4.8									
OHCM	**Honcut**	**127.94**	**42**	*e*PKPdf	PKPdf		15 16 00.2	-2.6		
MSO	**Missoula**	**128.02**	**31**	PFAKE			15 16 10.0	+7.3		
MSO				LR	LR					
	comp=Z,376nm,20.0s,MS5.1									
CHMT	**Chamberlain Mo**	**128.31**	**30**	*e*PKPdf	PKPdf		15 15 59.9	-3.4		
CMB	**Columbia Colle**	**129.34**	**43**	PFAKE			15 16 10.0	+4.5		
CMB				LR	LR					
	comp=Z,462nm,20.0s,MS5.2									
SCHQ	**Schefferville**	**129.35**	**352**	PKP	PKPdf		15 16 02.4	-2.6		
	comp=Z,2.1nm,0.8s,baz=116,slow=17,SNR=2.4									
HLID	**Hailey**	**129.91**	**34**	*e*PKPdf	PKPdf		15 16 03.0	-3.4		
HLID				LR	LR					
	comp=Z,528nm,20.0s,MS5.2									
MCMT	**McKenzie Canyo**	**129.93**	**32**	*e*PKPdf	PKPdf		15 16 03.3	-3.1		
BOZ	**Bozeman (W)**	**130.00**	**30**	PFAKE			15 16 10.0	+3.5		
BOZ				LR	LR					
	comp=Z,741nm,22.0s,MS5.3									
BMN	**Battle Mountai**	**130.13**	**39**	PFAKE			15 16 20.0	+13		
BMN				LR	LR					
	comp=Z,373nm,19.0s,MS5.1									
NVAR	**Mina Array Bea**	**130.54**	**42**	PKP	PKPdf		15 16 06.5	-1.2		
	comp=Z,2.1nm,0.8s,baz=320,slow=1.1,SNR=12									
NVAR				SKPbc			15 19 27.6			
	comp=Z,3.2nm,0.9s,baz=270,slow=3.6,SNR=11									
NVAR				SKP			15 19 43.2			
	comp=Z,1.1nm,0.8s,baz=252,slow=2.2,SNR=4.3									
MNV	**Mina**	**130.63**	**42**	PFAKE			15 16 20.0	+12		
MNV				LR	LR					
	comp=Z,407nm,19.0s,MS5.1									
QLMT	**Earthquake Lak**	**130.67**	**31**	PKPdf	PKPdf		15 16 04.4	-3.3		
YMR	**Madison River**	**131.02**	**31**	PKPdf	PKPdf		15 16 03.9	-4.6		
DGMT	**Dagmar**	**131.18**	**23**	PFAKE			15 16 20.0	+11		
DGMT				LR	LR					
	comp=Z,310nm,20.0s,MS5.0									
LKWY	**Lake**	**131.38**	**31**	PFAKE			15 16 20.0	+11		
LKWY				LR	LR					
	comp=Z,594nm,19.0s,MS5.3									
TPH	**Tonopah**	**131.44**	**42**	PFAKE			15 16 20.0	+11		
TPH				LR	LR					
	comp=Z,451nm,22.0s,MS5.1									
LAO	**LASA Array**	**131.77**	**26**	PKPdf	PKPdf		15 16 07.1	-2.7		
LAO				LR	LR					
	comp=Z,314nm,22.0s,MS5.0									
SNOW	**Snow King Moun**	**131.96**	**32**	*e*PKPdf	PKPdf		15 16 08.9	-1.4		
REDW	**Red Top Meadow**	**131.98**	**32**	*e*PKPdf	PKPdf		15 16 06.6	-3.7		
DAC	**Darwin (Calif)**	**132.15**	**44**	PFAKE			15 16 20.0	+9.1		
DAC				LR	LR					
	comp=Z,352nm,19.0s,MS5.1									
AHID	**Auburn Hatcher**	**132.26**	**33**	PFAKE			15 16 20.0	+9.1		
AHID				LR	LR					
	comp=Z,444nm,20.0s,MS5.2									
ULM	**Lac du Bonnet**	**132.36**	**15**	PKP	PKPdf		15 16 08.7	-2.2		
	comp=Z,4.7nm,0.8s,baz=356,slow=2.2,SNR=5.6									
HWUT	**Hardware Ranch**	**132.78**	**34**	*e*PKPdf	PKPdf		15 16 08.9	-3.0		
HWUT				LR	LR					
	comp=Z,506nm,20.0s,MS5.2									
DUG	**Dugway**	**132.97**	**37**	*e*PKPdf	PKPdf		15 16 09.5	-2.8		
BW06	**Boulder Array**	**133.08**	**32**	*e*PKPdf	PKPdf		15 16 10.4	-2.0		
BW06				LR	LR					
	comp=Z,400nm,20.0s,MS5.1									
PDAR	**Pinedale Array**	**133.08**	**32**	PKP	PKPdf		15 16 10.3	-2.1		
	comp=Z,1.5nm,1.0s,SNR=8.2									
PDAR				SKPbc			15 19 36.1			
	comp=Z,0.9nm,0.8s,baz=270,slow=0.9,SNR=3.3									
PDAR				SKPab			15 19 41.2			
	comp=Z,1.5nm,0.8s,baz=315,slow=1.3,SNR=6.5									
PFO	**Pinyon Flat Ob**	**134.31**	**46**	PFAKE			15 16 20.0	+5.1		
PFO				LR	LR					
	comp=Z,83nm,21.0s,MS4.4									
NEN	**Nelson**	**134.37**	**43**	*e*PKPdf	PKPdf		15 16 11.2	-3.8		
MVU	**Marysvale**	**134.39**	**38**	PFAKE			15 16 20.0	+5.0		
MVU				LR	LR					
	comp=Z,371nm,19.0s,MS5.1									
MSU	**Marysvale**	**134.41**	**38**	*e*PKPdf	PKPdf		15 16 13.6	-1.4		
LDFC	**Landfair**	**134.50**	**44**	*e*PKPdf	PKPdf		15 16 12.6	-2.7		
BAR	**Barrett**	**134.62**	**48**	PKPdf	PKPdf		15 16 12.6	-2.9		
RSSD	**Black Hills**	**134.74**	**26**	*e*PKPdf	PKPdf		15 16 12.0	-3.4		
PV10	**Paradox Valley**	**136.38**	**36**	*e*PKPdf	PKPdf		15 16 16.4	-2.2		
RCBR	**Riachuelo**	**136.54**	**256**	PFAKE			15 16 30.0	+11		
RCBR				LR	LR					
	comp=Z,774nm,19.0s,MS5.5									
PV01	**Paradox Valley**	**136.81**	**36**	*e*PKP	PKPdf		15 16 15.2	-4.1		
ISCO	**Idaho Springs**	**137.27**	**32**	PFAKE			15 16 30.0	+10		
ISCO				LR	LR					
	comp=Z,424nm,19.0s,MS5.2									
SDCO	**Great Sand Dun**	**138.82**	**34**	*e*PKP	PKPdf		15 16 18.7	-4.4		
SDCO				LR	LR					
	comp=Z,627nm,22.0s,MS5.3									
TUC	**Tucson**	**139.03**	**44**	PFAKE			15 16 30.0	+6.4		
TUC				LR	LR					
	comp=Z,360nm,22.0s,MS5.1									
ANMO	**Albuquerque**	**140.21**	**38**	PFAKE			15 16 30.0	+4.3		
ANMO				LR	LR					
	comp=Z,549nm,20.0s,MS5.3									
JFWS	**Jewell Farm**	**140.61**	**14**	PFAKE			15 16 30.0	+3.8		
JFWS				LR	LR					
	comp=Z,759nm,19.0s,MS5.5									
NCB	**Newcomb**	**140.91**	**356**	PFAKE			15 16 30.0	+3.3		
NCB				LR	LR					
	comp=Z,828nm,20.0s,MS5.5									
CBKS	**Cedar Bluff**	**140.92**	**27**	PFAKE			15 16 40.0	+13		
CBKS				LR	LR					
	comp=Z,470nm,19.0s,MS5.3									
WES	**Weston**	**142.16**	**352**	PFAKE			15 16 40.0	+11		
WES				LR	LR					
	comp=Z,1μm,19.0s,MS5.7									
AAM	**Ann Arbor**	**142.40**	**7**	PFAKE			15 16 40.0	+11		
AAM				LR	LR					
	comp=Z,689nm,20.0s,MS5.4									
BINY	**Binghamton**	**142.78**	**357**	PFAKE			15 16 40.0	+10		
BINY				LR	LR					
	comp=Z,1μm,20.0s,MS5.6									
CPUP	**Villa Florida**	**143.03**	**212**	PKP	PKPdf		15 16 28.9	-2.0		
	comp=Z,21nm,1.5s,baz=358,slow=7.4,SNR=2.9									
GDL2	**Guadalupe Moun**	**143.35**	**39**	*e*PKPdf	PKPdf		15 16 27.0	-4.2		
BDFB	**Brasilia**	**143.91**	**235**	PKP	PKPdf		15 16 31.3	-1.3		
	comp=Z,0.9nm,0.4s,baz=148,slow=9.5,SNR=2.3									
SSPA	**Standing Stone**	**144.39**	**360**	PFAKE			15 16 40.0	+13		
SSPA				LR	LR					
	comp=Z,724nm,20.0s,MS5.4									
ACSO	**Alum Creek Sta**	**144.52**	**6**	*e*PKPdf	PKPdf		15 16 27.4	-5.7		
ACSO				LR	LR					
	comp=Z,1μm,22.0s,MS5.6									
WMOK	**Wichita Mounta**	**144.65**	**30**	*e*PKPdf	PKPdf		15 16 28.2	-5.3		
WMOK				LR	LR					
	comp=Z,601nm,19.0s,MS5.4									
CCM	**Cathedral Cave**	**144.86**	**18**	*e*PKPdf	PKPdf		15 16 28.4	-5.3		
CCM				LR	LR					
	comp=Z,560nm,20.0s,MS5.3									
BLO	**Bloomington**	**145.01**	**11**	*e*PKPbc	PKPbc		15 16 29.2	-0.1		
FVM	**French Village**	**145.17**	**17**	*e*PKP	PKPdf		15 16 29.4	-4.9		
MCWV	**Mont Chateau**	**145.33**	**2**	*e*PKP	PKPdf		15 16 30.4	-4.1		
MCWV				LR	LR					
	comp=Z,881nm,20.0s,MS5.5									
LTX	**Lajitas**	**145.69**	**42**	*e*PKP	PKPdf		15 16 32.1	-3.4		
LTX				LR	LR					
	comp=Z,326nm,19.0s,MS5.1									
TXAR	**Lajitas Array**	**145.69**	**42**	PKPbc	PKPbc		15 16 33.3	+2.0		
	comp=Z,19nm,0.7s,baz=296,slow=1.3,SNR=123									
USIN	**University of**	**145.92**	**14**	*e*PKP	PKPdf		15 16 31.2	-4.3		
WCI	**Wyandotte Cave**	**145.96**	**12**	*e*PKP	PKPdf		15 16 32.3	-3.3		
WCI				LR	LR					
	comp=Z,893nm,20.0s,MS5.5									
CBN	**Corbin**	**146.81**	**359**	PFAKE			15 16 50.0	+16		
CBN				LR	LR					
	comp=Z,1μm,20.0s,MS5.7									
UTMT	**University of**	**147.15**	**16**	*e*PKPbc	PKPdf		15 16 35.5	-2.2		
MIAR	**Mount Ida**	**147.17**	**24**	*e*PKPbc	PKPdf		15 16 36.1	-1.7		
MIAR				LR	LR					
	comp=Z,660nm,21.0s,MS5.4									
JCT	**Junction City**	**147.33**	**36**	*e*PKP	PKPdf		15 16 34.5	-3.7		
JCT				LR	LR					
	comp=Z,503nm,22.0s,MS5.3									
WVT	**Waverly**	**147.62**	**15**	*e*PKPbc	PKPdf		15 16 37.1	-1.3		
WVT				LR	LR					
	comp=Z,674nm,20.0s,MS5.4									
BLA	**Blacksburg**	**147.74**	**3**	PFAKE			15 16 50.0	+11		
BLA				LR	LR					
	comp=Z,730nm,20.0s,MS5.5									
OXF	**Oxford**	**148.69**	**18**	*e*PKPdf	PKPdf		15 16 35.3	-4.9		
OXF				*e*PKPbc	PKPdf		15 16 40.0	-0.2		
OXF				LR	LR					
	comp=Z,626nm,20.0s,MS5.4									
SWET	**Sewanee**	**148.94**	**12**	*e*PKPbc	PKPdf		15 16 39.8	-0.8		
CPCT	**Cooper Cave**	**149.00**	**10**	*e*PKP	PKPdf		15 16 42.7	+2.0		
NATX	**Nacogdoches**	**149.07**	**28**	PFAKE			15 16 50.0	+9.1		
NATX				LR	LR					
	comp=Z,748nm,21.0s,MS5.5									
HKT	**Hockley**	**149.95**	**32**	*e*PKPbc	PKPdf		15 16 42.7	+0.3		
HKT				LR	LR					
	comp=Z,813nm,21.0s,MS5.5									
JSC	**Jenkinsville**	**150.59**	**5**	*e*PKPbc	PKPdf		15 16 45.1	+1.9		
LRAL	**Lakeview Retre**	**150.77**	**15**	*e*PKPbc	PKPdf		15 16 44.9	+1.4		
LRAL				LR	LR					
	comp=Z,632nm,21.0s,MS5.4									
LVC	**Limon Verde**	**151.25**	**198**	PFAKE			15 16 50.0	+5.5		
LVC				LR	LR					
	comp=Z,645nm,20.0s,MS5.4									
NHSC	**New Hope**	**151.84**	**4**	PFAKE			15 16 50.0	+4.9		
NHSC				LR	LR					
	comp=Z,806nm,20.0s,MS5.5									
DWPF	**Disney**	**156.67**	**7**	PFAKE			15 17 00.0	+8.2		
DWPF				LR	LR					
	comp=Z,785nm,22.0s,MS5.5									
LPAZ	**La Paz**	**156.78**	**205**	PKPbc	PKPdf		15 17 00.8	+8.6		
	comp=Z,0.3nm,0.3s,baz=76,slow=2.7,SNR=3.5									
LPAZ				PKPab	PKPab		15 17 18.9	-0.5		
	comp=Z,9.3nm,1.4s,baz=148,slow=9.5,SNR=4.6									
SAML	**Samuel**	**159.76**	**227**	PFAKE			15 17 00.0	+4.0		
SAML				LR	LR					
	comp=Z,756nm,19.0s,MS5.6									
SJG	**San Juan**	**162.39**	**319**	PFAKE			15 17 10.0	+11		
SJG				LR	LR					
	comp=Z,464nm,21.0s									
NNA	**Nana**	**163.21**	**184**	PFAKE			15 17 10.0	+11		
NNA				LR	LR					
	comp=Z,152nm,19.0s									
PAYG	**Puerto Ayora**	**166.65**	**114**	PFAKE			15 17 10.0	+7.3		
PAYG				LR	LR					
	comp=Z,199nm,19.0s									
SDV	**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
				Op	ISC		ISC
JHK	**Hiroka**	**0.20**	**93**	⇓P	**Pb**	**15 28 11.7**	**-1.9**
JHK				*e*S	**Sb**	**15 28 14.3**	**-2.7**
JIZZ	**Izumozaki**	**0.28**	**350**	⇑P	**Pb**	**15 28 16.5**	**+1.7**
JKT	**Katashina**	**0.62**	**142**	⇓P	**Pb**	**15 28 19.1**	**-1.6**
JKT				*e*S	**Sb**	**15 28 27.0**	**-2.0**
JGK	**Kuni**	**0.70**	**189**	P	**Pb**	**15 28 21.6**	**-0.5**
JNS	**Sasagawa**	**0.71**	**38**	⇑P	**Pb**	**15 28 21.9**	**-0.2**
JFY	**Yanaizu**	**0.76**	**79**	⇓P	**Pb**	**15 28 22.0**	**-1.0**
MAJO	**Matsushiro**	**0.85**	**212**	*e*P	**Pb**	**15 28 23.8**	**-0.7**
MAJO				*e*S	**Sb**	**15 28 35.0**	**-0.4**
MAT	**Matsushiro**	**0.85**	**212**	P	**Pb**	**15 28 24.4**	**-0.1**
MAT				S	**Sb**	**15 28 36.2**	**+0.8**
MAT	**Matsushiro**	**0.85**	**212**	P	**Pb**	**15 28 24.3**	**-0.2**
MAT	**Matsushiro**	**0.85**	**212**	*e*P	**Pb**	**15 28 24.0**	**-0.5**
MAT				*e*S	**Sb**	**15 28 36.0**	**+0.6**
JSD	**Sado**	**0.87**	**333**	⇑P	**Pb**	**15 28 25.8**	**+0.8**
JSB	**Shiboa**	**0.96**	**107**	⇓P	**Pb**	**15 28 26.0**	**-0.5**
JAG	**Ashikaga**	**1.00**	**146**	P	**Pb**	**15 28 26.3**	**-0.8**
JNG	**Nsakai**	**1.01**	**212**	⇑P	**Pb**	**15 28 27.3**	**+0.1**
JSZ	**Suzu**	**1.14**	**280**	⇑P	**Pb**	**15 28 30.3**	**+0.9**
JRY	**Ryogami san**	**1.25**	**175**	⇑P	**Pb**	**15 28 30.4**	**-0.9**
JAW	**Awa shima**	**1.25**	**17**	⇑P	**Pb**	**15 28 31.4**	**0.0**
JFT	**Otama**	**1.27**	**78**	⇓P	**Pn**	**15 28 31.2**	**-0.5**
JTT	**Ttatey**	**1.32**	**241**	⇑P	**Pn**	**15 28 34.0**	**+1.6**
JYS	**Shirataka**	**1.41**	**47**	⇑P	**Pn**	**15 28 33.9**	**+0.3**
JNT	**Takato**	**1.47**	**200**	⇑P	**Pn**	**15 28 34.8**	**+0.3**
JYA	**Atsumi**	**1.53**	**29**	⇑P	**Pn**	**15 28 35.3**	**0.0**
JGN	**Niukaw**	**1.56**	**229**	⇑P	**Pn**	**15 28 37.1**	**+1.3**
JHO	**Hitachi**	**1.58**	**114**	⇓P	**Pn**	**15 28 35.5**	**-0.6**
JJH	**Hakui**	**1.62**	**259**	P	**Pn**	**15 28 37.2**	**+0.5**
QNAJ	**Iwakimizuishiy**	**1.63**	**95**	⇓P	**Pn**	**15 28 36.8**	**+0.1**
JFK	**Kawauchi**	**1.68**	**86**	⇓P	**Pn**	**15 28 37.7**	**+0.2**
JMM	**Marumori**	**1.72**	**69**	⇓P	**Pn**	**15 28 38.5**	**+0.5**
JYN	**Shimob**	**1.77**	**186**	⇑P	**Pn**	**15 28 39.6**	**+0.9**
JGF	**Kuroka**	**2.01**	**215**	⇑P	**Pn**	**15 28 43.4**	**+1.2**
JNY	**Yasuok**	**2.04**	**201**	P	**Pn**	**15 28 43.4**	**+0.8**
JKG	**Kaga**	**2.19**	**244**	⇑P	**Pn**	**15 28 46.3**	**+1.5**
SHZ3	**Shizuoka 3**	**2.24**	**192**	P	**Pn**	**15 28 47.0**	**+1.6**
JGM	**Miyama**	**2.27**	**227**	⇑P	**Pn**	**15 28 47.3**	**+1.3**
JAO	**Obara**	**2.33**	**212**	⇑P	**Pn**	**15 28 48.1**	**+1.2**
JIO	**Ouri**	**2.36**	**59**	⇑P	**Pn**	**15 28 47.6**	**+0.3**
JMK	**Ichinoseki**	**2.57**	**48**	⇑P	**Pn**	**15 28 50.5**	**+0.3**
JRG	**Rokugo**	**2.59**	**34**	P	**Pn**	**15 28 51.1**	**+0.6**
OFUJ	**Ofunato**	**2.92**	**51**	P	**Pn**	**15 28 55.8**	**+0.6**
JOM	**Ohasama**	**2.97**	**41**	P	**Pn**	**15 28 56.5**	**+0.6**
JWT	**Wachi**	**3.36**	**235**	P	**Pn**	**15 29 03.3**	**+1.8**
JKY	**Yasaka**	**3.37**	**242**	⇑P	**Pn**	**15 29 02.9**	**+1.2**
JHE	**Heguri**	**3.61**	**225**	P	**Pn**	**15 29 06.1**	**+1.1**
JKSM	**Kasumi**	**3.71**	**244**	P	**Pn**	**15 29 07.6**	**+1.2**
JHJ	**Hachijo jima 2**	**4.21**	**168**	Pn	**Pn**	**15 29 14.3**	**+0.7**
	398nm,0.3s,baz=142,slow=0.7,SNR=57						
JHJ				Sn	**Sn**	**15 30 03.9**	**+0.9**
	84nm,0.3s,baz=281,slow=23,SNR=5.8						
JAD	**Aida**	**4.39**	**240**	P	**Pn**	**15 29 17.5**	**+1.5**
JNM	**Ikuma**	**4.96**	**251**	P	**Pn**	**15 29 26.1**	**+2.0**
JHS	**Saijyo**	**5.10**	**245**	P	**Pn**	**15 29 27.7**	**+1.6**
JJG	**Jouge**	**5.25**	**242**	P	**Pn**	**15 29 30.4**	**+2.1**
JHT	**Toyohira**	**5.76**	**245**	P	**Pn**	**15 29 37.8**	**+2.3**
ERM	**Erimo**	**5.83**	**34**	Pn	**Pn**	**15 29 37.6**	**+1.2**
	2μm,1.1s,SNR=22						
JHM	**Kurahashi**	**5.96**	**240**	P	**Pn**	**15 29 40.2**	**+2.0**
JNA	**Nagahama**	**6.33**	**236**	P	**Pn**	**15 29 45.3**	**+1.9**
JKD	**Kudamatsu**	**6.46**	**242**	P	**Pn**	**15 29 46.9**	**+1.6**
JTY	**Toyota**	**6.94**	**247**	P	**Pn**	**15 29 54.8**	**+2.7**
ASAJ	**Asahikawa**	**7.44**	**22**	Pn	**Pn**	**15 30 00.6**	**+1.5**
	2.8nm,0.3s,baz=221,slow=11,SNR=34						
ASAJ				LR	LR	15 33 07.5	
	comp=Z,3μm,19.4s,baz=224,slow=39						
ASAJ	**Asahikawa**	**7.44**	**22**	P	**Pn**	**15 30 00.6**	**+1.5**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,3μm,19.4s						
JNU	**Nakatsue**	**7.67**	**240**	P	**Pn**	**15 30 03.1**	**+0.9**
JTA	**Tamana**	**7.99**	**240**	P	**Pn**	**15 30 07.8**	**+1.0**
JIU2	**Izumi 2**	**8.05**	**237**	P	**P**	**15 30 08.7**	**+1.1**
JZO	**Okuchi**	**8.45**	**235**	P	**P**	**15 30 13.8**	**+0.7**
JHD	**Hondo**	**8.55**	**239**	P	**P**	**15 30 15.4**	**+0.8**
YUK	**Yuzh-Kuril'sk**	**8.65**	**36**	*e*P	**P**	**15 30 10.1**	**-5.8**
YUK				*i* S	**Sn**	**15 31 47.4**	**-6.5**
YUK				pmax	pmax		
	comp=N,190nm,0.5s						
YUK				pmax	pmax		
	comp=E,190nm,0.5s						
YUK				pmax	pmax		
	comp=Z,210nm,0.5s						
YUK				pmax	pmax		
	comp=N,2μm,2.0s						
YUK				pmax	pmax		
	comp=E,2μm,2.0s						
YUK				pmax	pmax		
	comp=Z,2μm,2.0s						
YUK				smax			
	comp=N,5μm,2.0s						
YUK				smax			
	comp=E,2μm,2.0s						
YUK				smax			
	comp=N,520nm,0.7s						
YUK				smax			
	comp=E,630nm,0.7s						
YUK				MLR	MLR		
	comp=Z,4μm,12.0s						
YUK				MLR	MLR		
	comp=N,4μm,11.0s						
YUK				MLR	MLR		
	comp=E,5μm,12.0s						
INCN	**Inchon**	**9.66**	**275**	P	**P**	**15 30 26.6**	**-3.4**
	comp=E,36nm,1.0s						
MDJ	**Mudanjiang**	**10.10**	**320**	P	**P**	**15 30 39.3**	**+3.4**
MDJ				S	**S**	**15 32 37.0**	**+7.2**
MDJ				AMB	AMB		
	comp=Z,82nm,1.3s						
MDJ				LR	LR		
	comp=N,5μm,17.2s						
MDJ				LR	LR		
	comp=E,6μm,13.8s						
MDJ				LR	LR		
	comp=Z,5μm,15.8s						
MDJ	**Mudanjiang**	**10.10**	**320**	Pn	**P**	**15 30 32.5**	**-3.5**
	comp=Z,134nm,1.3s						
MDJ				*e*		15 30 40.0	
YSS	**Yuzh-Sakhalins**	**10.13**	**16**	⇑*i*P	**P**	**15 30 35.0**	**-1.2**
YSS				*e*S	**S**	**15 32 25.0**	**-5.4**
YSS				pmax	pmax		
	comp=N,80nm,0.9s						
YSS				pmax	pmax		
	comp=Z,90nm,0.9s						
YSS				pmax	pmax		
	comp=N,100nm,0.8s						
YSS				pmax	pmax		
	comp=Z,110nm,0.8s						
YSS				MLR	MLR		
	comp=N,4μm,11.0s						
YSS				MLR	MLR		
	comp=Z,4μm,11.0s						
YSS	**Yuzh-Sakhalins**	**10.13**	**16**	*e*P	**P**	**15 30 35.9**	**-0.4**
	comp=Z,106nm,0.8s						
KUR	**Kuril'sk**	**10.50**	**38**	⇓*i*P	**P**	**15 30 36.0**	**-5.3**
KUR				*i* S	**S**	**15 32 31.5**	**-8.0**
KUR				pmax	pmax		
	comp=N,170nm,0.9s						
KUR				pmax	pmax		
	comp=E,170nm,0.9s						
KUR				pmax	pmax		
	comp=Z,570nm,0.9s						
KUR				pmax	pmax		
	comp=N,2μm,2.0s						
KUR				pmax	pmax		
	comp=E,5μm,2.0s						
KUR				pmax	pmax		
	comp=Z,4μm,2.0s						
KUR				smax			
	comp=N,370nm,1.0s						
KUR				smax			
	comp=E,190nm,1.0s						
KUR				smax			
	comp=N,2μm,4.0s						
KUR				smax			
	comp=E,4μm,0.4s						
CBIJ	**Chichi jima**	**10.54**	**163**	Pn	**P**	**15 30 38.2**	**-3.7**
CBIJ				Sn	**S**	**15 32 38.5**	**-2.0**
CN2	**Changchun**	**12.05**	**307**	*e*P	**P**	**15 31 01.0**	**-1.5**
CN2				LR	LR		
	comp=N,5μm,13.0s						
CN2				LR	LR		
	comp=E,5μm,13.0s						
CN2				LR	LR		
	comp=Z,5μm,15.0s						
UGL	**Uglegorsk**	**12.05**	**10**	*e*P	**P**	**15 31 03.5**	**+1.0**
UGL				pmax	pmax		
	comp=Z,72nm,0.8s						
UGL				MLR	MLR		
	comp=N,3μm,12.0s						
UGL				MLR	MLR		
	comp=Z,2μm,12.0s						
UGL				MLR	MLR		
	comp=E,4μm,14.0s						
TYV	**Tymovskoe**	**13.88**	**10**	*e*P	**P**	**15 31 23.8**	**-2.8**
TYV				pmax	pmax		
	comp=Z,193nm,1.0s						
TYV				MLR	MLR		
	comp=Z,3μm,16.0s						
TYV				MLR	MLR		
	comp=E,2μm,14.0s						
SSE	**Sheshan**	**15.79**	**252**	P	**P**	**15 31 48.3**	**-3.4**
SSE				S	**S**	**15 34 42.8**	**-3.6**
SSE				AMB	AMB		
	comp=Z,298nm,5.9s						
SSE				LR	LR		
	comp=N,4μm,15.1s						
SSE				LR	LR		
	comp=E,2μm,15.0s						
SSE				LR	LR		
	comp=Z,4μm,14.3s						
SSE	**Sheshan**	**15.79**	**252**	P	**P**	**15 31 48.3**	**-3.4**
	comp=Z,18nm,0.8s						
SSE				sP		15 31 50.1	
SSE				S	**S**	**15 34 42.7**	**-3.7**
SSE				sS		15 34 48.7	
NJ2	**Nanjing**	**17.18**	**258**	*e*P	**P**	**15 32 08.3**	**-1.1**
NJ2				AP		15 32 11.9	
NJ2				XP		15 32 15.3	
NJ2				PP	PP	15 32 22.8	-1.0
NJ2				S	**S**	**15 35 16.0**	**-2.5**
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s						
NJ2				LR	LR		
	comp=N,4μm,11.1s						
NJ2				LR	LR		
	comp=E,7μm,14.7s						
NJ2				LR	LR		
	comp=Z,7μm,15.1s						
TIA	**Tai'an**	**17.38**	**273**	⇓P	**P**	**15 32 15.4**	**+3.6**
TIA				AMB	AMB		
	comp=Z,126nm,1.0s						
BJI	**Beijing**	**17.86**	**286**	P	**P**	**15 32 19.3**	**+1.6**
BJI				S	**S**	**15 35 43.3**	**+9.4**
BJI				AMB	AMB		
	comp=Z,172nm,1.3s						
BJI				LR	LR		
	comp=N,1μm,12.8s						
BJI				LR	LR		
	comp=E,2μm,12.8s						
BJI				LR	LR		
	comp=Z,2μm,23.1s						
BJI	**Beijing**	**17.86**	**286**	P	**P**	**15 32 19.2**	**+1.5**
	comp=Z,172nm,1.3s						
BJI				S	**S**	**15 35 43.2**	**+9.3**
BJT	**Baijiatuan**	**17.86**	**286**	Pn	**P**	**15 32 14.5**	**-3.3**
	comp=Z,206nm,1.0s						
BJT				*e*		15 32 19.7	
HIA	**Hailar**	**18.27**	**317**	*e*P	**P**	**15 32 22.2**	**-0.6**
	comp=Z,49nm,0.9s						
TIY	**Taiyuan**	**20.89**	**279**	⇑P	**P**	**15 32 52.0**	**-0.2**
TIY				S	**S**	**15 36 45.0**	**+5.5**
TIY				LR	LR		
	comp=E,2μm,12.0s						
TIY				LR	LR		
	comp=Z,2μm,12.0s,MS4.8						
PET	**Petropavlovsk**	**20.99**	**35**	*e*P	**P**	**15 32 52.9**	**-0.3**
PET				pmax	pmax		
	comp=Z,107nm,1.2s						
PET				MLR	MLR		
	comp=Z,2μm,14.0s,MS4.5						
WHN	**Wuhan**	**21.32**	**259**	⇓P	**P**	**15 32 56.0**	**-0.7**
HHC	**Hu-ho-hao-te**	**21.39**	**288**	⇓P	**P**	**15 32 58.8**	**+1.4**
HHC				XP		15 33 06.4	
HHC				S	**S**	**15 36 58.8**	**+10**
HHC				XS		15 37 04.5	
HHC				PCS		15 40 33.8	
HHC				LR	LR		
	comp=N,1μm,12.7s,MS4.8						
HHC				LR	LR		
	comp=E,2μm,10.8s,MS4.8						
CLNS	**Chul'man**	**21.67**	**339**	*e*P	**P**	**15 32 57.6**	**-2.4**
CLNS				*e*PPP		15 33 10.7	
CLNS				*e*S	**S**	**15 36 43.8**	**-10**
CLNS				*e*SS	SS	15 37 23.9	-6.9
CLNS				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.3						
CLNS				pmax	pmax		
	comp=N,10.0nm,1.0s						
CLNS				pmax	pmax		
	comp=E,5.0nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,108nm,1.1s,mb5.2						
CLNS				pmax	pmax		
	comp=N,35nm,1.0s						
CLNS				pmax	pmax		
	comp=E,32nm,1.0s						
CLNS				smax			
	comp=N,484nm,13.3s						
CLNS				smax			
	comp=Z,286nm,12.1s						
CLNS				smax			
	comp=E,57nm,10.6s						
CLNS				MLR	MLR		
	comp=Z,3μm,15.0s,MS4.8						
CLNS				MLR	MLR		
	comp=N,2μm,16.0s,MS4.7						
CLNS				MLR	MLR		
	comp=E,1μm,12.0s,MS4.7						
BTO	**Baotou**	**22.57**	**287**	*e*P	**P**	**15 33 08.3**	**-0.8**
MA2	**Magadan**	**23.63**	**15**	*e*P	**P**	**15 33 18.8**	**-0.5**
MA2				pmax	pmax		
	comp=Z,177nm,1.5s,mb5.3						
MA2				MLR	MLR		
	comp=Z,1μm,17.0s,MS4.4						
MA2	**Magadan**	**23.63**	**15**	*e*P	**P**	**15 33 18.5**	**-0.7**
	comp=Z,81nm,0.9s,mb5.2						
GUMO	**Guam**	**24.19**	**165**	*e*P	**P**	**15 33 23.1**	**-2.1**
	comp=Z,311nm,1.1s,mb5.7						
XAN	**Xi'an**	**24.42**	**271**	P	**P**	**15 33 25.5**	**-1.7**
XAN				AP		15 33 29.8	
XAN				LR	LR		
	comp=N,983nm,14.0s,MS4.5						
XAN				LR	LR		
	comp=E,821nm,15.8s,MS4.5						
XAN				LR	LR		
	comp=Z,1μm,11.4s,MS4.7						
ENH	**Enshi**	**25.26**	**263**	⇑*e*P	**P**	**15 33 33.0**	**-2.2**
	comp=Z,296nm,0.9s,mb5.8						
YAK	**Yakutsk**	**25.43**	**350**	*c i*P	**P**	**15 33 34.0**	**-2.6**
YAK				*e*		15 34 13.2	
YAK				*e*PPP	PPP	15 34 25.1	-2.1
YAK				*e*SS	SS	15 38 56.3	-6.1
YAK				*e*SSS	SSS	15 39 19.6	+0.5
YAK				pmax	pmax		
	comp=Z,94nm,1.0s,mb5.3						
YAK				pmax	pmax		
	comp=N,60nm,1.1s						
YAK				pmax	pmax		
	comp=E,21nm,1.1s						
YAK				pmax	pmax		
	comp=Z,17nm,0.8s,mb4.6						
YAK				pmax	pmax		
	comp=N,18nm,1.0s						
YAK				pmax	pmax		
	comp=E,17nm,1.1s						
YAK				MLR	MLR		
	comp=Z,1μm,16.0s,MS4.5						
YAK				MLR	MLR		
	comp=N,1μm,15.0s,MS4.7						
YAK				MLR	MLR		
	comp=E,1μm,15.0s,MS4.7						
YAK	**Yakutsk**	**25.43**	**350**	*e*P	**P**	**15 33 34.9**	**-1.6**
	comp=E,158nm,0.9s,mb5.5						
SONM	**Songino Array**	**25.91**	**304**	P	**P**	**15 33 40.4**	**-0.7**
	comp=E,44nm,1.0s,mb4.9,baz=108,slow=7.8,SNR=112						
SEY	**Seymchan**	**27.02**	**14**	*e*P	**P**	**15 33 55.4**	**+4.1**
SEY				pmax	pmax		
	comp=Z,160nm,0.9s,mb5.5						
SEY				pmax	pmax		
	comp=N,90nm,1.2s						
SEY				pmax	pmax		
	comp=E,70nm,1.2s						
LZH	**Lanzhou**	**27.95**	**278**	*e*P	**P**	**15 33 59.0**	**-0.9**
LZH				AP	pP	15 34 04.9	-0.4
LZH				XP	sP	15 34 08.3	+0.6
LZH				PP	PP	15 34 54.0	+4.3
LZH				S	**S**	**15 38 49.0**	**+7.7**
LZH				XS		15 38 58.0	
LZH				AMB	AMB		
	comp=Z,310nm,1.6s,mb5.7						
LZH				AMB	AMB		
	comp=Z,893nm,4.5s						
LZH				LR	LR		
	comp=N,7μm,14.1s						
LZH				LR	LR		
	comp=Z,11μm,17.2s,MS5.5						
LZH	**Lanzhou**	**27.95**	**278**	*e*P	**P**	**15 33 59.0**	**-0.9**
	comp=Z,310nm,1.6s,mb5.7						
LZH				pP	pP	15 34 04.9	-0.4
LZH				sP	sP	15 34 08.2	+0.5
LZH				PP	PP	15 34 54.0	+4.3
LZH				S	**S**	**15 38 49.0**	**+7.7**
LZH				sS		15 38 58.0	
LZH				*e*SS	SS	15 40 20.0	+17
LZH				LR	LR		
	comp=Z,11μm,17.2s,MS5.5						
ZAK	**Zakamensk**	**28.48**	**309**	⇑*i*P	**P**	**15 34 00.9**	**-3.6**
FX1	**Attu Island--F**	**28.54**	**46**	P	**P**	**15 34 06.8**	**+1.8**
	comp=Z,24nm,0.9s,mb4.9,baz=289,slow=23,SNR=2.9						
FX1	**Attu Island--F**	**28.54**	**46**	P	**P**	**15 34 06.8**	**+1.8**
FX1				pmax	pmax		
	comp=Z,24nm,0.9s						
GYA	**Guiyang**	**29.19**	**258**	⇓*i*P	**P**	**15 34 09.8**	**-1.4**
GYA				AP	pP	15 34 14.0	-2.6
GYA				XP	sP	15 34 16.8	-2.2
GYA				S	**S**	**15 38 54.8**	**-6.5**
GYA				AMB	AMB		
	comp=Z,30nm,1.1s,mb4.9						
GYA				LR	LR		
	comp=N,2μm,11.6s,MS5.1						
GYA				LR	LR		
	comp=E,2μm,15.5s,MS5.1						
GYA				LR	LR		
	comp=Z,3μm,15.5s,MS5.0						
CD2	**Chengdu**	**29.57**	**268**	P	**P**	**15 34 13.0**	**-1.6**
CD2				PP	PP	15 35 14.3	+3.5
CD2				PPP	PPP	15 35 27.1	+2.8
CD2				S	**S**	**15 39 12.1**	**+4.8**
CD2				XS		15 39 19.6	
CD2				AMB	AMB		
	comp=Z,470nm,7.7s						
CD2				LR	LR		
	comp=N,2μm,13.1s						
CD2				LR	LR		
	comp=Z,1μm,15.7s,MS4.7						
GTA	**Gaotai**	**30.48**	**286**	*e*P	**P**	**15 34 20.8**	**-1.7**
GTA				PCP	PcP	15 37 19.1	-2.7
GTA				S	**S**	**15 39 24.8**	**+3.2**
GTA				AMB	AMB		
	comp=Z,210nm,5.3s						
GTA				LR	LR		
	comp=N,1μm,12.2s,MS5.0						
GTA				LR	LR		
	comp=E,1μm,11.8s,MS5.0						
GTA				LR	LR		
	comp=Z,1μm,12.9s,MS4.8						
QIZ	**Qiongzhong**	**31.13**	**242**	*e*P	**P**	**15 34 27.5**	**-1.0**
QIZ				S	**S**	**15 39 31.9**	**-0.2**
QIZ				LR	LR		
	comp=N,2μm,14.1s,MS5.0						
QIZ				LR	LR		
	comp=E,2μm,14.1s,MS5.0						
QIZ				LR	LR		
	comp=Z,1μm,17.8s,MS4.5						
KMI	**Kunming**	**32.92**	**259**	⇑*e*P	**P**	**15 34 42.6**	**-1.5**
KMI				AP	pP	15 34 45.9	-3.6
KMI				PP	PP	15 35 51.6	-2.8
KMI				S	**S**	**15 39 58.5**	**-1.4**
KMI				ScS	ScS	15 45 09.8	+0.7
KMI				AMB	AMB		
	comp=Z,22nm,1.4s,mb4.9						
KMI				AMB	AMB		
	comp=Z,403nm,7.4s						
KMI				LR	LR		
	comp=N,1μm,15.5s,MS5.0						
KMI				LR	LR		
	comp=E,2μm,17.6s,MS5.0						
KMI				LR	LR		
	comp=Z,2μm,15.9s,MS5.0						
KMI	**Kunming**	**32.92**	**259**	⇑*e*P	**P**	**15 34 42.6**	**-1.5**
	comp=Z,22nm,1.4s,mb4.9						
KMI				pP	pP	15 34 45.9	-3.6
KMI				PP	PP	15 35 51.6	-2.8
KMI				S	**S**	**15 39 58.5**	**-1.4**
KMI				SS	SS	15 41 56.1	-3.4
KMI				ScS	ScS	15 45 09.7	+0.6
KMI				LR	LR		
	comp=Z,2μm,15.9s,MS5.0						
TIXI	**Tiksi**	**34.84**	**355**	*c i*P	**P**	**15 34 58.6**	**-1.6**
TIXI				pmax	pmax		
	comp=Z,26nm,0.8s,mb5.2						
TIXI				MLR	MLR		
	comp=Z,4μm,18.0s,MS5.2						
CHRT	**Chiangrai**	**38.06**	**254**	⇓P	**P**	**15 35 28.0**	**+0.1**
	comp=Z,279nm,1.0s,mb6.0						
WMQ	**Urumqi**	**38.85**	**296**	P	**P**	**15 35 33.6**	**-0.7**
WMQ				XP	sP	15 35 41.0	-1.1
WMQ				PP	PP	15 37 06.0	-1.2
WMQ				S	**S**	**15 41 30.0**	**-0.9**
WMQ				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.7						
WMQ				LR	LR		
	comp=N,926nm,20.0s,MS4.8						
WMQ				LR	LR		
	comp=E,963nm,21.0s,MS4.8						
WMQ				LR	LR		
	comp=Z,1μm,20.0s,MS4.7						
CHG	**Chiang Mai**	**39.32**	**253**	⇑P	**P**	**15 35 41.1**	**+2.7**
CMAR	**Chiang Mai Arr**	**39.53**	**253**	P	**P**	**15 35 39.5**	**-0.7**
	comp=Z,3.7nm,0.9s,mb4.1,baz=50,slow=6.3,SNR=9.8						
CMAR				PcP	PcP	15 37 47.8	-0.4
	comp=Z,4.0nm,0.9s,baz=24,slow=3.3,SNR=7.2						
CMAR				LR	LR	15 52 49.0	
	comp=Z,702nm,18.9s,MS4.5,baz=60,slow=37						
CMAR	**Chiang Mai Arr**	**39.53**	**253**	P	**P**	**15 35 39.5**	**-0.7**
CMAR						15 37 47.8	
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CMAR				MLR	MLR		
	comp=Z,703nm,18.9s						
ZAL	**Zalesovo**	**40.21**	**312**	P	**P**	**15 35 44.8**	**-0.7**
	comp=Z,3.5nm,0.8s,mb4.1,baz=18,slow=8.2,SNR=23						
ZAL				PcP	PcP	15 37 49.1	-1.0
	comp=Z,4.4nm,1.0s,baz=0.5,slow=6.8,SNR=5.7						
ZAL				LR	LR	15 52 58.2	
	comp=Z,669nm,18.0s,MS4.5,baz=24,slow=37						
ZAL	**Zalesovo**	**40.21**	**312**	P	**P**	**15 35 44.8**	**-0.7**
ZAL						15 37 49.1	
ZAL				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ZAL				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ZAL				MLR	MLR		
	comp=Z,669nm,18.0s						
NVS	**Novosibirsk**	**41.16**	**314**	*i* P	**P**	**15 35 51.2**	**-2.0**
NVS				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.4						
NVS				pmax	pmax		
	comp=N,4.0nm,0.9s						
NVS				pmax	pmax		
	comp=E,8.0nm,1.1s						
SHL	**Shillong**	**41.30**	**267**	⇑*i*P	**P**	**15 35 53.2**	**-1.5**
MKAR	**Makanchi Array**	**42.20**	**301**	*i* P	**P**	**15 36 00.5**	**-1.4**
MKAR				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KURK	**Kurchatov**	**44.13**	**308**	*i* P	**P**	**15 36 15.9**	**-1.5**
KURK				pmax	pmax		

comp=Z,22nm,0.9s,mb4.9
KURK Kurchatov 44.13 308 *e*P P **15 36 15.3 -2.1**
comp=Z,54nm,0.9s,mb5.3
WAU Wau 44.99 169 *e*P P **15 36 23.6 -1.3**
GUN Gumba 45.03 274 *e*P P **15 36 24.8 -0.3**
comp=Z,205nm,0.9s,mb5.9
PKI Pulchoki 45.55 274 *e*P P **15 36 28.5 -0.7**
comp=Z,48nm,0.9s,mb5.5
KKN Kakani 45.56 274 *e*P P **15 36 28.5 -0.7**
comp=Z,90nm,0.9s,mb5.7
DMN Daman 45.78 274 *e*P P **15 36 30.3 -0.7**
comp=Z,71nm,1.2s,mb5.5
GKN Gorkha 45.98 275 *e*P P **15 36 31.8 -0.7**
comp=Z,137nm,0.9s,mb5.9
KOLN Koldanda 46.91 275 *e*P P **15 36 39.3 -0.6**
comp=Z,68nm,1.1s,mb5.5
PMG Port Moresby 47.08 169 P P **15 36 40.8 -0.7**
comp=Z,20nm,0.9s,mb5.0,baz=14,slow=11,SNR=5.3
PMG LR LR 15 55 00.4
comp=Z,441nm,19.2s,MS4.4,baz=217,slow=34
PMG Port Moresby 47.08 169 *e*P P **15 36 40.4 -1.0**
IMA Indian Mountai 47.57 31 *e*P P **15 36 44.9 +0.3**
TKM2 Tokmak 2 47.66 298 P P **15 36 45.6 -0.1**
SNR=31
RSO Redoubt South 48.03 38 *e*P P **15 36 48.4 +0.1**
KZA Kyzart 48.14 297 P P **15 36 50.6 +1.3**
SNR=11
KBK Karagaybulak 48.19 297 P P **15 36 49.6 -0.2**
SNR=19
CHMS Chumysh 48.23 298 P P **15 36 50.5 +0.4**
SNR=8.7
SPU Mount Spurr 48.33 37 *e*P P **15 36 50.8 +0.2**
USP Ospenovka 48.34 298 P P **15 36 51.4 +0.5**
SNR=14
KDAK Kodiak Island 48.34 42 *e*P P **15 36 49.7 -1.0**
comp=Z,219nm,1.4s,mb6.0
FRU Bishkek 48.38 298 *e*P P **15 36 51.0 -0.2**
FRU pmax pmax
comp=Z,40nm,1.8s,mb5.2
FRU MLR MLR
comp=Z,2µm,19.0s,MS5.1
KSH Kashi 48.38 293 *e*P P **15 36 52.3 +1.0**
KSH *e*AP pP 15 36 57.0 +0.2
KSH XP sP 15 36 59.0 0.0
KSH PCP PcP 15 38 18.8 +0.7
KSH *e*PP PP 15 38 44.5 +0.9
KSH *e*PPP PPP 15 39 35.0 -0.3
KSH *e*SCP 15 42 11.8
KSH *e*S **S 15 43 50.6 +0.9**
KSH SCS ScS 15 46 41.5 +1.0
KSH LR LR
comp=N,880nm,13.1s,MS5.2
KSH LR LR
comp=E,1µm,12.6s,MS5.2
AAK Ala-Archa 48.52 297 P P **15 36 51.6 -0.7**
SNR=11
AAK Ala-Archa 48.52 297*c i*P P **15 36 50.3 -2.0**
AAK pmax pmax
comp=Z,18nm,1.2s,mb5.0
AAK MLR MLR
comp=Z,2µm,19.0s,MS5.1
AAK Ala-Archa 48.52 297 *e*P P **15 36 49.9 -2.4**
comp=Z,16nm,1.1s,mb5.0
PTH Pithoragarh 48.81 279 *e*P P **15 36 53.0 -1.7**
PTH *e* 15 38 20.0
BVA0 Borovoye Array 48.85 312 *i*P P **15 36 53.9 -0.8**
BVA0 pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
BVAR Borovoye Array 48.85 312 P P **15 36 54.0 -0.7**
comp=Z,24nm,1.0s,mb5.2,baz=90,slow=7.4,SNR=40
BVAR PcP PcP 15 38 18.3 -1.3
comp=Z,3.5nm,0.6s,baz=93,slow=2.8,SNR=4.9
BVAR LR LR 15 57 29.6
comp=Z,5.4nm,18.2s,baz=265,slow=36
BRVK Borovoye 48.91 312 *e*P P **15 36 53.6 -1.5**
comp=Z,39nm,1.0s,mb5.4
JOSI Joshimath 48.91 281 *e*P P **15 36 54.7 -0.8**
EKS2 Erkin-Say 49.02 298 P P **15 36 55.4 -0.7**
SNR=7.4
AML Almayashu 49.23 297 P P **15 36 59.4 +1.6**
SNR=13
ALBI Allahabad 49.46 273 *e*P P **15 37 00.0 +0.2**
MCK McKinley 49.62 34 *e*P P **15 36 59.8 -0.7**
comp=Z,43nm,1.6s,mb5.2
PMR Palmer 49.70 37 *e*P P **15 37 00.8 -0.4**
PMR LR LR
comp=Z,400nm,20.0s,MS4.4
KALG Kalgarh 49.98 280 *e* P **15 36 52.2 -12**
KALG *e* 15 36 54.2
comp=Z,51nm,1.1s
COLA College 50.02 32 *e*P P **15 37 03.7 +0.2**
COLA College 50.02 32 *e*P P **15 37 03.0 -0.4**
comp=Z,40nm,1.3s,mb5.3
COLA LR LR
comp=Z,867nm,19.0s,MS4.8
DDI Dehra Dun 50.19 281 *e*P P **15 37 03.9 -1.4**
ILAR Eielson Array 50.44 32 P P **15 37 05.8 -0.8**
comp=Z,9.7nm,0.8s,mb4.9,baz=280,slow=7.0,SNR=71
ILAR Eielson Array 50.44 32 P P **15 37 05.9 -0.8**
ILAR pmax pmax
comp=Z,10.0nm,0.9s
THY Trims Highway 51.07 34 *e*P P **15 37 11.7 +0.2**
THN Thein Dam 51.13 284 *e*P P **15 37 09.9 -2.5**
comp=Z,17nm,0.8s,mb5.0
DIV Divide 51.37 37 *e*P P **15 37 13.6 -0.2**
EYAK Cordova Ski Ar 51.47 38 *e*P P **15 37 14.2 -0.4**
NDI New Delhi 51.55 279 *e*P P **15 37 14.0 -1.7**
AYAN Aya Nagar 51.71 279 *e*P P **15 37 14.8 -2.1**
AYAN *e* 15 37 17.3
comp=Z,58nm,1.4s
BHGR Bahadurgarh 51.77 280 *e*P P **15 37 15.7 -1.6**
SONA Sohna 51.85 279 *e*P P **15 37 15.5 -2.5**
SONA *e* 15 37 18.6
comp=Z,68nm,0.8s
KUDL Kundal 52.37 279 *e*P P **15 37 19.6 -2.2**
KUDL *e* pP 15 37 23.4 -4.1
comp=Z,31nm,1.3s
KHET Khetri 52.94 279 *e*P P **15 37 23.7 -2.4**
KHET *e* 15 37 26.8
comp=Z,69nm,1.1s
SVE Sverdlovsk 53.58 318⇑*i*P P **15 37 29.5 -0.9**
SVE pmax pmax
comp=Z,140nm,1.4s,mb5.7
SVE MLR MLR
comp=N,500nm,18.0s,MS5.0
SVE MLR MLR
comp=E,1µm,18.0s,MS5.0
SVE MLR MLR
comp=Z,2µm,18.0s,MS5.1
AJM Ajmer 54.59 278 *e*P P **15 37 36.6 -1.6**
AJM *e* 15 37 38.6
comp=Z,70nm,1.2s
ARU Arti 54.78 318⇑*i*P P **15 37 38.2 -1.1**
ARU *e* 15 38 37.7
ARU *e* 15 39 43.0
ARU *e*S **S 15 45 18.9 +1.6**
ARU *e* 15 47 14.8
ARU *e*SS SS 15 49 02.2 +1.8
ARU pmax pmax
comp=Z,72nm,0.9s,mb5.7
ARU MLR MLR
comp=Z,1µm,18.0s,MS5.0
ARU MLR MLR
comp=N,400nm,21.0s,MS4.8
ARU MLR MLR
comp=E,800nm,18.0s,MS4.8
INK Inuvik 55.15 27 P P **15 37 41.4 -0.4**
comp=E,10nm,0.7s,mb5.0,baz=286,slow=6.0,SNR=32
INK LR LR 16 05 17.7
comp=E,566nm,20.3s,MS4.6,baz=142,slow=40
INK Inuvik 55.15 27 P P **15 37 41.4 -0.4**
INK pmax pmax
comp=Z,10.0nm,0.7s
INK MLR MLR
comp=Z,566nm,20.3s
INK Inuvik 55.15 27 *e*P P **15 37 39.9 -1.9**
comp=Z,37nm,1.3s,mb5.2
HYB Hyderabad 56.10 267 *i*P P **15 37 48.0 -1.3**
HYB Hyderabad 56.10 267 *e*P P **15 37 48.0 -1.3**
FITZ Fitzroy Crossi 56.44 195 P P **15 37 50.2 -1.5**
comp=Z,13nm,1.1s,mb4.9,baz=5.2,slow=8.8,SNR=9.4
WRAB Tennant Creek 57.04 185 P P **15 37 53.0 -3.0**
comp=Z,536nm,1.2s,SNR=44
WRAB Tennant Creek 57.04 185 *e*P P **15 37 52.9 -3.1**
comp=Z,171nm,1.1s,mb6.0
WRA Warramunga Arr 57.05 185 P P **15 37 53.5 -2.6**
comp=Z,51nm,0.9s,mb5.5,baz=2.6,slow=6.8,SNR=160
WRA LR LR 16 01 11.3
comp=Z,262nm,20.6s,MS4.3,baz=30,slow=35
CTA Charters Tower 57.47 172 P P **15 37 57.2 -1.9**
comp=Z,18nm,1.2s,mb5.0,baz=25,slow=6.4,SNR=6.6
CTA LR LR 16 00 13.5
comp=Z,316nm,18.3s,MS4.5,baz=356,slow=34
CTAO Charters Tower 57.47 172 *e*P P **15 37 56.4 -2.7**
comp=Z,23nm,1.2s,mb5.1
POO Poona 59.25 271⇓*i*P P **15 38 09.5 -2.0**
comp=Z,40nm,1.0s,mb5.4
KAD Karad 59.65 269 *e*P P **15 38 12.5 -1.7**
DLBC Dease Lake 59.74 38 P P **15 38 14.7 +0.4**
comp=Z,5.9nm,0.7s,mb4.7,baz=309,slow=11,SNR=11
ASAR Alice Springs 60.77 185 P P **15 38 20.0 -1.8**
comp=Z,13nm,1.0s,mb5.0,baz=6.9,slow=5.2,SNR=56
MBWA Marble Bar 60.81 200 *e*P P **15 38 19.5 -2.6**
APA Apatity 61.60 335⇑*i*P P **15 38 25.4 -1.5**
APA pmax pmax
comp=Z,34nm,1.0s,mb5.4
APA MLR MLR
comp=Z,1µm,16.0s,MS5.1
KEV Kevo 62.47 339 *ep* P **15 38 31.5 -1.2**
comp=Z,0.6nm,0.5s
KEV Kevo 62.47 339 *e*P P **15 38 31.5 -1.2**
KEV pmax pmax
comp=Z,1.0nm,0.5s,mb4.2
ARCES ARCESS Array B 63.03 339 P P **15 38 35.2 -1.1**
comp=Z,13nm,0.9s,mb5.1,baz=68,slow=6.5,SNR=9.2
ARCES ARCESS Array B 63.03 339 P P **15 38 35.3 -1.1**
ARCES pmax pmax
comp=Z,13nm,0.9s
BBB Bella Bella 63.36 43 LR LR 16 05 35.5
comp=Z,216nm,21.4s,MS4.3,baz=41,slow=35
YKA Yellowknife Ar 64.66 29 P P **15 38 45.9 -1.1**
comp=Z,6.2nm,0.6s,mb4.8,baz=304,slow=6.5,SNR=13
YKA LR LR 16 10 08.0
comp=Z,445nm,19.7s,MS4.7,baz=310,slow=39
YKA Yellowknife Ar 64.66 29 P P **15 38 45.9 -1.1**
YKA pmax pmax
comp=Z,6.0nm,0.6s
YKA MLR MLR
comp=Z,445nm,19.7s
YKA Yellowknife Ar 64.66 29 P P **15 38 45.9 -1.1**
YKA LR LR 16 10 08.0
JOF Joensuu 64.76 331 *ep* P **15 38 45.8 -1.8**
comp=Z,0.7nm,0.3s,mb4.2
JOF Joensuu 64.76 331 *e*P P **15 38 45.8 -1.8**
JOF pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
MOS Moscow 65.80 323 *e*P P **15 38 53.0 -1.4**
MOS pmax pmax
comp=Z,67nm,1.1s,mb5.6
MOS MLR MLR
comp=Z,1µm,16.9s,MS5.2
OBN Obninsk 66.64 322α*i*P P **15 38 58.6 -1.2**
OBN *e* 15 39 15.7
OBN *e* 15 39 24.3
OBN pmax pmax
comp=Z,59nm,1.5s,mb5.4
OBN MLR MLR
comp=Z,800nm,15.0s,MS5.0
OBN Obninsk 66.64 322 *e*P P **15 38 58.2 -1.6**
comp=Z,26nm,0.8s,mb5.3
VOR Voronezh 67.07 318 P P **15 39 00.0 -2.6**
VOR pmax pmax
comp=E,50nm,0.8s
VOR pmax pmax
comp=Z,90nm,0.8s,mb5.8
KAF Kangasniemi 67.13 332 *ep* P **15 39 00.9 -1.9**
comp=Z,1.0nm,0.3s,mb4.3,baz=50,slow=5.9
KAF Kangasniemi 67.13 332 *e*P P **15 39 00.9 -1.9**
KAF pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
FINES FINESS Array B 67.62 331 P P **15 39 04.8 -1.1**
comp=Z,33nm,1.0s,mb5.3,baz=63,slow=8.5,SNR=48
FINES LR LR 16 10 01.8
comp=Z,416nm,18.3s,MS4.7,baz=184,slow=37
FINES FINESS Array B 67.62 331 P P **15 39 04.8 -1.1**
FINES pmax pmax
comp=Z,33nm,1.0s
FINES MLR MLR
comp=Z,416nm,18.3s
PGC Sidney 67.69 45 *e*P P **15 39 06.3 -0.3**
comp=Z,144nm,1.6s,mb5.8
GOF Gofitskoye 68.36 311⇑*i*P P **15 39 10.0 -0.9**
GOF pmax pmax
comp=Z,60nm,1.4s,mb5.4
GOF MLR MLR
comp=Z,1µm,16.0s,MS5.1
GNW Green Mountain 68.62 46 *e*P P **15 39 12.6 +0.2**
STKA Stephens Creek 68.83 177 P P **15 39 11.8 -2.1**
comp=Z,9.6nm,1.0s,mb4.7,baz=347,slow=6.9,SNR=18
RPW Rockport 68.89 45 *e*P P **15 39 13.4 -0.7**
KIV Kislovodsk 69.15 310 *e*P P **15 39 15.3 -0.4**
comp=Z,78nm,1.0s,mb5.6
RMW Rattlesnake Mo 69.26 46 *e*P P **15 39 16.6 +0.2**
JMIC Jan Mayen 69.54 349 P P **15 39 16.1 -1.6**
comp=Z,68nm,0.4s,mb5.9,baz=198,slow=5.1,SNR=3.7
NLW Nelson Butte 69.75 45 *e*P P **15 39 19.4 0.0**
GNI Garni 69.86 305 P P **15 39 21.0 +0.9**
comp=Z,23nm,1.0s,mb5.0,baz=89,slow=2.0,SNR=14
GNI Garni 69.86 305*ce*P P **15 39 20.6 +0.4**
GNI pmax pmax
comp=Z,53nm,1.4s
GNI Garni 69.86 305 *e*P P **15 39 19.4 -0.8**
comp=Z,81nm,1.3s,mb5.5
COR Corvallis 69.93 49 *e*P P **15 39 20.9 +0.4**
comp=Z,61nm,1.2s,mb5.4
ETW Entiat 70.02 45 P P **15 39 21.1 +0.1**
WTV Waterville 70.18 45 P P **15 39 22.0 +0.1**
KEBM Edson Butte 70.23 51 *e*P P **15 39 22.5 +0.1**
SSOR Sweet Springs 70.29 48 *e*P P **15 39 23.2 +0.6**
SUMG Summit 70.44 359 *e*P P **15 39 21.9 -1.2**
comp=Z,62nm,0.8s,mb5.6
EDM Edmonton 70.47 37 *e*P P **15 39 22.6 -1.0**
EPH Ephrata 70.57 45 P P **15 39 24.3 -0.1**
VFP Flag Point 70.63 47 P P **15 39 25.7 +1.0**
HSO Harness Mounta 70.64 50 *e*P P **15 39 25.6 +0.8**
IRO Indian Ridge 70.88 49 P P **15 39 27.1 +0.8**
MDW Midway 70.89 46 P P **15 39 27.1 +0.8**
VGB Gordon Butte 70.92 47 *e*P P **15 39 26.0 -0.5**
OD2 Odessa Site #2 71.05 45 P P **15 39 27.2 0.0**
DPW Davenport 71.06 44 P P **15 39 27.4 +0.1**
GBL Gable Mountain 71.07 46 P P **15 39 27.6 +0.2**
RSW Rattlesnake Hi 71.11 46 P P **15 39 28.3 +0.6**
MNK Minsk 71.13 325 *e*P P **15 39 26.0 -1.6**
WRD Warden 71.14 45 P P **15 39 27.5 -0.2**
SOC Sochi 71.16 311 *i*P P **15 39 26.8 -1.2**
SOC *e* 15 39 45.2
SOC *e*S S 15 48 44.9 +2.3
SOC *e* 15 49 09.5
SOC *e*SS SS 15 53 20.2 +1.8
SOC *e*SSS SSS 15 56 16.2 -8.7
SOC pmax pmax
comp=Z,28nm,1.1s,mb5.1
SOC pmax pmax
comp=N,5.0nm,0.6s
SOC pmax pmax
comp=E,5.0nm,0.8s
ET3 Eltopia 71.38 45 P P **15 39 29.6 +0.4**
NEW Newport 71.43 43 *e*P P **15 39 29.2 -0.3**
comp=E,26nm,1.0s,mb5.1
VIPM Ingram Point 71.58 48 P P **15 39 31.0 +0.5**
TVAN Van 71.61 305 *i*P P **15 39 31.3 +0.5**
YBH Yreka Blue Hor 71.86 51 *e*P P **15 39 32.9 +0.7**
comp=E,27nm,1.3s,mb5.0
LNOR Lincton Mounta 72.16 46 P P **15 39 34.1 +0.2**
ERZM Erzurum 72.17 307 *i*P P **15 39 34.9 +0.7**
LHEM Herd Peak 72.22 51 P P **15 39 35.5 +1.1**
WDC Whiskeytown Da 72.61 52 *e*P P **15 39 36.5 -0.1**
comp=Z,24nm,1.2s,mb5.0
LASM Arnica Sink 72.64 51 P P **15 39 38.0 +1.1**
WALA Waterton Lakes 72.67 41 *e*P P **15 39 36.4 -0.4**
comp=E,40nm,1.3s,mb5.2
AKASG Malin Array Be 72.81 321 P P **15 39 36.7 -0.9**
comp=E,28nm,0.9s,mb5.2,baz=44,slow=6.0,SNR=78
AKASG LR LR 16 14 20.0
comp=E,1µm,18.0s,MS5.3,baz=35,slow=38
AKASG Malin Array Be 72.81 321 P P **15 39 36.7 -0.9**
AKASG pmax pmax
comp=Z,28nm,0.9s
AKASG MLR MLR
comp=Z,1µm,18.0s
BSMT Bassoo Peak 72.93 43 P P **15 39 39.0 +0.6**
LTIM Timbered Crate 72.93 51 P P **15 39 39.0 +0.4**
HFS Hagfors 73.00 335 P P **15 39 37.8 -0.7**
comp=Z,22nm,1.0s,mb5.0,baz=76,slow=6.1,SNR=17
HFS Hagfors 73.00 335 P P **15 39 37.8 -0.7**
HFS pmax pmax
comp=Z,22nm,1.0s
NB2 NORSAR Subarra 73.15 336 P P **15 39 38.4 -1.0**
comp=Z,37nm,1.0s,mb5.3,baz=41,slow=6.2
NB2 NORSAR Subarra 73.15 336 P P **15 39 38.4 -1.0**
baz=40,slow=6.2
NOA NORSAR Array B 73.15 336 P P **15 39 38.7 -0.7**
comp=Z,25nm,0.9s,mb5.1,baz=40,slow=5.9,SNR=52
NOA PP PP 15 42 20.7 -3.7
comp=Z,17nm,1.1s,baz=41,slow=8.6,SNR=7.4
NOA NORSAR Array B 73.15 336 P P **15 39 38.7 -0.7**
NOA 15 42 20.7
NOA pmax pmax
comp=Z,25nm,1.0s
NOA pmax pmax
comp=Z,17nm,1.1s
NOA NORSAR Array B 73.15 336 P P **15 39 38.7 -0.7**
NOA PP PP 15 42 20.7 -3.8
LBCM Butte Creek Ri 73.21 51 P P **15 39 40.8 +0.6**
MOD Modoc 73.25 50 *e*P P **15 39 40.8 +0.4**
comp=Z,9.9nm,0.7s,mb4.8
BEST Besiri 73.36 305 *i*P P **15 39 41.9 +0.7**
KELT Kelkit 73.38 308 *e*P P **15 39 42.3 +1.1**
SUW Suwalki 73.55 326 *e*P P **15 39 41.3 -0.5**
SUW Suwalki 73.55 326 *e*P P **15 39 41.3 -0.5**
UMR Umm Al-Rimmam 73.56 295 *e*P P **15 39 42.1 -0.3**
UMR AMb AMB 15 39 43.3
comp=Z,62nm,1.1s,mb5.5
SIM Simferopol' 73.67 314 *e*P P **15 39 42.4 -0.4**
SIM pmax pmax
comp=Z,43nm,1.0s,mb5.3
SIM MLR MLR
comp=Z,470nm,17.0s,MS4.8
MIB Mutribah 73.69 295 *e*P P **15 39 42.9 -0.3**
MIB AMb AMB 15 39 48.0
comp=Z,126nm,0.8s,mb5.9
KBD Kabd 73.78 294 *e*P P **15 39 43.4 -0.4**
QRN Al-Qurain 73.86 294 *e*P P **15 39 43.8 -0.3**
QRN AMb AMB 15 39 45.1
comp=Z,142nm,0.8s,mb5.9
OHCM Honcut 73.99 53 *e*P P **15 39 44.7 0.0**
MSO Missoula 74.01 43 *e*P P **15 39 44.3 -0.3**
comp=Z,32nm,1.4s,mb5.1
RDF Al-Radifah 74.03 294 *e*P P **15 39 45.3 +0.2**
RDF AMb AMB 15 39 50.5
comp=Z,242nm,1.0s,mb6.1
RST Umm Al-Ruwaisa 74.11 295 *e*P P **15 39 44.4 -1.2**
RST AMb AMB 15 39 49.6
comp=Z,108nm,0.9s,mb5.8
CHMT Chamberlain Mo 74.33 43 *e*P P **15 39 46.3 -0.2**
BEKR Beckwourth 74.39 52 *e*P P **15 39 47.2 +0.2**
comp=Z,26nm,1.1s,mb5.1
ELZG Elazig 74.50 307 *e*P P **15 39 47.5 -0.1**
HASS Wahat al Ahsa' 74.52 290 P P **15 39 47.4 -0.7**
FFC Flin Flon 74.64 32 *e*P P **15 39 47.6 -0.6**
comp=Z,27nm,1.1s,mb5.1
MALT Malatya 74.96 307 *e*P P **15 39 50.4 +0.1**
comp=Z,27nm,1.3s,mb5.0
PAHR Pah Rah Range 75.09 51 P P **15 39 49.8 -1.3**
comp=Z,19nm,0.8s,mb5.1
WCN Washoe City 75.10 52 *e*P P **15 39 51.7 +0.5**
comp=Z,62nm,1.7s,mb5.3
HRY Holter Researc 75.22 42 *e*P P **15 39 52.0 +0.3**
KIS Kishinev 75.34 318α*i*P P **15 39 52.0 -0.3**
KIS pmax pmax
comp=Z,200nm,1.0s,mb6.0
KIS MLR MLR
comp=Z,2µm,17.0s,MS5.4
KIS MLR MLR
comp=Z,1µm,18.0s
CMB Columbia Colle 75.44 53 *e*P P **15 39 53.3 +0.1**
comp=Z,56nm,1.3s,mb5.3
CMB LR LR
comp=Z,462nm,20.0s,MS4.8
HLID Hailey 75.75 46 *e*P P **15 39 55.3 +0.6**
comp=Z,19nm,1.0s,mb5.0
HLID LR LR
comp=Z,522nm,20.0s,MS4.8
MCMT McKenzie Canyo 75.85 44 *e*P P **15 39 54.8 -0.5**
CTKT Corum 75.86 310 *e*P P **15 39 54.6 -0.8**
BMN Battle Mountai 76.00 50 *e*P P **15 39 56.9 +0.7**
comp=Z,42nm,1.3s,mb5.2
BOZ Bozeman (W) 76.00 43⇑*e*P P **15 39 56.4 +0.2**
comp=Z,65nm,1.3s,mb5.4
GZT Gaziantep 76.07 306 P P **15 39 57.4 +0.7**
BALT Daday 76.15 312 *i*P P **15 39 57.9 +0.8**
BSD Bornholm Skovb 76.23 331⇑*i*P P **15 39 56.4 -0.8**
comp=Z,73nm,1.0s,mb5.6
KAHT Ahir Dag 76.35 307 P P **15 39 59.0 +0.7**
NVAR Mina Array Bea 76.53 52 P P **15 40 00.2 +1.0**
comp=Z,111nm,0.8s,mb4.8,baz=297,slow=4.0,SNR=52
OMM Old Mammoth Mi 76.58 53 *e*P P **15 40 00.1 +0.6**
MNV Mina 76.62 52 *e*P P **15 39 59.7 -0.1**
comp=Z,36nm,1.4s,mb5.1
QLMT Earthquake Lak 76.63 43 *e*P P **15 40 00.2 +0.5**
KWP Kalwaria 76.70 323 *e*P P **15 40 00.6 +0.6**
KWP Kalwaria 76.70 323 *e*P P **15 40 00.6 +0.6**
COP Copenhagen 76.75 332 *i*P P **15 40 03.4 +3.3**
comp=Z,27nm,0.6s,mb5.4
COP Copenhagen 76.75 332 *e*P P **15 40 03.4 +3.3**
comp=Z,27nm,0.6s,mb5.4
ELDT Eldivan 76.77 311 *i*P P **15 40 01.0 +0.4**
CFR Carcaliu 76.86 317⇓*i*P P **15 40 00.8 -0.2**
CFR Carcaliu 76.86 317⇓*i*P P **15 40 00.8 -0.2**
AVNT Avonos 76.93 309 *i*P P **15 40 01.6 +0.1**
GCMT Greycliff 76.97 42 *e*P P **15 40 02.2 +0.7**
YMR Madison River 76.99 43 *e*P P **15 40 02.4 +0.8**
MTUM Tungsten Hills 77.01 53 *e*P P **15 40 02.2 +0.2**
BRTR Keskin Array B 77.11 310 P P **15 40 02.5 0.0**
comp=Z,27nm,1.1s,mb5.1,baz=90,slow=3.7,SNR=74
BRTR LR LR 16 18 26.3
comp=Z,261nm,18.8s,MS4.6,baz=95,slow=39
BRTR Keskin Array B 77.11 310 P P **15 40 02.5 +0.1**
BRTR pmax pmax
comp=Z,27nm,1.1s
BRTR MLR MLR
comp=Z,261nm,18.8s
YNR Norris Junctio 77.11 43 *e*P P **15 40 03.0 +0.7**
BORG Borgarnes 77.13 351 P P **15 40 01.8 -0.2**
comp=Z,24nm,0.9s,mb5.1,baz=255,slow=5.6,SNR=3.9
VRI Vrincioaia 77.17 318⇑*i*P P **15 40 04.2 +1.6**
VRI Vrincioaia 77.17 318⇑*i*P P **15 40 04.2 +1.5**
YFT Old Faithful 77.20 44 *e*P P **15 40 04.9 +2.1**
MUD Monsted U'grnd 77.34 334 *i*P P **15 40 02.8 -0.6**
comp=Z,27nm,1.0s,mb5.1
KOLS Kolonicke sedl 77.38 323 *i*P P **15 40 04.0 +0.2**
KOLS *e*PP PP 15 42 58.4 -1.5
COBT Iskenderun 77.41 306 *i*P P **15 40 04.6 +0.4**
TPH Tonopah 77.42 52 *e*P P **15 40 04.7 +0.5**
comp=Z,66nm,1.2s,mb5.4
SGKT Sivrigoynuk 77.54 312 *i*P P **15 40 04.5 -0.3**
OJC Ojcow 77.66 325 *e*P P **15 40 05.2 0.0**
OJC Ojcow 77.66 325 *e*P P **15 40 05.2 0.0**
MOOW Moose Ponds 77.70 44 *e*P P **15 40 06.6 +1.0**
TPAW Teton Pass 77.75 44 *e*P P **15 40 06.4 +0.5**
ISR Istrita 77.76 318⇑*i*P P **15 40 07.6 +1.7**
ISR Istrita 77.76 318⇑*i*P P **15 40 07.6 +1.7**
CRVS Cervenica-Dubn 77.79 323 *i*P P **15 40 06.4 +0.4**
HVU Hansel Valley 77.81 47 *e*P P **15 40 06.9 +0.6**
MLR Muntele Rosu 77.83 318 P P **15 40 06.2 -0.1**
comp=Z,26nm,1.1s,mb5.0,baz=5.9,slow=4.3,SNR=19
MLR Muntele Rosu 77.83 318 P P **15 40 06.2 -0.1**
MLR pmax pmax
comp=Z,26nm,1.1s
WUWY Wally Ulrich 77.83 44 *e*P P **15 40 07.2 +0.8**
LOHW Long Hollow 77.86 44 *e*P P **15 40 07.6 +1.0**
SNOW Snow King Moun 77.88 44 *e*P P **15 40 07.7 +1.1**
REDW Red Top Meadow 77.89 44 *e*P P **15 40 07.5 +0.9**
DGMT Dagmar 77.96 37 *e*P P **15 40 07.1 +0.1**
comp=Z,51nm,1.1s,mb5.4
NIE Niedzica 77.98 324⇑*e*P P **15 40 07.8 +0.8**
HENT Hendek 78.07 312 *i*P P **15 40 07.2 -0.5**
LAO LASA Array 78.17 40 *e*P P **15 40 07.9 -0.2**
comp=Z,49nm,1.1s,mb5.3
BGU Big Grassy Mou 78.20 47 *e*P P **15 40 09.3 +0.9**
TRCR Troy Canyon 78.27 51 *e*P P **15 40 09.7 +0.9**
RAC Raciborz 78.48 326 *e*P P **15 40 10.4 +0.6**
RAC MLR MLR
comp=Z,900nm,18.0s,MS5.1
RAC Raciborz 78.48 326 *e*P P **15 40 10.4 +0.6**

RAC MLR MLR 16 18 32.0
comp=Z,900nm,18.0s
MZLS Mizel 78.54 291 P P 15 40 10.8 +0.2
BUC1 Bucharest 78.54 318 ⇓ iP P 15 40 11.0 +0.8
BUC1 Bucharest 78.54 318 ⇓ iP P 15 40 11.0 +0.8
PRD Provadia 78.55 316 P P 15 40 10.5 +0.2
KECS Kecovo 78.55 323 eP P 15 40 10.7 +0.5
HWUT Hardware Ranch 78.61 46 eP P 15 40 11.6 +0.9
comp=Z,48nm,1.4s,mb5.2
OKC Ostrava-Krasne 78.68 325 ⇑ iP P 15 40 11.0 +0.1
OKC AMS AMS 16 18 40.0
comp=Z,700nm,16.5s
KSP Ksiaz 78.78 327 eP P 15 40 11.2 -0.2
KSP e*PP pP 15 40 14.9 -2.3
KSP Ksiaz 78.78 327 eP P 15 40 11.6 +0.2
DUG Dugway 78.79 48 eP P 15 40 12.3 +0.7
BSEG Bad Segeberg 78.88 332 eP P 15 40 11.9 0.0
BSEG pmax pmax
comp=Z,45nm,1.2s,mb5.3
NOQ North Oquirrh 78.90 47 eP P 15 40 12.8 +0.5
ESKT Eskisehir 78.92 311 i P P 15 40 12.6 +0.2
BW06 Boulder Array 79.00 44 eP P 15 40 13.0 +0.3
comp=Z,21nm,1.1s,mb5.0
PDAR Pinedale Array 79.00 44 P P 15 40 13.2 +0.4
comp=Z,7.0nm,0.7s,mb4.7,baz=296,slow=2.4,SNR=33
MORC Moravsky Berou 79.00 326 eP P 15 40 12.8 +0.1
comp=Z,29nm,1.1s,mb5.1
TCUT Toone Canyon 79.02 46 eP P 15 40 10.6 -2.3
HILS Ha'il 79.07 296 P P 15 40 13.8 +0.3
DPC Dobruska-Polom 79.13 327 ⇑ iP P 15 40 13.9 +0.6
DPC AMS AMS 16 19 20.0
comp=Z,800nm,13.9s
UPC Upice 79.15 327 ⇑ iP P 15 40 13.6 +0.2
PSZ Piszkesteto 79.23 323 ⇑ eP P 15 40 14.6 +0.7
VYHS Vyhne 79.32 324 i P P 15 40 15.0 +0.6
JLU Jordanelle 79.33 47 eP P 15 40 14.8 +0.2
NLU North Lily Min 79.38 48 eP P 15 40 15.6 +0.7
ULDT Uludag 79.54 313 i P P 15 40 15.5 -0.2
DAU Daniels Canyon 79.56 47 eP P 15 40 16.6 +0.8
MPU Maple Canyon 79.60 47 eP P 15 40 16.8 +0.7
ASF Jabal al Asfar 79.62 302 P P 15 40 17.0 +0.7
comp=Z,14nm,0.9s,mb4.9,baz=322,slow=0.8,SNR=20
PVL Pavlikeni 79.67 317 P P 15 40 17.5 +1.1
HRI Mount Hermon 79.73 304 P P 15 40 17.4 +0.5
HRI Mount Hermon 79.73 304 ⇑ P P 15 40 17.4 +0.5
PVCC Panska Ves 79.75 328 ⇑ AMS AMS 16 17 30.0
comp=Z,500nm,18.9s
BRG Berggiesshubel 79.76 328 eP P 15 40 16.8 +0.1
BRG e 15 43 17.3
BRG pmax pmax
comp=Z,26nm,1.4s,mb5.0
BRG MLR MLR
comp=N,770nm,23.1s,MS5.1
BRG MLR MLR
comp=E,810nm,23.1s,MS5.1
BRG MLR MLR
comp=Z,800nm,23.1s,MS5.0
BRG Berggiesshubel 79.76 328 eP P 15 40 16.8 +0.1
comp=Z,26nm,1.4s,mb5.0
BRG e 15 43 17.3
BRG LR LR
comp=Z,800nm,23.1s,MS5.0
VRAC Vranov 79.77 326 P P 15 40 17.4 +0.6
comp=Z,14nm,0.9s,mb4.9,baz=38,slow=4.9,SNR=18
VRAC Vranov 79.77 326 P P 15 40 17.4 +0.6
VRAC pmax pmax
comp=Z,14nm,0.9s
CLL Collm 79.83 329 ⇑ P P 15 40 16.5 -0.6
comp=Z,logA/T=1.5,mb5.2
CLL *i *PP pP 15 40 20.0 -2.9
CLL e*SP sP 15 40 24.0 -0.9
CLL ePP PP 15 43 20.0 -0.1
CLL Collm 79.83 329 ⇑ iP P 15 40 16.5 -0.6
CLL *i 15 40 20.0
CLL pmax pmax
comp=Z,41nm,1.3s,mb5.2
CLL Collm 79.83 329 ⇑ iP P 15 40 16.5 -0.6
comp=Z,41nm,1.3s,mb5.2
CLL *i 15 40 20.0
KSHT Keshet 79.85 304 P P 15 40 18.2 +0.6
KSHT Keshet 79.85 304 ⇑ P P 15 40 18.2 +0.6
ARUT Antelope Range 79.94 50 eP P 15 40 18.4 +0.5
SMOL Smolenice 79.96 325 i P P 15 40 19.0 +1.2
SRO Srobarova 80.05 324 i P P 15 40 19.3 +1.0
PRU Pruhonice 80.17 327 ⇑ iP P 15 40 18.5 -0.4
PRU e*PP pP 15 40 22.1 -2.7
PRU pmax pmax
comp=Z,24nm,1.3s,mb5.0
PRU Pruhonice 80.17 327 ⇑ iP P 15 40 18.5 -0.4
comp=Z,24nm,1.3s,mb5.0
PRU epP pP 15 40 22.1 -2.7
PRU AMS AMS 16 19 50.0
ISP Isparta 80.19 310 eP P 15 40 17.8 -1.5
comp=Z,18nm,1.1s,mb4.9
HNTI Hanita 80.21 304 P P 15 40 20.0 +0.5
HNTI Hanita 80.21 304 ⇑ P P 15 40 20.0 +0.5
MVU Marysvale 80.23 49 eP P 15 40 20.7 +1.2
comp=Z,15nm,1.2s,mb4.8
AFFS 'Afif 80.23 293 P P 15 40 20.0 +0.2
MSU Marysvale 80.24 49 eP P 15 40 20.8 +1.3
CSS Prodhromos 80.25 307 eP P 15 40 19.3 -0.4
comp=Z,29nm,0.9s,mb5.2
TMUT Trail Mountain 80.31 48 P P 15 40 19.7 -0.2
ZST Bratislava 80.34 325 i P P 15 40 20.9 +1.0
NEN Nelson 80.42 52 eP P 15 40 21.1 +0.6
BTOK Tokmak 80.43 313 P P 15 40 20.3 -0.2
MMLI Mount Malkishu 80.44 303 P P 15 40 21.6 +0.9
ULM Lac du Bonnet 80.45 32 P P 15 40 20.4 -0.1
comp=Z,16nm,1.1s,mb4.9,baz=302,slow=7.8,SNR=7.4
ULM LR LR 16 20 45.3
comp=Z,851nm,21.1s,MS5.1,baz=243,slow=39
CLZ Clausthal 80.48 330 eP P 15 40 20.9 +0.4
comp=Z,45nm,1.2s,mb5.3
HMDT Nahal Hemdat 80.49 303 P P 15 40 21.7 +0.7
HMDT Nahal Hemdat 80.49 303 ⇑ P P 15 40 21.7 +0.7
LDFC Landfair 80.61 53 eP P 15 40 21.7 +0.2
PFO Pinyon Flat Ob 80.66 55 eP P 15 40 21.8 0.0
comp=Z,18nm,1.1s,mb4.9
KDZ Kurdzhali 80.67 316 P P 15 40 23.0 +1.2
SLTI Sal'it 80.82 303 P P 15 40 23.3 +0.6
SRU San Rafael 80.84 47 eP P 15 40 23.2 +0.5
NKC Novy Kostel 80.87 328 ⇑ eP P 15 40 23.2 +0.6
NKC AMS AMS 16 17 30.0
comp=Z,500nm,15.0s
MOX Moxa 80.91 329 i P P 15 40 22.7 -0.1
comp=Z,logA/T=1.3,mb5.0
MOX pP pP 15 40 32.0 +3.4
MOX L 16 18 44.0
MOX Moxa 80.91 329 eP P 15 40 22.7 -0.1
MOX pmax pmax
comp=Z,31nm,1.5s,mb5.0
MOX MLR MLR
comp=Z,500nm,18.0s,MS4.9
MOX Moxa 80.91 329 eP P 15 40 22.7 -0.1
comp=Z,31nm,1.5s,mb5.0
MOX LR LR
comp=Z,500nm,18.0s,MS4.9
MANT Manisa 80.95 312 P P 15 40 23.2 -0.1
RWWY Rawlins 81.02 44 eP P 15 40 23.5 -0.1
RZN Rozhen 81.03 316 i P P 15 40 24.5 +0.8
PKSM Moragy 81.04 323 ⇑ iP P 15 40 23.2 -0.4
RSSD Black Hills 81.05 40 eP P 15 40 23.4 -0.3
comp=Z,17nm,1.1s,mb4.9
BAR Barrett 81.09 56 eP P 15 40 23.4 -0.8
WIT Witteveen 81.12 333 eP P 15 40 24.8 +0.9
comp=Z,179nm,1.2s,mb5.9
DNZL Cakiroluk 81.18 311 P P 15 40 24.6 +0.1
KAMS Al Khamasin 81.18 289 P P 15 40 25.0 +0.1
KHC Kasperske Hory 81.23 327 ⇑ iP P 15 40 24.8 +0.3
KHC MLR MLR
comp=Z,600nm,16.9s,MS5.0
KHC Kasperske Hory 81.23 327 ⇑ iP P 15 40 24.8 +0.3
KHC epP pP 15 40 28.4 -2.0
KHC AMS AMS 16 20 20.0
comp=Z,600nm,16.9s
VTS Vitosha 81.24 318 i P P 15 40 24.5 -0.2
GEC2 GERESS Array S 81.39 327 eP P 15 40 25.3 -0.1
GEC2 pmax pmax
comp=Z,11nm,1.0s,mb4.7
GEC2 GERESS Array S 81.39 327 eP P 15 40 25.3 -0.1
comp=Z,11nm,1.0s,mb4.7
GERES GERESS Array B 81.39 327 P P 15 40 25.4 0.0
comp=Z,7.5nm,0.8s,mb4.7,baz=34,slow=4.8,SNR=52
GERES GERESS Array B 81.39 327 P P 15 40 25.4 0.0
GERES pmax pmax
comp=Z,8.0nm,0.9s
RHK1 Bakonya 81.40 323 ⇑ iP P 15 40 25.4 -0.1
AYVA Ayvalik 81.51 313 eP P 15 40 25.6 -0.6
WET Wettzell 81.52 327 eP P 15 40 26.6 +0.6
WET pmax pmax
comp=Z,33nm,1.5s,mb5.0
WET Wettzell 81.52 327 eP P 15 40 26.6 +0.6
comp=Z,33nm,1.5s,mb5.0
MMB Musomiste 81.64 317 i P P 15 40 27.5 +0.6
GRUS Gruza 81.65 320 ⇓ iP P 15 40 27.0 +0.2
WTSB Winterswijk 81.75 332 eP P 15 40 26.9 -0.3
comp=Z,14nm,1.3s,mb4.8
ARSA Arzberg 81.76 325 ⇑ iP P 15 40 27.6 +0.3
comp=Z,53nm,2.3s,mb5.1
KDAG Bornova 81.77 312 eP P 15 40 23.7 -3.9
GRA1 Grafenberg Arr 81.80 329 eP P 15 40 28.0 +0.5
comp=Z,64nm,1.2s,mb5.4
GRA1 e 15 40 31.5
GRA1 LR LR
comp=Z,300nm,22.0s,MS4.6
GRF Grafenberg Arr 81.80 329 eP P 15 40 28.0 +0.5
GRF pmax pmax
comp=Z,64nm,1.2s,mb5.4
KKB Krupnik 81.81 317 i P P 15 40 28.3 +0.6
KBRS Khaybar 81.83 296 P P 15 40 28.8 +0.6
DIVS Divcibare 81.88 320 ⇓ iP P 15 40 27.9 -0.1
MOA Molln 81.89 326 ⇑ iP P 15 40 28.5 +0.5
comp=Z,198nm,3.9s
AYDN Tasoluk 81.89 312 P P 15 40 29.3 +1.1
PRNI Paran 82.01 302 P P 15 40 29.7 +0.7
PRNI Paran 82.01 302 ⇑ P P 15 40 29.7 +0.7
KZIT Kziot 82.08 303 P P 15 40 29.7 +0.4
PV10 Paradox Valley 82.19 47 eP P 15 40 30.9 +1.1
EKA Eskdalemuir Ar 82.19 339 P P 15 40 29.2 -0.2
comp=Z,4.4nm,0.9s,mb4.4,baz=27,slow=5.6,SNR=5.4
EKA Eskdalemuir Ar 82.19 339 P P 15 40 29.2 -0.2
EKA pmax pmax
comp=Z,4.0nm,0.9s
PHWY Pilot Hill 82.24 43 eP P 15 40 30.6 +0.6
TBKS Tabuk 82.27 300 P P 15 40 30.8 +0.5
JMQS Jabal Moqyreh 82.32 300 P P 15 40 31.3 +0.7
KMTI Karmit 82.35 302 P P 15 40 31.1 +0.3
KMTI Karmit 82.35 302 ⇑ P P 15 40 31.1 +0.3
AQBJ Aqaba 82.37 302 P P 15 40 31.3 +0.5
PERS Pernice 82.40 325 i P P 15 40 30.6 -0.1
MBH Mount Berech 82.42 302 P P 15 40 31.7 +0.6
MBH Mount Berech 82.42 302 ⇑ P P 15 40 31.7 +0.6
VAY Valandovo 82.46 317 ⇑ iP P 15 40 31.3 +0.2
EIL Elat 82.47 302 P P 15 40 31.9 +0.5
EIL Elat 82.47 302 P P 15 40 31.4 +0.1
comp=Z,28nm,1.0s,mb5.1,baz=58,slow=5.1,SNR=13
TATS Tathlith 82.47 289 P P 15 40 32.3 +0.7
ALWS Ilw as Safayha 82.62 301 P P 15 40 32.8 +0.6
SKO Skopje 82.62 318 eP P 15 40 33.0 +1.1
PV01 Paradox Valley 82.63 47 eP P 15 40 33.0 +0.9
JMOS Jabal al Moall 82.67 301 P P 15 40 33.1 +0.6
TOD Tromm 82.85 330 ⇑ eP P 15 40 33.0 +0.1
HAQS Haql 82.87 301 P P 15 40 33.9 +0.4
KBA Koelnbreinsper 82.88 326 ⇑ iP P 15 40 33.3 +0.2
comp=Z,100nm,2.1s,mb5.5
FUR Furstenfeldbru 82.95 328 eP P 15 40 33.9 +0.4
FUR pmax pmax
comp=Z,56nm,1.0s,mb5.5
FUR Furstenfeldbru 82.95 328 eP P 15 40 33.9 +0.4
comp=Z,56nm,1.0s,mb5.5
HGN Heimansgroeve 83.04 332 eP P 15 40 33.8 -0.1
comp=Z,13nm,1.3s,mb4.8
RW3 Ridgway 83.06 47 eP P 15 40 35.3 +1.0
LJU Ljubljana 83.12 325 eP P 15 40 34.6 +0.2
ABH Alteburg 83.13 331 ⇑ eP P 15 40 34.3 -0.1
BDAS Al Bad' 83.14 300 P P 15 40 35.2 +0.3
VISS Visnje 83.14 324 i P P 15 40 34.0 -0.5
AYUS 'Ayunah 83.17 300 P P 15 40 35.4 +0.4
BOJS Bojanci 83.18 324 i P P 15 40 34.6 -0.1
ISCO Idaho Springs 83.19 44 eP P 15 40 36.1 +1.2
comp=Z,25nm,1.4s,mb5.0
ISCO e pP 15 40 41.0 +0.2
TAYS Tayyib Ism 83.22 301 P P 15 40 35.7 +0.4
STU Stuttgart 83.35 329 eP P 15 40 35.2 -0.3
comp=Z,45nm,0.9s,mb5.5
PTCC Patocco-Chiusa 83.38 325 eP P 15 40 35.1 -0.6
VOY Vojsko 83.42 325 eP P 15 40 35.2 -0.7
WTTA Wattenberg 83.49 327 ⇑ iP P 15 40 36.6 +0.3
comp=Z,19nm,1.1s,mb5.0
FVI Forni Avoltri 83.50 326 eP P 15 40 35.5 -0.9
UMJS Umm Lajj 83.57 297 P P 15 40 38.2 +1.0
YNBS Yanbu' al Bahr 83.63 296 P P 15 40 38.1 +0.6
NAMS An Nimas 83.65 289 P P 15 40 38.8 +1.1
MOTA Moosalm 83.66 327 ⇓ iP P 15 40 37.2 +0.1
comp=Z,16nm,1.2s,mb5.0
BLJS Baljurashi 83.68 290 P P 15 40 39.2 +1.4
TRI Trieste 83.72 325 eP P 15 40 36.6 -0.8
LANF Langenberg 83.75 330 ⇑ eP P 15 40 37.5 0.0
GIVF Givet 83.99 332 eP P 15 40 38.7 0.0
SPAK Spaichingen 84.05 329 ⇑ eP P 15 40 39.0 0.0
BFO Black Forest 84.05 329 eP P 15 40 39.1 +0.1
BFO pmax pmax
comp=Z,41nm,1.2s,mb5.4
BFO Black Forest 84.05 329 eP P 15 40 39.1 +0.1
comp=Z,41nm,1.2s,mb5.4
EYMN Ely 84.07 31 eP P 15 40 38.7 -0.4
DAVA Damuels 84.23 328 ⇑ iP P 15 40 40.2 +0.2
comp=Z,44nm,1.1s,mb5.5
BAIF Baives 84.26 333 eP P 15 40 39.5 -0.5
comp=Z,16nm,1.0s,mb4.8
LTHS Al Lith 84.33 291 P P 15 40 42.1 +1.0
CDF Champ du Feu 84.41 330 eP P 15 40 40.8 -0.1
comp=Z,71nm,1.1s,mb5.4
CTI Castel Tesino 84.42 326 eP P 15 40 40.4 -0.6
FELD Feldberg 84.55 329 ⇑ eP P 15 40 41.4 -0.1
ECH Echery 84.62 330 ⇑ eP P 15 40 41.6 -0.3
DAVOX Davos 84.62 328 P P 15 40 42.3 +0.4
comp=Z,13nm,0.9s,mb5.1,baz=58,slow=3.2,SNR=13
BRMO Bormio 84.65 327 eP P 15 40 42.1 0.0
SDCO Great Sand Dun 84.67 46 eP P 15 40 43.2 +0.8
comp=Z,50nm,1.8s,mb5.3
SDCO LR LR
comp=Z,588nm,21.0s,MS5.0
HINF Hinteralfeld 85.06 330 eP P 15 40 43.5 -0.6
comp=Z,20nm,0.8s,mb5.0
THEF They Montfort 85.07 330 ⇑ eP P 15 40 44.0 -0.1
HAU Haudompre 85.11 330 eP P 15 40 43.8 -0.5
comp=Z,31nm,0.8s,mb5.2
HAU eR
comp=Z,446nm,20.8s
TUC Tucson 85.14 53 eP P 15 40 45.1 +0.2
comp=Z,13nm,1.2s,mb4.9
MEZF Maizieres J'vi 85.21 331 eP P 15 40 44.8 0.0
comp=Z,115nm,1.3s,mb5.5
IDI Anoyia 85.27 311 P P 15 40 45.0 -0.4
comp=Z,38nm,0.9s,mb5.5,baz=32,slow=7.6,SNR=19
SCHQ Schefferville 85.67 15 P P 15 40 47.2 +0.2
comp=Z,11nm,0.7s,mb5.2,baz=12,slow=3.1,SNR=9.2
RSM Repubblica di 85.68 324 eP P 15 40 48.0 +0.7
FSSB Fossombrone 85.71 324 eP P 15 40 47.6 +0.1
ARV Arcevia 85.78 324 eP P 15 40 47.9 +0.1
VAI Varese 85.82 328 eP P 15 40 47.0 -0.9
SFI Santa Sofia 85.98 325 eP P 15 40 49.5 +0.8
LAZ Ladron 86.00 49 eP P 15 40 49.9 +0.8
ANMO Albuquerque 86.03 48 eP P 15 40 50.4 +1.2
comp=Z,17nm,1.3s,mb5.1
ANMO LR LR
comp=Z,549nm,20.0s,MS5.0
GVD Gavdhos 86.06 311 eP P 15 40 49.0 -0.4
comp=Z,65nm,1.0s,mb5.8
PGD Poggio Sodo 86.06 325 eP P 15 40 50.2 +1.0
VMG Vicchio 86.07 325 eP P 15 40 50.6 +1.3
MCGN Macugnaga 86.08 328 eP P 15 40 49.0 -0.2
CRE Caprese Michel 86.15 324 eP P 15 40 49.8 +0.2
NRCA Norcia 86.20 323 eP P 15 40 50.3 +0.4
GSCL Gusciola 86.21 326 eP P 15 40 50.3 +0.4
FG5 Orsara di Pugl 86.31 321 eP P 15 40 51.5 +1.0
CABF La Chapelle 86.34 329 eP P 15 40 50.2 -0.3
LPM Los Pinos Moun 86.37 49 P P 15 40 51.6 +0.7
AQU L'Aquila 86.43 323 eP P 15 40 51.8 +0.8
BNM Barren Nite 86.48 49 eP P 15 40 52.7 +1.2
MRLC Muro Lucano 86.59 320 eP P 15 40 52.0 +0.1
PTQR Pietraquaria 86.68 323 eP P 15 40 52.5 +0.3
LOR Lormes 86.69 331 eP P 15 40 51.6 -0.6
comp=Z,32nm,0.8s,mb5.3
LOR eR
comp=Z,679nm,19.5s
MNS Montasola 86.75 323 eP P 15 40 51.9 -0.7
SGO Sicignano 86.83 320 eP P 15 40 52.8 -0.3
LPL La Plagne 86.96 328 eP P 15 40 53.5 0.0
comp=Z,23nm,1.2s,mb5.0
LPG La Plagne 86.97 328 eP P 15 40 53.8 +0.2
comp=Z,23nm,1.2s,mb5.0
TDS Terranova Siba 86.97 319 eP P 15 40 54.3 +0.5
SSF Saint Saulge 86.99 331 eP P 15 40 53.2 -0.5
comp=Z,35nm,1.0s,mb5.3
FLN La Foliniere 87.02 334 eP P 15 40 53.2 -0.5
FLN eR
comp=Z,731nm,19.8s
MGR Morigerati 87.02 320 eP P 15 40 52.7 -1.2
LDF La Druitiere 87.04 334 eP P 15 40 53.2 -0.6
SMF Signal de Mont 87.21 331 eP P 15 40 54.1 -0.6
comp=Z,15nm,0.8s,mb4.9
GRR Gorron 87.47 334 eP P 15 40 55.6 -0.3
comp=Z,62nm,1.1s,mb5.5
MBDF Montbardon 87.58 328 eP P 15 40 56.3 -0.3
ORIF Oris-en-Rattie 87.80 329 eP P 15 40 57.6 0.0
comp=Z,14nm,0.9s,mb4.9
ORIF eR
comp=Z,435nm,20.2s
SBF Sospel 87.99 327 eP P 15 40 57.3 -1.2
comp=Z,16nm,0.7s,mb5.0
TCF Toulx Ste Croi 88.13 332 eP P 15 40 59.1 -0.1
SGMF Saint Gilles 88.16 335 eP P 15 40 59.1 -0.1
SOI Samo 88.29 318 eP P 15 41 00.0 -0.1
ROSF Rostrenen 88.32 336 eP P 15 41 00.1 +0.1
comp=Z,106nm,1.2s,mb5.6
PGF Pioggiola 88.34 325 eP P 15 40 59.4 -0.8
comp=Z,36nm,1.3s,mb5.1
VIVF Saint-Julien-l 88.35 329 eP P 15 40 59.4 -0.8
comp=Z,28nm,1.2s,mb5.1
KSU1 Kansas State U 88.51 40 eP P 15 41 01.1 -0.1
FRF La Foret Royal 88.57 327 eP P 15 41 00.0 -1.3
comp=Z,39nm,1.3s,mb5.3
SMRF Simiane la Rot 88.69 328 eP P 15 41 01.6 -0.3
comp=Z,51nm,1.5s,mb5.3
MFF Saint Martin d 88.74 333 eP P 15 41 02.1 0.0
LMR La Mourre 88.81 327 eP P 15 41 01.8 -0.7
comp=Z,53nm,1.3s,mb5.4
GDL2 Guadalupe Moun 89.20 49 eP P 15 41 05.0 +0.4
RJF Les Rejaudoux 89.22 331 eP P 15 41 04.3 -0.1
RJF eR
comp=Z,513nm,17.5s
LASF Ste Croix 89.32 329 eP P 15 41 04.6 -0.3
comp=Z,93nm,1.6s,mb5.6
CAF Calviac 89.33 331 eP P 15 41 05.2 +0.3
LFF La Frestale 89.82 332 eP P 15 41 07.3 +0.1
MTLF Montolieu 90.59 330 eP P 15 41 10.8 0.0
comp=Z,20nm,1.1s,mb5.1
WMOK Wichita Mounta 90.61 44 eP P 15 41 10.9 -0.2
comp=Z,11nm,1.3s,mb5.0
WMOK LR LR
comp=Z,596nm,19.0s,MS5.0
EPF Esparros 91.59 331 eP P 15 41 14.9 -0.5
TXAR Lajitas Array 91.64 51 P P 15 41 16.4 +0.5
comp=Z,2.1nm,0.8s,mb4.5,baz=292,slow=2.8,SNR=22
TXAR PP PP 15 44 54.0 -3.0
comp=Z,1.8nm,1.1s,baz=301,slow=7.3,SNR=3.6
TXAR Lajitas Array 91.64 51 P P 15 41 16.4 +0.5
TXAR PP PP 15 44 54.0 -3.0
CCM Cathedral Cave 91.99 37 eP P 15 41 17.2 -0.2
comp=Z,13nm,1.0s,mb5.2
ETSF Etsaut 92.05 331 eP P 15 41 17.8 +0.3
comp=Z,13nm,0.8s,mb5.0
SJPF Ste Jean 92.12 332 eP P 15 41 17.9 0.0
comp=Z,54nm,1.5s,mb5.4
JCT Junction City 93.15 48 eP P 15 41 22.9 0.0
comp=Z,9.8nm,0.9s,mb5.2
MIAR Mount Ida 93.56 41 eP P 15 41 24.7 0.0
comp=Z,10nm,1.1s,mb5.2
ESDC Sonseca Array 96.13 332 LR LR 16 27 44.3
comp=Z,497nm,18.5s,MS5.0,baz=115,slow=37
KMBO Kilima Mbogo 99.85 276 P P 15 41 53.6 -0.2
VNDA Vanda 115.39 175 PKP PKPdf 15 46 48.6 -3.7
comp=Z,0.5nm,0.8s,baz=298,slow=6.3,SNR=4.5
VNDA Vanda 115.39 175 PKIKP PKPdf 15 46 48.7 -3.6
VNDA pmax pmax
comp=Z,1.0nm,0.8s
MAW Mawson 118.84 205 PKP PKPdf 15 46 56.2 -2.9
comp=Z,1.7nm,0.7s,baz=3.5,slow=4.8,SNR=4.6
MAW Mawson 118.84 205 PKIKP PKPdf 15 46 56.2 -3.0
MAW pmax pmax
comp=Z,2.0nm,0.7s
DBIC Dimbokro 124.65 314 PKP PKPdf 15 47 08.2 -3.6
comp=Z,4.5nm,0.8s,baz=150,slow=2.7,SNR=5.4
DBIC Dimbokro 124.65 314 PKIKP PKPdf 15 47 08.2 -3.5
DBIC pmax pmax
comp=Z,5.0nm,0.8s
SDV Santo Domingo 126.47 37 ePKP PKPdf 15 47 12.0 -3.1
QSPA South Pole Qui 127.00 180 eP PKPdf 15 47 11.2 -3.3
SYO Syowa Base 127.46 207 ⇑ iPdiff Pdif 15 43 57.7 +3.6
SNAA Sanae 140.33 198 ⇑ i PKPdf 15 47 35.9 -3.7
SNAA Sanae 140.33 198 ⇑ iP PKPdf 15 47 35.9 -3.7
VNA2 Neumayer--Watz 141.93 197 ⇑ i PKPdf 15 47 42.6 +0.4
VNA2 Neumayer--Watz 141.93 197 ⇑ i PKPdf 15 47 44.4 +2.2
VNA2 Neumayer--Watz 141.93 197 ⇑ iP PKPdf 15 47 42.6 +0.4
VNA3 Neumayer Olymp 142.22 196 ⇑ i PKPdf 15 47 41.9 -0.8
VNA3 Neumayer Olymp 142.22 196 ⇑ i PKPdf 15 47 42.3 -0.4
VNA3 Neumayer Olymp 142.22 196 ⇑ iP PKPdf 15 47 42.3 -0.4
VNA1 Neumayer--Stat 142.33 197 ⇑ i PKPdf 15 47 44.1 +1.2
VNA1 Neumayer--Stat 142.33 197 ⇑ iP PKPdf 15 47 44.1 +1.2
SAML Samuel 145.51 41 ePKP PKPdf 15 47 46.6 -3.5
LPAZ La Paz 148.36 56 PKPbc PKPdf 15 47 56.4 +1.6
comp=Z,6.0nm,0.8s,baz=288,slow=2.5,SNR=13
LPAZ La Paz 148.36 56 PKP2 PKPab 15 47 56.4 -3.2
LPAZ pmax pmax
comp=Z,6.0nm,0.8s
LVC Limon Verde 152.05 66 ePKPbc PKPdf 15 48 04.5 +4.2
BDFB Brasilia 157.64 17 PKPab PKPab 15 48 38.0 -0.7
comp=Z,5.0nm,0.8s,baz=36,slow=14,SNR=5.8
BDFB Brasilia 157.64 17 PKP2 PKPab 15 48 38.0 -0.7
BDFB pmax pmax
comp=Z,5.0nm,0.8s

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*IDC **24** 15:35:03.1±0.6,2.11S×125.69E,mb4.7/14,mb1 4.7/17, mb1mx4.6/21,ML5.1/2,Error ellipse: s-maj=25.9km s-min=12.4km az=65.0*
*MOS **24** 15:35:06.9±1.9,2.09S×125.89E,h33km,mb4.7/15,Error ellipse: s-maj=22.1km s-min=10.8km az=115.5*
*BJI **24** 15:35:09.7,2.20S×125.60E,h45km,mB5.2,mb4.6*
*NEIC **24** 15:35:09.8±2.7,2.24S×125.64E,h45km±26km,mb4.9/2, Error ellipse: s-maj=17.9km s-min=10.9km az=64.0*
ISC 24 15:35:07.6±2.8,2.17S±0.07×125.68E±0.09,h47km±26km, n62,σ1℘10/57,mb4.7/30,MS4.4/2,1C-1D,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**15.83**	**180**	Pn	**P**	**15 38 50.2**	**+1.3**
	2.1nm,0.3s,baz=12,slow=9.8,SNR=21						
WRAB	**Tennant Creek**	**19.58**	**155**	P	**P**	**15 39 32.2**	**-2.4**
	2µm,0.9s,SNR=40						
WRAB	**Tennant Creek**	**19.58**	**155**	eP	**P**	**15 39 32.5**	**-2.1**
	168nm,0.5s						
WRA	**Warramunga Arr**	**19.59**	**155**	P	**P**	**15 39 32.5**	**-2.1**
	12nm,0.3s,baz=332,slow=12,SNR=71						
WRA	**Warramunga Arr**	**19.59**	**155**	P	**P**	**15 39 32.5**	**-2.1**
WRA				pmax	pmax		
	comp=Z,12nm,0.3s						
WAU	**Wau**	**21.58**	**105**	eP	**P**	**15 39 56.8**	**+1.5**
PMG	**Port Moresby**	**22.53**	**109**	P	**P**	**15 40 06.1**	**+1.3**
	comp=Z,42nm,0.8s,mb4.9,baz=320,slow=6.9,SNR=12						
PMG	**Port Moresby**	**22.53**	**109**	P	**P**	**15 40 06.1**	**+1.2**
PMG				pmax	pmax		
	comp=Z,42nm,0.8s						
ASAR	**Alice Springs**	**22.81**	**160**	P	**P**	**15 40 07.4**	**0.0**
	comp=Z,36nm,0.5s,mb5.0,baz=350,slow=9.8,SNR=119						
CTA	**Charters Tower**	**26.85**	**133**	P	**P**	**15 40 47.3**	**+1.3**
	comp=Z,3.2nm,0.5s,mb4.1,baz=316,slow=14,SNR=6.8						
CTA	**Charters Tower**	**26.85**	**133**	P	**P**	**15 40 47.3**	**+1.3**
CTA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
CTAO	**Charters Tower**	**26.85**	**133**	eP	**P**	**15 40 41.2**	**-4.8**
	comp=Z,5.6nm,0.8s,mb4.2						
JOW	**Kunigami**	**28.94**	**5**	P	**P**	**15 41 07.0**	**+2.3**
	comp=Z,22nm,0.6s,mb5.1,baz=216,slow=28,SNR=4.1						
STKA	**Stephens Creek**	**33.14**	**155**	P	**P**	**15 41 40.8**	**-0.9**
	comp=Z,20nm,0.5s,mb5.3,baz=331,slow=8.4,SNR=48						
CMAR	**Chiang Mai Arr**	**33.35**	**309**	P	**P**	**15 41 43.9**	**+0.2**
	comp=Z,2.6nm,1.0s,mb4.1,baz=135,slow=6.6,SNR=9.5						
CMAR	**Chiang Mai Arr**	**33.35**	**309**	P	**P**	**15 41 43.9**	**+0.2**
CMAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						

NJ2	**Nanjing**	**34.64**	**350**	*e*P		**P**	**15 41 55.1**	**+0.5**
NJ2				AP		pP	15 42 13.3	+6.0
NJ2				PP		PP	15 43 15.0	+2.7
NJ2				S		**S**	**15 47 20.0**	**+0.1**
NJ2				AMB		AMB		
	comp=Z,40nm,0.5s,mb5.6							
NJ2				AMB		AMB		
	comp=Z,30nm,3.5s							
GTA	**Gaotai**	**47.71**	**333**	*e*P		**P**	**15 43 40.4**	**-1.3**
GTA				AMB		AMB		
	comp=Z,3.0nm,0.9s,mb4.3							
ASAJ	**Asahikawa**	**48.51**	**16**	P		**P**	**15 43 47.2**	**-0.6**
	comp=Z,10.0nm,0.8s,mb4.9,baz=226,slow=15,SNR=6.1							
ASAJ	**Asahikawa**	**48.51**	**16**	P		**P**	**15 43 47.2**	**-0.6**
ASAJ				pmax		pmax		
	comp=Z,10.0nm,0.8s							
GUN	**Gumba**	**48.55**	**311**	*e*P		**P**	**15 43 48.2**	**-0.2**
	comp=Z,21nm,0.8s,mb5.2							
PKI	**Pulchoki**	**48.73**	**310**	*e*P		**P**	**15 43 49.1**	**-0.7**
KKN	**Kakani**	**48.95**	**310**	*e*P		**P**	**15 43 50.4**	**-1.0**
DMN	**Daman**	**48.99**	**310**	*e*P		**P**	**15 43 51.1**	**-0.6**
	comp=Z,16nm,0.9s,mb5.0							
GKN	**Gorkha**	**49.54**	**310**	*e*P		**P**	**15 43 55.5**	**-0.5**
	comp=Z,13nm,0.8s,mb5.0							
KOLN	**Koldanda**	**50.22**	**309**	*e*P		**P**	**15 44 00.7**	**-0.5**
	comp=Z,21nm,0.8s,mb5.2							
HYB	**Hyderabad**	**50.36**	**295**	*i* P		**P**	**15 44 05.5**	**+3.1**
YSS	**Yuzh-Sakhalins**	**51.17**	**15**	*e*P		**P**	**15 44 06.9**	**-1.3**
YSS				pmax		pmax		
	comp=Z,12nm,0.9s,mb4.8							
SONM	**Songino Array**	**52.58**	**344**	P		**P**	**15 44 18.4**	**-0.3**
	comp=Z,9.6nm,0.7s,mb4.8,baz=158,slow=8.5,SNR=27							
ZAK	**Zakamensk**	**55.76**	**343**	*e*P		**P**	**15 44 42.3**	**+0.3**
URZ	**Urewera**	**59.09**	**134**	P		**P**	**15 45 05.2**	**-0.4**
	comp=Z,11nm,0.8s,mb4.9,baz=60,slow=20,SNR=3.3							
MKAR	**Makanchi Array**	**61.86**	**328**	*i* P		**P**	**15 45 24.5**	**+0.1**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.3s							
AAK	**Ala-Archa**	**64.09**	**320**	*e*P		**P**	**15 45 39.6**	**+0.4**
AAK				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.4							
YAK	**Yakutsk**	**64.10**	**2**	*e*P		**P**	**15 45 37.3**	**-1.6**
YAK				pmax		pmax		
	comp=Z,5.0nm,0.9s,mb4.5							
ZAL	**Zalesovo**	**65.39**	**335**	P		**P**	**15 45 47.6**	**+0.2**
	comp=Z,1.5nm,0.4s,mb4.4,baz=217,slow=1.5,SNR=4.1							
ZAL	**Zalesovo**	**65.39**	**335**	P		**P**	**15 45 47.7**	**+0.3**
ZAL				pmax		pmax		
	comp=Z,2.0nm,0.4s							
KURK	**Kurchatov**	**66.19**	**329**	*i* P		**P**	**15 45 52.6**	**+0.1**
KURK				pmax		pmax		
	comp=Z,10.0nm,0.8s,mb4.9							
NVS	**Novosibirsk**	**66.68**	**335**	*e*P		**P**	**15 45 59.2**	**+3.6**
FX1	**Attu Island--F**	**67.71**	**29**	P		**P**	**15 46 01.2**	**-0.8**
	comp=Z,21nm,0.8s,mb5.2,baz=102,slow=16,SNR=2.7							
FX1	**Attu Island--F**	**67.71**	**29**	P		**P**	**15 46 01.2**	**-0.8**
FX1				pmax		pmax		
	comp=Z,21nm,0.8s							
BVA0	**Borovoye Array**	**71.71**	**328**	*i* P		**P**	**15 46 28.3**	**+1.8**
BVAR	**Borovoye Array**	**71.71**	**328**	P		**P**	**15 46 26.5**	**0.0**
	comp=Z,2.4nm,0.8s,mb4.2,baz=129,slow=9.2,SNR=8.3							
TIXI	**Tiksi**	**73.72**	**1**	*e*P		**P**	**15 46 37.5**	**-0.5**
TIXI				pmax		pmax		
	comp=Z,11nm,2.1s,mb4.4							
VNDA	**Vanda**	**77.75**	**172**	P		**P**	**15 47 01.3**	**+0.4**
	comp=Z,1.6nm,0.9s,mb4.0,baz=320,slow=5.8,SNR=9.8							
VNDA	**Vanda**	**77.75**	**172**	P		**P**	**15 47 01.3**	**+0.4**
VNDA				pmax		pmax		
	comp=Z,2.0nm,0.9s							
MAW	**Mawson**	**77.89**	**200**	P		**P**	**15 47 02.2**	**+0.4**
	comp=Z,3.7nm,1.1s,mb4.2,baz=23,slow=4.7,SNR=4.8							
MAW	**Mawson**	**77.89**	**200**	P		**P**	**15 47 02.2**	**+0.4**
MAW				pmax		pmax		
	comp=Z,4.0nm,1.1s							
MAW	**Mawson**	**77.89**	**200**	P		**P**	**15 47 02.2**	**+0.4**
SVE	**Sverdlovsk**	**78.44**	**329**⇑	*e*P		**P**	**15 47 11.0**	**+6.0**
ARU	**Arti**	**79.36**	**329**⇓	*i*P		**P**	**15 47 14.4**	**+4.4**
ARU				*e*			15 50 18.3	
ARU				*e*PPP		PPP	15 52 11.0	+8.6
ARU				*e*S		S	15 57 15.1	+9.4
ARU				pmax		pmax		
	comp=Z,6.0nm,0.9s,mb4.5							
SOC	**Sochi**	**88.55**	**314**	*e*P		**P**	**15 47 50.9**	**-5.8**
SOC				*e*S		S	15 58 30.9	-6.2
SOC				pmax		pmax		
	comp=Z,10.0nm,0.7s,mb5.2							
SOC				pmax		pmax		
	comp=N,16nm,1.1s							
SOC				pmax		pmax		
	comp=E,5.0nm,0.6s							
SOC				MLR		MLR		
	comp=Z,147nm,14.0s,MS4.5							
SOC				MLR		MLR		
	comp=N,62nm,12.0s,MS4.3							
SOC				MLR		MLR		
	comp=E,41nm,12.0s,MS4.3							
ASF	**Jabal al Asfar**	**90.11**	**302**	P		**P**	**15 48 05.4**	**+1.1**
	comp=E,0.7nm,0.4s,mb4.3,baz=250,slow=3.1,SNR=2.4							
ILAR	**Eielson Array**	**90.85**	**25**	P		**P**	**15 48 06.5**	**-0.4**
	comp=E,0.2nm,0.7s,mb3.6,baz=183,slow=7.4,SNR=5.1							
OBN	**Obninsk**	**91.25**	**325**	P		**P**	**15 48 12.0**	**+2.9**
OBN				*e*		pP	15 48 21.7	-1.6
OBN				MLR		MLR		
	comp=Z,100nm,15.0s,MS4.4							
BRTR	**Keskin Array B**	**92.94**	**309**	P		**P**	**15 48 21.9**	**+4.6**
	comp=Z,1.0nm,0.9s,mb4.3,baz=127,slow=6.2,SNR=4.9							
BRTR	**Keskin Array B**	**92.94**	**309**	P		**P**	**15 48 21.9**	**+4.6**
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.9s							
CPUP	**Villa Florida**	**151.52**	**174**	PKPbc		PKPdf	15 55 00.5	+10
	comp=Z,5.4nm,0.8s,baz=208,slow=2.0,SNR=10.0							
CPUP	**Villa Florida**	**151.52**	**174**	PKIKP		PKPdf	15 55 00.5	+10
CPUP				pmax		pmax		
	comp=Z,5.0nm,0.8s							
CPUP	**Villa Florida**	**151.52**	**174**	PKPbc		PKPdf	15 55 00.5	+10
LPAZ	**La Paz**	**157.14**	**144**	PKPab		PKPab	15 55 35.2	+3.1
	comp=Z,2.1nm,0.6s,baz=228,slow=6.6,SNR=9.7							
LPAZ	**La Paz**	**157.14**	**144**	PKP2		PKPab	15 55 35.2	+3.1
LPAZ				pmax		pmax		
	comp=Z,2.0nm,0.6s							
LPAZ	**La Paz**	**157.14**	**144**	PKPab		PKPab	15 55 35.2	+3.1

*NEIC **24** 15:36:55.0±1.1,33.51N×137.92E,h300km±9km, mb4.0/3, Error ellipse: s-maj=20.5km s-min=13.3km az=111.0*
*JMA **24** 15:36:55.2±0.2,33.60N×138.12E,h323km±2km,M3.7*
*IDC **24** 15:36:56.7±0.8,33.52N×137.92E,h318km±12km, mb3.4/12,mb1 3.5/13,mb1mx3.3/27, Error ellipse: s-maj=28.7km s-min=17.4km az=85.0*

ISC 24 15:36:55.7±0.4,33.69N±0.06×138.11E±0.05,h321km±2km, n53,σ0↑98/69,mb3.7/17,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK02	**Tokai 2**	**0.39**	**311**	*e*S	**S**	**15 38 09.7**	**+0.9**
TK03	**Tokai 3**	**0.49**	**346**	*e*S	**S**	**15 38 11.0**	**+1.8**
JSG	**Sagara**	**0.98**	**4**	P	**P**	**15 37 40.0**	**+1.5**
JKO	**Kozu shima**	**0.98**	**60**	P	**P**	**15 37 39.1**	**+0.6**
JHMK	**Hamakita**	**1.16**	**345**	P	**P**	**15 37 39.6**	**+0.3**
JHMK				*e*S	**S**	**15 38 13.1**	**-0.4**
HMMJ	**Hamamatsu 2**	**1.20**	**345**	P	**P**	**15 37 40.0**	**+0.4**
HMMJ				*e*S	**S**	**15 38 13.7**	**-0.2**
JIE	**Ise**	**1.36**	**301**	P	**P**	**15 37 40.4**	**0.0**
JIE				*e*S	**S**	**15 38 14.5**	**-1.0**
JIM2	**Oshima 3**	**1.50**	**47**	P	**P**	**15 37 41.3**	**0.0**
JHJ	**Hachijo jima 2**	**1.51**	**112**	P	**P**	**15 37 41.5**	**+0.2**
	19nm,0.3s,baz=65,slow=23,SNR=7.0						
JHJ				S	**S**	**15 38 19.5**	**+2.4**
	16nm,0.3s,baz=264,slow=22,SNR=2.4						
JHJ2	**Mitsune**	**1.54**	**112**	P	**P**	**15 37 41.1**	**-0.4**
JNY	**Yasuok**	**1.67**	**353**	P	**P**	**15 37 43.0**	**+0.6**
JNY				*e*S	**S**	**15 38 19.8**	**+0.9**
JAO	**Obara**	**1.72**	**336**	P	**P**	**15 37 43.3**	**+0.6**
JAO				*e*S	**S**	**15 38 19.9**	**+0.5**
JOD2	**Odawara 2**	**1.76**	**27**	P	**P**	**15 37 43.3**	**+0.3**
JWZ	**Kozaga**	**2.01**	**266**	P	**P**	**15 37 43.8**	**-0.9**
JEG	**Eigenji**	**2.02**	**316**	P	**P**	**15 37 45.3**	**+0.5**
BSO4	**Boso 4**	**2.25**	**54**	P	**P**	**15 37 46.7**	**0.0**
BSO4				*e*S	**S**	**15 38 27.4**	**+0.9**
BSO3	**Boso 3**	**2.27**	**60**	P	**P**	**15 37 46.1**	**-0.8**
BSO3				*e*S	**S**	**15 38 26.0**	**-0.9**
JGM	**Miyama**	**2.31**	**331**	P	**P**	**15 37 47.6**	**+0.4**
JGM				*e*S	**S**	**15 38 27.7**	**+0.3**
JHU	**Hanno**	**2.36**	**24**	P	**P**	**15 37 47.7**	**+0.1**
JHU				*e*S	**S**	**15 38 26.8**	**-1.4**
JRY	**Ryogami san**	**2.41**	**15**	P	**P**	**15 37 49.4**	**+1.4**
JRY				*e*S	**S**	**15 38 30.6**	**+1.7**
BSO1	**Boso 1**	**2.56**	**67**	P	**P**	**15 37 48.0**	**-1.3**
BSO1				*e*S	**S**	**15 38 30.5**	**-0.8**
JWT	**Wachi**	**2.74**	**306**	P	**P**	**15 37 50.8**	**-0.2**
JWT				*e*S	**S**	**15 38 33.1**	**-1.0**
MAJO	**Matsushiro**	**2.84**	**2**	*e*Pn	**P**	**15 37 50.5**	**-1.3**
MAT	**Matsushiro**	**2.84**	**2**	P	**P**	**15 37 52.1**	**+0.2**
MAT				S	**S**	**15 38 34.2**	**-1.6**
MAT	**Matsushiro**	**2.84**	**2**	P	**P**	**15 37 52.3**	**+0.4**
MAT				*e*S	**S**	**15 38 35.5**	**-0.3**
JAG	**Ashikaga**	**2.94**	**22**	P	**P**	**15 37 52.5**	**-0.3**
JAG				*e*S	**S**	**15 38 35.9**	**-1.5**
JKG	**Kaga**	**2.96**	**331**	P	**P**	**15 37 53.3**	**+0.3**
JAI	**Aioi**	**3.05**	**273**	P	**P**	**15 37 53.0**	**-0.8**
JYT	**Yasato**	**3.05**	**33**	P	**P**	**15 37 52.6**	**-1.2**
JYT				*e*S	**S**	**15 38 36.8**	**-2.5**
JHO	**Hitachi**	**3.54**	**34**	P	**P**	**15 37 57.8**	**-0.9**
YSS	**Yuzh-Sakhalins**	**13.71**	**14**	Pn	**P**	**15 40 01.0**	**+1.5**
ENH	**Enshi**	**24.48**	**270**	*e*P	**P**	**15 41 45.8**	**-2.2**
SONM	**Songino Array**	**27.64**	**310**	P	**P**	**15 42 17.0**	**+0.6**
	0.9nm,0.5s,mb3.3,baz=123,slow=9.7,SNR=8.6						
CMAR	**Chiang Mai Arr**	**38.07**	**256**	P	**P**	**15 43 43.7**	**-1.9**
	0.5nm,0.5s,mb3.0,baz=45,slow=8.2,SNR=4.9						
KURK	**Kurchatov**	**45.95**	**310**	*e*P	**P**	**15 44 48.0**	**-0.7**
	3.7nm,0.4s,mb3.9						
BVAR	**Borovoye Array**	**50.88**	**314**	P	**P**	**15 45 26.1**	**0.0**
	1.2nm,0.3s,mb3.6,baz=99,slow=8.7,SNR=12						
BRVK	**Borovoye**	**50.94**	**314**	*e*P	**P**	**15 45 26.4**	**-0.1**
	1.5nm,0.4s,mb3.6						
WRA	**Warramunga Arr**	**53.45**	**184**	P	**P**	**15 45 44.0**	**-1.4**
	0.2nm,0.4s,mb2.8,baz=1.2,slow=7.9,SNR=3.0						
KEV	**Kevo**	**65.60**	**339**	*ep*	Px	15 47 22.7	
	0.3nm,0.5s						
ARCES	**ARCESS Array B**	**66.16**	**339**	P	**P**	**15 47 11.1**	**+0.9**
	3.2nm,0.9s,mb4.0,baz=60,slow=7.3,SNR=4.5						
JOF	**Joensuu**	**67.63**	**332**	*ep*	**P**	**15 47 19.2**	**-0.3**
	0.4nm,0.3s,mb3.6						
KAF	**Kangasniemi**	**70.02**	**332**	*ep*	**P**	**15 47 33.9**	**-0.2**
	1.3nm,0.3s,mb4.1						
FINES	**FINESS Array B**	**70.49**	**332**	P	**P**	**15 47 37.4**	**+0.4**
	3.3nm,0.7s,mb4.2,baz=62,slow=6.7,SNR=55						
GNI	**Garni**	**71.52**	**306**	P	**P**	**15 47 42.3**	**-1.2**
	1.4nm,0.3s,mb4.1,baz=318,slow=19,SNR=2.3						
GNI	**Garni**	**71.52**	**306**	P	**P**	**15 47 42.3**	**-1.2**
GNI				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**75.26**	**322**	P	**P**	**15 48 04.9**	**0.0**
	comp=Z,1.0nm,0.5s,mb3.9,baz=49,slow=6.4,SNR=7.7						
HFS	**Hagfors**	**75.99**	**335**	P	**P**	**15 48 09.3**	**+0.4**
	comp=Z,0.6nm,0.4s,mb3.7,baz=76,slow=6.1,SNR=7.5						
NB2	**NORSAR Subarra**	**76.19**	**336**	P	**P**	**15 48 10.3**	**+0.4**
	comp=Z,0.5nm,0.6s,mb3.4,baz=43,slow=5.3						
NOA	**NORSAR Array B**	**76.19**	**336**	P	**P**	**15 48 10.6**	**+0.7**
	comp=Z,0.7nm,0.6s,mb3.6,baz=43,slow=5.6,SNR=5.2						
VRAC	**Vranov**	**82.40**	**326**	P	**P**	**15 48 44.7**	**+1.5**
	comp=Z,1.6nm,0.5s,mb4.1,baz=95,slow=11,SNR=4.1						
CLL	**Collm**	**82.60**	**329**	P	**P**	**15 48 45.0**	**+0.9**
GERES	**GERESS Array B**	**84.07**	**327**	P	**P**	**15 48 52.8**	**+1.3**
	comp=Z,0.7nm,0.6s,mb3.7,baz=33,slow=5.9,SNR=8.5						
DAVOX	**Davos**	**87.33**	**327**	P	**P**	**15 49 08.5**	**+1.1**
	comp=Z,1.0nm,0.6s,mb3.8,baz=162,slow=20,SNR=3.6						

*NIED **24** 15:46:00,37.20N×138.90E,h5km,Mw3.8 Best double couple: M0≤5.15×10^14 NP1:φs9°,δ52°,λ84°. NP2:φs199°,δ39°,λ98°.*
*NEIC **24** 15:46:19.1±0.4,37.14N×138.83E,h10km,mb4.2/2,Error ellipse: s-maj=14.9km s-min=7.5km az=119.0*
*JMA **24** 15:46:19.7,37.20N×138.88E,h10km±1km,M3.8 Broadband fault plane solution: P waves. NP1:φs7°,δ34°, λ45°. NP2:φs238°,δ67°,λ116°. Principal axes: T Plg60°, Azm186°; N Plg24°, Azm47°; P Plg18°, Azm309°;*
JMA Felt III J1.
*IDC **24** 15:46:23.1±3.9,37.17N×138.80E,h37km±35km, mb3.5/9, mb1 3.7/11,mb1mx3.6/26,ML3.5/2 Error ellipse: s-maj=26.4km s-min=17.0km az=90.0*

ISC 24 15:46:19.1±0.5,37.19N±0.03×138.87E±0.05,h21km±4km, n24,σ1↑91/34,mb3.8/10,1C-4D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.13**	**61**	⇓P	**Pb**	**15 46 22.6**	**-0.9**
JHK				S	**Sb**	**15 46 24.9**	**-1.6**
JIZZ	**Izumozaki**	**0.37**	**340**	⇓P	**Pb**	**15 46 27.3**	**+0.4**
JIZZ				S	**Sb**	**15 46 33.6**	**+1.3**
JKT	**Katashina**	**0.52**	**144**	⇓P	**Pb**	**15 46 29.8**	**+0.4**
JKT				S	**Sb**	**15 46 37.3**	**+1.0**
JFY	**Yanaizu**	**0.70**	**71**	⇓P	**Pb**	**15 46 32.8**	**+0.3**
JFY				S	**Sb**	**15 46 42.0**	**+0.3**
JNS	**Sasagawa**	**0.72**	**29**	⇑P	**Pb**	**15 46 32.8**	**-0.1**
JNS				S	**Sb**	**15 46 42.3**	**-0.1**
MAJO	**Matsushiro**	**0.83**	**220**	*e*Pn	**Pn**	**15 46 35.1**	**-0.5**
MAJO				*e*Sn	**Sn**	**15 46 46.1**	**-1.1**
MAT	**Matsushiro**	**0.83**	**220**	P	**Pb**	**15 46 35.2**	**+0.5**
MAT				S	**Sb**	**15 46 46.1**	**+0.6**
MAT	**Matsushiro**	**0.83**	**220**	P	**Pb**	**15 46 35.1**	**+0.4**
MAT				S	**Sb**	**15 46 46.3**	**+0.8**
MAT	**Matsushiro**	**0.83**	**220**	*e*P	**Pb**	**15 46 35.0**	**+0.3**
MAT				*e*S	**Sb**	**15 46 46.0**	**+0.5**
JHJ	**Hachijo jima 2**	**4.12**	**169**	Pn	**Pn**	**15 47 25.6**	**+3.1**
	18nm,0.3s,baz=248,slow=18,SNR=3.0						
JHJ				Sn	**Sn**	**15 48 15.0**	**+4.3**
	7.6nm,0.3s,baz=44,slow=21,SNR=2.0						
ASAJ	**Asahikawa**	**7.48**	**21**	Pn	**Pn**	**15 48 08.6**	**-1.3**
	0.6nm,0.3s,baz=85,slow=24,SNR=4.1						
SONM	**Songino Array**	**26.02**	**304**	P	**P**	**15 51 51.7**	**-0.5**
	1.0nm,1.0s,mb3.3,baz=104,slow=6.6,SNR=5.5						
WAU	**Wau**	**44.90**	**169**	*e*P	**P**	**15 54 42.3**	**+8.1**
BVAR	**Borovoye Array**	**48.96**	**312**	P	**P**	**15 55 05.9**	**+0.3**
	0.4nm,0.6s,mb3.6,baz=90,slow=7.2,SNR=3.1						
ILAR	**Eielson Array**	**50.45**	**32**	P	**P**	**15 55 16.3**	**-0.6**
	0.6nm,0.7s,mb3.7,baz=276,slow=7.1,SNR=5.0						
INK	**Inuvik**	**55.18**	**27**	P	**P**	**15 55 52.1**	**+0.1**
	0.9nm,0.7s,mb3.9,baz=322,slow=4.3,SNR=4.0						
INK	**Inuvik**	**55.18**	**27**	*e*P	**P**	**15 55 52.1**	**0.0**
	0.6nm,0.6s,mb3.8						
INK				*e*		15 55 55.7	
WRAB	**Tennant Creek**	**56.97**	**185**	*e*P	**P**	**15 56 04.5**	**-1.0**
	7.1nm,1.0s,mb4.7						
WRA	**Warramunga Arr**	**56.98**	**185**	P	**P**	**15 56 04.0**	**-1.6**
	1.6nm,0.7s,mb4.2,baz=0.5,slow=7.7,SNR=20						
ASAR	**Alice Springs**	**60.70**	**185**	P	**P**	**15 56 30.1**	**-1.2**
	0.4nm,0.7s,mb3.7,baz=2.0,slow=5.0,SNR=5.0						
NOA	**NORSAR Array B**	**73.25**	**336**	P	**P**	**15 57 49.6**	**-0.4**
	0.7nm,0.8s,mb3.6,baz=42,slow=6.0,SNR=2.9						
BRTR	**Keskin Array B**	**77.22**	**310**	P	**P**	**15 58 14.1**	**+1.0**
	0.6nm,1.0s,mb3.5,baz=90,slow=8.6,SNR=3.1						
PDAR	**Pinedale Array**	**78.99**	**44**	P	**P**	**15 58 24.5**	**+1.7**
	0.4nm,0.8s,mb3.4,baz=315,slow=2.6,SNR=3.2						
PV10	**Paradox Valley**	**82.18**	**47**	*e*P	**P**	**15 58 41.5**	**+1.8**

JMA 24 15:53:03.1,37.21N×138.89E,h8km±1km,M1.8,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.11**	**69**	P	Pg	15 53 05.8	+0.1
JHK				S	Sg	15 53 08.0	+0.6
JKT	**Katashina**	**0.53**	**147**	S	Sg	15 53 20.8	0.0
JJN	**Nakama**	**0.59**	**260**	P	Pg	15 53 14.6	-0.4
JJN				*e*S	Sg	15 53 23.5	+0.6

*NIED **24** 15:53:00,37.20N×138.90E,h5km,Mw3.7 Best double couple: M0≤3.74×10^14 NP1:φs14°,δ46°,λ77°. NP2:φs213°,δ46°,λ103°.*
*JMA **24** 15:53:32.7,37.21N×138.89E,h9km±2km,M3.7*
JMA Felt III J1.

ISC 24 15:53:32.6±0.7,37.21N±0.04×138.89E±0.05,h13km±5km, n8,σ0↑52/15,1C-4D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.11**	**67**	⇓P	**Pg**	**15 53 35.3**	**-0.4**
JHK				S	**Sg**	**15 53 37.6**	**-0.3**
JIZZ	**Izumozaki**	**0.36**	**336**	S	**Sg**	**15 53 46.2**	**+1.1**
JKT	**Katashina**	**0.52**	**147**	⇓P	**Pb**	**15 53 42.9**	**-0.2**
JKT				S	**Sb**	**15 53 50.4**	**+0.1**
JFY	**Yanaizu**	**0.68**	**73**	⇓P	**Pb**	**15 53 45.6**	**-0.1**
JFY				S	**Sb**	**15 53 54.9**	**+0.2**
JNS	**Sasagawa**	**0.70**	**29**	⇑P	**Pb**	**15 53 45.5**	**-0.6**
JNS				S	**Sb**	**15 53 55.1**	**-0.2**
MAT	**Matsushiro**	**0.86**	**220**	P	**Pb**	**15 53 48.4**	**-0.5**
MAT				S	**Sb**	**15 53 59.7**	**-0.4**
MAT	**Matsushiro**	**0.86**	**220**	P	**Pb**	**15 53 48.3**	**-0.6**
MAT				S	**Sb**	**15 53 59.7**	**-0.4**
JAG	**Ashikaga**	**0.90**	**150**	⇓P	**Pb**	**15 53 50.1**	**+0.5**
JAG				S	**Sb**	**15 54 02.1**	**+0.9**

*NIED **24** 15:56:00,37.20N×138.90E,h8km,Mw4.2 Best double couple: M0≤2.22×10^15 NP1:φs358°,δ61°,λ66°. NP2:φs221°,δ37°,λ126°.*
*NEIC **24** 15:56:14.9±0.4,37.15N×138.81E,h10km,mb4.2/7,Error ellipse: s-maj=10.8km s-min=7.1km az=116.0*
NEIC Recorded [3 JMA] in Niigata and [1 JMA] in Gumma, Nagano and Saitama Prefectures. Also recorded [1 JMA] on Sadoga-shima.
*JMA **24** 15:56:15.3,37.21N×138.89E,h10km±1km,M4.5 Broadband fault plane solution: P waves. NP1:φs253°, δ22°,λ174°. NP2:φs348°,δ88°,λ68°. Principal axes: T Plg43°, Azm237°; N Plg22°, Azm349°; P Plg39°, Azm98°;*
JMA Felt III J1.
*IDC **24** 15:56:21.1±2.2,37.21N×138.70E,h57km±21km,mb3.7/19, mb1 3.9/21,mb1mx3.8/28,ML4.2/1 Error ellipse: s-maj=18.1km s-min=10.9km az=83.0*

ISC 24 15:56:14.5±0.5,37.21N±0.03×138.84E±0.05,h19km±4km, n49,σ1↑00/55,mb4.1/30,2C-3D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.14**	**74**	⇓P	**Pb**	**15 56 18.0**	**-0.9**
JHK				S	**Sb**	**15 56 20.4**	**-1.5**
JIZZ	**Izumozaki**	**0.34**	**342**	⇓P	**Pb**	**15 56 22.7**	**+0.9**
JKT	**Katashina**	**0.55**	**143**	⇓P	**Pb**	**15 56 25.5**	**+0.2**
JKT				S	**Sb**	**15 56 33.2**	**+0.5**
JFY	**Yanaizu**	**0.72**	**74**	P	**Pb**	**15 56 27.8**	**-0.4**
JFY				S	**Sb**	**15 56 37.5**	**-0.1**
JNS	**Sasagawa**	**0.72**	**32**	⇑P	**Pb**	**15 56 28.1**	**-0.1**
JNS				S	**Sb**	**15 56 37.5**	**-0.1**
MAJO	**Matsushiro**	**0.84**	**218**⇑	*i*Pn	**Pn**	**15 56 31.1**	**-0.2**
MAT	**Matsushiro**	**0.84**	**218**	P	**Pb**	**15 56 31.0**	**+0.8**
MAT				S	**Sb**	**15 56 42.3**	**+1.3**
MAT	**Matsushiro**	**0.84**	**218**	*e*P	**Pb**	**15 56 31.0**	**+0.8**
MAT				*e*S	**Sb**	**15 56 42.0**	**+1.0**
JHJ	**Hachijo jima 2**	**4.15**	**169**	P	**Pn**	**15 57 21.2**	**+2.7**
	36nm,0.3s,baz=258,slow=21,SNR=5.1						
JHJ				S	**Sn**	**15 58 11.5**	**+4.4**
	13nm,0.3s,baz=95,slow=18,SNR=2.8						
ASAJ	**Asahikawa**	**7.47**	**21**	P	**Pn**	**15 58 07.2**	**+2.0**
YSS	**Yuzh-Sakhalins**	**10.16**	**15**	P	**P**	**15 58 43.8**	**+1.3**
BJT	**Baijiatuan**	**17.93**	**286**	*e*P	**P**	**16 00 25.8**	**+1.3**
	6.5nm,0.4s						
ENH	**Enshi**	**25.31**	**263**	*e*P	**P**	**16 01 41.1**	**-0.4**
	20nm,0.8s,mb4.7						
SONM	**Songino Array**	**25.99**	**304**	P	**P**	**16 01 47.0**	**-0.7**
	2.1nm,1.0s,mb3.6,baz=100,slow=6.8,SNR=10						
ZAL	**Zalesovo**	**40.29**	**312**	P	**P**	**16 03 52.9**	**+1.0**
	0.5nm,0.4s,mb3.6,baz=183,slow=8.4,SNR=1.9						
KURK	**Kurchatov**	**44.20**	**308**	*e*P	**P**	**16 04 22.9**	**-0.9**
	2.2nm,0.8s,mb3.9						
GUN	**Gumba**	**45.09**	**274**	*e*P	**P**	**16 04 32.0**	**+0.7**
	27nm,1.0s,mb5.0						
PKI	**Pulchoki**	**45.62**	**274**	*e*P	**P**	**16 04 34.1**	**-1.4**
KKN	**Kakani**	**45.62**	**274**	*e*P	**P**	**16 04 35.0**	**-0.5**
	11nm,0.9s,mb4.8						
DMN	**Daman**	**45.84**	**274**	*e*P	**P**	**16 04 36.3**	**-0.9**
GKN	**Gorkha**	**46.04**	**275**	*e*P	**P**	**16 04 38.6**	**-0.2**
	10nm,0.8s,mb4.8						
KOLN	**Koldanda**	**46.97**	**275**	*e*P	**P**	**16 04 45.5**	**-0.6**
	9.7nm,1.1s,mb4.7						
**BV

LG4Q			Trac		16 00 57.9	
	comp=Z,1.5nm,0.1s					
LMQ	**La Malbaie**	**5.62 202**	PN	Pn	16 00 08.8	-4.5
LMQ			SN	Sn	16 01 13.8	-5.7
DRLN	**Deer Lake**	**7.07 116**	PN	Pn	16 00 29.9	-3.8
DRLN			SN	Sn	16 01 51.1	-4.7
MALO	**McAlpine Lake**	**8.33 256**	PN	P	16 00 45.2	-6.1
MALO			SN	Sn	16 02 12.5	-15
MALO			LG		16 02 57.6	
VIMO	**Victor Mine**	**10.02 277**	PN	P	16 01 07.8	-6.8
VIMO			SN	S	16 02 52.5	-16
SILO	**Sutton Inlier**	**10.65 286**	PN	P	16 01 16.6	-6.6
SILO			SN	S	16 03 07.3	-17

*MOS **24** 16:15:56.0±0.8,36.77N×141.05E,h29km,mb4.7/20,Error ellipse: s-maj=19.9km s-min=8.5km az=106.6*
*BJI **24** 16:15:56.6,36.49N×141.03E,h41km,mB5.1,mb4.5, Ms4.2,Msz4.0*
*JMA **24** 16:15:57.4±0.1,36.57N×141.16E,h46km±1km,M4.5 Broadband fault plane solution: P waves. NP1:φ=204°, δ26°,λ92°. NP2:φ=21°,δ64°,λ89°. Principal axes: T Plg71°, Azm289°; N Plg1°, Azm22°; P Plg19°, Azm112°;*
JMA Felt II J1.
*IDC **24** 16:15:58.5±0.4,36.56N×141.07E,h42km±3km,mb4.1/23, mb1 4.3/26,mb1mx4.3/30,ML4.2/3,MS3.2/1,Ms1 3.2/1, ms1mx2.2/33 Error ellipse: s-maj=14.0km s-min=7.9km az=103.0*
*NEIC **24** 16:15:58.1±0.3,36.56N×141.12E,mb4.6/18, MW4.4(NIED),Error ellipse: s-maj=7.8km s-min=6.2km az=135.0*
NEIC Recorded [2 JMA] in Fukushima, Ibaraki and Tochigi; [1 JMA] in Chiba, Gumma, Miyagi, Saitama and Tokyo Prefectures.
*NIED **24** 16:16:00,36.60N×141.20E,h35km,Mw4.4 Best double couple: M0=4.7×10^15 NP1:φ=17°,δ73°,λ88°. NP2:φ=206°, δ17°,λ98°.*

ISC 24 16:15:56.6±0.6,**36.55N**±0.03×**141.20E**±0.05,**h44**km±4km, **h42**km±.6km:**pP-P,n140,σ1=05**/135,**mb4.6**/49,**25C-17D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JHO	**Hitachi**	**0.51**	**277**	⇓P		**P**	**16 16 08.0**	**+0.3**
JHO				*e*S		**S**	**16 16 15.6**	**0.0**
ONAJ	**Iwakimizuishiy**	**0.64**	**330**	⇓P		**P**	**16 16 09.5**	**+0.2**
ONAJ				*e*S		**S**	**16 16 18.0**	**-0.6**
JFK	**Kawauchi**	**0.85**	**342**	⇓P		**P**	**16 16 12.4**	**+0.1**
JFK				*e*S		**S**	**16 16 23.3**	**-0.6**
JYT	**Yasato**	**0.88**	**249**	⇓P		**P**	**16 16 13.0**	**+0.3**
JYT				*e*S		**S**	**16 16 24.3**	**-0.2**
JFT	**Otama**	**1.19**	**325**	⇓P		**P**	**16 16 18.3**	**+1.3**
JFT				*e*S		**S**	**16 16 33.3**	**+1.0**
JMM	**Marumori**	**1.35**	**346**	⇓P		**P**	**16 16 19.5**	**0.0**
JMM				*e*S		**S**	**16 16 36.2**	**-0.3**
JAG	**Ashikaga**	**1.42**	**265**	⇓P		**P**	**16 16 20.7**	**+0.3**
JFY	**Yanaizu**	**1.47**	**306**	⇓P		**P**	**16 16 22.0**	**+0.8**
JKT	**Katashina**	**1.58**	**278**	⇓P		**P**	**16 16 23.8**	**+1.0**
MAJO	**Matsushiro**	**2.41**	**271**	*e*Pn		**P**	**16 16 35.9**	**+1.4**
MAT	**Matsushiro**	**2.41**	**271**	P		**P**	**16 16 34.3**	**-0.2**
MAT				S		**S**	**16 17 02.2**	**-0.8**
MAT	**Matsushiro**	**2.41**	**271**	*e*P		**P**	**16 16 36.0**	**+1.5**
MAT				*e*S		**S**	**16 17 08.0**	**+5.0**
JHJ	**Hachijo jima 2**	**3.62**	**199**	P		**P**	**16 16 52.7**	**+1.0**
	164nm,0.3s,baz=111,slow=6.4,SNR=32							
JHJ				S		**S**	**16 17 33.1**	**-0.5**
	167nm,0.3s,baz=66,slow=24,SNR=8.8							
JHJ				LR		LR	16 18 25.8	
	comp=Z,342nm,19.3s,baz=85,slow=41							
ERM	**Erimo**	**5.66**	**15**	Pn		**P**	**16 17 20.7**	**+0.3**
	355nm,0.5s,SNR=34							
ASAJ	**Asahikawa**	**7.63**	**8**	P		**P**	**16 17 45.5**	**-2.4**
	5.1nm,0.3s,baz=246,slow=6.9,SNR=37							
ASAJ				S		**S**	**16 19 11.2**	**-2.8**
	3.3nm,0.3s,baz=64,slow=32,SNR=4.4							
ASAJ	**Asahikawa**	**7.63**	**8**	P		**P**	**16 17 45.5**	**-2.4**
ASAJ				S		**S**	**16 19 11.2**	**-2.8**
ASAJ				pmax		pmax		
	comp=Z,5.0nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**8.28**	**24**	*e*P		**P**	**16 17 50.4**	**-6.5**
YUK				pmax		pmax		
	comp=Z,180nm,0.4s							
YUK				pmax		pmax		
	comp=N,180nm,0.5s							
CBIJ	**Chichi jima**	**9.47**	**175**	P		**P**	**16 18 10.2**	**-3.1**
CBIJ				S		**S**	**16 19 47.4**	**-12**
YSS	**Yuzh-Sakhalins**	**10.46**	**6**	*e*P		**P**	**16 18 24.1**	**-2.7**
YSS	**Yuzh-Sakhalins**	**10.46**	**6**	*e*Pn		**P**	**16 18 23.5**	**-3.3**
	comp=N,24nm,0.9s							
MDJ	**Mudanjiang**	**11.94**	**316**	P		**P**	**16 18 51.0**	**+4.1**
MDJ				AMB		AMB		
	comp=Z,16nm,1.2s							
MDJ				AMB		AMB		
	comp=Z,115nm,5.5s							
MDJ	**Mudanjiang**	**11.94**	**316**	Pn		**P**	**16 18 49.2**	**+2.3**
	comp=Z,6.7nm,0.6s							
JOW	**Kunigami**	**14.65**	**232**	P		**P**	**16 19 23.6**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=107,slow=28,SNR=2.0							
SSE	**Sheshan**	**17.49**	**258**	P		**P**	**16 19 56.1**	**-2.7**
SSE				S		**S**	**16 23 11.6**	**+1.7**
SSE				AMB		AMB		
	comp=Z,28nm,0.8s							
SSE				AMB		AMB		
	comp=Z,222nm,7.9s							
SSE				LR		LR		
	comp=N,101nm,21.4s							
SSE				LR		LR		
	comp=E,79nm,21.4s							
SSE				LR		LR		
	comp=Z,105nm,21.5s							
SSE	**Sheshan**	**17.49**	**258**	P		**P**	**16 19 56.1**	**-2.7**
	comp=Z,28nm,0.8s							
SSE				sP			16 20 09.7	
SSE				S		**S**	**16 23 11.6**	**+1.7**
SSE				sS			16 23 31.3	
NJ2	**Nanjing**	**18.99**	**263**	*e*P		**P**	**16 20 16.4**	**-0.8**
NJ2				AP			16 20 24.4	
NJ2				PP		PP	16 20 33.3	-0.7
NJ2				S		**S**	**16 23 45.0**	**+1.3**
NJ2				XS			16 23 58.0	
NJ2				AMB		AMB		
	comp=Z,20nm,0.9s							
NJ2				AMB		AMB		
	comp=Z,830nm,5.5s							
NJ2				LR		LR		
	comp=Z,5μm,16.6s							
BJT	**Baijiatuau**	**19.93**	**288**	*e*P		**P**	**16 20 25.3**	**-2.2**
	comp=Z,9.6nm,0.5s							
MA2	**Magadan**	**23.86**	**12**	*e*P		**P**	**16 21 06.7**	**+0.3**
	comp=Z,13nm,0.9s,mb4.4							
XAN	**Xi'an**	**26.40**	**274**	P		**P**	**16 21 30.1**	**-0.8**
XAN				AMB		AMB		
	comp=Z,4.0nm,0.7s,mb4.1							
YAK	**Yakutsk**	**26.50**	**348**	*e*P		**P**	**16 21 30.2**	**-1.3**
YAK				pmax		pmax		
	comp=N,6.0nm,0.9s							
YAK				pmax		pmax		
	comp=Z,15nm,0.9s,mb4.5							
YAK	**Yakutsk**	**26.50**	**348**	*e*P		**P**	**16 21 29.5**	**-2.0**
	comp=Z,26nm,0.8s,mb4.8							
ENH	**Enshi**	**27.13**	**266**	*e*P		**P**	**16 21 35.8**	**-1.7**
	comp=Z,34nm,0.6s,mb5.0							
SONM	**Songino Array**	**27.92**	**305**	P		**P**	**16 21 43.6**	**-0.9**
	comp=Z,18nm,1.1s,mb4.6,baz=107,slow=8.4,SNR=41							
ZAK	**Zakamensk**	**30.44**	**309**	*e*P		**P**	**16 22 06.0**	**-1.0**
GYA	**Guiyang**	**30.98**	**261**	⇑*i*P		**P**	**16 22 10.1**	**-1.9**
GYA				AMB		AMB		
	comp=Z,10.0nm,1.0s,mb4.6							
MOY	**Mondy**	**32.12**	**311**	*e*P		**P**	**16 22 21.3**	**-0.5**
TIXI	**Tiksi**	**35.75**	**353**	*e*P		**P**	**16 22 51.7**	**-1.1**
TIXI				pmax		pmax		
	comp=Z,5.0nm,1.4s,mb4.2							
WMQ	**Urumqi**	**40.91**	**297**	P		**P**	**16 23 37.0**	**+0.9**
WMQ				AMB		AMB		
	comp=Z,34nm,0.8s,mb5.0							
CMAR	**Chiang Mai Arr**	**41.21**	**256**	P		**P**	**16 23 39.0**	**+0.2**
	comp=Z,1.8nm,0.6s,mb3.9,baz=51,slow=6.6,SNR=14							
CMAR	**Chiang Mai Arr**	**41.21**	**256**	P		**P**	**16 23 39.1**	**+0.3**
CMAR				pmax		pmax		
	comp=Z,2.0nm,0.6s							
ZAL	**Zalesovo**	**42.13**	**313**	P		**P**	**16 23 46.5**	**+0.5**
	comp=Z,8.6nm,0.5s,mb4.6,baz=15,slow=7.0,SNR=39							
ZAL				PcP		PcP	16 25 39.8	-0.7
	comp=Z,0.8nm,0.6s,baz=326,slow=7.7,SNR=3.4							
ZAL	**Zalesovo**	**42.13**	**313**	P		**P**	**16 23 46.5**	**+0.6**
ZAL							16 25 39.8	
ZAL				pmax		pmax		
	comp=Z,9.0nm,0.5s							
ZAL				pmax		pmax		
	comp=Z,1.0nm,0.6s							
NVS	**Novosibirsk**	**43.05**	**314**	*i* P		**P**	**16 23 53.2**	**-0.3**
NVS				pmax		pmax		
	comp=N,4.0nm,1.2s							
NVS				pmax		pmax		
	comp=E,16nm,1.2s							
NVS				pmax		pmax		
	comp=Z,16nm,1.2s,mb4.6							
KURK	**Kurchatov**	**46.10**	**308**	*c i*P		**P**	**16 24 17.3**	**-0.7**
KURK	**Kurchatov**	**46.10**	**308**	*e*P		**P**	**16 24 17.2**	**-0.8**
	comp=Z,24nm,0.6s,mb5.3							
GUN	**Gumba**	**47.03**	**276**	*e*P		**P**	**16 24 26.1**	**+0.5**
	comp=Z,44nm,0.9s,mb5.4							
PKI	**Pulchoki**	**47.56**	**276**	*e*P		**P**	**16 24 29.7**	**-0.1**
	comp=Z,12nm,0.7s,mb5.0							
KKN	**Kakani**	**47.57**	**276**	*e*P		**P**	**16 24 30.0**	**+0.2**
	comp=Z,44nm,1.1s,mb5.4							
DMN	**Daman**	**47.78**	**276**	*e*P		**P**	**16 24 31.4**	**-0.1**
	comp=Z,11nm,0.8s,mb5.0							
GKN	**Gorkha**	**47.99**	**277**	*e*P		**P**	**16 24 33.1**	**-0.1**
	comp=Z,55nm,0.9s,mb5.6							
KOLN	**Koldanda**	**48.92**	**277**	*e*P		**P**	**16 24 40.1**	**-0.2**
	comp=Z,17nm,0.7s,mb5.2							
TKM2	**Tokmak 2**	**49.71**	**299**	P		**P**	**16 24 47.1**	**+0.9**
	SNR=17							
ILAR	**Eielson Array**	**49.99**	**32**	P		**P**	**16 24 48.4**	**+0.3**
	comp=Z,2.4nm,0.7s,mb4.3,baz=271,slow=5.6,SNR=33							
ILAR				pP		pP	16 25 00.3	0.0
	comp=Z,3.3nm,0.8s,baz=270,slow=5.7,SNR=11							
ILAR	**Eielson Array**	**49.99**	**32**	P		**P**	**16 24 48.4**	**+0.3**
ILAR				*P		pP	16 25 00.3	0.0
ILAR				pmax		pmax		
	comp=Z,2.0nm,0.7s							
ILAR				pmax		pmax		
	comp=Z,3.0nm,0.8s							
KZA	**Kyzart**	**50.20**	**298**	P		**P**	**16 24 51.5**	**+1.6**
	SNR=7.4							
KBK	**Karagaybulak**	**50.24**	**299**	P		**P**	**16 24 50.7**	**+0.4**
	SNR=20							
USP	**Osepenovka**	**50.39**	**299**	P		**P**	**16 24 51.4**	**0.0**
	SNR=8.0							
AAK	**Ala-Archa**	**50.57**	**299**	*c i*P		**P**	**16 24 51.7**	**-1.1**
AAK				pmax		pmax		
	comp=Z,3.0nm,0.9s,mb4.2							
AAK	**Ala-Archa**	**50.57**	**299**	*e*P		**P**	**16 24 51.6**	**-1.2**
	comp=Z,4.0nm,0.6s,mb4.5							
BRVK	**Borovoye**	**50.83**	**313**	*e*P		**P**	**16 24 53.6**	**-1.0**
	comp=Z,9.1nm,0.8s,mb4.8							
EKS2	**Erkin-Say**	**51.07**	**299**	P		**P**	**16 24 56.7**	**+0.2**
	SNR=6.2							
AML	**Almayashu**	**51.28**	**298**	P		**P**	**16 24 58.5**	**+0.3**
	SNR=8.9							
INK	**Inuvik**	**54.89**	**27**	P		**P**	**16 25 24.9**	**+0.3**
	comp=Z,3.2nm,0.8s,mb4.4,baz=283,slow=6.7,SNR=11							
INK	**Inuvik**	**54.89**	**27**	P		**P**	**16 25 24.9**	**+0.3**
INK				pmax		pmax		
	comp=Z,3.0nm,0.8s							
INK	**Inuvik**	**54.89**	**27**	*e*P		**P**	**16 25 24.4**	**-0.2**
	comp=Z,3.5nm,0.8s,mb4.4							
FITZ	**Fitzroy Crossi**	**56.31**	**198**	P		**P**	**16 25 35.1**	**-0.4**
	comp=Z,4.2nm,0.8s,mb4.5,baz=8.0,slow=8.8,SNR=12							
WRAB	**Tennant Creek**	**56.55**	**188**	*e*P		**P**	**16 25 35.8**	**-1.4**
	comp=Z,8.4nm,0.8s,mb4.8							
WRA	**Warramunga Arr**	**56.56**	**188**	P		**P**	**16 25 35.9**	**-1.3**
	comp=Z,4.4nm,0.5s,mb4.8,baz=6.2,slow=7.6,SNR=121							
WRA	**Warramunga Arr**	**56.56**	**188**	P		**P**	**16 25 35.9**	**-1.3**
WRA				pmax		pmax		
	comp=Z,4.0nm,0.5s							
ARU	**Arti**	**56.61**	**319**	*i* P		**P**	**16 25 35.8**	**-1.3**
ARU				D			16 26 31.4	
ARU				*e*			16 27 41.2	
ARU				*e*			16 33 28.4	
ARU				*e*			16 37 14.0	
ARU	**Arti**	**56.61**	**319**	*e*P		**P**	**16 25 35.7**	**-1.4**
	comp=Z,25nm,1.3s,mb5.1							
HYB	**Hyderabad**	**58.02**	**269**	*i* P		**P**	**16 25 47.5**	**-0.1**
DLBC	**Dease Lake**	**59.11**	**38**	P		**P**	**16 25 56.0**	**+1.3**
	comp=Z,1.9nm,0.8s,mb4.2,baz=356,slow=25,SNR=2.2							
ASAR	**Alice Springs**	**60.29**	**188**	P		**P**	**16 26 02.1**	**-1.1**
	comp=Z,2.9nm,0.7s,mb4.4,baz=2.5,slow=4.7,SNR=44							
MBWA	**Marble Bar**	**60.88**	**203**	*e*P		**P**	**16 26 06.1**	**-1.2**
	comp=Z,3.7nm,0.6s,mb4.7							
KEV	**Kevo**	**63.83**	**339**	*e*p		**P**	**16 26 25.3**	**-0.8**
	comp=Z,0.5nm,0.3s,mb4.0							
KEV	**Kevo**	**63.83**	**339**	*e*P		**P**	**16 26 25.3**	**-0.8**
KEV				pmax		pmax		
	comp=Z,1.0nm,0.3s,mb4.3							
ARCES	**ARCESS Array B**	**64.39**	**339**	P		**P**	**16 26 29.2**	**-0.5**
	comp=Z,10nm,1.1s,mb4.8,baz=51,slow=8.1,SNR=14							
ARCES	**ARCESS Array B**	**64.39**	**339**	P		**P**	**16 26 29.2**	**-0.5**
ARCES				pmax		pmax		
	comp=Z,11nm,1.1s							
JOF	**Joensuu**	**66.31**	**332**	*e*p		**P**	**16 26 39.4**	**-2.7**
	comp=Z,1.8nm,0.4s,mb4.5							
JOF	**Joensuu**	**66.31**	**332**	*e*P		**P**	**16 26 39.4**	**-2.7**
JOF				pmax		pmax		
	comp=Z,2.0nm,0.4s,mb4.5							
STKA	**Stephens Creek**	**68.07**	**180**	P		**P**	**16 26 53.1**	**-0.7**
	comp=Z,2.8nm,0.6s,mb4.5,baz=346,slow=5.0,SNR=12							
OBN	**Obninsk**	**68.38**	**323**	*e*P		**P**	**16 26 54.2**	**-1.1**
KAF	**Kangasniemi**	**68.66**	**333**	*e*p		**P**	**16 26 55.5**	**-1.4**
	comp=Z,2.0nm,0.3s,mb4.5,baz=50,slow=6.0							
KAF	**Kangasniemi**	**68.66**	**333**	*e*P		**P**	**16 26 55.5**	**-1.4**
KAF				pmax		pmax		
	comp=Z,2.0nm,0.3s,mb4.5							
FINES	**FINESS Array B**	**69.16**	**332**	P		**P**	**16 26 59.6**	**-0.4**
	comp=Z,4.9nm,0.7s,mb4.5,baz=45,slow=8.1,SNR=25							
FINES				pP		pP	16 27 12.4	-0.4
	comp=Z,1.9nm,0.6s,baz=43,slow=7.2,SNR=4.5							
FINES	**FINESS Array B**	**69.16**	**332**	P		**P**	**16 26 59.6**	**-0.4**
FINES				*P		pP	16 27 12.4	-0.5
FINES				pmax		pmax		
	comp=Z,5.0nm,0.7s							
FINES				pmax		pmax		
	comp=Z,2.0nm,0.6s							
HFS	**Hagfors**	**74.46**	**336**	P		**P**	**16 27 31.4**	**-0.1**
	comp=Z,1.4nm,0.4s,mb4.3,baz=53,slow=7.4,SNR=14							
HFS	**Hagfors**	**74.46**	**336**	P		**P**	**16 27 31.4**	**-0.1**
HFS				pmax		pmax		
	comp=Z,1.0nm,0.4s							
NB2	**NORSAR Subarra**	**74.56**	**337**	P		**P**	**16 27 31.8**	**-0.3**
	comp=Z,4.1nm,0.7s,mb4.5,baz=40,slow=5.8							
NOA	**NORSAR Array B**	**74.56**	**337**	P		**P**	**16 27 32.1**	**0.0**
	comp=Z,3.6nm,0.7s,mb4.4,baz=39,slow=5.8,SNR=25							
NOA				pP		pP	16 27 44.7	-0.3
	comp=Z,1.5nm,0.6s,baz=39,slow=5.8,SNR=5.0							
NOA	**NORSAR Array B**	**74.56**	**337**	P		**P**	**16 27 32.1**	**0.0**
NOA				*P		pP	16 27 44.7	-0.3
NOA				pmax		pmax		
	comp=Z,4.0nm,0.7s							
NOA				pmax		pmax		
	comp=Z,2.0nm,0.6s							
NOA	**NORSAR Array B**	**74.56**	**337**	P		**P**	**16 27 32.1**	**0.0**
NOA				pP		pP	16 27 44.7	-0.3
AKASG	**Malin Array Be**	**74.57**	**322**	P		**P**	**16 27 31.9**	**-0.5**
	comp=Z,1.6nm,0.3s,mb4.4,baz=46,slow=6.0,SNR=22							
AKASG				pP		pP	16 27 44.8	-0.5
	comp=Z,2.2nm,0.4s,baz=45,slow=6.0,SNR=8.8							
AKASG	**Malin Array Be**	**74.57**	**322**	P		**P**	**16 27 31.9**	**-0.4**
AKASG				*P		pP	16 27 44.8	-0.5
AKASG				pmax		pmax		
	comp=Z,2.0nm,0.4s							
AKASG				pmax		pmax		
	comp=Z,2.0nm,0.4s							
BOZ	**Bozeman (W)**	**75.17**	**44**	*e*P		**P**	**16 27 36.6**	**+0.7**
	comp=Z,2.8nm,0.8s,mb4.2							
BOZ				*e*		pP	16 27 49.5	+0.7
NVAR	**Mina Array Bea**	**75.41**	**53**	P		**P**	**16 27 39.2**	**+1.8**
	comp=Z,1.3nm,0.9s,mb3.8,baz=282,slow=8.2,SNR=7.4							
NVAR				pP		pP	16 27 51.4	+1.0
	comp=Z,5.3nm,1.1s,baz=288,slow=5.7,SNR=13							
DUG	**Dugway**	**77.80**	**49**	*e*P		**P**	**16 27 52.1**	**+1.3**
DUG				*e*pP		pP	16 28 04.3	+0.5
PDAR	**Pinedale Array**	**78.13**	**45**	P		**P**	**16 27 53.8**	**+1.3**
	comp=Z,0.5nm,0.6s,mb3.6,baz=300,slow=1.7,SNR=5.1							
PDAR				pP		pP	16 28 06.3	+0.8
	comp=Z,0.9nm,0.7s,baz=269,slow=1.5,SNR=5.2							
BRTR	**Keskin Array B**	**79.04**	**312**	P		**P**	**16 27 58.0**	**+0.3**
	comp=Z,0.8nm,0.6s,mb3.8,baz=76,slow=5.1,SNR=6.2							
BRTR				pP		pP	16 28 11.8	+1.1
	comp=Z,1.9nm,0.8s,baz=108,slow=3.9,SNR=5.6							
BRTR	**Keskin Array B**	**79.04**	**312**	P		**P**	**16 27 58.0**	**+0.3**
BRTR				*PP		pP	16 28 11.8	+1.1
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
BRTR				pmax		pmax		
	comp=Z,2.0nm,0.8s							
SRU	**San Rafael**	**79.86**	**49**	*e*P		**P**	**16 28 03.3**	**+1.2**
SRU				*e*pP		pP	16 28 15.9	+0.8
DPC	**Dobruska-Polom**	**80.78**	**328**	*e*P		**P**	**16 28 07.5**	**+0.8**
DPC				*e*pP		pP	16 28 19.5	-0.3
UPC	**Upice**	**80.79**	**328**	*e*P		**P**	**16 28 07.6**	**+0.8**
PV10	**Paradox Valley**	**81.22**	**48**	*e*P		**P**	**16 28 11.4**	**+2.1**
PV10				*e*pP		pP	16 28 23.5	+1.2
CLL	**Collm**	**81.43**	**330**	⇓P		**P**	**16 28 10.5**	**+0.4**
	comp=Z,logA/T=1.0,mb4.7							
CLL				*i* *PP		pP	16 28 23.0	-0.2
CLL	**Collm**	**81.43**	**330**	⇓*i*P		**P**	**16 28 10.5**	**+0.4**
CLL				*i*		pP	16 28 23.0	-0.2
CLL				pmax		pmax		
	comp=Z,10.0nm,1.1s,mb4.7							
CLL	**Collm**	**81.43**	**330**	⇓*i*P		**P**	**16 28 10.5**	**+0.4**
	comp=Z,10.0nm,1.1s,mb4.7							
CLL				*i*		pP	16 28 23.0	-0.2
PV01	**Paradox Valley**	**81.66**	**48**	P		**P**	**16 28 12.9**	**+1.3**
PRU	**Pruhonice**	**81.80**	**328**	*e*P		**P**	**16 28 12.2**	**+0.1**
KHC	**Kasperske Hory**	**82.86**	**328**	*e*P		**P**	**16 28 17.9**	**+0.4**
KHC				*e*pP		pP	16 28 30.5	-0.1
GERES	**GERESS Array B**	**83.03**	**328**	P		**P**	**16 28 18.8**	**+0.4**
	comp=Z,0.7nm,0.4s,mb4.0,baz=34,slow=4.8,SNR=14							
GERES				pP		pP	16 28 31.6	+0.1
	comp=Z,1.4nm,0.6s,baz=34,slow=5.6,SNR=8.2							
GERES	**GERESS Array B**	**83.03**	**328**	P		**P**	**16 28 18.8**	**+0.4**
GERES				*P		pP	16 28 31.6	+0.1
GERES				pmax		pmax		
	comp=Z,1.0nm,0.4s							
GERES				pmax		pmax		
	comp=Z,1.0nm,0.6s							
GRA1	**Grafenberg Arr**	**83.40**	**330**	*e*P		**P**	**16 28 21.5**	**+1.3**
	comp=Z,6.0nm,0.9s,mb4.6							
GRA1				*e*pP		pP	16 28 33.8	+0.4
GRF	**Grafenberg Arr**	**83.40**	**330**	*e*P		**P**	**16 28 21.5**	**+1.3**
GRF				*e**PP		pP	16 28 33.8	+0.4
GRF				pmax		pmax		
	comp=Z,6.0nm,0.9s,mb4.6							
SCHQ	**Schefferville**	**85.85**	**16**	P		**P**	**16 28 33.5**	**+1.3**
	comp=Z,3.1nm,0.7s,mb4.7,baz=36,slow=6.5,SNR=4.1							
DAVOX	**Davos**	**86.25**	**329**	P		**P**	**16 28 36.0**	**+1.6**
	comp=Z,1.3nm,0.7s,mb4.3,baz=295,slow=18,SNR=2.3							
IDI	**Anoyia**	**87.19**	**313**	P		**P**	**16 28 39.4**	**0.0**
	comp=Z,3.6nm,0.8s,mb4.7,baz=33,slow=9.8,SNR=4.5							
TXAR	**Lajitas Array**	**90.55**	**52**	P		**P**	**16 28 57.0**	**+1.6**
	comp=Z,0.6nm,0.8s,mb4.0,baz=288,slow=4.0,SNR=7.9							
TXAR				pP		pP	16 29 09.5	+0.8
	comp=Z,0.4nm,0.6s,baz=293,slow=2.8,SNR=5.6							
TXAR	**Lajitas Array**	**90.55**	**52**	P		**P**	**16 28 57.0**	**+1.6**
TXAR				pP		pP	16 29 09.5	+0.8
MAW	**Mawson**	**119.03**	**205**	PKP		PKPdf	16 34 41.3	+1.5
	comp=Z,2.4nm,1.2s,baz=322,slow=5.7,SNR=3.8							
MAW	**Mawson**	**119.03**	**205**	PKIKP		PKPdf	16 34 41.3	+1.4
MAW				pmax		pmax		
	comp=Z,2.0nm,1.2s							
SNAA	**Sanae**	**140.24**	**197**	⇑*i*		PKPdf	16 35 22.8	+3.0
SNAA	**Sanae**	**140.24**	**197**	⇑*i*		PKPdf	16 35 28.2	+8.4
SNAA	**Sanae**	**140.24**	**197**	⇓*i*		PKPdf	16 35 33.9	+14
SNAA	**Sanae**	**140.24**	**197**	P		PKPdf	16 35 19.6	-0.2
SNAA				⇑*i*P			16 35 22.8	
SNAA				⇑*i*P			16 35 28.2	
SNAA				⇓*i*P			16 35 33.9	
VNA2	**Neumayer--Watz**	**141.81**	**196**	⇑*i*		PKPdf	16 35 24.4	+2.0
VNA2	**Neumayer--Watz**	**141.81**	**196**	⇑*i*		PKPdf	16 35 32.6	+10
VNA2	**Neumayer--Watz**	**141.81**	**196**	⇑*i*		PKPdf	16 35 38.0	+16
VNA2	**Neumayer--Watz**	**141.81**	**196**	⇓*i*P		PKPdf	16 35 21.9	-0.5
VNA2				⇑*i*P			16 35 24.4	
VNA2				⇑*i*P			16 35 32.6	
VNA2				⇑*i*P			16 35 38.0	
VNA3	**Neumayer Olymp**	**142.06**	**195**	⇑*i*		PKPdf	16 35 26.8	+4.0
VNA3	**Neumayer Olymp**	**142.06**	**195**	⇑*i*		PKPdf	16 35 34.4	+12
VNA3	**Neumayer Olymp**	**142.06**	**195**	⇓*i*		PKPdf	16 35 41.6	+19
VNA3	**Neumayer Olymp**	**142.06**	**195**	⇑*i*P		PKPdf	16 35 23.3	+0.5
VNA3				⇑*i*P			16 35 26.8	
VNA3				⇑*i*P			16 35 34.4

SRDI	**Scrawed** 32nm,0.2s	**2.08**	**304**⇓	*e*Pn	Pn	16 25 47.5	-3.6
SRDI			⇓	*e*Sn	Sn	16 26 12.2	-5.7

JMA 24 16:27:32.7,37.24N×138.91E,h10km±1km,M1.7,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.09**	**84**	P	Pg	16 27 35.0	-0.2
JIZZ	**Izumozaki**	**0.33**	**331**	P	Pg	16 27 39.6	0.0
JIZZ				S	Sg	16 27 45.2	+1.0
JKT	**Katashina**	**0.55**	**150**	P	Pg	16 27 43.4	-0.3
JJN	**Nakama**	**0.61**	**257**	P	Pb	16 27 44.6	-0.4
JFY	**Yanaizu**	**0.66**	**75**	P	Pb	16 27 45.2	-0.6

NIED ***24*** *16:27:00,37.10N×138.80E,h5km,Mw4.4 Best double couple: M₀4.16×10¹⁵ NP1:φs21°,δ51°,λ66°. NP2:φs236°, δ45°,λ116°.*

BJI ***24*** *16:27:51.3,37.20N×138.70E,h10km,mB5.0,mb4.6, Ms4.3,Msz4.0*

NEIC ***24*** *16:27:51.8±0.2,37.15N×138.66E,h10km,mb4.7/29, MW4.4(NIED),Error ellipse: s-maj=6.3km s-min=4.6km az=125.0*

NEIC Recorded [4 JMA] in Niigata and [1 JMA] in Fukushima, Gumma, Ishikawa, Nagano and Saitama Prefectures. Also recorded [2 JMA] on Sadoga-shima.

JMA ***24*** *16:27:52.4,37.17N×138.76E,h6km±1km,M4.7 Broadband fault plane solution: P waves. NP1:φs5°,δ7°, λ-49°. NP2:φs144°,δ85°,λ-94°. Principal axes: T Plg40°, Azm238°; N Plg4°, Azm144°; P Plg50°, Azm49°;*

JMA Felt IV J1.

MOS ***24*** *16:27:53.1±1.1,37.08N×138.83E,h33km,mb4.7/25 Error ellipse: s-maj=16.7km s-min=7.7km az=102.0*

IDC ***24*** *16:27:57.6±2.2,37.16N×138.59E,h50km±21km,mb4.1/30, mb1 4.2/33,mb1mx4.2/38,ML4.0/2,MS3.8/6,Ms1 3.8/6, ms1mx3.4/28,Error ellipse: s-maj=15.6km s-min=10.4km az=82.0*

ISC 24 16:27:52.1±0.4,37.16N±0.03×138.71E±0.04,h22km±3km, n176,σ0s99/172,mb4.5/67,MS4.0/10,11C-10D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.26**	**70**	⇓P	**Pb**	**16 27 56.8**	**-1.5**
JHK				*e*S	**Sb**	**16 28 00.7**	**-1.9**
JIZZ	**Izumozaki**	**0.37**	**0**	⇓P	**Pb**	**16 28 00.3**	**+0.3**
JIZZ				*e*S	**Sb**	**16 28 06.9**	**+1.5**
JKT	**Katashina**	**0.58**	**132**	⇓P	**Pb**	**16 28 03.2**	**-0.3**
JKT				*e*S	**Sb**	**16 28 11.4**	**0.0**
JGK	**Kuni**	**0.60**	**185**	⇑P	**Pb**	**16 28 04.2**	**+0.5**
MAJO	**Matsushiro**	**0.73**	**213**	⇑*e*Pg	**Pb**	**16 28 06.2**	**+0.2**
MAJO				Sg	**Sb**	**16 28 16.8**	**+1.2**
MAT	**Matsushiro**	**0.73**	**213**	P	**Pb**	**16 28 06.4**	**+0.4**
MAT				S	**Sb**	**16 28 17.5**	**+1.9**
MAT	**Matsushiro**	**0.73**	**213**	P	**Pb**	**16 28 06.3**	**+0.3**
MAT	**Matsushiro**	**0.73**	**213**	*e*P	**Pb**	**16 28 06.0**	**0.0**
MAT				*e*S	**Sb**	**16 28 18.0**	**+2.4**
JNS	**Sasagawa**	**0.82**	**36**	P	**Pb**	**16 28 06.8**	**-0.7**
JSD	**Sado**	**0.94**	**338**	P	**Pb**	**16 28 09.2**	**-0.4**
JAG	**Ashikaga**	**0.95**	**140**	⇓P	**Pb**	**16 28 10.1**	**+0.4**
JHJ	**Hachijo jima 2** 34nm,0.3s,baz=56,slow=8.1,SNR=5.5	**4.13**	**167**	P	**Pn**	**16 28 57.1**	**+1.7**
JHJ				S	**Sn**	**16 29 47.9**	**+4.3**
	23nm,0.3s,baz=58,slow=20,SNR=3.3						
ASAJ	**Asahikawa** 2.2nm,0.3s,baz=218,slow=16,SNR=12	**7.55**	**22**	P	**Pn**	**16 29 45.5**	**+1.9**
ASAJ				LR	LR	16 32 50.3	
	comp=Z,218nm,18.3s,baz=206,slow=39						
ASAJ	**Asahikawa**	**7.55**	**22**	P	**Pn**	**16 29 45.6**	**+1.9**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,218nm,18.3s						
YSS	**Yuzh-Sakhalins**	**10.24**	**16**	*e*P	**P**	**16 30 20.2**	**-0.6**
YSS				MLR	MLR		
	comp=Z,500nm,11.0s						
YSS	**Yuzh-Sakhalins** comp=Z,65nm,1.3s	**10.24**	**16**	*e*P	**P**	**16 30 20.9**	**+0.1**
SSE	**Sheshan**	**15.71**	**252**	P	**P**	**16 31 33.3**	**-0.4**
SSE				XP		16 31 39.8	
SSE				S	**S**	**16 34 27.3**	**-0.1**
SSE				AMB	AMB		
	comp=Z,29nm,0.8s						
SSE				AMB	AMB		
	comp=Z,240nm,7.3s						
SSE				LR	LR		
	comp=N,178nm,20.1s						
SSE				LR	LR		
	comp=E,161nm,20.1s						
SSE				LR	LR		
	comp=Z,178nm,15.2s						
SSE	**Sheshan** comp=Z,29nm,0.8s	**15.71**	**252**	P	**P**	**16 31 33.2**	**-0.5**
SSE				sP		16 31 39.7	
SSE				S	**S**	**16 34 27.3**	**-0.1**
NJ2	**Nanjing**	**17.11**	**259**	*e*P	**P**	**16 31 51.3**	**-0.2**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s						
BJI	**Beijing**	**17.84**	**286**	P	**P**	**16 32 02.4**	**+1.9**
BJI				AMB	AMB		
	comp=Z,31nm,1.3s						
BJI				LR	LR		
	comp=N,345nm,10.7s						
BJI				LR	LR		
	comp=E,251nm,10.0s						
BJI				LR	LR		
	comp=Z,146nm,19.6s						
BJI	**Beijing** comp=Z,31nm,1.3s	**17.84**	**286**	P	**P**	**16 32 02.4**	**+1.9**
BJI				S	**S**	**16 35 06.6**	**-10**
BJT	**Baijiatuan** comp=Z,14nm,0.8s	**17.84**	**286**	P	**P**	**16 31 58.6**	**-1.9**
HIA	**Hailar** comp=Z,6.8nm,0.8s	**18.31**	**317**	*e*P	**P**	**16 32 06.7**	**+0.4**
WHN	**Wuhan**	**21.25**	**259**	*e*P	**P**	**16 32 39.5**	**+0.6**
HHC	**Hu-ho-hao-te**	**21.38**	**288**	*e*P	**P**	**16 32 46.4**	**+6.2**
HHC				AMB	AMB		
	comp=Z,14nm,1.2s,mb4.2						
HHC				AMB	AMB		
	comp=Z,96nm,4.4s						
MA2	**Magadan**	**23.75**	**15**	*e*P	**P**	**16 33 03.5**	**+0.3**
MA2				pmax	pmax		
	comp=Z,38nm,1.3s,mb4.7						
MA2	**Magadan** comp=Z,38nm,1.2s,mb4.7	**23.75**	**15**	P	**P**	**16 33 05.5**	**+2.3**
ENH	**Enshi** comp=Z,40nm,0.8s,mb5.0	**25.19**	**263**	*e*P	**P**	**16 33 15.9**	**-1.6**
YAK	**Yakutsk**	**25.52**	**350**	*e*P	**P**	**16 33 23.1**	**+2.8**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.2						
YAK	**Yakutsk** comp=Z,10nm,0.8s,mb4.4	**25.52**	**350**	*e*P	**P**	**16 33 19.3**	**-1.0**
SONM	**Songino Array** comp=Z,5.2nm,1.0s,mb4.0,baz=106,slow=9.0,SNR=25	**25.93**	**305**	P	**P**	**16 33 23.6**	**-0.6**
LZH	**Lanzhou**	**27.91**	**278**	*e*P	**P**	**16 33 41.0**	**-1.5**
LZH				AMB	AMB		
	comp=Z,25nm,1.5s,mb4.6						
LZH	**Lanzhou** comp=Z,25nm,1.5s,mb4.6	**27.91**	**278**	*e*P	**P**	**16 33 41.0**	**-1.5**
LZH				pP	pP	16 33 58.5	+9.5
LZH				sP	Px	16 34 06.0	
GYA	**Guiyang**	**29.12**	**258**	⇑*i*P	**P**	**16 33 51.4**	**-2.1**
GYA				S	**S**	**16 38 37.9**	**-4.9**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.5						
GYA				LR	LR		
	comp=N,2μm,11.4s,MS5.1						
GYA				LR	LR		
	comp=E,2μm,15.0s,MS5.1						
GYA				LR	LR		
	comp=Z,2μm,15.6s,MS4.8						
GTA	**Gaotai**	**30.45**	**286**	*e*P	**P**	**16 34 02.1**	**-3.1**
GTA				AP	pP	16 34 08.4	-3.4
GTA				S	**S**	**16 39 04.1**	**+0.3**
GTA				AMB	AMB		
	comp=Z,3.0nm,1.5s,mb3.8						
GTA				LR	LR		
	comp=N,223nm,8.7s						
GTA				LR	LR		
	comp=E,346nm,11.0s						
GTA				LR	LR		
	comp=Z,292nm,9.5s						
KMI	**Kunming**	**32.85**	**259**	*e*P	**P**	**16 34 25.1**	**-1.3**
KMI				AMB	AMB		
	comp=Z,10.0nm,1.5s,mb4.5						
KMI	**Kunming** comp=Z,10.0nm,1.5s,mb4.5	**32.85**	**259**	*e*P	**P**	**16 34 25.1**	**-1.3**
TIXI	**Tiksi**	**34.93**	**355**	⇓*e*P	**P**	**16 34 42.4**	**-1.5**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
TIXI				MLR	MLR		
	comp=Z,100nm,17.0s,MS3.6						
WMQ	**Urumqi**	**38.85**	**296**	*e*P	**P**	**16 35 17.0**	**-0.2**
WMQ				PP	PP	16 36 49.0	-1.1
WMQ				S	**S**	**16 41 13.0**	**-0.4**
WMQ				SS	SS	16 43 53.0	-3.5
WMQ				LR	LR		
	comp=N,134nm,20.0s,MS3.8						
WMQ				LR	LR		
	comp=E,88nm,20.0s,MS3.8						
WMQ				LR	LR		
	comp=Z,85nm,20.0s,MS3.6						
CMAR	**Chiang Mai Arr** comp=Z,1.0nm,0.8s,mb3.6,baz=46,slow=6.0,SNR=9.2	**39.45**	**253**	P	**P**	**16 35 22.0**	**-0.4**
CMAR				LR	LR	16 54 55.9	
	comp=Z,78nm,18.5s,MS3.6,baz=60,slow=41						
CMAR	**Chiang Mai Arr**	**39.45**	**253**	P	**P**	**16 35 22.0**	**-0.4**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CMAR				MLR	MLR		
	comp=Z,78nm,18.5s						
ZAL	**Zalesovo** comp=Z,0.8nm,0.3s,mb3.9,baz=38,slow=7.5,SNR=3.4	**40.24**	**312**	P	**P**	**16 35 28.3**	**-0.3**
ZAL				PcP	PcP	16 37 32.2	-0.7
	comp=Z,1.8nm,0.8s,baz=46,slow=2.8,SNR=5.7						
ZAL				LR	LR	16 51 49.7	
	comp=Z,80nm,18.8s,MS3.6,baz=177,slow=36						
ZAL	**Zalesovo**	**40.24**	**312**	*i* P	**P**	**16 35 31.7**	**+3.1**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAL	**Zalesovo**	**40.24**	**312**	P	**P**	**16 35 28.3**	**-0.3**
ZAL				PcP	PcP	16 37 32.2	-0.7
ZAL				LR	LR	16 51 49.7	
KURK	**Kurchatov**	**44.15**	**308**	*e*P	**P**	**16 35 59.1**	**-1.4**
KURK	**Kurchatov** comp=Z,6.0nm,1.0s,mb4.3	**44.15**	**308**	*e*P	**P**	**16 35 58.2**	**-2.3**
GUN	**Gumba** comp=Z,30nm,1.0s,mb5.1	**44.99**	**274**	*e*P	**P**	**16 36 07.4**	**-0.2**
GUN	**Gumba** comp=Z,30nm,1.0s,mb5.1	**44.99**	**274**	*e*P	**P**	**16 36 07.4**	**-0.2**
PKI	**Pulchoki** comp=Z,7.5nm,0.9s,mb4.6	**45.51**	**274**	*e*P	**P**	**16 36 11.1**	**-0.6**
PKI	**Pulchoki** comp=Z,7.5nm,0.9s,mb4.6	**45.52**	**274**	*e*P	**P**	**16 36 11.0**	**-0.7**
KKN	**Kakani** comp=Z,16nm,0.9s,mb5.0	**45.52**	**274**	*e*P	**P**	**16 36 11.3**	**-0.5**
KKN	**Kakani** comp=Z,16nm,0.9s,mb5.0	**45.52**	**274**	*e*P	**P**	**16 36 11.1**	**-0.7**
DMN	**Daman**	**45.74**	**274**	*e*P	**P**	**16 36 12.8**	**-0.7**
DMN	**Daman** comp=Z,8.6nm,1.0s,mb4.6	**45.74**	**274**	*e*P	**P**	**16 36 12.9**	**-0.6**
GKN	**Gorkha** comp=Z,24nm,0.9s,mb5.1	**45.94**	**275**	*e*P	**P**	**16 36 14.6**	**-0.5**
GKN	**Gorkha** comp=Z,24nm,0.9s,mb5.1	**45.94**	**275**	*e*P	**P**	**16 36 14.6**	**-0.5**
KOLN	**Koldanda** comp=Z,21nm,1.2s,mb5.0	**46.87**	**275**	*e*P	**P**	**16 36 22.1**	**-0.3**
KOLN	**Koldanda** comp=Z,21nm,1.2s,mb5.0	**46.87**	**275**	*e*P	**P**	**16 36 21.9**	**-0.5**
IMA	**Indian Mountai** comp=Z,30nm,0.7s,mb5.4	**47.68**	**31**	P	**P**	**16 36 28.6**	**+0.3**
RSO	**Redoubt South**	**48.15**	**38**	*e*P	**P**	**16 36 32.1**	**+0.1**
AAK	**Ala-Archa**	**48.52**	**298**	*e*P	**P**	**16 36 35.4**	**+0.2**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.9s,mb4.1						
AAK				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.1						
AAK	**Ala-Archa** comp=Z,1.6nm,0.8s,mb4.1	**48.52**	**298**	*e*P	**P**	**16 36 33.4**	**-1.8**
BVAR	**Borovoye Array** comp=Z,4.4nm,1.1s,mb4.4,baz=79,slow=7.6,SNR=12	**48.88**	**312**	P	**P**	**16 36 37.6**	**-0.2**
BVAR				PcP	PcP	16 38 01.9	-0.6
	comp=Z,1.8nm,0.6s,baz=90,slow=4.4,SNR=8.0						
BRVK	**Borovoye**	**48.94**	**312**	*e*P	**P**	**16 36 38.0**	**-0.3**
COLA	**College**	**50.13**	**32**	*e*P	**P**	**16 36 45.8**	**-1.4**
ILAR	**Eielson Array** comp=Z,3.1nm,0.8s,mb4.3,baz=274,slow=6.7,SNR=14	**50.55**	**32**	P	**P**	**16 36 50.1**	**-0.3**
ILAR	**Eielson Array** comp=Z,3.0nm,0.8s	**50.55**	**32**	P	**P**	**16 36 50.2**	**-0.2**
ILAR				pmax	pmax		
SVE	**Sverdlovsk**	**53.62**	**318**	⇓*e*P	**P**	**16 37 13.8**	**+0.3**
ARU	**Arti**	**54.83**	**318**	⇑*i*P	**P**	**16 37 21.2**	**-1.2**
ARU				*e*		16 39 22.4	
ARU				*e*S	**S**	**16 45 02.3**	**+1.9**
ARU				*e*SS	SS	16 48 39.2	-4.3
ARU				pmax	pmax		
	comp=Z,18nm,1.1s,mb5.0						
INK	**Inuvik** comp=Z,5.3nm,1.1s,mb4.5,baz=292,slow=6.1,SNR=7.4	**55.26**	**27**	P	**P**	**16 37 25.0**	**-0.5**
INK	**Inuvik** comp=Z,5.0nm,1.1s	**55.26**	**27**	P	**P**	**16 37 25.0**	**-0.5**
INK				pmax	pmax		
INK	**Inuvik** comp=Z,0.9nm,0.6s,mb4.0	**55.26**	**27**	*e*P	**P**	**16 37 24.7**	**-0.7**
HYB	**Hyderabad**	**56.05**	**267**	*i* P	**P**	**16 37 31.0**	**-0.8**
FITZ	**Fitzroy Crossi** comp=Z,4.9nm,1.1s,mb4.4,baz=33,slow=5.8,SNR=3.3	**56.33**	**195**	P	**P**	**16 37 32.9**	**-0.9**
WRAB	**Tennant Creek** comp=Z,101nm,1.2s,mb5.7,SNR=13	**56.93**	**185**	P	**P**	**16 37 36.0**	**-2.1**
WRAB	**Tennant Creek** comp=Z,30nm,1.1s,mb5.2	**56.93**	**185**	*e*P	**P**	**16 37 36.1**	**-2.0**
WRA	**Warramunga Arr** comp=Z,14nm,0.9s,mb5.0,baz=2.6,slow=7.4,SNR=92	**56.94**	**185**	P	**P**	**16 37 36.7**	**-1.5**
WRA				PcP	PcP	16 38 33.0	-0.2
	comp=Z,2.4nm,0.8s,baz=356,slow=4.0,SNR=5.1						
WRA	**Warramunga Arr**	**56.94**	**185**	P	**P**	**16 37 36.7**	**-1.5**
WRA						16 38 33.0	
WRA				pmax	pmax		
	comp=Z,14nm,0.9s						
WRA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
DLBC	**Dease Lake** comp=Z,3.4nm,1.1s,mb4.3,baz=148,slow=27,SNR=3.5	**59.85**	**37**	P	**P**	**16 38 01.5**	**+3.6**
ASAR	**Alice Springs** comp=Z,3.4nm,0.9s,mb4.5,baz=10,slow=5.2,SNR=33	**60.67**	**185**	P	**P**	**16 38 02.9**	**-1.1**
ARCES	**ARCESS Array B** comp=Z,2.7nm,0.8s,mb4.4,baz=49,slow=9.6,SNR=3.2	**63.11**	**339**	P	**P**	**16 38 20.4**	**+0.7**
ARCES	**ARCESS Array B** comp=Z,3.0nm,0.8s	**63.11**	**339**	P	**P**	**16 38 20.4**	**+0.7**
ARCES				pmax	pmax		
JOF	**Joensuu** comp=Z,0.4nm,0.4s,mb3.8	**64.82**	**331**	*ep*	**P**	**16 38 29.3**	**-1.6**
OBN	**Obninsk**	**66.69**	**322**	*e*P	**P**	**16 38 41.9**	**-1.1**
OBN						16 39 12.0	
OBN				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.9						
OBN				MLR	MLR		
	comp=Z,100nm,15.0s,MS4.2						
KAF	**Kangasniemi** comp=Z,2.6nm,0.7s,mb4.4,baz=49,slow=6.0	**67.19**	**332**	*ep*	**P**	**16 38 44.6**	**-1.5**
KAF	**Kangasniemi** comp=Z,3.0nm,0.7s,mb4.4	**67.19**	**332**	*e*P	**P**	**16 38 44.6**	**-1.5**
KAF				pmax	pmax		
FINES	**FINESS Array B** comp=Z,8.9nm,1.1s,mb4.7,baz=76,slow=7.9,SNR=16	**67.68**	**331**	P	**P**	**16 38 48.5**	**-0.7**
FINES	**FINESS Array B**	**67.68**	**331**	P	**P**	**16 38 48.5**	**-0.7**
FINES				pmax	pmax		
	comp=Z,9.0nm,1.1s						
STKA	**Stephens Creek** comp=Z,3.5nm,0.8s,mb4.3,baz=351,slow=7.0,SNR=9.5	**68.73**	**177**	P	**P**	**16 38 56.0**	**-0.3**
NLW	**Nelson Butte**	**69.86**	**45**	*e*P	**P**	**16 39 03.2**	**+0.4**
GNI	**Garni** comp=Z,1.2nm,0.3s,mb4.2,baz=359,slow=23,SNR=3.1	**69.88**	**305**	P	**P**	**16 39 04.6**	**+1.4**
GNI	**Garni** comp=Z,1.0nm,0.3s	**69.88**	**305**	P	**P**	**16 39 04.6**	**+1.5**
GNI				pmax	pmax		
SUMG	**Summit** comp=Z,11nm,0.9s,mb4.8	**70.54**	**359**	*e*P	**P**	**16 39 06.3**	**-0.3**
EDM	**Edmonton**	**70.58**	**37**	*e*P	**P**	**16 39 07.1**	**0.0**
DPW	**Davenport**	**71.16**	**44**	*e*P	**P**	**16 39 11.1**	**+0.4**
NEW	**Newport** comp=Z,4.9nm,0.9s,mb4.4	**71.53**	**43**	P	**P**	**16 39 12.9**	**-0.1**
AKASG	**Malin Array Be** comp=Z,4.0nm,0.7s,mb4.5,baz=47,slow=6.0,SNR=29	**72.86**	**321**	P	**P**	**16 39 20.1**	**-0.7**
AKASG				LR	LR	17 13 52.8	
	comp=Z,138nm,19.3s,MS4.2,baz=50,slow=38						
AKASG	**Malin Array Be**	**72.86**	**321**	P	**P**	**16 39 20.1**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.7s						
AKASG				MLR	MLR		
	comp=Z,138nm,19.3s						
HFS	**Hagfors** comp=Z,1.2nm,0.6s,mb4.0,baz=72,slow=4.7,SNR=6.0	**73.07**	**335**	P	**P**	**16 39 21.1**	**-0.6**
HFS	**Hagfors**	**73.07**	**335**	P	**P**	**16 39 21.1**	**-0.7**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NB2	**NORSAR Subarra** comp=Z,12nm,1.2s,mb4.7,baz=40,slow=6.2	**73.22**	**336**	P	**P**	**16 39 22.1**	**-0.5**
NOA	**NORSAR Array B** comp=Z,3.8nm,0.9s,mb4.3,baz=40,slow=5.8,SNR=12	**73.22**	**336**	P	**P**	**16 39 22.2**	**-0.4**
NOA	**NORSAR Array B**	**73.22**	**336**	P	**P**	**16 39 22.3**	**-0.3**
NOA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
HLID	**Hailey**	**75.86**	**46**	*e*P	**P**	**16 39 36.3**	**-1.9**
NVAR	**Mina Array Bea** comp=Z,1.3nm,0.7s,mb4.0,baz=318,slow=4.0,SNR=7.9	**76.63**	**52**	P	**P**	**16 39 44.5**	**+1.8**
KWP	**Kalwaria**	**76.75**	**323**	*e*P	**P**	**16 39 43.9**	**+0.8**
KWP	**Kalwaria**	**76.75**	**323**	*e*P	**P**	**16 39 43.9**	**+0.8**
BRTR	**Keskin Array B** comp=Z,4.2nm,0.9s,mb4.4,baz=90,slow=3.7,SNR=16	**77.13**	**310**	P	**P**	**16 39 46.1**	**+0.7**
BRTR	**Keskin Array B**	**77.13**	**310**	P	**P**	**16 39 46.1**	**+0.7**
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BORG	**Borgarnes** comp=Z,9.3nm,0.8s,mb4.8,baz=6.6,slow=7.5,SNR=2.9	**77.22**	**351**	P	**P**	**16 39 46.1**	**+0.7**
KOLS	**Kolonicke sedl**	**77.43**	**323**	*i* P	**P**	**16 39 47.9**	**+1.0**
OJC	**Ojcow**	**77.71**	**325**	*e*P	**P**	**16 39 48.4**	**0.0**
OJC	**Ojcow**	**77.71**	**325**	*e*P	**P**	**16 39 48.4**	**0.0**
CRVS	**Cervenica-Dubn**	**77.84**	**323**	*i* P	**P**	**16 39 49.3**	**+0.2**
MLR	**Muntele Rosu** comp=Z,2.7nm,0.7s,mb4.3,baz=134,slow=23,SNR=4.1	**77.87**	**318**	P	**P**	**16 39 49.4**	**+0.1**
MLR	**Muntele Rosu**	**77.87**	**318**	P	**P**	**16 39 49.4**	**0.0**
MLR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
NIE	**Niedzica**	**78.03**	**324**	⇓*e*P	**P**	**16 39 51.4**	**+1.3**
HWUT	**Hardware Ranch** comp=Z,5.2nm,1.2s,mb4.3	**78.72**	**46**	*e*P	**P**	**16 39 55.4**	**+1.3**
OKC	**Ostrava-Krasne**	**78.74**	**325**	*e*P	**P**	**16 39 55.6**	**+1.6**
DUG	**Dugway**	**78.89**	**48**	*e*P	**P**	**16 39 55.2**	**+0.1**
PDAR	**Pinedale Array** comp=Z,0.9nm,0.7s,mb3.8,baz=316,slow=2.1,SNR=7.4	**79.10**	**44**	P	**P**	**16 39 57.4**	**+1.2**
DPC	**Dobruska-Polom**	**79.18**	**327**	*e*P	**P**	**16 39 57.5**	**+1.1**
PSZ	**Piszkesteto**	**79.28**	**323**	⇓*e*P	**P**	**16 39 58.3**	**+1.3**
VYHS	**Vyhne**	**79.37**	**324**	*i* P	**P**	**16 39 58.7**	**+1.2**
ASF	**Jabal al Asfar** comp=Z,3.0nm,0.9s,mb4.2,baz=101,slow=0.7,SNR=3.1	**79.63**	**302**	P	**P**	**16 40 00.1**	**+0.9**
VRAC	**Vranov** comp=Z,3.8nm,0.9s,mb4.3,baz=41,slow=6.9,SNR=4.4	**79.82**	**326**	P	**P**	**16 40 00.4**	**+0.5**
VRAC	**Vranov**	**79.82**	**326**	P	**P**	**16 40 00.4**	**+0.5**
VRAC				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BRG	**Berggiesshubel**	**79.82**	**328**	*e*P	**P**	**16 40 00.5**	**+0.6**
BRG				pmax	pmax		
	comp=Z,11nm,1.4s,mb4.6						
BRG	**Berggiesshubel** comp=Z,11nm,1.4s,mb4.6	**79.82**	**328**	*e*P	**P**	**16 40 00.5**	**+0.6**
CLL	**Collm** comp=Z,logA/T=1.0,mb4.7	**79.89**	**329**	P	**P**	**16 40 00.6**	**+0.4**
CLL				*i* *PP	pP	16 40 03.3	-4.0
CLL	**Collm**	**79.89**	**329**	*i* P	**P**	**16 40 00.6**	**+0.4**
CLL				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7						
CLL	**Collm** comp=Z,12nm,1.2s,mb4.7	**79.89**	**329**	*i* P	**P**	**16 40 00.6**	**+0.4**
CLL				*i*		16 40 03.3	
PRU	**Pruhonice**	**80.23**	**327**	*e*P	**P**	**16 40 02.6**	**+0.6**
ULM	**Lac du Bonnet** comp=Z,4.0nm,0.8s,mb4.4,baz=300,slow=4.4,SNR=3.4	**80.57**	**32**	P	**P**	**16 40 04.5**	**+0.6**
NKC	**Novy Kostel**	**80.93**	**328**	*e*P	**P**	**16 40 09.1**	**+3.3**
MOX	**Moxa**	**80.97**	**329**	*e*P	**P**	**16 40 05.0**	**-0.9**
RSSD	**Black Hills** comp=Z,2.6nm,0.9s,mb4.2	**81.16**	**40**	*e*P	**P**	**16 40 07.3**	**+0.2**
KHC	**Kasperske Hory**	**81.28**	**327**	*e*P	**P**	**16 40 08.1**	**+0.5**
GERES	**GERESS Array B** comp=Z,1.3nm,0.7s,mb4.0,baz=34,slow=4.8,SNR=18	**81.44**	**327**	P	**P**	**16 40 09.1**	**+0.7**
GERES	**GERESS Array B**	**81.44**	**327**	P	**P**	**16 40 09.1**	**+0.6**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GRA1	**Grafenberg Arr** comp=Z,7.0nm,0.9s,mb4.6	**81.86**	**329**	*e*P	**P**	**16 40 11.3**	**+0.7**
GRF	**Grafenberg Arr** comp=Z,7.0nm,0.9s,mb4.6	**81.86**	**329**	*e*P	**P**	**16 40 11.3**	**+0.7**
GRF				pmax	pmax		
EKA	**Eskdalemuir Ar** comp=Z,5.6nm,1.2s,mb4.4,baz=31,slow=4.9,SNR=3.9	**82.27**	**339**	P	**P**	**16 40 12.9**	**+0.3**
EKA	**Eskdalemuir Ar** comp=Z,6.0nm,1.2s	**82.27**	**339**	P	**P**	**16 40 13.0**	**+0.4**
EKA				pmax	pmax		
PV10	**Paradox Valley**	**82.30**	**47**	*e*P	**P**	**16 40 13.7**	**+0.5**
EIL	**Elat**	**82.48**	**301**	P	**P**	**16 40 15.4**	**+1.2**
PDKS	**Podkum**	**82.92**	**324**	*i* P	**P**	**16 40 15.8**	**-0.4**
URZ	**Urewera** comp=Z,64nm,19.7s,MS4.0,baz=281,slow=33	**82.99**	**150**	LR	LR	17 13 23.5	
BAIF	**Baives** comp=Z,26nm,1.3s,mb5.2	**84.32**	**332**	*e*P	**P**	**16 40 23.1**	**-0.1**
CDF	**Champ du Feu** comp=Z,24nm,1.2s,mb4.9	**84.47**	**330**	*e*P	**P**	**16 40 24.4**	**+0.4**
DAVOX	**Davos** comp=Z,1.7nm,0.8s,mb4.2,baz=36,slow=17,SNR=3.0	**84.68**	**327**	P	**P**	**16 40 26.2**	**+1.1**
HAU	**Haudompre**	**85.17**	**330**	*e*P	**P**	**16 40 27.5**	**0.0**
MEZF	**Maizieres J'vi** comp=Z,25nm,0.9s,mb5.0	**85.28**	**331**	*e*P	**P**	**16 40 28.4**	**+0.4**
IDI	**Anoyia** comp=Z,13nm,1.0s,mb5.0,baz=40,slow=6.2,SNR=7.0	**85.30**	**311**	P	**P**	**16 40 27.7**	**-0.7**
RPZ	**Rata Peaks** comp=Z,100nm,20.1s,MS4.2,baz=264,slow=30	**85.69**	**157**	LR	LR	17 11 13.3	
LOR	**Lormes** comp=Z,12nm,0.9s,mb4.8	**86.75**	**331**	*e*P	**P**	**16 40 35.3**

JNS	**Sasagawa**	**0.66**	**31**	⇑P		**Pb**	**16 36 37.5**	**-0.3**
JNS				*e*S		**Sb**	**16 36 46.3**	**-0.2**
JGK	**Kuni**	**0.72**	**196**	P		**Pb**	**16 36 39.4**	**+0.5**
MAT	**Matsushiro**	**0.90**	**217**	P		**Pb**	**16 36 41.4**	**-0.5**
MAT				S		**Sb**	**16 36 53.1**	**-0.3**
JSD	**Sado**	**0.92**	**328**	⇓P		**Pb**	**16 36 41.2**	**-1.2**
JAG	**Ashikaga**	**0.95**	**151**	⇓P		**Pb**	**16 36 43.1**	**+0.3**

NIED ***24*** *17:01:00,37.20N×138.80E,h5km,Mw3.9 Best double couple: M0 7.92×10^14 NP1:φs359°,δ58°,λ61°. NP2:φs226°, δ42°,λ128°.*

NEIC ***24*** *17:01:05.8±0.5,37.16N×137.90E,h10km,Error ellipse: s-maj=20.1km s-min=8.4km az=76.0*

NEIC Recorded [3 JMA] in Niigata Prefecture.

JMA ***24*** *17:01:05.4,37.17N×138.76E,h7km±1km,M3.7 Broadband fault plane solution: P waves. NP1:φs351°,δ4°, λ-64°. NP2:φs144°,δ86°,λ-92°. Principal axes: T Plg41°, Azm236°; N Plg2°, Azm144°; P Plg49°, Azm52°;*

JMA Felt III J1.

IDC ***24*** *17:01:09.7±3.5,37.08N×137.98E,h38km±31km,mb3.5/12, mb1 3.8/14,mb1mx3.7/25,ML3.5/2 Error ellipse: s-maj=26.0km s-min=15.0km az=84.0*

ISC 24 17:01:04.9±0.5,37.16N±0.03×138.74E±0.06,h25km±4km, n25,σ1§19/30,mb3.7/12,1C-2D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
JHK	**Hiroka**	**0.24**	**67**	P		**Pb**	**17 01 09.8**	**-1.3**
JHK				S		**Sb**	**17 01 13.5**	**-1.8**
JIZZ	**Izumozaki**	**0.38**	**357**	⇓P		**Pb**	**17 01 13.1**	**0.0**
JIZZ				S		**Sb**	**17 01 19.6**	**+1.0**
JKT	**Katashina**	**0.56**	**133**	⇓P		**Pb**	**17 01 16.2**	**0.0**
JKT				S		**Sb**	**17 01 24.3**	**+0.5**
MAJO	**Matsushiro**	**0.74**	**215**	⇑iPn		**Pn**	**17 01 19.3**	**-0.6**
MAJO				*e*Sn		**Sn**	**17 01 29.3**	**-1.1**
MAT	**Matsushiro**	**0.74**	**215**	P		**Pb**	**17 01 19.5**	**+0.3**
MAT				S		**Sb**	**17 01 30.0**	**+1.1**
MAT	**Matsushiro**	**0.74**	**215**	*e*P		**Pb**	**17 01 20.0**	**+0.8**
MAT				*e*S		**Sb**	**17 01 30.0**	**+1.1**
JHJ	**Hachijo jima 2**	**4.12**	**168**	Pn		**Pn**	**17 02 12.3**	**+4.4**
	14nm,0.3s,baz=286,slow=22,SNR=2.4							
ASAJ	**Asahikawa**	**7.55**	**22**	Pn		**Pn**	**17 03 00.6**	**+4.2**
	0.5nm,0.3s,baz=299,slow=25,SNR=4.4							
YSS	**Yuzh-Sakhalins**	**10.23**	**16**	*e*Pn		**P**	**17 03 35.9**	**+2.4**
CBIJ	**Chichi jima**	**10.45**	**163**	Pn		**P**	**17 03 38.0**	**+1.6**
SONM	**Songino Array**	**25.95**	**305**	P		**P**	**17 06 35.7**	**-1.3**
	1.8nm,1.2s,mb3.5,baz=124,slow=8.9,SNR=5.6							
ILAR	**Eielson Array**	**50.54**	**32**	P		**P**	**17 10 05.7**	**+2.8**
	0.7nm,0.8s,mb3.7,baz=280,slow=5.2,SNR=7.2							
WRA	**Warramunga Arr**	**56.94**	**185**	P		**P**	**17 10 50.0**	**-0.8**
	1.3nm,0.5s,mb4.2,baz=0.9,slow=7.4,SNR=71							
CTA	**Charters Tower**	**57.37**	**172**	P		**P**	**17 10 54.6**	**+0.8**
	2.3nm,0.9s,mb4.2,baz=32,slow=12,SNR=2.4							
ASAR	**Alice Springs**	**60.66**	**185**	P		**P**	**17 11 16.1**	**-0.5**
	0.8nm,1.0s,mb3.8,baz=2.3,slow=3.5,SNR=6.1							
FINES	**FINESS Array B**	**67.70**	**331**	P		**P**	**17 12 01.5**	**-0.3**
	1.5nm,0.8s,mb4.1,baz=34,slow=6.9,SNR=4.9							
AKASG	**Malin Array Be**	**72.88**	**321**	P		**P**	**17 12 33.4**	**0.0**
	0.1nm,0.3s,mb3.2,baz=46,slow=6.0,SNR=5.5							
NOA	**NORSAR Array B**	**73.23**	**336**	P		**P**	**17 12 35.7**	**+0.5**
	1.2nm,0.9s,mb3.8,baz=40,slow=6.2,SNR=3.6							
NOA	**NORSAR Array B**	**73.23**	**336**	P		**P**	**17 12 35.7**	**+0.4**
NVAR	**Mina Array Bea**	**76.61**	**52**	P		**P**	**17 13 00.9**	**+5.8**
	0.4nm,0.8s,mb3.4,baz=288,slow=5.7,SNR=3.4							
BRTR	**Keskin Array B**	**77.16**	**310**	P		**P**	**17 12 55.6**	**-2.5**
	0.2nm,0.3s,mb3.5,baz=23,slow=11,SNR=3.0							
PDAR	**Pinedale Array**	**79.09**	**44**	P		**P**	**17 13 13.2**	**+4.5**
	0.3nm,0.8s,mb3.3,baz=337,slow=6.9,SNR=3.2							
GERES	**GERESS Array B**	**81.46**	**327**	P		**P**	**17 13 20.5**	**-0.6**
	0.2nm,0.5s,mb3.3,baz=18,slow=4.2,SNR=3.7							
SAML	**Samuel**	**145.61**	**41**	PKPdf		PKPdf	17 20 44.1	-2.1

NNC ***24*** *17:17:43.0±4.0,42.97N×77.80E,h4km±48km,mpv3.0, Error ellipse: s-maj=77.8km s-min=35.2km az=139.0*

KNET ***24*** *17:17:43.7±0.5,42.83N×77.47E,h5km±2km,ml2.4, Error ellipse: s-maj=3.3km s-min=2.5km az=134.0*

ISC 24 17:17:42.3±1.3,42.7N±0.1×77.84E±0.09,h10km,n10, σ1§11/18,14C-3D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
ULHL	**Ulahol**	**1.27**	**249**	⇑P		**Pb**	**17 18 04.2**	**-1.7**
	13nm,0.1s,SNR=120							
ULHL				⇓S		**Sb**	**17 18 20.8**	**-1.4**
	32nm,0.1s							
TKM2	**Tokmak 2**	**1.67**	**278**	⇑P		**Pn**	**17 18 10.1**	**-1.7**
	6.1nm,0.1s,SNR=46							
TKM2				⇑S		**Sn**	**17 18 30.9**	**-2.4**
	28nm,0.1s							
KZA	**Kyzart**	**2.02**	**252**	⇑P		**Pn**	**17 18 17.4**	**+0.5**
	8.8nm,0.2s,SNR=9.1							
KZA				⇓S		**Sn**	**17 18 43.9**	**+1.5**
	7.1nm,0.1s							
KBK	**Karagaybulak**	**2.13**	**269**	⇑P		**Pn**	**17 18 18.7**	**+0.3**
	12nm,0.1s,SNR=20							
KBK				⇑S		**Sn**	**17 18 46.0**	**+0.7**
	44nm,0.2s							
CHMS	**Chumysh**	**2.29**	**278**	⇑P		**Pn**	**17 18 20.6**	**-0.1**
	3.6nm,0.2s,SNR=6.5							
CHMS				⇑S		**Sn**	**17 18 49.2**	**0.0**
	11nm,0.1s							
AAK	**Ala-Archa**	**2.47**	**269**	⇑Pn		**Pn**	**17 18 24.1**	**+0.8**
	3.2nm,0.3s							
AAK				⇑Sn		**Sn**	**17 18 55.5**	**+1.7**
	15nm,0.8s							
AAK	**Ala-Archa**	**2.47**	**269**	⇑P		**Pn**	**17 18 24.3**	**+1.0**
	9.0nm,0.2s,SNR=15							
AAK				⇑S		**Sn**	**17 18 55.4**	**+1.6**
	10nm,0.2s							
USP	**Ospenovka**	**2.51**	**284**	⇑P		**Pn**	**17 18 23.8**	**-0.1**
	4.4nm,0.2s,SNR=7.9							
USP				⇑S		**Sn**	**17 18 54.9**	**0.0**
	15nm,0.2s							
EKS2	**Erkin-Say**	**3.00**	**270**	⇓P		**Pn**	**17 18 32.0**	**+1.2**
	2.8nm,0.2s,SNR=5.5							
MK31	**Makanchi Array**	**5.16**	**36**	Pn		**Pn**	**17 19 01.5**	**0.0**
	baz=214,slow=15							
MK31				Lg			17 20 18.8	
	baz=220,slow=28							

NEIC ***24*** *17:47:20.6±1.1,6.00S×149.89E,h59km±12km,mb3.9/2, Error ellipse: s-maj=46.4km s-min=13.5km az=121.0*

IDC ***24*** *17:47:24.7±4.3,6.11S×149.72E,h90km±36km,mb3.4/6, mb1 3.7/7,mb1mx3.5/14,Error ellipse: s-maj=47.9km s-min=25.0km az=111.0*

ISC 24 17:47:19.7±1.0,6.0S±0.2×149.8E±0.2,h65km±12km,n12, σ0§95/13,mb3.6/6,1D,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KMBE	**Kimbe**	**0.55**	**44**	⇓*i*P		**P**	**17 47 32.0**	**-0.6**
RAB	**Rabaul**	**2.95**	**54**	*e*P		**P**	**17 48 09.8**	**+4.4**
PMG	**Port Moresby**	**4.30**	**217**	P		**P**	**17 48 25.6**	**+1.4**
	18nm,0.3s,baz=43,slow=6.6,SNR=102							
PMG				S		**S**	**17 49 13.6**	**0.0**
	63nm,0.3s,baz=49,slow=11,SNR=16							
PMG	**Port Moresby**	**4.30**	**217**	*e*P		**P**	**17 48 25.6**	**+1.4**
WRAB	**Tennant Creek**	**20.44**	**226**	*e*P		**P**	**17 51 53.6**	**-0.7**
	3.0nm,0.5s							
WRAB				*e*pP			17 52 08.7	
WRA	**Warramunga Arr**	**20.45**	**226**	P		**P**	**17 51 53.8**	**-0.6**
	3.7nm,0.4s,baz=52,slow=11,SNR=50							
ASAR	**Alice Springs**	**23.31**	**219**	P		**P**	**17 52 23.4**	**+0.6**
	0.4nm,0.4s,mb3.2,baz=50,slow=9.0,SNR=31							
FITZ	**Fitzroy Crossi**	**26.47**	**241**	P		**P**	**17 52 52.1**	**-0.9**
	4.3nm,1.0s,mb3.9,baz=32,slow=8.1,SNR=17							
STKA	**Stephens Creek**	**26.90**	**196**	P		**P**	**17 52 57.1**	**+0.3**
	0.8nm,0.6s,mb3.5,baz=155,slow=2.2,SNR=3.1							
MBWA	**Marble Bar**	**32.79**	**240**	*e*P		**P**	**17 53 48.0**	**-1.1**
	0.7nm,0.4s,mb3.9							
SONM	**Songino Array**	**65.74**	**329**	P		**P**	**17 58 01.8**	**+1.9**
	0.3nm,0.5s,mb3.6,baz=135,slow=8.2,SNR=2.8							
ILAR	**Eielson Array**	**84.37**	**23**	P		**P**	**17 59 45.6**	**-0.2**
	0.2nm,0.6s,mb3.4,baz=247,slow=4.9,SNR=4.7							

IDC 24 17:55:36.4±6.7,9.10S×120.64E,h228km±58km,mb3.2/1,

mb1 2.8/4,mb1mx2.7/14,Error ellipse: s-maj=105.0km s-min=54.0km az=50.0,Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
FITZ	**Fitzroy Crossi**	**10.18**	**152**	P		P	17 57 57.6	-0.8
	0.1nm,0.3s,baz=339,slow=14,SNR=8.8							
FITZ				S		S	17 59 52.7	+3.0
	0.1nm,0.3s,baz=131,slow=3.1,SNR=3.9							
WRA	**Warramunga Arr**	**17.07**	**131**	P		P	17 59 18.8	-4.2
	0.1nm,0.3s,baz=311,slow=10,SNR=8.6							
WRA				S			18 02 27.2	+3.1
	0.1nm,0.3s,baz=298,slow=25,SNR=5.0							
ASAR	**Alice Springs**	**19.25**	**140**	P		P	17 59 44.6	-0.9
	0.1nm,0.3s,baz=321,slow=9.0,SNR=10.0							
STKA	**Stephens Creek**	**29.86**	**142**	P		P	18 01 22.9	-2.0
	0.4nm,0.3s,baz=256,slow=4.2,SNR=4.1							

NEIC ***24*** *18:00:17.8,31.42S×72.61W,h47km,MD3.5(GUC),After GUC.*

GUC 24 18:00:17.8±0.8,31.42S×72.61W,h47km±13km,MD3.5, ML3.5,4C-1D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CMCH	**Combarbala**	**1.40**	**80**	⇑*i*P		P	18 00 41.6	+0.1
CMCH				*i* S		S	18 00 59.9	+0.9
CMCH				AMP			18 01 00.5	
	comp=E,4μm,0.4s							
TLL	**Tololo Astrono**	**2.00**	**52**	*i* P		P	18 00 49.9	+0.1
TLL				*i* S		S	18 01 15.0	+1.5
TLL				AMP			18 01 18.2	
	comp=E,287nm,0.3s							
JACH	**Jahuel**	**2.13**	**127**	⇑*i*P		P	18 00 51.8	+0.2
JACH				*i* S		S	18 01 17.5	+0.5
PEL	**Peldehue**	**2.37**	**137**	*i* P		P	18 00 54.9	-0.3
PEL				*i* S		S	18 01 23.0	-0.1
PEL				AMP			18 01 25.3	
	comp=N,225nm,0.2s							
RCDM	**Rinconada Maip**	**2.57**	**144**	⇑*i*P		P	18 00 57.4	-0.5
RCDM				*i* S		S	18 01 27.1	-1.0
RCDM				AMP			18 01 31.3	
	comp=E,376nm,0.1s							
TACH	**Talagante**	**2.64**	**148**	*i* P		P	18 00 58.6	-0.4
TACH				*i* S		S	18 01 29.2	-0.8
CLCH	**Cerro Calan**	**2.64**	**139**	*i* P		P	18 00 58.7	-0.3
CLCH				*i* S		S	18 01 30.1	+0.1
CLCH				AMP			18 01 33.7	
	comp=E,132nm,0.3s							
FCH	**Farellones**	**2.73**	**135**	⇓*i*P		P	18 01 00.3	-0.1
FCH				*i* S		S	18 01 32.2	-0.1
FCH				AMP			18 01 35.8	
	comp=E,104nm,0.2s							
PCH	**Pirque**	**2.82**	**142**	*i* P		P	18 01 01.5	0.0
PCH				*i* S		S	18 01 34.0	-0.5
CHCH	**Chadas Angostu**	**3.00**	**147**	*i* P		P	18 01 04.0	-0.1
CHCH				*i* S		S	18 01 38.3	-0.9
LMEL	**Las Melosas**	**3.16**	**141**	*i* P		P	18 01 06.6	+0.2
LMEL				*i* S		S	18 01 43.2	0.0
LMEL				AMP			18 01 45.8	
	comp=N,296nm,0.2s							
CACH	**El Canelo**	**3.18**	**148**	*i* S		S	18 01 44.5	+0.8
CICH	**Cipreses**	**3.43**	**148**	*i* P		P	18 01 09.9	-0.2
CICH				*i* S		S	18 01 49.0	-1.0
SFDO	**San Fernando**	**3.46**	**158**	⇑*i*P		P	18 01 09.6	-0.9
SFDO				*i* S		S	18 01 49.5	-1.2

ISK ***24*** *18:25:33.4,36.98N×27.79E,h14km,MD3.2*

NEIC ***24*** *18:25:33.7,36.99N×27.83E,h18km,MD3.2(ATH), MD3.2(ISK),After ISK.*

CSEM ***24*** *18:25:33.8±0.1,36.99N×27.83E,h15km,MD3.2, Error ellipse: s-maj=1.6km s-min=1.3km az=89.0*

ATH ***24*** *18:25:36.3,36.87N×27.73E,h5km,MD3.2/6*

ISC 24 18:25:34.0±0.6,36.94N±0.03×27.80E±0.03,h9km±4km, n30,σ1§20/44,3C,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
BDRM	**Kayabasi**	**0.31**	**294**	⇑*i*P		**Pg**	**18 25 40.4**	**0.0**
BDRM				*i* S		**Sg**	**18 25 45.7**	**+1.1**
MLSB	**Milas**	**0.36**	**357**	*e*PG		**Pg**	**18 25 40.8**	**-0.5**
MLSB				*e*SG		**Sg**	**18 25 45.8**	**-0.3**
MLSB	**Milas**	**0.36**	**357**	Pg		**Pg**	**18 25 40.9**	**-0.4**
MLSB				Sg		**Sg**	**18 25 46.9**	**+0.7**
YER	**Yerkesik**	**0.43**	**63**	*i* PG		**Pg**	**18 25 42.2**	**-0.6**
YER				*i* SG		**Sg**	**18 25 48.4**	**-0.3**
YER	**Yerkesik**	**0.43**	**63**	Pg		**Pg**	**18 25 42.3**	**-0.5**
YER				Sg		**Sg**	**18 25 48.3**	**-0.4**
YER	**Yerkesik**	**0.43**	**63**	Pg		**Pg**	**18 25 42.3**	**-0.5**
YER				*i* Sg		**Sg**	**18 25 48.4**	**-0.3**
NISR	**Nisiros**	**0.63**	**239**	*e*PB		**Pb**	**18 25 48.5**	**+1.8**
DALT	**Dalyan (Mudla)**	**0.69**	**104**	PG		**Pg**	**18 25 47.8**	**-0.1**
DALT				SG		**Sg**	**18 25 58.2**	**+1.0**
AYDN	**Tasoluk**	**0.72**	**5**	*i* P		**Pb**	**18 25 47.7**	**-0.6**
AYDN				*i* S		**Sg**	**18 26 00.6**	**+2.4**
ARG	**Arkhangelos**	**0.77**	**160**	*e*PB		**Pb**	**18 25 48.9**	**-0.2**
SMG	**Samos**	**1.08**	**315**	*e*PB		**Pb**	**18 25 54.7**	**+0.2**
DNZL	**Cakiroluk**	**1.25**	**53**	⇑*i*P		**Pb**	**18 25 56.9**	**-0.4**
DNZL				*i* S		**Sb**	**18 26 15.3**	**+2.0**
DENT	**Denizli**	**1.28**	**50**	*e*PN		**Pn**	**18 25 57.3**	**-0.8**
DENT				*e*SN		**Sn**	**18 26 15.1**	**-0.3**
DENT	**Denizli**	**1.28**	**50**	Pn		**Pn**	**18 25 57.3**	**-0.7**
KARP	**Karpathos**	**1.48**	**201**	*e*PN		**Pn**	**18 26 00.9**	**-0.1**
KARP				*e*SB		**Sb**	**18 26 21.1**	**+1.0**
IZM	**Izmir**	**1.52**	**344**	*e*PN		**Pn**	**18 25 59.7**	**-1.8**
KDAG	**Bornova**	**1.52**	**344**	*i* P		**Pn**	**18 26 00.6**	**-1.0**
BLCB	**Balcova**	**1.56**	**338**	*e*PN		**Pn**	**18 26 00.6**	**-1.6**
KSL	**Kastellorizon**	**1.64**	**118**	*e*PB		**Pb**	**18 26 08.5**	**+4.5**
MANT	**Manisa**	**1.66**	**21**	⇑*i*P		**Pn**	**18 26 02.5**	**-1.1**
MANT				*i* S		**Sn**	**18 26 28.3**	**+3.1**
ELL	**Elmali**	**1.70**	**96**	*e*PN		**Pn**	**18 26 03.5**	**-0.7**
ELL	**Elmali**	**1.70**	**96**	Pn		**Pn**	**18 26 03.6**	**-0.6**
ELL	**Elmali**	**1.70**	**96**	Pn		**Pn**	**18 26 03.6**	**-0.6**
AKS	**Akhisar**	**1.94**	**0**	*e*PN		**Pn**	**18 26 05.8**	**-1.7**
AKS	**Akhisar**	**1.94**	**0**	Pn		**Pn**	**18 26 05.8**	**-1.7**
ISP	**Isparta**	**2.34**	**66**	*e*PN		**Pn**	**18 26 12.1**	**-1.2**
ISP	**Isparta**	**2.34**	**66**	*e*Pn		**Pn**	**18 26 15.3**	**+2.0**
AYVA	**Ayvalik**	**2.52**	**340**	P		**Pg**	**18 26 23.9**	**-0.4**
AYVA				S		**Sg**	**18 26 58.5**	**+0.5**
PRK	**Paraskevi**	**2.60**	**333**	*e*PN		**Pg**	**18 26 23.8**	**-2.1**
BTOK	**Tokmak**	**2.82**	**4**	P		**Pb**	**18 26 25.9**	**+1.6**
BTOK				S		**Sb**	**18 27 02.1**	**+3.0**

NIED ***24*** *18:40:00,37.30N×138.90E,h5km,Mw3.4 Best double couple: M0 1.51×10^14 NP1:φs15°,δ74°,λ110°. NP2:φs142°, δ25°,λ40°.*

JMA ***24*** *18:40:02.2,37.29N×138.91E,h12km±1km,M3.5 Broadband fault plane solution: P waves. NP1:φs248°,δ6°, λ166°. NP2:φs352°,δ88°,λ84°. Principal axes: T Plg46°, Azm256°; N Plg6°, Azm352°; P Plg43°, Azm88°;*

JMA Felt III J1.

ISC 24 18:40:02.0±0.6,37.28N±0.03×138.93E±0.06,h12km,n6, σ0§41/11,1C-4D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
JHK	**Hiroka**	**0.08**	**114**	⇓P		**Pg**	**18 40 04.7**	**+0.1**
JHK				S		**Sg**	**18 40 06.8**	**+0.4**
JIZZ	**Izumozaki**	**0.31**	**325**	⇑P		**Pg**	**18 40 08.4**	**0.0**
JIZZ				S		**Sg**	**18 40 13.6**	**+0.8**
JKT	**Katashina**	**0.57**	**153**	⇓P		**Pb**	**18 40 13.5**	**+0.1**
JKT				S		**Sb**	**18 40 21.7**	**+0.5**
JNS	**Sasagawa**	**0.62**	**30**	⇓P		**Pb**	**18 40 13.8**	**-0.4**
JNS				S		**Sb**	**18 40 22.1**	**-0.5**
JFY	**Yanaizu**	**0.63**	**78**	⇓P		**Pb**	**18 40 14.4**	**0.0**
MAT	**Matsushiro**	**0.94**	**218**	P		**Pb**	**18 40 19.2**	**-0.4**
MAT				S		**Sb**	**18 40 31.4**	**-0.4**

TIF ***24*** *19:00:30.9,37.98N×43.83E,h11km,Mpv5.0*

NSSP ***24*** *19:00:30.3,38.43N×43.58E,h10km,ML3.7*

ISK ***24*** *19:00:37.9,38.40N×43.72E,h2km,MD3.7*

NEIC ***24*** *19:00:38.8,38.36N×43.65E,h5km,MD3.7(ISK),After ISK.*

NEIC Felt in eastern Anatolia.

CSEM ***24*** *19:00:38.3±0.1,38.31N×43.72E,h10km,MD3.7, Error ellipse: s-maj=2.4km s-min=1.3km az=32.0*

ISC 24 19:00:38.4±0.4,38.21N±0.03×43.75E±0.03,h5km,n48, σ1§34/62,2C,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
VANT	**Van**	**0.36**	**310**	*i* PG		**Pg**	**19 00 46.4**	**+0.7**
VANT				*i* SG		**Sg**	**19 00 52.1**	**+1.5**
VANT	**Van**	**0.36**	**310**	Pg		**Pg**	**19 00 46.2**	**+0.5**
TVAN	**Van**	**0.41**	**320**	⇑*i*P		**Pg**	**19 00 44.7**	**-1.9**
TVAN				*i* S		**Sg**	**19 00 49.7**	**-2.5**
VANB	**Van**	**0.47**	**324**	*i* PG		**Pg**	**19 00 44.6**	**-3.3**
VANB				*i* SG		**Sg**	**19 00 49.9**	**-4.3**
VANB	**Van**	**0.47**	**324**	*i* Pg		**Pg**	**19 00 44.6**	**-3.3**
VANB				Sg		**Sg**	**19 00 50.6**	**-3.6**
HKR	**Hakkari**	**0.63**	**180**	*i* PG		**Pg**	**19 00 54.1**	**+3.1**
HKR				*i* SG		**Sg**	**19 01 06.7**	**+7.3**
HKR	**Hakkari**	**0.63**	**180**	Pg		**Pg**	**19 00 54.2**	**+3.2**
AGRT	**Agri**	**1.52**	**337**	*i* PN		**Pn**	**19 01 05.0**	**-1.2**
BTMT	**Batman**	**1.78**	**270**	*i* PN		**Pn**	**19 01 11.8**	**+1.8**
VNNZ	**Vanand**	**1.89**	**2**	P		**Pn**	**19 01 12.2**	**+0.6**
VNNZ				S		**Sn**	**19 01 36.6**	**+0.6**
VRT	**Varto**	**1.96**	**299**	*i* PN		**Pn**	**19 01 12.1**	**-0.5**
VRT	**Varto**	**1.96**	**299**	Pn		**Pn**	**19 01 12.1**	**-0.5**
BEST	**Besiri**	**1.98**	**261**	*i* P		**Pn**	**19 01 14.4**	**+1.5**
BEST				*i* S		**Sn**	**19 01 46.5**	**+8.2**
ARUZ	**Aruch**	**2.09**	**7**	S		**Sn**	**19 01 42.0**	**+1.0**
AMBZ	**Amberd**	**2.21**	**10**	S		**Sn**	**19 01 45.3**	**+1.1**
GRS	**Goris**	**2.42**	**56**	*i* P		**Pn**	**19 01 14.0**	**-5.1**
GRS				*i* S		**Sn**	**19 01 48.0**	**-1.4**
VAD	**Vardenisi**	**2.51**	**37**	*e*P		**Pn**	**19 01 19.0**	**-1.4**
VAD				*i* S		**Sn**	**19 01 54.0**	**+2.3**
ERZM	**Erzurum**	**2.51**	**313**	⇑*i*P		**Pn**	**19 01 20.9**	**+0.4**
ERZM				S		**Sn**	**19 01 55.8**	**+4.0**
EZM	**Erzurum**	**2.51**	**313**	*i* PN		**Pn**	**19 01 19.4**	**-1.1**
BINT	**Bingol**	**2.64**	**286**	*e*PN		**Pn**	**19 01 22.8**	**+0.5**
BINT	**Bingol**	**2.64**	**286**	Pn		**Pn**	**19 01 20.8**	**-1.5**
BINT	**Bingol**	**2.64**	**286**	Pn		**Pn**	**19 01 20.8**	**-1.5**
DIY	**Diyarbakir**	**2.79**	**265**	*e*PN		**Pn**	**19 01 24.6**	**+0.1**
DIY	**Diyarbakir**	**2.79**	**265**	Pn		**Pn**	**19 01 24.6**	**+0.1**
STE	**Stepanavan**	**2.83**	**10**	*i* P		**Pn**	**19 01 26.0**	**+1.0**
AKH	**Akhalkalaki**	**3.20**	**357**	*i* P		**Pn**	**19 01 35.9**	**+5.6**
EZC	**Erzincan**	**3.42**	**298**	*e*PN		**Pn**	**19 01 36.6**	**+3.1**
EZC	**Erzincan**	**3.42**	**298**	Pn		**Pn**	**19 01 36.6**	**+3.1**
DGRG	**David-gareji**	**3.47**	**21**	*i* P		**Pn**	**19 01 39.0**	**+4.9**
PTK	**Pertek**	**3.48**	**283**	*e*PN		**Pn**	**19 01 33.7**	**-0.6**
TBLG	**Delisi**	**3.60**	**12**	*e*P		**Pg**	**19 01 46.0**	**-4.2**
TBLG				*i* S		**Sb**	**19 02 30.0**	**+3.6**
BCA	**Borcka**	**3.62**	**334**	*e*PN		**Pn**	**19 01 34.5**	**-1.8**
BCA	**Borcka**	**3.62**	**334**	Pn		**Pn**	**19 01 35.5**	**-0.7**
ELZG	**Elazig**	**3.75**	**276**	*i* P		**Pn**	**19 01 38.2**	**+0.1**
ELZG				S		rx	19 02 51.4	
KELT	**Kelkit**	**3.99**	**300**	*e*P		**Pb**	**19 01 48.8**	**-0.1**
KELT				S		**Sb**	**19 02 38.1**	**+0.3**
GUMT	**Gumushane**	**4.00**	**306**	*e*PN		**Pn**	**19 01 41.2**	**-0.4**
GUMT	**Gumushane**	**4.00**	**306**	Pn		**Pn**	**19 01 41.2**	**-0.4**
MYA	**Malataya**	**4.19**	**273**	*e*PN		**Pn**	**19 01 44.3**	**0.0**
MYA	**Malataya**	**4.19**	**273**	Pn		**Pn**	**19 01 44.4**	**0.0**
ONI	**Oni**	**4.37**	**357**	*i* P		**Pg**	**19 01 59.5**	**-6.1**
GZT	**Gaziantep**	**4.97**	**262**	P		**Pb**	**19 02 03.6**	**-2.0**
GZT				S		**Sg**	**19 03 21.5**	**-2.3**
GAZ	**Gaziantep**	**5.29**	**261**	*e*PN		**Pn**	**19 02 00.9**	**+1.0**
KAHT	**Ahir Dag**	**5.46**	**266**	P		**Pn**	**19 02 10.5**	**+8.1**
COBT	**Iskenderun**	**6.20**	**256**	P		**Pn**	**19 02 20.4**	**+7.6**
COBT				S		**Sg**	**19 04 06.9**	**+2.1**
MIB	**Mutribah**	**8.90**	**159**	*e*P		**P**	**19 02 50.8**	**+0.2**
MIB				AMb	AMB	AMB	19 02 53.1	
	comp=Z,102nm,0.5s							
RST	**Umm Al-Ruwaisa**	**9.10**	**162**	*e*P		**P**	**19 02 52.3**	**-1.0**
RST				AMb	AMB	AMB	19 02 54.9	
	comp=Z,63nm,0.6s							
UMR	**Umm Al-Rimmam**	**9.24**	**158**	*e*P		**P**	**19 02 54.5**	**-0.8**
UMR				AMb	AMB	AMB	19 02 57.1	
	comp=Z,31nm,0.5s							
RDF	**Al-Radifah**	**9.79**	**160**	*e*P		**P**	**19 03 02.9**	**0.0**
RDF		

KIW				SN	S	19 02 55.0	-4.8
MTW	**Mount Morrison**	**2.81**	**189**	PN	P	19 02 25.6	-3.3
MTW				SN	S	19 02 58.9	-4.7
CAW	**Cannon Point**	**2.84**	**196**	PN	P	19 02 25.9	-3.3
CAW				SN	S	19 02 58.9	-5.3
MRW	**Makara Radio**	**3.04**	**200**	PN	P	19 02 28.2	-3.7
MRW				SN	S	19 03 03.2	-5.6
PAWZ	**Paruwai Farm**	**3.04**	**190**	PN	P	19 02 28.3	-3.6
PAWZ				SN	S	19 03 03.6	-5.2
MSWZ	**Moikau Station**	**3.10**	**192**	PN	P	19 02 28.8	-3.8
MSWZ				SN	S	19 03 03.9	-6.3
TUWZ	**Tuamarina**	**3.47**	**208**	PN	P	19 02 32.7	-4.7
TUWZ				SN	S	19 03 12.5	-6.3
NNZ	**Nelson**	**3.52**	**216**	PN	P	19 02 33.4	-4.7
NNZ				SN	S	19 03 14.5	-5.6
QRZ	**Quartz Range**	**3.68**	**227**	PN	P	19 02 34.9	-5.3
QRZ				SN	S	19 03 17.6	-6.2
BSWZ	**Blackbirch Sta**	**3.74**	**206**	PN	P	19 02 36.6	-4.4
BSWZ				SN	S	19 03 18.9	-6.3
THZ	**Tophouse**	**4.17**	**215**	PN	P	19 02 41.2	-5.4
THZ				SN	S	19 03 29.0	-6.3
KHZ	**Kahutara**	**4.48**	**205**	PN	P	19 02 45.8	-5.0
DSZ	**Denniston Nort**	**4.71**	**223**	PN	P	19 02 48.0	-5.8

*IDC **24** 19:21:11.6±1.6,80.10N×0.34W,mb3.2/4,mb1 3.6/6, mb1mx3.4/21,ML3.3/2,Error ellipse: s-maj=48.6km s-min=20.1km az=58.0*
*NEIC **24** 19:21:13.7,80.34N×0.29E,h24km,ML3.0(BER),After BER.*
*BER **24** 19:21:13.7±2.5,80.34N×0.29E,h24km±999km, ML3.0(NAO)*
*NAO **24** 19:21:22.9±10.0,80.02N×4.88E,ML3.0*
ISC 24 19:21:10.5±1.2,**79.9N**±0.1×**0.2W**±0.6,**h10**km,**n11**, σ1§**24**/13,**mb3.2**/2,**Greenland Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**3.61**	**111**	Pn	**Pn**	**19 22 08.5**	**+0.8**
	baz=316,slow=12						
HSP	**Hornsund**	**4.30**	**125**	*e*P	**Pn**	**19 22 18.8**	**+1.2**
HSP				*e*S	**Sn**	**19 23 06.5**	**-1.9**
JMIC	**Jan Mayen**	**9.22**	**197**	Pn	**P**	**19 23 25.7**	**-0.8**
	31nm,0.3s,baz=29,slow=19,SNR=6.2						
SUMG	**Summit**	**11.39**	**251**	*e*Pn	Px	19 23 50.0	
	14nm,0.5s						
SUMG				*e*Sn	Sx	19 25 47.0	
ARA0	**ARCESS Array S**	**12.24**	**134**	Pn	**P**	**19 24 07.6**	**0.0**
	baz=340,slow=11						
ARA0				Sn	**S**	**19 26 18.4**	**-6.8**
	baz=355,slow=18						
ARCES	**ARCESS Array B**	**12.24**	**134**	Pn	**P**	**19 24 08.1**	**+0.4**
	0.2nm,0.3s,baz=335,slow=13,SNR=9.5						
ARCES				Sn	**S**	**19 26 18.4**	**-6.8**
	0.2nm,0.3s,baz=342,slow=17,SNR=4.1						
NOA	**NORSAR Array B**	**19.29**	**163**	P	**P**	**19 25 41.3**	**+3.7**
	0.1nm,0.3s,baz=349,slow=8.7,SNR=2.4						
FINES	**FINESS Array B**	**20.10**	**142**	P	**P**	**19 25 46.0**	**-0.6**
	1.2nm,0.9s,baz=161,slow=34,SNR=3.0						
HFS	**Hagfors**	**20.33**	**160**	P	**P**	**19 25 49.4**	**+0.3**
	0.8nm,0.6s,baz=23,slow=11,SNR=3.3						
GERES	**GERESS Array B**	**31.59**	**162**	P	**P**	**19 27 38.2**	**+3.2**
	0.2nm,0.6s,mb3.2,baz=349,slow=5.0,SNR=2.5						
ILAR	**Eielson Array**	**34.27**	**335**	P	**P**	**19 27 56.8**	**-1.3**
	0.3nm,0.7s,mb3.3,baz=5.9,slow=8.6,SNR=5.0						

*MDD **24** 19:25:19.7±0.3,42.34N×2.14E,h7km±4km,mbLg1.4/13, Error ellipse: s-maj=2.8km s-min=2.3km az=147.0, PRXIMO AftershockPLICA*
*STR **24** 19:25:19.4±0.2,42.33N×2.14E,h2km±1km,Ml2.2,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **24** 19:25:19.1±0.1,42.34N×2.19E,h4km,Md2.3/1,Ml1.9/9, Error ellipse: s-maj=1.9km s-min=1.7km az=113.0*
ISC 24 19:25:17.9±0.4,**42.40N**±0.03×**2.14E**±0.03,**h15**km±3km, **n28**,σ1§**21**/42,**Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VALF	**Valcebollere**	**0.09**	**269**	Pg	**Pg**	**19 25 21.9**	**+0.9**
VALF				Sg	**Sg**	**19 25 23.6**	**+0.5**
VALF	**Valcebollere**	**0.09**	**269**	P	**Pb**	**19 25 22.0**	**+1.2**
VALF				S	**Sb**	**19 25 23.6**	**+1.0**
CBRU	**Bruguera**	**0.12**	**164**	Pg	**Pg**	**19 25 21.1**	**-0.4**
CLLI	**Llivia**	**0.14**	**303**	Pg	**Pg**	**19 25 23.4**	**+1.7**
CARF	**Carcanieres**	**0.31**	**356**	Pg	**Pg**	**19 25 26.9**	**+2.2**
CARF				Sg	**Sg**	**19 25 32.3**	**+3.1**
CARF	**Carcanieres**	**0.31**	**356**	P	**Pb**	**19 25 27.1**	**+2.4**
CARF				S	**Sg**	**19 25 32.3**	**+3.1**
FILF	**Fillols**	**0.35**	**63**	Pg	**Pg**	**19 25 25.4**	**0.0**
FILF				Sg	**Sg**	**19 25 29.6**	**-0.8**
FILF	**Fillols**	**0.35**	**63**	P	**Pb**	**19 25 25.5**	**+0.2**
FILF				S	**Sb**	**19 25 29.6**	**-0.8**
EJON	**La Jonquera**	**0.56**	**85**	Pg	**Pg**	**19 25 30.5**	**+1.2**
	0.8nm,0.1s,SNR=7.2						
EJON				Lg		19 25 37.7	
	2.0nm,0.1s,SNR=6.8						
CORG	**Organya**	**0.63**	**254**	Pg	**Pg**	**19 25 31.2**	**+0.5**
EMIR	**Miracle**	**0.67**	**223**	Pg	**Pg**	**19 25 31.4**	**0.0**
	1.8nm,0.1s,SNR=12						
EMIR				Lg		19 25 40.6	
	3.7nm,0.1s,SNR=5.0						
CFON	**Fontmartina**	**0.68**	**161**	Pg	**Pg**	**19 25 31.2**	**-0.5**
MTLF	**Montolieu**	**0.94**	**4**	*e*Pg	**Pg**	**19 25 38.7**	**+1.9**
MTLF				*e*Sg	**Sg**	**19 25 52.2**	**+2.7**
	2.9nm,0.2s						
EPOB	**Poblet**	**1.31**	**217**	Pg	**Pg**	**19 25 43.3**	**-1.0**
	1.4nm,0.1s,SNR=15						
EPOB				Lg		19 25 59.9	
	7.2nm,0.1s,SNR=20						
EPF	**Esparros**	**1.46**	**296**	*e*Pg	**Pg**	**19 25 47.1**	**-0.1**
EPF				*e*Sg	**Sg**	**19 26 06.2**	**-0.6**
	4.4nm,0.3s						
EBIE	**Bielsa**	**1.50**	**282**	Pn	**Pn**	**19 25 45.5**	**+1.1**
	SNR=4.0						
EBIE				Pg	**Pg**	**19 25 48.7**	**+0.8**
	0.4nm,0.1s,SNR=6.6						
EBIE				Lg		19 26 09.3	
	2.3nm,0.2s,SNR=5.0						
ETSF	**Etsaut**	**2.05**	**285**	*e*Pg	**Pg**	**19 25 57.1**	**-1.8**
ETSF				*e*Sg	**Sg**	**19 26 25.9**	**-0.3**
	3.0nm,0.3s						
ESAC	**San Caprasio**	**2.06**	**252**	Pg	**Pg**	**19 25 57.0**	**-2.0**
	SNR=4.0						
ESAC				Lg		19 26 23.6	
	3.8nm,0.2s,SNR=7.9						
LASF	**Ste Croix**	**2.09**	**36**	*e*Pg	**Pg**	**19 25 58.8**	**-1.0**
LASF				*e*Sg	**Sg**	**19 26 27.7**	**0.0**
	1.3nm,0.3s						
CAF	**Calviac**	**2.52**	**359**	*e*Pg	**Pg**	**19 26 07.4**	**-0.9**
CAF				*e*Sg	**Sg**	**19 26 41.3**	**-0.7**
	1.4nm,0.2s						
SJPF	**Ste Jean**	**2.57**	**287**	*e*Pg	**Pg**	**19 26 07.7**	**-1.6**
SJPF				*e*Sg	**Sg**	**19 26 42.7**	**-1.0**
	2.2nm,0.4s						
LFF	**La Frestale**	**2.73**	**339**	*e*Pn	**Pn**	**19 26 02.9**	**+0.8**
LFF				*e*Sg	**Sg**	**19 26 47.4**	**-1.5**
	0.9nm,0.3s						
EMOS	**Mosqueruela**	**2.83**	**225**	Lg		19 26 48.2	
	0.3nm,0.1s,SNR=4.0						
RJF	**Les Rejaudoux**	**2.94**	**351**	*e*Pn	**Pn**	**19 26 05.4**	**+0.4**
RJF				*e*Sg	**Sg**	**19 26 54.2**	**-1.5**
	1.1nm,0.3s						
SMRF	**Simiane la Rot**	**2.97**	**57**	*e*Pn	**Pn**	**19 26 04.7**	**-0.8**
VIVF	**Saint-Julien-l**	**3.07**	**36**	*e*Sg	**Sg**	**19 26 56.9**	**-3.2**
	0.4nm,0.2s						
LMR	**La Mourre**	**3.35**	**72**	*e*Pn	**Pn**	**19 26 09.6**	**-1.3**
FRF	**La Foret Royal**	**3.51**	**69**	*e*P	**Pn**	**19 26 14.9**	**+1.8**

*IDC **24** 19:38:10.5±7.8,23.69S×179.86W,h464km±73km,mb3.5/7, mb1 3.6/9,mb1mx3.4/17,Error ellipse: s-maj=78.1km s-min=18.8km az=51.0*
*NEIC **24** 19:38:10.9±1.4,23.63S×179.68W,h491km±28km,mb4.2/1, Error ellipse: s-maj=20.5km s-min=14.0km az=81.0*
ISC 24 19:38:10.6±2.1,**23.67S**±0.09×**179.6W**±0.2,**h509**km±42km, **n15**,σ0§**66**/15,**mb4.0**/9,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**12.22**	**39**	P	**P**	**19 40 52.0**	**-0.3**
URZ	**Urewera**	**14.81**	**190**	P	**P**	**19 41 19.4**	**+0.6**
	1.0nm,0.3s,baz=1.3,slow=13,SNR=5.5						
URZ				S	**S**	**19 43 50.2**	**-0.7**
	0.8nm,0.3s,baz=54,slow=22,SNR=8.1						
RPZ	**Rata Peaks**	**21.42**	**199**	P	**P**	**19 42 22.3**	**-0.2**
	7.0nm,0.6s,mb4.5,baz=34,slow=3.6,SNR=3.7						
CTA	**Charters Tower**	**31.81**	**270**	P	**P**	**19 43 54.8**	**+0.5**
	10.0nm,0.4s,mb4.7,baz=98,slow=10,SNR=33						
CTAO	**Charters Tower**	**31.81**	**270**	*e*P	**P**	**19 43 55.1**	**+0.8**
	10.0nm,0.4s,mb4.7						
PMG	**Port Moresby**	**34.73**	**288**	P	**P**	**19 44 18.8**	**-0.1**
	5.5nm,0.6s,mb4.2,baz=243,slow=9.0,SNR=3.5						
PMG	**Port Moresby**	**34.73**	**288**	P	**P**	**19 44 18.8**	**-0.1**
STKA	**Stephens Creek**	**35.12**	**248**	P	**P**	**19 44 22.6**	**+0.7**
	1.5nm,0.5s,mb3.8,baz=91,slow=9.5,SNR=8.3						
ASAR	**Alice Springs**	**42.40**	**260**	P	**P**	**19 45 21.2**	**-0.1**
	2.6nm,0.5s,mb4.0,baz=98,slow=6.6,SNR=38						
WRAB	**Tennant Creek**	**42.74**	**266**	*e*P	**P**	**19 45 23.4**	**-0.7**
	5.9nm,0.7s,mb4.2						
WRA	**Warramunga Arr**	**42.75**	**266**	P	**P**	**19 45 23.5**	**-0.6**
	6.0nm,0.5s,mb4.4,baz=96,slow=8.4,SNR=220						
FITZ	**Fitzroy Crossi**	**51.18**	**265**	P	**P**	**19 46 28.6**	**+0.3**
	4.1nm,0.7s,mb3.9,baz=162,slow=6.8,SNR=12						
VNDA	**Vanda**	**54.64**	**185**	P	**P**	**19 46 53.8**	**+1.5**
	0.3nm,0.7s,mb2.7,baz=21,slow=7.3,SNR=3.1						
CASY	**Casey**	**60.47**	**206**	*e*P	**P**	**19 47 30.9**	**-1.0**
CASY				*e*		19 47 36.5	
HFS	**Hagfors**	**142.38**	**349**	PKhKP		19 56 41.4	
	1.3nm,0.7s,baz=63,slow=3.2,SNR=8.5						

*CSEM **24** 19:44:56.1±0.7,38.61N×28.62W,h6km±8km,ML1.4, Error ellipse: s-maj=10.8km s-min=2.5km az=42.0*
*PDA **24** 19:44:56.1±0.7,38.61N×28.62W,h6km±8km,MD3.2, ML1.4,Error ellipse: s-maj=10.8km s-min=2.5km az=42.0*
SVSA 24 19:44:56.1±0.7,**38.61N**×**28.62W**,**h6**km±8km,**MD3.2**, **ML1.4**,**Error ellipse: s-maj=10.8km s-min=2.5km az=42.0**,**Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.07**	**287**	*e*P	Pg	19 44 57.7	-0.1
	49nm,0.2s						
PCED	**Cedros**	**0.07**	**287**	*e*P	Pg	19 44 57.7	-0.1
	49nm,0.2s						
PICO	**Pico**	**0.18**	**126**	*e*P	Pg	19 44 59.3	-0.6
PICO				*e*S	Sg	19 45 02.4	0.0
ROSA	**Rosais**	**0.31**	**69**	*e*P	Pg	19 45 01.8	-0.6
PMAN	**Manadas**	**0.41**	**86**	*e*S	Sg	19 45 08.7	-1.2
	14nm,0.2s						
PMAN	**Manadas**	**0.41**	**86**	*e*S	Sg	19 45 08.7	-1.2
	14nm,0.2s						
PID	**Ribeirinha**	**0.42**	**113**	*e*P	Pg	19 45 03.6	-1.0

*BUC **24** 19:56:13.3±1.4,45.49N×26.42E,h171km±14km,MD4.8, Error ellipse: s-maj=10.7km s-min=9.0km az=0.0*
*MOS **24** 19:56:14.4±0.8,45.58N×26.35E,h161km,mb4.2/8,Error ellipse: s-maj=9.5km s-min=4.9km az=122.8*
*CSEM **24** 19:56:14.3±0.1,45.52N×26.38E,h157km,mb4.4/6,Error ellipse: s-maj=2.0km s-min=1.3km az=27.0*
*IDC **24** 19:56:15.1±0.3,45.59N×26.14E,h153km±2km,mb3.7/12, mb1 3.8/25,mb1mx3.7/29,Error ellipse: s-maj=11.3km s-min=9.9km az=144.0*
*NEIC **24** 19:56:15.0±0.2,45.56N×26.38E,mb4.3/29,Error ellipse: s-maj=4.6km s-min=2.8km az=213.0*
*SOF **24** 19:56:18.4,45.31N×26.20E,h100km,MD3.7*
*UPP **24** 19:56:19.7,45.60N×25.93E,h14km*
ISC 24 19:56:14.1±0.1,**45.53N**±0.02×**26.34E**±0.03,**h158**km±2km, **h156**km±1.6km:**pP-P**,**n258**,σ1§**08**/291,**mb4.4**/28,**37C-24D**, **Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLR	**Muntele Rosu**	**0.28**	**262**	P	**P**	**19 56 36.7**	**+0.8**
	310nm,0.3s,baz=310,slow=3.4,SNR=4391						
MLR				S	**S**	**19 56 52.7**	**+0.1**
	2µm,0.3s,baz=51,slow=16,SNR=86						
MLR	**Muntele Rosu**	**0.28**	**262**	*e*P	**P**	**19 56 36.3**	**+0.4**
MLR				*i* S	**S**	**19 56 52.5**	**-0.1**
MLR	**Muntele Rosu**	**0.28**	**262**	P	**P**	**19 56 36.7**	**+0.8**
MLR				S	**S**	**19 56 52.7**	**+0.1**
MLR				pmax	pmax		
	comp=Z,310nm,0.3s						
MLR	**Muntele Rosu**	**0.28**	**262**	⇑*i*P	**P**	**19 56 36.7**	**+0.8**
MLR				S	**S**	**19 56 52.7**	**+0.1**
PLOR	**Plostina**	**0.39**	**34**	⇓*e*P	**P**	**19 56 36.8**	**+0.5**
VRI	**Vrincioaia**	**0.43**	**39**	⇑*e*P	**P**	**19 56 37.0**	**+0.5**
VRI				*i* S	**S**	**19 56 53.5**	**-0.1**
VRI	**Vrincioaia**	**0.43**	**39**	⇑*i*P	**P**	**19 56 37.3**	**+0.9**
VRI				*i* S	**S**	**19 56 53.5**	**-0.2**
VRI	**Vrincioaia**	**0.43**	**39**	⇑*i*P	**P**	**19 56 37.3**	**+0.8**
VRI				*i* S	**S**	**19 56 53.5**	**-0.1**
ISR	**Istrita**	**0.43**	**161**	⇓*e*P	**P**	**19 56 36.6**	**+0.1**
ISR	**Istrita**	**0.43**	**161**	⇑*i*P	**P**	**19 56 37.1**	**+0.6**
ISR				*i* S	**S**	**19 56 54.7**	**+1.1**
ISR	**Istrita**	**0.43**	**161**	⇑*i*P	**P**	**19 56 37.1**	**+0.6**
ISR				*i* S	**S**	**19 56 54.7**	**+1.1**
BRD	**Bordesti**	**0.48**	**87**	⇓*e*P	**P**	**19 56 38.0**	**+1.3**
BRD	**Bordesti**	**0.48**	**87**	⇑*i*P	**P**	**19 56 38.5**	**+1.8**
BRD				*i* S	**S**	**19 56 56.8**	**+2.8**
BRD	**Bordesti**	**0.48**	**87**	⇑*i*P	**P**	**19 56 38.4**	**+1.7**
BRD				*i* S	**S**	**19 56 56.8**	**+2.8**
SNX	**Sinaia**	**0.61**	**254**	⇑*i*P	**P**	**19 56 38.1**	**+0.8**
SNX	**Sinaia**	**0.61**	**254**	⇑*i*P	**P**	**19 56 38.0**	**+0.7**
SNX				*i* S	**S**	**19 56 54.3**	**-0.8**
MTUR	**Matau**	**0.95**	**252**	⇓*e*P	**P**	**19 56 39.5**	**+0.1**
MTUR	**Matau**	**0.95**	**252**	⇑*i*P	**P**	**19 56 40.1**	**+0.7**
MTUR				*i* S	**S**	**19 56 58.9**	**0.0**
MTUR	**Matau**	**0.95**	**252**	⇑*i*P	**P**	**19 56 40.1**	**+0.7**
MTUR				*i* S	**S**	**19 56 58.9**	**+0.1**
BUC	**Bucharest**	**1.13**	**189**	*i* S	**S**	**19 57 01.4**	**-0.2**
BUC1	**Bucharest**	**1.20**	**191**	⇑*i*P	**P**	**19 56 42.0**	**+0.4**
BUC1				*i* S	**S**	**19 57 01.9**	**-1.0**
BUC1	**Bucharest**	**1.20**	**191**	⇑*i*P	**P**	**19 56 42.2**	**+0.5**
BUC1				*i* S	**S**	**19 57 02.7**	**-0.2**
BUC1	**Bucharest**	**1.20**	**191**	⇑*i*P	**P**	**19 56 41.9**	**+0.3**
BUC1				*i* S	**S**	**19 57 02.7**	**-0.2**
CFR	**Carcaliu**	**1.31**	**105**	⇓*e*P	**P**	**19 56 42.2**	**-0.5**
CFR	**Carcaliu**	**1.31**	**105**	⇑*i*P	**P**	**19 56 42.7**	**0.0**
CFR				*i* S	**S**	**19 57 03.8**	**-1.0**
CFR	**Carcaliu**	**1.31**	**105**	⇑*e*P	**P**	**19 56 42.6**	**-0.1**
CFR	**Carcaliu**	**1.31**	**105**	⇑*i*P	**P**	**19 56 42.7**	**0.0**
CFR				*i* S	**S**	**19 57 03.8**	**-1.0**
TIRR	**Tirgusor**	**1.82**	**125**	⇓*i*P	**P**	**19 56 47.2**	**-0.8**
TIRR				*i* S	**S**	**19 57 11.9**	**-2.2**
IAS	**Iasi**	**1.87**	**26**	⇓*e*P	**P**	**19 56 49.5**	**+1.0**
IAS				*e*S	**S**	**19 57 14.3**	**-0.7**
IAS	**Iasi**	**1.87**	**26**	⇓*i*P	**P**	**19 56 49.4**	**+0.9**
CRAR	**CRAIOVA**	**2.17**	**237**	⇑*i*P	**P**	**19 56 51.8**	**-0.3**
CRAR				*i* S	**S**	**19 57 19.1**	**-2.2**
BURAR	**Bucovina Array**	**2.23**	**340**	⇑*e*P	**P**	**19 56 53.8**	**+1.0**
BURAR	**Bucovina Array**	**2.23**	**340**	⇑*e*P	**P**	**19 56 54.1**	**+1.3**
BURAR	**Bucovina Array**	**2.23**	**340**	⇑*e*P	**P**	**19 56 54.1**	**+1.3**
KIS	**Kishinev**	**2.26**	**49**	⇓*i*P	**P**	**19 56 53.0**	**-0.2**
KIS				*i* S	**S**	**19 57 21.5**	**-1.7**
KIS				pmax	pmax		
	comp=Z,800µm,0.5s						
KIS				pmax	pmax		
	comp=Z,800nm,0.5s						
KIS				smax			
	comp=N,5700µm,0.5s						
KIS				smax			
	comp=E,6100µm,0.5s						
KIS				smax			
	comp=N,6µm,0.5s						
KIS				smax			
	comp=E,8µm,0.5s						
KIS	**Kishinev**	**2.26**	**49**	⇓*i*P	**P**	**19 56 53.0**	**-0.2**
	comp=E,800nm,0.5s						
KIS				*i* S	**S**	**19 57 21.5**	**-1.7**
	comp=E,6µm,0.5s						
PSN	**Preselentsi**	**2.27**	**144**	*i* P	**P**	**19 56 53.7**	**+0.4**
SZH	**Strazhica**	**2.28**	**188**	*i* P	**P**	**19 56 53.0**	**-0.4**
PVL	**Pavlikeni**	**2.42**	**198**	*i* P	**P**	**19 56 56.0**	**+0.8**
PRD	**Provadia**	**2.45**	**162**	*i* P	**P**	**19 56 56.0**	**+0.5**
DRGR		**2.82**	**298**	⇓*i*P	**P**	**19 57 00.5**	**+0.3**
DJES	**Djerdap**	**2.85**	**253**	⇑*i*Pn	**P**	**19 56 59.1**	**-1.4**
DJES				Sn	**S**	**19 57 20.7**	**-15**
JMB	**Yambol**	**3.07**	**177**	*i* P	**P**	**19 57 02.3**	**-1.0**
PGB	**Panagyurishte**	**3.37**	**209**	*i* P	**P**	**19 57 07.0**	**-0.2**
DIM	**Dimitrovgrad**	**3.53**	**190**	*i* P	**P**	**19 57 08.0**	**-1.2**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLD	**Plovdiv**	**3.62**	**200**	*i* P	**P**	**19 57 09.0**	**-1.5**
EDRB	**Edirne**	**3.69**	**175**	*e*P	**P**	**19 57 11.1**	**-0.3**
VTS	**Vitosha**	**3.71**	**219**	*i* P	**P**	**19 57 10.5**	**-1.0**
VTS	**Vitosha**	**3.71**	**219**	⇑*i*P	**P**	**19 57 10.9**	**-0.6**
SVIS	**Svilajnac**	**3.84**	**253**	⇓*i*Pn	**P**	**19 57 12.1**	**-1.2**
SVIS				Sn	**S**	**19 58 10.0**	**+11**
KDZ	**Kurdzhali**	**3.94**	**190**	*i* P	**P**	**19 57 14.3**	**-0.2**
RZN	**Rozhen**	**4.02**	**198**	*i* P	**P**	**19 57 15.0**	**-0.6**
UZH	**Uzhgorod**	**4.16**	**320**	*e*P	**P**	**19 57 17.0**	**-0.4**
BEO	**Belgrade**	**4.22**	**262**	⇓*i*Pn	**P**	**19 57 17.4**	**-0.9**
BEO				Sn	**S**	**19 58 01.4**	**-6.3**
BARS	**Barje**	**4.23**	**232**	⇑*i*Pn	**P**	**19 57 25.4**	**+7.0**
BARS				Sn	**S**	**19 58 15.8**	**+7.9**
KKB	**Krupnik**	**4.36**	**214**	*i* P	**P**	**19 57 19.5**	**-0.5**
MMB	**Musomiste**	**4.37**	**207**	*i* P	**P**	**19 57 20.0**	**-0.2**
KOLS	**Kolonicke sedl**	**4.39**	**322**	*i* PN	**P**	**19 57 21.4**	**+0.9**
RDO	**Rodhopi**	**4.42**	**188**	*e*P	**P**	**19 57 19.9**	**-1.0**
NVR	**Nevrokopi**	**4.55**	**204**	*e*P	**P**	**19 57 22.0**	**-0.6**
LVV	**L'vov**	**4.57**	**341**	*e*P	**P**	**19 57 23.0**	**+0.2**
PKSN	**Nyarlorinc**	**4.70**	**289**	⇑*e*P	**P**	**19 57 25.4**	**+0.9**
CRVS	**Cervenica-Dubn**	**4.74**	**317**	*i* PN	**P**	**19 57 25.6**	**+0.6**
DIVS	**Divcibare**	**4.74**	**255**	⇑*i*Pn	**P**	**19 57 24.3**	**-0.8**
DIVS				Sn	**S**	**19 58 14.7**	**-5.2**
KWP	**Kalwaria**	**4.78**	**330**	*e*Pn	**P**	**19 57 26.7**	**+1.0**
KWP				*e*P		19 57 37.1	
KWP	**Kalwaria**	**4.78**	**330**	*e*Pn	**P**	**19 57 26.7**	**+1.0**
KWP				*e*P*	**P**	**19 57 37.1**	**+11**
PKS6	**Bocsa**	**4.84**	**285**	⇓*e*P	**P**	**19 57 25.3**	**-1.1**
ISK	**Istanbul-Kandi**	**4.88**	**155**	*e*P	**P**	**19 57 26.2**	**-0.8**
KECS	**Kecovo**	**4.98**	**309**	*i* PN	**P**	**19 57 28.7**	**+0.5**
SKO	**Skopje**	**5.03**	**227**	*e*Pn	**P**	**19 57 29.0**	**+0.2**
SKO				*i* Sn	**S**	**19 58 17.5**	**-9.1**
PSZ	**Piszkesteto**	**5.04**	**301**	⇑*e*PB	**P**	**19 57 29.0**	**0.0**
PSZ	**Piszkesteto**	**5.04**	**301**	⇓*i*P	**P**	**19 57 28.6**	**-0.4**
BADT	**Buyukada**	**5.09**	**156**	*e*P	**P**	**19 57 30.0**	**+0.3**
KGT	**Karabiga**	**5.12**	**172**	*i* P	**P**	**19 57 26.6**	**-3.5**
PKS7	**Kunszentmiklos**	**5.20**	**290**	⇑*e*P	**P**	**19 57 31.6**	**+0.4**
HRT	**Hereke**	**5.30**	**152**	*i* P	**P**	**19 57 32.8**	**+0.4**
BNT	**Bandirma**	**5.30**	**167**	*e*P	**P**	**19 57 32.4**	**0.0**
BUD	**Budapest**	**5.42**	**294**	*e*PB	**P**	**19 57 34.9**	**+0.9**
PKSM	**Moragy**	**5.42**	**280**	⇓*i*P	**P**	**19 57 34.7**	**+0.7**
PKS8	**Sarbogard**	**5.49**	**287**	⇑*e*P	**P**	**19 57 35.2**	**+0.3**
SIM	**Simferopol'**	**5.52**	**93**	*e*P	**P**	**19 57 35.8**	**+0.5**
SIM				*e*S	**S**	**19 58 34.3**	**-4.1**
SIM				pmax	pmax		
	comp=Z,21nm,0.7s						
AKASG	**Malin Array Be**	**5.52**	**19**	P	**P**	**19 57 35.5**	**+0.1**
	comp=Z,13nm,0.3s,baz=204,slow=13,SNR=69						
AKASG				S	**S**	**19 58 34.9**	**-3.5**
	comp=Z,11nm,0.3s,baz=201,slow=20,SNR=10						
AKASG	**Malin Array Be**	**5.52**	**19**	P	**P**	**19 57 35.5**	**+0.1**
AKASG				S	**S**	**19 58 34.9**	**-3.5**
AKASG				pmax	pmax		
	comp=Z,13nm,0.3s						
PLG	**Polygyros**	**5.57**	**203**	*e*P	**P**	**19 57 35.1**	**-0.9**
NIE	**Niedzica**	**5.64**	**316**	⇓*e*P	**P**	**19 57 38.0**	**+1.0**
BOZC	**Bozcaada**	**5.69**	**182**	P	**P**	**19 57 38.3**	**+0.7**
PKS9	**Tamasi**	**5.71**	**284**	⇓*e*P	**P**	**19 57 38.5**	**+0.6**
ULDT	**Uludag**	**5.76**	**158**	P	**P**	**19 57 38.1**	**-0.4**
HEN3	**Hendek**	**5.76**	**143**	P	**P**	**19 57 38.3**	**+0.3**
PKSG		**5.80**	**292**	⇑*e*P	**P**	**19 57 39.3**	**+0.2**
RHK1	**Bakonya**	**5.81**	**279**	⇓*e*P	**P**	**19 57 39.9**	**+0.7**
BTOK	**Tokmak**	**5.90**	**167**	P	**P**	**19 57 51.5**	**+11**
SRO2	**Moca**	**5.91**	**295**	*i* PN	**P**	**19 57 41.2**	**+0.7**
VYHS	**Vyhne**	**5.93**	**303**	*i* PN	**P**	**19 57 41.1**	**+0.4**
SRO	**Srobarova**	**5.98**	**295**	*i* PN	**P**	**19 57 42.7**	**+1.3**
LIKS	**Likavka**	**6.05**	**308**	ePN	**P**	**19 57 42.7**	**+0.3**
KOLL	**Kolacno**	**6.22**	**302**	*i* PN	**P**	**19 57 45.2**	**+0.5**
PRK	**Paraskevi**	**6.28**	**181**	*e*P	**P**	**19 57 47.9**	**+2.4**
SAFT	**Safranbolu**	**6.30**	**131**	*i* P	**P**	**19 57 43.

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPL	La Plagne	13.75	277	eP	P	19 59 25.1	+1.9
MBDF	Montbardon	13.84	274	eP	P	19 59 26.3	+1.9
	comp=Z,9.2nm,0.8s						
FRF	La Foret Royal	14.18	269	eP	P	19 59 30.6	+1.9
	comp=Z,11nm,0.8s						
ORIF	Oris-en-Rattie	14.44	275	eP	P	19 59 33.5	+1.6
GNI	Garni	14.52	105	P	P	19 59 36.7	+3.8
	comp=Z,0.2nm,0.3s,baz=352,slow=5.7,SNR=5.1						
GNI	Garni	14.52	105	eP	P	19 59 36.9	+3.9
GNI				pmax	pmax		
	comp=Z,25nm,1.6s						
ASF	Jabal al Asfar	15.65	145	P	P	19 59 49.6	+2.5
	comp=Z,0.3nm,0.3s,baz=333,slow=2.3,SNR=8.1						
SSF	Saint Saulge	15.85	284	eP	P	19 59 49.9	+0.4
FINES	FINESS Array B	15.95	360	P	P	19 59 47.8	-2.8
	comp=Z,1.0nm,0.3s,baz=164,slow=13,SNR=28						
FINES				S	S	20 02 48.3	+6.1
	comp=Z,0.1nm,0.3s,baz=190,slow=23,SNR=2.5						
BGF	Bois d'Agland	16.34	282	eP	P	19 59 55.9	+0.4
	comp=Z,8.9nm,0.6s						
HFS	Hagfors	16.46	337	P	P	19 59 55.3	-1.6
	comp=Z,0.3nm,0.3s,baz=150,slow=12,SNR=44						
HFS	Hagfors	16.46	337	P	P	19 59 55.3	-1.6
KAF	Kangasniemi	16.62	360	ep	P	19 59 53.7	-5.2
	comp=Z,3.2nm,0.6s						
KAF	Kangasniemi	16.62	360	eP	P	19 59 53.7	-5.2
KAF				pmax	pmax		
	comp=Z,3.0nm,0.6s						
EIL	Elat	17.22	154	P	P	20 00 07.0	+0.7
	comp=Z,0.9nm,0.3s,baz=349,slow=13,SNR=7.0						
JOF	Joensuu	17.66	8	ep	P	20 00 07.9	-3.3
	comp=Z,8.2nm,0.6s						
JOF	Joensuu	17.66	8	eP	P	20 00 07.9	-3.3
JOF				pmax	pmax		
	comp=Z,8.0nm,0.6s						
NB2	NORSAR Subarra	17.90	336	P	P	20 00 11.9	-2.1
	comp=Z,1.9nm,0.6s,baz=136,slow=11						
NB2	NORSAR Subarra	17.90	336	P	P	20 00 11.9	-2.1
	baz=136,slow=12						
NB2	NORSAR Subarra	17.90	336	P	P	20 00 11.9	-2.1
	baz=136,slow=12,SNR=93						
NOA	NORSAR Array B	17.90	336	P	P	20 00 11.9	-2.1
	comp=Z,2.0nm,0.3s,baz=144,slow=9.9,SNR=59						
NOA	NORSAR Array B	17.90	336	P	P	20 00 11.9	-2.1
NOA				pmax	pmax		
	comp=Z,2.0nm,0.3s						
LFF	La Frestale	18.02	277	eP	P	20 00 13.0	-2.5
TAYS	Tayyib Ism	18.24	155	P	P	20 00 18.2	+0.3
LDF	La Druitiere	18.26	289	eP	P	20 00 15.3	-2.6
	comp=Z,7.9nm,0.5s						
BDAS	Al Bad'	18.42	155	P	P	20 00 20.4	+0.6
FLN	La Foliniere	18.49	290	eP	P	20 00 17.8	-2.6
UMAU	Umeaa	18.67	352	P	P	20 00 20.6	-1.5
	baz=162						
AYUS	'Aynunah	18.70	155	P	P	20 00 23.4	+0.7
GRR	Gorron	18.75	289	eP	P	20 00 21.2	-1.9
	comp=Z,2.9nm,0.3s						
EPF	Esparros	18.76	272	eP	P	20 00 19.5	-3.7
	comp=Z,2.5nm,0.4s						
TBKS	Tabuk	19.07	151	P	P	20 00 27.9	+1.2
DOMB	Dombas	19.33	335	eP	P	20 00 28.4	-0.6
DOMB				AMb	AMB	20 00 29.2	
	comp=Z,26nm,0.7s						
DOMB	Dombas	19.33	335	eP	P	20 00 28.4	-0.6
	comp=Z,26nm,0.6s						
DOMB	Dombas	19.33	335	eP	P	20 00 28.4	-0.6
	comp=Z,26nm,0.7s,SNR=65						
ETSF	Etsaut	19.43	272	eP	P	20 00 26.6	-3.6
	comp=Z,3.2nm,0.5s						
MOL	Molde	20.19	334	eP	P	20 00 40.7	+2.9
MOL				AMb	AMB	20 00 42.0	
	comp=Z,34nm,1.4s						
MOL	Molde	20.19	334	eP	P	20 00 40.7	+2.9
	comp=Z,34nm,1.4s						
MOL	Molde	20.19	334	eP	P	20 00 40.7	+2.9
	comp=Z,34nm,1.4s,SNR=64						
NSS	Namsos	20.65	342	eP	P	20 00 40.7	-1.7
NSS				AMb	AMB	20 00 42.3	
	comp=Z,35nm,1.4s						
NSS	Namsos	20.65	342	eP	P	20 00 40.7	-1.7
	comp=Z,35nm,1.4s						
NSS	Namsos	20.65	342	eP	P	20 00 40.7	-1.7
	comp=Z,35nm,1.4s,SNR=64						
EKA	Eskdalemuir Ar	21.05	308	P	P	20 00 46.2	-0.2
	comp=Z,2.1nm,0.4s,mb3.8,baz=106,slow=9.9,SNR=19						
EKA	Eskdalemuir Ar	21.05	308	P	P	20 00 46.3	-0.1
EKA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
EKA	Eskdalemuir Ar	21.05	308	P	P	20 00 46.2	-0.2
MOR8	Moi Rana	21.67	347	eP	P	20 00 53.6	+1.1
MOR8				AMb	AMB	20 00 56.0	
	comp=Z,15nm,0.6s,mb4.6						
MOR8	Moi Rana	21.67	347	eP	P	20 00 53.6	+1.1
	comp=Z,15nm,0.6s,mb4.6						
MOR8	Moi Rana	21.67	347	eP	P	20 00 53.6	+1.2
	comp=Z,15nm,0.6s,mb4.6,SNR=54						
MELS	Mels	22.42	347	eP	P	20 01 00.9	+1.2
MIB	Mutribah	22.76	126	eP	P	20 01 05.4	+2.1
MIB				AMb	AMB	20 01 06.2	
	comp=Z,54nm,0.5s,mb5.3						
RST	Umm Al-Ruwaisa	22.80	127	eP	P	20 01 05.0	+1.3
RST				AMb	AMB	20 01 05.7	
	comp=Z,47nm,0.6s,mb5.1						
ARU	Arti	22.81	50	⇓iP	P	20 01 03.6	+0.1
ARU				eS	S	20 05 03.1	+5.9
ARU				pmax	pmax		
	comp=Z,15nm,0.6s,mb4.6						
ARU	Arti	22.81	50	eP	P	20 01 04.0	+0.5
	comp=Z,20nm,0.6s,mb4.7						
ARU	Arti	22.81	50	eP	P	20 01 04.0	+0.5
	comp=Z,20nm,0.6s,mb4.7						
ESDC	Sonseca Array	22.98	266	P	P	20 01 04.1	-1.2
	comp=Z,0.6nm,0.4s,mb3.4,baz=63,slow=9.0,SNR=10						
UMR	Umm Al-Rimmam	23.16	126	eP	P	20 01 09.1	+1.9
UMR				AMb	AMB	20 01 11.2	
	comp=Z,25nm,0.4s,mb5.0						
RDF	Al-Radifah	23.55	127	eP	P	20 01 13.5	+2.6
RDF				AMb	AMB	20 01 15.7	
	comp=Z,24nm,0.4s,mb5.1						
KTK1	Kautokeino	23.60	357	eP	P	20 01 11.2	+0.2
SVE	Sverdlovsk	24.02	50	⇓eP	P	20 01 16.5	+1.3
ARCES	ARCESS Array B	24.08	359	P	P	20 01 15.5	-0.1
	comp=Z,4.6nm,0.6s,mb4.2,baz=189,slow=9.5,SNR=34						
ARCES	ARCESS Array B	24.08	359	P	P	20 01 15.5	0.0
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KEV	Kevo	24.30	1	ep	P	20 01 18.2	+0.6
	comp=Z,1.9nm,0.4s,mb4.0						
KEV	Kevo	24.30	1	eP	P	20 01 18.2	+0.6
KEV				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.0						
TRO	Tromso	24.46	354	eP	P	20 01 18.9	-0.3
TRO				AMb	AMB	20 01 20.9	
	comp=Z,19nm,0.9s,mb4.6						
TRO	Tromso	24.46	354	eP	P	20 01 18.9	-0.3
	comp=Z,19nm,0.9s,mb4.6						
TRO	Tromso	24.46	354	eP	P	20 01 18.9	-0.2
	comp=Z,19nm,0.9s,mb4.6,SNR=52						
BRVK	Borovoye	29.24	59	eP	P	20 02 03.7	+0.8
	comp=Z,3.2nm,0.7s,mb4.2						
BRVK	Borovoye	29.24	59	eP	P	20 02 03.7	+0.8
	comp=Z,3.2nm,0.7s,mb4.2						
BVAR	Borovoye Array	29.30	59	P	P	20 02 04.4	+0.9
	comp=Z,1.1nm,0.5s,mb3.8,baz=258,slow=6.3,SNR=12						
NVS	Novosibirsk	36.65	54	i P	P	20 03 07.3	+0.6
DBIC	Dimbokro	47.21	225	P	P	20 04 31.1	-1.7
	comp=Z,3.7nm,0.3s,mb4.4,baz=16,slow=9.6,SNR=35						
DBIC				pP	pP	20 05 06.8	-1.5
	comp=Z,2.4nm,0.5s,baz=15,slow=5.9,SNR=2.7						
DBIC	Dimbokro	47.21	225	P	P	20 04 31.1	-1.7
DBIC				pmax	pmax		
	comp=Z,4.0nm,0.3s						
DBIC				pmax	pmax		
	comp=Z,2.0nm,0.5s						
TIC	Toumodi	47.31	225	eP	P	20 04 32.6	-1.0
	comp=Z,5.7nm,0.2s,mb4.8						
KIC	Kosan Boka	47.42	224	eP	P	20 04 33.6	-0.8
	comp=Z,64nm,1.3s,mb5.1						
LIC	Lamto	47.68	224	eP	P	20 04 35.6	-0.8
	comp=Z,17nm,0.5s,mb4.9						
SONM	Songino Array	52.60	57	P	P	20 05 14.3	+0.9
	comp=Z,4.9nm,0.7s,mb4.4,baz=297,slow=8.3,SNR=48						
SONM				pP	pP	20 05 49.3	-0.2
	comp=Z,1.0nm,0.9s,baz=291,slow=11,SNR=3.2						
SCHQ	Schefferville	56.11	316	P	P	20 05 36.3	-2.5
	comp=Z,2.4nm,0.8s,mb4.1,baz=59,slow=12,SNR=3.0						
CMAR	Chiang Mai Arr	64.95	89	P	P	20 06 39.0	-0.2
	comp=Z,1.6nm,0.6s,mb4.0,baz=305,slow=7.5,SNR=17						
CMAR				pP	pP	20 07 16.4	-0.4
	comp=Z,0.7nm,0.7s,baz=309,slow=8.5,SNR=3.7						
CMAR	Chiang Mai Arr	64.95	89	P	P	20 06 39.0	-0.1
CMAR				*PP	pP	20 07 16.4	-0.4
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
INK	Inuvik	65.49	352	P	P	20 06 40.4	-1.4
	comp=Z,1.5nm,0.6s,mb4.0,baz=35,slow=10,SNR=8.0						
INK	Inuvik	65.49	352	P	P	20 06 40.4	-1.3
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
YKA	Yellowknife Ar	67.89	342	P	P	20 06 55.9	-0.9
	comp=Z,2.8nm,0.8s,mb4.1,baz=31,slow=5.9,SNR=8.8						
YKA	Yellowknife Ar	67.89	342	P	P	20 06 55.9	-1.0
YKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
YKA	Yellowknife Ar	67.89	342	P	P	20 06 55.9	-0.9
ILAR	Eielson Array	69.91	357	P	P	20 07 09.1	-0.1
	comp=Z,0.6nm,0.6s,mb3.5,baz=355,slow=5.9,SNR=17						
ILAR	Eielson Array	69.91	357	P	P	20 07 09.1	-0.1
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
EYMN	Ely	72.19	321	eP	P	20 07 20.5	-2.6
	comp=Z,2.4nm,0.6s,mb4.1						
SJG	San Juan	79.01	285	P	P	20 08 00.8	-1.1
	comp=Z,13nm,0.2s,mb5.1,baz=131,slow=8.2,SNR=7.4						
SJG	San Juan	79.01	285	P	P	20 08 00.8	-1.2
SJG				pmax	pmax		
	comp=Z,13nm,0.2s						
SJG	San Juan	79.01	285	P	P	20 08 00.8	-1.1
LAO	LASA Array	79.13	329	eP	P	20 08 02.7	+0.6
	comp=Z,7.3nm,0.7s,mb4.4						
PDAR	Pinedale Array	83.72	329	P	P	20 08 25.9	-0.1
	comp=Z,0.8nm,0.7s,mb3.5,baz=72,slow=5.7,SNR=4.6						
BDFB	Brasilia	90.45	248	P	P	20 09 00.7	+1.7
	comp=Z,1.1nm,0.5s,mb4.1,baz=74,slow=14,SNR=2.7						
BDFB	Brasilia	90.45	248	P	P	20 09 00.7	+1.7
BDFB				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	Warramunga Arr	116.45	92	PKP	PKPdf	20 14 39.2	+0.1
	comp=Z,0.2nm,0.4s,baz=315,slow=2.0,SNR=6.2						
ASAR	Alice Springs	118.58	95	PKP	PKPdf	20 14 43.7	+0.6
	comp=Z,0.4nm,0.4s,baz=306,slow=1.7,SNR=9.0						
CTA	Charters Tower	124.91	83	PKP	PKPdf	20 14 57.1	+1.7
	comp=Z,3.3nm,0.8s,baz=112,slow=2.4,SNR=4.4						
CTA	Charters Tower	124.91	83	PKIKP	PKPdf	20 14 57.2	+1.7
CTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
STKA	Stephens Creek	128.97	98	PKP	PKPdf	20 15 04.0	+0.9
	comp=Z,0.8nm,0.5s,baz=338,slow=5.4,SNR=3.1						

JMA 24 20:06:28.4±0.2**,43.77N**×**147.67E,h9**^{km}**,M3.5,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.46	255	P	Pn	20 06 54.9	-0.1
NEM2				eS	Sb	20 07 14.0	+0.2
JRA	Rausu	1.85	276	P	Pn	20 07 00.8	+0.1
JRA				eS	Sn	20 07 24.6	+0.2
JNK	Nakash	2.15	266	P	Pn	20 07 04.8	-0.1
JNK				eS	Sn	20 07 30.5	-1.4
JAK	Akkeshi	2.30	251	P	Pn	20 07 07.0	-0.1
JAK				eS	Sn	20 07 35.9	+0.1
JAR	Ashorobuto	2.88	262	P	Pn	20 07 15.8	+0.5
JAR				eS	Sn	20 07 50.1	-0.3
JOB	Onbets	2.93	254	P	Pn	20 07 16.6	+0.5
JOB				eS	Sn	20 07 51.4	-0.4
JMP	Maruseppu	3.12	276	P	Pn	20 07 19.5	+0.6
JCH	Churui	3.35	251	P	Pn	20 07 22.8	+0.7
JCH				eS	Sn	20 08 03.1	+0.6

IDC 24 20:07:24.2±1.9**,2.53S**×**149.02E,mb3.4**/4**,mb1 3.8**/4**, mb1mx3.6**/11**,Error ellipse: s-maj=63.5km s-min=28.5km az=115.0,New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.48	219	P	P	20 12 26.8	+0.1
	1.4nm,0.9s,baz=53,slow=9.8,SNR=8.7						
ASAR	Alice Springs	25.60	214	P	P	20 12 55.0	-2.1
	0.9nm,0.9s,baz=53,slow=9.4,SNR=7.7						
CMAR	Chiang Mai Arr	53.50	295	P	P	20 16 45.4	-3.8
	0.6nm,1.0s,baz=117,slow=6.4,SNR=4.3						
ILAR	Eielson Array	81.52	23	P	P	20 19 44.4	-0.4
	0.3nm,0.8s,baz=252,slow=4.7,SNR=4.4						

GUC 24 20:07:51.8±0.5**,24.01S**×**67.91W,h135**^{km}±8^{km}**,ML4.0, 3C-1D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPCH	San Pedro de A	1.13	346	⇓iP	P	20 08 17.5	+0.8
SPCH				i S	S	20 08 36.9	+1.1
SPCH				AMP		20 08 38.0	
	comp=E,2μm,0.6s						
LVC	Limon Verde	1.67	326	⇑iP	P	20 08 23.4	+0.9
LVC				i S	S	20 08 47.2	+1.2
LVC				AMP		20 08 48.3	
	comp=N,1μm,0.6s						
ANCH	Antofagasta	2.31	278	⇑iP	P	20 08 31.7	+1.3
ANCH				i S	S	20 09 01.3	+1.5
ANCH				AMP		20 09 06.0	
	comp=N,909nm,0.6s						
CPN1	Cerro Paranal	2.35	254	⇑iP	P	20 08 31.8	+0.8
CPN1				i S	S	20 09 02.7	+1.9
CPN1				AMP		20 09 03.9	
	comp=E,785nm,0.2s						

*JMA **24** 20:28:57.6±0.2,35.68N×140.14E,h69^{km}±2^{km},M3.1*
JMA Felt I J1.
*NIED **24** 20:29:00,35.70N×140.20E,h62^{km},Mw3.6 Best double couple: $M_0$2.53×10^{14} NP1:ϕ_s3°,δ64°,λ87°. NP2:ϕ_s191°, δ26°,λ97°.*
ISC 24 20:28:57.3±1.0**,35.62N**±0.04×**140.09E**±0.06**,h77**^{km}±8^{km}**, n12,**σ**0**^{s}**49**/23**,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JCN	Nagara	0.22	156	P	P	20 29 09.1	+0.2
JCN				eS	S	20 29 18.1	+0.6
TOK	Tokyo	0.28	284	P	P	20 29 09.6	+0.3
TOK				eS	S	20 29 18.2	0.0
BSO3	Boso 3	0.89	157	P	P	20 29 14.9	-0.1
BSO3				eS	S	20 29 28.7	+0.4
JOD2	Odawara 2	0.89	247	P	P	20 29 15.4	+0.3
JOD2				eS	S	20 29 27.9	-0.5
JAG	Ashikaga	0.95	327	P	P	20 29 15.5	-0.4
JAG				eS	S	20 29 28.9	-0.9
JRY	Ryogami san	1.04	293	P	P	20 29 17.8	+0.8
JIM2	Oshima 3	1.05	211	P	P	20 29 16.9	-0.1
JIM2				eS	S	20 29 31.1	-0.7
BSO1	Boso 1	1.21	143	P	P	20 29 18.5	-0.5
BSO1				eS	S	20 29 35.0	-0.4
JYN	Shimob	1.27	265	P	P	20 29 20.5	+0.7
JYN				eS	S	20 29 37.4	+0.7
JKT	Katashina	1.33	329	P	P	20 29 20.8	0.0
JKT				eS	S	20 29 38.0	-0.3
JIZS	Izushimoda	1.34	228	P	P	20 29 21.1	+0.2
JIZS				eS	S	20 29 37.9	-0.6
MAT	Matsushiro	1.78	302	P	P	20 29 27.4	+0.6
MAT				S	S	20 29 48.1	-0.4

WEL 24 20:38:16.4±0.1**,42.19S**×**174.23E,h33**^{km}**,ML3.5**/11**, 1C-1D,Error ellipse: s-maj=1.2km s-min=1.2km az=90.0, Off east coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.44	359	P*	Pb	20 38 27.3	+1.2
CMWZ				S*	Sb	20 38 35.2	+2.5
CMWZ				S*	Sb	20 38 35.4	+2.7
BSWZ	Blackbirch Sta	0.54	331	⇑P*	Pb	20 38 28.0	+0.3
BSWZ				S*	Sb	20 38 35.4	+0.1
KHZ	Kahutara	0.56	246	⇓P*	Pb	20 38 28.5	+0.6
KHZ				S*	Sb	20 38 37.0	+1.1
TUWZ	Tuamarina	0.79	344	P*	Pb	20 38 30.7	-0.9
BHW	Baring Head	0.92	32	P*	Pb	20 38 32.9	-0.8
BHW				S*	Sb	20 38 44.5	-1.1
WEL	Wellington	0.99	24	P*	Pb	20 38 33.9	-1.0
WEL				S*	Sb	20 38 46.7	-0.9
MRW	Makara Radio	1.02	20	P*	Pb	20 38 34.1	-1.4
MRW				S*	Sb	20 38 46.5	-2.1
THZ	Tophouse	1.07	293	P*	Pb	20 38 34.6	-1.8
THZ				S*	Sb	20 38 47.5	-2.7
MSWZ	Moikau Station	1.09	45	P*	Pb	20 38 35.0	-1.5
MSWZ				S*	Sb	20 38 48.1	-2.4
NNZ	Nelson	1.16	326	PN	Pn	20 38 35.2	-1.3
NNZ				SN	Sn	20 38 48.9	-2.5
PAWZ	Paruwai Farm	1.21	48	P*	Pb	20 38 36.5	-2.0
PAWZ				S*	Sb	20 38 51.8	-2.1
CAW	Cannon Point	1.25	31	P*	Pb	20 38 37.3	-2.0
CAW				S*	Sb	20 38 52.4	-2.8
MTW	Mount Morrison	1.40	43	PN	Pn	20 38 39.1	-1.0
MTW				S*	Sb	20 38 56.0	-3.5
KIW	Kapiti Island	1.42	21	PN	Pn	20 38 39.8	-0.5
KIW				S*	Sb	20 38 56.0	-4.1
LTZ	Lake Taylor	1.57	247	PN	Pn	20 38 41.6	-0.8
LTZ				SN	Sn	20 38 59.7	-2.0
MRZ	Mangatainoka R	1.83	34	PN	Pn	20 38 44.7	-1.5
MRZ				S*	Sb	20 39 06.0	-5.9
DSZ	Denniston Nort	1.86	283	PN	Pn	20 38 45.7	-0.9
QRZ	Quartz Range	1.86	316	PN	Pn	20 38 45.5	-1.1
QRZ				SN	Sn	20 39 07.0	-2.3
MQZ	McQueen's Vall	1.91	217	PN	Pn	20 38 45.3	-2.0
MQZ				SN	Sn	20 39 06.9	-3.5
BFZ	Birch Farm	2.14	46	PN	Pn	20 38 48.6	-2.0
WAZ	Wanganui	2.50	14	PN	Pn	20 38 55.9	+0.2
WVZ	Waitaha Valley	2.73	250	PN	Pn	20 38 57.4	-1.6
RPZ	Rata Peaks	2.79	236	PN	Pn	20 38 57.5	-2.4
RPZ				SN	Sn	20 39 27.4	-5.2
PKE	Pukeiti	3.00	356	ePN	Pn	20 39 02.0	-0.8
MOVZ	Moawhango	3.01	23	PN	Pn	20 39 01.3	-1.7
WNVZ	Wahianoa	3.04	20	PN	Pn	20 39 02.5	-0.9
VRZ	Vera Road	3.09	8	PN	Pn	20 39 03.6	-0.5
TUVZ	Tukino	3.11	21	PN	Pn	20 39 03.7	-0.7
NGZ	Ngauruhoe	3.18	20	PN	Pn	20 39 05.2	-0.3
NGZ				SN	Sn	20 39 42.2	-0.6
WTVZ	West Tongariro	3.24	19	PN	Pn	20 39 05.5	-0.7
TWVZ	Taurewa	3.25	17	PN	Pn	20 39 05.7	-0.7
MGZ	Maungaku	3.34	18	PN	Pn	20 39 06.7	-0.9
BKZ	Black Stump Fm	3.47	30	PN	Pn	20 39 06.5	-3.1
FOZ	Fox Glacier	3.61	246	PN	Pn	20 39 08.2	-3.3
LBZ	Lake Benmore	3.68	232	PN	Pn	20 39 09.9	-2.6
HIZ	Hauiti	3.70	8	PN	Pn	20 39 11.8	-1.0
ODZ	Otahua Downs	3.86	221	PN	Pn	20 39 12.5	-2.6
MWZ	Matawai	4.60	34	PN	Pn	20 39 20.3	-5.3
TUZ	Tuapeka	5.01	220	PN	Pn	20 39 28.3	-3.2

*IDC **24** 20:42:55.8±1.1,33.39N×139.38E,mb3.7/6,mb1 3.8/6, mb1mx3.6/20,Error ellipse: s-maj=60.1km s-min=21.5km az=77.0*
*NEIC **24** 20:42:57.1±4.2,33.40N×139.28E,h9^{km}±25^{km},mb4.3/2, Error ellipse: s-maj=30.9km s-min=17.4km az=74.0*
*JMA **24** 20:43:34.4±0.4,32.86N×137.72E,h372^{km}±4^{km},M3.4*
ISC 24 20:43:35.7±0.5**,33.02N**±0.07×**137.71E**±0.07**,h367**^{km}±4^{km}**, n35,**σ**0**^{s}**88**/41**,mb3.2**/7**,Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK04	Tokai 4	1.37	6	P	P	20 44 26.1	+1.0
JIE	Ise	1.60	329	P	P	20 44 26.4	0.0
JWZ	Kozaga	1.75	287	P	P	20 44 26.5	-0.8
JHJ2	Mitsune	1.77	86	P	P	20 44 29.1	+1.7
JHMK	Hamakita	1.79	1	P	P	20 44 27.8	+0.3
HMMJ	Hamamatsu 2	1.83	0	P	P	20 44 28.2	+0.4
HMMJ				eS	S	20 45 08.8	+0.2
JWY	Kouya	2.13	305	P	P	20 44 29.9	+0.1
JAO	Obara	2.27	351	P	P	20 44 31.3	+0.5
JNY	Yasuok	2.34	3	P	P	20 44 32.0	+0.7
JEG	Eigenji	2.38	333	P	P	20 44 32.1	+0.5
JAI	Aioi	2.83	287	P	P	20 44 34.6	-0.6
BSO3	Boso 3	2.93	52	P	P	20 44 35.6	-0.4
BSO3				eS	S	20 45 23.4	0.0
BSO4	Boso 4	2.94	47	eS	S	20 45 24.0	+0.5
JWT	Wachi	2.96	320	P	P	20 44 36.3	0.0
JHU	Hanno	3.11	24	P	P	20 44 38.5	+0.9
JRY	Ryogami san	3.15	18	P	P	20 44 39.2	+1.2
JRY				eS	S	20 45 28.0	+1.1
BSO1	Boso 1	3.17	58	P	P	20 44 36.6	-1.6
BSO1				eS	S	20 45 26.8	-0.5
JMN	Monobe	3.28	283	P	P	20 44 38.9	-0.3
MAJO	Matsushiro	3.54	6	eSg	P	20 44 41.5	-0.1
MAT	Matsushiro	3.54	6	P	P	20 44 42.1	+0.5
MAT				eS	S	20 45 32.6	-0.8
JAG	Ashikaga	3.69	22	P	P	20 44 42.9	-0.1
JAG				eS	S	20 45 34.5	-1.4
JYT	Yasato	3.80	32	P	P	20 44 43.4	-0.7
JYT				eS	S	20 45 34.6	-3.3
JTO	Tosashimizu	4.13	269	P	P	20 44 47.0	-0.4
JHO	Hitachi	4.29	32	P	P	20 44 48.5	-0.5
JHO				eS	S	20 45 42.8	-3.8
BJT	Baijiatuau	18.65	298	P	P	20 47 26.0	-3.1
	5.9nm,0.4s						
SONM	Songino Array	27.83	311	P	P	20 48 53.8	-0.6
	0.9nm,0.6s,mb3.1,baz=108,slow=7.4,SNR=6.3						
KURK	Kurchatov	46.13	311	eP	P	20 51 25.9	-0.3
	1.1nm,0.4s,mb3.3						
WRAB	Tennant Creek	52.75	184	eP	P	20 52 14.9	-1.4
WRA	Warramunga Arr	52.76	184	P	P	20 52 16.2	-0.2
	0.3nm,0.3s,mb3.0,slow=7.6,SNR=26						
ASAR	Alice Springs	56.48	184	P	P	20 52 43.3	+0.5
	0.2nm,0.6s,mb2.6,baz=5.4,slow=14,SNR=4.3						
ARCES	ARCESS Array B	66.67	339	P	P	20 53 50.4	+1.3
	4.3nm,1.1s,mb4.1,baz=32,slow=14,SNR=2.5						
FINES	FINESS Array B	70.92	332	P	P	20 54 15.8	+0.8
	1.0nm,1.0s,mb3.5,baz=56,slow=6.9,SNR=6.1						
NOA	NORSAR Array B	76.67	336	P	P	20 54 48.8	+0.9
	0.2nm,0.8s,mb2.9,baz=35,slow=14,SNR=2.5						
LPAZ	La Paz	151.32	61	PKPbc	PKPdf	21 02 48.5	+8.4
	1.8nm,0.3s,baz=222,slow=0.3,SNR=3.2						
LPAZ	La Paz	151.32	61	PKPbc	PKPdf	21 02 48.5	+8.4

*IDC **24** 20:45:22.2±0.9,14.51N×146.92E,mb3.8/7,mb1 4.0/7, mb1mx3.8/19,Error ellipse: s-maj=35.0km s-min=19.7km az=104.0*
*NEIC **24** 20:45:25.4±8.0,14.47N×146.94E,h20^{km}±54^{km},Error ellipse: s-maj=28.2km s-min=14.3km az=83.0*
ISC 24 20:45:25.5±3.6**,14.5N**±0.1×**147.0E**±0.2**,h38**^{km}±27^{km}**,n20,** σ**0**^{s}**25**/15**,mb4.2**/14**,Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	2.23	247	ePn	P	20 46 00.7	-0.1
WRA	Warramunga Arr	36.39	200	P	P	20 52 28.4	-0.1
	1.0nm,1.0s,mb3.7,baz=22,slow=9.5,SNR=8.4						
FITZ	Fitzroy Crossi	38.61	214	P	P	20 52 47.2	+0.2
	1.8nm,0.8s,mb3.9,baz=27,slow=7.7,SNR=3.4						
ASAR	Alice Springs	40.00	199	P	P	20 52 58.6	+0.1
	0.4nm,0.7s,mb3.2,baz=18,slow=9.0,SNR=5.0						
CMAR	Chiang Mai Arr	46.14	282	P	P	20 53 48.6	+0.1
	0.9nm,0.8s,mb3.7,baz=69,slow=5.7,SNR=5.8						
SONM	Songino Array	47.22	323	P	P	20 53 57.2	+0.5
	1.0nm,0.6s,mb3.9,baz=135,slow=7.1,SNR=9.7						
GUN	Gumba	58.00	294	eP	P	20 55 17.6	+0.5
	5.8nm,0.4s,mb5.0						
PKI	Pulchoki	58.42	294	eP	P	20 55 20.0	-0.1
	2.2nm,0.3s,mb4.6						
KKN	Kakani	58.53	294	eP	P	20 55 20.7	-0.1
	4.0nm,0.6s,mb4.6						
DMN	Daman	58.69	294	eP	P	20 55 21.5	-0.4
	3.3nm,0.5s,mb4.7						
GKN	Gorkha	59.10	294	eP	P	20 55 24.9	+0.1
	8.3nm,0.6s,mb5.0						
KOLN	Koldanda	60.02	294	eP	P	20 55 30.9	-0.3
	3.0nm,0.5s,mb4.6						
KURK	Kurchatov	65.24	319	eP	P	20 56 05.3	-0.1
	4.7nm,0.8s,mb4.6						
ILAR	Eielson Array	66.90	25	P	P	20 56 15.7	0.0
	0.3nm,0.4s,mb3.7,baz=254,slow=5.9,SNR=15						
FINES	FINESS Array B	91.22	336	P	P	20 58 27.6	-0.3
	0.7nm,0.6s,mb4.2,baz=34,slow=6.9,SNR=5.8						
DBIC	Dimbokro	145.05	305	PKP	PKPdf	21 05 02.0	+2.1
	4.3nm,0.6s,baz=24,slow=5.3,SNR=13						

KIC	**Kosan Boka**	**145.14**	**305**	*e*PKIKP	PKPdf	21 05 02.6	+2.5
	17nm,0.6s							
TIC	**Toumodi**	**145.19**	**305**	*e*PKIKP	PKPdf	21 05 02.7	+2.5
	52nm,1.2s							
LIC	**Lamto**	**145.45**	**305**	*e*PKIKP	PKPdf	21 05 02.9	+2.3
	18nm,0.5s							
LPAZ	**La Paz**	**146.12**	**98**	PKPbc	PKPbc	21 05 06.9	+4.2
	1.8nm,0.3s,baz=191,slow=0.2,SNR=3.6							

IDC 24 20:54:50.4±26.0, 17.55S×173.10W, mb3.9/4, mb1 4.0/4, mb1mx3.7/16, Error ellipse: s-maj=532.0km s-min=164.3km az=87.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**43.25**	**242**	P	P	21 02 54.5	-0.9
	0.9nm,0.7s,baz=87,slow=10,SNR=3.1						
WRA	**Warramunga Arr**	**49.66**	**258**	P	P	21 03 43.4	-2.9
	0.3nm,0.4s,baz=98,slow=6.7,SNR=22						
ASAR	**Alice Springs**	**49.75**	**254**	P	P	21 03 44.8	-2.1
	1.7nm,0.4s,baz=89,slow=8.5,SNR=38						
FITZ	**Fitzroy Crossi**	**58.07**	**259**	P	P	21 04 46.4	-1.7
	0.7nm,0.5s,baz=96,slow=9.2,SNR=5.2						

CASC 24 20:55:50.7±1.3, 12.08N×88.02W, h26km±10km, MD4.1, ML3.4, 3C-6D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LEON	**Leon**	**1.15**	**73**	*e*P	Pn	20 56 10.7	-0.6
CNCH	**Conchagua**	**1.21**	**9**	⇓*e*P	Pn	20 56 12.3	+0.2
CNCH				*e*S	Sn	20 56 29.2	+1.6
TEL3	**Telica 3**	**1.25**	**67**	⇓*e*P	Pn	20 56 12.6	-0.2
MIRN	**Miramar**	**1.33**	**74**	*e*P	Pn	20 56 13.7	-0.2
CNGN	**Cerro Negro**	**1.36**	**72**	*e*P	Pn	20 56 13.9	-0.4
VSM	**San Miguel**	**1.36**	**350**	*e*P	Pn	20 56 14.4	0.0
VSM				*e*S	Sn	20 56 31.3	-0.4
BLLM	**Bellamira**	**1.37**	**351**	⇑*e*P	Pn	20 56 13.9	-0.6
BLLM				*e*S	Sn	20 56 32.4	+0.4
COPN	**Copaltepe**	**1.40**	**86**	⇓*e*P	Pn	20 56 14.5	-0.4
COPN				*e*S	Sn	20 56 37.0	+4.4
MOMJ	**Momotombo**	**1.48**	**77**	⇓*e*P	Pn	20 56 15.6	-0.5
MOMJ				*e*S	Sn	20 56 40.0	+5.2
APYN	**Apoyeque**	**1.64**	**84**	⇓*e*P	Pn	20 56 18.0	-0.3
APYN				*e*S	Sn	20 56 39.0	+0.2
XAVN	**Gruta Xavier**	**1.66**	**87**	*e*P	Pn	20 56 18.1	-0.5
CAHU	**Cacacuatique**	**1.69**	**354**	*e*P	Pn	20 56 19.4	+0.3
SNVI	**San Vicente**	**1.72**	**332**	*e*P	Pn	20 56 19.6	+0.1
SNVI				*e*S	Sn	20 56 42.5	+1.7
MGAN	**Managua**	**1.74**	**88**	⇑*e*P	Pn	20 56 19.0	-0.7
MGAN				*e*S	Sn	20 56 40.7	-0.5
	comp=N,428nm,0.5s						
TICN	**Ticuantepe**	**1.75**	**91**	⇓*e*P	Pn	20 56 19.6	-0.3
WILN	**Americas 2**	**1.79**	**87**	*e*P	Pn	20 56 20.4	-0.1
WILN				*e*S	Sn	20 56 43.0	+0.3
LCBS	**La Ceiba**	**1.82**	**329**	*e*P	Pn	20 56 20.2	-0.7
LCBS				*e*S	Sn	20 56 43.4	0.0
LFRS	**El Faro**	**1.84**	**327**	*e*P	Pn	20 56 19.9	-1.3
LFRS				*e*S	Sn	20 56 45.1	+1.3
LBRS	**Las Brisas**	**1.93**	**329**	*e*P	Pn	20 56 22.4	-0.1
LBRS				*e*S	Sn	20 56 46.3	+0.3
PYTN	**Playitas**	**1.97**	**76**	*e*P	Pn	20 56 22.3	-0.8
SBLS	**San Blas**	**2.35**	**318**	⇑*e*P	Pn	20 56 28.1	-0.3
SBLS				*e*S	Sn	20 56 57.1	+0.4
SNJE	**San Jose**	**2.36**	**319**	*e*P	Pn	20 56 28.1	-0.5
SNJE				*e*S	Sn	20 56 57.1	+0.2
RTR	**El Retiro**	**2.40**	**319**	*e*P	Pn	20 56 28.2	-1.1
RBDL	**Robledal**	**2.59**	**321**	*e*P	Pn	20 56 31.3	-0.6

BJI ***24*** *21:04:53.4, 37.12N×139.14E, h21km, mB5.9, mb5.5, Ms5.7, Msz5.6*

BGS ***24*** *21:04:54.0, 36.74N×139.49E, h15km, mb6.0*

IDC ***24*** *21:04:55.3±0.3, 37.29N×138.71E, mb5.5/35, mb1 5.6/39, mb1mx5.6/41, ML4.4/3, MS5.1/24, Ms1 5.1/24, ms1mx4.8/41, Error ellipse: s-maj=13.1km s-min=8.6km az=98.0*

SYO ***24*** *21:04:56.6, 37.30N×138.70E, h11km, MB6.0, MS5.0*

HRVD ***24*** *21:04:57.1±0.1, 37.41N×138.89E, h12km, MW5.6/77, Centroid moment Tensor Solution. LP body waves: s66,c135; Mantle waves: s77,c166; Half duration: 1s6 Moment tensor: Scale 10^{17}Nm; M_{rr}2.32±.03; $M_{\theta\theta}$-0.72±.03; $M_{\phi\phi}$-1.59±.03; $M_{r\theta}$-1.56±.10; $M_{\theta\phi}$-1.26±.03; $M_{\phi r}$-1.90±.10; Best double couple: M_o3.44×10^{17} NP1: ϕ_s32°, δ22°, λ84°. NP2: ϕ_s218°, δ68°, λ92°. Principal axes: T 3.36, Plg67°, Azm133°; N .17, Plg2°, Azm38°; P -3.52, Plg23°, Azm307°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***24*** *21:04:57.1±0.1, 37.31N×138.70E, h11km, mb6.0/194, ME5.8, MS5.0/92, MW5.7, MW5.6(NIED) Error ellipse: s-maj=3.8km s-min=2.4km az=173.0 Broadband fault plane solution: P waves. NP1: ϕ_s220°, δ55°, λ90°. NP2: ϕ_s40°, δ35°, λ90°. Principal axes: T Plg80°, Azm130°; N Plg0°, Azm0°; P Plg10°, Azm310°; Moment Tensor Solution. s49 Moment tensor: Scale 10^{17} Nm; M_{rr}3.62; $M_{\theta\theta}$-2.44; $M_{\phi\phi}$-1.18; $M_{r\theta}$-0.34; $M_{\theta\phi}$-1.83; $M_{\phi r}$-1.14; Best double couple: M_o3.9×10^{17} NP1: ϕ_s65°, δ39°, λ107°. NP2: ϕ_s224°, δ53°, λ77°. Principal axes: T 3.88, Plg77°, Azm87°; N -.01, Plg11°, Azm232°; P -3.86, Plg7°, Azm323°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt strongly in Niigata Prefecture. Recorded [5U JMA] in Niigata; [4 JMA] in Fukushima and Gumma; [3 JMA] in Ibaraki, Ishikawa, Nagano, Saitama, Tochigi, Tokyo and Yamagata; [2 JMA] in Miyagi, Toyama and Yamanashi; [1 JMA] in Akita, Chiba, Kanagawa and Shizuoka Prefectures. Also recorded [3 JMA] on Sadoga-shima and [1 JMA] on Hegura-jima.

JMA ***24*** *21:04:57.5, 37.33N×138.95E, h15km±1km, M5.8*

NIED ***24*** *21:05:00, 37.30N×138.90E, h14km, Mw5.6 Best double couple: M_o2.47×10^{17} NP1: ϕ_s215°, δ53°, λ94°. NP2: ϕ_s29°, δ37°, λ85°.*

MOS ***24*** *21:05:00.7±0.9, 37.60N×138.71E, h36km, mb6.2/71, MS5.4/32, Error ellipse: s-maj=7.6km s-min=4.6km az=92.4*

ISC 24 21:04:57.2±0.3, 37.38N±0.02×138.83E±0.02, h18km±2km, h16km±1.2km: pP-P, n1219, σ0s96/1170, mb5.8/280, MS5.2/144, 208C-94D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIZZ	**Izumozaki**	**0.18**	**328**	⇓P	**Pb**	**21 05 03.9**	**+2.0**
JHK	**Hiroka**	**0.20**	**131**	⇑P	**Pb**	**21 05 00.6**	**-1.7**
JHK				S	**Sb**	**21 05 02.8**	**-2.9**
JNS	**Sasagawa**	**0.58**	**42**	⇑P	**Pb**	**21 05 08.1**	**-0.5**
JNS				S	**Sb**	**21 05 16.1**	**-0.3**
JJN	**Nakama**	**0.60**	**242**	⇓P	**Pb**	**21 05 10.2**	**+1.3**
JFY	**Yanaizu**	**0.70**	**88**	⇓P	**Pb**	**21 05 09.1**	**-1.5**
JFY				S	**Sb**	**21 05 17.5**	**-2.2**
JKT	**Katashina**	**0.70**	**151**	⇓P	**Pb**	**21 05 09.3**	**-1.3**
JKT				S	**Sb**	**21 05 17.8**	**-2.0**
JSD	**Sado**	**0.79**	**326**	⇓P	**Pb**	**21 05 13.6**	**+1.4**
JGK	**Kuni**	**0.83**	**190**	⇑P	**Pb**	**21 05 12.6**	**-0.3**
JSB	**Shiboa**	**0.96**	**115**	⇓P	**Pb**	**21 05 14.3**	**-0.8**
MAJO	**Matsushiro**	**0.97**	**211**	Pb	**Pb**	**21 05 14.9**	**-0.4**
MAJO				Pb	**Pb**	**21 05 15.3**	**0.0**
MAJO	**Matsushiro**	**0.97**	**211**	*e*Pg	**Pb**	**21 05 14.8**	**-0.5**
MAT	**Matsushiro**	**0.97**	**211**	⇑P	**Pb**	**21 05 15.1**	**-0.2**
MAT				S	**Sb**	**21 05 28.1**	**+0.4**
MAT	**Matsushiro**	**0.97**	**211**	P	**Pb**	**21 05 15.2**	**-0.1**
MAT	**Matsushiro**	**0.97**	**211**	⇑*i*P	**Pb**	**21 05 15.2**	**-0.1**
MAT				*e*S	**Sb**	**21 05 28.0**	**+0.3**
JAG	**Ashikaga**	**1.08**	**152**	⇓P	**Pb**	**21 05 16.1**	**-1.0**
JAW	**Awa shima**	**1.12**	**17**	P	**Pb**	**21 05 18.0**	**+0.2**
JNG	**Nsakai**	**1.14**	**211**	⇑P	**Pb**	**21 05 18.0**	**0.0**
JSZ	**Suzu**	**1.17**	**274**	⇓P	**Pb**	**21 05 19.2**	**+0.6**
JFT	**Otama**	**1.21**	**83**	⇓P	**Pb**	**21 05 18.2**	**-1.1**
JYS	**Shirataka**	**1.29**	**49**	⇑P	**Pn**	**21 05 20.1**	**-0.4**
JRY	**Ryogami san**	**1.36**	**177**	⇑P	**Pn**	**21 05 20.9**	**-0.7**
JYA	**Atsumi**	**1.40**	**30**	⇑P	**Pn**	**21 05 21.5**	**-0.6**
JTT	**Ttatey**	**1.43**	**237**	⇑P	**Pn**	**21 05 24.1**	**+1.6**
JHG	**Hegura jima**	**1.58**	**288**	P	**Pn**	**21 05 25.2**	**+0.5**
JHO	**Hitachi**	**1.59**	**118**	⇓P	**Pn**	**21 05 23.6**	**-1.3**
ONAJ	**Iwakimizuishiy**	**1.60**	**100**	⇓P	**Pn**	**21 05 24.3**	**-0.6**
JNT	**Takato**	**1.60**	**200**	⇑P	**Pn**	**21 05 25.5**	**+0.5**
JFK	**Kawauchi**	**1.63**	**90**	⇓P	**Pn**	**21 05 24.9**	**-0.5**
JGN	**Niukaw**	**1.68**	**227**	⇑P	**Pn**	**21 05 27.2**	**+1.1**
JJH	**Hakui**	**1.70**	**255**	⇓P	**Pn**	**21 05 26.7**	**+0.4**
JOU	**Okura**	**1.75**	**55**	⇑P	**Pn**	**21 05 27.0**	**-0.2**
TOK	**Tokyo**	**1.85**	**156**	P	**Pn**	**21 05 29.5**	**+1.0**
JYN	**Shimob**	**1.90**	**187**	P	**Pn**	**21 05 29.5**	**+0.3**
JOD2	**Odawara 2**	**2.12**	**174**	P	**Pn**	**21 05 33.4**	**+0.9**
JGF	**Kuroka**	**2.14**	**214**	⇑P	**Pn**	**21 05 33.4**	**+0.8**
JNY	**Yasuok**	**2.17**	**201**	P	**Pn**	**21 05 33.2**	**+0.1**
JIO	**Ouri**	**2.26**	**61**	P	**Pn**	**21 05 33.9**	**-0.6**
JKG	**Kaga**	**2.29**	**242**	P	**Pn**	**21 05 36.0**	**+1.2**
SHZ3	**Shizuoka 3**	**2.37**	**192**	P	**Pn**	**21 05 36.8**	**+0.9**
JGM	**Miyama**	**2.39**	**226**	P	**Pn**	**21 05 37.2**	**+0.9**
JMK	**Ichinoseki**	**2.45**	**50**	⇑P	**Pn**	**21 05 36.7**	**-0.4**
BSO4	**Boso 4**	**2.68**	**152**	P	**Pn**	**21 05 40.1**	**-0.3**
JFM	**Mihama**	**2.95**	**232**	P	**Pn**	**21 05 45.8**	**+1.6**
JWT	**Wachi**	**3.47**	**234**	P	**Pn**	**21 05 53.2**	**+1.6**
JKY	**Yasaka**	**3.47**	**241**	P	**Pn**	**21 05 52.7**	**+1.0**
JHE	**Heguri**	**3.73**	**224**	P	**Pn**	**21 05 56.1**	**+0.8**
JKSM	**Kasumi**	**3.80**	**243**	⇑P	**Pn**	**21 05 57.4**	**+1.0**
JKS	**Kasai**	**4.01**	**235**	P	**Pn**	**21 06 01.4**	**+2.0**
JHJ	**Hachijo jima 2**	**4.33**	**169**	Pn	**Pn**	**21 06 03.3**	**-0.5**
	564nm,0.3s,baz=294,slow=3.8,SNR=38						
JHJ				Sn	**Sn**	**21 06 53.3**	**-1.0**
	441nm,0.3s,baz=78,slow=22,SNR=6.6						
JHJ				LR	LR	21 07 09.2	
	comp=Z,10μm,18.8s,baz=337,slow=31						
JAJ2	**Tsuna**	**4.36**	**228**	P	**Pn**	**21 06 05.1**	**+0.9**
JWM	**Minabe**	**4.52**	**220**	P	**Pn**	**21 06 05.8**	**-0.7**
JWZ	**Kozaga**	**4.61**	**214**	P	**Pn**	**21 06 07.5**	**-0.3**
JHS	**Saijyo**	**5.20**	**244**	P	**Pn**	**21 06 17.7**	**+1.6**
JJG	**Jouge**	**5.35**	**241**	P	**Pn**	**21 06 20.3**	**+2.0**
ERM	**Erimo**	**5.71**	**34**	Pn	**Pn**	**21 06 24.5**	**+1.2**
	3μm,1.2s,SNR=16						
JGT	**Gotsu**	**5.75**	**248**	P	**Pn**	**21 06 25.1**	**+1.2**
JHT	**Toyohira**	**5.86**	**244**	P	**Pn**	**21 06 27.4**	**+2.0**
JHIK	**Hikimi**	**6.28**	**245**	P	**Pn**	**21 06 33.2**	**+1.9**
JKD	**Kudamatsu**	**6.56**	**242**	P	**Pn**	**21 06 36.8**	**+1.5**
JKJ	**Kunimi**	**7.00**	**240**	P	**Pn**	**21 06 43.8**	**+2.2**
JTY	**Toyota**	**7.03**	**246**	P	**Pn**	**21 06 43.9**	**+1.9**
JUS	**Usuki**	**7.22**	**235**	P	**Pn**	**21 06 45.8**	**+1.2**
ASAJ	**Asahikawa**	**7.31**	**22**	Pn	**Pn**	**21 06 46.1**	**+0.3**
	5.1nm,0.3s,baz=111,slow=24,SNR=25						
ASAJ				LR	LR	21 09 45.2	
	comp=Z,15μm,18.4s,baz=217,slow=39						
ASAJ	**Asahikawa**	**7.31**	**22**	P	**Pn**	**21 06 46.2**	**+0.3**
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,15μm,18.4s						
JNU	**Nakatsue**	**7.77**	**239**	P	**Pn**	**21 06 52.9**	**+0.6**
JIU2	**Izumi 2**	**8.16**	**236**	P	**P**	**21 06 58.6**	**+0.9**
JTU	**Tsushima**	**8.16**	**252**	P	**P**	**21 06 58.8**	**+1.1**
YUK	**Yuzh-Kuril'sk**	**8.52**	**37**	*e*P	**P**	**21 06 55.0**	**-7.8**
YUK				pmax	pmax		
	comp=N,570nm,0.5s						
YUK				pmax	pmax		
	comp=E,380nm,0.5s						
YUK				pmax	pmax		
	comp=Z,380nm,0.5s						
YUK				pmax	pmax		
	comp=Z,6μm,2.0s						
YUK				pmax	pmax		
	comp=E,6μm,2.5s						
YUK				pmax	pmax		
	comp=N,8μm,3.0s						
YUK				MLR	MLR		
	comp=Z,17μm,16.0s						
YUK				MLR	MLR		
	comp=N,34μm,17.0s						
YUK				MLR	MLR		
	comp=E,20μm,17.0s						
JZO	**Okuchi**	**8.55**	**235**	P	**P**	**21 07 04.3**	**+1.1**
JHD	**Hondo**	**8.66**	**238**	P	**P**	**21 07 05.5**	**+0.8**
INCN	**Inchon**	**9.70**	**274**	⇑*e*P	**P**	**21 07 19.8**	**+0.7**
YSS	**Yuzh-Sakhalins**	**10.00**	**16**	α *i*P	**P**	**21 07 22.0**	**-1.1**
YSS				*e*S	**Sn**	**21 09 14.0**	**-1.8**
YSS				pmax	pmax		
	comp=N,250nm,1.2s						
YSS				pmax	pmax		
	comp=E,90nm,1.2s						
YSS				pmax	pmax		
	comp=Z,250nm,1.2s						
YSS				pmax	pmax		
	comp=N,660nm,1.1s						
YSS				pmax	pmax		
	comp=Z,350nm,1.1s						
YSS				pmax	pmax		
	comp=E,120nm,1.2s						
YSS				MLR	MLR		
	comp=N,21μm,12.0s						
YSS				MLR	MLR		
	comp=Z,20μm,12.0s						
YSS				MLR	MLR		
	comp=E,9μm,11.0s						
YSS	**Yuzh-Sakhalins**	**10.00**	**16**	⇑*e*P	**P**	**21 07 22.6**	**-0.5**
	comp=E,411nm,1.1s						
MDJ	**Mudanjiang**	**10.04**	**319**	P	**P**	**21 07 27.5**	**+3.8**
MDJ				S	**S**	**21 09 25.5**	**+8.6**
MDJ				AMB	AMB		
	comp=Z,2μm,5.3s						
MDJ				LR	LR		
	comp=N,15μm,14.4s						
MDJ				LR	LR		
	comp=E,23μm,12.8s						
MDJ				LR	LR		
	comp=Z,31μm,13.6s						
MDJ	**Mudanjiang**	**10.04**	**319**	*e*Pn	**P**	**21 07 21.8**	**-1.9**
	comp=Z,33nm,0.5s						
MDJ				*e*		21 07 27.3	
KUR	**Kuril'sk**	**10.37**	**38**	*i* P	**P**	**21 07 23.0**	**-5.3**
KUR				*i* S	**S**	**21 09 18.5**	**-6.6**
KUR				pmax	pmax		
	comp=N,170nm,0.9s						
KUR				pmax	pmax		
	comp=E,140nm,0.9s						
KUR				pmax	pmax		
	comp=Z,710nm,0.9s						
KUR				pmax	pmax		
	comp=N,3μm,2.0s						
KUR				pmax	pmax		
	comp=E,4μm,2.0s						
KUR				pmax	pmax		
	comp=Z,5μm,2.0s						
KUR				smax			
	comp=N,380nm,1.0s						
KUR				smax			
	comp=E,280nm,1.0s						
KUR				smax			
	comp=N,3μm,5.0s						
KUR				smax			
	comp=E,5μm,5.0s						
CBIJ	**Chichi jima**	**10.64**	**164**	Pn	**P**	**21 07 26.3**	**-5.7**
CBIJ				Sn	**S**	**21 09 25.6**	**-6.1**
UGL	**Uglegorsk**	**11.93**	**10**	*e*P	**P**	**21 07 48.0**	**-1.4**
UGL				pmax	pmax		
	comp=N,2μm,10.0s						
UGL				pmax	pmax		
	comp=E,2μm,10.0s						
UGL				pmax	pmax		
	comp=Z,3μm,10.0s						
UGL				pmax	pmax		
	comp=Z,230nm,1.1s						
UGL				MLR	MLR		
	comp=N,7μm,14.0s						
UGL				MLR	MLR		
	comp=E,24μm,14.0s						
UGL				MLR	MLR		
	comp=Z,12μm,14.0s						
CN2	**Changchun**	**12.02**	**306**	*e*P	**P**	**21 07 52.4**	**+1.8**
CN2				*e*XP		21 07 59.3	
CN2				*e*S	**S**	**21 10 07.3**	**+2.1**
CN2				AMB	AMB		
	comp=Z,3μm,5.0s						
CN2				LR	LR		
	comp=N,12μm,12.0s						
CN2				LR	LR		
	comp=E,24μm,12.0s						
CN2				LR	LR		
	comp=Z,24μm,12.0s						
SNY	**Shenyang**	**12.57**	**295**	PR		21 08 00.1	
SNY				AMB	AMB		
	comp=Z,2μm,3.9s						
SNY				LR	LR		
	comp=N,16μm,12.6s						
SNY				LR	LR		
	comp=E,22μm,13.8s						
SNY				LR	LR		
	comp=Z,27μm,13.5s						
DL2	**Dalian**	**13.63**	**282**	P	**P**	**21 08 14.0**	**+2.0**
DL2				AMB	AMB		
	comp=Z,110nm,1.3s						
DL2				AMB	AMB		
	comp=Z,1μm,3.7s						
DL2				LR	LR		
	comp=N,10μm,12.0s						
DL2				LR	LR		
	comp=E,17μm,13.1s						
DL2				LR	LR		
	comp=Z,18μm,13.4s						
TYV	**Tymovskoe**	**13.75**	**10**	*e*P	**P**	**21 08 10.0**	**-3.6**
TYV				pmax	pmax		
	comp=Z,722nm,1.2s						
TYV				pmax	pmax		
	comp=E,2μm,4.0s						
TYV				pmax	pmax		
	comp=Z,3μm,4.0s						
TYV				MLR	MLR		
	comp=Z,19μm,15.0s						
TYV				MLR	MLR		
	comp=N,8μm,16.0s						
TYV				MLR	MLR		
	comp=E,11μm,14.0s						
JOW	**Kunigami**	**13.79**	**223**	Pn	**P**	**21 08 22.8**	**+8.4**
	comp=E,1.6nm,0.3s,baz=34,slow=9.7,SNR=11						
SSE	**Sheshan**	**15.87**	**252**	P	**P**	**21 08 37.8**	**-3.6**
SSE				XP		21 08 44.6	
SSE				AMB	AMB		
	comp=Z,300nm,1.2s						
SSE				LR	LR		
	comp=N,13μm,12.3s						
SSE				LR	LR		
	comp=E,10μm,12.3s						
SSE				LR	LR		
	comp=Z,18μm,12.4s						
SSE	**Sheshan**	**15.87**	**252**	P	**P**	**21 08 37.7**	**-3.7**
	comp=Z,300nm,1.2s						
SSE				sP		21 08 44.6	
SSE				S	**S**	**21 11 32.5**	**-4.4**
OKH	**Okha**	**16.42**	**9**	*e*P	**P**	**21 08 49.8**	**+1.6**
OKH				*e*S	**S**	**21 11 46.2**	**-3.2**
OKH				pmax	pmax		
	comp=Z,3μm,6.4s						
OKH				smax			
	comp=N,3μm,6.5s						
OKH				smax			
	comp=E,8μm,6.5s						
NJ2	**Nanjing**	**17.25**	**258**	*e*P	**P**	**21 08 57.1**	**-1.8**
NJ2				AP		21 09 00.5	
NJ2				XP		21 09 04.1	
NJ2				PP	PP	21 09 11.6	-1.7
NJ2				S	**S**	**21 12 06.0**	**-2.7**
NJ2				XS		21 12 21.0	
NJ2				AMB	AMB		
	comp=Z,1μm,5.2s						
NJ2				LR	LR		
	comp=Z,11μm,15.6s						
TIA	**Tai'an**	**17.42**	**273**	P	**P**	**21 09 03.8**	**+2.8**
TIA				AMB	AMB		
	comp=E,611nm,2.0s						
TIA				LR	LR		
	comp=N,11μm,12.0s						
TIA				LR	LR		
	comp=E,21μm,12.0s						
BJI	**Beijing**	**17.87**	**286**	P	**P**	**21 09 07.9**	**+1.4**
BJI				S	**S**	**21 12 31.3**	**+8.6**
BJI				AMB	AMB		
	comp=Z,361nm,1.5s						
BJI				AMB	AMB		
	comp=Z,6μm,6.3s						
BJI				LR	LR		
	comp=N,9μm,12.7s						
BJI				LR	LR		
	comp=E,11μm,11.6s						
BJI				LR	LR		
	comp=Z,6μm,14.6s						
BJI	**Beijing**	**17.87**	**286**	P	**P**	**21 09 07.9**	**+1.4**
	comp=Z,361nm,1.5s						
BJI				S	**S**	**21 12 31.3**	**+8.6**
BJT	**Baijiatuau**	**17.88**	**285**	*e*P	**P**	**21 09 07.6**	**+1.1**
	comp=Z,904nm,1.5s						
SKR	**Severo-Kuril's**	**18.14**	**37**	*e*P	**P**	**21 09 02.9**	**-6.9**
SKR				pmax	pmax		
	comp=Z,4μm,8.0s						
SKR				pmax	pmax		
	comp=Z,1μm,1.7s						
SKR				pmax	pmax		
	comp=N,160nm,0.9s						
SKR				pmax	pmax		
	comp=E,160nm,0.9s						
SKR				MLR	MLR		
	comp=N,5μm,14.0s						
SKR				MLR	MLR		
	comp=Z,11μm,14.0s						
SKR				MLR	MLR		
	comp=E,6μm,16.0s						
HIA	**Hailar**	**18.21**	**317**	*e*P	**P**	**21 09 10.8**	**+0.1**
	comp=E,190nm,0.8s						
PET	**Petropavlovsk**	**20.86**	**35**	*c i*P	**P**	**21 09 39.1**	**-1.4**
PET				*i* S	**S**	**21 13 30.2**	**+2.7**
PET				pmax	pmax		
	comp=Z,196nm,1.4s						
PET				pmax	pmax		
	comp=N,2μm,9.2s						
PET				pmax	pmax		
	comp=Z,3μm,9.4s						
PET				pmax	pmax		
	comp=E,1μm,7.8s						
PET				pmax	pmax		
	comp=Z,4μm,7.1s						
PET				smax			
	comp=N,4μm,8.5s						
PET				smax			
	comp=N,4μm,12.6s						
PET				smax			
	comp=E,4μm,14.7s						
PET				MLR	MLR		
	comp=Z,8μm,19.0s,MS5.1						
PET				MLR	MLR		
	comp=Z,5μm,14.0s						
PET	**Petropavlovsk**	**20.86**	**35**	⇑*e*P	**P**	**21 09 36.5**	**-4.0**
	comp=Z,336nm,1.3s						
PET				LR	LR		
	comp=Z,8μm,20.0s,MS5.1						
TIY	**Taiyuan**	**20.91**	**279**	⇑P	**P**	**21 09 43.8**	**+2.7**
TIY				S	**S**	**21 13 34.0**	**+5.4**
WHN	**Wuhan**	**21.38**	**259**	*e*P	**P**	**21 09 45.0**	**-1.0**
WHN				S	**S**	**21 13 44.4**	**+6.8**
WHN				LR	LR		
	comp=N,11μm,12.0s,MS5.8						
WHN				LR	LR		
	comp=E,22μm,12.6s,MS5.8						
HHC	**Hu-ho-hao-te**	**21.40**	**288**	*e*P	**P**	**21 09 45.3**	**-0.8**
HHC				AP		21 09 49.4	
HHC				XP		21 09 53.1	
HHC				PP	PP	21 10 09.5	-0.7
HHC				S	**S**	**21 13 43.1**	**+5.2**
HHC				PCP	PcP	21 13 45.5	-4.4
HHC				SS	SS	21 14 20.8	+7.9
HHC				SCP		21 17 21.5	
HHC				AMB	AMB		
	comp=Z,1μm,4.8s						
HHC				LR	LR		
	comp=N,7μm,12.0s,MS5.4						
HHC				LR	LR		
	comp=E,7μm,10.6s,MS5.4						
HHC				LR	LR		
	comp=Z,7μm,11.0s,MS5.3						
CLNS	**Chul'man**	**21.57**	**339**	*e*P	**P**	**21 09 47.1**	**-0.6**
CLNS				*e*		21 10 03.9	
CLNS				*e*PPP	PPP	21 10 09.6	-12
CLNS				*e*S	**S**	**21 13 42.5**	**+1.6**
CLNS				*e*		21 13 57.8	
CLN

CLNS smax
comp=N,57nm,1.2s
CLNS smax
comp=Z,29nm,0.9s
CLNS smax
comp=E,35nm,1.0s
CLNS MLR MLR
comp=N,7μm,12.0s,MS5.5
CLNS MLR MLR
comp=Z,9μm,12.0s,MS5.4
CLNS MLR MLR
comp=E,7μm,11.0s,MS5.5
BTO Baotou 22.58 287 *e*P **P 21 09 58.0 +0.2**
BTO LR LR
comp=N,5μm,11.1s,MS5.5
BTO LR LR
comp=E,11μm,12.9s,MS5.5
MA2 Magadan 23.50 15*c i*P **P 21 10 05.7 -0.9**
MA2 *i* S **S 21 14 13.6 -2.1**
MA2 *e*SS SS 21 14 56.7 -7.0
MA2 pmax pmax
comp=Z,800nm,1.4s,mb6.0
MA2 pmax pmax
comp=N,800nm,2.0s
MA2 pmax pmax
comp=E,300nm,1.3s
MA2 smax
comp=N,37μm,8.0s
MA2 smax
comp=E,67μm,11.0s
MA2 MLR MLR
comp=Z,53μm,13.4s,MS6.2
MA2 Magadan 23.50 15⇑ *e*P **P 21 10 05.5 -1.1**
comp=Z,542nm,1.2s,mb5.9
MA2 LR LR
comp=Z,4μm,19.0s,MS4.9
GUMO Guam 24.30 166 *e*P **P 21 10 10.8 -4.0**
GUMO pmax pmax
comp=Z,630nm,1.1s,mb6.0
GUMO MLR MLR
comp=Z,6μm,19.0s,MS5.1
GUMO Guam 24.30 166 *e*P **P 21 10 10.8 -4.0**
comp=Z,632nm,1.2s,mb5.9
GUMO LR LR
comp=Z,6μm,19.0s,MS5.1
XAN Xi'an 24.46 271 P **P 21 10 10.6 -5.6**
XAN AP 21 10 25.8
XAN S **S 21 14 30.4 -2.1**
XAN LR LR
comp=N,8μm,14.2s,MS5.4
XAN LR LR
comp=E,4μm,14.6s,MS5.4
XAN LR LR
comp=Z,9μm,14.2s,MS5.4
CVP Callao Caves 24.66 222 *e*P Px 21 10 36.0
ENH Enshi 25.32 262 *e*P **P 21 10 22.6 -1.8**
comp=Z,153nm,0.9s,mb5.5
YAK Yakutsk 25.32 350*c i*P **P 21 10 22.9 -1.2**
YAK *e*PPP PPP 21 11 06.2 -8.0
YAK *e* 21 13 55.5
YAK *i* S **S 21 14 46.1 -0.5**
YAK *i* 21 21 19.1
YAK pmax pmax
comp=Z,83nm,0.8s,mb5.3
YAK pmax pmax
comp=N,60nm,1.1s
YAK pmax pmax
comp=E,51nm,1.1s
YAK smax
comp=E,52nm,1.3s
YAK smax
comp=Z,21nm,1.1s
YAK smax
comp=N,40nm,1.2s
YAK MLR MLR
comp=N,7μm,15.0s,MS5.4
YAK MLR MLR
comp=Z,8μm,15.0s,MS5.3
YAK MLR MLR
comp=E,3μm,12.0s,MS5.4
YAK Yakutsk 25.32 350⇑ *e*P **P 21 10 22.5 -1.6**
comp=E,213nm,0.8s,mb5.7
YAK LR LR
comp=Z,4μm,19.0s,MS5.0
SONM Songino Array 25.88 304 P **P 21 10 28.3 -1.2**
comp=Z,36nm,0.9s,mb4.9,baz=104,slow=6.5,SNR=177
SONM PcP PcP 21 13 58.3 -0.7
comp=Z,8.7nm,0.9s,baz=83,slow=2.1,SNR=4.9
SONM ScP 21 17 37.2
comp=Z,6.2nm,1.0s,baz=153,slow=2.8,SNR=9.0
SEY Seymchan 26.89 14 *e*P **P 21 10 40.9 +2.2**
SEY 21 11 31.8
SEY *e*S **S 21 15 16.4 +3.7**
SEY SS SS 21 16 19.6 -6.5
SEY SSS SSS 21 16 46.8 +2.6
SEY pmax pmax
comp=N,240nm,1.0s
SEY pmax pmax
comp=E,240nm,1.0s
SEY pmax pmax
comp=Z,590nm,1.0s,mb6.1
SEY smax
comp=N,3μm,7.2s
SEY smax
comp=E,5μm,8.8s
LZH Lanzhou 27.97 278 *e*P **P 21 10 47.5 -1.3**
LZH AP pP 21 10 54.5 +0.4
LZH XP sP 21 10 58.0 +1.5
LZH PP PP 21 11 39.0 +0.3
LZH *e*S **S 21 15 33.0 +2.7**
LZH SS SS 21 16 58.0 +5.7
LZH AMB AMB
comp=Z,140nm,1.2s,mb5.5
LZH AMB AMB
comp=Z,800nm,4.6s
LZH LR LR
comp=E,17μm,14.0s
LZH LR LR
comp=Z,20μm,15.1s,MS5.8
LZH Lanzhou 27.97 278 *e*P **P 21 10 47.5 -1.3**
comp=Z,140nm,1.2s,mb5.5
LZH pP pP 21 10 54.5 +0.4
LZH sP sP 21 10 58.0 +1.5
LZH PP PP 21 11 39.0 +0.3
LZH *e*S **S 21 15 33.0 +2.7**
LZH sS 21 15 43.1
LZH SS SS 21 16 58.0 +5.7
LZH LR LR
comp=Z,20μm,15.1s,MS5.8
TGY Tagaytay City 28.13 219 P **P 21 10 47.6 -2.8**
comp=Z,84nm,0.3s,mb5.8,baz=225,slow=14,SNR=2.3
TGY Tagaytay City 28.13 219 P **P 21 10 47.6 -2.8**
TGY pmax pmax
comp=Z,84nm,0.4s
IRK Irkutsk 28.34 313 *e*P **P 21 10 56.8 +4.9**
IRK *e* 21 11 04.4
FX1 Attu Island--F 28.42 46 P **P 21 10 53.0 +0.5**
comp=Z,390nm,1.5s,mb5.8,baz=289,slow=6.5,SNR=5.5
FX1 Attu Island--F 28.42 46 P **P 21 10 53.0 +0.4**
FX1 pmax pmax
comp=Z,390nm,1.5s
ZAK Zakamensk 28.44 309 *e*P **P 21 10 50.5 -2.3**
ZAK *e* 21 12 01.9
ZAK *e* 21 14 03.4
GYA Guiyang 29.26 258⇓ *i*P **P 21 10 58.5 -2.0**
GYA AP pP 21 11 02.4 -3.5
GYA XP sP 21 11 06.8 -1.5
GYA PP PP 21 11 53.6 -1.9
GYA S **S 21 15 48.9 -2.2**
GYA AMB AMB
comp=Z,50nm,1.2s,mb5.1
GYA AMB AMB
comp=Z,250nm,3.3s
GYA LR LR
comp=N,9μm,13.5s,MS5.7
GYA LR LR
comp=E,9μm,12.9s,MS5.7
GYA LR LR
comp=Z,13μm,13.5s,MS5.7
CD2 Chengdu 29.61 268 P **P 21 11 03.4 -0.2**
CD2 PP PP 21 12 01.0 +0.9
CD2 PPP PPP 21 12 14.0 +0.3
CD2 S **S 21 15 59.3 +2.6**
CD2 XS 21 16 06.3
CD2 SS SS 21 17 35.3 +4.6
CD2 AMB AMB
comp=Z,330nm,7.3s
CD2 LR LR
comp=E,9μm,13.7s
CD2 LR LR
comp=Z,12μm,14.0s,MS5.7
MOY Mondy 30.14 310 *e*P **P 21 11 06.9 -1.2**
WAKE Wake Island 30.25 119 PFAKE 21 11 20.0 +11
WAKE LR LR
comp=Z,13μm,19.0s,MS5.6
GTA Gaotai 30.48 286 *e*P **P 21 11 09.8 -1.4**
GTA AP pP 21 11 14.3 -2.3
GTA XP sP 21 11 16.6 -2.4
GTA PP PP 21 12 11.5 +0.2
GTA PPP PPP 21 12 29.8 +4.0
GTA PCP PcP 21 14 10.5 +0.1
GTA S **S 21 16 11.1 +0.7**
GTA SCP 21 17 51.0
GTA SCS ScS 21 21 44.3 -1.2
GTA AMB AMB
comp=Z,445nm,7.6s
GTA LR LR
comp=N,7μm,13.3s,MS5.6
GTA LR LR
comp=E,6μm,15.2s,MS5.6
GTA LR LR
comp=Z,5μm,14.8s,MS5.3
QIZ Qiongzhong 31.23 242 P **P 21 11 17.4 -0.6**
QIZ PPP PPP 21 12 33.9 -2.2
QIZ S **S 21 16 20.3 -1.9**
QIZ XS 21 16 29.6
QIZ AMB AMB
comp=Z,597nm,8.6s
QIZ LR LR
comp=N,5μm,20.9s,MS5.3
QIZ LR LR
comp=E,5μm,21.5s,MS5.3
QIZ LR LR
comp=Z,9μm,12.3s
KMI Kunming 32.99 259⇓ *i*P **P 21 11 32.1 -1.2**
KMI AP pP 21 11 36.8 -1.9
KMI XP sP 21 11 38.3 -2.8
KMI PP PP 21 12 42.4 -1.6
KMI S **S 21 16 48.1 -1.5**
KMI AMB AMB
comp=Z,742nm,6.6s
KMI LR LR
comp=N,10μm,12.9s,MS5.7
KMI LR LR
comp=E,6μm,16.8s,MS5.7
KMI LR LR
comp=Z,8μm,15.9s,MS5.5
KMI Kunming 32.99 259⇓ *i*P **P 21 11 32.1 -1.2**
comp=Z,27nm,1.8s,mb4.9
KMI pP pP 21 11 36.7 -2.0
KMI sP sP 21 11 38.2 -2.9
KMI PP PP 21 12 42.4 -1.6
KMI PcP PcP 21 14 17.0 -0.3
KMI S **S 21 16 48.1 -1.5**
KMI sS 21 16 55.6
KMI SS SS 21 18 46.9 -2.8
KMI LR LR
comp=Z,8μm,15.9s,MS5.5
TIXI Tiksi 34.72 354*c i*P **P 21 11 46.0 -1.8**
TIXI pmax pmax
comp=Z,86nm,1.0s,mb5.6
TIXI MLR MLR
comp=Z,7μm,14.0s,MS5.6
TIXI Tiksi 34.72 354⇑ *i*P **P 21 11 46.0 -1.8**
TIXI LR LR
comp=Z,2μm,19.0s,MS4.8
UBT Ubonrachathani 37.17 243 P **P 21 12 09.5 +0.4**
MIDW Midway 37.66 91 PFAKE 21 12 20.0 +6.9
MIDW LR LR
comp=Z,3μm,22.0s,MS5.1
CHRT Chiangrai 38.14 254⇓ P **P 21 12 17.5 +0.3**
comp=Z,434nm,1.2s,mb6.1
WMQ Urumqi 38.84 296 P **P 21 12 23.0 +0.2**
WMQ XP sP 21 12 30.0 -0.6
WMQ PP PP 21 13 56.0 +0.3
WMQ S **S 21 18 19.0 -0.3**
WMQ LR LR
comp=N,3μm,16.0s,MS5.3
WMQ LR LR
comp=E,3μm,17.0s,MS5.3
WMQ LR LR
comp=Z,3μm,17.0s,MS5.2
CHG Chiang Mai 39.40 253⇓ P **P 21 12 27.3 -0.4**
comp=Z,11nm,1.2s
CMAR Chiang Mai Arr 39.61 253 P **P 21 12 28.1 -1.4**
comp=Z,1.9nm,0.6s,baz=47,slow=6.7,SNR=11
CMAR PcP PcP 21 14 36.5 -0.6
comp=Z,13nm,0.9s,baz=14,slow=1.8,SNR=17
CMAR ScP 21 18 25.1
comp=Z,1.7nm,0.9s,baz=37,slow=3.1,SNR=5.7
CMAR LR LR 21 29 49.5
comp=Z,2μm,18.1s,MS5.0,baz=245,slow=38
LSA Lhasa 40.12 273 P **P 21 12 34.5 +0.9**
UNV Unalaska Valle 40.54 48 PFAKE 21 12 50.0 +13
UNV LR LR
comp=Z,3μm,19.0s,MS5.2
NVS Novosibirsk 41.10 313 *e*P **P 21 12 40.0 -1.4**
NVS pmax pmax
comp=Z,43nm,1.1s,mb5.0
NVS pmax pmax
comp=N,15nm,1.8s
NVS pmax pmax
comp=E,64nm,1.2s
SHL Shillong 41.35 267 *e*P **P 21 12 43.0 -0.7**
SHL *e* 21 18 30.5
TNA Tin City 41.58 30 PFAKE 21 13 00.0 +15
TNA LR LR
comp=Z,2μm,19.0s,MS5.0
AGT Agartala 42.67 266⇑ *i*P **P 21 12 55.0 +0.4**
AGT *i* 21 13 51.0
KURK Kurchatov 44.09 308*c e*P **P 21 13 04.3 -1.5**
KURK Kurchatov 44.09 308⇑ *e*P **P 21 13 04.0 -1.8**
comp=Z,91nm,1.0s,mb5.5
KURK LR LR
comp=Z,241nm,19.0s
GUN Gumba 45.07 274 *e*P **P 21 13 13.7 -0.3**
comp=Z,92nm,0.9s,mb5.6
PKI Pulchoki 45.59 274 *e*P **P 21 13 16.9 -1.2**
comp=Z,86nm,1.3s,mb5.5
KKN Kakani 45.60 274 *e*P **P 21 13 17.0 -1.2**
comp=Z,73nm,0.9s,mb5.6
CAL Calcutta 45.66 266 *e*P **P 21 13 20.2 +1.5**
CAL *e*S **S 21 20 02.6 +2.6**
CAL *e* 21 20 06.9
DMN Daman 45.82 274 *e*P **P 21 13 18.7 -1.2**
comp=Z,44nm,1.0s,mb5.4
GKN Gorkha 46.02 275 *e*P **P 21 13 20.4 -1.1**
comp=Z,168nm,1.2s,mb5.8
AAA Alma-Ata 46.60 298 *e*P **P 21 13 26.0 +0.2**
AAA *e* 21 15 18.0
AAA *e*S **S 21 20 14.0 +0.9**
AAA pmax pmax
comp=Z,900nm,4.0s
AAA smax
comp=E,500nm,10.0s
KOLN Koldanda 46.94 275 *e*P **P 21 13 27.6 -1.2**
comp=E,333nm,1.6s,mb6.0
PMG Port Moresby 47.19 169 P **P 21 13 29.5 -1.4**
comp=E,20nm,0.9s,mb5.0,baz=343,slow=9.7,SNR=4.2
PMG PcP PcP 21 15 01.8 -0.9
comp=E,32nm,1.1s,baz=24,slow=6.5,SNR=3.4
PMG LR LR 21 31 59.3
comp=E,2μm,18.1s,MS5.1,baz=27,slow=34
PMG Port Moresby 47.19 169 P **P 21 13 29.5 -1.4**
PMG 21 15 01.8
PMG pmax pmax
comp=Z,20nm,0.9s
PMG MLR MLR
comp=Z,2μm,18.1s
PMG Port Moresby 47.19 169 P **P 21 13 29.5 -1.4**
PMG PcP PcP 21 15 01.8 -0.9
PMG LR LR 21 31 59.3
IMA Indian Mountai 47.44 31 *e*P **P 21 13 31.9 -0.3**
IMA Indian Mountai 47.44 31 *e*P **P 21 13 31.8 -0.4**
TKM2 Tokmak 2 47.64 297 P **P 21 13 34.5 +0.4**
SNR=11
RSO Redoubt South 47.91 38 *e*P **P 21 13 35.8 -0.2**
KGM Kluang 48.00 231⇑ *e*P **P 21 13 37.0 -0.3**
KZA Kyzart 48.12 296 P **P 21 13 39.1 +1.2**
SNR=7.7
KBK Karagaybulak 48.18 297 P **P 21 13 38.2 -0.1**
SNR=20
SPU Mount Spurr 48.21 37 *e*P **P 21 13 39.0 +0.7**
CHMS Chumysh 48.22 298 P **P 21 13 38.2 -0.4**
SNR=6.7
KDAK Kodiak Island 48.22 42 *e*P **P 21 13 37.1 -1.3**
comp=Z,457nm,1.4s,mb6.3
USP Ospenovka 48.32 298 P **P 21 13 39.9 +0.6**
SNR=6.8
FRU Bishkek 48.36 298 *e*P **P 21 13 39.0 -0.7**
FRU *i* 21 15 07.0
FRU *e* 21 15 38.0
FRU *e*S **S 21 20 37.0 -1.0**
FRU pmax pmax
comp=Z,240nm,2.6s,mb5.8
FRU MLR MLR
comp=Z,7μm,17.5s,MS5.7
KSH Kashi 48.37 293 P **P 21 13 40.4 +0.6**
KSH AP pP 21 13 44.4 -1.0
KSH XP sP 21 13 48.4 +0.8
KSH PCP PcP 21 15 07.5 +0.8
KSH PP PP 21 15 31.8 -0.3
KSH PPP PPP 21 16 24.0 +0.2
KSH SCP 21 19 00.6
KSH PCS 21 19 02.4
KSH S **S 21 20 38.3 +0.1**
KSH *e*SCS ScS 21 23 29.8 +0.7
KSH *e*SS SS 21 24 04.1 +1.0
AAK Ala-Archa 48.50 297 P **P 21 13 40.6 -0.2**
SNR=7.3
AAK Ala-Archa 48.50 297*ce*P **P 21 13 39.0 -1.8**
AAK MLR MLR
comp=Z,8μm,17.0s,MS5.8
AAK Ala-Archa 48.50 297 *e*P **P 21 13 38.0 -2.8**
comp=Z,23nm,1.0s,mb5.2
AAK LR LR
comp=Z,950nm,21.0s,MS4.8
PTH Pithoragarh 48.84 279 *e*P **P 21 13 41.6 -2.0**
PTH *e* 21 15 05.3
BRVK Borovoye 48.86 312 P **P 21 13 42.5 -0.9**
BRVK pmax pmax
comp=Z,51nm,1.0s,mb5.5
BRVK Borovoye 48.86 312 *e*P **P 21 13 41.7 -1.7**
comp=Z,50nm,0.9s,mb5.5
BRVK *e*PcP PcP 21 15 05.6 -2.6
BRVK LR LR
comp=Z,532nm,20.0s,MS4.5
JOSI Joshimath 48.93 280 *e*P **P 21 13 44.2 0.0**
JOSI AMb AMB 21 13 49.8
comp=Z,481nm,0.8s,mb6.6
EKS2 Erkin-Say 49.00 298 P PcP 21 15 08.8 -0.1
SNR=6.0
FIB Fire Island 49.12 37 PFAKE 21 14 00.0 +15
FIB LR LR
comp=Z,4μm,22.0s,MS5.3
SLKM Skilak Lake 49.16 38 P **P 21 13 45.5 -0.1**
SLKM Skilak Lake 49.16 38 *e*P **P 21 13 44.8 -0.8**
AML Almayashu 49.22 297 P **P 21 13 47.1 +0.8**
SNR=29
PWA Palmer West 49.22 37 *e*P **P 21 13 45.7 -0.3**
MCK McKinley 49.49 34 P **P 21 13 47.9 -0.2**
MCK pmax pmax
comp=Z,130nm,1.6s,mb5.7
MCK McKinley 49.49 34 *e*P **P 21 13 47.6 -0.5**
comp=Z,135nm,1.6s,mb5.7
MCK *e*PcP PcP 21 15 09.1 -1.3
MCK LR LR
comp=Z,1μm,19.0s,MS4.9
PMR Palmer 49.58 37 *e*P **P 21 13 48.6 -0.2**
COLA College 49.89 32 *e*P **P 21 13 49.4 -1.7**
KALG Kalgarh 50.01 280 *e*P **P 21 13 40.6 -12**
KALG AMb AMB 21 13 44.5
comp=Z,104nm,1.0s,mb5.8
DDI Dehra Dun 50.21 281 *e*P **P 21 13 52.0 -2.1**
ILAR Eielson Array 50.31 32 P **P 21 13 53.4 -0.9**
comp=Z,24nm,1.0s,mb5.2,baz=225,slow=6.1,SNR=151
ILAR PcP PcP 21 15 12.0 -1.3
comp=Z,12nm,0.9s,baz=285,slow=5.3,SNR=4.4
ILAR LR LR 21 38 30.7
comp=Z,1μm,18.2s,MS5.0,baz=303,slow=40
ILAR Eielson Array 50.31 32 P **P 21 13 53.4 -0.9**
ILAR 21 15 12.0
ILAR pmax pmax
comp=Z,24nm,1.0s
ILAR MLR MLR
comp=Z,1μm,18.2s
THY Trims Highway 50.94 34 *e*P **P 21 13 59.2 0.0**
THN Thein Dam 51.15 284 *e*P **P 21 13 58.1 -3.1**
DIV Divide 51.24 37 *e*P **P 21 14 01.1 -0.4**
comp=Z,1μm,1.4s,mb6.6
KKR Kurukshetra 51.33 281 *e*P **P 21 14 02.1 -0.5**
KKR *e* 21 14 04.8
comp=Z,220nm,1.1s
NDI New Delhi 51.58 279 *e*P **P 21 14 03.5 -1.0**
NDI *e* 21 21 20.0
AGRA Agra 51.66 277 *e*P **P 21 14 03.6 -1.5**
AGRA AMb AMB 21 14 06.0
comp=Z,163nm,2.2s,mb5.6
AYAN Aya Nagar 51.74 279 *e*P **P 21 14 04.0 -1.7**
AYAN *e* pP 21 14 08.0 -3.3
comp=Z,109nm,1.5s
BHGR Bahadurgarh 51.80 280 *e*P **P 21 14 03.4 -2.7**
BHGR AMb AMB 21 14 07.7
comp=Z,388nm,0.5s,mb6.6
SONA Sohna 51.88 279 *e*P **P 21 14 05.7 -1.1**
SONA AMb AMB 21 14 08.3
comp=Z,107nm,1.3s,mb5.6
VIS Vishakhapatnam 52.20 264 *e*P **P 21 14 09.0 -0.3**
KUDL Kundal 52.39 279 *e*P **P 21 14 09.2 -1.5**
KUDL *e* pP 21 14 13.1 -3.2
comp=Z,85nm,1.6s
KHET Khetri 52.96 279 *e*P **P 21 14 12.8 -2.2**
KHET AMb AMB 21 14 17.0
comp=Z,118nm,1.0s,mb5.8
SVE Sverdlovsk 53.52 318*ce*P **P 21 14 17.0 -1.6**
SVE *e* 21 15 29.0
SVE *e*S **S 21 21 49.0 +0.2**
SVE MLR MLR
comp=Z,9μm,16.0s,MS5.9
SVE MLR MLR
comp=N,3μm,15.0s,MS5.8
SVE MLR MLR
comp=E,5μm,15.0s,MS5.8
DAWY Dawson 53.63 33 *e*P **P 21 14 19.2 0.0**
NGP Nagpur 53.76 270 *e*P **P 21 14 18.8 -2.1**
NGP *e*S **S 21 21 51.5 -1.2**
BHPL Bhopal 53.99 273 *e*P **P 21 14 20.3 -2.1**
BHPL *e* pP 21 14 27.7 -0.4
comp=Z,67nm,1.3s
AJM Ajmer 54.62 278 *e*P **P 21 14 24.0 -3.1**
ARU Arti 54.73 318⇑ *i*P **P 21 14 26.1 -1.3**
ARU *i* 21 15 27.2
ARU *i* 21 16 30.8
ARU *i* PPP PPP 21 17 36.9 -6.5
ARU *i* S **S 21 22 06.9 +1.7**
ARU *e* 21 24 10.5
ARU *e*SS SS 21 25 50.6 +2.5
ARU pmax pmax
comp=Z,181nm,0.9s,mb6.1
INK Inuvik 55.02 27 P **P 21 14 28.6 -0.8**
comp=Z,41nm,0.9s,mb5.5,baz=284,slow=7.3,SNR=81
INK PcP PcP 21 15 30.5 -0.4
comp=Z,19nm,0.9s,baz=291,slow=3.4,SNR=3.3
INK LR LR 21 39 36.3
comp=Z,2μm,19.9s,MS5.2,baz=179,slow=38
INK Inuvik 55.02 27 P **P 21 14 28.6 -0.9**
INK 21 15 30.5
INK pmax pmax
comp=Z,41nm,0.9s
INK MLR MLR
comp=Z,2μm,19.9s
INK Inuvik 55.02 27⇑ *i*P **P 21 14 28.4 -1.0**
comp=Z,228nm,1.4s,mb6.0
AKL Akola 55.62 271 *e* **P 21 14 37.7 +3.3**
AKL *e* 21 14 55.7
HYB Hyderabad 56.16 267 *i* P **P 21 14 36.5 -1.8**
HYB *e*PcP PcP 21 15 35.0 -1.0
HYB Hyderabad 56.16 267 *e*P **P 21 14 36.5 -1.8**
FITZ Fitzroy Crossi 56.57 195 P **P 21 14 38.8 -2.5**
comp=Z,44nm,0.9s,mb5.5,baz=11,slow=8.4,SNR=50
FITZ PcP PcP 21 15 36.1 -1.5
comp=Z,31nm,1.1s,baz=5.6,slow=8.2,SNR=3.6
WRAB Tennant Creek 57.16 185 P **P 21 14 42.0 -3.5**
comp=Z,858nm,1.2s,mb6.7,SNR=77
WRAB Tennant Creek 57.16 185⇑ *i*P **P 21 14 42.3 -3.2**
comp=Z,365nm,1.2s,mb6.3

WRAB LR LR
comp=Z,421nm,20.0s,MS4.5
WRA Warramunga Arr 57.17 185 P **P** **21 14 42.3 -3.3**
comp=Z,90nm,1.0s,mb5.8,baz=0.8,slow=7.5,SNR=286
WRA PcP PcP 21 15 38.4 -1.5
comp=Z,31nm,0.9s,baz=358,slow=4.7,SNR=7.3
WRA PKP2bc 21 44 42.3
comp=Z,4.1nm,0.9s,baz=193,slow=2.2,SNR=8.4
WRA PKP2ab 21 45 03.2
comp=Z,2.4nm,0.9s,baz=190,slow=3.7,SNR=4.7
WRA Warramunga Arr 57.17 185 P **P** **21 14 42.3 -3.3**
WRA PcP PcP 21 15 38.4 -1.5
WRA ⇑*e* 21 44 42.3
WRA P'P'ab 21 45 03.2
MDRS Chennai 57.29 261 *e* **P** **21 14 49.0 +2.6**
MDRS *e* 21 22 41.0
JASL Jaisalmer 57.35 281 *eP* **P** **21 14 45.1 -1.6**
SIT Sitka 57.46 40 PFAKE 21 15 00.0 +13
SIT LR LR
comp=Z,1μm,19.0s,MS5.1
CTA Charters Tower 57.59 172 P **P** **21 14 46.6 -1.9**
comp=Z,19nm,0.9s,mb5.1,baz=356,slow=8.1,SNR=21
CTA LR LR 21 38 55.6
comp=Z,968nm,18.4s,MS4.9,baz=356,slow=36
CTA Charters Tower 57.59 172 P **P** **21 14 46.6 -1.9**
CTA pmax pmax
comp=Z,19nm,1.0s
CTA MLR MLR
comp=Z,968nm,18.4s
CTAO Charters Tower 57.59 172⇑*iP* **P** **21 14 45.1 -3.4**
comp=Z,33nm,1.0s,mb5.3
CTAO LR LR
comp=Z,980nm,20.0s,MS4.9
KKH Kailua Kona 58.83 88 *eP* **P** **21 14 56.9 -0.3**
POHA Pohakuloa 59.16 88 *eP* **P** **21 14 59.7 +0.2**
comp=Z,542nm,1.0s,mb6.5
POHA LR LR
comp=Z,777nm,20.0s,MS4.8
POO Poona 59.29 271⇓*iP* **P** **21 14 58.0 -2.4**
DLBC Dease Lake 59.62 38 P **P** **21 15 02.2 +0.1**
comp=Z,24nm,1.1s,mb5.2,baz=287,slow=6.1,SNR=15
DLBC Dease Lake 59.62 38⇑*eP* **P** **21 15 01.8 -0.3**
KAD Karad 59.69 269 *eP* **P** **21 15 01.0 -2.2**
KAD AMb AMB 21 15 04.6
comp=Z,113nm,2.0s,mb5.6
BOM Bombay 59.92 272 *e* **P** **21 14 57.7 -7.0**
BOM *e* 21 23 10.5
ASAR Alice Springs 60.90 185 P **P** **21 15 08.7 -2.6**
comp=Z,21nm,0.8s,mb5.3,baz=7.5,slow=5.6,SNR=152
ASAR LR LR 21 40 44.1
comp=Z,892nm,19.6s,MS4.9,baz=356,slow=35
ASAR PKP2bc 21 44 34.0
comp=Z,4.0nm,0.9s,baz=154,slow=3.5,SNR=11
ASAR Alice Springs 60.90 185 P **P** **21 15 08.7 -2.6**
ASAR LR LR 21 40 44.1
ASAR ⇑*e* 21 44 34.0
LVZ Lovozero 60.94 335*deP* **P** **21 15 09.9 -1.1**
LVZ *i* 21 15 54.1
LVZ *i* 21 17 22.4
LVZ *i* PPP PPP 21 18 51.9 -3.4
LVZ *e*S **S** **21 23 26.8 +0.4**
LVZ *i* 21 24 56.4
LVZ *i* SS SS 21 27 20.7 -6.6
LVZ pmax pmax
comp=Z,83nm,1.0s,mb5.8
LVZ pmax pmax
comp=N,22nm,0.9s
LVZ pmax pmax
comp=E,19nm,1.1s
LVZ pmax pmax
comp=Z,406nm,1.8s,mb6.2
LVZ pmax pmax
comp=N,57nm,1.3s
LVZ smax
comp=N,139nm,2.7s
LVZ smax
comp=Z,252nm,2.8s
LVZ smax
comp=E,679nm,3.9s
LVZ smax
comp=Z,245nm,11.1s
LVZ smax
comp=E,616nm,10.4s
LVZ MLR MLR
comp=Z,3μm,17.0s,MS5.5
LVZ MLR MLR
comp=N,1μm,16.0s,MS5.5
LVZ MLR MLR
comp=E,2μm,15.0s,MS5.5
MBWA Marble Bar 60.94 200⇑*eP* **P** **21 15 08.4 -3.2**
comp=E,77nm,1.1s,mb5.7
MBWA LR LR
comp=Z,1μm,21.0s,MS5.0
GOA Goa 60.99 268 *eP* **P** **21 15 12.3 +0.3**
GOA *e* 21 18 22.1
APA Apatity 61.51 335⇑*iP* **P** **21 15 13.9 -1.0**
APA *i* 21 15 55.2
APA *i* 21 17 27.0
APA *i* PPP PPP 21 19 07.0 +5.9
APA *i* S **S** **21 23 34.0 +0.2**
APA *i* SS SS 21 27 37.0 +0.4
APA pmax pmax
comp=Z,106nm,0.9s,mb6.0
APA pmax pmax
comp=Z,1μm,8.0s
BJO Bjornoya 61.55 345 *eP* **P** **21 15 18.1 +3.0**
BJO AMS AMS 21 45 14.6
comp=Z,2μm,14.3s,MS5.3
PECR Pechory 62.27 321⇑*iP* **P** **21 15 19.4 -0.7**
PECR *e*S **S** **21 23 44.0 +0.5**
PECR pmax pmax
comp=Z,1μm,5.0s
PECR smax
comp=E,2μm,7.0s
PECR MLR MLR
comp=Z,13μm,15.0s,MS6.2
PECR MLR MLR
comp=N,6μm,13.0s,MS6.2
PECR MLR MLR
comp=E,8μm,13.0s,MS6.2
KEV Kevo 62.38 339 *ep* **P** **21 15 18.9 -1.8**
comp=E,2.8nm,0.4s,mb4.8
TRD Trivandrum 62.59 259 *e* **P** **21 15 28.4 +5.6**
ARCES ARCESS Array B 62.94 339 P **P** **21 15 22.8 -1.5**
comp=E,68nm,0.8s,mb5.8,baz=63,slow=8.1,SNR=76
ARCES PP PP 21 17 47.4 +3.0
comp=E,4.0nm,0.6s,baz=51,slow=7.8,SNR=3.7
ARCES LR LR 21 45 46.0
comp=E,2μm,18.9s,MS5.4,baz=234,slow=39
ARCES ARCESS Array B 62.94 339 P **P** **21 15 22.8 -1.5**
ARCES 21 17 47.4
ARCES pmax pmax
comp=Z,69nm,0.8s
ARCES pmax pmax
comp=Z,4.0nm,0.6s
ARCES MLR MLR
comp=Z,2μm,19.0s
ARCES ARCESS Array B 62.94 339 P **P** **21 15 22.8 -1.5**
ARCES PP PP 21 17 47.4 +3.0
ARCES LR LR 21 45 46.0
COCO West Island 63.13 227 PFAKE 21 15 40.0 +14
COCO LR LR
comp=Z,167nm,19.0s,MS4.2
BBB Bella Bella 63.24 44 P **P** **21 15 26.4 -0.2**
comp=Z,88nm,1.1s,mb5.8,baz=282,slow=6.0,SNR=5.9
KTK1 Kautokeino 63.90 339 *eP* **P** **21 15 30.2 -0.4**
KTK1 AMb AMB 21 15 31.8
comp=Z,223nm,1.4s,mb6.0
KTK1 Kautokeino 63.90 339 *eP* **P** **21 15 30.2 -0.4**
comp=Z,223nm,1.4s,mb6.0
YKW3 Yellowknife Ar 64.49 29 *eP* **P** **21 15 33.6 -0.9**
YKA Yellowknife Ar 64.53 30 P **P** **21 15 33.5 -1.3**
comp=Z,19nm,1.0s,mb5.1,baz=298,slow=6.8,SNR=32
YKA PcP PcP 21 16 09.1 +0.4
comp=Z,11nm,0.8s,baz=304,slow=4.1,SNR=9.7
YKA PKP2bc 21 44 24.9
comp=Z,2.6nm,1.0s,baz=117,slow=3.1,SNR=5.4
YKA LR LR 21 47 42.3
comp=Z,644nm,18.8s,MS4.8,baz=275,slow=40
YKA Yellowknife Ar 64.53 30 P **P** **21 15 33.5 -1.3**
YKA PcP PcP 21 16 09.2 +0.4
YKA ⇑*e* 21 44 24.9
YKA LR LR 21 47 42.3
NOUC Port Laguerre 64.58 152 *eP* **P** **21 15 35.3 -0.5**
JOF Joensuu 64.67 331 *ep* **P** **21 15 33.8 -1.9**
comp=Z,4.5nm,0.3s,mb5.0
JOF Joensuu 64.67 331 *ep* PP 21 17 58.7 -1.3
comp=Z,1.6nm,0.4s
JOF Joensuu 64.67 331 *eP* **P** **21 15 33.8 -1.9**
JOF pmax pmax
comp=Z,5.0nm,0.3s,mb5.0
TRO Tromso 64.71 340 *eP* **P** **21 15 33.6 -2.3**
TRO AMb AMB 21 15 36.2
comp=Z,133nm,1.8s,mb5.7
TRO AMS AMS 21 49 31.4
comp=Z,2μm,16.3s,MS5.5
TRO Tromso 64.71 340 *eP* **P** **21 15 33.6 -2.3**
comp=Z,133nm,1.8s,mb5.7
DAG Danmarks Havn 65.24 354⇓*iP* **P** **21 15 38.0 -1.2**
comp=Z,67nm,0.7s,mb5.8
DAG Danmarks Havn 65.24 354⇓*eP* **P** **21 15 38.0 -1.2**
comp=Z,67nm,0.7s,mb5.8
MOS Moscow 65.73 323*αiP* **P** **21 15 41.7 -0.9**
MOS *e* 21 16 11.8
MOS *e*PPP PPP 21 19 47.2 +2.8
MOS *i* S S 21 24 27.6 +1.2
MOS *e* 21 25 34.1
MOS *e*SS SS 21 28 34.2 -8.2
MOS pmax pmax
comp=Z,337nm,1.6s,mb6.1
MOS pmax pmax
comp=N,96nm,1.1s
MOS pmax pmax
comp=E,113nm,0.9s
MOS smax
comp=N,1μm,3.4s
MOS smax
comp=E,2μm,3.4s
MOS MLR MLR
comp=Z,7μm,13.6s,MS6.0
MOS MLR MLR
comp=E,6μm,13.2s
OBN Obninsk 66.57 322*αiP* **P** **21 15 46.8 -1.2**
OBN *i* S 21 24 37.8 +1.2
OBN *e* 21 25 10.5
OBN *i* 21 25 33.1
OBN *i* SS SS 21 28 51.4 -4.1
OBN pmax pmax
comp=Z,288nm,1.9s,mb6.0
OBN MLR MLR
comp=Z,5μm,13.0s,MS5.9
OBN Obninsk 66.57 322 *eP* **P** **21 15 47.2 -0.8**
comp=Z,410nm,1.7s,mb6.2
OBN LR LR
comp=Z,385nm,20.0s,MS4.6
MAK Makhachkala 66.61 307*diP* **P** **21 15 47.0 -1.5**
MAK *e* 21 16 13.0
MAK *e*PPP PPP 21 19 55.0 +1.6
MAK *i* S S 21 24 37.0 -0.3
MAK *e*PS PS 21 25 04.0 +2.0
MAK *e* 21 25 43.0
MAK pmax pmax
comp=Z,2μm,4.0s
MAK smax
comp=N,15μm,8.0s
MAK smax
comp=E,2μm,8.0s
PUL Pulkovo 66.83 329⇑*iP* **P** **21 15 48.9 -0.7**
PUL *e*S S 21 24 40.7 +1.0
PUL *i* SS SS 21 28 54.4 -5.2
PUL pmax pmax
comp=Z,178nm,0.7s,mb6.2
PUL pmax pmax
comp=N,204nm,0.9s
PUL pmax pmax
comp=E,276nm,1.0s
PUL pmax pmax
comp=Z,614nm,1.7s,mb6.4
PUL pmax pmax
comp=N,228nm,0.9s
PUL pmax pmax
comp=E,481nm,1.3s
PUL smax
comp=N,431nm,2.5s
PUL smax
comp=Z,203nm,2.3s
PUL smax
comp=E,754nm,2.9s
PUL smax
comp=Z,418nm,16.0s
PUL smax
comp=N,158nm,9.9s
PUL smax
comp=E,458nm,12.1s
PUL Pulkovo 66.83 329 *eP* **P** **21 15 48.6 -1.0**
VOR Voronezh 67.01 318⇓*iP* **P** **21 15 49.9 -1.0**
VOR S S 21 24 40.0 -2.0
VOR pmax pmax
comp=N,70nm,2.0s
VOR pmax pmax
comp=E,120nm,2.0s
VOR pmax pmax
comp=Z,280nm,2.0s,mb6.0
VOR smax
comp=N,90nm,2.0s
VOR smax
comp=E,180nm,2.5s
VOR smax
comp=Z,140nm,2.5s
KAF Kangasniemi 67.04 332 *ep* **P** **21 15 49.1 -1.8**
comp=Z,7.5nm,0.4s,mb5.1,baz=50,slow=6.0
KAF Kangasniemi 67.04 332 *ep* PP 21 18 14.0 -6.3
baz=51,slow=6.0
FINES FINESS Array B 67.53 331 P **P** **21 15 52.5 -1.5**
comp=Z,111nm,0.8s,mb5.9,baz=56,slow=6.9,SNR=267
FINES PP PP 21 18 18.6 -6.2
comp=Z,14nm,0.8s,baz=63,slow=8.5,SNR=5.0
FINES LR LR 21 47 36.0
comp=Z,2μm,19.2s,MS5.3,baz=256,slow=38
FINES FINESS Array B 67.53 331 P **P** **21 15 52.5 -1.5**
FINES 21 18 18.6
FINES pmax pmax
comp=Z,111nm,0.8s
FINES pmax pmax
comp=Z,14nm,0.8s
FINES MLR MLR
comp=Z,2μm,19.2s
OBC Olympics--Boni 67.53 46 P **P** **21 15 55.5 +1.2**
PGC Sidney 67.57 45 *eP* **P** **21 15 54.4 -0.1**
comp=Z,279nm,1.2s,mb6.2
OCWA Octopus Mounta 67.63 46 *eP* **P** **21 15 55.2 +0.4**
comp=Z,513nm,1.8s,mb6.3
OCWA LR LR
comp=Z,915nm,20.0s,MS5.0
SNB Saturna Island 67.67 45 P **P** **21 15 54.9 -0.2**
STW Striped Peak 67.71 46 P **P** **21 15 56.3 +1.0**
SBES Silver Beach E 68.09 45 P **P** **21 15 58.6 +0.8**
VDB Vedder Mountai 68.13 44⇓*eP* **P** **21 15 58.1 +0.1**
MOR8 Moi Rana 68.31 339 *eP* **P** **21 15 56.2 -2.6**
MOR8 AMb AMB 21 15 58.1
comp=Z,266nm,1.0s,mb6.2
MOR8 Moi Rana 68.31 339 *eP* **P** **21 15 56.2 -2.6**
comp=Z,266nm,1.0s,mb6.2
ON2 Olympics--Nort 68.31 47 P **P** **21 16 00.6 +1.5**
GOF Gofitskoye 68.32 311⇓*iP* **P** **21 15 59.0 -0.2**
GOF *i* S S 21 25 00.0 +2.3
GOF pmax pmax
comp=Z,380nm,1.6s,mb6.2
GOF pmax pmax
comp=Z,2μm,2.0s,mb6.7
GOF smax
comp=N,2μm,10.0s
HDW Hoodsport 68.33 46 P **P** **21 15 59.6 +0.4**
MBW Mount Baker 68.38 45 P **P** **21 15 59.4 -0.1**
CMW Cultus Mountai 68.44 45 P **P** **21 16 00.5 +0.5**
GNW Green Mountain 68.50 46 *eP* **P** **21 16 00.2 -0.1**
GMW Gold Mountain 68.53 46 P **P** **21 16 01.5 +1.0**
JCW Jim Creek 68.67 45 P **P** **21 16 01.4 +0.1**
RPW Rockport 68.77 45 P **P** **21 16 01.4 -0.5**
MEW McNeil Island 68.80 46 P **P** **21 16 03.9 +1.7**
BMW Boistfort Moun 68.85 47 P **P** **21 16 03.6 +1.1**
BMW Boistfort Moun 68.85 47 P **P** **21 16 03.5 +1.0**
STKA Stephens Creek 68.95 177 P **P** **21 16 01.2 -2.2**
comp=N,41nm,0.9s,mb5.4,baz=345,slow=7.2,SNR=83
STKA LR LR 21 44 46.8
comp=N,1μm,20.7s,MS5.2,baz=0.3,slow=35
STKA Stephens Creek 68.95 177 P **P** **21 16 01.2 -2.2**
STKA LR LR 21 44 46.8
AFI Afiamalu 68.96 128 PFAKE 21 16 10.0 +6.3
AFI LR LR
comp=Z,2μm,22.0s,MS5.3
HTW Haystack Looko 68.98 45 P **P** **21 16 03.3 +0.1**
TI2 Plekhanov 68.99 307⇑*iP* **P** **21 16 03.6 +0.2**
TI2 *i* S S 21 25 07.8 +2.0
TI2 pmax pmax
comp=Z,2μm,2.8s,mb6.4
TI2 smax
comp=E,2μm,8.8s
TI2 MLR MLR
comp=Z,6μm,14.0s,MS6.0
TI2 MLR MLR
comp=N,2μm,15.0s,MS5.9
TI2 MLR MLR
comp=E,4μm,12.0s,MS5.9
VSU Vasula 69.09 329⇑*iP* **P** **21 16 02.6 -1.2**
GHW Garrison Hill 69.10 46 P **P** **21 16 04.9 +0.9**
KIV Kislovodsk 69.11 310 *eP* **P** **21 16 03.2 -0.9**
comp=E,219nm,1.2s,mb6.0
RMW Rattlesnake Mo 69.14 46 *eP* **P** **21 16 04.4 +0.1**
KMOR Kings Mountain 69.14 48 P **P** **21 16 05.4 +1.1**
GSM Grass Mountain 69.29 46 P **P** **21 16 06.3 +1.1**
LMW Ladd Mountain 69.29 47 P **P** **21 16 06.3 +1.2**
JMIC Jan Mayen 69.43 349 *eP* **P** **21 16 07.4 +1.8**
JMIC AMS AMS 21 48 05.8
comp=Z,588nm,20.6s,MS4.8
WRW Wenatchee Ridg 69.45 45⇓*iP* **P** **21 16 07.0 +0.9**
ERK Elk Rock 69.46 47 P **P** **21 16 06.9 +0.7**
RCS Mount Rainier- 69.50 46 P **P** **21 16 08.0 +1.5**
FMW Mount Fremont 69.50 46 P **P** **21 16 06.7 +0.3**
TDL Tradedollar La 69.50 47 P **P** **21 16 07.7 +1.2**
FL2 Flat Top 2 69.51 47 P **P** **21 16 07.6 +1.1**
RCM Mount Rainier- 69.52 46 P **P** **21 16 08.3 +1.7**
LON Longmire 69.52 46 *eP* **P** **21 16 07.9 +1.3**
LON Longmire 69.52 46 P **P** **21 16 07.3 +0.7**
LVP Lakeview Peak 69.55 47 P **P** **21 16 07.9 +1.2**
NLW Nelson Butte 69.63 45 P **P** **21 16 07.5 +0.3**
MTMW Mount Mitchell 69.68 47 P **P** **21 16 08.2 +0.6**
WPW White Pass 69.70 46 P **P** **21 16 08.6 +0.9**
GLK Glacier Lake 69.74 46 P **P** **21 16 08.7 +0.7**
COR Corvallis 69.82 49 P **P** **21 16 09.6 +1.2**
COR pmax pmax
comp=Z,430nm,1.2s,mb6.2
COR Corvallis 69.82 49 *eP* **P** **21 16 08.8 +0.4**
comp=Z,425nm,1.2s,mb6.2
COR LR LR
comp=Z,158nm,19.0s,MS4.3
GNI Garni 69.83 305 *eP* **P** **21 16 10.2 +1.6**
GNI Garni 69.83 305 LR LR 21 49 17.3
comp=Z,1μm,18.4s,MS5.2,baz=58,slow=38
GNI Garni 69.83 305*ciP* **P** **21 16 08.9 +0.3**
GNI pmax pmax
comp=Z,181nm,1.7s
PGO Gresham 69.85 48 P **P** **21 16 09.9 +1.3**
TWW Teanaway 69.85 46 P **P** **21 16 09.2 +0.6**
ETW Entiat 69.90 45 P **P** **21 16 08.7 -0.2**
CBSW Chelan Butte S 69.95 45 P **P** **21 16 09.6 +0.4**
TBM Table Mountain 69.99 46 P **P** **21 16 10.2 +0.8**
DHW2 Dyer Hill 2 70.00 44 P **P** **21 16 09.9 +0.5**
VLMM Larch Mountain 70.05 48 P **P** **21 16 10.1 +0.3**
WTV Waterville 70.06 45 P **P** **21 16 09.5 -0.3**
NAC Naches 70.10 46 P **P** **21 16 11.2 +1.1**
KEBM Edson Butte 70.12 51 *eP* **P** **21 16 11.1 +0.8**
EBG Ellensburg 70.15 46 P **P** **21 16 11.5 +1.1**
SSOR Sweet Springs 70.18 48 P **P** **21 16 12.0 +1.4**
SSOR Sweet Springs 70.18 48 P **P** **21 16 11.3 +0.7**
NSS Namsos 70.22 338⇑*iP* **P** **21 16 07.9 -2.6**
NSS AMb AMB 21 16 10.5
comp=Z,121nm,1.8s,mb5.5
NSS AMS AMS 21 50 26.2
comp=Z,3μm,15.7s,MS5.6
NSS Namsos 70.22 338 *eP* **P** **21 16 08.0 -2.5**
comp=Z,121nm,1.8s,mb5.5
VLL Laurance Lake 70.30 47 P **P** **21 16 12.7 +1.4**
SUMG Summit 70.32 359 *eP* **P** **21 16 10.8 -0.3**
comp=Z,370nm,1.0s,mb6.3
TDH Tom, Dick, Har 70.33 48 P **P** **21 16 11.7 +0.1**
EDM Edmonton 70.34 37 P **P** **21 16 10.9 -0.6**
EDM Edmonton 70.34 37 *eP* **P** **21 16 10.8 -0.7**
SAW Saint Andrews 70.37 45 P **P** **21 16 11.4 -0.3**
HOOD Mount Hood Mea 70.40 48 P **P** **21 16 12.2 +0.2**
EPH Ephrata 70.45 45 P **P** **21 16 12.7 +0.5**
MXC Moxie City 70.49 46 P **P** **21 16 13.4 +1.0**
BROR Big Rock Looko 70.50 49 P **P** **21 16 13.7 +1.1**
VFP Flag Point 70.51 48 P **P** **21 16 12.2 -0.4**
HSO Harness Mounta 70.53 50 P **P** **21 16 14.4 +1.6**
HSO Harness Mounta 70.53 50 *eP* **P** **21 16 13.9 +1.2**
GL2 New Goldendale 70.53 47 P **P** **21 16 13.2 +0.5**
VBEM Beaver Butte 70.58 48 P **P** **21 16 14.2 +1.2**
BVW Beverly 70.59 46 P **P** **21 16 13.8 +0.7**
BRVW Black Rock Val 70.72 46 P **P** **21 16 15.0 +1.1**
FHE Frenchman Hill 70.73 45 P **P** **21 16 14.4 +0.5**
FRIS Frissel Point 70.75 49 P **P** **21 16 14.5 +0.4**
IRO Indian Ridge 70.77 49 P **P** **21 16 14.4 +0.2**
MDW Midway 70.77 46 P **P** **21 16 15.0 +0.8**
VGB Gordon Butte 70.80 47 P **P** **21 16 15.4 +1.0**
VGB Gordon Butte 70.80 47 *eP* **P** **21 16 14.9 +0.5**
WAH2 Wahluke Slope 70.81 45 P **P** **21 16 15.0 +0.6**
HBO Huckleberry Mo 70.82 49 P **P** **21 16 15.1 +0.6**
CRF Corfu 70.87 45 P **P** **21 16 15.4 +0.6**
OD2 Odessa Site #2 70.93 45 P **P** **21 16 15.6 +0.4**
DPW Davenport 70.94 44 P **P** **21 16 14.3 -0.9**
DPW Davenport 70.94 44 P **P** **21 16 17.0 +1.8**
CROR Criterion Ridg 70.98 48 P **P** **21 16 15.5 0.0**
IZAR Zarasai 70.99 326 *eP* **P** **21 16 14.2 -1.2**
IZAR AMPb AMB 21 16 17.5
comp=Z,50nm,1.2s,mb5.3
RSW Rattlesnake Hi 70.99 46 P **P** **21 16 16.4 +0.9**
WIFE Three Sisters- 71.00 49 P **P** **21 16 14.8 -0.9**
WRD Warden 71.02 45 P **P** **21 16 15.7 0.0**
HAWA Hanford 71.03 46⇑*eP* **P** **21 16 15.3 -0.5**
comp=Z,235nm,1.3s,mb6.0
HAWA LR LR
comp=Z,618nm,21.0s,MS4.8
MJ2 May Junction 2 71.03 46 P **P** **21 16 16.6 +0.8**
PRW Prosser 71.04 46 P **P** **21 16 16.8 +0.9**
IDID Didziasalis 71.05 326 *eP* **P** **21 16 14.7 -1.0**
IDID AMPb AMB 21 16 17.9
comp=Z,50nm,1.1s,mb5.3
MNK Minsk 71.06 325 *eP* **P** **21 16 13.0 -2.8**
MNK *e*S S 21 25 30.0 +0.2
MNK pmax pmax
comp=Z,610nm,1.0s,mb6.5
MNK pmax pmax
comp=N,420nm,1.0s
MNK pmax pmax
comp=E,500nm,1.6s
MNK MLR MLR
comp=Z,5μm,14.0s,MS5.9
HUMO Hull Mountain 71.11 51 *eP* **P** **21 16 16.2 -0.1**
comp=Z,206nm,1.6s,mb5.8
HUMO LR LR
comp=Z,536nm,21.0s,MS4.8
SOC Sochi 71.12 311 *i* P **P** **21 16 15.3 -1.1**
SOC *i* S S 21 25 31.0 +0.3
SOC *e* 21 26 09.2
SOC *e*SS SS 21 29 56.9 -9.5
SOC pmax pmax
comp=Z,474nm,2.3s,mb6.0
SOC pmax pmax
comp=N,236nm,2.1s
SOC pmax pmax
comp=E,168nm,1.9s
SOC pmax pmax
comp=Z,161nm,2.1s,mb5.6
SOC pmax pmax
comp=N,69nm,1.4s
SOC pmax pmax
comp=E,81nm,2.0s
SOC smax
comp=N,232nm,5.0s
SOC smax
comp=E,588nm,4.1s
SOC MLR MLR
comp=N,2μm,14.0s,MS5.5
SOC MLR MLR
comp=E,1μm,14.0s,MS5.5
SOC MLR MLR
comp=Z,2μm,14.0s,MS5.5
VTHM Trough 71.12 47 P **P** **21 16 17.4 +1.1**
KRMB Red Mountain 71.12 52⇑*eP* **P** **21 16 16.8 +0.4**
BCA Borcka 71.12 308 *eP* **P** **21 16 14.0 -2.5**
BBOR Butler Butte 71.13 50 P **P** **21 16 17.7 +1.2**
WIW Wooded Island 71.15 46 P **P** **21 16 17.3 +0.8**
ISAL Salakas 71.16 326 *eP* **P** **21 16 15.5 -0.8**
ISAL AMPb AMB 21 16 18.6

comp=Z,88nm,1.1s,mb5.6
PATW Paterson 71.19 46 P **P** **21 16 17.8 +1.1**
IIGN Ignalina 71.25 326 *e*P **P** **21 16 16.1 -0.9**
IIGN AMPb AMB 21 16 19.1
comp=Z,54nm,1.2s,mb5.3
ET3 Eltopia 71.26 45 P **P** **21 16 17.8 +0.6**
BEND Bend 71.29 49 P **P** **21 16 18.7 +1.3**
GMO Grizzlie Mount 71.30 48 P **P** **21 16 18.7 +1.3**
NEW Newport 71.31 43 P **P** **21 16 17.4 0.0**
comp=Z,109nm,0.9s,mb5.8,baz=308,slow=4.9,SNR=121
NEW Newport 71.31 43 P **P** **21 16 17.3 -0.1**
NEW pmax pmax
comp=Z,220nm,1.1s
NEW Newport 71.31 43⇑ *e*P **P** **21 16 16.5 -0.9**
comp=Z,218nm,1.1s,mb6.0
NEW LR LR
comp=Z,821nm,20.0s,MS5.0
JBO Jordan Butte 71.38 47 P **P** **21 16 18.7 +0.8**
VIPM Ingram Point 71.46 48 P **P** **21 16 18.6 +0.2**
YPT Yellepit 71.55 46 P **P** **21 16 19.8 +0.9**
VANB Van 71.55 305 *e*P **P** **21 16 18.0 -1.1**
KHMM Horse Mountain 71.59 52 *e*P **P** **21 16 20.6 +1.3**
NCOR Newberry Crate 71.61 49 P **P** **21 16 20.9 +1.6**
PINOR Pine Mountain 71.70 49 P **P** **21 16 20.4 +0.6**
BUOR Burton Butte 71.73 51 P **P** **21 16 20.5 +0.4**
YBH Yreka Blue Hor 71.75 51 P **P** **21 16 20.5 +0.3**
comp=Z,79nm,1.1s,mb5.6,baz=316,slow=1.9,SNR=78
YBH Yreka Blue Hor 71.75 51 P **P** **21 16 20.5 +0.3**
YBH pmax pmax
comp=Z,79nm,1.1s
YBH Yreka Blue Hor 71.75 51 *e*P **P** **21 16 19.9 -0.3**
comp=Z,209nm,1.4s,mb5.9
YBH LR LR
comp=Z,521nm,21.0s,MS4.8
ANN Anapa 71.79 313 *c i*P **P** **21 16 19.0 -1.4**
ANN *e* 21 16 40.5
ANN *e*S S 21 25 38.4 0.0
ANN pmax pmax
comp=Z,159nm,1.2s,mb5.8
LAMM Antelope Mount 71.87 51 P **P** **21 16 22.2 +1.3**
HKR Hakkari 71.88 304 *i* P **P** **21 16 32.1 +11**
LNOR Lincton Mounta 72.04 46 P **P** **21 16 22.3 +0.5**
LNOR Lincton Mounta 72.04 46 P **P** **21 16 22.2 +0.4**
HOG Hogback Mounta 72.08 50 P **P** **21 16 23.0 +0.8**
LHEM Herd Peak 72.11 51 P **P** **21 16 22.6 +0.3**
ERZM Erzurum 72.14 307 *i* P **P** **21 16 23.4 +0.8**
EZM Erzurum 72.14 307 *e*P **P** **21 16 24.7 +2.1**
VRT Varto 72.47 306 *i* P **P** **21 16 26.2 +1.7**
WDC Whiskeytown Da 72.50 52 P **P** **21 16 25.0 +0.4**
WDC pmax pmax
comp=Z,230nm,1.4s,mb5.9
WDC Whiskeytown Da 72.50 52 *e*P **P** **21 16 24.4 -0.2**
comp=Z,232nm,1.5s,mb5.9
WDC LR LR
comp=Z,617nm,19.0s,MS4.9
LASM Arnica Sink 72.53 51 P **P** **21 16 25.0 +0.3**
WALA Waterton Lakes 72.55 41 *e*P **P** **21 16 24.4 -0.3**
comp=Z,219nm,1.3s,mb5.9
AKASG Malin Array Be 72.75 321 P **P** **21 16 24.5 -1.4**
comp=Z,56nm,0.8s,mb5.5,baz=43,slow=6.0,SNR=251
AKASG LR LR 21 51 06.3
comp=Z,4μm,18.0s,MS5.8,baz=50,slow=38
AKASG Malin Array Be 72.75 321 P **P** **21 16 24.5 -1.4**
AKASG pmax pmax
comp=Z,56nm,0.8s
AKASG MLR MLR
comp=Z,4μm,18.0s
NWAO Narrogin (SRO) 72.79 199 *e*P **P** **21 16 24.8 -1.7**
comp=Z,174nm,1.4s,mb5.8
NWAO LR LR
comp=Z,563nm,20.0s,MS4.8
LTIM Timbered Crate 72.82 51 P **P** **21 16 26.7 +0.2**
BURN Burns 72.88 48 P **P** **21 16 18.0 -8.8**
DOMB Dombas 72.96 338 *e*P **P** **21 16 26.5 -0.4**
DOMB AMb AMB 21 16 28.6
comp=Z,230nm,1.7s,mb5.8
DOMB Dombas 72.96 338 *e*P **P** **21 16 26.5 -0.4**
comp=Z,230nm,1.7s,mb5.8
MOL Molde 73.00 339 *e*P **P** **21 16 29.0 +2.0**
MOL AMb AMB 21 16 31.0
comp=Z,233nm,1.6s,mb5.9
MOL Molde 73.00 339 *e*P **P** **21 16 29.0 +2.0**
comp=Z,233nm,1.6s,mb5.9
BTMT Batman 73.02 305 *e*P **P** **21 16 28.6 +0.9**
GUMT Gumushane 73.02 308 *e*P **P** **21 16 28.8 +1.1**
NB2 NORSAR Subarra 73.05 336 P **P** **21 16 26.3 -1.1**
comp=Z,161nm,0.9s,mb6.0,baz=40,slow=6.2
NB2 NORSAR Subarra 73.05 336 P **P** **21 16 26.3 -1.1**
baz=40,slow=6.2
NOA NORSAR Array B 73.05 336 P **P** **21 16 26.3 -1.1**
comp=Z,81nm,0.8s,mb5.7,baz=39,slow=5.8,SNR=310
NOA LR LR 21 51 07.9
comp=Z,2μm,18.9s,MS5.3,baz=30,slow=38
NOA NORSAR Array B 73.05 336 P **P** **21 16 26.3 -1.1**
NOA pmax pmax
comp=Z,81nm,0.8s
NOA MLR MLR
comp=Z,2μm,18.9s
HOPS Hopland 73.06 54 *e*P **P** **21 16 28.3 +0.3**
comp=Z,140nm,1.4s,mb5.7
HOPS LR LR
comp=Z,889nm,19.0s,MS5.1
LBCM Butte Creek Ri 73.10 51 P **P** **21 16 28.1 0.0**
MOD Modoc 73.14 50⇑ *e*P **P** **21 16 28.1 -0.2**
comp=Z,187nm,1.4s,mb5.8
MOD LR LR
comp=Z,567nm,20.0s,MS4.8
EZC Erzincan 73.21 307 *e*P **P** **21 16 29.4 +0.6**
BEST Besiri 73.33 305 *i* P **P** **21 16 30.3 +0.7**
KELT Kelkit 73.34 308 *i* P **P** **21 16 30.2 +0.7**
SUW Suwalki 73.47 326 *e*P **P** **21 16 28.8 -1.2**
SUW *e* 21 19 10.1
SUW *e*S S 21 25 56.4 -0.8
SUW Suwalki 73.47 326 *e*P **P** **21 16 28.8 -1.2**
comp=Z,500nm,1.7s
SUW *e*PP PP 21 19 10.1 -5.7
SUW *e*S S 21 25 56.4 -0.8
SIM Simferopol' 73.62 314 *ce*P **P** **21 16 30.0 -1.1**
SIM *e*S S 21 26 00.4 +1.3
SIM pmax pmax
comp=Z,98nm,6.8s
SIM MLR MLR
comp=Z,2μm,14.5s,MS5.5
NSHM Saint Helena R 73.63 54 *e*P **P** **21 16 32.0 +0.8**
MIB Mutribah 73.68 295 *e*P **P** **21 16 30.9 -0.8**
MIB AMb AMB 21 16 34.2
comp=Z,184nm,1.1s,mb5.9
KBD Kabd 73.78 294 *e*P **P** **21 16 31.0 -1.3**
QRN Al-Qurain 73.85 294 *e*P **P** **21 16 31.9 -0.9**
QRN AMb AMB 21 16 34.0
comp=Z,364nm,0.9s,mb6.3
OHCM Honcut 73.88 53 *e*P **P** **21 16 32.3 -0.4**
MSO Missoula 73.89 43⇑ *e*P **P** **21 16 31.7 -0.9**
comp=Z,140nm,1.3s,mb5.7
MSO LR LR
comp=Z,523nm,20.0s,MS4.8
PTK Pertek 73.97 307 *i* P **P** **21 16 34.2 +1.0**
RDF Al-Radifah 74.02 294 *e*P **P** **21 16 33.4 -0.3**
RDF AMb AMB 21 16 36.6
comp=Z,408nm,1.0s,mb6.3
RST Umm Al-Ruwaisa 74.10 295 *e*P **P** **21 16 32.6 -1.5**
RST AMb AMB 21 16 35.8
comp=Z,206nm,1.2s,mb6.0
CHMT Chamberlain Mo 74.21 43 *e*P **P** **21 16 34.3 -0.1**
BEKR Beckwourth 74.28 52⇑ *e*P **P** **21 16 34.7 -0.3**
comp=Z,218nm,1.1s,mb6.0
LKC Lake Chabot 74.43 54 *e*P **P** **21 16 35.9 0.0**
ELZG Elazig 74.46 307 *i* P **P** **21 16 37.5 +1.4**
FOO Floro 74.49 339⇓ *i*P **P** **21 16 35.9 +0.1**
FOO AMb AMB 21 16 37.7
comp=Z,185nm,1.6s,mb5.8
FOO Floro 74.49 339⇓ *i*P **P** **21 16 35.9 +0.1**
comp=Z,185nm,1.6s,mb5.8
HYA Hoyanger 74.50 338 *e*P **P** **21 16 36.5 +0.6**
HYA AMb AMB 21 16 39.3
comp=Z,236nm,1.4s,mb5.9
HYA Hoyanger 74.50 338 *e*P **P** **21 16 36.5 +0.6**
comp=Z,236nm,1.4s,mb5.9
FFC Flin Flon 74.51 32 P **P** **21 16 35.6 -0.4**
FFC pmax pmax
comp=Z,260nm,1.7s,mb5.9
FFC Flin Flon 74.51 32 *e*P **P** **21 16 35.8 -0.2**
comp=Z,262nm,1.7s,mb5.9
FFC LR LR
comp=Z,266nm,20.0s,MS4.5

HASS Wahat al Ahsa' 74.53 290 P **P** **21 16 36.2 -0.5**
FCC Fort Churchill 74.60 26 P **P** **21 16 36.6 +0.2**
FCC pmax pmax
comp=Z,54nm,0.8s,mb5.5
FCC Fort Churchill 74.60 26 *e*P **P** **21 16 35.4 -1.0**
comp=Z,54nm,0.8s,mb5.5
KONO Kongsberg 74.64 336 AMS AMS 21 53 29.2
comp=Z,2μm,18.0s,MS5.4
MYA Malatya 74.92 307 *e*P **P** **21 16 34.3 -4.4**
PAHR Pah Rah Range 74.98 51 *e*P **P** **21 16 39.1 +0.1**
comp=Z,133nm,1.2s,mb5.8
WCN Washoe City 74.99 52 P **P** **21 16 39.7 +0.6**
WCN pmax pmax
comp=Z,410nm,1.6s,mb6.1
WCN Washoe City 74.99 52 *e*P **P** **21 16 39.2 +0.1**
comp=Z,410nm,1.7s,mb6.1
SVST Sivas 75.00 309 *i* P **P** **21 16 40.2 +1.0**
HRY Holter Researc 75.10 42 *e*P **P** **21 16 39.8 +0.2**
KIS Kishinev 75.28 318 *a i*P **P** **21 16 40.0 -0.6**
KIS *e* 21 19 25.0
KIS *i*S S 21 26 18.0 +0.4
KIS *i*PS PS 21 26 50.0 -6.3
KIS *e*SS SS 21 31 10.0 +0.1
KIS pmax pmax
comp=Z,880nm,1.5s,mb6.5
KIS pmax pmax
comp=N,210nm,2.0s
KIS pmax pmax
comp=E,200nm,2.0s
KIS pmax pmax
comp=N,300nm,2.0s
KIS pmax pmax
comp=E,300nm,2.0s
KIS pmax pmax
comp=Z,600nm,2.0s,mb6.2
KIS MLR MLR
comp=N,5μm,15.0s,MS6.1
KIS MLR MLR
comp=E,5μm,15.0s,MS6.1
KIS MLR MLR
comp=Z,7μm,15.0s,MS6.1
KIS MLR MLR
comp=Z,7μm,15.0s
BYBT Boyabat 75.32 311 *e*P **P** **21 16 39.2 -1.8**
CMB Columbia Colle 75.33 53 P **P** **21 16 40.9 -0.2**
CMB pmax pmax
comp=Z,350nm,1.3s,mb6.1
CMB Columbia Colle 75.33 53⇑ *e*P **P** **21 16 40.8 -0.3**
comp=Z,349nm,1.4s,mb6.1
CMB LR LR
comp=Z,680nm,21.0s,MS4.9
RUND Rundenannen 75.35 338 *e*P **P** **21 16 40.4 -0.3**
RUND AMb AMB 21 16 42.5
comp=Z,352nm,1.0s,mb6.2
ODD1 Odda 75.37 337⇓ *i*P **P** **21 16 40.4 -0.5**
ODD1 AMb AMB 21 16 42.1
comp=Z,157nm,1.2s,mb5.8
ODD1 Odda 75.37 337⇓ *i*P **P** **21 16 40.4 -0.5**
comp=Z,157nm,1.2s,mb5.8
SAO San Andreas Ge 75.39 55 P **P** **21 16 42.2 +0.7**
SAO pmax pmax
comp=Z,29nm,0.9s,mb5.2
SAO San Andreas Ge 75.39 55⇑ *e*P **P** **21 16 40.5 -1.0**
comp=Z,29nm,0.8s,mb5.3
SAO LR LR
comp=Z,446nm,19.0s,MS4.8
BZK Bozkurt 75.48 312 *e*P **P** **21 16 42.7 +0.8**
WAR Warsaw 75.62 326 *e*P **P** **21 16 42.8 +0.3**
comp=Z,0.7nm,1.6s
WAR *e*S S 21 26 23.0 +1.7
WAR Warsaw 75.62 326 *e*P **P** **21 16 42.8 +0.3**
comp=Z,700nm,1.6s
WAR *e*S S 21 26 23.0 +1.7
HLID Hailey 75.63 46⇑ *e*P **P** **21 16 42.9 +0.2**
comp=Z,159nm,1.3s,mb5.8
HLID LR LR
comp=Z,844nm,19.0s,MS5.1
MCMT McKenzie Canyo 75.73 44 *e*P **P** **21 16 43.2 0.0**
BLS5 Blasjo 75.81 337 *e*P **P** **21 16 44.7 +1.3**
BLS5 AMb AMB 21 16 46.2
comp=Z,81nm,1.2s,mb5.5
BLS5 Blasjo 75.81 337 *e*P **P** **21 16 44.7 +1.3**
comp=Z,81nm,1.2s,mb5.5
LVV L'vov 75.87 323 *i* P **P** **21 16 44.0 +0.1**
LVV *i*S S 21 26 25.0 +1.0
LRV Little Rabbit 75.87 55 *e*P **P** **21 16 45.3 +1.0**
BMN Battle Mountai 75.88 50 P **P** **21 16 45.3 +1.1**
BMN pmax pmax
comp=Z,250nm,1.2s,mb6.0
BMN Battle Mountai 75.88 50⇑ *e*P **P** **21 16 44.5 +0.3**
comp=Z,254nm,1.2s,mb6.0
BMN LR LR
comp=Z,572nm,19.0s,MS4.9
BOZ Bozeman (W) 75.88 43 *e*P **P** **21 16 44.1 0.0**
BOZ pmax pmax
comp=Z,350nm,1.2s,mb6.2
BOZ Bozeman (W) 75.88 43 *e*P **P** **21 16 43.9 -0.1**
comp=Z,354nm,1.2s,mb6.2
BOZ LR LR
comp=Z,742nm,21.0s,MS5.0
TOS Tosya 76.03 311 *e*P **P** **21 16 44.0 -1.0**
GZT Gaziantep 76.04 306 *i* P **P** **21 16 46.5 +1.4**
BSD Bornholm Skovb 76.15 331⇑ *i*P **P** **21 16 44.2 -1.2**
comp=Z,204nm,0.9s,mb6.1
BSD *i* 21 19 32.6
BSD *i*S S 21 26 25.5 -1.4
comp=Z,1μm,16.0s
DGAR Diego Garcia 76.17 249 PFAKE
DGAR LR LR
comp=Z,255nm,21.0s,MS4.5
BNN Bunyan 76.23 308 *i* P **P** **21 16 47.4 +1.2**
KAHT Ahir Dag 76.32 307 *i* P **P** **21 16 48.0 +1.3**
KMY Karmoy 76.35 337⇓ *i*P **P** **21 16 46.8 +0.4**
KMY AMb AMB 21 16 48.6
comp=Z,135nm,1.9s,mb5.5
KMY Karmoy 76.35 337⇓ *i*P **P** **21 16 46.8 +0.4**
comp=Z,135nm,1.9s,mb5.5
GAZ Gaziantep 76.37 306 P **P** **21 16 49.3 +2.3**
NVAR Mina Array Bea 76.42 52 P **P** **21 16 47.5 +0.3**
comp=Z,127nm,1.0s,mb5.8,baz=306,slow=3.6,SNR=354
NVAR LR LR 21 51 48.5
comp=Z,441nm,18.5s,MS4.8,baz=110,slow=37
OMM Old Mammoth Mi 76.47 53 *e*P **P** **21 16 47.5 0.0**
MNV Mina 76.51 52 P **P** **21 16 48.0 +0.2**
MNV pmax pmax
comp=Z,240nm,1.3s,mb6.0
MNV Mina 76.51 52⇑ *e*P **P** **21 16 47.7 0.0**
comp=Z,241nm,1.4s,mb5.9
MNV LR LR
comp=Z,652nm,19.0s,MS5.0
QLMT Earthquake Lak 76.51 44 *e*P **P** **21 16 48.8 +1.2**
CANT Cankiri 76.53 311 *e*P **P** **21 16 48.1 +0.2**
GKP Gorka Klasztor 76.54 328 *e*P **P** **21 16 46.8 -0.8**
comp=Z,0.4nm,2.2s
GKP *e*PcP PcP 21 16 55.0 -4.6
GKP *e*S S 21 26 32.7 +1.4
GKP Gorka Klasztor 76.54 328 *e*P **P** **21 16 46.8 -0.8**
comp=Z,400nm,2.2s
GKP *e*PcP PcP 21 16 55.0 -4.6
GKP *e*S S 21 26 32.7 +1.4
KWP Kalwaria 76.63 323 *e*P **P** **21 16 51.4 +3.2**
KWP *e*S S 21 26 33.8 +1.5
KWP Kalwaria 76.63 323 *e*P **P** **21 16 48.3 +0.1**
KWP *e*PP pP 21 16 51.4 -2.6
KWP *e*S S 21 26 33.8 +1.5
KWP Kalwaria 76.63 323 *e*P **P** **21 16 48.3 +0.1**
KWP *e*PP pP 21 16 51.4 -2.6
KWP *e*S S 21 26 33.8 +1.5
COP Copenhagen 76.67 332⇑ *i*P **P** **21 16 48.0 -0.3**
comp=Z,176nm,0.9s,mb6.0
COP *i* 21 19 41.2
COP *i*S S 21 26 33.1 +0.5
comp=Z,830nm,18.0s
SAFT Safranbolu 76.70 312 *i* P **P** **21 16 49.9 +1.1**
ELDT Eldivan 76.72 311 *i* P **P** **21 16 49.2 +0.3**
CFR Carcaliu 76.80 317⇓ *i*P **P** **21 16 49.2 -0.1**
CFR Carcaliu 76.80 317⇓ *i*P **P** **21 16 49.2 -0.1**
GCMT Greycliff 76.84 42 *e*P **P** **21 16 50.2 +0.7**
YMR Madison River 76.87 43 *e*P **P** **21 16 50.3 +0.7**
FRB Frobisher Bay 76.89 12 P **P** **21 16 49.5 +0.2**
comp=Z,213nm,0.9s,mb6.1,baz=338,slow=6.6,SNR=26
FRB LR LR 21 55 11.4
comp=Z,908nm,18.1s,MS5.1,baz=328,slow=39
FRB Frobisher Bay 76.89 12 P **P** **21 16 49.5 +0.2**
FRB pmax pmax

comp=Z,213nm,0.9s
FRB MLR MLR
comp=Z,908nm,18.1s
AVNT Avonos 76.89 309 *i* P **P** **21 16 50.7 +0.8**
MTUM Tungsten Hills 76.90 53 *e*P **P** **21 16 49.5 -0.4**
YNR Norris Junctio 76.99 43 *e*P **P** **21 16 51.0 +0.7**
BORG Borgarnes 77.02 351 *e*P **P** **21 16 51.9 +1.9**
comp=Z,116nm,0.9s,mb5.8,baz=19,slow=4.5,SNR=21
BORG Borgarnes 77.02 351 *e*P **P** **21 16 51.4 +1.4**
comp=Z,142nm,1.0s,mb5.8
BRTR Keskin Array B 77.06 310 P **P** **21 16 51.4 +0.6**
comp=Z,54nm,1.0s,mb5.4,baz=71,slow=3.5,SNR=202
BRTR Keskin Array B 77.06 310 P **P** **21 16 51.4 +0.6**
BRTR pmax pmax
comp=Z,54nm,1.0s
YFT Old Faithful 77.08 44 *e*P **P** **21 16 52.4 +1.6**
VRI Vrincioaia 77.11 318⇓ *i*P **P** **21 16 51.8 +0.8**
VRI Vrincioaia 77.11 318⇓ *i*P **P** **21 16 51.8 +0.8**
BRD Bordesti 77.16 318⇓ *i*P **P** **21 16 53.1 +1.9**
BRD Bordesti 77.16 318⇓ *i*P **P** **21 16 53.1 +1.9**
KAMT Kaman 77.24 310 *e*P **P** **21 16 51.6 -0.2**
LKWY Lake 77.24 43 P **P** **21 16 55.2 +3.5**
LKWY pmax pmax
comp=Z,350nm,1.2s,mb6.2
LKWY Lake 77.24 43 *e*P **P** **21 16 53.3 +1.6**
comp=Z,345nm,1.3s,mb6.1
LKWY LR LR
comp=Z,2μm,19.0s,MS5.4
MUD Monsted U'grnd 77.26 334⇑ *i*P **P** **21 16 51.2 -0.3**
comp=Z,135nm,1.0s,mb5.8
MUD *i* 21 19 43.4
MUD *i*S S 21 26 42.4 +3.4
comp=Z,1μm,18.0s
TPH Tonopah 77.31 52 *e*P **P** **21 16 52.4 +0.2**
TPH pmax pmax
comp=Z,360nm,1.1s,mb6.2
TPH Tonopah 77.31 52⇑ *e*P **P** **21 16 52.2 0.0**
comp=Z,364nm,1.2s,mb6.2
TPH LR LR
comp=Z,586nm,20.0s,MS4.9
KOLS Kolonicke sedl 77.31 323 *i* P **P** **21 16 53.1 +1.1**
LRW Lerwick 77.41 341 *e*P **P** **21 16 52.3 0.0**
WAL1 Walls 77.42 341 *e*P **P** **21 16 51.9 -0.5**
NIG Nigde 77.45 308 *i* P **P** **21 16 54.7 +1.7**
ANTO Ankara 77.49 311 *e*P **P** **21 16 53.0 -0.1**
UZH Uzhgorod 77.51 323 *i* P **P** **21 16 54.0 +0.9**
SAN1 Sandwick 77.53 341 *e*P **P** **21 16 53.0 +0.1**
MOOW Moose Ponds 77.58 44⇑ *e*P **P** **21 16 54.3 +0.7**
OJC Ojcow 77.58 325⇑ *i*P **P** **21 16 53.4 -0.1**
OJC *e* 21 19 49.0
OJC *e*S S 21 26 42.4 -0.2
OJC MLR MLR
comp=Z,2μm,20.4s,MS5.4
OJC Ojcow 77.58 325⇑ *i*P **P** **21 16 53.4 -0.1**
OJC *e*PP PP 21 19 49.0 -1.4
OJC *e*S S 21 26 42.4 -0.2
OJC MLR MLR 21 53 44.0
comp=Z,2μm,20.4s
TPAW Teton Pass 77.63 44 *e*P **P** **21 16 54.6 +0.7**
HVU Hansel Valley 77.69 47 P **P** **21 16 55.4 +1.2**
HVU Hansel Valley 77.69 47 *e*P **P** **21 16 54.3 +0.1**
HTY Hatay 77.69 306 *e*P **P** **21 16 53.8 -0.6**
ISR Istrita 77.70 318⇓ *i*P **P** **21 16 55.3 +1.1**
ISR Istrita 77.70 318⇓ *i*P **P** **21 16 55.3 +1.1**
WUWY Wally Ulrich 77.72 44 *e*P **P** **21 16 52.9 -1.4**
CRVS Cervenica-Dubn 77.72 323 *i* P **P** **21 16 54.8 +0.5**
CRVS *i*S S 21 26 45.8 +1.6
LOHW Long Hollow 77.75 44 *e*P **P** **21 16 55.0 +0.5**
SNOW Snow King Moun 77.76 44 *e*P **P** **21 16 55.2 +0.7**
REDW Red Top Meadow 77.77 44⇑ *e*P **P** **21 16 55.1 +0.5**
MLR Muntele Rosu 77.77 318 LR LR 21 54 18.6
comp=Z,4μm,18.0s,MS5.7,baz=40,slow=38
DGMT Dagmar 77.83 37 *e*P **P** **21 16 54.2 -0.7**
comp=Z,287nm,1.1s,mb6.1
DGMT LR LR
comp=Z,923nm,21.0s,MS5.1
NIE Niedzica 77.91 324 *e*P **P** **21 16 55.6 +0.4**
AHID Auburn Hatcher 78.02 45 *e*P **P** **21 16 55.8 -0.2**
comp=Z,140nm,1.3s,mb5.7
AHID LR LR
comp=Z,818nm,19.0s,MS5.1
HENT Hendek 78.02 312 *i* P **P** **21 16 55.8 -0.3**
LAO LASA Array 78.04 40⇑ *e*P **P** **21 16 55.8 -0.3**
comp=Z,426nm,1.2s,mb6.2
LAO LR LR
comp=Z,1μm,20.0s,MS5.2
BGU Big Grassy Mou 78.08 47⇑ *e*P **P** **21 16 56.7 +0.3**
TRCR Troy Canyon 78.16 51⇑ *e*P **P** **21 16 57.3 +0.4**
DAC Darwin (Calif) 78.17 53 P **P** **21 16 58.2 +1.2**
DAC pmax pmax
comp=Z,190nm,1.4s,mb5.8
DAC Darwin (Calif) 78.17 53⇑ *e*P **P** **21 16 56.4 -0.6**
comp=Z,192nm,1.4s,mb5.8
DAC LR LR
comp=Z,493nm,20.0s,MS4.8
SPUT South Promonto 78.18 47⇑ *e*P **P** **21 16 56.8 -0.1**
RAC Raciborz 78.41 326 *e*P **P** **21 16 58.2 +0.2**
RAC *e*S S 21 26 55.4 +3.9
RAC MLR MLR
comp=Z,6μm,15.0s,MS6.1
RAC Raciborz 78.41 326 *e*P **P** **21 16 58.2 +0.2**
RAC *e*S S 21 26 55.4 +3.9
RAC MLR MLR 21 55 28.2
comp=Z,6μm,15.0s
MTUR Matau 78.41 319⇑ *i*P **P** **21 16 59.2 +1.1**
MTUR Matau 78.41 319⇑ *i*P **P** **21 16 59.2 +1.1**
KECS Kecovo 78.48 323 *i* P **P** **21 16 59.3 +0.9**
BUC1 Bucharest 78.48 318⇓ *i*P **P** **21 16 59.3 +0.8**
BUC1 Bucharest 78.48 318⇓ *i*P **P** **21 16 59.3 +0.8**
PRD Provadia 78.49 316 *i* P **P** **21 16 59.7 +1.1**
HWUT Hardware Ranch 78.50 46⇑ *e*P **P** **21 16 58.9 +0.2**
comp=Z,395nm,1.4s,mb6.2
HWUT LR LR
comp=Z,820nm,20.0s,MS5.1
MZLS Mizel 78.53 291 P **P** **21 16 58.9 -0.3**
RUE Ruedersdorf 78.55 329 *e*P **P** **21 16 58.2 -0.5**
comp=Z,221nm,1.3s,mb5.9
OKC Ostrava-Krasne 78.61 325⇑ *i*P **P** **21 16 59.0 -0.1**
OKC *e*pP pP 21 17 04.0 -0.9
OKC *e*S S 21 26 50.9 -2.7
OKC AMS AMS 21 55 30.0
comp=Z,6μm,14.2s
KIZT Kizilcal 78.66 310 P **P** **21 16 58.7 -0.9**
DUG Dugway 78.67 48 P **P** **21 16 59.9 +0.2**
DUG Dugway 78.67 48⇑ *e*P **P** **21 16 59.8 +0.1**
comp=Z,277nm,1.4s,mb6.0
DUG LR LR
comp=Z,660nm,19.0s,MS5.0
KSP Ksiaz 78.70 327⇑ *e*P **P** **21 16 59.6 0.0**
KSP *e**PP pP 21 17 04.2 -1.2
KSP *e*S S 21 26 51.0 -3.6
KSP MLR MLR
comp=Z,10μm,14.6s,MS6.3
KSP Ksiaz 78.70 327⇑ *e*P **P** **21 16 59.6 0.0**
KSP *e*PP pP 21 17 04.2 -1.2
KSP *e*PP PP 21 19 48.0 -12
KSP *e*S S 21 26 51.0 -3.6
KSP *e*SS SS 21 31 49.0 -13
KSP LR LR
comp=Z,10μm,14.6s,MS6.3
KSP Ksiaz 78.70 327 *e*P **P** **21 16 59.6 0.0**
comp=Z,500nm,1.2s
KSP *e*S S 21 26 57.7 +3.1
LIKS Likavka 78.73 324 *e*P **P** **21 17 01.7 +1.9**
HRT Hereke 78.74 313 *e*P **P** **21 17 01.4 +1.4**
NOQ North Oquirrh 78.79 47⇑ *e*P **P** **21 17 00.4 +0.1**
BSEG Bad Segeberg 78.80 332 *e*P **P** **21 16 59.6 -0.4**
BSEG pmax pmax
comp=Z,222nm,1.1s,mb6.0
ESKT Eskisehir 78.87 311 *e*P **P** **21 17 01.2 +0.4**
ESKT Eskisehir 78.87 311 *i* P **P** **21 16 60.0 -0.8**
BW06 Boulder Array 78.88 44⇑ *e*P **P** **21 17 00.5 -0.2**
comp=Z,128nm,1.0s,mb5.8
BW06 LR LR
comp=Z,573nm,19.0s,MS4.9
PDAR Pinedale Array 78.88 44 P **P** **21 17 00.8 +0.1**
comp=Z,56nm,0.8s,mb5.5,baz=283,slow=2.0,SNR=251
PDAR PKKPbc 21 35 53.2
comp=Z,0.9nm,0.8s,baz=90,slow=3.0,SNR=6.1
TCUT Toone Canyon 78.90 46⇑ *e*P **P** **21 16 58.0 -2.9**
MORC Moravsky Berou 78.92 326 P **P** **21 17 00.7 -0.1**
MORC pmax pmax
comp=Z,170nm,1.1s,mb5.9
MORC Moravsky Berou 78.92 326⇑ *e*P **P** **21 17 00.5 -0.3**

comp=Z,173nm,1.1s,mb5.9
KONT Konya--Tatoy 78.95 309 P **P** 21 17 02.7 +1.5
CTU Camp Tracy 78.98 47⇑*eP* **P** 21 17 01.5 +0.2
CTU *e* 21 17 09.9
DPC Dobruska-Polom 79.05 327⇑*iP* **P** 21 17 01.7 +0.2
DPC *ep*P pP 21 17 06.8 -0.5
DPC *eS* S 21 27 00.0 +1.7
DPC AMS AMS 21 56 10.0
comp=Z,6µm,13.6s
HILS Ha'il 79.06 296 P **P** 21 17 01.9 -0.1
UPC Upice 79.07 327⇑*iP* **P** 21 17 01.5 -0.1
MWC Mount Wilson 79.12 55 P **P** 21 17 02.0 -0.3
MWC Mount Wilson 79.12 55⇑*eP* **P** 21 17 01.9 -0.4
PSZ Piszkesteto 79.16 323⇓*i* **P** 21 17 03.2 +1.1
PSZ Piszkesteto 79.16 323 P **P** 21 17 02.3 +0.2
PSZ *p*max pmax
comp=Z,270nm,1.1s,mb6.1
IKL Isikli 79.19 307 *eP* **P** 21 17 03.2 +0.7
JLU Jordanelle 79.21 47⇑*eP* **P** 21 17 02.5 -0.1
CTT Catalca 79.25 314 *eP* **P** 21 17 01.1 -1.7
VYHS Vyhne 79.25 324 *iP* **P** 21 17 03.0 +0.4
VYHS *i* S S 21 27 02.3 +1.8
SZH Strazhica 79.25 317 *iP* **P** 21 17 03.0 +0.2
NLU North Lily Min 79.26 48 *eP* **P** 21 17 03.1 +0.3
KOLL Kolacno 79.39 324 *iP* **P** 21 17 04.8 +1.4
DAU Daniels Canyon 79.44 47 P **P** 21 17 04.5 +0.6
DAU Daniels Canyon 79.44 47 *eP* **P** 21 17 04.4 +0.5
MPU Maple Canyon 79.48 47⇑*eP* **P** 21 17 04.1 0.0
HDMB Hadim 79.49 309 *eP* **P** 21 16 58.7 -5.5
ASF Jabal al Asfar 79.59 302 LR LR 21 57 48.4
comp=Z,607nm,18.2s,MS5.0,baz=358,slow=40
ALT Altintas 79.61 311 P **P** 21 17 04.7 -0.1
PVL Pavlikeni 79.61 317 *iP* **P** 21 17 05.3 +0.6
PVCC Panska Ves 79.68 328⇑*iP* **P** 21 17 05.0 +0.1
PVCC *eS* S 21 27 07.5 +2.6
PVCC AMS AMS 21 58 40.0
comp=Z,4µm,12.9s
BRG Berggiesshubel 79.69 328 *iP* **P** 21 17 05.4 +0.5
BRG *e* 21 20 07.0
BRG *eS* S 21 27 05.0 0.0
BRG *eP*S PS 21 28 00.0 +8.1
BRG *p*max pmax
comp=Z,142nm,1.2s,mb5.8
BRG MLR MLR
comp=N,2µm,14.0s,MS5.9
BRG MLR MLR
comp=E,3µm,14.0s,MS5.9
BRG MLR MLR
comp=Z,4µm,14.0s,MS5.9
BRG Berggiesshubel 79.69 328 *iP* **P** 21 17 05.4 +0.5
comp=Z,142nm,1.2s,mb5.8
BRG *ep*PP PP 21 20 07.0 -0.6
BRG *eS* S 21 27 05.0 0.0
BRG *eP*S PS 21 28 00.0 +8.1
BRG *eS*S SS 21 32 36.0 +19
BRG *eP'*P' 21 43 50.9
BRG LR LR
comp=Z,4µm,14.0s,MS5.9
HRI Mount Hermon 79.70 304 P **P** 21 17 05.4 0.0
PHNC Paralimni 79.73 306 P **P** 21 17 05.7 +0.2
EDRB Edirne 79.74 315 *eP* **P** 21 17 05.7 +0.2
CLL Collm 79.75 329 ⇓P **P** 21 17 05.5 +0.2
comp=Z,logA/T=2.3,mb6.0
CLL *i* *PP pP 21 17 09.5 -1.6
CLL *e* 21 17 17.0
CLL *eP*P PP 21 20 12.0 +3.9
CLL *eS* S 21 27 04.0 -1.7
CLL *eP*S PS 21 27 57.0 +4.4
CLL *eS*SS SSS 21 36 00.0 +22
CLL *eP*KPPKP 21 43 50.0
CLL Collm 79.75 329⇓*iP* **P** 21 17 05.5 +0.2
CLL *i* pP 21 17 09.5 -1.6
CLL *eS* S 21 27 04.0 -1.7
CLL *p*max pmax
comp=Z,215nm,1.1s,mb6.0
CLL MLR MLR
comp=Z,5µm,13.7s,MS6.0
CLL Collm 79.75 329⇓*iP* **P** 21 17 05.5 +0.2
comp=Z,215nm,1.1s,mb6.0
CLL *i* pP 21 17 09.5 -1.6
CLL *eS* S 21 27 04.0 -1.7
CLL P'P' 21 43 50.0
CLL LR LR
comp=Z,5µm,13.7s,MS6.0
QURS Qurayyt al Mil 79.78 302 P **P** 21 17 07.4 +1.5
KSHT Keshet 79.82 304 P **P** 21 17 06.2 +0.2
ARUT Antelope Range 79.83 50 *eP* **P** 21 17 07.6 +1.6
ARUT Antelope Range 79.83 50 *eP* **P** 21 17 07.4 +1.4
BUD Budapest 79.88 323⇓*e* **P** 21 17 06.9 +0.8
SMOL Smolenice 79.89 325 *iP* **P** 21 17 07.9 +1.8
SRO2 Moca 79.98 324 *iP* **P** 21 17 08.0 +1.4
SRO Srobarova 79.98 324 *iP* **P** 21 17 08.5 +1.9
BNT Bandirma 80.06 314 *iP* **P** 21 17 08.2 +1.1
PRU Pruhonice 80.09 327⇑*iP* **P** 21 17 06.7 -0.4
PRU *e**PP pP 21 17 12.7 -0.2
PRU *eS* S 21 27 10.9 +1.6
PRU *p*max pmax
comp=Z,199nm,1.2s,mb5.9
PRU MLR MLR
comp=Z,6µm,15.0s,MS6.1
PRU Pruhonice 80.09 327⇑*iP* **P** 21 17 06.7 -0.4
comp=Z,199nm,1.2s,mb5.9
PRU *ep*P pP 21 17 12.7 -0.2
PRU *eS* S 21 27 10.9 +1.6
PRU AMS AMS 21 57 00.0
comp=Z,6µm,15.0s
MVU Marysvale 80.11 49 *eP* **P** 21 17 08.1 +0.6
comp=Z,202nm,1.5s,mb5.8
MVU LR LR
comp=Z,587nm,21.0s,MS4.9
MSU Marysvale 80.13 49 P **P** 21 17 08.4 +0.8
MSU Marysvale 80.13 49 *eP* **P** 21 17 08.1 +0.5
DJES Djerdap 80.14 319⇑*iP* **P** 21 17 06.6 -0.9
MFT Murefte 80.14 314 *iP* **P** 21 17 09.3 +1.8
ISP Isparta 80.15 310 P **P** 21 17 07.2 -0.5
ISP Isparta 80.15 310 P **P** 21 17 07.7 0.0
ISP *p*max pmax
comp=Z,84nm,1.2s,mb5.5
MAMC Mammari 80.15 307 ⇓P **P** 21 17 08.2 +0.4
HNTI Hanita 80.18 304 P **P** 21 17 07.9 -0.1
HNTI Hanita 80.18 304⇑P **P** 21 17 07.9 -0.1
TMUT Trail Mountain 80.20 48⇑*eP* **P** 21 17 08.4 +0.5
CSS Prodhromos 80.21 307 P **P** 21 17 08.6 +0.5
comp=Z,1.8nm,1.0s
AFFS 'Afif 80.22 293 P **P** 21 17 09.0 +0.6
PKS6 Bocsa 80.25 322⇓*eP* **P** 21 17 07.0 -1.0
ZST Bratislava 80.27 325 *iP* **P** 21 17 09.7 +1.6
ZST *i* S S 21 27 13.3 +2.2
DIM Dimitrovgrad 80.28 316 *iP* **P** 21 17 09.5 +1.2
NEN Nelson 80.31 52 *eP* **P** 21 17 08.7 +0.1
ULM Lac du Bonnet 80.33 32 P **P** 21 17 08.3 0.0
comp=Z,80nm,1.2s,mb5.5,baz=318,slow=6.6,SNR=28
ULM LR LR 21 56 49.3
comp=Z,1µm,19.2s,MS5.2,baz=352,slow=39
ULM Lac du Bonnet 80.33 32 P **P** 21 17 08.3 -0.1
ULM LR LR 21 56 49.3
BCK Bucak 80.34 310 *eP* **P** 21 17 06.0 -2.8
KGT Karabiga 80.35 314 *iP* **P** 21 17 09.8 +1.1
BTOK Tokmak 80.38 313 *iP* **P** 21 17 09.1 +0.2
CLZ Clausthal 80.40 330 *eP* **P** 21 17 08.6 -0.1
comp=Z,270nm,1.1s,mb6.1
MMLI Mount Malkishu 80.41 303 P **P** 21 17 09.6 +0.4
HMDT Nahal Hemdat 80.46 303 P **P** 21 17 09.6 +0.1
HMDT Nahal Hemdat 80.46 303⇑P **P** 21 17 09.6 +0.1
PKS8 Sarbogard 80.48 323⇓*eP* **P** 21 17 09.6 +0.3
LDFC Landfair 80.50 53⇑*eP* **P** 21 17 09.4 -0.3
BALB Balikesir 80.55 313 *eP* **P** 21 17 10.8 +1.1
PFO Pinyon Flat Ob 80.55 55 P **P** 21 17 09.0 -0.9
comp=Z,594nm,0.9s,mb6.5,SNR=88
PFO Pinyon Flat Ob 80.55 55⇑*eP* **P** 21 17 09.6 -0.3
comp=Z,238nm,1.4s,mb5.9
PFO LR LR
comp=Z,159nm,20.0s,MS4.4
ALFC Alevga 80.55 307 ⇓P **P** 21 17 09.9 0.0
VKA Vienna 80.58 325⇑*iP* **P** 21 17 09.9 +0.2
comp=Z,672nm,3.0s
VKA LR LR
comp=Z,2µm,15.0s,MS5.6
OFRI 'Ofer 80.59 304 P **P** 21 17 10.0 -0.1
KDZ Kurdzhali 80.62 316 *iP* **P** 21 17 11.3 +1.2
SZAC Souni-Zanaja 80.62 307⇑P **P** 21 17 10.9 +0.6
ANTB Antalya 80.66 309 *eP* **P** 21 17 09.2 -1.2
PGB Panagyurishte 80.69 317 *iP* **P** 21 17 11.3 +0.8

PLD Plovdiv 80.70 317 *iP* **P** 21 17 11.3 +0.8
SRU San Rafael 80.72 48 P **P** 21 17 10.8 +0.1
SRU San Rafael 80.72 48⇑*eP* **P** 21 17 10.7 0.0
SLTI Sal'it 80.79 304 P **P** 21 17 11.3 +0.1
NKC Novy Kostel 80.80 328⇑*iP* **P** 21 17 10.4 -0.4
NKC *ep*P pP 21 17 16.2 -0.5
NKC AMS AMS 21 56 20.0
MOX Moxa 80.82 329 *iP* **P** 21 17 10.5 -0.5
comp=Z,logA/T=2.2,mb5.9
MOX S S 21 27 18.0 +1.1
MOX SS SS 21 32 55.0 +21
MOX L 21 55 40.0
MOX Moxa 80.82 329 *eP* **P** 21 17 10.5 -0.5
MOX *p*max pmax
comp=Z,289nm,1.8s,mb5.9
MOX MLR MLR
comp=Z,2µm,17.0s,MS5.4
MOX Moxa 80.82 329 *eP* **P** 21 17 10.5 -0.5
comp=Z,289nm,1.8s,mb5.9
MOX LR LR
comp=Z,2µm,17.0s,MS5.4
PKS9 Tamasi 80.88 323⇓*eP* **P** 21 17 11.7 +0.3
RDO Rodhopi 80.89 315 *eP* **P** 21 17 11.4 -0.1
PPCY Paphos 80.89 307 P **P** 21 17 12.0 +0.3
SOP Sopron 80.89 325⇑*i* **P** 21 17 11.9 +0.5
RWWY Rawlins 80.89 44 *eP* **P** 21 17 11.2 -0.4
MANT Manisa 80.90 312 *iP* **P** 21 17 11.7 0.0
RSSD Black Hills 80.92 40 P **P** 21 17 11.0 -0.7
RSSD *p*max pmax
comp=Z,200nm,1.4s,mb5.8
RSSD Black Hills 80.92 40⇑*eP* **P** 21 17 11.2 -0.5
comp=Z,204nm,1.4s,mb5.9
RSSD LR LR
comp=Z,164nm,19.0s,MS4.4
DRGI Dragot 80.95 303 P **P** 21 17 12.1 0.0
PKSM Muragy 80.97 323⇑*iP* **P** 21 17 11.5 -0.4
RZN Rozhen 80.98 316 *iP* **P** 21 17 12.0 0.0
BAR Barrett 80.99 56⇑*eP* **P** 21 17 11.7 -0.6
WIT Witteveen 81.03 333⇓*iP* **P** 21 17 13.3 +1.3
comp=Z,727nm,1.1s,mb6.5
SVIS Svilajnac 81.04 320⇓*iP* **P** 21 17 12.5 +0.2
BEO Belgrade 81.07 321⇑*iP* **P** 21 17 12.8 +0.4
AKS Akhisar 81.09 312 *eP* **P** 21 17 13.3 +0.7
DENT Denizli 81.10 311 *eP* **P** 21 17 13.3 +0.6
DNZL Cakiroluk 81.13 311 *iP* **P** 21 17 13.5 +0.6
KHC Kasperske Hory 81.15 327⇑*iP* **P** 21 17 12.5 -0.2
KHC *eS* S 21 27 20.8 +0.5
KHC MLR MLR
comp=Z,6µm,13.3s,MS6.1
KHC Kasperske Hory 81.15 327⇑*iP* **P** 21 17 12.5 -0.2
KHC *ep*P pP 21 17 17.6 -1.0
KHC *eS* S 21 27 20.8 +0.5
KHC LR LR
comp=Z,6µm,13.3s,MS6.1
KHC Kasperske Hory 81.15 327⇑*iP* **P** 21 17 12.5 -0.2
KHC *ep*P pP 21 17 17.6 -1.0
KHC *eS* S 21 27 20.8 +0.5
KHC AMS AMS 21 57 40.0
comp=Z,6µm,13.3s
MZDA Masada 81.15 303 P **P** 21 17 13.1 0.0
HOPOS Hopovo Monaste 81.16 321⇑*iP* **P** 21 17 13.2 +0.4
VTS Vitosha 81.18 318 *iP* **P** 21 17 13.3 +0.2
KAMS Al Khamasin 81.19 289 P **P** 21 17 13.5 0.0
ELL Elmali 81.22 310 *eP* **P** 21 17 13.4 0.0
GEC2 GERESS Array S 81.31 327 *eP* **P** 21 17 12.5 -1.1
GEC2 *p*max pmax
comp=Z,83nm,1.0s,mb5.6
GEC2 GERESS Array S 81.31 327 *eP* **P** 21 17 12.5 -1.1
comp=Z,83nm,1.0s,mb5.6
GERES GERESS Array B 81.31 327 P **P** 21 17 13.1 -0.5
comp=Z,30nm,0.7s,mb5.4,baz=34,slow=4.8,SNR=239
GERES PKKPbc 21 35 46.4
comp=Z,0.9nm,0.7s,baz=225,slow=1.9,SNR=9.2
RHK1 Bakonya 81.33 323⇓*iP* **P** 21 17 14.3 +0.5
WET Wettzell 81.44 327 *eP* **P** 21 17 14.0 -0.2
WET *p*max pmax
comp=Z,130nm,1.2s,mb5.7
WET Wettzell 81.44 327 *eP* **P** 21 17 14.0 -0.2
comp=Z,130nm,1.2s,mb5.7
AYVA Ayvalik 81.46 313 *iP* **P** 21 17 14.2 -0.3
BOZC Bozcaada 81.47 314 *iP* **P** 21 17 14.8 +0.2
MMB Musomiste 81.59 317 *iP* **P** 21 17 15.3 +0.1
GRUS Gruza 81.59 320⇑*iP* **P** 21 17 15.8 +0.6
WTSB Winterswijk 81.66 332⇓*iP* **P** 21 17 15.5 +0.2
comp=Z,81nm,1.1s,mb5.6
NVR Nevrokopi 81.68 316 *eP* **P** 21 17 15.7 0.0
ARSA Arzberg 81.69 325⇑*iP* **P** 21 17 15.7 +0.1
comp=Z,290nm,1.8s,mb5.9
GRA1 Grafenberg Arr 81.72 329 *eP* **P** 21 17 15.9 +0.2
comp=Z,431nm,1.1s,mb6.3
GRA1 *eS* S 21 27 30.8 +4.7
GRA1 *eSS* SS 21 32 43.3 -3.9
GRA1 LR LR
comp=Z,1µm,18.3s,MS5.2
GRF Grafenberg Arr 81.72 329 *eP* **P** 21 17 15.9 +0.2
GRF *eS* S 21 27 30.8 +4.7
GRF *eSS* SS 21 32 43.3 -3.9
GRF *p*max pmax
comp=Z,431nm,1.1s,mb6.3
GRF MLR MLR
comp=Z,1µm,18.3s,MS5.2
KDAG Bornova 81.72 312 *iP* **P** 21 17 16.4 +0.4
IZM Izmir 81.73 312 *iP* **P** 21 17 16.6 +0.7
PRK Paraskevi 81.74 314 *eP* **P** 21 17 15.3 -0.7
ZFRI Zfri 81.74 302 P **P** 21 17 16.4 +0.2
ZFRI Zfri 81.74 302⇑P **P** 21 17 16.4 +0.2
NRS Narsarsuaq 81.75 2 *iP* **P** 21 17 14.6 -1.0
NRS *i* S S 21 27 28.1 +1.9
KKB Krupnik 81.75 317 *iP* **P** 21 17 16.3 +0.3
BARS Barje 81.76 319⇑*iP* **P** 21 17 23.2 +7.1
PCOU Corrie 81.78 340⇑*eP* **P** 21 17 16.4 +0.5
MOA Molln 81.81 326⇓*iP* **P** 21 17 16.1 -0.1
comp=Z,331nm,1.9s,mb5.9
DIVS Divcibare 81.81 320⇓*iP* **P** 21 17 15.6 -0.7
KBRS Khaybar 81.82 296 P **P** 21 17 17.9 +1.2
AYDN Tasoluk 81.85 312 *iP* **P** 21 17 17.9 +1.2
BLCB Balcova 81.87 313 P **P** 21 17 16.7 0.0
LIA Limnos Island 81.93 315 *eP* **P** 21 17 16.2 -0.8
YER Yerkesik 81.95 311 *iP* **P** 21 17 18.8 +1.7
DALT Dalyan (Mudla) 81.98 310 P **P** 21 17 17.6 +0.3
PRNI Paran 81.98 302 P **P** 21 17 17.7 +0.2
PRNI Paran 81.98 302⇑P **P** 21 17 17.7 +0.2
POB1 Observatory 82.00 340 *eP* **P** 21 17 17.0 0.0
KZIT Kziot 82.05 303 P **P** 21 17 17.7 -0.1
RAR Rarotonga 82.05 124 P **P** 21 17 17.4 -0.5
comp=Z,29nm,0.6s,mb5.4,baz=100,slow=7.4,SNR=4.5
RAR LR LR 21 51 57.9
comp=Z,954nm,18.9s,MS5.2,baz=66,slow=34
RAR Rarotonga 82.05 124 P **P** 21 17 17.4 -0.6
RAR *p*max pmax
comp=Z,29nm,0.6s
RAR MLR MLR
comp=Z,954nm,18.9s
PV10 Paradox Valley 82.08 47 *eP* **P** 21 17 18.6 +0.8
PCA1 Carrot 82.08 340⇑*eP* **P** 21 17 17.7 +0.3
PMSU Muirshiel 82.08 340 *eP* **P** 21 17 17.8 +0.3
PHWY Pilot Hill 82.12 43 *eP* **P** 21 17 17.8 -0.1
LCP Cassop 82.12 338⇑*eP* **P** 21 17 16.9 -0.7
ESK Eskdalemuir 82.12 339 P **P** 21 17 18.9 +1.3
comp=Z,438nm,1.2s,mb6.3,SNR=9.7
ESK Eskdalemuir 82.12 339⇑*eP* **P** 21 17 17.8 +0.2
ESK AMb AMB 21 17 19.8
comp=Z,154nm,1.4s,mb5.7
ESK Eskdalemuir 82.12 339 P **P** 21 17 13.7 -3.9
ESK *p*max pmax
comp=Z,120nm,1.2s,mb5.7
ESK Eskdalemuir 82.12 339 *eP* **P** 21 17 17.7 +0.1
comp=Z,115nm,1.2s,mb5.7
ESK LR LR
comp=Z,525nm,20.0s,MS4.9
MLSB Milas 82.15 311 *eP* **P** 21 17 18.8 +0.6
TBKS Tabuk 82.25 300 P **P** 21 17 19.9 +1.0
JMQS Jabal Moqyreh 82.30 300 P **P** 21 17 19.9 +0.8
BHH Howats Hill 82.32 339⇑*eP* **P** 21 17 18.9 +0.2
KMTI Karmit 82.33 302 P **P** 21 17 19.2 -0.1
PERS Pernice 82.33 325 *eP* **P** 21 17 18.7 -0.2
PERS *i* PcP PcP 21 17 24.3 -0.5
BTA Talkin 82.33 339⇑*eP* **P** 21 17 19.0 +0.3
AQBJ Aqaba 82.34 302 P **P** 21 17 19.4 +0.1
BWH Wardlaw 82.37 339⇑*eP* **P** 21 17 19.1 +0.1
NVSS Nova Varos 2 82.38 320⇓*iP* **P** 21 17 19.8 +0.6
MBH Mount Berech 82.39 302 P **P** 21 17 19.7 +0.1
VAY Valandovo 82.40 317⇑*iP* **P** 21 17 19.3 -0.1

SMG Samos 82.44 312 *eP* **P** 21 17 19.3 -0.4
EIL Elat 82.45 302 P **P** 21 17 19.9 0.0
EIL Elat 82.45 302⇑P **P** 21 17 19.9 0.0
TATS Tathlith 82.47 289 P **P** 21 17 20.4 +0.2
BDL Dobcross Hall 82.49 339 *eP* **P** 21 17 20.2 +0.7
BDRM Kayabasi 82.50 311 *iP* **P** 21 17 20.6 +0.5
PV01 Paradox Valley 82.51 47 *eP* **P** 21 17 20.4 +0.4
SKO Skopje 82.56 318⇑*iP* **P** 21 17 20.9 +0.7
comp=Z,0.1nm,0.8s
PLG Polygyros 82.58 316 *eP* **P** 21 17 20.0 -0.3
ALWS Ilw as Safayha 82.59 301 P **P** 21 17 21.5 +0.9
SIND Sindeldorf 82.65 329⇓*eP* **P** 21 17 20.9 +0.4
JMOS Jabal al Moall 82.65 301 P **P** 21 17 21.7 +0.8
ARG Arkhangelos 82.65 310 *eP* **P** 21 17 20.7 -0.1
PLE Pljevlja 82.66 320⇓*iP* **P** 21 17 22.2 +1.5
OBKA Obir 82.69 325⇓*iP* **P** 21 17 20.7 -0.1
comp=Z,641nm,3.8s
IVA Berane 82.73 320⇓*iP* **P** 21 17 22.2 +1.1
TOD Tromm 82.77 330⇓*eP* **P** 21 17 22.0 +0.9
TOD Tromm 82.77 330 *eP* **P** 21 17 20.6 -0.5
KBA Koelnbreinsper 82.80 326⇑*iP* **P** 21 17 21.4 0.0
comp=Z,437nm,2.0s,mb6.1
HAQS Haql 82.84 301 P **P** 21 17 22.7 +0.8
FUR Furstenfeldbru 82.87 328 *eP* **P** 21 17 22.7 +1.0
FUR *p*max pmax
comp=Z,335nm,1.0s,mb6.3
FUR Furstenfeldbru 82.87 328 *eP* **P** 21 17 22.7 +1.0
comp=Z,335nm,1.0s,mb6.3
PVY Plav 82.89 319⇓*iP* **P** 21 17 22.9 +0.9
SWS Schriesheim 82.91 330⇓*eP* **P** 21 17 22.4 +0.5
GAL1 Galloway 82.94 340⇑*eP* **P** 21 17 22.2 +0.3
RW3 Ridgway 82.95 47 P **P** 21 17 23.4 +1.1
RW3 Ridgway 82.95 47 *eP* **P** 21 17 23.1 +0.7
HGN Heimansgroeve 82.95 332⇓*iP* **P** 21 17 22.2 +0.1
comp=Z,70nm,1.1s,mb5.6
HGN *eP*P PP 21 20 25.5 -9.3
HGN *i* S S 21 27 37.9 -0.8
HGN *eS*S SS 21 33 05.6 -0.2
HGN *eSS*S SSS 21 36 43.3 +13
HGN *ex* x 21 40 57.2
HDH Heidenheim 83.00 328⇓*eP* **P** 21 17 22.6 +0.2
UPM Unac-Piva 83.00 320⇓*iP* **P** 21 17 22.5 +0.1
LJU Ljubljana 83.04 325 *eP* **P** 21 17 21.9 -0.7
LJU *eP*cP PcP 21 17 27.7 -0.2
ABH Alteburg 83.05 331⇓*eP* **P** 21 17 23.1 +0.5
ABH Alteburg 83.05 331 *eP* **P** 21 17 21.7 -0.9
ISCO Idaho Springs 83.07 44 P **P** 21 17 23.7 +0.8
ISCO *p*max pmax
comp=Z,190nm,1.5s,mb5.9
ISCO Idaho Springs 83.07 44⇑*eP* **P** 21 17 23.6 +0.7
comp=Z,191nm,1.5s,mb5.9
ISCO LR LR
comp=Z,711nm,20.0s,MS5.0
BOJS Bojanci 83.11 324 *eP* **P** 21 17 22.3 -0.7
BOJS *eP*cP PcP 21 17 28.2 +0.1
BOJS *eS* S 21 27 40.8 +0.4
BOJS *eS*KSac 21 27 43.9
BDAS Al Bad' 83.12 300 P **P** 21 17 24.2 +0.8
GCL Cushendall 83.14 341⇑*eP* **P** 21 17 23.4 +0.5
URZ Urewera 83.14 151 P **P** 21 17 21.8 -1.5
comp=Z,11nm,0.9s,mb4.9,baz=130,slow=22,SNR=3.2
URZ LR LR 21 50 45.6
comp=Z,728nm,21.5s,MS5.0,baz=161,slow=33
TAYS Tayyib Ism 83.20 301 P **P** 21 17 25.1 +1.3
NKY Niksic 83.24 320⇓*iP* **P** 21 17 23.4 -0.3
LHO Holmfirth 83.26 338⇑*eP* **P** 21 17 23.9 +0.3
STU Stuttgart 83.27 329 P **P** 21 17 23.5 -0.2
STU *p*max pmax
comp=Z,250nm,1.0s,mb6.2
STU Stuttgart 83.27 329 *eP* **P** 21 17 24.1 +0.4
comp=Z,251nm,0.9s,mb6.2
KTD Kalmit 83.28 330⇓*eP* **P** 21 17 24.5 +0.7
KTD Kalmit 83.28 330 *eP* **P** 21 17 24.3 +0.5
BIA Bitola 83.29 317 *iP* **P** 21 17 24.8 +0.8
PTCC Patocco-Chiusa 83.31 325 *eP* **P** 21 17 23.2 -0.8
VOY Vojsko 83.34 325 *eP* **P** 21 17 22.3 -1.9
VOY *e* 21 17 23.7
VOY *e* 21 18 12.8
ROBS Robic 83.36 325 *eP* **P** 21 17 23.8 -0.4
KSY Syston 83.37 337⇑*eP* **P** 21 17 24.0 -0.2
TTG Podgorica 83.38 320⇓*iP* **P** 21 17 23.8 -0.7
RUP Ruppelstein 83.38 331⇓*eP* **P** 21 17 24.9 +0.6
RUP Ruppelstein 83.38 331 *eP* **P** 21 17 24.3 0.0
WATA Walderalm 83.39 327⇑*iP* **P** 21 17 24.0 -0.4
comp=Z,61nm,1.1s,mb5.5
BRY Bratogost 83.40 320⇓*iP* **P** 21 17 24.1 -0.5
KBI1 Birley Grange 83.41 337⇑*eP* **P** 21 17 24.6 +0.2
WTTA Wattenberg 83.41 327⇑*iP* **P** 21 17 24.3 -0.2
comp=Z,380nm,1.9s,mb6.1
FVI Forni Avoltri 83.42 326 *eP* **P** 21 17 23.6 -1.0
NEO Neokhori 83.44 315 *eP* **P** 21 17 23.7 -1.1
BUCH Bad Urach 83.46 329⇓*eP* **P** 21 17 25.0 +0.9
GMNA Gemona 83.46 325 *eP* **P** 21 17 24.1 -0.7
OHR Ohrid 83.50 318⇑*iP* **P** 21 17 24.6 -0.5
LBG Lerchenberg 83.52 329⇓*eP* **P** 21 17 25.7 +0.8
KZN Kozani 83.54 317 *eP* **P** 21 17 24.6 -0.7
UMJS Umm Lajj 83.55 297 P **P** 21 17 27.0 +1.3
WIM Isle of Man 83.56 339⇑*eP* **P** 21 17 25.4 +0.4
WIM AMb AMB 21 17 26.7
comp=Z,156nm,0.9s,mb6.1
MOTA Moosalm 83.58 327⇓*iP* **P** 21 17 24.9 -0.4
comp=Z,98nm,1.2s,mb5.8
SQTA Sankt Quirin 83.63 327⇑*iP* **P** 21 17 25.3 -0.3
comp=Z,86nm,1.2s,mb5.8
APE Apeiranthos 83.64 312 *eP* **P** 21 17 24.7 -1.1
APE Apeiranthos 83.64 312 *eP* **P** 21 17 24.6 -1.2
TRI Trieste 83.65 325 *eP* **P** 21 17 25.1 -0.6
BUM Brajici-Budva 83.66 320⇓*iP* **P** 21 17 26.6 +0.8
LANF Langenberg 83.67 330 *eP* **P** 21 17 25.7 0.0
KAP Karpathos 83.67 310 *eP* **P** 21 17 25.7 -0.4
BLJS Baljurashi 83.68 290 P **P** 21 17 28.0 +1.6
ULC Ulcinj 83.72 319⇓*iP* **P** 21 17 26.3 +0.2
KWE Weaver Farm 83.72 337⇑*eP* **P** 21 17 26.0 +0.1
UBR Uberruh 83.75 328⇓*eP* **P** 21 17 26.6 +0.5
HCY Herceg Novi 83.75 320⇓*iP* **P** 21 17 26.6 +0.3
WLF Walferdange 83.76 331 P **P** 21 17 27.0 +0.8
WLF *p*max pmax
comp=Z,530nm,1.8s,mb6.4
WLF Walferdange 83.76 331 *eP* **P** 21 17 26.4 +0.2
comp=Z,527nm,1.8s,mb6.4
GMM Mts of Mourne 83.83 340⇑*eP* **P** 21 17 26.5 +0.1
STON Ston 83.85 321⇑*iP* **P** 21 17 25.2 -1.6
GUT Gutenstein 83.86 329⇓*eP* **P** 21 17 27.2 +0.5
GIVF Givet 83.91 332 *eP* **P** 21 17 26.0 -0.9
comp=Z,361nm,1.4s,mb6.0
EYMN Ely 83.94 31⇑*eP* **P** 21 17 26.4 -0.7
comp=Z,391nm,1.2s,mb6.4
EYMN LR LR
comp=Z,716nm,19.0s,MS5.1
SPAK Spaichingen 83.97 329⇓*eP* **P** 21 17 27.9 +0.7
SPAK Spaichingen 83.97 329 *eP* **P** 21 17 26.2 -1.0
BFO Black Forest 83.97 329 *eP* **P** 21 17 26.8 -0.5
BFO *p*max pmax
comp=Z,277nm,1.0s,mb6.3
BFO Black Forest 83.97 329 *eP* **P** 21 17 26.8 -0.5
comp=Z,277nm,1.0s,mb6.3
NVLJ Novalja 83.99 323⇑*iP* **P** 21 17 26.0 -1.5
STR Strasbourg 84.00 330 *eP* **P** 21 17 27.6 +0.2
LKR Lokris 84.01 315 *eP* **P** 21 17 26.3 -1.4
ATH Athens Observa 84.07 314 *eP* **P** 21 17 26.5 -1.5
WME Myndd Eilian 84.12 339⇑*eP* **P** 21 17 27.9 0.0
WME AMb AMB 21 17 30.1
comp=Z,143nm,1.6s,mb5.9
WPM1 Penmaenmawr 84.12 339⇑*eP* **P** 21 17 27.8 -0.1
WPM1 AMb AMB 21 17 30.3
comp=Z,222nm,1.4s,mb6.1
SANT Santorini 84.15 312⇑*eP* **P** 21 17 25.9 -2.5
comp=Z,234nm,1.2s,mb6.2
DAVA Damuels 84.15 328⇑*iP* **P** 21 17 28.0 -0.2
comp=Z,502nm,2.0s,mb6.3
BAIF Baives 84.17 333 *eP* **P** 21 17 27.4 -0.8
comp=Z,236nm,1.3s,mb5.8
WCB1 Church Bay 84.20 339⇑*eP* **P** 21 17 27.5 -0.8
WCB1 AMb AMB 21 17 31.2
comp=Z,196nm,1.8s,mb5.9
SBD Saint Breward 84.24 338⇑*eP* **P** 21 17 29.1 +0.6
WLS Welschbruch 84.30 330 *eP* **P** 21 17 29.0 +0.1
YLL Llanberis 84.30 339⇑*eP* **P** 21 17 28.2 -0.6
CDF Champ du Feu 84.33 330 *eP* **P** 21 17 28.6 -0.5
comp=Z,562nm,1.2s,mb6.3
LTHS Al Lith 84.33 291 P **P** 21 17 30.8 +1.1
CTI Castel Tesino 84.34 326 *eP* **P** 21 17 28.7 -0.5
DMUB Kingscourt 84.39 340 *eP* **P** 21 17 30.0 +0.8

LIBD Limburg 84.41 330‖ *eP* **P 21 17 30.4 +0.9**
LIBD Limburg 84.41 330 *eP* **P 21 17 29.4 -0.1**
KIZ Kirchzarten 84.44 329‖ *eP* **P 21 17 30.0 +0.4**
HLM1 Long Mynd 84.46 338 *eP* **P 21 17 29.5 -0.1**
HLM1 AMb AMB 21 17 33.0
comp=Z,126nm,1.5s,mb5.8
FELD Feldberg 84.47 329‖ *eP* **P 21 17 30.3 +0.5**
MENF Mencas 84.49 334 *eP* **P 21 17 29.6 -0.2**
EVR Evrytania 84.50 316 *eP* **P 21 17 29.2 -0.9**
JAN Janina 84.50 317 *eP* **P 21 17 29.9 -0.3**
YRE Yr Eifl 84.52 339‖ *eP* **P 21 17 29.8 0.0**
YRE AMb AMB 21 17 32.2
comp=Z,210nm,1.4s,mb6.1
ECH Echery 84.53 330 *eP* **P 21 17 29.9 -0.2**
DAVOX Davos 84.55 328 P **P 21 17 31.1 +0.9**
comp=Z,63nm,0.8s,mb5.8,baz=45,slow=2.9,SNR=101
SDCO Great Sand Dun 84.55 46 *eP* **P 21 17 30.9 +0.5**
comp=Z,207nm,1.4s,mb6.1
SDCO LR LR
comp=Z,744nm,20.0s,MS5.1
BRMO Bormio 84.57 327 *eP* **P 21 17 30.6 +0.2**
TSA1 Sevenoaks 84.60 335‖ *eP* **P 21 17 30.9 +0.6**
SSP1 Stoney Pound 84.62 338 *eP* **P 21 17 30.6 +0.2**
HAE Alders End 84.78 337 *eP* **P 21 17 31.5 +0.3**
HAE AMb AMB 21 17 33.5
comp=Z,322nm,1.4s,mb6.3
NPS Neapolis 84.81 311 *eP* **P 21 17 31.3 -0.5**
DLF Lyons Farm 84.83 340 *eP* **P 21 17 32.1 +0.7**
MOF Molkenrain 84.84 330 *eP* **P 21 17 31.1 -0.5**
MCH1 Michaelchurch 84.95 337‖ *eP* **P 21 17 32.4 +0.4**
HTR Trewern Hill 84.96 338 *eP* **P 21 17 32.4 +0.3**
HINF Hinteralfeld 84.98 330 *eP* **P 21 17 31.4 -0.9**
comp=Z,205nm,1.1s,mb5.9
DCN Croghan 84.99 340 *eP* **P 21 17 33.0 +0.8**
THEF They Montfort 84.99 331 *eP* **P 21 17 32.5 +0.1**
BBS Basel-Blauen 85.00 329‖ *eP* **P 21 17 33.0 +0.6**
BBS Basel-Blauen 85.00 329 *eP* **P 21 17 32.0 -0.4**
HAU Haudompre 85.03 330 *eP* **P 21 17 31.7 -0.8**
comp=Z,211nm,1.0s,mb5.9
HAU *eR*
comp=Z,1µm,19.0s
KEK Kerkira 85.03 317 *eP* **P 21 17 32.4 -0.4**
TUC Tucson 85.03 53 P **P 21 17 33.2 +0.2**
TUC Tucson 85.03 53 P **P 21 17 33.1 +0.1**
TUC pmax pmax
comp=Z,96nm,1.2s,mb5.8
TUC Tucson 85.03 53 *eP* **P 21 17 32.9 -0.1**
comp=Z,96nm,1.3s,mb5.8
TUC LR LR
comp=Z,588nm,19.0s,MS5.0
MEZF Maizieres J'vi 85.13 331 *eP* **P 21 17 32.7 -0.3**
comp=Z,578nm,1.2s,mb6.3
SAL Salo 85.18 326 *eP* **P 21 17 33.4 0.0**
FRSS Farasan al Kab 85.19 287 P **P 21 17 35.5 +1.5**
HGH Gray Hill 85.21 337‖ *eP* **P 21 17 33.5 +0.1**
HGH AMb AMB 21 17 35.3
comp=Z,249nm,0.9s,mb6.3
RLS Riolos of Patr 85.29 315 *eP* **P 21 17 33.8 -0.3**
VLI Veliai 85.39 314 *eP* **P 21 17 32.4 -2.2**
HSA Swansea 85.52 338‖ *eP* **P 21 17 35.1 +0.2**
HPE Pembroke 85.54 338‖ *eP* **P 21 17 34.7 -0.3**
SCHQ Schefferville 85.55 15 P **P 21 17 36.0 +1.0**
comp=Z,75nm,0.9s,mb5.9,baz=357,slow=5.3,SNR=53
SCHQ LR LR 21 58 22.4
comp=Z,1µm,19.1s,MS5.3,baz=340,slow=37
VAM Vamos 85.55 312 *eP* **P 21 17 34.8 -0.7**
FGMS Monte Sant'Ang 85.59 321 *eP* **P 21 17 35.5 0.0**
ITM Ithomi 85.65 314 *eP* **P 21 17 34.9 -1.0**
CING Cingoli 85.68 324 *eP* **P 21 17 35.8 -0.1**
VLS Valsamata 85.69 316 *eP* **P 21 17 35.6 -0.5**
ARV Arcevia 85.71 324 *eP* **P 21 17 36.6 +0.6**
VAI Varese 85.74 328 *eP* **P 21 17 35.1 -1.0**
RPZ Rata Peaks 85.85 157 P **P 21 17 37.6 +0.8**
comp=Z,9.8nm,0.8s,mb5.1,baz=5.0,slow=7.3,SNR=4.2
LAZ Ladron 85.89 49 *eP* **P 21 17 37.8 +0.6**
SFI Santa Sofia 85.91 325 *eP* **P 21 17 38.3 +1.2**
ANMO Albuquerque 85.92 48 P **P 21 17 38.1 +0.8**
ANMO pmax pmax
comp=Z,180nm,1.4s
ANMO Albuquerque 85.92 48‖ *eP* **P 21 17 37.8 +0.4**
comp=Z,178nm,1.4s,mb6.1
ANMO LR LR
comp=Z,458nm,19.0s,MS4.9
MCGN Macugnaga 86.00 328 *eP* **P 21 17 37.3 -0.2**
GVD Gavdhos 86.01 312 *eP* **P 21 17 36.7 -1.1**
comp=Z,162nm,0.9s,mb6.3
HEX Exmoor 86.01 337‖ *eP* **P 21 17 37.5 +0.1**
FNVD Fontana Vidola 86.03 325 *eP* **P 21 17 39.7 +2.0**
CRE Caprese Michel 86.08 324 *eP* **P 21 17 38.7 +0.8**
GSCL Gusciola 86.13 326 *eP* **P 21 17 39.0 +0.8**
LENM Lemitar 86.15 49 *eP* **P 21 17 39.8 +1.3**
ERBM Eremo 86.16 326 *eP* **P 21 17 39.7 +1.4**
PMOR Pomariorio Ree 86.22 112 *eP* **P 21 17 40.2 +1.0**
comp=Z,136nm,1.1s,mb6.1
FG4 Candela 86.23 321 *eP* **P 21 17 39.7 +1.0**
OG01 Vacheresse 86.25 329 *eP* **P 21 17 38.6 -0.1**
LPM Los Pinos Moun 86.25 49 *eP* **P 21 17 39.5 +0.5**
GRAM 86.26 326 P **P 21 17 38.4 -0.4**
CABF La Chapelle 86.26 330 *eP* **P 21 17 38.0 -0.7**
comp=Z,226nm,1.3s,mb5.9
ORX Oropa 86.26 328 P **P 21 17 37.5 -1.3**
VALM 86.29 326 P **P 21 17 38.3 -0.6**
SARO Sassorosso 86.35 326 P **P 21 17 37.8 -1.4**
BDI Bagni Di Lucca 86.35 325 *eP* **P 21 17 38.9 -0.3**
AQU L'Aquila 86.36 323 P **P 21 17 39.1 -0.2**
AQU pmax pmax
comp=Z,200nm,1.1s,mb6.3
AQU L'Aquila 86.36 323 *eP* **P 21 17 40.0 +0.7**
BNM Barren Site 86.37 49 *eP* **P 21 17 39.6 0.0**
INTR Introdacqua 86.37 322 *eP* **P 21 17 39.5 +0.1**
VLC Villacollemand 86.37 326 *eP* **P 21 17 38.9 -0.5**
comp=Z,72nm,1.2s,mb5.8
CII Carovilli 86.39 322 *eP* **P 21 17 39.6 +0.1**
BACM 86.42 326 P **P 21 17 39.4 -0.2**
CODM 86.43 326 P **P 21 17 38.8 -0.9**
TRAV 86.46 328 P **P 21 17 39.7 0.0**
VINC Vinca 86.49 326 P **P 21 17 39.0 -0.9**
MAIM 86.52 325 P **P 21 17 38.5 -1.6**
MRLC Muro Lucano 86.53 321 *eP* **P 21 17 40.0 -0.2**
ORI Oriolo Calabro 86.55 320 *eP* **P 21 17 40.8 +0.5**
LOR Lormes 86.60 331 *eP* **P 21 17 39.5 -0.9**
comp=Z,367nm,1.1s,mb6.2
LOR *eR*
comp=Z,2µm,17.0s
PTQR Pietraquaria 86.61 323 *eP* **P 21 17 40.4 -0.1**
MNS Montasola 86.68 323 *eP* **P 21 17 40.0 -0.9**
SLCN Sala Consilina 86.73 320 *eP* **P 21 17 41.3 +0.2**
LSD Ceresole Reale 86.75 328 P **P 21 17 42.0 +0.9**
SGO Sicignano 86.77 320 *eP* **P 21 17 41.0 -0.3**
RSL Roselend 86.79 329 *eP* **P 21 17 41.0 -0.3**
TIAR Tiarei 86.80 115 *eP* **P 21 17 43.3 +1.3**
comp=Z,251nm,1.1s,mb6.4
GENL Genova Univers 86.81 327 P **P 21 17 39.8 -1.7**
RFI Roccamonfina 86.87 322 *eP* **P 21 17 41.6 -0.3**
LPL La Plagne 86.88 328 *eP* **P 21 17 41.4 -0.4**
comp=Z,160nm,1.4s,mb5.8
LPG La Plagne 86.89 328 *eP* **P 21 17 41.3 -0.5**
PCP Pian Castagno 86.89 327 P **P 21 17 41.0 -0.9**
GRFL Gerfalco 86.89 325 *eP* **P 21 17 41.4 -0.5**
TDS Terranova Siba 86.91 319 *eP* **P 21 17 42.5 +0.4**
SSF Saint Saulge 86.91 331 *eP* **P 21 17 41.1 -0.8**
comp=Z,187nm,1.0s,mb6.0
FLN La Foliniere 86.93 334 *eP* **P 21 17 41.0 -0.9**
comp=Z,266nm,1.2s,mb6.0
FLN *eR*
comp=Z,2µm,18.0s
LDF La Druitiere 86.95 334 *eP* **P 21 17 41.1 -0.9**
comp=Z,196nm,1.0s,mb6.0
RSP Reno Superiore 86.95 328 P **P 21 17 40.3 -1.8**
MGR Morigerati 86.95 320 *eP* **P 21 17 41.4 -0.9**
CSA1 St Austell 86.97 338‖ *eP* **P 21 17 42.1 +0.1**
CBKS Cedar Bluff 86.97 42 P **P 21 17 42.9 +0.5**
CBKS pmax pmax
comp=Z,290nm,1.2s,mb6.4
CBKS Cedar Bluff 86.97 42 *eP* **P 21 17 42.3 -0.1**
comp=Z,291nm,1.3s,mb6.3
CBKS LR LR
comp=Z,729nm,21.0s,MS5.1
OG05 Jujurieux 86.98 330 *eP* **P 21 17 42.1 -0.1**
TVO Taravao 87.02 115 *eP* **P 21 17 44.6 +1.5**
comp=Z,244nm,1.1s,mb6.3
HYF Humbligny 87.06 332 *eP* **P 21 17 42.4 -0.2**
comp=Z,729nm,1.2s,mb6.5

SMF Signal de Mont 87.12 331 *eP* **P 21 17 42.1 -0.8**
comp=Z,304nm,1.5s,mb6.0
FENE Fenestrelle 87.13 328 P **P 21 17 41.8 -1.2**
BHB Bricherasio 87.20 328 P **P 21 17 41.8 -1.6**
CRQ2 Rosemanowes 2 87.22 338 *eP* **P 21 17 43.5 +0.1**
CCA1 Carnmenellis 87.22 338 *eP* **P 21 17 42.8 -0.5**
BNI Bardonecchia 87.28 328 P **P 21 17 44.1 +0.4**
BNI pmax pmax
comp=Z,34nm,1.1s,mb5.5
BNI Bardonecchia 87.28 328 *eP* **P 21 17 43.7 0.0**
comp=Z,34nm,1.1s,mb5.5
CGW Gweek 87.29 338‖ *eP* **P 21 17 43.6 -0.1**
FIN Finale Ligure 87.30 327 P **P 21 17 41.8 -2.0**
CGH1 Goonhilly 87.32 338‖ *eP* **P 21 17 43.5 -0.3**
RRL Cesana Torines 87.34 328 P **P 21 17 44.0 0.0**
GRR Gorron 87.38 334 *eP* **P 21 17 43.6 -0.5**
comp=Z,437nm,1.2s,mb6.3
ROB Roburent 87.38 327 P **P 21 17 42.4 -1.8**
RORO 87.44 327 P **P 21 17 42.8 -1.7**
GRI Girifalco 87.48 319 *eP* **P 21 17 45.3 +0.4**
MBDF Montbardon 87.50 328 *eP* **P 21 17 43.5 -1.3**
comp=Z,69nm,1.1s,mb5.5
PZZ Prazzo 87.54 328 P **P 21 17 42.5 -2.5**
BGF Bois d'Agland 87.58 331 *eP* **P 21 17 44.4 -0.7**
comp=Z,143nm,1.4s,mb5.7
MONE Monesi 87.60 327 P **P 21 17 42.2 -3.0**
ENR Entracque 87.63 327 P **P 21 17 42.5 -2.9**
STV2 Anna di Valdie 87.65 327 P **P 21 17 43.7 -1.9**
STV Sta Anna Valdi 87.65 327 P **P 21 17 43.5 -2.1**
IMI Imperia 87.68 327 *eP* **P 21 17 45.2 -0.5**
ORIF Oris-en-Rattie 87.72 329 *eP* **P 21 17 45.0 -0.8**
comp=Z,90nm,1.2s,mb5.6
ORIF *eR*
comp=Z,2µm,17.8s
SAOF Saorge 87.76 327 *eP* **P 21 17 44.5 -1.6**
NEGI Negi 87.81 327 P **P 21 17 42.5 -3.8**
AUTN L'Aution 87.81 327 *eP* **P 21 17 43.9 -2.4**
TOUF Mont Tournerai 87.87 327 *eP* **P 21 17 45.0 -1.6**
SBF Sospel 87.91 327 *eP* **P 21 17 45.2 -1.6**
comp=Z,83nm,0.9s,mb5.7
AURF Auriere 87.94 327 *eP* **P 21 17 43.4 -3.5**
TCF Toulx Ste Croi 88.05 332 *eP* **P 21 17 46.8 -0.6**
comp=Z,285nm,1.5s,mb6.0
SGMF Saint Gilles 88.07 335 *eP* **P 21 17 47.0 -0.4**
comp=Z,321nm,1.2s,mb6.1
COLF Collangettes 88.11 330 *eP* **P 21 17 47.8 +0.1**
PYM Petit Puy Mans 88.19 331 *eP* **P 21 17 47.6 -0.5**
SOI Samo 88.23 318 *eP* **P 21 17 48.2 -0.3**
ROSF Rostrenen 88.23 336 *eP* **P 21 17 47.8 -0.4**
comp=Z,526nm,1.3s,mb6.3
PGF Pioggiola 88.27 325 *eP* **P 21 17 47.3 -1.2**
comp=Z,90nm,1.0s,mb5.7
VIVF Saint-Julien-l 88.27 329 *eP* **P 21 17 47.6 -0.9**
comp=Z,59nm,0.9s,mb5.5
KSU1 Kansas State U 88.39 40 *eP* **P 21 17 48.1 -1.1**
JFWS Jewell Farm 88.47 34 P **P 21 17 49.4 -0.1**
JFWS pmax pmax
comp=Z,210nm,1.2s,mb6.2
JFWS Jewell Farm 88.47 34‖ *eP* **P 21 17 48.6 -0.8**
comp=Z,209nm,1.2s,mb6.2
JFWS LR LR
comp=Z,1µm,21.0s,MS5.3
MTTG Motta San Giov 88.47 319 *eP* **P 21 17 49.6 0.0**
FRF La Foret Royal 88.49 327 *eP* **P 21 17 48.1 -1.5**
comp=Z,184nm,1.5s,mb5.8
LBL Lubilhac 88.53 330 *eP* **P 21 17 49.5 -0.2**
SMRF Simiane la Rot 88.61 328 *eP* **P 21 17 49.3 -0.8**
MFF Saint Martin d 88.65 333 *eP* **P 21 17 49.9 -0.4**
comp=Z,334nm,1.4s,mb6.2
LMR La Mourre 88.74 327 *eP* **P 21 17 49.4 -1.4**
comp=Z,240nm,1.4s,mb6.0
AMTX Amarillo 88.75 46 *eP* **P 21 17 51.0 0.0**
comp=Z,146nm,1.1s,mb6.2
CPRX Cap Rock 88.80 48 *eP* **P 21 17 51.6 +0.3**
GDL2 Guadalupe Moun 89.08 49 *eP* **P 21 17 52.6 -0.1**
RJF Les Rejaudoux 89.14 331 *eP* **P 21 17 52.2 -0.4**
comp=Z,228nm,1.4s,mb6.0
RJF *eR*
comp=Z,2µm,18.0s
LASF Ste Croix 89.24 329 *eP* **P 21 17 52.4 -0.7**
comp=Z,170nm,1.6s,mb5.8
USI Ustica 89.24 321 *eP* **P 21 17 52.4 -0.9**
CAF Calviac 89.24 331 *eP* **P 21 17 52.9 -0.2**
comp=Z,123nm,1.2s,mb5.8
AGST Augusta-Monte 89.27 318 *eP* **P 21 17 53.0 -0.5**
CLNB Carlsbad 89.33 49 *eP* **P 21 17 54.3 +0.5**
VAE Valguarnera 89.54 319 P **P 21 17 54.6 -0.1**
comp=Z,3.5nm,0.5s,mb5.0,baz=107,slow=2.7,SNR=2.6
MEU Monte Lauro 89.55 318 *eP* **P 21 17 55.6 +0.8**
LFF La Frestale 89.74 332 *eP* **P 21 17 55.2 -0.3**
comp=Z,127nm,1.0s,mb5.9
LVI Isola Levanzo 90.22 321 *eP* **P 21 17 57.4 -0.5**
WMOK Wichita Mounta 90.49 44 P **P 21 17 59.4 +0.2**
WMOK pmax pmax
comp=Z,130nm,1.3s,mb6.1
WMOK Wichita Mounta 90.49 44 *eP* **P 21 17 58.6 -0.6**
comp=Z,134nm,1.4s,mb6.1
WMOK LR LR
comp=Z,741nm,19.0s,MS5.1
VSL Villasalto 90.50 323 *eP* **P 21 17 57.5 -1.6**
comp=Z,18nm,0.9s,mb5.4
MTLF Montolieu 90.51 330 *eP* **P 21 17 58.6 -0.5**
comp=Z,168nm,1.3s,mb5.9
EJON La Jonquera 90.98 329 P **P 21 18 01.1 -0.1**
comp=Z,29nm,1.0s,mb5.6
FILF Fillols 91.02 329 *eP* **P 21 18 01.8 +0.4**
MLS Moulis 91.28 330 *eP* **P 21 18 03.0 +0.4**
SADO Sadowa 91.32 26 P **P 21 18 03.3 +0.6**
comp=Z,47nm,1.1s,mb5.8,baz=343,slow=5.9,SNR=14
VALF Valcebollere 91.38 330 *eP* **P 21 18 03.7 +0.6**
MELF Melles 91.48 331 *eP* **P 21 18 03.4 -0.1**
EPF Esparros 91.51 331 *eP* **P 21 18 02.9 -0.8**
comp=Z,88nm,1.2s,mb5.7
LTX Lajitas 91.52 51 P **P 21 18 04.3 +0.2**
LTX pmax pmax
comp=Z,110nm,1.3s,mb6.0
LTX Lajitas 91.52 51 *eP* **P 21 18 03.0 -1.0**
comp=Z,115nm,1.4s,mb6.0
LTX LR LR
comp=Z,550nm,19.0s,MS5.0
TXAR Lajitas Array 91.52 51 P **P 21 18 04.7 +0.7**
comp=Z,24nm,0.9s,mb5.5,baz=292,slow=3.1,SNR=176
TXAR PP PP 21 21 42.1 -2.7
comp=Z,3.6nm,1.1s,baz=307,slow=6.3,SNR=4.9
TXAR PKKPbc 21 35 25.0
comp=Z,0.4nm,0.5s,baz=151,slow=6.5,SNR=13
TXAR Lajitas Array 91.52 51 P **P 21 18 04.7 +0.7**
TXAR PP PP 21 21 42.1 -2.7
TXAR PKKPbc 21 35 25.0
RESF Ens 91.70 331 *eP* **P 21 18 05.7 +1.2**
AAM Ann Arbor 91.74 30 P **P 21 18 06.2 +1.4**
AAM pmax pmax
comp=Z,250nm,1.5s,mb6.3
AAM Ann Arbor 91.74 30 *eP* **P 21 18 06.0 +1.3**
comp=Z,249nm,1.5s,mb6.3
AAM LR LR
comp=Z,876nm,19.0s,MS5.2
VIEF Viey 91.76 331 *eP* **P 21 18 05.2 +0.4**
CCM Cathedral Cave 91.86 37 P **P 21 18 04.2 -1.2**
CCM pmax pmax
comp=Z,200nm,1.2s,mb6.3
CCM Cathedral Cave 91.86 37 *eP* **P 21 18 04.8 -0.6**
comp=Z,199nm,1.3s,mb6.3
CCM LR LR
comp=Z,161nm,20.0s,MS4.5
EBIE Bielsa 91.88 331 P **P 21 18 06.1 +0.7**
comp=Z,32nm,1.1s,mb5.6
SLM Saint Louis 91.88 36 P **P 21 18 06.5 +1.0**
SLM pmax pmax
comp=Z,290nm,1.3s,mb6.5
SLM Saint Louis 91.88 36 *eP* **P 21 18 06.0 +0.5**
comp=Z,290nm,1.4s,mb6.4
ETSF Etsaut 91.97 331 *eP* **P 21 18 05.8 0.0**
comp=Z,77nm,1.1s,mb5.7
EMIR Miracle 91.98 330 P **P 21 18 05.4 -0.4**
comp=Z,19nm,0.7s,mb5.5
SJPF Ste Jean 92.03 332 *eP* **P 21 18 06.1 0.0**
comp=Z,47nm,1.1s,mb5.4
FVM French Village 92.31 37 P **P 21 18 07.7 +0.2**
FVM pmax pmax
comp=Z,160nm,1.3s,mb6.2
FVM French Village 92.31 37‖ *eP* **P 21 18 06.9 -0.6**
comp=Z,157nm,1.4s,mb6.2
MSNY Massena 92.53 23 *eP* **P 21 18 08.8 +0.5**
EPOB Poblet 92.64 330 P **P 21 18 08.6 -0.3**

comp=Z,28nm,0.8s,mb5.7
ELAN Lanestosa 92.74 333 P **P 21 18 09.3 0.0**
comp=Z,17nm,1.1s,mb5.4
ESAC San Caprasio 92.94 331 P **P 21 18 10.7 +0.4**
comp=Z,62nm,0.8s,mb6.1
LOZ Lake Ozonia 92.96 23 *eP* **P 21 18 11.4 +1.1**
JCT Junction City 93.03 48 P **P 21 18 11.2 +0.2**
JCT pmax pmax
comp=Z,150nm,1.2s,mb6.3
JCT Junction City 93.03 48 *eP* **P 21 18 10.3 -0.6**
comp=Z,150nm,1.2s,mb6.3
JCT LR LR
comp=Z,528nm,19.0s,MS5.0
BLO Bloomington 93.14 34 P **P 21 18 11.8 +0.5**
BLO pmax pmax
comp=Z,130nm,1.3s,mb6.2
BLO Bloomington 93.14 34 *eP* **P 21 18 11.2 -0.1**
comp=Z,128nm,1.3s,mb6.2
EBR Ebro Roquetas 93.32 330 *eP* **P 21 18 12.4 +0.3**
MIAR Mount Ida 93.44 41 P **P 21 18 13.1 +0.4**
MIAR pmax pmax
comp=Z,150nm,1.1s,mb6.3
MIAR Mount Ida 93.44 41 *eP* **P 21 18 12.4 -0.4**
comp=Z,146nm,1.2s,mb6.3
MIAR LR LR
comp=Z,974nm,20.0s,MS5.3
GENY Geneseo 93.53 26 *eP* **P 21 18 13.8 +0.8**
NCB Newcomb 93.66 23 *eP* **P 21 18 14.2 +0.6**
comp=Z,123nm,1.4s,mb6.2
NCB LR LR
comp=Z,1µm,22.0s,MS5.3
ALLY Alegheny Colle 93.66 28 *eP* **P 21 18 14.4 +0.8**
ACSO Alum Creek Sta 93.76 31 *eP* **P 21 18 13.9 -0.2**
comp=Z,94nm,1.0s,mb6.2
ACSO LR LR
comp=Z,1µm,20.0s,MS5.3
EPON Pontenova 93.93 336 P **P 21 18 13.8 -1.0**
comp=Z,27nm,0.9s,mb5.7
WCI Wyandotte Cave 94.02 34 P **P 21 18 16.5 +1.2**
WCI pmax pmax
comp=Z,100nm,1.0s,mb6.2
WCI Wyandotte Cave 94.02 34 *eP* **P 21 18 15.0 -0.4**
comp=Z,100nm,1.0s,mb6.2
WCI LR LR
comp=Z,278nm,20.0s,MS4.7
EMOS Mosqueruela 94.10 330 P **P 21 18 16.3 +0.6**
comp=Z,8.5nm,1.6s,mb4.9
HBAR Harrisburg 94.13 38 *eP* **P 21 18 16.8 +0.9**
GLAT Glass 94.23 37 *eP* **P 21 18 16.8 +0.4**
ETOR Torete 94.32 331 P **P 21 18 17.2 +0.6**
comp=Z,6.3nm,0.8s,mb5.1
ACCN Adirondack Com 94.36 23 *eP* **P 21 18 17.2 +0.5**
UTMT University of 94.37 37 *eP* **P 21 18 17.9 +0.9**
comp=Z,231nm,1.1s,mb6.5
WVL Waterville 94.46 20 PFAKE 21 18 30.0 +13
WVL LR LR
comp=Z,7µm,22.0s,MS6.0
EIBI Ibiza 94.49 328 P **P 21 18 16.9 -0.6**
comp=Z,16nm,1.2s,mb5.3
BINY Binghamton 94.67 25 PFAKE 21 18 30.0 +12
BINY LR LR
comp=Z,1µm,20.0s,MS5.4
ERUA La Rua 94.76 335 P **P 21 18 15.5 -3.1**
comp=Z,8.6nm,0.8s,mb5.2
MET Memphis--Engin 94.83 38 *eP* **P 21 18 19.9 +0.7**
NATX Nacogdoches 95.00 43 *eP* **P 21 18 20.9 +0.9**
comp=Z,58nm,1.2s,mb5.9
NATX LR LR
comp=Z,786nm,20.0s,MS5.2
ECAL Calabor 95.03 335 P **P 21 18 19.7 -0.1**
comp=Z,16nm,1.2s,mb5.3
WVT Waverly 95.03 36 *eP* **P 21 18 19.7 -0.4**
comp=Z,60nm,1.0s,mb6.0
WVT LR LR
comp=Z,734nm,19.0s,MS5.2
SSPA Standing Stone 95.38 27 *eP* **P 21 18 22.3 +0.8**
comp=Z,20nm,0.9s,mb5.5
SSPA LR LR
comp=Z,213nm,20.0s,MS4.6
EBEN Beniarda 95.41 329 P **P 21 18 21.3 -0.4**
comp=Z,8.8nm,0.8s,mb5.2
MCWV Mont Chateau 95.50 29 *eP* **P 21 18 21.2 -0.9**
comp=Z,42nm,1.0s,mb5.8
MCWV LR LR
comp=Z,1µm,19.0s,MS5.4
OXF Oxford 95.58 38 P **P 21 18 23.1 +0.5**
OXF pmax pmax
comp=Z,150nm,1.1s,mb6.3
OXF Oxford 95.58 38 *eP* **P 21 18 22.7 +0.1**
comp=Z,146nm,1.1s,mb6.3
OXF LR LR
comp=Z,657nm,19.0s,MS5.1
HKT Hockley 95.72 45 P **P 21 18 24.1 +0.8**
HKT Hockley 95.72 45 P **P 21 18 23.3 -0.1**
HKT LR LR
comp=Z,171nm,19.0s,MS4.5
HRV Harvard--Oak R 95.81 22 PFAKE 21 18 40.0 +17
HRV LR LR
comp=Z,622nm,20.0s,MS5.1
WES Weston 95.99 22 PFAKE 21 18 40.0 +16
WES LR LR
comp=Z,2µm,22.0s,MS5.5
ESDC Sonseca Array 96.04 332 P **P 21 18 24.4 -0.2**
comp=Z,3.3nm,0.8s,mb4.8,baz=21,slow=4.6,SNR=12
ESDC PP PP 21 22 23.0 +3.4
comp=Z,1.2nm,0.7s,baz=35,slow=7.2,SNR=4.5
ESDC LR LR 22 02 38.1
comp=Z,880nm,19.4s,MS5.2,baz=355,slow=36
ESDC Sonseca Array 96.04 332 P **P 21 18 23.3 -1.3**
comp=Z,7.1nm,0.8s,mb5.2
LUPA Lehigh Univers 96.30 26 *eP* **P 21 18 25.8 +0.1**
EVIA Vianos 96.38 331 P **P 21 18 25.5 -0.6**
comp=Z,20nm,0.8s,mb5.6
EMUR La Murta 96.56 329 P **P 21 18 25.7 -1.3**
comp=Z,12nm,0.8s,mb5.4
SWET Sewanee 96.67 35 *eP* **P 21 18 26.7 -0.8**
FWV Forest Hill 96.90 31 *eP* **P 21 18 28.7 +0.2**
PWV Princeton 97.02 31 *eP* **P 21 18 29.8 +0.7**
CPCT Cooper Cave 97.12 34 *eP* **P 21 18 32.3 +2.8**
ELN Prospectdale 97.23 31 *eP* **P 21 18 30.5 +0.5**
EQES Quesada 97.33 330 P **P 21 18 30.2 -0.3**
comp=Z,13nm,0.9s,mb5.3
BLA Blacksburg 97.38 31 P **P 21 18 31.6 +0.9**
BLA pmax pmax
comp=Z,160nm,1.8s,mb6.2
BLA Blacksburg 97.38 31 *eP* **P 21 18 31.0 +0.4**
comp=Z,162nm,1.8s,mb6.2
BLA LR LR
comp=Z,945nm,19.0s,MS5.3
EADA Adamuz 97.59 332 P **P 21 18 31.6 +0.1**
comp=Z,8.4nm,1.2s,mb5.2
CBN Corbin 97.70 28 PFAKE 21 18 40.0 +7.9
CBN LR LR
comp=Z,2µm,20.0s,MS5.6
LRAL Lakeview Retre 97.95 37 PFAKE 21 18 40.0 +6.7
LRAL LR LR
comp=Z,1µm,20.0s,MS5.3
EBAD Badajoz 97.96 334 P **P 21 18 32.2 -1.1**
comp=Z,4.9nm,0.7s,mb5.2
ELUQ Luque 98.00 331 P **P 21 18 33.7 +0.3**
comp=Z,9.7nm,1.0s,mb5.3
EBER Berja 98.04 330 P **P 21 18 32.2 -1.4**
comp=Z,9.3nm,0.8s,mb5.4
ERON Agron 98.30 331 P **P 21 18 34.2 -0.6**
comp=Z,17nm,1.1s,mb5.5
ELOJ Sierra Loja 98.32 331 P **P 21 18 34.3 -0.6**
comp=Z,11nm,1.2s,mb5.3
EMIN Mina Concepcio 98.72 333 P **P 21 18 35.4 -1.3**
comp=Z,7.2nm,0.9s,mb5.2
EMIJ Mijas 98.07 331 P **P 21 18 36.1 -2.2**
comp=Z,9.5nm,1.0s,mb5.3
ESPR Espera 99.21 332 P **P 21 18 38.0 -0.9**
comp=Z,8.7nm,1.2s,mb5.2
KMBO Kilima Mbogo 99.88 276 P **P 21 18 42.7 +0.1**
comp=Z,2.6nm,0.8s,baz=27,slow=5.6,SNR=11
KMBO PP PP 21 22 46.5 -3.5
comp=Z,0.9nm,0.9s,baz=18,slow=8.9,SNR=5.8
KMBO Kilima Mbogo 99.88 276 *e*Pdif **P 21 18 41.7 -0.9**
comp=Z,5.3nm,1.1s,mb4.9
KMBO LR LR
comp=Z,530nm,19.0s,MS5.1
NHSC New Hope 101.01 33 PFAKE 21 19 00.0 +13
NHSC LR LR
comp=Z,994nm,19.0s,MS5.3
DWPF Disney 104.69 36 PFAKE 21 19 20.0 +16
DWPF LR LR
comp=Z,340nm,22.0s,MS4.8

CASY	**Casey**	**105.61**	**191**	PFAKE			21 23 30.0	
CASY				LR	LR			
	comp=Z,326nm,19.0s,MS4.9							
LSZ	**Lusaka**	**115.42**	**270**	PKIKP	PKPdf		21 23 39.4	-2.9
LSZ	**Lusaka**	**115.42**	**270**	*eP*	PKPdf		21 23 38.9	-3.4
VNDA	**Vanda**	**115.50**	**175**	PKP	PKPdf		21 23 37.5	-3.7
	comp=Z,3.0nm,0.8s,baz=295,slow=3.5,SNR=21							
VNDA				PKKPbc			21 34 13.0	
	comp=Z,1.5nm,1.1s,baz=192,slow=3.8,SNR=4.8							
VNDA	**Vanda**	**115.50**	**175**	PKIKP	PKPdf		21 23 37.5	-3.7
VNDA							21 34 13.0	
VNDA				pmax	pmax			
	comp=Z,3.0nm,0.8s							
SBA	**Scott Base**	**116.22**	**174**	PKIKP	PKPdf		21 23 39.9	-2.7
SBA	**Scott Base**	**116.22**	**174**	PKP	PKPdf		21 23 39.7	-2.9
MAW	**Mawson**	**118.97**	**205**	PKP	PKPdf		21 23 44.4	-3.6
	comp=Z,13nm,1.0s,baz=6.0,slow=2.1,SNR=19							
MAW				PKKPbc			21 34 00.3	
	comp=Z,3.9nm,0.8s,baz=256,slow=6.0,SNR=8.2							
SJG	**San Juan**	**120.00**	**28**	PKP	PKPdf		21 23 47.4	-3.6
	comp=Z,12nm,0.9s,baz=332,slow=18,SNR=4.0							
SJG	**San Juan**	**120.00**	**28**	PKIKP	PKPdf		21 23 47.4	-3.7
SJG				pmax	pmax			
	comp=Z,12nm,0.9s							
DBIC	**Dimbokro**	**124.60**	**314**	PKP	PKPdf		21 23 56.3	-3.9
	comp=Z,22nm,0.8s,baz=31,slow=2.8,SNR=23							
DBIC				PP	PP		21 25 44.8	-2.8
	comp=Z,14nm,1.1s,baz=6.8,slow=8.4,SNR=3.5							
DBIC	**Dimbokro**	**124.60**	**314**	PKIKP	PKPdf		21 23 56.3	-4.0
DBIC							21 25 44.8	
DBIC				pmax	pmax			
	comp=Z,22nm,0.9s							
DBIC				pmax	pmax			
	comp=Z,14nm,1.1s							
TIC	**Toumodi**	**124.71**	**315**	⇑*i*PKIKP	PKPdf		21 23 56.7	-3.8
	comp=Z,192nm,1.2s							
TIC	**Toumodi**	**124.71**	**315**	*eP*	PP		21 25 39.7	-8.5
	comp=Z,75nm,1.1s							
KIC	**Kosan Boka**	**124.78**	**314**	⇑*i*PKIKP	PKPdf		21 23 56.8	-3.8
	comp=Z,142nm,0.9s							
KIC	**Kosan Boka**	**124.78**	**314**	*eP*	PP		21 25 40.3	-8.4
	comp=Z,173nm,1.4s							
LIC	**Lamto**	**125.06**	**314**	*e*PKIKP	PKPdf		21 23 57.4	-3.7
	comp=Z,106nm,1.1s							
LIC	**Lamto**	**125.06**	**314**	⇑*i*PKIKP	PKPdf		21 23 57.3	-3.8
	comp=Z,127nm,1.1s							
LIC	**Lamto**	**125.06**	**314**	*eP*	PP		21 25 43.0	-7.4
	comp=Z,72nm,1.2s							
SDV	**Santo Domingo**	**126.34**	**37**	*e*PKPdf	PKPdf		21 23 59.6	-3.9
QSPA	**South Pole Qui**	**127.12**	**180**	⇓*i*P	PKPdf		21 24 00.2	-3.1
SYO	**Syowa Base**	**127.59**	**207**	⇑PKPdf	PKPdf		21 24 01.5	-3.0
OTAV	**Otavalo**	**129.15**	**51**	*e*PKPdf	PKPdf		21 24 07.9	-1.1
SNAA	**Sanae**	**140.46**	**198**		PKPdf		21 24 19.1	-9.3
SNAA	**Sanae**	**140.46**	**198**	⇑*i*	PKPdf		21 24 22.0	-6.4
SNAA	**Sanae**	**140.46**	**198**	⇑*i*	PKPdf		21 24 24.3	-4.1
SNAA	**Sanae**	**140.46**	**198**	⇑*i*	PKPdf		21 24 26.3	-2.1
SNAA	**Sanae**	**140.46**	**198**	⇑*i*	PKPdf		21 24 28.0	-0.4
SNAA	**Sanae**	**140.46**	**198**	⇑*i*	PP		21 27 22.4	-4.8
SNAA	**Sanae**	**140.46**	**198**	PKHKP			21 24 16.1	
SNAA	**Sanae**	**140.46**	**198**	⇑*i*P	PKPdf		21 24 15.1	-13
SNAA				⇑*i*P			21 24 24.3	
SNAA				⇑*i*P			21 24 26.3	
VNA2	**Neumayer--Watz**	**142.06**	**197**	⇑*i*	PKPdf		21 24 28.2	-2.9
VNA2	**Neumayer--Watz**	**142.06**	**197**	⇑*i*	PKPdf		21 24 31.5	+0.4
VNA2	**Neumayer--Watz**	**142.06**	**197**	⇑*i*	PKPdf		21 24 33.4	+2.3
VNA2	**Neumayer--Watz**	**142.06**	**197**	⇑*i*	PKPdf		21 24 34.7	+3.6
VNA2	**Neumayer--Watz**	**142.06**	**197**	⇑*i*	PKPdf		21 24 36.6	+5.5
VNA2	**Neumayer--Watz**	**142.06**	**197**		PP		21 27 31.8	-4.9
VNA2	**Neumayer--Watz**	**142.06**	**197**	⇓*i*P	PKPdf		21 24 25.9	-5.2
VNA2				⇑*i*P			21 24 28.2	
VNA2				⇑*i*P			21 24 31.5	
VNA3	**Neumayer Olymp**	**142.35**	**196**	⇑*i*	PKPdf		21 24 29.2	-2.4
VNA3	**Neumayer Olymp**	**142.35**	**196**	⇑*i*	PKPdf		21 24 32.6	+1.0
VNA3	**Neumayer Olymp**	**142.35**	**196**	⇓*i*	PKPdf		21 24 34.4	+2.8
VNA3	**Neumayer Olymp**	**142.35**	**196**	⇑*i*	PKPdf		21 24 35.8	+4.2
VNA3	**Neumayer Olymp**	**142.35**	**196**	⇑*i*	PKPdf		21 24 38.0	+6.4
VNA3	**Neumayer Olymp**	**142.35**	**196**	⇑*i*	PP		21 27 31.9	-6.5
VNA3	**Neumayer Olymp**	**142.35**	**196**	⇑*i*P	PKPdf		21 24 26.3	-5.3
VNA3				⇑*i*P			21 24 29.2	
VNA3				⇑*i*P			21 24 32.6	
VNA1	**Neumayer--Stat**	**142.46**	**197**	⇑*i*	PKPdf		21 24 30.2	-1.6
VNA1	**Neumayer--Stat**	**142.46**	**197**	⇑*i*	PKPdf		21 24 33.5	+1.7
VNA1	**Neumayer--Stat**	**142.46**	**197**	⇑*i*	PKPdf		21 24 35.5	+3.7
VNA1	**Neumayer--Stat**	**142.46**	**197**	⇑*i*	PKPdf		21 24 36.9	+5.1
VNA1	**Neumayer--Stat**	**142.46**	**197**	⇑*i*	PKPdf		21 24 39.2	+7.4
VNA1	**Neumayer--Stat**	**142.46**	**197**	⇑*i*	PP		21 27 36.8	-3.3
VNA1	**Neumayer--Stat**	**142.46**	**197**	⇓*i*P	PKPdf		21 24 27.6	-4.2
VNA1				⇑*i*P			21 24 30.2	
SAML	**Samuel**	**145.39**	**41**	*e*PKP	PKPdf		21 24 34.7	-3.9
ARE	**Arequipa**	**146.10**	**60**	⇓*i*P	PKPbc		21 24 39.2	+2.4
RCBR	**Riachuelo**	**148.23**	**350**	*e*PKPbc	PKPdf		21 24 43.6	+0.3
LPAZ	**La Paz**	**148.25**	**56**	PKP	PKPdf		21 24 40.9	-2.3
	comp=Z,36nm,0.8s,baz=9.2,slow=2.2,SNR=15							
LPAZ				PKPbc	PKPdf		21 24 44.5	+1.4
	comp=Z,57nm,1.0s,baz=340,slow=3.7,SNR=62							
LPAZ	**La Paz**	**148.25**	**56**	PKPdf	PKPdf		21 24 42.0	-1.2
LPAZ	**La Paz**	**148.25**	**56**	PKIKP	PKPdf		21 24 40.9	-2.3
LPAZ							21 24 44.6	
LPAZ				pmax	pmax			
	comp=Z,36nm,0.8s							
LPAZ				pmax	pmax			
	comp=Z,57nm,1.0s							
PMSA	**Palmer Station**	**149.40**	**161**	PKPdf	PKPdf		21 24 40.3	-3.3
LVC	**Limon Verde**	**151.96**	**66**	*e*PKPbc	PKPdf		21 24 52.9	+4.2
PEL	**Peldehue**	**155.58**	**89**	*eP*	PKPab		21 25 17.1	-0.9
FCH	**Farellones**	**155.95**	**89**	*eP*	PKPab		21 25 20.0	+0.3
BAO	**Brasilia Array**	**157.51**	**17**	PKP	PKPdf		21 24 54.5	-1.9
BAO				*i*			21 25 27.2	
BAO				*e*			21 25 35.2	
BDFB	**Brasilia**	**157.51**	**17**	PKP	PKPdf		21 24 54.3	-2.1
	comp=Z,17nm,1.0s,baz=58,slow=0.8,SNR=13							
BDFB				PKPab	PKPab		21 25 26.6	-0.1
	comp=Z,65nm,0.9s,baz=355,slow=3.5,SNR=31							
CPUP	**Villa Florida**	**162.43**	**56**	PKP	PKPdf		21 24 58.6	-2.9
	comp=Z,5.2nm,1.0s,baz=48,slow=3.3,SNR=4.6							
CPUP				PKPab	PKPab		21 25 47.2	-0.5
	comp=Z,14nm,1.0s,baz=291,slow=3.3,SNR=7.6							
CPUP				PP	PP		21 29 33.9	+1.1
	comp=Z,5.9nm,0.9s,baz=9.3,slow=3.3,SNR=4.0							
CPUP	**Villa Florida**	**162.43**	**56**	PKIKP	PKPdf		21 24 58.6	-2.9
CPUP							21 25 47.2	
CPUP							21 29 33.9	
CPUP				pmax	pmax			
	comp=Z,5.0nm,1.0s							
CPUP				pmax	pmax			
	comp=Z,14nm,1.0s							
CPUP				pmax	pmax			
	comp=Z,6.0nm,1.0s							
CPUP	**Villa Florida**	**162.43**	**56**	PKP	PKPdf		21 24 58.6	-2.9
CPUP				PKPab	PKPab		21 25 47.2	-0.5
CPUP				PP	PP		21 29 33.9	+1.1
TRQA	**Tornquist**	**163.52**	**99**	*e*PKPdf	PKPdf		21 24 58.7	-3.6
CAM4	**Nova Friburgo**	**164.98**	**5**	*eP*	PKPab		21 25 57.7	-1.2
CAM4				*i*			21 26 00.9	
CAM4				*i*			21 26 25.3	

*JMA **24** 21:07:23.3,37.32N×138.96E,h14km±2km,M4.9*
JMA Felt IV J1.

ISC 24 21:07:22.4±0.5,37.31N±0.04×138.95E±0.06,h26km±4km, n13,σ0°93/18,mb4.9/2,1C-1D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.08**	**141**	P		**Pb**	**21 07 26.0**	**-1.0**
JHK				S		**Sb**	**21 07 28.0**	**-2.2**
JIZZ	**Izumozaki**	**0.29**	**319**	P		**Pb**	**21 07 29.8**	**+0.5**
JIZZ				S		**Sb**	**21 07 35.0**	**+0.9**
JNS	**Sasagawa**	**0.58**	**30**	⇑P		**Pb**	**21 07 34.1**	**+0.2**
JNS				S		**Sb**	**21 07 42.0**	**+0.2**
JKT	**Katashina**	**0.59**	**156**	⇓P		**Pb**	**21 07 34.7**	**+0.6**
JKT				S		**Sb**	**21 07 42.9**	**+0.7**
JFY	**Yanaizu**	**0.61**	**81**	P		**Pb**	**21 07 34.9**	**+0.5**
JFY				S		**Sb**	**21 07 42.9**	**+0.4**
MAT	**Matsushiro**	**0.97**	**218**	P		**Pn**	**21 07 41.1**	**+0.6**
MAT				S		**Sb**	**21 07 53.2**	**+0.3**
MOS	**Moscow**	**65.84**	**323**	*e*		**P**	**21 18 05.9**	**-1.5**
MAK	**Makhachkala**	**66.73**	**307**	*e*		**P**	**21 18 13.0**	**-0.3**
PUL	**Pulkovo**	**66.94**	**329**	*i*		**P**	**21 18 12.0**	**-2.3**
NB2	**NORSAR Subarra**	**73.16**	**336**	P		**P**	**21 18 52.0**	**-0.1**
	11nm,0.8s,mb4.8,baz=39,slow=6.2							
CLL	**Collm**	**79.86**	**329**	P		**P**	**21 19 30.6**	**+0.7**
	logA/T=1.2,mb4.9							
KHC	**Kasperske Hory**	**81.26**	**327**	*x*		*x*	21 19 38.0	
KHC	**Kasperske Hory**	**81.26**	**327**	*e*		**P**	**21 19 38.0**	**+0.7**

*NEIC **24** 21:08:02.0,32.60S×69.00W,h152km,MD3.5(GUC),After GUC.*

GUC 24 21:08:02.0±0.7,32.60S×69.00W,h152km±12km,MD3.5, ML3.6,2C-3D,Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FCH	**Farellones**	**1.30**	**236**	⇑*i*P		P	21 08 30.7	+0.6
FCH				*i* S		S	21 08 52.8	+1.0
FCH				AMP			21 08 55.5	
	comp=E,286nm,0.2s							
JACH	**Jahuel**	**1.35**	**266**	⇓*i*P		P	21 08 31.1	+0.6
JACH				*i* S		S	21 08 52.5	0.0
CLCH	**Cerro Calan**	**1.52**	**238**	*eP*		P	21 08 32.2	0.0
CLCH				*i* S		S	21 08 55.7	+0.1
CLCH				AMP			21 08 59.7	
	comp=E,494nm,0.4s							
PEL	**Peldehue**	**1.52**	**249**	*eP*		P	21 08 32.1	-0.2
PEL				*i* S		S	21 08 55.1	-0.5
PEL				AMP			21 08 57.4	
	comp=N,895nm,0.4s							
LMEL	**Las Melosas**	**1.60**	**219**	*eP*		P	21 08 33.4	+0.3
LMEL				AMP			21 09 07.1	
	comp=N,165nm,0.2s							
PCH	**Pirque**	**1.63**	**231**	⇓*i*P		P	21 08 33.8	+0.4
RCDM	**Rinconada Maip**	**1.76**	**239**	*eP*		P	21 08 34.9	+0.1
RCDM				*i* S		S	21 09 00.0	-0.1
RCDM				AMP			21 09 03.7	
	comp=N,774nm,0.1s							
CHCH	**Chadas Angostu**	**1.92**	**226**	*eP*		P	21 08 36.8	+0.2
CHCH				*i* S		S	21 09 03.5	+0.2
TACH	**Talagante**	**1.94**	**237**	⇑*i*P		P	21 08 36.7	-0.1
TACH				*i* S		S	21 09 03.9	+0.2
PACH	**Papudo**	**2.06**	**271**	*i* P		P	21 08 37.9	-0.5
PACH				*i* S		S	21 09 05.6	-0.6
CICH	**Cipreses**	**2.08**	**214**	*i* P		P	21 08 39.2	+0.6
CMCH	**Combarbala**	**2.22**	**309**	⇓*i*P		P	21 08 40.8	+0.5
CMCH				*i* S		S	21 09 09.6	-0.1
CMCH				AMP			21 09 11.6	
	comp=N,1μm,0.7s							

*NIED **24** 21:32:00,37.40N×139.00E,h8km,Mw4.1 Best double couple: Mo1.53×10¹⁵ NP1:φs180°,δ64°,λ.55°. NP2:φs58°, δ42°,λ140°.*
*NEIC **24** 21:32:39.0±0.2,37.37N×138.84E,h10km,mb4.2/5,Error ellipse: s-maj=8.5km s-min=5.4km az=111.0*
NEIC Recorded [3 JMA] in Niigata and [1 JMA] in Fukushima, Gumma, Ishikawa and Nagano Prefectures. Also recorded [1 JMA] on Sadoga-shima.
*JMA **24** 21:32:39.8,37.39N×138.95E,h15km±2km,M4.3 Broadband fault plane solution: P waves. NP1:φs28°,δ34°, λ81°. NP2:φs220°,δ56°,λ96°. Principal axes: T Plg78°, Azm152°; N Plg5°, Azm36°; P Plg11°, Azm305°;*
JMA Felt III J1.
*IDC **24** 21:32:44.3±2.0,37.37N×138.79E,h46km±20km, mb3.8/22, mb1 4.0/25,mb1mx4.0/32,ML4.0/2 Error ellipse: s-maj=16.7km s-min=11.7km az=88.0*

ISC 24 21:32:39.2±0.5,37.40N±0.03×138.89E±0.05,h20km±4km, n54,σ0°89/58,mb4.1/31,3C-5D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.18**	**145**	⇓P		**Pb**	**21 32 43.4**	**-0.6**
JHK				S		**Sb**	**21 32 46.1**	**-1.2**
JIZZ	**Izumozaki**	**0.20**	**314**	⇓P		**Pb**	**21 32 45.3**	**+1.0**
JNS	**Sasagawa**	**0.54**	**39**	⇑P		**Pb**	**21 32 49.7**	**-0.2**
JNS				S		**Sb**	**21 32 56.9**	**-0.3**
JFY	**Yanaizu**	**0.65**	**89**	⇓P		**Pb**	**21 32 51.5**	**-0.2**
JFY				S		**Sb**	**21 32 59.7**	**-0.6**
JKT	**Katashina**	**0.69**	**155**	⇓P		**Pb**	**21 32 52.5**	**+0.1**
JKT				S		**Sb**	**21 33 01.7**	**+0.2**
MAJO	**Matsushiro**	**1.01**	**213**	⇑*i*Pn		**Pn**	**21 32 58.5**	**+0.1**
MAJO				*e*Sn		**Sn**	**21 33 11.0**	**-1.1**
MAT	**Matsushiro**	**1.01**	**213**	P		**Pb**	**21 32 58.2**	**+0.3**
MAT				S		**Sb**	**21 33 11.5**	**+0.8**
MAT	**Matsushiro**	**1.01**	**213**	P		**Pb**	**21 32 58.4**	**+0.5**
MAT	**Matsushiro**	**1.01**	**213**	*eP*		**Pb**	**21 32 58.0**	**+0.1**
MAT				*eS*		**Sb**	**21 33 12.0**	**+1.3**
JAG	**Ashikaga**	**1.07**	**155**	⇓P		**Pb**	**21 32 59.5**	**+0.7**
JAW	**Awa shima**	**1.10**	**15**	P		**Pb**	**21 32 59.4**	**+0.1**
JHJ	**Hachijo jima 2**	**4.33**	**170**	P		**Pn**	**21 33 46.9**	**+1.2**
	57nm,0.3s,baz=94,slow=21,SNR=14							
JHJ				S		**Sn**	**21 34 37.8**	**+1.5**
	11nm,0.3s,baz=38,slow=23,SNR=3.0							
ASAJ	**Asahikawa**	**7.28**	**22**	P		**Pn**	**21 34 28.2**	**+1.0**
	1.6nm,0.3s,baz=299,slow=27,SNR=5.2							
SONM	**Songino Array**	**25.91**	**304**	P		**P**	**21 38 11.1**	**-0.5**
	1.6nm,0.8s,mb3.6,baz=101,slow=7.2,SNR=7.1							
FX1	**Attu Island--F**	**28.37**	**46**	P		**P**	**21 38 35.3**	**+1.4**
	23nm,0.8s,mb4.9,baz=108,slow=22,SNR=2.3							
CMAR	**Chiang Mai Arr**	**39.66**	**253**	P		**P**	**21 40 12.5**	**+0.8**
	0.3nm,0.7s,mb3.1,baz=52,slow=10,SNR=3.4							
CMAR	**Chiang Mai Arr**	**39.66**	**253**	P		**P**	**21 40 12.5**	**+0.8**
KURK	**Kurchatov**	**44.12**	**308**	*eP*		**P**	**21 40 46.7**	**-1.0**
	2.2nm,0.6s,mb4.1							
BVAR	**Borovoye Array**	**48.83**	**312**	P		**P**	**21 41 25.3**	**+0.4**
	0.8nm,0.7s,mb3.9,baz=68,slow=7.8,SNR=4.0							
BVAR				PcP		PcP	21 42 48.5	-1.4
	3.7nm,0.9s,baz=87,slow=3.4,SNR=9.6							
ILAR	**Eielson Array**	**50.27**	**32**	P		**P**	**21 41 35.1**	**-0.7**
	0.9nm,0.9s,mb3.8,baz=266,slow=6.5,SNR=8.7							
INK	**Inuvik**	**54.98**	**27**	P		**P**	**21 42 10.9**	**-0.1**
	0.9nm,0.5s,mb4.1,baz=298,slow=6.6,SNR=3.8							
WRAB	**Tennant Creek**	**57.18**	**185**	*eP*		**P**	**21 42 25.6**	**-1.8**
	1.5nm,0.3s,mb4.5							
WRA	**Warramunga Arr**	**57.19**	**185**	P		**P**	**21 42 25.5**	**-1.9**
	1.4nm,0.5s,mb4.2,baz=0.1,slow=7.5,SNR=63							
ASAR	**Alice Springs**	**60.92**	**185**	P		**P**	**21 42 52.0**	**-1.2**
	0.5nm,0.4s,mb4.0,baz=356,slow=4.4,SNR=10							
KEV	**Kevo**	**62.38**	**339**	*ep*		**P**	**21 43 12.2**	**+10**
	0.3nm,0.4s,mb3.8							
ARCES	**ARCESS Array B**	**62.94**	**339**	P		**P**	**21 43 05.5**	**-0.7**
	2.2nm,0.8s,mb4.3,baz=56,slow=8.7,SNR=5.3							
ARCES	**ARCESS Array B**	**62.94**	**339**	P		**P**	**21 43 05.5**	**-0.7**
JOF	**Joensuu**	**64.69**	**331**	*ep*		**P**	**21 43 16.2**	**-1.4**
	0.4nm,0.4s,mb3.8							
KAF	**Kangasniemi**	**67.05**	**332**	*ep*		**P**	**21 43 30.9**	**-1.8**
	0.6nm,0.3s,mb4.1							
FINES	**FINESS Array B**	**67.54**	**331**	P		**P**	**21 43 35.0**	**-0.8**
	3.4nm,0.8s,mb4.4,baz=38,slow=8.1,SNR=15							
STKA	**Stephens Creek**	**68.96**	**178**	P		**P**	**21 43 44.2**	**-0.9**
	1.0nm,0.7s,mb3.9,baz=131,slow=12,SNR=2.6							
AKASG	**Malin Array Be**	**72.77**	**321**	P		**P**	**21 44 07.4**	**-0.3**
	0.4nm,0.4s,mb3.7,baz=48,slow=6.3,SNR=7.0							
HFS	**Hagfors**	**72.92**	**335**	P		**P**	**21 44 07.8**	**-0.6**
	1.3nm,0.7s,mb4.0,baz=72,slow=4.7,SNR=5.9							
NB2	**NORSAR Subarra**	**73.06**	**336**	P		**P**	**21 44 08.6**	**-0.6**
	1.3nm,0.5s,mb4.1,baz=41,slow=5.8							
NOA	**NORSAR Array B**	**73.06**	**336**	P		**P**	**21 44 08.9**	**-0.3**
	1.7nm,0.6s,mb4.2,baz=40,slow=5.9,SNR=16							
HLID	**Hailey**	**75.59**	**46**	*eP*		**P**	**21 44 25.2**	**+1.0**
	1.6nm,0.9s,mb4.0							
NVAR	**Mina Array Bea**	**76.37**	**52**	P		**P**	**21 44 29.4**	**+0.7**
	1.1nm,0.7s,mb3.9,baz=296,slow=5.4,SNR=6.2							
NVAR	**Mina Array Bea**	**76.37**	**52**	P		**P**	**21 44 29.4**	**+0.7**
BRTR	**Keskin Array B**	**77.09**	**310**	P		**P**	**21 44 33.1**	**+0.4**
	1.7nm,0.7s,mb4.1,baz=102,slow=4.0,SNR=7.4							
MLR	**Muntele Rosu**	**77.79**	**318**	P		**P**	**21 44 36.8**	**+0.4**
	0.5nm,0.5s,mb3.8,baz=116,slow=21,SNR=2.9							
BW06	**Boulder Array**	**78.83**	**44**	P		**P**	**21 44 42.6**	**+0.4**
	1.8nm,0.8s,mb4.0							
PDAR	**Pinedale Array**	**78.83**	**44**	P		**P**	**21 44 43.0**	**+0.8**
	3.1nm,1.2s,mb4.1,baz=333,slow=3.3,SNR=6.8							
ASF	**Jabal al Asfar**	**79.62**	**303**	P		**P**	**21 44 45.9**	**-0.8**
	1.8nm,0.8s,mb4.0,baz=260,slow=23,SNR=3.0							
VRAC	**Vranov**	**79.71**	**326**	P		**P**	**21 44 48.2**	**+1.3**
	2.6nm,0.3s,mb4.6,baz=164,slow=21,SNR=2.4							
CLL	**Collm**	**79.76**	**329**	P		**P**	**21 44 48.0**	**+0.9**
GERES	**GERESS Array B**	**81.33**	**327**	P		**P**	**21 44 55.8**	**+0.4**
	1.0nm,0.6s,mb3.9,baz=37,slow=6.7,SNR=7.8							
PV10	**Paradox Valley**	**82.03**	**47**	*eP*		**P**	**21 45 00.6**	**+1.3**
DAVOX	**Davos**	**84.56**	**328**	P		**P**	**21 45 12.6**	**+0.6**
	2.4nm,0.8s,mb4.4,baz=24,slow=5.9,SNR=4.6							
IDI	**Anoyia**	**85.25**	**311**	P		**P**	**21 45 15.5**	**-0.2**
	6.9nm,0.8s,mb4.8,baz=35,slow=12,SNR=8.0							
TXAR	**Lajitas Array**	**91.48**	**51**	P		**P**	**21 45 46.8**	**+1.2**
	0.4nm,0.7s,mb3.9,baz=292,slow=3.2,SNR=5.4							
VNA2	**Neumayer--Watz**	**142.08**	**197**		PKPdf		21 52 09.2	-3.8
VNA2	**Neumayer--Watz**	**142.08**	**197**	⇑*i*P	PKPdf		21 52 08.4	-4.6
VNA2				P			21 52 09.2	
SAML	**Samuel**	**145.35**	**41**	*e*PKPbc	PKPbc		21 52 17.4	+0.6
LPAZ	**La Paz**	**148.21**	**56**	PKPbc	PKPdf		21 52 26.9	+2.0
	1.8nm,0.3s,baz=89,slow=0.9,SNR=4.5							

CASC 24 21:38:24.8±3.5,11.46N×87.04W,h5km±12km,MD4.1, ML3.7,4C-8D,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.84**	**31**	⇑*e*P		Pb	21 38 41.7	+0.2
COPN				*e*S		Sg	21 38 53.5	+0.6
CRUN	**El Crucero**	**0.89**	**54**	*e*P		Pb	21 38 41.6	-0.9
LEON	**Leon**	**0.97**	**9**	⇓*e*P		Pb	21 38 44.2	+0.5
LEON				*e*S		Sb	21 38 56.8	+0.2
TICN	**Ticuantepe**	**0.98**	**54**	*e*P		Pb	21 38 42.8	-1.0
TICN				⇓*i*P			21 38 42.8	
TICN				*e*S		Sb	21 38 58.8	+1.9
XAVN	**Gruta Xavier**	**0.98**	**45**	⇓*e*P		Pb	21 38 43.0	-0.9
MASN	**Masaya**	**1.02**	**59**	*e*P		Pb	21 38 43.3	-1.3
APYN	**Apoyeque**	**1.03**	**41**	⇑*e*P		Pb	21 38 43.8	-0.9
MIRN	**Miramar**	**1.03**	**18**	⇑*e*P		Pb	21 38 44.5	-0.2
MIRN				*e*S		Sb	21 38 58.0	-0.4
MGAN	**Managua**	**1.04**	**48**	⇓*e*P		Pb	21 38 43.6	-1.3
MGAN				*e*S		Sb	21 39 00.8	+2.2
MGAN				*i*			21 39 01.5	
	comp=E,2μm,0.4s							
MOMJ	**Momotombo**	**1.07**	**27**	*e*S		Sb	21 38 59.0	-0.4
CNGN	**Cerro Negro**	**1.09**	**18**	⇓*e*P		Pb	21 38 45.5	-0.3
CNGN				*e*S		Sb	21 39 00.1	-0.1
TEL3	**Telica 3**	**1.13**	**10**	⇓*e*P		Pb	21 38 46.4	0.0
TEL3				*e*S		Sb	21 39 02.3	+1.1
SSNN	**San Juan del S**	**1.18**	**98**	⇓*e*P		Pb	21 38 44.8	-2.5
PYTN	**Playitas**	**1.44**	**42**	⇓*e*P		Pn	21 38 49.4	-2.3
PYTN				*e*S		Sb	21 39 14.0	+3.6
VCR	**Vista de Mar**	**1.91**	**134**	*e*S		Sn	21 39 26.2	+3.1
CNCH	**Conchagua**	**1.97**	**337**	*e*P		Pn	21 38 58.9	-0.3
BLLM	**Bellamira**	**2.30**	**329**	*e*P		Pn	21 39 05.3	+1.4
VSM	**San Miguel**	**2.30**	**329**	*e*P		Pn	21 39 03.0	-1.0
SNVI	**San Vicente**	**2.77**	**321**	*e*P		Pn	21 39 11.7	+0.9
LCBS	**La Ceiba**	**2.89**	**319**	⇑*e*P		Pn	21 39 12.3	-0.1
LCBS				*e*S		Sn	21 39 46.1	-1.9
LFRS	**El Faro**	**2.92**	**318**	*e*P		Pn	21 39 12.6	-0.3
LFRS				*e*S		Sn	21 39 46.0	-2.8

*MOS **24** 21:39:38.9±2.1,34.83N×23.34E,h10km,mb3.9/5,Error ellipse: s-maj=13.3km s-min=7.3km az=84.6*
*CSEM **24** 21:39:41.7±0.1,34

comp=Z,2.0nm,0.3s
GRA1 Grafenberg Arr 17.30 333 *e*P **P 21 43 43.7 +2.1**
GRF Grafenberg Arr 17.30 333 *e*P **P 21 43 43.7 +2.1**
GNI Garni 17.84 66 *e*P **P 21 43 51.1 +2.6**
GNI pmax pmax
comp=Z,6.0nm,1.0s
ZEI Tsey 17.91 58 *e*P **P 21 43 55.1 +5.8**
ESDC Sonseca Array 22.17 291 P **P 21 44 38.4 +2.9**
comp=Z,1.9nm,0.8s,mb3.5,baz=87,slow=12,SNR=5.8
OBN Obninsk 22.30 20 P **P 21 44 40.0 +3.4**
HFS Hagfors 26.08 349 P **P 21 45 12.5 -0.4**
comp=Z,0.9nm,0.4s,mb3.6,baz=157,slow=11,SNR=8.7
HFS Hagfors 26.08 349 P **P 21 45 12.5 -0.4**
HFS pmax pmax
comp=Z,1.0nm,0.4s
HFS Hagfors 26.08 349 P **P 21 45 12.6 -0.3**
FINES FINESS Array B 26.70 3 P **P 21 45 17.1 -1.5**
comp=Z,1.5nm,1.1s,mb3.5,baz=118,slow=26,SNR=3.2
FINES FINESS Array B 26.70 3 P **P 21 45 17.1 -1.5**
FINES pmax pmax
comp=Z,2.0nm,1.1s
NB2 NORSAR Subarra 27.36 347 P **P 21 45 23.0 -1.6**
comp=Z,1.2nm,0.7s,mb3.5,baz=152,slow=11
NOA NORSAR Array B 27.36 347 P **P 21 45 24.0 -0.6**
comp=Z,0.6nm,0.5s,mb3.4,baz=152,slow=11,SNR=5.2
NOA NORSAR Array B 27.36 347 P **P 21 45 24.0 -0.6**
NOA pmax pmax
comp=Z,1.0nm,0.5s
ARCES ARCESS Array B 34.79 1 P **P 21 46 27.9 -2.0**
comp=Z,0.9nm,0.7s,mb3.8,baz=201,slow=10,SNR=6.0
ARCES ARCESS Array B 34.79 1 P **P 21 46 27.9 -2.0**
ARCES pmax pmax
comp=Z,1.0nm,0.7s
DBIC Dimbokro 38.15 229 P **P 21 47 00.7 +2.0**
comp=Z,1.9nm,0.8s,mb3.9,baz=21,slow=14,SNR=6.1
DBIC Dimbokro 38.15 229 P **P 21 47 00.7 +1.9**
DBIC pmax pmax
comp=Z,2.0nm,0.8s
SONM Songino Array 60.90 50 P **P 21 49 52.2 -0.1**
comp=Z,0.9nm,0.7s,mb4.0,baz=282,slow=7.1,SNR=10
SCHQ Schefferville 62.43 319 P **P 21 50 03.1 +0.7**
comp=Z,2.5nm,0.8s,mb4.4,baz=30,slow=9.3,SNR=5.1
CMAR Chiang Mai Arr 68.16 82 P **P 21 50 41.6 +1.9**
comp=Z,0.4nm,0.8s,mb3.5,baz=297,slow=6.4,SNR=4.5
WRA Warramunga Arr 118.10 96 PKP PKPdf 21 58 27.2 +2.9
comp=Z,0.2nm,0.5s,baz=323,slow=2.1,SNR=5.5

LDG ***24*** *21:42:26.3±0.1, 46.21N×2.80E, h15km, Md2.1/3, Ml2.2/7, Error ellipse: s-maj=1.3km s-min=0.9km az=130.0*
STR ***24*** *21:42:27.8±0.3, 46.21N×2.82E, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 24 21:42:26.8±0.4, 46.26N±0.03×2.78E±0.04, h22km±5km, n17, σ1§16/34, France

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
BGF	**Bois d'Agland**	**0.30**	**9**	*e*Pg			**Pb**	**21 42 33.6**	**0.0**
BGF				*e*Sg			**Sb**	**21 42 38.3**	**+0.1**
	29nm,0.3s								
AGO	**Saint Agoulin**	**0.32**	**130**	Pg			**Pb**	**21 42 33.1**	**-0.9**
TCF	**Toulx Ste Croi**	**0.39**	**274**	*e*Pg			**Pb**	**21 42 35.0**	**-0.1**
TCF				*e*Sg			**Sb**	**21 42 40.0**	**-0.7**
	14nm,0.2s								
PYM	**Petit Puy Mans**	**0.54**	**162**	Pg			**Pb**	**21 42 36.8**	**-0.6**
PLDF	**La Plantade**	**0.66**	**116**	Pg			**Pb**	**21 42 39.6**	**+0.2**
PLDF				Sg			**Sb**	**21 42 47.8**	**-0.4**
SMF	**Signal de Mont**	**0.83**	**62**	*e*Pn			**Pn**	**21 42 42.2**	**-0.9**
SMF				*e*Pg			**Pb**	**21 42 42.4**	**0.0**
SMF				*e*Sg			**Sb**	**21 42 52.4**	**-0.8**
	6.3nm,0.2s								
SSF	**Saint Saulge**	**0.94**	**32**	*e*Pn			**Pn**	**21 42 44.2**	**-0.6**
SSF				*e*Pg			**Pb**	**21 42 44.7**	**+0.3**
SSF				*e*Sn			**Sn**	**21 42 57.0**	**-0.6**
HYF	**Humbligny**	**1.01**	**355**	*e*Sg			**Sb**	**21 43 00.9**	**+2.6**
LBL	**Lubilhac**	**1.08**	**162**	Pg			**Pb**	**21 42 47.1**	**+0.5**
LOR	**Lormes**	**1.25**	**36**	*e*Pg			**Pn**	**21 42 50.3**	**+1.1**
LOR				*e*Sn			**Sn**	**21 43 04.4**	**-1.0**
LOR				*e*Sg			**Sb**	**21 43 06.6**	**+1.3**
	9.0nm,0.2s								
RJF	**Les Rejaudoux**	**1.30**	**223**	*e*Pn			**Pn**	**21 42 48.1**	**-1.8**
RJF				*e*Pg			**Pn**	**21 42 50.3**	**+0.4**
RJF				*e*Sg			**Sb**	**21 43 06.7**	**0.0**
	4.3nm,0.3s								
CAF	**Calviac**	**1.43**	**201**	*e*Pn			**Pn**	**21 42 49.1**	**-2.5**
CAF				*e*Pg			**Pn**	**21 42 52.3**	**+0.7**
CAF				*e*Sg			**Sn**	**21 43 10.0**	**+0.2**
	3.1nm,0.2s								
VIVF	**Saint-Julien-l**	**1.94**	**136**	*e*Pg			**Pn**	**21 43 01.9**	**+2.9**
VIVF				*e*Sg			**Sn**	**21 43 25.1**	**+2.3**
	2.6nm,0.4s								
LFF	**La Frestale**	**1.95**	**228**	*e*Sg			**Sn**	**21 43 26.9**	**+3.8**
	3.5nm,0.3s								
MFF	**Saint Martin d**	**2.05**	**281**	*e*Pg			**Pn**	**21 43 04.8**	**+4.2**
MFF				*e*Sn			**Sn**	**21 43 22.7**	**-3.0**
MFF				*e*Sg			**Sn**	**21 43 31.7**	**+6.0**
	2.5nm,0.3s								
LPG	**La Plagne**	**2.88**	**104**	*e*Pn			**Pn**	**21 43 09.0**	**-3.4**
HINF	**Hinteralfeld**	**3.19**	**59**	*e*Sn			**Sn**	**21 43 51.3**	**-3.4**
HINF				*e*Sg			**Sb**	**21 44 06.8**	**+5.4**
	2.7nm,0.5s								

MDD ***24*** *21:46:15.6±0.5, 42.88N×1.44W, h8km±8km, mbLg1.1/6, Error ellipse: s-maj=4.9km s-min=2.7km az=42.0, PRXIMO AftershockPLICA*
LDG ***24*** *21:46:15.4±0.8, 42.92N×1.48W, h6km, Md2.1/2, Ml1.9/1, Error ellipse: s-maj=13.5km s-min=9.9km az=52.0*
ISC 24 21:46:13.8±0.7, 42.85N±0.05×1.46W±0.05, h9km±7km, n8, σ0§68/14, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
SJPF	**Ste Jean**	**0.32**	**33**	*e*Pg			**Pg**	**21 46 20.6**	**+0.3**
SJPF				*e*Sg			**Sg**	**21 46 24.8**	**+0.2**
	18nm,0.2s								
EALK	**Alkurruntz**	**0.37**	**355**	Pg			**Pg**	**21 46 22.0**	**+0.6**
	0.8nm,0.1s,SNR=8.0								
EALK				Lg				21 46 27.0	
	5.4nm,0.2s,SNR=26								
ETSF	**Etsaut**	**0.66**	**85**	*e*Pg			**Pg**	**21 46 26.5**	**-0.6**
ETSF				*e*Sg			**Sg**	**21 46 36.3**	**+0.3**
	1.2nm,0.2s								
EBIE	**Bielsa**	**1.19**	**97**	Pg			**Pg**	**21 46 37.7**	**+0.1**
	0.6nm,0.1s,SNR=8.1								
EBIE				Lg				21 46 54.1	
	0.5nm,0.1s,SNR=7.9								
EPF	**Esparros**	**1.33**	**81**	*e*Pn			**Pn**	**21 46 38.8**	**+0.2**
EPF				*e*Pg			**Pg**	**21 46 41.1**	**+0.7**
EPF				*e*Sn			**Sn**	**21 46 55.5**	**-1.1**
EPF				*e*Sg			**Sg**	**21 46 58.1**	**-0.2**
	2.0nm,0.2s								
ESAC	**San Caprasio**	**1.34**	**147**	Pg			**Pg**	**21 46 41.0**	**+0.3**
	5.3nm,0.3s,SNR=4.0								
ESAC				Lg				21 46 59.6	
	12nm,0.3s,SNR=7.9								
ELAN	**Lanestosa**	**1.50**	**286**	Pg			**Pg**	**21 46 43.0**	**-0.7**
	0.2nm,0.1s,SNR=4.0								
ELAN				Lg				21 47 02.9	
	0.9nm,0.2s,SNR=7.9								
ETOR	**Torete**	**2.07**	**193**	Pg			**Pg**	**21 46 53.9**	**-1.3**
	0.4nm,0.2s,SNR=7.9								
ETOR				Sn			**Sn**	**21 47 16.7**	**+1.2**
	0.9nm,0.3s,SNR=7.9								

IDC ***24*** *22:28:02.2±0.7, 9.54S×159.38E, mb4.3/11, mb1 4.5/12, mb1mx4.5/16, ML3.6/1, MS3.8/4, Ms1 3.8/4, ms1mx3.4/23, Error ellipse: s-maj=29.8km s-min=18.2km az=137.0*
NEIC ***24*** *22:28:11.9±5.2, 9.45S×159.24E, h70km±47km, mb4.6/5, Error ellipse: s-maj=30.9km s-min=22.2km az=145.0*
ISC 24 22:28:06.0±0.6, 9.6S±0.1×159.3E±0.1, h33km, n29, σ0§77/25, mb4.4/19, MS3.9/2, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
PMG	**Port Moresby**	**11.96**	**270**	LR			LR	22 35 26.9	
	comp=Z,524nm,18.5s,baz=93,slow=37								
CTA	**Charters Tower**	**16.36**	**229**	Pn			**P**	**22 31 56.5**	**+1.6**
	0.2nm,0.3s,baz=62,slow=12,SNR=16								
CTA				LR			LR	22 37 19.0	
	comp=Z,164nm,20.6s,baz=227,slow=34								
CTAO	**Charters Tower**	**16.36**	**229**	*e*P			**P**	**22 31 59.7**	**+4.9**
	34nm,1.1s								
WRAB	**Tennant Creek**	**26.18**	**244**	*e*P			**P**	**22 33 39.5**	**-0.2**
	14nm,0.9s,mb4.5								
WRA	**Warramunga Arr**	**26.20**	**244**	P			**P**	**22 33 39.6**	**-0.2**
	3.6nm,0.6s,mb4.1,baz=72,slow=10.0,SNR=23								
WRA				PcP			PcP	22 37 06.5	-0.1
	0.6nm,0.8s,baz=72,slow=2.9,SNR=5.8								
STKA	**Stephens Creek**	**27.60**	**214**	P			**P**	**22 33 56.2**	**+3.7**
	3.4nm,0.6s,mb4.2,baz=39,slow=13,SNR=13								
STKA	**Stephens Creek**	**27.60**	**214**	P			**P**	**22 33 56.2**	**+3.7**
ASAR	**Alice Springs**	**28.00**	**237**	P			**P**	**22 33 55.2**	**-1.0**
	2.7nm,0.7s,mb4.0,baz=65,slow=10,SNR=9.7								
ASAR				PcP			PcP	22 37 10.1	-0.8
	0.8nm,0.6s,baz=74,slow=1.9,SNR=5.8								
FITZ	**Fitzroy Crossi**	**33.70**	**252**	P			**P**	**22 34 45.2**	**-1.3**
	2.7nm,0.9s,mb4.2,baz=3.9,slow=5.0,SNR=4.0								
FITZ				LR			LR	22 48 41.1	
	comp=Z,73nm,19.3s,MS3.4,baz=72,slow=37								
FITZ	**Fitzroy Crossi**	**33.70**	**252**	P			**P**	**22 34 45.2**	**-1.3**
FITZ				LR			LR	22 48 41.1	
CMAR	**Chiang Mai Arr**	**65.72**	**295**	P			**P**	**22 38 50.6**	**+0.6**
	1.2nm,0.9s,mb3.9,baz=121,slow=5.6,SNR=7.9								
VNDA	**Vanda**	**67.94**	**179**	P			**P**	**22 39 03.2**	**0.0**
	1.7nm,0.7s,mb4.2,baz=337,slow=6.7,SNR=11								
VNDA	**Vanda**	**67.94**	**179**	P			**P**	**22 39 03.2**	**0.0**
SONM	**Songino Array**	**73.81**	**326**	P			**P**	**22 39 39.6**	**+0.6**
	2.4nm,0.6s,mb4.3,baz=140,slow=5.5,SNR=25								
PKI	**Pulchoki**	**80.38**	**300**	*e*P			**P**	**22 40 16.7**	**+0.5**
	3.9nm,0.6s,mb4.5								
KKN	**Kakani**	**80.55**	**300**	*e*P			**P**	**22 40 17.4**	**+0.3**
DMN	**Daman**	**80.65**	**300**	*e*P			**P**	**22 40 18.0**	**+0.4**
	17nm,1.2s,mb4.9								
GKN	**Gorkha**	**81.16**	**300**	*e*P			**P**	**22 40 20.3**	**0.0**
	4.2nm,0.5s,mb4.6								
KOLN	**Koldanda**	**81.98**	**300**	*e*P			**P**	**22 40 24.6**	**+0.1**
	6.7nm,0.8s,mb4.6								
COLA	**College**	**83.98**	**20**	*e*P			**P**	**22 40 32.6**	**-1.3**
	7.7nm,0.9s,mb4.8								
ILAR	**Eielson Array**	**84.25**	**20**	P			**P**	**22 40 34.1**	**-1.2**
	1.4nm,0.5s,mb4.3,baz=262,slow=4.6,SNR=21								
ILAR				LR			LR	23 13 12.6	
	comp=Z,128nm,18.9s,MS4.3,baz=266,slow=32								
YBH	**Yreka Blue Hor**	**87.49**	**47**	P			**P**	**22 40 51.1**	**-0.6**
	1.4nm,0.8s,mb4.2,baz=158,slow=12,SNR=2.8								
NVAR	**Mina Array Bea**	**90.00**	**51**	P			**P**	**22 41 04.7**	**+0.9**
	1.3nm,0.8s,mb4.3,baz=234,slow=4.4,SNR=9.4								
MNV	**Mina**	**90.11**	**51**	*e*P			**P**	**22 41 04.8**	**+0.5**
	4.2nm,1.1s,mb4.7								
BW06	**Boulder Array**	**97.26**	**48**	P			**P**	**22 41 37.1**	**+0.1**
	4.3nm,1.4s,mb4.7								
PDAR	**Pinedale Array**	**97.26**	**48**	P			**P**	**22 41 37.4**	**+0.4**
	0.7nm,0.8s,mb4.1,baz=225,slow=2.1,SNR=5.1								
AKASG	**Malin Array Be**	**122.08**	**325**	PKP			PKPdf	22 46 57.7	+0.3
	0.1nm,0.2s,baz=47,slow=1.9,SNR=4.6								
NOA	**NORSAR Array B**	**123.48**	**342**	PKP			PKPdf	22 46 59.9	-0.1
	0.3nm,0.6s,baz=35,slow=2.0,SNR=4.6								
GERES	**GERESS Array B**	**131.41**	**330**	PKP			PKPdf	22 47 17.6	+2.2
	0.1nm,0.4s,slow=2.9,SNR=3.0								

IDC 24 22:30:29.1±1.3, 15.74S×174.65E, mb4.0/7, mb1 4.3/7, mb1mx4.1/14, MS3.8/5, Ms1 3.8/5, ms1mx3.4/22, Error ellipse: s-maj=41.3km s-min=28.3km az=165.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
RAR	**Rarotonga**	**24.85**	**107**	LR			LR	22 42 42.1	
	comp=Z,286nm,21.6s,baz=224,slow=30								
PMG	**Port Moresby**	**27.54**	**280**	LR			LR	22 46 21.8	
	comp=Z,168nm,18.2s,baz=40,slow=35								
RPZ	**Rata Peaks**	**28.06**	**186**	LR			LR	22 45 33.0	
	comp=Z,328nm,19.7s,baz=268,slow=32								
STKA	**Stephens Creek**	**34.07**	**236**	P			P	22 37 14.6	-2.8
	2.1nm,0.8s,baz=71,slow=8.2,SNR=3.2								
STKA				LR			LR	22 49 22.9	
	comp=Z,166nm,19.5s,baz=35,slow=33								
WRA	**Warramunga Arr**	**38.53**	**258**	P			P	22 37 53.0	-2.3
	3.0nm,1.1s,baz=91,slow=9.2,SNR=7.7								
ASAR	**Alice Springs**	**39.05**	**252**	P			P	22 37 57.4	-2.3
	3.7nm,0.7s,baz=82,slow=9.1,SNR=25								
ASAR				LR			LR	22 53 53.1	
	comp=Z,89nm,18.3s,baz=96,slow=36								
FITZ	**Fitzroy Crossi**	**46.84**	**260**	P			P	22 39 02.4	-0.5
	9.0nm,1.1s,baz=68,slow=5.4,SNR=4.7								
VNDA	**Vanda**	**62.14**	**183**	P			P	22 40 52.1	-1.9
	0.7nm,0.9s,baz=44,slow=2.3,SNR=2.6								
CMAR	**Chiang Mai Arr**	**81.90**	**292**	P			P	22 42 51.9	-0.5
	1.3nm,1.1s,baz=118,slow=3.2,SNR=5.6								
TXAR	**Lajitas Array**	**90.56**	**60**	P			P	22 43 33.0	-1.9
	0.2nm,0.8s,baz=315,slow=11,SNR=2.5								

CNRM ***24*** *22:55:02.5, 36.60N×11.09W, h30km, MD3.9*
MDD ***24*** *22:55:05.0±1.2, 36.75N×11.38W, h28km±44km, mb4.5/25, mbLg4.1/2, Error ellipse: s-maj=40.9km s-min=8.0km az=55.0, PRXIMO*
NEIC ***24*** *22:55:04.8, 36.87N×11.17W, MG4.4(MDD), After MDD.*
SFS ***24*** *22:55:04.0, 36.85N×11.20W, ML4.5*
LDG ***24*** *22:55:05.7±0.2, 36.82N×11.26W, h10km, Md3.8/1, Ml3.6/10, Error ellipse: s-maj=3.2km s-min=2.3km az=49.0*
IGIL ***24*** *22:55:05.3, 36.80N×11.10W, h1km, ML3.4*
INMG ***24*** *22:55:06.7±1.5, 36.76N×11.35W, h31km, ML3.1, Error ellipse: s-maj=5.5km s-min=3.3km az=64.0*
CSEM 24 22:55:06.0±0.5, 36.77N×10.79W, h10km, ML3.5/2, 4C-2D, Error ellipse: s-maj=10.0km s-min=6.2km az=46.0, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
LIS	**Lisbon**	**2.34**	**33**	*e*P			Pn	22 55 44.2	-0.9
LIS				AML			AML	22 55 52.4	
	comp=N,114nm,0.5s								
LIS				*e*S			Sn	22 56 13.3	-0.9
LIS				*e*S			Sn	22 56 13.3	-0.9
LIS	**Lisbon**	**2.34**	**33**	*e*P			Pn	22 55 44.2	-0.9
LIS				*e*S			Sn	22 56 13.3	-0.9
LIS	**Lisbon**	**2.34**	**33**	P			Pn	22 55 44.2	-0.9
LIS				P				22 55 44.2	
LIS				S			Sn	22 56 13.3	-0.9
LIS				S			Sn	22 56 13.3	-0.9
PLOU	**Loures**	**2.48**	**31**	*i* Pn			Pn	22 55 47.1	-0.1
PLOU				*e*Sn			Sn	22 56 17.4	-0.4
	comp=N,83nm,0.2s								
PLOU	**Loures**	**2.48**	**31**	⇑Pn			Pn	22 55 47.1	-0.1
PLOU				⇑P				22 55 47.1	
PLOU				S			Sn	22 56 17.2	-0.5
PLOU				Sn			Sn	22 56 17.4	-0.4
	comp=N,42nm,0.2s								
PLOU	**Loures**	**2.48**	**31**	⇑P			Pn	22 55 47.1	0.0
PLOU				S			Sn	22 56 17.2	-0.5
PLOU	**Loures**	**2.48**	**31**	P			Pn	22 55 47.1	-0.1
PLOU				*e*S			Sn	22 56 17.4	-0.4
	comp=N,83nm,0.2s								
MOE	**Montemor**	**2.61**	**47**	*e*Pn			Pn	22 55 50.2	+1.2
MOE				*e*Sn			Sn	22 56 22.5	+1.4
PBEJ	**Beja**	**2.64**	**61**	*e*Pn			Pn	22 55 51.1	+1.6
PBEJ				*e*Sn			Sn	22 56 23.8	+1.9
	comp=N,22nm,0.1s								
PBEJ	**Beja**	**2.64**	**61**	P			Pn	22 55 51.1	+1.6
PBEJ				Pn			Pn	22 55 51.1	+1.6
PBEJ				Sn			Sn	22 56 23.8	+1.9
	comp=N,11nm,0.1s								
PBEJ				S			Sn	22 56 23.9	+1.9
PBEJ	**Beja**	**2.64**	**61**	P			Pn	22 55 51.1	+1.6
PBEJ				S			Sn	22 56 23.9	+1.9
PBEJ	**Beja**	**2.64**	**61**	P			Pn	22 55 51.1	+1.6
PBEJ				S			Sn	22 56 23.9	+2.0
PALC	**Alcoutim**	**2.74**	**74**	*e*Pn			Pn	22 55 53.0	+2.2
PALC				*e*Sn			Sn	22 56 26.9	+2.6
	comp=N,57nm,0.1s								
PALC	**Alcoutim**	**2.74**	**74**	P			Pn	22 55 53.0	+2.1
PALC				Pn			Pn	22 55 53.0	+2.2
PALC				Sn			Sn	22 56 26.9	+2.6
	comp=N,28nm,0.1s								
PALC				S			Sn	22 56 27.0	+2.7
PALC	**Alcoutim**	**2.74**	**74**	P			Pn	22 55 53.0	+2.1
PALC				S			Sn	22 56 27.0	+2.7
PALC	**Alcoutim**	**2.74**	**74**	P			Pn	22 55 53.0	+2.2
PALC				S			Sn	22 56 27.0	+2.7
EVO	**Evora**	**2.82**	**50**	*e*Pn			Pn	22 55 51.8	-0.2
EVO				*e*Sn			Sn	22 56 25.8	-0.6
	comp=N,53nm,0.2s								
ERIP	**Rio Piedras**	**2.89**	**77**	⇑P			Pn	22 55 54.8	+1.8
	comp=N,9.0nm,0.1s,SNR=18								
ERIP				S			Sn	22 56 30.8	+2.7
	comp=N,46nm,0.1s,SNR=7.9								
ALMR	**Almeirim**	**2.96**	**36**	*e*P			Pn	22 55 53.7	-0.2
ALMR				*e*S			Sn	22 56 28.3	-1.6
ALMR				*e*S			Sn	22 56 28.3	-1.5
ALMR				AML			AML	22 56 32.9	
	comp=E,255nm,0.4s								
ALMR	**Almeirim**	**2.96**	**36**	P			Pn	22 55 53.7	-0.2
ALMR				P				22 55 53.7	
ALMR				S			Sn	22 56 28.2	-1.6
ALMR				S			Sn	22 56 28.3	-1.5
PTOM	**Tomar**	**3.41**	**33**	*e*Pn			Pn	22 55 59.7	-0.6
PTOM				*e*Sn			Sn	22 56 40.1	-1.2
	comp=E,37nm,0.1s								
PTOM	**Tomar**	**3.41**	**33**	Pn			Pn	22 55 59.7	-0.6
PTOM				P				22 55 59.8	
PTOM				Sn			Sn	22 56 40.1	-1.2
	comp=E,18nm,0.1s								
PTOM				S			Sn	22 56 40.5	-0.8
PTOM	**Tomar**	**3.41**	**33**	P			Pn	22 55 59.8	-0.6
PTOM				S			Sn	22 56 40.5	-0.8
PTOM	**Tomar**	**3.41**	**33**	P			Pn	22 55 59.8	-0.5
PTOM				*e*S			Sn	22 56 40.1	-1.2
	comp=E,37nm,0.1s								
EMIN	**Mina Concepcio**	**3.43**	**72**	⇓P			Pn	22 56 01.8	+1.2
	comp=E,7.6nm,0.1s,SNR=18								
EMIN				S			Sn	22 56 42.9	+1.1
	comp=E,57nm,0.3s,SNR=21								
EMIN	**Mina Concepcio**	**3.43**	**72**	P			Pn	22 56 01.8	+1.1
	comp=E,7.6nm,0.1s,SNR=18								
EMIN				S			Sn	22 56 42.9	+1.1
	comp=E,57nm,0.3s,SNR=21								
EBAD	**Badajoz**	**3.59**	**55**	P			Pn	22 56 03.5	+0.6
	comp=E,10nm,0.1s,SNR=76								
EBAD				S			Sn	22 56 46.5	+0.6
	comp=E,52nm,0.2s,SNR=9.4								
EBAD	**Badajoz**	**3.59**	**55**	P			Pn	22 56 03.5	+0.6
	comp=E,10nm,0.1s,SNR=76								
EBAD				S			Sn	22 56 46.5	+0.6
	comp=E,52nm,0.2s,SNR=9.4								
CNIL	**Conil**	**3.83**	**95**	*e*S			Sn	22 56 56.0	+4.1
ESPR	**Espera**	**3.96**	**87**	⇓P			Pn	22 56 09.5	+1.4
	comp=E,29nm,0.2s,SNR=18								
ESPR				S			Sn	22 56 56.1	+0.9
	comp=E,282nm,0.3s,SNR=15								
ESPR	**Espera**	**3.96**	**87**	P			Pn	22 56 09.5	+1.4
	comp=E,29nm,0.2s,SNR=18								
ESPR				S			Sn	22 56 56.1	+0.9
	comp=E,282nm,0.3s,SNR=15								
PCBR	**Castelo Branco**	**4.02**	**39**	*e*Pn			Pn	22 56 08.4	-0.7
PCBR				*e*Sn			Sn	22 56 54.3	-2.6
	comp=E,16nm,0.2s								
PCBR	**Castelo Branco**	**4.02**	**39**	P			Pn	22 56 08.3	-0.8
PCBR				Pn			Pn	22 56 08.4	-0.7
PCBR				Sn			Sn	22 56 54.3	-2.6
	comp=E,7.8nm,0.2s								
PCBR				S			Sn	22 56 54.3	-2.5
PCBR	**Castelo Branco**	**4.02**	**39**	P			Pn	22 56 08.3	-0.8
PCBR				S			Sn	22 56 54.3	-2.5
PCBR	**Castelo Branco**	**4.02**	**39**	P			Pn	22 56 08.3	-0.8
PCBR				*e*S			Sn	22 56 54.3	-2.6
	comp=E,16nm,0.2s								
LIJA	**Lijar**	**4.32**	**87**	*i* P			Pn	22 56 15.0	+1.7
LIJA				*e*S			Sn	22 57 05.0	+0.6
MTE	**Manteigas**	**4.43**	**34**	*e*Pn			Pn	22 56 13.6	-1.3
MTE				*e*Sn			Sn	22 57 04.0	-3.1
	comp=E,30nm,0.4s								
MTE	**Manteigas**	**4.43**	**34**	Pn			Pn	22 56 13.6	-1.3
MTE				P				22 56 13.8	
MTE				Sn			Sn	22 57 04.0	-3.1
	comp=E,15nm,0.4s								
MTE				S			Sn	22 57 04.1	-3.1
MTE	**Manteigas**	**4.43**	**34**	P			Pn	22 56 13.8	-1.1
MTE				S			Sn	22 57 04.1	-3.1
REAL	**Reales**	**4.50**	**92**	*e*S			Sn	22 57 09.5	+0.7
PVIS	**Viseu**	**4.55**	**29**	*e*Pn			Pn	22 56 14.7	-1.8
PVIS				*e*Sn			Sn	22 57 06.6	-3.5
	comp=E,31nm,0.1s								
PVIS	**Viseu**	**4.55**	**29**	Pn			Pn	22 56 14.7	-1.8
PVIS				P				22 56 14.9	
PVIS				Sn			Sn	22 57 06.6	-3.5
	comp=E,16nm,0.1s								
PVIS				S			Sn	22 57 06.7	-3.4
PVIS	**Viseu**	**4.55**	**29**	P			Pn	22 56 14.9	-1.6
PVIS				S			Sn	22 57 06.7	-3.4
DKH	**Dar Kharkhour**	**4.57**	**105**	*i* P			Pn	22 56 13.0	-3.9
EMIJ	**Mijas**	**4.84**	**91**	P			Pn	22 56 21.1	+0.4
	comp=E,2.7nm,0.2s,SNR=14								
EMIJ				S			Sn	22 57 17.6	+0.1
	comp=E

EMAZ				S	Sn	22 57 42.9	-12	
EBER	**Berja**	**6.33**	**86**	P	Pn	22 56 42.3	+0.6	
	comp=E,1.6nm,0.4s,SNR=7.9							
EBER				S	Sn	22 57 53.9	-1.1	
	comp=E,12nm,0.4s,SNR=7.9							
EBER	**Berja**	**6.33**	**86**	P	Pn	22 56 42.4	+0.6	
EBER				S	Sn	22 57 56.7	+1.7	
EBER	**Berja**	**6.33**	**86**	P	Pn	22 56 42.3	+0.5	
	comp=E,1.6nm,0.4s,SNR=7.9							
EBER				S	Sn	22 57 55.6	+0.6	
	comp=E,12nm,0.4s,SNR=7.9							
STS	**Santiago**	**6.35**	**15**	P	Pn	22 56 37.3	-4.7	
	comp=E,2.6nm,0.2s,SNR=7.9							
STS				S	Sn	22 57 45.3	-10	
	comp=E,7.7nm,0.2s,SNR=7.9							
EVIA	**Vianos**	**6.83**	**72**	P	Pn	22 56 48.1	-0.6	
	comp=E,2.1nm,0.2s,SNR=7.9							
EVIA				S	Sn	22 58 04.6	-2.7	
	comp=E,6.1nm,0.2s,SNR=7.9							
EPON	**Pontenova**	**7.12**	**22**	P	Pn	22 56 48.9	-4.0	
	comp=E,9.8nm,0.2s,SNR=44							
EPON				S	Sn	22 58 05.5	-9.2	
	comp=E,5.0nm,0.2s							
EMUR	**La Murta**	**7.68**	**79**	P	Pn	22 57 00.4	-0.3	
	comp=E,0.6nm,0.3s,SNR=7.9							
EMUR				S	Sn	22 58 25.1	-3.7	
	comp=E,6.9nm,0.4s,SNR=7.9							
EMUR	**La Murta**	**7.68**	**79**	P	Pn	22 57 00.4	-0.3	
	comp=E,0.6nm,0.3s,SNR=7.9							
EARI	**Arriondas**	**7.80**	**32**	P	Pn	22 56 59.8	-2.5	
	comp=E,1.1nm,0.2s,SNR=22							
EARI				S	Sn	22 58 23.9	-7.8	
	comp=E,2.5nm,0.3s,SNR=7.9							
ETOR	**Torete**	**7.93**	**57**	P	Pn	22 57 03.3	-0.8	
	comp=E,3.2nm,0.2s,SNR=38							
ETOR				S	Sn	22 58 29.3	-5.5	
	comp=E,96nm,1.9s							
ELAN	**Lanestosa**	**8.57**	**39**	P	P	22 57 11.1	-2.0	
	comp=E,0.6nm,0.1s,SNR=7.9							
ELAN				S	Sn	22 58 44.6	-6.3	
	comp=E,3.4nm,0.6s,SNR=7.9							
ELAN	**Lanestosa**	**8.57**	**39**	P	P	22 57 11.1	-2.0	
	comp=E,0.6nm,0.1s,SNR=7.9							
EBEN	**Beniarda**	**8.59**	**74**	P	P	22 57 13.0	-0.3	
	comp=E,0.7nm,0.3s,SNR=7.9							
EBEN				S	Sn	22 58 48.2	-3.1	
	comp=E,3.6nm,0.5s,SNR=7.9							
EBEN	**Beniarda**	**8.59**	**74**	P	P	22 57 10.6	-2.8	
EBEN				S	Sn	22 58 48.2	-3.1	
EBEN	**Beniarda**	**8.59**	**74**	P	P	22 57 13.0	-0.3	
	comp=E,0.7nm,0.3s,SNR=7.9							
EMOS	**Mosqueruela**	**8.84**	**63**	P	P	22 57 16.9	+0.1	
	comp=E,0.8nm,0.2s,SNR=6.8							
EMOS				S	Sn	22 58 51.9	-5.6	
	comp=E,5.2nm,0.4s,SNR=7.9							
EMOS	**Mosqueruela**	**8.84**	**63**	P	P	22 57 16.9	+0.1	
	comp=E,0.8nm,0.2s,SNR=6.8							
ESAC	**San Caprasio**	**9.41**	**55**	S	Sn	22 59 04.9	-6.7	
	comp=E,15nm,0.4s,SNR=4.0							
EALK	**Alkurruntz**	**9.60**	**45**	P	P	22 57 25.5	-1.7	
	comp=E,1.4nm,0.2s,SNR=4.8							
EALK				S	Sn	22 59 08.3	-7.9	
	comp=E,8.9nm,0.5s,SNR=7.9							
EALK	**Alkurruntz**	**9.60**	**45**	P	P	22 57 25.5	-1.7	
EALK				S	Sn	22 59 09.9	-6.4	
SJPF	**Ste Jean**	**9.70**	**46**	*e*Pn	P	22 57 26.8	-1.8	
SJPF				*e*Sn	Sn	22 59 11.1	-7.6	
	comp=E,3.2nm,0.4s							
EIBI	**Ibiza**	**9.85**	**73**	S	Sn	22 59 17.4	-5.0	
	comp=E,5.8nm,0.7s,SNR=4.0							
ETSF	**Etsaut**	**9.96**	**49**	*e*Pn	P	22 57 30.8	-1.5	
ETSF				*e*Sn	Sn	22 59 18.4	-6.9	
	comp=E,3.0nm,0.4s							
EBIE	**Bielsa**	**10.28**	**52**	P	P	22 57 35.4	-1.3	
	comp=E,1.8nm,0.3s,SNR=10							
EBIE				S	S	22 59 26.9	-6.1	
	comp=E,2.8nm,0.5s,SNR=7.9							
EBIE	**Bielsa**	**10.28**	**52**	P	P	22 57 35.4	-1.3	
	comp=E,1.8nm,0.3s,SNR=10							
EPOB	**Poblet**	**10.30**	**60**	P	P	22 57 35.1	-1.8	
	comp=E,0.5nm,0.2s,SNR=7.9							
EPOB				S	S	22 59 26.5	-7.0	
	comp=E,0.8nm,0.3s,SNR=7.9							
EPOB	**Poblet**	**10.30**	**60**	P	P	22 57 35.1	-1.8	
	comp=E,0.5nm,0.2s,SNR=7.9							
EPF	**Esparros**	**10.59**	**50**	*e*Pn	P	22 57 39.3	-1.5	
EPF				*e*Sn	S	22 59 33.6	-6.9	
	comp=E,2.5nm,0.4s							
EMIR	**Miracle**	**10.83**	**58**	P	P	22 57 43.2	-1.0	
	comp=E,1.1nm,0.2s,SNR=7.9							
EMIR				S	S	22 59 40.1	-6.4	
	comp=E,1.1nm,0.3s,SNR=7.9							
EMIR	**Miracle**	**10.83**	**58**	P	P	22 57 43.2	-0.9	
	comp=E,1.1nm,0.2s							
MTLF	**Montolieu**	**11.93**	**53**	*e*Pn	P	22 57 56.9	-2.2	
MTLF				*e*Sn	S	23 00 04.6	-8.6	
	comp=E,0.3nm,0.3s							
LFF	**La Frestale**	**11.94**	**43**	*e*Pn	P	22 57 56.3	-3.0	
LFF				*e*Sn	S	23 00 04.2	-9.4	
	comp=E,0.9nm,0.2s							
QUIF	**Quistinic**	**12.48**	**24**	*e*Pn	P	22 58 01.8	-4.7	
QUIF				*e*Sn	S	23 00 14.6	-12	
	comp=E,1.6nm,0.3s							
RJF	**Les Rejaudoux**	**12.60**	**44**	*e*Pn	P	22 58 04.6	-3.5	
RJF				*e*Sn	S	23 00 20.3	-9.2	
	comp=E,0.8nm,0.3s							
MFF	**Saint Martin d**	**12.63**	**36**	*e*Pn	P	22 58 05.1	-3.4	
MFF				*e*Sn	S	23 00 19.8	-10	
	comp=E,1.5nm,0.3s							
ROSF	**Rostrenen**	**12.81**	**23**	*e*Pn	P	22 58 06.6	-4.3	
ROSF				*e*Sn	S	23 00 21.9	-13	
	comp=E,0.6nm,0.3s							
SGMF	**Saint Gilles**	**12.98**	**25**	*e*Pn	P	22 58 08.9	-4.2	
TCF	**Toulx Ste Croi**	**13.60**	**42**	*e*Pn	P	22 58 18.4	-2.8	
BGF	**Bois d'Agland**	**14.11**	**42**	*e*Pn	P	22 58 25.4	-2.6	
FLN	**La Foliniere**	**14.16**	**29**	*e*Pn	P	22 58 25.5	-3.2	
LDF	**La Druitiere**	**14.17**	**30**	*e*Pn	P	22 58 25.6	-3.2	
SSF	**Saint Saulge**	**14.78**	**41**	*e*Pn	P	22 58 34.4	-2.3	
CABF	**La Chapelle**	**15.96**	**47**	*e*Pn	P	22 58 51.3	-0.8	

*IDC **24** 23:11:12.4±8.1,23.58S×179.35E,h503km±72km,mb3.3/8, mb1 3.5/9,mb1mx3.3/16,Error ellipse: s-maj=71.2km s-min=19.8km az=47.0*
*NEIC **24** 23:11:12.7±1.6,23.65S×179.19E,h492km±23km,mb4.1/5, Error ellipse: s-maj=20.4km s-min=15.8km az=201.0*
ISC 24 23:11:11.7±1.9,23.67S±0.09×179.2E±0.1,h492km±25km, n22,σ1§02/21,mb3.8/12,3C-1D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**12.96**	**43**	*e*Pn	**P**	**23 14 01.2**	**-0.2**
URZ	**Urewera**	**14.65**	**186**	P	**P**	**23 14 18.9**	**+0.1**
	1.1nm,0.3s,baz=124,slow=3.6,SNR=5.1						
URZ				S	**S**	**23 16 49.6**	**-0.3**
	0.2nm,0.3s,baz=86,slow=22,SNR=4.6						
CTA	**Charters Tower**	**30.70**	**270**	P	**P**	**23 16 47.8**	**+0.8**
	8.4nm,0.3s,mb4.6,baz=94,slow=11,SNR=25						
CTAO	**Charters Tower**	**30.70**	**270**	*e*P	**P**	**23 16 47.9**	**+0.9**
	9.3nm,0.3s,mb4.7						
STKA	**Stephens Creek**	**34.09**	**248**	P	**P**	**23 17 16.4**	**+0.8**
	4.9nm,0.6s,mb4.1,baz=90,slow=10.0,SNR=12						
ASAR	**Alice Springs**	**41.31**	**261**	P	**P**	**23 18 15.0**	**+0.2**
	4.7nm,0.9s,mb3.9,baz=91,slow=8.4,SNR=38						
WRAB	**Tennant Creek**	**41.64**	**266**	*e*P	**P**	**23 18 16.8**	**-0.8**
	6.5nm,0.8s,mb4.1						
WRA	**Warramunga Arr**	**41.65**	**266**	P	**P**	**23 18 17.2**	**-0.4**
	1.5nm,0.3s,mb3.8,baz=90,slow=5.9,SNR=106						
FITZ	**Fitzroy Crossi**	**50.07**	**266**	P	**P**	**23 19 22.3**	**-0.3**
	0.9nm,0.4s,mb3.4,baz=134,slow=0.7,SNR=7.1						
VNDA	**Vanda**	**54.55**	**185**	P	**P**	**23 19 54.2**	**+0.1**
	0.6nm,0.6s,mb3.1,baz=5.8,slow=6.7,SNR=5.2						
VNDA	**Vanda**	**54.55**	**185**	P	**P**	**23 19 54.2**	**+0.1**
SBA	**Scott Base**	**54.56**	**183**	*e*P	**P**	**23 19 55.1**	**+0.9**
	4.0nm,1.0s,mb3.7						
CASY	**Casey**	**59.98**	**206**	*e*P	**P**	**23 20 29.8**	**-1.4**
	1.8nm,0.6s,mb3.7						
QSPA	**South Pole Qui**	**66.41**	**180**	*e*P	**P**	**23 21 12.5**	**+0.2**
	9.4nm,1.1s,mb4.3						
MAW	**Mawson**	**77.69**	**201**	P	**P**	**23 22 17.3**	**-0.2**
	1.5nm,0.5s,mb3.7,baz=130,slow=8.0,SNR=8.8						
SNAA	**Sanae**	**84.91**	**179**	⇓*i*	**P**	**23 22 52.8**	**-1.5**
SNAA	**Sanae**	**84.91**	**179**	P	**P**	**23 22 52.9**	**-1.4**
	0.2nm,0.5s,mb3.0,baz=210,slow=13,SNR=20						
VNA3	**Neumayer Olymp**	**85.15**	**177**	⇑*i*	**P**	**23 22 57.8**	**+2.4**
VNA2	**Neumayer--Watz**	**85.55**	**178**	⇑*i*	**P**	**23 22 59.9**	**+2.5**
VNA1	**Neumayer--Stat**	**85.80**	**178**	⇑*i*	**P**	**23 22 57.0**	**-1.6**
AKASG	**Malin Array Be**	**144.36**	**327**	PKP	PKPdf	23 29 49.8	-0.8
	0.3nm,0.4s,baz=30,slow=4.5,SNR=5.4						
CLL	**Collm**	**150.41**	**342**	*e*PKP1	PKPdf	23 30 07.0	+6.5

*IDC **24** 23:13:29.1±0.6,16.91N×146.06E,mb4.3/13,mb1 4.6/14, mb1mx4.3/24,ML4.5/1,MS3.4/3,Ms1 3.5/3,ms1mx2.9/28, Error ellipse: s-maj=28.6km s-min=15.5km az=122.0*
*BJI **24** 23:13:30.5,16.74N×145.86E,h16km,mB4.8,mb4.6, Ms4.9,Msz4.9*
*NEIC **24** 23:13:31.9±1.1,16.89N×146.03E,h16km±7km,mb4.8/11, Error ellipse: s-maj=9.0km s-min=7.6km az=115.0*
ISC 24 23:13:33.2±0.9,16.86N±0.07×145.88E±0.05,h35km±8km, n61,σ0§93/65,mb4.4/29,MS4.4/6,2C-1D,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**0.19**	**215**	⇑*i*P	**P**	**23 13 38.3**	**-1.6**
ANAT	**Anatahan**	**0.55**	**203**	⇑*e*P	**P**	**23 13 44.5**	**0.0**
GUMO	**Guam**	**3.40**	**197**	*e*Pn	**P**	**23 14 27.0**	**+1.9**
JOW	**Kunigami**	**19.10**	**304**	P	**P**	**23 17 59.2**	**+3.4**
	2.2nm,0.3s,baz=127,slow=11,SNR=8.2						
JOW				LR	LR	23 23 56.6	
	comp=Z,329nm,19.6s,baz=50,slow=33						
PMG	**Port Moresby**	**26.13**	**177**	LR	LR	23 28 02.9	
	comp=Z,23nm,19.4s,baz=320,slow=33						
NJ2	**Nanjing**	**28.77**	**307**	*e*P	**P**	**23 19 30.5**	**+0.5**
NJ2				PP	PP	23 20 25.3	+2.0
NJ2				S	**S**	**23 24 14.0**	**-1.7**
NJ2				AMB	AMB		
	comp=Z,130nm,1.0s						
NJ2				AMB	AMB		
	comp=Z,30nm,5.0s						
NJ2				LR	LR		
	comp=N,2μm,14.8s,MS5.0						
NJ2				LR	LR		
	comp=E,2μm,16.2s,MS5.0						
NJ2				LR	LR		
	comp=Z,3μm,16.2s,MS5.0						
CN2	**Changchun**	**31.95**	**331**	*e*P	**P**	**23 19 58.8**	**+0.8**
BJT	**Baijiatuan**	**34.58**	**318**	P	**P**	**23 20 20.1**	**-0.7**
	comp=Z,50nm,1.8s,mb5.1						
BJI	**Beijing**	**34.59**	**318**	P	**P**	**23 20 20.8**	**-0.1**
	comp=Z,8.0nm,1.0s,mb4.6						
BJI				S	**S**	**23 25 26.9**	**-20**
BJI				LR	LR		
	comp=Z,90nm,15.8s,MS3.6						
ENH	**Enshi**	**35.77**	**299**	P	**P**	**23 20 31.2**	**+0.2**
	comp=Z,6.3nm,0.8s,mb4.6						
GYA	**Guiyang**	**37.55**	**292**	⇓*i*P	**P**	**23 20 48.3**	**+2.2**
GYA				PP	PP	23 22 19.4	+4.5
GYA				S	**S**	**23 26 34.3**	**+1.8**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
GYA				LR	LR		
	comp=N,2μm,16.8s,MS5.1						
GYA				LR	LR		
	comp=E,2μm,17.0s,MS5.1						
GYA				LR	LR		
	comp=Z,2μm,16.4s,MS5.0						
WRAB	**Tennant Creek**	**38.28**	**198**	*e*P	**P**	**23 20 51.2**	**-1.0**
WRA	**Warramunga Arr**	**38.29**	**198**	P	**P**	**23 20 51.7**	**-0.6**
	comp=Z,5.5nm,1.0s,mb4.2,baz=18,slow=9.2,SNR=11						
FITZ	**Fitzroy Crossi**	**40.05**	**211**	P	**P**	**23 21 06.9**	**-0.1**
	comp=Z,4.3nm,0.9s,mb4.2,baz=15,slow=8.5,SNR=5.4						
CD2	**Chengdu**	**40.73**	**298**	*e*P	**P**	**23 21 11.1**	**-1.4**
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
KMI	**Kunming**	**40.97**	**289**	*e*P	**P**	**23 21 15.4**	**+0.9**
KMI				PP	PP	23 22 53.5	+1.5
KMI				S	**S**	**23 27 24.1**	**+0.2**
KMI				SS	SS	23 30 19.3	-2.8
KMI				AMB	AMB		
	comp=Z,6.0nm,1.4s,mb4.0						
KMI				AMB	AMB		
	comp=Z,161nm,7.5s						
KMI	**Kunming**	**40.97**	**289**	*e*P	**P**	**23 21 15.4**	**+0.9**
	comp=Z,6.0nm,1.4s,mb4.0						
KMI				pP	pP	23 21 29.3	+4.5
KMI				sP	sP	23 21 36.0	+6.8
KMI				PP	PP	23 22 53.5	+1.5
KMI				S	**S**	**23 27 24.1**	**+0.2**
KMI				sS		23 27 48.0	
KMI				SS	SS	23 30 19.2	-2.9
KMI				LR	LR		
	comp=Z,60nm,33.9s						
LZH	**Lanzhou**	**41.83**	**306**	*e*P	**P**	**23 21 22.5**	**+1.0**
LZH				PP	PP	23 23 03.5	+2.1
LZH				*e*S	**S**	**23 27 35.4**	**-1.3**
LZH				*e*SS	SS	23 30 37.8	-0.4
LZH				AMB	AMB		
	comp=Z,43nm,1.5s,mb4.9						
LZH				AMB	AMB		
	comp=Z,243nm,4.6s						
LZH				LR	LR		
	comp=E,853nm,15.6s						
LZH				LR	LR		
	comp=Z,1μm,17.8s,MS4.9						
LZH	**Lanzhou**	**41.83**	**306**	*e*P	**P**	**23 21 22.5**	**+1.0**
	comp=Z,43nm,1.5s,mb4.9						
LZH				pP	pP	23 21 37.8	+6.0
LZH				sP	sP	23 21 45.1	+8.9
LZH				PP	PP	23 23 03.5	+2.1
LZH				*e*S	**S**	**23 27 35.4**	**-1.3**
LZH				sS		23 28 01.6	
LZH				*e*SS	SS	23 30 37.7	-0.5
LZH				LR	LR		
	comp=Z,1μm,17.8s,MS4.9						
ASAR	**Alice Springs**	**41.95**	**197**	P	**P**	**23 21 22.0**	**-0.6**
	comp=Z,1.4nm,0.9s,mb3.6,baz=22,slow=7.9,SNR=9.4						
CMAR	**Chiang Mai Arr**	**44.66**	**279**	P	**P**	**23 21 45.2**	**+0.5**
	comp=Z,3.8nm,0.8s,mb4.2,baz=72,slow=6.8,SNR=18						
CMAR				LR	LR	23 41 03.4	
	comp=Z,50nm,19.4s,MS3.5,baz=299,slow=37						
SONM	**Songino Array**	**44.69**	**322**	P	**P**	**23 21 46.1**	**+1.5**
	comp=Z,0.5nm,0.8s,mb3.4,baz=112,slow=6.7,SNR=4.5						
WMQ	**Urumqi**	**55.65**	**312**	*e*P	**P**	**23 23 07.6**	**-0.6**
WMQ				PP	PP	23 25 14.0	+0.1
WMQ				S	**S**	**23 30 48.0**	**-2.1**
WMQ				SS	SS	23 34 34.0	-1.3
WMQ				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.6						
WMQ				LR	LR		
	comp=N,125nm,20.0s,MS4.0						
WMQ				LR	LR		
	comp=E,68nm,20.0s,MS4.0						
PKI	**Pulchoki**	**56.52**	**292**	*e*P	**P**	**23 23 14.0**	**-0.6**
KKN	**Kakani**	**56.63**	**292**	*e*P	**P**	**23 23 15.4**	**0.0**
DMN	**Daman**	**56.79**	**292**	*e*P	**P**	**23 23 16.1**	**-0.5**
GKN	**Gorkha**	**57.19**	**293**	*e*P	**P**	**23 23 18.8**	**-0.6**
	comp=E,20nm,1.2s,mb5.0						
KOLN	**Koldanda**	**58.11**	**293**	*e*P	**P**	**23 23 25.9**	**0.0**
	comp=E,4.1nm,0.8s,mb4.5						
ILAR	**Eielson Array**	**65.21**	**26**	P	**P**	**23 24 09.4**	**-3.5**
	comp=E,3.2nm,0.8s,mb4.4,baz=258,slow=4.9,SNR=31						
INK	**Inuvik**	**70.99**	**23**	P	**P**	**23 24 46.6**	**-2.2**
	comp=E,5.3nm,0.8s,mb4.5,baz=266,slow=6.3,SNR=11						
INK	**Inuvik**	**70.99**	**23**	*e*P	**P**	**23 24 46.6**	**-2.3**
	comp=E,23nm,1.5s,mb4.9						
DLBC	**Dease Lake**	**72.72**	**33**	P	**P**	**23 24 58.8**	**-0.5**
	comp=E,2.6nm,0.7s,mb4.3,baz=41,slow=25,SNR=6.0						
YKA	**Yellowknife Ar**	**79.52**	**28**	P	**P**	**23 25 36.0**	**-1.7**
	comp=E,2.7nm,0.7s,mb4.3,baz=286,slow=5.3,SNR=6.4						
YKA	**Yellowknife Ar**	**79.52**	**28**	P	**P**	**23 25 36.0**	**-1.7**
YBH	**Yreka Blue Hor**	**80.00**	**49**	P	**P**	**23 25 40.8**	**0.0**
	comp=E,2.8nm,0.8s,mb4.2,baz=235,slow=9.6,SNR=4.6						
NEW	**Newport**	**82.15**	**42**	P	**P**	**23 25 51.5**	**-0.4**
	comp=E,4.6nm,0.9s,mb4.4,baz=296,slow=1.9,SNR=7.9						
NEW	**Newport**	**82.15**	**42**	P	**P**	**23 25 51.5**	**-0.4**
NVAR	**Mina Array Bea**	**84.13**	**52**	P	**P**	**23 26 02.9**	**+0.7**
	comp=E,3.4nm,0.7s,mb4.6,baz=262,slow=4.0,SNR=34						
NVAR	**Mina Array Bea**	**84.13**	**52**	P	**P**	**23 26 02.9**	**+0.7**
HLID	**Hailey**	**85.37**	**46**	*e*P	**P**	**23 26 08.8**	**+0.5**
	comp=E,6.5nm,1.1s,mb4.7						
MCMT	**McKenzie Canyo**	**86.02**	**44**	*e*P	**P**	**23 26 11.2**	**-0.2**
HRY	**Holter Researc**	**86.05**	**42**	*e*P	**P**	**23 26 11.5**	**+0.1**
BOZ	**Bozeman (W)**	**86.55**	**43**	*e*P	**P**	**23 26 14.0**	**+0.1**
	comp=E,2.3nm,0.8s,mb4.5						
SPUT	**South Promonto**	**87.50**	**48**	*e*P	**P**	**23 26 19.1**	**+0.4**
NEN	**Nelson**	**87.62**	**54**	*e*P	**P**	**23 26 20.1**	**+0.7**
DUG	**Dugway**	**87.62**	**49**	*e*P	**P**	**23 26 19.6**	**+0.4**
	comp=E,19nm,1.3s,mb5.2						
MOOW	**Moose Ponds**	**87.81**	**45**	*e*P	**P**	**23 26 20.5**	**+0.4**
ARUT	**Antelope Range**	**87.97**	**51**	P	**P**	**23 26 19.4**	**-1.6**
HWUT	**Hardware Ranch**	**88.02**	**47**	*e*P	**P**	**23 26 21.5**	**+0.4**
	comp=E,8.8nm,0.9s,mb5.0						
JLU	**Jordanelle**	**88.45**	**48**	*e*P	**P**	**23 26 23.7**	**+0.5**
MVU	**Marysvale**	**88.64**	**50**	*e*P	**P**	**23 26 24.9**	**+0.7**
	comp=E,2.0nm,0.8s,mb4.5						
DAU	**Daniels Canyon**	**88.66**	**48**	*e*P	**P**	**23 26 24.7**	**+0.5**
MSU	**Marysvale**	**88.66**	**50**	*e*P	**P**	**23 26 25.2**	**+0.9**
PDAR	**Pinedale Array**	**88.98**	**45**	P	**P**	**23 26 25.4**	**-0.4**
	comp=E,0.2nm,0.4s,mb3.8,baz=315,slow=2.1,SNR=4.3						
PV10	**Paradox Valley**	**91.00**	**49**	*e*P	**P**	**23 26 35.8**	**+0.4**
PV01	**Paradox Valley**	**91.44**	**49**	*e*P	**P**	**23 26 37.0**	**-0.4**
RW3	**Ridgway**	**92.03**	**49**	*e*P	**P**	**23 26 40.4**	**+0.3**
TXAR	**Lajitas Array**	**98.72**	**56**	P	**P**	**23 27 11.2**	**+0.5**
	comp=E,0.3nm,0.9s,mb3.8,baz=150,slow=10,SNR=2.6						
ARE	**Arequipa**	**144.23**	**95**	*e*P	PKPbc	23 33 08.0	+2.3
LPAZ	**La Paz**	**147.42**	**94**	PKPbc	PKPdf	23 33 16.9	+5.2
	comp=E,7.7nm,0.6s,baz=301,slow=2.9,SNR=15						
SAML	**Samuel**	**150.63**	**78**	*e*PKPbc	PKPdf	23 33 23.4	+6.4
SAML				*e*PKPab	PKPab	23 33 29.3	-2.2

*ECX **24** 23:25:58.6±0.7,28.99N×113.86W,h10km,ML4.8*
*NEIC **24** 23:26:07.8±1.3,30.00N×113.81W,h10km,mb3.6/2,Error ellipse: s-maj=17.5km s-min=6.3km az=199.0*
*IDC **24** 23:26:12.3±2.5,30.14N×113.67W,mb3.6/1,mb1 3.9/5, mb1mx3.6/20,ML3.9/3,MS4.1/16,Ms1 4.1/16, ms1mx4.0/24,Error ellipse: s-maj=41.3km s-min=13.0km az=36.0*
ISC 24 23:26:06.3±1.0,30.07N±0.09×113.68W±0.04,h10km,n52, σ1§02/42,mb3.7/2,MS4.1/13,1D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPX	**San Pedro Mart**	**1.82**	**303**	*e*P	**Pn**	**23 26 37.8**	**-0.2**
SPX				*e*S	**Sg**	**23 27 06.5**	**-0.6**
EMX	**El Mayor**	**2.34**	**325**	*e*S	**Sg**	**23 27 23.5**	**-0.7**
EMX				⇓*e*		23 27 54.5	
	comp=E,2μm,1.1s						
RDX	**Rancho Dowling**	**2.69**	**314**	*e*S	**Sn**	**23 27 29.9**	**+6.4**
ECNX	**Esteban Cantu**	**2.97**	**303**	*e*S	**Sn**	**23 27 31.5**	**+1.1**
ENX	**Ensenada**	**3.14**	**306**	*e*S	**Sn**	**23 27 36.7**	**+1.9**
TUC	**Tucson**	**3.34**	**47**	*e*P	**Pn**	**23 27 01.3**	**+1.7**
CBX	**Cerro Bola**	**3.40**	**312**	*e*P	**Pn**	**23 26 59.6**	**-0.9**
CBX				*e*S	**Sn**	**23 27 44.1**	**+2.8**
BAR	**Barrett**	**3.65**	**316**	*e*P	**Pn**	**23 27 03.5**	**-0.5**
PFO	**Pinyon Flat Ob**	**4.25**	**327**	*e*P	**Pn**	**23 27 11.6**	**-1.0**
MWC	**Mount Wilson**	**5.56**	**319**	P	**Pn**	**23 27 30.9**	**-0.3**
NEN	**Nelson**	**5.65**	**350**	*e*P	**Pn**	**23 27 31.6**	**-0.8**
LENM	**Lemitar**	**7.00**	**53**	*e*P	**Pn**	**23 27 51.8**	**+0.3**
LAZ	**Ladron**	**7.03**	**50**	*e*P	**Pn**	**23 27 52.2**	**+0.4**
BNM	**Barren Site**	**7.24**	**54**	*e*P	**Pn**	**23 27 55.9**	**+1.2**
ARUT	**Antelope Range**	**7.70**	**1**	*e*P	**Pn**	**23 28 01.9**	**+0.6**
ANMO	**Albuquerque**	**7.80**	**50**	*e*P	**Pn**	**23 28 03.5**	**+0.9**
GDL2	**Guadalupe Moun**	**8.26**	**73**	P	**P**	**23 28 08.4**	**-0.7**
MVU	**Marysvale**	**8.50**	**8**	P	**P**	**23 28 11.4**	**-1.0**
MSU	**Marysvale**	**8.52**	**8**	*e*P	**P**	**23 28 10.7**	**-1.9**
CLNB	**Carlsbad**	**8.68**	**73**	P	**P**	**23 28 13.9**	**-0.9**
LTX	**Lajitas**	**8.74**	**92**	*e*P	**P**	**23 28 15.7**	**0.0**
TXAR	**Lajitas Array**	**8.74**	**92**	Pn	**P**	**23 28 21.0**	**+5.3**
	comp=E,0.4nm,0.3s,baz=262,slow=14,SNR=25						
TXAR				Lg		23 30 49.2	
	comp=E,0.6nm,0.3s,baz=272,slow=25,SNR=5.1						
TXAR				LR	LR	23 32 22.3	
	comp=E,2μm,18.2s,baz=230,slow=42						
CPRX	**Cap Rock**	**8.88**	**68**	P	**P**	**23 28 18.0**	**+0.4**
PV01	**Paradox Valley**	**9.09**	**26**	P	**P**	**23 28 20.5**	**-0.1**
PV10	**Paradox Valley**	**9.13**	**24**	*e*P	**P**	**23 28 21.6**	**+0.5**
NVAR	**Mina Array Bea**	**9.18**	**337**	Pn	**P**	**23 28 26.9**	**+5.2**
	comp=E,0.1nm,0.3s,baz=163,slow=15,SNR=4.1						
NVAR				Lg		23 31 01.3	
	comp=E,0.0nm,0.3s,baz=183,slow=18,SNR=2.2						
SRU	**San Rafael**	**9.39**	**15**	*e*P	**P**	**23 28 25.9**

IRK				*e*			23 30 33.7	
IRK				pmax	pmax			
	comp=Z,87nm,0.2s							
IRK				smax				
	comp=N,867nm,0.5s							
LSTR	**Listvyanka**	**3.98**	**79**	*e*PN	Pn		23 29 51.1	+8.8
LSTR				*e*			23 30 42.0	
LSTR				pmax	pmax			
	comp=Z,29nm,0.4s							
LSTR				smax				
	comp=N,116nm,1.1s							
TRG	**Tyrgan**	**5.06**	**70**	*e*PN	Pn		23 29 54.6	-2.9
TRG				*e*			23 30 09.4	
TRG				*e*			23 31 16.1	
TRG				pmax	pmax			
	comp=Z,3.0nm,1.1s							
TRG				smax				
	comp=N,143nm,0.6s							
OGRR	**Ongureny**	**6.03**	**64**	*e*PN	Pn		23 30 29.3	+18
OGRR				*e*			23 31 43.2	
OGRR				pmax	pmax			
	comp=Z,15nm,0.4s							
OGRR				smax				
	comp=E,67nm,0.6s							

*NEIC **24** 23:32:38.6,34.95S×70.50W,h2km,ML2.9(GUC),After GUC.*

GUC 24 23:32:38.6±0.8,34.95S×70.50W,h2km,MD3.8,ML2.9, 2C-3D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	**San Fernando**	**0.54**	**308**	⇑*iP*	Pg	23 32 49.3	-0.1
SFDO				*i* S	Sg	23 32 58.1	+1.5
CICH	**Cipreses**	**0.63**	**6**	⇓*iP*	Pg	23 32 51.2	0.0
CICH				*i* S	Sg	23 33 01.3	+1.6
CACH	**El Canelo**	**0.83**	**354**	⇑*iP*	Pg	23 32 54.9	-0.4
CHCH	**Chadas Angostu**	**1.02**	**353**	*eP*	Pb	23 32 58.4	-0.3
CHCH				*i* S	Sb	23 33 13.5	+1.1
LMEL	**Las Melosas**	**1.13**	**13**	*eP*	Pb	23 32 59.9	-0.6
LMEL				*i* S	Sb	23 33 16.2	+0.7
LMEL				AMP		23 33 23.2	
	comp=N,211nm,0.1s						
LNV	**Longovilo**	**1.25**	**323**	⇓*iP*	Pb	23 33 01.5	-1.0
PCH	**Pirque**	**1.33**	**360**	⇓*iP*	Pb	23 33 03.3	-0.5
TACH	**Talagante**	**1.34**	**344**	*eP*	Pb	23 33 03.5	-0.7
RCDM	**Rinconada Maip**	**1.48**	**350**	*eP*	Pn	23 33 05.8	-0.5
RCDM				*i* S	Sb	23 33 26.3	+0.7
RCDM				AMP		23 33 28.9	
	comp=E,470nm,0.1s						
CLCH	**Cerro Calan**	**1.55**	**359**	*eP*	Pn	23 33 07.5	+0.2
CLCH				AMP		23 33 35.8	
	comp=E,241nm,0.3s						
FCH	**Farellones**	**1.63**	**6**	*eP*	Pn	23 33 08.8	+0.3
FCH				*i* S	Sb	23 33 32.9	+2.9
FCH				AMP		23 33 34.3	
	comp=N,338nm,0.2s						
PEL	**Peldehue**	**1.81**	**355**	*eP*	Pn	23 33 12.2	+1.1
PEL				*i* S	Sn	23 33 37.8	+2.9
PEL				AMP		23 33 39.2	
	comp=N,423nm,0.4s						
JACH	**Jahuel**	**2.26**	**358**	*eP*	Pn	23 33 19.0	+1.4

*PRU **24** 23:39:44.4,51.50N×16.10E*

WAR 24 23:39:44.4,51.53N×16.14E,ML2.6,Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.70**	**172**	*e*PG	Pg	23 39 57.0	-1.3
KSP				*e*SG	Sg	23 40 06.0	-1.6
UPC	**Upice**	**1.03**	**184**	*e*PG	Pg	23 40 03.0	-1.9
DPC	**Dobruska-Polom**	**1.19**	**174**	*e*PG	Pg	23 40 05.9	-2.2
DPC				*e*SG	Sg	23 40 21.5	-2.5
PVCC	**Panska Ves**	**1.41**	**225**	*e*PG	Pg	23 40 10.2	-2.3
PRU	**Pruhonice**	**1.85**	**214**	PG	Pg	23 40 18.0	-3.3
PRU				*i* x	x	23 40 34.2	
PRU				SG	Sg	23 40 42.0	-3.9
	6.7nm,0.5s						
CLL	**Collm**	**1.97**	**265**	*e*PN	Pn	23 40 17.0	-2.4
CLL				*e*PG	Pg	23 40 20.0	-3.8
CLL				*e*SG	Sg	23 40 46.0	-4.1
OKC	**Ostrava-Krasne**	**2.12**	**142**	*e*PG	Pg	23 40 24.7	-2.1
OKC				*e*SG	Sg	23 40 51.7	-3.5
NKC	**Novy Kostel**	**2.67**	**242**	*e*PG	Pg	23 40 32.8	-5.0
NKC				*e*SG	Sg	23 41 09.5	-3.9
KHC	**Kasperske Hory**	**2.91**	**215**	*e*PN	Pn	23 40 31.0	-1.8
KHC				*e*PG	Pg	23 40 36.8	-5.7
KHC				*e*SG	Sg	23 41 15.0	-6.2

*CASC **24** 23:40:00.3±2.1,12.01N×88.04W,h20km±8km,MD4.3, ML3.6,mb4.0(NEIC)*
*NEIC **24** 23:40:23.2±1.9,13.14N×88.04W,h184km±16km,mb4.0/7, Error ellipse: s-maj=22.5km s-min=9.9km az=47.0*
*IDC **24** 23:40:26.9±21.0,13.36N×88.01W,h207km±158km, mb3.4/6,mb1 3.6/6,mb1mx3.3/19,MS3.5/1,Ms1 3.4/1, ms1mx2.9/15,Error ellipse: s-maj=129.0km s-min=36.0km az=162.0*

ISC 24 23:40:00.1±0.8,11.89N±0.07×88.09W±0.04,h56km±6km, n45,σ1§03/57,mb4.0/11,MS3.5/1,12C-4D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LEON	**Leon**	**1.28**	**66**	⇑*eP*	**P**	**23 40 21.9**	**-0.2**
LEON				*e*S	**S**	**23 40 36.7**	**-1.7**
CNCH	**Conchagua**	**1.40**	**10**	⇑*eP*	**P**	**23 40 22.7**	**-1.2**
MIRN	**Miramar**	**1.45**	**68**	⇑*eP*	**P**	**23 40 24.6**	**0.0**
MIRN				*e*S	**S**	**23 40 43.2**	**+0.5**
CNGN	**Cerro Negro**	**1.48**	**66**	⇓*eP*	**P**	**23 40 24.8**	**-0.3**
COPN	**Copaltepe**	**1.49**	**79**	⇓*eP*	**P**	**23 40 25.4**	**+0.3**
COPN				*e*S	**S**	**23 40 44.0**	**+0.4**
VSM	**San Miguel**	**1.54**	**353**	⇑*eP*	**P**	**23 40 24.7**	**-1.1**
BLLM	**Bellamira**	**1.55**	**355**	⇑*eP*	**P**	**23 40 24.9**	**-1.1**
BLLM				*e*S	**S**	**23 40 40.4**	**-4.6**
MOMJ	**Momotombo**	**1.60**	**71**	⇑*eP*	**P**	**23 40 26.2**	**-0.4**
MOMJ				*e*S	**S**	**23 40 46.5**	**+0.3**
APYN	**Apoyeque**	**1.73**	**78**	⇑*eP*	**P**	**23 40 28.9**	**+0.4**
APYN				*e*S	**S**	**23 40 48.6**	**-0.8**
XAVN	**Gruta Xavier**	**1.74**	**81**	⇑*eP*	**P**	**23 40 28.9**	**+0.4**
MGAN	**Managua**	**1.82**	**82**	*eP*	**P**	**23 40 30.4**	**+0.8**
MGAN				*e*S	**S**	**23 40 51.8**	**+0.4**
MGAN				*i*		23 40 53.7	
	comp=N,772nm,0.4s						
TICN	**Ticuantepe**	**1.82**	**85**	⇓*eP*	**P**	**23 40 30.4**	**+0.7**
TICN				*e*S	**S**	**23 40 53.0**	**+1.4**
CAHU	**Cacacuatique**	**1.87**	**356**	⇑*eP*	**P**	**23 40 29.9**	**-0.5**
CAHU				*e*S	**S**	**23 40 54.8**	**+1.9**
WILN	**Americas 2**	**1.88**	**82**	⇑*eP*	**P**	**23 40 30.7**	**+0.3**
WILN				*e*S	**S**	**23 40 53.6**	**+0.7**
LCBS	**La Ceiba**	**1.96**	**334**	⇓*eP*	**P**	**23 40 30.9**	**-0.7**
LCBS				*e*S	**S**	**23 40 55.6**	**+0.7**
LFRS	**El Faro**	**1.97**	**331**	⇑*eP*	**P**	**23 40 30.8**	**-1.0**
LFRS				*e*S	**S**	**23 40 55.6**	**+0.4**
APON	**Apoyo**	**1.98**	**89**	*eP*	**P**	**23 40 31.8**	**-0.1**
LBRS	**Las Brisas**	**2.06**	**333**	*eP*	**P**	**23 40 32.9**	**-0.1**
PYTN	**Playitas**	**2.08**	**72**	⇑*eP*	**P**	**23 40 33.1**	**-0.2**
PYTN				*e*S	**S**	**23 40 58.0**	**-0.1**
SBLS	**San Blas**	**2.45**	**322**	*eP*	**P**	**23 40 38.1**	**-0.5**
SNJE	**San Jose**	**2.46**	**323**	*eP*	**P**	**23 40 40.0**	**+1.3**
SNJE				*e*S	**S**	**23 41 10.6**	**+2.9**
RTR	**El Retiro**	**2.51**	**323**	*eP*	**P**	**23 40 38.1**	**-1.3**
RTR				*e*S	**S**	**23 41 09.2**	**+0.3**
MADN	**Villa Maderas**	**2.55**	**101**	*eP*	**P**	**23 40 40.2**	**+0.3**
MADN				*e*S	**S**	**23 41 09.1**	**-0.7**
RBDL	**Robledal**	**2.71**	**325**	*eP*	**P**	**23 40 41.5**	**-0.7**
RBDL				*e*S	**S**	**23 41 14.0**	**+0.2**
CUSS	**Cusmapa**	**2.71**	**318**	*eP*	**P**	**23 40 43.1**	**+0.9**
CUSS				*e*S	**S**	**23 41 12.7**	**-1.2**
MTO2	**Montecristo 2**	**2.79**	**334**	*eP*	**P**	**23 40 43.0**	**-0.4**
TEIG	**Tepich**	**8.29**	**359**	Pn	**P**	**23 42 03.3**	**+3.1**
SDV	**Santo Domingo**	**17.42**	**98**	P	Px	23 44 17.4	
	comp=N,1.4nm,0.4s						
JCT	**Junction City**	**21.45**	**331**	*eP*	**P**	**23 44 46.0**	**+0.4**
	comp=N,13nm,0.8s,mb4.3						
LTX	**Lajitas**	**22.62**	**322**	*eP*	**P**	**23 44 60.0**	**+2.7**
	comp=N,3.1nm,0.7s,mb3.9						
TXAR	**Lajitas Array**	**22.62**	**322**	P	**P**	**23 45 00.1**	**+2.8**
	comp=N,2.3nm,0.6s,mb3.8,baz=136,slow=10,SNR=25						

MIAR	**Mount Ida**	**23.10**	**348**	*eP*	**P**		**23 45 02.8**	**+0.9**
	comp=N,14nm,0.8s,mb4.5							
WMOK	**Wichita Mounta**	**24.74**	**339**	*eP*	**P**		**23 45 17.5**	**-0.3**
	comp=N,3.4nm,0.8s,mb3.9							
CCM	**Cathedral Cave**	**26.21**	**354**	*eP*	**P**		**23 45 29.5**	**-2.0**
	comp=N,3.3nm,0.7s,mb4.0							
SADO	**Sadowa**	**33.65**	**12**	P	**P**		**23 46 35.8**	**-1.8**
	comp=N,2.3nm,0.5s,mb4.4,baz=186,slow=12,SNR=3.8							
PDAR	**Pinedale Array**	**35.98**	**333**	P	**P**		**23 46 57.0**	**-0.4**
	comp=N,0.3nm,0.7s,mb3.3,baz=135,slow=2.6,SNR=3.5							
NVAR	**Mina Array Bea**	**37.72**	**320**	PcP	PcP		23 49 33.0	+4.2
	comp=N,0.4nm,0.9s,baz=135,slow=3.8,SNR=4.3							
ULM	**Lac du Bonnet**	**38.78**	**352**	P	**P**		**23 47 19.2**	**-1.6**
	comp=N,4.2nm,0.6s,mb4.4,baz=182,slow=8.6,SNR=4.6							
ULM				LR	LR		00 07 11.8	
	comp=N,61nm,18.9s,MS3.5,baz=209,slow=43							
MCMT	**McKenzie Canyo**	**39.08**	**332**	*eP*	**P**		**23 47 25.2**	**+1.9**
LVC	**Limon Verde**	**39.10**	**151**	*eP*	sP		23 47 41.1	-4.0
	comp=N,1.4nm,0.4s							
YBH	**Yreka Blue Hor**	**42.38**	**321**	PcP	PcP		23 49 44.7	+1.0
	comp=N,0.8nm,0.6s,baz=145,slow=7.0,SNR=3.6							
SCHQ	**Schefferville**	**45.99**	**17**	P	**P**		**23 48 17.9**	**-1.7**
	comp=N,4.2nm,0.6s,mb4.5,baz=231,slow=10,SNR=7.0							
ILAR	**Eielson Array**	**66.28**	**336**	P	**P**		**23 50 44.6**	**+0.2**
	comp=N,0.3nm,0.7s,mb3.4,baz=176,slow=4.7,SNR=6.0							
WRA	**Warramunga Arr**	**138.52**	**253**	PKhKP			23 59 22.5	
	comp=N,0.2nm,0.6s,baz=88,slow=3.0,SNR=3.8							
WRA				PKP	PKPdf		23 59 29.8	+9.4
	comp=N,0.4nm,0.8s,baz=17,slow=0.4							
CMAR	**Chiang Mai Arr**	**149.06**	**347**	PKPbc	PKPdf		23 59 46.9	+8.2
	comp=N,0.5nm,0.4s,baz=336,slow=2.4,SNR=6.2							

*IDC **24** 23:42:49.0±1.1,16.76N×145.97E,mb3.6/5,mb1 3.9/5, mb1mx3.7/19,Error ellipse: s-maj=33.6km s-min=28.1km az=93.0*
*NEIC **24** 23:42:52.9±1.7,16.77N×145.98E,h26km±10km,Error ellipse: s-maj=26.8km s-min=13.1km az=91.0*

ISC 24 23:42:51.0±2.1,16.86N±0.09×146.1E±0.2,h28km±11km, n11,σ0§99/11,mb3.5/5,1C,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SARN	**Sarigan**	**0.33**	**241**	⇑*iP*	**Pb**	**23 42 58.0**	**-0.7**
ANA2	**Anatahan**	**0.62**	**214**	*eP*	**Pb**	**23 43 04.0**	**+0.8**
ANAT	**Anatahan**	**0.64**	**218**	*eP*	**Pb**	**23 43 04.2**	**+0.6**
GUMO	**Guam**	**3.46**	**200**	Pn	**Pn**	**23 43 42.4**	**-2.0**
GUMO				*e*S	**Sn**	**23 44 26.2**	**+1.4**
WRAB	**Tennant Creek**	**38.34**	**198**	P	**P**	**23 50 11.7**	**+0.2**
WRA	**Warramunga Arr**	**38.35**	**198**	P	**P**	**23 50 10.4**	**-1.2**
	1.0nm,0.9s,mb3.5,baz=18,slow=9.0,SNR=4.6						
ASAR	**Alice Springs**	**42.00**	**197**	P	**P**	**23 50 40.9**	**-0.9**
	0.4nm,0.7s,mb3.2,baz=24,slow=11,SNR=4.5						
SONM	**Songino Array**	**44.80**	**322**	P	**P**	**23 51 05.0**	**+0.7**
	0.3nm,0.6s,mb3.3,baz=135,slow=4.1,SNR=3.9						
CMAR	**Chiang Mai Arr**	**44.84**	**279**	P	**P**	**23 51 04.7**	**-0.3**
	1.2nm,0.6s,mb3.9,baz=71,slow=6.9,SNR=9.7						
NVAR	**Mina Array Bea**	**83.99**	**52**	P	**P**	**23 55 21.4**	**+1.1**
	0.5nm,0.6s,mb3.8,baz=262,slow=6.4,SNR=5.5						
LPAZ	**La Paz**	**147.24**	**94**	PKPbc	PKPdf	00 02 37.1	+1.9
	1.2nm,0.7s,baz=13,slow=13,SNR=2.3						

*MAN **24** 23:57:33.2,6.01N×125.85E,h168km,mb5.1,ML4.0, MS4.2*
*IDC **24** 23:57:36.8±3.8,6.08N×125.80E,h182km±35km,mb3.6/14, mb1 3.7/15,mb1mx3.6/21,Error ellipse: s-maj=29.0km s-min=10.3km az=76.0*
*NEIC **24** 23:57:37.7±2.7,6.09N×125.83E,h194km±27km,mb4.4/5, Error ellipse: s-maj=21.9km s-min=7.2km az=76.0*

ISC 24 23:57:34.0±0.6,6.09N±0.07×125.8E±0.1,h173km±4km, n43,σ0§70/43,mb4.0/20,3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.95**	**26**	*eP*	**P**	**23 57 59.7**	**-1.1**
KCP	**Kidapawan**	**1.18**	**321**	⇓*iP*	**P**	**23 58 02.9**	**+0.2**
KCP				*i* S	**S**	**23 58 25.2**	**+0.3**
BUKP	**Musuan**	**1.94**	**337**	*eP*	**P**	**23 58 10.2**	**0.0**
BUKP	**Musuan**	**1.94**	**337**	*eP*	**P**	**23 58 10.9**	**+0.6**
CTBH	**Cotabato--PC H**	**1.95**	**306**	⇓*iP*	**P**	**23 58 10.2**	**-0.1**
CGP	**Cagayan de Oro**	**2.62**	**334**	*eP*	**P**	**23 58 18.6**	**+0.5**
PAGZ	**Pagadian**	**3.00**	**306**	*eP*	**P**	**23 58 22.6**	**-0.4**
PAGZ	**Pagadian**	**3.00**	**306**	*eP*	**P**	**23 58 22.6**	**-0.4**
TBP	**Tagbilaran**	**4.08**	**331**	*eP*	**P**	**23 58 37.1**	**+0.4**
SNPH	**Sibulan**	**4.37**	**322**	*eP*	**P**	**23 58 37.0**	**-0.4**
KAKA	**Kakadu**	**19.77**	**161**	⇓*iP*	**P**	**00 01 57.8**	**+5.1**
	14nm,0.6s						
JOW	**Kunigami**	**20.76**	**6**	P	**P**	**00 02 03.2**	**+0.6**
	16nm,0.7s,baz=157,slow=14,SNR=2.8						
FITZ	**Fitzroy Crossi**	**24.03**	**180**	*eP*	**P**	**00 02 35.1**	**+0.6**
	2.9nm,0.3s,mb4.3						
FITZ	**Fitzroy Crossi**	**24.03**	**180**	P	**P**	**00 02 35.1**	**+0.6**
	3.2nm,0.3s,mb4.3,baz=360,slow=6.9,SNR=26						
WRA	**Warramunga Arr**	**27.18**	**162**	P	**P**	**00 03 02.7**	**-0.9**
	0.6nm,0.7s,mb3.4,baz=331,slow=10,SNR=7.5						
WRA				PcP	PcP	00 06 19.4	-0.2
	0.4nm,0.8s,baz=329,slow=2.2,SNR=4.7						
WB2	**Warramunga Arr**	**27.18**	**162**	*eP*	**P**	**00 03 02.7**	**-1.0**
CMAR	**Chiang Mai Arr**	**28.96**	**298**	P	**P**	**00 03 19.7**	**+0.1**
	0.6nm,0.3s,mb3.8,baz=102,slow=6.6,SNR=4.9						
ASAR	**Alice Springs**	**30.60**	**165**	P	**P**	**00 03 33.5**	**-0.5**
	1.1nm,0.4s,mb3.9,baz=339,slow=7.1,SNR=17						
ASAR				PcP	PcP	00 06 28.2	0.0
	1.1nm,0.4s,baz=348,slow=2.5,SNR=9.3						
FORT	**Forrest**	**36.72**	**177**	*eP*	**P**	**00 04 26.4**	**+0.2**
	32nm,0.8s,mb5.0						
NWAO	**Narrogin (SRO)**	**39.65**	**191**	P	**P**	**00 04 51.0**	**+0.5**
	12nm,1.1s,mb4.5,baz=1.3,slow=6.8,SNR=5.6						
STKA	**Stephens Creek**	**40.63**	**159**	P	**P**	**00 05 00.0**	**+1.4**
	1.1nm,0.6s,mb3.7,baz=326,slow=13,SNR=3.1						
GUN	**Gumba**	**43.65**	**305**	*eP*	**P**	**00 05 24.3**	**+1.0**
	13nm,0.6s,mb4.7						
PKI	**Pulchoki**	**43.91**	**304**	*eP*	**P**	**00 05 25.7**	**+0.3**
KKN	**Kakani**	**44.10**	**304**	*eP*	**P**	**00 05 27.4**	**+0.5**
DMN	**Daman**	**44.17**	**304**	*eP*	**P**	**00 05 27.2**	**-0.3**
GKN	**Gorkha**	**44.70**	**304**	*eP*	**P**	**00 05 31.0**	**-0.7**
SONM	**Songino Array**	**44.80**	**341**	P	**P**	**00 05 33.8**	**+1.6**
	0.2nm,0.6s,mb3.0,baz=166,slow=5.9,SNR=3.4						
SONM				PcP	PcP	00 07 11.8	+0.2
	0.5nm,0.6s,baz=159,slow=2.8,SNR=6.1						
KOLN	**Koldanda**	**45.48**	**303**	*eP*	**P**	**00 05 38.3**	**+0.4**
	10nm,0.4s,mb4.8						
KURK	**Kurchatov**	**59.29**	**327**	*eP*	**P**	**00 07 18.4**	**-1.4**
	2.2nm,0.6s,mb4.2						
BVAR	**Bovovye Array**	**64.88**	**327**	P	**P**	**00 07 56.2**	**-0.5**
	1.1nm,0.5s,mb4.0,baz=144,slow=7.8,SNR=13						
BRVK	**Borovoye**	**64.95**	**327**	*eP*	**P**	**00 07 56.1**	**-1.1**
	1.7nm,0.6s,mb4.0						
MIB	**Mutribah**	**77.03**	**299**	*eP*	**P**	**00 09 09.9**	**0.0**
RST	**Umm Al-Ruwaisa**	**77.33**	**299**	*eP*	**P**	**00 09 10.5**	**-1.0**
ILAR	**Eielson Array**	**83.37**	**26**	P	**P**	**00 09 43.5**	**+0.8**
	0.5nm,0.8s,mb3.3,baz=246,slow=4.8,SNR=8.7						
MAW	**Mawson**	**85.65**	**200**	P	**P**	**00 09 54.5**	**+0.6**
	1.1nm,0.8s,mb3.6,baz=23,slow=8.5,SNR=3.3						
VNDA	**Vanda**	**85.86**	**173**	P	**P**	**00 09 55.4**	**+0.6**
	0.4nm,0.7s,mb3.3,baz=322,slow=3.8,SNR=5.1						
BRTR	**Keskin Array B**	**87.85**	**310**	P	**P**	**00 10 04.3**	**-0.8**
	1.1nm,0.9s,mb3.7,baz=105,slow=4.5,SNR=6.9						
ARCES	**ARCESS Array B**	**87.95**	**340**	P	**P**	**00 10 05.1**	**+0.2**
	4.6nm,1.0s,mb4.2,baz=80,slow=5.5,SNR=4.9						
ARCES	**ARCESS Array B**	**87.95**	**340**	P	**P**	**00 10 05.1**	**+0.2**
KAF	**Kangasniemi**	**89.11**	**332**	*e*pkp	**P**	**00 10 09.9**	**-0.6**
	baz=82,slow=4.0						
FINES	**FINESS Array B**	**89.35**	**332**	P	**P**	**00 10 11.4**	**-0.3**
	0.5nm,0.4s,mb3.8,baz=75,slow=3.6,SNR=14						
MLR	**Muntele Rosu**	**92.60**	**316**	P	**P**	**00 10 27.3**	**+0.1**
	0.9nm,0.7s,mb4.0						
DBIC	**Dimbokro**	**129.19**	**284**	PKP	PKPdf	00 16 24.6	+1.8
	3.6nm,1.1s,baz=53,slow=5.1,SNR=2.9						

*NNC **25** 00:08:11.1±160.0,41.22N×81.84E,mpv4.3,Error ellipse: s-maj=2354.4km s-min=662.3km az=156.0*

BJI 25 00:07:04.8,36.07N×80.74E,h29km,ML4.0,1C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**5.11**	**314**	*eP*	Pn	00 08 22.9	+1.4
KSH				S	Sn	00 09 26.8	+6.6
KSH				Smax			
	comp=N,310nm,1.1s						
KSH				Smax			
	comp=E,270nm,1.0s						

AAK	**Ala-Archa**	**8.14**	**325**	Pn	P		00 09 36.0	+32
	comp=E,3.9nm,0.8s							
AAK				⇓Lg			00 11 17.9	
	comp=E,23nm,1.0s							
MK31	**Makanchi Array**	**10.78**	**6**	⇑Pn	P		00 09 38.0	-2.4
	comp=E,173nm,0.6s,baz=193,slow=14,SNR=24							
MK31				⇓Lg			00 11 37.3	
	baz=190,slow=26							

SVSA 25 00:07:21.4±0.8,38.71N×30.24W,h5km,MD3.8,ML2.9, Error ellipse: s-maj=13.5km s-min=5.5km az=175.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**1.21**	**93**	*eP*	Pb	00 07 39.9	-4.4
PCED				*e*S	Sb	00 07 54.0	-6.1
	118nm,0.2s						
CALA	**Caldeira**	**1.21**	**96**	*eP*	Pb	00 07 39.9	-4.5
PICO	**Pico**	**1.44**	**98**	*eP*	Pn	00 07 43.1	-5.1
PICO				*e*S	Sb	00 08 00.2	-6.6
ROSA	**Rosais**	**1.56**	**89**	*eP*	Pn	00 07 45.0	-5.0
ROSA				*e*S	Sb	00 08 02.6	-7.8
PID	**Ribeirinha**	**1.68**	**98**	*eP*	Pn	00 07 47.1	-4.6
PMAN	**Manadas**	**1.69**	**92**	*eP*	Pn	00 07 46.8	-4.9
PMAN				*e*S	Sn	00 08 05.5	-8.4
	72nm,0.3s						
PSBA	**Serra de Santa**	**2.28**	**88**	*eP*	Pn	00 07 55.3	-5.0
PPAD	**Pico dos Padre**	**2.31**	**89**	*eS*	Sn	00 08 22.2	-7.6
	8.6nm,0.1s						
ADH	**Angra Heroismo**	**2.35**	**90**	*eP*	Pn	00 07 55.6	-5.7
ADH				*e*S	Sn	00 08 22.4	-8.5
RIB2	**Ribeirinha**	**2.40**	**90**	*eS*	Sn	00 08 24.1	-8.0
	5.0nm,0.2s						
PFAV	**Pico das Favas**	**2.47**	**89**	*eS*	Sn	00 08 25.4	-8.4
	7.6nm,0.1s						
SET4	**Mosteiros**	**3.59**	**102**	*eP*	Pn	00 08 13.0	-5.9
SET2	**Ginetes**	**3.59**	**103**	*eP*	Pn	00 08 13.1	-5.9
PFET	**Feteiras**	**3.61**	**103**	*eP*	Pn	00 08 13.6	-5.7
PSAN	**Santo Antonio**	**3.65**	**102**	*eP*	Pn	00 08 14.0	-5.8
FAC	**Faja de Cima**	**3.73**	**103**	*eP*	Pn	00 08 15.1	-5.8
FAC				*e*S	Sn	00 08 55.0	-11
CML	**Cha da Macela**	**3.81**	**103**	*eP*	Pn	00 08 16.1	-6.0
PMAT	**Coroa da Mata**	**3.86**	**102**	*eP*	Pn	00 08 17.2	-5.5
LFA	**Lagoa do Fogo**	**3.86**	**103**	*eP*	Pn	00 08 17.1	-5.6
PRCH	**Ribeira Ch**	**3.87**	**103**	*eP*	Pn	00 08 17.1	-5.8
MESC	**Monte Escuro**	**3.88**	**102**	*eP*	Pn	00 08 17.3	-5.8
VIF	**Vila Franca**	**3.90**	**103**	*eP*	Pn	00 08 17.7	-5.6
PCNG	**Congro**	**3.93**	**102**	*eP*	Pn	00 08 18.2	-5.5
PFAD	**Fenais da Ajud**	**3.96**	**101**	*eP*	Pn	00 08 19.0	-5.2
MIRA	**Miradouro**	**4.01**	**102**	*eP*	Pn	00 08 19.5	-5.4
PSMN	**Pico do Norte,**	**4.43**	**111**	*e-*		00 08 23.2	

IDC 25 00:10:36.6±2.0,3.91S×151.24E,mb3.3/3,mb1 3.6/3, mb1mx3.5/13,Error ellipse: s-maj=152.0km s-min=28.5km az=125.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.93**	**225**	P	P	00 15 42.8	-0.8
	0.3nm,0.5s,baz=53,slow=10,SNR=5.9						
ASAR	**Alice Springs**	**25.81**	**219**	P	P	00 16 09.6	-1.7
	0.5nm,0.8s,baz=50,slow=7.0,SNR=4.3						
ILAR	**Eielson Array**	**81.93**	**22**	P	P	00 22 57.7	-1.5
	0.4nm,0.9s,baz=239,slow=5.2,SNR=6.4						

*CSEM **25** 00:13:14.7±0.3,36.73N×24.21W,h30km,ML2.6,Error ellipse: s-maj=7.6km s-min=4.3km az=58.0*
*PDA **25** 00:13:15.0±0.5,36.64N×24.01W,h10km,MD2.9,ML2.6, Error ellipse: s-maj=6.4km s-min=3.2km az=59.0*

SVSA 25 00:13:15.0±0.5,36.64N×24.01W,h10km,MD2.9,ML2.6, Error ellipse: s-maj=6.4km s-min=3.2km az=59.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSMN	**Pico do Norte,**	**0.93**	**294**	*eP*	Pb	00 13 29.3	-3.4
PSMN				*i* S	Sb	00 13 40.0	-4.8
MIRA	**Miradouro**	**1.53**	**319**	*eP*	Pn	00 13 37.7	-4.9
MIRA				*i* S	Sb	00 13 54.8	-7.6

OUR				*e*Sg		**Sb**	**00 19 24.6**	**-0.5**
OUR	**Ouranopolis**	**1.20**	**343**	*e*Pg		**Pb**	**00 19 09.8**	**-0.2**
OUR				*e*Sg		**Sb**	**00 19 24.6**	**-0.5**
PTL	**Penteli**	**1.22**	**202**	*e*P		**Pb**	**00 19 08.5**	**-1.8**
PTL				*e*S		**Sb**	**00 19 25.5**	**-0.1**
NSAL	**Nisos Salamina**	**1.49**	**211**	*e*P		**Pn**	**00 19 15.0**	**+0.7**
NAIG	**Nisos Aigina**	**1.61**	**208**	*e*P		**Pn**	**00 19 16.5**	**+0.5**
LIT	**Litokhoron**	**1.76**	**302**	*e*Pb		**Pb**	**00 19 17.9**	**-1.6**
LIT				*e*Sb		**Sb**	**00 19 40.6**	**-0.6**
SOH	**Sokhos**	**1.83**	**333**	*e*Pb		**Pb**	**00 19 19.0**	**-1.8**
SOH				*e*Sb		**Sb**	**00 19 41.1**	**-2.4**
SRS	**Serrai**	**2.04**	**342**	*e*Pn		**Pn**	**00 19 21.4**	**-0.8**
SRS				*e*Sn		**Sn**	**00 19 47.4**	**0.0**
SRS	**Serrai**	**2.04**	**342**	*e*Pn		**Pn**	**00 19 21.4**	**-0.7**
SRS				*e*Sn		**Sn**	**00 19 47.3**	**0.0**
ALN	**Alexandroupoli**	**2.11**	**35**	*e*Pn		**Pn**	**00 19 23.0**	**-0.2**
KNT	**Kendrikon**	**2.30**	**330**	*e*Pn		**Pn**	**00 19 25.9**	**0.0**

IDC 25 00:31:54.2±26.0, 22.03S×173.41W, mb4.2/4, mb1 4.3/4, mb1mx3.9/16, Error ellipse: s-maj=487.0km s-min=149.6km az=76.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.62**	**265**	P	P	00 39 11.3	-1.3
	3.9nm,0.4s,baz=99,slow=12,SNR=11						
STKA	**Stephens Creek**	**41.04**	**246**	P	P	00 39 39.7	-1.3
	1.0nm,0.4s,baz=86,slow=10,SNR=5.0						
ASAR	**Alice Springs**	**48.35**	**257**	P	P	00 40 37.8	-2.0
	1.1nm,0.4s,baz=99,slow=7.8,SNR=19						
WB2	**Warramunga Arr**	**48.62**	**262**	*e*P	P	00 40 39.5	-2.4
WRA	**Warramunga Ar**	**48.63**	**262**	P	P	00 40 39.6	-2.4
	0.8nm,0.3s,baz=102,slow=8.3,SNR=69						
KAKA	**Kakadu**	**52.32**	**271**	*e*P	P	00 41 14.1	+3.9
	2.2nm,0.8s						
FITZ	**Fitzroy Crossi**	**57.06**	**262**	*e*P	P	00 41 44.0	-0.8
	1.0nm,0.6s						

*IDC **25** 00:58:14.6±4.7,31.22N×96.50E,h55km±45km,mb3.5/10, mb1 3.7/13,mb1mx3.6/20,ML4.1/2,MS3.8/2,Ms1 3.9/2, ms1mx3.1/20,Error ellipse: s-maj=35.3km s-min=15.2km az=55.0,Putative timing error on ZAL*

*BJI **25** 00:58:14.4,31.33N×96.46E,h96km,mb4.3*

*NEIC **25** 00:58:19.2±1.7,31.41N×96.58E,h95km±17km,mb4.0/5, Error ellipse: s-maj=18.7km s-min=9.5km az=47.0*

ISC 25 00:58:08.4±2.4,31.19N±0.07×96.28E±0.06,h18km±19km, n34,σ0°90/35,mb3.9/14,MS4.4/1,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**4.68**	**253**	*e*P	**Pn**	**00 59 26.3**	**+6.3**
CD2	**Chengdu**	**6.42**	**91**	*e*P	**Pn**	**00 59 45.8**	**+1.2**
CD2				AMB	AMB		
	comp=Z,10.0nm,1.5s						
SHL	**Shillong**	**6.81**	**216**	*e*PN	**Pn**	**00 59 51.0**	**+0.9**
SHL				*e*SN	**Sn**	**01 01 14.0**	**+6.0**
KMI	**Kunming**	**8.31**	**135**	*e*Pg	**P**	**01 00 17.8**	**+6.8**
	comp=Z,25nm,0.7s						
KMI				Sg	rx	01 00 43.1	
GUN	**Gumba**	**9.63**	**253**	*e*P	**P**	**01 00 29.4**	**0.0**
	comp=Z,17nm,0.3s						
PKI	**Pulchoki**	**10.15**	**252**	*e*P	**P**	**01 00 36.4**	**-0.1**
	comp=Z,11nm,0.3s						
KKN	**Kakani**	**10.17**	**253**	*e*P	**P**	**01 00 36.9**	**+0.2**
	comp=Z,12nm,0.3s						
GYA	**Guiyang**	**10.25**	**115**	P	**P**	**01 00 37.4**	**-0.4**
GYA				S	**S**	**01 02 27.9**	**-5.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
DMN	**Daman**	**10.38**	**253**	*e*P	**P**	**01 00 38.5**	**-1.1**
	comp=Z,11nm,0.5s						
GKN	**Gorkha**	**10.62**	**256**	*e*P	**P**	**01 00 42.4**	**-0.6**
	comp=Z,12nm,0.4s						
KOLN	**Koldanda**	**11.57**	**256**	*e*P	**P**	**01 00 53.9**	**-1.9**
	comp=Z,6.9nm,0.3s						
CMAR	**Chiang Mai Arr**	**12.91**	**169**	P	**P**	**01 01 15.8**	**+2.0**
	comp=Z,0.3nm,0.3s,baz=350,slow=16,SNR=3.5						
CMAR				LR	LR	01 06 45.4	
	comp=Z,109nm,19.8s,baz=169,slow=40						
SONM	**Songino Array**	**18.33**	**22**	P	**P**	**01 02 22.3**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=203,slow=12,SNR=18						
AAK	**Ala-Archa**	**20.77**	**309**	*e*P	**P**	**01 02 52.0**	**+1.1**
	comp=Z,9.0nm,1.0s						
HYB	**Hyderabad**	**21.15**	**234**	*i*P	**P**	**01 02 55.5**	**+0.5**
KURK	**Kurchatov**	**23.52**	**331**	*e*P	**P**	**01 03 17.9**	**-0.3**
	comp=Z,5.0nm,0.8s,mb4.0						
BVAR	**Borovoye Array**	**28.79**	**327**	P	**P**	**01 04 08.1**	**+0.9**
	comp=Z,3.4nm,1.0s,mb4.0,baz=135,slow=10,SNR=6.3						
BRVK	**Borovoye**	**28.86**	**327**	*e*P	**P**	**01 04 07.7**	**-0.2**
	comp=Z,2.7nm,0.8s,mb4.0						
JHJ	**Hachijo jima 2**	**36.68**	**75**	LR	LR	01 18 48.5	
	comp=Z,0.18nm,20.8s,MS4.4,baz=195,slow=34						
BRTR	**Keskin Array B**	**50.82**	**298**	P	**P**	**01 07 10.6**	**+0.6**
	comp=Z,0.6nm,0.9s,mb3.5,baz=101,slow=6.3,SNR=3.8						
AKASG	**Malin Array Be**	**52.40**	**312**	P	**P**	**01 07 21.3**	**-0.4**
	comp=Z,0.3nm,0.3s,mb3.7,baz=79,slow=6.3,SNR=6.0						
FINES	**FINESS Array B**	**53.74**	**326**	P	**P**	**01 07 31.7**	**+0.2**
	comp=Z,0.6nm,0.5s,mb3.8,baz=90,slow=9.5,SNR=7.1						
ARCES	**ARCESS Array B**	**54.43**	**336**	P	**P**	**01 07 36.6**	**+0.2**
	comp=Z,1.1nm,0.5s,mb4.0,baz=90,slow=7.8,SNR=12						
NB2	**NORSAR Subarra**	**60.92**	**326**	P	**P**	**01 08 21.5**	**-0.8**
	comp=Z,1.2nm,0.7s,mb4.1,baz=77,slow=6.5						
NOA	**NORSAR Array B**	**60.92**	**326**	P	**P**	**01 08 21.4**	**-0.9**
	comp=Z,1.3nm,0.7s,mb4.2,baz=78,slow=6.9,SNR=10.0						
WRAB	**Tennant Creek**	**62.60**	**139**	*e*P	**P**	**01 08 33.6**	**-0.6**
	comp=Z,1.0nm,0.6s,mb4.1						
WRA	**Warramunga Arr**	**62.61**	**139**	P	**P**	**01 08 32.2**	**-2.0**
	comp=Z,1.0nm,0.8s,mb4.0,baz=332,slow=7.0,SNR=13						
GERES	**GERESS Array B**	**62.62**	**312**	P	**P**	**01 08 34.0**	**+0.1**
	comp=Z,0.8nm,0.8s,mb3.9,baz=56,slow=4.8,SNR=7.9						
ASAR	**Alice Springs**	**65.38**	**142**	P	**P**	**01 08 51.2**	**-1.1**
	comp=Z,0.7nm,0.8s,mb3.7,baz=324,slow=7.0,SNR=6.5						
LPG	**La Plagne**	**68.21**	**311**	*e*P	**P**	**01 09 11.1**	**+1.2**
LPL	**La Plagne**	**68.21**	**311**	*e*P	**P**	**01 09 10.9**	**+1.0**
ORIF	**Oris-en-Rattie**	**69.00**	**310**	*e*P	**P**	**01 09 15.1**	**+0.3**
LOR	**Lormes**	**69.35**	**313**	*e*P	**P**	**01 09 17.5**	**+0.6**
	comp=Z,16nm,1.1s,mb4.6						
ILAR	**Eielson Array**	**72.55**	**24**	P	**P**	**01 09 35.3**	**-0.5**
	comp=Z,0.2nm,0.7s,mb3.1,baz=273,slow=5.7,SNR=4.9						

*IDC **25** 01:09:29.1±0.5,17.04N×145.74E,mb4.3/19,mb1 4.6/22, mb1mx4.5/28,ML4.7/1,MS4.2/16,Ms1 4.2/16, ms1mx4.0/26,Error ellipse: s-maj=21.3km s-min=12.7km az=107.0,Putative timing error on ZAL*

*BJI **25** 01:09:30.9,17.06N×145.82E,h14km,mB5.1,mb4.9, Ms4.7,Msz4.5*

*HRVD **25** 01:09:32.1±0.3,17.09N×145.79E,h13km,MW5.1/67, Centroid moment Tensor Solution. LP body waves: s42,c57;Mantle waves: s67,c105; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.84±.17; $M_{\theta\theta}$0.36±.12; $M_{\phi\phi}$3.47±.14; $M_{r\theta}$2.80±.43; $M_{\theta\phi}$1.48±.10; $M_{\phi r}$0.50±.31; Best double couple: M_o4.82×10^{16} NP1:ϕ_s1°, δ39°,λ-130°. NP2:ϕ_s228°,δ61°,λ-63°. Principal axes: T 4.39, Plg12°, Azm298°; N .85, Plg24°, Azm34°; P -5.24, Plg63°, Azm183°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **25** 01:09:32.1±1.0,16.99N×145.82E,h16km±6km,mb5.0/30, MS4.2/8 Error ellipse: s-maj=7.1km s-min=5.8km az=105.0*

ISC 25 01:09:31.5±1.0,16.99N±0.04×145.78E±0.04,h20km±7km, h21km±2.7km:pP-P,n127,σ1°08/138,mb4.8/56,MS4.3/33, 1C-1D,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**0.29**	**182**	*e*P	**Pb**	**01 09 38.5**	**+0.5**
ANAT	**Anatahan**	**0.65**	**191**	*e*P	**Pb**	**01 09 44.8**	**+0.8**
GUMO	**Guam**	**3.50**	**195**	*e*Pn	**Pn**	**01 10 26.4**	**+0.3**
GUMO				*e*Sn	**Sn**	**01 11 11.0**	**+3.6**
JOW	**Kunigami**	**18.95**	**304**	P	**P**	**01 13 59.5**	**+5.6**
	3.5nm,0.3s,baz=137,slow=11,SNR=14						
JOW				LR	LR	01 19 56.6	
	comp=Z,12μm,18.9s,baz=129,slow=33						
MAJO	**Matsushiro**	**20.60**	**342**	*e*P	**P**	**01 14 09.6**	**-2.5**
	125nm,1.8s						
MAJO				LR	LR		
	comp=Z,892nm,19.0s,MS4.2						
MAT	**Matsushiro**	**20.60**	**342**	P	**P**	**01 14 09.7**	**-2.3**
MAT				S	**S**	**01 17 58.0**	**+1.6**
MAT	**Matsushiro**	**20.60**	**342**	*e*P	**P**	**01 14 10.0**	**-2.0**
	comp=Z,11nm,0.8s						
MAT				*e*S	**S**	**01 17 58.0**	**+1.6**
MAT				LR	LR		
	comp=Z,710nm,20.0s,MS4.0						
TGY	**Tagaytay City**	**24.10**	**267**	LR	LR	01 22 13.6	
	comp=Z,1μm,19.3s,MS4.4,baz=31,slow=32						
PMG	**Port Moresby**	**26.27**	**177**	P	**P**	**01 15 08.5**	**+1.0**
	comp=Z,38nm,1.1s,mb4.8,baz=8.1,slow=7.3,SNR=6.6						
PMG				LR	LR	01 23 51.4	
	comp=Z,154nm,20.4s,MS3.5,baz=360,slow=33						
PMG	**Port Moresby**	**26.27**	**177**	*e*P	**P**	**01 15 08.0**	**+0.5**
	comp=Z,26nm,0.8s,mb4.8						
PMG				LR	LR		
	comp=Z,437nm,19.0s,MS4.0						
SSE	**Sheshan**	**26.41**	**307**	P	**P**	**01 15 08.6**	**-0.1**
SSE				XP	sP	01 15 17.6	+0.3
SSE				S	**S**	**01 19 43.3**	**+4.3**
SSE				XS		01 19 53.9	
SSE				AMB	AMB		
	comp=Z,58nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,319nm,6.8s						
SSE				LR	LR		
	comp=N,506nm,27.2s,MS4.1						
SSE				LR	LR		
	comp=E,507nm,27.1s,MS4.1						
SSE				LR	LR		
	comp=Z,819nm,31.0s,MS4.1						
SSE	**Sheshan**	**26.41**	**307**	P	**P**	**01 15 08.6**	**-0.1**
	comp=Z,58nm,0.7s,mb5.2						
SSE				sP	sP	01 15 17.6	+0.3
SSE				S	**S**	**01 19 43.3**	**+4.3**
SSE				sS		01 19 53.9	
SSE				LR	LR		
	comp=Z,820nm,31.0s,MS4.1						
ASAJ	**Asahikawa**	**27.17**	**355**	LR	LR	01 27 48.3	
	comp=Z,434nm,18.0s,MS4.1,baz=56,slow=40						
NJ2	**Nanjing**	**28.61**	**307**	*e*P	**P**	**01 15 29.0**	**+0.3**
NJ2				AP	pP	01 15 35.1	+0.4
NJ2				XP	sP	01 15 37.8	+0.5
NJ2				PP	PP	01 16 21.3	+0.1
NJ2				S	**S**	**01 20 16.0**	**+1.3**
NJ2				XS		01 20 24.0	
NJ2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,600nm,7.0s						
NJ2				LR	LR		
	comp=N,2μm,18.7s,MS4.9						
NJ2				LR	LR		
	comp=E,2μm,20.3s,MS4.9						
NJ2				LR	LR		
	comp=Z,3μm,17.4s,MS4.9						
MDJ	**Mudanjiang**	**30.73**	**337**	P	**P**	**01 15 46.8**	**-0.7**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,174nm,5.3s						
MDJ				LR	LR		
	comp=N,413nm,28.4s,MS4.0						
MDJ				LR	LR		
	comp=E,235nm,25.8s,MS4.0						
MDJ				LR	LR		
	comp=Z,707nm,25.8s,MS4.2						
CN2	**Changchun**	**31.79**	**331**	*e*P	**P**	**01 15 59.5**	**+2.7**
CN2				*e*AP	pP	01 16 05.0	+2.3
CN2				*e*S	**S**	**01 21 07.1**	**+2.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
CN2				LR	LR		
	comp=N,600nm,17.0s,MS4.5						
CN2				LR	LR		
	comp=E,700nm,17.0s,MS4.5						
CN2				LR	LR		
	comp=Z,800nm,18.0s,MS4.4						
KAKA	**Kakadu**	**32.33**	**205**	*e*P	**P**	**01 16 04.4**	**+2.6**
	comp=Z,5.8nm,0.9s,mb4.4						
QIZ	**Qiongzhong**	**34.20**	**279**	P	**P**	**01 16 18.0**	**0.0**
QIZ				*e*S	**S**	**01 21 39.0**	**-3.5**
QIZ				LR	LR		
	comp=E,541nm,20.8s						
QIZ				LR	LR		
	comp=Z,693nm,16.4s,MS4.5						
BJT	**Baijiatuau**	**34.42**	**318**	*e*P	**P**	**01 16 18.8**	**-0.9**
	comp=Z,187nm,1.7s,mb5.7						
BJT				LR	LR		
	comp=Z,761nm,21.0s,MS4.4						
BJI	**Beijing**	**34.43**	**318**	P	**P**	**01 16 19.8**	**0.0**
BJI				S	**S**	**01 21 52.3**	**+6.5**
BJI				AMB	AMB		
	comp=Z,44nm,1.5s,mb5.2						
BJI				LR	LR		
	comp=N,486nm,14.2s,MS4.6						
BJI				LR	LR		
	comp=E,636nm,16.9s,MS4.6						
BJI				LR	LR		
	comp=Z,572nm,33.3s						
BJI	**Beijing**	**34.43**	**318**	P	**P**	**01 16 19.7**	**-0.1**
	comp=Z,44nm,1.5s,mb5.2						
BJI				S	**S**	**01 21 52.3**	**+6.5**
BJI				LR	LR		
	comp=Z,570nm,33.3s,MS4.1						
ENH	**Enshi**	**35.62**	**298**	*e*P	**P**	**01 16 30.4**	**+0.3**
	comp=Z,30nm,0.9s,mb5.2						
ENH				LR	LR		
	comp=Z,749nm,19.0s,MS4.5						
CTA	**Charters Tower**	**36.85**	**179**	P	**P**	**01 16 38.1**	**-2.4**
	comp=Z,2.1nm,0.6s,mb4.1,baz=27,slow=3.8,SNR=3.2						
CTAO	**Charters Tower**	**36.85**	**179**	*e*P	**P**	**01 16 37.8**	**-2.7**
	comp=Z,13nm,1.1s,mb4.7						
XAN	**Xi'an**	**37.10**	**304**	P	**P**	**01 16 41.9**	**-0.6**
XAN				AP	pP	01 16 47.6	-0.9
XAN				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.6						
GYA	**Guiyang**	**37.42**	**291**	⇓*i*P	**P**	**01 16 46.8**	**+1.6**
GYA				AP	pP	01 16 52.8	+1.6
GYA				XP	sP	01 16 56.4	+2.6
GYA				PP	PP	01 18 14.6	+1.4
GYA				S	**S**	**01 22 35.0**	**+3.1**
GYA				SCP		01 22 50.8	
GYA				SS	SS	01 25 03.3	-1.3
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
GYA				LR	LR		
	comp=Z,2μm,16.8s,MS5.0						
HHC	**Hu-ho-hao-te**	**37.86**	**316**	*e*P	**P**	**01 16 48.0**	**-0.8**
HHC				PCP	PcP	01 19 01.1	-4.4
HHC				S	**S**	**01 22 36.5**	**-2.1**
HHC				XS		01 22 48.8	
HHC				PCS		01 22 50.1	
HHC				SCS	ScS	01 26 53.6	-4.6
HHC				AMB	AMB		
	comp=Z,238nm,5.7s						
HHC				LR	LR		
	comp=N,320nm,14.3s,MS4.5						
HHC				LR	LR		
	comp=E,367nm,14.5s,MS4.5						
HHC				LR	LR		
	comp=Z,316nm,18.1s,MS4.2						
WRAB	**Tennant Creek**	**38.38**	**197**	*e*P	**P**	**01 16 51.6**	**-1.7**
	comp=Z,27nm,1.1s,mb4.9						
WRAB				LR	LR		
	comp=Z,97nm,19.0s,MS3.6						
WB2	**Warramunga Arr**	**38.38**	**197**	*e*P	**P**	**01 16 52.1**	**-1.3**
WB2				*e*S	**S**	**01 22 44.4**	**-2.3**
WRA	**Warramunga Ar**	**38.39**	**197**	P	**P**	**01 16 51.6**	**-1.8**
	comp=Z,2.8nm,0.8s,mb4.1,baz=19,slow=9.6,SNR=17						
BTO	**Baotou**	**38.78**	**315**	*e*P	**P**	**01 16 56.3**	**-0.3**
FITZ	**Fitzroy Crossi**	**40.12**	**211**	*e*P	**P**	**01 17 07.6**	**-0.2**
	comp=Z,9.7nm,1.0s,mb4.5						
FITZ	**Fitzroy Crossi**	**40.12**	**211**	P	**P**	**01 17 06.8**	**-1.0**
	comp=Z,4.9nm,0.8s,mb4.3,baz=23,slow=10,SNR=7.6						
CD2	**Chengdu**	**40.59**	**298**	P	**P**	**01 17 12.3**	**+0.8**
CD2				PP	PP	01 18 52.9	+4.4
CD2				S	**S**	**01 23 28.1**	**+8.4**
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
CD2				AMB	AMB		
	comp=Z,150nm,6.2s						
CD2				LR	LR		
	comp=E,320nm,15.2s						
CD2				LR	LR		
	comp=Z,470nm,20.6s						
KMI	**Kunming**	**40.84**	**289**	*e*P	**P**	**01 17 15.9**	**+2.3**
KMI				AP	pP	01 17 20.1	+0.4
KMI				XP	sP	01 17 21.8	-0.4
KMI				S	**S**	**01 23 24.1**	**+0.6**
KMI				XS		01 23 33.3	
KMI				SS	SS	01 26 21.6	+1.4
KMI				LR	LR		
	comp=N,426nm,21.4s,MS4.5						
KMI				LR	LR		
	comp=E,526nm,18.3s,MS4.5						
KMI				LR	LR		
	comp=Z,633nm,24.9s						
KMI	**Kunming**	**40.84**	**289**	*e*P	**P**	**01 17 15.9**	**+2.3**
	comp=Z,11nm,1.9s,mb4.2						
KMI				pP	pP	01 17 20.1	+0.4
KMI				sP	sP	01 17 21.7	-0.5
KMI				PP	PP	01 18 57.7	+6.7
KMI				S	**S**	**01 23 24.1**	**+0.6**
KMI				sS		01 23 33.2	
KMI				SS	SS	01 26 21.6	+1.4
KMI				LR	LR		
	comp=Z,630nm,24.9s,MS4.4						
LZH	**Lanzhou**	**41.68**	**305**	*e*P	**P**	**01 17 21.8**	**+1.3**
LZH				AP	pP	01 17 31.3	+4.8
LZH				PP	PP	01 18 59.3	-0.8
LZH				S	**S**	**01 23 41.0**	**+5.1**
LZH				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,150nm,4.0s						
LZH				LR	LR		
	comp=N,1μm,15.8s						
LZH				LR	LR		
	comp=Z,2μm,19.3s,MS5.0						
LZH	**Lanzhou**	**41.68**	**305**	*e*P	**P**	**01 17 21.7**	**+1.2**
	comp=Z,50nm,1.0s,mb5.1						
LZH				pP	pP	01 17 31.2	+4.7
LZH				sP	sP	01 17 36.9	+7.8
LZH				PP	PP	01 18 59.2	-0.9
LZH				S	**S**	**01 23 41.0**	**+5.1**
LZH				sS		01 23 58.0	
LZH				SS	SS	01 26 46.7	+10
LZH				LR	LR		
	comp=Z,2μm,19.3s,MS5.0						
ASAR	**Alice Springs**	**42.04**	**196**	P	**P**	**01 17 21.8**	**-1.9**
	comp=Z,2.5nm,0.8s,mb3.9,baz=15,slow=9.3,SNR=16						
ASAR				LR	LR	01 33 17.8	
	comp=Z,134nm,19.0s,MS3.8,baz=19,slow=34						
ASPA	**Alice Springs**	**42.05**	**196**	*e*P	**P**	**01 17 25.8**	**+2.1**
CHG	**Chiang Mai**	**44.51**	**280**	P	**P**	**01 17 44.4**	**+0.6**
SONM	**Songino Array**	**44.53**	**322**	P	**P**	**01 17 43.5**	**-0.1**
	comp=Z,2.1nm,0.7s,mb4.1,baz=135,slow=8.2,SNR=12						
CMAR	**Chiang Mai Arr**	**44.54**	**279**	P	**P**	**01 17 44.2**	**+0.2**
	comp=Z,13nm,0.9s,mb4.8,baz=72,slow=6.7,SNR=47						
CMAR				LR	LR	01 37 57.0	
	comp=Z,353nm,18.1s,MS4.3,baz=90,slow=38						
BDT	**Bhumibol Dam**	**44.62**	**278**	P	**P**	**01 17 46.0**	**+1.3**
GTA	**Gaotai**	**45.66**	**309**	P	**P**	**01 17 53.5**	**+0.8**
GTA				AP	pP	01 18 00.6	+1.9
GTA				XP	sP	01 18 05.5	+4.3
GTA				PP	PP	01 19 43.4	+3.3
GTA				S	**S**	**01 24 34.9**	**+1.2**
GTA				AMB	AMB		
	comp=Z,19nm,2.0s,mb4.7						
GTA				AMB	AMB		
	comp=Z,425nm,6.5s						
GTA				LR	LR		
	comp=N,387nm,15.2s,MS4.7						
GTA				LR	LR		
	comp=E,548nm,15.6s,MS4.7						
GTA				LR	LR		
	comp=Z,748nm,18.6s,MS4.7						
MBWA	**Marble Bar**	**45.72**	**215**	*e*P	**P**	**01 17 52.7**	**-0.7**
	comp=Z,13nm,0.9s,mb4.9						
STKA	**Stephens Creek**	**48.76**	**185**	P	**P**	**01 18 16.3**	**-0.7**
	comp=Z,2.5nm,1.1s,mb4.2,baz=336,slow=10.0,SNR=2.7						
STKA				LR	LR	01 39 56.2	
	comp=Z,196nm,19.0s,MS4.1,baz=19,slow=37						
FORT	**Forrest**	**50.46**	**200**	*e*P	**P**	**01 18 30.4**	**+0.2**
	comp=Z,43nm,0.8s,mb5.5						
WMQ	**Urumqi**	**55.49**	**312**	P	**P**	**01 19 07.8**	**+0.4**
WMQ				XP	sP	01 19 17.0	+1.1
WMQ				PP	PP	01 21 13.0	+0.1
WMQ				S	**S**	**01 26 50.0**	**+0.4**
WMQ				SS	SS	01 30 35.0	+0.5
WMQ				AMB	AMB		
	comp=Z,36nm,8.0s						
WMQ				LR	LR		
	comp=N,438nm,20.0s,MS4.7						
WMQ				LR	LR		
	comp=E,359nm,20.0s,MS4.7						
WMQ				LR	LR		
	comp=Z,387nm,20.0s,MS4.5						
GUN	**Gumba**	**55.95**	**292**	*e*P	**P**	**01 19 11.4**	**+0.5**
	comp=Z,64nm,0.9s,mb5.6						
PKI	**Pulchoki**	**56.38**	**292**	*e*P	**P**	**01 19 13.7**	**-0.3**
	comp=Z,20nm,0.9s,mb5.2						
KKN	**Kakani**	**56.49**	**292**	*e*P	**P**	**01 19 14.5**	**-0.3**
	comp=Z,26nm,0.9s,mb5.3						
DMN	**Daman**	**56.65**	**292**	*e*P	**P**	**01 19 16.0**	**+0.1**
	comp=Z,40nm,0.9s,mb5.4						
GKN	**Gorkha**	**57.04**	**293**	*e*P	**P**	**01 19 18.5**	**-0.3**
	comp=Z,56nm,1.0s,mb5.6						
KOLN	**Koldanda**	**57.97**	**292**	*e*P	**P**	**01 19 25.1**	**-0.2**
	comp=Z,58nm,0.8s,mb5.7						
KURK	**Kurchatov**	**62.59**	**319**	*e*P	**P**	**01 19 55.4**	**-1.1**
	comp=Z,31nm,1.5s,mb5.2						
KURK				LR	LR		
	comp=Z,102nm,19.0s,MS4.0						
SML	**Sawmill**	**63.81**	**29**	*e*P	**P**	**01 20 03.0**	**-1.3**
HYB	**Hyderabad**	**63.90**	**281**	*i*P	**P**	**01 20 06.0**	**+0.4**
HYB	**Hyderabad**	**63.90**	**281**	*e*P	**P**	**01 20 06.0**	**+0.4**
AAK	**Ala-Archa**	**65.00**	**310**	*e*P	**P**	**01 20 11.4**	**-1.1**
	comp=Z,3.0nm,0.8s,mb4.4						
ILAR	**Eielson Array**	**65.14**	**26**	P	**P**	**01 20 10.0**	**-2.9**
	comp=Z,4.8nm,0.8s,mb4.6,baz=258,slow=4.9,SNR=52						
ILAR				LR	LR	01 49 37.4	
	comp=Z,109nm,19.1s,MS4.1,baz=270,slow=37						
BVAR	**Borovoye Array**	**67.84**	**321**	P	**P**	**01 20 27.7**	**-2.6**
	comp=Z,3.2nm,0.8s,mb4.8,baz=101,slow=7.6,SNR=25						
BRVK	**Borovoye**	**67.90**	**321**	P	**P**	**01 20 29.4**	**-1.3**
	comp=Z,9.1nm,0.8s,mb4.9						
POO	**Poona**	**68.08**	**284**	*e*P	**P**	**01 20 30.5**	**-1.9**
INK	**Inuvik**	**70.90**	**23**	P	**P**	**01 20 46.9**	**-2.0**
	comp=Z,8.2nm,0.8s,mb4.7,baz=260,slow=

YMR	Madison River	87.31	44	*e*P		P		01 22 18.5	+0.3
YFT	Old Faithful	87.47	44	*e*P		P		01 22 21.0	+2.0
SPUT	South Promonto	87.48	48	*e*P		P		01 22 19.6	+0.5
YNR	Norris Junctio	87.48	44	*e*P		P		01 22 20.4	+1.4
LDFC	Landfair	87.60	54	*e*P		P		01 22 20.5	+0.6
DUG	Dugway	87.61	49	*e*P		P		01 22 20.2	+0.4
	comp=Z,17nm,1.1s,mb5.2								
NEN	Nelson	87.62	54	*e*P		P		01 22 18.3	-1.6
TPAW	Teton Pass	87.74	45	*e*P		P		01 22 21.2	+0.8
MOOW	Moose Ponds	87.79	45	*e*P		P		01 22 20.6	0.0
AHID	Auburn Hatcher	87.90	46	*e*P		P		01 22 20.9	-0.3
	comp=Z,10nm,0.9s,mb5.1								
LOHW	Long Hollow	87.93	45	*e*P		P		01 22 20.4	-0.8
ARUT	Antelope Range	87.97	51	*e*P		P		01 22 22.2	+0.7
HWUT	Hardware Ranch	88.00	47	*e*P		P		01 22 22.0	+0.4
	comp=Z,18nm,1.1s,mb5.2								
CTU	Camp Tracy	88.19	48	*e*P		P		01 22 21.5	-1.1
NLU	North Lily Min	88.22	49	*e*P		P		01 22 22.9	+0.2
JLU	Jordanelle	88.44	48	*e*P		P		01 22 24.0	+0.2
FINES	FINESS Array B	88.46	335	P		P		01 22 21.8	-1.6
	comp=Z,0.7nm,0.8s,mb4.0,baz=180,slow=34,SNR=2.6								
FINES				LR		LR		02 08 03.7	
	comp=Z,93nm,18.1s,MS4.2,baz=232,slow=40								
MVU	Marysvale	88.63	50	*e*P		P		01 22 25.2	+0.5
	comp=Z,6.5nm,1.0s,mb4.9								
DAU	Daniels Canyon	88.64	48	*e*P		P		01 22 25.2	+0.5
MSU	Marysvale	88.65	50	*e*P		P		01 22 25.6	+0.8
PDAR	Pinedale Array	88.96	45	P		P		01 22 25.8	-0.4
	comp=Z,0.9nm,0.9s,mb4.1,baz=315,slow=2.1,SNR=7.7								
PDAR				LR		LR		02 03 54.1	
	comp=Z,96nm,18.1s,MS4.3,baz=237,slow=37								
PDAR	Pinedale Array	88.96	45	P		P		01 22 25.8	-0.4
PDAR				LR		LR		02 03 54.1	
TMUT	Trail Mountain	89.08	49	*e*P		P		01 22 27.3	+0.5
SRU	San Rafael	89.64	49	*e*P		P		01 22 29.5	0.0
PV10	Paradox Valley	90.99	49	*e*P		P		01 22 35.9	+0.1
PV01	Paradox Valley	91.43	49	*e*P		P		01 22 37.1	-0.7
RW3	Ridgway	92.02	49	*e*P		P		01 22 41.0	+0.5
PHWY	Pilot Hill	92.34	46	*e*P		P		01 22 42.0	+0.2
AKASG	Malin Array Be	92.75	325	LR		LR		02 06 39.9	
	comp=Z,135nm,19.4s,MS4.4,baz=45,slow=37								
NOA	NORSAR Array B	94.19	340	LR		LR		02 04 57.5	
	comp=Z,86nm,20.1s,MS4.2,baz=20,slow=35								
BRTR	Keskin Array B	95.35	314	P		P		01 22 54.4	-1.4
	comp=Z,0.3nm,0.7s,mb3.8,baz=45,slow=6.1,SNR=2.4								
BRTR				LR		LR		02 13 06.1	
	comp=Z,62nm,19.1s,MS4.1,baz=95,slow=40								
TXAR	Lajitas Array	98.73	56	P		P		01 23 14.2	+2.9
	comp=Z,0.5nm,1.1s,mb4.0,baz=155,slow=18,SNR=3.0								
TXAR				LR		LR		02 04 57.6	
	comp=Z,95nm,18.1s,MS4.3,baz=345,slow=34								
ARE	Arequipa	144.33	95	*e*P		PKPbc		01 29 09.0	+2.4
LPAZ	La Paz	147.52	94	PKPbc		PKPdf		01 29 17.3	+0.6
	comp=Z,5.8nm,0.6s,baz=325,slow=3.4,SNR=28								
LPAZ	La Paz	147.52	94	PKPbc		PKPdf		01 29 17.3	+0.6
SAML	Samuel	150.69	78	PKPdf		PKPdf		01 29 19.0	-2.8
SAML				*e*PKPbc		PKPdf		01 29 24.5	+2.7

IDC ***25*** *01:21:54.6±0.6,16.99N×145.94E,mb4.3/17,mb1 4.6/18, mb1mx4.4/25,ML4.5/1,MS3.9/3,Ms1 4.0/3,ms1mx3.2/34, Error ellipse: s-maj=26.5km s-min=14.2km az=118.0, Putative timing error on ZAL*

HRVD ***25*** *01:21:57.8±0.9,16.86N×145.80E,h27km±2km,MW4.8/27, Centroid moment Tensor Solution. LP body waves: s11,c12;Mantle waves: s27,c39; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.83±.36; $M_{\theta\theta}$0.54±.21; $M_{\phi\phi}$1.29±.21; $M_{r\theta}$-1.22±.48; $M_{\theta\phi}$0.76±.11; $M_{\phi r}$0.16±.38; Best double couple: $M_0$2.13×10^{16} NP1:ϕ_s193°,δ41°, λ-127°. NP2:ϕ_s57°,δ59°,λ-63°. Principal axes: T 1.85, Plg10°, Azm128°; N .55, Plg23°, Azm222°; P -2.4, Plg65°, Azm17°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***25*** *01:21:57.8±0.2,16.95N×145.88E,mb4.9/18 Error ellipse: s-maj=9.4km s-min=4.0km az=115.0*

BJI ***25*** *01:21:58.0,17.18N×146.07E,h20km,mb4.9*

ISC 25 01:21:58.7±0.9,16.86N±0.06×145.87E±0.06,h35km±8km, n96,σ0§82/92,mb4.6/39,**MS3.8**/5,**2C**,**Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	Sarigan	0.19	211	⇑*i*P	P	01 22 04.3	-1.1
ANA2	Anatahan	0.54	196	*e*P	P	01 22 10.5	+0.7
ANAT	Anatahan	0.55	202	⇑*e*P	P	01 22 10.7	+0.8
GUMO	Guam	3.40	197	*e*Pn	P	01 22 51.1	+0.5
JOW	Kunigami	19.09	304	P	P	01 26 24.0	+2.8
	2.3nm,0.3s,baz=122,slow=26,SNR=11						
JOW				LR	LR	01 32 22.8	
	comp=Z,558nm,18.8s,baz=202,slow=33						
MAJO	Matsushiro	20.75	342	P	P	01 26 33.9	-5.0
PMG	Port Moresby	26.13	177	P	P	01 27 29.3	-2.4
BJT	Baijiatuan	34.58	318	P	P	01 28 44.8	-1.4
	45nm,1.5s,mb5.2						
BJT				LR	LR		
	comp=Z,266nm,20.0s,MS4.0						
XAN	Xi'an	37.24	304	P	P	01 29 09.3	+0.4
XAN				AP	pP	01 29 14.5	-4.6
XAN				AMB	AMB		
	comp=Z,6.0nm,1.3s,mb4.3						
WRAB	Tennant Creek	38.28	198	*e*P	P	01 29 16.7	-1.0
	comp=Z,18nm,1.1s,mb4.7						
WRAB				LR	LR		
	comp=Z,58nm,19.0s,MS3.4						
WB2	Warramunga Arr	38.28	198	*e*P	P	01 29 17.2	-0.5
WRA	Warramunga Arr	38.29	198	P	P	01 29 17.0	-0.8
	comp=Z,3.6nm,0.7s,mb4.2,baz=18,slow=9.2,SNR=18						
FITZ	Fitzroy Crossi	40.05	211	*e*P	P	01 29 32.7	+0.3
	comp=Z,5.6nm,0.9s,mb4.3						
FITZ	Fitzroy Crossi	40.05	211	P	P	01 29 32.6	+0.2
	comp=Z,8.4nm,1.0s,mb4.4,baz=39,slow=3.3,SNR=8.9						
CD2	Chengdu	40.72	298	*e*P	P	01 29 38.8	+0.9
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.7						
LZH	Lanzhou	41.82	306	*e*P	P	01 29 48.0	+1.1
LZH				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.0						
LZH	Lanzhou	41.82	306	*e*P	P	01 29 48.0	+1.1
	comp=Z,40nm,1.0s,mb5.0						
LZH				pP	pP	01 30 02.0	+4.8
LZH				sP	sP	01 30 07.2	+5.6
ASAR	Alice Springs	41.94	197	P	P	01 29 48.2	+0.2
	comp=Z,2.1nm,0.7s,mb3.9,baz=18,slow=10,SNR=15						
CMAR	Chiang Mai Arr	44.65	279	P	P	01 30 10.4	+0.4
	comp=Z,4.9nm,0.8s,mb4.4,baz=72,slow=7.3,SNR=20						
CMAR				LR	LR	01 49 57.7	
	comp=Z,99nm,18.2s,MS3.8,baz=80,slow=38						
SONM	Songino Array	44.68	322	P	P	01 30 09.7	-0.2
	comp=Z,0.8nm,0.8s,mb3.6,baz=134,slow=6.7,SNR=5.4						
GTA	Gaotai	45.81	309	*e*P	P	01 30 25.5	+6.4
GTA				AMB	AMB		
	comp=Z,12nm,1.3s,mb4.7						
STKA	Stephens Creek	48.63	185	P	P	01 30 41.4	+0.1
	comp=Z,1.0nm,0.3s,mb4.3,baz=336,slow=9.5,SNR=2.8						
WMQ	Urumqi	55.64	312	*e*P	P	01 31 34.0	+0.4
WMQ				AMB	AMB		
	comp=Z,16nm,1.0s,mb5.0						
GUN	Gumba	56.08	293	*e*P	P	01 31 36.9	-0.1
PKI	Pulchoki	56.51	292	*e*P	P	01 31 40.1	0.0
	comp=Z,10.0nm,0.8s,mb4.9						
KKN	Kakani	56.61	292	*e*P	P	01 31 40.7	-0.1
	comp=Z,15nm,0.9s,mb5.0						
DMN	Daman	56.78	292	*e*P	P	01 31 41.7	-0.3
	comp=Z,15nm,0.8s,mb5.1						
GKN	Gorkha	57.17	293	*e*P	P	01 31 45.0	+0.2
KOLN	Koldanda	58.10	293	*e*P	P	01 31 50.3	-1.0
	comp=Z,16nm,0.9s,mb5.1						
KURK	Kurchatov	62.75	319	*e*P	P	01 32 19.0	-3.7
	comp=Z,3.0nm,0.8s,mb4.5						
KURK				LR	LR		
	comp=Z,33nm,20.0s,MS3.5						
SML	Sawmill	63.89	29	*e*P	P	01 32 27.9	-2.0
MCK	McKinley	64.09	27	*e*P	P	01 32 27.9	-3.3
ILAR	Eielson Array	65.22	26	P	P	01 32 35.0	-3.4
	comp=Z,4.4nm,0.8s,mb4.5,baz=270,slow=5.8,SNR=24						
DAWY	Dawson	68.30	27	*e*P	P	01 32 56.5	-1.5
DAWY				*e*		01 33 02.5	
INK	Inuvik	70.99	23	P	P	01 33 12.3	-2.1
	comp=Z,8.7nm,0.9s,mb4.7,baz=258,slow=5.6,SNR=15						
INK				PP	PP	01 35 51.1	-3.0
	comp=Z,2.3nm,0.8s,baz=270,slow=9.1,SNR=3.0						
INK	Inuvik	70.99	23	*e*P	P	01 33 11.7	-2.7
	comp=Z,10nm,0.8s,mb4.8						
INK				PP	PP	01 35 51.1	-3.0

DLBC	Dease Lake	72.73	33	P		P		01 33 23.9	-1.0
	comp=Z,3.8nm,0.8s,mb4.4,baz=280,slow=14,SNR=4.0								
GNW	Green Mountain	78.62	44	*e*P		P		01 33 58.5	-0.1
JCW	Jim Creek	79.07	43	P		P		01 34 01.6	+0.6
RPW	Rockport	79.28	43	P		P		01 34 01.6	-0.6
RMW	Rattlesnake Mo	79.32	44	*e*P		P		01 34 02.8	+0.3
YKA	Yellowknife Ar	79.53	28	P		P		01 34 01.2	-2.0
	comp=Z,3.0nm,0.7s,mb4.4,baz=289,slow=5.2,SNR=10								
YBH	Yreka Blue Hor	80.01	49	P		P		01 34 07.0	+0.7
	comp=Z,3.4nm,0.7s,mb4.4,baz=305,slow=1.8,SNR=9.6								
NLW	Nelson Butte	80.13	43	*e*P		P		01 34 06.6	-0.2
NLW				*e*				01 34 12.9	
TBM	Table Mountain	80.18	44	P		P		01 34 07.2	+0.1
EBG	Ellensburg	80.27	44	P		P		01 34 07.9	+0.3
LHEM	Herd Peak	80.39	49	P		P		01 34 08.7	+0.3
EPH	Ephrata	80.80	43	P		P		01 34 10.0	-0.3
VIPM	Ingram Point	80.83	46	P		P		01 34 11.0	+0.4
LTIM	Timbered Crate	81.04	50	P		P		01 34 12.1	+0.3
LBCM	Butte Creek Ri	81.22	50	P		P		01 34 12.8	+0.1
OHCM	Honcut	81.50	52	*e*P		P		01 34 13.9	-0.3
OHCM				*e*				01 34 20.4	
DPW	Davenport	81.57	43	*e*P		P		01 34 13.4	-1.0
DPW				*e*				01 34 20.4	
MOD	Modoc	81.71	49	*e*P		P		01 34 15.6	+0.3
	comp=Z,4.8nm,0.7s,mb4.5								
MOD				*e*				01 34 20.9	
NEW	Newport	82.16	42	P		P		01 34 17.4	0.0
	comp=Z,6.1nm,0.9s,mb4.5,baz=258,slow=3.9,SNR=8.1								
NEW	Newport	82.16	42	*e*P		P		01 34 16.8	-0.6
	comp=Z,6.0nm,0.8s,mb4.6								
NEW				*e*				01 34 22.8	
BEKR	Beckwourth	82.21	51	*e*P		P		01 34 17.7	-0.1
	comp=Z,8.2nm,0.7s,mb4.8								
BEKR				*e*				01 34 24.3	
CMB	Columbia Colle	82.67	53	*e*P		P		01 34 20.5	+0.3
	comp=Z,6.3nm,0.8s,mb4.7								
CMB				*e*				01 34 26.8	
NVAR	Mina Array Bea	84.14	52	P		P		01 34 28.4	+0.7
	comp=Z,4.8nm,0.7s,mb4.7,baz=262,slow=3.7,SNR=41								
NVAR	Mina Array Bea	84.14	52	P		P		01 34 28.4	+0.7
MNV	Mina	84.25	52	*e*P		P		01 34 28.5	+0.2
	comp=Z,4.6nm,0.8s,mb4.7								
TPH	Tonopah	85.06	52	*e*P		P		01 34 32.9	+0.5
	comp=Z,9.9nm,1.2s,mb4.8								
TPH				*e*				01 34 38.9	
CHMT	Chamberlain Mo	85.07	43	*e*P		P		01 34 31.5	-0.6
HLID	Hailey	85.38	46	*e*P		P		01 34 34.0	+0.2
	comp=Z,7.9nm,1.0s,mb4.8								
HLID				*e*				01 34 40.3	
MCMT	McKenzie Canyo	86.03	44	*e*P		P		01 34 37.1	+0.2
HRY	Holter Researc	86.05	42	*e*P		P		01 34 36.9	-0.1
HRY				*e*				01 34 43.1	
QLMT	Earthquake Lak	86.97	44	*e*P		P		01 34 42.5	+0.9
QLMT				*e*				01 34 48.1	
HVU	Hansel Valley	87.11	47	*e*P		P		01 34 42.5	+0.2
HVU				*e*				01 34 48.5	
BGU	Big Grassy Mou	87.22	48	*e*P		P		01 34 43.1	+0.3
BGU				*e*				01 34 49.2	
YMR	Madison River	87.34	44	*e*P		P		01 34 44.6	+1.2
YMR				*e*				01 34 50.6	
LDFC	Landfair	87.60	54	*e*P		P		01 34 45.0	+0.2
LDFC				*e*				01 34 51.2	
NEN	Nelson	87.63	54	*e*P		P		01 34 45.3	+0.4
NEN				*e*				01 34 51.4	
DUG	Dugway	87.63	49	*e*P		P		01 34 45.1	+0.2
	comp=Z,8.9nm,0.6s,mb5.2								
DUG				*e*				01 34 51.0	
TPAW	Teton Pass	87.78	45	*e*P		P		01 34 46.1	+0.7
TPAW				*e*				01 34 52.2	
MOOW	Moose Ponds	87.82	45	*e*P		P		01 34 46.2	+0.6
ARUT	Antelope Range	87.98	51	*e*P		P		01 34 47.2	+0.6
HWUT	Hardware Ranch	88.02	47	*e*P		P		01 34 47.0	+0.3
	comp=Z,10.0nm,0.8s,mb5.1								
HWUT				*e*				01 34 53.0	
NLU	North Lily Min	88.24	49	*e*P		P		01 34 48.1	+0.3
NLU				*e*				01 34 54.4	
JLU	Jordanelle	88.46	48	*e*P		P		01 34 49.1	+0.3
JLU				*e*				01 34 55.3	
FINES	FINESS Array B	88.61	335	P		P		01 34 48.4	-0.6
	comp=Z,0.5nm,0.6s,mb4.0,baz=72,slow=8.8,SNR=2.5								
MVU	Marysvale	88.65	50	*e*P		P		01 34 50.7	+1.0
	comp=Z,4.5nm,0.6s,mb5.0								
MVU				*e*				01 34 56.8	
DAU	Daniels Canyon	88.67	48	*e*P		P		01 34 50.4	+0.6
DAU				*e*				01 34 56.5	
MSU	Marysvale	88.67	50	*e*P		P		01 34 50.8	+0.9
MSU				*e*				01 34 56.7	
BW06	Boulder Array	88.99	45	P		P		01 34 50.5	-0.8
	comp=Z,2.8nm,1.1s,mb4.5								
BW06				LR		LR			
	comp=Z,135nm,19.0s,MS4.4								
PDAR	Pinedale Array	88.99	45	P		P		01 34 50.2	-1.1
	comp=Z,0.7nm,0.7s,mb4.1,baz=318,slow=1.5,SNR=7.7								
TMUT	Trail Mountain	89.10	49	*e*P		P		01 34 52.2	+0.3
LAO	LASA Array	89.63	41	*e*P		P		01 34 54.0	-0.3
	comp=Z,11nm,1.0s,mb5.2								
SRU	San Rafael	89.66	49	*e*P		P		01 34 54.6	+0.1
SRU				*e*				01 35 00.6	
PV10	Paradox Valley	91.02	49	*e*P		P		01 35 01.1	+0.2
PV01	Paradox Valley	91.45	49	*e*P		P		01 35 02.8	-0.1
PV01				*e*				01 35 08.9	
RW3	Ridgway	92.04	49	*e*P		P		01 35 06.3	+0.7
TXAR	Lajitas Array	98.73	56	P		P		01 35 37.5	+1.3
	comp=Z,0.3nm,1.0s,mb3.8,baz=297,slow=8.1,SNR=2.5								
ARE	Arequipa	144.24	95	*e*P		PKPbc		01 41 34.0	+2.7
LPAZ	La Paz	147.43	94	PKPbc		PKPdf		01 41 43.0	+5.7
	comp=Z,12nm,0.8s,baz=289,slow=2.5,SNR=37								
LPAZ	La Paz	147.43	94	PKPbc		PKPdf		01 41 43.0	+5.7
SAML	Samuel	150.64	78	*e*PKPbc		PKPdf		01 41 48.9	+6.4
SAML				*e*PKPab		PKPab		01 41 54.9	-2.2

LDG ***25*** *01:40:53.6±0.1,44.42N×6.46E,h2km,Md2.6/1,Ml2.2/8, Error ellipse: s-maj=1.0km s-min=1.0km az=90.0*

STR ***25*** *01:40:54.2±0.1,44.39N×6.50E,h5km±1km,Ml2.2,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 25 01:40:52.3±0.3,44.40N±0.02×6.41E±0.03,h5km,n21, σ0§82/37,France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SURF	Saint Ours	0.30	75	Pg	Pg	01 40 59.1	+0.8
SURF				Sg	Sg	01 41 03.0	+0.7
MBDF	Montbardon	0.41	38	*e*Pg	Pg	01 41 01.2	+0.7
MBDF				*e*Sg	Sg	01 41 06.5	+0.4
	45nm,0.2s						
OG22	Abries	0.56	42	Pg	Pg	01 41 04.4	+0.8
OG22				Sg	Sg	01 41 11.8	+0.7
ORIF	Oris-en-Rattie	0.64	324	*e*Pg	Pg	01 41 05.5	+0.4
ORIF				*e*Sg	Sg	01 41 14.0	+0.4
	21nm,0.4s						
TOUF	Mont Tournerai	0.72	123	Pg	Pg	01 41 06.4	-0.2
MVIF	Mont Vial	0.74	133	Pg	Pg	01 41 07.1	+0.1
SMRF	Simiane la Rot	0.74	235	*e*Pg	Pg	01 41 08.5	+1.5
SMRF				*e*Sg	Sg	01 41 18.1	+1.2
	18nm,0.3s						
OG26	St.-Nazaire-De	0.81	283	Pg	Pg	01 41 10.8	+2.3
AUTN	L'Aution	0.84	119	Pg	Pg	01 41 08.9	-0.1
AURF	Auriere	0.84	128	Pg	Pg	01 41 09.0	0.0
FRF	La Foret Royal	0.86	169	*e*Pg	Pg	01 41 09.6	+0.1
FRF				*e*Sg	Sg	01 41 21.0	+0.1
	16nm,0.3s						
SBF	Sospel	0.91	126	*e*Pg	Pg	01 41 10.2	-0.3
SBF				*e*Sg	Sg	01 41 22.4	-0.3
	21nm,0.3s						
SAOF	Saorge	0.92	117	Pg	Pg	01 41 10.4	-0.3
SAOF				Sg	Sg	01 41 22.3	-0.7
REVF	Revere	0.96	134	Pg	Pg	01 41 11.5	+0.1
LMR	La Mourre	1.07	176	*e*Pg	Pg	01 41 14.0	+0.3
LMR				*e*Sg	Sg	01 41 28.0	0.0
	13nm,0.2s						
LPG	La Plagne	1.12	12	*e*Pg	Pg	01 41 14.4	-0.2
LPG				*e*Sg	Sg	01 41 28.5	-1.1
	3.6nm,0.2s						
LPL	La Plagne	1.14	11	*e*Pg	Pg	01 41 14.6	-0.3
LPL				*e*Sg	Sg	01 41 28.8	-1.3
	3.7nm,0.3s						
VIVF	Saint-Julien-l	1.32	291	*e*Pg	Pg	01 41 18.3	-0.4
VIVF				*e*Sg	Sg	01 41 35.9	-0.4
	5.7nm,0.3s						
LASF	Ste Croix	1.87	261	*e*Pn	Pn	01 41 25.5	+0.3
LASF				*e*Pg	Pg	01 41 28.7	-0.8
LASF				*e*Sn	Sn	01 41 48.1	-1.3
	1.7nm,0.3s						
PGF	Pioggiola	2.64	134	*e*Pn	Pn	01 41 35.6	-0.7
PGF				*e*Sn	Sn	01 42 05.7	-3.4
MTLF	Montolieu	3.21	252	*e*Pn	Pn	01 41 44.1	-0.3
MTLF				*e*Sn	Sn	01 42 20.5	-3.1
	0.5nm,0.3s						

MOS ***25*** *01:50:52.8±0.9,8.80S×124.10E,h32km,mb5.6/14,Error ellipse: s-maj=34.0km s-min=13.5km az=100.3*

DJA ***25*** *01:50:53.7±0.7,9.61S×124.40E,h63km±8km, mb5.7/3, Error ellipse: s-maj=16.1km s-min=5.2km az=167.0*

SYO ***25*** *01:50:56.2,8.85S×124.34E,h50km, MB5.4, MS5.4*

IDC ***25*** *01:50:59.7±1.5,8.82S×124.33E,h78km±11km,mb5.0/13, mb1 5.1/16,mb1mx5.1/17,MS4.5/13,Ms1 4.5/13, ms1mx4.2/18,Error ellipse: s-maj=18.6km s-min=11.9km az=72.0, Putative timing error on ZAL*

BJI ***25*** *01:51:01.4,8.68S×124.94E,h101km,mB5.4,mb5.2*

HRVD ***25*** *01:51:02.1±0.2,8.88S×124.30E,h95km±1km,MW5.4/75, Centroid moment Tensor Solution. LP body waves: s62,c124;Mantle waves: s75,c142; Half duration: 1§3 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.10±.04; $M_{\theta\theta}$-0.50±.04; $M_{\phi\phi}$0.60±.04; $M_{r\theta}$-0.52±.03; $M_{\theta\phi}$0.01±.04; $M_{\phi r}$1.55±.03; Best double couple: $M_0$1.7×10^{17} NP1:ϕ_s49°, δ13°,λ-20°. NP2:ϕ_s158°,δ85°,λ-103°. Principal axes: T 1.88, Plg39°, Azm260°; N -.37, Plg13°, Azm159°; P -1.51, Plg48°, Azm55°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***25*** *01:51:02.1±1.0,8.86S×124.34E,h100km±9km,mb5.3/32 Error ellipse: s-maj=9.2km s-min=6.5km az=62.0*

NEIC Felt [II] at Kupang, Timor. Felt at Dili, East Timor.

ISC 25 01:50:56.0±0.8,8.93S±0.03×124.32E±0.04,h62km±7km, h49km±7.0km:pP-P,n254,σ1§26/217,mb5.4/67,24C-20D, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUG	Kupang	1.40	210	*e*Pn	P	01 51 23.5	+3.5
NINI	Niniconang	6.37	314	⇓*e*P	P	01 52 36.2	+6.9
	1µm,0.6s						
NINI	Niniconang	6.37	314	⇓*e*P	P	01 52 35.4	+6.1
	970nm,0.5s						
AAI	Ambon	6.48	37	*e*P	P	01 52 36.2	+5.4
BUNI	Buntu Taipa	6.57	323	⇑*e*P	P	01 52 37.0	+4.9
	111nm,0.4s						
BUNI	Buntu Taipa	6.57	323	⇓*e*P	P	01 52 37.1	+5.0
	194nm,0.4s						
TANI	Tanete Lipujan	7.34	318	⇓*e*P	P	01 52 48.3	+5.5
TANI	Tanete Lipujan	7.34	318	⇓*e*P	P	01 52 48.1	+5.3
	208nm,0.8s						
KEDI	Kedomdong	8.12	272	⇓*e*P	P	01 52 54.9	+1.3
KEDI	Kedomdong	8.12	272	⇑*e*P	P	01 52 54.7	+1.1
RATI	Rata	8.69	271	⇑*e*P	P	01 53 01.3	0.0
RATI	Rata	8.69	271	⇑*e*P	P	01 53 01.3	0.0
KAKA	Kakadu	8.78	116	⇓*i*P	P	01 53 05.9	+3.4
	960nm,0.3s						
KAKA				*e*S	S	01 54 35.3	-5.7
FITZ	Fitzroy Crossi	9.21	172	*e*P	P	01 53 05.6	-2.8
	288nm,0.4s						
FITZ				*e*S	S	01 54 40.7	-11
FITZ	Fitzroy Crossi	9.21	172	P	P	01 53 05.6	-2.8
	94nm,0.3s,baz=4.7,slow=9.3,SNR=1141						
FITZ				S	S	01 54 38.9	-13
	274nm,0.3s,baz=160,slow=3.1,SNR=28						
FITZ				LR	LR	01 57 01.5	
	comp=Z,1µm,18.8s,baz=356,slow=39						
KELI	Kelakatan	9.75	273	⇓*e*P	P	01 53 14.6	-1.3
	229nm,0.2s						
KELI	Kelakatan	9.75	273	⇑*e*P	P	01 53 14.5	-1.4
	366nm,0.2s						
SRDI	Scrawed	10.07	272	⇓*e*P	P	01 53 18.1	-2.3
SRDI	Scrawed	10.07	272	⇓*e*P	P	01 53 18.3	-2.1
MBWA	Marble Bar	12.94	199	*e*P	P	01 53 56.6	-2.3
	1.9nm,0.4s						
MBWA				*e*S	S	01 56 09.2	-13
WRA	Warramunga Arr	14.62	140	P	P	01 54 15.5	-5.4
	50nm,0.3s,baz=320,slow=13,SNR=508						
WRA				S	S	01 56 48.8	-13
	75nm,0.3s,baz=316,slow=25,SNR=14						
WRAB	Tennant Creek

comp=Z,581nm,1.6s,mb5.9
STKA Stephens Creek 27.91 147 ⇓*i*P **P** **01 56 42.7 +0.3**
comp=Z,14nm,0.4s,mb5.0
STKA *e*S tx 02 01 57.4
STKA Stephens Creek 27.91 147 P **P** **01 56 42.7 +0.3**
comp=Z,20nm,0.5s,mb5.0,baz=319,slow=8.4,SNR=48
STKA S tx 02 01 55.2
comp=Z,10nm,0.5s,baz=231,slow=12,SNR=2.7
STKA LR LR 02 10 13.1
comp=Z,1µm,18.2s,baz=319,slow=41
ADE Adelaide 29.07 155 P **P** **01 56 55.9 +3.1**
NNT Nongplab 32.46 311 P **P** **01 57 24.5 +1.7**
NST Nakhon Sawan 34.23 315 P **P** **01 57 39.6 +1.6**
comp=Z,47nm,1.0s,mb5.4
BDT Bhumibol Dam 36.09 316 P **P** **01 57 55.0 +1.1**
comp=Z,76nm,0.6s,mb5.8
CMAR Chiang Mai Arr 36.98 317 P **P** **01 58 01.4 0.0**
comp=Z,15nm,0.5s,mb5.0,baz=146,slow=6.9,SNR=52
CMAR ScP 02 04 00.1
comp=Z,3.9nm,0.8s,baz=171,slow=3.5,SNR=8.3
CMAR LR LR 02 14 00.1
comp=Z,512nm,20.8s,baz=130,slow=37
GYA Guiyang 39.13 334 ⇑*i*P **P** **01 58 20.1 +0.9**
GYA PP PP 01 59 54.0 +0.4
GYA S **S** **02 04 21.6 +7.4**
GYA AMB AMB
comp=Z,30nm,1.1s,mb4.9
CBIJ Chichi jima 39.78 25 P **P** **01 58 23.5 -1.1**
comp=Z,103nm,0.5s,mb5.8
KMI Kunming 39.85 329 *e*P **P** **01 58 27.0 +1.9**
KMI PP PP 02 00 03.0 +1.7
KMI S **S** **02 04 28.3 +3.4**
KMI AMB AMB
comp=Z,21nm,1.1s,mb4.8
KMI AMB AMB
comp=Z,326nm,5.5s
KMI Kunming 39.85 329 *e*P **P** **01 58 27.0 +1.9**
comp=Z,21nm,1.1s,mb4.8
KMI pP pP 01 58 29.4 -12
KMI sP sP 01 58 30.3 -18
KMI PP PP 02 00 03.0 +1.7
KMI S **S** **02 04 28.2 +3.3**
KMI sS 02 04 32.5
KMI SS SS 02 07 13.8 -3.4
KMI LR LR
comp=Z,490nm,20.1s
SSE Sheshan 39.91 356 P **P** **01 58 25.8 +0.2**
SSE AMB AMB
comp=Z,41nm,0.7s,mb5.3
SSE Sheshan 39.91 356 P **P** **01 58 25.7 +0.1**
comp=Z,41nm,0.7s,mb5.3
SSE sP sP 01 58 30.2 -19
SSE S **S** **02 04 33.4 +7.6**
SSE sS 02 04 38.1
SSE LR LR
comp=Z,280nm,31.8s
WHN Wuhan 40.40 347 *e*P **P** **01 58 28.0 -1.6**
NJ2 Nanjing 41.08 353 *e*P **P** **01 58 36.1 +0.9**
NJ2 S **S** **02 04 48.0 +4.8**
NJ2 SS SS 02 07 46.0 +2.8
NJ2 AMB AMB
comp=Z,70nm,0.9s,mb5.3
ENH Enshi 41.50 340 *e*P **P** **01 58 37.9 -0.9**
comp=Z,12nm,0.6s,mb4.7
ENH LR LR
comp=Z,619nm,20.0s
NOUC Port Laguerre 42.37 113 *e*P **P** **01 58 46.6 +0.6**
CD2 Chengdu 44.25 334 P **P** **01 59 02.1 +0.9**
CD2 PP PP 02 00 49.3 +2.8
CD2 AMB AMB
comp=Z,20nm,1.2s,mb4.7
CD2 AMB AMB
comp=Z,390nm,6.8s
XAN Xi'an 45.16 342 P **P** **01 59 07.8 -0.6**
XAN AMB AMB
comp=Z,19nm,0.9s,mb4.9
AGT Agartala 45.91 316 *i*P **P** **01 59 15.0 +0.5**
AGT *i* pP 01 59 32.0 +1.5
SHL Shillong 46.61 318 ⇑*i*P **P** **01 59 20.0 0.0**
MAJO Matsushiro 47.08 15 *e*P **P** **01 59 21.9 -1.6**
comp=Z,100nm,1.3s,mb5.6
MAT Matsushiro 47.08 15 *e*P **P** **01 59 22.0 -1.5**
comp=Z,86nm,1.3s,mb5.5
MAT *e*S **S** **02 06 03.0 -7.0**
LZH Lanzhou 48.75 338 *e*P **P** **01 59 36.9 +0.3**
comp=Z,40nm,1.0s,mb5.4
LZH pP pP 01 59 42.8 -10
LZH sP sP 01 59 45.4 -14
LZH *e*S **S** **02 06 25.0 -8.5**
LZH sS 02 06 37.0
LZH *e*SS SS 02 09 44.0 -16
LZH LR LR
comp=Z,3µm,16.0s
BJT Baijiatuau 49.28 352 *e*P **P** **01 59 39.5 -1.1**
comp=Z,13nm,0.6s,mb5.1
BJT LR LR
comp=Z,387nm,21.0s
BJI Beijing 49.30 352 P **P** **01 59 39.5 -1.2**
BJI S **S** **02 06 38.3 -2.8**
BJI AMB AMB
comp=Z,14nm,0.5s,mb5.2
BJI Beijing 49.30 352 P **P** **01 59 39.5 -1.2**
comp=Z,14nm,0.5s,mb5.2
BJI S **S** **02 06 38.2 -2.9**
BJI LR LR
comp=Z,300nm,35.9s
LSA Lhasa 49.94 322 P **P** **01 59 47.4 +1.6**
DGAR Diego Garcia 51.33 268 *e*P **P** **01 59 56.0 -0.6**
comp=Z,91nm,0.6s,mb5.9
GUN Gumba 52.19 316 *e*P **P** **02 00 02.4 -0.4**
comp=Z,140nm,0.5s,mb6.2
HYB Hyderabad 52.25 300 *i*P **P** **02 00 01.0 -2.4**
HYB *e* 02 00 23.5
HYB Hyderabad 52.25 300 *e*P **P** **02 00 01.0 -2.4**
HYB *e* 02 00 23.5
PKI Pulchoki 52.30 315 *e*P **P** **02 00 03.0 -0.7**
comp=Z,79nm,0.4s,mb6.0
CN2 Changchun 52.49 1 *e*P **P** **02 00 04.4 -0.4**
CN2 AMB AMB
comp=Z,30nm,0.9s,mb5.2
KKN Kakani 52.53 315 *e*P **P** **02 00 04.9 -0.5**
DMN Daman 52.54 315 *e*P **P** **02 00 05.0 -0.4**
comp=Z,82nm,0.7s,mb5.8
GKN Gorkha 53.11 315 *e*P **P** **02 00 09.3 -0.4**
comp=Z,95nm,0.3s,mb6.3
GTA Gaotai 53.20 336 P **P** **02 00 10.6 +0.4**
GTA S **S** **02 07 30.3 -4.4**
GTA AMB AMB
comp=Z,31nm,1.1s,mb5.2
RPZ Rata Peaks 53.33 139 P **P** **02 00 12.0 +0.8**
comp=Z,83nm,0.9s,mb5.7,baz=248,slow=1.9,SNR=19
MDJ Mudanjiang 53.51 5 P **P** **02 00 12.1 -0.3**
MDJ S **S** **02 07 36.4 -2.4**
MDJ AMB AMB
comp=Z,116nm,1.0s,mb5.8
MDJ AMB AMB
comp=Z,207nm,4.8s
MDJ Mudanjiang 53.51 5 *e*P **P** **02 00 11.8 -0.6**
comp=Z,81nm,0.8s,mb5.7
KOLN Koldanda 53.69 314 *e*P **P** **02 00 13.2 -0.8**
comp=Z,58nm,0.4s,mb5.9
URZ Urewera 55.57 131 LR LR 02 24 44.0
comp=Z,1µm,19.5s,baz=305,slow=36
MWZ Matawai 55.90 130 P **P** **02 00 29.9 0.0**
BHPL Bhopal 55.91 306 *e*P **P** **02 00 28.4 -1.7**
BHPL *e* 02 00 29.7
comp=Z,34nm,0.6s
POO Poona 56.77 299 *e*P **P** **02 00 33.0 -3.4**
AGRA Agra 57.53 310 *e*P **P** **02 00 39.1 -2.6**
AGRA *e* 02 08 25.3
YSS Yuzh-Sakhalins 58.01 15 *e*P **P** **02 00 44.7 0.0**
YSS pmax pmax
comp=Z,16nm,0.7s,mb5.2
CASY Casey 58.05 187 *e*P **P** **02 00 44.3 -0.4**
comp=Z,30nm,0.9s,mb5.3
HIA Hailar 58.09 356 *e*P **P** **02 00 44.5 -0.7**
comp=Z,20nm,0.6s,mb5.3
JOSI Joshimath 58.19 314 *e*P **P** **02 00 45.1 -1.1**
JOSI *e* 02 00 47.0
comp=Z,314nm,1.9s
JOSI *e*S **S** **02 08 40.2 -1.0**
SONM Songino Array 58.70 346 P **P** **02 00 48.8 -0.7**
comp=Z,14nm,0.7s,mb5.1,baz=163,slow=8.4,SNR=90
SONA Sohna 58.72 311 *e*P **P** **02 00 47.1 -2.8**
SONA *e* 02 00 49.5
comp=Z,92nm,1.5s
SONA *e* 02 08 38.9
AYAN Aya Nagar 58.81 311 *e*P **P** **02 00 47.4 -3.1**
AYAN *e* 02 00 50.0
comp=Z,72nm,1.3s
AYAN *e* 02 08 40.8
NDI New Delhi 58.85 311 *e*P **P** **02 00 47.0 -3.8**
KUDL Kundal 59.11 310 *e*P **P** **02 00 50.2 -2.4**
KUDL *e* 02 00 51.4
DDI Dehra Dun 59.12 313 *e* **S** **02 08 54.0 +0.6**
KHET Khetri 59.59 310 *e*P **P** **02 00 53.7 -2.2**
KHET *e* 02 00 58.2
comp=Z,75nm,1.3s
KHET *e* 02 08 50.5
BHK Bhakra 60.90 313 *e* **P** **02 01 07.0 +2.2**
BHK *e* 02 09 13.4
MIR Mirnyy 61.37 194 ⇑*e*P **P** **02 01 07.2 -0.3**
MIR pmax pmax
comp=Z,90nm,1.4s,mb5.7
ZAK Zakamensk 61.84 345 *e*P **P** **02 01 10.0 -0.9**
ZAK *e* pP 02 01 24.2 -3.4
THN Thein Dam 61.95 314 *e* Px 02 01 31.6
WMQ Urumqi 62.12 331 P **P** **02 01 12.6 -0.2**
WMQ PP PP 02 03 31.0 -1.3
WMQ S **S** **02 09 33.0 +1.5**
WMQ SS SS 02 13 41.0 +4.1
WMQ AMB AMB
comp=Z,14nm,1.0s,mb5.0
JASL Jaisalmer 62.85 306 *e*P **P** **02 01 16.4 -1.5**
MOY Mondy 63.61 344 *e*P **P** **02 01 22.5 -0.1**
CLNS Chul'man 65.53 0 *e*P **P** **02 01 33.9 -1.0**
CLNS pmax pmax
comp=Z,18nm,1.2s,mb5.0
CLNS pmax pmax
comp=N,12nm,1.0s
CLNS pmax pmax
comp=E,6.0nm,1.0s
KSH Kashi 65.78 321 ⇑*i*P **P** **02 01 37.3 +0.5**
KSH PCS 02 06 13.4
KSH S S 02 10 16.8 -0.1
MKAR Makanchi Array 66.91 330 P **P** **02 01 43.1 -0.7**
KZA Kyzart 67.73 323 P **P** **02 01 49.8 +0.7**
SNR=7.3
TKM2 Tokmak 2 68.03 323 P **P** **02 01 50.6 -0.3**
SNR=13
KBK Karagaybulak 68.25 323 P **P** **02 01 52.3 0.0**
SNR=7.5
PET Petropavlovsk 68.29 22 *e*P **P** **02 01 51.2 -1.1**
PET *e*S S 02 10 49.6 +2.7
PET *e*SS SS 02 15 11.4 -1.0
PET *e*SSS SSS 02 18 15.9 +2.4
PET pmax pmax
comp=Z,54nm,1.5s,mb5.4
PET pmax pmax
comp=Z,100nm,13.5s
PET smax
comp=N,200nm,13.0s
PET smax
comp=E,100nm,13.1s
AAK Ala-Archa 68.51 323 P **P** **02 01 54.2 +0.3**
SNR=20
AAK Ala-Archa 68.51 323 *e*P **P** **02 01 53.0 -0.9**
AAK pmax pmax
comp=Z,15nm,0.6s,mb5.1
AAK Ala-Archa 68.51 323 *e*P **P** **02 01 52.6 -1.3**
comp=Z,14nm,0.6s,mb5.1
AML Almayashu 68.70 322 P **P** **02 01 55.4 +0.3**
SNR=9.4
USP Ospennovka 68.88 323 P **P** **02 01 55.9 -0.2**
SNR=12
EKS2 Erkin-Say 68.96 322 P **P** **02 01 57.0 +0.3**
SNR=6.6
YAK Yakutsk 70.86 3 *de*P **P** **02 02 07.2 -0.7**
YAK pmax pmax
comp=Z,63nm,0.7s,mb5.7
YAK MLR MLR
comp=Z,200nm,17.0s
YAK Yakutsk 70.86 3 *e*P **P** **02 02 06.7 -1.2**
comp=Z,59nm,0.8s,mb5.6
MAW Mawson 71.13 201 *e*P **P** **02 02 10.3 +0.8**
comp=Z,21nm,0.6s,mb5.2
MAW Mawson 71.13 201 P **P** **02 02 09.9 +0.4**
comp=Z,24nm,0.6s,mb5.3,baz=76,slow=6.7,SNR=118
MAW LR LR 02 30 45.1
comp=Z,561nm,19.5s,baz=58,slow=34
VNDA Vanda 71.28 172 P **P** **02 02 10.8 +0.6**
comp=Z,13nm,0.5s,mb5.1,baz=318,slow=6.3,SNR=79
VNDA LR LR 02 32 17.7
comp=Z,506nm,20.7s,baz=324,slow=35
KURK Kurchatov 71.36 331 *i*P **P** **02 02 10.1 -1.0**
KURK pmax pmax
comp=Z,20nm,1.3s,mb4.9
KURK Kurchatov 71.36 331 *e*P **P** **02 02 09.5 -1.6**
comp=Z,20nm,0.9s,mb5.0
KURK LR LR
comp=Z,81nm,20.0s
MA2 Magadan 71.49 14 *e*P **P** **02 02 12.7 +1.0**
MA2 pmax pmax
comp=Z,50nm,1.2s,mb5.3
SBA Scott Base 72.23 171 *e*P **P** **02 02 17.1 +1.2**
comp=Z,9.7nm,0.7s,mb4.8
SBA LR LR
comp=Z,537nm,22.0s
NVS Novosibirsk 72.24 336 *e*P **P** **02 02 14.4 -1.9**
NVS *i*S S 02 11 24.0 -8.9
NVS pmax pmax
comp=Z,15nm,1.1s,mb4.8
NVS pmax pmax
comp=N,20nm,1.0s
NVS pmax pmax
comp=E,11nm,1.2s
NVS smax
comp=N,66nm,1.4s
NVS smax
comp=E,80nm,1.4s
SEY Seymchan 74.83 13 *e*P **P** **02 02 31.2 0.0**
SEY pP 02 02 45.1 -3.3
SEY PPP PPP 02 06 58.5 -7.9
SEY pmax pmax
comp=Z,60nm,0.7s,mb5.6
SEY pmax pmax
comp=N,30nm,0.8s
SEY pmax pmax
comp=E,20nm,0.8s
SEY MLR MLR
comp=Z,820nm,21.0s
SEY MLR MLR
comp=N,560nm,27.0s
SEY MLR MLR
comp=E,300nm,20.0s
BVA0 Borovoye Array 76.79 330 *i*P **P** **02 02 41.9 -0.6**
BVA0 pmax pmax
comp=Z,1.0nm,1.0s
BRVK Borovoye 76.86 330 *e*P **P** **02 02 42.1 -0.8**
comp=Z,14nm,1.1s,mb4.8
SYO Syowa Base 79.83 201 ⇓P **P** **02 02 59.5 +0.6**
SYO Syowa Base 79.83 201 ⇑PcP PcP 02 03 05.6 -1.1
SYO Syowa Base 79.83 201 ⇓pP pP 02 03 16.1 -0.2
HASS Wahat al Ahsa' 80.09 298 P **P** **02 03 00.8 -0.4**
TIXI Tiksi 80.46 1 ⇑*e*P **P** **02 03 01.2 -1.0**
TIXI *i*S S 02 12 56.0 -6.1
TIXI pmax pmax
comp=Z,49nm,1.6s,mb5.2
TIXI MLR MLR
comp=Z,200nm,17.0s
QSPA South Pole Qui 81.06 180 *e*P **P** **02 03 06.8 +1.5**
comp=Z,29nm,0.7s,mb5.3
QRN Al-Qurain 82.52 301 *e*P **P** **02 03 13.8 0.0**
QRN AMb AMB 02 03 15.4
comp=Z,120nm,0.4s,mb6.2
KBD Kabd 82.81 301 *e*P **P** **02 03 15.4 +0.1**
MIB Mutribah 83.27 301 *e*P **P** **02 03 18.1 +0.5**
MIB AMb AMB 02 03 20.8
comp=Z,71nm,0.9s,mb5.7
RST Umm Al-Ruwaisa 83.48 301 *e*P **P** **02 03 18.4 -0.2**
RST AMb AMB 02 03 20.0
comp=Z,149nm,0.6s,mb6.2
KAMS Al Khamasin 83.57 292 P **P** **02 03 19.1 -0.3**
MZLS Mizel 83.79 295 P **P** **02 03 21.1 +0.7**
ARU Arti 84.42 329 *e*P **P** **02 03 32.6 +10**
TATS Tathlith 84.43 291 P **P** **02 03 25.0 +1.3**
NAMS An Nimas 85.53 290 P **P** **02 03 30.9 +1.7**
AFFS 'Afif 85.74 295 P **P** **02 03 31.1 +1.0**
BLJS Baljurashi 86.23 291 P **P** **02 03 34.6 +2.0**
KMBO Kilima Mbogo 86.93 269 *e*P **P** **02 03 37.2 +1.0**
comp=Z,15nm,1.0s,mb5.2
LTHS Al Lith 87.40 291 P **P** **02 03 39.6 +1.3**
HILS Ha'il 87.50 298 P **P** **02 03 39.7 +1.1**
GNI Garni 87.82 311 *e*P **P** **02 03 39.3 -0.6**
GNI pmax pmax
comp=Z,13nm,1.6s
GNI Garni 87.82 311 *e*P **P** **02 03 40.0 +0.2**
comp=Z,15nm,0.9s,mb5.2
MAIT Maitri 88.87 198 ⇑*i*P **P** **02 03 46.3 +2.2**
GOF Gofitskoye 90.15 316 ⇓*i*P **P** **02 03 51.5 +0.8**
GOF pmax pmax
comp=Z,40nm,1.3s,mb5.6
SNAA Sanae 92.44 195 *e* **P** **02 04 04.9 +4.2**
SNAA Sanae 92.44 195 ⇑*i*P **P** **02 04 02.5 +1.8**
SNAA *e* 02 04 04.9
MBAR Mbarara 93.45 269 P **P** **02 04 06.3 -0.4**
comp=Z,79nm,0.7s,mb6.2,SNR=13
MBAR Mbarara 93.45 269 *e*P **P** **02 04 06.4 -0.3**
comp=Z,7.8nm,0.6s,mb5.3
LSZ Lusaka 93.53 254 *e*P **P** **02 04 07.8 +0.9**
comp=Z,6.9nm,0.6s,mb5.3
ANN Anapa 94.02 315 *e*P **P** **02 04 13.3 +4.8**
ANN pmax pmax
comp=Z,39nm,0.9s,mb5.8
VNA2 Neumayer--Watz 94.04 194 *e* **P** **02 04 14.4 +6.4**
VNA2 Neumayer--Watz 94.04 194 ⇑*i*P **P** **02 04 12.2 +4.2**
VNA2 *e* 02 04 14.4
VNA3 Neumayer Olymp 94.36 193 *e* **P** **02 04 15.6 +6.1**
VNA3 Neumayer Olymp 94.36 193 ⇑*i*P **P** **02 04 13.4 +3.9**
VNA3 *e* 02 04 15.6
VNA1 Neumayer--Stat 94.44 194 *e* **P** **02 04 16.7 +6.8**
VNA1 Neumayer--Stat 94.44 194 ⇑*i*P **P** **02 04 14.3 +4.4**
VNA1 *e* 02 04 16.7
IMA Indian Mountai 94.86 24 *e*P **P** **02 04 12.3 +0.5**
comp=Z,15nm,0.8s,mb5.5
OBN Obninsk 95.97 325 *e*P **P** **02 04 17.0 -0.1**
OBN *i*S 02 14 49.3
OBN pmax pmax
comp=Z,13nm,0.4s,mb5.7
OBN MLR MLR
comp=Z,200nm,25.0s
BRTR Keskin Array B 96.15 309 P **P** **02 04 17.6 -0.8**
comp=Z,1.3nm,0.7s,mb4.5,baz=135,slow=5.4,SNR=7.6
BRTR LR LR 02 53 06.8
comp=Z,116nm,21.9s,baz=40,slow=39
SUR Sutherland 96.49 236 LR LR 02 43 06.2
comp=Z,130nm,18.8s,baz=320,slow=32
SUR Sutherland 96.49 236 *e*P **P** **02 04 21.6 +1.5**
ILAR Eielson Array 97.49 26 P **P** **02 04 22.1 -1.8**
comp=Z,1.1nm,0.8s,mb4.3,baz=263,slow=4.3,SNR=15
ILAR PP PP 02 08 18.9 -5.5
comp=Z,0.7nm,0.8s,baz=251,slow=6.3,SNR=4.3
ILAR PKKPbc 02 21 02.9
comp=Z,0.6nm,0.9s,baz=96,slow=1.5,SNR=6.6
ILAR LR LR 02 45 11.2
comp=Z,103nm,19.2s,baz=90,slow=33
AKASG Malin Array Be 100.07 320 P P 02 04 34.1 -1.7
comp=Z,3.0nm,0.9s,baz=71,slow=4.5,SNR=9.1
AKASG PP PP 02 08 42.5 -1.8
comp=Z,1.5nm,0.7s,baz=86,slow=6.1,SNR=11
AKASG LR LR 02 54 30.4
comp=Z,88nm,19.2s,baz=100,slow=38
ARCES ARCESS Array B 101.40 339 P P 02 04 41.1 -0.3
comp=Z,4.2nm,0.9s,baz=76,slow=5.0,SNR=5.5
ARCES PKKPbc 02 20 54.2
comp=Z,2.8nm,0.9s,baz=284,slow=5.0,SNR=4.0
FINES FINESS Array B 101.73 331 P **P** **02 04 42.0 -1.1**
comp=Z,0.8nm,0.7s,baz=79,slow=9.7,SNR=4.5
FINES PKiKP 02 09 06.7
comp=Z,1.7nm,1.0s,baz=117,slow=4.3,SNR=4.1
CRES Cresnjev 109.49 315 *e*PP PP 02 09 50.1 -5.3
PERS Pernice 109.61 316 *e*PP PP 02 09 52.1 -4.1
LJU Ljubljana 110.10 316 *e*PP PP 02 09 55.0 -4.6
GERES GERESS Array B 110.22 319 PKiKP 02 09 22.8
comp=Z,0.6nm,0.8s,slow=1.3,SNR=4.1
GERES PP PP 02 09 57.6 -2.7
comp=Z,0.6nm,0.6s,baz=94,slow=4.8,SNR=4.7
GERES SKP 02 12 50.6
comp=Z,1.1nm,0.6s,baz=64,slow=1.6,SNR=8.1
CADS Cadrg 110.62 316 *e*PP PP 02 09 58.0 -5.2
YKA Yellowknife Ar 111.92 25 PKiKP 02 09 25.6
comp=Z,0.3nm,0.4s,baz=290,slow=2.2,SNR=4.5
HINF Hinteralfeld 114.90 319 *e*PKP1 PKPdf 02 09 30.2 +0.3
comp=Z,1.8nm,0.4s
LPL La Plagne 115.55 316 *e*PKP1 PKPdf 02 09 31.6 +0.4
comp=Z,6.2nm,0.8s
NVAR Mina Array Bea 116.89 51 PKP PKPdf 02 09 37.0 +3.1
comp=Z,1.8nm,1.0s,baz=111,slow=0.1,SNR=8.3
SSF Saint Saulge 117.29 319 *e*PKP1 PKPdf 02 09 34.8 +0.4
comp=Z,7.6nm,0.6s
BGF Bois d'Agland 117.88 318 *e*PKP1 PKPdf 02 09 36.1 +0.5
comp=Z,8.3nm,0.5s
HLID Hailey 118.60 45 *e*PKPdf PKPdf 02 09 39.5 +2.4
HLID LR LR
comp=Z,196nm,21.0s
NEN Nelson 120.13 54 *e*PKPdf PKPdf 02 09 43.0 +2.7
DUG Dugway 120.65 48 *e*PKPdf PKPdf 02 09 43.4 +2.2
TPAW Teton Pass 121.03 44 *e*PKPdf PKPdf 02 09 44.3 +2.4
REDW Red Top Meadow 121.13 44 *e*PKPdf PKPdf 02 09 44.4 +2.4
SNOW Snow King Moun 121.17 44 *e*PKPdf PKPdf 02 09 45.0 +2.9
LOHW Long Hollow 121.22 44 *e*PKPdf PKPdf 02 09 44.7 +2.5
MSU Marysvale 121.57 50 *e*PKPdf PKPdf 02 09 46.1 +3.2
TMUT Trail Mountain 122.09 49 *e*PKPdf PKPdf 02 09 46.3 +2.3
BW06 Boulder Array 122.22 45 *e*PKPdf PKPdf 02 09 45.5 +1.4
PDAR Pinedale Array 122.22 45 PKP PKPdf 02 09 46.1 +2.0
comp=Z,1.4nm,0.7s,baz=36,slow=0.8,SNR=10
PDAR PKKPbc 02 19 43.5
comp=Z,0.9nm,0.9s,baz=100,slow=5.1,SNR=5.8
SRU San Rafael 122.65 49 *e*PKPdf PKPdf 02 09 46.5 +1.4
PV10 Paradox Valley 123.97 50 *e*PKPdf PKPdf 02 09 50.5 +2.8
PV01 Paradox Valley 124.40 50 *e*PKPdf PKPdf 02 09 51.1 +2.7
ESDC Sonseca Array 124.78 312 PKP PKPdf 02 09 51.5 +2.3
comp=Z,1.1nm,0.7s,baz=31,slow=3.0,SNR=4.6
RSSD Black Hills 125.44 41 *e*PKPdf PKPdf 02 09 51.6 +1.3
SDCO Great Sand Dun 126.82 49 *e*PKPdf PKPdf 02 09 55.8 +2.6
SDCO LR LR
comp=Z,349nm,19.0s
ANMO Albuquerque 126.95 53 *i* PKIKP PKPdf 02 09 56.7 +3.2
BNM Barren Site 127.04 54 *e*PKPdf PKPdf 02 09 56.7 +3.0
KIC Kosan Boka 129.48 271 *e*PKP1 PKPdf 02 10 00.5 +1.6
comp=Z,240nm,2.0s
DBIC Dimbokro 129.63 271 PKP PKPdf 02 10 00.7 +1.5
comp=Z,9.0nm,1.0s,baz=81,slow=2.8,SNR=9.7
DBIC SKPbc 02 13 15.0
comp=Z,5.5nm,0.6s,baz=71,slow=6.0,SNR=7.1
LIC Lamto 129.75 271 *e*PKP1 PKPdf 02 10 01.3 +1.9
LIC Lamto 129.75 271 *e*PKP1 PKPdf 02 10 01.4 +2.0
comp=Z,32nm,1.0s
TIC Toumodi 129.78 271 *e*PKP1 PKPdf 02 10 01.1 +1.6
comp=Z,8.0nm,0.2s
TXAR Lajitas Array 130.74 59 PKP PKPdf 02 10 03.1 +2.2
comp=Z,1.1nm,0.7s,baz=235,slow=2.5,SNR=12
TXAR SKPbc 02 13 18.5
comp=Z,6.3nm,0.6s,baz=248,slow=2.7,SNR=35
TXAR Lajitas Array 130.74 59 PKP PKPdf 02 10 03.1 +2.2
TXAR SKPbc 02 13 18.5
WMOK Wichita Mounta 132.97 50 *e*PKPdf PKPdf 02 10 07.2 +2.2
SCHQ Schefferville 133.36 9 PKP PKPdf 02 10 07.3 +2.2
comp=Z,1.8nm,0.4s,baz=253,slow=14,SNR=7.3
SCHQ SKPbc 02 13 26.3
comp=Z,7.6nm,0.7s,baz=314,slow=0.7,SNR=7.7
SCHQ Schefferville 133.36 9 PKP PKPdf 02 10 07.3 +2.2
SCHQ SKPbc 02 13 26.3
JCT Junction City 133.64 56 *e*PKPdf PKPdf 02 10 09.0 +2.6
LRAL Lakeview Retre 142.44 46 *e*PKPpre 02 10 18.9
PWV Princeton 143.58 35 *e*PKPpre 02 10 21.8
CPUP Villa Florida 144.92 177 PKPbc PKPbc 02 10 28.9 +2.0
comp=Z,30nm,0.6s,baz=205,slow=2.1,SNR=79
JSC Jenkinsville 145.53 39 *e*PKPdf PKPdf 02 10 28.7 +1.2
LVC Limon Verde 146.08 158 *e*PKPbc PKPbc 02 10 33.4 +3.5
CAM4 Nova Friburgo 146.35 202 *e*P PKPdf 02 10 34.3 +5.0
CAM4 *i* 02 10 35.0
CAM4 *i* 02 10 39.6
CAM4 Nova Friburgo 146.35 202 *e*P PKPdf 02 10 34.3 +5.0
CAM4 *i* 02 10 35.0
NHSC New Hope 146.98 40 PKPdf PKPdf 02 10 32.1 +2.0
ARE Arequipa 150.31 148 *e*P PKPdf 02 10 47.0 +11
NNA Nana 150.43 134 *e*PKPbc PKPdf 02 10 44.0 +8.0
LPAZ La Paz 152.08 154 PKPbc PKPdf 02 10 49.4 +11
comp=Z,8.9nm,0.6s,baz=141,slow=2.2,SNR=20
BAO Brasilia Array 154.43 197 PKP PKPdf 02 10 50.0 +8.3
BAO *i* 02 11 07.5
BDFB Brasilia 154.44 197 PKPbc PKPdf 02 10 52.9 +11
comp=Z,3.3nm,0.6s,baz=192,slow=8.1,SNR=5.8
BDFB PKPab PKPab 02 11 07.6 +0.5

comp=Z,8.7nm,0.8s,baz=152,slow=4.3,SNR=7.7
SAML Samuel 160.73 157 *e*PKPdf PKPdf 02 10 52.9 +3.4
SDV Santo Domingo 165.23 89 *e*PKPdf PKPdf 02 10 56.1 +2.1
SDV *e*PKPab PKPab 02 11 55.2 +1.5

IDC ***25*** *02:54:43.1±0.9, 17.10N×145.90E, mb3.9/5, mb1 4.2/6, mb1mx3.9/20, MS3.8/2, Ms1 3.9/2, ms1mx3.0/25, Error ellipse: s-maj=33.5km s-min=22.5km az=114.0*
NEIC ***25*** *02:54:45.2±2.0, 17.06N×145.89E, h13km±13km, mb4.5/4, Error ellipse: s-maj=23.5km s-min=15.9km az=128.0*
ISC 25 02:54:45.8±2.0, 17.0N±0.2×145.8E±0.2, h25km±15km, n18, σ1§03/16, mb4.1/10, MS3.9/2, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**0.32**	**182**		*e*P	**Pb**	**02 54 52.6**	**-0.5**
ANAT	**Anatahan**	**0.68**	**190**		*e*P	**Pb**	**02 54 59.5**	**+0.7**
WRA	**Warramunga Arr**	**38.41**	**197**	P		**P**	**03 02 05.8**	**-1.5**
	1.9nm,1.1s,mb3.7,baz=19,slow=9.5,SNR=5.4							
ASAR	**Alice Springs**	**42.07**	**196**	P		**P**	**03 02 37.8**	**+0.3**
	0.5nm,0.9s,mb3.2,baz=24,slow=11,SNR=3.7							
CMAR	**Chiang Mai Arr**	**44.54**	**279**	P		**P**	**03 02 59.3**	**+1.6**
	1.5nm,0.9s,mb3.8,baz=67,slow=5.8,SNR=6.0							
CMAR				LR		LR	03 20 11.9	
	comp=Z,64nm,18.5s,MS3.6,baz=90,slow=34							
ILAR	**Eielson Array**	**65.11**	**26**	P		**P**	**03 05 23.1**	**-3.2**
	1.6nm,0.9s,mb4.0,baz=270,slow=4.3,SNR=9.3							
BVAR	**Borovoye Array**	**67.81**	**321**	P		**P**	**03 05 42.0**	**-1.7**
	1.9nm,1.1s,mb4.1,baz=135,slow=8.4,SNR=5.0							
NVAR	**Mina Array Bea**	**84.11**	**52**	P		**P**	**03 07 17.3**	**+1.1**
	1.5nm,0.8s,mb4.2,baz=252,slow=9.3,SNR=11							
NVAR	**Mina Array Bea**	**84.11**	**52**	P		**P**	**03 07 17.3**	**+1.1**
HLID	**Hailey**	**85.33**	**46**	*e*P		**P**	**03 07 22.1**	**0.0**
	2.7nm,1.1s,mb4.3							
BOZ	**Bozeman (W)**	**86.50**	**43**	*e*P		**P**	**03 07 27.8**	**-0.1**
	1.8nm,0.9s,mb4.3							
SPUT	**South Promonto**	**87.46**	**48**	*e*P		**P**	**03 07 32.3**	**-0.3**
DUG	**Dugway**	**87.59**	**49**	*e*P		**P**	**03 07 33.0**	**-0.2**
	4.4nm,1.1s,mb4.6							
HWUT	**Hardware Ranch**	**87.98**	**47**	*e*P		**P**	**03 07 34.9**	**-0.1**
	3.4nm,1.0s,mb4.5							
PV10	**Paradox Valley**	**90.98**	**49**	*e*P		**P**	**03 07 49.5**	**+0.2**
RW3	**Ridgway**	**92.00**	**49**	*e*P		**P**	**03 07 55.5**	**+1.5**
TXAR	**Lajitas Array**	**98.71**	**56**	LR		LR	03 48 10.3	
	comp=Z,70nm,19.1s,MS4.2,baz=55,slow=32							
LPAZ	**La Paz**	**147.53**	**94**	PKPbc		PKPdf	03 14 30.9	+0.2
	4.2nm,1.0s,baz=28,slow=1.4,SNR=9.8							

IDC ***25*** *02:59:40.2±2.7, 34.31N×23.84E, mb3.7/5, mb1 3.7/7, mb1mx3.6/21, ML3.7/2, Error ellipse: s-maj=46.6km s-min=20.1km az=151.0*
CSEM ***25*** *02:59:41.1±0.4, 34.36N×23.59E, h20km, MD3.6, Error ellipse: s-maj=10.0km s-min=5.1km az=61.0*
ATH ***25*** *02:59:48.9, 34.84N×24.15E, h20km±4km, MD3.6/9*
NEIC ***25*** *02:59:48.9, 34.83N×24.16E, h19km, MD3.6(ATH), After ATH.*
ISC 25 02:59:40.0±2.9, 34.4N±0.1×23.7E±0.1, h6km±13km, n31, σ1§15/33, mb3.6/5, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.57**	**30**	*e*Pb		**Pb**	**02 59 52.0**	**+0.1**
GVD				*e*Pg		**Pg**	**02 59 52.1**	**+0.7**
GVD	**Gavdhos**	**0.57**	**30**	*e*Pg		**Pg**	**02 59 52.1**	**+0.7**
VAM	**Vamos**	**1.12**	**20**	*e*PN		**Pn**	**03 00 00.6**	**-1.6**
IDI	**Anoyia**	**1.33**	**45**	Pg		**Pg**	**03 00 04.0**	**-2.6**
	22nm,0.3s,baz=226,slow=16,SNR=83							
IDI				Lg			03 00 22.5	
	39nm,0.3s,baz=137,slow=21,SNR=15							
NPS	**Neapolis**	**1.79**	**59**	*e*PN		**Pn**	**03 00 13.6**	**+1.9**
KYTH	**Kithira**	**2.01**	**344**	*e*PN		**Pn**	**03 00 20.5**	**+5.6**
THR6	**Thira Island,**	**2.42**	**34**	*e*P		**Pn**	**03 00 21.8**	**+1.0**
THR5	**Thira Island,**	**2.45**	**32**	*e*P		**Pn**	**03 00 21.9**	**+0.8**
VLI	**Veliai**	**2.45**	**345**	*e*PN		**Pn**	**03 00 26.3**	**+5.1**
THR1	**Thera Island**	**2.46**	**34**	*e*P		**Pn**	**03 00 21.9**	**+0.6**
SANT	**Santorini**	**2.46**	**34**	*e*Pn		**Pn**	**03 00 21.1**	**-0.2**
SANT	**Santorini**	**2.46**	**34**	*e*Pn		**Pn**	**03 00 21.1**	**-0.2**
THR3	**Thira Island,**	**2.46**	**33**	*e*P		**Pn**	**03 00 22.2**	**+0.8**
KARP	**Karpathos**	**3.05**	**66**	*e*PB		**Pb**	**03 00 32.1**	**-2.4**
APE	**Apeiranthos**	**3.08**	**28**	*e*PN		**Pn**	**03 00 29.5**	**-0.7**
ITM	**Ithomi**	**3.19**	**333**	*e*PB		**Pb**	**03 00 38.0**	**+1.2**
NAIG	**Nisos Aigina**	**3.41**	**357**	*e*PN		**Pn**	**03 00 33.5**	**-1.3**
PTL	**Penteli**	**3.69**	**2**	*e*PN		**Pn**	**03 00 39.0**	**+0.1**
ARG	**Arkhangelos**	**4.04**	**61**	*e*PN		**Pn**	**03 00 44.7**	**+0.8**
AGG	**Agios Georgios**	**4.80**	**347**	*e*P		**Pn**	**03 00 55.5**	**+0.9**
XOR	**Xorichti**	**5.03**	**355**	*e*P		**Pn**	**03 00 57.8**	**0.0**
EIL	**Elat**	**10.60**	**113**	Pn		**P**	**03 02 16.1**	**+0.6**
EIL				*e*S		**S**	**03 04 07.5**	**-8.1**
EIL	**Elat**	**10.60**	**113**	Pn		**P**	**03 02 16.1**	**+0.6**
GERES	**GERESS Array B**	**16.29**	**336**	Pn		**P**	**03 03 35.3**	**+4.4**
	0.1nm,0.3s,baz=148,slow=13,SNR=4.7							
AKASG	**Malin Array Be**	**16.83**	**12**	Pn		**P**	**03 03 38.8**	**+1.1**
	0.6nm,0.3s,baz=209,slow=9.9,SNR=4.5							
HFS	**Hagfors**	**26.62**	**349**	P		**P**	**03 05 21.5**	**+0.7**
	0.5nm,0.4s,mb3.4,baz=153,slow=9.9,SNR=5.3							
FINES	**FINESS Array B**	**27.15**	**2**	P		**P**	**03 05 24.8**	**-0.9**
	1.4nm,1.1s,mb3.4,baz=180,slow=8.3,SNR=3.7							
NOA	**NORSAR Array B**	**27.90**	**347**	P		**P**	**03 05 31.1**	**-1.4**
	0.6nm,0.9s,mb3.2,baz=157,slow=9.1,SNR=2.6							
ARCES	**ARCESS Array B**	**35.25**	**1**	P		**P**	**03 06 34.8**	**-2.3**
	3.7nm,1.0s,mb4.2,baz=180,slow=9.0,SNR=4.0							
ARCES	**ARCESS Array B**	**35.25**	**1**	P		**P**	**03 06 34.8**	**-2.3**
SONM	**Songino Array**	**60.90**	**50**	P		**P**	**03 09 55.7**	**-0.1**
	0.2nm,0.4s,mb3.6,baz=282,slow=7.4,SNR=3.6							

DJA ***25*** *03:07:51.5±1.0, 8.94S×112.68E, h80km, MD4.7/4, ML4.8/4, Error ellipse: s-maj=39.1km s-min=22.0km az=165.0*
IDC ***25*** *03:08:17.4±13.0, 9.21S×114.41E, h204km±99km, mb3.1/3, mb1 3.1/4, mb1mx2.9/14, Error ellipse: s-maj=121.0km s-min=100.5km az=1.0*
ISC 25 03:07:52.7±2.7, 8.8S±0.4×112.8E±0.2, h94km±31km, n8, σ0§52/11, mb3.4/3, 1C-6D, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.34**	**77**	⇓*e*Pn		**P**	**03 08 17.3**	**+0.2**
	1μm,0.2s							
SRDI				⇓*e*Sn		**S**	**03 08 35.6**	**+0.3**
KELI	**Kelakatan**	**1.75**	**71**	⇓*e*Pn		**P**	**03 08 22.4**	**+0.1**
	536nm,0.2s							
KELI				⇓*e*Sn		**S**	**03 08 44.3**	**+0.2**
RATI	**Rata**	**2.68**	**89**	⇑*e*Pn		**P**	**03 08 35.2**	**+0.2**
	651nm,0.2s							
RATI				⇓*e*Sn		**S**	**03 09 06.5**	**-0.1**
KEDI	**Kedomdong**	**3.27**	**85**	⇓*e*Pn		**P**	**03 08 41.4**	**-1.7**
	147nm,0.1s							
FITZ	**Fitzroy Crossi**	**15.51**	**128**	P		**P**	**03 11 27.5**	**0.0**
	0.1nm,0.3s,baz=268,slow=21,SNR=3.8							
WRA	**Warramunga Arr**	**23.57**	**120**	P		**P**	**03 12 55.9**	**+0.2**
	0.2nm,0.5s,mb2.7,baz=298,slow=12,SNR=3.9							
ASAR	**Alice Springs**	**25.01**	**129**	P		**P**	**03 13 09.7**	**+0.1**
	0.8nm,0.5s,mb3.4,baz=303,slow=9.1,SNR=10							
STKA	**Stephens Creek**	**35.22**	**135**	P		**P**	**03 14 40.2**	**+0.2**
	1.2nm,0.4s,mb4.1,baz=318,slow=10,SNR=9.3							

CASC 25 03:10:35.5±1.3, 12.46N×87.94W, h35km±999km, MD3.5, ML2.9, 5C-3D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.82**	**7**	⇑*e*P		P	03 10 50.7	+0.1
CNCH				*e*S		S	03 11 02.7	+0.9
VSM	**San Miguel**	**1.02**	**342**	*e*P		P	03 10 53.5	+0.1
VSM				*e*S		S	03 11 08.6	+1.8
BLLM	**Bellamira**	**1.02**	**344**	⇓*e*P		P	03 10 53.7	+0.2
BLLM				*e*S		S	03 11 08.1	+1.3
LEON	**Leon**	**1.03**	**92**	⇑*e*P		P	03 10 53.3	-0.3
LEON				*e*S		S	03 11 06.1	-0.9
MIRN	**Miramar**	**1.20**	**91**	⇑*e*P		P	03 10 56.0	-0.1
MIRN				*e*S		S	03 11 11.5	+0.1
CNGN	**Cerro Negro**	**1.22**	**88**	⇑*e*P		P	03 10 56.1	-0.1
CNGN				*e*S		S	03 11 12.3	+0.6
MOMJ	**Momotombo**	**1.37**	**92**	⇓*e*P		P	03 10 58.4	-0.1
MOMJ				*e*S		S	03 11 15.6	-0.1
SNVI	**San Vicente**	**1.44**	**323**	*e*P		P	03 10 59.1	-0.4
SNVI				*e*S		S	03 11 17.5	0.0
LCBS	**La Ceiba**	**1.56**	**320**	*e*P		P	03 11 01.0	-0.2
LCBS				*e*S		S	03 11 20.1	-0.4
APYN	**Apoyeque**	**1.57**	**98**	*e*P		P	03 11 01.3	-0.1
APYN				*e*S		S	03 11 20.1	-0.7
LFRS	**El Faro**	**1.59**	**317**	⇓*e*P		P	03 11 01.4	-0.2
LFRS				*e*S		S	03 11 21.3	+0.1
SOMN	**Somoto**	**1.61**	**53**	⇑*e*P		P	03 11 03.8	+1.9
SOMN				*e*S		S	03 11 25.3	+3.6
QUIN	**Quiabu**	**1.63**	**66**	*e*P		P	03 11 01.8	-0.4
MGAN	**Managua**	**1.69**	**100**	*e*P		P	03 11 03.1	0.0
MGAN				*e*S		S	03 11 23.4	-0.3
MGAN				*i*			03 11 24.4	
	comp=N,150nm,0.3s							
TICN	**Ticuantepe**	**1.73**	**104**	*e*P		P	03 11 03.7	+0.2
TICN				*e*S		S	03 11 24.7	+0.1
BOQS	**Boqueron**	**1.82**	**314**	*e*P		P	03 11 04.5	-0.4
BOQS				*e*S		S	03 11 26.7	-0.3
PYTN	**Playitas**	**1.84**	**87**	*e*S		S	03 11 26.5	-1.1
SBLS	**San Blas**	**2.14**	**310**	*e*P		P	03 11 09.8	+0.4

IDC 25 03:43:19.3±50.0, 22.01S×175.80W, mb3.9/3, mb1 4.1/3, mb1mx3.8/14, MS3.7/1, Ms1 3.7/1, ms1mx2.8/25, Error ellipse: s-maj=937.0km s-min=165.0km az=86.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**37.69**	**284**	LR		LR	04 03 24.8	
	comp=Z,96nm,18.9s,baz=110,slow=32							
STKA	**Stephens Creek**	**39.02**	**246**	P		P	03 50 46.5	-3.0
	0.8nm,0.4s,baz=85,slow=11,SNR=4.0							
ASAR	**Alice Springs**	**46.19**	**258**	P		P	03 51 45.9	-2.1
	0.5nm,0.5s,baz=103,slow=6.1,SNR=6.6							
WB2	**Warramunga Arr**	**46.43**	**263**	*e*P		P	03 51 49.3	-0.6
WRA	**Warramunga Arr**	**46.44**	**263**	P		P	03 51 49.3	-0.7
	1.1nm,0.3s,baz=98,slow=8.4,SNR=45							
KAKA	**Kakadu**	**50.11**	**272**	*e*P		P	03 52 24.8	+6.2
	7.2nm,1.5s							

TIF ***25*** *03:44:56.0, 43.02N×43.79E, h6km, Mpv3.6*
MOS 25 03:44:58.2±1.0, 42.87N×43.56E, h10km, mb4.1/1, 2C-2D, Error ellipse: s-maj=34.1km s-min=9.7km az=112.4, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ZEI	**Tsey**	**0.27**	**112**	*i* Pg		Pg	03 45 02.6	-1.2
AMRG		**0.47**	**222**	⇑*i* Pg		Pg	03 45 10.8	+3.0
	comp=Z,60nm,0.4s							
AMRG				*i* S		Sg	03 45 21.8	+7.6
	comp=N,300nm,0.4s							
KUBR	**Kubataba**	**0.94**	**353**	PG		Pg	03 45 16.3	-0.7
SHAR	**Shatzhatmas**	**1.09**	**324**	PG		Pg	03 45 19.6	-0.4
DUS	**Dusheti**	**1.15**	**132**	⇑*i* P		Pb	03 45 19.6	-0.1
DUS				*i* S		Sb	03 45 37.6	+3.1
PYA	**Pyatigorsk**	**1.22**	**343**	PG		Pg	03 45 21.1	-1.5
KIV0	**Kislovodsk Arr**	**1.25**	**330**	PG		Pg	03 45 22.0	-1.3
KIV	**Kislovodsk**	**1.26**	**330**	*i* PG		Pg	03 45 21.9	-1.5
KIV				*i*			03 45 39.6	
KIV				pmax		pmax		
	comp=Z,18nm,0.5s							
KIV				pmax		pmax		
	comp=Z,101nm,0.8s							
KIV				smax				
	comp=E,290nm,0.6s							
AKH	**Akhalkalaki**	**1.46**	**182**	⇓*i* P		Pn	03 45 28.4	+3.7
	comp=Z,40nm,0.4s							
AKH				*i* S		Sb	03 45 50.8	+7.3
NAGR	**Nagutskaya**	**1.68**	**340**	PN		Pn	03 45 28.8	+0.9
DGRG	**David-gareji**	**1.96**	**136**	⇓*i* P		Pn	03 45 34.6	+2.7
DGRG				*i* S		Sn	03 46 02.5	+5.8
ANN	**Anapa**	**4.83**	**296**	*e*PN		Pn	03 46 05.8	-7.0
ANN				pmax		pmax		
	comp=Z,30nm,0.9s							

NEIC ***25*** *03:45:33.4±1.1, 34.79N×20.99E, h10km, MD3.7(ATH), Error ellipse: s-maj=14.7km s-min=6.4km az=197.0*
CSEM ***25*** *03:45:34.9±0.2, 34.86N×21.08E, h20km, MD3.7, Error ellipse: s-maj=4.4km s-min=2.0km az=9.0*
ATH ***25*** *03:45:37.1, 34.95N×21.25E, h37km±26km, MD3.7/14*
THE ***25*** *03:45:39.3, 35.08N×21.31E, h20km, ML4.1*
ISC 25 03:45:32.9±0.8, 34.96N±0.06×21.00E±0.05, h10km, n47, σ1§14/55, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**2.12**	**51**	*e*PB		**Pb**	**03 46 11.0**	**-0.1**
ITM	**Ithomi**	**2.34**	**18**	*e*PN		**Pn**	**03 46 15.1**	**+3.0**
VLI	**Veliai**	**2.36**	**41**	*e*PB		**Pb**	**03 46 15.4**	**+0.3**
GVD	**Gavdhos**	**2.54**	**92**	*e*PN		**Pn**	**03 46 14.5**	**-0.5**
VAM	**Vamos**	**2.66**	**79**	*e*PN		**Pn**	**03 46 16.9**	**+0.3**
RLS	**Riolos of Patr**	**3.12**	**7**	*e*PN		**Pn**	**03 46 26.3**	**+3.2**
RLS				*e*SN		**Sn**	**03 47 01.2**	**+0.4**
VLS	**Valsamata**	**3.23**	**354**	*e*PN		**Pn**	**03 46 26.5**	**+1.8**
NAIG	**Nisos Aigina**	**3.44**	**35**	*e*PN		**Pn**	**03 46 28.8**	**+1.0**
NSAL	**Nisos Salamina**	**3.55**	**33**	*e*PN		**Pn**	**03 46 30.2**	**+0.9**
LKD	**Levkas**	**3.75**	**356**	*e*PN		**Pn**	**03 46 34.7**	**+2.5**
NPS	**Neapolis**	**3.79**	**84**	*e*PN		**Pn**	**03 46 34.0**	**+1.2**
THR5	**Thira Island,**	**3.83**	**66**	*e*Pn		**Pn**	**03 46 32.5**	**-0.7**
THR5				*e*Sn		**Sn**	**03 47 13.8**	**-5.0**
THR5	**Thira Island,**	**3.83**	**66**	*e*Pn		**Pn**	**03 46 32.5**	**-0.7**
THR5				*e*Sn		**Sn**	**03 47 13.9**	**-4.9**
THR6	**Thira Island,**	**3.84**	**67**	*e*Pn		**Pn**	**03 46 32.6**	**-0.9**
THR6				*e*Sn		**Sn**	**03 47 14.2**	**-5.0**
PTL	**Penteli**	**3.85**	**36**	*e*PN		**Pn**	**03 46 34.5**	**+0.9**
MPAR	**Parnis Oros**	**3.87**	**34**	*e*PN		**Pn**	**03 46 35.0**	**+1.1**
THR1	**Thera Island**	**3.90**	**68**	*e*Pn		**Pn**	**03 46 33.5**	**-0.7**
THR1				*e*Sn		**Sn**	**03 47 15.1**	**-5.5**
EVR	**Evrytania**	**4.00**	**9**	*e*PN		**Pn**	**03 46 39.6**	**+3.9**
LKR	**Lokris**	**4.02**	**23**	*e*PN		**Pn**	**03 46 36.9**	**+0.9**
AGG	**Agios Georgios**	**4.19**	**14**	*e*Pn		**Pn**	**03 46 38.8**	**+0.4**
AGG				*e*Sn		**Sn**	**03 47 25.2**	**-2.8**
APE	**Apeiranthos**	**4.23**	**59**	*e*PN		**Pn**	**03 46 38.5**	**-0.5**
NEO	**Neokhori**	**4.69**	**22**	*e*PN		**Pn**	**03 46 46.2**	**+0.7**
XOR	**Xorichti**	**4.74**	**21**	*e*Pn		**Pn**	**03 46 46.9**	**+0.8**
AOS	**Alonnisos**	**4.79**	**28**	*e*Pn		**Pn**	**03 46 47.0**	**0.0**
MEV	**Metsovon**	**4.82**	**2**	*e*Pn		**Pn**	**03 46 48.3**	**+1.0**
MEV				*e*Sn		**Sn**	**03 47 42.1**	**-1.9**
SOI	**Samo**	**5.05**	**309**	*e*Pn		**Pn**	**03 46 50.5**	**-0.1**
SOI	**Samo**	**5.05**	**309**	*e*Pn		**Pn**	**03 46 50.5**	**-0.1**
KARP	**Karpathos**	**5.08**	**82**	*e*PN		**Pn**	**03 46 50.2**	**-0.8**
LIT	**Litohoron**	**5.27**	**13**	*e*Pn		**Pn**	**03 46 54.7**	**+1.0**
MEU	**Monte Lauro**	**5.36**	**295**	*e*Pn		**Pn**	**03 46 55.0**	**0.0**
PAIG	**Paliouri**	**5.40**	**22**	*e*Pn		**Pn**	**03 46 55.3**	**-0.2**
PLG	**Polygyros**	**5.74**	**19**	*e*PN		**Pn**	**03 47 00.4**	**0.0**
FNA	**Florina**	**5.82**	**3**	*e*Pn		**Pn**	**03 47 03.0**	**+1.5**
OUR	**Ouranopolis**	**5.86**	**23**	*e*Pn		**Pn**	**03 47 01.9**	**-0.2**
ARG	**Arkhangelos**	**5.94**	**76**	*e*PN		**Pn**	**03 47 01.4**	**-1.8**
PRK	**Paraskevi**	**6.00**	**43**	*e*PN		**Pn**	**03 47 02.1**	**-2.0**
GRG	**Griva**	**6.09**	**10**	*e*Pn		**Pn**	**03 47 05.4**	**+0.1**
GRG				*e*Sn		**Sn**	**03 48 14.1**	**-1.6**
SOH	**Sokhos**	**6.14**	**17**	*e*Pn		**Pn**	**03 47 06.0**	**0.0**
KNT	**Kendrikon**	**6.37**	**13**	*e*Pn		**Pn**	**03 47 09.5**	**+0.3**
SRS	**Serrai**	**6.48**	**18**	*e*Pn		**Pn**	**03 47 10.2**	**-0.6**
MGR	**Morigerati**	**6.74**	**322**	*e*Pn		**Pn**	**03 47 13.9**	**-0.5**
MGR	**Morigerati**	**6.74**	**322**	*e*Pn		**Pn**	**03 47 13.9**	**-0.5**
SG1	**Sgolgore (BA)**	**6.79**	**331**	*e*Pn		**Pn**	**03 47 13.4**	**-1.7**
MRLC	**Muro Lucano**	**7.24**	**325**	*e*Pn		**Pn**	**03 47 21.1**	**-0.4**
MRLC	**Muro Lucano**	**7.24**	**325**	*e*Pn		**Pn**	**03 47 21.1**	**-0.4**
MS1	**Monte Sant'Ang**	**7.82**	**331**	*e*Pn		**Pn**	**03 47 28.0**	**-1.5**
STON	**Ston**	**8.31**	**343**	*i* Pn		**P**	**03 47 33.9**	**-2.4**
STON				*i* Sn		Sx	03 49 01.4	

NEIC ***25*** *03:58:38.5±2.6, 5.05S×152.78E, h51km±20km, mb4.4/5, Error ellipse: s-maj=36.8km s-min=12.8km az=116.0*
IDC ***25*** *03:58:39.6±5.9, 5.00S×152.70E, h53km±51km, mb4.0/5, mb1 4.3/6, mb1mx3.9/15, MS3.6/4, Ms1 3.6/4, ms1mx3.2/17, Error ellipse: s-maj=43.8km s-min=29.3km az=125.0*
ISC 25 03:58:34.1±3.3, 5.2S±0.1×153.1E±0.1, h33km±23km, n18, σ1§29/18, mb4.3/9, MS3.8/3, 1C, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAB	**Rabaul**	**1.34**	**318**	⇑*i* P		**Pn**	**03 58 57.4**	**+0.5**
PMG	**Port Moresby**	**7.21**	**234**	P		**Pn**	**04 00 21.4**	**+1.4**
	4.5nm,0.3s,baz=36,slow=8.3,SNR=9.3							
PMG				S		**Sn**	**04 01 39.0**	**-2.6**
	11nm,0.3s,baz=352,slow=21,SNR=5.8							
PMG	**Port Moresby**	**7.21**	**234**	*e*Pn		**Pn**	**04 00 19.1**	**-0.9**
PMG				S		**Sn**	**04 01 39.0**	**-2.6**
CTA	**Charters Tower**	**16.23**	**204**	LR		LR	04 07 49.2	
	comp=Z,59nm,18.0s,baz=226,slow=34							
KAKA	**Kakadu**	**21.73**	**249**	*e*P		**P**	**04 03 27.0**	**+2.3**
	17nm,0.4s,mb4.8							
KAKA				*e*S		**S**	**04 07 19.2**	**+1.0**
WRAB	**Tennant Creek**	**23.38**	**230**	*e*P		**P**	**04 03 42.1**	**+1.0**
	4.7nm,0.4s,mb4.3							
WB2	**Warramunga Arr**	**23.39**	**230**	*e*P		**P**	**04 03 41.3**	**+0.2**
WB2				*e*S		**S**	**04 07 51.3**	**+3.2**
WRA	**Warramunga Arr**	**23.39**	**230**	P		**P**	**04 03 41.9**	**+0.8**
	2.8nm,0.4s,mb4.0,baz=53,slow=9.8,SNR=80							
ASAR	**Alice Springs**	**26.05**	**223**	P		**P**	**04 04 07.0**	**+0.5**
	1.1nm,0.5s,mb3.7,baz=60,slow=8.1,SNR=9.7							
FITZ	**Fitzroy Crossi**	**29.71**	**242**	*e*P		**P**	**04 04 37.7**	**-2.1**
	4.3nm,0.5s,mb4.4							
FITZ	**Fitzroy Crossi**	**29.71**	**242**	P		**P**	**04 04 37.9**	**-1.9**
	4.3nm,0.5s,mb4.5,baz=52,slow=4.4,SNR=31							
FITZ				LR		LR	04 16 03.0	
	comp=Z,45nm,19.1s,MS3.1,baz=56,slow=35							
MBWA	**Marble Bar**	**36.02**	**241**	*e*P		**P**	**04 05 33.2**	**-1.2**
	2.0nm,0.4s,mb4.4							
CMAR	**Chiang Mai Arr**	**58.29**	**295**	P		**P**	**04 08 27.6**	**-0.9**
	1.6nm,0.6s,mb4.2,baz=123,slow=6.2,SNR=6.9							
COLA	**College**	**82.11**	**22**	*e*P		**P**	**04 10 51.4**	**-1.2**
	3.3nm,0.8s,mb4.3							
ILAR	**Eielson Array**	**82.42**	**22**	P		**P**	**04 10 54.6**	**+0.5**
	1.9nm,0.7s,mb4.1,baz=244,slow=5.8,SNR=30							
YKA	**Yellowknife Ar**	**95.64**	**28**	LR		LR	04 50 37.8	
	comp=Z,81nm,19.4s,MS4.2,baz=105,slow=33							
PDAR	**Pinedale Array**	**98.91**	**48**	LR		LR	04 57 22.5	
	comp=Z,50nm,18.7s,MS4.0,baz=69,slow=36							
BDFB	**Brasilia**	**150.60**	**135**	PKPbc		PKPdf	04 18 28.8	+5.2
	1.1nm,0.4s,baz=209,slow=0.6,SNR=6.2							

NEIC ***25*** *04:07:49.0, 35.60S×71.60W, h78km, MD3.5(GUC), After GUC.*
GUC 25 04:07:49.0±0.7, 35.60S×71.60W, h78km±9km, MD3.5, ML3.1, 3D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CCHI	**Chillan**	**1.08**	**201**	⇓*i* P		P	04 08 09.0	-0.1
CCHI				*i* S		S	04 08 24.3	+0.2
CCHI				AMP			04 08 29.4	
	comp=E,282nm,0.6s							
SFDO	**San Fernando**	**1.09**	**26**	⇓*i* P		P	04 08 09.1	-0.1
SFDO				*i* S		S	04 08 24.5	+0.1
CICH	**Cipreses**	**1.60**	**38**	⇓*i* P		P	04 08 16.2	+0.2
LNV	**Longovilo**	**1.64**	**5**	*e*P		P	04 08 16.6	0.0
CACH	**El Canelo**	**1.69**	**29**	*e*P		P	04 08 17.1	-0.1
CACH				*i* S		S	04 08 38.4	+0.4
CHCH	**Chadas Angostu**	**1.83**	**25**	*e*P		P	04 08 18.9	-0.2
CHCH				*i* S		S	04 08 42.0	+0.7
TACH	**Talagante**	**2.01**	**16**	*i* P		P	04 08 21.1	-0.5
LMEL	**Las Melosas**	**2.09**	**34**	*e*P		P	04 08 23.0	+0.4
LMEL				*i* S		S	04 08 48.7	+1.2
LMEL				AMP			04 08 55.1	
	comp=N,133nm,0.1s							
ANTU	**Antumapu**	**2.17**	**22**	*e*P		P	04 08 23.8	0.0
ANTU				*i* S		S	04 08 50.0	+0.4
ANTU				AMP			04 08 59.0	
	comp=E,182nm,0.2s							

LPAZ	**La Paz**	**34.75**	**64**	P		**P**	**05 50 46.5**	**+1.6**
	6.7nm,0.9s,mb4.6,baz=217,slow=7.2,SNR=23							
LPAZ				LR		LR	06 02 29.2	
	comp=Z,75nm,18.7s,MS3.5,baz=252,slow=32							
PMSA	**Palmer Station**	**35.90**	**154**	*eP*		**P**	**05 50 53.6**	**-0.5**
	6.5nm,0.8s,mb4.6							
OTAV	**Otavalo**	**41.50**	**34**	*eP*		**P**	**05 51 40.6**	**-0.8**
	6.2nm,0.9s,mb4.2							
SAML	**Samuel**	**43.25**	**61**	*eP*		**P**	**05 51 55.0**	**-0.7**
	7.8nm,1.0s,mb4.4							
BDFB	**Brasilia**	**50.64**	**80**	P		**P**	**05 52 53.2**	**-0.5**
	3.7nm,1.0s,mb4.3,baz=248,slow=5.4,SNR=3.9							
BDFB				LR		LR	06 12 23.7	
	comp=Z,237nm,18.1s,MS4.2,baz=276,slow=34							
SDV	**Santo Domingo**	**52.77**	**38**	*eP*		**P**	**05 53 06.9**	**-3.1**
	4.5nm,0.9s,mb4.4							
QSPA	**South Pole Qui**	**54.09**	**180**	⇓*iP*		**P**	**05 53 14.3**	**-4.5**
	17nm,1.1s,mb4.9							
VNA3	**Neumayer Olymp**	**56.47**	**157**	⇓*iP*		**P**	**05 53 37.4**	**+1.2**
VNA3				*e*			05 54 33.7	
VNDA	**Vanda**	**56.71**	**195**	P		**P**	**05 53 37.8**	**-0.1**
	2.0nm,1.0s,mb4.1,baz=84,slow=5.3,SNR=9.7							
VNDA				LR		LR	06 12 05.6	
	comp=Z,165nm,20.4s,MS4.1,baz=104,slow=30							
VNA1	**Neumayer--Stat**	**57.06**	**157**	⇓*iP*		**P**	**05 53 42.1**	**+1.7**
VNA1				*e*			05 54 35.6	
VNA2	**Neumayer--Watz**	**57.27**	**157**	⇓*iP*		**P**	**05 53 42.7**	**+0.8**
VNA2				*e*			05 54 36.6	
SNAA	**Sanae**	**58.44**	**158**	*e*		PcP	05 54 39.2	-1.4
SNAA	**Sanae**	**58.44**	**158**	P		**P**	**05 53 48.8**	**-1.3**
	2.5nm,1.0s,mb4.2,baz=249,slow=4.8,SNR=20							
SNAA				PcP		PcP	05 54 38.6	-2.0
	0.7nm,0.8s,baz=24,slow=0.6,SNR=4.0							
SNAA	**Sanae**	**58.44**	**158**	⇑*iP*		**P**	**05 53 47.3**	**-2.7**
SNAA				*e*			05 54 39.2	
URZ	**Urewera**	**63.62**	**241**	LR		LR	06 14 45.2	
	comp=Z,116nm,20.6s,MS4.0,baz=94,slow=29							
TXAR	**Lajitas Array**	**65.19**	**357**	P		**P**	**05 54 36.1**	**+0.1**
	2.3nm,0.9s,mb4.2,baz=180,slow=10.0,SNR=15							
TXAR				LR		LR	06 17 38.0	
	comp=Z,114nm,20.6s,MS4.0,baz=265,slow=31							
LTX	**Lajitas**	**65.19**	**357**	P		**P**	**05 54 35.8**	**-0.1**
	9.3nm,1.3s,mb4.7							
RPZ	**Rata Peaks**	**65.27**	**233**	LR		LR	06 15 06.9	
	comp=Z,196nm,19.6s,MS4.3,baz=187,slow=29							
GDL2	**Guadalupe Moun**	**68.07**	**356**	*eP*		**P**	**05 54 53.4**	**-0.9**
TUC	**Tucson**	**68.78**	**351**	*eP*		**P**	**05 54 58.9**	**+0.3**
	4.4nm,1.1s,mb4.3							
CPRX	**Cap Rock**	**68.88**	**357**	P		**P**	**05 54 57.2**	**-2.0**
AMTX	**Amarillo**	**70.66**	**359**	*eP*		**P**	**05 55 08.5**	**-1.5**
	16nm,1.0s,mb4.9							
ANMO	**Albuquerque**	**70.94**	**355**	*eP*		**P**	**05 55 11.0**	**-0.8**
	2.8nm,1.0s,mb4.2							
LDFC	**Landfair**	**72.17**	**347**	*eP*		**P**	**05 55 19.1**	**-0.1**
PV01	**Paradox Valley**	**74.28**	**353**	*eP*		**P**	**05 55 32.0**	**+0.6**
CCM	**Cathedral Cave**	**74.29**	**7**	*eP*		**P**	**05 55 30.7**	**-0.7**
	8.3nm,1.0s,mb4.6							
CASY	**Casey**	**75.19**	**192**	P		**P**	**05 55 33.7**	**-2.4**
	16nm,1.6s,mb4.7							
MAW	**Mawson**	**75.81**	**173**	P		**P**	**05 55 39.5**	**-0.1**
	8.1nm,0.9s,mb4.7,baz=194,slow=6.2,SNR=23							
MAW				LR		LR	06 25 03.9	
	comp=Z,131nm,20.7s,MS4.2,baz=340,slow=33							
NVAR	**Mina Array Bea**	**76.03**	**346**	P		**P**	**05 55 42.2**	**+0.9**
	5.5nm,1.0s,mb4.4,baz=155,slow=7.5,SNR=17							
NVAR				LR		LR	06 22 22.0	
	comp=Z,56nm,18.4s,MS3.9,baz=235,slow=30							
NVAR	**Mina Array Bea**	**76.03**	**346**	P		**P**	**05 55 42.2**	**+0.9**
NVAR				LR		LR	06 22 22.0	
DAU	**Daniels Canyon**	**76.83**	**351**	*eP*		**P**	**05 55 47.0**	**+1.2**
PDAR	**Pinedale Array**	**78.97**	**353**	P		**P**	**05 55 57.8**	**+0.2**
	4.2nm,1.0s,mb4.3,baz=160,slow=5.5,SNR=17							
TPAW	**Teton Pass**	**79.83**	**352**	*eP*		**P**	**05 56 02.6**	**+0.4**
YBH	**Yreka Blue Hor**	**80.15**	**343**	P		**P**	**05 56 03.8**	**-0.2**
	2.7nm,1.0s,mb4.1,baz=221,slow=9.3,SNR=3.1							
HLID	**Hailey**	**80.34**	**350**	*eP*		**P**	**05 56 05.5**	**+0.6**
	9.6nm,1.1s,mb4.6							
MCMT	**McKenzie Canyo**	**81.37**	**351**	*eP*		**P**	**05 56 11.7**	**+1.4**
SADO	**Sadowa**	**82.77**	**15**	P		**P**	**05 56 17.0**	**-0.6**
	6.9nm,0.9s,mb4.7,baz=236,slow=4.2,SNR=5.4							
NEW	**Newport**		**85.34 349**	P		**P**	**05 56 32.0**	**+1.5**
	5.0nm,1.0s,mb4.6,baz=135,slow=7.5,SNR=4.9							
NEW	**Newport**		**85.34 349**	P		**P**	**05 56 31.1**	**+0.6**
	4.9nm,1.0s,mb4.6							
ULM	**Lac du Bonnet**	**86.09**	**3**	P		**P**	**05 56 35.7**	**+1.5**
	1.8nm,0.7s,mb4.4,baz=151,slow=8.5,SNR=3.7							
ULM				LR		LR	06 32 52.9	
	comp=Z,91nm,19.0s,MS4.2,baz=35,slow=34							
ULM	**Lac du Bonnet**	**86.09**	**3**	P		**P**	**05 56 35.7**	**+1.5**
ULM				LR		LR	06 32 52.9	
STKA	**Stephens Creek**	**90.91**	**229**	LR		LR	06 28 54.0	
	comp=Z,154nm,21.2s,MS4.4,baz=205,slow=30							
SCHQ	**Schefferville**	**95.05**	**19**	LR		LR	06 38 52.1	
	comp=Z,120nm,18.3s,MS4.4,baz=279,slow=35							
DBIC	**Dimbokro**	**98.30**	**88**	LR		LR	06 38 29.8	
	comp=Z,62nm,20.2s,MS4.1,baz=217,slow=33							
YKA	**Yellowknife Ar**	**98.95**	**353**	LR		LR	06 38 16.5	
	comp=Z,140nm,18.4s,MS4.5,baz=225,slow=33							
BRTR	**Keskin Array B**	**143.81**	**70**	PKP		PKPdf	06 03 27.1	-3.3
	1.4nm,0.8s,baz=204,slow=3.6,SNR=5.9							

IDC 25 05:45:36.5±48.0,**19.57S**×**174.86W**,**mb4.1/3**,**mb1 4.3**/3,
mb1mx3.8/15,**Error ellipse: s-maj=911.0km**
s-min=169.7km az=83.0,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**40.85**	**244**	P		P	05 53 20.0	-1.7
	1.1nm,0.5s,baz=93,slow=13,SNR=4.2							
ASAR	**Alice Springs**	**47.61**	**255**	P		P	05 54 14.2	-2.1
	1.9nm,0.4s,baz=95,slow=8.1,SNR=44							
ASPA	**Alice Springs**	**47.61**	**255**	*eP*		P	05 54 14.4	-1.9
WB2	**Warramunga Arr**	**47.65**	**261**	*eP*		P	05 54 14.8	-1.9
WRA	**Warramunga Arr**	**47.66**	**261**	P		P	05 54 15.1	-1.7
	0.7nm,0.3s,baz=97,slow=7.4,SNR=24							
KAKA	**Kakadu**	**50.96**	**269**	*eP*		P	05 54 46.5	+4.3
	3.2nm,0.4s							

NIED ***25*** *05:46:00,37.30N×138.90E,h8km,Mw3.5 Best double couple: M₀2.32×10¹⁴ NP1:φs34°,δ52°,λ102°. NP2:φs195°, δ40°,λ75°.*

JMA ***25*** *05:46:41.4,37.32N×138.88E,h15km±1km,M3.7 Broadband fault plane solution: P waves. NP1:φs32°,δ45°, λ87°. NP2:φs216°,δ45°,λ93°. Principal axes: T Plg88°, Azm214°; N Plg2°, Azm34°; P Plg0°, Azm304°;*

JMA Felt III J1.

ISC 25 05:46:41.0±0.7,**37.34N**±0.03×**138.87E**±0.05,**h14**km±5km,
n10,σ**0**32/17,**1C-6D**,**Near west coast of eastern**
Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHK	**Hiroka**	**0.15**	**127**	⇓P		**Pg**	**05 46 44.8**	**-0.1**
JHK				S		**Sg**	**05 46 47.2**	**-0.4**
JIZZ	**Izumozaki**	**0.23**	**327**	⇓P		**Pg**	**05 46 47.0**	**+0.8**
JNS	**Sasagawa**	**0.60**	**37**	⇑P		**Pb**	**05 46 52.6**	**0.0**
JKT	**Katashina**	**0.65**	**152**	⇓P		**Pb**	**05 46 53.4**	**-0.1**
JKT				S		**Sb**	**05 47 01.9**	**-0.2**
JFY	**Yanaizu**	**0.67**	**84**	⇓P		**Pb**	**05 46 53.9**	**0.0**
JFY				S		**Sb**	**05 47 02.9**	**+0.1**
JGK	**Kuni**	**0.80**	**193**	P		**Pb**	**05 46 56.2**	**+0.1**
JSD	**Sado**	**0.84**	**326**	⇓P		**Pb**	**05 46 56.4**	**-0.5**
JSD				S		**Sb**	**05 47 07.7**	**-0.1**
MAT	**Matsushiro**	**0.96**	**214**	P		**Pb**	**05 46 58.5**	**-0.3**
MAT				S		**Sb**	**05 47 11.1**	**+0.1**
MAT	**Matsushiro**	**0.96**	**214**	P		**Pb**	**05 46 58.6**	**-0.2**
MAT				S		**Sb**	**05 47 11.0**	**0.0**
JAG	**Ashikaga**	**1.03**	**153**	⇓P		**Pb**	**05 47 00.3**	**+0.3**
JAG				*eS*		**Sb**	**05 47 13.6**	**+0.5**

NIED 25 06:05:00,30.40N×142.40E,h56km,Mw3.9 Best double couple: M₀8.27×10¹⁴ **NP1:**φs297°,δ83°,λ-47°. **NP2:** φs35°,δ44°,λ-170°,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MAT	**Matsushiro**	**7.06**	**331**	P		P	06 06 48.7	+5.6

NIED ***25*** *06:51:00,37.10N×138.90E,h8km,Mw3.5 Best double couple: M₀1.8×10¹⁴ NP1:φs10°,δ57°,λ97°. NP2:φs177°, δ34°,λ79°.*

JMA 25 06:51:55.5,37.15N×138.86E,h8km±2km,M3.8,2C-5D
Broadband fault plane solution: P waves. NP1:φs230°,
δ7°,λ157°. **NP2:**φs342°,δ87°,λ84°. **Principal axes:** T Plg47°, Azm246°; N Plg6°, Azm343°; P Plg42°, Azm78°;
Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHK	**Hiroka**	**0.16**	**52**	⇓P		**Pg**	**06 51 58.9**	**-0.1**
JHK				S		**Sg**	**06 52 01.6**	**+0.3**
JIZZ	**Izumozaki**	**0.40**	**343**	P		**Pg**	**06 52 03.8**	**+0.2**
JIZZ				S		**Sg**	**06 52 11.0**	**+2.0**
JKT	**Katashina**	**0.49**	**141**	⇓P		**Pg**	**06 52 05.1**	**-0.4**
JKT				S		**Sg**	**06 52 12.1**	**0.0**
JGK	**Kuni**	**0.61**	**197**	⇑P		**Pg**	**06 52 07.2**	**-0.6**
JGK				S		**Sg**	**06 52 15.9**	**-0.1**
JFY	**Yanaizu**	**0.72**	**69**	⇓P		**Pb**	**06 52 09.1**	**-0.8**
JFY				S		**Sg**	**06 52 18.9**	**-0.7**
JNS	**Sasagawa**	**0.76**	**28**	⇓P		**Pb**	**06 52 09.4**	**-1.1**
JNS				S		**Sb**	**06 52 19.7**	**-1.1**
MAT	**Matsushiro**	**0.80**	**221**	⇑P		**Pb**	**06 52 10.1**	**-1.1**
MAT				S		**Sb**	**06 52 20.6**	**-1.4**
MAT	**Matsushiro**	**0.80**	**221**	P		**Pb**	**06 52 10.0**	**-1.2**
MAT				S		**Sb**	**06 52 20.4**	**-1.6**
JAG	**Ashikaga**	**0.87**	**146**	⇓P		**Pb**	**06 52 12.1**	**-0.3**
JAG				*eS*		**Sb**	**06 52 23.6**	**-0.3**
JSD	**Sado**	**1.00**	**332**	P		**Pb**	**06 52 13.2**	**-1.5**
JSD				*eS*		**Sb**	**06 52 26.5**	**-1.4**

IDC ***25*** *06:54:53.9±1.5,38.70S×75.33W,mb3.8/3,mb1 4.0/4, mb1mx3.9/13,ML4.2/1 Error ellipse: s-maj=41.0km s-min=31.9km az=73.0*

GUC ***25*** *06:54:53.2±0.8,39.49S×74.94W,h36km±5km, MD4.0, ML3.9*

ISC 25 06:54:52.7±3.1,**39.45S**±0.06×**75.0W**±0.1,**h30**km±26km,
n12,σ**0**81/16,**mb3.8**/3,**3C-3D**,**Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VLCH	**Valdivia**	**1.37**	**106**	⇓*iP*		**Pn**	**06 55 16.6**	**+0.5**
VLCH				*i* S		**Sn**	**06 55 34.1**	**+0.7**
OSCH	**Osorno**	**1.80**	**129**	*eP*		**Pn**	**06 55 23.0**	**+0.7**
OSCH				*i* S		**Sn**	**06 55 44.8**	**+0.4**
OSCH				AMP			06 55 45.9	
	comp=E,2μm,0.1s							
TMCH	**Temuco**	**1.95**	**70**	⇓*iP*		**Pn**	**06 55 23.3**	**-1.1**
TMCH				*i* S		**Sn**	**06 55 47.2**	**-1.0**
TMCH				AMP			06 55 48.4	
	comp=N,779nm,0.8s							
PMCH	**Puerto Montt**	**2.58**	**143**	⇑*iP*		**Pn**	**06 55 32.8**	**-0.6**
PMCH				*i* S		**Sn**	**06 56 03.1**	**-0.9**
PMCH				AMP			06 56 06.5	
	comp=N,1μm,0.2s							
CCHI	**Chillan**	**3.64**	**40**	*eP*		**Pn**	**06 55 48.8**	**+0.3**
CPUP	**Villa Florida**	**19.71**	**54**	P		**P**	**06 59 22.7**	**0.0**
	comp=N,0.2nm,0.3s,baz=256,slow=13,SNR=4.4							
BDFB	**Brasilia**	**33.43**	**52**	P		**P**	**07 01 32.7**	**+1.6**
	comp=N,1.4nm,0.7s,mb4.0,baz=225,slow=8.6,SNR=2.1							
VNA3	**Neumayer Olymp**	**45.29**	**156**	⇑*i*		**P**	**07 03 25.8**	**+17**
VNA2	**Neumayer--Watz**	**45.99**	**155**	⇓*i*		**P**	**07 03 25.5**	**+11**
SNAA	**Sanae**	**47.51**	**156**	⇑*i*		**P**	**07 03 34.6**	**+8.1**
SNAA	**Sanae**	**47.51**	**156**	P		**P**	**07 03 36.4**	**+10**
	comp=N,0.2nm,0.4s,mb3.5,baz=276,slow=9.2,SNR=6.4							
TXAR	**Lajitas Array**	**73.47**	**334**	P		**P**	**07 06 23.5**	**-0.7**
	comp=N,0.8nm,0.6s,mb3.9,baz=156,slow=8.4,SNR=15							

NAO ***25*** *06:55:14.7±3.1,60.18N×25.20E,ML2.4*

BER ***25*** *06:55:14.5±2.8,60.10N×25.47E,ML2.4(NAO)*

IDC ***25*** *06:55:15.3±1.6,60.18N×25.29E,mb1 3.1/3, mb1mx3.0/18,ML2.8/2,Error ellipse: s-maj=16.6km s-min=6.8km az=146.0*

HEL ***25*** *06:55:15.1±0.1,60.13N×25.23E,ML2.1,ML1.9(UPP), ML2.4(NAO),Explosion*

ISC 25 06:55:13.6±0.8,**60.14N**±0.05×**25.22E**±0.07,**n24**,σ**1**9**14**/41,
Finland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MEF	**Metsahovi**	**0.42**	**281**	*eP*		**Pg**	**06 55 22.5**	**+0.5**
MEF				*eS*		**Sg**	**06 55 27.9**	**+0.3**
PVF	**Pernaja**	**0.51**	**38**	*eP*		**Pg**	**06 55 24.2**	**+0.3**
PVF				*eS*		**Sg**	**06 55 30.8**	**0.0**
VJF	**Virojoki**	**1.23**	**70**	*eP*		**Pb**	**06 55 37.1**	**-0.3**
VJF				*eS*		**Sb**	**06 55 53.1**	**-0.5**
FIA0	**FINESS Array S**	**1.37**	**17**	*eP*		**Pb**	**06 55 39.7**	**-0.1**
FIA0				*eS*		**Sb**	**06 55 57.2**	**-0.6**
FIA0	**FINESS Array S**	**1.37**	**17**	Pn		**Pn**	**06 55 39.7**	**-0.3**
	baz=179,slow=18							
FIA0				Lg			06 55 57.0	
	baz=195,slow=28							
FINES	**FINESS Array B**	**1.37**	**17**	Pg		**Pg**	**06 55 39.7**	**-1.3**
	6.3nm,0.3s,baz=202,slow=17,SNR=94							
FINES				Pn		**Pn**	**06 55 41.9**	**+1.8**
	6.3nm,0.3s,baz=193,slow=13,SNR=96							
FINES				Lg			06 55 57.0	
	1.7nm,0.3s,baz=196,slow=28,SNR=8.2							
FINES				Sn		**Sn**	**06 56 01.9**	**+2.8**
	12nm,0.3s,baz=198,slow=24,SNR=40							
FINES				Rg			06 56 04.4	
	25nm,0.8s,baz=192,slow=33,SNR=30							
KEF	**Keuruu**	**2.04**	**355**	*eP*		**Pn**	**06 55 51.7**	**+2.1**
KEF				*eS*		**Sn**	**06 56 17.0**	**+0.9**
KEF				MSG			06 56 20.8	
	comp=Z,12nm,0.1s							
KAF	**Kangasniemi**	**2.05**	**14**	*eP*		**Pn**	**06 55 51.3**	**+1.6**
KAF				*eS*		**Sn**	**06 56 16.4**	**+0.1**
KAF				MSG			06 56 20.2	
	comp=Z,6.2nm,0.1s							
AAL	**Aland**	**2.61**	**273**	*eP*		**Pn**	**06 55 58.6**	**+0.8**
SUF	**Sumiainen**	**2.62**	**9**	MSG			06 56 35.2	
	comp=Z,7.4nm,0.2s							
GRAU	**Graesoe**	**3.34**	**276**	*eP*		**Pn**	**06 56 08.0**	**-0.2**
NRTU	**Norrtaelje**	**3.35**	**265**	*eP*		**Pn**	**06 56 08.9**	**+0.5**
FLYU	**Flymyra**	**3.67**	**273**	*eP*		**Pn**	**06 56 13.1**	**+0.2**
UMAU	**Umeaa**	**4.32**	**332**	*eP*		**Pn**	**06 56 22.6**	**+0.5**
BURU	**Burvik**	**4.80**	**340**	*eP*		**Pn**	**06 56 29.2**	**+0.2**
BURU				*eS*		**Sn**	**06 57 23.6**	**-2.5**
SJUU	**Sjulsmark**	**5.63**	**344**	*eP*		**Pn**	**06 56 40.4**	**-0.3**
LILU	**Lilltraesk**	**5.72**	**337**	*eP*		**Pn**	**06 56 41.7**	**-0.2**
HFS	**Hagfors**	**5.76**	**275**	Pn		**Pn**	**06 56 40.9**	**-1.6**
	baz=90,slow=16							
HFS				Sn		**Sn**	**06 57 45.9**	**-4.4**
	baz=76,slow=28							
HFS				Lg			06 58 15.3	
	baz=80,slow=28							
HFS	**Hagfors**	**5.76**	**275**	*eP*		**Pn**	**06 56 40.9**	**-1.6**
HFS				*eS*		**Sn**	**06 57 45.9**	**-4.4**
HFS				*e*SG		**Sg**	**06 58 15.3**	**-10**
HFS	**Hagfors**	**5.76**	**275**	Pn		**Pn**	**06 56 41.2**	**-1.3**
	baz=103,slow=13,SNR=4.3							
HFS				Sn		**Sn**	**06 57 45.5**	**-4.8**
	comp=Z,0.1nm,0.3s,baz=81,slow=28,SNR=8.4							
HFS				Lg			06 58 15.0	
	comp=Z,0.1nm,0.3s,baz=82,slow=30,SNR=4.7							
NOA	**NORSAR Array B**	**6.96**	**283**	Pn		**Pn**	**06 56 56.1**	**-3.2**
	comp=Z,0.1nm,0.3s,baz=95,slow=15,SNR=1.4							
NOA				Sn		**Sn**	**06 58 13.2**	**-7.0**
	comp=Z,0.3nm,0.3s,baz=298,slow=20,SNR=2.9							
NOA				Lg			06 58 49.4	
	comp=Z,0.3nm,0.3s,baz=157,slow=18,SNR=2.8							
ARA0	**ARCESS Array S**	**9.43**	**1**	Pn		**P**	**06 57 30.0**	**-3.8**
	baz=177,slow=14							
ARA0				Sn		**Sn**	**06 59 11.3**	**-11**
	baz=180,slow=28							
ARA0				Lg			07 00 06.8	
	baz=172,slow=22							
ARA0	**ARCESS Array S**	**9.43**	**1**	*eP*		**P**	**06 57 30.0**	**-3.8**
ARA0				*eS*		**Sn**	**06 59 11.3**	**-11**
ARA0				*e*SG		**Sg**	**07 00 06.8**	**-21**
ARCES	**ARCESS Array B**	**9.43**	**1**	Pn		**P**	**06 57 30.4**	**-3.5**
	comp=Z,0.1nm,0.3s,baz=182,slow=13,SNR=10							
ARCES				Sn		**Sn**	**06 59 12.8**	**-9.0**
	comp=Z,0.1nm,0.3s,baz=182,slow=23,SNR=2.4							

MOS ***25*** *07:15:14.6±1.1,0.96N×120.17E,h33km,mb5.3/9,Error ellipse: s-maj=20.2km s-min=9.2km az=108.8*

BJI ***25*** *07:15:14.0,1.31N×120.22E,h11km,mB5.0,mb5.1,Ms4.5, Msz4.2*

IDC ***25*** *07:15:15.9±3.1,0.96N×120.19E,h26km±20km,mb4.9/13, mb1 5.0/16,mb1mx4.9/20,ML4.9/1,MS4.2/14,Ms1 4.3/14, ms1mx4.2/20,Error ellipse: s-maj=23.8km s-min=12.0km az=65.0*

HRVD ***25*** *07:15:16.0±0.2,1.19N×120.15E,h22km±2km,MW5.1/61, Centroid moment Tensor Solution. LP body waves: s45,c58;Mantle waves: s61,c101; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.92±.23; Mθθ-2.06±.15; Mφφ-0.85±.18; Mrθ-4.52±.84; Mθφ-1.31±.12; Mφr-0.97±.30; Best double couple: M₀5.46×10¹⁶ NP1: φs44°,δ18°,λ61°. NP2:φs254°,δ74°,λ99°. Principal axes: T 5.6, Plg60°, Azm177°; N -.27, Plg9°, Azm72°; P -5.32, Plg29°, Azm337°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***25*** *07:15:16.0±0.2,0.97N×120.18E,mb5.0/29,MS4.2/8 Error ellipse: s-maj=10.2km s-min=4.5km az=69.0*

ISC 25 07:15:12.9±1.3,**1.00N**±0.03×**120.22E**±0.05,**h20**km±9km,
h27km±2.0km**:pP-P**,**n131**,σ**0**9**7**/133,**mb5.0**/60,**MS4.3**/32,
19C-7D,**Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KKM	**Kota Kinabalu**	**6.41**	**322**	⇑*iP*		**Pn**	**07 16 47.8**	**-1.0**
	91nm,0.7s							
PAGZ	**Pagadian**	**7.50**	**25**	*eP*		**Pn**	**07 17 02.3**	**-1.7**
DAV	**Davao City (W)**	**8.06**	**41**	*eP*		**P**	**07 17 13.0**	**+1.2**
BATP	**Bataraza**	**8.12**	**343**	*eP*		**P**	**07 17 13.8**	**+1.1**
BUKP	**Musuan**	**8.37**	**35**	*eP*		**P**	**07 17 13.8**	**-2.3**
PPR	**Puerto Princes**	**8.85**	**350**	*eP*		**P**	**07 17 21.8**	**-1.0**
CUYO	**Cuyo Island**	**9.82**	**5**	*eP*		**P**	**07 17 35.2**	**-1.1**
GUIM	**Jordan**	**9.85**	**14**	*eP*		**P**	**07 17 35.8**	**-0.9**
TGY	**Tagaytay City**	**13.04**	**3**	Pn		**P**	**07 18 22.7**	**+2.8**
	baz=93,slow=20,SNR=4.7							
PCPH	**Palayan**	**14.50**	**3**	⇑*eP*		**P**	**07 18 41.4**	**+2.2**
CVP	**Callao Caves**	**16.68**	**5**	*eP*		**P**	**07 19 09.0**	**+1.7**
KAKA	**Kakadu**	**18.20**	**139**	⇑*iP*		**P**	**07 19 32.2**	**+5.8**
	74nm,0.7s							
IPM	**Ipoh**	**19.50**	**281**	⇑*eP*		**P**	**07 19 41.5**	**-0.4**
FITZ	**Fitzroy Crossi**	**19.71**	**165**	⇑*iP*		**P**	**07 19 43.9**	**-0.4**
	72nm,1.0s							
FITZ	**Fitzroy Crossi**	**19.71**	**165**	P		**P**	**07 19 44.0**	**-0.3**
	2.9nm,0.3s,baz=3.2,slow=10,SNR=83							
FITZ				S		**S**	**07 23 20.5**	**+0.8**
	0.1nm,0.3s,baz=155,slow=16,SNR=1.6							
FITZ				LR		LR	07 28 24.6	
	comp=Z,724nm,20.9s,baz=287,slow=40							
QIZ	**Qiongzhong**	**20.61**	**331**	P		**P**	**07 19 51.5**	**-2.2**
QIZ				LR		LR		
	comp=N,584nm,22.1s,MS4.0							
QIZ				LR		LR		
	comp=E,507nm,22.1s,MS4.0							
QIZ				LR		LR		
	comp=Z,998nm,23.0s,MS4.1							
QIZ	**Qiongzhong**	**20.61**	**331**	*eP*		**P**	**07 19 52.9**	**-0.8**
	comp=Z,68nm,1.2s							
MBWA	**Marble Bar**	**22.02**	**181**	*eP*		**P**	**07 20 07.6**	**-0.5**
	comp=Z,37nm,0.8s,mb4.9							
MBWA				LR		LR		
	comp=Z,1μm,20.0s,MS4.4							
KKTK	**Khon Kaen**	**22.94**	**313**	PG		**P**	**07 20 17.0**	**-0.3**
NNT	**Nongplab**	**23.35**	**300**	P		**P**	**07 20 22.0**	**+0.8**
WRAB	**Tennant Creek**	**24.99**	**147**	P		**P**	**07 20 37.0**	**-0.1**
	comp=Z,828nm,1.1s							
WRAB	**Tennant Creek**	**24.99**	**147**	⇑*eP*		**P**	**07 20 36.8**	**-0.2**
	comp=Z,263nm,1.1s,mb5.7							
WRAB				LR		LR		
	comp=Z,218nm,19.0s,MS3.7							
WRA	**Warramunga Arr**	**24.99**	**147**	P		**P**	**07 20 36.5**	**-0.6**
	comp=Z,112nm,0.8s,mb5.4,baz=332,slow=9.7,SNR=474							
WRA				PcP		PcP	07 24 12.0	-1.0
	comp=Z,4.5nm,0.6s,baz=324,slow=2.2,SNR=9.3							
WRA				S		**S**	**07 25 06.6**	**+10**
	comp=Z,11nm,1.4s,baz=322,slow=15,SNR=4.6							
WRA				LR		LR	07 30 03.8	
	comp=Z,386nm,22.0s,MS3.9,baz=335,slow=36							
WRA	**Warramunga Arr**	**24.99**	**147**	P		**P**	**07 20 36.5**	**-0.6**
WRA				PP		PcP	07 24 11.9	-1.1
WB2	**Warramunga Arr**	**25.00**	**147**	⇑*iP*		**P**	**07 20 37.0**	**-

comp=Z,77nm,1.0s,mb5.5
CTA Charters Tower 33.01 131 ⇑*i*P **P 07 21 49.7 +0.5**
comp=Z,23nm,1.1s,mb5.0
CTA Charters Tower 33.01 131 P **P 07 21 49.5 +0.3**
comp=Z,33nm,1.1s,mb5.2,baz=312,slow=11,SNR=26
CTA PcP PcP 07 24 33.9 +0.9
comp=Z,6.3nm,0.7s,baz=234,slow=3.4,SNR=5.1
CTAO Charters Tower 33.01 131 *e*P **P 07 21 49.4 +0.2**
comp=Z,49nm,1.1s,mb5.3
CTAO *e*PcP PcP 07 24 33.4 +0.4
CD2 Chengdu 33.60 334 ⇑*i*P **P 07 21 54.0 -0.2**
CD2 AMB AMB
comp=Z,50nm,1.0s,mb5.4
NWAO Narrogin (SRO) 33.86 185 P **P 07 21 56.0 -0.5**
comp=Z,94nm,0.7s,mb5.8,baz=5.8,slow=9.9,SNR=41
NWAO Narrogin (SRO) 33.86 185 P **P 07 21 55.9 -0.5**
NWAO Narrogin (SRO) 33.86 185 *e*P **P 07 21 55.5 -0.9**
IMP Imphal 34.71 315 *e* **P 07 22 04.0 +0.1**
TIA Tai'an 35.16 356 *e*P **P 07 22 07.8 +0.3**
SHL Shillong 36.65 314 ⇓*i*P **P 07 22 20.0 -0.3**
LZH Lanzhou 38.08 338 *e*P **P 07 22 33.3 +1.1**
LZH AP pP 07 22 40.8 +2.5
LZH XP sP 07 22 47.0 +6.1
LZH AMB AMB
comp=Z,70nm,1.0s,mb5.3
LZH AMB AMB
comp=Z,170nm,4.2s
LZH LR LR
comp=N,2μm,13.2s
LZH LR LR
comp=Z,3μm,17.1s,MS5.2
LZH Lanzhou 38.08 338 *e*P **P 07 22 33.2 +1.0**
comp=Z,70nm,1.0s,mb5.3
LZH pP pP 07 22 40.7 +2.4
LZH sP sP 07 22 46.9 +6.0
LZH *e*S tx 07 27 28.1
LZH sS 07 27 40.0
LZH SS tx 07 29 05.0
LZH LR LR
comp=Z,3μm,17.1s,MS5.2
STKA Stephens Creek 38.46 150 ⇑*i*P **P 07 22 35.9 +0.5**
comp=Z,46nm,0.8s,mb5.3
STKA Stephens Creek 38.46 150 P **P 07 22 36.0 +0.6**
comp=Z,64nm,0.8s,mb5.4,baz=321,slow=8.2,SNR=95
STKA LR LR 07 41 35.8
comp=Z,680nm,19.1s,MS4.5,baz=325,slow=41
BJT Baijiatuan 39.01 355 *e*P **P 07 22 40.8 +0.8**
comp=Z,12nm,0.6s,mb4.8
BJT LR LR
comp=Z,802nm,19.0s,MS4.6
BJI Beijing 39.03 355 P **P 07 22 40.5 +0.3**
BJI S **S 07 28 41.0 +3.2**
BJI AMB AMB
comp=Z,8.0nm,1.0s,mb4.4
BJI LR LR
comp=N,571nm,18.6s
BJI LR LR
comp=E,243nm,12.6s
BJI LR LR
comp=Z,478nm,24.6s
BJI Beijing 39.03 355 P **P 07 22 40.4 +0.2**
comp=Z,8.0nm,1.0s,mb4.4
BJI S **S 07 28 41.1 +3.3**
BJI LR LR
comp=Z,480nm,24.6s,MS4.2
MAJO Matsushiro 39.09 23 *e*P **P 07 22 40.4 -0.3**
comp=Z,20nm,0.8s,mb4.9
MAT Matsushiro 39.09 23 *e*P **P 07 22 40.0 -0.7**
comp=Z,37nm,1.1s,mb5.0
MAT *e*S tx 07 27 43.0
MAT LR LR
comp=Z,350nm,20.0s,MS4.2
LSA Lhasa 39.75 319 P **P 07 22 47.8 +1.6**
VIS Vishakhapatnam 39.88 297 *e* **P 07 22 48.0 +0.6**
BTO Baotou 40.50 348 *e*P **P 07 22 52.0 -0.2**
BTO AMB AMB
comp=Z,54nm,1.0s,mb5.2
SNY Shenyang 40.76 4 ⇑P **P 07 22 55.3 +1.0**
SNY AP pP 07 23 02.5 +2.0
SNY S **S 07 28 53.0 -11**
SNY AMB AMB
comp=Z,30nm,1.1s,mb4.8
SNY LR LR
comp=N,410nm,9.8s
SNY LR LR
comp=E,230nm,4.9s
SNY LR LR
comp=Z,410nm,21.1s,MS4.3
GUN Gumba 42.38 312 *e*P **P 07 23 08.1 +0.2**
GTA Gaotai 42.53 336 P **P 07 23 10.0 +1.0**
GTA AMB AMB
comp=Z,56nm,1.0s,mb5.2
GTA AMB AMB
comp=Z,297nm,6.5s
GTA LR LR
comp=N,163nm,19.8s,MS4.3
GTA LR LR
comp=E,320nm,18.6s,MS4.3
GTA LR LR
comp=Z,303nm,18.2s,MS4.2
PKI Pulchoki 42.55 311 *e*P **P 07 23 09.1 -0.2**
comp=Z,23nm,0.7s,mb5.0
KKN Kakani 42.77 312 *e*P **P 07 23 10.7 -0.4**
comp=Z,38nm,1.0s,mb5.1
DMN Daman 42.80 311 *e*P **P 07 23 11.3 0.0**
comp=Z,31nm,0.7s,mb5.1
CN2 Changchun 42.87 6 *e*P **P 07 23 12.8 +1.1**
CN2 AMB AMB
comp=Z,20nm,0.8s,mb4.9
GKN Gorkha 43.36 311 *e*P **P 07 23 15.8 -0.1**
comp=Z,59nm,0.9s,mb5.3
KOLN Koldanda 44.02 310 *e*P **P 07 23 21.1 -0.1**
comp=Z,84nm,0.8s,mb5.5
HYB Hyderabad 44.09 294 *i*P **P 07 23 22.5 +0.6**
MDJ Mudanjiang 44.22 10 P **P 07 23 23.0 +0.4**
MDJ XP sP 07 23 31.5 +0.2
MDJ PP PP 07 25 05.5 -1.7
MDJ SCP 07 28 58.8
MDJ PCS 07 29 01.5
MDJ S **S 07 29 55.0 +0.6**
MDJ XS 07 30 05.5
MDJ SCS ScS 07 33 20.5 +2.9
MDJ AMB AMB
comp=Z,137nm,4.7s
MDJ LR LR
comp=N,238nm,21.0s,MS4.2
MDJ LR LR
comp=E,118nm,19.3s,MS4.2
MDJ LR LR
comp=Z,329nm,20.4s,MS4.2
MDJ Mudanjiang 44.22 10 *e*P **P 07 23 22.9 +0.3**
comp=Z,98nm,1.0s,mb5.5
TOO Toolangi 44.93 151 *e*P **P 07 23 29.7 +1.2**
comp=Z,18nm,1.5s,mb4.7
CNB Canberra Magne 45.23 146 *e*P **P 07 23 32.4 +1.5**
comp=Z,66nm,1.0s,mb5.4
ASAJ Asahikawa 47.32 22 P **P 07 23 48.5 +1.2**
comp=Z,19nm,0.5s,mb5.3,baz=254,slow=13,SNR=6.8
SONM Songino Array 48.17 348 P **P 07 23 54.4 +0.5**
comp=Z,27nm,1.0s,mb5.2,baz=165,slow=8.2,SNR=119
POO Poona 48.70 294 ⇑*i*P **P 07 23 57.0 -1.3**
ZAK Zakamensk 51.27 346 ⇓*i*P **P 07 24 17.8 +0.2**
WMQ Urumqi 51.53 330 P **P 07 24 20.0 +0.4**
WMQ AP pP 07 24 27.0 +1.1
WMQ PP PP 07 26 17.0 -0.8
WMQ S **S 07 31 36.0 -1.4**
WMQ SS SS 07 35 10.0 -1.6
WMQ AMB AMB
comp=Z,26nm,0.8s,mb5.2
WMQ LR LR
comp=N,395nm,20.0s,MS4.5
WMQ LR LR
comp=E,196nm,22.0s,MS4.5
WMQ LR LR
comp=Z,285nm,21.0s,MS4.3
MOY Mondy 53.02 345 *e*P **P 07 24 31.6 +0.9**
KSH Kashi 55.60 319 P **P 07 24 51.3 +1.5**
KSH *e*AP pP 07 25 03.0 +6.9
CLNS Chul'man 55.80 3 *e*P **P 07 24 51.3 +0.4**
CLNS *e* 07 25 51.8
CLNS *e* 07 26 51.3
CLNS *e*S **S 07 32 32.7 -2.3**
CLNS pmax pmax
comp=N,15nm,1.0s
CLNS pmax pmax
comp=Z,25nm,1.0s,mb5.2
CLNS pmax pmax
comp=E,8.0nm,0.9s
CLNS pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
CLNS pmax pmax
comp=N,8.0nm,1.0s
CLNS pmax pmax
comp=E,6.0nm,0.7s
CLNS smax
comp=N,9.0nm,0.9s
CLNS smax
comp=E,7.0nm,0.9s
CLNS smax
comp=Z,6.0nm,0.9s
CLNS MLR MLR
comp=Z,200nm,14.0s,MS4.3
CLNS MLR MLR
comp=N,200nm,12.0s,MS4.7
CLNS MLR MLR
comp=E,300nm,13.0s,MS4.7
MKAR Makanchi Array 56.33 330 *e*P **P 07 24 54.6 -0.3**
MKAR pmax pmax
comp=Z,13nm,0.7s
TKM2 Tokmak 2 57.69 322 P **P 07 25 05.0 +0.4**
SNR=9.7
UCH Uchtor 57.98 321 P **P 07 25 08.1 +1.4**
SNR=6.2
AAK Ala-Archa 58.22 322 P **P 07 25 09.3 +1.0**
SNR=5.6
AAK Ala-Archa 58.22 322 *d*P **P 07 25 07.8 -0.5**
AAK Ala-Archa 58.22 322 *e*P **P 07 25 07.5 -0.8**
comp=Z,6.4nm,0.9s,mb4.7
FRU Bishkek 58.25 322 *e*P **P 07 25 09.5 +1.0**
FRU pmax pmax
comp=Z,80nm,2.5s,mb5.3
USP Ospenovka 58.55 322 P **P 07 25 10.5 -0.1**
SNR=7.5
EKS2 Erkin-Say 58.68 321 P **P 07 25 12.5 +1.0**
SNR=5.4
KURK Kurchatov 60.75 331 P **P 07 25 24.8 -0.8**
KURK pmax pmax
comp=Z,31nm,1.0s,mb5.4
KURK Kurchatov 60.75 331 *e*P **P 07 25 24.9 -0.8**
comp=Z,45nm,0.9s,mb5.6
KURK *e*pP pP 07 25 33.3 +1.2
KURK LR LR
comp=Z,51nm,19.0s,MS3.7
PET Petropavlovsk 60.86 25 *e*P **P 07 25 35.4 +9.0**
PET *e*S **S 07 33 46.4 +5.2**
PET pmax pmax
comp=Z,100nm,19.1s
PET smax
comp=E,100nm,14.8s
YAK Yakutsk 61.30 5 *e*P **P 07 25 26.9 -2.3**
YAK pmax pmax
comp=Z,14nm,0.9s,mb5.1
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=N,10.0nm,0.8s
YAK pmax pmax
comp=N,4.0nm,1.1s
NVS Novosibirsk 61.57 337 *e*P **P 07 25 28.8 -2.4**
NVS pmax pmax
comp=N,20nm,1.3s
NVS pmax pmax
comp=Z,25nm,1.3s,mb5.2
NVS pmax pmax
comp=E,14nm,1.0s
BRVK Borovoye 66.28 330 *e*P **P 07 26 01.2 -0.8**
comp=E,12nm,0.9s,mb4.9
BRVK *e*pP pP 07 26 11.3 +2.9
CASY Casey 67.48 184 ⇑*i*P **P 07 26 08.4 -1.0**
comp=E,2.9nm,1.0s,mb4.3
CASY *e*pP pP 07 26 16.7 +0.8
MIR Mirnyy 70.12 191 ⇑*e*P **P 07 26 24.8 -0.9**
MIR pmax pmax
comp=Z,50nm,1.0s,mb5.4
TIXI Tiksi 70.76 3 ⇓*e*P **P 07 26 28.0 -1.5**
TIXI *e* pP 07 26 33.6 -2.3
TIXI *i* 07 26 40.9
TIXI *i* 07 26 48.6
TIXI *i*S S 07 35 39.7 -2.0
TIXI pmax pmax
comp=Z,17nm,1.5s,mb4.8
TIXI MLR MLR
comp=Z,200nm,20.0s,MS4.4
ARU Arti 73.86 329 *e*P **P 07 26 47.3 -0.7**
ARU *e* 07 27 01.4
ARU *e* 07 29 32.8
ARU *e*S S 07 36 17.8 +0.7
ARU *e* 07 36 48.4
GNI Garni 78.27 311 LR LR 08 07 16.6
comp=Z,82nm,21.7s,MS4.0,baz=240,slow=40
MAW Mawson 79.00 199 ⇑*i*P **P 07 27 16.7 -0.1**
comp=Z,10nm,1.1s,mb4.7
MAW Mawson 79.00 199 P **P 07 27 16.8 +0.1**
comp=Z,9.3nm,0.9s,mb4.7,baz=57,slow=6.5,SNR=24
MAW LR LR 07 57 55.8
comp=Z,173nm,19.3s,MS4.4,baz=55,slow=32
VNDA Vanda 81.62 172 P **P 07 27 30.2 -0.3**
comp=Z,4.8nm,0.8s,mb4.5,baz=310,slow=6.1,SNR=28
VNDA LR LR 08 03 29.7
comp=Z,256nm,20.7s,MS4.6,baz=332,slow=36
VNDA Vanda 81.62 172 P **P 07 27 30.2 -0.3**
VNDA LR LR 08 03 29.7
SBA Scott Base 82.60 171 *e*P **P 07 27 36.5 +0.9**
comp=Z,12nm,1.1s,mb4.8
SBA *e*pP pP 07 27 44.5 +2.3
SBA LR LR
comp=Z,316nm,21.0s,MS4.7
KMBO Kilima Mbogo 82.99 269 *e*P **P 07 27 39.5 +0.6**
comp=Z,8.7nm,1.1s,mb4.7
ASF Jabal al Asfar 83.82 302 P **P 07 27 45.0 +2.2**
comp=Z,10nm,1.0s,mb4.9,baz=325,slow=3.8,SNR=6.9
ASF LR LR 08 12 36.0
comp=Z,135nm,18.6s,MS4.3,baz=114,slow=41
OBN Obninsk 85.55 325 ⇓*e*P **P 07 27 51.8 +0.9**
OBN *i* 07 28 09.1
OBN *e*S S 07 38 17.2 -2.7
OBN pmax pmax
comp=Z,32nm,1.4s,mb5.4
OBN MLR MLR
comp=Z,100nm,20.0s,MS4.2
BRTR Keskin Array B 86.73 310 P **P 07 27 58.1 +0.9**
comp=Z,2.7nm,0.9s,mb4.5,baz=117,slow=5.5,SNR=11
BRTR LR LR 08 11 07.4
comp=Z,40nm,21.8s,MS3.8,baz=95,slow=39
AKASG Malin Array Be 89.87 321 P **P 07 28 11.4 -0.5**
comp=Z,0.5nm,0.4s,mb4.2,baz=69,slow=4.2,SNR=5.0
AKASG LR LR 08 14 49.4
comp=Z,92nm,19.5s,MS4.2,baz=115,slow=40
ILAR Eielson Array 90.34 25 P **P 07 28 12.9 -0.8**
comp=Z,0.2nm,0.6s,baz=277,slow=4.3,SNR=7.5
ILAR LR LR 08 12 34.4
comp=Z,116nm,18.7s,MS4.3,baz=268,slow=38
ILAR Eielson Array 90.34 25 P **P 07 28 12.9 -0.8**
ARCES ARCESS Array B 90.73 339 P **P 07 28 16.1 +0.7**
comp=Z,1.4nm,0.8s,mb4.4,baz=63,slow=5.4,SNR=4.7
QSPA South Pole Qui 90.92 180 *e*P **P 07 28 16.1 0.0**
comp=Z,13nm,1.0s,mb5.2
LSZ Lusaka 92.22 255 *e*P **P 07 28 23.1 -0.4**
NOA NORSAR Array B 98.25 332 LR LR 08 20 56.1
comp=Z,150nm,18.1s,MS4.5,baz=75,slow=40
VNA2 Neumayer--Watz 102.53 195 ⇓*i*Pdif Pdif 07 29 07.6 -1.5
VNA2 *e* 07 33 20.1
VNA3 Neumayer Olymp 102.93 195 ⇓*i*Pdif Pdif 07 29 13.5 +2.7
VNA3 *e* 07 33 25.5
PDAR Pinedale Array 117.63 39 PKKPbc 07 44 20.1
comp=Z,0.7nm,0.8s,baz=135,slow=3.8,SNR=5.8
TXAR Lajitas Array 128.37 51 PKP PKPdf 07 34 22.9 -0.4
comp=Z,0.4nm,0.8s,slow=1.3,SNR=4.3
TXAR SKPbc 07 37 40.0
comp=Z,1.1nm,1.1s,baz=270,slow=1.3,SNR=3.7
CPUP Villa Florida 154.70 185 PKPbc PKPdf 07 35 15.5 +6.7
comp=Z,4.3nm,0.8s,baz=196,slow=3.8,SNR=6.9
CPUP PKPab PKPab 07 35 30.3 -0.2
comp=Z,4.7nm,0.7s,baz=195,slow=2.8,SNR=7.6
CPUP Villa Florida 154.70 185 PKPbc PKPdf 07 35 15.5 +6.7
CPUP PKPab PKPab 07 35 30.3 -0.2
BDFB Brasilia 161.39 218 PKP PKPdf 07 35 15.0 -2.0
comp=Z,2.1nm,0.7s,baz=137,slow=2.2,SNR=3.5
BDFB PKPab PKPab 07 35 59.5 0.0
comp=Z,3.2nm,0.6s,baz=149,slow=5.0,SNR=5.5
SAML Samuel 171.40 157 *e*PKPdf PKPdf 07 35 21.4 -3.5

NEIC ***25*** *07:22:32.1, 32.64S×71.73W, h30km, ML3.1(GUC), After GUC.*
GUC 25 07:22:32.1±0.6, 32.64S×71.73W, h30km±2km, MD4.0, ML3.1, 3C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PACH	**Papudo**	**0.27**	**68**	⇓*i*P	Pb	07 22 39.4	+0.3
PACH				*i* S	Sb	07 22 44.4	+0.5
IHA	**Instituto Hidr**	**0.40**	**169**	⇓*i*P	Pb	07 22 40.5	-0.4
JACH	**Jahuel**	**0.96**	**93**	⇑*i*P	Pn	07 22 49.7	0.0
JACH				*i* S	Sn	07 23 02.8	+0.4
PEL	**Peldehue**	**1.02**	**120**	*e*P	Pn	07 22 50.4	-0.1
PEL				AMP		07 23 07.2	
	comp=N,1μm,0.3s						
PUEX	**Pudahuel**	**1.15**	**135**	*e*P	Pn	07 22 53.5	+1.2
PUEX				*i* S	Sn	07 23 08.8	+1.7
PUEX				AMP		07 23 13.0	
	comp=E,1μm,0.4s						
RCDM	**Rinconada Maip**	**1.15**	**138**	*e*P	Pn	07 22 52.4	0.0
RCDM				*i* S	Sn	07 23 07.4	+0.1
RCDM				AMP		07 23 12.3	
	comp=N,798nm,0.1s						
TACH	**Talagante**	**1.21**	**147**	⇑*i*P	Pn	07 22 53.5	+0.3
STL	**Santa Lucia**	**1.22**	**131**	*e*P	Pn	07 22 53.6	+0.3
STL				*i* S	Sn	07 23 09.6	+0.8
STL				AMP		07 23 12.1	
	comp=N,215nm,0.1s						
CLCH	**Cerro Calan**	**1.26**	**127**	⇓*i*P	Pn	07 22 54.5	+0.5
CLCH				*i* S	Sn	07 23 10.8	+0.9
CLCH				AMP		07 23 12.7	
	comp=N,552nm,0.3s						
ANTU	**Antumapu**	**1.31**	**136**	*e*P	Pn	07 22 55.1	+0.4
ANTU				*i* S	Sn	07 23 12.5	+1.2
ANTU				AMP		07 23 18.8	
	comp=N,507nm,0.4s						
FSR	**Penalolen**	**1.31**	**130**	*e*P	Pn	07 22 55.4	+0.6
FSR				*i* S	Sn	07 23 12.7	+1.3
FSR				AMP		07 23 17.4	
	comp=N,342nm,0.3s						
LNV	**Longovilo**	**1.34**	**169**	*e*P	Pn	07 22 54.5	-0.7
LNV				*i* S	Sn	07 23 11.7	-0.4
FCH	**Farellones**	**1.39**	**120**	⇓*i*P	Pn	07 22 56.6	+0.7
FCH				*i* S	Sn	07 23 15.4	+2.0
FCH				AMP		07 23 17.6	
	comp=E,465nm,0.1s						
PCH	**Pirque**	**1.42**	**134**	*e*P	Pn	07 22 56.7	+0.5
PCH				*i* S	Sn	07 23 15.3	+1.3
SJCH	**San Jose de Ma**	**1.53**	**131**	⇓*i*P	Pn	07 22 57.9	0.0
SJCH				*i* S	Sn	07 23 18.2	+1.3
SJCH				AMP		07 23 21.9	
	comp=E,239nm,0.4s						
CHCH	**Chadas Angostu**	**1.58**	**145**	*e*P	Pn	07 22 59.5	+1.0
CMCH	**Combarbala**	**1.58**	**23**	*e*P	Pn	07 22 59.4	+0.8
CMCH				*i* S	Sn	07 23 19.9	+1.7
CMCH				AMP		07 23 26.4	
	comp=E,1μm,0.8s						
CACH	**El Canelo**	**1.75**	**148**	*e*P	Pn	07 23 02.6	+1.5
LMEL	**Las Melosas**	**1.76**	**134**	*e*P	Pn	07 23 02.4	+1.3
LMEL				*i* S	Sn	07 23 25.5	+2.8
LMEL				AMP		07 23 30.6	
	comp=N,518nm,0.3s						
SFDO	**San Fernando**	**2.06**	**163**	⇑*i*P	Pn	07 23 05.9	+0.5
TLL	**Tololo Astrono**	**2.59**	**18**	*e*P	Pn	07 23 13.7	+0.8

NAO ***25*** *07:29:59.8±3.8, 59.41N×26.93E, ML2.3*
BER ***25*** *07:30:00.0±2.7, 59.39N×27.11E, ML2.3(NAO)*
HEL 25 07:29:58.6±0.1, 59.30N×27.15E, ML1.6, ML2.3(NAO), **Explosion, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VSU	**Vasula**	**0.87**	**194**	*e*P	Pg	07 30 14.1	-1.9
VSU				*e*S	Sg	07 30 25.4	-2.1
VJF	**Virojoki**	**1.26**	**9**	*e*P	Pb	07 30 20.4	-2.5
VJF				*e*S	Sb	07 30 37.4	-2.1
PVF	**Pernaja**	**1.41**	**333**	*e*P	Pb	07 30 23.5	-1.9
PVF				*e*S	Sb	07 30 41.6	-2.2
MEF	**Metsahovi**	**1.67**	**305**	*e*P	Pn	07 30 28.4	-0.9
MEF				*e*S	Sb	07 30 49.7	-1.7
FIA0	**FINESS Array S**	**2.21**	**347**	Pn	Pn	07 30 35.9	-1.2
	baz=163,slow=18						
FIA0				Lg		07 31 06.1	
	baz=170,slow=28						
FIA0				Rg		07 31 18.4	
	baz=163,slow=37						
FIA0	**FINESS Array S**	**2.21**	**347**	*e*P	Pn	07 30 36.5	-0.6
FIA0				*e*S	Sn	07 31 04.1	-1.4
FIA0				MSG		07 31 08.9	
	comp=Z,2.8nm,0.1s						
KAF	**Kangasniemi**	**2.85**	**352**	MSG		07 31 28.0	
	comp=Z,1.6nm,0.2s						
KEF	**Keuruu**	**3.08**	**340**	MSG		07 31 41.9	
	comp=Z,1.1nm,0.2s						
SUF	**Sumiainen**	**3.46**	**352**	MSG		07 31 52.2	
	comp=Z,1.5nm,0.2s						
JOF	**Joensuu**	**4.15**	**27**	MSG		07 32 12.0	
	comp=Z,1.3nm,0.2s						
HFS	**Hagfors**	**6.86**	**283**	Lg		07 33 30.1	
	baz=94,slow=28						
HFS	**Hagfors**	**6.86**	**283**	*e*SG		07 33 30.1	
HFS	**Hagfors**	**6.86**	**283**	Lg		07 33 30.1	
	baz=94,slow=28						
ARA0	**ARCESS Array S**	**10.30**	**357**	Pn	P	07 32 24.6	-5.9
	baz=171,slow=14						
ARA0				Sn	S	07 34 16.6	-11
	baz=173,slow=28						
ARA0				Lg		07 35 13.5	
	baz=168,slow=37						
ARA0	**ARCESS Array S**	**10.30**	**357**	*e*P	P	07 32 24.6	-5.9
ARA0				*e*S	S	07 34 16.6	-11
ARA0				*e*SG		07 35 13.5	

WEL 25 08:19:15.7±0.5, 36.52S×177.85E, h248km±9km, ML3.6/1, Error ellipse: s-maj=14.6km s-min=14.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**1.58**	**168**	PN	P	08 19 54.5	-0.2
PUZ				SN	S	08 20 23.7	-1.4
MWZ	**Matawai**	**1.83**	**188**	PN	P	08 19 56.8	0.0
MWZ				SN	S	08 20 28.7	0.0
URZ	**Urewera**	**1.83**	**198**	PN	P	08 19 56.5	-0.3
URZ				SN	S	08 20 27.4	-1.2
BKZ	**Black Stump Fm**	**2.85**	**202**	PN	P	08 20 06.5	-0.3
BKZ				SN	S	08 20 46.9	+0.4

IDC ***25*** *08:37:13.4±0.9, 11.59S×166.47E, mb4.2/10, mb1 4.4/10, mb1mx4.2/17, MS3.6/6, Ms1 3.6/6, ms1mx3.4/17, Error ellipse: s-maj=28.3km s-min=22.0km az=109.0*
NEIC ***25*** *08:37:15.0±0.6, 11.625S×166.46E, h10km, mb4.5/3, Error ellipse: s-maj=16.5km s-min=12.7km az=173.0*
ISC 25 08:37:13.0±0.7, 11.6S±0.1×166.5E±0.1, h10km, n16, σ0s89/13, mb4.2/13, MS3.5/6, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**21.19**	**244**	P	**P**	**08 42 04.3**	**+3.2**
	3.5nm,0.7s,mb3.8,baz=62,slow=16,SNR=6.1						
CTA				LR	LR	08 49 02.9	
	comp=Z,123nm,19.9s,MS3.3,baz=50,slow=34						
AFI	**Afiamalu**	**21.32**	**98**	*e*P	**P**	**08 42 01.9**	**-0.5**
	8.0nm,0.5s,mb4.3						
URZ	**Urewera**	**28.18**	**162**	LR	LR	08 52 07.3	
	comp=Z,116nm,19.6s,MS3.5,baz=304,slow=32						
STKA	**Stephens Creek**	**30.54**	**225**	P	**P**	**08 43 29.5**	**+0.5**
	4.4nm,0.8s,mb4.4,baz=43,slow=8.3,SNR=13						
STKA				LR	LR	08 54 19.5	
	comp=Z,116nm,19.9s,MS3.5,baz=196,slow=34						
WRAB	**Tennant Creek**	**31.96**	**251**	*e*P	**P**	**08 43 40.3**	**-1.3**
	5.3nm,0.9s,mb4.4						
WRA	**Warramunga Arr**	**31.98**	**251**	P	**P**	**08 43 41.0**	**-0.7**
	2.0nm,0.6s,mb4.1,baz=84,slow=9.3,SNR=15						
WRA				PcP	PcP	08 46 31.5	-0.3
	0.4nm,0.6s,baz=76,slow=3.4,SNR=5.6						
WRA				LR	LR	08 54 34.2	
	comp=Z,57nm,20.5s,MS3.2,baz=75,slow=33						
RPZ	**Rata Peaks**	**32.23**	**174**	P	**P**	**08 43 44.4**	**+0.7**

6.1nm,0.6s,mb4.6,baz=337,slow=7.7,SNR=4.1
ASAR Alice Springs 33.19 244 P **P** 08 43 50.9 **-1.4**
1.8nm,0.7s,mb4.1,baz=74,slow=9.5,SNR=20
ASAR PcP PcP 08 46 34.1 -1.0
1.9nm,1.1s,baz=100,slow=2.8,SNR=8.7
ASAR LR LR 08 55 06.9
comp=Z,75nm,20.5s,MS3.4,baz=67,slow=32
FITZ Fitzroy Crossi 39.94 256 P **P** **08 44 49.8 +0.4**
5.6nm,0.8s,mb4.4,baz=90,slow=13,SNR=11
VNDA Vanda 65.94 181 P **P** **08 48 00.7 -0.3**
0.7nm,0.5s,mb3.9,baz=333,slow=7.0,SNR=8.5
CMAR Chiang Mai Arr 73.00 293 P **P** **08 48 46.3 +0.8**
3.1nm,0.5s,mb4.5,baz=121,slow=4.4,SNR=17
QSPA South Pole Qui 78.39 180 *eP* **P** **08 49 15.2 +0.3**
11nm,1.0s,mb4.7
SONM Songino Array 79.55 324 P **P** **08 49 22.2 +0.5**
0.6nm,0.5s,mb3.8,baz=144,slow=4.1,SNR=5.0
ILAR Eielson Array 83.82 18 P **P** **08 49 43.5 -0.1**
0.5nm,0.5s,mb3.9,baz=240,slow=4.7,SNR=18
NVAR Mina Array Bea 85.84 50 LR LR 09 19 28.3
comp=Z,76nm,20.0s,MS4.1,baz=85,slow=30
ARCES ARCESS Array B 117.06 346 PKP PKPdf 08 56 01.2 +0.3
1.3nm,0.7s,slow=1.2,SNR=5.1

NIED ***25*** *09:41:00,37.30N×138.90E,h11km,Mw3.3 Best double couple: M₀8.79×10¹³ NP1:φ₀201°,δ53°,λ58°. NP2:φ₀68°, δ47°,λ126°.*
JMA ***25*** *09:41:30.8,37.32N×138.94E,h15km±1km,M3.7 Broadband fault plane solution: P waves. NP1:φ₀83°,δ43°, λ141°. NP2:φ₀204°,δ64°,λ54°. Principal axes: T Plg55°, Azm67°; N Plg32°, Azm221°; P Plg12°, Azm319°;*
JMA Felt II J1.
ISC 25 09:41:30.5±0.7, 37.32N±0.04×138.92E±0.06, h15km, n6, σ0$30/11, 3D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.10**	**134**	⇓P	**Pb**	**09 41 33.8**	**+0.1**
JHK				S	**Sb**	**09 41 36.0**	**+0.3**
JIZZ	**Izumozaki**	**0.27**	**321**	⇓P	**Pb**	**09 41 37.2**	**+0.7**
JNS	**Sasagawa**	**0.59**	**32**	P	**Pb**	**09 41 41.6**	**-0.3**
JNS				S	**Sb**	**09 41 49.6**	**-0.1**
JKT	**Katashina**	**0.61**	**155**	⇓P	**Pb**	**09 41 42.4**	**0.0**
JKT				S	**Sb**	**09 41 50.6**	**+0.1**
JFY	**Yanaizu**	**0.63**	**82**	P	**Pb**	**09 41 42.3**	**-0.3**
JFY				S	**Sb**	**09 41 51.0**	**0.0**
MAT	**Matsushiro**	**0.97**	**217**	P	**Pb**	**09 41 48.2**	**-0.2**
MAT				S	**Sb**	**09 42 00.4**	**-0.3**

NEIC ***25*** *09:49:46.0±0.4,31.93N×140.67E,h50km,mb4.5/3, Error ellipse: s-maj=13.4km s-min=9.9km az=79.0*
IDC ***25*** *09:49:46.1±1.4,31.94N×140.68E,h51km±13km,mb3.7/10, mb1 4.0/11,mb1mx3.9/21,MS2.1/1,Ms1 2.1/1, ms1mx1.8/25, Error ellipse: s-maj=24.4km s-min=8.3km az=70.0*
ISC 25 09:49:45.2±1.0, 31.85N±0.07×140.5E±0.2, h59km±9km, n18, σ0$77/20, mb4.1/14, MS2.1/1, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**1.41**	**334**	P	**P**	**09 50 10.7**	**+1.5**
JHJ	69nm,0.3s,baz=179,slow=22,SNR=247			S	**S**	**09 50 25.9**	**-1.0**
CBIJ	408nm,0.3s,baz=217,slow=20,SNR=19 **Chichi jima**	**4.96**	**163**	P	**P**	**09 50 59.6**	**+0.7**
CBIJ	baz=90,slow=19			S	**S**	**09 51 54.6**	**-0.9**
SONM	baz=90,slow=19 **Songino Array**	**30.38**	**312**	P	**P**	**09 55 54.1**	**+0.5**
KURK	0.6nm,0.6s,mb3.5,baz=114,slow=7.8,SNR=5.5 **Kurchatov**	**48.69**	**312**	*eP*	**P**	**09 58 25.1**	**-0.1**
WRAB	4.7nm,0.7s,mb4.6 **Tennant Creek**	**51.83**	**187**	*eP*	**P**	**09 58 49.5**	**0.0**
WRA	1.3nm,0.4s,mb4.2 **Warramunga Arr**	**51.84**	**187**	P	**P**	**09 58 49.9**	**+0.3**
BVAR	1.4nm,0.6s,mb4.1,baz=5.6,slow=7.5,SNR=21 **Borovoye Array**	**53.62**	**315**	P	**P**	**09 59 02.6**	**+0.1**
BVAR	3.7nm,0.6s,mb4.5,baz=90,slow=8.9,SNR=14			LR	LR	10 21 52.3	
BRVK	comp=Z,1.9nm,20.2s,MS2.1,baz=225,slow=36 **Borovoye**	**53.67**	**315**	*eP*	**P**	**09 59 02.2**	**-0.6**
ILAR	4.1nm,0.7s,mb4.5 **Eielson Array**	**54.29**	**30**	P	**P**	**09 59 05.0**	**-2.2**
ILAR	1.6nm,0.7s,mb4.1,baz=270,slow=6.1,SNR=21 **Eielson Array**	**54.29**	**30**	P	**P**	**09 59 05.0**	**-2.2**
ASAR	**Alice Springs**	**55.57**	**187**	P	**P**	**09 59 17.0**	**-0.1**
ARCES	0.4nm,0.4s,mb3.8,baz=1.9,slow=6.6,SNR=16 **ARCESS Array B**	**68.59**	**340**	P	**P**	**10 00 43.2**	**-0.1**
FINES	1.5nm,0.7s,mb4.0,baz=63,slow=8.1,SNR=3.5 **FINESS Array B**	**73.06**	**333**	P	**P**	**10 01 09.6**	**-0.6**
NOA	0.7nm,0.4s,mb3.9,baz=45,slow=2.7,SNR=6.7 **NORSAR Array B**	**78.67**	**337**	P	**P**	**10 01 42.2**	**+0.2**
NVAR	1.3nm,1.1s,mb3.8,baz=68,slow=4.2,SNR=2.4 **Mina Array Bea**	**78.72**	**52**	P	**P**	**10 01 43.1**	**+0.3**
PDAR	0.6nm,0.6s,mb3.7,baz=286,slow=4.8,SNR=7.6 **Pinedale Array**	**81.85**	**44**	P	**P**	**10 01 59.2**	**-0.1**
PV10	0.6nm,0.9s,mb3.5,baz=285,slow=2.2,SNR=4.2 **Paradox Valley**	**84.77**	**48**	*eP*	**P**	**10 02 15.2**	**+1.0**
TXAR	**Lajitas Array**	**93.87**	**52**	P	**P**	**10 02 58.2**	**+0.8**
	1.7nm,0.7s,mb4.6,baz=298,slow=3.2,SNR=27						

IDC ***25*** *09:49:59.0±1.0,37.31N×138.97E,mb3.8/9,mb1 4.0/9, mb1mx3.9/21,MS2.7/2,Ms1 2.7/2,ms1mx2.2/30,Error ellipse: s-maj=43.0km s-min=21.4km az=82.0*
NIED ***25*** *09:50:00,37.30N×138.90E,h11km,Mw3.8 Best double couple: M₀5.6×10¹⁴ NP1:φ₀21°,δ54°,λ63°. NP2:φ₀242°, δ44°,λ122°.*
NEIC ***25*** *09:50:00.4±0.5,37.27N×138.91E,h10km,mb4.4/4, Error ellipse: s-maj=16.3km s-min=8.5km az=115.0*
NEIC Recorded [3 JMA] in Niigata and [1 JMA] in Fukushima and Gumma Prefectures. Also recorded [1 JMA] on Sadoga-shima.
JMA ***25*** *09:50:02.4,37.26N×138.92E,h14km±1km,M4.0 Broadband fault plane solution: P waves. NP1:φ₀26°,δ38°, λ49°. NP2:φ₀255°,δ62°,λ118°. Principal axes: T Plg62°, Azm209°; N Plg24°, Azm61°; P Plg13°, Azm325°;*
JMA Felt III J1.
ISC 25 09:50:01.6±0.5, 37.29N±0.04×138.87E±0.07, h36km±5km, n33, σ1$25/36, mb4.2/17, 3C-3D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.12**	**107**	⇑P	**P**	**09 50 05.1**	**-2.7**
JHK				S	**S**	**09 50 07.1**	**-5.1**
JIZZ	**Izumozaki**	**0.28**	**333**	⇓P	**P**	**09 50 09.3**	**0.0**
JIZZ				S	**S**	**09 50 15.2**	**+0.5**
JKT	**Katashina**	**0.60**	**149**	⇓P	**P**	**09 50 13.4**	**-0.2**
JKT				S	**S**	**09 50 21.4**	**-0.9**
JNS	**Sasagawa**	**0.64**	**34**	P	**P**	**09 50 14.0**	**-0.2**
JGK	**Kuni**	**0.74**	**194**	P	**P**	**09 50 16.5**	**+0.8**
MAJO	**Matsushiro**	**0.91**	**216**	*e*Pn	**P**	**09 50 18.8**	**+0.8**
MAT	**Matsushiro**	**0.91**	**216**	⇑P	**P**	**09 50 18.8**	**+0.8**
MAT				S	**S**	**09 50 30.6**	**+0.5**
MAT	**Matsushiro**	**0.91**	**216**	P	**P**	**09 50 18.9**	**+0.9**
MAT	**Matsushiro**	**0.91**	**216**	⇑*i*P	**P**	**09 50 18.9**	**+0.9**
MAT				*e*S	**S**	**09 50 31.0**	**+0.9**
JAG	**Ashikaga**	**0.98**	**151**	⇓P	**P**	**09 50 20.2**	**+1.2**
JHJ	**Hachijo jima 2**	**4.22**	**169**	LR	LR	09 52 43.0	
ASAJ	comp=Z,133nm,21.1s,baz=61,slow=39 **Asahikawa**	**7.39**	**21**	LR	LR	09 55 38.5	
ENH	comp=Z,366nm,18.0s,baz=106,slow=46 **Enshi**	**25.34**	**263**	P	**P**	**09 55 26.3**	**-0.5**
SONM	20nm,1.4s,mb4.5 **Songino Array**	**25.96**	**304**	P	**P**	**09 55 33.3**	**+0.8**
GUN	0.6nm,0.9s,mb3.1,baz=104,slow=5.9,SNR=3.0 **Gumba**	**45.11**	**274**	*eP*	**P**	**09 58 14.5**	**-1.8**
PKI	8.3nm,0.6s,mb4.8 **Pulchoki**	**45.63**	**274**	*eP*	**P**	**09 58 17.9**	**-2.6**
KKN	4.3nm,0.6s,mb4.5 **Kakani**	**45.64**	**274**	*eP*	**P**	**09 58 18.7**	**-1.8**
DMN	7.8nm,0.4s,mb5.0 **Daman**	**45.85**	**274**	*eP*	**P**	**09 58 19.5**	**-2.8**
KOLN	6.0nm,0.5s,mb4.8 **Koldanda**	**46.98**	**275**	*eP*	**P**	**09 58 29.1**	**-2.0**
ILAR	1.6nm,0.2s,mb4.6 **Eielson Array**	**50.37**	**32**	P	**P**	**09 58 57.0**	**+0.1**
ILAR	1.0nm,0.8s,mb3.9,baz=282,slow=9.5,SNR=5.4 **Eielson Array**	**50.37**	**32**	P	**P**	**09 58 57.0**	**+0.1**

WRAB	**Tennant Creek**	**57.07**	**185**	P	**P**	**09 59 46.2**	**-0.6**
	1.8nm,0.4s,mb4.5						
WRA	**Warramunga Arr**	**57.08**	**185**	P	**P**	**09 59 46.8**	**0.0**
	1.9nm,0.7s,mb4.3,baz=0.2,slow=7.4,SNR=9.4						
ASAR	**Alice Springs**	**60.80**	**185**	P	**P**	**10 00 13.3**	**+0.7**
	0.3nm,0.4s,mb3.8,baz=358,slow=5.1,SNR=3.9						
ARCES	**ARCESS Array B**	**63.04**	**339**	P	**P**	**10 00 27.0**	**0.0**
	1.3nm,0.8s,mb4.1,baz=54,slow=7.8,SNR=4.2						
ARCES	**ARCESS Array B**	**63.04**	**339**	P	**P**	**10 00 27.0**	**0.0**
FINES	**FINESS Array B**	**67.63**	**331**	P	**P**	**10 00 57.1**	**+0.7**
	0.9nm,0.7s,mb3.9,baz=90,slow=5.6,SNR=3.6						
AKASG	**Malin Array Be**	**72.84**	**321**	P	**P**	**10 01 29.4**	**+1.2**
	0.3nm,0.3s,mb3.6,baz=43,slow=6.1,SNR=4.0						
NB2	**NORSAR Subarra**	**73.16**	**336**	P	**P**	**10 01 31.3**	**+1.5**
	0.8nm,0.5s,mb3.9,baz=41,slow=5.8						
NOA	**NORSAR Array B**	**73.16**	**336**	P	**P**	**10 01 31.2**	**+1.4**
	1.2nm,0.6s,mb4.0,baz=40,slow=6.1,SNR=4.9						
HLID	**Hailey**	**75.68**	**46**	P	**P**	**10 01 44.4**	**-0.4**
BRTR	**Keskin Array B**	**77.15**	**310**	P	**P**	**10 01 56.2**	**+3.0**
	1.2nm,0.9s,mb3.8,baz=76,slow=5.9,SNR=3.6						
TPH	**Tonopah**	**77.34**	**52**	*eP*	**P**	**10 01 56.8**	**+2.4**
	3.1nm,1.1s,mb4.2						

NAO ***25*** *09:50:58.9±7.4,59.30N×27.44E,ML2.2*
BER ***25*** *09:51:00.5±1.2,59.28N×27.53E,ML2.2(NAO), Suspected explosion*
HEL 25 09:50:58.0±0.3, 59.25N×27.74E, ML1.4, ML2.2(NAO), Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSU	**Vasula**	**0.95**	**214**	*eP*	Pg	09 51 15.6	-1.3
VSU				*eS*	Sg	09 51 26.7	-2.9
VJF	**Virojoki**	**1.29**	**356**	*eP*	Pb	09 51 21.7	-1.2
VJF				*eS*	Sb	09 51 38.6	-1.4
PVF	**Pernaja**	**1.60**	**325**	*eP*	Pn	09 51 26.3	-1.5
PVF				*eS*	Sb	09 51 47.5	-1.4
MEF	**Metsahovi**	**1.95**	**301**	*eP*	Pn	09 51 32.0	-0.7
MEF				*eS*	Sn	09 51 57.4	-0.8
FIA0	**FINESS Array S**	**2.35**	**340**	*eP*	Pn	09 51 37.3	-1.1
FIA0				*eS*	Sn	09 52 06.7	-1.7
FIA0				MSG		09 52 13.2	
	comp=Z,1.1nm,0.1s						
FIA0	**FINESS Array S**	**2.35**	**340**	Pn	Pn	09 51 37.4	-1.0
	baz=160,slow=18						
FIA0				Lg		09 52 10.7	
	baz=163,slow=37						
KAF	**Kangasniemi**	**2.96**	**347**	*eP*	Pn	09 51 45.6	-1.4
KAF				*eS*	Sn	09 52 21.1	-2.7
KAF				MSG		09 52 30.5	
	comp=Z,1.2nm,0.2s						
HFS	**Hagfors**	**7.16**	**283**	Lg		09 54 38.2	
	baz=94,slow=37						
HFS	**Hagfors**	**7.16**	**283**	*e*SG	Sg	09 54 38.2	-18
HFS	**Hagfors**	**7.16**	**283**	Lg		09 54 38.2	
	baz=94,slow=37						
ARA0	**ARCESS Array S**	**10.37**	**356**	Lg		09 56 19.6	
	baz=180,slow=37						
ARA0	**ARCESS Array S**	**10.37**	**356**	Lg		09 56 19.6	
	baz=180,slow=37						

IDC 25 10:02:24.7±4.3, 3.96S×35.66E, mb4.1/2, mb1 4.1/3, mb1mx3.7/18, MS3.4/1, Ms1 3.4/1, ms1mx2.7/21, Error ellipse: s-maj=118.0km s-min=29.7km az=130.0, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**3.24**	**30**	Pn	Pn	10 03 16.2	-1.6
	10nm,0.3s,baz=215,slow=16,SNR=12						
KMBO				Sn	Sn	10 03 52.4	-5.2
	63nm,0.3s,baz=305,slow=24,SNR=9.4						
KMBO				Lg		10 04 08.0	
	41nm,0.3s,baz=237,slow=23,SNR=4.8						
SUR	**Sutherland**	**31.51**	**205**	LR	LR	10 21 30.5	
	comp=Z,55nm,18.1s,baz=89,slow=36						
BRTR	**Keskin Array B**	**43.51**	**358**	P	P	10 10 30.9	-0.8
	1.6nm,1.0s,baz=170,slow=8.8,SNR=6.1						
ARCES	**ARCESS Array B**	**73.67**	**356**	P	P	10 13 59.4	-2.4
	2.9nm,0.9s,baz=180,slow=5.4,SNR=3.6						

BJI ***25*** *10:04:09.9,43.50N×127.00W,h10km,mB4.1,mb4.2, Ms4.3,Msz4.1*
NEIC ***25*** *10:04:12.9±1.0,43.53N×127.04W,h10km,mb4.0/3,Error ellipse: s-maj=12.5km s-min=4.1km az=78.0*
IDC ***25*** *10:04:14.1±1.7,43.58N×126.64W,mb3.3/3,mb1 3.7/8, mb1mx3.6/23,ML3.7/4,MS3.5/10,Ms1 3.5/10, ms1mx3.4/13,Error ellipse: s-maj=27.3km s-min=14.2km az=56.0*
ISC 25 10:04:10.2±0.7, 43.51N±0.04×127.14W±0.07, h10km, n102, σ0$74/98, mb3.6/3, MS3.5/5, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPOR	**Mary's Peak**	**2.77**	**68**	P	**Pn**	**10 04 55.1**	**-0.4**
HSO	**Harness Mounta**	**2.95**	**88**	*eP*	**Pn**	**10 04 57.1**	**-0.8**
COR	**Corvallis**	**2.97**	**67**	*eP*	**Pn**	**10 04 57.4**	**-0.9**
EUO	**Eugene**	**2.99**	**79**	P	**Pn**	**10 04 58.6**	**0.0**
HUMO	**Hull Mountain**	**3.20**	**105**	*eP*	**Pn**	**10 05 00.6**	**-1.0**
BBOR	**Butler Butte**	**3.32**	**99**	P	**Pn**	**10 05 03.0**	**-0.3**
KMOR	**Kings Mountain**	**3.36**	**50**	P	**Pn**	**10 05 03.4**	**-0.5**
BROR	**Big Rock Looko**	**3.47**	**76**	P	**Pn**	**10 05 05.6**	**+0.1**
HBO	**Huckleberry Mo**	**3.51**	**83**	P	**Pn**	**10 05 06.7**	**+0.6**
IRO	**Indian Ridge**	**3.57**	**80**	P	**Pn**	**10 05 07.0**	**+0.1**
SSOR	**Sweet Springs**	**3.62**	**67**	P	**Pn**	**10 05 07.8**	**+0.8**
NLO	**Nicolai Mounta**	**3.68**	**44**	P	**Pn**	**10 05 08.2**	**-0.2**
FRIS	**Frissel Point**	**3.71**	**77**	P	**Pn**	**10 05 09.2**	**+0.4**
YBH	**Yreka Blue Hor**	**3.72**	**117**	Pn	**Pn**	**10 05 09.1**	**+0.1**
	0.8nm,0.3s,baz=295,slow=12,SNR=17						
YBH				Sn	**Sn**	**10 05 52.1**	**-1.3**
	0.3nm,0.3s,baz=97,slow=16,SNR=3.0						
YBH	**Yreka Blue Hor**	**3.72**	**117**	*eP*	**Pn**	**10 05 08.4**	**-0.6**
GT2	**Goat Mountain**	**3.86**	**63**	P	**Pn**	**10 05 12.1**	**+1.1**
HUOR	**Husband**	**3.88**	**79**	P	**Pn**	**10 05 11.9**	**+0.7**
PGO	**Gresham**	**3.88**	**58**	P	**Pn**	**10 05 12.1**	**+0.8**
BKCOR	**Black Crater**	**4.01**	**77**	P	**Pn**	**10 05 13.8**	**+0.7**
BMW	**Boistfort Moun**	**4.06**	**42**	P	**Pn**	**10 05 13.5**	**-0.3**
RVW	**Rose Valley**	**4.09**	**48**	P	**Pn**	**10 05 14.1**	**-0.2**
VLMM	**Larch Mountain**	**4.17**	**59**	P	**Pn**	**10 05 16.1**	**+0.7**
TDH	**Tom, Dick, Har**	**4.23**	**63**	P	**Pn**	**10 05 17.1**	**+1.0**
LVP	**Lakeview Peak**	**4.23**	**51**	P	**Pn**	**10 05 16.7**	**+0.5**
BEND	**Bend**	**4.25**	**81**	P	**Pn**	**10 05 16.7**	**+0.2**
HOOD	**Mount Hood Mea**	**4.33**	**63**	P	**Pn**	**10 05 18.1**	**+0.5**
FL2	**Flat Top 2**	**4.34**	**50**	P	**Pn**	**10 05 18.2**	**+0.5**
VLL	**Laurance Lake**	**4.37**	**62**	P	**Pn**	**10 05 19.2**	**+1.0**
ERK	**Elk Rock**	**4.41**	**49**	P	**Pn**	**10 05 19.0**	**+0.3**
JLK	**June Lake**	**4.42**	**52**	P	**Pn**	**10 05 19.5**	**+0.6**
VFP	**Flag Point**	**4.45**	**64**	P	**Pn**	**10 05 20.0**	**+0.7**
CDFW	**Cedar Flats**	**4.46**	**53**	P	**Pn**	**10 05 20.0**	**+0.5**
CPW	**Capitol Peak**	**4.47**	**38**	P	**Pn**	**10 05 18.9**	**-0.7**
SOSW	**Source of Smit**	**4.48**	**51**	P	**Pn**	**10 05 20.6**	**+0.7**
APM	**Augspurger Mou**	**4.49**	**58**	P	**Pn**	**10 05 20.8**	**+0.9**
TDL	**Tradedollar La**	**4.50**	**49**	P	**Pn**	**10 05 20.4**	**+0.3**
CROR	**Criterion Ridg**	**4.66**	**69**	P	**Pn**	**10 05 21.9**	**-0.4**
ASR	**Mount Adams--S**	**4.75**	**54**	P	**Pn**	**10 05 23.9**	**+0.4**
VIPM	**Ingram Point**	**4.81**	**76**	P	**Pn**	**10 05 24.0**	**-0.5**
MEW	**McNeil Island**	**4.86**	**39**	P	**Pn**	**10 05 25.6**	**-0.4**
GHW	**Garrison Hill**	**4.92**	**43**	P	**Pn**	**10 05 26.0**	**-0.1**
GLK	**Glacier Lake**	**4.97**	**50**	P	**Pn**	**10 05 27.5**	**+0.8**
LON	**Longmire**	**4.97**	**48**	P	**Pn**	**10 05 26.8**	**+0.1**
REMR	**Mount Rainier-**	**5.00**	**47**	P	**Pn**	**10 05 27.4**	**+0.3**
HDW	**Hoodsport**	**5.03**	**33**	P	**Pn**	**10 05 27.1**	**-0.5**
GNW	**Green Mountain**	**5.06**	**35**	*eP*	**Pn**	**10 05 26.1**	**-1.9**
RCM	**Mount Rainier-**	**5.07**	**47**	P	**Pn**	**10 05 28.5**	**+0.5**
WPW	**White Pass**	**5.08**	**49**	P	**Pn**	**10 05 28.8**	**+0.5**
RCS	**Mount Rainier-**	**5.09**	**47**	P	**Pn**	**10 05 28.7**	**+0.3**
FMW	**Mount Fremont**	**5.16**	**47**	P	**Pn**	**10 05 29.5**	**+0.2**
GSM	**Grass Mountain**	**5.27**	**44**	P	**Pn**	**10 05 31.1**	**+0.1**
RMW	**Rattlesnake Mo**	**5.44**	**42**	P	**Pn**	**10 05 33.3**	**-0.1**
TTW	**Tolt Reservoir**	**5.67**	**41**	P	**Pn**	**10 05 36.2**	**-0.3**
HTW	**Haystack Looko**	**5.71**	**39**	P	**Pn**	**10 05 36.5**	**-0.6**
MXC	**Moxie City**	**5.74**	**55**	P	**Pn**	**10 05 38.0**	**+0.4**
PGC	**Sidney**	**5.74**	**25**	*eP*	**Pn**	**10 05 36.0**	**-1.6**
EBG	**Ellensburg**	**5.75**	**52**	P	**Pn**	**10 05 38.0**	**+0.3**
TBM	**Table Mountain**	**5.88**	**49**	P	**Pn**	**10 05 40.0**	**+0.4**
JCW	**Jim Creek**	**5.93**	**36**	P	**Pn**	**10 05 39.7**	**-0.5**
RSW	**Rattlesnake Hi**	**6.08**	**59**	P	**Pn**	**10 05 42.6**	**+0.2**
HAWA	**Hanford**	**6.12**	**59**	*eP*	**Pn**	**10 05 42.4**	**-0.5**

REDWA	**Red Mountain**	**6.14**	**60**	P	**Pn**	**10 05 43.2**	**0.0**
GBB	**Gable Butte**	**6.16**	**57**	P	**Pn**	**10 05 43.6**	**+0.2**
WRW	**Wenatchee Ridg**	**6.17**	**43**	P	**Pn**	**10 05 43.5**	**-0.2**
H2OWA	**Water**	**6.19**	**60**	P	**Pn**	**10 05 43.9**	**0.0**
GBL	**Gable Mountain**	**6.25**	**58**	P	**Pn**	**10 05 45.2**	**+0.4**
ETW	**Entiat**	**6.29**	**47**	P	**Pn**	**10 05 45.4**	**+0.1**
RPW	**Rockport**	**6.30**	**36**	P	**Pn**	**10 05 44.9**	**-0.6**
VDB	**Vedder Mountai**	**6.53**	**31**	P	**Pn**	**10 05 48.1**	**-0.6**
EPH	**Ephrata**	**6.55**	**51**	P	**Pn**	**10 05 49.2**	**+0.1**
WTV	**Waterville**	**6.55**	**48**	P	**Pn**	**10 05 48.8**	**-0.2**
NLW	**Nelson Butte**	**6.59**	**44**	*eP*	**Pn**	**10 05 47.4**	**-2.2**
LNOR	**Lincton Mounta**	**6.74**	**66**	*eP*	**Pn**	**10 05 48.1**	**-3.5**
CMB	**Columbia Colle**	**7.50**	**135**	*eP*	**Pn**	**10 06 02.6**	**+0.3**
DPW	**Davenport**	**7.62**	**52**	*eP*	**Pn**	**10 06 02.7**	**-1.4**
NVAR	**Mina Array Bea**	**8.39**	**124**	Pn	**P**	**10 06 15.5**	**+0.7**
	0.0nm,0.3s,baz=283,slow=12,SNR=2.7						
NVAR				LR	LR	10 09 30.3	
	comp=Z,138nm,21.7s,baz=85,slow=39						
NEW	**Newport**	**8.45**	**52**	Pn	**P**	**10 06 15.1**	**-0.5**
	0.7nm,0.3s,baz=261,slow=9.0,SNR=8.5						
NEW				LR	LR	10 09 33.0	
	comp=Z,493nm,21.1s,baz=241,slow=39						
NEW	**Newport**	**8.45**	**52**	*eP*	**P**	**10 06 13.9**	**-1.7**
BBB	**Bella Bella**	**8.70**	**356**	LR	LR	10 09 18.3	
	comp=Z,191nm,20.6s,baz=59,slow=35						
MCMT	**McKenzie Canyo**	**10.36**	**78**	*eP*	**P**	**10 06 40.9**	**-0.9**
QLMT	**Earthquake Lak**	**11.36**	**78**	*eP*	**P**	**10 06 55.4**	**-0.2**
NEN	**Nelson**	**12.31**	**126**	P	**P**	**10 07 06.8**	**-1.5**
LDFC	**Landfair**	**12.55**	**128**	*eP*	**P**	**10 07 11.9**	**+0.3**
GCMT	**Greycliff**	**12.65**	**74**	P	**P**	**10 07 12.5**	**-0.5**
PDAR	**Pinedale Array**	**12.87**	**87**	Pn	**P**	**10 07 17.2**	**+1.3**
	0.1nm,0.3s,baz=277,slow=12,SNR=7.3						
PDAR				LR	LR	10 12 36.9	
	comp=Z,234nm,20.7s,baz=350,slow=40						
DLBC	**Dease Lake**	**15.05**	**354**	Pn	**P**	**10 07 49.5**	**+5.1**
	0.1nm,0.3s,baz=192,slow=23,SNR=3.8						
DLBC				LR	LR	10 13 44.8	
	comp=Z,138nm,18.6s,baz=104,slow=38						
SDCO	**Great Sand Dun**	**17.39**	**102**	*eP*	**P**	**10 08 13.8**	**-0.6**
	10nm,1.4s						
FFC	**Flin Flon**	**19.81**	**47**	*eP*	**P**	**10 08 41.7**	**-1.8**
	7.8nm,0.8s						
YKA	**Yellowknife Ar**	**20.38**	**17**	P	**P**	**10 08 50.4**	**+0.9**
	0.7nm,0.6s,baz=200,slow=11,SNR=3.4						
YKA	**Yellowknife Ar**	**20.38**	**17**	P	**P**	**10 08 50.4**	**+0.9**
ULM	**Lac du Bonnet**	**22.29**	**61**	LR	LR	10 18 06.4	
	comp=Z,156nm,20.1s,MS3.4,baz=234,slow=38						
TXAR	**Lajitas Array**	**23.50**	**119**	P	**P**	**10 09 24.5**	**+3.6**
	1.1nm,1.1s,mb3.2,baz=288,slow=4.0,SNR=5.9						
TXAR				LR	LR	10 17 42.8	
	comp=Z,56nm,20.4s,MS3.0,baz=350,slow=35						
WMOK	**Wichita Mounta**	**23.59**	**102**	*eP*	**P**	**10 09 22.7**	**+0.9**
	15nm,1.6s,mb4.2						
ILAR	**Eielson Array**	**24.03**	**339**	LR	LR	10 16 58.3	
	comp=Z,158nm,20.4s,MS3.5,baz=271,slow=32						
INK	**Inuvik**	**25.08**	**354**	LR	LR	10 19 05.5	
	comp=Z,154nm,19.4s,MS3.5,baz=212,slow=36						
WVT	**Waverly**	**30.86**	**90**	P	**P**	**10 10 28.0**	**-0.6**
SCHQ	**Schefferville**	**39.82**	**52**	LR	LR	10 28 03.0	
	comp=Z,130nm,19.4s,MS3.8,baz=308,slow=36						
CN2	**Changchun**	**71.60**	**313**	*eP*	**P**	**10 15 33.0**	**-0.4**
SONM	**Songino Array**	**77.55**	**326**	P	**P**	**10 16 12.0**	**+4.6**
	0.3nm,0.7s,mb3.3,baz=18,slow=4.6,SNR=4.0						
NJ2	**Nanjing**	**83.63**	**309**	*eP*	**P**	**10 16 40.0**	**0.0**
WMQ	**Urumqi**	**87.64**	**336**	*eP*	**P**	**10 17 01.0**	**+1.4**
LZH	**Lanzhou**	**88.20**	**321**	*eP*	**P**	**10 17 02.5**	**0.0**
LZH				AP	pP	10 17 07.3	+1.6
LZH				XP	sP	10 17 09.5	+2.8
LZH				PP	PP	10 20 31.5	-0.6

TAP 25 10:20:19.8, 24.20N×121.67E, h7km, ML3.7, Taiwan

DJA 25 10:45:54.1±0.8, 9.70S×115.15E, h80km, MD4.9/4, ML3.7/3, 3C-7D, Error ellipse: s-maj=20.8km s-min=7.8km az=3.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	**Rata**	**1.04**	**21**	⇓*i*Pn	P	10 46 12.2	-1

0.4nm,0.8s,mb3.1,baz=120,slow=8.5,SNR=3.6
SCHQ Schefferville 44.36 24 P **P** 11 10 05.3 -0.1
3.1nm,0.5s,mb4.3,baz=226,slow=7.8,SNR=9.6
CPUP Villa Florida 57.20 138 LR LR 11 37 04.6
comp=Z,26nm,20.8s,baz=324,slow=37
BDFB Brasilia 57.55 121 LR LR 11 36 22.5
comp=Z,47nm,19.6s,baz=88,slow=36

IDC 25 11:10:54.2±7.0, 19.54S×177.02W, mb3.8/3, mb1 4.1/3, mb1mx3.6/14, MS3.8/2, Ms1 3.8/2, ms1mx2.9/19, Error ellipse: s-maj=304.0km s-min=39.4km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.64**	**256**	P	P	11 19 16.8	-1.7
	0.5nm,0.5s,baz=96,slow=8.2,SNR=19						
WRA	**Warramunga Arr**	**45.65**	**261**	P	P	11 19 16.7	-1.9
	0.2nm,0.3s,baz=96,slow=7.3,SNR=7.3						
FITZ	**Fitzroy Crossi**	**54.07**	**261**	LR	LR	11 43 16.8	
	comp=Z,27nm,18.1s,baz=173,slow=36						
NEW	**Newport**	**86.06**	**35**	LR	LR	11 54 14.5	
	comp=Z,152nm,19.4s,baz=132,slow=30						
ILAR	**Eielson Array**	**87.18**	**12**	P	P	11 23 41.8	-1.2
	2.9nm,1.5s,baz=225,slow=3.8,SNR=4.5						

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*NIED **25** 11:26:00, 37.20N×138.80E, h5km, Mw3.8 Best double couple: M₀4.76×10¹⁴ NP1:φs199°, δ50°, λ.84°. NP2:φs28°, δ41°, λ97°.*
*JMA **25** 11:26:33.8, 37.23N×138.83E, h10km±2km, M3.9*
JMA Felt IV J1.
*NEIC **25** 11:26:34.3±4.0, 37.21N×138.70E, h19km±25km, mb4.4/2, Error ellipse: s-maj=17.5km s-min=13.2km az=78.0*
*IDC **25** 11:26:38.2±3.7, 37.21N×138.55E, h51km±36km, mb3.5/7, mb1 3.7/8, mb1mx3.5/23, ML4.0/1, Error ellipse: s-maj=33.6km s-min=19.1km az=84.0*
ISC 25 11:26:33.2±0.5, 37.24N±0.03×138.82E±0.06, h24km±4km, n18, σ1°04/25, mb3.9/9, 3C-3D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.16**	**88**	⇓P	**Pb**	**11 26 37.2**	**-1.0**
JHK				S	**Sb**	**11 26 40.0**	**-1.6**
JIZZ	**Izumozaki**	**0.30**	**343**	P	**Pb**	**11 26 40.6**	**+0.5**
JIZZ				S	**Sb**	**11 26 46.4**	**+1.6**
JKT	**Katashina**	**0.59**	**144**	⇓P	**Pb**	**11 26 44.8**	**+0.1**
JKT				S	**Sb**	**11 26 52.9**	**+0.3**
JNS	**Sasagawa**	**0.70**	**34**	⇑P	**Pb**	**11 26 46.6**	**0.0**
JNS				S	**Sb**	**11 26 56.3**	**+0.5**
MAJO	**Matsushiro**	**0.85**	**215**	*e*P	**Pb**	**11 26 49.1**	**-0.1**
MAT	**Matsushiro**	**0.85**	**215**	⇑P	**Pb**	**11 26 49.2**	**0.0**
MAT				S	**Sb**	**11 27 00.4**	**+0.2**
MAT	**Matsushiro**	**0.85**	**215**	⇑*i*P	**Pb**	**11 26 49.2**	**0.0**
MAT				*e*S	**Sb**	**11 27 00.0**	**-0.2**
JHJ	**Hachijo jima 2**	**4.19**	**169**	P	**Pn**	**11 27 39.6**	**+2.3**
	22nm,0.3s,baz=85,slow=22,SNR=9.6						
JHJ				S	**Sn**	**11 28 28.8**	**+2.7**
	baz=72,slow=19,SNR=2.6						
ENH	**Enshi**	**25.29**	**263**	P	**P**	**11 31 59.4**	**0.0**
	5.2nm,0.4s,mb4.4						
SONM	**Songino Array**	**25.95**	**304**	P	**P**	**11 32 03.8**	**-1.6**
	0.4nm,0.5s,mb3.2,baz=104,slow=10,SNR=3.7						
TGY	**Tagaytay City**	**28.02**	**219**	⇓*e*P	**P**	**11 32 19.0**	**-5.6**
BRVK	**Borovoye**	**48.95**	**312**	P	**P**	**11 35 18.6**	**-0.6**
	1.8nm,0.7s,mb4.2						
ILAR	**Eielson Array**	**50.43**	**32**	P	**P**	**11 35 30.6**	**+0.1**
	0.5nm,0.8s,mb3.6,baz=273,slow=5.3,SNR=8.5						
WRA	**Warramunga Arr**	**57.03**	**185**	P	**P**	**11 36 18.2**	**-1.5**
	2.2nm,1.0s,mb4.1,baz=1.4,slow=7.6,SNR=14						
ASAR	**Alice Springs**	**60.76**	**185**	P	**P**	**11 36 44.5**	**-1.0**
	0.6nm,1.1s,mb3.6,baz=18,slow=13,SNR=3.2						
ARCES	**ARCESS Array B**	**63.06**	**339**	P	**P**	**11 37 00.1**	**-0.2**
	2.8nm,1.0s,mb4.3,baz=41,slow=9.6,SNR=3.6						
FINES	**FINESS Array B**	**67.65**	**331**	P	**P**	**11 37 29.6**	**-0.3**
	0.9nm,0.8s,mb3.9,baz=51,slow=8.9,SNR=2.6						
PDAR	**Pinedale Array**	**78.98**	**44**	P	**P**	**11 38 38.1**	**+1.7**
	0.5nm,0.8s,mb3.5,baz=315,slow=2.1,SNR=4.4						

MAN 25 11:31:48.1, 13.74N×120.46E, h103km, mb4.0, ML2.8, MS2.5, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.20**	**269**	*e*P	P	11 32 04.6	+1.8
LUBP				*e*S	S	11 32 15.1	+1.3
LQP	**Lukban**	**1.11**	**70**	*e*P	P	11 32 10.7	+0.4
BOAC	**Boac**	**1.38**	**101**	*e*P	P	11 32 13.5	0.0
SJMP	**San Jose**	**1.43**	**153**	*e*P	P	11 32 14.5	+0.5
BUSP	**Coron**	**1.74**	**188**	*e*P	P	11 32 18.6	+0.6
OTRP	**Odiongan**	**2.05**	**132**	*e*P	P	11 32 21.8	-0.1
CUYO	**Cuyo Island**	**2.92**	**169**	*e*P	P	11 32 33.5	-0.3

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*IDC **25** 11:45:06.3±1.5, 35.52S×178.38E, mb4.3/6, mb1 4.4/8, mb1mx4.2/16, ML4.4/2, MS4.4/12, Ms1 4.3/12, ms1mx4.3/14, Error ellipse: s-maj=32.0km s-min=23.7km az=71.0*
*NEIC **25** 11:45:07.9±1.1, 35.43S×178.40E, h10km, Error ellipse: s-maj=17.2km s-min=12.0km az=74.0*
*WEL **25** 11:45:08.4±0.3, 35.15S×178.44E, h33km, ML4.9/9, Error ellipse: s-maj=2.7km s-min=2.0km az=90.0, 2 here. Some picks doubtful.*
ISC 25 11:45:10.1±0.6, 35.54S±0.04×178.24E±0.07, h33km, n74, σ1°39/77, mb4.3/7, MS4.3/10, 3C-1D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.02**	**179**	P	**P**	**11 45 40.8**	**-1.6**
MXZ	**Matakaoa Point**	**2.02**	**179**	P*	**Pb**	**11 45 40.8**	**-5.3**
MXZ				*e*S*	**Sb**	**11 46 05.2**	**-5.8**
MXZ				T		11 47 43.7	
KUZ	**Kuaotunu**	**2.37**	**239**	PN	**Pn**	**11 45 47.1**	**-0.5**
KUZ				SN	**Sn**	**11 46 15.5**	**-0.4**
PUZ	**Puketiti**	**2.53**	**180**	P	**P**	**11 45 50.6**	**+0.9**
PUZ	**Puketiti**	**2.53**	**180**	PN	**Pn**	**11 45 50.6**	**+0.7**
EDRZ	**Edgecumbe**	**2.83**	**205**	P*	**Pb**	**11 45 59.4**	**-0.5**
MWZ	**Matawai**	**2.85**	**191**	P	**P**	**11 45 54.4**	**+0.1**
MWZ	**Matawai**	**2.85**	**191**	P*	**Pb**	**11 45 54.4**	**-5.8**
URZ	**Urewera**	**2.86**	**198**	Pn	**Pn**	**11 45 55.1**	**+0.4**
	62nm,0.3s,baz=58,slow=13,SNR=130						
URZ				Sn	**Sn**	**11 46 30.5**	**+2.2**
	22nm,0.3s,baz=233,slow=20,SNR=4.4						
URZ				LR	LR	11 47 13.4	
	comp=Z,7μm,18.9s,baz=52,slow=44						
URZ	**Urewera**	**2.86**	**198**	P	**P**	**11 45 54.6**	**+0.1**
LIRZ	**Lichensteins R**	**2.88**	**211**	P*	**Pb**	**11 46 01.7**	**+1.1**
MKAZ	**Moumakai**	**2.94**	**237**	PN	**Pn**	**11 45 56.8**	**+1.1**
MTAZ	**Motutapu**	**2.97**	**244**	PN	**Pn**	**11 45 57.0**	**+0.9**
OTAZ	**Otara**	**3.03**	**241**	PN	**Pn**	**11 45 58.1**	**+1.2**
WCZ	**Waipu Caves**	**3.19**	**262**	P	**P**	**11 45 58.7**	**-0.5**
WCZ	**Waipu Caves**	**3.19**	**262**	PN	**Pn**	**11 45 58.7**	**-0.7**
WCZ	**Waipu Caves**	**3.19**	**262**	*e*PN	**Pn**	**11 45 58.7**	**-0.7**
PATZ	**Paeroa**	**3.25**	**209**	*e*P*	**Pb**	**11 46 01.5**	**-5.5**
KNZ	**Kokohu**	**3.51**	**187**	PN	**Pn**	**11 46 02.5**	**-1.3**
OUZ	**Omahuta**	**3.81**	**273**	PN	**Pn**	**11 46 06.4**	**-1.6**
RATZ	**Rangitukua**	**3.86**	**210**	P	**P**	**11 46 13.4**	**+4.7**
RATZ	**Rangitukua**	**3.86**	**210**	P*	**Pb**	**11 46 13.4**	**-4.0**
BKZ	**Black Stump Fm**	**3.88**	**201**	P	**P**	**11 46 09.4**	**+0.5**
BKZ				*e*		11 46 11.2	
BKZ	**Black Stump Fm**	**3.88**	**201**	P*	**Pb**	**11 46 09.4**	**-8.3**
KATZ	**Kakaramea**	**3.99**	**210**	P	**P**	**11 46 14.8**	**+4.4**
KATZ	**Kakaramea**	**3.99**	**210**	P*	**Pb**	**11 46 14.8**	**-4.7**
HIZ	**Hauiti**	**4.02**	**221**	P	**P**	**11 46 12.9**	**+2.0**
HIZ				*e*		11 46 19.1	
HIZ	**Hauiti**	**4.02**	**221**	*e*PN	**Pn**	**11 46 12.8**	**+1.7**
HIZ	**Hauiti**	**4.02**	**221**	PN	**Pn**	**11 46 12.5**	**+1.4**
MGZ	**Maungaku**	**4.07**	**211**	P	**P**	**11 46 14.2**	**+2.5**
MGZ	**Maungaku**	**4.07**	**211**	P*	**Pb**	**11 46 14.2**	**-6.8**
KAVZ	**Karewarewa**	**4.11**	**209**	P*	**Pb**	**11 46 16.4**	**-5.3**
WTVZ	**West Tongariro**	**4.15**	**210**	P*	**Pb**	**11 46 16.6**	**-5.7**
TWVZ	**Taurewa**	**4.17**	**212**	P*	**Pb**	**11 46 17.4**	**-5.3**
NGZ	**Ngauruhoe**	**4.20**	**209**	P	**P**	**11 46 16.4**	**+3.0**
CNZ	**Chateau**	**4.24**	**210**	P*	**Pb**	**11 46 18.1**	**-5.7**
FWVZ	**Far West T-bar**	**4.28**	**209**	P	**P**	**11 46 17.8**	**+3.1**
FWVZ				*e*		11 46 20.2	
FWVZ	**Far West T-bar**	**4.28**	**209**	P*	**Pb**	**11 46 20.2**	**-4.4**
WNVZ	**Wahianoa**	**4.33**	**208**	P	**P**	**11 46 17.9**	**+2.6**
WNVZ	**Wahianoa**	**4.33**	**208**	P*	**Pb**	**11 46 17.9**	**-7.4**
MOVZ	**Moawhango**	**4.34**	**206**	P*	**Pb**	**11 46 16.7**	**-8.8**
VRZ	**Vera Road**	**4.53**	**217**	P	**P**	**11 46 20.7**	**+2.5**
VRZ				*e*		11 46 24.4	
VRZ	**Vera Road**	**4.53**	**217**	P*	**Pb**	**11 46 24.4**	**-4.4**
VRZ	**Vera Road**	**4.53**	**217**	P*	**Pb**	**11 46 20.7**	**-8.1**
PWZ	**Pawanui**	**4.61**	**193**	P	**P**	**11 46 17.8**	**-1.6**
PWZ				S	**S**	**11 47 13.8**	**+1.3**
PWZ	**Pawanui**	**4.61**	**193**	PN	**Pn**	**11 46 17.8**	**-1.6**
PWZ				SN	**Sn**	**11 47 13.8**	**+1.2**
PWZ	**Pawanui**	**4.61**	**193**	PN	**Pn**	**11 46 17.8**	**-1.6**
BFZ	**Birch Farm**	**5.37**	**196**	PN	**Pn**	**11 46 27.7**	**-2.4**
BFZ				SN	**Sn**	**11 47 30.9**	**-0.7**
MRZ	**Mangatainoka R**	**5.53**	**202**	P	**P**	**11 46 29.8**	**-2.4**
MRZ				S	**S**	**11 47 36.2**	**+0.7**
MRZ	**Mangatainoka R**	**5.53**	**202**	PN	**Pn**	**11 46 29.8**	**-2.5**
MRZ				SN	**Sn**	**11 47 36.2**	**+0.6**
KIW	**Kapiti Island**	**5.93**	**205**	*e*P	**P**	**11 46 36.1**	**-1.7**
KIW	**Kapiti Island**	**5.93**	**205**	PN	**Pn**	**11 46 36.1**	**-1.9**
THZ	**Tophouse**	**7.49**	**212**	PN	**Pn**	**11 46 57.4**	**-2.5**
WVZ	**Waitaha Valley**	**9.51**	**215**	SN	**Sn**	**11 49 13.7**	**-0.9**
RPZ	**Rata Peaks**	**9.87**	**212**	Pn	**P**	**11 47 29.0**	**-3.6**
	2.8nm,0.3s,baz=58,slow=2.8,SNR=10.0						
RPZ				Sn	**Sn**	**11 49 18.2**	**-5.3**
	0.5nm,0.3s,baz=9.5,slow=18,SNR=2.5						
RPZ				LR	LR	11 51 39.4	
	comp=Z,2μm,20.7s,baz=28,slow=40						
RAR	**Rarotonga**	**23.97**	**59**	LR	LR	11 56 35.7	
	comp=Z,679nm,19.7s,MS4.1,baz=246,slow=29						
STKA	**Stephens Creek**	**30.59**	**266**	LR	LR	12 03 14.3	
	comp=Z,570nm,19.3s,MS4.2,baz=284,slow=35						
CTA	**Charters Tower**	**32.03**	**290**	P	**P**	**11 51 37.2**	**+1.3**
	3.1nm,1.0s,mb4.1,baz=146,slow=7.3,SNR=2.4						
CTA				LR	LR	12 03 55.2	
	comp=Z,217nm,18.8s,MS3.9,baz=283,slow=35						
ASAR	**Alice Springs**	**40.02**	**275**	P	**P**	**11 52 43.8**	**+0.2**
	7.3nm,1.0s,mb4.4,baz=117,slow=7.7,SNR=63						
ASAR				LR	LR	12 09 18.4	
	comp=Z,570nm,18.3s,MS4.5,baz=123,slow=36						
ASPA	**Alice Springs**	**40.02**	**275**	*e*P	**P**	**11 52 43.7**	**+0.1**
WRA	**Warramunga Arr**	**41.49**	**280**	P	**P**	**11 52 55.4**	**-0.4**
	5.2nm,1.0s,mb4.1,baz=119,slow=7.7,SNR=30						
WRA				LR	LR	12 09 24.8	
	comp=Z,442nm,18.9s,MS4.4,baz=140,slow=35						
VNDA	**Vanda**	**42.69**	**185**	LR	LR	12 10 06.8	
	comp=Z,242nm,18.2s,MS4.6,baz=118,slow=37						
FITZ	**Fitzroy Crossi**	**49.47**	**276**	*e*P	**P**	**11 53 59.4**	**0.0**
	4.3nm,0.9s,mb4.5						
FITZ	**Fitzroy Crossi**	**49.47**	**276**	P	**P**	**11 53 59.3**	**-0.1**
	4.0nm,0.8s,mb4.5,baz=161,slow=7.4,SNR=7.7						
QSPA	**South Pole Qui**	**54.58**	**180**	*e*P	**P**	**11 54 37.5**	**+0.6**
	42nm,1.2s,mb5.3						
MAW	**Mawson**	**66.39**	**202**	LR	LR	12 26 18.1	
	comp=Z,317nm,18.2s,MS4.6,baz=118,slow=37						
SNAA	**Sanae**	**73.09**	**180**	⇓*i*	**P**	**11 56 38.0**	**-0.1**
SNAA	**Sanae**	**73.09**	**180**	P	**P**	**11 56 38.0**	**-0.1**
	3.3nm,1.2s,mb4.1,baz=197,slow=4.2,SNR=9.6						
VNA3	**Neumayer Olymp**	**73.37**	**177**	⇑*i*	**P**	**11 56 40.3**	**+0.5**
VNA2	**Neumayer--Watz**	**73.76**	**178**	⇑*i*	**P**	**11 56 43.0**	**+1.0**
VNA1	**Neumayer--Stat**	**74.01**	**178**	⇑*i*	**P**	**11 56 45.1**	**+1.6**
NVAR	**Mina Array Bea**	**94.12**	**45**	P	**P**	**11 58 26.4**	**0.0**
	0.4nm,0.8s,mb3.9,baz=207,slow=4.0,SNR=3.3						
NVAR				LR	LR	12 34 36.7	
	comp=Z,223nm,18.3s,MS4.7,baz=270,slow=32						
TXAR	**Lajitas Array**	**97.76**	**60**	LR	LR	12 32 25.6	
	comp=Z,148nm,21.2s,MS4.5,baz=180,slow=29						
CPUP	**Villa Florida**	**99.12**	**131**	LR	LR	12 36 45.4	
	comp=Z,155nm,18.3s,MS4.5,baz=159,slow=31						

WEL 25 11:45:12.6±1.3, 35.62S×178.18E, h33km, ML4.3/5, Error ellipse: s-maj=9.9km s-min=9.8km az=0.0, 2 here. Some picks doubtful., Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.95**	**177**	P*	Pb	11 45 45.2	-2.1
MXZ				S*	Sb	11 46 13.8	+2.4
MXZ				T		11 47 49.8	
KUZ	**Kuaotunu**	**2.28**	**240**	P	P	11 45 48.2	-0.5
KUZ				S	S	11 46 19.3	+3.4
KUZ	**Kuaotunu**	**2.28**	**240**	PN	Pn	11 45 48.2	-0.6
KUZ				SN	Sn	11 46 19.3	+3.1
KUZ				SN	Sn	11 46 20.0	+3.8
PUZ	**Puketiti**	**2.45**	**178**	PN	Pn	11 45 51.4	+0.1
PUZ				SN	Sn	11 46 24.6	+4.2
PUZ				SN	Sn	11 46 24.7	+4.3
PUZ				T		11 48 08.8	
MWZ	**Matawai**	**2.76**	**191**	P*	Pb	11 45 58.0	-3.2
MWZ				T		11 48 14.8	
URZ	**Urewera**	**2.77**	**198**	P*	Pb	11 45 58.1	-3.2
URZ				*e*S*	Sb	11 46 37.0	+1.8
URZ				T		11 48 36.1	
PATZ	**Paeroa**	**3.16**	**209**	P*	Pb	11 46 05.5	-2.4
KNZ	**Kokohu**	**3.42**	**187**	P	P	11 46 03.8	-1.1
KNZ	**Kokohu**	**3.42**	**187**	*e*PN	Pn	11 46 03.7	-1.3
BKZ	**Black Stump Fm**	**3.79**	**200**	P*	Pb	11 46 12.9	-5.8
MGZ	**Maungaku**	**3.98**	**211**	P*	Pb	11 46 16.3	-5.6
NGZ	**Ngauruhoe**	**4.10**	**209**	P*	Pb	11 46 17.0	-7.0

IDC 25 11:53:19.0±5.0, 6.84N×91.09E, mb3.4/2, mb1 3.5/3, mb1mx3.4/17, ML3.8/1, Error ellipse: s-maj=140.0km s-min=36.9km az=78.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.85**	**33**	Pn	P	11 56 36.7	-2.4
	0.1nm,0.3s,baz=227,slow=16,SNR=5.6						
SONM	**Songino Array**	**42.88**	**15**	P	P	12 01 19.2	-1.6
	0.6nm,0.6s,baz=190,slow=9.7,SNR=4.0						
ASAR	**Alice Springs**	**51.63**	**127**	P	P	12 02 27.6	-2.2
	0.2nm,0.6s,baz=308,slow=8.5,SNR=4.8						

TIF 25 11:57:42.9, 40.92N×44.13E, h11km, Mpv3.6, 1C-3D, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STE	**Stepanavan**	**0.22**	**68**	*i*P	Pg	11 57 47.6	-0.1
STE				*i*S	Sg	11 57 51.0	+0.1
AKH	**Akhalkalaki**	**0.69**	**316**	⇓*i*P	Pb	11 57 59.4	+3.0
AKH				*i*S	Sb	11 58 11.4	+5.8
MTA	**Mtatsminda**	**0.92**	**33**	⇓*i*P	Pb	11 58 00.4	0.0
MTA				*i*S	Sb	11 58 13.4	+1.0
DGRG	**David-gareji**	**1.08**	**60**	⇑*i*P	Pb	11 58 03.1	0.0
DGRG				*i*S	Sb	11 58 18.3	+1.3
ONI	**Oni**	**1.73**	**343**	⇓*i*P	Pn	11 58 17.6	+4.3
ONI				*i*S	Sn	11 58 42.0	+6.5
AMRG		**1.76**	**335**	*e*P	Pn	11 58 17.8	+4.2
AMRG				*i*S	Sn	11 58 42.8	+6.7
	comp=N,30nm,0.6s						

DJA 25 12:13:22.0±0.8, 9.49S×113.92E, h33km, MD5.0/3, ML4.0/3, 3C-7D, Error ellipse: s-maj=17.6km s-min=9.2km az=37.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.02**	**12**	⇓*i*Pn	Pn	12 13 38.8	-1.4
	141nm,0.2s						
SRDI	**Scrawed**	**1.02**	**12**	⇓*i*P	P	12 13 39.3	-0.7
SRDI				⇑*i*Sn	Sn	12 13 52.0	-1.5
KELI	**Kelakatan**	**1.38**	**24**	⇓*i*Pn	Pn	12 13 44.8	-0.5
KELI				⇑*i*Sn	Sn	12 14 00.4	-2.2
RATI	**Rata**	**1.76**	**65**	⇓*i*Pn	Pn	12 13 49.9	-0.9
	500nm,0.2s						
RATI	**Rata**	**1.76**	**65**	⇓*i*P	P	12 13 50.5	-0.1
RATI				⇓*i*Sn	Sn	12 14 07.8	-4.5
KEDI	**Kedomdong**	**2.38**	**66**	⇓*i*Pn	Pn	12 13 57.8	-1.9
	23nm,0.2s						
KEDI				⇑*i*Sn	Sn	12 14 24.2	-3.8

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*MOS **25** 12:43:18.4±1.5, 14.23N×145.71E, h33km, mb5.4/7, Error ellipse: s-maj=23.5km s-min=13.0km az=102.1*
*BJI **25** 12:43:25.0, 14.10N×145.90E, h98km, mB5.3, mb5.1*
*HRVD **25** 12:43:26.5±0.5, 13.93N×145.72E, h108km±9km, MW4.8/48, Centroid moment Tensor Solution. LP body waves: s9,c9; Mantle waves: s48,c68; Half duration: 0*

Moment tensor: Scale 10¹⁶Nm; Mrr-0.44±.22; Mθθ-0.05±.23; Mφφ0.49±.26; Mrθ0.82±.10; Mrφ0.14±.19; Mθφ1.65±.11; Best double couple: M₀1.91×10¹⁶ NP1: φs357°, δ8°, λ-119°. NP2:φs206°, δ83°, λ-86°. Principal axes: T 1.94, Plg38°, Azm293°; N -.06, Plg4°, Azm26°; P -1.88, Plg52°, Azm121°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
*NEIC **25** 12:43:26.6±0.2, 14.03N×145.63E, mb4.9/27 Error ellipse: s-maj=7.8km s-min=6.2km az=112.0*
NEIC Felt at Garapan, Saipan and at Tamuning, Guam.
*IDC **25** 12:43:27.4±0.6, 14.04N×145.77E, h98km±4km, mb4.3/15, mb1 4.5/16, mb1mx4.4/21, MS3.5/9, Ms1 3.6/9, ms1mx3.3/29, Error ellipse: s-maj=15.8km s-min=11.9km az=102.0*
ISC 25 12:43:26.9±0.5, 14.03N±0.04×145.56E±0.05, h104km±4km, h90km±1.1km:pP-P, n119, σ0°96/123, mb4.8/59, 10C-3D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.80**	**237**	*e*P	**P**	**12 43 46.3**	**+0.4**
GUMO				*e*S	**S**	**12 43 59.5**	**-0.5**
ANAT	**Anatahan**	**2.31**	**2**	⇓*e*P	**P**	**12 44 04.8**	**+0.4**
ANAT				*e*S	**S**	**12 44 32.9**	**+0.5**
SARN	**Sarigan**	**2.67**	**4**	⇓*e*P	**P**	**12 44 09.4**	**+0.3**
JHJ	**Hachijo jima 2**	**19.72**	**346**	LR	LR	12 54 33.1	
	comp=Z,106nm,20.5s,baz=133,slow=34						
MATI	**Mati**	**20.23**	**252**	*e*P	**P**	**12 47 56.2**	**+0.3**
JOW	**Kunigami**	**20.57**	**311**	P	**P**	**12 48 00.8**	**+1.4**
	98nm,0.9s,baz=132,slow=12,SNR=12						
BUKP	**Musuan**	**21.02**	**255**	*e*P	**P**	**12 48 04.0**	**0.0**
PMG	**Port Moresby**	**23.33**	**176**	P	**P**	**12 48 26.2**	**-0.4**
	35nm,0.8s,mb4.7,baz=352,slow=6.7,SNR=6.5						
MAJO	**Matsushiro**	**23.37**	**345**	*e*P	**P**	**12 48 26.3**	**-0.5**
	21nm,0.8s,mb4.5						
MAT	**Matsushiro**	**23.37**	**345**	P	**P**	**12 48 26.1**	**-0.7**
MAT	**Matsushiro**	**23.37**	**345**	*e*P	**P**	**12 48 26.0**	**-0.8**
TGY	**Tagaytay City**	**23.88**	**273**	P	**P**	**12 48 34.0**	**+2.1**
	71nm,0.3s,mb5.4,baz=47,slow=6.3,SNR=3.2						
TGY				LR	LR	12 56 10.5	
	comp=Z,78nm,20.0s,baz=276,slow=32						
SSE	**Sheshan**	**28.09**	**311**	P	**P**	**12 49 10.0**	**-1.0**
	comp=Z,48nm,0.9s,mb5.0						
SSE				pP	pP	12 49 29.4	-4.6
SSE				S	**S**	**12 53 50.5**	**+3.8**
SSE				XS		12 54 24.5	
SSE				AMB	AMB		
	comp=Z,48nm,0.9s,mb5.0						
SSE	**Sheshan**	**28.09**	**311**	P	**P**	**12 49 10.0**	**-1.0**
	comp=Z,48nm,0.9s,mb5.0						
SSE				pP	pP	12 49 29.4	-4.6
SSE				S	**S**	**12 53 50.4**	**+3.7**
SSE				sS		12 54 24.4	
SSE				LR	LR		
	comp=Z,180nm,33.9s						
MDJ	**Mudanjiang**	**33.38**	**339**	P	**P**	**12 49 57.0**	**-0.3**
MDJ				AP	pP	12 50 15.0	-6.0
MDJ				PP	PP	12 51 13.0	+0.8
MDJ				S	**S**	**12 55 12.8**	**+3.2**
MDJ				XS		12 55 46.8	
MDJ				SCP		12 56 12.8	
MDJ				PCS		12 56 22.3	
MDJ				AMB	AMB		
	comp=Z,19nm,1.0s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,193nm,4.6s						
MDJ	**Mudanjiang**	**33.38**	**339**	*e*P	**P**	**12 49 56.5**	**-0.8**
	comp=Z,14nm,1.0s,mb4.8						
CN2	**Changchun**	**34.31**	**334**	*e*P	**P**	**12 50 04.8**	**-0.4**
CN2				*e*AP	pP	12 50 26.5	-2.6
CN2				*e*XP	sP	12 50 38.3	-3.2
CN2				*e*S	**S**	**12 55 23.3**	**-0.5**
CN2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.2						
CN2				AMB	AMB		
	comp=Z,260nm,5.0s						
WRAB	**Tennant Creek**	**35.50**	**198**	*e*P	**P**	**12 50 14.7**	**-0.9**
	comp=Z,6.0nm,0.6s,mb4.7						
WRA	**Warramunga Arr**	**35.51**	**198**	P	**P**	**12 50 15.4**	**-0.3**
	comp=Z,3.5nm,0.6s,mb4.5,baz=19,slow=9.7,SNR=48						
WRA				ScP		12 56 20.5	
	comp=Z,2.9nm,0.8s,baz=15,slow=3.9,SNR=18						
WRA				LR	LR	13 05 45.6	
	comp=Z,37nm,18.1s,baz=75,slow=38						
BJT	**Baijiatuau**	**36.52**	**321**	*e*P	**P**	**12 50 24.5**	**+0.6**
	comp=Z,45nm,0.8s,mb5.5						
FITZ	**Fitzroy Crossi**	**37.48**	**212**	*e*P	**P**	**12 50 32.5**	**+0.3**
	comp=Z,4.0nm,0.8s,mb4.4						
GYA	**Guiyang**	**38.38**	**295**	⇑*i*P	**P**	**12 50 44.5**	**+4.9**
GYA				AP	pP	12 51 03.0	-0.8
GYA				XP	sP	12 51 16.8	+0.7
GYA				S	**S**	**12 56 36.3**	**+10**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.6						
ASAR	**Alice Springs**	**39.16**	**197**	P	**P**	**

GTA					S	**S**	**12 58 38.3**	**+0.9**
GTA					AMB	AMB		
	comp=Z,6.0nm,1.3s,mb4.2							
YAK	**Yakutsk**	**49.27**	**350**	*c i*	P	**P**	**12 52 04.4**	**-2.3**
YAK					pmax	pmax		
	comp=Z,82nm,0.8s,mb5.7							
YAK	**Yakutsk**	**49.27**	**350**	*e*	P	**P**	**12 52 04.0**	**-2.7**
	comp=Z,90nm,0.8s,mb5.8							
ZAK	**Zakamensk**	**49.85**	**326**	⇑ *i*	P	**P**	**12 52 11.4**	**+0.1**
ZAK				*e*			12 53 30.6	
BILL	**Bilibino**	**55.62**	**9**	*e*	P	**P**	**12 52 52.2**	**-1.8**
	comp=Z,19nm,0.8s,mb5.2							
GUN	**Gumba**	**56.92**	**294**	*e*	P	**P**	**12 53 03.8**	**+0.1**
	comp=Z,22nm,0.8s,mb5.2							
WMQ	**Urumqi**	**57.32**	**313**	*e*	P	**P**	**12 53 06.0**	**-0.3**
WMQ					AP	pP	12 53 30.0	-1.9
WMQ					XP	sP	12 53 41.0	-2.5
WMQ					PP	PP	12 55 16.0	-0.2
WMQ					S	**S**	**13 00 52.0**	**-0.5**
WMQ					SCS	ScS	13 02 42.0	+0.4
WMQ					SS	SS	13 04 44.0	-0.8
WMQ					AMB	AMB		
	comp=Z,11nm,1.2s,mb4.8							
PKI	**Pulchoki**	**57.33**	**294**	*e*	P	**P**	**12 53 06.3**	**-0.3**
	comp=Z,11nm,0.7s,mb5.0							
KKN	**Kakani**	**57.45**	**294**	*e*	P	**P**	**12 53 07.2**	**-0.2**
GKN	**Gorkha**	**58.02**	**294**	*e*	P	**P**	**12 53 11.2**	**-0.2**
	comp=Z,15nm,0.7s,mb5.1							
TIXI	**Tiksi**	**58.47**	**354**	⇑ *e*	P	**P**	**12 53 10.9**	**-3.1**
TIXI				*e*	S	**S**	**13 01 07.6**	**+0.4**
TIXI					pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.6							
KOLN	**Koldanda**	**58.94**	**294**	*e*	P	**P**	**12 53 17.6**	**-0.2**
	comp=Z,15nm,0.8s,mb5.1							
RPZ	**Rata Peaks**	**62.01**	**159**		LR	LR	13 15 38.9	
	comp=Z,107nm,18.3s,baz=355,slow=31							
NVS	**Novosibirsk**	**62.79**	**325**	*i*	P	**P**	**12 53 42.0**	**-1.5**
NVS					pmax	pmax		
	comp=Z,28nm,1.0s,mb5.2							
NVS					pmax	pmax		
	comp=N,10.0nm,0.8s							
NVS					pmax	pmax		
	comp=E,23nm,0.8s							
KURK	**Kurchatov**	**64.68**	**320**	*c i*	P	**P**	**12 53 54.7**	**-1.2**
KURK	**Kurchatov**	**64.68**	**320**	*e*	P	**P**	**12 53 54.7**	**-1.2**
	comp=E,43nm,1.0s,mb5.2							
KURK					*ep*P	pP	12 54 16.0	-5.9
IMA	**Indian Mountai**	**65.59**	**23**	*e*	P	**P**	**12 54 00.5**	**-1.0**
AAK	**Ala-Archa**	**66.74**	**311**	⇑ *e*	P	**P**	**12 54 08.1**	**-1.0**
AAK					pmax	pmax		
	comp=Z,5.0nm,1.5s,mb4.1							
AAK	**Ala-Archa**	**66.74**	**311**	*e*	P	**P**	**12 54 07.8**	**-1.3**
COLA	**College**	**67.52**	**25**	⇑ *e*	P	**P**	**12 54 13.6**	**0.0**
ILAR	**Eielson Array**	**67.89**	**25**	P	P	**P**	**12 54 13.5**	**-2.4**
	comp=Z,6.3nm,0.6s,mb4.6,baz=250,slow=5.7,SNR=118							
ILAR					pP	pP	12 54 37.6	-4.6
	comp=Z,2.5nm,0.6s,baz=261,slow=4.2,SNR=4.6							
THY	**Trims Highway**	**68.05**	**27**	*e*	P	**P**	**12 54 16.4**	**-0.5**
BRVK	**Borovoye**	**70.07**	**322**	*e*	P	**P**	**12 54 28.6**	**-0.9**
	comp=Z,26nm,0.8s,mb5.1							
DAWY	**Dawson**	**70.95**	**27**	*e*	P	**P**	**12 54 34.4**	**-0.2**
INK	**Inuvik**	**73.71**	**22**	P	P	**P**	**12 54 49.8**	**-1.0**
	comp=Z,9.1nm,0.8s,mb4.5,baz=273,slow=3.9,SNR=15							
INK	**Inuvik**	**73.71**	**22**	P	P	**P**	**12 54 49.7**	**-1.0**
ARU	**Arti**	**76.79**	**325**	⇑ *i*	P	**P**	**12 55 08.2**	**-0.3**
ARU				*e*			12 55 19.3	
ARU				*e*			12 58 02.2	
ARU					*e*S	S	13 04 51.9	+6.2
ARU					pmax	pmax		
	comp=Z,14nm,0.7s,mb4.8							
SSOR	**Sweet Springs**	**81.64**	**46**	P	P	**P**	**12 55 34.2**	**-0.7**
SSOR					*ep*P	pP	12 56 01.5	-0.6
YKA	**Yellowknife Ar**	**82.17**	**28**	P	P	**P**	**12 55 37.1**	**-0.1**
	comp=Z,2.0nm,0.5s,mb4.2,baz=286,slow=5.1,SNR=11							
YKA					pP	pP	12 56 02.9	-1.6
	comp=Z,2.7nm,0.7s,baz=289,slow=5.3,SNR=4.4							
YKA	**Yellowknife Ar**	**82.17**	**28**	P	P	**P**	**12 55 37.1**	**-0.1**
YKA					pP	pP	12 56 02.9	-1.6
NLW	**Nelson Butte**	**82.41**	**42**	P	P	**P**	**12 55 39.4**	**+0.5**
NLW					*ep*P	pP	12 55 59.5	-6.5
MOD	**Modoc**	**83.80**	**48**	*e*	P	**P**	**12 55 45.6**	**-0.4**
	comp=Z,11nm,1.1s,mb4.6							
MOD					*ep*P	pP	12 56 08.8	-4.5
DPW	**Davenport**	**83.86**	**42**	P	P	**P**	**12 55 47.1**	**+1.0**
DPW					*ep*P	pP	12 56 10.1	-3.3
BEKR	**Beckwourth**	**84.23**	**50**	*e*	P	**P**	**12 55 49.0**	**+0.8**
	comp=Z,6.4nm,0.9s,mb4.5							
BEKR					*ep*P	pP	12 56 11.4	-4.1
NEW	**Newport**	**84.46**	**42**	*e*	P	**P**	**12 55 48.5**	**-0.6**
	comp=Z,2.8nm,0.8s,mb4.1							
NEW					*ep*P	pP	12 56 13.4	-3.1
CMB	**Columbia Colle**	**84.63**	**52**	P	P	**P**	**12 55 51.2**	**+1.0**
	comp=Z,7.0nm,1.0s,mb4.5							
CMB					*ep*P	pP	12 56 14.9	-2.7
LVZ	**Lovozero**	**84.73**	**339**	⇓ *e*	P	**P**	**12 55 49.4**	**-0.6**
LVZ					pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9							
EDM	**Edmonton**	**85.40**	**36**	P	P	**P**	**12 55 53.6**	**-0.1**
NVAR	**Mina Array Bea**	**86.13**	**52**	P	P	**P**	**12 55 58.9**	**+1.3**
	comp=Z,2.5nm,0.8s,mb4.2,baz=278,slow=3.7,SNR=17							
NVAR					pP	pP	12 56 23.6	-1.4
	comp=Z,4.2nm,0.7s,baz=281,slow=3.7,SNR=10.0							
MNV	**Mina**	**86.24**	**51**	P	P	**P**	**12 55 58.0**	**-0.2**
	comp=Z,1.3nm,0.4s,mb4.2							
KEV	**Kevo**	**86.31**	**342**	*ep*	P	**P**	**12 55 55.0**	**-2.8**
	comp=Z,6.4nm,0.7s,mb4.7							
KEV	**Kevo**	**86.31**	**342**	*e*	P	**P**	**12 55 55.0**	**-2.8**
KEV					pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6							
ARCES	**ARCESS Array B**	**86.88**	**342**	P	P	**P**	**12 56 00.2**	**-0.3**
	comp=Z,10nm,0.8s,mb4.8,baz=65,slow=6.1,SNR=35							
ARCES					LR	LR	13 35 34.5	
	comp=Z,48nm,21.4s,baz=23,slow=36							
CHMT	**Chamberlain Mo**	**87.35**	**42**	*e*	P	**P**	**12 56 03.0**	**-0.4**
CHMT					*ep*P	pP	12 56 26.8	-4.1
HLID	**Hailey**	**87.56**	**46**	*e*	P	**P**	**12 56 05.6**	**+1.2**
	comp=Z,5.4nm,1.0s,mb4.5							
HLID					*ep*P	pP	12 56 31.4	-0.7
JOF	**Joensuu**	**88.18**	**335**	*ep*	P	**P**	**12 56 05.2**	**-1.7**
	comp=Z,17nm,0.7s,mb5.2							
JOF	**Joensuu**	**88.18**	**335**	*e*	P	**P**	**12 56 05.2**	**-1.7**
JOF					pmax	pmax		
	comp=Z,17nm,0.7s,mb5.2							
MCMT	**McKenzie Canyo**	**88.26**	**44**	*e*	P	**P**	**12 56 07.9**	**+0.1**
MCMT					*ep*P	pP	12 56 33.4	-2.0
HRY	**Holter Researc**	**88.34**	**42**	*e*	P	**P**	**12 56 08.7**	**+0.6**
HRY					*ep*P	pP	12 56 33.6	-2.1
OBN	**Obninsk**	**89.10**	**327**	*c i*	P	**P**	**12 56 10.5**	**-0.9**
OBN					pmax	pmax		
	comp=Z,11nm,0.7s,mb5.0							
QLMT	**Earthquake Lak**	**89.22**	**44**	P	P	**P**	**12 56 13.0**	**+0.8**
QLMT					*ep*P	pP	12 56 38.3	-1.6
HVU	**Hansel Valley**	**89.25**	**47**	P	P	**P**	**12 56 13.3**	**+0.8**
HVU					*ep*P	pP	12 56 36.6	-3.5
KIV	**Kislovodsk**	**89.40**	**315**	*e*	P	**P**	**12 56 14.3**	**+1.2**
KIV					pmax	pmax		
	comp=Z,12nm,1.2s,mb4.8							
LDFC	**Landfair**	**89.50**	**54**	P	P	**P**	**12 56 11.9**	**-1.9**
LDFC					*ep*P	pP	12 56 40.3	-1.2
NEN	**Nelson**	**89.55**	**53**	*e*	P	**P**	**12 56 14.7**	**+0.7**
YMR	**Madison River**	**89.58**	**44**	P	P	**P**	**12 56 14.7**	**+0.7**
YMR					*ep*P	pP	12 56 40.1	-1.5
DUG	**Dugway**	**89.72**	**49**	*e*	P	**P**	**12 56 14.6**	**-0.1**
	comp=Z,3.7nm,1.0s,mb4.5							
DUG					*ep*P	pP	12 56 39.4	-3.0
YFT	**Old Faithful**	**89.74**	**44**	*e*	P	**P**	**12 56 15.8**	**+1.0**
ARUT	**Antelope Range**	**89.99**	**51**	P	P	**P**	**12 56 16.6**	**+0.6**
ARUT					*ep*P	pP	12 56 40.4	-3.4
HWUT	**Hardware Ranch**	**90.17**	**47**	*e*	P	**P**	**12 56 17.9**	**+1.1**
	comp=Z,2.6nm,0.9s,mb4.4							
HWUT					*ep*P	pP	12 56 40.8	-3.7
NLU	**North Lily Min**	**90.33**	**49**	*e*	P	**P**	**12 56 18.4**	**+0.8**
NLU					*ep*P	pP	12 56 41.1	-4.2
JLU	**Jordanelle**	**90.57**	**48**	*e*	P	**P**	**12 56 19.6**	**+0.8**
JLU					*ep*P	pP	12 56 43.2	-3.3
KAF	**Kangasniemi**	**90.60**	**336**	*ep*	P	**P**	**12 56 15.8**	**-2.5**
	comp=Z,11nm,0.7s,mb5.1,baz=58,slow=4.4							
KAF	**Kangasniemi**	**90.60**	**336**	*e*	P	**P**	**12 56 15.8**	**-2.5**
KAF					pmax	pmax		
	comp=Z,11nm,0.7s,mb5.1							
MVU	**Marysvale**	**90.69**	**50**	*e*	P	**P**	**12 56 19.9**	**+0.6**
	comp=Z,4.2nm,0.9s,mb4.6							
MVU					*ep*P	pP	12 56 44.9	-2.2
FINES	**FINESS Array B**	**91.05**	**335**	P	P	**P**	**12 56 19.3**	**-1.2**
	comp=Z,12nm,0.5s,mb5.3,baz=67,slow=5.2,SNR=63							
FINES	**FINESS Array B**	**91.05**	**335**	P	P	**P**	**12 56 19.3**	**-1.2**
BW06	**Boulder Array**	**91.18**	**45**	*e*	P	**P**	**12 56 22.1**	**+0.5**
BW06					*ep*P	pP	12 56 45.5	-3.8
PDAR	**Pinedale Array**	**91.18**	**45**	P	P	**P**	**12 56 22.6**	**+1.0**
	comp=Z,0.7nm,0.7s,mb3.9,baz=270,slow=2.4,SNR=6.6							
PDAR					pP	pP	12 56 47.4	-1.9
	comp=Z,1.7nm,0.7s,baz=267,slow=2.9,SNR=8.2							
SRU	**San Rafael**	**91.74**	**49**	*e*	P	**P**	**12 56 25.2**	**+1.0**
SRU					*ep*P	pP	12 56 49.0	-2.9
LAO	**LASA Array**	**91.96**	**41**	*e*	P	**P**	**12 56 25.4**	**+0.4**
	comp=Z,9.5nm,1.0s,mb5.0							
LAO					*ep*P	pP	12 56 50.8	-1.9
PV10	**Paradox Valley**	**93.08**	**49**	*e*	P	**P**	**12 56 30.4**	**+0.1**
PV10					*ep*P	pP	12 56 55.7	-2.5
RW3	**Ridgway**	**94.12**	**49**	*e*	P	**P**	**12 56 36.1**	**+1.1**
RW3					*ep*P	pP	12 57 01.4	-1.5
NB2	**NORSAR Subarra**	**96.88**	**339**	P	P	**P**	**12 56 45.6**	**-1.5**
	comp=Z,1.6nm,0.6s,mb4.6,baz=52,slow=4.8							
NOA	**NORSAR Array B**	**96.88**	**339**	P	P	**P**	**12 56 45.7**	**-1.3**
	comp=Z,0.7nm,0.7s,mb4.2,baz=49,slow=4.2,SNR=8.4							
BRTR	**Keskin Array B**	**97.25**	**314**	P	P	**P**	**12 56 48.8**	**-0.4**
	comp=Z,1.0nm,0.8s,mb4.3,baz=117,slow=2.8,SNR=5.9							
KHC	**Kasperske Hory**	**104.17**	**330**	*e*	P		13 02 27.0	
SYO	**Syowa Base**	**108.71**	**201**	⇑ P			13 01 30.4	
DBIC	**Dimbokro**	**144.15**	**303**	PKP	PKPdf		13 02 51.6	+0.3
	comp=Z,7.7nm,0.7s,baz=36,slow=5.9,SNR=17							
KIC	**Kosan Boka**	**144.24**	**303**	*e*	PKIKP	PKPdf	13 02 52.1	+0.6
	comp=Z,29nm,0.6s							
TIC	**Toumodi**	**144.30**	**303**	*e*	PKIKP	PKPdf	13 02 52.2	+0.6
	comp=Z,14nm,0.2s							
LIC	**Lamto**	**144.55**	**303**	*e*	PKIKP	PKPdf	13 02 52.3	+0.2
	comp=Z,38nm,0.5s							
LPAZ	**La Paz**	**147.43**	**98**	PKPbc		PKPdf	13 03 00.4	+3.6
	comp=Z,3.3nm,0.9s,baz=300,slow=3.3,SNR=12							

TIF 25 12:52:25.3, 40.01N×45.40E, h2km, Mpv4.5, 2C-2D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
VAD	**Vardenisi**	**0.31**	**55**	*i*	P	Pg	12 52 31.0	-0.5
VAD					*e*S	Sg	12 52 36.0	+0.3
GRS	**Goris**	**0.87**	**123**	*i*	P	Pg	12 52 43.0	+0.3
GRS					*i* S	Sg	12 52 55.0	+0.7
STE	**Stepanavan**	**1.25**	**323**	*i*	P	Pb	12 52 55.0	+5.8
STE					*i* S	Sb	12 53 12.0	+6.4
DGRG	**David-gareji**	**1.44**	**359**	⇑ *i*	P	Pn	12 52 54.6	+2.2
DGRG					*i* S	Sb	12 53 12.0	+0.8
MTA	**Mtatsminda**	**1.74**	**345**	⇓ *i*	P	Pn	12 53 00.5	+3.7
MTA					*i* S	Sn	12 53 20.9	+1.0
TBLG	**Delisi**	**1.79**	**344**	*i*	P	Pn	12 53 00.2	+2.7
TBLG					*i* S	Sn	12 53 22.0	+0.9
	comp=N,500nm,0.5s							
AKH	**Akhalkalaki**	**2.01**	**315**	*e*	P	Pn	12 53 09.0	+8.3
AKH					*i* S	Sn	12 53 37.0	+10
DUS	**Dusheti**	**2.14**	**346**	⇑ *i*	P	Pn	12 53 08.2	+5.7
DUS					*i* S	Sn	12 53 36.2	+6.2
ONI	**Oni**	**2.96**	**331**	⇓ *i*	P	Pn	12 53 22.6	+8.4
ONI					*i* S	Sn	12 54 01.0	+10
AMRG		**3.03**	**326**	*e*	P	Pn	12 53 24.6	+9.4
AMRG					*e*S	Sn	12 54 06.6	+14

*NEIC **25** 13:49:13.1, 31.19S×71.79W, h22km, ML3.1(GUC), After GUC.*
GUC 25 13:49:13.1±0.7, 31.19S×71.79W, h22km±4km, MD3.8, ML3.1, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CMCH	**Combarbala**	**0.68**	**89**	⇑ *i*	P	Pb	13 49 26.1	-0.1
CMCH					*i* S	Sb	13 49 35.2	+0.1
CMCH					AMP		13 49 35.7	
	comp=E,2μm,0.3s							
TLL	**Tololo Astrono**	**1.33**	**40**	⇓ *i*	P	Pn	13 49 36.8	+0.2
TLL					*i* S	Sn	13 49 54.3	+0.7
TLL					AMP		13 49 55.9	
	comp=N,318nm,0.5s							
PACH	**Papudo**	**1.38**	**167**	⇓ *i*	P	Pn	13 49 36.8	-0.6
PACH					*i* S	Sn	13 49 55.1	0.0
JACH	**Jahuel**	**1.81**	**146**	*i*	P	Pn	13 49 44.0	+0.5
JACH					*i* S	Sn	13 50 07.5	+1.6
PEL	**Peldehue**	**2.17**	**155**	*e*	P	Pn	13 49 48.9	+0.3
PEL					*i* S	Sn	13 50 16.6	+1.6
PEL					AMP		13 50 28.9	
	comp=N,247nm,0.3s							
CLCH	**Cerro Calan**	**2.45**	**155**	*i*	S	Sn	13 50 23.8	+1.6
CLCH					AMP		13 50 34.9	
	comp=E,155nm,0.5s							
FCH	**Farellones**	**2.49**	**150**	*e*	P	Pn	13 49 53.7	+0.6
FCH					*i* S	Sn	13 50 25.5	+2.4
FCH					AMP		13 50 34.2	
	comp=E,84nm,0.2s							
TACH	**Talagante**	**2.56**	**164**	*e*	P	Pn	13 49 54.3	0.0
CICH	**Cipreses**	**3.33**	**160**	*e*	P	Pn	13 50 05.5	+0.3

*IDC **25** 14:00:11.2±0.6, 57.01S×24.92W, mb4.7/6, mb1 4.6/8, mb1mx4.5/12, ML3.7/1, MS4.7/7, Ms1 4.7/7, ms1mx4.6/12, Error ellipse: s-maj=35.7km s-min=18.1km az=52.0*
*BJI **25** 14:00:11.4, 56.90S×24.90W, h10km*
*NEIC **25** 14:00:12.4±0.3, 56.93S×24.89W, h10km, mb4.8/10, Error ellipse: s-maj=10.8km s-min=6.3km az=57.0*
*SYO **25** 14:00:12.2, 56.90S×24.86W, h10km, MB4.8*
ISC 25 14:00:10.3±6.5, 56.9S±0.1×24.9W±0.2, h7km±41km, n58, σ1°9/26, mb4.7/15, MS4.8/6, 6C-2D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**15.50**	**159**	⇑ *i*	P	**P**	**14 03 51.7**	**+1.0**
VNA1	**Neumayer--Stat**	**15.50**	**159**	⇑ *i*			14 04 01.0	
VNA3	**Neumayer Olymp**	**15.74**	**162**	⇑ *i*	P	**P**	**14 03 54.3**	**+0.6**
VNA3	**Neumayer Olymp**	**15.74**	**162**	⇑ *i*			14 04 03.4	
VNA2	**Neumayer--Watz**	**15.90**	**159**	P	P	**P**	**14 03 56.9**	**+1.2**
VNA2	**Neumayer--Watz**	**15.90**	**159**	⇑ *i*			14 04 05.5	
SNAA	**Sanae**	**17.42**	**157**	P	P	**P**	**14 04 14.9**	**-0.1**
SNAA	**Sanae**	**17.42**	**157**	⇑ *i*			14 04 24.6	
SNAA	**Sanae**	**17.42**	**157**	P	P	**P**	**14 04 14.6**	**-0.4**
	0.3nm,0.3s,baz=329,slow=14,SNR=28							
SNAA					LR	LR	14 10 09.3	
	comp=Z,1μm,18.2s,baz=321,slow=34							
EFI	**East Falkland**	**19.90**	**271**	*e*	P	**P**	**14 04 42.7**	**-2.3**
	57nm,0.9s							
PMSA	**Palmer Station**	**20.28**	**231**	*e*	P	**P**	**14 04 48.3**	**-0.6**
	69nm,1.3s							
MAIT	**Maitri**	**20.80**	**146**	*e*	P	**P**	**14 04 53.6**	**-0.7**
SYO	**Syowa Base**	**30.10**	**140**	⇓ P		**P**	**14 06 19.5**	**-2.5**
SYO	**Syowa Base**	**30.10**	**140**	⇓ *pP*		pP	14 06 21.5	-2.5
TRQA	**Tornquist**	**30.82**	**292**	*e*	P	**P**	**14 06 27.4**	**-1.3**
	7.4nm,0.8s,mb4.6							
QSPA	**South Pole Qui**	**33.30**	**180**	*e*	P	**P**	**14 06 50.2**	**+0.1**
	32nm,1.3s,mb5.1							
CPUP	**Villa Florida**	**38.34**	**309**	P	P	**P**	**14 07 34.1**	**+0.7**
	5.4nm,0.7s,mb4.4,baz=162,slow=7.1,SNR=12							
CPUP					LR	LR	14 22 14.1	
	comp=Z,946nm,18.7s,MS4.6,baz=176,slow=34							
MAW	**Mawson**	**38.68**	**142**	P	P	**P**	**14 07 35.5**	**-0.3**
	6.2nm,0.8s,mb4.4,baz=233,slow=9.5,SNR=13							
MAW					ScP		14 13 35.9	
	1.0nm,0.9s,baz=283,slow=7.1,SNR=3.6							
MAW					LR	LR	14 22 22.8	
	comp=Z,2μm,18.4s,MS4.8,baz=252,slow=34							
SUR	**Sutherland**	**39.70**	**72**	LR		LR	14 21 07.4	
	comp=Z,4μm,18.1s,MS5.3,baz=239,slow=32							
SBA	**Scott Base**	**45.27**	**183**	*e*	P	**P**	**14 08 28.9**	**-0.5**
	6.6nm,1.1s,mb4.4							
VNDA	**Vanda**	**45.73**	**182**	P	P	**P**	**14 08 33.5**	**+0.4**
	3.4nm,0.7s,mb4.4,baz=185,slow=6.0,SNR=17							
LVC	**Limon Verde**	**46.83**	**298**	*e*	P	**P**	**14 08 42.6**	**+0.2**
	14nm,0.4s,mb5.2							
LPAZ	**La Paz**	**51.91**	**303**	P	P	**P**	**14 09 23.1**	**+1.4**
	15nm,0.5s,mb5.2,baz=174,slow=7.9,SNR=60							
LPAZ					LR	LR	14 29 41.5	
	comp=Z,328nm,19.3s,MS4.4,baz=304,slow=34							
SAML	**Samuel**	**56.32**	**313**	*e*	P	**P**	**14 09 53.8**	**-0.3**
	9.2nm,0.7s,mb4.9							
LSZ	**Lusaka**	**57.56**	**66**	*e*	P	**P**	**14 10 01.0**	**-1.9**
	9.3nm,1.1s,mb4.7							
OTAV	**Otavalo**	**71.19**	**302**	*e*	P	**P**	**14 11 34.2**	**+2.4**
	8.6nm,0.8s,mb4.7							
MBAR	**Mbarara**	**71.48**	**61**	*e*	P	**P**	**14 11 32.7**	**-0.8**
KMBO	**Kilima Mbogo**	**74.22**	**67**	P	P	**P**	**14 11 51.5**	**+1.9**
	1.4nm,0.8s,mb3.9,baz=219,slow=20,SNR=3.6							
KMBO					LR	LR	14 41 39.5	
	comp=Z,436nm,19.1s,MS4.8,baz=275,slow=34							
SDV	**Santo Domingo**	**75.53**	**313**	*e*	P	**P**	**14 11 57.7**	**+0.5**
	7.0nm,0.8s,mb4.6							
TAU	**Tasmania Unive**	**80.30**	**174**	P	P	**P**	**14 12 22.9**	**+0.1**
STKA	**Stephens Creek**	**90.79**	**169**	P	P	**P**	**14 13 15.4**	**+0.3**
	3.4nm,1.0s,mb4.6,baz=173,slow=8.4,SNR=4.7							
ASAR	**Alice Springs**	**97.77**	**160**	P	P	**P**	**14 13 47.0**	**0.0**
	1.3nm,0.8s,mb4.5,baz=183,slow=3.9,SNR=14							
ESDC	**Sonseca Array**	**97.87**	**16**	LR		LR	14 55 21.2	
	comp=Z,255nm,18.1s,MS4.8,baz=100,slow=34							
MSU	**Marysvale**	**119.87**	**295**	PKP		PKPdf	14 19 02.4	-1.1
PDAR	**Pinedale Array**	**121.87**	**300**	PKP		PKPdf	14 19 04.8	-2.6
	0.5nm,0.6s,baz=136,slow=3.8,SNR=4.3							
HWUT	**Hardware Ranch**	**121.95**	**298**	*e*	PKP	PKPdf	14 19 06.1	-1.4
KOLN	**Koldanda**	**122.83**	**89**	*e*	P	PKPdf	14 19 08.0	-1.5
	11nm,0.9s							
NVAR	**Mina Array Bea**	**122.89**	**291**	PKP		PKPdf	14 19 09.4	0.0
	0.6nm,0.6s,baz=136,slow=4.2,SNR=6.2							
DMN	**Daman**	**123.53**	**90**	*e*	P	PKPdf	14 19 09.7	-1.2
	17nm,1.2s							
GKN	**Gorkha**	**123.58**	**89**	*e*	P	PKPdf	14 19 07.4	-3.6
	10nm,0.9s							
CMAR	**Chiang Mai Arr**	**123.59**	**109**	PKP		PKPdf	14 19 09.4	-1.8
	2.3nm,0.8s,baz=229,slow=3.6,SNR=16							
PKI	**Pulchoki**	**123.66**	**90**	*e*	P	PKPdf	14 19 10.6	-0.6
	11nm,1.0s							
KKN	**Kakani**	**123.76**	**90**	*e*	P	PKPdf	14 19 09.6	-1.8
	14nm,1.0s							
FINES	**FINESS Array B**	**124.60**	**27**	PKP		PKPdf	14 19 10.4	-1.6
	1.6nm,0.7s,baz=146,slow=10.0,SNR=5.0							
KAF	**Kangasniemi**	**125.23**	**27**	*ep*		PKPdf	14 19 07.4	-5.8
	1.5nm,0.7s							
AAK	**Ala-Archa**	**129.11**	**70**	*e*	PKP	PKPdf	14 19 18.5	-2.7
ARCES	**ARCESS Array B**	**131.32**	**21**	PKP		PKPdf	14 19 23.5	-1.2
	1.1nm,0.6s,baz=135,slow=1.7,SNR=7.1							
ARCES	**ARCESS Array B**	**131.32**	**21**	PKP		PKPdf	14 19 23.5	-1.2
GTA	**Gaotai**	**140.44**	**92**	*e*	PKP	PKPdf	14 19 39.8	-2.5
BTO	**Baotou**	**146.84**	**100**	*e*	PKP	PKPdf	14 19 54.0	+0.8
INK	**Inuvik**	**147.29**	**319**	*e*	PKPbc	PKPdf	14 19 53.4	+0.3
TIA	**Tai'an**	**147.30**	**113**	*e*	PKP	PKPdf	14 19 56.0	+1.9
DAWY	**Dawson**	**148.32**	**310**	*e*	PKPbc	PKPdf	14 19 56.8	+1.9
SONM	**Songino Array**	**149.54**	**86**	PKPbc		PKPdf	14 20 00.9	+3.5
	7.9nm,1.0s,baz=229,slow=2.7,SNR=39							
EYAK	**Cordova Ski Ar**	**149.98**	**302**	PKP		PKPdf	14 20 03.6	+6.0
SML	**Sawmill**	**151.56**	**304**	*e*	PKPbc	PKPdf	14 20 05.8	+5.8
ILAR	**Eielson Array**	**151.65**	**310**	PKPbc		PKPdf	14 20 05.0	+5.0
	5.3nm,0.6s,baz=139,slow=2.7,SNR=52							
MCK	**McKinley**	**152.30**	**307**	*e*	PKPbc	PKPdf	14 20 07.2	+6.2

*IDC **25** 14:08:17.7±0.7, 56.99S×24.70W, mb4.6/7, mb1 4.6/8, mb1mx4.4/13, ML3.9/1, MS4.8/1, Ms1 4.7/1, ms1mx4.2/12, Error ellipse: s-maj=33.2km s-min=18.4km az=51.0*
*HRVD **25** 14:08:19.1±0.3, 57.05S×24.31W, h12km, MW5.0/56, Centroid moment Tensor Solution. LP body waves: s28,c38; Mantle wa

ANAT	**Anatahan**	**2.16**	**319**	*e*P	**P**		**14 34 36.7**	**-0.2**
SARN	**Sarigan**	**2.37**	**326**⇑	*e*P	**P**		**14 34 39.3**	**-0.5**
GUMO	**Guam**	**2.47**	**243**	*e*P	**P**		**14 34 39.8**	**-1.4**
JOW	**Kunigami**	**21.32**	**307**	P	**P**		**14 38 46.5**	**-0.3**
	20nm,0.7s,mb4.6,baz=350,slow=17,SNR=8.3							
MAJO	**Matsushiro**	**23.15**	**341**	P	**P**		**14 38 55.9**	**-8.7**
PMG	**Port Moresby**	**23.97**	**180**	P	**P**		**14 39 13.8**	**+1.0**
	37nm,1.2s,mb4.7,slow=13,SNR=3.1							
PMG				pP			14 39 26.7	
	24nm,0.8s,baz=347,slow=8.5,SNR=4.7							
CTA	**Charters Tower**	**34.60**	**181**	P	**P**		**14 40 47.6**	**-0.7**
	3.6nm,1.1s,mb4.2,baz=34,slow=11,SNR=2.6							
WRAB	**Tennant Creek**	**36.66**	**200**	P	**P**		**14 41 05.9**	**+0.1**
WRA	**Warramunga Arr**	**36.67**	**200**	P	**P**		**14 41 06.0**	**+0.1**
	0.6nm,0.7s,mb3.5,baz=24,slow=9.4,SNR=6.2							
FITZ	**Fitzroy Crossi**	**38.89**	**214**	P	**P**		**14 41 24.4**	**+0.1**
	2.8nm,1.0s,mb3.9,baz=351,slow=7.8,SNR=3.2							
ASAR	**Alice Springs**	**40.28**	**199**	P	**P**		**14 41 36.1**	**+0.2**
	0.4nm,0.5s,mb3.4,baz=27,slow=6.8,SNR=4.3							
CMAR	**Chiang Mai Arr**	**46.23**	**282**	P	**P**		**14 42 24.7**	**+0.5**
	1.1nm,0.8s,mb3.8,baz=89,slow=5.9,SNR=6.6							
CMAR				pP	pP		14 42 40.1	+1.1
	1.2nm,0.6s,baz=80,slow=7.3,SNR=6.7							
CMAR				LR	LR		15 00 55.0	
	comp=Z,129nm,21.1s,MS3.9,baz=45,slow=35							
STKA	**Stephens Creek**	**46.63**	**186**	P	**P**		**14 42 29.3**	**+2.1**
	0.5nm,0.4s,mb3.8,baz=332,slow=12,SNR=4.4							
SONM	**Songino Array**	**47.12**	**323**	P	**P**		**14 42 30.9**	**+0.1**
	2.2nm,0.6s,mb4.3,baz=138,slow=6.8,SNR=24							
GUN	**Gumba**	**58.04**	**294**	*e*P	**P**		**14 43 52.9**	**+0.6**
	12nm,0.7s,mb5.0							
PKI	**Pulchoki**	**58.46**	**293**	*e*P	**P**		**14 43 54.8**	**-0.4**
	4.7nm,0.7s,mb4.6							
KKN	**Kakani**	**58.57**	**294**	*e*P	**P**		**14 43 56.1**	**+0.1**
DMN	**Daman**	**58.73**	**294**	*e*P	**P**		**14 43 57.0**	**-0.1**
	7.6nm,0.6s,mb4.9							
GKN	**Gorkha**	**59.14**	**294**	*e*P	**P**		**14 43 59.6**	**-0.3**
	7.6nm,0.5s,mb5.0							
KOLN	**Koldanda**	**60.06**	**294**	*e*P	**P**		**14 44 05.8**	**-0.5**
	6.0nm,0.7s,mb4.7							
KURK	**Kurchatov**	**65.15**	**319**	*e*P	**P**		**14 44 38.6**	**-1.2**
	4.1nm,0.7s,mb4.6							
ILAR	**Eielson Array**	**66.61**	**25**	P	**P**		**14 44 47.5**	**-1.4**
	0.9nm,0.7s,mb3.9,baz=269,slow=5.2,SNR=12							
NVAR	**Mina Array Bea**	**84.50**	**52**	P	**P**		**14 46 31.9**	**+1.0**
	0.5nm,0.6s,mb3.8,baz=273,slow=3.6,SNR=4.9							
NVAR				pP	pP		14 46 45.4	-1.6
	0.9nm,0.7s,baz=260,slow=5.4,SNR=4.9							
ARCES	**ARCESS Array B**	**86.68**	**343**	P	**P**		**14 46 41.2**	**+0.3**
	1.9nm,0.8s,mb4.4,baz=76,slow=5.0,SNR=6.0							
FINES	**FINESS Array B**	**91.06**	**336**	P	**P**		**14 47 01.0**	**-0.8**
	1.5nm,0.9s,mb4.3,baz=63,slow=4.3,SNR=6.5							
DBIC	**Dimbokro**	**145.03**	**306**	PKPbc	PKPbc		14 53 36.5	+1.7
	3.9nm,0.6s,baz=34,slow=1.6,SNR=10							
DBIC				pPKPbc			14 53 51.3	
	2.9nm,0.5s,baz=328,slow=2.4,SNR=2.8							
KIC	**Kosan Boka**	**145.12**	**305**	*e*PKP1	PKPbc		14 53 36.7	+1.7
	24nm,0.7s							
TIC	**Toumodi**	**145.17**	**306**	*e*PKP1	PKPbc		14 53 36.8	+1.7
	6.6nm,0.2s							
LIC	**Lamto**	**145.43**	**305**	*e*PKP1	PKPbc		14 53 37.8	+2.0
	22nm,0.5s							
LPAZ	**La Paz**	**146.00**	**97**	PKPbc	PKPbc		14 53 40.5	+3.4
	1.0nm,0.5s,baz=93,slow=2.3,SNR=4.7							

IDC 25 14:36:59.9±23.0**, 20.28S**×**177.54W, h470**km±213km**, mb3.1/5, mb1 3.3/5, mb1mx3.1/14, 3C, Error ellipse: s-maj=154.0km s-min=82.8km az=85.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.94**	**264**	P		P	14 43 03.3	-0.7
	0.8nm,0.4s,baz=84,slow=9.2,SNR=4.6							
STKA	**Stephens Creek**	**38.27**	**244**	P		P	14 43 39.0	-0.8
	1.4nm,0.6s,baz=82,slow=10,SNR=2.6							
ASAR	**Alice Springs**	**44.98**	**256**	P		P	14 44 32.4	-1.3
	1.3nm,0.5s,baz=92,slow=7.5,SNR=33							
ASAR				PcP		PcP	14 46 03.8	-1.8
	0.4nm,0.5s,baz=104,slow=3.7,SNR=6.2							
WRA	**Warramunga Arr**	**45.05**	**262**	P		P	14 44 32.0	-2.3
	0.7nm,0.3s,baz=97,slow=7.7,SNR=34							
VNA3	**Neumayer Olymp**	**88.33**	**176**	⇑*i*		P	14 49 03.7	+2.9
VNA2	**Neumayer--Watz**	**88.78**	**177**	⇑*i*		P	14 49 04.9	+2.0
VNA1	**Neumayer--Stat**	**89.00**	**176**	⇑*i*		P	14 49 08.0	+4.0
CMAR	**Chiang Mai Arr**	**90.45**	**289**	P		P	14 49 11.2	-0.6
	0.4nm,0.7s,baz=128,slow=3.0,SNR=5.1							
AKASG	**Malin Array Be**	**143.03**	**332**	PKP		PKPdf	14 55 37.0	-1.8
	1.6nm,0.5s,baz=43,slow=4.6,SNR=10							
BRTR	**Keskin Array B**	**147.01**	**313**	PKPbc		PKPdf	14 55 50.0	+4.0
	0.6nm,0.5s,baz=143,slow=3.6,SNR=3.9							

MAN 25 14:51:29.0, 18.57N×121.05E, h1km, mb4.5, ML3.3, MS3.2, 2C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.48**	**239**⇑	*i*P		Pg	14 51 38.4	-0.1
PIP				*e*S		Sg	14 51 46.0	+1.2
APYP	**Conner**	**0.73**	**165**	*e*P		Pg	14 51 44.1	+0.6
APYP				*e*S		Sg	14 51 55.5	+2.3
ABRA	**Dolores**	**0.97**	**199**	*e*P		Pb	14 51 46.3	-2.0
SGCP	**Mt. Cagua**	**1.00**	**109**	*e*P		Pb	14 51 48.4	-0.4
CVP	**Callao Caves**	**1.13**	**139**⇓	*i*P		Pb	14 51 51.0	0.0
CVP				*i* S		Sb	14 52 06.5	+0.4
CAUP	**Cauayan**	**1.78**	**155**	*e*P		Pn	14 52 02.0	+0.9
BCPH	**Baguio City Da**	**2.22**	**192**⇓	*i*P		Pn	14 52 06.4	-1.1
BCPH				*i* S		Sn	14 52 38.2	+2.3
PCPH	**Palayan**	**2.99**	**179**⇑	*e*P		Pn	14 52 19.7	+1.3

*IDC **25** 14:55:39.3*±*0.7, 6.76N*×*72.95W, h155km±5km, mb4.3/19, mb1 4.5/20, mb1mx4.4/25, Error ellipse: s-maj=15.6km s-min=10.8km az=62.0*
*FUNV **25** 14:55:39.8, 6.78N*×*73.21W, h168km, MW4.1*
*NEIC **25** 14:55:40.4*±*0.6, 6.80N*×*72.96W, h163km±6km, mb4.6/27, MD4.9(CAR), Error ellipse: s-maj=6.0km s-min=4.0km az=54.0*
*BJI **25** 14:55:41.3, 6.80N*×*73.00W, h163km, mB4.7*
*UAV **25** 14:55:45.1, 7.32N*×*73.02W, h171km*
ISC 25 14:55:38.6±0.3**, 6.83N**±0.03×**73.00W**±0.02**, h158**km**, h158**km**±1.1km; pP-P, n166, σ1$09/149, mb4.6/41, 14C-10D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.24**	**33**⇑	*i*P		P	14 56 09.6	+3.1
CAPV				*e*S		S	14 56 30.8	+2.8
UAV	**Universidad de**	**2.56**	**46**	P		P	14 56 24.4	+3.1
UAV				S		S	14 56 56.4	+2.3
SOCV	**Socops**	**2.58**	**56**	*e*P		P	14 56 24.4	+2.8
SOCV				*i* S		S	14 56 56.7	+2.2
VIGV	**El Vigia**	**2.58**	**39**⇓	*e*P		P	14 56 24.0	+2.5
VIGV				*e*S		S	14 56 56.7	+2.1
EAV	**Pico El Aguila**	**2.95**	**47**	P		P	14 56 29.2	+2.9
SDV	**Santo Domingo**	**3.12**	**49**	*e*P		P	14 56 30.9	+2.5
ELOV	**Elorza**	**3.50**	**87**⇓	*i*P		P	14 56 35.6	+2.3
ELOV				*e*S		S	14 57 17.0	+1.6
VIRV	**Villa del Rosa**	**3.70**	**9**⇓	*i*P		P	14 56 36.3	+0.4
VIRV				*e*S		S	14 57 18.8	-1.3
TORV	**Torococo**	**3.86**	**45**	P		P	14 56 38.8	+0.8
TORV				S		S	14 57 21.1	-2.7
CURV	**Curarigua**	**4.37**	**43**⇓	*e*P		P	14 56 46.2	+1.6
CURV				*e*S		S	14 57 34.8	-0.7
DABV	**Dabajuro**	**4.69**	**30**⇓	*i*P		P	14 56 50.4	+1.4
DABV				*e*S		S	14 57 41.6	-1.6
TEPV	**Terepaima**	**4.89**	**50**	*e*P		P	14 56 53.1	+1.6
TEPV				*e*S		S	14 57 47.0	-0.9
SIQV	**Siquisique**	**4.94**	**40**⇓	*i*P		P	14 56 53.3	+1.1
SIQV				*e*S		S	14 57 47.7	-1.3
BAUV	**El Baul**	**5.35**	**67**	*e*S		S	14 57 57.3	-1.3
PAYV	**Puerto Ayacuch**	**5.50**	**104**⇓	*i*P		P	14 57 00.1	+0.7
PAYV				*e*S		S	14 58 00.7	-1.6
IMOV	**Isla Los Monje**	**5.88**	**20**	*e*P		P	14 57 04.6	+0.1
IMOV				*e*S		S	14 58 06.8	-4.5
JACV	**Jacura**	**5.91**	**44**	*e*P		P	14 57 06.2	+1.3
JACV				*e*S		S	14 58 10.0	-2.1
MONV	**Montecano**	**5.91**	**30**	*e*P		P	14 57 05.2	+0.3
TURV	**Turiamo**	**6.25**	**54**	*e*P		P	14 57 10.1	+0.6
TURV				*e*S		S	14 58 17.9	-2.3
CAOV	**Caicara del Or**	**6.65**	**85**	*e*S		S	14 58 27.3	-2.4
OTAV	**Otavalo**	**8.51**	**220**	*e*P		P	14 57 40.3	+0.8
	11nm,0.6s							
AOPR	**Arecibo Observ**	**12.97**	**27**	P		P	**14 58 38.8**	**+0.8**
SJG	**San Juan**	**13.06**	**30**	P		P	**14 58 39.5**	**+0.5**
	3.8nm,0.3s,baz=177,slow=22,SNR=5.3							
SJG				S		S	**15 00 52.0**	**-9.1**
	2.9nm,0.3s,baz=34,slow=21,SNR=9.3							
SJG	**San Juan**	**13.06**	**30**	P		P	**14 58 39.1**	**+0.1**
	39nm,0.8s							
SAML	**Samuel**	**18.48**	**148**	*e*P		P	**14 59 43.0**	**-2.1**
	0.4nm,0.7s							
LPAZ	**La Paz**	**23.47**	**168**	P		P	**15 00 35.5**	**+0.5**
	7.3nm,0.9s,mb4.1,baz=347,slow=10,SNR=23							
LPAZ				S		S	**15 04 34.6**	**+1.2**
	3.1nm,0.9s,baz=123,slow=23,SNR=2.8							
LRAL	**Lakeview Retre**	**29.14**	**335**	*e*P		P	**15 01 25.9**	**-1.1**
	7.4nm,0.8s,mb4.5							
CPCT	**Cooper Cave**	**30.39**	**341**	P		P	**15 01 39.3**	**+1.3**
WVT	**Waverly**	**32.17**	**337**	*e*P		P	**15 01 53.4**	**-0.2**
	10.0nm,0.3s,mb5.0							
BDFB	**Brasilia**	**33.33**	**132**	P		P	**15 02 03.1**	**-0.5**
	4.7nm,0.6s,mb4.4,baz=315,slow=6.2,SNR=6.7							
MIAR	**Mount Ida**	**33.48**	**328**	*e*P		P	**15 02 03.9**	**-0.9**
	4.2nm,0.8s,mb4.2							
WCI	**Wyandotte Cave**	**33.50**	**341**	*e*P		P	**15 02 05.6**	**+0.6**
	15nm,0.7s,mb4.8							
ACSO	**Alum Creek Sta**	**34.44**	**346**	*e*P		P	**15 02 13.7**	**+0.8**
	13nm,0.8s,mb4.7							
CCM	**Cathedral Cave**	**35.22**	**335**	*e*P		P	**15 02 19.1**	**-0.4**
	52nm,0.8s,mb5.2							
TXAR	**Lajitas Array**	**36.55**	**312**	P		P	**15 02 31.0**	**+0.3**
	4.7nm,0.5s,mb4.3,baz=127,slow=9.2,SNR=20							
TXAR				PcP		PcP	15 04 52.2	+1.0
	5.3nm,0.7s,baz=133,slow=6.1,SNR=13							
WMOK	**Wichita Mounta**	**36.55**	**323**	*e*P		P	**15 02 29.7**	**-1.0**
	7.6nm,0.6s,mb4.5							
NCB	**Newcomb**	**37.01**	**359**	*e*P		P	**15 02 35.5**	**+1.0**
SADO	**Sadowa**	**38.17**	**353**	P		P	**15 02 45.0**	**+0.8**
	13nm,0.7s,mb4.7,baz=187,slow=8.5,SNR=12							
JFWS	**Jewell Farm**	**39.03**	**340**	*e*P		P	**15 02 50.8**	**-0.6**
	40nm,0.7s,mb5.2							
SDCO	**Great Sand Dun**	**42.62**	**321**	*e*P		P	**15 03 21.6**	**+0.8**
	14nm,0.9s,mb4.6							
TUC	**Tucson**	**43.33**	**311**	*e*P		P	**15 03 26.8**	**+0.1**
	5.6nm,0.8s,mb4.2							
EYMN	**Ely**	**43.90**	**342**	*e*P		P	**15 03 30.3**	**-0.6**
ISCO	**Idaho Springs**	**43.97**	**323**	*e*P		P	**15 03 32.2**	**+0.5**
	11nm,0.9s,mb4.5							
ISCO				*e*PcP		PcP	15 05 14.8	-0.3
RW3	**Ridgway**	**44.30**	**320**	P		P	**15 03 35.6**	**+1.3**
PV01	**Paradox Valley**	**44.80**	**319**	*e*P		P	**15 03 39.6**	**+1.2**
TRQA	**Tornquist**	**45.82**	**168**	P		P	**15 03 44.0**	**-2.4**
SRU	**San Rafael**	**46.61**	**319**	*e*P		P	**15 03 52.8**	**+0.2**
TMUT	**Trail Mountain**	**47.16**	**319**	*e*P		P	**15 03 57.3**	**+0.5**
ULM	**Lac du Bonnet**	**47.32**	**340**	P		P	**15 03 57.2**	**-0.7**
	18nm,0.5s,mb5.0,baz=145,slow=7.2,SNR=28							
MSU	**Marysvale**	**47.38**	**318**	*e*P		P	**15 03 59.5**	**+0.9**
MVU	**Marysvale**	**47.40**	**318**	*e*P		P	**15 03 59.3**	**+0.6**
	18nm,0.8s,mb4.8							
DAU	**Dale's Canyon**	**47.80**	**320**	*e*P		P	**15 04 02.2**	**+0.3**
MPU	**Maple Canyon**	**47.83**	**320**	*e*P		P	**15 04 02.5**	**+0.4**
NEN	**Nelson**	**47.85**	**313**	*e*P		P	**15 04 02.1**	**-0.2**
ARUT	**Antelope Range**	**47.87**	**316**	*e*P		P	**15 04 02.7**	**+0.3**
SCHQ	**Schefferville**	**48.12**	**5**	P		P	**15 04 04.6**	**+0.4**
	61nm,0.8s,mb5.3,baz=188,slow=6.0,SNR=80							
BW06	**Boulder Array**	**48.14**	**324**	*e*P		P	**15 04 04.0**	**-0.5**
	8.9nm,1.0s,mb4.3							
BW06				*e*pP		pP	15 04 40.5	+0.2
PDAR	**Pinedale Array**	**48.14**	**324**	P		P	**15 04 04.5**	**+0.1**
	4.7nm,0.5s,mb4.4,baz=127,slow=8.7,SNR=30							
PDAR				pP		pP	15 04 40.2	0.0
	2.3nm,0.9s,baz=113,slow=11,SNR=2.6							
PDAR				PcP		PcP	15 05 29.1	-0.7
	1.5nm,0.4s,baz=115,slow=7.1,SNR=6.5							
HWUT	**Hardware Ranch**	**48.67**	**321**	*e*P		P	**15 04 08.2**	**-0.4**
	8.4nm,0.6s,mb4.5							
DUG	**Dugway**	**48.69**	**319**	*e*P		P	**15 04 09.0**	**+0.3**
	5.0nm,0.6s,mb4.3							
LAO	**LASA Array**	**48.89**	**330**	*e*P		P	**15 04 09.0**	**-1.2**
SPUT	**South Promonto**	**49.05**	**321**	*e*P		P	**15 04 11.1**	**-0.4**
DGMT	**Dagmar**	**49.20**	**333**	*e*P		P	**15 04 12.7**	**+0.2**
	76nm,0.9s,mb5.5							
BGU	**Big Grassy Mou**	**49.22**	**320**	*e*P		P	**15 04 12.6**	**-0.1**
BGU				*e*pP		pP	15 04 48.2	-0.4
REDW	**Red Top Meadow**	**49.26**	**324**	*e*P		P	**15 04 12.8**	**-0.2**
LOHW	**Long Hollow**	**49.26**	**324**	*e*P		P	**15 04 12.9**	**-0.2**
WUWY	**Wally Ulrich**	**49.30**	**324**	*e*P		P	**15 04 13.6**	**+0.3**
TPAW	**Teton Pass**	**49.39**	**324**	*e*P		P	**15 04 13.8**	**-0.2**
MOOW	**Moose Ponds**	**49.43**	**324**	*e*P		P	**15 04 14.1**	**-0.2**
HVU	**Hansel Valley**	**49.52**	**321**	*e*P		P	**15 04 14.3**	**-0.7**
TRCR	**Troy Canyon**	**49.62**	**316**	*e*P		P	**15 04 16.5**	**+0.7**
GCMT	**Greycliff**	**50.08**	**327**	*e*P		P	**15 04 19.1**	**-0.1**
YMR	**Madison River**	**50.11**	**325**	P		P	**15 04 19.1**	**-0.3**
QLMT	**Earthquake Lak**	**50.47**	**325**	*e*P		P	**15 04 23.0**	**+0.8**
TPH	**Tonopah**	**50.64**	**315**	*e*P		P	**15 04 23.2**	**-0.4**
	7.5nm,1.0s,mb4.3							
BOZ	**Bozeman (W)**	**51.07**	**326**	*e*P		P	**15 04 26.4**	**-0.4**
	10nm,0.9s,mb4.5							
MCMT	**McKenzie Canyo**	**51.28**	**324**	*e*P		P	**15 04 29.0**	**+0.7**
MNV	**Mina**	**51.46**	**315**	*e*P		P	**15 04 29.8**	**+0.1**
	17nm,1.6s,mb4.4							
HLID	**Hailey**	**51.50**	**322**	*e*P		P	**15 04 29.6**	**-0.5**
	6.9nm,0.7s,mb4.4							
NVAR	**Mina Array Bea**	**51.56**	**315**	P		P	**15 04 31.0**	**+0.4**
	7.3nm,0.9s,mb4.3,baz=117,slow=8.2,SNR=41							
NVAR				PcP		PcP	15 05 42.7	+0.3
	2.5nm,0.5s,baz=136,slow=4.5,SNR=12							
NVAR	**Mina Array Bea**	**51.56**	**315**	P		P	**15 04 31.0**	**+0.4**
NVAR				PcP		PcP	15 05 42.7	+0.3
HRY	**Holter Researc**	**51.83**	**327**	*e*P		P	**15 04 32.5**	**0.0**
OHCM	**Honcut**	**54.20**	**314**	*e*P		P	**15 04 49.7**	**-0.3**
FCC	**Fort Churchill**	**54.29**	**347**	*e*P		P	**15 04 48.8**	**-1.6**
LBCM	**Butte Creek Ri**	**54.71**	**316**	P		P	**15 04 53.4**	**-0.3**
LTIM	**Timbered Crate**	**54.95**	**316**	P		P	**15 04 55.4**	**-0.1**
LNOR	**Lincton Mounta**	**55.06**	**323**	P		P	**15 04 55.9**	**-0.3**
LASM	**Arnica Sink**	**55.19**	**317**	P		P	**15 04 57.2**	**0.0**
NEW	**Newport**	**55.65**	**326**	P		P	**15 04 59.6**	**-0.8**
	2.8nm,0.5s,mb4.3,baz=154,slow=5.5,SNR=3.8							
VIPM	**Ingram Point**	**55.84**	**320**	P		P	**15 05 02.0**	**+0.1**
BUOR	**Burton Butte**	**55.93**	**317**	P		P	**15 05 02.0**	**-0.4**
YBH	**Yreka Blue Hor**	**56.02**	**316**	P		P	**15 05 01.3**	**-1.8**
	5.2nm,0.5s,mb4.6,baz=141,slow=3.3,SNR=7.2							
DPW	**Davenport**	**56.05**	**325**	*e*P		P	**15 05 02.4**	**-0.9**
CROR	**Criterion Ridg**	**56.30**	**321**	P		P	**15 05 06.0**	**+1.0**
VGB	**Gordon Butte**	**56.41**	**321**	*e*P		P	**15 05 05.4**	**-0.4**
EPH	**Ephrata**	**56.59**	**324**	P		P	**15 05 07.2**	**+0.1**
EDM	**Edmonton**	**56.67**	**332**	*e*P		P	**15 05 05.9**	**-1.7**
BROR	**Big Rock Looko**	**56.91**	**319**	P		P	**15 05 08.7**	**-0.7**
EBG	**Ellensburg**	**56.95**	**323**	P		P	**15 05 10.0**	**+0.4**
SSOR	**Sweet Springs**	**57.17**	**320**	P		P	**15 05 10.8**	**-0.3**
KBO	**Bosley Butte**	**57.24**	**316**	*e*P		P	**15 05 11.7**	**0.0**
WPW	**White Pass**	**57.44**	**322**	P		P	**15 05 13.2**	**+0.2**
GNW	**Green Mountain**	**58.62**	**323**	*e*P		P	**15 05 19.7**	**-1.5**
YKA	**Yellowknife Ar**	**63.30**	**340**	P		P	**15 05 51.7**	**-0.9**
	22nm,0.6s,mb5.2,baz=133,slow=6.6,SNR=80							
YKA	**Yellowknife Ar**	**63.30**	**340**	P		P	**15 05 51.7**	**-0.9**
DLBC	**Dease Lake**	**67.37**	**331**	P		P	**15 06 18.5**	**-0.2**
	6.2nm,0.5s,mb4.7,baz=111,slow=5.6,SNR=11							
TIC	**Toumodi**	**67.46**	**86**⇑	*i*P		P	**15 06 18.1**	**-1.9**
	49nm,0.7s,mb5.5							
LIC	**Lamto**	**67.48**	**86**⇑	*i*P		P	**15 06 18.5**	**-1.6**
	87nm,0.6s							
DBIC	**Dimbokro**	**67.62**	**86**	P		P	**15 06 19.2**	**-1.7**
	24nm,0.7s,mb5.0,baz=263,slow=6.0,SNR=46							
KIC	**Kosan Boka**	**67.76**	**86**⇑	*i*P		P	**15 06 20.3**	**-1.5**
	148nm,0.6s							
SUMG	**Summit**	**68.96**	**11**	*e*P		P	**15 06 27.7**	**-0.5**
	63nm,0.7s,mb5.5							
INK	**Inuvik**	**73.06**	**340**	P		P	**15 06 52.7**	**0.0**
	9.7nm,0.6s,mb4.7,baz=112,slow=6.1,SNR=15							
INK	**Inuvik**	**73.06**	**340**	*e*P		P	**15 06 52.0**	**-0.7**
	8.4nm,0.7s,mb4.6							
DAWY	**Dawson**	**73.68**	**335**	*e*P		P	**15 06 56.0**	**-0.4**
ILAR	**Eielson Array**	**77.01**	**335**	P		P	**15 07 14.8**	**-0.4**
	4.2nm,0.8s,mb4.1,baz=62,slow=1.7,SNR=5.3							
ILAR				pP		pP	15 07 53.5	-0.7
	0.9nm,0.6s,baz=98,slow=5.4,SNR=2.6							
IMA	**Indian Mountai**	**80.01**	**336**	*e*P		P	**15 07 32.0**	**+0.5**
NB2	**NORSAR Subarra**	**81.27**	**29**	P		P	**15 07 38.3**	**+0.1**
	2.8nm,0.6s,mb4.1,baz=268,slow=5.3							
NOA	**NORSAR Array B**	**81.27**	**29**	P		P	**15 07 38.2**	**0.0**
	4.2nm,0.6s,mb4.2,baz=268,slow=5.3,SNR=13							
KHC	**Kasperske Hory**	**82.65**	**41**	*e*P		P	**15 07 41.0**	**-4.6**
GERES	**GERESS Array B**	**82.74**	**42**	P		P	**15 07 45.3**	**-0.7**
	2.9nm,0.7s,mb4.1,baz=269,slow=3.8,SNR=18							
ARCES	**ARCESS Array B**	**86.63**	**20**	P		P	**15 08 05.1**	**+0.3**
	3.3nm,0.5s,mb4.4,baz=268,slow=3.7,SNR=32							
VNA3	**Neumayer Olymp**	**88.14**	**163**⇑	*i*P		P	**15 08 14.1**	**+2.1**
VNA3	**Neumayer Olymp**	**88.14**	**163**⇑	*i*		P	**15 08 15.4**	**+3.4**
VNA3	**Neumayer Olymp**	**88.14**	**163**⇑	*i*		pP	15 08 55.0	+2.9
VNA3	**Neumayer Olymp**	**88.14**	**163**⇓	*i*			15 13 13.2	
VNA1	**Neumayer--Stat**	**88.28**	**162**⇑	*i*P		P	**15 08 15.2**	**+2.5**
VNA1	**Neumayer--Stat**	**88.28**	**162**⇓	*i*		P	**15 08 16.3**	**+3.6**
VNA1	**Neumayer--Stat**	**88.28**	**162**⇑	*i*		pP	15 08 54.3	+1.5
FINES	**FINESS Array B**	**88.38**	**28**	P		P	**15 08 13.5**	**+0.2**
	1.1nm,0.5s,mb3.9,baz=270,slow=7.6,SNR=6.2							
FINES	**FINESS Array B**	**88.38**	**28**	P		P	**15 08 13.5**	**+0.2**
VNA2	**Neumayer--Watz**	**88.67**	**163**⇑	*i*P		P	**15 08 16.4**	**+1.9**
VNA2	**Neumayer--Watz**	**88.67**	**163**⇓	*i*		P	**15 08 17.6**	**+3.1**
VNA2	**Neumayer--Watz**	**88.67**	**163**			pP	15 08 57.4	+2.8
SNAA	**Sanae**	**90.31**	**163**⇑	*i*P		P	**15 08 20.9**	**-1.3**
SNAA	**Sanae**	**90.31**	**163**⇑	*i*		P	**15 08 22.2**	**0.0**
SNAA	**Sanae**	**90.31**	**163**			pP	15 08 59.7	-2.7
SNAA	**Sanae**	**90.31**	**163**⇑	*i*P		P	**15 08 22.2**	**0.0**
AAK	**Ala-Archa**	**122.57**	**28**	*e*PKP		PKPdf	15 14 16.4	+0.9
MDJ	**Mudanjiang**	**124.90**	**340**	PKP		PKPdf	15 14 19.0	-1.0
SONM	**Songino Array**	**125.57**	**0**	PKP		PKPdf	15 14 23.0	+1.8
	2.6nm,0.5s,baz=311,slow=1.2,SNR=36							
WMQ	**Urumqi**	**126.65**	**17**	*e*PKP		PKPdf	15 14 25.0	+1.6
CN2	**Changchun**	**126.91**	**343**	*e*PKP		PKPdf	15 14 24.0	+0.1
GTA	**Gaotai**	**133.52**	**8**	*e*PKP		PKPdf	15 14 39.0	+2.4
LZH	**Lanzhou**	**137.21**	**4**	*e*PKP		PKPdf	15 14 44.0	+0.5
LZH				XPKP			15 15 43.3	
KOLN	**Koldanda**	**138.84**	**32**	*e*P		PKPdf	15 14 48.0	+1.3
GKN	**Gorkha**	**139.19**	**31**	*e*P		PKPdf	15 14 48.9	+1.6
	23nm,0.9s							
STKA	**Stephens Creek**	**139.24**	**228**	PKP		PKPdf	15 14 47.8	+0.5
	3.8nm,0.6s,baz=2.5,slow=1.6,SNR=9.2							
KKN	**Kakani**	**139.69**	**30**	*e*P		P

comp=Z,1.4nm,0.8s,mb4.1
RPZ Rata Peaks 60.91 140 P **P** 15 09 55.4 **0.0**
comp=Z,10nm,0.8s,mb5.0,baz=323,slow=14,SNR=3.9
KURK Kurchatov 63.67 332 *eP* **P** **15 10 13.1 -0.6**
comp=Z,4.7nm,0.8s,mb4.6
VNDA Vanda 78.39 172 LR LR 15 49 27.2
comp=Z,117nm,18.1s,baz=327,slow=38
KMBO Kilima Mbogo 83.08 269 LR LR 15 44 07.0
comp=Z,76nm,19.2s,baz=86,slow=32
SNAA Sanae 97.81 195 **P** **15 13 18.9 +3.0**
CPUP Villa Florida 151.48 184 PKPbc PKPdf 15 19 38.7 +11
comp=Z,1.3nm,0.7s,baz=194,slow=4.2,SNR=3.6
CPUP Villa Florida 151.48 184 PKPbc PKPdf 15 19 38.7 +11

TIF 25 15:08:27.9, 41.21N×43.94E, h6km, Mpv3.5, 1C-5D, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
BAW	**Bavra**	**0.14**	**229**	*i* P		Pg	15 08 31.0	+0.1
BAW				*i* S		Sg	15 08 33.0	+0.1
AKH	**Akhalkalaki**	**0.39**	**301**	⇓*i* P		Pg	15 08 36.2	+0.4
AKH				*i* S		Sg	15 08 42.0	+0.9
STE	**Stepanavan**	**0.41**	**121**	*i* P		Pg	15 08 36.0	-0.1
STE				*i* S		Sg	15 08 41.6	+0.1
MTA	**Mtatsminda**	**0.80**	**53**	⇓*i* P		Pb	15 08 44.1	+0.2
MTA				*i* S		Sg	15 08 55.6	+0.9
DUS	**Dusheti**	**1.05**	**33**	⇓*i* P		Pb	15 08 50.0	+1.9
DUS				*i* S		Sb	15 09 05.8	+3.9
DGRG	**David-gareji**	**1.11**	**77**	⇑*i* P		Pb	15 08 50.3	+1.3
DGRG				*i* S		Sb	15 09 06.3	+2.8
ONI	**Oni**	**1.42**	**345**	⇓*i* P		Pn	15 08 57.1	+2.8
ONI				*i* S		Sb	15 09 17.0	+4.4
AMRG		**1.44**	**336**	⇓*i* P		Pn	15 08 56.6	+2.0
AMRG				*i* S		Sb	15 09 16.6	+3.5

*NEIC **25** 15:10:00.8±4.8, 18.51S×177.59W, h587km±58km, mb4.1/9, Error ellipse: s-maj=33.4km s-min=17.3km az=205.0*
*IDC **25** 15:10:01.1±8.2, 18.56S×177.57W, h589km±101km, mb3.3/8, mb1 3.5/8, mb1mx3.2/18, Error ellipse: s-maj=52.1km s-min=26.1km az=23.0*

ISC 25 15:10:00.4±1.4, 18.6S±0.2×177.6W±0.2, h600km, n20, σ0§66/19, mb4.0/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
URZ	**Urewera**	**20.16**	**192**	P		**P**	**15 13 56.0**	**-0.8**
	14nm,1.1s,baz=347,slow=18,SNR=3.1							
RPZ	**Rata Peaks**	**26.83**	**198**	P		**P**	**15 14 56.3**	**0.0**
	8.8nm,1.0s,mb4.3,baz=45,slow=7.1,SNR=6.0							
CNB	**Canberra Magne**	**33.65**	**234**	*e*P		**P**	**15 15 55.4**	**+1.2**
	4.4nm,0.4s,mb4.4							
CTA	**Charters Tower**	**34.10**	**261**	*e*P		**P**	**15 15 58.1**	**-0.1**
	3.1nm,0.4s,mb4.3							
CTA	**Charters Tower**	**34.10**	**261**	P		**P**	**15 15 58.8**	**+0.7**
	4.0nm,0.4s,mb4.4,baz=92,slow=10,SNR=13							
CTAO	**Charters Tower**	**34.10**	**261**	*e*P		**P**	**15 15 58.6**	**+0.4**
	5.2nm,0.6s,mb4.3							
TOO	**Toolangi**	**37.36**	**232**	*e*P		**P**	**15 16 25.7**	**+0.9**
	4.7nm,1.4s,mb3.8							
STKA	**Stephens Creek**	**38.99**	**242**	*e*P		**P**	**15 16 39.0**	**+0.8**
	1.4nm,0.5s,mb3.8							
STKA	**Stephens Creek**	**38.99**	**242**	P		**P**	**15 16 38.7**	**+0.5**
	1.5nm,0.4s,mb3.8,baz=78,slow=10,SNR=5.4							
WB2	**Warramunga Arr**	**45.26**	**260**	*e*P		**P**	**15 17 27.2**	**-0.4**
WRAB	**Tennant Creek**	**45.27**	**260**	*e*P		**P**	**15 17 27.0**	**-0.6**
	5.2nm,0.4s,mb4.4							
WRA	**Warramunga Arr**	**45.27**	**260**	P		**P**	**15 17 27.3**	**-0.4**
	2.6nm,0.3s,mb4.2,baz=98,slow=6.6,SNR=21							
ASAR	**Alice Springs**	**45.36**	**255**	P		**P**	**15 17 28.1**	**-0.2**
	5.1nm,0.7s,mb4.2,baz=87,slow=8.2,SNR=26							
ASPA	**Alice Springs**	**45.36**	**255**	*e*P		**P**	**15 17 28.2**	**-0.1**
KAKA	**Kakadu**	**48.38**	**269**	*e*P		**P**	**15 17 55.3**	**+4.0**
	24nm,1.6s,mb4.5							
FITZ	**Fitzroy Crossi**	**53.68**	**261**	*e*P		**P**	**15 18 29.2**	**-0.2**
	2.9nm,1.6s,mb3.4							
FITZ	**Fitzroy Crossi**	**53.68**	**261**	P		**P**	**15 18 29.3**	**-0.1**
	0.7nm,0.3s,mb3.5,baz=150,slow=3.7,SNR=8.0							
MBWA	**Marble Bar**	**58.66**	**256**	P		**P**	**15 19 02.6**	**-0.9**
	1.4nm,0.3s,mb3.6							
ILAR	**Eielson Array**	**86.36**	**13**	P		**P**	**15 21 41.0**	**+0.4**
	0.2nm,0.4s,mb3.1,baz=227,slow=4.7,SNR=8.6							
ARCES	**ARCESS Array B**	**127.10**	**350**	PKP		PKPdf	15 27 58.4	+1.6
	1.3nm,0.8s,SNR=5.1							

IDC 25 15:16:55.2±8.3, 1.93N×125.65E, mb3.5/3, mb1 3.7/3, mb1mx3.4/16, Error ellipse: s-maj=168.0km s-min=129.8km az=70.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
WRA	**Warramunga Arr**	**23.34**	**159**	P		P	15 22 05.7	-0.6
	0.7nm,0.3s,baz=335,slow=11,SNR=25							
WB2	**Warramunga Arr**	**23.35**	**159**	*e*P		P	15 22 06.2	-0.2
ASAR	**Alice Springs**	**26.68**	**163**	P		P	15 22 36.9	-1.1
	0.4nm,0.7s,baz=349,slow=7.8,SNR=8.9							
STKA	**Stephens Creek**	**36.87**	**157**	P		P	15 24 04.6	-2.8
	0.3nm,0.3s,baz=345,slow=12,SNR=2.8							

*IDC **25** 15:56:24.2±1.1, 14.42S×171.49W, mb4.1/5, mb1 4.3/5, mb1mx3.9/16, MS3.8/1, Ms1 3.8/1, ms1mx3.1/23, Error ellipse: s-maj=54.4km s-min=22.8km az=135.0*
*NEIC **25** 15:56:31.9±1.7, 14.42S×171.54W, h59km±13km, Error ellipse: s-maj=33.5km s-min=14.8km az=127.0*

ISC 25 15:56:31.0±2.1, 14.4S±0.2×171.6W±0.3, h66km±17km, n9, σ0§73/7, mb4.0/5, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
AFI	**Afiamalu**	**0.49**	**341**	*e*Pg		**P**	**15 56 44.5**	**+1.0**
AFI				*e*Sg		**S**	**15 56 51.8**	**-0.7**
URZ	**Urewera**	**25.80**	**201**	P		**P**	**16 01 57.5**	**-0.3**
	4.5nm,0.9s,mb3.9,baz=276,slow=4.4,SNR=4.4							
STKA	**Stephens Creek**	**46.04**	**239**	P		**P**	**16 04 49.8**	**-0.3**
	1.3nm,0.8s,mb3.7,baz=168,slow=18,SNR=4.1							
WRA	**Warramunga Arr**	**51.76**	**256**	P		**P**	**16 05 34.7**	**+0.3**
	1.7nm,1.0s,mb4.0,baz=90,slow=6.8,SNR=11							
ASAR	**Alice Springs**	**52.07**	**251**	P		**P**	**16 05 36.9**	**+0.2**
	6.5nm,1.0s,mb4.6,baz=84,slow=8.6,SNR=37							
ASAR				LR		LR	16 26 01.1	
	comp=Z,86nm,18.4s,baz=271,slow=34							
NVAR	**Mina Array Bea**	**72.42**	**41**	P		**P**	**16 07 52.1**	**-0.1**
	0.7nm,0.8s,mb3.5,baz=229,slow=9.6,SNR=3.7							
ARCES	**ARCESS Array B**	**123.83**	**353**	PKP		PKPdf	16 15 22.7	+1.5
	1.6nm,0.9s,baz=90,slow=3.6,SNR=3.9							
GERES	**GERESS Array B**	**145.35**	**354**	PKPbc		PKPbc	16 16 03.4	+1.5
	0.7nm,0.7s,baz=63,slow=3.0,SNR=6.0							
BRTR	**Keskin Array B**	**146.41**	**324**	PKPbc		PKPbc	16 16 08.9	+4.1
	0.6nm,0.8s,slow=1.4,SNR=3.5							

OTT 25 15:59:44.7±0.2, 52.79N×67.22W, MN2.8/8, Blast, Mount Wright, Qc Mining explosion., Northern Quebec

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
SCHQ	**Schefferville**	**2.06**	**6**	PN		Pn	16 00 21.1	+0.1
SCHQ				SG		Sg	16 00 48.4	-5.0
SCHQ				Trac			16 00 51.1	
	comp=Z,41nm,0.2s							
MNQ	**Manicouagan**	**2.46**	**204**	PN		Pn	16 00 25.6	-1.0
MNQ				SG		Sg	16 00 58.5	-8.0
MNQ				Trac			16 01 00.3	
	comp=Z,9.3nm,0.1s							
SMQ	**Clarke City**	**2.59**	**173**	PN		Pn	16 00 27.1	-1.5
SMQ				SN		Sn	16 01 01.6	+0.4
SMQ				Trac			16 01 05.0	
	comp=Z,20nm,0.2s							
ICQ	**Pointe Anglais**	**3.27**	**181**	PN		Pn	16 00 36.4	-1.9
ICQ				SN		Sn	16 01 14.6	-3.9
ICQ				Trac			16 01 25.8	
	comp=Z,11nm,0.3s							
CNQ	**Baie Comeau**	**3.53**	**189**	PN		Pn	16 00 40.7	-1.3
CNQ				SN		Sn	16 01 20.5	-4.6
CNQ				Trac			16 01 33.7	
	comp=Z,4.5nm,0.1s							
GSQ	**Grosses Roches**	**3.88**	**179**	PN		Pn	16 00 44.1	-2.8
GSQ				SN		Sn	16 01 27.5	-6.5
GSQ				Trac			16 01 48.9	
	comp=Z,5.1nm,0.2s							
DAQ	**Lac Daran**	**5.47**	**210**	PN		Pn	16 01 05.0	-4.4
LMQ	**La Malbaie**	**5.61**	**202**	PN		Pn	16 01 08.6	-2.8
LMQ				SN		Sn	16 02 10.2	-7.4
LMQ				Trac			16 02 15.4	
	comp=Z,5.3nm,0.2s							
DRLN	**Deer Lake**	**7.07**	**116**	PN		Pn	16 01 28.5	-3.5
DRLN				SN		Sn	16 02 46.6	-7.5
DRLN				LG			16 03 17.4	
DRLN				Trac			16 03 28.8	
	comp=Z,2.5nm,0.3s							
LMN	**Caledonia Moun**	**7.12**	**166**	PN		Pn	16 01 28.7	-4.0
LMN				SN		Sn	16 02 43.0	-12
VLDQ	**Val d'Or**	**8.03**	**238**	PN		P	16 01 41.9	-3.6
MALO	**McAlpine Lake**	**8.32**	**256**	PN		P	16 01 43.4	-6.1
MALO				SN		Sn	16 03 11.9	-13
VIMO	**Victor Mine**	**10.01**	**277**	PN		P	16 02 06.2	-6.6
VIMO				SN		S	16 03 49.2	-18
SILO	**Sutton Inlier**	**10.65**	**286**	PN		P	16 02 13.8	-7.7
SILO				SN		S	16 04 04.2	-18

*CSEM **25** 16:16:19.8±0.1, 36.23N×3.79E, h20km, ML3.3/3, Error ellipse: s-maj=4.0km s-min=2.4km az=16.0*
*NEIC **25** 16:16:21.0, 36.26N×3.84E, MG4.2(MDD), After MDD.*
*LDG **25** 16:16:22.3±0.3, 36.24N×3.95E, h10km, Ml3.3/6, Error ellipse: s-maj=5.8km s-min=2.9km az=152.0*
*MDD **25** 16:16:27.3±1.5, 36.47N×3.67E, h3km±8km, mb4.2/13, Error ellipse: s-maj=24.0km s-min=6.4km az=130.0, PRXIMO*

ISC 25 16:16:19.9±0.5, 36.47N±0.03×3.89E±0.03, h10km, n55, σ1§30/81, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
ABA	**Alger-Bouzarea**	**0.76**	**296**	P		**Pb**	**16 16 36.5**	**+1.7**
SET	**Setif**	**1.25**	**102**	P		**Pb**	**16 16 42.0**	**-1.1**
CKHR	**Kef el Ahmar**	**1.39**	**109**	P		**Pn**	**16 16 43.0**	**-2.4**
DFRA	**Djebel Bou Aff**	**1.60**	**87**	P		**Pn**	**16 16 50.0**	**+1.5**
CMER	**Merouana**	**1.84**	**117**	P		**Pn**	**16 16 51.0**	**-0.8**
ECHA	**Ech Chlef**	**2.06**	**262**	P		**Pn**	**16 16 54.0**	**-1.1**
EANR	**'Ain N'Sour**	**2.31**	**258**	P		**Pn**	**16 16 59.5**	**+0.8**
ETRT	**Tiaret**	**2.36**	**244**	P		**Pn**	**16 17 03.0**	**+3.6**
ABSA	**Djebel Ababsia**	**2.90**	**93**	P		**Pn**	**16 17 07.0**	**-0.1**
EIBI	**Ibiza**	**3.25**	**322**	P		**Pn**	**16 17 13.6**	**+1.6**
	23nm,0.4s,SNR=16							
EIBI				S		Sn	**16 17 53.3**	**+2.1**
	9.3nm,0.2s							
EIBI	**Ibiza**	**3.25**	**322**	P		**Pn**	**16 17 13.6**	**+1.6**
	23nm,0.4s,SNR=16							
EIBI				S		Sn	**16 17 53.3**	**+2.1**
	9.3nm,0.2s							
EBEN	**Beniarda**	**3.96**	**306**	P		**Pn**	**16 17 22.2**	**+0.2**
	3.8nm,0.4s,SNR=4.0							
EBEN				S		Sn	**16 18 08.3**	**-0.7**
	3.2nm,0.3s,SNR=7.9							
EBEN	**Beniarda**	**3.96**	**306**	P		**Pn**	**16 17 22.2**	**+0.2**
	3.8nm,0.4s,SNR=4.0							
EBEN				S		Sn	**16 18 08.3**	**-0.7**
	3.2nm,0.3s,SNR=7.9							
EMUR	**La Murta**	**4.32**	**290**	P		**Pn**	**16 17 26.2**	**-1.0**
	7.7nm,0.3s,SNR=7.9							
EMUR				S		Sn	**16 18 17.5**	**-0.8**
	8.2nm,0.6s,SNR=7.9							
EMUR	**La Murta**	**4.32**	**290**	P		**Pn**	**16 17 26.2**	**-1.0**
	7.7nm,0.3s,SNR=7.9							
EMUR				S		Sn	**16 18 17.5**	**-0.8**
	8.2nm,0.6s,SNR=7.9							
EMOS	**Mosqueruela**	**5.18**	**320**	P		**Pn**	**16 17 40.1**	**+0.8**
	3.9nm,0.3s,SNR=4.0							
EMOS				S		Sn	**16 18 39.4**	**-0.5**
	2.5nm,0.3s,SNR=7.9							
EMOS	**Mosqueruela**	**5.18**	**320**	P		**Pn**	**16 17 40.1**	**+0.8**
EMOS				S		Sn	**16 18 39.4**	**-0.5**
EMOS	**Mosqueruela**	**5.18**	**320**	P		**Pn**	**16 17 40.1**	**+0.7**
	3.9nm,0.3s,SNR=4.0							
EPOB	**Poblet**	**5.34**	**337**	P		**Pn**	**16 17 43.1**	**+1.4**
	2.8nm,0.2s,SNR=8.9							
EPOB				S		Sn	**16 18 43.7**	**-0.4**
	2.4nm,0.3s							
EPOB	**Poblet**	**5.34**	**337**	P		**Pn**	**16 17 43.1**	**+1.4**
	2.8nm,0.2s,SNR=8.9							
EBER	**Berja**	**5.46**	**276**	P		**Pn**	**16 17 43.3**	**-0.1**
	4.7nm,0.4s,SNR=7.9							
EBER				S		Sn	**16 18 45.3**	**-1.8**
	6.9nm,0.4s,SNR=7.9							
EBER	**Berja**	**5.46**	**276**	P		**Pn**	**16 17 43.2**	**-0.2**
EVIA	**Vianos**	**5.52**	**295**	P		**Pn**	**16 17 43.4**	**-0.8**
	1.1nm,0.2s,SNR=4.0							
EVIA				S		Sn	**16 18 46.5**	**-1.9**
	3.1nm,0.3s,SNR=4.0							
EVIA	**Vianos**	**5.52**	**295**	P		**Pn**	**16 17 43.4**	**-0.8**
EVIA				S		Sn	**16 18 46.5**	**-1.9**
EQES	**Quesada**	**5.72**	**286**	P		**Pn**	**16 17 47.4**	**+0.4**
	3.7nm,0.3s,SNR=17							
EQES				S		Sn	**16 18 51.4**	**-2.0**
	6.2nm,0.4s							
EQES	**Quesada**	**5.72**	**286**	P		**Pn**	**16 17 47.4**	**+0.4**
EQES				S		Sn	**16 18 54.0**	**+0.6**
EQES	**Quesada**	**5.72**	**286**	P		**Pn**	**16 17 47.4**	**+0.5**
	3.7nm,0.3s,SNR=17							
EQES				S		Sn	**16 18 54.0**	**+0.6**
	6.2nm,0.4s							
EMIR	**Miracle**	**5.74**	**342**	P		**Pn**	**16 17 49.2**	**+2.0**
	13nm,0.3s,SNR=7.9							
EMIR				S		Sn	**16 18 55.8**	**+1.9**
	16nm,0.4s,SNR=7.9							
EMIR	**Miracle**	**5.74**	**342**	P		**Pn**	**16 17 49.2**	**+2.0**
	13nm,0.3s,SNR=7.9							
EJON	**La Jonquera**	**6.02**	**353**	P		**Pn**	**16 17 53.2**	**+2.0**
	8.4nm,0.5s,SNR=14							
EJON				S		Sn	**16 19 02.1**	**+1.1**
	5.3nm,0.3s							
EJON	**La Jonquera**	**6.02**	**353**	P		**Pn**	**16 17 53.2**	**+2.0**
EJON				S		Sn	**16 19 00.0**	**-1.0**
ETOR	**Torete**	**6.36**	**315**	P		**Pn**	**16 17 57.5**	**+1.4**
	1.2nm,0.3s,SNR=7.9							
ETOR	**Torete**	**6.36**	**315**	P		**Pn**	**16 17 58.3**	**+2.2**
ETOR	**Torete**	**6.36**	**315**	P		**Pn**	**16 17 58.3**	**+2.3**
	1.2nm,0.3s,SNR=7.9							
ETOR	**Torete**	**6.36**	**315**	P		**Pn**	**16 17 58.3**	**+2.3**
EADA	**Adamuz**	**6.96**	**287**	P		**Pn**	**16 18 03.1**	**-1.3**
	1.1nm,0.4s,SNR=4.0							
EADA				S		Sn	**16 19 23.4**	**-1.0**
	3.2nm,0.5s,SNR=7.9							
EADA	**Adamuz**	**6.96**	**287**	P		**Pn**	**16 18 03.4**	**-1.0**
EADA				S		Sn	**16 19 31.7**	**+7.3**
EADA	**Adamuz**	**6.96**	**287**	P		**Pn**	**16 18 03.4**	**-1.0**
MTLF	**Montolieu**	**6.98**	**350**	*e*Pn		**Pn**	**16 18 05.6**	**+0.9**
MTLF				*e*Sn		**Sn**	**16 19 23.0**	**-2.0**
	1.8nm,0.4s							
EPF	**Esparros**	**7.10**	**338**	*e*Pn		**Pn**	**16 18 07.5**	**+1.1**
EPF				*e*Sn		**Sn**	**16 19 25.6**	**-2.3**
	4.2nm,0.4s							
LMR	**La Mourre**	**7.14**	**16**	*e*Pn		**Pn**	**16 18 07.5**	**+0.5**
LMR				*e*Sn		**Sn**	**16 19 26.6**	**-2.5**
	2.6nm,0.4s							
PGF	**Pioggiola**	**7.24**	**31**	*e*Pn		**Pn**	**16 18 08.4**	**0.0**
PGF				*e*Sn		**Sn**	**16 19 26.3**	**-5.2**
ETSF	**Etsaut**	**7.28**	**333**	*e*Pn		**Pn**	**16 18 09.7**	**+0.8**
FRF	**La Foret Royal**	**7.39**	**16**	*e*Pn		**Pn**	**16 18 10.6**	**+0.1**
FRF				*e*Sn		**Sn**	**16 19 32.6**	**-2.6**
	8.8nm,0.6s							
LASF	**Ste Croix**	**7.60**	**360**	*e*Pn		**Pn**	**16 18 13.7**	**+0.3**
LASF				*e*Sn		**Sn**	**16 19 38.0**	**-2.4**
	2.3nm,0.3s							
SMRF	**Simiane la Rot**	**7.61**	**9**	*e*Pn		**Pn**	**16 18 14.4**	**+0.9**
SJPF	**Ste Jean**	**7.71**	**331**	*e*Pn		**Pn**	**16 18 16.5**	**+1.5**
SBF	**Sospel**	**7.87**	**19**	*e*Sn		**Sn**	**16 19 42.8**	**-4.3**
	3.9nm,0.3s							
VIVF	**Saint-Julien-l**	**8.40**	**4**	*e*Pn		**P**	**16 18 24.7**	**+0.2**
EARI	**Arriondas**	**9.76**	**317**	P		**P**	**16 18 43.1**	**-0.3**
	5.4nm,0.5s,SNR=13							
EARI	**Arriondas**	**9.76**	**317**	P		**P**	**16 18 44.5**	**+1.1**
EARI	**Arriondas**	**9.76**	**317**	P		**P**	**16 18 44.5**	**+1.1**
ECAL	**Calabor**	**9.89**	**307**	P		**P**	**16 18 44.2**	**-0.9**
	3.5nm,0.3s,SNR=4.0							
BGF	**Bois d'Agland**	**10.11**	**356**	*e*Pn		**P**	**16 18 47.9**	**-0.2**
SMF	**Signal de Mont**	**10.16**	**360**	*e*Pn		**P**	**16 18 49.0**	**+0.1**

*LDG **25** 16:35:25.3±0.1, 45.31N×6.59E, h2km, Md2.1/2, Ml2.3/8, Error ellipse: s-maj=3.3km s-min=2.2km az=98.0*
*STR **25** 16:35:26.2±0.1, 45.37N×6.61E, h2km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 25 16:35:24.0±0.4, 45.31N±0.02×6.49E±0.04, h2km±8km, n14, σ1§06/27, France

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
LPG	**La Plagne**	**0.27**	**44**	*e*Pg		**Pg**	**16 35 29.6**	**+0.2**
LPG				*e*Sg		**Sg**	**16 35 33.1**	**+0.2**
	17nm,0.2s							
LPL	**La Plagne**	**0.27**	**39**	*e*Pg		**Pg**	**16 35 29.7**	**+0.2**
LPL				*e*Sg		**Sg**	**16 35 33.1**	**0.0**
	29nm,0.2s							
RSL	**Roselend**	**0.40**	**14**	Pg		**Pg**	**16 35 32.2**	**+0.3**
RSL				Sg		**Sg**	**16 35 36.8**	**-0.4**
ORIF	**Oris-en-Rattie**	**0.58**	**228**	*e*Pg		**Pg**	**16 35 36.4**	**+0.8**
ORIF				*e*Sg		**Sg**	**16 35 44.2**	**+0.9**
	43nm,0.3s							
MBDF	**Montbardon**	**0.61**	**161**	*e*Pg		**Pg**	**16 35 36.3**	**+0.1**
	8.8nm,0.2s							
MBDF				*e*Sg		**Sg**	**16 35 44.8**	**+0.4**
	10nm,0.2s							
OG05	**Jujurieux**	**1.03**	**316**	Pg		**Pg**	**16 35 46.0**	**+1.4**
OG05				Sg		**Sg**	**16 36 00.5**	**+2.1**
CABF	**La Chapelle**	**1.34**	**348**	*e*Pn		**Pn**	**16 35 50.3**	**+0.6**
CABF				*e*Pg		**Pg**	**16 35 51.3**	**+0.6**
CABF				*e*Sg		**Sg**	**16 36 08.1**	**-0.4**
	4.1nm,0.2s							
VIVF	**Saint-Julien-l**	**1.36**	**251**	*e*Pg		**Pg**	**16 35 52.5**	**+1.3**
VIVF				*e*Sn		**Sn**	**16 36 08.9**	**0.0**
VIVF				*e*Sg		**Sg**	**16 36 10.4**	**+1.0**
	6.7nm,0.3s							
SMRF	**Simiane la Rot**	**1.48**	**206**	*e*Sg		**Sg**	**16 36 12.4**	**-0.9**
	1.0nm,0.2s							
FRF	**La Foret Royal**	**1.75**	**176**	*e*Pg		**Pg**	**16 35 58.4**	**-0.5**
FRF				*e*Sg		**Sg**	**16 36 22.3**	**+0.1**
	8.9nm,0.6s							
LMR	**La Mourre**	**1.97**	**180**	*e*Sg		**Sg**	**16 36 27.5**	**-2.1**
	1.0nm,0.2s							
SMF	**Signal de Mont**	**2.28**	**307**	*e*Pn		**Pn**	**16 36 02.9**	**-0.3**
SMF				*e*Pg		**Pg**	**16 36 08.0**	**-1.6**
SMF				*e*Sg		**Sg**	**16 36 37.7**	**-2.3**
	4.5nm,0.2s							
HINF	**Hinteralfeld**	**2.52**	**6**	*e*Sg		**Sg**	**16 36 44.6**	**-3.5**
	2.3nm,0.3s							
BGF	**Bois d'Agland**	**2.83**	**298**	*e*Sg		**Sg**	**16 36 56.0**	**-2.4**
	5.8nm,0.3s							

*BJI **25** 16:40:37.5, 31.60N×40.90W, h10km, mB5.3, mb5.1, Ms5.0, Msz4.7*
*IDC **25** 16:40:38.2±0.5, 31.67N×40.84W, mb4.4/20, mb1 4.5/21, mb1mx4.5/22, MS4.1/1, Ms1 4.1/1, ms1mx3.8/2, Error ellipse: s-maj=16.2km s-min=13.2km az=155.0*
*HRVD **25** 16:40:39.6±0.2, 31.80N×40.77W, h12km, MW5.4/71, Centroid moment Tensor Solution. LP body waves: s40,c63;Mantle waves: s71,c143; Half duration: 1§2 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.15±.02; $M_{\theta\theta}$0.31±.03; $M_{\phi\phi}$0.84±.02; $M_{r\theta}$-0.26±.06; $M_{\theta\phi}$0.60±.02; $M_{\phi r}$-0.83±.06; Best double couple: $M_0$1.48×10^{17} NP1: ϕ_s223°,δ28°,λ-73°. NP2:ϕ_s24°,δ63°,λ-99°. Principal axes: T 1.5, Plg18°, Azm120°; N -.05, Plg8°, Azm28°; P -1.45, Plg70°, Azm275°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **25** 16:40:39.6±0.2, 31.62N×40.90W, h10km, mb5.0/73, MS5.0/112 Error ellipse: s-maj=6.3km s-min=2.6km az=172.0*
*SYO **25** 16:40:39.5, 31.71N×40.87W, h10km, MB5.1, MS5.1*
*MOS **25** 16:40:41.9±1.0, 31.63N×40.87W, h10km, mb5.0/23, MS4.7/23, Error ellipse: s-maj=17.9km s-min=6.4km az=52.0*

ISC 25 16:40:38.0±0.2, 31.64N±0.05×40.93W±0.03, h10km, n381, σ0§93/294, mb4.9/105, MS5.0/122, 22C-5D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
ADH	**Angra Heroismo**	**13.20**	**54**	*e*LR		LR	16 47 35.0	
PDA	**Ponta Delgada**	**13.95**	**60**	*i* LR		LR	16 47 25.0	
BBSR	**BB Station**	**20.16**	**278**	PFAKE			16 45 30.0	+15
BBSR				LR		LR		
	comp=Z,7μm,22.0s,MS5.0							
PQI	**Presque Isle**	**25.65**	**314**	PFAKE			16 46 20.0	+11
PQI				LR		LR		
	comp=Z,24μm,22.0s,MS5.7							
WVL	**Waterville**	**25.88**	**308**	PFAKE			16 46 20.0	+8.5
WVL				LR		LR		
	comp=Z,13μm,21.0s,MS5.5							
HUMP	**Col San Antoni**	**26.22**	**245**	*e*P		**P**	**16 46 14.7**	**-0.2**
WES	**Weston**	**26.40**	**303**	PFAKE			16 46 30.0	+14
WES				LR		LR		
	comp=Z,4μm,20.0s,MS5.0							
SJG	**San Juan**	**26.47**	**245**	P		**P**	**16 46 18.2**	**+1.0**
	comp=Z,10nm,0.3s,mb4.8,baz=296,slow=16,SNR=5.1							
SJG	**San Juan**	**26.47**	**245**	P		**P**	**16 46 18.2**	**+1.0**
SJG				pmax		pmax		
	comp=Z,10.0nm,0.3s							
SJG	**San Juan**	**26.47**	**245**	*e*P		**P**	**16 46 17.8**	**+0.6**
	comp=Z,10nm,0.3s,mb4.8							
SJG				LR		LR		
	comp=Z,1μm,19.0s,MS4.5							
HRV	**Harvard--Oak R**	**

comp=Z,70nm,1.4s,mb5.1
EBIE Bielsa 34.23 59 P **P 16 47 27.2 +1.3**
comp=Z,17nm,1.3s,mb4.8
EPF Esparros 34.41 59 *e*P **P 16 47 27.5 +0.1**
MFF Saint Martin d 34.57 53 *e*P **P 16 47 28.4 -0.4**
comp=Z,124nm,1.3s,mb5.4
FLN La Foliniere 34.83 49 *e*P **P 16 47 30.5 -0.5**
ACSO Alum Creek Sta 34.84 296 PFAKE 16 47 40.0 +8.8
ACSO LR LR
comp=Z,5µm,22.0s,MS5.2
EPOB Poblet 34.84 62 P **P 16 47 30.6 -0.6**
comp=Z,218nm,2.9s,mb5.6
LFF La Frestale 34.91 56 *e*P **P 16 47 31.2 -0.6**
comp=Z,102nm,1.3s,mb5.3
LDF La Druitiere 35.02 49 *e*P **P 16 47 31.9 -0.7**
DWPF Disney 35.16 275 PFAKE 16 47 50.0 +16
DWPF LR LR
comp=Z,984nm,20.0s,MS4.6
EMIR Miracle 35.20 61 P **P 16 47 35.4 +1.1**
BORG Borgarnes 35.29 14 LR LR 16 57 04.9
comp=Z,266nm,18.8s,MS4.0,baz=212,slow=28
AAM Ann Arbor 35.42 300 PFAKE 16 47 50.0 +14
AAM LR LR
comp=Z,6µm,20.0s,MS5.3
RJF Les Rejaudoux 35.51 55 *e*P **P 16 47 36.0 -0.8**
comp=Z,124nm,1.4s,mb5.3
RJF *e*R
comp=Z,583nm,22.2s
ESK Eskdalemuir 35.51 37 PFAKE 16 47 50.0 +13
ESK LR LR
comp=Z,339nm,19.0s,MS4.1
SDV Santo Domingo 35.69 237 *e*P **P 16 47 40.0 +1.3**
comp=Z,126nm,1.4s,mb5.7
SDV LR LR
comp=Z,892nm,21.0s,MS4.5
MTLF Montolieu 35.80 59 *e*P **P 16 47 38.6 -0.7**
comp=Z,46nm,1.3s,mb5.0
CAF Calviac 35.85 56 *e*P **P 16 47 39.2 -0.5**
comp=Z,82nm,1.4s,mb5.1
TCF Toulx Ste Croi 36.13 54 *e*P **P 16 47 41.8 -0.2**
comp=Z,86nm,1.1s,mb5.3
EJON La Jonquera 36.24 60 P **P 16 47 44.5 +1.5**
BGF Bois d'Agland 36.60 53 *e*P **P 16 47 45.4 -0.6**
PYM Petit Puy Mans 36.61 55 *e*P **P 16 47 42.9 -3.2**
LBL Lubilhac 36.71 55 *e*P **P 16 47 43.4 -3.6**
AGO Saint Agoulin 36.73 54 *e*P **P 16 47 43.0 -4.1**
LASF Ste Croix 37.04 57 *e*P **P 16 47 49.6 -0.2**
comp=Z,96nm,1.5s,mb5.1
SSF Saint Saulge 37.12 52 *e*P **P 16 47 50.1 -0.3**
SMF Signal de Mont 37.29 53 *e*P **P 16 47 51.7 -0.1**
comp=Z,158nm,1.2s,mb5.4
LOR Lormes 37.39 52 *e*P **P 16 47 52.2 -0.4**
comp=Z,96nm,1.3s,mb5.2
WCI Wyandotte Cave 37.47 293 PFAKE 16 48 10.0 +17
WCI LR LR
comp=Z,857nm,21.0s,MS4.5
SWET Sewanee 37.48 288 P **P 16 47 54.2 +0.7**
RCBR Riachuelo 37.57 172 PFAKE 16 48 10.0 +16
RCBR LR LR
comp=Z,2µm,20.0s,MS4.9
VIVF Saint-Julien-l 37.69 56 *e*P **P 16 47 55.3 +0.2**
BAIF Baives 38.10 48 *e*P **P 16 47 58.5 -0.1**
SMRF Simiane la Rot 38.27 58 *e*P **P 16 48 00.0 -0.1**
MEZF Maizieres J'vi 38.37 50 *e*P **P 16 48 00.8 -0.1**
GIVF Givet 38.50 48 *e*P **P 16 48 01.6 -0.3**
ORIF Oris-en-Rattie 38.55 56 *e*P **P 16 48 01.8 -0.6**
ORIF *e*R
comp=Z,1µm,20.2s
LRAL Lakeview Retre 38.71 285 P **P 16 48 03.5 -0.4**
comp=Z,29nm,1.4s,mb4.8
LRAL LR LR
comp=Z,1µm,21.0s,MS4.7
CABF La Chapelle 38.83 54 *e*P **P 16 48 04.9 +0.2**
comp=Z,97nm,1.3s,mb5.1
WVT Waverly 38.90 290 *e*P **P 16 48 06.5 +1.1**
comp=Z,24nm,1.3s,mb4.8
WVT LR LR
comp=Z,3µm,20.0s,MS5.2
LMR La Mourre 38.93 59 *e*P **P 16 48 04.7 -0.9**
THEF They Montfort 38.95 51 *e*P **P 16 48 06.1 +0.4**
FRF La Foret Royal 39.04 58 *e*P **P 16 48 05.7 -0.8**
comp=Z,70nm,1.3s,mb4.9
BNI Bardonecchia 39.12 56 *e*P **P 16 48 06.4 -0.7**
comp=Z,83nm,1.8s,mb5.2
HAU Haudompre 39.16 51 *e*P **P 16 48 07.1 -0.4**
HAU *e*R
comp=Z,998nm,20.8s
MBDF Montbardon 39.17 57 *e*P **P 16 48 07.3 -0.3**
LPL La Plagne 39.19 55 *e*P **P 16 48 08.3 +0.6**
comp=Z,39nm,1.3s,mb4.7
LPG La Plagne 39.20 55 *e*P **P 16 48 07.8 0.0**
comp=Z,51nm,1.4s,mb4.8
LOMF Lomont 39.41 52 *e*P **P 16 48 09.1 -0.4**
HINF Hinteralfeld 39.47 52 *e*P **P 16 48 09.9 -0.2**
DOI San Damiano 39.50 57 *e*P **P 16 48 11.7 +1.4**
SBF Sospel 39.62 58 *e*P **P 16 48 10.9 -0.4**
MOF Molkenrain 39.66 52 *e*P **P 16 48 11.5 -0.2**
ECH Echery 39.72 51 *e*P **P 16 48 11.7 -0.4**
CDF Champ du Feu 39.82 51 *e*P **P 16 48 12.7 -0.3**
comp=Z,102nm,1.4s,mb5.0
RUP Ruppelstein 39.86 49 *e*P **P 16 48 13.7 +0.5**
WLS Welschbruch 39.88 51 *e*P **P 16 48 13.5 +0.1**
MCGN Macugnaga 40.09 55 *e*P **P 16 48 17.0 +1.8**
ABH Alteburg 40.19 49 *e*P **P 16 48 17.9 +1.9**
LANF Langenberg 40.24 50 *e*P **P 16 48 16.8 +0.4**
FELD Feldberg 40.25 52 *e*P **P 16 48 16.5 0.0**
JFWS Jewell Farm 40.30 301 PFAKE 16 48 30.0 +13
JFWS LR LR
comp=Z,5µm,20.0s,MS5.4
OXF Oxford 40.42 288 *e*P **P 16 48 18.4 +0.4**
OXF LR LR
comp=Z,3µm,22.0s,MS5.2
VAI Varese 40.63 55 *e*P **P 16 48 20.7 +1.1**
FVM French Village 40.74 293 *e*P **P 16 48 20.2 -0.4**
comp=Z,32nm,1.3s,mb4.8
PGF Pioggiola 40.76 60 *e*P **P 16 48 20.5 -0.2**
comp=Z,24nm,1.2s,mb4.4
SUMG Summit 41.02 1 *e*P **P 16 48 21.4 -1.1**
STU Stuttgart 41.13 51 *e*P **P 16 48 24.8 +1.1**
EYMN Ely 41.35 308 PFAKE 16 48 40.0 +15
EYMN LR LR
comp=Z,2µm,19.0s,MS5.0
CCM Cathedral Cave 41.37 293 PFAKE 16 48 40.0 +14
CCM LR LR
comp=Z,819nm,21.0s,MS4.6
DAVA Damuels 41.47 53⇑*i*P **P 16 48 27.4 +0.9**
comp=Z,30nm,1.1s,mb4.8
TIC Toumodi 41.74 119 *e*P **P 16 48 28.8 -0.3**
comp=Z,14nm,0.2s,mb5.2
DBIC Dimbokro 41.84 119 P **P 16 48 28.9 -1.0**
comp=Z,10.0nm,1.1s,mb4.4,baz=309,slow=8.8,SNR=4.5
DBIC Dimbokro 41.84 119 P **P 16 48 28.9 -1.1**
DBIC pmax pmax
comp=Z,10.0nm,1.1s
DBIC Dimbokro 41.84 119 P **P 16 48 28.9 -1.1**
LIC Lamto 42.01 119 *e*P **P 16 48 29.1 -2.2**
comp=Z,48nm,1.1s,mb4.8
LIC Lamto 42.01 119 *e*P **P 16 48 30.9 -0.4**
comp=Z,89nm,1.1s,mb5.3
KIC Kosan Boka 42.13 119 *e*P **P 16 48 32.0 -0.3**
comp=Z,96nm,1.2s,mb5.3
ZCCA Zocca 42.17 57 *e*P **P 16 48 34.0 +1.8**
MOTA Moosalm 42.30 53⇑*i*P **P 16 48 34.1 +0.8**
comp=Z,25nm,1.5s,mb4.6
SQTA Sankt Quirin 42.37 53⇓*i*P **P 16 48 35.3 +1.4**
comp=Z,44nm,1.5s,mb4.9
CSNT Castellina Chi 42.41 59 *e*P **P 16 48 34.4 +0.1**
GRA1 Grafenberg Arr 42.54 49 *e*P **P 16 48 35.6 +0.4**
comp=Z,87nm,1.5s,mb5.3
GRA1 *e*S **S 16 55 06.5 +9.2**
GRA1 LR LR
comp=Z,1µm,19.5s,MS4.8
GRF Grafenberg Arr 42.54 49 *e*P **P 16 48 35.6 +0.4**
GRF pmax pmax
comp=Z,87nm,1.5s,mb5.3
GRF MLR MLR
comp=Z,1µm,19.5s,MS4.8
WATA Walderalm 42.63 53⇑*i*P **P 16 48 36.5 +0.5**
comp=Z,39nm,1.5s,mb4.9
CTI Castel Tesino 42.64 55 *e*P **P 16 48 36.3 +0.2**
WTTA Wattenberg 42.66 53⇑*i*P **P 16 48 37.3 +1.0**
comp=Z,36nm,1.4s,mb4.9
MOX Moxa 42.88 48 *i* P **P 16 48 38.9 +0.9**
comp=Z,logA/T=1.3,mb4.8
MOX S **S 16 55 12.0 +10**
MOX L 17 04 20.0
MOX Moxa 42.88 48 *e*P **P 16 48 38.9 +0.9**
MOX pmax pmax
comp=Z,34nm,1.7s,mb4.8
MOX MLR MLR
comp=Z,1µm,19.0s,MS4.8
MOX Moxa 42.88 48 *e*P **P 16 48 38.9 +0.9**
comp=Z,34nm,1.7s,mb4.8
MOX LR LR
comp=Z,1µm,19.0s,MS4.8
NKC Novy Kostel 43.37 49 *e*P **P 16 48 43.0 +1.0**
NKC MLR MLR
comp=Z,1µm,18.6s,MS4.8
NKC Novy Kostel 43.37 49 *e*P **P 16 48 43.0 +1.0**
NKC *ex* x 16 49 02.9
NKC AMS AMS 17 03 50.0
comp=Z,1µm,18.6s
FVI Forni Avoltri 43.43 54 *e*P **P 16 48 43.5 +1.0**
KONO Kongsberg 43.53 35 PFAKE 16 48 50.0 +6.9
KONO LR LR
comp=Z,977nm,19.0s,MS4.7
MIAR Mount Ida 43.79 289 *e*P **P 16 48 46.5 +0.9**
comp=Z,220nm,2.4s,mb5.5
MIAR LR LR
comp=Z,3µm,20.0s,MS5.2
CLL Collm 43.81 47⇑P **P 16 48 45.6 0.0**
comp=Z,logA/T=1.2,mb4.7
CLL *i* 16 48 52.2
CLL *e* 16 49 59.0
CLL *e*S **S 16 55 18.0 +2.2**
CLL *e* 16 58 54.0
CLL Collm 43.81 47⇑*i*P **P 16 48 45.6 0.0**
CLL *i* 16 48 52.2
CLL *e*S **S 16 55 18.0 +2.2**
CLL pmax pmax
comp=Z,17nm,1.0s,mb4.7
CLL MLR MLR
comp=Z,1µm,22.9s,MS4.8
CLL Collm 43.81 47⇑*i*P **P 16 48 45.6 0.0**
comp=Z,17nm,1.0s,mb4.7
CLL *i* 16 48 52.2
CLL *e*S **S 16 55 18.0 +2.2**
CLL LR LR
comp=Z,1µm,22.9s,MS4.8
KBA Koelnbreinsper 43.83 53⇑*i*P **P 16 48 46.0 +0.3**
comp=Z,16nm,1.2s,mb4.6
PTCC Patocco-Chiusa 43.83 54 *e*P **P 16 48 44.7 -1.0**
KHC Kasperske Hory 44.04 50 *e*P **P 16 48 47.3 -0.1**
KHC MLR MLR
comp=Z,500nm,17.0s,MS4.5
KHC Kasperske Hory 44.04 50 *e*P **P 16 48 47.3 -0.1**
KHC *ex* x 16 49 13.7
KHC AMS AMS 17 04 10.0
comp=Z,500nm,17.0s
GERES GERESS Array B 44.11 51 P **P 16 48 48.1 +0.1**
comp=Z,1.9nm,0.8s,mb3.9,baz=270,slow=8.0,SNR=13
GERES GERESS Array B 44.11 51 P **P 16 48 48.1 +0.1**
GERES pmax pmax
comp=Z,2.0nm,0.8s
TERO Teramo 44.15 60 *e*P **P 16 48 49.9 +1.4**
VOY Vojsko 44.21 55 *e*P **P 16 48 48.7 -0.1**
JAVS Javornik 44.33 55 *e*P **P 16 48 49.4 -0.4**
BRG Berggiesshubel 44.37 48 *e*P **P 16 48 50.0 -0.1**
BRG *i* 16 49 08.5
BRG *e*S **S 16 55 33.0 +9.1**
BRG pmax pmax
comp=Z,41nm,1.8s,mb4.9
BRG MLR MLR
comp=N,9µm,18.0s,MS5.8
BRG MLR MLR
comp=E,1µm,18.0s,MS5.8
BRG MLR MLR
comp=Z,2µm,18.0s,MS5.0
BRG Berggiesshubel 44.37 48 *e*P **P 16 48 50.0 -0.1**
comp=Z,41nm,1.8s,mb4.9
BRG *i* 16 49 08.5
BRG *i* 16 49 18.3
BRG *e*S **S 16 55 33.0 +9.1**
BRG *e*SS SS 16 58 55.0 +20
BRG LR LR
comp=Z,2µm,18.0s,MS5.0
ULM Lac du Bonnet 44.38 311 P **P 16 48 50.2 +0.1**
comp=Z,7.6nm,1.1s,mb4.4,baz=96,slow=10,SNR=3.5
MOA Molln 44.46 52⇑*i*P **P 16 48 50.7 -0.1**
comp=Z,17nm,1.4s,mb4.6
CEY Cerknica 44.59 55 *e*P **P 16 48 52.0 +0.1**
OBKA Obir 44.65 54⇓*i*P **P 16 48 52.1 -0.3**
comp=Z,21nm,0.8s,mb5.0
NB2 NORSAR Subarra 44.70 33 P **P 16 48 52.2 -0.4**
comp=Z,1.5nm,0.7s,mb3.9,baz=253,slow=7.9
NOA NORSAR Array B 44.70 33 P **P 16 48 51.7 -0.9**
comp=Z,3.3nm,0.8s,mb4.2,baz=254,slow=8.1,SNR=5.8
NOA NORSAR Array B 44.70 33 P **P 16 48 51.7 -0.9**
NOA pmax pmax
comp=Z,3.0nm,0.8s
PRU Pruhonice 44.70 49 *e*P **P 16 48 53.3 +0.5**
PRU pmax pmax
comp=Z,100nm,1.9s,mb5.3
PRU MLR MLR
comp=Z,1µm,20.0s,MS4.8
PRU Pruhonice 44.70 49 *e*P **P 16 48 53.3 +0.5**
comp=Z,100nm,1.9s,mb5.3
PRU *ex* x 16 49 19.2
PRU *ex* x 16 55 53.2
PRU AMS AMS 17 06 00.0
comp=Z,1µm,20.0s
PVCC Panska Ves 44.75 48 *e*P **P 16 48 53.2 +0.1**
PVCC MLR MLR
comp=Z,2µm,20.2s,MS4.9
PVCC Panska Ves 44.75 48 *e*P **P 16 48 53.2 +0.1**
PVCC *ex* x 16 49 19.3
PVCC AMS AMS 17 05 00.0
comp=Z,2µm,20.2s
VISS Visnje 44.87 55 *e*P **P 16 48 54.0 -0.2**
PDKS Podkum 44.98 55 *e*P **P 16 48 56.1 +1.1**
NATX Nacogdoches 45.31 285 PFAKE 16 49 10.0 +12
NATX LR LR
comp=Z,1µm,22.0s,MS4.8
ARSA Arzberg 45.31 53⇑*i*P **P 16 48 57.1 -0.6**
comp=Z,14nm,1.1s,mb4.7
SAML Samuel 45.63 212 *e*P **P 16 48 59.9 -0.8**
comp=Z,35nm,1.5s,mb5.1
SAML LR LR
comp=Z,1µm,20.0s,MS4.9
UPC Upice 45.67 48 *e*P **P 16 49 00.8 +0.4**
UPC *ex* x 16 49 27.5
MRLC Muro Lucano 45.74 62 *e*P **P 16 49 03.4 +2.2**
KSP Ksiaz 45.86 48 *e*P **P 16 49 02.0 +0.1**
KSP *e*S **S 16 55 51.0 +5.8**
KSP MLR MLR
comp=Z,3µm,20.5s,MS5.2
KSP Ksiaz 45.86 48 *e*P **P 16 49 02.0 +0.1**
KSP *e* 16 49 26.2
KSP *e*S **S 16 55 51.0 +5.8**
KSP LR LR
comp=Z,3µm,20.5s,MS5.2
KSP Ksiaz 45.86 48 *e*P **P 16 49 02.3 +0.4**
KSP MLR MLR 17 04 20.9
comp=Z,2µm,23.2s
DPC Dobruska-Polom 45.86 49 *e*P **P 16 49 02.1 +0.2**
DPC MLR MLR
comp=Z,1µm,18.4s,MS4.9
DPC Dobruska-Polom 45.86 49 *e*P **P 16 49 02.1 +0.2**
DPC *ex* x 16 49 28.0
DPC AMS AMS 17 05 20.0
comp=Z,1µm,18.4s
MGR Morigerati 45.87 63 *e*P **P 16 49 04.2 +1.9**
ZST Bratislava 46.36 52 *e*P **P 16 49 08.5 +2.6**
GKP Gorka Klasztor 46.56 45 *e*P **P 16 49 10.8 +3.4**
GKP MLR MLR
comp=Z,1µm,21.5s,MS4.8
GKP Gorka Klasztor 46.56 45 *e*P **P 16 49 10.8 +3.4**
GKP MLR MLR 17 05 28.1
comp=Z,1µm,21.5s
MORC Moravsky Berou 46.64 49 *e*P **P 16 49 07.5 -0.6**
comp=Z,17nm,1.4s,mb4.8
HKT Hockley 46.77 283 *e*P **P 16 49 10.1 +0.7**
comp=Z,24nm,1.3s,mb5.0
HKT LR LR
comp=Z,250nm,20.0s,MS4.2
OKC Ostrava-Krasne 47.03 49 *e*P **P 16 49 12.5 +1.3**
OKC MLR MLR
comp=Z,600nm,14.3s,MS4.7
OKC Ostrava-Krasne 47.03 49 *e*P **P 16 49 12.5 +1.3**
OKC *ex* x 16 49 37.3
OKC AMS AMS 17 07 40.0
comp=Z,600nm,14.3s
OTAV Otavalo 47.26 236 *e*P **P 16 49 14.2 +0.7**
comp=Z,17nm,1.2s,mb4.9
OTAV LR LR
comp=Z,812nm,21.0s,MS4.7
PKSM Moragy 47.50 54 *e*P **P 16 49 14.6 -0.4**
BDFB Brasilia 47.50 189 P **P 16 49 16.4 +1.0**
comp=Z,4.6nm,0.7s,mb4.6,baz=55,slow=9.7,SNR=4.7
BDFB Brasilia 47.50 189 P **P 16 49 16.4 +1.0**
BDFB pmax pmax
comp=Z,5.0nm,0.7s
VYHS Vyhne 47.51 51 *e*P **P 16 49 15.6 +0.6**
CBKS Cedar Bluff 47.85 296 PFAKE 16 49 30.0 +12
CBKS LR LR
comp=Z,3µm,20.0s,MS5.3
WMOK Wichita Mounta 47.94 290 *e*P **P 16 49 17.6 -1.0**
comp=Z,23nm,1.4s,mb5.0
WMOK LR LR
comp=Z,3µm,22.0s,MS5.2
OJC Ojcow 48.09 49 *e*P **P 16 49 18.8 -0.7**
OJC *e*S **S 16 56 24.8 +7.8**
OJC MLR MLR
comp=Z,1µm,18.4s,MS4.8
OJC Ojcow 48.09 49 *e*P **P 16 49 18.8 -0.7**
OJC *e*S **S 16 56 24.8 +7.8**
OJC MLR MLR 17 07 30.0
comp=Z,1µm,18.4s
PSZ Piszkesteto 48.24 52 *e*P **P 16 49 22.9 +2.1**
FFC Flin Flon 48.34 317 PFAKE 16 49 30.0 +8.6
FFC LR LR
comp=Z,1µm,21.0s,MS4.8
NIE Niedzica 48.45 50 *e*P **P 16 49 23.1 +0.8**
DIVS Divcibare 48.65 57⇓*i*P **P 16 49 23.9 -0.1**
CRVS Cervenica-Dubn 49.23 51 *i* P **P 16 49 29.3 +1.0**
KOLS Kolonicke sedl 49.76 50 *i* P **P 16 49 33.0 +0.6**
DGMT Dagmar 49.83 309 PFAKE 16 49 40.0 +7.0
DGMT LR LR
comp=Z,2µm,19.0s,MS5.2
JCT Junction City 49.90 285 *e*P **P 16 49 33.6 -0.2**
comp=Z,27nm,1.2s,mb5.2
JCT LR LR
comp=Z,1µm,22.0s,MS4.8
KWP Kalwaria 49.99 50 *e*P **P 16 49 35.9 +1.7**
KWP MLR MLR
comp=Z,700nm,25.5s,MS4.6
KWP Kalwaria 49.99 50 *e*P **P 16 49 35.9 +1.7**
KWP *e* 16 49 58.2
KWP Kalwaria 49.99 50 *e*P **P 16 49 35.9 +1.7**
KWP *e* 16 49 58.2
KWP MLR MLR 17 05 39.8
comp=Z,700nm,25.5s
BOLS Boljevac 50.09 57⇑*i*P **P 16 49 34.9 -0.1**
SUW Suwalki 50.12 44 *e*P **P 16 49 34.7 -0.4**
SUW MLR MLR
comp=Z,2µm,21.2s,MS5.0
SUW Suwalki 50.12 44 *e*P **P 16 49 34.7 -0.4**
SUW MLR MLR 17 08 00.9
comp=Z,2µm,21.2s
BARS Barje 50.15 58⇓*i*P **P 16 49 35.3 -0.2**
RSSD Black Hills 50.20 303 PFAKE 16 49 50.0 +14
RSSD LR LR
comp=Z,938nm,21.0s,MS4.8
AMTX Amarillo 50.22 291 *e*P **P 16 49 36.6 +0.4**
LAO LASA Array 51.38 307 PFAKE 16 50 00.0 +15
LAO LR LR
comp=Z,2µm,20.0s,MS5.1
FINES FINESS Array B 51.84 34 P **P 16 49 47.0 -1.0**
comp=Z,7.7nm,0.9s,mb4.6,baz=286,slow=14,SNR=15
FINES FINESS Array B 51.84 34 P **P 16 49 47.0 -1.0**
FINES pmax pmax
comp=Z,8.0nm,0.9s
KAF Kangasniemi 51.98 33 *e*p **P 16 49 48.8 -0.3**
comp=Z,14nm,1.1s,mb4.8
KAF Kangasniemi 51.98 33 *e*P **P 16 49 48.8 -0.3**
KAF pmax pmax
comp=Z,14nm,1.1s,mb4.8
ISCO Idaho Springs 52.13 298 *e*P **P 16 49 50.0 -0.6**
comp=Z,26nm,1.6s,mb4.9
ISCO LR LR
comp=Z,4µm,20.0s,MS5.5
ARCES ARCESS Array B 52.51 24 P **P 16 49 51.4 -1.6**
comp=Z,2.0nm,0.8s,mb4.1,baz=270,slow=8.5,SNR=7.0
ARCES ARCESS Array B 52.51 24 P **P 16 49 51.4 -1.6**
ARCES pmax pmax
comp=Z,2.0nm,0.8s
SDCO Great Sand Dun 52.51 296 P **P 16 49 53.2 -0.3**
SDCO LR LR
comp=Z,3µm,19.0s,MS5.3
MNK Minsk 52.83 43 *e*P **P 16 49 57.0 +1.4**
LTX Lajitas 53.44 285 P **P 16 50 00.4 -0.1**
LTX LR LR
comp=Z,1µm,20.0s,MS5.0
TXAR Lajitas Array 53.44 285 P **P 16 50 00.9 +0.4**
comp=Z,1.6nm,0.7s,mb4.1,baz=98,slow=8.8,SNR=10
GCMT Greycliff 53.88 306 *e*P **P 16 50 03.8 +0.3**
ANMO Albuquerque 53.99 292 *d*P **P 16 50 05.6 +1.2**
ANMO Albuquerque 53.99 292 *e*P **P 16 50 04.6 +0.2**
comp=Z,54nm,2.0s,mb5.1
ANMO LR LR
comp=Z,3µm,21.0s,MS5.3
AKASG Malin Array Be 54.05 48 P **P 16 50 03.2 -1.4**
comp=Z,12nm,0.8s,mb4.9,baz=276,slow=6.6,SNR=41
AKASG Malin Array Be 54.05 48 P **P 16 50 03.3 -1.3**
AKASG pmax pmax
comp=Z,12nm,0.8s
RW3 Ridgway 54.06 297 *e*P **P 16 50 05.6 +0.7**
JOF Joensuu 54.32 32 *e*p **P 16 50 07.4 +1.0**
comp=Z,11nm,1.1s,mb4.7
JOF Joensuu 54.32 32 *e*P **P 16 50 07.4 +1.0**
JOF pmax pmax
comp=Z,11nm,1.1s,mb4.7
LPAZ La Paz 54.34 213 P **P 16 50 07.8 +0.6**
comp=Z,2.8nm,0.9s,mb4.2,baz=30,slow=8.1,SNR=8.8
LPAZ La Paz 54.34 213 P **P 16 50 07.8 +0.6**
LPAZ pmax pmax
comp=Z,3.0nm,0.9s
KIS Kishinev 54.36 52 *e*P **P 16 50 06.0 -1.0**
KIS pmax pmax
comp=Z,80nm,2.0s,mb5.3
KIS MLR MLR
comp=Z,500nm,17.0s,MS4.7
KIS MLR MLR
comp=N,300nm,20.0s,MS4.6
KIS MLR MLR
comp=E,400nm,15.0s,MS4.6
KIS MLR MLR
comp=Z,500nm,17.0s
PDAR Pinedale Array 54.40 303 P **P 16 50 07.2 -0.1**
comp=Z,9.7nm,1.0s,mb4.7,baz=79,slow=7.6,SNR=46
BW06 Boulder Array 54.40 303 *e*P **P 16 50 06.5 -0.8**
comp=Z,48nm,1.2s,mb5.3
BW06 LR LR
comp=Z,5µm,20.0s,MS5.6
LKWY Lake 54.63 305 PFAKE 16 50 20.0 +11
LKWY LR LR
comp=Z,5µm,21.0s,MS5.5
PV01 Paradox Valley 54.77 297 *e*P **P 16 50 10.9 +0.8**
YNR Norris Junctio 54.79 305 *e*P **P 16 50 11.0 +0.8**
LOHW Long Hollow 54.97 304 *e*P **P 16 50 11.1 -0.4**
YKA Yellowknife Ar 54.99 327 P **P 16 50 10.8 -0.6**
comp=Z,2.6nm,0.9s,mb4.3,baz=86,slow=7.6,SNR=5.9
YKA Yellowknife Ar 54.99 327 P **P 16 50 10.8 -0.6**
YKA pmax pmax
comp=Z,3.0nm,0.9s
YMR Madison River 55.00 305 *e*P **P 16 50 12.8 +1.0**
WUWY Wally Ulrich 55.08 304 *e*P **P 16 50 12.6 +0.3**
EDM Edmonton 55.11 316 *e*P **P 16 50 10.9 -1.5**
SNOW Snow King Moun 55.11 304 *e*P **P 16 50 12.0 -0.5**
REDW Red Top Meadow 55.20 303 *e*P **P 16 50 13.0 -0.2**
TPAW Teton Pass 55.24 304 *e*P **P 16 50 13.3 -0.2**
BOZ Bozeman (W) 55.26 306 PFAKE 16 50 30.0 +16
BOZ LR LR
comp=Z,2µm,19.0s,MS5.2
QLMT Earthquake Lak 55.29 305 *e*P **P 16 50 14.0 +0.1**
NNA Nana 55.38 224 PFAKE 16 50 30.0 +15
NNA LR LR
comp=Z,205nm,20.0s,MS4.2
AHID Auburn Hatcher 55.51 303 *e*P **P 16 50 15.4 0.0**
AHID LR LR
comp=Z,4µm,20.0s,MS5.4
SRU San Rafael 55.99 298 *e*P **P 16 50 18.6 -0.3**
CHMT Chamberlain Mo 56.11 308 *e*P **P 16 50 17.4 -2.3**
HWUT Hardware Ranch 56.12 302 *e*P **P 16 50 19.6 -0.2**
comp=Z,26nm,1.4s,mb5.1

HWUT LR LR
comp=Z,6µm,21.0s,MS5.6
MCMT McKenzie Canyo 56.28 306 *e*P **P 16 50 21.0 +0.1**
JLU Jordanelle 56.29 300 *e*P **P 16 50 20.7 -0.4**
MSO Missoula 56.59 308 PFAKE 16 50 40.0 +17
MSO LR LR
comp=Z,2µm,20.0s,MS5.1
PAYG Puerto Ayora 56.67 245 PFAKE 16 50 40.0 +16
PAYG LR LR
comp=Z,338nm,19.0s,MS4.5
SPUT South Promonto 56.84 301 *e*P **P 16 50 24.1 -0.9**
NLU North Lily Min 56.92 300 *e*P **P 16 50 25.3 -0.3**
HVU Hansel Valley 56.95 302 *e*P **P 16 50 24.8 -1.1**
MSU Marysvale 57.39 298 *e*P **P 16 50 29.5 +0.5**
DUG Dugway 57.40 300 *e*P **P 16 50 28.9 -0.1**
MVU Marysvale 57.42 298 *e*P **P 16 50 29.3 +0.1**
comp=Z,44nm,1.6s,mb5.2
MVU LR LR
comp=Z,3µm,20.0s,MS5.5
HLID Hailey 57.67 304 PFAKE 16 50 40.0 +9.2
HLID LR LR
comp=Z,2µm,21.0s,MS5.2
OBN Obninsk 57.77 42 *e*P **P 16 50 30.7 -0.6**
OBN *i* 16 50 36.7
OBN pmax pmax
comp=Z,29nm,1.2s,mb5.2
OBN Obninsk 57.77 42 PFAKE 16 50 40.0 +8.7
OBN LR LR
comp=Z,275nm,20.0s,MS4.4
TUC Tucson 58.23 291 PFAKE 16 50 50.0 +15
TUC LR LR
comp=Z,2µm,22.0s,MS5.1
MOS Moscow 58.25 41 *e*P **P 16 50 36.8 +2.1**
MOS pmax pmax
comp=Z,35nm,0.7s,mb5.5
NEW Newport 58.37 310 *e*P **P 16 50 34.1 -1.5**
comp=Z,32nm,1.3s,mb5.2
NEW LR LR
comp=Z,2µm,21.0s,MS5.2
ARUT Antelope Range 58.56 298 *e*P **P 16 50 36.8 -0.3**
DPW Davenport 59.17 310 *e*P **P 16 50 40.4 -0.8**
BRTR Keskin Array B 59.51 60 P **P 16 50 43.0 -0.7**
comp=Z,3.8nm,0.8s,mb4.5,baz=270,slow=4.9,SNR=22
BRTR Keskin Array B 59.51 60 P **P 16 50 43.0 -0.7**
BRTR pmax pmax
comp=Z,4.0nm,0.9s
CPUP Villa Florida 59.74 197 P **P 16 50 43.9 -1.5**
comp=Z,5.7nm,1.2s,mb4.5,baz=48,slow=5.8,SNR=4.1
CPUP Villa Florida 59.74 197 P **P 16 50 43.9 -1.5**
CPUP pmax pmax
comp=Z,6.0nm,1.2s
LNOR Lincton Mounta 59.74 308 *e*P **P 16 50 44.5 -0.7**
VOR Voronezh 60.02 45 P **P 16 50 47.0 0.0**
VOR *e* 16 50 52.5
VOR pmax pmax
comp=Z,50nm,2.0s,mb5.2
VOR pmax pmax
comp=E,50nm,1.7s
NEN Nelson 60.30 296 *e*P **P 16 50 49.0 -0.3**
HAWA Hanford 60.43 309 PFAKE 16 51 00.0 +10
HAWA LR LR
comp=Z,2µm,21.0s,MS5.2
NLW Nelson Butte 60.50 311 *e*P **P 16 50 49.6 -0.8**
BMN Battle Mountai 60.56 302 PFAKE 16 51 00.0 +9.1
BMN LR LR
comp=Z,3µm,20.0s,MS5.4
LDFC Landfair 60.70 295 *e*P **P 16 50 51.5 -0.4**
ANN Anapa 60.72 53 *e*P **P 16 51 06.9 +15**
ANN pmax pmax
comp=Z,87nm,1.7s,mb5.6
ANN MLR MLR
comp=Z,364nm,16.0s,MS4.6
ANN MLR MLR
comp=N,196nm,14.0s
ANN MLR MLR
comp=E,508nm,22.0s
TPH Tonopah 61.31 299 PFAKE 16 51 10.0 +14
TPH LR LR
comp=Z,4µm,21.0s,MS5.6
VGB Gordon Butte 61.51 308 *e*P **P 16 50 57.2 -0.1**
VIPM Ingram Point 61.71 307 P **P 16 51 00.4 +1.8**
MNV Mina 61.88 300 PFAKE 16 51 10.0 +10
MNV LR LR
comp=Z,5µm,20.0s,MS5.7
INK Inuvik 61.95 335 *e*P **P 16 50 58.8 -1.1**
comp=Z,39nm,1.3s,mb5.4
NVAR Mina Array Bea 61.99 300 P **P 16 51 00.5 -0.1**
comp=Z,1.8nm,0.8s,mb4.3,baz=78,slow=7.4,SNR=12
DAC Darwin (Calif) 62.19 297 PFAKE 16 51 10.0 +8.0
DAC LR LR
comp=Z,2µm,20.0s,MS5.2
PFO Pinyon Flat Ob 62.25 294 PFAKE 16 51 10.0 +7.6
PFO LR LR
comp=Z,763nm,20.0s,MS4.9
MOD Modoc 62.30 304 PFAKE 16 51 10.0 +7.3
MOD LR LR
comp=Z,2µm,20.0s,MS5.2
OCWA Octopus Mounta 63.07 311 PFAKE 16 51 20.0 +12
OCWA LR LR
comp=Z,3µm,19.0s,MS5.5
LTIM Timbered Crate 63.38 304 P **P 16 51 10.4 +0.6**
LBCM Butte Creek Ri 63.40 303 P **P 16 51 10.3 +0.5**
COR Corvallis 63.50 308 PFAKE 16 51 20.0 +9.5
COR LR LR
comp=Z,391nm,19.0s,MS4.6
CMB Columbia Colle 63.67 300 PFAKE 16 51 20.0 +8.3
CMB LR LR
comp=Z,4µm,20.0s,MS5.6
LHEM Herd Peak 63.75 304 P **P 16 51 12.7 +0.5**
HUMO Hull Mountain 63.93 306 PFAKE 16 51 30.0 +17
HUMO LR LR
comp=Z,2µm,22.0s,MS5.2
OHCM Honcut 64.01 302 *e*P **P 16 51 13.2 -0.8**
YBH Yreka Blue Hor 64.06 305 PFAKE 16 51 30.0 +16
YBH LR LR
comp=Z,1µm,20.0s,MS5.0
WDC Whiskeytown Da 64.34 303 PFAKE 16 51 30.0 +14
WDC LR LR
comp=Z,2µm,20.0s,MS5.3
GOF Gofitskoye 64.42 51 *e*P **P 16 51 18.0 +1.5**
GOF pmax pmax
comp=Z,20nm,1.4s,mb5.0
KIV Kislovodsk 64.56 53 *c i*P **P 16 51 19.0 +1.6**
KIV *i* 16 51 29.7
KIV *i* 16 51 37.9
KIV pmax pmax
comp=Z,27nm,1.7s,mb5.0
KIV MLR MLR
comp=Z,200nm,16.0s,MS4.4
KIV Kislovodsk 64.56 53 *e*P **P 16 51 16.4 -1.0**
SAO San Andreas Ge 64.91 299 PFAKE 16 51 30.0 +10
SAO LR LR
comp=Z,4µm,20.0s,MS5.6
KHMM Horse Mountain 65.08 304 P **P 16 51 19.8 -1.1**
HOPS Hopland 65.29 302 PFAKE 16 51 30.0 +7.8
HOPS LR LR
comp=Z,2µm,21.0s,MS5.2
DAWY Dawson 65.56 331 *e*P **P 16 51 23.2 -0.3**
GNI Garni 67.38 56 *c i*P **P 16 51 36.3 +0.7**
GNI pmax pmax
comp=Z,24nm,1.1s
GNI MLR MLR
comp=Z,100nm,10.0s
GNI Garni 67.38 56 *e*P **P 16 51 34.7 -0.8**
comp=Z,66nm,1.6s,mb5.4
GNI LR LR
comp=Z,209nm,20.0s,MS4.3
ILAR Eielson Array 68.21 334 P **P 16 51 40.7 +0.4**
comp=Z,5.3nm,1.0s,mb4.5,baz=52,slow=4.5,SNR=36
ILAR Eielson Array 68.21 334 P **P 16 51 40.7 +0.4**
ILAR pmax pmax
comp=Z,5.0nm,1.0s
COLA College 68.52 334 *e*P **P 16 51 43.2 +0.9**
COLA College 68.52 334 PFAKE 16 51 50.0 +7.7
COLA LR LR
comp=Z,2µm,20.0s,MS5.3
ARU Arti 69.15 36 ⇑ *i*P **P 16 51 45.2 -1.1**
ARU *i* 16 52 07.1
ARU *e* 16 54 17.0
ARU *e*S S 17 00 48.0 -2.4
ARU *e*SS SS 17 05 22.9 +4.4
ARU pmax pmax
comp=Z,14nm,1.0s,mb4.8
DIV Divide 69.49 330 PFAKE 16 52 00.0 +12
DIV LR LR
comp=Z,7µm,20.0s,MS5.9
MCK McKinley 69.50 333 *e*P **P 16 51 46.7 -1.6**
comp=Z,20nm,1.4s,mb4.9
MCK LR LR
comp=Z,848nm,19.0s,MS5.0
IMA Indian Mountai 69.99 336 P **P 16 51 49.6 -1.6**
SVE Sverdlovsk 70.00 35 ⇑ *e*P **P 16 51 51.0 -0.4**
SVE *e* 16 52 13.7
SVE pmax pmax
comp=Z,80nm,2.2s,mb5.3
SVE MLR MLR
comp=N,400nm,17.0s,MS4.9
SVE MLR MLR
comp=E,500nm,17.0s,MS4.9
SVE MLR MLR
comp=Z,1µm,17.0s,MS5.1
FIB Fire Island 71.32 331 PFAKE 16 52 10.0 +11
FIB LR LR
comp=Z,2µm,22.0s,MS5.4
TRQA Tornquist 72.07 197 PFAKE 16 52 20.0 +16
TRQA LR LR
comp=Z,749nm,19.0s,MS5.0
SPU Mount Spurr 72.08 332 *e*P **P 16 52 03.3 -0.6**
KDAK Kodiak Island 74.20 329 PFAKE 16 52 30.0 +14
KDAK LR LR
comp=Z,924nm,21.0s,MS5.0
MBAR Mbarara 74.77 100 *e*P **P 16 52 20.6 +0.1**
comp=Z,11nm,1.1s,mb4.7
MBAR LR LR
comp=Z,556nm,21.0s,MS4.8
TNA Tin City 74.86 340 PFAKE 16 52 30.0 +10
TNA LR LR
comp=Z,551nm,22.0s,MS4.8
BRVK Borovoye 76.71 35 *e*P **P 16 52 30.5 -0.2**
comp=Z,25nm,1.6s,mb4.9
BRVK LR LR
comp=Z,112nm,20.0s,MS4.2
TIXI Tiksi 76.75 3 *e*P **P 16 52 31.5 +0.9**
TIXI *e* 16 52 37.8
TIXI *i* 16 52 43.6
TIXI pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
TIXI MLR MLR
comp=Z,300nm,16.0s,MS4.7
TIXI Tiksi 76.75 3 PFAKE 16 52 40.0 +9.4
TIXI LR LR
comp=Z,354nm,21.0s,MS4.7
KMBO Kilima Mbogo 80.54 97 P **P 16 52 54.4 +1.9**
comp=Z,0.5nm,0.6s,mb3.6,baz=341,slow=4.0,SNR=5.5
KMBO Kilima Mbogo 80.54 97 *e*P **P 16 52 53.2 +0.8**
comp=Z,10nm,1.5s,mb4.5
KMBO LR LR
comp=Z,2µm,20.0s,MS5.5
LSZ Lusaka 80.98 114 *e*P **P 16 52 55.4 +0.7**
comp=Z,19nm,1.3s,mb4.9
LSZ LR LR
comp=Z,1µm,22.0s,MS5.2
NVS Novosibirsk 81.44 29 *i*P **P 16 52 56.2 -0.1**
NVS pmax pmax
comp=Z,63nm,2.2s,mb5.2
NVS pmax pmax
comp=N,32nm,2.4s
NVS pmax pmax
comp=E,24nm,2.4s
KURK Kurchatov 82.21 34 ⇑ *e*P **P 16 53 01.1 +0.7**
KURK Kurchatov 82.21 34 *e*P **P 16 53 00.3 -0.1**
comp=E,34nm,1.5s,mb5.0
KURK LR LR
comp=Z,104nm,20.0s,MS4.2
FRU Bishkek 85.24 42 *e*P **P 16 53 18.0 +2.1**
AAK Ala-Archa 85.29 42 ⇑ *e*P **P 16 53 17.3 +1.1**
AAK pmax pmax
comp=Z,9.0nm,1.5s,mb4.7
AAK MLR MLR
comp=Z,300nm,16.0s,MS4.8
AAK Ala-Archa 85.29 42 *e*P **P 16 53 15.8 -0.4**
comp=Z,23nm,1.8s,mb5.0
AAK LR LR
comp=Z,114nm,21.0s,MS4.2
YAK Yakutsk 86.35 4 ⇑ *e*P **P 16 53 21.6 +0.6**
YAK MLR MLR
comp=Z,200nm,19.0s,MS4.5
YAK Yakutsk 86.35 4 PFAKE 16 53 30.0 +9.0
YAK LR LR
comp=Z,535nm,22.0s,MS4.9
KSH Kashi 88.15 44 *e*P **P 16 53 30.0 -0.2**
KSH *e*AP pP 16 53 34.3 +0.9
KSH *e*XP sP 16 53 36.5 +2.0
KSH *e*PP PP 16 56 58.8 -0.8
KSH *e*PPP PPP 16 58 55.0 -2.8
KSH *e*SKS SKS 17 03 55.5 -6.0
KSH *e*S S 17 04 11.3 -1.2
KSH AMB AMB
comp=Z,100nm,4.6s
MA2 Magadan 88.61 354 PFAKE 16 53 40.0 +8.1
MA2 LR LR
comp=Z,307nm,20.0s,MS4.7
WMQ Urumqi 91.44 34 *e*P **P 16 53 47.5 +2.0**
WMQ PP PP 16 57 28.0 +2.1
WMQ SKS SKS 17 04 18.0 -3.2
WMQ S S 17 04 44.0 +1.7
WMQ SS SS 17 10 53.0 +1.4
WMQ AMB AMB
comp=Z,8.0nm,1.2s,mb4.9
WMQ LR LR
comp=N,329nm,22.0s,MS5.0
WMQ LR LR
comp=E,468nm,22.0s,MS5.0
WMQ LR LR
comp=Z,531nm,23.0s,MS4.9
ZAK Zakamensk 92.40 22 *e*P **P 16 53 51.0 +1.2**
PET Petropavlovsk 93.98 348 PFAKE 16 54 10.0 +13
PET LR LR
comp=Z,558nm,19.0s,MS5.0
DDI Dehra Dun 95.46 49 *e* **P 16 54 05.0 +0.6**
SONM Songino Array 95.62 21 P **P 16 54 05.1 +0.4**
comp=Z,0.9nm,1.0s,mb4.2,baz=342,slow=3.9,SNR=4.7
ULN Ulaanbaatar 95.80 21 PFAKE 16 54 20.0 +15
ULN LR LR
comp=Z,320nm,19.0s,MS4.8
POHA Pohakuloa 99.15 300 PFAKE 16 54 30.0 +8.8
POHA LR LR
comp=Z,1µm,20.0s,MS5.4
GUN Gumba 102.07 46 *e*P Pdif 16 54 44.0 +10
VNA3 Neumayer Olymp 104.96 170 ⇑ *i*P 16 59 05.5
VNA3 Neumayer Olymp 104.96 170 16 59 08.1
VNA3 Neumayer Olymp 104.96 170 ⇑ *i* 16 59 08.9
VNA3 Neumayer Olymp 104.96 170 ⇑ *i* 16 59 12.0
LZH Lanzhou 104.97 29 *e*P Pdif 16 54 45.4 -1.5
comp=Z,22nm,1.6s
LZH pP 16 54 50.3
LZH PP PP 16 59 07.5 -2.8
LZH *e*SKS SKS 17 05 23.5 -7.0
LZH *e*S 17 05 33.7
LZH sS 17 06 41.8
LZH *e*SS SS 17 13 55.7 -5.4
LZH LR LR
comp=Z,2µm,18.3s,MS5.6
BJI Beijing 105.59 18 PDIF Pdif 16 54 46.8 -2.7
BJI LR LR
comp=Z,340nm,21.0s,MS4.9
BJI Beijing 105.59 18 Pdif Pdif 16 54 46.8 -2.7
BJI SS Sx 17 14 42.7
BJI LR LR
comp=Z,340nm,21.0s,MS4.9
SNAA Sanae 106.43 168 P 16 59 08.6
MAJO Matsushiro 112.17 1 PFAKE 16 59 30.0 +13
MAJO LR LR
comp=Z,432nm,21.0s,MS5.0
PALK Pallekele 112.22 66 PFAKE 16 59 30.0 +13
PALK LR LR
comp=Z,99nm,19.0s,MS4.4
KMI Kunming 113.73 36 *e*PKP PKPdf 16 59 16.8 -3.4
KMI PP PP 17 00 12.5 -2.4
KMI SS SS 17 16 00.5 +1.1
KMI LR LR
comp=Z,208nm,27.0s,MS4.6
KMI Kunming 113.73 36 *e*PKP PKPdf 16 59 16.7 -3.5
KMI PP PP 17 00 12.5 -2.4
KMI PS PS 17 09 48.8 +2.4
KMI SS SS 17 16 00.5 +1.1
KMI LR LR
comp=Z,210nm,27.0s,MS4.6
SSE Sheshan 115.34 17 PKP PKPdf 16 59 22.0 -1.2
SSE PP PP 17 00 25.5 -0.6
SSE SS SS 17 16 18.0 -2.2
SSE PP PP
comp=Z,44nm,5.4s
SSE LR LR
comp=N,87nm,21.9s,MS4.5
SSE LR LR
comp=E,81nm,22.0s,MS4.5
SSE LR LR
comp=Z,154nm,20.6s,MS4.6
SSE Sheshan 115.34 17 PKP PKPdf 16 59 21.9 -1.3
SSE PP PP 17 00 25.5 -0.6
SSE SS SS 17 16 17.9 -2.3
SSE LR LR
comp=Z,150nm,20.6s,MS4.6
SYO Syowa Base 115.87 157 ⇑ Pdiff Pdif 16 55 38.1 +4.0
CMAR Chiang Mai Arr 117.05 43 PKP PKPdf 16 59 25.0 -1.7
comp=Z,0.3nm,0.8s,baz=299,slow=2.1,SNR=4.2
QSPA South Pole Qui 121.54 180 PKP PKPdf 16 59 31.5 -2.6
QSPA LR LR
comp=Z,386nm,22.0s,MS5.0
QIZ Qiongzhong 122.34 33 PKP PKPdf 16 59 28.5 -8.4
VNDA Vanda 132.89 187 PKP PKPdf 16 59 54.2 -1.6
comp=Z,2.4nm,1.0s,baz=254,slow=3.9,SNR=12
VNDA Vanda 132.89 187 PKIKP PKPdf 16 59 54.2 -1.6
VNDA pmax pmax
comp=Z,2.0nm,1.0s
CASY Casey 141.31 162 PFAKE 17 00 20.0 +8.7
CASY LR LR
comp=Z,620nm,21.0s,MS5.3
PMG Port Moresby 156.63 340 PFAKE 17 00 50.0 +13
PMG LR LR
comp=Z,666nm,19.0s,MS5.5
MBWA Marble Bar 159.81 64 PFAKE 17 00 50.0 +10
MBWA LR LR
comp=Z,349nm,20.0s,MS5.2
NWAO Narrogin (SRO) 161.49 100 PFAKE 17 00 50.0 +8.2
NWAO LR LR
comp=Z,753nm,19.0s
CTA Charters Tower 166.81 329 PKP PKPdf 17 00 45.7 -1.4
comp=Z,3.6nm,0.9s,baz=93,slow=2.2,SNR=4.0
CTA Charters Tower 166.81 329 PKIKP PKPdf 17 00 45.7 -1.4
CTA pmax pmax
comp=Z,4.0nm,0.9s
CTA Charters Tower 166.81 329 PKP PKPdf 17 00 45.7 -1.4
CTAO Charters Tower 166.81 329 PFAKE 17 01 00.0 +13
CTAO LR LR
comp=Z,970nm,20.0s
WRAB Tennant Creek 167.59 21 PFAKE 17 01 00.0 +12
WRAB LR LR
comp=Z,231nm,21.0s
WRA Warramunga Arr 167.60 21 PKP PKPdf 17 00 46.1 -1.5
comp=Z,1.1nm,1.0s,baz=260,slow=1.8,SNR=5.1
WRA PKPab PKPab 17 01 51.6 -1.1
comp=Z,3.1nm,1.2s,baz=350,slow=4.2,SNR=3.7
ASAR Alice Springs 170.83 31 PKP PKPdf 17 00 48.1 -1.3
comp=Z,1.9nm,1.0s,baz=332,slow=0.8,SNR=10
ASAR PKPab PKPab 17 02 06.5 -0.4
comp=Z,3.2nm,0.9s,baz=331,slow=4.2,SNR=11

IDC ***25*** *16:40:59.1±0.6,31.69N×40.92W,mb4.4/17,mb1 4.6/17, mb1mx4.5/22, Error ellipse: s-maj=18.7km s-min=13.9km az=143.0*

NEIC ***25*** *16:41:00.9±0.3,31.66N×40.93W,h10km,mb4.9/14, Error ellipse: s-maj=10.3km s-min=7.3km az=160.0*

ISC 25 16:41:01.0±0.4,31.53N±0.08×41.30W±0.06,h10km,n65,
σ1§12/58,mb4.6/31,1C,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SJG	**San Juan**	**26.13**	**245**	P		**P**	**16 46 38.7 +1.6**
	11nm,0.4s,mb4.7,baz=30,slow=8.1,SNR=6.7						
ESDC	**Sonseca Array**	**31.25**	**64**	P		**P**	**16 47 18.5 -4.5**
	1.2nm,0.7s,mb3.9,baz=264,slow=9.3,SNR=4.4						
ROSF	**Rostrenen**	**33.24**	**49**	*e*pP		**P**	**16 47 40.4 +0.1**
EPF	**Esparros**	**34.74**	**59**	*e*pP		**P**	**16 47 53.8 +0.5**
MFF	**Saint Martin d**	**34.90**	**52**	*e*pP		**P**	**16 47 55.1 +0.5**
FLN	**La Foliniere**	**35.14**	**49**	*e*pP		**P**	**16 47 57.0 +0.3**
FLN				*e*R			
	2µm,20.2s						
SDV	**Santo Domingo**	**35.36**	**237**	*e*P		**P**	**16 48 01.4 +2.5**
	64nm,0.9s,mb5.5						
CAF	**Calviac**	**36.17**	**56**	*e*pP		**P**	**16 48 05.5 0.0**
TCF	**Toulx Ste Croi**	**36.45**	**53**	*e*pP		**P**	**16 48 08.3 +0.5**
BGF	**Bois d'Agland**	**36.92**	**53**	*e*pP		**P**	**16 48 12.2 +0.4**
SMF	**Signal de Mont**	**37.62**	**53**	*e*pP		**P**	**16 48 18.3 +0.7**
LOR	**Lormes**	**37.71**	**52**	*e*pP		**P**	**16 48 18.9 +0.5**
LOR				*e*R			
	880nm,20.2s						
BAIF	**Baives**	**38.41**	**48**	*e*pP		**P**	**16 48 24.6 +0.4**
LRAL	**Lakeview Retre**	**38.43**	**285**	*e*P		**P**	**16 48 26.0 +1.5**
	4.2nm,0.4s,mb4.5						
WVT	**Waverly**	**38.64**	**290**	P		**P**	**16 48 27.0 +0.8**
	7.5nm,0.8s,mb4.5						
CDF	**Champ du Feu**	**40.14**	**51**	*e*pP		**P**	**16 48 39.3 +0.7**
ORO	**Oropa**	**40.39**	**55**	*e*P		**P**	**16 48 42.0 +1.3**
DBIC	**Dimbokro**	**42.07**	**118**	P		**P**	**16 48 52.5 -2.4**
	12nm,1.1s,mb4.5,baz=298,slow=9.9,SNR=5.7						
DBIC	**Dimbokro**	**42.07**	**118**	P		**P**	**16 48 52.5 -2.4**
FNVD	**Fontana Vidola**	**42.60**	**57**	*e*P		**P**	**16 48 58.8 -0.1**
CLL	**Collm**	**44.12**	**47**	*i* P		**P**	**16 49 08.1 -3.0**
CLL				*i*			16 49 13.4
CLL				*e*S		**S**	**16 55 43.0 -0.4**
CLL	**Collm**	**44.12**	**47**	*e*S		**S**	**16 55 43.0 -0.4**
ULM	**Lac du Bonnet**	**44.21**	**311**	P		**P**	**16 49 11.8 0.0**
	3.4nm,0.6s,mb4.3,baz=87,slow=10,SNR=3.4						
KHC	**Kasperske Hory**	**44.35**	**50**	*e*S		**S**	**16 55 42.2 -4.5**
GERES	**GERESS Array B**	**44.42**	**51**	P		**P**	**16 49 08.7 -4.9**
	2.3nm,0.7s,mb4.0,baz=264,slow=7.3,SNR=7.7						
NOA	**NORSAR Array B**	**44.97**	**33**	P		**P**	**16 49 13.6 -4.2**
	3.5nm,0.8s,mb4.2,baz=254,slow=8.0,SNR=4.9						
SAML	**Samuel**	**45.37**	**211**	*e*P		**P**	**16 49 21.4 -0.2**
	15nm,0.9s,mb4.8						
DPC	**Dobruska-Polom**	**46.17**	**49**	*e*S		**S**	**16 56 14.1 +1.3**
HKT	**Hockley**	**46.48**	**283**	*e*P		**P**	**16 49 27.9 -2.3**
	16nm,1.1s,mb4.8						
OTAV	**Otavalo**	**46.94**	**236**	*e*P		**P**	**16 49 35.3 +1.3**
	12nm,0.8s,mb4.9						
MORC	**Moravsky Berou**	**46.95**	**49**	*e*P		**P**	**16 49 29.9 -3.7**
	20nm,1.2s,mb4.9						
BDFB	**Brasilia**	**47.34**	**189**	P		**P**	**16 49 37.0 -0.1**
	2.4nm,0.5s,mb4.4,baz=2.6,slow=6.2,SNR=5.5						
WMOK	**Wichita Mounta**	**47.68**	**290**	*e*P		**P**	**16 49 39.9 +0.3**
	17nm,1.0s,mb5.0						
PSZ	**Piszkesteto**	**48.56**	**52**	*e*P		**P**	**16 49 43.2 -3.0**
	30nm,1.3s,mb5.2						
AMTX	**Amarillo**	**49.97**	**291**	*e*P		**P**	**16 49 57.0 -0.3**
	20nm,1.0s,mb5.1						
OHR	**Ohrid**	**50.00**	**61** ⇑	*i*P		**P**	**16 49 58.8 +1.4**
SKO	**Skopje**	**50.33**	**59**	*e*P		**P**	**16 50 00.1 +0.2**
ISCO	**Idaho Springs**	**51.91**	**298**	*e*P		**P**	**16 50 10.1 -1.8**
	4.1nm,0.7s,mb4.5						
FINES	**FINESS Array B**	**52.11**	**34**	P		**P**	**16 50 08.1 -5.0**
	4.8nm,0.7s,mb4.5,baz=243,slow=4.3,SNR=7.3						
SDCO	**Great Sand Dun**	**52.28**	**296**	*e*P		**P**	**16 50 15.3 +0.5**
	8.3nm,1.1s,mb4.6						
ARCES	**ARCESS Array B**	**52.74**	**24**	P		**P**	**16 50 12.0 -5.8**
	1.5nm,0.6s,mb4.1,baz=252,slow=7.7,SNR=11						
ARCES	**ARCESS Array B**	**52.74**	**24**	P		**P**	**16 50 12.0 -5.8**
TXAR	**Lajitas Array**	**53.17**	**285**	P		**P**	**16 50 21.1 -0.3**
	1.1nm,0.7s,mb3.9,baz=90,slow=8.8,SNR=5.1						
GCMT	**Greycliff**	**53.70**	**306**	*e*P		**P**	**16 50 25.7 +0.6**
ANMO	**Albuquerque**	**53.74**	**292**	*e*P		**P**	**16 50 26.5 +0.9**
	5.0nm,0.7s,mb4.5						
LPAZ	**La Paz**	**54.07**	**212**	P		**P**	**16 50 28.1 -0.2**
	3.1nm,0.4s,mb4.6,baz=6.1,slow=11,SNR=9.6						
BW06	**Boulder Array**	**54.20**	**303**	P		**P**	**16 50 28.4 -0.5**
	18nm,1.0s,mb5.0						
PDAR	**Pinedale Array**	**54.20**	**303**	P		**P**	**16 50 27.7 -1.1**
	11nm,0.9s,mb4.8,baz=79,slow=7.6,SNR=7.5						
AKASG	**Malin Array Be**	**54.37**	**48**	P		**P**	**16 50 23.9 -6.1**
	6.4nm,0.6s,mb4.8,baz=277,slow=6.7,SNR=4.7						
CHMT	**Chamberlain Mo**	**55.93**	**308**	P		**P**	**16 50 40.9 -0.5**
OBN	**Obninsk**	**58.06**	**41**	*e*S		**S**	**16 58 54.4 -1.1**
CPUP	**Villa Florida**	**59.53**	**197**	P		**P**	**16 51 05.2 -1.9**
	2.3nm,0.7s,mb4.3,baz=16,slow=9.6,SNR=4.2						
BRTR	**Keskin Array B**	**59.85**	**59**	P		**P**	**16 51 03.9 -5.2**
	3.8nm,0.9s,mb4.4,baz=284,slow=5.1,SNR=6.0						
NVAR	**Mina Array Bea**	**61.77**	**300**	P		**P**	**16 51 21.3 -0.9**
	2.9nm,0.9s,mb4.4,baz=75,slow=7.2,SNR=7.3						
NVAR	**Mina Array Bea**	**61.77**	**300**	P		**P**	**16 51 21.3 -0.9**
KIV	**Kislovodsk**	**64.88**	**52**	*e*S		**S**	**17 00 16.1 -6.1**
ILAR	**Eielson Array**	**68.17**	**334**	P		**P**	**16 52 02.1 -1.0**
	6.7nm,1.0s,mb4.6,baz=50,slow=4.3,SNR=8.5						
GKN	**Gorkha**	**101.55**	**47**	*e*P		P	16 54 56.3 +1.3

3.0nm,0.4s
KKN Kakani 102.10 47 *e*P Pdif 16 54 50.7 -6.8
6.4nm,0.5s
DMN Daman 102.12 47 *e*P Pdif 16 54 52.1 -5.5
PKI Pulchoki 102.33 47 *e*P Pdif 16 54 48.6 -10
CMAR Chiang Mai Arr 117.35 43 PKP PKPdf 16 59 45.9 -4.5
0.7nm,0.7s,baz=314,slow=2.4,SNR=4.2
VNDA Vanda 132.74 197 PKP PKPdf 17 00 15.2 -3.4
6.3nm,1.2s,baz=282,slow=3.1,SNR=9.9
WRA Warramunga Arr 167.82 20 PKP PKPdf 17 01 06.5 -4.2
1.2nm,0.9s,baz=302,slow=1.0,SNR=5.0
ASAR Alice Springs 171.09 30 PKP PKPdf 17 01 08.9 -3.7
1.6nm,0.9s,baz=343,slow=0.7,SNR=7.7
ASAR PKPab PKPab 17 02 27.1 -3.9
2.5nm,0.8s,baz=338,slow=4.9,SNR=6.1

WEL 25 17:14:21.9±0.1, 40.62S×175.07E, h38km±2km, ML3.5/7, 2C-3D, Error ellipse: s-maj=1.1km s-min=0.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIW	**Kapiti Island**	**0.27**	**207**	⇓*i*P*	P	17 14 29.3	-0.5
KIW				*S*	S	17 14 35.0	-0.2
KIW				*S*	S	17 14 35.1	-0.2
MRZ	**Mangatainoka R**	**0.39**	**96**	⇓P*	P	17 14 31.0	-0.2
MRZ				*S*	S	17 14 38.1	+0.4
CAW	**Cannon Point**	**0.49**	**180**	*P*	P	17 14 32.3	-0.2
CAW				*S*	S	17 14 40.8	+0.9
MTW	**Mount Morrison**	**0.63**	**149**	*P*	P	17 14 34.0	-0.4
MTW				*S*	S	17 14 44.3	+0.9
MRW	**Makara Radio**	**0.67**	**205**	*P*	P	17 14 34.7	-0.2
MRW				*S*	S	17 14 45.0	+0.6
WEL	**Wellington**	**0.70**	**199**	*P*	P	17 14 35.3	-0.1
WEL				*eS*	S	17 14 45.1	-0.1
BHW	**Baring Head**	**0.80**	**191**	⇑*P*	P	17 14 36.7	-0.1
BHW				*S*	S	17 14 47.6	-0.1
MSWZ	**Moikau Station**	**0.81**	**170**	*eP*	P	17 14 36.2	-0.7
MSWZ				*eS*	S	17 14 48.1	+0.3
PAWZ	**Paruwai Farm**	**0.81**	**161**	*P*	P	17 14 37.2	+0.3
PAWZ				*eS*	S	17 14 48.0	+0.1
WAZ	**Wanganui**	**0.87**	**356**	⇑PN	P	17 14 37.3	-0.5
WAZ				SN	S	17 14 49.1	-0.2
TSZ	**Takapari Road**	**0.88**	**51**	*P*	P	17 14 37.5	-0.5
TSZ				*S*	S	17 14 49.8	+0.1
BFZ	**Birch Farm**	**0.90**	**94**	*P*	P	17 14 37.4	-0.8
BFZ				*S*	S	17 14 50.1	0.0
TUWZ	**Tuamarina**	**1.18**	**226**	⇓PN	P	17 14 41.4	-0.7
TUWZ				*eS*	S	17 14 55.7	-1.5
MOVZ	**Moawhango**	**1.32**	**24**	PN	P	17 14 43.2	-1.1
MOVZ				SN	S	17 15 00.6	-0.3
WNVZ	**Wahianoa**	**1.35**	**18**	PN	P	17 14 44.2	-0.6
FWVZ	**Far West T-bar**	**1.41**	**15**	PN	P	17 14 45.1	-0.5
FWVZ				SN	S	17 15 03.1	-0.1
NNZ	**Nelson**	**1.41**	**244**	PN	P	17 14 44.5	-1.1
BSWZ	**Blackbirch Sta**	**1.42**	**219**	PN	P	17 14 44.7	-0.9
TUVZ	**Tukino**	**1.42**	**19**	PN	P	17 14 45.5	-0.3
TUVZ				*e*SN	S	17 15 03.6	+0.1
WPVZ	**Whakapapa**	**1.46**	**15**	PN	P	17 14 45.9	-0.4
CNZ	**Chateau**	**1.47**	**15**	PN	P	17 14 46.0	-0.4
PWZ	**Pawanui**	**1.49**	**67**	PN	P	17 14 45.5	-1.2
NGZ	**Ngauruhoe**	**1.50**	**16**	*e*PN	P	17 14 46.7	-0.1
VRZ	**Vera Road**	**1.51**	**351**	PN	P	17 14 46.2	-0.8
WTVZ	**West Tongariro**	**1.56**	**15**	PN	P	17 14 47.2	-0.4
TWVZ	**Taurewa**	**1.57**	**10**	PN	P	17 14 47.1	-0.8
KAVZ	**Karewarewa**	**1.58**	**16**	PN	P	17 14 47.9	-0.1
PKE	**Pukeiti**	**1.65**	**329**	PN	P	17 14 48.6	-0.3
MGZ	**Maungaku**	**1.66**	**13**	PN	P	17 14 48.0	-1.1
KATZ	**Kakaramea**	**1.71**	**17**	*e*PN	P	17 14 49.2	-0.7
BKZ	**Black Stump Fm**	**1.82**	**37**	*e*PN	P	17 14 49.5	-1.8
QRZ	**Quartz Range**	**1.94**	**263**	PN	P	17 14 51.1	-2.0
THZ	**Tophouse**	**1.99**	**234**	PN	P	17 14 51.9	-1.9
HIZ	**Hauiti**	**2.11**	**355**	PN	P	17 14 54.5	-1.0
KHZ	**Kahutara**	**2.13**	**212**	*e*PN	P	17 14 53.7	-2.1
DSZ	**Denniston Nort**	**2.71**	**244**	*e*PN	P	17 15 00.8	-3.3
LTZ	**Lake Taylor**	**3.01**	**223**	*e*PN	P	17 15 05.1	-3.3

*ISK **25** 17:35:06.6, 39.95N×38.97E, h4km, MD3.6*
*CSEM **25** 17:35:06.6, 39.95N×38.97E, h4km, MD3.6, After ISK*
ISC 25 17:35:07.4±0.4, 39.94N±0.03×38.95E±0.04, h4km, n27, σ0§87/38, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KELT	**Kelkit**	**0.32**	**48**	*i*P	**Pg**	**17 35 13.8**	**+0.1**
KELT				*i*S	**Sg**	**17 35 18.8**	**+0.8**
GUMT	**Gumushane**	**0.66**	**38**	*i*PG	**Pg**	**17 35 19.7**	**-0.9**
GUMT				*i*SG	**Sg**	**17 35 28.7**	**-0.7**
EZC	**Erzincan**	**0.69**	**105**	*i*PG	**Pg**	**17 35 14.6**	**-6.6**
PTK	**Pertek**	**1.10**	**162**	*i*PN	**Pn**	**17 35 27.9**	**-1.5**
PTK				*i*SN	**Sn**	**17 35 43.8**	**-1.4**
ELZG	**Elazig**	**1.44**	**179**	⇑*i*P	**Pn**	**17 35 33.0**	**-1.3**
ELZG				*i*S	**Sb**	**17 35 54.3**	**+1.5**
SVST	**Sivas**	**1.55**	**265**	*i*P	**Pn**	**17 35 34.9**	**-0.9**
SVST				*i*S	**Sb**	**17 35 56.8**	**+0.7**
BINT	**Bingol**	**1.59**	**131**	PN	**Pn**	**17 35 36.7**	**+0.2**
MYA	**Malataya**	**1.66**	**194**	PN	**Pn**	**17 35 37.1**	**-0.3**
MYA				SN	**Sn**	**17 36 00.6**	**+1.2**
MALT	**Malatya**	**1.67**	**194**	PN	**Pn**	**17 35 36.6**	**-1.0**
MALT				SN	**Sn**	**17 36 00.4**	**+0.7**
MALT	**Malatya**	**1.67**	**194**	*i*P	**Pn**	**17 35 36.7**	**-0.9**
MALT				*i*S	**Sb**	**17 36 00.1**	**+0.4**
EZM	**Erzurum**	**1.86**	**90**	PN	**Pn**	**17 35 40.7**	**+0.5**
ERZM	**Erzurum**	**1.86**	**90**	*i*P	**Pn**	**17 35 42.3**	**+2.1**
ERZM				*i*S	**Sn**	**17 36 15.3**	**+11**
TOKT	**Tokat**	**1.88**	**283**	PN	**Pn**	**17 35 40.6**	**0.0**
VRT	**Varto**	**2.15**	**111**	*e*PN	**Pn**	**17 35 45.1**	**+0.6**
DIY	**Diyarbakir**	**2.27**	**154**	*e*PN	**Pn**	**17 35 45.9**	**-0.2**
KVT	**Kavak**	**2.49**	**298**	*e*PN	**Pn**	**17 35 49.5**	**+0.2**
BCA	**Borcka**	**2.53**	**53**	*e*PN	**Pn**	**17 35 50.1**	**+0.2**
BEST	**Besiri**	**2.73**	**138**	*i*P	**Pn**	**17 35 57.2**	**+4.5**
BEST				*i*S	**Sn**	**17 36 36.0**	**+9.4**
GZT	**Gaziantep**	**2.80**	**203**	*i*P	**Pn**	**17 35 52.8**	**-0.9**
YOZ	**Yozgat**	**2.81**	**265**	*e*PN	**Pn**	**17 35 53.8**	**-0.1**
KAHT	**Ahir Dag**	**2.82**	**216**	*i*P	**Pn**	**17 35 53.3**	**-0.7**
GAZ	**Gaziantep**	**3.08**	**207**	*e*PN	**Pn**	**17 35 57.3**	**-0.4**
CTKT	**Corum**	**3.25**	**284**	*i*P	**Pn**	**17 36 00.3**	**+0.1**
AVNT	**Avonos**	**3.38**	**251**	*i*P	**Pn**	**17 36 05.9**	**+3.9**
AVNT				*i*S	**Sn**	**17 36 56.2**	**+13**
KAMT	**Kaman**	**4.08**	**264**	*e*PN	**Pn**	**17 36 11.9**	**-0.1**
ELDT	**Eldivan**	**4.26**	**279**	*i*P	**Pn**	**17 36 16.1**	**+1.5**
BALT	**Daday**	**4.52**	**292**	*i*P	**Pn**	**17 36 17.9**	**-0.3**

*TIF **25** 17:54:40.1, 42.23N×45.85E, h21km*
*MOS **25** 17:54:42.0±1.8, 42.02N×46.13E, h10km, mb4.2/1, Error ellipse: s-maj=16.3km s-min=8.2km az=54.1*
ISC 25 17:54:40.7±0.6, 41.98N±0.05×46.10E±0.05, h1km±6km, n20, σ1§11/34, 3C-6D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XNZR	**Khunzakh**	**0.72**	**38**	*e*PG	**Pg**	**17 54 53.2**	**-1.8**
XNZR				pmax	pmax		
	comp=Z,122nm,0.2s						
DGRG	**David-gareji**	**0.76**	**226**	⇑*i*P	**Pg**	**17 54 57.6**	**+1.8**
DGRG				*i*S	**Sg**	**17 55 10.6**	**+4.7**
KMKR	**Kumukh**	**0.76**	**78**	⇓*i*PG	**Pg**	**17 54 57.0**	**+1.2**
KMKR				*e*S	**Sg**	**17 55 05.0**	**-0.9**
KMKR				pmax	pmax		
	comp=Z,192nm,0.2s						
GNBR	**Gunib**	**0.76**	**57**	*e*PG	**Pg**	**17 54 54.0**	**-1.9**
GNBR				*i*S	**Sg**	**17 55 04.0**	**-2.0**
ARKR	**Arakani**	**0.91**	**46**	*e*PG	**Pg**	**17 54 58.5**	**-0.4**
ARKR				*i*S	**Sb**	**17 55 11.5**	**+0.2**
ARKR				pmax	pmax		
	comp=Z,75nm,0.2s						
MTA	**Mtatsminda**	**1.02**	**254**	⇓*i*P	**Pb**	**17 54 59.9**	**-0.8**
MTA				*i*S	**Sb**	**17 55 13.9**	**-0.5**
KRNR	**Karanay**	**1.04**	**35**	⇓*i*PG	**Pg**	**17 55 02.3**	**+0.9**
KRNR				pmax	pmax		
	comp=Z,45nm,0.3s						
TI2	**Plekhanov**	**1.04**	**257**	*e*PG	**Pg**	**17 55 02.2**	**+0.8**
TI2				*i*S	**Sb**	**17 55 15.2**	**+0.2**
TBLG	**Delisi**	**1.05**	**257**	*i*S	**Sb**	**17 55 15.2**	**-0.1**
DUS	**Dusheti**	**1.05**	**277**	⇓*i*P	**Pb**	**17 55 01.0**	**-0.2**
DUS				*i*S	**Sb**	**17 55 15.0**	**-0.3**
BUJR	**Buynaksk**	**1.13**	**41**	⇑*i*PG	**Pg**	**17 55 04.0**	**+0.8**
BUJR				*i*S	**Sb**	**17 55 19.0**	**+1.4**
BUJR				pmax	pmax		
	comp=Z,159nm,0.3s						
DLMR	**Dylym**	**1.16**	**20**	*e*PG	**Pg**	**17 55 02.0**	**-1.8**
DLMR				*i*S	**Sb**	**17 55 20.0**	**+1.5**
DLMR				pmax	pmax		
	comp=Z,451nm,0.3s						
DBC	**Dubki**	**1.17**	**27**	*i*PG	**Pg**	**17 55 03.8**	**-0.3**
DBC				*i*S	**Sb**	**17 55 19.0**	**+0.1**
DBC				pmax	pmax		
	comp=Z,109nm,0.5s						
MAK	**Makhachkala**	**1.43**	**46**	⇓*i*PG	**Pg**	**17 55 11.0**	**+1.8**
MAK				*i*		17 55 30.0	
MAK				pmax	pmax		
	comp=Z,374nm,0.9s						
MAK				smax			
	comp=N,990nm,1.0s						
MAK				smax			
	comp=E,2μm,1.0s						
MAK				smax			
	comp=Z,330nm,1.0s						
MAK				smax			
	comp=N,1μm,1.5s						
MAK				smax			
	comp=E,2μm,1.8s						
STE	**Stepanavan**	**1.61**	**233**	*e*P	**Pn**	**17 55 09.0**	**-1.3**
STE				*i*S	**Sb**	**17 55 31.5**	**0.0**
ZEI	**Tsey**	**1.81**	**297**	*i*PN	**Pn**	**17 55 13.1**	**-0.1**
BAW	**Bavra**	**1.93**	**244**	*e*P	**Pn**	**17 55 16.0**	**+1.1**
BAW				*i*S	**Sn**	**17 55 39.0**	**-1.1**
AKH	**Akhalkalaki**	**2.03**	**255**	⇓*i*P	**Pn**	**17 55 17.0**	**+0.6**
AKH				*i*S	**Sn**	**17 55 43.0**	**+0.3**
ONI	**Oni**	**2.06**	**288**	⇑*i*P	**Pn**	**17 55 16.7**	**0.0**
ONI				*i*S	**Sn**	**17 55 41.7**	**-1.6**
KIV	**Kislovodsk**	**3.19**	**309**	*e*PN	**Pn**	**17 55 34.5**	**+1.6**
KIV				pmax	pmax		
	comp=Z,3.0nm,0.5s						

*NEIC **25** 18:14:28.6, 31.78S×69.95W, h141km, MD3.8(GUC), After GUC.*
GUC 25 18:14:28.6±0.7, 31.78S×69.95W, h141km±5km, MD3.8, ML3.9, 2C-2D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**1.05**	**211**	⇑*i*P	P	18 14 53.4	+0.3
JACH				*i*S	S	18 15 12.1	+0.1
CMCH	**Combarbala**	**1.09**	**304**	*e*P	P	18 14 54.0	+0.5
CMCH				*i*S	S	18 15 13.3	+0.6
CMCH				AMP		18 15 15.3	
	comp=E,4μm,0.6s						
PACH	**Papudo**	**1.47**	**239**	*e*P	P	18 14 57.4	-0.1
PACH				*i*S	S	18 15 19.8	0.0
PEL	**Peldehue**	**1.49**	**204**	*e*P	P	18 14 58.0	+0.2
PEL				*i*S	S	18 15 19.5	-0.7
PEL				AMP		18 15 20.5	
	comp=N,2μm,0.3s						
FCH	**Farellones**	**1.57**	**191**	⇓*i*P	S	18 14 59.4	+0.8
FCH				*i*S	S	18 15 22.4	+0.9
FCH				AMP		18 15 27.5	
	comp=E,681nm,0.2s						
CLCH	**Cerro Calan**	**1.68**	**197**	*e*P	P	18 15 00.0	+0.2
CLCH				*i*S	S	18 15 23.8	-0.1
CLCH				AMP		18 15 25.7	
	comp=E,1μm,0.4s						
DSCH	**Colegio Aleman**	**1.69**	**198**	*e*P	P	18 14 59.9	-0.1
DSCH				*i*S	S	18 15 23.8	-0.3
DSCH				AMP		18 15 25.7	
	comp=N,1μm,0.5s						
TLL	**Tololo Astrono**	**1.77**	**335**	*e*P	P	18 15 01.5	+0.6
TLL				*i*S	S	18 15 26.1	+0.4
TLL				AMP		18 15 29.4	
	comp=E,786nm,0.5s						
RCDM	**Rinconada Maip**	**1.85**	**203**	*e*P	P	18 15 02.1	+0.4
RCDM				*i*P		18 15 02.3	
RCDM				*i*S	S	18 15 27.4	+0.3
RCDM				AMP		18 15 28.6	
	comp=E,2μm,0.5s						
RCDM	**Rinconada Maip**	**1.85**	**203**	*i*P	P	18 15 02.3	+0.6
RCDM				*i*S	S	18 15 27.4	+0.3
ANTU	**Antumapu**	**1.87**	**198**	*e*P	P	18 15 01.9	-0.2
ANTU				*i*S	S	18 15 27.5	-0.2
ANTU				AMP		18 15 30.4	
	comp=N,1μm,0.5s						
PCH	**Pirque**	**1.89**	**194**	*e*P	P	18 15 02.7	+0.5
TACH	**Talagante**	**2.04**	**204**	⇓*i*P	P	18 15 04.2	+0.1
TACH				*i*S	S	18 15 31.1	-0.1
LMEL	**Las Melosas**	**2.07**	**186**	*e*P	P	18 15 04.7	+0.3
LMEL				*i*S	S	18 15 32.3	+0.5
LMEL				AMP		18 15 40.3	
	comp=N,362nm,0.3s						
LSCH	**La Serena**	**2.18**	**329**	*i*P	P	18 15 05.4	-0.4
LSCH				*i*S	S	18 15 33.5	-0.7
LSCH				AMP		18 15 34.6	
	comp=N,627nm,0.3s						
CHCH	**Chadas Angostu**	**2.22**	**195**	*i*P	P	18 15 06.5	+0.1
CHCH				*i*S	S	18 15 35.0	-0.2
CACH	**El Canelo**	**2.39**	**193**	*e*P	P	18 15 09.0	+0.5
LNV	**Longovilo**	**2.49**	**209**	⇑*i*P	P	18 15 09.3	-0.5
LNV				*i*S	S	18 15 40.3	-1.0
CICH	**Cipreses**	**2.56**	**189**	*e*P	P	18 15 11.0	+0.3
CICH				*i*S	S	18 15 43.1	+0.4
SFDO	**San Fernando**	**2.96**	**197**	*e*P	P	18 15 15.0	-0.8

*ISK **25** 18:19:18.9, 41.10N×39.38E, h5km, MD3.6*
*CSEM **25** 18:19:18.9, 41.10N×39.38E, h5km, MD3.6, After ISK*
*IDC **25** 18:19:24.1±4.3, 41.56N×39.08E, mb3.3/1, mb1 3.7/3, mb1mx3.4/18, ML4.1/2, Error ellipse: s-maj=58.9km s-min=32.0km az=90.0*
ISC 25 18:19:19.6±0.7, 41.09N±0.04×39.41E±0.07, h5km, n19, σ1§05/26, mb3.3/1, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMT	**Gumushane**	**0.63**	**175**	*i*PG	**Pg**	**18 19 31.9**	**-0.2**
GUMT				*i*SG	**Sg**	**18 19 40.2**	**-0.3**
KELT	**Kelkit**	**0.94**	**187**	*i*P	**Pb**	**18 19 37.2**	**-0.8**
KELT				*i*S	**Sb**	**18 19 49.0**	**-1.6**
EZC	**Erzincan**	**1.37**	**167**	*i*PN	**Pn**	**18 19 44.0**	**-1.4**
BCA	**Borcka**	**1.71**	**77**	*i*PN	**Pn**	**18 19 50.2**	**-0.1**
BCA				*i*SN	**Sn**	**18 20 12.6**	**-0.1**
EZM	**Erzurum**	**1.90**	**128**	*i*PN	**Pn**	**18 19 53.8**	**+0.8**
ERZM	**Erzurum**	**1.90**	**128**	⇑*i*P	**Pn**	**18 19 56.9**	**+3.8**
PTK	**Pertek**	**2.19**	**180**	PN	**Pn**	**18 19 57.4**	**+0.2**
PTK				SN	**Sn**	**18 20 25.4**	**+0.4**
SVST	**Sivas**	**2.29**	**236**	*i*P	**Pn**	**18 20 00.4**	**+1.8**
SVST				*i*S	**Sn**	**18 20 31.6**	**+4.2**
BINT	**Bingol**	**2.36**	**159**	*e*PN	**Pn**	**18 20 00.5**	**+0.9**
KVT	**Kavak**	**2.54**	**271**	*e*PN	**Pn**	**18 20 01.2**	**-1.0**
VRT	**Varto**	**2.54**	**139**	*e*PN	**Pn**	**18 20 03.0**	**+0.8**
ELZG	**Elazig**	**2.60**	**187**	*i*P	**Pn**	**18 20 04.0**	**+0.9**
ELZG				*i*S	**Sn**	**18 20 41.1**	**+5.6**
MYA	**Malataya**	**2.86**	**196**	*e*PN	**Pn**	**18 20 06.5**	**-0.2**
MALT	**Malatya**	**2.87**	**196**	*e*PN	**Pn**	**18 20 06.9**	**0.0**
GNI	**Garni**	**4.17**	**101**	Sn	**Sn**	**18 21 05.6**	**-10**
	0.6nm,0.3s,baz=141,slow=14,SNR=4.0						
BRTR	**Keskin Array B**	**4.61**	**255**	Pn	**Pn**	**18 20 33.8**	**+2.2**
	0.2nm,0.3s,baz=63,slow=12,SNR=4.7						
MLR	**Muntele Rosu**	**10.75**	**299**	Pn	**P**	**18 21 51.1**	**-6.2**
	0.3nm,0.3s,baz=289,slow=13,SNR=5.2						
AKASG	**Malin Array Be**	**11.94**	**327**	Pn	**P**	**18 22 06.6**	**-6.8**
	1.4nm,0.3s,baz=137,slow=13,SNR=6.5						
AKASG				Sn	**S**	**18 24 11.2**	**-17**
	1.4nm,0.3s,baz=135,slow=25,SNR=6.4						
FINES	**FINESS Array B**	**21.94**	**343**	P	**P**	**18 24 13.8**	**-1.8**
	0.6nm,0.5s,mb3.3,baz=166,slow=12,SNR=2.6						

*IDC **25** 18:23:48.4±0.9, 12.21N×143.84E, mb4.0/8, mb1 4.2/9, mb1mx3.9/20, MS3.2/1, Ms1 3.2/1, ms1mx2.6/30, Error ellipse: s-maj=52.8km s-min=19.6km az=97.0*
*NEIC **25** 18:23:49.9±0.6, 12.18N×143.88E, h10km, mb4.3/1, Error ellipse: s-maj=30.1km s-min=11.2km az=107.0*
ISC 25 18:23:51.5±0.6, 12.1N±0.1×144.0E±0.2, h33km, n13, σ1§08/12, mb4.0/10, MS3.0/1, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.71**	**30**	*e*P	**P**	**18 24 19.1**	**-0.2**
JHJ	**Hachijo jima 2**	**21.27**	**350**	LR	LR	18 35 36.3	
	comp=Z,63nm,19.0s,MS3.0,baz=45,slow=34						

WRAB Tennant Creek 33.22 197 P **P** **18 30 26.9 -1.0**
5.1nm,1.1s,mb4.4
WRA Warramunga Arr 33.23 197 P **P** **18 30 27.4 -0.5**
0.4nm,0.7s,mb3.5,baz=20,slow=10,SNR=10
ASAR Alice Springs 36.89 196 P **P** **18 31 00.5 +1.4**
0.3nm,0.7s,mb3.2,baz=18,slow=11,SNR=4.4
STKA Stephens Creek 43.79 183 P **P** **18 31 55.8 -0.3**
1.4nm,0.7s,mb3.8,baz=7.1,slow=8.1,SNR=5.4
ILAR Eielson Array 70.27 25 P **P** **18 35 01.6 -1.5**
0.2nm,0.4s,mb3.4,baz=260,slow=5.5,SNR=4.9
BVAR Borovoye Array 70.56 322 P **P** **18 35 03.9 -1.2**
0.7nm,0.5s,mb3.8,baz=90,slow=10,SNR=4.4
ARCES ARCESS Array B 88.22 342 P **P** **18 36 41.2 +1.1**
3.6nm,1.0s,mb4.6,baz=79,slow=6.2,SNR=3.9
NVAR Mina Array Bea 88.52 51 P **P** **18 36 45.4 +3.2**
0.5nm,0.5s,mb4.1,baz=257,slow=3.3,SNR=4.1
NVAR Mina Array Bea 88.52 51 P **P** **18 36 45.4 +3.2**
FINES FINESS Array B 92.14 335 P **P** **18 36 59.2 +0.5**
1.6nm,0.9s,mb4.3,baz=79,slow=7.1,SNR=2.2
NOA NORSAR Array B 98.12 339 P **P** **18 37 26.4 +0.6**
2.6nm,1.1s,mb4.7,baz=43,slow=8.3,SNR=3.2

*IDC **25** 18:26:57.9±3.1, 17.71S×178.64W, h637km±51km, mb3.1/5, mb1 3.3/5, mb1mx3.0/15, Error ellipse: s-maj=100.0km s-min=26.0km az=146.0*
*NEIC **25** 18:26:59.5±2.0, 17.56S×178.81W, h650km, mb4.0/4, Error ellipse: s-maj=85.0km s-min=19.5km az=142.0*
ISC 25 18:26:56.0±3.8, 17.5S±0.8×178.8W±0.6, h621km±58km, n12, σ0§36/13, mb3.9/7, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.16**	**260**	*P*	**P**	**18 32 45.7**	**+0.9**
	0.7nm,0.3s,mb3.8,baz=84,slow=7.0,SNR=5.8						
CTA	**Charters Tower**	**33.16**	**260**	*P*	**P**	**18 32 45.7**	**+0.9**
CTAO	**Charters Tower**	**33.16**	**260**	*eP*	**P**	**18 32 45.3**	**+0.5**
	2.5nm,0.5s,mb4.1						
STKA	**Stephens Creek**	**38.50**	**241**	*eP*	**P**	**18 33 28.8**	**+0.2**
	1.1nm,0.6s,mb3.6						
STKA	**Stephens Creek**	**38.50**	**241**	*P*	**P**	**18 33 28.8**	**+0.2**
	1.9nm,0.7s,mb3.7,baz=92,slow=7.4,SNR=6.3						
WB2	**Warramunga Arr**	**44.34**	**259**	⇓*i*P	**P**	**18 34 14.5**	**-0.4**
WRAB	**Tennant Creek**	**44.34**	**259**	*eP*	**P**	**18 34 14.5**	**-0.4**
	2.9nm,0.4s,mb4.2						
WRA	**Warramunga Arr**	**44.35**	**259**	*P*	**P**	**18 34 14.6**	**-0.3**
	1.4nm,0.3s,mb4.0,baz=94,slow=7.4,SNR=77						
ASAR	**Alice Springs**	**44.55**	**254**	*P*	**P**	**18 34 16.4**	**-0.1**
	14nm,1.0s,mb4.4,baz=93,slow=7.8,SNR=214						
ASAR				S	**S**	**18 40 09.1**	**+0.2**
	0.8nm,0.8s,baz=89,slow=16,SNR=10						
ASPA	**Alice Springs**	**44.55**	**254**	*eP*	**P**	**18 34 16.4**	**-0.1**
KAKA	**Kakadu**	**47.27**	**269**	*eP*	**P**	**18 34 42.3**	**+5.1**
	3.6nm,0.6s,mb4.1						
ILAR	**Eielson Array**	**85.59**	**13**	*P*	**P**	**18 38 30.9**	**+0.1**
	0.2nm,0.5s,mb3.0,baz=225,slow=4.6,SNR=2.9						

GUC 25 18:32:17.3±0.8, 31.08S×68.37W, h140km, ML3.5, 1C, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**2.26**	**267**	*eP*	P	18 32 55.8	+0.4
CMCH				*i*S	S	18 33 24.3	-0.3
CMCH				AMP		18 33 25.9	
	comp=E,1μm,0.5s						
JACH	**Jahuel**	**2.47**	**229**	*i*P	P	18 32 58.3	0.0
JACH				*i*S	S	18 33 29.9	+0.5
FCH	**Farellones**	**2.77**	**216**	*eP*	P	18 33 02.6	+0.6
FCH				*i*S	S	18 33 37.6	+1.5
FCH				AMP		18 33 44.1	
	comp=E,39nm,0.6s						
PCH	**Pirque**	**3.11**	**215**	*eP*	P	18 33 07.1	+0.5
RCDM	**Rinconada Maip**	**3.17**	**220**	*eP*	P	18 33 06.7	-0.6
RCDM				*i*S	S	18 33 44.2	-1.1
RCDM				AMP		18 33 47.7	
	comp=E,75nm,0.2s						
CHCH	**Chadas Angostu**	**3.44**	**214**	⇑*i*P	P	18 33 10.3	-0.4
CACH	**El Canelo**	**3.56**	**211**	*i*P	P	18 33 12.6	+0.1
CICH	**Cipreses**	**3.66**	**208**	*eP*	P	18 33 13.5	-0.2

*NIED **25** 18:32:00, 37.40N×138.80E, h5km, Mw4.2 Best double couple: M0 2.16×10^15 NP1:φs 29°, δ 68°, λ 83°. NP2:φs 228°, δ 23°, λ 108°.*
*JMA **25** 18:32:21.7, 37.40N×138.83E, h13km±2km, M4.2*
JMA Felt IV J1.
*NEIC **25** 18:32:23.6±2.5, 37.32N×138.56E, h23km±18km, mb4.3/4, Error ellipse: s-maj=10.7km s-min=7.4km az=107.0*
*IDC **25** 18:32:27.4±2.5, 37.39N×138.53E, h51km±24km, mb3.8/12, mb1 4.0/15, mb1mx3.9/25, ML3.9/2, MS4.0/1, Ms1 4.0/1, ms1mx3.0/30, Error ellipse: s-maj=21.0km s-min=13.6km az=79.0*
ISC 25 18:32:21.3±0.4, 37.41N±0.03×138.76E±0.05, h19km±3km, n39, σ0§99/46, mb4.2/19, 4C-4D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIZZ	**Izumozaki**	**0.12**	**341**	⇓P	**Pb**	**18 32 25.4**	**0.0**
JIZZ				*e*S	**Sb**	**18 32 28.4**	**+0.2**
JHK	**Hiroka**	**0.26**	**129**	⇓P	**Pb**	**18 32 26.1**	**-1.3**
JHK				S	**Sb**	**18 32 30.0**	**-1.5**
JNS	**Sasagawa**	**0.60**	**47**	⇑P	**Pb**	**18 32 32.7**	**-0.3**
JNS				S	**Sb**	**18 32 41.0**	**+0.1**
JSD	**Sado**	**0.74**	**328**	⇑P

2.2nm,0.7s,mb4.2,baz=311,slow=3.9,SNR=14
BRTR Keskin Array B 77.00 310 P **P 18 44 15.2 +0.7**
4.8nm,1.2s,mb4.3,baz=90,slow=4.9,SNR=7.7
PDAR Pinedale Array 78.89 44 P **P 18 44 25.8 +1.1**
1.3nm,0.8s,mb3.9,baz=279,slow=1.1,SNR=7.5
GERES GERESS Array B 81.26 327 P **P 18 44 38.0 +0.8**
0.3nm,0.6s,mb3.4,baz=45,slow=5.7,SNR=4.5
TXAR Lajitas Array 91.55 51 P **P 18 45 29.2 +1.1**
0.6nm,0.3s,mb4.4,baz=315,slow=1.8,SNR=3.8

*JMA **25** 18:46:01.9, 37.31N×138.92E, h12km±1km, M3.5*
Broadband fault plane solution: P waves. NP1:↑↓61°, δ35°, λ93°. NP2:↑↓237°, δ55°, λ88°. Principal axes: T Plg80°, Azm138°; N Plg2°, Azm239°; P Plg10°, Azm329°;
JMA Felt II J1.
ISC 25 18:46:01.8±0.6, 37.30N±0.04×138.92E±0.06, h12km, n8, σ0§45/11, 4D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.09**	**122**	P	**Pg**	**18 46 04.4**	**-0.2**
JHK				S	**Sg**	**18 46 06.9**	**+0.5**
JIZZ	**Izumozaki**	**0.29**	**324**	⇓P	**Pg**	**18 46 07.8**	**-0.2**
JIZZ				eS	**Sg**	**18 46 12.9**	**+0.7**
JKT	**Katashina**	**0.59**	**154**	⇓P	**Pb**	**18 46 13.6**	**+0.1**
JNS	**Sasagawa**	**0.61**	**31**	P	**Pb**	**18 46 13.2**	**-0.7**
JFY	**Yanaizu**	**0.63**	**80**	⇓P	**Pb**	**18 46 14.0**	**-0.3**
JGK	**Kuni**	**0.77**	**197**	P	**Pb**	**18 46 16.9**	**+0.3**
MAT	**Matsushiro**	**0.95**	**218**	P	**Pb**	**18 46 19.2**	**-0.4**
MAT				S	**Sb**	**18 46 31.5**	**-0.4**
JAG	**Ashikaga**	**0.97**	**154**	⇓P	**Pb**	**18 46 20.6**	**+0.6**

MAN 25 19:05:15.8, 13.73N×120.53E, h75km, mb4.0, ML2.8, MS2.5,1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.27**	**270**	eP	P	19 05 29.1	+1.6
LUBP				eS	S	19 05 39.1	+3.0
TGY	**Tagaytay City**	**0.54**	**47**	⇑iP	P	19 05 31.1	+1.5
TGY				i S	S	19 05 43.3	+3.5
BOAC	**Boac**	**1.31**	**102**	eP	P	19 05 39.4	+0.5
SJMP	**San Jose**	**1.39**	**155**	eP	P	19 05 41.0	+1.0
SJMP				eS	S	19 05 59.5	+1.6
BUSP	**Coron**	**1.75**	**191**	eP	P	19 05 44.6	-0.2
BUSP				eS	S	19 06 06.6	+0.5

*NNC **25** 19:09:48.4±3.2, 41.66N×72.38E, h5km±20km, mpv3.8, Error ellipse: s-maj=54.6km s-min=26.8km az=147.0*
*KNET **25** 19:09:48.1±0.6, 41.20N×73.20E, h8km±3km, ml3.5, Error ellipse: s-maj=5.7km s-min=3.4km az=116.0*
ISC 25 19:09:47.6±1.6, 41.08N±0.09×73.0E±0.1, h8km, n15, σ1§18/21, 19C-4D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**1.18**	**26**	⇑P	**Pb**	**19 10 08.0**	**-1.7**
	214nm,0.2s,SNR=777						
AML				⇑S	**Sb**	**19 10 22.7**	**-2.3**
	655nm,0.3s						
UCH	**Uchtor**	**1.62**	**44**	⇑P	**Pn**	**19 10 15.4**	**-1.3**
	106nm,0.2s,SNR=583						
UCH				⇑S	**Sb**	**19 10 36.2**	**-1.6**
	396nm,0.4s						
EKS2	**Erkin-Say**	**1.69**	**20**	⇑P	**Pn**	**19 10 17.0**	**-0.6**
	27nm,0.2s,SNR=55						
AAK	**Ala-Archa**	**1.92**	**35**	⇑Pn	**Pn**	**19 10 21.0**	**+0.1**
	119nm,0.8s						
AAK				⇓Sn	**Sn**	**19 10 45.7**	**+0.2**
	249nm,0.5s						
AAK	**Ala-Archa**	**1.92**	**35**	⇑P	**Pn**	**19 10 21.0**	**+0.1**
	137nm,0.4s,SNR=178						
AAK				⇑S	**Sn**	**19 10 45.0**	**-0.4**
	237nm,0.3s						
KZA	**Kyzart**	**1.97**	**59**	⇑P	**Pn**	**19 10 21.4**	**-0.2**
	196nm,0.4s,SNR=63						
KZA				⇓S	**Sn**	**19 10 46.6**	**-0.1**
	84nm,0.2s						
KBK	**Karagaybulak**	**2.15**	**42**	P	**Pn**	**19 10 25.0**	**+0.8**
	216nm,0.4s,SNR=403						
KBK				⇑S	**Sn**	**19 10 53.0**	**+1.7**
	729nm,0.4s						
CHMS	**Chumysh**	**2.32**	**34**	⇑P	**Pn**	**19 10 27.2**	**+0.4**
	52nm,0.3s,SNR=39						
CHMS				⇑S	**Sn**	**19 10 57.6**	**+1.8**
	570nm,0.5s						
USP	**Ospenovka**	**2.46**	**27**	⇑P	**Pn**	**19 10 28.7**	**+0.1**
	41nm,0.3s,SNR=98						
USP				⇑S	**Sn**	**19 11 00.8**	**+1.6**
	421nm,0.5s						
TKM2	**Tokmak 2**	**2.67**	**46**	⇑P	**Pn**	**19 10 31.9**	**+0.2**
	30nm,0.2s,SNR=95						
ULHL	**Ulahol**	**2.70**	**63**	⇑P	**Pn**	**19 10 31.1**	**-1.0**
	63nm,0.5s,SNR=16						
MK31	**Makanchi Array**	**8.81**	**46**	⇑Pn	**P**	**19 12 00.1**	**+1.9**
	0.8nm,0.5s,baz=226,slow=14,SNR=4.2						
MK31				Lg		19 14 19.9	
	6.7nm,0.7s,baz=232,slow=27,SNR=7.1						
KURK	**Kurchatov**	**10.40**	**20**	⇓Lg		19 15 09.9	
	12nm,1.2s						
BVA0	**Borovoye Array**	**12.08**	**352**	⇓Pn	**P**	**19 12 29.0**	**-14**
	0.4nm,0.7s						
BVA0				⇑Lg		19 15 58.1	
	1.6nm,1.2s						
BRVK	**Borovoye**	**12.13**	**352**	⇑Lg		19 16 05.4	
	4.8nm,1.3s						

IDC 25 19:19:03.1±66.0, 21.74S×173.69W, mb3.7/3, mb1 3.9/3, mb1mx3.7/15, MS3.6/1, Ms1 3.6/1, ms1mx2.8/23, Error ellipse: s-maj=1243.0km s-min=200.2km az=86.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**25.31**	**207**	LR	LR	19 33 23.5	
	comp=Z,116nm,18.3s,baz=184,slow=34						
STKA	**Stephens Creek**	**40.92**	**246**	P	P	19 26 47.5	-1.4
	1.1nm,0.8s,baz=45,slow=10.0,SNR=2.9						
ASAR	**Alice Springs**	**48.16**	**257**	P	P	19 27 45.1	-2.1
	0.5nm,0.5s,baz=95,slow=7.2,SNR=5.8						
WB2	**Warramunga Arr**	**48.41**	**262**	eP	P	19 27 47.0	-2.2
WRA	**Warramunga Arr**	**48.42**	**262**	P	P	19 27 47.3	-1.9
	0.4nm,0.3s,baz=102,slow=8.2,SNR=61						

*IDC **25** 19:32:28.4±3.0, 28.97N×99.10E, mb3.7/2, mb1 3.9/4, mb1mx3.6/18, ML3.7/2, Error ellipse: s-maj=126.0km s-min=26.2km az=89.0*
*BJI **25** 19:32:30.9, 28.83N×98.63E, h13km, ML3.5, Ms4.3, Msz3.9*
ISC 25 19:32:25.8±0.6, 28.80N±0.07×98.61E±0.05, h13km, n15, σ1§27/19, mb3.6/2, 1C, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**4.94**	**64**	ePG	**Pg**	**19 33 57.0**	**-7.5**
KMI	**Kunming**	**5.20**	**134**	eP	**Pn**	**19 33 45.5**	**+0.3**
KMI				PG	**Pg**	**19 34 04.8**	**-4.8**
KMI				SG	**Sg**	**19 35 17.0**	**-1.9**
KMI				Smax			
	comp=N,21nm,1.6s						
KMI				Smax			
	comp=E,19nm,1.6s						
LSA	**Lhasa**	**6.58**	**280**	P	**Pn**	**19 34 09.0**	**+4.4**
SHL	**Shillong**	**6.80**	**243**	eP	**Pn**	**19 34 09.5**	**+1.8**
SHL				eS	**Sn**	**19 35 27.5**	**+1.8**
GYA	**Guiyang**	**7.52**	**106**	⇑iP	**Pn**	**19 34 22.8**	**+4.9**
GYA				S	**Sn**	**19 35 44.8**	**+1.0**
GYA				LR	LR		
	comp=N,880nm,4.8s						
GYA				LR	LR		
	comp=E,760nm,5.7s						
GYA				LR	LR		
	comp=Z,350nm,4.8s						
CMAR	**Chiang Mai Arr**	**10.30**	**178**	Pn	**P**	**19 35 01.8**	**+5.4**
	comp=Z,0.1nm,0.3s,baz=346,slow=11,SNR=8.7						
GUN	**Gumba**	**11.25**	**269**	eP	**P**	**19 35 09.9**	**+0.6**
	comp=Z,11nm,0.4s						
PKI	**Pulchoki**	**11.71**	**267**	eP	**P**	**19 35 15.2**	**-0.4**
	comp=Z,11nm,0.5s						
KKN	**Kakani**	**11.79**	**268**	eP	**P**	**19 35 15.9**	**-0.8**
	comp=Z,25nm,0.8s						
DMN	**Daman**	**11.97**	**268**	eP	**P**	**19 35 18.5**	**-0.6**
	comp=Z,10nm,0.6s						
GKN	**Gorkha**	**12.32**	**270**	eP	**P**	**19 35 21.8**	**-2.1**
	comp=Z,4.1nm,0.4s						
KOLN	**Koldanda**	**13.27**	**269**	eP	**P**	**19 35 33.9**	**-2.5**
SONM	**Songino Array**	**19.94**	**16**	P	**P**	**19 37 00.4**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=198,slow=11,SNR=11						
WRA	**Warramunga Arr**	**59.49**	**140**	P	**P**	**19 42 32.1**	**+0.9**
	comp=Z,0.4nm,0.5s,mb3.8,baz=331,slow=7.1,SNR=9.3						
ILAR	**Eielson Array**	**73.92**	**24**	P	**P**	**19 44 02.6**	**+0.7**
	comp=Z,0.5nm,0.8s,mb3.5,baz=295,slow=7.0,SNR=4.9						

*ISK **25** 19:41:22.6, 38.59N×39.66E, h5km, MD3.7*
*NEIC **25** 19:41:22.6, 38.61N×39.66E, h5km, ML3.7(ISK), After ISK.*
*CSEM **25** 19:41:22.7±0.1, 38.60N×39.66E, h2km, MD3.7, Error ellipse: s-maj=1.6km s-min=1.2km az=166.0*
*IDC **25** 19:41:23.9±1.3, 38.61N×39.79E, mb3.7/3, mb1 3.8/8, mb1mx3.6/21, ML3.4/4, Error ellipse: s-maj=22.6km s-min=14.8km az=1.0*
ISC 25 19:41:23.9±0.5, 38.57N±0.03×39.66E±0.03, h7km±5km, n46, σ0§85/53, mb3.6/3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTK	**Pertek**	**0.39**	**327**	*i* PG	**Pg**	**19 41 30.8**	**-0.9**
PTK				*i* SG	**Sg**	**19 41 37.2**	**+0.3**
ELZG	**Elazig**	**0.54**	**263**	*i* P	**Pg**	**19 41 34.5**	**-0.2**
BINT	**Bingol**	**0.71**	**64**	*i* PG	**Pg**	**19 41 36.9**	**-1.3**
BINT				*i* SG	**Sg**	**19 41 48.9**	**+1.2**
BINT	**Bingol**	**0.71**	**64**	Pg	**Pg**	**19 41 37.0**	**-1.2**
BINT	**Bingol**	**0.71**	**64**	Pg	**Pg**	**19 41 37.0**	**-1.2**
BINT				*i* Sg	**Sg**	**19 41 48.9**	**+1.2**
DIY	**Diyarbakir**	**0.81**	**146**	*i* PG	**Pg**	**19 41 39.7**	**-0.3**
DIY				*i* SG	**Sg**	**19 41 51.2**	**+0.4**
DIY	**Diyarbakir**	**0.81**	**146**	Pg	**Pg**	**19 41 39.8**	**-0.2**
MYA	**Malataya**	**1.00**	**256**	*i* PG	**Pg**	**19 41 42.9**	**-1.0**
MYA				*i* SG	**Sg**	**19 41 58.0**	**+0.7**
MYA	**Malataya**	**1.00**	**256**	Pg	**Pg**	**19 41 42.9**	**-1.0**
MALT	**Malatya**	**1.00**	**256**	*i* PG	**Pg**	**19 41 43.0**	**-1.0**
MALT				*i* SG	**Sg**	**19 41 58.5**	**+1.1**
MALT	**Malatya**	**1.00**	**256**	Pg	**Pg**	**19 41 43.1**	**-0.9**
MALT				Sg	**Sg**	**19 41 58.1**	**+0.7**
EZC	**Erzincan**	**1.18**	**6**	*i* PN	**Pn**	**19 41 45.6**	**-1.2**
BEST	**Besiri**	**1.43**	**118**	*i* P	**Pn**	**19 41 49.7**	**-0.6**
BTMT	**Batman**	**1.48**	**104**	*i* PN	**Pn**	**19 41 50.5**	**-0.5**
VRT	**Varto**	**1.56**	**68**	PN	**Pn**	**19 41 52.9**	**+0.7**
VRT	**Varto**	**1.56**	**68**	Pn	**Pn**	**19 41 52.9**	**+0.8**
KELT	**Kelkit**	**1.61**	**349**	*i* P	**Pn**	**19 41 53.3**	**+0.4**
EZM	**Erzurum**	**1.88**	**44**	PN	**Pn**	**19 41 57.1**	**+0.4**
ERZM	**Erzurum**	**1.88**	**44**	*i* P	**Pn**	**19 41 58.0**	**+1.3**
GUMT	**Gumushane**	**1.89**	**356**	PN	**Pn**	**19 41 56.9**	**0.0**
GUMT	**Gumushane**	**1.89**	**356**	Pn	**Pn**	**19 41 56.9**	**0.0**
GZT	**Gaziantep**	**2.06**	**235**	*i* P	**Pn**	**19 41 59.6**	**+0.3**
GAZ	**Gaziantep**	**2.39**	**235**	ePN	**Pn**	**19 42 04.5**	**+0.5**
GAZ	**Gaziantep**	**2.39**	**235**	Pn	**Pn**	**19 42 04.6**	**+0.5**
SVST	**Sivas**	**2.43**	**301**	*i* P	**Pn**	**19 42 06.2**	**+1.7**
VANB	**Van**	**2.92**	**88**	ePN	**Pn**	**19 42 12.0**	**+0.4**
TVAN	**Van**	**2.93**	**90**	*i* P	**Pn**	**19 42 15.8**	**+4.0**
TOKT	**Tokat**	**2.98**	**307**	ePN	**Pn**	**19 42 12.2**	**-0.3**
TOKT	**Tokat**	**2.98**	**307**	Pn	**Pn**	**19 42 12.2**	**-0.2**
BCA	**Borcka**	**3.24**	**27**	ePN	**Pn**	**19 42 16.2**	**0.0**
BCA	**Borcka**	**3.24**	**27**	Pn	**Pn**	**19 42 16.3**	**+0.1**
COBT	**Iskenderun**	**3.40**	**234**	*i* P	**Pn**	**19 42 19.1**	**+0.7**
AVNT	**Avonos**	**3.77**	**275**	*i* P	**Pn**	**19 42 23.8**	**+0.1**
GNI	**Garni**	**4.24**	**67**	ePN	**Pn**	**19 42 30.7**	**+0.3**
GNI	**Garni**	**4.24**	**67**	Pn	**Pn**	**19 42 30.6**	**+0.3**
	1.8nm,0.3s,baz=275,slow=3.4,SNR=9.9						
GNI	**Garni**	**4.24**	**67**	Pn	**Pn**	**19 42 30.8**	**+0.4**
GNI	**Garni**	**4.24**	**67**	Pn	**Pn**	**19 42 30.8**	**+0.4**
CTKT	**Corum**	**4.29**	**300**	*i* P	**Pn**	**19 42 32.5**	**+1.5**
BRTR	**Keskin Array B**	**4.82**	**286**	Pn	**Pn**	**19 42 38.6**	**0.0**
	0.9nm,0.3s,baz=103,slow=12,SNR=37						
BRTR				Lg		19 44 01.6	
	baz=111,slow=25,SNR=2.1						
ELDT	**Eldivan**	**5.19**	**294**	*i* P	**Pn**	**19 42 44.0**	**+0.1**
ASF	**Jabal al Asfar**	**6.77**	**200**	Pn	**Pn**	**19 43 04.8**	**-1.3**
	1.1nm,0.3s,baz=239,slow=22,SNR=14						
EIL	**Elat**	**9.70**	**205**	Pn	**P**	**19 43 46.6**	**-0.2**
	0.2nm,0.3s,baz=21,slow=18,SNR=3.6						
AKASG	**Malin Array Be**	**14.21**	**332**	Pn	**P**	**19 44 45.3**	**-2.2**
	0.3nm,0.3s,baz=133,slow=13,SNR=2.1						
GERES	**GERESS Array B**	**21.30**	**307**	P	**P**	**19 46 12.8**	**-0.3**
	0.5nm,0.6s,mb3.0,baz=117,slow=9.0,SNR=5.7						
FINES	**FINESS Array B**	**24.41**	**344**	P	**P**	**19 46 43.3**	**-0.2**
	1.7nm,0.6s,mb3.6,baz=141,slow=12,SNR=13						
ARCES	**ARCESS Array B**	**31.95**	**351**	P	**P**	**19 47 50.6**	**-1.4**
	3.3nm,1.1s,mb4.1,baz=164,slow=8.8,SNR=5.6						

*NEIC **25** 19:53:09.8, 15.53N×93.34W, h104km, mb4.2/3, MD4.5(MEX), After MEX.*
*IDC **25** 19:53:10.7±6.9, 15.57N×92.87W, h122km±58km, mb3.6/3, mb1 3.9/4, mb1mx3.5/19, Error ellipse: s-maj=54.3km s-min=37.7km az=52.0*
*CASC **25** 19:53:11.8±2.7, 15.86N×92.94W, h107km±64km, MD4.6, ML4.7*
*MEX **25** 19:53:11.5±1.4, 15.49N×93.39W, h65km±50km, MD4.5*
ISC 25 19:53:09.3±0.4, 15.65N±0.05×93.28W±0.05, h109km±5km, n41, σ1§29/49, mb4.1/3, 4C-3D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCX	**San Cristobal**	**1.25**	**30**	*i* P	**P**	**19 53 35.0**	**+1.6**
SCX				*i* S	**S**	**19 53 53.0**	**+1.3**
CCIG	**Comitan**	**1.27**	**60**	⇑iP	**P**	**19 53 34.1**	**+0.4**
CCIG				*i* S	**S**	**19 53 50.9**	**-1.2**
JAT	**Jato**	**2.07**	**130**	⇓eP	**P**	**19 53 43.5**	**-0.1**
JAT				eS	**S**	**19 54 10.1**	**+0.8**
JAT				AML	AML	19 54 11.2	
	comp=E,15μm,0.3s						
CMIG	**Matias Romero**	**2.10**	**313**	*i* P	**P**	**19 53 44.4**	**+0.3**
CMIG				*i* S	**S**	**19 54 09.0**	**-1.1**
TP2	**Tecpan 2**	**2.34**	**111**	⇓eP	**P**	**19 53 47.3**	**0.0**
TP2				eS	**S**	**19 54 16.1**	**+0.2**
TP2				AML	AML	19 54 23.8	
	comp=E,5μm,0.6s						
TUIG	**Tuzandepetl**	**2.61**	**335**	*i* P	**P**	**19 53 50.2**	**-0.8**
TUIG				*i* S	**S**	**19 54 22.3**	**0.0**
HUIG	**Huatulco**	**2.73**	**273**	*i* P	**P**	**19 53 50.7**	**-1.8**
HUIG				*i* S	**S**	**19 54 19.9**	**-5.1**
NBG	**Las Nubes**	**3.02**	**110**	eP	**P**	**19 53 56.0**	**-0.5**
NBG				eS	**S**	**19 54 25.9**	**-6.3**
IXG	**Ixpaco**	**3.10**	**118**	⇑eP	**P**	**19 53 57.2**	**-0.4**
IXG				eS	**S**	**19 54 35.0**	**+0.9**
IXG				AML	AML	19 54 40.8	
	comp=N,15μm,0.6s						
EVV	**El Vigia**	**3.42**	**325**	eP	**P**	**19 53 59.0**	**-2.9**
MRL	**Marmol**	**3.51**	**99**	⇑eP	**P**	**19 54 01.3**	**-1.8**
MRL				eS	**S**	**19 54 40.0**	**-4.1**
MRL				AML	AML	19 54 43.1	
	comp=N,2μm,0.4s						
OXX	**Oaxaca**	**3.60**	**294**	eP	**P**	**19 54 06.0**	**+1.7**
CUSS	**Cusmapa**	**3.66**	**118**	eP	**P**	**19 54 06.3**	**+1.1**
CUSS				eS	**S**	**19 54 44.3**	**-3.4**
SCIG		**3.86**	**31**	*i* P	**P**	**19 54 06.5**	**-1.4**
SCIG				*i* S	**S**	**19 54 55.4**	**+2.9**
RTR	**El Retiro**	**3.92**	**116**	eP	**P**	**19 54 09.2**	**+0.4**
SBLS	**San Blas**	**3.97**	**116**	eP	**P**	**19 54 11.1**	**+1.8**
SNJE	**San Jose**	**3.97**	**116**	eP	**P**	**19 54 09.5**	**+0.1**
MTO2	**Montecristo 2**	**3.98**	**108**	⇓iP	**P**	**19 54 08.2**	**-1.4**
LFRS	**El Faro**	**4.55**	**116**	eP	**P**	**19 54 17.1**	**-0.1**
LCBS	**La Ceiba**	**4.61**	**115**	⇑eP	**P**	**19 54 17.6**	**-0.5**
SNVI	**San Vicente**	**4.75**	**115**	eP	**P**	**19 54 19.5**	**-0.5**
IISM	**Ciudad Serdan**	**5.13**	**311**	eP	**P**	**19 54 25.5**	**+0.4**
PPM	**Popocatepetl**	**6.13**	**304**	eP	**P**	**19 54 42.5**	**+3.8**
TEIG	**Tepich**	**6.59**	**46**	P	**P**	**19 54 41.3**	**-3.7**
	comp=N,0.0nm,0.3s,baz=241,slow=24,SNR=24						
TEIG				S	**S**	**19 55 54.8**	**-4.4**
	comp=N,0.0nm,0.3s,baz=331,slow=24,SNR=10						
URSC	**Urasca**	**10.92**	**121**	eP	**P**	**19 55 43.9**	**+0.4**
BUS	**Buena Vista**	**11.09**	**122**	eP	**P**	**19 55 46.0**	**+0.2**
LTX	**Lajitas**	**16.65**	**327**	eP	**P**	**19 57 00.9**	**+3.7**
	comp=N,7.1nm,0.9s						
TXAR	**Lajitas Array**	**16.65**	**327**	P	**P**	**19 57 00.2**	**+2.9**
	comp=N,0.5nm,0.3s,baz=153,slow=11,SNR=6.8						
TXAR	**Lajitas Array**	**16.65**	**327**	P	**P**	**19 57 00.2**	**+2.9**
MIAR	**Mount Ida**	**18.82**	**359**	eP	**P**	**19 57 21.1**	**-1.9**
	comp=N,11nm,0.7s						
GDL2	**Guadalupe Moun**	**19.32**	**330**	eP	**P**	**19 57 29.9**	**+1.6**
AMTX	**Amarillo**	**20.59**	**340**	eP	**P**	**19 57 41.3**	**-0.1**
	comp=N,12nm,0.5s						
BNM	**Barren Site**	**22.00**	**329**	eP	**P**	**19 57 58.5**	**+3.1**
YKA	**Yellowknife Ar**	**49.15**	**347**	P	**P**	**20 01 45.7**	**-1.9**
	comp=N,1.5nm,0.6s,mb4.1,baz=151,slow=7.4,SNR=5.8						
DLBC	**Dease Lake**	**50.65**	**336**	P	**P**	**20 02 00.6**	**+1.4**
	comp=N,2.2nm,0.9s,mb4.2,baz=139,slow=9.3,SNR=3.4						
ILAR	**Eielson Array**	**60.84**	**337**	P	**P**	**20 03 11.2**	**-1.0**
	comp=N,0.8nm,0.5s,mb4.0,baz=126,slow=5.5,SNR=17						
STKA	**Stephens Creek**	**127.77**	**242**	PKP	PKPdf	20 12 02.5	-0.2
	comp=N,1.8nm,0.7s,baz=17,slow=1.4,SNR=6.7						
WRA	**Warramunga Arr**	**134.57**	**257**	PKP	PKPdf	20 12 16.5	+0.7
	comp=N,0.8nm,0.6s,baz=85,slow=2.4,SNR=12						
ASAR	**Alice Springs**	**135.02**	**252**	PKhKP		20 12 08.6	
	comp=N,0.2nm,0.6s,baz=103,slow=3.9,SNR=6.1						
ASAR				PKP	PKPdf	20 12 16.9	+0.3
	comp=N,0.4nm,0.5s,baz=86,slow=3.0,SNR=4.4						
ASAR	**Alice Springs**	**135.02**	**252**	PKP	PKPdf	20 12 16.9	+0.3
CMAR	**Chiang Mai Arr**	**144.03**	**340**	PKP	PKPdf	20 12 31.8	-0.9
	comp=N,1.0nm,0.8s,baz=334,slow=3.4,SNR=7.4						

NEIC 25 19:55:37.6, 36.97N×121.60W, h8km, MW3.7(BRK), After NCEDC., Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAO	**San Andreas Ge**	**0.23**	**149**	eP	Pg	19 55 42.3	-0.2
LRV	**Little Rabbit**	**0.71**	**139**	eP	Pb	19 55 51.4	-0.5
LKC	**Lake Chabot**	**0.86**	**334**	eP	Pb	19 55 53.7	-0.6
SAC	**San Andreas**	**0.90**	**313**	eP	Pb	19 55 53.9	-1.1
SAC				eS	Sb	19 56 07.0	0.0
CMB	**Columbia Colle**	**1.44**	**42**	eP	Pn	19 56 02.9	-1.2
CMB				eS	Sb	19 56 17.6	-5.0
NSHM	**Saint Helena R**	**1.75**	**333**	eP	Pn	19 56 06.0	-2.5
OMM	**Old Mammoth Mi**	**2.18**	**72**	ePn	Pn	19 56 14.7	-0.1
HOPS	**Hopland**	**2.34**	**331**	ePn	Pn	19 56 14.6	-2.4
OHCM	**Honcut**	**2.37**	**2**	ePn	Pn	19 56 15.1	-2.4
MTUM	**Tungsten Hills**	**2.45**	**80**	ePn	Pn	19 56 18.2	-0.5
WCN	**Washoe City**	**2.75**	**31**	ePn	Pn	19 56 21.4	-1.5
BEKR	**Beckwourth**	**3.06**	**18**	ePn	Pn	19 56 26.2	-1.0
MNV	**Mina**	**3.10**	**61**	ePn	Pn	19 56 26.1	-1.8
DAC	**Darwin (Calif)**	**3.29**	**101**	ePn	Pn	19 56 28.8	-1.8
TPH	**Tonopah**	**3.65**	**71**	ePn	Pn	19 56 34.7	-1.0
WDC	**Whiskeytown Da**	**3.68**	**349**	ePn	Pn	19 56 32.8	-3.4
MWC	**Mount Wilson**	**3.98**	**132**	ePn	Pn	19 56 37.2	-3.1
KHMM	**Horse Mountain**	**4.24**	**338**	Pn	Pn	19 56 43.6	-0.6
BMN	**Battle Mountai**	**4.87**	**43**	Pn	Pn	19 56 51.7	-1.3
TRCR	**Troy Canyon**	**4.97**	**72**	Pn	Pn	19 56 52.2	-2.2
MOD	**Modoc**	**5.03**	**11**	ePn	Pn	19 56 51.7	-3.5
PFO	**Pinyon Flat Ob**	**5.38**	**127**	ePn	Pn	19 56 56.9	-3.3
LDFC	**Landfair**	**5.58**	**108**	ePn	Pn	19 56 60.0	-3.1
NEN	**Nelson**	**5.61**	**102**	ePn	Pn	19 56 59.0	-4.5
MVU	**Marysvale**	**7.59**	**76**	Pn	Pn	19 57 27.4	-4.0
TMUT	**Trail Mountain**	**8.51**	**71**	Pn	P	19 57 40.3	-3.8
TCUT	**Toone Canyon**	**8.94**	**59**	Pn	P	19 57 46.7	-3.5
HWUT	**Hardware Ranch**	**9.05**	**56**	Pn	P	19 57 49.3	-2.3
TUC	**Tucson**	**10.04**	**114**	Pn	P	19 58 02.0	-3.4

*IDC **25** 20:21:19.9±0.9, 19.17N×46.11W, mb3.9/10, mb1 4.2/12, mb1mx4.1/21, ML6.1/1, MS3.7/6, Ms1 3.7/6, ms1mx3.3/27, Error ellipse: s-maj=26.7km s-min=20.8km az=157.0*
*NEIC **25** 20:21:21.5±0.5, 19.15N×46.09W, h10km, mb4.4/2, Error ellipse: s-maj=17.3km s-min=11.0km az=150.0*
ISC 25 20:21:19.7±0.7, 19.2N±0.1×46.1W±0.1, h10km, n21, σ0§73/16, mb4.0/13, MS3.6/5, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**19.04**	**270**	P	**P**	**20 25 45.1**	**+0.6**
	1.1nm,0.3s,baz=82,slow=14,SNR=3.6						
SJG				LR	LR	20 31 20.7	
	comp=Z,340nm,21.2s,baz=287,slow=32						
SJG	**San Juan**	**19.04**	**270**	P	**P**	**20 25 45.1**	**+0.6**
SJG				LR	LR	20 31 20.7	
SDV	**Santo Domingo**	**25.88**	**250**	eP	**P**	**20 26 53.8**	**+0.2**
	3.4nm,0.6s,mb4.0						
BDFB	**Brasilia**	**34.65**	**183**	LR	LR	20 40 53.1	
	comp=Z,86nm,19.2s,MS3.5,baz=113,slow=34						
SCHQ	**Schefferville**	**38.95**	**341**	LR	LR	20 43 13.7	
	comp=Z,152nm,19.1s,MS3.8,baz=171,slow=34						
LPAZ	**La Paz**	**41.38**	**213**	LR	LR	20 44 47.9	
	comp=Z,51nm,19.7s,MS3.4,baz=80,slow=34						
ESDC	**Sonseca Array**	**41.53**	**51**	P	**P**	**20 29 08.6**	**-0.2**
	0.2nm,0.5s,mb3.0,baz=248,slow=8.9,SN

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGZ	**Maungaku**	**0.72**	**207**	P	P	20 35 11.4	+0.2
MGZ	**Maungaku**	**0.72**	**207**	PN	P	20 35 11.4	+0.2
NGZ	**Ngauruhoe**	**0.86**	**199**	P	P	20 35 12.1	+0.1
NGZ	**Ngauruhoe**	**0.86**	**199**	PN	P	20 35 12.1	+0.1
CNZ	**Chateau**	**0.89**	**201**	PN	P	20 35 12.2	0.0
BKZ	**Black Stump Fm**	**0.91**	**152**	P	P	20 35 12.4	+0.1
BKZ	**Black Stump Fm**	**0.91**	**152**	⇓PN	P	20 35 12.4	+0.1
BKZ				SN	S	20 35 33.2	+0.1
URZ	**Urewera**	**0.92**	**84**	P	P	20 35 11.7	-0.7
URZ	**Urewera**	**0.92**	**84**	⇓PN	P	20 35 11.7	-0.7
URZ				SN	S	20 35 32.5	-0.8
TUVZ	**Tukino**	**0.94**	**194**	*e*PN	P	20 35 11.8	-0.7
WNVZ	**Wahianoa**	**1.00**	**196**	P	P	20 35 13.1	+0.1
WNVZ	**Wahianoa**	**1.00**	**196**	PN	P	20 35 13.1	+0.2
WNVZ				SN	S	20 35 34.0	-0.3
MOVZ	**Moawhango**	**1.06**	**188**	P	P	20 35 13.1	-0.3
MOVZ				S	S	20 35 34.3	-0.8
MOVZ	**Moawhango**	**1.06**	**188**	PN	P	20 35 13.1	-0.3
MOVZ				SN	S	20 35 34.3	-0.8
MWZ	**Matawai**	**1.24**	**89**	P	P	20 35 14.5	-0.5
MWZ	**Matawai**	**1.24**	**89**	⇓PN	P	20 35 14.5	-0.5
MWZ				SN	S	20 35 37.0	-1.0
KNZ	**Kokohu**	**1.50**	**117**	P	P	20 35 17.3	-0.2
KNZ	**Kokohu**	**1.50**	**117**	PN	P	20 35 17.3	-0.2
KNZ				*e*SN	S	20 35 42.1	-0.2
WAZ	**Wanganui**	**1.58**	**208**	P	P	20 35 17.4	-0.9
WAZ	**Wanganui**	**1.58**	**208**	PN	P	20 35 17.4	-0.9
WAZ				SN	S	20 35 41.8	-1.9
TSZ	**Takapari Road**	**1.70**	**180**	P	P	20 35 18.7	-0.7
TSZ				S	S	20 35 38.6	-7.1
TSZ	**Takapari Road**	**1.70**	**180**	⇑PN	P	20 35 18.7	-0.7
TSZ				SN	S	20 35 42.0	-3.7
PWZ	**Pawanui**	**1.81**	**157**	*e*P	P	20 35 20.3	-0.3
PWZ	**Pawanui**	**1.81**	**157**	PN	P	20 35 20.3	-0.3
PWZ				SN	S	20 35 47.5	-0.2
PUZ	**Puketiti**	**1.84**	**82**	P	P	20 35 19.5	-1.4
PUZ	**Puketiti**	**1.84**	**82**	PN	P	20 35 19.5	-1.4
PUZ				SN	S	20 35 47.1	-1.1
MXZ	**Matakaoa Point**	**2.02**	**68**	*e*P	P	20 35 21.8	-1.1
MXZ	**Matakaoa Point**	**2.02**	**68**	PN	P	20 35 21.8	-1.1
MXZ				SN	S	20 35 49.8	-2.0
MRZ	**Mangatainoka R**	**2.31**	**187**	P	P	20 35 24.3	-1.9
MRZ	**Mangatainoka R**	**2.31**	**187**	PN	P	20 35 24.2	-2.0
MRZ				SN	S	20 35 54.8	-3.0
BFZ	**Birch Farm**	**2.33**	**174**	P	P	20 35 24.7	-1.7
BFZ	**Birch Farm**	**2.33**	**174**	PN	P	20 35 24.7	-1.7
BFZ				SN	S	20 35 55.8	-2.2
KIW	**Kapiti Island**	**2.62**	**198**	P	P	20 35 27.1	-2.8
KIW	**Kapiti Island**	**2.62**	**198**	PN	P	20 35 27.1	-2.8
KIW				SN	S	20 36 00.7	-3.5
MTW	**Mount Morrison**	**2.81**	**187**	P	P	20 35 29.2	-3.0
MTW	**Mount Morrison**	**2.81**	**187**	PN	P	20 35 29.2	-3.0
CAW	**Cannon Point**	**2.83**	**194**	P	P	20 35 29.5	-2.9
CAW	**Cannon Point**	**2.83**	**194**	PN	P	20 35 29.5	-2.8
CAW				SN	S	20 36 04.8	-3.7
MRW	**Makara Radio**	**3.02**	**198**	P	P	20 35 31.6	-3.1
MRW	**Makara Radio**	**3.02**	**198**	PN	P	20 35 31.6	-3.1
MRW				*e*SN	S	20 36 08.7	-4.1
MSWZ	**Moikau Station**	**3.10**	**190**	P	P	20 35 32.3	-3.4
MSWZ	**Moikau Station**	**3.10**	**190**	PN	P	20 35 32.3	-3.4
MSWZ				SN	S	20 36 10.1	-4.3
TUWZ	**Tuamarina**	**3.43**	**206**	PN	P	20 35 36.1	-3.8
NNZ	**Nelson**	**3.47**	**214**	PN	P	20 35 36.2	-4.2
NNZ				SN	S	20 36 18.6	-4.2
QRZ	**Quartz Range**	**3.61**	**226**	P	P	20 35 37.2	-5.0
QRZ	**Quartz Range**	**3.61**	**226**	PN	P	20 35 37.2	-4.9
QRZ				SN	S	20 36 21.2	-4.8
THZ	**Tophouse**	**4.12**	**214**	*e*P	P	20 35 44.1	-4.6
THZ	**Tophouse**	**4.12**	**214**	PN	P	20 35 44.1	-4.6
THZ				SN	S	20 36 33.0	-4.5
KHZ	**Kahutara**	**4.45**	**204**	P	P	20 35 48.3	-4.6
KHZ	**Kahutara**	**4.45**	**204**	PN	P	20 35 48.3	-4.6
KHZ				SN	S	20 36 39.0	-6.1
DSZ	**Denniston Nort**	**4.64**	**222**	P	P	20 35 49.7	-5.7
DSZ	**Denniston Nort**	**4.64**	**222**	*e*PN	P	20 35 49.7	-5.6
LTZ	**Lake Taylor**	**5.23**	**211**	*e*P	P	20 35 57.7	-5.3
LTZ	**Lake Taylor**	**5.23**	**211**	PN	P	20 35 57.7	-5.4
LTZ				SN	S	20 36 54.9	-8.4
MQZ	**McQueen's Vall**	**5.89**	**204**	P	P	20 36 05.6	-6.1
MQZ	**McQueen's Vall**	**5.89**	**204**	PN	P	20 36 05.6	-6.1
MQZ				SN	S	20 37 09.1	-10
WVZ	**Waitaha Valley**	**6.15**	**218**	*e*PN	P	20 36 09.2	-6.0
FOZ	**Fox Glacier**	**7.03**	**220**	PN	P	20 36 19.3	-7.5
LBZ	**Lake Benmore**	**7.42**	**214**	*e*P	P	20 36 25.2	-6.6
LBZ	**Lake Benmore**	**7.42**	**214**	PN	P	20 36 25.2	-6.6
ODZ	**Otahua Downs**	**7.77**	**209**	*e*P	P	20 36 30.7	-5.8
ODZ	**Otahua Downs**	**7.77**	**209**	PN	P	20 36 30.7	-5.8
CASY	**Casey**	**45.77**	**211**	*e*P	P	20 42 45.7	-4.6
	10nm,0.5s						

*JMA **25** 20:38:35.7±0.5,25.64N×122.39E,h218km,M3.1*
TAP 25 20:38:32.5,25.54N×122.22E,h274km,ML3.8,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**1.82**	**131**	P	P	20 39 13.7	-2.1
IRIF				S	S	20 39 43.2	-6.3
HATJ	**Hateruma jima**	**2.06**	**135**	P	P	20 39 16.3	-1.5
JKRS	**Kuro-shima**	**2.08**	**128**	P	P	20 39 16.1	-1.8
JKRS				S	S	20 39 47.4	-5.9
JIJ	**Ishigaki jima**	**2.10**	**123**	P	P	20 39 15.5	-2.6
JIJ				*e*S	S	20 39 46.4	-7.2
JTJ	**Tarama**	**2.42**	**111**	P	P	20 39 19.5	-1.6
JTJ				*e*S	S	20 39 52.7	-6.2

IDC 25 20:39:25.5±1.3,15.41N×145.74E,mb3.6/6,mb1 3.8/6, mb1mx3.7/20,Error ellipse: s-maj=41.2km s-min=23.3km az=85.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**36.87**	**198**	P	P	20 46 35.4	-2.4
	1.1nm,0.8s,baz=25,slow=9.8,SNR=9.8						
ASAR	**Alice Springs**	**40.52**	**197**	P	P	20 47 06.8	-1.3
	0.3nm,0.5s,baz=17,slow=9.4,SNR=4.0						
CMAR	**Chiang Mai Arr**	**44.78**	**281**	P	P	20 47 42.2	-0.8
	0.4nm,0.5s,baz=75,slow=6.6,SNR=5.2						
SONM	**Songino Array**	**45.76**	**323**	P	P	20 47 49.4	-1.0
	0.4nm,0.7s,baz=134,slow=7.2,SNR=5.1						
BVAR	**Borovoye Array**	**69.03**	**321**	P	P	20 50 31.3	-3.6
	0.4nm,0.4s,baz=121,slow=8.4,SNR=3.4						
NVAR	**Mina Array Bea**	**85.14**	**52**	P	P	20 52 05.3	+0.3
	0.4nm,0.6s,baz=265,slow=6.0,SNR=4.1						

*IDC **25** 20:44:17.0±4.4,5.17S×104.77W,mb3.9/5,mb1 4.3/5, mb1mx4.1/13,MS4.5/6,Ms1 4.5/6,ms1mx4.2/19,Error ellipse: s-maj=249.0km s-min=66.6km az=97.0*
*NEIC **25** 20:44:20.9±1.4,5.01S×105.83W,h10km,mb4.3/1,Error ellipse: s-maj=41.4km s-min=18.1km az=212.0*
ISC 25 20:44:16.9±0.9,5.4S±0.2×106.1W±0.1,h10km,n16, σ0s85/11,mb4.0/6,MS4.5/6,Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**34.60**	**4**	LR	LR	21 02 26.3	
	comp=Z,434nm,20.9s,MS4.2,baz=200,slow=32						
SDV	**Santo Domingo**	**38.10**	**68**	*e*P	**P**	**20 51 37.4**	**-0.6**
	3.6nm,0.6s,mb4.3						
SAML	**Samuel**	**42.72**	**97**	*e*P	**P**	**20 52 16.8**	**+0.5**
PPT	**Papeete**	**44.17**	**250**	*e*S	**S**	**20 59 00.7**	**+0.2**
PPT				*e*L		21 03 26.5	
PPT				*e*R		21 04 56.6	
	1μm,26.5s,baz=67						
NVAR	**Mina Array Bea**	**45.04**	**346**	P	**P**	**20 52 35.4**	**+0.7**
	0.9nm,0.7s,mb3.7,baz=180,slow=9.0,SNR=4.8						
NVAR				LR	LR	21 07 09.6	
	comp=Z,432nm,18.2s,MS4.4,baz=230,slow=30						
NVAR	**Mina Array Bea**	**45.04**	**346**	P	**P**	**20 52 35.4**	**+0.7**
NVAR				LR	LR	21 07 09.6	
TBI	**Tubuai**	**45.40**	**242**	*e*S	**S**	**20 59 17.6**	**-0.6**
TBI				*e*L		21 03 48.2	
TBI				*e*R		21 05 42.2	
	898nm,27.2s,baz=70						
PDAR	**Pinedale Array**	**48.03**	**357**	P	**P**	**20 52 57.8**	**-0.5**
	0.5nm,0.9s,mb3.5,baz=180,slow=7.2,SNR=3.8						
PDAR				LR	LR	21 10 28.7	
	comp=Z,428nm,18.4s,MS4.5,baz=196,slow=33						
NEW	**Newport**	**54.29**	**351**	LR	LR	21 14 04.1	
	comp=Z,770nm,18.5s,MS4.8,baz=194,slow=33						
BBB	**Bella Bella**	**60.34**	**345**	LR	LR	21 16 42.7	
	comp=Z,319nm,21.1s,MS4.4,baz=54,slow=32						
YKA	**Yellowknife Ar**	**68.00**	**356**	P	**P**	**20 55 16.4**	**-1.7**
	1.1nm,0.6s,mb4.0,baz=167,slow=6.4,SNR=4.2						
YKA	**Yellowknife Ar**	**68.00**	**356**	P	**P**	**20 55 16.4**	**-1.8**
INK	**Inuvik**	**75.99**	**350**	P	**P**	**20 56 06.6**	**+1.0**
	2.0nm,0.7s,mb4.2,baz=134,slow=6.8,SNR=5.4						
ILAR	**Eielson Array**	**76.18**	**343**	P	**P**	**20 56 07.4**	**+0.7**
	1.7nm,0.9s,mb4.0,baz=146,slow=4.3,SNR=11						
RPZ	**Rata Peaks**	**81.13**	**227**	LR	LR	21 29 12.2	
	comp=Z,302nm,18.1s,MS4.7,baz=14,slow=33						
CMAR	**Chiang Mai Arr**	**152.31**	**300**	PKPbc	PKPdf	21 04 18.2	+8.1
	0.8nm,0.9s,baz=90,slow=0.9,SNR=4.7						

*NEIC **25** 20:59:02.4,43.96N×10.53E,h10km,MD2.7(ROM), ML2.7(LDG),ML2.2(GEN),After GEN.*
*ROM **25** 20:59:02.2±0.1,43.98N×10.54E,h5km±1km,MD2.7/3, ML1.9/6,Error ellipse: s-maj=1.7km s-min=0.6km az=90.0*
*LDG **25** 20:59:05.7±0.3,43.84N×10.40E,h10km,Ml2.7/8,Error ellipse: s-maj=7.5km s-min=3.6km az=104.0*
ISC 25 20:59:02.1±0.3,43.95N±0.02×10.44E±0.02,h10km,n46, σ1s00/78,3C,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAIM		**0.05**	**136**	P	**Pg**	**20 59 04.5**	**+0.5**
MAIM				S	**Sg**	**20 59 05.8**	**+0.4**
BDI	**Bagni Di Lucca**	**0.16**	**44**	⇑*i*PG	**Pg**	**20 59 04.8**	**-0.9**
VLC	**Villacollemand**	**0.21**	**349**	*e*P	**Pg**	**20 59 06.9**	**+0.2**
PII	**Pisa**	**0.23**	**166**	⇑*i*PG	**Pg**	**20 59 07.9**	**+0.8**
PII				SG	**Sg**	**20 59 12.1**	**+1.7**
	279nm,0.2s						
PII	**Pisa**	**0.23**	**166**	⇑*i*Pg	**Pg**	**20 59 07.9**	**+0.9**
PII				*e*Sg	**Sg**	**20 59 12.1**	**+1.7**
SARO	**Sassorosso**	**0.24**	**353**	P	**Pg**	**20 59 07.3**	**+0.2**
SARO				S	**Sg**	**20 59 10.8**	**+0.4**
VINC	**Vinca**	**0.28**	**312**	P	**Pg**	**20 59 08.9**	**+0.9**
VINC				S	**Sg**	**20 59 13.3**	**+1.3**
GSCL	**Gusciola**	**0.41**	**14**	*e*PG	**Pg**	**20 59 10.4**	**-0.1**
GSCL				SG	**Sg**	**20 59 16.6**	**+0.4**
GSCL	**Gusciola**	**0.41**	**14**	*e*Pg	**Pg**	**20 59 10.4**	**-0.1**
GSCL				*e*Sg	**Sg**	**20 59 16.6**	**+0.5**
BACM		**0.42**	**321**	P	**Pg**	**20 59 11.1**	**+0.4**
BACM				S	**Sg**	**20 59 16.8**	**+0.4**
VALM		**0.42**	**341**	P	**Pg**	**20 59 10.9**	**+0.2**
VALM				S	**Sg**	**20 59 16.5**	**0.0**
ERBM	**Eremo**	**0.47**	**357**	*e*PG	**Pg**	**20 59 12.0**	**+0.4**
ERBM				SG	**Sg**	**20 59 19.8**	**+1.8**
ERBM	**Eremo**	**0.47**	**357**	*e*Pg	**Pg**	**20 59 12.0**	**+0.4**
ERBM				*e*Sg	**Sg**	**20 59 19.8**	**+1.8**
FNVD	**Fontana Vidola**	**0.54**	**66**	*e*PG	**Pg**	**20 59 12.9**	**0.0**
FNVD				SG	**Sg**	**20 59 19.4**	**-0.7**
FNVD	**Fontana Vidola**	**0.54**	**66**	*e*Pg	**Pg**	**20 59 12.9**	**0.0**
FNVD				*e*Sg	**Sg**	**20 59 19.4**	**-0.8**
GRAM		**0.61**	**333**	P	**Pg**	**20 59 14.1**	**-0.2**
GRAM				S	**Sg**	**20 59 22.2**	**-0.3**
CODM		**0.61**	**316**	P	**Pb**	**20 59 14.4**	**0.0**
SEI	**Scarperia**	**0.67**	**81**	*e*PG	**Pg**	**20 59 14.7**	**-0.8**
	445nm,0.4s						
SEI	**Scarperia**	**0.67**	**81**	*e*Pg	**Pg**	**20 59 14.7**	**-0.8**
CSNT	**Castellina Chi**	**0.78**	**128**	*e*PG	**Pg**	**20 59 18.7**	**+1.0**
CSNT				SG	**Sg**	**20 59 29.5**	**+1.4**
	72nm,0.5s						
CSNT	**Castellina Chi**	**0.78**	**128**	*e*Pg	**Pg**	**20 59 18.7**	**+1.0**
CSNT				*e*Sg	**Sg**	**20 59 29.5**	**+1.4**
VMG	**Vicchio**	**0.79**	**89**	*e*PG	**Pg**	**20 59 17.0**	**-1.0**
VMG				SG	**Sg**	**20 59 27.6**	**-1.1**
VMG	**Vicchio**	**0.79**	**89**	*e*Pg	**Pg**	**20 59 16.9**	**-1.1**
VMG				*e*Sg	**Sg**	**20 59 27.6**	**-1.0**
GRFL	**Gerfalco**	**0.89**	**154**	*e*PG	**Pg**	**20 59 20.2**	**+0.3**
	13nm,0.4s						
GRFL	**Gerfalco**	**0.89**	**154**	*e*Pg	**Pg**	**20 59 20.2**	**+0.3**
PGD	**Poggio Sodo**	**0.93**	**94**	*e*PG	**Pg**	**20 59 19.8**	**-0.8**
PGD				SG	**Sg**	**20 59 33.4**	**+0.4**
	26nm,0.4s						
PGD	**Poggio Sodo**	**0.93**	**94**	*e*Pg	**Pg**	**20 59 19.8**	**-0.8**
PGD				*e*Sg	**Sg**	**20 59 33.4**	**+0.4**
SFI	**Santa Sofia**	**1.01**	**92**	*e*PG	**Pg**	**20 59 21.8**	**-0.6**
SFI				SG	**Sg**	**20 59 35.4**	**-0.6**
	30nm,0.4s						
SFI	**Santa Sofia**	**1.01**	**92**	*e*Pg	**Pg**	**20 59 21.8**	**-0.6**
SFI				*e*Sg	**Sg**	**20 59 35.4**	**-0.6**
CRE	**Caprese Michel**	**1.14**	**106**	*e*PN	**Pn**	**20 59 24.0**	**-0.1**
CRE				SN	**Sn**	**20 59 39.5**	**-0.3**
	25nm,0.4s						
CRE	**Caprese Michel**	**1.14**	**106**	*e*Pg	**Pg**	**20 59 24.0**	**-0.9**
CRE				*e*Sg	**Sg**	**20 59 39.5**	**-0.6**
PGF	**Pioggiola**	**1.75**	**218**	*e*Pn	**Pn**	**20 59 33.8**	**+1.0**
PGF				*e*Sn	**Sn**	**20 59 53.0**	**-2.4**
	7.8nm,0.3s						
SBF	**Sospel**	**2.18**	**269**	*e*Pn	**Pn**	**20 59 39.2**	**+0.3**
SBF				*e*Sn	**Sn**	**21 00 05.3**	**-0.9**
	9.4nm,0.3s						
NRCA	**Norcia**	**2.24**	**119**	*e*PN	**Pn**	**20 59 40.2**	**+0.4**
	4.0nm,0.5s						
NRCA	**Norcia**	**2.24**	**119**	*e*Pn	**Pn**	**20 59 40.2**	**+0.3**
MBDF	**Montbardon**	**2.75**	**288**	*e*Pn	**Pn**	**20 59 47.8**	**+0.7**
MBDF				*e*Sn	**Sn**	**21 00 19.9**	**-0.8**
	8.8nm,0.6s						
FRF	**La Foret Royal**	**2.78**	**263**	*e*Pn	**Pn**	**20 59 47.5**	**0.0**
FRF				*e*Sn	**Sn**	**21 00 19.1**	**-2.4**
	4.0nm,0.2s						
LMR	**La Mourre**	**2.92**	**259**	*e*Pn	**Pn**	**20 59 49.5**	**0.0**
LMR				*e*Sn	**Sn**	**21 00 23.3**	**-1.8**
	3.7nm,0.2s						
ORIF	**Oris-en-Rattie**	**3.41**	**288**	*e*Pn	**Pn**	**20 59 57.8**	**+1.3**
SMRF	**Simiane la Rot**	**3.52**	**272**	*e*Pn	**Pn**	**20 59 59.1**	**+1.1**
CABF	**La Chapelle**	**4.07**	**312**	*e*Pn	**Pn**	**21 00 08.0**	**+2.2**
HINF	**Hinteralfeld**	**4.61**	**328**	*e*Pn	**Pn**	**21 00 15.1**	**+1.6**
HINF				*e*Sn	**Sn**	**21 01 06.4**	**-1.4**
	2.5nm,0.3s						
LASF	**Ste Croix**	**4.75**	**274**	*e*Pn	**Pn**	**21 00 15.0**	**-0.6**
HAU	**Haudompre**	**4.96**	**326**	*e*Pn	**Pn**	**21 00 19.3**	**+0.8**
HAU				*e*Sn	**Sn**	**21 01 14.3**	**-2.4**
	3.5nm,0.3s						
CDF	**Champ du Feu**	**4.98**	**335**	*e*Pn	**Pn**	**21 00 19.4**	**+0.7**
CDF				*e*Sn	**Sn**	**21 01 15.0**	**-2.1**
	3.4nm,0.4s						
MTLF	**Montolieu**	**6.00**	**267**	*e*Pn	**Pn**	**21 00 31.5**	**-1.7**

*IDC **25** 20:59:50.0±0.5,0.96N×28.98W,mb4.4/18,mb1 4.6/19, mb1mx4.5/22,MS4.9/23,Ms1 4.9/23,ms1mx4.8/26,Error ellipse: s-maj=20.0km s-min=12.3km az=141.0*
*MOS **25** 20:59:50.3±1.0,0.94N×28.90W,h10km,mb5.2/8,MS4.6/5, Error ellipse: s-maj=28.2km s-min=8.5km az=52.5*
*BJI **25** 20:59:50.4,0.90N×29.00W,h10km,mB4.9,Ms5.2,Msz4.8*
*HRVD **25** 20:59:51.4±0.2,0.94N×28.83W,h12km,MW5.6/69, Centroid moment Tensor Solution. LP body waves: s64,c130;Mantle waves: s69,c151; Half duration: 1s6 Moment tensor: Scale 10^17^Nm; Mrr=0.05±.04; Mθθ=0.53±.04; Mθφ=-0.49±.04; Mrθ=-0.88±.11; Mφφ=-2.69±.03; Mφr=-0.03±.12; Best double couple: Mo2.88×10^17^ NP1: φs355°,δ72°,λ1°. NP2:φs265°,δ89°,λ162°. Principal axes: T 2.91, Plg13°, Azm218°; N -.07, Plg72°, Azm83°; P -2.84, Plg12°, Azm311°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **25** 20:59:51.4±0.2,0.85N×28.99W,h10km,mb5.0/54, MS4.9/4 Error ellipse: s-maj=7.4km s-min=4.1km az=145.0*
ISC 25 20:59:50.1±0.3,0.92N±0.06×28.96W±0.04,h10km,n196, σ0s91/187,mb4.8/81,MS4.9/32,16C-6D,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**9.64**	**226**	*e*P	**P**	**21 02 07.6**	**-4.6**
	282nm,0.6s						
LIC	**Lamto**	**24.45**	**77**	*e*P	**P**	**21 05 09.3**	**-1.2**
	57nm,0.9s,mb4.7						
LIC	**Lamto**	**24.45**	**77**	*e*P	**P**	**21 05 09.5**	**-1.0**
	340nm,1.8s,mb5.5						
TIC	**Toumodi**	**24.54**	**76**	*e*P	**P**	**21 05 10.0**	**-1.4**
	718nm,2.0s,mb5.9						
DBIC	**Dimbokro**	**24.71**	**76**	P	**P**	**21 05 12.0**	**-1.0**
	34nm,0.8s,mb5.0,baz=242,slow=12,SNR=34						
DBIC				S	**S**	**21 09 32.6**	**+0.8**
	12nm,1.3s,baz=153,slow=7.0,SNR=1.7						
DBIC				LR	LR	21 12 54.2	
	comp=Z,5μm,18.7s,MS5.1,baz=236,slow=32						
KIC	**Kosan Boka**	**24.76**	**77**	*e*P	**P**	**21 05 12.7**	**-0.8**
	145nm,0.7s,mb5.6						
BDFB	**Brasilia**	**25.01**	**228**	P	**P**	**21 05 16.1**	**+0.3**
	21nm,0.6s,mb4.8,baz=53,slow=7.9,SNR=29						
BDFB				S	**S**	**21 09 40.2**	**+3.3**
	2.2nm,0.7s,baz=344,slow=24,SNR=1.8						
BDFB				LR	LR	21 14 09.8	
	comp=Z,9μm,18.8s,MS5.3,baz=65,slow=34						
CAM4	**Nova Friburgo**	**26.67**	**209**	*e*P	**P**	**21 05 31.0**	**-0.3**
CAM4				*i*	pP	21 05 34.7	+0.5
CAM4				*i*		21 05 39.8	
CAM4	**Nova Friburgo**	**26.67**	**209**	*e*P	**P**	**21 05 31.0**	**-0.3**
CAM4				*i*	pP	21 05 34.7	+0.5
CAM4				*i*		21 05 39.8	
SAML	**Samuel**	**35.48**	**253**	*e*P	**P**	**21 06 50.1**	**+1.0**
	52nm,1.4s,mb5.3						
PDA	**Ponta Delgada**	**36.77**	**4**	*i* LQ		21 15 36.0	
CPUP	**Villa Florida**	**38.51**	**223**	P	**P**	**21 07 14.7**	**+0.2**
	21nm,1.1s,mb4.8,baz=65,slow=7.6,SNR=13						
CPUP				S	**S**	**21 13 08.0**	**-1.7**
	0.8nm,0.5s,baz=194,slow=20,SNR=2.9						
CPUP				LR	LR	21 22 39.2	
	comp=Z,10μm,19.0s,MS5.6,baz=84,slow=36						
SJG	**San Juan**	**40.31**	**297**	S	**S**	**21 13 38.9**	**+2.0**
	35nm,0.2s,baz=340,slow=20,SNR=4.4						
SJG				LR	LR	21 20 42.9	
	comp=Z,2μm,21.2s,MS5.0,baz=229,slow=31						
PALC	**Alcoutim**	**41.41**	**26**	*e*P	**P**	**21 07 40.1**	**+1.7**
	53nm,1.3s,mb5.0						
ESPR	**Espera**	**41.66**	**28**	P	**P**	**21 07 40.9**	**+0.4**
	100nm,1.9s,mb5.1						
EMIN	**Mina Concepcio**	**42.02**	**27**	P	**P**	**21 07 43.2**	**-0.2**
	78nm,2.0s,mb5.0						
EVO	**Evora**	**42.07**	**25**	*e*P	**P**	**21 07 43.0**	**-0.8**
	66nm,1.4s,mb4.8						
EVO				*e*R			
	1μm,20.2s						
SDV	**Santo Domingo**	**42.23**	**282**	*e*P	**P**	**21 07 46.5**	**+1.1**
	20nm,0.8s,mb4.8						
LPAZ	**La Paz**	**42.27**	**244**	P	**P**	**21 07 47.0**	**+1.3**
	5.8nm,0.6s,mb4.4,baz=79,slow=3.8,SNR=11						
LPAZ				S	**S**	**21 14 07.3**	**+1.2**
	1.5nm,0.3s,baz=217,slow=0.6,SNR=1.8						
LPAZ				LR	LR	21 24 26.8	
	comp=Z,3μm,20.9s,MS5.2,baz=74,slow=35						
EBAD	**Badajoz**	**42.68**	**26**	P	**P**	**21 07 49.0**	**+0.2**
	83nm,1.5s,mb5.2						
PTOM	**Tomar**	**42.83**	**24**	*e*P	**P**	**21 07 51.9**	**+1.8**
	73nm,1.5s,mb5.2						
ELUQ	**Luque**	**42.98**	**29**	P	**P**	**21 07 52.7**	**+1.5**
	19nm,1.1s,mb4.7						
EADA	**Adamuz**	**43.31**	**28**	P	**P**	**21 07 54.3**	**+0.4**
	126nm,2.5s,mb5.2						
PCBR	**Castelo Branco**	**43.40**	**24**	*e*P	**P**	**21 07 56.6**	**+1.9**
	25nm,1.6s,mb4.7						
EQES	**Quesada**	**43.76**	**30**	P	**P**	**21 07 58.8**	**+1.2**
MTE	**Manteigas**	**43.85**	**24**	*e*P	**P**	**21 08 00.9**	**+2.6**
MTE				*e*S	**S**	**21 14 35.6**	**+6.9**
MTE				*e*LQ		21 17 54.0	
MTE				*e*LR	LR	21 20 29.9	
EVIA	**Vianos**	**44.68**	**30**	P	**P**	**21 08 06.6**	**+1.5**
	7.8nm,0.8s,mb4.6						
ESDC	**Sonseca Array**	**44.80**	**28**	P	**P**	**21 08 06.2**	**+0.2**
	2.8nm,0.8s,mb4.1,baz=220,slow=7.9,SNR=22						
ESDC				S	**S**	**21 14 43.4**	**+0.8**
	1.2nm,0.8s,baz=296,slow=37,SNR=3.1						
ESDC				ScS	ScS	21 18 04.8	+3.4
	0.4nm,0.6s,baz=300,slow=38,SNR=3.1						
ESDC				LR	LR	21 23 51.2	
	comp=Z,698nm,19.8s,MS4.6,baz=245,slow=32						
ESDC	**Sonseca Array**	**44.80**	**28**	⇓P	**P**	**21 08 06.8**	**+0.8**
	13nm,1.8s,mb4.5						
ELOB	**Lobios**	**44.90**	**22**	P	**P**	**21 08 06.3**	**-0.5**
ERUA	**La Rua**	**45.70**	**23**	P	**P**	**21 08 13.1**	**0.0**
	16nm,1.0s,mb4.9						
EPON	**Pontenova**	**46.50**	**22**	P	**P**	**21 08 18.1**	**-1.3**
ETOR	**Torete**	**46.60**	**28**	P	**P**	**21 08 20.6**	**+0.4**
	110nm,1.7s,mb5.5						
EARI	**Arriondas**	**47.23**

KBA	**Koelnbreinsper**	**58.86**	**33**	⇑*iP*		**P**	**21 09 51.7**	**+0.3**
	17nm,1.7s,mb4.8							
BOJS	**Bojanci**	**58.98**	**35**	*eP*		**P**	**21 09 52.9**	**+0.6**
GRA1	**Grafenberg Arr**	**59.45**	**29**	*eP*		**P**	**21 09 53.0**	**-2.5**
	25nm,1.4s,mb5.0							
GRA1				*eS*		**S**	**21 18 09.8**	**+6.9**
GRA1				LR	LR			
	comp=Z,500nm,21.0s,MS4.6							
GRF	**Grafenberg Arr**	**59.45**	**29**	*eP*		**P**	**21 09 53.0**	**-2.5**
GRF				*eS*		**S**	**21 18 09.8**	**+6.9**
GRF				pmax	pmax			
	comp=Z,25nm,1.4s,mb5.0							
MOA	**Molln**	**59.83**	**32**	⇓*iP*		**P**	**21 09 56.8**	**-1.3**
	comp=Z,12nm,1.0s,mb4.9							
GERES	**GERESS Array B**	**60.15**	**31**	P		**P**	**21 09 59.2**	**-1.0**
	comp=Z,2.6nm,0.7s,mb4.4,baz=225,slow=5.7,SNR=28							
GERES				S		**S**	**21 18 15.7**	**+3.8**
	comp=Z,0.1nm,0.3s,baz=4.8,slow=16,SNR=2.3							
ARSA	**Arzberg**	**60.15**	**33**	⇑*iP*		**P**	**21 10 00.5**	**+0.2**
	comp=Z,9.3nm,1.4s,mb4.6							
KHC	**Kasperske Hory**	**60.27**	**31**	*eP*		**P**	**21 09 59.9**	**-1.2**
KHC				*ex*		x	21 10 15.1	
IDI	**Anoyia**	**60.55**	**49**	P		**P**	**21 10 03.1**	**-0.1**
	comp=Z,4.6nm,0.8s,mb4.7							
IDI				S		**S**	**21 18 17.5**	**+0.3**
	comp=Z,2.4nm,1.0s,baz=220,slow=13,SNR=1.8							
PRU	**Pruhonice**	**61.29**	**30**	P		**P**	**21 10 06.8**	**-1.2**
PRU				*e*			21 10 15.2	
PRU				pmax	pmax			
	comp=Z,29nm,1.8s,mb5.1							
PRU	**Pruhonice**	**61.29**	**30**	P		**P**	**21 10 06.8**	**-1.2**
	comp=Z,29nm,1.8s,mb5.1							
PRU				*ex*		x	21 10 15.2	
CLL	**Collm**	**61.37**	**29**	P		**P**	**21 10 09.0**	**+0.5**
CLL				*e*			21 10 18.0	
CLL				*e*PPP	PPP		21 14 05.0	+11
CLL				*eS*		**S**	**21 18 35.0**	**+7.6**
CLL				*e*SS	SS		21 22 24.0	-5.6
CLL	**Collm**	**61.37**	**29**	*eP*		**P**	**21 10 09.0**	**+0.5**
CLL				*e*			21 10 18.0	
CLL				*eS*		**S**	**21 18 35.0**	**+7.6**
BRG	**Berggiesshubel**	**61.55**	**29**	*eP*		**P**	**21 10 10.4**	**+0.7**
BRG				pmax	pmax			
	comp=Z,36nm,1.9s,mb5.2							
BRG				MLR	MLR			
	comp=N,250nm,17.1s,MS4.6							
BRG				MLR	MLR			
	comp=E,230nm,17.1s,MS4.6							
BRG				MLR	MLR			
	comp=Z,550nm,17.1s,MS4.8							
BRG	**Berggiesshubel**	**61.55**	**29**	*eP*		**P**	**21 10 10.4**	**+0.7**
	comp=Z,36nm,1.9s,mb5.2							
BRG				LR	LR			
	comp=Z,550nm,17.1s,MS4.8							
ZST	**Bratislava**	**61.57**	**33**	*eP*		**P**	**21 10 10.4**	**+0.5**
PVCC	**Panska Ves**	**61.64**	**30**	*eP*		**P**	**21 10 09.5**	**-0.9**
PVCC				*ex*		x	21 10 24.6	
CPCT	**Cooper Cave**	**61.91**	**310**	*eP*		**P**	**21 10 13.8**	**+1.3**
SCHQ	**Schefferville**	**61.99**	**336**	P		**P**	**21 10 12.4**	**-0.3**
	comp=Z,3.4nm,0.8s,mb4.5,baz=134,slow=7.6,SNR=3.5							
SCHQ				LR	LR		21 30 28.1	
	comp=Z,930nm,21.8s,MS4.9,baz=307,slow=30							
SADO	**Sadowa**	**62.14**	**322**	P		**P**	**21 10 11.8**	**-2.0**
	comp=Z,3.2nm,0.6s,mb4.6,baz=148,slow=7.1,SNR=4.3							
SADO				LR	LR		21 31 02.4	
	comp=Z,837nm,20.9s,MS4.9,baz=128,slow=30							
UPC	**Upice**	**62.35**	**31**	*eP*		**P**	**21 10 15.3**	**+0.1**
UPC				*ex*		x	21 10 33.6	
DPC	**Dobruska-Polom**	**62.42**	**31**	*eP*		**P**	**21 10 15.7**	**+0.1**
DPC				*ex*		x	21 10 36.8	
VYHS	**Vyhne**	**62.69**	**34**	*i* P		**P**	**21 10 17.7**	**+0.3**
KSP	**Ksiaz**	**62.70**	**30**	*eP*		**P**	**21 10 13.0**	**-4.5**
KSP				*e*PP	PP		21 12 36.0	-1.2
KSP				*eS*		**S**	**21 18 51.0**	**+6.7**
KSP				LR	LR			
	comp=Z,1μm,24.3s,MS5.0							
MORC	**Moravsky Berou**	**62.72**	**32**	*eP*		**P**	**21 10 17.8**	**+0.2**
	comp=Z,26nm,1.6s,mb5.1							
PSZ	**Piszkesteto**	**62.97**	**35**	⇓*eP*		**P**	**21 10 20.1**	**+0.8**
OKC	**Ostrava-Krasne**	**63.07**	**32**	*eP*		**P**	**21 10 19.8**	**-0.1**
NIE	**Niedzica**	**64.01**	**33**	*eP*		**P**	**21 10 27.4**	**+1.3**
OJC	**Ojcow**	**64.17**	**32**	*eP*		**P**	**21 10 27.5**	**+0.4**
OJC				*eS*		**S**	**21 19 07.5**	**+4.8**
OJC				MLR	MLR			
	comp=Z,200nm,23.4s,MS4.2							
OJC	**Ojcow**	**64.17**	**32**	*eP*		**P**	**21 10 27.5**	**+0.4**
OJC				*eS*		**S**	**21 19 07.5**	**+4.8**
OJC				MLR	MLR		21 37 33.4	
	comp=Z,200nm,23.4s							
CRVS	**Cervenica-Dubn**	**64.38**	**34**	*i* P		**P**	**21 10 29.5**	**+1.0**
WVT	**Waverly**	**64.67**	**310**	P		**P**	**21 10 30.1**	**-0.6**
KMBO	**Kilima Mbogo**	**66.24**	**92**	P		**P**	**21 10 41.4**	**+0.3**
	comp=Z,1.3nm,0.8s,mb4.0,baz=245,slow=16,SNR=5.7							
KMBO				LR	LR		21 36 14.5	
	comp=Z,1μm,19.3s,MS5.2,baz=88,slow=33							
JMOS	**Jabal al Moall**	**67.04**	**59**	P		PcP	21 11 18.3	+4.1
NB2	**NORSAR Subarra**	**67.31**	**20**	P		**P**	**21 10 46.3**	**-1.1**
	comp=Z,6.7nm,1.0s,mb4.6,baz=225,slow=6.2							
NOA	**NORSAR Array B**	**67.31**	**20**	P		**P**	**21 10 46.3**	**-0.8**
	comp=Z,2.2nm,1.0s,mb4.2,baz=225,slow=6.2,SNR=2.9							
NOA				LR	LR		21 35 16.1	
	comp=Z,461nm,19.5s,MS4.7,baz=230,slow=32							
CCM	**Cathedral Cave**	**67.86**	**311**	*eP*		**P**	**21 10 48.9**	**-2.1**
	comp=Z,5.2nm,0.6s,mb4.7							
KIS	**Kishinev**	**67.88**	**39**	*eP*		**P**	**21 10 52.0**	**+1.1**
KIS				*eS*		S	21 19 54.0	+6.2
KIS				*e*PS		PS	21 20 16.0	+2.7
KIS				MLR	MLR			
	comp=Z,400nm,18.0s,MS4.7							
KIS				MLR	MLR			
	comp=Z,400nm,18.0s							
UMJS	**Umm Lajj**	**68.21**	**63**	P		**P**	**21 10 51.6**	**-1.8**
BRTR	**Keskin Array B**	**68.59**	**47**	P		**P**	**21 10 55.0**	**-0.5**
	comp=Z,5.9nm,1.1s,mb4.5,baz=235,slow=4.5,SNR=19							
BRTR				LR	LR		21 42 41.1	
	comp=Z,679nm,19.7s,MS4.9,baz=210,slow=38							
YNBS	**Yanbu' al Bahr**	**68.68**	**64**	P		**P**	**21 10 49.7**	**-6.5**
ASF	**Jabal al Asfar**	**69.19**	**56**	P		**P**	**21 10 58.9**	**-0.4**
	comp=Z,2.8nm,1.0s,mb4.2,baz=136,slow=3.8,SNR=6.4							
ASF				S		S	21 20 08.8	+5.2
	comp=Z,0.9nm,0.4s,baz=256,slow=8.2,SNR=2.5							
AKASG	**Malin Array Be**	**69.66**	**35**	P		**P**	**21 11 00.7**	**-1.1**
	comp=Z,4.3nm,0.6s,mb4.6,baz=244,slow=7.0,SNR=32							
AKASG				S		S	21 20 08.2	-0.8
	comp=Z,0.4nm,0.2s,baz=96,slow=16,SNR=2.7							
KBRS	**Khaybar**	**70.04**	**63**	P		**P**	**21 10 60.0**	**-4.6**
LTHS	**Al Lith**	**70.35**	**69**	P		**P**	**21 11 02.0**	**-4.6**
SIM	**Simferopol'**	**70.56**	**42**	*eP*		**P**	**21 11 08.0**	**+0.5**
SIM				*eS*		S	21 20 22.0	+2.4
SIM				MLR	MLR			
	comp=Z,300nm,16.0s,MS4.6							
BLJS	**Baljurashi**	**71.42**	**69**	P		**P**	**21 11 10.6**	**-2.5**
SUMG	**Summit**	**71.80**	**357**	P		**P**	**21 11 14.3**	**-0.1**
NAMS	**An Nimas**	**71.92**	**70**	P		**P**	**21 11 18.9**	**+1.9**
HILS	**Ha'il**	**72.52**	**62**	P		**P**	**21 11 20.9**	**+1.3**
VNA1	**Neumayer--Stat**	**72.74**	**173**	⇑*iP*		**P**	**21 11 27.3**	**+7.3**
WMOK	**Wichita Mounta**	**72.95**	**306**	*eP*		**P**	**21 11 20.4**	**-1.6**
	comp=Z,1.9nm,0.5s,mb4.3							
JCT	**Junction City**	**73.06**	**302**	*eP*		**P**	**21 11 21.4**	**-1.4**
	comp=Z,7.3nm,0.8s,mb4.7							
VNA2	**Neumayer--Watz**	**73.11**	**173**	⇑*i*		PcP	21 11 37.6	-1.5
VNA2	**Neumayer--Watz**	**73.11**	**173**	⇑*i*		PcP	21 11 45.2	+6.1
VNA2	**Neumayer--Watz**	**73.11**	**173**	P		**P**	**21 11 27.4**	**+5.2**
VNA2				⇑⇓*iP*			21 11 37.6	
VNA2				⇑⇓*iP*			21 11 45.2	
VNA3	**Neumayer Olymp**	**73.13**	**174**	⇑*i*		PcP	21 11 37.7	-1.5
VNA3	**Neumayer Olymp**	**73.13**	**174**	⇑*iP*		**P**	**21 11 28.9**	**+6.6**
VNA3				⇑*iP*			21 11 37.7	
TATS	**Tathlith**	**73.15**	**70**	P		**P**	**21 11 25.4**	**+2.0**
FINES	**FINESS Array B**	**73.18**	**24**	P		**P**	**21 11 23.6**	**+0.8**
	comp=Z,6.1nm,0.9s,mb4.5,SNR=7.9							
FINES				LR	LR		21 40 05.8	
	comp=Z,565nm,18.9s,MS4.9,baz=68,slow=33							
KAF	**Kangasniemi**	**73.62**	**24**	*ep*		**P**	**21 11 25.7**	**+0.4**
	comp=Z,12nm,1.5s,mb4.6							
KAF	**Kangasniemi**	**73.62**	**24**	*eP*		**P**	**21 11 25.7**	**+0.4**
KAF				pmax	pmax			
	comp=Z,12nm,1.5s,mb4.6							
KAMS	**Al Khamasin**	**74.25**	**69**	P		**P**	**21 11 31.3**	**+1.6**
SNAA	**Sanae**	**74.40**	**172**	⇑*iP*		**P**	**21 11 35.2**	**+5.5**
SNAA	**Sanae**	**74.40**	**172**	⇓*i*		PcP	21 11 47.0	+2.3
SNAA	**Sanae**	**74.40**	**172**	P		**P**	**21 11 30.0**	**+0.3**
	comp=Z,0.4nm,0.8s,mb3.4,baz=346,slow=9.6,SNR=3.8							
SNAA	**Sanae**	**74.40**	**172**	P		**P**	**21 11 29.9**	**+0.2**
	comp=Z,5.0nm,1.1s,mb4.4							
SNAA				⇑*iP*			21 11 35.2	
SNAA				⇓*iP*			21 11 47.0	
ULM	**Lac du Bonnet**	**74.69**	**322**	P		**P**	**21 11 30.1**	**-1.6**
	comp=Z,3.4nm,0.8s,mb4.3,baz=190,slow=3.9,SNR=2.7							
ULM				LR	LR		21 38 37.1	
	comp=Z,575nm,20.8s,MS4.8,baz=78,slow=31							
OBN	**Obninsk**	**75.46**	**33**	*eP*		**P**	**21 11 37.2**	**+1.1**
OBN				*eS*		S	21 21 21.6	+6.7
OBN				pmax	pmax			
	comp=Z,14nm,1.2s,mb4.8							
JOF	**Joensuu**	**76.05**	**24**	*ep*		**P**	**21 11 32.3**	**-6.9**
	comp=Z,12nm,1.4s,mb4.6							
JOF	**Joensuu**	**76.05**	**24**	*eP*		**P**	**21 11 32.3**	**-6.9**
JOF				pmax	pmax			
	comp=Z,12nm,1.4s,mb4.6							
KIV	**Kislovodsk**	**76.20**	**45**	*eP*		**P**	**21 11 41.1**	**+0.6**
KIV				*eS*		S	21 21 38.8	+15
KIV				pmax	pmax			
	comp=Z,21nm,1.8s,mb4.8							
KIV				MLR	MLR			
	comp=Z,400nm,20.0s,MS4.7							
LTX	**Lajitas**	**76.23**	**300**	*eP*		**P**	**21 11 40.6**	**-0.4**
TXAR	**Lajitas Array**	**76.23**	**300**	P		**P**	**21 11 41.0**	**+0.1**
	comp=Z,0.6nm,0.5s,mb3.8,baz=121,slow=7.3,SNR=8.4							
TXAR				LR	LR		21 42 05.3	
	comp=Z,424nm,21.9s,MS4.7,baz=45,slow=33							
MOS	**Moscow**	**76.24**	**32**	*eP*		**P**	**21 11 38.9**	**-1.5**
MOS				pmax	pmax			
	comp=Z,25nm,1.0s,mb5.1							
GOF	**Gofitskoye**	**76.68**	**44**	⇓*iP*		**P**	**21 11 44.0**	**+0.8**
GOF				pmax	pmax			
	comp=Z,50nm,1.6s,mb5.2							
GNI	**Garni**	**76.98**	**49**	P		**P**	**21 11 45.5**	**+0.6**
	comp=Z,2.6nm,0.8s,mb4.2,baz=183,slow=15,SNR=3.0							
GDL2	**Guadalupe Moun**	**77.17**	**303**	*eP*		**P**	**21 11 45.5**	**-0.6**
ARCES	**ARCESS Array B**	**77.33**	**17**	LR		LR	21 40 37.0	
	comp=Z,346nm,19.1s,MS4.7,baz=228,slow=32							
SDCO	**Great Sand Dun**	**78.80**	**308**	*eP*		**P**	**21 11 55.3**	**+0.3**
ANMO	**Albuquerque**	**79.23**	**305**	*eP*		**P**	**21 11 58.4**	**+1.0**
ANMO	**Albuquerque**	**79.23**	**305**	P		**P**	**21 11 57.5**	**+0.1**
BW06	**Boulder Array**	**82.47**	**313**	*eP*		**P**	**21 12 13.9**	**-0.4**
	comp=Z,0.7nm,0.6s,mb3.8							
PDAR	**Pinedale Array**	**82.47**	**313**	P		**P**	**21 12 13.9**	**-0.4**
	comp=Z,0.8nm,0.6s,mb3.8,baz=84,slow=5.8,SNR=9.0							
PDAR				LR	LR		21 44 59.7	
	comp=Z,586nm,21.4s,MS4.9,baz=120,slow=33							
HWUT	**Hardware Ranch**	**83.85**	**312**	*eP*		**P**	**21 12 21.4**	**-0.1**
	comp=Z,3.6nm,0.6s,mb4.7							
MSU	**Marysvale**	**84.11**	**308**	*eP*		**P**	**21 12 21.5**	**-1.4**
EDM	**Edmonton**	**85.90**	**323**	*eP*		**P**	**21 12 31.1**	**-0.3**
HLID	**Hailey**	**86.07**	**313**	*eP*		**P**	**21 12 32.9**	**+0.4**
	comp=Z,0.9nm,0.6s,mb4.2							
YKA	**Yellowknife Ar**	**87.17**	**332**	LR		LR	21 47 34.0	
	comp=Z,970nm,21.2s,MS5.2,baz=90,slow=33							
TPNV	**Topopah Spring**	**87.28**	**307**	*eP*		**P**	**21 12 39.2**	**+0.6**
	comp=Z,12nm,1.3s,mb5.0							
TPH	**Tonopah**	**88.07**	**308**	P		**P**	**21 12 43.0**	**+0.6**
	comp=Z,2.3nm,0.4s,mb4.8							
NEW	**Newport**	**88.09**	**318**	LR		LR	21 49 03.9	
	comp=Z,952nm,18.2s,MS5.2,baz=88,slow=34							
NVAR	**Mina Array Bea**	**88.92**	**308**	P		**P**	**21 12 46.7**	**+0.2**
	comp=Z,0.8nm,0.7s,mb4.2,baz=91,slow=5.9,SNR=7.0							
NVAR				LR	LR		21 50 19.9	
	comp=Z,480nm,20.5s,MS4.9,baz=220,slow=34							
MAW	**Mawson**	**91.55**	**157**	LR		LR	21 48 23.8	
	comp=Z,304nm,18.0s,MS4.8,baz=270,slow=32							
INK	**Inuvik**	**94.51**	**339**	LR		LR	21 55 44.5	
	comp=Z,620nm,18.6s,MS5.1,baz=83,slow=36							
DLBC	**Dease Lake**	**95.01**	**329**	LR		LR	21 52 46.8	
	comp=Z,665nm,19.2s,MS5.1,baz=233,slow=33							
TBI	**Tubuai**	**118.21**	**244**	*e*SS		SS	21 36 07.2	-3.0
TBI				*eR*			21 56 26.0	
	comp=Z,684nm,32.0s							
LZH	**Lanzhou**	**122.75**	**45**	*e*PKP		PKPdf	21 18 43.5	-6.3
LZH				*e*PP		PP	21 20 26.5	-2.8
LZH				*e*SS		SS	21 37 04.3	-4.5
LZH				PP		PP		
	comp=Z,30nm,5.6s							
LZH				LR		LR		
	comp=N,352nm,18.6s							
LZH				LR		LR		
	comp=Z,656nm,19.3s,MS5.3							
LZH	**Lanzhou**	**122.75**	**45**	*e*PKP		PKPdf	21 18 43.6	-6.2
LZH				sPKP			21 18 57.9	
LZH				*e*PP		PP	21 20 26.4	-2.9
LZH				SKKS			21 27 14.4	
LZH				*e*SS		SS	21 37 04.3	-4.5
LZH				LR		LR		
	comp=Z,660nm,19.3s,MS5.3							
CMAR	**Chiang Mai Arr**	**125.31**	**67**	PKP		PKPdf	21 18 55.0	-0.3
	comp=Z,0.3nm,0.5s,baz=342,slow=2.9,SNR=4.4							
KMI	**Kunming**	**126.60**	**57**	*e*PKP		PKPdf	21 18 55.0	-2.6
KMI				PP		PP	21 20 55.5	+0.5
KMI				SS		SS	21 37 57.8	+0.6
KMI				LR		LR		
	comp=Z,310nm,21.8s,MS4.9							
KMI	**Kunming**	**126.60**	**57**	*e*PKP		PKPdf	21 18 54.9	-2.7
KMI				PP		PP	21 20 55.5	+0.5
KMI				SS		SS	21 37 57.7	+0.5
KMI				LR		LR		
	comp=Z,310nm,21.8s,MS4.9							
CN2	**Changchun**	**129.93**	**24**	*e*PKP		PKPdf	21 18 57.5	-6.1
QIZ	**Qiongzhong**	**134.96**	**62**	PKP		PKPdf	21 19 06.5	-7.2
QIZ				PP		PP	21 21 52.8	+3.6
NJ2	**Nanjing**	**135.25**	**40**	*e*PKP		PKPdf	21 19 05.0	-8.9
NJ2				XPKP			21 19 20.3	
NJ2				PP		PP	21 21 51.0	+0.3
NJ2				PKS		PKS	21 22 40.0	-5.9
NJ2				SKKS			21 28 40.0	
FITZ	**Fitzroy Crossi**	**149.77**	**126**	PKPbc		PKPdf	21 19 43.2	+3.7
	comp=Z,2.6nm,0.9s,baz=191,slow=6.3,SNR=3.8							
ASAR	**Alice Springs**	**151.94**	**145**	PKPbc		PKPdf	21 19 46.6	+4.0
	comp=Z,1.7nm,1.0s,baz=230,slow=1.9,SNR=8.7							
WRA	**Warramunga Arr**	**155.01**	**140**	PKPbc		PKPdf	21 19 54.6	+7.7
	comp=Z,0.4nm,0.9s,baz=230,slow=1.4,SNR=3.5							

IDC 25 21:06:17.6±1.7, 30.65N×137.63E, h454km±27km, mb3.0/5, mb1 3.2/6, mb1mx2.9/23, Error ellipse: s-maj=59.5km s-min=16.4km az=76.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**3.07**	**36**	P	P		21 07 25.3	-0.7
	16nm,0.3s,baz=257,slow=20,SNR=11							
JHJ				S	S		21 08 23.4	+3.5
	4.1nm,0.3s,baz=59,slow=20,SNR=2.0							
SONM	**Songino Array**	**29.39**	**315**	P	P		21 11 42.6	-1.1
	0.6nm,1.0s,baz=120,slow=8.2,SNR=4.1							
WRA	**Warramunga Arr**	**50.40**	**184**	P	P		21 14 31.8	-1.9
	0.4nm,0.4s,baz=0.1,slow=7.7,SNR=14							
BVAR	**Borovoye Array**	**52.73**	**316**	P	P		21 14 48.4	-1.8
	0.3nm,0.3s,baz=106,slow=8.3,SNR=3.6							
ARCES	**ARCESS Array B**	**68.86**	**340**	P	P		21 16 34.9	-1.5
	5.2nm,1.2s,baz=66,slow=8.5,SNR=9.6							
FINES	**FINESS Array B**	**72.98**	**332**	P	P		21 16 59.5	-1.2
	1.3nm,0.7s,baz=68,slow=7.5,SNR=6.7							

*STR **25** 21:11:07.7±0.6, 45.91N×2.85E, h5km±1km, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 25 21:11:05.7±0.1, 45.95N×2.81E, h4km, Md2.0/2, Ml1.7/6, Error ellipse: s-maj=1.6km s-min=0.9km az=120.0, France

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PYM	**Petit Puy Mans**	**0.24**	**146**	Pg	Pg		21 11 11.6	+1.0
TCF	**Toulx Ste Croi**	**0.54**	**309**	*e*Pg	Pg		21 11 16.0	-0.4
TCF				*e*Sg	Sg		21 11 23.2	-0.4
	1.2nm,0.3s							
PLDF	**La Plantade**	**0.56**	**88**	Pg	Pg		21 11 18.1	+1.1
BGF	**Bois d'Agland**	**0.60**	**2**	*e*Pg	Pg		21 11 17.3	-0.5
BGF				*e*Sg	Sg		21 11 25.1	-0.8
	2.7nm,0.3s							
LBL	**Lubilhac**	**0.78**	**157**	Pg	Pg		21 11 21.8	+0.4
LBL				Sg	Sg		21 11 31.8	0.0
SMF	**Signal de Mont**	**0.99**	**45**	*e*Pg	Pg		21 11 24.6	-0.9
SMF				*e*Sg	Sg		21 11 37.9	-0.9
	4.0nm,0.3s							
RJF	**Les Rejaudoux**	**1.12**	**235**	*e*Pg	Pg		21 11 26.8	-1.2
RJF				*e*Sg	Sg		21 11 41.2	-1.7
	2.8nm,0.2s							
CAF	**Calviac**	**1.16**	**207**	*e*Pg	Pg		21 11 27.3	-1.5
CAF				*e*Sg	Sg		21 11 42.3	-1.9
	1.0nm,0.2s							
SSF	**Saint Saulge**	**1.21**	**23**	*e*Pg	Pg		21 11 27.8	-2.0
SSF				*e*Sg	Sg		21 11 43.9	-2.0
	2.0nm,0.3s							
LOR	**Lormes**	**1.50**	**28**	*e*Pg	Pg		21 11 33.6	-2.0
LOR				*e*Sg	Sg		21 11 53.2	-2.4
	0.9nm,0.2s							
VIVF	**Saint-Julien-l**	**1.71**	**129**	*e*Sg	Sg		21 11 59.7	-2.9
	0.6nm,0.2s							

IDC 25 21:19:03.0±5.3, 15.72S×175.24W, mb4.1/3, mb1 4.3/3, mb1mx3.8/14, Error ellipse: s-maj=189.0km s-min=56.4km az=133.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.35**	**240**	P	P		21 26 59.0	-1.6
	0.9nm,0.3s,baz=103,slow=11,SNR=6.9							
WB2	**Warramunga Arr**	**48.04**	**257**	*eP*	P		21 27 43.8	-2.5
WRA	**Warramunga Arr**	**48.05**	**257**	P	P		21 27 44.0	-2.4
	1.0nm,0.4s,baz=93,slow=7.0,SNR=54							
ASAR	**Alice Springs**	**48.33**	**252**	P	P		21 27 46.1	-2.4
	4.4nm,0.5s							
ASPA	**Alice Springs**	**48.33**	**252**	*eP*	P		21 27 46.4	-2.1
KAKA	**Kakadu**	**50.75**	**266**	*eP*	P		21 28 10.2	+3.1
	4.8nm,0.9s							
FITZ	**Fitzroy Crossi**	**56.41**	**259**	P	P		21 28 47.4	-1.5
	2.8nm,0.9s,baz=135,slow=5.7,SNR=4.3							
BRTR	**Keskin Array B**	**145.26**	**319**	PKPbc	PKPbc		21 38 42.0	-1.3
	1.0nm,0.8s,baz=118,slow=2.3,SNR=5.7							

IDC 25 21:25:33.5±3.2, 6.56S×155.25E, mb3.4/3, mb1 3.7/3, mb1mx3.5/13, Error ellipse: s-maj=80.2km s-min=45.3km az=101.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.27**	**235**	P	P		21 30 51.6	-2.0
	0.3nm,0.5s,baz=59,slow=9.9,SNR=7.1							
WRA				PcP	PcP		21 34 31.8	-3.6
	0.3nm,0.8s,baz=64,slow=2.2,SNR=5.9							
ASAR	**Alice Springs**	**26.65**	**228**	P	P		21 31 16.0	0.0
	0.2nm,0.7s,baz=58,slow=8.5,SNR=4.2							
CMAR	**Chiang Mai Arr**	**60.83**	**295**	P	P		21 35 48.5	-1.9
	1.0nm,0.7s,baz=123,slow=5.5,SNR=9.1							

CASC 25 21:48:25.9±1.9, 13.69N×90.84W, h27km±7km, MD3.7, ML3.6,3C-5D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.61**	**38**	⇓*eP*	Pb		21 48 37.9	0.0
IXG				*eS*	Sb		21 48 48.1	+2.0
IXG				AML	AML		21 48 52.1	
	comp=N,7μm,0.6s							
CUSS	**Cusmapa**	**0.89**	**76**	*eP*	Pb		21 48 41.9	-0.8
CUSS				*eS*	Sb		21 48 54.8	+0.6
NBG	**Las Nubes**	**1.01**	**28**	⇓*eP*	Pn		21 48 44.5	+0.1
NBG				*eS*	Sb		21 48 59.2	+1.7
NBG				AML	AML		21 49 00.4	
	comp=E,7μm,0.4s							
RTR	**El Retiro**	**1.18**	**80**	⇑*eP*	Pn		21 48 47.0	+0.2
RTR				*eS*	Sn		21 49 02.7	+0.6
SBLS	**San Blas**	**1.19**	**83**	*eP*	Pn		21 48 46.6	-0.4
SBLS				*eS*	Sn		21 49 03.9	+1.5
RBDL	**Robledal**	**1.20**	**69**	*eP*	Pn		21 48 47.1	+0.1
RBDL				*eS*	Sn		21 49 03.4	+0.9
SNJE	**San Jose**	**1.21**	**82**	*eP*	Pn		21 48 47.1	-0.2
SNJE				*eS*	Sn		21 49 03.7	+0.8
BOQS	**Boqueron**	**1.52**	**88**	*eP*	Pn		21 48 51.4	-0.3
BOQS				*eS*	Sn		21 49 10.8	+0.1
MTO2	**

NEIC Felt [IV PIVS] at Argao and [II PIVS] at Mandaue City, Naga and Talisay, Cebu. Also felt [II PIVS] at Tagbilaran, Bohol.

*IDC **25** 22:29:08.6±3.5, 9.85N×123.55E, h55km▵32km, mb4.2/15, mb1 4.3/17, mb1mx4.2/23, ML5.0/1, MS4.2/12, Ms1 4.2/12, ms1mx3.8/25, Error ellipse: s-maj=37.4km s-min=11.7km az=62.0, Putative timing error at ZAL*

ISC 25 22:29:05.2±0.3, 9.89N±0.03×123.47E±0.03, h35km±4km, h22km±3.0km: pP-P, n90, σ1s25/94, mb4.7/33, MS4.2/13, 3C-11D, Negros

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
TBP	**Tagbilaran**	**0.44**	**117**	⇓*i*P		**P**	**22 29 13.0**		**-1.9**
TBP				*i* S		S	**22 29 20.1**		**-1.6**
GUIM	**Jordan**	**1.13**	**310**	*e*P		**P**	**22 29 23.2**		**-1.6**
GUIM				*e*S		**S**	**22 29 37.3**		**-2.1**
DCPH	**Dipolog City**	**1.30**	**185**	⇓*e*P		**P**	**22 29 26.9**		**-0.4**
DCPH				*e*S		**S**	**22 29 44.5**		**+0.9**
MSLP	**Maasin**	**1.39**	**80**	*e*P		**P**	**22 29 29.5**		**+0.9**
AAP	**Anini-y**	**1.59**	**290**	⇓*i*P		**P**	**22 29 29.5**		**-1.8**
AAP				*e*S		**S**	**22 29 52.0**		**+1.1**
OCLP	**Ormoc**	**1.61**	**44**	*e*P		**P**	**22 29 31.6**		**0.0**
RCP	**Roxas**	**1.81**	**337**	⇓*e*P		**P**	**22 29 34.0**		**-0.5**
RCP				*e*S		**S**	**22 29 58.9**		**+2.5**
CGP	**Cagayan de Oro**	**1.87**	**139**	⇑*e*P		**P**	**22 29 35.2**		**-0.2**
CGP				*e*S		**S**	**22 29 59.7**		**+1.7**
PLP	**Palo**	**1.96**	**49**	⇓*i*P		Px	22 29 49.3		
PAGZ	**Pagadian**	**2.03**	**182**	*e*P		**P**	**22 29 39.1**		**+1.5**
IPIL	**Ipil**	**2.27**	**203**	*e*P		**P**	**22 29 42.4**		**+1.4**
BUTP	**Butuan**	**2.31**	**113**	*e*P		**P**	**22 29 43.3**		**+1.6**
MMPH	**Masbate**	**2.46**	**4**	⇓*i*P		**P**	**22 29 44.5**		**+0.7**
MMPH				*i* S		**S**	**22 30 11.4**		**-1.5**
BUKP	**Musuan**	**2.54**	**142**	*e*P		**P**	**22 29 46.2**		**+1.2**
BESP	**Borongan**	**2.58**	**49**	*e*P		**P**	**22 29 45.3**		**-0.2**
CUYO	**Cuyo Island**	**2.59**	**292**	*e*P		**P**	**22 29 44.6**		**-1.0**
CTBH	**Cotabato--PC H**	**2.76**	**164**	⇑*e*P		**P**	**22 29 49.8**		**+1.7**
CTBH				*i* S		**S**	**22 30 25.1**		**+4.6**
OTRP	**Odiongan**	**2.84**	**330**	*e*P		**P**	**22 29 49.2**		**0.0**
CNP	**Catarman**	**2.86**	**24**	*e*P		**P**	**22 29 48.4**		**-1.1**
KCP	**Kidapawan**	**3.28**	**151**	⇓*e*P		**P**	**22 29 57.0**		**+1.5**
	12μm,1.0s								
SJMP	**San Jose**	**3.44**	**318**	*e*P		**P**	**22 29 57.8**		**0.0**
DAV	**Davao City (W)**	**3.49**	**143**	⇓*e*P		**P**	**22 30 02.0**		**+3.5**
PVCP	**Virac**	**3.75**	**10**	*e*P		**P**	**22 30 01.2**		**-0.9**
BUSP	**Coron**	**3.83**	**304**	*e*P		**P**	**22 30 01.7**		**-1.6**
LQP	**Lukban**	**4.60**	**336**	⇓*e*P		**P**	**22 30 14.9**		**+0.6**
	230μm,1.0s								
PPR	**Puerto Princes**	**4.67**	**269**	⇓*i*P		**P**	**22 30 14.2**		**-1.0**
PPR				*i* S		**S**	**22 31 06.3**		**-2.6**
TGY	**Tagaytay City**	**4.87**	**330**	P		**P**	**22 30 19.7**		**+1.7**
	59nm,0.3s,baz=287,slow=15,SNR=4.0								
TGY				LR		LR	22 32 23.8		
	comp=Z,5μm,19.6s,baz=174,slow=40								
LUBP	**Lubang**	**4.95**	**321**	*e*P		**P**	**22 30 19.8**		**+0.5**
KKM	**Kota Kinabalu**	**8.13**	**243**	⇑*e*P		**P**	**22 31 04.0**		**+0.3**
QIZ	**Qiongzhong**	**16.01**	**306**	P		**P**	**22 32 51.0**		**+1.5**
WHN	**Wuhan**	**22.24**	**339**	*e*P		**P**	**22 34 02.5**		**+2.0**
IPM	**Ipoh**	**22.87**	**258**	⇓*e*P		**P**	**22 34 12.2**		**+5.2**
ENH	**Enshi**	**24.11**	**329**	*e*P		**P**	**22 34 19.4**		**+0.5**
	27nm,1.2s,mb4.5								
KAKA	**Kakadu**	**24.13**	**158**	*e*P		**P**	**22 34 23.4**		**+4.2**
	18nm,0.8s,mb4.5								
CMAR	**Chiang Mai Arr**	**25.23**	**292**	P		**P**	**22 34 30.9**		**+1.1**
	4.4nm,0.9s,mb4.0,baz=111,slow=7.8,SNR=19								
CMAR				LR		LR	22 44 34.8		
	comp=Z,513nm,18.3s,MS4.1,baz=115,slow=37								
JHJ	**Hachijo jima 2**	**27.58**	**31**	LR		LR	22 43 50.3		
	comp=Z,346nm,20.2s,MS3.9,baz=139,slow=32								
FITZ	**Fitzroy Crossi**	**27.89**	**176**	*e*P		**P**	**22 34 52.8**		**-1.5**
	6.8nm,1.0s,mb4.2								
FITZ	**Fitzroy Crossi**	**27.89**	**176**	P		**P**	**22 34 52.5**		**-1.8**
	12nm,1.2s,mb4.4,baz=358,slow=9.1,SNR=9.8								
WRAB	**Tennant Creek**	**31.51**	**160**	*e*P		**P**	**22 35 24.6**		**-1.9**
WRA	**Warramunga Arr**	**31.52**	**160**	P		**P**	**22 35 23.9**		**-2.6**
	6.6nm,1.2s,mb4.3,baz=339,slow=10,SNR=14								
WRA				PcP		PcP	22 38 15.8		-3.1
	1.4nm,0.7s,baz=343,slow=3.0,SNR=6.6								
WB2	**Warramunga Arr**	**31.52**	**160**	*e*P		**P**	**22 35 24.6**		**-1.9**
LZH	**Lanzhou**	**31.59**	**329**	*e*P		**P**	**22 35 27.3**		**+0.3**
LZH				AP		pP	22 35 34.5		-2.5
LZH				XP		sP	22 35 38.0		-3.6
LZH				AMB		AMB			
	comp=Z,140nm,1.6s,mb5.5								
LZH				LR		LR			
	comp=N,3μm,15.4s								
LZH				LR		LR			
	comp=Z,2μm,20.6s								
LZH	**Lanzhou**	**31.59**	**329**	*e*P		**P**	**22 35 27.2**		**+0.2**
	comp=Z,140nm,1.6s,mb5.5								
LZH				pP		pP	22 35 34.5		-2.5
LZH				sP		sP	22 35 38.1		-3.5
LZH				LR		LR			
	comp=Z,2μm,20.6s,MS4.8								
HHC	**Hu-ho-hao-te**	**32.59**	**343**	*e*P		**P**	**22 35 36.3**		**+0.6**
HHC				AP		pP	22 35 43.8		-1.9
HHC				XP		sP	22 35 46.5		-3.8
HHC				PP		PP	22 36 47.3		+2.4
HHC				PCP		PcP	22 38 19.5		-2.1
HHC				S		**S**	**22 40 52.3**		**+4.6**
HHC				XS			22 41 02.8		
HHC				SCP			22 42 02.5		
HHC				PCS			22 42 07.0		
HHC				SCS		ScS	22 45 58.0		-1.6
HHC				AMB		AMB			
	comp=Z,21nm,1.6s,mb4.8								
HHC				AMB		AMB			
	comp=Z,203nm,5.0s								
HHC				LR		LR			
	comp=N,238nm,14.1s,MS4.3								
HHC				LR		LR			
	comp=E,464nm,16.0s,MS4.3								
HHC				LR		LR			
	comp=Z,230nm,16.2s,MS4.0								
ASPA	**Alice Springs**	**34.87**	**163**	*e*P		**P**	**22 35 54.5**		**-1.0**
ASAR	**Alice Springs**	**34.88**	**163**	P		**P**	**22 35 54.2**		**-1.3**
	comp=Z,3.7nm,0.6s,mb4.5,baz=341,slow=7.1,SNR=28								
ASAR				PcP		PcP	22 38 26.6		-1.5
	comp=Z,1.3nm,0.8s,baz=350,slow=3.1,SNR=4.6								
MDJ	**Mudanjiang**	**35.00**	**8**	P		**P**	**22 35 56.3**		**-0.1**
MDJ				AMB		AMB			
	comp=Z,10.0nm,0.9s,mb4.8								
MDJ				AMB		AMB			
	comp=Z,256nm,5.1s								
LSA	**Lhasa**	**36.04**	**308**	*e*P		**P**	**22 36 07.5**		**+2.1**
GTA	**Gaotai**	**36.19**	**328**	*e*P		**P**	**22 36 07.0**		**+0.5**
GTA				AP		pP	22 36 14.8		-1.9
GTA				AMB		AMB			
	comp=Z,5.0nm,1.7s,mb4.2								
GTA				LR		LR			
	comp=N,598nm,11.8s								
GTA				LR		LR			
	comp=E,939nm,19.0s								
GTA				LR		LR			
	comp=Z,989nm,18.3s								
CTA	**Charters Tower**	**37.29**	**143**	P		**P**	**22 36 15.6**		**-0.4**
	comp=Z,3.5nm,0.8s,mb4.2,baz=327,slow=8.6,SNR=5.8								
CTAO	**Charters Tower**	**37.29**	**143**	*e*P		**P**	**22 36 13.7**		**-2.2**
	comp=Z,7.2nm,1.0s,mb4.5								
GUN	**Gumba**	**39.61**	**302**	*e*P		**P**	**22 36 35.6**		**+0.4**
	comp=Z,49nm,0.8s,mb5.3								
PKI	**Pulchoki**	**39.89**	**301**	*e*P		**P**	**22 36 37.1**		**-0.5**
	comp=Z,35nm,0.9s,mb5.1								
KKN	**Kakani**	**40.07**	**302**	*e*P		**P**	**22 36 38.8**		**-0.2**
	comp=Z,28nm,1.0s,mb4.9								
DMN	**Daman**	**40.16**	**301**	*e*P		**P**	**22 36 39.1**		**-0.7**
	comp=Z,51nm,1.2s,mb5.1								
SONM	**Songino Array**	**40.47**	**342**	P		**P**	**22 36 42.8**		**+0.6**
	comp=Z,14nm,1.3s,mb4.5,baz=169,slow=6.3,SNR=23								
FORT	**Forrest**	**40.67**	**174**	*e*P		**P**	**22 36 42.9**		**-1.1**
	comp=Z,54nm,0.7s,mb5.3								
GKN	**Gorkha**	**40.67**	**302**	*e*P		**P**	**22 36 43.8**		**-0.3**
	comp=Z,44nm,1.3s,mb4.9								
KOLN	**Koldanda**	**41.48**	**301**	*e*P		**P**	**22 36 50.7**		**0.0**
	comp=Z,24nm,0.9s,mb4.8								
NWAO	**Narrogin (SRO)**	**42.99**	**188**	P		**P**	**22 37 01.9**		**-1.1**
	comp=Z,10.0nm,0.8s,mb4.6,baz=2.2,slow=8.7,SNR=4.7								
STKA	**Stephens Creek**	**45.01**	**158**	*e*P		**P**	**22 37 18.8**		**-0.5**
	comp=Z,7.8nm,1.0s,mb4.5								
STKA	**Stephens Creek**	**45.01**	**158**	P		**P**	**22 37 18.4**		**-0.9**
	comp=Z,8.5nm,1.0s,mb4.5,baz=335,slow=8.5,SNR=11								
STKA				LR		LR	22 59 16.9		
	comp=Z,276nm,19.6s,MS4.2,baz=266,slow=40								
CNB	**Canberra Magne**	**51.19**	**153**	*e*P		**P**	**22 38 07.9**		**+0.5**
	comp=Z,28nm,1.0s,mb5.1								
KURK	**Kurchatov**	**54.84**	**327**	*e*P		**P**	**22 38 33.5**		**-0.8**
	comp=Z,30nm,1.3s,mb5.2								
BRVK	**Borovoye**	**60.50**	**326**	*e*P		**P**	**22 39 13.0**		**-1.1**
RPZ	**Rata Peaks**	**68.63**	**145**	P		**P**	**22 40 06.5**		**-0.5**
	comp=Z,31nm,1.2s,mb5.1,baz=38,slow=14,SNR=5.4								
GNI	**Garni**	**75.09**	**309**	*e*P		**P**	**22 40 46.9**		**+1.3**
	comp=Z,25nm,1.4s,mb5.0								
MZLS	**Mizei**	**75.38**	**292**	P		**P**	**22 40 48.4**		**+0.9**
CASY	**Casey**	**76.56**	**185**	P		**P**	**22 40 51.4**		**-2.0**
	comp=Z,1.6nm,0.7s,mb4.1								
ARSS	**Ar Rass**	**77.02**	**294**	P		**P**	**22 40 57.3**		**+0.5**
AFFS	**'Afif**	**77.40**	**292**	P		**P**	**22 41 01.7**		**+2.8**
HILS	**Ha'il**	**78.17**	**296**	P		**P**	**22 41 04.6**		**+1.4**
KBRS	**Khaybar**	**80.59**	**295**	P		**P**	**22 41 19.8**		**+3.6**
ASF	**Jabal al Asfar**	**81.93**	**301**	LR		LR	23 21 33.4		
	comp=Z,45nm,19.6s,MS3.8,baz=213,slow=38								
UMJS	**Umm Lajj**	**82.40**	**294**	P		**P**	**22 41 29.3**		**+3.6**
TBKS	**Tabuk**	**82.70**	**297**	P		**P**	**22 41 30.6**		**+3.4**
JMQS	**Jabal Moqyreh**	**83.20**	**298**	P		**P**	**22 41 33.3**		**+3.6**
ARCES	**ARCESS Array B**	**83.59**	**339**	P		**P**	**22 41 30.8**		**0.0**
	comp=Z,1.8nm,0.7s,mb4.3,baz=67,slow=9.2,SNR=5.0								
ARCES				LR		LR	23 21 06.4		
	comp=Z,153nm,18.6s,MS4.4,baz=27,slow=37								
BRTR	**Keskin Array B**	**83.63**	**309**	P		**P**	**22 41 31.8**		**0.0**
	comp=Z,2.5nm,1.0s,mb4.3,baz=127,slow=6.2,SNR=9.7								
BRTR				LR		LR	23 23 06.8		
	comp=Z,58nm,21.1s,MS3.9,baz=35,slow=39								
DAWY	**Dawson**	**84.30**	**26**	P		**P**	**22 41 34.2**		**-0.3**
FINES	**FINESS Array B**	**84.91**	**331**	LR		LR	23 22 59.6		
	comp=Z,167nm,19.0s,MS4.5,baz=172,slow=38								
AKASG	**Malin Array Be**	**85.11**	**320**	P		**P**	**22 41 38.0**		**-0.8**
	comp=Z,2.9nm,0.8s,mb4.5,baz=68,slow=4.2,SNR=14								
AKASG				LR		LR	23 23 48.2		
	comp=Z,118nm,19.5s,MS4.3,baz=300,slow=38								
KMBO	**Kilima Mbogo**	**86.46**	**268**	P		**P**	**22 41 48.2**		**+1.8**
	comp=Z,1.9nm,0.9s,mb4.3,baz=68,slow=9.7,SNR=6.2								
KMBO				LR		LR	23 20 19.5		
	comp=Z,117nm,20.1s,MS4.3,baz=94,slow=36								
KMBO	**Kilima Mbogo**	**86.46**	**268**	P		**P**	**22 41 48.2**		**+1.8**
KMBO				LR		LR	23 20 19.5		
VNDA	**Vanda**	**89.91**	**172**	P		**P**	**22 42 00.8**		**-0.7**
	comp=Z,2.0nm,0.8s,mb4.5,baz=297,slow=5.9,SNR=10								
VNDA	**Vanda**	**89.91**	**172**	P		**P**	**22 42 00.8**		**-0.7**
SBA	**Scott Base**	**90.85**	**172**	P		**P**	**22 42 05.7**		**-0.2**
	comp=Z,1.2nm,0.8s,mb4.3								
NOA	**NORSAR Array B**	**91.87**	**333**	LR		LR	23 26 17.9		
	comp=Z,182nm,20.7s,MS4.5,baz=55,slow=37								
JMIC	**Jan Mayen**	**93.14**	**346**	LR		LR	23 31 58.1		
	comp=Z,108nm,18.7s,MS4.3,baz=60,slow=40								
GERES	**GERESS Array B**	**95.28**	**321**	P		**P**	**22 42 26.5**		**-0.2**
	comp=Z,0.2nm,0.4s,mb3.9,baz=338,slow=5.3,SNR=3.0								

MAN 25 22:34:49.3, 9.93N×123.81E, h1km, mb3.7, ML2.4, MS2.0, Negros

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
TBP	**Tagbilaran**	**0.24**	**168**	*e*P		Pg	22 34 53.4		-0.7
LLP	**Lapu-Lapu**	**0.42**	**21**	*i* P		Pg	22 34 56.9		-0.8
LLP				*i* S		Sg	22 35 06.6		+3.4
MSLP	**Maasin**	**1.05**	**79**	*e*P		Pb	22 35 10.4		+0.4
GUIM	**Jordan**	**1.39**	**300**	*e*P		Pb	22 35 15.7		-0.1

MAN 25 22:46:13.2, 10.00N×123.38E, h1km, mb4.7, ML3.6, MS3.5, 2C-1D, Cebu

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
TBP	**Tagbilaran**	**0.56**	**123**	⇓*i*P		Pg	22 46 24.0		-0.4
LLP	**Lapu-Lapu**	**0.65**	**61**	⇑*i*P		Pg	22 46 26.3		0.0
LLP				*i* S		Sg	22 46 35.6		+0.6
SNPH	**Sibulan**	**0.67**	**193**	*e*P		Pg	22 46 26.5		0.0
SNPH				*i* S		Sg	22 46 36.0		+0.5
GUIM	**Jordan**	**1.00**	**309**	*e*P		Pb	22 46 33.2		+0.3
GUIM				*e*S		Sb	22 46 48.5		+2.0
DCPH	**Dipolog City**	**1.41**	**181**	⇑*e*P		Pb	22 46 37.5		-2.4
DCPH				*e*S		Sb	22 46 55.8		-2.5
MSLP	**Maasin**	**1.46**	**85**	*e*P		Pn	22 46 40.2		-0.5
MSLP				*e*S		Sb	22 47 00.5		+0.7
OCLP	**Ormoc**	**1.59**	**49**	*e*P		Pn	22 46 42.3		-0.4
PAGZ	**Pagadian**	**2.14**	**180**	*e*P		Pn	22 46 50.3		-0.1
IPIL	**Ipil**	**2.34**	**200**	*e*P		Pn	22 46 53.4		0.0
BUKP	**Musuan**	**2.68**	**142**	*e*P		Pn	22 46 59.1		+0.9
BUSP	**Coron**	**3.71**	**303**	*e*P		Pn	22 47 13.2		+0.4

*MOS **25** 23:13:03.0±1.6, 55.76N×110.30E, h10km, mb4.3/1, Error ellipse: s-maj=14.2km s-min=10.1km az=69.1*

BYKL 25 23:13:02.8±0.3, 55.79N×110.28E, h4km±4km, 18C-6D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
NIZ	**Nizh Angarsk**	**0.42**	**268**	⇑*i*Pg		Pg	23 13 10.8		-0.4
NIZ				*e*Sg		Sg	23 13 17.5		+0.7
NIZ				Pmax					
	236nm,0.3s								
NIZ				Smax					
	1μm,0.2s								
NIZ	**Nizh Angarsk**	**0.42**	**268**	*e*PG		Pg	23 13 10.8		-0.4
NIZ				*e*S		Sg	23 13 17.2		+0.4
KMO	**Kumora**	**0.53**	**79**	⇑*i*Pg		Pg	23 13 12.1		-1.3
KMO				*i* Sg		Sg	23 13 19.3		-1.1
KMO				Pmax					
	247nm,0.3s								
KMO				Smax					
	1μm,0.7s								
YOA	**Uoyan**	**0.88**	**66**	*e*Pg		Pg	23 13 18.2		-2.2
YOA				*e*Sg		Sg	23 13 30.9		-1.3
YOA				Pmax					
	480nm,0.4s								
YOA				Smax					
	1μm,0.5s								
YOA	**Uoyan**	**0.88**	**66**	*e*PG		Pg	23 13 18.1		-2.3
YOA				*i*			23 13 31.2		
YOA				pmax		pmax			
	comp=Z,284nm,0.3s								
YOA				smax					
	comp=E,1μm,0.5s								
YLYR	**Ulyunkhan**	**1.04**	**151**	⇑*i*Pg		Pg	23 13 21.3		-2.4
YLYR				*e*Sg		Sg	23 13 36.5		-1.1
YLYR				*e*Sb		Sb	23 13 41.0		+4.0
YLYR				Pmax					
	comp=E,158nm,0.2s								
YLYR				max					
	comp=E,654nm,0.2s								
YLYR	**Ulyunkhan**	**1.04**	**151**	*e*PG		Pg	23 13 21.3		-2.4
YLYR				*e*			23 13 36.2		
YLYR				pmax		pmax			
	comp=Z,162nm,0.2s								
YLYR				smax					
	comp=N,661nm,0.1s								
SVKR	**Severomuysk**	**1.87**	**79**	*e*Pg		Pg	23 13 36.2		-4.0
SVKR				*e*Sg		Sg	23 14 01.9		-3.3
SVKR				Pmax					
	comp=N,358nm,0.4s								
SVKR				Smax					
	comp=N,1μm,0.8s								
UKT	**Uakit**	**1.92**	**98**	⇑*i*Pg		Pg	23 13 36.8		-4.4
UKT				*e*Sg		Sg	23 14 02.7		-4.1
UKT				Pmax					
	comp=N,350nm,1.2s								
UKT				Smax					
	comp=N,408nm,0.5s								
UKT	**Uakit**	**1.92**	**98**	⇑*i*PN		Pn	23 13 36.7		+0.1
UKT				*e*			23 14 03.0		
UKT				pmax		pmax			
	comp=Z,165nm,0.1s								
UKT				smax					
	comp=N,376nm,0.4s								
SYVR	**Suvo**	**2.14**	**184**	⇓*i*Pg		Pg	23 13 40.8		-4.8
	comp=N,63nm,0.8s								
SYVR				⇓*i*Pg		Pg	23 13 40.8		-4.8
	comp=N,27nm,0.8s								
SYVR				⇑*i*Pg		Pg	23 13 40.8		-4.8
	comp=N,111nm,0.8s								
SYVR				*e*Sg		Sg	23 14 09.4		-4.8
SYVR				Pmax					
	comp=N,192nm,0.6s								
SYVR				Smax					
	comp=N,1μm,0.7s								
SYVR	**Suvo**	**2.14**	**184**	*e*PN		Pn	23 13 40.8		+1.0
SYVR				*e*			23 14 09.4		
SYVR				pmax		pmax			
	comp=Z,167nm,0.6s								
SYVR				smax					
	comp=E,912nm,0.5s								
OGRR	**Ongureny**	**2.66**	**217**	*e*Pn		Pn	23 13 47.3		+0.2
OGRR				*e*Pg		Pg	23 13 50.8		-5.0
OGRR				*e*Sn		Sn	23 14 19.0		-1.2
OGRR				*e*Sg		Sg	23 14 24.1		-7.1
OGRR				Pmax					
	comp=E,26nm,0.4s								
OGRR				Smax					
	comp=E,152nm,0.4s								
MXMB	**Maximikha**	**2.69**	**200**	⇑*i*Pn		Pn	23 13 48.1		+0.5
MXMB				*e*Pg		Pg	23 13 52.8		-3.6
MXMB				*e*Sn		Sn	23 14 20.8		-0.2
MXMB				*e*Sg		Sg	23 14 27.0		-5.2
MXMB				Pmax					
	comp=E,51nm,0.7s								
MXMB				Smax					
	comp=E,503nm,0.7s								
BOD	**Bodaibo**	**2.89**	**44**	⇑*i*Pn		Pn	23 13 50.0		-0.4
BOD				⇑*i*Pg		Pg	23 13 53.5		-6.9
BOD				*e*Sn		Sn	23 14 25.2		-0.8
BOD				*e*Sg		Sg	23 14 31.5		-7.4
BOD				Pmax					
	comp=E,16nm,0.2s								
BOD				Smax					
	comp=E,140nm,0.8s								
NLYR	**Nelyaty**	**3.12**	**75**	⇑*i*Pn		Pn	23 13 52.8		-0.9
NLYR				⇑*i*Pg		Pg	23 13 58.2		-6.8
NLYR				*i*			23 14 02.2		
NLYR				*e*Sg		Sg	23 14 39.9		-6.6
NLYR				max					
	comp=E,96nm,0.8s								
NLYR				Smax					
	comp=E,216nm,1.2s								
NLYR	**Nelyaty**	**3.12**	**75**	*e*PN		Pn	23 13 52.6		-1.1
NLYR				*e*			23 13 57.9		
NLYR				*e*			23 14 38.2		
NLYR				pmax		pmax			
	comp=Z,96nm,0.8s								
NLYR				smax					
	comp=N,197nm,1.0s								
TRG	**Tyrgan**	**3.81**	**219**	⇑*i*Pn		Pn	23 14 02.7		-0.9
TRG				*e*PgPg			23 14 04.4		
TRG				*e*			23 14 07.1		
TRG				*e*Sn		Sn	23 14 46.8		-2.7
TRG				*e*Sg		Sg	23 14 59.7		-10
TRG				max					
	comp=N,22nm,0.5s								
TRG				Smax					
	comp=N,122nm,0.4s								
TRG	**Tyrgan**	**3.81**	**219**	*e*PN		Pn	23 14 03.1		-0.5
TRG				*e*S		Sn	23 14 46.2		-3.3
TRG				*e*S		Sn	23 14 59.7		+10
TRG				smax					
	comp=E,125nm,0.4s								
TRTB	**Turuntaevo**	**3.89**	**205**	⇓*i*Pn		Pn	23 14 03.5		-1.2
TRTB				*e*Pg		Pg	23 14 12.8		-7.8
TRTB				*e*Sn		Sn	23 14 48.3		-3.3
TRTB				*e*Sg		Sg	23 15 02.5		-10
TRTB				Pmax					
	comp=E,11nm,0.3s								
TRTB				Smax					
	comp=E,99nm,1.1s								
CIT	**Chita**	**4.24**	**152**	⇑*i*Pg		Pg	23 14 18.6		-8.9
CIT				*e*Sg		Sg	23 15 12.4		-12
CIT				Pmax					
	comp=E,74nm,1.2s								
CIT				Smax					
	comp=E,114nm,1.0s								
CIT	**Chita**	**4.24**	**152**	*e*PN		Pn	23 14 18.6		+8.9
CIT				*e*			23 15 11.8		
CIT				pmax		pmax			
	comp=Z,74nm,1.8s								
CIT				smax					
	comp=E,112nm,0.9s								
FFNB	**Fofonovo**	**4.29**	**210**	*e*Pn		Pn	23 14 10.3		0.0
FFNB				*e*Pg		Pg	23 14 20.8		-7.6
FFNB				*e*Sg		Sg	23 15 15.3		-10
FFNB				Smax					
	comp=E,161nm,1.0s								
CRS	**Chara**	**4.58**	**73**	⇓*i*Pn		Pn	23 14 13.1		-1.4
CRS				*e*Pg		Pg	23 14 24.2		-10
CRS				*e*Sn		Sn	23 15 02.8		-6.2
CRS				*e*Sg		Sg	23 15 24.1		-11
CRS				Pmax					
	comp=E,47nm,1.1s								
CRS				Smax					
	comp=E,127nm,1.8s								
CRS	**Chara**	**4.58**	**73**	*e*PN		Pn	23 14 26.6		+12
CRS				*e*			23 15 24.4		
CRS				pmax		pmax			
	comp=Z,47nm,0.9s								
CRS				smax					
	comp=E,126nm,1.6s								
HRMR	**Khuramsha**	**4.61**	**207**	⇓*i*Pn		Pn	23 14 15.3		+0.3

ZAK				*e*Sg	Sg	23 16 36.4	-15
ZAK				Pmax			
	comp=E,3.0nm,0.6s						
ZAK				Smax			
	comp=E,26nm,0.9s						
MOY	**Mondy**	**6.88**	**237**⇑	*i*Pn	Pn	23 14 45.7	-1.3
MOY				*i*		23 14 55.2	
MOY				*e*Sn	Sn	23 16 02.0	-4.7
MOY				*e*Sg	Sg	23 16 35.5	-16
MOY				max			
	comp=E,14nm,1.1s						
MOY				Smax			
	comp=E,69nm,1.3s						
MOY	**Mondy**	**6.88**	**237**	*e*PN	Pn	23 14 45.3	-1.7
MOY				*e*S	Sn	23 16 00.7	-6.0
ORL	**Orlik**	**6.96**	**246**⇑	*i*Pn	Pn	23 14 46.3	-1.7
ORL				*e*		23 14 55.8	
ORL				*e*Sn	Sn	23 16 02.8	-5.7
ORL				*e*Sg	Sg	23 16 38.8	-16
ORL				max			
	comp=E,13nm,1.3s						
ORL				Smax			
	comp=E,43nm,1.6s						
ORL	**Orlik**	**6.96**	**246**	*e*PN	Pn	23 14 46.1	-1.9
ORL				*e*		23 15 08.6	
ORL				*e*S	Sn	23 16 03.2	-5.3
ORL				*e*		23 16 38.7	
ORL				pmax	pmax		
	comp=Z,14nm,1.1s						
ORL				smax			
	comp=N,43nm,1.3s						

*PRU **25** 23:19:37.9,42.82N×13.57E*
*CSEM **25** 23:19:40.1±0.1,43.08N×13.56E,h3km,ML2.3/9, Error ellipse: s-maj=1.7km s-min=1.0km az=78.0*
*NEIC **25** 23:19:42.1,43.08N×13.51E,h3km,MD3.0(ROM), ML2.9(LDG),ML2.5(LJU),After ROM.*
*LDG **25** 23:19:44.3±0.2,43.12N×13.52E,h10km,Ml2.9/8, Error ellipse: s-maj=8.3km s-min=4.2km az=70.0*
ROM 25 23:19:42.1±0.3,43.08N×13.51E,h3km±2km,MD3.0/5, ML2.3/9,6C-4D,Error ellipse: s-maj=2.5km s-min=1.4km az=90.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CING	**Cingoli**	**0.38**	**322**⇓	*i*PG	Pg	23 19 50.8	+1.2
CING				SG	Sg	23 19 57.0	+2.4
CING	**Cingoli**	**0.38**	**322**⇓	*i*Pg	Pg	23 19 50.8	+1.2
CING				*e*Sg	Sg	23 19 57.0	+2.4
NRCA	**Norcia** 120nm,0.3s	**0.38**	**230**⇑	*i*PG	Pg	23 19 50.5	+0.8
NRCA	**Norcia**	**0.38**	**230**⇑	*i*Pg	Pg	23 19 50.5	+0.8
TERO	**Teramo**	**0.46**	**171**⇑	*i*PG	Pg	23 19 52.2	+0.9
TERO				SG	Sg	23 20 00.0	+2.5
TERO	**Teramo**	**0.46**	**171**⇑	*i*Pg	Pg	23 19 52.2	+0.9
TERO				*e*Sg	Sg	23 19 60.0	+2.5
ARV	**Arcevia**	**0.59**	**315**	*e*PG	Pg	23 19 54.3	+0.4
ARV				SG	Sg	23 20 03.4	+1.7
	105nm,0.3s						
ARV	**Arcevia**	**0.59**	**315**	*e*Pg	Pg	23 19 54.4	+0.5
ARV				*e*Sg	Sg	23 20 03.4	+1.7
ARV	**Arcevia**	**0.59**	**315**	*e*Pg	Pg	23 19 54.3	+0.4
	105nm,0.3s						
AQU	**L'Aquila** 90nm,0.5s	**0.73**	**186**	*e*PG	Pg	23 19 56.6	-0.1
AQU	**L'Aquila**	**0.73**	**186**	*e*Pg	Pg	23 19 56.6	-0.1
AQU	**L'Aquila** 90nm,0.5s	**0.73**	**186**	*e*Pg	Pg	23 19 56.6	-0.1
MURB	**Monte Urbino**	**0.74**	**285**	*e*PG	Pg	23 19 56.6	-0.3
MURB				SG	Sg	23 20 08.6	+1.7
MURB	**Monte Urbino**	**0.74**	**285**	*e*Pg	Pg	23 19 56.6	-0.3
MURB				*e*Sg	Sg	23 20 08.6	+1.8
FSSB	**Fossombrone**	**0.81**	**319**	*e*PG	Pg	23 19 58.6	+0.3
FSSB				SG	Sg	23 20 12.0	+2.8
	385nm,0.5s						
FSSB	**Fossombrone**	**0.81**	**319**	*e*Pg	Pg	23 19 58.6	+0.3
FSSB				*e*Sg	Sg	23 20 12.0	+2.9
FSSB	**Fossombrone** 385nm,0.5s	**0.81**	**319**	*e*Pg	Pg	23 19 58.6	+0.3
FSSB				Sg	Sg	23 20 12.0	+2.8
PTQR	**Pietraquaria** 30nm,0.3s	**1.06**	**184**	*e*PG	Pg	23 20 04.0	+0.7
PTQR	**Pietraquaria**	**1.06**	**184**	*e*Pg	Pg	23 20 04.0	+0.8
PTQR	**Pietraquaria** 30nm,0.3s	**1.06**	**184**	*e*Pg	Pg	23 20 04.0	+0.7
INTR	**Introdacqua**	**1.11**	**165**	*e*PN	Pn	23 20 04.7	+0.3
RSM	**Repubblica di** 39nm,0.3s	**1.15**	**318**	*e*PN	Pn	23 20 06.1	+1.1
RSM	**Repubblica di**	**1.15**	**318**	*e*Pg	Pg	23 20 06.1	+1.1
CRE	**Caprese Michel** 37nm,0.4s	**1.26**	**296**	*e*PN	Pn	23 20 07.6	+1.1
CRE	**Caprese Michel**	**1.26**	**296**	*e*Pg	Pg	23 20 07.6	+0.4
SDI	**San Donato** 43nm,0.4s	**1.39**	**171**	*e*PN	Pn	23 20 09.3	+0.9
SDI	**San Donato**	**1.39**	**171**	*e*Pg	Pg	23 20 09.3	-0.5
CSNT	**Castellina Chi** 29nm,0.5s	**1.67**	**284**	*e*PN	Pn	23 20 12.9	+0.5
CSNT	**Castellina Chi**	**1.67**	**284**	*e*PN	Pn	23 20 12.9	+0.5
CSNT	**Castellina Chi** 29nm,0.5s	**1.67**	**284**	*e*Pn	Pn	23 20 12.9	+0.5
NVLJ	**Novalja**	**1.78**	**33**	*i*Pn	Pn	23 20 13.3	-0.7
NVLJ				*i*Pg	Pg	23 20 14.3	-3.4
NVLJ				*i*Sg	Sg	23 20 35.4	-6.0
NVLJ	**Novalja**	**1.78**	**33**	*i*Pn	Pn	23 20 13.2	-0.8
NVLJ	**Novalja**	**1.78**	**33**	*i*Pg	Pg	23 20 14.3	-3.4
NVLJ				*i*Sg	Sg	23 20 35.4	-6.0
BOJS	**Bojanci**	**2.73**	**27**	*e*Pn	Pn	23 20 27.0	-0.6
CEY	**Cerknica**	**2.74**	**14**	*i*Pn	Pn	23 20 26.1	-1.6
CEY				*i*Sn	Sn	23 20 59.0	-2.8
	comp=Z,18nm,0.2s						
VISS	**Visnje**	**2.89**	**19**	*i*Pn	Pn	23 20 28.5	-1.3
VOY	**Vojsko**	**2.96**	**5**	*e*Pn	Pn	23 20 30.9	-0.1
VOY				*e*Sn	Sn	23 21 04.0	-3.5
PDKS	**Podkum**	**3.18**	**19**	*i*Pn	Pn	23 20 32.9	-1.2
PDKS				*i*Sn	Sn	23 21 08.9	-4.1
	comp=Z,4.0nm,0.1s						
CTI	**Castel Tesino** comp=Z,12nm,0.2s	**3.25**	**337**	*e*PN	Pn	23 20 33.3	-1.7
CTI	**Castel Tesino**	**3.25**	**337**	*e*Pn	Pn	23 20 33.4	-1.7
CTI	**Castel Tesino** comp=Z,12nm,0.2s	**3.25**	**337**	*e*Pn	Pn	23 20 33.3	-1.7
PTCC	**Patocco-Chiusa** comp=Z,6.0nm,0.3s	**3.33**	**358**	*e*PN	Pn	23 20 33.7	-2.4
PTCC	**Patocco-Chiusa** comp=Z,6.0nm,0.3s	**3.33**	**358**	*e*Pn	Pn	23 20 33.7	-2.4
PGF	**Pioggiola**	**3.36**	**262**	*e*Pn	Pn	23 20 35.9	-0.7
PGF				*e*Sn	Sn	23 21 14.3	-3.2
	comp=Z,1.3nm,0.4s						
OBKA	**Obir**	**3.51**	**12**⇑	*i*PN	Pn	23 20 37.1	-1.6
OBKA				*i* SN	Sn	23 21 17.5	-3.8
FVI	**Forni Avoltri**	**3.56**	**352**	*e*PN	Pn	23 20 37.3	-2.0
FVI	**Forni Avoltri**	**3.56**	**352**	*e*Pn	Pn	23 20 37.3	-2.0
SQTA	**Sankt Quirin**	**4.45**	**339**⇓	*i*PN	Pn	23 20 50.6	-1.4
SQTA				*i* SN	Sn	23 21 41.5	-3.6
MOA	**Molln**	**4.80**	**6**⇓	*i*PN	Pn	23 20 55.0	-2.0
MOA				*i* SN	Sn	23 21 49.2	-4.8
DAVA	**Damuels**	**4.93**	**330**⇑	*i*PN	Pn	23 20 57.5	-1.3
DAVA				*i* SN	Sn	23 21 53.6	-3.6
FRF	**La Foret Royal**	**5.03**	**278**	*e*Pn	Pn	23 20 58.6	-1.7
LMR	**La Mourre**	**5.12**	**275**	*e*Pn	Pn	23 20 59.4	-2.2
MBDF	**Montbardon**	**5.14**	**291**	*e*Pn	Pn	23 20 59.1	-2.7
LPG	**La Plagne**	**5.42**	**299**	*e*Pn	Pn	23 21 02.7	-3.1
LPL	**La Plagne**	**5.44**	**299**	*e*Pn	Pn	23 21 06.6	-3.4
LPL				*e*Sn	Sn	23 22 00.0	-10
	comp=Z,4.6nm,0.5s						
SMRF	**Simiane la Rot**	**5.84**	**282**	*e*Pn	Pn	23 21 10.6	-1.1
KHC	**Kasperske Hory**	**6.05**	**0**	*e*PN	Pn	23 21 12.5	-2.2
KHC				*ex*	x	23 21 42.0	
KHC				*ex*	x	23 22 28.5	
KHC				*e*SG	Sg	23 23 03.0	-0.6
CABF	**La Chapelle**	**6.35**	**306**	*e*Pn	Pn	23 21 15.5	-3.4
CABF				*e*Sn	Sn	23 22 23.1	-10
	comp=Z,0.5nm,0.2s						
HINF	**Hinteralfeld**	**6.66**	**318**	*e*Pn	Pn	23 21 18.9	-4.3
HINF				*e*Sn	Sn	23 22 30.6	-10
	comp=Z,3.6nm,0.3s						
CDF	**Champ du Feu**	**6.89**	**323**	*e*Pn	Pn	23 21 22.4	-4.1
CDF				*e*Sn	Sn	23 22 36.3	-10
	comp=Z,1.2nm,0.2s						
HAU	**Haudompre**	**7.04**	**317**	*e*Pn	Pn	23 21 24.4	-4.2
HAU				*e*Sn	Sn	23 22 39.8	-10
	comp=Z,1.9nm,0.2s						
SMF	**Signal de Mont**	**7.74**	**301**	*e*Sn	Sn	23 22 55.6	-12
	comp=Z,0.9nm,0.3s						
LOR	**Lormes**	**8.00**	**305**	*e*Pn	P	23 21 37.6	-4.4
LOR				*e*Sn	Sn	23 23 02.5	-12
	comp=Z,2.9nm,0.3s						

*HEL **25** 23:21:21.2±0.1,67.86N×20.17E,ML2.0,ML2.2(UPP), ML2.1(BER),Explosion*
*BER **25** 23:21:21.4±3.5,67.84N×20.23E,ML2.0,Suspected explosion*
ISC 25 23:21:20.0±0.5,67.86N±0.03×20.17E±0.09,n18,σ0°88/25, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**33**	*i* P	**Pg**	**23 21 23.0**	**+0.7**
KUA				*i* S	**Sg**	**23 21 24.8**	**+0.9**
NIKU	**Nikkaluokta**	**0.43**	**272**	*i* P	**Pg**	**23 21 29.0**	**+0.5**
DUNU	**Dundret**	**0.75**	**168**	*i* P	**Pg**	**23 21 34.4**	**-0.7**
MASU	**Masugnsbyn**	**0.81**	**119**	*i* P	**Pg**	**23 21 35.4**	**-0.7**
KIF	**Kilpisjarvi**	**1.18**	**11**	*e*P	**Pb**	**23 21 43.1**	**+0.2**
KIF				*e*S	**Sb**	**23 21 58.1**	**-0.5**
PAJU	**Pajala**	**1.41**	**125**	*e*P	**Pb**	**23 21 46.0**	**-1.0**
KTK1	**Kautokeino**	**1.62**	**43**	*e*P	**Pn**	**23 21 50.2**	**+0.2**
KTK1				*e*SG	**Sg**	**23 22 11.6**	**-2.5**
KTK1				AML	AML	23 22 15.3	
	comp=Z,14nm,0.2s						
TRO	**Tromso**	**1.84**	**346**	*e*P	**Pn**	**23 21 53.4**	**+0.2**
TRO				*e*SN	**Sn**	**23 22 18.0**	**+0.5**
TRO				AML	AML	23 22 21.0	
	comp=Z,22nm,0.4s						
SJUU	**Sjulsmark**	**2.43**	**166**	*e*P	**Pn**	**23 22 02.2**	**+0.7**
SGF	**Sodankyl**	**2.47**	**97**	*e*P	**Pn**	**23 22 03.5**	**+1.4**
SGF				*e*S	**Sn**	**23 22 34.2**	**+0.8**
SGF				MSG		23 22 39.9	
	comp=Z,3.8nm,0.2s						
LOF	**Lofoten**	**2.51**	**279**	*e*	**Sg**	**23 22 42.8**	**-0.8**
LOF				AML	AML	23 22 44.3	
	comp=Z,12nm,0.4s						
LOF	**Lofoten**	**2.51**	**279**	*e*Sg	**Sg**	**23 22 42.8**	**-0.8**
LOF				AML	AML	23 22 44.3	
	comp=Z,12nm,0.4s						
MELS	**Mels**	**2.69**	**251**	*e*Sg	**Sg**	**23 22 44.0**	**-5.4**
MOR8	**Moi Rana**	**2.81**	**236**	*e*SG	**Sg**	**23 22 43.7**	**-10**
MOR8				AML	AML	23 22 46.6	
	comp=Z,23nm,0.4s						
KEV	**Kevo**	**3.13**	**49**	*e*P	**Pn**	**23 22 12.0**	**+0.4**
KEV				*e*S	**Sn**	**23 22 48.7**	**-1.6**
KEV				MSG		23 22 56.4	
	comp=Z,3.6nm,0.3s						
OUL	**Oulu**	**3.61**	**138**	*e*PG	**Pg**	**23 22 26.9**	**-5.2**
OUL				*e*SG	**Sg**	**23 23 13.1**	**-7.0**
OUL				MSG		23 23 19.0	
	comp=Z,3.5nm,0.3s						
MSF	**Maaselka**	**4.01**	**115**	*e*P	**Pn**	**23 22 24.0**	**0.0**
MSF				MSG		23 23 29.3	
	comp=Z,2.5nm,0.3s						
NSS	**Namsos**	**4.71**	**229**	*e*SG	**Sg**	**23 23 48.3**	**-8.5**
NSS				AML	AML	23 23 49.0	
	comp=Z,6.5nm,0.5s						

MAN 25 23:23:22.3,9.87N×123.46E,h14km,mb4.4,ML3.2,MS3.0, 2C,Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBP	**Tagbilaran**	**0.44**	**114**	*e*P	Pb	23 23 31.6	+0.3
SNPH	**Sibulan**	**0.57**	**202**	*i* P	Pb	23 23 34.0	+0.5
LLP	**Lapu-Lapu**	**0.67**	**49**	*e*P	Pb	23 23 26.4	-8.9
LLP				*i* S	Sb	23 23 35.4	-8.7
GUIM	**Jordan**	**1.13**	**311**	*e*P	Pb	23 23 41.1	-2.1
GUIM				*e*S	Sb	23 23 56.0	-1.6
DCPH	**Dipolog City**	**1.29**	**185**⇑	*e*P	Pb	23 23 45.1	-0.7
DCPH				*e*S	Sb	23 24 03.1	+1.1
MSLP	**Maasin**	**1.41**	**79**	*e*P	Sb	23 24 09.8	+4.3
RCP	**Roxas**	**1.82**	**337**⇑	*e*P	Pn	23 23 53.0	-0.5
RCP				*i* S	Sn	23 24 17.2	+0.7

*MAN **25** 23:38:24.3, 9.91N×123.39E,h2km,mb4.3,ML3.2,MS2.9*
ISC 25 23:38:23.6±0.9,9.95N±0.03×123.44E±0.05,h5km±9km,n8, σ1°21/13,1C-1D,Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBP	**Tagbilaran**	**0.48**	**121**	*e*P	**Pg**	**23 38 34.4**	**+1.1**
SNPH	**Sibulan**	**0.63**	**199**	*e*P	**Pg**	**23 38 36.0**	**-0.2**
SNPH				*i* S	**Sg**	**23 38 46.0**	**+1.3**
LLP	**Lapu-Lapu**	**0.64**	**54**	*e*P	**Pg**	**23 38 34.5**	**-1.8**
LLP				*i* S	**Sg**	**23 38 44.5**	**-0.3**
GUIM	**Jordan**	**1.08**	**309**	*e*P	**Pb**	**23 38 43.8**	**-0.6**
GUIM				*e*S	**Sb**	**23 38 57.8**	**-0.9**
DCPH	**Dipolog City**	**1.36**	**184**⇑	*e*P	**Pb**	**23 38 48.0**	**-1.1**
DCPH				*e*S	**Sb**	**23 39 04.7**	**-2.0**
MSLP	**Maasin**	**1.41**	**82**	*e*P	**Pn**	**23 39 00.9**	**+0.9**
RCP	**Roxas**	**1.75**	**337**⇓	*e*P	**Pn**	**23 38 55.5**	**+0.7**
RCP				*e*S	**Sn**	**23 39 20.5**	**+2.8**
PAGZ	**Pagadian**	**2.08**	**182**	*e*P	**Pn**	**23 39 00.9**	**+1.2**

*JMA **25** 23:44:42.2±0.2,24.45N×122.22E,h70km,M2.7*
TAP 25 23:44:41.4,24.37N×122.19E,h56km±1km,ML3.7, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.75**	**83**	P	P	23 44 57.4	+1.2
YOJ				S	S	23 45 08.8	+1.7
IRIF	**Iriomote-Funau**	**1.41**	**91**	P	P	23 45 05.7	+0.5
IRIF				S	S	23 45 23.3	+0.4
HATJ	**Hateruma jima**	**1.51**	**102**	P	P	23 45 07.4	+0.8
HATJ				*e*S	S	23 45 27.1	+1.8
JKRS	**Kuro-shima**	**1.67**	**94**	P	P	23 45 09.8	+1.0
JKRS				S	S	23 45 30.1	+1.0
JIJ	**Ishigaki jima**	**1.78**	**90**	P	P	23 45 11.0	+0.6
JIJ				S	S	23 45 32.0	+0.1
JTJ	**Tarama**	**2.30**	**83**	S	S	23 45 45.2	+0.2

*TIR **25** 23:48:10.6, 42.38N×19.29E,h25km*
*PDG **25** 23:48:11.8±0.1,42.40N×19.28E,h20km*
PDG Felt at Podgorica IV MCS.
ISC 25 23:48:12.1±0.7,42.36N±0.03×19.29E±0.04,h21km±5km, n13,σ0°95/26,6C-4D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTG	**Podgorica**	**0.08**	**343**⇑	*i*Pg	**Pb**	**23 48 15.3**	**-0.7**
TTG				*e*Sg	**Sb**	**23 48 18.1**	**-0.5**
BUM	**Brajici-Budva**	**0.30**	**260**⇑	*i*Pg	**Pb**	**23 48 18.4**	**-0.4**
BUM				*e*Sg	**Sb**	**23 48 23.8**	**+0.4**
ULC	**Ulcinj**	**0.39**	**185**⇓	*i*Pg	**Pb**	**23 48 19.8**	**-0.5**
ULC				*e*Sg	**Sb**	**23 48 27.8**	**+1.9**
NKY	**Niksic**	**0.51**	**335**⇑	*i*Pg	**Pb**	**23 48 21.0**	**-1.2**
NKY				*e*Sg	**Sb**	**23 48 28.7**	**-0.4**
PVY	**Plav**	**0.56**	**64**⇓	*i*Pg	**Pb**	**23 48 22.4**	**-0.7**
PVY				*e*Sg	**Sb**	**23 48 31.5**	**+0.9**
HCY	**Herceg Novi**	**0.59**	**279**⇓	*i*Pg	**Pb**	**23 48 23.0**	**-0.7**
HCY				*e*Sg	**Sb**	**23 48 32.5**	**+0.8**
IVA	**Berane**	**0.68**	**41**⇑	*i*Pg	**Pb**	**23 48 24.5**	**-0.7**
IVA				*e*Sg	**Sb**	**23 48 35.2**	**+1.0**
BRY	**Bratogost**	**0.78**	**315**⇑	*i*Pg	**Pb**	**23 48 25.8**	**-0.9**
BRY				*e*Sg	**Sb**	**23 48 37.9**	**+1.1**
UPM	**Unac-Piva**	**0.89**	**342**⇓	*i*Pg	**Pb**	**23 48 27.8**	**-1.0**
UPM				*e*Sg	**Sb**	**23 48 41.1**	**+0.9**
QSH	**Qafa e Shtames**	**0.95**	**151**	*i* pg?	**Pb**	**23 48 48.0**	**+18**
QSH				*i* Sg	**Sb**	**23 48 51.8**	**+10**
PLE	**Pljevlja**	**0.98**	**4**⇑	*i*Pg	**Pb**	**23 48 29.6**	**-0.6**
PLE				*e*Sg	**Sb**	**23 48 44.5**	**+1.8**
STON	**Ston**	**1.28**	**294**	*i* Pn	**Pn**	**23 48 34.2**	**-0.8**
STON				*i* Sg	**Sn**	**23 48 53.4**	**+1.7**
NVLJ	**Novalja**	**3.90**	**306**	*i* Pn	**Pn**	**23 49 11.9**	**-0.5**
NVLJ				*i* Sn	**Sn**	**23 49 57.5**	**-0.6**

MAN 26 00:04:18.4,9.74N×123.48E,h15km,mb4.2,ML3.0,MS2.7, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBP	**Tagbilaran**	**0.38**	**98**	*e*P	Pb	00 04 26.9	+0.6
SNPH	**Sibulan**	**0.46**	**211**	*e*P	Pb	00 04 29.0	+1.3
SNPH				*i* S	Sb	00 04 39.0	+5.0
LLP	**Lapu-Lapu**	**0.75**	**40**	*e*P	Pb	00 04 26.2	-6.3
LLP				*e*S	Sb	00 04 37.1	-5.1
MSLP	**Maasin**	**1.42**	**74**	*e*P	Pn	00 04 43.0	-0.8
OCLP	**Ormoc**	**1.71**	**41**	*e*P	Pn	00 04 47.3	-0.7

MAN 26 00:15:22.3,9.91N×123.50E,h28km,mb4.0,ML2.8,MS2.5, 1D,Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBP	**Tagbilaran**	**0.41**	**121**	*e*P	Pb	00 15 33.0	+1.8
LLP	**Lapu-Lapu**	**0.61**	**48**	*e*P	Pb	00 15 34.4	-0.1
LLP				*e*S	Sb	00 15 45.3	+2.5
SNPH	**Sibulan**	**0.62**	**205**⇓	*i*P	Pb	00 15 35.0	+0.5
SNPH				*i* S	Sb	00 15 45.0	+2.2
GUIM	**Jordan**	**1.15**	**309**	*e*P	Pn	00 15 42.5	-0.1
GUIM				*e*S	Sn	00 15 57.6	+0.1

*IDC **26** 00:24:57.1±7.4,49.98N×157.05E,mb3.7/3,mb1 4.1/3, mb1mx3.5/21,MS3.2/2,Ms1 3.2/2,ms1mx2.6/27,Error ellipse: s-maj=503.0km s-min=33.8km az=133.0*
*MOS **26** 00:25:34.6±1.4,51.74N×154.12E,h539km,mb4.4/1,Error ellipse: s-maj=99.9km s-min=33.3km az=49.5*
*KRSC **26** 00:25:36.3±2.0,52.67N×152.61E,h468km±15km,ML4.6*
ISC 26 00:25:40.2±1.0,52.5N±0.2×153.7E±0.3,h471km±11km, n27,σ1°21/40,mb3.1/3,Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**2.20**	**116**	*e*P	**P**	**00 26 43.7**	**-0.5**
GRL	**Gorelyy**	**2.70**	**86**	*i* P	**P**	**00 26 48.7**	**+1.4**
GRL				*e*S	**S**	**00 27 41.4**	**+1.0**
GNL	**Ganaly**	**2.87**	**63**	*i* P	**P**	**00 26 48.9**	**+0.5**
RUS	**Russkaya**	**2.98**	**89**	P	**P**	**00 26 49.3**	**+0.1**
RUS				S	**S**	**00 27 44.3**	**+0.5**
RUS	**Russkaya**	**2.98**	**89**	*e*P	**P**	**00 26 49.2**	**0.0**
RUS				*e*S	**S**	**00 27 44.7**	**+0.9**
PET	**Petropavlovsk**	**3.09**	**78**	P	**P**	**00 26 50.4**	**+0.4**
PET	**Petropavlovsk**	**3.09**	**78**	*e*P	**P**	**00 26 49.6**	**-0.4**
PET				*e*S	**S**	**00 27 43.3**	**-2.0**
KOK	**Koryaka**	**3.13**	**73**	*i* P	**P**	**00 26 52.1**	**+1.8**
KOK				*e*S	**S**	**00 27 45.5**	**-0.3**
AVH	**Avacha**	**3.19**	**73**	*e*P	**P**	**00 26 52.3**	**+1.6**
AVH				*e*S	**S**	**00 27 45.9**	**-0.6**
SMAR	**Somma**	**3.22**	**74**	*e*P	**P**	**00 26 52.0**	**+1.0**
SDLR	**Sedlovina**	**3.27**	**74**	*e*P	**P**	**00 26 50.3**	**-1.1**
NLC	**Nalytchevo**	**3.52**	**76**	P	**P**	**00 26 54.0**	**+0.6**
NLC				S	**S**	**00 27 51.4**	**+0.1**
NLC	**Nalytchevo**	**3.52**	**76**	*e*P	**P**	**00 26 53.5**	**+0.1**
NLC				*e*S	**S**	**00 27 51.0**	**-0.3**
SPN	**Mys Shipunski**	**3.92**	**78**	P	**P**	**00 26 56.5**	**-0.1**
SPN				S	**S**	**00 27 55.4**	**-1.6**
SPN	**Mys Shipunski**	**3.92**	**78**	*i* P	**P**	**00 26 56.5**	**-0.1**
SPN				*e*S	**S**	**00 27 55.9**	**-1.1**
TUMR	**Tumrok**	**4.77**	**51**	*e*P	**P**	**00 27 04.4**	**+0.2**
KMNR	**Kamenistaya**	**5.08**	**47**	*e*P	**P**	**00 27 06.9**	**-0.3**
SRDR	**Sredinnyy**	**5.24**	**40**	*i* P	**P**	**00 27 05.9**	**-2.7**
MKZ	**Mys Kozlova**	**5.25**	**63**	P	**P**	**00 27 09.7**	**+0.9**
MKZ				S	**S**	**00 28 18.7**	**-0.2**
MKZ	**Mys Kozlova**	**5.25**	**63**	*e*P	**P**	**00 27 09.8**	**+1.0**
MKZ				*e*S	**S**	**00 28 18.7**	**-0.2**
ZLN	**Zelenaya**	**5.50**	**47**	*e*P	**P**	**00 27 09.7**	**-1.5**
KBTR	**Krutoberegovo**	**6.54**	**51**	P	**P**	**00 27 23.0**	**+1.3**
KBTR				S	**S**	**00 28 42.8**	**+0.7**
KBTR	**Krutoberegovo**	**6.54**	**51**	*i* P	**P**	**00 27 22.9**	**+1.2**
KBTR				*e*S	**S**	**00 28 39.3**	**-2.8**
FX1	**Attu Island--F** comp=Z,74nm,18.8s,baz=151,slow=32	**11.85**	**80**	LR	LR	00 30 30.5	
WRA	**Warramunga Arr** 0.3nm,0.4s,mb3.1,baz=13,slow=6.0,SNR=9.2	**74.04**	**199**	P	**P**	**00 36 25.4**	**-2.8**
WRA				LR	LR	01 03 59.0	
	comp=Z,26nm,19.5s,baz=135,slow=32						
TXAR	**Lajitas Array** 0.2nm,0.4s,mb3.0,baz=300,slow=4.6,SNR=6.2	**74.44**	**62**	P	**P**	**00 36 32.7**	**+2.5**
ASAR	**Alice Springs** 0.5nm,0.5s,mb3.2,baz=14,slow=5.0,SNR=7.9	**77.75**	**198**	P	**P**	**00 36 46.7**	**-1.8**

*NEIC **26** 00:35:46.9±1.0, 12.76N×143.51E,h141km±11km,mb4.6/4, Error ellipse: s-maj=19.4km s-min=8.3km az=88.0*
*IDC **26** 00:35:50.6±13.0, 12.73N×143.47E,h176km±134km, mb3.6/8,mb1 3.8/8,mb1mx3.6/19,Error ellipse: s-maj=38.6km s-min=18.2km az=69.0*
ISC 26 00:35:45.8±1.5,12.74N±0.09×143.5E±0.2,h146km±18km, n14,σ0°42/14,mb4.0/12,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.59**	**58**	*e*Pn	**P**	**00 36 16.5**	**0.0**
WRAB	**Tennant Creek** 2.9nm,0.6s,mb4.2	**33.69**	**196**	*e*P	**P**	**00 42 15.0**	**-0.1**
WB2	**Warramunga Arr**	**33.70**	**196**	*e*P	**P**	**00 42 15.2**	**0.0**
WRA	**Warramunga Arr** 1.9nm,0.5s,mb4.1,baz=18,slow=9.5,SNR=42	**33.70**	**196**	P	**P**	**00 42 14.8**	**-0.4**
ENH	**Enshi** 5.8nm,0.6s,mb4.4	**35.93**	**304**	*e*P	**P**	**00 42 33.6**	**-0.4**
ASAR	**Alice Springs** 0.9nm,0.4s,mb3.7,baz=22,slow=12,SNR=7.5	**37.37**	**195**	P	**P**	**00 42 46.7**	**+0.5**
CMAR	**Chiang Mai Arr** 6.3nm,1.0s,mb4.2,baz=82,slow=6.2,SNR

	3.0nm,0.2s							
LOR	**Lormes**	**1.22**	**49**	*e*Pg	Pg	00 42 23.9	-1.4
LOR				*e*Sg	Sg	00 42 39.5	-2.1
	0.8nm,0.2s							
RJF	**Les Rejaudoux**	**1.36**	**211**	*e*Pg	Pg	00 42 26.5	-1.7
RJF				*e*Sg	Sg	00 42 44.0	-2.4
	0.8nm,0.2s							
CAF	**Calviac**	**1.59**	**191**	*e*Pn	Pn	00 42 28.4	-1.8
CAF				*e*Pg	Pg	00 42 30.6	-2.1
CAF				*e*Sg	Sg	00 42 51.1	-2.8
	0.8nm,0.2s							
MFF	**Saint Martin d**	**1.83**	**275**	*e*Pg	Pg	00 42 35.1	-2.4
MFF				*e*Sg	Sg	00 42 58.6	-3.3
	0.6nm,0.2s							

GUC 26 00:53:31.2±0.9, 35.12S×70.43W, h16km±999km, MD3.5, ML2.4, 1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CACH	**El Canelo**	**1.01**	**352**	*e*P	Pb	00 53 48.2	-1.6
CACH				*i* S	Sb	00 54 01.5	-1.2
CHCH	**Chadas Angostu**	**1.20**	**351**	*i* P	Pb	00 53 51.8	-1.3
CHCH				*i* S	Sb	00 54 07.7	-0.4
LMEL	**Las Melosas**	**1.28**	**8**	*i*P	Pb	00 53 53.4	-1.1
LMEL				*i* S	Sb	00 54 10.5	-0.1
LMEL	comp=N,73nm,0.2s			AMP		00 54 12.8	
LNV	**Longovilo**	**1.42**	**325**	*i* S	Sb	00 54 13.6	-0.8
RCDM	**Rinconada Maip**	**1.66**	**349**	*e*P	Pn	00 53 59.7	-0.3
RCDM				*i* S	Sn	00 54 21.0	0.0
RCDM	comp=E,119nm,0.1s			AMP		00 54 22.6	
FCH	**Farellones**	**1.79**	**4**	*e*P	Pn	00 54 02.5	+0.6
FCH				*i* S	Sn	00 54 26.0	+1.5
FCH	comp=N,50nm,0.2s			AMP		00 54 29.2	

JMA 26 00:55:06.4±0.4, 33.97N×141.98E, h26km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.07**	**310**	P	Pn	00 55 25.8	-0.1
BSO1				*e*S	Sb	00 55 40.1	+0.2
BSO3	**Boso 3**	**1.47**	**305**	P	Pn	00 55 32.0	+0.4
BSO4	**Boso 4**	**1.70**	**307**	P	Pn	00 55 35.9	+1.1
CHOJ	**Chosi**	**1.96**	**332**	P	Pn	00 55 39.1	+0.5
JAG	**Ashikaga**	**3.21**	**321**	P	Pn	00 55 56.6	+0.2

*ATH **26** 01:09:42.4, 39.64N×20.38E, h8km, MD3.2/5*
*CSEM **26** 01:09:42.9±0.1, 39.65N×20.32E, h2km, ML3.0, Error ellipse: s-maj=3.1km s-min=2.8km az=21.0*
*THE **26** 01:09:43.1, 39.69N×20.32E, h10km, ML3.0*
ISC 26 01:09:42.9±0.5, 39.66N±0.03×20.31E±0.03, h10km, n20, σ1§27/36, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.13**	**172**	*e*Pg	**Pg**	**01 09 45.6**	**-0.5**
IGT				*e*Sg	**Sg**	**01 09 49.2**	**+1.0**
SRN	**Sarande**	**0.32**	**313**	*i* Pg	**Pg**	**01 09 49.1**	**-0.5**
SRN				*i* Sg	**Sg**	**01 09 55.7**	**+1.6**
KEK	**Kerkira**	**0.40**	**278**	*e*PB	**Pb**	**01 09 50.5**	**-1.1**
KEK				*e*SB	**Sb**	**01 09 58.5**	**+1.1**
JAN	**Janina**	**0.42**	**90**	*e*PG	**Pg**	**01 09 48.5**	**-3.0**
JAN				*e*SB	**Sb**	**01 09 55.0**	**-3.0**
LSK	**Leskovik**	**0.54**	**25**	*i* Pg	**Pg**	**01 09 50.8**	**-3.0**
LSK				*i* Sg	**Sg**	**01 09 59.1**	**-2.0**
MEV	**Metsovon**	**0.72**	**80**	*e*Pg	**Pg**	**01 09 55.8**	**-1.6**
MEV				*e*Sg	**Sg**	**01 10 06.4**	**-0.7**
LKD	**Levkas**	**0.99**	**164**	*e*Pg	**Pg**	**01 10 01.7**	**-1.0**
LKD				*e*Sg	**Sg**	**01 10 16.8**	**+0.9**
EVR	**Evrytania**	**1.38**	**122**	*e*PB	**Pb**	**01 10 08.0**	**-0.4**
FNA	**Florina**	**1.39**	**36**	*e*Pb	**Pb**	**01 10 08.4**	**-0.1**
FNA				*e*Sb	**Sb**	**01 10 28.5**	**+2.4**
FNA	**Florina**	**1.39**	**36**	*e*Pb	**Pb**	**01 10 08.4**	**-0.1**
FNA				*e*Sb	**Sb**	**01 10 28.5**	**+2.3**
VLS	**Valsamata**	**1.50**	**171**	*e*PG	**Pg**	**01 10 10.0**	**-2.9**
AGG	**Agios Georgios**	**1.69**	**111**	*e*Pb	**Pb**	**01 10 13.8**	**+0.1**
AGG				*e*Sb	**Sb**	**01 10 37.0**	**+2.1**
AGG	**Agios Georgios**	**1.69**	**111**	*e*Pb	**Pb**	**01 10 13.8**	**+0.1**
AGG				*e*Sb	**Sb**	**01 10 37.0**	**+2.0**
LIT	**Litokhoron**	**1.73**	**75**	*e*Pb	**Pb**	**01 10 13.4**	**-1.1**
LIT				*e*Sb	**Sb**	**01 10 36.9**	**+0.6**
GRG	**Griva**	**2.06**	**50**	*e*Pn	**Pn**	**01 10 17.8**	**-0.2**
GRG				*e*Sn	**Sn**	**01 10 44.8**	**+0.8**
XOR	**Xorichti**	**2.25**	**97**	*e*Pn	**Pn**	**01 10 21.1**	**+0.3**
XOR				*e*Sn	**Sn**	**01 10 50.5**	**+1.6**
NEO	**Neokhori**	**2.28**	**98**	*e*PN	**Pn**	**01 10 22.0**	**+0.7**
KNT	**Kendrikon**	**2.48**	**52**	*e*Pn	**Pn**	**01 10 24.2**	**+0.1**
KNT				*e*Sn	**Sn**	**01 10 56.0**	**+1.3**
SOH	**Sokhos**	**2.60**	**63**	*e*Pn	**Pn**	**01 10 25.9**	**+0.1**
SOH				*e*Sn	**Sn**	**01 10 59.0**	**+1.2**
OUR	**Ouranopolis**	**2.90**	**75**	*e*Pn	**Pn**	**01 10 29.5**	**-0.6**

*ATH **26** 01:11:08.0, 39.60N×20.35E, h8km±6km, MD3.4/6*
*NEIC **26** 01:11:08.0, 39.60N×20.35E, h8km, MD3.4(ATH), After ATH.*
*THE **26** 01:11:09.8, 39.64N×20.41E, h2km, ML3.3*
*CSEM **26** 01:11:09.1±0.1, 39.66N×20.30E, h2km, MD3.4, Error ellipse: s-maj=1.8km s-min=1.4km az=33.0*
ISC 26 01:11:08.6±0.5, 39.64N±0.03×20.37E±0.04, h4km±5km, n21, σ1§00/34, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.11**	**194**	*e*Pg	**Pg**	**01 11 11.5**	**+0.6**
IGT				*e*Sg	**Sg**	**01 11 14.5**	**+2.0**
SRN	**Sarande**	**0.37**	**310**	*i* Pg	**Pg**	**01 11 15.5**	**-0.5**
SRN				*i* Sg	**Sg**	**01 11 21.3**	**+0.4**
JAN	**Janina**	**0.37**	**87**	*e*PG	**Pg**	**01 11 14.5**	**-1.6**
JAN				*e*SB	**Sb**	**01 11 21.0**	**-2.2**
KEK	**Kerkira**	**0.44**	**279**	*e*PB	**Pb**	**01 11 16.5**	**-2.0**
LSK	**Leskovik**	**0.54**	**19**	*i* Pg	**Pg**	**01 11 17.5**	**-1.9**
LSK				*i* Sg	**Sg**	**01 11 27.0**	**+0.4**
LSK	**Leskovik**	**0.54**	**19**	*e*Pg	**Pg**	**01 11 17.5**	**-1.9**
LSK				*i* Sg	**Sg**	**01 11 27.0**	**+0.4**
MEV	**Metsovon**	**0.68**	**78**	*e*Pg	**Pg**	**01 11 21.0**	**-1.2**
MEV				*e*Sg	**Sg**	**01 11 32.1**	**+0.8**
LKD	**Levkas**	**0.96**	**167**	*e*Pg	**Pg**	**01 11 27.7**	**0.0**
LKD				*e*Sg	**Sg**	**01 11 41.3**	**+0.8**
KZN	**Kozani**	**1.27**	**58**	*e*PB	**Pb**	**01 11 33.0**	**+0.4**
EVR	**Evrytania**	**1.33**	**122**	*e*PB	**Pb**	**01 11 34.0**	**+0.3**
FNA	**Florina**	**1.38**	**34**	*e*Pb	**Pb**	**01 11 35.0**	**+0.4**
FNA				*e*Sb	**Sb**	**01 11 54.6**	**+2.3**
VLS	**Valsamata**	**1.47**	**173**	*e*PB	**Pb**	**01 11 35.0**	**-1.1**
BIA	**Bitola**	**1.56**	**28**	*i* Pn	**Pn**	**01 11 37.8**	**+0.6**
BIA				*i*		01 11 39.8	
BIA				*i*		01 11 44.1	
BIA				*i*		01 11 49.4	
BIA				*i* Sn	**Sn**	**01 11 59.3**	**+1.3**
BIA	**Bitola**	**1.56**	**28**	*i* Sn	**Sn**	**01 11 59.3**	**+1.3**
BIA	**Bitola**	**1.56**	**28**	*i* Sn	**Sn**	**01 11 59.3**	**+1.3**
AGG	**Agios Georgios**	**1.64**	**111**	*e*Pb	**Pb**	**01 11 38.8**	**-0.3**
AGG				*e*Sb	**Sb**	**01 12 00.4**	**+0.3**
LIT	**Litokhoron**	**1.70**	**74**	*e*Pb	**Pb**	**01 11 39.3**	**-0.7**
LIT				*e*Sb	**Sb**	**01 12 01.6**	**0.0**
GRG	**Griva**	**2.04**	**49**	*e*Pn	**Pn**	**01 11 44.5**	**+0.5**
GRG				*e*Sn	**Sn**	**01 12 10.4**	**+0.2**
XOR	**Xorichti**	**2.20**	**96**	*e*Pn	**Pn**	**01 11 46.6**	**+0.2**
XOR				*e*Sn	**Sn**	**01 12 14.3**	**-0.1**
NEO	**Neokhori**	**2.24**	**98**	*e*PN	**Pn**	**01 11 47.5**	**+0.6**
AOS	**Alonnisos**	**2.76**	**99**	*e*Pn	**Pn**	**01 11 53.7**	**-0.7**

*NEIC **26** 01:38:14.4, 36.31N×22.81E, h5km, MD3.5(ATH), After ATH.*
*CSEM **26** 01:38:14.4, 36.31N×22.81E, h5km, MD3.4/5, After ATH*
ATH 26 01:38:14.4, 36.31N×22.81E, h5km, MD3.5/5, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.18**	**99**	*e*PG	Pg	01 38 17.2	-1.0
ITM	**Ithomi**	**1.12**	**321**	*e*PG	Pg	01 38 35.0	-1.8
VAM	**Vamos**	**1.44**	**128**	*e*PB	Pb	01 38 43.0	+1.6
NSAL	**Nisos Salamina**	**1.68**	**18**	*e*PB	Pb	01 38 47.5	+2.1
GVD	**Gavdhos**	**1.80**	**144**	*e*Pn	Pn	01 38 46.5	+0.2
PTL	**Penteli**	**1.93**	**26**	*e*PN	Pn	01 38 50.5	+2.3
SANT	**Santorini**	**2.14**	**88**	*e*Pn	Pn	01 38 52.1	+0.9

*NEIC **26** 01:52:39.6, 16.83N×100.00W, h21km, MD3.5(MEX), After MEX.*
MEX 26 01:52:39.8±0.4, 16.84N×100.00W, h20km±6km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.09**	**71**	*i* P	Pb	01 52 42.5	-1.1
ACX				*i* S	Sb	01 52 45.0	-1.1
CAIG	**El Cayaco**	**0.33**	**309**	*i* P	Pb	01 52 45.9	-1.0
CAIG				*i* S	Sb	01 52 50.5	-1.2
PLIG	**Platanillo**	**1.62**	**17**	*i* P	Pn	01 53 04.5	-3.2
PLIG				*i* S	Sn	01 53 23.3	-4.8
PPM	**Popocatepetl**	**2.57**	**30**	*e*P	Pn	01 53 21.5	+0.2

*IDC **26** 01:57:55.2±2.5, 36.97S×177.47E, h245km±23km, mb3.0/2, mb1 3.3/3, mb1mx3.1/12, Error ellipse: s-maj=61.6km s-min=49.5km az=165.0*
*WEL **26** 01:57:59.0±0.5, 36.88S×177.15E, h222km±4km, ML4.3/5, Error ellipse: s-maj=4.8km s-min=4.8km az=90.0*
*NEIC **26** 01:58:00.3, 37.05S×177.14E, h221km, After WEL.*
ISC 26 01:57:56.7±0.7, 37.14S±0.07×177.2E±0.1, h261km±6km, n87, σ0§90/104, mb3.2/2, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYRZ	**Mayor Island**	**0.75**	**259**	PN	**P**	**01 58 30.0**	**-1.9**
MARZ	**Manawahe**	**0.93**	**205**	PN	**P**	**01 58 32.5**	**-0.2**
MXZ	**Matakaoa Point**	**1.00**	**115**	P	**P**	**01 58 32.2**	**-0.8**
MXZ				S	**S**	**01 58 57.6**	**-3.8**
MXZ	**Matakaoa Point**	**1.00**	**115**	PN	**P**	**01 58 32.1**	**-0.9**
MXZ				SN	**S**	**01 58 57.6**	**-3.8**
EDRZ	**Edgecumbe**	**1.02**	**199**	PN	**P**	**01 58 33.0**	**-0.2**
LIRZ	**Lichensteins R**	**1.06**	**215**	P	**P**	**01 58 33.2**	**-0.2**
LIRZ	**Lichensteins R**	**1.06**	**215**	PN	**P**	**01 58 33.4**	**0.0**
URZ	**Urewera**	**1.12**	**182**	P	**P**	**01 58 33.1**	**-0.6**
URZ	baz=271,slow=4.9			S	**S**	**01 59 00.3**	**-2.4**
	36nm,0.3s,baz=200,slow=20,SNR=5.2						
URZ	**Urewera**	**1.12**	**182**	P	**P**	**01 58 33.4**	**-0.3**
URZ	**Urewera**	**1.12**	**182**	PN	**P**	**01 58 33.3**	**-0.5**
URZ				SN	**S**	**01 59 00.2**	**-2.5**
TAZ	**Tarawera**	**1.21**	**205**	P	**P**	**01 58 35.2**	**+0.9**
TAZ	**Tarawera**	**1.21**	**205**	PN	**P**	**01 58 35.1**	**+0.7**
MWZ	**Matawai**	**1.23**	**167**	P	**P**	**01 58 34.9**	**+0.5**
MWZ				S	**S**	**01 59 02.4**	**-1.5**
MWZ	**Matawai**	**1.23**	**167**	PN	**P**	**01 58 34.5**	**+0.1**
MWZ				SN	**S**	**01 59 02.4**	**-1.5**
PUZ	**Puketiti**	**1.27**	**137**	P	**P**	**01 58 35.0**	**+0.3**
PUZ				S	**S**	**01 58 57.8**	**-6.6**
PUZ	**Puketiti**	**1.27**	**137**	PN	**P**	**01 58 35.0**	**+0.3**
PUZ				SN	**S**	**01 59 02.3**	**-2.1**
PATZ	**Paeroa**	**1.43**	**210**	P	**P**	**01 58 39.9**	**+1.1**
PATZ	**Paeroa**	**1.43**	**210**	PN	**P**	**01 58 36.8**	**+0.9**
KNZ	**Kokohu**	**1.92**	**168**	P	**P**	**01 58 40.7**	**+1.1**
KNZ	**Kokohu**	**1.92**	**168**	PN	**P**	**01 58 40.6**	**+1.0**
KNZ				SN	**S**	**01 59 13.1**	**+0.1**
BKZ	**Black Stump Fm**	**2.09**	**194**	P	**P**	**01 58 41.7**	**+0.5**
BKZ	**Black Stump Fm**	**2.09**	**194**	PN	**P**	**01 58 41.7**	**+0.5**
BKZ				SN	**S**	**01 59 16.2**	**+0.5**
MGZ	**Maungaku**	**2.26**	**214**	PN	**P**	**01 58 44.3**	**+1.6**
KAVZ	**Karewarewa**	**2.29**	**211**	P	**P**	**01 58 44.6**	**+1.5**
WTVZ	**West Tongariro**	**2.33**	**212**	P	**P**	**01 58 44.4**	**+1.0**
WTVZ	**West Tongariro**	**2.33**	**212**	PN	**P**	**01 58 44.4**	**+1.0**
TWVZ	**Taurewa**	**2.36**	**215**	P	**P**	**01 58 44.9**	**+1.2**
TWVZ	**Taurewa**	**2.36**	**215**	PN	**P**	**01 58 45.0**	**+1.2**
NGZ	**Ngauruhoe**	**2.38**	**211**	P	**P**	**01 58 45.5**	**+1.6**
NGZ	**Ngauruhoe**	**2.38**	**211**	PN	**P**	**01 58 45.5**	**+1.6**
TUVZ	**Tukino**	**2.44**	**209**	P	**P**	**01 58 45.6**	**+1.1**
TUVZ	**Tukino**	**2.44**	**209**	PN	**P**	**01 58 45.4**	**+1.0**
FWVZ	**Far West T-bar**	**2.47**	**211**	*e*P	**P**	**01 58 46.1**	**+1.3**
FWVZ	**Far West T-bar**	**2.47**	**211**	PN	**P**	**01 58 46.1**	**+1.4**
WNVZ	**Wahianoa**	**2.51**	**209**	P	**P**	**01 58 46.1**	**+0.9**
WNVZ	**Wahianoa**	**2.51**	**209**	PN	**P**	**01 58 46.0**	**+0.8**
MOVZ	**Moawhango**	**2.52**	**206**	P	**P**	**01 58 45.7**	**+0.4**
MOVZ	**Moawhango**	**2.52**	**206**	PN	**P**	**01 58 45.7**	**+0.4**
PWZ	**Pawanui**	**2.90**	**185**	P	**P**	**01 58 50.0**	**+0.9**
PWZ	**Pawanui**	**2.90**	**185**	PN	**P**	**01 58 49.9**	**+0.7**
PWZ				SN	**S**	**01 59 30.6**	**+0.7**
TSZ	**Takapari Road**	**3.06**	**198**	PN	**P**	**01 58 52.0**	**+1.1**
TSZ				SN	**S**	**01 59 33.8**	**+0.7**
WAZ	**Wanganui**	**3.12**	**213**	P	**P**	**01 58 51.3**	**-0.3**
WAZ	**Wanganui**	**3.12**	**213**	PN	**P**	**01 58 52.0**	**+0.5**
BFZ	**Birch Farm**	**3.61**	**191**	P	**P**	**01 58 57.6**	**+0.6**
BFZ	**Birch Farm**	**3.61**	**191**	PN	**P**	**01 58 57.6**	**+0.6**
MRZ	**Mangatainoka R**	**3.73**	**199**	P	**P**	**01 58 58.3**	**-0.1**
MRZ	**Mangatainoka R**	**3.73**	**199**	PN	**P**	**01 58 58.2**	**-0.1**
MRZ				SN	**S**	**01 59 46.3**	**0.0**
KIW	**Kapiti Island**	**4.11**	**205**	P	**P**	**01 59 02.6**	**-0.2**
KIW	**Kapiti Island**	**4.11**	**205**	PN	**P**	**01 59 02.5**	**-0.2**
KIW				SN	**S**	**01 59 54.3**	**+0.1**
MTW	**Mount Morrison**	**4.22**	**197**	P	**P**	**01 59 04.0**	**0.0**
MTW	**Mount Morrison**	**4.22**	**197**	PN	**P**	**01 59 04.0**	**0.0**
MTW				SN	**S**	**01 59 55.9**	**-0.5**
CAW	**Cannon Point**	**4.29**	**202**	P	**P**	**01 59 04.6**	**-0.2**
CAW	**Cannon Point**	**4.29**	**202**	PN	**P**	**01 59 04.3**	**-0.5**
CAW				SN	**S**	**01 59 57.8**	**-0.2**
PAWZ	**Paruwai Farm**	**4.45**	**197**	PN	**P**	**01 59 07.2**	**+0.5**
MRW	**Makara Radio**	**4.51**	**204**	P	**P**	**01 59 07.2**	**-0.3**
MRW	**Makara Radio**	**4.51**	**204**	PN	**P**	**01 59 07.0**	**-0.5**
MSWZ	**Moikau Station**	**4.52**	**199**	P	**P**	**01 59 07.6**	**0.0**
MSWZ	**Moikau Station**	**4.52**	**199**	PN	**P**	**01 59 07.5**	**-0.1**
WEL	**Wellington**	**4.54**	**203**	P	**P**	**01 59 07.7**	**-0.1**
WEL	**Wellington**	**4.54**	**203**	PN	**P**	**01 59 07.7**	**-0.1**
BHW	**Baring Head**	**4.62**	**202**	P	**P**	**01 59 08.2**	**-0.6**
BHW	**Baring Head**	**4.62**	**202**	PN	**P**	**01 59 08.2**	**-0.6**
TUWZ	**Tuamarina**	**4.96**	**209**	PN	**P**	**01 59 12.4**	**-0.4**
NNZ	**Nelson**	**5.02**	**215**	*e*P	**P**	**01 59 12.6**	**-1.0**
NNZ	**Nelson**	**5.02**	**215**	PN	**P**	**01 59 12.4**	**-1.2**
QRZ	**Quartz Range**	**5.16**	**223**	*e*P	**P**	**01 59 13.9**	**-1.3**
QRZ	**Quartz Range**	**5.16**	**223**	PN	**P**	**01 59 13.6**	**-1.6**
QRZ				SN	**S**	**02 00 15.8**	**-0.9**
THZ	**Tophouse**	**5.67**	**214**	*e*P	**P**	**01 59 21.4**	**-0.2**
THZ	**Tophouse**	**5.67**	**214**	PN	**P**	**01 59 21.3**	**-0.3**
THZ				SN	**S**	**02 00 28.6**	**+0.6**
KHZ	**Kahutara**	**5.96**	**207**	*e*P	**P**	**01 59 25.1**	**-0.1**
KHZ	**Kahutara**	**5.96**	**207**	PN	**P**	**01 59 25.0**	**-0.1**
DSZ	**Denniston Nort**	**6.20**	**220**	*e*P	**P**	**01 59 26.5**	**-1.5**
DSZ	**Denniston Nort**	**6.20**	**220**	PN	**P**	**01 59 26.5**	**-1.6**
LTZ	**Lake Taylor**	**6.77**	**212**	P	**P**	**01 59 34.8**	**-0.5**
LTZ	**Lake Taylor**	**6.77**	**212**	PN	**P**	**01 59 34.8**	**-0.5**
MQZ	**McQueen's Vall**	**7.41**	**206**	*e*P	**P**	**01 59 41.9**	**-1.4**
MQZ	**McQueen's Vall**	**7.41**	**206**	PN	**P**	**01 59 41.9**	**-1.4**
RPZ	**Rata Peaks**	**8.05**	**213**	P	**P**	**01 59 51.1**	**-0.3**
	1.1nm,0.3s,baz=93,slow=14,SNR=7.4						
FOZ	**Fox Glacier**	**8.59**	**219**	PN	**P**	**01 59 56.1**	**-2.0**
LBZ	**Lake Benmore**	**8.97**	**214**	PN	**P**	**02 00 02.2**	**-0.7**
ODZ	**Otahua Downs**	**9.30**	**210**	*e*P	**P**	**02 00 07.8**	**+0.7**
ODZ	**Otahua Downs**	**9.30**	**210**	PN	**P**	**02 00 07.8**	**+0.6**
JCZ	**Jackson Bay**	**9.42**	**220**	*e*P	**P**	**02 00 07.9**	**-0.7**
JCZ	**Jackson Bay**	**9.42**	**220**	PN	**P**	**02 00 07.9**	**-0.7**
ASAR	**Alice Springs**	**39.33**	**277**	P	**P**	**02 05 03.0**	**+0.7**
	0.9nm,0.6s,mb3.4,baz=122,slow=8.0,SNR=13						
WRA	**Warramunga Arr**	**40.96**	**283**	P	**P**	**02 05 15.7**	**0.0**
	0.3nm,0.3s,mb3.0,baz=120,slow=8.5,SNR=27						
ARCES	**ARCESS Array B**	**144.11**	**349**	PKP	PKPdf	02 16 58.8	-1.1
	3.8nm,0.9s,baz=34,slow=3.3,SNR=3.7						

*BJI **26** 02:05:29.5, 14.03N×120.85E, h154km, mB4.9, mb4.9*
*IDC **26** 02:05:30.6±0.5, 13.95N×120.88E, h170km±4km, mb4.0/20, mb1 4.1/23, mb1mx4.1/25, Error ellipse: s-maj=20.9km s-min=7.9km az=63.0*
*NEIC **26** 02:05:31.2±0.2, 13.90N×120.80E, mb4.5/20, Error ellipse: s-maj=13.2km s-min=5.5km az=64.0*
*MAN **26** 02:05:31.0, 13.90N×120.54E, h149km, mb5.3, ML4.2, MS4.5*
ISC 26 02:05:30.3±0.2, 13.87N±0.03×120.68E±0.05, h172km±2km, h174km±2.1km; pP-P, n122, σ1§13/131, mb4.4/45, 13C-5D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.34**	**48**	↑*i*P	**P**	**02 05 53.7**	**-0.2**
TGY				*i* S	**S**	**02 06 09.3**	**-2.7**
TGY	**Tagaytay City**	**0.34**	**48**	P	**P**	**02 05 53.3**	**-0.6**
	3µm,0.3s,baz=260,slow=2.2,SNR=713						
LUBP	**Lubang**	**0.44**	**252**	*e*P	**P**	**02 05 53.2**	**-1.1**
LUBP	**Lubang**	**0.44**	**252**	*e*P	**P**	**02 05 53.2**	**-1.1**
LUBP				*e*S	**S**	**02 06 04.1**	**-8.6**
LQP	**Lukban**	**0.87**	**74**	↑*i*P	**P**	**02 05 56.9**	**+0.5**
BOAC	**Boac**	**1.21**	**110**	*e*P	**P**	**02 05 59.6**	**+0.4**
SJMP	**San Jose**	**1.47**	**163**	*e*P	**P**	**02 06 01.4**	**-0.2**
SJMP				*e*S	**S**	**02 06 25.7**	**-0.1**
POLP	**Polilio Island**	**1.49**	**55**	*e*P	**P**	**02 06 02.1**	**+0.5**
GQP	**Guinayangan**	**1.72**	**89**	↑*i*P	**P**	**02 06 04.8**	**+0.7**
GQP				*i* S	**S**	**02 06 31.4**	**+1.2**
PCPH	**Palayan**	**1.73**	**14**	⇓*e*P	**P**	**02 06 03.1**	**-1.1**
PCPH				*e*S	**S**	**02 06 31.1**	**+0.8**
BUSP	**Coron**	**1.92**	**194**	*e*P	**P**	**02 06 05.8**	**-0.4**
BUSP				*e*S	**S**	**02 06 28.4**	**-5.5**
OTRP	**Odiongan**	**2.00**	**139**	*e*P	**P**	**02 06 05.6**	**-1.4**
AUQP	**San Andres**	**2.02**	**106**	*e*P	**P**	**02 06 09.4**	**+2.0**
SCZP	**Santa Cruz**	**2.03**	**339**	*e*P	**P**	**02 06 06.3**	**-1.1**
SCZP				*e*S	**S**	**02 06 33.9**	**-2.2**
BALP	**Baler**	**2.05**	**25**	*e*P	**P**	**02 06 07.8**	**+0.2**
BCPH	**Baguio City Da**	**2.49**	**358**	⇓*i*P	**P**	**02 06 12.8**	**-0.2**
BCPH				*i* S	**S**	**02 06 43.4**	**-2.4**
BOLP	**Bolinao**	**2.60**	**344**	*e*P	**P**	**02 06 13.4**	**-0.8**
BOLP				*e*S	**S**	**02 06 41.7**	**-6.3**
KALP	**Kalibo**	**2.72**	**143**	*e*P	**P**	**02 06 17.1**	**+1.4**
CUYO	**Cuyo Island**	**3.02**	**174**	*e*P	**P**	**02 06 20.3**	**+0.8**
RCP	**Roxas**	**3.06**	**138**	⇓*e*P	**P**	**02 06 21.5**	**+1.6**
CAUP	**Cauayan**	**3.25**	**20**	*e*P	**P**	**02 06 22.6**	**+0.3**
PVCP	**Virac**	**3.39**	**94**	*e*P	**P**	**02 06 25.7**	**+1.6**
AAP	**Anini-y**	**3.65**	**160**	*e*P	**P**	**02 06 26.0**	**-1.4**
ABRA	**Dolores**	**3.75**	**1**	*e*P	**P**	**02 06 27.4**	**-1.3**
CVP	**Callao Caves**	**3.96**	**16**	*e*P	**P**	**02 06 32.5**	**+1.1**
	62µm,0.5s						
CNP	**Catarman**	**4.11**	**109**	*e*P	**P**	**02 06 33.8**	**+0.4**
PIP	**Pasuquin**	**4.43**	**359**	⇑*e*P	**P**	**02 06 37.8**	**+0.4**
PLP	**Palo**	**4.99**	**122**	*e*P	**P**	**02 06 46.4**	**+1.6**
SNPH	**Sibulan**	**5.16**	**151**	⇓*e*P	**P**	**02 06 49.0**	**+2.1**
	5µm,1.0s						
TBP	**Tagbilaran**	**5.20**	**143**	*e*P	**P**	**02 06 48.5**	**+1.1**
BATP	**Bataraza**	**5.78**	**209**	*e*P	**P**	**02 06 55.9**	**+0.8**
BUMP	**Musuan**	**7.35**	**144**	*e*P	**P**	**02 07 19.3**	**+3.4**
QZH	**Quanzhou**	**11.18**	**350**	*e*P	**P**	**02 08 03.5**	**-2.7**
QIZ	**Qiongzhong**	**11.59**	**298**	P	**P**	**02 08 09.8**	**-1.6**
QIZ				S	**S**	**02 10 21.5**	**+3.6**
QIZ				AMB	AMB		
	comp=Z,33nm,1.9s						
GYA	**Guiyang**	**18.14**	**316**	⇑*i*P	**P**	**02 09 33.3**	**+1.2**
GYA				AMB	AMB		
	comp=Z,30nm,1.0s						
ENH	**Enshi**	**19.31**	**329**	*e*P	**P**	**02 09 43.4**	**-0.9**
	comp=Z,26nm,0.8s						
ENH				*e*S	**S**	**02 13 19.4**	**+11**
KMI	**Kunming**	**20.25**	**306**	*e*P	**P**	**02 09 55.5**	**+1.6**
KMI				AMB	AMB		
	comp=Z,9.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**21.36**	**285**	P	**P**	**02 10 07.7**	**+2.8**
	comp=Z,5.3nm,0.6s,mb4.0,baz=98,slow=8.0,SNR=26						
XAN	**Xi'an**	**22.73**	**334**	P	**P**	**02 10 18.5**	**+0.2**
XAN				AMB	AMB		
	comp=Z,32nm,0.8s,mb4.8						
LZH	**Lanzhou**	**26.78**	**329**	*e*P	**P**	**02 10 57.0**	**+0.8**
LZH				AMB	AMB		
	comp=Z,89nm,1.5s,mb5.2						
KAKA	**Kakadu**	**28.85**	**156**	*e*P	**P**	**02 11 18.8**	**+3.8**
	comp=Z,3.6nm,0.6s,mb4.3						
GTA	**Gaotai**	**31.38**	**328**	P	**P**	**02 11 37.5**	**+0.4**
GTA				AMB	AMB	

KAMS	Al Khamasin	72.47	287	P		P	02 16 39.6	-0.6
ARSS	Ar Rass	72.92	293	P		P	02 16 42.8	-0.2
AFFS	'Afif	73.39	291	P		P	02 16 46.0	+0.2
RPZ	Rata Peaks	73.44	144	P		P	02 16 44.5	-1.1
	comp=Z,17nm,0.8s,mb4.8,baz=95,slow=2.5,SNR=8.5							
HILS	Ha'il	74.01	295	P		P	02 16 50.0	+0.7
NAMS	An Nimas	74.85	286	P		P	02 16 55.2	+1.1
MALT	Malatya	75.51	306	⇓	*e*P	P	02 16 58.2	+0.6
	comp=Z,4.4nm,0.8s,mb4.1							
IMA	Indian Mountai	75.66	25		*e*P	P	02 16 58.1	+0.3
KBRS	Khaybar	76.48	294	P		P	02 17 04.0	+0.9
ASF	Jabal al Asfar	77.55	300	P		P	02 17 09.2	+0.2
	comp=Z,4.1nm,0.6s,mb4.2,baz=324,slow=7.1,SNR=11							
MCK	McKinley	77.85	27		*e*P	P	02 17 09.1	-0.9
	comp=Z,5.6nm,0.8s,mb4.2							
COLA	College	78.18	26		*e*P	P	02 17 11.9	+0.1
	comp=Z,3.4nm,0.6s,mb4.2							
COLA					*e*		02 17 30.2	
UMJS	Umm Lajj	78.31	293	P		P	02 17 14.5	+1.3
ILAR	Eielson Array	78.61	26	P		P	02 17 11.2	-2.9
	comp=Z,0.7nm,0.7s,mb3.4,baz=230,slow=3.3,SNR=6.0							
ILAR					pP	pP	02 17 53.6	-2.6
	comp=Z,0.9nm,0.9s,baz=233,slow=7.1,SNR=4.5							
ARCES	ARCESS Array B	78.92	339	P		P	02 17 15.2	-0.5
	comp=Z,2.5nm,0.5s,mb4.1,baz=75,slow=6.6,SNR=27							
BRTR	Keskin Array B	79.02	308	P		P	02 17 15.2	-1.7
	comp=Z,1.6nm,0.9s,mb3.7,baz=127,slow=6.2,SNR=8.3							
ALWS	Ilw as Safayha	79.57	298	P		P	02 17 21.3	+1.3
AYUS	'Aynunah	79.59	297	P		P	02 17 21.0	+0.8
EIL	Elat	79.61	298	⇑	*e*P	P	02 17 20.7	+0.5
	comp=Z,7.5nm,1.0s,mb4.3							
BDAS	Al Bad'	79.70	297	P		P	02 17 21.6	+0.9
HAQS	Haql	79.73	297	P		P	02 17 22.0	+1.1
FINES	FINESS Array B	80.12	331	P		P	02 17 21.5	-0.8
	comp=Z,1.4nm,0.6s,mb3.8,baz=56,slow=6.9,SNR=7.9							
FINES	FINESS Array B	80.12	331	P		P	02 17 21.5	-0.8
AKASG	Malin Array Be	80.31	320	P		P	02 17 21.9	-1.6
	comp=Z,2.2nm,0.8s,mb3.8,baz=63,slow=4.5,SNR=7.1							
INK	Inuvik	82.94	21		*e*P	P	02 17 36.3	-0.5
	comp=Z,4.6nm,0.9s,mb4.2							
KMBO	Kilima Mbogo	83.88	267	P		P	02 17 43.6	+0.8
	comp=Z,5.5nm,1.1s,mb4.2,baz=47,slow=11,SNR=10							
KMBO	Kilima Mbogo	83.88	267		*e*P	P	02 17 44.2	+1.5
	comp=Z,4.0nm,1.0s,mb4.1							
NB2	NORSAR Subarra	87.10	333	P		P	02 17 55.2	-2.2
	comp=Z,3.9nm,0.8s,mb4.3,baz=68,slow=4.5							
NB2	NORSAR Subarra	87.10	333	P		pP	02 18 36.1	-4.2
	comp=Z,3.7nm,1.0s,baz=65,slow=5.0							
NB2	NORSAR Subarra	87.10	333	P		P	02 17 55.2	-2.2
	baz=68,slow=4.6							
NOA	NORSAR Array B	87.10	333	P		P	02 17 56.4	-0.9
	comp=Z,2.4nm,0.7s,mb4.1,baz=68,slow=4.6,SNR=6.6							
NOA					pP	pP	02 18 40.2	-0.2
	comp=Z,2.0nm,0.7s,baz=66,slow=4.8,SNR=4.1							
NOA	NORSAR Array B	87.10	333	P		P	02 17 56.4	-0.9
NOA					pP	pP	02 18 40.2	-0.2
GERES	GERESS Array B	90.48	321	P		P	02 18 13.4	-0.2
	comp=Z,0.5nm,0.7s,mb3.6,baz=79,slow=5.0,SNR=2.1							
MAW	Mawson	91.25	199	P		P	02 18 16.8	0.0
	comp=Z,1.3nm,0.8s,mb4.0,baz=50,slow=5.9,SNR=4.1							
VNDA	Vanda	94.22	172	P		P	02 18 29.6	-0.6
	comp=Z,2.2nm,0.7s,mb4.4,baz=309,slow=5.1,SNR=15							
VNA2	Neumayer--Watz	114.95	197	⇑	*i*	PKPdf	02 23 53.7	+3.5
VNA3	Neumayer Olymp	115.39	196	⇑	*i*	PKPdf	02 23 54.2	+3.1
TXAR	Lajitas Array	119.36	44	PKP		PKPdf	02 24 00.8	+1.1
	comp=Z,0.5nm,0.6s,baz=190,slow=0.8,SNR=8.4							

DMN **26** *02:11:23.8±0.8,31.44N×80.61E,h10km,Ml6.3/4,Error ellipse: s-maj=42.2km s-min=16.7km az=48.0*

BJI **26** *02:11:32.4,31.08N×81.14E,h8km,mB5.8,mb5.7,Ms5.8, Msz5.5*

HRVD **26** *02:11:33.4±0.1,30.88N×80.97E,h12km,MW5.6/74, Centroid moment Tensor Solution. LP body waves: s53,c98;Mantle waves: s74,c155; Half duration: 1ŝ6 Moment tensor: Scale 10¹⁷Nm; Mrr-1.46±.06; Mθθ-1.31±.06; Mϕϕ2.77±.05; Mrθ-0.37±.16; Mθϕ-2.47±.05; Mϕr-0.36±.16; Best double couple: M₀3.31×10¹⁷ NP1: ϕs112°,δ73°,λ-165°. NP2:ϕs17°,δ76°,λ-17°. Principal axes: T 3.94, Plg2°, Azm65°; N -1.27, Plg68°, Azm159°; P -2.67, Plg22°, Azm334°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

SYO **26** *02:11:33.3,30.95N×81.11E,h10km,MB6.0,MS5.4*

NEIC **26** *02:11:33.4±0.1,31.02N×81.15E,mb6.0/154,ME5.6, MS5.4/115,MW5.5,Error ellipse: s-maj=4.3km s-min=2.6km az=21.0,Moment Tensor Solution. s22 Moment tensor: Scale 10¹⁷Nm; Mrr-1.77; Mθθ0.42; Mϕϕ1.35; Mrθ-0.26; Mθϕ-0.74; Mϕr-0.33; Best double couple: M₀1.8×10¹⁷ NP1:ϕs140°,δ44°,λ-107°. NP2: ϕs343°,δ49°,λ-74°. Principal axes: T 1.77, Plg3°, Azm62°; N .09, Plg12°, Azm152°; P -1.86, Plg78°, Azm319°; Depth from synthetics of broadband displacement seismograms. Energy computed from MT mechanism.*

LDG **26** *02:11:34.4±0.1,30.96N×81.05E,h33km,Mb6.0/42, Ms5.1/9 Error ellipse: s-maj=7.6km s-min=3.9km az=37.0*

NDI **26** *02:11:35.8±4.7,30.78N×81.03E,h10km,mb6.1, mb6.0(NEIC)*

MOS **26** *02:11:36.0±0.8,31.09N×81.10E,h33km,mb6.2/54, MS5.5/44,Error ellipse: s-maj=8.5km s-min=4.0km az=124.4*

NNC **26** *02:11:37.7±3.8,31.58N×81.21E,Error ellipse: s-maj=118.4km s-min=30.1km az=93.0*

IDC **26** *02:11:39.9±4.1,31.06N×81.15E,h62km±36km,mb5.2/19, mb1 5.3/22,mb1mx5.3/22,MS5.1/27,Ms1 5.1/27, ms1mx5.0/31,Error ellipse: s-maj=17.3km s-min=11.0km az=32.0*

BGS **26** *02:11:40.6±1.5,31.29N×79.57E,h10km,mb5.9*

ISC 26 02:11:31.0±0.6,31.04N±0.02×81.08E±0.02,h4km±3km, h11km±.9km:pP-P,n1062,σ1ŝ01/1003,mb5.9/254, MS5.4/169,37C-307D,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JOSI	Joshimath	1.40	250	*e*	P	Pb	02 12 00.0	+2.7
PTH	Pithoragarh	1.66	207	*e*		Pn	02 11 59.0	-2.1
DDI	Dehra Dun	2.70	256	*i*	P	Pn	02 12 19.0	+3.0
DDI				*e*			02 12 55.0	
SMLA	Simla	3.36	273	*e*		Pg	02 12 41.5	+3.4
SMLA				*e*			02 13 23.7	
KKR	Kurukshetra	3.83	255	*e*	P	Pn	02 12 34.4	+2.4
KOLN	Koldanda	3.93	145	*e*	Pn	Pn	02 12 36.2	+2.8
KOLN	Koldanda	3.93	145	*e*	Sn	Sn	02 13 29.8	+9.2
	32µm,1.2s							
BHK	Bhakra	4.01	277	*e*	P	Pn	02 12 38.0	+3.3
BHK				*e*			02 13 36.0	
NDI	New Delhi	4.09	236	*e*	P	Pn	02 12 36.0	+0.2
NDI				⇑	*i*	P	02 12 36.5	
NDI				*e*			02 13 36.0	
AYAN	Aya Nagar	4.28	234	*e*	P	Pn	02 12 39.4	+1.0
AYAN					AMb	AMB	02 12 53.4	
	comp=Z,4µm,1.0s							
BHGR	Bahadurgarh	4.29	238	*e*	P	Pn	02 12 40.1	+1.5
GKN	Gorkha	4.33	133	*e*	Pn	Pn	02 12 42.0	+2.9
GKN	Gorkha	4.33	133	*e*	Sn	Sn	02 13 39.4	+8.6
	comp=Z,31µm,1.0s							
VLK	Valmikinagar	4.43	146	*i*	P	Pn	02 12 41.0	+0.4
VLK				*i*			02 12 46.0	
AGRA	Agra	4.68	217	*e*	P	Pn	02 12 44.2	+0.1
AGRA					AMb	AMB	02 13 06.9	
	comp=Z,6µm,1.7s							
AGRA				*i*			02 13 38.2	
AGRA				*i*			02 13 58.0	
KKN	Kakani	4.89	130	*e*	Pn	Pn	02 12 49.3	+2.2
KKN	Kakani	4.89	130	*e*	Sn	Sn	02 13 54.4	+10
	comp=Z,8µm,0.7s							
DMN	Daman	4.90	133	*e*	Pn	Pn	02 12 49.8	+2.6
DMN	Daman	4.90	133	*e*	Sn	Sn	02 13 53.5	+8.3
	comp=Z,78µm,1.4s							
KUDL	Kundal	4.93	235	*e*	P	Pn	02 12 48.0	+0.4
KUDL					AMb	AMB	02 12 53.3	
	comp=Z,490nm,1.0s							
KUDL				*e*			02 13 01.2	
KUDL				*i*			02 14 00.7	
PKI	Pulchoki	5.12	131	*e*	Pn	Pn	02 12 52.5	+2.2
GUN	Gumba	5.21	125	*e*	Pn	Pn	02 12 53.8	+2.1
KHET	Khetri	5.46	239	*e*	P	Pn	02 12 54.9	-0.3
KHET					AMb	AMB	02 13 13.2	
	comp=Z,2µm,1.0s							
KHET				*i*			02 13 57.4	
JHNI	Jhansi	5.99	203	*e*	P	Pn	02 13 00.0	-2.6
JHNI				*e*			02 14 08.0	
CHCP	Chirah Chowk	7.11	294	⇑	P	Pn	02 13 18.1	-0.3
SARP	Sargodha	7.24	279	⇓	P	Pn	02 13 19.6	-0.6
SARP					S	Sx	02 15 54.0	
AJM	Ajmer	7.25	233	*e*	P	Pn	02 13 19.7	-0.7
AJM					AMb	AMB	02 13 24.9	
	comp=Z,613nm,1.4s							
SLGI	Shiliguri	7.75	122	*e*		Pn	02 13 28.0	+0.7
THW	Thamme Wali	8.13	285	⇓	P	P	02 13 32.6	-0.1
CEP	Cherat	8.24	292	⇑	P	P	02 13 32.0	-2.2
BOK	Bokaro	8.38	148	*i*	P	P	02 13 34.7	-1.4
BOK				*i*			02 16 06.2	
BHPL	Bhopal	8.42	204	*e*	P	P	02 13 33.5	-3.2
BHPL					AMb	AMB	02 13 37.2	
	comp=Z,593nm,1.1s							
LSA	Lhasa	8.80	96		P	P	02 13 45.0	+3.0
LSA					AP		02 13 53.0	
LSA					XP		02 13 56.0	
LSA					LR	LR		
	comp=N,21µm,12.0s							
LSA					LR	LR		
	comp=E,15µm,10.0s							
SBDP	Sheikh Budin	8.85	281		P	P	02 13 42.1	-0.5
BLSP	Bilaspur	8.92	174	*i*	P	P	02 13 41.3	-2.4
BLSP				*i*	S	Sn	02 15 13.4	-12
KSH	Kashi	9.43	335	*i*	PR		02 13 51.8	
KSH					XP		02 13 57.0	
KSH					PP	PP	02 13 59.0	+0.4
KSH					PPP	PPP	02 14 06.0	+0.4
KSH					S	Sn	02 15 45.0	+6.6
KSH					XS		02 15 48.0	
KSH					AMB	AMB		
	comp=Z,4µm,2.2s							
JASL	Jaisalmer	9.81	248	*e*	P	P	02 13 53.5	-2.4
NGP	Nagpur	10.01	191	*e*	P	P	02 13 56.5	-2.3
NGP				*e*			02 15 40.3	
CAL	Calcutta	10.65	141	*e*	P	P	02 14 06.4	-1.1
CAL				*e*			02 16 05.9	
CAL				*e*			02 17 11.1	
AKL	Akola	10.92	201	*e*		P	02 14 15.2	+4.0
AKL				*e*			02 16 08.0	
SHL	Shillong	10.96	117	*e*		P	02 14 08.0	-3.8
SHL				*e*	S	S	02 16 03.0	-13
ULHL	Ulahol	11.84	342		P	P	02 14 23.9	+0.2
	SNR=51							
KZA	Kyzart	11.97	339		P	P	02 14 24.8	-0.6
	SNR=100							
BHV	Bhavnagar	12.23	223	*e*	P	P	02 14 26.0	-3.0
UCH	Uchtor	12.35	337		P	P	02 14 29.9	-0.6
	SNR=233							
AML	Almayashu	12.56	334		P	P	02 14 33.5	+0.2
	SNR=17							
KBK	Karagaybulak	12.59	339		P	P	02 14 33.5	-0.3
	SNR=53							
TKM2	Tokmak 2	12.64	341		P	P	02 14 34.3	-0.2
	SNR=42							
AAA	Alma-Ata	12.65	346	*i*	P	P	02 14 33.0	-1.5
AAA					pmax	pmax		
	comp=Z,2µm,6.0s							
AAA					MLR	MLR		
	comp=Z,28µm,15.0s							
AAK	Ala-Archa	12.71	337	⇓	P	P	02 14 35.0	-0.4
	comp=Z,524nm,1.6s							
AAK	Ala-Archa	12.71	337		P	P	02 14 35.1	-0.3
	SNR=89							
AAK	Ala-Archa	12.71	337	⇓	*i*	P	02 14 33.9	-1.6
BHJ	Bhuj	12.78	235	*e*	P	P	02 14 32.4	-4.0
BHJ				*e*			02 17 15.0	
FRU	Bishkek	12.85	338	⇓	*i*	P	02 14 38.0	+0.7
FRU					pmax	pmax		
	comp=Z,3µm,6.0s							
IMP	Imphal	12.95	116	⇑	*i*	P	02 14 36.0	-2.7
IMP				*i*			02 17 00.0	
CHMS	Chumysh	12.96	339		P	P	02 14 37.2	-1.5
	SNR=35							
EKS2	Erkin-Say	12.99	335		P	P	02 14 38.4	-0.6
	SNR=40							
LATR	Latur	13.22	199	*e*	P	P	02 14 37.5	-4.7
LATR				*e*	S	S	02 16 53.8	-17
USP	Ospenovka	13.28	339		P	P	02 14 44.2	+1.3
	SNR=54							
VIS	Vishakhapatnam	13.41	171	*i*	P	P	02 14 43.7	-1.1
HYB	Hyderabad	13.75	190	*i*	P	P	02 14 44.5	-4.8
	comp=Z,333nm,1.2s							
HYB				*e*			02 14 49.5	
HYB				*e*			02 14 59.5	
HYB				*e*	S	S	02 17 05.0	-19
HYB					LR	LR	02 20 16.0	
	comp=Z,40nm,12.0s							
HYB	Hyderabad	13.75	190	*e*	P	P	02 14 44.5	-4.8
	comp=Z,333nm,1.2s							
HYB				*e*	S	S	02 17 05.0	-19
WMQ	Urumqi	13.79	20		P	P	02 14 50.3	+0.6
WMQ					PP	PP	02 15 01.5	+0.9
WMQ					S	S	02 17 24.0	-0.4
WMQ					SS	SS	02 17 42.0	+1.8
WMQ					AMB	AMB		
	comp=Z,85nm,0.8s							
WMQ					LR	LR		
	comp=N,16µm,13.0s							
WMQ					LR	LR		
	comp=E,33µm,13.0s							
WMQ					LR	LR		
	comp=Z,5µm,12.0s							
POO	Poona	14.07	209	*e*		P	02 14 47.0	-6.5
POO				*e*			02 17 12.0	
BOM	Bombay	14.22	214	*i*		P	02 14 46.2	-9.2
BOM				*e*			02 17 18.4	
VJD	Vijayawada	14.46	182	*i*	P	P	02 14 55.0	-3.6
VJD				*i*			02 17 05.5	
KAD	Karad	15.04	206	*i*	P	P	02 15 01.2	-5.0
KAD				*e*	P		02 15 04.4	
KAD					AMb	AMB	02 15 06.0	
	comp=Z,120nm,0.5s							
MK31	Makanchi Array	15.76	3	⇓	P	P	02 15 14.4	-1.0
	baz=180,slow=13,SNR=379							
MKAR	Makanchi Array	15.76	3	*i*	P	P	02 15 14.7	-0.7
MKAR					pmax	pmax		
	comp=Z,32nm,1.0s							
MKAR	Makanchi Array	15.76	3	*i*	P	P	02 15 14.8	-0.6
GOA	Goa	16.84	205	*e*	P	P	02 15 26.1	-3.2
GOA				*e*			02 18 22.1	
GTA	Gaotai	17.41	56	⇓	P	P	02 15 37.0	+0.6
GTA					AP		02 15 40.3	
GTA					XP		02 15 43.8	
GTA					S	S	02 18 45.8	-3.3
GTA					SCS	ScS	02 27 31.0	-1.1
GTA					AMB	AMB		
	comp=Z,2µm,3.8s							
GTA					LR	LR		
	comp=N,14µm,16.7s							
GTA					LR	LR		
	comp=E,10µm,12.9s							
GTA					LR	LR		
	comp=Z,15µm,28.5s							
MDRS	Chennai	17.90	183	*i*	P	P	02 15 40.0	-2.6
MDRS				*i*			02 15 44.0	
MDRS				*e*			02 18 45.0	
CD2	Chengdu	19.44	85		P	P	02 16 01.0	-0.3
CD2					PP	PP	02 16 15.0	-3.8
CD2					S	S	02 19 30.8	-4.4
CD2					LR	LR		
	comp=N,26µm,13.2s							
CD2					LR	LR		
	comp=Z,12µm,9.6s							
LZH	Lanzhou	19.61	69	⇑	P	P	02 16 03.8	+0.6
LZH					AP		02 16 06.5	
LZH					XP		02 16 08.0	
LZH					PP	PP	02 16 22.0	+0.9
LZH					S	S	02 19 39.3	+0.4
LZH					XS		02 19 43.0	
LZH					SS	SS	02 20 06.0	+0.4
LZH					AMB	AMB		
	comp=Z,395nm,1.5s							
LZH					AMB	AMB		
	comp=Z,2µm,4.4s							
LZH					LR	LR		
	comp=E,17µm,9.6s							
LZH					LR	LR		
	comp=Z,19µm,11.2s							
KURK	Kurchatov	19.75	355	⇑	P	P	02 16 03.8	-0.8
	comp=Z,471nm,1.4s,baz=171,slow=8.6,SNR=216							
KURK				⇑	S	S	02 19 40.7	-0.9
	comp=Z,89nm,2.4s,baz=159,slow=4.1,SNR=3.6							
KURK	Kurchatov	19.75	355	⇓	*i*	P	02 16 04.0	-0.6
KURK					pmax	pmax		
	comp=Z,1µm,1.3s							
KURK	Kurchatov	19.75	355	⇓	*i*	P	02 16 04.0	-0.6
	comp=Z,1µm,1.4s							
KMI	Kunming	19.98	102	⇓	*e*	P	02 16 07.0	-0.4
KMI					PP	PP	02 16 26.8	+0.4
KMI					S	S	02 19 47.5	+0.5
KMI					XS		02 19 51.0	
KMI					SS	SS	02 20 15.8	+0.8
KMI					AMB	AMB		
	comp=Z,1µm,4.1s							
KMI					LR	LR		
	comp=N,37µm,20.2s							
KMI					LR	LR		
	comp=E,17µm,18.8s							
KMI					LR	LR		
	comp=Z,21µm,18.6s							
CMAR	Chiang Mai Arr	20.46	124		P	P	02 16 11.5	-0.9
	comp=Z,149nm,0.9s,baz=317,slow=11,SNR=104							
CMAR					PcP	PcP	02 20 22.6	-1.8
	comp=Z,9.9nm,0.9s,baz=304,slow=3.3,SNR=2.8							
CMAR					LR	LR	02 24 01.2	
	comp=Z,4µm,19.7s,MS4.7,baz=295,slow=36							
CMAR	Chiang Mai Arr	20.46	124		P	P	02 16 11.5	-0.9
CMAR							02 20 22.6	
CMAR					pmax	pmax		
	comp=Z,149nm,0.9s							
CMAR					MLR	MLR		
	comp=Z,4µm,19.7s							
BDT	Bhumibol Dam	21.31	126		P	P	02 16 21.0	-0.1
	comp=Z,64nm,1.0s,mb4.9							
TRD	Trivandrum	22.74	191	*e*	P	P	02 16 36.1	+0.6
GYA	Guiyang	22.87	95	⇑	*i*	P	02 16 37.0	+0.3
GYA					PP	PP	02 17 02.5	-3.3
GYA					S	S	02 20 46.0	+3.8
GYA					SCP		02 24 04.5	
GYA					SCS	ScS	02 27 50.3	-0.3
GYA					AMB	AMB		
	comp=Z,210nm,1.0s,mb5.5							
GYA					AMB	AMB		
	comp=Z,2µm,4.5s							
GYA					LR	LR		
	comp=Z,8µm,9.6s							
BVA0	Borovoye Array	23.31	344		P	P	02 16 41.7	+1.0
	comp=Z,55nm,1.5s,mb4.8,baz=145,slow=11,SNR=242							
BVA0	Borovoye Array	23.31	344	*i*	P	P	02 16 41.6	+0.9
BVAR	Borovoye Array	23.31	344		P	P	02 16 41.0	+0.3
	comp=Z,62nm,0.8s,baz=146,slow=11,SNR=53							
BVAR					LR	LR	02 27 32.2	
	comp=Z,50nm,20.6s,baz=265,slow=41							
BRVK	Borovoye	23.37	343	⇓	*i*	P	02 16 42.5	+1.2
BRVK					pmax	pmax		
	comp=Z,810nm,1.6s,mb5.9							
BRVK	Borovoye	23.37	343	⇓	*i*	P	02 16 42.5	+1.2
	comp=Z,811nm,1.6s,mb5.9							
XAN	Xi'an	23.63	75		P	P	02 16 46.8	+2.8
XAN					LR	LR		
	comp=N,11µm,18.8s,MS5.4							
XAN					LR	LR		
	comp=E,4µm,14.0s,MS5.4							
XAN					LR	LR		
	comp=Z,14µm,13.0s,MS5.6							
PALK	Pallekele	23.64	181		P	P	02 16 46.0	+1.7
	comp=Z,306nm,1.3s,mb5.6							
PALK					eS	S	02 21 04.7	+8.7
PALK					LR	LR		
	comp=Z,2µm,21.0s,MS4.5							
NVS	Novosibirsk	23.84	3	*i*	P	P	02 16 45.8	0.0
NVS					eS	S	02 20 59.3	+0.3
NVS					pmax	pmax		
	comp=N,1µm,2.0s							
NVS					pmax	pmax		
	comp=Z,1µm,2.0s,mb5.9							
NVS					pmax	pmax		
	comp=E,190nm,1.6s							
MNCY	Minicoy	23.87	200	*i*	P	P	02 16 47.0	+0.5
ENH	Enshi	24.42	84	*e*	P	P	02 16 53.0	+1.2
	comp=E,183nm,1.3s,mb5.3							
KKTK	Khon Kaen	24.64	121	⇑	P	P	02 16 55.6	+1.6
	comp=E,3µm,0.6s							
NNT	Nongplab	25.16	133		P	P	02 17 03.0	+4.0
BTO	Baotou	25.24	60	*e*	P	P	02 17 01.3	+1.8
BTO					LR	LR		
	comp=N,3µm,8.0s							
BTO					LR	LR		
	comp=E,4µm,11.2s							
MOY	Mondy	25.31	30	*e*	P	P	02 17 02.3	+2.3
ZAK	Zakamensk	25.46	34	*e*	P	P	02 17 03.0	+1.6
SONM	Songino Array	25.59	42		P	P	02 17 04.4	+1.7
	comp=E,152nm,1.0s,mb5.5,baz=231,slow=7.9,SNR=168							
SONM					PcP	PcP	02 20 32.7	-1.9
	comp=E,4.3nm,0.8s,baz=222,slow=3.8,SNR=6.3							
HHC	Hu-ho-hao-te	26.44	60	⇑	P	P	02 17 13.0	+2.4
HHC					AP	pP	02 17 17.8	+6.0
HHC					XP	sP	02 17 20.3	+8.0
HHC					PP	PP	02 17 54.0	+0.4
HHC					PCP	PcP	02 20 33.0	-3.6
HHC					S	S	02 21 49.5	+6.7
HHC					XS		02 21 57.8	
HHC					PCS		02 24 18.0	
HHC					AMB	AMB		
	comp=Z,1µm,6.7s							
HHC					LR	LR		
	comp=N,7µm,13.3s,MS5.5							
HHC					LR	LR		
	comp=E,5µm,12.9s,MS5.5							
HHC					LR	LR		
	comp=Z,5µm,16.7s,MS5.1							
TIY	Taiyuan	26.64	67	*e*	P	P	02 17 10.0	-2.5
TIY					S	S	02 21 49.0	+2.8
TIY					LR	LR		
	comp=N,11µm,12.0s							
WHN	Wuhan	28.53	82	*e*	P	P	02 17 29.8	0.0
WHN					LR	LR		
	comp=N,15µm,12.0s							
QIZ	Qiongzhong	28.58	108		P	P	02 17 31.8	+1.4
QIZ					PP	PP	02 18 22.0	-0.3
QIZ					S	S	02 22 17.0	-0.8
QIZ					XS		02 22 26.5	
QIZ					SS	SS	02 23 45.5	+2.6
QIZ					LR	LR		
	comp=N,4µm,20.1s,MS5.2							
QIZ					LR	LR		
	comp=E,4µm,20.9s,MS5.2							
QIZ					LR	LR		
	comp=Z,4µm,19.7s,MS5.0							
QIZ	Qiongzhong	28.58	108	*e*	P	P	02 17 30.8	+0.5
MAK	Makhachkala	29.15	304	*c*	*i*	P	02 17 37.0	+1.8
MAK				*e*	PPP	PPP	02 18 40.0	-2.6
MAK				*e*			02 20 46.0	
MAK				*e*	S	S	02 22 29.5	+2.9
MAK					pmax	pmax		
	comp=N,900nm,6.0s							
MAK					pmax	pmax		
	comp=E,1µm,6.0s							
MAK					pmax	pmax		
	comp=Z,2µm,6.0s							
MAK					smax			
	comp=N,2µm,8.0s							
MA

ARU e 02 18 39.5
ARU ePPP PPP 02 18 50.9 -1.8
ARU eS **S** **02 22 40.9 +2.8**
ARU eSS SS 02 24 14.0 +0.8
ARU eSSS SSS 02 24 32.4 -1.7
ARU pmax pmax
comp=Z,145nm,1.1s,mb5.6
ARU MLR MLR
comp=Z,7μm,17.0s,MS5.4
ARU MLR MLR
comp=N,4μm,18.0s,MS5.3
ARU MLR MLR
comp=E,5μm,16.0s,MS5.3
TIA Tai'an 30.34 70 P **P** **02 17 47.8 +1.9**
TIA S **S** **02 22 45.5 -0.1**
TIA LR LR
comp=N,2μm,12.3s,MS5.3
TIA LR LR
comp=E,4μm,16.2s,MS5.3
GNI Garni 30.74 297 eP **P** **02 17 48.2 -1.3**
GNI Garni 30.74 297 P **P** **02 17 50.7 +1.2**
comp=E,91nm,0.9s,mb5.6,baz=42,slow=2.3,SNR=60
GNI LR LR 02 30 45.4
comp=E,6μm,20.9s,MS5.2,baz=112,slow=37
GNI Garni 30.74 297⇓ iP **P** **02 17 51.4 +2.0**
GNI pmax pmax
comp=Z,340nm,1.3s
GNI Garni 30.74 297 P **P** **02 17 48.2 -1.3**
GNI LR LR
comp=Z,4μm,20.0s,MS5.1
TI2 Plekhanov 30.93 300⇓ iP **P** **02 17 52.6 +1.5**
TI2 MLR MLR
comp=N,2μm,15.0s,MS5.0
TI2 MLR MLR
comp=E,2μm,15.0s,MS5.0
TI2 MLR MLR
comp=Z,2μm,15.0s,MS5.0
HKR Hakkari 31.38 292 eP **P** **02 17 55.8 +0.8**
VANB Van 31.68 294 eP **P** **02 17 55.1 -2.6**
NJ2 Nanjing 32.10 78 eP **P** **02 18 04.0 +2.5**
NJ2 AP pP 02 18 09.8 +7.1
NJ2 XP sP 02 18 12.3 +9.1
NJ2 S **S** **02 23 15.0 +1.8**
NJ2 XS 02 23 22.0
NJ2 SS SS 02 25 06.0 +0.3
NJ2 AMB AMB
comp=Z,3μm,4.2s
IPM Ipoh 32.32 141⇓ eP **P** **02 18 03.8 +0.2**
GOF Gofitskoye 32.75 306⇓ iP **P** **02 18 08.0 +1.0**
GOF i 02 18 24.0
GOF i S **S** **02 23 24.0 +0.7**
GOF pmax pmax
comp=Z,280nm,1.4s,mb6.0
GOF pmax pmax
comp=Z,3μm,6.0s
GOF smax
comp=N,5μm,11.0s
GOF MLR MLR
comp=N,10μm,14.0s,MS5.9
GOF MLR MLR
comp=E,14μm,14.0s,MS5.9
GOF MLR MLR
comp=Z,15μm,14.0s,MS5.8
KIV Kislovodsk 32.78 304K iP **P** **02 18 08.1 +0.8**
KIV i 02 18 14.7
KIV e 02 19 11.1
KIV i S **S** **02 23 27.3 +3.5**
KIV eSSS SSS 02 25 45.5 +0.4
KIV e 02 28 36.2
KIV pmax pmax
comp=Z,107nm,0.8s,mb5.8
KIV pmax pmax
comp=Z,900nm,2.9s,mb6.2
KIV MLR MLR
comp=E,8μm,16.0s,MS5.5
KIV Kislovodsk 32.78 304⇓ iP **P** **02 18 08.0 +0.7**
comp=Z,238nm,1.2s,mb6.0
KIV ⇑epPP pP 02 18 10.8 +2.3
KIV LR LR
comp=Z,1μm,21.0s,MS4.6
VRT Varto 33.15 295 eP **P** **02 18 11.9 +1.3**
BTMT Batman 33.17 293 eP **P** **02 18 11.4 +0.7**
BCA Borcka 33.23 299 eP **P** **02 18 12.4 +1.3**
ERZM Erzurum 33.31 296 i P **P** **02 18 14.2 +2.3**
EZM Erzurum 33.31 296 eP **P** **02 18 14.2 +2.2**
DL2 Dalian 33.92 65 P **P** **02 18 19.5 +2.3**
DL2 S **S** **02 23 47.3 +5.9**
DL2 LR LR
comp=N,2μm,11.6s,MS5.4
DL2 LR LR
comp=E,3μm,12.2s,MS5.4
DL2 LR LR
comp=Z,6μm,13.1s,MS5.5
BINT Bingol 33.96 295 eP **P** **02 18 19.0 +1.4**
SSE Sheshan 34.22 79 eP **P** **02 18 18.3 -1.6**
SSE S **S** **02 23 44.8 -1.4**
SSE SS SS 02 25 56.0 +1.5
SSE AMB AMB
comp=Z,757nm,4.6s
SSE LR LR
comp=Z,7μm,12.2s,MS5.6
HIA Hailar 34.24 47⇓ eP **P** **02 18 21.4 +1.6**
comp=Z,96nm,1.1s,mb5.6
HIA epP pP 02 18 24.6 +3.6
EZC Erzincan 34.50 296 eP **P** **02 18 27.6 +5.4**
GUMT Gumushane 34.78 297 eP **P** **02 18 26.8 +2.2**
PTK Pertek 34.81 295 eP **P** **02 18 24.5 -0.5**
SOC Sochi 34.86 303 i P **P** **02 18 25.9 +0.7**
SOC e 02 20 54.2
SOC i S **S** **02 23 58.2 +2.3**
SOC eSS SS 02 26 13.6 +4.6
SOC pmax pmax
comp=Z,146nm,1.7s,mb5.6
SOC pmax pmax
comp=N,49nm,1.3s
SOC pmax pmax
comp=E,128nm,1.6s
SOC pmax pmax
comp=Z,2μm,5.8s
SOC pmax pmax
comp=N,83nm,1.7s
SOC pmax pmax
comp=E,358nm,1.9s
SOC smax
comp=N,470nm,4.9s
SOC smax
comp=E,268nm,4.2s
SOC MLR MLR
comp=Z,4μm,16.0s,MS5.2
SOC MLR MLR
comp=N,4μm,21.0s
SOC MLR MLR
comp=E,3μm,15.0s
ELZG Elazig 35.13 294 i P **P** **02 18 29.2 +1.6**
SNY Shenyang 35.52 60 ⇑P **P** **02 18 32.3 +1.3**
SNY S **S** **02 24 06.3 0.0**
SNY SS SS 02 26 20.5 -3.8
SNY LR LR
comp=N,3μm,11.0s
SNY LR LR
comp=E,7μm,18.2s
SNY LR LR
comp=Z,9μm,15.2s,MS5.6
MALT Malatya 35.58 294 eP **P** **02 18 26.6 -4.9**
MALT Malatya 35.58 294⇓ iP **P** **02 18 33.0 +1.5**
comp=Z,260nm,1.1s,mb6.1
MALT ⇑epPP pP 02 18 36.0 +3.4
MYA Malataya 35.58 294 eP **P** **02 18 33.4 +1.9**
TATO Taipei 36.04 89 PFAKE 02 18 50.0 +15
TATO LR LR
comp=Z,6μm,19.0s,MS5.3
GZT Gaziantep 36.30 292 i P **P** **02 18 39.2 +1.7**
GAZ Gaziantep 36.59 292 eP **P** **02 18 41.4 +1.4**
ANN Anapa 36.63 305 deP **P** **02 18 40.5 +0.2**
ANN eS **S** **02 24 24.6 +1.3**
ANN pmax pmax
comp=Z,364nm,1.2s,mb6.1
ANN pmax pmax
comp=N,121nm,1.4s
ANN pmax pmax
comp=E,68nm,0.9s
ANN pmax pmax
comp=Z,360nm,7.5s
ANN pmax pmax
comp=N,110nm,8.1s
ANN pmax pmax
comp=E,120nm,6.4s
ANN smax
comp=N,599nm,11.4s
ANN smax
comp=E,245nm,9.5s
ANN MLR MLR
comp=N,5μm,14.0s,MS5.5
ANN MLR MLR
comp=Z,4μm,14.0s,MS5.4
ANN MLR MLR
comp=E,3μm,12.0s,MS5.5
VOR Voronezh 36.95 316 eP **P** **02 18 43.5 +0.7**
VOR S **S** **02 24 27.0 -1.0**
VOR pmax pmax
comp=N,270nm,1.4s
VOR pmax pmax
comp=E,580nm,1.4s
VOR pmax pmax
comp=Z,600nm,1.4s,mb6.2
VOR smax
comp=N,150nm,1.4s
VOR smax
comp=E,190nm,1.4s
VOR smax
comp=Z,120nm,2.3s
NAMS An Nimas 36.95 261 P **P** **02 18 44.5 +1.3**
KBRS Khaybar 36.99 273 P **P** **02 18 45.0 +1.5**
TOKT Tokat 37.02 297 eP **P** **02 18 43.3 -0.2**
CN2 Changchun 37.05 57 eP **P** **02 18 43.8 +0.1**
CN2 eXP sP 02 18 50.8 +5.4
CN2 eS **S** **02 24 28.3 -1.3**
CN2 AMB AMB
comp=Z,620nm,5.0s
CN2 LR LR
comp=N,6μm,12.0s,MS5.7
CN2 LR LR
comp=E,5μm,12.0s,MS5.7
CN2 LR LR
comp=Z,4μm,13.0s,MS5.4
LBOS 37.05 251⇓ eP **P** **02 18 45.2 +1.1**
BLJS Baljurashi 37.16 262 P **P** **02 18 46.4 +1.4**
DHBB Dhamar BB 37.38 252⇑ eP **P** **02 18 47.7 +0.9**
COBT Iskenderun 37.40 291 i P **P** **02 18 48.2 +1.4**
KVT Kavak 37.40 298 eP **P** **02 18 45.4 -1.4**
ASF Jabal al Asfar 37.45 284 P **P** **02 18 48.4 +1.1**
comp=Z,48nm,1.3s,mb5.2,baz=324,slow=2.2,SNR=44
ASF PcP PcP 02 21 05.8 -0.6
comp=Z,15nm,0.9s,baz=59,slow=5.9,SNR=1.9
ASF LR LR 02 35 58.3
comp=Z,4μm,20.0s,MS5.2,baz=90,slow=39
HTY Hatay 37.53 290 eP **P** **02 18 46.1 -1.8**
CEYT Ceyhan 37.77 292 eP **P** **02 18 51.0 +1.1**
INCN Inchon 37.90 68 eP **P** **02 18 53.1 +2.1**
comp=Z,147nm,1.1s,mb5.6
INCN LR LR
comp=Z,4μm,20.0s,MS5.3
YOZ Yozgat 37.97 296 eP **P** **02 18 45.4 -6.1**
LTHS Al Lith 38.01 264 P **P** **02 18 53.6 +1.5**
FRSS Farasan al Kab 38.16 257 P **P** **02 18 54.6 +1.2**
KSHT Keshet 38.22 285 P **P** **02 18 55.0 +1.3**
HRI Mount Hermon 38.23 286 P **P** **02 18 54.9 +1.1**
CTKT Corum 38.35 298 i P **P** **02 18 56.0 +1.2**
AVNT Avonos 38.36 295 i P **P** **02 18 56.2 +1.3**
BYBT Boyabat 38.37 299 eP **P** **02 18 55.7 +0.8**
HMDT Nahal Hemdat 38.58 284 P **P** **02 18 58.0 +1.2**
HMDT Nahal Hemdat 38.58 284⇓ P **P** **02 18 58.0 +1.2**
NIG Nigde 38.59 294 eP **P** **02 18 58.9 +2.1**
TBKS Tabuk 38.62 277 P **P** **02 18 59.1 +1.9**
MMLI Mount Malkishu 38.63 284 P **P** **02 18 58.7 +1.5**
MMLI Mount Malkishu 38.63 284⇓ P **P** **02 18 58.7 +1.5**
HNTI Hanita 38.73 285 P **P** **02 18 59.3 +1.3**
HNTI Hanita 38.73 285⇓ P **P** **02 18 59.3 +1.3**
DRGI Dragot 38.82 283 P **P** **02 19 00.2 +1.4**
DRGI Dragot 38.82 283⇓ P **P** **02 19 00.2 +1.4**
UMJS Umm Lajj 38.84 273 P **P** **02 19 01.0 +1.9**
MZDA Masada 38.90 283 P **P** **02 19 01.1 +1.6**
HAF Haifa 38.90 285 P **P** **02 19 00.7 +1.2**
TOS Tosya 38.93 298 eP **P** **02 18 58.6 -1.0**
BZK Bozkurt 38.95 300 eP **P** **02 19 00.5 +0.8**
OFRI 'Ofer 38.96 285 P **P** **02 19 01.3 +1.3**
OFRI 'Ofer 38.96 285⇓ P **P** **02 19 01.3 +1.3**
SLTI Sal'it 38.99 284 P **P** **02 19 01.7 +1.5**
SIM Simferopol' 39.00 304 d iP **P** **02 19 01.1 +1.0**
SIM eS **S** **02 25 01.0 +1.8**
SIM pmax pmax
comp=Z,261nm,1.2s,mb5.8
SIM Simferopol' 39.00 304 i Pr 02 19 01.1
JMQS Jabal Moqyreh 39.02 279 P **P** **02 19 02.0 +1.5**
DGAR Diego Garcia 39.11 194 PFAKE 02 19 10.0 +8.6
DGAR LR LR
comp=Z,977nm,20.0s,MS4.6
MOS Moscow 39.15 322K iP **P** **02 19 02.0 +0.7**
MOS e*PP pP 02 19 09.3 +6.8
MOS e 02 20 31.9
MOS ePPP PPP 02 20 53.5 -4.8
MOS 02 21 10.2
MOS eS **S** **02 25 02.6 +1.1**
MOS eSSS SSS 02 28 20.9 +1.2
MOS e 02 29 08.9
MOS pmax pmax
comp=Z,2μm,2.3s,mb6.5
MOS pmax pmax
comp=Z,708nm,1.5s,mb6.2
MOS pmax pmax
comp=E,356nm,1.3s
MOS smax
comp=N,5μm,3.5s
MOS MLR MLR
comp=Z,5μm,14.1s,MS5.5
KAMT Kaman 39.22 296 eP **P** **02 19 02.5 +0.5**
ZFRI Zfri 39.22 282 P **P** **02 19 03.6 +1.5**
ZFRI Zfri 39.22 282⇓ P **P** **02 19 03.6 +1.5**
CANT Cankiri 39.24 298 eP **P** **02 19 03.3 +1.1**
BRTR Keskin Array B 39.26 296 P **P** **02 19 03.1 +0.8**
comp=Z,150nm,1.0s,mb5.7,baz=112,slow=6.7,SNR=408
BRTR PcP PcP 02 21 10.6 -1.3
comp=Z,12nm,0.9s,baz=92,slow=4.7,SNR=2.5
BRTR LR LR 02 37 44.6
comp=Z,3μm,21.2s,MS5.1,baz=30,slow=40
BRTR Keskin Array B 39.26 296 P **P** **02 19 03.2 +0.8**
BRTR 02 21 10.6
BRTR pmax pmax
comp=Z,150nm,1.0s
BRTR MLR MLR
comp=Z,3μm,21.2s
PHNC Paralimni 39.37 289⇓ P **P** **02 19 04.0 +0.7**
PHNC Paralimni 39.37 289⇓ eP **P** **02 19 04.0 +0.7**
ELDT Eldivan 39.40 297 i P **P** **02 19 05.0 +1.5**
PRNI Paran 39.41 281 P **P** **02 19 05.2 +1.5**
PRNI Paran 39.41 281⇓ P **P** **02 19 05.2 +1.5**
BALT Daday 39.41 299 i P **P** **02 19 05.0 +1.4**
MASH Mash'abbe Sade 39.45 282 P **P** **02 19 05.6 +1.6**
IKL Isikli 39.49 291 eP **P** **02 19 04.5 +0.1**
OBN Obninsk 39.50 321K iP **P** **02 19 04.7 +0.5**
OBN i 02 20 36.4
OBN e 02 21 11.6
OBN eS **S** **02 25 03.5 -3.3**
OBN eSSS SSS 02 28 30.3 +2.1
OBN pmax pmax
comp=Z,779nm,1.4s,mb6.2
OBN MLR MLR
comp=Z,4μm,13.0s,MS5.4
OBN Obninsk 39.50 321⇓ iP **P** **02 19 04.7 +0.5**
comp=Z,504nm,1.1s,mb6.2
OBN epP pP 02 19 08.1 +2.7
OBN LR LR
comp=Z,1μm,22.0s,MS4.7
AQBJ Aqaba 39.52 280 P **P** **02 19 05.7 +1.1**
RTMM Retamin 39.52 282 P **P** **02 19 06.1 +1.5**
JMOS Jabal al Moall 39.60 279 P **P** **02 19 06.5 +1.2**
EIL Elat 39.61 280 P **P** **02 19 06.4 +1.0**
MBH Mount Berech 39.61 280 P **P** **02 19 06.6 +1.2**
MBH Mount Berech 39.61 280⇓ P **P** **02 19 06.6 +1.2**
KMTI Karmit 39.70 281 P **P** **02 19 07.4 +1.3**
KMTI Karmit 39.70 281⇓ P **P** **02 19 07.4 +1.3**
AYUS 'Aynunah 39.72 278 P **P** **02 19 07.4 +1.1**
CLNS Chul'man 39.73 37 eP **P** **02 19 07.9 +1.8**
CLNS e 02 20 36.1
CLNS ePPP PPP 02 21 00.6 -5.3
CLNS e 02 21 13.8
CLNS eS **S** **02 25 08.3 -1.9**
CLNS e 02 29 05.4
CLNS pmax pmax
comp=N,25nm,1.0s
CLNS pmax pmax
comp=Z,96nm,1.0s,mb5.5
CLNS pmax pmax
comp=E,65nm,1.1s
CLNS pmax pmax
comp=Z,14nm,1.1s,mb4.6
CLNS pmax pmax
comp=N,31nm,1.0s
CLNS pmax pmax
comp=E,19nm,1.0s
CLNS smax
comp=N,962nm,11.6s
CLNS smax
comp=Z,298nm,11.7s
CLNS smax
comp=E,671nm,11.4s
CLNS MLR MLR
comp=Z,3μm,13.0s,MS5.4
CLNS MLR MLR
comp=N,3μm,12.0s,MS5.4
CLNS MLR MLR
comp=E,2μm,12.0s,MS5.4
HAQS Haql 39.78 279 P **P** **02 19 08.1 +1.3**
KZIT Kziot 39.80 282 P **P** **02 19 08.3 +1.4**
KZIT Kziot 39.80 282⇓ P **P** **02 19 08.3 +1.4**
BDAS Al Bad' 39.80 278 P **P** **02 19 08.0 +1.1**
ANTO Ankara 39.90 296 eP **P** **02 19 07.6 -0.1**
LOD Lodumlu 39.92 296 eP **P** **02 19 08.9 +1.0**
SAFT Safranbolu 39.94 299 eP **P** **02 19 08.7 +0.7**
CSS Prodhromos 39.94 289⇓ P **P** **02 19 08.6 +0.5**
comp=E,3.6nm,1.1s
CSS Prodhromos 39.94 289⇓ eP **P** **02 19 08.6 +0.5**
MAMC Mammari 40.01 289 P **P** **02 19 09.3 +0.7**
MDJ Mudanjiang 40.07 56 P **P** **02 19 08.0 -1.0**
MDJ AP pP 02 19 11.0 +0.8
MDJ PP PP 02 20 45.5 +0.4
MDJ PCP PcP 02 21 16.0 +1.5
MDJ SCP 02 25 04.5
MDJ PCS 02 25 05.8
MDJ S **S** **02 25 11.0 -4.5**
MDJ SS SS 02 28 05.3 -0.5
MDJ SCS ScS 02 29 16.8 +1.9
MDJ LR LR
comp=N,3μm,22.1s
MDJ LR LR
comp=E,2μm,15.3s
MDJ LR LR
comp=Z,3μm,15.8s
MDJ Mudanjiang 40.07 56 eP **P** **02 19 11.4 +2.4**
comp=Z,33nm,0.9s,mb5.1
TGY Tagaytay City 40.22 106 LR LR 02 37 09.0
comp=Z,3μm,19.0s,MS5.1,baz=329,slow=38
SZAC Souni-Zanaja 40.34 289⇓ P **P** **02 19 12.5 +1.2**
comp=Z,15nm,1.2s
SZAC Souni-Zanaja 40.34 289⇓ eP **P** **02 19 12.5 +1.2**
HDMB Hadim 40.37 292 eP **P** **02 19 08.4 -3.2**
KONT Konya--Tatoy 40.37 293 eP **P** **02 19 12.9 +1.4**
SGKT Sivrigoynuk 40.44 298 i P **P** **02 19 13.6 +1.5**
ALFC Alevga 40.51 289⇓ P **P** **02 19 13.3 +0.6**
comp=Z,16nm,1.1s
ALFC Alevga 40.51 289⇓ eP **P** **02 19 13.3 +0.6**
KIZT Kizilcal 40.67 295 eP **P** **02 19 14.2 +0.2**
PPCY Paphos 40.76 289⇓ P **P** **02 19 15.4 +0.6**
PPCY Paphos 40.76 289⇓ eP **P** **02 19 15.4 +0.6**
MDU Mudumu 41.08 297 eP **P** **02 19 18.0 +0.7**
KKM Kota Kinabalu 41.25 120⇑ eP **P** **02 19 21.9 +2.9**
HENT Hendek 41.30 298 i P **P** **02 19 20.4 +1.2**
ESKT Eskisehir 41.42 296 eP **P** **02 19 20.3 +0.1**
ESKT Eskisehir 41.42 296 i P **P** **02 19 20.7 +0.5**
ISP Isparta 41.84 294 eP **P** **02 19 22.9 -0.7**
ISP Isparta 41.84 294 P **P** **02 19 23.7 +0.1**
ISP pmax pmax
comp=Z,460nm,1.4s,mb5.9
HRT Hereke 42.24 298 eP **P** **02 19 27.6 +0.8**
ELL Elmali 42.45 292 eP **P** **02 19 29.6 +1.0**
KHL Karahalli 42.56 294 eP **P** **02 19 29.4 -0.2**
BADT Buyukada 42.65 298 eP **P** **02 19 30.8 +0.6**
ISK Istanbul-Kandi 42.68 298 eP **P** **02 19 30.8 +0.3**
ULDT Uludag 42.69 297 i P **P** **02 19 31.5 +0.9**
KSL Kastelorizon 42.79 291 eP **P** **02 19 30.5 -1.0**
KIS Kishinev 42.81 307K iP **P** **02 19 32.0 +0.5**
KIS e 02 21 11.0
KIS e 02 21 28.0
KIS eS **S** **02 25 56.0 0.0**
KIS eSS SS 02 29 00.0 -0.5
KIS pmax pmax
comp=E,900nm,1.4s
KIS pmax pmax
comp=Z,1μm,1.4s,mb6.4
KIS pmax pmax
comp=N,220nm,1.6s
KIS pmax pmax
comp=Z,2μm,7.0s
KIS pmax pmax
comp=Z,1μm,8.0s
KIS MLR MLR
comp=N,2μm,14.0s,MS5.5
KIS MLR MLR
comp=E,4μm,14.0s,MS5.5
KIS MLR MLR
comp=Z,5μm,14.0s,MS5.6
KIS MLR MLR
comp=Z,5μm,14.0s
AKASG Malin Array Be 42.86 313 P **P** **02 19 31.4 -0.4**
comp=Z,64nm,0.8s,mb5.4,baz=77,slow=6.4,SNR=298
AKASG PP PP 02 21 10.1 -3.7
comp=Z,16nm,1.0s,baz=90,slow=11,SNR=3.4
AKASG LR LR 02 40 21.8
comp=Z,4μm,18.6s,MS5.3,baz=105,slow=40
AKASG Malin Array Be 42.86 313 P **P** **02 19 31.4 -0.4**
AKASG 02 21 10.1
AKASG pmax pmax
comp=Z,64nm,0.8s
AKASG pmax pmax
comp=Z,16nm,1.0s
AKASG MLR MLR
comp=Z,4μm,18.6s
ORLT Orhaneli 42.88 297 eP **P** **02 19 32.9 +0.7**
DENT Denizli 43.01 294 eP **P** **02 19 32.4 -0.8**
DST Dursunbey 43.12 296 eP **P** **02 19 34.4 +0.3**
CTT Catalca 43.15 299 eP **P** **02 19 33.7 -0.6**
PSN Preselentsi 43.22 302 i P **P** **02 19 36.0 +1.2**
PSN Preselentsi 43.22 302⇓ iP **P** **02 19 36.0 +1.2**
CFR Carcaliu 43.24 305⇓ iP **P** **02 19 35.7 +0.7**
CFR Carcaliu 43.24 305⇓ iP **P** **02 19 35.8 +0.8**
MANT Manisa 43.30 295 i P **P** **02 19 36.0 +0.5**
HARR Harsova 43.39 304⇓ iP **P** **02 19 36.4 +0.2**
DALT Dalyan (Mudla) 43.46 292 eP **P** **02 19 36.0 -0.8**
BTOK Tokmak 43.57 297 i P **P** **02 19 38.2 +0.5**
BNT Bandirma 43.60 298 eP **P** **02 19 38.6 +0.7**
YER Yerkesik 43.69 293 eP **P** **02 19 38.0 -0.6**
BALB Balikesir 43.70 296 eP **P** **02 19 37.0 -1.7**
PRD Provadia 43.80 302 i P **P** **02 19 40.5 +0.9**
AKS Akhisar 43.83 295 eP **P** **02 19 40.1 +0.3**
AYDN Tasoluk 43.93 294 i P **P** **02 19 40.5 -0.2**
YAK Yakutsk 43.94 31 d iP **P** **02 19 41.1 +0.7**
YAK eS **S** **02 26 12.7 +0.5**
YAK e 02 29 36.0
YAK pmax pmax
comp=Z,18nm,1.5s
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=E,7.0nm,1.2s
YAK smax
comp=N,6.0nm,1.2s
YAK MLR MLR
comp=Z,835nm,16.0s
YAK Yakutsk 43.94 31⇓ eP **P** **02 19 40.9 +0.5**
comp=Z,88nm,0.8s,mb5.5
YAK LR LR
comp=Z,2μm,19.0s,MS5.0
ARG Arkhangelos 43.95 292 eP **P** **02 19 41.0 +0.2**
KGT Karabiga 44.06 298 eP **P** **02 19 42.5 +0.8**
MLSB Milas 44.06 293 eP **P** **02 19 40.0 -1.8**
PUL Pulkovo 44.17 326 d iP **P** **02 19 43.4 +1.1**
PUL e 02 21 28.3
PUL eS **S** **02 26 17.0 +1.4**
PUL eSSS SSS 02 30 22.9 +3.7
PUL pmax pmax
comp=Z,567nm,0.9s,mb6.3
PUL pmax pmax

comp=N,583nm,1.1s
PUL pmax pmax
comp=E,1µm,1.3s
PUL smax
comp=N,397nm,1.0s
PUL smax
comp=E,347nm,1.3s
PUL Pulkovo 44.17 326 *i* Pr 02 19 43.3
VRI Vrincioaia 44.23 306⇓ *i*P **P 02 19 44.6 +1.6**
VRI Vrincioaia 44.23 306⇓ *i*P **P 02 19 44.8 +1.8**
MNK Minsk 44.25 318 *e*P **P 02 19 39.0 -4.0**
MNK pmax pmax
comp=Z,720nm,1.3s,mb6.2
MNK pmax pmax
comp=E,3µm,2.0s
KDAG Bornova 44.31 295 *i* P **P 02 19 44.0 +0.3**
IZM Izmir 44.32 295 *e*P **P 02 19 44.1 +0.3**
EDRB Edirne 44.37 300 *e*P **P 02 19 43.4 -0.8**
ISR Istrita 44.37 304⇓ *i*P **P 02 19 47.2 +3.1**
ISR Istrita 44.37 304⇓ *i*P **P 02 19 47.2 +3.1**
JMB Yambol 44.44 301 *i* P **P 02 19 46.0 +1.2**
JMB Yambol 44.44 301⇓ *i*P **P 02 19 46.0 +1.2**
BLCB Balcova 44.49 295 *e*P **P 02 19 44.0 -1.2**
AYVA Ayvalik 44.65 296 *i* P **P 02 19 46.4 -0.1**
SMG Samos 44.74 294 *e*P **P 02 19 48.0 +0.7**
BUC1 Bucharest 44.75 303⇓ *i*P **P 02 19 49.4 +2.1**
BUC1 Bucharest 44.75 303⇓ *i*P **P 02 19 49.3 +2.0**
JOF Joensuu 44.77 330 *e*p **P 02 19 46.6 -0.6**
comp=E,505nm,1.1s,mb6.3
JOF Joensuu 44.77 330 *e*P **P 02 19 46.6 -0.6**
JOF pmax pmax
comp=Z,505nm,1.1s,mb6.3
MLR Muntele Rosu 44.78 305⇓ *i*P **P 02 19 49.9 +2.4**
MLR Muntele Rosu 44.78 305 ⇓P **P 02 19 49.9 +2.4**
KARP Karpathos 44.83 291 *e*P **P 02 19 48.5 +0.5**
SZH Strazhica 44.87 302 *i* P **P 02 19 49.0 +0.8**
SZH Strazhica 44.87 302⇓ *i*P **P 02 19 49.0 +0.8**
ALN Alexandroupoli 44.97 298 *e*P **P 02 19 49.8 +0.8**
ALN Alexandroupoli 44.97 298 P **P 02 19 49.8 +0.7**
PRK Paraskevi 44.98 296 *e*P **P 02 19 49.8 +0.7**
IDID Didziasalis 45.01 319 *i* P **P 02 19 49.6 +0.5**
IDID AMPb AMB 02 19 51.9
comp=Z,57nm,1.2s,mb5.3
IIGN Ignalina 45.31 319 *i* P **P 02 19 52.1 +0.6**
IIGN AMPb AMB 02 19 54.5
comp=Z,101nm,1.2s,mb5.5
PVL Pavlikeni 45.31 302 *i* P **P 02 19 53.0 +1.3**
PVL Pavlikeni 45.31 302⇓ *i*P **P 02 19 53.0 +1.3**
RDO Rodhopi 45.33 299 *e*P **P 02 19 52.8 +0.9**
IZAR Zarasai 45.36 319 *i* P **P 02 19 52.5 +0.6**
IZAR AMPb AMB 02 19 54.7
comp=Z,122nm,1.3s,mb5.6
KDZ Kurdzhali 45.37 300 *i* P **P 02 19 53.0 +0.8**
KDZ Kurdzhali 45.37 300⇓ *i*P **P 02 19 53.0 +0.8**
ISAL Salakas 45.40 319 *i* P **P 02 19 52.8 +0.6**
ISAL AMPb AMB 02 19 55.1
comp=Z,96nm,1.1s,mb5.5
MTUR Matau 45.41 305⇓ *i*P **P 02 19 53.6 +1.2**
MTUR Matau 45.41 305⇓ *i*P **P 02 19 53.7 +1.2**
COCO West Island 45.56 158 PFAKE 02 20 10.0 +16
COCO LR LR
comp=Z,953nm,22.0s,MS4.7
VSU Vasula 45.62 323 *i* Pr 02 19 54.1
LVZ Lovozero 45.67 337 *d i*P **P 02 19 54.4 +0.2**
LVZ *e* 02 21 42.1
LVZ *e*S **S 02 26 38.2 +1.1**
LVZ *e* 02 29 49.9
LVZ pmax pmax
comp=N,44nm,1.3s
LVZ pmax pmax
comp=Z,422nm,1.3s,mb6.2
LVZ pmax pmax
comp=E,219nm,1.4s
LVZ smax
comp=N,544nm,2.4s
LVZ smax
comp=E,243nm,2.4s
LVZ MLR MLR
comp=N,3µm,11.0s,MS5.8
LVZ MLR MLR
comp=E,5µm,12.0s,MS5.8
LVZ MLR MLR
comp=Z,9µm,12.0s,MS5.9
LVZ Lovozero 45.67 337 *i* Pr 02 19 54.7
LOS Limnos 45.81 297 *e*P **P 02 19 57.1 +1.4**
LOS Limnos 45.81 297 P **P 02 19 56.3 +0.6**
LOS P pP 02 19 57.1 +0.2
PLD Plovdiv 45.86 300 *i* P **P 02 19 56.5 +0.4**
PLD Plovdiv 45.86 300⇓ *i*P **P 02 19 56.5 +0.4**
APE Apeiranthos 45.87 293 *e*P **P 02 19 54.9 -1.4**
APE Apeiranthos 45.87 293 *e*P **P 02 19 56.2 0.0**
RZN Rozhen 45.89 300 *i* P **P 02 19 57.0 +0.7**
RZN Rozhen 45.89 300⇓ *i*P **P 02 19 57.0 +0.7**
APA Apatity 45.93 337⇑ *i*P **P 02 19 56.3 0.0**
APA *i* 02 20 14.5
APA *i* 02 21 44.0
APA *e*S **S 02 26 38.0 -2.7**
APA *e*SS SS 02 29 55.0 -2.4
APA pmax pmax
comp=Z,220nm,1.5s,mb5.9
APA pmax pmax
comp=Z,2µm,6.0s
APA MLR MLR
comp=Z,10µm,13.0s,MS6.0
SANT Santorini 46.05 292⇓ *i*P **P 02 19 57.0 -0.6**
comp=Z,370nm,1.2s,mb6.2
SANT *e*pP pP 02 20 00.7 +1.9
SANT *e*PcP PcP 02 21 33.5 -1.1
THR1 Thera Island 46.05 292 *e*P **P 02 19 57.2 -0.4**
THR3 Thira Island, 46.09 292 *e*P **P 02 19 57.8 -0.1**
THR6 Thira Island, 46.10 292 *e*P **P 02 19 57.8 -0.2**
LVV L'vov 46.11 311 *i* P **P 02 19 58.2 +0.3**
LVV *i* S PP 02 21 45.0 -1.4
THR5 Thira Island, 46.13 292 *e*P **P 02 19 58.0 -0.3**
NPS Neapolis 46.13 291 *e*P **P 02 19 58.5 +0.2**
XRY Khrisi 46.14 290 *e*P **P 02 19 58.8 +0.4**
PGB Panagyurishte 46.22 301 *i* P **P 02 20 00.0 +1.1**
PGB Panagyurishte 46.22 301⇓ *i*P **P 02 20 00.0 +1.1**
OUR Ouranopolis 46.59 298 *e*P **P 02 20 02.5 +0.6**
MMB Musomiste 46.64 300 *i* P **P 02 20 02.0 -0.2**
MMB Musomiste 46.64 300⇓ *i*P **P 02 20 02.0 -0.2**
FINES FINESS Array B 46.65 327 P **P 02 20 01.9 -0.1**
comp=Z,79nm,0.8s,mb5.7,baz=101,slow=9.7,SNR=127
FINES PP PP 02 21 50.1 -1.5
comp=Z,23nm,1.2s,baz=102,slow=13,SNR=3.7
FINES LR LR 02 41 12.2
comp=Z,4µm,19.4s,MS5.4,baz=103,slow=38
FINES FINESS Array B 46.65 327 P **P 02 20 02.0 0.0**
FINES 02 21 50.1
FINES pmax pmax
comp=Z,79nm,0.8s
FINES pmax pmax
comp=Z,23nm,1.2s
FINES MLR MLR
comp=Z,4µm,19.4s
KAF Kangasniemi 46.72 328 *e*p **P 02 20 02.2 -0.4**
comp=Z,429nm,1.3s,mb6.2,baz=104,slow=7.7
KAF Kangasniemi 46.72 328 *e*P **P 02 20 02.2 -0.4**
KAF pmax pmax
comp=Z,429nm,1.3s,mb6.2
SRS Serrai 46.79 299 *e*P **P 02 20 03.9 +0.5**
AOS Alonnisos 46.83 296 *e*P **P 02 20 03.9 +0.1**
PAIG Paliouri 46.88 297 *e*P **P 02 20 04.9 +0.8**
SUW Suwalki 46.89 317⇓ *i*P **P 02 20 03.7 -0.3**
SUW *e* 02 21 53.9
SUW *e*S **S 02 26 55.3 +0.6**
SUW *e*SS 02 26 58.5
SUW pmax pmax
comp=Z,800nm,1.4s,mb6.5
SUW MLR MLR
comp=Z,7µm,24.5s,MS5.5
SUW Suwalki 46.89 317⇓ *i*P **P 02 20 03.7 -0.3**
SUW *e*pP pP 02 20 06.1 +0.9
SUW *e*PP PP 02 21 53.9 -0.2
SUW *e*S **S 02 26 55.3 +0.6**
SUW *e*SS Sx 02 26 58.5
SUW Suwalki 46.89 317⇓ *i*P **P 02 20 03.7 -0.3**
comp=Z,800nm,1.4s
SUW *e*pP pP 02 20 06.1 +0.9
SUW *e*PP PP 02 21 53.9 -0.2
SUW *e*S **S 02 26 55.3 +0.6**
SUW *e*SS 02 26 58.5
SUW MLR MLR 02 41 30.0
comp=Z,7µm,24.5s
VTS Vitosha 46.92 301 *i* P **P 02 20 05.0 +0.6**
VTS Vitosha 46.92 301⇓ *i*P **P 02 20 05.0 +0.6**
KWP Kalwaria 46.97 311⇓ *i*P **P 02 20 05.6 +0.9**
KWP *e* 02 21 54.7
KWP *e*S **S 02 26 56.1 +0.3**
KWP *e**SS 02 27 01.5
KWP pmax pmax
comp=Z,2µm,1.6s,mb6.7
KWP MLR MLR
comp=Z,3µm,22.4s,MS5.3
KWP Kalwaria 46.97 311⇓ *i*P **P 02 20 05.6 +0.9**
KWP *e*pP pP 02 20 07.6 +1.7
KWP *e*PP PP 02 21 54.7 -0.2
KWP *e*S **S 02 26 56.1 +0.3**
KWP *e*SS Sx 02 27 01.5
KWP Kalwaria 46.97 311⇓ *i*P **P 02 20 05.6 +0.9**
comp=Z,2µm,1.6s
KWP *e*pP pP 02 20 07.6 +1.7
KWP *e*PP PP 02 21 54.7 -0.2
KWP *e*S **S 02 26 56.1 +0.3**
KWP *e*SS 02 27 01.5
KWP MLR MLR 02 42 17.8
comp=Z,3µm,22.4s
SOH Sokhos 47.01 299 *e*P **P 02 20 05.6 +0.4**
PTL Penteli 47.02 295 *e*P **P 02 20 05.5 +0.3**
KKB Krupnik 47.09 300 *i* P **P 02 20 06.0 +0.2**
KKB Krupnik 47.09 300⇓ *i*P **P 02 20 06.0 +0.2**
MPAR Parnis Oros 47.10 295 *e*P **P 02 20 06.5 +0.6**
MAJO Matsushiro 47.21 67 *e*P **P 02 20 06.8 0.0**
comp=Z,22nm,0.8s,mb5.1
MAJO LR LR
comp=Z,3µm,21.0s,MS5.2
MAT Matsushiro 47.21 67 P **P 02 20 05.0 -1.8**
MAT S **S 02 27 00.0 +0.6**
MAT Matsushiro 47.21 67 *e*P **P 02 20 05.0 -1.8**
MAT *e*S **S 02 27 00.0 +0.6**
VAM Vamos 47.23 291 *e*P **P 02 20 06.8 -0.2**
DJES Djerdap 47.24 304⇑ *i*P **P 02 20 03.8 -3.1**
KOLS Kolonicke sedl 47.25 310 *i* P **P 02 20 07.7 +0.8**
KOLS *e*PCP PcP 02 21 39.1 +0.5
KNT Kendrikon 47.31 299 *e*P **P 02 20 07.8 +0.3**
NEO Neokhori 47.31 297 *e*P **P 02 20 07.8 +0.2**
THE Thessaloniki 47.33 298 *e*P **P 02 20 07.7 0.0**
XOR Xorichti 47.33 297 *e*P **P 02 20 07.8 +0.1**
NSAL Nisos Salamina 47.35 295 *e*P **P 02 20 06.5 -1.4**
NAIG Nisos Aigina 47.36 295 *e*P **P 02 20 06.5 -1.5**
GVD Gavdhos 47.44 291⇓ *i*P **P 02 20 08.3 -0.4**
comp=Z,245nm,1.2s,mb6.0
GVD *e*pP pP 02 20 11.4 +1.6
GVD *e*S **S 02 27 03.3 +0.6**
VAY Valandovo 47.53 299⇓ *i*P **P 02 20 09.6 +0.3**
VAY *i* PP PP 02 22 06.3 +6.1
GRG Griva 47.71 299 *e*P **P 02 20 10.6 -0.1**
BOLS Boljevac 47.71 303⇓ *i*P **P 02 20 11.4 +0.7**
LIT Litokhoron 47.76 298 *e*P **P 02 20 10.7 -0.4**
CRVS Cervenica-Dubn 47.78 310 *i* P **P 02 20 11.4 +0.2**
CRVS *e*S **S 02 27 17.2 +10**
DAV Davao City (W) 47.90 110⇑ *e*P **P 02 20 16.7 +4.1**
BARS Barje 47.91 302⇓ *i*P **P 02 20 12.9 +0.6**
KYTH Kithira 47.98 293 *e*P **P 02 20 12.0 -0.9**
TIXI Tiksi 47.99 18 *e*P **P 02 20 12.5 0.0**
TIXI pmax pmax
comp=Z,381nm,1.9s,mb6.1
TIXI MLR MLR
comp=Z,6µm,14.0s,MS5.7
TIXI Tiksi 47.99 18 *e*P **P 02 20 12.6 +0.1**
TIXI LR LR
comp=Z,8µm,22.0s,MS5.7
AGG Agios Georgios 48.04 296 *e*P **P 02 20 12.7 -0.6**
WAR Warsaw 48.09 314 *e*P **P 02 20 14.0 +0.5**
WAR *e* 02 22 07.4
WAR pmax pmax
comp=Z,2µm,2.0s,mb6.8
WAR MLR MLR
comp=Z,4µm,21.4s,MS5.4
WAR Warsaw 48.09 314 *e*P **P 02 20 14.0 +0.5**
WAR *e*pP pP 02 20 16.0 +1.3
WAR *e*PP PP 02 22 07.4 +2.3
WAR LR LR
comp=Z,4µm,21.4s,MS5.4
WAR Warsaw 48.09 314 *e*P **P 02 20 14.0 +0.5**
comp=Z,2µm,2.0s
WAR *e*pP pP 02 20 16.0 +1.3
WAR *e*PP PP 02 22 07.4 +2.3
WAR MLR MLR 02 41 55.2
comp=Z,4µm,21.4s
SVIS Svilajnac 48.20 304 *e*P **P 02 20 15.2 +0.7**
KZN Kozani 48.27 298 *e*P **P 02 20 15.0 -0.1**
SKO Skopje 48.29 300⇓ *i*P **P 02 20 15.6 +0.4**
comp=Z,0.4nm,1.1s
KECS Kecovo 48.44 309 *i* P **P 02 20 16.9 +0.6**
EVR Evrytania 48.46 296 *e*P **P 02 20 16.0 -0.6**
FNA Florina 48.50 299 *e*P **P 02 20 16.6 -0.3**
BIA Bitola 48.51 299⇓ *i*P **P 02 20 17.0 +0.1**
NIE Niedzica 48.53 310 *e*P **P 02 20 18.3 +1.4**
GRUS Gruza 48.60 303⇑ *i*P **P 02 20 18.3 +0.7**
ITM Ithomi 48.68 294 *e*P **P 02 20 16.8 -1.5**
BEO Belgrade 48.70 304 ⇑Ip 02 20 18.8
MEV Metsovon 48.76 298 *e*P **P 02 20 19.1 +0.2**
OJC Ojcow 48.84 312⇓ *i*P **P 02 20 19.7 +0.4**
OJC *i* 02 22 13.8
OJC *e*S **S 02 27 26.3 +4.0**
OJC *e*SS SS 02 30 53.1 +4.9
OJC MLR MLR
comp=Z,4µm,22.1s,MS5.4
OJC Ojcow 48.84 312⇓ *i*P **P 02 20 19.7 +0.4**
OJC *i* PP PP 02 22 13.8 +1.1
OJC *e*S **S 02 27 26.3 +4.0**
OJC *e*SS SS 02 30 53.1 +4.9
OJC MLR MLR 02 43 23.0
comp=Z,4µm,22.1s
PSZ Piszkesteto 48.86 308⇓ *i*P **P 02 20 20.6 +1.1**
PSZ Piszkesteto 48.86 308 P **P 02 20 20.2 +0.7**
PSZ pmax pmax
comp=Z,290nm,1.3s,mb6.2
OHR Ohrid 48.89 299⇓ *i*P **P 02 20 18.8 -1.0**
OHR *i* PP PP 02 22 18.5 +5.2
KEV Kevo 48.98 338 *e*p **P 02 20 19.3 -0.9**
comp=Z,643nm,1.9s,mb6.3
KEV Kevo 48.98 338 *e*P **P 02 20 19.3 -0.9**
KEV pmax pmax
comp=Z,643nm,1.9s,mb6.3
JAN Janina 49.07 298 *e*P **P 02 20 21.0 -0.3**
DIVS Divcibare 49.10 303⇓ *i*P **P 02 20 21.9 +0.5**
HOPOS Hopovo Monaste 49.11 305⇑ *i*P **P 02 20 22.3 +0.9**
YSS Yuzh-Sakhalins 49.25 53 P **P 02 20 12.5 -10**
YSS *e* 02 20 25.0
YSS *e* 02 27 28.0
YSS MLR MLR
comp=Z,4µm,14.0s,MS5.5
YSS MLR MLR
comp=E,3µm,17.0s
YSS Yuzh-Sakhalins 49.25 53 PFAKE 02 20 30.0 +7.5
YSS LR LR
comp=Z,3µm,19.0s,MS5.3
PVY Plav 49.29 301⇓ *i*P **P 02 20 23.0 +0.1**
IVA Berane 49.31 302⇓ *i*P **P 02 20 23.8 +0.8**
NVSS Nova Varos 2 49.38 303⇑ *i*P **P 02 20 24.3 +0.7**
ARCES ARCESS Array B 49.39 338 P **P 02 20 23.0 -0.3**
comp=Z,163nm,1.1s,mb6.0,baz=101,slow=6.2,SNR=97
ARCES LR LR 02 42 34.2
comp=Z,6µm,18.9s,MS5.6,baz=116,slow=38
ARCES ARCESS Array B 49.39 338 P **P 02 20 23.0 -0.3**
ARCES pmax pmax
comp=Z,163nm,1.1s
ARCES MLR MLR
comp=Z,6µm,18.9s
LKD Levkas 49.39 296 *e*P **P 02 20 24.4 +0.6**
BUD Budapest 49.47 308⇑ *i*P **P 02 20 25.3 +1.1**
IGT Igoumenitsa 49.49 297 *e*P **P 02 20 23.1 -1.4**
VLS Valsamata 49.53 296 *e*P **P 02 20 23.5 -1.4**
VYHS Vyhne 49.54 309 *i* P **P 02 20 25.4 +0.7**
VYHS *e*S **S 02 27 47.2 +15**
VYHS *e*SS Sx 02 31 33.8
PLE Pljevlja 49.62 303⇓ *i*P **P 02 20 26.4 +1.0**
KOLL Kolacno 49.82 309 *i* P **P 02 20 27.7 +0.8**
TTG Podgorica 49.84 301⇓ *i*P **P 02 20 25.6 -1.5**
PKSM Moragy 49.84 306⇓ *e*P **P 02 20 27.6 +0.5**
KEK Kerkira 49.86 298 *e*P **P 02 20 25.5 -1.8**
RAC Raciborz 49.88 311 *e*P **P 02 20 28.4 +1.1**
RAC *e*S **S 02 27 38.0 +1.3**
RAC MLR MLR
comp=E,5µm,18.8s
RAC MLR MLR
comp=Z,5µm,17.3s,MS5.6
RAC Raciborz 49.88 311 *e*P **P 02 20 28.4 +1.1**
RAC *e*S **S 02 27 38.0 +1.3**
RAC LMN 02 39 38.2
comp=Z,11µm,29.3s
RAC LME 02 44 05.8
comp=Z,5µm,18.8s
RAC MLR MLR 02 44 10.5
comp=Z,5µm,17.3s
SRO2 Moca 49.88 308 *e*P **P 02 20 29.1 +1.7**
ULC Ulcinj 49.91 301⇓ *i*P **P 02 20 27.2 -0.5**
OKC Ostrava-Krasne 49.92 311⇓ *i*P **P 02 20 28.1 +0.5**
OKC *e* 02 22 22.4
OKC *e*S **S 02 27 53.6 +16**
OKC MLR MLR
comp=Z,3µm,14.2s,MS5.4
OKC Ostrava-Krasne 49.92 311⇓ *i*P **P 02 20 28.1 +0.5**
OKC *e*pP pP 02 20 31.6 +2.8
OKC *e*PP PP 02 22 22.4 -1.1
OKC *e*S **S 02 27 53.6 +16**
OKC AMS AMS 02 44 10.0
comp=Z,3µm,14.2s
SRO Srobarova 49.93 308 *e*P **P 02 20 29.2 +1.5**
KTK1 Kautokeino 49.97 337⇓ *i*P **P 02 20 27.7 0.0**
KTK1 AMb AMB 02 20 30.3
comp=Z,313nm,1.4s,mb6.1
KTK1 Kautokeino 49.97 337 *e*P **P 02 20 27.5 -0.3**
comp=Z,313nm,1.4s,mb6.2
NKY Niksic 49.98 302⇓ *i*P **P 02 20 27.4 -0.7**
UPM Unac-Piva 49.99 302⇓ *i*P **P 02 20 28.4 +0.1**
SRO1 Iza 49.99 308 *i* P **P 02 20 29.9 +1.7**
PKS9 Tamasi 50.05 307⇑ *i*P **P 02 20 30.0 +1.3**
BUM Brajici-Budva 50.12 301⇓ *i*P **P 02 20 29.2 0.0**
RHK1 Bakonya 50.24 306⇑ *i*P **P 02 20 31.0 +0.8**
BRY Bratogost 50.29 302⇓ *i*P **P 02 20 30.9 +0.3**
MORC Moravsky Berou 50.31 311 P **P 02 20 31.2 +0.6**
MORC pmax pmax
comp=Z,200nm,1.2s,mb6.0
MORC Moravsky Berou 50.31 311⇓ *i*P **P 02 20 31.1 +0.5**
comp=Z,144nm,1.4s,mb5.8
HCY Herceg Novi 50.39 301⇓ *i*P **P 02 20 31.0 -0.3**
GKP Gorka Klasztor 50.40 316⇓ *i*P **P 02 20 31.2 0.0**
GKP pmax pmax
comp=Z,900nm,1.5s,mb6.6
GKP MLR MLR
comp=Z,6µm,21.6s,MS5.5
GKP Gorka Klasztor 50.40 316⇓ *i*P **P 02 20 31.2 0.0**
comp=Z,0.9nm,1.5s
GKP *e*pP pP 02 20 33.0 +0.5
GKP LR LR
comp=Z,6µm,21.6s
GKP Gorka Klasztor 50.40 316⇓ *i*P **P 02 20 31.2 0.0**
comp=Z,900nm,1.5s
GKP *e*pP pP 02 20 33.0 +0.5
GKP MLR MLR 02 43 44.7
comp=Z,6µm,21.6s
SMOL Smolenice 50.47 309 *i* P **P 02 20 32.9 +1.1**
ZST Bratislava 50.71 309 *i* P **P 02 20 34.7 +1.0**
ZST *e*PP PP 02 22 32.6 +1.9
ZST *e*S **S 02 28 05.4 +17**
ZST *e*SS Sx 02 31 47.8
STON Ston 50.91 302⇓ *i*P **P 02 20 34.6 -0.7**
LCI Lecce 51.03 299 *e*P **P 02 20 35.1 -1.1**
KSP Ksiaz 51.06 312⇓ *e*P **P 02 20 36.3 0.0**
KSP *e* 02 22 30.5
KSP *e*S **S 02 27 52.0 -1.0**
KSP *e*SS SS 02 31 29.0 +3.2
KSP MLR MLR
comp=Z,8µm,18.4s,MS5.8
KSP Ksiaz 51.06 312⇓ *i*P **P 02 20 36.4 +0.1**
comp=Z,1µm,1.8s
KSP *e*PP PP 02 22 32.8 -1.0
KSP *e*S **S 02 27 54.2 +1.2**
KSP *e*S 02 27 58.4
KSP MLR MLR 02 45 29.9
comp=Z,7µm,18.4s
DPC Dobruska-Polom 51.07 312⇓ *i*P **P 02 20 37.2 +0.9**
DPC MLR MLR
comp=Z,4µm,15.3s,MS5.6
DPC Dobruska-Polom 51.07 312⇓ *i*P **P 02 20 37.2 +0.9**
DPC *e*pP pP 02 20 40.8 +3.2
DPC AMS AMS 02 45 40.0
comp=Z,4µm,15.3s
SOP Sopron 51.12 308⇓ *i*P **P 02 20 37.3 +0.5**
VKA Vienna 51.23 309⇓ *i*P **P 02 20 38.0 +0.4**
comp=Z,933nm,2.5s,mb6.3
UPC Upice 51.26 312⇓ *i*P **P 02 20 38.4 +0.6**
SISC Sisak 51.50 306 *i* P **P 02 20 40.2 +0.5**
BRT Bari-Castellan 51.61 300 *e*P **P 02 20 41.3 +0.7**
TRO Tromso 51.62 337 *e*P **P 02 20 40.5 +0.2**
BSD Bornholm Skovb 51.74 318⇓ *i*P **P 02 20 40.1 -1.3**
comp=Z,109nm,1.1s,mb5.7
BSD *i* 02 22 29.1
BSD *i* S **S 02 28 09.4 +7.0**
BSD *i* 02 31 58.2
comp=Z,6µm,19.0s
ARSA Arzberg 51.87 308⇑ *i*P **P 02 20 42.9 +0.4**
comp=Z,722nm,1.9s,mb6.3
LTRZ Laterza 51.95 299 *e*P **P 02 20 43.0 -0.2**
PVCC Panska Ves 52.17 312⇓ *i*P **P 02 20 45.2 +0.5**
PVCC MLR MLR
comp=Z,4µm,13.9s,MS5.6
PVCC Panska Ves 52.17 312⇓ *i*P **P 02 20 45.2 +0.5**
PVCC *e*pP pP 02 20 48.7 +2.8
PVCC AMS AMS 02 44 40.0
comp=Z,4µm,13.9s
PERS Pernice 52.22 307 *e*P **P 02 20 45.6 +0.5**
PERS *e* 02 20 49.8
PERS *e*PP PP 02 22 45.0 +0.6
PRU Pruhonice 52.24 311⇓ *i*P **P 02 20 45.6 +0.4**
PRU *e* 02 22 45.3
PRU *e*S **S 02 28 12.6 +3.4**
PRU pmax pmax
comp=Z,391nm,1.4s,mb6.2
PRU MLR MLR
comp=Z,4µm,16.0s,MS5.5
PRU Pruhonice 52.24 311⇓ *i*P **P 02 20 45.6 +0.4**
comp=Z,391nm,1.4s,mb6.2
PRU *e*pP pP 02 20 49.2 +2.8
PRU *e*PP PP 02 22 45.3 +0.7
PRU *e*S **S 02 28 12.6 +3.4**
PRU AMS AMS 02 45 30.0
comp=Z,4µm,16.0s
BOJS Bojanci 52.27 306 *i* P **P 02 20 45.9 +0.3**
BOJS *e* 02 20 49.4
BOJS *e*PcP PcP 02 21 56.8 -0.2
BOJS *e*PP PP 02 22 45.5 +0.5
BOJS *e*S **S 02 28 14.4 +4.6**
PRA Prague 52.30 312⇓P **P 02 20 47.0 +1.3**
PRA AMS AMS 02 45 00.0
ORI Oriolo Calabro 52.33 299 *e*P **P 02 20 46.6 +0.5**
FGMS Monte Sant'Ang 52.38 301 *e*P **P 02 20 46.5 0.0**
KMBO Kilima Mbogo 52.48 241 P **P 02 20 47.3 -0.2**
comp=Z,8.8nm,0.8s,baz=40,slow=9.5,SNR=19
KMBO LR LR 02 42 40.3
comp=Z,2µm,19.4s,baz=83,slow=35
KMBO Kilima Mbogo 52.48 241⇓ *i*P **P 02 20 47.0 -0.5**
comp=Z,25nm,1.0s,mb5.1
KMBO LR LR
comp=Z,2µm,20.0s,MS5.2
TDS Terranova Siba 52.49 298 *e*P **P 02 20 47.8 +0.5**
VISS Visnje 52.52 306 *e*P **P 02 20 47.7 +0.3**
VISS *e* 02 20 52.3
VISS *e*PP PP 02 22 47.9 +0.4
RUE Ruedersdorf 52.52 315⇓ *e*P **P 02 20 47.0 -0.3**
comp=Z,384nm,1.5s,mb6.1
BRG Berggiesshubel 52.54 313 *i* P **P 02 20 47.8 +0.3**
BRG *i* 02 21 57.5
BRG *i* 02 22 48.9
BRG *i* S **S 02 28 17.0 +3.7**
BRG pmax pmax
comp=Z,330nm,1.4s,mb6.1
BRG MLR MLR
comp=N,4µm,14.3s,MS5.8
BRG MLR MLR
comp=E,4µm,14.3s,MS5.8
BRG MLR MLR
comp=Z,6µm,14.3s,MS5.8
BRG Berggiesshubel 52.54 313 *i* P **P 02 20 47.8 +0.3**
comp=Z,330nm,1.4s,mb6.1
BRG *i* PcP PcP 02 21 57.5 -0.4

BRG *i* PP PP 02 22 48.9 +1.2
BRG *i* S **S** **02 28 17.0 +3.7**
BRG *i* SS SS 02 32 00.0 +10
BRG LR LR
comp=Z,6µm,14.3s,MS5.8
GRI Girifalco 52.61 297 *e*P **P** **02 20 48.1 -0.1**
OBKA Obir 52.62 307⇑*i*P **P** **02 20 48.7 +0.5**
comp=Z,1µm,1.9s,mb6.5
MOR8 Moi Rana 52.62 332⇓*i*P **P** **02 20 46.9 -1.0**
MOR8 AMb AMB 02 20 49.4
comp=Z,280nm,1.5s,mb6.0
MOR8 Moi Rana 52.62 332 *e*P **P** **02 20 46.4 -1.5**
comp=Z,280nm,1.5s,mb6.0
MOA Molln 52.64 309⇓*i*P **P** **02 20 48.3 0.0**
comp=Z,598nm,1.7s,mb6.2
RGNG Rignano Grg 52.66 301 *e*P **P** **02 20 48.4 -0.2**
NVLJ Novalja 52.68 305⇓*i*Pn **P** **02 20 47.8 -0.9**
RGN Rugen 52.68 317⇓*e*P **P** **02 20 48.3 -0.2**
comp=Z,384nm,1.1s,mb6.2
LJU Ljubljana 52.70 307⇓*e*P **P** **02 20 49.4 +0.6**
LJU *e* 02 20 53.5
LJU *e*PP PP 02 22 49.8 +0.5
LJU *e*S **S** **02 28 22.6 +7.0**
LJU Ljubljana 52.70 307⇓*e*P **P** **02 20 49.4 +0.6**
LJU *e*PP PP 02 22 49.8 +0.5
LJU *e*S **S** **02 28 22.6 +7.0**
CEY Cerknica 52.81 306 *e*P **P** **02 20 50.0 +0.4**
CEY *e* 02 20 54.1
FG4 Candela 52.81 300 *e*P **P** **02 20 50.1 +0.4**
SLCN Sala Consilina 52.88 299 *e*P **P** **02 20 50.9 +0.7**
GEC2 GERESS Array S 52.90 310 *e*P **P** **02 20 50.4 +0.2**
GEC2 pmax pmax
comp=Z,220nm,1.5s,mb5.9
GEC2 GERESS Array S 52.90 310 *e*P **P** **02 20 50.4 +0.2**
comp=Z,220nm,1.5s,mb5.9
GERES GERESS Array B 52.90 310 P **P** **02 20 49.7 -0.5**
comp=Z,18nm,0.7s,mb5.1,baz=90,slow=6.7,SNR=144
GERES PcP PcP 02 21 58.9 -0.4
comp=Z,16nm,1.1s,baz=90,slow=4.0,SNR=4.8
GERES PP PP 02 22 48.5 -2.7
comp=Z,6.7nm,0.9s,baz=101,slow=6.8,SNR=3.5
GERES GERESS Array B 52.90 310 P **P** **02 20 49.7 -0.5**
GERES 02 21 58.9
GERES 02 22 48.5
GERES pmax pmax
comp=Z,18nm,0.7s
MRLC Muro Lucano 52.91 300 *e*P **P** **02 20 50.6 +0.2**
BJO Bjornoya 52.93 343 *e*P **P** **02 20 47.9 -2.2**
BJO AMS AMS 02 46 01.6
comp=Z,2µm,20.8s,MS5.2
KHC Kasperske Hory 52.95 310⇓*i*P **P** **02 20 50.5 -0.1**
KHC *e* 02 22 50.8
KHC MLR MLR
comp=Z,3µm,14.6s,MS5.5
KHC Kasperske Hory 52.95 310⇓*i*P **P** **02 20 50.5 -0.1**
KHC *e*pP pP 02 20 54.4 +2.6
KHC *e*PP PP 02 22 50.8 -0.9
KHC AMS AMS 02 46 00.0
comp=Z,3µm,14.6s
FG5 Orsara di Pugl 52.97 301 *e*P **P** **02 20 51.6 +0.8**
MGR Morigerati 52.99 299 *e*P **P** **02 20 50.5 -0.5**
MELS Mels 53.00 333 *e*P **P** **02 20 50.2 -0.5**
SOI Samo 53.05 296 *e*P **P** **02 20 51.2 -0.3**
SGO Sicignano 53.08 300 *e*P **P** **02 20 51.8 +0.1**
CLL Collm 53.09 313⇓P **P** **02 20 51.2 -0.4**
comp=Z,logA/T=2.2,mb5.9
CLL *e*PP PP 02 22 52.0 -1.1
CLL *e*S **S** **02 28 20.0 -0.8**
CLL *e*PPS PPS 02 28 40.0 +2.1
CLL *e*SS SS 02 32 06.0 +6.6
CLL Collm 53.09 313⇓*i*P **P** **02 20 51.2 -0.4**
CLL *e*S **S** **02 28 20.0 -0.8**
CLL pmax pmax
comp=Z,255nm,1.6s,mb5.9
CLL MLR MLR
comp=Z,5µm,16.7s,MS5.7
CLL Collm 53.09 313⇓*i*P **P** **02 20 51.2 -0.4**
comp=Z,255nm,1.6s,mb5.9
CLL *e*PcS 02 26 00.0
CLL *e*S **S** **02 28 20.0 -0.8**
CLL LR LR
comp=Z,5µm,16.7s,MS5.7
VOY Vojsko 53.14 307⇓*e*P **P** **02 20 52.0 0.0**
VOY *e* 02 22 00.2
COP Copenhagen 53.14 319⇓*i*P **P** **02 20 52.1 +0.2**
comp=Z,117nm,1.2s,mb5.7
COP *i* 02 22 48.6
COP *i* S **S** **02 28 28.2 +6.8**
COP *i* 02 32 28.7
comp=Z,3µm,19.0s
MRB1 Monte Rocchett 53.22 300 *e*P **P** **02 20 53.5 +0.8**
LOF Lofoten 53.24 334 *e*P **P** **02 20 54.0 +1.6**
LOF AMb AMB 02 21 00.9
comp=Z,177nm,1.9s,mb5.7
LOF Lofoten 53.24 334 *e*P **P** **02 20 54.0 +1.6**
comp=Z,177nm,1.9s,mb5.7
SCLL Scilla 53.27 297 *e*P **P** **02 20 52.9 -0.2**
TRI Trieste 53.28 306 *e*P **P** **02 20 52.6 -0.4**
MTTG Motta San Giov 53.35 296 *e*P **P** **02 20 53.7 0.0**
KBA Koelnbreinsper 53.36 308⇓*i*P **P** **02 20 53.6 0.0**
comp=Z,491nm,2.2s,mb6.0
ROBS Robic 53.37 307 *e*P **P** **02 20 53.5 -0.2**
ROBS *e* 02 20 57.2
WET Wettzell 53.40 311 *e*P **P** **02 20 54.1 +0.2**
WET pmax pmax
comp=Z,385nm,1.7s,mb6.1
WET Wettzell 53.40 311 *e*P **P** **02 20 54.1 +0.2**
comp=Z,385nm,1.7s,mb6.1
NSS Namsos 53.49 330 *e*P **P** **02 20 52.6 -1.8**
NSS AMb AMB 02 20 54.9
comp=Z,109nm,1.2s,mb5.7
NSS AMS AMS 02 45 13.8
comp=Z,3µm,16.6s,MS5.4
NSS Namsos 53.49 330 *e*P **P** **02 20 52.6 -1.8**
comp=Z,109nm,1.2s,mb5.7
GMNA Gemona 53.55 307 *e*P **P** **02 20 55.3 +0.3**
NKC Novy Kostel 53.55 312⇓*i*P **P** **02 20 55.2 +0.2**
NKC *e*PP PP 02 22 56.4 -0.8
NKC *e*S S 02 28 47.7 +21
NKC AMS AMS 02 45 40.0
comp=Z,5µm,14.6s
CII Carovilli 53.59 301 *e*P **P** **02 20 55.6 +0.2**
MA2 Magadan 53.61 36 *e*P **P** **02 20 56.1 +0.8**
MA2 *e* 02 23 03.8
MA2 *i* S **S** **02 28 26.0 -1.7**
MA2 *e* 02 30 32.6
MA2 *e*SS SS 02 32 06.0 -1.5
MA2 pmax pmax
comp=E,90nm,1.5s
MA2 pmax pmax
comp=Z,200nm,1.5s,mb5.8
MA2 Magadan 53.61 36 *e*P **P** **02 20 54.6 -0.7**
comp=Z,232nm,1.0s,mb6.1
MA2 LR LR
comp=Z,1µm,19.0s,MS5.0
NB2 NORSAR Subarra 53.70 325 P **P** **02 20 55.1 -0.8**
comp=Z,304nm,1.1s,mb6.1,baz=90,slow=7.4
NB2 NORSAR Subarra 53.70 325 P **P** **02 20 55.1 -0.8**
baz=90,slow=7.4
NOA NORSAR Array B 53.70 325 P **P** **02 20 54.9 -1.1**
comp=Z,147nm,1.0s,mb5.8,baz=91,slow=7.3,SNR=138
NOA LR LR 02 45 13.5
comp=Z,5µm,20.4s,MS5.6,baz=95,slow=38
NOA NORSAR Array B 53.70 325 P **P** **02 20 54.9 -1.0**
NOA pmax pmax
comp=Z,147nm,1.0s
NOA MLR MLR
comp=Z,5µm,20.4s
OVO Vesuviano 53.71 300 *e*P **P** **02 20 56.1 -0.2**
INTR Introdacqua 53.83 302 *e*P **P** **02 20 57.2 +0.1**
AGST Augusta-Monte 53.88 296 *e*P **P** **02 20 57.0 -0.6**
RFI Roccamonfina 53.91 301 *e*P **P** **02 20 57.6 -0.1**
TERO Teramo 53.93 302 *e*P **P** **02 20 57.6 -0.2**
MSC Monte Massico 53.95 301 *e*P **P** **02 20 57.2 -0.8**
OSL Oslo 53.95 324 *e*P **P** **02 20 57.0 -0.8**
OSL AMb AMB 02 21 00.2
comp=Z,231nm,1.4s,mb5.9
OSL Oslo 53.95 324 *e*P **P** **02 20 57.0 -0.8**
comp=Z,45nm,1.4s,mb5.2
SDI San Donato 53.96 301 *e*P **P** **02 20 57.6 -0.5**
MOX Moxa 54.03 313⇓*i*P **P** **02 20 58.5 0.0**
comp=Z,logA/T=2.4,mb6.1
MOX PcP PcP 02 22 04.0 +0.5
MOX PP PP 02 22 59.0 -2.6
MOX S **S** **02 28 31.0 -2.6**
MOX SS SS 02 32 25.0 +11
MOX SSS SSS 02 34 10.0 +2.1
MOX LR LR 02 38 30.0
MOX L 02 47 18.0
MOX Moxa 54.03 313 *e*P **P** **02 20 58.5 0.0**
MOX *e* 02 22 03.9
MOX pmax pmax
comp=Z,481nm,2.0s,mb6.1
MOX MLR MLR
comp=Z,4µm,20.0s,MS5.5
MOX Moxa 54.03 313 *e*P **P** **02 20 58.5 0.0**
comp=Z,481nm,2.0s,mb6.1
MOX *e* 02 22 03.9
MOX LR LR
comp=Z,4µm,20.0s,MS5.5
CING Cingoli 54.08 303 *e*P **P** **02 20 58.9 0.0**
AQU L'Aquila 54.13 302 P **P** **02 20 59.3 0.0**
AQU pmax pmax
comp=Z,340nm,1.2s,mb6.2
AQU L'Aquila 54.13 302 *e*P **P** **02 20 58.9 -0.4**
MNO Monte Soro 54.13 297 *e*P **P** **02 21 00.1 +0.8**
PZI Palazzolo 54.15 296 *e*P **P** **02 20 59.6 +0.1**
MEU Monte Lauro 54.15 296 *e*P **P** **02 21 00.2 +0.7**
PTQR Pietraquaria 54.19 302 *e*P **P** **02 21 00.1 +0.3**
ARV Arcevia 54.24 304 *e*P **P** **02 21 00.3 +0.3**
NRCA Norcia 54.24 303 *e*P **P** **02 21 00.2 +0.1**
FSSB Fossombrone 54.32 304 *e*P **P** **02 21 00.9 +0.2**
SEY Seymchan 54.40 32 *e*P **P** **02 21 01.8 +0.8**
SEY 02 22 06.6
SEY 02 23 05.7
SEY *e*S **S** **02 28 41.1 +2.7**
SEY 02 30 46.9
SEY *e*SSS SSS 02 34 12.7 -3.5
SEY pmax pmax
comp=Z,170nm,1.2s,mb5.8
SEY smax
comp=N,2µm,7.1s
SEY smax
comp=E,3µm,14.8s
SEY MLR MLR
comp=Z,5µm,19.0s,MS5.6
GRA1 Grafenberg Arr 54.41 311 *e*P **P** **02 21 02.1 +0.9**
comp=Z,702nm,1.5s,mb6.4
GRA1 *e*PP PP 02 23 05.1 +0.2
GRA1 *e*S **S** **02 28 41.1 +2.5**
GRA1 LR LR
comp=Z,5µm,19.6s,MS5.5
GRF Grafenberg Arr 54.41 311 *e*P **P** **02 21 02.1 +0.9**
GRF *e* 02 23 05.1
GRF *e*S **S** **02 28 41.1 +2.5**
GRF pmax pmax
comp=Z,702nm,1.5s,mb6.4
GRF MLR MLR
comp=Z,5µm,19.6s,MS5.5
VAE Valguarnera 54.46 296 LR LR 02 47 02.2
comp=Z,1µm,20.0s,MS4.9,baz=343,slow=39
BSEG Bad Segeberg 54.48 317 *e*P **P** **02 21 02.1 +0.4**
BSEG pmax pmax
comp=Z,413nm,1.5s,mb6.1
WTTA Wattenberg 54.49 308⇑*i*P **P** **02 21 01.2 -0.7**
comp=Z,592nm,1.7s,mb6.2
RSM Repubblica di 54.50 304 *e*P **P** **02 21 02.4 +0.4**
WATA Walderalm 54.52 309⇓*i*P **P** **02 21 01.2 -0.9**
comp=Z,209nm,1.4s,mb6.0
KONO Kongsberg 54.52 324 PFAKE 02 21 10.0 +8.0
KONO LR LR
comp=Z,7µm,20.0s,MS5.7
MURB Monte Urbino 54.58 303 *e*P **P** **02 21 03.3 +0.7**
FUR Furstenfeldbru 54.59 310 *e*P **P** **02 21 02.9 +0.3**
FUR pmax pmax
comp=Z,943nm,1.6s,mb6.6
FUR Furstenfeldbru 54.59 310 *e*P **P** **02 21 02.9 +0.3**
comp=Z,943nm,1.6s,mb6.6
CSLB Castelbuono 54.62 297 *e*P **P** **02 21 01.9 -1.1**
GIB Gibilmanna 54.63 297 *e*P **P** **02 21 02.3 -0.8**
MNS Montasola 54.64 302 *e*P **P** **02 21 02.6 -0.5**
CLZ Clausthal 54.67 314 *e*P **P** **02 21 03.3 +0.1**
comp=Z,465nm,1.4s,mb6.3
CTI Castel Tesino 54.68 307 *e*P **P** **02 21 03.0 -0.3**
DOMB Dombas 54.73 327⇓*i*P **P** **02 21 03.1 -0.4**
DOMB AMb AMB 02 21 04.8
comp=Z,222nm,1.3s,mb6.0
DOMB Dombas 54.73 327 *e*P **P** **02 21 02.9 -0.6**
comp=Z,222nm,1.3s,mb6.0
SQTA Sankt Quirin 54.78 308⇓*i*P **P** **02 21 03.2 -0.8**
comp=Z,242nm,1.4s,mb6.0
MOTA Moosalm 54.83 309⇓*i*P **P** **02 21 03.3 -1.1**
comp=Z,97nm,1.1s,mb5.8
CRE Caprese Michel 54.92 304 *e*P **P** **02 21 05.3 +0.2**
MUD Monsted U'grnd 54.92 320 *i* P **P** **02 21 05.4 +0.4**
comp=Z,149nm,1.2s,mb5.9
MUD *e* 02 28 42.3
comp=Z,4µm,18.0s
MUD Monsted U'grnd 54.92 320 *e*P **P** **02 21 05.4 +0.4**
comp=Z,149nm,1.2s,mb5.9
MUD *e* 02 28 42.3
SFI Santa Sofia 54.94 304 *e*P **P** **02 21 06.0 +0.7**
PGD Poggio Sodo 55.03 304 *e*P **P** **02 21 07.0 +1.0**
USI Ustica 55.10 298 *e*P **P** **02 21 05.9 -0.6**
VMG Vicchio 55.14 304 *e*P **P** **02 21 07.7 +1.0**
TOLF Tolfa 55.20 302 *e*P **P** **02 21 06.1 -1.1**
HDH Heidenheim 55.23 310⇓*e*P **P** **02 21 07.0 -0.3**
CLTB Caltabellotta 55.35 297 *e*P **P** **02 21 07.7 -0.7**
FNVD Fontana Vidola 55.40 305 *e*P **P** **02 21 10.6 +2.0**
CSNT Castellina Chi 55.42 304 *e*P **P** **02 21 07.7 -1.0**
MOL Molde 55.43 327 *e*P **P** **02 21 12.4 +3.8**
MOL AMb AMB 02 21 15.3
comp=Z,408nm,1.6s,mb6.2
MOL Molde 55.43 327 *e*P **P** **02 21 12.4 +3.8**
comp=Z,408nm,1.6s,mb6.2
UBR Uberruh 55.44 309⇓*e*P **P** **02 21 08.1 -0.8**
ZCCA Zocca 55.46 305 *e*P **P** **02 21 10.4 +1.3**
BRMO Bormio 55.47 308 *e*P **P** **02 21 08.3 -0.8**
SIND Sindeldorf 55.50 311 *e*P **P** **02 21 09.2 0.0**
FUORN Ofenpass 55.52 308⇓*i*P **P** **02 21 08.5 -1.0**
comp=Z,346nm,1.9s,mb6.1
SAL Salo 55.53 307 *e*P **P** **02 21 09.8 +0.2**
DAVA Damuels 55.66 309⇑*i*P **P** **02 21 10.0 -0.5**
comp=Z,681nm,1.6s,mb6.4
ERC Erice 55.72 297 *e*P **P** **02 21 12.6 +1.6**
BERNI Berninapass 55.72 308⇓*i*P **P** **02 21 10.3 -0.6**
comp=Z,308nm,1.4s,mb6.1
GSCL Gusciola 55.73 305 *e*P **P** **02 21 12.0 +1.0**
DAVOX Davos 55.75 308⇓*e*P **P** **02 21 10.0 -1.1**
comp=Z,353nm,2.0s,mb6.0
MAON Monte Argentar 55.76 303 *e*P **P** **02 21 10.0 -1.2**
BDI Bagni Di Lucca 55.79 305 *e*P **P** **02 21 10.6 -0.9**
BUCH Bad Urach 55.81 310⇓*e*P **P** **02 21 11.4 -0.1**
ERBM Eremo 55.84 305 *e*P **P** **02 21 12.8 +1.0**
STU Stuttgart 55.86 311 P **P** **02 21 11.5 -0.3**
STU pmax pmax
comp=Z,550nm,1.5s,mb6.4
STU Stuttgart 55.86 311⇓*i*P **P** **02 21 11.3 -0.5**
comp=Z,248nm,1.1s,mb6.2
STU *e*pP pP 02 21 15.2 +2.2
MAIM 55.89 305 P **P** **02 21 10.6 -1.6**
SARO Sassorosso 55.90 305 P **P** **02 21 12.2 0.0**
PII Pisa 55.91 304 *e*P **P** **02 21 11.1 -1.2**
VLC Villacollemand 55.92 305⇓*e*P **P** **02 21 11.6 -0.7**
comp=Z,161nm,1.1s,mb6.0
KAMOR Kamor 55.92 309⇓*e*P **P** **02 21 11.3 -1.0**
comp=Z,581nm,1.6s,mb6.4
TOD Tromm 55.97 312⇓*e*P **P** **02 21 12.5 -0.1**
TOD Tromm 55.97 312 *e*P **P** **02 21 12.3 -0.3**
VALM 55.98 305 P **P** **02 21 12.6 -0.2**
GUT Gutenstein 56.03 310⇓*e*P **P** **02 21 12.4 -0.7**
PLONS Plons 56.04 308⇓*i*P **P** **02 21 12.3 -0.9**
comp=Z,628nm,1.6s,mb6.4
SWS Schriesheim 56.06 311 *e*P **P** **02 21 13.0 -0.3**
GRAM 56.07 305 P **P** **02 21 13.6 +0.1**
VDL Val di Lei 56.09 308⇓*i*P **P** **02 21 12.9 -0.6**
comp=Z,346nm,1.7s,mb6.1
VINC Vinca 56.09 305 P **P** **02 21 11.1 -2.5**
BACM 56.11 305 P **P** **02 21 13.0 -0.7**
LBG Lerchenberg 56.14 310⇓*e*P **P** **02 21 13.6 -0.2**
WEIN Weingarten 56.22 309⇓*i*P **P** **02 21 13.4 -1.0**
comp=Z,282nm,1.5s,mb6.1
SPAK Spaichingen 56.24 310⇓*e*P **P** **02 21 14.0 -0.6**
SPAK Spaichingen 56.24 310 *e*P **P** **02 21 14.6 0.0**
CODM 56.24 305 P **P** **02 21 14.7 +0.1**
STEIN Stein am Rhein 56.27 309⇓*i*P **P** **02 21 13.5 -1.3**
comp=Z,365nm,1.5s,mb6.2
WILA Wila 56.29 309⇓*i*P **P** **02 21 13.9 -1.0**
comp=Z,283nm,1.4s,mb6.1
LLS Linth-Limmern 56.33 308⇓*i*P **P** **02 21 14.4 -0.8**
comp=Z,293nm,1.5s,mb6.1
TRULL Truellikon 56.40 309⇓*i*P **P** **02 21 14.8 -0.9**
comp=Z,316nm,1.4s,mb6.2
BOB Bobbio (Coli) 56.45 306 *e*P **P** **02 21 16.6 +0.4**
KTD Kalmit 56.48 311 *e*P **P** **02 21 16.0 -0.3**
KTD Kalmit 56.48 311 *e*P **P** **02 21 16.7 +0.4**
FLACH Flaach 56.48 309⇓*i*P **P** **02 21 15.2 -1.2**
comp=Z,252nm,1.4s,mb6.1
MUGIO Muggio 56.49 307⇓*i*P **P** **02 21 14.9 -1.5**
comp=Z,358nm,1.7s,mb6.1
SLE Schleitheim 56.50 309⇓*i*P **P** **02 21 15.3 -1.2**
comp=Z,314nm,1.5s,mb6.1
BFO Black Forest 56.50 310 *e*P **P** **02 21 15.6 -0.9**
BFO pmax pmax
comp=Z,120nm,1.6s,mb5.7
BFO Black Forest 56.50 310 *e*P **P** **02 21 15.6 -0.9**
comp=Z,120nm,1.6s,mb5.7
ZUR Zurich 56.52 309⇓*i*P **P** **02 21 15.4 -1.2**
comp=Z,296nm,1.6s,mb6.0
MUO Muotathal 56.55 309⇓*i*P **P** **02 21 16.3 -0.6**
comp=Z,756nm,1.5s,mb6.5
RUND Rundenannen 56.60 325 *e*P **P** **02 21 17.1 +0.1**
RUND AMb AMB 02 21 19.4
comp=Z,608nm,1.6s,mb6.4
FUSIO Fusio 56.64 308⇓*i*P **P** **02 21 16.4 -1.1**
comp=Z,237nm,1.5s,mb6.0
VAI Varese 56.69 307 *e*P **P** **02 21 16.6 -1.3**
BNALP Bannalp 56.72 308⇓*i*P **P** **02 21 17.3 -0.7**
comp=Z,428nm,1.5s,mb6.2
LANF Langenberg 56.72 311 *e*P **P** **02 21 18.0 -0.1**
ABH Alteburg 56.73 312⇓*e*P **P** **02 21 17.9 -0.2**
ABH Alteburg 56.73 312 *e*P **P** **02 21 17.7 -0.4**
SULZ Sulz-Cheisache 56.79 309⇓*i*P **P** **02 21 17.5 -1.1**
comp=Z,375nm,1.1s,mb6.3
FELD Feldberg 56.80 310⇓*e*P **P** **02 21 17.9 -0.7**
STR Strasbourg 56.82 311 *e*P **P** **02 21 18.4 -0.4**
KIZ Kirchzarten 56.84 310⇓*e*P **P** **02 21 18.0 -0.9**
WTSB Winterswijk 56.84 315 *e*P **P** **02 21 18.6 -0.3**
comp=Z,135nm,1.4s,mb5.8
WTSB *ex* x 02 21 33.6
WTSB *ex* x 02 21 47.9
WTSB *e*S **S** **02 29 11.9 +0.8**
GENL Genova Univers 56.86 305 P **P** **02 21 17.6 -1.5**
HASLI Hasliberg 56.92 308⇓*i*P **P** **02 21 18.6 -0.9**
comp=Z,516nm,1.6s,mb6.3
LIBD Limburg 57.01 310 *e*P **P** **02 21 19.5 -0.6**
LIBD Limburg 57.01 310 *e*P **P** **02 21 19.4 -0.7**
RUP Ruppelstein 57.07 312⇓*e*P **P** **02 21 20.4 -0.1**
RUP Ruppelstein 57.07 312 *e*P **P** **02 21 20.5 0.0**
BALST Balsthal 57.11 309⇓*i*P **P** **02 21 19.6 -1.3**
comp=Z,378nm,1.6s,mb6.2
PCP Pian Castagno 57.12 306 P **P** **02 21 20.0 -1.0**
WLS Welschbruch 57.12 310 *e*P **P** **02 21 19.1 -1.8**
MBAR Mbarara 57.15 246 P **P** **02 21 20.0 -1.6**
comp=Z,123nm,1.1s,mb5.8,SNR=9.1
MBAR Mbarara 57.15 246⇓*e*P **P** **02 21 19.3 -2.3**
comp=Z,73nm,1.3s,mb5.5
MBAR LR LR
comp=Z,321nm,20.0s,MS4.4
CDF Champ du Feu 57.17 310⇓*i*P **P** **02 21 20.6 -0.7**
comp=Z,620nm,1.7s,mb6.1
MMK Mattmark 57.20 308⇓*i*P **P** **02 21 20.4 -1.1**
comp=Z,306nm,1.6s,mb6.1
MCGN Macugnaga 57.20 307 *e*P **P** **02 21 20.3 -1.2**
BBS Basel-Blauen 57.21 309⇓*e*P **P** **02 21 20.6 -1.0**
BBS Basel-Blauen 57.21 309 *e*P **P** **02 21 20.7 -0.9**
PGF Pioggiola 57.26 303⇓*i*P **P** **02 21 20.8 -1.2**
comp=Z,483nm,1.6s,mb6.0
ORX Oropa 57.27 307 P **P** **02 21 20.0 -2.0**
ORO Oropa 57.27 307 *e*P **P** **02 21 20.1 -2.0**
ECH Echery 57.29 310 *e*P **P** **02 21 21.3 -0.8**
WIMIS Wimmis 57.30 308⇓*i*P **P** **02 21 21.2 -1.0**
comp=Z,508nm,1.6s,mb6.3
LKBD Leukerbad 57.35 308⇓*i*P **P** **02 21 22.0 -0.6**
comp=Z,327nm,1.1s,mb6.3
MOF Molkenrain 57.38 310 *e*P **P** **02 21 22.2 -0.5**
BOURR Bourrignon 57.41 309⇓*e*P **P** **02 21 22.0 -1.0**
comp=Z,450nm,1.8s,mb6.2
FIN Finale Ligure 57.44 305 *e*P **P** **02 21 22.1 -1.1**
TRAV 57.46 307 P **P** **02 21 20.6 -2.8**
RORO 57.56 305 P **P** **02 21 22.4 -1.6**
DIX Grande Dixence 57.57 308⇓*i*P **P** **02 21 23.8 -0.3**
comp=Z,498nm,1.9s,mb6.2
HINF Hinteralfeld 57.57 310⇓*i*P **P** **02 21 23.3 -0.8**
comp=Z,1µm,1.7s,mb6.4
SENIN Lac Senin 57.58 308⇓*e*P **P** **02 21 23.6 -0.6**
comp=Z,638nm,1.8s,mb6.4
HGN Heimansgroeve 57.59 313 *e*P **P** **02 21 24.1 -0.1**
comp=Z,47nm,0.9s,mb5.5
HGN *ex* x 02 22 19.0
HGN *e*S **S** **02 29 22.5 +1.5**
ROB Roburent 57.65 306 P **P** **02 21 24.0 -0.7**
WLF Walferdange 57.66 312 P **P** **02 21 24.7 0.0**
WLF pmax pmax
comp=Z,300nm,1.4s,mb6.1
WLF Walferdange 57.66 312⇓*e*P **P** **02 21 24.7 +0.1**
comp=Z,278nm,1.3s,mb6.1
LOMF Lomont 57.69 309 *e*P **P** **02 21 24.1 -0.8**
TORNY Torny 57.72 309⇓*i*P **P** **02 21 24.5 -0.7**
comp=Z,880nm,1.9s,mb6.5
IMI Imperia 57.73 305 *e*P **P** **02 21 25.2 0.0**
GRYON Gryon 57.73 308⇓*i*P **P** **02 21 24.8 -0.4**
comp=Z,674nm,1.4s,mb6.5
VSL Villasalto 57.76 300⇓*i*P **P** **02 21 24.4 -1.2**
comp=Z,135nm,1.4s,mb5.8
VSL *ep*P pP 02 21 28.1 +1.4
MONE Monesi 57.78 305 P **P** **02 21 25.0 -0.6**
AIGLE Aigle 57.82 308⇓*i*P **P** **02 21 25.2 -0.6**
comp=Z,733nm,1.7s,mb6.4
SALAN Lac Salanfe 57.85 308⇓*i*P **P** **02 21 25.8 -0.2**
comp=Z,719nm,1.6s,mb6.5
HAU Haudompre 57.87 310⇓*i*P **P** **02 21 25.5 -0.6**
comp=Z,514nm,1.2s,mb6.1
HAU *eR* 02 23 03.8
comp=Z,3µm,22.8s
NEGI Negi 57.87 305 P **P** **02 21 25.1 -1.1**
LSD Ceresole Reale 57.88 307 P **P** **02 21 26.1 -0.2**
RSP Reno Superiore 57.88 307 P **P** **02 21 24.1 -2.1**
EMV Vieux Emosson 57.92 308⇓*e*P **P** **02 21 26.3 -0.2**
comp=Z,891nm,1.6s,mb6.5
SAOF Saorge 57.94 305 *e*P **P** **02 21 26.7 0.0**
BHB Bricherasio 57.95 306 P **P** **02 21 24.8 -1.9**
ENR Entracque 57.98 306 P **P** **02 21 25.4 -1.6**
BRANT Les Verrieres 58.01 309⇓*i*P **P** **02 21 26.7 -0.5**
comp=Z,417nm,1.8s,mb6.2
AUTN L'Aution 58.03 305 *e*P **P** **02 21 28.2 +0.9**
DOI San Damiano 58.04 306 *e*P **P** **02 21 25.4 -2.0**
FENE Fenestrelle 58.04 307 P **P** **02 21 25.3 -2.1**
STV2 Anna di Valdie 58.04 306 P **P** **02 21 25.5 -1.9**
STV Sta Anna Valdi 58.04 306 P **P** **02 21 26.0 -1.5**
THEF They Montfort 58.06 310 *e*P **P** **02 21 26.9 -0.5**
SBF Sospel 58.06 305⇓*i*P **P** **02 21 27.3 -0.2**
comp=Z,897nm,1.2s,mb6.4
AURF Auriere 58.13 305 *e*P **P** **02 21 28.0 0.0**
REVF Revere 58.13 305 *e*P **P** **02 21 27.7 -0.4**
PZZ Prazzo 58.14 306 P **P** **02 21 26.1 -2.0**
LPG La Plagne 58.15 307⇓*i*P **P** **02 21 28.2 +0.1**
comp=Z,582nm,1.1s,mb6.2
TOUF Mont Tournerai 58.15 305 *e*P **P** **02 21 28.0 -0.2**
LPL La Plagne 58.16 307⇓*i*P **P** **02 21 28.1 -0.1**
comp=Z,360nm,0.8s,mb6.2
GIMEL Gimel 58.24 308⇓*i*P **P** **02 21 28.2 -0.6**
comp=Z,552nm,1.7s,mb6.3
MVIF Mont Vial 58.25 305 *e*P **P** **02 21 28.7 -0.2**
RRL Cesana Torines 58.26 306 P **P** **02 21 28.1 -0.8**
BNI Bardonecchia 58.30 307 P **P** **02 21 28.0 -1.2**
BNI pmax pmax
comp=Z,290nm,1.4s,mb6.1
BNI Bardonecchia 58.30 307⇓*i*P **P** **02 21 28.1 -1.1**
comp=Z,157nm,1.6s,mb5.8
MBDF Montbardon 58.31 306⇓*i*P **P** **02 21 28.5 -0.8**
comp=Z,806nm,1.5s,mb6.2
CABF La Chapelle 58.34 309⇓*i*P **P** **02 21 29.1 -0.4**
comp=Z,746nm,1.5s,mb6.2
SURF Saint Ours 58.34 306 *e*P **P** **02 21 29.4 -0.1**
GIVF Givet 58.41 313⇓*i*P **P** **02 21 29.7 -0.2**
comp=Z,1µm,1.7s,mb6.3
MEZF Maizieres J'vi 58.60 311⇓*i*P **P** **02 21 30.9 -0.4**
comp=Z,529nm,1.3s,mb6.1
PET Petropavlovsk 58.64 44⇓*i*P **P** **02 21 32.9 +1.4**
PET *e* 02 23 47.6
PET *e*PPP PPP 02 25 01.9 -4.4
PET *e*S **S** **02 29 39.7 +5.0**

PET pmax pmax
comp=Z,134nm,1.0s,mb5.9
PET pmax pmax
comp=Z,1µm,5.9s
PET smax
comp=E,100nm,11.9s
PET smax
comp=N,300nm,18.8s
PET MLR MLR
comp=Z,2µm,16.0s,MS5.4
PET MLR MLR
comp=Z,3µm,13.0s
PET Petropavlovsk 58.64 44 *e*P **P 02 21 31.2 -0.2**
comp=Z,208nm,1.1s,mb6.1
PET LR LR
comp=Z,2µm,20.0s,MS5.2
GDM Grand'Maison 58.65 307 *e*P **P 02 21 31.2 -0.5**
FRF La Foret Royal 58.69 305 ⇓*i*P **P 02 21 31.1 -0.8**
BAIF Baives 58.81 313 ⇓*i*P **P 02 21 32.4 -0.3**
comp=Z,622nm,1.7s,mb6.1
LMR La Mourre 58.84 305 ⇓*i*P **P 02 21 32.4 -0.6**
comp=Z,1µm,2.0s,mb6.3
ORIF Oris-en-Rattie 58.88 307 ⇓*i*P **P 02 21 32.2 -1.1**
comp=Z,527nm,1.6s,mb6.0
ORIF *e*R
comp=Z,4µm,21.2s
GRN Grenoble 58.90 307 *e*P **P 02 21 33.2 -0.2**
TAVF Tavernes 59.09 305 *e*P **P 02 21 34.2 -0.5**
STOF St-Etienne Org 59.09 306 *e*P **P 02 21 35.2 +0.4**
VILF Villemus 59.27 305 *e*P **P 02 21 36.3 +0.3**
SMRF Simiane la Rot 59.33 306 ⇓*i*P **P 02 21 36.0 -0.4**
comp=Z,619nm,1.6s,mb6.1
BERF Bertagne 59.42 305 *e*P **P 02 21 37.0 -0.1**
TREF Trevaresse 59.56 305 *e*P **P 02 21 38.2 +0.2**
GELF Grande-Etoile 59.59 305 *e*P **P 02 21 38.2 0.0**
PRAF Pradon 59.66 306 *e*P **P 02 21 38.9 +0.2**
LOR Lormes 59.67 310 ⇓*i*P **P 02 21 37.4 -1.3**
comp=Z,497nm,1.7s,mb6.0
LOR *e*R
comp=Z,3µm,22.8s
VIVF Saint-Julien-l 59.73 307 ⇓*i*P **P 02 21 38.6 -0.5**
comp=Z,809nm,1.8s,mb6.2
SMF Signal de Mont 59.84 309 ⇓*i*P **P 02 21 39.0 -0.9**
comp=Z,452nm,1.2s,mb6.1
BILL Bilibino 59.84 26 P **P 02 21 40.2 +0.6**
BILL pmax pmax
comp=Z,70nm,1.0s,mb5.7
BILL Bilibino 59.84 26 ⇓*e*P **P 02 21 40.4 +0.8**
comp=Z,134nm,1.2s,mb5.8
BILL LR LR
comp=Z,3µm,19.0s,MS5.4
SSF Saint Saulge 59.96 310 ⇓*i*P **P 02 21 39.8 -0.9**
comp=Z,312nm,1.2s,mb5.9
HYF Humbligny 60.48 310 ⇓*i*P **P 02 21 43.9 -0.3**
comp=Z,956nm,1.3s,mb6.4
LASF Ste Croix 60.50 306 ⇓*i*P **P 02 21 44.3 -0.1**
comp=Z,891nm,1.6s,mb6.3
BGF Bois d'Agland 60.52 309 ⇓*i*P **P 02 21 43.5 -1.1**
LBL Lubilhac 60.60 308 *e*P **P 02 21 45.6 +0.5**
PYM Petit Puy Mans 60.63 308 *e*P **P 02 21 45.6 +0.3**
GUMO Guam 60.76 91 PFAKE 02 22 00.0 +13
GUMO LR LR
comp=Z,2µm,19.0s,MS5.2
JMIC Jan Mayen 60.88 338 LR LR 02 48 49.3
comp=Z,2µm,19.6s,MS5.2,baz=100,slow=37
JMIC Jan Mayen 60.88 338 AMS AMS 02 49 14.8
comp=Z,1µm,21.4s,MS5.1
OWE Westray 60.95 324 ⇓*e*P **P 02 21 46.8 -0.5**
TCF Toulx Ste Croi 61.02 309 ⇓*i*P **P 02 21 47.5 -0.4**
comp=Z,473nm,1.3s,mb6.2
ORE Reay 61.49 324 ⇓*e*P **P 02 21 50.5 -0.4**
CAF Calviac 61.49 307 ⇓*i*P **P 02 21 50.9 -0.3**
comp=Z,209nm,1.3s,mb5.8
EJON La Jonquera 61.64 305 P **P 02 21 50.1 -2.1**
LRDF Laroque-de-Fa 61.74 305 *e*P **P 02 21 52.3 -0.6**
RJF Les Rejaudoux 61.76 308 ⇓*i*P **P 02 21 52.8 -0.2**
comp=Z,355nm,1.4s,mb6.0
RJF *e*R
comp=Z,3µm,21.8s
BTA Talkin 61.79 319 ⇓*e*P **P 02 21 52.4 -0.7**
FILF Fillols 61.84 305 *e*P **P 02 21 52.6 -1.0**
MTLF Montolieu 61.85 306 ⇓*i*P **P 02 21 52.9 -0.7**
comp=Z,243nm,1.2s,mb5.9
LDF La Druitiere 61.91 312 ⇓*i*P **P 02 21 53.1 -0.9**
comp=Z,383nm,1.4s,mb6.0
BDL Dobcross Hall 61.96 319 ⇓*e*P **P 02 21 53.8 -0.4**
ESK Eskdalemuir 61.98 320 P **P 02 21 54.3 0.0**
comp=Z,602nm,1.8s,mb6.4,SNR=9.6
ESK Eskdalemuir 61.98 320 P **P 02 21 53.8 -0.5**
ESK pmax pmax
comp=Z,510nm,1.7s,mb6.4
ESK Eskdalemuir 61.98 320 *e*P **P 02 21 53.3 -1.0**
comp=Z,449nm,1.6s,mb6.3
ESK LR LR
comp=Z,823nm,20.0s,MS4.9
BHH Howats Hill 62.04 320 ⇓*e*P **P 02 21 53.8 -0.9**
FLN La Foliniere 62.10 312 ⇓*i*P **P 02 21 54.1 -1.1**
comp=Z,207nm,1.2s,mb5.8
FLN *e*R
comp=Z,4µm,19.5s
LPEF Le Peyrat 62.18 305 *e*P **P 02 21 55.4 -0.5**
BWH Wardlaw 62.27 320 ⇓*e*P **P 02 21 55.8 -0.5**
VALF Valcebollere 62.27 305 *e*P **P 02 21 55.9 -0.6**
PCOU Corrie 62.30 321 ⇓*e*P **P 02 21 55.8 -0.7**
LFF La Frestale 62.39 308 ⇓*i*P **P 02 21 56.7 -0.5**
comp=Z,118nm,0.8s,mb5.7
GRR Gorron 62.44 312 ⇓*i*P **P 02 21 56.2 -1.3**
comp=Z,210nm,1.3s,mb5.8
PCA1 Carrot 62.46 320 ⇓*e*P **P 02 21 56.9 -0.6**
HAE Alders End 62.47 316 ⇓*e*P **P 02 21 56.6 -1.0**
HAE AMb AMb 02 22 00.1
comp=Z,523nm,1.8s,mb6.3
MFF Saint Martin d 62.49 310 ⇓*i*P **P 02 21 56.8 -1.1**
comp=Z,205nm,1.3s,mb5.8
HLM1 Long Mynd 62.53 317 ⇓*e*P **P 02 21 57.4 -0.7**
HLM1 AMb AMb 02 22 00.1
comp=Z,240nm,1.5s,mb6.1
SBD Saint Breward 62.65 317 ⇓*e*P **P 02 21 58.3 -0.4**
SSP1 Stoney Pound 62.70 317 ⇓*e*P **P 02 21 57.8 -1.3**
HGH Gray Hill 62.73 316 ⇓*e*P **P 02 21 58.1 -1.3**
HGH AMb AMb 02 22 00.9
comp=Z,358nm,1.6s,mb6.2
SALF Salau 62.74 305 *e*P **P 02 21 58.2 -1.4**
MCH1 Michaelchurch 62.74 316 ⇓*e*P **P 02 21 58.5 -0.9**
MLS Moulis 62.75 306 *e*P **P 02 21 58.0 -1.6**
EMIR Miracle 62.77 304 ⇓P **P 02 21 60.0 +0.2**
comp=Z,1µm,2.4s,mb6.7
HTR Trewern Hill 62.88 316 ⇓*e*P **P 02 21 59.3 -1.1**
WPM1 Penmaenmawr 62.92 318 ⇓*e*P **P 02 21 59.9 -0.6**
WPM1 AMb AMb 02 22 02.7
comp=Z,300nm,1.6s,mb6.2
GAL1 Galloway 62.93 320 ⇓*e*P **P 02 22 00.2 -0.5**
MELF Melles 63.01 306 *e*P **P 02 22 00.1 -1.2**
YLL Llanberis 63.11 318 ⇓*e*P **P 02 22 01.2 -0.6**
YLL AMb AMb 02 22 03.8
comp=Z,213nm,1.6s,mb6.0
WME Myndd Eilian 63.11 318 ⇓*e*P **P 02 22 00.8 -1.0**
WME AMb AMb 02 22 04.9
comp=Z,181nm,2.1s,mb5.8
EPF Esparros 63.25 306 ⇓*i*P **P 02 22 01.5 -1.4**
WCB1 Church Bay 63.26 318 ⇓*e*P **P 02 22 02.2 -0.6**
WCB1 AMb AMb 02 22 04.9
comp=Z,235nm,1.7s,mb6.0
EPOB Poblet 63.27 304 ⇓P **P 02 22 02.7 -0.3**
comp=Z,943nm,2.7s,mb6.4
GMK Mull of Kintyr 63.29 320 ⇓*e*P **P 02 22 02.6 -0.4**
YRE Yr Eifl 63.30 318 ⇓*e*P **P 02 22 02.5 -0.5**
YRE AMb AMb 02 22 06.2
comp=Z,268nm,2.0s,mb6.0
RESF Ems 63.32 306 *e*P **P 02 22 03.2 -0.2**
LABF Labassere 63.43 306 *e*P **P 02 22 04.4 +0.3**
EBIE Bielsa 63.50 306 ⇓P **P 02 22 04.5 0.0**
comp=Z,489nm,2.7s,mb6.2
SGMF Saint Gilles 63.56 312 ⇓*i*P **P 02 22 04.1 -0.7**
comp=Z,470nm,1.5s,mb6.0
MBWA Marble Bar 63.79 139 *e*P **P 02 22 04.2 -2.6**
comp=Z,105nm,1.2s,mb5.7
MBWA LR LR
comp=Z,971nm,20.0s,MS5.0
GMM Mts of Mourne 63.80 319 ⇓*e*P **P 02 22 05.8 -0.6**
EBR Ebro Roquetas 63.86 303 *i*P **P 02 22 07.0 +0.1**
ETSF Etsaut 63.92 306 ⇓*i*P **P 02 22 07.2 -0.1**
comp=Z,216nm,1.1s,mb5.8
FDAF Les Forges d'A 63.95 306 *e*P **P 02 22 07.2 -0.3**
ROSF Rostrenen 63.99 312 *e*P **P 02 22 06.3 -1.4**
comp=Z,142nm,1.1s,mb5.6
QUIF Quistinic 64.06 312 ⇓*i*P **P 02 22 06.9 -1.2**
comp=Z,88nm,1.1s,mb5.4
LARF Larrau 64.17 306 *e*P **P 02 22 08.4 -0.5**
ESAC San Caprasio 64.24 305 ⇓P **P 02 22 09.1 -0.3**
comp=Z,1µm,2.5s,mb6.5
SJPF Ste Jean 64.31 306 *e*P **P 02 22 09.5 -0.3**
comp=Z,285nm,1.6s,mb5.7
DLF Lyons Farm 64.42 318 *e*P **P 02 22 09.9 -0.5**
DMUB Kingscourt 64.45 319 *e*P **P 02 22 10.4 -0.1**
EALK Alkurruntz 64.47 307 P **P 02 22 10.3 -0.6**
comp=Z,480nm,2.7s,mb6.0
EMOS Mosqueruela 64.70 303 ⇓P **P 02 22 13.0 +0.6**
comp=Z,818nm,2.2s,mb6.4
DCN Croghan 64.83 319 *e*P **P 02 22 12.9 -0.1**
FITZ Fitzroy Crossi 64.96 133 ⇓*i*P **P 02 22 12.6 -1.8**
comp=Z,66nm,1.4s,mb5.5
FITZ *e*PKPPKP 02 50 59.2
EBEN Beniarda 65.10 301 P **P 02 22 14.8 -0.3**
comp=Z,817nm,3.4s
ETOR Torete 65.68 304 ⇓P **P 02 22 18.2 -0.5**
comp=Z,586nm,2.9s,mb6.1
KAKA Kakadu 65.70 123 ⇓*i*P **P 02 22 22.1 +2.8**
comp=Z,202nm,1.3s,mb6.0
KAKA *e*PKPPKP 02 51 01.5
CART Cartagena 66.08 301 *e*P **P 02 22 20.3 -1.0**
comp=Z,172nm,0.9s,mb6.1
EMUR La Murta 66.16 301 P **P 02 22 21.4 -0.4**
comp=Z,510nm,2.5s,mb6.1
EVIA Vinos 66.79 302 ⇓P **P 02 22 26.0 +0.1**
comp=Z,232nm,1.5s,mb6.0
EARI Arriondas 66.98 308 P **P 02 22 26.9 -0.1**
comp=Z,282nm,1.6s,mb6.0
VAL Valentia 67.01 318 ⇓*i*P **P 02 22 27.2 +0.2**
BORG Borgarnes 67.40 333 PFAKE 02 22 40.0 +11
BORG LR LR
comp=Z,440nm,20.0s,MS4.7
ESDC Sonseca Array 67.45 304 P **P 02 22 29.2 -0.8**
comp=Z,39nm,1.0s,mb5.4,baz=57,slow=7.0,SNR=82
ESDC LR LR 02 57 27.2
comp=Z,656nm,18.6s,MS4.9,baz=45,slow=41
ESDC Sonseca Array 67.45 304 ⇓P **P 02 22 29.7 -0.3**
comp=Z,66nm,1.1s,mb5.6
EQES Quesada 67.52 301 ⇓P **P 02 22 30.3 -0.2**
comp=Z,254nm,1.3s,mb6.1
EBER Berja 67.73 301 P **P 02 22 31.1 -0.7**
comp=Z,437nm,1.6s,mb6.2
PAB San Pablo 67.78 304 P **P 02 22 31.7 -0.4**
PAB S S 02 31 32.2 +3.0
EPON Pontenova 68.28 308 P **P 02 22 34.8 -0.4**
comp=Z,796nm,3.2s
ERON Agron 68.36 301 P **P 02 22 34.4 -1.4**
comp=Z,20nm,0.8s,mb5.2
EADA Adamuz 68.47 302 P **P 02 22 36.0 -0.4**
comp=Z,595nm,2.8s,mb6.1
ELUQ Luque 68.49 302 ⇓P **P 02 22 35.6 -0.9**
comp=Z,65nm,1.0s,mb5.6
ECAL Calabor 68.53 307 ⇓P **P 02 22 36.5 -0.2**
comp=Z,161nm,1.4s,mb5.8
ELOJ Sierra Loja 68.56 301 P **P 02 22 35.6 -1.4**
comp=Z,18nm,1.0s,mb5.0
LSZ Lusaka 68.56 236 P **P 02 22 36.1 -1.2**
LSZ pmax pmax
comp=Z,15nm,1.2s,mb4.8
LSZ Lusaka 68.56 236 ⇓*e*P **P 02 22 36.0 -1.4**
comp=Z,27nm,1.2s,mb5.0
LSZ LR LR
comp=Z,1µm,19.0s,MS5.2
PBRG Braganca 68.59 307 *e*P **P 02 22 36.6 -0.5**
comp=Z,72nm,1.9s,mb5.3
ERUA La Rua 68.64 307 ⇓P **P 02 22 37.3 -0.1**
comp=Z,33nm,0.8s,mb5.3
SUMG Summit 68.80 344 ⇓*e*P **P 02 22 38.1 +0.2**
comp=Z,114nm,1.3s,mb5.6
EMIJ Mijas 69.25 301 ⇓P **P 02 22 39.5 -1.8**
comp=Z,67nm,1.4s,mb5.4
STS Santiago 69.40 308 ⇓P **P 02 22 41.8 -0.2**
comp=Z,33nm,0.8s,mb5.3
PVRL Vila Real 69.47 306 *e*P **P 02 22 42.0 -0.5**
comp=Z,95nm,1.3s,mb5.6
ELOB Lobios 69.47 307 P **P 02 22 42.6 +0.1**
comp=Z,270nm,1.7s,mb5.9
EMAZ Mazaricos 69.66 308 P **P 02 22 45.6 +2.0**
comp=Z,24nm,0.8s,mb5.2
MTE Manteigas 69.70 306 *e*P **P 02 22 44.2 +0.3**
comp=Z,195nm,1.3s,mb5.9
MTE *e*PP PP 02 25 17.1 -2.9
MTE Manteigas 69.70 306 ⇓*e*P **P 02 22 44.2 +0.2**
comp=Z,170nm,1.2s,mb5.8
EZAM Zamans 69.79 308 P **P 02 22 44.8 +0.4**
comp=Z,21nm,0.9s,mb5.1
PVIS Viseu 69.82 306 *e*P **P 02 22 44.3 -0.3**
comp=Z,163nm,1.1s,mb5.9
PVIS *e*PP PP 02 25 17.6 -3.3
PCBR Castelo Branco 69.88 305 *e*P **P 02 22 44.9 -0.1**
comp=Z,97nm,1.4s,mb5.5
PCBR *e*PP PP 02 25 18.2 -3.3
ESPR Espera 69.92 302 ⇓P **P 02 22 44.5 -0.9**
comp=Z,42nm,1.0s,mb5.3
EBAD Badajoz 69.99 304 ⇓P **P 02 22 45.6 -0.2**
comp=Z,390nm,1.5s,mb6.1
EMIN Mina Concepcio 70.15 303 ⇓P **P 02 22 46.4 -0.3**
comp=Z,224nm,1.4s,mb5.9
TNA Tin City 70.21 24 PFAKE 02 23 00.0 +13
TNA LR LR
comp=Z,2µm,20.0s,MS5.2
PTOM Tomar 70.63 305 *e*P **P 02 22 49.9 +0.3**
comp=Z,265nm,1.1s,mb6.1
EVO Evora 70.80 304 ⇓*i*P **P 02 22 50.8 +0.1**
comp=Z,255nm,1.3s,mb5.7
EVO *e*R
comp=Z,1µm,18.0s
PALC Alcoutim 70.86 303 *e*P **P 02 22 50.9 -0.1**
comp=Z,179nm,1.2s,mb5.9
ALMR Almeirim 70.94 305 *e*P **P 02 22 51.5 0.0**
MUN Mundaring 70.96 149 *e*P **P 02 22 47.6 -4.2**
comp=Z,56nm,1.3s,mb5.3
KLBR Kellerberrin 71.33 147 *e*P **P 02 22 53.7 -0.3**
comp=Z,86nm,1.2s,mb5.6
PLOU Loures 71.46 305 *e*P **P 02 22 54.9 +0.3**
comp=Z,192nm,1.1s,mb5.9
LIS Lisbon 71.53 304 *e*P **P 02 22 54.2 -0.9**
PTEO Sao Teotonio 71.72 303 *e*P **P 02 22 56.4 +0.1**
comp=Z,164nm,1.1s,mb5.9
WRA Warramunga Arr 71.99 128 P **P 02 22 56.9 -1.3**
comp=Z,285nm,0.8s,mb6.3,baz=323,slow=6.2,SNR=256
WRA LR LR 02 59 04.9
comp=Z,295nm,18.3s,MS4.6,baz=280,slow=40
WRA Warramunga Arr 71.99 128 P **P 02 22 56.9 -1.2**
WRA pmax pmax
comp=Z,285nm,0.8s
WRA MLR MLR
comp=Z,295nm,18.3s
WRAB Tennant Creek 71.99 128 P **P 02 22 57.0 -1.1**
comp=Z,3µm,0.8s
WRAB Tennant Creek 71.99 128 ⇓*i*P **P 02 22 57.4 -0.8**
comp=Z,643nm,0.8s,mb6.6
WRAB ⇑*i*pP pP 02 23 00.2 +0.8
WRAB LR LR
comp=Z,294nm,22.0s,MS4.5
WB2 Warramunga Arr 72.00 128 ⇓*i*P **P 02 22 57.1 -1.1**
WB2 *e*S S 02 32 16.7 -2.3
WB2 *e*PKKP PKKP 02 42 05.1 -19
NWAO Narrogin (SRO) 72.22 149 P **P 02 22 56.9 -2.4**
NWAO pmax pmax
comp=Z,99nm,1.1s
NWAO Narrogin (SRO) 72.22 149 *e*P **P 02 22 56.6 -2.7**
comp=Z,70nm,0.8s,mb5.6
NWAO LR LR
comp=Z,1µm,20.0s,MS5.2
WAU Wau 73.38 109 P **P 02 23 07.0 +0.5**
ASPA Alice Springs 74.28 131 ⇓*i*P **P 02 23 10.6 -0.9**
ASPA *e*S S 02 32 43.1 -1.7
ASAR Alice Springs 74.29 131 P **P 02 23 10.7 -0.9**
comp=Z,130nm,0.7s,mb6.0,baz=318,slow=6.0,SNR=150
ASAR LR LR 03 03 37.9
comp=Z,521nm,19.3s,MS4.8,baz=305,slow=42
IMA Indian Mountai 74.55 20 P **P 02 23 12.9 +0.7**
IMA pmax pmax
comp=Z,260nm,1.0s,mb6.1
IMA Indian Mountai 74.55 20 *e*P **P 02 23 13.5 +1.3**
comp=Z,26nm,0.8s,mb5.2
PMG Port Moresby 74.92 111 P **P 02 23 13.9 -1.5**
comp=Z,80nm,1.0s,mb5.6,baz=333,slow=3.9,SNR=11
PMG LR LR 02 58 49.9
comp=Z,190nm,21.4s,MS4.4,baz=289,slow=38
PMG Port Moresby 74.92 111 ⇓*e*P **P 02 23 14.8 -0.6**
PMG pmax pmax
comp=Z,130nm,1.1s
PMG Port Moresby 74.92 111 ⇓*e*P **P 02 23 14.8 -0.6**
comp=Z,126nm,1.1s,mb5.8
PMG ⇑*e*pP pP 02 23 17.6 +1.0
PMG LR LR
comp=Z,431nm,22.0s,MS4.7
FORT Forrest 75.95 140 *e*P **P 02 23 20.1 -0.9**
comp=Z,381nm,0.8s,mb6.4
COLA College 77.11 19 ⇓*e*P **P 02 23 27.0 +0.3**
COLA pmax pmax
comp=Z,65nm,1.1s,mb5.5
COLA College 77.11 19 *e*P **P 02 23 26.9 +0.2**
comp=Z,216nm,1.9s,mb5.8
UNV Unalaska Valle 77.33 34 P **P 02 23 28.5 +0.3**
comp=Z,540nm,1.5s,mb6.3
UNV LR LR
comp=Z,5µm,21.0s,MS5.8
ILAR Eielson Array 77.45 19 P **P 02 23 28.1 -0.6**
comp=Z,18nm,0.9s,mb5.0,baz=316,slow=4.7,SNR=74
ILAR PP PP 02 26 11.7 -13
comp=Z,3.8nm,1.1s,baz=305,slow=4.2,SNR=4.1
ILAR LR LR 03 00 21.5
comp=Z,2µm,21.8s,MS5.5,baz=170,slow=38
MCK McKinley 77.64 20 P **P 02 23 28.2 -1.5**
MCK pmax pmax
comp=Z,59nm,1.7s,mb5.2
MCK McKinley 77.64 20 *e*P **P 02 23 29.5 -0.2**
comp=Z,32nm,1.3s,mb5.1
MCK *e*PP PP 02 26 24.7 -2.0
MCK LR LR
comp=Z,2µm,19.0s,MS5.3
INK Inuvik 77.67 12 LR LR 03 01 53.0
comp=Z,1µm,18.4s,MS5.2,baz=189,slow=39
INK Inuvik 77.67 12 P **P 02 23 29.9 +0.1**
INK pmax pmax
comp=Z,66nm,1.3s
INK Inuvik 77.67 12 ⇓*e*P **P 02 23 29.7 -0.1**
comp=Z,26nm,1.0s,mb5.1
INK *e*PP PP 02 26 26.4 -0.5
SPU Mount Spurr 78.51 23 *e*P **P 02 23 34.7 +0.2**
RSO Redoubt South 78.78 24 *e*P **P 02 23 34.0 -2.0**
THY Trims Highway 78.81 20 ⇓*e*P **P 02 23 36.1 -0.1**
FIB Fire Island 79.15 23 PFAKE 02 23 50.0 +12
FIB LR LR
comp=Z,2µm,22.0s,MS5.3
EFAM Famara 79.16 297 P **P 02 23 38.8 0.0**
PMR Palmer 79.17 22 *e*P **P 02 23 38.2 +0.1**
comp=Z,202nm,2.1s,mb5.7
SML Sawmill 79.26 22 P **P 02 23 39.0 +0.4**
SML Sawmill 79.26 22 *e*P **P 02 23 38.7 +0.1**
SLKM Skilak Lake 79.61 23 P **P 02 23 40.9 +0.4**
SLKM Skilak Lake 79.61 23 *e*P **P 02 23 39.2 -1.4**
DAWY Dawson 80.00 17 ⇓*e*P **P 02 23 42.5 -0.1**
DIV Divide 80.58 21 *e*P **P 02 23 46.4 +0.7**
comp=Z,57nm,1.1s,mb5.4
DIV LR LR
comp=Z,5µm,21.0s,MS5.8
CTA Charters Tower 80.58 120 *e*P **P 02 23 46.4 -0.1**
comp=Z,70nm,0.9s,mb5.6
CTAO Charters Tower 80.58 120 P **P 02 23 46.1 -0.4**
CTAO pmax pmax
comp=Z,200nm,1.2s,mb5.9
CTAO Charters Tower 80.58 120 *e*P **P 02 23 46.2 -0.4**
comp=Z,140nm,0.9s,mb5.9
CTAO ⇑*e*pP pP 02 23 49.0 +1.2
CTAO LR LR
comp=Z,526nm,19.0s,MS4.9
KDAK Kodiak Island 80.75 26 *e*P **P 02 23 47.4 +0.7**
comp=Z,174nm,1.0s,mb5.9
KDAK ⇑*e*pP pP 02 23 50.2 +2.3
KDAK LR LR
comp=Z,316nm,19.0s,MS4.7
EYAK Cordova Ski Ar 81.04 21 *e*P **P 02 23 48.2 +0.1**
EOSO Osorio 81.23 297 P **P 02 23 50.1 +0.3**
CCAN Las Canadas 81.95 298 P **P 02 23 55.2 +1.7**
EGOM La Gomera 82.44 298 P **P 02 23 57.1 +1.0**
comp=Z,28nm,0.9s,mb5.2
FRB Frobisher Bay 82.52 347 LR LR 03 07 00.1
comp=Z,2µm,19.1s,MS5.4,baz=20,slow=40
DBIC Dimbokro 83.13 274 P **P 02 23 59.6 -0.3**
comp=Z,135nm,1.0s,mb5.9,baz=38,slow=5.4,SNR=36
DBIC LR LR 03 04 09.4
comp=Z,3µm,19.1s,MS5.6,baz=222,slow=38
DBIC Dimbokro 83.13 274 P **P 02 23 59.7 -0.2**
DBIC pmax pmax
comp=Z,135nm,1.0s
DBIC MLR MLR
comp=Z,3µm,19.1s
KIC Kosan Boka 83.19 273 *e*P **P 02 24 00.0 -0.2**
comp=Z,943nm,1.1s,mb6.7
CHIE El Hierro 83.23 298 P **P 02 24 00.7 +0.4**
TIC Toumodi 83.28 274 *e*P **P 02 24 00.4 -0.3**
comp=Z,830nm,1.2s,mb6.7
LIC Lamto 83.50 273 ⇓*i*P **P 02 24 02.1 +0.2**
comp=Z,378nm,1.2s,mb6.1
LIC Lamto 83.50 273 *e*P **P 02 24 01.4 -0.5**
comp=Z,406nm,1.2s,mb6.4
STKA Stephens Creek 84.84 132 ⇓*i*P **P 02 24 07.2 -1.1**
comp=Z,46nm,0.9s,mb5.6
STKA Stephens Creek 84.84 132 P **P 02 24 07.5 -0.8**
comp=Z,60nm,0.9s,mb5.8,baz=317,slow=5.9,SNR=24
STKA LR LR 03 05 05.1
comp=Z,1µm,20.9s,MS5.3,baz=302,slow=38
SUR Sutherland 85.02 228 PFAKE 02 24 20.0 +11
SUR LR LR
comp=Z,477nm,22.0s,MS4.8
YKW3 Yellowknife Ar 85.88 7 *e*P **P 02 24 11.8 -0.9**
YKA Yellowknife Ar 85.95 7 P **P 02 24 11.9 -1.1**
comp=Z,9.2nm,0.7s,mb5.1,baz=343,slow=4.7,SNR=23
YKA LR LR 03 05 12.0
comp=Z,1µm,19.8s,MS5.3,baz=330,slow=37
YKA Yellowknife Ar 85.95 7 P **P 02 24 11.9 -1.1**
YKA pmax pmax
comp=Z,9.0nm,0.7s
YKA MLR MLR
comp=Z,1µm,19.8s
YKA Yellowknife Ar 85.95 7 P **P 02 24 11.9 -1.1**
YKA LR LR 03 05 12.0
SIT Sitka 87.01 19 PFAKE 02 24 30.0 +12
SIT LR LR
comp=Z,3µm,21.0s,MS5.7
DLBC Dease Lake 87.15 16 LR LR 03 07 46.5
comp=Z,2µm,19.7s,MS5.5,baz=327,slow=39
SCHQ Schefferville 90.13 342 P **P 02 24 32.8 -0.5**
comp=Z,5.0nm,0.8s,mb4.9,baz=36,slow=8.2,SNR=5.6
SCHQ PP PP 02 28 08.5 -0.6
comp=Z,22nm,1.2s,baz=19,slow=8.4,SNR=5.5
SCHQ LR LR 03 10 00.4
comp=Z,2µm,19.7s,MS5.5,baz=21,slow=39
TOO Toolangi 90.97 134 *e*P **P 02 24 38.1 +0.5**
comp=Z,44nm,1.0s,mb5.7
TOO *e*S tx 02 33 59.4
CNB Canberra Magne 92.03 131 *e*P **P 02 24 44.2 +1.7**
comp=Z,48nm,1.2s,mb5.7
FFC Flin Flon 94.55 2 P **P 02 24 53.6 0.0**
FFC pmax pmax
comp=Z,28nm,1.1s,mb5.6
FFC Flin Flon 94.55 2 *e*P **P 02 24 53.1 -0.5**
comp=Z,33nm,1.1s,mb5.7
FFC LR LR
comp=Z,509nm,21.0s,MS5.0
EDM Edmonton 95.16 9 P **P 02 24 56.6 +0.2**
EDM Edmonton 95.16 9 *e*P **P 02 24 56.5 0.0**
OCWA Octopus Mounta 98.36 17 PFAKE 02 25 20.0 +9.0
OCWA LR LR
comp=Z,2µm,21.0s,MS5.5
ULM Lac du Bonnet 99.03 358 P **P 02 25 14.2 +0.2**
comp=Z,6.3nm,1.1s,mb5.0,baz=357,slow=2.9,SNR=3.1
ULM LR LR 03 14 24.7
comp=Z,2µm,21.1s,MS5.5,baz=147,slow=38
MAW Mawson 99.29 187 P **P 02 25 14.8 0.0**
comp=Z,1.9nm,1.0s,baz=346,slow=5.4,SNR=6.1
MAW LR LR 03 05 27.3
comp=Z,905nm,18.1s,baz=11,slow=32
EMMW East Machias 99.35 338 PFAKE 02 25 30.0 +14
EMMW LR LR
comp=Z,6µm,20.0s,MS6.1
NEW Newport 99.39 12 PFAKE 02 25 30.0 +14
NEW LR LR
comp=Z,2µm,20.0s,MS5.6
CASY Casey 99.60 168 PFAKE 02 25 30.0 +14
CASY LR LR
comp=Z,1µm,20.0s,MS5.4
BMW Boistfort Moun 99.78 17 P **P 02 25 15.4 -2.2**
WVL Waterville 100.17 339 PFAKE 02 25 30.0 +11

WVL				LR	LR				
	comp=Z,6μm,21.0s,MS6.1								
DGMT	**Dagmar**	**100.72**	**4**	*e*Pdif	P	02 25 22.0	+0.2		
DGMT	comp=Z,18nm,1.1s			LR	LR				
	comp=Z,1μm,21.0s,MS5.4								
MSO	**Missoula**	**101.32**	**10**	PFAKE		02 25 40.0	+15		
MSO				LR	LR				
	comp=Z,1μm,20.0s,MS5.4								
COR	**Corvallis**	**101.52**	**18**	PFAKE		02 25 40.0	+15		
COR				LR	LR				
	comp=Z,468nm,19.0s,MS5.0								
NCB	**Newcomb**	**102.01**	**342**	PFAKE		02 25 40.0	+12		
NCB				LR	LR				
	comp=Z,1μm,22.0s,MS5.3								
LAO	**LASA Array**	**102.36**	**5**	PFAKE		02 25 40.0	+11		
LAO				LR	LR				
	comp=Z,2μm,21.0s,MS5.5								
HRV	**Harvard--Oak R**	**102.61**	**340**	PFAKE		02 25 40.0	+10		
HRV				LR	LR				
	comp=Z,1μm,22.0s,MS5.3								
WES	**Weston**	**102.65**	**339**	PFAKE		02 25 40.0	+9.4		
WES				LR	LR				
	comp=Z,2μm,22.0s,MS5.5								
BOZ	**Bozeman (W)**	**102.81**	**9**	PFAKE		02 25 40.0	+8.8		
BOZ				LR	LR				
	comp=Z,815nm,20.0s,MS5.2								
HUMO	**Hull Mountain**	**103.46**	**18**	PFAKE		02 25 50.0	+16		
HUMO				LR	LR				
	comp=Z,2μm,22.0s,MS5.5								
LKWY	**Lake**	**104.04**	**8**	PFAKE		02 25 50.0	+13		
LKWY				LR	LR				
	comp=Z,3μm,19.0s,MS5.8								
BINY	**Binghamton**	**104.13**	**343**	PFAKE		02 25 50.0	+13		
BINY				LR	LR				
	comp=Z,2μm,20.0s,MS5.6								
SYO	**Syowa Base**	**104.29**	**194**	⇓Pdiff	Pdif	02 25 36.0	-1.2		
SYO	**Syowa Base**	**104.29**	**194**	⇓PKiKP		02 29 51.1			
YBH	**Yreka Blue Hor**	**104.34**	**18**	PFAKE		02 25 50.0	+12		
YBH				LR	LR				
	comp=Z,1μm,22.0s,MS5.5								
HLID	**Hailey**	**104.42**	**12**	PFAKE		02 25 50.0	+12		
HLID				LR	LR				
	comp=Z,1μm,20.0s,MS5.5								
MOD	**Modoc**	**104.79**	**16**	PFAKE		02 25 50.0	+10		
MOD				LR	LR				
	comp=Z,1μm,20.0s,MS5.4								
WDC	**Whiskeytown Da**	**105.46**	**18**	PFAKE		02 30 10.0			
WDC				LR	LR				
	comp=Z,1μm,21.0s,MS5.5								
AAM	**Ann Arbor**	**105.68**	**348**	PFAKE		02 30 10.0			
AAM				LR	LR				
	comp=Z,2μm,22.0s,MS5.6								
AHID	**Auburn Hatcher**	**105.71**	**9**	PFAKE		02 30 10.0			
AHID				LR	LR				
	comp=Z,1μm,20.0s,MS5.5								
POHA	**Pohakuloa**	**105.81**	**55**	PFAKE		02 30 10.0			
POHA				LR	LR				
	comp=Z,925nm,20.0s,MS5.3								
BW06	**Boulder Array**	**105.91**	**8**	PFAKE		02 30 10.0			
BW06				LR	LR				
	comp=Z,2μm,20.0s,MS5.6								
PDAR	**Pinedale Array**	**105.91**	**8**	PKiKP		02 29 56.6			
	comp=Z,2.2nm,0.7s,baz=59,slow=1.7,SNR=11								
PDAR				PKKPbc		02 41 20.4			
	comp=Z,1.1nm,0.9s,baz=153,slow=3.3,SNR=7.1								
JFWS	**Jewell Farm**	**105.98**	**353**	PFAKE		02 30 10.0			
JFWS				LR	LR				
	comp=Z,2μm,20.0s,MS5.6								
SSPA	**Standing Stone**	**106.08**	**343**	PFAKE		02 30 10.0			
SSPA				LR	LR				
	comp=Z,332nm,20.0s,MS4.9								
HWUT	**Hardware Ranch**	**106.78**	**10**	PFAKE		02 30 10.0			
HWUT				LR	LR				
	comp=Z,1μm,19.0s,MS5.5								
HOPS	**Hopland**	**106.79**	**19**	PFAKE		02 30 10.0			
HOPS				LR	LR				
	comp=Z,1μm,22.0s,MS5.5								
BMN	**Battle Mountai**	**106.90**	**15**	PFAKE		02 30 10.0			
BMN				LR	LR				
	comp=Z,839nm,19.0s,MS5.3								
MCWV	**Mont Chateau**	**107.47**	**345**	PFAKE		02 30 10.0			
MCWV				LR	LR				
	comp=Z,2μm,22.0s,MS5.6								
ACSO	**Alum Creek Sta**	**107.57**	**347**	PFAKE		02 30 10.0			
ACSO				LR	LR				
	comp=Z,1μm,21.0s,MS5.5								
DUG	**Dugway**	**107.97**	**11**	*e*PP	PP	02 30 23.5	-2.6		
DUG				LR	LR				
	comp=Z,883nm,20.0s,MS5.3								
CBN	**Corbin**	**108.24**	**342**	PFAKE		02 30 10.0			
CBN				LR	LR				
	comp=Z,2μm,20.0s,MS5.6								
CMB	**Columbia Colle**	**108.42**	**18**	PFAKE		02 30 10.0			
CMB				LR	LR				
	comp=Z,1μm,19.0s,MS5.5								
NVAR	**Mina Array Bea**	**108.57**	**16**	PKiKP		02 30 00.2			
	comp=Z,2.2nm,0.9s,baz=8.6,slow=1.1,SNR=9.0								
NVAR				PKKPbc		02 41 13.2			
	comp=Z,0.3nm,0.3s,baz=154,slow=6.0,SNR=6.0								
NVAR	**Mina Array Bea**	**108.57**	**16**	PKPdf		02 30 00.2			
NVAR				PKKPbc		02 41 13.2			
MNV	**Mina**	**108.60**	**16**	PFAKE		02 30 10.0			
MNV				LR	LR				
	comp=Z,988nm,20.0s,MS5.4								
BBSR	**BB Station**	**109.10**	**330**	PFAKE		02 30 20.0			
BBSR				LR	LR				
	comp=Z,1μm,22.0s,MS5.4								
TPH	**Tonopah**	**109.15**	**15**	PFAKE		02 30 20.0			
TPH				LR	LR				
	comp=Z,901nm,20.0s,MS5.3								
ISCO	**Idaho Springs**	**109.25**	**5**	PFAKE		02 30 20.0			
ISCO				LR	LR				
	comp=Z,1μm,21.0s,MS5.5								
SAO	**San Andreas Ge**	**109.33**	**19**	PFAKE		02 30 20.0			
SAO				LR	LR				
	comp=Z,1μm,22.0s,MS5.4								
MVU	**Marysvale**	**109.72**	**11**	PFAKE		02 30 20.0			
MVU				LR	LR				
	comp=Z,1μm,21.0s,MS5.4								
BLA	**Blacksburg**	**109.94**	**344**	PFAKE		02 30 20.0			
BLA				LR	LR				
	comp=Z,2μm,22.0s,MS5.7								
WCI	**Wyandotte Cave**	**110.09**	**349**	PFAKE		02 30 20.0	+14		
WCI				LR	LR				
	comp=Z,483nm,20.0s,MS5.1								
PV10	**Paradox Valley**	**110.30**	**8**	*e*PKPdf	PKPdf	02 30 06.3	-0.2		
TPNV	**Topopah Spring**	**110.45**	**15**	PFAKE		02 30 20.0	+13		
TPNV				LR	LR				
	comp=Z,1μm,22.0s,MS5.5								
CBKS	**Cedar Bluff**	**110.50**	**1**	PFAKE		02 30 20.0	+13		
CBKS				LR	LR				
	comp=Z,2μm,19.0s,MS5.7								
DAC	**Darwin (Calif)**	**110.79**	**16**	PFAKE		02 30 20.0	+13		
DAC				LR	LR				
	comp=Z,754nm,21.0s,MS5.2								
CCM	**Cathedral Cave**	**110.89**	**354**	PFAKE		02 30 20.0	+12		
CCM				LR	LR				
	comp=Z,456nm,19.0s,MS5.1								
ISA	**Isabella**	**111.16**	**17**	PFAKE		02 30 20.0	+12		
ISA				LR	LR				
	comp=Z,68nm,20.0s								
SDCO	**Great Sand Dun**	**111.30**	**6**	PFAKE		02 30 20.0	+12		
SDCO				LR	LR				
	comp=Z,2μm,20.0s,MS5.7								
WVT	**Waverly**	**112.38**	**350**	PFAKE		02 30 20.0	+9.5		
WVT				LR	LR				
	comp=Z,2μm,21.0s,MS5.6								
PFO	**Pinyon Flat Ob**	**113.60**	**16**	PFAKE		02 30 20.0	+6.9		
PFO				LR	LR				
	comp=Z,314nm,19.0s,MS4.9								
NHSC	**New Hope**	**113.79**	**343**	PFAKE		02 30 20.0	+6.5		
NHSC				LR	LR				
	comp=Z,3μm,19.0s,MS5.9								
ANMO	**Albuquerque**	**113.98**	**7**	⇑*i*PKIKP	PKPdf	02 30 16.2	+2.4		
ANMO	**Albuquerque**	**113.98**	**7**	*e*PKPdf	PKPdf	02 30 13.0	-0.8		
ANMO				LR	LR				
	comp=Z,2μm,19.0s,MS5.6								
HBF	**Harts Bluff**	**114.00**	**343**	PKIKP	PKPdf	02 30 20.7	+6.8		
OXF	**Oxford**	**114.19**	**351**	PFAKE		02 30 20.0	+5.8		
OXF				LR	LR				
	comp=Z,527nm,22.0s,MS5.1								
MIAR	**Mount Ida**	**114.58**	**355**	PKIKP	PKPdf	02 30 14.7	-0.2		
MIAR	**Mount Ida**	**114.58**	**355**	*e*PKPdf	PKPdf	02 30 14.1	-0.8		
MIAR				LR	LR				
	comp=Z,2μm,19.0s,MS5.8								
WMOK	**Wichita Mounta**	**114.58**	**360**	PKIKP	PKPdf	02 30 13.6	-1.3		
WMOK	**Wichita Mounta**	**114.58**	**360**	*e*PKPdf	PKPdf	02 30 13.4	-1.5		
WMOK				LR	LR				
	comp=Z,1μm,21.0s,MS5.5								
LENM	**Lemitar**	**114.70**	**7**	*e*PKPdf	PKPdf	02 30 14.5	-0.6		
BNM	**Barren Site**	**114.76**	**7**	*e*PKPdf	PKPdf	02 30 14.4	-0.8		
LRAL	**Lakeview Retre**	**115.29**	**349**	PFAKE		02 30 30.0	+14		
LRAL				LR	LR				
	comp=Z,2μm,20.0s,MS5.7								
TUC	**Tucson**	**116.00**	**11**	PKIKP	PKPdf	02 30 17.4	-0.4		
TUC	**Tucson**	**116.00**	**11**	*e*PKPdf	PKPdf	02 30 17.8	0.0		
TUC				LR	LR				
	comp=Z,724nm,21.0s,MS5.3								
RCBR	**Riachuelo**	**116.06**	**279**	PFAKE		02 30 30.0	+12		
RCBR				LR	LR				
	comp=Z,1μm,20.0s,MS5.5								
CPRX	**Cap Rock**	**116.11**	**5**	*e*PKPdf	PKPdf	02 30 16.7	-1.3		
GDL2	**Guadalupe Moun**	**116.90**	**5**	*e*PKPdf	PKPdf	02 30 17.8	-1.7		
SNAA	**Sanae**	**117.25**	**201**	*e*	PKPdf	02 30 20.2	+1.0		
SNAA	**Sanae**	**117.25**	**201**	⇑*i*		02 40 38.6			
SNAA	**Sanae**	**117.25**	**201**	PKKPbc		02 40 41.5			
	comp=Z,0.5nm,0.9s,baz=279,slow=16,SNR=3.6								
SNAA	**Sanae**	**117.25**	**201**	PKIKP	PKPdf	02 30 17.4	-1.8		
SNAA	**Sanae**	**117.25**	**201**	⇓*i*PKPdf	PKPdf	02 30 17.0	-2.2		
SNAA				*e*		02 30 20.2			
SNAA				*e*		02 31 32.0			
NATX	**Nacogdoches**	**117.42**	**356**	PFAKE		02 30 30.0	+10		
NATX				LR	LR				
	comp=Z,2μm,22.0s,MS5.6								
VNDA	**Vanda**	**118.09**	**166**	PKP	PKPdf	02 30 19.9	-0.9		
	comp=Z,2.0nm,1.0s,baz=311,slow=3.8,SNR=8.3								
VNDA				PKKPbc		02 40 39.5			
	comp=Z,1.1nm,1.0s,baz=70,slow=2.3,SNR=2.8								
VNDA	**Vanda**	**118.09**	**166**	PKP	PKPdf	02 30 19.9	-0.9		
VNDA				PKKPbc		02 40 39.5			
VNA2	**Neumayer--Watz**	**118.49**	**202**	*e*	PKPdf	02 30 25.2	+3.5		
VNA2	**Neumayer--Watz**	**118.49**	**202**	⇓*i*PKPdf	PKPdf	02 30 22.0	+0.3		
VNA2				*e*		02 30 25.2			
VNA2				*e*		02 31 37.6			
VNA1	**Neumayer--Stat**	**118.71**	**202**	*e*	PKPdf	02 30 25.7	+3.6		
VNA1	**Neumayer--Stat**	**118.71**	**202**	⇓*i*PKPdf	PKPdf	02 30 22.3	+0.2		
VNA1				*e*		02 30 25.7			
VNA1				*e*		02 31 37.9			
JCT	**Junction City**	**118.82**	**1**	PKIKP	PKPdf	02 30 22.2	-1.1		
JCT	**Junction City**	**118.82**	**1**	*e*PKPdf	PKPdf	02 30 21.6	-1.7		
JCT				LR	LR				
	comp=Z,2μm,20.0s,MS5.8								
DWPF	**Disney**	**118.87**	**342**	PFAKE		02 30 30.0	+6.6		
DWPF				LR	LR				
	comp=Z,399nm,22.0s,MS5.0								
SBA	**Scott Base**	**119.19**	**166**	PFAKE		02 30 30.0	+7.1		
SBA				LR	LR				
	comp=Z,1μm,20.0s,MS5.6								
HKT	**Hockley**	**119.28**	**357**	PKIKP	PKPdf	02 30 23.6	-0.5		
HKT	**Hockley**	**119.28**	**357**	*e*PKPdf	PKPdf	02 30 21.6	-2.5		
HKT				LR	LR				
	comp=Z,375nm,19.0s,MS5.0								
VNA3	**Neumayer Olymp**	**119.28**	**202**	*e*	PKPdf	02 30 26.4	+3.2		
VNA3	**Neumayer Olymp**	**119.28**	**202**	⇓*i*PKPdf	PKPdf	02 30 23.2	0.0		
VNA3				*e*		02 30 26.4			
VNA3				*e*		02 31 38.7			
LTX	**Lajitas**	**119.80**	**5**	PKIKP	PKPdf	02 30 24.7	-0.4		
LTX	**Lajitas**	**119.80**	**5**	*e*PKPdf	PKPdf	02 30 23.6	-1.4		
LTX				LR	LR				
	comp=Z,2μm,20.0s,MS5.6								
TXAR	**Lajitas Array**	**119.80**	**5**	PKP	PKPdf	02 30 23.8	-1.3		
	comp=Z,17nm,1.1s,baz=176,slow=1.2,SNR=29								
QSPA	**South Pole Qui**	**120.83**	**180**	*e*P	PKPdf	02 30 24.1	-2.0		
SJG	**San Juan**	**121.87**	**323**	PFAKE		02 30 40.0	+11		
SJG				LR	LR				
	comp=Z,1μm,20.0s,MS5.6								
TEIG	**Tepich**	**128.02**	**347**	PFAKE		02 30 50.0	+8.7		
TEIG				LR	LR				
	comp=Z,1.0nm,21.0s								
BAO	**Brasilia Array**	**131.20**	**276**	PKP	PKPdf	02 30 46.9	-0.5		
BDFB	**Brasilia**	**131.22**	**276**	PKP	PKPdf	02 30 45.7	-1.8		
	comp=Z,23nm,1.2s,baz=49,slow=2.6,SNR=7.7								
BDFB	**Brasilia**	**131.22**	**276**	PKIKP	PKPdf	02 30 45.7	-1.8		
BDFB				pmax	pmax				
	comp=Z,23nm,1.2s								
SDV	**Santo Domingo**	**131.93**	**321**	*e*PKPdf	PKPdf	02 30 47.0	-2.0		
SDV				*e*PP	PP	02 33 07.4	-4.3		
SDV				LR	LR				
	comp=Z,418nm,21.0s,MS5.1								
PMSA	**Palmer Station**	**139.94**	**202**	*e*PKPdf	PKPdf	02 30 56.9	-5.4		
PMSA				LR	LR				
	comp=Z,712nm,20.0s,MS5.4								
SAML	**Samuel**	**140.15**	**296**	*e*PKPpre		02 30 55.6			
SAML				*e*PKPdf	PKPdf	02 31 03.3	-0.7		
SAML				LR	LR				
	comp=Z,935nm,21.0s,MS5.5								
OTAV	**Otavalo**	**143.33**	**324**	*e*PKPdf	PKPdf	02 31 10.3	+0.7		
OTAV				LR	LR				
	comp=Z,509nm,21.0s,MS5.3								
CPUP	**Villa Florida**	**143.37**	**267**	PKhKP		02 31 04.3			
	comp=Z,9.2nm,0.6s,baz=88,slow=2.5,SNR=15								
CPUP	**Villa Florida**	**143.37**	**267**	PKHKP		02 31 04.3			
CPUP				pmax	pmax				
	comp=Z,9.0nm,0.6s								
CPUP	**Villa Florida**	**143.37**	**267**	PKP		02 31 04.3			
LPAZ	**La Paz**	**148.34**	**291**	PKPbc	PKPdf	02 31 18.2	+0.2		
	comp=Z,30nm,1.0s,baz=17,slow=7.5,SNR=24								
LPAZ	**La Paz**	**148.34**	**291**	PKPdf	PKPdf	02 31 17.8	-0.2		
LPAZ	**La Paz**	**148.34**	**291**	PKIKP	PKPdf	02 31 18.2	+0.2		
LPAZ				pmax	pmax				
	comp=Z,30nm,1.0s								
LPAZ	**La Paz**	**148.34**	**291**	PKPbc	PKPdf	02 31 18.2	+0.2		
TRQA	**Tornquist**	**148.93**	**247**	PKPdf	PKPdf	02 31 21.9	+3.6		
TRQA	**Tornquist**	**148.93**	**247**	*e*PKPbc	PKPdf	02 31 21.9	+3.5		
TRQA				LR	LR				
	comp=Z,1μm,19.0s,MS5.8								
LVC	**Limon Verde**	**152.00**	**280**	*e*PKPbc	PKPdf	02 31 30.5	+7.0		
LVC				LR	LR				
	comp=Z,1μm,22.0s,MS5.6								
NNA	**Nana**	**152.15**	**308**	*e*PKPdf	PKPdf	02 31 23.7	-0.2		
NNA				*e*PKPbc	PKPdf	02 31 30.7	+6.8		
NNA				*e*PKPab	PKPab	02 31 40.2	-0.1		
NNA				LR	LR				
	comp=Z,185nm,21.0s,MS4.9								

*NDI **26** 02:30:38.9±2.6, 31.18N×81.18E, h10km, mb4.7, mb4.8(NEIC)*
*IDC **26** 02:30:40.2±0.9, 30.95N×81.22E, mb3.9/8, mb1 4.1/8, mb1mx3.8/20, MS4.0/1, Ms1 4.0/1, ms1mx3.3/26, Error ellipse: s-maj=34.6km s-min=18.8km az=45.0*
*NEIC **26** 02:30:41.8±0.6, 31.03N×81.23E, h10km, mb4.8/2, Error ellipse: s-maj=22.8km s-min=11.5km az=52.0*
ISC 26 02:30:40.0±0.5, 30.80N±0.06×81.24E±0.05, h10km, n22, σ1§14/29, mb4.0/9, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JOSI	**Joshimath**	**1.47**	**261**	*e*P		**Pn**	**02 31 06.7**	**0.0**
JOSI				AMb		AMB	02 31 08.7	
	comp=Z,917nm,0.3s							
JOSI				*e*S		**Sb**	**02 31 27.3**	**+1.7**
PTH	**Pithoragarh**	**1.53**	**215**	*e*P		**Pn**	**02 31 06.2**	**-1.4**
PTH				*e*S		**Sb**	**02 31 29.3**	**+1.9**
DDI	**Dehra Dun**	**2.79**	**261**	*e*PB		**Pb**	**02 31 29.0**	**-0.5**
DDI				*e*			02 32 04.5	
SMLA	**Simla**	**3.51**	**276**	*i* P		**Pn**	**02 31 48.8**	**+13**
SMLA				*e*S		**Sn**	**02 32 27.3**	**+9.4**
NDI	**New Delhi**	**4.08**	**240**	*e*P		**Pn**	**02 31 44.5**	**+0.5**
NDI				*e*			02 32 44.5	
AYAN	**Aya Nagar**	**4.26**	**238**	*e*P		**Pn**	**02 31 44.7**	**-1.8**
AYAN				AMb		AMB	02 31 51.2	
	comp=Z,18nm,1.0s							
AYAN				*e*S		**Sn**	**02 32 36.7**	**-0.2**
KUDL	**Kundal**	**4.91**	**239**	*e*P		**Pn**	**02 31 56.0**	**+0.2**
KUDL				AMb		AMB	02 31 59.2	
	comp=Z,7.7nm,0.4s							
KUDL				*e*S		**Sn**	**02 32 48.9**	**-4.5**
KHET	**Khetri**	**5.46**	**241**	*e*P		**Pn**	**02 32 02.7**	**-0.8**
KHET				AMb		AMB	02 32 19.2	
	comp=Z,30nm,1.7s							
KHET				*e*S		**Sn**	**02 33 03.4**	**-3.8**
BHPL	**Bhopal**	**8.26**	**205**	*e*P		**P**	**02 32 41.6**	**-1.2**
BHPL				AMb		AMB	02 32 46.3	
	comp=Z,21nm,1.2s							
BHPL				*e*S		**Sn**	**02 34 13.0**	**-4.2**
AAK	**Ala-Archa**	**12.98**	**337**	P		**P**	**02 33 49.1**	**+1.8**
	comp=Z,1.9nm,0.8s							
KURK	**Kurchatov**	**19.99**	**355**	P		**P**	**02 35 10.5**	**-4.9**
	comp=Z,1.7nm,0.6s							
CMAR	**Chiang Mai Arr**	**20.22**	**123**	P		**P**	**02 35 18.4**	**+0.4**
	comp=Z,1.4nm,0.5s,baz=314,slow=11,SNR=9.5							
BVAR	**Borovoye Array**	**23.57**	**343**	P		**P**	**02 35 49.4**	**-2.0**
	comp=Z,0.6nm,0.7s,mb3.1,baz=156,slow=17,SNR=3.0							
SONM	**Songino Array**	**25.68**	**41**	P		**P**	**02 36 12.4**	**+0.7**
	comp=Z,0.8nm,0.9s,mb3.2,baz=235,slow=7.2,SNR=5.8							
BRTR	**Keskin Array B**	**39.48**	**296**	P		**P**	**02 38 12.4**	**+0.1**
	comp=Z,0.9nm,0.8s,mb3.5,baz=130,slow=9.6,SNR=5.3							
ARCES	**ARCESS Array B**	**49.65**	**338**	P		**P**	**02 39 31.7**	**-1.7**
	comp=Z,2.2nm,0.8s,mb4.2,baz=104,slow=10.0,SNR=4.0							
ARCES	**ARCESS Array B**	**49.65**	**338**	P		**P**	**02 39 31.7**	**-1.7**
WRA	**Warramunga Arr**	**71.75**	**128**	P		**P**	**02 42 04.5**	**-0.2**
	comp=Z,1.6nm,0.6s,mb4.1,baz=320,slow=6.3,SNR=21							
WRAB	**Tennant Creek**	**71.75**	**128**	*e*P		**P**	**02 42 05.5**	**+0.8**
	comp=Z,7.5nm,0.9s,mb4.6							
ASAR	**Alice Springs**	**74.03**	**131**	P		**P**	**02 42 18.8**	**+0.6**
	comp=Z,1.1nm,0.6s,mb4.0,baz=324,slow=6.3,SNR=8.0							
CTAO	**Charters Tower**	**80.35**	**120**	*e*P		**P**	**02 42 53.8**	**+0.4**
	comp=Z,6.7nm,0.5s,mb4.8							
DBIC	**Dimbokro**	**83.28**	**274**	P		**P**	**02 43 09.9**	**+1.2**
	comp=Z,6.3nm,1.2s,mb4.5,baz=9.8,slow=8.8,SNR=4.1							

*THE **26** 02:33:38.6, 39.68N×20.34E, h10km, ML3.9*
*ATH **26** 02:33:38.2, 39.66N×20.42E, h19km±4km, MD3.6/12*
*NEIC **26** 02:33:38.2, 39.66N×20.42E, h19km, MD3.6(ATH), MD3.0(PDG), After ATH.*
*TIR **26** 02:33:39.0, 39.75N×20.37E, h2km, Ml2.7*
*CSEM **26** 02:33:39.1±0.1, 39.63N×20.42E, ML3.9, Error ellipse: s-maj=1.8km s-min=1.5km az=154.0*
*PDG **26** 02:33:42.7±0.2, 39.96N×20.25E, h8km±11km*
PDG Felt at Podgorica IV MCS.
ISC 26 02:33:38.4±0.4, 39.68N±0.02×20.31E±0.03, h10km±2km, n54, σ1§08/90, 3C-2D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.14**	**173**	*e*Pg		**Pg**	**02 33 41.4**	**-0.4**
IGT				*e*Sg		**Sg**	**02 33 44.7**	**+0.7**
SRN	**Sarande**	**0.31**	**311**	*i* Pg		**Pg**	**02 33 45.2**	**+0.3**
SRN				*i* Sg		**Sg**	**02 33 52.3**	**+3.1**
KEK	**Kerkira**	**0.40**	**276**	⇑*i*PB		**Pb**	**02 33 47.0**	**0.0**
KEK				*e*SB		**Sb**	**02 33 55.7**	**+2.8**
JAN	**Janina**	**0.42**	**92**	⇑*i*PB		**Pb**	**02 33 45.1**	**-2.3**
JAN				*e*SB		**Sb**	**02 33 51.4**	**-2.1**
LSK	**Leskovik**	**0.52**	**25**	*i* Pg		**Pg**	**02 33 47.7**	**-1.2**
LSK				*i* Sg		**Sg**	**02 33 56.0**	**0.0**
LSK	**Leskovik**	**0.52**	**25**	*i* Sg		**Sg**	**02 33 56.0**	**0.0**
TPE	**Tepelena**	**0.66**	**340**	*i* Pg		**Pg**	**02 33 51.1**	**-0.6**
TPE				*i* Sg		**Sg**	**02 34 04.5**	**+4.0**
MEV	**Metsovon**	**0.72**	**81**	*e*Pg		**Pg**	**02 33 51.3**	**-1.5**
MEV				*e*Sg		**Sg**	**02 34 02.0**	**-0.4**
LKD	**Levkas**	**1.00**	**165**	*e*Pg		**Pg**	**02 33 57.1**	**-1.4**
LKD				*e*Sg		**Sg**	**02 34 12.2**	**+0.4**
KZN	**Kozani**	**1.29**	**60**	*e*PN		**Pn**	**02 34 00.9**	**-1.6**
FNA	**Florina**	**1.38**	**36**	*e*Pb		**Pb**	**02 34 03.5**	**-0.3**
FNA				*e*Sb		**Sb**	**02 34 24.3**	**+3.0**
EVR	**Evrytania**	**1.39**	**123**	*e*PN		**Pn**	**02 34 03.2**	**-0.7**
OHR	**Ohrid**	**1.48**	**14**	⇓*i*Pn		**Pn**	**02 34 05.9**	**+0.6**
OHR				*i*			02 34 07.7	
OHR				*i*			02 34 12.8	
OHR				*i* Sg		**Sg**	**02 34 29.1**	**+1.3**
OHR	**Ohrid**	**1.48**	**14**	⇓*i*Pn		**Pn**	**02 34 05.9**	**+0.6**
OHR				*i* Sg		**Sg**	**02 34 29.1**	**+1.3**
VLS	**Valsamata**	**1.51**	**172**	*e*PB		**Pb**	**02 34 04.9**	**-1.2**
VLS				*e*SN		**Sn**	**02 34 27.3**	**+1.7**
BIA	**Bitola**	**1.55**	**30**	*i* Pn		**Pn**	**02 34 06.8**	**+0.6**
BIA				*i*			02 34 09.9	
BIA				*i*			02 34 15.4	
BIA				*i* Sg		**Sg**	**02 34 30.5**	**+0.5**
BIA	**Bitola**	**1.55**	**30**	*i* Pn		**Pn**	**02 34 06.8**	**+0.6**
BIA				*i* Sg		**Sg**	**02 34 30.5**	**+0.5**
AGG	**Agios Georgios**	**1.70**	**112**	*e*Pb		**Pb**	**02 34 08.5**	**-0.7**
AGG				*e*Sb		**Sb**	**02 34 31.9**	**+1.3**
TIR	**Tirane**	**1.70**	**349**	*e*Pn		**Pn**	**02 34 11.0**	**+2.6**
TIR				*i* Sn		**Sn**	**02 34 37.7**	**+7.2**
LIT	**Litokhoron**	**1.73**	**75**	*e*Pb		**Pb**	**02 34 08.6**	**-1.2**
LIT				*e*Sb		**Sb**	**02 34 32.5**	**+0.9**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.15**	**187**	*e*Pg	**Pg**	**03 42 38.3**	**+0.2**
IGT				*e*Sg	**Sg**	**03 42 41.9**	**+1.8**
SRN	**Sarande**	**0.34**	**305**	*i* Pg	**Pg**	**03 42 41.9**	**+0.2**
SRN				*i* Sg	**Sg**	**03 42 48.4**	**+2.2**
JAN	**Janina**	**0.38**	**94**	*e*PB	**Pb**	**03 42 41.8**	**-2.3**
JAN				*e*SB	**Sb**	**03 42 48.5**	**-1.7**
KEK	**Kerkira**	**0.43**	**274**	*e*PB	**Pb**	**03 42 43.5**	**-1.4**
MEV	**Metsovon**	**0.68**	**81**	*e*Pg	**Pg**	**03 42 47.8**	**-0.7**
MEV				*e*Sg	**Sg**	**03 42 58.4**	**+0.7**
LKD	**Levkas**	**1.00**	**167**	*e*Pg	**Pg**	**03 42 54.7**	**-0.3**
KZN	**Kozani**	**1.25**	**60**	*e*PN	**Pn**	**03 42 57.2**	**-2.2**
FNA	**Florina**	**1.35**	**35**	*e*Pb	**Pb**	**03 43 00.8**	**+0.2**
FNA				*e*Sb	**Sb**	**03 43 21.3**	**+3.1**
EVR	**Evrytania**	**1.36**	**124**	*e*PN	**Pn**	**03 43 01.0**	**0.0**
EVR				*e*SN	**Sn**	**03 43 20.5**	**+0.6**
VLS	**Valsamata**	**1.52**	**173**	*e*PB	**Pb**	**03 43 02.0**	**-1.5**
VLS				*e*SN	**Sn**	**03 43 25.0**	**+1.2**
AGG	**Agios Georgios**	**1.67**	**113**	*e*Pb	**Pb**	**03 43 05.3**	**-0.8**
AGG				*e*Sb	**Sb**	**03 43 28.4**	**+0.9**
LIT	**Litokhoron**	**1.69**	**75**	*e*Pb	**Pb**	**03 43 05.8**	**-0.7**
LIT				*e*Sb	**Sb**	**03 43 29.6**	**+1.3**
GRG	**Griva**	**2.01**	**50**	*e*Pn	**Pn**	**03 43 10.4**	**0.0**
GRG				*e*Sn	**Sn**	**03 43 37.9**	**+1.4**
XOR	**Xorichti**	**2.22**	**97**	*e*Pn	**Pn**	**03 43 13.5**	**+0.2**
XOR				*e*Sn	**Sn**	**03 43 42.2**	**+0.6**
KNT	**Kendrikon**	**2.44**	**52**	*e*Pn	**Pn**	**03 43 16.7**	**+0.3**
OUR	**Ouranopolis**	**2.86**	**76**	*e*Pn	**Pn**	**03 43 22.2**	**-0.2**
OUR				*e*Sn	**Sn**	**03 43 57.8**	**-0.1**
STON	**Ston**	**3.76**	**329**	*i* Pn	**Pn**	**03 43 32.0**	**-3.2**

NEIC ***26*** *03:43:34.7±5.0, 1.92N×124.68E, h201km±51km, mb4.6/7, Error ellipse: s-maj=29.5km s-min=11.7km az=74.0*
IDC ***26*** *03:43:35.1±6.3, 1.87N×124.62E, h204km±64km, mb3.9/5, mb1 3.9/7, mb1mx3.6/17, Error ellipse: s-maj=53.1km s-min=16.3km az=73.0*
ISC 26 03:43:32.7±0.8, 1.9N±0.1×124.6E±0.3, h200km, n17, σ0°43/17, mb4.3/11, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu** 13nm,0.6s	**16.45**	**152**	*e*P	**P**	**03 47 19.8**	**+5.8**
FITZ	**Fitzroy Crossi** 2.6nm,0.3s,baz=5.5,slow=7.9,SNR=36	**19.93**	**177**	P	**P**	**03 47 50.9**	**-0.1**
WRAB	**Tennant Creek** 249nm,0.4s,SNR=21	**23.73**	**157**	P	**P**	**03 48 28.0**	**-0.1**
WRAB	**Tennant Creek** 16nm,0.3s,mb5.1	**23.73**	**157**	*e*P	**P**	**03 48 28.0**	**-0.1**
WRA	**Warramunga Arr** 14nm,0.3s,mb5.0,baz=334,slow=10,SNR=357	**23.73**	**157**	P	**P**	**03 48 28.2**	**+0.1**
WB2	**Warramunga Arr**	**23.74**	**157**	*e*P	**P**	**03 48 28.3**	**+0.1**
ASPA	**Alice Springs**	**27.00**	**161**	*e*P	**P**	**03 48 58.5**	**+0.3**
ASAR	**Alice Springs** 1.4nm,0.4s,mb4.0,baz=350,slow=13,SNR=20	**27.00**	**161**	P	**P**	**03 48 57.2**	**-1.0**
FORT	**Forrest** 47nm,0.6s,mb5.2	**32.69**	**175**	*e*P	**P**	**03 49 48.3**	**-0.1**
KLBR	**Kellerberrin** 27nm,1.4s,mb4.6	**33.98**	**191**	*e*P	**P**	**03 49 59.3**	**0.0**
NWAO	**Narrogin (SRO)** 2.8nm,0.3s,mb4.3	**35.37**	**191**	P	**P**	**03 50 11.5**	**+0.4**
STKA	**Stephens Creek** 3.1nm,0.3s,mb4.3	**37.28**	**156**	*e*P	**P**	**03 50 27.7**	**+0.6**
STKA	**Stephens Creek** 3.9nm,0.3s,mb4.4,baz=338,slow=8.7,SNR=26	**37.28**	**156**	P	**P**	**03 50 27.2**	**+0.1**
SONM	**Songino Array** 1.5nm,0.8s,mb3.4,baz=161,slow=8.3,SNR=11	**48.37**	**344**	P	**P**	**03 51 56.9**	**+0.7**
KURK	**Kurchatov** 2.5nm,0.4s,mb4.2	**62.16**	**329**	*e*P	**P**	**03 53 34.1**	**-0.7**
BVAR	**Borovoye Array** 0.4nm,0.4s,mb3.5,baz=117,slow=6.3,SNR=3.8	**67.70**	**328**	P	**P**	**03 54 10.2**	**-0.2**
MAW	**Mawson** 0.9nm,0.7s,mb3.5,baz=44,slow=3.1,SNR=4.6	**81.36**	**200**	P	**P**	**03 55 28.3**	**+0.2**

BER ***26*** *03:51:05.9±4.0, 67.89N×20.17E, ML2.0, ML2.3(NAO), Suspected explosion*
NAO ***26*** *03:51:06.2±1.4, 67.76N×20.45E, ML2.3*
HEL 26 03:51:05.6±0.1, 67.84N×20.19E, ML2.0, ML2.1(UPP), ML2.2(BER), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**26**	*i* P	Pg	03 51 07.8	-0.4
KUA				*i* S	Sg	03 51 09.7	-0.1
NIKU	**Nikkaluokta**	**0.44**	**274**	*i* P	Pg	03 51 13.4	-0.9
NIKU				*i* S	Sg	03 51 19.2	-1.0
DUNU	**Dundret**	**0.74**	**168**	*i* P	Pg	03 51 18.6	-1.7
DUNU				*i* S	Sg	03 51 28.7	-1.4
MASU	**Masugnsbyn**	**0.79**	**118**	*i* P	Pg	03 51 19.7	-1.7
MASU				*i* S	Sg	03 51 30.5	-1.5
KIF	**Kilpisjarvi**	**1.19**	**11**	*e*P	Pb	03 51 27.5	-1.2
KIF				*e*S	Sb	03 51 43.7	-0.9
PAJU	**Pajala**	**1.40**	**125**	*e*P	Pb	03 51 30.4	-1.9
PAJU				*e*S	Sb	03 51 48.6	-1.9
KTK1	**Kautokeino**	**1.63**	**42**	*e*P	Pn	03 51 34.7	-1.0
KTK1				*e*SG	Sg	03 51 56.2	-3.7
KTK1				AML	AML	03 52 01.2	
	comp=Z,17nm,0.3s						
SJUU	**Sjulsmark**	**2.41**	**166**	*e*P	Pn	03 51 46.5	-0.3
SGF	**Sodankyl**	**2.46**	**96**	*e*P	Pn	03 51 47.0	-0.5
SGF				*e*S	Sn	03 52 17.0	-1.7
SGF				MSG		03 52 22.4	
	comp=Z,5.5nm,0.3s						
ARA0	**ARCESS Array S** baz=232,slow=14	**2.58**	**46**	Pn	Pn	03 51 48.3	-1.1
ARA0				Sn	Sn	03 52 22.0	0.0
	baz=224,slow=28						
ARA0	**ARCESS Array S**	**2.58**	**46**	*e*P	Pn	03 51 48.3	-1.1
ARA0				*e*SB	Sb	03 52 22.0	-3.0
MELS	**Mels**	**2.69**	**252**	*e*Sg	Sg	03 52 28.4	-6.6
MOR8	**Moi Rana**	**2.81**	**236**	*e*SG	Sg	03 52 28.0	-11
MOR8				AML	AML	03 52 30.9	
	comp=Z,26nm,0.4s						
KEV	**Kevo**	**3.14**	**49**	*e*P	Pn	03 51 56.2	-1.1
KEV				*e*S	Sn	03 52 34.1	-1.9
KEV				MSG		03 52 41.5	
	comp=Z,4.4nm,0.2s						
OUL	**Oulu**	**3.59**	**138**	*e*S	Sn	03 52 43.6	-3.9
MSF	**Maaselka**	**3.99**	**115**	*e*S	Sn	03 52 54.3	-3.4
MSF				MSG		03 53 14.5	
	comp=Z,3.6nm,0.3s						
NSS	**Namsos**	**4.70**	**229**	*e*SG	Sg	03 53 31.2	-11
NSS				AML	AML	03 53 35.5	
	comp=Z,5.1nm,0.3s						
KJN	**Kajaani**	**4.86**	**137**	*e*P	Pn	03 52 19.4	-2.3
KJN				*e*S	Sn	03 53 14.5	-5.2
APA0	**Apatity Array** baz=290,slow=12	**4.88**	**87**	Pn	Pn	03 52 18.3	-3.7
APA0				Sn	Sn	03 53 13.2	-6.9
	baz=290,slow=22						
APA0				Lg		03 53 33.6	
	baz=283,slow=28						
APA0	**Apatity Array**	**4.88**	**87**	*e*P	Pn	03 52 18.3	-3.7
APA0				*e*S	Sn	03 53 13.2	-6.9
APA0				*e*SG	Sg	03 53 33.6	-14
VAF	**Ylistaro**	**4.93**	**167**	*e*P	Pn	03 52 21.1	-1.6
VAF				*e*SG	Sg	03 53 36.8	-13
JOF	**Joensuu**	**6.78**	**132**	*e*S	Sn	03 54 00.3	-7.3
JOF				MSG		03 54 04.8	
	comp=Z,0.8nm,0.2s						
FIA0	**FINESS Array S** baz=351,slow=12	**6.90**	**156**	Pn	Pn	03 52 47.5	-3.0
FIA0				Sn	Sn	03 54 02.8	-7.9
	baz=345,slow=28						
FIA0				Lg		03 54 38.1	
	baz=343,slow=28						
FIA0	**FINESS Array S**	**6.90**	**156**	*e*P	Pn	03 52 47.5	-3.0
FIA0				*e*S	Sn	03 54 02.8	-7.9
FIA0				*e*SG	Sg	03 54 38.1	-17
HFS	**Hagfors** baz=12,slow=14	**8.24**	**203**	Pn	P	03 53 04.6	-4.6
HFS				Sn	Sn	03 54 35.7	-8.5
	baz=34,slow=22						
HFS				Lg		03 55 24.4	
	baz=21,slow=28						
HFS	**Hagfors**	**8.24**	**203**	*e*P	P	03 53 04.6	-4.6
HFS				*e*S	Sn	03 54 35.7	-8.5
HFS				*e*		03 55 24.4	
SPA0	**Spitsbergen Ar** baz=158,slow=14	**10.45**	**356**	Pn	P	03 53 34.9	-4.7
SPA0	**Spitsbergen Ar**	**10.45**	**356**	*e*P	P	03 53 34.9	-4.7

NEIC ***26*** *03:58:22.4, 33.05S×68.04W, h12km, ML3.0(GUC), After GUC.*
GUC 26 03:58:22.4±0.9, 33.05S×68.04W, h12km±12km, MD3.6, ML3.0, 1C-1D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**1.91**	**261**	⇓*i*P	Pn	03 58 55.0	-0.1
FCH				⇑*i*S	Sn	03 59 20.2	+1.1
FCH				AMP		03 59 21.3	
	comp=N,197nm,0.2s						
LMEL	**Las Melosas**	**1.98**	**246**	*e*P	Pn	03 58 56.2	+0.1
LMEL				*i* S	Sn	03 59 21.8	+0.9
LMEL				AMP		03 59 24.2	
	comp=N,244nm,0.2s						
CLCH	**Cerro Calan**	**2.12**	**260**	*e*P	Pn	03 58 58.5	+0.4
CLCH				*i* S	Sn	03 59 25.8	+1.2
CLCH				AMP		03 59 30.5	
	comp=E,182nm,0.5s						
PCH	**Pirque**	**2.15**	**254**	*e*P	Pn	03 58 59.0	+0.4
PCH				*i* S	Sn	03 59 26.7	+1.4
JACH	**Jahuel**	**2.18**	**279**	*e*P	Pn	03 58 59.0	0.0
JACH				*i* S	Sn	03 59 27.4	+1.3
PEL	**Peldehue**	**2.22**	**267**	*e*P	Pn	03 59 00.4	+0.8
PEL				*i* S	Sn	03 59 28.6	+1.5
RCDM	**Rinconada Maip**	**2.36**	**259**	*e*P	Pn	03 59 02.4	+0.9
RCDM				*i* S	Sn	03 59 32.4	+1.7
RCDM				AMP		03 59 36.1	
	comp=N,92nm,0.3s						
TACH	**Talagante**	**2.50**	**255**	*e*P	Pn	03 59 03.3	-0.2

IDC ***26*** *04:17:33.8±2.1, 5.91N×126.00E, mb3.8/6, mb1 4.0/6, mb1mx3.8/18, Error ellipse: s-maj=110.0km s-min=27.7km az=92.0*
NEIC ***26*** *04:17:40.6±0.9, 5.84N×125.94E, h50km, mb4.1/5, Error ellipse: s-maj=49.6km s-min=14.1km az=93.0*
MAN ***26*** *04:17:46.3, 5.62N×126.17E, h82km, mb4.3, ML3.1, MS2.9*
ISC 26 04:17:46.2±0.9, 5.64N±0.08×126.1E±0.1, h107km±13km, n19, σ0°71/22, mb3.7/9, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.25**	**291**	*e*P	**P**	**04 18 10.0**	**-0.3**
MATI	**Mati**	**1.30**	**6**	*e*P	**P**	**04 18 10.3**	**-0.7**
KCP	**Kidapawan**	**1.70**	**323**	⇓*e*P	**P**	**04 18 15.5**	**-0.2**
KCP				*i* S	**S**	**04 18 37.6**	**-0.2**
BUKP	**Musuan**	**2.46**	**335**	*e*P	**P**	**04 18 26.4**	**+0.6**
BUKP				*e*S	**S**	**04 18 55.6**	**+0.2**
BIPH	**Bislig**	**2.54**	**5**	⇑*e*P	**P**	**04 18 27.0**	**+0.2**
BIPH				*e*S	**S**	**04 18 57.7**	**+0.3**
PAGZ	**Pagadian**	**3.49**	**309**	*e*P	**P**	**04 18 40.1**	**+0.3**
KAKA	**Kakadu** 4.0nm,0.5s	**19.26**	**161**	*e*P	**P**	**04 22 14.5**	**+10**
FITZ	**Fitzroy Crossi** 2.4nm,0.8s,mb3.6	**23.59**	**181**	*e*P	**P**	**04 22 49.8**	**+1.6**
FITZ	**Fitzroy Crossi** 1.6nm,0.4s,mb3.7,baz=2.4,slow=8.1,SNR=18	**23.59**	**181**	P	**P**	**04 22 49.6**	**+1.3**
WRAB	**Tennant Creek** 3.2nm,0.7s,mb4.0	**26.67**	**163**	*e*P	**P**	**04 23 16.4**	**-0.8**
WRA	**Warramunga Arr** 0.4nm,0.4s,mb3.3,baz=343,slow=9.9,SNR=14	**26.68**	**163**	P	**P**	**04 23 16.9**	**-0.3**
MBWA	**Marble Bar** 3.7nm,0.7s,mb4.0	**27.36**	**193**	*e*P	**P**	**04 23 22.1**	**-1.4**
ASAR	**Alice Springs** 0.7nm,0.5s,mb3.5,baz=344,slow=7.1,SNR=11	**30.10**	**166**	P	**P**	**04 23 48.0**	**0.0**
STKA	**Stephens Creek** 3.0nm,0.9s,mb4.1	**40.12**	**159**	*e*P	**P**	**04 25 14.3**	**+1.2**
STKA	**Stephens Creek** 2.0nm,0.6s,mb4.1,baz=6.4,slow=9.0,SNR=5.9	**40.12**	**159**	P	**P**	**04 25 14.3**	**+1.3**
ILAR	**Eielson Array** 0.5nm,0.7s,mb3.5,baz=250,slow=5.5,SNR=6.7	**83.65**	**26**	P	**P**	**04 30 03.5**	**-0.3**
VNDA	**Vanda** 0.3nm,0.7s,mb3.3,baz=299,slow=10,SNR=3.0	**85.38**	**173**	P	**P**	**04 30 13.0**	**+0.8**
VNDA	**Vanda**	**85.38**	**173**	P	**P**	**04 30 13.0**	**+0.8**
INK	**Inuvik** 0.8nm,0.5s,mb4.0	**88.62**	**21**	P	**P**	**04 30 27.2**	**-0.8**

ATH ***26*** *04:37:07.4, 39.91N×20.44E, h27km, MD3.3/5*
NEIC ***26*** *04:37:07.4, 39.91N×20.44E, h27km, MD3.3(ATH), After ATH.*
THE ***26*** *04:37:10.4, 39.71N×20.35E, h10km, ML3.2*
CSEM ***26*** *04:37:10.6±0.1, 39.72N×20.34E, h2km, ML3.2, Error ellipse: s-maj=2.2km s-min=1.8km az=11.0*
ISC 26 04:37:10.3±0.6, 39.70N±0.03×20.40E±0.04, h2km±6km, n18, σ1°06/29, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.17**	**198**	*e*Pg	**Pg**	**04 37 13.3**	**-0.5**
IGT				*e*Sg	**Sg**	**04 37 16.8**	**+0.8**
JAN	**Janina**	**0.35**	**96**	*e*PB	**Pb**	**04 37 16.5**	**-2.4**
JAN				*e*SB	**Sb**	**04 37 22.5**	**-2.1**
SRN	**Sarande**	**0.36**	**301**	*i* Pg	**Pg**	**04 37 16.9**	**-0.6**
SRN				*i* Sg	**Sg**	**04 37 23.3**	**+1.0**
KEK	**Kerkira**	**0.46**	**272**	*e*PN	**Pn**	**04 37 18.5**	**-5.0**
MEV	**Metsovon**	**0.65**	**82**	*e*Pg	**Pg**	**04 37 22.8**	**-0.4**
MEV				*e*Sg	**Sg**	**04 37 33.3**	**+1.5**
LKD	**Levkas**	**1.01**	**169**	*e*Pg	**Pg**	**04 37 29.7**	**-0.7**
LKD				*e*Sg	**Sg**	**04 37 45.2**	**+1.4**
KZN	**Kozani**	**1.22**	**59**	*e*PN	**Pn**	**04 37 28.5**	**-5.8**
FNA	**Florina**	**1.32**	**34**	*e*Pb	**Pb**	**04 37 35.0**	**-0.4**
FNA				*e*Sb	**Sb**	**04 37 55.0**	**+2.3**
EVR	**Evrytania**	**1.34**	**125**	*e*PN	**Pn**	**04 37 35.0**	**-1.1**
VLS	**Valsamata**	**1.52**	**174**	*e*PN	**Pn**	**04 37 38.0**	**-0.7**
VLS				*e*SN	**Sn**	**04 38 00.5**	**+1.2**
AGG	**Agios Georgios**	**1.64**	**114**	*e*Pb	**Pb**	**04 37 40.5**	**-0.5**
AGG				*e*Sb	**Sb**	**04 38 03.2**	**+1.1**
LIT	**Litokhoron**	**1.66**	**75**	*e*Pb	**Pb**	**04 37 40.1**	**-1.2**
LIT				*e*Sb	**Sb**	**04 38 03.8**	**+1.3**
GRG	**Griva**	**1.98**	**50**	*e*Pn	**Pn**	**04 37 44.8**	**-0.4**
GRG				*e*Sn	**Sn**	**04 38 11.9**	**+1.0**
XOR	**Xorichti**	**2.18**	**98**	*e*Pn	**Pn**	**04 37 48.4**	**+0.3**
KNT	**Kendrikon**	**2.41**	**52**	*e*Pn	**Pn**	**04 37 50.6**	**-0.7**
AOS	**Alonnisos**	**2.75**	**100**	*e*Pn	**Pn**	**04 37 55.8**	**-0.4**
OUR	**Ouranopolis**	**2.82**	**76**	*e*Pn	**Pn**	**04 37 57.0**	**-0.2**
OUR				*e*Sn	**Sn**	**04 38 32.4**	**+0.1**
OUR	**Ouranopolis**	**2.82**	**76**	*e*Pn	**Pn**	**04 37 57.0**	**-0.3**

JMA ***26*** *04:49:27.7±0.2, 25.15N×122.27E, h15km, M3.3*
TAP 26 04:49:28.3, 24.36N×121.93E, h15km, ML4.0, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.99**	**84**	P	Pb	04 49 45.5	-1.2
YOJ				S	Sb	04 49 58.4	-0.9
IRIF	**Iriomote-Funau**	**1.64**	**91**	P	Pn	04 49 54.9	-2.0
IRIF				S	Sn	04 50 14.5	-3.3
HATJ	**Hateruma jima**	**1.74**	**100**	P	Pn	04 49 58.6	+0.3
HATJ				S	Sn	04 50 19.7	-0.6
JKRS	**Kuro-shima**	**1.90**	**93**	P	Pn	04 49 59.3	-1.3
JKRS				S	Sn	04 50 21.8	-2.6
JIJ	**Ishigaki jima**	**2.02**	**89**	P	Pn	04 49 59.8	-2.5
JIJ				S	Sn	04 50 22.7	-4.7

IDC ***26*** *05:03:55.8±1.0, 3.49N×128.35E, mb4.2/9, mb1 4.4/10, mb1mx4.3/18, MS3.4/3, Ms1 3.5/3, ms1mx2.9/24, Error ellipse: s-maj=58.5km s-min=15.2km az=69.0*
BJI ***26*** *05:04:00.2, 3.50N×128.30E, h29km, mB5.3, mb4.6*
NEIC ***26*** *05:04:00.3±8.6, 3.46N×128.27E, h30km±61km, mb4.9/10, Error ellipse: s-maj=29.1km s-min=9.2km az=67.0*
ISC 26 05:03:59.3±0.6, 3.43N±0.08×128.4E±0.2, h33km, n34, σ1°00/33, mb4.5/21, MS3.5/2, 1D, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**4.29**	**308**	*e*P	**P**	**05 05 04.0**	**+0.1**
KCP	**Kidapawan**	**4.81**	**318**	⇓*e*P	**P**	**05 05 15.8**	**+4.5**
BUKP	**Musuan**	**5.50**	**324**	*e*P	**P**	**05 05 25.6**	**+4.7**
PAGZ	**Pagadian**	**6.61**	**312**	*e*P	**P**	**05 05 38.4**	**+1.9**
TGY	**Tagaytay City** comp=Z,168nm,21.5s,baz=102,slow=40	**12.88**	**326**	LR	LR	05 12 34.4	
KAKA	**Kakadu** 29nm,0.8s	**16.52**	**166**	*e*P	**P**	**05 07 57.9**	**+7.7**
KAKA				*e*S	**S**	**05 11 07.7**	**+16**
FITZ	**Fitzroy Crossi**	**21.56**	**187**	*e*P	**P**	**05 08 46.7**	**-1.3**
FITZ	**Fitzroy Crossi** 3.6nm,0.6s,mb4.0	**21.56**	**187**	P	**P**	**05 08 46.5**	**-1.6**
WRAB	**Tennant Creek** 5.2nm,0.7s,mb4.1,baz=90,slow=0.8,SNR=16	**23.95**	**166**	P	**P**	**05 09 13.0**	**+1.3**
WRAB	**Tennant Creek** 84nm,0.4s,mb5.5,SNR=23	**23.95**	**166**	*e*P	**P**	**05 09 12.9**	**+1.2**
WRA	**Warramunga Arr** 55nm,0.9s,mb5.0	**23.96**	**166**	P	**P**	**05 09 12.6**	**+0.9**
WB2	**Warramunga Arr** 4.5nm,0.4s,mb4.3,baz=343,slow=10,SNR=65	**23.96**	**166**	*e*P	**P**	**05 09 12.7**	**+0.9**
WB2				*e*S	**S**	**05 13 22.0**	**-1.3**
MBWA	**Marble Bar** 15nm,0.9s,mb4.5	**25.85**	**199**	*e*P	**P**	**05 09 29.6**	**-0.2**
ASAR	**Alice Springs** 2.0nm,0.6s,mb3.8,baz=352,slow=6.6,SNR=12	**27.47**	**169**	P	**P**	**05 09 44.5**	**-0.2**
ASAR				PcP	PcP	05 13 01.8	-1.1
	0.6nm,0.4s,baz=341,slow=2.1,SNR=5.6						
ASPA	**Alice Springs**	**27.47**	**169**	*e*P	**P**	**05 09 44.3**	**-0.4**
CTA	**Charters Tower** comp=Z,65nm,19.3s,MS3.3,baz=43,slow=37	**29.25**	**144**	LR	LR	05 21 55.5	
CMAR	**Chiang Mai Arr** 1.5nm,0.5s,mb4.1,baz=112,slow=7.2,SNR=9.4	**32.42**	**300**	P	**P**	**05 10 28.1**	**-0.5**
FORT	**Forrest** 42nm,0.7s,mb5.5	**34.02**	**180**	*e*P	**P**	**05 10 42.8**	**+0.4**
XAN	**Xi'an**	**35.43**	**332**	P	**P**	**05 10 54.3**	**-0.1**
XAN				AP	pP	05 11 02.3	-1.8
XAN				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.6						
KLBR	**Kellerberrin** comp=Z,67nm,1.8s,mb5.3	**36.26**	**195**	*e*P	**P**	**05 11 00.6**	**-0.9**
STKA	**Stephens Creek** comp=Z,5.3nm,0.3s,mb4.8	**37.30**	**161**	*e*P	**P**	**05 11 10.7**	**+0.4**
STKA	**Stephens Creek** comp=Z,5.5nm,0.3s,mb4.8,baz=345,slow=8.1,SNR=20	**37.30**	**161**	P	**P**	**05 11 10.9**	**+0.6**
LZH	**Lanzhou**	**39.59**	**328**	*e*P	**P**	**05 11 31.0**	**+1.7**
LZH				AP	pP	05 11 43.8	+4.7
LZH				AMB	AMB		
	comp=Z,27nm,1.4s,mb4.8						
LZH				AMB	AMB		
	comp=Z,153nm,5.4s						
HHC	**Hu-ho-hao-te**	**40.20**	**340**	*e*P	**P**	**05 11 34.5**	**+0.2**
HHC				AMB	AMB		
	comp=Z,15nm,1.2s,mb4.6						
HHC				AMB	AMB		
	comp=Z,244nm,4.8s						
GTA	**Gaotai**	**44.19**	**328**	P	**P**	**05 12 07.5**	**+0.5**
GTA				XP	sP	05 12 22.0	+1.0
GTA				AMB	AMB		
	comp=Z,5.0nm,0.6s,mb4.4						
SONM	**Songino Array** comp=Z,0.9nm,0.8s,mb3.9,baz=159,slow=6.9,SNR=6.1	**48.11**	**340**	P	**P**	**05 12 37.9**	**0.0**
KURK	**Kurchatov** comp=Z,5.7nm,0.6s,mb4.9	**62.86**	**327**	*e*P	**P**	**05 14 21.9**	**-2.4**
BVAR	**Borovoye Array** comp=Z,3.0nm,0.7s,mb4.4,baz=127,slow=7.4,SNR=15	**68.45**	**327**	P	**P**	**05 14 59.1**	**-0.9**
BRVK	**Borovoye** comp=Z,5.5nm,0.8s,mb4.5	**68.52**	**327**	*e*P	**P**	**05 14 58.7**	**-1.7**
CASY	**Casey** comp=Z,7.5nm,0.5s,mb4.9	**70.72**	**188**	*e*P	**P**	**05 15 09.3**	**-4.4**
VNDA	**Vanda** comp=Z,1.4nm,0.7s,mb4.1,baz=313,slow=7.8,SNR=14	**82.93**	**173**	P	**P**	**05 16 22.3**	**+0.6**
MAW	**Mawson** comp=Z,1.0nm,0.9s,mb4.0,baz=45,slow=11,SNR=3.0	**84.04**	**201**	P	**P**	**05 16 28.2**	**+0.8**
ARCES	**ARCESS Array B** comp=Z,3.4nm,0.9s,mb4.7,baz=82,slow=6.4,SNR=3.7	**91.28**	**340**	P	**P**	**05 17 01.6**	**-0.8**
NOA	**NORSAR Array B** comp=Z,26nm,20.9s,MS3.7,baz=320,slow=37	**99.77**	**334**	LR	LR	06 05 28.2	

NEIC ***26*** *05:28:40.4, 35.13S×70.54W, h14km, ML2.8(GUC), After GUC.*
GUC 26 05:28:40.4±0.6, 35.13S×70.54W, h14km, MD3.8, ML2.8, 3C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.65**	**323**	⇓*i*P	Pb	05 28 51.7	-1.3
SFDO				*i* S	Sb	05 29 00.9	-1.3
CACH	**El Canelo**	**1.01**	**357**	⇓*i*P	Pb	05 28 57.9	-1.3
CACH				*i* S	Sb	05 29 11.6	-0.6
CHCH	**Chadas Angostu**	**1.20**	**355**	⇑*i*P	Pb	05 29 01.3	-1.1
CHCH				*i* S	Sb	05 29 17.4	-0.1
LMEL	**Las Melosas**	**1.31**	**12**	⇑*i*P	Pb	05 29 03.3	-1.0
LMEL				*i* S	Sb	05 29 20.6	-0.2
LMEL				AMP		05 29 22.7	
	comp=N,192nm,0.1s						
LNV	**Longovilo**	**1.38**	**328**	⇓*i*P	Pn	05 29 04.2	-1.1
LNV				*i* S	Sb	05 29 21.7	-1.1
SJCH	**San Jose de Ma**	**1.50**	**6**	*e*P	Pn	05 29 05.7	-1.3
SJCH				*i* S	Sb	05 29 25.8	-0.4
SJCH				AMP		05 29 27.2	
	comp=E,132nm,0.4s						
PCH	**Pirque**	**1.51**	**1**	*i* P	Pn	05 29 06.6	-0.5
PCH				*i* S	Sb	05 29 26.4	-0.1
TACH	**Talagante**	**1.51**	**347**	*e*P	Pn	05 29 06.3	-0.9
TACH				*i* S	Sb	05 29 25.9	-0.7
ANTU	**Antumapu**	**1.56**	**357**	*e*P	Pn	05 29 07.3	-0.6
ANTU				*i* S	Sn	05 29 27.5	-0.5
ANTU				AMP		05 29 29.8	
	comp=E,270nm,0.2s						
FSR	**Penalolen**	**1.65**	**0**	⇓*i*P	Pn	05 29 08.4	-0.8
FSR				*i* S	Sn	05 29 30.3	0.0
FSR				AMP		05 29 31.8	
	comp=E,126nm,0.2s						
**RCD

JKE				*e*S	S	05 58 18.5	-0.7
JAGN	**Aguni-jima**	**1.03**	**72**	P	P	05 58 08.9	-0.1
JAGN				S	S	05 58 25.4	-0.7
NAH1	**Naha**	**1.39**	**92**	*e*S	S	05 58 32.7	-0.4
JJT2	**Tamagusuku 2**	**1.44**	**95**	*e*S	S	05 58 34.8	+0.5
JMJ	**Miyako jima 2**	**1.64**	**208**	*e*S	S	05 58 38.7	+0.4
JIH	**Iheya**	**1.80**	**64**	P	P	05 58 17.5	-0.2
JIH				S	S	05 58 39.7	-1.8
JOW	**Kunigami**	**1.98**	**73**	P	P	05 58 19.6	-0.4
JOW				*e*S	S	05 58 42.8	-2.7
JTJ	**Tarama**	**2.08**	**219**	P	P	05 58 20.7	-0.6
JTJ				*e*S	S	05 58 46.3	-1.5
JIJ	**Ishigaki jima**	**2.63**	**224**	P	P	05 58 27.1	-1.4
JIJ				*e*S	S	05 58 57.0	-3.5
JTK	**Tokunoshima**	**2.92**	**58**	P	P	05 58 30.9	-1.5
JTK				*e*S	S	05 59 04.0	-3.3
JAM	**Amami Oshima**	**3.74**	**54**	P	P	05 58 41.2	-2.2
JAM				S	S	05 59 23.3	-3.7
JMZ	**Minamidaito 2**	**4.58**	**95**	P	P	05 58 53.1	-1.6
JMZ				*e*S	S	05 59 41.0	-6.3

*FUNV **26** 06:03:41.2, 6.72N× 73.17W, h172km, MD3.6*
*UAV **26** 06:03:42.9, 6.78N× 73.13W, h148km*
ISC 26 06:03:43.4±1.6, **7.0N**±0.1×**72.93W**±0.10, **h183**km±10km, **n11**, σ0**83**/20, **3C, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.03**	**36**⇑	*i*P	**P**	**06 04 11.3**	**-0.5**
CAPV				*e*S	**S**	**06 04 33.4**	**-0.4**
PDMV	**Paramo Marino**	**1.69**	**40**	P	**P**	**06 04 17.7**	**-0.1**
PDMV				S	**S**	**06 04 43.2**	**-1.2**
UAV	**Universidad de**	**2.37**	**48**	P	**P**	**06 04 26.1**	**+0.9**
UAV				S	**S**	**06 04 58.0**	**+0.5**
VIGV	**El Vigia**	**2.38**	**41**⇑	*i*P	**P**	**06 04 25.8**	**+0.4**
VIGV				*e*S	**S**	**06 04 58.5**	**+0.8**
SOCV	**Socops**	**2.41**	**59**⇑	*e*P	**P**	**06 04 26.1**	**+0.4**
SOCV				*e*S	**S**	**06 04 58.3**	**+0.1**
EAV	**Pico El Aguila**	**2.77**	**49**	P	**P**	**06 04 31.1**	**+1.1**
EAV				S	**S**	**06 05 07.2**	**+1.4**
VIRV	**Villa del Rosa**	**3.49**	**8**	*e*P	**P**	**06 04 38.3**	**-0.6**
VIRV				*e*S	**S**	**06 05 20.9**	**-0.8**
DABV	**Dabajuro**	**4.49**	**30**	*e*P	**P**	**06 04 52.2**	**+0.6**
DABV				*e*S	**S**	**06 05 44.3**	**+0.1**
TEPV	**Terepaima**	**4.71**	**51**	*e*P	**P**	**06 04 54.9**	**+0.5**
BAUV	**El Baul**	**5.20**	**68**	*e*P	**P**	**06 04 59.5**	**-1.3**
BAUV				*e*S	**S**	**06 05 58.9**	**-2.0**
MONV	**Montecano**	**5.70**	**31**	*e*P	**P**	**06 05 07.2**	**-0.1**

*THE **26** 06:03:46.2, 39.73N× 20.25E, h10km, ML3.0*
*ATH **26** 06:03:46.0, 39.74N× 20.42E, h22km± 4km, MD3.2/4*
*NEIC **26** 06:03:46.0, 39.74N× 20.42E, h22km, MD3.2(ATH), After ATH.*
*CSEM **26** 06:03:46.9± 0.1, 39.70N× 20.38E, h3km± 1km, ML3.0, Error ellipse: s-maj=2.7km s-min=2.4km az=54.0*
ISC 26 06:03:47.2±0.5, **39.69N**±0.03×**20.38E**±0.04, **h8**km±5km, **n14**, σ1**9**15/**24, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.16**	**193**	*e*Pg	**Pg**	**06 03 49.9**	**-0.7**
IGT				*e*Sg	**Sg**	**06 03 53.5**	**+0.5**
SRN	**Sarande**	**0.35**	**303**	*i*Pg	**Pg**	**06 03 53.7**	**-0.6**
SRN				*i*Sg	**Sg**	**06 04 00.4**	**+1.4**
JAN	**Janina**	**0.36**	**95**	*e*PB	**Pb**	**06 03 53.5**	**-1.9**
JAN				*e*SB	**Sb**	**06 03 58.7**	**-2.3**
KEK	**Kerkira**	**0.45**	**273**	*e*PB	**Pb**	**06 03 55.3**	**-1.6**
KEK				*e*SB	**Sb**	**06 04 03.2**	**-0.3**
LSK	**Leskovik**	**0.49**	**20**	*i*Pg	**Pg**	**06 03 56.2**	**-0.9**
LSK				*i*Sg	**Sg**	**06 04 04.8**	**+1.1**
MEV	**Metsovon**	**0.66**	**81**	*e*Pg	**Pg**	**06 03 59.8**	**-0.6**
LKD	**Levkas**	**1.00**	**168**	*e*Pg	**Pg**	**06 04 06.2**	**-1.0**
LKD				*e*Sg	**Sg**	**06 04 22.3**	**+1.7**
FNA	**Florina**	**1.33**	**35**	*e*Pb	**Pb**	**06 04 11.9**	**-0.1**
FNA				*e*Sb	**Sb**	**06 04 31.3**	**+2.1**
FNA	**Florina**	**1.33**	**35**	*e*Pb	**Pb**	**06 04 11.9**	**-0.1**
FNA				*e*Sb	**Sb**	**06 04 31.3**	**+2.1**
EVR	**Evrytania**	**1.35**	**124**	*e*PN	**Pn**	**06 04 12.5**	**+0.1**
VLS	**Valsamata**	**1.52**	**174**	*e*PN	**Pn**	**06 04 14.8**	**0.0**
VLS				*e*SN	**Sn**	**06 04 35.9**	**+1.0**
AGG	**Agios Georgios**	**1.65**	**113**	*e*Pb	**Pb**	**06 04 17.3**	**-0.1**
AGG				*e*Sb	**Sb**	**06 04 41.6**	**+3.3**
LIT	**Litokhoron**	**1.68**	**75**	*e*Pb	**Pb**	**06 04 17.7**	**-0.1**
XOR	**Xorichti**	**2.20**	**97**	*e*Pn	**Pn**	**06 04 25.1**	**+0.6**

*IDC **26** 06:07:27.6± 0.8, 0.47S× 132.95E, mb4.0/6, mb1 4.3/9, mb1mx4.2/17, ML4.1/2, MS2.8/1, Ms1 2.8/1, ms1mx2.4/19, Error ellipse: s-maj=50.3km s-min=16.8km az=78.0*
*NEIC **26** 06:07:36.4± 2.6, 0.52S× 132.94E, h68km± 23km, mb4.2/8, Error ellipse: s-maj=24.8km s-min=11.7km az=70.0*
ISC 26 06:07:38.7±2.4, **0.73S**±0.05×**132.5E**±0.2, **h103**km±22km, **n23**, σ1**9**19/**29, mb4.0**/10, **1C-1D, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**11.89**	**181**⇑	*i*P	**P**	**06 10 27.1**	**+1.1**
	18nm,0.5s						
KAKA				*e*S	**S**	**06 12 35.7**	**-1.2**
FITZ	**Fitzroy Crossi**	**18.54**	**201**	*e*P	**P**	**06 11 50.1**	**+0.3**
	2.8nm,0.4s						
FITZ				*e*S	**S**	**06 15 09.1**	**-0.6**
FITZ	**Fitzroy Crossi**	**18.54**	**201**	P	**P**	**06 11 49.3**	**-0.5**
	0.4nm,0.3s,baz=16,slow=11,SNR=9.9						
FITZ				S	**S**	**06 15 09.9**	**+0.2**
	0.3nm,0.3s,baz=181,slow=21,SNR=3.9						
FITZ				LR	LR	06 19 34.6	
	comp=Z,30nm,20.5s,baz=50,slow=38						
WRAB	**Tennant Creek**	**19.17**	**175**	*e*P	**P**	**06 11 56.5**	**-0.2**
	8.2nm,0.6s						
WRA	**Warramunga Arr**	**19.17**	**175**	P	**P**	**06 11 55.8**	**-1.0**
	0.6nm,0.3s,baz=354,slow=12,SNR=41						
WRA				S	**S**	**06 15 21.7**	**-1.4**
	0.4nm,0.3s,baz=353,slow=24,SNR=9.3						
WB2	**Warramunga Arr**	**19.18**	**175**	*e*P	**P**	**06 11 56.5**	**-0.3**
WB2				*e*S	**S**	**06 15 24.0**	**+0.8**
ASAR	**Alice Springs**	**22.84**	**177**	P	**P**	**06 12 35.3**	**+1.5**
	18nm,1.0s,mb4.4,baz=4.2,slow=11,SNR=55						
ASAR				S	**S**	**06 16 39.3**	**+7.8**
	0.6nm,0.8s,slow=13,SNR=2.9						
ASPA	**Alice Springs**	**22.84**	**177**	*e*P	**P**	**06 12 36.7**	**+2.9**
ASPA				*e*S	**S**	**06 16 49.6**	**+18**
CTA	**Charters Tower**	**23.47**	**146**	*i*P	**P**	**06 12 40.1**	**+0.2**
	4.1nm,0.9s,mb3.8						
CTA	**Charters Tower**	**23.47**	**146**	P	**P**	**06 12 40.2**	**+0.3**
	4.6nm,0.8s,mb3.9,baz=324,slow=11,SNR=7.3						
CTAO	**Charters Tower**	**23.47**	**146**	*e*P	**P**	**06 12 39.9**	**+0.1**
	5.4nm,0.8s,mb3.9						
MBWA	**Marble Bar**	**23.83**	**211**	*e*P	**P**	**06 12 48.0**	**+4.6**
STKA	**Stephens Creek**	**32.14**	**165**	*e*P	**P**	**06 13 56.9**	**-1.8**
	3.5nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**32.14**	**165**	P	**P**	**06 13 57.6**	**-1.1**
	5.2nm,0.7s,mb4.4,baz=341,slow=8.3,SNR=10						
SONM	**Songino Array**	**53.45**	**338**	P	**P**	**06 16 50.0**	**-0.5**
	0.2nm,0.3s,mb3.6,baz=151,slow=7.2,SNR=5.3						
KURK	**Kurchatov**	**68.61**	**327**	*e*P	**P**	**06 18 31.7**	**-0.9**
	4.1nm,0.8s,mb4.3						
BVAR	**Borovoye Array**	**74.20**	**326**	P	**P**	**06 19 06.4**	**+0.5**
	2.0nm,0.6s,mb4.0,baz=117,slow=6.6,SNR=12						
BRVK	**Borovoye**	**74.28**	**326**	*e*P	**P**	**06 19 06.7**	**+0.3**
	4.4nm,0.8s,mb4.2						
VNDA	**Vanda**	**78.34**	**174**	P	**P**	**06 19 30.2**	**+1.4**
	1.3nm,1.1s,mb3.6,baz=337,slow=5.6,SNR=5.3						
VNDA	**Vanda**	**78.34**	**174**	P	**P**	**06 19 30.2**	**+1.4**
SBA	**Scott Base**	**79.19**	**173**	P	**P**	**06 19 35.9**	**+2.5**
	2.3nm,0.9s,mb4.0						
ILAR	**Eielson Array**	**86.64**	**25**	P	**P**	**06 20 09.3**	**-2.2**
	0.3nm,0.7s,mb3.3,baz=247,slow=5.3,SNR=5.5						
CPUP	**Villa Florida**	**151.47**	**161**	PKPbc	PKPdf	06 27 24.6	+10
	2.7nm,0.9s,baz=176,slow=7.6,SNR=4.9						

*NEIC **26** 06:32:16.3, 18.76N× 64.28W, h25km, ML3.7(RSPR), After RSPR.*
RSPR 26 06:32:16.3, 18.76N× 64.28W, h25km±26km, **MD3.3**/9, **MD3.3**/9, **5C-5D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**1.61**	**248**	*e*P	Pn	06 32 40.8	-2.8
CSB	**Colonia Sabana**	**1.84**	**256**⇓	*i*P	Pn	06 32 43.9	-3.0
CSB				*e*S	Sn	06 33 05.7	-3.8
SJG	**San Juan**	**1.89**	**251**⇑	*e*P	Pn	06 32 44.9	-2.6
SJG				*e*S	Sn	06 33 07.4	-3.4
SJG	**San Juan**	**1.89**	**251**⇓	*e*P	Pn	06 32 44.8	-2.7
SJG				*e*S	Sn	06 33 07.5	-3.3
CELP	**Cerrillos**	**2.29**	**253**⇓	*e*P	Pn	06 32 50.7	-2.5
CELP				*e*S	Sn	06 33 17.3	-3.6
OBIP	**Obispado Ponce**	**2.32**	**253**⇓	*e*P	Pn	06 32 51.2	-2.6
OBIP				*e*S	Sn	06 33 18.4	-3.4
PORP	**Portuguez**	**2.35**	**253**⇑	*e*P	Pn	06 32 51.7	-2.4
PORP				*e*S	Sn	06 33 18.7	-3.7
AOPR	**Arecibo Observ**	**2.38**	**261**⇑	*e*P	Pn	06 32 52.2	-2.4
AOPR				*e*S	Sn	06 33 19.4	-3.9
LRS	**Lares**	**2.48**	**260**⇑	*e*P	Pn	06 32 53.3	-2.7
LRS				*e*S	Sn	06 33 22.8	-3.0
LSP	**Las Mesas**	**2.73**	**258**⇑	*e*P	Pn	06 32 57.2	-2.3
LSP				*e*S	Sn	06 33 28.7	-3.3
MGP	**Maguayo**	**2.77**	**255**⇓	*e*P	Pn	06 32 57.8	-2.4
MGP				*e*S	Sn	06 33 29.1	-4.0

IDC 26 06:41:47.1±5.4, **1.90S**×**102.36E, mb4.2**/3, **mb1 4.4**/3, **mb1mx3.8**/14, **Error ellipse: s-maj=202.0km s-min=88.2km az=49.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**36.03**	**122**	P	P	06 48 51.1	-1.2
	1.5nm,0.3s,baz=303,slow=9.0,SNR=36						
WB2	**Warramunga Arr**	**36.04**	**122**	*e*P	P	06 48 51.3	-1.1
ASPA	**Alice Springs**	**37.43**	**128**	*e*P	P	06 49 02.4	-1.6
ASAR	**Alice Springs**	**37.43**	**128**	P	P	06 49 02.4	-1.7
	1.8nm,0.3s,baz=299,slow=7.9,SNR=26						
STKA	**Stephens Creek**	**47.48**	**133**	P	P	06 50 22.2	-3.7
	1.8nm,0.8s,baz=333,slow=9.0,SNR=3.2						
TXAR	**Lajitas Array**	**143.15**	**40**	PKP	PKPdf	07 01 24.7	-1.0
	0.1nm,0.5s,baz=270,slow=0.9,SNR=6.2						

*NEIC **26** 06:45:55.3, 38.29S× 175.85E, h208km, After WEL.*
WEL 26 06:45:55.2±0.4, **38.28S**×**175.88E, h210**km±3km, **ML4.2**/7, **3C, Error ellipse: s-maj=3.3km s-min=2.9km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RITZ	**Rihia Road**	**0.70**	**182**	P	P	06 46 24.8	+0.3
RITZ	**Rihia Road**	**0.70**	**182**	PN	P	06 46 24.7	+0.2
KATZ	**Kakaramea**	**0.72**	**192**	P	P	06 46 24.6	0.0
KATZ				S	S	06 46 30.7	-17
KATZ	**Kakaramea**	**0.72**	**192**	PN	P	06 46 24.4	-0.2
MGZ	**Maungaku**	**0.77**	**200**	P	P	06 46 24.9	0.0
MGZ	**Maungaku**	**0.77**	**200**	PN	P	06 46 24.9	+0.1
KAVZ	**Karewarewa**	**0.84**	**193**	P	P	06 46 25.2	0.0
KAVZ	**Karewarewa**	**0.84**	**193**	PN	P	06 46 25.0	-0.3
TWVZ	**Taurewa**	**0.87**	**204**	P	P	06 46 25.2	-0.1
TWVZ	**Taurewa**	**0.87**	**204**	PN	P	06 46 25.2	-0.2
WTVZ	**West Tongariro**	**0.87**	**195**	P	P	06 46 25.3	-0.1
WTVZ	**West Tongariro**	**0.87**	**195**	PN	P	06 46 25.2	-0.2
WTVZ				SN	S	06 46 49.1	+0.3
NGZ	**Ngauruhoe**	**0.93**	**194**	P	P	06 46 25.6	-0.1
NGZ	**Ngauruhoe**	**0.93**	**194**	PN	P	06 46 25.4	-0.3
CNZ	**Chateau**	**0.96**	**196**	P	P	06 46 25.7	-0.2
CNZ	**Chateau**	**0.96**	**196**	PN	P	06 46 25.5	-0.4
URZ	**Urewera**	**0.97**	**90**	P	P	06 46 25.4	-0.5
URZ	**Urewera**	**0.97**	**90**	PN	P	06 46 25.4	-0.4
URZ				SN	S	06 46 48.6	-1.1
WPVZ	**Whakapapa**	**0.97**	**196**	P	P	06 46 25.9	0.0
WPVZ	**Whakapapa**	**0.97**	**196**	PN	P	06 46 25.9	0.0
TUVZ	**Tukino**	**1.01**	**190**	⇑PN	P	06 46 26.3	+0.2
TUVZ				SN	S	06 46 50.3	+0.1
BKZ	**Black Stump Fm**	**1.01**	**152**	P	P	06 46 26.3	+0.1
BKZ				S	S	06 46 49.4	-0.8
BKZ	**Black Stump Fm**	**1.01**	**152**	⇑PN	P	06 46 26.3	+0.1
BKZ				SN	S	06 46 49.4	-0.8
FWVZ	**Far West T-bar**	**1.01**	**195**	P	P	06 46 26.1	-0.1
FWVZ	**Far West T-bar**	**1.01**	**195**	PN	P	06 46 26.1	-0.1
DRZ	**Dome Shelter**	**1.03**	**194**	P	P	06 46 26.7	+0.4
DRZ	**Dome Shelter**	**1.03**	**194**	PN	P	06 46 26.7	+0.4
WNVZ	**Wahianoa**	**1.07**	**192**	P	P	06 46 26.7	0.0
WNVZ	**Wahianoa**	**1.07**	**192**	PN	P	06 46 26.7	0.0
MOVZ	**Moawhango**	**1.14**	**185**	P	P	06 46 26.7	-0.4
MOVZ	**Moawhango**	**1.14**	**185**	⇑PN	P	06 46 26.7	-0.5
MOVZ				SN	S	06 46 50.3	-1.5
VRZ	**Vera Road**	**1.22**	**226**	P	P	06 46 27.2	-0.6
VRZ	**Vera Road**	**1.22**	**226**	PN	P	06 46 27.2	-0.6
MWZ	**Matawai**	**1.29**	**93**	P	P	06 46 28.1	-0.3
MWZ	**Matawai**	**1.29**	**93**	PN	P	06 46 27.7	-0.7
MWZ				SN	S	06 46 53.0	-1.0
RAEZ	**Rainy Point**	**1.54**	**229**	P	P	06 46 25.2	-5.3
KNZ	**Kokohu**	**1.59**	**119**	*e*P	P	06 46 30.8	-0.1
KNZ	**Kokohu**	**1.59**	**119**	PN	P	06 46 31.0	+0.1
KNZ				SN	S	06 46 57.8	-0.6
WAZ	**Wanganui**	**1.64**	**205**	PN	P	06 46 30.5	-0.9
WAZ				SN	S	06 46 58.4	-0.8
NEZ	**North Egmont**	**1.71**	**234**	P	P	06 46 31.6	-0.5
NEZ	**North Egmont**	**1.71**	**234**	PN	P	06 46 31.5	-0.6
TSZ	**Takapari Road**	**1.78**	**178**	P	P	06 46 31.9	-0.8
TSZ	**Takapari Road**	**1.78**	**178**	PN	P	06 46 31.9	-0.8
TSZ				SN	S	06 47 00.7	-0.9
NRZ	**Ngariki Road**	**1.86**	**235**	P	P	06 46 32.4	-1.0
NRZ	**Ngariki Road**	**1.86**	**235**	PN	P	06 46 32.4	-1.0
NWEZ	**Newall Road**	**1.87**	**237**	P	P	06 46 32.7	-0.8
NWEZ	**Newall Road**	**1.87**	**237**	PN	P	06 46 32.6	-0.8
PUZ	**Puketiti**	**1.88**	**85**	P	P	06 46 33.0	-0.6
PUZ	**Puketiti**	**1.88**	**85**	PN	P	06 46 32.9	-0.8
PUZ				SN	S	06 47 01.1	-2.1
PWZ	**Pawanui**	**1.91**	**157**	P	P	06 46 33.4	-0.5
PWZ	**Pawanui**	**1.91**	**157**	PN	P	06 46 33.4	-0.5
PWZ				SN	S	06 47 03.0	-0.7
MXZ	**Matakaoa Point**	**2.04**	**70**	P	P	06 46 34.6	-0.6
MXZ	**Matakaoa Point**	**2.04**	**70**	PN	P	06 46 34.5	-0.7
MXZ				SN	S	06 47 05.1	-0.9
MRZ	**Mangatainoka R**	**2.40**	**186**	P	P	06 46 37.1	-1.9
MRZ	**Mangatainoka R**	**2.40**	**186**	PN	P	06 46 37.1	-1.9
MRZ				SN	S	06 47 09.2	-3.6
BFZ	**Birch Farm**	**2.42**	**173**	P	P	06 46 37.7	-1.6
BFZ	**Birch Farm**	**2.42**	**173**	PN	P	06 46 37.7	-1.6
KIW	**Kapiti Island**	**2.69**	**196**	P	P	06 46 39.8	-2.5
KIW	**Kapiti Island**	**2.69**	**196**	PN	P	06 46 39.8	-2.5
KIW				SN	S	06 47 14.5	-4.2
MTW	**Mount Morrison**	**2.90**	**186**	P	P	06 46 42.0	-2.6
MTW	**Mount Morrison**	**2.90**	**186**	PN	P	06 46 41.9	-2.8
MTW				SN	S	06 47 18.5	-4.3
CAW	**Cannon Point**	**2.90**	**192**	P	P	06 46 42.1	-2.6
CAW	**Cannon Point**	**2.90**	**192**	PN	P	06 46 42.1	-2.5
CAW				SN	S	06 47 18.7	-4.2
MRW	**Makara Radio**	**3.09**	**197**	P	P	06 46 44.0	-2.9
MRW	**Makara Radio**	**3.09**	**197**	PN	P	06 46 44.0	-2.8
MRW				SN	S	06 47 22.3	-4.6
PAWZ	**Paruwai Farm**	**3.12**	**186**	PN	P	06 46 44.4	-2.9
PAWZ				SN	S	06 47 23.1	-4.5
WEL	**Wellington**	**3.13**	**196**	P	P	06 46 44.5	-2.8
WEL	**Wellington**	**3.13**	**196**	PN	P	06 46 44.5	-2.9
MSWZ	**Moikau Station**	**3.17**	**189**	P	P	06 46 44.9	-3.0
MSWZ	**Moikau Station**	**3.17**	**189**	PN	P	06 46 44.9	-3.0
MSWZ				SN	S	06 47 23.8	-4.9
BHW	**Baring Head**	**3.23**	**194**	P	P	06 46 45.4	-3.1
BHW	**Baring Head**	**3.23**	**194**	PN	P	06 46 45.3	-3.2
BHW				SN	S	06 47 24.8	-4.9
TUWZ	**Tuamarina**	**3.49**	**205**	PN	P	06 46 48.2	-3.4
TUWZ				SN	S	06 47 30.2	-5.2
NNZ	**Nelson**	**3.52**	**213**	P	P	06 46 48.1	-3.9
NNZ	**Nelson**	**3.52**	**213**	PN	P	06 46 48.1	-3.9
NNZ				SN	S	06 47 31.0	-5.0
QRZ	**Quartz Range**	**3.64**	**224**	*e*P	P	06 46 49.0	-4.5
QRZ	**Quartz Range**	**3.64**	**224**	PN	P	06 46 48.9	-4.6
QRZ				SN	S	06 47 32.6	-6.0
BSWZ	**Blackbirch Sta**	**3.77**	**204**	P	P	06 46 51.9	-3.2
BSWZ	**Blackbirch Sta**	**3.77**	**204**	PN	P	06 46 51.7	-3.4
BSWZ				SN	S	06 47 36.3	-5.1
THZ	**Tophouse**	**4.17**	**212**	*e*P	P	06 46 55.7	-4.3
THZ	**Tophouse**	**4.17**	**212**	PN	P	06 46 55.5	-4.6
THZ				SN	S	06 47 44.2	-6.0
KHZ	**Kahutara**	**4.51**	**203**	P	P	06 47 00.6	-3.7
KHZ	**Kahutara**	**4.51**	**203**	PN	P	06 47 00.6	-3.7
DSZ	**Denniston Nort**	**4.67**	**221**	*e*P	P	06 47 00.8	-5.6
DSZ	**Denniston Nort**	**4.67**	**221**	PN	P	06 47 01.6	-4.7
DSZ				SN	S	06 47 53.8	-7.8
LTZ	**Lake Taylor**	**5.28**	**210**	*e*P	P	06 47 09.3	-4.8
LTZ	**Lake Taylor**	**5.28**	**210**	PN	P	06 47 09.3	-4.7
LTZ				SN	S	06 48 07.1	-8.3
MQZ	**McQueen's Vall**	**5.95**	**203**	PN	P	06 47 17.1	-5.6
ODZ	**Otahua Downs**	**7.82**	**208**	*e*P	P	06 47 41.8	-5.1
ODZ	**Otahua Downs**	**7.82**	**208**	PN	P	06 47 41.5	-5.4
JCZ	**Jackson Bay**	**7.90**	**221**	*e*P	P	06 47 42.0	-5.9

*MOS **26** 07:24:17.9± 1.0, 9.61S× 160.47E, h113km, mb5.6/23, Error ellipse: s-maj=17.0km s-min=11.5km az=87.6*
*BJI **26** 07:24:17.1, 9.48S× 160.89E, h115km, mB5.4, mb5.5*
*IDC **26** 07:24:18.9± 0.5, 9.79S× 160.62E, h117km± 4km, mb4.8/18, mb1 5.0/21, mb1mx5.0/23, MS4.2/11, Ms1 4.2/11, ms1mx4.1/19, Error ellipse: s-maj=14.5km s-min=9.0km az=128.0*
*NEIC **26** 07:24:18.8± 0.1, 9.69S× 160.62E, mb5.3/49, MW5.5, Error ellipse: s-maj=6.7km s-min=4.4km az=139.0, Moment Tensor Solution. s7 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.34; $M_{\theta\theta}$0.87; $M_{\phi\phi}$0.47; $M_{r\theta}$-0.03; $M_{\theta\phi}$0.95; $M_{\phi r}$-0.81; Best double couple: $M_0$1.7×10^{17} NP1:ϕ_s253°, δ40°, λ-53°. NP2:ϕ_s29°, δ59°, λ-116°. Principal axes: T 1.74, Plg10°, Azm138°; N -.05, Plg22°, Azm43°; P -1.7, Plg65°, Azm251°;*
*SYO **26** 07:24:18.9, 9.63S× 160.61E, h116km, MB5.3*
*HRVD **26** 07:24:18.8± 0.2, 9.67S× 160.82E, h125km± 1km, MW5.4/70, Centroid moment Tensor Solution. LP body waves: s65,c109;Mantle waves: s70,c142; Half duration: 1s2 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.11±.03; $M_{\theta\theta}$0.82±.03; $M_{\phi\phi}$0.30±.03; $M_{r\theta}$0.09±.03; $M_{\theta\phi}$0.90±.03; $M_{\phi r}$-0.79±.02; Best double couple: $M_0$1.56×10^{17} NP1: ϕ_s260°, δ44°, λ-46°. NP2:ϕ_s26°, δ60°, λ-124°. Principal axes: T 1.56, Plg9°, Azm140°; N 0, Plg29°, Azm45°; P -1.56, Plg59°, Azm246°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 26 07:24:17.2±1.2, **9.75S**±0.04×**160.58E**±0.04, **h113**km±10km, **h116**km±.6km**:pP-P, n276,** σ0**82**/194, **mb5.3**/88, **15C-35D, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**10.83**	**137**⇑	*i*P	**P**	**07 26 49.1**	**-1.1**
BKM				S	**S**	**07 28 43.6**	**-6.1**
PMG	**Port Moresby**	**13.24**	**270**	P	**P**	**07 27 28.0**	**+6.1**
	0.8nm,0.3s,baz=139,slow=9.5,SNR=5.6						
PMG				S	**S**	**07 30 02.5**	**+16**
	0.8nm,0.3s,baz=228,slow=18,SNR=2.2						
PMG	**Port Moresby**	**13.24**	**270**	P	**P**	**07 27 24.2**	**+2.4**
PMG				pmax	pmax		
	comp=Z,110nm,1.0s						
NOUC	**Port Laguerre**	**13.45**	**157**	*e*P	**P**	**07 27 24.4**	**-0.2**
NOUC				*e*S	**S**	**07 29 50.5**	**-1.2**
CTA	**Charters Tower**	**17.23**	**232**⇓	*i*P	**P**	**07 28 17.0**	**+4.7**
	comp=Z,68nm,0.9s						
CTA	**Charters Tower**	**17.23**	**232**	P	**P**	**07 28 16.3**	**+4.0**
	comp=Z,3.1nm,0.3s,baz=56,slow=11,SNR=79						
CTA				S	**S**	**07 31 33.4**	**+15**
	comp=Z,0.1nm,0.3s,baz=315,slow=5.7,SNR=2.2						
CTAO	**Charters Tower**	**17.23**	**232**	Pn	**P**	**07 28 17.0**	**+4.7**
CTAO	**Charters Tower**	**17.23**	**232**	*i*P	**P**	**07 28 16.3**	**+4.0**
CTAO				pmax	pmax		
	comp=Z,320nm,1.4s						
CTAO	**Charters Tower**	**17.23**	**232**	*i*P	**P**	**07 28 16.3**	**+4.0**
	comp=Z,323nm,1.4s						
WRAB	**Tennant Creek**	**27.26**	**245**	P	**P**	**07 29 53.0**	**-0.1**
	comp=Z,1μm,0.9s,SNR=24						
WRAB	**Tennant Creek**	**27.26**	**245**	*i*P	**P**	**07 29 53.6**	**+0.5**
	comp=Z,270nm,0.8s,mb5.8						
WB2	**Warramunga Arr**	**27.26**	**245**	*i*P	**P**	**07 29 53.6**	**+0.5**
WRA	**Warramunga Arr**	**27.27**	**245**	P	**P**	**07 29 53.6**	**+0.4**
	comp=Z,138nm,0.9s,mb5.5,baz=71,slow=9.2,SNR=245						
WRA				S	**S**	**07 34 22.8**	**+0.4**
	comp

NJ2 XP sP 07 34 42.5 +4.7
NJ2 PCP PcP 07 34 51.0 +1.4
NJ2 S **S** **07 41 44.0 -1.0**
NJ2 XS 07 42 38.0
NJ2 LR LR
comp=N,2µm,24.7s
NJ2 LR LR
comp=E,3µm,25.1s
NJ2 LR LR
comp=Z,4µm,25.2s
QIZ Qiongzhong 57.61 300 P **P** **07 33 59.3 +1.2**
QIZ XP sP 07 34 41.0 +3.0
QIZ S **S** **07 41 45.0 -0.3**
QIZ AMB AMB
comp=Z,32nm,1.0s,mb5.3
QIZ AMB AMB
comp=Z,288nm,6.5s
YSS Yuzh-Sakhalins 58.65 346 *e*P **P** **07 34 06.0 +1.1**
WHN Wuhan 59.78 314⇑*i*P **P** **07 34 13.0 0.0**
MDJ Mudanjiang 60.94 335 P **P** **07 34 20.5 -0.1**
MDJ AP pP 07 34 47.0 -1.4
MDJ XP sP 07 34 59.5 -1.4
MDJ PCP PcP 07 35 02.8 +0.2
MDJ SCP 07 38 52.3
MDJ PCS 07 39 05.0
MDJ S **S** **07 42 30.3 +2.4**
MDJ SCS ScS 07 44 00.3 +3.5
MDJ SS SS 07 46 29.3 -1.2
MDJ AMB AMB
comp=Z,40nm,1.6s,mb5.2
MDJ AMB AMB
comp=Z,204nm,5.5s
MDJ LR LR
comp=N,177nm,39.0s
MDJ LR LR
comp=E,177nm,44.8s
MDJ Mudanjiang 60.94 335 *e*P **P** **07 34 19.4 -1.3**
comp=E,116nm,1.5s,mb5.7
CN2 Changchun 62.12 332 ⇑P **P** **07 34 28.5 -0.1**
CN2 *e*AP pP 07 34 56.0 -0.3
CN2 *e*S **S** **07 42 43.5 +0.7**
CN2 AMB AMB
comp=Z,90nm,1.2s,mb5.7
CN2 AMB AMB
comp=Z,470nm,5.0s
PET Petropavlovsk 62.55 359 *e*P **P** **07 34 36.4 +5.1**
PET *e*S **S** **07 42 57.9 +10**
PET pmax pmax
comp=Z,13nm,1.0s,mb4.8
PET pmax pmax
comp=Z,100nm,8.0s
PET pmax pmax
comp=Z,59nm,1.1s,mb5.4
PET pmax pmax
comp=Z,100nm,14.0s
PET smax
comp=N,100nm,14.4s
PET pmax pmax
comp=E,600nm,16.7s
ENH Enshi 63.18 311 *e*P **P** **07 34 34.9 -0.9**
comp=E,118nm,1.0s,mb5.8
GYA Guiyang 63.52 306⇓*i*P **P** **07 34 38.0 -0.2**
GYA AP pP 07 35 05.3 -0.8
GYA XP sP 07 35 18.3 -0.2
GYA PP PP 07 37 01.5 +0.8
GYA S **S** **07 42 59.0 -1.7**
GYA XS 07 43 48.8
GYA AMB AMB
comp=Z,50nm,1.3s,mb5.2
GYA AMB AMB
comp=Z,440nm,3.3s
GYA LR LR
comp=N,1µm,18.4s
GYA LR LR
comp=E,970nm,17.8s
GYA LR LR
comp=Z,1µm,18.0s
BJT Baijiatuan 64.34 323⇓*e*P **P** **07 34 42.5 -0.8**
comp=Z,94nm,1.3s,mb5.5
BJI Beijing 64.35 323 P **P** **07 34 42.3 -1.0**
BJI AMB AMB
comp=Z,40nm,1.4s,mb5.1
BJI LR LR
comp=N,322nm,11.4s
BJI LR LR
comp=E,485nm,10.4s
BJI LR LR
comp=Z,461nm,34.1s
XAN Xi'an 65.54 314 P **P** **07 34 50.0 -1.1**
XAN AMB AMB
comp=Z,143nm,0.9s,mb5.8
CASY Casey 65.80 200⇓*e*P **P** **07 34 51.0 -1.2**
comp=Z,66nm,1.1s,mb5.4
KMI Kunming 66.13 303 *e*P **P** **07 34 56.0 +0.9**
KMI AP pP 07 35 23.8 +0.7
KMI XP sP 07 35 40.0 +4.5
KMI PP PP 07 37 23.5 -0.5
KMI S S 07 43 35.3 +2.5
KMI XS 07 44 24.5
KMI SKS SKS 07 44 39.8 +3.6
KMI SS SS 07 47 50.0 -2.0
KMI AMB AMB
comp=Z,63nm,1.4s,mb5.2
KMI AMB AMB
comp=Z,264nm,3.1s
KMI LR LR
comp=Z,215nm,26.9s
CMAR Chiang Mai Arr 66.95 295 P **P** **07 35 00.9 +0.6**
comp=Z,24nm,0.8s,mb5.1,baz=118,slow=4.4,SNR=91
HHC Hu-ho-hao-te 67.61 322 ⇓P **P** **07 35 04.3 +0.2**
HHC PCP PcP 07 35 30.8 +0.6
HHC AP pP 07 35 32.3 +0.1
HHC XP sP 07 35 43.8 -0.7
HHC PP PP 07 37 35.8 -0.4
HHC SCP 07 39 20.5
HHC PCS 07 39 34.3
HHC S S 07 43 51.0 +0.6
HHC PS PS 07 44 31.8 +0.7
HHC XS 07 44 38.5
HHC SCS ScS 07 44 48.8 +0.9
HHC SS SS 07 48 17.3 +2.5
HHC AMB AMB
comp=Z,57nm,1.3s,mb5.2
HHC AMB AMB
comp=Z,301nm,4.5s
HHC LR LR
comp=N,125nm,15.5s
HHC LR LR
comp=E,159nm,15.9s
HHC LR LR
comp=Z,128nm,14.7s
VNDA Vanda 67.75 180 P **P** **07 35 04.0 -0.4**
comp=Z,11nm,0.9s,mb4.7,baz=344,slow=7.1,SNR=30
VNDA Vanda 67.75 180 P **P** **07 35 04.0 -0.4**
CD2 Chengdu 67.81 309 P **P** **07 35 05.8 +0.3**
CD2 AMB AMB
comp=Z,100nm,1.0s,mb5.6
SBA Scott Base 68.16 179 *e*P **P** **07 35 07.1 +0.2**
SBA pmax pmax
comp=Z,28nm,1.2s,mb5.0
SBA Scott Base 68.16 179 *e*P **P** **07 35 07.1 +0.2**
comp=Z,15nm,1.2s,mb4.7
BTO Baotou 68.42 321 *e*P **P** **07 35 09.3 +0.2**
BTO AMB AMB
comp=Z,78nm,1.0s,mb5.5
HIA Hailar 68.81 333⇓*i*P **P** **07 35 11.2 -0.1**
comp=Z,139nm,1.2s,mb5.7
LZH Lanzhou 70.17 314 ⇓P **P** **07 35 21.0 +1.2**
LZH PCP PcP 07 35 42.0 +0.9
LZH AP pP 07 35 50.3 +2.1
LZH XP sP 07 36 03.8 +3.4
LZH PP PP 07 38 00.0 +1.8
LZH S S 07 44 22.0 +1.5
LZH XS 07 45 09.0
LZH *e*SS SS 07 48 56.0 +1.7
LZH AMB AMB
comp=Z,181nm,1.5s,mb5.7
LZH AMB AMB
comp=Z,456nm,4.0s
MIR Mirnyy 72.26 203⇓*e*P **P** **07 35 31.2 -0.5**
MIR pmax pmax
comp=Z,160nm,1.6s,mb5.6
CLNS Chul'man 72.57 340 *e*P **P** **07 35 31.8 -1.9**
CLNS *e* pP 07 36 03.9 +1.6
CLNS *e* 07 45 14.2

CLNS pmax pmax
comp=Z,38nm,0.9s,mb5.2
CLNS pmax pmax
comp=N,20nm,1.0s
CLNS pmax pmax
comp=E,16nm,0.9s
CLNS pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
CLNS pmax pmax
comp=N,9.0nm,0.8s
CLNS pmax pmax
comp=E,7.0nm,0.8s
CLNS MLR MLR
comp=Z,100nm,13.0s
CLNS MLR MLR
comp=N,700nm,11.0s
CLNS MLR MLR
comp=E,100nm,10.0s
GTA Gaotai 74.54 315 P **P** **07 35 46.3 +0.8**
GTA PCP PcP 07 35 59.0 -0.7
GTA AP pP 07 36 13.8 -0.5
GTA XP sP 07 36 29.5 +3.0
GTA PP PP 07 38 38.8 +3.6
GTA S S 07 45 11.8 +1.8
GTA SCS ScS 07 45 46.0 +3.2
GTA SS SS 07 49 59.3 -2.0
GTA AMB AMB
comp=Z,110nm,0.9s,mb5.6
GTA AMB AMB
comp=Z,134nm,6.5s
GTA LR LR
comp=N,121nm,20.5s
GTA LR LR
comp=E,131nm,13.7s
GTA LR LR
comp=Z,274nm,17.1s
SONM Songino Array 74.67 325 P **P** **07 35 46.6 +0.5**
comp=Z,69nm,0.9s,mb5.4,baz=137,slow=5.5,SNR=370
SHL Shillong 75.45 300⇓*i*P **P** **07 35 51.0 0.0**
YAK Yakutsk 75.50 346 *e*P **P** **07 35 50.2 -0.3**
YAK pmax pmax
comp=Z,37nm,0.8s,mb5.2
YAK pmax pmax
comp=N,9.0nm,0.9s
YAK pmax pmax
comp=E,6.0nm,1.3s
YAK Yakutsk 75.50 346 *e*P **P** **07 35 49.3 -1.2**
comp=E,94nm,0.7s,mb5.6
BILL Bilibino 77.70 2 *e*P **P** **07 36 02.5 -0.2**
BILL pmax pmax
comp=Z,68nm,1.0s,mb5.3
BILL Bilibino 77.70 2 *e*P **P** **07 36 02.5 -0.2**
comp=Z,75nm,0.9s,mb5.4
BILL *e*pP pP 07 36 31.5 -0.1
ZAK Zakamensk 77.78 327⇓*i*P **P** **07 36 03.8 +0.3**
ZAK *e* pP 07 36 33.9 +1.5
MOY Mondy 79.68 327 *e*P **P** **07 36 14.5 +0.7**
SLKM Skilak Lake 80.07 22 P **P** **07 36 16.1 +0.4**
SLKM Skilak Lake 80.07 22 *e*P **P** **07 36 15.4 -0.3**
QSPA South Pole Qui 80.25 180⇑*i*P **P** **07 36 16.3 0.0**
comp=Z,19nm,0.8s,mb5.0
PMR Palmer 81.17 22 *e*P **P** **07 36 21.3 -0.2**
comp=Z,47nm,1.4s,mb5.1
GUN Gumba 81.26 300 *e*P **P** **07 36 23.2 +0.5**
comp=Z,67nm,1.0s,mb5.4
PALK Pallekele 81.33 279 *e*P **P** **07 36 24.3 +1.0**
comp=Z,40nm,0.9s,mb5.2
PKI Pulchoki 81.57 300 *e*P **P** **07 36 24.6 +0.3**
comp=Z,67nm,1.1s,mb5.4
KKN Kakani 81.74 300 *e*P **P** **07 36 25.2 0.0**
comp=Z,65nm,1.2s,mb5.3
DMN Daman 81.84 300 *e*P **P** **07 36 26.2 +0.5**
GKN Gorkha 82.35 300 *e*P **P** **07 36 28.3 0.0**
comp=Z,246nm,1.2s,mb5.9
MCK McKinley 82.62 20 *e*P **P** **07 36 28.3 -0.7**
MCK pmax pmax
comp=Z,29nm,1.0s,mb5.1
MCK McKinley 82.62 20 *e*P **P** **07 36 28.3 -0.7**
comp=Z,39nm,1.1s,mb5.2
MCK *e*pP pP 07 36 57.1 -1.1
IMA Indian Mountai 82.70 17 P **P** **07 36 29.8 +0.5**
IMA pmax pmax
comp=Z,330nm,1.9s,mb5.8
IMA Indian Mountai 82.70 17 *e*P **P** **07 36 30.1 +0.8**
comp=Z,14nm,1.1s,mb4.7
KOLN Koldanda 83.17 300 *e*P **P** **07 36 32.4 -0.1**
comp=Z,107nm,0.9s,mb5.7
COLA College 83.72 20 *e*P **P** **07 36 33.6 -0.8**
COLA pmax pmax
comp=Z,28nm,0.8s,mb5.1
COLA College 83.72 20 *e*P **P** **07 36 33.6 -0.8**
comp=Z,28nm,0.8s,mb5.1
TIXI Tiksi 83.91 350*d*/*i*P **P** **07 36 34.7 -0.6**
TIXI pmax pmax
comp=Z,101nm,2.3s,mb5.2
TIXI Tiksi 83.91 350 *i* Pr 07 36 34.7
ILAR Eielson Array 83.97 20 P **P** **07 36 34.7 -1.0**
comp=Z,4.0nm,0.8s,mb4.3,baz=268,slow=4.4,SNR=31
ILAR *e*pP pP 07 37 04.1 -0.9
comp=Z,6.0nm,0.8s,baz=254,slow=5.2,SNR=6.3
ILAR LR LR 08 08 49.5
comp=Z,131nm,20.4s,baz=239,slow=32
MAW Mawson 83.99 202 P **P** **07 36 35.2 -0.5**
comp=Z,8.4nm,0.9s,mb4.6,baz=92,slow=6.4,SNR=24
MAW *e*pP pP 07 37 06.1 +1.0
comp=Z,6.4nm,0.9s,baz=96,slow=7.3,SNR=5.1
MAW LR LR 08 09 45.6
comp=Z,90nm,18.8s,baz=82,slow=32
WMQ Urumqi 84.61 316⇓*i*P **P** **07 36 39.8 +0.4**
WMQ AP pP 07 37 12.0 +3.2
WMQ XP sP 07 37 26.0 +4.9
WMQ PP PP 07 39 58.0 +0.2
WMQ SKS SKS 07 46 48.0 -1.2
WMQ SS SS 07 52 32.0 +0.2
WMQ AMB AMB
comp=Z,41nm,1.2s,mb5.2
WMQ LR LR
comp=N,165nm,25.0s
WMQ LR LR
comp=E,169nm,26.0s
WMQ LR LR
comp=Z,144nm,25.0s
HYB Hyderabad 85.38 288 *i* P **P** **07 36 44.0 +0.2**
DAWY Dawson 86.25 22⇑*e*P **P** **07 36 48.0 +1.1**
DAWY *e*pP pP 07 37 17.7 +1.3
YBH Yreka Blue Hor 86.67 47 P **P** **07 36 50.0 +0.4**
comp=Z,11nm,0.9s,mb4.8,baz=196,slow=2.4,SNR=8.9
YBH pP pP 07 37 20.6 +1.5
comp=Z,18nm,1.2s,baz=167,slow=4.6,SNR=4.6
HUMO Hull Mountain 86.74 46 *e*P **P** **07 36 50.6 +0.7**
comp=Z,19nm,1.0s,mb5.0
HUMO *e*pP pP 07 37 20.5 +1.1
CMB Columbia Colle 87.43 51 *e*P **P** **07 36 52.5 -0.8**
CMB pmax pmax
comp=Z,35nm,1.4s,mb5.1
CMB Columbia Colle 87.43 51 *e*P **P** **07 36 52.5 -0.8**
comp=Z,23nm,1.8s,mb4.8
CMB ⇓*i*pP pP 07 37 23.4 +0.5
MWC Mount Wilson 88.37 55 P **P** **07 36 58.4 +0.5**
MWC Mount Wilson 88.37 55 *e*P **P** **07 36 57.8 -0.1**
MWC *e*pP pP 07 37 26.7 -0.8
MWC *e*sP sP 07 37 42.1 +2.3
MOD Modoc 88.45 47 *e*P **P** **07 36 58.3 +0.2**
comp=Z,51nm,1.4s,mb5.4
MOD *e*pP pP 07 37 28.6 +0.9
MTUM Tungsten Hills 88.67 52 *e*P **P** **07 36 58.9 -0.4**
MTUM *e*pP pP 07 37 29.7 +0.8
NVAR Mina Array Bea 89.12 51 P **P** **07 37 02.0 +0.7**
comp=Z,7.9nm,0.8s,mb4.8,baz=230,slow=4.0,SNR=36
NVAR pP pP 07 37 32.0 +1.0
comp=Z,3.4nm,0.7s,baz=237,slow=4.1,SNR=5.3
NVAR LR LR 08 09 06.2
comp=Z,108nm,20.4s,baz=50,slow=30
MKAR Makanchi Array 89.13 318 *i* P **P** **07 37 01.3 +0.2**
MKAR pmax pmax
comp=Z,31nm,0.9s
MKAR Makanchi Array 89.13 318 *i* P **P** **07 37 01.4 +0.3**
MNV Mina 89.23 51 P **P** **07 37 02.5 +0.7**
MNV pmax pmax
comp=Z,56nm,1.6s,mb5.3
MNV Mina 89.23 51 *e*P **P** **07 37 02.0 +0.2**
comp=Z,19nm,1.3s,mb5.0
MNV *e*pP pP 07 37 31.9 +0.4
RPW Rockport 89.31 41 P **P** **07 37 01.6 -0.4**
TPH Tonopah 89.87 51⇓*i*P **P** **07 37 04.9 0.0**
TPH pmax pmax
comp=Z,15nm,1.0s,mb5.1
TPH Tonopah 89.87 51⇓*i*P **P** **07 37 04.9 0.0**
comp=Z,22nm,1.1s,mb5.2
TPH *e*pP pP 07 37 35.1 +0.6
INK Inuvik 90.38 20 P **P** **07 37 06.6 +0.1**
comp=Z,4.2nm,1.0s,mb4.5,baz=270,slow=4.3,SNR=9.6
INK pP pP 07 37 36.1 -0.1
comp=Z,8.5nm,1.4s,baz=234,slow=9.9,SNR=2.7
INK Inuvik 90.38 20 P **P** **07 37 06.6 +0.1**
INK pP pP 07 37 36.1 -0.1
BMN Battle Mountai 90.38 49 P **P** **07 37 08.2 +1.0**
BMN pmax pmax
comp=Z,44nm,1.4s,mb5.4
BMN Battle Mountai 90.38 49⇓*e*P **P** **07 37 07.6 +0.4**
comp=Z,16nm,1.0s,mb5.1
BMN ⇓*e*pP pP 07 37 38.3 +1.4
TPNV Topopah Spring 90.39 53 P **P** **07 37 08.0 +0.7**
TPNV pmax pmax
comp=Z,100nm,1.8s,mb5.6
TPNV Topopah Spring 90.39 53⇓*i*P **P** **07 37 06.5 -0.8**
comp=Z,34nm,1.8s,mb5.2
TPNV *e*pP pP 07 37 37.9 +0.8
NVS Novosibirsk 90.70 326 *i* P **P** **07 37 06.2 -2.1**
NVS pmax pmax
comp=Z,62nm,1.4s,mb5.5
NVS pmax pmax
comp=N,30nm,1.6s
NVS pmax pmax
comp=E,42nm,1.6s
LDFC Landfair 90.92 55⇓*e*P **P** **07 37 10.0 +0.1**
LDFC *e*pP pP 07 37 41.3 +1.6
TRCR Troy Canyon 91.19 51 *e*P **P** **07 37 11.7 +0.6**
TRCR *e*pP pP 07 37 41.8 +1.0
NEN Nelson 91.25 54 *e*P **P** **07 37 11.3 -0.1**
NEN *e*pP pP 07 37 42.5 +1.3
DPW Davenport 91.32 42 *e*P **P** **07 37 10.9 -0.5**
DPW *e*pP pP 07 37 42.0 +0.8
SYO Syowa Base 91.49 198 ⇓P **P** **07 37 12.5 +0.8**
NEW Newport 92.12 42 P **P** **07 37 15.1 0.0**
comp=E,9.0nm,0.9s,mb5.0,baz=239,slow=4.8,SNR=14
NEW pP pP 07 37 45.3 +0.4
comp=E,12nm,1.0s,baz=256,slow=3.2,SNR=7.1
KURK Kurchatov 92.42 321 *i* P **P** **07 37 15.9 -0.5**
KURK pmax pmax
comp=Z,37nm,1.2s,mb5.5
KURK Kurchatov 92.42 321⇓*e*P **P** **07 37 15.7 -0.7**
comp=Z,60nm,1.1s,mb5.7
ARUT Antelope Range 92.75 52 P **P** **07 37 19.2 +1.0**
ARUT Antelope Range 92.75 52 *e*P **P** **07 37 18.9 +0.7**
ARUT *e*pP pP 07 37 48.8 +0.7
HLID Hailey 93.05 46 *e*P **P** **07 37 20.2 +0.8**
comp=Z,27nm,1.0s,mb5.5
HLID *e*pP pP 07 37 50.0 +0.7
BGU Big Grassy Mou 93.60 49 *e*P **P** **07 37 22.1 +0.1**
BGU *e*pP pP 07 37 52.6 +0.8
DUG Dugway 93.64 50 P **P** **07 37 21.5 +0.9**
DUG Dugway 93.64 50 *e*P **P** **07 37 21.9 -0.3**
comp=Z,86nm,1.9s,mb5.8
DUG *e*pP pP 07 37 52.8 +0.8
DUG *e*sP sP 07 38 02.8 -1.4
AAK Ala-Archa 93.66 312 *i* P **P** **07 37 21.7 -0.5**
AAK pmax pmax
comp=Z,6.0nm,0.7s,mb5.0
AAK Ala-Archa 93.66 312 *e*P **P** **07 37 21.4 -0.8**
comp=Z,7.8nm,0.9s,mb5.0
AAK *e*pP pP 07 37 52.7 +0.7
MVU Marysvale 93.82 52 *e*P **P** **07 37 24.0 +1.0**
comp=Z,51nm,1.6s,mb5.6
MVU *e*pP pP 07 37 54.4 +1.5
MSU Marysvale 93.85 52 P **P** **07 37 24.7 +1.5**
MSU Marysvale 93.85 52 *e*P **P** **07 37 24.5 +1.3**
MSU *e*pP pP 07 37 54.7 +1.7
HVU Hansel Valley 93.93 48 P **P** **07 37 24.5 +1.0**
HVU Hansel Valley 93.93 48 *e*P **P** **07 37 24.0 +0.5**
HVU *e*pP pP 07 37 55.4 +2.1
SPUT South Promonto 94.09 49 *e*P **P** **07 37 23.6 -0.6**
SPUT *e*pP pP 07 37 54.5 +0.5
NLU North Lily Min 94.16 50 *e*P **P** **07 37 23.9 -0.6**
NLU *e*pP pP 07 37 55.3 +0.9
MCMT McKenzie Canyo 94.37 45 *e*P **P** **07 37 26.1 +0.7**
MCMT *e*pP pP 07 37 54.3 -0.9
CHMT Chamberlain Mo 94.44 43 *e*P **P** **07 37 22.2 -3.4**
CHMT *e*pP pP 07 37 55.8 +0.3
MPU Maple Canyon 94.50 50 *e*P **P** **07 37 26.5 +0.4**
MPU *e*pP pP 07 37 57.6 +1.7
JLU Jordanelle 94.73 50 *e*P **P** **07 37 27.9 +0.8**
JLU *e*pP pP 07 37 58.3 +1.4
DAU Daniels Canyon 94.85 50 P **P** **07 37 28.0 +0.3**
DAU *e*pP pP 07 37 59.4 +1.9
RRI2 Red Ridge 95.24 47⇑*e*P **P** **07 37 30.4 +1.0**
RRI2 *e*pP pP 07 38 00.6 +1.4
HRY Holter Researc 95.37 44 *e*P **P** **07 37 30.0 +0.1**
HRY *e*pP pP 07 38 00.7 +0.9
QLMT Earthquake Lak 95.37 46 *e*P **P** **07 37 30.7 +0.7**
QLMT *e*pP pP 07 38 01.7 +1.9
QLMT *e*sP sP 07 38 13.9 +2.0
EDM Edmonton 95.38 37 *e*P **P** **07 37 28.9 -0.9**
EDM *e*pP pP 07 37 59.6 0.0
REDW Red Top Meadow 95.58 47 *e*P **P** **07 37 30.2 -0.7**
REDW *e*pP pP 07 38 02.5 +1.8
LOHW Long Hollow 95.79 47 *e*P **P** **07 37 32.5 +0.7**
LOHW *e*pP pP 07 38 02.2 +0.5
YKA Yellowknife Ar 96.18 28 P **P** **07 37 32.3 -0.9**
comp=Z,5.2nm,0.8s,mb5.0,baz=259,slow=4.8,SNR=23
YKA pP pP 07 38 02.0 -1.0
comp=Z,2.9nm,0.8s,baz=260,slow=4.8,SNR=5.4
YKA LR LR 08 20 06.9
comp=Z,138nm,18.1s,baz=270,slow=35
YKA Yellowknife Ar 96.18 28 P **P** **07 37 32.3 -0.9**
YKA pP pP 07 38 02.0 -1.0
PV10 Paradox Valley 96.27 52 *e*P **P** **07 37 35.7 +1.6**
PV10 *e*pP pP 07 38 05.6 +1.6
PDAR Pinedale Array 96.44 48 P **P** **07 37 34.7 -0.1**
comp=Z,3.5nm,1.0s,mb4.8,baz=281,slow=1.9,SNR=18
PDAR pP pP 07 38 05.4 +0.7
comp=Z,4.0nm,1.1s,baz=297,slow=3.3,SNR=5.9
PDAR LR LR 08 16 02.9
comp=Z,96nm,18.9s,baz=275,slow=32
VOSK Vostochnaya 97.43 322 P **P** **07 37 37.7 -1.4**
VOSK pmax pmax
comp=Z,40nm,1.4s,mb5.7
VOSK Vostochnaya 97.43 322 *i* P **P** **07 37 37.7 -1.4**
BVAR Borovoye Array 97.82 322 P **P** **07 37 40.0 -0.9**
BVAR Borovoye Array 97.82 322 P **P** **07 37 40.2 -0.7**
comp=Z,14nm,0.7s,mb5.6,baz=108,slow=4.7,SNR=47
BRVK Borovoye 97.89 322 P **P** **07 37 40.2 -1.0**
BRVK pmax pmax
comp=Z,20nm,1.2s,mb5.5
BRVK Borovoye 97.89 322 *e*P **P** **07 37 40.2 -0.9**
comp=Z,28nm,1.1s,mb5.7
SNAA Sanae 98.01 185⇑*i*P **P** **07 37 40.4 -0.9**
SNAA Sanae 98.01 185 *e* pP 07 38 11.4 +0.3
SNAA Sanae 98.01 185 *e* sP 07 38 23.6 +0.4
SNAA Sanae 98.01 185 P **P** **07 37 39.8 -1.5**
comp=Z,0.3nm,0.8s,baz=207,slow=4.1,SNR=3.2
SNAA pP pP 07 38 10.4 -0.7
comp=Z,0.6nm,0.8s,baz=239,slow=5.7,SNR=3.7
ZRNK Zerenda 98.65 322 P **P** **07 37 43.2 -1.4**
ZRNK pmax pmax
comp=Z,35nm,1.6s,mb5.6
ZRNK Zerenda 98.65 322 *e*P **P** **07 37 43.2 -1.4**
comp=Z,20nm,1.0s,mb5.6
VNA3 Neumayer Olymp 98.92 183⇓*i*P **P** **07 37 46.0 +0.5**
VNA3 Neumayer Olymp 98.92 183 *e* pP 07 41 49.5 -1.0
VNA2 Neumayer--Watz 99.10 184⇑*i*P **P** **07 37 47.5 +1.2**
VNA2 Neumayer--Watz 99.10 184 *e* pP 07 41 51.3 +0.5
LAO LASA Array 99.20 44⇑*e*P **P** **07 37 48.0 +0.7**
LAO *e*pP pP 07 38 18.3 +1.1
VNA1 Neumayer--Stat 99.42 184⇑*i*P **P** **07 37 45.9 -1.9**
VNA1 Neumayer--Stat 99.42 184 *e* pP 07 41 49.9 -4.5
TXAR Lajitas Array 99.69 62 LR LR 08 16 16.5
comp=Z,160nm,18.2s,baz=205,slow=31
DGMT Dagmar 100.68 42 *e*Pdif P 07 37 52.7 -1.3
DGMT *e*pP 07 38 24.7
ARCES ARCESS Array B 113.76 344 PKiKP 07 42 42.1
comp=Z,1.1nm,0.3s,baz=57,slow=1.3,SNR=37
FINES FINESS Array B 118.66 337 PKP PKPdf 07 42 51.7 0.0
comp=Z,1.0nm,0.4s,baz=108,slow=4.6,SNR=11
FINES FINESS Array B 118.66 337 PKP PKPdf 07 42 51.7 0.0
SOC Sochi 118.88 315 *i* PKiKP PKPdf 07 43 02.2 +10
SOC *e*PPP PPP 07 46 50.4 +0.7
SOC *e*SS SS 08 00 28.3 +4.4
SOC pmax pmax

	comp=Z,4.0nm,0.5s							
SOC					pmax	pmax		
	comp=N,4.0nm,0.4s							
SOC					pmax	pmax		
	comp=E,1.0nm,0.3s							
ANN	**Anapa**	**120.12**	**316**	*e*PKIKP		PKPdf	07 42 48.5	-6.4
ANN					pmax	pmax		
	comp=Z,31nm,1.5s							
MALT	**Malatya**	**121.10**	**309**	*e*PKPdf		PKPdf	07 42 57.8	+0.7
SCHQ	**Schefferville**	**121.55**	**30**	PKP		PKPdf	07 42 58.8	+1.3
	comp=Z,2.6nm,0.9s,baz=270,slow=6.1,SNR=3.7							
SCHQ					pPKP		07 43 27.4	
	comp=Z,14nm,1.4s,baz=221,slow=11,SNR=2.1							
AKASG	**Malin Array Be**	**122.96**	**325**	PKP		PKPdf	07 43 00.3	+0.1
	comp=Z,2.0nm,0.5s,baz=50,slow=2.2,SNR=4.3							
AKASG					PP	PP	07 44 35.0	-10
	comp=Z,0.5nm,0.5s,baz=48,slow=5.5,SNR=3.6							
NB2	**NORSAR Subarra**	**124.04**	**343**	PKPdf		PKPdf	07 43 01.7	-0.5
	comp=Z,3.0nm,0.8s,baz=39,slow=1.9							
NOA	**NORSAR Array B**	**124.04**	**343**	PKP		PKPdf	07 43 02.4	+0.2
	comp=Z,4.6nm,0.8s,baz=37,slow=1.8,SNR=9.7							
NOA					pPKP		07 43 31.2	
	comp=Z,1.8nm,0.8s,baz=41,slow=1.9,SNR=2.7							
BRTR	**Keskin Array B**	**124.33**	**312**	PKP		PKPdf	07 43 03.4	+0.2
	comp=Z,0.8nm,0.5s,baz=146,slow=4.5,SNR=8.2							
BRTR					PP	PP	07 44 52.0	-2.7
	comp=Z,4.1nm,1.0s,baz=90,slow=6.2,SNR=8.5							
SUW	**Suwalki**	**124.34**	**331**	*e*PKIKP		PKPdf	07 43 03.7	+0.8
SUW	**Suwalki**	**124.34**	**331**	*e*PKP		PKPdf	07 43 03.7	+0.8
KWP	**Kalwaria**	**127.10**	**327**	*e*PKIKP		PKPdf	07 43 09.5	+1.2
KWP	**Kalwaria**	**127.10**	**327**	*e*PKP		PKPdf	07 43 09.5	+1.2
GKP	**Gorka Klasztor**	**127.55**	**333**	*e*PKIKP		PKPdf	07 43 10.4	+1.3
GKP	**Gorka Klasztor**	**127.55**	**333**	*e*PKP		PKPdf	07 43 10.4	+1.3
NIE	**Niedzica**	**128.50**	**328**	*e*PKP		PKPdf	07 43 12.7	+1.7
SDV	**Santo Domingo**	**129.50**	**86**	*e*PKPdf		PKPdf	07 43 13.3	-0.6
SDV				*ep*PKPdf			07 43 47.3	
PSZ	**Piszkesteto**	**129.60**	**326**	PKIKP		PKPdf	07 43 14.8	+1.6
PSZ	**Piszkesteto**	**129.60**	**326**	*e*PKPdf		PKPdf	07 43 14.3	+1.1
KSP	**Ksiaz**	**129.61**	**331**	*e*PKP		PKPdf	07 43 10.9	-2.2
DPC	**Dobruska-Polom**	**129.92**	**331**	*e*PKPdf		PKPdf	07 43 14.9	+1.2
UPC	**Upice**	**129.97**	**331**	*e*PKPdf		PKPdf	07 43 15.2	+1.4
PVCC	**Panska Ves**	**130.63**	**332**	*e*PKPdf		PKPdf	07 43 16.9	+1.9
BRG	**Berggiesshubel**	**130.68**	**333**	*e*PKIKP		PKPdf	07 43 15.8	+0.7
BRG					pmax	pmax		
	comp=Z,33nm,1.6s							
CLL	**Collm**	**130.79**	**334**	*e*PKIKP		PKPdf	07 43 18.0	+2.7
CLL				*i*			07 46 30.5	
CLL				*e*			07 46 39.0	
PRU	**Pruhonice**	**131.01**	**331**	*e*PKPdf		PKPdf	07 43 17.2	+1.4
NKC	**Novy Kostel**	**131.80**	**333**	*e*PKPdf		PKPdf	07 43 18.4	+1.1
KHC	**Kasperske Hory**	**132.06**	**331**	*e*PKPdf		PKPdf	07 43 18.3	+0.5
KHC				*ep*PKP			07 43 50.0	
KHC				*ex*		x	07 44 03.5	
KHC				*e*SKP			07 46 36.0	
GEC2	**GERESS Array S**	**132.20**	**331**	*e*PKIKP		PKPdf	07 43 19.9	+1.8
GERES	**GERESS Array B**	**132.20**	**331**	PKP		PKPdf	07 43 18.8	+0.7
	comp=Z,3.2nm,0.8s,baz=90,slow=1.3,SNR=14							
GERES				SKPbc			07 46 36.4	
	comp=Z,1.6nm,0.7s,baz=45,slow=3.8,SNR=8.0							
WET	**Wettzell**	**132.38**	**332**	*e*PKIKP		PKPdf	07 43 19.5	+1.1
BOJS	**Bojanci**	**133.61**	**326**	*i* PKPdf		PKPdf	07 43 22.0	+1.3
VISS	**Visnje**	**133.64**	**327**	*i* PKPdf		PKPdf	07 43 22.8	+2.0
LJU	**Ljubljana**	**133.65**	**327**	*i* PKPdf		PKPdf	07 43 22.3	+1.4
GIVF	**Givet**	**135.03**	**338**	*e*PKIKP		PKPdf	07 43 24.3	+1.0
CDF	**Champ du Feu**	**135.41**	**335**	*e*PKIKP		PKPdf	07 43 24.4	+0.3
HINF	**Hinteralfeld**	**136.06**	**335**	*e*PKIKP		PKPdf	07 43 24.9	-0.3
HAU	**Haudompre**	**136.12**	**335**	*e*PKIKP		PKPdf	07 43 25.1	-0.2
CABF	**La Chapelle**	**137.32**	**334**	*e*PKIKP		PKPdf	07 43 27.6	0.0
	comp=Z,48nm,1.2s							
LOR	**Lormes**	**137.72**	**336**	*e*PKIKP		PKPdf	07 43 28.0	-0.3
SSF	**Saint Saulge**	**138.02**	**337**	*e*PKIKP		PKPdf	07 43 29.8	+0.9
MTLF	**Montolieu**	**141.59**	**334**	*e*PKIKP		PKPdf	07 43 35.5	+0.1
EPF	**Esparros**	**142.62**	**336**	*e*PKIKP		PKPdf	07 43 35.7	-1.5
	comp=Z,16nm,0.8s							
EBIE	**Bielsa**	**142.99**	**336**	PKP		PKPdf	07 43 35.7	-2.1
ETSF	**Etsaut**	**143.09**	**337**	*e*PKIKP		PKPdf	07 43 37.2	-0.8
	comp=Z,54nm,1.0s							
SJPF	**Ste Jean**	**143.16**	**338**	*e*PKIKP		PKPdf	07 43 36.8	-1.3
	comp=Z,70nm,1.3s							
EPOB	**Poblet**	**143.69**	**334**	P		PKPbc	07 43 37.3	-0.6
ELAN	**Lanestosa**	**143.84**	**340**	PKP		PKPdf	07 43 37.7	-1.6
ESAC	**San Caprasio**	**144.04**	**336**	PKP		PKPdf	07 43 38.0	-1.6
EARI	**Arriondas**	**144.35**	**342**	PKP		PKPdf	07 43 38.9	-1.2
EBR	**Ebro Roquetas**	**144.38**	**334**	*e*PKPDF		PKPdf	07 43 40.5	+0.2
EPON	**Pontenova**	**144.88**	**344**	PKP		PKPdf	07 43 41.4	+0.3
EMOS	**Mosqueruela**	**145.18**	**334**	PKP		PKPdf	07 43 42.6	+0.9
EIBI	**Ibiza**	**145.43**	**331**	PKP		PKPdf	07 43 45.2	+3.0
ETOR	**Torete**	**145.44**	**336**	PKP		PKPdf	07 43 44.4	+2.3
STS	**Santiago**	**145.65**	**346**	PKP		PKPdf	07 43 44.6	+2.2
EMAZ	**Mazaricos**	**145.69**	**346**	PKP		PKPdf	07 43 43.8	+1.3
ERUA	**La Rua**	**145.75**	**344**	PKP		PKPdf	07 43 45.3	+2.7
ECAL	**Calabor**	**146.05**	**343**	PKP		PKPdf	07 43 44.3	+1.2
PBRG	**Braganca**	**146.18**	**343**	*e*PKPab		PKPab	07 43 46.0	-1.6
EBEN	**Beniarda**	**146.43**	**332**	PKP		PKPdf	07 43 47.6	+3.7
ELOB	**Lobios**	**146.48**	**345**	PKP		PKPdf	07 43 45.7	+1.8
PVRL	**Vila Real**	**146.94**	**344**	*e*PKPab		PKPab	07 43 48.6	-2.0
ESDC	**Sonseca Array**	**147.17**	**338**	PKPbc		PKPdf	07 43 49.0	+4.0
	comp=Z,4.4nm,0.7s,baz=16,slow=3.2,SNR=28							
ESDC					pPKPbc		07 44 21.1	
	comp=Z,6.6nm,1.1s,baz=15,slow=4.6,SNR=2.9							
ESDC	**Sonseca Array**	**147.17**	**338**	PKP		PKPdf	07 43 49.1	+4.1
EVIA	**Vianos**	**147.48**	**335**	PKP		PKPdf	07 43 49.0	+3.4
PVIS	**Viseu**	**147.51**	**344**	*e*PKPab		PKPab	07 43 50.0	-2.9
EMUR	**La Murta**	**147.59**	**333**	PKP		PKPdf	07 43 48.9	+3.1
MTE	**Manteigas**	**147.70**	**343**	*e*PKPbc		PKPdf	07 43 50.7	+4.8
MTE	**Manteigas**	**147.70**	**343**	*e*PKPbc		PKPdf	07 43 50.6	+4.7
PCBR	**Castelo Branco**	**148.20**	**342**	*e*PKPbc		PKPdf	07 43 51.1	+4.4
EQES	**Quesada**	**148.42**	**335**	PKP		PKPdf	07 43 51.5	+4.3
PTOM	**Tomar**	**148.68**	**344**	*e*PKPbc		PKPdf	07 43 53.2	+5.7
EADA	**Adamuz**	**148.72**	**337**	PKP		PKPdf	07 43 51.8	+4.2
EBAD	**Badajoz**	**149.05**	**341**	PKP		PKPdf	07 43 52.4	+4.2
ELUQ	**Luque**	**149.12**	**336**	PKP		PKPdf	07 43 54.5	+6.3
ERON	**Agron**	**149.40**	**335**	PKP		PKPdf	07 43 54.0	+5.2
ELOJ	**Sierra Loja**	**149.43**	**336**	PKP		PKPdf	07 43 53.8	+5.0
EVO	**Evora**	**149.57**	**342**	*e*PKP2		PKPab	07 43 54.8	-6.5
	comp=Z,159nm,1.3s							
EMIN	**Mina Concepcio**	**149.83**	**340**	PKP		PKPdf	07 43 54.8	+5.4
EMIJ	**Mijas**	**150.18**	**336**	PKP		PKPdf	07 43 54.9	+4.9
ESPR	**Espera**	**150.34**	**338**	PKP		PKPdf	07 43 57.2	+7.0
PALC	**Alcoutim**	**150.38**	**341**	*e*PKPbc		PKPdf	07 43 57.5	+7.3
PTEO	**Sao Teotonio**	**150.69**	**342**	*e*PKPbc		PKPdf	07 43 58.1	+7.4
DBIC	**Dimbokro**	**165.26**	**259**	PKPab		PKPab	07 45 08.9	-0.2
	comp=Z,4.9nm,1.0s,baz=90,slow=9.1,SNR=3.7							

*IDC **26** 07:33:14.7±2.8,23.74S×179.93W,h507km±29km, mb3.2/8, mb1 3.4/9,mb1mx3.3/16,Error ellipse: s-maj=24.9km s-min=19.1km az=177.0*
*NEIC **26** 07:33:16.1±2.5,23.73S×179.96W,h529km±29km,mb4.0/4, Error ellipse: s-maj=23.7km s-min=14.3km az=192.0*
ISC 26 07:33:14.9±3.7,23.6S±0.1×180.0E±0.2,h522km±44km, n17,σ0°60/15,mb3.7/10,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**14.78**	**189**	P	**P**	**07 36 22.3**	**-0.2**
	1.9nm,0.3s,baz=22,slow=3.9,SNR=12						
URZ				S	**S**	**07 38 54.2**	**+0.3**
	0.3nm,0.3s,baz=60,slow=23,SNR=9.6						
CTA	**Charters Tower**	**31.43**	**270**	P	**P**	**07 38 55.7**	**+1.1**
	8.6nm,0.5s,mb4.5,baz=96,slow=12,SNR=23						
CTAO	**Charters Tower**	**31.43**	**270**	*e*P	**P**	**07 38 55.2**	**+0.6**
	7.9nm,0.4s,mb4.6						
ASAR	**Alice Springs**	**42.04**	**260**	P	**P**	**07 40 22.3**	**+0.5**
	0.8nm,0.6s,mb3.5,baz=104,slow=7.4,SNR=6.8						
ASAR				ScP		07 45 07.8	
	0.8nm,0.7s,baz=102,slow=4.2,SNR=7.8						
WB2	**Warramunga Arr**	**42.37**	**266**	*e*P	**P**	**07 40 24.1**	**-0.4**
WRAB	**Tennant Creek**	**42.37**	**266**	*e*P	**P**	**07 40 24.0**	**-0.5**
	2.7nm,0.3s,mb4.2						
WRA	**Warramunga Arr**	**42.38**	**266**	P	**P**	**07 40 24.2**	**-0.4**
	0.8nm,0.3s,mb3.7,baz=95,slow=8.3,SNR=33						
FITZ	**Fitzroy Crossi**	**50.81**	**265**	P	**P**	**07 41 28.8**	**-0.1**
	1.4nm,0.9s,mb3.3,baz=101,slow=16,SNR=4.4						
MAW	**Mawson**	**77.99**	**200**	P	**P**	**07 44 20.1**	**+0.5**
	1.3nm,0.8s,mb3.3,baz=136,slow=14,SNR=5.2						
NVAR	**Mina Array Bea**	**84.59**	**44**	P	**P**	**07 44 54.6**	**+0.7**
	0.4nm,0.4s,mb3.4,baz=220,slow=7.0,SNR=3.4						
SNAA	**Sanae**	**84.94**	**179**	P	**P**	**07 44 54.2**	**-0.6**
	0.2nm,0.5s,mb2.9,baz=203,slow=12,SNR=12						
SNAA	**Sanae**	**84.94**	**179**	*e*P	**P**	**07 44 53.9**	**-1.0**
	0.8nm,0.5s,mb3.5						
TUC	**Tucson**	**86.39**	**53**	P	**P**	**07 45 01.6**	**-1.1**
	1.6nm,0.7s,mb3.8						
TXAR	**Lajitas Array**	**90.33**	**58**	P	**P**	**07 45 21.9**	**+0.7**
	0.9nm,0.7s,mb3.7,baz=214,slow=6.5,SNR=11						
ARCES	**ARCESS Array B**	**131.62**	**348**	PKP	PKPdf	07 51 27.3	-0.1
	3.5nm,1.0s,baz=90,slow=1.8,SNR=4.8						
ARCES	**ARCESS Array B**	**131.62**	**348**	PKP	PKPdf	07 51 27.3	-0.1
AKASG	**Malin Array Be**	**144.72**	**327**	PKP	PKPdf	07 51 51.9	+0.5
	0.7nm,0.3s,baz=40,slow=3.9,SNR=6.5						

IDC 26 07:54:17.9±11.0,29.46N×40.43W,mb3.6/3,mb1 3.8/3, mb1mx3.6/20,MS3.8/2,Ms1 3.8/2,ms1mx3.2/19,Error ellipse: s-maj=338.0km s-min=42.6km az=177.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DBIC	**Dimbokro**	**40.45**	**117**	LR	LR	08 17 10.5	
	comp=Z,109nm,20.9s,baz=308,slow=34						
AKASG	**Malin Array Be**	**55.22**	**47**	P	P	08 03 52.5	-2.3
	0.3nm,0.3s,baz=262,slow=7.0,SNR=4.7						
PDAR	**Pinedale Array**	**55.95**	**304**	P	P	08 03 58.3	-1.8
	0.7nm,0.7s,baz=90,slow=8.9,SNR=5.4						
CPUP	**Villa Florida**	**57.79**	**198**	LR	LR	08 27 02.4	
	comp=Z,92nm,18.8s,baz=77,slow=34						
ILAR	**Eielson Array**	**70.35**	**334**	P	P	08 05 33.0	-2.1
	0.3nm,0.9s,baz=62,slow=4.1,SNR=4.7						

*IDC **26** 08:20:39.5±1.5,23.07N×121.94E,mb3.4/4,mb1 3.7/4, mb1mx3.6/19,MS3.3/4,Ms1 3.4/4,ms1mx2.9/16,Error ellipse: s-maj=49.9km s-min=24.6km az=61.0*
*NEIC **26** 08:20:43.9,22.86N×121.32E,h25km,ML4.4(TAP),After TAP.*
NEIC Recorded [3 TAP] in T'ai-tung and [1 TAP] in Kao-hsiung Counties.
*BJI **26** 08:20:45.0,22.95N×120.92E,h3km, ML3.8*
*TAP **26** 08:20:45.0,22.90N×121.29E,h24km,ML4.3*
TAP Felt III J at Chenggung.
ISC 26 08:20:43.1±0.6,22.80N±0.02×121.44E±0.04,h22km±4km, n60,σ1°13/87,mb3.3/4,MS3.3/3,15C-2D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TTN	**Taitung**	**0.28**	**261**	↓*i* P		**08 20 50.4**	**+0.9**
TTN				S		**08 20 53.8**	**-0.1**
TWG	**Pinlang**	**0.34**	**274**	↓*i* P		**08 20 50.4**	**-0.2**
TWG				S		**08 20 54.6**	**-1.0**
ECL	**Taimali**	**0.49**	**246**	↑*i* P		**08 20 53.1**	**0.0**
ECL				S		**08 20 59.3**	**-0.6**
ELDTW	**Lidau**	**0.55**	**315**	↑*i* P		**08 20 53.0**	**-1.0**
ELDTW				S		**08 20 58.5**	**-3.0**
TWF1	**Yuli**	**0.57**	**346**	*e*P		**08 20 53.8**	**-0.4**
EAST	**Anshuo**	**0.69**	**23**	P		**08 20 56.9**	**+0.6**
EHY	**Hungye**	**0.71**	**351**	*e*P		**08 20 56.0**	**-0.7**
STYT	**Tauyuan**	**0.73**	**300**	↑*i* P		**08 20 56.0**	**-1.0**
STYT				S		**08 21 04.4**	**-2.1**
SSD	**Sandimen**	**0.75**	**266**	↑*i* P		**08 20 56.6**	**-0.7**
SSD				S		**08 21 03.5**	**-3.7**
YUS	**Yu-Shan**	**0.82**	**327**	↑*i* P		**08 20 58.0**	**-0.5**
YUS				S		**08 21 06.7**	**-2.5**
SGST	**Jiashian**	**0.84**	**290**	↑↑*i* P		**08 20 58.8**	**-0.1**
SGST				S		**08 21 09.3**	**-0.4**
SCZT	**Fangliau**	**0.87**	**241**	↑↑P		**08 20 59.8**	**+0.4**
SGLT	**Jiouru**	**0.88**	**265**	*e*P		**08 20 59.3**	**-0.3**
WTP	**Ta-pu**	**0.89**	**300**	↑↑*i* P		**08 20 59.4**	**-0.3**
WTP				S		**08 21 11.1**	**0.0**
ALS	**Alishan**	**0.92**	**320**	↑↑*i* P		**08 21 00.0**	**-0.2**
ALS				S		**08 21 10.0**	**-2.1**
CHN1	**Nanshi**	**0.93**	**295**	↑↑*i* P		**08 21 00.4**	**0.0**
CHN1				S		**08 21 12.6**	**+0.3**
TWM1	**Shoushan**	**0.94**	**272**	*e*P		**08 21 01.6**	**+1.0**
CHN4	**Tsaushan**	**0.96**	**305**	↑↑*i* P		**08 21 00.7**	**-0.1**
CHN4				S		**08 21 13.2**	**0.0**
TWK	**Hsinying**	**1.00**	**298**	↑↑*i* P		**08 21 01.4**	**-0.1**
TWK				S		**08 21 17.0**	**+2.8**
ESL	**Shilin**	**1.01**	**359**	*e*P		**08 21 01.2**	**-0.6**
HEN	**Hengchun**	**1.02**	**220**	*e*P		**08 21 02.8**	**+0.8**
CHN3	**Shinhua**	**1.03**	**286**	*e*P		**08 21 03.3**	**+1.2**
CHN3				S		**08 21 18.4**	**+3.1**
TWK1	**Hengchun**	**1.04**	**215**	*e*P		**08 21 02.5**	**+0.3**
CHN5	**Tsauling**	**1.06**	**319**	↑↑*i* P		**08 21 02.6**	**0.0**
KAU	**Kaohsiung**	**1.07**	**258**	*e*P		**08 21 05.3**	**+2.5**
KAU				S		**08 21 21.1**	**+4.6**
TAI1	**Yung-k'ang**	**1.15**	**282**	*e*P		**08 21 05.2**	**+1.2**
CHY	**Chiayi**	**1.17**	**307**	P		**08 21 04.7**	**+0.4**
CHY				S		**08 21 19.3**	**+0.1**
HWA	**Hwalien**	**1.18**	**7**	*e*P		**08 21 03.0**	**-1.5**
SMLT	**Sun Moon Lake**	**1.19**	**335**	*e*P		**08 21 04.6**	**0.0**
SMLT				S		**08 21 21.3**	**+1.5**
WGK	**Gukeng**	**1.20**	**318**	*e*P		**08 21 05.1**	**+0.1**
WGK				S		**08 21 20.8**	**+0.7**
SCLT	**Jiali**	**1.21**	**288**	*e*P		**08 21 05.1**	**+0.1**
SCLT				S		**08 21 22.1**	**+1.7**
TYC	**Yuchr**	**1.23**	**334**	*e*P		**08 21 05.0**	**-0.1**
TYC				S		**08 21 21.1**	**+0.2**
CHN8	**Yiju**	**1.26**	**296**	*e*P		**08 21 05.8**	**+0.1**
CHN8				S		**08 21 23.0**	**+1.2**
WNT	**Mingjian**	**1.28**	**327**	↑↑P		**08 21 07.0**	**+1.1**
WNT				S		**08 21 23.6**	**+1.1**
WSF	**Szhu**	**1.40**	**307**	*e*P		**08 21 07.0**	**-0.6**
WSF				S		**08 21 25.5**	**-0.1**
TWT	**Tachien**	**1.47**	**350**	*e*P		**08 21 08.6**	**-0.1**
TWT				S		**08 21 25.9**	**-1.5**
NNS	**Nan Shan**	**1.64**	**358**	*e*P		**08 21 11.8**	**+0.8**
ENA	**Nanau**	**1.64**	**9**	*e*P		**08 21 11.7**	**+0.5**
TWQ1	**Liyutan**	**1.66**	**338**	*e*P		**08 21 11.9**	**+1.9**
TWQ1				S		**08 21 34.5**	**+2.3**
WDGT	**Dungji**	**1.71**	**286**	*e*P		**08 21 10.0**	**-2.0**
NSY	**Sanyi**	**1.73**	**339**	*e*P		**08 21 14.2**	**+1.9**
NSY				S		**08 21 34.4**	**+0.5**
ENTT	**Nioudou**	**1.84**	**3**	*e*P		**08 21 13.9**	**0.0**
TWC	**Suao**	**1.84**	**12**	*e*P		**08 21 14.7**	**+0.7**
NSTT	**Nanjuang**	**1.87**	**348**	*e*P		**08 21 15.2**	**+0.8**
NSTT				S		**08 21 38.0**	**+0.5**
NSK	**Sanguang**	**1.87**	**358**	*e*P		**08 21 14.3**	**0.0**
PNG	**Penghu**	**1.90**	**294**	*e*P		**08 21 13.8**	**-1.0**
PNG				S		**08 21 35.5**	**-2.8**
TWE	**Neicheng**	**1.92**	**6**	*e*P		**08 21 16.8**	**+1.6**
TATO	**Taipei**	**2.17**	**1**	*e*Pn		**08 21 19.4**	**+0.8**
TWA	**Mucha**	**2.17**	**3**	*e*P		**08 21 18.4**	**-0.3**
NWF	**Wu-fen Shan**	**2.28**	**8**	*e*P		**08 21 20.7**	**+0.4**
KNM	**Kinmen**	**3.20**	**301**	*e*P		**08 21 31.6**	**-1.8**
QZH	**Quanzhou**	**3.37**	**310**	↑↑*i* P		**08 21 34.3**	**-1.5**
QZH				S		**08 22 10.5**	**-5.1**
QZH				Smax			
	comp=N,370nm,0.3s						
QZH				Smax			
	comp=E,400nm,0.7s						
TGY	**Tagaytay City**	**8.66**	**183**	LR	LR	08 26 28.0	
	comp=E,93nm,19.5s,baz=221,slow=39						
NJ2	**Nanjing**	**9.50**	**347**	*e*P	**P**	**08 23 00.5**	**-1.3**
NJ2				AP		08 23 05.5	
NJ2				XP		08 23 11.0	
NJ2				S	**Sn**	**08 24 45.0**	**-4.0**
NJ2				Smax			
	comp=N,100nm,0.9s						
NJ2				Smax			
	comp=E,80nm,0.8s						
CMAR	**Chiang Mai Arr**	**21.49**	**263**	P	**P**	**08 25 35.5**	**+2.8**
	comp=E,3.0nm,1.0s,mb3.6,baz=67,slow=8.3,SNR=7.3						
CMAR				LR	LR	08 34 47.8	
	comp=E,96nm,19.3s,MS3.2,baz=85,slow=39						
ASAJ	**Asahikawa**	**27.48**	**34**	LR	LR	08 37 22.7	
	comp=E,87nm,20.0s,MS3.3,baz=346,slow=37						
SONM	**Songino Array**	**27.73**	**338**	P	**P**	**08 26 29.0**	**-3.1**
	comp=E,0.4nm,0.7s,mb3.1,baz=153,slow=9.1,SNR=2.5						
WRA	**Warramunga Arr**	**44.31**	**163**	P	**P**	**08 28 52.8**	**-0.8**
	comp=E,0.5nm,0.6s,mb3.4,baz=343,slow=8.7,SNR=6.9						
ASAR	**Alice Springs**	**47.75**	**164**	P	**P**	**08 29 18.8**	**-2.0**
	comp=E,0.2nm,0.8s,mb3.2,baz=337,slow=6.8,SNR=2.7						
NOA	**NORSAR Array B**	**79.56**	**332**	LR	LR	09 07 13.8	
	comp=E,22nm,20.5s,MS3.5,slow=35						

*NIED **26** 08:22:00,37.20N×141.70E,h50km,Mw3.6 Best double couple: Mo2.78×10^14 NP1:φs145°,δ89°,λ5°. NP2:φs55°, δ85°,λ179°.*
*JMA **26** 08:22:11.2±0.1,37.17N×141.65E,h56km±2km,M4.1*
JMA Felt I J1.

ISC 26 08:22:10.6±1.4,37.17N±0.05×141.72E±0.10,h42km±32km, n11,σ0°47/21,1C-6D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.71**	**287**	↓↓P	**P**	**08 22 24.6**	**+0.4**
JFK				S	**S**	**08 22 34.2**	**+0.1**
ONAJ	**Iwakimizuishiy**	**0.74**	**265**	↓↓P	**P**	**08 22 25.1**	**+0.4**
ONAJ				S	**S**	**08 22 35.0**	**0.0**
JMM	**Marumori**	**1.02**	**314**	↓↓P	**P**	**08 22 28.7**	**+0.1**
JMM				S	**S**	**08 22 41.7**	**-0.2**
JHO	**Hitachi**	**1.08**	**239**	P	**P**	**08 22 29.3**	**-0.1**
JHO				S	**S**	**08 22 42.2**	**-1.3**
JFT	**Otama**	**1.16**	**288**	↓↓P	**P**	**08 22 31.3**	**+0.7**
JFT				*e*S	**S**	**08 22 45.8**	**+0.3**
JIO	**Ouri**	**1.32**	**347**	↑↑P	**P**	**08 22 33.0**	**0.0**
JIO				S	**S**	**08 22 48.9**	**-0.7**
JOU	**Okura**	**1.46**	**325**	P	**P**	**08 22 35.1**	**+0.1**
JOU				*e*S	**S**	**08 22 53.2**	**0.0**
JFY	**Yanaizu**	**1.63**	**279**	↓↓P	**P**	**08 22 37.6**	**+0.3**
JYS	**Shirataka**	**1.69**	**309**	↓↓P	**P**	**08 22 38.4**	**+0.3**
JYS				*e*S	**S**	**08 22 59.2**	**+0.5**
JMK	**Ichinoseki**	**1.83**	**348**	P	**P**	**08 22 40.1**	**0.0**
JMK				S	**S**	**08 23 01.5**	**-0.7**
MAT	**Matsushiro**	**2.89**	**259**	P	**P**	**08 22 55.8**	**+0.5**
MAT				*e*S	**S**	**08 23 28.5**	**-0.6**

*IDC **26** 08:48:42.3±3.8,5.54S×150.21E,mb4.1/4,mb1 4.4/5, mb1mx4.0/13,MS2.8/2,Ms1 2.8/2,ms1mx2.5/13,Error ellipse: s-maj=82.3km s-min=41.5km az=173.0*
*NEIC **26** 08:48:55.4±1.4,6.40S×150.06E,h56km±16km,mb3.9/1, Error ellipse: s-maj=40.6km s-min=13.4km az=124.0*
ISC 26 08:48:54.2±1.9,6.5S±0.2×150.0E±0.3,h52km±18km,n9, σ1°01/9,mb4.0/3,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMBE	**Kimbe**	**0.95**	**12**	*e*P	**P**	**08 49 11.2**	**-0.3**
PMG	**Port Moresby**	**4.00**	**224**	Pn	**P**	**08 49 56.0**	**+1.4**
	9.4nm,0.3s,baz=31,slow=5.6,SNR=27						
PMG				Sn	**S**	**08 50 39.5**	**-1.2**
	5.5nm,0.3s,baz=8.6,slow=22,SNR=8.4						
PMG				LR	LR	08 51 46.7	
	comp=Z,76nm,19.4s,baz=69,slow=38						
CTA	**Charters Tower**	**13.98**	**195**	LR	LR	08 56 47.3	
	comp=Z,42nm,20.9s,baz=232,slow=32						
WRAB	**Tennant Creek**	**20.20**	**227**	*e*P	**P**	**08 53 27.2**	**-0.2**
	4.2nm,0.7s						
WB2	**Warramunga Arr**	**20.20**	**227**	*e*P	**P**	**08 53 27.3**	**-0.1**
WRA	**Warramunga Arr**	**20.21**	**227**	P	**P**	**08 53 27.6**	**0.0**
	4.8nm,0.9s,baz=50,slow=10,SNR=42						
ASAR	**Alice Springs**	**23.01**	**220**	P	**P**	**08 53 58.3**	**+2.7**
	0.8nm,0.5s,mb3.4,baz=56,slow=9.1,SNR=21						
FITZ	**Fitzroy Crossi**	**26.36**	**242**	P	**P**	**08 54 27.5**	**-0.2**
	3.0nm,0.7s,mb3.9,baz

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.92**	**201**	P	P	10 12 27.4	-1.4
	3.6nm,0.3s,baz=19,slow=6.6,SNR=9.8						
PMG				S	S	10 13 07.4	-18
	3.1nm,0.3s,baz=24,slow=12,SNR=2.8						
WRA	**Warramunga Arr**	**20.71**	**222**	P	P	10 15 49.7	-3.5
	0.5nm,0.4s,baz=48,slow=11,SNR=9.9						
ASAR	**Alice Springs**	**23.72**	**216**	P	P	10 16 22.6	-0.2
	0.7nm,0.5s,baz=46,slow=8.5,SNR=9.9						
FITZ	**Fitzroy Crossi**	**26.35**	**238**	P	P	10 16 46.4	-1.4
	4.3nm,0.7s,baz=44,slow=3.0,SNR=12						
ILAR	**Eielson Array**	**83.62**	**23**	P	P	10 23 36.6	-1.5
	0.3nm,0.9s,baz=233,slow=4.5,SNR=4.1						

TIR ***26*** *10:16:24.7,41.27N×19.81E,h9km*
PDG ***26*** *10:16:36.5±0.2,41.85N×19.56E,h15km*
PDG Felt at Podgorica IV MCS.

ISC 26 10:16:32.7±1.4,41.73N±0.06×19.63E±0.06,h14km±7km, n11,σ0s69/22,4C,Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ULC	**Ulcinj**	**0.37**	**310**	⇑*i*Pg	**Pg**	**10 16 41.0**	**+0.5**
ULC				*e*Sg	**Sg**	**10 16 46.6**	**+0.8**
TTG	**Podgorica**	**0.76**	**339**	*e*Pg	**Pg**	**10 16 48.0**	**0.0**
TTG				*e*Sg	**Sg**	**10 16 58.3**	**+0.1**
BUM	**Brajici-Budva**	**0.79**	**317**	*e*Pg	**Pg**	**10 16 49.0**	**+0.3**
BUM				*e*Sg	**Sg**	**10 16 59.5**	**+0.1**
PVY	**Plav**	**0.91**	**16**	*e*Pg	**Pg**	**10 16 51.2**	**+0.3**
PVY				*e*Sg	**Sg**	**10 17 04.0**	**+0.9**
HCY	**Herceg Novi**	**1.11**	**311**	*e*Pg	**Pg**	**10 16 55.0**	**0.0**
HCY				*e*Sg	**Sg**	**10 17 10.1**	**+0.2**
IVA	**Berane**	**1.16**	**10**	*e*Pg	**Pg**	**10 16 56.0**	**0.0**
IVA				*e*Sg	**Sg**	**10 17 12.9**	**+1.3**
NKY	**Niksic**	**1.18**	**337**	⇑*i*Pg	**Pg**	**10 16 56.1**	**-0.4**
NKY				*e*Sg	**Sg**	**10 17 12.7**	**+0.4**
BRY	**Bratogost**	**1.43**	**326**	*e*Pg	**Pg**	**10 17 00.2**	**-1.1**
BRY				*e*Sg	**Sg**	**10 17 20.2**	**-0.1**
UPM	**Unac-Piva**	**1.57**	**340**	⇑*i*Pg	**Pg**	**10 17 03.5**	**-0.7**
UPM				*e*Sg	**Sg**	**10 17 24.4**	**-0.8**
PLE	**Pljevlja**	**1.61**	**354**	⇑*i*Pg	**Pg**	**10 17 03.6**	**-1.4**
PLE				*e*Sg	**Sg**	**10 17 25.2**	**-1.4**
STON	**Ston**	**1.83**	**309**	*i*Pn	**Pn**	**10 17 05.0**	**+0.8**
STON				*i*Sn	**Sn**	**10 17 27.4**	**+0.1**

IDC 26 10:55:25.8±5.0,64.58S×177.24E,mb3.7/1,mb1 4.0/2, mb1mx3.8/9,ML3.2/1,MS3.7/7,Ms1 3.7/7,ms1mx3.6/14, Error ellipse: s-maj=169.0km s-min=45.5km az=74.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**13.84**	**194**	Pn	P	10 58 42.4	-2.7
	0.1nm,0.3s,baz=31,slow=15,SNR=22						
VNDA				LR	LR	11 02 37.9	
	comp=Z,365nm,19.6s,baz=44,slow=31						
RPZ	**Rata Peaks**	**21.20**	**348**	LR	LR	11 06 55.3	
	comp=Z,168nm,19.5s,baz=352,slow=32						
STKA	**Stephens Creek**	**39.42**	**309**	LR	LR	11 16 40.3	
	comp=Z,75nm,18.1s,baz=216,slow=32						
MAW	**Mawson**	**40.10**	**213**	LR	LR	11 19 50.1	
	comp=Z,69nm,18.3s,baz=64,slow=36						
CTA	**Charters Tower**	**49.02**	**320**	LR	LR	11 21 27.1	
	comp=Z,58nm,20.0s,baz=50,slow=32						
ASAR	**Alice Springs**	**49.62**	**304**	P	P	11 04 18.4	-2.2
	1.0nm,0.9s,baz=154,slow=6.9,SNR=6.2						
WRA	**Warramunga Arr**	**52.89**	**307**	LR	LR	11 23 52.1	
	comp=Z,60nm,21.1s,baz=275,slow=32						
CPUP	**Villa Florida**	**80.02**	**132**	LR	LR	11 38 40.2	
	comp=Z,79nm,20.3s,baz=343,slow=32						
BRTR	**Keskin Array B**	**147.37**	**238**	PKPbc	PKPdf	11 15 10.0	+0.3
	0.5nm,0.7s,baz=180,slow=4.3,SNR=3.3						

IDC 26 11:01:33.7±2.8,14.41S×167.62E,mb4.2/3,mb1 4.3/3, mb1mx3.8/14,MS4.0/2,Ms1 4.0/2,ms1mx3.1/20,1C, Error ellipse: s-maj=109.0km s-min=46.4km az=140.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**29.46**	**229**	P	P	11 07 39.8	-1.7
	2.5nm,0.5s,baz=49,slow=10,SNR=12						
ASAR	**Alice Springs**	**33.11**	**249**	P	P	11 08 10.9	-2.8
	0.9nm,0.4s,baz=79,slow=9.1,SNR=28						
ASAR				LR	LR	11 21 53.1	
	comp=Z,46nm,21.1s,baz=153,slow=37						
FITZ	**Fitzroy Crossi**	**40.41**	**259**	P	P	11 09 14.2	-1.3
	1.2nm,0.5s,baz=80,slow=6.1,SNR=8.9						
GSPH	**General Santos**	**46.97**	**293**	*e*P	P	11 10 16.0	+7.4
KCP	**Kidapawan**	**47.25**	**294**	⇑*e*P	P	11 10 06.2	-4.6
ASAJ	**Asahikawa**	**62.55**	**340**	LR	LR	11 33 25.3	
	comp=Z,860nm,21.6s,baz=89,slow=31						
ARCES	**ARCESS Array B**	**120.03**	**346**	PKP	PKPdf	11 20 25.5	-2.1
	1.4nm,0.8s,baz=56,slow=3.3,SNR=5.1						

IDC ***26*** *11:13:01.3±0.6,31.69N×92.77E,mb4.5/15,mb1 4.6/19, mb1mx4.6/21,ML4.7/2,MS4.0/12,Ms1 4.1/12, ms1mx3.7/29,Error ellipse: s-maj=23.1km s-min=13.2km az=47.0*
BJI ***26*** *11:13:01.8,31.79N×93.03E,h11km,mB4.9,mb4.7,ML4.5, Ms4.9,Msz4.6*
LDG ***26*** *11:13:02.7±1.2,32.01N×92.57E,h10km,Mb4.9/12, Ms4.0/8,Error ellipse: s-maj=55.7km s-min=5.7km az=122.0*
NEIC ***26*** *11:13:02.7±0.3,31.75N×92.89E,h10km,mb4.8/25,Error ellipse: s-maj=8.6km s-min=5.9km az=219.0*
MOS ***26*** *11:13:04.2±1.4,31.68N×92.88E,h33km,mb4.7/18,Error ellipse: s-maj=20.1km s-min=7.3km az=116.9*

ISC 26 11:13:00.4±1.0,31.74N±0.02×93.00E±0.03,h6km±6km, n146,σ1s19/158,mb4.6/52,MS4.2/20,3C-6D,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**2.58**	**219**	PG	**Pg**	**11 13 50.0**	**-1.9**
LSA				SG	**Sg**	**11 14 26.0**	**-0.4**
SHL	**Shillong**	**6.23**	**189**	⇓*i*P	**Pn**	**11 14 37.5**	**+2.4**
SHL				*e*S	**Sn**	**11 15 48.0**	**+0.5**
SHL	**Shillong**	**6.23**	**189**	⇓*i*P	**Pn**	**11 14 37.5**	**+2.4**
SHL				*e*S	**Sn**	**11 15 48.0**	**+0.5**
IMP	**Imphal**	**6.98**	**173**	*e*P	**Pn**	**11 14 49.0**	**+3.3**
IMP				*e*S	**Sn**	**11 16 05.0**	**-1.3**
GUN	**Gumba**	**7.27**	**240**	*e*Pn	**Pn**	**11 14 50.6**	**+0.8**
KKN	**Kakani**	**7.78**	**242**	*e*Pn	**Pn**	**11 14 57.6**	**+0.7**
PKI	**Pulchoki**	**7.80**	**240**	*e*Pn	**Pn**	**11 14 57.6**	**+0.3**
PKI				*e*Sn	**Sn**	**11 16 26.4**	**-0.5**
	119nm,0.6s						
AGT	**Agartala**	**7.98**	**192**	*e*	**Pn**	**11 15 00.0**	**+0.3**
DMN	**Daman**	**8.01**	**241**	*e*Pn	**P**	**11 15 00.1**	**0.0**
DMN				*e*Sn	**Sn**	**11 16 32.2**	**+0.2**
	94nm,0.7s						
GKN	**Gorkha**	**8.16**	**245**	*e*Pn	**P**	**11 15 02.5**	**+0.3**
KOLN	**Koldanda**	**9.08**	**247**	*e*Pn	**P**	**11 15 14.7**	**-0.3**
CD2	**Chengdu**	**9.24**	**92**	*e*P	**P**	**11 15 19.0**	**+1.8**
CD2				*e*S	**Sn**	**11 16 59.3**	**-3.4**
CD2				LR	LR		
	comp=N,6μm,10.8s						
CD2				LR	LR		
	comp=Z,1μm,6.0s						
GTA	**Gaotai**	**9.45**	**34**	⇓P	**P**	**11 15 24.0**	**+3.8**
GTA				AP		11 15 28.5	
GTA				XP		11 15 30.8	
GTA				S	**Sn**	**11 17 08.8**	**+0.9**
GTA				LG1		11 17 56.8	
GTA				LG2		11 18 15.8	
GTA				AMB	AMB		
	comp=Z,12nm,1.3s						
GTA				AMB	AMB		
	comp=Z,106nm,3.8s						
GTA				LR	LR		
	comp=N,3μm,9.5s						
GTA				LR	LR		
	comp=E,2μm,9.9s						
GTA				LR	LR		
	comp=Z,3μm,10.6s						
LZH	**Lanzhou**	**10.00**	**61**	*e*P	**P**	**11 15 27.8**	**+0.1**
LZH				AP		11 15 30.0	
LZH				XP		11 15 31.8	
LZH				PP	PP	11 15 36.0	+0.3
LZH				S	**Sn**	**11 17 21.0**	**-0.4**
LZH				SS	SS	11 17 35.0	+0.5
LZH				AMB	AMB		
	comp=Z,131nm,1.1s						
LZH				AMB	AMB		
	comp=Z,526nm,4.0s						
LZH				LR	LR		
	comp=E,3μm,6.2s						
LZH				LR	LR		
	comp=Z,4μm,8.5s						
CAL	**Calcutta**	**10.06**	**206**	*e*	**S**	**11 17 21.2**	**-1.7**
CAL				*e*		11 19 45.8	
KMI	**Kunming**	**10.81**	**125**	*e*P	**P**	**11 15 41.5**	**+2.7**
KMI				XP		11 15 44.8	
KMI				PP	PP	11 15 49.8	+2.7
KMI				S	**S**	**11 17 45.0**	**+3.7**
KMI				SS	SS	11 18 00.0	+5.2
KMI				AMB	AMB		
	comp=Z,9.0nm,0.9s						
KMI				AMB	AMB		
	comp=Z,89nm,6.3s						
KMI				LR	LR		
	comp=N,2μm,12.9s						
KMI				LR	LR		
	comp=E,2μm,12.2s						
KMI				LR	LR		
	comp=Z,1μm,20.7s						
WMQ	**Urumqi**	**12.77**	**342**	*e*P	**P**	**11 16 02.5**	**-2.8**
WMQ				PP	PP	11 16 13.0	-2.4
WMQ				S	**S**	**11 18 24.0**	**-4.9**
WMQ				SS	SS	11 18 39.0	-4.6
WMQ				AMB	AMB		
	comp=Z,12nm,0.8s						
WMQ				LR	LR		
	comp=N,2μm,10.0s						
WMQ				LR	LR		
	comp=E,4μm,10.0s						
WMQ				LR	LR		
	comp=Z,584nm,10.0s						
DDI	**Dehra Dun**	**12.90**	**268**	*e*P	**P**	**11 16 08.0**	**+1.0**
GYA	**Guiyang**	**13.05**	**110**	⇓*i*P	**P**	**11 16 08.8**	**-0.3**
GYA				PP	PP	11 16 19.3	-0.1
GYA				S	**S**	**11 18 31.5**	**-4.3**
GYA				AMB	AMB		
	comp=Z,20nm,1.3s						
GYA				AMB	AMB		
	comp=Z,90nm,2.7s						
GYA				LR	LR		
	comp=N,2μm,10.5s						
GYA				LR	LR		
	comp=E,1μm,9.6s						
GYA				LR	LR		
	comp=Z,1μm,9.3s						
XAN	**Xi'an**	**13.58**	**76**	P	**P**	**11 16 15.0**	**-1.0**
XAN				AP		11 16 20.5	
XAN				AMB	AMB		
	comp=Z,14nm,1.5s						
ENH	**Enshi**	**14.22**	**92**	*e*P	**P**	**11 16 23.4**	**-1.1**
CMAR	**Chiang Mai Arr**	**14.27**	**157**	Pn	**P**	**11 16 24.1**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=331,slow=11,SNR=22						
CMAR				LR	LR	11 23 12.4	
	comp=Z,223nm,20.6s,baz=330,slow=43						
CMAR	**Chiang Mai Arr**	**14.27**	**157**	P	**P**	**11 16 24.2**	**-1.1**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,223nm,20.6s						
ULHL	**Ulahol**	**16.98**	**313**	P	**P**	**11 17 00.5**	**+0.5**
	SNR=11						
MK02	**Makanchi Array**	**17.12**	**334**	P	**P**	**11 16 59.8**	**-2.0**
MK02				pmax	pmax		
	comp=Z,205nm,1.8s						
HHC	**Hu-ho-hao-te**	**17.48**	**54**	⇓P	**P**	**11 17 11.0**	**+4.6**
HHC				AP		11 17 14.0	
HHC				XP		11 17 20.5	
HHC				PP	PP	11 17 26.5	+5.5
HHC				S	**S**	**11 20 26.0**	**+6.3**
HHC				XS		11 20 30.3	
HHC				PCP	PcP	11 21 52.3	+4.2
HHC				AMB	AMB		
	comp=Z,27nm,1.4s						
HHC				AMB	AMB		
	comp=Z,70nm,4.5s						
HHC				LR	LR		
	comp=N,2μm,11.4s						
HHC				LR	LR		
	comp=E,1μm,10.7s						
HHC				LR	LR		
	comp=Z,1μm,11.3s						
KBK	**Karagaybulak**	**18.01**	**312**	P	**P**	**11 17 14.9**	**+2.0**
	SNR=7.3						
UCH	**Uchtor**	**18.07**	**311**	P	**P**	**11 17 13.9**	**+0.3**
	SNR=15						
AAK	**Ala-Archa**	**18.28**	**312**	P	**P**	**11 17 18.8**	**+2.5**
	SNR=14						
AAK	**Ala-Archa**	**18.28**	**312**	*c* *i*P	**P**	**11 17 16.9**	**+0.5**
AAK				pmax	pmax		
	comp=Z,50nm,1.5s						
AAK				MLR	MLR		
	comp=Z,500nm,15.0s						
AAK	**Ala-Archa**	**18.28**	**312**	⇑*e*P	**P**	**11 17 15.0**	**-1.4**
	comp=Z,41nm,1.1s						
FRU	**Bishkek**	**18.31**	**312**	*e*P	**P**	**11 17 18.0**	**+1.3**
FRU				pmax	pmax		
	comp=Z,90nm,2.2s						
USP	**Ospenovka**	**18.61**	**313**	P	**P**	**11 17 21.3**	**+0.9**
	SNR=6.9						
EKS2	**Erkin-Say**	**18.75**	**311**	P	**P**	**11 17 23.8**	**+1.7**
	SNR=17						
SONM	**Songino Array**	**19.04**	**29**	P	**P**	**11 17 25.2**	**-0.4**
	comp=Z,1.9nm,0.3s,baz=212,slow=12,SNR=98						
HYB	**Hyderabad**	**19.36**	**226**	*i*P	**P**	**11 17 27.5**	**-2.0**
HYB	**Hyderabad**	**19.36**	**226**	*e*P	**P**	**11 17 27.5**	**-2.0**
QIZ	**Qiongzhong**	**19.76**	**126**	P	**P**	**11 17 36.5**	**+2.5**
QIZ				PPP	PPP	11 18 08.5	+7.1
QIZ				S	**S**	**11 21 15.0**	**+3.9**
QIZ				SS	SS	11 21 41.8	+3.4
QIZ				AMB	AMB		
	comp=Z,210nm,4.9s						
QIZ				LR	LR		
	comp=N,528nm,13.3s						
QIZ				LR	LR		
	comp=E,551nm,13.3s						
QIZ				LR	LR		
	comp=Z,1μm,16.0s						
ZAK	**Zakamensk**	**20.14**	**19**	*e*P	**P**	**11 17 34.7**	**-3.2**
BJT	**Baijiatuau**	**20.47**	**60**	P	**P**	**11 17 40.8**	**-0.7**
	comp=Z,11nm,0.5s						
TIA	**Tai'an**	**20.48**	**71**	*e*P	**P**	**11 17 41.0**	**-0.6**
MOY	**Mondy**	**20.76**	**14**	*e*P	**P**	**11 17 46.7**	**+2.3**
POO	**Poona**	**21.72**	**237**	*e*	**P**	**11 17 54.0**	**-0.3**
KURK	**Kurchatov**	**21.76**	**335**	*i*P	**P**	**11 17 53.3**	**-1.2**
KURK				pmax	pmax		
	comp=Z,44nm,1.7s,mb4.6						
KURK	**Kurchatov**	**21.76**	**335**	*e*P	**P**	**11 17 52.1**	**-2.4**
	comp=Z,41nm,0.9s,mb4.9						
NJ2	**Nanjing**	**21.94**	**82**	*e*P	**P**	**11 17 55.3**	**-1.2**
NJ2				AP		11 18 05.0	
NJ2				XP		11 18 09.0	
NJ2				PP	PP	11 18 18.5	-3.5
NJ2				PPP	PPP	11 18 28.8	-3.1
NJ2				S	**S**	**11 21 50.0**	**-4.1**
NJ2				XS		11 22 06.0	
NJ2				SS	SS	11 22 29.0	-2.9
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,2μm,4.8s						
NJ2				LR	LR		
	comp=N,5μm,19.9s,MS4.9						
NJ2				LR	LR		
	comp=E,2μm,21.2s,MS4.9						
NJ2				LR	LR		
	comp=Z,2μm,15.7s						
IRK	**Irkutsk**	**22.08**	**19**	*e*P	**P**	**11 17 58.6**	**+0.8**
IRK				*e*		11 18 15.5	
SSE	**Sheshan**	**24.04**	**84**	P	**P**	**11 18 17.5**	**+0.4**
SSE				S	**S**	**11 22 35.5**	**+3.9**
SSE				XS		11 22 40.8	
SSE				AMB	AMB		
	comp=Z,32nm,0.7s,mb4.9						
SSE				AMB	AMB		
	comp=Z,211nm,3.9s						
SSE				LR	LR		
	comp=N,1μm,21.0s,MS4.4						
SSE				LR	LR		
	comp=E,359nm,20.9s,MS4.4						
SSE				LR	LR		
	comp=Z,375nm,18.6s,MS3.9						
NVS	**Novosibirsk**	**24.11**	**346**	*e*P	**P**	**11 18 20.2**	**+2.6**
NVS				*e*S	**S**	**11 22 39.1**	**+6.5**
NVS				pmax	pmax		
	comp=Z,27nm,1.7s,mb4.4						
NVS				pmax	pmax		
	comp=N,48nm,1.5s						
NVS				smax			
	comp=N,60nm,2.1s						
NVS				smax			
	comp=E,48nm,2.2s						
VOSK	**Vostochnaya**	**26.37**	**329**	P	**P**	**11 18 38.5**	**-0.5**
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.0						
HIA	**Hailar**	**26.62**	**41**	*e*P	**P**	**11 18 42.3**	**+0.9**
	comp=Z,11nm,0.7s,mb4.5						
BVAR	**Borovoye Array**	**26.84**	**329**	P	**P**	**11 18 42.7**	**-0.5**
	comp=Z,3.1nm,0.6s,mb4.0,baz=140,slow=12,SNR=11						
BRVK	**Borovoye**	**26.91**	**329**	*e*P	**P**	**11 18 43.9**	**0.0**
	comp=Z,9.6nm,0.8s,mb4.4						
ZRNK	**Zerenda**	**27.41**	**328**	P	**P**	**11 18 44.0**	**-4.5**
	comp=Z,4.0nm,0.8s,mb4.0						
CN2	**Changchun**	**28.15**	**55**	*e*P	**P**	**11 19 00.3**	**+4.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.3						
CN2				AMB	AMB		
	comp=Z,130nm,3.0s						
CN2				LR	LR		
	comp=N,2μm,15.0s,MS4.9						
CN2				LR	LR		
	comp=E,980nm,15.0s,MS4.9						
CN2				LR	LR		
	comp=Z,1μm,15.0s,MS4.5						
MDJ	**Mudanjiang**	**31.24**	**55**	P	**P**	**11 19 21.0**	**-1.9**
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.7s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,145nm,5.8s						
MDJ				LR	LR		
	comp=N,1μm,14.3s,MS4.7						
MDJ				LR	LR		
	comp=E,329nm,15.1s,MS4.7						
MDJ				LR	LR		
	comp=Z,481nm,11.7s,MS4.4						
SVE	**Sverdlovsk**	**33.60**	**328**	⇑*e*P	**P**	**11 19 42.5**	**-0.8**
SVE				*e*SS	SS	11 27 36.0	+27
SVE				MLR	MLR		
	comp=N,400nm,12.0s,MS4.5						
SVE				MLR	MLR		
	comp=E,400nm,12.0s,MS4.5						
SVE				MLR	MLR		
	comp=Z,500nm,12.0s,MS4.5						
KBD	**Kabd**	**38.93**	**278**	*e*P	**P**	**11 20 29.4**	**+0.6**
MIB	**Mutribah**	**39.06**	**279**	*e*P	**P**	**11 20 30.4**	**+0.4**
MIB				AMb	AMB	11 20 31.9	
	comp=Z,61nm,0.8s,mb5.4						
RST	**Umm Al-Ruwaisa**	**39.43**	**279**	*e*P	**P**	**11 20 32.7**	**-0.3**
RST				AMb	AMB	11 20 34.0	
	comp=Z,61nm,0.7s,mb5.4						
KIV	**Kislovodsk**	**40.97**	**302**	*i*P	**P**	**11 20 47.0**	**+1.5**
KIV				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.3						
KIV				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.7						
BEST	**Besiri**	**42.47**	**293**	*i*P	**P**	**11 20 59.6**	**+1.8**
MZLS	**Mizel**	**42.66**	**272**	P	**P**	**11 21 00.2**	**+0.6**
SOC	**Sochi**	**43.13**	**302**	*e*P	**P**	**11 21 04.4**	**+1.2**
SOC				*e*		11 22 46.8	
SOC				*e*PPP	PPP	11 23 12.3	-8.0
SOC				*e*S	**S**	**11 27 31.2**	**+1.6**
SOC				*e*SS	SS	11 30 36.9	+1.5
SOC				*e*SSS	SSS	11 31 27.9	+3.6
SOC				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.6						
SOC				pmax	pmax		
	comp=N,4.0nm,0.8s						
SOC				pmax	pmax		
	comp=E,9.0nm,0.7s						
SOC				MLR	MLR		
	comp=Z,243nm,18.0s,MS4.1						
SOC				MLR	MLR		
	comp=N,86nm,12.0s						
SOC				MLR	MLR		
	comp=E,108nm,15.0s						
KELT	**Kelkit**	**43.74**	**297**	*i*P	**P**	**11 21 18.1**	**+10**
ELZG	**Elazig**	**44.16**	**294**	*i*P	**P**	**11 21 13.8**	**+2.2**
TIXI	**Tiksi**	**44.34**	**15**	*d* *i*P	**P**	**11 21 11.6**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.2						
TIXI				MLR	MLR		
	comp=Z,200nm,16.0s,MS4.1						
HILS	**Ha'il**	**44.43**	**278**	P	**P**	**11 21 14.0**	**0.0**
MALT	**Malatya**	**44.63**	**294**	*e*P	**P**	**11 21 16.6**	**+1.2**
	comp=Z,9.6nm,0.8s,mb4.7						
KAMS	**Al Khamasin**	**44.66**	**267**	D		11 21 14.8	
MOS	**Moscow**	**45.13**	**319**	*e*P	**P**	**11 21 18.7**	**-0.5**
MOS				pmax	pmax		
	comp=Z,45nm,0.9s,mb5.3						
GZT	**Gaziantep**	**45.46**	**293**	*i*P	**P**	**11 21 23.2**	**+1.1**
OBN	**Obninsk**	**45.64**	**318**	*e*P	**P**	**11 21 23.9**	**+0.7**
OBN				S	**S**	**11 28 22.0**	**+16**
OBN				pmax	pmax		
	comp=Z,26nm,1.6s,mb4.9						
OBN				MLR	MLR		
	comp=Z,300nm,13.0s,MS4.4						
TATS	**Tathlith**	**45.92**	**267**	P	**P**	**11 21 25.7**	**-0.2**
COBT	**Iskenderun**	**46.64**	**292**	*i*P	**P**	**11 21 32.5**	**+1.1**
ASF	**Jabal al Asfar**	**47.13**	**286**	P	**P**	**11 21 34.5**	**-0.8**
	comp=Z,17nm,1.1s,mb4.9,baz=341,slow=3.1,SNR=8.8						
ASF				LR	LR	11 43 06.2	
	comp=Z,210nm,18.7s,MS4.1,baz=147,slow=38						
NAMS	**An Nimas**	**47.16**	**267**	P	**P**	**11 21 36.7**	**+1.0**
BLJS	**Baljurashi**	**47.37**	**268**	P	**P**	**11 21 38.0**	**+0.6**
BALT	**Daday**	**47.98**	**299**	*i*P	**P**	**11 21 44.2**	**+2.3**
BRTR	**Keskin Array B**	**48.08**	**297**	P	**P**	**11 21 42.1**	**-0.6**
	comp=Z,5.4nm,0.8s,mb4.6,baz=108,slow=7.8,SNR=26						
BRTR	**Keskin Array B**	**48.08**	**297**	P	**P**	**11 21 42.1**	**-0.6**
BRTR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ELDT	**Eldivan**	**48.11**	**298**	*i*P	**P**	**11 21 43.5**	**+0.6**
LTHS	**Al Lith**	**48.22**	**270**	P	**P**	**11 21 44.8**	**+0.8**
TBKS	**Tabuk**	**48.56**	**281**	P	**P**	**11 21 47.5**	**+0.9**
JMQS	**Jabal Moqyreh**	**48.91**	**282**	P	**P**	**11 21 49.5**	**+0.2**
SGKT	**Sivrigoynuk**	**49.13**	**298**	*i*P	**P**	**11 21 51.2**	**+0.5**
JOF	**Joensuu**	**49.43**	**328**	*ep*	**P**	**11 21 52.5**	**-0.3**
	comp=Z,1.4nm,0.3s,mb4.5						
JOF	**Joensuu**	**49.43**	**328**	*e*P	**P**	**11 21 52.5**	**-0.3**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
EIL	**Elat**	**49.44**	**284**	*e*P	**P**	**11 21 53.1**	**-0.3**
	comp=Z,25nm,1.1s,mb5.2						
BDAS	**Al Bad'**	**49.71**	**282**	P	**P**	**11 21 55.2**	**-0.2**
AKASG	**Malin Array Be**	**49.95**	**312**	P	**P**	**11 21 55.5**	**-1.5**
	comp=Z,8.8nm,0.8s,mb4.8,baz=76,slow=7.0,SNR=20						
AKASG				LR	LR	11 46 27.6	
	comp=Z,203nm,20.2s,MS4.1,baz=115,slow=40						
AKASG	**Malin Array Be**	**49.95**	**312**	P	**P**	**11 21 55.5**	**-1.5**
AKASG				pmax	pmax		
	comp=Z,9.0nm,0.8s						
AKASG				MLR	MLR		
	comp=Z,203nm,20.2s						
ISP	**Isparta**	**50.85**	**295**	P	**P**	**11 22 01.6**	**-2.4**
	comp=Z,17nm,0.7s,mb5.1						
KAF	**Kangasniemi**	**51.65**	**327**	*ep*	**P**	**11 22 07.0**	**-2.7**
FINES	**FINESS Array B**	**51.72**	**326**	P	**P**	**11 22 09.3**	**-0.9**
	comp=Z,6.2nm,0.8s,mb4.6

SANT	**Santorini**	**55.13**	**295**	*eP*		**P**	**11 22 34.0**	**-1.8**
	comp=Z,31nm,0.7s,mb5.4								
MORC	**Moravsky Berou**	**57.50**	**312**	P		**P**	**11 22 52.4**	**-0.2**
	comp=Z,4.3nm,0.4s,mb4.8								
MBWA	**Marble Bar**	**58.50**	**151**	*eP*		**P**	**11 23 00.1**	**+0.1**
	comp=Z,7.5nm,0.7s,mb4.8								
NB2	**NORSAR Subarra**	**58.90**	**326**	P		**P**	**11 22 59.8**	**-2.5**
	comp=Z,2.4nm,0.7s,mb4.3,baz=81,slow=7.0								
NOA	**NORSAR Array B**	**58.90**	**326**	P		**P**	**11 23 00.1**	**-2.2**
	comp=Z,8.6nm,1.2s,mb4.7,baz=80,slow=6.9,SNR=5.7								
NOA				LR		LR	11 50 12.5		
	comp=Z,224nm,18.6s,MS4.3,baz=75,slow=38								
NOA	**NORSAR Array B**	**58.90**	**326**	P		**P**	**11 23 00.1**	**-2.2**
NOA				pmax		pmax			
	comp=Z,9.0nm,1.2s								
NOA				MLR		MLR			
	comp=Z,225nm,18.6s								
GERES	**GERESS Array B**	**60.16**	**312**	P		**P**	**11 23 09.2**	**-1.9**
	comp=Z,2.0nm,0.8s,mb4.2,baz=90,slow=6.7,SNR=14								
GERES	**GERESS Array B**	**60.16**	**312**	P		**P**	**11 23 09.2**	**-2.0**
GERES				pmax		pmax			
	comp=Z,2.0nm,0.8s								
GRA1	**Grafenberg Arr**	**61.50**	**313**	*eP*		**P**	**11 23 20.0**	**-0.2**
	comp=Z,5.0nm,0.9s,mb4.6								
GRF	**Grafenberg Arr**	**61.50**	**313**	*eP*		**P**	**11 23 20.0**	**-0.2**
GRF				pmax		pmax			
	comp=Z,5.0nm,0.9s,mb4.6								
KMBO	**Kilima Mbogo**	**62.02**	**249**	P		**P**	**11 23 23.1**	**-1.1**
	comp=Z,3.0nm,0.9s,mb4.4,baz=39,slow=12,SNR=8.6								
KMBO	**Kilima Mbogo**	**62.02**	**249**	P		**P**	**11 23 23.4**	**-0.8**
	comp=Z,3.4nm,1.0s,mb4.4								
WRAB	**Tennant Creek**	**64.89**	**137**	*eP*		**P**	**11 23 43.9**	**+0.8**
	comp=Z,4.7nm,0.9s,mb4.5								
WRA	**Warramunga Arr**	**64.89**	**137**	P		**P**	**11 23 43.0**	**-0.1**
	comp=Z,5.0nm,1.1s,mb4.5,baz=331,slow=6.9,SNR=11								
WRA	**Warramunga Arr**	**64.89**	**137**	P		**P**	**11 23 43.0**	**-0.1**
WRA				pmax		pmax			
	comp=Z,5.0nm,1.1s								
PGF	**Pioggiola**	**65.26**	**306**	*eP*		**P**	**11 23 42.3**	**-2.8**
	comp=Z,19nm,0.8s,mb4.9								
LPG	**La Plagne**	**65.71**	**310**	*eP*		**P**	**11 23 47.6**	**-0.3**
	comp=Z,22nm,0.9s,mb4.9								
LPL	**La Plagne**	**65.72**	**310**	*eP*		**P**	**11 23 47.6**	**-0.4**
	comp=Z,15nm,0.7s,mb4.8								
CABF	**La Chapelle**	**65.74**	**311**	*eP*		**P**	**11 23 46.9**	**-1.2**
	comp=Z,26nm,1.1s,mb4.9								
MBDF	**Montbardon**	**65.98**	**309**	*eP*		**P**	**11 23 49.3**	**-0.3**
	comp=Z,18nm,0.9s,mb4.8								
SMF	**Signal de Mont**	**67.17**	**312**	*eP*		**P**	**11 23 56.1**	**-1.1**
	comp=Z,27nm,1.1s,mb4.9								
SSF	**Saint Saulge**	**67.22**	**312**	*eP*		**P**	**11 23 56.3**	**-1.2**
	comp=Z,16nm,1.1s,mb4.7								
VIVF	**Saint-Julien-l**	**67.32**	**310**	*eP*		**P**	**11 23 57.1**	**-1.1**
ASAR	**Alice Springs**	**67.57**	**139**	P		**P**	**11 24 00.8**	**+0.7**
	comp=Z,7.1nm,1.0s,mb4.7,baz=320,slow=6.1,SNR=24								
ASAR				LR		LR	11 53 47.2		
	comp=Z,62nm,19.7s,MS3.8,baz=211,slow=36								
TCF	**Toulx Ste Croi**	**68.35**	**312**	*eP*		**P**	**11 24 03.9**	**-0.7**
	comp=Z,17nm,1.0s,mb4.7								
SUMG	**Summit**	**70.78**	**346**	*eP*		**P**	**11 24 18.9**	**-0.2**
	comp=Z,10.0nm,0.9s,mb4.8								
CTA	**Charters Tower**	**72.52**	**128**	P		**P**	**11 24 31.2**	**+0.9**
	comp=Z,3.7nm,0.8s,mb4.4,baz=360,slow=6.8,SNR=4.8								
CTA				LR		LR	12 00 30.5		
	comp=Z,84nm,18.1s,MS4.1,baz=170,slow=39								
CTA	**Charters Tower**	**72.52**	**128**	P		**P**	**11 24 31.3**	**+0.9**
CTA				pmax		pmax			
	comp=Z,4.0nm,0.8s								
CTA				MLR		MLR			
	comp=Z,85nm,18.1s								
ILAR	**Eielson Array**	**73.16**	**23**	P		**P**	**11 24 35.8**	**+2.5**
	comp=Z,1.5nm,0.8s,mb4.0,baz=302,slow=5.1,SNR=15								
ILAR				LR		LR	11 57 14.6		
	comp=Z,87nm,19.4s,MS4.0,baz=193,slow=36								
ILAR	**Eielson Array**	**73.16**	**23**	P		**P**	**11 24 35.8**	**+2.6**
ILAR				pmax		pmax			
	comp=Z,2.0nm,0.8s								
ILAR				MLR		MLR			
	comp=Z,87nm,19.4s								
INK	**Inuvik**	**74.46**	**16**	LR		LR	11 59 10.7		
	comp=Z,146nm,20.4s,MS4.3,baz=2.8,slow=37								
ESDC	**Sonseca Array**	**75.34**	**308**	P		**P**	**11 24 46.5**	**+0.2**
	comp=Z,3.1nm,0.9s,mb4.2,baz=54,slow=6.3,SNR=5.3								
STKA	**Stephens Creek**	**78.21**	**139**	P		**P**	**11 25 03.0**	**+0.4**
	comp=Z,3.1nm,0.8s,mb4.3,baz=336,slow=9.7,SNR=3.9								
YKA	**Yellowknife Ar**	**83.51**	**13**	P		**P**	**11 25 31.2**	**+1.3**
	comp=Z,0.8nm,0.7s,mb4.0,baz=330,slow=4.9,SNR=7.3								
YKA				LR		LR	12 07 20.5		
	comp=Z,91nm,18.1s,MS4.2,baz=280,slow=39								
YKA	**Yellowknife Ar**	**83.51**	**13**	P		**P**	**11 25 31.2**	**+1.3**
YKA				pmax		pmax			
	comp=Z,1.0nm,0.7s								
YKA				MLR		MLR			
	comp=Z,91nm,18.1s								
YKA	**Yellowknife Ar**	**83.51**	**13**	P		**P**	**11 25 31.2**	**+1.3**
DBIC	**Dimbokro**	**93.17**	**280**	P		**P**	**11 26 16.6**	**-0.7**
	comp=Z,5.4nm,0.7s,mb5.1,baz=125,slow=4.3,SNR=6.7								
DBIC				LR		LR	12 08 42.6		
	comp=Z,96nm,19.6s,MS4.3,baz=48,slow=36								
DBIC	**Dimbokro**	**93.17**	**280**	P		**P**	**11 26 16.6**	**-0.7**
DBIC				pmax		pmax			
	comp=Z,5.0nm,0.7s								
DBIC				MLR		MLR			
	comp=Z,96nm,19.6s								
ULM	**Lac du Bonnet**	**98.00**	**6**	LR		LR	12 15 21.1		
	comp=Z,75nm,18.4s,MS4.2,baz=47,slow=38								
TXAR	**Lajitas Array**	**117.23**	**16**	PKP		PKPdf	11 31 48.4	-1.1	
	comp=Z,0.1nm,0.5s,baz=30,slow=1.5,SNR=4.5								
SAML	**Samuel**	**148.32**	**311**	*e*PKPbc		PKPdf	11 32 50.0	+2.6	
CPUP	**Villa Florida**	**153.55**	**274**	PKPbc		PKPdf	11 33 00.7	+5.8	
	comp=Z,2.4nm,0.9s,baz=185,slow=4.3,SNR=3.7								
CPUP	**Villa Florida**	**153.55**	**274**	PKIKP		PKPdf	11 33 00.7	+5.9	
CPUP				pmax		pmax			
	comp=Z,2.0nm,0.9s								

MAN 26 11:22:03.6,9.97N×123.38E,h1km,mb4.1,ML2.9,MS2.6, 3C,Negros

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
TBP	**Tagbilaran**	**0.55**	**120**	*eP*		Pg	11 22 14.6	0.0
SNPH	**Sibulan**	**0.64**	**193**	↑*iP*		Sn	11 22 25.1	-5.1
LLP	**Lapu-Lapu**	**0.68**	**59**	↑*eP*		Pg	11 22 16.8	-0.3
LLP				*i* S		Sg	11 22 27.4	+1.3
GUIM	**Jordan**	**1.01**	**310**	*eP*		Pb	11 22 23.2	-0.4
GUIM				*eS*		Sb	11 22 38.4	+1.1
MSLP	**Maasin**	**1.47**	**83**	*eP*		Pn	11 22 30.9	-0.4
MSLP				*eS*		Sb	11 22 51.5	+1.0
RCP	**Roxas**	**1.70**	**339**	↑*eP*		Pn	11 22 35.6	+1.0
RCP				*eS*		Sb	11 23 00.2	+3.0

NIED ***26*** *11:37:00,37.30N×138.90E,h5km,Mw3.9 Best double couple: M₀9.03×10¹⁴ NP1:φs165°,δ88°,λ89°. NP2:φs2°, δ2°,λ107°.*
IDC ***26*** *11:37:15.9±1.2,37.34N×138.77E,mb3.8/4,mb1 4.1/5, mb1mx3.7/22,ML3.8/1,MS4.2/1,Ms1 4.2/1,ms1mx2.5/27, Error ellipse: s-maj=71.2km s-min=24.6km az=90.0*
JMA ***26*** *11:37:18.6,37.27N×138.94E,h12km±1km,M4.0 Broadband fault plane solution: P waves. NP1:φs33°,δ23°, λ74°. NP2:φs230°,δ68°,λ96°. Principal axes: T Plg66°, Azm151°; N Plg6°, Azm48°; P Plg23°, Azm315°;*
JMA Felt III J1.

ISC 26 11:37:17.9±0.5,37.27N±0.03×138.94E±0.05,h21km±4km, n12,σ0§90/17,mb3.9/4,1C-4D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
JHK	**Hiroka**	**0.07**	**109**	↓*iP*		**Pb**	**11 37 20.9**	**-0.8**
JHK				S		**Sb**	**11 37 22.6**	**-1.7**
JIZZ	**Izumozaki**	**0.32**	**325**	↓*iP*		**Pb**	**11 37 25.4**	**+0.4**
JIZZ				S		**Sb**	**11 37 30.8**	**+1.1**
JKT	**Katashina**	**0.56**	**154**	↓*iP*		**Pb**	**11 37 29.5**	**+0.6**
JKT				S		**Sb**	**11 37 37.1**	**+0.6**
JFY	**Yanaizu**	**0.62**	**77**	↓*iP*		**Pb**	**11 37 30.4**	**+0.4**
JFY				S		**Sb**	**11 37 38.8**	**+0.5**
JNS	**Sasagawa**	**0.62**	**29**	↑*iP*		**Pb**	**11 37 30.0**	**0.0**
JNS				S		**Sb**	**11 37 38.4**	**+0.1**
MAT	**Matsushiro**	**0.93**	**219**	P		**Pb**	**11 37 35.2**	**-0.1**
MAT				S		**Sb**	**11 37 47.4**	**+0.2**
JHJ	**Hachijo jima 2**	**4.20**	**170**	Pn		**Pn**	**11 38 23.8**	**+1.4**
	16nm,0.3s,baz=240,slow=12,SNR=9.1							
JOW	**Kunigami**	**13.78**	**224**	LR		LR	11 44 45.6	
	comp=Z,1μm,19.8s,baz=248,slow=33							
WRA	**Warramunga Arr**	**57.07**	**185**	P		**P**	**11 47 03.0**	**-2.1**
	0.9nm,0.7s,mb3.9,baz=360,slow=7.6,SNR=7.6							
ASAR	**Alice Springs**	**60.79**	**185**	P		**P**	**11 47 30.9**	**0.0**
	0.5nm,1.0s,mb3.6,baz=8.1,slow=6.4,SNR=3.8							
ARCES	**ARCESS Array B**	**63.07**	**339**	P		**P**	**11 47 44.1**	**-1.4**
	4.3nm,1.0s,mb4.5,baz=39,slow=7.8,SNR=3.6							
PDAR	**Pinedale Array**	**78.89**	**44**	P		**P**	**11 49 21.5**	**+0.4**
	0.5nm,0.8s,mb3.5,baz=315,slow=2.1,SNR=3.6							

MAN ***26*** *11:51:26.9,5.21N×126.72E,h2km,mb5.0,ML4.0,MS3.9*
IDC ***26*** *11:51:27.6±3.5,5.55N×126.74E,h23km±21km,mb4.0/10, mb1 4.1/11,mb1mx4.0/18,MS3.2/3,Ms1 3.3/3, ms1mx2.9/18,Error ellipse: s-maj=62.4km s-min=14.5km az=69.0*
NEIC ***26*** *11:51:36.6±7.9,5.44N×126.55E,h104km±73km,mb4.4/4, Error ellipse: s-maj=55.2km s-min=12.3km az=63.0*

ISC 26 11:51:32.7±1.1,5.46N±0.10×126.7E±0.2,h81km±9km,n29, σ0§86/30,mb4.1/17,1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
MATI	**Mati**	**1.52**	**345**	*eP*		**P**	**11 51 58.8**	**0.0**
GSPH	**General Santos**	**1.81**	**290**	*eP*		**P**	**11 51 59.0**	**-3.5**
KCP	**Kidapawan**	**2.19**	**315**	↓*eP*		**P**	**11 52 06.5**	**-1.3**
KCP				*i* S		**S**	**11 52 40.2**	**+6.5**
BUKP	**Musuan**	**2.87**	**327**	*eP*		**P**	**11 52 17.9**	**+0.5**
CGP	**Cagayan de Oro**	**3.55**	**327**	*eP*		**P**	**11 52 28.5**	**+1.7**
CGP				*eS*		**S**	**11 53 13.5**	**+5.7**
PAGZ	**Pagadian**	**4.02**	**306**	*eP*		**P**	**11 52 32.9**	**-0.4**
TGY	**Tagaytay City**	**10.27**	**327**	LR		LR	11 58 27.1	
	comp=Z,116nm,20.4s,baz=129,slow=41							
FITZ	**Fitzroy Crossi**	**23.44**	**182**	P		**P**	**11 56 35.3**	**-0.2**
	4.3nm,1.1s,mb3.7,baz=13,slow=12,SNR=8.6							
WRAB	**Tennant Creek**	**26.35**	**164**	*eP*		**P**	**11 57 03.5**	**+0.3**
	5.5nm,0.4s,mb4.3							
WRA	**Warramunga Arr**	**26.35**	**164**	P		**P**	**11 57 04.0**	**+0.7**
	2.1nm,0.5s,mb3.9,baz=343,slow=10,SNR=16							
WRA				ScP			12 04 06.7	
	0.9nm,0.6s,baz=342,slow=3.3,SNR=6.6							
ASAR	**Alice Springs**	**29.80**	**167**	P		**P**	**11 57 34.2**	**-0.1**
	0.6nm,0.6s,mb3.4,baz=0.7,slow=8.9,SNR=9.5							
ASAR				PcP		PcP	12 00 35.9	-0.2
	0.4nm,0.5s,baz=353,slow=2.3,SNR=4.5							
ASAR				ScP			12 04 17.1	
	1.0nm,0.6s,baz=343,slow=2.8,SNR=12							
CMAR	**Chiang Mai Arr**	**29.97**	**298**	P		**P**	**11 57 35.4**	**-0.5**
	0.9nm,0.9s,mb3.4,baz=113,slow=7.2,SNR=4.6							
CMAR				LR		LR	12 11 22.8	
	comp=Z,39nm,19.2s,baz=115,slow=40							
STKA	**Stephens Creek**	**39.77**	**160**	P		**P**	**11 58 58.3**	**-1.0**
	4.2nm,0.9s,mb4.2,baz=353,slow=10,SNR=5.3							
GUN	**Gumba**	**44.67**	**305**	*eP*		**P**	**11 59 40.1**	**+0.7**
	12nm,0.7s,mb4.7							
PKI	**Pulchoki**	**44.93**	**304**	*eP*		**P**	**11 59 41.8**	**+0.3**
KKN	**Kakani**	**45.11**	**304**	*eP*		**P**	**11 59 43.5**	**+0.5**
DMN	**Daman**	**45.19**	**304**	*eP*		**P**	**11 59 44.3**	**+0.7**
SONM	**Songino Array**	**45.64**	**341**	P		**P**	**11 59 46.7**	**-0.2**
	0.5nm,0.5s,mb3.5,baz=162,slow=8.7,SNR=4.9							
SONM				PcP		PcP	12 01 25.3	+0.9
	0.4nm,0.6s,baz=155,slow=2.9,SNR=3.6							
KOLN	**Koldanda**	**46.49**	**303**	*eP*		**P**	**11 59 54.7**	**+0.8**
	10.0nm,0.4s,mb4.9							
KURK	**Kurchatov**	**60.25**	**327**	*eP*		**P**	**12 01 34.1**	**-0.8**
	4.2nm,0.6s,mb4.7							
BVAR	**Borovoye Array**	**65.84**	**327**	P		**P**	**12 02 11.3**	**-0.4**
	0.9nm,0.5s,mb3.9,baz=127,slow=7.4,SNR=6.2							
BRVK	**Borovoye**	**65.91**	**327**	P		**P**	**12 02 08.6**	**-3.5**
	2.4nm,0.5s,mb4.3							
ZRNK	**Zerenda**	**66.57**	**326**	*eP*		**P**	**12 02 14.2**	**-2.2**
	3.1nm,0.5s,mb4.4							
VNDA	**Vanda**	**85.14**	**173**	P		**P**	**12 04 01.3**	**+0.7**
	0.5nm,0.9s,mb3.4,baz=319,slow=6.6,SNR=3.6							
ARCES	**ARCESS Array B**	**88.81**	**340**	P		**P**	**12 04 18.2**	**-0.2**
	2.5nm,0.8s,mb4.3,baz=82,slow=6.4,SNR=13							
ARCES	**ARCESS Array B**	**88.81**	**340**	P		**P**	**12 04 18.2**	**-0.2**
FINES	**FINESS Array B**	**90.28**	**332**	P		**P**	**12 04 25.5**	**0.0**
	2.7nm,0.7s,mb4.5,baz=45,slow=2.7,SNR=6.8							
FINES	**FINESS Array B**	**90.28**	**332**	P		**P**	**12 04 25.5**	**0.0**
NOA	**NORSAR Array B**	**97.21**	**334**	P		**P**	**12 04 58.1**	**+0.9**
	2.0nm,1.0s,mb4.5,baz=66,slow=4.5,SNR=3.4							
NOA				LR		LR	12 50 09.7	
	comp=Z,17nm,20.8s,baz=315,slow=36							

WEL 26 12:03:41.2±0.4,43.79S×173.96E,h33km,ML3.5/17, 1C-4D,Error ellipse: s-maj=3.7km s-min=2.4km az=90.0, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
MQZ	**McQueen's Vall**	**0.95**	**275**	↓*iPN*		Pn	12 03 57.2	-1.1
MQZ				SN		Sn	12 04 09.1	-1.7
CRLZ	**Canterbury Las**	**0.99**	**282**	↓*iPN*		Pn	12 03 57.9	-1.0
CRLZ				SN		Sn	12 04 07.8	-4.1
KHZ	**Kahutara**	**1.41**	**347**	↑*iPN*		Pn	12 04 03.8	-1.0
KHZ				SN		Sn	12 04 20.9	-1.5
LTZ	**Lake Taylor**	**1.59**	**309**	↓*iPN*		Pn	12 04 07.0	-0.5
LTZ				SN		Sn	12 04 25.4	-1.7
BSWZ	**Blackbirch Sta**	**2.08**	**358**	PN		Pn	12 04 13.2	-1.2
BSWZ				SN		Sn	12 04 36.5	-3.0
RPZ	**Rata Peaks**	**2.10**	**271**	PN		Pn	12 04 13.8	-1.1
THZ	**Tophouse**	**2.17**	**339**	PN		Pn	12 04 15.0	-0.8
THZ				SN		Sn	12 04 39.2	-2.6
WVZ	**Waitaha Valley**	**2.45**	**286**	PN		Pn	12 04 19.1	-0.8
WVZ				SN		Sn	12 04 47.6	-1.4
DSZ	**Denniston Nort**	**2.59**	**321**	PN		Pn	12 04 21.2	-0.6
DSZ				SN		Sn	12 04 49.0	-3.4
NNZ	**Nelson**	**2.60**	**350**	PN		Pn	12 04 20.4	-1.6
MRW	**Makara Radio**	**2.62**	**12**	PN		Pn	12 04 19.5	-2.7
MRW				SN		Sn	12 04 48.1	-5.0
ODZ	**Otahua Downs**	**2.69**	**241**	PN		Pn	12 04 21.4	-1.8
ODZ				SN		Sn	12 04 48.9	-6.0
LBZ	**Lake Benmore**	**2.78**	**256**	↓*iPN*		Pn	12 04 23.1	-1.4
LBZ				SN		Sn	12 04 52.7	-4.6
CAW	**Cannon Point**	**2.80**	**17**	PN		Pn	12 04 21.8	-2.0
CAW				SN		Sn	12 04 52.3	-5.5
MTW	**Mount Morrison**	**2.87**	**24**	PN		Pn	12 04 22.4	-3.3
MTW				SN		Sn	12 04 54.1	-5.4
KIW	**Kapiti Island**	**3.01**	**14**	PN		Pn	12 04 25.1	-2.6
KIW				SN		Sn	12 04 57.5	-5.5
FOZ	**Fox Glacier**	**3.10**	**273**	PN		Pn	12 04 27.5	-1.6
FOZ				SN		Sn	12 05 02.9	-2.6
QRZ	**Quartz Range**	**3.15**	**340**	PN		Pn	12 04 29.0	-0.7
QRZ				SN		Sn	12 05 04.7	-1.8
MRZ	**Mangatainoka R**	**3.35**	**22**	PN		Pn	12 04 29.3	-3.3
MRZ				SN		Sn	12 05 05.3	-6.4
BFZ	**Birch Farm**	**3.54**	**29**	PN		Pn	12 04 32.2	-3.1
BFZ				SN		Sn	12 05 10.0	-6.5
WKZ	**Wanaka**	**3.69**	**252**	PN		Pn	12 04 35.8	-1.7
TUZ	**Tuapeka**	**3.76**	**233**	PN		Pn	12 04 36.6	-1.8
TUZ				SN		Sn	12 05 14.6	-7.5
JCZ	**Jackson Bay**	**3.77**	**264**	PN		Pn	12 04 36.6	-1.9
TSZ	**Takapari Road**	**4.02**	**23**	PN		Pn	12 04 38.4	-3.6
MLZ	**Mavora Lakes**	**4.42**	**247**	PN		Pn	12 04 45.9	-1.8
MSZ	**Milford Sound**	**4.42**	**256**	PN		Pn	12 04 45.3	-2.5
VRZ	**Vera Road**	**4.70**	**8**	PN		Pn	12 04 49.7	-2.1
MWZ	**Matawai**	**6.08**	**28**	PN		Pn	12 05 05.2	-6.0

IDC 26 12:51:54.2±1.2,56.83S×149.09W,mb4.1/5,mb1 4.3/5, mb1mx4.2/11,MS4.3/14,Ms1 4.3/14,ms1mx4.1/17,2C-1D, Error ellipse: s-maj=40.1km s-min=27.3km az=169.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
VNDA	**Vanda**	**26.66**	**201**	P		P	12 57 35.2	-0.6
	0.5nm,0.9s,baz=76,slow=8.3,SNR=2.5							
VNDA				LR		LR	13 05 47.3	
	comp=Z,474nm,19.6s,baz=72,slow=31							
RPZ	**Rata Peaks**	**28.20**	**281**	LR		LR	13 07 38.3	
	comp=Z,801nm,18.1s,baz=321,slow=34							
RAR	**Rarotonga**	**36.44**	**343**	LR		LR	13 10 24.3	
	comp=Z,545nm,20.9s,baz=90,slow=30							
VNA3	**Neumayer Olymp**	**49.05**	**164**	↑*i*		P	13 00 34.1	-10
SNAA	**Sanae**	**49.62**	**167**	↑*i*		P	13 00 37.2	-11
VNA2	**Neumayer--Watz**	**49.68**	**164**	↓*i*		P	13 00 38.2	-11
STKA	**Stephens Creek**	**52.83**	**267**	LR		LR	13 19 52.1	
	comp=Z,403nm,20.1s,baz=295,slow=32							
MAW	**Mawson**	**53.64**	**195**	P		P	13 01 15.5	-3.3
	1.8nm,1.1s,baz=135,slow=5.1,SNR=2.9							
MAW				LR		LR	13 22 00.5	
	comp=Z,329nm,18.3s,baz=342,slow=34							
CTA	**Charters Tower**	**59.58**	**280**	LR		LR	13 23 59.1	
	comp=Z,202nm,20.4s,baz=330,slow=32							
ASAR	**Alice Springs**	**63.46**	**267**	P		P	13 02 25.6	-2.4
	1.3nm,1.0s,baz=148,slow=5.9,SNR=5.0							
ASAR				LR		LR	13 29 07.8	
	comp=Z,162nm,18.0s,baz=269,slow=35							
WRA	**Warramunga Arr**	**66.21**	**270**	P		P	13 02 44.0	-1.8
	2.0nm,1.2s,baz=146,slow=5.9,SNR=5.0							
WRA				LR		LR	13 28 46.3	
	comp=Z,218nm,19.1s,baz=115,slow=33							
PMG	**Port Moresby**	**67.94**	**287**	LR		LR	13 29 02.3	
	comp=Z,201nm,19.3s,baz=139,slow=33							
CPUP	**Villa Florida**	**69.31**	**106**	LR		LR	13 28 24.6	
	comp=Z,112nm,18.5s,baz=39,slow=32							
LPAZ	**La Paz**	**71.59**	**92**	P		P	13 03 18.1	-1.0
	7.4nm,0.5s,baz=193,slow=8.9,SNR=33							
LPAZ				LR		LR	13 29 19.5	
	comp=Z,81nm,18.6s,baz=213,slow=31							
FITZ	**Fitzroy Crossi**	**72.48**	**264**	LR		LR	13 33 11.4	
	comp=Z,152nm,18.0s,baz=115,slow=34							
BDFB	**Brasilia**	**82.99**	**108**	LR		LR	13 37 18.4	
	comp=Z,230nm,18.6s,baz=8.2,slow=33							
NVAR	**Mina Array Bea**	**98.41**	**24**	LR		LR	13 41 49.9	
	comp=Z,101nm,18.0s,baz=260,slow=30							

LDG ***26*** *12:56:36.4±2.9,38.29N×14.04E,h340km,Mb4.0/17, Error ellipse: s-maj=79.5km s-min=60.2km az=105.0*
CSEM ***26*** *12:56:38.4±0.1,39.22N×14.89E,h300km,ML2.5/4, Error ellipse: s-maj=3.5km s-min=1.9km az=39.0*
IDC ***26*** *12:56:40.5±0.6,39.39N×14.85E,h310km±12km,mb3.3/7, mb1 3.4/15,mb1mx3.2/26, Error ellipse: s-maj=20.4km s-min=17.2km az=144.0*
NEIC ***26*** *12:56:42.8,39.14N×15.12E,h265km,MD3.0(ROM),After ROM.*
ROM ***26*** *12:56:42.7±1.9,39.14N×15.12E,h265km±17km,MD3.0/6, ML2.5/4,Error ellipse: s-maj=1.9km s-min=0.9km az=90.0*

ISC 26 12:56:38.3±0.5,39.25N±0.07×14.99E±0.07,h313km±5km, n67,σ1§17/68,mb3.6/6,7D,Tyrrhenian Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
MGR	**Morigerati**	**0.99**	**26**	↓*iP*		**P**	**12 57 20.3**	**+0.1**
	35nm,0.6s							
MGR	**Morigerati**	**0.99**	**26**	↓*iPg*		**P**	**12 57 20.3**	**+0.1**
TDS	**Terranova Siba**	**1.12**	**68**	*eP*		**P**	**12 57 20.4**	**-0.5**
TDS	**Terranova Siba**	**1.12**	**68**	*ePg*		**P**	**12 57 20.4**	**-0.4**
SCLL	**Scilla**	**1.14**	**150**	*eP*		**P**	**12 57 19.7**	**-1.2**
	120nm,0.4s							
SCLL	**Scilla**	**1.14**	**150**	*eP*		**P**	**12 57 19.7**	**-1.2**
	120nm,0.4s							
GRI	**Girifalco**	**1.19**	**110**	*eP*		**P**	**12 57 20.5**	**-0.7**
	354nm,0.4s							
GRI	**Girifalco**	**1.19**	**110**	*ePg*		**P**	**12 57 20.5**	**-0.7**
GRI	**Girifalco**	**1.19**	**110**	*eP*		**P**	**12 57 20.5**	**-0.7**
	354nm,0.4s							
SGO	**Sicignano**	**1.33**	**10**	↓*iP*		**P**	**12 57 22.5**	**+0.5**
SGO	**Sicignano**	**1.33**	**10**	↓*iPg*		**P**	**12 57 22.5**	**+0.4**
MTTG	**Motta San Giov**	**1.36**	**156**	*eP*		**P**	**12 57 21.3**	**-0.9**
MTTG	**Motta San Giov**	**1.36**	**156**	*ePg*		**P**	**12 57 21.3**	**-0.9**
ORI	**Oriolo Calabro**	**1.39**	**54**	*eP*		**P**	**12 57 22.5**	**+0.1**
ORI	**Oriolo Calabro**	**1.39**	**54**	*ePg*		**P**	**12 57 22.4**	**+0.1**
PLLN	**Pollina**	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**8.05**	**200**	P	**P**	**13 06 31.6**	**+1.5**
MXZ				S	**S**	**13 08 02.9**	**+1.9**
MXZ	**Matakaoa Point**	**8.05**	**200**	P	**P**	**13 06 31.0**	**+0.9**
MXZ				S	**S**	**13 08 02.9**	**+1.9**
PUZ	**Puketiti**	**8.54**	**199**	*eP*	**P**	**13 06 37.6**	**+0.7**
PUZ				S	**S**	**13 08 12.3**	**-0.8**
PUZ	**Puketiti**	**8.54**	**199**	P	**P**	**13 06 37.4**	**+0.5**
PUZ				S	**S**	**13 08 12.3**	**-0.8**
WCZ	**Waipu Caves**	**8.59**	**225**	*eP*	**P**	**13 06 46.9**	**+9.5**
WCZ	**Waipu Caves**	**8.59**	**225**	P	**P**	**13 06 46.5**	**+9.1**
OUZ	**Omahuta**	**8.62**	**231**	*eP*	**P**	**13 06 47.5**	**+10**
OUZ	**Omahuta**	**8.62**	**231**	P	**P**	**13 06 47.5**	**+10**
MWZ	**Matawai**	**9.00**	**202**	P	**P**	**13 06 43.7**	**+0.4**
MWZ	**Matawai**	**9.00**	**202**	P	**P**	**13 06 43.4**	**+0.1**
URZ	**Urewera**	**9.08**	**204**	P	**P**	**13 06 45.4**	**+1.2**
	12nm,0.3s,baz=62,slow=2.2,SNR=48						
URZ				S	**S**	**13 08 28.8**	**+2.4**
	15nm,0.3s,baz=205,slow=21,SNR=12						
URZ	**Urewera**	**9.08**	**204**	*eP*	**P**	**13 06 45.0**	**+0.7**
URZ	**Urewera**	**9.08**	**204**	P	**P**	**13 06 45.0**	**+0.7**
KNZ	**Kokohu**	**9.59**	**200**	P	**P**	**13 06 50.3**	**-1.1**
KNZ				S	**S**	**13 08 40.0**	**+0.9**
BKZ	**Black Stump Fm**	**10.10**	**204**	*eP*	**P**	**13 06 56.5**	**-1.9**
BKZ	**Black Stump Fm**	**10.10**	**204**	P	**P**	**13 06 56.5**	**-1.9**
BKZ				S	**S**	**13 08 51.2**	**-0.5**
PWZ	**Pawanui**	**10.76**	**201**	*eP*	**P**	**13 07 05.1**	**-2.4**
PWZ	**Pawanui**	**10.76**	**201**	P	**P**	**13 07 04.3**	**-3.2**
PWZ				S	**S**	**13 09 04.8**	**-3.0**
BFZ	**Birch Farm**	**11.55**	**201**	*eP*	**P**	**13 07 14.2**	**-3.9**
BFZ	**Birch Farm**	**11.55**	**201**	P	**P**	**13 07 14.2**	**-3.9**
MRZ	**Mangatainoka R**	**11.75**	**204**	*eP*	**P**	**13 07 16.9**	**-4.0**
MRZ	**Mangatainoka R**	**11.75**	**204**	P	**P**	**13 07 16.9**	**-4.0**
KIW	**Kapiti Island**	**12.17**	**205**	P	**P**	**13 07 22.7**	**-3.8**
CAW	**Cannon Point**	**12.33**	**204**	P	**P**	**13 07 24.8**	**-3.8**
CAW	**Cannon Point**	**12.33**	**204**	P	**P**	**13 07 24.4**	**-4.2**
NNZ	**Nelson**	**13.08**	**209**	*eP*	**P**	**13 07 33.9**	**-4.8**
THZ	**Tophouse**	**13.73**	**209**	*eP*	**P**	**13 07 42.0**	**-5.2**
THZ	**Tophouse**	**13.73**	**209**	P	**P**	**13 07 42.0**	**-5.2**
KHZ	**Kahutara**	**14.03**	**206**	*eP*	**P**	**13 07 46.4**	**-4.7**
KHZ	**Kahutara**	**14.03**	**206**	P	**P**	**13 07 45.1**	**-6.0**
LTZ	**Lake Taylor**	**14.84**	**208**	P	**P**	**13 07 57.8**	**-3.9**
MQZ	**McQueen's Vall**	**15.47**	**206**	S	**S**	**13 10 48.6**	**-12**
RPZ	**Rata Peaks**	**16.11**	**209**	P	**P**	**13 08 15.6**	**-2.5**
	0.8nm,0.3s,baz=20,slow=10,SNR=5.5						
RPZ				S	**S**	**13 11 09.5**	**-5.9**
	2.8nm,0.3s,baz=47,slow=7.4,SNR=8.0						
RAR	**Rarotonga**	**18.80**	**66**	S	**S**	**13 12 09.7**	**-6.9**
	7.4nm,0.3s,baz=96,slow=13,SNR=6.7						
CTA	**Charters Tower**	**33.54**	**279**	P	**P**	**13 11 12.2**	**+0.7**
	4.0nm,0.6s,mb4.5,baz=117,slow=6.8,SNR=2.2						
CTA				pP	pP	13 11 39.8	+19
	6.8nm,0.7s,baz=113,slow=10,SNR=3.2						
CTAO	**Charters Tower**	**33.54**	**279**	P	**P**	**13 11 12.8**	**+1.3**
	4.7nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**34.37**	**256**	⇓*iP*	**P**	**13 11 19.9**	**+1.3**
	11nm,1.2s,mb4.7						
STKA	**Stephens Creek**	**34.37**	**256**	P	**P**	**13 11 20.0**	**+1.4**
	7.9nm,0.8s,mb4.7,baz=98,slow=11,SNR=17						
ASAR	**Alice Springs**	**42.93**	**267**	P	**P**	**13 12 29.8**	**-0.3**
	3.3nm,0.5s,mb4.3,baz=103,slow=7.4,SNR=2.4						
ASAR				pP	pP	13 12 56.2	+16
	1.4nm,0.5s,baz=171,slow=33,SNR=2.4						
WRA	**Warramunga Arr**	**43.88**	**272**	P	**P**	**13 12 38.0**	**+0.1**
	1.8nm,0.3s,mb4.2,baz=111,slow=7.7,SNR=2.7						
WRA				pP	pP	13 13 04.9	+17
	9.0nm,0.6s,baz=111,slow=7.9,SNR=6.8						
SBA	**Scott Base**	**48.40**	**184**	*eP*	**P**	**13 13 17.0**	**+4.1**
VNDA	**Vanda**	**48.45**	**186**	P	**P**	**13 13 16.2**	**+2.9**
	3.9nm,0.6s,mb4.6,baz=3.7,slow=8.6,SNR=35						
FITZ	**Fitzroy Crossi**	**52.16**	**270**	pP	pP	13 14 08.0	+16
	15nm,0.9s,baz=164,slow=6.3,SNR=4.7						
CASY	**Casey**	**55.38**	**208**	⇓*iP*	**P**	**13 14 04.0**	**-1.4**
QSPA	**South Pole Qui**	**60.09**	**180**	⇓*iP*	**P**	**13 14 40.5**	**+2.1**
MAW	**Mawson**	**72.59**	**201**	⇓*iP*	**P**	**13 15 57.6**	**-0.2**
	3.3nm,0.6s,mb4.4						
MAW	**Mawson**	**72.59**	**201**	P	**P**	**13 15 57.8**	**0.0**
	4.2nm,0.6s,mb4.5,baz=134,slow=9.4,SNR=17						
SNAA	**Sanae**	**78.54**	**179**	⇓*i*	**P**	**13 16 32.1**	**+0.5**
VNA3	**Neumayer Olymp**	**78.69**	**176**	⇓*i*	**P**	**13 16 35.1**	**+2.6**
VNA2	**Neumayer--Watz**	**79.13**	**177**	⇓*i*	**P**	**13 16 37.8**	**+2.9**
VNA1	**Neumayer--Stat**	**79.36**	**177**	⇑*i*	**P**	**13 16 39.5**	**+3.4**
CMB	**Columbia Colle**	**86.61**	**42**	*eP*	**P**	**13 17 12.8**	**-1.1**
	6.8nm,0.8s,mb4.9						
LDFC	**Landfair**	**87.89**	**47**	*eP*	**P**	**13 17 20.4**	**+0.2**
NVAR	**Mina Array Bea**	**88.10**	**43**	P	**P**	**13 17 20.8**	**-0.2**
	12nm,1.1s,mb5.0,baz=208,slow=6.4,SNR=20						
NEN	**Nelson**	**88.42**	**47**	P	**P**	**13 17 22.6**	**-0.1**
TPH	**Tonopah**	**88.51**	**44**	*eP*	**P**	**13 17 22.5**	**-0.5**
	12nm,1.0s,mb5.2						
TUC	**Tucson**	**89.03**	**51**	*eP*	**P**	**13 17 26.1**	**+0.5**
	5.2nm,0.7s,mb5.0						
MSU	**Marysvale**	**91.86**	**46**	*eP*	**P**	**13 17 38.2**	**-0.5**
TXAR	**Lajitas Array**	**92.35**	**57**	P	**P**	**13 17 41.0**	**-0.2**
	1.0nm,0.8s,mb4.2,baz=211,slow=7.3,SNR=8.9						
PDAR	**Pinedale Array**	**96.00**	**44**	P	**P**	**13 17 56.7**	**-0.7**
	0.8nm,0.8s,mb4.2,baz=199,slow=3.9,SNR=7.2						
ARCES	**ARCESS Array B**	**138.18**	**348**	PKP	PKPdf	13 23 52.4	-1.3
	5.1nm,1.1s,baz=90,slow=0.9,SNR=5.6						
FINES	**FINESS Array B**	**144.72**	**340**	PKP	PKPdf	13 24 02.5	-2.7
	4.2nm,0.5s,baz=49,slow=2.9,SNR=19						
NB2	**NORSAR Subarra**	**148.35**	**351**	PKP		13 24 13.2	
	1.5nm,0.5s,baz=14,slow=2.8						
NOA	**NORSAR Array B**	**148.35**	**351**	PKPbc	PKPdf	13 24 13.5	+2.2
	2.6nm,0.7s,baz=15,slow=4.4,SNR=5.5						
HFS	**Hagfors**	**148.84**	**348**	PKPbc	PKPdf	13 24 14.2	+2.1
	4.3nm,0.6s,baz=72,slow=4.7,SNR=6.4						
BRTR	**Keskin Array B**	**152.24**	**299**	PKPbc	PKPdf	13 24 23.9	+5.9
	0.3nm,0.3s,baz=48,slow=25,SNR=3.0						

*IDC **26** 13:06:18.7±1.5,5.54S×146.83E,h217km±12km,mb4.0/9, mb1 4.2/12,mb1mx4.1/15,Error ellipse: s-maj=17.3km s-min=12.2km az=113.0*
*NEIC **26** 13:06:18.1±0.8,5.38S×146.84E,h220km±7km,mb5.0/8, Error ellipse: s-maj=13.9km s-min=7.5km az=131.0*
ISC 26 13:06:17.1±1.0,**5.42S**±0.08×**146.99E**±0.09,**h224**km±8km, **n30**,σ**1**º**25**/34,**mb4.3**/12,**1C-8D**,**Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAU	**Wau**	**1.93**	**188**	⇑*iP*	**P**	**13 06 57.9**	**+0.7**
PMG	**Port Moresby**	**3.96**	**178**	P	**P**	**13 07 19.6**	**-0.3**
	9.9nm,0.3s,baz=42,slow=8.3,SNR=30						
PMG				S	**S**	**13 08 06.6**	**-2.1**
	39nm,0.3s,baz=209,slow=22,SNR=14						
RAB	**Rabaul**	**5.30**	**77**	*eP*	**P**	**13 07 39.0**	**+2.5**
CTA	**Charters Tower**	**14.60**	**183**	⇓*iP*	**P**	**13 09 36.1**	**+1.4**
	24nm,0.9s						
CTA	**Charters Tower**	**14.60**	**183**	P	**P**	**13 09 35.7**	**+1.0**
	1.1nm,0.3s,baz=7.9,slow=14,SNR=18						
CTAO	**Charters Tower**	**14.60**	**183**	*eP*	**P**	**13 09 35.8**	**+1.0**
	38nm,1.2s						
KAKA	**Kakadu**	**16.11**	**242**	⇓*iP*	**P**	**13 09 55.0**	**+1.9**
	370nm,0.6s						
KAKA	**Kakadu**	**16.11**	**242**	*eP*	**S**	**13 12 48.5**	**+3.8**
	53nm,0.7s						
WRAB	**Tennant Creek**	**18.95**	**219**	P	**P**	**13 10 22.0**	**-1.5**
	1µm,0.6s						
WRAB	**Tennant Creek**	**18.95**	**219**	⇓*eP*	**P**	**13 10 22.6**	**-1.0**
	236nm,0.6s						
WRAB				*e*		13 10 25.8	
WB2	**Warramunga Arr**	**18.96**	**219**	⇓*iP*	**P**	**13 10 22.6**	**-1.0**
WB2				*e*S	**S**	**13 13 43.1**	**+0.8**
WRA	**Warramunga Arr**	**18.97**	**219**	P	**P**	**13 10 22.8**	**-0.9**
	17nm,0.3s,baz=45,slow=9.5,SNR=475						
WRA				S	**S**	**13 13 44.0**	**+1.6**
	0.6nm,0.3s,baz=36,slow=21,SNR=6.8						
ASAR	**Alice Springs**	**22.09**	**214**	P	**P**	**13 10 55.8**	**+1.1**
	87nm,0.7s,mb5.4,baz=42,slow=7.5,SNR=1062						
ASAR				S	**S**	**13 14 41.5**	**+2.9**
	7.0nm,1.2s,baz=38,slow=16,SNR=2.6						
ASPA	**Alice Springs**	**22.09**	**214**	⇓*iP*	**P**	**13 10 55.6**	**+0.9**
ASPA				*e*S	**S**	**13 14 48.5**	**+10**
FITZ	**Fitzroy Crossi**	**24.37**	**237**	⇓*iP*	**P**	**13 11 15.2**	**-1.2**
	126nm,0.3s						
FITZ	**Fitzroy Crossi**	**24.37**	**237**	P	**P**	**13 11 16.0**	**-0.4**
	200nm,0.5s,baz=38,slow=5.6,SNR=262						
STKA	**Stephens Creek**	**26.80**	**190**	P	**P**	**13 11 37.5**	**-1.1**
	5.5nm,0.8s,mb4.2,baz=37,slow=15,SNR=7.6						
FORT	**Forrest**	**30.88**	**213**	⇓*iP*	**P**	**13 12 13.4**	**-1.4**
	166nm,0.6s						
KLBR	**Kellerberrin**	**37.79**	**223**	⇓*iP*	**P**	**13 13 11.9**	**-1.6**
	19nm,0.5s,mb4.9						
MUN	**Mundaring**	**39.07**	**224**	*eP*	**P**	**13 13 23.1**	**-1.1**
	9.4nm,0.8s,mb4.4						
URZ	**Urewera**	**42.63**	**144**	P	**P**	**13 13 53.9**	**+0.8**
	3.7nm,0.4s,mb4.1,baz=263,slow=2.8,SNR=5.5						
RPZ	**Rata Peaks**	**43.63**	**155**	P	**P**	**13 14 02.0**	**+0.9**
	6.9nm,1.1s,mb3.9,baz=333,slow=6.8,SNR=2.5						
SONM	**Songino Array**	**63.90**	**331**	P	**P**	**13 16 28.1**	**+0.1**
	1.0nm,0.6s,mb3.6,baz=157,slow=5.6,SNR=12						
VNDA	**Vanda**	**72.49**	**177**	P	**P**	**13 17 20.2**	**-0.5**
	2.4nm,0.6s,mb4.0,baz=322,slow=5.5,SNR=13						
MAW	**Mawson**	**82.78**	**203**	P	**P**	**13 18 16.3**	**-0.6**
	2.5nm,0.7s,mb4.0,baz=110,slow=6.5,SNR=9.2						
MCK	**McKinley**	**83.70**	**24**	P	**P**	**13 18 21.1**	**-0.6**
	5.2nm,1.0s,mb4.2						
ILAR	**Eielson Array**	**84.95**	**23**	P	**P**	**13 18 26.7**	**-1.3**
	3.3nm,0.7s,mb4.2,baz=254,slow=4.6,SNR=47						
DAWY	**Dawson**	**87.75**	**25**	P	**P**	**13 18 37.1**	**-4.4**
NVAR	**Mina Array Bea**	**97.02**	**52**	P	**P**	**13 19 26.6**	**+1.8**
	0.7nm,0.6s,mb4.1,baz=265,slow=3.6,SNR=3.6						
CPUP	**Villa Florida**	**140.61**	**144**	PKP	PKPdf	13 25 23.0	+2.3
	0.8nm,0.7s,baz=222,slow=13,SNR=3.1						

*ISK **26** 13:18:11.8,36.03N×28.12E,h85km,MD3.9*
*CSEM **26** 13:18:11.1±0.1,35.95N×28.26E,h60km,mb4.1/11,Error ellipse: s-maj=2.1km s-min=1.0km az=37.0*
*ATH **26** 13:18:13.1,36.10N×28.20E,h51km±1km,MD3.6/6*
*NEIC **26** 13:18:13.1,36.10N×28.20E,h51km,mb4.1/8,MD3.7(ISK), MD3.6(ATH),After ATH.*
*IDC **26** 13:18:14.8±1.1,35.68N×28.22E,h96km±19km,mb3.7/4, mb1 3.8/11,mb1mx3.6/22,MS2.9/1,Ms1 2.9/1, ms1mx2.2/19,Error ellipse: s-maj=20.5km s-min=10.4km az=12.0*
*NSSC **26** 13:18:15.6,35.79N×28.49E,h41km*
*NIC **26** 13:18:16.4±0.3,35.96N×28.43E,h25km,mb4.3,ML3.9, MW3.5*
ISC 26 13:18:12.1±0.2,**35.94N**±0.02×**28.27E**±0.02,**h73**km±4km, **n124**,σ**0**º**93**/151,**mb4.0**/11,**3C-4D**,**Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.30**	**337**	*eP*	**P**	**13 18 22.0**	**-1.7**
ARG				*e*S	**S**	**13 18 27.8**	**-4.4**
DALT	**Dalyan (Mudla)**	**0.88**	**20**	*i* PG	**P**	**13 18 30.0**	**+0.5**
DALT				*i* SG	**S**	**13 18 43.6**	**+1.2**
DALT	**Dalyan (Mudla)**	**0.88**	**20**	Pg	**P**	**13 18 30.0**	**+0.5**
DALT				Sg	**S**	**13 18 43.0**	**+0.6**
KARP	**Karpathos**	**0.98**	**247**	*eP*	**P**	**13 18 32.3**	**+1.5**
KARP				*e*S	**S**	**13 18 45.6**	**+0.9**
KSL	**Kastellorizon**	**1.08**	**78**	*eP*	**P**	**13 18 33.5**	**+1.4**
NISR	**Nisiros**	**1.14**	**306**	*eP*	**P**	**13 18 32.0**	**-0.8**
YER	**Yerkesik**	**1.19**	**0**	PN	**P**	**13 18 34.1**	**+0.6**
YER				SN	**S**	**13 18 49.0**	**-0.5**
YER	**Yerkesik**	**1.19**	**0**	Pn	**P**	**13 18 34.2**	**+0.7**
YER				Sg	**S**	**13 18 48.2**	**-1.3**
YER	**Yerkesik**	**1.19**	**0**	*e*Pn	**P**	**13 18 34.1**	**+0.6**
YER				Sg	**S**	**13 18 48.2**	**-1.3**
YER				*e*Sn	**S**	**13 18 49.0**	**-0.5**
BDRM	**Kayabasi**	**1.31**	**330**	*i* P	**P**	**13 18 34.1**	**-1.1**
MLSB	**Milas**	**1.41**	**344**	PN	**P**	**13 18 36.3**	**-0.2**
MLSB				SN	**S**	**13 18 52.8**	**-1.8**
MLSB	**Milas**	**1.41**	**344**	Pn	**P**	**13 18 36.3**	**-0.2**
MLSB				Sg	**S**	**13 18 52.3**	**-2.3**
MLSB	**Milas**	**1.41**	**344**	Sg	**S**	**13 18 52.3**	**-2.3**
MLSB				*e*Sn	**S**	**13 18 52.8**	**-1.8**
ELL	**Elmali**	**1.55**	**58**	PN	**P**	**13 18 40.0**	**+1.6**
AYDN	**Tasoluk**	**1.75**	**350**	*i* P	**P**	**13 18 33.4**	**-7.6**
DNZL	**Cakiroluk**	**1.85**	**19**	*i* P	**P**	**13 18 43.5**	**+1.1**
DENT	**Denizli**	**1.91**	**18**	*e*PN	**P**	**13 18 43.3**	**+0.1**
DENT	**Denizli**	**1.91**	**18**	Pn	**P**	**13 18 43.4**	**+0.1**
DENT	**Denizli**	**1.91**	**18**	Pn	**P**	**13 18 43.4**	**+0.2**
SMG	**Samos**	**2.11**	**327**	*eP*	**P**	**13 18 45.0**	**-1.0**
NPS	**Neapolis**	**2.27**	**253**	*eP*	**P**	**13 18 48.9**	**+0.7**
NPS				*e*S	**S**	**13 19 15.1**	**+0.1**
SANT	**Santorini**	**2.32**	**282**	⇑*i* Pn	**P**	**13 18 48.9**	**0.0**
SANT	**Santorini**	**2.32**	**282**	⇑*i* Pn	**P**	**13 18 48.9**	**0.0**
THR1	**Thera Island**	**2.32**	**282**	*eP*	**P**	**13 18 48.9**	**0.0**
THR6	**Thira Island,**	**2.36**	**281**	*eP*	**P**	**13 18 49.7**	**+0.2**
THR3	**Thira Island,**	**2.37**	**282**	*eP*	**P**	**13 18 49.7**	**+0.1**
BCK	**Bucak**	**2.40**	**50**	*e*PN	**P**	**13 18 51.3**	**+1.2**
BCK	**Bucak**	**2.40**	**50**	Pn	**P**	**13 18 51.4**	**+1.2**
THR5	**Thira Island,**	**2.41**	**282**	*eP*	**P**	**13 18 50.4**	**+0.1**
APE	**Apeiranthos**	**2.48**	**298**	PN	**P**	**13 18 49.7**	**-1.5**
APE	**Apeiranthos**	**2.48**	**298**	Pn	**P**	**13 18 49.8**	**-1.5**
APE	**Apeiranthos**	**2.48**	**298**	Pn	**P**	**13 18 49.8**	**-1.4**
APE	**Apeiranthos**	**2.48**	**298**	*eP*	**P**	**13 18 51.0**	**-0.2**
MANT	**Manisa**	**2.56**	**5**	*i* P	**P**	**13 18 50.1**	**-2.2**
IZM	**Izmir**	**2.58**	**342**	PN	**P**	**13 18 50.9**	**-1.8**
IZM	**Izmir**	**2.58**	**342**	Pn	**P**	**13 18 51.0**	**-1.7**
IZM	**Izmir**	**2.58**	**342**	Pn	**P**	**13 18 51.0**	**-1.7**
KDAG	**Bornova**	**2.59**	**342**	*i* P	**P**	**13 18 53.9**	**+1.2**
ISP	**Isparta**	**2.61**	**43**	*e*PN	**P**	**13 18 54.4**	**+1.3**
ISP	**Isparta**	**2.61**	**43**	Pn	**P**	**13 18 54.5**	**+1.4**
BLCB	**Balcova**	**2.63**	**338**	PN	**P**	**13 18 52.5**	**-0.9**
IDI	**Anoyia**	**2.83**	**258**	P	**P**	**13 18 56.7**	**+0.5**
IDI	7.1nm,0.3s,baz=41,slow=6.3,SNR=23			S	**S**	**13 19 29.9**	**+0.8**
	7.5nm,0.3s,baz=291,slow=19,SNR=5.6						
AKS	**Akhisar**	**2.96**	**353**	PN	**P**	**13 18 57.1**	**-0.8**
AKS	**Akhisar**	**2.96**	**353**	Pn	**P**	**13 18 57.2**	**-0.8**
AKS	**Akhisar**	**2.96**	**353**	Pn	**P**	**13 18 57.2**	**-0.7**
ALT	**Altintas**	**3.44**	**25**	*e*PN	**P**	**13 19 05.0**	**+0.4**
PPCY	**Paphos**	**3.49**	**106**	P	**P**	**13 19 06.4**	**+1.1**
HDMB	**Hadim**	**3.55**	**72**	*e*PN	**P**	**13 19 08.1**	**+1.9**
HDMB	**Hadim**	**3.55**	**72**	Pn	**P**	**13 19 08.1**	**+1.9**
ALFC	**Alevga**	**3.61**	**101**	P	**P**	**13 19 07.7**	**+0.6**
	18nm,0.2s						
ALFC				S	**S**	**13 19 48.0**	**-0.8**
BALB	**Balikesir**	**3.71**	**355**	*e*PN	**P**	**13 19 07.7**	**-0.7**
BALB	**Balikesir**	**3.71**	**355**	Pn	**P**	**13 19 07.7**	**-0.7**
LEF	**Lefka**	**3.85**	**101**	PN	**P**	**13 19 11.6**	**+1.2**
LEF	**Lefka**	**3.85**	**101**	Pn	**P**	**13 19 10.7**	**+0.2**
LEF	**Lefka**	**3.85**	**101**	Pn	**P**	**13 19 10.6**	**+0.2**
SZAC	**Souni-Zanaja**	**3.95**	**106**	P	**P**	**13 19 12.8**	**+1.1**
	25nm,0.2s						
SZAC				S	**S**	**13 19 56.6**	**-0.6**
KIZT	**Kizilcal**	**4.11**	**43**	PN	**P**	**13 19 13.3**	**-0.6**
CSS	**Prodhromos**	**4.24**	**102**	⇑*iP*	**P**	**13 19 16.8**	**+1.0**
	5.4nm,0.2s						
CSS				S	**S**	**13 20 04.8**	**+0.3**
VLI	**Veliai**	**4.38**	**282**	*eP*	**P**	**13 19 18.1**	**+0.4**
BNT	**Bandirma**	**4.42**	**357**	*e*PN	**P**	**13 19 15.7**	**-2.7**
BNT	**Bandirma**	**4.42**	**357**	Pn	**P**	**13 19 15.7**	**-2.6**
KGT	**Karabiga**	**4.57**	**351**	*i* PN	**P**	**13 19 18.0**	**-2.4**
ALN	**Alexandroupoli**	**5.25**	**341**	*eP*	**P**	**13 19 31.5**	**+1.8**
BRTR	**Keskin Array B**	**5.69**	**47**	P	**P**	**13 19 40.6**	**+4.9**
	0.2nm,0.3s,baz=224,slow=15,SNR=3.7						
BRTR				S	**S**	**13 20 41.7**	**+1.2**
	0.6nm,0.3s,baz=212,slow=27,SNR=5.9						
BRTR	**Keskin Array B**	**5.69**	**47**	S	**S**	**13 20 41.7**	**+1.3**
ARNB	**Al Arnab**	**6.25**	**88**	⇑P	**P**	**13 19 43.7**	**+0.1**
ARNB				⇑S	**S**	**13 20 48.9**	**-5.5**
ARNB	**Al Arnab**	**6.25**	**88**	⇑*iP*	**P**	**13 19 43.7**	**+0.1**
HNTI	**Hanita**	**6.37**	**115**	Sn	**S**	**13 20 51.7**	**-5.6**
SLNF	**Slenfeh**	**6.47**	**91**	⇑P	**P**	**13 19 46.7**	**0.0**
SLNF				⇑S	**S**	**13 20 52.9**	**-7.9**
SLNF	**Slenfeh**	**6.47**	**91**	⇑*iP*	**P**	**13 19 46.7**	**-0.1**
BIDA	**Albida**	**6.63**	**96**	⇓P	**P**	**13 19 48.6**	**-0.4**
BIDA				⇓S	**S**	**13 20 56.2**	**-7.6**
BIDA	**Albida**	**6.63**	**96**	⇓*iP*	**P**	**13 19 48.6**	**-0.4**
BTCH	**Batrach**	**6.64**	**87**	⇑P	**P**	**13 19 48.5**	**-0.5**
BTCH				⇑S	**S**	**13 20 57.6**	**-6.4**
BTCH	**Batrach**	**6.64**	**87**	⇑*iP*	**P**	**13 19 48.5**	**-0.6**
HRI	**Mount Hermon**	**6.71**	**111**	Pn	**P**	**13 19 50.0**	**0.0**
BRBR	**Barbar**	**6.81**	**110**	⇑P	**P**	**13 19 51.0**	**-0.4**
BRBR				⇑S	**S**	**13 21 00.9**	**-7.3**
BRBR	**Barbar**	**6.81**	**110**	⇑*iP*	**P**	**13 19 51.0**	**-0.5**
MMLI	**Mount Malkishu**	**6.88**	**118**	Pn	**P**	**13 19 52.1**	**-0.3**
KSHT	**Keshet**	**6.89**	**113**	Pn	**P**	**13 19 52.7**	**+0.1**
GLH	**Golan-Tel Qazi**	**6.90**	**116**	Pn	**P**	**13 19 53.4**	**+0.7**
KFRA	**Kufra**	**6.99**	**93**	⇓*iP*	**P**	**13 19 54.2**	**+0.3**
HMDT	**Nahal Hemdat**	**7.05**	**119**	Pn	**P**	**13 19 54.9**	**+0.1**
KZIT	**Kziot**	**7.17**	**133**	Pn	**P**	**13 19 55.2**	**-1.2**
TOTH	**TOTAH**	**7.20**	**109**	⇑P	**P**	**13 19 57.0**	**+0.2**
TOTH				⇑S	**S**	**13 21 09.9**	**-7.9**
MASH	**Mash'abbe Sade**	**7.34**	**130**	Pn	**P**	**13 19 57.3**	**-1.5**
DRGI	**Dragot**	**7.34**	**124**	Pn	**P**	**13 19 58.2**	**-0.6**
SALA	**Sala**	**7.70**	**112**	⇑P	**P**	**13 20 03.1**	**-0.6**
SALA				⇑S	**S**	**13 21 21.5**	**-8.8**
SALA	**Sala**	**7.70**	**112**	⇑*iP*	**P**	**13 20 03.1**	**-0.7**
PRNI	**Paran**	**7.93**	**133**	Pn	**P**	**13 20 06.0**	**-0.9**
KMTI	**Karmit**	**7.95**	**135**	Pn	**P**	**13 20 06.2**	**-0.9**
ASF	**Jabal al Asfar**	**8.08**	**115**	P	**P**	**13 20 10.4**	**+1.5**
	1.3nm,0.3s,baz=184,slow=5.1,SNR=4.5						
ASF				S	**S**	**13 21 38.3**	**-1.3**
	2.3nm,0.3s,baz=11,slow=23,SNR=4.5						
MBH	**Mount Berech**	**8.29**	**136**	Pn	**P**	**13 20 11.1**	**-0.7**
EIL	**Elat**	**8.40**	**136**	P	**P**	**13 20 12.8**	**-0.5**
	1.0nm,0.3s,baz=295,slow=9.9,SNR=14						
EIL				S	**S**	**13 21 40.6**	**-6.9**
	6.9nm,0.3s,baz=331,slow=24,SNR=6.0						
ALWS	**Ilw as Safayha**	**8.74**	**137**	P	**P**	**13 20 17.6**	**-0.3**
ALWS				S	**S**	**13 21 50.9**	**-5.0**
HAQS	**Haql**	**8.87**	**139**	P	**P**	**13 20 19.5**	**-0.2**
JMOS	**Jabal al Moall**	**8.88**	**138**	P	**P**	**13 20 19.5**	**-0.3**
BDAS	**Al Bad'**	**9.46**	**140**	P	**P**	**13 20 27.4**	**-0.3**
JMQS	**Jabal Moqyreh**	**9.52**	**135**	P	**P**	**13 20 28.4**	**-0.3**
MLR	**Muntele Rosu**	**9.70**	**350**	P	**P**	**13 20 33.6**	**+2.5**
	baz=162,slow=16,SNR=2.4						
MLR				LR	LR	13 25 13.0	
	comp=Z,58nm,19.1s,baz=352,slow=42						
AKASG	**Malin Array Be**	**14.77**	**2**	P	**P**	**13 21 43.8**	**+5.6**
	1.8nm,0.3s,baz=190,slow=10,SNR=6.5						
VRAC	**Vranov**	**15.86**	**331**	P	**P**	**13 21 56.4**	**+4.3**
	0.9nm,0.3s,baz=145,slow=10.0,SNR=6.4						
GERES	**GERESS Array B**	**16.76**	**325**	P	**P**	**13 22 06.9**	**+3.6**
	0.3nm,0.3s,baz=139,slow=12,SNR=7.1						
MBDF	**Montbardon**	**18.55**	**305**	*eP*	**P**	**13 22 26.0**	**+0.7**
	13nm,0.8s						
LPG	**La Plagne**	**18.85**	**307**	*eP*	**P**	**13 22 28.8**	**+0.1**
	9.4nm,0.5s						
CLL	**Collm**	**18.86**	**329**	P	**P**	**13 22 28.2**	**-0.7**
	logA/T=0.9						
LPL	**La Plagne**	**18.87**	**307**	*eP*	**P**	**13 22 29.1**	**+0.1**
	13nm,0.7s						
CABF	**La Chapelle**	**19.73**	**310**	*eP*	**P**	**13 22 38.3**	**+0.1

CACH	**El Canelo**	**0.88**	**354**	⇑	*i*P		Pg	13 35 30.6	-0.4
CHCH	**Chadas Angostu**	**1.06**	**353**		*e*P		Pb	13 35 33.9	-0.6
CHCH					*i* S		Sb	13 35 48.7	-0.1
LMEL	**Las Melosas**	**1.17**	**12**	⇓	*i*P		Pb	13 35 35.7	-0.5
LMEL					*i* S		Sb	13 35 52.1	+0.4
LMEL					AMP			13 35 53.6	
	comp=N,2µm,0.2s								
LNV	**Longovilo**	**1.28**	**324**	⇑	*i*P		Pb	13 35 37.4	-0.8
LNV					*i* S		Sb	13 35 54.9	-0.2
ANTU	**Antumapu**	**1.42**	**355**		*e*P		Pb	13 35 39.9	-0.7
ANTU					*i* S		Sb	13 35 59.8	+0.6
ANTU					AMP			13 36 00.3	
	comp=N,3µm,0.2s								
DSCH	**Colegio Aleman**	**1.59**	**358**		*e*P		Pn	13 35 42.1	-0.9
DSCH					*i* S		Sb	13 36 04.8	+0.7
DSCH					AMP			13 36 06.8	
	comp=E,4µm,0.4s								
CLCH	**Cerro Calan**	**1.59**	**359**		*e*P		Pn	13 35 42.9	-0.1
CLCH					*i* S		Sb	13 36 05.0	+0.9
CLCH					AMP			13 36 07.7	
	comp=E,3µm,0.5s								
FCH	**Farellones**	**1.67**	**6**	⇓	*e*P		Pn	13 35 44.5	+0.4
FCH					*i* S		Sb	13 36 07.6	+1.3
CCHI	**Chillan**	**2.06**	**218**		*e*P		Pn	13 35 49.9	+0.2
CCHI					*i* S		Sn	13 36 16.7	+0.3
CCHI					AMP			13 36 21.4	
	comp=N,999nm,0.4s								
JACH	**Jahuel**	**2.31**	**358**		*e*P		Pn	13 35 54.2	+1.0
JACH					*i* S		Sn	13 36 24.2	+1.5
VNA3	**Neumayer Olymp**	**47.96**	**158**	⇓	*i*		P	13 43 59.9	+4.7
VNA2	**Neumayer--Watz**	**48.60**	**157**	⇓	*i*		P	13 44 04.2	+4.0

*IDC **26** 13:49:38.4±1.8,5.62S×147.26E,h158km±15km,mb3.8/5, mb1 4.0/8,mb1mx3.9/12,Error ellipse: s-maj=27.4km s-min=11.9km az=116.0*
*NEIC **26** 13:49:39.9±0.8,5.60S×147.25E,h172km±8km,mb4.7/6, Error ellipse: s-maj=16.4km s-min=8.3km az=128.0*
ISC 26 13:49:38.3±1.1,5.62S±0.10×147.4E±0.1,h176km±10km, n21,σ1§18/26,mb4.2/8,1C-6D,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WAU	**Wau**	**1.85**	**202**	⇑	*e*P	**P**	**13 50 14.2**	**+0.4**
PMG	**Port Moresby**	**3.77**	**184**		P	**P**	**13 50 37.1**	**0.0**
	8.3nm,0.3s,baz=55,slow=5.1,SNR=44							
PMG					S	**S**	**13 51 20.0**	**-2.4**
	3.5nm,0.3s,baz=40,slow=10,SNR=3.8							
RAB	**Rabaul**	**4.93**	**74**		*e*P	**P**	**13 50 55.5**	**+3.5**
CTA	**Charters Tower**	**14.43**	**184**		P	**P**	**13 52 57.1**	**+1.5**
	0.2nm,0.3s,baz=20,slow=11,SNR=9.5							
CTAO	**Charters Tower**	**14.43**	**184**		*e*P	**P**	**13 52 57.0**	**+1.4**
	7.0nm,0.9s							
KAKA	**Kakadu**	**16.41**	**244**	⇓	*i*P	**P**	**13 53 22.3**	**+2.1**
	9.3nm,0.4s							
WRAB	**Tennant Creek**	**19.08**	**221**		P	**P**	**13 53 48.0**	**-1.7**
	278nm,0.7s,SNR=47							
WRAB	**Tennant Creek**	**19.08**	**221**	⇓	*e*P	**P**	**13 53 48.5**	**-1.2**
	29nm,0.8s							
WB2	**Warramunga Arr**	**19.09**	**221**	⇓	*i*P	**P**	**13 53 48.8**	**-1.0**
WB2					*e*S	**S**	**13 57 13.4**	**+1.3**
WRA	**Warramunga Arr**	**19.10**	**221**		P	**P**	**13 53 49.2**	**-0.7**
	2.5nm,0.3s,baz=48,slow=12,SNR=127							
WRA					S	**S**	**13 57 13.3**	**+1.1**
	baz=38,slow=20,SNR=14							
ASAR	**Alice Springs**	**22.17**	**215**		P	**P**	**13 54 21.6**	**+1.1**
	16nm,0.6s,mb4.6,baz=50,slow=8.5,SNR=284							
ASAR					S	**S**	**13 58 15.9**	**+7.8**
	8.2nm,0.9s,baz=31,slow=22,SNR=20							
ASPA	**Alice Springs**	**22.17**	**215**	⇓	*i*P	**P**	**13 54 21.6**	**+1.1**
ASPA					*e*S	**S**	**13 58 15.7**	**+7.5**
FITZ	**Fitzroy Crossi**	**24.63**	**238**	⇓	*i*P	**P**	**13 54 43.3**	**-0.9**
	22nm,0.4s,mb5.0							
FITZ	**Fitzroy Crossi**	**24.63**	**238**		P	**P**	**13 54 43.3**	**-0.8**
	26nm,0.4s,mb5.1,baz=51,slow=5.2,SNR=50							
STKA	**Stephens Creek**	**26.69**	**191**		P	**P**	**13 55 02.5**	**-0.6**
	2.9nm,0.8s,mb4.0,baz=292,slow=24,SNR=3.1							
MBWA	**Marble Bar**	**30.97**	**237**		*e*P	**P**	**13 55 39.6**	**-1.8**
	8.3nm,0.5s,mb4.7							
KLBR	**Kellerberrin**	**37.94**	**223**	⇓	*i*P	**P**	**13 56 39.2**	**-1.3**
	8.3nm,0.6s,mb4.5							
SONM	**Songino Array**	**64.28**	**331**		P	**P**	**13 59 56.9**	**-0.1**
	0.1nm,0.4s,baz=135,slow=7.0,SNR=4.2							
VNDA	**Vanda**	**72.27**	**177**		P	**P**	**14 00 46.3**	**+0.5**
	1.9nm,0.7s,mb4.0,baz=335,slow=6.5,SNR=16							
MAW	**Mawson**	**82.76**	**203**		P	**P**	**14 01 43.1**	**-0.4**
	1.1nm,0.7s,mb3.7,baz=111,slow=8.6,SNR=4.5							
ILAR	**Eielson Array**	**84.97**	**23**		P	**P**	**14 01 54.4**	**-0.2**
	0.4nm,0.5s,mb3.4,baz=267,slow=5.1,SNR=7.4							

*IDC **26** 14:13:12.3±2.1,34.37N×23.56E,mb3.7/5,mb1 3.9/11, mb1mx3.8/24,ML4.0/5,Error ellipse: s-maj=36.2km s-min=19.5km az=8.0*
*ATH **26** 14:13:20.9,34.69N×24.03E,h27km±2km,MD3.9/10*
*NEIC **26** 14:13:20.9,34.69N×24.03E,h27km,mb3.8/3, MD3.9(ATH),After ATH.*
*CSEM **26** 14:13:22.2±0.3,34.70N×24.01E,h25km,MD3.9,Error ellipse: s-maj=7.1km s-min=2.6km az=22.0*
ISC 26 14:13:14.0±0.9,34.14N±0.07×23.60E±0.05,h33km,n50, σ1§38/53,mb3.7/6,Crete

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GVD	**Gavdhos**	**0.81**	**30**		*e*P	**P**	**14 13 25.9**	**-3.0**
GVD					*e*S	**S**	**14 13 41.1**	**+1.3**
GAVD	**Gavdhos**	**0.81**	**30**		*e*PB	**Pb**	**14 13 26.5**	**-3.1**
VAM	**Vamos**	**1.36**	**21**		*e*PN	**Pn**	**14 13 35.5**	**-1.5**
IDI	**Anoyia**	**1.56**	**43**		Pn	**Pn**	**14 13 40.7**	**+0.7**
	6.4nm,0.3s,baz=232,slow=13,SNR=31							
IDI					Sn	**Sn**	**14 14 02.0**	**+2.7**
	21nm,0.3s,baz=288,slow=22,SNR=7.5							
XRY	**Khrisi**	**1.88**	**66**		*e*PN	**Pn**	**14 13 46.0**	**+1.5**
NPS	**Neapolis**	**2.00**	**55**		*e*PN	**Pn**	**14 13 47.0**	**+0.7**
KYTH	**Kithira**	**2.18**	**348**		*e*PN	**Pn**	**14 13 53.0**	**+4.2**
VLI	**Veliai**	**2.63**	**348**		*e*PN	**Pn**	**14 13 57.5**	**+2.3**
THR6	**Thira Island,**	**2.66**	**33**		*e*P	**P**	**14 13 56.2**	**+0.7**
THR5	**Thira Island,**	**2.69**	**32**		*e*P	**P**	**14 13 55.6**	**-0.3**
SANT	**Santorini**	**2.70**	**34**		*e*Pn	**Pn**	**14 13 55.2**	**-1.0**
SANT	**Santorini**	**2.70**	**34**		*e*Pn	**Pn**	**14 13 55.2**	**-1.0**
THR1	**Thera Island**	**2.70**	**34**		*e*P	**P**	**14 13 55.6**	**-0.4**
THR3	**Thira Island,**	**2.70**	**33**		*e*P	**P**	**14 13 55.8**	**-0.3**
THR4	**Thira Island,**	**2.74**	**32**		*e*P	**P**	**14 13 56.6**	**-0.1**
KARP	**Karpathos**	**3.25**	**63**		*e*PN	**Pn**	**14 14 05.0**	**+1.0**
APE	**Apeiranthos**	**3.32**	**28**		*e*P	**P**	**14 14 02.9**	**-2.0**
APE	**Apeiranthos**	**3.32**	**28**		*e*Pn	**Pn**	**14 14 04.0**	**-1.0**
ITM	**Ithomi**	**3.32**	**336**		*e*PN	**Pn**	**14 14 08.5**	**+3.5**
NAIG	**Nisos Aigina**	**3.61**	**359**		*e*PN	**Pn**	**14 14 11.0**	**+1.9**
YER	**Yerkesik**	**4.85**	**51**		*i* P	**P**	**14 14 26.5**	**-0.1**
DALT	**Dalyan (Mudla)**	**4.88**	**56**		*e*P	**P**	**14 14 28.4**	**+1.4**
AGG	**Agios Georgios**	**4.98**	**349**		*e*P	**P**	**14 14 29.5**	**+1.1**
AOS	**Alonnisos**	**5.03**	**3**		*e*P	**P**	**14 14 27.3**	**-1.7**
LKD	**Levkas**	**5.14**	**333**		*e*P	**P**	**14 14 32.0**	**+1.4**
XOR	**Xorichti**	**5.23**	**357**		*e*P	**P**	**14 14 30.2**	**-1.6**
XOR	**Xorichti**	**5.23**	**357**		*e*P	**P**	**14 14 30.2**	**-1.7**
MEV	**Metsovon**	**5.94**	**342**		*e*P	**P**	**14 14 42.4**	**+0.5**
FNA	**Florina**	**6.86**	**346**		*e*P	**P**	**14 14 53.0**	**-1.8**
VAE	**Valguarnera**	**8.17**	**297**		Pn	**P**	**14 15 12.8**	**-0.3**
	3.2nm,0.3s,baz=87,slow=20,SNR=3.8							
VAE					Sn	**Sn**	**14 16 46.8**	**+1.4**
	4.0nm,0.3s,baz=272,slow=3.3,SNR=2.0							
VAE	**Valguarnera**	**8.17**	**297**		Sn	**Sn**	**14 16 46.8**	**+1.4**
BRTR	**Keskin Array B**	**9.78**	**52**		Pn	**P**	**14 15 32.0**	**-3.3**
	0.1nm,0.3s,baz=278,slow=34,SNR=3.0							
EIL	**Elat**	**10.63**	**112**		Pn	**P**	**14 15 47.4**	**+0.3**
	baz=358,slow=28,SNR=4.7							
VRAC	**Vranov**	**16.02**	**343**		Pn	**P**	**14 16 58.2**	**-0.1**
	0.5nm,0.3s,baz=122,slow=14,SNR=2.9							
MORC	**Moravsky Berou**	**16.25**	**346**		P	**P**	**14 17 05.5**	**+4.3**
	4.7nm,0.9s							
GERES	**GERESS Array B**	**16.43**	**336**		Pn	**P**	**14 17 01.6**	**-1.9**
	0.2nm,0.3s,baz=162,slow=13,SNR=4.1							
KHC	**Kasperske Hory**	**16.72**	**337**		*e*P	**P**	**14 17 10.7**	**+3.6**
AKASG	**Malin Array Be**	**17.05**	**12**		Pn	**P**	**14 17 08.2**	**-3.1**
	0.7nm,0.3s,baz=204,slow=11,SNR=7.7							
DPC	**Dobruska-Polom**	**17.06**	**344**		*e*P	**P**	**14 17 12.6**	**+1.3**
PRU	**Pruhonice**	**17.18**	**340**		*e*P	**P**	**14 17 20.5**	**+7.6**
CLL	**Collm**	**18.80**	**339**		P	**P**	**14 17 33.0**	**-0.1**
HFS	**Hagfors**	**26.80**	**349**		P	**P**	**14 18 51.9**	**-0.9**
	2.6nm,0.6s,mb4.0,baz=144,slow=13,SNR=7.5							
NB2	**NORSAR Subarra**	**28.08**	**347**		P	**P**	**14 19 03.3**	**-1.0**
	1.2nm,0.6s,mb3.7,baz=150,slow=9.3							
NOA	**NORSAR Array B**	**28.08**	**347**		P	**P**	**14 19 03.4**	**-0.9**
	0.5nm,0.7s,mb3.3,baz=144,slow=10,SNR=2.8							
NOA	**NORSAR Array B**	**28.08**	**347**		P	**P**	**14 19 03.4**	**-0.9**
ARCES	**ARCESS Array B**	**35.46**	**1**		P	**P**	**14 20 07.0**	**-1.9**
	1.3nm,0.6s,mb4.0,baz=164,slow=8.8,SNR=6.7							
KURK	**Kurchatov**	**42.82**	**50**		*e*P	**P**	**14 21 09.7**	**-0.6**
	1.7nm,0.5s,mb4.0							
KURK	**Kurchatov**	**42.82**	**50**		*e*P	**P**	**14 21 09.7**	**-0.5**
	1.7nm,0.5s,mb4.0							
SONM	**Songino Array**	**61.13**	**50**		P	**P**	**14 23 27.0**	**-0.2**
	0.3nm,0.5s,mb3.7,baz=286,slow=7.5,SNR=5.6							
ILAR	**Eielson Array**	**81.13**	**356**		P	**P**	**14 25 28.9**	**+1.8**
	0.2nm,0.6s,mb3.2,baz=337,slow=4.5,SNR=4.7							

*BJI **26** 14:39:52.7,43.53N×89.60E,h6km,mB4.9,mb4.5,ML4.8, Ms4.7,Msz4.2*
*NEIC **26** 14:39:55.0±0.3,43.42N×89.49E,h10km,mb4.8/25,Error ellipse: s-maj=10.4km s-min=6.2km az=206.0*
*LDG **26** 14:39:56.0±0.2,43.60N×88.87E,h10km,Mb4.8/21, Ms3.5/6,Error ellipse: s-maj=7.7km s-min=3.8km az=112.0*
*MOS **26** 14:39:57.1±1.6,43.51N×89.41E,h33km,mb4.5/14,Error ellipse: s-maj=17.5km s-min=8.4km az=125.7*
*NNC **26** 14:39:59.5±6.1,43.80N×89.40E,h19km±37km,Error ellipse: s-maj=55.8km s-min=37.5km az=64.0*
*IDC **26** 14:40:01.3±4.3,43.45N×89.60E,h60km±39km,mb4.0/14, mb1 4.1/16,mb1mx4.0/22,ML4.0/1,MS3.5/4,Ms1 3.5/4, ms1mx3.0/25,Error ellipse: s-maj=24.4km s-min=13.8km az=46.0*
ISC 26 14:39:55.3±1.3,43.60N±0.04×89.56E±0.04,h22km±9km, n111,σ1§07/122,mb4.6/47,MS3.6/9,11C-4D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WMQ	**Urumqi**	**1.37**	**280**		PG	**Pn**	**14 40 20.5**	**+1.1**
WMQ					SG	**Sn**	**14 40 37.0**	**0.0**
WMQ					Smax			
	comp=N,4µm,0.5s							
WMQ					Smax			
	comp=E,5µm,0.6s							
WMQ					LR	LR		
	comp=N,986nm,10.0s							
WMQ					LR	LR		
	comp=E,287nm,8.0s							
WMQ					LR	LR		
	comp=Z,386nm,9.0s							
MK31	**Makanchi Array**	**6.05**	**304**	⇑	Pn	**Pn**	**14 41 26.8**	**+0.9**
	baz=116,slow=14,SNR=586							
MK31				⇓	Sn	**Sn**	**14 42 33.4**	**-1.8**
	baz=117,slow=25,SNR=11							
MK31				⇑	Lg		14 43 04.0	
	baz=111,slow=19,SNR=4.0							
MKAR	**Makanchi Array**	**6.05**	**304**		P	**Pn**	**14 41 26.9**	**+1.0**
MKAR							14 42 36.3	
MKAR					pmax	pmax		
	comp=Z,20nm,0.4s							
GTA	**Gaotai**	**8.76**	**115**		*e*P	**P**	**14 42 03.0**	**-0.7**
GTA					XP		14 42 09.5	
GTA					S	**Sn**	**14 43 36.0**	**-6.8**
GTA					LG2		14 44 24.0	
GTA					AMB	AMB		
	comp=Z,4.0nm,0.4s							
GTA					AMB	AMB		
	comp=Z,74nm,4.3s							
GTA					LR	LR		
	comp=N,453nm,5.2s							
GTA					LR	LR		
	comp=E,295nm,2.6s							
GTA					LR	LR		
	comp=Z,334nm,14.1s							
KURK	**Kurchatov**	**10.30**	**318**	⇑	Pn	**P**	**14 42 23.2**	**-1.7**
	comp=Z,3.5nm,0.4s,baz=138,slow=10,SNR=88							
KURK				⇑	Sn	**S**	**14 44 14.8**	**-6.0**
	comp=Z,8.9nm,0.7s,baz=125,slow=15,SNR=3.9							
KURK				⇑	Lg		14 45 19.4	
	comp=Z,43nm,0.9s							
KURK	**Kurchatov**	**10.30**	**318**	*i*	P	**P**	**14 42 23.1**	**-1.8**
KURK							14 44 14.7	
KURK					pmax	pmax		
	comp=Z,1.0nm,0.4s							
KURK	**Kurchatov**	**10.30**	**318**	*e*	P	**P**	**14 42 23.3**	**-1.6**
	comp=Z,12nm,0.4s							
AAK	**Ala-Archa**	**11.06**	**270**	⇑	Pn	**P**	**14 42 33.0**	**-2.3**
	comp=Z,3.9nm,0.5s							
AAK	**Ala-Archa**	**11.06**	**270**	*i*	P	**P**	**14 42 32.2**	**-3.1**
AAK					pmax	pmax		
	comp=Z,2.0nm,0.8s							
AAK					MLR	MLR		
	comp=Z,100nm,15.0s							
AAK	**Ala-Archa**	**11.06**	**270**	*e*	P	**P**	**14 42 30.9**	**-4.5**
	comp=Z,1.3nm,0.5s							
ZAK	**Zakamensk**	**11.56**	**49**	*e*	P	**P**	**14 42 42.6**	**+0.5**
ZAK				*e*			14 44 55.5	
ZAK					pmax	pmax		
	comp=Z,6.0nm,1.3s							
ZAK					smax			
	comp=N,84nm,1.5s							
SONM	**Songino Array**	**12.50**	**64**		P	**P**	**14 42 56.8**	**+2.0**
	comp=N,0.2nm,0.3s,baz=249,slow=15,SNR=7.5							
SONM					Lg		14 46 35.1	
	comp=N,0.9nm,0.3s,baz=257,slow=27,SNR=8.6							
LZH	**Lanzhou**	**13.28**	**120**		*e*P	**P**	**14 43 05.5**	**+0.3**
LZH					AP		14 43 07.5	
LZH					XP		14 43 09.8	
LZH					S	**S**	**14 45 34.0**	**+0.8**
LZH					XS		14 45 37.8	
LZH					SS	SS	14 45 50.0	+1.2
LZH					AMB	AMB		
	comp=Z,16nm,1.0s							
LZH					AMB	AMB		
	comp=Z,92nm,4.0s							
LZH					LR	LR		
	comp=N,360nm,7.0s							
LZH					LR	LR		
	comp=Z,434nm,7.8s							
BVA0	**Borovoye Array**	**15.82**	**313**	⇑	P	**P**	**14 43 37.9**	**-0.3**
	comp=Z,2.2nm,1.0s,baz=229,slow=40,SNR=50							
BVA0				⇑	S	**S**	**14 46 30.4**	**-2.6**
	comp=Z,1.1nm,0.8s,baz=112,slow=24,SNR=5.5							
BVA0	**Borovoye Array**	**15.82**	**313**		P	**P**	**14 43 37.2**	**-1.0**
BVA0				*e*			14 46 25.8	
BVAR	**Borovoye Array**	**15.82**	**313**		P	**P**	**14 43 37.1**	**-1.1**
	comp=Z,0.8nm,0.3s,baz=120,slow=12,SNR=19							
BVAR					S	**S**	**14 46 25.6**	**-7.4**
	comp=Z,0.9nm,0.3s,baz=108,slow=23,SNR=4.2							
BRVK	**Borovoye**	**15.89**	**313**		P	**P**	**14 43 37.9**	**-1.2**
BRVK							14 46 27.7	
BRVK					pmax	pmax		
	comp=Z,7.0nm,0.9s							
BRVK	**Borovoye**	**15.89**	**313**	*e*	P	**P**	**14 43 36.8**	**-2.3**
	comp=Z,28nm,1.0s							
GUN	**Gumba**	**15.93**	**192**	*e*	P	**P**	**14 43 40.7**	**+0.9**
	comp=Z,41nm,0.6s							
GKN	**Gorkha**	**16.06**	**196**	*e*	P	**P**	**14 43 42.5**	**+1.1**
	comp=Z,14nm,0.3s							
DDI	**Dehra Dun**	**16.10**	**218**	*e*		**P**	**14 43 48.5**	**+6.5**
KKN	**Kakani**	**16.15**	**194**	*e*	P	**P**	**14 43 43.1**	**+0.6**
	comp=Z,22nm,0.6s							
PKI	**Pulchoki**	**16.34**	**193**	*e*	P	**P**	**14 43 45.1**	**+0.1**
	comp=Z,15nm,0.8s							
DMN	**Daman**	**16.35**	**194**	*e*	P	**P**	**14 43 45.0**	**-0.2**
	comp=Z,8.7nm,0.5s							
KOLN	**Koldanda**	**16.51**	**199**	*e*	P	**P**	**14 43 48.8**	**+1.7**
SHL	**Shillong**	**18.09**	**173**	*e*	P	**P**	**14 44 03.0**	**-3.9**
KMI	**Kunming**	**21.35**	**145**	*e*	P	**P**	**14 44 41.5**	**-1.7**
KMI					AP		14 44 47.3	
KMI					S	**S**	**14 48 34.3**	**0.0**
KMI					SS	SS	14 49 07.3	-1.8
KMI					AMB	AMB		
	comp=Z,130nm,3.9s							
KMI					LR	LR		
	comp=N,229nm,10.1s							
KMI					LR	LR		
	comp=E,128nm,6.5s							
SVE	**Sverdlovsk**	**22.55**	**316**	⇑	*e*P	**P**	**14 44 55.0**	**+0.2**
SVE					pmax	pmax		
	comp=Z,40nm,2.1s,mb4.5							
ARU	**Arti**	**23.46**	**314**	⇑	*i*P	**P**	**14 45 06.2**	**+2.4**
ARU					*e*		14 45 33.8	
ARU					*e*S	**S**	**14 49 18.4**	**+6.1**
ARU					*e*SS	SS	14 50 00.0	-0.1
ARU					pmax	pmax		
	comp=Z,40nm,1.2s,mb4.7							
NJ2	**Nanjing**	**25.72**	**107**		*e*P	**P**	**14 45 25.8**	**+0.1**
NJ2					AP	pP	14 45 29.5	-2.5
NJ2					XP	sP	14 45 32.5	-2.3
NJ2					PP	PP	14 46 06.0	+0.1
NJ2					PPP	PPP	14 46 16.5	-1.1
NJ2					S	**S**	**14 49 52.0**	**+1.2**
NJ2					XS		14 50 02.0	
NJ2					AMB	AMB		
	comp=Z,20nm,0.7s,mb4.8							
NJ2					LR	LR		
	comp=N,1µm,14.4s,MS4.8							
NJ2					LR	LR		
	comp=E,2µm,13.5s,MS4.8							
NJ2					LR	LR		
	comp=Z,2µm,15.4s,MS4.7							
CN2	**Changchun**	**25.82**	**77**		*e*P	**P**	**14 45 26.0**	**-0.6**
CMAR	**Chiang Mai Arr**	**26.28**	**160**		P	**P**	**14 45 30.4**	**-0.6**
	comp=Z,1.3nm,0.7s,mb3.6,baz=339,slow=7.7,SNR=12							
CMAR	**Chiang Mai Arr**	**26.28**	**160**		P	**P**	**14 45 30.4**	**-0.6**
CMAR					pmax	pmax		
	comp=Z,1.0nm,0.7s							
SSE	**Sheshan**	**27.89**	**106**		*e*P	**P**	**14 45 43.5**	**-2.1**
SSE					AMB	AMB		
	comp=Z,27nm,0.7s,mb5.0							
SSE					AMB	AMB		
	comp=Z,114nm,4.6s							
SSE					LR	LR		
	comp=Z,57nm,13.5s,MS3.3							
MDJ	**Mudanjiang**	**28.57**	**74**		P	**P**	**14 45 49.3**	**-2.2**
MDJ					S	**S**	**14 50 38.8**	**+1.8**
MDJ					AMB	AMB		
	comp=Z,8.0nm,1.5s,mb4.2							
MDJ					AMB	AMB		
	comp=Z,131nm,5.1s							
MDJ					LR	LR		
	comp=Z,101nm,19.2s,MS3.4							
YAK	**Yakutsk**	**29.79**	**38**		*e*P	**P**	**14 46 01.3**	**-1.0**
	comp=Z,8.2nm,0.5s,mb4.7							
QIZ	**Qiongzhong**	**29.84**	**139**		*e*P	**P**	**14 46 00.0**	**-3.3**
QIZ					S	**S**	**14 50 58.8**	**+1.2**
TIXI	**Tiksi**	**33.92**	**21**		*i* P	**P**	**14 46 40.4**	**+2.0**
TIXI					pmax	pmax		
	comp=Z,8.0nm,2.5s,mb4.2							
OBN	**Obninsk**	**35.55**	**308**		*e*P	**P**	**14 46 52.8**	**+0.3**
OBN					pmax	pmax		
	comp=Z,17nm,1.1s,mb4.9							
OBN					MLR	MLR		
	comp=Z,100nm,15.0s,MS3.7							
SOC	**Sochi**	**35.66**	**288**		*e*P	**P**	**14 46 50.6**	**-3.0**
SOC					*e*S	**S**	**14 52 21.8**	**-6.3**
SOC					pmax	pmax		
	comp=N,3.0nm,0.4s							
SOC					pmax	pmax		
	comp=E,2.0nm,0.4s							
SOC					pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.6							
SOC					MLR	MLR		
	comp=N,76nm,22.0s,MS3.5							
SOC					MLR	MLR		
	comp=Z,71nm,22.0s,MS3.4							
SOC					MLR	MLR		
	comp=E,49nm,24.0s,MS3.5							
AKASG	**Malin Array Be**	**40.63**	**302**		P	**P**	**14 47 35.7**	**+0.6**
	comp=E,2.0nm,0.5s,mb4.0,baz=62,slow=8.5,SNR=8.1							
AKASG	**Malin Array Be**	**40.63**	**302**		P	**P**	**14 47 35.7**	**+0.7**
AKASG					pmax	pmax		
	comp=Z,2.0nm,0.5s							
FINES	**FINESS Array B**	**40.67**	**319**		P	**P**	**14 47 36.4**	**+1.1**
	comp=Z,1.9nm,0.7s,mb3.8,baz=90,slow=7.6,SNR=5.5							
FINES					LR	LR	15 05 26.0	
	comp=Z,50nm,20.9s,MS3.4,baz=45,slow=37							
FINES	**FINESS Array B**	**40.67**	**319**	*i*	P	**P**	**14 47 38.7**	**+3.4**
FINES					pmax	pmax		
	comp=Z,2.0nm,0.7s							
ARCES	**ARCESS Array B**	**40.97**	**331**		P	**P**	**14 47 39.2**	**+1.5**
	comp=Z,3.2nm,0.7s,mb4.1,baz=90,slow=6.1,SNR=6.3							
ARCES					PcP	PcP	14 49 37.3	-1.1
	comp=Z,2.1nm,0.4s,baz=90,slow=3.1,SNR=20							
ARCES					LR	LR	15 06 56.4	
	comp=Z,96nm,18.6s,MS3.7,baz=24,slow=39							
ARCES	**ARCESS Array B**	**40.97**	**331**		P	**P**	**14 47 39.2**	**+1.5**
ARCES							14 49 37.3	
ARCES					pmax	pmax		
	comp=Z,3.0nm,0.7s							
ARCES					pmax	pmax		
	comp=Z,2.0nm,0.4s							
ARCES					MLR	MLR		
	comp=Z,96nm,18.6s							
KWP	**Kalwaria**	**44.95**	**302**		*e*P	**P**	**14 48 11.7**	**+1.5**
KWP	**Kalwaria**	**44.95**	**302**		*e*P	**P**	**14 48 11.7**	**+1.5**
NIE	**Niedzica**	**46.49**	**303**		*e*P	**P**	**14 48 24.3**	**+1.9**
OJC	**Ojcow**	**46.52**	**304**		*e*P	**P**	**14 48 23.5**	**+0.9**
OJC	**Ojcow**	**46.52**	**304**		*e*P	**P**	**14 48 23.5**	**+0.9**
NB2	**NORSAR Subarra**	**47.80**	**320**		P	**P**	**14 48 32.8**	**+0.2**
	comp=Z,4.6nm,0.6s,mb4.7,baz=72,slow=7.9							
NOA	**NORSAR Array B**	**47.80**	**320**		P	**P**	**14 48 33.1**	**+0.6**
	comp=Z

FLN	La Foliniere	59.01	309	*e*P		P		14 49 55.3	-0.2
FLN				*e*R					
	comp=Z,82nm,20.2s								
GRR	Gorron	59.42	309	*e*P		P		14 49 58.2	-0.2
	comp=Z,11nm,0.6s,mb4.7								
RJF	Les Rejaudoux	59.71	305	*e*P		P		14 50 00.2	-0.2
RJF				*e*R					
	comp=Z,65nm,18.8s								
LFF	La Frestale	60.37	305	*e*P		P		14 50 05.4	+0.5
	comp=Z,9.3nm,0.4s,mb4.9								
SGMF	Saint Gilles	60.45	310	*e*P		P		14 50 05.9	+0.5
ROSF	Rostrenen	60.80	310	*e*P		P		14 50 07.0	-0.8
	comp=Z,9.9nm,0.6s,mb4.8								
QUIF	Quistinic	60.98	310	*e*P		P		14 50 08.9	-0.1
	comp=Z,12nm,0.5s,mb5.0								
EPF	Esparros	61.68	304	*e*P		P		14 50 13.3	-0.5
	comp=Z,8.2nm,0.5s,mb4.8								
ILAR	Eielson Array	63.34	24	P		P		14 50 24.3	-0.2
	comp=Z,2.7nm,0.7s,mb4.5,baz=313,slow=5.5,SNR=36								
ILAR	Eielson Array	63.34	24	P		P		14 50 24.3	-0.2
ILAR				pmax		pmax			
	comp=Z,3.0nm,0.7s								
INK	Inuvik	63.86	16	*e*P		P		14 50 28.1	+0.3
	comp=Z,5.7nm,0.9s,mb4.6								
THY	Trims Highway	64.68	24	*e*P		P		14 50 33.1	-0.1
ESDC	Sonseca Array	66.27	303	P		P		14 50 43.8	+0.1
	comp=Z,2.3nm,0.8s,mb4.3,baz=50,slow=6.9,SNR=5.0								
YKA	Yellowknife Ar	72.50	11	P		P		14 51 21.9	+0.2
	comp=Z,2.7nm,0.8s,mb4.2,baz=334,slow=5.8,SNR=4.4								
YKA				LR		LR		15 26 39.0	
	comp=Z,35nm,20.6s,MS3.6,baz=350,slow=38								
YKA	Yellowknife Ar	72.50	11	P		P		14 51 21.9	+0.2
YKA				pmax		pmax			
	comp=Z,3.0nm,0.8s								
YKA				MLR		MLR			
	comp=Z,35nm,20.6s								
WRAB	Tennant Creek	75.39	137	*e*P		P		14 51 37.4	-1.8
	comp=Z,13nm,0.9s,mb4.9								
WRAB				*e*		pP		14 51 45.1	-0.9
WRA	Warramunga Arr	75.39	137	P		P		14 51 37.6	-1.6
	comp=Z,1.6nm,0.5s,mb4.2,baz=339,slow=6.2,SNR=15								
WRA	Warramunga Arr	75.39	137	P		P		14 51 37.6	-1.6
WRA				pmax		pmax			
	comp=Z,2.0nm,0.5s								
WB2	Warramunga Arr	75.40	137	⇑*i*P		P		14 51 37.5	-1.7
ASPA	Alice Springs	78.34	139	*e*P		P		14 51 54.2	-1.3
ASAR	Alice Springs	78.34	139	P		P		14 51 54.2	-1.3
	comp=Z,2.0nm,0.5s,mb4.3,baz=324,slow=5.0,SNR=74								
DBIC	Dimbokro	88.64	278	P		P		14 52 48.7	+0.3
	comp=Z,1.9nm,0.8s,mb4.5,baz=330,slow=4.4,SNR=3.2								
DBIC	Dimbokro	88.64	278	P		P		14 52 48.7	+0.4
DBIC				pmax		pmax			
	comp=Z,2.0nm,0.8s								
DBIC	Dimbokro	88.64	278	P		P		14 52 48.7	+0.3
PDAR	Pinedale Array	92.33	14	P		P		14 53 06.0	+1.1
	comp=Z,0.9nm,0.8s,mb4.2,baz=24,slow=3.7,SNR=5.0								
LPAZ	La Paz	146.83	318	PKPbc		PKPbc		14 59 37.2	+1.5
	comp=Z,1.1nm,0.8s,baz=356,slow=4.2,SNR=5.2								
LPAZ	La Paz	146.83	318	PKP2		PKPab		14 59 37.3	-2.1
LPAZ				pmax		pmax			
	comp=Z,1.0nm,0.8s								

*JMA **26** 15:17:00.3±0.2,38.03N±0.06×142.96E±0.2,h17km±3km,M3.6*
ISC 26 15:17:01.1±1.9,38.03N±0.06×142.9E±0.2,h11km±21km, n12,σ0§57/19,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	Ouri	1.28	290	P	Pb	15 17 24.2	-0.5
JIO				S	Sb	15 17 41.3	+0.3
OFUJ	Ofunato	1.42	318	P	Pn	15 17 26.1	-0.8
OFUJ				*e*S	Sb	15 17 44.9	0.0
JMK	Ichinoseki	1.60	306	P	Pn	15 17 29.0	-0.5
JMK				*e*S	Sn	15 17 50.1	-0.1
JMM	Marumori	1.66	265	P	Pn	15 17 29.6	-0.8
JMM				*e*S	Sn	15 17 51.8	0.0
JFK	Kawauchi	1.73	248	P	Pn	15 17 30.4	-0.9
JOU	Okura	1.78	281	P	Pn	15 17 32.3	+0.2
JOM	Ohasama	1.90	320	P	Pn	15 17 34.2	+0.4
JOM				S	Sn	15 17 58.0	+0.1
JFT	Otama	2.08	257	P	Pn	15 17 36.7	+0.3
JFT				*e*S	Sn	15 18 02.5	0.0
JYK	Kaneyama	2.17	295	P	Pn	15 17 37.9	+0.2
JYS	Shirataka	2.23	276	P	Pn	15 17 39.6	+1.1
JANG	Nango	2.57	336	P	Pn	15 17 43.7	+0.3
MAT	Matsushiro	4.01	250	P	Pn	15 18 04.9	+1.0
MAT				*e*S	Sn	15 18 47.4	-4.1

*BJI **26** 15:34:06.2,19.70S×176.40W,h205km,mB5.1,mb4.7*
*NEIC **26** 15:34:07.2±1.2,19.73S×176.37W,h205km±11km, mb4.7/15,Error ellipse: s-maj=9.4km s-min=6.1km az=136.0*
*SYO **26** 15:34:07.4,19.71S×176.39W,h208km,MB4.7*
*IDC **26** 15:34:15.0±1.9,19.93S×176.37W,h277km±18km, mb4.0/15,mb1 4.2/18,mb1mx4.2/20,Error ellipse: s-maj=13.5km s-min=8.7km az=131.0*
ISC 26 15:34:05.4±1.3,19.79S±0.05×176.39W±0.07, h201km±12km,n157,σ0§90/75,mb4.4/33,14C-13D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.32	38	*e*P	P	15 35 51.0	+0.4
	49nm,0.3s						
AFI				*e*S	S	15 37 06.0	-6.7
BKM	Butte a Klehm	14.71	276	⇑*i*P	P	15 37 33.6	+8.4
RAR	Rarotonga	15.63	98	P	P	15 37 36.1	-0.4
	1.8nm,0.3s,baz=225,slow=10.0,SNR=2.8						
NOUC	Port Laguerre	16.34	259	*e*P	P	15 37 49.9	+4.8
MXZ	Matakaoa Point	18.31	194	P	P	15 38 06.9	+0.2
PUZ	Puketiti	18.81	193	P	P	15 38 11.8	-0.1
MWZ	Matawai	19.23	195	P	P	15 38 16.5	+0.3
URZ	Urewera	19.26	196	P	P	15 38 16.5	0.0
	5.0nm,0.3s,baz=276,slow=3.3,SNR=17						
URZ				S	S	15 41 39.6	+0.7
	1.8nm,0.3s,baz=255,slow=24,SNR=8.7						
URZ	Urewera	19.26	196	P	P	15 38 15.1	-1.4
BKZ	Black Stump Fm	20.27	196	P	P	15 38 24.9	-1.9
MRZ	Mangatainoka R	21.91	197	P	P	15 38 41.5	-1.4
QRZ	Quartz Range	23.01	202	P	P	15 38 54.6	+1.0
KHZ	Kahutara	24.12	198	P	P	15 39 03.6	-0.4
RPZ	Rata Peaks	26.08	201	P	P	15 39 22.6	+0.4
	5.6nm,0.4s,mb4.5,baz=286,slow=2.1,SNR=13						
CTA	Charters Tower	35.08	263	⇓*i*P	P	15 40 42.7	+1.4
	22nm,0.3s,mb5.2						
CTA	Charters Tower	35.08	263	P	P	15 40 42.8	+1.5
	71nm,0.9s,mb5.2,baz=91,slow=11,SNR=151						
CTAO	Charters Tower	35.08	263	⇓*i*P	P	15 40 42.7	+1.4
	30nm,0.5s,mb5.1						
CTAO				*e*		15 41 31.1	
PMG	Port Moresby	36.68	281	P	P	15 40 56.7	+1.9
	36nm,0.9s,mb4.9,baz=87,slow=8.6,SNR=7.9						
PMG	Port Moresby	36.68	281	⇓*e*P	P	15 40 56.1	+1.3
	34nm,0.9s,mb4.9						
STKA	Stephens Creek	39.46	244	⇓*i*P	P	15 41 18.4	+0.6
	2.3nm,0.4s,mb4.1						
STKA	Stephens Creek	39.46	244	P	P	15 41 18.7	+0.9
	2.2nm,0.3s,mb4.1,baz=62,slow=6.5,SNR=12						
ASAR	Alice Springs	46.16	256	P	P	15 42 12.4	+0.6
	26nm,0.9s,mb4.6,baz=96,slow=8.2,SNR=282						
ASAR				PcP	PcP	15 43 43.2	-1.5
	2.2nm,0.5s,baz=114,slow=3.7,SNR=5.7						
ASAR				ScP		15 47 15.2	
	1.9nm,1.1s,baz=85,slow=4.4,SNR=5.3						
ASAR				S	S	15 48 37.8	-3.8
	1.2nm,0.6s,baz=92,slow=15,SNR=18						
ASPA	Alice Springs	46.16	256	⇓*i*P	P	15 42 11.8	0.0
ASPA				*e*S	S	15 48 37.4	-4.2
WB2	Warramunga Arr	46.20	261	⇓*i*P	P	15 42 11.7	-0.4
WB2				*e*S	S	15 48 35.8	-6.2
WRAB	Tennant Creek	46.20	261	P	P	15 42 11.0	-1.1
	130nm,0.5s,mb5.5,SNR=37						
WRAB	Tennant Creek	46.20	261	⇓*e*P	P	15 42 11.6	-0.6
	14nm,0.6s,mb4.5						
WRA	Warramunga Arr	46.21	261	P	P	15 42 12.2	0.0
	11nm,0.4s,mb4.5,baz=96,slow=5.3,SNR=264						
WRA				S	S	15 48 37.3	-4.9
	0.4nm,0.8s,baz=99,slow=15,SNR=3.7						
KAKA	Kakadu	49.52	270	⇓*i*P	P	15 42 42.0	+4.2
	19nm,0.4s,mb4.8						
FITZ	Fitzroy Crossi	54.63	261	*e*P	P	15 43 15.3	-0.3
	5.8nm,0.4s,mb4.5						

SBA	Scott Base	58.69	184	*e*P		P		15 43 44.4	+0.9
	5.1nm,0.6s,mb4.3								
VNDA	Vanda	58.76	185	P		P		15 43 43.8	-0.2
	3.6nm,1.0s,mb4.0,baz=5.8,slow=6.9,SNR=15								
MBWA	Marble Bar	59.49	257	*e*P		P		15 43 48.2	-1.6
	11nm,0.5s,mb4.7								
CASY	Casey	65.25	205	⇓*i*P		P		15 44 26.4	-0.7
MAT	Matsushiro	70.55	323	P		P		15 44 59.4	-1.1
MAT	Matsushiro	70.55	323	*e*P		P		15 44 59.0	-1.5
CMB	Columbia Colle	77.91	42	*e*P		P		15 45 42.3	-0.3
	6.0nm,0.9s,mb4.2								
YBH	Yreka Blue Hor	78.79	38	P		P		15 45 48.1	+0.7
	6.3nm,0.9s,mb4.2,baz=179,slow=2.8,SNR=6.1								
NVAR	Mina Array Bea	79.47	43	P		P		15 45 51.5	+0.4
	4.7nm,0.7s,mb4.2,baz=213,slow=7.7,SNR=22								
NVAR	Mina Array Bea	79.47	43	P		P		15 45 51.5	+0.4
TPNV	Topopah Spring	79.96	45	*e*P		P		15 45 53.8	+0.1
	5.2nm,0.7s,mb4.3								
MDJ	Mudanjiang	80.82	324	P		P		15 45 57.8	-0.3
MDJ				AMB		AMB			
	comp=Z,15nm,1.0s,mb4.6								
MDJ				AMB		AMB			
	comp=Z,99nm,3.4s								
TUC	Tucson	81.35	51	P		P		15 46 01.8	+0.7
	comp=Z,4.2nm,0.9s,mb4.1								
CN2	Changchun	82.67	322	*e*P		P		15 46 08.5	+0.8
CN2				AMB		AMB			
	comp=Z,10.0nm,1.0s,mb4.5								
MAW	Mawson	82.74	199	⇓*i*P		P		15 46 07.3	-0.2
	comp=Z,2.0nm,0.6s,mb4.0								
MAW	Mawson	82.74	199	P		P		15 46 07.5	0.0
	comp=Z,2.3nm,0.6s,mb4.1,baz=122,slow=8.2,SNR=12								
MSU	Marysvale	83.52	45	P		P		15 46 13.2	+1.1
TMUT	Trail Mountain	84.58	45	*e*P		P		15 46 18.7	+1.3
DPW	Davenport	85.10	35	*e*P		P		15 46 19.8	+0.1
TXAR	Lajitas Array	85.39	57	P		P		15 46 22.6	+0.9
	comp=Z,1.2nm,0.7s,mb3.7,baz=211,slow=7.3,SNR=7.5								
PV01	Paradox Valley	85.78	47	P		P		15 46 23.6	+0.2
MCK	McKinley	85.96	12	*e*P		P		15 46 23.0	-0.6
	comp=Z,7.5nm,0.9s,mb4.4								
ENH	Enshi	86.90	304	*e*P		P		15 46 29.3	+0.4
	comp=Z,49nm,1.4s,mb5.0								
COLA	College	87.19	12	*e*P		P		15 46 27.7	-1.8
	comp=Z,11nm,0.9s,mb4.6								
ILAR	Eielson Array	87.29	12	P		P		15 46 29.5	-0.5
	comp=Z,3.4nm,0.8s,mb4.1,baz=225,slow=5.1,SNR=41								
CHMT	Chamberlain Mo	87.32	38	*e*P		P		15 46 30.4	-0.1
PDAR	Pinedale Array	87.41	43	P		P		15 46 30.9	-0.2
	comp=Z,0.8nm,0.8s,mb3.5,baz=225,slow=2.1,SNR=7.3								
SYO	Syowa Base	87.75	192	⇑P		P		15 46 30.6	-1.4
SYO	Syowa Base	87.75	192	⇑pP		pP		15 47 23.9	+2.3
SNAA	Sanae	88.67	178	⇑*i*		P		15 46 34.9	-1.4
VNA3	Neumayer Olymp	88.75	176	⇓*i*		P		15 46 38.0	+1.3
VNA2	Neumayer--Watz	89.20	176	⇑*i*		P		15 46 40.3	+1.5
VNA1	Neumayer--Stat	89.42	176	⇑*i*		P		15 46 41.3	+1.4
KMI	Kunming	90.38	296	*e*P		P		15 46 46.0	+0.6
KMI				AMB		AMB			
	comp=Z,10.0nm,1.0s,mb4.6								
CMAR	Chiang Mai Arr	91.31	289	P		P		15 46 51.0	+1.2
	comp=Z,6.1nm,0.9s,mb4.5,baz=122,slow=3.0,SNR=34								
YAK	Yakutsk	92.03	338	*e*P		P		15 46 51.2	-1.0
	comp=Z,11nm,0.7s,mb4.9								
INK	Inuvik	93.20	15	*e*P		P		15 46 56.7	-0.7
	comp=Z,7.1nm,1.0s,mb4.7								
YKA	Yellowknife Ar	95.24	24	P		P		15 47 05.3	-1.5
	comp=Z,1.2nm,0.7s,mb4.1,baz=230,slow=5.5,SNR=4.4								
YKA	Yellowknife Ar	95.24	24	P		P		15 47 05.3	-1.5
SONM	Songino Array	96.22	319	P		P		15 47 11.5	-0.1
	comp=Z,0.5nm,0.6s,mb3.9,baz=139,slow=4.0,SNR=3.9								
CCM	Cathedral Cave	98.25	53	*e*P		P		15 47 20.4	-0.7
	comp=Z,9.5nm,0.8s,mb5.2								
ARCES	ARCES Array B	128.49	350	PKP	PKPdf			15 52 48.0	+0.2
	comp=Z,1.7nm,0.5s,baz=0.7,slow=1.9,SNR=18								
FINES	FINESS Array B	135.50	345	PKP	PKPdf			15 53 03.8	+2.7
	comp=Z,1.1nm,0.4s,baz=90,slow=2.8,SNR=9.4								
NB2	NORSAR Subarra	138.44	354	PKP				15 53 08.7	
	comp=Z,1.0nm,0.6s,baz=12,slow=2.3								
NOA	NORSAR Array B	138.44	354	PKP	PKPdf			15 53 08.7	+2.1
	comp=Z,1.3nm,0.7s,baz=14,slow=4.0,SNR=4.4								
AKASG	Malin Array Be	143.10	333	PKhKP				15 53 12.1	
	comp=Z,4.6nm,0.4s,baz=39,slow=3.9,SNR=52								
AFFS	'Afif	143.29	284	D		PKPbc		15 53 14.8	+0.2
ELZG	Elazig	144.21	309	*i* P		PKPbc		15 53 18.3	+1.3
HILS	Ha'il	144.31	290	D		PKPbc		15 53 18.3	+0.8
BLJS	Baljurashi	144.32	277	D		PKPbc		15 53 19.1	+1.3
MALT	Malatya	144.68	309	*e*PKP		PKPdf		15 53 19.1	+1.0
GKP	Gorka Klasztor	144.96	346	*e*PKP		PKPdf		15 53 18.7	+0.6
LTHS	Al Lith	145.47	277	P		PKPdf		15 53 22.3	+2.3
GZT	Gaziantep	145.67	308	*i* P		PKPdf		15 53 21.7	+1.9
KWP	Kalwaria	146.54	337	*e*PKP		PKPdf		15 53 23.8	+2.9
KWP	Kalwaria	146.54	337	*e*PKP		PKPdf		15 53 23.8	+2.9
MBAR	Mbarara	146.57	236	*e*PKPbc		PKPbc		15 53 24.6	+0.8
KBRS	Khaybar	146.67	287	P		PKPdf		15 53 25.2	+3.3
BALT	Daday	146.72	317	*i* P		PKPdf		15 53 23.0	+1.6
COBT	Iskenderun	146.95	307	*i* P		PKPdf		15 53 25.4	+3.3
ELDT	Eldivan	147.22	316	*i* P		PKPdf		15 53 26.3	+4.0
KOLS	Kolonicke sedl	147.28	337	*e*PKP		PKPdf		15 53 26.5	+4.3
KSP	Ksiaz	147.43	345	*e*PKP		PKPdf		15 53 26.7	+4.4
BRTR	Keskin Array B	147.46	314	PKPbc		PKPdf		15 53 26.4	+3.7
	comp=Z,5.7nm,0.6s,baz=135,slow=3.5,SNR=32								
CFR	Carcaliu	147.55	327	⇑*i*P		PKPdf		15 53 26.8	+4.1
NIE	Niedzica	147.55	340	*e*PKP		PKPdf		15 53 27.2	+4.6
VRI	Vrincioaia	147.77	329	⇑*i*P		PKPdf		15 53 27.5	+4.4
ASF	Jabal al Asfar	147.77	299	PKPbc		PKPdf		15 53 28.1	+4.6
	comp=Z,7.2nm,0.9s,baz=356,slow=3.6,SNR=6.5								
UPC	Upice	147.80	345	*e*PKPbc		PKPdf		15 53 27.6	+4.6
OKC	Ostrava-Krasne	147.85	342	*e*PKPab		PKPab		15 53 31.4	-0.2
DPC	Dobruska-Polom	147.87	345	*e*PKPbc		PKPdf		15 53 27.9	+4.8
DPC				*e*PKPab		PKPab		15 53 31.7	0.0
SGKT	Sivrigoynuk	148.08	317	*i* P		PKPdf		15 53 28.1	+4.3
PVCC	Panska Ves	148.12	347	*e*PKPbc		PKPdf		15 53 28.3	+4.8
KECS	Kecovo	148.30	338	*i* PKP		PKPdf		15 53 33.4	+10
MLR	Muntele Rosu	148.42	329	PKPbc		PKPdf		15 53 28.8	+4.7
	comp=Z,13nm,0.7s,baz=329,slow=7.2,SNR=28								
UMJS	Umm Lajj	148.46	286	P		PKPdf		15 53 29.9	+5.1
PRU	Pruhonice	148.63	346	*e*PKPbc		PKPdf		15 53 29.6	+5.3
	comp=Z,11nm,1.0s								
PRU				*e*PKPab		PKPab		15 53 34.0	-0.8
HENT	Hendek	148.68	318	*i* P		PKPdf		15 53 29.4	+4.7
NKC	Novy Kostel	148.82	349	*e*PKPbc		PKPdf		15 53 30.1	+5.5
NKC				*e*PKPab		PKPab		15 53 34.3	-1.2
VYHS	Vyhne	148.84	340	*i* PKP		PKPdf		15 53 30.8	+6.1
VYHS				*i*				15 53 35.6	
TBKS	Tabuk	148.84	292	P		PKPdf		15 53 30.8	+5.5
KOLL	Kolacno	148.90	341	*i* PKP		PKPdf		15 53 31.0	+6.2
KOLL				*i*				15 53 36.2	
PSZ	Piszkesteto	148.99	339	||*e*PKP/p		PKPdf		15 53 30.6	+5.7
SMOL	Smolenice	149.25	342	*i* PKP		PKPdf		15 53 32.1	+6.8
SMOL				*i*				15 53 38.1	
JMQS	Jabal Moqyreh	149.32	293	P		PKPdf		15 53 32.0	+5.9
ESKT	Eskisehir	149.42	316	*i* P		PKPdf		15 53 31.3	+5.3
ZST	Bratislava	149.63	342	*i* PKP		PKPdf		15 53 33.1	+7.1
ZST				*i*				15 53 39.1	
KHC	Kasperske Hory	149.65	347	*e*PKPbc		PKPdf		15 53 32.2	+6.2
KHC				*e*PKPab		PKPab		15 53 38.4	-0.6
GIVF	Givet	149.74	358	*e*PKP1		PKPdf		15 53 32.0	+5.9
	comp=Z,17nm,0.6s								
BAIF	Baives	149.79	359	*e*PKP1		PKPdf		15 53 32.2	+6.0
GERES	GERESS Array B	149.89	347	PKP		PKPdf		15 53 26.2	-0.2
	comp=Z,0.3nm,0.3s,baz=66,slow=9.7,SNR=4.0								
GERES				PKPbc		PKPdf		15 53 32.8	+6.4
	comp=Z,4.7nm,0.6s,baz=225,slow=3.8,SNR=6.6								
JMOS	Jabal al Moall	149.93	294	P		PKPdf		15 53 33.3	+6.2
ALWS	Ilw as Safayha	149.94	295	P		PKPdf		15 53 33.4	+6.4
AYUS	'Aynunah	149.96	292	P		PKPdf		15 53 33.3	+6.2
EIL	Elat	149.97	295	*e*PKPbc		PKPdf		15 53 33.5	+6.4
BDAS	Al Bad'	150.07	293	P		PKPdf		15 53 33.6	+6.3
HAQS	Haql	150.11	294	P		PKPdf		15 53 33.4	+6.1
WLF	Walferdange	150.12	357	*e*PKPbc		PKPdf		15 53 33.9	+7.2
ULDT	Uludag	150.17	318	*i* P		PKPdf		15 53 33.5	+6.5
FLN	La Foliniere	150.90	6	*e*PKP1		PKPdf		15 53 34.3	+6.4
	comp=Z,23nm,0.6s								
ARSA	Arzberg	150.93	343	⇓*i*P		PKPdf		15 53 35.5	+7.5
ROSF	Rostrenen	150.98	9	*e*PKP1		PKPdf		15 53 34.2	+6.2
	comp=Z,23nm,1.0s								
BTOK	Tokmak	151.08	319	*i* P		PKPdf		15 53 35.2	+6.7
LDF	La Druitiere	151.10	5	*e*PKP1		PKPdf		15 53 34.6	+6.4
	comp=Z,14nm,0.5s								
SGMF	Saint Gilles	151.16	9	*e*PKP1		PKPdf		15 53 34.7	+6.4
	comp=Z,43nm,0.9s								
GRR	Gorron	151.24	6	*e*PKP1		PKPdf		15 53 35.2	+6.8
	comp=Z,30nm,0.6s								
CDF	Champ du Feu	151.29	355	*e*PKP1		PKPdf		15 53 35.6	+7.1
	comp=Z,27nm,0.8s								
MEZF	Maizieres J'vi	151.33	358	*e*PKP1		PKPdf		15 53 35.8	+7.3
	comp=Z,14nm,0.6s								
QUIF	Quistinic	151.40	10	*e*PKP1		PKPdf		15 53 36.0	+7.3
MANT	Manisa	151.48	316	*i* P		PKPdf		15 53 36.4	+7.3
DNZL	Cakiroluk	151.59	314	*i* P		PKPdf		15 53 37.2	+8.0
HAU	Haudompre	151.76	356	*e*PKP1		PKPdf		15 53 36.5	+7.3
	comp=Z,26nm,0.6s								
WATA	Walderalm	151.76	349	⇑*i*P		PKPdf		15 53 37.0	+7.8
WTTA	Wattenberg	151.82	348	⇑*i*P		PKPdf		15 53 37.3	+8.0
MOTA	Moosalm	151.84	349	⇑*i*P		PKPdf		15 53 36.5	+7.2
HINF	Hinteralfeld	151.91	355	*e*PKP1		PKPdf		15 53 36.8	+7.4
	comp=Z,17nm,0.6s								
SQTA	Sankt Quirin	151.94	349	⇑*i*P		PKPdf		15 53 37.5	+8.0
GRUS	Gruza	152.03	333	⇑*i*P		PKPdf		15 53 37.4	+7.7
DAVA	Damuels	152.10	351	⇑*i*P		PKPdf		15 53 38.4	+8.7
LOR	Lormes	152.59	360	*e*PKP1		PKPdf		15 53 38.5	+8.1
	comp=Z,21nm,0.8s								
SSF	Saint Saulge	152.79	0	*e*PKP1		PKPdf		15 53 39.0	+8.3
	comp=Z,16nm,0.8s								
MFF	Saint Martin d	153.08	6	*e*PKP1		PKPdf		15 53 39.2	+8.1
	comp=Z,14nm,0.7s								
CABF	La Chapelle	153.17	356	*e*PKP1		PKPdf		15 53 40.3	+9.1
	comp=Z,28nm,1.0s								
BGF	Bois d'Agland	153.29	1	*e*PKP1		PKPdf		15 53 39.9	+8.5
	comp=Z,9.7nm,0.6s								
TCF	Toulx Ste Croi	153.54	2	*e*PKP1		PKPdf		15 53 40.4	+8.7
	comp=Z,13nm,0.8s								
LPL	La Plagne	154.21	355	*e*PKP1		PKPdf		15 53 42.9	+10
LPG	La Plagne	154.23	355	*e*PKP1		PKPdf		15 53 43.6	+11
MBDF	Montbardon	154.99	355	*e*PKP1		PKPdf		15 53 44.6	+11
	comp=Z,11nm,0.8s								

*NIED **26** 15:56:00,37.30N×138.90E,h11km,Mw4.0 Best double couple: M0 1.23×10^15 NP1:φ§348°,δ64°,λ39°. NP2:φ§238°,δ56°,λ148°.*
*JMA **26** 15:56:42.6,37.27N×138.87E,h13km±1km,M4.3 Broadband fault plane solution: P waves. NP1:φ§355°,δ39°,λ44°. NP2:φ§229°,δ64°,λ120°. Principal axes: T Plg59°, Azm183°; N Plg27°, Azm34°; P Plg14°, Azm297°; JMA Felt III J1.*
*NEIC **26** 15:56:44.0±1.7,37.14N×138.80E,h22km±12km,mb4.5/4, MW4.0(NIED) Error ellipse: s-maj=14.6km s-min=8.9km az=110.0*
NEIC Recorded [3 JMA] in Niigata, [2 JMA] in Gumma and [1 JMA] in Fukushima and Saitama Prefectures. Also recorded [1 JMA] on Sadoga-shima.
*IDC **26** 15:56:49.0±2.8,37.10N×139.04E,h61km±26km,mb3.7/10, mb1 4.0/11,mb1mx3.8/23,ML4.1/1,MS3.2/1,Ms1 3.2/1, ms1mx2.4/27,Error ellipse: s-maj=27.3km s-min=14.5km az=99.0*
**ISC 26 15:56:42.0±0.5,37.22N±0.04×138.91E±0.07,h20km±3km, n25,σ1§15/31,mb4.1/14,2D,Near west coast of eastern Honsh

PRU	**Pruhonice**	**1.77**	**215**	*e*Pn	**Pn**	**15 59 50.1**	**+1.2**
	11nm,1.0s							
MORC	**Moravsky Berou**	**1.92**	**151**	*e*Pn	**Pn**	**15 59 52.3**	**+1.3**
MORC	**Moravsky Berou**	**1.92**	**151**	*e*Pn	**Pn**	**15 59 52.3**	**+1.2**
MORC				*e*Sg	**Sg**	**16 00 19.5**	**-1.1**
CLL	**Collm**	**1.94**	**267**	*e*Pn	**Pn**	**15 59 51.9**	**+0.4**
CLL	**Collm**	**1.94**	**267**	*i* PN	**Pn**	**15 59 51.7**	**+0.3**
CLL				*i* PG	**Pg**	**15 59 54.8**	**-0.8**
CLL				*i*		15 59 59.1		
CLL				*i* SG	**Sg**	**16 00 20.5**	**-1.0**
CLL	**Collm**	**1.94**	**267**	*i* Pn	**Pn**	**15 59 51.7**	**+0.3**
CLL				*i* Pg	**Pg**	**15 59 54.8**	**-0.8**
CLL				*i* Sg	**Sg**	**16 00 20.5**	**-1.0**
GKP	**Gorka Klasztor**	**1.95**	**21**	*e*Pn	**Pn**	**16 00 01.4**	**+10**
GKP	**Gorka Klasztor**	**1.95**	**21**	*e*Pn	**Pn**	**16 00 01.4**	**+10**
OKC	**Ostrava-Krasne**	**2.08**	**140**	*e*PG	**Pg**	**15 59 58.6**	**+0.2**
OKC				*e*SG	**Sg**	**16 00 25.1**	**-1.0**
VRAC	**Vranov**	**2.17**	**171**	Pn	**Pn**	**15 59 57.1**	**+2.4**
VRAC				Lg		16 00 28.7		
VRAC	**Vranov**	**2.17**	**171**	*e*Pn	**Pn**	**15 59 57.0**	**+2.3**
VRAC				*e*Sg	**Sg**	**16 00 28.5**	**-0.6**
KRUC	**Moravsky**	**2.40**	**175**	*e*Pn	**Pn**	**16 00 00.6**	**+2.6**
KRUC				*e*Sg	**Sg**	**16 00 36.2**	**-0.6**
TANN	**Tannenbergstha**	**2.52**	**247**	*e*Sg	**Sg**	**16 00 39.8**	**-1.0**
WERD	**Werda**	**2.60**	**249**	*e*Pn	**Pn**	**16 00 01.8**	**+0.9**
WERD				*e*Sg	**Sg**	**16 00 40.2**	**-3.1**
NKC	**Novy Kostel**	**2.61**	**244**	*e*PN	**Pn**	**16 00 02.4**	**+1.3**
NKC				*e*PG	**Pg**	**16 00 09.2**	**+0.2**
GUNZ	**Gunzen**	**2.62**	**247**	*e*Pn	**Pn**	**16 00 02.2**	**+1.1**
GUNZ				*e*Sg	**Sg**	**16 00 41.6**	**-2.5**
OJC	**Ojcow**	**2.65**	**116**	*e*Pg	**Pg**	**16 00 09.7**	**-0.2**
OJC				*e*Sg	**Sg**	**16 00 45.3**	**+0.1**
OJC	**Ojcow**	**2.65**	**116**	*e*Pg	**Pg**	**16 00 09.7**	**-0.2**
OJC				*e*Sg	**Sg**	**16 00 45.3**	**+0.1**
KHC	**Kasperske Hory**	**2.83**	**216**	*e*PN	**Pn**	**16 00 04.9**	**+0.8**
KHC				*e*PG	**Pg**	**16 00 11.6**	**-1.7**
KHC				*e*SG	**Sg**	**16 00 50.1**	**-0.9**
KHC	**Kasperske Hory**	**2.83**	**216**	*e*Pg	**Pg**	**16 00 11.6**	**-1.7**
KHC				*e*Sg	**Sg**	**16 00 50.1**	**-0.9**
MOX	**Moxa**	**2.94**	**256**	*e*Pn	**Pn**	**16 00 06.2**	**+0.5**
MOX				*e*Sg	**Sg**	**16 00 53.9**	**-0.9**
MOX	**Moxa**	**2.94**	**256**	*i* P	**Pn**	**16 00 07.0**	**+1.3**
MOX				Pg	**Pg**	**16 00 15.0**	**-0.5**
MOX				Sg	**Sg**	**16 00 54.0**	**-0.7**
MOX	**Moxa**	**2.94**	**256**	*e*Pn	**Pn**	**16 00 07.0**	**+1.3**
MOX				*e*Pg	**Pg**	**16 00 14.6**	**-0.9**
MOX				*e*Sg	**Sg**	**16 00 53.7**	**-1.0**
MOX	**Moxa**	**2.94**	**256**	*e*Pg	**Pg**	**16 00 14.6**	**-0.9**
MOX				Sg	**Sg**	**16 00 53.9**	**-0.8**
GEC2	**GERESS Array S**	**3.03**	**211**	*e*Pn	**Pn**	**16 00 08.4**	**+1.4**
GEC2	**GERESS Array S**	**3.03**	**211**	*e*Pn	**Pn**	**16 00 08.4**	**+1.4**
GERES	**GERESS Array B**	**3.03**	**211**	Pn	**Pn**	**16 00 08.8**	**+1.8**
	2.1nm,0.3s,baz=30,slow=12,SNR=53							
GERES				Pg	**Pg**	**16 00 15.3**	**-2.0**
	6.1nm,0.3s,baz=29,slow=17,SNR=33							
GERES				Lg		16 00 53.0		
	6.4nm,0.3s,baz=31,slow=27,SNR=11							
GERES	**GERESS Array B**	**3.03**	**211**	Pg	**Pg**	**16 00 15.3**	**-2.1**
LIKS	**Likavka**	**3.09**	**140**	*e*SG	**Sg**	**16 00 59.5**	**-0.1**
WET	**Wettzell**	**3.10**	**223**	*e*Pn	**Pn**	**16 00 09.1**	**+1.1**
WET	**Wettzell**	**3.10**	**223**	*e*Pn	**Pn**	**16 00 09.1**	**+1.2**
VKA	**Vienna**	**3.19**	**177**	⇓*i*PG	**Pg**	**16 00 19.8**	**-0.8**
VKA				*i* SG	**Sg**	**16 01 03.2**	**0.0**
ZST	**Bratislava**	**3.33**	**168**	*e*SB	**Sg**	**16 01 03.9**	**-3.7**
NIE	**Niedzica**	**3.38**	**125**	*e*P	**Pg**	**16 00 22.5**	**-1.9**
NIE				*e*S	**Sg**	**16 01 07.9**	**-1.5**
GRA1	**Grafenberg Arr**	**3.57**	**242**	*e*Pn	**Pn**	**16 00 15.6**	**+0.9**
GRA1				*e*Sg	**Sg**	**16 01 14.7**	**-1.0**
GRA1	**Grafenberg Arr**	**3.57**	**242**	Pn	**Pn**	**16 00 15.6**	**+0.9**
GRA1				Sg	**Sg**	**16 01 14.7**	**-1.0**
GRF	**Grafenberg Arr**	**3.57**	**242**	*e*Pn	**Pn**	**16 00 15.6**	**+0.9**
GRF				*e*Sg	**Sg**	**16 01 14.7**	**-1.0**
BSD	**Bornholm Skovb**	**3.74**	**350**	*i* P	**Pn**	**16 00 15.5**	**-1.5**
BSD				*i* S	**Sn**	**16 00 56.6**	**-5.8**
MOA	**Molln**	**3.80**	**199**	⇓*i*PN	**Pn**	**16 00 19.4**	**+1.5**
MOA				*i* SG	**Sg**	**16 01 22.6**	**-0.7**
	23nm,0.6s							
CRVS	**Cervenica-Dubn**	**4.29**	**124**	*e*PG	**Pg**	**16 00 40.2**	**-2.4**
CRVS				*e*SG	**Sg**	**16 01 39.9**	**+0.1**
KOLS	**Kolonicke sedl**	**4.70**	**120**	*e*SG	**Sg**	**16 01 54.1**	**+0.6**
AKASG	**Malin Array Be**	**8.31**	**90**	Pn	**P**	**16 01 19.1**	**-2.4**
	1.2nm,0.3s,baz=278,slow=12,SNR=5.6							
HFS	**Hagfors**	**8.81**	**352**	Pn	**P**	**16 01 24.9**	**-3.5**
	0.1nm,0.3s,baz=173,slow=12,SNR=4.9							
FINES	**FINESS Array B**	**11.42**	**25**	Pn	**P**	**16 02 00.1**	**-4.1**
	0.3nm,0.3s,baz=210,slow=10,SNR=8.6							
FINES				Sn	**S**	**16 04 02.0**	**-12**
	0.1nm,0.3s,baz=225,slow=20,SNR=3.1							
ARCES	**ARCESS Array B**	**18.68**	**10**	Pn	**P**	**16 03 33.4**	**-4.8**
	0.4nm,0.3s,baz=193,slow=12,SNR=10							

*MDD **26** 16:10:56.1±0.3,42.90N×6.90W,h5km±5km,mbLg2.7/16, Error ellipse: s-maj=3.8km s-min=1.9km az=91.0,PRXIMO*
*INMG **26** 16:10:56.5±1.4,42.90N×6.90W,h1km±6km,ML2.6, Error ellipse: s-maj=4.1km s-min=2.8km az=75.0*
*NEIC **26** 16:10:56.2,42.91N×6.90W,h10km,MN2.7(MDD),After MDD.*
*CSEM **26** 16:10:56.3±0.1,42.91N×6.88W,h10km,ML3.7/3,Error ellipse: s-maj=2.6km s-min=2.2km az=177.0*

ISC 26 16:10:53.7±0.6,42.86N±0.03×6.81W±0.04,h7km±4km,n36, σ1§30/56,1C-2D,Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPON	**Pontenova**	**0.53**	**332**	⇓Pg	**Pg**	**16 11 04.6**	**+0.3**
	SNR=18						
EPON				Lg		16 11 10.0	
	84nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**0.53**	**332**	⇓Pg	**Pg**	**16 11 04.6**	**+0.3**
EPON				Lg		16 11 10.0	
EPON	**Pontenova**	**0.53**	**332**	Pg	**Pg**	**16 11 04.6**	**+0.3**
	SNR=18						
EPON				Lg		16 11 10.0	
	84nm,0.1s,SNR=7.9						
ERUA	**La Rua**	**0.53**	**208**	⇑Pg	**Pg**	**16 11 06.4**	**+2.0**
	50nm,0.2s,SNR=18						
ERUA				Lg		16 11 12.5	
	108nm,0.2s,SNR=25						
ECAL	**Calabor**	**0.92**	**177**	Pg	**Pg**	**16 11 14.2**	**+2.0**
	4.0nm,0.1s,SNR=7.9						
ECAL				Lg		16 11 26.8	
	247nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**0.92**	**177**	Pg	**Pg**	**16 11 14.2**	**+2.0**
	4.0nm,0.1s,SNR=7.9						
PBRG	**Braganca**	**1.06**	**177**	*e*P	**Pb**	**16 11 17.0**	**+3.1**
PBRG				*e*S	**Sb**	**16 11 31.3**	**+3.5**
	60nm,0.3s						
PBRG	**Braganca**	**1.06**	**177**	*e*P	**Pb**	**16 11 17.0**	**+3.1**
PBRG				*e*S	**Sb**	**16 11 31.3**	**+3.5**
	60nm,0.3s						
EARI	**Arriondas**	**1.25**	**69**	Pg	**Pg**	**16 11 20.0**	**+1.3**
	8.0nm,0.2s,SNR=7.9						
EARI				Lg		16 11 37.0	
	16nm,0.1s,SNR=7.9						
EARI	**Arriondas**	**1.25**	**69**	Pg	**Pg**	**16 11 20.0**	**+1.3**
EARI				Lg		16 11 37.0	
EARI	**Arriondas**	**1.25**	**69**	Pg	**Pg**	**16 11 20.0**	**+1.3**
	8.0nm,0.2s,SNR=7.9						
STS	**Santiago**	**1.28**	**272**	Pg	**Pg**	**16 11 19.3**	**0.0**
	6.6nm,0.1s,SNR=7.9						
STS				Lg		16 11 35.4	
	74nm,0.2s,SNR=20						
ELOB	**Lobios**	**1.36**	**223**	Pn	**Pn**	**16 11 19.9**	**+0.7**
	1.6nm,0.1s,SNR=7.9						
ELOB				Pg	**Pg**	**16 11 21.8**	**+0.8**
	2.7nm,0.2s,SNR=7.9						
ELOB				Lg		16 11 39.1	
	35nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**1.36**	**223**	Pn	**Pn**	**16 11 19.9**	**+0.8**
	3.2nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**1.36**	**223**	Pg	**Pg**	**16 11 21.8**	**+0.9**
	SNR=7.9						
EZAM	**Zamans**	**1.57**	**243**	Pg	**Pg**	**16 11 25.0**	**0.0**
	4.6nm,0.2s,SNR=7.5						
EZAM				Lg		16 11 45.1	
	5.1nm,0.2s,SNR=9.6						
EMAZ	**Mazaricos**	**1.59**	**274**	Pn	**Pn**	**16 11 22.3**	**-0.2**
	1.5nm,0.1s,SNR=7.9						
EMAZ				Pg	**Pg**	**16 11 24.7**	**-0.9**
	7.5nm,0.1s,SNR=7.9						
EMAZ				Sn	**Sn**	**16 11 41.0**	**-2.5**
	8.6nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**1.59**	**274**	Sn	**Sn**	**16 11 41.0**	**-2.5**
	8.6nm,0.1s,SNR=7.9						
PVRL	**Vila Real**	**1.72**	**203**	*e*Sg	**Sg**	**16 11 51.3**	**+0.1**
	95nm,0.1s						
PVRL	**Vila Real**	**1.72**	**203**	*e*Sg	**Sg**	**16 11 51.3**	**+0.1**
	95nm,0.1s						
PVIS	**Viseu**	**2.29**	**201**	*e*Sn	**Sn**	**16 12 02.4**	**+1.1**
PVIS				*e*Sg	**Sg**	**16 12 09.1**	**-1.0**
	19nm,0.2s						
PVIS	**Viseu**	**2.29**	**201**	*e*Sn	**Sn**	**16 12 02.4**	**+1.1**
PVIS				*e*Sg	**Sg**	**16 12 09.1**	**-1.0**
	19nm,0.2s						
ELAN	**Lanestosa**	**2.50**	**80**	Pn	**Pn**	**16 11 35.0**	**-0.5**
	0.3nm,0.1s,SNR=4.0						
ELAN				Pg	**Pg**	**16 11 42.3**	**-1.3**
	2.2nm,0.2s,SNR=7.9						
ELAN				Sn	**Sn**	**16 12 07.4**	**+0.8**
	0.8nm,0.1s,SNR=4.0						
ELAN				Lg		16 12 18.5	
	28nm,0.3s,SNR=7.9						
ELAN	**Lanestosa**	**2.50**	**80**	Pn	**Pn**	**16 11 35.0**	**-0.5**
ELAN				Pg	**Pg**	**16 11 42.4**	**-1.3**
ELAN				Sn	**Sn**	**16 12 07.4**	**+0.8**
ELAN				Lg		16 12 15.0	
ELAN	**Lanestosa**	**2.50**	**80**	Pn	**Pn**	**16 11 35.0**	**-0.5**
	SNR=4.0						
ELAN	**Lanestosa**	**2.50**	**80**	Pg	**Pg**	**16 11 42.3**	**-1.4**
	2.2nm,0.2s,SNR=7.9						
ELAN				Sn	**Sn**	**16 12 07.4**	**+0.8**
	SNR=4.0						
MTE	**Manteigas**	**2.52**	**193**	*e*Sn	**Sn**	**16 12 08.4**	**+1.3**
MTE				*e*Sg	**Sg**	**16 12 16.5**	**-1.2**
	15nm,0.3s						
MTE	**Manteigas**	**2.52**	**193**	Sn	**Sn**	**16 12 08.4**	**+1.3**
MTE				Lg		16 12 16.5	
	7.6nm,0.3s						
ESDC	**Sonseca Array**	**3.84**	**145**	Pn	**Pn**	**16 11 55.2**	**+0.7**
	0.9nm,0.1s,baz=328,slow=13,SNR=7.9						
ESDC				Pg	**Pg**	**16 12 08.1**	**-2.3**
	baz=323,slow=18,SNR=7.9						
ESDC				Sn	**Sn**	**16 12 39.9**	**-0.6**
	baz=322,slow=22,SNR=7.9						
ESDC				Lg		16 12 58.6	
	0.8nm,0.3s,baz=318,slow=28,SNR=4.4						
ESDC	**Sonseca Array**	**3.84**	**145**	Pn	**Pn**	**16 11 55.2**	**+0.7**
	0.9nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**3.84**	**145**	Pg	**Pg**	**16 12 08.1**	**-2.3**
	SNR=7.9						
ESDC				Sn	**Sn**	**16 12 39.9**	**-0.6**
	SNR=7.9						
ETOR	**Torete**	**4.10**	**118**	Pn	**Pn**	**16 12 00.8**	**+2.7**
	41nm,1.1s,SNR=7.9						
ETOR				Pg	**Pg**	**16 12 13.7**	**-1.8**
	9.6nm,0.5s,SNR=6.5						
ETOR				Sn	**Sn**	**16 12 46.2**	**-0.8**
	0.3nm,0.1s,SNR=4.0						
ETOR				Lg		16 13 10.9	
	3.9nm,0.3s,SNR=7.9						
EBAD	**Badajoz**	**4.11**	**182**	Pn	**Pn**	**16 11 58.2**	**-0.1**
	SNR=7.9						
EBAD				Sn	**Sn**	**16 12 45.4**	**-1.8**
	0.3nm,0.1s,SNR=7.9						
EBAD				Lg		16 13 06.7	
	2.5nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.09**	**179**	Pn	**Pn**	**16 12 11.8**	**-0.5**
	0.1nm,0.2s,SNR=7.9						
EMIN				Sn	**Sn**	**16 13 08.2**	**-3.8**
	0.1nm,0.1s,SNR=7.9						
EMIN				Lg		16 13 38.9	
	7.9nm,0.4s,SNR=7.9						

MAN 26 16:16:43.6,9.74N×124.58E,h14km,mb4.4,ML3.2,MS3.0, 2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.48**	**35**	*e*P	Pb	16 16 53.0	-0.3
TBP	**Tagbilaran**	**0.70**	**266**	*e*P	Pb	16 16 57.3	+0.1
TBP				*e*S	Sb	16 17 07.6	+1.2
LLP	**Lapu-Lapu**	**0.83**	**314**	⇓*i*P	Pb	16 16 58.5	-0.8
LLP				*i* S	Sb	16 17 10.0	-0.1
SCPH	**Surigao**	**0.90**	**87**	*e*P	Pb	16 16 60.0	-0.5
SCPH				*i* S	Sb	16 17 16.4	+4.3
CGP	**Cagayan de Oro**	**1.28**	**175**	*e*P	Pb	16 17 06.2	-0.8
CGP				*e*S	Sb	16 17 24.3	+1.2
OCLP	**Ormoc**	**1.30**	**1**	*e*P	Pb	16 17 06.8	-0.6
OCLP				*e*S	Sb	16 17 10.3	-14
SNPH	**Sibulan**	**1.38**	**254**	*e*P	Pn	16 17 10.0	+1.5
DCPH	**Dipolog City**	**1.67**	**227**	⇓*e*P	Pn	16 17 12.1	-0.5
GUIM	**Jordan**	**2.15**	**294**	*e*P	Pn	16 17 19.0	-0.5
GUIM				*e*S	Sn	16 17 47.1	+1.0

*CSEM **26** 16:20:35.5±0.8,38.63N×28.60W,h17km±11km, ML2.0, Error ellipse: s-maj=5.3km s-min=4.7km az=175.0*
*PDA **26** 16:20:35.5±0.8,38.63N×28.60W,h17km±11km,MD3.0, ML2.0,Error ellipse: s-maj=5.3km s-min=4.7km az=175.0*

SVSA 26 16:20:35.5±0.8,38.63N×28.60W,h17km±11km,MD3.0, ML2.0,Error ellipse: s-maj=5.3km s-min=4.7km az=175.0,Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.08**	**270**	*i* P	Pb	16 20 38.3	-0.7
PCED				*e*S	Sb	16 20 40.4	-0.9
	66nm,0.3s						
PCED	**Cedros**	**0.08**	**270**	*e*S	Sb	16 20 40.4	-0.9
	66nm,0.3s						
CALA	**Caldeira**	**0.10**	**241**	*e*P	Pb	16 20 38.7	-0.4
CALA				*e*S	Sb	16 20 41.4	-0.1
PICO	**Pico**	**0.18**	**134**	*e*P	Pb	16 20 39.5	-0.7
PICO				*e*S	Sb	16 20 42.5	-0.9
ROSA	**Rosais**	**0.29**	**72**	*e*S	Sb	16 20 44.9	-1.4

DJA 26 16:35:58.0±0.9,8.62S×117.54E,h153km±9km,MD4.8/4, ML4.4/4,3C-5D,Error ellipse: s-maj=75.3km s-min=20.9km az=4.0,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**1.42**	**275**	⇓*e*Pn	P	16 36 27.4	+0.1
	350nm,0.3s						
KEDI				⇑*e*Sn	S	16 36 48.5	-1.4
RATI	**Rata**	**1.99**	**267**	⇓*e*Pn	P	16 36 33.6	+0.1
	236nm,0.2s						
RATI				⇓*e*Sn	S	16 37 00.0	-0.8
KELI	**Kelakatan**	**3.05**	**277**	⇑*e*Pn	P	16 36 46.9	+0.1
	47nm,0.2s						
KELI				⇓*e*Sn	S	16 37 22.5	-1.6
SRDI	**Scrawed**	**3.37**	**272**	⇓*e*Pn	P	16 36 50.5	-0.4
	206nm,0.2s						
SRDI				⇑*e*Sn	S	16 37 29.0	-2.5

*NEIC **26** 16:39:09.1±1.0,6.07S×149.81E,h55km±11km,mb4.4/5, Error ellipse: s-maj=20.1km s-min=10.1km az=136.0*
*IDC **26** 16:39:14.4±4.9,6.20S×149.57E,h94km±37km,mb4.0/6, mb1 4.2/8,mb1mx3.9/14,MS3.3/4,Ms1 3.2/4,ms1mx2.9/17, Error ellipse: s-maj=38.1km s-min=27.1km az=76.0*

ISC 26 16:39:07.7±1.2,6.1S±0.1×149.9E±0.1,h62km±11km,n22, σ0§90/22,mb4.3/7,4D,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAB	**Rabaul**	**2.97**	**51**	*e*P	**P**	**16 39 53.4**	**-0.3**
WAU	**Wau**	**3.36**	**248**	*e*P	**P**	**16 39 58.2**	**-0.9**
PMG	**Port Moresby**	**4.24**	**219**	P	**P**	**16 40 12.7**	**+1.3**
	25nm,0.3s,baz=29,slow=7.3,SNR=129						
PMG				S	**S**	**16 40 59.9**	**-0.2**
	54nm,0.3s,baz=48,slow=14,SNR=16						
PMG	**Port Moresby**	**4.24**	**219**	⇓*e*P	**P**	**16 40 12.8**	**+1.4**
CTA	**Charters Tower**	**14.35**	**194**	P	**P**	**16 42 29.4**	**+0.3**
	baz=9.8,slow=14,SNR=2.9						
CTA				LR	LR	16 47 07.3	
	comp=Z,116nm,21.4s,baz=5.7,slow=33						
CTAO	**Charters Tower**	**14.35**	**194**	P	**P**	**16 42 34.1**	**+5.0**
KAKA	**Kakadu**	**18.42**	**248**	⇓*i*P	**P**	**16 43 23.1**	**+2.6**
	9.7nm,0.8s						
WRAB	**Tennant Creek**	**20.40**	**226**	P	**P**	**16 43 41.0**	**-1.2**
	248nm,1.0s,SNR=34						
WRAB	**Tennant Creek**	**20.40**	**226**	⇓*e*P	**P**	**16 43 41.0**	**-1.2**
	19nm,0.6s						
WB2	**Warramunga Arr**	**20.41**	**226**	⇓*i*P	**P**	**16 43 41.6**	**-0.7**
WRA	**Warramunga Arr**	**20.42**	**226**	P	**P**	**16 43 41.6**	**-0.8**
	16nm,0.5s,baz=51,slow=11,SNR=90						
ASAR	**Alice Springs**	**23.26**	**220**	P	**P**	**16 44 11.0**	**+0.4**
	7.6nm,0.9s,mb4.1,baz=50,slow=9.1,SNR=42						
ASAR				LR	LR	16 53 27.5	
	comp=Z,61nm,19.7s,baz=34,slow=37						
ASPA	**Alice Springs**	**23.26**	**220**	*e*P	**P**	**16 44 11.8**	**+1.2**
FITZ	**Fitzroy Crossi**	**26.47**	**241**	*e*P	**P**	**16 44 40.2**	**-1.1**
	11nm,1.0s,mb4.3						
FITZ	**Fitzroy Crossi**	**26.47**	**241**	P	**P**	**16 44 40.2**	**-1.0**
	13nm,0.9s,mb4.5,baz=144,slow=4.0,SNR=39						
FITZ				LR	LR	16 54 55.8	
	comp=Z,39nm,19.6s,baz=186,slow=36						
STKA	**Stephens Creek**	**26.79**	**196**	P	**P**	**16 44 43.7**	**-0.4**
	11nm,1.2s,mb4.3,baz=348,slow=12,SNR=4.3						
STKA				LR	LR	16 56 17.9	
	comp=Z,89nm,18.1s,baz=23,slow=38						
MBWA	**Marble Bar**	**32.79**	**240**	P	**P**	**16 45 31.7**	**-5.8**
	34nm,1.5s,mb5.1						
SONM	**Songino Array**	**65.89**	**329**	P	**P**	**16 49 49.9**	**+0.6**
	0.5nm,0.5s,mb3.8,baz=151,slow=4.8,SNR=4.2						
VNDA	**Vanda**	**71.67**	**177**	P	**P**	**16 50 24.5**	**+0.1**
	2.8nm,0.9s,mb4.2,baz=326,slow=6.9,SNR=14						
VNDA	**Vanda**	**71.67**	**177**	P	**P**	**16 50 24.5**	**+0.1**
QSPA	**South Pole Qui**	**83.88**	**180**	*e*P	**P**	**16 51 31.6**	**+0.1**
	2.2nm,0.8s,mb4.3						
BDFB	**Brasilia**	**152.08**	**141**	PKPab	PKPab	16 59 11.2	+2.2
	3.4nm,0.6s,baz=214,slow=3.6,SNR=4.6						

MEX 26 16:40:36.9±0.4,16.89N×100.13W,h12km±4km,MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.20**	**321**	*i* P	Pg	16 40 40.8	-0.7
CAIG				*i* S	Sg	16 40 44.1	-0.5
ACX	**Acapulco**	**0.21**	**96**	*i* P	Pg	16 40 41.0	-0.6
ACX				*i* S	Sg	16 40 44.0	-0.7
PLIG	**Platanillo**	**1.61**	**22**	*i* P	Pn	16 41 02.3	-3.1
PLIG				*e*S	Sn	16 41 20.9	-5.4

*LDG **26** 16:41:51.8±0.1,46.08N×2.88E,h25km,Md2.0/2,Ml1.7/4, Error ellipse: s-maj=2.4km s-min=1.1km az=127.0*
*STR **26** 16:41:54.1±0.9,46.04N×2.82E,h5km±1km,Ml1.8,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 26 16:41:53.0±0.5,46.10N±0.03×2.85E±0.05,h21km±7km, n10,σ0§28/19,France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGO	**Saint Agoulin**	**0.21**	**104**	Pg	**Pb**	**16 41 58.6**	**+0.3**
AGO				Sg	**Sb**	**16 42 02.2**	**+0.3**
PYAF	**Petit Puy Mans**	**0.37**	**162**	Pg	**Pb**	**16 42 00.9**	**0.0**
BGF	**Bois d'Agland**	**0.46**	**0**	*e*Pg	**Pb**	**16 42 02.2**	**-0.1**
BGF				*e*Sg	**Sb**	**16 42 08.9**	**+0.3**
	4.2nm,0.2s						
TCF	**Toulx Ste Croi**	**0.48**	**293**	*e*Pg	**Pb**	**16 42 02.6**	**-0.1**
TCF				*e*Sg	**Sb**	**16 42 09.3**	**0.0**
	1.6nm,0.2s						
SMF	**Signal de Mont**	**0.88**	**51**	*e*Pg	**Pb**	**16 42 08.8**	**-0.7**
SMF				*e*Sg	**Sb**	**16 42 20.2**	**-0.5**
LBL	**Lubilhac**	**0.92**	**162**	Pg	**Pb**	**16 42 10.1**	**0.0**
LBL				Sg	**Sb**	**16 42 21.9**	**+0.1**
SSF	**Saint Saulge**	**1.06**	**25**	*e*Pg	**Pb**	**16 42 12.3**	**-0.3**
SSF				*e*Sg	**Sb**	**16 42 26.2**	**+0.2**
	2.2nm,0.3s						
RJF	**Les Rejaudoux**	**1.23**	**230**	*e*Pg	**Pn**	**16 42 15.1**	**-0.1**
RJF				*e*Sg	**Sb**	**16 42 30.8**	**0.0**
	1.5nm,0.2s						
CAF	**Calviac**	**1.30**	**205**	*e*Pg	**Pn**	**16 42 16.2**	**0.0**
CAF				*e*Sg	**Sb**	**16 42 32.8**	**-0.1**
	1.4nm,0.2s						
LOR	**Lormes**	**1.36**	**31**	*e*Pg	**Pn**	**16 42 17.6**	**+0.5**
LOR				*e*Sg	**Sn**	**16 42 34.9**	**+0.3**
	1.9nm,0.2s						

GUC 26 16:52:42.9±0.9,33.15S×70.28W,h8km±2km,MD3.6, ML2.2,2C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.17**	**184**	⇑*i*P	Pg	16 52 47.8	+1.1
FCH				*i* S	Sg	16 52 50.5	+1.3
FCH				AMP		16 52 50.8	
	comp=E,1μm,0.3s						
CLCH	**Cerro Calan**	**0.33**	**222**	⇑*i*P	Pg	16 52 50.9	+1.3
CLCH				*i* S	Sg	16 52 56.1	+2.1
CLCH				AMP		16 53 00.3	
	comp=E,757nm,0.8s						
PEL	**Peldehue**	**0.34**	**271**	*e*P	Pg	16 52 50.5	+0.6
PEL				*i* S	Sg	16 52 55.6	+1.0
PEL				AMP		16 52 57.8	
	comp=N,270nm,0.6s						
PCH	**Pirque**	**0.51**	**203**	⇓*i*P	Pg	16 52 54.1	+1.0
PCH				*i* S	Sg

KFRA				⇑*i*S		**Sn**	**17 05 03.8**	**-0.7**
BTCH	**Batrach**	**2.48**	**57**	⇑P		**Pn**	**17 04 37.5**	**+2.0**
BTCH				⇑S		**Sn**	**17 05 03.9**	**-1.4**
BTCH	**Batrach**	**2.48**	**57**	⇑*i*P		**Pn**	**17 04 37.5**	**+2.0**
BTCH				⇑*i*S		**Sn**	**17 05 03.9**	**-1.4**
MMLI	**Mount Malkishu**	**2.62**	**150**	Pn		**Pn**	**17 04 37.9**	**+0.4**
SLTI	**Sal'it**	**2.66**	**158**	Pn		**Pn**	**17 04 38.5**	**+0.5**
SLTI				Sn		**Sn**	**17 05 07.8**	**-2.0**
HMDT	**Nahal Hemdat**	**2.82**	**150**	Pn		**Pn**	**17 04 40.8**	**+0.4**
DRGI	**Dragot**	**3.37**	**157**	Pn		**Pn**	**17 04 48.4**	**+0.2**
KZIT	**Kziot**	**3.83**	**173**	Pn		**Pn**	**17 04 55.7**	**+1.0**
PRNI	**Paran**	**4.46**	**167**	Pn		**Pn**	**17 05 02.9**	**-0.8**
KMTI	**Karmit**	**4.66**	**171**	Pn		**Pn**	**17 05 05.7**	**-0.8**

NIED ***26*** *17:05:00, 37.20N×138.90E, h8km, Mw3.8 Best double couple: M₀4.95×10¹⁴ NP1:φ≈15°, δ51°, λ83°. NP2:φ≈206°, δ39°, λ99°.*
NEIC ***26*** *17:05:38.7±2.9, 37.20N×138.85E, h11km±17km, mb4.2/2, Error ellipse: s-maj=26.4km s-min=17.4km az=113.0*
NEIC Recorded [3 JMA] in Niigata and [1 JMA] in Gumma Prefectures.
JMA ***26*** *17:05:39.7, 37.21N×138.85E, h11km±1km, M3.9 Broadband fault plane solution: P waves. NP1:φ≈251°, δ6°, λ135°. NP2:φ≈26°, δ86°, λ86°. Principal axes: T Plg49°, Azm292°; N Plg4°, Azm27°; P Plg41°, Azm120°;*
JMA Felt III J1.
IDC ***26*** *17:05:44.0±3.8, 37.19N×138.69E, h47km±39km, mb3.4/4, mb1 3.7/5, mb1mx3.4/22, ML3.7/1 Error ellipse: s-maj=40.9km s-min=23.4km az=81.0*

ISC 26 17:05:39.0±0.6, 37.22N±0.04×138.90E±0.06, h33km±5km, n13, σ1♀06/19, mb3.8/6, 1C-2D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JHK	**Hiroka**	**0.09**	**73**	⇓P		**Pn**	**17 05 43.0**	**-1.0**
JHK				S		**Sn**	**17 05 45.6**	**-1.4**
JIZZ	**Izumozaki**	**0.35**	**333**	P		**Pb**	**17 05 46.9**	**-0.4**
JIZZ				S		**Sb**	**17 05 53.0**	**0.0**
JKT	**Katashina**	**0.53**	**149**	⇓P		**Pb**	**17 05 50.2**	**+0.1**
JKT				S		**Sb**	**17 05 58.1**	**+0.4**
MAJO	**Matsushiro**	**0.88**	**220**	⇑*e*Pn		**Pn**	**17 05 55.1**	**-0.1**
MAJO				*e*S		**Sn**	**17 06 05.2**	**-1.7**
MAT	**Matsushiro**	**0.88**	**220**	P		**Pn**	**17 05 54.9**	**-0.3**
MAT				S		**Sn**	**17 06 06.1**	**-0.8**
MAT	**Matsushiro**	**0.88**	**220**	*e*P		**Pn**	**17 05 55.0**	**-0.2**
MAT				*e*S		**Sn**	**17 06 06.0**	**-0.9**
JHJ	**Hachijo jima 2**	**4.16**	**170**	P		**Pn**	**17 06 44.8**	**+2.9**
	14nm,0.3s,baz=232,slow=18,SNR=7.3							
ENH	**Enshi**	**25.36**	**263**	*e*P		**P**	**17 11 05.3**	**+0.6**
	7.0nm,0.7s,mb4.3							
SONM	**Songino Array**	**26.02**	**304**	P		**P**	**17 11 11.8**	**+1.1**
	0.8nm,0.7s,mb3.4,baz=107,slow=8.9,SNR=7.5							
ILAR	**Eielson Array**	**50.41**	**32**	P		**P**	**17 14 36.9**	**+1.9**
	0.3nm,0.6s,mb3.5,baz=270,slow=6.3,SNR=4.4							
INK	**Inuvik**	**55.13**	**27**	P		**P**	**17 15 09.0**	**-1.1**
	0.7nm,0.6s,mb3.9							
WRA	**Warramunga Arr**	**57.02**	**185**	P		**P**	**17 15 24.1**	**-0.1**
	0.7nm,0.5s,mb4.0,baz=1.0,slow=7.6,SNR=22							
ASAR	**Alice Springs**	**60.74**	**185**	P		**P**	**17 15 51.4**	**+1.4**
	0.6nm,0.8s,mb3.8,baz=14,slow=13,SNR=4.1							

GUC ***26*** *17:17:03.2±0.7, 34.14S×71.29W, h62km±5km, ML4.4*
NEIC ***26*** *17:17:03.2, 34.14S×71.29W, h62km, After GUC.*
NEIC Felt [III] at Rancagua and Santiago; [II] at San Antonio and San Fernando.

ISC 26 17:17:02.3±0.6, 34.16S±0.04×71.31W±0.08, h73km±7km, n24, σ0♀67/35, 9C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LNV	**Longovilo**	**0.22**	**338**	⇓*i*P		**P**	**17 17 12.9**	**-0.5**
SFDO	**San Fernando**	**0.52**	**152**	⇑*i*P		**P**	**17 17 15.9**	**+0.2**
CACH	**El Canelo**	**0.59**	**86**	⇑*i*P		**P**	**17 17 16.9**	**+0.3**
CHCH	**Chadas Angostu**	**0.59**	**68**	⇑*i*P		**P**	**17 17 16.4**	**-0.1**
TACH	**Talagante**	**0.59**	**32**	⇑*i*P		**P**	**17 17 16.2**	**-0.4**
CICH	**Cipreses**	**0.75**	**102**	⇓*i*P		**P**	**17 17 18.5**	**+0.2**
CICH				*i*S		**S**	**17 17 30.4**	**+0.3**
RCDM	**Rinconada Maip**	**0.79**	**32**	*e*P		**P**	**17 17 18.2**	**-0.5**
RCDM				*i*S		**S**	**17 17 29.7**	**-1.2**
RCDM				AMP			17 17 31.8	
	comp=E,37μm,0.2s							
ANTU	**Antumapu**	**0.82**	**44**	*e*P		**P**	**17 17 18.9**	**-0.1**
ANTU				*i*S		**S**	**17 17 31.1**	**-0.2**
ANTU				AMP			17 17 32.4	
	comp=E,27μm,0.5s							
PCH	**Pirque**	**0.85**	**51**	⇓*i*P		**P**	**17 17 19.5**	**+0.1**
PCH				*i*S		**S**	**17 17 31.6**	**-0.5**
SAN	**Santiago**	**0.89**	**38**	*e*P		**P**	**17 17 20.0**	**+0.2**
SAN				*i*S		**S**	**17 17 32.4**	**-0.5**
LMEL	**Las Melosas**	**0.97**	**72**	⇑*i*P		**P**	**17 17 21.3**	**+0.4**
LMEL				*i*S		**S**	**17 17 35.2**	**+0.4**
LMEL				AMP			17 17 36.1	
	comp=N,21μm,0.1s							
DSCH	**Colegio Aleman**	**0.98**	**39**	*e*P		**P**	**17 17 21.2**	**+0.2**
DSCH				*i*S		**S**	**17 17 34.7**	**-0.2**
DSCH				AMP			17 17 36.4	
	comp=N,18μm,0.2s							
CLCH	**Cerro Calan**	**1.00**	**40**	⇑*i*P		**P**	**17 17 21.5**	**+0.2**
CLCH				*i*S		**S**	**17 17 35.6**	**+0.3**
CLCH				AMP			17 17 36.3	
	comp=N,11μm,0.2s							
PEL	**Peldehue**	**1.14**	**27**	*e*P		**P**	**17 17 23.4**	**+0.3**
PEL				*i*S		**S**	**17 17 38.8**	**+0.3**
PEL				AMP			17 17 40.1	
	comp=N,8μm,0.5s							
IHA	**Instituto Hidr**	**1.17**	**346**	⇑*i*P		**P**	**17 17 23.6**	**+0.3**
FCH	**Farellones**	**1.19**	**46**	⇑*i*P		**P**	**17 17 24.1**	**+0.4**
FCH				*i*S		**S**	**17 17 40.2**	**+0.6**
FCH				AMP			17 17 42.3	
	comp=N,11μm,0.1s							
JACH	**Jahuel**	**1.59**	**22**	*e*P		**P**	**17 17 29.3**	**+0.2**
JACH				*i*S		**S**	**17 17 49.6**	**+0.6**
PACH	**Papudo**	**1.62**	**356**	*e*P		**P**	**17 17 29.6**	**0.0**
CCHI	**Chillan**	**2.52**	**194**	*e*P		**P**	**17 17 42.7**	**+0.8**
CCHI				AMP			17 18 35.8	
	comp=N,2μm,0.5s							
TLL	**Tololo Astrono**	**4.00**	**6**	*e*P		**P**	**17 18 02.4**	**-0.3**
TRQA	**Tornquist**	**8.49**	**120**	*e*Pn		**P**	**17 19 02.6**	**-2.1**
VNA3	**Neumayer Olymp**	**48.98**	**158**	⇑*i*		**P**	**17 25 44.2**	**+1.3**
VNA2	**Neumayer--Watz**	**49.63**	**157**			**P**	**17 25 45.2**	**-2.7**
SNAA	**Sanae**	**51.21**	**158**	⇓*i*		**P**	**17 25 53.5**	**-6.4**

MAN 26 17:23:42.5, 9.90N×123.44E, h1km, mb4.0, ML2.8, MS2.5, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TBP	**Tagbilaran**	**0.46**	**117**	*e*P		Pg	17 23 51.6	-0.2
SNPH	**Sibulan**	**0.59**	**200**	*e*P		Pg	17 23 54.1	-0.3
SNPH							17 24 03.5	
LLP	**Lapu-Lapu**	**0.66**	**51**	*e*P		Pg	17 23 55.4	-0.3
LLP				*e*S		Sg	17 24 05.2	+0.7
MSLP	**Maasin**	**1.41**	**81**	*e*P		Pb	17 24 08.9	-0.5
MSLP				*e*S		Sb	17 24 29.0	+1.1

NEIC ***26*** *17:37:07.9, 37.93S×177.07E, h131km, After WEL.*

WEL 26 17:37:08.0±0.3, 37.90S×177.01E, h128km±2km, mb1.9/7, 4C, Error ellipse: s-maj=2.1km s-min=2.0km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MARZ	**Manawahe**	**0.28**	**252**	P		P	17 37 26.0	+0.1
MARZ	**Manawahe**	**0.28**	**252**	PN		P	17 37 25.0	-0.9
URZ	**Urewera**	**0.37**	**168**	P		P	17 37 25.9	-0.4
URZ	**Urewera**	**0.37**	**168**	⇑PN		P	17 37 25.9	-0.4
URZ				SN		S	17 37 39.9	-0.4
WIZ	**White Island**	**0.40**	**21**	PN		P	17 37 25.1	-1.3
LIRZ	**Lichensteins R**	**0.51**	**258**	PN		P	17 37 27.1	0.0
TAZ	**Tarawera**	**0.52**	**230**	P		P	17 37 27.5	+0.4
TAZ	**Tarawera**	**0.52**	**230**	PN		P	17 37 27.5	+0.4
MWZ	**Matawai**	**0.59**	**137**	P		P	17 37 27.4	-0.2
MWZ				S		S	17 37 42.6	+0.1
MWZ	**Matawai**	**0.59**	**137**	⇑PN		P	17 37 27.4	-0.2
MWZ				SN		S	17 37 42.3	-0.2
PATZ	**Paeroa**	**0.77**	**231**	P		P	17 37 29.4	+0.6
PATZ	**Paeroa**	**0.77**	**231**	PN		P	17 37 29.2	+0.4
MYRZ	**Mayor Island**	**0.87**	**315**	PN		P	17 37 29.3	-0.4
PUZ	**Puketiti**	**1.00**	**100**	P		P	17 37 30.4	-0.6
PUZ				S		S	17 37 47.5	-0.9
PUZ	**Puketiti**	**1.00**	**100**	PN		P	17 37 30.3	-0.7
PUZ				SN		S	17 37 47.5	-0.8
MXZ	**Matakaoa Point**	**1.08**	**72**	P		P	17 37 31.1	-0.7
MXZ	**Matakaoa Point**	**1.08**	**72**	PN		P	17 37 30.8	-1.0
MXZ				SN		S	17 37 50.2	+0.4
KNZ	**Kokohu**	**1.23**	**155**	P		P	17 37 33.4	0.0
KNZ				S		S	17 37 52.0	-0.6
KNZ	**Kokohu**	**1.23**	**155**	⇑PN		P	17 37 33.4	0.0
KNZ				SN		S	17 37 52.0	-0.6
BKZ	**Black Stump Fm**	**1.33**	**198**	P		P	17 37 33.9	-0.6
BKZ				S		S	17 37 53.9	-0.8
BKZ	**Black Stump Fm**	**1.33**	**198**	⇑PN		P	17 37 33.9	-0.6
BKZ				SN		S	17 37 53.9	-0.8
MGZ	**Maungaku**	**1.60**	**226**	P		P	17 37 37.4	-0.1
MGZ	**Maungaku**	**1.60**	**226**	PN		P	17 37 37.4	-0.1
NGZ	**Ngauruhoe**	**1.69**	**221**	P		P	17 37 38.3	-0.3
NGZ	**Ngauruhoe**	**1.69**	**221**	PN		P	17 37 38.3	-0.2
TUVZ	**Tukino**	**1.73**	**218**	P		P	17 37 38.5	-0.6
TUVZ	**Tukino**	**1.73**	**218**	PN		P	17 37 38.5	-0.6
CNZ	**Chateau**	**1.73**	**221**	P		P	17 37 39.1	0.0
CNZ	**Chateau**	**1.73**	**221**	PN		P	17 37 39.1	0.0
FWVZ	**Far West T-bar**	**1.77**	**220**	P		P	17 37 39.1	-0.4
FWVZ	**Far West T-bar**	**1.77**	**220**	PN		P	17 37 39.1	-0.4
MOVZ	**Moawhango**	**1.80**	**213**	P		P	17 37 38.7	-1.2
MOVZ	**Moawhango**	**1.80**	**213**	PN		P	17 37 38.7	-1.2
MOVZ				SN		S	17 38 02.5	-1.6
WNVZ	**Wahianoa**	**1.81**	**217**	P		P	17 37 39.2	-0.7
WNVZ	**Wahianoa**	**1.81**	**217**	PN		P	17 37 39.2	-0.7
PWZ	**Pawanui**	**2.13**	**183**	P		P	17 37 42.6	-1.4
PWZ	**Pawanui**	**2.13**	**183**	PN		P	17 37 42.6	-1.3
PWZ				SN		S	17 38 10.4	-0.9
TSZ	**Takapari Road**	**2.31**	**201**	P		P	17 37 44.2	-2.1
TSZ	**Takapari Road**	**2.31**	**201**	PN		P	17 37 44.2	-2.1
TSZ				SN		S	17 38 13.5	-1.8
BFZ	**Birch Farm**	**2.84**	**192**	P		P	17 37 50.6	-2.7
BFZ	**Birch Farm**	**2.84**	**192**	PN		P	17 37 50.6	-2.6
BFZ				SN		S	17 38 24.2	-3.5
MRZ	**Mangatainoka R**	**2.98**	**202**	P		P	17 37 52.0	-3.1
MRZ	**Mangatainoka R**	**2.98**	**202**	PN		P	17 37 52.0	-3.1
MRZ				SN		S	17 38 26.6	-4.2
KIW	**Kapiti Island**	**3.38**	**208**	P		P	17 37 56.9	-3.5
KIW	**Kapiti Island**	**3.38**	**208**	PN		P	17 37 56.9	-3.5
KIW				SN		S	17 38 36.5	-3.9
CAW	**Cannon Point**	**3.54**	**205**	P		P	17 37 58.5	-4.1
CAW	**Cannon Point**	**3.54**	**205**	PN		P	17 37 58.5	-4.1
PAWZ	**Paruwai Farm**	**3.69**	**199**	SN		S	17 38 42.3	-5.5
MSWZ	**Moikau Station**	**3.77**	**201**	PN		P	17 38 39.2	-4.4
MSWZ				SN		S	17 38 43.4	-6.2
MRW	**Makara Radio**	**3.78**	**208**	P		P	17 38 01.5	-4.2
MRW	**Makara Radio**	**3.78**	**208**	PN		P	17 38 01.5	-4.2
TUWZ	**Tuamarina**	**4.25**	**213**	PN		P	17 38 07.4	-4.7
TUWZ				SN		S	17 38 55.3	-5.9
NNZ	**Nelson**	**4.34**	**219**	*e*P		P	17 38 08.9	-4.4
NNZ	**Nelson**	**4.34**	**219**	PN		P	17 38 08.9	-4.4
NNZ				SN		S	17 38 57.8	-5.7
QRZ	**Quartz Range**	**4.54**	**229**	*e*P		P	17 38 11.3	-4.7
QRZ	**Quartz Range**	**4.54**	**229**	PN		P	17 38 11.3	-4.6
THZ	**Tophouse**	**4.99**	**218**	*e*P		P	17 38 18.2	-3.8
KHZ	**Kahutara**	**5.24**	**209**	PN		P	17 38 19.8	-5.5
LTZ	**Lake Taylor**	**6.08**	**215**	*e*P		P	17 38 31.0	-5.6
LTZ	**Lake Taylor**	**6.08**	**215**	PN		P	17 38 31.0	-5.5
MQZ	**McQueen's Vall**	**6.68**	**208**	*e*P		P	17 38 37.7	-7.1
MQZ	**McQueen's Vall**	**6.68**	**208**	PN		P	17 38 37.7	-7.1
MQZ				*e*SN		S	17 39 48.8	-11

IDC ***26*** *17:42:20.4±1.0, 23.07S×169.92E, mb3.9/9, mb1 4.1/10, mb1mx4.1/14, ML3.5/1, Error ellipse: s-maj=29.4km s-min=27.2km az=152.0*
NEIC ***26*** *17:42:27.1±2.2, 23.02S×169.77E, h46km±19km, mb4.6/4, Error ellipse: s-maj=22.3km s-min=12.8km az=49.0*

ISC 26 17:42:26.1±2.4, 23.1S±0.1×169.7E±0.1, h52km±20km, n19, σ0♀96/15, mb4.1/13, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NOUC	**Port Laguerre**	**3.30**	**286**	*e*P		**P**	**17 43 16.0**	**-0.7**
URZ	**Urewera**	**16.42**	**159**	Pn		**P**	**17 46 15.6**	**+1.2**
	0.2nm,0.3s,baz=36,slow=12,SNR=3.3							
CTA	**Charters Tower**	**22.02**	**273**	P		**P**	**17 47 18.6**	**+0.9**
	1.3nm,0.8s,mb3.4,baz=100,slow=17,SNR=2.4							
ASAR	**Alice Springs**	**32.83**	**262**	P		**P**	**17 48 57.5**	**+0.4**
	2.9nm,0.9s,mb4.2,baz=88,slow=9.3,SNR=18							
WRA	**Warramunga Arr**	**33.02**	**269**	P		**P**	**17 48 58.1**	**-0.7**
	0.4nm,0.7s,mb3.5,baz=99,slow=8.0,SNR=7.2							
MBWA	**Marble Bar**	**46.17**	**262**	*e*P		**P**	**17 50 47.5**	**-0.3**
	7.7nm,0.7s,mb4.7							
VNDA	**Vanda**	**54.64**	**182**	P		**P**	**17 51 50.5**	**-1.0**
	0.6nm,0.7s,mb3.8,baz=6.6,slow=7.4,SNR=6.7							
SBA	**Scott Base**	**54.86**	**181**	*e*P		**P**	**17 51 53.5**	**+0.3**
	6.5nm,1.0s,mb4.6							
QSPA	**South Pole Qui**	**67.01**	**180**	*e*P		**P**	**17 53 14.7**	**-0.5**
	4.7nm,0.8s,mb4.6							
MAW	**Mawson**	**75.08**	**202**	P		**P**	**17 54 03.9**	**+0.2**
	1.7nm,0.7s,mb4.1,baz=130,slow=9.6,SNR=5.9							
CMAR	**Chiang Mai Arr**	**80.49**	**295**	P		**P**	**17 54 37.1**	**+2.5**
	1.7nm,0.9s,mb4.0,baz=135,slow=4.7,SNR=6.7							
SNAA	**Sanae**	**85.38**	**182**	*e*P		**P**	**17 54 57.1**	**-1.4**
	1.1nm,0.8s,mb4.0							
SONM	**Songino Array**	**90.53**	**323**	P		**P**	**17 55 24.4**	**+0.7**
	1.0nm,0.9s,mb4.1,baz=162,slow=3.9,SNR=6.2							
NVAR	**Mina Array Bea**	**90.99**	**48**	P		**P**	**17 55 26.6**	**+0.5**
	0.3nm,0.4s,mb4.0,baz=229,slow=8.3,SNR=3.4							
ILAR	**Eielson Array**	**93.73**	**17**	P		**P**	**17 55 36.6**	**-1.4**
	0.5nm,0.8s,mb4.0,baz=236,slow=6.5,SNR=4.4							
CLL	**Collm**	**146.54**	**333**	*e*PKP1		PKPbc	18 02 04.0	+2.7
PRU	**Pruhonice**	**146.84**	**330**	*e*PKP		PKPdf	18 02 04.8	+4.3
KHC	**Kasperske Hory**	**147.89**	**330**	*e*PKP		PKPdf	18 02 07.5	+5.3
KHC				*e*pPKP			18 02 16.5	
GERES	**GERESS Array B**	**148.03**	**330**	PKPbc		PKPdf	18 02 07.9	+5.4
	1.6nm,0.8s,baz=90,slow=1.3,SNR=13							

IDC ***26*** *17:46:36.1±12.0, 17.25S×178.78W, h487km±145km, mb3.4/6, mb1 3.6/6, mb1mx3.3/15, Error ellipse: s-maj=86.6km s-min=51.5km az=145.0*
NEIC ***26*** *17:46:38.5±6.4, 17.42S×178.79W, h521km±70km, mb4.1/8, Error ellipse: s-maj=32.3km s-min=19.1km az=86.0*

ISC 26 17:46:44.2±0.8, 17.4S±0.2×179.1W±0.1, h600km, n21, σ0♀74/20, mb3.9/12, 3C-3D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CTA	**Charters Tower**	**32.91**	**260**	P		**P**	**17 52 32.7**	**+0.7**
	1.3nm,0.5s,mb3.9,baz=104,slow=8.3,SNR=4.7							
CTA	**Charters Tower**	**32.91**	**260**	P		**P**	**17 52 32.7**	**+0.7**
CTAO	**Charters Tower**	**32.91**	**260**	*e*P		**P**	**17 52 31.4**	**-0.6**
	4.8nm,1.0s,mb4.1							
CNB	**Canberra Magne**	**33.25**	**231**	⇓*i*P		**P**	**17 52 34.5**	**-0.3**
	3.7nm,0.4s,mb4.4							
STKA	**Stephens Creek**	**38.33**	**240**	⇓*i*P		**P**	**17 53 17.0**	**+0.4**
	3.9nm,0.6s,mb4.1							
STKA	**Stephens Creek**	**38.33**	**240**	P		**P**	**17 53 17.2**	**+0.6**
	3.6nm,0.5s,mb4.2,baz=82,slow=7.7,SNR=15							
WB2	**Warramunga Arr**	**44.09**	**259**	⇑*i*P		**P**	**17 54 02.1**	**-0.3**
WRAB	**Tennant Creek**	**44.09**	**259**	*e*P		**P**	**17 54 02.0**	**-0.4**
	4.5nm,0.6s,mb4.2							
WRA	**Warramunga Arr**	**44.10**	**259**	P		**P**	**17 54 02.2**	**-0.3**
	1.4nm,0.5s,mb3.8,baz=98,slow=7.0,SNR=42							
ASAR	**Alice Springs**	**44.32**	**254**	P		**P**	**17 54 04.3**	**+0.2**
	22nm,0.7s,mb4.8,baz=89,slow=7.8,SNR=340							
ASPA	**Alice Springs**	**44.32**	**254**	⇓*i*P		**P**	**17 54 04.3**	**+0.1**
KAKA	**Kakadu**	**46.99**	**269**	⇑*i*P		**P**	**17 54 29.6**	**+5.0**
	2.6nm,0.3s,mb4.2							
FITZ	**Fitzroy Crossi**	**52.48**	**260**	*e*P		**P**	**17 55 05.3**	**+0.5**
	2.1nm,1.0s,mb3.4							
MBWA	**Marble Bar**	**57.58**	**256**	*e*P		**P**	**17 55 39.8**	**-0.4**
	2.7nm,0.5s,mb3.6							
QSPA	**South Pole Qui**	**72.68**	**180**	*e*P		**P**	**17 57 11.7**	**-1.4**
	2.3nm,0.5s,mb4.0							
ILAR	**Eielson Array**	**85.51**	**13**	P		**P**	**17 58 20.8**	**+0.3**
	0.4nm,0.4s,mb3.4,baz=223,slow=4.9,SNR=8.0							
PDAR	**Pinedale Array**	**87.41**	**44**	P		**P**	**17 58 29.4**	**-0.5**
	0.3nm,0.6s,mb3.2,baz=225,slow=2.1,SNR=3.7							
SNAA	**Sanae**	**91.15**	**179**			**P**	**17 58 45.5**	**-1.1**
VNA3	**Neumayer Olymp**	**91.31**	**177**	⇑*i*		**P**	**17 58 48.7**	**+1.3**
VNA2	**Neumayer--Watz**	**91.75**	**177**			**P**	**17 58 50.8**	**+1.5**
GERES	**GERESS Array B**	**146.93**	**344**	PKPbc	PKPbc		18 05 23.4	+4.1
	0.3nm,0.5s,baz=18,slow=4.2,SNR=4.2							

IDC ***26*** *17:51:56.7±5.1, 22.52S×169.50E, mb3.7/4, mb1 3.9/4, mb1mx3.8/12, Error ellipse: s-maj=176.0km s-min=46.1km az=148.0*

ISC 26 17:51:58.7±1.5, 23.2S±0.3×169.6E±0.3, h33km, n7, σ0♀52/6, mb3.6/4, 1C, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ASAR	**Alice Springs**	**32.72**	**262**	P		**P**	**17 58 30.6**	**0.0**
	1.2nm,0.9s,mb3.8,baz=91,slow=8.6,SNR=8.5							
WRA	**Warramunga Arr**	**32.91**	**269**	P		**P**	**17 58 32.1**	**-0.3**
	0.1nm,0.5s,mb3.0,baz=98,slow=8.3,SNR=3.6							
CMAR	**Chiang Mai Arr**	**80.43**	**295**	P		**P**	**18 04 09.9**	**+0.7**
	0.6nm,0.7s,mb3.6,baz=136,slow=3.0,SNR=4.5							
VNA3	**Neumayer Olymp**	**85.86**	**180**	⇑*i*		**P**	**18 04 35.7**	**0.0**
VNA2	**Neumayer--Watz**	**86.16**	**181**			**P**	**18 04 37.1**	**0.0**
SONM	**Songino Array**	**90.54**	**323**	P		**P**	**18 04 58.2**	**-0.5**
	1.0nm,1.1s,mb4.1,baz=124,slow=5.2,SNR=4.6							
GERES	**GERESS Array B**	**148.06**	**329**	PKPbc	PKPdf		18 11 41.3	+3.8
	1.2nm,0.9s,baz=27,slow=2.2,SNR=6.7							

LDG ***26*** *17:54:23.8±0.2, 20.55S×167.68E, h10km, Mb4.8/4, Error ellipse: s-maj=19.2km s-min=4.4km az=122.0*
BJI ***26*** *17:54:25.5, 20.80S×168.30E, h32km, mb4.7, Msz5.3*
IDC ***26*** *17:54:26.6±0.6, 20.83S×168.31E, h30km±3km, mb4.4/12, mb1 4.5/14, mb1mx4.5/18, ML4.5/1, MS3.7/12, Ms1 3.7/12, ms1mx3.6/19, Error ellipse: s-maj=16.4km s-min=15.0km az=43.0*
NEIC ***26*** *17:54:26.5±0.4, 20.77S×168.31E, mb4.8/15, Error ellipse: s-maj=10.4km s-min=9.6km az=220.0*
SYO ***26*** *17:54:27.4, 20.89S×168.21E, h32km, MB4.8*

ISC 26 17:54:24.3±0.5, 20.66S±0.05×168.29E±0.09, h32km, h32km±.5km:pP-P, n97, σ1♀22/49, mb4.8/28, MS3.7/12, 13C-13D, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BKM	**Butte a Klehm**	**2.97**	**359**	⇑*i*P		**Pn**	**17 55 09.1**	**-1.3**
BKM				S		**Sn**	**17 55 44.0**	**-1.4**
URZ	**Urewera**	**19.13**	**158**	P		**P**	**17 58 47.1**	**-0.4**
	1.5nm,0.3s,baz=339,slow=5.4,SNR=17							
CTA	**Charters Tower**	**20.67**	**268**	*e*P		**P**	**17 59 06.2**	**+2.0**
	13nm,1.0s							
CTA	**Charters Tower**	**20.67**	**268**	P		**P**	**17 59 04.5**	**+0.3**
	11nm,0.6s,baz=91,slow=12,SNR=19							
CTA				LR		LR	18 06 31.0	
	comp=Z,236nm,19.2s,MS3.6,baz=320,slow=35							
CTAO	**Charters Tower**	**20.67**	**268**	⇓*e*P		**P**	**17 59 05.3**	**+1.1**
	11nm,0.7s							
RPZ	**Rata Peaks**	**23.11**	**175**	P		**P**	**17 59 29.0**	**+0.6**
	8.0nm,0.8s,mb4.2,baz=64,slow=4.2,SNR=4.7							
RPZ				LR		LR	18 07 11.6	
	comp=Z,156nm,20.8s,MS3.4,baz=190,slow=33							
PMG	**Port Moresby**	**23.24**	**296**	P		**P**	**17 59 33.1**	**+3.1**
	14nm,0.9s,mb4.4,baz=195,slow=20,SNR=5.5							
PMG				LR		LR	18 07 12.2	
	comp=Z,55nm,21.2s,MS3.0,baz=117,slow=33							
STKA	**Stephens Creek**	**26.35**	**239**	⇓*i*P		**P**	**18 00 00.7**	**+1.3**
	5.2nm,0.6s,mb4.2							
STKA	**Stephens Creek**	**26.35**	**239**	P		**P**	**18 00 00.6**	**+1.2**
	7.4nm,0.7s,mb4.3,baz=81,slow=11,SNR=13							
STKA				LR		LR	18 09 53.6	
	comp=

comp=Z,0.6nm,0.4s,mb4.3,baz=221,slow=8.3,SNR=2.2
NVAR pP pP 18 07 35.4 +0.9
comp=Z,3.4nm,0.7s,baz=226,slow=6.8,SNR=6.1
NVAR LR LR 18 38 06.4
comp=Z,79nm,19.8s,MS4.2,baz=285,slow=29
PKI Pulchoki 93.35 298 *eP* **P 18 07 39.1 +1.3**
comp=Z,11nm,1.0s,mb5.2
KKN Kakani 93.54 298 *eP* **P 18 07 39.4 +0.7**
comp=Z,8.1nm,0.8s,mb5.2
DMN Daman 93.62 298 *eP* **P 18 07 40.5 +1.4**
comp=Z,11nm,0.8s,mb5.3
GKN Gorkha 94.14 298 *eP* **P 18 07 40.8 -0.7**
KOLN Koldanda 94.92 298 *eP* **P 18 07 43.5 -1.6**
comp=Z,3.3nm,0.3s,mb5.3
TXAR Lajitas Array 98.22 62 LR LR 18 44 35.5
comp=Z,70nm,18.9s,MS4.2,baz=45,slow=31
PDAR Pinedale Array 98.22 47 LR LR 18 42 18.3
comp=Z,73nm,20.1s,MS4.2,baz=69,slow=29
ARCES ARCESS Array B 126.20 345 PKP PKPdf 18 13 24.7 -3.8
comp=Z,1.2nm,0.5s,baz=90,slow=2.3,SNR=14
ARCES pPKP 18 13 34.3
comp=Z,1.2nm,0.5s,baz=63,slow=2.7,SNR=2.0
BRG Berggiesshubel 143.72 332 *eP* PKPbc 18 13 56.1 +1.4
BRG *e* 18 14 01.6
CLL Collm 143.80 334 *e*PKIKP PKPdf 18 13 57.0 -4.3
CLZ Clausthal 144.43 336 *e*PKPbc PKPbc 18 13 58.6 +1.9
DIVS Divcibare 144.81 319 ⇑*i*P PKPbc 18 13 59.7 +1.7
RHK1 Bakonya 144.83 323 ⇑*i*P PKPbc 18 14 00.3 +2.3
MOX Moxa 144.88 334 *i* P PKPbc 18 14 00.0 +2.0
comp=Z,logA/T=1.2
MOX Moxa 144.88 334 *e*P PKPbc 18 14 00.0 +2.0
KHC Kasperske Hory 145.15 331 *e*PKP PKPdf 18 14 00.7 -3.1
GEC2 GERESS Array S 145.29 330 *e*PKPbc PKPbc 18 14 01.1 +2.0
GERES GERESS Array B 145.29 330 PKPbc PKPbc 18 14 01.2 +2.1
comp=Z,3.3nm,0.6s,baz=37,slow=4.6,SNR=32
WET Wettzell 145.46 331 *e*PKPbc PKPbc 18 14 01.7 +2.2
ARSA Arzberg 145.49 327 ⇓*i*P PKPbc 18 14 02.5 +2.9
GRA1 Grafenberg Arr 145.77 333 *e*PKPbc PKPbc 18 14 03.0 +2.7
MOTA Moosalm 147.58 331 ⇓*i*P PKPdf 18 14 07.7 -0.2
SQTA Sankt Quirin 147.62 330 ⇓*i*P PKPdf 18 14 08.1 +0.1
WLF Walferdange 147.75 338 *e*PKPbc PKPdf 18 14 08.9 +0.8
WLF *e* 18 14 18.7
GIVF Givet 147.82 340 *e*PKP1 PKPdf 18 14 08.2 0.0
BFO Black Forest 148.03 334 *e*PKPbc PKPdf 18 14 08.5 -0.1
BAIF Baives 148.06 340 *e*PKP1 PKPdf 18 14 08.9 +0.3
comp=Z,23nm,1.0s
DAVA Damuels 148.18 332 ⇓*i*P PKPdf 18 14 09.7 +0.8
CDF Champ du Feu 148.38 336 *e*PKP1 PKPdf 18 14 09.5 +0.4
comp=Z,21nm,1.0s
HINF Hinteralfeld 149.03 335 *e*PKP1 PKPdf 18 14 11.0 +0.8
HAU Haudompre 149.07 336 *e*PKP1 PKPdf 18 14 11.2 +0.9
comp=Z,32nm,1.0s
MEZF Maizieres J'vi 149.12 338 *e*PKP1 PKPdf 18 14 11.9 +1.6
CABF La Chapelle 150.31 335 *e*PKP1 PKPdf 18 14 14.8 +2.5
comp=Z,26nm,0.9s
FLN La Foliniere 150.54 345 *e*PKP1 PKPdf 18 14 14.5 +2.0
LOR Lormes 150.59 338 *e*PKP1 PKPdf 18 14 15.0 +2.3
comp=Z,20nm,0.9s
LDF La Druitiere 150.61 344 *e*PKP1 PKPdf 18 14 14.6 +1.9
comp=Z,5.8nm,0.6s
SSF Saint Saulge 150.90 338 *e*PKP1 PKPdf 18 14 15.8 +2.7
comp=Z,28nm,1.0s
LPL La Plagne 150.93 333 *e*PKP1 PKPdf 18 14 16.3 +3.1
comp=Z,24nm,0.9s
LPG La Plagne 150.93 333 *e*PKP1 PKPdf 18 14 16.5 +3.3
comp=Z,25nm,0.9s
GRR Gorron 150.99 345 *e*PKP1 PKPdf 18 14 15.6 +2.4
SMF Signal de Mont 151.13 338 *e*PKP1 PKPdf 18 14 16.2 +2.7
BNI Bardonecchia 151.32 332 *e*PKPbc PKPdf 18 14 17.6 +3.8
MBDF Montbardon 151.53 332 *e*PKP1 PKPdf 18 14 17.1 +2.9
comp=Z,17nm,0.9s
BGF Bois d'Agland 151.56 339 *e*PKP1 PKPdf 18 14 17.2 +3.1
ORIF Oris-en-Rattie 151.77 333 *e*PKP1 PKPdf 18 14 17.8 +3.3
comp=Z,20nm,0.7s
TCF Toulx Ste Croi 152.01 339 *e*PKP1 PKPdf 18 14 18.1 +3.3
comp=Z,16nm,1.0s
PGF Pioggiola 152.08 326 *e*PKP1 PKPdf 18 14 18.4 +3.4
comp=Z,39nm,0.8s
VIVF Saint-Julien-l 152.32 334 *e*PKP1 PKPdf 18 14 18.9 +3.6
comp=Z,28nm,1.2s
LASF Ste Croix 153.29 335 *e*PKP1 PKPdf 18 14 20.6 +3.9
DBIC Dimbokro 164.59 206 PKPab PKPab 18 15 22.3 -0.5
comp=Z,3.3nm,0.9s,baz=144,slow=8.7,SNR=3.8

*NEIC **26** 18:03:06.8,35.91N×22.16E,h49km,MD3.5(ATH),After ATH.*
*CSEM **26** 18:03:06.8,35.91N×22.16E,h49km,MD3.5/4,After ATH*
ATH 26 18:03:08.1,35.98N×22.30E,h46km,MD3.4/4,Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.67**	**63**	*e*P	P	18 03 22.1	+0.8
KYTH	**Kithira**	**0.67**	**63**	*e*P	P	18 03 22.5	+1.2
VLI	**Veliai**	**0.90**	**35**	*e*P	P	18 03 26.3	+1.8
VLI				*e*S	S	18 03 37.7	+1.1
VLI	**Veliai**	**0.90**	**35**	*e*P	P	18 03 26.0	+1.5
ITM	**Ithomi**	**1.23**	**346**	*e*P	P	18 03 29.2	0.0
VAM	**Vamos**	**1.65**	**110**	*e*P	P	18 03 35.9	+0.7
GVD	**Gavdhos**	**1.85**	**127**	*e*Pn	P	18 03 38.7	+0.7
EVR	**Evrytania**	**2.96**	**353**	*e*P	P	18 03 55.2	+1.4
NEO	**Neokhori**	**3.40**	**12**	*e*P	P	18 04 00.5	+0.5

*MOS **26** 18:34:09.6±1.5,54.83N×161.65E,h57km,mb4.4/1,Error ellipse: s-maj=24.1km s-min=9.9km az=75.5*
*KRSC **26** 18:34:09.6±0.5,54.81N×161.73E,h53km±3km,ML4.4*
*IDC **26** 18:34:12.8±5.8,53.65N×161.83E,h32km±44km,mb3.4/3, mb1 3.7/3,mb1mx3.3/20,ML4.3/1,Error ellipse: s-maj=44.7km s-min=20.7km az=167.0*
ISC 26 18:34:09.1±0.4,54.80N±0.02×161.84E±0.05,h62km±6km, n43,σ0s74/82,mb3.4/3,1D,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.25**	**195**	P	P	18 34 19.3	+0.2
MKZ				S	S	18 34 26.0	-0.4
MKZ	**Mys Kozlova**	**0.25**	**195**	*i* P	P	18 34 19.3	+0.2
MKZ				*i* S	S	18 34 25.9	-0.5
TUMR	**Tumrok**	**1.09**	**297**	*i* P	P	18 34 28.7	0.0
TUMR				*i* S	S	18 34 42.9	-0.3
KMNR	**Kamenistaya**	**1.33**	**317**	*e*P	P	18 34 32.1	0.0
KMNR				*e*S	S	18 34 48.1	-1.0
ZLN	**Zelenaya**	**1.36**	**335**	*i* P	P	18 34 32.9	+0.4
ZLN				*e*S	S	18 34 50.0	+0.2
LGNR	**Loginova**	**1.45**	**333**	*i* P	P	18 34 34.5	+0.8
LGNR				*e*S	S	18 34 53.1	+1.3
CIRR	**Tsirk**	**1.46**	**335**	*e*P	P	18 34 34.4	+0.6
CIRR				*e*S	S	18 34 52.3	+0.2
KPT	**Kopyto**	**1.49**	**322**	*e*P	P	18 34 34.3	0.0
KPT				*e*S	S	18 34 52.1	-0.8
KBTR	**Krutoberegovo**	**1.52**	**21**	*e*P	P	18 34 35.3	+0.7
KBTR				*e*S	S	18 34 53.9	+0.4
KBG	**Krutoberegovo**	**1.54**	**18**	*i* P	P	18 34 35.6	+0.7
KBG				*e*S	S	18 34 54.1	+0.1
KBG				Smax			
	300nm,0.6s						
KII	**Karymskiy**	**1.59**	**242**	P	P	18 34 35.8	+0.2
KII				S	S	18 34 55.3	+0.1
KII	**Karymskiy**	**1.59**	**242**	*i* P	P	18 34 35.7	+0.1
KII				*e*S	S	18 34 55.3	+0.1
KRSR	**Krestovskiy**	**1.60**	**333**	*e*P	P	18 34 35.7	0.0
KRSR				*e*S	S	18 34 54.9	-0.5
KLY	**Klyuchi**	**1.66**	**337**	P	P	18 34 36.4	-0.2
KLY				S	S	18 34 56.0	-0.9
KLY	**Klyuchi**	**1.66**	**337**	*e*P	P	18 34 36.3	-0.3
KLY				*e*S	S	18 34 56.1	-0.8
KOZR	**Kozyr**	**1.69**	**320**	PN	P	18 34 37.4	+0.5
KOZR				S	S	18 34 57.6	+0.1
KOZ	**Kozyrevsk**	**1.69**	**319**	*e*P	P	18 34 37.4	+0.4
KOZ				*e*S	S	18 34 57.6	+0.1
SVLR	**Shiveluch**	**1.82**	**349**	*e*P	P	18 34 39.2	+0.5
SVLR				*e*S	S	18 35 01.1	+0.5
SRDR	**Sredinnyy**	**1.94**	**322**	*i* P	P	18 34 40.4	-0.1
SRDR				*e*S	S	18 35 02.8	-0.8
SPN	**Mys Shipunski**	**2.01**	**213**	P	P	18 34 41.2	-0.2
SPN				S	S	18 35 04.2	-1.1
SPN	**Mys Shipunski**	**2.01**	**213**	*i* P	P	18 34 41.1	-0.3
SPN				*e*S	S	18 35 04.2	-1.1
ESO	**Esso**	**2.12**	**304**	*i* P	P	18 34 42.3	-0.6
ESO				*e*S	S	18 35 05.8	-2.3
ESO				Smax			
	190nm,0.6s						
NLC	**Nalytchevo**	**2.20**	**223**	P	P	18 34 44.3	+0.3
NLC				S	S	18 35 09.9	-0.1
NLC	**Nalytchevo**	**2.20**	**223**	*e*P	P	18 34 44.3	+0.3
NLC				*e*S	S	18 35 10.0	0.0
SDLR	**Sedlovina**	**2.31**	**230**	*e*P	P	18 34 46.2	+0.5
SDLR				*e*S	S	18 35 12.5	-0.5
SMAR	**Somma**	**2.36**	**231**	*e*P	P	18 34 47.1	+0.7
SMAR				*e*S	S	18 35 14.3	+0.1
AVH	**Avacha**	**2.39**	**231**	*e*P	P	18 34 47.4	+0.6
AVH				*e*S	S	18 35 14.5	-0.4
BKI	**Bering**	**2.41**	**79**	*i* P	P	18 34 47.0	-0.1
BKI				*i* S	S	18 35 14.3	-1.2
KOK	**Koryaka**	**2.42**	**233**	*e*P	P	18 34 47.5	+0.3
KOK				*e*S	S	18 35 15.7	+0.1
GNL	**Ganaly**	**2.54**	**246**	*e*P	P	18 34 49.5	+0.6
GNL				*e*S	S	18 35 18.2	-0.5
PET	**Petropavlovsk**	**2.59**	**228**	P	P	18 34 50.0	+0.4
PET				S	S	18 35 19.9	-0.1
PET	**Petropavlovsk**	**2.59**	**228**	*e*P	P	18 34 50.0	+0.4
PET				*e*S	S	18 35 19.8	-0.2
PET	**Petropavlovsk**	**2.59**	**228**	⇓*i*PN	P	18 34 49.9	+0.3
PET				*e*S	S	18 35 20.5	+0.5
PET				pmax	pmax		
	comp=Z,128nm,0.4s						
PET				smax			
	comp=E,460nm,0.4s						
PET				smax			
	comp=N,462nm,0.4s						
RUS	**Russkaya**	**3.09**	**221**	P	P	18 34 56.6	0.0
RUS				S	S	18 35 31.2	-1.3
RUS	**Russkaya**	**3.09**	**221**	*e*P	P	18 34 56.5	-0.1
RUS				*e*S	S	18 35 31.1	-1.4
GRL	**Gorelyy**	**3.17**	**226**	*e*P	P	18 34 59.3	+1.4
GRL				*e*S	S	18 35 35.6	+0.9
MIPR	**Malaya Ipel'ka**	**3.95**	**232**	*e*P	P	18 35 08.3	-0.4
PAU	**Pauzhetka**	**4.50**	**224**	*e*P	P	18 35 18.6	+2.1
PAU				*e*S	S	18 36 09.1	+1.0
PAU				Smax			
	comp=N,200nm,0.8s						
SKR	**Severo-Kuril's**	**5.39**	**222**	*e*P	P	18 35 26.5	-2.3
SKR				*e*S	S	18 36 24.5	-5.8
FX1	**Attu Island--F**	**6.97**	**101**	Pn	P	18 35 49.2	-1.6
	comp=N,22nm,0.3s,baz=322,slow=2.5,SNR=22						
FX1				Sn	S	18 37 03.1	-6.3
	comp=N,16nm,0.3s,baz=296,slow=18,SNR=9.5						
ILAR	**Eielson Array**	**26.89**	**48**	P	P	18 39 57.4	+12
	comp=N,0.3nm,0.8s,mb2.9,baz=252,slow=5.7,SNR=4.2						
WRA	**Warramunga Arr**	**78.07**	**206**	P	P	18 46 02.3	-0.3
	comp=N,0.7nm,1.1s,mb3.5,baz=20,slow=6.0,SNR=5.3						
ASAR	**Alice Springs**	**81.74**	**206**	P	P	18 46 22.6	+0.3
	comp=N,0.4nm,0.4s,mb3.7,baz=18,slow=4.8,SNR=12						

*NIED **26** 18:35:00,37.20N×138.90E,h8km,Mw3.6 Best double couple: M₀3.22×10¹⁴ NP1:φs340°,δ67°,λ51°. NP2:φs224°, δ44°,λ146°.*
*JMA **26** 18:35:40.3,37.22N×138.92E,h8km±1km,M3.7*
JMA Felt III J1.
ISC 26 18:35:39.7±0.5,37.22N±0.03×138.92E±0.03,h8km,n9, σ0s81/18,3C-3D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.08**	**73**	⇑P	Pg	18 35 42.4	+0.4
JHK				S	Sg	18 35 44.3	+0.9
JIZZ	**Izumozaki**	**0.35**	**332**	P	Pg	18 35 47.7	+0.9
JIZZ				S	Sg	18 35 53.5	+1.9
JKT	**Katashina**	**0.53**	**150**	⇓P	Pg	18 35 50.6	+0.2
JKT				S	Sg	18 35 58.0	+0.5
JJN	**Nakama**	**0.61**	**259**	P	Pg	18 35 52.3	+0.2
JJN				S	Sg	18 36 01.4	+1.1
JFY	**Yanaizu**	**0.66**	**74**	⇓P	Pg	18 35 52.7	-0.2
JFY				S	Sg	18 36 01.6	-0.1
JNS	**Sasagawa**	**0.67**	**28**	⇑P	Pg	18 35 52.7	-0.6
JNS				S	Sg	18 36 01.6	-0.7
JGK	**Kuni**	**0.70**	**199**	⇑P	Pb	18 35 53.4	-0.3
JGK				S	Sg	18 36 03.0	-0.1
MAT	**Matsushiro**	**0.89**	**220**	P	Pb	18 35 56.3	-0.6
MAT				S	Sb	18 36 07.8	-0.9
JSD	**Sado**	**0.96**	**328**	⇓P	Pb	18 35 57.1	-1.2
JSD				S	Sb	18 36 09.6	-1.4

*ISK **26** 18:45:27.5,36.91N×27.79E,h14km,MD2.9*
*ATH **26** 18:45:28.5,36.96N×27.88E,h29km,MD2.9/4*
*NEIC **26** 18:45:28.5,36.96N×27.88E,h29km,MD2.9(ATH),After ATH.*
*CSEM **26** 18:45:29.0±0.1,37.00N×27.88E,h20km,MD2.9,Error ellipse: s-maj=3.0km s-min=2.5km az=80.0*
ISC 26 18:45:28.4±0.7,36.91N±0.04×27.81E±0.04,h11km±5km, n15,σ0s95/22,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.33**	**298**	*i* P	Pg	18 45 35.8	+0.5
BDRM				*i* S	Sg	18 45 40.9	+0.8
MLSB	**Milas**	**0.39**	**356**	*i* PG	Pg	18 45 36.1	-0.4
MLSB				*i* SG	Sg	18 45 41.4	-0.4
YER	**Yerkesik**	**0.44**	**59**	*i* PG	Pg	18 45 37.1	-0.4
YER				*i* SG	Sg	18 45 43.8	+0.3
NISR	**Nisiros**	**0.62**	**242**	*e*PN	Pn	18 45 42.5	-0.3
DALT	**Dalyan (Mudla)**	**0.68**	**101**	PG	Sg	18 45 40.6	-1.5
DALT				SG	Sg	18 45 52.4	+1.2
ARG	**Arkhangelos**	**0.73**	**160**	*e*PN	Pn	18 45 44.0	-0.4
AYDN	**Tasoluk**	**0.76**	**4**	*i* P	Pb	18 45 42.5	-0.6
AYDN				*i* S	Sb	18 45 51.8	-1.2
SMG	**Samos**	**1.11**	**316**	*e*PN	Pn	18 45 49.6	-0.3
DNZL	**Cakiroluk**	**1.26**	**51**	*i* P	Pb	18 45 51.8	+0.1
DNZL				*i* S	Sb	18 46 09.6	+1.9
DENT	**Denizli**	**1.29**	**49**	*e*PN	Pn	18 45 51.8	-0.6
KARP	**Karpathos**	**1.46**	**201**	*e*PN	Pn	18 45 55.7	+1.0
IZM	**Izmir**	**1.55**	**344**	*e*PN	Pn	18 45 55.6	-0.5
KDAG	**Bornova**	**1.55**	**344**	*i* P	Pn	18 45 57.6	+1.4
KDAG				*i* S	Sb	18 46 18.4	+2.1
BLCB	**Balcova**	**1.60**	**338**	*e*PN	Pn	18 45 56.1	-0.7
AKS	**Akhisar**	**1.97**	**0**	*e*PN	Pn	18 46 00.7	-1.4

*PRU **26** 18:51:44.7,51.42N×16.05E*
WAR 26 18:51:43.1,51.50N×16.09E,ML2.6,Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67**	**169**	*e*PG	Pg	18 51 55.0	-1.5
KSP				*e*SG	Sg	18 52 04.0	-1.5
UPC	**Upice**	**1.00**	**183**	*e*PG	Pg	18 52 02.0	-1.0
DPC	**Dobruska-Polom**	**1.16**	**173**	*e*PG	Pg	18 52 04.3	-2.0
DPC				*e*SG	Sg	18 52 19.1	-2.7
PVCC	**Panska Ves**	**1.37**	**225**	*e*PG	Pg	18 52 08.5	-1.9
PRU	**Pruhonice**	**1.81**	**214**	*e*SG	Sg	18 52 39.7	-3.5
	7.0nm,0.3s						
CLL	**Collm**	**1.94**	**265**	*i* PG	Pg	18 52 20.0	-1.9
CLL				*e*SG	Sg	18 52 45.0	-2.7
OKC	**Ostrava-Krasne**	**2.12**	**141**	*e*SG	Sg	18 52 51.0	-2.7
NKC	**Novy Kostel**	**2.63**	**243**	*e*SG	Sg	18 53 06.3	-4.4
KHC	**Kasperske Hory**	**2.87**	**215**	*e*SN	Sn	18 53 03.9	-2.7
KHC				*e*SG	Sg	18 53 12.8	-5.7

*JMA **26** 19:15:07.7,37.29N×138.96E,h9km±1km,M2.5*
ISC 26 19:15:07.4±0.9,37.25N±0.05×138.97E±0.07,h9km,n4, σ0s66/7,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.04**	**99**	P	Pg	19 15 09.6	+0.4
JHK				S	Sg	19 15 11.2	+0.9
JIZZ	**Izumozaki**	**0.35**	**323**	P	Pg	19 15 14.5	0.0
JIZZ				S	Sg	19 15 19.9	+0.7
JNS	**Sasagawa**	**0.63**	**26**	S	Sg	19 15 27.3	-1.1
MAT	**Matsushiro**	**0.94**	**221**	P	Pb	19 15 24.9	-0.5
MAT				*e*S	Sb	19 15 37.2	-0.5

*NIED **26** 19:15:00,37.20N×138.80E,h5km,Mw3.7 Best double couple: M₀3.89×10¹⁴ NP1:φs343°,δ62°,λ61°. NP2:φs213°, δ40°,λ133°.*

*JMA **26** 19:15:23.5,37.17N×138.76E,h6km±1km,M3.6*
JMA Felt III J1.
*IDC **26** 19:15:31.1±4.5,36.79N×138.27E,h57km±41km,mb3.3/4, mb1 3.5/5,mb1mx3.3/22,ML3.6/1,Error ellipse: s-maj=107.0km s-min=23.7km az=66.0*
ISC 26 19:15:23.6±0.6,37.15N±0.05×138.79E±0.06,h20km±7km, n9,σ1s15/13,mb3.5/4,1C-1D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.20**	**62**	⇓P	Pb	19 15 28.0	-0.8
JHK				S	Sb	19 15 31.8	+0.5
JIZZ	**Izumozaki**	**0.39**	**350**	P	Pb	19 15 31.1	-0.6
JIZZ				S	Sb	19 15 38.2	+1.1
JJN	**Nakama**	**0.51**	**265**	P	Pb	19 15 33.1	-0.6
JJN				S	Sb	19 15 40.7	+0.1
JKT	**Katashina**	**0.53**	**136**	⇑P	Pb	19 15 34.2	+0.1
JKT				S	Sb	19 15 42.3	+1.1
JHJ	**Hachijo jima 2**	**4.11**	**168**	P	Pn	19 16 28.3	+1.5
	12nm,0.3s,baz=356,slow=24,SNR=7.5						
SONM	**Songino Array**	**25.99**	**305**	P	P	19 20 57.0	+0.4
	0.5nm,0.7s,mb3.2,baz=97,slow=10.0,SNR=4.4						
WRA	**Warramunga Arr**	**56.94**	**185**	P	P	19 25 07.8	-2.2
	0.7nm,0.6s,mb3.9,baz=1.0,slow=7.5,SNR=11						
ASAR	**Alice Springs**	**60.67**	**185**	P	P	19 25 33.4	-2.5
	0.3nm,0.8s,mb3.5,baz=357,slow=4.4,SNR=4.0						
AKASG	**Malin Array Be**	**72.91**	**321**	P	P	19 26 54.5	+1.7
	0.3nm,0.3s,mb3.6,baz=47,slow=5.3,SNR=5.0						

*LDG **26** 19:59:24.3±0.9,42.88N×1.52W,h2km,Md2.2/2,Ml2.2/1, Error ellipse: s-maj=16.5km s-min=13.1km az=57.0*
*MDD **26** 19:59:25.1±0.4,42.85N×1.44W,h2km±10km,mbLg1.3/8, Error ellipse: s-maj=3.9km s-min=2.7km az=36.0,PRXIMO AftershockPLICA*
ISC 26 19:59:23.4±0.6,42.81N±0.04×1.47W±0.05,h2km,n9, σ0s52/16,1C,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.35**	**30**	*e*Pg	Pg	19 59 30.6	+0.2
SJPF				*e*Sg	Sg	19 59 34.7	-0.3
	16nm,0.2s						
EALK	**Alkurruntz**	**0.41**	**356**	⇑Pg	Pg	19 59 31.9	+0.4
	1.3nm,0.1s,SNR=18						
EALK				Lg		19 59 37.9	
	6.8nm,0.2s,SNR=7.9						
LARF	**Larrau**	**0.42**	**57**	P	Pg	19 59 31.9	+0.2
LARF				S	Sg	19 59 37.6	+0.3
ETSF	**Etsaut**	**0.67**	**82**	*e*Pg	Pg	19 59 36.1	-0.7
ETSF				*e*Sg	Sg	19 59 46.2	+0.4
	4.4nm,0.3s						
EBIE	**Bielsa**	**1.19**	**95**	Pg	Pg	19 59 47.1	0.0
	0.9nm,0.1s,SNR=7.9						
EBIE				Lg		20 00 02.7	
	2.1nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**1.32**	**145**	Pg	Pg	19 59 48.8	-0.8
	6.2nm,0.3s,SNR=7.9						
ESAC				Lg		20 00 07.1	
	11nm,0.3s,SNR=7.9						
EPF	**Esparros**	**1.34**	**80**	*e*Pn	Pn	19 59 48.5	-0.7
EPF				*e*Pg	Pg	19 59 50.7	+0.5
EPF				*e*Sg	Sg	20 00 08.1	0.0
	3.6nm,0.2s						
ELAN	**Lanestosa**	**1.50**	**287**	Pg	Pg	19 59 53.1	-0.3
	0.4nm,0.1s,SNR=7.9						
ELAN				Lg		20 00 13.8	
	2.8nm,0.4s,SNR=7.9						
ETOR	**Torete**	**2.04**	**193**	Pn	Pn	19 59 59.9	+0.7
	0.4nm,0.2s,SNR=7.9						
ETOR				Pg	Pg	20 00 03.4	-0.7
	SNR=7.9						
ETOR				Sn	Sn	20 00 26.3	+0.8
	SNR=7.9						
ETOR				Lg		20 00 32.6	
	1.7nm,0.3s,SNR=7.9						

*ATH **26** 20:39:16.4,39.67N×20.35E,h27km±2km,MD3.4/5*
*NEIC **26** 20:39:16.4,39.67N×20.35E,h27km,MD3.4(ATH),After ATH.*
*CSEM **26** 20:39:17.7±0.2,39.68N×20.31E,h2km,ML3.3,Error ellipse: s-maj=3.9km s-min=3.0km az=115.0*
*THE **26** 20:39:18.3,39.67N×20.41E,h1km,ML3.3*
ISC 26 20:39:17.6±0.5,39.65N±0.02×20.38E±0.04,h7km±4km, n26,σ0s93/40,2C,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.12**	**198**	*e*Pg	Pg	20 39 20.5	+0.1
IGT				*e*Sg	Sg	20 39 23.8	+1.6
JAN	**Janina**	**0.36**	**88**	*e*PB	Pb	20 39 23.9	-2.0
JAN				*e*SB	Sb	20 39 31.2	-0.3
SRN	**Sarande**	**0.38**	**309**	*i* Pg	Pg	20 39 24.1	-1.1
SRN				*i* Sg	Sg	20 39 30.8	+0.5
SRN	**Sarande**	**0.38**	**309**	*i* Sg	Sg	20 39 30.8	+0.5
KEK	**Kerkira**	**0.45**	**279**	*e*PB	Pb	20 39 25.7	-1.8
MEV	**Metsovon**	**0.67**	**78**	*e*Pg	Pg	20 39 30.0	-1.0
MEV				*e*Sg	Sg	20 39 39.5	-0.5
LKD	**Levkas**	**0.96**	**167**	*e*Pg	Pg	20 39 36.2	-0.7
LKD				*e*Sg	Sg	20 39 50.7	+1.0
KZN	**Kozani**	**1.25**	**58**	*e*PN	Pn	20 39 40.1	-1.4
EVR	**Evrytania**	**1.33**	**123**	*e*PN	Pn	20 39 42.4	-0.2
FNA	**Florina**	**1.37**	**34**	*e*Pb	Pb	20 39 42.7	-0.4
FNA				*e*Sb	Sb	20 40 02.3	+1.6
VLS	**Valsamata**	**1.48**	**174**	*e*PN	Pn	20 39 43.8	-0.9
OHR	**Ohrid**	**1.50**	**12**	⇑*i*Pn	Pn	20 39 46.2	+1.2
OHR				*i* Sg	Sg	20 40 07.7	+0.2
BIA	**Bitola**	**1.55**	**27**	*i* Pn	Pn	20 39 48.8	+3.1
BIA				*i*		20 39 54.2	
BIA				*i* Sg	Sg	20 40 09.2	0.0
AGG	**Agios Georgios**	**1.64**	**112**	*e*Pb	Pb	20 39 47.4	-0.3
AGG				*e*Sb	Sb	20 40 10.2	+1.8
LIT	**Litokhoron**	**1.69**	**74**	*e*Pb	Pb	20 39 48.0	-0.5
LIT				*e*Sb	Sb	20 40 10.5	+0.7
TIR	**Tirane**	**1.74**	**347**	*e*Pn	Pn	20 39 49.5	+1.0
GRG	**Griva**	**2.02**	**49**	*e*Pn	Pn	20 39 52.7	+0.2
GRG				*e*Sn	Sn	20 40 18.4	+0.1
XOR	**Xorichti**	**2.19**	**96**	*e*Pn	Pn	20 39 55.4	+0.5
THE	**Thessaloniki**	**2.21**	**63**	*e*Pn	Pn	20 39 55.3	+0.1
KNT	**Kendrikon**	**2.45**	**51**	*e*Pn	Pn	20 39 59.0	+0.4
KNT				*e*Sn	Sn	20 40 28.9	-0.2
SKO	**Skopje**	**2.46**	**

TP2 AML AML 20 46 08.0
comp=N,4μm,0.3s
RTR El Retiro 1.20 75⇓*e*P **P** **20 45 50.3 +0.3**
RTR *e*S **S** **20 46 06.3 +0.6**
SBLS San Blas 1.21 78 *e*P **P** **20 45 50.2 +0.1**
SBLS *e*S **S** **20 46 05.1 -0.9**
SNJE San Jose 1.23 77⇓*e*P **P** **20 45 50.6 +0.1**
SNJE *e*S **S** **20 46 06.1 -0.3**
RBDL Robledal 1.23 65⇓*e*P **P** **20 45 50.1 -0.4**
BOQS Boqueron 1.52 85⇓*e*P **P** **20 45 54.6 0.0**
BOQS *e*S **S** **20 46 14.2 +0.7**
SNET Serv Nac Est T 1.56 87 *e*P **P** **20 45 55.5 +0.4**
MTO2 Montecristo 2 1.64 61⇓*e*P **P** **20 45 55.4 -0.8**
MTO2 *e*S **S** **20 46 16.1 -0.2**
LFRS El Faro 1.73 89⇓*e*P **P** **20 45 57.2 -0.2**
LFRS *e*S **S** **20 46 18.4 +0.1**
LBRS Las Brisas 1.75 85⇑*e*P **P** **20 45 57.8 +0.1**
LBRS *e*S **S** **20 46 18.4 -0.5**
LCBS La Ceiba 1.81 88⇓*e*P **P** **20 45 58.2 -0.3**
LCBS *e*S **S** **20 46 21.0 +0.7**
MRL Marmol 1.84 37⇓*e*P **P** **20 45 58.4 -0.4**
MRL *e*S **S** **20 46 19.7 -1.2**
MRL AML AML 20 46 21.1
comp=N,267nm,0.4s
SNVI San Vicente 1.94 89⇑*e*P **P** **20 46 00.4 0.0**
SNVI *e*S **S** **20 46 24.6 +1.0**
VSM San Miguel 2.50 94 *e*P **P** **20 46 07.7 -0.5**
VSM *e*S **S** **20 46 39.6 +2.0**
BLLM Bellamira 2.54 93 *e*P **P** **20 46 08.9 +0.2**
BLLM *e*S **S** **20 46 39.5 +1.1**
CAHU Cacacuatique 2.56 86 *e*P **P** **20 46 08.5 -0.6**
CNCH Conchagua 2.94 96⇓*e*P **P** **20 46 14.2 -0.3**
CNCH *e*S **S** **20 46 49.3 +0.6**
LEON Leon 4.02 107 *e*P **P** **20 46 29.9 +0.3**
LEON *e*S **S** **20 47 14.2 -1.6**
TEL3 Telica 3 4.02 104 *e*P **P** **20 46 29.8 +0.2**
TEL3 *e*S **S** **20 47 16.3 +0.4**
TELN Telica 4.03 104 *e*P **P** **20 46 29.9 +0.2**
TELN *e*S **S** **20 47 13.9 -2.1**
CNGN Cerro Negro 4.18 105⇑*e*P **P** **20 46 31.5 -0.3**
CNGN *e*S **S** **20 47 23.2 +3.4**
MIRN Miramar 4.18 105 *e*P **P** **20 46 31.7 -0.2**
MOMJ Momotombo 4.35 105 *e*P **P** **20 46 34.5 +0.3**
COPN Copaltepe 4.37 108 *e*P **P** **20 46 34.8 +0.2**
COPN *e*S **S** **20 47 21.2 -3.5**
APYN Apoyeque 4.58 107 *e*P **P** **20 46 37.8 +0.4**
APYN *e*S **S** **20 47 28.6 -1.3**
TICN Ticuantepe 4.75 109 *e*P **P** **20 46 41.1 +1.2**
TEIG Tepich 7.03 20 P **P** **20 47 11.3 -0.3**
comp=N,0.0nm,0.3s,baz=340,slow=24,SNR=2.5
TEIG S **S** **20 48 26.1 -4.8**
comp=N,0.0nm,0.3s,baz=25,slow=24,SNR=4.4
TXAR Lajitas Array 19.66 325 P **P** **20 49 54.7 -0.8**
baz=156,slow=12,SNR=4.2
NVAR Mina Array Bea 34.70 320 P **P** **20 52 15.4 +0.6**
comp=N,1.9nm,0.8s,mb4.1,baz=129,slow=9.1,SNR=10.0
SCHQ Scheffervill 45.22 19 P **P** **20 53 36.1 -5.4**
comp=N,2.2nm,0.6s,mb4.2,baz=258,slow=10,SNR=5.1
CMAR Chiang Mai Arr 146.72 343 PKPbc PKPbc 21 05 03.4 -1.0
comp=N,1.2nm,0.6s,baz=341,slow=3.4,SNR=10

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*IDC **26** 20:48:09.2±0.5,57.06S×24.71W,mb5.0/11,mb1 5.0/13, mb1mx4.9/15,ML4.1/1,MS5.5/14,Ms1 5.5/14, ms1mx5.4/16,Error ellipse: s-maj=22.9km s-min=15.1km az=54.0*

*MOS **26** 20:48:09.5±1.0,57.10S×24.53W,h10km,mb5.9/5, MS5.6/11,Error ellipse: s-maj=40.0km s-min=12.3km az=102.4*

*BJI **26** 20:48:09.1,57.85S×24.73W,h10km,mB5.7,Ms5.9, Msz5.8*

*HRVD **26** 20:48:10.6±0.2,57.09S×24.26W,h12km,MW5.6/70, Centroid moment Tensor Solution. LP body waves: s63,c121;Mantle waves: s70,c140; Half duration: 1s6 Moment tensor: Scale 10^17^Nm; Mrr2.39±.05; Mθθ0.18±.05; Mφφ-2.57±.04; Mrθ-0.22±.14; Mθφ1.21±.04; Mφr2.03±.12; Best double couple: M0 3.4×10^17^ NP1:φs146°,δ28°,λ69°. NP2:φs350°,δ64°,λ101°. Principal axes: T 3.13, Plg69°, Azm282°; N .55, Plg10°, Azm165°; P -3.68, Plg18°, Azm72°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*SYO **26** 20:48:10.4,57.05S×24.82W,h10km,MB5.4,MS5.5*

*NEIC **26** 20:48:10.6±0.1,57.07S×24.83W,h10km,mb5.4/21, MS5.5/102,MW6.0,Error ellipse: s-maj=7.6km s-min=4.8km az=63.0,Moment Tensor Solution. s11 Moment tensor: Scale 10^18^Nm; Mrr0.14; Mθθ-0.18; Mφφ0.04; Mrθ-0.49; Mθφ-0.24; Mφr1.15; Best double couple: M0 1.3×10^18^ NP1:φs252°,δ5°,λ-176°. NP2:φs159°, δ90°,λ-85°. Principal axes: T 1.41, Plg44°, Azm244°; N -.31, Plg5°, Azm339°; P -1.1, Plg45°, Azm73°;*

ISC 26 20:48:09.0±0.3,57.08S±0.05×24.9W±0.1,h10km,n264, σ1s04/76,mb5.2/30,MS5.5/131,22C-8D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**15.37**	**159**	⇑*i*			**P**	**20 51 51.6**	**+4.5**
VNA1	**Neumayer--Stat**	**15.37**	**159**	⇑*i*			**P**	**20 52 01.3**	**+14**
VNA1	**Neumayer--Stat**	**15.37**	**159**	⇑*i*			**P**	**20 52 06.1**	**+19**
VNA1	**Neumayer--Stat**	**15.37**	**159**	⇑*i*		S	**S**	**20 54 51.1**	**+13**
VNA1	**Neumayer--Stat**	**15.37**	**159**			Pn	**P**	**20 51 48.2**	**+1.1**
VNA1				⇑*i*		P		20 51 51.6	
VNA3	**Neumayer Olymp**	**15.60**	**162**	⇑*i*			**P**	**20 51 51.6**	**+1.5**
VNA3	**Neumayer Olymp**	**15.60**	**162**	⇑*i*			**P**	**20 51 54.7**	**+4.6**
VNA3	**Neumayer Olymp**	**15.60**	**162**	⇑*i*			**P**	**20 52 04.9**	**+15**
VNA3	**Neumayer Olymp**	**15.60**	**162**	⇓*i*			**P**	**20 52 09.7**	**+20**
VNA3	**Neumayer Olymp**	**15.60**	**162**	⇑*i*		Pn	**P**	**20 51 51.1**	**+1.0**
VNA3				⇑*i*		P		20 51 51.6	
VNA3				⇑*i*		P		20 51 54.7	
VNA2	**Neumayer--Watz**	**15.76**	**159**	⇑*i*			**P**	**20 51 56.3**	**+4.1**
VNA2	**Neumayer--Watz**	**15.76**	**159**	⇑*i*			**P**	**20 52 05.1**	**+13**
VNA2	**Neumayer--Watz**	**15.76**	**159**				**P**	**20 52 10.7**	**+19**
VNA2	**Neumayer--Watz**	**15.76**	**159**	⇑*i*		S	**S**	**20 54 57.9**	**+11**
VNA2	**Neumayer--Watz**	**15.76**	**159**			Pn	**P**	**20 51 52.9**	**+0.7**
VNA2				⇑*i*		P		20 51 56.3	
SNAA	**Sanae**	**17.28**	**156**				**P**	**20 52 12.3**	**+0.8**
SNAA	**Sanae**	**17.28**	**156**	⇑*i*			**P**	**20 52 19.5**	**+8.0**
SNAA	**Sanae**	**17.28**	**156**				**P**	**20 52 21.7**	**+10**
SNAA	**Sanae**	**17.28**	**156**				**P**	**20 52 22.4**	**+11**
SNAA	**Sanae**	**17.28**	**156**	⇓*i*			**P**	**20 52 26.3**	**+15**
SNAA	**Sanae**	**17.28**	**156**				**P**	**20 52 27.0**	**+16**
SNAA	**Sanae**	**17.28**	**156**			P	**P**	**20 52 11.0**	**-0.5**
	0.6nm,0.3s,baz=327,slow=12,SNR=88								
SNAA						S	**S**	**20 55 16.9**	**-5.4**
	0.3nm,0.3s,baz=330,slow=17,SNR=5.6								
SNAA						LR	LR	20 58 06.2	
	comp=Z,7μm,18.1s,baz=322,slow=35								
SNAA	**Sanae**	**17.28**	**156**	*e*P			**P**	**20 52 10.8**	**-0.7**
SNAA						pmax	pmax		
	comp=Z,160nm,1.2s								
SNAA	**Sanae**	**17.28**	**156**			Pn	**P**	**20 52 11.1**	**-0.4**
SNAA						P		20 52 12.3	
SNAA				⇑*i*		P		20 52 19.5	
SNAA						P		20 52 21.7	
SNAA						P		20 52 22.4	
EFI	**East Falkland**	**19.93**	**272**	*e*P			**P**	**20 52 41.8**	**-1.6**
	comp=Z,447nm,1.2s								
PMSA	**Palmer Station**	**20.21**	**232**	*e*P			**P**	**20 52 45.5**	**-0.9**
	comp=Z,268nm,1.3s								
PMSA						LR	LR		
	comp=Z,16μm,22.0s,MS5.3								
MAIT	**Maitri**	**20.67**	**146**	*e*P			**P**	**20 52 51.1**	**0.0**
MAIT				*e*S			**S**	**20 56 48.7**	**+12**
NVL	**N'lazarevskaya**	**20.70**	**146**	⇓*e*P			**P**	**20 52 50.0**	**-1.4**
NVL				*e*S			**S**	**20 56 38.0**	**+0.5**
NVL						pmax	pmax		
	comp=Z,3μm,5.7s								
NVL						MLR	MLR		
	comp=Z,21μm,13.0s,MS5.7								
SYO	**Syowa Base**	**29.97**	**139**	⇓P			**P**	**20 54 15.7**	**-3.4**
SYO	**Syowa Base**	**29.97**	**139**	⇑pP			pP	20 54 17.1	-5.0
SYO	**Syowa Base**	**29.97**	**139**	⇓sP			sP	20 54 19.1	-4.3
SYO	**Syowa Base**	**29.97**	**139**	⇓PnPn				20 55 07.5	
TRQA	**Tornquist**	**30.89**	**292**	*e*P			**P**	**20 54 25.9**	**-1.7**
	comp=Z,18nm,0.9s,mb4.9								
TRQA						LR	LR		
	comp=Z,7μm,19.0s,MS5.3								
LPA	**La Plata**	**31.41**	**301**	*ce*P			**P**	**20 54 32.0**	**-0.1**
LPA				*es*P			sP	20 54 37.0	+0.6
LPA				*e*PP			PP	20 55 31.0	-4.9
LPA				*e*SS			SS	21 01 29.0	+3.2
QSPA	**South Pole Qui**	**33.16**	**180**	*e*P			**P**	**20 54 47.3**	**+0.3**
	comp=Z,39nm,0.8s,mb5.4								
CPUP	**Villa Florida**	**38.45**	**309**	P			**P**	**20 55 32.5**	**+0.1**
	comp=Z,26nm,1.0s,mb4.9,baz=173,slow=7.5,SNR=28								
CPUP						LR	LR	21 10 13.3	
	comp=Z,6μm,18.2s,MS5.4,baz=176,slow=34								
MAW	**Mawson**	**38.56**	**142**	P			**P**	**20 55 32.5**	**-0.4**
	comp=Z,11nm,0.8s,mb4.7,baz=238,slow=9.8,SNR=21								
MAW						LR	LR	21 10 19.8	
	comp=Z,10μm,18.1s,MS5.7,baz=253,slow=35								
SUR	**Sutherland**	**39.72**	**71**	P			**P**	**20 55 42.7**	**-0.4**
	comp=Z,11nm,0.9s,mb4.6,baz=198,slow=13,SNR=3.1								
SUR	**Sutherland**	**39.72**	**71**	P			**P**	**20 55 42.7**	**-0.4**
SUR						LR	LR		
	comp=Z,2μm,21.0s,MS5.0								
BAO	**Brasilia Array**	**44.91**	**328**	P			**P**	**20 56 26.1**	**+0.6**
BDFB	**Brasilia**	**44.91**	**328**	P			**P**	**20 56 26.9**	**+1.5**
	comp=Z,27nm,1.2s,mb4.9,baz=142,slow=7.4,SNR=8.4								
BDFB						LR	LR	21 13 35.3	
	comp=Z,5μm,18.7s,MS5.5,baz=160,slow=34								
SBA	**Scott Base**	**45.13**	**183**	*e*P			**P**	**20 56 26.9**	**+0.4**
SBA						pmax	pmax		
	comp=Z,84nm,1.7s,mb5.3								
SBA						MLR	MLR		
	comp=Z,4μm,19.0s,MS5.4								
SBA	**Scott Base**	**45.13**	**183**	*e*P			**P**	**20 56 26.9**	**+0.4**
	comp=Z,84nm,1.7s,mb5.3								
SBA						LR	LR		
	comp=Z,4μm,19.0s,MS5.4								
VNDA	**Vanda**	**45.59**	**182**	P			**P**	**20 56 31.0**	**+0.9**
	comp=Z,9.6nm,0.6s,mb4.9,baz=186,slow=7.3,SNR=114								
VNDA						LR	LR	21 15 47.5	
	comp=Z,5μm,18.7s,MS5.5,baz=169,slow=36								
VNDA	**Vanda**	**45.59**	**182**	P			**P**	**20 56 31.0**	**+0.9**
VNDA						LR	LR	21 15 47.5	
LVC	**Limon Verde**	**46.91**	**298**	*e*P			**P**	**20 56 40.9**	**-0.4**
	comp=Z,81nm,1.1s,mb5.6								
LVC						LR	LR		
	comp=Z,4μm,19.0s,MS5.3								
MIR	**Mirnyy**	**48.28**	**152**	*be*P			**P**	**20 56 50.4**	**-1.0**
MIR				*e*		pP		20 56 52.0	-2.4
MIR				*e*				20 58 46.0	
MIR				*e*PPP		PPP		20 59 41.0	+6.4
MIR				*e*S			**S**	**21 03 54.0**	**+4.0**
MIR						pmax	pmax		
	comp=Z,110nm,2.0s,mb5.5								
MIR						pmax	pmax		
	comp=Z,1μm,6.0s								
MIR						smax			
	comp=E,2μm,10.0s								
MIR						smax			
	comp=N,1μm,11.0s								
MIR						MLR	MLR		
	comp=N,4μm,14.0s,MS5.7								
MIR						MLR	MLR		
	comp=E,3μm,14.0s,MS5.7								
MIR						MLR	MLR		
	comp=Z,11μm,14.0s,MS6.0								
RCBR	**Riachuelo**	**51.85**	**346**			PFAKE		20 57 30.0	+11
RCBR						LR	LR		
	comp=Z,4μm,19.0s,MS5.5								
LPAZ	**La Paz**	**52.01**	**303**	P			**P**	**20 57 21.6**	**+1.0**
	comp=Z,38nm,0.6s,mb5.5,baz=168,slow=7.4,SNR=144								
LPAZ						LR	LR	21 17 50.2	
	comp=Z,2μm,18.1s,MS5.2,baz=310,slow=34								
CASY	**Casey**	**52.50**	**159**	*e*P			**P**	**20 57 22.2**	**-1.4**
	comp=Z,89nm,1.8s,mb5.4								
CASY						LR	LR		
	comp=Z,13μm,19.0s,MS6.0								
DRV	**Dumont d'Urvil**	**56.05**	**173**	P			**P**	**20 57 47.0**	**-2.6**
DRV				S			**S**	**21 05 50.0**	**+14**
SAML	**Samuel**	**56.44**	**313**	*e*P			**P**	**20 57 52.3**	**-0.8**
	comp=Z,6.8nm,0.5s,mb4.9								
SAML						LR	LR		
	comp=Z,5μm,19.0s,MS5.6								
LSZ	**Lusaka**	**57.60**	**66**	*e*P			**P**	**20 57 59.0**	**-2.3**
LSZ						pmax	pmax		
	comp=Z,27nm,1.3s,mb5.1								
LSZ						MLR	MLR		
	comp=Z,8μm,19.0s,MS5.9								
LSZ	**Lusaka**	**57.60**	**66**	*e*P			**P**	**20 57 59.0**	**-2.3**
	comp=Z,27nm,1.4s,mb5.1								
LSZ				*e*				20 58 10.0	
LSZ						LR	LR		
	comp=Z,8μm,19.0s,MS5.9								
NNA	**Nana**	**59.86**	**297**			PFAKE		20 58 30.0	+13
NNA						LR	LR		
	comp=Z,530nm,19.0s,MS4.7								
LIC	**Lamto**	**65.15**	**22**	*e*P			**P**	**20 58 52.5**	**+0.3**
	comp=Z,98nm,1.4s,mb5.6								
KIC	**Kosan Boka**	**65.34**	**22**	*e*P			**P**	**20 58 53.7**	**+0.2**
	comp=Z,118nm,1.3s,mb5.8								
TIC	**Toumodi**	**65.56**	**22**	*e*P			**P**	**20 58 55.3**	**+0.4**
	comp=Z,191nm,1.4s,mb5.9								
DBIC	**Dimbokro**	**65.62**	**22**	P			**P**	**20 58 53.8**	**-1.5**
	comp=Z,8.3nm,1.1s,mb4.7,baz=182,slow=9.9,SNR=4.4								
DBIC						LR	LR	21 22 03.4	
	comp=Z,2μm,18.1s,MS5.4,baz=176,slow=31								
OTAV	**Otavalo**	**71.28**	**302**	*e*P			**P**	**20 59 31.9**	**+1.4**
	comp=Z,45nm,1.1s,mb5.3								
OTAV						LR	LR		
	comp=Z,2μm,20.0s,MS5.4								
MBAR	**Mbarara**	**71.52**	**60**	*e*P			**P**	**20 59 32.1**	**+0.1**
	comp=Z,22nm,1.5s,mb4.9								
MBAR						LR	LR		
	comp=Z,1μm,19.0s,MS5.2								
KMBO	**Kilima Mbogo**	**74.25**	**67**	P			**P**	**20 59 48.7**	**+0.8**
	comp=Z,6.4nm,1.2s,mb4.4,baz=212,slow=6.7,SNR=9.7								
KMBO						LR	LR	21 29 46.5	
	comp=Z,3μm,18.1s,MS5.7,baz=15,slow=34								
KMBO	**Kilima Mbogo**	**74.25**	**67**	*e*P			**P**	**20 59 48.1**	**+0.2**
	comp=Z,110nm,2.5s,mb5.3								
KMBO						LR	LR		
	comp=Z,3μm,19.0s,MS5.6								
SDV	**Santo Domingo**	**75.64**	**313**	*e*P			**P**	**20 59 56.1**	**+0.2**
	comp=Z,59nm,1.2s,mb5.4								
SDV						LR	LR		
	comp=Z,6μm,19.0s,MS5.9								
PAYG	**Puerto Ayora**	**76.28**	**291**			PFAKE		21 00 10.0	+10
PAYG						LR	LR		
	comp=Z,3μm,19.0s,MS5.6								
RPZ	**Rata Peaks**	**78.68**	**192**	P			**P**	**21 00 13.5**	**+1.3**
	comp=Z,7.0nm,0.8s,mb4.6,baz=190,slow=7.3,SNR=5.2								
RPZ						LR	LR	21 33 06.3	
	comp=Z,2μm,18.4s,MS5.5,baz=319,slow=34								
TAU	**Tasmania Unive**	**80.16**	**174**	*e*P			**P**	**21 00 18.7**	**-1.5**
TAU						pmax	pmax		
	comp=Z,120nm,1.0s,mb5.8								
TAU						MLR	MLR		
	comp=Z,2μm,19.0s,MS5.5								
TAU	**Tasmania Unive**	**80.16**	**174**	*e*P			**P**	**21 00 18.7**	**-1.6**
	comp=Z,120nm,1.0s,mb5.8								
TAU						LR	LR		
	comp=Z,2μm,19.0s,MS5.5								
SJG	**San Juan**	**82.44**	**321**	P			**P**	**21 00 33.1**	**+0.4**
	comp=Z,6.8nm,0.3s,mb5.1,baz=62,slow=3.4,SNR=3.1								
SJG						LR	LR	21 38 08.0	
	comp=Z,2μm,19.2s,MS5.5,baz=167,slow=36								
SJG	**San Juan**	**82.44**	**321**	P			**P**	**21 00 33.1**	**+0.4**
SJG						LR	LR	21 38 08.0	
NWAO	**Narrogin (SRO)**	**84.79**	**149**			PFAKE		21 01 00.0	+16
NWAO						LR	LR		
	comp=Z,2μm,19.0s,MS5.5								
TOO	**Toolangi**	**85.36**	**172**	⇑*i*		P	**P**	**21 00 48.4**	**+1.4**
	comp=Z,16nm,1.0s,mb5.1								
TOO						eS	S	21 11 21.2	+4.9
MUN	**Mundaring**	**85.39**	**148**	*e*P			**P**	**21 00 47.7**	**+0.4**
	comp=Z,29nm,2.0s,mb5.1								
MUN						eS	S	21 11 17.6	+0.9
TBI	**Tubuai**	**87.39**	**229**	*e*S			S	21 11 42.2	+6.1
TBI				*e*L				21 25 17.9	
TBI				*e*R				21 28 58.5	
	comp=Z,3μm,31.2s,baz=153								
DGAR	**Diego Garcia**	**87.81**	**100**			PFAKE		21 01 10.0	+10
DGAR						LR	LR		
	comp=Z,2μm,19.0s,MS5.5								
FORT	**Forrest**	**89.54**	**157**	*e*P			**P**	**21 01 08.2**	**+0.8**
	comp=Z,70nm,1.0s,mb6.0								
FORT						eS	S	21 12 00.1	+4.2
STKA	**Stephens Creek**	**90.65**	**169**	*e*S			S	21 12 05.3	-0.6
STKA	**Stephens Creek**	**90.65**	**169**	P			**P**	**21 01 13.1**	**+0.5**
	comp=Z,17nm,0.9s,mb5.3,baz=156,slow=6.0,SNR=5.3								
STKA						LR	LR	21 40 23.4	
	comp=Z,8μm,18.0s,MS6.2,baz=186,slow=35								
STKA	**Stephens Creek**	**90.65**	**169**	*e*P			**P**	**21 01 14.0**	**+1.5**
	comp=Z,15nm,0.9s,mb5.3								
STKA					*e*S		S	21 12 05.3	-0.6
RAO	**Raoul Island**	**91.03**	**203**			PFAKE		21 01 30.0	+16
RAO						LR	LR		
	comp=Z,3μm,19.0s,MS5.7								
PPT	**Papeete**	**92.58**	**232**	*e*PP			PP	21 05 06.1	+0.2
PPT				*e*SS			SS	21 18 48.2	+9.1
PPT				*e*R				21 31 25.6	
	comp=Z,7μm,28.8s,baz=158								
BBSR	**BB Station**	**95.25**	**327**			PFAKE		21 01 50.0	+16
BBSR						LR	LR		
	comp=Z,2μm,19.0s,MS5.6								
COCO	**West Island**	**96.03**	**123**			PFAKE		21 01 50.0	+12
COCO						LR	LR		
	comp=Z,612nm,19.0s,MS5.1								
MBWA	**Marble Bar**	**96.60**	**147**			PFAKE		21 01 50.0	+10
MBWA						LR	LR		
	comp=Z,3μm,19.0s,MS5.8								
DWPF	**Disney**	**97.28**	**312**			PFAKE		21 01 50.0	+7.0
DWPF						LR	LR		
	comp=Z,531nm,19.0s,MS5.0								
ASPA	**Alice Springs**	**97.60**	**160**	*e*P			**P**	**21 01 45.2**	**+0.7**
ASAR	**Alice Springs**	**97.60**	**160**	P			**P**	**21 01 44.7**	**+0.2**
	comp=Z,1.9nm,0.7s,mb4.7,baz=185,slow=4.2,SNR=19								
ASAR						PP	PP	21 05 46.8	+1.8
	comp=Z,1.3nm,1.0s,baz=182,slow=8.0,SNR=4.3								
ASAR						PKKPbc		21 18 19.9	
	comp=Z,0.5nm,0.8s,baz=14,slow=2.7,SNR=6.0								
ASAR						LR	LR	21 44 35.4	
	comp=Z,2μm,18.2s,MS5.6,baz=187,slow=35								
ESDC	**Sonseca Array**	**98.00**	**16**			LR	LR	21 43 20.6	
	comp=Z,1μm,18.1s,MS5.5,baz=195,slow=34								
EIL	**Elat**	**100.02**	**50**			LR	LR	21 44 21.6	
	comp=Z,3μm,18.2s,MS5.9,baz=205,slow=34								
NHSC	**New Hope**	**101.21**	**315**			PFAKE		21 02 10.0	+9.4
NHSC						LR	LR		
	comp=Z,1μm,19.0s,MS5.3								
WRA	**Warramunga Arr**	**101.32**	**160**	P			P	21 02 01.1	-0.3
	comp=Z,1.3nm,0.8s,baz=195,slow=4.4,SNR=8.7								
WRAB	**Tennant Creek**	**101.33**	**160**			PFAKE		21 02 10.0	+8.6
WRAB						LR	LR		
	comp=Z,503nm,19.0s,MS5.0								
CTAO	**Charters Tower**	**102.77**	**171**			PFAKE		21 02 20.0	+12
CTAO						LR	LR		
	comp=Z,4μm,19.0s,MS6.0								
LRAL	**Lakeview Retre**	**103.89**	**310**			PFAKE		21 02 20.0	+7.5
LRAL						LR	LR		
	comp=Z,3μm,19.0s,MS5.8								
AFI	**Afiamalu**	**104.12**	**213**			PFAKE		21 02 30.0	+16
AFI						LR	LR		
	comp=Z,2μm,21.0s,MS5.6								
CBN	**Corbin**	**104.72**	**320**			PFAKE		21 02 30.0	+14
CBN						LR	LR		
	comp=Z,1μm,19.0s,MS5.5								
BLA	**Blacksburg**	**104.94**	**317**			PFAKE		21 02 30.0	+13
BLA						LR	LR		
	comp=Z,1μm,19.0s,MS5.4								
HKT	**Hockley**	**105.15**	**302**			PFAKE		21 06 40.0	
HKT						LR	LR		
	comp=Z,137nm,19.0s,MS4.5								
NATX	**Nacogdoches**	**106.14**	**304**			PFAKE		21 06 50.0	
NATX						LR	LR		
	comp=Z,769nm,19.0s,MS5.3								
WES	**Weston**	**106.49**	**326**			PFAKE		21 06 50.0	
WES						LR	LR		
	comp=Z,2μm,19.0s,MS5.7								
HRV	**Harvard--Oak R**	**106.67**	**326**			PFAKE		21 06 50.0	
HRV						LR	LR		
	comp=Z,1μm,19.0s,MS5.5								
MCWV	**Mont Chateau**	**106.89**	**319**			PFAKE		21 06 50.0	
MCWV						LR	LR		
	comp=Z,2μm,20.0s,MS5.6								
WVT	**Waverly**	**106.90**	**311**			PFAKE		21 06 50.0	
WVT						LR	LR		
	comp=Z,1μm,21.0s,MS5.5								
SSPA	**Standing Stone**	**107.06**	**321**			PFAKE		21 06 50.0	
SSPA						LR	LR		
	comp=Z,295nm,20.0s,MS4.8								
JCT	**Junction City**	**107.46**	**299**			PFAKE		21 06 50.0	
JCT						LR	LR		
	comp=Z,452nm,19.0s,MS5.0								
EMMW	**East Machias**	**107.50**	**330**			PFAKE		21 06 50.0	
EMMW						LR	LR		
	comp=Z,6μm,19.0s,MS6.2								
BINY	**Binghamton**	**107.81**	**323**			PFAKE		21 06 50.0	
BINY						LR	LR		
	comp=Z,1μm,20.0s,MS5.5								
LJU	**Ljubljana**	**107.90**	**28**	*e*		Pdif		21 03 02.0	+32
LJU				*e*PP		PP		21 07 02.0	+0.1
LJU				*e*				21 07 36.0	
LJU				*e*SKSac				21 13 04.0	
LJU				*e*Sdiff				21 14 28.0	
LJU				*e*PS		PS		21 16 36.0	+15
LJU				*e*SS		SS		21 22 20.0	+8.7
WVL	**Waterville**	**107.98**	**328**			PFAKE		21 06 50.0	
WVL						LR	LR		
	comp=Z,8μm,21.0s,MS6.3								
MIAR	**Mount Ida**	**108.00**	**306**			PFAKE		21 06 50.0	
MIAR						LR	LR		
	comp=Z,966nm,19.0s,MS5.4								
WCI	**Wyandotte Cave**	**108.08**	**313**			PFAKE		21 06 50.0	
WCI						LR	LR		
	comp=Z,275nm,19.0s,MS4.8								
LTX	**Lajitas**	**108.39**	**296**			PFAKE		21 06 50.0	
LTX						LR	LR		
	comp=Z,1μm,20.0s,MS5.4								
ACSO	**Alum Creek Sta**	**108.54**	**

SOC				pmax	pmax			
	comp=Z,7.0nm,0.9s							
SOC				pmax	pmax			
	comp=N,5.0nm,1.2s							
SOC				pmax	pmax			
	comp=E,5.0nm,0.7s							
ANN	**Anapa**	**114.07**	**44**	*e*PKIKP	PKPdf	21 06 41.8	-8.9	
ANN				*e*		21 07 42.8		
ANN				*e*PS	PS	21 17 26.7	+7.4	
ANN				pmax	pmax			
	comp=Z,13nm,1.0s							
ANN				MLR	MLR			
	comp=Z,1μm,16.0s,MS5.6							
CBKS	**Cedar Bluff**	**114.30**	**304**	PFAKE		21 07 00.0	+8.8	
CBKS				LR	LR			
	comp=Z,821nm,20.0s,MS5.3							
ANMO	**Albuquerque**	**114.33**	**297**	PFAKE		21 07 00.0	+8.6	
ANMO				LR	LR			
	comp=Z,1μm,20.0s,MS5.6							
KIV	**Kislovodsk**	**115.41**	**48**	*i* PKIKP	PKPdf	21 06 50.0	-3.3	
KIV				*e*		21 08 00.3		
KIV				*i* PS	PS	21 17 26.4	-6.0	
KIV				SS	SS	21 23 50.0	-1.1	
KIV				MLR	MLR			
	comp=Z,900nm,13.0s,MS5.6							
KIV	**Kislovodsk**	**115.41**	**48**	*i* PKP	PKPdf	21 06 50.3	-3.0	
SDCO	**Great Sand Dun**	**116.11**	**299**	PKP	PKPdf	21 06 52.2	-2.6	
SDCO				LR	LR			
	comp=Z,1μm,20.0s,MS5.5							
BSD	**Bornholm Skovb**	**116.41**	**24**	*i* P	PKPdf	21 07 18.9	+24	
BSD				*i*		21 07 52.1		
	comp=Z,2μm,18.0s							
ISCO	**Idaho Springs**	**117.80**	**301**	PFAKE		21 07 10.0	+12	
ISCO				LR	LR			
	comp=Z,738nm,19.0s,MS5.3							
PFO	**Pinyon Flat Ob**	**118.29**	**289**	PFAKE		21 07 10.0	+11	
PFO				LR	LR			
	comp=Z,264nm,20.0s,MS4.9							
EYMN	**Ely**	**118.32**	**315**	PFAKE		21 07 10.0	+11	
EYMN				LR	LR			
	comp=Z,1μm,19.0s,MS5.5							
KONO	**Kongsberg**	**119.55**	**19**	PFAKE		21 07 10.0	+9.1	
KONO				LR	LR			
	comp=Z,1μm,19.0s,MS5.6							
SRU	**San Rafael**	**119.60**	**297**	*e*PKIKP	PKPdf	21 06 59.3	-2.2	
MSU	**Marysvale**	**119.95**	**295**	*e*PKIKP	PKPdf	21 07 01.7	-0.4	
MVU	**Marysvale**	**119.96**	**295**	*e*PKP	PKPdf	21 07 01.5	-0.6	
MVU				LR	LR			
	comp=Z,1μm,20.0s,MS5.6							
RWWY	**Rawlins**	**120.03**	**301**	*e*PKP	PKPdf	21 07 00.2	-2.1	
TMUT	**Trail Mountain**	**120.08**	**297**	*e*PKP	PKPdf	21 07 01.9	-0.5	
RSSD	**Black Hills**	**120.47**	**305**	*e*PKP	PKPdf	21 07 00.2	-3.0	
RSSD				LR	LR			
	comp=Z,499nm,19.0s,MS5.2							
TPNV	**Topopah Spring**	**120.78**	**291**	PFAKE		21 07 10.0	+6.1	
TPNV				LR	LR			
	comp=Z,1μm,20.0s,MS5.6							
DAC	**Darwin (Calif)**	**120.95**	**290**	PFAKE		21 07 10.0	+5.7	
DAC				LR	LR			
	comp=Z,1μm,21.0s,MS5.4							
BORG	**Borgarnes**	**121.54**	**2**	PFAKE		21 07 10.0	+5.3	
BORG				LR	LR			
	comp=Z,505nm,19.0s,MS5.2							
DUG	**Dugway**	**121.56**	**296**	*e*PKP	PKPdf	21 07 04.0	-1.3	
DUG				LR	LR			
	comp=Z,2μm,19.0s,MS5.7							
TCUT	**Toone Canyon**	**121.58**	**298**	*e*PKPdf	PKPdf	21 07 02.2	-3.1	
ULM	**Lac du Bonnet**	**121.88**	**314**	PKP	PKPdf	21 07 03.6	-2.1	
	comp=Z,1.2nm,0.4s,baz=113,slow=0.3,SNR=3.2							
ULM				PP	PP	21 08 37.6	-3.1	
	comp=Z,1.4nm,0.4s,baz=76,slow=1.9,SNR=4.2							
BW06	**Boulder Array**	**121.97**	**300**	*e*PKP	PKPdf	21 07 03.5	-2.6	
BW06				LR	LR			
	comp=Z,1μm,19.0s,MS5.5							
PDAR	**Pinedale Array**	**121.97**	**300**	PKP	PKPdf	21 07 03.6	-2.4	
	comp=Z,2.2nm,1.0s,baz=141,slow=3.1,SNR=11							
PDAR				PP	PP	21 08 43.2	+1.7	
	comp=Z,1.7nm,1.1s,baz=124,slow=5.3,SNR=6.6							
HWUT	**Hardware Ranch**	**122.03**	**298**	*e*PKP	PKPdf	21 07 04.4	-1.8	
HWUT				LR	LR			
	comp=Z,1μm,19.0s,MS5.7							
TPH	**Tonopah**	**122.14**	**291**	PFAKE		21 07 20.0	+14	
TPH				LR	LR			
	comp=Z,965nm,20.0s,MS5.5							
BGU	**Big Grassy Mou**	**122.22**	**296**	*e*PKP	PKPdf	21 07 05.6	-1.0	
OBN	**Obninsk**	**122.40**	**37**	*i* PKIKP	PKPdf	21 07 05.0	-1.5	
OBN						21 14 12.0		
OBN				*e*		21 20 09.7		
OBN				MLR	MLR			
	comp=Z,1μm,16.0s,MS5.6							
OBN	**Obninsk**	**122.40**	**37**	*i* PKP	PKPdf	21 07 05.0	-1.5	
OBN				LR	LR			
	comp=Z,1μm,16.0s,MS5.6							
AHID	**Auburn Hatcher**	**122.70**	**299**	PFAKE		21 07 20.0	+13	
AHID				LR	LR			
	comp=Z,1μm,19.0s,MS5.6							
HVU	**Hansel Valley**	**122.75**	**297**	*e*PKIKP	PKPdf	21 07 06.3	-1.2	
KOLN	**Koldanda**	**122.80**	**89**	*e*P	PKPdf	21 07 05.8	-2.1	
	comp=Z,27nm,1.1s							
MNV	**Mina**	**122.89**	**291**	PFAKE		21 07 20.0	+12	
MNV				LR	LR			
	comp=Z,843nm,20.0s,MS5.4							
NVAR	**Mina Array Bea**	**122.96**	**291**	PKP	PKPdf	21 07 07.7	-0.3	
	comp=Z,1.8nm,0.7s,baz=140,slow=2.6,SNR=12							
LOHW	**Long Hollow**	**123.11**	**300**	*e*PKP	PKPdf	21 07 06.3	-1.8	
TPAW	**Teton Pass**	**123.18**	**300**	*e*PKP	PKPdf	21 07 06.9	-1.4	
MOS	**Moscow**	**123.26**	**37**	*e*PKIKP	PKPdf	21 07 08.2	0.0	
MOS				pmax	pmax			
	comp=Z,36nm,0.8s							
MOOW	**Moose Ponds**	**123.28**	**300**	*e*PKP	PKPdf	21 07 07.1	-1.4	
SAO	**San Andreas Ge**	**123.32**	**287**	PFAKE		21 07 20.0	+11	
SAO				LR	LR			
	comp=Z,815nm,19.0s,MS5.4							
LAO	**LASA Array**	**123.44**	**305**	PFAKE		21 07 20.0	+11	
LAO				LR	LR			
	comp=Z,1μm,19.0s,MS5.6							
DMN	**Daman**	**123.50**	**90**	*e*P	PKPdf	21 07 07.5	-1.9	
	comp=Z,36nm,1.2s							
CMAR	**Chiang Mai Arr**	**123.52**	**109**	PKP	PKPdf	21 07 07.5	-2.1	
	comp=Z,4.2nm,0.8s,baz=234,slow=3.7,SNR=24							
GKN	**Gorkha**	**123.55**	**89**	*e*P	PKPdf	21 07 07.3	-2.2	
	comp=Z,36nm,1.3s							
PKI	**Pulchoki**	**123.64**	**90**	*e*P	PKPdf	21 07 07.1	-2.6	
	comp=Z,48nm,1.5s							
CMB	**Columbia Colle**	**123.73**	**289**	PFAKE		21 07 20.0	+10	
CMB				LR	LR			
	comp=Z,896nm,20.0s,MS5.4							
LKWY	**Lake**	**123.73**	**301**	PFAKE		21 07 20.0	+11	
LKWY				LR	LR			
	comp=Z,1μm,19.0s,MS5.7							
KKN	**Kakani**	**123.74**	**90**	*e*P	PKPdf	21 07 07.5	-2.4	
	comp=Z,15nm,0.9s							
YFT	**Old Faithful**	**123.85**	**301**	PKP	PKPdf	21 07 08.8	-0.8	
DGMT	**Dagmar**	**123.91**	**308**	PFAKE		21 07 20.0	+10	
DGMT				LR	LR			
	comp=Z,2μm,20.0s,MS5.8							
BMN	**Battle Mountai**	**123.93**	**293**	PFAKE		21 07 20.0	+10	
BMN				LR	LR			
	comp=Z,1μm,21.0s,MS5.5							
GUN	**Gumba**	**124.16**	**91**	*e*P	PKPdf	21 07 08.9	-1.8	
	comp=Z,76nm,1.4s							
GCMT	**Greycliff**	**124.32**	**302**	*e*PKP	PKPdf	21 07 09.3	-1.2	
QLMT	**Earthquake Lak**	**124.41**	**301**	PKP	PKPdf	21 07 09.8	-0.9	
FINES	**FINESS Array B**	**124.72**	**27**	PKP	PKPdf	21 07 08.2	-2.6	
	comp=Z,2.3nm,0.6s,baz=207,slow=4.3,SNR=9.5							
HLID	**Hailey**	**124.89**	**298**	PFAKE		21 07 20.0	+8.4	
HLID				LR	LR			
	comp=Z,972nm,20.0s,MS5.5							
MCMT	**McKenzie Canyo**	**125.08**	**300**	*e*PKP	PKPdf	21 07 11.1	-0.8	
BOZ	**Bozeman (W)**	**125.12**	**301**	PFAKE		21 07 20.0	+8.0	
BOZ				LR	LR			
	comp=Z,1μm,19.0s,MS5.6							
SHL	**Shillong**	**125.57**	**98**	*e*P	PKPdf	21 07 12.5	-0.9	
HRY	**Holter Researc**	**126.00**	**302**	PKP	PKPdf	21 07 13.2	-0.4	
MOD	**Modoc**	**126.57**	**292**	PFAKE		21 07 20.0	+5.2	
MOD				LR	LR			
	comp=Z,1μm,19.0s,MS5.5							
WDC	**Whiskeytown Da**	**126.74**	**290**	PFAKE		21 07 30.0	+15	
WDC				LR	LR			
	comp=Z,398nm,20.0s,MS5.1							
MSO	**Missoula**	**127.07**	**301**	*e*PKP	PKPdf	21 07 15.1	-0.5	
MSO				LR	LR			
	comp=Z,980nm,20.0s,MS5.5							
KSH	**Kashi**	**127.63**	**74**	*e*PKP	PKPdf	21 07 18.5	+1.5	
KSH				*e*PKS	PKS	21 10 53.3	+3.9	
KSH				*e*PPP	PPP	21 12 16.3	+13	
KSH				*e*SKS	SKS	21 14 23.3	-0.6	
YBH	**Yreka Blue Hor**	**127.67**	**290**	PFAKE		21 07 30.0	+13	
YBH				LR	LR			
	comp=Z,682nm,21.0s,MS5.3							
FFC	**Flin Flon**	**127.71**	**314**	PFAKE		21 07 30.0	+13	
FFC				LR	LR			
	comp=Z,364nm,21.0s,MS5.0							
POHA	**Pohakuloa**	**128.06**	**245**	PFAKE		21 07 30.0	+12	
POHA				LR	LR			
	comp=Z,2μm,20.0s,MS5.8							
LSA	**Lhasa**	**128.43**	**94**	PKP	PKPdf	21 07 18.0	-0.8	
LSA				PP	PP	21 09 22.0	-3.0	
AAK	**Ala-Archa**	**129.13**	**70**	*i* PKIKP	PKPdf	21 07 16.7	-3.1	
AAK				MLR	MLR			
	comp=Z,3μm,18.0s,MS6.0							
AAK	**Ala-Archa**	**129.13**	**70**	*e*PKP	PKPdf	21 07 16.4	-3.4	
AAK				LR	LR			
	comp=Z,247nm,19.0s,MS4.9							
HAWA	**Hanford**	**129.44**	**297**	PFAKE		21 07 30.0	+10	
HAWA				LR	LR			
	comp=Z,2μm,20.0s,MS5.9							
NEW	**Newport**	**129.60**	**300**	PFAKE		21 07 30.0	+9.5	
NEW				LR	LR			
	comp=Z,2μm,19.0s,MS5.9							
KMI	**Kunming**	**130.99**	**108**	*e*PKP	PKPdf	21 07 19.0	-4.8	
KMI				SS	SS	21 27 08.0	-1.0	
KMI				PP	PP			
	comp=Z,295nm,8.6s							
KMI				LR	LR			
	comp=Z,2μm,16.4s,MS5.8							
NLW	**Nelson Butte**	**131.01**	**298**	*e*PKP	PKPdf	21 07 21.8	-1.4	
EDM	**Edmonton**	**131.34**	**307**	*e*PKIKP	PKPdf	21 07 21.5	-2.2	
ARCES	**ARCESS Array B**	**131.44**	**21**	PKP	PKPdf	21 07 20.3	-3.1	
	comp=Z,3.6nm,0.8s,baz=288,slow=3.8,SNR=12							
ARU	**Arti**	**131.46**	**47**	*i* PKIKP	PKPdf	21 07 21.3	-2.5	
ARU				MLR	MLR			
	comp=Z,2μm,17.0s,MS5.8							
ARU				MLR	MLR			
	comp=N,1μm,18.0s,MS5.6							
ARU				MLR	MLR			
	comp=E,400nm,16.0s,MS5.6							
SVE	**Sverdlovsk**	**132.57**	**48**↓	*e*PKIKP	PKPdf	21 07 25.0	-0.9	
SVE				pmax	pmax			
	comp=Z,80nm,1.1s							
OCWA	**Octopus Mounta**	**132.66**	**295**	PFAKE		21 07 40.0	+14	
OCWA				LR	LR			
	comp=Z,2μm,19.0s,MS5.7							
GYA	**Guiyang**	**134.10**	**111**	PKP	PKPdf	21 07 22.8	-6.7	
GYA				PP	PP	21 09 57.8	-3.9	
GYA				PKS	PKS	21 11 01.0	-0.6	
GYA				SS	SS	21 27 42.3	-4.9	
GYA				PP	PP			
	comp=Z,450nm,7.5s							
GYA				LR	LR			
	comp=N,1μm,17.4s,MS5.7							
GYA				LR	LR			
	comp=E,650nm,16.2s,MS5.7							
GYA				LR	LR			
	comp=Z,1μm,17.9s,MS5.6							
BRVK	**Borovoye**	**134.24**	**57**	PFAKE		21 07 40.0	+11	
BRVK				LR	LR			
	comp=Z,328nm,20.0s,MS5.0							
GUMO	**Guam**	**135.89**	**166**	PFAKE		21 07 40.0	+6.9	
GUMO				LR	LR			
	comp=Z,1μm,19.0s,MS5.6							
KURK	**Kurchatov**	**136.70**	**64**	*e*PKP	PKPdf	21 07 31.2	-2.3	
KURK				LR	LR			
	comp=Z,211nm,19.0s,MS4.9							
WMQ	**Urumqi**	**136.88**	**78**	*e*PKP	PKPdf	21 07 33.5	-0.6	
WMQ				PP	PP	21 10 20.0	+2.2	
WMQ				SKS	SKS	21 14 39.0	-5.1	
WMQ				SKKS		21 17 07.0		
WMQ				SS	SS	21 28 20.0	+0.1	
WMQ				PP	PP			
	comp=Z,361nm,9.0s							
WMQ				LR	LR			
	comp=N,629nm,30.0s,MS5.3							
WMQ				LR	LR			
	comp=E,534nm,28.0s,MS5.3							
WMQ				LR	LR			
	comp=Z,605nm,29.0s,MS5.2							
YKA	**Yellowknife Ar**	**137.79**	**316**	PKP	PKPdf	21 07 34.7	-0.7	
	comp=Z,9.2nm,0.8s,baz=122,slow=1.8,SNR=14							
YKA	**Yellowknife Ar**	**137.79**	**316**	PKP	PKPdf	21 07 34.7	-0.7	
YKW3	**Yellowknife Ar**	**137.84**	**316**	*e*PKP	PKPdf	21 07 33.9	-1.5	
TATO	**Taipei**	**139.86**	**129**	PFAKE		21 07 50.0	+10	
TATO				LR	LR			
	comp=Z,2μm,20.0s,MS5.8							
LZH	**Lanzhou**	**140.18**	**99**	*e*PKP	PKPdf	21 07 42.0	+1.6	
LZH				PP	PP	21 10 40.0	+1.1	
LZH				SKS	SKS	21 14 47.0	-2.8	
LZH				SKKS		21 17 29.0		
LZH				SS	SS	21 29 01.0	+2.3	
LZH				PP	PP			
	comp=Z,389nm,5.9s							
LZH				LR	LR			
	comp=N,912nm,15.4s							
LZH				LR	LR			
	comp=Z,1μm,17.6s,MS5.7							
GTA	**Gaotai**	**140.41**	**92**	PKP	PKPdf	21 07 33.5	-7.3	
GTA				PP	PP			
	comp=Z,191nm,9.1s							
GTA				LR	LR			
	comp=N,551nm,17.1s,MS5.7							
GTA				LR	LR			
	comp=E,1μm,16.0s,MS5.7							
GTA				LR	LR			
	comp=Z,1μm,16.7s,MS5.7							
WAKE	**Wake Island**	**141.29**	**198**	PFAKE		21 07 50.0	+7.2	
WAKE				LR	LR			
	comp=Z,44μm,21.0s							
XAN	**Xi'an**	**141.32**	**106**	PKP	PKPdf	21 07 41.0	-1.4	
NVS	**Novosibirsk**	**141.41**	**62**	*e*PKIKP	PKPdf	21 07 40.0	-1.9	
NVS				*i*		21 10 46.7		
NVS				pmax	pmax			
	comp=Z,20nm,1.5s							
NVS				pmax	pmax			
	comp=N,9.0nm,1.3s							
NVS				pmax	pmax			
	comp=E,9.0nm,1.7s							
SIT	**Sitka**	**143.69**	**300**	PFAKE		21 08 00.0	+19	
SIT				LR	LR			
	comp=Z,1μm,19.0s,MS5.8							
NJ2	**Nanjing**	**144.72**	**120**	*e*PKP	PKPdf	21 07 46.3	-2.1	
NJ2				SKS	SKS	21 14 49.0	-7.9	
NJ2				LR	LR			
	comp=N,810nm,32.0s							
NJ2				LR	LR			
	comp=E,750nm,26.6s							
NJ2				LR	LR			
	comp=Z,720nm,25.3s							
SSE	**Sheshan**	**145.01**	**123**	*e*PKP	PKPdf	21 07 47.3	-1.6	
SSE				PP	PP	21 11 05.5	-2.4	
SSE				SS	SS	21 29 54.5	-0.2	
SSE				PP	PP			
	comp=Z,375nm,9.1s							
SSE				LR	LR			
	comp=Z,2μm,17.6s,MS6.0							
TIY	**Taiyuan**	**145.96**	**106**	PKPR		21 07 50.0		
TIY				LR	LR			
	comp=N,1μm,17.0s							
TIY				LR	LR			
	comp=Z,1μm,17.0s,MS5.7							
BTO	**Baotou**	**146.79**	**100**	*e*PKP	PKPdf	21 07 53.5	+1.9	
TIA	**Tai'an**	**147.22**	**113**	*e*PKP	PKPdf	21 07 52.5	0.0	
INK	**Inuvik**	**147.41**	**319**	PKPbc	PKPdf	21 07 53.1	+1.4	
	comp=Z,20nm,0.8s,baz=121,slow=3.3,SNR=6.2							
INK	**Inuvik**	**147.41**	**319**	*e*PKPdf	PKPdf	21 07 50.1	-1.7	
INK				*e*PKPbc	PKPdf	21 07 53.0	+1.2	
HHC	**Hu-ho-hao-te**	**147.79**	**101**	*e*PKP	PKPdf	21 07 52.3	-0.9	
HHC				LR	LR			
	comp=N,434nm,19.6s,MS5.4							
HHC				LR	LR			
	comp=E,501nm,18.4s,MS5.4							
HHC				LR	LR			
	comp=Z,372nm,18.0s,MS5.2							
DAWY	**Dawson**	**148.43**	**310**	*e*PKPbc	PKPdf	21 07 55.4	+1.9	
MOY	**Mondy**	**148.74**	**76**	*e*PKP2	PKPab	21 07 55.5	-5.6	
ZAK	**Zakamensk**	**149.28**	**80**	*e*PKIKP	PKPdf	21 07 54.3	-1.0	
SONM	**Songino Array**	**149.52**	**86**	PKPbc	PKPdf	21 07 58.5	+2.8	
	comp=Z,24nm,1.2s,baz=221,slow=3.4,SNR=22							
DIV	**Divide**	**150.28**	**303**	*e*PKPbc	PKPdf	21 08 01.0	+4.4	
DIV				LR	LR			
	comp=Z,2μm,20.0s,MS6.0							
IRK	**Irkutsk**	**150.78**	**78**	*e*PKIKP	PKPdf	21 08 01.3	+3.7	
THY	**Trims Highway**	**150.95**	**307**	*e*PKPbc	PKPdf	21 08 02.6	+5.1	
DL2	**Dalian**	**151.56**	**115**	PKP	PKPdf	21 08 01.0	+1.8	
DL2				PKP2	PKPab	21 08 17.8	+4.5	
DL2				PP	PP			
	comp=Z,220nm,5.5s							
DL2				LR	LR			
	comp=N,450nm,14.5s,MS5.5							
DL2				LR	LR			
	comp=E,310nm,14.9s,MS5.5							
DL2				LR	LR			
	comp=Z,630nm,19.0s,MS5.4							
SML	**Sawmill**	**151.66**	**303**	*e*PKIKP	PKPdf	21 08 03.5	+4.9	
ILAR	**Eielson Array**	**151.75**	**310**	PKP	PKPdf	21 07 56.0	-2.7	
	comp=Z,1.9nm,1.0s,baz=253,slow=3.4,SNR=8.7							
ILAR				PKPbc	PKPdf	21 08 04.0	+5.3	
	comp=Z,38nm,0.9s,baz=309,slow=1.6,SNR=9.7							
SLKM	**Skilak Lake**	**152.16**	**300**	*e*PKIKP	PKPdf	21 08 05.2	+5.8	
COLA	**College**	**152.18**	**310**	*e*PKPbc	PKPdf	21 08 04.3	+5.0	
COLA				LR	LR			
	comp=Z,2μm,19.0s,MS5.9							
FIB	**Fire Island**	**152.33**	**302**	PFAKE		21 08 10.0	+10	
FIB				LR	LR			
	comp=Z,2μm,22.0s,MS5.9							
KDAK	**Kodiak Island**	**152.41**	**294**	PFAKE		21 08 10.0	+10	
KDAK				LR	LR			
	comp=Z,372nm,19.0s,MS5.2							
MCK	**McKinley**	**152.41**	**307**	*e*PKPdf	PKPdf	21 07 57.8	-1.9	
MCK				*e*PKPbc	PKPdf	21 08 05.3	+5.6	
MCK				LR	LR			
	comp=Z,886nm,19.0s,MS5.6							
INCN	**Inchon**	**152.81**	**124**	PFAKE		21 08 10.0	+9.0	
INCN				LR	LR			
	comp=Z,2μm,19.0s,MS6.0							
SPU	**Mount Spurr**	**153.21**	**301**	PKPbc	PKPdf	21 08 06.7	+5.9	
RSO	**Redoubt South**	**153.35**	**299**	*e*PKPbc	PKPdf	21 08 08.0	+6.9	
IMA	**Indian Mountai**	**154.75**	**312**	*e*PKIKP	PKPdf	21 08 10.5	+7.7	
MAJO	**Matsushiro**	**156.55**	**144**	PFAKE		21 08 20.0	+14	
MAJO				LR	LR			
	comp=Z,898nm,20.0s,MS5.6							
MAT	**Matsushiro**	**156.55**	**144**	PKP	PKPdf	21 08 02.0	-4.1	
MAT	**Matsushiro**	**156.55**	**144**	*e*PKP	PKPdf	21 08 02.0	-4.1	
CN2	**Changchun**	**157.13**	**113**	*e*PKP	PKPdf	21 08 06.3	-0.3	
CN2				*e*PP	PP	21 12 20.0	+3.8	
CN2				*e*SS	SS	21 32 08.0	+0.3	
CN2				LR	LR			
	comp=N,900nm,16.0s,MS5.8							
CN2				LR	LR			
	comp=E,600nm,16.0s,MS5.8							
CN2				LR	LR			
	comp=Z,900nm,19.0s,MS5.6							
MDJ	**Mudanjiang**	**159.77**	**117**	PKP	PKPdf	21 08 08.5	-1.3	
MDJ				PKS	PKS	21 11 37.3	-1.7	
MDJ				PP	PP	21 12 28.8	-1.5	
MDJ				SKS	SKS	21 15 13.3	-1.2	
MDJ				PPP	PPP	21 15 59.5	-14	
MDJ				PS		21 32 39.8		
MDJ				PP	PP			
	comp=Z,278nm,8.5s							
MDJ				LR	LR			
	comp=N,1μm,20.7s,MS5.8							
MDJ				LR	LR			
	comp=E,402nm,16.5s,MS5.8							
MDJ				LR	LR			
	comp=Z,1μm,16.5s,MS5.9							
TIXI	**Tiksi**	**161.76**	**27**	*i* PKIKP	PKPdf	21 08 22.5	+12	
TIXI	**Tiksi**	**161.76**	**27**	PFAKE		21 08 20.0	+9.0	
TIXI				LR	LR			
	comp=Z,1μm,19.0s							
ERM	**Erimo**	**163.08**	**148**	PFAKE		21 08 20.0	+6.8	
ERM				LR	LR			
	comp=Z,9.0nm,21.0s							
YAK	**Yakutsk**	**166.25**	**58**	PFAKE		21 08 30.0	+14	
YAK				LR	LR			
	comp=Z,1μm,19.0s							
YSS	**Yuzh-Sakhalins**	**167.34**	**138**↑	*i* PKIKP	PKPdf	21 08 15.0	-1.8	
YSS				*e*		21 13 10.0		
YSS				*e*		21 17 14.0		
YSS				*e*		21 40 34.0		
YSS				MLR	MLR			
	comp=N,900nm,17.0s							
YSS				MLR	MLR			
	comp=Z,2μm,17.0s							
YSS	**Yuzh-Sakhalins**	**167.34**	**138**	PFAKE		21 08 30.0	+13	
YSS				LR	LR			
	comp=Z,1μm,19.0s							
BILL	**Bilibino**	**167.89**	**340**	PFAKE		21 08 30.0	+14	
BILL				LR	LR			
	comp=Z,2μm,20.0s							
SMY	**Shemya**	**168.24**	**256**	PFAKE		21 08 30.0	+13	
SMY				LR	LR			
	comp=Z,3μm,19.0s							
MA2	**Magadan**	**176.61**	**41**	PFAKE		21 08 30.0	+9.3	
MA2				LR	LR			
	comp=Z,948nm,20.0s							

IDC 26 21:11:07.5±6.7, 19.42S×176.51W, mb4.0/2, mb1 4.3/2, mb1mx3.8/14, MS4.8/1, Ms1 4.8/1, ms1mx3.8/20, Error ellipse: s-maj=293.0km s-min=105.8km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**46.13**	**256**	P	P	21 19 33.7	-2.0
	1.0nm,0.5s,baz=97,slow=7.5,SNR=23						
WRA	**Warramunga Arr**	**46.14**	**261**	P	P	21 19 34.3	-1.5
	0.8nm,0.3s,baz=97,slow=7.7,SNR=23						
FITZ	**Fitzroy Crossi**	**54.56**	**261**	LR	LR	21 44 18.6	
	comp=Z,816nm,18.2s,baz=239,slow=36						
AKASG	**Malin Array Be**	**142.72**	**333**	PKP	PKPdf	21 30 41.9	-2.5
	0.9nm,0.4s,baz=38,slow=4.0,SNR=9.1						

*WAR **26** 21:20:59.4, 50.22N×19.02E, ML2.4, Mining Induced*
*PRU **26** 21:21:00.9, 50.24N×18.80E*
ISC 26 21:20:55.9±0.9, 50.37N±0.07×18.92E±0.04, n8, σ1§18/14, 2D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.58**	**104**	*e*PG	**Pg**	**21 21 09.0**	**+1.4**
OJC				*e*SG	**Sg**	**21 21 16.0**	**+0.6**
OKC	**

MBWH		**0.23**	**135**	*i* P	Pb	21 31 26.4	+1.3
MLYT		**0.24**	**138**	*e*P	Pb	21 31 26.7	+1.4
MLYT				*i* S	Sb	21 31 31.0	+1.6
MLYT		**0.24**	**138**	*i* P	Pb	21 31 26.8	+1.5
MBSS		**0.28**	**138**	*e*P	Pb	21 31 27.3	+1.3
STAT	**Sint Eustatius**	**0.84**	**315**	*e*P	Pb	21 31 36.8	+1.7
STAT				*e*S	Sb	21 31 48.4	+2.5
SEG	**Port Louis**	**0.96**	**121**	*e*P	Pb	21 31 38.6	+1.6
SABT	**Saba**	**1.11**	**310**	*e*P	Pn	21 31 41.9	+2.5
SABT				*e*S	Sb	21 31 56.8	+3.2
DOG	**Dongo Capester**	**1.12**	**140**	*e*P	Pn	21 31 40.9	+1.4
STMA	**St. Maarten, A**	**1.34**	**328**	*e*P	Pn	21 31 44.1	+1.3
STMA	**St. Maarten, A**	**1.34**	**328**	*e*P	Pn	21 31 44.6	+1.9
STMA				*e*S	Sn	21 32 02.4	+2.5
DEG	**La Desirade**	**1.38**	**115**⇓	*e*P	Pn	21 31 44.6	+1.4
DEG				*e*S	Sn	21 32 02.9	+2.1
BBL	**Barber's Block**	**1.61**	**148**	*e*P	Pn	21 31 48.5	+1.9
BBL				*e*S	Sn	21 32 09.0	+2.3
MDN	**Morne-Daniel**	**1.83**	**149**	*e*P	Pn	21 31 51.4	+1.7
MDN				*e*S	Sn	21 32 13.3	+1.1

TRN 26 21:39:53.2, 16.93N×62.30W, h21km, MD3.5, 1C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWH		**0.22**	**150**	*e*P	Pb	21 40 00.0	+1.3
MLYT		**0.23**	**153**	*e*P	Pb	21 40 00.3	+1.4
MLYT				*e*S	Sb	21 40 04.6	+1.7
STAT	**Sint Eustatius**	**0.85**	**311**	*e*P	Pb	21 40 06.2	-3.0
STAT	**Sint Eustatius**	**0.85**	**311**	*e*P	Pb	21 40 12.6	+3.4
STAT				*e*S	Sb	21 40 21.5	+1.3
SEG	**Port Louis**	**0.93**	**124**	*e*P	Pb	21 40 12.2	+1.8
DOG	**Dongo Capester**	**1.11**	**144**	*e*P	Pb	21 40 14.5	+1.0
SABT	**Saba**	**1.13**	**308**	*e*P	Pb	21 40 16.0	+2.1
SABT				*e*S	Sb	21 40 30.5	+2.4
DEG	**La Desirade**	**1.34**	**117**⇑	*i*P	Pn	21 40 18.4	+1.4
DEG				*e*S	Sn	21 40 36.7	+2.5
STMA	**St. Maarten, A**	**1.35**	**325**	*e*P	Pn	21 40 19.3	+2.3
STMA				*e*S	Sn	21 40 36.1	+1.8
BBL	**Barber's Block**	**1.61**	**150**	*e*P	Pn	21 40 22.1	+1.3
BBL	**Barber's Block**	**1.61**	**150**	*e*P	Pn	21 40 22.3	+1.5
BBL				*e*S	Sn	21 40 43.2	+2.2
MDN	**Morne-Daniel**	**1.83**	**151**	*e*P	Pn	21 40 25.0	+1.1
MDN				*e*S	Sn	21 40 49.5	+2.9

CASC 26 21:41:08.7±3.6, 14.28N×84.72W, MD4.2, 4C-1D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYTN	**Playitas**	**2.17**	**217**⇑	*e*P	Pn	21 41 44.8	-1.7
PYTN				*e*S	Sn	21 42 12.7	-1.7
WILN	**Americas 2**	**2.54**	**214**⇑	*e*P	Pn	21 41 49.1	-2.8
WILN				*e*S	Sn	21 42 22.4	-1.7
MOMJ	**Momotombo**	**2.57**	**224**	*e*P	Pn	21 41 51.3	-1.0
MOMJ				*e*S	Sn	21 42 25.6	+0.9
APYN	**Apoyeque**	**2.58**	**218**	*e*P	Pn	21 41 51.4	-1.0
APYN				*e*S	Sn	21 42 24.7	-0.2
MGAN	**Managua**	**2.59**	**215**	*e*P	Pn	21 41 51.0	-1.5
MGAN				*e*S	Sn	21 42 24.7	-0.5
CNGN	**Cerro Negro**	**2.61**	**228**⇓	*e*P	Pn	21 41 52.9	0.0
CNGN				*e*S	Sn	21 42 27.3	+1.5
XAVN	**Gruta Xavier**	**2.63**	**217**	*e*P	Pn	21 41 53.3	+0.2
XAVN				*e*S	Sn	21 42 26.1	-0.2
TELN	**Telica**	**2.64**	**231**	*e*P	Pn	21 41 53.2	-0.1
TELN				*e*S	Sn	21 42 26.4	-0.1
MIRN	**Miramar**	**2.66**	**227**	*e*P	Pn	21 41 54.7	+1.1
MIRN				*e*S	Sn	21 42 29.5	+2.4
TEL3	**Telica 3**	**2.67**	**231**	*e*P	Pn	21 41 54.5	+0.8
TEL3				*e*S	Sn	21 42 29.5	+2.1
TICN	**Ticuantepe**	**2.67**	**214**	*e*P	Pn	21 41 52.2	-1.5
TICN				*e*S	Sn	21 42 28.2	+0.9
APON	**Apoyo**	**2.69**	**209**	*e*P	Pn	21 41 52.2	-1.8
APON				*e*S	Sn	21 42 27.7	0.0
COPN	**Copaltepe**	**2.77**	**221**⇑	*e*P	Pn	21 41 54.6	-0.5
COPN				*e*S	Sn	21 42 30.9	+1.1
LEON	**Leon**	**2.81**	**229**	*e*P	Pn	21 41 57.8	+2.1
LEON				*e*S	Sn	21 42 31.4	+0.6
MADN	**Villa Maderas**	**2.96**	**196**	*e*P	Pn	21 41 55.9	-2.0
MADN				*e*S	Sn	21 42 32.4	-2.2
SSNN	**San Juan del S**	**3.17**	**200**⇑	*e*P	Pn	21 41 59.4	-1.4
SSNN				*e*S	Sn	21 42 38.7	-1.2
FORC	**Fortuna**	**3.78**	**179**	*e*P	Pn	21 42 11.2	+1.6
FORC				*e*S	Sn	21 42 57.3	+1.9
TRTC	**Tortuguero**	**3.81**	**165**	*e*P	Pn	21 42 09.0	-0.9
TRTC				*e*S	Sn	21 42 53.2	-2.9
VCR	**Vista de Mar**	**4.22**	**192**	*e*P	Pn	21 42 19.1	+3.4
VCR				*e*S	Sn	21 43 07.2	+0.7
LAJ	**Bijagual**	**4.43**	**172**	*e*P	Pn	21 42 17.8	-0.9
LAJ				*e*S	Sn	21 43 16.6	+4.9
URSC	**Urasca**	**4.51**	**168**	*e*P	Pn	21 42 19.2	-0.7
URSC				*e*S	Sn	21 43 15.2	+1.4
LCR2	**La Lucha 2**	**4.56**	**171**	*e*P	Pn	21 42 20.4	-0.2
LCR2				*e*S	Sn	21 43 14.7	-0.5
BUS	**Buena Vista**	**4.79**	**169**	*e*P	Pn	21 42 31.1	+7.3
BUS				*e*S	Sn	21 43 23.9	+3.1

*NEIC **26** 21:57:56.4±4.0, 3.20S×137.48E, h44km±31km, mb4.4/2, Error ellipse: s-maj=35.7km s-min=18.5km az=144.0*
*IDC **26** 21:57:57.9±6.0, 3.19S×137.59E, h56km±47km, mb3.8/4, mb1 4.0/7, mb1mx3.8/11, ML4.1/4, Error ellipse: s-maj=50.2km s-min=30.3km az=127.0*
ISC 26 21:58:04.4±2.3, 3.8S±0.1×137.7E±0.1, h98km±23km, n17, σ1⇟20/22, mb3.6/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**10.26**	**210**	*e*P	**P**	**22 00 33.0**	**+2.9**
	24nm,0.6s						
KAKA				*i* S	**S**	**22 02 24.1**	**+0.3**
PMG	**Port Moresby**	**10.94**	**121**	P	**P**	**22 00 38.0**	**-1.2**
	0.9nm,0.3s,baz=306,slow=15,SNR=3.7						
WRAB	**Tennant Creek**	**16.35**	**191**	Pn	**P**	**22 01 48.5**	**-0.8**
	229nm,0.4s,SNR=25						
WRAB	**Tennant Creek**	**16.35**	**191**	*e*P	**P**	**22 01 47.7**	**-1.6**
	16nm,0.3s						
WRAB				*e*		22 01 54.0	
WRAB				*e*S	**S**	**22 04 46.7**	**-0.3**
WB2	**Warramunga Arr**	**16.36**	**191**	*e*P	**P**	**22 01 48.4**	**-1.1**
WB2				*e*S	**S**	**22 04 45.8**	**-1.4**
WRA	**Warramunga Arr**	**16.36**	**191**	P	**P**	**22 01 49.6**	**+0.1**
	4.1nm,0.3s,baz=12,slow=13,SNR=50						
WRA				S	**S**	**22 04 49.7**	**+2.4**
	0.9nm,0.3s,baz=12,slow=21,SNR=5.1						
CTA	**Charters Tower**	**18.21**	**153**	P	**P**	**22 02 13.1**	**+0.9**
	0.5nm,0.3s,baz=340,slow=9.8,SNR=9.1						
CTAO	**Charters Tower**	**18.21**	**153**	*e*P	**P**	**22 02 13.3**	**+1.2**
	19nm,0.9s						
CTAO				*e*		22 02 36.0	
FITZ	**Fitzroy Crossi**	**18.45**	**219**	P	**P**	**22 02 15.2**	**+0.3**
	0.2nm,0.3s,baz=30,slow=10,SNR=7.6						
FITZ				S	**S**	**22 05 32.3**	**-1.7**
	2.0nm,0.3s,baz=186,slow=14,SNR=13						
ASAR	**Alice Springs**	**20.07**	**190**	P	**P**	**22 02 33.6**	**+1.3**
	22nm,0.9s,baz=15,slow=10,SNR=75						
ASAR				S	**S**	**22 06 16.2**	**+8.9**
	9.7nm,0.9s,baz=11,slow=23,SNR=8.3						
ASPA	**Alice Springs**	**20.07**	**190**	*e*P	**P**	**22 02 33.7**	**+1.4**
ASPA				*e*S	**S**	**22 06 16.2**	**+8.9**
STKA	**Stephens Creek**	**28.16**	**173**	P	**P**	**22 03 49.7**	**0.0**
	1.0nm,0.4s,mb3.7,baz=346,slow=2.6,SNR=3.3						
STKA	**Stephens Creek**	**28.16**	**173**	P	**P**	**22 03 49.7**	**0.0**
VNDA	**Vanda**	**74.78**	**175**	P	**P**	**22 09 34.5**	**-0.5**
	0.6nm,0.6s,mb3.5,baz=327,slow=6.4,SNR=8.1						
ILAR	**Eielson Array**	**87.26**	**25**	P	**P**	**22 10 34.6**	**-6.1**
	0.4nm,0.7s,mb3.5,baz=230,slow=5.5,SNR=4.7						
CPUP	**Villa Florida**	**146.70**	**155**	PKPbc	PKPbc	22 17 36.3	+1.0
	2.1nm,0.9s,baz=235,slow=6.6,SNR=3.0						
LPAZ	**La Paz**	**147.60**	**129**	PKPbc	PKPdf	22 17 39.6	+4.1
	1.4nm,0.7s,baz=295,slow=3.6,SNR=6.9						

DJA 26 22:13:27.7±1.8, 9.39S×117.79E, h192km±20km, MD4.8/4, ML4.0/4, 4C-2D, Error ellipse: s-maj=120.1km s-min=50.3km az=9.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**1.88**	**298**	*e*Pn	P	22 14 05.4	+0.6
	56nm,0.2s						
KEDI				⇑*e*Sn	S	22 14 32.6	-0.7
RATI	**Rata**	**2.33**	**286**	⇑*i*Pn	P	22 14 09.5	-0.1
	159nm,0.3s						
RATI				⇑*i*Sn	S	22 14 45.8	+3.9
KELI	**Kelakatan**	**3.46**	**289**	⇑*i*Pn	P	22 14 23.2	+0.1
	41nm,0.2s						
SRDI	**Scrawed**	**3.71**	**284**	⇓*i*Pn	P	22 14 27.2	+0.9
	39nm,0.2s						
SRDI				⇓*i*Sn	S	22 14 58.4	-13

CASC 26 22:18:59.0±2.0, 10.07N×86.09W, h20km±12km, MD4.0, ML3.1, 5C-3D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCR	**Vista de Mar**	**0.45**	**82**⇑	*e*P	Pb	22 19 08.9	+0.7
JCR	**Jicaral**	**0.98**	**102**	*e*P	Pb	22 19 21.3	+4.1
SSNN	**San Juan del S**	**1.24**	**11**⇑	*e*P	Pn	22 19 21.1	-0.3
SSNN				*e*S	Sb	22 19 37.6	+0.6
	comp=Z,491nm,0.3s						
MADN	**Villa Maderas**	**1.44**	**22**	*e*P	Pn	22 19 24.7	+0.4
FORC	**Fortuna**	**1.45**	**74**⇓	*e*P	Pn	22 19 24.3	-0.2
CGA2	**Cerro Gallo 2**	**1.60**	**92**⇑	*e*P	Pn	22 19 26.1	-0.4
LAJ	**Bijagual**	**1.95**	**96**	*e*P	Pn	22 19 24.4	-7.2
TICN	**Ticuantepe**	**1.96**	**356**⇑	*e*P	Pn	22 19 31.4	-0.3
LCR2	**La Lucha 2**	**2.08**	**99**⇑	*e*P	Pn	22 19 32.7	-0.7
COPN	**Copaltepe**	**2.16**	**347**	*e*P	Pn	22 19 34.1	-0.6
APYN	**Apoyeque**	**2.17**	**353**	*e*P	Pn	22 19 34.6	-0.2
ICR	**Volcan Irazu**	**2.22**	**92**	*e*P	Pn	22 19 34.5	-1.1
URSC	**Urasca**	**2.29**	**96**⇓	*e*P	Pn	22 19 37.0	+0.5
BUS	**Buena Vista**	**2.35**	**102**⇓	*i*P	Pn	22 19 37.1	-0.2
TRTC	**Tortuguero**	**2.39**	**78**	*e*P	Pn	22 19 37.2	-0.8
LEON	**Leon**	**2.47**	**341**	*e*P	Pn	22 19 38.5	-0.5
LEON				*e*S	Sn	22 20 07.0	-1.9
	comp=Z,91nm,0.2s						
CNGN	**Cerro Negro**	**2.49**	**346**	*e*S	Sn	22 20 09.3	-0.2
TEL3	**Telica 3**	**2.60**	**343**	*e*P	Pn	22 19 40.6	-0.3
TEL3				*e*S	Sn	22 20 12.9	+0.6

*IDC **26** 22:38:36.9±0.9, 57.02S×24.44W, mb4.3/3, mb1 4.4/4, mb1mx4.0/12, ML3.2/1, Error ellipse: s-maj=51.1km s-min=23.2km az=56.0*
*NEIC **26** 22:38:38.5±0.5, 56.98S×24.56W, h10km, mb4.7/6, Error ellipse: s-maj=15.7km s-min=6.8km az=55.0*
ISC 26 22:38:37.3±1.1, 57.1S±0.1×24.8W±0.3, h10km, n23, σ0⇟90/17, mb4.5/7, 5C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**15.38**	**159**⇑	*i*P	**P**	**22 42 15.6**	**0.0**
VNA3	**Neumayer Olymp**	**15.61**	**162**⇑	*i*P	**P**	**22 42 19.2**	**+0.6**
VNA3	**Neumayer Olymp**	**15.61**	**162**⇑	*i*	**P**	**22 42 28.4**	**+10**
VNA2	**Neumayer--Watz**	**15.77**	**159**	P	**P**	**22 42 20.9**	**+0.3**
VNA2	**Neumayer--Watz**	**15.77**	**159**⇑	*i*	**P**	**22 42 30.2**	**+10**
SNAA	**Sanae**	**17.29**	**157**⇑	*i*P	**P**	**22 42 38.9**	**-1.0**
SNAA	**Sanae**	**17.29**	**157**⇑	*i*	**P**	**22 42 50.5**	**+11**
SNAA	**Sanae**	**17.29**	**157**	P	**P**	**22 42 38.3**	**-1.6**
	0.1nm,0.3s,baz=334,slow=14,SNR=13						
EFI	**East Falkland**	**19.97**	**271**	*e*P	**P**	**22 43 11.8**	**-0.5**
	33nm,0.5s						
PMSA	**Palmer Station**	**20.27**	**231**	P	**P**	**22 43 16.0**	**+0.7**
	2.7nm,0.5s						
TRQA	**Tornquist**	**30.93**	**292**	*e*P	**P**	**22 44 55.3**	**-0.9**
	3.2nm,0.6s,mb4.3						
CPUP	**Villa Florida**	**38.47**	**309**	P	**P**	**22 46 00.9**	**-0.1**
	5.0nm,0.9s,mb4.2,baz=171,slow=5.8,SNR=5.5						
VNDA	**Vanda**	**45.62**	**182**	P	**P**	**22 46 58.6**	**0.0**
	1.0nm,0.6s,mb4.0,baz=181,slow=7.0,SNR=18						
LVC	**Limon Verde**	**46.94**	**298**	*e*P	**P**	**22 47 09.9**	**+0.1**
	4.6nm,0.5s,mb4.7						
LPAZ	**La Paz**	**52.03**	**303**	P	**P**	**22 47 50.1**	**+1.1**
	4.7nm,0.5s,mb4.7,baz=124,slow=7.1,SNR=24						
SAML	**Samuel**	**56.45**	**313**	*e*P	**P**	**22 48 19.8**	**-1.7**
	3.2nm,0.6s,mb4.5						
SDV	**Santo Domingo**	**75.66**	**313**	*e*P	**P**	**22 50 26.0**	**+1.7**
	5.0nm,0.3s,mb4.9						
CMAR	**Chiang Mai Arr**	**123.48**	**109**	PKP	PKPdf	22 57 34.6	-3.2
	0.4nm,0.5s,baz=236,slow=3.3,SNR=3.3						
BVAR	**Borovoye Array**	**134.21**	**57**	PKP	PKPdf	22 57 55.7	-1.6
	0.5nm,0.6s,baz=270,slow=3.0,SNR=4.3						
INK	**Inuvik**	**147.42**	**319**	PKPbc	PKPdf	22 58 21.0	+0.9
	1.8nm,0.7s,baz=146,slow=7.6,SNR=4.0						
INK	**Inuvik**	**147.42**	**319**	PKPbc	PKPdf	22 58 21.0	+0.9
SONM	**Songino Array**	**149.47**	**86**	PKPbc	PKPdf	22 58 26.2	+2.1
	1.3nm,0.8s,baz=227,slow=2.8,SNR=11						
ILAR	**Eielson Array**	**151.77**	**310**	PKPbc	PKPdf	22 58 31.9	+4.9
	2.5nm,0.9s,baz=148,slow=2.0,SNR=19						

*IDC **26** 22:49:25.6±0.8, 67.17N×21.03E, mb1 3.1/4, mb1mx3.0/18, ML2.6/4, Error ellipse: s-maj=14.9km s-min=6.0km az=118.0*
*CSEM **26** 22:49:25.2±0.1, 67.16N×20.88E, h2km, ML2.5, Error ellipse: s-maj=3.3km s-min=2.4km az=100.0, Mining explosion.*
*UPP **26** 22:49:25.7, 67.18N×20.69E, h0km, ML2.5, Mining explosion.*
*HEL **26** 22:49:26.0±0.1, 67.18N×20.70E, ML2.0, ML2.4(UPP), Explosion*
ISC 26 22:49:23.9±0.4, 67.16N±0.03×20.55E±0.08, n32, σ1⇟24/51, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.04**	**171**	*i* P	**Pg**	**22 49 27.3**	**+2.6**
DUNU				*i* S	**Sg**	**22 49 28.5**	**+3.2**
MASU	**Masugnsbyn**	**0.63**	**61**	*i* P	**Pg**	**22 49 36.6**	**0.0**
KUA	**Kurravaara**	**0.80**	**354**	*i* P	**Pg**	**22 49 40.0**	**+0.1**
ERTU	**Ertsjaerv**	**0.89**	**133**	*i* P	**Pg**	**22 49 40.9**	**-0.8**
NIKU	**Nikkaluokta**	**0.92**	**321**	*e*P	**Pg**	**22 49 42.7**	**+0.5**
PAJU	**Pajala**	**1.01**	**97**	*e*P	**Pb**	**22 49 43.3**	**-0.7**
SJUU	**Sjulsmark**	**1.71**	**165**	*e*P	**Pn**	**22 49 56.6**	**+1.4**
KIF	**Kilpisjarvi**	**1.85**	**3**	*e*P	**Pn**	**22 49 58.9**	**+1.7**
KIF				*e*S	**Sn**	**22 50 23.1**	**+1.4**
KIF	**Kilpisjarvi**	**1.85**	**3**	P	**Pn**	**22 49 58.8**	**+1.6**
KIF				S	**Sn**	**22 50 23.0**	**+1.3**
LILU	**Lilltraesk**	**1.91**	**189**	*e*P	**Pn**	**22 49 59.9**	**+1.9**
LILU	**Lilltraesk**	**1.91**	**189**	P	**Pn**	**22 49 59.8**	**+1.9**
KTK1	**Kautokeino**	**2.11**	**27**	*e*P	**Pn**	**22 50 01.6**	**+0.6**
KTK1	**Kautokeino**	**2.11**	**27**	P	**Pn**	**22 50 01.5**	**+0.6**
SGF	**Sodankyl**	**2.33**	**80**	*e*P	**Pn**	**22 50 05.5**	**+1.4**
SGF				*e*S	**Sn**	**22 50 34.9**	**+1.0**
SGF				MSG		22 50 37.5	
	comp=Z,12nm,0.3s						
SGF	**Sodankyl**	**2.33**	**80**	P	**Pn**	**22 50 05.4**	**+1.3**
SGF				S	**Sn**	**22 50 34.8**	**+0.9**
	comp=Z,12nm,0.3s						
MOR8	**Moi Rana**	**2.63**	**251**	*e*SG	**Sg**	**22 50 44.2**	**-7.2**
LOF	**Lofoten**	**2.85**	**293**	*e*SG	**Sg**	**22 50 57.0**	**-1.8**
ARCES	**ARCESS Array B**	**3.01**	**35**	Pn	**Pn**	**22 50 14.0**	**+0.3**
	comp=Z,1.1nm,0.3s,baz=214,slow=13,SNR=53						
ARCES				Sn	**Sn**	**22 50 49.5**	**-1.5**
	comp=Z,0.8nm,0.3s,baz=214,slow=23,SNR=3.8						
ARCES				Lg		22 50 54.8	
	comp=Z,1.5nm,0.3s,baz=214,slow=26,SNR=9.7						
OUL	**Oulu**	**3.01**	**131**	*e*P	**Pn**	**22 50 14.7**	**+0.9**
OUL				*e*S	**Sn**	**22 50 51.7**	**+0.7**
OUL				MSG		22 50 57.8	
	comp=Z,2.4nm,0.2s						
OUL	**Oulu**	**3.01**	**131**	P	**Pn**	**22 50 14.6**	**+0.8**
OUL				S	**Sn**	**22 50 51.7**	**+0.6**
	comp=Z,2.4nm,0.2s						
KEV	**Kevo**	**3.53**	**39**	*e*P	**Pn**	**22 50 20.9**	**-0.2**
KEV				*e*S	**Sn**	**22 51 02.3**	**-1.9**
KEV	**Kevo**	**3.53**	**39**	P	**Pn**	**22 50 20.8**	**-0.3**
KEV				S	**Sn**	**22 51 02.3**	**-1.9**
MSF	**Maaselka**	**3.62**	**106**	*e*P	**Pn**	**22 50 22.0**	**-0.3**
MSF				*e*S	**Sn**	**22 51 04.2**	**-2.3**
MSF				MSG		22 51 18.6	
	comp=Z,2.5nm,0.2s						
MSF	**Maaselka**	**3.62**	**106**	P	**Pn**	**22 50 22.0**	**-0.4**
MSF				S	**Sn**	**22 51 04.1**	**-2.4**
	comp=Z,2.5nm,0.2s						
VAF	**Ylistaro**	**4.23**	**167**	*e*P	**Pn**	**22 50 31.9**	**+0.8**
VAF				*e*S	**Sn**	**22 51 21.7**	**-0.3**
VAF	**Ylistaro**	**4.23**	**167**	P	**Pn**	**22 50 31.8**	**+0.7**
VAF				S	**Sn**	**22 51 21.6**	**-0.4**
NSS	**Namsos**	**4.41**	**237**	*e*SG	**Sg**	**22 51 44.5**	**-6.0**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEF	**Keuruu**	**5.35**	**158**	*e*P	**Pn**	**22 50 47.1**	**+0.2**
KEF				*e*S	**Sn**	**22 51 47.2**	**-2.9**
FINES	**FINESS Array B**	**6.22**	**155**	Pn	**Pn**	**22 50 58.6**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=342,slow=12,SNR=3.5						
FINES				Sn	**Sn**	**22 52 07.4**	**-4.6**
	comp=Z,0.2nm,0.3s,baz=346,slow=22,SNR=4.2						
FINES				Lg		22 52 40.6	
	comp=Z,0.4nm,0.3s,baz=344,slow=28,SNR=5.8						
JOF	**Joensuu**	**6.23**	**128**	*e*P	**Pn**	**22 50 58.5**	**-0.9**
JOF				*e*S	**Sn**	**22 52 06.2**	**-6.1**
NOA	**NORSAR Array B**	**7.37**	**218**	Pn	**Pn**	**22 51 15.6**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=222,slow=13,SNR=2.5						
NOA				Sn	**Sn**	**22 52 35.2**	**-5.6**
	comp=Z,0.2nm,0.3s,baz=280,slow=22,SNR=2.4						
NOA				Lg		22 53 19.4	
	comp=Z,0.3nm,0.3s,baz=32,slow=25,SNR=3.0						
HFS	**Hagfors**	**7.68**	**207**	Pn	**Pn**	**22 51 17.8**	**-1.9**
	comp=Z,0.0nm,0.3s,baz=23,slow=11,SNR=4.1						
HFS				Sn	**Sn**	**22 52 43.3**	**-5.2**
	comp=Z,0.1nm,0.3s,baz=21,slow=25,SNR=5.5						

*IDC **26** 22:53:06.5±0.5, 57.08S×24.58W, mb5.1/11, mb1 5.1/13, mb1mx5.1/14, ML4.1/1, MS6.3/13, Ms1 6.3/13, ms1mx6.2/17, Error ellipse: s-maj=25.5km s-min=15.2km az=57.0*
*MOS **26** 22:53:07.5±1.7, 57.21S×24.39W, h10km, mb5.8/11, MS6.4/17, Error ellipse: s-maj=46.5km s-min=14.8km az=101.0*
*HRVD **26** 22:53:07.9±0.1, 57.28S×24.15W, h12km, MW6.2/76, Centroid moment Tensor Solution. LP body waves: s76,c191;Mantle waves: s70,c124; Half duration: 3⇟1 Moment tensor: Scale 10¹⁸Nm; M_{rr}1.62±.02; $M_{\theta\theta}$-0.15±.02; $M_{\phi\phi}$-1.48±.02; $M_{r\theta}$-0.54±.05; $M_{\theta\phi}$0.69±.02; $M_{\theta r}$1.68±.06; Best double couple: M_o2.45×10¹⁸ NP1: ϕ_s153°,δ22°,λ82°. NP2:ϕ_s341°,δ68°,λ93°. Principal axes: T 2.38, Plg67°, Azm257°; N .13, Plg3°, Azm160°; P -2.52, Plg23°, Azm69°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.*
*NEIC **26** 22:53:07.9±0.1, 57.07S×24.68W, h10km, mb5.6/23, MS6.3/120, MW6.4 Error ellipse: s-maj=8.0km s-min=4.9km az=61.0, Moment Tensor Solution. s12 Moment tensor: Scale 10¹⁸Nm; M_{rr}0.37; $M_{\theta\theta}$0.24; $M_{\phi\phi}$-0.61; $M_{r\theta}$-2.03; $M_{\theta\phi}$-0.42; $M_{\theta r}$4.32; Best double couple: M_o4.8×10¹⁸ NP1:ϕ_s233°,δ7°,λ168°. NP2:ϕ_s336°, δ88°,λ83°. Principal axes: T 4.93, Plg46°, Azm238°; N -.22, Plg7°, Azm336°; P -4.71, Plg43°, Azm72°;*
*SYO **26** 22:53:07.8, 57.08S×24.71W, h10km, MB5.5, MS6.3*
*BJI **26** 22:53:07.8, 57.10S×24.70W, h10km, mB6.1, Ms6.6, Msz6.5*
ISC 26 22:53:04.6±2.8, 57.07S±0.05×24.8W±0.1, h1km±17km, n331, σ1⇟16/81, mb5.4/30, MS6.3/150, 18C-10D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**15.36**	**159**		**P**	**22 56 46.2**	**+2.5**
VNA1	**Neumayer--Stat**	**15.36**	**159**⇑	*i*	**P**	**22 56 47.9**	**+4.2**
VNA1	**Neumayer--Stat**	**15.36**	**159**⇑	*i*P	**P**	**22 56 45.3**	**+1.6**
VNA1				P		22 56 46.2	
VNA1				⇑*i*P		22 56 47.9	
VNA3	**Neumayer Olymp**	**15.59**	**162**⇑	*i*	**P**	**22 56 48.2**	**+1.4**
VNA3	**Neumayer Olymp**	**15.59**	**162**⇑	*i*	**P**	**22 56 52.6**	**+5.8**
VNA3	**Neumayer Olymp**	**15.59**	**162**	P	**P**	**22 56 47.7**	**+0.9**
VNA3				⇑*i*P		22 56 48.2	
VNA3				⇑*i*P		22 56 52.6	
VNA2	**Neumayer--Watz**	**15.75**	**159**		**P**	**22 56 49.8**	**+1.0**
VNA2	**Neumayer--Watz**	**15.75**	**159**⇑	*i*	**P**	**22 56 54.5**	**+5.7**
VNA2	**Neumayer--Watz**	**15.75**	**159**	P	**P**	**22 56 48.5**	**-0.3**
VNA2				P		22 56 49.8	
VNA2				⇑*i*P		22 56 54.5	
SNAA	**Sanae**	**17.27**	**157**		**P**	**22 57 09.1**	**+1.0**
SNAA	**Sanae**	**17.27**	**157**	P	**P**	**22 57 07.0**	**-1.1**
	0.7nm,0.3s,baz=329,slow=12,SNR=110						
SNAA				S	**S**	**23 00 08.6**	**-11**
	0.3nm,0.3s,baz=320,slow=18,SNR=2.6						
SNAA				LR	LR	23 02 47.0	
	comp=Z,40μm,18.8s,baz=322,slow=34						
SNAA	**Sanae**	**17.27**	**157**	*e*P	**P**	**22

MIR e pP 23 01 49.0 +0.3
MIR eS **S** **23 08 48.0 +0.2**
MIR pmax pmax
comp=Z,130nm,1.7s,mb5.7
MIR pmax pmax
comp=Z,2μm,6.0s
MIR smax
comp=E,7μm,11.0s
MIR smax
comp=N,6μm,15.0s
MIR MLR MLR
comp=N,18μm,15.0s
MIR MLR MLR
comp=Z,53μm,15.0s,MS6.6
RCBR Riachuelo 51.85 346 PFAKE 23 02 30.0 +14
RCBR LR LR
comp=Z,30μm,19.0s,MS6.3
LPAZ La Paz 52.05 303 P **P** **23 02 19.4 +1.5**
comp=Z,50nm,0.8s,mb5.5,baz=132,slow=4.8,SNR=74
LPAZ LR LR 23 22 53.5
comp=Z,11μm,18.4s,MS5.9,baz=314,slow=34
CASY Casey 52.49 159 eP **P** **23 02 19.8 -0.7**
SAML Samuel 56.47 313⇑ eP **P** **23 02 49.6 -0.8**
comp=Z,106nm,1.2s,mb5.7
SAML LR LR
comp=Z,22μm,20.0s,MS6.2
LSZ Lusaka 57.54 66⇓ eP **P** **23 02 55.8 -2.1**
LSZ pmax pmax
comp=Z,50nm,1.3s,mb5.4
LSZ MLR MLR
comp=Z,58μm,19.0s,MS6.7
LSZ Lusaka 57.54 66⇓ eP **P** **23 02 55.8 -2.1**
comp=Z,50nm,1.4s,mb5.3
LSZ LR LR
comp=Z,58μm,19.0s,MS6.7
NNA Nana 59.90 297 PFAKE 23 03 30.0 +16
NNA LR LR
comp=Z,3μm,19.0s,MS5.5
RPN Rapa Nui 64.77 259 PFAKE 23 04 00.0 +13
RPN LR LR
comp=Z,3μm,20.0s,MS5.5
LIC Lamto 65.12 22 eP **P** **23 03 48.5 -0.6**
comp=Z,201nm,1.4s,mb6.0
KIC Kosan Boka 65.31 22 eP **P** **23 03 49.3 -1.0**
comp=Z,153nm,1.0s,mb6.0
TIC Toumodi 65.53 22 eP **P** **23 03 51.4 -0.3**
comp=Z,166nm,1.1s,mb6.0
DBIC Dimbokro 65.58 22 P **P** **23 03 51.4 -0.7**
comp=Z,9.4nm,0.8s,mb4.8,baz=169,slow=7.3,SNR=6.1
DBIC LR LR 23 27 14.6
comp=Z,18μm,18.1s,MS6.3,baz=176,slow=31
DBIC Dimbokro 65.58 22 P **P** **23 03 51.4 -0.7**
DBIC LR LR 23 27 14.6
OTAV Otavalo 71.33 302 eP **P** **23 04 28.6 +0.8**
comp=Z,62nm,0.9s,mb5.5
OTAV LR LR
comp=Z,12μm,19.0s,MS6.2
MBAR Mbarara 71.47 60 P **P** **23 04 30.0 +1.3**
comp=Z,101nm,1.4s,mb5.6,SNR=14
MBAR Mbarara 71.47 60⇓ eP **P** **23 04 28.6 -0.1**
comp=Z,28nm,1.8s,mb4.9
MBAR e 23 04 37.9
MBAR LR LR
comp=Z,11μm,19.0s,MS6.1
TRN Trinidad (W) 73.91 322 eP **P** **23 04 40.8 -2.2**
KMBO Kilima Mbogo 74.19 67 P **P** **23 04 48.3 +3.6**
comp=Z,6.2nm,1.2s,mb4.4,baz=195,slow=5.8,SNR=12
KMBO LR LR 23 34 38.2
comp=Z,22μm,18.3s,MS6.5,baz=200,slow=34
KMBO Kilima Mbogo 74.19 67 P **P** **23 04 44.5 -0.2**
comp=Z,82nm,1.9s,mb5.3
KMBO LR LR 23 34 38.2
SDV Santo Domingo 75.67 313⇑ eP **P** **23 04 53.6 +0.4**
comp=Z,91nm,1.1s,mb5.6
SDV LR LR
comp=Z,46μm,19.0s,MS6.8
PAYG Puerto Ayora 76.33 291 PFAKE 23 05 10.0 +13
PAYG LR LR
comp=Z,18μm,19.0s,MS6.4
PTCN Pitcairn Islan 77.16 244 PFAKE 23 05 10.0 +8.7
PTCN LR LR
comp=Z,15μm,20.0s,MS6.3
TAU Tasmania Unive 80.17 174 eP **P** **23 05 17.2 -0.1**
TAU pmax pmax
comp=Z,93nm,1.0s,mb5.7
TAU MLR MLR
comp=Z,12μm,19.0s,MS6.3
TAU Tasmania Unive 80.17 174 eP **P** **23 05 17.1 -0.2**
comp=Z,93nm,1.0s,mb5.7
TAU LR LR
comp=Z,12μm,19.0s,MS6.3
HUMP Col San Antoni 82.39 321 eP **P** **23 05 28.4 -1.1**
SJG San Juan 82.47 321 P **P** **23 05 30.2 +0.3**
comp=Z,3.4nm,0.3s,mb4.8,baz=349,slow=20,SNR=3.1
SJG San Juan 82.47 321 P **P** **23 05 33.6 +3.7**
SJG pmax pmax
comp=Z,110nm,1.3s
SJG MLR MLR
comp=Z,13μm,19.0s
SJG San Juan 82.47 321 P **P** **23 05 30.2 +0.3**
SJG LR LR
comp=Z,13μm,19.0s,MS6.3
URZ Urewera 83.24 197 LR LR 23 41 41.5
comp=Z,10μm,18.2s,MS6.2,baz=208,slow=35
NWAO Narrogin (SRO) 84.77 149 PFAKE 23 05 50.0 +8.7
NWAO LR LR
comp=Z,9μm,19.0s,MS6.2
TOO Toolangi 85.36 172 eP **P** **23 05 44.5 +0.4**
comp=Z,16nm,0.9s,mb5.2
TOO eS S 23 16 21.3 +6.9
MUN Mundaring 85.37 148 eP **P** **23 05 44.5 +0.2**
comp=Z,21nm,0.9s,mb5.3
MUN eS S 23 16 15.4 +0.8
KLBR Kellerberrin 86.18 149 eP **P** **23 05 49.1 +0.8**
comp=Z,48nm,1.2s,mb5.6
ADE Adelaide 87.26 166 P **P** **23 05 49.8 -3.7**
TBI Tubuai 87.45 229 ePP PP 23 09 18.8 -2.9
TBI eSS SS 23 22 19.9 -2.8
TBI eL 23 30 19.3
TBI eR 23 33 35.9
comp=Z,15μm,20.2s,baz=148
DGAR Diego Garcia 87.76 100 PFAKE 23 06 10.0 +14
DGAR LR LR
comp=Z,11μm,19.0s,MS6.3
FORT Forrest 89.53 157 eP **P** **23 06 05.8 +1.4**
comp=Z,197nm,1.3s,mb6.3
FORT eS S 23 16 54.7 +0.8
STKA Stephens Creek 90.65 168 eP **P** **23 06 10.8 +1.2**
comp=Z,18nm,1.2s,mb5.3
STKA Stephens Creek 90.65 168 P **P** **23 06 10.1 +0.5**
comp=Z,18nm,0.9s,mb5.4,baz=150,slow=5.6,SNR=15
STKA LR LR 23 45 13.1
comp=Z,54μm,18.3s,MS7.0,baz=183,slow=34
RAO Raoul Island 91.06 203 PFAKE 23 06 20.0 +8.4
RAO LR LR
comp=Z,12μm,19.0s,MS6.4
PPT Papeete 92.63 232 ePP PP 23 09 54.9 -8.4
PPT eSS SS 23 23 35.9 -1.7
PPT eR 23 36 05.0
comp=Z,44μm,29.5s,baz=157
RAR Rarotonga 93.38 221 PFAKE 23 06 30.0 +7.6
RAR LR LR
comp=Z,8μm,19.0s,MS6.2
CMIG Matias Romero 93.83 296 i P **P** **23 06 28.7 +4.2**
NAMS An Nimas 94.11 61 P **P** **23 06 32.0 +6.2**
TATS Tathlith 95.04 62 P **P** **23 06 31.8 +1.8**
BBSR BB Station 95.27 327 PFAKE 23 06 40.0 +9.2
BBSR LR LR
comp=Z,11μm,20.0s,MS6.3
COCO West Island 95.98 123 PFAKE 23 06 50.0 +16
COCO LR LR
comp=Z,4μm,19.0s,MS5.9
KAMS Al Khamasin 96.22 62 P **P** **23 06 37.8 +2.4**
MBWA Marble Bar 96.58 147 PFAKE 23 06 50.0 +13
MBWA LR LR
comp=Z,21μm,19.0s,MS6.6
DWPF Disney 97.32 312 PFAKE 23 06 50.0 +10
DWPF LR LR
comp=Z,16μm,20.0s,MS6.5
ASPA Alice Springs 97.59 160 eP **P** **23 06 41.5 -0.1**
ASAR Alice Springs 97.60 160 P **P** **23 06 41.8 +0.2**
comp=Z,6.5nm,0.9s,mb5.1,baz=194,slow=4.2,SNR=28
ASAR PKKPbc
comp=Z,3.2nm,0.9s,baz=186,slow=7.3,SNR=5.4
ASAR PP PP 23 10 41.1 -0.7
comp=Z,0.8nm,0.6s,baz=16,slow=2.5,SNR=9.9
ASAR LR LR 23 23 21.6
comp=Z,10μm,18.0s,MS6.3,baz=188,slow=35
ESDC Sonseca Array 97.97 16 P **P** **23 06 42.5 -0.4**
comp=Z,1.3nm,0.8s,mb4.5,baz=296,slow=37,SNR=3.4
ESDC LR LR 23 48 23.0
comp=Z,9μm,18.4s,MS6.3,baz=160,slow=34
KBRS Khaybar 98.45 55 P **P** **23 06 53.2 +7.8**
AFFS 'Afif 98.56 59 P **P** **23 06 51.0 +5.1**
AYUS 'Aynunah 98.80 51 P **P** **23 06 54.9 +8.0**
BDAS Al Bad' 98.94 50 P **P** **23 07 01.0 +13**
JMQS Jabal Moqyreh 99.67 51 P **P** **23 06 58.9 +8.1**
VAE Valguarnera 99.84 31 LR LR 23 50 24.9
comp=Z,14μm,18.4s,MS6.5,baz=272,slow=34
ARSS Ar Rass 100.34 58 P P 23 07 00.5 +6.5
HILS Ha'il 100.97 56 P P 23 07 04.4 +7.7
NHSC New Hope 101.24 315 PFAKE 23 07 10.0 +12
NHSC LR LR
comp=Z,5μm,19.0s,MS6.1
WRA Warramunga Arr 101.31 160 P P 23 06 59.2 +0.8
comp=Z,2.3nm,0.8s,baz=194,slow=3.9,SNR=11
WRA PP PP 23 11 09.7 -0.6
comp=Z,3.4nm,1.1s,baz=190,slow=5.8,SNR=4.6
WRA PKKPbc 23 23 09.7
comp=Z,0.8nm,0.6s,baz=1.9,slow=2.9,SNR=7.3
WRAB Tennant Creek 101.32 160 Pdif P 23 06 59.3 +0.8
WRAB LR LR
comp=Z,5μm,19.0s,MS6.0
CTAO Charters Tower 102.77 171 PFAKE 23 07 20.0 +15
CTAO LR LR
comp=Z,21μm,19.0s,MS6.7
LRAL Lakeview Retre 103.92 310 PFAKE 23 07 20.0 +10
LRAL LR LR
comp=Z,17μm,19.0s,MS6.6
AFI Afiamalu 104.16 213 PFAKE 23 07 20.0 +8.8
AFI LR LR
comp=Z,10μm,19.0s,MS6.4
CBN Corbin 104.74 320 PFAKE 23 07 30.0 +17
CBN LR LR
comp=Z,10μm,20.0s,MS6.3
BLA Blacksburg 104.97 317 PFAKE 23 11 40.0
BLA LR LR
comp=Z,7μm,19.0s,MS6.2
HKT Hockley 105.19 302 PFAKE 23 11 40.0
HKT LR LR
comp=Z,4μm,19.0s,MS6.0
MNGI Mangalore 105.98 91 i 23 11 44.9
MNGI i S SKS 23 18 03.3 +1.2
NATX Nacogdoches 106.18 304 PFAKE 23 11 40.0
NATX LR LR
comp=Z,3μm,20.0s,MS5.9
OXF Oxford 106.21 309 PFAKE 23 11 40.0
OXF LR LR
comp=Z,13μm,19.0s,MS6.5
WES Weston 106.51 326 PFAKE 23 11 40.0
WES LR LR
comp=Z,12μm,19.0s,MS6.5
HRV Harvard--Oak R 106.70 326 PFAKE 23 11 40.0
HRV LR LR
comp=Z,10μm,19.0s,MS6.4
MCWV Mont Chateau 106.92 319 PFAKE 23 11 40.0
MCWV LR LR
comp=Z,8μm,19.0s,MS6.3
WVT Waverly 106.94 311 PFAKE 23 11 40.0
WVT LR LR
comp=Z,11μm,21.0s,MS6.4
SSPA Standing Stone 107.09 320 ePP PP 23 11 53.3 0.0
SSPA LR LR
comp=Z,9μm,20.0s,MS6.3
JCT Junction City 107.51 299 PFAKE 23 11 50.0
JCT LR LR
comp=Z,3μm,19.0s,MS5.8
EMMW East Machias 107.52 330 PFAKE 23 11 50.0
EMMW LR LR
comp=Z,37μm,20.0s,MS6.9
GOA Goa 107.53 89 e 23 11 59.8
GOA e 23 21 26.3
BINY Binghamton 107.83 323 PFAKE 23 11 50.0
BINY LR LR
comp=Z,9μm,21.0s,MS6.3
WVL Waterville 108.00 328 PFAKE 23 11 50.0
WVL LR LR
comp=Z,41μm,19.0s,MS7.0
MIAR Mount Ida 108.04 306 PFAKE 23 11 50.0
MIAR LR LR
comp=Z,7μm,19.0s,MS6.3
WCI Wyandotte Cave 108.12 313 PFAKE 23 11 50.0
WCI LR LR
comp=Z,11μm,19.0s,MS6.4
LTX Lajitas 108.44 295 PFAKE 23 11 50.0
LTX LR LR
comp=Z,9μm,19.0s,MS6.4
TXAR Lajitas Array 108.44 295 PKKPab 23 23 05.3
comp=Z,0.8nm,0.9s,baz=333,slow=2.8,SNR=3.5
ACSO Alum Creek Sta 108.57 317 PFAKE 23 11 50.0
ACSO LR LR
comp=Z,9μm,19.0s,MS6.3
NCB Newcomb 108.85 325 PFAKE 23 11 50.0
NCB LR LR
comp=Z,7μm,20.0s,MS6.2
MDRS Chennai 109.04 95 e 23 11 56.0
MDRS e 23 21 30.0
PQI Presque Isle 109.47 330 PFAKE 23 11 50.0
PQI LR LR
comp=Z,53μm,19.0s,MS7.1
FVM French Village 109.59 310 ePP PP 23 12 11.6 -0.4
CCM Cathedral Cave 110.00 310 PFAKE 23 11 50.0
CCM LR LR
comp=Z,17μm,19.0s,MS6.6
KHC Kasperske Hory 110.51 26 ePP PP 23 12 29.1 +11
KHC eSP SP 23 21 46.8 +4.4
KHC eSS SS 23 27 53.1 +9.1
KHC AMS AMS 23 56 30.0
comp=Z,13μm,17.1s
WMOK Wichita Mounta 110.56 302 PFAKE 23 11 50.0 +10
WMOK LR LR
comp=Z,4μm,19.0s,MS6.0
AAM Ann Arbor 110.62 317 PFAKE 23 11 50.0 +10
AAM LR LR
comp=Z,8μm,20.0s,MS6.3
NKC Novy Kostel 111.28 25 ePP PP 23 12 45.3 +22
NKC eSP SP 23 21 57.6 +7.8
NKC eSS SS 23 27 58.5 +4.6
NKC AMS AMS 23 55 20.0
comp=Z,15μm,18.1s
PRU Pruhonice 111.54 26 ePP PP 23 12 36.9 +12
PRU eSP SP 23 21 58.4 +6.3
PRU AMS AMS 23 57 00.0
comp=Z,12μm,18.0s
PRA Prague 111.59 26 ex x 23 23 00.0
PRA AMS AMS 23 57 00.0
HYB Hyderabad 111.69 91 i PKP PKPdf 23 11 44.5 +2.0
HYB eSKS SKS 23 18 22.0 -4.1
HYB eSP SP 23 21 56.0 +1.8
HYB eSS SS 23 28 00.0 0.0
HYB LR LR 23 53 00.0
comp=Z,18nm,18.0s
PVCC Panska Ves 112.05 26 eSP SP 23 22 03.3 +6.6
PVCC AMS AMS 23 55 10.0
comp=Z,13μm,19.4s
DPC Dobruska-Polom 112.31 27 ePP PP 23 12 34.6 +3.7
DPC eSP SP 23 22 05.3 +5.9
DPC ex x 23 28 28.2
DPC AMS AMS 23 56 20.0
comp=Z,14μm,18.3s
CLL Collm 112.41 25 ePDIF Pdif 23 07 54.0 +7.4
CLL ePP PP 23 12 24.0 -7.7
CLL ePP PP 23 12 55.0 +23
CLL ePPP PPP 23 14 52.0 -2.1
CLL e 23 16 21.0
CLL e 23 18 35.0
CLL e 23 19 30.0
CLL e 23 20 18.0
CLL ePS PS 23 22 06.0 +5.5
CLL ePPS PPS 23 23 39.0 +26
CLL eSS SS 23 28 16.0 +7.0
CLL e 23 29 21.0
CLL eSSS SSS 23 32 18.0 -3.8
CLL Collm 112.41 25 eP Pdif 23 07 55.0 +8.4
CLL MLR MLR
comp=Z,10μm,16.9s,MS6.5
KIS Kishinev 112.89 37 eP Pdif 23 07 50.0 +1.2
KIS MLR MLR
comp=Z,9μm,19.0s,MS6.4
KIS MLR MLR
comp=N,3μm,20.0s,MS6.3
KIS MLR MLR
comp=E,7μm,19.0s,MS6.3
KIS MLR MLR
comp=Z,7μm,20.0s
GNI Garni 113.05 51 PFAKE 23 12 00.0 +15
GNI LR LR
comp=Z,6μm,19.0s,MS6.2
OJC Ojcow 113.09 29 ePKP PKPdf 23 12 41.2 +57
OJC eSKS 23 19 44.1
OJC e 23 22 24.4
OJC MLR MLR 23 57 20.4
comp=Z,8μm,18.9s
ESK Eskdalemuir 113.39 13 PFAKE 23 12 00.0 +15
ESK LR LR
comp=Z,3μm,20.0s,MS5.9
PMG Port Moresby 113.43 171 PFAKE 23 12 00.0 +14
PMG LR LR
comp=Z,27μm,19.0s,MS6.9
JFWS Jewell Farm 113.68 313 PFAKE 23 12 00.0 +14
JFWS LR LR
comp=Z,7μm,20.0s,MS6.3
CBKS Cedar Bluff 114.34 304 PFAKE 23 12 00.0 +13
CBKS LR LR
comp=Z,5μm,19.0s,MS6.2
ANMO Albuquerque 114.38 297 PFAKE 23 12 00.0 +12
ANMO LR LR
comp=Z,10μm,20.0s,MS6.4
NGP Nagpur 114.99 89 eP PKPdf 23 11 52.6 +3.6
NGP e 23 22 30.1
KIV Kislovodsk 115.36 48 i PKIKP PKPdf 23 11 51.0 +1.7
KIV i 23 12 50.6
KIV i 23 18 33.8
KIV i 23 23 43.3
KIV pmax pmax
comp=Z,8.0nm,1.3s
KIV MLR MLR
comp=Z,9μm,17.0s,MS6.5
KIV Kislovodsk 115.36 48 PFAKE 23 12 00.0 +11
KIV LR LR
comp=Z,2μm,19.0s,MS5.7
SDCO Great Sand Dun 116.15 299 ePKPdf PKPdf 23 11 49.7 -1.3
SDCO LR LR
comp=Z,9μm,19.0s,MS6.4
AKASG Malin Array Be 116.26 35 PKP PKPdf 23 11 50.1 -0.7
comp=Z,2.2nm,0.8s,baz=241,slow=1.9,SNR=11
BSD Bornholm Skovb 116.37 24 i P Pdif 23 07 56.1 -7.9
BSD i 23 12 49.6
BSD i 23 20 39.9
BSD i 23 22 43.1
comp=Z,8μm,18.0s
MAK Makhachkala 116.54 51 ePKIKP PKPdf 23 11 44.0 -7.6
MAK ePPP PPP 23 15 38.0 +8.4
MAK i 23 18 42.0
MAK eSS SS 23 29 14.0 +10
MAK pmax pmax
comp=Z,500nm,10.0s
MAK pmax pmax
comp=E,900nm,10.0s
MAK pmax pmax
comp=Z,3μm,10.0s
ISCO Idaho Springs 117.84 301 ePKIKP PKPdf 23 11 53.5 -0.7
ISCO MLR MLR
comp=Z,4μm,19.0s,MS6.1
PFO Pinyon Flat Ob 118.34 289 PFAKE 23 12 10.0 +15
PFO LR LR
comp=Z,1μm,20.0s,MS5.5
PV10 Paradox Valley 118.35 297 ePKPdf PKPdf 23 11 53.0 -2.2
EYMN Ely 118.35 315 PFAKE 23 12 10.0 +15
EYMN LR LR
comp=Z,7μm,20.0s,MS6.3
PHWY Pilot Hill 118.95 302 ePKPdf PKPdf 23 11 56.2 -0.1
KONO Kongsberg 119.52 19 PFAKE 23 12 10.0 +13
KONO LR LR
comp=Z,6μm,19.0s,MS6.3
NDI New Delhi 119.99 83 eP PKPdf 23 12 00.0 +1.5
NDI e 23 23 16.0
MSU Marysvale 120.00 295 ePKIKP PKPdf 23 11 58.2 -0.1
MVU Marysvale 120.00 295 ePKPdf PKPdf 23 11 59.0 +0.7
MVU LR LR
comp=Z,7μm,19.0s,MS6.3
RWWY Rawlins 120.07 301 ePKPdf PKPdf 23 11 51.3 -7.1
TMUT Trail Mountain 120.13 296 ePKPdf PKPdf 23 11 59.2 +0.7
RSSD Black Hills 120.51 305 ePKIKP PKPdf 23 11 57.8 -1.5
RSSD MLR MLR
comp=Z,14μm,20.0s,MS6.6
HFS Hagfors 120.75 21 PKP PKPdf 23 11 58.1 -1.2
comp=Z,5.1nm,1.0s,baz=180,slow=40,SNR=2.6
TPNV Topopah Spring 120.83 291 ePKIKP PKPdf 23 11 57.4 -2.7
TPNV MLR MLR
comp=Z,7μm,20.0s,MS6.3
DAC Darwin (Calif) 121.00 290 PFAKE 23 12 10.0 +10
DAC LR LR
comp=Z,4μm,20.0s,MS6.0
NLU North Lily Min 121.06 296 ePKPdf PKPdf 23 12 00.8 +0.4
NB2 NORSAR Subarra121.11 20 PKPdf PKPdf 23 11 58.8 -1.3
comp=Z,13nm,1.2s,baz=202,slow=1.9
NB2 NORSAR Subarra121.11 20 PKPd PKPdf 23 11 58.8 -1.3
baz=202,slow=1.9
NB2 NORSAR Subarra121.11 20 ⇓ PKP PKPdf 23 11 58.8 -1.3
NOA NORSAR Array B121.11 20 i PKP PKPdf 23 11 59.7 -0.3
comp=Z,3.9nm,1.1s,baz=200,slow=1.8,SNR=4.3
NOA NORSAR Array B121.11 20 PKP PKPdf 23 11 59.7 -0.3
JLU Jordanelle 121.25 297 ePKPdf PKPdf 23 11 58.6 -2.3
BORG Borgarnes 121.52 2 PFAKE 23 12 10.0 +9.2
BORG LR LR
comp=Z,4μm,20.0s,MS6.0
DUG Dugway 121.61 296 ePKIKP PKPdf 23 12 00.4 -1.1
DUG MLR MLR
comp=Z,10μm,19.0s,MS6.5
TCUT Toone Canyon 121.63 298 ePKPdf PKPdf 23 11 56.9 -4.7
ULM Lac du Bonnet 121.91 314 PKP PKPdf 23 12 01.3 -0.6
comp=Z,8.2nm,0.8s,baz=134,slow=3.0,SNR=6.8
ULM PP PP 23 13 37.2 -0.6
comp=Z,9.0nm,1.1s,baz=116,slow=4.8,SNR=3.7
ULM Lac du Bonnet 121.91 314 PKP PKPdf 23 12 01.3 -0.6
ULM PP PP 23 13 37.2 -0.6
BW06 Boulder Array 122.01 300 PFAKE 23 12 10.0 +7.8
BW06 LR LR
comp=Z,7μm,20.0s,MS6.3
PDAR Pinedale Array 122.01 300 PKP PKPdf 23 12 01.2 -1.0
comp=Z,3.3nm,0.9s,baz=135,slow=2.1,SNR=7.4
HWUT Hardware Ranch 122.08 298 ePKPdf PKPdf 23 12 02.2 -0.2
HWUT LR LR
comp=Z,11μm,19.0s,MS6.5
TPH Tonopah 122.19 291 PFAKE 23 12 10.0 +7.4
TPH LR LR
comp=Z,6μm,20.0s,MS6.3
BGU Big Grassy Mou 122.27 296 ePKPdf PKPdf 23 12 02.2 -0.5
SPUT South Promonto 122.28 297 ePKPdf PKPdf 23 12 03.0 +0.3
OBN Obninsk 122.36 37 i PKIKP PKPdf 23 12 02.9 +0.4
OBN i 23 13 42.5
OBN e 23 19 08.3
OBN pmax pmax
comp=Z,23nm,1.2s
OBN MLR MLR
comp=Z,6μm,16.0s,MS6.3
OBN Obninsk 122.36 37 PFAKE 23 12 10.0 +7.5
OBN LR LR
comp=Z,2μm,19.0s,MS5.8
AHID Auburn Hatcher 122.74 299 PFAKE 23 12 10.0 +6.5
AHID LR LR
comp=Z,8μm,19.0s,MS6.4
KOLN Koldanda 122.75 89 eP PKPdf 23 12 02.5 -1.4
comp=Z,94nm,1.3s
HVU Hansel Valley 122.80 297 ePKIKP PKPdf 23 12 04.0 +0.4
MNV Mina 122.94 291 PFAKE 23 12 20.0 +16
MNV LR LR
comp=Z,6μm,19.0s,MS6.3
NVAR Mina Array Bea 123.01 291 PKP PKPdf 23 12 05.1 +1.0
comp=Z,2.4nm,0.8s,baz=134,slow=2.3,SNR=11
REDW Red Top Meadow 123.08 300 ePKPdf PKPdf 23 12 03.3 -0.8
SNOW Snow King Moun 123.11 300 ePKPdf PKPdf 23 12 03.2 -1.0
LOHW Long Hollow 123.15 300 ePKPdf PKPdf 23 12 04.1 -0.2
WUWY Wally Ulrich 123.16 300 ePKPdf PKPdf 23 12 03.8 -0.5
TPAW Teton Pass 123.22 300 ePKPdf PKPdf 23 12 04.5 +0.1
RRI2 Red Ridge 123.29 299 ePKPdf PKPdf 23 12 04.7 +0.1
MOOW Moose Ponds 123.32 300 ePKPdf PKPdf 23 12 04.4 -0.3
SAO San Andreas Ge 123.37 287 PFAKE 23 12 20.0 +15
SAO LR LR
comp=Z,5μm,19.0s,MS6.2
DMN Daman 123.44 90 eP PKPdf 23 12 04.1 -1.2
comp=Z,130nm,1.5s
CMAR Chiang Mai Arr 123.47 109 PKP PKPdf 23 12 04.9 -0.6
comp=Z,9.7nm,0.9s,baz=227,slow=3.1,SNR=24

LAO	**LASA Array**	**123.47**	**305**	*e*PKPdf	PKPdf	23 12 04.2	-0.7
LAO				LR	LR		
	comp=Z,8μm,19.0s,MS6.4						
GKN	**Gorkha**	**123.50**	**89**	*e*P	PKPdf	23 12 03.8	-1.6
	comp=Z,104nm,1.2s						
PKI	**Pulchoki**	**123.58**	**90**	*e*P	PKPdf	23 12 04.3	-1.3
	comp=Z,69nm,1.1s						
KKN	**Kakani**	**123.68**	**90**	*e*P	PKPdf	23 12 04.4	-1.4
	comp=Z,54nm,1.2s						
LKWY	**Lake**	**123.77**	**301**	PFAKE		23 12 20.0	+14
LKWY				LR	LR		
	comp=Z,11μm,19.0s,MS6.5						
CMB	**Columbia Colle**	**123.78**	**289**	PFAKE		23 12 20.0	+14
CMB				LR	LR		
	comp=Z,5μm,19.0s,MS6.2						
YFT	**Old Faithful**	**123.89**	**301**	*e*PKPdf	PKPdf	23 12 07.7	+1.8
DGMT	**Dagmar**	**123.95**	**308**	*e*PKPdf	PKPdf	23 12 05.5	-0.3
DGMT				LR	LR		
	comp=Z,13μm,20.0s,MS6.6						
BMN	**Battle Mountai**	**123.97**	**293**	PFAKE		23 12 20.0	+14
BMN				LR	LR		
	comp=Z,8μm,19.0s,MS6.4						
GUN	**Gumba**	**124.10**	**91**	*e*P	PKPdf	23 12 05.8	-0.9
	comp=Z,100nm,1.0s						
GCMT	**Greycliff**	**124.36**	**302**	*e*PKPdf	PKPdf	23 12 06.8	+0.1
PUL	**Pulkovo**	**124.36**	**30**	*e*PKIKP	PKPdf	23 12 11.2	+4.8
PUL				*i*		23 13 53.2	
PUL				MLR	MLR		
	comp=N,6μm,18.0s,MS6.4						
PUL				MLR	MLR		
	comp=E,5μm,18.0s,MS6.4						
PUL				MLR	MLR		
	comp=Z,9μm,18.0s,MS6.5						
QLMT	**Earthquake Lak**	**124.46**	**301**	*e*PKPdf	PKPdf	23 12 07.7	+0.8
FINES	**FINESS Array B**	**124.68**	**27**	PKP	PKPdf	23 12 06.3	-0.5
	comp=Z,4.1nm,0.6s,baz=90,slow=1.9,SNR=12						
HLID	**Hailey**	**124.93**	**298**	*e*PKPdf	PKPdf	23 12 08.0	+0.2
HLID				LR	LR		
	comp=Z,6μm,20.0s,MS6.2						
MCMT	**McKenzie Canyo**	**125.13**	**300**	*e*PKPdf	PKPdf	23 12 08.6	+0.5
BOZ	**Bozeman (W)**	**125.16**	**301**	*e*PKIKP	PKPdf	23 12 08.1	0.0
BOZ				MLR	MLR		
	comp=Z,8μm,19.0s,MS6.4						
KAF	**Kangasniemi**	**125.31**	**27**	*e*p	PKPdf	23 12 05.7	-2.3
	comp=Z,14nm,1.0s						
KAF	**Kangasniemi**	**125.31**	**27**	*e*PKIKP	PKPdf	23 12 05.7	-2.3
KAF				pmax	pmax		
	comp=Z,14nm,1.0s						
HOPS	**Hopland**	**125.89**	**288**	PFAKE		23 12 20.0	+10
HOPS				LR	LR		
	comp=Z,6μm,19.0s,MS6.3						
HRY	**Holter Researc**	**126.05**	**302**	*e*PKPdf	PKPdf	23 12 10.7	+1.0
MOD	**Modoc**	**126.62**	**292**	*e*PKPdf	PKPdf	23 12 11.1	+0.2
MOD				LR	LR		
	comp=Z,6μm,19.0s,MS6.3						
WDC	**Whiskeytown Da**	**126.79**	**290**	PFAKE		23 12 20.0	+8.8
WDC				LR	LR		
	comp=Z,4μm,20.0s,MS6.0						
CHMT	**Chamberlain Mo**	**126.86**	**301**	*e*PKPdf	PKPdf	23 12 11.8	+0.6
MSO	**Missoula**	**127.12**	**301**	*e*PKPdf	PKPdf	23 12 11.8	+0.1
MSO				LR	LR		
	comp=Z,8μm,19.0s,MS6.4						
JOF	**Joensuu**	**127.26**	**29**	*e*p	PKPdf	23 12 11.4	-0.2
	comp=Z,24nm,1.2s						
JOF	**Joensuu**	**127.26**	**29**	*e*PKIKP	PKPdf	23 12 11.4	-0.2
JOF				pmax	pmax		
	comp=Z,24nm,1.2s						
KSH	**Kashi**	**127.57**	**73**	*e*PKP	PKPdf	23 12 11.8	-1.1
KSH				*e*XPKP		23 12 20.0	
KSH				*e*PP	PP	23 14 17.5	+1.8
KSH				*e*PKS	PKS	23 15 45.3	-0.9
KSH				*e*PPP	PPP	23 17 09.5	+9.3
KSH				*e*SKS	SKS	23 19 18.0	-2.0
KSH				*e*SKKS		23 21 11.5	
YBH	**Yreka Blue Hor**	**127.72**	**290**	PFAKE		23 12 20.0	+6.8
YBH				LR	LR		
	comp=Z,5μm,19.0s,MS6.2						
FFC	**Flin Flon**	**127.74**	**314**	*e*PKIKP	PKPdf	23 12 12.2	-0.6
FFC				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.9						
POHA	**Pohakuloa**	**128.11**	**245**	PFAKE		23 12 30.0	+15
POHA				LR	LR		
	comp=Z,10μm,19.0s,MS6.5						
LSA	**Lhasa**	**128.37**	**94**	PKP	PKPdf	23 12 14.0	-0.8
LSA				PP	PP	23 14 23.0	+1.5
LSA				PPP	PPP	23 17 05.0	-1.9
LSA				SKS	SKS	23 19 20.0	-2.4
LSA				SKKS		23 21 09.8	
HUMO	**Hull Mountain**	**128.48**	**291**	PFAKE		23 12 30.0	+15
HUMO				LR	LR		
	comp=Z,6μm,20.0s,MS6.2						
WALA	**Waterton Lakes**	**128.71**	**303**	*e*PKPdf	PKPdf	23 12 14.4	-0.5
AAK	**Ala-Archa**	**129.07**	**70**	*i* PKIKP	PKPdf	23 12 14.2	-1.5
AAK	**Ala-Archa**	**129.07**	**70**	*e*PKPdf	PKPdf	23 12 14.0	-1.8
AAK				LR	LR		
	comp=Z,2μm,19.0s,MS5.8						
FRU	**Bishkek**	**129.28**	**70**	*e*PKIKP	PKPdf	23 12 18.0	+1.9
FRU				pmax	pmax		
	comp=Z,70nm,1.8s						
QIZ	**Qiongzhong**	**129.38**	**119**	PFAKE		23 12 30.0	+13
QIZ				LR	LR		
	comp=Z,16μm,20.0s,MS6.7						
HAWA	**Hanford**	**129.48**	**297**	PFAKE		23 12 30.0	+14
HAWA				LR	LR		
	comp=Z,11μm,19.0s,MS6.6						
NEW	**Newport**	**129.65**	**300**	PKP	PKPdf	23 12 16.3	-0.4
	comp=Z,9.7nm,1.2s,baz=184,slow=10.0,SNR=3.0						
NEW	**Newport**	**129.65**	**300**	PKP	PKPdf	23 12 16.3	-0.4
NEW				LR	LR		
	comp=Z,9μm,20.0s,MS6.5						
SUMG	**Summit**	**129.71**	**355**	*e*PKPdf	PKPdf	23 12 16.8	+0.6
DPW	**Davenport**	**129.88**	**299**	*e*PKIKP	PKPdf	23 12 17.2	+0.1
COR	**Corvallis**	**130.07**	**293**	PFAKE		23 12 30.0	+12
COR				LR	LR		
	comp=Z,5μm,21.0s,MS6.2						
KIP	**Kipapa**	**130.75**	**244**	PFAKE		23 12 30.0	+11
KIP				LR	LR		
	comp=Z,6μm,20.0s,MS6.3						
KMI	**Kunming**	**130.94**	**108**	*e*PKP	PKPdf	23 12 15.8	-4.0
KMI				XPKP		23 12 26.8	
KMI				SS	SS	23 32 02.8	-3.4
KMI				LR	LR		
	comp=N,6μm,17.3s,MS6.5						
KMI				LR	LR		
	comp=E,6μm,16.0s,MS6.5						
KMI				LR	LR		
	comp=Z,9μm,17.3s,MS6.5						
NLW	**Nelson Butte**	**131.06**	**298**	*e*PKPdf	PKPdf	23 12 18.3	-1.1
EDM	**Edmonton**	**131.38**	**307**	*e*PKIKP	PKPdf	23 12 18.7	-1.1
ARU	**Arti**	**131.41**	**47**	*i* PKIKP	PKPdf	23 12 19.0	-0.8
ARU				*i*		23 14 37.6	
ARCES	**ARCESS Array B**	**131.41**	**21**	PKP	PKPdf	23 12 18.2	-1.2
	comp=Z,6.4nm,0.9s,baz=190,slow=1.7,SNR=12						
LVZ	**Lovozero**	**132.09**	**26**	*e*PKIKP	PKPdf	23 12 27.0	+6.2
LVZ				*i*		23 14 40.6	
LVZ				MLR	MLR		
	comp=N,4μm,18.0s,MS6.5						
LVZ				MLR	MLR		
	comp=E,9μm,18.0s,MS6.5						
LVZ				MLR	MLR		
	comp=Z,13μm,18.0s,MS6.7						
SVE	**Sverdlovsk**	**132.52**	**48**	*i* PKIKP	PKPdf	23 12 24.3	+2.4
SVE				pmax	pmax		
	comp=Z,230nm,2.6s						
OCWA	**Octopus Mounta**	**132.71**	**295**	PFAKE		23 12 30.0	+7.5
OCWA				LR	LR		
	comp=Z,10μm,19.0s,MS6.5						
DAG	**Danmarks Havn**	**133.64**	**2**	*i* P	PKPdf	23 12 23.1	-0.3
	comp=Z,20nm,1.2s						
GYA	**Guiyang**	**134.06**	**111**	PKP	PKPdf	23 12 26.0	+0.6
GYA				PP	PP	23 15 00.5	+2.2
GYA				PKS	PKS	23 15 55.5	-3.0
GYA				SKS	SKS	23 19 35.8	-0.3
GYA				PP	PP		
	comp=Z,2μm,15.0s						
GYA				LR	LR		
	comp=N,4μm,17.1s,MS6.4						
GYA				LR	LR		
	comp=E,4μm,17.4s,MS6.4						
GYA				LR	LR		
	comp=Z,4μm,19.2s,MS6.1						
BRVK	**Borovoye**	**134.19**	**57**	*e*PKIKP	PKPdf	23 12 25.1	+0.1
BRVK				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.8						
BVAR	**Borovoye Array**	**134.22**	**57**	PKP	PKPdf	23 12 24.2	-0.8
	comp=Z,5.0nm,0.7s,baz=153,slow=3.3,SNR=6.4						
GUMO	**Guam**	**135.89**	**165**	PFAKE		23 12 40.0	+11
GUMO				LR	LR		
	comp=Z,4μm,20.0s,MS6.2						
CD2	**Chengdu**	**136.11**	**104**	*e*PKP	PKPdf	23 12 30.0	+0.8
KURK	**Kurchatov**	**136.65**	**64**	*e*PKIKP	PKPdf	23 12 25.5	-4.0
KURK				MLR	MLR		
	comp=Z,2μm,19.0s,MS5.8						
WMQ	**Urumqi**	**136.82**	**78**	*e*PKP	PKPdf	23 12 27.0	-3.0
WMQ				PP	PP	23 15 14.0	-0.4
WMQ				SS	SS	23 33 13.0	-4.2
WMQ				LR	LR		
	comp=N,3μm,20.0s,MS6.2						
WMQ				LR	LR		
	comp=E,4μm,21.0s,MS6.2						
WMQ				LR	LR		
	comp=Z,4μm,20.0s,MS6.2						
YKA	**Yellowknife Ar**	**137.82**	**316**	PKP	PKPdf	23 12 31.5	0.0
	comp=Z,20nm,1.0s,baz=129,slow=2.2,SNR=16						
YKW3	**Yellowknife Ar**	**137.87**	**316**	*e*PKPdf	PKPdf	23 12 30.9	-0.7
ENH	**Enshi**	**138.59**	**111**	PKPdf	PKPdf	23 12 32.6	-1.2
ENH				LR	LR		
	comp=Z,5μm,19.0s,MS6.3						
RES	**Resolute Bay**	**139.30**	**337**	*e*PKIKP	PKPdf	23 12 31.6	-2.3
TATO	**Taipei**	**139.82**	**129**	PFAKE		23 12 50.0	+14
TATO				LR	LR		
	comp=Z,10μm,19.0s,MS6.6						
LZH	**Lanzhou**	**140.12**	**99**	*e*PKP	PKPdf	23 12 32.8	-3.6
LZH				XPKP		23 12 37.5	
LZH				PP	PP	23 15 35.0	-0.5
LZH				SKKS		23 22 21.0	
LZH				SS	SS	23 33 52.0	-4.1
LZH				LR	LR		
	comp=N,4μm,15.8s						
LZH				LR	LR		
	comp=Z,7μm,18.6s,MS6.4						
GTA	**Gaotai**	**140.35**	**92**	PKP	PKPdf	23 12 34.0	-2.7
GTA				PP	PP	23 15 34.5	-2.3
GTA				SKKS		23 22 22.3	
GTA				PP	PP		
	comp=Z,1μm,11.8s						
GTA				LR	LR		
	comp=N,5μm,17.9s,MS6.4						
GTA				LR	LR		
	comp=E,5μm,18.2s,MS6.4						
GTA				LR	LR		
	comp=Z,6μm,17.5s,MS6.4						
WHN	**Wuhan**	**141.26**	**116**	PKP	PKPdf	23 12 39.0	+0.5
WHN				PP	PP	23 15 48.3	+5.9
WHN				LR	LR		
	comp=Z,13μm,18.4s,MS6.7						
WAKE	**Wake Island**	**141.32**	**197**	PFAKE		23 12 50.0	+11
WAKE				LR	LR		
	comp=Z,40μm,21.0s,MS7.2						
NVS	**Novosibirsk**	**141.36**	**62**	*e*PKIKP	PKPdf	23 12 33.7	-4.2
NVS				*i*		23 15 38.4	
NVS				pmax	pmax		
	comp=Z,56nm,2.0s						
NVS				pmax	pmax		
	comp=N,42nm,2.3s						
NVS				pmax	pmax		
	comp=E,13nm,1.7s						
DLBC	**Dease Lake**	**141.99**	**304**	PKP	PKPdf	23 12 37.4	-1.5
	comp=E,2.4nm,0.5s,baz=229,slow=7.6,SNR=7.4						
DLBC	**Dease Lake**	**141.99**	**304**	*e*PKPdf	PKPdf	23 12 37.3	-1.6
SIT	**Sitka**	**143.73**	**300**	PFAKE		23 12 50.0	+11
SIT				LR	LR		
	comp=Z,11μm,19.0s,MS6.6						
NJ2	**Nanjing**	**144.68**	**119**	*e*PKP	PKPdf	23 12 43.0	-1.4
NJ2				APKP		23 12 53.0	
NJ2				PKS	PKS	23 16 14.0	-2.6
NJ2				LR	LR		
	comp=N,11μm,26.1s,MS6.6						
NJ2				LR	LR		
	comp=E,6μm,26.8s,MS6.6						
NJ2				LR	LR		
	comp=Z,13μm,26.8s,MS6.6						
SSE	**Sheshan**	**144.97**	**123**	*e*PKP	PKPdf	23 12 42.5	-2.4
SSE				APKP		23 12 49.8	
SSE				XPKP		23 12 53.0	
SSE				PP	PP	23 16 02.5	-2.1
SSE				PPP	PPP	23 19 25.0	+5.4
SSE				SS	SS	23 34 55.5	+3.2
SSE				LR	LR		
	comp=Z,13μm,18.4s,MS6.7						
MIDW	**Midway**	**145.27**	**226**	PFAKE		23 13 00.0	+16
MIDW				LR	LR		
	comp=Z,7μm,20.0s,MS6.5						
TIY	**Taiyuan**	**145.91**	**106**	PKPR		23 12 47.0	
TIY				LR	LR		
	comp=N,7μm,16.0s						
TIY				LR	LR		
	comp=Z,4μm,17.0s,MS6.2						
TIA	**Tai'an**	**147.18**	**113**	PKP	PKPdf	23 12 49.5	+1.0
TIA				LR	LR		
	comp=E,2μm,16.0s						
INK	**Inuvik**	**147.44**	**319**	PKPbc	PKPdf	23 12 50.4	+2.5
	comp=E,25nm,0.7s,baz=93,slow=2.8,SNR=2.2						
INK	**Inuvik**	**147.44**	**319**	*e*PKPbc	PKPdf	23 12 50.3	+2.4
HHC	**Hu-ho-hao-te**	**147.74**	**101**	⇓PKP	PKPdf	23 12 52.3	+3.1
HHC				PKS	PKS	23 16 25.8	+4.8
HHC				SKS	SKS	23 19 57.3	+0.2
HHC				LR	LR		
	comp=N,2μm,18.7s,MS6.1						
HHC				LR	LR		
	comp=E,2μm,17.7s,MS6.1						
HHC				LR	LR		
	comp=Z,3μm,19.4s,MS6.1						
DAWY	**Dawson**	**148.47**	**310**	*e*PKPbc	PKPdf	23 12 53.2	+3.5
MOY	**Mondy**	**148.68**	**76**	*e*PKIKP	PKPdf	23 12 52.6	+2.2
ZAK	**Zakamensk**	**149.22**	**80**	*e*PKHKP		23 12 49.9	
SONM	**Songino Array**	**149.47**	**86**	PKPbc	PKPdf	23 12 55.5	+3.7
	comp=Z,16nm,0.8s,baz=267,slow=0.8,SNR=17						
BJT	**Baijiatuan**	**149.57**	**107**	*e*PKPbc	PKPdf	23 12 56.8	+4.6
BJT				LR	LR		
	comp=Z,9μm,19.0s,MS6.6						
BJI	**Beijing**	**149.59**	**107**	PKP	PKPdf	23 12 56.3	+4.1
BJI				LR	LR		
	comp=N,2μm,14.3s,MS6.1						
BJI				LR	LR		
	comp=E,1μm,17.0s,MS6.1						
EYAK	**Cordova Ski Ar**	**150.12**	**302**	*e*PKPbc	PKPdf	23 12 58.6	+6.2
DIV	**Divide**	**150.33**	**303**	*e*PKPbc	PKPdf	23 12 58.6	+5.9
DIV				LR	LR		
	comp=Z,17μm,19.0s,MS6.9						
IRK	**Irkutsk**	**150.72**	**77**	*e*PKIKP	PKPdf	23 12 55.7	+2.1
THY	**Trims Highway**	**150.99**	**307**	*e*PKPbc	PKPdf	23 13 00.0	+6.4
DL2	**Dalian**	**151.52**	**115**	PKP	PKPdf	23 13 01.5	+6.3
DL2				SS	SS	23 36 08.0	+2.9
DL2				PP	PP		
	comp=Z,1μm,9.1s						
DL2				LR	LR		
	comp=N,1μm,18.5s,MS6.1						
DL2				LR	LR		
	comp=E,2μm,18.1s,MS6.1						
DL2				LR	LR		
	comp=Z,4μm,17.6s,MS6.2						
SML	**Sawmill**	**151.70**	**303**	*e*PKIKP	PKPdf	23 13 01.9	+7.2
ILAR	**Eielson Array**	**151.79**	**310**	PKP	PKPdf	23 12 52.6	-2.1
	comp=Z,4.8nm,1.2s,baz=237,slow=1.4,SNR=14						
ILAR				PKPbc	PKPdf	23 13 01.8	+7.0
	comp=Z,47nm,1.0s,baz=112,slow=1.0,SNR=100						
SLKM	**Skilak Lake**	**152.20**	**300**	*e*PKIKP	PKPdf	23 13 03.4	+7.9
COLA	**College**	**152.22**	**310**	*e*PKPbc	PKPdf	23 13 02.1	+6.7
COLA				LR	LR		
	comp=Z,9μm,19.0s,MS6.6						
FIB	**Fire Island**	**152.37**	**302**	PFAKE		23 13 10.0	+14
FIB				LR	LR		
	comp=Z,4μm,21.0s,MS6.2						
MCK	**McKinley**	**152.45**	**307**	*e*PKPdf	PKPdf	23 12 57.0	+1.2
MCK				*e*PKPbc	PKPdf	23 13 03.0	+7.3
MCK				LR	LR		
	comp=Z,4μm,19.0s,MS6.3						
KDAK	**Kodiak Island**	**152.45**	**294**	*e*PKPbc	PKPdf	23 13 04.6	+8.6
KDAK				LR	LR		
	comp=Z,3μm,19.0s,MS6.1						
INCN	**Inchon**	**152.76**	**124**	PFAKE		23 13 10.0	+13
INCN				LR	LR		
	comp=Z,14μm,19.0s,MS6.8						
SPU	**Mount Spurr**	**153.25**	**301**	*e*PKPbc	PKPdf	23 13 04.5	+7.5
RSO	**Redoubt South**	**153.39**	**299**	*e*PKPbc	PKPdf	23 13 06.7	+10
SNY	**Shenyang**	**154.70**	**113**	⇑PKP	PKPdf	23 13 02.0	+2.5
SNY				SKKS		23 23 51.3	
SNY				SS	SS	23 36 38.8	-1.2
SNY				LR	LR		
	comp=N,4μm,18.8s,MS6.5						
SNY				LR	LR		
	comp=E,5μm,18.4s,MS6.5						
SNY				LR	LR		
	comp=Z,8μm,17.1s,MS6.6						
IMA	**Indian Mountai**	**154.78**	**312**	*e*PKPdf	PKPdf	23 12 58.1	-0.8
IMA				*e*PKPbc	PKPdf	23 13 09.6	+11
MAJO	**Matsushiro**	**156.52**	**144**	PFAKE		23 13 10.0	+7.9
MAJO				LR	LR		
	comp=Z,4μm,20.0s,MS6.2						
MAT	**Matsushiro**	**156.52**	**144**	PKP	PKPdf	23 13 08.0	+5.9
MAT	**Matsushiro**	**156.52**	**144**	*e*PKP	PKPdf	23 13 11.0	+8.9
CN2	**Changchun**	**157.08**	**113**	*e*PKP	PKPdf	23 13 02.8	+0.2
CN2				PKP2	PKPab	23 13 35.8	+2.2
CN2				*e*PP	PP	23 17 15.5	+2.6
CN2				*e*SS	SS	23 37 04.5	-0.6
CN2				LR	LR		
	comp=N,5μm,19.0s,MS6.5						
CN2				LR	LR		
	comp=E,3μm,19.0s,MS6.5						
CN2				LR	LR		
	comp=Z,4μm,21.0s,MS6.2						
HIA	**Hailar**	**157.56**	**95**	*e*PKPdf	PKPdf	23 13 02.7	-0.4
HIA				LR	LR		
	comp=Z,8μm,19.0s,MS6.6						
UNV	**Unalaska Valle**	**158.25**	**278**	PFAKE		23 13 10.0	+6.2
UNV				LR	LR		
	comp=Z,22μm,19.0s,MS7.0						
VLA	**Vladivostok**	**159.68**	**123**	*i* PKIKP	PKPdf	23 13 18.0	+12
VLA				*i*		23 17 22.0	
MDJ	**Mudanjiang**	**159.73**	**117**	PKP	PKPdf	23 13 05.3	-0.5
MDJ				PP	PP	23 17 26.3	-0.7
MDJ				SS	SS	23 37 38.3	+4.8
MDJ				PP	PP		
	comp=Z,2μm,16.6s						
MDJ				LR	LR		
	comp=N,6μm,18.4s,MS6.5						
MDJ				LR	LR		
	comp=E,3μm,18.4s,MS6.5						
MDJ				LR	LR		
	comp=Z,9μm,16.8s,MS6.7						
MDJ	**Mudanjiang**	**159.73**	**117**	*e*PKPdf	PKPdf	23 13 07.6	+1.8
MDJ				*e*		23 13 20.9	
MDJ				LR	LR		
	comp=Z,9μm,19.0s,MS6.6						
TNA	**Tin City**	**160.65**	**311**	PFAKE		23 13 20.0	+14
TNA				LR	LR		
	comp=Z,5μm,20.0s						
TIXI	**Tiksi**	**161.73**	**27**	PFAKE		23 13 20.0	+13
TIXI				LR	LR		
	comp=Z,9μm,19.0s						
CLNS	**Chul'man**	**163.53**	**78**	*e*PKIKP	PKPdf	23 13 09.8	+0.6
CLNS				pmax	pmax		
	comp=Z,25nm,1.1s						
CLNS				pmax	pmax		
	comp=N,14nm,0.9s						
CLNS				pmax	pmax		
	comp=E,21nm,0.9s						
YUK	**Yuzh-Kuril'sk**	**165.68**	**152**	*e*PKIKP	PKPdf	23 13 13.5	+1.8
YUK				*e*		23 18 07.0	
YSS	**Yuzh-Sakhalins**	**167.31**	**138**	*i* PKIKP	PKPdf	23 13 11.0	-1.8
YSS				pmax	pmax		
	comp=Z,330nm,2.4s						
YSS	**Yuzh-Sakhalins**	**167.31**	**138**	PFAKE		23 13 20.0	+7.2
YSS				LR	LR		
	comp=Z,9μm,19.0s						
BILL	**Bilibino**	**167.90**	**340**	PFAKE		23 13 20.0	+7.5
BILL				LR	LR		
	comp=Z,12μm,20.0s						
SMY	**Shemya**	**168.30**	**256**	PFAKE		23 13 20.0	+6.8
SMY				LR	LR		
	comp=Z,16μm,20.0s						
PET	**Petropavlovsk**	**175.49**	**207**	PFAKE		23 13 30.0	+13
PET				LR	LR		
	comp=Z,10μm,22.0s						
MA2	**Magadan**	**176.57**	**41**	*e*PKIKP	PKPdf	23 13 29.8	+13
MA2				*e*		23 18 59.8	
MA2	**Magadan**	**176.57**	**41**	PFAKE		23 13 30.0	+13
MA2				LR	LR		
	comp=Z,5μm,20.0s						

CASC 26 23:08:38.3±3.2, 10.00N×86.26W, h3km±16km, MD4.2, ML4.6, 8C-6D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC h m s	ISC
VCR	**Vista de Mar**	**0.64**	**79**	⇑*i*P		Pg 23 08 51.7	+0.7
VCR				*e*S		Sg 23 09 02.8	+3.4
LIM	**Lima**	**1.21**	**55**	⇑*e*P		Pb 23 08 59.9	-1.6
LIM				*e*S		Sb 23 09 19.3	+1.8
SSNN	**San Juan del S**	**1.34**	**18**	⇑*e*P		Pb 23 09 03.1	-0.7
SSNN				*e*S		Sb 23 09 21.9	+0.6
MADN	**Villa Maderas**	**1.57**	**27**	⇑*e*P		Pn 23 09 06.5	-0.7
FORC	**Fortuna**	**1.64**	**73**	*e*P		Pn 23 09 07.2	-1.1
CGA2	**Cerro Gallo 2**	**1.77**	**89**	*e*P		Pn 23 09 08.7	-1.4
APON	**Apoyo**	**1.91**	**6**	⇓*e*P		Pn 23 09 16.8	+4.7
TICN	**Ticuantepe**	**2.02**	**1**	⇑*e*P		Pn 23 09 13.5	-0.2
LAJ	**Bijagual**	**2.11**	**93**	*e*P		Pn 23 09 07.3	-7.7
MGAN	**Managua**	**2.13**	**0**	⇓*e*P		Pn 23 09 15.4	+0.1
MGAN				*e*S		Sn 23 09 41.5	-1.2
SJS	**Escuela Geolog**	**2.18**	**91**	⇓*e*P		Pn 23 09 18.8	+2.8
COPN	**Copaltepe**	**2.19**	**352**	⇑*e*P		Pn 23 09 16.0	-0.1
APYN	**Apoyeque**	**2.22**	**358**	*e*P		Pn 23 09 16.6	+0.1
APYN				*e*S		Sn 23 09 43.6	-1.3
LCR2	**La Lucha 2**	**2.24**	**96**	⇓*e*P		Pn 23 09 15.9	-0.9
ICR	**Volcan Irazu**	**2.40**	**90**	⇑*e*P		Pn 23 09 18.4	-0.7
MOMJ	**Momotombo**	**2.41**	**354**	*e*P		Pn 23 09 18.1	-1.2
URSC	**Urasca**	**2.45**	**94**	⇓*e*P		Pn 23 09 19.7	-0.2
MIRN	**Miramar**	**2.46**	**350**	*e*P		Pn 23 09 20.7	+0.6
LEON	**Leon**	**2.48**	**346**	⇑*e*P		Pn 23 09 20.1	-0.2
BUS	**Buena Vista**	**2.51**	**100**	⇓*i*P		Pn 23 09 20.1	-0.5
CNGN	**Cerro Negro**	**2.52**	**350**	*e*P		Pn 23 09 22.7	+1.9
PYTN	**Playitas**	**2.53**	**5**	*e*P		Pn 23 09 21.9	+1.0
PYTN				*e*S		Sn 23 09 51.6	-1.1
TRTC	**Tortuguero**	**2.57**	**77**	*e*P		Pn 23 09 19.9	-1.7
TELN	**Telica**	**2.65**	**348**	*e*P		Pn 23 09 20.4	-2.3
TELN				*e*S		Sn 23 09 55.4	-0.3

JMA ***26*** *23:20:23.6±0.1, 36.52N×140.57E, h58km±1km, M4.0 Broadband fault plane solution: P waves. NP1:φs186°, δ30°, λ77°. NP2:φs22°, δ61°, λ98°. Principal axes: T Plg73°, Azm310°; N Plg7°, Azm198°; P Plg16°, Azm106°; JM

*SYO **26** 23:25:21.1, 56.99N×24.67W, h10km, MB5.2, MS5.7*
*NEIC **26** 23:25:21.4±0.2, 56.98N×24.64W, h10km, mb5.3/15, MS5.7/31, Error ellipse: s-maj=9.8km s-min=5.8km az=64.0*

ISC 26 23:25:19.6±0.4, 57.01S±0.06×24.7W±0.1, h10km, n103, σ1°34/43, mb5.1/22, MS5.7/39, 5C-6D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**15.40**	**159**		**P**	**23 29 03.1**	**+4.9**
VNA1	**Neumayer--Stat**	**15.40**	**159**	⇑*iP*	**P**	**23 28 59.8**	**+1.6**
VNA1				P		23 29 03.1	
VNA3	**Neumayer Olymp**	**15.64**	**162**	⇑*i*	**P**	**23 29 05.5**	**+4.2**
VNA3	**Neumayer Olymp**	**15.64**	**162**	⇓*iP*	**P**	**23 29 02.2**	**+0.9**
VNA3				⇑*iP*		23 29 05.5	
VNA2	**Neumayer--Watz**	**15.79**	**159**		**P**	**23 29 07.1**	**+3.8**
VNA2	**Neumayer--Watz**	**15.79**	**159**	P	**P**	**23 29 04.0**	**+0.7**
VNA2				P		23 29 07.1	
SNAA	**Sanae**	**17.31**	**157**	⇓*i*	**P**	**23 29 22.2**	**-0.3**
SNAA	**Sanae**	**17.31**	**157**	P	**P**	**23 29 21.7**	**-0.9**
	0.3nm,0.3s,baz=331,slow=13,SNR=30						
SNAA	**Sanae**	**17.31**	**157**	⇓*iP*	**P**	**23 29 21.1**	**-1.4**
SNAA				⇓*iP*		23 29 22.2	
EFI	**East Falkland**	**20.02**	**271**	*eP*	**P**	**23 29 53.6**	**-1.5**
	164nm,1.0s						
EFI				LR	LR		
	comp=Z,1μm,19.0s						
PMSA	**Palmer Station**	**20.33**	**231**	*eP*	**P**	**23 29 57.1**	**-1.2**
	comp=Z,51nm,0.8s						
PMSA				LR	LR		
	comp=Z,10μm,22.0s,MS5.1						
MAIT	**Maitri**	**20.68**	**146**	*eP*	**P**	**23 30 00.0**	**-1.9**
SYO	**Syowa Base**	**29.97**	**139**	⇓P	**P**	**23 31 25.2**	**-4.5**
SYO	**Syowa Base**	**29.97**	**139**	⇑pP	pP	23 31 28.1	-4.6
SYO	**Syowa Base**	**29.97**	**139**	⇓PnPn		23 32 19.0	
SYO	**Syowa Base**	**29.97**	**139**	⇑PP	PP	23 32 33.3	+5.9
TRQA	**Tornquist**	**30.95**	**292**	*eP*	**P**	**23 31 37.8**	**-0.9**
	comp=Z,7.6nm,0.6s,mb4.7						
TRQA				LR	LR		
	comp=Z,5μm,20.0s,MS5.2						
QSPA	**South Pole Qui**	**33.24**	**180**	*eP*	**P**	**23 31 57.8**	**-0.6**
	comp=Z,75nm,1.1s,mb5.5						
QSPA				LR	LR		
	comp=Z,8μm,19.0s,MS5.4						
CPUP	**Villa Florida**	**38.48**	**309**	P	**P**	**23 32 43.5**	**+0.2**
	comp=Z,6.6nm,0.5s,mb4.6,baz=168,slow=7.4,SNR=20						
CPUP	**Villa Florida**	**38.48**	**309**	P	**P**	**23 32 42.9**	**-0.5**
MAW	**Mawson**	**38.56**	**142**	*eP*	**P**	**23 32 43.0**	**-0.6**
	comp=Z,12nm,1.0s,mb4.6						
MAW	**Mawson**	**38.56**	**142**	P	**P**	**23 32 42.6**	**-1.0**
	comp=Z,28nm,1.2s,mb4.8,baz=236,slow=9.5,SNR=12						
MAW				LR	LR	23 48 31.2	
	comp=Z,5μm,18.1s,MS5.3,baz=246,slow=36						
SUR	**Sutherland**	**39.61**	**71**	PFAKE		23 33 00.0	+7.2
SUR				LR	LR		
	comp=Z,2μm,19.0s,MS5.1						
BAO	**Brasilia Array**	**44.90**	**327**	P	**P**	**23 33 43.0**	**+6.9**
BDFB	**Brasilia**	**44.90**	**327**	P	**P**	**23 33 37.6**	**+1.6**
	comp=Z,9.0nm,1.1s,mb4.5,baz=143,slow=4.6,SNR=5.9						
BDFB				LR	LR	23 50 06.2	
	comp=Z,2μm,18.7s,MS5.2,baz=252,slow=33						
SBA	**Scott Base**	**45.21**	**183**	*eP*	**P**	**23 33 38.0**	**+0.3**
	comp=Z,32nm,1.9s,mb4.8						
SBA				LR	LR		
	comp=Z,3μm,19.0s,MS5.3						
VNDA	**Vanda**	**45.67**	**182**	P	**P**	**23 33 41.6**	**+0.2**
	comp=Z,8.0nm,0.6s,mb4.8,baz=187,slow=7.7,SNR=51						
VNDA				LR	LR	23 50 01.8	
	comp=Z,2μm,20.3s,MS5.0,baz=148,slow=32						
LVC	**Limon Verde**	**46.96**	**298**	*eP*	**P**	**23 33 51.9**	**-0.4**
	comp=Z,12nm,0.4s,mb5.2						
LVC				LR	LR		
	comp=Z,3μm,19.0s,MS5.3						
LPAZ	**La Paz**	**52.05**	**303**	P	**P**	**23 34 32.0**	**+0.5**
	comp=Z,34nm,0.7s,mb5.4,baz=133,slow=5.6,SNR=42						
CASY	**Casey**	**52.53**	**159**	*eP*	**P**	**23 34 34.1**	**-0.4**
SAML	**Samuel**	**56.46**	**312**	*eP*	**P**	**23 35 02.8**	**-1.1**
	comp=Z,26nm,0.7s,mb5.4						
SAML				LR	LR		
	comp=Z,6μm,19.0s,MS5.7						
LSZ	**Lusaka**	**57.48**	**66**	*eP*	**P**	**23 35 08.8**	**-2.4**
	comp=Z,22nm,1.2s,mb5.1						
LSZ				LR	LR		
	comp=Z,3μm,22.0s,MS5.4						
LIC	**Lamto**	**65.05**	**22**	*eP*	**P**	**23 36 04.8**	**+2.5**
	comp=Z,82nm,1.4s,mb5.6						
KIC	**Kosan Boka**	**65.24**	**22**	*eP*	**P**	**23 36 01.6**	**-1.9**
	comp=Z,203nm,1.6s,mb5.9						
TIC	**Toumodi**	**65.46**	**22**	*eP*	**P**	**23 36 03.0**	**-1.9**
	comp=Z,198nm,1.7s,mb5.9						
DBIC	**Dimbokro**	**65.51**	**22**	P	**P**	**23 36 06.0**	**+0.7**
	comp=Z,6.3nm,1.1s,mb4.6,baz=180,slow=2.5,SNR=4.1						
DBIC				LR	LR	23 56 50.9	
	comp=Z,4μm,18.6s,MS5.7,baz=263,slow=29						
DBIC	**Dimbokro**	**65.51**	**22**	P	**P**	**23 36 06.0**	**+0.7**
DBIC				LR	LR	23 56 50.9	
OTAV	**Otavalo**	**71.33**	**302**	*eP*	**P**	**23 36 42.3**	**+0.9**
	comp=Z,33nm,0.8s,mb5.3						
OTAV				LR	LR		
	comp=Z,4μm,19.0s,MS5.7						
KMBO	**Kilima Mbogo**	**74.14**	**67**	P	**P**	**23 36 58.7**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=200,slow=10,SNR=2.6						
KMBO				LR	LR	00 08 37.7	
	comp=Z,4μm,18.3s,baz=285,slow=35						
KMBO	**Kilima Mbogo**	**74.14**	**67**	P	**P**	**23 36 58.7**	**+0.8**
KMBO				LR	LR	00 08 37.7	
SDV	**Santo Domingo**	**75.66**	**313**	*eP*	**P**	**23 37 06.7**	**0.0**
	comp=Z,18nm,0.7s,mb5.1						
SDV				LR	LR		
	comp=Z,3μm,19.0s,MS5.7						
RPZ	**Rata Peaks**	**78.77**	**192**	P	**P**	**23 37 25.6**	**+2.2**
	comp=Z,11nm,1.0s,mb4.7,baz=189,slow=6.0,SNR=4.4						
TAU	**Tasmania Unive**	**80.22**	**174**	*eP*	**P**	**23 37 29.4**	**-1.9**
	comp=Z,72nm,0.9s,mb5.6						
TAU				LR	LR		
	comp=Z,1μm,19.0s,MS5.3						
URZ	**Urewera**	**83.31**	**197**	P	**P**	**23 37 50.0**	**+2.6**
	comp=Z,3.9nm,0.5s,mb4.7,baz=197,slow=8.2,SNR=3.4						
STKA	**Stephens Creek**	**90.70**	**168**	P	**P**	**23 38 25.2**	**+1.8**
	comp=Z,11nm,1.1s,mb5.1,baz=147,slow=6.5,SNR=4.3						
TEIG	**Tepich**	**93.38**	**303**	P	**P**	**23 38 37.9**	**+1.9**
	comp=Z,0.0nm,0.3s,baz=306,slow=24,SNR=2.2						
MBWA	**Marble Bar**	**96.61**	**147**	PFAKE		23 39 00.0	+9.2
MBWA				LR	LR		
	comp=Z,2μm,19.0s,MS5.5						
DWPF	**Disney**	**97.30**	**312**	PFAKE		23 39 10.0	+16
DWPF				LR	LR		
	comp=Z,2μm,21.0s,MS5.6						
ASAR	**Alice Springs**	**97.64**	**160**	P	**P**	**23 38 56.2**	**+0.8**
	comp=Z,1.3nm,0.8s,mb4.5,baz=195,slow=4.3,SNR=7.6						
ASAR				PP	PP	23 42 58.0	+2.1
	comp=Z,1.1nm,0.9s,baz=172,slow=8.1,SNR=4.4						
WRA	**Warramunga Arr**	**101.35**	**160**	P	P	23 39 13.8	+1.6
	comp=Z,1.1nm,0.8s,baz=194,slow=4.4,SNR=4.9						
WRA				PP	PP	23 43 25.2	+0.9
	comp=Z,1.2nm,0.9s,baz=183,slow=6.0,SNR=4.8						
WRAB	**Tennant Creek**	**101.36**	**160**	PFAKE		23 39 20.0	+7.7
WRAB				LR	LR		
	comp=Z,2μm,20.0s,MS5.6						
CTAO	**Charters Tower**	**102.83**	**171**	PFAKE		23 39 30.0	+11
CTAO				LR	LR		
	comp=Z,2μm,20.0s,MS5.6						
LRAL	**Lakeview Retre**	**103.91**	**310**	PFAKE		23 39 40.0	+17
LRAL				LR	LR		
	comp=Z,2μm,19.0s,MS5.7						
HKT	**Hockley**	**105.19**	**302**	PFAKE		23 44 00.0	
HKT				LR	LR		
	comp=Z,3μm,19.0s,MS5.9						
SSPA	**Standing Stone**	**107.06**	**320**	PFAKE		23 44 00.0	
SSPA				LR	LR		
	comp=Z,2μm,19.0s,MS5.7						
JCT	**Junction City**	**107.51**	**299**	PFAKE		23 44 00.0	
JCT				LR	LR		
	comp=Z,3μm,19.0s,MS5.8						
BINY	**Binghamton**	**107.81**	**322**	PFAKE		23 44 00.0	
BINY				LR	LR		
	comp=Z,2μm,19.0s,MS5.8						
WMOK	**Wichita Mounta**	**110.55**	**302**	PFAKE		23 44 10.0	+15
WMOK				LR	LR		
	comp=Z,2μm,19.0s,MS5.7						
ANMO	**Albuquerque**	**114.38**	**297**	PFAKE		23 44 10.0	+7.8
ANMO				LR	LR		
	comp=Z,3μm,19.0s,MS5.8						
ISCO	**Idaho Springs**	**117.84**	**301**	PFAKE		23 44 20.0	+11
ISCO				LR	LR		
	comp=Z,3μm,19.0s,MS6.0						
MSU	**Marysvale**	**120.00**	**295**	*e*PKPdf	PKPdf	23 44 12.9	0.0
TPNV	**Topopah Spring**	**120.84**	**291**	PFAKE		23 44 20.0	+5.3
TPNV				LR	LR		
	comp=Z,4μm,19.0s,MS6.0						
NOA	**NORSAR Array B**	**121.04**	**19**	PKP	PKPdf	23 44 12.4	-2.1
	comp=Z,0.7nm,0.8s,baz=24,slow=4.7,SNR=2.7						
DUG	**Dugway**	**121.61**	**296**	PFAKE		23 44 30.0	+14
DUG				LR	LR		
	comp=Z,3μm,19.0s,MS6.0						
PDAR	**Pinedale Array**	**122.01**	**300**	PKP	PKPdf	23 44 14.7	-2.1
	comp=Z,0.5nm,0.7s,baz=90,slow=4.4,SNR=4.3						
HWUT	**Hardware Ranch**	**122.08**	**298**	PFAKE		23 44 30.0	+13
HWUT				LR	LR		
	comp=Z,5μm,20.0s,MS6.1						
KOLN	**Koldanda**	**122.71**	**89**	*eP*	PKPdf	23 44 15.9	-2.5
	comp=Z,18nm,0.8s						
NVAR	**Mina Array Bea**	**123.02**	**291**	PKP	PKPdf	23 44 18.6	-0.2
	comp=Z,0.4nm,0.4s,baz=150,slow=3.3,SNR=4.2						
SAO	**San Andreas Ge**	**123.39**	**287**	PFAKE		23 44 30.0	+10
SAO				LR	LR		
	comp=Z,5μm,19.0s,MS6.2						
CMAR	**Chiang Mai Arr**	**123.45**	**109**	PKP	PKPdf	23 44 18.2	-1.9
	comp=Z,4.2nm,0.9s,baz=230,slow=3.5,SNR=13						
GKN	**Gorkha**	**123.46**	**89**	*eP*	PKPdf	23 44 17.4	-2.6
	comp=Z,21nm,0.9s						
PKI	**Pulchoki**	**123.54**	**90**	*eP*	PKPdf	23 44 17.1	-3.0
	comp=Z,26nm,1.1s						
KKN	**Kakani**	**123.64**	**90**	*eP*	PKPdf	23 44 17.6	-2.7
	comp=Z,18nm,0.8s						
GUN	**Gumba**	**124.06**	**90**	*eP*	PKPdf	23 44 18.4	-2.8
	comp=Z,36nm,1.0s						
FINES	**FINESS Array B**	**124.61**	**27**	PKP	PKPdf	23 44 18.2	-3.0
	comp=Z,2.1nm,0.7s,baz=63,slow=4.3,SNR=6.4						
LSA	**Lhasa**	**128.34**	**94**	PKP	PKPdf	23 44 27.0	-2.3
ARCES	**ARCESS Array B**	**131.34**	**21**	PKP	PKPdf	23 44 32.1	-1.8
	comp=Z,1.6nm,0.6s,baz=270,slow=1.2,SNR=7.0						
GYA	**Guiyang**	**134.04**	**111**	PKP	PKPdf	23 44 34.5	-5.5
GYA				PP	PP	23 47 09.0	-3.0
GYA				PKS	PKS	23 48 09.5	-2.7
GYA				SKS	SKS	23 51 44.3	-6.2
GYA				SKKS		23 54 00.8	
GYA				PP	PP		
	comp=Z,240nm,7.6s						
GYA				LR	LR		
	comp=N,240nm,16.5s,MS5.4						
GYA				LR	LR		
	comp=E,630nm,17.0s,MS5.4						
GYA				LR	LR		
	comp=Z,560nm,17.6s,MS5.3						
BRVK	**Borovoye**	**134.12**	**57**	*e*PKPdf	PKPdf	23 44 37.5	-1.9
BRVK				LR	LR		
	comp=Z,745nm,19.0s,MS5.4						
BVAR	**Borovoye Array**	**134.15**	**57**	PKP	PKPdf	23 44 38.8	-0.8
	comp=Z,3.6nm,0.9s,baz=243,slow=3.3,SNR=11						
KURK	**Kurchatov**	**136.59**	**64**	*e*PKPdf	PKPdf	23 44 42.3	-1.7
KURK				LR	LR		
	comp=Z,1μm,19.0s,MS5.6						
WMQ	**Urumqi**	**136.77**	**78**	*e*PKP	PKPdf	23 44 40.5	-4.1
YKA	**Yellowknife Ar**	**137.81**	**316**	PKP	PKPdf	23 44 44.0	-2.1
	comp=Z,17nm,1.2s,baz=122,slow=2.1,SNR=5.8						
YKA	**Yellowknife Ar**	**137.81**	**316**	PKP	PKPdf	23 44 44.0	-2.1
LZH	**Lanzhou**	**140.10**	**99**	*e*PKP	PKPdf	23 44 46.0	-5.0
LZH				XPKP		23 44 50.5	
LZH				PP	PP	23 47 47.5	-1.5
LZH				SKKS		23 54 34.5	
LZH				LR	LR		
	comp=N,1μm,16.0s						
LZH				LR	LR		
	comp=Z,3μm,18.7s,MS6.0						
GTA	**Gaotai**	**140.32**	**92**	PKP	PKPdf	23 44 50.8	-0.5
GTA				PP	PP	23 47 49.5	-0.8
GTA				SKKS		23 54 37.5	
GTA				LR	LR		
	comp=Z,3μm,16.7s,MS6.2						
NJ2	**Nanjing**	**144.67**	**119**	*e*PKP	PKPdf	23 44 55.5	-3.5
NJ2				APKP		23 45 04.5	
NJ2				PP	PP	23 48 15.0	-1.5
NJ2				PKS	PKS	23 48 28.0	-2.3
SSE	**Sheshan**	**144.97**	**123**	*e*PKP	PKPdf	23 44 56.5	-3.0
INK	**Inuvik**	**147.42**	**319**	PKPbc	PKPdf	23 45 03.4	+0.9
	comp=Z,7.3nm,0.6s,baz=171,slow=3.4,SNR=9.3						
INK	**Inuvik**	**147.42**	**319**	*e*PKPbc	PKPdf	23 45 03.2	+0.8
HHC	**Hu-ho-hao-te**	**147.71**	**101**	*e*PKP	PKPdf	23 45 04.0	+0.2
HHC				LR	LR		
	comp=N,1μm,18.6s,MS5.8						
HHC				LR	LR		
	comp=E,977nm,18.6s,MS5.8						
HHC				LR	LR		
	comp=Z,2μm,19.6s,MS5.9						
DAWY	**Dawson**	**148.45**	**310**	*e*PKPbc	PKPdf	23 45 06.4	+2.2
SONM	**Songino Array**	**149.42**	**86**	PKPbc	PKPdf	23 45 08.9	+2.6
	comp=Z,9.6nm,0.8s,baz=227,slow=3.6,SNR=33						
BJT	**Baijiatuao**	**149.56**	**107**	*e*PKPbc	PKPdf	23 45 09.9	+3.1
BJT				LR	LR		
	comp=Z,8μm,19.0s,MS6.5						
BJI	**Beijing**	**149.58**	**107**	PKP	PKPdf	23 45 09.5	+2.7
DIV	**Divide**	**150.32**	**303**	*e*PKPbc	PKPdf	23 45 12.6	+5.3
SML	**Sawmill**	**151.70**	**303**	*e*PKPbc	PKPdf	23 45 15.3	+6.0
ILAR	**Eielson Array**	**151.78**	**310**	PKP	PKPdf	23 45 08.1	-1.3
	comp=Z,2.4nm,1.1s,baz=297,slow=2.0,SNR=4.1						
ILAR				PKPbc	PKPdf	23 45 14.4	+5.1
	comp=Z,6.9nm,0.6s,baz=139,slow=1.7,SNR=52						
COLA	**College**	**152.20**	**310**	*e*PKPbc	PKPdf	23 45 15.3	+5.3
COLA				*e*		23 45 27.1	
COLA				LR	LR		
	comp=Z,3μm,21.0s,MS6.1						
MCK	**McKinley**	**152.44**	**307**	*e*PKPbc	PKPdf	23 45 16.7	+6.3
KDAK	**Kodiak Island**	**152.46**	**294**	*e*PKPbc	PKPdf	23 45 16.8	+6.3
CN2	**Changchun**	**157.07**	**112**	*e*PKP	PKPdf	23 45 13.0	-4.2
MDJ	**Mudanjiang**	**159.72**	**117**	PKP	PKPdf	23 45 19.5	-0.9

*ATH **26** 23:33:27.0, 38.96N×26.01E, h23km±2km, MD3.7/3*
*NEIC **26** 23:33:27.0, 38.96N×26.01E, h23km, MD3.7(ATH), After ATH.*
*THE **26** 23:33:28.6, 38.95N×26.03E, h5km, ML3.6*
*CSEM **26** 23:33:28.2±0.1, 39.01N×26.08E, h10km, MD3.7, Error ellipse: s-maj=1.3km s-min=1.1km az=15.0*
*ISK **26** 23:33:30.0, 39.07N×26.23E, h10km, MD3.3*

ISC 26 23:33:27.4±0.7, 38.99N±0.02×25.98E±0.03, h5km±5km, n50, σ0°81/62, 2C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRK	**Paraskevi**	**0.34**	**42**	*e*PB	**Pb**	**23 33 34.6**	**-0.9**
AYVA	**Ayvalik**	**0.64**	**60**	⇑*iP*	**Pg**	**23 33 40.2**	**+0.1**
AYVA				*i* S	**Sg**	**23 33 49.1**	**+0.5**
BOZC	**Bozcaada**	**0.85**	**4**	⇑*iP*	**Pb**	**23 33 44.0**	**-0.3**
BOZC				*i* S	**Sb**	**23 33 56.5**	**+0.7**
EZN	**Ezine**	**0.88**	**18**	*i* PG	**Pg**	**23 33 44.7**	**-0.2**
EZN				*i* SG	**Sg**	**23 33 56.9**	**+0.3**
BLCB	**Balcova**	**1.03**	**126**	*i* PG	**Pg**	**23 33 48.2**	**+0.2**
BLCB				*i* SG	**Sg**	**23 34 02.3**	**+0.6**
LIA	**Limnos Island**	**1.09**	**326**	*e*PN	**Pn**	**23 33 48.9**	**-0.4**
LIA				*e*SN	**Sn**	**23 34 04.6**	**-0.3**
IZM	**Izmir**	**1.17**	**120**	*i* PG	**Pg**	**23 33 50.2**	**-0.5**
IZM				*i* SG	**Sg**	**23 34 05.7**	**-0.6**
KDAG	**Bornova**	**1.17**	**120**	*i* P	**Pb**	**23 33 49.9**	**+0.3**
KDAG				*i* S	**Sb**	**23 34 05.8**	**+0.9**
LOS	**Limnos**	**1.17**	**324**	*e*Pb	**Pb**	**23 33 51.1**	**+1.4**
LOS				*e*Sb	**Sb**	**23 34 08.6**	**+3.6**
AKS	**Akhisar**	**1.44**	**94**	*i* PN	**Pn**	**23 33 54.0**	**-0.1**
SMG	**Samos**	**1.45**	**152**	*e*PN	**Pn**	**23 33 53.5**	**-0.8**
BALB	**Balikesir**	**1.61**	**66**	PN	**Pn**	**23 33 56.0**	**-0.7**
BALB				SN	**Sn**	**23 33 15.3**	**-2.7**
AOS	**Alonnisos**	**1.64**	**277**	*e*Pb	**Pb**	**23 33 57.6**	**-0.2**
BTOK	**Tokmak**	**1.77**	**64**	*i* P	**Pn**	**23 33 58.6**	**-0.3**
BTOK				*i* S	**Sn**	**23 34 25.3**	**+3.3**
KGT	**Karabiga**	**1.78**	**35**	PN	**Pn**	**23 33 59.1**	**0.0**
ALN	**Alexandroupoli**	**1.90**	**2**	*e*Pb	**Pb**	**23 34 00.8**	**-1.4**
ALN				*e*Sb	**Sb**	**23 34 26.3**	**0.0**
APE	**Apeiranthos**	**1.95**	**191**	*e*PN	**Pn**	**23 34 06.5**	**+5.0**
APE	**Apeiranthos**	**1.95**	**191**	*e*Pn	**Pn**	**23 34 00.5**	**-1.0**
EDC	**Edincik**	**1.99**	**46**	PN	**Pn**	**23 34 01.9**	**-0.1**
BNT	**Bandirma**	**2.02**	**47**	PN	**Pn**	**23 34 02.2**	**-0.4**
OUR	**Ouranopolis**	**2.04**	**312**	*e*Pn	**Pn**	**23 34 02.6**	**-0.2**
MFT	**Murefte**	**2.05**	**29**	PN	**Pn**	**23 34 03.4**	**+0.4**
MANT	**Manisa**	**2.08**	**103**	*i* P	**Pn**	**23 34 03.0**	**-0.3**
MANT				*i* S	**Sn**	**23 34 30.7**	**+0.8**
DST	**Dursunbey**	**2.15**	**73**	PN	**Pn**	**23 34 03.9**	**-0.4**
RDO	**Rodhopi**	**2.18**	**351**	*e*PN	**Pn**	**23 34 04.5**	**-0.3**
XOR	**Xorichti**	**2.20**	**281**	*e*Pn	**Pn**	**23 34 04.9**	**-0.2**
MLSB	**Milas**	**2.21**	**140**	*e*PN	**Pn**	**23 34 06.4**	**+1.2**
KCT	**Karacabey**	**2.23**	**55**	PN	**Pn**	**23 34 05.2**	**-0.4**
ORLT	**Orhaneli**	**2.49**	**64**	*e*PN	**Pn**	**23 34 08.8**	**-0.4**
YER	**Yerkesik**	**2.60**	**135**	*e*PN	**Pn**	**23 34 12.5**	**+1.7**
THR5	**Thira Island,**	**2.62**	**191**	*e*Pn	**Pn**	**23 34 10.2**	**-0.9**
THR3	**Thira Island,**	**2.62**	**190**	*e*Pn	**Pn**	**23 34 10.5**	**-0.6**
THR1	**Thera Island**	**2.65**	**189**	*e*Pn	**Pn**	**23 34 10.3**	**-1.2**
KDZ	**Kurdzhali**	**2.69**	**351**	*i* P	**Pn**	**23 34 11.5**	**-0.6**
SOH	**Sokhos**	**2.72**	**313**	*e*Pn	**Pn**	**23 34 13.1**	**+0.5**
SRS	**Serrai**	**2.80**	**320**	*e*Pn	**Pn**	**23 34 14.0**	**+0.2**
AGG	**Agios Georgios**	**2.84**	**272**	*e*Pn	**Pn**	**23 34 14.7**	**+0.4**
CTT	**Catalca**	**2.86**	**40**	*e*PN	**Pn**	**23 34 14.0**	**-0.5**
NVR	**Nevrokopi**	**2.86**	**326**	*e*PN	**Pn**	**23 34 14.2**	**-0.3**
RZN	**Rozhen**	**2.86**	**341**	*e*P	**Pn**	**23 34 14.0**	**-0.5**
EDRB	**Edirne**	**2.91**	**11**	*e*PN	**Pn**	**23 34 16.8**	**+1.5**
DALT	**Dalyan (Mudla)**	**3.06**	**136**	*e*PN	**Pn**	**23 34 19.4**	**+2.1**
MMB	**Musomiste**	**3.11**	**327**	P	**Pn**	**23 34 17.0**	**-1.1**
ISK	**Istanbul-Kandi**	**3.14**	**48**	*e*PN	**Pn**	**23 34 18.3**	**-0.3**
KNT	**Kendrikon**	**3.21**	**313**	*e*Pn	**Pn**	**23 34 20.2**	**+0.7**
GRG	**Griva**	**3.38**	**307**	*e*Pn	**Pn**	**23 34 22.3**	**+0.5**
KKB	**Krupnik**	**3.62**	**323**	P	**Pn**	**23 34 26.5**	**+1.1**
ESKT	**Eskisehir**	**3.82**	**81**	*e*PN	**Pn**	**23 34 27.9**	**-0.2**
VTS	**Vitosha**	**4.17**	**331**	P	**Pn**	**23 34 34.0**	**+0.9**
KIZT	**Kizilcal**	**4.60**	**90**	*e*PN	**Pn**	**23 34 39.2**	**-0.1**

*MAN **27** 00:01:02.4, 10.12N×126.10E, h19km, mb4.7, ML3.6, MS3.7*
*IDC **27** 00:01:03.6±10.0, 10.05N×126.17E, h57km±96km, mb3.7/12, mb1 3.9/12, mb1mx3.8/19, Error ellipse: s-maj=43.1km s-min=17.0km az=66.0*
*NEIC **27** 00:01:03.9±5.2, 10.03N×126.17E, h60km±49km, mb3.8/2, Error ellipse: s-maj=23.8km s-min=8.3km az=63.0*

ISC 27 00:01:02.0±0.9, 10.08N±0.03×126.23E±0.07, h58km±8km, n33, σ0°95/42, mb3.9/13, 2C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.79**	**248**	*eP*	**P**	**00 01 15.2**	**-2.1**
SCPH				*e*S	**S**	**00 01 24.8**	**-3.8**
BUTP	**Butuan**	**1.26**	**208**	*eP*	**P**	**00 01 23.9**	**+0.1**
BUTP				*e*S	**S**	**00 01 41.5**	**+1.6**
MSLP	**Maasin**	**1.35**	**272**	*eP*	**P**	**00 01 24.3**	**-0.8**
MSLP				*e*S	**S**	**00 01 40.8**	**-1.5**
PLP	**Palo**	**1.63**	**311**	*eP*	**P**	**00 01 27.8**	**-1.2**
BESP	**Borongan**	**1.69**	**333**	*eP*	**P**	**00 01 29.2**	**-0.7**
BESP				*e*S	**S**	**00 01 52.6**	**+2.2**
OCLP	**Ormoc**	**1.86**	**301**	*eP*	**P**	**00 01 33.5**	**+1.5**
CGP	**Cagayan de Oro**	**2.21**	**223**	*eP*	**P**	**00 01 37.2**	**+0.1**
CGP				*e*S	**S**	**00 02 04.4**	**+1.1**
LLP	**Lapu-Lapu**	**2.24**	**276**	⇑*iP*	**P**	**00 01 37.1**	**-0.3**
LLP				*i* S	**S**	**00 02 03.6**	**-0.2**
BUKP	**Musuan**	**2.47**	**208**	*eP*	**P**	**00 01 42.7**	**+1.9**
BUKP				*e*S	**S**	**00 02 14.5**	**+4.6**
CNP	**Catarman**	**2.86**	**328**	*eP*	**P**	**00 01 45.7**	**-0.5**
CNP				*e*S	**S**	**00 02 19.5**	**-0.1**
SNPH	**Sibulan**	**3.04**	**256**	*eP*	**P**	**00 01 49.7**	**+0.9**
DCPH	**Dipolog City**	**3.21**	**243**	⇓*eP*	**P**	**00 01 51.5**	**+0.4**
DCPH				*e*S	**S**	**00 02 27.9**	**-0.4**
PAGZ	**Pagadian**	**3.58**	**232**	*eP*	**P**	**00 01 56.8**	**+0.4**
GUIM	**Jordan**	**3.62**	**279**	*eP*	**P**	**00 01 57.1**	**+0.2**
RCP	**Roxas**	**3.72**	**294**	⇑*eP*	**P**	**00 01 58.4**	**0.0**
CMAR	**Chiang Mai Arr**	**27.69**	**291**	P	**P**	**00 06 46.5**	**-0.5**
	1.0nm,0.8s,mb3.5,baz=83,slow=8.1,SNR=4.7						
FITZ	**Fitzroy Crossi**	**28.01**	**181**	*eP*	**P**	**00 06 49.5**	**-0.3**
	1.5nm,0.7s,mb3.7						
FITZ	**Fitzroy Crossi**	**28.01**	**181**	P	**P**	**00 06

BAI	**Bari**	**4.08**	**317**	*e*Pn	**Pn**	**00 15 58.7**	**+0.3**
BUM	**Brajici-Budva**	**4.31**	**343**	⇑*i*Pn	**Pn**	**00 16 01.0**	**-0.7**
BUM				*e*Sn	**Sn**	**00 16 51.6**	**-0.4**
MGR	**Morigerati**	**4.35**	**298**	*e*Pn	**Pn**	**00 16 03.5**	**+1.2**
MGR	**Morigerati**	**4.35**	**298**	*e*Pn	**Pn**	**00 16 03.5**	**+1.1**
TTG	**Podgorica**	**4.36**	**347**	⇑*i*Pn	**Pn**	**00 16 01.5**	**-0.9**
TTG				*e*Sn	**Sn**	**00 16 52.2**	**-1.2**
PVY	**Plav**	**4.43**	**354**	⇑*i*Pn	**Pn**	**00 16 03.2**	**-0.2**
PVY				*e*Sn	**Sn**	**00 16 55.2**	**0.0**
PVY	**Plav**	**4.43**	**354**	⇑*i*Pn	**Pn**	**00 16 03.2**	**-0.3**
PVY				*e*Sn	**Sn**	**00 16 55.2**	**0.0**
HCY	**Herceg Novi**	**4.55**	**340**	⇑*i*Pn	**Pn**	**00 16 03.9**	**-1.1**
HCY				*e*Sn	**Sn**	**00 16 56.9**	**-1.1**
SGO	**Sicignano**	**4.71**	**302**	*e*Pn	**Pn**	**00 16 09.6**	**+2.2**
SGO	**Sicignano**	**4.71**	**302**	*e*Pn	**Pn**	**00 16 09.6**	**+2.2**
IVA	**Berane**	**4.72**	**354**	⇑*i*Pn	**Pn**	**00 16 07.4**	**-0.1**
IVA				*e*Sn	**Sn**	**00 17 01.4**	**-0.9**
BRY	**Bratogost**	**4.96**	**343**	⇑*i*Pn	**Pn**	**00 16 09.3**	**-1.7**
BRY				*e*Sn	**Sn**	**00 17 06.7**	**-1.8**
ALN	**Alexandroupoli**	**5.04**	**56**	*e*Pn	**Pn**	**00 16 11.3**	**-0.7**
STON	**Ston**	**5.17**	**336**	*i* Pn	**Pn**	**00 16 12.0**	**-1.9**
STON				*i* Sn	**Sn**	**00 17 08.7**	**-5.0**
STON	**Ston**	**5.17**	**336**	*i* Pn	**Pn**	**00 16 11.9**	**-2.0**
STON				*i* Sn	**Sn**	**00 17 08.7**	**-5.0**
UPM	**Unac-Piva**	**5.17**	**347**	⇑*i*Pn	**Pn**	**00 16 13.0**	**-1.0**
UPM				*e*Sn	**Sn**	**00 17 12.4**	**-1.5**
PLE	**Pljevlja**	**5.22**	**351**	⇑*i*Pn	**Pn**	**00 16 14.4**	**-0.2**
PLE				*e*Sn	**Sn**	**00 17 14.2**	**-0.9**
PLE	**Pljevlja**	**5.22**	**351**	⇑*i*Pn	**Pn**	**00 16 14.4**	**-0.2**
SGG	**Gregorio Mates**	**5.74**	**306**	*e*Pn	**Pn**	**00 16 22.4**	**+0.5**
SGG	**Gregorio Mates**	**5.74**	**306**	*e*Pn	**Pn**	**00 16 22.4**	**+0.5**
NRCA	**Norcia**	**7.33**	**312**	*e*Pn	**Pn**	**00 16 44.6**	**+0.3**
BOJS	**Bojanci**	**8.32**	**333**	*i* Pn	**P**	**00 16 55.8**	**-2.3**
VOY	**Vojsko**	**9.28**	**330**	*e*Pn	**P**	**00 17 09.1**	**-2.2**
VOY				*e*Sn	**Sn**	**00 18 50.1**	**-6.1**

JMA 27 00:21:15.4, 37.32N×138.95E, h13km±1km, M3.7, 2C-3D
Broadband fault plane solution: P waves. NP1:ϕ_s224°, δ33°,λ69°. **NP2:**ϕ_s69°,δ60°,λ103°. **Principal axes:** T Plg72°, Azm10°; N Plg11°, Azm242°; P Plg14°, Azm149°;
Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.09**	**143**	⇑P	Pg	00 21 18.1	-0.2
JHK				S	Sg	00 21 20.1	-0.2
JIZZ	**Izumozaki**	**0.28**	**318**	⇓P	Pg	00 21 21.9	+0.3
JNS	**Sasagawa**	**0.58**	**30**	P	Pb	00 21 26.4	-0.4
JNS				S	Sb	00 21 34.2	-0.4
JKT	**Katashina**	**0.60**	**157**	⇓P	Pb	00 21 26.8	-0.5
JKT				S	Sb	00 21 34.9	-0.5
JFY	**Yanaizu**	**0.61**	**82**	⇑P	Pb	00 21 27.1	-0.3
JFY				S	Sb	00 21 35.2	-0.3
JJN	**Nakama**	**0.67**	**251**	⇓P	Pb	00 21 28.2	-0.1

*DMN **27** 00:28:42.1±0.8,31.25N×80.88E,h10km,Ml4.7/4 Error ellipse: s-maj=38.2km s-min=15.0km az=47.0*
*BJI **27** 00:28:43.1,30.51N×80.58E,h16km,mb4.3,Ms4.9, Msz5.0*
*NEIC **27** 00:28:48.7±0.5,30.90N×81.22E,h10km,mb4.4/4, Error ellipse: s-maj=17.1km s-min=9.9km az=45.0*
*NDI **27** 00:28:50.0±5.2,30.78N×81.12E,h10km,mb4.6,MD4.1, mb4.4(NEIC)*
*MOS **27** 00:28:51.8±2.4,31.15N×81.35E,h33km,mb4.6/10, Error ellipse: s-maj=29.0km s-min=14.0km az=108.0*
*IDC **27** 00:28:58.4±6.2,30.94N×81.29E,h91km±58km, mb3.8/17, mb1 4.0/17,mb1mx4.0/23, Error ellipse: s-maj=22.7km s-min=12.2km az=42.0*
ISC 27 00:28:45.4±1.3,**30.85N**±0.04×**81.19E**±0.05, **h0**km±8km, **n89**,σ1§**45**/**99**, **mb4.2**/19, **MS4.9**/1, **2D**, **Xizang**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOSI	**Joshimath**	**1.43**	**259**	*e*P	**Pb**	**00 29 13.4**	**+0.6**
PTH	**Pithoragarh**	**1.54**	**213**	*e*P	**Pn**	**00 29 14.8**	**+0.5**
PTH				*e*S	**Sb**	**00 29 37.2**	**+2.6**
LGTI	**Lohaghat**	**1.61**	**211**	*e*P	**Pn**	**00 29 21.0**	**+5.7**
LGTI				*e*		00 29 45.0	
DDI	**Dehra Dun**	**2.75**	**260**	*e*PN	**Pn**	**00 29 33.6**	**+2.0**
DDI				*e*		00 30 12.9	
KOLN	**Koldanda**	**3.72**	**145**	*e*Pn	**Pn**	**00 29 50.6**	**+5.2**
KOLN				*e*Sn	**Sn**	**00 30 41.7**	**+11**
	532nm,0.5s						
KKR	**Kurukshetra**	**3.88**	**258**	*e*	**Pn**	**00 29 55.8**	**+8.2**
NDI	**New Delhi**	**4.07**	**239**	*e*P	**Pn**	**00 29 52.0**	**+1.6**
NDI				*e*		00 30 04.0	
NDI				*e*		00 30 51.0	
NDI				*e*		00 31 03.0	
BHK	**Bhakra**	**4.13**	**279**	*e*Pg	**Pg**	**00 30 07.6**	**-0.3**
BHK				*e*		00 30 58.0	
GKN	**Gorkha**	**4.13**	**132**	*e*Pn	**Pn**	**00 29 56.3**	**+5.1**
GKN				*e*Sn	**Sn**	**00 30 51.8**	**+11**
	574nm,0.4s						
AYAN	**Aya Nagar**	**4.25**	**237**	*i* P	**Pn**	**00 29 54.9**	**+2.0**
BHGR	**Bahadurgarh**	**4.28**	**241**	*e*P	**Pn**	**00 29 56.4**	**+3.1**
SONA	**Sohna**	**4.42**	**235**	*e*PG	**Pg**	**00 30 12.2**	**-1.4**
RTK	**Rohtak**	**4.52**	**248**	*e*P	**Pn**	**00 29 59.1**	**+2.3**
RTK				AMb	AMB	00 30 09.3	
	comp=Z,69nm,1.0s						
AGRA	**Agra**	**4.59**	**219**	*e*PG	**Pg**	**00 30 13.4**	**-3.7**
KKN	**Kakani**	**4.70**	**129**	*e*Pn	**Pn**	**00 30 03.7**	**+4.5**
KKN				*e*Sn	**Sn**	**00 31 04.0**	**+8.8**
DMN	**Daman**	**4.70**	**132**	*e*Pn	**Pn**	**00 30 04.1**	**+4.8**
DMN				*e*Sn	**Sn**	**00 31 04.8**	**+9.3**
	comp=Z,326nm,0.5s						
KUDL	**Kundal**	**4.90**	**238**	*e*P	**Pn**	**00 30 05.3**	**+3.2**
PKI	**Pulchoki**	**4.93**	**130**	*e*Pn	**Pn**	**00 30 06.9**	**+4.4**
PKI				*e*Sn	**Sn**	**00 31 10.0**	**+8.9**
	comp=Z,334nm,0.6s						
THN	**Thein Dam**	**4.93**	**290**	*e*P	**Pn**	**00 30 02.1**	**-0.4**
	comp=Z,16nm,0.5s						
GUN	**Gumba**	**5.03**	**124**	*e*Pn	**Pn**	**00 30 08.4**	**+4.4**
KHET	**Khetri**	**5.45**	**241**	*e*P	**Pn**	**00 30 11.2**	**+1.3**
KHET				AMb	AMB	00 30 27.5	
	comp=Z,36nm,1.2s						
JHNI	**Jhansi**	**5.85**	**204**	*e*P	**Pn**	**00 30 15.0**	**-0.5**
JHNI				*e*S	**Sn**	**00 31 19.0**	**-5.2**
AJM	**Ajmer**	**7.21**	**234**	*e*P	**Pn**	**00 30 33.5**	**-1.2**
AJM				AMb	AMB	00 30 38.9	
	comp=Z,27nm,1.0s						
CHCP	**Chirah Chowk**	**7.27**	**295**	P	**Pn**	**00 30 37.6**	**+2.0**
BOK	**Bokaro**	**8.17**	**148**	*e*P	**P**	**00 30 48.0**	**-0.1**
BOK				*e*		00 32 20.0	
THW	**Thamme Wali**	**8.27**	**286**	⇓P	**P**	**00 30 48.1**	**-1.4**
BHPL	**Bhopal**	**8.29**	**205**	*i* P	**P**	**00 30 48.2**	**-1.5**
BHPL				*i*		00 32 20.5	
CEP	**Cherat**	**8.39**	**293**	⇓P	**P**	**00 30 50.2**	**-1.0**
BLSP	**Bilaspur**	**8.72**	**174**	*e*P	**P**	**00 30 54.9**	**-0.9**
BLSP				*e*		00 32 30.0	
DRP	**Derazinda**	**9.44**	**278**	P	**P**	**00 31 03.5**	**-2.3**
KSH	**Kashi**	**9.64**	**335**	*e*P	**P**	**00 31 08.0**	**-0.5**
KSH				*e*AP		00 31 15.8	
KSH				*e*XP		00 31 20.5	
JASL	**Jaisalmer**	**9.82**	**249**	*e*P	**P**	**00 31 10.4**	**-0.6**
AKL	**Akola**	**10.78**	**201**	*i*	**P**	**00 31 29.4**	**+5.2**
AKL				*i*		00 33 20.9	
SHL	**Shillong**	**10.80**	**117**	*e*P	**P**	**00 31 24.0**	**-0.4**
SHL				*e*		00 33 21.0	
AAK	**Ala-Archa**	**12.92**	**337**	*i* P	**P**	**00 31 49.5**	**-3.6**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.4s						
LATR	**Latur**	**13.07**	**200**	*e*P	**P**	**00 31 54.3**	**-0.8**
LATR				*e*S	**S**	**00 34 06.2**	**-16**
VIS	**Vishakhapatnam**	**13.21**	**171**	*e*P	**P**	**00 31 54.0**	**-3.0**
VIS				*e*		00 34 31.0	
HYB	**Hyderabad**	**13.58**	**191**	*i* P	**P**	**00 31 58.5**	**-3.5**
HYB				*e*S	**S**	**00 34 22.5**	**-12**
HYB	**Hyderabad**	**13.58**	**191**	*e*P	**P**	**00 31 58.5**	**-3.5**
HYB				*e*S	**S**	**00 34 22.5**	**-12**
POO	**Poona**	**13.95**	**210**	*e*	**P**	**00 32 02.0**	**-4.9**
POO				*i*		00 34 32.0	
KAD	**Karad**	**14.91**	**207**	*e*P	**P**	**00 32 17.4**	**-2.0**
KAD				*e*		00 34 56.6	
GTA	**Gaotai**	**17.45**	**56**	*e*P	**P**	**00 32 58.5**	**+6.8**
GTA				XP		00 33 08.8	
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s						
KMI	**Kunming**	**19.86**	**101**	*e*P	**P**	**00 33 21.8**	**+0.9**
KMI				AMB	AMB		
	comp=Z,12nm,0.9s						
KURK	**Kurchatov**	**19.94**	**355**	*i* P	**P**	**00 33 20.3**	**-1.4**
KURK	**Kurchatov**	**19.94**	**355**	*e*P	**P**	**00 33 19.1**	**-2.6**
	comp=Z,17nm,0.9s						
CMAR	**Chiang Mai Arr**	**20.28**	**123**	P	**P**	**00 33 26.9**	**+1.4**
	comp=Z,6.4nm,0.7s,baz=310,slow=10,SNR=28						
CMAR	**Chiang Mai Arr**	**20.28**	**123**	P	**P**	**00 33 26.9**	**+1.4**
CMAR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BVAR	**Borovoye Array**	**23.52**	**344**	P	**P**	**00 33 58.5**	**+0.8**
	comp=Z,2.1nm,0.6s,mb3.8,baz=157,slow=11,SNR=15						
BRVK	**Borovoye**	**23.58**	**343**	*e*P	**P**	**00 33 58.5**	**+0.2**
	comp=Z,3.7nm,0.8s,mb4.0						
ZAK	**Zakamensk**	**25.56**	**34**	*e*P	**P**	**00 34 20.3**	**+2.9**
SONM	**Songino Array**	**25.67**	**41**	P	**P**	**00 34 19.0**	**+0.5**
	comp=Z,1.8nm,0.8s,mb3.8,baz=235,slow=8.6,SNR=12						
NJ2	**Nanjing**	**32.05**	**78**	*e*P	**P**	**00 35 13.3**	**-2.8**
NJ2				S	**S**	**00 40 22.0**	**-5.9**
NJ2				LR	LR		
	comp=N,860nm,14.0s,MS4.8						
NJ2				LR	LR		
	comp=E,1μm,13.5s,MS4.8						
NJ2				LR	LR		
	comp=Z,2μm,13.8s,MS5.0						
BRTR	**Keskin Array B**	**39.42**	**296**	P	**P**	**00 36 19.3**	**+0.5**
	comp=Z,1.6nm,0.9s,mb3.6,baz=120,slow=9.6,SNR=7.5						
BRTR	**Keskin Array B**	**39.42**	**296**	P	**P**	**00 36 19.3**	**+0.5**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
OBN	**Obninsk**	**39.71**	**321**	*i* P	**P**	**00 36 22.0**	**+1.1**
OBN				*e*		00 37 50.3	
OBN				*e*S	**S**	**00 42 24.3**	**-1.1**
OBN				pmax	pmax		
	comp=Z,20nm,1.4s,mb4.5						
OBN	**Obninsk**	**39.71**	**321**	*e*P	**P**	**00 36 22.6**	**+1.7**
	comp=Z,9.0nm,0.8s,mb4.5						
AKASG	**Malin Array Be**	**43.05**	**313**	P	**P**	**00 36 48.8**	**+0.4**
	comp=Z,4.0nm,0.8s,mb4.2,baz=73,slow=6.2,SNR=9.4						
AKASG	**Malin Array Be**	**43.05**	**313**	P	**P**	**00 36 48.8**	**+0.4**
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
FINES	**FINESS Array B**	**46.86**	**327**	P	**P**	**00 37 18.8**	**+0.1**
	comp=Z,4.9nm,0.9s,mb4.6,baz=76,slow=7.9,SNR=7.3						
FINES	**FINESS Array B**	**46.86**	**327**	*i* P	**P**	**00 37 19.7**	**+1.0**
FINES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
FINES	**FINESS Array B**	**46.86**	**327**	P	**P**	**00 37 18.8**	**+0.1**
IDI	**Anoyia**	**46.86**	**291**	P	**P**	**00 37 17.4**	**-1.7**
	comp=Z,0.6nm,0.3s,mb4.2,baz=304,slow=15,SNR=1.7						
KWP	**Kalwaria**	**47.16**	**311**	*e*P	**P**	**00 37 23.8**	**+2.6**
KWP	**Kalwaria**	**47.16**	**311**	*e*P	**P**	**00 37 23.8**	**+2.6**
TIXI	**Tiksi**	**48.14**	**18**	*i* P	**P**	**00 37 28.1**	**-0.6**
TIXI				*e*		00 38 55.6	
TIXI				*e*		00 39 19.8	
TIXI				*e*S	**S**	**00 44 27.4**	**-0.1**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.4						
ARCES	**ARCESS Array B**	**49.60**	**338**	P	**P**	**00 37 39.4**	**-0.5**
	comp=Z,4.3nm,0.8s,mb4.5,baz=90,slow=6.1,SNR=10						
ARCES	**ARCESS Array B**	**49.60**	**338**	P	**P**	**00 37 39.4**	**-0.5**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KMBO	**Kilima Mbogo**	**52.47**	**241**	P	**P**	**00 38 01.5**	**-0.9**
	comp=Z,0.9nm,0.8s,mb3.7,baz=49,slow=22,SNR=2.6						
KMBO	**Kilima Mbogo**	**52.47**	**241**	P	**P**	**00 38 01.5**	**-1.0**
GERES	**GERESS Array B**	**53.09**	**310**	P	**P**	**00 38 07.1**	**+0.5**
	comp=Z,0.7nm,0.8s,mb3.6,baz=100,slow=8.1,SNR=4.0						
GERES	**GERESS Array B**	**53.09**	**310**	P	**P**	**00 38 07.1**	**+0.5**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KHC	**Kasperske Hory**	**53.14**	**311**	*e*P	**P**	**00 38 10.0**	**+3.0**
NB2	**NORSAR Subarra**	**53.91**	**326**	P	**P**	**00 38 11.7**	**-0.8**
	comp=Z,7.5nm,0.9s,mb4.7,baz=89,slow=7.4						
NOA	**NORSAR Array B**	**53.91**	**326**	P	**P**	**00 38 13.0**	**+0.5**
	comp=Z,6.2nm,0.8s,mb4.7,baz=90,slow=7.2,SNR=16						
NOA	**NORSAR Array B**	**53.91**	**326**	P	**P**	**00 38 13.0**	**+0.5**
NOA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
FITZ	**Fitzroy Crossi**	**64.76**	**133**	P	**P**	**00 39 27.0**	**-1.2**
	comp=Z,6.4nm,1.2s,mb4.7,baz=346,slow=16,SNR=2.4						
ESDC	**Sonseca Array**	**67.63**	**304**	P	**P**	**00 39 46.7**	**+0.5**
	comp=Z,0.5nm,0.6s,mb4.0,baz=62,slow=5.7,SNR=4.4						
WRA	**Warramunga Arr**	**71.81**	**128**	P	**P**	**00 40 11.6**	**-0.5**
	comp=Z,5.7nm,0.8s,mb4.8,baz=322,slow=6.1,SNR=36						
WRA	**Warramunga Arr**	**71.81**	**128**	P	**P**	**00 40 11.6**	**-0.5**
WRA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
WB2	**Warramunga Arr**	**71.81**	**128**	*e*P	**P**	**00 40 11.6**	**-0.5**
ASPA	**Alice Springs**	**74.09**	**131**	*e*P	**P**	**00 40 25.0**	**-0.5**
ASAR	**Alice Springs**	**74.09**	**131**	P	**P**	**00 40 25.0**	**-0.5**
	comp=Z,4.6nm,0.9s,mb4.5,baz=317,slow=5.9,SNR=32						
ILAR	**Eielson Array**	**77.60**	**19**	P	**P**	**00 40 42.9**	**-1.6**
	comp=Z,0.6nm,0.8s,mb3.8,baz=302,slow=4.4,SNR=5.6						
ILAR	**Eielson Array**	**77.60**	**19**	P	**P**	**00 40 42.9**	**-1.6**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
INK	**Inuvik**	**77.83**	**13**	P	**P**	**00 40 43.0**	**-2.7**
	comp=Z,1.1nm,0.3s,mb4.4,baz=207,slow=8.8,SNR=3.8						
INK	**Inuvik**	**77.83**	**13**	P	**P**	**00 40 43.0**	**-2.7**
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
LPAZ	**La Paz**	**148.49**	**290**	PKPbc	PKPdf	00 48 36.2	+3.4
	comp=Z,1.0nm,0.8s,baz=22,slow=5.4,SNR=3.5						
LPAZ	**La Paz**	**148.49**	**290**	PKP2	PKPab	00 48 36.2	-3.9
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
LPAZ	**La Paz**	**148.49**	**290**	PKPbc	PKPdf	00 48 36.2	+3.4

*IDC **27** 00:40:13.2±5.0,3.36S×126.99E,h124km±52km, mb3.6/4, mb1 3.7/7,mb1mx3.6/17,MS2.3/1,Ms1 2.3/1,ms1mx2.2/29, Error ellipse: s-maj=66.5km s-min=14.7km az=69.0*
*NEIC **27** 00:40:16.1±3.7,3.34S×127.35E,h149km±35km,mb4.5/4, Error ellipse: s-maj=37.6km s-min=21.9km az=59.0*
ISC 27 00:40:12.8±2.9,**3.3S**±0.1×**127.3E**±0.2, **h134**km±28km, **n15**, σ1§**34**/**17**, **mb3.9**/**6**, **Seram**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**10.63**	**152**	*e*P	**P**	**00 42 43.8**	**+1.4**
	29nm,1.0s						
FITZ	**Fitzroy Crossi**	**14.84**	**186**	*e*P	**P**	**00 43 38.9**	**+1.8**
	3.0nm,0.7s						
FITZ	**Fitzroy Crossi**	**14.84**	**186**	P	**P**	**00 43 37.0**	**-0.1**
	0.1nm,0.3s,baz=18,slow=13,SNR=3.3						
WRAB	**Tennant Creek**	**17.92**	**158**	*e*P	**P**	**00 44 12.4**	**-2.6**
	6.6nm,0.6s						
WRA	**Warramunga Arr**	**17.93**	**158**	P	**P**	**00 44 12.5**	**-2.5**
	1.3nm,0.3s,baz=341,slow=12,SNR=30						
WRA				S	**S**	**00 47 35.1**	**+7.5**
	baz=326,slow=19,SNR=4.6						
WB2	**Warramunga Arr**	**17.93**	**158**	*e*P	**P**	**00 44 12.6**	**-2.5**
WB2				*e*S	**S**	**00 47 27.7**	**+0.1**
ASAR	**Alice Springs**	**21.25**	**163**	P	**P**	**00 44 49.5**	**0.0**
	5.9nm,0.8s,mb4.0,baz=340,slow=9.0,SNR=25						
ASPA	**Alice Springs**	**21.25**	**163**	*e*P	**P**	**00 44 50.0**	**+0.5**
ASPA				*e*S	**S**	**00 48 44.7**	**+12**
CTA	**Charters Tower**	**24.90**	**134**	P	**P**	**00 45 26.7**	**+1.8**
	1.3nm,0.5s,mb3.7,baz=330,slow=8.1,SNR=2.3						
CTA	**Charters Tower**	**24.90**	**134**	P	**P**	**00 45 26.7**	**+1.8**
STKA	**Stephens Creek**	**31.46**	**156**	P	**P**	**00 46 24.1**	**+0.1**
	6.7nm,1.1s,mb4.3,baz=340,slow=9.6,SNR=5.9						
JNU	**Nakatsue**	**36.34**	**5**	LR	LR	01 01 27.4	
	comp=Z,4.7nm,20.8s,baz=13,slow=35						
SONM	**Songino Array**	**54.10**	**343**	P	**P**	**00 49 25.3**	**-0.6**
	0.4nm,0.7s,mb3.3,baz=146,slow=9.3,SNR=2.7						
BVAR	**Borovoye Array**	**73.51**	**328**	P	**P**	**00 51 38.6**	**+6.0**
	0.3nm,0.5s,mb3.3,baz=121,slow=8.4,SNR=2.1						
MBAR	**Mbarara**	**96.56**	**269**	*e*P	**P**	**00 53 29.9**	**+0.7**
	8.9nm,0.8s,mb5.2						

*KISR **27** 00:49:24.0±1.1,36.08N×45.32E,h33km,ML3.3*
*THR **27** 00:49:28.5±0.7,35.73N×48.89E,h14km±8km,ML3.5*
*CSEM **27** 00:49:29.7,35.78N×48.88E,h23km,ML3.4, After THR*
ISC 27 00:49:27.4±0.8,**35.69N**±0.05×**48.91E**±0.04, **h10**km, **n12**, σ1§**50**/**18**, **Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNGE	**Sanandaj**	**1.41**	**245**	*i* Pg	**Pg**	**00 49 54.2**	**-1.4**
SNGE				*i* Sg	**Sg**	**00 50 13.0**	**-1.4**
	comp=N,633nm,0.7s						
ASAO	**Ashtian**	**1.46**	**141**	*e*PG	**Pg**	**00 49 56.2**	**-0.5**
ASAO				*e*SG	**Sg**	**00 50 16.5**	**+0.3**
ASAO				AMP		00 50 18.8	
	comp=E,811nm,0.6s						
ASAO	**Ashtian**	**1.46**	**141**	*i* Pg	**Pg**	**00 49 56.3**	**-0.4**
ASAO				*i* Sg	**Sg**	**00 50 16.5**	**+0.2**
	comp=E,578nm,0.2s						
THKV	**Tehran--Karaj**	**1.62**	**82**	*e*PG	**Pg**	**00 49 58.3**	**-1.5**
THKV				AMP		00 50 24.3	
	comp=E,391nm,0.4s						
THKV				AMP		00 50 26.0	
	comp=N,433nm,0.5s						
THKV	**Tehran--Karaj**	**1.62**	**82**	*i* Pg	**Pg**	**00 49 58.3**	**-1.5**
THKV				*i* Sg	**Sg**	**00 50 20.1**	**-1.3**
	comp=N,447nm,0.6s						
DAMV	**Damavand**	**2.50**	**91**	*e*PN	**Pn**	**00 50 11.2**	**+2.4**
DAMV				AMP		00 50 49.3	
	comp=E,238nm,0.5s						
DAMV				AMP		00 50 51.5	
	comp=N,274nm,0.5s						
GRMI	**Germi**	**3.21**	**346**	*e*PN	**Pn**	**00 50 20.3**	**+1.3**
MIB	**Mutribah**	**6.02**	**193**	*e*P	**Pn**	**00 51 00.5**	**+1.8**
MIB				*e*S	**Sn**	**00 52 10.4**	**+1.9**
UMR	**Umm Al-Rimmam**	**6.21**	**190**	*e*P	**Pn**	**00 51 03.3**	**+2.0**
UMR				AML	AML	00 52 05.8	
	comp=Z,5.4nm,0.5s						
RST	**Umm Al-Ruwaisa**	**6.38**	**195**	*e*P	**Pn**	**00 51 02.5**	**-1.3**
RST				AML	AML	00 52 07.2	
	comp=Z,4.4nm,0.5s						
RST				*e*S	**Sn**	**00 52 15.6**	**-1.9**
RDF	**Al-Radifah**	**6.84**	**190**	AML	AML	00 52 21.9	
	comp=Z,4.9nm,0.5s						

*IDC **27** 00:50:10.9±0.8,0.17S×49.54E,mb4.0/13,mb1 4.1/14, mb1mx4.1/19,Error ellipse: s-maj=24.0km s-min=20.7km az=58.0*
*NEIC **27** 00:50:12.3±0.6,0.23S×49.46E,h10km,mb4.2/1,Error ellipse: s-maj=18.0km s-min=13.9km az=175.0*
ISC 27 00:50:11.3±0.5,**0.1N**±0.1×**49.4E**±0.1, **h10**km, **n21**, σ1§**08**/**19**, **mb4.0**/**13**, **1C-3D**, **North Indian Ocean**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**12.22**	**264**	Pn	**P**	**00 53 06.9**	**-1.6**
	0.9nm,0.3s,baz=72,slow=15,SNR=63						
KMBO				Sn	**S**	**00 55 12.8**	**-13**
	1.8nm,0.3s,baz=11,slow=19,SNR=6.7						
BRTR	**Keskin Array B**	**42.04**	**342**	P	**P**	**00 58 08.2**	**+3.4**
	2.2nm,0.6s,mb3.9,baz=163,slow=11,SNR=18						
CMAR	**Chiang Mai Arr**	**51.95**	**66**	P	**P**	**00 59 23.7**	**+0.6**
	0.6nm,0.4s,mb3.9,baz=256,slow=7.4,SNR=3.3						
AKASG	**Malin Array Be**	**53.31**	**344**	P	**P**	**00 59 33.0**	**+0.2**
	2.3nm,0.7s,mb4.2,baz=170,slow=5.9,SNR=6.1						
DBIC	**Dimbokro**	**54.54**	**278**	P	**P**	**00 59 42.8**	**+0.5**
	3.0nm,0.7s,mb4.4,baz=138,slow=12,SNR=4.0						
BVAR	**Borovoye Array**	**55.62**	**15**	P	**P**	**00 59 49.7**	**0.0**
	0.5nm,0.5s,mb3.8,baz=190,slow=8.8,SNR=3.1						
GERES	**GERESS Array B**	**57.52**	**333**	P	**P**	**01 00 02.4**	**-0.9**
	0.8nm,1.0s,mb3.7,baz=108,slow=4.2,SNR=5.0						
FINES	**FINESS Array B**	**63.77**	**348**	P	**P**	**01 00 45.6**	**0.0**
	2.2nm,0.8s,mb4.2,baz=153,slow=8.5,SNR=4.8						
NOA	**NORSAR Array B**	**67.47**	**341**	P	**P**	**01 01 09.9**	**+0.5**
	1.7nm,0.7s,mb4.2,baz=140,slow=6.3,SNR=3.5						
SONM	**Songino Array**	**68.42**	**37**	P	**P**	**01 01 15.5**	**-0.1**
	0.7nm,0.6s,mb3.9,baz=237,slow=5.8,SNR=7.1						
ARCES	**ARCESS Array B**	**71.20**	**351**	P	**P**	**01 01 32.6**	**+0.4**
	1.7nm,0.9s,mb4.0,baz=164,slow=6.6,SNR=5.1						
SNAA	**Sanae**	**78.88**	**195**	⇓*i*	Px	01 02 27.0	
SNAA	**Sanae**	**78.88**	**195**	P	**P**	**01 02 15.8**	**-0.2**
	0.4nm,0.9s,mb3.3,baz=73,slow=9.7,SNR=2.9						
SNAA	**Sanae**	**78.88**	**195**

mb1 4.0/16,mb1mx3.9/23,ML4.8/1 Error ellipse: s-maj=21.1km s-min=14.5km az=83.0

ISC 27 01:26:20.5±0.4,**37.35N**±0.03×**138.90E**±0.04,**h22**km±3km, **n38,σ0§83**/45,**mb4.0**/18,**1C-5D,Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.14**	**137**	⇓P	**Pb**	**01 26 24.4**	**-0.7**
JHK				S	**Sb**	**01 26 27.0**	**-1.2**
JIZZ	**Izumozaki**	**0.23**	**320**	⇓P	**Pb**	**01 26 26.5**	**+0.2**
JIZZ				S	**Sb**	**01 26 31.2**	**+0.9**
JNS	**Sasagawa**	**0.57**	**35**	⇓P	**Pb**	**01 26 31.5**	**-0.3**
JNS				S	**Sb**	**01 26 39.3**	**-0.2**
JFY	**Yanaizu**	**0.65**	**85**	⇓P	**Pb**	**01 26 33.0**	**0.0**
JFY				S	**Sb**	**01 26 41.7**	**+0.1**
JKT	**Katashina**	**0.65**	**154**	⇓P	**Pb**	**01 26 33.2**	**+0.2**
JKT				S	**Sb**	**01 26 42.1**	**+0.5**
JGK	**Kuni**	**0.81**	**195**	P	**Pb**	**01 26 36.5**	**+0.6**
MAJO	**Matsushiro**	**0.98**	**215**	*eP*	**Pb**	**01 26 38.5**	**-0.1**
MAT	**Matsushiro**	**0.98**	**215**	P	**Pb**	**01 26 38.7**	**+0.1**
MAT				S	**Sb**	**01 26 51.2**	**+0.1**
MAT	**Matsushiro**	**0.98**	**215**	*eP*	**Pb**	**01 26 39.0**	**+0.4**
MAT				*eS*	**Sb**	**01 26 51.0**	**-0.1**
JAG	**Ashikaga**	**1.03**	**154**	⇑P	**Pb**	**01 26 40.1**	**+0.6**
JHJ	**Hachijo jima 2**	**4.28**	**170**	P	**Pn**	**01 27 27.1**	**+1.0**
	143nm,0.3s,baz=280,slow=14,SNR=6.3						
JHJ				S	**Sn**	**01 28 22.6**	**+6.4**
	56nm,0.3s,baz=113,slow=23,SNR=3.6						
ASAJ	**Asahikawa**	**7.32**	**21**	P	**Pn**	**01 28 13.8**	**+4.8**
BJI	**Beijing**	**17.93**	**286**	*eP*	**P**	**01 30 30.3**	**+0.1**
BJI				AMB	AMB		
	comp=Z,9.0nm,1.0s						
ENH	**Enshi**	**25.37**	**263**	*eP*	**P**	**01 31 52.5**	**+4.7**
	comp=Z,6.4nm,0.8s,mb4.2						
SONM	**Songino Array**	**25.94**	**304**	P	**P**	**01 31 52.7**	**-0.3**
	comp=Z,0.5nm,0.8s,mb3.1,baz=111,slow=9.0,SNR=3.3						
KURK	**Kurchatov**	**44.15**	**308**	*eP*	**P**	**01 34 27.9**	**-1.1**
	comp=Z,2.5nm,0.9s,mb3.9						
BVAR	**Borovoye Array**	**48.87**	**312**	P	**P**	**01 35 07.1**	**+0.9**
	comp=Z,0.3nm,0.3s,mb3.7,baz=80,slow=8.8,SNR=2.6						
ILAR	**Eielson Array**	**50.30**	**32**	P	**P**	**01 35 16.9**	**-0.3**
	comp=Z,0.3nm,0.7s,mb3.4,baz=276,slow=8.2,SNR=5.4						
WRA	**Warramunga Arr**	**57.15**	**185**	P	**P**	**01 36 06.4**	**-1.8**
	comp=Z,4.7nm,0.7s,mb4.6,baz=1.7,slow=7.7,SNR=10						
ASAR	**Alice Springs**	**60.87**	**185**	P	**P**	**01 36 33.0**	**-0.9**
	comp=Z,2.5nm,0.9s,mb4.3,baz=1.8,slow=6.6,SNR=15						
RES	**Resolute Bay**	**62.79**	**14**	*eP*	**P**	**01 36 44.7**	**-1.4**
	comp=Z,3.0nm,0.6s,mb4.6						
ARCES	**ARCESS Array B**	**62.98**	**339**	P	**P**	**01 36 46.6**	**-0.8**
	comp=Z,1.5nm,0.6s,mb4.3,baz=59,slow=7.1,SNR=5.9						
FINES	**FINESS Array B**	**67.59**	**331**	P	**P**	**01 37 16.0**	**-1.2**
	comp=Z,1.7nm,0.8s,mb4.1,baz=53,slow=6.9,SNR=5.5						
STKA	**Stephens Creek**	**68.91**	**178**	P	**P**	**01 37 24.9**	**-1.0**
	comp=Z,3.8nm,1.0s,mb4.3,baz=333,slow=9.0,SNR=3.1						
NEW	**Newport**	**71.29**	**43**	P	**P**	**01 37 40.2**	**+0.2**
NB2	**NORSAR Subarra**	**73.10**	**336**	P	**P**	**01 37 49.2**	**-1.3**
	comp=Z,2.1nm,0.6s,mb4.2,baz=40,slow=5.8						
NOA	**NORSAR Array B**	**73.10**	**336**	P	**P**	**01 37 50.0**	**-0.5**
	comp=Z,1.6nm,0.6s,mb4.1,baz=40,slow=5.9,SNR=8.4						
NOA	**NORSAR Array B**	**73.10**	**336**	P	**P**	**01 37 50.0**	**-0.5**
NVAR	**Mina Array Bea**	**76.39**	**52**	P	**P**	**01 38 11.6**	**+1.7**
	comp=Z,1.5nm,0.7s,mb4.0,baz=282,slow=7.6,SNR=7.7						
BRTR	**Keskin Array B**	**77.13**	**310**	P	**P**	**01 38 14.7**	**+0.8**
	comp=Z,0.4nm,0.5s,mb3.6,baz=72,slow=3.9,SNR=3.9						
PDAR	**Pinedale Array**	**78.86**	**44**	P	**P**	**01 38 24.3**	**+0.9**
	comp=Z,2.0nm,0.7s,mb4.2,baz=298,slow=2.6,SNR=16						
CLL	**Collm**	**79.81**	**329**	P	**P**	**01 38 28.0**	**-0.3**
GERES	**GERESS Array B**	**81.37**	**327**	P	**P**	**01 38 36.8**	**+0.1**
	comp=Z,0.9nm,0.8s,mb3.8,baz=45,slow=3.8,SNR=7.9						
PV10	**Paradox Valley**	**82.06**	**47**	*eP*	**P**	**01 38 42.3**	**+1.9**
SCHQ	**Schefferville**	**85.56**	**15**	P	**P**	**01 38 58.3**	**+0.5**
	comp=Z,2.3nm,0.7s,mb4.5,baz=245,slow=15,SNR=3.0						
TXAR	**Lajitas Array**	**91.50**	**51**	P	**P**	**01 39 27.8**	**+1.1**
	comp=Z,0.3nm,0.5s,mb3.5,baz=292,slow=3.1,SNR=6.8						
TXAR	**Lajitas Array**	**91.50**	**51**	P	**P**	**01 39 27.8**	**+1.1**
LPAZ	**La Paz**	**148.22**	**56**	PKPbc	PKPdf	01 46 07.8	+1.5
	comp=Z,1.3nm,0.7s,baz=15,slow=14,SNR=6.2						

*NEIC **27** 01:29:52.6±1.4,9.67S×125.69E,h10km, Error ellipse: s-maj=34.1km s-min=17.7km az=224.0*

*IDC **27** 01:29:58.5±5.5, 10.23S×125.76E,mb4.0/2,mb1 4.3/5, mb1mx3.9/13,ML3.9/3, Error ellipse: s-maj=70.8km s-min=43.4km az=124.0*

ISC 27 01:29:55.9±3.5,**10.0S**±0.1×**125.8E**±0.1,**h26**km±25km,**n11,σ1§03**/14,**mb3.9**/2,**2C-2D,Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**8.07**	**181**	Pn	**P**	**01 31 54.4**	**-0.1**
	3.4nm,0.3s,baz=9.9,slow=9.3,SNR=57						
FITZ				Sn	**Sn**	**01 33 25.8**	**0.0**
	4.7nm,0.3s,baz=306,slow=2.3,SNR=15						
WRA	**Warramunga Arr**	**12.89**	**141**	Pn	**P**	**01 33 00.4**	**0.0**
	0.5nm,0.3s,baz=318,slow=13,SNR=22						
WRA				Sn	**S**	**01 35 23.4**	**-0.7**
	0.5nm,0.3s,baz=317,slow=26,SNR=6.0						
WRAB	**Tennant Creek**	**12.89**	**141**	*eP*	**P**	**01 32 59.7**	**-0.8**
	9.1nm,0.8s						
ASAR	**Alice Springs**	**15.66**	**151**	Pn	**P**	**01 33 37.2**	**+0.5**
	0.6nm,0.3s,baz=318,slow=11,SNR=38						
ASAR				Sn	**S**	**01 36 30.2**	**+0.4**
	0.3nm,0.3s,baz=358,slow=6.1,SNR=15						
CTA	**Charters Tower**	**22.15**	**119**	P	**P**	**01 34 56.2**	**+4.6**
	4.2nm,0.9s,mb3.9,baz=303,slow=7.0,SNR=3.4						
CTA	**Charters Tower**	**22.15**	**119**	P	**P**	**01 34 56.2**	**+4.6**
STKA	**Stephens Creek**	**26.25**	**148**	P	**P**	**01 35 32.6**	**+1.6**
	3.7nm,1.0s,mb3.9,baz=319,slow=11,SNR=3.0						
SNAA	**Sanae**	**91.78**	**194**	⇓*i*	**P**	**01 43 01.0**	**-1.3**
VNA2	**Neumayer--Watz**	**93.38**	**194**	⇑*i*	**P**	**01 43 10.2**	**+0.5**
VNA3	**Neumayer Olymp**	**93.67**	**193**	⇑*i*	**P**	**01 43 14.9**	**+3.8**
VNA1	**Neumayer--Stat**	**93.77**	**194**	⇓*i*	**P**	**01 43 10.3**	**-1.2**

*NIED **27** 01:30:00,37.20N×138.80E,h8km,Mw4.0 Best double couple: M0 1.05×10^15 NP1:φs23°,δ48°,λ108°. NP2:φs178°, δ45°,λ72°.*

*JMA **27** 01:30:02.5,37.23N×138.84E,h12km±1km,M3.8 Broadband fault plane solution: P waves. NP1:φs197°, δ34°,λ80°. NP2:φs29°,δ57°,λ97°. Principal axes: T Plg77°, Azm321°; N Plg6°, Azm205°; P Plg12°, Azm114°; JMA Felt II J1.*

*NEIC **27** 01:30:03.1±0.5,37.25N×138.68E,h10km,mb4.0/4 Error ellipse: s-maj=13.3km s-min=6.7km az=105.0*

*IDC **27** 01:30:10.6±4.0,37.28N×138.78E,h80km±36km,mb3.6/13, mb1 3.8/14,mb1mx3.7/24, Error ellipse: s-maj=23.0km s-min=17.8km az=83.0*

ISC 27 01:30:01.3±0.3,**37.27N**±0.02×**138.78E**±0.04,**h12**km,**n32,σ0§89/42,mb3.9**/15,**7D,Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.19**	**96**	⇓P	**Pg**	**01 30 05.9**	**+0.3**
JHK				S	**Sg**	**01 30 08.5**	**+0.1**
JIZZ	**Izumozaki**	**0.27**	**347**	⇓P	**Pg**	**01 30 09.4**	**+2.3**
JIZZ				S	**Sg**	**01 30 15.2**	**+4.3**
JKT	**Katashina**	**0.62**	**143**	⇓P	**Pb**	**01 30 13.6**	**0.0**
JKT				S	**Sb**	**01 30 21.5**	**-0.5**
JNS	**Sasagawa**	**0.69**	**37**	P	**Pb**	**01 30 15.6**	**+0.8**
JNS				S	**Sb**	**01 30 24.8**	**+0.8**
JGK	**Kuni**	**0.71**	**189**	⇓P	**Pb**	**01 30 15.7**	**+0.6**
JGK				S	**Sb**	**01 30 25.4**	**+0.8**
JFY	**Yanaizu**	**0.75**	**79**	⇓P	**Pb**	**01 30 15.8**	**+0.1**
JFY				S	**Sb**	**01 30 25.6**	**0.0**
MAJO	**Matsushiro**	**0.86**	**213**	*eP*	**Pb**	**01 30 18.3**	**+0.7**
MAT	**Matsushiro**	**0.86**	**213**	P	**Pb**	**01 30 18.4**	**+0.8**
MAT				S	**Sb**	**01 30 29.5**	**+0.7**
MAT	**Matsushiro**	**0.86**	**213**	P	**Pb**	**01 30 18.3**	**+0.7**
MAT				S	**Sb**	**01 30 29.5**	**+0.7**
MAT	**Matsushiro**	**0.86**	**213**	*eP*	**Pb**	**01 30 18.0**	**+0.4**
MAT				*eS*	**Sb**	**01 30 30.0**	**+1.2**
JSD	**Sado**	**0.87**	**332**	⇓P	**Pb**	**01 30 18.7**	**+0.8**
JSD				S	**Sb**	**01 30 30.7**	**+1.5**
JAG	**Ashikaga**	**1.00**	**147**	⇓P	**Pb**	**01 30 20.5**	**+0.5**
JAG				S	**Sb**	**01 30 33.1**	**+0.2**
ASAJ	**Asahikawa**	**7.43**	**22**	P	**Pn**	**01 31 56.5**	**+4.3**
	0.4nm,0.3s,baz=84,slow=26,SNR=2.8						
HIA	**Hailar**	**18.27**	**317**	P	**P**	**01 34 15.2**	**-1.1**
	6.9nm,0.7s						
ENH	**Enshi**	**25.27**	**263**	*eP*	**P**	**01 35 28.3**	**-0.6**
	7.2nm,0.6s,mb4.4						
SONM	**Songino Array**	**25.91**	**304**	P	**P**	**01 35 33.7**	**-1.1**
	1.6nm,0.9s,mb3.6,baz=108,slow=7.6,SNR=8.9						
KURK	**Kurchatov**	**44.13**	**308**	*eP*	**P**	**01 38 10.3**	**-0.7**
	2.0nm,0.8s,mb3.9						
BVAR	**Borovoye Array**	**48.86**	**312**	P	**P**	**01 38 48.0**	**-0.2**
	1.3nm,0.9s,mb4.0,baz=108,slow=9.1,SNR=3.6						
ILAR	**Eielson Array**	**50.42**	**32**	P	**P**	**01 38 59.5**	**-0.6**
	0.6nm,0.7s,mb3.7,baz=272,slow=5.5,SNR=6.7						
INK	**Inuvik**	**55.13**	**27**	P	**P**	**01 39 34.1**	**-1.1**
	0.8nm,0.6s,mb3.9,baz=298,slow=7.4,SNR=3.8						
INK	**Inuvik**	**55.13**	**27**	P	**P**	**01 39 34.4**	**-0.8**
	1.0nm,0.7s,mb4.0						
WRA	**Warramunga Arr**	**57.05**	**185**	P	**P**	**01 39 47.2**	**-2.5**
	3.2nm,0.9s,mb4.3,baz=1.1,slow=7.6,SNR=6.5						
ASAR	**Alice Springs**	**60.78**	**185**	P	**P**	**01 40 15.7**	**+0.2**
	0.4nm,0.8s,mb3.6,baz=311,slow=38,SNR=2.6						
ARCES	**ARCESS Array B**	**63.03**	**339**	P	**P**	**01 40 28.8**	**-1.2**
	2.7nm,0.8s,mb4.4,baz=27,slow=8.1,SNR=3.6						
ARCES	**ARCESS Array B**	**63.03**	**339**	P	**P**	**01 40 28.8**	**-1.2**
FINES	**FINESS Array B**	**67.62**	**331**	P	**P**	**01 40 58.0**	**-1.5**
	3.1nm,0.9s,mb4.3,baz=79,slow=7.1,SNR=5.0						
AKASG	**Malin Array Be**	**72.81**	**321**	P	**P**	**01 41 30.2**	**-1.0**
	1.4nm,0.8s,mb4.0,baz=48,slow=6.3,SNR=4.5						
NOA	**NORSAR Array B**	**73.14**	**336**	P	**P**	**01 41 32.2**	**-0.7**
	1.3nm,0.7s,mb4.0,baz=42,slow=6.1,SNR=3.4						
BRTR	**Keskin Array B**	**77.11**	**310**	P	**P**	**01 41 56.8**	**+0.7**
	0.6nm,0.8s,mb3.6,baz=72,slow=4.6,SNR=2.9						
PDAR	**Pinedale Array**	**78.98**	**44**	P	**P**	**01 42 06.3**	**0.0**
	0.5nm,0.7s,mb3.5,baz=270,slow=1.5,SNR=4.3						
GERES	**GERESS Array B**	**81.39**	**327**	P	**P**	**01 42 19.3**	**+0.3**
	0.4nm,0.6s,mb3.5,baz=18,slow=4.2,SNR=4.0						
LPAZ	**La Paz**	**148.35**	**56**	PKPbc	PKPdf	01 49 46.8	-0.9
	1.1nm,1.1s,baz=160,slow=7.2,SNR=2.9						

*NEIC **27** 01:35:12.2,32.33S×71.56W,h44km,MD3.5(GUC),After GUC.*

GUC 27 01:35:12.2±0.7,**32.33S×71.56W,h44**km±2km,**MD3.5, ML2.5,2D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.23**	**153**	⇓*i*P	P	01 35 20.2	+0.1
JACH	**Jahuel**	**0.89**	**113**	*e*P	P	01 35 29.2	+0.8
JACH				*i* S	S	01 35 41.9	+1.6
CMCH	**Combarbala**	**1.25**	**23**	⇓*i*P	P	01 35 34.4	+0.9
CMCH				*i* S	S	01 35 50.7	+1.3
CMCH				AMP		01 35 52.8	
	comp=E,312nm,0.5s						
RCDM	**Rinconada Maip**	**1.32**	**151**	*e*P	P	01 35 35.0	+0.4
RCDM				*i* S	S	01 35 52.2	+1.0
RCDM				AMP		01 35 58.8	
	comp=N,122nm,0.1s						
CLCH	**Cerro Calan**	**1.37**	**141**	*e*P	P	01 35 35.9	+0.6
CLCH				*e*S	S	01 35 54.2	+1.7
FCH	**Farellones**	**1.46**	**133**	*e*P	P	01 35 37.9	+1.3
FCH				*i* S	S	01 35 56.6	+1.9
FCH				AMP		01 35 59.3	
	comp=E,93nm,0.1s						

*IDC **27** 01:35:17.9±1.0,37.38N×138.64E,mb3.8/6,mb1 4.2/6, mb1mx3.8/21,Error ellipse: s-maj=34.1km s-min=30.9km az=16.0*

*NEIC **27** 01:35:19.9±0.5,37.41N×138.66E,h10km,mb3.7/1,Error ellipse: s-maj=16.9km s-min=7.5km az=112.0*

NEIC Recorded [3 JMA] in Niigata and [1 JMA] in Gumma Prefectures. Also recorded [1 JMA] on Sadoga-shima.

*JMA **27** 01:35:20.6,37.40N×138.85E,h14km±1km,M3.9 Broadband fault plane solution: P waves. NP1:φs57°,δ74°, λ166°. NP2:φs150°,δ77°,λ17°. Principal axes: T Plg21°, Azm14°; N Plg69°, Azm188°; P Plg2°, Azm283°;*

JMA Felt III J1.

ISC 27 01:35:20.1±0.5,**37.40N**±0.04×**138.84E**±0.05,**h22**km±5km, **n17,σ1§00/22,mb3.7**/7,**2C-3D,Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIZZ	**Izumozaki**	**0.16**	**323**	⇓P	**Pb**	**01 35 25.0**	**0.0**
JHK	**Hiroka**	**0.21**	**136**	⇓P	**Pb**	**01 35 25.1**	**-0.5**
JHK				S	**Sb**	**01 35 28.4**	**-0.9**
JNS	**Sasagawa**	**0.57**	**42**	⇑P	**Pb**	**01 35 31.3**	**+0.1**
JNS				S	**Sb**	**01 35 39.1**	**+0.2**
JJN	**Nakata**	**0.61**	**241**	⇓P	**Pb**	**01 35 32.4**	**+0.4**
JJN				S	**Sb**	**01 35 41.6**	**+1.4**
JKT	**Katashina**	**0.71**	**152**	⇑P	**Pb**	**01 35 34.0**	**+0.2**
JKT				S	**Sb**	**01 35 43.6**	**+0.5**
MAJO	**Matsushiro**	**0.99**	**211**	*eP*	**Pb**	**01 35 38.4**	**-0.1**
MAT	**Matsushiro**	**0.99**	**211**	P	**Pb**	**01 35 38.3**	**-0.2**
MAT				S	**Sb**	**01 35 51.4**	**+0.3**
MAT	**Matsushiro**	**0.99**	**211**	*eP*	**Pb**	**01 35 38.0**	**-0.5**
MAT				*eS*	**Sb**	**01 35 51.0**	**-0.1**
SONM	**Songino Array**	**25.87**	**304**	P	**P**	**01 40 50.8**	**-1.0**
	1.1nm,0.9s,mb3.4,baz=104,slow=8.9,SNR=6.4						
KURK	**Kurchatov**	**44.08**	**308**	*eP*	**P**	**01 43 26.3**	**-1.8**
	1.0nm,0.8s,mb3.6						
WRA	**Warramunga Arr**	**57.19**	**185**	P	**P**	**01 45 06.3**	**-1.7**
	0.7nm,0.8s,mb3.8,baz=0.2,slow=7.5,SNR=4.6						
AKASG	**Malin Array Be**	**72.73**	**321**	P	**P**	**01 46 46.5**	**-1.6**
	0.2nm,0.2s,mb3.6,baz=49,slow=6.2,SNR=4.4						
NVAR	**Mina Array Bea**	**76.40**	**52**	P	**P**	**01 47 09.9**	**+0.4**
	1.6nm,0.7s,mb4.0,baz=284,slow=7.4,SNR=7.5						
PDAR	**Pinedale Array**	**78.86**	**44**	P	**P**	**01 47 24.2**	**+1.2**
	0.9nm,0.9s,mb3.7,baz=297,slow=3.3,SNR=6.9						
PV10	**Paradox Valley**	**82.06**	**47**	*eP*	**P**	**01 47 42.2**	**+2.1**
TXAR	**Lajitas Array**	**91.51**	**51**	P	**P**	**01 48 27.6**	**+1.3**
	0.3nm,0.6s,mb3.8,baz=295,slow=2.7,SNR=5.5						
LPAZ	**La Paz**	**148.24**	**56**	PKPbc	PKPdf	01 55 07.5	+1.8
	0.9nm,0.8s,baz=304,slow=3.6,SNR=4.1						

*IDC **27** 01:35:53.3±0.8,27.33N×140.57E,h468km±20km,mb3.1/4, mb1 3.3/5,mb1mx2.9/20,Error ellipse: s-maj=76.6km s-min=20.7km az=82.0*

ISC 27 01:35:52.3±1.5,**27.2N**±0.2×**140.2E**±1.0,**h464**km±35km,**n6,σ0§49/7,mb3.5**/5,**Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.77**	**94**	P	**P**	**01 36 54.0**	**+0.6**
CBIJ				S	**S**	**01 37 41.3**	**-0.4**
WRA	**Warramunga Arr**	**47.25**	**188**	P	**P**	**01 43 44.0**	**0.0**
	0.2nm,0.6s,mb2.7,baz=5.9,slow=7.6,SNR=3.6						
BVAR	**Borovoye Array**	**56.74**	**317**	P	**P**	**01 44 52.3**	**-0.2**
	2.0nm,0.5s,mb3.8,baz=92,slow=6.7,SNR=14						
ARCES	**ARCESS Array B**	**72.82**	**340**	P	**P**	**01 46 33.9**	**+0.4**
	4.1nm,1.0s,mb3.9,baz=67,slow=6.9,SNR=2.1						
FINES	**FINESS Array B**	**77.03**	**333**	P	**P**	**01 46 57.2**	**0.0**
	1.1nm,0.4s,mb3.7,baz=71,slow=4.1,SNR=18						
NOA	**NORSAR Array B**	**82.81**	**338**	P	**P**	**01 47 26.9**	**-0.4**
	0.4nm,0.5s,mb3.2,baz=50,slow=4.4,SNR=2.4						

*NIED **27** 01:40:00,37.30N×139.00E,h11km,Mw5.8 Best double couple: M0 6.34×10^17 NP1:φs218°,δ60°,λ100°. NP2:φs18°, δ32°,λ73°.*

*BJI **27** 01:40:42.5,37.26N×139.77E,h14km,mB5.9,mb5.6, Ms5.9,Msz5.7*

*IDC **27** 01:40:49.7±2.5,37.31N×138.87E,h10km±14km,mb5.3/29, mb1 5.4/35,mb1mx5.4/36,ML4.3/2,MS5.5/28,Ms1 5.5/28, ms1mx5.3/38,Error ellipse: s-maj=12.5km s-min=8.8km az=98.0*

*HRVD **27** 01:40:50.3±0.1,37.37N×138.96E,h12km,MW5.9/72, Centroid moment Tensor Solution. LP body waves: s70,c147;Mantle waves: s72,c171; Half duration: 2s1 Moment tensor: Scale 10^18Nm; Mrr0.60±.01; Mθθ-0.13±.01; Mφφ-0.47±.01; Mrθ-0.38±.02; Mrφ-0.28±.01; Mθφ-0.46±.02; Best double couple: M0 .86×10^18 NP1:φs21°, δ24°,λ76°. NP2:φs216°,δ67°,λ96°. Principal axes: T 85, Plg67°, Azm137°; N 02, Plg5°, Azm34°; P -87, Plg22°, Azm302°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*JMA **27** 01:40:50.2,37.29N×139.03E,h12km±2km,M6.1 Broadband fault plane solution: P waves. NP1:φs40°,δ43°, λ93°. NP2:φs216°,δ47°,λ87°. Principal axes: T Plg87°, Azm84°; N Plg2°, Azm218°; P Plg2°, Azm308°;*

*SYO **27** 01:40:50,37.26N×138.90E,h14km,MB5.7,MS5.4*

*NEIC **27** 01:40:50.3±0.1,37.28N×138.89E,mb5.7/158,ME5.8, MS5.4/117,MW6.0,MW5.8(NIED),Error ellipse: s-maj=3.5km s-min=2.7km az=167.0 Broadband fault plane solution: P waves. NP1:φs220°,δ60°,λ90°. NP2: φs40°,δ30°,λ90°. Principal axes: T Plg75°, Azm130°; N Plg0°, Azm0°; P Plg15°, Azm310°; Moment Tensor Solution. s38 Moment tensor: Scale 10^18 Nm; Mrr1.08; Mθθ-0.39; Mφφ-0.69; Mrθ-0.39; Mrφ-0.45; Mθr-0.52; Best double couple: M0 1.2×10^18 NP1:φs36°,δ29°,λ89°. NP2: φs216°,δ61°,λ90°. Principal axes: T 1.26, Plg74°, Azm127°; N -.06, Plg0°, Azm36°; P 1.2, Plg16°, Azm306°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC At least five people injured; one building destroyed and some others damaged; water and gas lines broke in Niigata Prefecture. Felt in Gumma, Kanagawa, Nagano, Saitama and Tokyo Prefectures. Recorded [6L JMA] in Niigata; [4 JMA] in Fukushima, Gumma and Saitama; [3 JMA] in Ibaraki, Ishikawa, Kanagawa, Miyagi, Nagano, Tochigi, Tokyo, Toyama, Yamagata and Yamanashi; [2 JMA] in Chiba, Gifu and Shizuoka; [1 JMA] in Aichi, Akita, Aomori, Osaka and Shiga Prefectures. Also recorded [4 JMA] on Sadoga-shima, [2 JMA] on Awa-shima and [1 JMA] on Hegura-jima and Tobi-shima.

*MOS **27** 01:40:51.6±1.1,37.33N×138.89E,h33km,mb5.9/86, MS5.7/30 Error ellipse: s-maj=7.2km s-min=4.3km az=90.5*

ISC 27 01:40:49.7±0.3,**37.31N**±0.02×**138.96E**±0.02,**h20**km±2km, **h14**km±.5km:**pP-P,n968,σ0§97/937,mb5.6**/226,**MS5.5**/160, **101C-61D,Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.07**	**142**	⇑P	**Pb**	**01 40 52.3**	**-1.2**
JIZZ	**Izumozaki**	**0.30**	**318**	⇓P	**Pb**	**01 40 57.8**	**+1.4**
JNS	**Sasagawa**	**0.58**	**29**	⇓P	**Pb**	**01 41 00.8**	**-0.3**
JNS				S	**Sb**	**01 41 08.5**	**-0.4**
JKT	**Katashina**	**0.59**	**157**	⇓P	**Pb**	**01 41 00.6**	**-0.6**
JKT				S	**Sb**	**01 41 08.4**	**-0.7**
JFY	**Yanaizu**	**0.60**	**80**	⇓P	**Pb**	**01 41 00.5**	**-0.9**
JFY				S	**Sb**	**01 41 08.0**	**-1.5**
JJN	**Nakama**	**0.67**	**252**	⇓P	**Pb**	**01 41 03.8**	**+1.3**
JSB	**Shiboa**	**0.84**	**114**	⇓P	**Pb**	**01 41 05.5**	**0.0**
JSD	**Sado**	**0.92**	**323**	⇓P	**Pb**	**01 41 06.8**	**0.0**
JSD				S	**Sb**	**01 41 21.3**	**+2.8**
JAG	**Ashikaga**	**0.97**	**156**	⇓P	**Pb**	**01 41 07.6**	**0.0**
JAG				S	**Sb**	**01 41 21.0**	**+1.0**
MAJO	**Matsushiro**	**0.97**	**218**	*eP*	**Pb**	**01 41 07.6**	**-0.1**
MAT	**Matsushiro**	**0.97**	**218**	P	**Pb**	**01 41 08.1**	**+0.4**
MAT				S	**Sb**	**01 41 21.3**	**+1.1**
MAT	**Matsushiro**	**0.97**	**218**	*eP*	**Pb**	**01 41 08.0**	**+0.3**
MAT				*eS*	**Sb**	**01 41 21.0**	**+0.8**
JFT	**Otama**	**1.12**	**79**	⇓P	**Pb**	**01 41 09.8**	**-0.4**
JNG	**Nsakai**	**1.13**	**218**	⇑P	**Pb**	**01 41 10.9**	**+0.4**
JAW	**Awa shima**	**1.17**	**11**	⇓P	**Pb**	**01 41 10.9**	**-0.2**
JYS	**Shirataka**	**1.27**	**44**	⇑P	**Pn**	**01 41 12.6**	**+0.1**
JSZ	**Suzu**	**1.28**	**277**	⇓P	**Pn**	**01 41 13.1**	**+0.4**
JRY	**Ryogami san**	**1.29**	**182**	⇓P	**Pn**	**01 41 13.1**	**+0.2**
JYA	**Atsumi**	**1.42**	**25**	⇑P	**Pn**	**01 41 14.5**	**-0.2**
JHO	**Hitachi**	**1.47**	**118**	⇓P	**Pn**	**01 41 14.9**	**-0.5**
JTT	**Ttatey**	**1.48**	**242**	⇓P	**Pn**	**01 41 17.5**	**+1.9**
ONAJ	**Iwakimizuishiy**	**1.48**	**97**	⇓P	**Pn**	**01 41 15.7**	**+0.1**
JFK	**Kawauchi**	**1.53**	**87**	⇓P	**Pn**	**01 41 16.4**	**+0.1**
JMM	**Marumori**	**1.56**	**69**	⇑P	**Pn**	**01 41 16.8**	**+0.1**
JNT	**Takato**	**1.57**	**205**	⇑P	**Pn**	**01 41 18.2**	**+1.3**
JGN	**Niukaw**	**1.71**	**231**	⇑P	**Pn**	**01 41 20.1**	**+1.3**
JHG	**Hegura jima**	**1.71**	**289**	P	**Pn**	**01 41 19.1**	**+0.3**
JOU	**Okura**	**1.71**	**51**	⇑P	**Pn**	**01 41 19.4**	**+0.5**
JYK	**Kaneyama**	**1.95**	**34**	⇑P	**Pn**	**01 41 22.7**	**+0.4**
JIO	**Ouri**	**2.21**	**58**	⇑P	**Pn**	**01 41 26.1**	**+0.1**
JRG	**Rokugo**	**2.47**	**32**	P	**Pn**	**01 41 30.3**	**+0.6**
OFUJ	**Ofunato**	**2.77**	**50**	⇑P	**Pn**	**01 41 34.6**	**+0.5**
MIYJ	**Miyakonagasawa**	**3.19**	**44**	P	**Pn**	**01 41 40.7**	**+0.7**
JHJ	**Hachijo jima 2**	**4.23**	**171**	Pn	**Pn**	**01 41 55.8**	**+

KUR smax
comp=N,1μm,1.2s
KUR smax
comp=E,640nm,1.2s
KUR smax
comp=N,6μm,5.0s
KUR smax
comp=E,19μm,5.0s
CBIJ Chichi jima 10.54 164 Pn **P** **01 43 19.0 -3.9**
CBIJ Sn **S** **01 45 21.5 +0.1**
UGL Uglegorsk 11.98 10 *e*P **P** **01 43 39.5 -2.9**
UGL S **S** **01 46 00.0 +3.5**
UGL pmax pmax
comp=Z,5μm,8.0s
UGL pmax pmax
comp=N,4μm,6.0s
UGL pmax pmax
comp=E,2μm,8.0s
UGL pmax pmax
comp=Z,110nm,0.8s
UGL smax
comp=N,5μm,10.0s
UGL smax
comp=E,3μm,10.0s
UGL MLR MLR
comp=N,18μm,15.0s
UGL MLR MLR
comp=E,31μm,15.0s
UGL MLR MLR
comp=Z,27μm,15.0s
CN2 Changchun 12.14 306 ⇓P **P** **01 43 45.0 +0.3**
CN2 *e*XP 01 43 52.0
CN2 *e*S **S** **01 46 01.0 +0.5**
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,66μm,14.0s
SNY Shenyang 12.70 296 ⇓P **P** **01 43 53.3 +1.3**
SNY AP 01 44 04.3
SNY S **S** **01 46 17.3 +3.5**
SNY AMB AMB
comp=Z,270nm,2.3s
DL2 Dalian 13.74 282 *i* PR 01 44 07.5
DL2 S **S** **01 46 45.3 +6.4**
DL2 AMB AMB
comp=Z,220nm,1.2s
DL2 LR LR
comp=N,21μm,11.3s
DL2 LR LR
comp=E,38μm,13.3s
DL2 LR LR
comp=Z,41μm,13.5s
TYV Tymovskoe 13.81 10 *e*P **P** **01 44 04.8 -1.8**
TYV *e*S **S** **01 46 46.0 +5.7**
TYV pmax pmax
comp=Z,851nm,2.0s
TYV pmax pmax
comp=Z,5μm,8.0s
TYV pmax pmax
comp=N,4μm,6.0s
TYV smax
comp=N,14μm,8.0s
TYV MLR MLR
comp=Z,46μm,14.0s
TYV MLR MLR
comp=N,27μm,15.0s
TYV MLR MLR
comp=E,32μm,14.0s
JOW Kunigami 13.81 224 Pn **P** **01 44 13.2 +6.3**
comp=E,2.7nm,0.3s,baz=30,slow=10,SNR=8.2
SSE Sheshan 15.95 252 P **P** **01 44 38.0 +3.3**
SSE AP 01 44 42.3
SSE XP 01 44 44.5
SSE S **S** **01 47 34.0 +3.1**
SSE AMB AMB
comp=Z,463nm,2.5s
SSE AMB AMB
comp=Z,770nm,3.6s
SSE LR LR
comp=N,34μm,15.0s
SSE LR LR
comp=E,13μm,15.0s
SSE LR LR
comp=Z,30μm,12.4s
OKH Okha 16.48 8 *e*P **P** **01 44 38.0 -3.2**
OKH *e*S **S** **01 47 42.0 -1.0**
OKH pmax pmax
comp=Z,5μm,10.0s
OKH smax
comp=E,11μm,9.0s
OKH MLR MLR
comp=Z,25μm,15.0s
NJ2 Nanjing 17.34 258 *e*P **P** **01 44 55.8 +3.5**
NJ2 AP 01 44 59.0
NJ2 XP 01 45 02.3
NJ2 PP PP 01 45 09.5 +2.8
NJ2 S **S** **01 48 14.0 +11**
NJ2 XS 01 48 22.0
NJ2 AMB AMB
comp=Z,200nm,1.1s
TIA Tai'an 17.53 273 *e*P **P** **01 44 57.0 +2.4**
TIA S **S** **01 48 21.0 +14**
TIA AMB AMB
comp=Z,2μm,2.5s
TIA AMB AMB
comp=Z,8μm,9.0s
TIA LR LR
comp=N,3μm,16.0s
TIA LR LR
comp=E,10μm,15.0s
BJI Beijing 17.99 286 *e*P **P** **01 45 01.8 +1.5**
BJI S **S** **01 48 28.0 +10**
BJI PCP PcP 01 49 28.8 -7.1
BJI AMB AMB
comp=Z,289nm,2.0s
BJI AMB AMB
comp=Z,4μm,3.5s
BJI LR LR
comp=Z,13μm,15.2s
BJT Baijiatuau 18.00 286 *e*P **P** **01 45 01.5 +1.1**
BJT pmax pmax
comp=Z,460nm,1.0s
BJT Baijiatuau 18.00 286 *e*P **P** **01 45 01.5 +1.1**
comp=Z,455nm,1.1s
SKR Severo-Kuril's 18.14 37 *e*P **P** **01 45 01.2 -0.9**
SKR *e*S **S** **01 48 11.0 -10**
SKR pmax pmax
comp=E,180nm,1.0s
SKR pmax pmax
comp=Z,220nm,1.0s
SKR pmax pmax
comp=E,7μm,6.0s
SKR pmax pmax
comp=Z,9μm,6.0s
SKR smax
comp=E,11μm,12.0s
SKR MLR MLR
comp=N,11μm,16.0s
SKR MLR MLR
comp=E,14μm,16.0s
SKR MLR MLR
comp=Z,19μm,16.0s
HIA Hailar 18.34 317 *e*P **P** **01 45 04.5 -0.1**
HIA pmax pmax
comp=Z,93nm,0.7s
HIA Hailar 18.34 317 *e*P **P** **01 45 04.5 -0.1**
comp=Z,93nm,0.7s
PET Petropavlovsk 20.86 35 *e*P **P** **01 45 32.3 -0.5**
PET *e*S **S** **01 49 23.3 +3.6**
PET pmax pmax
comp=Z,5μm,9.0s
PET pmax pmax
comp=Z,176nm,1.1s
PET smax
comp=N,10μm,10.0s
PET smax
comp=E,11μm,14.6s
PET MLR MLR
comp=Z,13μm,16.0s,MS5.4
PET Petropavlovsk 20.86 35 *e*P **P** **01 45 31.7 -1.1**
comp=Z,124nm,1.0s
PET LR LR
comp=Z,14μm,20.0s,MS5.3
TIY Taiyuan 21.03 279 PR 01 45 36.0
TIY S **S** **01 49 30.0 +7.1**
QZH Quanzhou 21.30 240 P **P** **01 45 39.0 +1.6**
QZH S **S** **01 49 32.0 +3.8**
QZH LR LR
comp=Z,29μm,13.0s,MS5.8
SARN Sarigan 21.39 162 *e*P **P** **01 45 35.2 -3.2**
WHN Wuhan 21.47 259 P **P** **01 45 39.5 +0.3**
WHN S **S** **01 49 38.0 +6.6**
HHC Hu-ho-hao-te 21.52 288 ⇓P **P** **01 45 39.3 -0.3**
HHC AP 01 45 43.0
HHC XP 01 45 46.5
HHC PP PP 01 46 03.5 -0.6
HHC S **S** **01 49 36.8 +4.5**
HHC PCP PcP 01 49 39.5 -2.8
HHC SCP 01 53 15.5
HHC AMB AMB
comp=Z,3μm,6.2s
HHC LR LR
comp=N,12μm,12.4s,MS5.7
HHC LR LR
comp=E,15μm,11.0s,MS5.7
HHC LR LR
comp=Z,15μm,10.6s,MS5.7
CLNS Chul'man 21.68 339 *e*P **P** **01 45 42.3 +1.3**
CLNS *e* 01 45 59.1
CLNS *e*S **S** **01 49 38.2 +3.2**
CLNS *e* 01 49 40.9
CLNS *e*SS SS 01 50 17.9 +6.0
CLNS pmax pmax
comp=N,36nm,0.9s
CLNS pmax pmax
comp=E,13nm,0.9s
CLNS pmax pmax
comp=Z,77nm,0.9s,mb5.1
CLNS pmax pmax
comp=Z,79nm,1.1s,mb5.1
CLNS pmax pmax
comp=N,52nm,0.9s
CLNS pmax pmax
comp=E,54nm,0.9s
CLNS smax
comp=N,35nm,1.1s
CLNS smax
comp=E,25nm,1.0s
CLNS smax
comp=Z,22nm,1.0s
CLNS MLR MLR
comp=Z,21μm,13.0s,MS5.7
CLNS MLR MLR
comp=N,15μm,12.0s,MS5.8
CLNS MLR MLR
comp=E,18μm,12.0s,MS5.8
BTO Baotou 22.70 287 *e*P **P** **01 45 50.0 -1.3**
BTO AMB AMB
comp=Z,92nm,2.8s,mb4.7
BTO LR LR
comp=N,7μm,9.8s
BTO LR LR
comp=E,19μm,12.6s
MA2 Magadan 23.55 15*c* *i*P **P** **01 46 00.1 +0.8**
MA2 pmax pmax
comp=Z,283nm,1.0s,mb5.7
MA2 MLR MLR
comp=Z,11μm,13.0s,MS5.5
MA2 Magadan 23.55 15 *e*P **P** **01 45 59.1 -0.3**
comp=Z,238nm,1.0s,mb5.6
MA2 LR LR
comp=Z,8μm,19.0s,MS5.2
GUMO Guam 24.20 166 *e*P **P** **01 46 05.1 -1.1**
comp=Z,1μm,1.3s,mb6.2
GUMO LR LR
comp=Z,15μm,20.0s,MS5.5
XAN Xi'an 24.57 271 P **P** **01 46 09.5 0.0**
XAN S **S** **01 50 23.0 -3.4**
XAN AMB AMB
comp=Z,3μm,9.3s
ENH Enshi 25.41 263 *e*P **P** **01 46 15.7 -1.9**
comp=Z,320nm,1.0s,mb5.8
YAK Yakutsk 25.41 350 *e*P **P** **01 46 17.2 -0.1**
YAK *e* 01 46 51.4
YAK *e*S **S** **01 50 38.0 -2.3**
YAK pmax pmax
comp=Z,50nm,0.8s,mb5.1
YAK pmax pmax
comp=N,27nm,0.9s
YAK pmax pmax
comp=E,8.0nm,0.9s
YAK pmax pmax
comp=Z,46nm,1.1s,mb4.9
YAK pmax pmax
comp=N,42nm,1.0s
YAK smax
comp=E,30nm,1.2s
YAK smax
comp=Z,18nm,1.0s
YAK smax
comp=N,34nm,1.1s
YAK MLR MLR
comp=N,15μm,15.0s
YAK MLR MLR
comp=Z,19μm,15.0s,MS5.7
YAK Yakutsk 25.41 350 *e*P **P** **01 46 16.1 -1.2**
comp=Z,131nm,0.9s,mb5.5
YAK LR LR
comp=Z,16μm,21.0s,MS5.5
SONM Songino Array 26.01 304 P **P** **01 46 21.7 -1.3**
comp=Z,32nm,0.9s,mb4.8,baz=106,slow=7.7,SNR=114
SONM PcP PcP 01 49 50.9 -0.7
comp=Z,4.0nm,0.6s,baz=159,slow=3.3,SNR=4.5
SONM ScP 01 53 30.6
comp=Z,7.1nm,1.1s,baz=135,slow=1.7,SNR=7.6
GZH Guangzhou 26.18 244 P **P** **01 46 20.0 -4.8**
GZH S **S** **01 50 50.0 -3.5**
SEY Seymchan 26.94 14 *e*P **P** **01 46 32.4 +1.0**
SEY SS SS 01 52 13.3 -6.1
SEY pmax pmax
comp=N,70nm,0.9s
SEY pmax pmax
comp=Z,230nm,0.9s,mb5.7
SEY MLR MLR
comp=Z,72μm,15.0s,MS6.3
SEY MLR MLR
comp=N,32μm,18.0s,MS6.1
SEY MLR MLR
comp=E,31μm,14.0s,MS6.1
LZH Lanzhou 28.09 278 ⇑P **P** **01 46 41.0 -1.1**
LZH AP pP 01 46 45.8 -2.1
LZH XP sP 01 46 48.5 -2.0
LZH PP PP 01 47 31.0 -1.4
LZH S **S** **01 51 22.3 -2.0**
LZH AMB AMB
comp=Z,357nm,1.6s,mb5.8
LZH AMB AMB
comp=Z,886nm,4.0s
TGY Tagaytay City 28.14 220 P **P** **01 46 41.0 -1.8**
comp=Z,117nm,0.2s,mb6.1,baz=197,slow=14,SNR=2.8
TGY Tagaytay City 28.14 220 P **P** **01 46 41.0 -1.7**
TGY pmax pmax
comp=Z,117nm,0.3s
FX1 Attu Island--F 28.39 46 P **P** **01 46 46.3 +1.7**
comp=Z,54nm,0.5s,mb5.4
FX1 Attu Island--F 28.39 46 P **P** **01 46 46.3 +1.6**
FX1 pmax pmax
comp=Z,54nm,0.5s
IRK Irkutsk 28.47 313 *e*P **P** **01 46 49.9 +4.6**
ZAK Zakamensk 28.57 309 ⇓*e*P **P** **01 46 44.2 -2.0**
SMY Shemya 28.88 46 PFAKE 01 47 00.0 +11
SMY LR LR
comp=Z,4μm,19.0s,MS5.0
GYA Guiyang 29.35 258 ⇑*i*P **P** **01 46 52.0 -1.5**
GYA AP pP 01 46 56.0 -3.4
GYA XP sP 01 47 01.5 -0.5
GYA PP PP 01 47 46.5 -2.4
GYA S **S** **01 51 42.0 -2.6**
GYA AMB AMB
comp=Z,100nm,1.2s,mb5.4
GYA AMB AMB
comp=Z,1μm,6.9s
CD2 Chengdu 29.72 268 P **P** **01 46 55.0 -1.8**
CD2 AP pP 01 46 57.8 -4.9
CD2 PP PP 01 47 51.5 -2.2
CD2 PPP PPP 01 48 03.5 -3.9
CD2 S **S** **01 51 46.8 -3.6**
CD2 AMB AMB
comp=Z,860nm,7.8s
CD2 LR LR
comp=E,16μm,14.4s
WAKE Wake Island 30.12 119 PFAKE 01 47 10.0 +10
WAKE LR LR
comp=Z,23μm,20.0s,MS5.8
GTA Gaotai 30.61 286 P **P** **01 47 02.3 -2.3**
GTA AP pP 01 47 07.0 -3.4
GTA XP sP 01 47 09.5 -3.5
GTA PP PP 01 48 06.0 +0.9
GTA PCP PcP 01 50 02.0 -0.9
GTA S **S** **01 52 03.5 -0.9**
GTA SCP 01 53 43.5
GTA SCS ScS 01 57 38.0 -0.1
GTA LR LR
comp=Z,13μm,16.3s,MS5.7
QIZ Qiongzhong 31.29 242 P **P** **01 47 10.5 -0.2**
QIZ PPP PPP 01 48 25.8 -3.3
QIZ S **S** **01 52 14.5 -0.7**
QIZ AMB AMB
comp=Z,1μm,6.7s
QIZ LR LR
comp=N,16μm,21.8s,MS5.8
QIZ LR LR
comp=E,15μm,20.1s,MS5.8
QIZ LR LR
comp=Z,18μm,12.9s
KMI Kunming 33.08 259 *e*P **P** **01 47 25.8 -0.5**
KMI AP pP 01 47 29.5 -2.7
KMI XP sP 01 47 34.0 -0.8
KMI PP PP 01 48 36.0 -1.3
KMI PPP PPP 01 48 51.0 -2.5
KMI S **S** **01 52 43.0 -0.1**
KMI SCP 01 53 53.3
KMI AMB AMB
comp=Z,63nm,1.2s,mb5.4
KMI AMB AMB
comp=Z,1μm,5.8s
KMI LR LR
comp=Z,16μm,17.0s,MS5.8
BILL Bilibino 34.34 18 *e*P **P** **01 47 36.2 -0.7**
BILL *e* 01 50 12.6
BILL *e*S **S** **01 53 04.3 +2.0**
BILL *e*SS SS 01 55 15.7 +3.1
BILL pmax pmax
comp=Z,31nm,0.9s,mb5.2
BILL MLR MLR
comp=Z,5μm,13.0s,MS5.4
BILL Bilibino 34.34 18 *e*P **P** **01 47 35.7 -1.2**
comp=Z,28nm,0.9s,mb5.2
BILL LR LR
comp=Z,5μm,20.0s,MS5.2
TIXI Tiksi 34.81 354*c* *i*P **P** **01 47 39.8 -1.0**
TIXI *e* 01 50 12.0
TIXI *e*S **S** **01 53 10.3 +0.8**
TIXI pmax pmax
comp=Z,52nm,1.2s,mb5.3
TIXI MLR MLR
comp=Z,13μm,14.0s,MS5.8
TIXI Tiksi 34.81 354 ⇑*i*P **P** **01 47 39.9 -0.9**
TIXI LR LR
comp=Z,7μm,21.0s,MS5.4
MIDW Midway 37.55 91 PFAKE 01 48 20.0 +16
MIDW LR LR
comp=Z,6μm,20.0s,MS5.4
KKTK Khon Kaen 38.09 247 P **P** **01 48 09.0 -0.1**
NANT Nan 38.15 252 P **P** **01 48 08.2 -1.3**
WMQ Urumqi 38.96 296 P **P** **01 48 16.3 +0.2**
WMQ XP sP 01 48 23.3 -1.3
WMQ PP PP 01 49 49.0 -0.5
WMQ PCP PcP 01 50 28.0 +1.0
WMQ S **S** **01 54 13.0 -0.3**
WMQ LR LR
comp=N,7μm,16.0s,MS5.7
WMQ LR LR
comp=E,6μm,17.0s,MS5.7
WMQ LR LR
comp=Z,7μm,17.0s,MS5.5
CMAR Chiang Mai Arr 39.69 253 P **P** **01 48 22.4 0.0**
comp=Z,5.6nm,1.0s,baz=39,slow=9.2,SNR=6.4
CMAR PcP PcP 01 50 30.0 +0.4
comp=Z,10nm,0.9s,baz=23,slow=1.9,SNR=8.4
CMAR ScP 01 54 18.7
comp=Z,1.2nm,0.4s,baz=27,slow=4.0,SNR=4.3
CMAR LR LR 02 05 25.5
comp=Z,5μm,18.5s,baz=55,slow=37
LSA Lhasa 40.23 274 P **P** **01 48 30.0 +3.2**
BDT Bhumibol Dam 40.37 251 P **P** **01 48 30.0 +2.0**
NST Nakhon Sawan 40.50 248 P **P** **01 48 29.0 -0.1**
UNV Unalaska Valle 40.51 48 PFAKE 01 48 40.0 +11
UNV LR LR
comp=Z,9μm,20.0s,MS5.6
NVS Novosibirsk 41.23 314 *e*P **P** **01 48 33.2 -1.5**
NVS *e* 01 57 48.6
NVS pmax pmax
comp=Z,74nm,1.5s,mb5.1
NVS pmax pmax
comp=E,54nm,1.4s
SHL Shillong 41.45 267 ⇑*i*P **P** **01 48 36.0 -0.8**
SHL *e* 01 50 20.0
SHL *e* 01 54 25.2
TNA Tin City 41.59 30 *e*P **P** **01 48 37.5 +0.1**
TNA LR LR
comp=Z,5μm,20.0s,MS5.4
MKAR Makanchi Array 42.31 301 *i* P **P** **01 48 42.2 -1.4**
MKAR pmax pmax
comp=Z,4.0nm,0.6s
AGT Agartala 42.77 266 ⇑*i*P **P** **01 48 47.0 -0.7**
AGT *i* 01 49 22.0
KURK Kurchatov 44.22 308*c* *i*P **P** **01 48 57.2 -1.9**
KURK pmax pmax
comp=Z,132nm,1.6s,mb5.4
KURK Kurchatov 44.22 308 *e*P **P** **01 48 56.2 -2.9**
comp=Z,68nm,0.7s,mb5.5
KURK LR LR
comp=Z,3μm,20.0s,MS5.2
WAU Wau 45.01 169 *e*P **P** **01 49 05.5 -0.4**
GUN Gumba 45.18 274 *e*P **P** **01 49 06.5 -0.6**
comp=Z,368nm,1.0s,mb6.2
PKI Pulchoki 45.70 274 *e*P **P** **01 49 10.8 -0.4**
KKN Kakani 45.71 274 *e*P **P** **01 49 10.8 -0.5**
comp=Z,160nm,0.9s,mb6.0
CAL Calcutta 45.76 266 *e* P **P** **01 49 14.7 +2.9**
CAL *e*S **S** **01 55 51.7 -1.8**
DMN Daman 45.93 274 *e*P **P** **01 49 12.5 -0.5**
comp=Z,418nm,1.6s,mb6.1
GKN Gorkha 46.13 275 *e*P **P** **01 49 13.7 -0.9**
comp=Z,230nm,0.9s,mb6.1
AAA Alma-Ata 46.72 298*d* *i*P **P** **01 49 21.0 +1.9**
AAA *i* 01 51 12.0
AAA *e*S **S** **01 56 08.0 +1.0**
AAA pmax pmax
comp=Z,3μm,4.0s
AAA smax
comp=N,500nm,12.0s
AAA smax
comp=E,2μm,12.0s
KOLN Koldanda 47.05 275 *e*P **P** **01 49 21.0 -0.9**
comp=E,665nm,1.7s,mb6.3
PMG Port Moresby 47.10 169 P **P** **01 49 22.3 -0.2**
comp=E,36nm,0.6s,mb5.5,baz=17,slow=9.0,SNR=10
PMG LR LR 02 08 00.8
comp=E,5μm,18.1s,MS5.5,baz=148,slow=35
PMG Port Moresby 47.10 169 *e*P **P** **01 49 21.3 -1.2**
comp=E,62nm,0.9s,mb5.5
PMG LR LR
comp=Z,4μm,19.0s,MS5.4
IMA Indian Mountai 47.45 31 P **P** **01 49 24.1 -0.5**
IMA pmax pmax
comp=Z,240nm,1.0s,mb6.1
IMA Indian Mountai 47.45 31 *e*P **P** **01 49 24.8 +0.2**
comp=Z,50nm,1.0s,mb5.4
IPM Ipoh 47.56 236 ⇓*e*P **P** **01 49 25.9 -0.2**
TKM2 Tokmak 2 47.77 298 P **P** **01 49 27.7 +0.3**
SNR=53
RSO Redoubt South 47.90 38 *e*P **P** **01 49 28.2 0.0**
KGM Kluang 48.03 232 ⇓*e*P **P** **01 49 30.0 +0.2**
SPU Mount Spurr 48.20 37 *e*P **P** **01 49 30.5 0.0**
KDAK Kodiak Island 48.21 42 *e*P **P** **01 49 28.6 -1.9**
comp=Z,152nm,0.8s,mb6.1
KDAK LR LR
comp=Z,1μm,20.0s,MS4.8
KZA Kyzart 48.25 297 P **P** **01 49 32.4 +1.2**
SNR=11
KBK Karagaybulak 48.30 297 P **P** **01 49 31.9 +0.4**
SNR=43
CHMS Chumysh 48.35 298 P **P** **01 49 31.8 -0.1**
SNR=12
USP Ospenovka 48.45 298 P **P** **01 49 32.0 -0.6**

SNR=20
FRU Bishkek 48.49 298 *e*P **P** **01 49 33.0 +0.1**
FRU *e* 01 50 54.0
FRU *e*S **S** **01 56 30.0 -1.9**
FRU pmax pmax
comp=Z,520nm,2.0s,mb6.2
FRU MLR MLR
comp=E,20nm,16.0s
KSH Kashi 48.50 293 *i* P **P** **01 49 35.0 +1.9**
KSH AP pP 01 49 40.0 +0.9
KSH XP sP 01 49 42.3 +0.8
KSH *e*PCP PcP 01 51 00.8 +1.5
KSH *e*SCP 01 54 52.0
KSH *e*PCS 01 54 54.5
KSH S **S** **01 56 36.8 +4.7**
KSH XS 01 56 43.5
KSH SCS ScS 01 59 25.0 +3.0
KSH *e*SS SS 02 00 01.8 +4.5
AAK Ala-Archa 48.63 297 P **P** **01 49 33.9 -0.1**
SNR=18
AAK Ala-Archa 48.63 297*c* *i*P **P** **01 49 31.7 -2.3**
AAK pmax pmax
comp=Z,146nm,2.5s,mb5.6
AAK MLR MLR
comp=Z,17µm,15.0s,MS6.2
AAK Ala-Archa 48.63 297⇑ *e*P **P** **01 49 32.7 -1.3**
comp=Z,362nm,2.1s,mb6.0
AAK LR LR
comp=Z,1µm,22.0s,MS4.9
UCH Uchtor 48.73 297 P **P** **01 49 35.5 +0.7**
SNR=27
BVA0 Borovoye Array 48.93 312 *i* P **P** **01 49 35.1 -1.1**
BVA0 pmax pmax
comp=Z,2.0nm,0.9s
BVAR Borovoye Array 48.93 312 P **P** **01 49 35.2 -1.0**
comp=Z,42nm,0.8s,mb5.5,baz=90,slow=8.9,SNR=64
BVAR PcP PcP 01 51 00.5 -0.2
comp=Z,11nm,0.4s,baz=112,slow=3.1,SNR=12
PTH Pithoragarh 48.96 279 *e*P **P** **01 49 34.3 -2.4**
LGTI Lohaghat 48.98 279⇓ *i*P **P** **01 49 38.3 +1.4**
BRVK Borovoye 48.99 312 *e*P **P** **01 49 35.5 -1.2**
comp=Z,57nm,1.0s,mb5.5
BRVK LR LR
comp=Z,2µm,20.0s,MS5.1
FIB Fire Island 49.12 37 PFAKE 01 49 50.0 +13
FIB LR LR
comp=Z,3µm,19.0s,MS5.3
EKS2 Erkin-Say 49.13 298 P **P** **01 49 37.7 -0.2**
SNR=16
SLKM Skilak Lake 49.15 38 P **P** **01 49 36.4 -1.4**
SLKM Skilak Lake 49.15 38 *e*P **P** **01 49 36.0 -1.8**
AML Almayashu 49.34 297 P **P** **01 49 40.4 +0.8**
SNR=28
MCK McKinley 49.50 34 *e*P **P** **01 49 39.4 -1.0**
comp=Z,35nm,1.1s,mb5.3
MCK LR LR
comp=Z,2µm,20.0s,MS5.1
PMR Palmer 49.58 37 *e*P **P** **01 49 40.2 -0.9**
comp=Z,86nm,1.0s,mb5.7
COLA College 49.90 32 *i* P **P** **01 49 43.1 -0.4**
COLA College 49.90 32 *e*P **P** **01 49 43.2 -0.3**
comp=Z,34nm,0.8s,mb5.4
SML Sawmill 49.93 36 *e*P **P** **01 49 43.1 -0.7**
KAKA Kakadu 50.12 188 *e*P **P** **01 49 49.6 +3.8**
comp=Z,79nm,0.8s,mb5.8
ILAR Eielson Array 50.31 32 P **P** **01 49 45.4 -1.3**
comp=Z,23nm,0.7s,mb5.3,baz=276,slow=5.4,SNR=152
ILAR LR LR 02 14 42.4
comp=Z,3µm,18.0s,MS5.3,baz=304,slow=40
ILAR Eielson Array 50.31 32 P **P** **01 49 45.4 -1.3**
ILAR pmax pmax
comp=Z,23nm,0.7s
ILAR MLR MLR
comp=Z,3µm,18.0s
DDI Dehra Dun 50.33 281 *e*P **P** **01 49 46.0 -1.2**
BLSP Bilaspur 50.91 269 *e*P **P** **01 49 51.2 -0.5**
BLSP *e*S **S** **01 57 06.5 +0.7**
THY Trims Highway 50.94 34 *e*P **P** **01 49 50.5 -1.0**
BHK Bhakra 51.14 283 *e* **P** **01 50 01.0 +7.6**
DIV Divide 51.24 37⇑ *e*P **P** **01 49 53.5 -0.2**
comp=Z,171nm,0.7s,mb6.1
DIV LR LR
comp=Z,7µm,20.0s,MS5.7
EYAK Cordova Ski Ar 51.34 38 *e*P **P** **01 49 54.2 -0.3**
NDI New Delhi 51.70 280 *e*P **P** **01 49 55.0 -2.6**
NDI *e* 01 57 14.0
VIS Vishakhapatnam 52.29 264 *e*P **P** **01 50 01.5 -0.8**
SVE Sverdlovsk 53.64 318⇑ *i*P **P** **01 50 10.5 -1.2**
SVE *i* S **S** **01 57 41.0 -1.6**
SVE pmax pmax
comp=Z,1µm,2.4s,mb6.4
SVE pmax pmax
comp=Z,4µm,8.0s
SVE smax
comp=N,700nm,7.0s
SVE smax
comp=E,5µm,7.0s
SVE MLR MLR
comp=Z,22µm,15.0s,MS6.3
SVE MLR MLR
comp=N,6µm,14.0s,MS6.2
SVE MLR MLR
comp=E,13µm,14.0s,MS6.2
NGP Nagpur 53.87 270 *e*P **P** **01 50 12.6 -1.3**
NGP *e*S **S** **01 57 48.1 +1.9**
AJM Ajmer 54.73 278 *e*P **P** **01 50 19.0 -1.2**
AJM *e* 01 50 20.8
comp=Z,104nm,0.9s
ARU Arti 54.85 318⇑ *i*P **P** **01 50 19.2 -1.4**
ARU *i* 01 51 19.2
ARU *i* PPP PPP 01 53 30.4 -6.8
ARU *i* S **S** **01 58 01.2 +2.3**
ARU *e* 02 00 06.4
ARU pmax pmax
comp=Z,172nm,0.8s,mb6.1
ARU MLR MLR
comp=Z,11µm,16.5s,MS6.0
ARU MLR MLR
comp=N,2µm,16.0s,MS6.0
ARU MLR MLR
comp=E,10µm,17.0s,MS6.0
INK Inuvik 55.04 27 P **P** **01 50 20.9 -0.9**
comp=E,30nm,0.6s,mb5.5,baz=286,slow=6.3,SNR=45
INK LR LR 02 15 28.5
comp=E,5µm,19.6s,MS5.6,baz=280,slow=38
INK Inuvik 55.04 27 P **P** **01 50 20.9 -0.9**
INK pmax pmax
comp=Z,30nm,0.6s
INK MLR MLR
comp=Z,5µm,19.6s
INK Inuvik 55.04 27 *e*P **P** **01 50 20.8 -1.0**
comp=Z,33nm,0.7s,mb5.5
AKL Akola 55.72 271⇑ *i* **P** **01 50 34.3 +6.9**
comp=Z,250nm,2.0s,mb5.9
AKL *i* 01 50 56.6
HYB Hyderabad 56.26 267 *i* P **P** **01 50 30.5 -0.8**
HYB *e*PcP PcP 01 51 36.5 +7.9
HYB *e*PP PP 01 52 37.0 -1.2
HYB *e*S **S** **01 58 20.0 +1.8**
HYB *e* 01 58 40.0
HYB *e*ScS ScS 02 00 16.0 +0.1
HYB *e*SS SS 02 02 12.0 +6.6
HYB LR LR 02 18 02.0
comp=Z,5.4nm,16.0s
HYB Hyderabad 56.26 267 *e*P **P** **01 50 30.5 -0.8**
HYB *e*S **S** **01 58 20.0 +1.8**
FITZ Fitzroy Crossi 56.52 195 *e*P **P** **01 50 31.3 -1.9**
comp=Z,99nm,1.1s,mb5.8
FITZ *e*S **S** **01 58 24.3 +2.5**
WRAB Tennant Creek 57.10 185 P **P** **01 50 35.0 -2.3**
comp=Z,937nm,1.0s,SNR=40
WRAB Tennant Creek 57.10 185⇑ *e*P **P** **01 50 35.0 -2.4**
WRAB LR LR
comp=Z,894nm,22.0s,MS4.8
WB2 Warramunga Arr 57.11 185 *e*P **P** **01 50 36.1 -1.3**
WB2 *e* 01 51 58.6
WB2 *e*S **S** **01 58 27.8 -1.6**
WRA Warramunga Arr 57.11 185 P **P** **01 50 34.7 -2.6**
comp=Z,101nm,0.8s,mb5.9,baz=1.5,slow=7.5,SNR=64
WRA PcP PcP 01 51 31.8 -0.1
comp=Z,34nm,1.1s,baz=354,slow=4.2,SNR=5.2
WRA S **S** **01 58 30.6 +1.2**
comp=Z,5.0nm,1.3s,baz=7.3,slow=13,SNR=8.0
WRA LR LR 02 14 27.9
comp=Z,2µm,20.5s,MS5.2,slow=35
WRA PKPPKP 02 20 25.3
comp=Z,1.2nm,1.1s,baz=157,slow=3.2,SNR=3.3
WRA PKP2bc 02 20 37.8
comp=Z,1.6nm,0.8s,baz=178,slow=2.2,SNR=7.2
WRA PKP2ab 02 20 49.2
comp=Z,2.6nm,0.9s,baz=187,slow=1.9,SNR=5.2
WRA Warramunga Arr 57.11 185 P **P** **01 50 34.7 -2.6**
WRA PcP PcP 01 51 31.8 -0.1
WRA S **S** **01 58 30.6 +1.2**
WRA LR LR 02 14 27.9
WRA P'P' 02 20 25.3
WRA ⇑*e* 02 20 37.8
WRA P'P'ab 02 20 49.2
LATR Latur 57.30 269 *e*P **P** **01 50 40.5 +1.8**
MDRS Chennai 57.38 261 *e* **P** **01 50 41.0 +1.7**
MDRS *e* 01 58 41.0
SIT Sitka 57.45 40 *e*P **P** **01 50 39.9 +0.6**
comp=Z,100nm,1.0s,mb5.8
SIT LR LR
comp=Z,2µm,20.0s,MS5.3
CTA Charters Tower 57.50 172 *e*P **P** **01 50 39.0 -1.1**
comp=Z,17nm,0.8s,mb5.1
CTA *e*PP PP 01 52 50.9 +1.5
CTA *e*S **S** **01 58 35.0 +0.4**
CTA Charters Tower 57.50 172 P **P** **01 50 39.0 -1.2**
comp=Z,16nm,0.7s,mb5.2,baz=345,slow=7.7,SNR=20
CTA LR LR 02 12 16.9
comp=Z,3µm,21.5s,MS5.4,baz=355,slow=33
CTAO Charters Tower 57.50 172⇑ *e*P **P** **01 50 37.8 -2.4**
comp=Z,67nm,1.3s,mb5.5
CTAO LR LR
comp=Z,3µm,21.0s,MS5.4
POHA Pohakuloa 59.06 88 *e*P **P** **01 50 51.8 +0.8**
comp=Z,235nm,1.1s,mb6.1
POHA LR LR
comp=Z,3µm,20.0s,MS5.4
DLBC Dease Lake 59.61 38 P **P** **01 50 54.5 +0.2**
comp=Z,14nm,0.6s,mb5.2,baz=279,slow=5.2,SNR=28
DLBC Dease Lake 59.61 38 *e*P **P** **01 50 54.6 +0.3**
KAD Karad 59.80 269 *e*P **P** **01 50 56.0 -0.1**
BHJ Bhuj 60.26 278 *e*P **P** **01 50 59.0 -0.2**
BHJ *e* 01 51 02.3
comp=Z,62nm,1.0s
ASAR Alice Springs 60.83 185 P **P** **01 51 01.8 -1.4**
comp=Z,30nm,0.8s,mb5.5,baz=12,slow=6.3,SNR=112
ASAR LR LR 02 16 46.3
comp=Z,2µm,20.2s,MS5.3,baz=359,slow=36
ASAR PKPPKP 02 20 21.5
comp=Z,1.1nm,0.9s,baz=177,slow=5.4,SNR=5.3
ASAR PKP2bc 02 20 28.9
comp=Z,3.2nm,0.9s,baz=178,slow=3.5,SNR=7.7
ASAR PKP2ab 02 20 40.5
comp=Z,4.2nm,1.0s,baz=166,slow=3.0,SNR=8.2
ASAR Alice Springs 60.83 185 P **P** **01 51 01.8 -1.4**
ASAR LR LR 02 16 46.3
ASAR P'P' 02 20 21.5
ASAR ⇑*e* 02 20 28.9
ASAR P'P'ab 02 20 40.5
ASPA Alice Springs 60.83 185 *e*P **P** **01 51 02.0 -1.1**
ASPA *e*S **S** **01 59 20.2 +2.4**
MBWA Marble Bar 60.91 201 *e*P **P** **01 51 02.3 -1.4**
MBWA LR LR
comp=Z,2µm,20.0s,MS5.2
LVZ Lovozero 61.05 335⇓ *i*P **P** **01 51 02.8 -1.2**
LVZ *e*S **S** **01 59 20.1 +0.1**
LVZ pmax pmax
comp=Z,93nm,1.6s,mb5.7
LVZ smax
comp=E,3µm,10.7s
LVZ smax
comp=Z,2µm,10.9s
LVZ MLR MLR
comp=Z,8µm,18.0s,MS5.9
LVZ MLR MLR
comp=N,4µm,22.0s,MS5.8
LVZ MLR MLR
comp=E,6µm,19.0s,MS5.8
GOA Goa 61.09 268 *e*P **P** **01 51 04.4 -0.6**
GOA *e*S **S** **01 59 22.8 +1.6**
APA Apatity 61.62 335⇑ *i*P **P** **01 51 06.5 -1.4**
APA *i* 01 51 50.7
APA *i* 01 53 21.0
APA *i* PPP PPP 01 54 53.0 -1.5
APA *i* S **S** **01 59 29.0 +1.7**
APA *i* SS SS 02 03 29.0 -1.4
APA pmax pmax
comp=Z,81nm,1.0s,mb5.8
APA pmax pmax
comp=Z,2µm,9.0s
MNGI Mangalore 61.74 265 *i* P **P** **01 51 08.4 -1.0**
MNGI *i* S **S** **01 59 29.5 0.0**
KEV Kevo 62.48 339 *e*p **P** **01 51 11.9 -1.7**
comp=Z,2.8nm,0.4s,mb4.8
KEV Kevo 62.48 339 *e*P **P** **01 51 11.9 -1.7**
KEV pmax pmax
comp=Z,3.0nm,0.4s,mb4.8
TRD Trivandrum 62.68 259 *e*P **P** **01 51 14.3 -1.4**
TRD *e* 01 51 16.3
comp=Z,59nm,0.9s
RES Resolute Bay 62.82 14 *e*P **P** **01 51 13.3 -2.5**
RES pmax pmax
comp=Z,67nm,0.9s,mb5.8
RES Resolute Bay 62.82 14 *e*P **P** **01 51 13.3 -2.5**
comp=Z,67nm,0.9s,mb5.8
ARCES ARCESS Array B 63.04 339 P **P** **01 51 15.8 -1.5**
comp=Z,21nm,0.7s,mb5.4,baz=56,slow=6.2,SNR=54
ARCES PKP2bc 02 20 19.8
comp=Z,6.3nm,0.9s,baz=236,slow=4.4,SNR=4.8
ARCES LR LR 02 22 07.8
comp=Z,6µm,18.0s,MS5.8,baz=59,slow=39
ARCES ARCESS Array B 63.04 339 P **P** **01 51 15.8 -1.5**
ARCES ⇑*e* 02 20 19.8
ARCES LR LR 02 22 07.8
COCO West Island 63.15 227 PFAKE 01 51 30.0 +11
COCO LR LR
comp=Z,414nm,19.0s,MS4.6
BBB Bella Bella 63.23 44 P **P** **01 51 18.1 -0.7**
comp=Z,15nm,0.8s,mb5.2,baz=284,slow=4.4,SNR=7.7
KTK1 Kautokeino 64.00 339 *e*P **P** **01 51 23.6 +0.1**
KTK1 AMb AMB 01 51 29.0
comp=Z,158nm,1.4s,mb5.9
KTK1 Kautokeino 64.00 339 *e*P **P** **01 51 23.6 +0.1**
comp=Z,158nm,1.4s,mb5.8
NOUC Port Laguerre 64.46 152 *e*P **P** **01 51 27.7 +0.4**
NOUC Port Laguerre 64.46 152 *e*P **P** **01 51 27.7 +0.4**
YKW3 Yellowknife Ar 64.51 29 *e*P **P** **01 51 26.4 -0.5**
YKA Yellowknife Ar 64.55 30 P **P** **01 51 26.2 -1.0**
comp=Z,13nm,0.7s,mb5.1,baz=302,slow=6.7,SNR=20
YKA LR LR 02 23 53.1
comp=Z,1µm,18.0s,MS5.2,baz=285,slow=40
YKA Yellowknife Ar 64.55 30 P **P** **01 51 26.2 -1.0**
YKA pmax pmax
comp=Z,13nm,0.7s
YKA MLR MLR
comp=Z,1µm,18.0s
YKA Yellowknife Ar 64.55 30 P **P** **01 51 26.2 -1.0**
YKA LR LR 02 23 53.0
JOF Joensuu 64.79 331 *e*p **P** **01 51 26.5 -2.2**
comp=Z,7.2nm,0.4s,mb5.1
JOF Joensuu 64.79 331 *e*P **P** **01 51 26.5 -2.2**
JOF pmax pmax
comp=Z,7.0nm,0.4s,mb5.0
DAG Danmarks Havn 65.32 354⇑ *i*P **P** **01 51 30.6 -1.4**
comp=Z,98nm,1.4s,mb5.6
MOS Moscow 65.85 323 *i* P **P** **01 51 35.7 0.0**
MOS *e**PP pP 01 51 42.8 +0.9
MOS *e* 01 52 01.6
MOS *e* 01 54 01.6
MOS *e*PPP PPP 01 55 36.3 -1.5
MOS *e*S S 02 00 21.6 +1.6
MOS *e* 02 01 27.5
MOS pmax pmax
comp=Z,2µm,3.1s
MOS pmax pmax
comp=N,1µm,4.3s
MOS pmax pmax
comp=E,1µm,4.5s
MOS pmax pmax
comp=Z,337nm,1.6s,mb6.1
MOS pmax pmax
comp=N,142nm,1.5s
MOS smax
comp=E,5µm,8.0s
MOS MLR MLR
comp=Z,21µm,14.5s,MS6.5
MOS MLR MLR
comp=E,17µm,14.0s
OBN Obninsk 66.69 322*c* *i*P **P** **01 51 39.7 -1.3**
OBN *e* 01 51 49.9
OBN *e* 01 52 08.5
OBN *e* 01 54 03.7
OBN *e*S S 02 00 30.2 0.0
OBN *e*SS SS 02 04 48.6 -1.0
OBN pmax pmax
comp=Z,260nm,1.9s,mb5.9
OBN MLR MLR
comp=Z,10µm,14.0s,MS6.2
OBN Obninsk 66.69 322 *e*P **P** **01 51 39.3 -1.8**
comp=Z,574nm,1.8s,mb6.3
OBN LR LR
comp=Z,1µm,21.0s,MS5.1
MAK Makhachkala 66.74 307*c* *i*P **P** **01 51 42.0 +0.4**
MAK *i* 01 52 10.0
MAK *e*PPP PPP 01 55 45.0 -1.9
MAK *i*S S 02 00 32.0 +1.1
MAK *e*PS PS 02 01 10.0 +14
MAK *i* 02 01 34.0
MAK pmax pmax
comp=Z,4µm,7.0s
MAK smax
comp=N,4µm,9.0s
MAK smax
comp=E,4µm,9.0s
PUL Pulkovo 66.95 329⇓ *e*P **P** **01 51 42.4 -0.2**
PUL *e*S S 02 00 31.0 -2.2
PUL *e*SS SS 02 04 47.4 -6.2
PUL pmax pmax
comp=Z,126nm,1.0s,mb5.9
PUL pmax pmax
comp=N,89nm,1.1s
PUL pmax pmax
comp=E,127nm,1.0s
PUL smax
comp=E,2µm,4.5s
VOR Voronezh 67.14 318⇑ *i*P **P** **01 51 43.3 -0.6**
VOR *e*S S 02 00 36.5 +0.9
VOR pmax pmax
comp=N,180nm,2.6s
VOR pmax pmax
comp=E,250nm,2.6s
VOR pmax pmax
comp=Z,600nm,2.6s,mb6.2
VOR smax
comp=N,200nm,3.0s
VOR smax
comp=E,220nm,3.0s
VOR smax
comp=Z,170nm,3.0s
KAF Kangasniemi 67.16 332 *e*p **P** **01 51 42.1 -1.8**
comp=Z,5.9nm,0.4s,mb5.0,baz=50,slow=6.0
PGC Sidney 67.55 45 *e*P **P** **01 51 46.2 -0.4**
comp=Z,82nm,0.7s,mb5.9
OCWA Octopus Mounta 67.60 46 *e*P **P** **01 51 48.4 +1.4**
comp=Z,64nm,1.0s,mb5.6
OCWA LR LR
comp=Z,3µm,21.0s,MS5.4
FINES FINESS Array B 67.65 331 P **P** **01 51 45.5 -1.5**
comp=Z,61nm,0.9s,mb5.7,baz=72,slow=6.0,SNR=74
FINES LR LR 02 23 29.9
comp=Z,4µm,20.1s,MS5.7,baz=225,slow=38
FINES FINESS Array B 67.65 331 P **P** **01 51 45.5 -1.5**
FINES pmax pmax
comp=Z,61nm,0.9s
FINES MLR MLR
comp=Z,4µm,20.1s
MELS Mels 68.12 340 *e*P **P** **01 51 48.5 -1.4**
MOR8 Moi Rana 68.42 339 *e*P **P** **01 51 49.3 -2.4**
MOR8 AMb AMB 01 51 51.6
comp=Z,132nm,1.1s,mb5.9
MOR8 Moi Rana 68.42 339 *e*P **P** **01 51 49.3 -2.4**
comp=Z,132nm,1.1s,mb5.9
GNW Green Mountain 68.48 46 *e*P **P** **01 51 52.6 +0.2**
FORT Forrest 68.50 190 *e*P **P** **01 51 49.7 -3.1**
comp=Z,646nm,0.7s
FORT *e*S S 02 00 53.6 +1.4
RPW Rockport 68.75 45 *e*P **P** **01 51 53.5 -0.6**
AFI Afiamalu 68.83 128 PFAKE 01 52 10.0 +15
AFI LR LR
comp=Z,4µm,20.0s,MS5.6
STKA Stephens Creek 68.87 178 *e*P **P** **01 51 54.2 -0.9**
comp=Z,38nm,0.9s,mb5.3
STKA *e*S S 02 00 58.2 +1.6
STKA Stephens Creek 68.87 178 P **P** **01 51 54.6 -0.5**
comp=Z,41nm,0.8s,mb5.4,baz=345,slow=6.9,SNR=40
STKA LR LR 02 20 39.5
comp=Z,4µm,21.0s,MS5.6,baz=360,slow=35
RMW Rattlesnake Mo 69.12 46 *e*P **P** **01 51 56.7 +0.3**
RMW Rattlesnake Mo 69.12 46 *e*P **P** **01 51 56.5 +0.1**
TI2 Plekhanov 69.12 307⇑ *i*P **P** **01 51 56.6 +0.1**
TI2 *i* S S 02 01 00.6 +1.2
TI2 MLR MLR
comp=N,4µm,15.0s,MS6.1
TI2 MLR MLR
comp=E,7µm,15.0s,MS6.1
TI2 MLR MLR
comp=Z,16µm,15.0s,MS6.4
VSU Vasula 69.21 329 *i* P **P** **01 51 55.7 -1.0**
KV Kislovodsk 69.24 310 *e*P **P** **01 51 55.5 -1.7**
KIV *e* 01 52 07.0
KIV *e* 01 54 24.6
KIV *e*S S 02 01 00.9 +0.1
KIV *e*SS SS 02 05 27.8 -1.5
KIV pmax pmax
comp=Z,230nm,1.2s,mb6.0
KIV MLR MLR
comp=Z,6µm,14.0s,MS6.0
KIV Kislovodsk 69.24 310 *e*P **P** **01 51 56.2 -0.9**
comp=Z,244nm,1.2s,mb6.0
LON Longmire 69.50 46 *e*P **P** **01 51 57.6 -1.1**
JMIC Jan Mayen 69.52 349 LR LR 02 23 53.3
comp=Z,1µm,18.6s,MS5.3,baz=100,slow=37
NLW Nelson Butte 69.61 45 *e*P **P** **01 51 59.2 -0.1**
COR Corvallis 69.79 49 *e*P **P** **01 52 01.5 +1.0**
comp=Z,104nm,0.9s,mb5.8
COR LR LR
comp=Z,350nm,19.0s,MS4.6
GNI Garni 69.96 306 P **P** **01 52 02.7 +1.1**
comp=Z,69nm,1.1s,mb5.5,baz=208,slow=3.3,SNR=30
GNI LR LR 02 25 20.1
comp=Z,4µm,18.4s,MS5.7,baz=133,slow=38
GNI Garni 69.96 306*c* *i*P **P** **01 52 01.4 -0.2**
GNI pmax pmax
comp=Z,214nm,1.3s
GNI MLR MLR
comp=Z,3µm,14.0s
GNI Garni 69.96 306 *e*P **P** **01 52 02.2 +0.6**
comp=Z,232nm,1.4s,mb5.9
GNI LR LR
comp=Z,4µm,19.0s,MS5.7
SSOR Sweet Springs 70.15 48 P **P** **01 52 03.7 +1.0**
SSOR Sweet Springs 70.15 48 *e*P **P** **01 52 03.2 +0.6**
NSS Namsos 70.32 338 *e*P **P** **01 52 01.0 -2.4**
NSS AMb AMB 01 52 03.5
comp=Z,57nm,1.3s,mb5.3
NSS Namsos 70.32 338 *e*P **P** **01 52 01.0 -2.4**
comp=Z,57nm,1.3s,mb5.3
EDM Edmonton 70.34 37 *e*P **P** **01 52 02.7 -1.0**
SUMG Summit 70.40 359 *e*P **P** **01 52 03.1 -0.7**
comp=Z,112nm,0.9s,mb5.8
HSO Harness Mounta 70.49 50 P **P** **01 52 06.6 +1.8**
HSO Harness Mounta 70.49 50 *e*P **P** **01 52 04.9 +0.1**
DPW Davenport 70.92 44 P **P** **01 52 07.1 -0.2**
DPW Davenport 70.92 44 *e*P **P** **01 52 06.9 -0.4**
HAWA Hanford 71.01 46 *e*P **P** **01 52 07.9 0.0**
comp=Z,92nm,1.4s,mb5.5
HAWA LR LR
comp=Z,1µm,20.0s,MS5.2
HUMO Hull Mountain 71.08 51 *e*P **P** **01 52 08.6 +0.2**
comp=Z,65nm,1.4s,mb5.4
HUMO LR LR
comp=Z,2µm,19.0s,MS5.3
IZAR Zarasai 71.11 327 *e*P **P** **01 52 07.1 -1.2**
IZAR AMPb AMB 01 52 10.4
comp=Z,33nm,0.8s,mb5.3
IDID Didziasalis 71.17 326 *e*P **P** **01 52 07.7 -1.0**
IDID AMPb AMB 01 52 10.8
comp=Z,36nm,0.9s,mb5.3
MNK Minsk 71.18 325 *e*P **P** **01 52 07.0 -1.8**
MNK *e*S S 02 01 22.0 -1.3
MNK pmax pmax

comp=Z,490nm,0.9s,mb6.4
MNK pmax pmax
comp=E,360nm,1.5s
MNK MLR MLR
comp=E,12µm,12.0s
MNK MLR MLR
comp=Z,12µm,14.0s,MS6.3
SOC Sochi 71.25 311 *i* P **P** **01 52 08.3 -1.1**
SOC *e* 01 52 24.0
SOC *e*PPP PPP 01 56 26.7 -4.0
SOC *e*S S 02 01 23.2 -1.1
SOC *e* 02 02 07.9
SOC pmax pmax
comp=Z,93nm,1.3s,mb5.5
SOC pmax pmax
comp=N,6.0nm,0.8s
SOC pmax pmax
comp=E,25nm,1.4s
SOC pmax pmax
comp=Z,2µm,3.2s
SOC pmax pmax
comp=N,639nm,2.5s
SOC pmax pmax
comp=E,508nm,2.4s
SOC smax
comp=N,602nm,7.3s
SOC smax
comp=E,2µm,5.7s
SOC MLR MLR
comp=E,3µm,13.0s,MS6.0
SOC MLR MLR
comp=Z,4µm,13.0s,MS5.8
SOC MLR MLR
comp=N,4µm,14.0s,MS6.0
BCA Borcka 71.25 308 *e*P **P** **01 52 07.2 -2.2**
ISAL Salakas 71.28 326 *e*P **P** **01 52 08.4 -0.9**
ISAL AMPb AMB 01 52 11.6
comp=Z,63nm,1.0s,mb5.5
NEW Newport 71.29 43 P **P** **01 52 09.3 -0.2**
comp=Z,41nm,0.6s,mb5.5,baz=309,slow=4.7,SNR=71
NEW Newport 71.29 43 *e*P **P** **01 52 08.9 -0.6**
comp=Z,67nm,0.9s,mb5.6
NEW LR LR
comp=Z,2µm,20.0s,MS5.4
KLBR Kellerberrin 71.35 199 *e*P **P** **01 52 08.4 -1.8**
comp=Z,93nm,0.9s,mb5.7
IIGN Ignalina 71.38 326 *e*P **P** **01 52 08.9 -1.0**
IIGN AMPb AMB 01 52 12.1
comp=Z,41nm,0.9s,mb5.4
AGRT Agri 71.39 306 *e*P **P** **01 52 11.0 +0.7**
SCO Scoresbysund 71.63 353 *i* P **P** **01 52 11.3 +0.1**
comp=Z,22nm,0.9s,mb5.1
SCO *i* S S 02 01 34.2 +5.9
VANB Van 71.68 305 *e*P **P** **01 52 12.9 +0.8**
TVAN Van 71.71 305 *i* P **P** **01 52 13.5 +1.3**
YBH Yreka Blue Hor 71.72 51 P **P** **01 52 12.9 +0.6**
comp=Z,19nm,0.6s,mb5.2,baz=337,slow=2.8,SNR=29
YBH Yreka Blue Hor 71.72 51 *e*P **P** **01 52 12.4 +0.2**
comp=Z,128nm,1.5s,mb5.6
YBH LR LR
comp=Z,1µm,20.0s,MS5.2
ADE Adelaide 71.91 180 P **P** **01 52 12.3 -1.2**
ANN Anapa 71.92 313*d* *i*P **P** **01 52 11.0 -2.4**
ANN *e* 01 52 32.7
ANN *e* 01 54 52.7
ANN *e*PPP PPP 01 56 37.0 +0.2
ANN *e*S S 02 01 32.5 +0.5
ANN *e* 02 02 01.9
ANN *e*SP SP 02 02 14.0 +11
ANN pmax pmax
comp=E,31nm,1.3s
ANN pmax pmax
comp=Z,186nm,1.3s,mb5.9
ANN pmax pmax
comp=N,29nm,1.2s
ANN pmax pmax
comp=Z,756nm,7.4s
ANN pmax pmax
comp=N,288nm,10.0s
ANN pmax pmax
comp=E,171nm,6.8s
ANN smax
comp=N,1µm,10.6s
ANN smax
comp=Z,808nm,9.4s
ANN smax
comp=E,2µm,10.2s
LNOR Lincton Mounta 72.02 46 *e*P **P** **01 52 14.0 +0.1**
MUN Mundaring 72.13 200 *e*P **P** **01 52 13.2 -1.7**
comp=E,38nm,1.3s,mb5.2
MUN *e*S S 02 01 35.4 +0.8
ERZM Erzurum 72.27 307 *i* P **P** **01 52 15.9 +0.3**
EZM Erzurum 72.27 307 *e*P **P** **01 52 15.2 -0.3**
WDC Whiskeytown Da 72.47 52 *e*P **P** **01 52 16.7 0.0**
comp=E,65nm,1.3s,mb5.4
WDC LR LR
comp=Z,1µm,21.0s,MS5.2
WALA Waterton Lakes 72.54 41 *e*P **P** **01 52 16.7 -0.2**
comp=Z,46nm,1.0s,mb5.4
VRT Varto 72.59 306 *e*P **P** **01 52 18.6 +1.1**
NWAO Narrogin (SRO) 72.75 199 P **P** **01 52 18.1 -0.5**
comp=Z,81nm,0.8s,mb5.7,baz=29,slow=5.6,SNR=38
NWAO Narrogin (SRO) 72.75 199 *e*P **P** **01 52 16.5 -2.1**
comp=Z,221nm,1.3s,mb5.9
NWAO LR LR
comp=Z,1µm,20.0s,MS5.2
AKASG Malin Array Be 72.87 321 P **P** **01 52 17.6 -1.3**
comp=Z,87nm,0.9s,mb5.7,baz=45,slow=6.1,SNR=151
AKASG LR LR 02 27 09.3
comp=Z,11µm,18.1s,MS6.2,baz=50,slow=38
AKASG Malin Array Be 72.87 321 P **P** **01 52 17.6 -1.2**
AKASG pmax pmax
comp=Z,87nm,0.9s
AKASG MLR MLR
comp=Z,11µm,18.1s
HOPS Hopland 73.02 54 PFAKE 01 52 30.0 +10
HOPS LR LR
comp=Z,3µm,20.0s,MS5.6
DOMB Dombas 73.07 338 *e*P **P** **01 52 20.4 +0.6**
DOMB *e*pP pP 01 52 23.9 -2.1
DOMB AMb AMB 01 52 25.7
comp=Z,125nm,1.8s,mb5.5
DOMB Dombas 73.07 338 *e*P **P** **01 52 20.4 +0.6**
comp=Z,125nm,1.8s,mb5.5
MOD Modoc 73.10 50 *e*P **P** **01 52 20.5 +0.1**
comp=Z,28nm,0.7s,mb5.3
MOD LR LR
comp=Z,1µm,20.0s,MS5.2
MOL Molde 73.10 339 *e*P **P** **01 52 22.9 +2.9**
MOL AMb AMB 01 52 25.5
comp=Z,154nm,1.8s,mb5.6
MOL Molde 73.10 339 *e*P **P** **01 52 22.9 +2.9**
comp=Z,154nm,1.8s,mb5.6
BTMT Batman 73.15 305 *e*P **P** **01 52 21.9 +1.1**
GUMT Gumushane 73.15 308 *e*P **P** **01 52 20.4 -0.3**
NB2 NORSAR Subarra 73.16 336 P **P** **01 52 19.1 -1.2**
comp=Z,177nm,1.1s,mb5.9,baz=41,slow=5.8
NB2 NORSAR Subarra 73.16 336 P **P** **01 52 19.1 -1.2**
baz=41,slow=5.9
NOA NORSAR Array B 73.16 336 P **P** **01 52 19.2 -1.1**
comp=Z,108nm,1.1s,mb5.7,baz=40,slow=5.9,SNR=98
NOA PP PP 01 55 01.3 -4.1
comp=Z,14nm,0.9s,baz=43,slow=8.7,SNR=6.5
NOA LR LR 02 27 10.7
comp=Z,5µm,18.3s,MS5.8,baz=45,slow=38
NOA NORSAR Array B 73.16 336 P **P** **01 52 19.3 -1.0**
NOA 01 55 01.3
NOA pmax pmax
comp=Z,108nm,1.1s
NOA pmax pmax
comp=Z,14nm,0.9s
NOA MLR MLR
comp=Z,5µm,18.3s
EZC Erzincan 73.34 307 *e*P **P** **01 52 23.7 +1.9**
BINT Bingol 73.41 306 *e*P **P** **01 52 22.8 +0.6**
BEST Besiri 73.46 305 *i* P **P** **01 52 23.1 +0.6**
KELT Kelkit 73.47 308 *i* P **P** **01 52 18.3 -4.2**
SUW Suwalki 73.59 326 *e*P **P** **01 52 21.8 -1.1**
SUW *e* 01 52 39.7
SUW *e* 01 55 05.9
SUW *e*S S 02 01 49.3 -1.4
SUW *e* 02 02 25.2
SUW *e*SS SS 02 06 31.6 -4.7
SUW pmax pmax
comp=Z,400nm,1.4s,mb6.2
SUW MLR MLR
comp=Z,3µm,27.7s,MS5.4
SUW Suwalki 73.59 326 *e*P **P** **01 52 21.8 -1.1**
SUW *e*pP pP 01 52 26.1 -3.1
SUW *e*PcP PcP 01 52 39.7 +0.6
SUW *e*PP PP 01 55 05.9 -3.1
SUW *e*S S 02 01 49.3 -1.4
SUW *e*SS 02 01 59.7
SUW *e*SKS SKS 02 02 25.2 -5.2
SUW *e*SS SS 02 06 31.6 -4.7
SUW Suwalki 73.59 326 *e*P **P** **01 52 21.8 -1.1**
comp=Z,400nm,1.4s
SUW *e*pP pP 01 52 26.1 -3.1
SUW *e*PcP PcP 01 52 39.7 +0.6
SUW *e*PP PP 01 55 05.9 -3.1
SUW *e*S S 02 01 49.3 -1.4
SUW *e*SS 02 01 59.7
SUW *e*SKS SKS 02 02 25.2 -5.2
SUW *e*SS SS 02 06 31.6 -4.7
SUW MLR MLR 02 24 53.2
comp=Z,3µm,27.7s
SIM Simferopol' 73.75 314*d* *i*P **P** **01 52 23.3 -0.8**
SIM *e*S S 02 01 53.0 +0.4
SIM pmax pmax
comp=Z,100nm,0.9s,mb5.8
SIM MLR MLR
comp=Z,4µm,14.0s,MS5.9
OHCM Honcut 73.84 53 *e*P **P** **01 52 24.1 -0.6**
MSO Missoula 73.87 43 *e*P **P** **01 52 24.1 -0.7**
comp=Z,28nm,1.0s,mb5.1
MSO LR LR
comp=Z,1µm,21.0s,MS5.1
PTK Pertek 74.10 307 *e*P **P** **01 52 26.6 +0.3**
DIY Diyarbakir 74.14 306 *e*P **P** **01 52 26.6 +0.1**
CHMT Chamberlain Mo 74.19 43 *e*P **P** **01 52 26.1 -0.5**
BEKR Beckwourth 74.24 52 *e*P **P** **01 52 27.1 +0.1**
comp=Z,81nm,1.0s,mb5.6
LKC Lake Chabot 74.39 54 *e*P **P** **01 52 28.0 +0.1**
FFC Flin Flon 74.52 32 *e*P **P** **01 52 27.5 -0.8**
comp=Z,32nm,0.8s,mb5.3
FFC LR LR
comp=Z,629nm,19.0s,MS4.9
ELZG Elazig 74.59 307 *i* P **P** **01 52 30.9 +1.9**
FCC Fort Churchill 74.62 26 P **P** **01 52 30.2 +1.4**
FCC pmax pmax
comp=Z,82nm,1.1s,mb5.6
FCC Fort Churchill 74.62 26 *e*P **P** **01 52 28.6 -0.2**
comp=Z,82nm,1.1s,mb5.6
KONO Kongsberg 74.75 336 *e*SKS SKS 02 02 56.5 +18
KONO AMS AMS 02 29 23.3
comp=Z,5µm,18.0s,MS5.8
KONO Kongsberg 74.75 336 PFAKE 01 52 40.0 +10
KONO LR LR
comp=Z,4µm,20.0s,MS5.7
PAHR Pah Rah Range 74.95 51 *e*P **P** **01 52 29.3 -1.9**
comp=Z,32nm,0.8s,mb5.3
WCN Washoe City 74.95 52 *e*P **P** **01 52 31.8 +0.6**
WCN pmax pmax
comp=Z,37nm,0.9s,mb5.3
WCN Washoe City 74.95 52 *e*P **P** **01 52 31.8 +0.6**
comp=Z,36nm,0.9s,mb5.3
MYA Malataya 75.05 307 *e*P **P** **01 52 31.3 -0.5**
MALT Malatya 75.05 307 *e*P **P** **01 52 29.9 -1.9**
TOKT Tokat 75.05 309 *e*P **P** **01 52 27.0 -4.7**
HRY Holter Researc 75.09 42 *e*P **P** **01 52 32.1 +0.3**
SVST Sivas 75.12 309 *i* P **P** **01 52 33.4 +1.3**
CMB Columbia Colle 75.29 53 *e*P **P** **01 52 33.0 -0.1**
comp=Z,59nm,0.6s,mb5.7
CMB LR LR
comp=Z,2µm,21.0s,MS5.3
SAO San Andreas Ge 75.35 55 *e*P **P** **01 52 32.2 -1.3**
comp=Z,47nm,0.9s,mb5.4
SAO LR LR
comp=Z,1µm,19.0s,MS5.3
KIS Kishinev 75.40 318α *i*P **P** **01 52 34.0 +0.4**
KIS *i* 01 52 54.0
KIS *i* S S 02 02 10.0 -1.0
KIS *i* PS PS 02 02 34.0 -16
KIS *e*SS SS 02 07 08.0 +4.0
KIS pmax pmax
comp=Z,630nm,2.0s,mb6.2
KIS pmax pmax
comp=Z,2µm,6.0s
KIS pmax pmax
comp=Z,2µm,6.0s
KIS MLR MLR
comp=N,12µm,16.0s,MS6.5
KIS MLR MLR
comp=E,13µm,16.0s,MS6.5
KIS MLR MLR
comp=Z,19µm,16.0s,MS6.5
KIS MLR MLR
comp=Z,17µm,16.0s
ASK Askoy 75.45 338 *e*P **P** **01 52 34.7 +1.1**
BYBT Boyabat 75.45 311 *e*P **P** **01 52 31.7 -2.2**
RUND Rundenannen 75.46 338 *e*P **P** **01 52 33.3 -0.3**
RUND AMb AMB 01 52 35.9
comp=Z,256nm,1.1s,mb6.1
ODD1 Odda 75.48 337 *e*P **P** **01 52 34.1 +0.4**
BER Bergen 75.49 338 *e*P **P** **01 52 35.0 +1.3**
HLID Hailey 75.61 46 *e*P **P** **01 52 35.2 +0.4**
comp=Z,47nm,1.0s,mb5.4
HLID LR LR
comp=Z,2µm,22.0s,MS5.4
BZK Bozkurt 75.61 312 *e*P **P** **01 52 35.5 +0.6**
EGD Espegrend 75.61 338 *e*P **P** **01 52 35.6 +1.1**
MCMT McKenzie Canyo 75.71 44 *e*P **P** **01 52 35.1 -0.2**
WAR Warsaw 75.75 326 *e*P **P** **01 52 36.5 +1.1**
WAR *e* 01 52 47.2
WAR *e* 01 55 27.3
WAR *e*S S 02 02 15.2 +0.5
WAR *e* 02 02 43.3
WAR pmax pmax
comp=Z,500nm,1.7s,mb6.2
WAR Warsaw 75.75 326 *e*P **P** **01 52 36.5 +1.1**
comp=Z,0.5nm,1.7s
WAR *e*pP pP 01 52 39.4 -2.3
WAR *e*PcP PcP 01 52 47.2 -1.2
WAR *e*PP PP 01 55 27.3 0.0
WAR *e*S S 02 02 15.2 +0.5
WAR *e*SS 02 02 24.8
WAR *e*SKS SKS 02 02 43.3 -2.9
WAR LR LR
comp=Z,4µm,21.7s,MS5.6
WAR Warsaw 75.75 326 *e*P **P** **01 52 36.5 +1.1**
comp=Z,500nm,1.7s
WAR *e*pP pP 01 52 39.4 -2.3
WAR *e*PcP PcP 01 52 47.2 -1.2
WAR *e*PP PP 01 55 27.3 0.0
WAR *e*S S 02 02 15.2 +0.5
WAR *e*SS 02 02 24.8
WAR *e*SKS SKS 02 02 43.3 -2.9
WAR MLR MLR 02 23 12.1
comp=Z,4µm,21.7s
LRV Little Rabbit 75.83 55 P **P** **01 52 34.3 -1.9**
BMN Battle Mountai 75.85 50 *e*P **P** **01 52 37.0 +0.7**
comp=Z,52nm,0.8s,mb5.5
BMN LR LR
comp=Z,1µm,19.0s,MS5.2
BLS5 Blasjo 75.92 337 *e*P **P** **01 52 37.6 +1.4**
BLS5 AMb AMB 01 52 43.7
comp=Z,42nm,1.2s,mb5.2
BLS5 Blasjo 75.92 337 *e*P **P** **01 52 37.6 +1.4**
comp=Z,42nm,1.2s,mb5.2
CTKT Corum 75.95 310 *i* P **P** **01 52 37.4 +0.6**
LVV L'vov 75.99 323 *i* P **P** **01 52 37.0 +0.2**
LVV *i* S S 02 02 17.0 -0.4
TOS Tosya 76.16 311 *e*P **P** **01 52 38.3 +0.3**
GZT Gaziantep 76.17 306 *i* P **P** **01 52 39.4 +1.3**
BALT Daday 76.23 312 *i* P **P** **01 52 39.2 +0.8**
DGAR Diego Garcia 76.24 249 PFAKE 01 52 50.0 +11
DGAR LR LR
comp=Z,463nm,19.0s,MS4.8
BSD Bornholm Skovb 76.26 331 *i* P **P** **01 52 37.9 -0.4**
comp=Z,90nm,0.8s,mb5.8
BSD *i* 01 55 31.0
BSD *i* S S 02 02 19.9 -0.4
comp=Z,2µm,16.0s
NVAR Mina Array Bea 76.38 52 P **P** **01 52 40.0 +0.8**
comp=Z,40nm,0.7s,mb5.5,baz=306,slow=4.0,SNR=135
NVAR LR LR 02 27 12.2
comp=Z,1µm,18.2s,MS5.2,baz=110,slow=36
OMM Old Mammoth Mi 76.43 53 *e*P **P** **01 52 40.7 +1.1**
KMY Karmoy 76.46 338 *e*P **P** **01 52 39.7 +0.4**
KMY AMb AMB 01 52 42.2
comp=Z,108nm,1.8s,mb5.5
KMY Karmoy 76.46 338 *e*P **P** **01 52 39.7 +0.4**
comp=Z,108nm,1.8s,mb5.5
MNV Mina 76.47 52 *e*P **P** **01 52 40.3 +0.5**
comp=Z,134nm,1.4s,mb5.7
MNV LR LR
comp=Z,2µm,21.0s,MS5.3
QLMT Earthquake Lak 76.49 44 *e*P **P** **01 52 40.4 +0.7**
GAZ Gaziantep 76.50 306 *e*P **P** **01 52 39.8 -0.3**
GKP Gorka Klasztor 76.66 328 *e*P **P** **01 52 40.1 -0.4**
GKP *e* 01 52 51.8
GKP *e* 01 55 34.4
GKP *e*S S 02 02 24.5 -0.2
GKP *e* 02 02 48.2
GKP *e*SS SS 02 07 20.2 -3.2
GKP pmax pmax
comp=Z,600nm,2.4s,mb6.1
GKP MLR MLR
comp=Z,3µm,21.3s,MS5.6
GKP MLR MLR
comp=N,9µm,16.2s
GKP MLR MLR
comp=E,11µm,16.1s
GKP Gorka Klasztor 76.66 328 *e*P **P** **01 52 40.1 -0.4**
comp=E,0.6nm,2.4s
GKP *e*pP pP 01 52 44.9 -1.9
GKP *e*PcP PcP 01 52 51.8 -0.5
GKP *e*PP PP 01 55 34.4 -0.2
GKP *e*S S 02 02 24.5 -0.2
GKP *e*SS 02 02 33.0
GKP *e*SKS SKS 02 02 48.2 -4.7
GKP *e*SS SS 02 07 20.2 -3.2
GKP LR LR
comp=Z,3µm,21.3s,MS5.6
GKP Gorka Klasztor 76.66 328 *e*P **P** **01 52 40.1 -0.4**
comp=Z,600nm,2.4s
GKP *e*pP pP 01 52 44.9 -1.9
GKP *e*PcP PcP 01 52 51.8 -0.5
GKP *e*PP PP 01 55 34.4 -0.2
GKP *e*S S 02 02 24.5 -0.2
GKP *e*SS 02 02 33.0
GKP *e*SKS SKS 02 02 48.2 -4.7
GKP *e*SS SS 02 07 20.2 -3.2
GKP MLR MLR 02 26 48.9
comp=Z,3µm,21.3s
GKP LMN 02 29 17.1
comp=Z,9µm,16.2s
GKP LME 02 29 21.3
comp=Z,11µm,16.1s
CANT Cankiri 76.66 311 *e*P **P** **01 52 41.2 +0.3**
KWP Kalwaria 76.75 323 *e*P **P** **01 52 41.2 +0.1**
KWP *e**PP pP 01 52 46.0 -1.4
KWP *e* 01 55 35.3
KWP *e*S S 02 02 27.2 +1.5
KWP *e* 02 02 51.1
KWP *e*SS SS 02 07 20.4 -4.4
KWP pmax pmax
comp=Z,700nm,1.4s,mb6.4
KWP Kalwaria 76.75 323 *e*P **P** **01 52 41.2 +0.1**
KWP *e*pP pP 01 52 46.0 -1.4
KWP *e*PP PP 01 55 35.3 -0.1
KWP *e*S S 02 02 27.2 +1.5
KWP *e*SS 02 02 35.3
KWP *e*SKS SKS 02 02 51.1 -2.5
KWP *e*SS SS 02 07 20.4 -4.4
KWP Kalwaria 76.75 323 *e*P **P** **01 52 41.2 +0.1**
comp=Z,700nm,1.4s
KWP *e*pP pP 01 52 46.0 -1.4
KWP *e*PP PP 01 55 35.3 -0.1
KWP *e*S S 02 02 27.2 +1.5
KWP *e*SS 02 02 35.3
KWP *e*SKS SKS 02 02 51.1 -2.5
KWP *e*SS SS 02 07 20.4 -4.4
KWP LMN 02 21 52.1
comp=Z,6µm,25.1s
COP Copenhagen 76.78 332 ‖ *i*P **P** **01 52 42.3 +1.1**
comp=Z,100nm,0.9s,mb5.8
COP *i* 01 55 36.8
COP *i* S S 02 02 27.5 +1.6
comp=Z,2µm,19.0s
GCMT Greycliff 76.83 42 *e*P **P** **01 52 42.1 +0.5**
SAFT Safranbolu 76.83 312 *e*P **P** **01 52 42.1 +0.4**
YMR Madison River 76.85 43 *e*P **P** **01 52 42.7 +0.9**
ELDT Eldivan 76.85 311 *i* P **P** **01 52 42.2 +0.3**
MTUM Tungsten Hills 76.86 53 *e*P **P** **01 52 42.2 +0.2**
CFR Carcaliu 76.93 317 ‖ *i*P **P** **01 52 41.9 -0.4**
CFR Carcaliu 76.93 317 ‖ *i*P **P** **01 52 41.8 -0.4**
YNR Norris Junctio 76.98 43 *e*P **P** **01 52 44.2 +1.8**
AVNT Avonos 77.02 309 *i* P **P** **01 52 43.3 +0.4**
YFT Old Faithful 77.06 44 *e*P **P** **01 52 44.9 +2.0**
BORG Borgarnes 77.11 351 PFAKE 01 52 50.0 +7.2
BORG LR LR
comp=Z,430nm,22.0s,MS4.7
YEL1 Yell 77.14 341 *e*P **P** **01 52 42.5 -0.6**
BRTR Keskin Array B 77.19 310 P **P** **01 52 43.5 -0.3**
comp=Z,44nm,1.0s,mb5.4,baz=90,slow=2.5,SNR=127
BRTR LR LR 02 30 47.7
comp=Z,1µm,18.2s,MS5.3,baz=75,slow=39
BRTR Keskin Array B 77.19 310 P **P** **01 52 43.5 -0.3**
BRTR pmax pmax
comp=Z,44nm,1.0s
BRTR MLR MLR
comp=Z,1µm,18.3s
LKWY Lake 77.22 43 *e*P **P** **01 52 46.5 +2.7**
comp=Z,104nm,1.2s,mb5.6
LKWY LR LR
comp=Z,4µm,19.0s,MS5.7
VRI Vrincioaia 77.24 318 ‖ *i*P **P** **01 52 45.1 +1.2**
VRI Vrincioaia 77.24 318 ‖ *i*P **P** **01 52 45.1 +1.2**
TPH Tonopah 77.27 52 *e*P **P** **01 52 43.3 -1.0**
comp=Z,146nm,1.0s,mb5.9
TPH LR LR
comp=Z,1µm,19.0s,MS5.3
BRD Bordesti 77.28 318 ‖ *i*P **P** **01 52 46.8 +2.7**
RGN Rugen 77.30 331 *e*P **P** **01 52 45.2 +1.1**
comp=Z,303nm,1.5s,mb6.0
IMW Indian Meadow 77.36 44 *e*P **P** **01 52 45.9 +1.3**
KAMT Kaman 77.36 310 *e*P **P** **01 52 42.6 -2.2**
MUD Monsted U'grnd 77.37 334 ‖ *i*P **P** **01 52 43.7 -0.7**
comp=Z,72nm,0.9s,mb5.6
MUD *i* 01 55 41.7
MUD *i* S S 02 02 34.8 +2.5
comp=Z,4µm,18.0s
KOLS Kolonicke sedl 77.44 323 *i* P **P** **01 52 45.1 +0.2**
KOLS *e*PP PP 01 55 40.5 -0.8
RRI2 Red Ridge 77.50 45 *e*P **P** **01 52 46.3 +1.0**
RYDS Riyadh 77.50 291 P **P** **01 52 44.6 -1.2**
COBT Iskenderun 77.51 306 *i* P **P** **01 52 46.2 +0.6**
LRW Lerwick 77.52 341 *e*P **P** **01 52 45.2 +0.1**
CEYT Ceyhan 77.53 307 *e*P **P** **01 52 45.4 -0.3**
MOOW Moose Ponds 77.56 44 *e*P **P** **01 52 46.6 +0.8**
NIG Nigde 77.58 309 *e*P **P** **01 52 45.4 -0.6**
TPAW Teton Pass 77.61 44 *e*P **P** **01 52 47.2 +1.2**
ANTO Ankara 77.61 311 *e*P **P** **01 52 45.9 -0.2**
SGKT Sivrigoynuk 77.62 312 *i* P **P** **01 52 46.4 +0.3**
LOD Lodumlu 77.62 311 *e*P **P** **01 52 46.4 +0.2**
SAN1 Sandwick 77.63 341 *e*P **P** **01 52 46.4 +0.6**
HVU Hansel Valley 77.66 47 P **P** **01 52 47.4 +1.1**
HVU Hansel Valley 77.66 47 *e*P **P** **01 52 46.5 +0.2**
WUWY Wally Ulrich 77.70 44 *e*P **P** **01 52 47.6 +1.2**
OJC Ojcow 77.71 325 *e*P **P** **01 52 46.2 -0.2**
OJC *e*S S 02 02 34.6 -1.4
OJC *e*SS SS 02 07 35.0 -4.1
OJC LR LR
comp=Z,3µm,18.6s,MS5.6
OJC Ojcow 77.71 325 *e*P **P** **01 52 46.2 -0.2**
OJC *e*S S 02 02 34.6 -1.4
OJC *e*SS SS 02 07 35.0 -4.1
OJC MLR MLR 02 36 08.0
comp=Z,3µm,18.6s
LOHW Long Hollow 77.73 44 *e*P **P** **01 52 47.3 +0.7**
SNOW Snow King Moun 77.74 44 *e*P **P** **01 52 47.9 +1.2**
REDW Red Top Meadow 77.75 44 *e*P **P** **01 52 47.7 +0.9**
HTY Hatay 77.82 306 *e*P **P** **01 52 47.3 0.0**
ISR Istrita 77.82 318 ‖ *i*P **P** **01 52 48.0 +0.9**
ISR Istrita 77.82 318 ‖ *i*P **P** **01 52 48.0 +0.9**
DGMT Dagmar 77.83 37 *e*P **P** **01 52 46.8 -0.3**
comp=Z,113nm,1.1s,mb5.7
DGMT LR LR
comp=Z,1µm,20.0s,MS5.3
CRVS Cervenica-Dubn 77.85 323 *i* P **P** **01 52 49.0 +1.8**
CRVS *e*PP PP 01 55 54.5 +10
CRVS *i* S S 02 02 41.0 +3.4

CRVS Cervenica-Dubn 77.85 323 *i* P **P** **01 52 49.0 +1.8**
CRVS *i* S S 02 02 41.0 +3.4
MLR Muntele Rosu 77.90 319 LR LR 02 30 54.3
comp=Z,7µm,18.0s,MS6.0,baz=43,slow=39
AHID Auburn Hatcher 77.99 45 P **P** **01 52 48.9 +0.8**
comp=Z,28nm,0.8s,mb5.2
AHID LR LR
comp=Z,2µm,19.0s,MS5.4
NIE Niedzica 78.03 324⇑ *e*P **P** **01 52 48.5 +0.3**
LAO LASA Array 78.03 40 *e*P **P** **01 52 48.5 +0.3**
comp=Z,136nm,1.1s,mb5.8
LAO LR LR
comp=Z,2µm,20.0s,MS5.5
BGU Big Grassy Mou 78.05 47 *e*P **P** **01 52 49.0 +0.5**
TRCR Troy Canyon 78.12 51 *e*P **P** **01 52 49.6 +0.7**
DAC Darwin (Calif) 78.13 53 *e*P **P** **01 52 49.0 -0.1**
comp=Z,29nm,0.8s,mb5.3
DAC LR LR
comp=Z,1µm,21.0s,MS5.2
HENT Hendek 78.15 313 *i* P **P** **01 52 48.5 -0.5**
SPUT South Promonto 78.15 47 *e*P **P** **01 52 49.7 +0.7**
MDU Mudurnu 78.19 312 *e*P **P** **01 52 49.2 0.0**
HWUT Hardware Ranch 78.47 46 *e*P **P** **01 52 51.4 +0.6**
comp=Z,70nm,1.1s,mb5.5
HWUT LR LR
comp=Z,2µm,19.0s,MS5.4
RAC Raciborz 78.53 326 *e*P **P** **01 52 50.2 -0.7**
RAC MLR MLR
comp=Z,19µm,14.4s,MS6.6
RAC Raciborz 78.53 326 *e*P **P** **01 52 50.2 -0.7**
RAC MLR MLR 02 31 30.3
comp=Z,19µm,14.4s
TPNV Topopah Spring 78.57 52 *e*P **P** **01 52 51.5 +0.1**
comp=Z,111nm,1.1s,mb5.7
TPNV LR LR
comp=Z,1µm,19.0s,MS5.3
KECS Kecovo 78.60 323 *i* P **P** **01 52 52.5 +1.2**
KECS *e*pP pP 01 52 56.4 -1.3
BUC1 Bucharest 78.61 318⇓ *i*P **P** **01 52 53.0 +1.5**
BUC1 Bucharest 78.61 318⇓ *i*P **P** **01 52 53.0 +1.5**
DUG Dugway 78.64 48 *e*P **P** **01 52 52.3 +0.5**
comp=Z,54nm,0.9s,mb5.5
DUG LR LR
comp=Z,1µm,20.0s,MS5.2
MZLS Mizel 78.66 291 P **P** **01 52 51.8 -0.3**
RUE Ruedersdorf 78.67 329 *e*P **P** **01 52 52.9 +1.3**
comp=Z,69nm,1.0s,mb5.5
OKC Ostrava-Krasne 78.73 325⇑ *i*P **P** **01 52 51.6 -0.4**
OKC *e*PP PP 01 55 54.8 +2.6
NOQ North Oquirrh 78.76 47 *e*P **P** **01 52 53.3 +0.9**
KIZT Kizilcal 78.78 310 *e*P **P** **01 52 52.0 -0.5**
KSP Ksiaz 78.82 327⇑ *e*P **P** **01 52 52.5 0.0**
KSP *e**PP pP 01 52 56.9 -1.9
KSP *e* 01 55 46.0
KSP *e*S S 02 02 47.0 -1.0
KSP MLR MLR
comp=Z,24µm,14.6s
KSP Ksiaz 78.82 327⇑ *e*P **P** **01 52 52.5 0.0**
KSP *e*pP pP 01 52 56.9 -1.9
KSP *e*PP PP 01 55 46.0 -6.9
KSP *e*S S 02 02 47.0 -1.0
KSP *e*SS SS 02 07 43.0 -13
KSP LR LR
comp=Z,24µm,14.6s
KSP Ksiaz 78.82 327 *e*P **P** **01 52 52.5 0.0**
comp=Z,500nm,1.7s
KSP *e*pP pP 01 52 57.2 -1.6
KSP *e*PP PP 01 55 47.8 -5.1
KSP *e*S S 02 02 50.9 +2.9
KSP *e*SKS SKS 02 03 08.8 +0.3
KSP *e*SS SS 02 07 54.9 -1.0
KSP MLR MLR 02 28 11.1
comp=Z,5µm,20.8s
KSP LME 02 30 28.1
comp=Z,10µm,17.6s
KSP LMN 02 30 40.2
comp=Z,7µm,17.6s
LIKS Likavka 78.85 324 *i* P **P** **01 52 54.4 +1.7**
LIKS *e*pP pP 01 52 58.4 -0.6
BW06 Boulder Array 78.86 44 *e*P **P** **01 52 53.0 +0.2**
comp=Z,56nm,1.1s,mb5.4
BW06 LR LR
comp=Z,2µm,19.0s,MS5.4
PDAR Pinedale Array 78.86 44 P **P** **01 52 53.0 +0.2**
comp=Z,21nm,0.6s,mb5.3,baz=285,slow=1.5,SNR=130
PDAR PKKPbc 02 11 45.8
comp=Z,1.3nm,1.0s,baz=90,slow=4.4,SNR=6.9
HRT Hereke 78.87 313 *e*P **P** **01 52 51.5 -1.4**
TCUT Toone Canyon 78.88 46 *e*P **P** **01 52 50.4 -2.6**
BSEG Bad Segeberg 78.91 332 *e*P **P** **01 52 52.5 -0.4**
BSEG pmax pmax
comp=Z,137nm,1.1s,mb5.8
CTU Camp Tracy 78.95 47 *e*P **P** **01 52 54.1 +0.7**
ESKT Eskisehir 79.00 312 *e*P **P** **01 52 52.5 -1.2**
ESKT Eskisehir 79.00 312 *i* P **P** **01 52 52.9 -0.8**
ARSS Ar Rass 79.03 294 P **P** **01 52 53.4 -0.7**
ISK Istanbul-Kandi 79.06 314 *e*P **P** **01 52 50.1 -3.9**
KONT Konya--Tatoy 79.08 309 *e*P **P** **01 52 50.1 -4.1**
MWC Mount Wilson 79.08 55 P **P** **01 52 54.7 +0.4**
MWC Mount Wilson 79.08 55 *e*P **P** **01 52 52.2 -2.1**
DPC Dobruska-Polom 79.17 327⇑ *i*P **P** **01 52 54.7 +0.3**
DPC *e*PP PP 01 55 54.4 -1.3
DPC *e*S S 02 02 54.3 +2.6
DPC LR LR
comp=Z,16µm,13.6s,MS6.5
DPC Dobruska-Polom 79.17 327⇑ *i*P **P** **01 52 54.7 +0.3**
DPC *e*PP PP 01 55 54.4 -1.3
DPC *e*S S 02 02 54.3 +2.6
DPC AMS AMS 02 32 10.0
comp=Z,16µm,13.6s
JLU Jordanelle 79.18 47 *e*P **P** **01 52 55.3 +0.6**
HILS Ha'il 79.19 296 P **P** **01 52 55.0 0.0**
UPC Upice 79.19 327⇑ *i*P **P** **01 52 55.2 +0.7**
UPC *e*PP PP 01 55 59.5 +3.6
NLU North Lily Min 79.23 48 *e*P **P** **01 52 55.5 +0.5**
PSZ Piszkesteto 79.28 323⇑ *i*P **P** **01 52 56.4 +1.3**
PSZ *i* PP PP 01 55 59.6 +3.0
PSZ Piszkesteto 79.28 323 P **P** **01 52 55.1 0.0**
PSZ pmax pmax
comp=Z,120nm,1.1s,mb5.7
IKL Isikli 79.32 307 *e*P **P** **01 52 50.6 -4.9**
VYHS Vyhne 79.37 324 *i* P **P** **01 52 56.0 +0.5**
VYHS *e*pP pP 01 53 00.2 -1.7
VYHS *e*PP PP 01 55 58.1 +0.7
VYHS *i* S S 02 02 58.0 +4.1
VYHS *e*SS SS 02 08 02.0 -2.2
CTT Catalca 79.37 314 *e*P **P** **01 52 54.4 -1.3**
DAU Daniels Canyon 79.42 47 *e*P **P** **01 52 57.0 +1.0**
MPU Maple Canyon 79.45 47 *e*P **P** **01 52 56.9 +0.7**
KOLL Kolacno 79.51 324 *i* P **P** **01 52 57.1 +0.8**
ULDT Uludag 79.61 313 *i* P **P** **01 52 57.0 0.0**
ASF Jabal al Asfar 79.72 303 P **P** **01 52 58.5 +0.7**
comp=Z,44nm,0.8s,mb5.4,baz=283,slow=1.9,SNR=58
ALT Altintas 79.74 312 *e*P **P** **01 52 48.7 -9.0**
ARUT Antelope Range 79.79 50 *e*P **P** **01 52 58.6 +0.6**
ARUT Antelope Range 79.79 50 *e*P **P** **01 52 58.9 +0.9**
PVCC Panska Ves 79.80 328⇑ *i*P **P** **01 52 57.9 +0.1**
PVCC *e*S S 02 03 00.3 +2.0
PVCC AMS AMS 02 31 20.0
comp=Z,7µm,16.8s
BRG Berggiesshubel 79.80 328 *i* P **P** **01 52 58.7 +0.9**
BRG *e* 01 55 53.2
BRG *e*S S 02 03 02.0 +3.7
BRG *e*SS SS 02 08 02.0 -8.6
BRG LR LR
comp=Z,11µm,13.2s,MS6.4
VRAC Vranov 79.81 326 LR LR 02 31 15.0
comp=Z,5µm,19.6s,MS5.8,baz=114,slow=38
HRI Mount Hermon 79.83 304 P **P** **01 52 58.5 +0.2**
PHNC Paralimni 79.86 306 P **P** **01 52 58.5 0.0**

CLL Collm 79.87 329⇑ P **P** **01 52 57.4 -0.7**
comp=Z,logA/T=2.1,mb5.8
CLL *i* *PP pP 01 53 02.7 -1.8
CLL *e* 01 55 50.0
CLL *e*PP PP 01 55 58.0 -3.3
CLL *e*S S 02 02 58.0 -1.0
CLL *e*SCS ScS 02 03 26.0 +7.7
CLL *e*PS PS 02 03 46.0 -0.3
CLL *e*SS SS 02 08 11.0 -0.5
CLL *e*SSS SSS 02 11 45.0 +13
CLL Collm 79.87 329⇑ *i*P **P** **01 52 57.4 -0.7**
CLL *i* pP 01 53 02.7 -1.8
CLL *e*S S 02 02 58.0 -1.0
CLL pmax pmax
comp=Z,128nm,1.1s,mb5.8
CLL MLR MLR
comp=Z,11µm,13.7s,MS6.3
CLL Collm 79.87 329⇑ *i*P **P** **01 52 57.4 -0.7**
comp=Z,128nm,1.1s,mb5.8
CLL *i* pP 01 53 02.7 -1.8
CLL *e*S S 02 02 58.0 -1.0
CLL LR LR
comp=Z,11µm,13.7s,MS6.3
EDRB Edirne 79.87 315 *e*P **P** **01 52 53.9 -4.5**
QURS Qurayyt al Mil 79.91 302 D 01 53 00.9
KSHT Keshet 79.95 304 P **P** **01 52 59.3 +0.3**
SMOL Smolenice 80.01 325 *e*P **P** **01 52 59.6 +0.6**
SMOL *e*pP pP 01 53 03.1 -2.2
SMOL *e*PP PP 01 56 01.9 -0.6
MVU Marysvale 80.08 49 *e*P **P** **01 53 00.8 +1.2**
comp=Z,37nm,1.1s,mb5.2
MVU LR LR
comp=Z,1µm,21.0s,MS5.2
MSU Marysvale 80.10 49 *e*P **P** **01 53 00.8 +1.1**
SRO2 Moca 80.10 324 *e*P **P** **01 53 01.0 +1.5**
SRO2 *e*pP pP 01 53 05.0 -0.8
SRO Srobarova 80.10 324 *i* P **P** **01 53 01.3 +1.8**
SRO *i* pP pP 01 53 06.0 +0.2
TMUT Trail Mountain 80.17 48 *e*P **P** **01 53 00.9 +0.9**
SRO1 Iza 80.18 324 *i* P **P** **01 53 02.0 +2.1**
SRO1 *e*pP pP 01 53 05.8 -0.4
BNT Bandirma 80.18 314 *e*P **P** **01 53 00.0 0.0**
PRA Prague 80.20 327⇑ P **P** **01 53 00.0 +0.1**
PRA PP PP 01 56 08.0 +3.9
PRA AMS AMS 02 33 00.0
TAU Tasmania Unive 80.20 174 PFAKE 01 53 10.0 +10
TAU LR LR
comp=Z,605nm,20.0s,MS4.9
PRU Pruhonice 80.21 327⇑ *i*P **P** **01 52 59.7 -0.3**
PRU *e* 01 56 06.4
PRU *e*S S 02 03 03.8 +1.2
PRU pmax pmax
comp=Z,191nm,1.4s,mb5.8
PRU MLR MLR
comp=Z,16µm,15.0s,MS6.5
PRU Pruhonice 80.21 327⇑ *i*P **P** **01 52 59.7 -0.3**
comp=Z,191nm,1.4s,mb5.8
PRU *e*PP PP 01 56 06.4 +2.2
PRU *e*S S 02 03 03.8 +1.2
PRU AMS AMS 02 32 50.0
comp=Z,16µm,15.0s
PKS7 Kunszentmiklos 80.25 323⇓ *e*P **P** **01 53 01.8 +1.5**
DST Dursunbey 80.26 313 *e*P **P** **01 53 00.0 -0.5**
DJES Djerdap 80.26 320⇑ *i*P **P** **01 53 00.4 0.0**
NEN Nelson 80.27 53 *e*P **P** **01 53 00.9 +0.3**
ISP Isparta 80.28 310 *e*P **P** **01 52 57.2 -3.4**
HNTI Hanita 80.31 304 P **P** **01 53 01.0 +0.1**
HNTI Hanita 80.31 304⇑ P **P** **01 53 01.0 +0.1**
ULM Lac du Bonnet 80.33 32 P **P** **01 53 00.1 -0.6**
comp=Z,14nm,0.6s,mb5.0,baz=318,slow=6.0,SNR=16
ULM LR LR 02 32 41.9
comp=Z,3µm,19.2s,MS5.6,baz=144,slow=39
CSS Prodhromos 80.34 307 P **P** **01 53 00.8 -0.2**
comp=Z,2.4nm,1.9s
AFFS 'Afif 80.35 293 P **P** **01 53 01.0 -0.2**
PKSG 80.37 324⇓ *e*P **P** **01 53 02.3 +1.4**
ZST Bratislava 80.39 325 *i* P **P** **01 53 02.8 +1.8**
ZST *i* S S 02 03 08.4 +3.9
ZST *e*SS SS 02 08 22.8 +3.4
ZST Bratislava 80.39 325 *i* P **P** **01 53 02.8 +1.8**
ZST *i* pP pP 01 53 06.9 -0.4
ZST *i* S S 02 03 08.4 +3.9
ZST *e*SS SS 02 08 22.8 +3.4
LDFC Landfair 80.46 53 *e*P **P** **01 53 01.9 +0.2**
BTOK Tokmak 80.51 313 *i* P **P** **01 53 01.5 -0.3**
PFO Pinyon Flat Ob 80.51 55 P **P** **01 53 02.0 +0.1**
comp=Z,224nm,0.9s,mb6.1,SNR=22
PFO Pinyon Flat Ob 80.51 55 P **P** **01 53 02.1 +0.2**
PFO pmax pmax
comp=Z,58nm,1.1s,mb5.4
PFO Pinyon Flat Ob 80.51 55 *e*P **P** **01 53 02.0 0.0**
comp=Z,58nm,1.1s,mb5.4
PFO LR LR
comp=Z,363nm,20.0s,MS4.7
CLZ Clausthal 80.52 331 *e*P **P** **01 53 01.2 -0.4**
comp=Z,158nm,1.2s,mb5.8
MMLI Mount Malkishu 80.54 304 P **P** **01 53 02.7 +0.6**
HMDT Nahal Hemdat 80.59 303 P **P** **01 53 02.7 +0.3**
HMDT Nahal Hemdat 80.59 303⇑ P **P** **01 53 02.7 +0.3**
HAF Haifa 80.59 304 P **P** **01 53 02.4 0.0**
BALB Balikesir 80.67 313 *e*P **P** **01 53 01.9 -0.8**
ALFC Alevga 80.68 307 P **P** **01 53 03.3 +0.5**
SRU San Rafael 80.69 48 *e*P **P** **01 53 03.3 +0.5**
VKA Vienna 80.70 325⇑ *i*P **P** **01 53 03.4 +0.8**
comp=Z,2µm,5.0s
VKA LR LR
comp=Z,7µm,13.0s,MS6.2
OFRI 'Ofer 80.72 304 P **P** **01 53 03.1 0.0**
SZAC Souni-Zanaja 80.75 307 P **P** **01 53 03.8 +0.6**
RWWY Rawlins 80.88 44 *e*P **P** **01 53 03.7 0.0**
ALN Alexandroupoli 80.89 315 *e*P **P** **01 53 03.6 -0.3**
NKC Novy Kostel 80.91 328⇑ *i*P **P** **01 53 04.4 +0.7**
NKC *e*PP PP 01 56 08.8 -1.8
NKC *e*S S 02 03 10.3 +0.4
NKC AMS AMS 02 32 00.0
comp=Z,5µm,14.0s
RSSD Black Hills 80.91 41 *e*P **P** **01 53 03.8 0.0**
comp=Z,37nm,0.9s,mb5.3
RSSD LR LR
comp=Z,442nm,20.0s,MS4.8
SLTI Sal'it 80.92 304 P **P** **01 53 04.4 +0.3**
MOX Moxa 80.94 329 *i* P **P** **01 53 04.6 +0.7**
comp=Z,logA/T=2.2,mb5.9
MOX S S 02 03 12.0 +1.8
MOX SS SS 02 08 29.0 +1.3
MOX L 02 31 50.0
MOX Moxa 80.94 329 *e*P **P** **01 53 04.6 +0.7**
MOX pmax pmax
comp=Z,342nm,2.3s,mb5.9
MOX MLR MLR
comp=Z,4µm,17.0s,MS5.8
MOX Moxa 80.94 329 *e*P **P** **01 53 04.6 +0.7**
comp=Z,342nm,2.3s,mb5.9
MOX LR LR
comp=Z,4µm,17.0s,MS5.8
BAR Barrett 80.94 56 *e*P **P** **01 53 04.2 -0.1**
PKS9 Tamasi 81.00 323⇓ *e*P **P** **01 53 05.3 +1.0**
RDO Rodhopi 81.01 315 *e*P **P** **01 53 05.5 +1.1**
SOP Sopron 81.01 325⇑ *e*P **P** **01 53 05.8 +1.5**
SOP *e*PP PP 01 56 10.0 -1.5
PPCY Paphos 81.02 307 P **P** **01 53 04.4 -0.2**
MANT Manisa 81.03 312 *i* P **P** **01 53 04.2 -0.3**
DRGI Dragot 81.08 303 P **P** **01 53 05.2 +0.2**
PKSM Moragy 81.10 323⇑ *i*P **P** **01 53 05.1 +0.3**
PKSM *i* 01 56 14.8
BOLS Boljevac 81.11 319⇓ *i*P **P** **01 53 05.7 +0.8**
BEO Belgrade 81.19 321⇓ *i*P **P** **01 53 05.8 +0.6**
AKS Akhisar 81.21 313 *e*P **P** **01 53 05.2 -0.3**
DENT Denizli 81.22 311 *e*P **P** **01 53 03.3 -2.3**
DNZL Cakiroluk 81.26 311 *i* P **P** **01 53 05.7 -0.1**
KHC Kasperske Hory 81.27 327⇑ *i*P **P** **01 53 05.4 -0.2**
KHC *e*PP PP 01 56 13.0 -0.5
KHC *e*S S 02 03 15.6 +2.0
KHC AMS AMS 02 33 30.0
comp=Z,13µm,13.3s
MZDA Masada 81.28 303 P **P** **01 53 06.2 +0.2**
HOPOS Hopovo Monaste 81.28 321⇑ *i*P **P** **01 53 06.8 +1.0**
KAMS Al Khamasin 81.31 289 P **P** **01 53 06.7 +0.3**
ELL Elmali 81.34 310 *e*P **P** **01 53 05.2 -1.1**
GEC2 GERESS Array S 81.43 327 *e*P **P** **01 53 05.8 -0.6**
GEC2 pmax pmax
comp=Z,45nm,1.1s,mb5.3
GEC2 GERESS Array S 81.43 327 *e*P **P** **01 53 05.8 -0.6**
comp=Z,45nm,1.1s,mb5.3
GERES GERESS Array B 81.43 327 P **P** **01 53 06.1 -0.4**
comp=Z,17nm,0.6s,mb5.2,baz=45,slow=5.7,SNR=52
GERES PKKPbc 02 11 39.4
comp=Z,0.9nm,0.7s,baz=207,slow=3.0,SNR=8.9
RHK1 Bakonya 81.46 323⇑ *e*P **P** **01 53 06.1 -0.5**
ESY Stoneypath 81.54 339⇑ *e*P **P** **01 53 06.0 -0.9**
ESY AMb AMB 01 53 08.9
comp=Z,72nm,1.2s,mb5.5
WET Wettzell 81.56 328 *e*P **P** **01 53 06.9 -0.2**
WET pmax pmax
comp=Z,55nm,1.2s,mb5.4
WET Wettzell 81.56 328 *e*P **P** **01 53 06.9 -0.2**
comp=Z,55nm,1.2s,mb5.4
AYVA Ayvalik 81.58 313 *i* P **P** **01 53 06.5 -0.9**
BOZC Bozcaada 81.59 314 *i* P **P** **01 53 07.9 +0.4**
GRUS Gruza 81.72 320⇑ *i*P **P** **01 53 08.2 +0.1**
WTSB Winterswijk 81.78 332 *e*P **P** **01 53 07.3 -0.9**
comp=Z,46nm,1.1s,mb5.3
WTSB *ex* x 01 53 12.6
comp=Z,44nm,1.5s
WTSB Winterswijk 81.78 332 *e*S S 02 03 20.7 +2.0
EAB Aberfoyle 81.78 340⇑ *e*P **P** **01 53 08.4 +0.3**
EAB AMb AMB 01 53 14.2
comp=Z,94nm,1.2s,mb5.6
EBL Broad Law 81.79 339⇑ *e*P **P** **01 53 06.0 -2.1**
ARSA Arzberg 81.81 325⇓ *i*P **P** **01 53 08.8 +0.4**
comp=Z,26nm,0.7s,mb5.3
NRS Narsarsuaq 81.82 2⇓ *i*P **P** **01 53 10.8 +2.6**
comp=Z,38nm,1.1s,mb5.2
NRS Narsarsuaq 81.82 2 *i* S S 02 03 19.7 +0.7
NRS Narsarsuaq 81.82 2⇓ *i*P **P** **01 53 10.8 +2.6**
NRS *i* S S 02 03 19.7 +0.7
GRA1 Grafenberg Arr 81.84 329 *e*P **P** **01 53 08.6 +0.1**
comp=Z,233nm,1.2s,mb6.0
GRA1 *e*pP pP 01 53 12.6 -2.3
GRA1 *e*PP PP 01 56 17.3 -0.8
GRA1 *e*S S 02 03 22.0 +2.6
GRA1 LR LR
comp=Z,3µm,19.9s,MS5.6
GRF Grafenberg Arr 81.84 329 *e*P **P** **01 53 08.6 +0.1**
GRF *e* 01 56 17.3
GRF *e*S S 02 03 22.0 +2.6
GRF pmax pmax
comp=Z,233nm,1.2s,mb6.0
GRF MLR MLR
comp=Z,3µm,19.9s,MS5.6
KDAG Bornova 81.85 312 *i* P **P** **01 53 08.7 -0.1**
IZM Izmir 81.86 312 *e*P **P** **01 53 08.0 -0.9**
MASH Mash'abbe Sade 81.86 303 P **P** **01 53 09.1 0.0**
PRK Paraskevi 81.87 314 *e*P **P** **01 53 09.5 +0.6**
ZFRI Zfri 81.87 302 P **P** **01 53 09.5 +0.4**
ZFRI Zfri 81.87 302⇑ P **P** **01 53 09.5 +0.4**
BARS Barje 81.89 319⇑ *i*P **P** **01 53 09.6 +0.7**
PCOU Corrie 81.89 340 *e*P **P** **01 53 08.5 -0.2**
RAR Rarotonga 81.92 124 LR LR 02 27 30.1
comp=Z,2µm,19.2s,MS5.6,baz=279,slow=34
RAR Rarotonga 81.92 124 PFAKE 01 53 20.0 +10
RAR LR LR
comp=Z,3µm,20.0s,MS5.7
MOA Molln 81.93 326⇓ *i*P **P** **01 53 09.7 +0.6**
comp=Z,44nm,1.1s,mb5.3
DIVS Divcibare 81.94 320⇓ *i*P **P** **01 53 08.8 -0.3**
KBRS Khaybar 81.95 296 P **P** **01 53 09.9 +0.2**
AYDN Tasoluk 81.98 312 *i* P **P** **01 53 10.1 +0.6**
PV10 Paradox Valley 82.05 47 *e*P **P** **01 53 10.9 +1.1**
YER Yerkesik 82.08 311 *e*P **P** **01 53 09.0 -1.1**
LOS Limnos 82.09 315 *e*P **P** **01 53 11.3 +1.3**
PHWY Pilot Hill 82.10 43 *e*P **P** **01 53 10.7 +0.6**
DALT Dalyan (Mudla) 82.11 311 *e*P **P** **01 53 09.4 -0.8**
SRS Serrai 82.11 316 *e*P **P** **01 53 10.0 -0.2**
PRNI Paran 82.11 302 P **P** **01 53 10.8 +0.4**
PRNI Paran 82.11 302⇑ P **P** **01 53 10.8 +0.4**
KZIT Kziot 82.18 303 P **P** **01 53 10.8 +0.1**
KZIT Kziot 82.18 303⇑ P **P** **01 53 10.8 +0.1**
PCA1 Carrot 82.19 340 *e*P **P** **01 53 10.1 -0.1**
ESK Eskdalemuir 82.23 339 *e*P **P** **01 53 10.5 +0.1**
ESK AMb AMB 01 53 17.7
comp=Z,90nm,1.7s,mb5.4
ESK Eskdalemuir 82.23 339 *e*P **P** **01 53 10.2 -0.2**
ESK pmax pmax
comp=Z,88nm,1.3s,mb5.5
ESK Eskdalemuir 82.23 339 *e*P **P** **01 53 10.2 -0.2**
comp=Z,88nm,1.4s,mb5.5
ESK *e*pP pP 01 53 15.0 -1.8
ESK LR LR
comp=Z,1µm,19.0s,MS5.3
LCP Cassop 82.23 338 *e*P **P** **01 53 09.9 -0.5**
MLSB Milas 82.28 311 *e*P **P** **01 53 09.4 -1.7**
TBKS Tabuk 82.37 300 D 01 53 13.6
GROS Grobnik 82.40 324 *e*P **P** **01 53 11.1 -0.5**
BHH Howats Hill 82.43 339 *e*P **P** **01 53 11.8 +0.3**
JMQS Jabal Moqyreh 82.43 300 P **P** **01 53 12.0 -0.1**
OUR Ouranopolis 82.43 316 *e*P **P** **01 53 12.7 +0.9**
BTA Talkin 82.44 339 *e*P **P** **01 53 11.8 +0.3**
SOH Sokhos 82.44 316 *e*P **P** **01 53 12.8 +0.9**
PERS Pernice 82.45 325⇑ *e*P **P** **01 53 11.7 -0.1**
PERS *e* pP 01 53 16.5 -1.7
PERS *e*PP PP 01 56 27.1 +4.1
PERS *e*S S 02 03 26.7 +0.9
PERS *e* 02 04 11.7
KMTI Karmit 82.46 302 P **P** **01 53 12.2 0.0**
KNT Kendrikon 82.46 317 *e*P **P** **01 53 12.8 +0.9**
AQBJ Aqaba 82.47 302 P **P** **01 53 12.4 +0.1**
PV01 Paradox Valley 82.48 47 *e*P **P** **01 53 12.8 +0.6**
NVSS Nova Varos 2 82.50 320⇓ *i*P **P** **01 53 12.7 +0.5**
MBH Mount Berech 82.52 302 P **P** **01 53 12.8 +0.3**
MBH Mount Berech 82.52 302⇑ P **P** **01 53 12.8 +0.3**
VAY Valandovo 82.53 317⇑ *i*P **P** **01 53 12.8 +0.5**
SMG Samos 82.56 312 *e*P **P** **01 53 14.0 +1.4**
EIL Elat 82.57 302 P **P** **01 53 12.9 +0.1**
EIL Elat 82.57 302⇑ P **P** **01 53 12.9 +0.1**
TATS Tathlith 82.60 289 P **P** **01 53 13.4 +0.3**
BDL Dobcross Hall 82.60 339 *e*P **P** **01 53 12.3 -0.1**
BDRM Kayabasi 82.63 311 *i* P **P** **01 53 12.8 -0.1**
SKO Skopje 82.68 318⇑ *i*P **P** **01 53 13.9 +0.8**
comp=Z,0.1nm,0.8s
PLG Polygyros 82.70 316 *e*P **P** **01 53 13.0 -0.2**
ALWS Ilw as Safayha 82.72 301 P **P** **01 53 13.8 +0.2**
SISC Sisak 82.72 323 *i* P **P** **01 53 12.8 -0.5**
BBO1 Bothel 82.75 339 *e*P **P** **01 53 12.9 -0.2**
SIND Sindeldorf 82.77 329 *e*P **P** **01 53 13.3 -0.1**
JMOS Jabal al Moall 82.78 301 P **P** **01 53 13.8 0.0**
ARG Arkhangelos 82.78 310 *e*P **P** **01 53 15.0 +1.3**
PLE Pljevlja 82.79 320⇓ *i*P **P** **01 53 13.1 -0.5**
THE Thessaloniki 82.79 316 *e*P **P** **01 53 13.5 -0.2**
OBKA Obir 82.81 325⇑ *i*P **P** **01 53 14.1 +0.5**
comp=Z,15nm,0.7s,mb5.1
IVA Berane 82.86 320⇓ *i*P **P** **01 53 14.1 +0.1**
LEGS Legarje 82.87 324⇑ *e*P **P** **01 53 14.4 +0.4**
LEGS *e*PP PP 01 56 29.8 +3.4
LEGS *e*S S 02 03 31.2 +1.2
LEGS *e* 02 04 14.0
LEGS *e* 02 04 20.0
GRG Griva 82.87 317 *e*P **P** **01 53 14.1 -0.1**
PAIG Paliouri 82.88 316 *e*P **P** **01 53 14.1 0.0**
TOD Tromm 82.89 330 *e*P **P** **01 53 14.1 +0.1**
TOD Tromm 82.89 330 *e*P **P** **01 53 13.5 -0.5**
KBA Koelnbreinsper 82.92 326⇓ *i*P **P** **01 53 14.5 +0.3**
comp=Z,58nm,0.9s,mb5.6
RW3 Ridgway 82.92 47 *e*P **P** **01 53 15.5 +1.1**
HAQS Haql 82.97 301 P **P** **01 53 15.0 +0.1**
FUR Furstenfeldbru 82.99 328 *e*P **P** **01 53 14.4 -0.2**
FUR pmax pmax
comp=Z,163nm,0.9s,mb6.1
FUR Furstenfeldbru 82.99 328 *e*P **P** **01 53 14.4 -0.2**
comp=Z,163nm,0.9s,mb6.1
PVY Plav 83.01 319⇓ *i*P **P** **01 53 15.4 +0.6**
URZ Urewera 83.02 151 LR LR 02 22 32.4
comp=Z,1µm,20.9s,MS5.2,baz=6.8,slow=30
SWS Schriesheim 83.03 330 *e*P **P** **01 53 14.9 +0.2**
ISCO Idaho Springs 83.05 45 *e*P **P** **01 53 15.9 +0.9**
comp=Z,49nm,1.2s,mb5.4
ISCO LR LR
comp=Z,2µm,20.0s,MS5.5
HGN Heimansgroeve 83.07 332 *e*P **P** **01 53 13.9 -1.0**
comp=Z,40nm,1.2s,mb5.3
HGN *ex* x 01 53 19.2
comp=Z,36nm,1.4s
HDH Heidenheim 83.12 329 *e*P **P** **01 53 15.1 -0.1**
UPM Unac-Piva 83.12 320⇓ *i*P **P** **01 53 14.3 -1.0**
ABH Alteburg 83.16 331 *e*P **P** **01 53 15.4 0.0**
ABH Alteburg 83.16 331 *e*P **P** **01 53 14.9 -0.5**

LJU Ljubljana 83.17 325 eP P 01 53 15.7 +0.1
LJU eP cP P 01 53 19.8 -0.8
LJU eP PP P 01 56 24.0 -4.8
VISS Visnje 83.20 324 eP P 01 53 15.7 0.0
VISS e 01 53 19.9
GCL Cushendall 83.24 341 eP P 01 53 16.0 +0.3
BDAS Al Bad' 83.24 301 P P 01 53 16.2 -0.1
AYUS 'Aynunah 83.28 300 P P 01 53 16.3 -0.2
AOS Alonnisos 83.28 315 eP P 01 53 15.8 -0.4
NKY Niksic 83.36 320 iP P 01 53 16.6 +0.1
LHO Holmfirth 83.37 338 eP P 01 53 15.8 -0.6
STU Stuttgart 83.39 329 eP P 01 53 15.9 -0.7
STU e*PP pP 01 53 21.1 -1.9
STU pmax pmax
comp=Z,160nm,1.1s,mb6.0
STU Stuttgart 83.39 329 eP P 01 53 15.9 -0.6
comp=Z,165nm,1.1s,mb6.0
STU epP pP 01 53 21.1 -1.9
KTD Kalmit 83.40 330 eP P 01 53 16.7 +0.1
KTD Kalmit 83.40 330 eP P 01 53 16.5 -0.1
BIA Bitola 83.41 318 i P P 01 53 18.1 +1.2
LIT Litokhoron 83.42 316 eP P 01 53 16.6 -0.4
PTCC Patocco-Chiusa 83.43 326 eP P 01 53 16.3 -0.5
VOY Vojsko 83.47 325 eP P 01 53 16.1 -0.9
KSY Syston 83.48 337 eP P 01 53 16.6 -0.3
RUP Ruppelstein 83.50 331 eP P 01 53 17.3 +0.2
RUP Ruppelstein 83.50 331 eP P 01 53 16.7 -0.4
TTG Podgorica 83.50 320 iP P 01 53 16.9 -0.4
WATA Walderalm 83.50 327 iP P 01 53 18.3 +1.1
comp=Z,24nm,1.0s,mb5.3
KBI1 Birley Grange 83.52 337 eP P 01 53 17.4 +0.3
BRY Bratogost 83.53 320 iP P 01 53 16.8 -0.6
WTTA Wattenberg 83.53 327 iP P 01 53 18.2 +0.9
comp=Z,42nm,1.1s,mb5.5
XOR Xorichti 83.54 315 eP P 01 53 17.5 -0.1
FVI Forni Avoltri 83.54 326 eP P 01 53 17.7 +0.3
FNA Florina 83.55 317 eP P 01 53 17.6 +0.1
NEO Neokhori 83.56 315 eP P 01 53 18.0 +0.3
BUCH Bad Urach 83.58 329 eP P 01 53 17.8 +0.3
OHR Ohrid 83.63 318 iP P 01 53 17.5 -0.5
OHR i 01 53 54.0
LBG Lerchenberg 83.63 329 eP P 01 53 18.0 +0.2
KZN Kozani 83.67 317 eP P 01 53 17.5 -0.7
UMJS Umm Lajj 83.68 297 P P 01 53 19.0 +0.4
MOTA Moosalm 83.70 327 iP P 01 53 17.4 -0.8
comp=Z,15nm,0.7s,mb5.2
SQTA Sankt Quirin 83.75 327 iP P 01 53 18.4 0.0
comp=Z,29nm,1.0s,mb5.4
APE Apeiranthos 83.76 312 eP P 01 53 17.5 -1.2
TRI Trieste 83.77 325 eP P 01 53 18.6 0.0
BUM Brajici-Budva 83.78 320 iP P 01 53 19.4 +0.7
LANF Langenberg 83.78 330 eP P 01 53 18.0 -0.5
BLJS Baljurashi 83.81 290 P P 01 53 19.8 +0.5
KARP Karpathos 83.81 310 eP P 01 53 19.5 +0.5
QSH Qafa e Shtames 83.81 319 ip P 01 53 24.0 +5.1
KWE Weaver Farm 83.83 337 eP P 01 53 19.0 +0.4
ULC Ulcinj 83.84 319 iP P 01 53 19.0 0.0
UBR Uberruh 83.86 328 eP P 01 53 18.9 -0.1
WLF Walferdange 83.88 331 eP P 01 53 19.8 +0.8
WLF pmax pmax
comp=Z,220nm,1.7s,mb6.0
WLF Walferdange 83.88 331 eP P 01 53 19.8 +0.8
comp=Z,219nm,1.8s,mb6.0
WLF epP pP 01 53 23.8 -1.6
HCY Herceg Novi 83.88 320 iP P 01 53 19.4 +0.3
GMM Mts of Mourne 83.94 340 eP P 01 53 20.2 +1.0
EYMN Ely 83.95 31 eP P 01 53 18.6 -0.8
comp=Z,84nm,1.2s,mb5.7
EYMN epP pP 01 53 24.1 -1.6
EYMN LR LR
comp=Z,1μm,20.0s,MS5.4
GUT Gutenstein 83.97 329 eP P 01 53 19.5 0.0
STON Ston 83.98 321 i P P 01 53 19.3 -0.3
GIVF Givet 84.02 332 eP P 01 53 19.1 -0.6
SPAK Spaichingen 84.08 329 eP P 01 53 20.1 0.0
SPAK Spaichingen 84.08 329 eP P 01 53 19.6 -0.5
BFO Black Forest 84.09 329 eP P 01 53 19.6 -0.5
BFO pmax pmax
comp=Z,173nm,1.2s,mb6.1
BFO Black Forest 84.09 329 eP P 01 53 19.6 -0.5
comp=Z,173nm,1.2s,mb6.1
NVLJ Novalja 84.11 323 i P P 01 53 23.0 +2.7
STR Strasbourg 84.11 330 eP P 01 53 20.3 +0.1
WPM1 Penmaenmawr 84.23 339 eP P 01 53 20.1 -0.6
WPM1 AMb AMB 01 53 29.6
comp=Z,149nm,1.8s,mb5.8
AGG Agios Georgios 84.26 316 eP P 01 53 19.9 -1.3
DAVA Damuels 84.27 328 iP P 01 53 21.1 +0.1
comp=Z,114nm,1.0s,mb6.0
SANT Santorini 84.28 312 eP P 01 53 18.9 -2.4
comp=Z,181nm,1.4s,mb6.0
SANT epP pP 01 53 24.2 -3.5
THR1 Thera Island 84.28 312 eP P 01 53 19.7 -1.6
BAIF Baives 84.28 333 eP P 01 53 20.4 -0.6
THR3 Thira Island, 84.29 312 eP P 01 53 19.6 -1.8
MEV Metsovon 84.33 317 eP P 01 53 22.6 +1.1
NSAL Nisos Salamina 84.39 314 eP P 01 53 20.5 -1.4
WLS Welschbruch 84.42 330 eP P 01 53 21.5 -0.2
YRC Rhoscolyn 84.43 339 eP P 01 53 22.1 +0.5
YRC AMb AMB 01 53 28.1
comp=Z,103nm,1.4s,mb5.8
CDF Champ du Feu 84.45 330 eP P 01 53 21.6 -0.3
comp=Z,238nm,1.1s,mb5.9
LTHS Al Lith 84.45 291 P P 01 53 24.3 +1.7
CTI Castel Tesino 84.46 326 eP P 01 53 21.6 -0.4
NAIG Nisos Aigina 84.48 314 eP P 01 53 21.0 -1.3
LIBD Limburg 84.53 330 eP P 01 53 22.5 +0.2
LIBD Limburg 84.53 330 eP P 01 53 22.2 -0.1
SDCO Great Sand Dun 84.53 46 eP P 01 53 23.2 +0.6
comp=Z,87nm,1.5s,mb5.7
SDCO LR LR
comp=Z,2μm,20.0s,MS5.5
KIZ Kirchzarten 84.55 329 eP P 01 53 22.1 -0.3
FELD Feldberg 84.58 329 eP P 01 53 22.4 -0.2
EVR Evrytania 84.62 316 eP P 01 53 22.5 -0.5
YRE Yr Eifl 84.62 339 eP P 01 53 23.2 +0.5
YRE AMb AMB 01 53 25.9
comp=Z,187nm,1.6s,mb6.0
JAN Janina 84.63 317 eP P 01 53 23.0 0.0
ECH Echery 84.65 330 eP P 01 53 22.7 -0.2
BRMO Bormio 84.69 327 eP P 01 53 23.6 +0.5
HAE Alders End 84.89 337 eP P 01 53 24.3 +0.3
HAE AMb AMB 01 53 27.8
comp=Z,163nm,1.8s,mb5.9
DLF Lyons Farm 84.94 340 eP P 01 53 24.3 +0.1
NPS Neapolis 84.94 311 eP P 01 53 24.0 -0.7
MOF Molkenrain 84.95 330 eP P 01 53 23.8 -0.6
IGT Igoumenitsa 85.00 317 eP P 01 53 24.4 -0.5
MCH1 Michaelchurch 85.06 338 eP P 01 53 25.1 +0.3
DCN Croghan 85.09 340 eP P 01 53 25.2 +0.2
HINF Hinteralfeld 85.09 330 eP P 01 53 24.3 -0.8
comp=Z,82nm,1.1s,mb5.5
THEF They Montfort 85.11 331 eP P 01 53 24.3 -0.9
BBS Basel-Blauen 85.11 329 eP P 01 53 25.1 -0.1
BBS Basel-Blauen 85.11 329 eP P 01 53 25.2 0.0
HAU Haudompre 85.14 330 eP P 01 53 24.7 -0.7
comp=Z,78nm,0.8s,mb5.6
HAU eR
comp=Z,3μm,18.8s
XRY Khrisi 85.15 311 eP P 01 53 25.5 -0.2
KEK Kerkira 85.16 317 eP P 01 53 25.5 -0.2
MEZF Maizieres J'vi 85.25 331 eP P 01 53 25.7 -0.2
comp=Z,137nm,0.9s,mb5.8
SAL Salo 85.30 327 eP P 01 53 26.6 +0.4
FRSS Farasan al Kab 85.31 287 P P 01 53 29.0 +2.1
HGH Gray Hill 85.32 337 eP P 01 53 26.1 -0.1
HGH AMb AMB 01 53 32.4
comp=Z,118nm,2.8s,mb5.5
LKD Levkas 85.41 316 eP P 01 53 26.9 -0.1
LOMF Lomont 85.48 330 eP P 01 53 26.9 -0.2
VLI Veliai 85.52 314 eP P 01 53 26.5 -1.0
SCHQ Schefferville 85.59 15 P P 01 53 28.2 +0.8
comp=Z,26nm,0.9s,mb5.5,baz=320,slow=4.6,SNR=19
SCHQ LR LR 02 34 15.0
comp=Z,2μm,18.9s,MS5.6,baz=344,slow=37
VAM Vamos 85.68 312 eP P 01 53 28.0 -0.4
RSM Repubblica di 85.73 324 eP P 01 53 29.2 +0.8
RPZ Rata Peaks 85.75 157 LR LR 02 26 38.5
comp=Z,3μm,21.4s,MS5.6,baz=329,slow=32
FSSB Fossombrone 85.76 324 eP P 01 53 27.9 -0.6
KYTH Kithira 85.76 313 eP P 01 53 29.0 +0.2
ITM Ithomi 85.77 314 eP P 01 53 28.0 -0.8

VLS Valsamata 85.82 316 eP P 01 53 27.0 -2.0
ARV Arcevia 85.83 324 eP P 01 53 29.1 +0.1
ANMO Albuquerque 85.89 48 eP P 01 53 30.5 +1.0
comp=Z,57nm,1.4s,mb5.6
ANMO LR LR
comp=Z,1μm,20.0s,MS5.3
SFI Santa Sofia 86.03 325 eP P 01 53 31.0 +1.1
ZCCA Zocca 86.08 325 eP P 01 53 32.8 +2.6
LTRZ Laterza 86.08 320 eP P 01 53 31.1 +0.9
PGD Poggio Sodo 86.11 325 eP P 01 53 31.8 +1.5
HEX Exmoor 86.12 337 eP P 01 53 31.0 +0.9
VMG Vicchio 86.12 325 eP P 01 53 31.6 +1.2
SEI Scarperia 86.14 325 eP P 01 53 32.1 +1.7
GVD Gavdhos 86.14 312 eP P 01 53 30.4 -0.3
comp=Z,99nm,0.6s,mb6.2
GVD epP pP 01 53 35.0 -2.0
CRE Caprese Michel 86.20 324 eP P 01 53 31.7 +1.0
NRCA Norcia 86.25 323 eP P 01 53 31.2 +0.2
GSCL Gusciola 86.25 326 eP P 01 53 31.9 +0.9
ERBM Eremo 86.28 326 eP P 01 53 31.8 +0.6
FG4 Candela 86.36 321 eP P 01 53 33.2 +1.6
FG5 Orsara di Pugl 86.37 321 eP P 01 53 33.3 +1.6
CABF La Chapelle 86.38 330 eP P 01 53 31.0 -0.5
BOB Bobbio (Coli) 86.44 327 eP P 01 53 32.9 +1.0
BDI Bagni Di Lucca 86.47 326 eP P 01 53 31.8 -0.3
AQU L'Aquila 86.48 323 eP P 01 53 32.4 +0.2
AQU pmax pmax
comp=Z,78nm,1.1s,mb5.8
AQU L'Aquila 86.48 323 eP P 01 53 33.1 +1.0
CII Carovilli 86.52 322 eP P 01 53 33.8 +1.4
CSNT Castellina Chi 86.62 325 eP P 01 53 32.2 -0.6
MRLC Muro Lucano 86.65 321 eP P 01 53 33.7 +0.7
ORI Oriolo Calabro 86.67 320 eP P 01 53 34.2 +1.0
LOR Lormes 86.72 331 eP P 01 53 32.4 -0.8
comp=Z,199nm,1.2s,mb5.9
LOR eR
comp=Z,5μm,17.5s
PTQR Pietraquaria 86.73 323 eP P 01 53 33.9 +0.5
SGG Gregorio Mates 86.73 322 eP P 01 53 31.1 -2.3
SDI San Donato 86.77 322 eP P 01 53 33.1 -0.5
PII Pisa 86.77 325 eP P 01 53 33.4 -0.2
MNS Montasola 86.80 323 eP P 01 53 32.7 -1.0
SLCN Sala Consilina 86.85 320 eP P 01 53 35.0 +1.0
SGO Sicignano 86.89 321 eP P 01 53 33.7 -0.5
CBKS Cedar Bluff 86.96 42 eP P 01 53 33.8 -0.8
comp=Z,67nm,1.0s,mb5.8
CBKS LR LR
comp=Z,2μm,20.0s,MS5.4
LPL La Plagne 87.00 329 eP P 01 53 34.9 +0.3
comp=Z,22nm,0.5s,mb5.3
LPG La Plagne 87.00 329 eP P 01 53 34.9 +0.3
comp=Z,35nm,0.5s,mb5.5
SSF Saint Saulge 87.02 331 eP P 01 53 34.1 -0.6
comp=Z,89nm,1.0s,mb5.6
TDS Terranova Siba 87.03 319 eP P 01 53 36.3 +1.4
FLN La Foliniere 87.04 334 eP P 01 53 34.0 -0.7
FLN eR
comp=Z,4μm,18.0s
LDF La Druitiere 87.06 334 eP P 01 53 34.1 -0.7
comp=Z,76nm,0.9s,mb5.6
HYF Humligny 87.18 332 eP P 01 53 35.3 -0.1
SMF Signal de Mont 87.24 331 eP P 01 53 34.9 -0.8
BNI Bardonecchia 87.39 328 eP P 01 53 36.8 +0.3
BNI pmax pmax
comp=Z,58nm,1.5s,mb5.6
BNI Bardonecchia 87.39 328 eP P 01 53 36.8 +0.3
comp=Z,58nm,1.5s,mb5.6
GRR Gorron 87.49 334 eP P 01 53 36.5 -0.4
GRI Girifalco 87.61 319 eP P 01 53 38.9 +1.2
MBDF Montbardon 87.62 328 eP P 01 53 36.8 -0.8
comp=Z,19nm,0.6s,mb5.2
ORIF Oris-en-Rattie 87.84 329 eP P 01 53 38.3 -0.3
ORIF eR
comp=Z,4μm,18.2s
SAOF Saorge 87.88 327 eP P 01 53 39.0 +0.1
AUTN L'Aution 87.93 327 eP P 01 53 38.7 -0.4
TOUF Mont Tournerai 87.99 327 eP P 01 53 38.7 -0.7
AGO Saint Agoulin 88.00 331 eP P 01 53 40.7 +1.3
SBF Sospel 88.03 327 eP P 01 53 38.2 -1.4
comp=Z,92nm,1.0s,mb5.7
AURF Auriere 88.06 327 eP P 01 53 39.2 -0.5
MVIF Mont Vial 88.12 327 eP P 01 53 36.3 -3.8
TCF Toulx Ste Croi 88.16 332 eP P 01 53 40.0 -0.2
SGMF Saint Gilles 88.18 335 eP P 01 53 39.8 -0.4
comp=Z,250nm,1.4s,mb6.0
PYM Petit Puy Mans 88.30 331 eP P 01 53 41.9 +1.0
ROSF Rostrenen 88.34 336 eP P 01 53 40.7 -0.3
comp=Z,84nm,0.9s,mb5.7
SOI Samo 88.35 318 eP P 01 53 41.0 -0.3
KSU1 Kansas State U 88.38 40 eP P 01 53 40.7 -0.7
VIVF Saint-Julien-l 88.38 329 eP P 01 53 40.5 -0.8
PGF Pioggiola 88.39 325 eP P 01 53 40.2 -1.1
comp=Z,110nm,1.3s,mb5.6
JFWS Jewell Farm 88.47 34 eP P 01 53 40.8 -0.9
comp=Z,42nm,0.9s,mb5.7
JFWS epP pP 01 53 46.3 -1.8
JFWS LR LR
comp=Z,2μm,20.0s,MS5.6
FRF La Foret Royal 88.61 327 eP P 01 53 41.1 -1.3
comp=Z,121nm,1.4s,mb5.7
LBL Lubilhac 88.64 330 eP P 01 53 41.2 -1.3
QUIF Quistinic 88.67 336 eP P 01 53 41.9 -0.7
comp=Z,344nm,1.6s,mb6.1
AMTX Amarillo 88.73 46 eP P 01 53 43.5 +0.4
comp=Z,35nm,1.0s,mb5.6
SMRF Simiane la Rot 88.73 328 eP P 01 53 41.9 -1.1
comp=Z,35nm,1.2s,mb5.3
MFF Saint Martin d 88.77 333 eP P 01 53 42.8 -0.3
comp=Z,216nm,1.6s,mb5.9
LMR La Mourre 88.86 327 eP P 01 53 42.3 -1.3
comp=Z,133nm,1.4s,mb5.8
RJF Les Rejaudoux 89.25 331 eP P 01 53 45.0 -0.4
comp=Z,150nm,1.5s,mb5.8
RJF eR
comp=Z,6μm,18.5s
LASF Ste Croix 89.36 329 eP P 01 53 45.4 -0.5
comp=Z,100nm,1.6s,mb5.6
CAF Calviac 89.36 331 eP P 01 53 45.7 -0.2
LFF La Frestale 89.85 332 eP P 01 53 47.4 -0.8
comp=Z,48nm,0.9s,mb5.5
WMOK Wichita Mounta 90.47 44 eP P 01 53 51.0 -0.3
comp=Z,92nm,1.7s,mb5.8
WMOK LR LR
comp=Z,2μm,20.0s,MS5.5
MTLF Montolieu 90.63 330 eP P 01 53 51.5 -0.3
comp=Z,154nm,1.6s,mb5.8
MLS Moulis 91.39 330 eP P 01 53 55.8 +0.4
LTX Lajitas 91.49 51 eP P 01 53 56.7 +0.5
comp=Z,47nm,1.4s,mb5.6
LTX LR LR
comp=Z,571nm,21.0s,MS5.0
TXAR Lajitas Array 91.49 51 P P 01 53 56.5 +0.4
comp=Z,7.8nm,0.6s,mb5.2,baz=293,slow=3.2,SNR=75
TXAR PP PP 01 57 34.3 -2.4
comp=Z,3.3nm,1.1s,baz=330,slow=7.3,SNR=3.3
TXAR PKKPbc 02 11 17.3
comp=Z,0.9nm,0.6s,baz=148,slow=5.5,SNR=12
EPF Esparros 91.62 331 eP P 01 53 55.8 -0.6
comp=Z,36nm,1.3s,mb5.3
AAM Ann Arbor 91.76 30 PFAKE 01 54 10.0 +13
AAM LR LR
comp=Z,2μm,19.0s,MS5.5
RESF Ens 91.81 331 eP P 01 53 58.8 +1.5
CCM Cathedral Cave 91.86 37 eP P 01 53 57.3 -0.3
comp=Z,33nm,0.8s,mb5.7
CCM LR LR
comp=Z,341nm,19.0s,MS4.8
SLM Saint Louis 91.88 36 P P 01 53 58.2 +0.5
SLM pmax pmax
comp=Z,22nm,0.4s,mb5.8
SLM Saint Louis 91.88 36 eP P 01 53 57.8 +0.1
comp=Z,22nm,0.4s,mb5.8
ETSF Etsaut 92.08 331 eP P 01 53 58.6 +0.1
comp=Z,51nm,1.1s,mb5.5
FVM French Village 92.31 37 eP P 01 53 59.9 +0.2
FVM pmax pmax
comp=Z,29nm,1.0s,mb5.6
FVM French Village 92.31 37 eP P 01 53 59.9 +0.2
comp=Z,29nm,1.0s,mb5.6
MSNY Massena 92.56 23 eP P 01 54 01.1 +0.4
PQI Presque Isle 92.97 18 PFAKE 01 54 10.0 +7.5
PQI LR LR
comp=Z,21μm,19.0s,MS6.6
JCT Junction City 93.00 48 eP P 01 53 03.9 +0.8
comp=Z,5.7nm,0.3s,mb5.5

JCT LR LR
comp=Z,1μm,19.0s,MS5.4
MIAR Mount Ida 93.42 41 eP P 01 54 05.0 +0.1
comp=Z,39nm,1.0s,mb5.8
MIAR LR LR
comp=Z,2μm,20.0s,MS5.6
EBR Ebro Roquetas 93.44 330 eTs 01 54 05.0
GENY Geneseo 93.56 26 eP P 01 54 06.1 +0.8
USIN University of 93.62 35 eP P 01 54 06.5 +0.8
comp=Z,51nm,1.4s,mb5.8
NCB Newcomb 93.69 23 eP P 01 54 06.6 +0.7
comp=Z,38nm,1.3s,mb5.7
NCB LR LR
comp=Z,2μm,19.0s,MS5.6
ACSO Alum Creek Sta 93.77 31 eP P 01 54 06.0 -0.4
comp=Z,17nm,0.8s,mb5.5
ACSO LR LR
comp=Z,2μm,21.0s,MS5.6
MIV Mineville/With 93.81 23 P P 01 54 06.9 +0.5
WCI Wyandotte Cave 94.02 34 eP P 01 54 07.6 0.0
comp=Z,42nm,1.3s,mb5.7
WCI LR LR
comp=Z,557nm,20.0s,MS5.0
HBAR Harrisburg 94.12 39 eP P 01 54 09.6 +1.5
GLAT Glass 94.22 37 P P 01 54 09.7 +1.1
UTMT University of 94.37 37 P P 01 54 11.5 +2.2
ACCN Adirondack Com 94.39 23 eP P 01 54 10.1 +1.0
WVL Waterville 94.49 20 PFAKE 01 54 20.0 +10
WVL LR LR
comp=Z,11μm,21.0s,MS6.3
BINY Binghamton 94.69 25 eP P 01 54 11.7 +1.1
comp=Z,35nm,1.3s,mb5.6
BINY LR LR
comp=Z,2μm,20.0s,MS5.7
EMMW East Machias 94.94 19 PFAKE 01 54 20.0 +8.4
EMMW LR LR
comp=Z,11μm,20.0s,MS6.3
NATX Nacogdoches 94.98 44 PFAKE 01 54 20.0 +7.9
NATX LR LR
comp=Z,1μm,19.0s,MS5.5
WVT Waverly 95.03 36 eP P 01 54 12.0 -0.3
comp=Z,15nm,0.9s,mb5.4
WVT LR LR
comp=Z,1μm,19.0s,MS5.4
SSPA Standing Stone 95.40 27 eP P 01 54 15.7 +1.8
comp=Z,15nm,1.0s,mb5.4
SSPA LR LR
comp=Z,469nm,20.0s,MS5.0
MCWV Mont Chateau 95.51 29 PFAKE 01 54 30.0 +16
MCWV LR LR
comp=Z,3μm,19.0s,MS5.7
OXF Oxford 95.57 38 eP P 01 54 15.2 +0.3
comp=Z,51nm,1.1s,mb5.9
OXF LR LR
comp=Z,2μm,20.0s,MS5.5
HKT Hockley 95.69 45 PFAKE 01 54 30.0 +15
HKT LR LR
comp=Z,424nm,20.0s,MS4.9
HRV Harvard--Oak R 95.83 22 PFAKE 01 54 30.0 +14
HRV LR LR
comp=Z,2μm,21.0s,MS5.5
WES Weston 96.02 22 PFAKE 01 54 30.0 +13
WES LR LR
comp=Z,1μm,22.0s,MS5.2
PVRL Vila Real 96.06 335 ePP PP 01 58 17.2 +5.2
ESDC Sonseca Array 96.16 332 P P 01 54 17.9 +0.5
comp=Z,0.8nm,0.5s,baz=44,slow=3.5,SNR=5.4
ESDC LR LR 02 38 32.4
comp=Z,2μm,19.5s,baz=5.0,slow=36
PVIS Viseu 96.62 335 ePP PP 01 58 20.5 +4.0
SWET Sewanee 96.67 36 eP P 01 54 19.6 -0.2
PWV Princeton 97.03 31 eP P 01 54 22.3 +1.0
CPCT Cooper Cave 97.12 34 eP P 01 54 24.7 +2.9
ELN Prospectdale 97.24 31 eP P 01 54 22.3 0.0
PCBR Castelo Branco 97.27 335 ePP PP 01 58 27.6 +5.9
BLA Blacksburg 97.39 31 eP P 01 54 23.9 +1.0
comp=Z,21nm,1.0s,mb5.5
BLA LR LR
comp=Z,2μm,19.0s,MS5.6
CBN Corbin 97.72 28 PFAKE 01 54 40.0 +16
CBN LR LR
comp=Z,4μm,19.0s,MS5.9
PTOM Tomar 97.78 335 eP P 01 54 29.0 +4.3
PTOM ePP PP 01 58 23.4 -2.4
LRAL Lakeview Retre 97.94 38 PFAKE 01 54 40.0 +14
LRAL LR LR
comp=Z,2μm,19.0s,MS5.6
PLOU Loures 98.69 335 ePP PP 01 58 37.0 +4.6
PALC Alcoutim 99.39 334 eP P 01 54 37.0 +5.0
PALC ePP PP 01 58 43.0 +5.3
PTEO Sao Teotonio 99.75 334 ePP PP 01 58 43.5 +2.9
KMBO Kilima Mbogo 99.99 276 P P 01 54 35.0 -0.3
comp=Z,2.0nm,0.8s,mb4.6,baz=37,slow=7.0,SNR=7.5
KMBO PP PP 01 58 38.3 -4.8
comp=Z,1.7nm,1.0s,baz=39,slow=10.0,SNR=6.5
KMBO PKKPbc 02 10 57.0
comp=Z,1.1nm,0.8s,baz=67,slow=21,SNR=4.0
KMBO LR LR 02 41 46.0
comp=Z,1μm,19.2s,MS5.4,baz=81,slow=37
NHSC New Hope 101.01 33 PFAKE 01 54 50.0 +11
NHSC LR LR
comp=Z,2μm,20.0s,MS5.7
DWPF Disney 104.69 36 PFAKE 01 55 10.0 +14
DWPF LR LR
comp=Z,523nm,19.0s,MS5.1
MBAR Mbarara 104.81 281 PFAKE 01 55 10.0 +13
MBAR LR LR
comp=Z,405nm,19.0s,MS5.0
CASY Casey 105.56 192 PFAKE 01 59 20.0
CASY LR LR
comp=Z,708nm,20.0s,MS5.2
BBSR BB Station 107.25 21 PFAKE 01 59 30.0
BBSR LR LR
comp=Z,2μm,20.0s,MS5.5
TEIG Tepich 107.52 46 PFAKE 01 59 30.0
TEIG LR LR
comp=Z,1.0nm,20.0s
VNDA Vanda 115.42 175 PKP PKPdf 01 59 30.3 -3.1
comp=Z,3.4nm,0.7s,baz=299,slow=4.7,SNR=32
VNDA PP PP 02 00 29.9 -5.8
comp=Z,3.2nm,1.1s,baz=335,slow=8.0,SNR=4.4
VNDA PKKPbc 02 10 08.3
comp=Z,1.3nm,1.0s,baz=229,slow=6.6,SNR=4.0
VNDA Vanda 115.42 175 PKIKP PKPdf 01 59 30.3 -3.1
VNDA 02 00 29.9
VNDA 02 10 08.3
VNDA pmax pmax
comp=Z,3.0nm,0.7s
VNDA pmax pmax
comp=Z,3.0nm,1.1s
VNDA Vanda 115.42 175 PKP PKPdf 01 59 30.3 -3.1
VNDA PP PP 02 00 29.9 -5.8
VNDA PKKPbc 02 10 08.3
LSZ Lusaka 115.53 270 PFAKE 01 59 40.0 +5.1
LSZ LR LR
comp=Z,1μm,19.0s,MS5.5
SBA Scott Base 116.13 174 ePKPdf PKPdf 01 59 32.5 -2.3
SBA LR LR
comp=Z,865nm,20.0s,MS5.4
MAW Mawson 118.94 205 eP PKPdf 01 59 37.7 -2.7
comp=Z,6.8nm,0.9s
MAW Mawson 118.94 205 PKP PKPdf 01 59 37.9 -2.5
comp=Z,7.6nm,0.9s,baz=7.6,slow=2.9,SNR=12
MAW Mawson 118.94 205 PKIKP PKPdf 01 59 37.9 -2.5
MAW pmax pmax
comp=Z,8.0nm,0.9s
SJG San Juan 120.01 28 PFAKE 01 59 50.0 +6.5
SJG LR LR
comp=Z,942nm,21.0s,MS5.4
PAYG Puerto Ayora 121.84 63 PFAKE 02 00 00.0 +13
PAYG LR LR
comp=Z,1μm,19.0s,MS5.5
LBTB Lobatse 122.73 262 PKPdf PKPdf 01 59 46.4 -2.2
DBIC Dimbokro 124.72 314 PKP PKPdf 01 59 48.5 -4.4
comp=Z,14nm,0.6s,baz=66,slow=2.0,SNR=26
DBIC PP PP 02 01 34.1 -6.4
comp=Z,10.0nm,1.1s,baz=5.2,slow=9.1,SNR=3.5
DBIC Dimbokro 124.72 314 PKIKP PKPdf 01 59 48.5 -4.4
DBIC 02 01 34.1
DBIC pmax pmax
comp=Z,14nm,0.6s
DBIC pmax pmax
comp=Z,10.0nm,1.1s
TIC Toumodi 124.84 315 ePKP1 PKPdf 01 59 48.6 -4.5
comp=Z,109nm,1.1s
KIC Kosan Boka 124.91 314 ePKP1 PKPdf 01 59 50.0 -3.2

	comp=Z,128nm,1.0s								
LIC	**Lamto**	**125.19**	**314**	*e*PKP1	PKPdf	01 59 49.3	-4.5		
	comp=Z,89nm,1.0s								
LIC	**Lamto**	**125.19**	**314**	*e*PKIKP	PKPdf	01 59 50.4	-3.4		
	comp=Z,69nm,1.0s								
SDV	**Santo Domingo**	**126.34**	**37**	*e*PKPdf	PKPdf	01 59 52.5	-3.4		
SDV				LR	LR				
	comp=Z,1μm,20.0s,MS5.5								
QSPA	**South Pole Qui**	**127.05**	**180**	*e*P	PKPdf	01 59 52.1	-3.5		
SYO	**Syowa Base**	**127.57**	**207**	⇑PKPdf	PKPdf	01 59 52.4	-4.5		
SYO	**Syowa Base**	**127.57**	**207**	⇓pPKPdf		02 00 00.8			
OTAV	**Otavalo**	**129.11**	**52**	PFAKE		02 00 10.0	+8.6		
OTAV				LR	LR				
	comp=Z,465nm,21.0s,MS5.2								
MAIT	**Maitri**	**136.82**	**203**	*e*PKPdf	PKPdf	02 00 13.6	-0.5		
NNA	**Nana**	**139.23**	**61**	PFAKE		02 00 30.0	+10		
NNA				LR	LR				
	comp=Z,219nm,21.0s,MS4.9								
SNAA	**Sanae**	**140.42**	**198**	*e*	PKPdf	02 00 14.3	-6.5		
SNAA	**Sanae**	**140.42**	**198**	*e*PKHKP		02 00 08.5			
SNAA	**Sanae**	**140.42**	**198**	⇓*i*PKPdf	PKPdf	02 00 08.1	-13		
SNAA				*e*		02 00 14.3			
SNAA				*e*		02 03 15.9			
VNA2	**Neumayer--Watz**	**142.02**	**197**	*e*	PKPdf	02 00 24.5	+1.1		
VNA2	**Neumayer--Watz**	**142.02**	**197**	⇓*i*PKPdf	PKPdf	02 00 17.9	-5.5		
VNA2				*e*		02 00 24.5			
VNA2				*e*		02 03 26.0			
VNA3	**Neumayer Olymp**	**142.31**	**196**	*e*	PKPdf	02 00 23.8	-0.1		
VNA3	**Neumayer Olymp**	**142.31**	**196**	⇑*i*PKPdf	PKPdf	02 00 17.5	-6.4		
VNA3				*e*		02 00 23.8			
VNA3				*e*		02 03 25.6			
VNA1	**Neumayer--Stat**	**142.41**	**197**	*e*	PKPdf	02 00 26.1	+2.0		
VNA1	**Neumayer--Stat**	**142.41**	**197**	⇑*i*PKPdf	PKPdf	02 00 19.1	-5.0		
VNA1				*e*		02 00 26.1			
VNA1				*e*		02 03 27.9			
SAML	**Samuel**	**145.38**	**41**	*e*PKPdf	PKPdf	02 00 27.3	-3.6		
SAML				LR	LR				
	comp=Z,1μm,19.0s,MS5.6								
LPAZ	**La Paz**	**148.21**	**56**	PKP	PKPdf	02 00 35.2	-0.3		
	comp=Z,43nm,0.8s,baz=353,slow=3.7,SNR=56								
LPAZ				PKPbc	PKPdf	02 00 37.8	+2.3		
	comp=Z,43nm,0.8s,baz=353,slow=5.1,SNR=96								
RCBR	**Riachuelo**	**148.32**	**350**	*e*PKPdf	PKPdf	02 00 33.8	-2.0		
RCBR				LR	LR				
	comp=Z,1μm,21.0s,MS5.6								
PMSA	**Palmer Station**	**149.29**	**161**	*e*PKPdf	PKPdf	02 00 33.5	-2.3		
PMSA				LR	LR				
	comp=Z,1μm,19.0s,MS5.7								
LVC	**Limon Verde**	**151.89**	**66**	*e*PKPbc	PKPdf	02 00 45.3	+4.3		
LVC				LR	LR				
	comp=Z,2μm,20.0s,MS5.8								
FCH	**Farellones**	**155.85**	**89**	*e*P	PKPdf	02 00 44.9	-1.2		
BAO	**Brasilia Array**	**157.55**	**18**	PKP	PKPdf	02 00 47.3	-1.6		
BAO				*e*		02 01 05.1			
BAO				*e*		02 01 19.2			
BDFB	**Brasilia**	**157.55**	**18**	PKP	PKPdf	02 00 46.8	-2.1		
	comp=Z,4.2nm,0.8s,baz=90,slow=3.7,SNR=5.6								
BDFB				PKPab	PKPab	02 01 18.7	-0.5		
	comp=Z,14nm,0.7s,baz=358,slow=1.3,SNR=11								
CPUP	**Villa Florida**	**162.38**	**56**	PKP	PKPdf	02 00 52.3	-1.6		
	comp=Z,2.3nm,0.8s,baz=335,slow=4.1,SNR=4.5								
CPUP				PKPab	PKPab	02 01 39.5	-0.2		
	comp=Z,8.5nm,1.1s,baz=327,slow=3.5,SNR=4.4								
CPUP	**Villa Florida**	**162.38**	**56**	PKIKP	PKPdf	02 00 52.3	-1.6		
CPUP						02 01 39.6			
CPUP				pmax	pmax				
	comp=Z,2.0nm,0.9s								
CPUP				pmax	pmax				
	comp=Z,9.0nm,1.1s								
TRQA	**Tornquist**	**163.41**	**99**	PKPdf	PKPdf	02 00 49.2	-5.3		
TRQA				LR	LR				
	comp=Z,1μm,20.0s								

JMA ***27*** *01:42:09.1,37.26N×138.98E,h12km,M5.1*
JMA Felt IV J1.

ISC 27 01:42:08.8±0.5,37.26N±0.03×138.98E±0.04,h12km,n8, σ0$40/16,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.03**	**114**	P	**Pb**	**01 42 11.2**	**+0.2**
JHK				S	**Sb**	**01 42 12.8**	**+0.4**
JKT	**Katashina**	**0.54**	**156**	P	**Pb**	**01 42 19.5**	**-0.2**
JKT				S	**Sb**	**01 42 26.6**	**-0.5**
JFY	**Yanaizu**	**0.60**	**76**	P	**Pb**	**01 42 20.9**	**+0.3**
JFY				*e*S	**Sb**	**01 42 28.3**	**-0.4**
JNS	**Sasagawa**	**0.62**	**26**	P	**Pb**	**01 42 20.8**	**-0.2**
JNS				S	**Sb**	**01 42 28.7**	**-0.6**
JGK	**Kuni**	**0.75**	**201**	P	**Pb**	**01 42 23.5**	**+0.2**
JGK				S	**Sb**	**01 42 33.0**	**-0.2**
JAG	**Ashikaga**	**0.92**	**155**	P	**Pb**	**01 42 26.6**	**+0.5**
JAG				S	**Sb**	**01 42 38.5**	**+0.4**
MAT	**Matsushiro**	**0.95**	**221**	P	**Pb**	**01 42 26.6**	**-0.1**
MAT				S	**Sb**	**01 42 38.3**	**-0.6**
JSD	**Sado**	**0.96**	**324**	P	**Pb**	**01 42 27.0**	**+0.1**
JSD				S	**Sb**	**01 42 40.0**	**+0.7**

NEIC ***27*** *01:45:34.4±0.5,37.30N×138.87E,h10km,mb4.6/1,Error ellipse: s-maj=17.0km s-min=7.4km az=110.0*
JMA ***27*** *01:45:35.0,37.30N×138.97E,h7km±1km,M4.2*
JMA Felt IV J1.
IDC ***27*** *01:45:40.6±4.2,37.23N×138.57E,h54km±39km,mb3.9/9, mb1 4.2/10,mb1mx4.0/22,ML4.2/1,Error ellipse: s-maj=35.4km s-min=18.3km az=70.0*

ISC 27 01:45:33.5±1.1,37.28N±0.07×139.1E±0.1,h20km±6km, n18,σ0$70/20,mb4.2/10,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.05**	**239**	P	**Pb**	**01 45 36.7**	**-0.5**
JIZZ	**Izumozaki**	**0.39**	**312**	P	**Pb**	**01 45 41.5**	**-0.1**
JJN	**Nakama**	**0.75**	**257**	P	**Pb**	**01 45 48.0**	**+0.3**
JJN				S	**Sb**	**01 45 57.5**	**+0.1**
MAJO	**Matsushiro**	**1.01**	**224**	*e*P	**Pb**	**01 45 52.2**	**+0.1**
MAT	**Matsushiro**	**1.01**	**224**	P	**Pb**	**01 45 52.6**	**+0.5**
MAT				S	**Sb**	**01 46 04.9**	**0.0**
MAT	**Matsushiro**	**1.01**	**224**	*e*P	**Pb**	**01 45 53.0**	**+0.9**
MAT				*e*S	**Sb**	**01 46 05.0**	**+0.1**
JHJ	**Hachijo jima 2**	**4.19**	**172**	P	**Pn**	**01 46 42.6**	**+4.7**
	40nm,0.3s,baz=63,slow=20,SNR=2.3						
SONM	**Songino Array**	**26.10**	**304**	P	**P**	**01 51 06.3**	**-1.3**
	1.8nm,0.8s,mb3.6,baz=94,slow=4.6,SNR=2.7						
WRAB	**Tennant Creek**	**57.07**	**185**	P	**P**	**01 55 19.9**	**-1.0**
	3.6nm,0.6s,mb4.6						
WRA	**Warramunga Arr**	**57.08**	**185**	P	**P**	**01 55 21.0**	**+0.1**
	1.4nm,0.4s,mb4.4,baz=0.2,slow=7.6,SNR=9.4						
ASAR	**Alice Springs**	**60.81**	**185**	P	**P**	**01 55 46.1**	**-0.6**
	1.5nm,1.0s,mb4.1,baz=-3.7,slow=6.9,SNR=3.5						
ARCES	**ARCESS Array B**	**63.11**	**339**	P	**P**	**01 56 01.6**	**+0.2**
	3.8nm,0.8s,mb4.5,baz=49,slow=8.3,SNR=4.2						
FINES	**FINESS Array B**	**67.72**	**331**	P	**P**	**01 56 30.8**	**-0.3**
	4.0nm,0.8s,mb4.5,baz=45,slow=7.9,SNR=4.9						
AKASG	**Malin Array Be**	**72.95**	**321**	P	**P**	**01 57 03.0**	**0.0**
	4.5nm,0.9s,mb4.4,baz=46,slow=6.2,SNR=6.1						
NOA	**NORSAR Array B**	**73.23**	**336**	P	**P**	**01 57 05.0**	**+0.5**
	2.1nm,0.6s,mb4.2,baz=40,slow=6.0,SNR=3.4						
PDAR	**Pinedale Array**	**78.82**	**44**	P	**P**	**01 57 39.3**	**+3.0**
	0.9nm,0.8s,mb3.8,baz=315,slow=2.6,SNR=4.3						
GERES	**GERESS Array B**	**81.51**	**327**	P	**P**	**01 57 50.8**	**+0.3**
	1.2nm,0.7s,mb4.0,baz=45,slow=5.7,SNR=5.1						
LPAZ	**La Paz**	**148.15**	**56**	PKPbc	PKPdf	02 05 22.3	+3.2
	1.3nm,0.8s,baz=287,slow=3.3,SNR=3.4						

JMA 27 01:46:00.6,37.26N×139.00E,h12km,M3.5,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.02**	**131**	P	Pb	01 46 02.6	0.0
JHK				S	Sb	01 46 04.1	+0.3
JKT	**Katashina**	**0.53**	**158**	*e*S	Sg	01 46 18.1	-0.5
JFY	**Yanaizu**	**0.58**	**75**	*e*S	Sb	01 46 19.2	-0.9
JAG	**Ashikaga**	**0.91**	**156**	*e*S	Sb	01 46 29.6	0.0

JMA 27 01:47:21.3,37.27N×139.03E,h11km±1km,M4.0,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.02**	**206**	P	Pg	01 47 23.1	-0.2
JHK				S	Sg	01 47 24.7	0.0
JIZZ	**Izumozaki**	**0.36**	**316**	P	Pg	01 47 28.9	0.0
JIZZ				S	Sg	01 47 35.1	+1.2
JKT	**Katashina**	**0.53**	**161**	P	Pg	01 47 31.4	-0.7
JKT				S	Sg	01 47 38.9	-0.4
JFY	**Yanaizu**	**0.56**	**76**	P	Pb	01 47 31.9	-0.7
JFY				S	Sg	01 47 39.3	-0.8
JNS	**Sasagawa**	**0.59**	**23**	P	Pb	01 47 32.1	-1.1
JNS				*e*S	Sb	01 47 39.7	-1.6
JJN	**Nakama**	**0.71**	**257**	*e*S	Sb	01 47 45.0	+0.2
JGK	**Kuni**	**0.77**	**204**	P	Pb	01 47 35.9	-0.4
JGK				S	Sb	01 47 46.3	-0.2
JSD	**Sado**	**0.98**	**322**	P	Pb	01 47 38.3	-1.5
JSD				*e*S	Sb	01 47 52.2	-0.3

PRU ***27*** *01:51:04.3,51.42N×16.20E*
WAR ***27*** *01:51:04.6,51.45N×16.16E,ML2.8,Mining Induced*

ISC 27 01:51:02.7±1.3,51.43N±0.06×16.08E±0.07,n10,σ1$08/21, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.61**	**167**	*i* PG	**Pg**	**01 51 15.8**	**+1.0**
KSP				*e*SG	**Sg**	**01 51 24.8**	**+1.9**
KSP	**Ksiaz**	**0.61**	**167**	*e*Pg	**Pg**	**01 51 15.8**	**+1.0**
KSP				*e*Sg	**Sg**	**01 51 24.3**	**+1.4**
UPC	**Upice**	**0.93**	**183**	*e*PG	**Pg**	**01 51 21.9**	**+0.7**
DPC	**Dobruska-Polom**	**1.10**	**172**	*e*PG	**Pg**	**01 51 24.5**	**0.0**
DPC				*e*SG	**Sg**	**01 51 39.1**	**-0.1**
	16nm,0.3s						
PVCC	**Panska Ves**	**1.32**	**227**	*e*PG	**Pg**	**01 51 30.0**	**+1.0**
PRU	**Pruhonice**	**1.75**	**215**	PG	**Pg**	**01 51 36.7**	**-0.9**
PRU				*i* x	x	01 51 53.5	
PRU				SG	**Sg**	**01 52 01.0**	**+0.1**
	23nm,0.4s						
CLL	**Collm**	**1.94**	**267**	*i* PG	**Pg**	**01 51 41.1**	**-0.2**
CLL				*i* SG	**Sg**	**01 52 07.7**	**+0.6**
OKC	**Ostrava-Krasne**	**2.07**	**140**	*e*PG	**Pg**	**01 51 41.7**	**-2.3**
OKC				*e*SG	**Sg**	**01 52 07.7**	**-3.9**
NKC	**Novy Kostel**	**2.60**	**244**	*e*PN	**Pn**	**01 51 47.9**	**+1.2**
NKC				*e*PG	**Pg**	**01 51 54.0**	**-0.6**
NKC				*e*SG	**Sg**	**01 52 28.9**	**-0.3**
KHC	**Kasperske Hory**	**2.81**	**216**	*e*PN	**Pn**	**01 51 50.6**	**+0.9**
KHC				*e*PG	**Pg**	**01 51 56.3**	**-2.5**
KHC				*e*SN	**Sn**	**01 52 25.0**	**+0.2**
KHC				*e*SG	**Sg**	**01 52 34.9**	**-1.3**

DJA 27 01:52:58.4±0.3,3.76S×119.98E,h2km,MD4.2/3,2C-4D, Error ellipse: s-maj=8.8km s-min=4.9km az=163.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUNI	**Buntu Taipa**	**0.35**	**74**	⇓*i*Pn	Pn	01 53 07.5	-2.5
	59nm,0.2s						
BUNI				⇓*i*Sn	Sn	01 53 14.8	-2.9
TANI	**Tanete Lipujan**	**0.68**	**298**	⇓*i*Pn	Pn	01 53 11.3	-3.4
	40nm,0.2s						
TANI				⇑*i*Sn	Sn	01 53 22.7	-3.3
NINI	**Niniconang**	**0.70**	**199**	⇓*i*Pn	Pn	01 53 11.5	-3.4
	98nm,0.2s						
NINI				⇑*i*Sn	Sn	01 53 24.4	-2.0

NEIC ***27*** *01:56:26.7±0.4,37.31N×138.76E,h10km,mb3.9/1,Error ellipse: s-maj=14.3km s-min=7.0km az=115.0*
JMA ***27*** *01:56:26.8,37.31N×138.97E,h10km±1km,M3.8 Broadband fault plane solution: P waves. NP1:φs66°,δ36°, λ104°. NP2:φs229°,δ56°,λ80°. Principal axes: TPlg77°, Azm108°; NPlg8°, Azm235°; PPlg10°, Azm326°;*
JMA Felt III J1.
IDC ***27*** *01:56:32.8±12.0,37.22N×138.58E,h59km±110km, mb3.6/12,mb1 3.9/12,mb1mx3.7/22 Error ellipse: s-maj=28.3km s-min=23.9km az=54.0*

ISC 27 01:56:26.2±0.5,37.30N±0.05×138.97E±0.05,h18km±4km, n24,σ1$09/28,mb3.8/13,2D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.07**	**142**	P	**Pb**	**01 56 29.0**	**-0.5**
JHK				S	**Sb**	**01 56 30.6**	**-1.2**
JIZZ	**Izumozaki**	**0.31**	**319**	⇓P	**Pb**	**01 56 33.4**	**+0.5**
JNS	**Sasagawa**	**0.59**	**28**	⇓P	**Pb**	**01 56 37.6**	**0.0**
JNS				S	**Sb**	**01 56 45.5**	**+0.1**
JFY	**Yanaizu**	**0.60**	**79**	P	**Pb**	**01 56 38.2**	**+0.4**
JFY				S	**Sb**	**01 56 46.2**	**+0.5**
JJN	**Nakama**	**0.67**	**253**	P	**Pb**	**01 56 39.7**	**+0.7**
JJN				S	**Sb**	**01 56 49.6**	**+1.7**
MAJO	**Matsushiro**	**0.97**	**219**	*e*P	**Pb**	**01 56 44.2**	**0.0**
MAT	**Matsushiro**	**0.97**	**219**	*e*P	**Pb**	**01 56 44.0**	**-0.1**
MAT				*e*S	**Sb**	**01 56 57.0**	**+0.5**
SONM	**Songino Array**	**26.02**	**304**	P	**P**	**02 01 58.4**	**-1.4**
	0.6nm,0.8s,mb3.2,baz=109,slow=8.3,SNR=3.2						
KURK	**Kurchatov**	**44.23**	**308**	P	**P**	**02 04 34.7**	**-1.2**
	1.0nm,0.5s,mb3.8						
WRA	**Warramunga Arr**	**57.10**	**185**	P	**P**	**02 06 12.2**	**-1.9**
	0.5nm,0.3s,mb4.0,baz=0.2,slow=7.5,SNR=7.1						
DLBC	**Dease Lake**	**59.61**	**38**	P	**P**	**02 06 33.2**	**+2.1**
	0.8nm,0.5s,mb4.0,baz=201,slow=23,SNR=3.8						
ARCES	**ARCESS Array B**	**63.05**	**339**	P	**P**	**02 06 53.4**	**-0.7**
	2.5nm,0.8s,mb4.4,baz=45,slow=6.9,SNR=3.7						
FINES	**FINESS Array B**	**67.66**	**331**	P	**P**	**02 07 22.1**	**-1.7**
	1.7nm,0.7s,mb4.2,baz=72,slow=4.4,SNR=5.1						
AKASG	**Malin Array Be**	**72.88**	**321**	P	**P**	**02 07 53.6**	**-2.1**
	1.1nm,0.6s,mb4.0,baz=45,slow=6.0,SNR=6.7						
NB2	**NORSAR Subarra**	**73.17**	**336**	P	**P**	**02 07 56.1**	**-1.1**
	0.9nm,0.6s,mb3.9,baz=39,slow=6.2						
NOA	**NORSAR Array B**	**73.17**	**336**	P	**P**	**02 07 56.4**	**-0.8**
	1.4nm,0.7s,mb4.0,baz=40,slow=6.0,SNR=3.8						
NVAR	**Mina Array Bea**	**76.38**	**52**	P	**P**	**02 08 17.2**	**+1.1**
	0.9nm,0.6s,mb3.9,baz=303,slow=5.4,SNR=5.6						
NVAR	**Mina Array Bea**	**76.38**	**52**	P	**P**	**02 08 17.2**	**+1.1**
BRTR	**Keskin Array B**	**77.20**	**310**	P	**P**	**02 08 21.3**	**+0.7**
	0.3nm,0.5s,mb3.5,baz=135,slow=6.1,SNR=3.8						
PDAR	**Pinedale Array**	**78.86**	**44**	P	**P**	**02 08 30.4**	**+0.8**
	0.5nm,0.7s,mb3.6,baz=270,slow=1.5,SNR=4.6						
GERES	**GERESS Array B**	**81.44**	**327**	P	**P**	**02 08 43.0**	**-0.3**
	0.4nm,0.6s,mb3.6,baz=27,slow=4.4,SNR=6.5						
PV10	**Paradox Valley**	**82.05**	**47**	*e*P	**P**	**02 08 48.4**	**+1.7**
TXAR	**Lajitas Array**	**91.49**	**51**	P	**P**	**02 09 34.2**	**+1.3**
	0.3nm,0.7s,mb3.7,baz=288,slow=5.7,SNR=3.1						
LPAZ	**La Paz**	**148.21**	**56**	PKPbc	PKPdf	02 16 14.1	+2.1
	0.3nm,0.4s,baz=7.8,slow=13,SNR=2.8						

IDC ***27*** *01:58:13.8±2.6,12.755×166.79E,mb3.9/6,mb1 4.1/6, mb1mx4.0/13,Error ellipse: s-maj=83.9km s-min=28.6km az=128.0*

ISC 27 01:58:21.8±1.0,12.5S±0.1×165.9E±0.2,h33km,n13, σ0$58/13,mb4.2/9,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKM	**Butte a Klehm**	**5.59**	**157**	*i* P	**P**	**01 59 44.9**	**0.0**
STKA	**Stephens Creek**	**29.51**	**225**	P	**P**	**02 04 25.7**	**+0.3**
	2.4nm,0.8s,mb4.0,baz=112,slow=20,SNR=3.3						
WRA	**Warramunga Arr**	**31.16**	**252**	P	**P**	**02 04 40.2**	**0.0**
	0.2nm,0.5s,mb3.2,baz=84,slow=8.6,SNR=3.9						
ASAR	**Alice Springs**	**32.30**	**245**	P	**P**	**02 04 49.6**	**-0.6**
	0.4nm,0.5s,mb3.5,baz=66,slow=9.8,SNR=4.5						
CMAR	**Chiang Mai Arr**	**72.85**	**294**	P	**P**	**02 09 51.0**	**+1.3**
	2.1nm,0.6s,mb4.3,baz=125,slow=5.2,SNR=7.2						
SONM	**Songino Array**	**79.94**	**324**	P	**P**	**02 10 29.1**	**-0.1**
	0.9nm,0.4s,mb4.1,baz=136,slow=5.8,SNR=22						
ILAR	**Eielson Array**	**84.85**	**18**	P	**P**	**02 10 48.9**	**-5.2**
	0.3nm,0.6s,mb3.6,baz=225,slow=5.1,SNR=4.9						
GUN	**Gumba**	**87.17**	**299**	*e*P	**P**	**02 11 06.6**	**+0.2**
PKI	**Pulchoki**	**87.48**	**299**	*e*P	**P**	**02 11 07.5**	**-0.4**
	8.1nm,0.8s,mb5.0						
KKN	**Kakani**	**87.65**	**299**	*e*P	**P**	**02 11 09.1**	**+0.4**
DMN	**Daman**	**87.75**	**299**	*e*P	**P**	**02 11 09.6**	**+0.4**
	18nm,0.7s,mb5.4						
GKN	**Gorkha**	**88.26**	**299**	*e*P	**P**	**02 11 11.1**	**-0.5**
	12nm,0.8s,mb5.2						
KOLN	**Koldanda**	**89.08**	**299**	*e*P	**P**	**02 11 14.4**	**-1.1**

JMA ***27*** *02:06:22.9,37.27N×139.02E,h11km±1km,M3.5*
JMA Felt II J1.

ISC 27 02:06:22.7±0.6,37.26N±0.04×139.01E±0.06,h11km,n9, σ0$70/13,3C-5D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.01**	**138**	⇑P	**Pb**	**02 06 24.8**	**+0.1**
JHK				S	**Sb**	**02 06 26.3**	**+0.5**
JIZZ	**Izumozaki**	**0.36**	**319**	⇓P	**Pg**	**02 06 30.5**	**+0.4**
JIZZ				S	**Sg**	**02 06 36.7**	**+1.6**
JKT	**Katashina**	**0.53**	**158**	⇓P	**Pg**	**02 06 33.2**	**-0.2**
JKT				S	**Sg**	**02 06 40.5**	**0.0**
JNS	**Sasagawa**	**0.61**	**24**	⇑P	**Pb**	**02 06 33.8**	**-1.1**
JGK	**Kuni**	**0.75**	**203**	⇑P	**Pb**	**02 06 37.4**	**+0.1**
JSB	**Shiboa**	**0.79**	**111**	⇓P	**Pb**	**02 06 38.3**	**+0.4**
JAG	**Ashikaga**	**0.91**	**157**	⇓P	**Pb**	**02 06 40.3**	**+0.4**
MAT	**Matsushiro**	**0.96**	**222**	P	**Pb**	**02 06 40.6**	**-0.2**
MAT				S	**Sb**	**02 06 52.9**	**-0.4**
JSD	**Sado**	**0.98**	**323**	⇓P	**Pb**	**02 06 39.7**	**-1.4**

STR ***27*** *02:14:00.8±0.2,42.86N×0.29W,h5km±1km,Ml2.4,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD ***27*** *02:14:01.5±0.2,42.86N×0.27W,mbLg1.7/17,Error ellipse: s-maj=2.2km s-min=1.1km az=22.0,PRXIMO*
LDG ***27*** *02:14:01.8±0.2,42.84N×0.32W,h2km,Md2.8/2,Ml2.4/6, Error ellipse: s-maj=3.4km s-min=1.8km az=6.0*
CSEM ***27*** *02:14:01.7±0.1,42.85N×0.30W,h5km,ML2.8/11,Error ellipse: s-maj=2.3km s-min=1.6km az=18.0*
NEIC ***27*** *02:14:02.0,42.89N×0.21W,h4km,ML2.6(STR), ML2.4(LDG),MN2.1(MDD),After MDD.*
MRB ***27*** *02:14:18.8,41.77N×1.41E,h10km±99km,ML1.3/5*

ISC 27 02:14:00.5±0.2,42.89N±0.02×0.26W±0.02,h10km±2km, n60,σ0$93/111,1C,Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
REYF	**Montagne du Re**	**0.20**	**332**	Pg	**Pg**	**02 14 05.7**	**+0.9**
REYF				Sg	**Sg**	**02 14 09.2**	**+1.5**
REYF	**Montagne du Re**	**0.20**	**332**	P	**Pg**	**02 14 05.7**	**+0.9**
REYF				S	**Sg**	**02 14 08.9**	**+1.2**
REYF	**Montagne du Re**	**0.20**	**332**	Pg	**Pg**	**02 14 06.7**	**+1.9**
REYF				Sg	**Sg**	**02 14 09.2**	**+1.5**
VIEF	**Viey**	**0.21**	**92**	Pg	**Pg**	**02 14 05.5**	**+0.5**
VIEF				Pg	**Pg**	**02 14 05.6**	**+0.6**
VIEF				Sg	**Sg**	**02 14 09.6**	**+1.5**
VIEF	**Viey**	**0.21**	**92**	P	**Pg**	**02 14 05.5**	**+0.5**
VIEF				S	**Sg**	**02 14 08.6**	**+0.5**
VIEF	**Viey**	**0.21**	**92**	Pg	**Pg**	**02 14 06.6**	**+1.6**
VIEF				Sg	**Sg**	**02 14 09.6**	**+1.5**
VIEF	**Viey**	**0.21**	**92**	Pg	**Pg**	**02 14 05.6**	**+0.6**
VIEF				Sg	**Sg**	**02 14 09.6**	**+1.5**
ETSF	**Etsaut**	**0.22**	**272**	*e*Pg	**Pg**	**02 14 05.2**	**+0.1**
ETSF				*e*Sg	**Sg**	**02 14 08.0**	**-0.2**
	78nm,0.2s						
FDAF	**Les Forges d'A**	**0.23**	**252**	Sg	**Sg**	**02 14 08.5**	**-0.3**
FDAF	**Les Forges d'A**	**0.23**	**252**	P	**Pg**	**02 14 05.5**	**0.0**
FDAF				S	**Sg**	**02 14 08.6**	**-0.2**
LABF	**Labassere**	**0.29**	**58**	Pg	**Pg**	**02 14 07.4**	**+0.8**
LABF				Sg	**Sg**	**02 14 11.8**	**+1.2**
LABF	**Labassere**	**0.29**	**58**	P	**Pg**	**02 14 07.5**	**+0.9**
LABF				S	**Sg**	**02 14 12.0**	**+1.4**
EBIE	**Bielsa**	**0.36**	**124**	⇑Pg	**Pg**	**02 14 08.0**	**0.0**
	16nm,0.0s,SNR=18						
EBIE				Lg		02 14 12.6	
	16nm,0.0s,SNR=90						
EBIE	**Bielsa**	**0.36**	**124**	Pg	**Pg**	**02 14 08.0**	**+0.1**
	16nm,0.0s,SNR=18						
EBIE				Lg		02 14 12.6	
	16nm,0.0s,SNR=90						
ATE	**Arette**	**0.37**	**301**	P	**Pg**	**02 14 08.2**	**+0.1**
ATE				S	**Sg**	**02 14 13.8**	**+0.6**
RESF	**Ens**	**0.45**	**101**	Pg	**Pg**	**02 14 09.8**	**+0.1**
RESF				Sg	**Sg**	**02 14 15.9**	**+0.1**
RESF	**Ens**	**0.45**	**101**	P	**Pg**	**02 14 09.8**	**+0.2**
RESF				S	**Sg**	**02 14 15.9**	**+0.1**
EPF	**Esparros**	**0.46**	**73**	*e*Pg	**Pg**	**02 14 10.5**	**+0.6**
EPF				*e*Sg	**Sg**	**02 14 17.2**	**+1.0**
	46nm,0.2s						
LARF	**Larrau**	**0.55**	**286**	P	**Pg**	**02 14 11.6**	**0.0**
LARF				S	**Sg**	**02 14 18.9**	**-0.1**
ORDF	**Ordiarp**	**0.59**	**303**	Pg	**Pg**	**02 14 12.5**	**+0.2**
ORDF				Sg	**Sg**	**02 14 21.3**	**+1.1**
ORDF	**Ordiarp**	**0.59**	**303**	P	**Pg**	**02 14 12.7**	**+0.3**
ORDF				S	**Sg

ETOR	**Torete**	**2.47**	**213**	Pn	**Pn**	**02 14 42.7 +1.2**
ETOR				Pg	**Pg**	**02 14 49.8 0.0**
ETOR				Sn	**Sn**	**02 15 12.2 +0.2**
ETOR				Lg		02 15 21.7
ETOR	**Torete**	**2.47**	**213**	Pg	**Pg**	**02 14 49.8 +0.1**
	4.5nm,0.8s,SNR=4.0					
ETOR				Sn	**Sn**	**02 15 12.2 +0.2**
	1.0nm,0.2s,SNR=4.0					
EMOS	**Mosqueruela**	**2.53**	**184**	Pg	**Pg**	**02 14 46.1 -5.0**
	0.4nm,0.1s,SNR=4.0					
EMOS				Lg		02 15 20.2
	0.8nm,0.1s,SNR=4.0					
EMOS	**Mosqueruela**	**2.53**	**184**	Pg	**Pg**	**02 14 46.1 -5.0**
	0.4nm,0.1s,SNR=4.0					
CAF	**Calviac**	**2.64**	**39**	*e*Pn	**Pn**	**02 14 44.7 +0.7**
CAF				*e*Sn	**Sn**	**02 15 16.3 -0.1**
	3.8nm,0.2s					
RJF	**Les Rejaudoux**	**2.73**	**27**	*e*Pn	**Pn**	**02 14 46.3 +1.0**
RJF				*e*Pg	**Pg**	**02 14 54.6 -0.4**
RJF				*e*Sn	**Sn**	**02 15 18.1 -0.6**
RJF				*e*Sg	**Sg**	**02 15 30.3 -1.1**
	2.0nm,0.2s					
RJF	**Les Rejaudoux**	**2.73**	**27**	Pn	**Pn**	**02 14 46.3 +1.0**
RJF				Sn	**Sn**	**02 15 18.1 -0.6**
RJF				Lg		02 15 30.3
	0.0nm,0.2s					
LASF	**Ste Croix**	**3.22**	**67**	*e*Pn	**Pn**	**02 14 53.0 +0.7**
LASF				*e*Sn	**Sn**	**02 15 29.7 -1.5**
LASF				*e*Sg	**Sg**	**02 15 45.0 -2.9**
	4.0nm,0.2s					
MFF	**Saint Martin d**	**3.71**	**1**	*e*Pn	**Pn**	**02 14 58.9 -0.3**
MFF				*e*Sn	**Sn**	**02 15 41.3 -2.2**
TCF	**Toulx Ste Croi**	**3.83**	**27**	*e*Sg	**Sg**	**02 16 03.8 -4.1**
	1.2nm,0.3s					
ESDC	**Sonseca Array**	**4.25**	**222**	Pn	**Pn**	**02 15 06.0 -0.9**
	0.3nm,0.2s,baz=41,slow=13,SNR=7.3					
ESDC				Sn	**Sn**	**02 15 52.7 -4.6**
	0.3nm,0.3s,baz=43,slow=24,SNR=3.7					
ESDC				Lg		02 16 13.1
	1.2nm,0.8s,SNR=4.0					
ESDC	**Sonseca Array**	**4.25**	**222**	Pn	**Pn**	**02 15 06.0 -0.9**
ESDC				Sn	**Sn**	**02 15 52.7 -4.6**

JMA ***27*** *02:32:47.0,37.26N×138.99E,h11km±1km,M3.5*
Broadband fault plane solution: P waves. NP1:φs89°,δ46°, λ117°. NP2:φs233°,δ50°,λ65°. Principal axes: T Plg71°, Azm76°; N Plg19°, Azm249°; P Plg2°, Azm340°;
JMA Felt II J1.

ISC 27 02:32:46.6±0.5,37.26N±0.03×138.98E±0.06,h11km,n10, σ0s76/15,1C-6D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.03**	**109**	⇑P	**Pg**	**02 32 49.0**	**+0.3**
JHK				S	**Sg**	**02 32 50.5**	**+0.4**
JIZZ	**Izumozaki**	**0.35**	**322**	⇓P	**Pg**	**02 32 54.4**	**+0.5**
JIZZ				S	**Sg**	**02 33 00.4**	**+1.7**
JKT	**Katashina**	**0.54**	**156**	⇓P	**Pg**	**02 32 57.4**	**-0.1**
JKT				S	**Sg**	**02 33 04.8**	**+0.1**
JNS	**Sasagawa**	**0.62**	**25**	⇓P	**Pb**	**02 32 58.0**	**-0.7**
JNS				S	**Sb**	**02 33 06.4**	**-1.0**
JGK	**Kuni**	**0.75**	**202**	P	**Pb**	**02 33 01.4**	**+0.2**
JSB	**Shiboa**	**0.80**	**111**	⇓P	**Pb**	**02 33 02.9**	**+0.8**
JAG	**Ashikaga**	**0.91**	**155**	⇓P	**Pb**	**02 33 04.4**	**+0.4**
MAT	**Matsushiro**	**0.95**	**221**	P	**Pb**	**02 33 04.0**	**-0.6**
MAT				S	**Sb**	**02 33 16.0**	**-0.9**
MAT	**Matsushiro**	**0.95**	**221**	P	**Pb**	**02 33 04.3**	**-0.3**
JSD	**Sado**	**0.97**	**324**	⇓P	**Pb**	**02 33 03.6**	**-1.3**

WEL 27 02:36:49.5±0.4,38.26S×176.16E,h142km±4km,ML3.5/6, 1D,Error ellipse: s-maj=3.5km s-min=2.8km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGZ	**Maungaku**	**0.89**	**213**	PN	P	02 37 12.6	-0.2
BKZ	**Black Stump Fm**	**0.94**	**164**	PN	P	02 37 13.0	-0.2
BKZ				SN	S	02 37 30.6	-0.8
TWVZ	**Taurewa**	**0.99**	**215**	*e*PN	P	02 37 13.2	-0.4
NGZ	**Ngauruhoe**	**1.01**	**205**	PN	P	02 37 14.4	+0.6
CNZ	**Chateau**	**1.05**	**207**	PN	P	02 37 13.9	-0.3
MWZ	**Matawai**	**1.08**	**95**	PN	P	02 37 14.1	-0.4
MWZ				SN	S	02 37 33.0	-0.6
TUVZ	**Tukino**	**1.08**	**201**	PN	P	02 37 14.4	0.0
WNVZ	**Wahianoa**	**1.16**	**202**	PN	P	02 37 14.9	-0.2
MOVZ	**Moawhango**	**1.19**	**195**	PN	P	02 37 14.8	-0.8
KNZ	**Kokohu**	**1.41**	**123**	PN	P	02 37 17.9	0.0
KNZ				SN	S	02 37 38.8	-0.8
PUZ	**Puketiti**	**1.66**	**84**	PN	P	02 37 19.9	-0.7
PUZ				SN	S	02 37 43.4	-1.1
TSZ	**Takapari Road**	**1.81**	**185**	PN	P	02 37 21.0	-1.2
TSZ				SN	S	02 37 44.8	-2.5
MXZ	**Matakaoa Point**	**1.83**	**68**	PN	P	02 37 22.2	-0.3
MXZ				SN	S	02 37 47.6	-0.3
PWZ	**Pawanui**	**1.85**	**163**	PN	P	02 37 21.9	-0.8
PWZ				SN	S	02 37 46.4	-1.8
BFZ	**Birch Farm**	**2.42**	**178**	PN	P	02 37 27.6	-2.2
BFZ				SN	S	02 37 57.9	-2.7
MRZ	**Mangatainoka R**	**2.44**	**190**	⇓PN	P	02 37 27.5	-2.6
MRZ				SN	S	02 37 56.5	-4.6
KIW	**Kapiti Island**	**2.77**	**200**	PN	P	02 37 31.1	-3.3
KIW				*e*SN	S	02 38 03.0	-5.5
MTW	**Mount Morrison**	**2.94**	**190**	PN	P	02 37 32.9	-3.6
CAW	**Cannon Point**	**2.97**	**196**	PN	P	02 37 33.6	-3.2
MRW	**Makara Radio**	**3.17**	**200**	PN	P	02 37 35.9	-3.6
MSWZ	**Moikau Station**	**3.23**	**192**	PN	P	02 37 36.3	-4.0
MSWZ				*e*SN	S	02 38 12.2	-6.9
TUWZ	**Tuamarina**	**3.60**	**208**	PN	P	02 37 40.8	-4.3
NNZ	**Nelson**	**3.65**	**215**	PN	P	02 37 41.7	-4.1
NNZ				SN	S	02 38 23.6	-5.4
QRZ	**Quartz Range**	**3.80**	**226**	PN	P	02 37 43.0	-4.8
QRZ				*e*SN	S	02 38 26.3	-6.2
THZ	**Tophouse**	**4.30**	**214**	*e*PN	P	02 37 50.2	-4.2

IDC ***27*** *02:48:33.6±3.0,6.54S×146.60E,h80km±26km,mb3.8/6, mb1 4.0/9,mb1mx3.9/15, Error ellipse: s-maj=36.5km s-min=15.7km az=131.0*
NEIC ***27*** *02:48:35.4±1.9,6.48S×146.56E,h101km±14km,mb4.1/7, Error ellipse: s-maj=26.9km s-min=19.3km az=134.0*

ISC 27 02:48:36.2±1.3,6.8S±0.1×146.9E±0.1,h121km±9km,n21, σ1s20/24,mb4.0/6,1D,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAU	**Wau**	**0.58**	**198**	⇓*i*P	**P**	**02 48 55.2**	**+0.3**
PMG	**Port Moresby**	**2.61**	**174**	P	**P**	**02 49 18.9**	**+0.7**
	35nm,0.3s,baz=356,slow=5.4,SNR=56						
PMG				S	**S**	**02 49 49.5**	**-0.4**
	33nm,0.3s,baz=183,slow=22,SNR=21						
PMG	**Port Moresby**	**2.61**	**174**	*i* P	**P**	**02 49 18.9**	**+0.7**
CTA	**Charters Tower**	**13.23**	**183**	*e*P	**P**	**02 51 45.1**	**+4.8**
	3.7nm,0.4s						
CTA	**Charters Tower**	**13.23**	**183**	P	**P**	**02 51 45.3**	**+4.9**
	1.2nm,0.3s,baz=3.9,slow=14,SNR=9.0						
CTAO	**Charters Tower**	**13.23**	**183**	*e*P	**P**	**02 51 45.1**	**+4.8**
	9.3nm,0.8s						
KAKA	**Kakadu**	**15.44**	**247**	*e*P	**P**	**02 52 10.4**	**+1.7**
	7.0nm,0.4s						
WRAB	**Tennant Creek**	**17.86**	**222**	P	**P**	**02 52 36.0**	**-2.5**
	33nm,0.9s,SNR=20						
WRAB	**Tennant Creek**	**17.86**	**222**	*e*P	**P**	**02 52 35.9**	**-2.6**
	4.5nm,0.4s						
WB2	**Warramunga Arr**	**17.87**	**222**	*e*P	**P**	**02 52 36.7**	**-1.8**
WRA	**Warramunga Arr**	**17.87**	**222**	P	**P**	**02 52 37.1**	**-1.6**
	0.9nm,0.3s,baz=42,slow=12,SNR=18						
WRA				S	**S**	**02 55 54.2**	**+3.2**
	0.1nm,0.3s,baz=43,slow=24,SNR=1.8						
ASAR	**Alice Springs**	**20.91**	**215**	P	**P**	**02 53 10.6**	**-0.1**
	4.2nm,0.5s,baz=51,slow=8.2,SNR=41						
ASAR				S	**S**	**02 57 00.8**	**+9.1**
	0.5nm,0.7s,baz=32,slow=16,SNR=3.6						
ASPA	**Alice Springs**	**20.92**	**215**	*e*P	**P**	**02 53 10.7**	**0.0**
FITZ	**Fitzroy Crossi**	**23.57**	**240**	*e*P	**P**	**02 53 36.6**	**-0.2**
	2.9nm,0.6s,mb3.8						
FITZ	**Fitzroy Crossi**	**23.57**	**240**	P	**P**	**02 53 36.9**	**+0.1**
	5.3nm,0.8s,mb4.0,baz=66,slow=5.8,SNR=13						
STKA	**Stephens Creek**	**25.44**	**191**	*e*P	**P**	**02 53 54.7**	**+0.2**
	4.9nm,1.2s,mb3.8						
STKA	**Stephens Creek**	**25.44**	**191**	P	**P**	**02 53 55.6**	**+1.1**
	2.4nm,0.5s,mb3.9,baz=345,slow=7.5,SNR=8.4						
KLBR	**Kellerberrin**	**36.73**	**224**	*e*P	**P**	**02 55 32.3**	**-1.3**
	4.4nm,0.3s,mb4.9						
NWAO	**Narrogin (SRO)**	**37.88**	**223**	P	**P**	**02 55 43.9**	**+0.7**
	4.6nm,0.8s,mb4.3,baz=62,slow=11,SNR=2.8						
VNDA	**Vanda**	**71.13**	**177**	P	**P**	**02 59 44.1**	**+1.1**
	0.5nm,0.6s,mb3.5,baz=331,slow=6.9,SNR=6.6						
ILAR	**Eielson Array**	**86.25**	**23**	P	**P**	**03 01 05.0**	**0.0**
	0.4nm,0.5s,mb3.6,baz=255,slow=5.2,SNR=11						

JMA 27 03:05:22.0,37.22N×138.83E,h10km±1km,M1.8,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.15**	**79**	P	Pg	03 05 25.4	-0.1
JHK				*e*S	Sg	03 05 28.2	+0.3
JIZZ	**Izumozaki**	**0.33**	**343**	*e*S	Sg	03 05 34.9	+1.7
JJN	**Nakama**	**0.55**	**258**	P	Pg	03 05 32.6	-0.4
JJN				*e*S	Sg	03 05 41.0	+0.6
JKT	**Katashina**	**0.56**	**143**	P	Pg	03 05 32.9	-0.5

NIED ***27*** *03:05:00,37.40N×138.90E,h5km,Mw4.2 Best double couple: M₀2.17×10¹⁵ NP1:φs26°,δ55°,λ70°. NP2:φs238°, δ40°,λ116°.*
IDC ***27*** *03:05:52.7±0.7,37.33N×138.76E,mb4.0/13,mb1 4.3/14, mb1mx4.2/23, Error ellipse: s-maj=21.7km s-min=20.1km az=77.0*
JMA ***27*** *03:05:54.5,37.39N×138.88E,h4km±1km,M4.4*
JMA Felt IV J1.
NEIC ***27*** *03:05:55.4±1.2,37.28N×138.83E,h14km±8km,mb4.4/9, Error ellipse: s-maj=9.2km s-min=8.2km az=127.0*
NEIC Recorded [4 JMA] in Niigata, [2 JMA] in Gumma and [1 JMA] in Fukushima, Nagano and Saitama Prefectures.
BJI ***27*** *03:05:58.2,37.39N×138.38E,h15km,mB4.7,mb4.3, Ms4.5,Msz4.2*

ISC 27 03:05:54.3±0.4,37.39N±0.03×138.85E±0.04,h17km±3km, n55,σ0s99/55,mb4.1/23,7C-4D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIZZ	**Izumozaki**	**0.18**	**321**	⇓P	**Pb**	**03 05 58.7**	**-0.3**
JIZZ				S	**Sb**	**03 06 02.5**	**+0.4**
JHK	**Hiroka**	**0.19**	**137**	⇓P	**Pb**	**03 05 58.4**	**-0.7**
JHK				S	**Sb**	**03 06 01.7**	**-0.6**
JNS	**Sasagawa**	**0.56**	**41**	⇑P	**Pb**	**03 06 05.0**	**-0.4**
JNS				S	**Sb**	**03 06 12.8**	**-0.1**
JFY	**Yanaizu**	**0.68**	**88**	⇑P	**Pb**	**03 06 07.0**	**-0.3**
JFY				S	**Sb**	**03 06 16.1**	**-0.1**
JKT	**Katashina**	**0.70**	**153**	⇓P	**Pb**	**03 06 07.6**	**0.0**
JGK	**Kuni**	**0.84**	**192**	P	**Pb**	**03 06 10.7**	**+0.6**
JSB	**Shiboa**	**0.95**	**116**	⇑P	**Pb**	**03 06 12.7**	**+0.8**
MAJO	**Matsushiro**	**0.99**	**212**	⇑*i*P	**Pb**	**03 06 12.5**	**-0.1**
MAT	**Matsushiro**	**0.99**	**212**	P	**Pb**	**03 06 12.6**	**0.0**
MAT				S	**Sb**	**03 06 26.3**	**+1.1**
MAT	**Matsushiro**	**0.99**	**212**	*e*P	**Pb**	**03 06 13.0**	**+0.4**
MAT				*e*S	**Sb**	**03 06 26.0**	**+0.8**
JAG	**Ashikaga**	**1.08**	**153**	⇑P	**Pb**	**03 06 14.7**	**+0.6**
YSS	**Yuzh-Sakhalins**	**9.98**	**16**	*e*P	**P**	**03 08 19.5**	**-0.6**
	25nm,0.6s						
MDJ	**Mudanjiang**	**10.05**	**319**	P	**P**	**03 08 23.8**	**+2.8**
CN2	**Changchun**	**12.03**	**306**	*e*P	**P**	**03 08 47.5**	**-0.5**
BJT	**Baijiatuau**	**17.89**	**285**	*e*P	**P**	**03 10 05.0**	**+1.0**
	5.0nm,0.6s						
HHC	**Hu-ho-hao-te**	**21.42**	**288**	*e*P	**P**	**03 10 47.5**	**+4.0**
HHC				AMB	AMB		
	comp=Z,14nm,1.1s,mb4.2						
HHC				AMB	AMB		
	comp=Z,187nm,5.5s						
ENH	**Enshi**	**25.34**	**262**	*e*P	**P**	**03 11 21.2**	**-0.7**
	comp=Z,15nm,1.1s,mb4.4						
SONM	**Songino Array**	**25.89**	**304**	P	**P**	**03 11 25.9**	**-1.0**
	comp=Z,4.2nm,1.1s,mb3.9,baz=104,slow=5.1,SNR=21						
KURK	**Kurchatov**	**44.10**	**308**	*e*P	**P**	**03 14 02.0**	**-1.1**
	comp=Z,3.5nm,1.0s,mb4.0						
BVAR	**Borovoye Array**	**48.82**	**312**	P	**P**	**03 14 39.2**	**-1.2**
	comp=Z,0.4nm,0.5s,mb3.7,baz=90,slow=5.9,SNR=4.3						
BRVK	**Borovoye**	**48.87**	**312**	P	**P**	**03 14 40.8**	**0.0**
	comp=Z,1.9nm,0.7s,mb4.2						
ILAR	**Eielson Array**	**50.29**	**32**	P	**P**	**03 14 50.5**	**-1.0**
	comp=Z,0.6nm,0.8s,mb3.7,baz=274,slow=6.1,SNR=7.1						
INK	**Inuvik**	**55.00**	**27**	P	**P**	**03 15 24.1**	**-2.5**
	comp=Z,0.9nm,0.5s,mb4.1,baz=167,slow=25,SNR=5.6						
INK	**Inuvik**	**55.00**	**27**	*e*P	**P**	**03 15 25.9**	**-0.7**
	comp=Z,1.1nm,0.6s,mb4.1						
WRAB	**Tennant Creek**	**57.17**	**185**	P	**P**	**03 15 39.4**	**-3.4**
WRA	**Warramunga Arr**	**57.18**	**185**	P	**P**	**03 15 40.4**	**-2.5**
	comp=Z,2.8nm,0.8s,mb4.3,baz=1.1,slow=7.4,SNR=8.6						
ASAR	**Alice Springs**	**60.91**	**185**	P	**P**	**03 16 06.9**	**-1.7**
	comp=Z,0.8nm,0.8s,mb3.9,baz=8.7,slow=6.4,SNR=6.4						
KEV	**Kevo**	**62.38**	**339**	*ep*	**P**	**03 16 11.7**	**-6.3**
	comp=Z,0.3nm,0.3s,mb3.9						
FINES	**FINESS Array B**	**67.54**	**331**	P	**P**	**03 16 51.4**	**+0.1**
	comp=Z,1.7nm,0.7s,mb4.2,baz=27,slow=4.3,SNR=4.3						
FINES	**FINESS Array B**	**67.54**	**331**	P	**P**	**03 16 51.4**	**+0.1**
DPW	**Davenport**	**70.92**	**44**	*e*P	**P**	**03 17 12.2**	**-0.2**
AKASG	**Malin Array Be**	**72.75**	**321**	P	**P**	**03 17 21.9**	**-1.3**
	comp=Z,1.0nm,0.6s,mb4.0,baz=44,slow=5.7,SNR=5.3						
NB2	**NORSAR Subarra**	**73.06**	**336**	P	**P**	**03 17 24.2**	**-0.5**
	comp=Z,12nm,1.4s,mb4.6,baz=40,slow=5.8						
NOA	**NORSAR Array B**	**73.06**	**336**	P	**P**	**03 17 24.9**	**+0.1**
	comp=Z,1.3nm,0.8s,mb3.9,baz=40,slow=5.9,SNR=4.5						
HRY	**Holter Researc**	**75.08**	**42**	*e*P	**P**	**03 17 37.9**	**+1.1**
NVAR	**Mina Array Bea**	**76.40**	**52**	P	**P**	**03 17 45.7**	**+1.3**
	comp=Z,4.5nm,0.8s,mb4.4,baz=293,slow=4.7,SNR=24						
NVAR	**Mina Array Bea**	**76.40**	**52**	P	**P**	**03 17 45.7**	**+1.3**
MNV	**Mina**	**76.49**	**52**	*e*P	**P**	**03 17 46.0**	**+1.0**
	comp=Z,4.4nm,1.0s,mb4.3						
GCMT	**Greycliff**	**76.83**	**42**	*e*P	**P**	**03 17 48.2**	**+1.5**
BRTR	**Keskin Array B**	**77.08**	**310**	P	**P**	**03 17 47.8**	**-0.4**
	comp=Z,0.4nm,0.8s,mb3.4,baz=45,slow=8.2,SNR=3.1						
TPH	**Tonopah**	**77.29**	**52**	*e*P	**P**	**03 17 50.1**	**+0.8**
	comp=Z,12nm,1.1s,mb4.8						
TPNV	**Topopah Spring**	**78.59**	**52**	*e*P	**P**	**03 17 56.6**	**0.0**
	comp=Z,6.7nm,0.9s,mb4.6						
DUG	**Dugway**	**78.65**	**48**	*e*P	**P**	**03 17 55.9**	**-1.0**
	comp=Z,3.6nm,1.0s,mb4.3						
PDAR	**Pinedale Array**	**78.86**	**44**	P	**P**	**03 17 58.4**	**+0.5**
	comp=Z,2.3nm,0.8s,mb4.2,baz=311,slow=3.4,SNR=18						
GERES	**GERESS Array B**	**81.32**	**327**	P	**P**	**03 18 11.5**	**+0.6**
	comp=Z,0.6nm,0.8s,mb3.6,baz=45,slow=3.8,SNR=4.7						
PV10	**Paradox Valley**	**82.06**	**47**	*e*P	**P**	**03 18 16.7**	**+1.7**
PV01	**Paradox Valley**	**82.49**	**47**	P	**P**	**03 18 18.7**	**+1.4**
TXAR	**Lajitas Array**	**91.50**	**51**	*e*P	**P**	**03 19 02.2**	**+1.0**
	comp=Z,1.3nm,0.7s,mb4.4,baz=299,slow=3.2,SNR=18						
TXAR	**Lajitas Array**	**91.50**	**51**	P	**P**	**03 19 02.2**	**+1.0**
VNA2	**Neumayer--Watz**	**142.07**	**197**	⇓*i*	PKPdf	03 25 24.3	-4.0
VNA3	**Neumayer Olymp**	**142.36**	**196**	⇓*i*	PKPdf	03 25 24.5	-4.2
VNA1	**Neumayer--Stat**	**142.47**	**197**	⇓*i*	PKPdf	03 25 22.4	-6.5
SAML	**Samuel**	**145.37**	**41**	*e*PKPdf	PKPdf	03 25 32.6	-3.0
LPAZ	**La Paz**	**148.23**	**56**	PKPbc	PKPdf	03 25 41.7	+1.4
	comp=Z,3.4nm,0.8s,baz=337,slow=4.0,SNR=15						
LPAZ	**La Paz**	**148.23**	**56**	PKPbc	PKPdf	03 25 41.7	+1.4

IDC 27 03:40:09.8±8.6,8.50S×125.26E,h36km±59km,mb3.3/1, mb1 3.8/4,mb1mx3.5/12,ML3.5/3,Error ellipse: s-maj=74.8km s-min=45.7km az=54.0,Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.55**	**178**	Pn	P	03 42 24.8	-3.2
	0.3nm,0.3s,baz=2.7,slow=12,SNR=6.9						
FITZ				Sn	S	03 44 11.8	-3.5
	0.4nm,0.3s,baz=180,slow=7.5,SNR=4.7						
WRA	**Warramunga Arr**	**14.38**	**143**	Pn	P	03 43 30.3	-2.6
	0.4nm,0.3s,baz=318,slow=13,SNR=20						
WRA				Sn	S	03 46 07.6	-4.3
	0.2nm,0.3s,baz=318,slow=24,SNR=4.2						
ASAR	**Alice Springs**	**17.21**	**152**	P	P	03 44 08.4	-0.7
	0.2nm,0.3s,baz=328,slow=12,SNR=8.4						
ASAR				S	S	03 47 18.8	+1.2
	0.1nm,0.3s,baz=334,slow=24,SNR=6.3						
VNDA	**Vanda**	**71.58**	**172**	P	P	03 51 26.8	-2.0
	0.4nm,0.8s,baz=327,slow=5.5,SNR=3.5						

NNC ***27*** *03:40:08.4±2.0,43.51N×89.37E,mpv3.0,Error ellipse: s-maj=56.3km s-min=15.3km az=44.0*
BJI ***27*** *03:40:19.5,44.21N×89.15E,h14km,ML3.6*

ISC 27 03:40:18.1±5.1,44.3N±0.2×89.1E±0.4,h14km,n3,σ1s25/4, 3C-2D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**1.09**	**245**	⇓*i*PG	**Pg**	**03 40 40.0**	**0.0**
WMQ				SG	**Sg**	**03 40 54.5**	**-0.1**
WMQ				Smax			
	comp=N,380nm,0.4s						
WMQ				Smax			
	comp=E,451nm,0.3s						
MK31	**Makanchi Array**	**5.38**	**300**	⇑Pn	**Pn**	**03 41 40.8**	**+0.9**
	comp=E,0.6nm,0.3s,baz=108,slow=14						
MK31				⇓Lg		03 43 16.2	
	comp=E,3.2nm,0.5s,baz=120,slow=27						
KURK	**Kurchatov**	**9.55**	**316**	⇑Pn	**P**	**03 42 37.3**	**-0.8**
	comp=E,1.3nm,0.7s						
KURK				⇑Lg		03 45 34.5	
	comp=E,4.6nm,0.7s,baz=98,slow=17,SNR=41						

JMA ***27*** *03:40:53.9,37.25N×138.99E,h11km±1km,M4.0*
Broadband fault plane solution: P waves. NP1:φs61°,δ37°, λ97°. NP2:φs232°,δ53°,λ85°. Principal axes: T Plg81°, Azm119°; N Plg4°, Azm235°; P Plg8°, Azm326°;
JMA Felt II J1.

ISC 27 03:40:53.8±0.6,37.23N±0.04×138.99E±0.07,h11km,n8, σ0s54/12,1C-4D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.03**	**56**	⇑P	**Pg**	**03 40 55.9**	**+0.1**
JHK				S	**Sg**	**03 40 57.5**	**+0.3**
JIZZ	**Izumozaki**	**0.37**	**324**	⇓P	**Pg**	**03 41 01.4**	**-0.1**
JIZZ				S	**Sg**	**03 41 07.5**	**+0.9**
JKT	**Katashina**	**0.51**	**156**	⇓P	**Pg**	**03 41 04.1**	**0.0**
JKT				S	**Sg**	**03 41 11.5**	**+0.4**
JNS	**Sasagawa**	**0.64**	**24**	⇓P	**Pb**	**03 41 05.3**	**-1.2**
JGK	**Kuni**	**0.72**	**203**	P	**Pb**	**03 41 08.2**	**+0.3**
JAG	**Ashikaga**	**0.89**	**155**	⇓P	**Pb**	**03 41 11.1**	**+0.4**
MAT	**Matsushiro**	**0.93**	**222**	P	**Pb**	**03 41 10.9**	**-0.5**
MAT				S	**Sb**	**03 41 23.0**	**-0.5**
MAT	**Matsushiro**	**0.93**	**222**	P	**Pb**	**03 41 11.1**	**-0.3**

BJI ***27*** *03:49:41.1,20.97N×121.88E,h153km,mb4.5*
NEIC ***27*** *03:49:41.0±1.4,21.17N×122.28E,h152km±12km,mb4.4/7, Error ellipse: s-maj=17.1km s-min=7.9km az=70.0*
TAP ***27*** *03:49:44.5,21.27N×121.92E,h171km,ML5.2*
IDC ***27*** *03:49:46.4±4.9,21.11N×122.09E,h200km±47km, mb3.7/19,mb1 3.9/21,mb1mx3.8/25,MS2.9/1,Ms1 3.1/1, ms1mx2.4/25,Error ellipse: s-maj=16.8km s-min=9.7km az=67.0*

ISC 27 03:49:40.9±1.0,21.16N±0.06×122.3E±0.1,h166km±9km, n44,σ1s09/41,mb3.9/26,2C-1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**3.46**	**187**	*e*P	**P**	**03 50 36.0**	**+0.6**
	36μm,0.5s						
TATO	**Taipei**	**3.87**	**349**	P	**P**	**03 50 38.1**	**-2.5**
QZH	**Quanzhou**	**5.07**	**319**	P	**P**	**03 50 56.5**	**+0.2**
QZH				S	**S**	**03 51 49.5**	**-5.1**
QZH				Smax			
	comp=N,830nm,0.4s						
QZH				Smax			
	comp=E,630nm,0.4s						
ENH	**Enshi**	**14.66**	**311**	*e*P	**P**	**03 53 03.2**	**+1.8**
	comp=E,18nm,1.1s						
CMAR	**Chiang Mai Arr**	**22.12**	**267**	P	**P**	**03 54 25.1**	**+1.7**
	comp=E,1.7nm,0.7s,mb3.6,baz=73,slow=8.0,SNR=5.9						
CMAR				PcP	PcP	03 58 16.1	-0.1
	comp=E,1.0nm,0.6s,baz=63,slow=1.8,SNR=5.7						
CMAR				LR	LR	04 03 29.0	
	comp=E,29nm,20.0s,baz=275,slow=38						
SONM	**Songino Array**	**29.54**	**338**	P	**P**	**03 55 32.0**	**+0.1**
	comp=E,0.6nm,0.4s,mb3.7,baz=163,slow=9.3,SNR=4.3						
FITZ	**Fitzroy Crossi**	**39.16**	**175**	*e*P	**P**	**03 56 53.2**	**-0.9**
	comp=E,3.9nm,0.4s,mb4.4						
WRAB	**Tennant Creek**	**42.51**	**163**	P	**P**	**03 57 21.0**	**-0.7**
	comp=E,40nm,0.5s,mb5.3,SNR=13						
WRAB	**Tennant Creek**	**42.51**	**163**	*e*P	**P**	**03 57 20.9**	**-0.8**
	comp=E,5.3nm,0.5s,mb4.4						
WRA	**Warramunga Arr**	**42.52**	**163**	P	**P**	**03 57 21.0**	**-0.7**
	comp=E,3.8nm,0.4s,mb4.3,baz=344,slow=9.0,SNR=23						
WRA				PcP	PcP	03 59 11.0	-0.8
	comp=E,0.6nm,0.6s,baz=346,slow=3.0,SNR=4.8						
WB2	**Warramunga Arr**	**42.52**	**163**	*e*P	**P**	**03 57 21.2

2.8nm,0.7s,mb4.3
WB2 Warramunga Arr 36.16 198 *e*P **P 04 02 52.5 -0.2**
WRA Warramunga Arr 36.16 198 P **P 04 02 52.1 -0.6**
1.3nm,0.6s,mb4.1,baz=21,slow=10.0,SNR=7.9
FITZ Fitzroy Crossi 38.06 212 *e*P **P 04 03 08.8 +0.1**
2.4nm,1.0s,mb4.0
FITZ Fitzroy Crossi 38.06 212 P **P 04 03 08.6 0.0**
2.4nm,0.9s,mb4.0,baz=12,slow=11,SNR=7.2
ASAR Alice Springs 39.81 197 P **P 04 03 24.2 +1.1**
0.3nm,0.4s,mb3.5,baz=16,slow=12,SNR=5.0
STKA Stephens Creek 46.48 185 P **P 04 04 17.1 0.0**
4.3nm,1.1s,mb4.1,baz=7.0,slow=9.4,SNR=3.6

*IDC **27** 03:55:14.5±24.0,32.44N×74.81E,mb3.8/4,mb1 3.8/5, mb1mx3.5/20,Error ellipse: s-maj=481.0km s-min=95.3km az=127.0*
ISC 27 03:56:17.1±3.3,36.5N±0.2×71.0E±0.4,h218km±41km,n12, σ0§70/12,mb3.4/4,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.66**	**135**	*e*P	**S**	**03 58 45.9**	**-0.4**
	30nm,0.5s						
KOLN	**Koldanda**	**13.80**	**126**	*e*P	**P**	**03 59 26.4**	**+1.6**
	2.7nm,0.2s						
GKN	**Gorkha**	**14.34**	**123**	*e*P	**P**	**03 59 32.1**	**+0.7**
	14nm,0.4s						
DMN	**Daman**	**14.91**	**123**	*e*P	**P**	**03 59 38.8**	**+0.3**
	11nm,0.5s						
KKN	**Kakani**	**14.91**	**122**	*e*P	**P**	**03 59 38.1**	**-0.4**
	13nm,0.5s						
PKI	**Pulchoki**	**15.14**	**122**	*e*P	**P**	**03 59 41.2**	**-0.1**
	7.5nm,0.4s						
GUN	**Gumba**	**15.25**	**120**	*e*P	**P**	**03 59 41.1**	**-1.6**
	6.9nm,0.4s						
BVAR	**Borovoye Array**	**16.49**	**359**	P	**P**	**03 59 57.5**	**+0.1**
	0.5nm,0.3s,baz=161,slow=9.8,SNR=7.2						
FINES	**FINESS Array B**	**37.44**	**326**	P		**04 03 10.5**	**-0.1**
	1.9nm,0.8s,mb3.6,baz=121,slow=8.1,SNR=4.3						
ARCES	**ARCESS Array B**	**41.10**	**338**	P		**04 03 40.7**	**0.0**
	1.1nm,0.6s,mb3.5,baz=90,slow=7.3,SNR=5.8						
HFS	**Hagfors**	**43.03**	**322**	P	**P**	**04 03 56.5**	**+0.2**
	0.9nm,0.5s,mb3.4,baz=78,slow=13,SNR=4.7						
NOA	**NORSAR Array B**	**44.34**	**323**	P	**P**	**04 04 06.3**	**-0.4**
	0.6nm,0.7s,mb3.1,baz=88,slow=7.2,SNR=2.9						

GUC 27 04:11:50.4±0.9,22.11S×70.09W,h35km,MD4.0,ML2.7, 2D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.20**	**115**	⇓*i*P	P	04 12 11.5	+0.6
LVC				*i* S	S	04 12 28.0	+1.8
LVC				AMP		04 12 29.2	
	comp=N.278nm,0.2s						
ANCH	**Antofagasta**	**1.59**	**191**	⇓*i*P	P	04 12 14.0	-2.6
ANCH				*i* S	S	04 12 33.9	-2.3
SPCH	**San Pedro de A**	**1.92**	**115**	*e*P	P	04 12 23.6	+2.4
SPCH				*i* S	S	04 12 48.5	+4.2
CPN1	**Cerro Paranal**	**2.52**	**187**	*e*P	P	04 12 31.4	+1.6
CPN1				*i* S	S	04 13 03.4	+3.7

TIF 27 04:22:52.6,40.44N×45.72E,h13km,Mpv4.4,3D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGRG	**David-gareji**	**1.04**	**346**	⇓*i*P	Pb	04 23 15.7	+3.6
DGRG				*i* S	Sb	04 23 33.2	+7.8
MTA	**Mtatsminda**	**1.44**	**331**	⇓*i*P	Pn	04 23 21.0	+2.5
MTA				*i* S	Sb	04 23 42.5	+5.7
DUS	**Dusheti**	**1.82**	**335**	*i* S	Sn	04 23 57.4	+10
AKH	**Akhalkalaki**	**1.95**	**301**	*i* S	Sn	04 23 59.0	+8.7
ONI	**Oni**	**2.73**	**322**	⇓*i*P	Pn	04 23 42.5	+5.4
ONI				*i* S	Sn	04 24 17.7	+7.4

*JMA **27** 04:27:26.4±0.1,37.38N×138.95E,h8km±2km,M2.5*
ISC 27 04:27:25.9±1.5,37.38N±0.07×139.0E±0.1,h13km±7km,n4, σ0§52/6,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.14**	**158**	P	**Pg**	**04 27 29.6**	**0.0**
JHK				S	**Sg**	**04 27 31.9**	**-0.1**
JNS	**Sasagawa**	**0.52**	**34**	*e*S	**Sb**	**04 27 43.6**	**-0.1**
JKT	**Katashina**	**0.66**	**159**	S	**Sb**	**04 27 47.7**	**+0.1**
MAT	**Matsushiro**	**1.03**	**216**	P	**Pb**	**04 27 45.7**	**+0.6**
MAT				*e*S	**Sb**	**04 27 57.9**	**-0.4**

*NIED **27** 04:27:00,37.40N×138.90E,h5km,Mw3.6 Best double couple: M₀2.84×10¹⁴ NP1:φs72°,δ54°,λ116°. NP2:φs213°, δ43°,λ59°.*
*JMA **27** 04:27:53.9,37.40N×138.89E,h3km±2km,M3.2*
JMA Felt III J1.
ISC 27 04:27:53.5±0.8,37.40N±0.05×138.89E±0.07,h12km±9km, n6,σ0§17/10,1C-3D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.18**	**145**	⇓P	**Pg**	**04 27 57.6**	**-0.1**
JIZZ	**Izumozaki**	**0.20**	**314**	⇓P	**Pg**	**04 27 58.1**	**+0.1**
JNS	**Sasagawa**	**0.54**	**39**	⇑P	**Pb**	**04 28 04.2**	**-0.3**
JNS				S	**Sg**	**04 28 12.1**	**+0.1**
JFY	**Yanaizu**	**0.65**	**89**	P	**Pb**	**04 28 06.3**	**0.0**
JFY				S	**Sb**	**04 28 15.2**	**+0.1**
JKT	**Katashina**	**0.69**	**155**	⇓P	**Pb**	**04 28 06.8**	**-0.2**
JKT				S	**Sb**	**04 28 16.3**	**+0.1**
MAT	**Matsushiro**	**1.01**	**213**	P	**Pb**	**04 28 12.3**	**-0.2**
MAT				S	**Sb**	**04 28 25.7**	**+0.2**

*MDD **27** 05:28:19.8±0.3,42.32N×7.37W,mbLg2.0/7,Error ellipse: s-maj=3.3km s-min=2.0km az=144.0,PRXIMO*
*INMG **27** 05:28:19.7±1.0,42.32N×7.37W,ML1.7,Error ellipse: s-maj=1.9km s-min=1.5km az=103.0*
ISC 27 05:28:18.3±0.7,42.34N±0.05×7.39W±0.06,h2km±10km, n13,σ0§58/19,1C,Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERUA	**La Rua**	**0.19**	**74**	⇑Pg	**Pg**	**05 28 23.3**	**+1.2**
	56nm,0.1s,SNR=18						
ERUA				Lg		05 28 25.7	
	32nm,0.2s,SNR=5.9						
ECAL	**Calabor**	**0.63**	**129**	Pg	**Pg**	**05 28 30.7**	**-0.1**
	6.7nm,0.7s,SNR=5.6						
ECAL				Lg		05 28 38.8	
	18nm,0.2s,SNR=14						
ELOB	**Lobios**	**0.69**	**227**	Pg	**Pg**	**05 28 32.4**	**+0.3**
	24nm,1.1s,SNR=18						
ELOB				Lg		05 28 41.3	
	13nm,0.1s,SNR=10						
PBRG	**Braganca**	**0.72**	**138**	*e*P	**Pg**	**05 28 32.9**	**+0.2**
PBRG				*e*S	**Sg**	**05 28 41.8**	**-0.5**
	14nm,0.1s						
PBRG	**Braganca**	**0.72**	**138**	P	**Pg**	**05 28 32.9**	**+0.2**
PBRG				S	**Sg**	**05 28 41.8**	**-0.5**
	6.8nm,0.1s						
EZAM	**Zamans**	**0.99**	**259**	Pg	**Pg**	**05 28 38.1**	**+0.1**
	0.8nm,0.1s,SNR=7.9						
EZAM				Lg		05 28 51.4	
	0.9nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**1.00**	**10**	Pg	**Pg**	**05 28 38.5**	**+0.2**
	30nm,1.1s,SNR=6.5						
EPON				Lg		05 28 51.8	
	21nm,0.2s,SNR=13						
PVRL	**Vila Real**	**1.09**	**193**	*e*P	**Pb**	**05 28 39.7**	**+0.1**
PVRL				*e*S	**Sb**	**05 28 53.8**	**-0.3**
	24nm,0.1s						
PVRL	**Vila Real**	**1.09**	**193**	P	**Pb**	**05 28 39.7**	**+0.1**
PVRL				S	**Sb**	**05 28 53.8**	**-0.3**
	12nm,0.1s						
EMAZ	**Mazaricos**	**1.32**	**298**	Pg	**Pg**	**05 28 44.0**	**-0.6**
	SNR=4.0						
EMAZ				Lg		05 29 02.2	
	8.6nm,0.1s,SNR=7.9						
PVIS	**Viseu**	**1.67**	**193**	*e*Pn	**Pn**	**05 28 49.5**	**+0.8**
PVIS				*e*Sn	**Sn**	**05 29 10.8**	**-0.2**
	5.9nm,0.1s						
PVIS	**Viseu**	**1.67**	**193**	Pn	**Pn**	**05 28 49.5**	**+0.8**
PVIS				Sn	**Sn**	**05 29 10.8**	**-0.2**
	3.0nm,0.1s						
EARI	**Arriondas**	**1.87**	**58**	Pg	**Pg**	**05 28 54.4**	**-1.2**
	SNR=7.9						
EARI				Lg		05 29 19.2	
	0.5nm,0.1s,SNR=7.9						

*IDC **27** 05:29:29.0±1.1,6.55S×155.82E,mb3.8/7,mb1 4.0/7, mb1mx3.9/13,MS2.9/1,Ms1 2.9/1,ms1mx2.3/19,Error ellipse: s-maj=40.8km s-min=24.4km az=114.0*
*NEIC **27** 05:29:44.2±4.2,6.65S×155.58E,h120km±34km,mb3.9/1, Error ellipse: s-maj=46.3km s-min=20.8km az=114.0*
ISC 27 05:29:44.0±4.5,6.6S±0.2×155.5E±0.3,h132km±36km,n10, σ0§84/9,mb3.5/8,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAB	**Rabaul**	**4.11**	**306**	*e*P	**P**	**05 30 46.5**	**+0.2**
PMG	**Port Moresby**	**8.72**	**251**	LR	LR	05 34 23.6	
	comp=Z,64nm,18.7s,baz=108,slow=33						
WRAB	**Tennant Creek**	**24.43**	**235**	*e*P	**P**	**05 34 51.3**	**-0.6**
	2.6nm,0.6s,mb3.9						
WRA	**Warramunga Arr**	**24.45**	**235**	P	**P**	**05 34 51.6**	**-0.4**
	2.1nm,0.6s,mb3.8,baz=59,slow=9.6,SNR=7.8						
ASAR	**Alice Springs**	**26.80**	**228**	P	**P**	**05 35 12.4**	**-1.4**
	0.3nm,0.6s,mb3.1,baz=58,slow=8.5,SNR=2.9						
FITZ	**Fitzroy Crossi**	**31.27**	**246**	P	**P**	**05 35 55.4**	**+1.6**
	0.8nm,0.4s,mb3.8,baz=58,slow=9.5,SNR=4.4						
SONM	**Songino Array**	**69.30**	**327**	P	**P**	**05 40 39.2**	**+0.2**
	0.3nm,0.4s,mb3.4,baz=146,slow=5.0,SNR=6.1						
VNDA	**Vanda**	**70.94**	**179**	P	**P**	**05 40 49.0**	**+0.6**
	0.4nm,0.9s,mb3.1,baz=337,slow=5.0,SNR=2.8						
ILAR	**Eielson Array**	**82.84**	**21**	P	**P**	**05 41 53.9**	**-0.8**
	0.3nm,0.5s,mb3.3,baz=250,slow=5.3,SNR=11						
MAW	**Mawson**	**84.93**	**203**	P	**P**	**05 42 05.8**	**+0.8**
	2.1nm,0.8s,mb3.9,baz=146,slow=16,SNR=2.7						

*NIED **27** 05:59:00,37.40N×138.90E,h8km,Mw3.8 Best double couple: M₀5.64×10¹⁴ NP1:φs189°,δ83°,λ41°. NP2:φs93°, δ49°,λ171°.*
*IDC **27** 05:59:18.2±0.8,37.58N×138.64E,mb3.8/9,mb1 4.0/9, mb1mx3.9/23,MS2.6/1,Ms1 2.6/1,ms1mx1.9/33,Error ellipse: s-maj=32.5km s-min=21.3km az=87.0*
*NEIC **27** 05:59:19.4±0.5,37.48N×138.55E,h10km,Error ellipse: s-maj=22.3km s-min=7.6km az=102.0*
NEIC Recorded [3 JMA] in Niigata and [1 JMA] in Fukushima and Gumma Prefectures.
*JMA **27** 05:59:19.5,37.37N×138.93E,h11km±1km,M4.2*
Broadband fault plane solution: P waves. NP1:φs109°, δ54°,λ-179°. NP2:φs19°,δ89°,λ-36°. Principal axes: T Plg24°, Azm70°; N Plg54°, Azm198°; P Plg25°, Azm328°;
JMA Felt III J1.
ISC 27 05:59:19.0±0.5,37.39N±0.04×138.92E±0.05,h22km±4km, n22,σ0§91/26,mb3.8/9,3C-3D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.16**	**152**	⇓P	**Pb**	**05 59 22.8**	**-0.9**
JIZZ	**Izumozaki**	**0.22**	**310**	⇓P	**Pb**	**05 59 25.0**	**+0.4**
JNS	**Sasagawa**	**0.53**	**36**	⇑P	**Pb**	**05 59 29.6**	**0.0**
JNS				S	**Sb**	**05 59 37.2**	**+0.4**
JFY	**Yanaizu**	**0.62**	**88**	⇑P	**Pb**	**05 59 31.2**	**+0.1**
JFY				S	**Sb**	**05 59 39.6**	**+0.2**
JJN	**Nakama**	**0.67**	**245**	⇑P	**Pb**	**05 59 32.1**	**+0.2**
JJN				S	**Sb**	**05 59 41.5**	**+0.8**
JKT	**Katashina**	**0.67**	**157**	⇓P	**Pb**	**05 59 31.8**	**-0.1**
JKT				S	**Sb**	**05 59 40.5**	**-0.3**
MAJO	**Matsushiro**	**1.02**	**214**	*e*P	**Pb**	**05 59 37.1**	**-0.7**
MAT	**Matsushiro**	**1.02**	**214**	P	**Pb**	**05 59 37.5**	**-0.3**
MAT				S	**Sb**	**05 59 50.6**	**-0.2**
MAT	**Matsushiro**	**1.02**	**214**	*e*P	**Pb**	**05 59 38.0**	**+0.2**
MAT				*e*S	**Sb**	**05 59 51.0**	**+0.2**
ASAJ	**Asahikawa**	**7.28**	**21**	LR	LR	06 04 29.1	
	comp=Z,44nm,18.4s,baz=146,slow=43						
BVAR	**Borovoye Array**	**48.86**	**312**	P	**P**	**06 08 01.8**	**-2.8**
	0.3nm,0.3s,mb3.7,baz=72,slow=9.1,SNR=2.9						
INK	**Inuvik**	**54.98**	**27**	P	**P**	**06 08 50.1**	**-0.3**
	0.6nm,0.7s,mb3.7,baz=268,slow=7.2,SNR=3.4						
WRA	**Warramunga Arr**	**57.18**	**185**	P	**P**	**06 09 08.4**	**+1.4**
	0.5nm,0.5s,mb3.8,baz=0.1,slow=7.5,SNR=5.5						
ASAR	**Alice Springs**	**60.91**	**185**	P	**P**	**06 09 33.7**	**+1.1**
	0.4nm,1.0s,mb3.5,baz=359,slow=4.7,SNR=2.6						
ARCES	**ARCESS Array B**	**62.96**	**339**	P	**P**	**06 09 45.4**	**-0.3**
	8.2nm,1.2s,mb4.7,baz=23,slow=9.2,SNR=4.0						
FINES	**FINESS Array B**	**67.56**	**331**	P	**P**	**06 10 14.7**	**-0.8**
	0.5nm,0.5s,mb3.8,baz=53,slow=6.9,SNR=3.7						
NB2	**NORSAR Subarra**	**73.08**	**336**	P	**P**	**06 10 48.2**	**-0.6**
	0.6nm,0.4s,mb3.9,baz=42,slow=5.8						
NOA	**NORSAR Array B**	**73.08**	**336**	P	**P**	**06 10 48.3**	**-0.5**
	1.3nm,0.8s,mb3.9,baz=40,slow=5.9,SNR=4.5						
NVAR	**Mina Array Bea**	**76.35**	**52**	P	**P**	**06 11 09.8**	**+1.6**
	1.1nm,0.9s,mb3.8,baz=299,slow=5.1,SNR=5.5						
PDAR	**Pinedale Array**	**78.82**	**44**	P	**P**	**06 11 22.7**	**+1.1**
	0.6nm,0.8s,mb3.6,baz=315,slow=2.1,SNR=6.0						
PV10	**Paradox Valley**	**82.02**	**47**	*e*P	**P**	**06 11 36.6**	**-2.1**
LPAZ	**La Paz**	**148.19**	**56**	PKPbc	PKPdf	06 19 07.4	+2.8
	0.7nm,0.7s,baz=22,slow=14,SNR=2.4						

*JMA **27** 06:23:05.7,37.40N×138.89E,h4km±1km,M3.1*
ISC 27 06:23:05.2±0.7,37.42N±0.03×138.86E±0.05,h12km±5km, n12,σ0§42/19,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIZZ	**Izumozaki**	**0.16**	**314**	P	**Pg**	**06 23 09.8**	**+0.7**
JHK	**Hiroka**	**0.21**	**143**	P	**Pg**	**06 23 09.7**	**-0.2**
JHK				S	**Sg**	**06 23 12.9**	**-0.2**
JNS	**Sasagawa**	**0.54**	**42**	P	**Pb**	**06 23 15.9**	**-0.2**
JNS				S	**Sb**	**06 23 23.7**	**+0.2**
JFY	**Yanaizu**	**0.68**	**91**	P	**Pb**	**06 23 18.1**	**-0.3**
JFY				S	**Sb**	**06 23 27.1**	**-0.3**
JKT	**Katashina**	**0.72**	**154**	P	**Pb**	**06 23 18.8**	**-0.4**
JKT				S	**Sb**	**06 23 28.4**	**-0.4**
JSD	**Sado**	**0.78**	**323**	P	**Pb**	**06 23 19.6**	**-0.6**
JGK	**Kuni**	**0.87**	**192**	P	**Pb**	**06 23 21.8**	**0.0**
JSB	**Shiboa**	**0.96**	**118**	P	**Pb**	**06 23 23.9**	**+0.6**
JSB				*e*S	**Sb**	**06 23 36.5**	**+0.8**
MAJO	**Matsushiro**	**1.02**	**211**	*e*P	**Pb**	**06 23 24.0**	**-0.3**
MAT	**Matsushiro**	**1.02**	**211**	P	**Pb**	**06 23 24.1**	**-0.2**
MAT				S	**Sb**	**06 23 37.8**	**+0.4**
MAT	**Matsushiro**	**1.02**	**211**	*e*P	**Pb**	**06 23 24.0**	**-0.3**
MAT				*e*S	**Sb**	**06 23 38.0**	**+0.6**
JAG	**Ashikaga**	**1.10**	**154**	P	**Pb**	**06 23 25.9**	**+0.2**

*NIED **27** 06:23:00,37.40N×138.90E,h5km,Mw3.7 Best double couple: M₀4.59×10¹⁴ NP1:φs209°,δ49°,λ71°. NP2:φs57°, δ45°,λ111°.*
*NEIC **27** 06:23:19.7±0.8,36.66N×138.47E,h10km,mb4.1/1,Error ellipse: s-maj=39.5km s-min=11.5km az=148.0*
NEIC Recorded [4 JMA] in Niigata and [1 JMA] in Gumma Prefectures.
*JMA **27** 06:23:21.7,37.40N×138.89E,h2km±1km,M4.0*
JMA Felt IV J1.
*IDC **27** 06:23:27.5±2.9,37.41N×138.73E,h51km±27km,mb3.5/7, mb1 3.9/9,mb1mx3.7/24,ML4.0/2,Error ellipse: s-maj=32.3km s-min=18.2km az=102.0*
ISC 27 06:23:21.4±0.7,37.41N±0.03×138.86E±0.05,h12km±4km, n21,σ0§84/25,mb3.8/7,3C,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIZZ	**Izumozaki**	**0.17**	**316**	P	**Pg**	**06 23 26.0**	**+0.6**
JHK	**Hiroka**	**0.20**	**142**	⇑P	**Pg**	**06 23 25.6**	**-0.4**
JHK				S	**Sg**	**06 23 28.7**	**-0.4**
JNS	**Sasagawa**	**0.55**	**42**	⇑P	**Pb**	**06 23 32.1**	**-0.3**
JNS				S	**Sb**	**06 23 39.9**	**0.0**
JFY	**Yanaizu**	**0.67**	**90**	⇑P	**Pb**	**06 23 34.0**	**-0.5**
JFY				S	**Sb**	**06 23 43.2**	**-0.3**
JKT	**Katashina**	**0.71**	**154**	P	**Pb**	**06 23 34.6**	**-0.6**
JKT				S	**Sb**	**06 23 44.4**	**-0.3**
JSB	**Shiboa**	**0.95**	**117**	P	**Pb**	**06 23 39.9**	**+0.6**
JSB				S	**Sb**	**06 23 52.5**	**+0.8**
MAT	**Matsushiro**	**1.01**	**211**	P	**Pb**	**06 23 40.2**	**-0.1**
MAT				*e*S	**Sb**	**06 23 53.6**	**+0.3**
JAG	**Ashikaga**	**1.09**	**154**	*e*S	**Sb**	**06 23 56.2**	**+0.5**
JHJ	**Hachijo jima 2**	**4.35**	**170**	P	**Pn**	**06 24 31.6**	**+2.8**
	95nm,0.3s,baz=96,slow=14,SNR=4.2						
ASAJ	**Asahikawa**	**7.28**	**22**	P	**Pn**	**06 25 11.4**	**+1.3**
	1.5nm,0.3s,baz=358,slow=33,SNR=3.6						
SONM	**Songino Array**	**25.89**	**304**	P	**P**	**06 28 54.0**	**-0.5**
	0.7nm,1.0s,mb3.2,baz=108,slow=7.8,SNR=6.2						
INK	**Inuvik**	**54.98**	**27**	P	**P**	**06 32 52.7**	**-1.5**
	1.9nm,1.1s,mb4.0,baz=350,slow=9.0,SNR=7.4						
INK	**Inuvik**	**54.98**	**27**	*e*P	**P**	**06 32 53.8**	**-0.4**
	2.0nm,1.0s,mb4.1						
WRA	**Warramunga Arr**	**57.20**	**185**	P	**P**	**06 33 08.2**	**-2.6**
	0.9nm,0.7s,mb3.9,baz=0.2,slow=7.6,SNR=8.3						
ASAR	**Alice Springs**	**60.93**	**185**	P	**P**	**06 33 36.2**	**-0.3**
	0.4nm,0.8s,mb3.6,baz=354,slow=8.2,SNR=3.4						
NVAR	**Mina Array Bea**	**76.38**	**52**	P	**P**	**06 35 12.8**	**+0.7**
	2.1nm,1.1s,mb4.0,baz=293,slow=3.8,SNR=5.5						
NVAR	**Mina Array Bea**	**76.38**	**52**	P	**P**	**06 35 12.8**	**+0.7**
PDAR	**Pinedale Array**	**78.84**	**44**	P	**P**	**06 35 26.0**	**+0.4**
	0.7nm,0.6s,mb3.8,slow=1.5,SNR=6.9						
TXAR	**Lajitas Array**	**91.49**	**51**	P	**P**	**06 36 28.4**	**-0.5**
	0.3nm,0.6s,mb3.8,baz=292,slow=3.4,SNR=5.4						
SAML	**Samuel**	**145.36**	**41**	*e*PKPdf	PKPdf	06 42 60.0	-2.9
LPAZ	**La Paz**	**148.22**	**56**	PKPbc	PKPdf	06 43 08.7	+1.1
	1.1nm,0.6s,baz=351,slow=2.9,SNR=6.5						

*NIED **27** 06:28:00,37.40N×138.90E,h5km,Mw3.6 Best double couple: M₀2.88×10¹⁴ NP1:φs79°,δ55°,λ120°. NP2:φs214°, δ45°,λ55°.*
*JMA **27** 06:28:08.7±0.1,37.39N×138.89E,h2km±2km,M3.6*
JMA Felt III J1.
ISC 27 06:28:08.2±0.8,37.41N±0.03×138.87E±0.05,h13km±6km, n11,σ0§58/19,4C-2D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIZZ	**Izumozaki**	**0.17**	**313**	⇓P	**Pg**	**06 28 13.0**	**+0.6**
JHK	**Hiroka**	**0.20**	**144**	S	**Sg**	**06 28 15.7**	**-0.2**
JNS	**Sasagawa**	**0.54**	**41**	⇑P	**Pb**	**06 28 19.0**	**-0.1**
JNS				S	**Sb**	**06 28 26.8**	**+0.3**
JFY	**Yanaizu**	**0.67**	**90**	⇑P	**Pb**	**06 28 21.1**	**-0.1**
JFY				S	**Sb**	**06 28 29.7**	**-0.4**
JKT	**Katashina**	**0.71**	**155**	⇑P	**Pb**	**06 28 21.6**	**-0.4**
JKT				S	**Sb**	**06 28 30.7**	**-0.8**
JSD	**Sado**	**0.79**	**322**	⇓P	**Pb**	**06 28 22.6**	**-0.8**
JGK	**Kuni**	**0.87**	**192**	P	**Pb**	**06 28 25.3**	**+0.6**
JGK				*e*S	**Sb**	**06 28 36.5**	**+0.5**
JSB	**Shiboa**	**0.95**	**118**	⇑P	**Pb**	**06 28 26.8**	**+0.7**
JSB				S	**Sb**	**06 28 39.3**	**+1.0**
MAT	**Matsushiro**	**1.02**	**212**	P	**Pb**	**06 28 27.0**	**-0.3**
MAT				S	**Sb**	**06 28 40.6**	**+0.3**
MAT	**Matsushiro**	**1.02**	**212**	P	**Pb**	**06 28 27.1**	**-0.2**
MAT				S	**Sb**	**06 28 40.5**	**+0.2**
JAG	**Ashikaga**	**1.09**	**154**	P	**Pb**	**06 28 27.3**	**-1.2**
JAG				S	**Sb**	**06 28 42.8**	**+0.3**

*IDC **27** 06:44:55.7±0.8,2.82N×127.13E,mb4.3/12,mb1 4.4/13, mb1mx4.3/19,MS3.4/3,Ms1 3.5/3,ms1mx2.8/21,Error ellipse: s-maj=37.2km s-min=14.0km az=67.0*
*SYO **27** 06:44:57.9,2.61N×126.68E,h10km,MB4.7*
*BJI **27** 06:45:02.0,2.70N×127.00E,h44km,mb4.7,Ms5.0, Msz5.1*
*NEIC **27** 06:45:02.0±4.6,2.70N×127.03E,h44km±44km,mb4.5/9, Error ellipse: s-maj=21.9km s-min=9.5km az=75.0*
ISC 27 06:44:58.8±7.9,2.68N±0.07×126.9E±0.2,h29km±57km, n35,σ1§03/33,mb4.5/22,MS3.2/2,1D,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**12.79**	**333**	LR	LR	06 53 28.3	
	comp=Z,388nm,19.8s,baz=207,slow=40						
KAKA	**Kakadu**	**16.23**	**160**	*e*P	**P**	**06 48 55.1**	**+8.5**
	11nm,0.6s						
FITZ	**Fitzroy Crossi**	**20.69**	**183**	*e*P	**P**	**06 49 39.4**	**+0.1**
	3.7nm,0.6s						
FITZ	**Fitzroy Crossi**	**20.69**	**183**	P	**P**	**06 49 39.4**	**0.0**
	4.4nm,0.6s,baz=4.1,slow=7.2,SNR=8.7						
PMG	**Port Moresby**	**23.49**	**121**	P	**P**	**06 50 05.3**	**-2.0**
	7.1nm,0.9s,mb4.1,baz=200,slow=20,SNR=2.1						
WRAB	**Tennant Creek**	**23.64**	**162**	P	**P**	**06 50 08.0**	**-0.7**
	238nm,0.5s,mb5.9,SNR=15						
WRAB	**Tennant Creek**	**23.64**	**162**	*e*P	**P**	**06 50 08.6**	**-0.1**
	35nm,0.6s,mb5.0						
WRA	**Warramunga Arr**	**23.64**	**162**	P	**P**	**06 50 09.0**	**+0.3**
	22nm,0.6s,mb4.8,baz=341,slow=10,SNR=54						
WB2	**Warramunga Arr**	**23.64**	**162**	*e*P	**P**	**06 50 09.0**	**+0.2**
MBWA	**Marble Bar**	**24.71**	**196**	*e*P	**P**	**06 50 19.6**	**+0.5**
	5.5nm,0.9s,mb4.1						
ASAR	**Alice Springs**	**27.06**	**166**	P	**P**	**06 50 41.6**	**+0.7**
	1.6nm,0.6s,mb3.7,baz=345,slow=6.5,SNR=15						
ASAR				PcP	PcP	06 54 02.0	0.0
	0.7nm,0.7s,baz=355,slow=1.4,SNR=4.9						
CMAR	**Chiang Mai Arr**	**31.56**	**302**	P	**P**	**06 51 20.5**	**-0.7**
	0.7nm,0.3s,mb3.9,baz=128,slow=9.4,SNR=4.2						
CMAR				LR	LR	07 06 07.9	
	comp=Z,45nm,19.0s,MS3.2,baz=110,slow=40						
FORT	**Forrest**	**33.29**	**178**	*e*P	**P**	**06 51 35.6**	**-0.6**
	79nm,0.7s,mb5.8						
NWAO	**Narrogin (SRO)**	**36.58**	**194**	P	**P**	**06 52 04.3**	**+0.1**
	2.8nm,0.6s,mb4.3,baz=98,slow=20,SNR=2.9						
NWAO	**Narrogin (SRO)**	**36.58**	**194**	P	**P**	**06 52 04.3**	**+0.1**
STKA	**Stephens Creek**	**37.10**	**159**	P	**P**	**06 52 08.6**	**0.0**
	12nm,0.6s,mb4.9,baz=332,slow=7.0,SNR=20						
BJT	**Baijiatuan**	**38.42**	**347**	*e*P	**P**	**06 52 20.1**

Error ellipse: s-maj=24.9km s-min=15.4km az=122.0
ISC 27 07:27:42.8±1.2,5.6S±0.1×147.4E±0.2,h190km±10km,n18, σ0§93/23,mb3.6/5,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAU	**Wau**	**1.90**	**202**	*e*P	**P**	**07 28 20.5**	**+0.7**
PMG	**Port Moresby**	**3.82**	**184**	P	**P**	**07 28 43.2**	**+0.6**
	36nm,0.3s,baz=358,slow=5.6,SNR=111						
PMG				S	**S**	**07 29 27.6**	**-1.2**
	20nm,0.3s,baz=275,slow=23,SNR=7.4						
PMG	**Port Moresby**	**3.82**	**184**	*i* P	**P**	**07 28 43.2**	**+0.6**
CTA	**Charters Tower**	**14.47**	**184**	P	**P**	**07 31 05.6**	**+5.5**
	0.2nm,0.3s,baz=349,slow=8.7,SNR=3.7						
CTA	**Charters Tower**	**14.47**	**184**	P	**P**	**07 31 05.6**	**+5.5**
CTAO	**Charters Tower**	**14.47**	**184**	*e*P	**P**	**07 31 05.6**	**+5.5**
	1.7nm,0.6s						
KAKA	**Kakadu**	**16.43**	**243**	*e*P	**P**	**07 31 25.0**	**+0.8**
	10nm,0.4s						
WRAB	**Tennant Creek**	**19.12**	**221**	*e*P	**P**	**07 31 52.1**	**-1.3**
	3.5nm,0.5s						
WB2	**Warramunga Arr**	**19.12**	**220**	*e*P	**P**	**07 31 52.6**	**-0.9**
WB2				*e*S	**S**	**07 35 15.2**	**-0.2**
WRA	**Warramunga Arr**	**19.13**	**221**	P	**P**	**07 31 53.0**	**-0.6**
	0.7nm,0.3s,baz=43,slow=9.9,SNR=17						
WRA				S	**S**	**07 35 16.1**	**+0.6**
	0.1nm,0.3s,baz=41,slow=20,SNR=6.8						
ASAR	**Alice Springs**	**22.21**	**215**	P	**P**	**07 32 25.8**	**+1.6**
	6.9nm,1.1s,mb4.0,baz=51,slow=8.3,SNR=16						
ASAR				S	**S**	**07 36 19.4**	**+8.3**
	2.6nm,0.7s,baz=32,slow=22,SNR=16						
ASPA	**Alice Springs**	**22.21**	**215**	*e*P	**P**	**07 32 25.6**	**+1.4**
ASPA				*e*S	**S**	**07 36 19.5**	**+8.3**
FITZ	**Fitzroy Crossi**	**24.65**	**238**	*e*P	**P**	**07 32 46.3**	**-1.3**
	3.7nm,0.4s,mb4.3						
FITZ	**Fitzroy Crossi**	**24.65**	**238**	P	**P**	**07 32 46.1**	**-1.5**
	4.4nm,0.4s,mb4.3,baz=55,slow=6.1,SNR=23						
SONM	**Songino Array**	**64.24**	**331**	P	**P**	**07 37 59.2**	**-0.4**
	0.4nm,0.6s,mb3.4,baz=144,slow=6.4,SNR=2.6						
VNDA	**Vanda**	**72.31**	**177**	P	**P**	**07 38 49.7**	**+0.7**
	0.2nm,0.3s,mb3.3,baz=355,slow=5.5,SNR=4.3						
VNDA	**Vanda**	**72.31**	**177**	P	**P**	**07 38 49.7**	**+0.7**
ILAR	**Eielson Array**	**84.92**	**23**	P	**P**	**07 39 57.0**	**-0.2**
	0.6nm,1.1s,mb3.2,baz=243,slow=6.8,SNR=4.6						

IDC 27 07:40:09.0±3.8,50.38N×29.16W,mb3.6/4,mb1 3.9/4, mb1mx3.5/21,MS3.7/1,Ms1 3.7/1,ms1mx2.5/23,Error ellipse: s-maj=149.0km s-min=28.9km az=165.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FINES	**FINESS Array B**	**31.89**	**48**	P	P	07 46 35.2	-2.5
	1.5nm,0.7s,baz=259,slow=9.7,SNR=6.2						
PDAR	**Pinedale Array**	**53.25**	**295**	P	P	07 49 29.1	-2.0
	0.6nm,0.8s,baz=63,slow=6.0,SNR=4.9						
DLBC	**Dease Lake**	**53.86**	**320**	LR	LR	08 10 36.7	
	comp=Z,63nm,18.6s,baz=118,slow=34						
TXAR	**Lajitas Array**	**58.42**	**279**	P	P	07 50 06.3	-2.3
	0.3nm,0.8s,baz=53,slow=6.3,SNR=3.4						
SONM	**Songino Array**	**74.95**	**29**	P	P	07 51 52.0	-1.1
	0.6nm,0.8s,baz=323,slow=7.2,SNR=3.5						
ASAR	**Alice Springs**	**150.25**	**33**	PKPbc	PKPdf	08 00 01.6	+3.3
	0.4nm,0.8s,baz=334,slow=2.1,SNR=3.9						

LDG 27 07:44:31.5±0.5,12.15S×166.88E,h10km,Mb4.6/3,Error ellipse: s-maj=55.4km s-min=18.6km az=86.0
IDC 27 07:44:52.2±0.9,13.14S×167.02E,h188km±7km,mb4.0/11, mb1 4.2/11,mb1mx4.0/18,Error ellipse: s-maj=17.2km s-min=13.2km az=130.0
NEIC 27 07:44:52.2±0.3,13.08S×166.99E,mb4.3/6,Error ellipse: s-maj=11.3km s-min=8.1km az=124.0
ISC 27 07:44:49.8±2.9,13.1S±0.1×166.9E±0.1,h174km±26km, h188km±3.8km:pP-P,n55,σ1§01/27,mb4.3/14,2C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOUC	**Port Laguerre**	**9.01**	**184**	*e*P	**P**	**07 46 58.1**	**+0.8**
NOUC	**Port Laguerre**	**9.01**	**184**	*e*S	**S**	**07 48 37.0**	**+0.1**
NOUC	**Port Laguerre**	**9.01**	**184**	*e*P	**P**	**07 46 58.1**	**+0.8**
NOUC				*e*S	**S**	**07 48 37.0**	**+0.1**
CTA	**Charters Tower**	**20.97**	**248**	P	**P**	**07 49 22.4**	**+1.9**
	10nm,0.7s,baz=75,slow=12,SNR=15						
CTA				pP		07 49 55.9	
	11nm,0.9s,baz=67,slow=12,SNR=5.3						
CTAO	**Charters Tower**	**20.97**	**248**	*e*P	**P**	**07 49 22.1**	**+1.6**
	16nm,0.9s						
CTAO				*e*		07 49 56.0	
URZ	**Urewera**	**26.69**	**162**	P	**P**	**07 50 13.2**	**-1.5**
	4.1nm,0.8s,mb4.1,baz=354,slow=14,SNR=2.6						
STKA	**Stephens Creek**	**29.83**	**227**	P	**P**	**07 50 42.6**	**-0.3**
	9.4nm,0.6s,mb4.7,baz=48,slow=7.4,SNR=26						
STKA				PcP	PcP	07 53 40.3	-1.6
	0.7nm,0.4s,baz=27,slow=4.5,SNR=4.3						
RPZ	**Rata Peaks**	**30.76**	**174**	P	**P**	**07 50 49.8**	**-1.1**
	8.0nm,0.7s,mb4.6,baz=212,slow=3.3,SNR=6.6						
WB2	**Warramunga Arr**	**31.90**	**253**	*e*P	**P**	**07 51 00.1**	**-1.1**
WRAB	**Tennant Creek**	**31.90**	**253**	*e*P	**P**	**07 51 00.3**	**-0.9**
	5.8nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**31.91**	**253**	P	**P**	**07 51 00.6**	**-0.7**
	3.3nm,0.7s,mb4.2,baz=85,slow=8.8,SNR=17						
WRA				pP	pP	07 51 38.8	+1.0
	2.7nm,0.7s,baz=85,slow=8.8,SNR=6.5						
WRA				PcP	PcP	07 53 44.8	-2.7
	0.5nm,0.5s,baz=87,slow=5.1,SNR=4.0						
WRA				ScP		07 57 13.0	
	1.6nm,0.9s,baz=84,slow=3.5,SNR=9.3						
ASAR	**Alice Springs**	**32.96**	**247**	P	**P**	**07 51 09.4**	**-0.9**
	6.6nm,0.7s,mb4.5,baz=76,slow=9.2,SNR=119						
ASAR				pP	pP	07 51 47.8	+0.8
	2.8nm,0.7s,baz=74,slow=9.3,SNR=4.7						
ASAR				PcP	PcP	07 53 48.8	-1.5
	0.5nm,0.8s,baz=86,slow=3.6,SNR=5.2						
ASAR				ScP		07 57 16.1	
	3.2nm,0.8s,baz=85,slow=3.4,SNR=21						
ASPA	**Alice Springs**	**32.96**	**247**	*e*P	**P**	**07 51 09.3**	**-1.0**
FITZ	**Fitzroy Crossi**	**39.99**	**257**	P	**P**	**07 52 09.8**	**+0.5**
	20nm,1.4s,mb4.5,baz=201,slow=5.8,SNR=3.4						
MBWA	**Marble Bar**	**45.65**	**253**	P	**P**	**07 52 55.5**	**+0.5**
ENH	**Enshi**	**70.03**	**309**	*e*P	**P**	**07 55 45.1**	**+0.1**
	6.8nm,0.8s,mb4.4						
CMAR	**Chiang Mai Arr**	**73.94**	**294**	P	**P**	**07 56 09.4**	**+1.0**
	3.3nm,1.0s,mb4.0,baz=119,slow=4.9,SNR=9.0						
SONM	**Songino Array**	**80.94**	**324**	P	**P**	**07 56 47.1**	**+0.8**
	2.1nm,1.0s,mb3.7,baz=127,slow=6.2,SNR=10						
MCK	**McKinley**	**83.69**	**18**	*e*P	**P**	**07 56 59.0**	**-1.0**
	2.6nm,0.7s,mb4.1						
COLA	**College**	**84.85**	**18**	*e*P	**P**	**07 57 05.0**	**-0.7**
	3.3nm,0.6s,mb4.2						
ILAR	**Eielson Array**	**85.06**	**18**	P	**P**	**07 57 05.8**	**-1.0**
	6.7nm,0.5s,mb4.6,baz=242,slow=5.0,SNR=148						
ILAR				pP	pP	07 57 53.9	+3.9
	3.3nm,0.8s,baz=233,slow=6.0,SNR=7.7						
INK	**Inuvik**	**91.44**	**19**	P	**P**	**07 57 39.4**	**+2.5**
	2.2nm,1.2s,mb4.1,baz=267,slow=11,SNR=3.8						
INK	**Inuvik**	**91.44**	**19**	P	**P**	**07 57 37.7**	**+0.8**
	1.4nm,0.9s,mb4.0						
VNA3	**Neumayer Olymp**	**95.87**	**181**	*i*	**P**	**07 57 58.7**	**+1.6**
VNA2	**Neumayer--Watz**	**96.13**	**182**	*i*	**P**	**07 57 59.6**	**+1.3**
VNA1	**Neumayer--Stat**	**96.43**	**182**	*i*	**P**	**07 58 00.5**	**+0.8**
ARCES	**ARCESS Array B**	**118.56**	**346**	PKP	PKPdf	08 03 16.8	+0.3
	4.6nm,0.5s,baz=70,slow=1.7,SNR=39						
CPUP	**Villa Florida**	**121.85**	**133**	PKP	PKPdf	08 03 23.5	-0.4
	3.0nm,1.1s,baz=195,slow=8.4,SNR=2.4						
FINES	**FINESS Array B**	**124.05**	**339**	PKP	PKPdf	08 03 27.6	+0.3
	3.3nm,0.7s,baz=45,slow=2.7,SNR=10						
NB2	**NORSAR Subarra**	**128.93**	**345**	PKPdf	PKPdf	08 03 37.3	+0.6
	1.3nm,0.6s,baz=34,slow=1.7						
NOA	**NORSAR Array B**	**128.93**	**345**	PKP	PKPdf	08 03 36.8	+0.1
	1.7nm,0.7s,baz=34,slow=1.6,SNR=6.0						
HFS	**Hagfors**	**129.03**	**343**	PKP	PKPdf	08 03 37.4	+0.5
	11nm,1.1s,baz=180,slow=5.9,SNR=4.4						
AKASG	**Malin Array Be**	**129.15**	**326**	PKP	PKPdf	08 03 37.4	0.0
	0.3nm,0.3s,baz=46,slow=2.3,SNR=3.6						
BRTR	**Keskin Array B**	**131.14**	**312**	PKP	PKPdf	08 03 42.2	+0.8
	0.3nm,0.4s,baz=90,slow=4.3,SNR=2.7						
DAVOX	**Davos**	**141.23**	**335**	PKP	PKPdf	08 04 01.7	+1.9
	4.1nm,0.7s,baz=65,slow=12,SNR=3.6						
SSF	**Saint Saulge**	**143.35**	**341**	*e*PKP1	PKPbc	08 04 03.0	+1.1
	25nm,1.0s						
SGMF	**Saint Gilles**	**143.83**	**348**	*e*PKP1	PKPbc	08 04 03.1	-0.2
	40nm,0.8s						
MBDF	**Montbardon**	**144.17**	**336**	*e*PKP1	PKPbc	08 04 03.8	-0.6
	12nm,0.8s						
QUIF	**Quistinic**	**144.27**	**349**	*e*PKP1	PKPbc	08 04 04.5	-0.1
ORIF	**Oris-en-Rattie**	**144.36**	**337**	*e*PKP1	PKPbc	08 04 05.7	+0.8
	36nm,0.8s						
TCF	**Toulx Ste Croi**	**144.44**	**342**	*e*PKP1	PKPbc	08 04 05.6	+0.5
	46nm,1.0s						
SBF	**Sospel**	**144.60**	**334**	*e*PKP1	PKPbc	08 04 05.8	+0.2
	36nm,0.7s						
MFF	**Saint Martin d**	**144.83**	**344**	*e*PKP1	PKPbc	08 04 06.8	+0.6
	43nm,0.7s						
VIVF	**Saint-Julien-l**	**144.87**	**338**	*e*PKP1	PKPbc	08 04 07.5	+1.1
PGF	**Pioggiola**	**144.93**	**331**	*e*PKP1	PKPbc	08 04 07.0	+0.4
	68nm,1.1s						
FRF	**La Foret Royal**	**145.18**	**335**	*e*PKP1	PKPbc	08 04 08.0	+0.8
	45nm,0.9s						
SMRF	**Simiane la Rot**	**145.27**	**336**	*e*PKP1	PKPbc	08 04 08.7	+1.3
	14nm,0.7s						
LMR	**La Mourre**	**145.42**	**334**	*e*PKP1	PKPbc	08 04 08.4	+0.6
	67nm,1.1s						
RJF	**Les Rejaudoux**	**145.54**	**342**	*e*PKP1	PKPbc	08 04 09.1	+1.0
CAF	**Calviac**	**145.71**	**341**	*e*PKP1	PKPbc	08 04 10.8	+2.3
LASF	**Ste Croix**	**145.84**	**338**	*e*PKP1	PKPbc	08 04 10.3	+1.4
	13nm,0.9s						
LFF	**La Frestale**	**146.10**	**342**	*e*PKP1	PKPbc	08 04 10.8	+1.3
MTLF	**Montolieu**	**147.06**	**339**	*e*PKP1	PKPdf	08 04 13.7	+3.9
	56nm,1.1s						
ETSF	**Etsaut**	**148.35**	**342**	*e*PKP1	PKPdf	08 04 17.5	+5.5
	4.9nm,0.6s						
ESDC	**Sonseca Array**	**152.29**	**345**	PKPbc	PKPdf	08 04 26.4	+8.3
	3.9nm,0.7s,baz=15,slow=3.3,SNR=13						
ESDC				PKPab	PKPab	08 04 37.6	-0.5
	1.4nm,0.6s,baz=15,slow=4.8,SNR=4.7						

PRU 27 07:47:29.9,51.49N×16.14E
WAR 27 07:47:29.5,51.54N×16.13E,ML2.6,Mining Induced
ISC 27 07:47:28.6±2.2,51.47N±0.09×16.04E±0.07,n8,σ1§06/11, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.65**	**166**	*e*PG	**Pg**	**07 47 42.0**	**+0.4**
KSP				*e*SG	**Sg**	**07 47 52.0**	**+1.8**
UPC	**Upice**	**0.96**	**181**	*e*PG	**Pg**	**07 47 48.4**	**+0.5**
DPC	**Dobruska-Polom**	**1.14**	**171**	*e*PG	**Pg**	**07 47 51.1**	**-0.2**
DPC				*e*SG	**Sg**	**07 48 07.2**	**+0.8**
PVCC	**Panska Ves**	**1.32**	**225**	*e*PG	**Pg**	**07 47 55.8**	**+0.8**
PRU	**Pruhonice**	**1.76**	**213**	*e*PG	**Pg**	**07 48 02.8**	**-1.0**
PRU				*i* x	x	07 48 19.8	
PRU				*e*SG	**Sg**	**07 48 26.8**	**-0.5**
	6.3nm,0.4s						
OKC	**Ostrava-Krasne**	**2.12**	**140**	*e*SG	**Sg**	**07 48 37.1**	**-1.9**
NKC	**Novy Kostel**	**2.59**	**243**	*e*SG	**Sg**	**07 48 55.5**	**+0.7**
KHC	**Kasperske Hory**	**2.82**	**215**	*e*SG	**Sg**	**07 49 01.0**	**-1.6**

IDC 27 08:00:55.3±1.8,40.98S×42.99E,mb3.7/4,mb1 3.9/4, mb1mx3.7/16,MS3.1/1,Ms1 3.0/1,ms1mx2.7/16,3C-1D, Error ellipse: s-maj=65.2km s-min=35.5km az=161.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**28.80**	**164**	LR	LR	08 16 26.3	
	comp=Z,39nm,19.8s,baz=52,slow=32						
SNAA	**Sanae**	**38.13**	**202**	*i*	P	08 08 14.8	-2.5
SNAA	**Sanae**	**38.13**	**202**	P	P	08 08 15.5	-1.8
	0.4nm,0.8s,baz=64,slow=7.7,SNR=6.9						
VNA2	**Neumayer--Watz**	**39.13**	**204**	*i*	P	08 08 26.7	+0.9
VNA1	**Neumayer--Stat**	**39.30**	**204**	*i*	P	08 08 28.3	+1.2
VNA3	**Neumayer Olymp**	**39.94**	**204**	*i*	P	08 08 33.0	+0.5
ASAR	**Alice Springs**	**75.54**	**109**	P	P	08 12 41.4	-2.1
	0.3nm,0.7s,baz=235,slow=5.5,SNR=4.2						
STKA	**Stephens Creek**	**75.70**	**120**	P	P	08 12 42.9	-1.3
	2.5nm,0.9s,baz=240,slow=8.1,SNR=3.7						
WRA	**Warramunga Arr**	**78.18**	**106**	P	P	08 12 57.2	-1.0
	0.7nm,0.8s,baz=225,slow=4.4,SNR=5.6						
TXAR	**Lajitas Array**	**150.54**	**257**	PKPbc	PKPdf	08 20 48.9	+3.6
	1.7nm,0.8s,baz=134,slow=4.9,SNR=18						

NIED 27 08:15:00,37.30N×139.00E,h11km,Mw3.7 Best double couple: M0 4.5×10^14 NP1:φs246°,δ56°,λ116°. NP2:φs25°, δ42°,λ57°.
JMA 27 08:15:18.6,37.28N×138.98E,h11km±1km,M4.0 Broadband fault plane solution: P waves. NP1:φs19°,δ36°, λ42°. NP2:φs254°,δ67°,λ119°. Principal axes: T Plg58°, Azm204°; N Plg26°, Azm62°; P Plg17°, Azm323°;
JMA Felt III J1.
NEIC 27 08:15:20.1±2.2,37.24N×138.76E,h25km±16km,mb4.2/1 Error ellipse: s-maj=22.3km s-min=13.6km az=76.0
NEIC Recorded [3 JMA] in Niigata and [2 JMA] in Gumma Prefectures.
IDC 27 08:15:24.4±2.9,37.25N×138.71E,h59km±27km,mb3.5/10, mb1 3.7/12,mb1mx3.6/23,ML3.5/2,Error ellipse: s-maj=27.8km s-min=16.9km az=85.0
ISC 27 08:15:18.0±0.4,37.29N±0.03×138.97E±0.04,h22km±3km, n25,σ1§08/36,mb3.8/11,1C-6D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.05**	**134**	⇓P	**Pb**	**08 15 20.7**	**-1.2**
JHK				S	**Sb**	**08 15 22.3**	**-2.3**
JIZZ	**Izumozaki**	**0.32**	**320**	⇓P	**Pb**	**08 15 25.6**	**+0.5**
JIZZ				S	**Sb**	**08 15 31.2**	**+1.2**
JKT	**Katashina**	**0.56**	**157**	⇓P	**Pb**	**08 15 29.4**	**+0.3**
JKT				S	**Sb**	**08 15 37.1**	**+0.4**
JFY	**Yanaizu**	**0.60**	**78**	⇓P	**Pb**	**08 15 29.8**	**+0.1**
JFY				S	**Sb**	**08 15 37.7**	**0.0**
JNS	**Sasagawa**	**0.60**	**27**	⇑P	**Pb**	**08 15 29.5**	**-0.2**
JNS				S	**Sb**	**08 15 37.6**	**-0.1**
JGK	**Kuni**	**0.77**	**200**	P	**Pb**	**08 15 33.0**	**+0.4**
JGK				S	**Sb**	**08 15 43.5**	**+0.9**
JSD	**Sado**	**0.94**	**323**	⇓P	**Pb**	**08 15 34.8**	**-0.6**
JSD				S	**Sb**	**08 15 48.7**	**+1.3**
JAG	**Ashikaga**	**0.94**	**156**	⇓P	**Pb**	**08 15 36.3**	**+0.8**
JAG				S	**Sb**	**08 15 48.9**	**+1.3**
MAJO	**Matsushiro**	**0.96**	**220**	*e*P	**Pb**	**08 15 35.9**	**0.0**
MAT	**Matsushiro**	**0.96**	**220**	P	**Pb**	**08 15 35.9**	**+0.1**
MAT				S	**Sb**	**08 15 47.4**	**-0.7**
MAT	**Matsushiro**	**0.96**	**220**	P	**Pb**	**08 15 35.9**	**+0.1**
MAT				S	**Sb**	**08 15 48.3**	**+0.2**
MAT	**Matsushiro**	**0.96**	**220**	*e*P	**Pb**	**08 15 36.0**	**+0.2**
MAT				*e*S	**Sb**	**08 15 47.0**	**-1.1**
JHJ	**Hachijo jima 2**	**4.21**	**171**	P	**Pn**	**08 16 26.6**	**+4.0**
	38nm,0.3s,baz=243,slow=20,SNR=3.0						
ASAJ	**Asahikawa**	**7.36**	**21**	P	**Pn**	**08 17 10.8**	**+3.8**
	0.4nm,0.3s,baz=80,slow=23,SNR=2.5						
SONM	**Songino Array**	**26.03**	**304**	P	**P**	**08 20 49.3**	**-1.9**
	0.4nm,0.8s,mb3.0,baz=121,slow=8.4,SNR=2.8						
WRAB	**Tennant Creek**	**57.08**	**185**	*e*P	**P**	**08 25 02.9**	**-2.3**
	2.1nm,0.8s,mb4.2						
WRA	**Warramunga Arr**	**57.09**	**185**	P	**P**	**08 25 03.3**	**-1.9**
	0.6nm,0.4s,mb4.0,baz=0.4,slow=7.5,SNR=16						
ASAR	**Alice Springs**	**60.81**	**185**	P	**P**	**08 25 30.9**	**0.0**
	0.2nm,0.5s,mb3.5,baz=11,slow=14,SNR=4.3						
ARCES	**ARCESS Array B**	**63.06**	**339**	P	**P**	**08 25 44.6**	**-0.8**
	3.6nm,1.0s,mb4.5,baz=23,slow=6.9,SNR=3.1						
FINES	**FINESS Array B**	**67.67**	**331**	P	**P**	**08 26 14.2**	**-0.9**
	2.7nm,1.0s,mb4.2,baz=37,slow=6.9,SNR=3.7						
NOA	**NORSAR Array B**	**73.19**	**336**	P	**P**	**08 26 47.9**	**-0.6**
	0.5nm,0.6s,mb3.6,baz=61,slow=4.9,SNR=2.2						
NVAR	**Mina Array Bea**	**76.39**	**52**	P	**P**	**08 27 09.3**	**+2.0**
	0.6nm,0.7s,mb3.7,baz=293,slow=6.9,SNR=3.7						
BRTR	**Keskin Array B**	**77.21**	**310**	P	**P**	**08 27 13.0**	**+1.1**
	0.5nm,0.7s,mb3.5,baz=56,slow=5.2,SNR=2.5						
PDAR	**Pinedale Array**	**78.87**	**44**	P	**P**	**08 27 21.3**	**+0.4**
	0.3nm,0.6s,mb3.4,baz=333,slow=2.0,SNR=2.8						
TXAR	**Lajitas Array**	**91.50**	**51**	P	**P**	**08 28 25.7**	**+1.5**
	0.2nm,0.6s,mb3.6,baz=270,slow=3.6,SNR=3.0						

IDC 27 08:17:46.0±11.0,11.46N×86.48W,mb3.4/3,mb1 3.9/3, mb1mx3.6/18,Error ellipse: s-maj=357.0km s-min=120.9km az=30.0
CASC 27 08:17:55.2±2.5,11.64N×87.07W,h24km±9km,MD4.0
ISC 27 08:17:52.8±1.2,11.57N±0.03×87.14W±0.02,h11km±9km, n28,σ0§98/47,mb3.3/3,2C-11D,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEON	**Leon**	**0.87**	**16**	⇓*e*P	**Pb**	**08 18 10.4**	**+0.8**
LEON				*e*S	**Sb**	**08 18 22.6**	**+1.6**
MIRN	**Miramar**	**0.96**	**26**	*e*P	**Pb**	**08 18 11.3**	**+0.3**
MIRN				*e*S	**Sb**	**08 18 24.1**	**+0.7**
XAVN	**Gruta Xavier**	**0.98**	**54**	⇓*e*P	**Pb**	**08 18 11.0**	**-0.3**
TICN	**Ticuantepe**	**1.00**	**63**	⇓*e*P	**Pb**	**08 18 11.2**	**-0.5**
APYN	**Apoyeque**	**1.01**	**49**	⇑*e*P	**Pb**	**08 18 11.5**	**-0.4**
APYN				*e*S	**Sb**	**08 18 25.3**	**+0.3**
MOMJ	**Momotombo**	**1.01**	**35**	⇓*e*P	**Pb**	**08 18 11.9**	**-0.1**
CNGN	**Cerro Negro**	**1.02**	**25**	⇓*e*P	**Pb**	**08 18 12.1**	**+0.1**
CNGN				*e*S	**Sb**	**08 18 28.1**	**+2.9**
MGAN	**Managua**	**1.04**	**57**	⇓*e*P	**Pb**	**08 18 11.7**	**-0.7**
MGAN				*e*S	**Sb**	**08 18 25.5**	**-0.3**
TELN	**Telica**	**1.07**	**16**	*e*P	**Pb**	**08 18 12.0**	**-0.9**
TELN				*e*S	**Sb**	**08 18 27.7**	**+1.1**
WILN	**Americas 2**	**1.10**	**58**	⇓*e*P	**Pb**	**08 18 12.4**	**-1.0**
WILN				*e*S	**Sb**	**08 18 27.0**	**-0.5**
APON	**Apoyo**	**1.10**	**72**	⇑*e*P	**Pb**	**08 18 12.3**	**-1.1**
APON				*e*S	**Sb**	**08 18 27.4**	**-0.2**
PYTN	**Playitas**	**1.43**	**48**	⇓*e*P	**Pn**	**08 18 17.2**	**-1.6**
PYTN				*e*S	**Sb**	**08 18 35.8**	**-1.2**
CNCH	**Conchagua**	**1.83**	**338**	⇓*e*P	**Pn**	**08 18 24.7**	**+0.2**
CNCH				*e*S	**Sn**	**08 18 49.0**	**+1.2**
VCR	**Vista de Mar**	**2.06**	**134**	*e*P	**Pn**	**08 18 30.9**	**+3.0**
BLLM	**Bellamira**	**2.15**	**330**	*e*P	**Pn**	**08 18 29.5**	**+0.3**
BLLM				⇓*e*P		08 18 29.7	
BLLM				*e*S	**Sn**	**08 18 55.9**	**-0.2**
VSM	**San Miguel**	**2.15**	**329**	*e*P	**Pn**	**08 18 30.5**	**+1.2**
SNVI	**San Vicente**	**2.62**	**321**	*e*P	**Pn**	**08 18 37.0**	**+1.0**
SNVI				*e*S	**Sn**	**08 19 08.2**	**+0.1**
JCR	**Jicaral**	**2.62**	**131**	*e*P	**Pn**	**08 18 34.9**	**-1.0**
JCR				*e*S	**Sn**	**08 19 09.8**	**+1.7**
LCBS	**La Ceiba**	**2.74**	**319**	⇓*e*P	**Pn**	**08 18 37.4**	**-0.2**
LCBS				*e*S	**Sn**	**08 19 09.8**	**-1.3**
LFRS	**El Faro**	**2.77**	**318**	*e*P	**Pn**	**08 18 38.0**	**-0.1**
LFRS				*e*S	**Sn**	**08 19 10.5**	**-1.4**
BOQS	**Boqueron**	**3.00**	**316**	*e*P	**Pn**	**08 18 42.2**	**+0.9**
BOQS				*e*S	**Sn**	**08 19 17.6**	**-0.1**
SBLS	**San Blas**	**3.31**	**313**	*e*P	**Pn**	**08 18 46.5**	**+0.7**
SBLS				*e*S	**Sn**	**08 19 25.5**	**0.0**
RTR	**El Retiro**	**3.37**	**314**	*e*P	**Pn**	**08 18 47.0**	**+0.5**
RTR				*e*S	**Sn**	**08 19 26.0**	**-1.0**
LCR2	**La Lucha 2**	**3.58**	**120**	*e*P	**Pn**	**08 18 50.7**	**+1.2**
LCR2				*e*S	**Sn**	**08 19 37.4**	**+5.2**
BUS	**Buena Vista**	**3.88**	**121**	*e*P	**Pn**	**08 18 53.8**	**0.0**
TXAR	**Lajitas Array**	**23.45**	**321**	P	**P**	**08 23 01.9**	**-1.4**
	1.0nm,0.9s,mb3.2,baz=133,slow=10,SNR=7.9						
PDAR	**Pinedale Array**	**36.69**	**332**	P	**P**	**08 24 58.5**	**-3.1**
	0.3nm,0.4s,mb3.4,baz=128,slow=9.3,SNR=4.2						
ILAR	**Eielson Array**	**66.94**	**336**	P	**P**	**08 28 42.5**	**-4.9**
	0.3nm,0.9s,mb3.3,baz=117,slow=4.3,SNR=4.3						

CASC 27 08:57:29.2±1.1,13.79N×90.42W,h84km±9km,MD3.7, ML3.4,2C,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.38**	**355**	⇑*e*P	**P**	**08 57 42.5**	**0.0**
IXG				*e*S	S	08 57 53.4	+0.8
IXG				AML	AML	08 57 57.6	
	comp=E,3μm,0.4s						
CUSS	**Cusmapa**	**0.47**	**75**	*e*P	P	08 57 42.9	-0.3
CUSS				*e*S	S	08 57 54.0	+0.2
RTR	**El Retiro**	**0.76**	**82**	*e*P	P	08 57 45.9	-0.2
RTR				*e*S	S	08 57 59.5	+0.9
FUG	**Fuego 3**	**0.77**	**328**	⇑*e*P	P	08 57

MWZ				SN	S	09 09 30.7	-2.2		
VRZ	Vera Road	1.29	234	*e*P	P	09 09 11.2	+0.5		
VRZ	Vera Road	1.29	234	⇓PN	P	09 09 11.4	+0.7		
KNZ	Kokohu	1.40	118	⇑PN	P	09 09 13.1	+1.4		
WAZ	Wanganui	1.63	211	P	P	09 09 15.0	+1.2		
WAZ	Wanganui	1.63	211	PN	P	09 09 15.0	+1.2		
WAZ				SN	S	09 09 41.7	+1.0		
TSZ	Takapari Road	1.69	183	P	P	09 09 15.9	+1.6		
TSZ	Takapari Road	1.69	183	PN	P	09 09 15.9	+1.6		
PUZ	Puketiti	1.73	81	PN	P	09 09 14.9	+0.2		
PUZ				SN	S	09 09 39.7	-2.6		
PWZ	Pawanui	1.76	160	P	P	09 09 17.1	+2.1		
PWZ	Pawanui	1.76	160	⇓PN	P	09 09 17.1	+2.1		
PWZ				SN	S	09 09 43.7	+0.7		
NEZ	North Egmont	1.80	239	PN	P	09 09 16.9	+1.5		
MXZ	Matakaoa Point	1.93	66	P	P	09 09 16.7	+0.1		
MXZ	Matakaoa Point	1.93	66	PN	P	09 09 16.7	+0.1		
MXZ				SN	S	09 09 42.8	-2.9		
NWEZ	Newall Road	1.96	242	P	P	09 09 17.2	+0.2		
NWEZ	Newall Road	1.96	242	PN	P	09 09 17.9	+1.0		
BFZ	Birch Farm	2.31	177	*e*P	P	09 09 22.3	+1.5		
BFZ	Birch Farm	2.31	177	PN	P	09 09 22.3	+1.4		
BFZ				SN	S	09 09 52.9	-0.3		
MRZ	Mangatainoka R	2.33	190	P	P	09 09 21.9	+0.9		
MRZ	Mangatainoka R	2.33	190	⇓PN	P	09 09 21.9	+1.0		
MRZ				SN	S	09 09 52.4	-1.1		
KIW	Kapiti Island	2.65	200	P	P	09 09 25.0	+0.3		
KIW	Kapiti Island	2.65	200	PN	P	09 09 25.0	+0.3		
KIW				SN	S	09 09 58.4	-1.7		
MTW	Mount Morrison	2.83	189	P	P	09 09 27.1	+0.4		
MTW	Mount Morrison	2.83	189	⇓PN	P	09 09 27.1	+0.4		
CAW	Cannon Point	2.85	196	P	P	09 09 27.4	+0.5		
CAW	Cannon Point	2.85	196	PN	P	09 09 27.4	+0.5		
MRW	Makara Radio	3.05	200	P	P	09 09 29.5	+0.1		
MRW	Makara Radio	3.05	200	PN	P	09 09 29.5	+0.2		
PAWZ	Paruwai Farm	3.05	189	PN	P	09 09 29.9	+0.5		
WEL	Wellington	3.09	199	PN	P	09 09 29.9	+0.1		
MSWZ	Moikau Station	3.11	192	P	P	09 09 30.4	+0.3		
MSWZ	Moikau Station	3.11	192	PN	P	09 09 30.4	+0.3		
BHW	Baring Head	3.18	197	P	P	09 09 30.9	0.0		
BHW	Baring Head	3.18	197	PN	P	09 09 30.9	-0.1		
TUWZ	Tuamarina	3.48	208	PN	P	09 09 34.0	-0.6		
NNZ	Nelson	3.53	215	P	P	09 09 34.5	-0.8		
NNZ	Nelson	3.53	215	PN	P	09 09 34.5	-0.8		
NNZ				SN	S	09 10 17.6	-1.3		
QRZ	Quartz Range	3.69	227	*e*P	P	09 09 36.0	-1.2		
QRZ	Quartz Range	3.69	227	PN	P	09 09 35.7	-1.5		
BSWZ	Blackbirch Sta	3.75	206	P	P	09 09 37.6	-0.4		
BSWZ	Blackbirch Sta	3.75	206	*e*PN	P	09 09 37.6	-0.4		
THZ	Tophouse	4.18	215	*e*P	P	09 09 42.8	-0.6		
THZ	Tophouse	4.18	215	PN	P	09 09 42.3	-1.1		
KHZ	Kahutara	4.49	205	P	P	09 09 46.9	-0.4		
KHZ	Kahutara	4.49	205	PN	P	09 09 46.9	-0.4		
DSZ	Denniston Nort	4.71	223	PN	P	09 09 48.6	-1.6		
LTZ	Lake Taylor	5.28	212	*e*P	P	09 09 55.9	-1.6		
LTZ	Lake Taylor	5.28	212	PN	P	09 09 55.9	-1.5		
MQZ	McQueen's Vall	5.93	205	*e*P	P	09 10 03.7	-2.2		
MQZ	McQueen's Vall	5.93	205	PN	P	09 10 03.7	-2.2		
WVZ	Waitaha Valley	6.22	219	PN	P	09 10 09.1	-0.5		
ODZ	Otahua Downs	7.82	210	*e*P	P	09 10 29.0	-1.5		
ODZ	Otahua Downs	7.82	210	*e*PN	P	09 10 29.0	-1.5		
JCZ	Jackson Bay	7.94	222	*e*P	P	09 10 31.1	-1.0		
JCZ	Jackson Bay	7.94	222	PN	P	09 10 31.1	-0.9		

IDC 27 09:10:12.9±7.5, 17.83S×177.32W, mb3.6/3, mb1 3.9/3, mb1mx3.6/14, Error ellipse: s-maj=326.0km s-min=37.8km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**45.67**	**259**	P		P	09 18 35.3	-2.2
	0.4nm,0.6s,baz=96,slow=7.5,SNR=4.1							
ASAR	**Alice Springs**	**45.81**	**254**	P		P	09 18 37.3	-1.3
	1.0nm,0.6s,baz=87,slow=8.8,SNR=10.0							
ILAR	**Eielson Array**	**85.58**	**13**	P		P	09 22 52.6	-1.3
	0.3nm,1.0s,baz=226,slow=5.2,SNR=5.4							

GUC 27 09:11:15.5±0.8, 22.50S×69.17W, h72km±6km, MD3.6, ML2.8, 1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
LVC	**Limon Verde**	**0.26**	**115**	*e*P		P	09 11 27.2	+0.5
LVC				*i* S		S	09 11 36.5	+1.4
LVC				AMP			09 11 37.7	
	comp=E,425nm,0.2s							
SPCH	**San Pedro de A**	**0.98**	**114**	*e*P		P	09 11 34.5	+0.4
SPCH				*i* S		S	09 11 49.6	+1.6
SPCH				AMP			09 11 52.1	
	comp=E,311nm,0.7s							
ANCH	**Antofagasta**	**1.64**	**224**	*e*P		P	09 11 43.3	+0.4
ANCH				*i* S		S	09 12 03.2	+0.1
CPN1	**Cerro Paranal**	**2.40**	**208**	⇓*i*P		P	09 11 54.1	+0.7
CPN1				*i* S		S	09 12 23.7	+2.1
CPN1				AMP			09 12 28.1	
	comp=E,140nm,0.5s							

LDG ***27*** *09:23:34.7±0.1, 44.92N×80.11E, h10km, Mb5.5/31, Ms4.5/8, Error ellipse: s-maj=6.0km s-min=3.9km az=26.0*
BJI ***27*** *09:23:36.8, 45.09N×80.26E, h12km, mB5.2, mb5.3, ML5.7, Ms5.1, Msz4.9*
CSEM ***27*** *09:23:37.5, 45.36N×79.97E, h10km, mb5.6*
NNC ***27*** *09:23:38.2±1.9, 45.30N×79.99E, h7km±9km, mpv5.6, Error ellipse: s-maj=15.9km s-min=12.4km az=0.0*
HRVD ***27*** *09:23:38.7±0.2, 45.14N×80.16E, h20km, MW5.1/58, Centroid moment Tensor Solution. LP body waves: s33,c49;Mantle waves: s58,c109; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 3.57±.18; Mθθ -6.58±.14; Mϕϕ 3.01±.14; Mrθ 1.30±.29; Mθϕ -0.19±.13; Mϕr 2.39±.30; Best double couple: M◎6.26×10^16 NP1: ϕs 303°, δ51°, λ146°. NP2: ϕs 56°, δ64°, λ44°. Principal axes: T 5.76, Plg49°, Azm276°; N 1.01, Plg40°, Azm80°; P -6.77, Plg8°, Azm177°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
SYO ***27*** *09:23:38.8, 45.08N×80.22E, h18km, MB5.5, MS4.9*
NEIC ***27*** *09:23:39.0±0.1, 45.09N×80.16E, mb5.4/164, MS4.9/75, MW5.3, Error ellipse: s-maj=3.2km s-min=2.0km az=183.0, Moment Tensor Solution. s10 Moment tensor: Scale 10^16 Nm; Mrr 7.40; Mθθ -8.27; Mϕϕ 0.87; Mrθ 4.34; Mθϕ -0.68; Mϕr 3.76; Best double couple: M◎ 9.8×10^16 NP1: ϕs 285°, δ33°, λ125°. NP2: ϕs 66°, δ63°, λ70°. Principal axes: T 9.87, Plg65°, Azm299°; N -.23, Plg18°, Azm75°; P -9.65, Plg16°, Azm170°;*
NEIC Felt [II] at Almaty, Kazakhstan.
MOS ***27*** *09:23:40.2±1.1, 45.20N×80.06E, h33km, mb5.6/35, MS5.1/34 Error ellipse: s-maj=6.9km s-min=4.8km az=125.7*
MOS Felt (II) at Alma-Ata.
IDC ***27*** *09:23:41.2±2.9, 45.07N×80.19E, h36km±23km, mb5.0/28, mb1 5.1/31, mb1mx5.1/31, ML5.2/1, MS4.5/19, Ms1 4.6/19, ms1mx4.3/33, Error ellipse: s-maj=13.5km s-min=10.9km az=30.0*

ISC 27 09:23:36.7±0.9, 45.06N±0.02×80.16E±0.02, h15km±5km, h18km±.7km: pP-P, n804, σ0 s97/783, mb5.4/195, MS4.9/122, 139C-45D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
MK31	**Makanchi Array**	**2.29**	**40**	⇓Pn		**Pn**	**09 24 17.6**	**+3.1**
	676nm,0.5s,baz=218,slow=15							
MK31				⇓Lg			09 24 47.3	
	5μm,0.6s,baz=218,slow=27,SNR=34							
MK31				⇑Rg			09 24 55.7	
	80μm,15.6s							
MK31	**Makanchi Array**	**2.29**	**40**	Pn		**Pn**	**09 24 17.6**	**+3.1**
MK31				Lg			09 24 47.3	
AAA	**Alma-Ata**	**2.92**	**234**	*i* PN		**Pn**	**09 24 25.0**	**+1.4**
AAA				*e*			09 25 08.0	
AAA				pmax	pmax			
	comp=Z,8μm,4.0s							
AAA				smax				
	comp=E,80μm,3.0s							
AAA				MLR	MLR			
	comp=Z,100μm,7.0s							
TKM2	**Tokmak 2**	**3.92**	**239**	P		**Pn**	**09 24 38.8**	**+1.0**
	SNR=374							
ULHL	**Ulahol**	**4.00**	**227**	P		**Pn**	**09 24 41.5**	**+2.6**
	SNR=51							
CHMS	**Chumysh**	**4.41**	**244**	P		**Pn**	**09 24 45.3**	**+0.5**
	SNR=770							
USP	**Ospenovka**	**4.45**	**248**	P		**Pn**	**09 24 45.7**	**+0.4**
	SNR=612							
KBK	**Karagaybulak**	**4.47**	**239**	P		**Pn**	**09 24 47.0**	**+1.4**
	SNR=304							
FRU	**Bishkek**	**4.58**	**243**	*i* PN		**Pn**	**09 24 48.0**	**+0.9**
FRU				*i*			09 25 55.0	
FRU				pmax	pmax			
	comp=Z,4μm,1.6s							
FRU				smax				
	comp=Z,22μm,2.0s							
KZA	**Kyzart**	**4.65**	**232**	P		**Pn**	**09 24 50.2**	**+2.1**
	SNR=110							
AAK	**Ala-Archa**	**4.76**	**241**	⇑Pn		**Pn**	**09 24 50.6**	**+0.9**
	comp=Z,991nm,0.6s							
AAK				⇑Lg			09 26 05.7	
	comp=Z,10μm,0.9s							
AAK				⇑Rg			09 26 32.3	
	comp=Z,9μm,10.3s							
AAK	**Ala-Archa**	**4.76**	**241**	P		**Pn**	**09 24 50.3**	**+0.6**
	SNR=663							
AAK	**Ala-Archa**	**4.76**	**241**	*c i* PN		**Pn**	**09 24 49.6**	**-0.1**
UCH	**Uchtor**	**4.98**	**237**	P		**Pn**	**09 24 54.7**	**+1.9**
	SNR=199							
EKS2	**Erkin-Say**	**5.20**	**245**	P		**Pn**	**09 24 56.0**	**+0.1**
	SNR=617							
AML	**Almayashu**	**5.53**	**240**	P		**Pn**	**09 25 02.5**	**+1.9**
	SNR=228							
WMQ	**Urumqi**	**5.53**	**100**	⇑*i* P		**Pn**	**09 25 02.3**	**+1.7**
WMQ				S		**Sn**	**09 26 04.3**	**-0.4**
WMQ				Smax				
	comp=N,6μm,1.0s							
WMQ				Smax				
	comp=E,6μm,0.9s							
WMQ				LR	LR			
	comp=N,6μm,9.0s							
WMQ				LR	LR			
	comp=E,6μm,10.0s							
WMQ				LR	LR			
	comp=Z,8μm,10.0s							
KURK	**Kurchatov**	**5.76**	**350**	⇓Pn		**Pn**	**09 25 02.7**	**-1.0**
	comp=Z,836nm,0.7s,baz=180,slow=11,SNR=2444							
KURK				⇑Lg			09 26 35.6	
	comp=Z,6μm,0.7s,baz=82,slow=17,SNR=21							
KURK				⇓Rg			09 27 02.8	
	comp=Z,8μm,9.5s							
KURK	**Kurchatov**	**5.76**	**350**	*c i* PN		**Pn**	**09 25 02.7**	**-1.1**
KURK				pmax	pmax			
	comp=Z,836nm,0.7s							
UKR	**Ust'-Kan**	**6.65**	**26**	*i* PN		**Pn**	**09 25 18.7**	**+2.4**
UKR				*i*			09 26 33.6	
AKAR	**Aktash**	**7.28**	**41**	*i* P		**Pn**	**09 25 27.9**	**+2.7**
AKAR				*e*S		**Sn**	**09 26 49.3**	**+0.9**
ELT	**Yel'tsovka**	**9.12**	**24**	*e*P		**P**	**09 25 51.2**	**+0.3**
ELT				*e*S		**Sn**	**09 27 29.0**	**-5.3**
VOSK	**Vostochnaya**	**9.76**	**325**	⇑Pn		**P**	**09 25 56.9**	**-2.7**
	comp=Z,91nm,0.7s							
VOSK				⇑Lg			09 28 38.7	
	comp=Z,4μm,1.1s							
VOSK				⇑Rg			09 29 21.4	
	comp=Z,12μm,8.3s							
VOSK	**Vostochnaya**	**9.76**	**325**	P		**P**	**09 25 56.8**	**-2.8**
VOSK				pmax	pmax			
	comp=Z,47nm,0.6s							
VOSK				MLR	MLR			
	comp=Z,99μm,8.0s							
NVS	**Novosibirsk**	**9.99**	**10**	*i* P		**P**	**09 26 01.5**	**-1.2**
NVS				*e*			09 27 51.7	
BVA0	**Borovoye Array**	**10.23**	**325**	⇑Pn		**P**	**09 26 03.1**	**-2.9**
	comp=Z,14nm,0.6s,baz=140,slow=14,SNR=373							
BVA0				⇑Sn		**S**	**09 27 52.9**	**-8.5**
	comp=Z,13nm,0.5s,baz=128,slow=19,SNR=4.4							
BVA0				⇑Lg			09 28 52.8	
	comp=Z,539nm,1.1s,baz=118,slow=29,SNR=8.3							
BVA0				⇑Rg			09 29 42.0	
	comp=Z,152nm,9.1s							
BVA0	**Borovoye Array**	**10.23**	**325**	*i* P		**P**	**09 26 03.4**	**-2.6**
BVA0				pmax	pmax			
	comp=Z,2.0nm,0.4s							
BVA0	**Borovoye Array**	**10.23**	**325**	*i* P		**P**	**09 26 03.4**	**-2.6**
	comp=Z,2.0nm,0.4s							
BVAR	**Borovoye Array**	**10.23**	**325**	Pn		**P**	**09 26 03.5**	**-2.5**
	comp=Z,21nm,0.3s,baz=142,slow=14,SNR=168							
BVAR				Sn		**S**	**09 27 54.6**	**-6.8**
	comp=Z,40nm,0.3s,baz=124,slow=16,SNR=6.0							
BVAR				Lg			09 28 53.4	
	comp=Z,84nm,0.3s,baz=126,slow=28,SNR=11							
BVAR				LR	LR		09 30 08.6	
	comp=Z,75nm,21.6s,baz=135,slow=38							
BRVK	**Borovoye**	**10.30**	**325**	*e*P		**P**	**09 26 03.8**	**-3.1**
	comp=Z,183nm,0.8s							
ZRNK	**Zerenda**	**10.77**	**321**	⇑Pn		**P**	**09 26 10.1**	**-3.2**
	comp=Z,72nm,0.6s							
ZRNK				⇓Sn		**S**	**09 28 04.6**	**-10**
ZRNK				⇓Lg			09 29 11.5	
	comp=Z,5μm,1.6s							
ZRNK				⇑Rg			09 29 58.5	
	comp=Z,9μm,9.3s							
ZRNK	**Zerenda**	**10.77**	**321**	P		**P**	**09 26 10.1**	**-3.2**
ZRNK				pmax	pmax			
	comp=Z,51nm,0.6s							
ZRNK				MLR	MLR			
	comp=Z,85μm,9.0s							
BHK	**Bhakra**	**13.93**	**193**	*e*		**P**	**09 26 58.2**	**+2.4**
BHK				*e*			09 29 20.8	
SMLA	**Simla**	**14.10**	**191**	*e*		**P**	**09 27 08.1**	**+10**
SMLA				*e*			09 29 33.3	
JOSI	**Joshimath**	**14.48**	**182**	*e*P		**P**	**09 26 59.4**	**-3.7**
DDI	**Dehra Dun**	**14.80**	**187**	*e*P		**P**	**09 27 03.3**	**-3.9**
DDI				*e*			09 29 44.7	
KKR	**Kurukshetra**	**15.30**	**191**	*e*P		**P**	**09 27 10.2**	**-3.5**
MOY	**Mondy**	**15.32**	**57**	*e*P		**P**	**09 27 16.6**	**+2.8**
PTH	**Pithoragarh**	**15.48**	**180**	*e*P		**P**	**09 27 12.0**	**-4.1**
PTH				*e*			09 29 58.0	
KALG	**Kalgarh**	**15.56**	**185**	*e*		**P**	**09 27 03.0**	**-14**
LGTI	**Lohaghat**	**15.58**	**180**	*e*P		**P**	**09 27 15.5**	**-1.9**
GTA	**Gaotai**	**15.60**	**104**	⇑P		**P**	**09 27 15.5**	**-2.0**
GTA				AP			09 27 20.0	
GTA				XP			09 27 23.5	
GTA				PP	PP		09 27 27.0	-3.2
GTA				PPP	PPP		09 27 35.3	-2.5
GTA				S	S		**09 30 07.5**	**-2.9**
GTA				LG2			09 32 02.5	
GTA				AMB	AMB			
	comp=Z,64nm,0.7s							
GTA				LR	LR			
	comp=N,3μm,14.4s							
GTA				LR	LR			
	comp=E,5μm,11.0s							
GTA				LR	LR			
	comp=Z,5μm,14.5s							
GTA	**Gaotai**	**15.60**	**104**	⇑P		**P**	**09 27 15.5**	**-2.0**
	comp=Z,64nm,0.7s							
GTA				pP			09 27 20.0	
GTA				sP			09 27 23.5	
GTA				PP	PP		09 27 27.0	-3.2
GTA				S	S		**09 30 07.5**	**-2.9**
ZAK	**Zakamensk**	**16.42**	**63**	*e*P		**P**	**09 27 28.1**	**+0.2**
ZAK				*e*			09 30 34.9	
NDI	**New Delhi**	**16.51**	**189**	*e*P		**P**	**09 27 24.0**	**-5.3**
NDI				*e*S		**S**	**09 30 21.0**	**-11**
BHGR	**Bahadurgarh**	**16.54**	**190**	*e*P		**P**	**09 27 25.3**	**-4.3**
BHGR				AMb	AMB		09 27 27.9	
	comp=Z,116nm,0.1s							
AYAN	**Aya Nagar**	**16.72**	**189**	*e*P		**P**	**09 27 27.9**	**-4.0**
AYAN				AMb	AMB		09 27 40.9	
	comp=Z,167nm,1.0s							
SONA	**Sohna**	**16.95**	**189**	*i* P		**P**	**09 27 31.1**	**-3.7**
SONA				AMb	AMB		09 27 39.6	
	comp=Z,74nm,0.9s							
SONA				*e*S		**S**	**09 30 27.8**	**-14**
SVE	**Sverdlovsk**	**16.96**	**321**	⇑*i* P		**P**	**09 27 32.5**	**-2.3**
SVE				*e*S		**S**	**09 30 45.0**	**+3.1**
SVE				pmax	pmax			
	comp=Z,340nm,1.3s							
SVE				MLR	MLR			
	comp=N,9μm,9.0s							
SVE				MLR	MLR			
	comp=E,8μm,9.0s							
SVE				MLR	MLR			
	comp=Z,16μm,9.0s							
SVE	**Sverdlovsk**	**16.96**	**321**	⇑*i* P		**P**	**09 27 32.5**	**-2.3**
	comp=Z,340nm,1.3s							
SVE				*e*S		**S**	**09 30 45.0**	**+3.1**
KUDL	**Kundal**	**17.13**	**191**	*e*P		**P**	**09 27 33.4**	**-3.7**
KUDL				AMb	AMB		09 27 39.6	
	comp=Z,78nm,0.0s							
KHET	**Khetri**	**17.30**	**193**	*e*P		**P**	**09 27 34.9**	**-4.3**
KHET				AMb	AMB		09 27 43.1	
	comp=Z,63nm,0.4s							
GKN	**Gorkha**	**17.39**	**167**	*e*P		**P**	**09 27 37.8**	**-2.5**
	comp=Z,403nm,0.9s							
IRK	**Irkutsk**	**17.43**	**57**	*e*P		**P**	**09 27 42.3**	**+1.7**
KOLN	**Koldanda**	**17.47**	**170**	*e*P		**P**	**09 27 37.8**	**-3.5**
	comp=Z,297nm,1.0s							
LSA	**Lhasa**	**17.61**	**147**	P		**P**	**09 27 43.0**	**-0.1**
LSA				AP			09 27 50.3	
LSA				XP			09 27 56.0	
LSA				PPP	PPP		09 28 10.0	+3.6
LSA				S	S		**09 31 03.0**	**+6.1**
LSA				LR	LR			
	comp=N,2μm,10.0s							
LSA				LR	LR			
	comp=E,4μm,10.0s							
LSA	**Lhasa**	**17.61**	**147**	P		**P**	**09 27 43.0**	**-0.1**
LSA				pP			09 27 50.3	
LSA				sP			09 27 56.0	
LSA				S	S		**09 31 03.0**	**+6.1**
ARU	**Arti**	**17.70**	**318**	⇓*i* P		**P**	**09 27 41.1**	**-2.9**
ARU				*e*S		**S**	**09 30 56.1**	**-2.6**
ARU				pmax	pmax			
	comp=Z,296nm,0.9s							
ARU				MLR	MLR			
	comp=N,2μm,16.0s							
ARU				MLR	MLR			
	comp=Z,4μm,16.0s							
ARU				MLR	MLR			
	comp=E,2μm,15.0s							
ARU	**Arti**	**17.70**	**318**	⇓*i* P		**P**	**09 27 41.1**	**-2.9**
	comp=E,296nm,0.9s							
ARU				*e*S		**S**	**09 30 56.1**	**-2.6**
GUN	**Gumba**	**17.71**	**163**	*e*P		**P**	**09 27 41.6**	**-2.7**
	comp=E,523nm,0.9s							
KKN	**Kakani**	**17.71**	**165**	*e*P		**P**	**09 27 41.5**	**-2.8**
	comp=E,233nm,1.0s							
ASH	**Ashkhabad**	**17.78**	**254**	*e*P		**P**	**09 27 40.0**	**-5.2**
DMN	**Daman**	**17.85**	**166**	*e*P		**P**	**09 27 43.8**	**-2.3**
	comp=E,166nm,0.9s							
AGRA	**Agra**	**17.88**	**186**	*e*P		**P**	**09 27 43.2**	**-3.3**
AGRA				AMb	AMB		09 27 49.8	
	comp=Z,86nm,1.1s							
PKI	**Pulchoki**	**17.95**	**165**	*e*P		**P**	**09 27 44.8**	**-2.5**
	comp=Z,332nm,1.1s							
VAN	**Vannovskaya**	**17.95**	**254**	*e*P		**P**	**09 27 43.5**	**-3.8**
VAN				S		**S**	**09 30 54.7**	**-10**
SONM	**Songino Array**	**18.26**	**72**	P		**P**	**09 27 51.9**	**+0.8**
	comp=Z,1.7nm,0.3s,baz=270,slow=12,SNR=78							
SONM				Lg			09 33 09.9	
	comp=Z,0.4nm,0.3s,baz=252,slow=25,SNR=2.9							
SONM	**Songino Array**	**18.26**	**72**	P		**P**	**09 27 51.9**	**+0.8**
SONM				Lg			09 33 09.9	
AJM	**Ajmer**	**19.06**	**195**	⇓*i* P		**P**	**09 27 58.0**	**-2.9**
JASL	**Jaisalmer**	**19.56**	**205**	*e*P		**P**	**09 28 04.0**	**-2.7**
JASL				AMb	AMB		09 28 06.5	
LZH	**Lanzhou**	**20.04**	**108**	⇑P		**P**	**09 28 11.3**	**-0.6**
LZH				AP			09 28 16.8	
LZH				XP			09 28 19.0	
LZH				PP	PP		09 28 30.8	-0.6
LZH				S	S		**09 31 51.3**	**+0.2**
LZH				SS	SS		09 32 19.8	-0.1
LZH				AMB	AMB			
	comp=Z,114nm,1.0s							
LZH				AMB	AMB			
	comp=Z,682nm,5.6s							
LZH				LR	LR			
	comp=N,7μm,13.5s							
LZH				LR	LR			
	comp=Z,10μm,14.3s,MS5.3							
LZH	**Lanzhou**	**20.04**	**108**	⇑P		**P**	**09 28 11.3**	**-0.6**
	comp=Z,110nm,1.0s							
LZH				pP			09 28 16.8	
LZH				sP			09 28 19.0	
LZH				PP	PP		09 28 30.8	-0.6
LZH				S	S		**09 31 51.3**	**+0.2**
LZH				sS			09 31 59.0	
LZH				SS	SS		09 32 19.8	-0.1
LZH				LR	LR			
	comp=Z,10μm,14.3s,MS5.3							
BHPL	**Bhopal**	**21.88**	**187**	*i* P		**P**	**09 28 30.4**	**-0.4**
BTO	**Baotou**	**22.28**	**91**	*e*P		**P**	**09 28 34.5**	**-0.2**
BLSP	**Bilaspur**	**22.93**	**175**	*e*P		**P**	**09 28 41.0**	**-0.2**
IMP	**Imphal**	**23.10**	**147**	*e*P		**P**	**09 28 43.0**	**+0.1**
HHC	**Hu-ho-hao-te**	**23.28**	**89**	⇓P		**P**	**09 28 46.5**	**+2.0**
HHC				AP			09 28 51.3	
HHC				XP			09 28 54.5	
HHC				PCP	PcP		09 32 32.0	-1.5
HHC				S	S		**09 32 59.5**	**+7.3**
HHC				XS			09 33 07.8	
HHC				AMB	AMB			
	comp=Z,426nm,4.7s							
HHC				LR	LR			
	comp=N,992nm,12.2s,MS4.7							
HHC				LR	LR			
	comp=E,1μm,10.2s,MS4.7							
HHC				LR	LR			
	comp=Z,1μm,10.2s,MS4.7							
CAL	**Calcutta**	**23.44**	**161**	*e*P		**P**	**09 28 46.8**	**+0.6**
CAL				*e*			09 33 05.6	
MAK	**Makhachkala**	**23.50**	**277**	*d i* P		**P**	**09 28 48.0**	**+1.4**
MAK				*e*			09 29 12.0	
MAK				*e*PPP	PPP		09 29 30.0	+1.3
MAK				*e*S	S		**09 32 56.0**	**+0.1**
MAK				*e*SS	SS		09 33 56.0	+12
MAK				pmax	pmax			
	comp=Z,1μm,4.0s							
MAK				pmax	pmax			
	comp=N,500nm,2.0s							
MAK				pmax	pmax			
	comp=N,900nm,8.0s							
MAK				smax				
	comp=N,500nm,2.0s							
MAK				MLR	MLR			
	comp=N,2μm,11.0s,MS5.3							
MAK				MLR	MLR			
	comp=E,5μm,11.0s,MS5.3							
MAK				MLR	MLR			
	comp=Z,9μm,11.0s,MS5.5							
MAK	**Makhachkala**	**23.50**	**277**	*i* Pr			09 28 48.0	
MAK				*e*			09 29 12.0	
MAK				*e*PPP	PPP		09 29 30.0	+1.3
MAK				*e*S	S		**09 32 56.0**	**+0.1**
MAK				*e*S

TBLG **Delisi** 25.83 275 *i* P P 09 29 08.6 -0.3
GOF **Gofitskoye** 26.08 283 *e*P P 09 29 12.0 +0.8
GNI **Garni** 26.39 272 P P 09 29 15.0 +0.9
comp=N,77nm,0.8s,mb5.3,baz=89,slow=0.3,SNR=62
GNI LR LR 09 41 22.4
comp=N,1μm,18.0s,MS4.5,baz=214,slow=40
GNI **Garni** 26.39 272 P P 09 29 15.0 +0.9
GNI pmax pmax
comp=Z,77nm,0.8s
GNI MLR MLR
comp=Z,1μm,18.0s
KIV **Kislovodsk** 26.60 281 *c* *i*P P 09 29 16.0 0.0
KIV pmax pmax
comp=Z,53nm,1.0s,mb5.0
KIV MLR MLR
comp=Z,3μm,15.0s,MS5.0
KIV **Kislovodsk** 26.60 281⇑ *i*P P 09 29 16.0 0.0
comp=Z,53nm,1.0s,mb5.0
KIV LR LR
comp=Z,3μm,15.0s,MS5.0
LATR **Latur** 26.73 188 *e*P P 09 29 20.0 +2.5
BJI **Beijing** 26.85 88 *e*P P 09 29 19.5 +1.1
BJI AP pP 09 29 24.0 +1.3
BJI XP sP 09 29 27.0 +2.4
BJI LR LR
comp=N,5μm,14.8s,MS5.2
BJI LR LR
comp=E,2μm,16.0s,MS5.2
BJI LR LR
comp=Z,1μm,28.6s
BJT **Baijiatuau** 26.86 88 *e*P P 09 29 19.0 +0.6
comp=Z,61nm,1.1s,mb5.0
BJT LR LR
comp=Z,2μm,21.0s,MS4.6
KMI **Kunming** 26.98 130 *e*P P 09 29 20.8 +1.1
KMI AP pP 09 29 26.0 +2.0
KMI XP sP 09 29 29.5 +3.5
KMI PP PP 09 30 06.5 +0.8
KMI S **S** 09 33 56.5 +1.8
KMI XS 09 34 05.3
KMI AMB AMB
comp=Z,53nm,0.9s,mb5.1
KMI LR LR
comp=N,617nm,10.1s,MS4.7
KMI LR LR
comp=E,890nm,12.7s,MS4.7
KMI LR LR
comp=Z,941nm,18.2s
KMI **Kunming** 26.98 130 *e*P P 09 29 20.8 +1.1
comp=Z,53nm,0.9s,mb5.1
KMI pP pP 09 29 26.0 +2.0
KMI sP sP 09 29 29.5 +3.5
KMI PP PP 09 30 06.5 +0.8
KMI S **S** 09 33 56.5 +1.8
KMI sS 09 34 05.3
KMI LR LR
comp=Z,940nm,18.2s,MS4.4
HIA **Hailar** 27.02 67 *e*P P 09 29 20.0 +0.2
comp=Z,14nm,0.9s,mb4.5
HIA LR LR
comp=Z,835nm,20.0s,MS4.3
ENH **Enshi** 27.32 113 *e*P P 09 29 22.3 -0.5
ENH LR LR
comp=Z,2μm,19.0s,MS4.6
HYB **Hyderabad** 27.59 183 *i* P P 09 29 25.5 +0.2
HYB *e*S **S** 09 34 08.0 +3.6
HYB LR LR 09 41 16.0
comp=Z,2.3nm,10.0s
HYB **Hyderabad** 27.59 183 *e*P P 09 29 25.5 +0.2
VANB **Van** 27.98 270 P P 09 29 29.7 +1.1
KAD **Karad** 28.11 192 *e* P 09 29 40.0 +10
BCA **Borcka** 28.12 276 *i* P P 09 29 30.9 +1.0
BCA **Borcka** 28.12 276⇑ *i*P P 09 29 30.9 +1.0
GYA **Guiyang** 28.21 122⇑ *i*P P 09 29 30.5 -0.3
GYA AP pP 09 29 36.8 +1.7
GYA XP sP 09 29 39.5 +2.4
GYA AMB AMB
comp=Z,90nm,1.2s,mb5.3
GYA LR LR
comp=N,1μm,13.7s,MS4.8
GYA LR LR
comp=E,990nm,11.4s,MS4.8
GYA LR LR
comp=Z,1μm,13.8s,MS4.7
GYA **Guiyang** 28.21 122⇑ *i*P P 09 29 30.5 -0.3
comp=Z,90nm,1.2s,mb5.3
GYA pP pP 09 29 36.8 +1.7
GYA sP sP 09 29 39.5 +2.4
GYA LR LR
comp=Z,1μm,13.8s,MS4.7
MOS **Moscow** 28.70 307 *e*P P 09 29 33.6 -1.4
MOS *e**PP pP 09 29 41.7 +2.4
MOS *e*PPP PPP 09 30 28.7 -12
MOS *e*S **S** 09 34 10.5 -12
MOS *e*SSS SSS 09 35 59.8 -8.5
MOS pmax pmax
comp=Z,500nm,2.0s,mb5.9
MOS pmax pmax
comp=Z,205nm,1.6s,mb5.6
MOS pmax pmax
comp=E,129nm,1.1s
MOS MLR MLR
comp=Z,7μm,12.6s,MS5.5
MOS MLR MLR
comp=E,6μm,12.2s
MOS **Moscow** 28.70 307 *e*P P 09 29 33.6 -1.4
comp=E,205nm,1.6s,mb5.6
MOS *e*pP pP 09 29 41.7 +2.4
MOS *e*PPP PPP 09 30 28.7 -12
MOS *e*S **S** 09 34 10.5 -12
MOS *e*SSS SSS 09 35 59.8 -8.5
MOS LR LR
comp=Z,7μm,12.6s,MS5.5
SOC **Sochi** 28.77 282 *i* P P 09 29 35.2 -0.5
SOC *e* 09 30 26.0
SOC *e*S **S** 09 34 22.8 -0.4
SOC *e*SS SS 09 36 12.7 +22
SOC pmax pmax
comp=Z,56nm,0.6s,mb5.5
SOC pmax pmax
comp=N,6.0nm,0.5s
SOC pmax pmax
comp=E,22nm,0.9s
SOC smax
comp=N,73nm,2.5s
SOC smax
comp=E,64nm,1.4s
SOC MLR MLR
comp=N,2μm,21.0s,MS5.0
SOC MLR MLR
comp=E,2μm,16.0s,MS5.0
SOC MLR MLR
comp=Z,3μm,16.0s,MS4.9
SOC **Sochi** 28.77 282 *i* P P 09 29 35.2 -0.5
comp=Z,56nm,0.6s,mb5.5
SOC *e* 09 30 26.0
SOC *e*S **S** 09 34 22.8 -0.4
SOC *e*SS SS 09 36 12.7 +22
SOC LR LR
comp=Z,3μm,16.0s,MS4.9
EZM **Erzurum** 28.88 274 P P 09 29 38.9 +2.2
EZM **Erzurum** 28.88 274⇑ *e*P P 09 29 38.9 +2.2
VRT **Varto** 29.07 272 *i* P P 09 29 40.4 +1.9
VRT **Varto** 29.07 272⇑ *i*P P 09 29 40.4 +1.9
TIA **Tai'an** 29.20 95 ⇓P P 09 29 44.3 +4.6
TIA AMB AMB
comp=Z,167nm,2.1s,mb5.4
TIA **Tai'an** 29.20 95 ⇓P P 09 29 44.3 +4.6
comp=Z,170nm,2.1s,mb5.4
OBN **Obninsk** 29.27 306 *c* *i*P P 09 29 39.2 -0.9
OBN *i* 09 29 46.9
OBN *e* 09 32 45.7
OBN pmax pmax
comp=Z,143nm,1.3s,mb5.5
OBN MLR MLR
comp=Z,4μm,14.0s,MS5.2
OBN **Obninsk** 29.27 306⇑ *i*P P 09 29 39.2 -0.9
comp=Z,143nm,1.3s,mb5.5
OBN *i* 09 29 46.9
OBN *e* 09 32 45.7
OBN LR LR
comp=Z,4μm,14.0s,MS5.2
CHRT **Chiangrai** 29.92 141 ⇑P P 09 29 47.0 +0.7
comp=Z,132nm,1.0s,mb5.6
CLNS **Chul'man** 30.00 51 *e*P P 09 29 41.9 -4.7
CLNS *e*PPP PPP 09 30 38.8 -20
CLNS *e* 09 32 50.7
CLNS pmax pmax
comp=Z,11nm,0.9s,mb4.6
CLNS pmax pmax
comp=N,10.0nm,1.0s
CLNS pmax pmax
comp=E,24nm,1.1s
CLNS MLR MLR
comp=Z,6μm,13.0s,MS5.5
CLNS MLR MLR
comp=N,1μm,12.0s,MS5.0
CLNS MLR MLR
comp=E,2μm,12.0s,MS5.0
ANN **Anapa** 30.00 285 *d* *i*P P 09 29 45.9 -0.8
ANN *e* 09 30 46.7
ANN *e*PPP PPP 09 31 03.5 +4.8
ANN *e*S **S** 09 34 43.6 +0.8
ANN *e*SS SS 09 36 14.9 -4.8
ANN *e*SSS SSS 09 36 37.0 -3.7
ANN pmax pmax
comp=N,36nm,0.9s
ANN pmax pmax
comp=Z,109nm,0.9s,mb5.6
ANN pmax pmax
comp=E,29nm,1.0s
ANN MLR MLR
comp=Z,1μm,12.0s,MS4.8
ANN MLR MLR
comp=N,1μm,16.0s,MS5.0
ANN MLR MLR
comp=E,2μm,16.0s,MS5.0
ANN **Anapa** 30.00 285 *i* Pr 09 29 45.9
comp=E,109nm,0.9s
ANN *e* 09 30 46.7
ANN *e*PPP PPP 09 31 03.5 +4.8
ANN *e*S **S** 09 34 43.6 +0.8
ANN *e*SS SS 09 36 14.9 -4.8
ANN *e*SSS SSS 09 36 37.0 -3.7
ANN LR LR
comp=Z,1μm,12.0s,MS4.8
EZC **Erzincan** 30.03 274 P P 09 29 51.3 +4.2
EZC **Erzincan** 30.03 274⇓ *e*P P 09 29 51.3 +4.2
KBD **Kabd** 30.11 249 *e*P P 09 29 47.7 -0.2
KBD AMb AMB 09 29 49.1
comp=Z,342nm,0.8s,mb6.1
QRN **Al-Qurain** 30.24 248 *e*P P 09 29 49.0 -0.1
QRN AMb AMB 09 29 50.0
comp=Z,72nm,0.5s,mb5.7
RST **Umm Al-Ruwaisa** 30.36 251 *e*P P 09 29 49.3 -0.8
RST AMb AMB 09 29 50.2
comp=Z,113nm,0.5s,mb5.8
RDF **Al-Radifah** 30.37 249 *e*P P 09 29 50.5 +0.3
RDF AMb AMB 09 29 51.7
comp=Z,94nm,0.8s,mb5.6
WHN **Wuhan** 30.40 107 *e*P P 09 29 50.5 +0.1
WHN LR LR
comp=N,2μm,11.2s,MS5.2
WHN LR LR
comp=E,2μm,12.4s,MS5.2
WHN LR LR
comp=Z,5μm,12.6s,MS5.3
PTK **Pertek** 30.68 273 *i* P P 09 29 53.3 +0.5
CMAR **Chiang Mai Arr** 30.80 143 P P 09 29 54.1 +0.1
comp=Z,31nm,0.8s,mb5.2,baz=318,slow=8.7,SNR=56
CMAR LR LR 09 44 07.6
comp=Z,877nm,18.0s,MS4.5,baz=332,slow=40
CMAR **Chiang Mai Arr** 30.80 143 P P 09 29 54.1 +0.1
CMAR pmax pmax
comp=Z,31nm,0.8s
CMAR MLR MLR
comp=Z,877nm,18.0s
DL2 **Dalian** 31.17 87 P P 09 30 02.0 +4.9
DL2 LR LR
comp=N,1μm,15.9s,MS4.7
DL2 LR LR
comp=E,790nm,14.3s,MS4.7
DL2 LR LR
comp=Z,580nm,13.7s,MS4.4
NANT **Nan** 31.27 140 P P 09 29 58.8 +0.6
SNY **Shenyang** 31.41 80 ⇑P P 09 30 03.5 +4.3
SNY LR LR
comp=N,3μm,15.7s
SNY LR LR
comp=Z,1μm,19.2s,MS4.6
HASS **Wahat al Ahsa'** 31.56 241 P P 09 30 00.1 -0.6
MYA **Malataya** 31.61 273 *i* P P 09 30 02.4 +1.4
MYA **Malataya** 31.61 273⇓ *i*P P 09 30 02.4 +1.4
MALT **Malatya** 31.61 273 *e*P P 09 30 02.2 +1.2
comp=E,80nm,1.1s,mb5.5
BDT **Bhumibol Dam** 31.91 144 P P 09 30 03.0 -0.8
SIM **Simferopol'** 32.22 286 *c* *i*P P 09 30 05.6 -0.6
SIM S **S** 09 35 20.0 +2.4
SIM pmax pmax
comp=Z,130nm,0.8s,mb5.8
SIM MLR MLR
comp=Z,1μm,17.0s,MS4.7
SIM **Simferopol'** 32.22 286⇑ *i*P P 09 30 05.6 -0.6
comp=Z,130nm,0.8s,mb5.8
SIM S **S** 09 35 20.0 +2.4
SIM LR LR
comp=Z,1μm,17.0s,MS4.7
NJ2 **Nanjing** 32.61 100 *e*P P 09 30 14.0 +4.2
NJ2 AP pP 09 30 19.8 +5.7
NJ2 XP sP 09 30 23.0 +7.0
NJ2 PP PP 09 31 22.0 +3.2
NJ2 S **S** 09 35 24.0 +0.1
NJ2 XS 09 35 34.0
NJ2 SS SS 09 37 23.0 +2.0
NJ2 AMB AMB
comp=Z,80nm,0.7s,mb5.8
NJ2 AMB AMB
comp=Z,490nm,3.9s
NJ2 LR LR
comp=N,3μm,20.6s
NJ2 LR LR
comp=E,3μm,15.4s
NJ2 LR LR
comp=Z,4μm,16.1s,MS5.2
NJ2 **Nanjing** 32.61 100 *e*P P 09 30 14.0 +4.2
comp=Z,80nm,0.7s,mb5.8
NJ2 pP pP 09 30 19.8 +5.7
NJ2 sP sP 09 30 23.0 +7.0
NJ2 PP PP 09 31 22.0 +3.2
NJ2 S **S** 09 35 24.0 +0.1
NJ2 sS 09 35 34.0
NJ2 SS SS 09 37 23.0 +2.0
NJ2 LR LR
comp=Z,4μm,16.1s,MS5.2
GZT **Gaziantep** 32.65 272 *i* P P 09 30 10.7 +0.6
LVZ **Lovozero** 32.76 330⇓ *e*P P 09 30 09.3 -1.4
LVZ pmax pmax
comp=Z,57nm,1.0s,mb5.5
LVZ pmax pmax
comp=N,6.0nm,0.7s
LVZ pmax pmax
comp=E,30nm,1.3s
LVZ MLR MLR
comp=Z,3μm,10.0s,MS5.3
LVZ MLR MLR
comp=N,1μm,16.0s
LVZ MLR MLR
comp=E,2μm,11.0s
JOF **Joensuu** 32.79 320 *ep* P 09 30 10.6 -0.4
comp=E,6.7nm,0.4s,mb4.9
JOF **Joensuu** 32.79 320 *e*P P 09 30 10.6 -0.4
JOF pmax pmax
comp=Z,7.0nm,0.4s,mb4.9
PUL **Pulkovo** 32.89 315 *e*P P 09 30 11.2 -0.7
PUL pmax pmax
comp=Z,181nm,0.9s,mb6.0
PUL MLR MLR
comp=E,7μm,11.0s
PUL MLR MLR
comp=Z,8μm,11.0s,MS5.7
PUL **Pulkovo** 32.89 315 *e*P P 09 30 11.2 -0.7
comp=Z,181nm,0.9s,mb6.0
PUL LR LR
comp=Z,8μm,11.0s,MS5.7
YAK **Yakutsk** 32.96 41 *e*P P 09 30 11.1 -1.4
YAK *e* 09 31 29.7
YAK *e*S **S** 09 35 36.3 +7.3
YAK *e*SS SS 09 37 32.5 +3.8
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=Z,24nm,1.0s,mb5.1
YAK pmax pmax
comp=E,18nm,1.2s
YAK pmax pmax
comp=N,8.0nm,1.0s
YAK pmax pmax
comp=Z,38nm,1.0s,mb5.3
YAK pmax pmax
comp=E,21nm,1.3s
YAK smax
comp=N,8.0nm,1.2s
YAK smax
comp=Z,6.0nm,0.9s
YAK smax
comp=E,13nm,1.1s
YAK MLR MLR
comp=N,400nm,10.0s,MS4.7
YAK MLR MLR
comp=Z,800nm,10.0s,MS4.7
YAK MLR MLR
comp=E,800nm,12.0s,MS4.7
YAK **Yakutsk** 32.96 41 *e*P P 09 30 11.1 -1.4
comp=E,24nm,1.0s,mb5.1
YAK *e* 09 31 29.7
YAK *e*S **S** 09 35 36.3 +7.3
YAK *e*SS SS 09 37 32.5 +3.8
GAZ **Gaziantep** 32.99 271 P P 09 30 14.1 +1.0
APA **Apatity** 33.10 329⇑ *i*P P 09 30 13.4 -0.2
APA *i* 09 32 55.6
APA *i* S **S** 09 35 32.0 +1.0
APA pmax pmax
comp=Z,24nm,0.8s,mb5.2
APA MLR MLR
comp=Z,6μm,10.0s,MS5.6
APA **Apatity** 33.10 329⇑ *i*P P 09 30 13.4 -0.2
comp=Z,24nm,0.8s,mb5.2
APA *i* 09 32 55.6
APA *i* S **S** 09 35 32.0 +1.0
CTKT **Corum** 33.23 279 *i* P P 09 30 15.3 +0.3
TOS **Tosya** 33.60 280 *i* P P 09 30 18.8 +0.5
TOS **Tosya** 33.60 280⇓ *i*P P 09 30 18.8 +0.5
NST **Nakhon Sawan** 33.79 144 P P 09 30 21.0 +0.8
comp=Z,117nm,1.0s,mb5.8
BALT **Daday** 33.86 281 *i* P P 09 30 20.8 +0.2
AVNT **Avonos** 33.94 276 *i* P P 09 30 21.3 +0.1
COBT **Iskenderun** 33.97 271 *i* P P 09 30 22.8 +1.3
CANT **Cankiri** 34.05 279 P P 09 30 23.1 +0.8
AKASG **Malin Array Be** 34.06 298 P P 09 30 20.4 -1.8
comp=Z,42nm,0.7s,mb5.5,baz=68,slow=9.1,SNR=27
AKASG PP PP 09 31 25.8 -11
comp=Z,6.8nm,0.7s,baz=64,slow=12,SNR=6.2
AKASG LR LR 09 46 54.9
comp=Z,401nm,19.1s,MS4.2,baz=85,slow=41
AKASG **Malin Array Be** 34.06 298 P P 09 30 20.4 -1.8
comp=Z,43nm,0.7s,mb5.5
AKASG LR LR
comp=Z,400nm,19.1s,MS4.2
CEYT **Ceyhan** 34.10 272 P P 09 30 24.3 +1.6
RYDS **Riyadh** 34.20 244 P P 09 30 20.0 -3.7
ELDT **Eldivan** 34.23 279 *i* P P 09 30 24.5 +0.7
MNK **Minsk** 34.35 305 *e*P P 09 30 22.0 -2.6
KKTK **Khon Kaen** 34.39 139 P P 09 30 24.0 -1.4
comp=Z,1μm,0.8s
BRTR **Keskin Array B** 34.40 278 P P 09 30 25.3 +0.1
comp=Z,48nm,0.8s,mb5.5,baz=86,slow=6.5,SNR=138
BRTR LR LR 09 47 42.8
comp=Z,529nm,18.3s,MS4.3,baz=60,slow=42
BRTR **Keskin Array B** 34.40 278 P P 09 30 25.3 +0.1
BRTR pmax pmax
comp=Z,48nm,0.8s
BRTR MLR MLR
comp=Z,529nm,18.3s
NIG **Nigde** 34.40 275 *i* P P 09 30 26.2 +0.9
NIG **Nigde** 34.40 275⇓ *i*P P 09 30 26.2 +0.9
SAFT **Safranbolu** 34.46 281 *i* P P 09 30 26.1 +0.4
SAFT **Safranbolu** 34.46 281⇓ *i*P P 09 30 26.1 +0.4
KAMT **Kaman** 34.49 277 *i* P P 09 30 25.8 -0.2
KAMT **Kaman** 34.49 277⇓ *i*P P 09 30 25.8 -0.2
MDJ **Mudanjiang** 34.62 73 P P 09 30 26.0 -1.0
MDJ AP pP 09 30 29.0 -2.4
MDJ PP PP 09 31 43.5 -0.2
MDJ PCP PcP 09 33 04.8 +3.2
MDJ S **S** 09 35 53.8 -1.0
MDJ SCP 09 36 47.0
MDJ SCS ScS 09 40 49.0 +2.2
MDJ LR LR
comp=N,834nm,10.8s,MS5.0
MDJ LR LR
comp=E,2μm,12.2s,MS5.0
MDJ LR LR
comp=Z,2μm,12.2s,MS5.1
SSE **Sheshan** 34.79 99 *e*P P 09 30 28.0 -0.7
SSE AP pP 09 30 33.0 0.0
SSE S **S** 09 35 58.8 +1.1
SSE XS 09 36 09.5
SSE AMB AMB
comp=Z,30nm,0.8s,mb5.3
SSE AMB AMB
comp=Z,168nm,6.0s
SSE LR LR
comp=N,1μm,16.1s,MS4.8
SSE LR LR
comp=E,774nm,16.1s,MS4.8
SSE LR LR
comp=Z,2μm,18.9s,MS4.8
SSE **Sheshan** 34.79 99 *e*P P 09 30 28.0 -0.7
comp=Z,30nm,0.8s,mb5.3
SSE pP pP 09 30 33.0 0.0
SSE S **S** 09 35 58.8 +1.1
SSE sS 09 36 09.5
SSE LR LR
comp=Z,2μm,18.9s,MS4.8
KAF **Kangasniemi** 35.00 319 *ep* P 09 30 28.8 -1.4
comp=Z,2.0nm,0.4s,mb4.4,baz=94,slow=8.6
KAF **Kangasniemi** 35.00 319 *eP* P 09 30 28.8 -1.4
KAF pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
FINES **FINESS Array B** 35.07 317 P P 09 30 29.7 -1.1
comp=Z,11nm,0.9s,mb4.8,baz=90,slow=9.5,SNR=17
FINES PP PP 09 31 49.0 -0.4
comp=Z,13nm,0.8s,baz=106,slow=10,SNR=4.5
FINES LR LR 09 45 26.3
comp=Z,1μm,18.8s,MS4.7,baz=89,slow=37
FINES **FINESS Array B** 35.07 317 P P 09 30 29.7 -1.1
FINES 09 31 49.0
FINES pmax pmax
comp=Z,11nm,0.9s
FINES pmax pmax
comp=Z,13nm,0.8s
FINES MLR MLR
comp=Z,1μm,18.8s
SGKT **Sivrigoynuk** 35.16 280 *i* P P 09 30 32.2 +0.5
KIS **Kishinev** 35.18 292 *α* *i*P P 09 30 31.0 -0.9
KIS *e* 09 30 38.0
KIS *e* 09 32 08.0
KIS *e*SS SS 09 38 38.0 +18
KIS pmax pmax
comp=Z,400nm,1.0s,mb6.3
KIS pmax pmax
comp=Z,400nm,1.0s,mb6.3
KIS MLR MLR
comp=Z,2μm,14.0s,MS5.0
KIS MLR MLR
comp=N,2μm,15.0s
KIS MLR MLR
comp=Z,1μm,15.0s
KIS **Kishinev** 35.18 292 *i* Pcu 09 30 31.0
comp=Z,400nm,1.0s
KIS *e* 09 30 38.0
KIS *e* 09 32 08.0
KIS *e*SS SS 09 38 38.0 +18
KIS LR LR
comp=Z,2μm,14.0s,MS5.0
TIXI **Tiksi** 35.19 24⇑ *e*P P 09 30 30.7 -1.0
TIXI *e* 09 30 40.2
TIXI *e*S **S** 09 36 02.2 -1.3
TIXI pmax pmax
comp=Z,50nm,1.0s,mb5.4
TIXI MLR MLR
comp=Z,2μm,11.0s,MS5.2
TIXI **Tiksi** 35.19 24⇑ *e*P P 09 30 30.7 -1.0
comp=Z,50nm,1.0s,mb5.4
TIXI *e* 09 30 40.2
TIXI *e*S **S** 09 36 02.2 -1.3

HILS Ha'il 35.23 253 P P 09 30 32.0 -0.5
MZLS Mizel 35.23 245 P P 09 30 32.0 -0.5
ARSS Ar Rass 35.25 250 P P 09 30 31.9 -0.7
INCN Inchon 35.34 86 *e*P P 09 30 33.8 +0.5
comp=Z,10nm,0.4s,mb5.1
INCN *e*pP pP 09 30 38.0 +0.3
INCN LR LR
comp=Z,879nm,19.0s,MS4.5
ASF Jabal al Asfar 35.76 264 P P 09 30 37.7 +0.9
comp=Z,33nm,0.9s,mb5.2,baz=289,slow=3.7,SNR=29
ASF LR LR 09 49 00.9
comp=Z,199nm,19.6s,MS3.9,baz=125,slow=42
QIZ Qiongzhong 35.79 127 P P 09 30 37.3 0.0
QIZ AP pP 09 30 42.5 +0.9
QIZ XP sP 09 30 45.8 +2.3
QIZ *e*S **S 09 36 10.3 -2.9**
QIZ AMB AMB
comp=Z,61nm,1.5s,mb5.3
QIZ LR LR
comp=E,1μm,20.3s
QIZ LR LR
comp=Z,722nm,10.3s
QIZ Qiongzhong 35.79 127 P P 09 30 37.3 0.0
comp=Z,61nm,1.5s,mb5.3
QIZ pP pP 09 30 42.5 +0.9
QIZ sP sP 09 30 45.8 +2.3
QIZ *e*S **S 09 36 10.3 -2.9**
QIZ LR LR
comp=Z,720nm,10.3s,MS4.7
MDU Mudurnu 35.79 280 P P 09 30 37.8 +0.7
MDU Mudurnu 35.79 280⇑ *e*P P 09 30 37.8 +0.7
HENT Hendek 35.87 281 *i* P P 09 30 37.5 -0.3
IKL Isikli 35.92 272 *e*P P 09 30 36.0 -2.3
KEV Kevo 35.98 332 *e*p P 09 30 37.1 -1.3
comp=Z,3.8nm,0.4s,mb4.7
KEV Kevo 35.98 332 *e*P P 09 30 37.1 -1.3
KEV pmax pmax
comp=Z,4.0nm,0.4s,mb4.7
KIZT Kizilcal 35.99 278 *i* P P 09 30 38.8 0.0
KIZT Kizilcal 35.99 278⇑ *i*P P 09 30 38.8 0.0
KONT Konya--Tatoy 36.06 276 *e*P P 09 30 38.9 -0.5
CFR Carcaliu 36.18 289⇑ *i*P P 09 30 40.3 -0.1
CFR Carcaliu 36.18 289⇑ *i*P P 09 30 40.3 0.0
HDMB Hadim 36.43 274 *e*P P 09 30 41.2 -1.3
ARCES ARCESS Array B 36.43 331 P P 09 30 42.0 -0.2
comp=Z,30nm,0.8s,mb5.3,baz=90,slow=9.7,SNR=127
ARCES LR LR 09 46 10.6
comp=Z,2μm,19.7s,MS4.8,baz=271,slow=37
ARCES ARCESS Array B 36.43 331 P P 09 30 42.0 -0.2
ARCES pmax pmax
comp=Z,30nm,0.8s
ARCES MLR MLR
comp=Z,2μm,19.7s
ESKT Eskisehir 36.44 279 *i* P P 09 30 42.9 +0.4
ESKT Eskisehir 36.44 279 *i* P P 09 30 42.2 -0.3
EYL Eskiyayla 36.48 261 P P 09 30 43.1 +0.2
MMLI Mount Malkishu 36.65 266 P P 09 30 45.1 +0.7
MMLI Mount Malkishu 36.65 266 ⇑P P 09 30 45.1 +0.7
PSN Preselentsi 36.66 287 *i* P P 09 30 45.5 +1.2
HMDT Nahal Hemdat 36.68 265 P P 09 30 45.1 +0.5
HMDT Nahal Hemdat 36.68 265 ⇑P P 09 30 45.1 +0.5
HRT Hereke 36.72 282 P P 09 30 45.4 +0.5
HRT Hereke 36.72 282⇑ *e*P P 09 30 45.4 +0.5
AFFS 'Afif 36.74 248 P P 09 30 45.0 -0.2
CSS Prodhromos 36.80 271 P P 09 30 44.6 -1.1
comp=Z,42nm,0.9s,mb5.3
LEF Lefka 37.04 271 P P 09 30 48.0 +0.3
ISK Istanbul-Kandi 37.05 282 P P 09 30 47.8 +0.1
KTK1 Kautokeino 37.12 330⇑ *i*P P 09 30 47.7 -0.2
KTK1 *e*pP pP 09 30 53.9 +1.6
KTK1 AMb AMB 09 30 56.4
comp=Z,75nm,1.1s,mb5.4
KTK1 Kautokeino 37.12 330 *e*P P 09 30 47.7 -0.2
comp=Z,75nm,1.1s,mb5.4
SUW Suwalki 37.12 305 *e*P P 09 30 48.1 0.0
SUW MLR MLR
comp=Z,3μm,18.4s,MS5.2
SUW Suwalki 37.12 305 *e*P P 09 30 48.1 0.0
SUW MLR MLR 09 46 08.3
comp=Z,3μm,18.4s
ALT Altintas 37.16 279 P P 09 30 48.6 +0.1
ISR Istrita 37.27 290⇑ *i*P P 09 30 51.3 +1.9
ISR Istrita 37.27 290⇑ *i*P P 09 30 51.3 +1.8
PRD Provadia 37.36 286 P P 09 30 50.5 +0.2
ULDT Uludag 37.37 281 *i* P P 09 30 50.7 +0.4
ISP Isparta 37.42 277 *e*P P 09 30 50.6 -0.1
ISP *e*pP pP 09 30 56.7 +1.5
LVV L'vov 37.51 298 *e*P P 09 30 51.0 -0.4
MLR Muntele Rosu 37.54 291 P P 09 30 52.7 +1.0
comp=Z,36nm,0.8s,mb5.2,baz=0.1,slow=2.2,SNR=48
MLR Muntele Rosu 37.54 291 P P 09 30 52.7 +0.9
MLR pmax pmax
comp=Z,37nm,0.8s
BUC1 Bucharest 37.88 289⇑ *i*P P 09 30 55.5 +1.0
BUC1 Bucharest 37.88 289⇑ *i*P P 09 30 55.5 +0.9
ZFRI Zfri 37.88 263 P P 09 30 55.6 +0.8
ZFRI Zfri 37.88 263 ⇑P P 09 30 55.6 +0.8
DST Dursunbey 37.95 280 P P 09 30 56.6 +0.3
KBRS Khaybar 37.98 254 P P 09 30 56.7 +1.0
PRNI Paran 38.12 263 P P 09 30 57.6 +0.8
PRNI Paran 38.12 263 ⇑P P 09 30 57.6 +0.8
EDC Edincik 38.17 282 *e*P P 09 30 57.9 +0.8
JMB Yambol 38.20 286 *i* P P 09 30 58.0 +0.7
BTOK Tokmak 38.30 281 *i* P P 09 30 58.0 -0.2
TBKS Tabuk 38.31 259 P P 09 30 59.4 +1.0
EDRB Edirne 38.33 285 P P 09 30 58.4 0.0
KAMS Al Khamasin 38.33 242 P P 09 30 57.8 -0.8
SZH Strazhica 38.33 287 *i* P P 09 30 58.3 -0.1
ELL Elmali 38.35 276 P P 09 30 59.1 +0.5
JMQS Jabal Moqyreh 38.37 261 P P 09 30 59.6 +0.7
KWP Kalwaria 38.38 298⇑ *e*P P 09 30 59.5 +0.7
KWP *e**PP pP 09 31 04.7 +1.5
KWP *e* 09 32 23.5
KWP Kalwaria 38.38 298⇑ *e*P P 09 30 59.5 +0.7
KWP *e*pP pP 09 31 04.7 +1.5
KWP *e*PP PP 09 32 23.5 -6.7
KWP MLR MLR 09 47 04.8
MFT Murefte 38.39 283 P P 09 30 58.9 -0.1
BALB Balikesir 38.46 281 P P 09 30 59.9 +0.4
KMTI Karmit 38.46 263 P P 09 31 00.4 +0.7
KMTI Karmit 38.46 263 ⇑P P 09 31 00.4 +0.7
DENT Denizli 38.49 278 *e*P P 09 31 00.2 +0.4
DENT Denizli 38.49 278⇑ *e*P P 09 31 00.2 +0.4
MBH Mount Berech 38.51 262 P P 09 31 00.9 +0.8
MBH Mount Berech 38.51 262 ⇑P P 09 31 00.9 +0.8
KGT Karabiga 38.51 282 P P 09 31 00.2 +0.3
DNZL Cakiroluk 38.52 277 *i* P P 09 31 00.0 0.0
EIL Elat 38.56 262 P P 09 31 01.2 +0.7
EIL Elat 38.56 262 P P 09 31 01.4 +0.9
comp=Z,44nm,0.9s,mb5.2,baz=19,slow=8.0,SNR=34
EIL Elat 38.56 262 ⇑P P 09 31 01.2 +0.7
ALWS Ilw as Safayha 38.69 262 P P 09 31 02.6 +1.1
JMOS Jabal al Moall 38.74 262 P P 09 31 02.5 +0.5
WAR Warsaw 38.75 303 *e*P P 09 31 02.5 +0.6
WAR MLR MLR
comp=Z,2μm,17.6s,MS5.0
WAR Warsaw 38.75 303 *e*P P 09 31 02.5 +0.6
WAR MLR MLR 09 47 09.5
comp=Z,2μm,17.6s
PVL Pavlikeni 38.76 287 *i* P P 09 31 03.5 +1.5
AKS Akhisar 38.84 280 *i* P P 09 31 02.6 -0.1
AKS Akhisar 38.84 280⇓ *i*P P 09 31 02.6 -0.1
KOLS Kolonicke sedl 38.85 297 *i* P P 09 31 03.3 +0.6
KOLS *e*PP PP 09 32 31.0 -4.7
HAQS Haql 38.94 262 P P 09 31 04.3 +0.7
DIM Dimitrovgrad 39.08 286 *i* P P 09 31 05.3 +0.6
BDAS Al Bad' 39.19 261 P P 09 31 05.9 +0.1
ALN Alexandroupoli 39.20 284 *e*P P 09 31 05.8 +0.1
DALT Dalyan (Mudla) 39.24 276 P P 09 31 04.8 -1.3
KDZ Kurdzhali 39.32 285 *i* P P 09 31 08.0 +1.3
DBAS Duba 39.33 258 P P 09 31 07.2 +0.3
CRVS Cervenica-Dubn 39.38 297 *i* P P 09 31 07.2 +0.1
CRVS *i* PP PP 09 32 35.5 -6.0
AYVA Ayvalik 39.43 281 *i* P P 09 31 06.8 -0.8
KDAG Bornova 39.44 279 *i* P P 09 31 07.1 -0.6
IZM Izmir 39.44 279 *i* P P 09 31 07.3 -0.4
RDO Rodhopi 39.44 284 *e*P P 09 31 08.0 +0.3
TATS Tathlith 39.59 242 P P 09 31 08.7 -0.5
BLCB Balcova 39.60 280 P P 09 31 08.6 -0.5
BOZC Bozcaada 39.64 282 *i* P P 09 31 09.0 -0.4
UMJS Umm Lajj 39.67 255 P P 09 31 11.2 +1.4
PRK Paraskevi 39.75 281 *e*P P 09 31 10.5 +0.2

RZN Rozhen 39.78 285 *i* P P 09 31 11.5 +1.0
RZN Rozhen 39.78 285⇑ *i*P P 09 31 11.5 +1.0
YNBS Yanbu' al Bahr 39.80 253 P P 09 31 11.8 +1.0
PGB Panagyurishte 39.81 287 *i* P P 09 31 12.3 +1.6
ARG Arkhangelos 39.87 276 *e*P P 09 31 10.7 -0.6
BDRM Kayabasi 39.94 277 *i* P P 09 31 11.4 -0.5
NIE Niedzica 39.94 298⇑ *e*P P 09 31 12.9 +1.1
OJC Ojcow 40.02 300 *e*P P 09 31 12.5 +0.1
OJC Ojcow 40.02 300 *e*P P 09 31 12.5 +0.1
SMG Samos 40.06 279 *e*P P 09 31 12.9 +0.1
KECS Kecovo 40.12 297 *i* P P 09 31 14.3 +1.1
KECS *e*PP PP 09 32 49.4 0.0
LIA Limnos Island 40.22 283 *e*P P 09 31 14.2 +0.1
MOR8 Moi Rana 40.27 325⇑ *i*P P 09 31 13.1 -1.2
MOR8 AMb AMB 09 31 14.5
comp=Z,160nm,1.0s,mb5.7
MOR8 Moi Rana 40.27 325 *e*P P 09 31 13.1 -1.2
comp=Z,160nm,1.0s,mb5.7
VTS Vitosha 40.44 287 *i* P P 09 31 16.3 +0.4
MMB Musomiste 40.50 286 *i* P P 09 31 17.3 +0.9
MMB Musomiste 40.50 286⇑ *i*P P 09 31 17.3 +0.9
NVR Nevrokopi 40.51 285 *e*P P 09 31 17.2 +0.7
BLJS Baljurashi 40.53 245 P P 09 31 17.4 +0.5
LOF Lofoten 40.59 328 *e*P P 09 31 18.6 +1.7
LOF AMb AMB 09 31 20.5
comp=Z,273nm,1.3s,mb5.7
LOF Lofoten 40.59 328 *e*P P 09 31 18.6 +1.7
comp=Z,273nm,1.3s,mb5.7
PSZ Piszkesteto 40.67 296⇑ *i*P P 09 31 18.4 +0.6
GKP Gorka Klasztor 40.73 305⇑ *e*P P 09 31 18.7 +0.5
GKP *e**PP pP 09 31 24.4 +1.8
GKP MLR MLR
comp=Z,4μm,19.1s,MS5.3
GKP Gorka Klasztor 40.73 305⇑ *e*P P 09 31 18.7 +0.5
GKP *e*pP pP 09 31 24.4 +1.8
GKP MLR MLR 09 48 33.6
comp=Z,4μm,19.1s
SRS Serrai 40.79 285 *e*P P 09 31 19.2 +0.4
BOLS Boljevac 40.79 290⇑ *i*P P 09 31 18.8 0.0
KKB Krupnik 40.82 286 *i* P P 09 31 20.0 +0.9
OUR Ouranopolis 40.86 284 *e*P P 09 31 19.8 +0.4
KAP Karpathos 40.87 276 *e*P P 09 31 18.8 -0.7
LTHS Al Lith 41.01 246 P P 09 31 21.4 +0.6
SOH Sokhos 41.08 285 *e*P P 09 31 22.0 +0.9
SVIS Svilajnac 41.10 291⇑ *i*P P 09 31 21.6 +0.2
VYHS Vyhne 41.16 298 *i* P P 09 31 22.7 +1.0
VYHS *e*PP PP 09 33 01.2 +1.3
OKC Ostrava-Krasne 41.16 300⇑ *i*P P 09 31 22.2 +0.5
HFS Hagfors 41.21 316 P P 09 31 21.9 -0.1
comp=Z,33nm,0.6s,mb5.1,baz=101,slow=7.6,SNR=68
HFS Hagfors 41.21 316 P P 09 31 21.9 -0.1
HFS pmax pmax
comp=Z,33nm,0.6s
PLG Polygyros 41.21 284 *e*P P 09 31 22.9 +0.6
KNT Kendrikon 41.24 286 *e*P P 09 31 23.1 +0.6
PAIG Paliouri 41.24 283 *e*P P 09 31 22.7 +0.1
APE Apeiranthos 41.28 279 *e*P P 09 31 22.8 0.0
BARS Barje 41.28 288⇓ *i*P P 09 31 22.8 0.0
VAY Valandovo 41.40 286⇑ *i*P P 09 31 24.6 +0.8
BEO Belgrade 41.41 292⇑ *i*P P 09 31 24.2 +0.3
AOS Alonnisos 41.44 282 *e*P P 09 31 24.4 +0.2
MORC Moravsky Berou 41.55 300 *e*P P 09 31 25.4 +0.6
comp=Z,48nm,1.0s,mb5.1
BSD Bornholm Skovb 41.59 308⇑ *i*P P 09 31 24.4 -0.7
comp=Z,31nm,0.8s,mb5.0
BSD *i* 09 33 02.1
comp=Z,2μm,21.0s
GRUS Gruza 41.60 290⇓ *i*P P 09 31 25.2 -0.2
SANT Santorini 41.67 278 *e*P P 09 31 24.9 -1.1
comp=Z,129nm,1.5s,mb5.3
GRG Griva 41.67 286 *e*P P 09 31 26.4 +0.4
NEO Neokhori 41.84 283 *e*P P 09 31 27.1 -0.3
SKO Skopje 41.89 287 *i* P P 09 31 26.3 -1.5
KSP Ksiaz 41.98 302⇑ *e*P P 09 31 28.8 +0.5
KSP *e**PP pP 09 31 34.5 +1.7
KSP *e*S **S 09 37 39.5 -6.7**
KSP *e*SS SS 09 40 46.5 -1.3
KSP MLR MLR
comp=Z,4μm,15.7s,MS5.4
KSP Ksiaz 41.98 302⇑ *e*P P 09 31 28.8 +0.5
KSP *e*pP pP 09 31 34.5 +1.7
KSP *e*PP PP 09 32 53.0 -16
KSP *e*S **S 09 37 39.5 -6.7**
KSP *e*SS SS 09 40 46.5 -1.3
KSP LR LR
comp=Z,4μm,15.7s,MS5.4
KSP Ksiaz 41.98 302⇑ *e*P P 09 31 28.8 +0.5
KSP *e*pP pP 09 31 35.0 +2.2
KSP MLR MLR 09 49 15.7
comp=Z,4μm,15.7s
DIVS Divcibare 41.99 291⇓ *i*P P 09 31 28.6 0.0
SMOL Smolenice 42.03 298 *e*P P 09 31 30.8 +2.0
PKSM Moragy 42.07 294⇑ *i*P P 09 31 29.3 +0.1
DPC Dobruska-Polom 42.11 301⇑ *i*P P 09 31 30.4 +0.9
DPC AMS AMS 09 49 10.0
comp=Z,2μm,14.4s
UPC Upice 42.25 301⇑ *i*P P 09 31 31.5 +0.9
NB2 NORSAR Subarra 42.26 318 P P 09 31 30.5 0.0
comp=Z,71nm,0.7s,mb5.4,baz=79,slow=7.9
NB2 NORSAR Subarra 42.26 318 P P 09 31 30.5 0.0
baz=79,slow=8.6
NOA NORSAR Array B 42.26 318 P P 09 31 30.4 -0.1
comp=Z,50nm,0.6s,mb5.3,baz=80,slow=8.1,SNR=169
NOA PP PP 09 33 11.8 +0.3
comp=Z,10nm,0.8s,baz=79,slow=11,SNR=4.0
NOA LR LR 09 49 41.7
comp=Z,2μm,18.2s,MS5.0,baz=75,slow=37
NOA NORSAR Array B 42.26 318 P P 09 31 30.4 -0.1
NOA 09 33 11.8
NOA pmax pmax
comp=Z,50nm,0.6s
NOA pmax pmax
comp=Z,11nm,0.8s
NOA MLR MLR
comp=Z,2μm,18.3s
VRAC Vranov 42.28 299 P P 09 31 31.8 +0.9
comp=Z,16nm,0.7s,mb4.7,baz=72,slow=9.1,SNR=15
VRAC Vranov 42.28 299 P P 09 31 31.8 +0.9
VRAC pmax pmax
comp=Z,16nm,0.7s
VRAC Vranov 42.28 299 *e*P P 09 31 31.6 +0.7
ZST Bratislava 42.34 298 *e*P P 09 31 32.8 +1.4
NVSS Nova Varos 2 42.42 290⇑ *i*P P 09 31 32.5 +0.3
FNA Florina 42.45 286 *e*P P 09 31 32.4 +0.1
RHK1 Bakonya 42.48 294⇑ *i*P P 09 31 32.6 0.0
YSS Yuzh-Sakhalins 42.49 64⇑ *e*P P 09 31 37.2 +4.6
YSS *e* pP 09 31 42.3 +5.3
YSS *e* 09 41 38.0
YSS pmax pmax
comp=Z,40nm,1.1s,mb5.0
YSS MLR MLR
comp=E,1μm,12.0s
YSS MLR MLR
comp=Z,2μm,12.0s,MS5.2
YSS Yuzh-Sakhalins 42.49 64⇑ *e*P P 09 31 37.2 +4.6
comp=Z,40nm,1.1s,mb5.0
YSS *e* pP 09 31 42.3 +5.3
YSS *e* 09 41 38.0
IVA Berane 42.55 289⇓ *i*P P 09 31 33.7 +0.5
AGG Agios Georgios 42.58 283 *e*P P 09 31 32.8 -0.7
IDI Anoyia 42.61 277 P P 09 31 33.0 -0.8
comp=Z,35nm,1.0s,mb5.1,baz=38,slow=9.1,SNR=24
PVY Plav 42.62 289⇓ *i*P P 09 31 34.1 +0.3
RGN Rugen 42.63 308 *e*P P 09 31 33.1 -0.6
comp=Z,272nm,1.1s,mb5.9
RGN *e* 09 31 40.1
PLE Pljevlja 42.70 290⇓ *i*P P 09 31 35.2 +0.8
OSL Oslo 42.71 316 *e*P P 09 31 33.1 -1.1
OSL AMb AMB 09 31 35.7
comp=Z,81nm,1.1s,mb5.4
OSL Oslo 42.71 316 *e*P P 09 31 33.1 -1.1
comp=Z,16nm,1.0s,mb4.7
COP Copenhagen 42.82 310 *i* P P 09 31 31.0 -4.2
comp=Z,46nm,0.9s,mb5.2
COP *i* 09 33 21.5
comp=Z,1μm,18.0s
COP Copenhagen 42.82 310 *e*P P 09 31 31.0 -4.2
comp=Z,46nm,0.9s,mb5.2
COP *i* 09 33 21.5
COP LR LR
comp=Z,1μm,18.0s,MS4.9
MEV Metsovon 42.99 285 *e*P P 09 31 36.8 0.0
EVR Evrytania 42.99 283 *e*P P 09 31 36.6 -0.3

UPM Unac-Piva 43.08 290⇓ *i*P P 09 31 38.0 +0.5
DOMB Dombas 43.08 319 *e*P P 09 31 37.2 0.0
DOMB AMb AMB 09 31 38.5
comp=Z,130nm,1.1s,mb5.6
DOMB Dombas 43.08 319 *e*P P 09 31 36.5 -0.7
comp=Z,130nm,1.1s,mb5.6
PVCC Panska Ves 43.12 302⇑ *i*P P 09 31 38.6 +0.9
PVCC AMS AMS 09 49 40.0
comp=Z,2μm,13.7s
QSH Qafa e Shtames 43.12 287 *i* p P 09 31 42.0 +4.1
TTG Podgorica 43.17 289⇓ *i*P P 09 31 37.9 -0.3
NKY Niksic 43.18 290⇓ *i*P P 09 31 38.6 +0.3
VLI Veliai 43.26 280 *e*P P 09 31 36.2 -2.9
JAN Janina 43.31 285 *e*P P 09 31 39.4 0.0
PRU Pruhonice 43.31 301⇑ *i*P P 09 31 39.8 +0.5
PRU *e*PP pP 09 31 46.7 +3.0
PRU pmax pmax
comp=Z,67nm,1.0s,mb5.3
PRU Pruhonice 43.31 301⇑ *i*P P 09 31 39.8 +0.5
comp=Z,67nm,1.0s,mb5.3
PRU pP pP 09 31 46.7 +3.0
PRU AMS AMS 09 50 00.0
MA2 Magadan 43.37 44 *e*P P 09 31 38.2 -1.4
MA2 *e* pP 09 31 44.1 +0.1
ULC Ulcinj 43.37 288⇓ *i*P P 09 31 40.3 +0.5
BRG Berggiesshubel 43.38 302 *i* P P 09 31 40.3 +0.5
BRG *e* 09 33 24.0
BRG pmax pmax
comp=Z,63nm,1.7s,mb5.1
BRG MLR MLR
comp=N,3μm,17.4s,MS5.3
BRG MLR MLR
comp=E,860nm,17.4s,MS5.3
BRG MLR MLR
comp=Z,2μm,13.4s,MS5.2
BRG Berggiesshubel 43.38 302 *i* P P 09 31 40.3 +0.5
comp=Z,63nm,1.7s,mb5.1
BRG *e*PP PP 09 33 24.0 +1.1
BRG *e*S **S 09 38 17.0 +10**
BRG LR LR
comp=Z,2μm,13.4s,MS5.2
GVD Gavdhos 43.40 277 *e*P P 09 31 39.4 -0.8
comp=Z,54nm,0.6s,mb5.5
BRY Bratogost 43.45 290⇓ *i*P P 09 31 39.8 -0.6
BJM Brajici-Budva 43.46 289⇓ *i*P P 09 31 41.2 +0.6
ASAJ Asahikawa 43.48 68 LR LR 09 51 38.4
comp=Z,689nm,19.5s,MS4.6,baz=296,slow=39
RLS Riolos of Patr 43.63 282 *e*P P 09 31 41.5 -0.6
HCY Herceg Novi 43.67 289 *e*P P 09 31 42.3 0.0
MOL Molde 43.67 320⇑ *i*P P 09 31 45.1 +3.1
MOL AMb AMB 09 31 53.9
comp=Z,192nm,1.4s,mb5.6
MOL Molde 43.67 320⇑ *i*P P 09 31 45.1 +3.1
comp=Z,192nm,1.4s,mb5.6
ARSA Arzberg 43.68 297⇑ *i*P P 09 31 42.6 +0.3
comp=Z,76nm,2.1s,mb5.1
IGT Igoumenitsa 43.72 285 *e*P P 09 31 42.0 -0.7
CLL Collm 43.80 303⇑ *i*P P 09 31 43.5 +0.3
comp=Z,logA/T=2.1,mb5.6
CLL *i* *PP pP 09 31 49.3 +1.7
CLL *e* 09 32 00.0
CLL *e* 09 33 13.0
CLL *e*PP PP 09 33 22.0 -5.0
CLL Collm 43.80 303⇑ *i*P P 09 31 43.5 +0.3
CLL *i* pP 09 31 49.3 +1.7
CLL pmax pmax
comp=Z,97nm,0.8s,mb5.6
CLL MLR MLR
comp=Z,2μm,20.4s,MS5.1
CLL Collm 43.80 303⇑ *i*P P 09 31 43.5 +0.3
comp=Z,97nm,0.8s,mb5.6
CLL *i* pP 09 31 49.3 +1.7
CLL LR LR
comp=Z,2μm,20.4s,MS5.1
LKD Levkas 43.89 283 *e*P P 09 31 43.0 -1.1
MAT Matsushiro 43.92 80 P P 09 31 48.7 +4.3
MAT *e*S **S 09 38 15.6 +0.8**
MAT Matsushiro 43.92 80 P P 09 31 49.0 +4.6
comp=Z,5.2nm,0.8s,mb4.3
MAT S **S 09 38 16.0 +1.2**
MAT LR LR
comp=Z,1μm,18.0s,MS4.8
PERS Pernice 44.17 296 *e*P P 09 31 46.4 +0.1
VLS Valsamata 44.18 283 *e*P P 09 31 44.8 -1.7
KHC Kasperske Hory 44.20 300⇑ *i*P P 09 31 47.0 +0.5
KHC AMS AMS 09 50 20.0
comp=Z,2μm,12.4s
GEC2 GERESS Array S 44.23 300 *e*P P 09 31 46.7 0.0
comp=Z,25nm,1.0s,mb4.9
GERES GERESS Array B 44.23 300 P P 09 31 47.4 +0.7
comp=Z,12nm,0.8s,mb4.7,baz=68,slow=7.2,SNR=68
GERES PP PP 09 33 34.7 +3.3
comp=Z,5.4nm,0.8s,baz=74,slow=9.7,SNR=5.7
GERES GERESS Array B 44.23 300 P P 09 31 47.4 +0.7
GERES 09 33 34.7
GERES pmax pmax
comp=Z,12nm,0.8s
MOA Molln 44.24 298⇑ *i*P P 09 31 47.5 +0.6
comp=Z,59nm,1.6s,mb5.1
IPM Ipoh 44.26 149⇑ *e*P P 09 31 50.9 +3.4
MUD Monsted U'grnd 44.37 311⇑ *i*P P 09 31 48.5 +0.8
comp=Z,69nm,0.6s,mb5.6
comp=Z,3μm,16.0s
PDKS Podkum 44.47 296 *i* P P 09 31 49.0 +0.3
NKC Novy Kostel 44.49 302⇑ *i*P P 09 31 49.4 +0.5
NKC AMS AMS 09 50 40.0
comp=Z,2μm,13.4s
BSEG Bad Segeberg 44.50 308 *e*P P 09 31 49.8 +1.0
BSEG *e**PP pP 09 31 55.3 +2.0
BSEG pmax pmax
comp=Z,80nm,1.0s,mb5.4
BOJS Bojanci 44.53 295 *e*P P 09 31 49.5 +0.2
OBKA Obir 44.58 296⇓ *i*P P 09 31 49.9 +0.3
comp=Z,246nm,2.4s,mb5.6
HYA Hoyanger 44.62 318⇑ *i*P P 09 31 50.5 +0.8
HYA AMb AMB 09 31 59.2
comp=Z,142nm,1.8s,mb5.5
HYA Hoyanger 44.62 318 *e*P P 09 31 51.0 +1.3
comp=Z,142nm,1.8s,mb5.5
WET Wettzell 44.62 300 *e*P P 09 31 50.2 +0.3
WET pmax pmax
comp=Z,39nm,1.0s,mb5.2
WET Wettzell 44.62 300 *e*P P 09 31 50.2 +0.3
comp=Z,39nm,1.0s,mb5.2
VISS Visnje 44.68 295 *e*P P 09 31 50.5 +0.1
ODD1 Odda 44.72 317 *e*P P 09 31 50.3 -0.2
ODD1 AMb AMB 09 32 02.0
comp=Z,90nm,1.8s,mb5.3
ODD1 Odda 44.72 317 *e*P P 09 31 50.3 -0.2
comp=Z,90nm,1.8s,mb5.3
LJU Ljubljana 44.78 296 *e*P P 09 31 51.4 +0.1
MOX Moxa 44.85 303 *i* P P 09 31 52.0 +0.3
comp=Z,logA/T=1.9,mb5.5
MOX L 09 51 13.0
MOX Moxa 44.85 303 *e*P P 09 31 52.0 +0.3
MOX pmax pmax
comp=Z,90nm,1.2s,mb5.5
MOX MLR MLR
comp=Z,2μm,16.0s,MS5.2
MOX Moxa 44.85 303 *e*P P 09 31 52.0 +0.3
comp=Z,90nm,1.2s,mb5.5
MOX LR LR
comp=Z,2μm,16.0s,MS5.2
SNART Snartemo 44.85 314 *e*P P 09 31 52.3 +0.7
SNART AMb AMB 09 31 55.9
comp=Z,116nm,1.9s,mb5.4
SNART Snartemo 44.85 314 *e*P P 09 31 52.5 +0.8
comp=Z,116nm,1.9s,mb5.4
BLS5 Blasjo 44.93 316⇓ *i*P P 09 31 53.9 +1.6
BLS5 AMb AMB 09 31 55.6
comp=Z,38nm,1.0s,mb5.2
BLS5 Blasjo 44.93 316 *e*P P 09 31 53.9 +1.6
comp=Z,38nm,1.0s,mb5.2
CEY Cerknica 44.97 295 *e*P P 09 31 52.6 -0.1
FOO Floro 45.04 319 *e*P P 09 31 53.3 +0.2
KNDS Knezji Dol 45.08 295 *i* P P 09 31 53.9 +0.3
KBA Koelnbreinsper 45.12 298⇑ *i*P P 09 31 54.3 +0.4
comp=Z,100nm,1.9s,mb5.3
CLZ Clausthal 45.16 305 *e*P P 09 31 54.5 +0.3
comp=Z,24nm,0.9s,mb5.0
RUND Rundenannen 45.20 318⇑ *i*P P 09 31 54.7 +0.4
RUND AMb AMB 09 31 55.7
comp=Z,240nm,1.0s,mb6.0
RUND Rundenannen 45.20 318 *e*P P 09 31 54.8 +0.4
ASK Askoy 45.26 318 *e*P P 09 31 54.0 -0.8

GRA1 Grafenberg Arr 45.43 302 *e*P **P 09 31 57.2 +0.9**
comp=Z,127nm,1.2s,mb5.6
GRA1 *e*pP pP 09 32 03.0 +2.3
GRA1 *e*PP PP 09 33 37.6 -5.8
GRA1 LR LR
comp=Z,2µm,18.0s,MS5.0
GRF Grafenberg Arr 45.43 302 *e*P **P 09 31 57.2 +0.9**
GRF *e**PP pP 09 32 03.0 +2.3
GRF *e* 09 33 37.6
GRF pmax pmax
comp=Z,127nm,1.2s,mb5.6
GRF MLR MLR
comp=Z,2µm,18.0s,MS5.0
STAV Stavanger 45.44 315 *e*P **P 09 31 57.0 +0.7**
STAV AMb AMB 09 32 06.1
comp=Z,67nm,1.4s,mb5.3
STAV Stavanger 45.44 315 *e*P **P 09 31 57.0 +0.7**
comp=Z,67nm,1.4s,mb5.3
KMY Karmoy 45.59 316 *e*P **P 09 31 58.0 +0.5**
KMY *e*pP pP 09 32 03.3 +1.4
KMY AMb AMB 09 32 07.0
comp=Z,71nm,1.6s,mb5.3
KMY Karmoy 45.59 316 *e*P **P 09 31 58.2 +0.7**
comp=Z,71nm,1.6s,mb5.3
LTRZ Laterza 45.62 288 *e*P **P 09 31 57.9 0.0**
FGMS Monte Sant'Ang 45.70 290 *e*P **P 09 31 58.1 -0.4**
FUR Furstenfeldbru 45.98 300 *e*P **P 09 32 01.9 +1.2**
FUR *e**PP pP 09 32 07.8 +2.7
FUR pmax pmax
comp=Z,139nm,1.1s,mb5.8
FUR Furstenfeldbru 45.98 300 *e*P **P 09 32 01.9 +1.2**
comp=Z,139nm,1.1s,mb5.8
FUR *e*pP pP 09 32 07.8 +2.7
WTTA Wattenberg 46.11 298⇑ *i*P **P 09 32 02.3 +0.5**
comp=Z,203nm,1.3s,mb5.9
WATA Walderalm 46.12 299⇓ *i*P **P 09 32 02.3 +0.5**
comp=Z,63nm,1.1s,mb5.5
TGY Tagaytay City 46.24 119 LR LR 09 52 37.4
comp=Z,494nm,18.6s,MS4.5,baz=145,slow=38
FG5 Orsara di Pugl 46.35 289 *e*P **P 09 32 04.9 +1.2**
TDS Terranova Siba 46.39 287 *e*P **P 09 32 05.1 +1.1**
SQTA Sankt Quirin 46.40 299⇑ *i*P **P 09 32 04.3 +0.3**
comp=Z,44nm,0.9s,mb5.4
MOTA Moosalm 46.41 299⇑ *i*P **P 09 32 04.4 +0.3**
comp=Z,49nm,1.0s,mb5.4
MRLC Muro Lucano 46.44 289 *e*P **P 09 32 04.8 +0.3**
SLCN Sala Consilina 46.52 288 *e*P **P 09 32 05.8 +0.7**
SGO Sicignano 46.66 288 *e*P **P 09 32 06.5 +0.3**
MGR Morigerati 46.69 288 *e*P **P 09 32 06.8 +0.3**
GRI Girifalco 46.74 286 *e*P **P 09 32 07.0 +0.2**
FSSB Fossombrone 46.90 293 *e*P **P 09 32 08.1 +0.1**
TOD Tromm 46.91 302⇑ *e*P **P 09 32 08.1 +0.1**
AQU L'Aquila 47.09 292 *e*P **P 09 32 09.4 -0.2**
comp=Z,70nm,1.3s,mb5.4
SDI San Donato 47.12 291 *e*P **P 09 32 09.8 0.0**
DAVA Damuels 47.20 299⇑ *i*P **P 09 32 10.6 +0.3**
comp=Z,37nm,1.1s,mb5.2
PTQR Pietraquaria 47.25 291 *e*P **P 09 32 11.6 +0.8**
MSC Monte Massico 47.26 290 *e*P **P 09 32 10.7 -0.2**
DAVOX Davos 47.41 299 P **P 09 32 12.2 +0.2**
comp=Z,40nm,0.7s,mb5.5,baz=89,slow=6.5,SNR=37
SFI Santa Sofia 47.41 294 *e*P **P 09 32 12.9 +0.8**
KGM Kluang 47.47 148⇓ *e*P **P 09 32 14.1 +1.1**
PGD Poggio Sodo 47.50 294 *e*P **P 09 32 13.8 +0.9**
SPAK Spaichingen 47.53 301⇑ *e*P **P 09 32 13.3 +0.3**
MNS Montasola 47.55 292 *e*P **P 09 32 12.8 -0.5**
VMG Vicchio 47.58 294 *e*P **P 09 32 14.5 +1.1**
SEI Scarperia 47.66 295 *e*P **P 09 32 15.2 +1.2**
BFO Black Forest 47.71 301 *e*P **P 09 32 14.0 -0.4**
BFO pmax pmax
comp=Z,32nm,0.9s,mb5.3
BFO Black Forest 47.71 301 *e*P **P 09 32 14.0 -0.4**
comp=Z,32nm,0.9s,mb5.3
LANF Langenberg 47.76 302⇑ *e*P **P 09 32 14.8 0.0**
JMIC Jan Mayen 47.79 334 LR LR 09 54 53.8
comp=Z,325nm,18.3s,MS4.3,baz=18,slow=39
BILL Bilibino 47.80 30*c* *i*P **P 09 32 15.4 +0.6**
BILL pmax pmax
comp=Z,44nm,1.7s,mb5.2
BILL MLR MLR
comp=Z,1µm,12.0s,MS5.0
BILL Bilibino 47.80 30⇑ *i*P **P 09 32 15.4 +0.6**
comp=Z,44nm,1.7s,mb5.2
BILL LR LR
comp=Z,1µm,12.0s,MS5.0
RUP Ruppelstein 47.91 303⇑ *e*P **P 09 32 16.3 +0.3**
GSCL Gusciola 48.02 295 *e*P **P 09 32 17.8 +1.0**
ERBM Eremo 48.10 295 *e*P **P 09 32 18.6 +1.2**
FELD Feldberg 48.10 301 *e*P **P 09 32 17.2 -0.2**
BDI Bagni Di Lucca 48.14 295 *e*P **P 09 32 17.5 -0.3**
SARO Sassorosso 48.21 295 P **P 09 32 18.9 +0.6**
LIBD Limburg 48.23 301⇑ *e*P **P 09 32 18.2 -0.2**
VLC Villacollemand 48.23 295 *e*P **P 09 32 18.7 +0.2**
comp=Z,115nm,1.0s,mb5.9
VALM 48.24 295 P **P 09 32 18.8 +0.3**
WLS Welschbruch 48.27 301⇑ *e*P **P 09 32 18.5 -0.2**
MAIM 48.28 295 P **P 09 32 18.6 -0.3**
GRAM 48.29 296 P **P 09 32 19.2 +0.3**
CDF Champ du Feu 48.32 302 *e*P **P 09 32 18.8 -0.3**
BACM 48.38 295 P **P 09 32 19.8 +0.2**
VINC Vinca 48.39 295 P **P 09 32 19.3 -0.4**
WLF Walferdange 48.47 303 *e*P **P 09 32 20.3 +0.1**
comp=Z,41nm,1.0s,mb5.4
ECH Echery 48.47 301⇑ *e*P **P 09 32 20.0 -0.3**
CODM 48.47 296 P **P 09 32 20.4 +0.1**
BOB Bobbio (Coli) 48.56 296 *e*P **P 09 32 21.6 +0.5**
MOF Molkenrain 48.64 301⇑ *e*P **P 09 32 21.5 -0.1**
CSLB Castelbuono 48.78 286 *e*P **P 09 32 21.1 -1.8**
HINF Hinteralfeld 48.83 301 *e*P **P 09 32 22.7 -0.3**
LOMF Lomont 49.05 300 *e*P **P 09 32 24.5 -0.2**
HAU Haudompre 49.05 301 *e*P **P 09 32 24.5 -0.3**
comp=Z,67nm,0.7s,mb5.5
HAU *e*R
comp=Z,1µm,18.2s
GIVF Givet 49.06 304 *e*P **P 09 32 25.1 +0.3**
comp=Z,110nm,1.0s,mb5.5
ORX Oropa 49.09 298 P **P 09 32 26.7 +1.6**
THEF They Montfort 49.17 302⇑ *e*P **P 09 32 25.6 -0.1**
PCP Pian Castagno 49.24 296 P **P 09 32 26.1 -0.1**
TRAV 49.30 298 P **P 09 32 26.9 +0.2**
BAIF Baives 49.44 305 *e*P **P 09 32 27.9 +0.2**
FIN Finale Ligure 49.60 296 P **P 09 32 27.6 -1.5**
MEZF Maizieres J'vi 49.62 302 *e*P **P 09 32 29.3 +0.2**
comp=Z,334nm,1.1s,mb6.0
PET Petropavlovsk 49.64 51 *e*P **P 09 32 34.0 +4.8**
PET *e*S **S 09 39 44.4 +8.5**
PET MLR MLR
comp=Z,700nm,13.0s,MS4.8
LSD Ceresole Reale 49.69 298 P **P 09 32 29.3 -0.4**
RORO 49.74 296 P **P 09 32 29.5 -0.6**
RSP Reno Superiore 49.77 298 P **P 09 32 27.9 -2.4**
ROB Roburent 49.78 296 P **P 09 32 29.1 -1.3**
CABF La Chapelle 49.83 300 *e*P **P 09 32 30.3 -0.5**
comp=Z,82nm,1.0s,mb5.4
PGF Pioggiola 49.88 294 *e*P **P 09 32 31.0 -0.2**
comp=Z,176nm,1.3s,mb5.6
BHB Bricherasio 49.91 297 P **P 09 32 29.1 -2.2**
LPG La Plagne 49.93 298 *e*P **P 09 32 32.0 +0.5**
comp=Z,217nm,1.0s,mb5.8
LPL La Plagne 49.93 298 *e*P **P 09 32 32.0 +0.5**
comp=Z,184nm,0.8s,mb5.9
FENE Fenestrelle 49.95 298 P **P 09 32 30.7 -1.0**
IMI Imperia 49.95 296 P **P 09 32 31.1 -0.6**
MONE Monesi 49.95 296 P **P 09 32 31.3 -0.5**
NEGI Negi 50.09 296 P **P 09 32 32.1 -0.7**
ENR Entracque 50.10 296 P **P 09 32 31.4 -1.4**
SAOF Saorge 50.12 296⇑ *e*P **P 09 32 33.0 -0.1**
STV2 Anna di Valdie 50.15 297 P **P 09 32 31.9 -1.3**
STV Sta Anna Valdi 50.15 297 P **P 09 32 31.6 -1.6**
PZZ Prazzo 50.17 297 P **P 09 32 31.6 -1.8**
RRL Cesana Torines 50.17 298 P **P 09 32 33.1 -0.3**
BNI Bardonecchia 50.18 298 *e*P **P 09 32 33.2 -0.2**
comp=Z,57nm,0.7s,mb5.7
AUTN L'Aution 50.20 296 *e*P **P 09 32 33.6 0.0**
SBF Sospel 50.26 296 *e*P **P 09 32 33.6 -0.5**
MBDF Montbardon 50.27 297 *e*P **P 09 32 33.6 -0.6**
comp=Z,79nm,0.8s,mb5.5
TOUF Mont Tournerai 50.31 296 *e*P **P 09 32 34.3 -0.1**
AURF Auriere 50.32 296⇑ *e*P **P 09 32 34.1 -0.4**
REVF Revere 50.36 296⇑ *e*P **P 09 32 34.3 -0.6**
SURF Saint Ours 50.36 297 *e*P **P 09 32 34.7 -0.2**
MVIF Mont Vial 50.42 296 *e*P **P 09 32 34.4 -0.9**
GDM Grand'Maison 50.46 298 *e*P **P 09 32 35.4 -0.2**

GRN Grenoble 50.67 298 *e*P **P 09 32 37.3 +0.1**
ORIF Oris-en-Rattie 50.74 298 *e*P **P 09 32 37.3 -0.4**
comp=Z,126nm,0.9s,mb5.5
ORIF *e*R
comp=Z,766nm,20.0s
LOR Lormes 50.89 301 *e*P **P 09 32 37.7 -1.1**
comp=Z,38nm,0.7s,mb5.2
LOR *e*R
comp=Z,1µm,17.2s
FRF La Foret Royal 50.91 296 *e*P **P 09 32 38.7 -0.3**
comp=Z,1µm,0.6s
LMR La Mourre 51.10 296 *e*P **P 09 32 40.0 -0.5**
SMF Signal de Mont 51.19 301 *e*P **P 09 32 40.3 -0.8**
SSF Saint Saulge 51.20 301 *e*P **P 09 32 40.0 -1.2**
comp=Z,14nm,0.6s,mb4.8
OG26 St.-Nazaire-De 51.27 298⇑ *e*P **P 09 32 42.0 +0.3**
OCF Saint Nazaire 51.27 298⇑ *e*P **P 09 32 42.0 +0.3**
ESK Eskdalemuir 51.27 313 *e*P **P 09 32 40.6 -1.0**
comp=Z,137nm,1.6s,mb5.6
ESK LR LR
comp=Z,366nm,20.0s,MS4.4
SMRF Simiane la Rot 51.38 297 *e*P **P 09 32 42.2 -0.4**
comp=Z,140nm,1.2s,mb5.5
VIVF Saint-Julien-l 51.52 298 *e*P **P 09 32 43.2 -0.5**
HYF Humbligny 51.62 302 *e*P **P 09 32 44.0 -0.4**
BGF Bois d'Agland 51.84 301 *e*P **P 09 32 45.3 -0.7**
comp=Z,57nm,0.7s,mb5.3
AGO Saint Agoulin 51.90 300 *e*P **P 09 32 47.1 +0.6**
PYM Petit Puy Mans 52.12 300 *e*P **P 09 32 48.9 +0.7**
LBL Lubilhac 52.23 299 *e*P **P 09 32 49.6 +0.6**
TCF Toulx Ste Croi 52.35 301 *e*P **P 09 32 49.4 -0.5**
comp=Z,58nm,0.9s,mb5.4
LASF Ste Croix 52.42 298 *e*P **P 09 32 50.2 -0.2**
comp=Z,214nm,1.2s,mb5.7
LDF La Druitiere 52.63 305 *e*P **P 09 32 51.0 -1.0**
comp=Z,125nm,1.0s,mb5.5
FLN La Foliniere 52.76 305 *e*P **P 09 32 51.9 -1.0**
FLN *e*R
comp=Z,2µm,19.8s
CAF Calviac 53.11 300 *e*P **P 09 32 55.2 -0.4**
GRR Gorron 53.16 305 *e*P **P 09 32 54.9 -1.0**
comp=Z,117nm,0.9s,mb5.5
RJF Les Rejaudoux 53.26 300 *e*P **P 09 32 56.6 -0.1**
comp=Z,135nm,0.9s,mb5.6
RJF *e*R
comp=Z,907nm,19.2s
MTLF Montolieu 53.81 298 *e*P **P 09 33 00.0 -0.7**
comp=Z,197nm,1.3s,mb5.6
DMUB Kingscourt 53.84 313 *e*P **P 09 33 00.7 -0.1**
LFF La Frestale 53.91 300 *e*P **P 09 33 01.4 -0.1**
DLF Lyons Farm 53.93 312 *e*P **P 09 33 01.2 -0.3**
SGMF Saint Gilles 54.21 305 *e*P **P 09 33 02.8 -0.8**
comp=Z,146nm,0.9s,mb5.6
DCN Croghan 54.30 312 *e*P **P 09 33 04.2 0.0**
ROSF Rostrenen 54.59 306 *e*P **P 09 33 05.7 -0.7**
comp=Z,87nm,0.8s,mb5.5
MLS Moulis 54.71 298⇑ *e*P **P 09 33 06.5 -0.9**
QUIF Quistinic 54.74 305 *e*P **P 09 33 06.7 -0.8**
EMIR Miracle 54.99 297 P **P 09 33 08.2 -1.2**
comp=Z,26nm,0.8s,mb5.3
EPF Esparros 55.15 298 *e*P **P 09 33 09.2 -1.4**
SUMG Summit 55.23 341 *e*P **P 09 33 10.9 +0.1**
comp=Z,68nm,1.1s,mb5.6
RESF Ens 55.27 298 *e*P **P 09 33 11.4 0.0**
VIEF Viey 55.42 298 *e*P **P 09 33 12.0 -0.6**
EBIE Bielsa 55.45 298 P **P 09 33 11.8 -1.0**
comp=Z,21nm,0.9s,mb5.2
EPOB Poblet 55.57 296 P **P 09 33 11.5 -2.2**
comp=Z,30nm,0.9s,mb5.3
ETSF Etsaut 55.78 299 *e*P **P 09 33 14.9 -0.2**
comp=Z,91nm,0.8s,mb5.6
SJPF Ste Jean 56.08 299 *e*P **P 09 33 17.2 0.0**
comp=Z,80nm,1.2s,mb5.3
EBR Ebro Roquetas 56.23 296 *e*P **P 09 33 18.0 -0.4**
ESAC San Caprasio 56.35 297 P **P 09 33 17.0 -2.3**
comp=Z,87nm,1.1s,mb5.7
VAL Valentia 56.57 312⇓ *i*P **P 09 33 19.1 -1.6**
EIBI Ibiza 56.67 294 P **P 09 33 19.6 -2.0**
comp=Z,117nm,1.1s,mb5.8
EMOS Mosqueruela 57.10 296 P **P 09 33 22.9 -1.7**
comp=Z,117nm,1.8s,mb5.6
ELAN Lanestosa 57.37 300 P **P 09 33 25.6 -0.9**
comp=Z,110nm,1.6s,mb5.6
ETOR Torete 57.85 297 P **P 09 33 28.0 -1.8**
comp=Z,17nm,0.9s,mb5.1
EBEN Beniarda 57.87 294 P **P 09 33 28.6 -1.4**
comp=Z,44nm,1.2s,mb5.4
EARI Arriondas 58.41 301 P **P 09 33 32.5 -1.2**
comp=Z,261nm,2.8s,mb5.8
COCO West Island 58.94 161 PFAKE 09 33 50.0 +12
COCO LR LR
comp=Z,139nm,22.0s,MS4.0
EMUR La Murta 59.01 294 P **P 09 33 36.5 -1.6**
comp=Z,30nm,0.6s,mb5.5
EVIA Vianos 59.37 295 P **P 09 33 39.9 -0.6**
comp=Z,55nm,0.8s,mb5.6
EPON Pontenova 59.57 302 P **P 09 33 41.5 -0.2**
KMBO Kilima Mbogo 59.65 232 P **P 09 33 41.5 -1.2**
comp=Z,18nm,1.1s,mb5.0,baz=24,slow=9.4,SNR=27
KMBO LR LR 10 02 50.0
comp=Z,414nm,18.2s,MS4.6,baz=73,slow=39
KMBO Kilima Mbogo 59.65 232 *e*P **P 09 33 41.2 -1.5**
comp=Z,37nm,1.3s,mb5.2
KMBO LR LR
comp=Z,117nm,20.0s,MS4.0
ESDC Sonseca Array 59.70 297 P **P 09 33 42.3 -0.5**
comp=Z,14nm,0.7s,mb5.1,baz=51,slow=7.6,SNR=42
ESDC LR LR 10 01 49.0
comp=Z,390nm,18.7s,MS4.6,baz=20,slow=38
ESDC Sonseca Array 59.70 297 P **P 09 33 41.3 -1.5**
comp=Z,13nm,0.7s,mb5.1
ERUA La Lua 60.10 301 P **P 09 33 44.0 -1.5**
comp=Z,80nm,1.7s,mb5.5
ECAL Calabor 60.11 301 P **P 09 33 46.1 +0.5**
comp=Z,133nm,1.9s,mb5.7
PBRG Braganca 60.19 301 *e*P **P 09 33 45.9 -0.2**
EQES Quesada 60.22 295 P **P 09 33 44.8 -1.6**
comp=Z,102nm,2.2s,mb5.5
RES Resolute Bay 60.50 358 *e*P **P 09 33 46.4 -1.4**
comp=Z,34nm,1.0s,mb5.4
RES *e* 09 33 54.4
EBER Berja 60.63 294 P **P 09 33 47.6 -1.5**
comp=Z,19nm,1.0s,mb5.2
PVRL Vila Real 61.10 301 *e*P **P 09 33 52.6 +0.3**
ELUQ Luque 61.13 295 P **P 09 33 50.8 -1.7**
comp=Z,35nm,0.7s,mb5.6
ERON Agron 61.15 295 P **P 09 33 51.4 -1.3**
comp=Z,10nm,0.5s,mb5.2
ELOJ Sierra Loja 61.30 295 P **P 09 33 51.4 -2.3**
comp=Z,2.5nm,0.4s,mb4.7
MTE Manteigas 61.51 300 *e*P **P 09 33 55.3 +0.2**
MTE *i* - 09 55 25.4
PVIS Viseu 61.53 300 *e*P **P 09 33 54.8 -0.4**
IMA Indian Mountai 61.74 22 *e*P **P 09 33 56.4 +0.1**
comp=Z,30nm,1.1s,mb5.3
PCBR Castelo Branco 61.80 299 *e*P **P 09 33 57.5 +0.5**
EMIJ Mijas 62.05 295 P **P 09 33 55.1 -3.7**
comp=Z,20nm,0.9s,mb5.2
EBAD Badajoz 62.16 298 P **P 09 33 55.9 -3.6**
comp=Z,138nm,3.1s
EMIN Mina Concepcio 62.53 297 P **P 09 33 59.5 -2.5**
comp=Z,51nm,1.2s,mb5.5
EVO Evora 62.91 298 *e*P **P 09 34 03.6 -0.9**
comp=Z,30nm,0.8s,mb5.2
EVO *e*R
comp=Z,435nm,22.0s
MBAR Mbarara 63.02 238 P **P 09 34 03.8 -1.7**
comp=Z,222nm,1.0s,mb6.2,SNR=24
MBAR Mbarara 63.02 238 *e*P **P 09 34 03.0 -2.5**
comp=Z,77nm,1.3s,mb5.7
MBAR *e*pP pP 09 34 10.6 +0.5
INK Inuvik 64.18 13 P **P 09 34 12.1 -0.1**
comp=Z,42nm,0.9s,mb5.5,baz=354,slow=8.2,SNR=116
INK Inuvik 64.18 13 P **P 09 34 12.1 -0.1**
INK pmax pmax
comp=Z,42nm,0.9s
INK Inuvik 64.18 13⇑ *i*P **P 09 34 12.0 -0.3**
comp=Z,62nm,1.0s,mb5.6
INK pP pP 09 34 15.8 -1.0
INK *e*sP sP 09 34 19.9 +1.4
COLA College 64.19 21*c* *i*P **P 09 34 12.2 -0.1**
COLA College 64.19 21 *e*P **P 09 34 11.8 -0.5**
comp=Z,30nm,0.9s,mb5.3
ILAR Eielson Array 64.51 20 P **P 09 34 13.4 -1.0**
comp=Z,18nm,0.8s,mb5.1,baz=316,slow=5.1,SNR=188
ILAR PP PP 09 36 35.2 -3.2
comp=Z,4.7nm,0.8s,baz=313,slow=5.9,SNR=2.9
ILAR LR LR 10 06 01.5
comp=Z,498nm,18.3s,MS4.7,baz=101,slow=39
ILAR Eielson Array 64.51 20 P **P 09 34 13.5 -0.9**
ILAR 09 36 35.2
ILAR pmax pmax
comp=Z,18nm,0.8s
ILAR pmax pmax
comp=Z,5.0nm,0.8s
ILAR MLR MLR
comp=Z,498nm,18.3s
MCK McKinley 64.84 22 *e*P **P 09 34 15.9 -0.7**
comp=Z,2.3nm,0.5s,mb4.5
THY Trims Highway 65.91 21 *e*P **P 09 34 22.4 -1.0**
SPU Mount Spurr 66.01 25 *e*P **P 09 34 23.3 -0.8**
UNV Unalaska Valle 66.31 36 PFAKE 09 34 40.0 +14
UNV LR LR
comp=Z,2µm,19.0s,MS5.4
RSO Redoubt South 66.36 26 *e*P **P 09 34 27.7 +1.3**
PMR Palmer 66.52 23 *e*P **P 09 34 26.9 -0.5**
comp=Z,33nm,1.0s,mb5.3
SML Sawmill 66.56 23 *e*P **P 09 34 26.9 -0.8**
FIB Fire Island 66.57 24 PFAKE 09 34 40.0 +12
FIB LR LR
comp=Z,2µm,21.0s,MS5.4
DAWY Dawson 66.84 18 *e*P **P 09 34 28.4 -1.1**
SLKM Skilak Lake 67.09 24 *e*P **P 09 34 30.8 -0.3**
DIV Divide 67.82 22 PFAKE 09 34 50.0 +14
DIV LR LR
comp=Z,2µm,19.0s,MS5.3
KDAK Kodiak Island 68.54 27 *e*P **P 09 34 38.9 -1.3**
comp=Z,156nm,1.6s,mb5.7
YKW3 Yellowknife Ar 72.08 7 *e*P **P 09 35 00.7 -0.9**
YKW3 *e*pP pP 09 35 06.1 -0.1
YKA Yellowknife Ar 72.15 7 P **P 09 35 01.7 -0.3**
comp=Z,24nm,0.7s,mb5.2,baz=347,slow=6.1,SNR=39
YKA Yellowknife Ar 72.15 7 P **P 09 35 01.7 -0.3**
YKA pmax pmax
comp=Z,24nm,0.7s
EFAM Famara 72.44 294 P **P 09 34 59.5 -4.8**
SIT Sitka 74.01 19 PFAKE 09 35 20.0 +7.1
SIT LR LR
comp=Z,800nm,19.0s,MS5.0
CCAN Las Canadas 75.04 295 P **P 09 35 16.9 -2.5**
FITZ Fitzroy Crossi 75.23 135 *e*P **P 09 35 19.9 -0.8**
comp=Z,17nm,0.9s,mb5.0
FITZ Fitzroy Crossi 75.23 135 P **P 09 35 20.3 -0.4**
comp=Z,13nm,1.0s,mb4.8,baz=3.8,slow=6.6,SNR=13
EGOM La Gomera 75.47 295 P **P 09 35 20.0 -1.9**
LSZ Lusaka 76.31 231 *e*P **P 09 35 25.9 -0.9**
comp=Z,47nm,1.1s,mb5.3
LSZ *e*pP pP 09 35 31.0 -0.5
LSZ LR LR
comp=Z,344nm,21.0s,MS4.6
FCC Fort Churchill 76.44 357 *e*P **P 09 35 25.9 -0.8**
comp=Z,34nm,0.9s,mb5.3
FCC *e*pP pP 09 35 32.1 +0.7
SCHQ Schefferville 76.62 341 P **P 09 35 27.2 -0.6**
comp=Z,8.3nm,0.8s,mb4.7,baz=25,slow=6.3,SNR=6.7
SCHQ LR LR 10 13 26.8
comp=Z,477nm,18.4s,MS4.8,baz=36,slow=39
MIDW Midway 78.66 62 PFAKE 09 35 50.0 +10
MIDW LR LR
comp=Z,1µm,20.0s,MS5.2
FFC Flin Flon 80.58 1⇑ *i*P **P 09 35 49.2 -0.2**
comp=Z,64nm,1.1s,mb5.5
FFC LR LR
comp=Z,70nm,22.0s,MS4.0
PMG Port Moresby 80.86 113 PFAKE 09 36 00.0 +8.3
PMG LR LR
comp=Z,163nm,19.0s,MS4.4
WRAB Tennant Creek 81.31 129 P **P 09 35 53.0 -0.9**
comp=Z,15nm,1.2s,mb5.7,SNR=17
WRAB Tennant Creek 81.31 129 *e*P **P 09 35 53.2 -0.7**
comp=Z,83nm,1.3s,mb5.5
WRAB *e*pP pP 09 35 57.7 -0.9
WRA Warramunga Arr 81.31 129 P **P 09 35 53.5 -0.4**
comp=Z,14nm,0.9s,mb4.9,baz=333,slow=5.4,SNR=48
WRA Warramunga Arr 81.31 129 P **P 09 35 53.5 -0.4**
WRA pmax pmax
comp=Z,14nm,0.9s
WB2 Warramunga Arr 81.31 129 *e*P **P 09 35 53.6 -0.4**
EDM Edmonton 81.42 8 *e*P **P 09 35 53.3 -0.5**
DBIC Dimbokro 81.81 271 P **P 09 35 55.1 -1.5**
comp=Z,11nm,0.8s,mb4.8,baz=16,slow=8.2,SNR=16
DBIC Dimbokro 81.81 271 P **P 09 35 55.2 -1.5**
DBIC pmax pmax
comp=Z,11nm,0.8s
LIC Lamto 82.24 271 *e*P **P 09 35 57.5 -1.4**
comp=Z,95nm,1.3s,mb5.3
MUN Mundaring 83.38 150 *e*P **P 09 36 03.5 -1.0**
comp=Z,20nm,0.7s,mb5.2
ASPA Alice Springs 84.10 132 *e*P **P 09 36 07.9 -0.4**
ASAR Alice Springs 84.10 132 P **P 09 36 08.0 -0.3**
comp=Z,15nm,0.9s,mb5.1,baz=328,slow=5.3,SNR=80
ASAR PKKPbc 09 54 21.5
comp=Z,0.6nm,1.0s,baz=117,slow=2.0,SNR=4.0
PQI Presque Isle 84.45 339 PFAKE 09 36 20.0 +11
PQI LR LR
comp=Z,4µm,19.0s,MS5.9
RPW Rockport 84.97 14 *e*P **P 09 36 12.3 +0.3**
ULM Lac du Bonnet 85.02 357 P **P 09 36 12.0 -0.2**
comp=Z,9.9nm,1.0s,mb4.9,baz=328,slow=5.4,SNR=7.1
ULM LR LR 10 20 44.3
comp=Z,334nm,18.1s,MS4.8,baz=29,slow=40
OCWA Octopus Mounta 85.14 16 PFAKE 09 36 20.0 +7.1
OCWA LR LR
comp=Z,1µm,22.0s,MS5.3
WALA Waterton Lakes 85.47 9 *e*P **P 09 36 14.2 -0.3**
comp=Z,26nm,1.1s,mb5.3
NLW Nelson Butte 85.52 14 *e*P **P 09 36 15.5 +0.7**
GNW Green Mountain 85.58 15 *e*P **P 09 36 16.4 +1.4**
NEW Newport 85.84 11 *e*P **P 09 36 16.6 +0.2**
comp=Z,6.5nm,0.8s,mb4.9
NEW LR LR
comp=Z,659nm,19.0s,MS5.0
RMW Rattlesnake Mo 85.87 15 *e*P **P 09 36 17.7 +1.2**
DPW Davenport 86.06 12 *e*P **P 09 36 18.1 +0.6**
EMMW East Machias 86.12 337 PFAKE 09 36 30.0 +12
EMMW LR LR
comp=Z,3µm,19.0s,MS5.7
DGMT Dagmar 86.78 3 *e*P **P 09 36 21.6 +0.6**
comp=Z,46nm,1.2s,mb5.6
DGMT LR LR
comp=Z,302nm,19.0s,MS4.7
WVL Waterville 86.83 339 PFAKE 09 36 30.0 +8.7
WVL LR LR
comp=Z,4µm,19.0s,MS5.8
EYMN Ely 87.09 354 *e*P **P 09 36 22.4 -0.1**
comp=Z,60nm,1.1s,mb5.7
EYMN LR LR
comp=Z,609nm,20.0s,MS5.0
FORT Forrest 87.14 140 *e*P **P 09 36 22.6 -0.6**
comp=Z,89nm,0.7s,mb6.1
CHMT Chamberlain Mo 87.66 9 *e*P **P 09 36 25.2 -0.1**
MSO Missoula 87.66 10 *e*P **P 09 36 24.9 -0.4**
comp=Z,12nm,1.1s,mb5.0
MSO LR LR
comp=Z,275nm,19.0s,MS4.7
LOZ Lake Ozonia 87.94 342 *e*P **P 09 36 28.1 +1.4**
LNOR Lincton Mounta 88.00 13 *e*P **P 09 36 27.3 +0.3**
HRY Holter Researc 88.01 8 *e*P **P 09 36 27.3 +0.3**
MIV Mineville/With 88.22 341 *e*P **P 09 36 29.2 +1.1**
CTA Charters Tower 88.33 121 *e*P **P 09 36 27.7 -1.4**
comp=Z,29nm,1.1s,mb5.4
CTAO Charters Tower 88.33 121 *e*P **P 09 36 28.2 -0.9**
comp=Z,60nm,1.1s,mb5.7
CTAO *e*pP pP 09 36 33.5 -0.3
LAO LASA Array 88.47 4 *e*P **P 09 36 29.8 +0.7**
comp=Z,52nm,1.3s,mb5.6
LAO LR LR
comp=Z,526nm,19.0s,MS5.0
NCB Newcomb 88.48 342 PFAKE 09 36 40.0 +11
NCB LR LR
comp=Z,567nm,20.0s,MS5.0
BOZ Bozeman (W) 89.08 8 *e*P **P 09 36 32.7 +0.6**
comp=Z,18nm,0.9s,mb5.4
BOZ LR LR
comp=Z,279nm,20.0s,MS4.7
GCMT Greycliff 89.12 7 *e*P **P 09 36 33.1 +0.8**
HRV Harvard--Oak R 89.24 339 PFAKE 09 36 40.0 +7.1
HRV LR LR
comp=Z,398nm,19.0s,MS4.9
WES Weston 89.29 339 PFAKE 09 36 40.0 +6.8
WES LR LR
comp=Z,910nm,21.0s,MS5.2

HSO	**Harness Mounta**	**89.41**	**17**	*e*P		**P**	**09 36 35.4 +1.7**	
MCMT	**McKenzie Canyo**	**89.76**	**9**	*e*P		**P**	**09 36 35.6 +0.2**	
QLMT	**Earthquake Lak**	**89.91**	**8**	*e*P		**P**	**09 36 36.9 +0.9**	
YMR	**Madison River**	**90.12**	**8**	*e*P		**P**	**09 36 38.3 +1.3**	
LKWY	**Lake**	**90.27**	**8**	*e*P		**P**	**09 36 40.1 +2.4**	
	comp=Z,19nm,0.8s,mb5.5							
LKWY				LR	LR			
	comp=Z,599nm,20.0s,MS5.0							
YFT	**Old Faithful**	**90.35**	**8**	*e*P		**P**	**09 36 40.4 +2.3**	
GENY	**Geneseo**	**90.38**	**344**	*e*P		**P**	**09 36 38.3 0.0**	
IMW	**Indian Meadow**	**90.89**	**8**	*e*P		**P**	**09 36 41.2 +0.7**	
	comp=Z,39nm,1.1s,mb5.7							
MOOW	**Moose Ponds**	**91.05**	**8**	*e*P		**P**	**09 36 42.6 +1.3**	
	comp=Z,13nm,1.2s,mb5.1							
RSSD	**Black Hills**	**91.13**	**3**	*e*P		**P**	**09 36 42.6 +0.9**	
	comp=Z,39nm,1.4s,mb5.5							
LOHW	**Long Hollow**	**91.20**	**8**	*e*P		**P**	**09 36 43.2 +1.2**	
	comp=Z,16nm,1.1s,mb5.3							
WUWY	**Wally Ulrich**	**91.26**	**8**	*e*P		**P**	**09 36 44.0 +1.7**	
SNOW	**Snow King Moun**	**91.33**	**8**	*e*P		**P**	**09 36 44.1 +1.4**	
	comp=Z,29nm,1.3s,mb5.3							
RRI2	**Red Ridge**	**91.39**	**8**	*e*P		**P**	**09 36 44.0 +1.1**	
	comp=Z,29nm,1.7s,mb5.3							
REDW	**Red Top Meadow**	**91.42**	**8**	*e*P		**P**	**09 36 44.3 +1.3**	
	comp=Z,17nm,1.4s,mb5.2							
MOD	**Modoc**	**91.51**	**15**	*e*P		**P**	**09 36 44.1 +0.6**	
	comp=Z,19nm,1.0s,mb5.4							
AAM	**Ann Arbor**	**91.83**	**348**		PFAKE		09 37 00.0 +15	
AAM				LR	LR			
	comp=Z,457nm,19.0s,MS4.9							
AHID	**Auburn Hatcher**	**91.99**	**8**		PFAKE		09 37 00.0 +14	
AHID				LR	LR			
	comp=Z,175nm,21.0s,MS4.5							
JFWS	**Jewell Farm**	**92.00**	**353**		PFAKE		09 37 00.0 +14	
JFWS				LR	LR			
	comp=Z,698nm,19.0s,MS5.1							
BW06	**Boulder Array**	**92.13**	**7**		PFAKE		09 37 00.0 +14	
BW06				LR	LR			
	comp=Z,264nm,20.0s,MS4.7							
PDAR	**Pinedale Array**	**92.13**	**7**	P		**P**	**09 36 46.7 +0.4**	
	comp=Z,1.9nm,0.9s,mb4.4,baz=21,slow=3.3,SNR=12							
PDAR				LR	LR		10 22 18.1	
	comp=Z,220nm,20.2s,MS4.6,baz=250,slow=38							
SSPA	**Standing Stone**	**92.45**	**343**	*e*P		**P**	**09 36 48.0 +0.2**	
SSPA				LR	LR			
	comp=Z,309nm,19.0s,MS4.8							
HWUT	**Hardware Ranch**	**93.09**	**9**	*e*P		**P**	**09 36 51.7 +1.0**	
	comp=Z,22nm,0.9s,mb5.6							
HWUT				*e*pP	pP		09 36 57.7 +2.2	
HWUT				LR	LR			
	comp=Z,506nm,20.0s,MS5.0							
RWWY	**Rawlins**	**93.39**	**6**	*e*P		**P**	**09 36 52.5 +0.4**	
	comp=Z,8.0nm,0.9s,mb5.2							
BEKR	**Beckwourth**	**93.47**	**16**	*e*P		**P**	**09 36 53.0 +0.5**	
	comp=Z,13nm,0.9s,mb5.4							
BMN	**Battle Mountai**	**93.48**	**13**	*e*P		**P**	**09 36 53.2 +0.7**	
	comp=Z,22nm,1.5s,mb5.4							
BMN				LR	LR			
	comp=Z,416nm,22.0s,MS4.8							
TCUT	**Toone Canyon**	**93.59**	**9**	*e*P		**P**	**09 36 51.1 -1.9**	
ACSO	**Alum Creek Sta**	**93.76**	**347**	*e*P		**P**	**09 36 53.9 +0.1**	
	comp=Z,23nm,1.2s,mb5.5							
ACSO				LR	LR			
	comp=Z,642nm,21.0s,MS5.1							
OHCM	**Honcut**	**93.76**	**17**	*e*P		**P**	**09 36 54.4 +0.5**	
MCWV	**Mont Chateau**	**93.77**	**345**		PFAKE		09 37 00.0 +6.1	
MCWV				LR	LR			
	comp=Z,533nm,19.0s,MS5.0							
PHWY	**Pilot Hill**	**93.88**	**4**	*e*P		**P**	**09 36 55.3 +0.9**	
DUG	**Dugway**	**94.34**	**10**	*e*P		**P**	**09 36 57.0 +0.5**	
	comp=Z,185nm,1.0s							
DUG				LR	LR			
	comp=Z,3µm,20.0s							
NLU	**North Lily Min**	**94.66**	**9**	*e*P		**P**	**09 36 58.8 +0.8**	
CBN	**Corbin**	**94.68**	**342**		PFAKE		09 37 10.0 +12	
CBN				LR	LR			
	comp=Z,574nm,19.0s,MS5.1							
STKA	**Stephens Creek**	**94.72**	**131**	P		**P**	**09 36 58.2 -0.3**	
	comp=Z,10nm,1.0s,mb5.2,baz=3.9,slow=8.4,SNR=6.2							
STKA				LR	LR		10 27 41.8	
	comp=Z,115nm,20.5s,MS4.3,baz=195,slow=40							
STKA	**Stephens Creek**	**94.72**	**131**	P		**P**	**09 36 58.2 -0.3**	
STKA				LR	LR		10 27 41.9	
NVAR	**Mina Array Bea**	**95.25**	**14**	P		**P**	**09 37 01.3 +0.5**	
	comp=Z,4.2nm,0.9s,mb4.9,baz=15,slow=3.1,SNR=21							
NVAR				LR	LR		10 27 56.7	
	comp=Z,255nm,18.4s,MS4.7,baz=20,slow=40							
NVAR	**Mina Array Bea**	**95.25**	**14**	P		**P**	**09 37 01.3 +0.5**	
NVAR				LR	LR		10 27 56.7	
MNV	**Mina**	**95.27**	**14**	*e*P		**P**	**09 37 01.6 +0.7**	
	comp=Z,9.7nm,1.1s,mb5.2							
ISCO	**Idaho Springs**	**95.37**	**4**	*e*P		**P**	**09 37 01.9 +0.7**	
ISCO				LR	LR			
	comp=Z,433nm,20.0s,MS4.9							
MVU	**Marysvale**	**96.08**	**10**	*e*P		**P**	**09 37 06.5 +2.0**	
	comp=Z,12nm,1.2s,mb5.2							
MVU				*e*pP	pP		09 37 11.9 +2.6	
MVU				LR	LR			
	comp=Z,236nm,22.0s,MS4.6							
KSU1	**Kansas State U**	**96.18**	**357**	*e*P		**P**	**09 37 05.0 0.0**	
WCI	**Wyandotte Cave**	**96.20**	**349**		PFAKE		09 37 20.0 +15	
WCI				LR	LR			
	comp=Z,392nm,20.0s,MS4.9							
BLA	**Blacksburg**	**96.25**	**345**		PFAKE		09 37 20.0 +15	
BLA				LR	LR			
	comp=Z,390nm,20.0s,MS4.9							
CBKS	**Cedar Bluff**	**96.51**	**360**	*e*P		**P**	**09 37 06.2 -0.4**	
CBKS				*e*pP	pP		09 37 12.4 +1.2	
CBKS				LR	LR			
	comp=Z,391nm,21.0s,MS4.9							
PV10	**Paradox Valley**	**96.54**	**7**	*e*P		**P**	**09 37 05.3 -1.3**	
RW3	**Ridgway**	**96.77**	**6**	*e*P		**P**	**09 37 08.4 +0.7**	
PV01	**Paradox Valley**	**96.82**	**7**	*e*P		**P**	**09 37 08.9 +1.0**	
CCM	**Cathedral Cave**	**96.91**	**353**	*e*P		**P**	**09 37 07.3 -1.0**	
	comp=Z,14nm,1.1s,mb5.3							
CCM				LR	LR			
	comp=Z,607nm,20.0s,MS5.1							
SDCO	**Great Sand Dun**	**97.42**	**5**	*e*P		**P**	**09 37 11.8 +1.1**	
SDCO				*e*pP	pP		09 37 17.4 +2.0	
SDCO				LR	LR			
	comp=Z,496nm,20.0s,MS5.0							
WVT	**Waverly**	**98.46**	**350**		PFAKE		09 37 30.0 +15	
WVT				LR	LR			
	comp=Z,314nm,20.0s,MS4.8							
ANMO	**Albuquerque**	**100.14**	**6**⇓	*e*P		P	09 37 24.8 +1.8	
ANMO	**Albuquerque**	**100.14**	**6**		PFAKE		09 37 30.0 +7.0	
ANMO				LR	LR			
	comp=Z,447nm,19.0s,MS5.0							
NHSC	**New Hope**	**100.18**	**343**		PFAKE		09 37 30.0 +6.7	
NHSC				LR	LR			
	comp=Z,447nm,20.0s,MS5.0							
OXF	**Oxford**	**100.24**	**351**		PFAKE		09 37 30.0 +6.5	
OXF				LR	LR			
	comp=Z,737nm,20.0s,MS5.2							
AMTX	**Amarillo**	**100.42**	**2**	*e*Pdif		P	09 37 25.7 +1.4	
	comp=Z,6.8nm,0.9s							
WMOK	**Wichita Mounta**	**100.58**	**359**	*e*Pdif		P	09 37 25.0 0.0	
	comp=Z,8.9nm,1.3s							
WMOK				LR	LR			
	comp=Z,328nm,22.0s,MS4.8							
LRAL	**Lakeview Retre**	**101.41**	**349**		PFAKE		09 37 40.0 +11	
LRAL				LR	LR			
	comp=Z,537nm,19.0s,MS5.1							
NATX	**Nacogdoches**	**103.41**	**355**		PFAKE		09 37 50.0 +12	
NATX				LR	LR			
	comp=Z,656nm,20.0s,MS5.2							
JCT	**Junction City**	**104.83**	**360**		PFAKE		09 37 50.0 +6.0	
JCT				LR	LR			
	comp=Z,5µm,21.0s,MS6.0							
HKT	**Hockley**	**105.27**	**356**		PFAKE		09 42 10.0	
HKT				LR	LR			
	comp=Z,916nm,19.0s,MS5.3							
LTX	**Lajitas**	**105.89**	**3**		PFAKE		09 42 10.0	
LTX				LR	LR			
	comp=Z,450nm,20.0s,MS5.0							
TXAR	**Lajitas Array**	**105.89**	**3**		Pdiff	Pdif	09 37 49.3 +0.6	
	comp=Z,0.7nm,1.0s,slow=1.3,SNR=5.5							
TXAR					PKKPbc		09 53 28.0	
	comp=Z,0.5nm,0.9s,baz=162,slow=2.9,SNR=4.5							
TXAR	**Lajitas Array**	**105.89**	**3**		Pdif	Pdif	09 37 49.3 +0.6	
TXAR					PKKPbc		09 53 28.0	
SJG	**San Juan**	**110.06**	**326**		PFAKE		09 42 20.0 +8.8	
SJG				LR	LR			
	comp=Z,290nm,20.0s,MS4.8							
RCBR	**Riachuelo**	**112.39**	**285**		PFAKE		09 42 20.0 +4.2	
RCBR				LR	LR			
	comp=Z,212nm,19.0s,MS4.8							
CASY	**Casey**	**113.44**	**167**		PFAKE		09 42 20.0 +3.3	
CASY				LR	LR			
	comp=Z,398nm,19.0s,MS5.0							
SYO	**Syowa Base**	**117.65**	**195**	⇑	P	Pdif	09 38 30.4 -9.1	
SYO	**Syowa Base**	**117.65**	**195**	⇓	*e*Pdiff		09 38 45.2	
SYO	**Syowa Base**	**117.65**	**195**	⇑	*e*PKPdf	PKPdf	09 42 21.9 -2.9	
SYO	**Syowa Base**	**117.65**	**195**	⇓	*e*PKPdf		09 42 27.1	
SYO	**Syowa Base**	**117.65**	**195**	⇑	*e*PKPdf	PKPdf	09 42 21.9 -2.9	
SYO				⇓	*e*PKPdf		09 42 27.1	
SDV	**Santo Domingo**	**120.21**	**326**		PFAKE		09 42 40.0 +9.0	
SDV				LR	LR			
	comp=Z,150nm,21.0s,MS4.6							
SNAA	**Sanae**	**129.93**	**204**	⇑	*i*P	PKPdf	09 42 45.8 -2.6	
SNAA	**Sanae**	**129.93**	**204**	⇓	*i*	PKPdf	09 42 52.5 +4.1	
SNAA	**Sanae**	**129.93**	**204**	⇑	*i*	PKPdf	09 42 54.6 +6.2	
SNAA	**Sanae**	**129.93**	**204**		PKP	PKPdf	09 42 46.0 -2.4	
	comp=Z,0.4nm,0.6s,baz=83,slow=5.9,SNR=4.6							
VNA2	**Neumayer--Watz**	**131.01**	**206**	⇓	*i*P	PKPdf	09 42 49.5 -0.9	
VNA2	**Neumayer--Watz**	**131.01**	**206**	⇑	*i*	PKPdf	09 42 56.0 +5.6	
VNA2	**Neumayer--Watz**	**131.01**	**206**	⇑	*i*	PKPdf	09 42 58.9 +8.5	
OTAV	**Otavalo**	**131.08**	**331**		PFAKE		09 43 00.0 +7.9	
OTAV				LR	LR			
	comp=Z,176nm,21.0s,MS4.7							
VNA1	**Neumayer--Stat**	**131.19**	**206**	⇑	*i*P	PKPdf	09 42 48.0 -2.8	
VNA1	**Neumayer--Stat**	**131.19**	**206**			PKPdf	09 42 54.6 +3.8	
VNA1	**Neumayer--Stat**	**131.19**	**206**	⇑	*i*	PKPdf	09 42 56.5 +5.7	
VNDA	**Vanda**	**131.78**	**163**		PKP	PKPdf	09 42 49.0 -2.8	
	comp=Z,0.7nm,0.7s,baz=294,slow=4.9,SNR=4.5							
VNA3	**Neumayer Olymp**	**131.82**	**206**	⇑	*i*P	PKPdf	09 42 50.4 -1.6	
VNA3	**Neumayer Olymp**	**131.82**	**206**	⇑	*i*	PKPdf	09 42 57.2 +5.2	
VNA3	**Neumayer Olymp**	**131.82**	**206**	⇑	*i*	PKPdf	09 42 59.6 +7.6	
SAML	**Samuel**	**132.13**	**307**	*e*PKPdf		PKPdf	09 42 51.5 -2.5	
SAML				LR	LR			
	comp=Z,304nm,20.0s,MS5.0							
SBA	**Scott Base**	**132.88**	**163**		PKPdf	PKPdf	09 42 49.4 -4.5	
LPAZ	**La Paz**	**140.87**	**307**		PKP	PKPdf	09 43 08.6 -1.4	
	comp=Z,2.1nm,1.0s,baz=24,slow=3.9,SNR=4.3							
CPUP	**Villa Florida**	**141.27**	**284**		PKP	PKPdf	09 43 08.0 -2.5	
	comp=Z,5.9nm,0.9s,baz=76,slow=2.1,SNR=5.0							
CPUP	**Villa Florida**	**141.27**	**284**		PKIKP	PKPdf	09 43 08.0 -2.5	
CPUP					pmax	pmax		
	comp=Z,6.0nm,0.9s							
ARE	**Arequipa**	**142.87**	**311**	*e*P		PKPdf	09 43 14.0 +0.6	
LVC	**Limon Verde**	**146.25**	**301**	*e*PKPdf		PKPdf	09 43 18.4 -0.8	
TRQA	**Tornquist**	**151.02**	**271**	*e*PKPbc		PKPdf	09 43 29.5 +3.2	
PMSA	**Palmer Station**	**152.10**	**212**	PKPdf		PKPdf	09 43 25.9 -1.1	
PMSA				*e*PKPbc		PKPdf	09 43 31.1 +4.1	

DJA 27 09:45:09.2±0.9, 8.59S×112.89E, h149km±9km, MD4.6/3, ML4.4/3, 3C-5D, Error ellipse: s-maj=66.3km s-min=20.3km az=5.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.24**	**85**	⇑*i* Pn	P	09 45 35.7	-0.6
	316nm,0.2s						
SRDI				⇓*i* Sn	S	09 45 55.7	-1.5
KELI	**Kelakatan**	**1.62**	**77**	⇑*i* Pn	P	09 45 40.2	-0.1
	233nm,0.2s						
KELI				⇓*i* Sn	S	09 46 03.2	-1.1
RATI	**Rata**	**2.61**	**93**	⇑*i* Pn	P	09 45 52.3	0.0
	264nm,0.2s						
RATI				⇓*i* Sn	S	09 46 23.5	-1.7
KEDI	**Kedomdong**	**3.19**	**88**	⇓*i* Pn	P	09 45 59.0	-0.6
KEDI				⇓*i* Sn	S	09 46 34.7	-3.5

NEIC ***27*** *10:03:48.2, 35.01S×70.57W, h1km, ML2.5(GUC), After GUC.*

GUC 27 10:03:48.2±0.8, 35.01S×70.57W, h1km±6km, MD3.6, ML2.5, 1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.54**	**317**	⇓*i* P	Pg	10 03 59.4	+0.4
SFDO				*i* S	Sg	10 04 07.4	+1.2
CACH	**El Canelo**	**0.89**	**358**	*e*P	Pg	10 04 05.5	-0.5
CACH				*i* S	Sg	10 04 18.9	+0.9
CHCH	**Chadas Angostu**	**1.08**	**356**	*e*P	Pb	10 04 08.7	-0.7
CHCH				*i* S	Sb	10 04 24.3	+0.6
LMEL	**Las Melosas**	**1.20**	**15**	*e*P	Pb	10 04 10.9	-0.5
LMEL				*i* S	Sb	10 04 27.9	+0.6
LMEL				AMP		10 04 29.0	
	comp=N,113nm,0.2s						
LNV	**Longovilo**	**1.26**	**326**	*e*P	Pb	10 04 11.6	-0.9
LNV				*i* S	Sb	10 04 29.0	-0.1
PCH	**Pirque**	**1.39**	**2**	*i* S	Sb	10 04 33.7	+0.9
RCDM	**Rinconada Maip**	**1.53**	**352**	*e*P	Pn	10 04 16.5	-0.3
RCDM				*i* S	Sb	10 04 37.5	+0.6
RCDM				AMP		10 04 39.4	
	comp=E,168nm,0.2s						
FCH	**Farellones**	**1.69**	**8**	*e*P	Pn	10 04 19.6	+0.4
FCH				*i* S	Sb	10 04 42.8	+1.2
FCH				AMP		10 04 46.0	
	comp=N,79nm,0.2s						

BJI ***27*** *10:09:38.7, 56.20N×153.30W, h15km, mB4.6, mb4.6, Ms4.5, Msz4.3*

IDC ***27*** *10:09:42.0±0.9, 56.38N×153.52W, mb4.1/18, mb1 4.3/23, mb1mx4.3/26, ML4.0/4, MS3.7/2, Ms1 3.7/2, ms1mx3.1/26, Error ellipse: s-maj=24.4km s-min=14.0km az=18.0*

NEIC ***27*** *10:09:43.7, 56.15N×153.33W, h15km, mb4.1/7, ML4.1(AEIC), After AEIC.*

ISC 27 10:09:39.4±1.5, 56.11N±0.04×153.19W±0.06, h10km±9km, n104, σ1§06/107, mb4.2/24, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**1.71**	**11**	Pn	**Pn**	**10 10 10.0**	**+0.5**
	SNR=60						
KDAK	**Kodiak Island**	**1.71**	**11**	P	**Pn**	**10 10 10.7**	**+1.2**
KDAK				S	**Sn**	**10 10 30.7**	**-0.8**
KABR	**Katmai Barrier**	**2.24**	**335**	P	**Pn**	**10 10 17.6**	**+0.4**
CAHL	**Cahill**	**2.26**	**330**	P	**Pn**	**10 10 17.8**	**+0.4**
KJL	**Kejulik**	**2.34**	**327**	P	**Pn**	**10 10 19.0**	**+0.4**
ACHA	**Angle Creek He**	**2.40**	**332**	P	**Pn**	**10 10 20.3**	**+0.8**
MGLS	**Mageik LS**	**2.40**	**332**	P	**Pn**	**10 10 18.2**	**-1.3**
ANCK	**Angle Creek**	**2.44**	**330**	P	**Pn**	**10 10 20.7**	**+0.7**
KAWH	**Katmai**	**2.44**	**340**	P	**Pn**	**10 10 20.6**	**+0.6**
KAHG	**Katmai Hook Gl**	**2.50**	**343**	P	**Pn**	**10 10 22.2**	**+1.4**
SYI	**Shuyak Island**	**2.54**	**9**	P	**Pn**	**10 10 22.6**	**+1.2**
KAPH	**Katmai Pasha**	**2.57**	**346**	P	**Pn**	**10 10 22.9**	**+1.1**
KAIC	**Katmai Ikaglui**	**2.58**	**338**	P	**Pn**	**10 10 22.8**	**+0.7**
CNTC	**Contact Creek**	**2.61**	**327**	P	**Pn**	**10 10 23.4**	**+0.9**
KAHC	**Katmai Hardscr**	**2.73**	**340**	P	**Pn**	**10 10 25.0**	**+0.9**
ANPK	**Aniakchak Peak**	**2.83**	**287**	P	**Pn**	**10 10 25.8**	**+0.1**
ANPB	**Aniakchak Plen**	**2.91**	**286**	P	**Pn**	**10 10 26.5**	**-0.2**
MCNL	**McNeil River**	**3.14**	**349**	P	**Pn**	**10 10 30.5**	**+0.5**
AUI	**Augustine Isla**	**3.23**	**358**	P	**Pn**	**10 10 31.6**	**+0.3**
AUW	**Augustine West**	**3.27**	**357**	P	**Pn**	**10 10 32.9**	**+1.1**
OPT	**Oil Point**	**3.55**	**360**	P	**Pn**	**10 10 37.0**	**+1.2**
CNPM	**China Poot**	**3.58**	**16**	P	**Pn**	**10 10 36.9**	**+0.7**
BRLK	**Bradley Lake**	**3.86**	**18**	P	**Pn**	**10 10 40.5**	**+0.3**
ILW	**Iliamna West**	**3.96**	**0**	P	**Pn**	**10 10 42.2**	**+0.6**
ILIM	**Iliamna**	**3.98**	**2**	P	**Pn**	**10 10 42.4**	**+0.5**
SDPT	**Sand Point**	**4.19**	**262**	P	**Pn**	**10 10 45.0**	**+0.1**
RSO	**Redoubt South**	**4.37**	**3**	*e*P	**Pn**	**10 10 47.5**	**0.0**
REF	**Redoubt East F**	**4.40**	**3**	P	**Pn**	**10 10 48.4**	**+0.5**
RDN	**Redoubt North**	**4.42**	**3**	P	**Pn**	**10 10 48.8**	**+0.6**
NCT	**North Crescent**	**4.46**	**2**	P	**Pn**	**10 10 49.1**	**+0.3**
SEW	**Seward**	**4.47**	**25**	P	**Pn**	**10 10 48.3**	**-0.5**
SLKM	**Skilak Lake**	**4.68**	**18**	P	**Pn**	**10 10 51.5**	**-0.3**
MPA	**Moose Pass**	**4.83**	**23**	P	**Pn**	**10 10 53.4**	**-0.6**
PVV	**Pavlof Volcano**	**4.92**	**265**	P	**Pn**	**10 10 54.3**	**-1.0**
HAG	**Hague Volcano**	**4.99**	**264**	P	**Pn**	**10 10 55.8**	**-0.5**
BKG	**Blockade Glaci**	**5.00**	**5**	P	**Pn**	**10 10 56.4**	**0.0**
DOL	**Dolgoi Island**	**5.01**	**262**	P	**Pn**	**10 10 54.8**	**-1.8**
PN7A	**Pavlof North-7**	**5.02**	**266**	P	**Pn**	**10 10 55.5**	**-1.1**
SPU	**Mount Spurr**	**5.12**	**6**	P	**Pn**	**10 10 58.9**	**+0.9**
RC01	**Rabbit Creek A**	**5.31**	**18**	P	**Pn**	**10 11 00.4**	**-0.3**
PWL	**Port Wells**	**5.40**	**26**	P	**Pn**	**10 11 01.1**	**-0.9**
STLK	**Strandline Lak**	**5.45**	**7**	P	**Pn**	**10 11 02.4**	**-0.3**
PWA	**Palmer West**	**5.81**	**16**	P	**Pn**	**10 11 07.8**	**-0.1**
PMR	**Palmer**	**5.88**	**19**	*e*P	**Pn**	**10 11 07.8**	**-1.1**
CVA	**Cordova**	**5.92**	**38**	P	**Pn**	**10 11 08.6**	**-0.9**
GHO	**Glory Hole Cre**	**6.09**	**19**	P	**Pn**	**10 11 10.3**	**-1.5**
VLZ	**Valdez**	**6.17**	**33**	P	**Pn**	**10 11 12.2**	**-0.7**
SML	**Sawmill**	**6.24**	**22**	P	**Pn**	**10 11 13.2**	**-0.6**
DIV	**Divide**	**6.35**	**35**	P	**Pn**	**10 11 15.1**	**-0.3**
SCM	**Sheep Creek Mo**	**6.49**	**25**	P	**Pn**	**10 11 16.6**	**-0.7**
TT01	**Tatalina**	**6.96**	**349**	P	**Pn**	**10 11 23.1**	**-1.0**
TZL	**Tazlina**	**7.16**	**31**	P	**Pn**	**10 11 26.0**	**-0.9**
GLB	**Gilahina Butte**	**7.23**	**38**	P	**Pn**	**10 11 27.4**	**-0.4**
TRF	**Thorofare Moun**	**7.50**	**10**	P	**Pn**	**10 11 32.4**	**+0.7**
BALM	**Baldy**	**7.51**	**44**	P	**Pn**	**10 11 31.1**	**-0.6**
KTH	**Kantishna Hill**	**7.55**	**8**	P	**Pn**	**10 11 32.0**	**-0.3**
DHY	**Denali Highway**	**7.58**	**20**	P	**Pn**	**10 11 32.0**	**-0.7**
MCK	**McKinley**	**7.94**	**14**	P	**Pn**	**10 11 37.1**	**-0.6**
UNV	**Unalaska Valle**	**7.99**	**259**	P	**Pn**	**10 11 35.9**	**-2.6**
THY	**Trims Highway**	**8.22**	**24**	*e*P	**P**	**10 11 39.6**	**-2.1**
COLA	**College**	**9.17**	**14**	*e*P	**P**	**10 11 50.8**	**-4.0**
IL1	**Eielson Array**	**9.22**	**17**	P	**P**	**10 11 54.7**	**-0.8**
ILAR	**Eielson Array**	**9.22**	**17**	Pn	**P**	**10 11 54.4**	**-1.2**
	0.8nm,0.3s,baz=207,slow=13,SNR=55						
ILAR				Sn	**Sn**	**10 13 31.2**	**-9.3**
	0.6nm,0.3s,baz=210,slow=20,SNR=4.2						
ILAR				LR	LR	10 15 57.6	
	comp=Z,708nm,19.4s,baz=221,slow=42						
BM3	**Burnt Mountain**	**12.03**	**16**	P	**P**	**10 12 32.6**	**-1.2**
DLBC	**Dease Lake**	**12.73**	**70**	Pn	**P**	**10 12 45.6**	**+2.4**
	0.2nm,0.3s,baz=237,slow=1.7,SNR=5.9						
DLBC				Sn	**S**	**10 15 04.4**	**-1.6**
	0.1nm,0.3s,baz=196,slow=19,SNR=3.3						
BBB	**Bella Bella**	**15.17**	**95**	LR	LR	10 18 11.3	
	comp=Z,146nm,18.7s,baz=238,slow=33						
INK	**Inuvik**	**15.18**	**29**	Pn	**P**	**10 13 19.3**	**+4.2**
	0.2nm,0.3s,baz=211,slow=11,SNR=14						
INK				Sn	**S**	**10 16 01.4**	**-2.7**
	baz=165,slow=16,SNR=2.1						
INK	**Inuvik**	**15.18**	**29**	*e*P	**P**	**10 13 15.5**	**+0.4**
	6.0nm,0.9s						
FX1	**Attu Island--F**	**19.69**	**275**	P	**P**	**10 14 10.5**	**-0.8**
	3.3nm,0.3s,baz=300,slow=20,SNR=4.6						
YKA	**Yellowknife Ar**	**20.45**	**56**	P	**P**	**10 14 21.0**	**+1.6**
	4.1nm,0.7s,baz=272,slow=12,SNR=7.5						
EDM	**Edmonton**	**23.00**	**80**	P	**P**	**10 14 42.2**	**-2.7**
NEW	**Newport**	**23.24**	**94**	P	**P**	**10 14 52.2**	**+4.9**
	1.7nm,0.8s,mb3.5,baz=346,slow=9.8,SNR=2.6						
NEW	**Newport**	**23.24**	**94**	*e*P	**P**	**10 14 51.2**	**+3.9**
	1.7nm,0.8s,mb3.5						
HLID	**Hailey**	**27.59**	**101**	*e*P	**P**	**10 15 31.6**	**+3.2**
	0.9nm,0.9s,mb3.4						
NVAR	**Mina Array Bea**	**29.11**	**113**	P	**P**	**10 15 47.3**	**+5.1**
	1.8nm,0.9s,mb3.8,baz=304,slow=7.0,SNR=8.8						
BW06	**Boulder Array**	**30.79**	**97**	*e*P	**P**	**10 15 58.0**	**+0.8**
PDAR	**Pinedale Array**	**30.79**	**97**	P	**P**	**10 16 01.6**	**+4.4**
	0.4nm,0.7s,mb3.4,baz=304,slow=5.3,SNR=4.0						
WMOK	**Wichita Mounta**	**42.41**	**97**	P	**P**	**10 17 35.3**	**-0.1**
	1.5nm,0.8s,mb3.7						
LTX	**Lajitas**	**43.84**	**106**	P	**P**	**10 17 47.3**	**+0.1**
TXAR	**Lajitas Array**	**43.84**	**106**	P	**P**	**10 17 52.0**	**+4.8**
	1.1nm,0.9s,mb3.6,baz=305,slow=5.2,SNR=9.8						
TXAR	**Lajitas Array**	**43.84**	**106**	P	**P**	**10 17 52.0**	**+4.8**
SCHQ	**Schefferville**	**45.87**	**54**	P	**P**	**10 18 05.3**	**+2.2**
	1.5nm,0.4s,mb4.2,baz=218,slow=9.8,SNR=7.1						
CN2	**Changchun**	**50.78**	**292**	*e*P	**P**	**10 18 40.5**	**-0.9**
ARCES	**ARCESS Array B**	**54.65**	**1**	P	**P**	**10 19 09.7**	**-0.3**
	3.1nm,0.7s,mb4.4,baz=9.2,slow=7.6,SNR=14						
SONM	**Songino Array**	**57.05**	**308**	P	**P**	**10 19 27.9**	**+0.4**
	8.0nm,1.0s,mb4.7,baz=41,slow=6.5,SNR=37						
**SS

baz=287,slow=18
CER eP 10 21 16.3
CER eS Sg 10 21 19.2 -0.6
CER e 10 21 20.4
comp=Z,10μm,0.1s
CVNA Calvinia 1.87 19 eP Pn 10 21 44.0 -0.8
CVNA i 10 21 44.5
baz=166,slow=16
CVNA eS Sn 10 22 07.0 -2.1
CVNA e 10 22 12.1
comp=Z,884nm,0.3s

WEL 27 10:41:02.5±0.1, 40.98S×174.74E, h32km, ML3.5/13, 7C-1D, Error ellipse: s-maj=1.2km s-min=0.9km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KIW	**Kapiti Island**	**0.18**	**47**	⇓P*			Pb	10 41 08.4	-0.2
KIW				S*			Sb	10 41 13.0	+0.2
MRW	**Makara Radio**	**0.25**	**187**	⇑P*			Pb	10 41 09.4	-0.1
MRW				S*			Sb	10 41 14.7	+0.5
CAW	**Cannon Point**	**0.28**	**117**	⇑P*			Pb	10 41 09.8	0.0
CAW				S*			Sb	10 41 15.5	+0.7
WEL	**Wellington**	**0.30**	**176**	⇑P*			Pb	10 41 10.0	-0.2
WEL				S*			Sb	10 41 15.9	+0.5
BHW	**Baring Head**	**0.44**	**167**	⇑P*			Pb	10 41 11.6	-0.4
BHW				S*			Sb	10 41 18.9	+0.3
MSWZ	**Moikau Station**	**0.58**	**139**	⇑P*			Pb	10 41 14.0	-0.2
MSWZ				S*			Sb	10 41 23.4	+1.1
MTW	**Mount Morrison**	**0.60**	**107**	⇑P*			Pb	10 41 14.2	-0.4
MTW				S*			Sb	10 41 24.1	+1.2
PAWZ	**Paruwai Farm**	**0.65**	**128**	P*			Pb	10 41 14.9	-0.5
PAWZ				S*			Sb	10 41 25.1	+0.8
MRZ	**Mangatainoka R**	**0.71**	**64**	⇑P*			Pb	10 41 15.8	-0.6
MRZ				S*			Sb	10 41 26.7	+0.8
TUWZ	**Tuamarina**	**0.75**	**233**	P*			Pb	10 41 15.7	-1.4
TUWZ				S*			Sb	10 41 26.1	-0.8
CMWZ	**Cape Campbell**	**0.86**	**207**	P*			Pb	10 41 18.8	-0.1
CMWZ				S*			Sb	10 41 32.8	+2.6
BSWZ	**Blackbirch Sta**	**0.98**	**221**	P*			Pb	10 41 19.6	-1.2
NNZ	**Nelson**	**1.05**	**257**	PN			Pn	10 41 20.2	-1.0
BFZ	**Birch Farm**	**1.18**	**76**	P*			Pb	10 41 21.5	-2.7
BFZ				S*			Sb	10 41 36.8	-2.4
WAZ	**Wanganui**	**1.24**	**9**	PN			Pn	10 41 23.6	-0.2
WAZ				SN			Sn	10 41 40.9	+1.3
TSZ	**Takapari Road**	**1.31**	**46**	PN			Pn	10 41 23.7	-1.2
THZ	**Tophouse**	**1.59**	**240**	PN			Pn	10 41 27.6	-1.3
QRZ	**Quartz Range**	**1.68**	**275**	PN			Pn	10 41 29.2	-1.0
QRZ				SN			Sn	10 41 50.7	-0.2
KHZ	**Kahutara**	**1.69**	**212**	PN			Pn	10 41 28.7	-1.6
KHZ				S*			Sb	10 41 48.5	-5.3
MOVZ	**Moawhango**	**1.75**	**27**	PN			Pn	10 41 30.0	-1.2
WNVZ	**Wahianoa**	**1.78**	**22**	PN			Pn	10 41 31.2	-0.4
DRZ	**Dome Shelter**	**1.82**	**21**	ePN			Pn	10 41 31.6	-0.5
FWVZ	**Far West T-bar**	**1.83**	**20**	PN			Pn	10 41 32.3	-0.1
TUVZ	**Tukino**	**1.85**	**23**	PN			Pn	10 41 32.1	-0.5
VRZ	**Vera Road**	**1.85**	**0**	PN			Pn	10 41 31.9	-0.8
PKE	**Pukeiti**	**1.88**	**342**	PN			Pn	10 41 32.5	-0.5
PKE				SN			Sn	10 41 57.9	+2.2
PWZ	**Pawanui**	**1.88**	**60**	PN			Pn	10 41 30.0	-2.9
PWZ				S*			Sb	10 41 54.3	-4.8
WPVZ	**Whakapapa**	**1.88**	**19**	PN			Pn	10 41 32.7	-0.3
CNZ	**Chateau**	**1.89**	**19**	PN			Pn	10 41 32.8	-0.3
NGZ	**Ngauruhoe**	**1.92**	**20**	PN			Pn	10 41 34.0	+0.4
WTVZ	**West Tongariro**	**1.98**	**20**	PN			Pn	10 41 34.2	-0.2
TWVZ	**Taurewa**	**1.98**	**16**	PN			Pn	10 41 33.8	-0.7
KAVZ	**Karewarewa**	**2.01**	**21**	ePN			Pn	10 41 34.7	-0.1
MGZ	**Maungaku**	**2.07**	**17**	PN			Pn	10 41 34.7	-1.0
KATZ	**Kakaramea**	**2.13**	**20**	PN			Pn	10 41 37.3	+0.7
RATZ	**Rangitukua**	**2.26**	**21**	ePN			Pn	10 41 38.2	-0.2
BKZ	**Black Stump Fm**	**2.26**	**37**	PN			Pn	10 41 35.8	-2.7
DSZ	**Denniston Nort**	**2.34**	**250**	PN			Pn	10 41 37.9	-1.7
WATZ	**Wairara**	**2.40**	**19**	ePN			Pn	10 41 39.5	-0.9
HIZ	**Hauiti**	**2.47**	**2**	PN			Pn	10 41 40.9	-0.5
LTZ	**Lake Taylor**	**2.58**	**225**	PN			Pn	10 41 40.5	-2.5
MQZ	**McQueen's Vall**	**3.13**	**209**	PN			Pn	10 41 46.4	-4.5
URZ	**Urewera**	**3.28**	**35**	PN			Pn	10 41 48.5	-4.4
MWZ	**Matawai**	**3.41**	**40**	PN			Pn	10 41 50.4	-4.4
WVZ	**Waitaha Valley**	**3.64**	**234**	PN			Pn	10 41 54.9	-3.2
FOZ	**Fox Glacier**	**4.55**	**234**	PN			Pn	10 42 05.1	-5.9
WCZ	**Waipu Caves**	**5.04**	**356**	PN			Pn	10 42 15.2	-2.8
ODZ	**Otahua Downs**	**5.05**	**215**	PN			Pn	10 42 12.8	-5.3
JCZ	**Jackson Bay**	**5.39**	**233**	PN			Pn	10 42 17.3	-5.5

*IDC **27** 10:47:05.8±0.5, 9.85S×160.25E, mb5.0/19, mb1 5.1/21, mb1mx5.1/22, ML4.8/1, MS4.8/10, Ms1 4.8/10, ms1mx4.7/11, Error ellipse: s-maj=15.6km s-min=11.7km az=142.0*

*HRVD **27** 10:47:07.5±0.2, 9.85S×160.23E, h16km±1km, MW5.4/67, Centroid moment Tensor Solution. LP body waves: s56,c110;Mantle waves: s67,c136; Half duration: 1s2 Moment tensor: Scale 10^{17}Nm; M_{rr}0.16±.02; $M_{\theta\theta}$0.18±.02; $M_{\phi\phi}$-0.34±.02; $M_{r\theta}$-0.38±.07; $M_{\theta\phi}$1.05±.02; $M_{\phi r}$-1.05±.10; Best double couple: $M_0$1.55×10^{17} NP1:ϕ_s282°,δ46°,λ8°. NP2:ϕ_s186°,δ84°,λ135°. Principal axes: T 1.66, Plg34°, Azm134°; N -.21, Plg45°, Azm0°; P -1.45, Plg25°, Azm242°: nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **27** 10:47:07.1, 9.79S×160.81E, h27km, mB5.4, mb5.2, Ms5.2, Mszl4.8*

*NEIC **27** 10:47:07.5±1.7, 9.84S×160.23E, h10km±10km, mb5.3/36, MS4.8/1, Error ellipse: s-maj=8.6km s-min=5.7km az=109.0*

NEIC Felt strongly at Honiara.

*MOS **27** 10:47:10.3±1.1, 9.75S×160.33E, h33km, mb5.4/13, MS4.8/7, Error ellipse: s-maj=29.4km s-min=15.7km az=89.3*

*SYO **27** 10:47:13.9, 9.87S×160.22E, h59km, MB5.3, MS4.8*

ISC 27 10:47:04.6±1.3, 9.91S±0.04×160.29E±0.04, h1km±8km, n149, σ1§19/150, mb5.3/75, MS4.8/28, 9C-11D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.58**	**324**	*i* P			**Pg**	**10 47 17.0**	**+0.7**
HNR				*i* S			**Sg**	**10 47 32.0**	**+7.9**
BKM	**Butte a Klehm**	**10.91**	**136**	⇑*i*P			**P**	**10 49 43.5**	**-1.6**
PMG	**Port Moresby**	**12.96**	**271**	Pn			**P**	**10 50 15.8**	**+2.9**
	0.7nm,0.3s,baz=111,slow=5.5,SNR=18								
PMG				Sn			**S**	**10 52 49.9**	**+11**
	0.1nm,0.3s,baz=332,slow=22,SNR=1.8								
PMG				LR			LR	10 54 54.8	
	comp=Z,9μm,19.2s,baz=94,slow=36								
PMG	**Port Moresby**	**12.96**	**271**	*e*P			**P**	**10 50 15.7**	**+2.9**
NOUC	**Port Laguerre**	**13.42**	**155**	⇑*i*P			**P**	**10 50 20.4**	**+1.4**
NOUC	**Port Laguerre**	**13.42**	**155**	⇑*i*P			**P**	**10 50 20.4**	**+1.4**
WAU	**Wau**	**13.66**	**280**	*e*P			**P**	**10 50 26.5**	**+4.2**
CTA	**Charters Tower**	**16.91**	**232**	*e*P			**P**	**10 51 04.1**	**-0.2**
	117nm,1.4s								
CTA	**Charters Tower**	**16.91**	**232**	Pn			**P**	**10 51 04.5**	**+0.3**
	2.0nm,0.3s,baz=57,slow=14,SNR=32								
CTA				Sn			**S**	**10 54 25.1**	**+13**
	0.2nm,0.3s,baz=216,slow=14,SNR=2.0								
CTAO	**Charters Tower**	**16.91**	**232**	*e*P			**P**	**10 51 04.3**	**0.0**
	678nm,1.5s								
WRAB	**Tennant Creek**	**26.94**	**245**	P			**P**	**10 52 48.2**	**-1.5**
	725nm,0.9s,mb6.4,SNR=67								
WRAB	**Tennant Creek**	**26.94**	**245**	⇓*i*P			**P**	**10 52 48.3**	**-1.4**
	211nm,1.0s,mb5.8								
WB2	**Warramunga Arr**	**26.94**	**245**	*e*P			**P**	**10 52 48.6**	**-1.1**
WRA	**Warramunga Arr**	**26.95**	**245**	P			**P**	**10 52 48.8**	**-1.0**
	95nm,0.9s,mb5.5,baz=75,slow=10,SNR=81								
WRA				S			**S**	**10 57 28.9**	**+2.8**
	8.2nm,1.3s,baz=70,slow=16,SNR=4.2								
CNB	**Canberra Magne**	**27.18**	**200**	*e*P			**P**	**10 52 52.6**	**+0.8**
	74nm,1.3s,mb5.3								
KAKA	**Kakadu**	**27.49**	**262**	*e*P			**P**	**10 52 57.0**	**+2.3**
	48nm,0.9s,mb5.2								
STKA	**Stephens Creek**	**27.89**	**216**	*e*P			**P**	**10 52 57.4**	**-0.8**
	18nm,0.9s,mb4.9								
STKA	**Stephens Creek**	**27.89**	**216**	P			**P**	**10 52 57.4**	**-0.9**
	7.8nm,0.6s,mb4.8,baz=53,slow=13,SNR=23								
STKA				LR			LR	11 03 31.5	
	comp=Z,2μm,18.9s,MS4.8,baz=35,slow=35								
GUMO	**Guam**	**27.92**	**326**	*e*P			**P**	**10 52 59.2**	**+0.6**
	92nm,1.0s,mb5.6								
ASAR	**Alice Springs**	**28.66**	**238**	P			**P**	**10 53 03.2**	**-2.0**
	27nm,0.9s,mb5.1,baz=62,slow=9.8,SNR=52								
ASAR				PcP			PcP	10 56 14.7	-1.7
	3.0nm,0.6s,baz=88,slow=8.5,SNR=12								
ASAR				LR			LR	11 03 38.3	
	comp=Z,2μm,20.0s,MS4.8,baz=61,slow=35								
ASPA	**Alice Springs**	**28.66**	**238**	*e*P			**P**	**10 53 03.1**	**-2.2**
TOO	**Toolangi**	**30.61**	**204**	*e*P			**P**	**10 53 22.5**	**0.0**
	16nm,1.5s,mb4.7								
ADE	**Adelaide**	**31.79**	**215**	⇑*i*P			**P**	**10 53 32.9**	**-0.1**
URZ	**Urewera**	**32.02**	**155**	P			**P**	**10 53 34.2**	**-0.7**
	4.0nm,0.7s,mb4.5,baz=315,slow=7.1,SNR=2.6								
URZ				LR			LR	11 04 05.2	
	comp=Z,1μm,21.6s,MS4.6,baz=319,slow=32								
FITZ	**Fitzroy Crossi**	**34.55**	**253**	*e*P			**P**	**10 53 54.9**	**-2.2**
	30nm,0.9s,mb5.2								
FITZ	**Fitzroy Crossi**	**34.55**	**253**	P			**P**	**10 53 54.8**	**-2.3**
	38nm,0.9s,mb5.3,baz=114,slow=3.3,SNR=25								
FITZ				S			**S**	**10 59 27.3**	**+1.3**
	3.1nm,0.9s,baz=182,slow=22,SNR=3.0								
RPZ	**Rata Peaks**	**34.96**	**166**	P			**P**	**10 54 00.4**	**+0.1**
	15nm,0.9s,mb4.9,baz=356,slow=9.1,SNR=3.7								
FORT	**Forrest**	**36.45**	**231**	*e*P			**P**	**10 54 12.1**	**-1.1**
	62nm,0.8s,mb5.5								
MBWA	**Marble Bar**	**40.53**	**249**	*e*P			**P**	**10 54 45.2**	**-2.1**
	138nm,1.3s,mb5.5								
NWAO	**Narrogin (SRO)**	**45.74**	**233**	P			**P**	**10 55 29.7**	**+0.1**
TGY	**Tagaytay City**	**45.75**	**301**	P			**P**	**10 55 30.4**	**+0.6**
	161nm,0.2s,baz=178,slow=8.4,SNR=2.2								
MUN	**Mundaring**	**46.25**	**235**	*e*P			**P**	**10 55 35.9**	**+2.3**
	15nm,0.9s,mb5.0								
KKM	**Kota Kinabalu**	**46.68**	**288**	⇓*e*P			**P**	**10 55 35.5**	**-1.7**
	186nm,1.2s,mb6.1								
JOW	**Kunigami**	**47.96**	**320**	P			**P**	**10 55 45.2**	**-1.9**
	14nm,0.5s,mb5.3,baz=147,slow=24,SNR=4.7								
PPT	**Papeete**	**49.17**	**105**	*e*S			**S**	**11 02 56.8**	**-5.2**
PPT				*e*L				11 07 46.2	
PPT				*e*R				11 09 56.0	
	2μm,22.8s,baz=273								
TBI	**Tubuai**	**49.72**	**112**	*e*S			**S**	**11 03 00.8**	**-8.8**
TBI				*e*L				11 08 19.3	
TBI				*e*R				11 10 14.6	
	1μm,26.5s,baz=297								
MAJO	**Matsushiro**	**50.66**	**337**	*e*P			**P**	**10 56 08.1**	**+0.3**
	22nm,1.0s,mb5.0								
MAT	**Matsushiro**	**50.66**	**337**	P			**P**	**10 56 05.3**	**-2.5**
MAT				S			**S**	**11 03 08.8**	**-14**
MAT	**Matsushiro**	**50.66**	**337**	*e*P			**P**	**10 56 05.0**	**-2.8**
	54nm,1.4s,mb5.3								
MAT				*e*S			**S**	**11 03 09.0**	**-13**
MAT				LR			LR		
	comp=Z,1μm,21.0s,MS4.8								
SSE	**Sheshan**	**55.39**	**319**	*e*P			**P**	**10 56 42.5**	**-0.6**
SSE				S			**S**	**11 04 21.8**	**-5.0**
SSE				AMB			AMB		
	comp=Z,33nm,0.7s,mb5.5								
SSE				AMB			AMB		
	comp=Z,68nm,2.6s,mb5.2								
SSE				LR			LR		
	comp=N,189nm,18.3s,MS4.6								
SSE				LR			LR		
	comp=E,451nm,18.3s,MS4.6								
SSE				LR			LR		
	comp=Z,635nm,19.7s,MS4.7								
ASAJ	**Asahikawa**	**56.12**	**345**	P			**P**	**10 56 47.8**	**-0.3**
	comp=Z,7.0nm,0.6s,mb4.8,baz=234,slow=25,SNR=5.1								
QIZ	**Qiongzhong**	**57.45**	**300**	P			**P**	**10 56 59.8**	**+1.9**
QIZ				S			**S**	**11 04 49.3**	**-4.9**
QIZ				LR			LR		
	comp=E,797nm,18.2s								
QIZ				LR			LR		
	comp=Z,1μm,22.6s,MS4.9								
NJ2	**Nanjing**	**57.53**	**318**	*e*P			**P**	**10 57 00.0**	**+1.7**
NJ2				S			**S**	**11 04 52.0**	**-3.1**
NJ2				SS			SS	11 08 43.0	-3.2
NJ2				AMB			AMB		
	comp=Z,30nm,0.6s,mb5.5								
NJ2				AMB			AMB		
	comp=Z,440nm,8.0s								
NJ2				LR			LR		
	comp=N,1μm,19.4s,MS5.1								
NJ2				LR			LR		
	comp=E,1μm,23.3s,MS5.1								
NJ2				LR			LR		
	comp=Z,980nm,21.8s,MS4.9								
YSS	**Yuzh-Sakhalins**	**58.73**	**346**	P			**P**	**10 57 06.8**	**+0.3**
YSS				*e*S			**S**	**11 05 16.0**	**+5.3**
YSS				MLR			MLR		
	comp=Z,600nm,17.0s,MS4.8								
YSS				MLR			MLR		
	comp=N,900nm,19.0s								
WHN	**Wuhan**	**59.69**	**314**	*e*P			**P**	**10 57 15.0**	**+1.6**
MDJ	**Mudanjiang**	**60.96**	**335**	P			**P**	**10 57 23.8**	**+1.9**
MDJ				PCP			PcP	10 58 05.0	-0.1
MDJ				PP			PP	10 59 38.3	0.0
MDJ				PCS				11 02 08.3	
MDJ				S			**S**	**11 05 41.0**	**+1.5**
MDJ				SCS			ScS	11 07 10.0	-0.5
MDJ				AMB			AMB		
	comp=Z,50nm,1.4s,mb5.5								
MDJ				LR			LR		
	comp=N,761nm,17.4s,MS5.0								
MDJ				LR			LR		
	comp=E,385nm,14.8s,MS5.0								
MDJ				LR			LR		
	comp=Z,685nm,22.0s								
MDJ	**Mudanjiang**	**60.96**	**335**	*e*P			**P**	**10 57 18.1**	**-3.8**
	comp=Z,80nm,1.3s,mb5.7								
CN2	**Changchun**	**62.12**	**332**	⇓P			**P**	**10 57 28.3**	**-1.5**
CN2				*e*AP			pP	10 57 43.8	+14
CN2				*e*S			**S**	**11 05 47.5**	**-6.7**
CN2				AMB			AMB		
	comp=Z,90nm,1.1s,mb5.9								
CN2				AMB			AMB		
	comp=Z,200nm,4.0s								
CN2				LR			LR		
	comp=N,800nm,16.0s,MS5.0								
CN2				LR			LR		
	comp=E,400nm,16.0s,MS5.0								
CN2				LR			LR		
	comp=Z,900nm,18.0s,MS5.0								
KKTK	**Khon Kaen**	**62.55**	**294**	P			**P**	**10 57 34.0**	**+1.0**
PET	**Petropavlovsk**	**62.70**	**359**	*e*P			**P**	**10 57 43.6**	**+10**
PET				*e*S			**S**	**11 06 06.7**	**+5.4**
PET				pmax			pmax		
	comp=Z,72nm,2.7s,mb5.3								
PET				smax					
	comp=E,300nm,13.9s								
PET				MLR			MLR		
	comp=Z,500nm,18.0s,MS4.7								
ENH	**Enshi**	**63.07**	**311**	*e*P			**P**	**10 57 35.9**	**-0.3**
	comp=Z,43nm,1.3s,mb5.4								
GYA	**Guiyang**	**63.38**	**306**	⇓*i*P			**P**	**10 57 39.5**	**+1.2**
GYA				S			**S**	**11 06 06.8**	**-3.5**
GYA				PS			PS	11 06 33.3	+5.0
GYA				AMB			AMB		
	comp=Z,30nm,1.2s,mb5.3								
GYA				LR			LR		
	comp=N,520nm,18.6s,MS4.9								
GYA				LR			LR		
	comp=E,580nm,19.2s,MS4.9								
GYA				LR			LR		
	comp=Z,840nm,20.4s,MS4.9								
BJT	**Baijiatuau**	**64.30**	**324**	*e*P			**P**	**10 57 43.5**	**-0.7**
	comp=Z,12nm,0.9s,mb5.1								
BJI	**Beijing**	**64.31**	**324**	*e*P			**P**	**10 57 44.5**	**+0.2**
BJI				S			**S**	**11 06 28.5**	**+6.8**
BJI				AMB			AMB		
	comp=Z,21nm,1.3s,mb5.2								
BJI				LR			LR		
	comp=N,516nm,21.2s,MS4.8								
BJI				LR			LR		
	comp=E,425nm,22.8s,MS4.8								
BJI				LR			LR		
	comp=Z,887nm,28.1s								
KIWB	**Kanaga Island**	**64.52**	**15**	*e*P			**P**	**10 57 46.3**	**+0.9**
NST	**Nakhon Sawan**	**64.76**	**293**	P			**P**	**10 57 50.0**	**+2.4**
	comp=Z,42nm,0.9s,mb5.7								
NANT	**Nan**	**65.31**	**296**	P			**P**	**10 57 50.7**	**-0.4**
XAN	**Xi'an**	**65.45**	**315**	P			**P**	**10 57 52.0**	**+0.3**
XAN				AP			pP	10 58 02.5	+11
XAN				AMB			AMB		
	comp=Z,17nm,1.3s,mb5.1								
CASY	**Casey**	**65.55**	**200**	*e*P			**P**	**10 57 52.2**	**+0.4**
	comp=Z,35nm,1.2s,mb5.5								
KMI	**Kunming**	**65.98**	**303**	*e*P			**P**	**10 57 57.5**	**+2.2**
KMI				S			S	11 06 39.0	-3.5
KMI				SKS			SKS	11 07 42.5	-9.0
KMI				LR			LR		
	comp=N,350nm,17.8s,MS4.7								
KMI				LR			LR		
	comp=E,346nm,22.7s,MS4.7								
KMI				LR			LR		
	comp=Z,572nm,20.2s,MS4.8								
CHRT	**Chiangrai**	**66.50**	**297**	⇓P			**P**	**10 57 57.5**	**-1.2**
	comp=Z,260nm,1.2s,mb6.3								
CMAR	**Chiang Mai Arr**	**66.76**	**295**	P			**P**	**10 57 59.0**	**-1.3**
	comp=Z,22nm,0.9s,mb5.4,baz=115,slow=4.7,SNR=53								
CMAR				LR			LR	11 28 06.9	
	comp=Z,350nm,18.8s,MS4.6,baz=95,slow=37								
CMAR	**Chiang Mai Arr**	**66.76**	**295**	P			**P**	**10 57 59.1**	**-1.2**
CMAR				pmax			pmax		
	comp=Z,22nm,0.9s								
CMAR				MLR			MLR		
	comp=Z,350nm,18.8s								
HHC	**Hu-ho-hao-te**	**67.56**	**322**	*e*P			**P**	**10 58 06.5**	**+1.4**
HHC				PCP			PcP	10 58 35.5	+3.2
HHC				PP			PP	11 00 37.0	+1.2
HHC				SCP				11 02 27.5	
HHC				PCS				11 02 33.0	
HHC				S			S	11 06 59.3	-2.1
HHC				SCS			ScS	11 07 57.3	-3.6
HHC				SS			SS	11 11 22.3	-0.9
HHC				AMB			AMB		
	comp=Z,28nm,1.3s,mb5.3								
HHC				AMB			AMB		
	comp=Z,232nm,5.2s								
HHC				LR			LR		
	comp=N,315nm,19.6s,MS4.7								
HHC				LR			LR		
	comp=E,268nm,18.4s,MS4.7								
HHC				LR			LR		
	comp=Z,309nm,20.8s,MS4.5								
VNDA	**Vanda**	**67.60**	**180**	P			**P**	**10 58 04.9**	**+0.1**
	comp=Z,13nm,1.0s,mb5.1,baz=343,slow=6.7,SNR=27								
VNDA				LR			LR	11 23 45.3	
	comp=Z,464nm,20.1s,MS4.7,baz=358,slow=32								
CD2	**Chengdu**	**67.69**	**309**	P			**P**	**10 58 07.0**	**+0.9**
CD2				S			S	11 06 57.5	-5.6
CD2				XS				11 07 21.5	
CD2				SS			SS	11 11 21.3	-4.0
CD2				AMB			AMB		
	comp=Z,20nm,1.1s,mb5.3								
CD2				AMB			AMB		
	comp=Z,120nm,5.4s								
CD2				LR			LR		
	comp=E,280nm,22.8s								
CD2				LR			LR		
	comp=Z,320nm,21.6s,MS4.5								
SBA	**Scott Base**	**68.01**	**179**	*e*P			**P**	**10 58 08.3**	**+1.0**
	comp=Z,30nm,1.2s,mb5.4								
HIA	**Hailar**	**68.82**	**333**	*e*P			**P**	**10 58 11.5**	**-1.3**
	comp=Z,104nm,1.2s,mb5.9								
LZH	**Lanzhou**	**70.07**	**314**	⇑P			**P**	**10 58 20.5**	**-0.2**
LZH				PCP			PcP	10 58 40.5	-2.4
LZH				PP			PP	11 00 57.8	+0.3
LZH				S			S	11 07 25.5	-5.7
LZH				SS			SS	11 11 56.5	-5.4
LZH				AMB			AMB		
	comp=Z,83nm,1.5s,mb5.6								
LZH				AMB			AMB		
	comp=Z,270nm,4.0s								
LZH				LR			LR		
	comp=N,772nm,15.3s								
LZH				LR			LR		
	comp=Z,1μm,17.2s,MS5.2								
MIR	**Mirnyy**	**72.00**	**203**	⇑*e*P			**P**	**10 58 35.7**	**+3.9**
MIR				pmax			pmax		
	comp=Z,45nm,1.3s,mb5.4								
SEY	**Seymchan**	**72.88**	**356**	*e*P			**P**	**10 58 38.6**	**+1.6**
SEY				*e*				11 01 24.3	
SEY				*e*S			S	11 07 59.7	-3.3
SEY				*e*SP			SP	11 08 55.4	+21
SEY				*e*SS			SS	11 12 41.8	-3.5
SEY				pmax			pmax		
	comp=Z,70nm,1.3s,mb5.6								
SEY				pmax			pmax		
	comp=N,40nm,1.2s								
SEY				MLR			MLR		
	comp=Z,1μm,20.0s,MS5.1								
IMP	**Imphal**	**73.27**	**300**	*e*P			**P**	**10 58 41.0**	**+0.9**
GTA	**Gaotai**	**74.45**	**316**	P			**P**	**10 58 46.8**	**+0.2**
GTA				S			S	11 08 17.0	-4.2
GTA				SKS			SKS	11 08 45.0	-8.9
GTA				PS			PS	11 08 59.0	+3.3
GTA				SS			SS	11 13 06.5	-3.1
GTA				AMB			AMB		
	comp=Z,27nm,1.2s,mb5.2								
GTA				AMB			AMB		
	comp=Z,297nm,5.4s								
GTA				LR			LR		
	comp=N,487nm,19.1s,MS4.9								
GTA				LR			LR		
	comp=E,438nm,20.2s,MS4.9								
GTA				LR			LR		
	comp=Z,562nm,21.4s,MS4.8								
SONM	**Songino Array**	**74.64**	**326**	P			**P**	**10 58 46.9**	**-0.7**
	comp=Z,19nm,0.9s,mb5.1,baz=135,slow=5.2,SNR=53								
SHL	**Shillong**	**75.28**	**300**	*e*P			**P**	**10 58 50.5**	**-1.2**
YAK	**Yakutsk**	**75.58**	**346**	*d i*P			**P**	**10 58 53.1**	**+0.5**
YAK	**Yakutsk**	**75.58**	**346**	*e*P			**P**	**10 58 51.9**	**-0.8**
	comp=Z,151nm,1.0s,mb6.1								
ZAK	**Zakamensk**	**77.75**	**327**	*e*P			**P**	**10 59 04.0**	**-1.0**
BILL	**Bilibino**	**77.87**	**2**	⇓*e*P			**P**	**10 59 05.6**	**+0.3**
BILL				pm

HYB	**Hyderabad**	**85.17**	**289**	*e*P	**P**	**10 59 46.0**	**+1.3**
DAWY	**Dawson**	**86.50**	**23**	*e*P	**P**	**10 59 50.3**	**0.0**
YBH	**Yreka Blue Hor**	**86.99**	**47**	P	**P**	**10 59 53.1**	**0.0**
	comp=Z,3.3nm,0.4s,mb4.9,baz=81,slow=22,SNR=2.4						
YBH	**Yreka Blue Hor**	**86.99**	**47**	P	**P**	**10 59 53.1**	**0.0**
YBH				pmax	pmax		
	comp=Z,3.0nm,0.4s						
MTUM	**Tungsten Hills**	**88.99**	**52**	*e*P	**P**	**11 00 01.9**	**-1.0**
RMW	**Rattlesnake Mo**	**89.17**	**42**	*e*P	**P**	**11 00 02.5**	**-0.9**
NVAR	**Mina Array Bea**	**89.44**	**51**	P	**P**	**11 00 05.0**	**+0.1**
	comp=Z,4.9nm,0.9s,mb4.7,baz=236,slow=3.9,SNR=25						
NVAR				LR	LR	11 32 46.7	
	comp=Z,435nm,19.4s,MS4.9,baz=295,slow=31						
TPH	**Tonopah**	**90.19**	**51**	*e*P	**P**	**11 00 08.7**	**+0.2**
	comp=Z,16nm,1.0s,mb5.2						
INK	**Inuvik**	**90.62**	**20**	*e*P	**P**	**11 00 08.4**	**-1.3**
	comp=Z,12nm,1.2s,mb5.1						
BMN	**Battle Mountai**	**90.69**	**49**	*e*P	**P**	**11 00 11.0**	**+0.3**
	comp=Z,26nm,1.4s,mb5.4						
SYO	**Syowa Base**	**91.25**	**198**	⇓P	**P**	**11 00 13.9**	**+1.3**
SYO	**Syowa Base**	**91.25**	**198**	⇓PcP	PcP	11 00 15.5	+1.6
NEN	**Nelson**	**91.57**	**54**	*e*P	**P**	**11 00 14.9**	**+0.1**
DPW	**Davenport**	**91.63**	**42**	*e*P	**P**	**11 00 15.3**	**+0.5**
KSH	**Kashi**	**91.89**	**310**	*e*P	**P**	**11 00 15.3**	**-0.9**
KSH				*e*PP	PP	11 03 58.3	+0.3
KSH				*e*PPP	PPP	11 05 59.0	+0.2
KSH				*e*SKS	SKS	11 10 42.5	-9.0
KSH				*e*S	S	11 11 10.3	-5.8
KSH				*e*SS	SS	11 17 23.0	-4.2
KSH				AMB	AMB		
	comp=Z,170nm,2.9s,mb5.9						
KSH				LR	LR		
	comp=N,210nm,6.1s						
KSH				LR	LR		
	comp=E,190nm,4.6s						
KURK	**Kurchatov**	**92.36**	**321**	*d*iP	**P**	**11 00 19.1**	**+1.0**
KURK	**Kurchatov**	**92.36**	**321**	*e*P	**P**	**11 00 19.4**	**+1.2**
	comp=E,11nm,1.1s,mb5.1						
NEW	**Newport**	**92.42**	**42**	P	**P**	**11 00 18.1**	**-0.3**
	comp=E,5.1nm,0.9s,mb4.9,baz=218,slow=16,SNR=6.8						
NEW	**Newport**	**92.42**	**42**	P	**P**	**11 00 18.2**	**-0.3**
NEW				pmax	pmax		
	comp=Z,5.0nm,0.9s						
HLID	**Hailey**	**93.36**	**47**	*e*P	**P**	**11 00 23.2**	**+0.2**
	comp=Z,9.7nm,1.1s,mb5.2						
AAK	**Ala-Archa**	**93.56**	**312**	*e*P	**P**	**11 00 24.1**	**+0.2**
AAK				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb5.0						
DUG	**Dugway**	**93.96**	**50**	P	**P**	**11 00 27.2**	**+1.4**
	comp=Z,3.9nm,1.1s,mb4.7						
MCMT	**McKenzie Canyo**	**94.69**	**45**	*e*P	**P**	**11 00 29.3**	**+0.4**
SNOW	**Snow King Moun**	**95.97**	**47**	P	**P**	**11 00 35.1**	**+0.2**
YKA	**Yellowknife Ar**	**96.45**	**28**	P	**P**	**11 00 37.0**	**+0.4**
	comp=Z,4.3nm,0.7s,mb5.1,baz=254,slow=4.5,SNR=9.2						
YKA				PKKPbc		11 17 31.4	
	comp=Z,2.2nm,0.8s,baz=335,slow=1.0,SNR=3.9						
YKA				LR	LR	11 46 57.3	
	comp=Z,425nm,18.1s,MS5.0,baz=250,slow=37						
YKA	**Yellowknife Ar**	**96.45**	**28**	P	**P**	**11 00 37.0**	**+0.4**
YKA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
YKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
YKA				MLR	MLR		
	comp=Z,425nm,18.1s						
YKA	**Yellowknife Ar**	**96.45**	**28**	P	**P**	**11 00 37.0**	**+0.4**
YKA				PKKPbc		11 17 31.4	
YKA				LR	LR	11 46 57.3	
PDAR	**Pinedale Array**	**96.75**	**48**	P	**P**	**11 00 38.9**	**+0.4**
	comp=Z,2.0nm,1.0s,mb4.7,baz=270,slow=4.4,SNR=10						
SNAA	**Sanae**	**97.83**	**185**	⇑*i*P	**P**	**11 00 41.8**	**-0.8**
SNAA	**Sanae**	**97.83**	**185**	P	**P**	**11 00 43.8**	**+1.2**
	comp=Z,0.7nm,0.8s,mb4.5,baz=206,slow=4.3,SNR=7.2						
SNAA	**Sanae**	**97.83**	**185**	P	**P**	**11 00 43.8**	**+1.2**
SNAA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ANMO	**Albuquerque**	**98.24**	**56**	⇑*e*P	**P**	**11 00 45.5**	**+0.1**
ZRNK	**Zerenda**	**98.60**	**322**	*e*P	**P**	**11 00 45.9**	**-0.6**
	comp=Z,5.3nm,1.1s,mb5.2						
VNA1	**Neumayer--Stat**	**99.25**	**184**	⇑*i*P	**P**	**11 00 51.4**	**+2.3**
TXAR	**Lajitas Array**	**100.01**	**62**	P	P	11 00 53.2	-0.3
	comp=Z,0.1nm,0.6s,baz=93,slow=21,SNR=3.3						
TXAR				PP	PP	11 04 55.1	-6.1
	comp=Z,0.4nm,1.0s,baz=259,slow=9.2,SNR=3.6						
TXAR	**Lajitas Array**	**100.01**	**62**	P	P	11 00 53.2	-0.3
TXAR				PP	PP	11 04 55.1	-6.1
SOC	**Sochi**	**118.80**	**314**	*i* PKIKP	PKPdf	11 07 25.0	-2.0
SOC				*e*		11 07 13.9	
SOC				*e*		11 12 50.9	
SOC				*e*SS	SS	11 23 31.8	-2.2
SOC				*e*SSS	SSS	11 27 54.0	-5.6
SOC				pmax	pmax		
	comp=Z,8.0nm,0.6s						
SOC				pmax	pmax		
	comp=N,6.0nm,0.5s						
SOC				pmax	pmax		
	comp=E,4.0nm,0.3s						
SOC				MLR	MLR		
	comp=Z,349nm,20.0s,MS5.0						
SOC				MLR	MLR		
	comp=N,189nm,17.0s,MS4.9						
SOC				MLR	MLR		
	comp=E,173nm,19.0s,MS4.9						
KMBO	**Kilima Mbogo**	**122.26**	**262**	PKP	PKPdf	11 06 02.5	-1.8
	comp=E,0.5nm,0.5s,baz=282,slow=20,SNR=1.8						
BRTR	**Keskin Array B**	**124.23**	**312**	PKP	PKPdf	11 06 08.1	+0.4
	comp=E,0.4nm,0.4s,baz=90,slow=5.8,SNR=3.0						
LPAZ	**La Paz**	**125.47**	**118**	PKP	PKPdf	11 06 10.1	-0.5
	comp=E,1.3nm,0.9s,baz=267,slow=6.8,SNR=3.9						
CPUP	**Villa Florida**	**128.68**	**135**	PKP	PKPdf	11 06 15.1	-1.6
	comp=E,3.2nm,0.8s,baz=283,slow=2.2,SNR=4.3						
SDV	**Santo Domingo**	**129.78**	**87**	*e*PKPdf	PKPdf	11 06 17.1	-2.0
BDFB	**Brasilia**	**142.18**	**132**	PKP	PKPdf	11 06 41.9	+0.1
	comp=E,1.7nm,0.6s,baz=292,slow=8.2,SNR=2.6						
ESDC	**Sonseca Array**	**147.21**	**337**	PKPbc	PKPdf	11 06 53.3	+3.6
	comp=E,3.0nm,0.8s,baz=18,slow=3.2,SNR=9.5						
KIC	**Kosan Boka**	**164.77**	**258**	*e*PKP1	PKPab	11 08 14.6	+5.5
	comp=E,53nm,1.1s						
DBIC	**Dimbokro**	**164.96**	**259**	PKPab	PKPab	11 08 13.2	+3.2
	comp=E,4.6nm,0.8s,baz=86,slow=3.4,SNR=4.7						
LIC	**Lamto**	**165.01**	**257**	*e*PKP1	PKPab	11 08 15.6	+5.4
	comp=E,45nm,1.1s						
TIC	**Toumodi**	**165.11**	**259**	*e*PKP1	PKPab	11 08 14.9	+4.3
	comp=E,156nm,1.6s						

IDC ***27*** *10:50:35.8±0.9,56.96S×24.80W,mb4.3/5,mb1 4.4/5, mb1mx4.2/11, Error ellipse: s-maj=59.3km s-min=21.3km az=52.0*

NEIC ***27*** *10:50:38.0±0.6,56.77S×25.02W,h10km,mb4.2/3, Error ellipse: s-maj=21.1km s-min=7.9km az=58.0*

ISC 27 10:50:42.0±4.3,57.0S±0.2×25.4W±0.4,h47km±42km,n15, σ0$63/12,mb4.3/6,3C-2D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VNA1	**Neumayer--Stat**	**15.56**	**159**	⇑*i*P		**P**	**10 54 19.2**	**-0.1**
VNA3	**Neumayer Olymp**	**15.78**	**161**	⇑*i*P		**P**	**10 54 22.4**	**+0.2**
VNA2	**Neumayer--Watz**	**15.95**	**158**	⇑*i*P		**P**	**10 54 24.3**	**0.0**
SNAA	**Sanae**	**17.48**	**156**	⇓*i*		**P**	**10 54 44.4**	**+0.8**
SNAA	**Sanae**	**17.48**	**156**	⇓*i*P		**P**	**10 54 42.8**	**-0.8**
	0.3nm,0.7s							
PMSA	**Palmer Station**	**20.08**	**231**	*e*P		**P**	**10 55 14.1**	**+0.3**
	6.7nm,0.8s							
CPUP	**Villa Florida**	**38.18**	**310**	P		**P**	**10 57 57.6**	**-1.0**
	2.6nm,0.7s,mb4.1,baz=166,slow=10,SNR=3.5							
MAW	**Mawson**	**38.80**	**142**	P		**P**	**10 57 58.2**	**-5.0**
	0.9nm,0.5s,mb3.8,baz=232,slow=22,SNR=2.6							
VNDA	**Vanda**	**45.69**	**182**	P		**P**	**10 58 58.1**	**-1.1**
	3.2nm,0.9s,mb4.2,baz=307,slow=14,SNR=1.5							
LVC	**Limon Verde**	**46.63**	**299**	*e*P		**P**	**10 59 07.8**	**+0.4**
	8.5nm,0.5s,mb4.9							
LPAZ	**La Paz**	**51.73**	**304**	P		**P**	**10 59 47.1**	**+0.4**
	8.8nm,0.6s,mb4.9,baz=133,slow=6.0,SNR=24							
ASAR	**Alice Springs**	**97.79**	**161**	P		**P**	**11 04 13.9**	**+0.8**
	0.3nm,0.7s,mb3.9,baz=192,slow=4.5,SNR=4.8							
INK	**Inuvik**	**147.16**	**319**	PKPbc	PKPdf		11 10 19.4	+3.4
	2.5nm,0.8s,baz=89,slow=3.5,SNR=17							
SONM	**Songino Array**	**149.78**	**87**	PKPbc	PKPdf		11 10 26.2	+5.4
	0.9nm,0.6s,baz=224,slow=4.4,SNR=7.9							
ILAR	**Eielson Array**	**151.49**	**310**	PKPbc	PKPdf		11 10 30.2	+7.3
	2.1nm,0.7s,baz=146,slow=4.7,SNR=30							

NIED ***27*** *11:31:00,37.40N×138.90E,h11km,Mw3.8 Best double couple: M₀6.53×10¹⁴ NP1:φs212°,δ56°,λ83°. NP2:φs45°, δ35°,λ100°.*

JMA ***27*** *11:31:25.4,37.39N×138.94E,h12km±2km,M4.0 Broadband fault plane solution: P waves. NP1:φs68°,δ26°, λ119°. NP2:φs216°,δ67°,λ77°. Principal axes: T Plg65°, Azm103°; N Plg12°, Azm221°; P Plg21°, Azm316°;*

JMA Felt III J1.

NEIC ***27*** *11:31:26.1±3.2,37.35N×138.77E,h15km±20km,mb3.9/1 Error ellipse: s-maj=14.7km s-min=9.8km az=88.0*

NEIC Recorded [3 JMA] in Niigata and [1 JMA] in Fukushima Prefectures.

IDC ***27*** *11:31:28.7±3.3,37.35N×138.68E,h39km±29km,mb3.6/11, mb1 3.9/13,mb1mx3.8/23,ML3.8/2,MS4.1/1,Ms1 4.1/1, ms1mx2.7/26,Error ellipse: s-maj=24.9km s-min=15.9km az=93.0*

ISC 27 11:31:24.8±0.4,37.37N±0.03×138.92E±0.04,h23km±3km, n33,σ0$97/35,mb3.8/12,5C-5D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JHK	**Hiroka**	**0.14**	**145**	⇓P		**Pb**	**11 31 29.0**	**-0.6**
JHK				S		**Sb**	**11 31 31.6**	**-1.2**
JIZZ	**Izumozaki**	**0.23**	**315**	⇓P		**Pb**	**11 31 30.7**	**0.0**
JIZZ				S		**Sb**	**11 31 35.2**	**+0.6**
JNS	**Sasagawa**	**0.55**	**35**	⇑P		**Pb**	**11 31 35.3**	**-0.5**
JNS				S		**Sb**	**11 31 42.4**	**-0.9**
JFY	**Yanaizu**	**0.63**	**86**	⇓P		**Pb**	**11 31 37.2**	**+0.1**
JFY				S		**Sb**	**11 31 45.5**	**+0.1**
JKT	**Katashina**	**0.66**	**156**	⇓P		**Pb**	**11 31 38.0**	**+0.5**
JKT				S		**Sb**	**11 31 47.2**	**+1.0**
JSD	**Sado**	**0.85**	**322**	⇓P		**Pb**	**11 31 39.9**	**-0.8**
JSD				S		**Sb**	**11 31 52.6**	**+0.9**
MAJO	**Matsushiro**	**1.00**	**215**	⇑*i*P		**Pb**	**11 31 43.7**	**+0.4**
MAT	**Matsushiro**	**1.00**	**215**	P		**Pb**	**11 31 43.7**	**+0.4**
MAT				S		**Sb**	**11 31 57.1**	**+1.1**
MAT	**Matsushiro**	**1.00**	**215**	*e*P		**Pb**	**11 31 44.0**	**+0.7**
MAT				*e*S		**Sb**	**11 31 57.0**	**+1.0**
ASAJ	**Asahikawa**	**7.30**	**21**	Pn		**Pn**	**11 33 14.8**	**+1.9**
	1.0nm,0.3s,baz=116,slow=14,SNR=6.2							
CBIJ	**Chichi jima**	**10.61**	**164**	Pn		**P**	**11 33 58.7**	**0.0**
JOW	**Kunigami**	**13.83**	**224**	Pn		**P**	**11 34 39.1**	**-2.8**
	1.8nm,0.3s,baz=263,slow=28,SNR=2.5							
JOW				LR		LR	11 39 15.4	
	comp=Z,932nm,20.8s,baz=233,slow=34							
SONM	**Songino Array**	**25.95**	**304**	P		**P**	**11 36 56.3**	**-0.9**
	0.8nm,0.8s,mb3.3,baz=106,slow=9.0,SNR=4.5							
ILAR	**Eielson Array**	**50.28**	**32**	P		**P**	**11 40 20.9**	**-0.2**
	0.3nm,0.8s,mb3.4,baz=278,slow=6.4,SNR=4.2							
INK	**Inuvik**	**55.00**	**27**	*e*P		**P**	**11 40 56.5**	**+0.2**
	1.5nm,1.0s,mb4.0							
WB2	**Warramunga Arr**	**57.16**	**185**	*e*P		**P**	**11 41 11.4**	**-1.0**
WRA	**Warramunga Arr**	**57.16**	**185**	P		**P**	**11 41 11.1**	**-1.4**
	1.3nm,0.6s,mb4.2,slow=7.3,SNR=23							
ASAR	**Alice Springs**	**60.89**	**185**	P		**P**	**11 41 37.1**	**-1.0**
	0.4nm,0.4s,mb3.9,baz=357,slow=4.9,SNR=16							
ARCES	**ARCESS Array B**	**62.98**	**339**	P		**P**	**11 41 50.6**	**-0.9**
	4.9nm,0.9s,mb4.6,baz=50,slow=9.5,SNR=4.1							
FINES	**FINESS Array B**	**67.58**	**331**	P		**P**	**11 42 20.0**	**-1.3**
	1.1nm,0.9s,mb3.9,baz=101,slow=9.7,SNR=4.2							
NB2	**NORSAR Subarra**	**73.10**	**336**	P		**P**	**11 42 54.1**	**-0.5**
	0.8nm,0.4s,mb4.0,baz=40,slow=6.5							
NOA	**NORSAR Array B**	**73.10**	**336**	P		**P**	**11 42 53.8**	**-0.8**
	1.6nm,0.8s,mb4.0,baz=41,slow=6.0,SNR=3.9							
NVAR	**Mina Array Bea**	**76.37**	**52**	P		**P**	**11 43 15.0**	**+1.1**
	0.6nm,0.8s,mb3.5,baz=277,slow=7.7,SNR=5.7							
PDAR	**Pinedale Array**	**78.84**	**44**	P		**P**	**11 43 28.7**	**+1.2**
	0.7nm,0.8s,mb3.7,baz=270,slow=3.0,SNR=5.7							
GERES	**GERESS Array B**	**81.36**	**327**	P		**P**	**11 43 41.2**	**+0.5**
	0.3nm,0.2s,mb3.8,baz=31,slow=5.7,SNR=3.2							
PV10	**Paradox Valley**	**82.03**	**47**	*e*P		**P**	**11 43 46.3**	**+1.8**
TXAR	**Lajitas Array**	**91.48**	**51**	P		**P**	**11 44 32.0**	**+1.2**
	0.3nm,0.7s,mb3.8,baz=266,slow=2.8,SNR=5.1							
SBA	**Scott Base**	**116.19**	**174**	P		PKPdf	11 50 11.0	+1.2
VNA2	**Neumayer--Watz**	**142.06**	**197**	⇑*i*		PKPdf	11 50 52.3	-6.1
VNA2	**Neumayer--Watz**	**142.06**	**197**	⇑*i*		PKPdf	11 50 57.7	-0.7
VNA2	**Neumayer--Watz**	**142.06**	**197**	⇑*i*P		PKPdf	11 50 57.7	-0.7
SAML	**Samuel**	**145.36**	**41**	*e*PKPdf		PKPdf	11 51 02.6	-3.2
LPAZ	**La Paz**	**148.20**	**56**	PKPbc		PKPdf	11 51 12.4	+2.0
	0.8nm,0.7s,baz=15,slow=3.0,SNR=4.1							

IDC 27 11:48:40.6±7.4,0.84N×90.34W,mb3.9/5,mb1 4.2/5, mb1mx4.0/18,MS3.2/1,Ms1 3.3/1,ms1mx3.0/19,Error ellipse: s-maj=237.0km s-min=139.2km az=54.0, Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LPAZ	**La Paz**	**27.75**	**129**	LR		LR	12 04 05.8	
	comp=Z,53nm,20.7s,baz=255,slow=33							
TXAR	**Lajitas Array**	**31.05**	**337**	P		P	11 55 00.6	-2.1
	0.3nm,0.7s,baz=153,slow=8.4,SNR=4.7							
PDAR	**Pinedale Array**	**45.16**	**340**	P		P	11 56 59.4	-1.5
	0.7nm,1.1s,baz=158,slow=4.9,SNR=3.8							
NVAR	**Mina Array Bea**	**45.36**	**329**	P		P	11 57 02.4	-0.2
	2.0nm,1.0s,baz=146,slow=10,SNR=7.8							
YBH	**Yreka Blue Hor**	**50.08**	**328**	P		P	11 57 35.5	-3.8
	11nm,0.9s,baz=195,slow=11,SNR=3.4							
ILAR	**Eielson Array**	**75.56**	**338**	P		P	12 00 27.1	-1.5
	0.7nm,0.7s,baz=137,slow=4.1,SNR=8.4							

BER ***27*** *11:59:40.7±1.7,61.18N×14.80E,h0km±22km, ML2.2(NAO)*

NAO 27 11:59:38.4±2.2,61.21N×14.93E,ML2.2,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
HFS	**Hagfors**	**1.24**	**210**	Pg		Pg	12 00 01.2	-2.0
	baz=29,slow=18							
HFS				Lg			12 00 16.7	
	baz=20,slow=28							
HFS				Rg			12 00 25.3	
	baz=30,slow=37							
NC6	**NORSAR Subarra**	**1.76**	**256**	Pn		Pn	12 00 09.4	-0.9
NC6				Lg			12 00 33.0	
NB2	**NORSAR Subarra**	**1.81**	**266**	Pn		Pn	12 00 11.1	-0.1
NB2				Lg			12 00 34.3	

ISK ***27*** *12:06:38.9,36.90N×28.15E,h18km,MD3.1*

CSEM ***27*** *12:06:39.8±0.1,36.96N×28.22E,h18km±1km,MD3.1/1, Error ellipse: s-maj=3.0km s-min=2.7km az=106.0*

ATH ***27*** *12:06:40.6,36.88N×28.10E,h27km±9km,MD3.1/5*

NEIC ***27*** *12:06:40.6,36.88N×28.10E,h27km,MD3.1(ATH),After ATH.*

ISC 27 12:06:40.2±0.6,36.91N±0.04×28.16E±0.04,h17km±8km, n17,σ0$85/23,2C,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
YER	**Yerkesik**	**0.24**	**23**	PG		**Pb**	**12 06 44.9**	**-0.8**
YER				SG		**Sb**	**12 06 49.4**	**-0.1**
DALT	**Dalyan (Mudla)**	**0.41**	**110**	PG		**Pb**	**12 06 47.4**	**-1.1**
DALT				SG		**Sb**	**12 06 54.9**	**+0.7**
MLSB	**Milas**	**0.49**	**321**	PG		**Pb**	**12 06 48.9**	**-1.1**
MLSB				SG		**Sb**	**12 06 57.4**	**+0.8**
BDRM	**Kayabasi**	**0.60**	**285**	*i* P		**Pb**	**12 06 51.4**	**-0.4**
BDRM				*i* S		**Sb**	**12 07 00.5**	**+0.8**
ARG	**Arkhangelos**	**0.69**	**183**	*e*PB		**Pb**	**12 06 52.9**	**-0.5**
AYDN	**Tasoluk**	**0.78**	**343**	⇑*i*P		**Pb**	**12 06 54.9**	**+0.1**
AYDN				*i* S		**Sb**	**12 07 06.0**	**+1.0**
NISR	**Nisiros**	**0.88**	**250**	*e*PN		**Pn**	**12 06 58.2**	**+0.5**
DNZL	**Cakiroluk**	**1.05**	**42**	⇑*i*P		**Pb**	**12 06 59.1**	**-0.4**
DNZL				*i* S		**Sb**	**12 07 14.1**	**+1.3**
DENT	**Denizli**	**1.09**	**39**	*e*PN		**Pn**	**12 07 00.1**	**-0.6**
SMG	**Samos**	**1.32**	**307**	*e*PN		**Pn**	**12 07 04.6**	**+0.6**
KSL	**Kastellorizon**	**1.37**	**123**	*e*PN		**Pn**	**12 07 06.8**	**+2.1**
ELL	**Elmali**	**1.41**	**96**	*e*PN		**Pn**	**12 07 04.8**	**-0.5**
KARP	**Karpathos**	**1.58**	**211**	*e*PN		**Pn**	**12 07 08.3**	**+0.5**
IZM	**Izmir**	**1.65**	**335**	*e*PN		**Pn**	**12 07 07.6**	**-1.0**
AKS	**Akhisar**	**1.98**	**352**	*e*PN		**Pn**	**12 07 12.6**	**-0.9**
APE	**Apeiranthos**	**2.11**	**275**	*e*PN		**Pn**	**12 07 13.8**	**-1.5**
APE	**Apeiranthos**	**2.11**	**275**	*e*Pn		**Pn**	**12 07 15.5**	**+0.2**

PRU ***27*** *12:07:42.9,51.51N×16.09E*

WAR ***27*** *12:07:42.9,51.54N×16.06E,ML2.6,Mining Induced*

ISC 27 12:07:42.5±1.7,51.46N±0.07×15.96E±0.08,n8,σ0$68/13, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
KSP	**Ksiaz**	**0.66**	**161**	*e*PG		**Pg**	**12 07 56.0**	**+0.4**
KSP				*e*SG		**Sg**	**12 08 05.0**	**+0.6**
UPC	**Upice**	**0.96**	**178**	*e*PG		**Pg**	**12 08 02.2**	**+0.6**
DPC	**Dobruska-Polom**	**1.14**	**168**	*e*PG		**Pg**	**12 08 04.7**	**-0.5**
DPC				*e*SG		**Sg**	**12 08 19.9**	**-0.5**
PVCC	**Panska Ves**	**1.28**	**224**	*e*PG		**Pg**	**12 08 08.2**	**+0.1**
PRU	**Pruhonice**	**1.73**	**212**	*e*PG		**Pg**	**12 08 17.3**	**+0.3**
PRU				*i* x		x	12 08 19.3	
PRU				*i* x		x	12 08 31.7	
PRU				*e*SG		**Sg**	**12 08 39.9**	**-0.2**
	8.0nm,0.3s							
CLL	**Collm**	**1.86**	**266**	*e*PG		**Pg**	**12 08 19.0**	**-0.6**
CLL				*e*SG		**Sg**	**12 08 44.0**	**-0.4**
NKC	**Novy Kostel**	**2.54**	**242**	*e*SG		**Sg**	**12 09 09.0**	**+1.8**
KHC	**Kasperske Hory**	**2.79**	**214**	*e*SN		**Sn**	**12 09 03.5**	**-0.6**
KHC				*e*SG		**Sg**	**12 09 14.6**	**-0.8**

NIED ***27*** *12:09:00,37.30N×139.00E,h8km,Mw3.8 Best double couple: M₀5.43×10¹⁴ NP1:φs78°,δ57°,λ100°. NP2:φs240°, δ34°,λ75°.*

IDC ***27*** *12:09:06.5±0.7,37.52N×138.81E,mb3.9/14,mb1 4.1/16, mb1mx4.1/24,ML4.2/1,Error ellipse: s-maj=20.8km s-min=18.5km az=68.0*

NEIC ***27*** *12:09:08.3±0.4,37.36N×138.80E,h10km,mb4.0/3,Error ellipse: s-maj=13.8km s-min=7.6km az=113.0*

NEIC Recorded [4 JMA] in Niigata and [1 JMA] in Gumma Prefectures.

JMA ***27*** *12:09:08.0,37.30N×138.99E,h11km±1km,M4.3 Broadband fault plane solution: P waves. NP1:φs94°,δ47°, λ125°. NP2:φs228°,δ53°,λ58°. Principal axes: T Plg65°, Azm76°; N Plg25°, Azm249°; P Plg3°, Azm340°;*

JMA Felt IV J1.

ISC 27 12:09:07.4±0.4,37.31N±0.03×138.97E±0.04,h21km±3km, n34,σ0$99/43,mb3.9/19,2C-7D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
JHK	**Hiroka**	**0.07**	**151**	⇑P		**Pb**	**12 09 10.1**	**-1.2**
JHK				S		**Sb**	**12 09 11.8**	**-2.1**
JIZZ	**Izumozaki**	**0.30**	**316**	⇓P		**Pb**	**12 09 14.8**	**+0.6**
JIZZ				S		**Sb**	**12 09 20.2**	**+1.4**
JNS	**Sasagawa**	**0.57**	**28**	⇓P		**Pb**	**12 09 18.7**	**0.0**
JNS				S		**Sb**	**12 09 26.7**	**+0.3**
JKT	**Katashina**	**0.59**	**158**	⇓P		**Pb**	**12 09 19.0**	**+0.1**
JKT				S		**Sb**	**12 09 26.8**	**+0.1**
JFY	**Yanaizu**	**0.59**	**81**	⇑P		**Pb**	**12 09 19.0**	**0.0**
JFY				S		**Sb**	**12 09 27.0**	**+0.1**
JGK	**Kuni**	**0.80**	**200**	⇓P		**Pb**	**12 09 22.7**	**+0.3**
JGK				S		**Sb**	**12 09 33.6**	**+0.9**
JSD	**Sado**	**0.92**	**322**	⇓P		**Pb**	**12 09 24.1**	**-0.4**
JSD				S		**Sb**	**12 09 37.7**	**+1.4**
JAG	**Ashikaga**	**0.97**	**156**	⇓P		**Pb**	**12 09 26.0**	**+0.7**
MAJO	**Matsushiro**	**0.98**	**219**	⇓*i*P		**Pb**	**12 09 25.2**	**-0.4**
MAT	**Matsushiro**	**0.98**	**219**	P		**Pb**	**12 09 25.5**	**-0.1**
MAT				S		**Sb**	**12 09 38.3**	**+0.2**
MAT	**Matsushiro**	**0.98**	**219**	*e*P		**Pb**	**12 09 26.0**	**+0.4**
MAT				*e*S		**Sb**	**12 09 38.0**	**-0.1**
JHJ	**Hachijo jima 2**	**4.24**	**171**	Pn		**Pn**	**12 10 16.3**	**+3.9**
	37nm,0.3s,baz=68,slow=22,SNR=2.5							
SONM	**Songino Array**	**26.02**	**304**	P		**P**	**12 14 38.8**	**-1.7**
	0.4nm,0.4s,mb3.3,baz=97,slow=10.0,SNR=5.0							
FX1	**Attu Island--F**	**28.38**	**46**	P		**P**	**12 15 02.3**	**+0.3**
	24nm,0.9s,mb4.8,baz=270,slow=20,SNR=2.7							
KURK	**Kurchatov**	**44.22**	**308**	*e*P		**P**	**12 17 15.2**	**-1.4**
	2.5nm,1.0s,mb3.9							
BVAR	**Borovoye Array**	**48.94**	**312**	P		**P**	**12 17 53.0**	**-0.7**
	0.3nm,0.4s,mb3.6,baz=104,slow=5.9,SNR=3.7							
ZRNK	**Zerenda**	**49.77**	**312**	*e*P		**P**	**12 17 59.2**	**-1.0**
	2.7nm,0.9s,mb4.3							
ILAR	**Eielson Array**	**50.30**	**32**	P		**P**	**12 18 04.0**	**0.0**
	0.4nm,0.7s,mb3.5,baz=276,slow=5.6,SNR=4.8							
INK	**Inuvik**	**55.03**	**27**	P		**P**	**12 18 38.1**	**-1.2**
	0.7nm,0.8s,mb3.7							
WRA	**Warramunga Arr**	**57.11**	**185**	P		**P**	**12 18 56.8**	**+1.9**
	0.5nm,0.4s,mb3.9,baz=0.5,slow=7.

SBDP	**Sheikh Budin**	**6.47**	**222**	⇑P		**P**		**12 17 12.0**	**-2.8**
DDI	**Dehra Dun**	**7.12**	**165**	*e*P		**P**		**12 17 26.7**	**+2.8**
DDI				*e*				12 18 54.5	
RTK	**Rohtak**	**8.19**	**177**	*i* P		**P**		**12 17 38.7**	**+0.1**
LGTI	**Lohaghat**	**8.57**	**154**	*e*P		**P**		**12 17 45.3**	**+1.5**
LGTI				*e*				12 19 23.5	
BHGR	**Bahadurgarh**	**8.57**	**174**	*e*P		**P**		**12 17 45.8**	**+1.9**
NDI	**New Delhi**	**8.60**	**172**	*e*		**P**		**12 17 40.5**	**-3.8**
NDI				*e*S		**S**		**12 19 18.0**	**-2.9**
AYAN	**Aya Nagar**	**8.79**	**173**	*e*P		**P**		**12 17 48.7**	**+1.8**
AYAN				AMb		AMB		12 17 49.9	
	comp=Z,15nm,0.6s								
SONA	**Sohna**	**9.01**	**173**	*e*P		**P**		**12 17 51.1**	**+1.1**
SONA				AMb		AMB		12 17 54.4	
	comp=Z,12nm,0.8s								
KUDL	**Kundal**	**9.08**	**177**	*e*P		**P**		**12 17 50.5**	**-0.4**
KUDL				AMb		AMB		12 17 54.4	
	comp=Z,11nm,0.7s								
KHET	**Khetri**	**9.14**	**181**	*e*P		**P**		**12 17 51.1**	**-0.6**
KHET				AMb		AMB		12 17 55.5	
	comp=Z,12nm,0.5s								
AGRA	**Agra**	**10.12**	**170**	*e*P		**P**		**12 18 05.3**	**+0.1**
MK31	**Makanchi Array**	**10.66**	**24**	⇓P		**P**		**12 18 11.6**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=212,slow=19,SNR=3.6								
WMQ	**Urumqi**	**11.11**	**50**	P		**P**		**12 18 17.3**	**-1.3**
WMQ				PP		PP		12 18 26.0	-1.1
WMQ				S		**S**		**12 20 23.0**	**+0.7**
WMQ				SS		SS		12 20 40.0	+2.9
WMQ				AMB		AMB			
	comp=Z,26nm,0.8s								
WMQ				LR		LR			
	comp=N,192nm,10.0s								
WMQ				LR		LR			
	comp=E,110nm,11.0s								
WMQ				LR		LR			
	comp=Z,68nm,11.0s								
KOLN	**Koldanda**	**11.45**	**143**	*e*P		**P**		**12 18 22.9**	**-0.3**
	comp=Z,39nm,0.5s								
KOLN				*e*S		**S**		**12 20 29.9**	**-0.6**
GKN	**Gorkha**	**11.78**	**139**	*e*P		**P**		**12 18 27.0**	**-0.6**
	comp=Z,27nm,0.4s								
GKN				*e*S		**S**		**12 20 36.7**	**-1.7**
KKN	**Kakani**	**12.29**	**137**	*e*P		**P**		**12 18 32.9**	**-1.6**
	comp=Z,31nm,0.5s								
KKN				*e*S		**S**		**12 20 49.9**	**-0.8**
DMN	**Daman**	**12.34**	**138**	*e*P		**P**		**12 18 34.4**	**-0.7**
	comp=Z,15nm,0.4s								
GUN	**Gumba**	**12.53**	**135**	*e*P		**P**		**12 18 36.9**	**-0.7**
	comp=Z,23nm,0.5s								
PKI	**Pulchoki**	**12.53**	**138**	*e*P		**P**		**12 18 36.7**	**-1.0**
	comp=Z,34nm,0.6s								
KURK	**Kurchatov**	**13.62**	**7**	⇑P		**P**		**12 18 50.8**	**-1.0**
	comp=Z,8.6nm,1.1s								
KURK	**Kurchatov**	**13.62**	**7**	⇑*e*P		**P**		**12 18 50.8**	**-1.0**
KURK	**Kurchatov**	**13.62**	**7**	*e*P		**P**		**12 18 50.7**	**-1.1**
KURK				*e*				12 18 58.5	
VOSK	**Vostochnaya**	**15.87**	**349**	⇑P		**P**		**12 19 15.6**	**-5.4**
	comp=Z,5.3nm,0.8s								
BVA0	**Borovoye Array**	**16.25**	**348**	⇑P		**P**		**12 19 26.9**	**+1.0**
	comp=Z,2.2nm,0.8s,baz=153,slow=12,SNR=12								
BVAR	**Borovoye Array**	**16.25**	**348**	P		**P**		**12 19 23.0**	**-2.9**
	comp=Z,0.1nm,0.3s,baz=144,slow=13,SNR=6.6								
BRVK	**Borovoye**	**16.30**	**348**	*e*P		**P**		**12 19 26.2**	**-0.3**
	comp=Z,24nm,0.8s								
ZRNK	**Zerenda**	**16.44**	**345**	⇑P		**P**		**12 19 24.7**	**-3.5**
	comp=Z,7.5nm,0.8s								
ZRNK	**Zerenda**	**16.44**	**345**	*e*P		**P**		**12 19 24.5**	**-3.7**
SHL	**Shillong**	**17.89**	**126**	*e*P		**P**		**12 19 48.0**	**+1.4**
NVS	**Novosibirsk**	**18.31**	**14**	*e*P		**P**		**12 19 50.0**	**-1.5**
NVS				pmax		pmax			
	comp=Z,30nm,1.3s								
NVS				pmax		pmax			
	comp=N,34nm,0.9s								
GTA	**Gaotai**	**18.87**	**76**	P		**P**		**12 20 01.3**	**+3.0**
GTA				AMB		AMB			
	comp=Z,12nm,0.9s								
GTA				AMB		AMB			
	comp=Z,196nm,5.3s								
GTA				LR		LR			
	comp=N,168nm,14.9s								
GTA				LR		LR			
	comp=E,167nm,15.3s								
GTA				LR		LR			
	comp=Z,205nm,13.0s								
IMP	**Imphal**	**19.77**	**124**	*e*		**P**		**12 20 11.0**	**+2.7**
SVE	**Sverdlovsk**	**22.10**	**337**	⇑*e*P		**P**		**12 20 31.9**	**+0.1**
LZH	**Lanzhou**	**22.41**	**84**	*e*P		**P**		**12 20 40.0**	**+5.0**
LZH				AP				12 20 47.5	
LZH				XP				12 20 52.5	
LZH				AMB		AMB			
	comp=Z,24nm,1.6s,mb4.4								
LZH				AMB		AMB			
	comp=Z,68nm,4.0s								
ARU	**Arti**	**22.45**	**334**	⇑*i*P		**P**		**12 20 35.1**	**-0.2**
ARU				*e*S		**S**		**12 24 37.9**	**+4.3**
ARU				*e*SS		SS		12 25 11.6	-5.9
ARU				pmax		pmax			
	comp=Z,11nm,0.9s,mb4.3								
ZAK	**Zakamensk**	**23.56**	**47**	*e*P		**P**		**12 20 50.5**	**+4.4**
GNI	**Garni**	**24.44**	**286**	P		**P**		**12 20 56.2**	**+1.5**
	comp=Z,4.8nm,0.3s,mb4.4,baz=74,slow=17,SNR=2.0								
GNI	**Garni**	**24.44**	**286**	P		**P**		**12 20 56.2**	**+1.4**
GNI				pmax		pmax			
	comp=Z,5.0nm,0.3s								
SONM	**Songino Array**	**24.68**	**55**	P		**P**		**12 20 58.8**	**+1.8**
	comp=Z,6.0nm,0.7s,mb4.3,baz=255,slow=9.8,SNR=20								
CMAR	**Chiang Mai Arr**	**27.53**	**127**	P		**P**		**12 21 24.3**	**+0.5**
	comp=Z,2.3nm,0.7s,mb3.9,baz=309,slow=9.2,SNR=8.2								
CMAR				PcP		PcP		12 24 41.6	+0.6
	comp=Z,0.9nm,0.7s,baz=296,slow=3.0,SNR=5.4								
CMAR				LR		LR		12 35 28.6	
	comp=Z,20nm,21.4s,MS2.7,baz=315,slow=43								
CMAR	**Chiang Mai Arr**	**27.53**	**127**	P		**P**		**12 21 24.3**	**+0.5**
CMAR								12 24 41.7	
CMAR				pmax		pmax			
	comp=Z,2.0nm,0.7s								
CMAR				pmax		pmax			
	comp=Z,1.0nm,0.7s								
CMAR				MLR		MLR			
	comp=Z,20nm,21.4s								
SOC	**Sochi**	**28.12**	**294**	*i* P		**P**		**12 21 31.5**	**+2.6**
SOC				*e*				12 22 31.1	
SOC				*e*S		**S**		**12 26 08.8**	**0.0**
SOC				pmax		pmax			
	comp=Z,4.0nm,0.4s,mb4.4								
SOC				pmax		pmax			
	comp=N,3.0nm,0.3s								
SOC				pmax		pmax			
	comp=E,3.0nm,0.3s								
SOC				MLR		MLR			
	comp=Z,119nm,20.0s,MS3.5								
SOC				MLR		MLR			
	comp=N,176nm,22.0s,MS3.7								
SOC				MLR		MLR			
	comp=E,109nm,20.0s,MS3.7								
OBN	**Obninsk**	**32.03**	**317**	*e*P		**P**		**12 22 06.1**	**+2.7**
OBN				*e*PP		pP		12 22 14.8	-1.9
OBN				pmax		pmax			
	comp=Z,4.0nm,0.7s,mb4.4								
OBN				MLR		MLR			
	comp=Z,100nm,14.0s,MS3.6								
BRTR	**Keskin Array B**	**32.97**	**288**	P		**P**		**12 22 10.6**	**-1.1**
	comp=Z,4.2nm,1.0s,mb4.3,baz=100,slow=7.5,SNR=11								
BRTR	**Keskin Array B**	**32.97**	**288**	P		**P**		**12 22 10.6**	**-1.1**
BRTR				pmax		pmax			
	comp=Z,4.0nm,1.0s								
NJ2	**Nanjing**	**35.48**	**85**	*e*P		**P**		**12 22 32.5**	**-0.8**
NJ2				AMB		AMB			
	comp=Z,20nm,0.5s,mb5.3								
AKASG	**Malin Array Be**	**35.60**	**307**	P		**P**		**12 22 32.3**	**-1.8**
	comp=Z,0.5nm,0.5s,mb3.8,baz=78,slow=7.1,SNR=2.9								
AKASG	**Malin Array Be**	**35.60**	**307**	P		**P**		**12 22 32.3**	**-1.8**
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.5s								
FINES	**FINESS Array B**	**39.13**	**324**	P		**P**		**12 23 01.5**	**-2.0**
	comp=Z,1.5nm,0.6s,mb3.9,baz=115,slow=10,SNR=8.7								
FINES	**FINESS Array B**	**39.13**	**324**	P		**P**		**12 23 01.5**	**-2.0**
FINES				pmax		pmax			
	comp=Z,2.0nm,0.6s								
FINES	**FINESS Array B**	**39.13**	**324**	P		**P**		**12 23 01.5**	**-2.0**
ARCES	**ARCESS Array B**	**42.02**	**336**	P		**P**		**12 23 26.1**	**-1.1**
	comp=Z,3.6nm,0.7s,mb4.1,baz=112,slow=8.3,SNR=14								
ARCES	**ARCESS Array B**	**42.02**	**336**	P		**P**		**12 23 26.1**	**-1.1**
ARCES				pmax		pmax			
	comp=Z,4.0nm,0.7s								

TIXI	**Tiksi**	**43.63**	**21**	⇑*e*P		**P**		**12 23 41.0**	**+0.6**
TIXI				pmax		pmax			
	comp=Z,5.0nm,0.8s,mb4.3								
TIXI				MLR		MLR			
	comp=Z,100nm,17.0s,MS3.8								
GERES	**GERESS Array B**	**45.72**	**305**	P		**P**		**12 23 56.0**	**-1.4**
	comp=Z,0.4nm,0.2s,mb3.9,baz=72,slow=4.2,SNR=6.1								
NB2	**NORSAR Subarra**	**46.18**	**322**	P		**P**		**12 23 57.6**	**-3.3**
	comp=Z,1.3nm,0.6s,mb4.0,baz=91,slow=7.9								
NOA	**NORSAR Array B**	**46.18**	**322**	P		**P**		**12 23 59.6**	**-1.2**
	comp=Z,0.9nm,0.5s,mb3.9,baz=91,slow=7.7,SNR=4.0								
NOA	**NORSAR Array B**	**46.18**	**322**	P		**P**		**12 23 59.7**	**-1.2**
NOA				pmax		pmax			
	comp=Z,1.0nm,0.5s								
KMBO	**Kilima Mbogo**	**52.31**	**232**	P		**P**		**12 24 48.5**	**-0.2**
	comp=Z,0.7nm,0.5s,mb3.8,baz=36,slow=21,SNR=4.0								
IMA	**Indian Mountai**	**70.18**	**19**	*e*P		**P**		**12 26 49.0**	**+0.6**
	comp=Z,11nm,0.5s,mb5.0								
INK	**Inuvik**	**72.49**	**11**	*e*P		**P**		**12 27 02.2**	**0.0**
	comp=Z,3.9nm,0.6s,mb4.5								
COLA	**College**	**72.62**	**18**	⇑*e*P		**P**		**12 27 03.7**	**+0.8**
COLA	**College**	**72.62**	**18**	*e*P		**P**		**12 27 03.3**	**+0.3**
	comp=Z,5.5nm,0.8s,mb4.5								
ILAR	**Eielson Array**	**72.94**	**18**	P		**P**		**12 27 04.6**	**-0.2**
	comp=Z,1.9nm,0.8s,mb4.1,baz=318,slow=5.3,SNR=26								
ILAR	**Eielson Array**	**72.94**	**18**	P		**P**		**12 27 04.6**	**-0.2**
ILAR				pmax		pmax			
	comp=Z,2.0nm,0.8s								
MCK	**McKinley**	**73.27**	**19**	*e*P		**P**		**12 27 07.1**	**+0.3**
	comp=Z,2.6nm,0.9s,mb4.2								
WRA	**Warramunga Arr**	**79.11**	**125**	P		**P**		**12 27 42.1**	**+1.4**
	comp=Z,1.7nm,0.8s,mb4.0,baz=327,slow=5.0,SNR=7.9								
WRA	**Warramunga Arr**	**79.11**	**125**	P		**P**		**12 27 42.1**	**+1.4**
WRA				pmax		pmax			
	comp=Z,2.0nm,0.8s								
YKA	**Yellowknife Ar**	**80.25**	**5**	P		**P**		**12 27 45.8**	**-0.2**
	comp=Z,2.4nm,0.6s,mb4.3,baz=345,slow=5.7,SNR=12								
YKA	**Yellowknife Ar**	**80.25**	**5**	P		**P**		**12 27 45.8**	**-0.2**
YKA				pmax		pmax			
	comp=Z,2.0nm,0.6s								
YKA	**Yellowknife Ar**	**80.25**	**5**	P		**P**		**12 27 45.8**	**-0.2**
ASAR	**Alice Springs**	**81.52**	**128**	P		**P**		**12 27 55.1**	**+1.6**
	comp=Z,2.1nm,0.9s,mb4.1,baz=327,slow=5.8,SNR=12								
SCHQ	**Schefferville**	**82.89**	**339**	P		**P**		**12 27 59.6**	**-0.1**
	comp=Z,4.6nm,1.1s,mb4.4,baz=91,slow=19,SNR=2.5								
VNA2	**Neumayer--Watz**	**122.58**	**203**	⇑*i*		PKPdf		12 34 32.6	+3.7
VNA3	**Neumayer Olymp**	**123.38**	**203**	⇑*i*		PKPdf		12 34 34.2	+3.7

NIED ***27*** *12:27:00, 33.60N×135.20E, h35km, Mw4.3 Best double couple: M₀2.74×10¹⁵ NP1:φs121°,δ87°,λ168°. NP2: φs212°,δ78°,λ3°.*

JMA ***27*** *12:27:33.7, 33.64N×135.27E, h39km, M4.4 Broadband fault plane solution: P waves. NP1:φs306°,δ61°,λ-159°. NP2:φs206°,δ72°,λ-30°. Principal axes: T Plg7°, Azm258°; N Plg55°, Azm358°; P Plg34°, Azm163°;*

JMA Felt III J1.

IDC ***27*** *12:27:34.3±0.6, 33.59N×135.14E, h39km±5km, mb3.6/8, mb1 3.9/12, mb1mx3.7/26, ML4.0/3, MS3.0/1, Ms1 3.0/1, ms1mx2.7/20 Error ellipse: s-maj=17.2km s-min=13.0km az=106.0*

NEIC ***27*** *12:27:34.5±0.5, 33.58N×135.23E, mb4.4/3, Error ellipse: s-maj=13.4km s-min=8.7km az=126.0*

NEIC Recorded [2 JMA] in Nara, Osaka and Wakayama; [1 JMA] in Mie and Okayama Prefectures. Also recorded [2 JMA] in Tokushima and [1 JMA] in Kagawa Prefectures, Shikoku.

ISC 27 12:27:32.8±0.5, 33.60N±0.04×135.25E±0.04, h44km±4km, h39km±1.1km:pP-P, n27, σ0°82/39, mb3.9/11, 4C-3D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
JWM	**Minabe**	**0.26**	**20**	⇓P		**P**		**12 27 41.0**	**-0.1**
JWM				S		S		**12 27 45.8**	**-1.0**
JWZ	**Kozaga**	**0.40**	**100**	⇑P		**P**		**12 27 42.7**	**+0.3**
JWZ				S		S		**12 27 49.4**	**+0.2**
JWY	**Kouya**	**0.68**	**25**	P		**P**		**12 27 46.2**	**+0.1**
JWY				S		S		**12 27 54.8**	**-1.0**
JAI	**Aioi**	**0.69**	**286**	⇑P		**P**		**12 27 47.1**	**+0.9**
JAI				S		S		**12 27 56.5**	**+0.4**
JAJ2	**Tsuna**	**0.87**	**340**	⇓P		**P**		**12 27 49.4**	**+0.6**
JAJ2				S		S		**12 28 00.7**	**+0.2**
JHE	**Heguri**	**1.11**	**19**	⇓P		**P**		**12 27 52.3**	**+0.2**
JHE				*e*S		**S**		**12 28 05.3**	**-1.2**
JMN	**Monobe**	**1.15**	**277**	⇑P		**P**		**12 27 53.4**	**+0.7**
JMN				*e*S		**S**		**12 28 07.5**	**0.0**
JJS	**Sakaide**	**1.34**	**306**	⇑P		**P**		**12 27 55.7**	**+0.2**
JJS				S		S		**12 28 11.3**	**-1.1**
MAJO	**Matsushiro**	**3.81**	**39**	*e*P		**P**		**12 28 31.3**	**+0.8**
MAT	**Matsushiro**	**3.81**	**39**	P		**P**		**12 28 30.8**	**+0.3**
MAT				S		S		**12 29 16.1**	**+1.5**
MAT	**Matsushiro**	**3.81**	**39**	*e*P		**P**		**12 28 31.0**	**+0.5**
MAT				*e*S		**S**		**12 29 16.0**	**+1.4**
JHJ	**Hachijo jima 2**	**3.83**	**96**	Pn		**P**		**12 28 30.6**	**-0.2**
	123nm,0.3s,baz=66,slow=21,SNR=9.3								
JHJ				Sn			**S**	**12 29 10.2**	**-4.8**
	baz=52,slow=19,SNR=2.6								
JOW	**Kunigami**	**9.05**	**224**	Pn		**P**		**12 29 43.4**	**-0.3**
	7.2nm,0.3s,baz=102,slow=23,SNR=13								
JOW				Sn			**S**	**12 31 19.3**	**-6.0**
	1.6nm,0.3s,baz=144,slow=19,SNR=2.7								
ASAJ	**Asahikawa**	**11.95**	**26**	Pn		**P**		**12 30 22.6**	**-0.7**
	0.3nm,0.3s,baz=225,slow=8.6,SNR=2.9								
ASAJ				LR		LR		12 34 42.0	
	comp=Z,75nm,20.3s,baz=176,slow=36								
HIA	**Hailar**	**19.44**	**328**	*e*P		**P**		**12 31 59.3**	**+1.1**
	3.6nm,0.5s								
ENH	**Enshi**	**22.10**	**268**	*e*P		**P**		**12 32 27.0**	**+1.3**
	44nm,1.1s,mb4.8								
ENH				*e*pP				12 32 39.4	
SONM	**Songino Array**	**25.90**	**312**	P		**P**		**12 33 02.7**	**+0.4**
	0.9nm,0.4s,mb3.6,baz=128,slow=10.0,SNR=9.6								
SONM				pP		pP		12 33 13.1	-0.7
	1.4nm,0.7s,baz=124,slow=10.0,SNR=7.2								
CMAR	**Chiang Mai Arr**	**35.73**	**254**	P		**P**		**12 34 26.9**	**-2.5**
	0.3nm,0.5s,mb3.5,baz=67,slow=6.9,SNR=3.8								
CMAR				sP		sP		12 34 44.3	-2.5
	1.7nm,0.8s,baz=43,slow=6.9,SNR=6.1								
KURK	**Kurchatov**	**44.19**	**310**	*e*P		**P**		**12 35 38.2**	**-0.7**
	3.4nm,0.5s,mb4.3								
KURK				*e*pP		pP		12 35 49.8	-1.3
BVAR	**Borovoye Array**	**49.22**	**314**	P		**P**		**12 36 18.1**	**-0.4**
	0.5nm,0.4s,mb3.9,baz=101,slow=7.6,SNR=4.3								
BVAR				pP		pP		12 36 29.4	-1.3
	0.8nm,0.5s,baz=108,slow=9.4,SNR=3.9								
WB2	**Warramunga Arr**	**53.25**	**181**	*e*P		**P**		**12 36 48.8**	**-0.6**
WRA	**Warramunga Arr**	**53.25**	**181**	P		**P**		**12 36 48.7**	**-0.7**
	3.0nm,0.7s,mb4.3,baz=358,slow=7.8,SNR=17								
WRA				pP		pP		12 37 00.1	-1.6
	1.9nm,0.9s,baz=358,slow=7.8,SNR=4.9								
ILAR	**Eielson Array**	**55.05**	**31**	P		**P**		**12 37 01.5**	**-0.5**
	0.4nm,0.6s,mb3.6,baz=262,slow=5.5,SNR=11								
ILAR				pP		pP		12 37 14.1	-0.4
	0.4nm,0.7s,baz=257,slow=6.1,SNR=2.7								
ASAR	**Alice Springs**	**56.96**	**181**	P		**P**		**12 37 16.2**	**-0.1**
	0.7nm,0.5s,mb4.0,baz=11,slow=13,SNR=16								
ASAR				pP		pP		12 37 27.2	-1.6
	0.7nm,0.8s,baz=11,slow=9.1,SNR=4.5								
INK	**Inuvik**	**59.69**	**26**	P		**P**		**12 37 34.7**	**-0.1**
	0.7nm,0.8s,mb3.7,baz=295,slow=19,SNR=5.1								
INK				pP		pP		12 37 45.1	-2.2
	2.4nm,1.1s,baz=279,slow=5.4,SNR=2.9								
FINES	**FINESS Array B**	**69.43**	**331**	P		**P**		**12 38 37.4**	**-0.6**
	2.5nm,1.1s,mb4.1,baz=18,slow=6.0,SNR=3.6								
PDAR	**Pinedale Array**	**83.63**	**42**	P		**P**		**12 39 59.8**	**+2.0**
	0.1nm,0.5s,mb3.2,baz=288,slow=8.6,SNR=2.5								
PDAR				pP		pP		12 40 12.2	+1.3
	0.3nm,0.7s,baz=326,slow=5.3,SNR=3.0								

MAN 27 12:38:47.1, 13.82N×122.54E, h5km, mb4.2, ML3.0, MS2.8, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
GQP	**Guinayangan**	**0.12**	**311**	⇑*e*P		Pg		12 38 50.7	+1.0
GQP				*e*S		Sg		12 38 53.8	+2.3
AUQP	**San Andres**	**0.51**	**166**	*e*P		Pg		12 38 57.6	+0.2
AUQP				*e*S		Sg		12 39 07.6	+3.3
BOAC	**Boac**	**0.77**	**242**	*e*P		Pg		12 39 01.2	-1.3
BOAC				*e*S		Sg		12 39 13.0	+0.2
LQP	**Lukban**	**1.02**	**286**	⇑*e*P		Pb		12 39 00.7	-6.1
POLP	**Polilio Island**	**1.07**	**327**	*e*P		Pb		12 39 07.4	-0.4
OTRP	**Odiongan**	**1.54**	**199**	*e*P		Pn		12 39 14.5	-0.9
OTRP				*e*S		Sb		12 39 35.2	-0.3
SJMP	**San Jose**	**1.94**	**226**	*e*P		Pn		12 39 21.5	+0.4

TIF 27 13:02:13.1, 41.28N×43.84E, h13km, Mpv4.0, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
STE	**Stepanavan**	**0.51**	**123**	*i* P		Pb		13 02 23.0	-0.3
STE				*e*S		Sb		13 02 30.4	+0.1
MTA	**Mtatsminda**	**0.83**	**60**	*i* P		Pb		13 02 30.8	+2.0
MTA				*i* S		Sb		13 02 42.4	+2.9
DGRG	**David-gareji**	**1.17**	**81**	*i* P		Pb		13 02 36.5	+1.9

NEIC ***27*** *13:31:00.3, 19.36N×65.07W, h78km, MD3.7(RSPR), After RSPR.*

RSPR 27 13:31:00.3, 19.36N×65.07W, h78km±37km, MD3.6/4, MD3.6/4, 2C-3D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
SJG	**San Juan**	**1.61**	**220**	⇓*e*P		P		13 31 27.0	-0.5
SJG				*e*S		S		13 31 46.7	-0.9
AOPR	**Arecibo Observ**	**1.89**	**238**	⇑*e*P		P		13 31 30.4	-0.8
AOPR				*e*S		S		13 31 52.5	-1.4
OBIP	**Obispado Ponce**	**1.96**	**228**	⇓*e*P		P		13 31 31.8	-0.4
OBIP				*e*S		S		13 31 54.7	-1.1
LRS	**Lares**	**1.99**	**238**	⇓*i* P		P		13 31 31.1	-1.6
LRS				*e*S		S		13 31 56.8	+0.4
LSP	**Las Mesas**	**2.25**	**239**	⇑*e*P		P		13 31 35.9	-0.3
LSP				*e*S		S		13 32 02.9	+0.1
SDV	**Santo Domingo**	**11.72**	**208**	P		P		13 33 44.9	-1.6
	3.0nm,0.6s								

KRSC 27 13:52:38.1±1.8, 50.87N×157.21E, h85km±8km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
PAU	**Pauzhetka**	**0.65**	**337**	*i* P		P		13 52 55.3	+1.4
PAU				*e*S		S		13 53 07.8	+2.2
PAU				Smax					
	600nm,0.5s								
SKR	**Severo-Kuril's**	**0.72**	**255**	*i* P		P		13 52 53.0	-1.6
SKR				*i* S		S		13 53 06.0	-0.8
ALID	**Alaid**	**1.05**	**271**	*e*P		P		13 52 59.6	+1.3
ALID				*e*S		S		13 53 15.2	+1.7
MIPR	**Malaya Ipel'ka**	**1.44**	**349**	*e*P		P		13 53 03.6	+0.3
MIPR				*e*S		S		13 53 21.2	-0.7
RUS	**Russkaya**	**1.76**	**27**	*e*P		P		13 53 07.9	+0.4
RUS				*e*S		S		13 53 29.3	+0.1
GRL	**Gorelyy**	**1.77**	**17**	*e*P		P		13 53 09.0	+1.4
GRL				*e*S		S		13 53 31.6	+2.3
APC	**Apacha**	**2.06**	**359**	*e*P		P		13 53 11.6	+0.1
APC				*e*S		S		13 53 35.3	-0.9
PET	**Petropavlovsk**	**2.33**	**22**	*e*P		P		13 53 16.0	+0.6
PET				*e*S		S		13 53 43.4	+0.4
AVH	**Avacha**	**2.58**	**21**	*e*P		P		13 53 20.2	+1.4
AVH				*e*S		S		13 53 49.3	+0.2
KOK	**Koryaka**	**2.58**	**19**	*e*P		P		13 53 20.1	+1.3
KOK				*e*S		S		13 53 51.0	+1.8
SMAR	**Somma**	**2.59**	**22**	*e*P		P		13 53 20.4	+1.5
SMAR				*e*S		S		13 53 49.8	+0.4
SDLR	**Sedlovina**	**2.62**	**23**	*e*P		P		13 53 20.3	+0.9
SDLR				*e*S		S		13 53 49.8	-0.4
NLC	**Nalytchevo**	**2.66**	**29**	*e*P		P		13 53 19.8	0.0
NLC				*e*S		S		13 53 49.9	-1.1
SPN	**Mys Shipunski**	**2.83**	**37**	*e*P		P		13 53 22.7	+0.4
SPN				*e*S		S		13 53 55.7	+0.4
GNL	**Ganaly**	**2.87**	**9**	*e*P		P		13 53 23.5	+0.7
GNL				*e*S		S		13 53 56.1	-0.1
KII	**Karymskiy**	**3.45**	**22**	*e*P		P		13 53 32.6	+1.7
KII				*e*S		S		13 54 10.4	-0.5
MKZ	**Mys Kozlova**	**4.60**	**35**	*e*P		P		13 53 45.2	-1.6
MKZ				*e*S		S		13 54 35.4	-4.0
KMNR	**Kamenistaya**	**5.22**	**19**	*e*P		P		13 53 54.5	-0.7
KBTR	**Krutoberegovo**	**6.30**	**30**	*e*P		P		13 54 09.0	-1.2

DJA ***27*** *13:53:07.3±0.9, 11.76S×117.05E, h33km, MD4.7/4, ML4.8/2, Error ellipse: s-maj=

baz=241,slow=28

*CSEM **27** 14:04:56.5±0.2,46.19N×8.72E,h0km,ML2.5/8,Error ellipse: s-maj=3.6km s-min=2.5km az=146.0,Suspected Mining explosion.*
*LDG **27** 14:04:57.7±0.3,46.24N×8.73E,h2km,Ml2.5/8, Error ellipse: s-maj=7.0km s-min=4.9km az=134.0*
*NEIC **27** 14:04:57.2,46.20N×8.50E,h7km,ML2.7(VIE), ML2.5(LDG),ML2.4(STR),ML2.1(ZUR),After ZUR.*
*ZUR **27** 14:04:57.5,46.24N×8.53E,ML2.2/1,Suspected Mining explosion.*
*STR **27** 14:04:59.8±0.8,46.13N×8.08E,h10km±1km,Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 27 14:04:56.8±0.3,**46.25N**±0.02×**8.54E**±0.02,**n37,**σ0§**93**/54, **9C-1D, Switzerland**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FUSIO	**Fusio**	**0.22**	**22**	⇑*i*P			**Pg**	**14 05 02.2**	**+1.0**
	4.3nm,0.2s								
MMK	**Mattmark**	**0.45**	**244**	*e*P			**Pg**	**14 05 05.7**	**-0.1**
	2.4nm,0.2s								
MUGIO	**Muggio**	**0.48**	**133**	⇑*i*P			**Pg**	**14 05 06.8**	**+0.4**
MUGIO	1.4nm,0.1s			*e*S			**Sg**	**14 05 13.5**	**+0.8**
	1.4nm,0.1s								
HASLI	**Hasliberg**	**0.57**	**332**	⇑*i*P			**Pg**	**14 05 08.8**	**+0.6**
	4.8nm,0.5s								
HASLI				*e*S			**Sg**	**14 05 17.3**	**+1.4**
	4.8nm,0.5s								
BNALP	**Bannalp**	**0.62**	**353**	⇑*i*P			**Pg**	**14 05 09.8**	**+0.6**
	2.6nm,0.4s								
LKBD	**Leukerbad**	**0.65**	**282**	⇑*i*P			**Pg**	**14 05 09.9**	**+0.2**
	5.0nm,0.4s								
LKBD				*e*S			**Sg**	**14 05 18.6**	**+0.2**
	5.0nm,0.4s								
LLS	**Linth-Limmern**	**0.68**	**28**	⇑*i*P			**Pg**	**14 05 10.7**	**+0.4**
	1.2nm,0.4s								
VDL	**Val di Lei**	**0.68**	**70**	⇑*i*P			**Pg**	**14 05 10.4**	**0.0**
	3.7nm,0.4s								
VDL				*e*S			**Sg**	**14 05 19.1**	**-0.4**
	3.7nm,0.4s								
MUO	**Muotathal**	**0.72**	**5**	*e*P			**Pg**	**14 05 11.9**	**+0.8**
	6.7nm,0.5s								
WIMIS	**Wimmis**	**0.76**	**303**	*e*P			**Pg**	**14 05 12.3**	**+0.4**
	3.0nm,0.5s								
DIX	**Grande Dixence**	**0.81**	**258**	*e*P			**Pg**	**14 05 12.6**	**-0.3**
	1.0nm,0.4s								
SENIN	**Lac Senin**	**0.87**	**278**	*e*P			**Pg**	**14 05 14.1**	**0.0**
	1.2nm,0.5s								
PLONS	**Plons**	**0.98**	**36**	*e*P			**Pb**	**14 05 16.8**	**+0.4**
	4.9nm,0.4s								
DAVOX	**Davos**	**1.06**	**60**	⇑*i*P			**Pb**	**14 05 17.6**	**-0.2**
	2.7nm,0.5s								
FUORN	**Ofenpass**	**1.25**	**72**	*e*P			**Pb**	**14 05 20.7**	**-0.2**
	2.6nm,0.6s								
BRMO	**Bormio**	**1.29**	**79**	*e*Pg			**Pg**	**14 05 22.0**	**-0.5**
BRMO				*e*Sg			**Sg**	**14 05 40.2**	**+0.6**
BRMO	**Bormio**	**1.29**	**79**	*e*Pg			**Pg**	**14 05 22.0**	**-0.5**
BRMO				*e*Sg			**Sg**	**14 05 40.2**	**+0.6**
DAVA	**Damuels**	**1.38**	**41**	⇓*i*PG			**Pg**	**14 05 24.0**	**-0.4**
DAVA				*i* SG			**Sg**	**14 05 41.5**	**-1.4**
	15nm,0.3s								
BBS	**Basel-Blauen**	**1.41**	**330**	Pg			**Pg**	**14 05 25.0**	**+0.2**
BBS				Sg			**Sg**	**14 05 45.9**	**+2.3**
LPG	**La Plagne**	**1.46**	**240**	*e*Pn			**Pn**	**14 05 24.0**	**-0.5**
LPG				*e*Sn			**Sn**	**14 05 45.0**	**+0.4**
	5.3nm,0.3s								
LPL	**La Plagne**	**1.46**	**240**	*e*Pn			**Pn**	**14 05 24.7**	**+0.2**
LPL				*e*Sn			**Sn**	**14 05 44.3**	**-0.4**
	8.5nm,0.4s								
LOMF	**Lomont**	**1.61**	**314**	Pg			**Pg**	**14 05 27.9**	**-1.1**
LOMF				Sg			**Sg**	**14 05 48.5**	**-1.9**
FELD	**Feldberg**	**1.67**	**347**	Pn			**Pn**	**14 05 28.1**	**+0.7**
CABF	**La Chapelle**	**1.74**	**283**	*e*Pn			**Pn**	**14 05 31.1**	**+2.7**
CABF				*e*Sn			**Sn**	**14 05 51.2**	**-0.4**
	11nm,0.4s								
MOF	**Molkenrain**	**1.87**	**329**	Pn			**Pn**	**14 05 31.2**	**+0.9**
HINF	**Hinteralfeld**	**1.95**	**324**	*e*Pn			**Pn**	**14 05 32.0**	**+0.6**
HINF				*e*Sn			**Sn**	**14 05 55.6**	**-1.3**
	8.9nm,0.3s								
MBDF	**Montbardon**	**1.97**	**220**	*e*Pn			**Pn**	**14 05 32.0**	**+0.2**
MBDF				*e*Sn			**Sn**	**14 05 56.5**	**-1.0**
	12nm,0.4s								
SQTA	**Sankt Quirin**	**2.07**	**61**	⇑*i*PN			**Pn**	**14 05 32.6**	**-0.6**
SQTA				*i* SN			**Sn**	**14 05 57.8**	**-2.4**
ECH	**Echery**	**2.18**	**335**	Pn			**Pn**	**14 05 35.1**	**+0.3**
ORIF	**Oris-en-Rattie**	**2.30**	**235**	*e*Pn			**Pn**	**14 05 37.1**	**+0.7**
HAU	**Haudompre**	**2.31**	**320**	*e*Pn			**Pn**	**14 05 37.2**	**+0.6**
HAU				*e*Sn			**Sn**	**14 06 04.1**	**-2.0**
	9.7nm,0.3s								
WLS	**Welschbruch**	**2.31**	**340**	Pn			**Pn**	**14 05 36.9**	**+0.3**
CDF	**Champ du Feu**	**2.33**	**339**	*e*Pn			**Pn**	**14 05 37.0**	**+0.1**
CDF				*e*Sn			**Sn**	**14 06 04.5**	**-2.1**
	3.6nm,0.2s								
VIVF	**Saint-Julien-l**	**3.06**	**244**	*e*Sn			**Sn**	**14 06 22.6**	**-2.5**
	0.7nm,0.2s								
SMF	**Signal de Mont**	**3.27**	**279**	*e*Pn			**Pn**	**14 05 50.9**	**+0.5**
BGF	**Bois d'Agland**	**3.95**	**276**	*e*Pn			**Pn**	**14 06 00.1**	**+0.1**
TCF	**Toulx Ste Croi**	**4.39**	**273**	*e*Pn			**Pn**	**14 06 06.5**	**+0.2**

*NAO **27** 14:37:12.6±3.4,60.44N×28.90E,ML2.3*
*HEL **27** 14:37:13.8±0.3,60.50N×29.02E,ML1.9,ML2.3(NAO), Explosion*
*BER **27** 14:37:15.6±2.6,60.64N×28.96E,ML2.3(NAO), Suspected explosion*

ISC 27 14:37:13.3±1.2,**60.56N**±0.06×**28.95E**±0.10,**n14,**σ0§**71**/26, **Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**0.69**	**269**	*e*P			**Pg**	**14 37 27.4**	**+0.3**
VJF				*e*S			**Sg**	**14 37 36.3**	**-0.1**
PVF	**Pernaja**	**1.53**	**271**	*e*P			**Pn**	**14 37 41.4**	**-0.6**
PVF				*e*S			**Sb**	**14 38 01.9**	**-0.2**
FIA0	**FINESS Array S**	**1.66**	**304**	*e*P			**Pn**	**14 37 43.3**	**-0.6**
FIA0				*e*S			**Sb**	**14 38 06.5**	**+0.6**
FIA0	**FINESS Array S**	**1.66**	**304**	Pn			**Pn**	**14 37 43.2**	**-0.6**
	baz=125,slow=16								
FIA0				Lg				14 38 06.5	
	baz=117,slow=28								
FIA0				Rg				14 38 14.9	
	baz=120,slow=37								
KAF	**Kangasniemi**	**2.02**	**322**	*e*P			**Pn**	**14 37 49.2**	**+0.3**
KAF				*e*S			**Sn**	**14 38 16.0**	**+0.8**
MEF	**Metsahovi**	**2.29**	**263**	*e*P			**Pn**	**14 37 52.4**	**-0.5**
MEF				*e*S			**Sn**	**14 38 21.9**	**-0.3**
KEF	**Keuruu**	**2.54**	**311**	*e*P			**Pn**	**14 37 56.6**	**+0.1**
KEF				*e*S			**Sn**	**14 38 29.7**	**+1.0**
SUF	**Sumiainen**	**2.55**	**330**	*e*P			**Pn**	**14 37 57.6**	**+1.1**
SUF				*e*S			**Sn**	**14 38 28.1**	**-0.7**
SUF				MSG				14 38 33.4	
	comp=Z,4.3nm,0.2s								
JOF	**Joensuu**	**2.62**	**24**	*e*P			**Pn**	**14 37 58.2**	**+0.5**
JOF				*e*S			**Sn**	**14 38 30.1**	**-0.5**
KJN	**Kajaani**	**3.59**	**351**	*e*P			**Pn**	**14 38 11.7**	**+0.3**
KJN				*e*S			**Sn**	**14 38 54.1**	**-1.0**
KJN				*e*SG			**Sg**	**14 39 06.1**	**-6.7**
KJN				MSG				14 39 12.2	
	comp=Z,2.8nm,0.3s								
VAF	**Ylistaro**	**3.88**	**313**	*e*P			**Pn**	**14 38 16.6**	**+0.9**
VAF				*e*S			**Sn**	**14 39 01.2**	**-1.4**
VAF				*e*SG			**Sg**	**14 39 14.9**	**-7.8**
HFS	**Hagfors**	**7.58**	**273**	Sn			**Sn**	**14 40 29.0**	**-6.5**
	baz=92,slow=28								
HFS				Lg				14 41 08.4	
	baz=74,slow=37								
ARA0	**ARCESS Array S**	**9.13**	**352**	Pn			**P**	**14 39 25.4**	**-4.0**
	baz=171,slow=12								
ARA0	**ARCESS Array S**	**9.13**	**352**	*e*P			**P**	**14 39 25.4**	**-4.0**

DJA 27 14:38:05.0±0.8,**9.58S**×**113.89E,h33**km**,MD4.7**/4, **ML4.4/4,1C-8D,Error ellipse: s-maj=18.4km s-min=10.4km az=33.0,South of Jawa**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.12**	**13**	⇓*e*Pn			Pn	14 38 22.6	-2.0
	686nm,0.2s								
SRDI	**Scrawed**	**1.12**	**13**	⇓*i*Pg			P	14 38 23.5	-0.8
SRDI				⇓*i*Sn			Sn	14 38 36.4	-2.5
KELI	**Kelakatan**	**1.48**	**24**	⇓*e*Pn			Pn	14 38 28.6	-1.1
	438nm,0.2s								
KELI				⇓*i*Sn			Sn	14 38 46.2	-1.8
RATI	**Rata**	**1.83**	**62**	⇓*e*Pn			Pn	14 38 33.3	-1.4
	583nm,0.1s								
RATI				⇓*i*Sn			Sn	14 38 53.6	-3.3
KEDI	**Kedomdong**	**2.44**	**64**	⇓*e*Pn			Pn	14 38 41.8	-1.8
	39nm,0.1s								
KEDI				⇓*i*Sn			Sn	14 39 07.9	-4.7

*IDC **27** 14:41:26.5±1.4,2.29N×128.89E,mb3.8/6,mb1 4.0/7, mb1mx3.9/17,MS2.9/2,Ms1 3.0/2,ms1mx2.5/23,Error ellipse: s-maj=64.9km s-min=17.7km az=68.0*
*NEIC **27** 14:41:28.4±0.8,2.24N×128.83E,h10km,mb4.1/2,Error ellipse: s-maj=40.0km s-min=9.3km az=69.0*

ISC 27 14:41:26.6±1.0,**2.2N**±0.1×**128.7E**±0.3,**h10**km,**n17,** σ0§**48/16,mb4.3**/13,**MS2.8**/2,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.41**	**188**	P			**P**	**14 46 06.4**	**-0.3**
	1.8nm,0.6s,baz=41,slow=6.9,SNR=3.6								
WRAB	**Tennant Creek**	**22.70**	**166**	*e*P			**P**	**14 46 30.5**	**+0.6**
	7.2nm,0.7s,mb4.2								
WRA	**Warramunga Arr**	**22.70**	**166**	P			**P**	**14 46 30.5**	**+0.5**
	4.2nm,0.7s,mb4.0,baz=347,slow=11,SNR=13								
ASAR	**Alice Springs**	**26.22**	**169**	P			**P**	**14 47 03.1**	**-0.6**
	0.8nm,0.5s,mb3.5,baz=350,slow=7.0,SNR=16								
CTA	**Charters Tower**	**28.07**	**143**	LR			LR	14 57 09.6	
	comp=Z,26nm,20.5s,MS2.8,baz=44,slow=34								
CMAR	**Chiang Mai Arr**	**33.33**	**301**	P			**P**	**14 48 08.0**	**+0.8**
	1.0nm,0.8s,mb3.8,baz=121,slow=8.3,SNR=6.1								
CMAR				LR			LR	15 01 15.9	
	comp=Z,21nm,21.8s,MS2.8,baz=150,slow=36								
STKA	**Stephens Creek**	**36.05**	**161**	P			**P**	**14 48 30.2**	**-0.1**
	3.0nm,0.7s,mb4.3,baz=332,slow=8.9,SNR=7.2								
STKA	**Stephens Creek**	**36.05**	**161**	*e*P			**P**	**14 48 30.3**	**0.0**
GUN	**Gumba**	**48.20**	**306**	*e*P			**P**	**14 50 09.9**	**+0.3**
	22nm,0.5s,mb5.4								
PKI	**Pulchoki**	**48.45**	**306**	*e*P			**P**	**14 50 11.3**	**-0.2**
	6.3nm,0.6s,mb4.8								
KKN	**Kakani**	**48.64**	**306**	*e*P			**P**	**14 50 12.9**	**-0.1**
	9.1nm,0.7s,mb4.9								
DMN	**Daman**	**48.71**	**305**	*e*P			**P**	**14 50 13.4**	**-0.1**
	15nm,0.9s,mb5.0								
GKN	**Gorkha**	**49.24**	**306**	*e*P			**P**	**14 50 17.3**	**-0.4**
SONM	**Songino Array**	**49.37**	**340**	P			**P**	**14 50 18.6**	**+0.3**
	0.3nm,0.7s,mb3.4,baz=150,slow=7.7,SNR=3.5								
KOLN	**Koldanda**	**50.00**	**305**	*e*P			**P**	**14 50 23.5**	**0.0**
	18nm,0.7s,mb5.2								
BVAR	**Borovoye Array**	**69.66**	**327**	P			**P**	**14 52 37.2**	**-1.1**
	0.5nm,0.5s,mb3.7,baz=117,slow=6.4,SNR=3.7								
ZRNK	**Zerenda**	**70.39**	**326**	*e*P			**P**	**14 52 43.3**	**+0.4**
	0.8nm,0.6s,mb3.8								

*KRSC **27** 14:43:09.7±1.8,52.78N×154.44E,h537km±6km,ML4.9*
*SKHL **27** 14:43:10.6±8.3,53.10N×154.40E,h512km±10km,mb5.1/4, msha5.4/2*
*MOS **27** 14:43:13.2±1.1,53.01N×154.57E,h496km,mb4.1/20, Error ellipse: s-maj=16.9km s-min=10.2km az=87.2*
*BJI **27** 14:43:14.7,53.04N×154.14E,h493km,mB4.5,mb4.4*
*NEIC **27** 14:43:15.6±0.2,53.32N×153.80E,mb4.2/15,Error ellipse: s-maj=7.1km s-min=4.7km az=140.0*
*SYO **27** 14:43:15.1,53.34N×153.79E,h466km,MB4.5*
*IDC **27** 14:43:16.7±0.7,53.33N×153.72E,h480km±9km,mb3.7/26, mb1 3.8/29,mb1mx3.8/33,Error ellipse: s-maj=10.0km s-min=7.4km az=126.0*

ISC 27 14:43:13.9±0.2,**53.26N**±0.04×**153.89E**±0.06,**h462**km±3km, **h469**km±2.1km:**pP-P,n149,**σ1§**05**/185,**mb4.1**/48,**5C-7D, Sea of Okhotsk**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
APC	**Apacha**	**2.00**	**98**	*i* P			**P**	**14 44 15.9**	**-0.1**
APC				*e*S			**S**	**14 45 06.6**	**+1.6**
APC				Smax					
	710nm,1.2s								
MIPR	**Malaya Ipel'ka**	**2.00**	**118**	*e*P			**P**	**14 44 16.5**	**+0.5**
MIPR				*e*S			**S**	**14 45 04.8**	**-0.3**
GNL	**Ganaly**	**2.46**	**78**	*e*P			**P**	**14 44 20.0**	**+1.3**
GNL				*e*S			**S**	**14 45 11.4**	**+1.4**
PAU	**Pauzhetka**	**2.54**	**134**	*e*P			**P**	**14 44 19.7**	**+0.4**
PAU				*e*S			**S**	**14 45 10.7**	**-0.2**
PAU				Smax					
	580nm,1.0s								
ALID	**Alaid**	**2.61**	**156**	*e*P			**P**	**14 44 18.0**	**-1.7**
ALID				*e*S			**S**	**14 45 08.9**	**-2.8**
GRL	**Gorelyy**	**2.63**	**104**	*e*P			**P**	**14 44 21.1**	**+1.2**
GRL				*e*S			**S**	**14 45 11.9**	**-0.1**
KOK	**Koryaka**	**2.85**	**88**	*e*P			**P**	**14 44 22.6**	**+1.2**
KOK				*e*S			**S**	**14 45 14.0**	**-0.7**
PET	**Petropavlovsk**	**2.88**	**93**	P			**P**	**14 44 21.7**	**+0.1**
PET				S			**S**	**14 45 13.9**	**-1.1**
PET	**Petropavlovsk**	**2.88**	**93**	*e*P			**P**	**14 44 21.6**	**0.0**
PET				*e*S			**S**	**14 45 13.8**	**-1.2**
PET	**Petropavlovsk**	**2.88**	**93**	⇓*i*PN			**P**	**14 44 21.6**	**0.0**
PET				*e*S			**S**	**14 45 14.5**	**-0.5**
PET				pmax		pmax			
	comp=Z,345nm,1.0s								
PET				smax					
	comp=N,331nm,1.4s								
PET				smax					
	comp=E,461nm,1.1s								
PET	**Petropavlovsk**	**2.88**	**93**	*e*P			**P**	**14 44 21.0**	**-0.5**
AVH	**Avacha**	**2.91**	**88**	*e*P			**P**	**14 44 22.7**	**+0.9**
AVH				*e*S			**S**	**14 45 13.9**	**-1.5**
RUS	**Russkaya**	**2.92**	**105**	P			**P**	**14 44 21.1**	**-0.8**
RUS				S			**S**	**14 45 12.8**	**-2.8**
RUS	**Russkaya**	**2.92**	**105**	*e*P			**P**	**14 44 21.2**	**-0.7**
RUS				*e*S			**S**	**14 45 12.8**	**-2.8**
SKR	**Severo-Kuril's**	**2.93**	**151**	*i* P			**P**	**14 44 18.5**	**-3.4**
SKR				*e*S			**S**	**14 45 11.5**	**-4.2**
SKR	**Severo-Kuril's**	**2.93**	**151**	⇑*i*P			**P**	**14 44 18.5**	**-3.4**
SKR				AMB		AMB		14 44 18.7	
	comp=E,70nm,0.5s								
SKR				AMB		AMB		14 44 18.7	
	comp=E,80nm,0.5s								
SKR				AMB		AMB		14 44 18.7	
	comp=E,210nm,0.5s								
SKR				*e*S			**S**	**14 45 11.5**	**-4.2**
SKR				A				14 45 17.6	
	comp=E,180nm,0.5s								
SKR				A				14 45 17.6	
	comp=E,220nm,0.5s								
SKR				A				14 45 17.6	
	comp=E,150nm,0.5s								
SKR	**Severo-Kuril's**	**2.93**	**151**	⇑*i*PN			**P**	**14 44 18.5**	**-3.4**
SKR				*e*S			**S**	**14 45 11.5**	**-4.2**
SKR				pmax		pmax			
	comp=N,70nm,0.5s								
SKR				pmax		pmax			
	comp=E,80nm,0.5s								
SKR				pmax		pmax			
	comp=Z,210nm,0.5s								
SKR				smax					
	comp=N,180nm,0.5s								
SKR				smax					
	comp=E,220nm,0.5s								
SMAR	**Somma**	**2.95**	**88**	*e*P			**P**	**14 44 23.0**	**+0.9**
SMAR				*e*S			**S**	**14 45 16.8**	**+0.9**
SDLR	**Sedlovina**	**3.00**	**88**	*e*P			**P**	**14 44 22.8**	**+0.4**
SDLR				*e*S			**S**	**14 45 16.1**	**-0.5**
NLC	**Nalytchevo**	**3.28**	**89**	P			**P**	**14 44 24.4**	**-0.2**
NLC				S			**S**	**14 45 19.0**	**-1.4**
NLC	**Nalytchevo**	**3.28**	**89**	*e*P			**P**	**14 44 24.3**	**-0.3**
NLC				*e*S			**S**	**14 45 19.1**	**-1.3**
KII	**Karymskiy**	**3.40**	**75**	P			**P**	**14 44 26.5**	**+1.0**
KII				S			**S**	**14 45 22.8**	**+0.8**
KII	**Karymskiy**	**3.40**	**75**	*e*P			**P**	**14 44 26.3**	**+0.8**
KII				*e*S			**S**	**14 45 22.8**	**+0.8**
SPN	**Mys Shipunski**	**3.69**	**90**	P			**P**	**14 44 26.5**	**-1.4**
SPN				S			**S**	**14 45 21.5**	**-4.8**
SPN	**Mys Shipunski**	**3.69**	**90**	*e*P			**P**	**14 44 26.5**	**-1.4**
SPN				*e*S			**S**	**14 45 21.8**	**-4.5**
ESO	**Esso**	**3.86**	**44**	*i* P			**P**	**14 44 30.8**	**+1.5**
ESO				*e*S			**S**	**14 45 29.8**	**+0.9**
ESO				Smax					
	comp=E,100nm,1.0s								
KOZ	**Kozyrevsk**	**4.46**	**49**	P			**P**	**14 44 36.2**	**+1.6**
KMNR	**Kamenistaya**	**4.46**	**53**	*e*P			**P**	**14 44 35.6**	**+1.0**
KOZR	**Kozyr**	**4.47**	**49**	PN			**P**	**14 44 36.2**	**+1.5**
SRDR	**Sredinnyy**	**4.55**	**45**	*e*P			**P**	**14 44 37.1**	**+1.7**
SRDR				*e*S			**S**	**14 45 41.7**	**+1.9**
KPT	**Kopyto**	**4.57**	**51**	*e*P			**P**	**14 44 36.3**	**+0.7**
MKZ	**Mys Kozlova**	**4.81**	**71**	P			**P**	**14 44 36.3**	**-1.6**
MKZ				S			**S**	**14 45 38.3**	**-5.9**
MKZ	**Mys Kozlova**	**4.81**	**71**	*e*P			**P**	**14 44 36.2**	**-1.7**
MKZ				*e*S			**S**	**14 45 39.1**	**-5.1**
LGNR	**Loginova**	**4.85**	**52**	*e*P			**P**	**14 44 38.9**	**+0.7**
LGNR				*e*S			**S**	**14 45 44.3**	**-0.5**
KRSR	**Krestovskiy**	**4.87**	**50**	*e*P			**P**	**14 44 38.2**	**-0.2**
KRSR				*e*S			**S**	**14 45 43.7**	**-1.4**
ZLN	**Zelenaya**	**4.87**	**53**	*e*P			**P**	**14 44 39.3**	**+0.9**
ZLN				*e*S			**S**	**14 45 42.9**	**-2.3**
CIRR	**Tsirk**	**4.90**	**52**	*e*P			**P**	**14 44 40.0**	**+1.3**
CIRR				*e*S			**S**	**14 45 43.4**	**-2.2**
KLY	**Klyuchi**	**4.96**	**49**	P			**P**	**14 44 40.2**	**+0.9**
KLY				S			**S**	**14 45 46.5**	**-0.2**
KLY	**Klyuchi**	**4.96**	**49**	*e*P			**P**	**14 44 40.1**	**+0.8**
KLY				*e*S			**S**	**14 45 45.6**	**-1.1**
SVLR	**Shiveluch**	**5.37**	**49**	*e*P			**P**	**14 44 43.1**	**-0.2**
SVLR				*e*S			**S**	**14 45 53.8**	**-0.1**
KBG	**Krutoberegovo**	**5.92**	**56**	*e*P			**P**	**14 44 46.5**	**-2.3**
KBG				*e*S			**S**	**14 45 57.6**	**-6.0**
KBG				Smax					
	comp=E,500nm,0.9s								
KBTR	**Krutoberegovo**	**5.95**	**57**	P			**P**	**14 44 46.6**	**-2.5**
KBTR				S			**S**	**14 45 57.8**	**-6.5**
KBTR	**Krutoberegovo**	**5.95**	**57**	*e*P			**P**	**14 44 46.8**	**-2.3**
KBTR				*e*S			**S**	**14 45 59.2**	**-5.1**
MA2	**Magadan**	**6.56**	**346**	*e*P			**P**	**14 44 55.7**	**+0.4**
TYV	**Tymovskoe**	**7.33**	**255**	*e*P			**P**	**14 45 03.8**	**+0.2**
TYV				AMB		AMB		14 45 04.1	
	comp=E,30nm,0.9s								
NKL	**Nikolayevsk**	**7.94**	**274**	⇓*i*P			**P**	**14 45 07.5**	**-2.6**
NKL				AMB		AMB		14 45 08.1	
	comp=E,50nm,0.7s								
YSS	**Yuzh-Sakhalins**	**9.54**	**233**	*e*P			**P**	**14 45 30.5**	**+3.1**
YSS				*e*S			**S**	**14 47 21.0**	**+7.4**
YSS				A				14 47 23.8	
	comp=E,70nm,1.1s								
YSS	**Yuzh-Sakhalins**	**9.54**	**233**	*e*P			**P**	**14 45 28.7**	**+1.3**
YUK	**Yuzh-Kuril'sk**	**10.65**	**213**	*e*P			**P**	**14 45 36.4**	**-3.1**
YUK				AMB		AMB		14 45 39.6	
	comp=E,180nm,0.3s								
YUK				A				14 47 39.5	
	comp=E,540nm,0.7s								
YUK				A				14 47 39.5	
	comp=E,280nm,0.6s								
KAMR	**Kamenskoye**	**11.29**	**30**	*e*P			**P**	**14 45 46.1**	**-0.3**
KAMR				*e*S			**S**	**14 47 38.6**	**-10**
FX1	**Attu Island--F**	**11.60**	**84**	P			**P**	**14 45 50.1**	**+0.4**
	comp=E,4.8nm,0.3s,baz=315,slow=5.7,SNR=5.2								
FX1				S			S	14 48 15.6	+21
	comp=E,1.5nm,0.3s,baz=84,slow=19,SNR=2.3								
ASAJ	**Asahikawa**	**11.80**	**224**	P			**P**	**14 45 53.1**	**+1.2**
	comp=E,0.6nm,0.3s,baz=115,slow=33,SNR=4.9								
ASAJ	**Asahikawa**	**11.80**	**224**	PN			**P**	**14 45 53.1**	**+1.2**
ASAJ				pmax		pmax			
	comp=Z,1.0nm,0.3s								
YAK	**Yakutsk**	**15.56**	**314**	*e*P			**P**	**14 46 30.9**	**-0.1**
YAK				*e*S			**S**	**14 49 11.8**	**+1.2**
YAK				pmax		pmax			
	comp=Z,40nm,0.8s								
YAK				pmax		pmax			
	comp=N,4.0nm,0.9s								
YAK				pmax		pmax			
	comp=E,15nm,1.0s								
YAK				pmax		pmax			
	comp=Z,5.0nm,0.8s								
YAK				smax					
	comp=N,8.0nm,1.0s								
YAK				smax					
	comp=Z,6.0nm,1.6s								
YAK				smax					
	comp=E,5.0nm,1.0s								
YAK	**Yakutsk**	**15.56**	**314**	*e*P			**P**	**14 46 30.2**	**-0.7**
	comp=E,101nm,0.8s								
BILL	**Bilibino**	**15.96**	**17**	*d i*P			**P**	**14 46 35.0**	**+0.1**
BILL	**Bilibino**	**15.96**	**17**	*e*P			**P**	**14 46 35.0**	**0.0**
	comp=E,19nm,0.7s								
MAJO	**Matsushiro**	**20.00**	**220**	*e*P			**P**	**14 47 15.6**	**+0.8**
	comp=E,54nm,0.6s								
MAT	**Matsushiro**	**20.00**	**220**	P			**P**	**14 47 15.6**	**+0.8**
MAT	**Matsushiro**	**20.00**	**220**	*e*P			**P**	**14 47 16.0**	**+1.2**
	comp=E,46nm,0.7s								
CN2	**Changchun**	**20.95**	**255**	*e*P			**P**	**14 47 23.8**	**0.0**
TIXI	**Tiksi**	**21.45**	**339**	⇓*e*P			**P**	**14 47 28.5**	**+0.2**
TIXI				pmax		pmax			
	comp=Z,34nm,1.1s,mb4.8								
HIA	**Hailar**	**21.61**	**273**	*e*P			**P**	**14 47

ARCES					pmax	pmax		
	comp=Z,8.0nm,0.9s							
YBH	**Yreka Blue Hor**	**54.42**	**66**	P	**P**		**14 51 59.5**	**+1.7**
	comp=Z,4.7nm,0.6s,mb4.0,baz=170,slow=9.0,SNR=3.2							
YBH	**Yreka Blue Hor**	**54.42**	**66**	P	**P**		**14 51 59.5**	**+1.7**
YBH					pmax	pmax		
	comp=Z,5.0nm,0.6s							
CMAR	**Chiang Mai Arr**	**54.62**	**252**	P	**P**		**14 52 00.1**	**+0.6**
	comp=Z,5.8nm,0.7s,mb4.0,baz=25,slow=6.8,SNR=38							
CMAR				PcP	PcP		14 52 54.0	-1.6
	comp=Z,1.1nm,0.9s,baz=16,slow=3.3,SNR=4.1							
CMAR	**Chiang Mai Arr**	**54.62**	**252**	P	**P**		**14 52 00.1**	**+0.6**
CMAR							14 52 54.0	
CMAR					pmax	pmax		
	comp=Z,6.0nm,0.7s							
CMAR					pmax	pmax		
	comp=Z,1.0nm,0.9s							
JOF	**Joensuu**	**55.76**	**332**	*eP*	**P**		**14 52 02.5**	**-4.4**
	comp=Z,1.2nm,0.4s,mb3.6							
JOF	**Joensuu**	**55.76**	**332**	*eP*	**P**		**14 52 02.5**	**-4.4**
JOF					pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.5							
HRY	**Holter Researc**	**56.68**	**55**	*eP*	**P**		**14 52 13.8**	**+0.3**
HLID	**Hailey**	**57.58**	**59**	*eP*	**P**		**14 52 19.4**	**-0.3**
	comp=Z,0.8nm,0.6s,mb3.2							
KAF	**Kangasniemi**	**57.77**	**334**	*ep*	**P**		**14 52 18.6**	**-2.1**
	comp=Z,2.1nm,0.5s,mb3.7							
KAF	**Kangasniemi**	**57.77**	**334**	*eP*	**P**		**14 52 18.6**	**-2.1**
KAF					pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.7							
FINES	**FINESS Array B**	**58.39**	**334**	P	**P**		**14 52 23.8**	**-1.1**
	comp=Z,2.3nm,0.5s,mb3.8,baz=38,slow=8.8,SNR=19							
FINES	**FINESS Array B**	**58.39**	**334**	*eP*	**P**		**14 52 23.6**	**-1.3**
NVAR	**Mina Array Bea**	**59.14**	**66**	P	**P**		**14 52 31.3**	**+1.1**
	comp=Z,2.1nm,0.7s,mb3.6,baz=296,slow=7.7,SNR=12							
NVAR					pP	pP	14 54 07.3	+1.6
	comp=Z,1.0nm,0.9s,baz=304,slow=6.5,SNR=3.6							
NVAR	**Mina Array Bea**	**59.14**	**66**	P	**P**		**14 52 31.3**	**+1.1**
NVAR					pP	pP	14 54 07.3	+1.6
OBN	**Obninsk**	**60.27**	**324**	*eP*	**P**		**14 52 36.0**	**-1.6**
OBN					pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.0							
BW06	**Boulder Array**	**60.63**	**57**	*eP*	**P**		**14 52 40.1**	**0.0**
	comp=Z,1.4nm,0.5s,mb3.6							
PDAR	**Pinedale Array**	**60.63**	**57**	P	**P**		**14 52 40.6**	**+0.5**
	comp=Z,1.4nm,0.5s,mb3.7,baz=336,slow=2.5,SNR=16							
PDAR					pP	pP	14 54 18.2	+1.9
	comp=Z,0.5nm,0.7s,slow=1.5,SNR=4.0							
NB2	**NORSAR Subarra**	**62.23**	**341**	P	**P**		**14 52 49.1**	**-1.3**
	comp=Z,2.3nm,0.7s,mb3.7,baz=24,slow=6.5							
NOA	**NORSAR Array B**	**62.23**	**341**	P	**P**		**14 52 49.4**	**-1.0**
	comp=Z,3.7nm,0.7s,mb3.9,baz=24,slow=6.6,SNR=13							
NOA	**NORSAR Array B**	**62.23**	**341**	P	**P**		**14 52 49.4**	**-1.0**
NOA					pmax	pmax		
	comp=Z,4.0nm,0.7s							
HFS	**Hagfors**	**62.54**	**339**	P	**P**		**14 52 51.1**	**-1.3**
	comp=Z,1.3nm,0.4s,mb3.9,baz=45,slow=4.2,SNR=15							
HFS	**Hagfors**	**62.54**	**339**	P	**P**		**14 52 51.1**	**-1.3**
HFS					pmax	pmax		
	comp=Z,1.0nm,0.4s							
PMG	**Port Moresby**	**62.69**	**187**	P	**P**		**14 52 52.9**	**-1.0**
	comp=Z,9.2nm,0.8s,mb4.4,baz=212,slow=8.9,SNR=2.2							
PMG	**Port Moresby**	**62.69**	**187**	P	**P**		**14 52 52.9**	**-1.1**
PMG					pmax	pmax		
	comp=Z,9.0nm,0.8s							
SDCO	**Great Sand Dun**	**66.44**	**58**	P	**P**		**14 53 17.7**	**+0.4**
AKASG	**Malin Array Be**	**66.44**	**325**	P	**P**		**14 53 16.0**	**-1.1**
	comp=Z,5.3nm,0.7s,mb4.3,baz=31,slow=6.7,SNR=9.3							
AKASG	**Malin Array Be**	**66.44**	**325**	P	**P**		**14 53 16.0**	**-1.1**
AKASG					pmax	pmax		
	comp=Z,5.0nm,0.7s							
KIV	**Kislovodsk**	**66.67**	**313**	*eP*	**P**		**14 53 17.8**	**-0.8**
KIV				*e*			14 53 41.8	
KIV					pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.1							
SCHQ	**Schefferville**	**67.13**	**24**	P	**P**		**14 53 20.2**	**-1.0**
	comp=Z,2.6nm,0.5s,mb4.1,baz=44,slow=18,SNR=5.6							
SOC	**Sochi**	**68.26**	**314**	*eP*	**P**		**14 53 28.0**	**-0.3**
SOC				*e*			14 53 48.1	
SOC				*e*			14 56 08.0	
SOC				*eS*	S		15 01 53.5	+2.0
SOC				*e*			15 02 37.0	
SOC				*eSS*	SS		15 06 28.8	+1.2
SOC				*eSSS*	SSS		15 09 39.8	+2.4
SOC					pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.6							
SOC					pmax	pmax		
	comp=N,8.0nm,0.4s							
SOC					pmax	pmax		
	comp=E,7.0nm,0.7s							
EKA	**Eskdalemuir Ar**	**70.12**	**346**	P	**P**		**14 53 38.7**	**-0.6**
	comp=E,2.1nm,0.3s,mb4.2,baz=16,slow=5.0,SNR=18							
EKA	**Eskdalemuir Ar**	**70.12**	**346**	P	**P**		**14 53 38.7**	**-0.6**
EKA					pmax	pmax		
	comp=Z,2.0nm,0.3s							
MLR	**Muntele Rosu**	**72.04**	**324**	P	**P**		**14 53 51.6**	**+0.9**
	comp=Z,1.8nm,0.7s,mb3.7,baz=284,slow=22,SNR=4.1							
MLR	**Muntele Rosu**	**72.04**	**324**	P	**P**		**14 53 51.6**	**+0.9**
MLR					pmax	pmax		
	comp=Z,2.0nm,0.7s							
GERES	**GERESS Array B**	**72.82**	**334**	P	**P**		**14 53 54.6**	**-0.5**
	comp=Z,0.7nm,0.6s,mb3.4,baz=27,slow=2.2,SNR=3.1							
GERES	**GERESS Array B**	**72.82**	**334**	P	**P**		**14 53 54.6**	**-0.5**
GERES					pmax	pmax		
	comp=Z,1.0nm,0.6s							
CTA	**Charters Tower**	**73.34**	**187**	P	**P**		**14 53 58.6**	**0.0**
	comp=Z,7.7nm,0.8s,mb4.3,baz=354,slow=8.6,SNR=8.5							
CTA	**Charters Tower**	**73.34**	**187**	P	**P**		**14 53 58.7**	**+0.1**
CTA					pmax	pmax		
	comp=Z,8.0nm,0.8s							
TXAR	**Lajitas Array**	**73.94**	**63**	P	**P**		**14 54 03.1**	**+1.2**
	comp=Z,1.3nm,0.5s,mb3.8,baz=294,slow=3.6,SNR=9.9							
TXAR					pP	pP	14 55 45.7	+2.9
	comp=Z,0.4nm,0.3s,baz=297,slow=2.8,SNR=2.2							
BRTR	**Keskin Array B**	**74.01**	**316**	P	**P**		**14 54 02.1**	**+0.1**
	comp=Z,0.7nm,0.5s,mb3.4,baz=27,slow=2.8,SNR=5.0							
BRTR	**Keskin Array B**	**74.01**	**316**	P	**P**		**14 54 02.1**	**0.0**
BRTR					pmax	pmax		
	comp=Z,1.0nm,0.5s							
BRTR	**Keskin Array B**	**74.01**	**316**	P	**P**		**14 54 02.1**	**+0.1**
WRAB	**Tennant Creek**	**74.83**	**199**	*eP*	**P**		**14 54 06.2**	**-0.8**
	comp=Z,15nm,0.8s,mb4.6							
WRA	**Warramunga Arr**	**74.84**	**199**	P	**P**		**14 54 07.0**	**-0.1**
	comp=Z,8.2nm,0.6s,mb4.5,baz=15,slow=6.1,SNR=45							
WRA	**Warramunga Arr**	**74.84**	**199**	P	**P**		**14 54 07.0**	**-0.1**
WRA					pmax	pmax		
	comp=Z,8.0nm,0.6s							
FITZ	**Fitzroy Crossi**	**75.14**	**208**	P	**P**		**14 54 08.8**	**0.0**
	comp=Z,3.1nm,0.6s,mb4.0,baz=9.2,slow=4.7,SNR=11							
ASAR	**Alice Springs**	**78.55**	**199**	P	**P**		**14 54 27.8**	**+0.5**
	comp=Z,9.2nm,0.6s,mb4.5,baz=11,slow=5.0,SNR=181							
EIL	**Elat**	**81.91**	**310**	P	**P**		**14 54 43.6**	**-1.0**
	comp=Z,2.0nm,0.5s,mb4.0,baz=77,slow=32,SNR=2.9							
CPUP	**Villa Florida**	**144.46**	**53**	PKP	PKPdf		15 01 57.0	+1.1
	comp=Z,0.9nm,0.5s,baz=228,slow=11,SNR=4.7							
CPUP	**Villa Florida**	**144.46**	**53**	PKIKP	PKPdf		15 01 57.0	+1.1
CPUP					pmax	pmax		
	comp=Z,1.0nm,0.5s							
CPUP	**Villa Florida**	**144.46**	**53**	PKP	PKPdf		15 01 57.0	+1.1
SYO	**Syowa Base**	**146.60**	**217**	⇑PKPbc	PKPbc		15 02 03.2	+3.0
VNA2	**Neumayer--Watz**	**160.40**	**198**	⇓*i*P	PKPab		15 03 04.2	+0.9
VNA3	**Neumayer Olymp**	**160.54**	**196**	⇑*i*P	PKPab		15 03 04.7	+0.8

LDG ***27*** *15:03:19.4± 1.2, 42.85N× 1.48W, h2km, Md2.3/2, Ml2.4/1, Error ellipse: s-maj=21.6km s-min=11.8km az=55.0*
MDD ***27*** *15:03:20.5± 0.5, 42.88N× 1.44W, h2km± 20km, mbLg1.7/9, Error ellipse: s-maj=4.3km s-min=3.3km az=45.0, PRXIMO AftershockPLICA*
CSEM ***27*** *15:03:20.1± 0.1, 42.86N× 1.43W, h2km, ML2.4/1, Error ellipse: s-maj=2.5km s-min=2.3km az=150.0*

ISC 27 15:03:18.4±0.7, 42.84N±0.04× 1.48W±0.05, h2km, n16, σ0s75/19, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	**Ste Jean**	**0.34**	**34**	*e*Pg	**Pg**	**15 03 25.8**	**+0.7**
SJPF				*e*Sg	**Sg**	**15 03 28.5**	**-1.0**
	42nm,0.3s						
EALK	**Alkurruntz**	**0.38**	**357**	Pg	**Pg**	**15 03 27.3**	**+1.3**
	2.5nm,0.1s,SNR=7.7						
EALK				Lg		15 03 32.0	
	25nm,0.3s,SNR=5.0						
LARF	**Larrau**	**0.41**	**61**	P	**Pg**	**15 03 27.3**	**+0.6**
LARF				S	**Sg**	**15 03 33.0**	**+0.8**
OSSF	**Osses**	**0.45**	**21**	P	**Pg**	**15 03 27.9**	**+0.5**
OSSF				S	**Sg**	**15 03 32.2**	**-1.1**
ETSF	**Etsaut**	**0.68**	**84**	*e*Pg	**Pg**	**15 03 32.1**	**+0.1**
ETSF				*e*Sg	**Sg**	**15 03 40.9**	**-0.2**
	15nm,0.4s						
EBIE	**Bielsa**	**1.21**	**97**	Pg	**Pg**	**15 03 43.2**	**+0.7**
	2.0nm,0.1s,SNR=4.0						
EBIE				Lg		15 03 59.4	
	4.7nm,0.2s,SNR=4.7						
EBIE	**Bielsa**	**1.21**	**97**	Pg	**Pg**	**15 03 43.2**	**+0.7**
	2.0nm,0.1s,SNR=4.0						
ESAC	**San Caprasio**	**1.34**	**146**	Pg	**Pg**	**15 03 44.7**	**-0.5**
	7.7nm,0.2s,SNR=5.2						
ESAC				Lg		15 04 03.8	
	35nm,0.3s,SNR=5.0						
ESAC	**San Caprasio**	**1.34**	**146**	Pg	**Pg**	**15 03 44.7**	**-0.5**
	7.7nm,0.2s,SNR=5.2						
EPF	**Esparros**	**1.35**	**81**	*e*Pg	**Pg**	**15 03 44.4**	**-1.0**
EPF				*e*Sg	**Sg**	**15 04 03.2**	**-0.2**
	7.1nm,0.2s						
ELAN	**Lanestosa**	**1.48**	**286**	Pg	**Pg**	**15 03 47.4**	**-0.6**
	2.3nm,0.1s,SNR=7.1						
ELAN				Lg		15 04 08.5	
	3.3nm,0.2s,SNR=5.0						
ELAN	**Lanestosa**	**1.48**	**286**	Pg	**Pg**	**15 03 47.4**	**-0.6**
	2.3nm,0.1s,SNR=7.1						
ETOR	**Torete**	**2.06**	**192**	Pn	**Pn**	**15 03 55.2**	**+0.7**
	0.6nm,0.2s,SNR=5.6						
ETOR				Pg	**Pg**	**15 03 58.7**	**-0.8**
	2.6nm,0.3s,SNR=7.9						
ETOR				Lg		15 04 27.0	
	2.6nm,0.2s,SNR=5.0						
EMIR	**Miracle**	**2.41**	**111**	Lg		15 04 36.9	
	SNR=4.0						
EPOB	**Poblet**	**2.42**	**127**	Lg		15 04 36.8	
	1.5nm,0.2s,SNR=4.0						
EMOS	**Mosqueruela**	**2.58**	**163**	Lg		15 04 39.0	
	0.3nm,0.1s,SNR=4.0						

IDC ***27*** *15:07:28.5± 0.7, 16.97N× 146.06E, mb4.1/10, mb1 4.4/10, mb1mx4.2/20, MS3.4/3, Ms1 3.4/3, ms1mx3.1/29, Error ellipse: s-maj=30.7km s-min=17.5km az=121.0*
BJI ***27*** *15:07:29.7, 16.90N× 146.00E, h19km, mb4.6*
NEIC ***27*** *15:07:31.7± 1.6, 16.93N× 145.99E, h19km± 10km, mb4.7/2, Error ellipse: s-maj=21.5km s-min=9.7km az=114.0*

ISC 27 15:07:32.7±1.1, 16.87N±0.10× 145.9E±0.1, h34km±10km, n28, σ0s72/24, mb4.1/15, MS3.1/2, 3D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SARN	**Sarigan**	**0.20**	**211**	⇓*i*P	**P**	**15 07 38.5**	**-0.8**
ANA2	**Anatahan**	**0.55**	**197**	⇓*e*P	**P**	**15 07 44.7**	**+0.8**
ANAT	**Anatahan**	**0.55**	**202**	⇓*e*P	**P**	**15 07 44.5**	**+0.5**
JOW	**Kunigami**	**19.09**	**304**	LR	LR	15 17 37.1	
	comp=Z,196nm,18.8s,baz=73,slow=32						
PMG	**Port Moresby**	**26.14**	**177**	LR	LR	15 21 20.4	
	comp=Z,56nm,21.8s,MS3.1,baz=78,slow=32						
WRAB	**Tennant Creek**	**38.28**	**198**	*eP*	**P**	**15 14 51.4**	**-0.5**
	10nm,1.1s,mb4.5						
WRA	**Warramunga Arr**	**38.30**	**198**	P	**P**	**15 14 51.2**	**-0.8**
	3.1nm,1.1s,mb4.0,baz=18,slow=9.4,SNR=6.3						
FITZ	**Fitzroy Crossi**	**40.05**	**211**	P	**P**	**15 15 06.9**	**+0.3**
	4.2nm,0.9s,mb4.2,baz=22,slow=4.0,SNR=4.6						
ASAR	**Alice Springs**	**41.95**	**197**	P	**P**	**15 15 21.7**	**-0.6**
	0.7nm,0.8s,mb3.3,baz=21,slow=12,SNR=4.4						
CMAR	**Chiang Mai Arr**	**44.65**	**279**	P	**P**	**15 15 45.1**	**+0.9**
	2.7nm,0.9s,mb4.1,baz=64,slow=6.9,SNR=14						
CMAR				LR	LR	15 34 54.9	
	comp=Z,27nm,19.4s,MS3.2,baz=105,slow=37						
SONM	**Songino Array**	**44.68**	**322**	P	**P**	**15 15 43.7**	**-0.4**
	0.3nm,0.7s,mb3.2,baz=135,slow=10,SNR=2.1						
GTA	**Gaotai**	**45.81**	**309**	P	**P**	**15 15 53.5**	**+0.2**
GTA				AP	pP	15 15 59.8	-3.5
GTA				XP	sP	15 16 03.3	-4.2
GTA				AMB	AMB		
	comp=Z,5.0nm,1.6s,mb4.2						
WMQ	**Urumqi**	**55.64**	**312**	*eP*	**P**	**15 17 07.5**	**-0.2**
WMQ				AMB	AMB		
	comp=Z,11nm,1.4s,mb4.7						
ILAR	**Eielson Array**	**65.21**	**26**	P	**P**	**15 18 08.6**	**-4.0**
	comp=Z,1.4nm,0.9s,mb4.0,baz=255,slow=4.1,SNR=7.6						
INK	**Inuvik**	**70.98**	**23**	P	**P**	**15 18 44.8**	**-3.8**
	comp=Z,2.2nm,0.8s,mb4.2,baz=270,slow=3.0,SNR=3.9						
YKA	**Yellowknife Ar**	**79.52**	**28**	P	**P**	**15 19 36.8**	**-0.6**
	comp=Z,1.6nm,0.7s,mb4.1,baz=284,slow=5.1,SNR=2.9						
YKA	**Yellowknife Ar**	**79.52**	**28**	P	**P**	**15 19 36.8**	**-0.6**
NEW	**Newport**	**82.15**	**42**	P	**P**	**15 19 50.7**	**-0.8**
	comp=Z,2.0nm,0.5s,mb4.3,baz=263,slow=20,SNR=2.9						
NVAR	**Mina Array Bea**	**84.13**	**52**	P	**P**	**15 20 02.0**	**+0.1**
	comp=Z,1.4nm,0.8s,mb4.1,baz=258,slow=4.4,SNR=8.4						
QLMT	**Earthquake Lak**	**86.97**	**44**	*eP*	**P**	**15 20 16.5**	**+0.8**
DUG	**Dugway**	**87.62**	**49**	*eP*	**P**	**15 20 19.6**	**+0.6**
	comp=Z,6.2nm,0.9s,mb4.8						
HWUT	**Hardware Ranch**	**88.02**	**47**	*eP*	**P**	**15 20 20.6**	**-0.3**
JLU	**Jordanelle**	**88.45**	**48**	*eP*	**P**	**15 20 23.7**	**+0.7**
PDAR	**Pinedale Array**	**88.98**	**45**	P	**P**	**15 20 25.0**	**-0.4**
	comp=Z,0.1nm,0.4s,mb3.5,baz=225,slow=27,SNR=2.3						
PV10	**Paradox Valley**	**91.01**	**49**	*eP*	**P**	**15 20 34.8**	**-0.3**
RW3	**Ridgway**	**92.04**	**49**	*eP*	**P**	**15 20 41.2**	**+1.4**
LPAZ	**La Paz**	**147.43**	**94**	PKPbc	PKPdf	15 27 16.7	+5.2
	comp=Z,4.6nm,0.9s,baz=315,slow=3.4,SNR=11						
LPAZ	**La Paz**	**147.43**	**94**	PKPbc	PKPdf	15 27 16.7	+5.2

IDC ***27*** *15:15:34.5± 4.6, 5.68S× 154.44E, h133km± 39km, mb3.8/10, mb1 4.0/12, mb1mx4.0/16, Error ellipse: s-maj=27.0km s-min=17.8km az=75.0*
NEIC ***27*** *15:15:36.1± 2.6, 5.67S× 154.40E, h147km± 21km, mb4.2/3, Error ellipse: s-maj=20.5km s-min=14.3km az=79.0*

ISC 27 15:15:35.4±3.5, 5.7S±0.1× 154.4E±0.2, h154km±29km, n19, σ0s83/20, mb4.0/11, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.03**	**242**	P	**P**	**15 17 30.1**	**-0.1**
	25nm,0.3s,baz=59,slow=8.5,SNR=65						
PMG				S	**S**	**15 18 59.2**	**-0.5**
	2.4nm,0.3s,baz=180,slow=17,SNR=3.2						
PMG	**Port Moresby**	**8.03**	**242**	*eP*	**P**	**15 17 30.1**	**-0.1**
CTA	**Charters Tower**	**16.35**	**208**	P	**P**	**15 19 18.1**	**+0.6**
	0.1nm,0.3s,baz=13,slow=9.0,SNR=5.3						
CTAO	**Charters Tower**	**16.35**	**208**	*eP*	**P**	**15 19 19.1**	**+1.6**
	4.5nm,0.8s						
WRAB	**Tennant Creek**	**24.06**	**232**	*eP*	**P**	**15 20 38.3**	**+0.5**
	19nm,0.8s,mb4.7						
WB2	**Warramunga Arr**	**24.07**	**232**	*eP*	**P**	**15 20 38.6**	**+0.8**
WRA	**Warramunga Arr**	**24.07**	**232**	P	**P**	**15 20 38.7**	**+0.8**
	13nm,0.9s,mb4.4,baz=54,slow=9.6,SNR=54						
ASAR	**Alice Springs**	**26.60**	**226**	P	**P**	**15 21 00.9**	**-0.4**
	2.2nm,0.5s,mb4.1,baz=56,slow=9.1,SNR=66						
ASAR				pP	pP	15 21 24.5	-8.6
	2.1nm,0.6s,baz=59,slow=14,SNR=11						
ASPA	**Alice Springs**	**26.60**	**226**	*eP*	**P**	**15 21 00.7**	**-0.7**
STKA	**Stephens Creek**	**28.67**	**203**	P	**P**	**15 21 18.5**	**-1.5**
	3.2nm,0.7s,mb4.2,baz=140,slow=12,SNR=7.5						
STKA	**Stephens Creek**	**28.67**	**203**	*eP*	**P**	**15 21 19.2**	**-0.9**
FITZ	**Fitzroy Crossi**	**30.63**	**244**	*eP*	**P**	**15 21 36.3**	**-1.2**
	2.8nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**30.63**	**244**	P	**P**	**15 21 36.0**	**-1.5**
	6.7nm,1.0s,mb4.3,baz=77,slow=4.8,SNR=15						
RPZ	**Rata Peaks**	**40.65**	**161**	P	**P**	**15 23 02.1**	**+0.3**
	3.0nm,0.7s,mb4.0,baz=16,slow=14,SNR=2.8						
CMAR	**Chiang Mai Arr**	**59.64**	**295**	P	**P**	**15 25 27.1**	**+1.1**
	2.6nm,1.1s,mb4.0,baz=105,slow=5.1,SNR=8.4						
SONM	**Songino Array**	**67.88**	**327**	P	**P**	**15 26 19.6**	**+0.3**
	0.9nm,0.7s,mb3.6,baz=137,slow=5.6,SNR=6.2						
VNDA	**Vanda**	**71.91**	**178**	P	**P**	**15 26 42.6**	**-0.6**
	1.2nm,0.8s,mb3.6,baz=336,slow=4.3,SNR=7.8						
ILAR	**Eielson Array**	**82.39**	**22**	P	**P**	**15 27 40.0**	**-1.2**
	0.9nm,0.8s,mb3.4,baz=244,slow=5.5,SNR=9.0						
MAW	**Mawson**	**85.36**	**203**	P	**P**	**15 27 56.9**	**+0.9**
	2.2nm,0.7s,mb4.0,baz=81,slow=11,SNR=6.2						

IDC ***27*** *15:18:44.8± 1.8, 60.18N× 25.33E, mb1 3.7/2, mb1mx3.2/16, ML2.7/2, Error ellipse: s-maj=17.0km s-min=9.1km az=151.0*
HEL ***27*** *15:18:45.1± 0.1, 60.19N× 25.21E, ML1.5, ML1.8(UPP), Explosion*

ISC 27 15:18:44.0±0.5, 60.21N±0.03× 25.22E±0.05, n21, σ1s03/38, Finland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MEF	**Metsahovi**	**0.41**	**271**	*eP*	**Pg**	**15 18 52.3**	**+0.1**
MEF				*eS*	**Sg**	**15 18 57.4**	**-0.3**
PVF	**Pernaja**	**0.46**	**43**	*eP*	**Pg**	**15 18 53.7**	**+0.6**
PVF				*eS*	**Sg**	**15 19 00.1**	**+0.9**
VJF	**Virojoki**	**1.20**	**73**	*eP*	**Pb**	**15 19 06.4**	**-0.9**
VJF				*eS*	**Sb**	**15 19 22.4**	**-0.9**
FIA0	**FINESS Array S**	**1.30**	**18**	*eP*	**Pb**	**15 19 08.9**	**-0.1**
FIA0				*eS*	**Sb**	**15 19 26.7**	**+0.5**
FINES	**FINESS Array B**	**1.30**	**18**	Pg	**Pg**	**15 19 09.3**	**-0.7**
	1.6nm,0.3s,baz=193,slow=18,SNR=83						
FINES				Pn	**Pn**	**15 19 11.6**	**+2.2**
	1.6nm,0.3s,baz=194,slow=13,SNR=82						
FINES				Lg		15 19 26.4	
	0.8nm,0.3s,baz=193,slow=30,SNR=9.3						
FINES				Sn	**Sn**	**15 19 31.1**	**+3.3**
	3.8nm,0.3s,baz=198,slow=23,SNR=23						
FINES				Rg		15 19 33.7	
	20nm,0.9s,baz=190,slow=31,SNR=16						
VSU	**Vasula**	**1.92**	**156**	*eP*	**Pn**	**15 19 19.6**	**+1.4**
VSU				*eS*	**Sn**	**15 19 43.0**	**-0.4**
KEF	**Keuruu**	**1.97**	**355**	*eP*	**Pn**	**15 19 20.3**	**+1.4**
KEF				*eS*	**Sn**	**15 19 45.2**	**+0.5**
KAF	**Kangasniemi**	**1.98**	**15**	*eP*	**Pn**	**15 19 20.3**	**+1.3**
KAF				*eS*	**Sn**	**15 19 45.2**	**+0.3**
SUF	**Sumiainen**	**2.55**	**10**	*eP*	**Pn**	**15 19 28.1**	**+0.7**
SUF				*eS*	**Sn**	**15 19 59.2**	**-0.4**
SUF				*eSG*	**Sg**	**15 20 04.2**	**-4.8**
SUF				MSG		15 20 05.0	
	comp=Z,1.5nm,0.1s						
AAL	**Aland**	**2.61**	**271**	*eP*	**Pn**	**15 19 28.5**	**+0.4**
VAF	**Ylistaro**	**3.09**	**338**	*eP*	**Pn**	**15 19 35.9**	**+1.0**
VAF				*eS*	**Sn**	**15 20 11.8**	**-1.3**
GRAU	**Graesoe**	**3.33**	**275**	*eP*	**Pn**	**15 19 38.1**	**-0.3**
NRTU	**Norrtaelje**	**3.36**	**264**	*eP*	**Pn**	**15 19 39.1**	**+0.3**
IGGU	**Iggoen**	**3.96**	**283**	*eP*	**Pn**	**15 19 46.6**	**-0.7**
JOF	**Joensuu**	**3.98**	**44**	*eP*	**Pn**	**15 19 47.3**	**-0.3**
JOF				*eS*	**Sn**	**15 20 34.2**	**-1.5**
JOF				*eSG*	**Sg**	**15 20 48.9**	**-7.5**
OSTU	**Oestervaala**	**4.04**	**274**	*eP*	**Pn**	**15 19 48.2**	**-0.2**
KJN	**Kajaani**	**4.06**	**16**	*eP*	**Pn**	**15 19 48.3**	**-0.4**
KJN				*eS*	**Sn**	**15 20 35.9**	**-1.7**
KJN				*eSG*	**Sg**	**15 20 50.7**	**-8.4**
KJN				MSG		15 20 54.5	
	comp=Z,0.8nm,0.2s						
ARNU	**Arnoeviken**	**4.10**	**295**	*eP*	**Pn**	**15 19 49.6**	**+0.2**
HEMU	**Hemsoen**	**4.24**	**309**	*eP*	**Pn**	**15 19 52.1**	**+0.8**
NOA	**NORSAR Array B**	**6.94**	**283**	Pn	**Pn**	**15 20 26.6**	**-2.8**
	comp=Z,0.1nm,0.3s,baz=250,slow=9.1,SNR=2.5						
NOA				Sn	**Sn**	**15 21 42.2**	**-7.9**
	comp=Z,0.1nm,0.3s,baz=248,slow=15,SNR=2.5						
NOA				Lg		15 22 21.9	
	comp=Z,0.1nm,0.3s,baz=91,slow=11,SNR=2.8						
ARCES	**ARCESS Array B**	**9.36**	**1**	Pn	**P**	**15 21 00.4**	**-2.8**
	comp=Z,0.1nm,0.3s,baz=184,slow=12,SNR=4.2						

NEIC ***27*** *15:35:36.7± 1.5, 14.06S× 170.44E, h628km± 16km, mb4.6/12, Error ellipse: s-maj=15.6km s-min=12.4km az=199.0*
IDC ***27*** *15:35:38.8± 1.9, 14.19S× 170.34E, h652km± 22km, mb3.5/12, mb1 3.7/12, mb1mx3.7/16, Error ellipse: s-maj=17.4km s-min=13.0km az=10.0*

ISC 27 15:35:38.4±1.4, 14.2S±0.1× 170.31E±0.09, h670km±18km, n63, σ0s99/33, mb4.3/21, 3D, Vanuatu Islands region

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

16nm,0.7s
SSF Saint Saulge 145.46 344 *e*PKP1 PKPbc 15 54 05.6 +2.1
23nm,0.8s
SGMF Saint Gilles 145.56 352 *e*PKP1 PKPbc 15 54 05.5 +1.8
43nm,0.8s
SMF Signal de Mont 145.75 343 *e*PKP1 PKPbc 15 54 06.2 +2.0
LPL La Plagne 145.86 339 *e*PKP1 PKPbc 15 54 07.3 +2.8
9.8nm,0.7s
LPG La Plagne 145.87 339 *e*PKP1 PKPbc 15 54 07.4 +2.9
9.2nm,0.5s
BGF Bois d'Agland 146.10 344 *e*PKP1 PKPbc 15 54 07.3 +2.2
TCF Toulx Ste Croi 146.51 345 *e*PKP1 PKPbc 15 54 08.4 +2.4
MBDF Montbardon 146.53 339 *e*PKP1 PKPbc 15 54 08.5 +2.4
8.4nm,0.4s
ORIF Oris-en-Rattie 146.68 340 *e*PKP1 PKPbc 15 54 09.2 +2.8
9.1nm,0.6s
MFF Saint Martin d 146.75 348 *e*PKP1 PKPbc 15 54 09.0 +2.4
19nm,0.5s
SBF Sospel 147.03 337 *e*PKP1 PKPdf 15 54 12.0 +7.1
PGF Pioggiola 147.50 334 *e*PKP1 PKPdf 15 54 10.9 +5.2
FRF La Foret Royal 147.59 338 *e*PKP1 PKPdf 15 54 10.5 +4.7
RJF Les Rejaudoux 147.60 345 *e*PKP1 PKPdf 15 54 11.4 +5.7
14nm,0.8s
SMRF Simiane la Rot 147.61 339 *e*PKP1 PKPdf 15 54 11.7 +5.9
LMR La Mourre 147.83 338 *e*PKP1 PKPdf 15 54 11.0 +4.8
ETSF Etsaut 150.37 346 *e*PKP1 PKPdf 15 54 18.6 +8.5
13nm,0.7s

IDC ***27*** *16:03:08.9±0.9,56.26N×153.58W,mb4.4/15,mb1 4.6/19, mb1mx4.5/22,ML4.1/4,MS3.6/5,Ms1 3.6/5,ms1mx3.2/24, Error ellipse: s-maj=25.8km s-min=15.1km az=10.0*
BJI ***27*** *16:03:08.3,56.20N×153.50W,h20km,mB5.0,mb4.9, Ms4.8,Msz4.6*
SYO ***27*** *16:03:11,56.17N×153.35W,h11km,MB5.0*
NEIC ***27*** *16:03:13.4,56.24N×153.46W,h20km,mb4.7/10, ML4.2(AEIC),After AEIC.*
MOS ***27*** *16:03:14.0±0.8,56.65N×153.62W,h33km,mb4.7/16, Error ellipse: s-maj=28.9km s-min=9.1km az=92.8*

ISC 27 16:03:07.6±1.5,56.20N±0.04×153.38W±0.05,h4km±9km, h24km±5.7km;pP-P,n145,σ1§10/146,mb4.6/40,MS4.1/7, 7C-4D,Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**1.64**	**15**	P	**Pn**	**16 03 38.7**	**+1.3**
KDAK				S	**Sb**	**16 03 58.5**	**-0.6**
KABR	**Katmai Barrier**	**2.12**	**337**	P	**Pn**	**16 03 45.2**	**+0.9**
CAHL	**Cahill**	**2.13**	**331**	P	**Pn**	**16 03 45.5**	**+1.1**
KJL	**Kejulik**	**2.21**	**328**	P	**Pn**	**16 03 46.9**	**+1.3**
ACHA	**Angle Creek He**	**2.27**	**333**	P	**Pn**	**16 03 47.5**	**+1.0**
MGLS	**Mageik LS**	**2.27**	**333**	P	**Pn**	**16 03 45.9**	**-0.6**
ANCK	**Angle Creek**	**2.31**	**331**	P	**Pn**	**16 03 48.0**	**+1.0**
KAWH	**Katmai**	**2.32**	**341**	P	**Pn**	**16 03 48.2**	**+1.1**
KAHG	**Katmai Hook Gl**	**2.38**	**345**	P	**Pn**	**16 03 50.3**	**+2.2**
KAPH	**Katmai Pasha**	**2.46**	**348**	P	**Pn**	**16 03 50.5**	**+1.4**
KAIC	**Katmai Ikaglui**	**2.46**	**339**	P	**Pn**	**16 03 50.2**	**+1.0**
CNTC	**Contact Creek**	**2.48**	**328**	P	**Pn**	**16 03 50.4**	**+1.0**
KAHC	**Katmai Hardscr**	**2.60**	**341**	P	**Pn**	**16 03 52.3**	**+1.0**
MCNL	**McNeil River**	**3.03**	**351**	P	**Pn**	**16 03 58.3**	**+1.0**
AUI	**Augustine Isla**	**3.14**	**360**	P	**Pn**	**16 04 00.1**	**+1.3**
AUH	**Augustine H**	**3.17**	**359**	P	**Pn**	**16 04 00.8**	**+1.5**
AUW	**Augustine West**	**3.18**	**359**	P	**Pn**	**16 04 00.9**	**+1.5**
OPT	**Oil Point**	**3.46**	**1**	P	**Pn**	**16 04 04.6**	**+1.2**
CNPM	**China Poot**	**3.52**	**18**	P	**Pn**	**16 04 04.8**	**+0.5**
BRLK	**Bradley Lake**	**3.81**	**19**	P	**Pn**	**16 04 08.2**	**-0.1**
IVS	**Iliamna South**	**3.82**	**2**	P	**Pn**	**16 04 09.4**	**+0.9**
ILW	**Iliamna West**	**3.87**	**2**	P	**Pn**	**16 04 09.9**	**+0.7**
ILIM	**Iliamna**	**3.90**	**3**	P	**Pn**	**16 04 10.5**	**+1.0**
SDPT	**Sand Point**	**4.10**	**261**	*e*P	**Pn**	**16 04 12.2**	**-0.3**
RSO	**Redoubt South**	**4.28**	**4**	P	**Pn**	**16 04 15.9**	**+0.8**
RDN	**Redoubt North**	**4.34**	**4**	P	**Pn**	**16 04 16.2**	**+0.4**
NCT	**North Crescent**	**4.38**	**3**	P	**Pn**	**16 04 16.7**	**+0.3**
SEW	**Seward**	**4.43**	**26**	P	**Pn**	**16 04 16.4**	**-0.8**
SLKM	**Skilak Lake**	**4.63**	**20**	*e*P	**Pn**	**16 04 18.7**	**-1.3**
MPA	**Moose Pass**	**4.79**	**25**	P	**Pn**	**16 04 21.4**	**-0.9**
PVV	**Pavlof Volcano**	**4.82**	**264**	P	**Pn**	**16 04 21.8**	**-1.0**
PN6	**Pavlof North-6**	**4.88**	**265**	P	**Pn**	**16 04 23.6**	**+0.1**
DOL	**Dolgoi Island**	**4.92**	**261**	P	**Pn**	**16 04 22.6**	**-1.5**
PN7A	**Pavlof North-7**	**4.92**	**265**	P	**Pn**	**16 04 23.8**	**-0.4**
SPU	**Mount Spurr**	**5.04**	**7**	*e*P	**Pn**	**16 04 25.1**	**-0.7**
DT1	**Dutton Round H**	**5.16**	**261**	P	**Pn**	**16 04 25.8**	**-1.7**
RC01	**Rabbit Creek A**	**5.26**	**20**	P	**Pn**	**16 04 29.9**	**+1.0**
PWL	**Port Wells**	**5.36**	**27**	P	**Pn**	**16 04 28.6**	**-1.8**
STLK	**Strandline Lak**	**5.37**	**8**	P	**Pn**	**16 04 30.4**	**-0.1**
GLI	**Glacier Island**	**5.73**	**32**	P	**Pn**	**16 04 35.3**	**-0.2**
PWA	**Palmer West**	**5.76**	**17**	P	**Pn**	**16 04 35.8**	**-0.1**
PMR	**Palmer**	**5.83**	**20**	P	**Pn**	**16 04 37.8**	**+0.8**
FALS	**False Pass**	**5.86**	**261**	P	**Pn**	**16 04 37.8**	**+0.5**
CVA	**Cordova**	**5.92**	**40**	P	**Pn**	**16 04 37.2**	**-1.1**
EYAK	**Cordova Ski Ar**	**5.92**	**39**	P	**Pn**	**16 04 37.0**	**-1.3**
GHO	**Glory Hole Cre**	**6.04**	**21**	P	**Pn**	**16 04 40.5**	**+0.6**
KAIM	**Kayak Island**	**6.04**	**48**	P	**Pn**	**16 04 39.6**	**-0.4**
VLZ	**Valdez**	**6.16**	**34**	P	**Pn**	**16 04 40.1**	**-1.5**
SMI	**Sawmill**	**6.20**	**23**	P	**Pn**	**16 04 41.0**	**-1.1**
SSLW	**Shishaldin Wes**	**6.27**	**261**	P	**Pn**	**16 04 42.5**	**-0.8**
DIV	**Divide**	**6.33**	**36**	P	**Pn**	**16 04 42.6**	**-1.4**
SCM	**Sheep Creek Mo**	**6.45**	**26**	P	**Pn**	**16 04 44.4**	**-1.3**
TT01	**Tatalina**	**6.86**	**350**	P	**Pn**	**16 04 50.9**	**-0.5**
GLB	**Gilahina Butte**	**7.22**	**39**	P	**Pn**	**16 04 55.0**	**-1.6**
KTH	**Kantishna Hill**	**7.48**	**8**	P	**Pn**	**16 05 00.8**	**+0.7**
BALM	**Baldy**	**7.52**	**45**	P	**Pn**	**16 04 59.5**	**-1.3**
MCK	**McKinley**	**7.87**	**15**	P	**Pn**	**16 05 04.6**	**-1.1**
PAX	**Paxson**	**7.88**	**27**	P	**Pn**	**16 05 05.5**	**-0.3**
THY	**Trims Highway**	**8.19**	**25**	*e*P	**P**	**16 05 09.0**	**-1.1**
PNL	**Peninsula**	**8.21**	**59**	P	**P**	**16 05 09.5**	**-0.9**
COLA	**College**	**9.11**	**15**	*e*P	**P**	**16 05 20.8**	**-2.1**
COLA	**College**	**9.11**	**15**	*e*P	**P**	**16 05 20.9**	**-2.0**
14nm,1.1s							
IL1	**Eielson Array**	**9.17**	**18**	P	**P**	**16 05 22.9**	**-0.7**
ILAR	**Eielson Array**	**9.17**	**18**	Pn	**P**	**16 05 20.6**	**-3.1**
1.1nm,0.3s,baz=208,slow=12,SNR=64							
ILAR				Sn	**Sn**	**16 06 58.5**	**-10**
1.5nm,0.3s,baz=64,slow=24,SNR=6.2							
ILAR				LR	LR	16 09 25.1	
comp=Z,553nm,19.5s,baz=223,slow=41							
ILAR	**Eielson Array**	**9.17**	**18**	P	**P**	**16 05 20.6**	**-3.1**
ILAR						16 06 58.6	
ILAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
ILAR				smax			
comp=N,2.0nm,0.3s							
ILAR				MLR	MLR		
comp=Z,553nm,19.5s							
IM3	**Indian Mountai**	**9.82**	**359**	P	**P**	**16 05 31.4**	**-1.0**
IMA	**Indian Mountai**	**9.90**	**359**	*e*P	**P**	**16 05 33.7**	**+0.1**
comp=Z,4.3nm,0.7s							
DLBC	**Dease Lake**	**12.80**	**70**	Pn	**P**	**16 06 13.2**	**+0.2**
comp=Z,0.1nm,0.3s,baz=284,slow=25,SNR=3.0							
DLBC				Sn	**S**	**16 08 30.3**	**-6.8**
comp=Z,0.1nm,0.3s,baz=265,slow=22,SNR=2.8							
DLBC				LR	LR	16 10 59.8	
comp=Z,230nm,19.2s,baz=285,slow=36							
DLBC	**Dease Lake**	**12.80**	**70**	Pn	**P**	**16 06 13.2**	**+0.2**
DLBC				Sn	**S**	**16 08 30.3**	**-6.8**
DLBC				LR	LR	16 10 59.8	
INK	**Inuvik**	**15.15**	**29**	Pn	**P**	**16 06 46.2**	**+2.5**
comp=Z,0.9nm,0.3s,baz=250,slow=14,SNR=9.9							
INK	**Inuvik**	**15.15**	**29**	P	**P**	**16 06 46.3**	**+2.6**
INK				pmax	pmax		
comp=Z,1.0nm,0.3s							
INK	**Inuvik**	**15.15**	**29**	*e*P	**P**	**16 06 46.2**	**+2.5**
comp=Z,6.8nm,0.7s							
BBB	**Bella Bella**	**15.29**	**95**	LR	LR	16 11 09.2	
comp=Z,162nm,19.4s,baz=268,slow=31							
FX1	**Attu Island--F**	**19.58**	**274**	P	**P**	**16 07 35.0**	**-4.0**
comp=Z,4.3nm,0.3s,baz=214,slow=4.1,SNR=5.0							
FX1	**Attu Island--F**	**19.58**	**274**	P	**P**	**16 07 35.0**	**-4.1**
FX1				pmax	pmax		
comp=Z,4.0nm,0.3s							
YKA	**Yellowknife Ar**	**20.49**	**56**	P	**P**	**16 07 48.5**	**-0.3**
comp=Z,7.9nm,0.7s,baz=267,slow=11,SNR=13							
YKA	**Yellowknife Ar**	**20.49**	**56**	P	**P**	**16 07 48.5**	**-0.3**
YKA				pmax	pmax		
comp=Z,8.0nm,0.7s							
NLW	**Nelson Butte**	**21.67**	**98**	*e*P	**P**	**16 08 03.5**	**+2.5**
NLW				*e*		16 08 13.0	
BILL	**Bilibino**	**21.79**	**319**	*e*P	**P**	**16 07 59.9**	**-2.1**
BILL				pmax	pmax		
comp=Z,26nm,1.1s,mb4.6							
BILL				MLR	MLR		
comp=Z,500nm,9.0s							
BILL	**Bilibino**	**21.79**	**319**	*e*P	**P**	**16 08 00.5**	**-1.6**
comp=Z,11nm,0.6s,mb4.5							
EDM	**Edmonton**	**23.09**	**81**	P	**P**	**16 08 17.5**	**+2.6**
HLID	**Hailey**	**27.71**	**101**	P	**P**	**16 09 00.4**	**+1.8**
NVAR	**Mina Array Bea**	**29.25**	**113**	P	**P**	**16 09 14.3**	**+1.7**
comp=Z,2.0nm,0.8s,mb3.9,baz=314,slow=7.2,SNR=9.4							
NVAR	**Mina Array Bea**	**29.25**	**113**	P	**P**	**16 09 14.3**	**+1.7**
PDAR	**Pinedale Array**	**30.91**	**97**	P	**P**	**16 09 26.9**	**-0.3**
comp=Z,0.6nm,0.6s,mb3.6,baz=288,slow=4.7,SNR=3.8							
ULM	**Lac du Bonnet**	**34.05**	**75**	LR	LR	16 23 37.4	
comp=Z,101nm,19.4s,MS3.6,baz=359,slow=36							
TIXI	**Tiksi**	**34.50**	**327**	*e*P	**P**	**16 09 57.3**	**-1.0**
TIXI				*e*		16 12 32.4	
TIXI				pmax	pmax		
comp=Z,11nm,0.9s,mb4.8							
TIXI				MLR	MLR		
comp=Z,200nm,12.0s,MS4.1							
YAK	**Yakutsk**	**37.73**	**311**	*c i*P	**P**	**16 10 24.0**	**-1.7**
YAK				pmax	pmax		
comp=Z,22nm,0.7s,mb5.0							
YAK				MLR	MLR		
comp=Z,100nm,16.0s,MS3.7							
YAK	**Yakutsk**	**37.73**	**311**	*e*P	**P**	**16 10 23.9**	**-1.8**
comp=Z,34nm,0.9s,mb5.1							
ASAJ	**Asahikawa**	**41.27**	**281**	P	**P**	**16 10 54.0**	**-1.2**
comp=Z,12nm,0.8s,mb4.5,baz=55,slow=10.0,SNR=4.4							
ASAJ	**Asahikawa**	**41.27**	**281**	P	**P**	**16 10 54.1**	**-1.1**
ASAJ				pmax	pmax		
comp=Z,12nm,0.8s							
WMOK	**Wichita Mounta**	**42.52**	**97**	P	**P**	**16 11 07.1**	**+1.6**
comp=Z,1.4nm,0.7s,mb3.8							
SUMG	**Summit**	**43.96**	**23**	*e*P	**P**	**16 11 17.7**	**+0.9**
comp=Z,27nm,1.0s,mb4.9							
TXAR	**Lajitas Array**	**43.97**	**106**	P	**P**	**16 11 19.3**	**+1.9**
comp=Z,0.8nm,0.7s,mb3.6,baz=315,slow=5.3,SNR=6.0							
TXAR				LR	LR	16 28 45.5	
comp=Z,72nm,18.4s,MS3.6,baz=25,slow=35							
SCHQ	**Schefferville**	**45.90**	**54**	P	**P**	**16 11 33.0**	**+0.5**
comp=Z,6.4nm,0.7s,mb4.7,baz=328,slow=4.3,SNR=12							
CN2	**Changchun**	**50.65**	**292**	*e*P	**P**	**16 12 09.0**	**-0.5**
CN2				AMB	AMB		
comp=Z,20nm,0.8s,mb5.1							
KEV	**Kevo**	**54.35**	**360**	*e*p	**P**	**16 12 34.3**	**-2.5**
comp=Z,1.2nm,0.4s,mb4.2							
KEV	**Kevo**	**54.35**	**360**	*e*P	**P**	**16 12 34.3**	**-2.5**
KEV				pmax	pmax		
comp=Z,1.0nm,0.4s,mb4.1							
ARCES	**ARCESS Array B**	**54.56**	**0**	P	**P**	**16 12 37.6**	**-0.8**
comp=Z,3.0nm,0.5s,mb4.6,baz=8.4,slow=7.4,SNR=34							
ARCES	**ARCESS Array B**	**54.56**	**0**	P	**P**	**16 12 37.6**	**-0.8**
ARCES				pmax	pmax		
comp=Z,3.0nm,0.5s							
ZAK	**Zakamensk**	**56.32**	**312**	*i*P	**P**	**16 12 50.8**	**-0.6**
SONM	**Songino Array**	**56.91**	**308**	P	**P**	**16 12 55.6**	**-0.1**
comp=Z,47nm,1.2s,mb5.4,baz=43,slow=7.1,SNR=127							
HHC	**Hu-ho-hao-te**	**59.80**	**299**	*e*P	**P**	**16 13 16.8**	**+0.8**
HHC				AMB	AMB		
comp=Z,20nm,1.0s,mb5.1							
HHC				AMB	AMB		
comp=Z,90nm,4.5s							
NVS	**Novosibirsk**	**60.09**	**326**	*e*P	**P**	**16 13 14.9**	**-2.9**
NVS				pmax	pmax		
comp=Z,9.0nm,0.9s,mb4.8							
NVS				pmax	pmax		
comp=N,6.0nm,1.2s							
JOF	**Joensuu**	**61.16**	**358**	*e*p	**P**	**16 13 24.0**	**-0.9**
comp=N,0.6nm,0.4s,mb4.1							
JOF	**Joensuu**	**61.16**	**358**	*e*P	**P**	**16 13 24.0**	**-0.9**
JOF				pmax	pmax		
comp=Z,1.0nm,0.4s,mb4.3							
SSE	**Sheshan**	**62.33**	**285**	*e*P	**P**	**16 13 32.8**	**-0.5**
SSE				AMB	AMB		
comp=Z,53nm,0.7s							
SSE				AMB	AMB		
comp=Z,71nm,3.9s							
NB2	**NORSAR Subarra**	**62.47**	**8**	P	**P**	**16 13 32.9**	**-0.9**
comp=Z,2.7nm,0.6s,mb4.5,baz=351,slow=6.5							
NOA	**NORSAR Array B**	**62.47**	**8**	P	**P**	**16 13 33.1**	**-0.6**
comp=Z,4.4nm,0.8s,mb4.7,baz=351,slow=6.7,SNR=14							
NOA	**NORSAR Array B**	**62.47**	**8**	P	**P**	**16 13 33.2**	**-0.6**
NOA				pmax	pmax		
comp=Z,4.0nm,0.8s							
FINES	**FINESS Array B**	**62.69**	**0**	P	**P**	**16 13 34.1**	**-1.1**
comp=Z,2.2nm,0.8s,mb4.3,baz=18,slow=6.0,SNR=7.2							
FINES	**FINESS Array B**	**62.69**	**0**	*i* P	**P**	**16 13 34.6**	**-0.6**
FINES				pmax	pmax		
comp=Z,2.0nm,0.8s							
NJ2	**Nanjing**	**62.84**	**288**	*e*P	**P**	**16 13 37.3**	**+0.7**
NJ2				AMB	AMB		
comp=Z,20nm,0.8s,mb5.3							
SVE	**Sverdlovsk**	**64.02**	**340**	*e*P	**P**	**16 13 43.3**	**-0.6**
ARU	**Arti**	**64.78**	**341**	*i*P	**P**	**16 13 47.1**	**-1.7**
ARU				*e*		16 14 15.6	
ARU				*e*		16 16 07.8	
ARU				*e*S	**S**	**16 22 23.5**	**-5.1**
ARU				pmax	pmax		
comp=Z,15nm,0.8s,mb5.1							
KURK	**Kurchatov**	**65.08**	**326**	*c i*P	**P**	**16 13 50.2**	**-0.6**
KURK	**Kurchatov**	**65.08**	**326**	*e*P	**P**	**16 13 49.9**	**-0.9**
comp=Z,6.5nm,0.9s,mb4.7							
BRVK	**Borovoye**	**65.34**	**333**	*e*P	**P**	**16 13 51.5**	**-1.1**
comp=Z,13nm,0.9s,mb5.0							
ZRNK	**Zerenda**	**65.77**	**333**	*e*P	**P**	**16 13 53.9**	**-1.3**
comp=Z,16nm,0.8s,mb5.1							
GTA	**Gaotai**	**66.47**	**306**	*e*P	**P**	**16 13 58.8**	**-1.2**
GTA				AP	pP	16 14 06.5	+5.4
GTA				AMB	AMB		
comp=Z,5.0nm,1.1s,mb4.5							
GTA				AMB	AMB		
comp=Z,51nm,5.3s							
GTA				LR	LR		
comp=N,164nm,18.7s,MS4.5							
GTA				LR	LR		
comp=E,167nm,15.3s,MS4.5							
GTA				LR	LR		
comp=Z,231nm,16.1s,MS4.5							
LZH	**Lanzhou**	**67.28**	**301**	*e*P	**P**	**16 14 05.8**	**+0.6**
LZH				AP	pP	16 14 09.0	+2.7
LZH				XP	sP	16 14 11.0	+4.3
LZH				PP	PP	16 16 35.5	+0.3
LZH				*e*S	S	16 22 58.0	-1.5
LZH				*e*SS	SS	16 27 19.0	-1.6
LZH				AMB	AMB		
comp=Z,24nm,1.4s,mb5.0							
LZH				AMB	AMB		
comp=Z,69nm,4.2s							
LZH				LR	LR		
comp=E,273nm,14.8s							
LZH				LR	LR		
comp=Z,361nm,16.5s,MS4.7							
WMQ	**Urumqi**	**67.88**	**317**	*e*P	**P**	**16 14 11.0**	**+2.2**
OBN	**Obninsk**	**68.75**	**354**	*e*P	**P**	**16 14 14.0**	**0.0**
OBN				*e*S	S	16 23 12.3	-4.3
OBN				pmax	pmax		
comp=Z,4.0nm,0.6s,mb4.5							
CLL	**Collm**	**72.26**	**9**	P	**P**	**16 14 36.0**	**+0.6**
AKASG	**Malin Array Be**	**73.44**	**358**	P	**P**	**16 14 41.6**	**-0.6**
comp=Z,2.4nm,0.5s,mb4.4,baz=4.1,slow=5.6,SNR=16							
AKASG	**Malin Array Be**	**73.44**	**358**	P	**P**	**16 14 41.6**	**-0.6**
AKASG				pmax	pmax		
comp=Z,2.0nm,0.5s							
AAK	**Ala-Archa**	**73.56**	**325**	*i*P	**P**	**16 14 42.8**	**-0.2**
AAK				pmax	pmax		
comp=Z,9.0nm,1.2s,mb4.6							
AAK				MLR	MLR		
comp=Z,200nm,16.0s,MS4.5							
KHC	**Kasperske Hory**	**74.47**	**9**	*e*P	**P**	**16 14 48.0**	**-0.2**
GERES	**GERESS Array B**	**74.77**	**9**	P	**P**	**16 14 50.8**	**+0.9**
comp=Z,2.0nm,0.6s,mb4.2,baz=351,slow=4.8,SNR=18							
GERES	**GERESS Array B**	**74.77**	**9**	P	**P**	**16 14 50.8**	**+0.9**
GERES				pmax	pmax		
comp=Z,2.0nm,0.6s							
KIV	**Kislovodsk**	**79.30**	**348**	*e*P	**P**	**16 15 15.3**	**0.0**
KIV				pmax	pmax		
comp=Z,4.0nm,0.6s,mb4.5							
ZEI	**Tsey**	**80.32**	**347**	*e*P	**P**	**16 15 21.0**	**+0.2**
ZEI				*i* *PP	pP	16 15 31.4	+9.5
ZEI				*i*		16 18 23.6	
ZEI				pmax	pmax		
comp=Z,3.0nm,1.1s,mb4.1							
ESDC	**Sonseca Array**	**81.03**	**23**	P	**P**	**16 15 25.8**	**+1.2**
comp=Z,2.1nm,0.6s,mb4.3,baz=338,slow=4.8,SNR=10							
GUN	**Gumba**	**82.34**	**310**	*e*P	**P**	**16 15 32.8**	**+1.2**
comp=Z,19nm,0.9s,mb5.0							
KKN	**Kakani**	**82.70**	**310**	*e*P	**P**	**16 15 34.3**	**+0.8**
comp=Z,17nm,1.1s,mb5.0							
GKN	**Gorkha**	**82.79**	**311**	*e*P	**P**	**16 15 34.3**	**+0.3**
PKI	**Pulchoki**	**82.83**	**310**	*e*P	**P**	**16 15 34.8**	**+0.6**
comp=Z,9.2nm,0.8s,mb4.9							
DMN	**Daman**	**82.93**	**310**	*e*P	**P**	**16 15 35.6**	**+0.9**
comp=Z,11nm,0.9s,mb4.9							
KOLN	**Koldanda**	**83.43**	**312**	*e*P	**P**	**16 15 37.9**	**+0.6**
comp=Z,15nm,1.0s,mb5.0							
BRTR	**Keskin Array B**	**84.25**	**355**	P	**P**	**16 15 41.9**	**+0.7**
comp=Z,1.9nm,0.8s,mb4.3,baz=23,slow=2.4,SNR=9.7							
BRTR	**Keskin Array B**	**84.25**	**355**	P	**P**	**16 15 41.9**	**+0.8**
BRTR				pmax	pmax		
comp=Z,2.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**84.27**	**295**	P	**P**	**16 15 41.8**	**+0.1**
comp=Z,2.5nm,0.6s,mb4.5,baz=9.7,slow=5.6,SNR=18							
CMAR	**Chiang Mai Arr**	**84.27**	**295**	P	**P**	**16 15 41.8**	**+0.1**
CMAR				pmax	pmax		
comp=Z,3.0nm,0.6s							
QSPA	**South Pole Qui**	**145.99**	**180**	*i*P	PKPbc	16 22 49.3	+2.5
SYO	**Syowa Base**	**165.88**	**199**	PKPdf		16 23 17.3	

NEIC ***27*** *16:04:18.4±3.1,21.63N×108.47W,h10km,mb3.6/2,Error ellipse: s-maj=45.9km s-min=20.6km az=162.0*
IDC ***27*** *16:04:21.2±4.7,22.13N×108.37W,mb4.0/5,mb1 4.2/7, mb1mx4.0/20,ML4.0/1,Error ellipse: s-maj=75.8km s-min=33.2km az=147.0*

ISC 27 16:04:29.6±12.0,22.3N±0.8×108.3W±0.3,h77km±62km, n11,σ0§35/11,mb3.9/4,Off coast of central Mexico

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**8.11**	**30**	Pn	**P**	**16 06 26.6**	**-0.1**
0.5nm,0.3s,baz=202,slow=15,SNR=6.4							
TXAR				Lg		16 08 41.8	
baz=208,slow=18,SNR=1.6							
LAZ	**Ladron**	**12.07**	**4**	*e*P	**P**	**16 07 20.4**	**+0.1**
NVAR	**Mina Array Bea**	**18.22**	**334**	P	**P**	**16 08 38.6**	**-0.1**
baz=151,slow=13,SNR=6.8							
DUG	**Dugway**	**18.23**	**349**	*e*P	**P**	**16 08 38.8**	**0.0**
2.7nm,0.8s							
BW06	**Boulder Array**	**20.41**	**357**	*e*P	**P**	**16 09 02.7**	**+0.1**
2.2nm,0.8s							
PDAR	**Pinedale Array**	**20.41**	**357**	P	**P**	**16 09 02.8**	**+0.2**
1.8nm,0.8s,baz=170,slow=11,SNR=15							
YBH	**Yreka Blue Hor**	**22.84**	**331**	P	**P**	**16 09 27.4**	**+0.6**
9.2nm,0.8s,mb4.2,baz=114,slow=15,SNR=3.3							
NEW	**Newport**	**26.84**	**347**	P	**P**	**16 10 03.7**	**-0.9**
1.4nm,0.3s,mb3.9,baz=291,slow=23,SNR=3.0							
NEW	**Newport**	**26.84**	**347**	P	**P**	**16 10 03.7**	**-0.9**
ULM	**Lac du Bonnet**	**29.52**	**16**	P	**P**	**16 10 29.0**	**+0.3**
3.8nm,0.9s,mb4.0,baz=262,slow=10,SNR=2.4							
ILAR	**Eielson Array**	**49.37**	**339**	P	**P**	**16 13 12.8**	**-0.1**
0.4nm,0.7s,mb3.4,baz=146,slow=6.5,SNR=3.7							

NEIC ***27*** *16:18:52.4,34.93S×70.51W,h5km,ML2.5(GUC),After GUC.*

GUC 27 16:18:52.4±0.8,34.93S×70.51W,h5km,MD3.6,ML2.5, 1C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDO	**San Fernando**	**0.52**	**307**	*i*P	Pg	16 19 02.8	+0.1
SFDO				*i* S	Sg	16 19 10.7	+1.1
CICH	**Cipreses**	**0.61**	**7**	*e*P	Pg	16 19 04.5	-0.1
CICH				*i* S	Sg	16 19 14.0	+1.3
CACH	**El Canelo**	**0.81**	**355**	*e*P	Pb	16 19 08.0	-0.6
CACH				*i* S	Sg	16 19 20.4	+1.0
CHCH	**Chadas Angostu**	**1.00**	**353**	*e*P	Pb	16 19 11.2	-0.5
CHCH				*i* S	Sb	16 19 25.8	+0.8
LMEL	**Las Melosas**	**1.10**	**14**	*e*P	Pb	16 19 13.0	-0.6
LMEL				*i* S	Sb	16 19 29.4	+1.2
LMEL				AMP		16 19 31.0	
comp=N,128nm,0.2s							
LNV	**Longovilo**	**1.22**	**322**	*i*P	Pb	16 19 14.8	-0.7
LNV				*i* S	Sb	16 19 31.9	+0.4
TACH	**Talagante**	**1.32**	**344**	*e*P	Pb	16 19 16.5	-0.7
RCDM	**Rinconada Maip**	**1.45**	**350**	*i* P	Pn	16 19 18.8	-0.6
RCDM				*i* S	Sb	16 19 39.8	+1.5
RCDM				AMP		16 19 41.2	
comp=E,237nm,0.1s							
FCH	**Farellones**	**1.60**	**7**	*e*P	Pn	16 19 22.1	+0.5
FCH				*i* S	Sb	16 19 45.2	+2.6
FCH				AMP		16 19 47.3	
comp=N,112nm,0.2s							

CSEM

BKG	Blockade Glaci	4.76	6	P		P	16 39 28.0	0.0
SPU	Mount Spurr	4.88	7	*e*P		P	16 39 29.5	-0.3
PVV	Pavlof Volcano	4.91	262	P		P	16 39 26.4	-3.7
BGL	Barrier Glacie	4.94	5	P		P	16 39 31.1	+0.4
DOL	Dolgoi Island	5.01	260	P		P	16 39 27.1	-4.6
RC01	Rabbit Creek A	5.09	20	P		P	16 39 34.4	+1.6
STLK	Strandline Lak	5.21	8	P		P	16 39 34.6	+0.2
DTNA	Dutton South F	5.22	260	P		P	16 39 29.5	-5.1
DT1	Dutton Round H	5.25	260	P		P	16 39 30.6	-4.5
FID	Port Fidalgo	5.66	36	P		P	16 39 38.5	-2.2
CVA	Cordova	5.76	40	P		P	16 39 40.9	-1.2
EYAK	Cordova Ski Ar	5.76	40	P		P	16 39 41.8	-0.3
GHO	Glory Hole Cre	5.87	21	P		P	16 39 43.2	-0.5
VLZ	Valdez	5.99	34	P		P	16 39 43.7	-1.6
SML	Sawmill	6.03	23	P		P	16 39 45.7	-0.1
SCM	Sheep Creek Mo	6.28	27	P		P	16 39 48.5	-1.0
TT01	Tatalina	6.72	349	P		P	16 39 54.9	-0.8
WAX	Waxell Ridge	6.83	49	P		P	16 39 55.6	-1.6
GLB	Gilahina Butte	7.06	40	P		P	16 39 59.1	-1.3
TRF	Thorofare Moun	7.27	11	P		P	16 40 03.1	-0.3
KTH	Kantishna Hill	7.32	8	P		P	16 40 03.7	-0.3
MCK	McKinley	7.71	14	*e*P		P	16 40 07.8	-1.7
PAX	Paxson	7.71	27	P		P	16 40 08.5	-1.0
COLA	College	8.95	15	*e*P		P	16 40 26.2	-0.4
ILAR	Eielson Array	9.00	18	Pn		P	16 40 25.5	-1.9
	0.3nm,0.3s,baz=207,slow=12,SNR=24							
ILAR				Sn		Sn	16 42 02.4	-6.5
	0.3nm,0.3s,baz=219,slow=12,SNR=2.7							
ILAR				LR		LR	16 44 28.9	
	comp=Z,430nm,19.8s,baz=218,slow=42							
IL1	Eielson Array	9.00	18	P		P	16 40 24.5	-2.9
IM3	Indian Mountai	9.67	359	P		P	16 40 36.2	-0.1
IMA	Indian Mountai	9.75	359	*e*P		P	16 40 37.6	0.0
DLBC	Dease Lake	12.68	71	LR		LR	16 46 12.6	
	comp=Z,162nm,18.1s,baz=113,slow=38							
INK	Inuvik	14.98	29	Pn		P	16 41 47.1	-0.3
	0.1nm,0.3s,baz=260,slow=17,SNR=2.6							
INK	Inuvik	14.98	29	P		P	16 41 46.2	-1.2
	6.6nm,0.9s							
BBB	Bella Bella	15.23	95	LR		LR	16 46 44.3	
	comp=Z,152nm,18.1s,baz=260,slow=33							
FX1	Attu Island--F	19.64	274	P		P	16 42 43.0	-2.0
	3.0nm,0.3s,baz=275,slow=13,SNR=4.7							
FX1	Attu Island--F	19.64	274	P		P	16 42 43.1	-2.0
YKA	Yellowknife Ar	20.34	57	P		P	16 42 51.7	-0.8
	4.6nm,0.8s,baz=270,slow=11,SNR=7.9							
YKA	Yellowknife Ar	20.34	57	P		P	16 42 51.7	-0.8
BILL	Bilibino	21.72	319	*e*P		P	16 43 04.9	-1.6
BILL				pmax		pmax		
	comp=Z,38nm,1.6s,mb4.6							
BILL				MLR		MLR		
	comp=Z,300nm,8.0s							
NVAR	Mina Array Bea	29.24	113	P		P	16 44 20.5	+3.0
	comp=Z,0.4nm,0.7s,baz=297,slow=10,SNR=3.0							
ULM	Lac du Bonnet	33.94	76	LR		LR	16 59 27.4	
	comp=Z,71nm,18.2s,MS3.4,baz=360,slow=37							
TIXI	Tiksi	34.41	327	*e*P		P	16 45 01.4	-1.0
TIXI				pmax		pmax		
	comp=Z,9.0nm,1.1s,mb4.6							
TIXI				MLR		MLR		
	comp=Z,200nm,15.0s,MS4.0							
YAK	Yakutsk	37.69	311	*d* *i*P		P	16 45 28.3	-1.9
YAK				pmax		pmax		
	comp=Z,13nm,0.8s,mb4.7							
YAK				MLR		MLR		
	comp=Z,100nm,17.0s,MS3.7							
YAK	Yakutsk	37.69	311	*e*P		P	16 45 27.7	-2.5
WMOK	Wichita Mounta	42.47	97	P		P	16 46 11.8	+1.7
	comp=Z,1.0nm,0.6s,mb3.6							
LTX	Lajitas	43.95	107	P		P	16 46 23.2	+1.1
TXAR	Lajitas Array	43.95	107	P		P	16 46 24.1	+2.0
	comp=Z,0.6nm,0.3s,mb3.8,baz=333,slow=6.0,SNR=3.9							
SCHQ	Schefferville	45.76	54	P		P	16 46 37.4	+1.1
	comp=Z,1.6nm,0.5s,mb4.2,baz=260,slow=15,SNR=3.0							
CN2	Changchun	50.66	292	*e*P		P	16 47 12.8	-1.7
CN2				AMB		AMB		
	comp=Z,10.0nm,0.7s,mb4.8							
ARCES	ARCESS Array B	54.41	1	P		P	16 47 41.6	-0.6
	comp=Z,3.5nm,0.8s,mb4.3,baz=9.5,slow=7.4,SNR=8.8							
ZAK	Zakamensk	56.28	312	*e*P		P	16 47 54.6	-1.2
SONM	Songino Array	56.87	308	P		P	16 47 59.6	-0.5
	comp=Z,1.1nm,0.8s,mb5.0,baz=41,slow=7.3,SNR=86							
NB2	NORSAR Subarra	62.31	8	P		P	16 48 37.2	-0.2
	comp=Z,1.8nm,0.8s,mb4.2,baz=351,slow=6.5							
NOA	NORSAR Array B	62.31	8	P		P	16 48 37.6	+0.2
	comp=Z,2.6nm,0.8s,mb4.4,baz=351,slow=6.7,SNR=8.7							
NOA				LR		LR	17 14 43.6	
	comp=Z,27nm,21.5s,MS3.4,baz=185,slow=35							
SSE	Sheshan	62.36	285	*e*P		P	16 48 37.0	-1.2
SSE				AMB		AMB		
	comp=Z,69nm,4.8s							
FINES	FINESS Array B	62.54	0	P		P	16 48 39.6	+0.7
	comp=Z,1.2nm,0.8s,mb4.1,baz=346,slow=7.9,SNR=4.6							
NJ2	Nanjing	62.86	288	*e*P		P	16 48 41.3	-0.2
NJ2				AMB		AMB		
	comp=Z,20nm,0.7s,mb5.4							
ARU	Arti	64.66	341	*e*P		P	16 48 51.4	-1.3
KURK	Kurchatov	64.99	327	*c* *i*P		P	16 48 54.3	-0.6
BRVK	Borovoye	65.24	333	*e*P		P	16 48 55.5	-1.0
	comp=Z,9.4nm,0.9s,mb4.8							
ZRNK	Zerenda	65.66	333	*e*P		P	16 48 58.2	-1.0
	comp=Z,14nm,0.9s,mb5.0							
GTA	Gaotai	66.44	306	P		P	16 49 02.0	-2.4
GTA				AP		pP	16 49 08.5	-6.2
GTA				XP		sP	16 49 11.0	-7.4
GTA				AMB		AMB		
	comp=Z,3.0nm,1.1s,mb4.2							
LZH	Lanzhou	67.26	301	*e*P		P	16 49 10.5	+0.8
LZH				AP		pP	16 49 15.5	-4.5
LZH				XP		sP	16 49 17.5	-6.2
LZH				PP		PP	16 51 36.0	-3.8
LZH				AMB		AMB		
	comp=Z,21nm,1.3s,mb5.0							
LZH				AMB		AMB		
	comp=Z,72nm,4.2s							
WMQ	Urumqi	67.82	317	*e*P		P	16 49 15.3	+2.3
AKASG	Malin Array Be	73.29	358	P		P	16 49 45.4	-0.5
	comp=Z,3.4nm,1.0s,mb4.2,baz=0.5,slow=5.6,SNR=10							
VRAC	Vranov	74.37	7	P		P	16 49 53.1	+1.0
	comp=Z,1.3nm,0.5s,mb4.1,baz=356,slow=6.3,SNR=3.6							
GERES	GERESS Array B	74.61	9	P		P	16 49 54.6	+1.1
	comp=Z,1.0nm,0.8s,mb3.8,slow=5.3,SNR=8.0							
TGY	Tagaytay City	76.08	274	P		P	16 50 04.0	+1.4
	comp=Z,41nm,0.3s,baz=45,slow=2.9,SNR=2.6							
TGY	Tagaytay City	76.08	274	P		P	16 50 03.9	+1.3
MLR	Muntele Rosu	78.52	1	P		P	16 50 17.0	+1.3
	comp=Z,1.3nm,0.8s,mb3.9,baz=2.4,slow=10,SNR=2.7							
MLR	Muntele Rosu	78.52	1	P		P	16 50 16.9	+1.2
ESDC	Sonseca Array	80.86	24	P		P	16 50 30.1	+1.8
	comp=Z,1.1nm,0.7s,mb3.9,baz=345,slow=7.3,SNR=5.3							
GUN	Gumba	82.29	310	*e*P		P	16 50 36.4	+0.3
KKN	Kakani	82.66	310	*e*P		P	16 50 38.4	+0.5
GKN	Gorkha	82.74	311	*e*P		P	16 50 38.7	+0.3
	comp=Z,10.0nm,0.9s,mb4.9							
PKI	Pulchoki	82.79	310	*e*P		P	16 50 39.2	+0.6
	comp=Z,10nm,1.1s,mb4.8							
DMN	Daman	82.89	310	*e*P		P	16 50 39.6	+0.5
	comp=Z,9.5nm,1.1s,mb4.7							
KOLN	Koldanda	83.38	312	*e*P		P	16 50 41.4	-0.2
	comp=Z,12nm,1.2s,mb4.8							
BRTR	Keskin Array B	84.11	355	P		P	16 50 46.0	+1.1
	comp=Z,1.5nm,0.9s,mb4.1,baz=27,slow=2.8,SNR=5.7							
CMAR	Chiang Mai Arr	84.27	295	P		P	16 50 46.1	-0.1
	comp=Z,1.3nm,0.7s,mb4.2,baz=15,slow=5.4,SNR=12							
CMAR	Chiang Mai Arr	84.27	295	P		P	16 50 46.1	-0.1
KMBO	Kilima Mbogo	124.29	347	PKP		PKPdf	16 57 16.2	+3.8
	comp=Z,0.8nm,0.8s,baz=241,slow=23,SNR=3.1							
KMBO	Kilima Mbogo	124.29	347	PKP		PKPdf	16 57 16.2	+3.8
QSPA	South Pole Qui	146.14	180	*e*P		PKPdf	16 57 53.2	+2.6

JMA ***27*** *16:46:58.1,37.38N×139.02E,M3.8 Broadband fault plane solution: P waves. NP1:*ϕ_s*16°,δ46°,λ52°. NP2: *ϕ_s*245°,δ55°,λ123°. Principal axes: T Plg63°, Azm212°; N Plg26°, Azm44°; P Plg5°, Azm312°;*
JMA Felt III J1.
NEIC ***27*** *16:46:59.0±0.5,37.27N×139.00E,h10km,mb4.3/1 Error ellipse: s-maj=13.6km s-min=8.6km az=125.0*
NIED ***27*** *16:47:00,37.40N×139.00E,h5km,Mw3.9 Best double couple: M0 7.14×10^14 NP1:*ϕ_s*39°,δ52°,λ101°. NP2:*ϕ_s*202°,δ40°,λ77°.*
IDC ***27*** *16:47:04.0±3.0,37.29N×138.93E,h51km±27km,mb3.6/11, mb1 3.9/12,mb1mx3.7/25,ML4.2/1,Error ellipse: s-maj=23.1km s-min=15.8km az=88.0*

ISC 27 16:46:57.9±0.4,37.37N±0.03×139.02E±0.04,h18km±3km, n24,σ0^{s}96/31,mb3.9/12,4D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
JHK	Hiroka	0.12	180	⇓P		Pb	16 47 01.1	-0.7
JHK				S		Sb	16 47 03.4	-1.1
JIZZ	Izumozaki	0.29	304	⇓P		Pb	16 47 04.7	+0.3
JIZZ				S		Sb	16 47 09.6	+0.8
JNS	Sasagawa	0.51	28	P		Pb	16 47 07.8	-0.3
JNS				S		Sb	16 47 14.6	-0.4
JFY	Yanaizu	0.55	85	⇓P		Pb	16 47 09.0	+0.3
JFY				S		Sb	16 47 16.5	+0.4
JKT	Katashina	0.62	163	⇓P		Pb	16 47 10.4	+0.4
JKT				S		Sb	16 47 19.3	+1.0
MAJO	Matsushiro	1.05	219	*e*P		Pb	16 47 17.3	+0.1
MAT	Matsushiro	1.05	219	P		Pb	16 47 17.4	+0.2
MAT				S		Sb	16 47 31.3	+0.8
MAT	Matsushiro	1.05	219	*e*P		Pb	16 47 17.0	-0.2
MAT				*e*S		Sb	16 47 31.0	+0.5
JHJ	Hachijo jima 2	4.28	171	P		Pn	16 48 04.9	+1.0
	41nm,0.3s,baz=254,slow=20,SNR=3.4							
ASAJ	Asahikawa	7.27	21	P		Pn	16 48 50.7	+4.7
KS15	Wonju Array Si	8.86	274	*e*P		P	16 49 07.5	-0.7
SONM	Songino Array	26.01	304	P		P	16 52 31.2	-0.3
	1.1nm,1.0s,mb3.3,baz=106,slow=9.0,SNR=5.2							
WRAB	Tennant Creek	57.16	185	*e*P		P	16 56 43.9	-2.3
	1.6nm,0.6s,mb4.2							
WRA	Warramunga Arr	57.17	185	P		P	16 56 44.7	-1.5
	1.5nm,0.6s,mb4.2,baz=1.9,slow=7.5,SNR=6.7							
ASAR	Alice Springs	60.89	185	P		P	16 57 11.2	-0.7
	0.6nm,0.8s,mb3.8,baz=18,slow=5.7,SNR=12							
FINES	FINESS Array B	67.62	331	P		P	16 57 54.7	-0.5
	0.9nm,0.8s,mb3.9,baz=50,slow=11,SNR=2.3							
STKA	Stephens Creek	68.92	178	P		P	16 58 03.5	-0.4
	1.7nm,1.0s,mb3.9,baz=336,slow=12,SNR=3.1							
STKA	Stephens Creek	68.92	178	P		P	16 58 03.5	-0.4
NEW	Newport	71.22	43	P		P	16 58 17.9	+0.4
	1.7nm,0.4s,mb4.3,baz=127,slow=22,SNR=2.4							
YBH	Yreka Blue Hor	71.64	51	P		P	16 58 19.6	-0.7
	2.9nm,0.5s,mb4.5,baz=72,slow=16,SNR=1.7							
AKASG	Malin Array Be	72.85	321	P		P	16 58 26.1	-1.0
	0.1nm,0.3s,mb3.2,baz=43,slow=6.2,SNR=4.4							
NVAR	Mina Array Bea	76.31	52	P		P	16 58 49.6	+2.3
	0.5nm,0.7s,mb3.5,baz=293,slow=6.9,SNR=3.2							
BRTR	Keskin Array B	77.19	310	P		P	16 58 53.5	+1.3
	0.4nm,0.5s,mb3.6,baz=45,slow=4.1,SNR=3.8							
MLR	Muntele Rosu	77.88	319	P		P	16 58 58.0	+2.1
	0.6nm,0.4s,mb3.9,baz=322,slow=21,SNR=2.2							

NIED ***27*** *17:03:00,37.20N×138.80E,h14km,Mw3.6 Best double couple: M0 2.45×10^14 NP1:*ϕ_s*3°,δ63°,λ53°. NP2:*ϕ_s*241°, δ45°,λ139°.*
JMA ***27*** *17:03:54.6,37.23N×138.86E,h16km±1km,M4.2 Broadband fault plane solution: P waves. NP1:*ϕ_s*241°, δ48°,λ120°. NP2:*ϕ_s*20°,δ50°,λ61°. Principal axes: T Plg68°, Azm222°; N Plg22°, Azm40°; P Plg1°, Azm130°;*
JMA Felt III J1.

ISC 27 17:03:54.5±0.8,37.22N±0.04×138.87E±0.06,h18km±13km, n8,σ0^{s}59/13,1C-6D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
JHK	Hiroka	0.12	76	⇓P		Pb	17 03 58.2	-0.3
JHK				S		Sb	17 04 00.9	-0.3
JIZZ	Izumozaki	0.34	338	⇓P		Pb	17 04 01.8	+0.1
JIZZ				S		Sb	17 04 07.7	+1.1
JKT	Katashina	0.55	146	⇓P		Pb	17 04 05.5	+0.3
JKT				S		Sb	17 04 13.2	+0.7
JJN	Nakama	0.57	259	⇓P		Pb	17 04 05.5	-0.2
JJN				S		Sb	17 04 13.9	+0.6
JGK	Kuni	0.68	196	⇓P		Pb	17 04 07.7	+0.2
JNS	Sasagawa	0.70	31	⇑P		Pb	17 04 07.5	-0.3
MAT	Matsushiro	0.86	218	P		Pb	17 04 10.0	-0.5
MAT				S		Sb	17 04 20.9	-0.6
JSD	Sado	0.95	330	⇓P		Pb	17 04 10.9	-1.1

BJI ***27*** *17:04:13.8,28.97N×98.62E,h10km,ML3.3,Ms4.1, Msz3.8*
IDC ***27*** *17:04:29.5±1.1,31.11N×96.85E,mb3.8/4,mb1 3.9/6, mb1mx3.7/18,ML4.1/2,Error ellipse: s-maj=52.2km s-min=20.4km az=63.0*
NEIC ***27*** *17:04:30.8±1.0,31.09N×96.85E,h10km,mb4.5/1,Error ellipse: s-maj=22.3km s-min=14.0km az=84.0*

ISC 27 17:04:15.5±2.1,29.3N±0.2×98.3E±0.2,h33km,n12, σ0^{s}82/12,mb4.0/2,1D,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
LSA	Lhasa	6.26	276	P		P	17 05 53.0	+5.1
SHL	Shillong	6.80	239	⇓PN		Pn	17 05 55.2	-0.4
SHL				*e*SN			17 06 33.4	
GUN	Gumba	11.02	266	*e*P		P	17 06 55.1	+1.3
	18nm,0.4s							
PKI	Pulchoki	11.49	265	*e*P		P	17 07 00.3	+0.1
	32nm,0.5s							
KKN	Kakani	11.56	266	*e*P		P	17 07 01.7	+0.5
	13nm,0.4s							
DMN	Daman	11.74	265	*e*P		P	17 07 04.0	+0.3
	9.7nm,0.5s							
GKN	Gorkha	12.08	267	*e*P		P	17 07 07.1	-1.2
	7.8nm,0.5s							
KOLN	Koldanda	13.03	267	*e*P		P	17 07 19.3	-1.6
	6.6nm,0.6s							
SONM	Songino Array	19.57	16	P		P	17 08 42.6	-0.7
	0.1nm,0.3s,baz=203,slow=13,SNR=6.3							
HYB	Hyderabad	21.60	241	*i* P		P	17 09 05.0	+0.4
AKASG	Malin Array Be	55.00	314	P		P	17 13 46.1	+0.3
	0.3nm,0.3s,mb3.8,baz=71,slow=7.5,SNR=6.1							
FINES	FINESS Array B	56.32	327	P		P	17 13 56.0	+0.9
	3.4nm,1.1s,mb4.3,baz=97,slow=11,SNR=3.0							

BJI ***27*** *17:04:51.0,29.23N×98.71E,h24km,ML4.0,Ms4.4, Msz3.6*
IDC ***27*** *17:05:08.6±0.5,31.16N×96.73E,mb3.6/2,mb1 3.8/5, mb1mx3.6/18,ML4.0/2,Error ellipse: s-maj=19.8km s-min=8.6km az=66.0*

ISC 27 17:04:49.8±0.8,29.2N±0.2×98.62E±0.07,h33km,n15, σ1^{s}18/16,mb4.2/5,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
KMI	Kunming	5.50	137	PG		Pb	17 06 26.8	+1.9
KMI				SG		Sb	17 07 37.5	+6.5
KMI				LR		LR		
	comp=N,281nm,6.4s							
KMI				LR		LR		
	comp=E,311nm,6.0s							
KMI				LR		LR		
	comp=Z,235nm,8.5s							
ENH	Enshi	9.51	81	*e*P		P	17 07 07.3	-0.1
	comp=Z,7.0nm,1.0s							
CMAR	Chiang Mai Arr	10.72	178	Pn		P	17 07 30.3	+6.1
	comp=Z,0.4nm,0.3s,baz=352,slow=14,SNR=4.9							
CMAR				Sn		S	17 09 53.6	+30
	baz=7.6,slow=22,SNR=3.4							
GUN	Gumba	11.27	266	*e*P		P	17 07 32.6	+1.0
	comp=Z,28nm,0.4s							
PKI	Pulchoki	11.75	265	*e*P		P	17 07 38.3	+0.3
	comp=Z,60nm,0.5s							
KKN	Kakani	11.82	266	*e*P		P	17 07 39.6	+0.6
	comp=Z,24nm,0.4s							
DMN	Daman	12.00	266	*e*P		P	17 07 41.9	+0.5
	comp=Z,24nm,0.6s							
GKN	Gorkha	12.34	268	*e*P		P	17 07 45.0	-1.1
	comp=Z,14nm,0.5s							
KOLN	Koldanda	13.29	267	*e*P		P	17 07 57.1	-1.5
	comp=Z,8.2nm,0.5s							
SONM	Songino Array	19.53	16	P		P	17 09 21.1	+4.0
	comp=Z,0.1nm,0.3s,baz=206,slow=10,SNR=3.8							
AKASG	Malin Array Be	55.21	314	P		P	17 14 24.3	+2.7
	comp=Z,1.6nm,0.5s,mb4.3,baz=72,slow=6.3,SNR=9.3							
FINES	FINESS Array B	56.49	327	P		P	17 14 34.7	+4.1
	comp=Z,3.8nm,1.2s,mb4.3,baz=59,slow=8.1,SNR=2.9							
WRAB	Tennant Creek	59.81	141	P		P	17 14 53.3	-1.1
	comp=Z,1.8nm,0.5s,mb4.4							
WRA	Warramunga Arr	59.81	141	P		P	17 14 53.4	-1.0
	comp=Z,0.7nm,0.5s,mb4.0,baz=328,slow=7.7,SNR=4.9							
ASAR	Alice Springs	62.59	143	P		P	17 15 12.2	-0.9
	comp=Z,0.4nm,0.4s,mb3.9,baz=326,slow=6.5,SNR=5.0							

IDC ***27*** *17:21:14.3±0.6,11.57N×86.23W,h34km±3km,mb4.1/12, mb1 4.4/12,mb1mx4.1/20,MS3.9/15,Ms1 3.9/15, ms1mx3.8/20,Error ellipse: s-maj=27.1km s-min=14.2km az=59.0*
BJI ***27*** *17:21:14.3,11.40N×86.30W,h37km,Ms4.8,Msz4.7*
NEIC ***27*** *17:21:14.3±0.4,11.42N×86.35W,mb4.4/20,Error ellipse: s-maj=13.3km s-min=7.4km az=53.0*
NEIC Felt at Managua.
CASC ***27*** *17:21:15.6±3.0,11.26N×86.74W,h27km±8km,MD4.6, ML4.5,mb4.4(NEIC)*

ISC 27 17:21:12.4±0.4,11.07N±0.03×86.83W±0.03,h37km, h37km±9km:pP-P,n110,σ1^{s}24/109,mb4.4/31,MS3.9/15, 8C-15D,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
SSNN	San Juan del S	0.99	77	*e*P		P	17 21 30.0	0.0
SSNN				*e*S		S	17 21 43.1	+0.1
CRUN	El Crucero	1.05	30	⇑*e*P		P	17 21 30.7	-0.1
TICN	Ticuantepe	1.13	31	⇓*i*P		P	17 21 32.2	+0.3
APON	Apoyo	1.13	42	⇓*i*P		P	17 21 31.8	-0.1
COPN	Copaltepe	1.13	12	⇑*i*P		P	17 21 32.5	+0.6
COPN				*e*S		S	17 21 46.0	-0.5
XAVN	Gruta Xavier	1.18	25	⇓*e*P		P	17 21 33.0	+0.3
MGAN	Managua	1.22	28	⇓*i*P		P	17 21 33.5	+0.4
MGAN				*e*S		S	17 21 48.9	+0.2
MGAN				*i*			17 21 52.5	
	comp=E,13μm,0.3s							
APYN	Apoyeque	1.25	22	⇑*e*P		P	17 21 34.1	+0.4
WILN	Americas 2	1.26	30	⇓*i*P		P	17 21 33.8	+0.1
WILN				*e*S		S	17 21 48.3	-1.5
MADN	Villa Maderas	1.32	75	⇑*e*P		P	17 21 35.1	+0.4
MADN				*e*S		S	17 21 52.4	+1.1
LEON	Leon	1.34	358	⇓*i*P		P	17 21 36.0	+1.0
MOMJ	Momotombo	1.36	12	⇓*e*P		P	17 21 35.6	+0.3
MIRN	Miramar	1.37	5	⇑*i*P		P	17 21 36.3	+0.9
CNGN	Cerro Negro	1.43	5	⇓*e*P		P	17 21 36.8	+0.5
CNGN				*e*S		S	17 21 54.5	+0.4
TEL3	Telica 3	1.50	360	⇓*e*P		P	17 21 38.1	+0.9
TEL3				*e*S		S	17 21 52.7	-3.0
VCR	Vista de Mar	1.51	128	*e*P		P	17 21 39.1	+1.7
TELN	Telica	1.53	0	⇓*e*P		P	17 21 38.8	+1.1
TELN				*e*S		S	17 21 56.4	-0.2
PYTN	Playitas	1.65	27	⇓*e*P		P	17 21 39.2	-0.1
PYTN				*e*S		S	17 22 00.5	+0.9
FORC	Fortuna	2.21	105	*e*P		P	17 21 51.2	+3.8
CNCH	Conchagua	2.40	336	⇓*e*P		P	17 21 51.5	+1.3
BLLM	Bellamira	2.73	330	⇓*e*P		P	17 21 57.2	+2.4
BLLM				*e*S		S	17 22 28.0	+1.0
LAJ	Bijagual	2.92	114	*e*P		P	17 21 58.6	+1.1
LAJ				*e*S		S	17 22 36.8	+4.9
SJS	Escuela Geolog	2.95	112	*e*P		P	17 21 59.8	+1.7
SJS				*e*S		S	17 22 41.6	+8.9
LCR2	La Lucha 2	3.08	115	*e*P		P	17 22 03.1	+3.3
LCR2				*e*S		S	17 22 42.1	+6.2
TRTC	Tortuguero	3.10	99	⇓*e*P		P	17 22 59.0	-0.3
ICR	Volcan Irazu	3.14	110	*e*P		P	17 22 04.5	+3.8
SNVI	San Vicente	3.20	322	*e*P		P	17 22 04.5	+3.0
SNVI				*e*S		S	17 22 39.9	+1.0
URSC	Urasca	3.24	112	*e*P		P	17 22 06.0	+3.9
LCBS	La Ceiba	3.32	321	*e*P		P	17 22 04.9	+1.7
LCBS				*e*S		S	17 22 42.0	+0.1
LFRS	El Faro	3.35	320	⇑*e*P		P	17 22 05.3	+1.7
LFRS				*e*S		S	17 22 42.4	-0.2
BUS	Buena Vista	3.38	116	⇑*e*P		P	17 22 08.1	+4.0
LBRS	Las Brisas	3.42	321	*e*P		P	17 22 07.1	+2.4
BOQS	Boqueron	3.57	318	*e*P		P	17 22 10.7	+4.0
BOQS				*e*S		S	17 22 49.0	+0.7
SBLS	San Blas	3.88	316	*e*P		P	17 22 15.6	+4.5
SBLS				*e*S		S	17 22 56.1	0.0
SNJE	San Jose	3.88	316	⇑*e*P		P	17 22 15.0	+3.8
RTR	El Retiro	3.93	316	*e*P		P	17 22 14.6	+2.7
RTR				*e*S		S	17 22 57.8	+0.3
OTAV	Otavalo	13.61	142	P		P	17 21 21.4	-4.1
SDV	Santo Domingo	16.10	96	*e*P		P	17 24 57.1	-0.7
	comp=E,9.4nm,0.9s							
HKT	Hockley	20.57	337	*e*P		P	17 25 49.8	-0.9
	comp=E,39nm,1.1s							
SJG	San Juan	21.19	68	P		P	17 25 48.8	-8.3
	comp=E,7.4nm,0.3s,mb4.5,baz=341,sl

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=E,2.2nm,0.8s,baz=128,slow=5.0,SNR=8.1						
NVAR				pPcP		17 31 00.4	
	comp=E,1.9nm,0.7s,baz=126,slow=5.0,SNR=5.9						
ULM	**Lac du Bonnet**	**39.77**	**351**	P	**P**	**17 28 39.8**	**-3.6**
	comp=E,10nm,1.0s,mb4.5,baz=160,slow=11,SNR=6.5						
ULM				pP	pP	17 28 51.3	-2.6
	comp=E,4.6nm,0.6s,baz=160,slow=11,SNR=3.5						
ULM				LR	LR	17 48 31.0	
	comp=E,76nm,18.6s,MS3.6,baz=341,slow=42						
DGMT	**Dagmar**	**40.01**	**342**	*e*P	**P**	**17 28 43.6**	**-1.8**
	comp=E,15nm,0.6s,mb4.9						
HLID	**Hailey**	**40.23**	**329**	*e*P	**P**	**17 28 47.5**	**+0.3**
	comp=E,1.8nm,0.6s,mb4.0						
MCMT	**McKenzie Canyo**	**40.38**	**331**	*e*P	**P**	**17 28 48.7**	**+0.2**
MSO	**Missoula**	**42.38**	**332**	P	**P**	**17 29 03.8**	**-1.1**
NEW	**Newport**	**44.90**	**331**	P	**P**	**17 29 24.1**	**-1.2**
	comp=E,2.5nm,0.6s,mb4.3,baz=103,slow=13,SNR=2.5						
NEW	**Newport**	**44.90**	**331**	P	**P**	**17 29 23.4**	**-1.9**
SCHQ	**Schefferville**	**46.43**	**16**	P	**P**	**17 29 33.2**	**-4.1**
	comp=E,2.5nm,0.6s,mb4.3,baz=238,slow=11,SNR=3.5						
SCHQ				LR	LR	17 49 30.6	
	comp=E,254nm,19.0s,MS4.2,baz=270,slow=37						
SCHQ	**Schefferville**	**46.43**	**16**	P	**P**	**17 29 33.2**	**-4.1**
SCHQ				LR	LR	17 49 30.6	
BDFB	**Brasilia**	**46.70**	**124**	P	**P**	**17 29 39.0**	**-1.0**
	comp=E,1.4nm,0.4s,mb4.2,baz=285,slow=9.8,SNR=3.5						
BDFB				LR	LR	17 50 24.2	
	comp=E,115nm,18.1s,MS3.9,baz=305,slow=38						
CPUP	**Villa Florida**	**46.95**	**143**	P	**P**	**17 29 42.0**	**+0.2**
	comp=E,2.0nm,0.8s,mb4.1,baz=180,slow=20,SNR=2.8						
CPUP				pP	pP	17 29 53.0	+0.4
	comp=E,2.0nm,0.6s,baz=180,slow=20,SNR=3.1						
CPUP				LR	LR	17 52 39.1	
	comp=E,102nm,19.2s,MS3.8,slow=40						
EDM	**Edmonton**	**47.11**	**339**	*e*P	**P**	**17 29 40.2**	**-2.5**
FRB	**Frobisher Bay**	**54.17**	**10**	LR	LR	17 54 12.3	
	comp=E,265nm,18.3s,MS4.3,baz=154,slow=37						
YKA	**Yellowknife Ar**	**55.10**	**345**	P	**P**	**17 30 39.6**	**-3.3**
	comp=E,1.2nm,0.6s,mb4.1,baz=148,slow=38,SNR=4.6						
YKA				pP	pP	17 30 50.5	-3.4
	comp=E,1.7nm,0.8s,baz=138,slow=7.4,SNR=3.5						
YKA				LR	LR	17 56 24.9	
	comp=E,85nm,19.5s,MS3.8,baz=160,slow=38						
YKA	**Yellowknife Ar**	**55.10**	**345**	P	**P**	**17 30 39.6**	**-3.3**
YKA				pP	pP	17 30 50.5	-3.4
YKA				LR	LR	17 56 24.9	
DLBC	**Dease Lake**	**57.41**	**335**	P	**P**	**17 30 57.9**	**-1.7**
	comp=E,4.9nm,0.8s,mb4.6						
INK	**Inuvik**	**64.70**	**343**	LR	LR	18 01 03.0	
	comp=E,60nm,19.8s,MS3.8,baz=132,slow=37						
ILAR	**Eielson Array**	**67.52**	**336**	P	**P**	**17 32 04.5**	**-2.1**
	comp=E,2.5nm,0.8s,mb4.3,baz=134,slow=4.2,SNR=33						
ILAR				pP	pP	17 32 16.0	-1.9
	comp=E,1.6nm,0.9s,baz=129,slow=3.6,SNR=6.2						
ILAR				LR	LR	18 05 17.1	
	comp=E,94nm,18.2s,MS4.0,baz=170,slow=39						
ESDC	**Sonseca Array**	**77.57**	**52**	LR	LR	18 04 42.5	
	comp=E,218nm,18.5s,MS4.5,baz=310,slow=34						
NOA	**NORSAR Array B**	**84.28**	**29**	LR	LR	18 06 09.9	
	comp=E,87nm,20.4s,MS4.1,baz=290,slow=32						
ARCES	**ARCESS Array B**	**87.29**	**19**	LR	LR	18 11 02.6	
	comp=E,69nm,20.6s,MS4.0,baz=22,slow=34						
AKASG	**Malin Array Be**	**97.30**	**35**	LR	LR	18 15 02.6	
	comp=E,80nm,20.3s,MS4.2,baz=285,slow=33						
SONM	**Songino Array**	**120.19**	**350**	PKP	PKPdf	17 40 00.6	+0.8
	comp=E,0.8nm,0.6s,baz=335,slow=1.8,SNR=9.3						
WMQ	**Urumqi**	**125.15**	**5**	*e*PKP	PKPdf	17 40 10.0	+0.5
SSE	**Sheshan**	**130.19**	**328**	*e*PKP	PKPdf	17 40 19.5	0.0
NJ2	**Nanjing**	**130.58**	**331**	*e*PKP	PKPdf	17 40 20.5	+0.3
STKA	**Stephens Creek**	**130.88**	**237**	PKP	PKPdf	17 40 23.9	+3.1
	comp=E,2.5nm,1.0s,baz=188,slow=14,SNR=3.2						
LZH	**Lanzhou**	**132.03**	**348**	*e*PKP	PKPdf	17 40 25.0	+2.1
LZH				XPKP		17 40 40.0	
ASAR	**Alice Springs**	**139.30**	**247**	PKhKP		17 40 32.9	
	comp=E,2.4nm,1.0s,baz=117,slow=4.2,SNR=5.9						
ASAR				PKP	PKPdf	17 40 39.4	+2.8
	comp=E,1.4nm,0.7s,baz=112,slow=1.5,SNR=23						
ASAR				pPKP		17 40 51.0	
	comp=E,2.0nm,0.8s,baz=113,slow=1.5,SNR=8.5						
WB2	**Warramunga Arr**	**139.44**	**252**	*e*PKP	PKPdf	17 40 40.1	+3.2
WB2				*e*pPKP		17 40 51.4	
WRA	**Warramunga Arr**	**139.45**	**252**	PKP	PKPdf	17 40 40.3	+3.4
	comp=E,2.7nm,0.8s,baz=95,slow=1.9,SNR=14						
WRA				pPKP		17 40 50.8	
	comp=E,5.5nm,1.0s,baz=88,slow=1.4,SNR=12						
TGY	**Tagaytay City**	**142.80**	**312**	PKP	PKPdf	17 40 47.0	+4.1
	comp=E,76nm,0.7s,baz=337,slow=18,SNR=3.0						
FITZ	**Fitzroy Crossi**	**147.84**	**254**	*e*PKP	PKPdf	17 40 57.7	+6.2
	comp=E,4.8nm,0.8s						
FITZ				*e*pPKP		17 41 08.5	
FITZ	**Fitzroy Crossi**	**147.84**	**254**	PKPbc	PKPdf	17 40 57.9	+6.4
	comp=E,5.4nm,0.8s,baz=152,slow=2.5,SNR=11						
FITZ				pPKPbc		17 41 08.2	
	comp=E,5.4nm,0.9s,baz=223,slow=1.9,SNR=6.9						
CMAR	**Chiang Mai Arr**	**150.12**	**349**	PKP	PKPdf	17 40 56.8	+1.6
	comp=E,3.2nm,0.8s,baz=307,slow=2.2,SNR=9.5						
CMAR				PKPbc	PKPdf	17 41 01.2	+6.1
	comp=E,3.2nm,0.8s,baz=322,slow=2.9,SNR=16						
CMAR				pPKPbc		17 41 12.4	
	comp=E,4.2nm,1.1s,baz=339,slow=2.2,SNR=6.1						

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*BJI **27** 17:30:40.0, 5.89S×35.30E, h31km, mb4.5*
*IDC **27** 17:30:42.1±0.8, 5.44S×35.91E, mb4.1/10, mb1 4.2/11, mb1mx4.1/20, ML4.2/1, MS3.6/5, Ms1 3.6/5, ms1mx3.3/18, Error ellipse: s-maj=38.4km s-min=16.8km az=97.0*
*NEIC **27** 17:30:43.4±0.4, 5.52S×35.94E, h10km, mb4.5/7, Error ellipse: s-maj=26.9km s-min=9.6km az=96.0*
*SYO **27** 17:30:43.3, 5.54S×36.17E, h10km, MB4.5*
ISC 27 17:30:41.4±0.4**, 5.44S**±0.06×**35.7E**±0.1**, h10**km**, n38, σ1ˢ02**/34**, mb4.2**/16**, MS3.7**/5**, 5C-1D, Tanzania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**4.54**	**20**	Pn	**Pn**	**17 31 51.2**	**-0.7**
	12nm,0.3s,baz=196,slow=15,SNR=105						
KMBO				Sn	**Sn**	**17 32 42.6**	**-2.8**
	28nm,0.3s,baz=278,slow=23,SNR=7.3						
KMBO				Lg		17 33 00.8	
	50nm,0.3s,baz=85,slow=23,SNR=29						
KMBO	**Kilima Mbogo**	**4.54**	**20**	*e*P	**Pn**	**17 31 50.9**	**-1.0**
KMBO				*e*S	**Sn**	**17 32 38.2**	**-7.3**
MBAR	**Mbarara**	**6.92**	**314**	⇑*i*P	**Pn**	**17 32 23.9**	**-1.5**
	34nm,0.7s						
MBAR				*e*S	**Sn**	**17 33 33.6**	**-11**
LSZ	**Lusaka**	**12.27**	**217**	*e*P	**P**	**17 33 35.1**	**-4.0**
	11nm,0.8s						
ASF	**Jabal al Asfar**	**37.42**	**2**	P	**P**	**17 37 58.4**	**+1.9**
	1.5nm,0.3s,mb4.3,baz=142,slow=7.2,SNR=2.6						
DBIC	**Dimbokro**	**42.25**	**286**	LR	LR	17 56 22.8	
	comp=Z,66nm,19.8s,MS3.5,baz=93,slow=36						
MALT	**Malatya**	**43.60**	**3**	*e*P	**P**	**17 38 50.4**	**+2.8**
	9.6nm,1.1s,mb4.4						
BRTR	**Keskin Array B**	**44.98**	**358**	P	**P**	**17 39 00.5**	**+1.7**
	1.2nm,0.9s,mb3.7,baz=180,slow=11,SNR=6.9						
KIV	**Kislovodsk**	**49.56**	**7**	*e*P	**P**	**17 39 35.5**	**+0.9**
	11nm,1.0s,mb4.8						
PSZ	**Piszkesteto**	**54.93**	**347**	*e*P	**P**	**17 40 15.1**	**+0.4**
	4.1nm,0.8s,mb4.5						
KWP	**Kalwaria**	**56.00**	**350**	P	**P**	**17 40 22.2**	**-0.2**
AKASG	**Malin Array Be**	**56.19**	**355**	P	**P**	**17 40 23.4**	**-0.4**
	3.7nm,0.8s,mb4.5,baz=176,slow=6.0,SNR=16						
GERES	**GERESS Array B**	**57.38**	**343**	P	**P**	**17 40 32.0**	**-0.4**
	1.8nm,0.8s,mb4.2,baz=153,slow=6.0,SNR=13						
SYO	**Syowa Base**	**63.53**	**178**	⇓P	**P**	**17 41 13.4**	**-0.5**
SYO	**Syowa Base**	**63.53**	**178**	⇑pP	pP	17 41 15.5	-1.6
ZRNK	**Zerenda**	**64.62**	**22**	*e*P	**P**	**17 41 20.9**	**-0.5**
BVAR	**Borovoye Array**	**65.19**	**22**	P	**P**	**17 41 24.5**	**-0.5**
	0.7nm,0.6s,mb3.9,baz=202,slow=8.0,SNR=4.6						
CMAR	**Chiang Mai Arr**	**66.66**	**67**	P	**P**	**17 41 34.0**	**-1.0**
	0.9nm,0.9s,mb3.8,baz=270,slow=4.5,SNR=4.3						
CMAR				LR	LR	18 08 52.9	
	comp=Z,21nm,20.1s,MS3.4,baz=285,slow=34						
KURK	**Kurchatov**	**66.98**	**28**	*e*P	**P**	**17 41 36.2**	**-0.4**
	2.7nm,0.8s,mb4.3						
FINES	**FINESS Array B**	**67.10**	**355**	LR	LR	18 14 42.1	
	comp=Z,69nm,18.4s,MS3.9,baz=341,slow=39						
NB2	**NORSAR Subarra**	**68.98**	**348**	P	**P**	**17 41 49.4**	**+0.6**
	1.2nm,0.8s,mb3.9,baz=155,slow=6.2						
NOA	**NORSAR Array B**	**68.98**	**348**	P	**P**	**17 41 48.9**	**+0.1**
	2.4nm,0.8s,mb4.2,baz=152,slow=5.9,SNR=5.2						
SNAA	**Sanae**	**70.39**	**192**		**P**	**17 41 57.4**	**+0.1**
SNAA	**Sanae**	**70.39**	**192**	P	**P**	**17 41 57.6**	**+0.3**
	1.0nm,0.9s,mb3.7,baz=13,slow=1.9,SNR=8.0						
SNAA	**Sanae**	**70.39**	**192**	P	**P**	**17 41 57.4**	**+0.1**
VNA1	**Neumayer--Stat**	**70.88**	**194**	⇑*i*	**P**	**17 42 01.7**	**+1.4**
VNA3	**Neumayer Olymp**	**71.62**	**194**	⇑*i*	**P**	**17 42 04.8**	**0.0**
GTA	**Gaotai**	**73.89**	**46**	P	**P**	**17 42 18.8**	**+0.2**
GTA				AP	pP	17 42 27.0	+5.2
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.2						
SONM	**Songino Array**	**81.23**	**40**	P	**P**	**17 43 00.7**	**+1.6**
	comp=Z,1.9nm,0.9s,mb4.0,baz=254,slow=5.2,SNR=15						
QSPA	**South Pole Qui**	**84.62**	**180**	⇑*i*P	**P**	**17 43 14.9**	**-0.9**
	comp=Z,5.6nm,1.0s,mb4.7						
FITZ	**Fitzroy Crossi**	**88.25**	**108**	LR	LR	18 16 19.1	
	comp=Z,22nm,19.8s,MS3.6,baz=353,slow=31						
CPUP	**Villa Florida**	**90.35**	**244**	LR	LR	18 22 05.1	
	comp=Z,54nm,18.5s,MS4.0,baz=359,slow=34						
VNDA	**Vanda**	**92.05**	**170**	P	**P**	**17 43 51.5**	**+0.1**
	comp=Z,0.7nm,0.8s,mb4.1,baz=305,slow=7.6,SNR=3.4						
VNDA	**Vanda**	**92.05**	**170**	P	**P**	**17 43 51.2**	**-0.2**
	comp=Z,1.8nm,1.2s,mb4.3						
SBA	**Scott Base**	**92.66**	**171**	*e*P	**P**	**17 43 53.6**	**-0.6**
CN2	**Changchun**	**93.52**	**47**	*e*P	**P**	**17 43 58.0**	**-0.9**
PDAR	**Pinedale Array**	**131.78**	**326**	PKP	PKPdf	17 49 57.9	-0.5
	comp=Z,0.4nm,0.7s,baz=90,slow=3.0,SNR=4.3						
NVAR	**Mina Array Bea**	**139.57**	**328**	PKP	PKPdf	17 50 14.2	+1.3
	comp=Z,3.3nm,1.1s,baz=74,slow=3.5,SNR=8.0						

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*NAO **27** 17:48:00.4±1.6, 67.16N×20.65E, ML2.0*
*HEL **27** 17:48:00.5±0.1, 67.09N×20.93E, ML1.8, ML2.1(UPP), ML2.0(BER), Explosion*
*IDC **27** 17:48:01.4±1.0, 67.04N×21.65E, mb1 3.1/3, mb1mx3.0/17, ML2.4/3, Error ellipse: s-maj=18.7km s-min=7.2km az=114.0*
*BER **27** 17:48:02.6±3.1, 67.14N×20.82E, ML1.6, ML2.0(NAO), Suspected explosion*
ISC 27 17:47:59.2±0.4**, 67.05N**±0.02×**20.99E**±0.07**, n32, σ1ˢ25**/52**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.18**	**295**	*i* P	**Pg**	**17 48 02.9**	**+0.1**
DUNU				*i* S	**Sg**	**17 48 05.3**	**0.0**
MASU	**Masugnsbyn**	**0.57**	**43**	*i* P	**Pg**	**17 48 10.5**	**-0.1**
PAJU	**Pajala**	**0.83**	**90**	*i* P	**Pg**	**17 48 15.5**	**-0.3**
KUA	**Kurravaara**	**0.95**	**345**	*e*P	**Pg**	**17 48 16.5**	**-1.6**
NIKU	**Nikkaluokta**	**1.12**	**318**	*e*P	**Pb**	**17 48 19.6**	**-1.5**
SJUU	**Sjulsmark**	**1.56**	**171**	*e*P	**Pn**	**17 48 29.0**	**+0.6**
LILU	**Lilltraesk**	**1.83**	**195**	*e*P	**Pn**	**17 48 33.0**	**+0.9**
KIF	**Kilpisjarvi**	**1.97**	**358**	*e*P	**Pn**	**17 48 35.3**	**+1.1**
KIF				*e*S	**Sn**	**17 49 01.8**	**+1.8**
KTK1	**Kautokeino**	**2.15**	**22**	*e*P	**Pn**	**17 48 37.6**	**+0.8**
KTK1				*e*SG	**Sg**	**17 49 05.3**	**-5.5**
KTK1				AML	AML	17 49 17.6	
	comp=Z,9.0nm,0.3s						
SGF	**Sodankyl**	**2.19**	**77**	*e*P	**Pn**	**17 48 38.3**	**+1.0**
SGF				*e*S	**Sn**	**17 49 09.1**	**+3.6**
BURU	**Burvik**	**2.48**	**176**	*e*P	**Pn**	**17 48 42.8**	**+1.3**
SVAU	**Svanoeiden**	**2.63**	**194**	*e*P	**Pn**	**17 48 44.1**	**+0.5**
MOR8	**Moi Rana**	**2.76**	**254**	*e*SG	**Sg**	**17 49 20.5**	**-10**
MOR8				AML	AML	17 49 30.5	
	comp=Z,6.2nm,0.3s						
OUL	**Oulu**	**2.81**	**132**	*e*P	**Pn**	**17 48 47.9**	**+1.8**
OUL				*e*S	**Sn**	**17 49 21.6**	**+0.5**
ARA0	**ARCESS Array S**	**3.01**	**32**	Pn	**Pn**	**17 48 48.6**	**-0.4**
	baz=208,slow=16						
ARA0				Sn	**Sn**	**17 49 24.6**	**-1.8**
	baz=210,slow=28						
ARA0	**ARCESS Array S**	**3.01**	**32**	*e*P	**Pn**	**17 48 48.6**	**-0.4**
ARA0				*e*S	**Sn**	**17 49 24.6**	**-1.8**
ARCES	**ARCESS Array B**	**3.01**	**32**	Pn	**Pn**	**17 48 48.7**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=210,slow=14,SNR=61						
ARCES				Sn	**Sn**	**17 49 25.6**	**-0.8**
	comp=Z,0.9nm,0.3s,baz=209,slow=22,SNR=6.9						
ARCES				Lg		17 49 31.0	
	comp=Z,0.8nm,0.3s,baz=186,slow=21,SNR=7.4						
LOF	**Lofoten**	**3.06**	**294**	*e*SG	**Sg**	**17 49 37.0**	**-4.0**
MSF	**Maaselka**	**3.42**	**106**	*e*PB	**Pb**	**17 49 00.8**	**+0.3**
MSF				*e*SG	**Sg**	**17 49 50.5**	**-2.6**
MSF				MSG		17 49 54.1	
	comp=Z,2.0nm,0.2s						
KEV	**Kevo**	**3.52**	**36**	*e*P	**Pn**	**17 48 57.7**	**+1.5**
KEV				*e*S	**Sn**	**17 49 38.9**	**-0.2**
KJN	**Kajaani**	**4.08**	**134**	*e*P	**Pn**	**17 49 04.6**	**+0.5**
KJN				*e*S	**Sn**	**17 49 52.1**	**-1.2**
KJN				*e*SB	**Sb**	**17 50 03.1**	**+1.2**
VAF	**Ylistaro**	**4.08**	**169**	*e*P	**Pn**	**17 49 04.6**	**+0.4**
VAF				*e*S	**Sn**	**17 49 49.7**	**-3.7**
APA0	**Apatity Array**	**4.68**	**78**	Pn	**Pn**	**17 49 13.8**	**+1.1**
	baz=269,slow=14						
APA0	**Apatity Array**	**4.68**	**78**	*e*P	**Pn**	**17 49 13.8**	**+1.1**
SUF	**Sumiainen**	**4.87**	**151**	*e*P	**Pn**	**17 49 15.6**	**+0.2**
SUF				*e*S	**Sn**	**17 50 10.2**	**-3.1**
SUF				*e*SG	**Sg**	**17 50 31.9**	**-9.3**
SUF				MSG		17 50 36.2	
	comp=Z,0.8nm,0.2s						
JOF	**Joensuu**	**6.02**	**129**	*e*P	**Pn**	**17 49 31.0**	**-0.7**
JOF				*e*S	**Sn**	**17 50 38.7**	**-3.6**
FIA0	**FINESS Array S**	**6.04**	**156**	Pn	**Pn**	**17 49 31.5**	**-0.5**
	baz=335,slow=10						
FIA0				Sn	**Sn**	**17 50 40.9**	**-2.0**
	baz=343,slow=28						
FIA0	**FINESS Array S**	**6.04**	**156**	*e*P	**Pn**	**17 49 31.5**	**-0.5**
FIA0				*e*S	**Sn**	**17 50 40.9**	**-2.0**
FINES	**FINESS Array B**	**6.04**	**156**	Pn	**Pn**	**17 49 31.8**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=344,slow=14,SNR=3.5						
FINES				Sn	**Sn**	**17 50 37.9**	**-5.0**
	comp=Z,0.3nm,0.3s,baz=337,slow=25,SNR=6.5						
NOA	**NORSAR Array B**	**7.39**	**220**	Pn	**Pn**	**17 49 52.3**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=42,slow=14,SNR=2.8						
NOA				Sn	**Sn**	**17 51 11.8**	**-4.7**
	comp=Z,0.1nm,0.3s,baz=325,slow=11,SNR=2.9						
NOA				Lg		17 52 00.5	
	comp=Z,0.2nm,0.3s,baz=356,slow=15,SNR=2.5						
HFS	**Hagfors**	**7.66**	**209**	Pn	**Pn**	**17 49 52.3**	**-2.4**
	baz=23,slow=12						
HFS	**Hagfors**	**7.66**	**209**	*e*P	**Pn**	**17 49 52.3**	**-2.4**

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*NIED **27** 17:51:00, 37.40N×138.90E, h5km, Mw3.7 Best double couple: M₀3.84×10¹⁴ NP1:φs188°, δ64°, λ76°. NP2:φs38°, δ29°, λ116°.*
*IDC **27** 17:51:06.1±3.1, 37.36N×138.66E, mb3.8/4, mb1 4.1/4, mb1mx3.7/22, Error ellipse: s-maj=96.8km s-min=37.7km az=6.0*
*JMA **27** 17:51:07.5, 37.39N×138.88E, h3km±2km, M3.7*
JMA Felt III J1.
*NEIC **27** 17:51:08.5±0.6, 37.34N×138.76E, h10km, Error ellipse: s-maj=16.3km s-min=8.2km az=123.0*
NEIC Recorded [2 JMA] in Niigata and [1 JMA] in Fukushima and Gumma Prefectures.
ISC 27 17:51:06.9±0.8**, 37.40N**±0.04×**138.85E**±0.06**, h12**km±5km**, n13, σ0ˢ62**/16**, mb3.7**/4**, 1C-2D, Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIZZ	**Izumozaki**	**0.17**	**321**	⇓P	**Pg**	**17 51 11.7**	**+0.8**
JHK	**Hiroka**	**0.20**	**138**	⇓P	**Pg**	**17 51 11.2**	**-0.3**
JHK				S	**Sg**	**17 51 14.3**	**-0.3**
JNS	**Sasagawa**	**0.56**	**42**	⇑P	**Pb**	**17 51 18.0**	**-0.1**
JNS				S	**Sb**	**17 51 26.0**	**+0.2**
JFY	**Yanaizu**	**0.68**	**89**	P	**Pb**	**17 51 20.2**	**0.0**
JKT	**Katashina**	**0.71**	**153**	P	**Pb**	**17 51 20.4**	**-0.2**
JKT				S	**Sb**	**17 51 29.9**	**-0.1**
MAJO	**Matsushiro**	**1.00**	**211**	*e*P	**Pb**	**17 51 25.8**	**+0.2**
MAT	**Matsushiro**	**1.00**	**211**	*e*P	**Pb**	**17 51 26.0**	**+0.5**
MAT				*e*S	**Sb**	**17 51 39.0**	**+0.6**
KS15	**Wonju Array Si**	**8.72**	**274**	*e*P	**P**	**17 53 14.5**	**-1.3**
SONM	**Songino Array**	**25.88**	**304**	P	**P**	**17 56 38.7**	**-1.2**
	1.6nm,1.3s,mb3.4,baz=90,slow=8.6,SNR=4.3						
INK	**Inuvik**	**54.99**	**27**	P	**P**	**18 00 39.4**	**-0.4**
	0.9nm,0.8s,mb3.9,baz=184,slow=11,SNR=2.1						
NVAR	**Mina Array Bea**	**76.39**	**52**	P	**P**	**18 02 58.8**	**+1.1**
	1.1nm,0.7s,mb3.9,baz=295,slow=4.9,SNR=7.2						
PDAR	**Pinedale Array**	**78.86**	**44**	P	**P**	**18 03 11.7**	**+0.5**
	0.7nm,0.6s,mb3.8,baz=288,slow=2.9,SNR=4.7						
LPAZ	**La Paz**	**148.23**	**56**	PKPbc	PKPdf	18 10 55.0	+2.0
	1.0nm,0.7s,baz=281,slow=5.2,SNR=4.6						

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*IDC **27** 17:54:40.7±4.8, 57.10N×151.70W, mb3.9/3, mb1 3.9/5, mb1mx3.7/18, ML3.6/2, Error ellipse: s-maj=115.0km s-min=32.7km az=135.0*
*NEIC **27** 17:55:01.4, 58.79N×152.25W, h44km, ML3.6(PMR), ML3.3(AEIC), After AEIC.*
ISC 27 17:54:59.1±0.3**, 58.77N**±0.03×**152.21W**±0.05**, h72**km±5km**, n80, σ0ˢ66**/95**, mb3.9**/3**, Kodiak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SYI	**Shuyak Island**	**0.19**	**211**	P	**P**	**17 55 08.4**	**-1.5**
XLV	**Seldovia**	**0.73**	**20**	P	**P**	**17 55 15.3**	**+0.6**
AUE	**Augustine Isla**	**0.84**	**315**	P	**P**	**17 55 15.7**	**-0.3**
AUI	**Augustine Isla**	**0.85**	**313**	P	**P**	**17 55 15.5**	**-0.6**
AUI				S	**S**	**17 55 27.2**	**-1.5**
AUH	**Augustine H**	**0.87**	**314**	P	**P**	**17 55 16.2**	**-0.2**
AUW	**Augustine West**	**0.89**	**313**	P	**P**	**17 55 16.2**	**-0.4**
CNPM	**China Poot**	**0.91**	**33**	P	**P**	**17 55 17.6**	**+0.8**
CNPM				S	**S**	**17 55 30.6**	**+0.6**
KDAK	**Kodiak Island**	**1.01**	**191**	P	**P**	**17 55 18.2**	**+0.1**
KDAK				S	**S**	**17 55 32.2**	**-0.1**
OPT	**Oil Point**	**1.03**	**330**	P	**P**	**17 55 18.2**	**-0.1**
KAPH	**Katmai Pasha**	**1.13**	**262**	P	**P**	**17 55 19.6**	**0.0**
KAPH				S	**S**	**17 55 35.4**	**+0.4**
MCNL	**McNeil River**	**1.18**	**292**	P	**P**	**17 55 19.8**	**-0.5**
BRLK	**Bradley Lake**	**1.21**	**34**	P	**P**	**17 55 21.2**	**+0.5**
KAHG	**Katmai Hook Gl**	**1.25**	**258**	P	**P**	**17 55 21.5**	**+0.1**
KAHG				S	**S**	**17 55 38.4**	**+0.6**
IVE	**Iliamna Volcan**	**1.32**	**342**	P	**P**	**17 55 22.0**	**-0.3**
IVE				S	**S**	**17 55 38.4**	**-1.0**
IVS	**Iliamna South**	**1.32**	**341**	P	**P**	**17 55 22.3**	**0.0**
INE	**Iliamna NE**	**1.37**	**342**	P	**P**	**17 55 22.7**	**-0.2**
INE				S	**S**	**17 55 40.4**	**-0.1**
ILIM	**Iliamna**	**1.37**	**344**	P	**P**	**17 55 22.6**	**-0.3**
ILW	**Iliamna West**	**1.38**	**340**	P	**P**	**17 55 22.9**	**-0.1**
KAWH	**Katmai**	**1.41**	**255**	P	**P**	**17 55 23.6**	**0.0**
KAHC	**Katmai Hardscr**	**1.47**	**266**	P	**P**	**17 55 23.8**	**-0.4**
KAIC	**Katmai Ikaglui**	**1.51**	**260**	P	**P**	**17 55 24.8**	**-0.1**
KABR	**Katmai Barrier**	**1.59**	**247**	P	**P**	**17 55 25.8**	**-0.1**
RSO	**Redoubt South**	**1.72**	**351**	P	**P**	**17 55 28.0**	**+0.4**
RSO				S	**S**	**17 55 48.3**	**-0.3**
ACHA	**Angle Creek He**	**1.73**	**252**	P	**P**	**17 55 28.4**	**+0.6**
MGLS	**Mageik LS**	**1.73**	**252**	P	**P**	**17 55 27.2**	**-0.6**
MGLS				S	**S**	**17 55 48.1**	**-0.8**
RDN	**Redoubt North**	**1.77**	**351**	P	**P**	**17 55 28.7**	**+0.4**
RDN				S	**S**	**17 55 50.4**	**+0.5**
CAHL	**Cahill**	**1.78**	**247**	P	**P**	**17 55 28.8**	**+0.4**
CAHL				S	**S**	**17 55 51.3**	**+1.3**
ANCK	**Angle Creek**	**1.82**	**253**	P	**P**	**17 55 29.4**	**+0.4**
NCT	**North Crescent**	**1.83**	**349**	P	**P**	**17 55 29.9**	**+0.7**
DFR	**Drift River**	**1.84**	**353**	P	**P**	**17 55 29.8**	**+0.4**
KJL	**Kejulik**	**1.91**	**249**	P	**P**	**17 55 30.9**	**+0.7**
SEW	**Seward**	**1.94**	**45**	P	**P**	**17 55 30.4**	**-0.3**
SEW				S	**S**	**17 55 52.8**	**-1.1**
CNTC	**Contact Creek**	**1.99**	**257**	P	**P**	**17 55 31.6**	**+0.2**
SLKM	**Skilak Lake**	**2.02**	**29**	P	**P**	**17 55 32.7**	**+1.1**
SLKM				S	**S**	**17 55 55.5**	**-0.1**
MPA	**Moose Pass**	**2.25**	**39**	P	**P**	**17 55 35.5**	**+0.5**
BKG	**Blockade Glaci**	**2.31**	**359**	P	**P**	**17 55 36.3**	**+0.5**
SPU	**Mount Spurr**	**2.42**	**2**	P	**P**	**17 55 38.0**	**+0.6**
FIB	**Fire Island**	**2.61**	**22**	P	**P**	**17 55 41.3**	**+1.2**
RC01	**Rabbit Creek A**	**2.64**	**27**	P	**P**	**17 55 40.8**	**+0.3**
RC01				S	**S**	**17 56 10.7**	**-0.7**
STLK	**Strandline Lak**	**2.74**	**4**	P	**P**	**17 55 42.8**	**+0.9**
PWL	**Port Wells**	**2.87**	**41**	P	**P**	**17 55 43.4**	**-0.2**
PWA	**Palmer West**	**3.12**	**21**	*e*P	**P**	**17 55 47.3**	**+0.2**
PMR	**Palmer**	**3.22**	**27**	P	**P**	**17 55 49.3**	**+0.7**
KNK	**Knik Glacier**	**3.25**	**34**	P	**P**	**17 55 49.4**	**+0.3**
CFI	**College Fiord**	**3.29**	**41**	P	**P**	**17 55 49.2**	**-0.4**
HIN	**Hinchinbrook I**	**3.33**	**58**	P	**P**	**17 55 49.9**	**-0.2**
GLI	**Glacier Island**	**3.34**	**48**	P	**P**	**17 55 50.0**	**-0.2**
FID	**Port Fidalgo**	**3.51**	**53**	P	**P**	**17 55 51.2**	**-1.4**
SML	**Sawmill**	**3.61**	**31**	P	**P**	**17 55 54.8**	**+0.8**
JPK	**Jack Peak**	**3.64**	**49**	P	**P**	**17 55 54.6**	**+0.2**
CVA	**Cordova**	**3.73**	**59**	P	**P**	**17 55 55.4**	**-0.4**
EYAK	**Cordova Ski Ar**	**3.73**	**59**	P	**P**	**17 55 56.0**	**+0.3**
VLZ	**Valdez**	**3.79**	**49**	P	**P**	**17 55 56.7**	**+0.2**
SCM	**Sheep Creek Mo**	**3.92**	**36**	P	**P**	**17 55 58.4**	**+0.1**
SGAM	**Sherman Glacie**	**3.96**	**61**	P	**P**	**17 55 59.6**	**+0.8**
DIV	**Divide**	**4.01**	**51**	P	**P**	**17 55 59.6**	**0.0**
KAIM	**Kayak Island**	**4.16**	**70**	P	**P**	**17 56 01.1**	**-0.6**
HMT	**Hamilton**	**4.34**	**65**	P	**P**	**17 56 03.9**	**-0.3**
TT01	**Tatalina**	**4.55**	**337**	P	**P**	**17 56 06.5**	**-0.6**
TZL	**Tazlina**	**4.70**	**43**	P	**P**	**17 56 10.4**	**+1.2**
TRF	**Thorofare Moun**	**4.79**	**10**	P	**P**	**17 56 10.5**	**+0.1**
KTH	**Kantishna Hill**	**4.84**	**7**	P	**P**	**17 56 11.4**	**+0.2**
DHY	**Denali Highway**	**4.92**	**27**	P	**P**	**17 56 13.1**	**+0.8**
GLB	**Gilahina Butte**	**4.98**	**54**	P	**P**	**17 56 12.3**	**-0.8**
SNH	**Sunshine Point**	**4.98**	**70**	P	**P**	**17 56 13.3**	**+0.2**
WAX	**Waxell Ridge**	**5.04**	**66**	P	**P**	**17 56 13.6**	**-0.3**
MCK	**McKinley**	**5.22**	**16**	P	**P**	**17 56 16.4**	**-0.1**
PAX	**Paxson**	**5.35**	**35**	P	**P**	**17 56 18.3**	**+0.2**
BALM	**Baldy**	**5.46**	**61**	P	**P**	**17 56 18.8**	**-0.9**
CHX	**Chaix Hills**	**5.81**	**72**	P	**P**	**17 56 24.9**	**+0.4**
CTGM	**Chitina Glacie**	**5.90**	**63**	P	**P**	**17 56 25.3**	**-0.5**
PCA	**Pinnacle**	**6.24**	**73**	P	**P**	**17 56 30.2**	**-0.3**
COLA	**College**	**6.46**	**17**	*e*P	**P**	**17 56 32.9**	**-0.7**
ILAR	**Eielson Array**	**6.53**	**20**	Pn	**P**	**17 56 33.4**	**-1.2**
	0.5nm,0.3s,baz=203,slow=14,SNR=24						
ILAR				Sn	**S**	**17 57 42.5**	**-5.8**
	1.2nm,0.3s,baz=200,slow=24,SNR=7.7						
PNL	**Peninsula**	**6.64**	**77**	P	**P**	**17 56 35.5**	**-0.6**
INK	**Inuvik**	**12.62**	**33**	Pn	**P**	**17 57 59.5**	**+2.4**
	0.1nm,0.3s,baz=155,slow=32,SNR=4.1						
INK	**Inuvik**	**12.62**	**33**	Pn	**P**	**17 57 59.5**	**+2.4**
ARCES	**ARCESS Array B**	**51.98**	**1**	P	**P**	**18 04 01.6**	**-0.7**
	6.7nm,1.2s,mb4.5,baz=7.1,slow=7.3,SNR=5.9						
SONM	**Songino Array**	**55.85**	**307**	P	**P**	**18 04 28.5**	**-2.4**
	0.2nm,0.4s,mb3.5,baz=34,slow=5.2,SNR=4.3						
AKASG	**Malin Array Be**	**70.88**	**359**	P	**P**	**18 06 10.0**	**+0.4**
	0.3nm,0.3s,mb3.5,baz=4.1,slow=5.9,SNR=3.9						

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*NIED **27** 17:58:00, 37.40N×138.90E, h5km, Mw3.5 Best double couple: M₀1.87×10¹⁴ NP1:φs14°, δ61°, λ61°. NP2:φs243°, δ40°, λ132°.*
*JMA **27** 17:58:58.5, 37.39N×138.87E, h6km±2km, M3.5 Broadband fault plane solution: P waves. NP1:φs100°, δ32°, λ176°. NP2:φs194°, δ88°, λ58°. Principal axes: T Plg39°, Azm75°; N Plg32°, Azm195°; P Plg35°, Azm311°;*
JMA Felt II J1.
ISC 27 17:58:58.0±0.7**, 37.40N**±0.03×**138.86E**±0.06**, h13**km±5km**, n7, σ0ˢ34**/12**, 2C-4D, Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIZZ	**Izumozaki**	**0.18**	**317**	⇓P	**Pg**	**17 59 02.9**	**+0.5**
JHK	**Hiroka**	**0.20**	**141**	⇓P	**Pg**	**17 59 02.3**	**-0.3**
JHK				S	**Sg**	**17 59 05.6**	**-0.1**
JNS	**Sasagawa**	**0.55**	**41**	⇑P	**Pb**	**17 59 09.1**	**+0.1**
JNS				S	**Sb**	**17 59 16.9**	**+0.4**
JFY	**Yanaizu**	**0.67**	**89**	⇑P	**Pb**	**17 59 11.0**	**0.0**
JKT	**Katashina**	**0.70**	**154**	⇓P	**Pb**	**17 59 11.6**	**0.0**
JKT				S	**Sb**	**17 59 20.8**	**-0.1**
JSD	**Sado**	**0.80**	**323**	⇓P	**Pb**	**17 59 12.7**	**-0.5**
JSD				S	**Sb**	**17 59 23.3**	**-0.3**
MAT	**Matsushiro**	**1.00**	**212**	P	**Pb**	**17 59 16.5**	**-0.3**
MAT				S	**Sb**	**17 59 30.3**	**+0.6**

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*BJI **27** 18:14:49.6, 45.10N×80.16E, h29km, mB4.5, mb3.7, ML4.3, Ms3.4*
*NNC **27** 18:14:50.6±2.8, 45.28N×80.02E, h15km±16km, mpv4.0, Error ellipse: s-maj=17.5km s-min=10.0km az=10.0*
*IDC **27** 18:14:51.9±0.8, 45.09N×80.24E, h25km±5km, mb3.9/11, mb1 4.0/13, mb1mx3.9/22, ML4.0/2, MS3.0/1, Ms1 3.2/1, ms1mx2.7/24, Error ellipse: s-maj=23.3km s-min=11.2km az=44.0*
*MOS **27** 18:14:51.4±1.0, 45.05N×80.10E, h33km, mb4.2/8, Error ellipse: s-maj=17.7km s-min=11.1km az=92.4*
*NEIC **27** 18:14:52.2±0.3, 45.08N×80.10E, mb4.2/5, Error ellipse: s-maj=6.5km s-min=5.3km az=207.0*
ISC 27 18:14:50.2±0.3**, 45.16N**±0.04×**80.17E**±0.05**, h26**km**, h26**km±2.6km**:pP-P, n58, σ1ˢ20**/63**, mb4.0**/13**, MS2.9**/1**, 12C-11D, Kazakhstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**2.21**	**41**	⇓Pn	**Pn**	**18 15 29.2**	**+3.3**
	11nm,0.3s,baz=210,slow=13,SNR=2637						
MK31				⇓Lg		18 15 59.0	
	48nm,0.3s,baz=216,slow=25,SNR=25						

MK31					⇓Rg			18 16 16.7		
	140nm,9.9s									
MKAR	**Makanchi Array**	**2.21**	**41**	*i* PN		**Pn**		**18 15 29.1**	**+3.2**	
MKAR					pmax	pmax				
	comp=Z,35nm,0.2s									
TKM2	**Tokmak 2**	**3.98**	**237**		P	**Pn**		**18 15 52.0**	**+0.7**	
	SNR=43									
ULHL	**Ulahol**	**4.07**	**226**		P	**Pn**		**18 15 54.1**	**+1.6**	
	SNR=42									
CHMS	**Chumysh**	**4.46**	**243**		P	**Pn**		**18 15 58.1**	**+0.1**	
	SNR=15									
USP	**Ospenovka**	**4.49**	**247**		P	**Pn**		**18 15 58.3**	**-0.2**	
	SNR=26									
KBK	**Karagaybulak**	**4.53**	**238**		P	**Pn**		**18 15 59.5**	**+0.5**	
	SNR=68									
KZA	**Kyzart**	**4.71**	**231**		P	**Pn**		**18 16 15.0**	**+13**	
	SNR=5.9									
AAK	**Ala-Archa**	**4.81**	**240**	⇑Pn		**Pn**		**18 16 02.9**	**-0.1**	
AAK	comp=Z,28nm,0.7s									
					⇑Lg			18 17 17.0		
AAK	comp=Z,214nm,0.6s									
					⇑Rg			18 17 43.3		
AAK	comp=Z,203nm,10.6s									
AAK	**Ala-Archa**	**4.81**	**240**		P	**Pn**		**18 16 03.2**	**+0.2**	
	SNR=13									
AAK	**Ala-Archa**	**4.81**	**240***c*	*i* PN		**Pn**		**18 16 01.9**	**-1.1**	
AAK	comp=Z,19nm,0.8s				pmax	pmax				
UCH	**Uchtor**	**5.04**	**236**		P	**Pn**		**18 16 07.3**	**+1.1**	
	SNR=9.3									
EKS2	**Erkin-Say**	**5.25**	**244**		P	**Pn**		**18 16 09.3**	**+0.1**	
	SNR=41									
WMQ	**Urumqi**	**5.55**	**101**	*e*P		**Pn**		**18 16 14.0**	**+0.7**	
WMQ					S	**Sn**		**18 17 16.5**	**-0.5**	
WMQ					Smax					
	comp=N,142nm,1.0s									
WMQ					Smax					
	comp=E,104nm,1.0s									
WMQ					LR	LR				
	comp=N,101nm,10.0s									
WMQ					LR	LR				
	comp=E,103nm,10.0s									
AML	**Almayashu**	**5.59**	**239**		P	**Pn**		**18 16 15.2**	**+1.3**	
	SNR=8.9									
KURK	**Kurchatov**	**5.66**	**350**	⇑Pn		**Pn**		**18 16 15.8**	**+0.9**	
KURK	comp=E,16nm,0.6s									
					⇓Lg			18 17 48.0		
KURK	comp=E,189nm,0.8s									
					⇓Rg			18 18 13.4		
KURK	comp=E,139nm,9.2s									
KURK	**Kurchatov**	**5.66**	**350**	⇓*i* PN		**Pn**		**18 16 15.7**	**+0.8**	
KURK					pmax	pmax				
	comp=Z,16nm,0.6s									
KSH	**Kashi**	**6.44**	**210**	*e*P		**Pn**		**18 16 25.3**	**-0.6**	
KSH				*e*S		**Sn**		**18 17 37.5**	**-1.8**	
KSH					LR	LR				
	comp=N,470nm,3.6s									
KSH					LR	LR				
	comp=E,540nm,2.5s									
VOSK	**Vostochnaya**	**9.68**	**325**	⇑Pn		**P**		**18 17 08.5**	**-2.5**	
	comp=E,1.9nm,0.5s									
VOSK				⇑Sn		**Sn**		**18 18 53.2**	**-6.7**	
VOSK				⇑Lg				18 19 52.9		
	comp=E,75nm,0.9s									
VOSK				⇑Rg				18 20 35.4		
	comp=E,207nm,9.2s									
NVS	**Novosibirsk**	**9.89**	**10**	*e*P		**P**		**18 17 14.3**	**+0.5**	
NVS				*e*				18 19 00.4		
BVA0	**Borovoye Array**	**10.15**	**324**		Pn	**P**		**18 17 15.4**	**-2.0**	
	comp=E,0.3nm,0.3s,baz=141,slow=13,SNR=19									
BVA0					⇓Lg			18 20 06.8		
	comp=E,8.5nm,0.8s,baz=132,slow=13,SNR=4.3									
BVA0					⇑Rg			18 20 53.9		
	comp=E,2.1nm,9.1s									
BVA0	**Borovoye Array**	**10.15**	**324**		P	**P**		**18 17 15.6**	**-1.7**	
BVAR	**Borovoye Array**	**10.15**	**324**		Pn	**P**		**18 17 15.6**	**-1.7**	
	comp=E,1.3nm,0.3s,baz=138,slow=13,SNR=12									
BVAR					Sn	**S**		**18 19 04.7**	**-6.6**	
	comp=E,2.1nm,0.3s,baz=123,slow=30,SNR=4.1									
BVAR					Lg			18 20 07.9		
	comp=E,3.0nm,0.3s,baz=133,slow=28,SNR=3.5									
BRVK	**Borovoye**	**10.22**	**324**	*e*P		**P**		**18 17 16.5**	**-1.8**	
	comp=E,4.5nm,0.4s									
ZRNK	**Zerenda**	**10.69**	**321**	⇓Pn		**P**		**18 17 22.5**	**-2.3**	
	comp=E,2.1nm,0.6s									
ZRNK				⇓Sn		**S**		**18 19 17.4**	**-7.2**	
	comp=E,7.9nm,0.7s									
ZRNK				⇓Lg				18 20 24.9		
	comp=E,68nm,1.0s									
ZRNK				⇓Rg				18 21 09.8		
	comp=E,138nm,9.8s									
ZRNK	**Zerenda**	**10.69**	**321**		P	**P**		**18 17 22.4**	**-2.4**	
ZRNK								18 19 16.5		
ZRNK					pmax	pmax				
	comp=E,1.0nm,0.6s									
ZRNK					MLR	MLR				
	comp=Z,1μm,10.0s									
ZRNK	**Zerenda**	**10.69**	**321**		P	**P**		**18 17 22.4**	**-2.4**	
ZRNK				*e*				18 19 16.5		
ZAK	**Zakamensk**	**16.36**	**63**	*e*P		**P**		**18 18 42.0**	**+2.4**	
ARU	**Arti**	**17.63**	**318**	⇑*i* P		**P**		**18 18 57.5**	**+2.0**	
ARU					pmax	pmax				
	comp=Z,5.0nm,0.8s									
ARU	**Arti**	**17.63**	**318**	⇑*i* P		**P**		**18 18 57.5**	**+2.0**	
	comp=Z,5.0nm,0.8s									
SONM	**Songino Array**	**18.23**	**72**		P	**P**		**18 19 03.8**	**+0.8**	
	comp=Z,0.1nm,0.3s,baz=266,slow=12,SNR=11									
HHC	**Hu-ho-hao-te**	**23.28**	**90**	*e*P		**P**		**18 19 53.8**	**-2.7**	
HHC					AMB	AMB				
	comp=Z,13nm,1.3s,mb4.2									
HHC					AMB	AMB				
	comp=Z,134nm,5.7s									
HHC	**Hu-ho-hao-te**	**23.28**	**90**	*e*P		**P**		**18 19 53.8**	**-2.7**	
	comp=Z,13nm,1.3s,mb4.2									
ENH	**Enshi**	**27.36**	**113**		P	**P**		**18 20 33.8**	**-1.3**	
CMAR	**Chiang Mai Arr**	**30.88**	**143**		P	**P**		**18 21 06.3**	**-0.4**	
	comp=Z,1.5nm,0.7s,mb3.9,baz=318,slow=8.0,SNR=12									
CMAR					LR	LR		18 34 49.2		
	comp=Z,26nm,19.1s,MS2.9,baz=265,slow=39									
CMAR	**Chiang Mai Arr**	**30.88**	**143**		P	**P**		**18 21 06.3**	**-0.4**	
CMAR					pmax	pmax				
	comp=Z,2.0nm,0.7s									
CMAR					MLR	MLR				
	comp=Z,26nm,19.1s									
CN2	**Changchun**	**32.02**	**76**	*e*P		**P**		**18 21 16.0**	**-0.5**	
AKASG	**Malin Array Be**	**34.02**	**298**		P	**P**		**18 21 33.5**	**-0.3**	
	comp=Z,1.7nm,0.6s,mb4.2,baz=67,slow=8.6,SNR=5.0									
AKASG					pP	pP		18 21 42.6	+1.0	
	comp=Z,0.3nm,0.3s,baz=65,slow=9.0,SNR=3.0									
AKASG	**Malin Array Be**	**34.02**	**298**		P	**P**		**18 21 33.6**	**-0.2**	
AKASG					*PP	pP		18 21 42.6	+1.0	
AKASG					pmax	pmax				
	comp=Z,2.0nm,0.6s									
AKASG	**Malin Array Be**	**34.02**	**298**		P	**P**		**18 21 33.6**	**-0.2**	
	comp=Z,2.0nm,0.6s,mb4.2									
AKASG					pP	pP		18 21 42.6	+1.0	
BRTR	**Keskin Array B**	**34.39**	**278**		P	**P**		**18 21 37.9**	**+0.7**	
	comp=Z,1.9nm,0.9s,mb4.0,baz=80,slow=7.5,SNR=7.8									
BRTR	**Keskin Array B**	**34.39**	**278**		P	**P**		**18 21 37.9**	**+0.8**	
BRTR					pmax	pmax				
	comp=Z,2.0nm,0.9s									
FINES	**FINESS Array B**	**35.00**	**317**		P	**P**		**18 21 42.7**	**+0.5**	
	comp=Z,1.0nm,0.8s,mb3.8,baz=260,slow=21,SNR=2.8									
FINES	**FINESS Array B**	**35.00**	**317**		P	**P**		**18 21 42.7**	**+0.6**	
FINES					pmax	pmax				
	comp=Z,1.0nm,0.9s									
ARCES	**ARCESS Array B**	**36.35**	**331**		P	**P**		**18 21 54.4**	**+0.9**	
	comp=Z,2.7nm,0.8s,mb4.2,baz=90,slow=8.5,SNR=7.4									
ARCES	**ARCESS Array B**	**36.35**	**331**		P	**P**		**18 21 54.4**	**+0.9**	
ARCES					pmax	pmax				
	comp=Z,3.0nm,0.9s									
NB2	**NORSAR Subarra**	**42.19**	**317**		P	**P**		**18 22 42.5**	**+0.6**	
	comp=Z,1.8nm,0.5s,mb4.0,baz=79,slow=7.9									
NOA	**NORSAR Array B**	**42.19**	**317**		P	**P**		**18 22 42.8**	**+0.9**	
	comp=Z,2.2nm,0.5s,mb4.0,baz=80,slow=8.1,SNR=7.8									
NOA	**NORSAR Array B**	**42.19**	**317**		P	**P**		**18 22 42.8**	**+0.9**	
NOA					pmax	pmax				
	comp=Z,2.0nm,0.5s									
IDI	**Anoyia**	**42.60**	**277**		P	**P**		**18 22 46.1**	**+0.5**	
	comp=Z,8.3nm,1.1s,mb4.4,baz=74,slow=9.8,SNR=2.2									
GERES	**GERESS Array B**	**44.18**	**300**		P	**P**		**18 22 59.1**	**+0.7**	
	comp=Z,0.3nm,0.5s,mb3.3,baz=63,slow=8.8,SNR=4.0									
ILAR	**Eielson Array**	**64.41**	**20**		P	**P**		**18 25 25.7**	**0.0**	
	comp=Z,1.0nm,0.7s,mb3.9,baz=318,slow=5.2,SNR=14									
ILAR					pP	pP		18 25 33.8	-0.2	
	comp=Z,0.4nm,0.8s,baz=315,slow=7.0,SNR=3.7									
ILAR	**Eielson Array**	**64.41**	**20**		P	**P**		**18 25 25.7**	**0.0**	
ILAR					*PP	pP		18 25 33.8	-0.1	
ILAR					pmax	pmax				
	comp=Z,1.0nm,0.7s									
ILAR	**Eielson Array**	**64.41**	**20**		P	**P**		**18 25 25.7**	**0.0**	
ILAR					pP	pP		18 25 33.8	-0.2	
WRAB	**Tennant Creek**	**81.37**	**130**	*e*P		**P**		**18 27 05.5**	**-0.5**	
	comp=Z,2.9nm,0.8s,mb4.3									
WRA	**Warramunga Arr**	**81.37**	**130**		P	**P**		**18 27 05.3**	**-0.8**	
	comp=Z,1.2nm,0.6s,mb4.0,baz=330,slow=4.9,SNR=5.5									
WRA	**Warramunga Arr**	**81.37**	**130**		P	**P**		**18 27 05.3**	**-0.8**	
WRA					pmax	pmax				
	comp=Z,1.0nm,0.6s									
ASAR	**Alice Springs**	**84.16**	**132**		P	**P**		**18 27 20.1**	**-0.3**	
	comp=Z,1.2nm,0.7s,mb4.2,baz=326,slow=4.8,SNR=15									
ASAR					pP	pP		18 27 27.6	-1.2	
	comp=Z,0.7nm,0.7s,baz=325,slow=4.5,SNR=4.4									

NIED ***27*** *18:27:00, 40.30N×142.10E, h65km, Mw3.7 Best double couple: M₀3.92×10¹⁴ NP1:φs31°, δ75°, λ109°. NP2:φs158°, δ24°, λ39°.*

JMA 27 18:27:39.4±0.1, 40.34N×142.06E, h49km±1km, M3.6, 3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JANG	**Nango**	**0.42**	**275**	⇓P			P	18 27 49.6	-0.1
JANG				*e*S			S	18 27 56.6	-0.4
JKZ	**Kuzumaki**	**0.66**	**238**	P			P	18 27 53.0	+0.4
JKZ				*e*S			S	18 28 02.4	0.0
JTM	**Tenmabayashi**	**0.88**	**301**	⇓P			P	18 27 55.0	-0.6
JTM				*e*S			S	18 28 06.1	-1.5
JOM	**Ohasama**	**1.05**	**215**	P			P	18 27 58.0	0.0
JOM				*e*S			S	18 28 11.0	-0.7
JAH	**Hinai**	**1.10**	**263**	⇓P			P	18 27 58.6	-0.1
JAH				*e*S			S	18 28 12.7	-0.3

IDC 27 18:39:59.1±16.0, 14.48S×166.30E, h257km±136km, mb3.1/3, mb1 3.3/4, mb1mx3.1/14, Error ellipse: s-maj=202.0km s-min=52.1km az=137.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**19.93**	**251**	P			P	18 44 12.8	-0.2
	0.1nm,0.3s,baz=44,slow=10,SNR=3.5								
WRA	**Warramunga Arr**	**30.98**	**255**	P			P	18 45 53.3	-1.6
	0.4nm,0.4s,baz=85,slow=8.1,SNR=3.8								
ASAR	**Alice Springs**	**31.89**	**248**	P			P	18 46 00.1	-2.7
	1.0nm,0.4s,baz=75,slow=9.0,SNR=44								
ILAR	**Eielson Array**	**86.58**	**18**	P			P	18 52 12.8	-1.3
	0.2nm,0.5s,baz=243,slow=4.5,SNR=5.9								
ARCES	**ARCESS Array B**	**119.77**	**345**	PKP			PKPdf	18 58 18.3	+0.1
	2.8nm,0.8s,baz=39,slow=1.6,SNR=7.4								

IDC 27 18:43:05.2±15.0, 9.05S×164.08E, mb3.6/3, mb1 3.8/3, mb1mx3.6/13, Error ellipse: s-maj=430.0km s-min=45.0km az=117.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.70**	**246**	P			P	18 49 22.3	-1.9
	0.7nm,0.6s,baz=74,slow=10.0,SNR=5.4								
ASAR	**Alice Springs**	**32.30**	**240**	P			P	18 49 36.0	-2.2
	0.3nm,0.5s,baz=63,slow=10,SNR=5.3								
SONM	**Songino Array**	**76.09**	**324**	P			P	18 54 55.0	-1.6
	0.4nm,0.6s,baz=135,slow=4.1,SNR=3.8								

IDC ***27*** *19:43:14.4±1.1, 22.42N×93.24E, mb3.9/10, mb1 4.0/11, mb1mx3.8/20, ML3.9/1, Error ellipse: s-maj=57.7km s-min=15.0km az=50.0*

NEIC ***27*** *19:43:15.2±0.8, 22.35N×93.17E, h10km, mb3.9/2, Error ellipse: s-maj=40.0km s-min=9.4km az=48.0*

ISC 27 19:43:18.9±0.4, 23.6N±0.1×95.0E±0.1, h33km, n26, σ0§90/30, mb3.9/13, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**1.52**	**322**	*e*P			**P**	**19 43 50.0**	**+6.0**
SHL	**Shillong**	**3.42**	**306**	*e*P			**P**	**19 44 17.2**	**+6.0**
SHL				*e*S			rx	19 45 44.8	
CHRT	**Chiangrai**	**5.81**	**129**	PG			**P**	**19 44 46.0**	**+1.1**
CHRT				SG			rx	19 45 13.5	
CM31	**Chiang Mai Arr**	**6.31**	**143**	*e*P			**P**	**19 44 52.2**	**+0.2**
	2.4nm,0.3s								
CMAR	**Chiang Mai Arr**	**6.31**	**143**	Pn			**Pn**	**19 44 53.1**	**+0.8**
	0.6nm,0.3s,baz=313,slow=13,SNR=16								
CMAR					Sn		**Sn**	**19 46 01.5**	**-2.4**
	0.5nm,0.3s,baz=329,slow=17,SNR=5.1								
CMAR					Lg			19 46 44.2	
	0.8nm,0.3s,baz=311,slow=28,SNR=4.3								
NANT	**Nan**	**7.17**	**131**	P			**P**	**19 45 05.0**	**+1.0**
GUN	**Gumba**	**9.25**	**300**	*e*P			**P**	**19 45 33.7**	**+0.8**
	14nm,0.4s								
GUN				*e*S			**S**	**19 47 11.4**	**-5.5**
PKI	**Pulchoki**	**9.49**	**297**	*e*P			**P**	**19 45 37.0**	**+0.8**
	9.3nm,0.4s								
KKN	**Kakad**	**9.68**	**298**	*e*P			**P**	**19 45 38.8**	**-0.1**
	6.8nm,0.2s								
KKN				*e*S			**S**	**19 47 22.1**	**-5.5**
DMN	**Daman**	**9.75**	**296**	*e*P			**P**	**19 45 40.5**	**+0.6**
	4.3nm,0.3s								
GKN	**Gorkha**	**10.29**	**297**	*e*P			**P**	**19 45 47.4**	**+0.1**
	17nm,0.4s								
GKN				*e*S			**S**	**19 47 35.9**	**-6.6**
KOLN	**Koldanda**	**11.06**	**295**	*e*P			**P**	**19 45 56.6**	**-1.2**
	4.5nm,0.2s								
SONM	**Songino Array**	**25.86**	**18**	P			**P**	**19 49 03.1**	**+14**
	0.2nm,0.5s,mb2.9,baz=217,slow=9.7,SNR=2.6								
BVAR	**Borovoye Array**	**34.81**	**334**	P			**P**	**19 50 09.6**	**+1.2**
	0.4nm,0.4s,mb3.7,baz=129,slow=9.5,SNR=5.0								
JOF	**Joensuu**	**57.31**	**331**	*ep*			**P**	**19 53 03.3**	**-2.3**
	1.1nm,0.3s,mb4.4								
WRA	**Warramunga Arr**	**57.84**	**135**	P			**P**	**19 53 09.5**	**-0.4**
	0.7nm,0.7s,mb3.8,baz=323,slow=7.6,SNR=6.1								
KAF	**Kangasniemi**	**59.46**	**329**	*ep*			**P**	**19 53 19.6**	**-1.0**
	0.3nm,0.3s,mb3.8,baz=98,slow=6.9								
FINES	**FINESS Array B**	**59.49**	**329**	P			**P**	**19 53 20.4**	**-0.4**
	0.7nm,0.3s,mb4.2,baz=80,slow=5.7,SNR=22								
ASAR	**Alice Springs**	**60.30**	**138**	P			**P**	**19 53 27.4**	**+0.5**
	0.4nm,0.4s,mb3.8,baz=324,slow=6.9,SNR=13								
KEV	**Kevo**	**60.47**	**338**	*ep*			**P**	**19 53 27.0**	**-0.5**
	0.3nm,0.3s,mb3.8								
ARCES	**ARCESS Array B**	**60.94**	**338**	P			**P**	**19 53 31.2**	**+0.5**
	2.5nm,0.8s,mb4.4,baz=95,slow=7.3,SNR=8.0								
ARCES	**ARCESS Array B**	**60.94**	**338**	P			**P**	**19 53 31.2**	**+0.5**
HFS	**Hagfors**	**65.53**	**327**	P			**P**	**19 54 00.6**	**-0.3**
	1.5nm,0.4s,mb4.3,baz=166,slow=6.1,SNR=16								
NOA	**NORSAR Array B**	**66.66**	**328**	P			**P**	**19 54 07.7**	**-0.4**
	0.9nm,0.8s,mb3.8,baz=98,slow=5.8,SNR=2.6								
GERES	**GERESS Array B**	**67.00**	**315**	P			**P**	**19 54 10.4**	**0.0**
	0.5nm,0.3s,mb4.0,baz=71,slow=6.8,SNR=6.5								
DAVOX	**Davos**	**69.93**	**313**	P			**P**	**19 54 28.9**	**+0.3**
	0.9nm,0.3s,mb4.1,baz=203,slow=16,SNR=3.5								

DJA 27 19:50:09.9±0.9, 9.55S×113.79E, h15km, MD4.8/4, ML4.6/4, 3C-1D, Error ellipse: s-maj=19.0km s-min=12.2km az=42.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.12**	**18**	⇑*e*Pn			Pn	19 50 28.1	-2.9
	552nm,0.2s								
SRDI				*e*Sn			Sn	19 50 41.6	-4.5
KELI	**Kelakatan**	**1.50**	**28**	⇑*e*Pn			Pn	19 50 34.5	-1.9
	767nm,0.2s								
KELI				*e*Sn			Sn	19 50 51.4	-4.3
RATI	**Rata**	**1.91**	**65**	⇑*e*Pn			Pn	19 50 39.4	-2.9
	1μm,0.2s								
RATI				*e*Sn			Sn	19 51 01.4	-4.8
KEDI	**Kedomdong**	**2.53**	**65**	⇓*e*Pn			Pn	19 50 48.2	-3.0
	58nm,0.2s								
KEDI				*e*Sn			Sn	19 51 16.4	-5.5

NIED ***27*** *19:52:00, 37.40N×139.00E, h5km, Mw3.9 Best double couple: M₀7.91×10¹⁴ NP1:φs338°, δ69°, λ57°. NP2:φs219°, δ39°, λ145°.*

JMA ***27*** *19:52:51.4±0.2, 37.38N×139.00E, M4.1 Broadband fault plane solution: P waves. NP1:φs348°, δ48°, λ32°. NP2: φs235°, δ67°, λ133°. Principal axes: T Plg49°, Azm192°; N Plg39°, Azm34°; P Plg11°, Azm295°;*

JMA Felt III J1.

ISC 27 19:52:51.2±0.7, 37.38N±0.04×139.00E±0.06, h11km±5km, n9, σ0§29/13, 4C-3D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.13**	**175**	⇑P			Pg	**19 52 54.5**	**-0.1**
JHK				S			Sg	**19 52 56.8**	**0.0**
JIZZ	**Izumozaki**	**0.28**	**303**	⇓P			Pg	**19 52 57.7**	**+0.5**
JNS	**Sasagawa**	**0.50**	**30**	⇓P			Pg	**19 53 01.2**	**-0.3**
JNS				S			Sg	**19 53 08.2**	**-0.2**
JFY	**Yanaizu**	**0.56**	**87**	⇓P			Pb	**19 53 02.6**	**+0.1**
JFY				S			Sb	**19 53 10.3**	**+0.1**
JKT	**Katashina**	**0.64**	**162**	⇑P			Pb	**19 53 03.8**	**-0.2**
JGK	**Kuni**	**0.87**	**200**	⇑P			Pb	**19 53 07.8**	**0.0**
JAG	**Ashikaga**	**1.02**	**159**	⇑P			Pb	**19 53 11.0**	**+0.6**
MAT	**Matsushiro**	**1.05**	**218**	P			Pb	**19 53 10.5**	**-0.4**
MAT				S			Sb	**19 53 24.3**	**-0.2**
MAT	**Matsushiro**	**1.05**	**218**	P			Pb	**19 53 10.6**	**-0.3**

PRU ***27*** *20:19:27.0, 51.51N×16.06E*

WAR ***27*** *20:19:30.2, 51.54N×16.13E, ML2.6, Mining Induced*

ISC 27 20:19:24.9±1.0, 51.49N±0.05×16.03E±0.06, n8, σ1§21/16, 1C, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
UPC	**Upice**	**0.98**	**181**	*e*PG			**Pg**	**20 19 45.9**	**+1.4**
DPC	**Dobruska-Polom**	**1.15**	**171**	*e*PG			**Pg**	**20 19 48.7**	**+0.8**
DPC				*e*SG			**Sg**	**20 20 05.5**	**+2.2**
PVCC	**Panska Ves**	**1.33**	**225**	*e*PG			**Pg**	**20 19 52.7**	**+1.2**
PRU	**Pruhonice**	**1.77**	**213**	*e*PN			**Pn**	**20 19 58.7**	**+1.6**
PRU					PG		**Pg**	**20 20 00.1**	**-0.2**
PRU				*i* x	x			20 20 04.4	
PRU				*ex*	x			20 20 14.2	
PRU					SG		**Sg**	**20 20 23.4**	**-0.6**
	6.1nm,0.3s								
CLL	**Collm**	**1.91**	**266**	*e*PN			**Pn**	**20 19 59.0**	**+0.1**
CLL				*e*PG			**Pg**	**20 20 03.0**	**+0.1**
CLL				*e*SG			**Sg**	**20 20 28.0**	**-0.4**
OJC	**Ojcow**	**2.70**	**117**	*e*PG			**Pg**	**20 20 17.0**	**-1.8**
OJC				*e*SG			**Sg**	**20 20 54.0**	**-0.8**
KHC	**Kasperske Hory**	**2.84**	**215**	*e*PG			**Pg**	**20 20 19.5**	**-2.0**
KHC				*e*SG			**Sg**	**20 20 58.6**	**-0.7**
MOA	**Molln**	**3.82**	**198**	⇑*i* PN			**Pn**	**20 20 27.1**	**+0.9**
MOA				*i* SG			**Sg**	**20 21 30.1**	**-1.9**
	2.1nm,0.5s								

BGS ***27*** *20:34:27.9, 45.29N×27.55E, h95km, mb6.0*

THE ***27*** *20:34:29.6, 45.87N×27.06E, h70km, ML5.8*

CSEM ***27*** *20:34:32.9, 45.83N×26.77E, h76km, ML6.0*

IPEC ***27*** *20:34:32.6±0.2, 45.97N×27.23E, h54km±4km, ML5.7/2, Error ellipse: s-maj=2.2km s-min=1.6km az=91.0*

MED_RC ***27*** *20:34:32.9±0.1, 45.65N×26.79E, h96km±2km, MW5.8/31, Moment Tensor Solution. Body waves: s31,c79; Duration: 1§0 Moment tensor: Scale 10¹⁷Nm; Mrr~0.86±.19; Mθθ0.86±.12; Mϕϕ0.00±.12; Mrθ~4.45±.10; Mθϕ0.49±.09; Mϕr~4.14±.10; Best double couple: M₀6.16×10¹⁷ NP1:φs268°, δ6°, λ-50°. NP2:φs47°, δ86°, λ-94°. Principal axes: T 6.2, Plg41°, Azm141°; N -.09, Plg4°, Azm47°; P -6.12, Plg49°, Azm313°; nsta1 refers to waves, cutoff=35s.*

SOF ***27*** *20:34:34.8, 45.81N×26.61E, h119km, MD5.3*

BJI ***27*** *20:34:34.2, 45.82N×26.03E, h114km, mB5.9, mb5.9*

MOS ***27*** *20:34:35.4±0.8, 45.79N×26.60E, h93km, mb5.5/22, Error ellipse: s-maj=4.9km s-min=3.1km az=112.5*

MOS Felt (V-VI) at Kishinev, (II-III) at Simferopol.

IDC ***27*** *20:34:36.5±0.3, 45.64N×26.54E, h97km±2km, mb5.3/17, mb1 5.4/30, mb1mx5.4/30, MS4.8/19, Ms1 4.8/19, ms1mx4.7/25, Error ellipse: s-maj=8.2km s-min=6.9km az=162.0*

SYO ***27*** *20:34:36.8, 45.79N×26.63E, h96km, MB5.6*

ZUR_RM ***27*** *20:34:36, 45.79N×26.62E, h78km, Mw5.9/33, Moment Tensor Solution. s33 Moment tensor: Scale 10¹⁷Nm; Mrr3.83; Mθθ-1.22; Mϕϕ-2.62; Mrθ-4.21; Mθϕ-0.18; Mϕr~4.50; Best double couple: M₀6.9×10¹⁷ NP1:φs219°, δ77°, λ96°. NP2:φs14°, δ14°, λ66°. Principal axes: T 7.11, Plg58°, Azm137°; N -1.629, Plg6°, Azm38°; P -6.082, Plg32°, Azm304°;*

PDG ***27*** *20:34:36.3±0.7, 45.86N×26.50E, h95km±3km*

PDG Felt at Podgorica IV MCS.

HRVD ***27*** *20:34:36.8±0.1, 45.73N×26.67E, h94km±1km, MW5.8/75, Centroid moment Tensor Solution. LP body waves: s68,c157;Mantle waves: s75,c187; Half duration: 1§9 Moment tensor: Scale 10¹⁷Nm; Mrr1.98±.07; Mθθ0.77±.08; Mϕϕ-2.75±.07; Mrθ-3.92±.05; Mθϕ0.00±.07; Mϕr-3.88±.05

Sta	Name	Dist	Az	Phase	ISC	Time	Res
GHRR		0.64	64	⇓eP	P	20 34 53.4	+0.7
GHRR				iS	S	20 35 05.7	+0.3
ISR	Istrita	0.66	182	P	P	20 34 54.3	+1.4
ISR	Istrita	0.66	182	⇓iP	P	20 34 54.2	+1.4
ISR	Istrita	0.66	182	⇓iP	P	20 34 54.2	+1.3
TESR		0.74	4	⇑eP	P	20 34 53.8	+0.2
TESR				iS	S	20 35 06.1	-0.8
TUDR		0.78	103	⇓eP	P	20 34 54.0	-0.1
TUDR				iS	S	20 35 07.4	-0.2
SECR		0.83	206	⇓eP	P	20 34 56.2	+1.7
SECR				iS	S	20 35 11.7	+3.3
ONCR	Oncesti	0.84	34	⇑eP	P	20 34 54.8	+0.2
ONCR				iS	S	20 35 08.2	-0.4
SNX	Sinaia	0.86	241	⇑iP	P	20 34 56.5	+1.7
SNX	Sinaia	0.86	241	⇑iP	P	20 34 56.5	+1.6
FULR		0.90	186	⇓eP	P	20 34 56.6	+1.4
FULR				iS	S	20 35 13.1	+3.4
VARR		0.90	83	⇓eP	P	20 34 55.7	+0.5
VARR				iS	S	20 35 09.4	-0.3
PGOR	Pogoanele	0.91	162	⇓eP	P	20 34 56.4	+1.0
PGOR				iS	S	20 35 12.8	+2.7
VOIR		1.13	253	⇑eP	P	20 34 58.7	+0.8
VOIR				iS	S	20 35 15.6	+1.2
MTUR	Matau	1.20	243	P	P	20 35 00.9	+2.1
MTUR	Matau	1.20	243	⇑iP	P	20 35 00.8	+2.0
BERR	Berezeni	1.24	61	⇓iP	P	20 34 59.5	+0.3
BERR				iS	S	20 35 16.3	-0.4
CFR	Carcaliu	1.25	118	⇓eP	P	20 34 58.9	-0.4
CFR				eS	S	20 35 16.0	-0.9
CFR	Carcaliu	1.25	118	⇓iP	P	20 34 58.8	-0.5
STFR	Stefanesti	1.27	192	⇓eP	P	20 35 00.5	+0.9
STFR				iS	S	20 35 19.3	+1.8
AMRR		1.28	155	⇓eP	P	20 35 00.2	+0.4
AMRR				iS	S	20 35 18.5	+0.8
MOGR	Mogosoaia	1.29	201	⇓eP	P	20 35 00.9	+1.0
MOGR				iS	S	20 35 20.0	+2.0
CNCR	Cernica	1.35	190	⇓eP	P	20 35 01.3	+0.7
CNCR				iS	S	20 35 20.4	+1.4
BGMR	Bucharest-Geol	1.37	195	⇓eP	P	20 35 02.9	+2.2
BGMR				S	S	20 35 23.5	+4.2
BTMR	Bucharest-Geot	1.38	194	⇓eP	P	20 35 01.6	+0.7
BTMR				iS	S	20 35 21.0	+1.4
BVCR	Bucharest-Old	1.39	194	⇓eP	P	20 35 01.6	+0.6
BVCR				iS	S	20 35 21.1	+1.3
BUC	Bucharest	1.41	194	iS	S	20 35 22.3	+2.2
CIOR	Ciorogarla	1.42	201	⇓eP	P	20 34 54.2	-7.2
CIOR				iS	S	20 35 05.9	-14
POPR	Popesti-Leorde	1.45	191	⇓eP	P	20 35 02.4	+0.7
POPR				iS	S	20 35 22.3	+1.3
GOLR		1.48	231	⇓eP	P	20 35 03.5	+1.4
GOLR				iS	S	20 35 24.7	+3.0
BUC1	Bucharest	1.48	196	P	P	20 35 03.0	+0.8
BUC1				S	S	20 35 22.3	+0.6
BUC1	Bucharest	1.48	196	⇓iP	P	20 35 03.7	+1.6
BUC1				iS	S	20 35 22.3	+0.6
BUC1	Bucharest	1.48	196	⇓iP	P	20 35 03.7	+1.5
BUC1				S	S	20 35 22.4	+0.7
BUC1	Bucharest	1.48	196	⇓iP	P	20 35 03.7	+1.5
BUC1				iS	S	20 35 22.3	+0.6
IAS	Iasi	1.57	25	⇑eP	P	20 35 01.3	-1.9
IAS				iS	S	20 35 22.5	-1.1
IAS	Iasi	1.57	25	P	P	20 35 03.2	0.0
IAS				S	S	20 35 22.5	-1.1
IAS	Iasi	1.57	25	⇑iP	P	20 35 03.3	+0.1
IAS				iS	S	20 35 21.7	-1.9
IAS	Iasi	1.57	25	⇑iP	P	20 35 03.3	+0.1
IAS				iS	S	20 35 21.7	-1.9
TLCR		1.68	110	⇓eP	P	20 35 04.3	-0.3
TLCR				iS	S	20 35 25.8	-0.1
TIRR	Tirgusor	1.85	135	⇓eP	P	20 35 06.5	-0.3
TIRR				iS	S	20 35 28.6	-1.1
TIRR	Tirgusor	1.85	135	P	P	20 35 06.7	-0.1
TIRR				S	S	20 35 28.5	-1.2
TIRR	Tirgusor	1.85	135	⇓iP	P	20 35 06.8	0.0
TIRR				iS	S	20 35 28.7	-1.1
TIRR	Tirgusor	1.85	135	⇓iP	P	20 35 06.8	0.0
TIRR				iS	S	20 35 28.7	-1.0
KIS	Kishinev	1.97	51	iP	P	20 35 08.0	-0.4
KIS				iS	S	20 35 31.0	-1.5
BURAR	Bucovina Array	2.06	333	⇓eP	P	20 35 09.9	+0.3
BURAR	Bucovina Array	2.06	333	⇑iP	P	20 35 11.4	+1.8
BURAR				iS	S	20 35 36.2	+1.5
BURAR	Bucovina Array	2.06	333	⇑iP	P	20 35 11.4	+1.8
BURAR				iS	S	20 35 36.2	+1.5
PSN	Preselentsi	2.38	151	⇓iP	P	20 35 14.3	+0.2
CRAR	CRAIOVA	2.45	235	⇓eP	P	20 35 14.9	0.0
CRAR				iS	S	20 35 44.2	0.0
SZH	Strazhica	2.55	191	⇓iP	P	20 35 16.3	-0.1
PRD	Provadia	2.64	167	iP	P	20 35 18.0	+0.4
PVL	Pavlikeni	2.71	200	iP	P	20 35 19.5	+0.9
DRGR		2.87	292	⇓eP	P	20 35 20.5	-0.2
DJES	Djerdap	3.09	250	⇑iPn	P	20 35 23.0	-0.7
DJES				Sn	S	20 35 57.4	-2.4
JMB	Yambol	3.31	180	⇓iP	P	20 35 26.0	-0.7
PGB	Panagyurishte	3.67	209	⇓iP	P	20 35 31.5	-0.1
DIM	Dimitrovgrad	3.80	192	⇓iP	P	20 35 33.0	-0.5
BOLS	Boljevac	3.82	241	⇓iPn	P	20 35 33.1	-0.7
BOLS				Sn	S	20 36 14.1	-3.8
PLD	Plovdiv	3.91	201	iP	P	20 35 34.8	-0.2
PLD	Plovdiv	3.91	201	⇓iP	P	20 35 34.7	-0.3
PLD	Plovdiv	3.91	201	⇓iP	P	20 35 34.8	-0.2
EDRB	Edirne	3.93	178	P	P	20 35 35.0	-0.2
VTS	Vitosha	4.00	219	iP	P	20 35 35.5	-0.7
VTS	Vitosha	4.00	219	⇓iP	P	20 35 35.5	-0.7
VTS	Vitosha	4.00	219	⇓iP	P	20 35 36.2	0.0
VTS				iS	S	20 36 19.9	-2.4
VTS	Vitosha	4.00	219	⇓eP	P	20 35 35.5	-0.7
VTS	Vitosha	4.00	219	⇓iP	P	20 35 36.2	0.0
VTS				iS	S	20 36 19.9	-2.4
SVIS	Svilajnac	4.08	251	⇑iPn	P	20 35 36.5	-0.8
SVIS				Sn	S	20 36 15.5	-8.7
UZH	Uzhgorod	4.09	316	eP	P	20 35 38.0	+0.6
UZH				eS	S	20 36 24.0	-0.3
KDZ	Kurdzhali	4.21	192	iP	P	20 35 38.7	-0.4
RZN	Rozhen	4.31	199	iP	P	20 35 38.7	-1.7
RZN	Rozhen	4.31	199	⇓iP	P	20 35 38.7	-1.7
KOLS	Kolonicke sedl	4.31	319	iPN	P	20 35 41.4	+1.0
LVV	L'vov	4.39	338	eP	P	20 35 43.0	+1.4
BEO	Belgrade	4.43	260	⇑iPn	P	20 35 41.2	-0.9
BARS	Barje	4.52	231	⇑iPn	P	20 35 43.1	-0.2
BARS				Sn	S	20 36 30.9	-4.0
GRUS	Gruza	4.58	248	⇓iPn	P	20 35 45.6	+1.4
GRUS				Sn	S	20 36 27.7	-8.9
KKB	Krupnik	4.66	214	⇓iP	P	20 35 45.0	-0.2
KWP	Kalwaria	4.66	327	⇓iPn	P	20 35 46.8	+1.6
KWP				ePPP	PPP	20 35 59.5	-1.7
KWP				eSn	S	20 36 34.7	-3.8
KWP				eS	S	20 36 56.6	+18
KWP				eSg	S	20 37 06.9	+28
KWP	Kalwaria	4.66	327	⇓iPn	P	20 35 46.8	+1.6
KWP				eSn	S	20 36 34.7	-3.8
KWP	Kalwaria	4.66	327	⇓iPn	P	20 35 46.8	+1.6
KWP				eP*	P	20 35 55.5	+10
KWP				ePPP	PPP	20 35 59.5	-1.7
KWP				eSn	S	20 36 34.7	-3.8
KWP				eS*	S	20 36 56.6	+18
KWP				eSg	S	20 37 06.9	+28
MMB	Musomiste	4.67	207	⇓iP	P	20 35 45.5	+0.1
CRVS	Cervenica-Dubn	4.68	314	iPN	P	20 35 46.0	+0.5
CRVS				eSN	S	20 36 34.4	-4.6
RDO	Rodhopi	4.69	190	eP	P	20 35 45.1	-0.6
PKSN	Nyarlorinc	4.79	286	⇑eP	P	20 35 47.3	+0.4
PKSN				⇓eP		20 35 48.6	
HOPOS	Hopovo Monaste	4.79	265	⇑iPn	P	20 35 47.2	+0.2
HOPOS				Sn	S	20 36 43.8	+2.1
CTT	Catalca	4.82	163	iP	P	20 35 46.6	-0.8
NVR	Nevrokopi	4.85	205	eP	P	20 35 47.8	0.0
ALN	Alexandroupoli	4.89	185	ePn	P	20 35 47.0	-1.4
KECS	Kecovo	4.96	305	iPN	P	20 35 49.3	-0.1
DIVS	Divcibare	4.97	253	⇑iPn	P	20 35 48.3	-1.1
DIVS				Sn	S	20 36 36.7	-10
MFT	Murefte	5.01	174	P	P	20 35 49.8	-0.2
ISK	Istanbul-Kandi	5.04	158	iP	P	20 35 49.5	-0.9
ISK	Istanbul-Kandi	5.04	158	Pn	P	20 35 49.6	-0.8
PSZ	Piszkesteto	5.06	297	P	P	20 35 50.2	-0.5
PSZ	Piszkesteto	5.06	297	⇓eP	P	20 35 50.1	-0.6
PSZ				eS	S	20 37 11.9	+23
SRS	Serrai	5.14	206	ePn	P	20 35 51.0	-0.8
SRS				eSn	S	20 36 54.4	+4.0
SRS	Serrai	5.14	206	S	S	20 36 54.4	+4.0
AKASG	Malin Array Be	5.23	19	P	P	20 35 50.8	-2.2
	479nm,0.3s,baz=242,slow=18,SNR=398						
AKASG				S	S	20 36 47.1	-5.5
	2μm,0.3s,baz=203,slow=21,SNR=10.0						
AKASG				LR	LR	20 38 18.4	
	comp=Z,8μm,19.2s,baz=200,slow=41						
AKASG	Malin Array Be	5.23	19	P	P	20 35 50.8	-2.2
AKASG				S	S	20 36 47.1	-5.5
AKASG				pmax	pmax		
	comp=Z,479nm,0.3s						
AKASG				MLR	MLR		
	comp=Z,8μm,19.2s						
BADT	Buyukada	5.26	159	iP	P	20 35 52.2	-1.1
PKS7	Kunszentmiklos	5.29	287	⇑eP	P	20 35 53.6	-0.1
SKO	Skopje	5.32	226	⇓iPn	P	20 35 54.0	-0.2
	comp=Z,0.4nm,0.8s						
SKO				iPb	P	20 36 02.8	+8.6
	comp=Z,1.3nm,0.9s						
SKO				iPg	P	20 36 14.5	+20
SKO				iSn	S	20 36 54.5	-0.2
SKO				iSb	S	20 37 08.8	+14
SKO				iSg	S	20 37 23.5	+29
SKO				Lg		20 38 46.0	
	comp=N,15nm,2.8s						
SKO				Lg		20 38 48.0	
	comp=E,28nm,2.5s						
VAY	Valandovo	5.32	215	⇓iPn	P	20 35 54.2	0.0
VAY				iPb	P	20 36 03.8	+10
VAY				iPg	P	20 36 16.0	+22
VAY				iSn	S	20 36 54.7	-0.1
VAY				iSb	S	20 37 13.0	+18
VAY				iSg	S	20 37 21.4	+27
KNT	Kendrikon	5.34	211	ePn	P	20 35 54.0	-0.3
KNT	Kendrikon	5.34	211	P	P	20 35 54.0	-0.4
KGT	Karabiga	5.35	174	iP	P	20 35 53.6	-1.0
SIM	Simferopol'	5.37	96	c iP	P	20 35 53.5	-1.4
SIM				iS	S	20 36 50.7	-5.3
SIM				pmax	pmax		
	comp=Z,8μm,0.8s						
SIM				smax			
	comp=N,39μm,1.0s						
SIM	Simferopol'	5.37	96	⇑iP	P	20 35 53.0	-1.9
PENC	Penc	5.40	294	⇑eP	P	20 35 54.8	-0.5
NVSS	Nova Varos 2	5.41	248	⇑iPn	P	20 35 54.0	-1.4
NVSS				Sn	S	20 36 39.9	-17
HRT	Hereke	5.44	154	iP	P	20 35 55.2	-0.6
SOH	Sokhos	5.49	207	ePn	P	20 35 56.2	-0.2
BNT	Bandirma	5.51	169	iP	P	20 35 55.8	-0.9
EDC	Edincik	5.51	170	iP	P	20 35 56.8	+0.1
YAL	Yalta	5.51	101	iP	P	20 35 54.0	-2.8
PKSM	Moragy	5.55	277	⇓iP	P	20 35 57.3	0.0
PKSM				eS	S	20 36 55.6	-4.8
NIE	Niedzica	5.59	313	eP	P	20 35 58.6	+0.8
NIE				e		20 36 14.5	
IVA	Berane	5.61	241	⇑iPn	P	20 35 58.2	+0.1
IVA				eSn	S	20 36 59.6	-2.2
KCT	Karacabey	5.66	166	iP	P	20 35 59.0	+0.2
PLE	Pljevlja	5.69	247	⇑iPn	P	20 35 59.0	-0.2
PLE				eSn	S	20 37 01.3	-2.5
GRG	Griva	5.70	214	ePn	P	20 35 58.9	-0.5
PVY	Plav	5.72	239	⇑iPn	P	20 35 59.8	+0.2
PVY				eSn	S	20 37 02.6	-1.9
OUR	Ouranopolis	5.76	200	ePn	P	20 35 58.9	-1.3
THE	Thessaloniki	5.78	208	ePn	P	20 36 00.1	-0.3
RHK3	Tenkes	5.82	274	⇑eP	P	20 36 02.2	+1.2
PKS9	Tamasi	5.82	281	⇑eP	P	20 36 01.8	+0.8
EYL	Eskiyayla	5.83	152	iP	P	20 36 01.3	+0.2
PLG	Polygyros	5.87	204	eP	P	20 36 01.4	-0.2
PKSG		5.87	289	⇑eP	P	20 36 01.1	-0.6
ULDT	Uludag	5.94	161	iP	P	20 36 01.6	-1.0
LOS	Limnos	5.94	191	ePn	P	20 36 01.1	-1.5
LOS				eSn	S	20 37 11.9	+1.8
LOS	Limnos	5.94	191	S	S	20 37 11.9	+1.8
VYHS	Vyhne	5.94	300	iPN	P	20 36 02.3	-0.4
BOZC	Bozcaada	5.95	184	iP	P	20 36 02.4	-0.3
RHK1	Bakonya	5.95	276	⇑eP	P	20 36 03.6	+0.9
EZN	Ezine	5.95	182	iP	P	20 36 03.1	+0.3
LIA	Limnos Island	5.97	190	eP	P	20 36 01.9	-1.1
SRO2	Moca	5.97	292	iPN	P	20 36 03.1	+0.1
ORLT	Orhaneli	5.97	163	iP	P	20 36 01.0	-2.1
ORLT	Orhaneli	5.97	163	Pn	P	20 36 03.0	-0.1
SRO	Srobarova	6.03	293	iPN	P	20 36 03.8	-0.1
LIKS	Likavka	6.04	306	iPN	P	20 36 03.7	-0.3
UPM	Unac-Piva	6.06	248	⇓iPn	P	20 36 04.6	+0.3
UPM				eSn	S	20 37 10.5	-2.5
SRO1	Iza	6.07	292	iPN	P	20 36 04.4	0.0
BIA	Bitola	6.11	221	⇓iPn	P	20 36 05.6	+0.7
BIA				iPg	P	20 36 18.6	+14
BIA				i		20 36 30.5	
BIA				iSn	S	20 37 12.6	-1.4
BIA	Bitola	6.11	221	⇓iPn	P	20 36 05.6	+0.7
BIA				iSn	S	20 37 12.6	-1.4
BTOK	Tokmak	6.11	169	iP	P	20 36 04.4	-0.5
PUK	Puka	6.11	235	iPn	P	20 36 05.5	+0.6
GPA	Golpazari	6.13	152	eP	P	20 36 05.9	+0.6
NKY	Niksic	6.20	244	⇑iPn	P	20 36 05.9	-0.3
NKY				eSn	S	20 37 13.4	-2.8
BALB	Balikesir	6.21	171	iP	P	20 36 05.7	-0.7
PAIG	Paliouri	6.22	201	ePn	P	20 36 05.2	-1.4
KOLL	Kolacno	6.24	300	iPN	P	20 36 07.0	+0.2
TTG	Podgorica	6.24	240	⇑iPn	P	20 36 06.7	-0.1
TTG				eSn	S	20 37 15.0	-2.4
FNA	Florina	6.27	219	ePn	P	20 36 06.9	-0.3
OHR	Ohrid	6.28	224	⇓iPn	P	20 36 07.1	-0.3
OHR				iPg	P	20 36 27.6	+20
OHR				i		20 36 39.0	
OHR				iSn	S	20 37 15.9	-2.4
OHR				iSb	S	20 37 35.0	+17
OHR				iSg	S	20 37 51.3	+33
OHR	Ohrid	6.28	224	⇓iPn	P	20 36 07.1	-0.3
OHR				iSn	S	20 37 15.9	-2.4
MDU	Mudurnu	6.30	146	iP	P	20 36 07.4	-0.2
SDA	Shkodra	6.33	236	iPn	P	20 36 09.8	+1.8
SDA	Shkodra	6.33	236	ePg	P	20 36 09.8	+1.8
SAFT	Safranbolu	6.34	133	iP	P	20 36 05.7	-2.6
DST	Dursunbey	6.35	166	iP	P	20 36 08.1	-0.3
OJC	Ojcow	6.36	317	ePn	P	20 36 08.0	-0.5
OJC				ePP	PP	20 36 17.8	+1.9
OJC				eSn	S	20 37 18.4	-1.9
OJC				eSg	S	20 38 02.0	+42
OJC	Ojcow	6.36	317	ePn	P	20 36 08.0	-0.5
OJC				eSn	S	20 37 18.4	-1.9
OJC	Ojcow	6.36	317	ePn	P	20 36 08.0	-0.5
OJC				ePP	PP	20 36 17.8	+1.9
OJC				eSn	S	20 37 18.4	-1.9
OJC				eSg	S	20 38 02.0	+42
LIT	Litokhoron	6.42	209	ePn	P	20 36 08.2	-1.1
BRY	Bratogost	6.44	246	⇓iPn	P	20 36 09.7	0.0
BRY				eSn	S	20 37 19.6	-2.7
QSH	Qafa e Shtames	6.45	231	ePn	P	20 36 16.2	+6.5
AYVA	Ayvalik	6.47	179	iP	P	20 36 09.7	-0.2
BALT	Daday	6.50	128	iP	P	20 36 07.8	-2.7
KZN	Kozani	6.50	214	eP	P	20 36 10.3	-0.2
ULC	Ulcinj	6.53	237	⇑iPn	P	20 36 11.6	+0.8
ULC				eSn	S	20 37 21.8	-2.5
PRK	Paraskevi	6.53	182	eP	P	20 36 09.8	-1.1
BUM	Brajici-Budva	6.54	241	P	P	20 36 11.9	+0.9
SGKT	Sivrigoynuk	6.56	141	iP	P	20 36 10.2	-1.1
BZK	Bozkurt	6.58	123	iP	P	20 36 08.4	-3.2
TIR	Tirane	6.59	230	ePn	P	20 36 12.0	+0.3
TIR				iSn	S	20 37 21.0	-4.8
PRZA	Preza	6.64	232	ePn	P	20 36 20.3	+8.0
PRZA				iSn	S	20 37 32.0	+5.0
KBN	Korca	6.67	221	iPn	P	20 36 13.3	+0.6
KBN				iSn	S	20 37 24.0	-3.8
KBN	Korca	6.67	221	ePn	P	20 36 13.3	+0.6
KBN				iSn	S	20 37 24.0	-3.8
HCY	Herceg Novi	6.70	243	⇑iPn	P	20 36 14.0	+0.8
HCY				eSn	S	20 37 26.1	-2.6
BLY	Banja Luka	6.71	265	Pn	P	20 36 13.8	+0.4
JAVC	Velka Javorina	6.80	300	P	P	20 36 14.5	0.0
SMOL	Smolenice	6.82	297	iPN	P	20 36 14.3	-0.5
XOR	Xorichti	6.88	203	ePn	P	20 36 14.1	-1.6
AOS	Alonnisos	6.90	198	ePn	P	20 36 14.8	-1.2
ZST	Bratislava	6.92	294	iPN	P	20 36 15.3	-1.0
ZST				eSN	S	20 37 25.1	-8.9
ZST	Bratislava	6.92	294	ePn	P	20 36 15.0	-1.3
AKS	Akhisar	6.95	172	iP	P	20 36 15.3	-1.4
OKC	Ostrava-Krasne	6.98	309	ePN	P	20 36 15.6	-1.5
ESKT	Eskisehir	7.00	152	iP	P	20 36 16.7	-0.6
ESKT	Eskisehir	7.00	152	iP	P	20 36 16.8	-0.6
STON	Ston	7.00	249	iPn	P	20 36 17.6	+0.2
STON				iSn	S	20 37 34.0	-1.9
RAC	Raciborz	7.09	310	⇓eP	P	20 36 17.5	-1.1
RAC				eS	S	20 37 40.1	+1.9
LSK	Leskovik	7.13	220	ePn	P	20 36 20.9	+1.8
SOP	Sopron	7.15	289	⇓ePn	P	20 36 18.4	-1.0
SOP				eSn	S	20 37 39.6	0.0
SISC	Sisak	7.17	271	iPn	P	20 36 20.8	+1.2
TOS	Tosya	7.20	129	iP	P	20 36 18.3	-1.7
ALT	Altintas	7.21	158	eP	P	20 36 17.8	-2.4
ELDT	Eldivan	7.28	134	iP	P	20 36 19.3	-1.8
ELDT				iS	S	20 37 31.6	-11
MORC	Moravsky Berou	7.29	307	P	P	20 36 20.4	-0.8
MORC	Moravsky Berou	7.29	307	⇓iP	P	20 36 20.0	-1.3
MORC	Moravsky Berou	7.29	307	ePn	P	20 36 20.2	-1.0
CANT	Cankiri	7.29	133	iP	P	20 36 20.0	-1.3
CANT	Cankiri	7.29	133	Pn	P	20 36 19.3	-2.0
BYBT	Boyabat	7.33	123	iP	P	20 36 19.4	-2.5
KDAG	Bornova	7.39	176	iP	P	20 36 20.5	-2.1
IZM	Izmir	7.39	176	iP	P	20 36 21.1	-1.6
MANT	Manisa	7.43	168	iP	P	20 36 22.2	-0.9
MANT				iS	S	20 37 42.9	-3.5
WAR	Warsaw	7.43	333	ePn	P	20 36 22.6	-0.6
WAR				ePg	P	20 36 58.2	+35
WAR				eSn	S	20 37 45.8	-0.6
WAR				eSg	S	20 38 37.1	+51
WAR	Warsaw	7.43	333	ePn	P	20 36 22.6	-0.6
WAR				e		20 36 34.0	
WAR				ePPP	PPP	20 36 37.3	-2.6
WAR				eP*	P	20 36 40.9	+18
WAR				ePg	P	20 36 58.2	+35
WAR				eSn	S	20 37 45.8	-0.6
WAR				eSg	S	20 38 37.1	+51
JAN	Janina	7.43	217	eP	P	20 36 23.7	+0.5
LOD	Lodumlu	7.43	140	iP	P	20 36 22.3	-0.9
VKA	Vienna	7.44	293	⇓iP	P	20 36 22.2	-1.2
VKA				i (S)	S	20 37 47.3	+0.5
VKA				MLRZ		20 39 40.0	
	comp=N,16nm,4.0s						
AGG	Agios Georgios	7.45	206	ePn	P	20 36 23.3	-0.1
ANTO	Ankara	7.46	140	iP	P	20 36 22.1	-1.5
ANTO	Ankara	7.46	140	P	P	20 36 21.7	-1.9
ANTO	Ankara	7.46	140	Pn	P	20 36 22.4	-1.2
LKR	Lokris	7.60	202	eP	P	20 36 23.9	-1.6
SRN	Sarande	7.62	222	iPn	P	20 36 26.2	+0.4
VRAC	Vranov	7.63	301	P	P	20 36 24.8	-1.0
	comp=N,21nm,0.3s,baz=105,slow=12,SNR=929						
VRAC				S	S	20 37 52.9	+1.6
	comp=N,11nm,0.3s,baz=55,slow=13,SNR=1.8						
VRAC	Vranov	7.63	301	P	P	20 36 24.8	-1.1
VRAC				S	S	20 37 52.9	+1.6
VRAC				pmax	pmax		
	comp=Z,21nm,0.3s						
VRAC	Vranov	7.63	301	⇓iP	P	20 36 25.1	-0.7
VRAC	Vranov	7.63	301	⇓iP	P	20 36 25.1	-0.8
VRAC	Vranov	7.63	301	ePn	P	20 36 25.6	-0.3
GOLS	Golise	7.65	276	P	P	20 36 26.6	+0.4
KRUC	Moravsky	7.65	299	P	P	20 36 25.1	-1.1
EVR	Evrytania	7.71	209	eP	P	20 36 26.8	-0.2
ANN	Anapa	7.71	93	d iP	P	20 36 21.9	-5.2
ANN				eS	S	20 37 45.9	-7.5
ANN				pmax	pmax		
	comp=N,1μm,0.8s						
ANN				pmax	pmax		
	comp=Z,3μm,0.8s						
ANN				pmax	pmax		
	comp=E,1μm,0.7s						
ANN				MLR	MLR		
	comp=Z,15μm,11.0s						
ANN				MLR	MLR		
	comp=N,4μm,10.0s						
ANN				MLR	MLR		
	comp=E,7μm,12.0s						
ANN	Anapa	7.71	93	iPr		20 36 21.8	
GROS	Grobnik	7.73	279	eP	P	20 36 27.3	0.0
DOBS	Dobrina	7.75	277	P	P	20 36 27.8	+0.2
IGT	Igoumenitsa	7.75	219	ePn	P	20 36 28.6	+1.0
KHL	Karahalli	7.76	163	iP	P	20 36 28.1	+0.4
ARSA	Arzberg	7.77	285	⇓iP	P	20 36 27.6	-0.2
	comp=E,1μm,1.5s						
ARSA				iS	S	20 37 54.9	+0.1
CRES	Cresnjev	7.78	274	P	P	20 36 29.2	+1.3
KEK	Kerkira	7.85	222	eP	P	20 36 29.0	+0.1
KEK	Kerkira	7.85	222	P	P	20 36 29.9	+1.0
LEGS	Legarje	7.87	275	eP	P	20 36 29.3	+0.2
CTKT	Corum	7.90	128	iP	P	20 36 27.9	-1.7
CTKT				iS	S	20 37 45.8	-12
KIZT	Kizilcal	7.93	149	iP	P	20 36 28.9	-1.1
BOJS	Bojanci	7.95	272	eP	P	20 36 30.1	-0.1
BRTR	Keskin Array B	7.97	137	P	P	20 36 28.2	-2.2
	comp=E,38nm,0.3s,baz=325,slow=10.0,SNR=1637						
BRTR				S	S	20 37 55.2	-4.4
	comp=E,67nm,0.3s,baz=305,slow=20,SNR=7.4						
BRTR				LR	LR	20 40 33.2	
	comp=E,5μm,19.6s,baz=270,slow=45						
BRTR	Keskin Array B	7.97	137	P	P	20 36 28.3	-2.2
BRTR				S	S	20 37 55.2	-4.4
BRTR				pmax	pmax		
	comp=Z,38nm,0.3s						
BRTR				MLR	MLR		
	comp=Z,5μm,19.6s						
BRTR	Keskin Array B	7.97	137	P	P	20 36 28.2	-2.3
PERS	Pernice	8.00	280	eP	P	20 36 30.9	-0.1
SMG	Samos	8.06	179	eP	P	20 36 29.8	-2.0
PDKS	Podkum	8.09	276	P	P	20 36 33.0	+0.9
ATH	Athens Observa	8.09	196	eP	P	20 36 30.9	-1.2
AYDN	Tasoluk	8.17	173	iP	P	20 36 30.9	-2.3
AYDN				iS	S	20 37 59.1	-5.4
TKTP	Tekketepe	8.22	159	iP	P	20 36 36.3	+2.4
DENT	Denizli	8.22	166	eP	P	20 36 34.3	+0.3
LCI	Lecce	8.25	232	eP	P	20 36 34.4	+0.1
LCI	Lecce	8.25	232	eP	P	20 36 34.4	+0.1
DPC	Dobruska-Polom	8.25	307	ePN	P	20 36 32.9	-1.5
DPC				eSN	S	20 38 05.7	-0.9
DPC				AMS	AMS	20 39 00.0	
	comp=Z,15μm,13.4s						
DPC	Dobruska-Polom	8.25	307	ePn	P	20 36 33.5	-0.9
KAMT	Kaman	8.29	138	iP	P	20 36 33.3	-1.4
DNZL	Cakiroluk	8.29	166	iP	P	20 36 33.4	-1.5
DNZL				iS	Px	20 37 38.6	
PE1	Pezze di Greco	8.32	237	ePn	P	20 36 35.2	-0.1
KVT	Kavak	8.33	121	eP	P	20 36 32.8	-2.6
NVLJ	Novalja	8.37	266	⇓iPn	P	20 36 36.5	+0.6
NVLJ				iSn	S	20 38 16.0	+6.7
OBKA	Obir	8.39	279	⇓iP	P	20 36 37.0	+0.8
	comp=Z,4μm,2.1s						
OBKA				iS	S	20 38 11.3	+1.3
LJU	Ljubljana	8.41	276	eP	P	20 36 37.6	+1.1
LJU				i		20 36 39.6	
LJU				e		20 36 52.0	
LJU				eS	S	20 38 16.0	+5.5
LJU	Ljubljana	8.41	276	ePn	P	20 36 37.6	+1.1
LJU				eSn	S	20 38 16.0	+5.5
LJU	Ljubljana	8.41	276	ePn	P	20 36 37.3	+0.8
ISP	Isparta	8.45	158	iP	P	20 36 36.6	-0.4
ISP	Isparta	8.45	158	eP	P	20 36 36.0	-1.0
ISP				pmax	pmax		
	comp=Z,980nm,0.5s						
ISP	Isparta	8.45	158	Pn	P	20 36 36.5	-0.5
BAI	Bari	8.46	240	ePn	P	20 36 36.9	-0.3
CEY	Cerknica	8.50	274	eP	P	20 36 39.0	+1.3
UPC	Upice	8.50	308	ePN	P	20 36 36.3	-1.4
UPC				ex	x	20 38 30.5	
UPC	Upice	8.50	308	ePn	P	20 36 36.8	-0.9
MLSB	Milas	8.52	174	eP	P	20 36 39.5	+1.6
KSP	Ksiaz	8.53	310	⇓eP	P	20 36 36.3	-1.7
KSP				eS	S	20 38 08.0	-5.2
KSP	Ksiaz	8.53	310	⇓eP	P	20 36 36.3	-1.7
KSP				ePP	PP	20 36 45.0	-1.4
KSP				e		20 36 53.8	
KSP				eS	S	20 38 08.0	-5.2
KSP	Ksiaz	8.53	310	⇓iP	P	20 36 36.9	-1.1
KSP				ePPP	PPP	20 36 54.2	-0.6
KSP				e		20 37 10.0	
KSP				eSn	S	20 38 13.5	+0.3
KSP				eSg	S	20 39 09.4	+56
SUW	Suwalki	8.53	346	eP	P	20 36 34.9	-3.2
SUW				e		20 38 09.6	
SUW	Suwalki	8.53	346	eP	P	20 36 34.9	-3.2

SUW				*e*PP	PP	20 36 41.6	-4.9	AQU					pmax	pmax					
SUW				*e*Sn	**S**	**20 38 09.6**	**-3.8**		comp=Z,2µm,1.2s										
SUW				*e*Sg	S	20 39 06.1	+53	**AQU**	**L'Aquila**	**10.09 255**	*e*P		**P**	**20 37 00.3**	**+1.3**	**VLC**	**Villacollemand**	**11.59 268**⇓	*e*P	**P**	**20 37 19.3**	**+0.2**
SUW	**Suwalki**	**8.53 346**	*e*P		**P**	**20 36 34.9**	**-3.2**	**AQU**	**L'Aquila**	**10.09 255**	*e*P		**P**	**20 37 00.3**	**+1.3**		comp=Z,2µm,1.3s					
SUW				*e*PP	PP	20 36 41.6	-4.9	**SDI**	**San Donato**	**10.10 251**	*e*P		**P**	**20 36 58.7**	**-0.4**	**VLC**	**Villacollemand**	**11.59 268**⇓	*e*P	**P**	**20 37 19.3**	**+0.2**
SUW				*e*Sn	**S**	**20 38 09.6**	**-3.8**	**FAU**	**Forcella Aurin**	**10.18 278**⇓	*i*P		**P**	**20 37 01.0**	**+0.8**		comp=Z,2µm,1.3s					
SUW				*e*Sg	S	20 39 06.1	+53	**RFI**	**Roccamonfina**	**10.18 248**	*e*P		**P**	**20 37 00.4**	**+0.1**	**MAON**	**Monte Argentar**	**11.60 259**	*e*P	**P**	**20 37 18.4**	**-0.9**
RLS	**Riolos of Patr**	**8.60 208**	*e*P		**P**	**20 36 40.6**	**+1.5**	**RFI**	**Roccamonfina**	**10.18 248**	*e*P		**P**	**20 37 00.4**	**+0.1**	**MAON**	**Monte Argentar**	**11.60 259**	*e*P	**P**	**20 37 18.4**	**-0.9**
MOA	**Molln**	**8.70 288**⇓	*i*P		**P**	**20 36 40.8**	**+0.4**	**RSM**	**Repubblica di**	**10.21 265**	*e*P		**P**	**20 37 01.2**	**+0.6**	**PII**	**Pisa**	**11.61 266**	*e*P	**P**	**20 37 19.1**	**-0.1**
	comp=Z,2µm,2.7s							**RSM**	**Repubblica di**	**10.21 265**	*e*P		**P**	**20 37 01.2**	**+0.6**	**PII**	**Pisa**	**11.61 266**	*e*P	**P**	**20 37 19.1**	**-0.2**
MOA			*i* S		**S**	**20 38 17.7**	**+0.2**	**KAP**	**Karpathos**	**10.23 177**	*e*P		**P**	**20 37 00.5**	**-0.4**	**DAVA**	**Damuels**	**11.61 283**⇓	*i*P	**P**	**20 37 19.6**	**+0.3**
FGMS	**Monte Sant'Ang**	**8.70 246**	*e*P		**P**	**20 36 40.6**	**+0.2**	**PTQR**	**Pietraquaria**	**10.23 253**	*e*P		**P**	**20 37 01.2**	**+0.3**		comp=Z,1µm,1.3s					
FGMS	**Monte Sant'Ang**	**8.70 246**	*e*P		**P**	**20 36 40.6**	**+0.2**	**PTQR**	**Pietraquaria**	**10.23 253**	*e*P		**P**	**20 37 01.2**	**+0.3**	DAVA			*i* S		**S**	**20 39 28.0**	**+0.7**
MS1	**Monte Sant'Ang**	**8.71 246**	*e*Pn		**P**	**20 36 40.1**	**-0.4**	**VOR**	**Voronezh**	**10.23 50**⇓	*i*P		**P**	**20 36 57.2**	**-3.8**	**DAVOX**	**Davos**	**11.61 281**	P	**P**	**20 37 19.8**	**+0.5**
BDRM	**Kayabasi**	**8.73 175**	*i* P		**P**	**20 36 39.7**	**-1.0**	VOR			pmax	pmax					comp=Z,0.9nm,0.3s,baz=88,slow=9.9,SNR=33					
YER	**Yerkesik**	**8.73 171**	*e*P		**P**	**20 36 41.3**	**+0.5**		comp=Z,1µm,0.7s							**DAVOX**	**Davos**	**11.61 281**⇓	*i*P	**P**	**20 37 19.9**	**+0.6**
APE	**Apeiranthos**	**8.74 186**⇑	*e*P		**P**	**20 36 39.2**	**-1.7**	VOR			pmax	pmax					comp=Z,445nm,1.2s					
APE			S		Px	20 37 44.3			comp=N,2µm,1.0s							**VALM**		**11.64 269**	P	**P**	**20 37 20.7**	**+0.9**
JAVS	**Javornik**	**8.74 275**	*e*P		**P**	**20 36 41.4**	**+0.4**	**GRI**	**Girifalco**	**10.24 231**	*e*P		**P**	**20 37 01.1**	**0.0**	**VALM**		**11.64 269**	P	**P**	**20 37 20.7**	**+0.9**
JAVS			*e*S		**S**	**20 38 28.4**	**+10**	**GRI**	**Girifalco**	**10.24 231**	*e*P		**P**	**20 37 01.1**	**0.0**	**LEF**	**Lefka**	**11.67 154**	*i* P	**P**	**20 37 20.1**	**-0.1**
SG1	**Sgolgore (BA)**	**8.74 239**	*e*Pn		**P**	**20 36 40.7**	**-0.3**	**MSC**	**Monte Massico**	**10.24 248**	*e*P		**P**	**20 37 01.6**	**+0.5**	**LEF**	**Lefka**	**11.67 154**	Pn	**P**	**20 37 20.3**	**+0.1**
MNK	**Minsk**	**8.77 5**	*e*P		**P**	**20 36 34.0**	**-7.3**	**MSC**	**Monte Massico**	**10.24 248**	*e*P		**P**	**20 37 01.6**	**+0.5**	**PTK**	**Pertek**	**11.71 121**	*i* P	**P**	**20 37 20.4**	**-0.2**
MNK			*e*SS		SS	20 38 20.0	-15	**MURB**	**Monte Urbino**	**10.35 261**	*e*P		**P**	**20 37 03.2**	**+0.6**	**GAZ**	**Gaziantep**	**11.71 133**	*e*P	**P**	**20 37 20.6**	**-0.1**
VLS	**Valsamata**	**8.81 213**	*e*P		**P**	**20 36 41.1**	**-0.7**	**MURB**	**Monte Urbino**	**10.35 261**	*e*P		**P**	**20 37 03.2**	**+0.6**	**GAZ**	**Gaziantep**	**11.71 133**	Pn	**P**	**20 37 23.0**	**+2.3**
LTRZ	**Laterza**	**8.81 238**	*e*P		**P**	**20 36 41.8**	**0.0**	**BRSN**	**Barisano**	**10.38 267**	*e*P		**P**	**20 37 04.5**	**+1.5**	**ELZG**	**Elazig**	**11.72 124**	*i* P	**P**	**20 37 21.3**	**+0.4**
LTRZ	**Laterza**	**8.81 238**	*e*P		**P**	**20 36 41.8**	**0.0**	**BRSN**	**Barisano**	**10.38 267**	*e*P		**P**	**20 37 04.5**	**+1.6**	**BCA**	**Borcka**	**11.73 106**	*i* P	**P**	**20 37 16.7**	**-4.2**
BCK	**Bucak**	**8.83 159**	P		**P**	**20 36 43.2**	**+1.0**	**WTTA**	**Wattenberg**	**10.41 284**⇓	*i*P		**P**	**20 37 04.7**	**+1.4**	**PPCY**	**Paphos**	**11.73 156**	P	**P**	**20 37 20.2**	**-0.8**
CDT	**Castel del Mon**	**8.85 242**	*e*Pn		**P**	**20 36 41.6**	**-0.7**		comp=N,6µm,2.3s							**MAMC**	**Mammari**	**11.73 152**⇑	*e*P	**P**	**20 37 21.5**	**+0.5**
VOY	**Vojsko**	**8.86 276**	*e*P		**P**	**20 36 42.6**	**+0.1**	WTTA			*i* S		**S**	**20 39 01.3**	**+2.6**	**GRAM**		**11.74 270**	P	**P**	**20 37 21.5**	**+0.4**
VOY			*e*			20 36 42.7		**BERN**	**Bernov**	**10.43 300**	⇓P		**P**	**20 37 18.6**	**+15**	**GRAM**		**11.74 270**	P	**P**	**20 37 21.5**	**+0.4**
YOZ	**Yozgat**	**8.88 131**	*i* P		**P**	**20 36 42.0**	**-0.8**	**WATA**	**Walderalm**	**10.46 284**⇑	*i*P		**P**	**20 37 05.3**	**+1.4**	**GZT**	**Gaziantep**	**11.76 132**	*i* P	**P**	**20 37 21.4**	**+0.1**
KONT	**Konya--Tatoy**	**8.93 149**	*i* P		**P**	**20 36 43.4**	**-0.1**		comp=N,2µm,1.4s							**VINC**	**Vinca**	**11.76 268**	P	**P**	**20 37 21.7**	**+0.4**
RGNG	**Rignano Grg**	**8.96 247**	*e*P		**P**	**20 36 43.6**	**-0.2**	WATA			*i* S		**S**	**20 39 02.4**	**+2.7**	**VINC**	**Vinca**	**11.76 268**	P	**P**	**20 37 21.7**	**+0.4**
RGNG	**Rignano Grg**	**8.96 247**	*e*P		**P**	**20 36 43.6**	**-0.2**	**NKC**	**Novy Kostel**	**10.47 300**	*e*PN		**P**	**20 37 02.9**	**-1.2**	**COBT**	**Iskenderun**	**11.77 138**	*i* P	**P**	**20 37 23.9**	**+2.4**
CADS	**Cadrg**	**8.96 277**	*e*P		**P**	**20 36 44.4**	**+0.6**	**NKC**	**Novy Kostel**	**10.47 300**	*e*Pn		**P**	**20 37 03.3**	**-0.8**	**BACM**		**11.78 269**	P	**P**	**20 37 22.6**	**+1.0**
CADS			*e*S		**S**	**20 38 31.8**	**+8.1**	**VAM**	**Vamos**	**10.52 191**	*e*P		**P**	**20 37 04.4**	**-0.4**	**BACM**		**11.78 269**	P	**P**	**20 37 22.6**	**+1.0**
TRI	**Trieste**	**8.97 274**	*e*P		**P**	**20 36 45.9**	**+1.9**	**NPS**	**Neapolis**	**10.53 184**	*e*P		**P**	**20 37 04.4**	**-0.6**	**MNO**	**Monte Soro**	**11.82 233**	*e*P	**P**	**20 37 22.4**	**+0.3**
TRI	**Trieste**	**8.97 274**	*e*P		**P**	**20 36 45.8**	**+1.8**	**CERT**	**Cerreto**	**10.54 254**	*e*P		**P**	**20 37 04.9**	**-0.2**	**MNO**	**Monte Soro**	**11.82 233**	*e*P	**P**	**20 37 22.4**	**+0.2**
TOKT	**Tokat**	**9.10 123**	*i* P		**P**	**20 36 44.3**	**-1.5**	**CERT**	**Cerreto**	**10.54 254**	*e*P		**P**	**20 37 04.9**	**-0.2**	**VDL**	**Val di Lei**	**11.90 280**⇓	*i*P	**P**	**20 37 23.9**	**+0.7**
ROBS	**Robic**	**9.11 278**	P		**P**	**20 36 47.0**	**+1.0**	**IDI**	**Anoyia**	**10.56 188**	P		**P**	**20 37 04.6**	**-0.7**		comp=Z,2µm,2.5s					
PRU	**Pruhonice**	**9.12 302**	*e*PN		**P**	**20 36 44.6**	**-1.4**		comp=N,7.5nm,0.3s,baz=21,slow=10,SNR=51							**VDL**	**Val di Lei**	**11.90 280**⇓	P	**P**	**20 37 24.1**	**+0.9**
PRU			*e*SN		**S**	**20 38 27.1**	**-0.6**	IDI			S		**S**	**20 38 58.4**	**-3.8**	**CODM**		**11.91 269**	P	**P**	**20 37 24.0**	**+0.6**
PRU	**Pruhonice**	**9.12 302**	*e*Pn		**P**	**20 36 45.3**	**-0.7**		comp=N,18nm,0.3s,baz=80,slow=20,SNR=2.8							**BSD**	**Bornholm Skovb**	**11.93 326**⇓	*i*P	**P**	**20 37 19.6**	**-3.9**
DALT	**Dalyan (Mudla)**	**9.13 170**	*e*P		**P**	**20 36 46.2**	**+0.1**	**MNS**	**Montasola**	**10.56 256**	*e*P		**P**	**20 37 05.6**	**+0.2**		comp=Y,955nm,1.0s					
PRA	**Prague**	**9.22 302**	P		**P**	**20 36 46.0**	**-1.4**	**CLL**	**Collm**	**10.56 306**	P		**P**	**20 37 04.0**	**-1.4**	BSD			*i*			20 37 31.4	
PRA			*ex*		x	20 36 57.0			comp=N,logA/T=2.7							BSD			*e*S		**S**	**20 39 29.8**	**-5.1**
PRA			*ex*		x	20 39 38.0		CLL			*i*			20 37 12.3			comp=Z,7µm,16.0s					
PTCC	**Patocco-Chiusa**	**9.22 279**	*e*P		**P**	**20 36 48.9**	**+1.5**	CLL			*i*	*PP		20 37 16.7		**PLONS**	**Plons**	**11.95 282**⇓	*i*P	**P**	**20 37 23.0**	**-0.8**
PTCC	**Patocco-Chiusa**	**9.22 279**	*e*P		**P**	**20 36 48.9**	**+1.5**	CLL			*e*			20 38 46.0			comp=Z,780nm,1.5s					
KBA	**Koelnbreinsper**	**9.24 283**⇓	*i*P		**P**	**20 36 49.0**	**+1.4**	CLL			*e*S		**S**	**20 38 57.0**	**-5.3**	**CSS**	**Prodhromos**	**11.96 152**⇑	*e*P	**P**	**20 37 24.7**	**+0.7**
	comp=Z,4µm,1.6s							CLL			*e*L			20 39 39.0			comp=Z,15nm,0.8s					
KBA			*i* S		**S**	**20 38 32.6**	**+2.1**	**CLL**	**Collm**	**10.56 306**	*i* P		**P**	**20 37 04.0**	**-1.4**	**TUE**	**Stuetta**	**11.98 280**	P	**P**	**20 37 25.8**	**+1.5**
KBA	**Koelnbreinsper**	**9.24 283**	*e*Pn		**P**	**20 36 49.3**	**+1.7**	CLL			*e*S		**S**	**20 38 57.0**	**-5.3**	**SZAC**	**Souni-Zanaja**	**12.01 154**⇑	*e*P	**P**	**20 37 25.0**	**+0.3**
ITM	**Ithomi**	**9.27 204**	*e*P		**P**	**20 36 49.5**	**+1.4**	CLL			pmax	pmax				**SIND**	**Sindeldorf**	**12.01 293**⇓	*e*P	**P**	**20 37 24.2**	**-0.4**
GEC2	**GERESS Array S**	**9.27 294**	*e*P		**P**	**20 36 48.3**	**+0.2**		comp=Z,514nm,1.0s							**AGST**	**Augusta-Monte**	**12.03 229**	*e*P	**P**	**20 37 22.2**	**-2.7**
GEC2			*e*S		**S**	**20 38 37.0**	**+5.6**	**CLL**	**Collm**	**10.56 306**	*i* P		**P**	**20 37 04.0**	**-1.4**	**BUCH**	**Bad Urach**	**12.04 289**	*e*P	**P**	**20 37 24.9**	**-0.1**
GERES	**GERESS Array B**	**9.27 294**	P		**P**	**20 36 47.1**	**-1.1**		comp=Z,514nm,1.0s							**BUCH**	**Bad Urach**	**12.04 289**	P	**P**	**20 37 25.2**	**+0.2**
	comp=Z,4.1nm,0.3s,baz=102,slow=12,SNR=325							CLL			*i*			20 37 12.3		**HTY**	**Hatay**	**12.04 140**	*i* P	**P**	**20 37 25.1**	**0.0**
GERES	**GERESS Array B**	**9.27 294**	P		**P**	**20 36 47.1**	**-1.0**	CLL			*e*S		**S**	**20 38 57.0**	**-5.3**	**HTY**	**Hatay**	**12.04 140**	Pn	**P**	**20 37 24.2**	**-0.9**
GERES			pmax	pmax				**SFI**	**Santa Sofia**	**10.63 265**	*e*P		**P**	**20 37 06.8**	**+0.5**	**BOB**	**Bobbio (Coli)**	**12.12 271**	*e*P	**P**	**20 37 27.3**	**+1.2**
	comp=Z,4.0nm,0.3s							**CRE**	**Caprese Michel**	**10.64 264**	*e*P		**P**	**20 37 08.1**	**+1.7**	**BOB**	**Bobbio (Coli)**	**12.12 271**	*e*P	**P**	**20 37 27.3**	**+1.2**
FG4	**Candela**	**9.29 244**	*e*P		**P**	**20 36 48.6**	**+0.3**	**CRE**	**Caprese Michel**	**10.64 264**	*e*P		**P**	**20 37 08.1**	**+1.7**	**GIB**	**Gibilmanna**	**12.16 235**	*e*P	**P**	**20 37 26.1**	**-0.6**
FG4	**Candela**	**9.29 244**	*e*P		**P**	**20 36 48.6**	**+0.3**	**SQTA**	**Sankt Quirin**	**10.70 283**⇓	*i*P		**P**	**20 37 08.6**	**+1.4**	**GIB**	**Gibilmanna**	**12.16 235**	*e*P	**P**	**20 37 26.1**	**-0.6**
AVNT	**Avonos**	**9.29 136**	*i* P		**P**	**20 36 47.9**	**-0.5**		comp=Z,713nm,1.4s							**PHNC**	**Paralimni**	**12.16 150**	P	**P**	**20 37 29.6**	**+2.9**
BAD	**Bernadia**	**9.30 278**⇓	*e*P		**P**	**20 36 49.0**	**+0.6**	SQTA			*i* S		**S**	**20 39 08.2**	**+2.6**	**MOS**	**Moscow**	**12.16 31**	*i* P	**P**	**20 37 21.8**	**-4.8**
PVCC	**Panska Ves**	**9.33 305**	*e*PN		**P**	**20 36 47.4**	**-1.5**	**PGD**	**Poggio Sodo**	**10.73 265**	*e*P		**P**	**20 37 08.3**	**+0.7**	MOS			*e*			20 39 42.6	
PVCC			*ex*		x	20 38 37.9		**PGD**	**Poggio Sodo**	**10.73 265**	*e*P		**P**	**20 37 08.3**	**+0.7**	MOS			pmax	pmax			
PVCC	**Panska Ves**	**9.33 305**	*e*Pn		**P**	**20 36 47.8**	**-1.1**	**FUR**	**Furstenfeldbru**	**10.73 288**	*e*P		**P**	**20 37 08.3**	**+0.7**		comp=Z,704nm,0.7s					
ELL	**Elmali**	**9.36 163**	*e*P		**P**	**20 36 51.3**	**+2.1**	FUR			*e*S		**S**	**20 39 12.2**	**+5.9**	MOS			MLR	MLR		
FG5	**Orsara di Pugl**	**9.36 245**	*e*P		**P**	**20 36 49.6**	**+0.3**	**RUE**	**Ruedersdorf**	**10.73 313**⇓	*i*P		**P**	**20 37 04.9**	**-2.7**		comp=Z,7µm,10.7s					
FG5	**Orsara di Pugl**	**9.36 245**	*e*P		**P**	**20 36 49.7**	**+0.4**		comp=Z,2µm,1.2s							**GUT**	**Gutenstein**	**12.16 287**⇓	*e*P	**P**	**20 37 26.9**	**+0.2**
ORI	**Oriolo Calabro**	**9.37 236**	*e*P		**P**	**20 36 49.9**	**+0.5**	**MOTA**	**Moosalm**	**10.78 284**⇓	*i*P		**P**	**20 37 09.3**	**+1.1**	**GUT**	**Gutenstein**	**12.16 287**	P	**P**	**20 37 26.5**	**-0.2**
ORI	**Oriolo Calabro**	**9.37 236**	*e*P		**P**	**20 36 49.9**	**+0.5**		comp=Z,514nm,1.3s							**CSLB**	**Castelbuono**	**12.18 234**	*e*P	**P**	**20 37 25.8**	**-1.1**
BUA	**Buia**	**9.38 278**⇓	*e*P		**P**	**20 36 50.0**	**+0.4**	MOTA			*i* S		**S**	**20 39 08.8**	**+1.4**	**CSLB**	**Castelbuono**	**12.18 234**	*e*P	**P**	**20 37 25.8**	**-1.1**
THR5	**Thira Island,**	**9.40 186**	P		**P**	**20 36 49.1**	**-0.7**	**GUMT**	**Gumushane**	**10.82 115**	*i* P		**P**	**20 37 06.0**	**-2.8**	**STU**	**Stuttgart**	**12.18 290**⇓	*e*P	**P**	**20 37 26.2**	**-0.7**
THR5	**Thira Island,**	**9.40 186**	P		**P**	**20 36 49.1**	**-0.7**	**VMG**	**Vicchio**	**10.83 266**	*e*P		**P**	**20 37 09.8**	**+0.8**	STU			pmax	pmax			
THR3	**Thira Island,**	**9.40 186**	P		**P**	**20 36 49.5**	**-0.4**	**VMG**	**Vicchio**	**10.83 266**	*e*P		**P**	**20 37 09.8**	**+0.8**		comp=Z,550nm,1.0s					
THR3	**Thira Island,**	**9.40 186**	P		**P**	**20 36 49.5**	**-0.3**	**KELT**	**Kelkit**	**10.85 117**	*i* P		**P**	**20 37 09.6**	**+0.4**	**STU**	**Stuttgart**	**12.18 290**⇓	*e*P	**P**	**20 37 26.2**	**-0.7**
TLI	**Talmassons**	**9.41 276**⇓	*i*P		**P**	**20 36 51.0**	**+1.0**	**IKL**	**Isikli**	**10.93 148**	*e*P		**P**	**20 37 10.6**	**+0.3**		comp=Z,552nm,1.0s					
KHC	**Kasperske Hory**	**9.43 296**	*e*PN		**P**	**20 36 49.5**	**-0.7**	**IKL**	**Isikli**	**10.93 148**	Pn		**P**	**20 37 11.7**	**+1.4**	**STU**	**Stuttgart**	**12.18 290**⇓	*e*P	**P**	**20 37 26.2**	**-0.7**
KHC			*e*SN		**S**	**20 38 35.3**	**+0.2**	**CEL**	**Celeste**	**10.93 230**	P		**P**	**20 37 11.6**	**+1.3**		comp=Z,552nm,1.0s					
KHC			AMS		AMS	20 40 30.0		**SCLL**	**Scilla**	**11.03 231**	*e*P		**P**	**20 37 12.2**	**+0.5**	**LLS**	**Linth-Limmern**	**12.20 281**⇓	*i*P	**P**	**20 37 25.4**	**-1.8**
	comp=Z,11µm,14.5s							**GRA1**	**Grafenberg Arr**	**11.06 296**	*e*P		**P**	**20 37 12.1**	**+0.1**		comp=Z,322nm,1.4s					
SANT	**Santorini**	**9.44 186**	*e*P		**P**	**20 36 49.2**	**-1.1**		comp=Z,1µm,1.1s							**LLS**	**Linth-Limmern**	**12.20 281**⇓	P	**P**	**20 37 27.0**	**-0.2**
	comp=Z,105nm,0.5s							GRA1			*e*S		**S**	**20 39 19.7**	**+5.5**	**RGN**	**Rugen**	**12.20 321**	*e*P	**P**	**20 37 23.9**	**-3.3**
SANT	**Santorini**	**9.44 186**	*e*P		**P**	**20 36 49.2**	**-1.1**	**GRF**	**Grafenberg Arr**	**11.06 296**	*e*P		**P**	**20 37 12.1**	**+0.1**		comp=Z,4µm,1.5s					
	comp=Z,105nm,0.5s							GRF			*e*S		**S**	**20 39 19.7**	**+5.5**	**WEIN**	**Weingarten**	**12.22 285**⇑	*i*P	**P**	**20 37 25.6**	**-1.8**
VLI	**Velia**	**9.46 198**	*e*P		**P**	**20 36 49.1**	**-1.5**		comp=Z,1µm,1.1s								comp=Z,744nm,1.0s					
MPRI	**Monte Prat**	**9.47 278**⇓	*e*P		**P**	**20 36 52.0**	**+1.2**	**FNVD**	**Fontana Vidola**	**11.07 267**	*e*P		**P**	**20 37 12.8**	**+0.6**	**MUGIO**	**Muggio**	**12.24 277**⇓	*i*P	**P**	**20 37 26.8**	**-0.9**
MRLC	**Muro Lucano**	**9.52 242**	*e*P		**P**	**20 36 51.8**	**+0.4**	**FNVD**	**Fontana Vidola**	**11.07 267**	*e*P		**P**	**20 37 12.8**	**+0.6**		comp=Z,519nm,1.7s					
MRLC	**Muro Lucano**	**9.52 242**	*e*P		**P**	**20 36 51.8**	**+0.4**	**GVD**	**Gavdhos**	**11.09 191**	*e*P		**P**	**20 37 11.5**	**-0.9**	**SISB**	**Singen-Sch Ber**	**12.24 285**	P	**P**	**20 37 27.3**	**-0.4**
IDID	**Didziasalis**	**9.55 1**	*i* P		**P**	**20 36 48.2**	**-3.5**		comp=Z,630nm,0.9s							**WILA**	**Wila**	**12.27 284**⇓	*i*P	**P**	**20 37 26.8**	**-1.3**
IDID			AMPb		AMB	20 36 51.9		**GVD**	**Gavdhos**	**11.09 191**	*e*P		**P**	**20 37 11.5**	**-1.0**		comp=Z,848nm,1.1s					
	comp=Z,284nm,1.0s								comp=Z,630nm,0.9s							**WILA**	**Wila**	**12.27 284**	⇓P	**P**	**20 37 26.9**	**-1.2**
IIGN	**Ignalina**	**9.59 359**	*i* P		**P**	**20 36 48.7**	**-3.6**	**MOX**	**Moxa**	**11.11 301**	*i* P		**P**	**20 37 11.9**	**-0.7**	**CLZ**	**Clausthal**	**12.28 305**	*e*P	**P**	**20 37 26.2**	**-2.0**
IIGN			AMPb		AMB	20 36 50.9			comp=Z,logA/T=2.8							**VAE**	**Valguarnera**	**12.30 232**	P	**P**	**20 37 28.5**	**-0.1**
	comp=Z,245nm,0.4s							MOX			L			20 41 50.0			comp=Z,0.9nm,0.3s,baz=64,slow=12,SNR=6.0					
SOC	**Sochi**	**9.61 99**	*i* P		**P**	**20 36 49.2**	**-3.4**	**MOX**	**Moxa**	**11.11 301**	*e*P		**P**	**20 37 11.9**	**-0.7**	**STEIN**	**Stein am Rhein**	**12.30 285**⇑	*i*P	**P**	**20 37 26.7**	**-1.9**
SOC			*e*S		**S**	**20 38 31.5**	**-7.9**	MOX			pmax	pmax					comp=Z,907nm,1.0s					
SOC			pmax	pmax				MOX			MLR	MLR				**EZM**	**Erzurum**	**12.33 113**	*i* P	**P**	**20 37 28.3**	**-0.6**
	comp=N,415nm,0.9s								comp=Z,887nm,1.4s							**ERZM**	**Erzurum**	**12.33 113**	*i* P	**P**	**20 37 28.5**	**-0.4**
SOC			pmax	pmax					comp=Z,7µm,21.0s							ERZM			*i* S		**S**	**20 39 34.6**	**-10**
	comp=Z,2µm,0.9s							**MOX**	**Moxa**	**11.11 301**	*e*P		**P**	**20 37 11.9**	**-0.7**	**BINT**	**Bingol**	**12.38 119**	*e*P	**P**	**20 37 28.5**	**-1.0**
SOC			pmax	pmax					comp=Z,887nm,1.4s							**BINT**	**Bingol**	**12.38 119**	Pn	**P**	**20 37 26.6**	**-3.0**
	comp=E,2µm,0.8s							**CEYT**	**Ceyhan**	**11.13 139**	*e*P		**P**	**20 37 14.3**	**+1.3**	**SPAK**	**Spaichingen**	**12.39 287**	*e*P	**P**	**20 37 30.0**	**+0.4**
SOC			smax					**CEYT**	**Ceyhan**	**11.13 139**	Pn		**P**	**20 37 16.4**	**+3.4**	**TRULL**	**Truellikon**	**12.43 285**⇓	*i*P	**P**	**20 37 29.8**	**-0.4**
	comp=N,4µm,0.7s							**CEYT**	**Ceyhan**	**11.13 139**	Pn		**P**	**20 37 16.4**	**+3.4**		comp=Z,716nm,1.0s					
SOC			smax					**ZCCA**	**Zocca**	**11.13 268**	*e*P		**P**	**20 37 14.8**	**+1.8**	**LBG**	**Lerchenberg**	**12.43 290**	*e*P	**P**	**20 37 30.1**	**-0.2**
	comp=E,1µm,0.4s							**ZCCA**	**Zocca**	**11.13 268**	*e*P		**P**	**20 37 14.8**	**+1.8**	**LBG**	**Lerchenberg**	**12.43 290**	P	**P**	**20 37 30.2**	**-0.1**
SOC			MLR	MLR				**CSNT**	**Castellina Chi**	**11.14 264**	*e*P		**P**	**20 37 13.4**	**+0.3**	**MUO**	**Muotathal**	**12.46 282**⇓	*i*P	**P**	**20 37 29.7**	**-0.8**
	comp=N,5µm,16.0s							**CSNT**	**Castellina Chi**	**11.14 264**	*e*P		**P**	**20 37 13.4**	**+0.3**		comp=Z,1µm,1.5s					
SOC			MLR	MLR				**TOLF**	**Tolfa**	**11.15 256**	*e*P		**P**	**20 37 12.2**	**-1.0**	**MUO**	**Muotathal**	**12.46 282**	⇓P	**P**	**20 37 30.1**	**-0.4**
	comp=Z,4µm,16.0s							**TOLF**	**Tolfa**	**11.15 256**	*e*P		**P**	**20 37 12.2**	**-1.1**	**FUSIO**	**Fusio**	**12.46 280**⇓	*i*P	**P**	**20 37 30.1**	**-0.5**
SOC			MLR	MLR				**MSI**	**Messina ING**	**11.15 231**	*e*P		**P**	**20 37 13.5**	**+0.2**		comp=Z,806nm,1.7s					
	comp=E,4µm,12.0s							**MSI**	**Messina ING**	**11.15 231**	*e*P		**P**	**20 37 13.5**	**+0.2**	**ZUR**	**Zurich**	**12.49 284**⇓	*i*P	**P**	**20 37 29.4**	**-1.6**
SOC	**Sochi**	**9.61 99**⇓	*i*P		**P**	**20 36 48.6**	**-4.0**	**SAL**	**Salo**	**11.24 275**	*e*P		**P**	**20 37 15.0**	**+0.7**		comp=Z,925nm,1.1s					
FVI	**Forni Avoltri**	**9.61 280**	*e*P		**P**	**20 36 54.5**	**+1.9**	**SAL**	**Salo**	**11.24 275**	*e*P		**P**	**20 37 15.0**	**+0.6**	**ZUR**	**Zurich**	**12.49 284**	⇓P	**P**	**20 37 30.0**	**-1.0**
FVI	**Forni Avoltri**	**9.61 280**	*e*P		**P**	**20 36 54.5**	**+1.9**	**BRMO**	**Bormio**	**11.28 279**	*e*P		**P**	**20 37 16.4**	**+1.5**	**FLACH**	**Flaach**	**12.51 285**⇓	*e*P	**P**	**20 37 30.4**	**-0.8**
ARG	**Arkhangelos**	**9.62 173**	*e*P		**P**	**20 36 53.9**	**+1.1**	**BRMO**	**Bormio**	**11.28 279**	*e*P		**P**	**20 37 16.4**	**+1.5**		comp=Z,743nm,1.1s					
ARG	**Arkhangelos**	**9.62 173**	P		**P**	**20 36 52.1**	**-0.7**	**OBN**	**Obninsk**	**11.30 31**	*de*P		**P**	**20 37 10.5**	**-4.6**	**GENL**	**Genova Univers**	**12.53 270**	P	**P**	**20 37 32.5**	**+1.0**
GKP	**Gorka Klasztor**	**9.64 324**⇓	*i*P		**P**	**20 36 51.4**	**-1.6**	OBN			*e*S		**S**	**20 39 12.4**	**-7.4**	**GENL**	**Genova Univers**	**12.53 270**	P	**P**	**20 37 32.5**	**+1.0**
GKP			*e*Sn		**S**	**20 38 39.8**	**-0.4**	OBN			pmax	pmax				**SLE**	**Schleitheim**	**12.56 286**⇓	*i*P	**P**	**20 37 31.1**	**-0.9**
GKP	**Gorka Klasztor**	**9.64 324**⇓	*i*P		**P**	**20 36 51.4**	**-1.6**		comp=Z,918nm,0.7s								comp=Z,584nm,1.1s					
GKP			*e*Sn		**S**	**20 38 39.8**	**-0.4**	OBN			MLR	MLR				**SLE**	**Schleitheim**	**12.56 286**	⇓P	**P**	**20 37 30.7**	**-1.3**
SLCN	**Sala Consilina**	**9.65 240**	*e*P		**P**	**20 36 52.4**	**-0.7**		comp=Z,5µm,7.0s							**TOD**	**Tromm**	**12.57 294**	*e*P	**P**	**20 37 31.2**	**-0.9**
SLCN	**Sala Consilina**	**9.65 240**	*e*P		**P**	**20 36 52.4**	**-0.7**	**OBN**	**Obninsk**	**11.30 31**	*e*P		**P**	**20 37 10.2**	**-4.9**	**TOD**	**Tromm**	**12.57 294**	*e*P	**P**	**20 37 31.5**	**-0.6**
SVST	**Sivas**	**9.70 125**	*i* P		**P**	**20 36 52.9**	**-0.9**		comp=Z,680nm,0.4s							**BNALP**	**Bannalp**	**12.60 281**⇓	*i*P	**P**	**20 37 31.5**	**-1.0**
SVST			*i* S		**S**	**20 38 34.9**	**-6.7**	**FUORN**	**Ofenpass**	**11.35 280**⇓	*i*P		**P**	**20 37 16.6**	**+0.8**		comp=Z,689nm,1.3s					
TDS	**Terranova Siba**	**9.70 235**	*e*P		**P**	**20 36 54.4**	**+0.5**		comp=Z,849nm,1.4s							**SWS**	**Schriesheim**	**12.62 294

LANF Langenberg 13.12 291 eP P 20 37 38.4 -0.8
WIMIS Wimmis 13.16 281⇓iP P 20 37 37.5 -2.3
comp=Z,649nm,1.1s
LKBD Leukerbad 13.18 279⇓iP P 20 37 39.0 -1.0
comp=Z,519nm,1.1s
LKBD Leukerbad 13.18 279⇑P P 20 37 39.8 -0.2
LIBD Limburg 13.18 287 eP P 20 37 39.8 -0.2
LIBD Limburg 13.18 287 eP P 20 37 39.9 -0.1
TRAV 13.19 276 P P 20 37 38.1 -2.0
TRAV 13.19 276 P P 20 37 38.1 -2.0
BBS Basel-Blauen 13.22 284 eP P 20 37 39.4 -1.1
BBS Basel-Blauen 13.22 284 eP P 20 37 39.5 -1.0
RORO 13.22 269 P P 20 37 39.9 -0.7
RORO 13.22 269 P P 20 37 39.9 -0.7
BSEG Bad Segeberg 13.27 314 eP P 20 37 37.4 -3.8
ROB Roburent 13.32 270 P P 20 37 42.2 +0.4
ROB Roburent 13.32 270 P P 20 37 42.2 +0.4
COP Copenhagen 13.34 323⇓iP P 20 37 38.0 -4.0
comp=Z,1µm,0.9s
COP i 20 37 49.5
comp=Z,3µm,24.0s
DIX Grande Dixence 13.35 278⇓iP P 20 37 42.1 -0.1
comp=Z,4µm,1.9s
DIX Grande Dixence 13.35 278 ⇓P P 20 37 42.3 +0.1
WLS Welschbruch 13.36 288 eP P 20 37 42.4 0.0
IMI Imperia 13.40 269 eP P 20 37 42.7 -0.1
IMI Imperia 13.40 269 eP P 20 37 42.7 -0.1
SENIN Lac Senin 13.40 279⇑eP P 20 37 41.6 -1.3
comp=Z,494nm,1.4s
BOURR Bourrignon 13.41 284⇓iP P 20 37 40.3 -2.7
comp=Z,760nm,1.1s
CDF Champ du Feu 13.41 288 eP P 20 37 41.7 -1.3
comp=Z,4µm,1.8s
BTMT Batman 13.42 119 i P P 20 37 45.9 +2.8
ABH Alteburg 13.43 295 eP P 20 37 42.5 -0.7
ABH Alteburg 13.43 295 eP P 20 37 42.7 -0.5
MONE Monesi 13.45 269 P P 20 37 43.7 +0.2
BEST Besiri 13.48 121 i P P 20 37 46.1 +2.3
ECH Echery 13.48 287 eP P 20 37 43.5 -0.4
MOF Molkenrain 13.48 286 eP P 20 37 43.4 -0.5
AGRT Agri 13.54 111 i P P 20 37 42.7 -1.9
AGRT Agri 13.54 111 Pn P 20 37 45.3 +0.7
NEGI Negi 13.54 269 P P 20 37 43.6 -1.1
NEGI Negi 13.54 269 P P 20 37 43.6 -1.0
RSP Reno Superiore 13.58 274 P P 20 37 44.3 -0.9
RSP Reno Superiore 13.58 274 P P 20 37 44.3 -0.8
LSD Ceresole Reale 13.61 276 P P 20 37 45.9 +0.4
LSD Ceresole Reale 13.61 276 P P 20 37 45.9 +0.5
SAOF Saorge 13.61 269 eP P 20 37 45.1 -0.4
TORNY Torny 13.61 281⇓eP P 20 37 44.3 -1.2
comp=Z,958nm,1.2s
BHB Bricherasio 13.63 273 P P 20 37 45.6 -0.1
BHB Bricherasio 13.63 273 P P 20 37 45.7 -0.1
AIGLE Aigle 13.65 279⇓iP P 20 37 44.3 -1.6
comp=Z,791nm,1.8s
SALAN Lac Salanfe 13.65 279⇓iP P 20 37 44.0 -2.0
comp=Z,481nm,1.3s
ENR Entracque 13.65 270 P P 20 37 46.7 +0.7
ENR Entracque 13.65 270 P P 20 37 46.7 +0.7
HINF Hinteralfeld 13.67 286 eP P 20 37 44.6 -1.6
comp=Z,2µm,1.4s
LOMF Lomont 13.69 284 eP P 20 37 45.3 -1.1
AUTN L'Aution 13.70 269 eP P 20 37 46.8 +0.1
RUP Ruppelstein 13.71 294 eP P 20 37 46.3 -0.4
RUP Ruppelstein 13.71 294 eP P 20 37 46.6 -0.1
EMV Vieux Emosson 13.71 278 ⇓P P 20 37 46.6 -0.2
DOI San Damiano 13.71 272 eP P 20 37 45.8 -1.0
DOI San Damiano 13.71 272 eP P 20 37 45.8 -1.0
STV2 Anna di Valdie 13.71 270 P P 20 37 45.5 -1.3
STV2 Anna di Valdie 13.71 270 P P 20 37 45.5 -1.3
STV Sta Anna Valdi 13.71 270 P P 20 37 46.6 -0.3
STV Sta Anna Valdi 13.71 270 P P 20 37 46.6 -0.2
SBF Sospel 13.73 269 eP P 20 37 46.0 -1.0
comp=Z,4µm,1.4s
TI2 Plekhanov 13.74 101⇓iP P 20 37 46.6 -0.5
TI2 i S S 20 40 09.6 -8.0
TI2 pmax pmax
comp=Z,10µm,1.5s
TI2 MLR MLR
comp=N,5µm,6.0s
TI2 MLR MLR
comp=E,6µm,6.0s
TI2 MLR MLR
comp=Z,4µm,6.0s
FENE Fenestrelle 13.74 274 P P 20 37 46.2 -0.9
FENE Fenestrelle 13.74 274 P P 20 37 46.2 -1.0
AURF Auriere 13.80 269 eP P 20 37 48.7 +0.8
REVF Revere 13.81 268 eP P 20 37 51.5 +3.5
PZZ Prazzo 13.81 272 P P 20 37 49.4 +1.3
PZZ Prazzo 13.81 272 P P 20 37 49.4 +1.3
TOUF Mont Tournerai 13.82 270 eP P 20 37 48.7 +0.5
OG01 Vacheresse 13.83 279 eP P 20 37 48.1 -0.3
OG22 Abries 13.86 273 eP P 20 37 48.3 -0.4
LPG La Plagne 13.88 276 eP P 20 37 49.8 +0.8
comp=Z,3µm,0.9s
LPL La Plagne 13.89 276 eP P 20 37 49.8 +0.7
comp=Z,5µm,1.1s
MVIF Mont Vial 13.92 269 eP P 20 37 50.4 +0.9
BRANT Les Verrieres 13.94 282⇓iP P 20 37 48.6 -1.1
comp=Z,1µm,1.4s
RSL Roselend 13.94 277 eP P 20 37 56.2 +6.4
RRL Cesana Torines 13.95 274 P P 20 37 49.8 -0.1
RRL Cesana Torines 13.95 274 P P 20 37 49.8 -0.1
MBDF Montbardon 14.00 273 eP P 20 37 50.6 +0.1
comp=Z,8µm,1.4s
BNI Bardonecchia 14.00 274 P P 20 37 51.2 +0.6
BNI pmax pmax
comp=Z,700nm,1.0s
BNI Bardonecchia 14.00 274 eP P 20 37 50.8 +0.3
comp=Z,1µm,1.2s
BNI Bardonecchia 14.00 274 eP P 20 37 50.8 +0.2
comp=Z,1µm,1.2s
HAU Haudompre 14.01 286 eP P 20 37 49.6 -1.1
comp=Z,3µm,1.1s
HAU eR
comp=Z,8µm,17.5s
SURF Saint Ours 14.02 272 eP P 20 37 54.5 +3.7
GIMEL Gimel 14.11 280⇓iP P 20 37 50.5 -1.4
comp=Z,910nm,1.2s
VSL Villasalto 14.12 250 eP P 20 37 51.4 -0.8
comp=Z,135nm,1.0s
VSL Villasalto 14.12 250 eP P 20 37 51.4 -0.8
comp=Z,135nm,1.0s
PUL Pulkovo 14.19 8⇑iP P 20 37 48.4 -4.5
PUL pmax pmax
comp=Z,3µm,0.9s
CABF La Chapelle 14.22 281 eP P 20 37 51.4 -2.0
comp=Z,1µm,0.9s
THEF They Montfort 14.26 287 eP P 20 37 53.9 0.0
WLF Walferdange 14.28 293 P P 20 37 54.7 +0.5
WLF pmax pmax
comp=Z,920nm,1.3s
WLF Walferdange 14.28 293 eP P 20 37 53.2 -1.0
comp=Z,806nm,1.3s
WLF Walferdange 14.28 293 eP P 20 37 53.2 -1.0
comp=Z,806nm,1.3s
HNTI Hanita 14.30 149 P P 20 37 55.2 +0.7
HRI Mount Hermon 14.34 147 P P 20 37 57.3 +2.3
FRF La Foret Royal 14.36 268 eP P 20 37 54.8 -0.4
comp=Z,4µm,1.2s
VANB Van 14.36 114 eP P 20 37 58.3 +3.1
VANB Van 14.36 114 Pn P 20 37 53.9 -1.3
GDM Grand'Maison 14.37 275 eP P 20 37 56.6 +1.3
WTSB Winterswijk 14.40 303 eP P 20 37 56.2 +0.6
comp=Z,101nm,1.0s
WTSB ex x 20 38 02.4
comp=Z,969nm,1.2s
WTSB eS S 20 40 26.0 -7.1
GNI Garni 14.43 106 iP P 20 37 56.5 +0.4
GNI Garni 14.43 106 P P 20 37 56.8 +0.7
comp=Z,1.8nm,0.3s,baz=355,slow=2.7,SNR=58
GNI Garni 14.43 106 P P 20 37 57.1 +1.0
GNI pmax pmax
comp=Z,5µm,1.5s
GNI Garni 14.43 106 eP P 20 37 56.0 -0.1
comp=Z,6µm,1.5s
GNI Garni 14.43 106 eP P 20 37 56.0 -0.1
comp=Z,6µm,1.5s
VANT Van 14.45 115 eP P 20 37 54.2 -2.2
VANT Van 14.45 115 Pn P 20 37 54.7 -1.7
LMR La Mourre 14.52 267 eP P 20 37 56.7 -0.6
comp=Z,5µm,1.3s
HAF Haifa 14.52 150 P P 20 37 58.4 +1.0
MEM Membach 14.54 297 P P 20 37 57.3 -0.1
comp=Z,2µm,1.9s
ORIF Oris-en-Rattie 14.59 274 eP P 20 37 58.2 +0.1
comp=Z,4µm,1.4s
ORIF eR
comp=Z,3µm,18.0s
HGN Heimansgroeve 14.61 297 eP P 20 37 58.4 0.0
comp=Z,653nm,1.4s
HGN ex x 20 38 24.8
HGN eS S 20 40 52.7 +15
HGN Heimansgroeve 14.61 297 P P 20 37 59.2 +0.8
KSHT Keshet 14.62 148 P P 20 38 00.6 +2.0
GRN Grenoble 14.62 275 eP P 20 37 59.3 +0.7
RFYF Reffroy 14.62 289 eP P 20 37 57.8 -0.8
comp=Z,1µm,1.1s
OFRI 'Ofer 14.65 151 P P 20 37 59.2 +0.2
OG05 Jujurieux 14.71 279 eP P 20 37 58.7 -1.0
TAVF Tavernes 14.76 269 eP P 20 38 01.6 +1.3
STOF St-Etienne Org 14.76 270 eP P 20 38 01.7 +1.3
SFTF Sexfontaines 14.90 287 eP P 20 38 01.5 -0.6
comp=Z,5µm,1.1s
MEZF Maizieres J'vi 14.90 288 eP P 20 38 01.8 -0.3
comp=Z,5µm,1.2s
VILF Villemus 14.93 270 eP P 20 38 04.7 +2.1
MMLI Mount Malkishu 14.97 150 P P 20 38 04.0 +0.9
SMRF Simiane la Rot 15.00 271 eP P 20 38 03.0 -0.4
comp=Z,3µm,1.2s
SLTI Sal'it 15.02 151 P P 20 38 04.3 +0.6
OCF Saint Nazaire 15.05 273 eP P 20 38 05.0 +0.9
OG26 St.-Nazaire-De 15.05 273 eP P 20 38 05.0 +0.9
BERF Bertagne 15.10 268 eP P 20 38 06.6 +1.9
HMDT Nahal Hemdat 15.17 150 P P 20 38 06.3 +0.6
GIVF Givet 15.20 294 eP P 20 38 05.7 -0.2
comp=Z,8µm,1.4s
PECR Pechory 15.20 40 eP P 20 38 00.0 -5.8
PECR MLR MLR
comp=Z,8µm,9.4s
PECR MLR MLR
comp=N,12µm,10.6s
PECR MLR MLR
comp=E,12µm,10.6s
MAK Makhachkala 15.22 93c iP P 20 38 05.2 -1.0
MAK i S S 20 40 58.0 +5.7
MAK pmax pmax
comp=N,2µm,2.0s
MAK pmax pmax
comp=E,4µm,2.0s
MAK pmax pmax
comp=Z,9µm,2.0s
MAK pmax pmax
comp=N,2µm,1.9s
MAK pmax pmax
comp=E,5µm,1.9s
MAK pmax pmax
comp=Z,6µm,1.9s
MAK smax
comp=N,18µm,8.0s
MAK smax
comp=E,16µm,8.0s
MAK smax
comp=Z,10µm,8.0s
MAK MLR MLR
comp=N,2µm,12.0s
MAK MLR MLR
comp=E,5µm,12.0s
MAK MLR MLR
comp=Z,8µm,12.0s
TREF Trevaresse 15.23 269 eP P 20 38 07.6 +1.3
MUD Monsted U'grnd 15.24 321 iP P 20 38 04.3 -2.1
comp=Z,3µm,0.9s
MUD i 20 38 10.6
MUD i S S 20 40 56.6 +4.0
comp=Z,4µm,18.0s
GELF Grande-Etoile 15.26 269 eP P 20 38 07.2 +0.5
PRAF Pradon 15.33 270 eP P 20 38 08.4 +0.8
DOU Dourbes 15.34 294 P P 20 38 07.2 -0.5
comp=Z,1µm,1.9s
VIVF Saint-Julien-l 15.44 274 eP P 20 38 07.6 -1.4
comp=Z,1µm,1.2s
JSOJ Natural Resour 15.55 149 eP P 20 38 10.6 +0.1
SNR=41
ZGN Zaghouan 15.56 239 iP P 20 38 13.1 +2.6
BAIF Baives 15.58 294 eP P 20 38 10.5 -0.2
comp=Z,4µm,1.6s
SNF Seneffe 15.60 296 P P 20 38 11.9 +1.0
comp=Z,975nm,2.0s
UCC Uccle 15.60 297 P P 20 38 12.1 +1.2
FINES FINESS Array B 15.70 359 P P 20 38 05.8 -6.4
comp=Z,17nm,0.3s,baz=167,slow=13,SNR=260
FINES tx tx 20 38 14.0
comp=Z,349nm,0.8s,baz=169,slow=12,SNR=49
FINES S S 20 40 47.2 -16
comp=Z,14nm,0.3s,baz=166,slow=17,SNR=3.0
FINES LR LR 20 45 00.2
comp=Z,2µm,20.4s,baz=171,slow=39
LOR Lormes 15.71 284 eP P 20 38 10.6 -1.7
comp=Z,4µm,1.4s
LOR eR
comp=Z,2µm,17.8s
DRGI Dragot 15.73 151 P P 20 38 13.4 +0.7
ASF Jabal al Asfar 15.76 146 P P 20 38 14.1 +1.1
comp=Z,15nm,0.3s,baz=200,slow=4.5,SNR=197
ASF S S 20 41 14.1 +10
comp=Z,0.7nm,0.3s,baz=43,slow=18,SNR=2.0
SMF Signal de Mont 15.76 281 eP P 20 38 11.0 -2.0
comp=Z,3µm,1.3s
SSF Saint Saulge 15.96 283 eP P 20 38 13.8 -1.7
comp=Z,2µm,1.6s
MZDA Masada 15.98 152 P P 20 38 17.3 +1.5
COLF Collangettes 16.00 277 eP P 20 38 15.4 -0.6
BLIT Baltah 16.03 242 iP P 20 38 17.0 +0.6
KZIT Kziot 16.05 155 P P 20 38 15.3 -1.4
LASF Ste Croix 16.18 272 eP P 20 38 18.5 +0.3
comp=Z,3µm,1.2s
KRIT Krib 16.20 241 iP P 20 38 19.5 +1.0
HFS Hagfors 16.29 337 P P 20 38 15.5 -4.0
comp=Z,4.0nm,0.3s,baz=146,slow=11,SNR=311
HFS S S 20 41 10.1 -6.5
comp=Z,2.6nm,0.3s,baz=135,slow=22,SNR=4.7
HFS Hagfors 16.29 337 P P 20 38 15.5 -4.1
HFS S S 20 41 10.1 -6.6
HFS pmax pmax
comp=Z,4.0nm,0.3s
AGO Saint Agoulin 16.32 279 eP P 20 38 19.7 -0.2
LBL Lubilhac 16.36 276 eP P 20 38 20.8 +0.3
KAF Kangasniemi 16.37 360 ep P 20 38 15.0 -5.5
comp=Z,1µm,1.0s
KAF Kangasniemi 16.37 360 eP P 20 38 15.0 -5.5
KAF pmax pmax
comp=Z,1µm,1.0s
PYM Petit Puy Mans 16.44 278 eP P 20 38 22.2 +0.7
BGF Bois d'Agland 16.45 281 eP P 20 38 20.0 -1.6
comp=Z,3µm,1.2s
HYF Humbligny 16.54 284 eP P 20 38 22.2 -0.4
GHAT Ghardimaou 16.57 242 iP P 20 38 22.2 -0.9
ZFRI Zfri 16.62 153 P P 20 38 23.7 -0.1
QURS Qurayyt al Mil 16.62 146 P P 20 38 27.7 +3.9
PRNI Paran 16.75 154 P P 20 38 25.1 -0.3
FRNF Fournols 16.81 277 eP P 20 38 28.2 +2.1
KMTI Karmit 16.90 155 P P 20 38 25.9 -1.3
TCF Toulx Ste Croi 16.92 281 eP P 20 38 26.2 -1.2
comp=Z,2µm,1.2s
MENF Mencas 16.95 295 eP P 20 38 29.4 +1.6
SNART Snartemo 17.24 324 eP P 20 38 28.0 -3.3
SNART AMb AMb 20 38 43.4
comp=Z,750nm,1.1s
SNART Snartemo 17.24 324 eP P 20 38 28.0 -3.3
comp=Z,750nm,1.1s
CAF Calviac 17.24 276 eP P 20 38 32.2 +0.7
comp=Z,1µm,0.9s
MBH Mount Berech 17.25 155 P P 20 38 31.7 +0.1
EJON La Jonquera 17.32 267 P P 20 38 33.0 +0.5
comp=Z,5µm,3.2s
EJON La Jonquera 17.32 267 P P 20 38 33.0 +0.5
comp=Z,5µm,3.2s,SNR=20
AQBJ Aqaba 17.35 155 P P 20 38 34.6 +1.7
EIL Elat 17.37 155 P P 20 38 32.5 -0.7
EIL Elat 17.37 155 P P 20 38 33.1 0.0
comp=Z,12nm,0.3s,baz=342,slow=13,SNR=272
JOF Joensuu 17.39 7 ep P 20 38 28.4 -4.8
comp=Z,345nm,0.5s
JOF Joensuu 17.39 7 eP P 20 38 28.4 -4.8
JOF pmax pmax
comp=Z,345nm,0.5s
LRDF Laroque-de-Fa 17.41 269 eP P 20 38 35.4 +1.8
MRSJ Marsad 17.47 154 eP P 20 38 33.5 -0.9
FILF Fillols 17.52 268 eP P 20 38 37.2 +2.3
MTLF Montolieu 17.52 271 eP P 20 38 36.1 +1.2
comp=Z,1µm,1.0s
RJF Les Rejaudoux 17.55 277 eP P 20 38 36.2 +0.9
comp=Z,4µm,1.6s
RJF eR
comp=Z,1µm,21.5s
NAO01 NORSAR Array S 17.69 334 eP P 20 38 32.4 -4.5
comp=Z,443nm,0.6s
NAO01 epP 20 38 54.7
ALWS Ilw as Safayha 17.74 155 P P 20 38 38.8 +1.0
NB2 NORSAR Subarra 17.75 335 P P 20 38 32.5 -5.1
comp=Z,484nm,1.1s,baz=141,slow=12
NB2 NORSAR Subarra 17.75 335 P P 20 38 32.5 -5.1
baz=141,slow=12
NOA NORSAR Array B 17.75 335 P P 20 38 32.4 -5.2
comp=Z,15nm,0.3s,baz=133,slow=9.0,SNR=291
NOA S S 20 41 42.8 -6.4
comp=Z,5.0nm,0.3s,baz=140,slow=26,SNR=2.1
NOA LR LR 20 45 50.5
comp=Z,5µm,21.2s,baz=145,slow=38
NOA P3KP 21 13 52.4
comp=Z,0.1nm,0.3s,baz=330,slow=4.4,SNR=4.9
AWI1 Witton 17.79 302⇑eP P 20 38 37.7 -0.4
LPEF Le Peyrat 17.85 270 eP P 20 38 40.7 +1.8
AEU East Anglia Un 17.86 302⇑eP P 20 38 39.0 0.0
JMOS Jabal al Moall 17.89 155 P P 20 38 40.4 +0.9
HAQS Haql 17.94 156 P P 20 38 40.8 +0.7
ABA1 Baconsthorpe 17.98 303 eP P 20 38 39.8 -0.6
AWH Whinburgh 18.04 302 eP P 20 38 40.8 -0.2
LFF La Frestale 18.16 277 eP P 20 38 42.9 +0.3
comp=Z,8µm,1.2s
STAV Stavanger 18.23 324 eP P 20 38 40.3 -2.9
STAV AMb AMb 20 39 00.1
comp=Z,747nm,1.5s
STAV Stavanger 18.23 324 eP P 20 38 40.3 -2.9
comp=Z,747nm,1.5s
LDF La Druitiere 18.34 288 eP P 20 38 42.9 -1.6
comp=Z,4µm,1.0s
JMQS Jabal Moqyreh 18.39 153 P P 20 38 45.8 +0.6
TAYS Tayyib Ism 18.40 156 P P 20 38 45.8 +0.4
SALF Salau 18.41 270 eP P 20 38 45.6 +0.2
MLS Moulis 18.42 270 eP P 20 38 45.6 +0.1
EMIR Miracle 18.46 267 P P 20 38 46.0 0.0
comp=Z,3µm,2.3s
EMIR Miracle 18.46 267 P P 20 38 46.0 +0.1
comp=Z,3µm,2.3s,SNR=43
ODD1 Odda 18.48 327 eP P 20 38 42.8 -3.3
ODD1 AMb AMb 20 38 46.2
comp=Z,2µm,1.1s
ODD1 Odda 18.48 327 eP P 20 38 42.2 -3.8
comp=Z,2µm,1.1s
MFF Saint Martin d 18.50 282 eP P 20 38 44.8 -1.6
comp=Z,6µm,1.1s
BHD Baghdad 18.51 126 iP P 20 38 45.0 -1.6
FLN La Foliniere 18.57 289 eP P 20 38 45.2 -2.0
comp=Z,5µm,1.0s
FLN eR
comp=Z,4µm,17.2s
BDAS Al Bad' 18.58 156 P P 20 38 48.0 +0.6
MELF Melles 18.68 270 eP P 20 38 49.9 +1.5
GRR Gorron 18.83 288 eP P 20 38 47.6 -2.5
comp=Z,2µm,1.1s
AYUS 'Aynunah 18.86 156 P P 20 38 50.9 +0.4
EPF Esparros 18.92 271 eP P 20 38 50.0 -1.1
comp=Z,2µm,1.1s
SKP1 Kophill 18.95 298⇑eP P 20 38 50.2 -1.1
LMK Market Rasen 18.97 304 eP P 20 38 50.0 -1.6
EPOB Poblet 18.97 266 P P 20 38 51.7 0.0
comp=Z,3µm,1.7s
EPOB Poblet 18.97 266 P P 20 38 51.7 0.0
comp=Z,3µm,1.7s,SNR=78
RESF Ens 18.99 270 eP P 20 38 52.2 +0.3
KSY Syston 19.02 302 eP P 20 38 51.6 -0.5
LABF Labassere 19.11 271 eP P 20 38 52.8 -0.3
EBIE Bielsa 19.17 270 P P 20 38 54.0 +0.2
comp=Z,1µm,1.0s
EBIE Bielsa 19.17 270 P P 20 38 54.0 +0.2
comp=Z,1µm,1.0s,SNR=148
DOMB Dombas 19.18 334 eP P 20 38 51.4 -2.3
DOMB AMb AMb 20 39 14.2
comp=Z,1µm,1.5s
DOMB Dombas 19.18 334 eP P 20 38 51.4 -2.3
comp=Z,1µm,1.5s
DOMB Dombas 19.18 334 eP P 20 38 51.4 -2.3
comp=Z,1µm,1.5s,SNR=52
VIEF Viey 19.19 271 eP P 20 38 54.2 +0.2
EGRA Graus 19.21 269 P P 20 38 54.1 -0.1
EGRA Graus 19.21 269 P P 20 38 54.1 -0.1
SNR=7.9
TBKS Tabuk 19.21 152 P P 20 38 55.1 +0.7
EGD Espegrend 19.25 327 eP P 20 38 53.8 -0.7
EGD AMb AMb 20 38 56.7
comp=Z,8µm,1.5s
EGD Espegrend 19.25 327 eP P 20 38 53.8 -0.7
comp=Z,8µm,1.5s
EGD Espegrend 19.25 327 eP P 20 38 53.8 -0.7
comp=Z,8µm,1.5s,SNR=52
BER Bergen 19.28 327 eP P 20 38 53.9 -0.9
BER eP 20 38 54.8
BER Bergen 19.28 327 eP P 20 38 54.8 -0.1
BER Bergen 19.28 327 eP P 20 38 54.8 0.0
SNR=52
RUND Rundenannen 19.28 327 eP P 20 38 54.0 -0.9
RUND AMb AMb 20 38 57.1
comp=Z,4µm,1.4s
RUND Rundenannen 19.28 327 eP P 20 38 54.0 -0.9
comp=Z,4µm,1.4s,SNR=52
ASK Askoy 19.39 327 eP P 20 38 55.2 -0.9
ASK AMb AMb 20 38 58.4
comp=Z,12µm,1.6s
ASK Askoy 19.39 327 eP P 20 38 55.2 -0.9
comp=Z,12µm,1.6s,SNR=52
REYF Montagne du Re 19.42 272 eP P 20 38 55.9 -0.6
HYA Hoyanger 19.48 330 eP P 20 38 57.5 +0.5
HYA AMb AMb 20 38 59.5
comp=Z,2µm,1.0s
HYA Hoyanger 19.48 330 eP P 20 38 57.5 +0.5
comp=Z,2µm,1.0s
HYA Hoyanger 19.48 330 eP P 20 38 57.5 +0.5
comp=Z,2µm,1.0s,SNR=52
SWN1 Swindon 19.54 297 eP P 20 38 57.3 -0.4
EBR Ebro Roquetas 19.59 265 eP P 20 38 57.8 -0.4
EBR Ebro Roquetas 19.59 265 P P 20 38 58.3 +0.1
ETSF Etsaut 19.59 271 eP P 20 38 57.9 -0.4
comp=Z,2µm,1.2s
FDAF Les Forges d'A 19.62 271 eP P 20 38 59.1 +0.5
KB1 Birley Grange 19.63 303⇑eP P 20 38 57.7 -0.9
ORDF Ordiarp 19.76 272 eP P 20 38 59.8 -0.3
EIBI Ibiza 19.77 259 P P 20 39 00.0 -0.2
comp=Z,2µm,2.1s,SNR=13
KWE Weaver Farm 19.77 302 eP P 20 38 58.9 -1.2
SWK Warminster 19.79 296 eP P 20 38 59.6 -0.6
LARF Larrau 19.85 272 eP P 20 39 00.6 -0.4
LHO Holmfirth 19.88 303 eP P 20 38 60.0 -1.2
ESAC San Caprasio 19.92 268 P P 20 39 00.7 -1.0
comp=Z,2µm,2.2s
ESAC San Caprasio 19.92 268 P P 20 39 00.7 -1.0
comp=Z,2µm,2.2s,SNR=28
TRON Trondheim 19.92 338 eP P 20 38 59.7 -1.8
SUE Sulen 19.93 328 eP P 20 39 00.6 -1.1
SUE AMb AMb 20 39 02.8
comp=Z,2µm,1.2s
SUE Sulen 19.93 328 eP P 20 39 00.6 -1.1
comp=Z,2µm,1.2s
SUE Sulen 19.93 328 eP P 20 39 00.6 -1.1
comp=Z,2µm,1.2s,SNR=52
LCP Cassop 19.94 307 eP P 20 39 01.4 -0.4
SGMF Saint Gilles 19.97 288 eP P 20 38 59.9 -2.3
comp=Z,1µm,1.0s
OSSF Osses 19.98 273 eP P 20 39 00.8 -1.5
SJPF Ste Jean 19.99 272 eP P 20 39 01.4 -1.1
comp=Z,1µm,1.1s
MOL Molde 20.04 334 eP P 20 39 02.9 +0.1
MOL AMb AMb 20 39 05.7
comp=Z,2µm,1.2s
MOL Molde 20.04 334 eP P 20 39 02.9 +0.1
comp=Z,2µm,1.2s
MOL Molde 20.04 334 eP P 20 39 02.9 +0.1
comp=Z,2µm,1.2s,SNR=52
HAE Alders End 20.06 299⇑eP P 20 39 02.8 -0.3
HAE AMb AMb 20 39 04.7
comp=Z,4µm,1.1s
SMD Mendips 20.09 297⇑eP P 20 39 01.9 -1.5
EALK Alkurruntz 20.16 273 P P 20 39 04.3 +0.1

comp=Z,1µm,2.2s
EALK Alkurruntz 20.16 273 P P 20 39 04.3 +0.1
comp=Z,1µm,2.2s,SNR=15
HGH Gray Hill 20.18 298⇑ *eP* **P 20 39 03.1 -1.2**
HGH AMb AMB 20 39 06.8
comp=Z,6µm,1.5s
HLM1 Long Mynd 20.32 300⇑ *eP* **P 20 39 05.5 -0.3**
HLM1 AMb AMB 20 39 07.4
comp=Z,2µm,1.1s
MCH1 Michaelchurch 20.33 299⇑ *eP* **P 20 39 05.6 -0.3**
QUIF Quistinic 20.40 287 *eP* **P 20 39 04.5 -2.2**
comp=Z,1µm,1.1s
EMOS Mosqueruela 20.44 264 P **P 20 39 07.5 +0.3**
comp=Z,2µm,1.9s
EMOS Mosqueruela 20.44 264 P **P 20 39 07.5 +0.4**
comp=Z,2µm,1.9s,SNR=48
ROSF Rostrenen 20.44 288 *eP* **P 20 39 05.1 -2.0**
comp=Z,984nm,1.2s
SSP1 Stoney Pound 20.45 300⇑ *eP* **P 20 39 07.0 -0.1**
NSS Namsos 20.47 342 *eP* **P 20 39 04.8 -2.4**
NSS Namsos 20.47 342 *eP* **P 20 39 06.1 -1.1**
HTR Trewern Hill 20.51 299⇑ *eP* **P 20 39 07.0 -0.7**
HTR AMb AMB 20 39 11.5
comp=Z,161nm,1.6s
SBD Saint Breward 20.60 301⇑ *eP* **P 20 39 08.8 +0.2**
DCO Combe Farm 20.78 294⇑ *eP* **P 20 39 09.2 -1.3**
DYA Yadsworthy 20.82 294 *eP* **P 20 39 09.7 -1.2**
ESY Stoneypath 20.89 310⇑ *eP* **P 20 39 11.1 -0.5**
ESY AMb AMB 20 39 16.6
comp=Z,1µm,1.5s
EBEN Beniarda 21.01 260 P **P 20 39 13.5 +0.7**
comp=Z,2µm,1.7s,mb6.1
EBEN Beniarda 21.01 260 P **P 20 39 13.5 +0.7**
comp=Z,2µm,1.7s,mb6.1,SNR=21
WPM1 Penmaenmawr 21.04 302⇑ *eP* **P 20 39 12.9 -0.2**
WPM1 AMb AMB 20 39 16.6
comp=Z,4µm,1.3s,mb6.6
ESK Eskdalemuir 21.05 308⇑ *iP* **P 20 39 12.5 -0.6**
ESK AMb AMB 20 39 17.0
comp=Z,2µm,1.6s,mb6.1
ESK Eskdalemuir 21.05 308 P **P 20 39 12.7 -0.4**
ESK pmax pmax
comp=Z,2µm,1.6s,mb6.2
ESK Eskdalemuir 21.05 308⇓ *eP* **P 20 39 12.0 -1.2**
comp=Z,2µm,1.6s,mb6.2
ESK Eskdalemuir 21.05 308⇓ *eP* **P 20 39 12.0 -1.1**
comp=Z,2µm,1.6s,mb6.2
EBL Broad Law 21.08 309⇑ *eP* **P 20 39 12.7 -0.7**
EDR Drumtochty 21.16 312⇑ *eP* **P 20 39 14.0 -0.2**
EDR AMb AMB 20 39 15.8
comp=Z,2µm,1.1s,mb6.4
YLL Llanberis 21.18 302⇑ *eP* **P 20 39 14.5 +0.1**
YLL AMb AMB 20 39 17.1
comp=Z,3µm,1.4s,mb6.4
EDI Edinburgh 21.20 309 *eP* **P 20 39 14.0 -0.6**
EDI ⇑ *eP* 20 39 14.0
EDI AMb AMB 20 39 21.7
comp=Z,4µm,1.8s,mb6.5
EDI Edinburgh 21.20 309 P **P 20 39 14.0 -0.6**
EDI AMb AMB 20 39 21.7
comp=Z,4µm,1.8s,mb6.5
EDU Dundee 21.29 311⇑ *eP* **P 20 39 15.0 -0.5**
EDU AMb AMB 20 39 21.6
comp=Z,2µm,1.5s,mb6.3
WME Myndd Eilian 21.30 302⇑ *eP* **P 20 39 15.9 +0.2**
WME AMb AMB 20 39 18.4
comp=Z,4µm,1.3s,mb6.6
YRE Yr Eifl 21.31 301⇑ *iP* **P 20 39 15.9 +0.1**
YRE AMb AMB 20 39 19.7
comp=Z,1µm,1.7s,mb5.9
EAU Auchinoon 21.32 309⇑ *eP* **P 20 39 15.8 0.0**
EAU AMb AMB 20 39 21.1
comp=Z,2µm,2.1s,mb6.1
WLF1 Llynfaes 21.34 302⇑ *eP* **P 20 39 16.0 0.0**
WLF1 AMb AMB 20 39 18.1
comp=Z,35nm,1.0s,mb4.6
ETOR Torete 21.36 267 P **P 20 39 17.1 +0.7**
comp=Z,2µm,1.3s,mb6.2
ETOR Torete 21.36 267 P **P 20 39 17.1 +0.7**
comp=Z,2µm,1.3s,mb6.2,SNR=19
ETOR Torete 21.36 267 P **P 20 39 17.1 +0.7**
comp=Z,2µm,1.3s,mb6.2
CSA1 St Austell 21.43 294⇑ *eP* **P 20 39 16.7 -0.3**
YRC Rhoscolyn 21.44 302 *eP* **P 20 39 17.3 +0.3**
YRC AMb AMB 20 39 20.0
comp=Z,2µm,1.4s,mb6.2
WCB1 Church Bay 21.44 302⇑ *eP* **P 20 39 17.3 +0.3**
WCB1 AMb AMB 20 39 20.0
comp=Z,3µm,1.3s,mb6.5
MOR8 Moi Rana 21.46 346 *eP* **P 20 39 17.5 +0.3**
MOR8 AMb AMB 20 39 24.6
comp=Z,2µm,2.4s,mb5.9
MOR8 Moi Rana 21.46 346 *eP* **P 20 39 17.5 +0.3**
comp=Z,2µm,2.4s,mb5.9,SNR=50
ELAN Lanestosa 21.50 274 P **P 20 39 17.8 0.0**
comp=Z,2µm,1.3s,mb6.3
ELAN Lanestosa 21.50 274 P **P 20 39 17.8 +0.1**
comp=Z,2µm,1.3s,mb6.3,SNR=110
MME1 Meikle Cairn 21.51 313⇑ *iP* **P 20 39 17.6 -0.2**
CRQ2 Rosemanowes 2 21.61 293⇑ *eP* **P 20 39 18.2 -0.5**
WIM Isle of Man 21.63 304⇑ *iP* **P 20 39 19.5 +0.5**
WIM AMb AMB 20 39 23.9
comp=Z,2µm,1.3s,mb6.3
CCA1 Carnmenellis 21.65 293 *eP* **P 20 39 18.7 -0.4**
PCOU Corrie 21.71 309⇑ *iP* **P 20 39 19.9 +0.1**
PCA1 Carrot 21.72 308⇑ *eP* **P 20 39 20.1 +0.2**
MCD Coleburn Disti 21.75 314⇑ *eP* **P 20 39 20.0 -0.1**
GAL1 Galloway 21.79 306 *eP* **P 20 39 20.9 +0.4**
SAN1 Sandwick 21.79 321⇑ *eP* **P 20 39 20.2 -0.3**
LRW Lerwick 21.82 321⇑ *eP* **P 20 39 20.4 -0.4**
STOK Stokkvaagen 21.85 345 *eP* **P 20 39 21.5 +0.5**
STOK AMb AMB 20 39 28.0
comp=Z,7µm,1.3s
STOK Stokkvaagen 21.85 345 *eP* **P 20 39 21.5 +0.5**
comp=Z,7µm,1.3s
STOK Stokkvaagen 21.85 345 *eP* **P 20 39 21.5 +0.5**
comp=Z,7µm,1.3s,SNR=50
CPZ Penzance 21.88 293 *eP* **P 20 39 20.5 -0.9**
CPZ AMb AMB 20 39 25.6
comp=Z,2µm,1.7s,mb6.1
EAB Aberfoyle 21.89 310⇑ *eP* **P 20 39 21.6 +0.1**
EAB AMb AMB 20 39 29.2
comp=Z,2µm,1.4s,mb6.2
OST Stronsay 21.98 318 *eP* **P 20 39 22.4 +0.1**
HILS Ha'il 21.98 141 P **P 20 39 23.4 +0.9**
YEL1 Yell 21.99 322⇑ *eP* **P 20 39 22.0 -0.4**
PMSU Muirshiel 22.03 309⇑ *iP* **P 20 39 23.5 +0.7**
WAL1 Walls 22.07 321⇑ *eP* **P 20 39 23.8 +0.6**
OBR Brabster 22.08 316⇑ *eP* **P 20 39 22.6 -0.7**
EMUR La Murta 22.12 259 P **P 20 39 25.6 +1.7**
comp=Z,1µm,1.9s,mb5.9
EMUR La Murta 22.12 259 P **P 20 39 25.6 +1.7**
comp=Z,1µm,1.9s,mb5.9,SNR=20
APA Apatity 22.14 7⇑ *iP* **P 20 39 23.3 -0.5**
APA *i* 20 39 43.0
APA *i* S **S 20 43 14.0 -2.3**
APA pmax pmax
comp=Z,2µm,9.0s
APA smax
comp=N,5µm,8.0s
APA smax
comp=E,8µm,8.0s
OHO Hoy 22.20 317 *eP* **P 20 39 24.4 -0.1**
UMJS Umm Lajj 22.24 154 P **P 20 39 26.6 +1.5**
MDO Dochfour 22.27 313⇑ *eP* **P 20 39 24.7 -0.4**
OWE Westray 22.30 318⇑ *eP* **P 20 39 25.5 +0.1**
MVH1 Achvaich 22.33 314⇑ *eP* **P 20 39 25.6 -0.2**
ORE Reay 22.35 316⇑ *eP* **P 20 39 25.8 -0.1**
GMK Mull of Kintyr 22.38 307 *eP* **P 20 39 26.5 +0.2**
KBRS Khaybar 22.39 149 P **P 20 39 28.1 +1.6**
GMM Mts of Mourne 22.39 304⇑ *eP* **P 20 39 26.0 -0.3**
DSB Dublin 22.51 301 *eP* **P 20 39 27.9 +0.5**
DSB Dublin 22.51 301⇓ *eP* **P 20 39 28.1 +0.7**
comp=E,1µm,1.2s,mb6.1
DSB Dublin 22.51 301⇓ *eP* **P 20 39 28.1 +0.7**
comp=E,1µm,1.2s,mb6.1
ARU Arti 22.52 50⇑ *iP* **P 20 39 27.1 -0.4**
ARU *i* 20 39 54.3
ARU *i* PPP PPP 20 40 02.4 -7.8
ARU *i* S **S 20 43 27.2 +4.1**
ARU *i* SS SS 20 44 02.5 -10
ARU *i* SSS SSS 20 44 14.1 -16
ARU pmax pmax
comp=Z,596nm,0.9s,mb5.9
ARU MLR MLR
comp=N,700nm,19.0s
ARU MLR MLR
comp=Z,2µm,19.0s
ARU MLR MLR
comp=E,2µm,16.5s
LVZ Lovozero 22.57 8 *diP* **P 20 39 27.3 -0.6**
LVZ *eS* **S 20 43 23.6 -0.2**
LVZ pmax pmax
comp=Z,1µm,1.0s,mb6.2
LVZ pmax pmax
comp=N,995nm,1.2s
LVZ pmax pmax
comp=E,235nm,0.9s
LVZ smax
comp=N,3µm,2.7s
LVZ smax
comp=E,7µm,3.0s
LVZ MLR MLR
comp=Z,7µm,16.0s
LVZ MLR MLR
comp=N,4µm,12.0s
LVZ Lovozero 22.57 8 *i* Pr 20 39 28.6
DLF Lyons Farm 22.61 301⇑ *iP* **P 20 39 29.4 +1.0**
DLF Lyons Farm 22.61 301 *eP* 20 39 52.8
EVIA Vianos 22.61 262 P **P 20 39 30.3 +1.8**
comp=N,2µm,1.8s,mb6.2
EVIA Vianos 22.61 262 P **P 20 39 30.3 +1.7**
comp=N,2µm,1.8s,mb6.2,SNR=49
GCL Cushendall 22.63 306 *eP* **P 20 39 29.4 +0.8**
EARI Arriondas 22.72 275 P **P 20 39 30.7 +1.1**
comp=N,4µm,1.7s,mb6.5,SNR=61
DMUB Kingscourt 22.90 303⇑ *iP* **P 20 39 32.1 +0.9**
DMUB Kingscourt 22.90 303 *eP* 20 39 54.8
DCN Croghan 23.06 301⇑ *iP* **P 20 39 33.7 +1.0**
ESDC Sonseca Array 23.16 266 P **P 20 39 33.5 -0.4**
comp=N,173nm,1.1s,mb5.3,baz=58,slow=9.6,SNR=123
ESDC pP 20 39 55.1
comp=N,270nm,0.8s,baz=64,slow=9.3,SNR=21
ESDC Sonseca Array 23.16 266 P **P 20 39 34.5 +0.6**
comp=N,143nm,1.1s,mb5.2
ESDC Sonseca Array 23.16 266 P **P 20 39 34.5 +0.6**
comp=N,143nm,1.1s,mb5.2,SNR=89
ESLA Sonseca Array 23.16 266⇓ *eP* **P 20 39 33.6 -0.3**
comp=N,152nm,1.4s,mb5.1
ESLA *epP* 20 39 54.5
ESLA Sonseca Array 23.16 266⇓ *eP* **P 20 39 33.6 -0.3**
comp=N,152nm,1.4s,mb5.1
ESLA Sonseca Array 23.16 266 *epP* 20 39 54.5
UMR Umm Al-Rimmam 23.18 127 *eP* **P 20 39 35.4 +1.3**
YNBS Yanbu' al Bahr 23.29 153 P **P 20 39 37.7 +2.4**
KTK1 Kautokeino 23.36 357 *eP* **P 20 39 36.0 +0.6**
KTK1 AMb AMB 20 39 55.9
comp=Z,2µm,1.3s,mb6.3
KTK1 Kautokeino 23.36 357 *eP* **P 20 39 35.8 +0.3**
comp=Z,2µm,1.3s,mb6.3
KTK1 Kautokeino 23.36 357 *eP* **P 20 39 36.0 +0.5**
comp=Z,2µm,1.3s,mb6.3,SNR=41
EQES Quesada 23.40 261 P **P 20 39 37.6 +1.4**
comp=Z,1µm,1.6s,mb5.9
EQES Quesada 23.40 261 P **P 20 39 37.6 +1.4**
comp=Z,1µm,1.6s,mb5.9,SNR=52
LOF Lofoten 23.41 348 *eP* **P 20 39 38.1 +2.2**
LOF AMb AMB 20 40 03.2
comp=Z,2µm,2.0s,mb6.2
LOF Lofoten 23.41 348 *eP* **P 20 39 38.1 +2.2**
comp=Z,2µm,2.0s,mb6.2,SNR=41
KBD Kabd 23.45 128 *eP* **P 20 39 38.4 +1.6**
PAB San Pablo 23.49 266 P **P 20 39 37.2 +0.2**
EBER Berja 23.73 259 P **P 20 39 40.9 +1.5**
comp=Z,1µm,1.2s,mb6.1,SNR=74
SVE Sverdlovsk 23.73 50*c iP* **P 20 39 40.0 +0.8**
SVE *e* 20 40 00.0
SVE *i* S **S 20 43 46.0 +2.0**
SVE *eSS* Sx 20 44 17.0
SVE *eSSS* SSS 20 45 00.0 -0.1
SVE pmax pmax
comp=Z,2µm,4.0s
SVE pmax pmax
comp=Z,2µm,1.8s,mb6.0
SVE smax
comp=N,4µm,10.0s
SVE smax
comp=E,4µm,10.0s
SVE MLR MLR
comp=Z,4µm,7.0s
SVE MLR MLR
comp=N,2µm,8.0s
SVE MLR MLR
comp=E,3µm,9.0s
ARCES ARCESS Array B 23.83 359 P **P 20 39 40.4 +0.4**
comp=E,126nm,0.6s,mb5.4,baz=178,slow=9.5,SNR=583
ARCES pP 20 39 59.5
comp=E,593nm,1.0s,baz=180,slow=9.7,SNR=8.3
ARCES ARCESS Array B 23.83 359 P **P 20 39 40.4 +0.4**
ARCES *PP 20 39 59.5
ARCES pmax pmax
comp=Z,126nm,0.6s
ARCES ARCESS Array B 23.83 359 P **P 20 39 40.4 +0.4**
ARCES pP 20 39 59.5
ARCES ARCESS Array B 23.83 359 P **P 20 39 40.3 +0.3**
ARCES pP 20 39 59.5
ARE0 ARCESS Array S 23.83 359 *eP* **P 20 39 40.2 +0.2**
QRN Al-Qurain 23.91 128 *eP* **P 20 39 40.4 -0.8**
ARSS Ar Rass 23.92 140 P **P 20 39 43.4 +2.1**
KEV Kevo 24.05 0 *ep* **P 20 39 41.3 -0.8**
comp=Z,980nm,1.0s,mb6.1
KEV Kevo 24.05 0 *eP* **P 20 39 41.3 -0.8**
KEV pmax pmax
comp=Z,980nm,1.0s,mb6.1
EPON Pontenova 24.06 276 P **P 20 39 42.3 -0.2**
comp=Z,2µm,1.4s,mb6.2
EPON Pontenova 24.06 276 P **P 20 39 42.3 -0.2**
comp=Z,2µm,1.4s,mb6.2,SNR=26
ECAL Calabor 24.23 273 P **P 20 39 44.4 +0.3**
comp=Z,3µm,2.0s,mb6.2
ECAL Calabor 24.23 273 P **P 20 39 44.4 +0.3**
comp=Z,3µm,2.0s,mb6.2,SNR=33
TRO Tromso 24.23 353 *eP* **P 20 39 44.0 +0.1**
EADA Adamuz 24.27 263 P **P 20 39 44.3 -0.3**
comp=Z,856nm,2.8s,mb5.6
EADA Adamuz 24.27 263 P **P 20 39 44.3 -0.3**
comp=Z,856nm,2.8s,mb5.6,SNR=7.9
PBRG Braganca 24.28 273 *eP* **P 20 39 45.3 +0.7**
comp=Z,161nm,0.9s,mb5.3
PBRG *epP* 20 40 06.2
ERON Agron 24.30 260 P **P 20 39 44.3 -0.6**
comp=Z,101nm,0.7s,mb5.3
ERON Agron 24.30 260 P **P 20 39 44.3 -0.6**
comp=Z,101nm,0.7s,mb5.2,SNR=42
ELUQ Luque 24.35 261 P **P 20 39 45.4 0.0**
comp=Z,398nm,1.1s,mb5.7
ELUQ Luque 24.35 261 P **P 20 39 45.4 0.0**
comp=Z,398nm,1.1s,mb5.7,SNR=41
ERUA La Rua 24.36 274 P **P 20 39 45.9 +0.5**
comp=Z,233nm,0.9s,mb5.5
ERUA La Rua 24.36 274 P **P 20 39 45.9 +0.5**
comp=Z,233nm,0.9s,mb5.5,SNR=29
ELOJ Sierra Loja 24.48 260 P **P 20 39 45.5 -1.1**
comp=Z,78nm,1.1s,mb5.0
ELOJ Sierra Loja 24.48 260 P **P 20 39 45.5 -1.1**
comp=Z,78nm,1.1s,mb5.0,SNR=25
EMLI Melilla 24.64 255 P **P 20 39 48.4 +0.2**
comp=Z,503nm,0.9s,mb5.9,SNR=14
VAL Valentia 24.80 298⇓ *iP* **P 20 39 48.9 -0.7**
FSV Svinoy 25.03 323 *eP* **P 20 39 52.3 +0.7**
PVRL Vila Real 25.15 272 *eP* **P 20 39 53.1 +0.1**
PVRL *i* pP pP 20 40 17.3 +2.8
STS Santiago 25.18 276 P **P 20 39 53.0 -0.2**
comp=Z,330nm,1.0s,mb5.7
STS Santiago 25.18 276 P **P 20 39 53.0 -0.2**
comp=Z,330nm,1.0s,mb5.7,SNR=24
ELOB Lobios 25.18 274 P **P 20 39 53.5 +0.3**
comp=Z,513nm,1.2s,mb5.8
ELOB Lobios 25.18 274 P **P 20 39 53.5 +0.3**
comp=Z,513nm,1.2s,mb5.8,SNR=13
EMIJ Mijas 25.20 260 P **P 20 39 51.8 -1.7**
comp=Z,795nm,1.8s,mb5.8
EMIJ Mijas 25.20 260 P **P 20 39 51.8 -1.7**
comp=Z,795nm,1.8s,mb5.8,SNR=16
MTE Manteigas 25.37 270 *eP* **P 20 39 54.3 -0.7**
comp=Z,309nm,1.3s,mb5.6
MTE *epP* pP 20 40 15.9 -0.7
MTE *eS* **S 20 44 15.2 +3.5**
MTE Manteigas 25.37 270 *eP* **P 20 39 54.2 -0.8**
comp=Z,26nm,1.0s,mb4.6
MTE *epP* pP 20 40 15.8 -0.7
TOU Touzarine 25.37 256 *eP* **P 20 39 54.0 -1.1**
EMAZ Mazaricos 25.45 276 P **P 20 39 55.3 -0.5**
comp=Z,2µm,1.2s,mb6.3
EMAZ Mazaricos 25.45 276 P **P 20 39 55.3 -0.5**
comp=Z,2µm,1.2s,mb6.3,SNR=34
PVIS Viseu 25.49 271 *eP* **P 20 39 55.4 -0.8**
comp=Z,526nm,1.3s,mb5.8
PVIS *i* pP pP 20 40 18.4 +0.7
EZAM Zamans 25.52 275 P **P 20 39 56.5 +0.1**
comp=Z,167nm,1.1s,mb5.4
EZAM Zamans 25.52 275 P **P 20 39 56.5 +0.1**
comp=Z,167nm,1.1s,mb5.4,SNR=12
AFFS 'Afif 25.53 143 D 20 39 58.2
PCBR Castelo Branco 25.55 269 *eP* **P 20 39 55.7 -1.0**
comp=Z,226nm,1.2s,mb5.5
PCBR *epP* pP 20 40 16.9 -1.4
EBAD Badajoz 25.70 266 P **P 20 39 57.3 -0.8**
comp=Z,600nm,2.8s,mb5.5
EBAD Badajoz 25.70 266 P **P 20 39 57.3 -0.8**
comp=Z,600nm,2.8s,mb5.5,SNR=13
ESPR Espera 25.79 261 P **P 20 39 57.6 -1.4**
ESPR Espera 25.79 261 P **P 20 39 57.6 -1.4**
SNR=7.9
EMIN Mina Concepcio 25.92 264 P **P 20 39 59.1 -1.0**
comp=Z,256nm,1.5s,mb5.4
EMIN Mina Concepcio 25.92 264 P **P 20 39 59.1 -1.1**
comp=Z,256nm,1.5s,mb5.4,SNR=12
PTOM Tomar 26.30 269 *epP* pP 20 40 26.1 +0.8
MZLS Mizel 26.41 139 D 20 40 07.0
EVO Evora 26.50 267 *eP* **P 20 40 03.8 -1.7**
comp=Z,74nm,1.0s,mb4.8
EVO *eR*
comp=Z,5µm,22.2s
ALMR Almeirim 26.61 268 *eP* **P 20 40 06.2 -0.4**
PALC Alcoutim 26.62 264 *eP* **P 20 40 05.4 -1.3**
PALC *epP* pP 20 40 28.1 -0.3
PBEJ Beja 26.63 265 *eP* **P 20 40 05.3 -1.4**
RYDS Riyadh 26.95 136 D 20 40 06.6
LIS Lisbon 27.21 268 *eP* **P 20 40 08.1 -4.0**
BRVK Borovoye 28.97 59 P **P 20 40 28.0 +0.3**
BRVK pmax pmax
comp=Z,160nm,0.8s,mb5.7
BRVK Borovoye 28.97 59⇑ *iP* **P 20 40 27.7 +0.1**
comp=Z,190nm,0.8s,mb5.8
BRVK *epP* pP 20 40 47.2 -2.5
BRVK Borovoye 28.97 59⇑ *iP* **P 20 40 27.7 0.0**
comp=Z,190nm,0.8s,mb5.8
BRVK *epP* pP 20 40 47.2 -2.5
BJO Bjornoya 29.01 356 *eP* **P 20 40 33.3 +5.5**
BJO *eS* **S 20 45 11.0 +0.7**
BJO AMS AMS 20 47 45.1
comp=Z,414nm,17.6s
BVA0 Borovoye Array 29.03 59 *i* P **P 20 40 28.2 0.0**
BVAR Borovoye Array 29.03 59 P **P 20 40 28.3 +0.1**
comp=Z,78nm,0.8s,mb5.4,baz=270,slow=7.4,SNR=262
BVAR pP pP 20 40 50.7 +0.4
comp=Z,91nm,0.7s,baz=271,slow=10,SNR=16
BVAR LR LR 20 52 21.3
comp=Z,17nm,18.3s,baz=15,slow=37
JMIC Jan Mayen 30.40 338 P **P 20 40 41.0 +0.7**
comp=Z,582nm,1.3s,mb6.0,baz=44,slow=1.7,SNR=7.0
JMIC pP pP 20 41 02.6 +0.1
comp=Z,100nm,0.6s,baz=212,slow=4.5,SNR=4.4
JMIC LR LR 20 54 04.0
comp=Z,2µm,19.0s,baz=118,slow=38
JMIC Jan Mayen 30.40 338 *eP* **P 20 40 35.7 -4.5**
JMIC *eS* **S 20 45 35.7 +3.3**
JMIC AMS AMS 20 54 29.4
comp=Z,1µm,20.4s
JMIC Jan Mayen 30.40 338 P **P 20 40 41.0 +0.7**
JMIC pP pP 20 41 02.6 +0.1
JMIC *eS* **S 20 45 35.7 +3.3**
JMIC LR LR 20 54 04.0
BORG Borgarnes 32.17 323 P **P 20 40 57.2 +1.4**
comp=Z,505nm,1.3s,mb6.1,baz=119,slow=6.9,SNR=22
BORG pP pP 20 41 20.3 +2.1
comp=Z,32nm,0.7s,baz=156,slow=11,SNR=1.8
BORG LR LR 20 54 54.3
comp=Z,3µm,19.4s,baz=275,slow=38
BORG Borgarnes 32.17 323 *eP* **P 20 40 57.7 +2.0**
comp=Z,639nm,1.3s,mb6.2
BORG Borgarnes 32.17 323 *eP* **P 20 40 57.7 +2.0**
comp=Z,639nm,1.3s,mb6.2
HAJJ Hajjah 33.21 149⇑ *eP* **P 20 41 06.5 +1.2**
HAJJ Hajjah 33.21 149⇑ *eP* **P 20 41 06.4 +1.2**
EKS2 Erkin-Say 33.58 78 P **P 20 41 09.5 +1.3**
SNR=98
AML Almayashu 33.73 79 P **P 20 41 11.6 +2.2**
SNR=45
USP Ospenovka 33.85 77 P **P 20 41 11.3 +0.8**
SNR=97
AAK Ala-Archa 34.09 78 P **P 20 41 13.9 +1.4**
SNR=17
AAK Ala-Archa 34.09 78*c iP* **P 20 41 12.7 +0.2**
AAK pmax pmax
comp=Z,495nm,0.9s,mb6.3
AAK MLR MLR
comp=Z,2µm,19.0s
AAK Ala-Archa 34.09 78⇑ *iP* **P 20 41 12.8 +0.3**
comp=Z,726nm,1.2s,mb6.4
AAK *epP* pP 20 41 34.4 -0.8
AAK Ala-Archa 34.09 78⇑ *iP* **P 20 41 12.8 +0.3**
comp=Z,726nm,1.2s,mb6.4
AAK *epP* pP 20 41 34.4 -0.8
FRU Bishkek 34.09 77 *i* P **P 20 41 14.0 +1.4**
FRU *e* pP 20 41 34.0 -1.3
FRU *e* 20 42 30.0
FRU pmax pmax
comp=Z,2µm,3.0s
CHMS Chumysh 34.12 77 P **P 20 41 13.1 +0.3**
SNR=22
UCH Uchtor 34.25 78 P **P 20 41 15.4 +1.5**
SNR=99
KBK Karagaybulak 34.39 77 P **P 20 41 16.9 +1.8**
SNR=76
KURK Kurchatov 34.41 63*c iP* **P 20 41 14.6 -0.5**
KURK pmax pmax
comp=Z,104nm,1.3s,mb5.5
KURK Kurchatov 34.41 63⇑ *iP* **P 20 41 14.7 -0.4**
comp=Z,115nm,0.9s,mb5.7
KURK Kurchatov 34.41 63⇑ *iP* **P 20 41 14.7 -0.4**
comp=Z,115nm,0.9s,mb5.7
DHBB Dhamar BB 34.55 149⇑ *eP* **P 20 41 18.1 +1.5**
DHBB Dhamar BB 34.55 149⇓ *eP* **P 20 41 17.9 +1.2**
TKM2 Tokmak 2 34.73 77 P **P 20 41 19.4 +1.4**
SNR=68
KZA Kyzart 34.81 78 P **P 20 41 21.0 +2.3**
SNR=44
ULHL Ulahol 35.43 78 P **P 20 41 25.3 +1.4**
SNR=13
EFAM Famara 35.49 256 P **P 20 41 23.0 -1.6**
EFAM Famara 35.49 256 P **P 20 41 23.0 -1.6**
SNR=7.9
LBOS 35.50 148⇑ *eP* **P 20 41 26.3 +1.6**
AAA Alma-Ata 35.52 76 *i* P **P 20 41 26.0 +1.4**
AAA *e* 20 42 48.0
AAA *eS* **S 20 46 56.0 +3.9**
AAA pmax pmax
comp=Z,2µm,4.0s
AAA smax
comp=N,900nm,12.0s
AAA smax
comp=E,800nm,12.0s
BDHA Al Bayda' 35.52 147⇑ *eP* **P 20 41 26.6 +1.6**
BDHA AMb AMB 20 41 28.0
comp=Z,207nm,0.8s,mb6.1
BDHA Al Bayda' 35.52 147⇑ *eP* **P 20 41 26.2 +1.2**
DAG Danmarks Havn 36.04 344⇑ *iP* **P 20 41 28.9 +0.1**
comp=Z,215nm,1.1s,mb6.0
comp=Z,2µm,20.0s
NVS Novosibirsk 36.37 55⇑ *iP* **P 20 41 32.1 +0.4**
NVS pmax pmax
comp=E,189nm,1.2s
NVS pmax pmax
comp=Z,420nm,1.2s,mb6.2
KSH Kashi 36.38 82⇑ *iP* **P 20 41 33.5 +1.5**
KSH AP pP 20 41 55.5 +0.6
KSH PP PP 20 43 00.0 +1.9
KSH PPP PPP 20 43 21.0 +2.1
KSH PCP PcP 20 43 56.0 +1.2
KSH S **S 20 47 07.3 +1.9**
KSH *eSCP* 20 47 31.3
KSH *ePCS* 20 47 42.5
KSH SS SS 20 49 37.0 +1.1
KSH *eSCS* ScS 20 51 37.3 +1.4

KSH AMB AMB
comp=Z,2μm,2.6s,mb6.6
KSH LR LR
comp=N,3μm,12.0s
KSH LR LR
comp=E,2μm,6.9s
MUKL Al Mukalla 36.66 142 *e*P **P 20 41 34.7 +0.2**
MUKL AMb AMB 20 41 35.9
comp=Z,510nm,1.3s,mb6.3
MUKL Al Mukalla 36.66 142⇑ *e*P **P 20 41 34.1 -0.4**
EOSO Osorio 37.54 257 P **P 20 41 42.2 +0.5**
EOSO Osorio 37.54 257 P **P 20 41 42.2 +0.4**
SNR=7.9
EBAJ Bajamar 37.78 258 P **P 20 41 43.9 +0.1**
comp=Z,540nm,1.8s,mb6.1
EBAJ Bajamar 37.78 258 P **P 20 41 43.9 +0.1**
comp=Z,540nm,1.8s,mb6.1,SNR=5.2
MKAR Makanchi Array 37.82 68 *i* P **P 20 41 44.4 +0.5**
MKAR pmax pmax
comp=Z,44nm,0.6s
CRAJ Montana Rajada 38.13 258 P **P 20 41 46.8 +0.1**
comp=Z,524nm,1.1s,mb6.3,SNR=7.9
CCAN Las Canadas 38.16 258 P **P 20 41 47.0 +0.1**
comp=Z,190nm,1.1s,mb5.8
CCAN Las Canadas 38.16 258 P **P 20 41 47.0 +0.1**
comp=Z,190nm,1.1s,mb5.8,SNR=16
CICO Icod de los Vi 38.16 258 P **P 20 41 47.1 +0.2**
comp=Z,51nm,0.7s,mb5.5,SNR=7.9
FURI Furi 38.19 160 P **P 20 41 49.9 +2.6**
FURI pP pP 20 42 13.6 +3.3
CHIO Chio 38.29 258 P **P 20 41 47.9 -0.1**
comp=Z,396nm,0.8s,mb6.3,SNR=6.2
EGOM La Gomera 38.61 258 P **P 20 41 50.6 -0.1**
comp=Z,320nm,1.2s,mb6.0
EGOM La Gomera 38.61 258 P **P 20 41 50.6 -0.1**
comp=Z,320nm,1.2s,mb6.0,SNR=11
CHIE El Hierro 39.40 258 P **P 20 41 57.1 -0.2**
comp=Z,66nm,0.9s,mb5.5
CHIE El Hierro 39.40 258 P **P 20 41 57.1 -0.1**
comp=Z,66nm,0.9s,mb5.5,SNR=7.5
EHRO Hierro 39.49 259 P **P 20 41 57.8 -0.2**
EHRO Hierro 39.49 259 P **P 20 41 57.8 -0.2**
SNR=7.9
SUMG Summit 39.64 335 *e*P **P 20 41 59.9 +1.1**
comp=Z,158nm,1.0s,mb5.8
SUMG *e*pP pP 20 42 21.3 -0.6
SUMG Summit 39.64 335 *e*P **P 20 41 59.8 +1.0**
comp=Z,158nm,1.0s,mb5.8
SUMG *e*pP pP 20 42 21.3 -0.6
PFAV Pico das Favas 39.71 279 *e*P **P 20 42 01.5 +1.8**
PFAV *e*pP pP 20 42 24.0 +1.2
PVNV Vila Nova 39.74 280 *e*P **P 20 42 00.9 +1.0**
PVNV *e*pP pP 20 42 23.6 +0.6
THN Thein Dam 39.78 92 *e*P **P 20 42 00.6 +0.2**
comp=Z,46nm,0.5s,mb5.6
RIB2 Ribeirinha 39.79 279 *e*P **P 20 42 01.3 +0.9**
RIB2 *e*pP pP 20 42 24.7 +1.2
PBIS Biscoitos 39.80 280 *e*P **P 20 42 01.3 +0.8**
PBIS *e*pP pP 20 42 24.5 +0.9
ADH Angra Heroismo 39.84 279 *e*pP pP 20 42 23.9 0.0
ADH Angra Heroismo 39.84 279 *e*LR LR 20 54 00.0
ADH Angra Heroismo 39.84 279 *e*pP pP 20 42 23.9 0.0
PPAD Pico dos Padre 39.86 280 *e*P **P 20 42 01.8 +0.9**
PPAD *e*pP pP 20 42 25.3 +1.3
ASBA Santa Barbara 39.87 280 *e*P **P 20 42 02.6 +1.5**
ASBA *e*pP pP 20 42 25.0 +0.8
ROSA Rosais 40.51 280 *e*P **P 20 42 07.1 +0.9**
PID Ribeirinha 40.55 280 *e*P **P 20 42 07.8 +1.2**
PICO Pico 40.74 280 *e*P **P 20 42 09.9 +1.8**
BHK Bhakra 40.85 93 *e* **P 20 42 14.2 +5.1**
CALA Caldeira 40.89 280 *e*P **P 20 42 11.1 +1.7**
BHJ Bhuj 41.36 108 *e*P **P 20 42 14.2 +0.8**
BHJ *e* 20 42 17.6
comp=Z,692nm,1.4s
WMQ Urumqi 42.48 70⇑ *i*P **P 20 42 23.5 +1.2**
WMQ AP pP 20 42 46.5 +1.0
WMQ XP sP 20 42 58.0 +1.0
WMQ PP PP 20 44 07.0 +2.0
WMQ S **S 20 48 38.0 +1.6**
WMQ SS SS 20 51 43.0 +0.8
WMQ AMB AMB
comp=Z,267nm,1.0s,mb5.9
WMQ LR LR
comp=N,3μm,16.0s
WMQ LR LR
comp=E,2μm,15.0s
WMQ LR LR
comp=Z,2μm,14.0s
AJM Ajmer 42.61 100 *i* P **P 20 42 24.0 +0.4**
DDI Dehra Dun 42.63 93 *e*P **P 20 42 24.0 +0.3**
DDI *e* 20 44 05.0
NDI New Delhi 43.02 95 *e*P **P 20 42 26.5 -0.5**
NDI *e*S **S 20 48 44.0 -0.6**
NRS Narsarsuaq 43.15 318 *i* P **P 20 42 28.6 +1.0**
comp=Z,418nm,1.3s,mb6.0
NRS *i* S **S 20 48 48.6 +2.5**
PTH Pithoragarh 44.60 92 *e*P **P 20 42 40.0 +0.3**
PTH *e* 20 45 21.0
LGTI Lohaghat 44.68 92 *i* P **P 20 42 40.0 -0.3**
LGTI *e* 20 44 42.5
JHNI Jhansi 45.95 98 *e*P **P 20 42 48.0 -2.4**
JHNI *e*pP pP 20 43 09.0 -4.8
MBAR Mbarara 46.33 174 *e*P **P 20 42 52.5 -1.1**
comp=Z,453nm,1.1s,mb6.1
MBAR Mbarara 46.33 174 *e*P **P 20 42 52.5 -1.1**
comp=Z,453nm,1.1s,mb6.1
BHPL Bhopal 46.63 101 *e*P **P 20 42 57.0 +1.2**
BHPL *e* 20 42 58.4
comp=Z,535nm,0.9s
POO Poona 47.45 109 *e*P **P 20 43 02.8 +0.4**
POO *e* 20 43 04.8
comp=Z,546nm,1.2s
MOY Mondy 47.47 54 *e*P **P 20 43 03.1 +1.1**
MOY *e* pP 20 43 26.4 +0.8
DBIC Dimbokro 47.50 225 P **P 20 43 01.5 -1.3**
comp=Z,82nm,0.5s,mb5.9,baz=14,slow=8.0,SNR=392
DBIC pP pP 20 43 25.5 -0.9
comp=Z,63nm,0.4s,baz=8.1,slow=10.0,SNR=5.3
DBIC S **S 20 49 46.8 -2.1**
comp=Z,33nm,1.2s,baz=122,slow=19,SNR=6.5
DBIC LR LR 21 05 42.7
comp=Z,1μm,20.4s,baz=134,slow=39
DBIC Dimbokro 47.50 225 P **P 20 43 01.5 -1.3**
DBIC *PP pP 20 43 25.5 -0.8
DBIC S **S 20 49 46.8 -2.1**
DBIC pmax pmax
comp=Z,82nm,0.5s
DBIC MLR MLR
comp=Z,1μm,20.4s
TIC Toumodi 47.61 225⇓ *i*P **P 20 43 02.1 -1.5**
comp=Z,82nm,0.2s,mb6.1
TIC ⇓*i*PcP pP 20 43 26.4 -0.8
KMBO Kilima Mbogo 47.65 165 P **P 20 43 04.6 +0.7**
comp=Z,44nm,1.0s,mb5.2,baz=351,slow=7.7,SNR=46
KMBO pP pP 20 43 28.5 +1.0
comp=Z,14nm,0.6s,baz=9.3,slow=8.7,SNR=3.9
KMBO PP PP 20 44 57.9 +1.9
comp=Z,15nm,0.8s,baz=20,slow=6.4,SNR=3.8
KIC Kosan Boka 47.72 224⇓ *i*P **P 20 43 03.2 -1.3**
comp=Z,304nm,0.5s,mb6.4
KIC ⇓*i*PcP pP 20 43 27.5 -0.5
LIC Lamto 47.97 225⇓ *i*P **P 20 43 05.1 -1.4**
comp=Z,266nm,0.5s,mb6.3
LIC ⇓*i*PcP pP 20 43 29.4 -0.6
LIC Lamto 47.97 225 *e*P **P 20 43 05.1 -1.4**
comp=Z,64nm,0.4s,mb5.8
KOLN Koldanda 48.04 92 *e*P **P 20 43 07.3 +0.5**
comp=Z,2μm,1.1s
AKL Akola 48.06 104⇓ *i* **P 20 43 14.8 +7.8**
comp=Z,582nm,1.7s,mb6.1
AKL *i* pP 20 43 37.8 +7.2
KAD Karad 48.55 110 *e*P **P 20 43 10.2 -0.6**
KAD *e* 20 50 00.2
GKN Gorkha 48.62 91 *e*P **P 20 43 11.6 +0.3**
comp=Z,2μm,0.9s
IRK Irkutsk 49.08 53 *e*P **P 20 43 14.0 -0.4**
IRK *e* pP 20 43 34.6 -3.5
NGP Nagpur 49.14 102 *e*P **P 20 43 14.9 -0.4**
NGP *e* pP 20 43 35.1 -3.9
DMN Daman 49.19 91 *e*P **P 20 43 16.2 +0.5**
comp=Z,2μm,1.1s
KKN Kakani 49.20 90 *e*P **P 20 43 16.0 +0.3**
comp=Z,1μm,0.6s
ZAK Zakamensk 49.32 55 *e*P **P 20 43 17.4 +1.0**
ZAK *e* pP 20 43 36.7 -3.3

LATR Latur 49.34 107 *e*P **P 20 43 16.5 -0.4**
PKI Pulchoki 49.42 90 *e*P **P 20 43 17.7 +0.2**
comp=Z,734nm,1.0s,mb6.6
GUN Gumba 49.55 90 *e*P **P 20 43 18.9 +0.5**
comp=Z,2μm,0.9s
GOA Goa 49.63 112 *e*P **P 20 43 21.2 +2.0**
BLSP Bilaspur 50.61 98 *e*P **P 20 43 25.0 -1.6**
TIXI Tiksi 50.92 23⇑ *i*P **P 20 43 28.2 -0.1**
TIXI *e**SP sP 20 43 51.2 -12
TIXI *e*S **S 20 50 38.8 +3.0**
TIXI pmax pmax
comp=Z,45nm,0.9s,mb5.5
TIXI MLR MLR
comp=Z,5μm,17.0s
TIXI Tiksi 50.92 23⇑ *i*P **P 20 43 28.3 0.0**
HYB Hyderabad 51.38 106⇑ *i*P **P 20 43 31.0 -1.5**
comp=Z,230nm,1.0s,mb6.2
HYB *e* pP 20 43 54.5 -1.8
HYB *e* 20 44 09.0
HYB *e*S **S 20 50 40.0 -2.8**
HYB Hyderabad 51.38 106⇑ *e*P **P 20 43 31.0 -1.5**
comp=Z,230nm,1.0s,mb6.2
HYB *e*S **S 20 50 40.0 -2.8**
LSA Lhasa 52.15 84⇑ *i*P **P 20 43 39.0 +0.9**
LSA LR LR
comp=N,1μm,18.0s
LSA LR LR
comp=E,1μm,15.0s
MNGI Mangalore 52.17 113 *i* P **P 20 43 37.6 -0.8**
MNGI *i* 20 51 13.7
FRB Frobisher Bay 52.27 326 LR LR 21 06 08.6
comp=E,642nm,20.8s,baz=71,slow=36
SONM Songino Array 52.32 57 P **P 20 43 39.2 +0.1**
comp=E,78nm,0.8s,mb5.8,baz=295,slow=8.0,SNR=316
SONM pP pP 20 44 02.5 -0.6
comp=E,99nm,0.8s,baz=298,slow=8.6,SNR=15
SONM PKPPKP 21 14 15.5
comp=E,0.3nm,0.8s,baz=90,slow=1.2,SNR=3.6
GTA Gaotai 52.55 69⇑ *i*P **P 20 43 41.0 +0.1**
GTA AP pP 20 44 04.3 -0.6
GTA PCP PcP 20 44 51.3 +1.4
GTA PP PP 20 45 41.8 0.0
GTA PCS 20 48 48.0
GTA S **S 20 50 56.5 -1.9**
GTA AMB AMB
comp=Z,117nm,1.1s,mb5.8
GTA AMB AMB
comp=Z,938nm,4.9s
GTA LR LR
comp=N,1μm,22.4s
GTA LR LR
comp=E,1μm,25.5s
GTA LR LR
comp=Z,2μm,31.9s
RES Resolute Bay 53.74 344 P **P 20 43 49.5 +0.2**
RES pmax pmax
comp=Z,62nm,0.7s,mb5.8
RES Resolute Bay 53.74 344 *e*P **P 20 43 48.6 -0.7**
comp=Z,35nm,0.9s,mb5.4
RES Resolute Bay 53.74 344 *e*P **P 20 43 48.6 -0.7**
comp=Z,35nm,0.9s,mb5.4
VIS Vishakhapatnam 54.42 101 *e*P **P 20 43 53.5 -1.4**
CAL Calcutta 54.65 93 *e*P **P 20 43 56.6 0.0**
CAL *e* pP 20 44 20.1 -0.6
CAL *e* 20 51 19.9
SHL Shillong 55.20 88⇑ *i*P **P 20 44 00.0 -0.6**
SHL *e*S **S 20 51 33.0 -1.3**
MDRS Chennai 55.63 108 *e*P **P 20 44 01.0 -2.8**
MDRS *i* 20 47 30.0
MDRS *e* 20 51 38.0
AGT Agartala 55.83 90 *i* P **P 20 44 04.0 -1.1**
AGT *i* pP 20 44 28.0 -1.3
SCHQ Schefferville 56.05 316 P **P 20 44 04.5 -1.8**
comp=Z,36nm,0.7s,mb5.5,baz=63,slow=6.7,SNR=31
SCHQ pP pP 20 44 28.6 -1.9
comp=Z,66nm,0.9s,baz=75,slow=7.0,SNR=7.6
SCHQ LR LR 21 08 43.3
comp=Z,460nm,18.0s,baz=131,slow=36
SCHQ Schefferville 56.05 316 *e*P **P 20 44 04.3 -2.0**
comp=Z,81nm,1.0s,mb5.7
SCHQ *e*pP pP 20 44 28.6 -1.9
SCHQ Schefferville 56.05 316 *e*P **P 20 44 04.3 -2.0**
comp=Z,81nm,1.0s,mb5.7
SCHQ *e*pP pP 20 44 28.6 -1.9
YAK Yakutsk 56.28 34 *e*P **P 20 44 06.4 -1.4**
YAK *i* *PP pP 20 44 29.6 -2.5
YAK *e* 20 44 59.7
YAK *e* 20 46 12.7
YAK *e*PPP PPP 20 47 33.6 0.0
YAK *i* S **S 20 51 47.9 -0.2**
YAK *e* 20 53 46.3
YAK *e*SSS SSS 20 57 53.3 +2.8
YAK pmax pmax
comp=Z,22nm,0.8s,mb5.2
YAK pmax pmax
comp=N,12nm,1.2s
YAK pmax pmax
comp=E,14nm,1.4s
YAK pmax pmax
comp=Z,27nm,1.0s,mb5.2
YAK smax
comp=N,414nm,9.4s
YAK smax
comp=Z,108nm,11.0s
YAK smax
comp=E,166nm,9.8s
YAK Yakutsk 56.28 34 *e*P **P 20 44 06.2 -1.6**
comp=E,61nm,0.6s,mb5.8
YAK *e*pP pP 20 44 29.9 -2.2
YAK Yakutsk 56.28 34 *e*P **P 20 44 06.2 -1.6**
comp=E,61nm,0.6s,mb5.8
YAK *e*pP pP 20 44 29.9 -2.2
TRD Trivandrum 56.87 115 *e*P **P 20 44 11.4 -1.3**
TRD *e*S **S 20 51 55.3 -1.3**
LZH Lanzhou 57.05 70⇑ P **P 20 44 14.0 +0.4**
LZH AP pP 20 44 37.0 -1.0
LZH PCP PcP 20 45 08.0 +0.8
LZH PP PP 20 46 23.5 +0.6
LZH SCP 20 48 58.0
LZH PCS 20 49 07.5
LZH S **S 20 52 00.3 +1.6**
LZH SS SS 20 55 50.0 -0.1
LZH AMB AMB
comp=Z,311nm,1.5s,mb6.1
LZH AMB AMB
comp=Z,1μm,4.7s
LZH LR LR
comp=N,2μm,14.2s
LZH LR LR
comp=Z,3μm,16.4s
IMP Imphal 57.13 87⇑ *i*P **P 20 44 15.0 +0.7**
CLNS Chul'man 57.24 40 *e*P **P 20 44 14.6 0.0**
CLNS *e**PP pP 20 44 37.4 -1.6
CLNS *e* 20 45 07.1
CLNS *e* 20 46 18.9
CLNS *e*S **S 20 52 02.9 +2.1**
CLNS *e*SS SS 20 55 55.3 +2.5
CLNS pmax pmax
comp=Z,56nm,1.0s,mb5.5
CLNS pmax pmax
comp=N,26nm,0.9s
CLNS pmax pmax
comp=E,14nm,0.8s
CLNS pmax pmax
comp=N,26nm,1.0s
CLNS pmax pmax
comp=Z,25nm,1.0s,mb5.2
CLNS pmax pmax
comp=E,28nm,0.9s
CLNS smax
comp=N,16nm,1.1s
CLNS smax
comp=Z,6.0nm,1.1s
CLNS smax
comp=E,11nm,0.9s
CLNS MLR MLR
comp=Z,800nm,14.0s
CLNS MLR MLR
comp=N,500nm,13.0s
CLNS MLR MLR
comp=E,200nm,12.0s
BTO Baotou 58.40 63 *e*P **P 20 44 21.5 -1.5**
BTO S **S 20 52 17.0 +0.8**
BTO AMB AMB
comp=Z,42nm,1.1s,mb5.4

HIA Hailar 59.04 50⇑ *e*P **P 20 44 26.7 -0.5**
comp=Z,216nm,1.5s,mb6.0
HIA *e*pP pP 20 44 50.9 -0.8
HIA Hailar 59.04 50⇑ *e*P **P 20 44 26.7 -0.6**
comp=Z,216nm,1.5s,mb6.0
HIA *e*pP pP 20 44 50.9 -0.8
HHC Hu-ho-hao-te 59.21 62⇑ P **P 20 44 28.5 -0.1**
HHC AP pP 20 44 52.0 -1.1
HHC PCP PcP 20 45 14.0 -1.6
HHC SCP 20 49 03.0
HHC PCS 20 49 13.5
HHC S **S 20 52 30.8 +4.0**
HHC PS PS 20 52 59.3 +2.6
HHC XS 20 53 13.0
HHC SCS ScS 20 54 06.5 +1.3
HHC SS SS 20 56 29.5 +5.1
HHC AMB AMB
comp=Z,124nm,1.4s,mb5.8
HHC AMB AMB
comp=Z,797nm,4.9s
HHC LR LR
comp=N,794nm,16.9s
HHC LR LR
comp=E,912nm,14.1s
HHC LR LR
comp=Z,721nm,21.0s
CD2 Chengdu 60.09 75 P **P 20 44 35.0 +0.2**
CD2 XP sP 20 45 11.5 +1.1
CD2 PP PP 20 46 50.0 -0.3
CD2 S **S 20 52 40.5 +2.3**
CD2 AMB AMB
comp=Z,220nm,0.7s,mb6.3
CD2 AMB AMB
comp=Z,380nm,7.3s
CD2 LR LR
comp=E,480nm,14.4s
CD2 LR LR
comp=Z,550nm,28.8s
LSZ Lusaka 60.78 178 P **P 20 44 39.4 -0.2**
LSZ pmax pmax
comp=Z,570nm,1.1s,mb6.5
LSZ Lusaka 60.78 178 *e*P **P 20 44 39.2 -0.4**
comp=Z,568nm,1.1s,mb6.5
LSZ *e*pP pP 20 45 05.1 +0.9
LSZ Lusaka 60.78 178 *e*P **P 20 44 39.2 -0.4**
comp=Z,568nm,1.1s,mb6.5
XAN Xi'an 61.61 69 P **P 20 44 44.5 -0.5**
XAN AP pP 20 45 09.3 -0.4
XAN PP PP 20 46 59.8 -4.1
XAN S **S 20 52 55.0 -2.5**
XAN AMB AMB
comp=Z,199nm,1.3s,mb6.0
XAN AMB AMB
comp=Z,599nm,8.8s
XAN LR LR
comp=N,394nm,15.7s
XAN LR LR
comp=E,812nm,21.2s
XAN LR LR
comp=Z,816nm,21.2s
TIY Taiyuan 61.62 64⇑ P **P 20 44 45.0 0.0**
TIY S **S 20 53 01.0 +3.3**
TIY LR LR
comp=N,2μm,13.0s
TIY LR LR
comp=Z,420nm,12.0s
EMMW East Machias 62.25 307 *e*P **P 20 44 47.7 -1.4**
comp=Z,308nm,0.9s,mb6.3
EMMW *e*pP pP 20 45 12.7 -1.1
EMMW East Machias 62.25 307 *e*P **P 20 44 47.7 -1.4**
comp=Z,308nm,0.9s,mb6.3
EMMW *e*pP pP 20 45 12.7 -1.1
BJI Beijing 62.51 60 *e*P **P 20 44 50.5 -0.5**
BJI AP pP 20 45 14.3 -1.4
BJI XP sP 20 45 27.0 +0.3
BJI PP PP 20 47 13.5 +2.1
BJI S **S 20 53 11.5 +2.7**
BJI XS 20 53 53.8
BJI SS SS 20 57 19.8 +3.4
BJI AMB AMB
comp=Z,147nm,1.1s,mb5.8
BJI AMB AMB
comp=Z,831nm,3.3s
BJI LR LR
comp=N,2μm,13.8s
BJI LR LR
comp=E,1μm,15.6s
BJI LR LR
comp=Z,2μm,22.4s
BJT Baijiatuau 62.52 60⇑ *i*P **P 20 44 50.4 -0.7**
comp=Z,110nm,0.9s,mb5.8
BJT Baijiatuau 62.52 60⇑ *i*P **P 20 44 50.3 -0.7**
comp=Z,110nm,0.9s,mb5.8
BILL Bilibino 62.54 16 *e*P **P 20 44 50.4 -0.4**
BILL *e**SP sP 20 45 12.9 -14
BILL *e*SS SS 20 57 16.5 0.0
BILL pmax pmax
comp=Z,72nm,1.3s,mb5.4
BILL MLR MLR
comp=Z,800nm,18.0s
BILL Bilibino 62.54 16 *e*P **P 20 44 49.8 -1.0**
comp=Z,32nm,0.5s,mb5.5
BILL *e*pP pP 20 45 12.9 -2.6
BILL Bilibino 62.54 16 *e*P **P 20 44 49.8 -1.0**
comp=Z,32nm,0.5s,mb5.5
BILL *e*pP pP 20 45 12.9 -2.6
KMI Kunming 63.04 81 *e*P **P 20 44 55.0 +0.3**
KMI AP pP 20 45 19.0 -0.4
KMI PP PP 20 47 12.0 -3.9
KMI PPP PPP 20 48 47.8 +0.2
KMI S **S 20 53 16.8 +1.2**
KMI SKS SKS 20 54 34.5 +0.4
KMI SSS SSS 21 00 10.0 -1.2
KMI AMB AMB
comp=Z,256nm,1.2s,mb6.0
KMI AMB AMB
comp=Z,1μm,4.6s
KMI LR LR
comp=N,601nm,24.3s
KMI LR LR
comp=E,789nm,23.5s
KMI LR LR
comp=Z,2μm,32.6s
SEY Seymchan 63.39 25 *e*P **P 20 44 58.1 +1.6**
SEY *PP pP 20 45 21.5 +0.3
SEY *e* 20 47 17.1
SEY PPP PPP 20 48 57.8 +7.2
SEY *e*S **S 20 53 22.4 +2.9**
SEY *SS 20 53 59.1
SEY 20 54 40.8
SEY *e*SS SS 20 57 35.3 +5.6
SEY *e*SSS SSS 21 00 16.7 -0.7
SEY smax
comp=N,3μm,8.3s
SEY smax
comp=E,850nm,5.9s
WVL Waterville 63.57 307 *e*P **P 20 44 56.8 -1.0**
WVL Waterville 63.57 307 *e*P **P 20 44 56.8 -1.0**
ENH Enshi 64.34 72 P **P 20 45 02.6 -0.5**
ENH pP pP 20 45 27.4 -0.4
ENH S **S 20 53 33.1 +1.5**
ENH sS 20 54 15.6
ENH Enshi 64.34 72 *e*P **P 20 45 02.5 -0.6**
comp=E,269nm,0.8s,mb6.1
ENH *e*pP pP 20 45 27.1 -0.7
ENH Enshi 64.34 72 *e*P **P 20 45 02.5 -0.5**
comp=E,269nm,0.8s,mb6.1
ENH *e*pP pP 20 45 27.1 -0.8
CHRT Chiangrai 64.42 87⇑ P **P 20 45 03.0 -0.7**
comp=E,547nm,1.5s,mb6.2
CM31 Chiang Mai Arr 64.78 89 *e*P **P 20 45 05.2 -0.9**
comp=E,164nm,0.6s,mb6.0
CM31 Chiang Mai Arr 64.78 89 *e*P **P 20 45 05.2 -0.9**
comp=E,164nm,0.6s,mb6.0
CMAR Chiang Mai Arr 64.78 89 P **P 20 45 05.2 -0.9**
comp=E,178nm,0.7s,mb6.0,baz=304,slow=8.2,SNR=17
CMAR *e*pP pP 20 45 29.8 -1.1
comp=E,87nm,0.8s,baz=302,slow=7.9,SNR=1.2
CMAR S **S 20 53 38.5 +1.2**
comp=E,0.9nm,1.0s,baz=326,slow=9.8,SNR=2.5
CMAR PKP2bc 21 13 56.9
comp=E,1.1nm,0.8s,baz=155,slow=3.4,SNR=7.8
CMAR LR LR 21 17 04.8
comp=E,278nm,21.5s,baz=305,slow=39
CMAR Chiang Mai Arr 64.78 89 P **P 20 45 05.2 -0.9**

CMAR pP pP 20 45 29.8 -1.1
CMAR S **S** **20 53 38.5 +1.2**
CMAR ⇑*e* 21 13 56.9
CMAR LR LR 21 17 04.8
CMAR Chiang Mai Arr 64.78 89 pP pP 20 45 29.8 -1.1
GYA Guiyang 64.87 77⇑*i*P **P** **20 45 06.0 -0.6**
GYA PP PP 20 47 29.8 -2.6
GYA S **S** **20 53 38.5 +0.2**
GYA PS PS 20 54 05.8 -7.3
GYA SS SS 20 57 52.0 -1.3
GYA AMB AMB
comp=Z,210nm,1.0s,mb5.9
GYA AMB AMB
comp=Z,860nm,4.8s
GYA LR LR
comp=N,710nm,21.6s
GYA LR LR
comp=E,1μm,20.8s
GYA LR LR
comp=Z,950nm,20.7s
FCC Fort Churchill 64.94 330 *e*P **P** **20 45 04.5 -2.0**
comp=Z,84nm,1.1s,mb5.5
INK Inuvik 65.27 352 PKPPKP 21 13 44.9
comp=Z,2.7nm,0.7s,baz=187,slow=6.2,SNR=5.6
INK LR LR 21 16 39.2
comp=Z,428nm,20.0s,baz=28,slow=39
INK Inuvik 65.27 352 P **P** **20 45 07.8 -0.6**
INK pmax pmax
comp=Z,62nm,0.7s
INK Inuvik 65.27 352 *e*P **P** **20 45 07.5 -0.9**
comp=Z,23nm,0.8s,mb5.1
FFD Franklin Falls 65.38 308 *e*P **P** **20 45 09.0 -0.5**
comp=Z,98nm,1.2s,mb5.5
FFD epP pP 20 45 34.6 +0.2
FFD Franklin Falls 65.38 308 *e*P **P** **20 45 09.0 -0.5**
comp=Z,98nm,1.2s,mb5.5
TIA Tai'an 65.50 63 ⇓P **P** **20 45 09.5 -0.9**
TIA S S 20 53 48.0 +2.3
TIA AMB AMB
comp=Z,90nm,1.4s,mb5.4
TIA LR LR
comp=N,410nm,11.0s
TIA LR LR
comp=E,725nm,11.0s
MA2 Magadan 65.50 28 *e*P **P** **20 45 10.6 +0.6**
MA2 *e* pP 20 45 33.0 -1.9
MA2 *e*S S 20 53 43.9 -1.4
MA2 pmax pmax
comp=Z,300nm,1.5s,mb5.9
MA2 pmax pmax
comp=E,100nm,1.8s
MA2 MLR MLR
comp=Z,2μm,21.0s
MA2 Magadan 65.50 28 *e*P **P** **20 45 10.3 +0.3**
comp=Z,40nm,0.5s,mb5.5
MA2 epP pP 20 45 32.9 -2.0
MA2 Magadan 65.50 28 *e*P **P** **20 45 10.3 +0.3**
comp=Z,40nm,0.5s,mb5.5
MA2 epP pP 20 45 32.9 -2.0
CN2 Changchun 65.51 52 ⇑P **P** **20 45 10.3 -0.1**
CN2 *e*AP pP 20 45 34.5 -0.8
CN2 *e*S S 20 53 44.5 -1.2
HNH Hanover 65.57 308 *e*P **P** **20 45 10.5 -0.2**
comp=Z,12nm,1.3s,mb4.6
HNH epP pP 20 45 35.2 -0.4
HNH Hanover 65.57 308 *e*P **P** **20 45 10.5 -0.3**
comp=Z,12nm,1.3s,mb4.6
HNH epP pP 20 45 35.2 -0.5
BDT Bhumibol Dam 65.64 90 P **P** **20 45 11.0 -0.6**
comp=Z,56nm,0.8s,mb5.4
SNY Shenyang 65.74 54 ⇑P **P** **20 45 11.0 -0.9**
SNY AP pP 20 45 35.8 -1.0
SNY PP PP 20 47 38.0 -1.9
SNY S S 20 53 50.3 +1.7
SNY AMB AMB
comp=Z,90nm,1.4s,mb5.4
SNY AMB AMB
comp=Z,420nm,6.9s
SNY LR LR
comp=N,2μm,15.1s
SNY LR LR
comp=E,2μm,16.1s
SNY LR LR
comp=Z,1μm,13.9s
NANT Nan 65.78 88 P **P** **20 45 11.5 -1.0**
comp=Z,169nm,1.0s,mb5.8
WES Weston 65.89 306 P **P** **20 45 12.8 0.0**
WES pmax pmax
comp=Z,530nm,1.4s,mb6.2
WES Weston 65.89 306 *e*P **P** **20 45 12.6 -0.2**
comp=Z,68nm,1.0s,mb5.4
WES epP pP 20 45 36.9 -0.9
WES Weston 65.89 306 *e*P **P** **20 45 12.6 -0.2**
comp=Z,68nm,1.0s,mb5.4
WES epP pP 20 45 36.9 -0.9
HRV Harvard--Oak R 65.95 307 P **P** **20 45 12.3 -0.9**
HRV pmax pmax
comp=Z,80nm,1.2s,mb5.4
HRV Harvard--Oak R 65.95 307 *e*P **P** **20 45 12.7 -0.5**
comp=Z,80nm,1.3s,mb5.4
HRV epP pP 20 45 35.7 -2.5
HRV Harvard--Oak R 65.95 307 *e*P **P** **20 45 12.7 -0.5**
comp=Z,80nm,1.3s,mb5.4
HRV epP pP 20 45 35.7 -2.4
MSNY Massena 66.12 310 *e*P **P** **20 45 13.7 -0.5**
MSNY epP pP 20 45 35.0 -4.1
MSNY Massena 66.12 310 *e*P **P** **20 45 13.7 -0.5**
MSNY epP pP 20 45 35.0 -4.2
LOZ Lake Ozonia 66.22 310 *e*P **P** **20 45 14.7 -0.2**
LOZ epP pP 20 45 37.0 -2.8
LOZ Lake Ozonia 66.22 310 *e*P **P** **20 45 14.7 -0.2**
LOZ epP pP 20 45 37.0 -2.8
BRYW Bryant College 66.32 306 *e*P **P** **20 45 15.9 +0.3**
comp=Z,168nm,1.2s,mb5.8
BRYW epP pP 20 45 40.0 -0.5
BRYW Bryant College 66.32 306 *e*P **P** **20 45 15.9 +0.3**
comp=Z,168nm,1.2s,mb5.8
BRYW epP pP 20 45 40.0 -0.5
NCB Newcomb 66.46 309 *e*P **P** **20 45 15.7 -0.7**
comp=Z,42nm,1.3s,mb5.1
NCB epP pP 20 45 40.4 -1.0
NCB Newcomb 66.46 309 *e*P **P** **20 45 15.7 -0.7**
comp=Z,42nm,1.3s,mb5.1
NCB epP pP 20 45 40.4 -0.9
PTN Potsdam (NY) 66.47 310 P **P** **20 45 17.3 +0.9**
PTN Potsdam (NY) 66.47 310 *e*P **P** **20 45 16.3 -0.2**
PTN epP pP 20 45 40.8 -0.6
PTN Potsdam (NY) 66.47 310 *e*P **P** **20 45 16.3 -0.1**
PTN epP pP 20 45 40.8 -0.6
DL2 Dalian 66.50 58 P **P** **20 45 16.0 -0.7**
DL2 AP pP 20 45 40.5 -1.2
DL2 S S 20 53 57.3 -0.5
DL2 SS SS 20 58 19.3 +1.2
DL2 AMB AMB
comp=Z,100nm,0.6s,mb5.8
DL2 AMB AMB
comp=Z,280nm,4.3s
DL2 LR LR
comp=N,640nm,14.5s
DL2 LR LR
comp=E,780nm,13.4s
DL2 LR LR
comp=Z,640nm,20.1s
ACCN Adirondack Com 66.54 309 *e*P **P** **20 45 16.6 -0.3**
ACCN epP pP 20 45 41.3 -0.6
ACCN Adirondack Com 66.54 309 *e*P **P** **20 45 16.6 -0.3**
ACCN epP pP 20 45 41.3 -0.6
DGAR Diego Garcia 66.94 129 *e*P **P** **20 45 17.1 -2.8**
comp=Z,375nm,0.8s,mb6.3
DGAR Diego Garcia 66.94 129 *e*P **P** **20 45 17.1 -2.8**
comp=Z,375nm,0.8s,mb6.3
MDJ Mudanjiang 67.20 49 P **P** **20 45 19.3 -1.7**
MDJ PCP PcP 20 45 46.0 -2.2
MDJ PP PP 20 47 47.8 -4.2
MDJ S S 20 54 05.3 -0.9
MDJ SCS ScS 20 55 07.0 +1.3
MDJ SS SS 20 58 27.0 -2.1
MDJ LR LR
comp=N,983nm,17.9s
MDJ LR LR
comp=E,947nm,16.2s
MDJ LR LR
comp=Z,735nm,24.7s
MDJ Mudanjiang 67.20 49 *e*P **P** **20 45 20.5 -0.6**
comp=Z,104nm,1.5s,mb5.4
MDJ *e*pP pP 20 45 44.7 -1.4
MDJ Mudanjiang 67.20 49 *e*P **P** **20 45 20.5 -0.5**
comp=Z,104nm,1.5s,mb5.4
MDJ *e*pP pP 20 45 44.7 -1.4
WHN Wuhan 67.37 69 ⇓P **P** **20 45 23.0 +0.6**
WHN AP pP 20 45 47.0 -0.4
WHN S S 20 54 10.0 +1.5
WHN XS 20 54 54.0
WHN AMB AMB
comp=Z,112nm,1.2s,mb5.6
NST Nakhon Sawan 67.50 90 ⇑P **P** **20 45 23.0 -0.3**
comp=Z,267nm,1.0s,mb6.0
YKA Yellowknife Ar 67.70 342 P **P** **20 45 23.4 -0.4**
comp=Z,62nm,0.7s,mb5.5,baz=31,slow=6.0,SNR=92
YKA pP pP 20 45 47.3 -1.6
comp=Z,64nm,0.6s,baz=27,slow=6.0,SNR=12
YKA S S 20 54 15.8 +3.9
comp=Z,2.2nm,0.9s,baz=63,slow=17,SNR=2.4
YKA LR LR 21 15 35.0
comp=Z,792nm,21.3s,baz=35,slow=36
YKA Yellowknife Ar 67.70 342 P **P** **20 45 23.4 -0.4**
YKA *PP pP 20 45 47.3 -1.6
YKA S S 20 54 15.8 +3.9
YKA pmax pmax
comp=Z,62nm,0.7s
YKA MLR MLR
comp=Z,792nm,21.3s
YKA Yellowknife Ar 67.70 342 P **P** **20 45 23.4 -0.4**
YKA pP pP 20 45 47.3 -1.6
YKA S S 20 54 15.8 +3.9
YKA LR LR 21 15 35.0
PAL Palisades 68.26 307 P **P** **20 45 29.6 +2.0**
PAL *e* 20 45 49.2
PAL Palisades 68.26 307 *e*P **P** **20 45 28.3 +0.6**
comp=Z,35nm,1.1s,mb5.1
PAL epP pP 20 45 51.6 -1.2
PAL Palisades 68.26 307 *e*P **P** **20 45 28.3 +0.7**
comp=Z,35nm,1.1s,mb5.1
PAL epP pP 20 45 51.6 -1.2
CPNY Central Park 68.43 307 *e*P **P** **20 45 29.1 +0.4**
CPNY epP pP 20 45 53.2 -0.7
CPNY Central Park 68.43 307 *e*P **P** **20 45 29.1 +0.4**
CPNY epP pP 20 45 53.2 -0.7
BBSR BB Station 68.45 295 P **P** **20 45 29.5 +0.6**
comp=Z,106nm,0.9s,mb5.7
BBSR epP pP 20 45 54.3 +0.2
BBSR BB Station 68.45 295 P **P** **20 45 29.5 +0.5**
comp=Z,106nm,0.9s,mb5.7
IMA Indian Mountai 68.49 0 P **P** **20 45 29.4 +0.8**
IMA Indian Mountai 68.49 0 *e*P **P** **20 45 30.1 +1.5**
comp=Z,94nm,1.2s,mb5.5
SADO Sadowa 68.52 313 LR LR 21 15 11.6
comp=Z,964nm,20.4s,baz=61,slow=36
BINY Binghamton 68.60 309 *e*P **P** **20 45 29.7 -0.1**
comp=Z,22nm,0.9s,mb5.0
BINY epP pP 20 45 54.2 -0.7
BINY Binghamton 68.60 309 *e*P **P** **20 45 29.7 -0.1**
comp=Z,22nm,0.9s,mb5.0
BINY epP pP 20 45 54.2 -0.7
KKTK Khon Kaen 68.93 88 ⇑P **P** **20 45 31.5 -0.7**
comp=Z,2μm,0.6s
GENY Geneseo 69.20 310 *e*P **P** **20 45 32.7 -0.7**
GENY epP pP 20 45 58.4 -0.3
GENY Geneseo 69.20 310 *e*P **P** **20 45 32.7 -0.7**
GENY epP pP 20 45 58.4 -0.2
NJ2 Nanjing 69.29 65 *e*P **P** **20 45 33.5 -0.7**
NJ2 AP pP 20 45 58.8 -0.6
NJ2 PP PP 20 48 10.3 -0.4
NJ2 S S 20 54 29.0 -2.3
NJ2 SS SS 20 59 01.0 -0.6
NJ2 AMB AMB
comp=Z,320nm,0.9s,mb6.2
NJ2 AMB AMB
comp=Z,1μm,5.3s
NJ2 LR LR
comp=N,2μm,21.8s
NJ2 LR LR
comp=E,1μm,24.2s
NJ2 LR LR
comp=Z,680nm,20.8s
NNT Nongplab 69.34 93 P **P** **20 45 35.3 +0.5**
LUPA Lehigh Univers 69.35 307 *e*P **P** **20 45 34.3 -0.1**
LUPA epP pP 20 45 59.2 -0.4
LUPA Lehigh Univers 69.35 307 *e*P **P** **20 45 34.3 -0.1**
LUPA epP pP 20 45 59.2 -0.4
COLA College 69.61 357*c i*P **P** **20 45 36.1 +0.6**
COLA College 69.61 357 *e*P **P** **20 45 36.4 +0.9**
comp=Z,69nm,1.2s,mb5.4
ILAR Eielson Array 69.67 357 P **P** **20 45 35.8 -0.1**
comp=Z,8.1nm,0.7s,mb4.7,baz=354,slow=4.6,SNR=69
ILAR pP pP 20 46 00.8 -0.3
comp=Z,14nm,1.0s,baz=346,slow=4.8,SNR=6.2
ILAR S S 20 54 39.8 +4.5
comp=Z,0.8nm,1.0s,baz=315,slow=5.1,SNR=4.0
ILAR PKKP PKKP 21 05 11.9 +3.0
comp=Z,1.2nm,0.8s,baz=242,slow=5.8,SNR=10.0
ILAR PKP2bc 21 13 34.4
comp=Z,3.2nm,1.1s,baz=195,slow=4.7,SNR=6.3
ILAR LR LR 21 15 30.2
comp=Z,364nm,20.0s,baz=194,slow=35
ILAR Eielson Array 69.67 357 P **P** **20 45 35.8 -0.1**
ILAR pP pP 20 46 00.8 -0.3
ILAR S S 20 54 39.8 +4.6
ILAR PKKP PKKP 21 05 11.9 +3.0
ILAR ⇑*e* 21 13 34.4
ILAR LR LR 21 15 30.2
DAWY Dawson 69.94 353 *e*P **P** **20 45 38.1 +0.5**
DAWY Dawson 69.94 353 *e*P **P** **20 45 38.1 +0.5**
INCN Inchon 70.39 56 *e*P **P** **20 45 40.2 -0.5**
comp=Z,134nm,1.1s,mb5.7
INCN epP pP 20 46 03.9 -2.2
INCN Inchon 70.39 56 *e*P **P** **20 45 40.2 -0.5**
comp=Z,134nm,1.1s,mb5.7
INCN epP pP 20 46 03.8 -2.2
LBTB Lobatse 70.46 181 P **P** **20 45 41.2 -0.2**
LBTB P 20 45 41.2
LBTB pP pP 20 46 07.3 +0.6
LBTB pP pP 20 46 07.3 +0.7
LBTB S S 20 54 48.0 +3.0
LBTB S S 20 54 48.8 +3.8
SSPA Standing Stone 70.72 309 *e*P **P** **20 45 42.4 -0.3**
comp=Z,45nm,1.2s,mb5.2
SSPA epP pP 20 46 07.2 -0.7
SSPA Standing Stone 70.72 309 *e*P **P** **20 45 42.4 -0.2**
comp=Z,45nm,1.2s,mb5.2
SSPA epP pP 20 46 07.2 -0.8
MCK McKinley 70.78 358 P **P** **20 45 43.2 +0.6**
MCK pmax pmax
comp=Z,38nm,1.0s,mb5.2
MCK McKinley 70.78 358 *e*P **P** **20 45 42.9 +0.3**
comp=Z,38nm,1.0s,mb5.2
MCK epP pP 20 46 05.2 -2.8
MCK McKinley 70.78 358 *e*P **P** **20 45 42.9 +0.3**
comp=Z,38nm,1.0s,mb5.2
MCK epP pP 20 46 05.2 -2.7
FFC Flin Flon 70.81 331 P **P** **20 45 40.5 -2.4**
FFC pmax pmax
comp=Z,19nm,0.9s,mb4.9
FFC Flin Flon 70.81 331 *e*P **P** **20 45 41.8 -1.1**
comp=Z,18nm,0.8s,mb5.0
FFC epP pP 20 46 06.5 -1.8
FFC Flin Flon 70.81 331 *e*P **P** **20 45 41.8 -1.1**
comp=Z,18nm,0.8s,mb5.0
FFC epP pP 20 46 06.5 -1.8
THY Trims Highway 70.98 356 *e*P **P** **20 45 44.7 +0.9**
KS15 Wonju Array Si 71.14 56 *e*P **P** **20 45 44.9 -0.3**
KS15 Wonju Array Si 71.14 56 *e*P **P** **20 45 44.9 -0.3**
UBT Ubonrachathani 71.21 87 P **P** **20 45 46.0 0.0**
ALLY Alegheny Colle 71.22 311 P **P** **20 45 43.8 -1.9**
ALLY Alegheny Colle 71.22 311 P **P** **20 45 43.8 -1.8**
SSE Sheshan 71.40 64 ⇑P **P** **20 45 46.5 -0.4**
SSE AP pP 20 46 11.5 -0.8
SSE PP PP 20 48 33.3 +4.8
SSE S S 20 54 55.3 -0.5
SSE SS SS 20 59 34.0 -0.2
SSE AMB AMB
comp=Z,104nm,1.4s,mb5.5
SSE AMB AMB
comp=Z,367nm,6.1s
SSE LR LR
comp=N,620nm,36.6s
SSE LR LR
comp=E,763nm,36.5s
SSE LR LR
comp=Z,533nm,35.6s
QIZ Qiongzhong 71.99 81 P **P** **20 45 50.3 -0.3**
QIZ AP pP 20 46 15.0 -1.0
QIZ XP sP 20 46 27.5 +1.0
QIZ PPP PPP 20 50 16.8 +1.3
QIZ S S 20 55 02.0 -0.7
QIZ AMB AMB
comp=Z,177nm,1.1s,mb5.8
QIZ AMB AMB
comp=Z,654nm,6.4s
QIZ Qiongzhong 71.99 81 *e*P **P** **20 45 50.3 -0.3**
comp=Z,125nm,0.8s,mb5.8
QIZ *e*pP pP 20 46 14.8 -1.2
QIZ Qiongzhong 71.99 81 *e*P **P** **20 45 50.3 -0.3**
comp=Z,125nm,0.8s,mb5.8
QIZ *e*pP pP 20 46 14.8 -1.2
YSS Yuzh-Sakhalins 72.01 40⇑*e*P **P** **20 45 49.9 -0.4**
YSS *e* 20 46 05.6
YSS *i* *PP pP 20 46 15.0 -0.7
YSS *e**SP sP 20 46 22.0 -4.1
YSS *e*S S 20 55 04.0 +1.6
YSS *e* 20 55 36.0
YSS pmax pmax
comp=Z,340nm,1.0s,mb6.1
YSS MLR MLR
comp=N,700nm,13.0s
YSS MLR MLR
comp=E,800nm,15.0s
YSS MLR MLR
comp=Z,1μm,15.0s
YSS Yuzh-Sakhalins 72.01 40 *e*P **P** **20 45 50.5 +0.3**
comp=Z,295nm,0.9s,mb6.1
YSS *e*pP pP 20 46 15.0 -0.6
YSS Yuzh-Sakhalins 72.01 40 *e*P **P** **20 45 50.5 +0.2**
comp=Z,295nm,0.9s,mb6.1
YSS *e*pP pP 20 46 15.0 -0.7
EYMN Ely 72.10 321 *e*P **P** **20 45 49.9 -0.9**
comp=Z,37nm,0.9s,mb5.2
EYMN *e*pP pP 20 46 14.9 -1.3
EYMN Ely 72.10 321 *e*P **P** **20 45 49.9 -0.9**
comp=Z,37nm,0.9s,mb5.2
EYMN *e*pP pP 20 46 14.9 -1.3
CBN Corbin 72.12 307 *e*P **P** **20 45 51.7 +0.5**
comp=Z,1μm,1.4s,mb6.5
CBN *e*pP pP 20 46 16.6 +0.1
CBN Corbin 72.12 307 *e*P **P** **20 45 51.7 +0.6**
comp=Z,1μm,1.4s,mb6.5
ULM Lac du Bonnet 72.15 325 P **P** **20 45 49.1 -1.9**
comp=Z,36nm,0.9s,mb5.2,baz=38,slow=6.0,SNR=28
ULM pP pP 20 46 14.8 -1.7
comp=Z,119nm,0.9s,baz=44,slow=6.0,SNR=17
ULM LR LR 21 17 22.6
comp=Z,518nm,19.0s,baz=72,slow=36
ULM Lac du Bonnet 72.15 325 *e*P **P** **20 45 49.7 -1.3**
comp=Z,53nm,0.9s,mb5.4
ULM Lac du Bonnet 72.15 325 *e*P **P** **20 45 49.7 -1.3**
comp=Z,53nm,0.9s,mb5.4
MCWV Mont Chateau 72.47 309 *e*P **P** **20 45 52.6 -0.4**
comp=Z,100nm,1.1s,mb5.6
MCWV *e*pP pP 20 46 17.9 -0.6
MCWV Mont Chateau 72.47 309 *e*P **P** **20 45 52.7 -0.4**
comp=Z,100nm,1.1s,mb5.6
MCWV *e*pP pP 20 46 17.9 -0.6
AAM Ann Arbor 72.58 313 *e*P **P** **20 45 53.6 -0.1**
comp=Z,47nm,0.9s,mb5.3
AAM *e*pP pP 20 46 18.6 -0.5
AAM Ann Arbor 72.58 313 *e*P **P** **20 45 53.6 0.0**
comp=Z,47nm,0.9s,mb5.3
AAM *e*pP pP 20 46 18.6 -0.5
SML Sawmill 72.69 357 *e*P **P** **20 45 54.9 +1.0**
SML Sawmill 72.69 357 *e*P **P** **20 45 54.8 +0.9**
PMR Palmer 72.93 358 *e*P **P** **20 45 56.2 +1.0**
comp=Z,70nm,1.0s,mb5.5
NWL Newcastle 73.21 177 *e*P **P** **20 45 57.3 -0.3**
NWL *e*S tx 20 46 21.7
NWL *e* pP 20 46 25.6 +2.6
comp=Z,1μm,0.7s
DIV Divide 73.27 356 *e*P **P** **20 45 56.9 -0.4**
comp=Z,69nm,0.8s,mb5.5
DIV Divide 73.27 356 *e*P **P** **20 45 56.9 -0.3**
comp=Z,69nm,0.8s,mb5.5
PET Petropavlovsk 73.38 28 *e*P **P** **20 45 58.0 -0.1**
PET *i* *PP pP 20 46 21.4 -2.1
PET *i* S S 20 55 20.7 +3.0
PET *e*SS SS 21 00 04.4 +0.2
PET pmax pmax
comp=Z,100nm,8.0s
PET smax
comp=N,500nm,15.9s
PET smax
comp=E,400nm,15.8s
PET MLR MLR
comp=Z,1μm,20.0s
SPU Mount Spurr 73.39 359 *e*P **P** **20 45 58.2 +0.3**
SPU Mount Spurr 73.39 359 *e*P **P** **20 45 58.2 +0.3**
ACSO Alum Creek Sta 73.73 311 *e*P **P** **20 45 59.8 -0.6**
comp=Z,36nm,1.1s,mb5.0
ACSO Alum Creek Sta 73.73 311 *e*P **P** **20 45 59.8 -0.6**
comp=Z,36nm,1.1s,mb5.0
SLKM Skilak Lake 74.04 358 P **P** **20 46 02.8 +1.0**
SLKM Skilak Lake 74.04 358 *e*P **P** **20 46 02.4 +0.6**
SLKM Skilak Lake 74.04 358 *e*P **P** **20 46 02.4 +0.6**
BOSA Boshof 74.05 181 P **P** **20 46 01.8 -0.7**
BOSA pP pP 20 46 27.9 -0.1
BOSA S S 20 55 28.1 +2.6
RSO Redoubt South 74.12 360 *e*P **P** **20 46 02.9 +0.7**
RSO Redoubt South 74.12 360 *e*P **P** **20 46 02.9 +0.7**
BLA Blacksburg 74.53 308 *e*P **P** **20 46 09.3 +4.2**
BLA Blacksburg 74.53 308 P **P** **20 46 05.0 -0.2**
comp=Z,36nm,1.1s,mb4.8
BLA Blacksburg 74.53 308 P **P** **20 46 04.9 -0.2**
comp=Z,22nm,1.1s,mb4.8
JFWS Jewell Farm 75.37 317 P **P** **20 46 08.8 -1.0**
JFWS *e* 20 46 25.5
JFWS pmax pmax
comp=Z,51nm,0.9s,mb5.2
JFWS Jewell Farm 75.37 317 *e*P **P** **20 46 08.7 -1.0**
comp=Z,32nm,0.6s,mb5.2
JFWS Jewell Farm 75.37 317 *e*P **P** **20 46 08.7 -1.1**
comp=Z,32nm,0.6s,mb5.2
RCBR Riachuelo 75.54 246 *e*P **P** **20 46 11.4 +0.1**
comp=Z,125nm,0.9s,mb5.6
RCBR Riachuelo 75.54 246 *e*P **P** **20 46 11.4 +0.1**
comp=Z,125nm,0.9s,mb5.6
IPM Ipoh 75.89 98⇑*e*P **P** **20 46 13.0 -0.3**
comp=Z,151nm,0.9s,mb5.7
KDAK Kodiak Island 76.81 360 *e*P **P** **20 46 18.0 +0.4**
comp=Z,69nm,0.6s,mb5.6
KDAK Kodiak Island 76.81 360 *e*P **P** **20 46 18.0 +0.5**
comp=Z,69nm,0.6s,mb5.6
JSC Jenkinsville 77.12 306 *e*P **P** **20 46 17.6 -2.2**
JSC *e*pP pP 20 46 45.4 0.0
JSC Jenkinsville 77.12 306 *e*P **P** **20 46 17.6 -2.2**
JSC *e*pP pP 20 46 45.4 -0.1
TWB Tillmans-White 77.31 305 P **P** **20 46 20.6 -0.3**
TWB *e*pP pP 20 46 47.4 +0.9
TWB Tillmans-White 77.31 305 P **P** **20 46 20.5 -0.3**
NHSC New Hope 77.36 305 P **P** **20 46 19.5 -1.6**
comp=Z,27nm,0.5s,mb5.2
NHSC *e*pP pP 20 46 46.6 -0.2
NHSC New Hope 77.36 305 P **P** **20 46 19.5 -1.6**
comp=Z,27nm,0.5s,mb5.2
NHSC *e*pP pP 20 46 46.6 -0.2
CSU Charleston Sou 77.38 304 P **P** **20 46 25.4 +4.2**
CSU *e*pP pP 20 46 47.5 +0.6
MAT Matsushiro 77.54 50 AP pP 20 46 47.2 -0.6
FX1 Attu Island--F 77.64 20 *e*P **P** **20 46 22.8 +0.6**
FX1 Attu Island--F 77.64 20 *e*P **P** **20 46 22.8 +0.6**
USIN University of 77.86 313 *e*P **P** **20 46 22.3 -1.5**
comp=Z,533nm,1.3s,mb6.1
USIN *e*pP pP 20 46 48.0 -1.4
USIN University of 77.86 313 *e*P **P** **20 46 22.3 -1.4**
comp=Z,533nm,1.3s,mb6.1
USIN *e*pP pP 20 46 48.0 -1.5
SUR Sutherland 77.97 185 *e*P **P** **20 46 25.0 +0.5**
comp=Z,260nm,1.5s,mb5.7
SUR *e*pP pP 20 46 50.4 +0.2
SUR Sutherland 77.97 185 *e*P **P** **20 46 25.0 +0.5**
comp=Z,260nm,1.5s,mb5.7
SUR *e*pP pP 20 46 50.4 +0.2
CPCT Cooper Cave 78.07 309 *e*P **P** **20 46 26.9 +1.9**
CPCT *e*pP pP 20 46 53.1 +2.4
CPCT Cooper Cave 78.07 309 *e*P **P** **20 46 26.9 +1.9**
SLM Saint Louis 78.65 315 *e*P **P** **20 46 27.1 -1.0**
comp=Z,93nm,1.3s,mb5.5

SLM epP pP 20 46 53.2 -0.6
SLM Saint Louis 78.65 315 *eP* **P 20 46 27.0 -1.1**
comp=Z,93nm,1.3s,mb5.5
SLM epP pP 20 46 53.2 -0.6
LAO LASA Array 79.01 329 *eP* **P 20 46 30.8 +0.9**
comp=Z,179nm,1.0s,mb5.8
LAO epP pP 20 46 56.4 +0.8
LAO LASA Array 79.01 329 *eP* **P 20 46 30.8 +0.9**
comp=Z,179nm,1.0s,mb5.8
SJG San Juan 79.11 285 P **P 20 46 34.0 +3.1**
comp=Z,393nm,1.9s,mb5.9
FVM French Village 79.25 314 *eP* **P 20 46 29.9 -1.5**
FVM epP pP 20 46 55.6 -1.5
FVM French Village 79.25 314 *eP* **P 20 46 29.9 -1.5**
FVM epP pP 20 46 55.6 -1.5
KGM Kluang 79.31 98⇓*iP* **P 20 46 32.0 -0.2**
comp=Z,138nm,0.7s,mb5.9
WVT Waverly 79.33 311 *eP* **P 20 46 31.0 -0.9**
WVT pmax pmax
comp=Z,16nm,0.9s,mb4.8
WVT Waverly 79.33 311 *eP* **P 20 46 30.4 -1.5**
comp=Z,16nm,0.9s,mb4.8
WVT epP pP 20 46 55.5 -2.2
WVT Waverly 79.33 311 *eP* **P 20 46 30.4 -1.5**
comp=Z,16nm,0.9s,mb4.8
WVT epP pP 20 46 55.5 -2.1
AOPR Arecibo Observ 79.35 285 P **P 20 46 34.1 +1.9**
AOPR epP pP 20 46 57.9 -0.2
AOPR Arecibo Observ 79.35 285 P **P 20 46 34.2 +1.9**
AOPR epP pP 20 46 57.9 -0.2
AGP Aguadilla 79.57 286 P **P 20 46 29.9 -3.6**
AGP epP pP 20 46 59.3 +0.1
CCM Cathedral Cave 79.60 315 *eP* **P 20 46 31.9 -1.3**
comp=Z,2.4nm,0.6s
CCM epP pP 20 46 57.3 -1.7
CCM Cathedral Cave 79.60 315 *eP* **P 20 46 32.0 -1.3**
comp=Z,2.4nm,0.6s
CCM epP pP 20 46 57.3 -1.7
UTMT University of 79.71 312 *epP* pP 20 46 58.9 -0.8
UTMT University of 79.71 312 *epP* pP 20 46 58.9 -0.8
PVMO Portageville 80.09 313 *epP* pP 20 47 00.8 -0.9
PVMO Portageville 80.09 313 *epP* pP 20 47 00.8 -0.9
HALT Halls 80.29 312 P **P 20 46 40.5 +3.5**
HALT epP pP 20 47 01.2 -1.6
RSSD Black Hills 80.36 326 *eP* **P 20 46 38.2 +1.0**
RSSD pmax pmax
comp=Z,13nm,0.6s,mb4.9
RSSD Black Hills 80.36 326 *eP* **P 20 46 38.6 +1.4**
comp=Z,13nm,0.6s,mb4.9
RSSD epP pP 20 47 02.0 -1.0
RSSD Black Hills 80.36 326 *eP* **P 20 46 38.6 +1.4**
comp=Z,13nm,0.6s,mb4.9
RSSD epP pP 20 47 02.0 -1.0
HRY Holter Researc 80.91 332 *eP* **P 20 46 40.2 +0.2**
HRY *e* 20 46 56.9
HRY Holter Researc 80.91 332 *eP* **P 20 46 40.2 +0.2**
GCMT Greycliff 80.99 331 *eP* **P 20 46 41.1 +0.6**
GCMT epP pP 20 47 04.5 -1.8
GCMT Greycliff 80.99 331 *eP* **P 20 46 41.1 +0.6**
GCMT epP pP 20 47 04.6 -1.8
NEW Newport 81.11 336 *eP* **P 20 46 41.5 +0.4**
NEW *e**PP pP 20 47 06.4 -0.5
NEW pmax pmax
comp=Z,16nm,0.8s
NEW Newport 81.11 336 *eP* **P 20 46 41.5 +0.4**
comp=Z,16nm,0.8s,mb4.9
NEW *e* 20 46 58.3
NEW epP pP 20 47 06.4 -0.5
NEW Newport 81.11 336 *eP* **P 20 46 41.5 +0.4**
CHMT Chamberlain Mo 81.18 333 *eP* **P 20 46 41.2 -0.3**
MET Memphis--Engin 81.20 312 P **P 20 46 45.2 +3.3**
MET epP pP 20 47 07.1 -0.6
LRAL Lakeview Retre 81.24 309 *eP* **P 20 46 40.8 -1.2**
comp=Z,47nm,0.9s,mb5.3
LRAL epP pP 20 47 06.8 -1.1
LRAL Lakeview Retre 81.24 309 *eP* **P 20 46 40.8 -1.3**
comp=Z,47nm,0.9s,mb5.3
LRAL epP pP 20 47 06.8 -1.1
HBAR Harrisburg 81.24 313 P **P 20 46 46.9 +4.9**
HBAR epP pP 20 47 08.4 +0.5
KSU1 Kansas State U 81.34 319 *eP* **P 20 46 41.1 -1.4**
KSU1 epP pP 20 47 06.7 -1.7
KSU1 Kansas State U 81.34 319 *eP* **P 20 46 41.1 -1.4**
KSU1 epP pP 20 47 06.7 -1.7
OXF Oxford 81.40 311 P **P 20 46 44.9 +2.0**
OXF epP pP 20 47 07.4 -1.3
OXF Oxford 81.40 311 P **P 20 46 44.9 +2.0**
OXF epP pP 20 47 07.4 -1.4
MSO Missoula 81.47 334 *eP* **P 20 46 43.3 +0.3**
comp=Z,9.5nm,0.8s,mb4.7
MSO epP pP 20 47 07.9 -0.9
MSO Missoula 81.47 334 *eP* **P 20 46 43.3 +0.3**
comp=Z,9.5nm,0.8s,mb4.7
MSO epP pP 20 47 07.9 -0.9
DWPF Disney 81.75 302 P **P 20 46 47.8 +3.0**
comp=Z,24nm,0.7s,mb5.1
DWPF epP pP 20 47 10.8 +0.1
DPW Davenport 81.77 337 P **P 20 46 45.4 +0.9**
DPW Davenport 81.77 337 *eP* **P 20 46 45.2 +0.7**
DPW Davenport 81.77 337 *eP* **P 20 46 45.2 +0.7**
BOZ Bozeman (W) 81.78 332 *eP* **P 20 46 45.3 +0.7**
comp=Z,9.2nm,0.8s,mb4.7
BOZ epP pP 20 47 08.9 -1.6
RPW Rockport 82.11 339 *eP* **P 20 46 45.8 -0.5**
RPW Rockport 82.11 339 *eP* **P 20 46 45.8 -0.4**
NLW Nelson Butte 82.15 338 *eP* **P 20 46 46.8 +0.3**
NLW Nelson Butte 82.15 338 *eP* **P 20 46 46.8 +0.3**
YNR Norris Junctio 82.28 331 P **P 20 46 48.5 +1.3**
YNR Norris Junctio 82.28 331 P **P 20 46 48.5 +1.3**
LKWY Lake 82.31 331 *eP* **P 20 46 49.8 +2.4**
LKWY pmax pmax
comp=Z,25nm,1.0s,mb5.0
LKWY Lake 82.31 331 *eP* **P 20 46 49.8 +2.4**
comp=Z,25nm,1.0s,mb5.0
LKWY Lake 82.31 331 *eP* **P 20 46 49.8 +2.4**
comp=Z,25nm,1.0s,mb5.0
OD2 Odessa Site #2 82.35 337 P **P 20 46 48.6 +1.1**
OD2 Odessa Site #2 82.35 337 P **P 20 46 48.6 +1.1**
WTV Waterville 82.40 338 P **P 20 46 48.5 +0.7**
WTV Waterville 82.40 338 P **P 20 46 48.5 +0.7**
YMR Madison River 82.42 331 *eP* **P 20 46 49.9 +2.0**
QLMT Earthquake Lak 82.43 331 *eP* **P 20 46 49.2 +1.2**
QLMT Earthquake Lak 82.43 331 *eP* **P 20 46 49.2 +1.2**
YFT Old Faithful 82.56 331 *eP* **P 20 46 51.5 +2.8**
YFT Old Faithful 82.56 331 *eP* **P 20 46 51.5 +2.8**
UALR University of 82.71 313 *eP* **P 20 46 48.9 -0.8**
comp=Z,21nm,0.7s,mb5.1
UALR epP pP 20 47 15.5 -0.1
UALR University of 82.71 313 *eP* **P 20 46 48.9 -0.7**
comp=Z,21nm,0.7s,mb5.1
UALR epP pP 20 47 15.5 -0.1
MCMT McKenzie Canyo 82.91 332 *eP* **P 20 46 51.1 +0.8**
MCMT McKenzie Canyo 82.91 332 *eP* **P 20 46 51.2 +0.8**
CBKS Cedar Bluff 82.99 321 P **P 20 46 52.2 +1.2**
CBKS pmax pmax
comp=Z,190nm,1.2s,mb5.8
CBKS Cedar Bluff 82.99 321 *eP* **P 20 46 51.1 +0.2**
comp=Z,26nm,0.6s,mb5.2
CBKS epP pP 20 47 16.1 -0.8
CBKS Cedar Bluff 82.99 321 *eP* **P 20 46 51.2 +0.2**
comp=Z,26nm,0.6s,mb5.2
CBKS epP pP 20 47 16.1 -0.8
IMW Indian Meadow 83.09 331 *eP* **P 20 46 53.3 +1.9**
IMW epP pP 20 47 16.9 -0.4
IMW Indian Meadow 83.09 331 *eP* **P 20 46 53.3 +2.0**
IMW epP pP 20 47 16.9 -0.4
OBC Olympics--Boni 83.11 341 P **P 20 46 54.0 +2.7**
OBC Olympics--Boni 83.11 341 P **P 20 46 54.0 +2.7**
MOOW Moose Ponds 83.15 330 *eP* **P 20 46 53.0 +1.3**
MOOW epP pP 20 47 18.3 +0.7
MOOW Moose Ponds 83.15 330 *eP* **P 20 46 53.0 +1.3**
MOOW epP pP 20 47 18.3 +0.7
LOHW Long Hollow 83.22 330 *eP* **P 20 46 53.2 +1.2**
LOHW epP pP 20 47 18.3 +0.3
LOHW Long Hollow 83.22 330 *eP* **P 20 46 53.2 +1.2**
LOHW epP pP 20 47 18.3 +0.3
GNW Green Mountain 83.25 340 *eP* **P 20 46 53.2 +1.2**
GNW epP pP 20 47 18.3 +0.3
GNW Green Mountain 83.25 340 *eP* **P 20 46 53.2 +1.1**
GNW epP pP 20 47 18.3 +0.2
PHWY Pilot Hill 83.31 326 *eP* **P 20 46 53.0 +0.5**
PHWY Pilot Hill 83.31 326 *eP* **P 20 46 53.0 +0.5**

WUWY Wally Ulrich 83.33 330 *eP* **P 20 46 53.9 +1.3**
WUWY Wally Ulrich 83.33 330 *eP* **P 20 46 53.9 +1.3**
SNOW Snow King Moun 83.41 330 P **P 20 46 54.5 +1.6**
SNOW Snow King Moun 83.41 330 P **P 20 46 54.5 +1.6**
TPAW Teton Pass 83.45 330 *eP* **P 20 46 54.9 +1.7**
TPAW *epP* pP 20 47 20.0 +0.9
TPAW Teton Pass 83.45 330 *eP* **P 20 46 54.8 +1.6**
TPAW *epP* pP 20 47 20.0 +0.8
HAWA Hanford 83.49 337 *eP* **P 20 46 54.0 +0.7**
comp=Z,47nm,1.2s,mb5.2
HAWA *e* pP 20 47 19.6 +0.3
HAWA Hanford 83.49 337 *eP* **P 20 46 54.0 +0.7**
MIAR Mount Ida 83.51 314 P **P 20 46 53.4 -0.2**
MIAR pmax pmax
comp=Z,28nm,0.8s,mb5.1
MIAR Mount Ida 83.51 314 *eP* **P 20 46 53.6 -0.1**
comp=Z,28nm,0.8s,mb5.1
MIAR *epP* pP 20 47 19.3 -0.3
MIAR Mount Ida 83.51 314 *eP* **P 20 46 53.6 0.0**
comp=Z,28nm,0.8s,mb5.1
MIAR *epP* pP 20 47 19.3 -0.3
REDW Red Top Meadow 83.53 330 *eP* **P 20 46 54.9 +1.4**
REDW Red Top Meadow 83.53 330 *eP* **P 20 46 54.9 +1.4**
BW06 Boulder Array 83.59 329 *eP* **P 20 46 53.7 -0.2**
comp=Z,12nm,0.8s,mb4.8
BW06 *epP* pP 20 47 16.4 -3.4
BW06 Boulder Array 83.59 329 *eP* **P 20 46 53.7 -0.1**
comp=Z,12nm,0.8s,mb4.8
BW06 Boulder Array 83.59 329 *epP* pP 20 47 16.4 -3.4
PDAR Pinedale Array 83.59 329 P **P 20 46 54.0 +0.2**
comp=Z,13nm,0.7s,mb4.9,baz=65,slow=4.6,SNR=43
PDAR *pP* pP 20 47 18.6 -1.3
comp=Z,43nm,1.0s,baz=93,slow=5.4,SNR=10
PDAR S S 20 57 05.1 -1.1
comp=Z,0.4nm,0.8s,baz=90,slow=1.8,SNR=3.0
PDAR PKKPbc 21 05 09.5
comp=Z,1.5nm,0.7s,baz=160,slow=2.8,SNR=8.1
PDAR PKPPKP 21 13 16.6
comp=Z,0.8nm,0.9s,baz=117,slow=3.3,SNR=5.1
PDAR LR LR 21 25 07.2
comp=Z,818nm,19.2s,baz=42,slow=36
PDAR Pinedale Array 83.59 329 P **P 20 46 54.0 +0.2**
PDAR Pinedale Array 83.59 329 *pP* pP 20 47 18.5 -1.3
LNOR Lincton Mounta 83.62 336 P **P 20 46 54.5 +0.6**
LNOR Lincton Mounta 83.62 336 *eP* **P 20 46 54.4 +0.5**
LNOR Lincton Mounta 83.62 336 *eP* **P 20 46 54.4 +0.5**
RWWY Rawlins 83.66 327 *eP* **P 20 46 54.7 +0.5**
RRI2 Red Ridge 83.70 331 *eP* **P 20 46 56.1 +1.8**
RRI2 ⇓*epP* pP 20 47 21.2 +0.9
LON Longmire 83.76 339 *eP* **P 20 46 54.9 +0.3**
LON *epP* pP 20 47 20.4 -0.2
LON Longmire 83.76 339 *eP* **P 20 46 54.9 +0.4**
LON *epP* pP 20 47 20.4 -0.2
AHID Auburn Hatcher 84.14 330 *eP* **P 20 46 57.5 +1.0**
comp=Z,30nm,0.7s,mb5.2
AHID Auburn Hatcher 84.14 330 *eP* **P 20 46 57.5 +1.0**
comp=Z,30nm,0.7s,mb5.2
BMW Boistfort Moun 84.37 340 *eP* **P 20 46 59.6 +2.0**
BMW Boistfort Moun 84.37 340 *eP* **P 20 46 59.0 +1.4**
BMW Boistfort Moun 84.37 340 *eP* **P 20 46 59.0 +1.4**
HLID Hailey 84.54 333 *eP* **P 20 46 59.4 +0.8**
comp=Z,4.8nm,0.6s,mb4.6
HLID *epP* pP 20 47 23.5 -1.1
HLID Hailey 84.54 333 *eP* **P 20 46 59.4 +0.9**
comp=Z,4.8nm,0.6s,mb4.6
HLID *epP* pP 20 47 23.5 -1.1
PPR Puerto Princes 84.57 82⇑*iP* **P 20 46 60.0 +0.6**
VGB Gordon Butte 84.63 338 P **P 20 47 02.0 +3.0**
VGB Gordon Butte 84.63 338 *eP* **P 20 47 01.6 +2.7**
VGB *epP* pP 20 47 26.7 +1.7
VGB Gordon Butte 84.63 338 *eP* **P 20 47 01.6 +2.6**
ISCO Idaho Springs 84.65 325 *eP* **P 20 47 00.3 +1.1**
ISCO pmax pmax
comp=Z,17nm,1.0s,mb4.9
ISCO Idaho Springs 84.65 325 *eP* **P 20 46 59.5 +0.3**
comp=Z,17nm,1.0s,mb4.9
ISCO ⇓*epP* pP 20 47 24.9 -0.3
ISCO Idaho Springs 84.65 325 *eP* **P 20 46 59.5 +0.3**
comp=Z,16nm,1.0s,mb4.9
ISCO ⇓*epP* pP 20 47 24.9 -0.4
HWUT Hardware Ranch 85.32 330 *eP* **P 20 47 03.2 +0.7**
comp=Z,22nm,0.6s,mb5.3
HWUT Hardware Ranch 85.32 330 *eP* **P 20 47 03.2 +0.7**
comp=Z,22nm,0.6s,mb5.3
KKM Kota Kinabalu 85.46 86⇑*eP* **P 20 47 04.2 +0.4**
comp=Z,76nm,1.0s,mb5.6
HVU Hansel Valley 85.59 331 P **P 20 47 05.0 +1.2**
HVU Hansel Valley 85.59 331 *eP* **P 20 47 04.8 +1.0**
HVU Hansel Valley 85.59 331 *eP* **P 20 47 04.8 +1.0**
SSOR Sweet Springs 85.69 338 *eP* **P 20 47 04.2 0.0**
SSOR *epP* pP 20 47 30.9 +0.5
SSOR Sweet Springs 85.69 338 *eP* **P 20 47 04.2 0.0**
SSOR *epP* pP 20 47 30.9 +0.6
TCUT Toone Canyon 85.70 330 *eP* **P 20 47 02.0 -2.3**
TCUT *epP* pP 20 47 28.0 -2.5
TCUT Toone Canyon 85.70 330 *epP* pP 20 47 28.0 -2.5
WMOK Wichita Mounta 85.90 318 P **P 20 47 05.4 -0.1**
WMOK pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
WMOK Wichita Mounta 85.90 318 *eP* **P 20 47 04.8 -0.7**
comp=Z,8.9nm,0.7s,mb4.8
WMOK *epP* pP 20 47 30.0 -1.7
WMOK Wichita Mounta 85.90 318 *eP* **P 20 47 04.8 -0.7**
comp=Z,8.9nm,0.7s,mb4.8
WMOK *epP* pP 20 47 30.0 -1.6
JLU Jordanelle 86.17 329 *eP* **P 20 47 05.9 -0.7**
JLU Jordanelle 86.17 329 *eP* **P 20 47 05.9 -0.7**
CTU Camp Tracy 86.19 330 P **P 20 47 08.1 +1.3**
CTU Camp Tracy 86.19 330 P **P 20 47 08.1 +1.3**
DAU Daniels Canyon 86.27 329 P **P 20 47 10.8 +3.7**
DAU *e* pP 20 47 35.2 +1.9
DAU Daniels Canyon 86.27 329 *eP* **P 20 47 08.3 +1.2**
DAU Daniels Canyon 86.27 329 *eP* **P 20 47 08.4 +1.3**
NATX Nacogdoches 86.28 313 P **P 20 47 09.5 +2.1**
comp=Z,50nm,0.7s,mb5.6
NATX *epP* pP 20 47 34.5 +1.0
SDCO Great Sand Dun 86.36 324 *eP* **P 20 47 07.8 +0.2**
comp=Z,3.1nm,0.6s
SDCO Great Sand Dun 86.36 324 *eP* **P 20 47 07.8 +0.2**
comp=Z,3.1nm,0.6s
NOQ North Oquirrh 86.36 330 *epP* pP 20 47 34.5 +0.7
BGU Big Grassy Mou 86.44 331 *eP* **P 20 47 08.9 +0.9**
BGU *epP* pP 20 47 34.0 -0.1
BGU Big Grassy Mou 86.44 331 *eP* **P 20 47 08.9 +1.0**
BGU *epP* pP 20 47 34.0 -0.1
GUIM Jordan 86.62 78 *eP* **P 20 47 08.9 -0.5**
MPU Maple Canyon 86.75 329 *eP* **P 20 47 11.2 +1.7**
MPU Maple Canyon 86.75 329 *eP* **P 20 47 11.2 +1.7**
NLU North Lily Min 86.96 329 *eP* **P 20 47 10.6 +0.1**
HSO Harness Mounta 87.09 338 *eP* **P 20 47 13.0 +1.9**
HSO *epP* pP 20 47 37.5 +0.2
HSO Harness Mounta 87.09 338 *eP* **P 20 47 13.0 +1.9**
HSO *epP* pP 20 47 37.5 +0.2
AMTX Amarillo 87.11 320 *eP* **P 20 47 12.1 +0.7**
comp=Z,3.9nm,0.6s
AMTX *epP* pP 20 47 36.9 -0.8
AMTX Amarillo 87.11 320 *eP* **P 20 47 12.1 +0.7**
comp=Z,3.9nm,0.6s
AMTX *epP* pP 20 47 36.8 -0.8
SRU San Rafael 87.14 328 *eP* **P 20 47 11.7 +0.3**
SRU San Rafael 87.14 328 *eP* **P 20 47 11.1 -0.3**
SRU *epP* pP 20 47 36.4 -1.3
SRU San Rafael 87.14 328 *eP* **P 20 47 11.1 -0.3**
SRU *epP* pP 20 47 36.4 -1.3
PV10 Paradox Valley 87.22 327 *eP* **P 20 47 13.2 +1.4**
PV10 Paradox Valley 87.22 327 *eP* **P 20 47 13.2 +1.4**
TMUT Trail Mountain 87.23 329 *eP* **P 20 47 12.2 +0.3**
PV01 Paradox Valley 87.25 326 *eP* **P 20 47 12.9 +0.9**
PV01 *epP* pP 20 47 39.4 +1.1
PV01 Paradox Valley 87.25 326 *eP* **P 20 47 12.9 +0.9**
BBOR Butler Butte 87.58 338 P **P 20 47 13.8 +0.3**
BBOR Butler Butte 87.58 338 P **P 20 47 13.8 +0.4**
MOD Modoc 87.84 336 *eP* **P 20 47 16.2 +1.4**
comp=Z,12nm,0.8s,mb5.0
MOD *epP* pP 20 47 40.8 -0.2
MOD Modoc 87.84 336 *eP* **P 20 47 16.2 +1.5**
comp=Z,12nm,0.8s,mb5.0
MOD *epP* pP 20 47 40.8 -0.2
HUMO Hull Mountain 87.91 338 *eP* **P 20 47 15.3 +0.2**
comp=Z,9.8nm,0.9s,mb4.8
SNPH Sibulan 87.98 79 *eP* **P 20 47 16.0 0.0**
BMN Battle Mountai 88.26 333 P **P 20 47 18.5 +1.7**
BMN pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
BMN Battle Mountai 88.26 333 *eP* **P 20 47 17.2 +0.4**
comp=Z,7.6nm,0.9s,mb4.7
BMN Battle Mountai 88.26 333 *eP* **P 20 47 17.2 +0.4**
comp=Z,7.6nm,0.9s,mb4.7
MSU Marysvale 88.28 329 P **P 20 47 18.0 +1.1**
MSU Marysvale 88.28 329 *eP* **P 20 47 18.1 +1.2**
MSU Marysvale 88.28 329 *eP* **P 20 47 18.1 +1.2**
MVU Marysvale 88.30 329 *eP* **P 20 47 17.9 +0.9**
comp=Z,10nm,0.7s,mb5.0
MSLP Maasin 88.53 77 *eP* **P 20 47 17.6 -1.0**
IPIL Ipil 88.64 80 *eP* **P 20 47 17.8 -1.3**
YBH Yreka Blue Hor 88.67 338 P **P 20 47 18.8 +0.2**
comp=Z,2.9nm,0.7s,baz=41,slow=9.3,SNR=3.1
YBH *pP* pP 20 47 43.6 -1.3
comp=Z,11nm,0.9s,baz=84,slow=3.6,SNR=6.3
YBH Yreka Blue Hor 88.67 338 P **P 20 47 18.8 +0.2**
YBH *PP pP 20 47 43.6 -1.3
YBH pmax pmax
comp=Z,3.0nm,0.7s
SDV Santo Domingo 88.70 281 *eP* **P 20 47 19.4 0.0**
comp=Z,26nm,0.8s,mb5.3
SDV *epP* pP 20 47 46.6 +0.9
LBCM Butte Creek Ri 89.12 336 P **P 20 47 21.6 +0.8**
ANMO Albuquerque 89.14 323 P **P 20 47 21.8 +0.8**
ANMO pmax pmax
comp=Z,6.0nm,0.9s
ANMO Albuquerque 89.14 323 *eP* **P 20 47 21.3 +0.2**
comp=Z,6.2nm,0.9s,mb4.6
PAGZ Pagadian 89.15 80 *eP* **P 20 47 20.5 -1.1**
PAHR Pah Rah Range 89.59 334 P **P 20 47 23.7 +0.7**
comp=Z,36nm,1.2s,mb5.4
PAHR *epP* pP 20 47 50.0 +0.6
CPRX Cap Rock 89.65 320 *eP* **P 20 47 23.1 -0.3**
CPRX *epP* pP 20 47 49.8 -0.1
BEKR Beckwourth 89.74 335 *eP* **P 20 47 23.9 +0.2**
comp=Z,13nm,1.3s,mb4.9
BEKR *epP* pP 20 47 50.8 +0.7
LPM Los Pinos Moun 89.77 323 *eP* **P 20 47 24.1 +0.1**
LPM *epP* pP 20 47 50.7 +0.3
BNM Barren Site 89.90 323 *eP* **P 20 47 24.8 +0.1**
LENM Lemitar 90.03 323 *eP* **P 20 47 25.6 +0.4**
LENM *epP* pP 20 47 51.9 +0.2
WCN Washoe City 90.08 335 P **P 20 47 27.6 +2.3**
WCN pmax pmax
comp=Z,84nm,1.1s,mb5.8
WCN Washoe City 90.08 335 *eP* **P 20 47 24.4 -1.0**
comp=Z,16nm,1.1s,mb5.1
BUKP Musuan 90.28 78 *eP* **P 20 47 24.2 -2.7**
CLNB Carlsbad 90.31 320 *eP* **P 20 47 26.2 -0.4**
MNV Mina 90.38 333 P **P 20 47 27.9 +1.1**
MNV pmax pmax
comp=Z,9.0nm,1.2s,mb4.8
MNV Mina 90.38 333 *eP* **P 20 47 27.6 +0.8**
comp=Z,8.9nm,1.2s,mb4.8
MNV *epP* pP 20 47 54.0 +0.8
TPH Tonopah 90.41 332 P **P 20 47 27.9 +1.1**
comp=Z,4.3nm,1.1s
NVAR Mina Array Bea 90.43 333 P **P 20 47 28.6 +1.7**
comp=Z,3.1nm,0.8s,baz=40,slow=4.1,SNR=20
NVAR *pP* pP 20 47 54.1 +0.7
comp=Z,8.9nm,0.9s,baz=337,slow=3.2,SNR=12
NVAR PP PP 20 50 51.2 -13
comp=Z,1.6nm,0.8s,baz=17,slow=3.7,SNR=3.6
NVAR S S 20 57 52.5 -18
comp=Z,4.7nm,1.3s,baz=39,slow=9.5,SNR=5.1
NVAR PKKPbc 21 04 50.1
comp=Z,1.3nm,0.6s,baz=195,slow=5.1,SNR=4.0
NVAR LR LR 21 30 01.5
comp=Z,838nm,19.4s,baz=85,slow=37
NVAR Mina Array Bea 90.43 333 P **P 20 47 28.6 +1.7**
NVAR *pP* pP 20 47 54.1 +0.7
NVAR PP PP 20 50 51.2 -13
NVAR S S 20 57 52.5 -18
NVAR PKKPbc 21 04 50.1
NVAR LR LR 21 30 01.4
OHCM Honcut 90.56 336 *eP* **P 20 47 27.6 +0.1**
OHCM *epP* pP 20 47 53.5 -0.5
GDL2 Guadalupe Moun 90.58 320 *eP* **P 20 47 27.4 -0.5**
GDL2 *epP* pP 20 47 53.9 -0.4
BAO Brasilia Array 90.69 248 P **P 20 47 29.6 +1.0**
BAO *e* pP 20 47 55.4 +0.3
BDFB Brasilia 90.70 248 P **P 20 47 29.5 +0.7**
comp=Z,61nm,0.9s,mb5.7,baz=64,slow=3.0,SNR=45
BDFB *pP* pP 20 47 55.3 +0.1
comp=Z,63nm,0.9s,baz=55,slow=6.4,SNR=8.2
BDFB LR LR 21 29 27.0
comp=Z,430nm,18.1s,baz=53,slow=36
BDFB Brasilia 90.70 248 P **P 20 47 29.5 +0.8**
BDFB *PP pP 20 47 55.3 +0.1
BDFB pmax pmax
comp=Z,61nm,0.9s
BDFB MLR MLR
comp=Z,431nm,18.2s
OMM Old Mammoth Mi 91.39 333 P **P 20 47 34.1 +2.6**
OMM *epP* pP 20 47 59.5 +1.5
CMB Columbia Colle 91.44 334 P **P 20 47 34.3 +2.6**
CMB pmax pmax
comp=Z,5.0nm,1.0s,mb4.6
CMB Columbia Colle 91.44 334 *eP* **P 20 47 33.4 +1.7**
comp=Z,4.5nm,1.0s
CMB *epP* pP 20 47 57.9 -0.3
MTUM Tungsten Hills 91.50 333 *eP* **P 20 47 35.3 +3.3**
MTUM *epP* pP 20 48 00.9 +2.5
MATI Mati 91.77 78 *eP* **P 20 47 33.1 -0.7**
NEN Nelson 91.79 329 *eP* **P 20 47 34.4 +1.0**
NEN *epP* pP 20 48 00.3 +0.5
CAM4 Nova Friburgo 92.27 240 *eP* **P 20 47 36.5 +0.7**
CAM4 *i* 20 47 37.5
CAM4 *i* 20 47 50.1
CAM4 *i* pP 20 48 06.0 +3.7
CAM4 *i* 20 48 10.2
CAM4 Nova Friburgo 92.27 240 *eP* **P 20 47 36.5 +0.7**
CAM4 *i* 20 47 37.5
CAM4 *i* 20 47 50.1
CAM4 *i* pP 20 48 06.0 +3.7
CAM4 *i* 20 48 10.2
LTX Lajitas 92.68 318 P **P 20 47 37.5 -0.1**
LTX pmax pmax
comp=Z,13nm,1.1s,mb5.2
LTX Lajitas 92.68 318 *eP* **P 20 47 37.3 -0.3**
comp=Z,8.6nm,1.0s,mb5.0
LTX *epP* pP 20 48 03.4 -0.7
TXAR Lajitas Array 92.68 318 P **P 20 47 36.9 -0.8**
comp=Z,9.7nm,1.0s,mb5.1,baz=72,slow=4.0,SNR=20
TXAR *pP* pP 20 48 03.0 -1.1
comp=Z,16nm,0.8s,baz=56,slow=4.5,SNR=13
TXAR PKKPbc 21 04 48.3
comp=Z,1.6nm,0.9s,baz=207,slow=5.6,SNR=6.8
TXAR LR LR 21 30 16.3
comp=Z,669nm,21.7s,baz=20,slow=36
TXAR Lajitas Array 92.68 318 P **P 20 47 36.9 -0.8**
TXAR *pP* pP 20 48 03.0 -1.1
TXAR PKKPbc 21 04 48.3
TXAR LR LR 21 30 16.3
SAO San Andreas Ge 92.93 335 P **P 20 47 40.3 +1.7**
comp=Z,18nm,0.8s,mb5.5
TUC Tucson 93.21 325 P **P 20 47 40.6 +0.6**
TUC *pP* pP 20 48 07.1 +0.6
TUC Tucson 93.21 325 P **P 20 47 40.7 +0.7**
TUC pmax pmax
comp=Z,7.0nm,0.7s,mb5.1
TUC Tucson 93.21 325 *eP* **P 20 47 39.7 -0.2**
comp=Z,9.1nm,0.9s,mb5.1
TUC *epP* pP 20 48 07.0 +0.5
PFO Pinyon Flat Ob 94.20 330 *eP* **P 20 47 43.9 -0.4**
comp=Z,6.5nm,0.8s,mb5.0
PFO *epP* pP 20 48 09.4 -1.5
SAML Samuel 96.17 264 *eP* **P 20 47 53.3 -0.5**
comp=Z,3.7nm,1.0s,mb4.8
LPAZ La Paz 104.73 262 PKiKP 20 52 47.5
comp=Z,2.6nm,1.1s,baz=72,slow=6.4,SNR=3.1
LPAZ PKKPbc 21 04 17.7
comp=Z,1.5nm,0.8s,baz=207,slow=4.8,SNR=5.3
FITZ Fitzroy Crossi 108.99 97 *e*PKP 20 52 54.3
comp=Z,2.1nm,0.6s
FITZ *epPKP* 20 53 22.4
FITZ Fitzroy Crossi 108.99 97 Pdiff Pdif 20 48 51.3 +0.6
comp=Z,2.1nm,0.9s,baz=161,slow=11,SNR=3.0
FITZ PKiKP 20 52 53.2
comp=Z,2.8nm,0.6s,baz=352,slow=1.7,SNR=9.3
FITZ *pPKiKP* 20 53 21.3
comp=Z,6.6nm,0.9s,baz=359,slow=8.9,SNR=3.4
FITZ PKKP PKKP 21 04 27.3 +23

	comp=Z,5.0nm,1.0s,baz=152,slow=7.7,SNR=4.9									
FITZ	**Fitzroy Crossi**	**108.99**	**97**	Pdif	Pdif	20 48 51.3	+0.6			
FITZ				*e*PKP		20 52 54.3				
FITZ				*ep*PKP		20 53 22.4				
KLBR	**Kellerberrin**	**112.62**	**112**	*e*PKP	PKPdf	20 53 00.7	+0.4			
	comp=Z,20nm,1.2s									
KLBR				*ep*PKP		20 53 27.6				
NWAO	**Narrogin (SRO)**	**113.15**	**114**	PKiKP		20 53 02.0				
	comp=Z,7.0nm,0.7s,baz=55,slow=21,SNR=7.0									
NWAO	**Narrogin (SRO)**	**113.15**	**114**	*i* PKiKP	PKPdf	20 53 02.0	+0.7			
NWAO				pmax	pmax					
	comp=Z,7.0nm,0.7s									
SYO	**Syowa Base**	**114.87**	**175**	⇓PKPdf	PKPdf	20 53 04.2	+0.3			
SYO	**Syowa Base**	**114.87**	**175**	⇑PKiKP		20 53 05.7				
SYO	**Syowa Base**	**114.87**	**175**	⇓pPKPdf		20 53 30.5				
WRA	**Warramunga Arr**	**116.29**	**92**	PKP	PKPdf	20 53 07.2	-0.5			
	comp=Z,4.5nm,0.8s,baz=314,slow=1.9,SNR=13									
WRA				pPKP		20 53 35.6				
	comp=Z,3.9nm,0.7s,baz=307,slow=2.5,SNR=6.3									
WRA				PKKPbc		21 03 38.5				
	comp=Z,1.0nm,0.6s,baz=136,slow=3.3,SNR=11									
WRA				PKKP	PKKP	21 04 04.5	+15			
	comp=Z,5.7nm,1.1s,baz=124,slow=3.6,SNR=8.2									
WRA	**Warramunga Arr**	**116.29**	**92**	PKIKP	PKPdf	20 53 07.2	-0.5			
WRA						20 53 35.6				
WRA						21 04 04.5				
WRA				pmax	pmax					
	comp=Z,5.0nm,0.8s									
WB2	**Warramunga Arr**	**116.30**	**92**	*e*PKP	PKPdf	20 53 07.9	+0.2			
WB2				*ep*PKP		20 53 33.5				
WB2				*e*PKKP	PKKP	21 04 05.1	+15			
MAW	**Mawson**	**116.33**	**165**	*e*PKP	PKPdf	20 53 06.8	+0.1			
	comp=Z,12nm,0.6s									
MAW				*ep*PKP		20 53 33.5				
MAW	**Mawson**	**116.33**	**165**	PKP	PKPdf	20 53 06.8	+0.1			
	comp=Z,15nm,0.6s,baz=336,slow=1.0,SNR=30									
MAW				pPKP		20 53 33.4				
	comp=Z,13nm,0.9s,baz=336,slow=3.7,SNR=5.1									
MAW	**Mawson**	**116.33**	**165**	PKIKP	PKPdf	20 53 06.8	+0.1			
MAW						20 53 33.4				
MAW				pmax	pmax					
	comp=Z,15nm,0.6s									
PMG	**Port Moresby**	**117.86**	**74**	PKP	PKPdf	20 53 12.1	+1.3			
	comp=Z,15nm,1.1s,baz=257,slow=17,SNR=2.7									
PMG				pPKP		20 53 38.3				
	comp=Z,20nm,1.0s,baz=231,slow=2.0,SNR=3.3									
PMG	**Port Moresby**	**117.86**	**74**	PKIKP	PKPdf	20 53 12.1	+1.3			
PMG						20 53 38.3				
PMG				pmax	pmax					
	comp=Z,15nm,1.1s									
ASPA	**Alice Springs**	**118.43**	**96**	*e*PKP	PKPdf	20 53 11.2	-0.6			
ASPA				*ep*PKP		20 53 39.9				
ASPA				*e*PP	Px	20 54 58.1				
ASPA				*e*PKKP	PKKP	21 03 52.0	+5.9			
ASAR	**Alice Springs**	**118.43**	**96**	Pdiff	Pdif	20 49 45.1	+13			
	comp=Z,0.5nm,0.7s,baz=309,slow=5.2,SNR=6.9									
ASAR				PKP	PKPdf	20 53 11.7	-0.1			
	comp=Z,8.4nm,0.8s,baz=305,slow=1.6,SNR=57									
ASAR				pPKP		20 53 38.9				
	comp=Z,7.3nm,0.9s,baz=327,slow=1.8,SNR=6.1									
ASAR				PKKPbc		21 03 30.2				
	comp=Z,1.4nm,0.5s,baz=133,slow=3.7,SNR=15									
ASAR				PKKP	PKKP	21 03 54.6	+8.6			
	comp=Z,2.4nm,0.6s,baz=130,slow=3.6,SNR=5.0									
ASAR	**Alice Springs**	**118.43**	**96**	PKP	PKPdf	20 53 11.7	-0.1			
ASAR				pPKP		20 53 38.9				
ASAR				PKKPbc		21 03 30.2				
ASAR				PKKP	PKKP	21 03 54.6	+8.6			
VNA1	**Neumayer--Stat**	**118.81**	**193**	⇑*i*P	PKPdf	20 53 15.0	+3.6			
VNA1	**Neumayer--Stat**	**118.81**	**193**			20 53 41.4				
VNA1	**Neumayer--Stat**	**118.81**	**193**	⇑*i*		20 53 50.3				
FORT	**Forrest**	**118.92**	**106**	*e*PKP	PKPdf	20 53 14.7	+2.1			
	comp=Z,52nm,1.0s									
FORT				*ep*PKP		20 53 42.4				
VNA2	**Neumayer--Watz**	**118.93**	**192**	⇑*i*P	PKPdf	20 53 13.6	+1.9			
VNA2	**Neumayer--Watz**	**118.93**	**192**	⇑*i*		20 53 40.7				
VNA2	**Neumayer--Watz**	**118.93**	**192**	⇑*i*		20 53 49.8				
SNAA	**Sanae**	**118.99**	**190**	⇑*i*P	PKPdf	20 53 11.8	0.0			
SNAA	**Sanae**	**118.99**	**190**	⇑*i*		20 53 38.4				
SNAA	**Sanae**	**118.99**	**190**	⇑*i*		20 53 46.2				
VNA3	**Neumayer Olymp**	**119.56**	**193**	⇑*i*P	PKPdf	20 53 15.1	+2.3			
VNA3	**Neumayer Olymp**	**119.56**	**193**	⇑*i*		20 53 41.6				
VNA3	**Neumayer Olymp**	**119.56**	**193**	⇑*i*		20 53 50.8				
MIR	**Mirnyy**	**122.86**	**154**	⇑*e*PKIKP	PKPdf	20 53 19.6	+0.3			
MIR				pmax	pmax					
	comp=Z,55nm,1.2s									
CTA	**Charters Tower**	**124.72**	**83**	*e*PKP	PKPdf	20 53 25.1	+1.1			
	comp=Z,12nm,0.8s									
CTA				*ep*PKP		20 53 53.2				
CTA	**Charters Tower**	**124.72**	**83**	PKP	PKPdf	20 53 25.1	+1.1			
	comp=Z,22nm,1.0s,baz=315,slow=2.5,SNR=17									
CTA				pPKP		20 53 51.5				
	comp=Z,42nm,0.9s,baz=292,slow=3.5,SNR=12									
CTA	**Charters Tower**	**124.72**	**83**	PKIKP	PKPdf	20 53 25.1	+1.1			
CTA						20 53 51.6				
CTA				pmax	pmax					
	comp=Z,22nm,1.0s									
CTAO	**Charters Tower**	**124.72**	**83**	PKIKP	PKPdf	20 53 25.0	+1.0			
CTAO	**Charters Tower**	**124.72**	**83**	*e*PKPdf	PKPdf	20 53 25.1	+1.1			
CTAO				*ep*PKPdf		20 53 51.7				
STKA	**Stephens Creek**	**128.84**	**98**	*e*PKP	PKPdf	20 53 32.9	+1.2			
	comp=Z,6.3nm,0.5s									
STKA				*ep*PKP		20 54 00.3				
STKA	**Stephens Creek**	**128.84**	**98**	PKP	PKPdf	20 53 32.4	+0.7			
	comp=Z,10.0nm,0.5s,baz=321,slow=1.4,SNR=24									
STKA				pPKP		20 54 00.0				
	comp=Z,17nm,0.6s,baz=327,slow=1.9,SNR=8.0									
STKA				SKPbc		20 56 46.2				
	comp=Z,9.3nm,0.7s,baz=328,slow=8.2,SNR=5.1									
PMSA	**Palmer Station**	**130.44**	**214**	*e*PKPdf	PKPdf	20 53 34.9	+1.1			
QSPA	**South Pole Qui**	**135.62**	**180**	⇓*i*P	PKPdf	20 53 42.7	-0.5			
VNDA	**Vanda**	**143.64**	**165**	PKhKP		20 53 55.0				
	comp=Z,11nm,0.5s,baz=274,slow=5.7,SNR=58									
VNDA	**Vanda**	**143.64**	**165**	PKPdf	PKPdf	20 53 54.7	-2.7			
VNDA	**Vanda**	**143.64**	**165**	PKHKP		20 53 55.0				
VNDA				pmax	pmax					
	comp=Z,11nm,0.5s									
VNDA	**Vanda**	**143.64**	**165**	*e*PKPpre		20 53 54.7				
SBA	**Scott Base**	**144.28**	**167**	PKIKP	PKPdf	20 53 58.2	-0.3			
SBA	**Scott Base**	**144.28**	**167**	*e*PKPdf	PKPdf	20 53 58.1	-0.3			
PMOR	**Pomariorio Ree**	**148.97**	**350**	*e*PKiKP		20 54 43.1				
	comp=Z,462nm,1.4s									
PPT	**Papeete**	**151.69**	**352**	*e*PKiKP		20 54 49.8				
	comp=Z,65nm,1.2s									
TVO	**Taravao**	**151.87**	**352**	*e*PKiKP		20 54 51.0				
	comp=Z,255nm,1.3s									
RKT	**Rikitea**	**152.88**	**320**	*e*PKiKP		20 54 52.0				
	comp=Z,185nm,1.2s									
RPZ	**Rata Peaks**	**154.81**	**98**	PKPbc	PKPdf	20 54 25.4	+10			
	comp=Z,38nm,1.2s,baz=270,slow=2.0,SNR=4.8									
RPZ				PKPab	PKPab	20 54 40.9	-1.4			
	comp=Z,26nm,0.9s,baz=339,slow=4.0,SNR=8.3									
URZ	**Urewera**	**156.94**	**81**	PKPab	PKPab	20 54 50.0	-1.7			
	comp=Z,20nm,0.9s,baz=30,slow=3.2,SNR=8.1									

NIED ***27*** *20:49:00, 33.20N×137.20E, h14km, Mw3.6 Best double couple: M₀2.72×10¹⁴ NP1:φs222°, δ51°, λ58°. NP2:φs88°, δ49°, λ124°.*
JMA ***27*** *20:49:11.2±0.1, 33.24N×137.15E, h40km±2km, M3.7*

ISC 27 20:49:11.6±1.7, 33.25N±0.09×137.15E±0.06, h35km±54km, n10, σ0=54/19, 7D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TK01	**Tokai 1**	**0.64**	**36**	P	**P**	**20 49 23.8**	**-0.3**
TK01				*e*S	**S**	**20 49 32.9**	**-0.2**
TK02	**Tokai 2**	**0.87**	**36**	⇓P	**P**	**20 49 27.1**	**-0.2**
TK02				*e*S	**S**	**20 49 39.0**	**+0.1**
TK03	**Tokai 3**	**1.14**	**36**	*e*S	**S**	**20 49 46.2**	**+0.2**
JIE	**Ise**	**1.20**	**342**	⇓P	**P**	**20 49 32.7**	**+0.6**
JIE				*e*S	**S**	**20 49 48.3**	**+0.9**
JWZ	**Kozaga**	**1.23**	**284**	⇓P	**P**	**20 49 32.2**	**-0.3**
JWZ				*e*S	**S**	**20 49 47.1**	**-1.1**
TK04	**Tokai 4**	**1.29**	**28**	⇓P	**P**	**20 49 33.5**	**+0.2**
TK04				*e*S	**S**	**20 49 49.6**	**-0.1**
JAA	**Atsumi**	**1.38**	**360**	⇓P	**P**	**20 49 34.9**	**+0.2**
JAA				*e*S	**S**	**20 49 51.0**	**-1.0**
TSUJ	**Tsu 2**	**1.58**	**338**	⇓P	**P**	**20 49 38.0**	**+0.4**
TSUJ				*e*S	**S**	**20 49 57.4**	**+0.4**
JWY	**Kouya**	**1.62**	**307**	⇓P	**P**	**20 49 38.7**	**+0.6**
JWY				*e*S	**S**	**20 49 58.0**	**+0.1**
MAT	**Matsushiro**	**3.40**	**15**	P	**P**	**20 50 03.9**	**+0.3**
MAT				S	**S**	**20 50 42.3**	**-0.9**
JKT	**Katashina**	**0.61**	**157**	⇑P	**Pb**	**21 52 19.8**	**0.0**
JKT				S	**Sb**	**21 52 28.4**	**+0.4**
JJN	**Nakama**	**0.67**	**250**	⇓P	**Pb**	**21 52 20.7**	**0.0**
JJN				S	**Sb**	**21 52 30.5**	**+0.8**
JGK	**Kuni**	**0.81**	**198**	P	**Pb**	**21 52 23.4**	**+0.3**
JGK				S	**Sb**	**21 52 33.9**	**+0.2**
JSD	**Sado**	**0.89**	**322**	⇓P	**Pb**	**21 52 23.7**	**-0.8**
JSD				S	**Sb**	**21 52 35.3**	**-0.7**
MAT	**Matsushiro**	**0.99**	**217**	P	**Pb**	**21 52 25.8**	**-0.4**
MAT				S	**Sb**	**21 52 38.3**	**-0.6**

2004 OCT

JMA ***27*** *20:54:58.8±0.1, 33.08N×136.81E, h35km, M3.9*
JMA Felt I J1.

ISC 27 20:54:58.7±1.1, 33.15N±0.07×136.80E±0.04, h23km±7km, n14, σ0=61/28, 3C-6D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TK01	**Tokai 1**	**0.91**	**47**	P	**Pb**	**20 55 15.7**	**+0.1**
TK01				*e*S	**Sb**	**20 55 26.7**	**-0.5**
JWZ	**Kozaga**	**0.98**	**293**	⇑P	**Pb**	**20 55 16.7**	**-0.2**
JWZ				*e*S	**Sb**	**20 55 29.3**	**-0.1**
TK02	**Tokai 2**	**1.13**	**45**	⇓P	**Pn**	**20 55 19.0**	**-0.3**
TK02				*e*S	**Sb**	**20 55 32.7**	**-1.0**
JIE	**Ise**	**1.24**	**357**	⇓P	**Pn**	**20 55 21.8**	**+0.9**
JIE				*e*S	**Sb**	**20 55 37.4**	**+0.4**
JWM	**Minabe**	**1.39**	**301**	⇑P	**Pn**	**20 55 23.0**	**0.0**
JWM				*e*S	**Sn**	**20 55 39.5**	**-1.4**
TK03	**Tokai 3**	**1.41**	**43**	P	**Pn**	**20 55 23.0**	**-0.2**
TK03				*e*S	**Sn**	**20 55 40.8**	**-0.4**
JWY	**Kouya**	**1.47**	**317**	⇑P	**Pn**	**20 55 25.0**	**+0.9**
JWY				*e*S	**Sn**	**20 55 43.0**	**+0.3**
JAA	**Atsumi**	**1.51**	**11**	⇓P	**Pn**	**20 55 25.3**	**+0.6**
JAA				*e*S	**Sn**	**20 55 43.8**	**0.0**
TK04	**Tokai 4**	**1.53**	**36**	⇓P	**Pn**	**20 55 25.1**	**+0.1**
TK04				*e*S	**Sn**	**20 55 44.1**	**-0.2**
TSUJ	**Tsu 2**	**1.59**	**349**	⇓P	**Pn**	**20 55 26.7**	**+0.8**
TSUJ				*e*S	**Sn**	**20 55 45.8**	**-0.1**
JHE	**Heguri**	**1.77**	**329**	⇓P	**Pn**	**20 55 29.2**	**+0.8**
JHE				*e*S	**Sn**	**20 55 50.6**	**+0.3**
JAJ2	**Tsuna**	**2.04**	**309**	P	**Pn**	**20 55 33.0**	**+0.8**
JAJ2				*e*S	**Sn**	**20 55 56.9**	**-0.3**
JAI	**Aioi**	**2.06**	**289**	P	**Pn**	**20 55 32.4**	**-0.2**
JAI				*e*S	**Sn**	**20 55 56.4**	**-1.5**
MAT	**Matsushiro**	**3.58**	**19**	P	**Pn**	**20 55 54.8**	**+0.6**
MAT				S	**Sn**	**20 56 36.0**	**-0.3**

JMA 27 21:22:06.5±0.2, 43.60N×148.00E, h26km, M3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.66**	**263**	P	Pn	21 22 34.9	+0.5
NEM2				*e*S	Sn	21 22 55.3	+0.3
JRA	**Rausu**	**2.11**	**280**	P	Pn	21 22 41.1	+0.2
JRA				*e*S	Sn	21 23 06.9	+0.3
JNK	**Nakash**	**2.38**	**271**	P	Pn	21 22 44.7	-0.1
JNK				*e*S	Sn	21 23 12.7	-0.8
JAK	**Akkeshi**	**2.49**	**257**	*e*S	Sn	21 23 15.9	-0.2
JAR	**Ashorobuto**	**3.10**	**266**	P	Pn	21 22 55.3	+0.4
JAR				*e*S	Sn	21 23 31.6	+0.1
JCH	**Churui**	**3.54**	**255**	P	Pn	21 23 01.3	+0.1
JCH				*e*S	Sn	21 23 41.7	-0.9
JNBK	**Urakawa-nobuka**	**4.07**	**253**	P	Pn	21 23 09.0	+0.2
JKB	**Kayabe**	**5.41**	**254**	*e*S	Sn	21 24 25.6	-4.3
JOT	**Ohata**	**5.60**	**249**	*e*S	Sn	21 24 30.2	-4.4
JANG	**Nango**	**5.81**	**238**	*e*S	Sn	21 24 33.7	-6.2

PRU ***27*** *21:26:38.7, 46.29N×13.82E, h46km*
LJU 27 21:26:27.2, 46.55N×13.66E, h34km, 1C-1D, Austria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROBS	**Robic**	**0.33**	**198**	*i* Pg	P	21 26 34.8	-0.6
MOA	**Molln**	**1.36**	**18**	⇓*i*PG	P	21 27 09.1	+19
MOA				*i* SG	S	21 27 32.4	+25
	6.1nm,0.6s						
ARSA	**Arzberg**	**1.46**	**61**	⇑*i*PG	P	21 27 06.8	+15
ARSA				*i* SG	S	21 27 28.9	+19
	8.6nm,0.7s						
KHC	**Kasperske Hory**	**2.58**	**359**	*e*PN	P	21 27 20.8	+13
KHC				*ex*	x	21 28 06.1	
PRU	**Pruhonice**	**3.49**	**9**	*e*SG	S	21 28 36.1	+35

JMA ***27*** *21:29:14.3, 37.19N×138.89E, h8km±1km, M3.6*
JMA Felt II J1.

ISC 27 21:29:13.8±0.5, 37.18N±0.03×138.89E±0.04, h8km, n9, σ0=81/17, 3C-5D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.12**	**57**	⇓P	**Pg**	**21 29 17.1**	**+0.5**
JHK				*e*S	**Sg**	**21 29 19.3**	**+0.8**
JIZZ	**Izumozaki**	**0.38**	**338**	⇑P	**Pg**	**21 29 22.1**	**+0.7**
JIZZ				*e*S	**Sg**	**21 29 28.5**	**+1.9**
JKT	**Katashina**	**0.51**	**145**	⇓P	**Pg**	**21 29 24.3**	**+0.3**
JKT				*e*S	**Sg**	**21 29 31.7**	**+0.9**
JJN	**Nakama**	**0.59**	**262**	⇓P	**Pg**	**21 29 25.6**	**0.0**
JJN				*e*S	**Sg**	**21 29 33.9**	**+0.4**
JGK	**Kuni**	**0.65**	**198**	⇑P	**Pg**	**21 29 26.7**	**-0.2**
JGK				*e*S	**Sg**	**21 29 35.8**	**+0.2**
JFY	**Yanaizu**	**0.69**	**71**	⇓P	**Pb**	**21 29 27.2**	**-0.4**
JFY				*e*S	**Sg**	**21 29 36.4**	**-0.4**
JNS	**Sasagawa**	**0.72**	**28**	⇑P	**Pb**	**21 29 27.3**	**-0.8**
JNS				*e*S	**Sg**	**21 29 36.8**	**-1.1**
MAT	**Matsushiro**	**0.84**	**221**	P	**Pb**	**21 29 29.6**	**-0.6**
MAT				S	**Sb**	**21 29 40.6**	**-0.8**
JSD	**Sado**	**0.99**	**330**	⇓P	**Pb**	**21 29 31.3**	**-1.4**

NEIC 27 21:41:17.0, 34.34N×116.92W, h5km, ML3.8(PAS), 1C-1D, After PAS., Southern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFO	**Pinyon Flat Ob**	**0.83**	**152**	⇓*e*P	Pb	21 41 31.9	-1.5
PFO				*e*S	Sg	21 41 41.3	-3.3
MWC	**Mount Wilson**	**0.95**	**263**	⇑*i*P	Pb	21 41 34.4	-1.2
LDFC	**Landfair**	**1.66**	**63**	*e*P	Pn	21 41 44.6	-2.3
BAR	**Barrett**	**1.67**	**173**	*e*P	Pn	21 41 45.7	-1.4
DAC	**Darwin (Calif)**	**2.01**	**344**	*e*Pn	Pn	21 41 50.7	-1.3
NEN	**Nelson**	**2.14**	**52**	*e*Pn	Pn	21 41 51.9	-2.0
MTUM	**Tungsten Hills**	**3.29**	**336**	*e*Pn	Pn	21 42 09.1	-1.2
MTUM				*e*Pg	Pg	21 42 17.1	-5.5
OMM	**Old Mammoth Mi**	**3.67**	**333**	*e*Pn	Pn	21 42 15.3	-0.4
TRCR	**Troy Canyon**	**4.14**	**15**	*e*Pn	Pn	21 42 19.7	-2.6
MNV	**Mina**	**4.20**	**347**	*e*Pn	Pn	21 42 22.1	-1.0
SAO	**San Andreas Ge**	**4.41**	**304**	*e*Pn	Pn	21 42 23.3	-2.9
ARUT	**Antelope Range**	**4.44**	**38**	*e*Pn	Pn	21 42 21.6	-5.0
CMB	**Columbia Colle**	**4.63**	**324**	*e*Pn	Pn	21 42 27.1	-2.2
WCN	**Washoe City**	**5.45**	**336**	Pn	Pn	21 42 37.0	-3.9
TUC	**Tucson**	**5.52**	**110**	*e*Pn	Pn	21 42 36.7	-5.2
	2.8nm,0.3s						
MVU	**Marysvale**	**5.62**	**41**	*e*Pn	Pn	21 42 38.2	-5.1
MSU	**Marysvale**	**5.65**	**41**	Pn	Pn	21 42 36.9	-6.8
BMN	**Battle Mountai**	**6.08**	**358**	Pn	Pn	21 42 44.9	-4.9
BEKR	**Beckwourth**	**6.16**	**334**	*e*Pn	Pn	21 42 45.9	-5.0
DUG	**Dugway**	**6.69**	**28**	Pn	Pn	21 42 56.1	-2.3
SRU	**San Rafael**	**7.00**	**45**	Pn	Pn	21 42 57.9	-4.8
PV10	**Paradox Valley**	**7.52**	**55**	*e*Pn	Pn	21 43 08.0	-2.0
PV01	**Paradox Valley**	**7.73**	**58**	Pn	Pn	21 43 09.6	-3.3
MOD	**Modoc**	**8.00**	**342**	Pn	P	21 43 12.4	-4.3
RW3	**Ridgway**	**8.41**	**60**	Pn	P	21 43 18.2	-4.2
ANMO	**Albuquerque**	**8.64**	**83**	Pn	P	21 43 20.3	-5.3

NIED ***27*** *21:52:00, 37.30N×138.90E, h5km, Mw3.6 Best double couple: M₀2.56×10¹⁴ NP1:φs150°, δ88°, λ56°. NP2:φs56°, δ34°, λ176°.*
JMA ***27*** *21:52:08.1, 37.34N×138.95E, h4km±2km, M3.5*
Broadband fault plane solution: P waves. NP1:φs61°, δ60°, λ173°. NP2:φs154°, δ84°, λ30°. Principal axes: T Plg25°, Azm22°; N Plg60°, Azm165°; P Plg16°, Azm284°;
JMA Felt II J1.

ISC 27 21:52:07.7±0.6, 37.34N±0.03×138.95E±0.04, h13km±4km, n9, σ0=48/18, 2C-5D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.10**	**150**	⇓P	**Pg**	**21 52 10.3**	**-0.5**
JHK				S	**Sg**	**21 52 12.6**	**-0.3**
JIZZ	**Izumozaki**	**0.28**	**315**	⇓P	**Pg**	**21 52 13.9**	**+0.2**
JIZZ				S	**Sg**	**21 52 18.7**	**+1.0**
JNS	**Sasagawa**	**0.56**	**31**	⇑P	**Pb**	**21 52 18.7**	**-0.2**
JNS				S	**Sb**	**21 52 26.6**	**+0.1**
JFY	**Yanaizu**	**0.60**	**83**	⇓P	**Pb**	**21 52 19.7**	**+0.1**
JFY				S	**Sb**	**21 52 28.0**	**+0.4**

JSN 27 22:13:06.0±0.9, 19.36N×79.90W, MD4.0, 2C-2D, Cuba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CVJ	**Coleyville**	**2.50**	**116**	⇑*e*P	Pn	22 13 46.8	-1.8
CVJ				*e*S	Sn	22 14 16.9	-3.4
MCJ	**Malvern**	**2.53**	**124**	⇓*e*P	Pn	22 13 46.8	-2.3
MCJ				*e*S	Sn	22 14 18.6	-2.4
MCJ				*e*S	Sn	22 14 18.9	-2.1
STH	**Stony Hill**	**3.19**	**113**	⇑*e*P	Pn	22 13 56.5	-1.9
STH				*e*S	Sn	22 14 34.3	-3.4
GWJ	**Greenwich**	**3.26**	**113**	⇓*e*P	Pn	22 13 57.8	-1.6

LDG ***27*** *22:26:42.2±0.4, 43.15N×1.85W, h3km, Md2.4/2, Ml2.1/6, Error ellipse: s-maj=6.4km s-min=4.1km az=52.0*
MDD ***27*** *22:26:44.1±0.4, 43.19N×1.78W, h15km±3km, mbLg1.8/11, Error ellipse: s-maj=5.6km s-min=3.6km az=180.0, PRXIMO*
STR ***27*** *22:26:44.3±0.7, 43.14N×1.68W, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 27 22:26:41.3±0.6, 43.21N±0.04×1.80W±0.04, h15km, n18, σ1=02/29, 1D, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EALK	**Alkurruntz**	**0.21**	**88**	⇓Pg	**Pg**	**22 26 48.5**	**+2.2**
	SNR=18						
EALK				Lg		22 26 52.1	
	60nm,0.1s,SNR=18						
OSSF	**Osses**	**0.39**	**83**	Pg	**Pg**	**22 26 50.6**	**+1.0**
OSSF				Sg	**Sg**	**22 26 55.8**	**+0.7**
SJPF	**Ste Jean**	**0.43**	**103**	*e*Pg	**Pg**	**22 26 51.3**	**+1.0**
SJPF				*e*Sg	**Sg**	**22 26 56.4**	**+0.1**
	22nm,0.3s						
LARF	**Larrau**	**0.62**	**106**	Pg	**Pg**	**22 26 54.4**	**+0.5**
LARF				Sg	**Sg**	**22 27 01.4**	**-0.9**
ETSF	**Etsaut**	**0.96**	**109**	*e*Pg	**Pg**	**22 27 00.3**	**-0.3**
ETSF				*e*Sg	**Sg**	**22 27 13.6**	**+0.1**
	14nm,0.2s						
ELAN	**Lanestosa**	**1.20**	**271**	Pg	**Pg**	**22 27 05.7**	**+0.4**
	0.2nm,0.1s,SNR=7.9						
ELAN				Lg		22 27 21.7	
	1.7nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**1.52**	**110**	Pn	**Pn**	**22 27 10.8**	**+2.7**
	0.7nm,0.1s,SNR=14						
EBIE				Pg	**Pg**	**22 27 11.9**	**+0.2**
	1.1nm,0.1s,SNR=7.9						
EBIE				Lg		22 27 31.7	
	6.4nm,0.1s,SNR=13						
EPF	**Esparros**	**1.57**	**96**	*e*Pg	**Pg**	**22 27 12.6**	**-0.2**
EPF				*e*Sg	**Sg**	**22 27 33.8**	**-0.1**
	8.3nm,0.2s						
ESAC	**San Caprasio**	**1.78**	**146**	Pg	**Pg**	**22 27 15.8**	**-1.2**
	3.1nm,0.1s,SNR=7.9						
ESAC				Lg		22 27 38.4	
	5.9nm,0.1s,SNR=7.9						
ETOR	**Torete**	**2.40**	**185**	Pn	**Pn**	**22 27 20.6**	**-0.2**
	0.9nm,0.2s,SNR=7.9						
ETOR				Pg	**Pg**	**22 27 27.9**	**-1.3**
	SNR=7.9						
ETOR				Lg		22 27 57.0	
	6.0nm,0.6s,SNR=6.6						
EARI	**Arriondas**	**2.50**	**273**	Sn	**Sn**	**22 27 52.1**	**-0.4**
	SNR=7.9						
EARI				Lg		22 28 01.9	
	SNR=4.0						
LFF	**La Frest

PET	**Petropavlovsk**	**5.36**	**27**	P		**Pn**	**23 17 47.8**	**-1.4**
KUR	**Kuril'sk**	**5.57**	**239**	*e*PN		**Pn**	**23 17 51.5**	**-0.6**
KUR				*e*S		**Sn**	**23 18 58.0**	**+1.8**
KUR				pmax	pmax			
	comp=Z,230nm,0.5s							
KUR				smax				
	comp=N,340nm,0.7s							
KUR				smax				
	comp=E,100nm,0.7s							
YUK	**Yuzh-Kuril'sk**	**7.43**	**238**	PN		**Pn**	**23 18 16.5**	**-1.8**
YUK				S		**Sn**	**23 19 47.3**	**+4.5**
YUK				smax				
	comp=N,250nm,0.5s							
YUK				smax				
	comp=E,140nm,0.5s							
YSS	**Yuzh-Sakhalins**	**8.12**	**265**‖	*e*PN		**P**	**23 18 29.9**	**+1.9**
YSS	**Yuzh-Sakhalins**	**8.12**	**265**	*e*P		**P**	**23 18 28.5**	**+0.5**
ASAJ	**Asahikawa**	**9.33**	**248**	P		**P**	**23 18 48.2**	**+3.5**
	baz=93,slow=13							
ASAJ				LR	LR		23 22 06.2	
	comp=E,173nm,18.4s,baz=80,slow=35							
FX1	**Attu Island--F**	**12.63**	**62**	P		**P**	**23 19 30.0**	**+0.6**
	comp=E,4.9nm,0.3s,baz=70,slow=20,SNR=5.5							
FX1				S		**S**	**23 21 41.2**	**-9.2**
	comp=E,3.1nm,0.3s,baz=47,slow=21,SNR=4.1							
JHJ	**Hachijo jima 2**	**18.84**	**222**	P		**P**	**23 20 52.1**	**+3.1**
	comp=E,25nm,0.3s,baz=87,slow=19,SNR=2.6							
YAK	**Yakutsk**	**19.60**	**324**‖	*e*P		**P**	**23 20 59.2**	**+1.6**
YAK				pmax	pmax			
	comp=Z,15nm,0.6s							
YAK				MLR	MLR			
	comp=Z,100nm,5.0s							
YAK	**Yakutsk**	**19.60**	**324**	P		**P**	**23 20 59.4**	**+1.8**
	comp=Z,24nm,0.8s							
BILL	**Bilibino**	**20.63**	**12**‖	*e*P		**P**	**23 21 08.4**	**-0.2**
TIXI	**Tiksi**	**26.26**	**342**	*e*P		**P**	**23 22 05.2**	**+2.0**
TIXI				*e*			23 25 29.6	
TIXI				*e*S		**S**	**23 26 36.4**	**+4.1**
TIXI				pmax	pmax			
	comp=Z,1.0nm,1.0s							
TIXI				MLR	MLR			
	comp=Z,200nm,16.0s							
SONM	**Songino Array**	**31.80**	**288**	P		**P**	**23 22 53.5**	**+0.4**
	comp=Z,1.2nm,1.0s,mb3.7,baz=60,slow=9.4,SNR=5.7							
COLA	**College**	**34.27**	**40**‖	*e*P		**P**	**23 23 15.7**	**+1.2**
ILAR	**Eielson Array**	**34.69**	**40**	P		**P**	**23 23 17.9**	**-0.2**
	comp=Z,2.7nm,1.1s,mb4.1,baz=269,slow=8.5,SNR=7.6							
ILAR	**Eielson Array**	**34.69**	**40**	P		**P**	**23 23 17.9**	**-0.1**
ILAR				pmax	pmax			
	comp=Z,3.0nm,1.1s							
INK	**Inuvik**	**39.78**	**34**	P		**P**	**23 23 59.8**	**-1.0**
	comp=Z,1.2nm,0.8s,mb3.7,baz=289,slow=11,SNR=4.8							
INK	**Inuvik**	**39.78**	**34**	P		**P**	**23 23 59.8**	**-1.0**
INK				pmax	pmax			
	comp=Z,1.0nm,0.8s							
KURK	**Kurchatov**	**47.35**	**303**	*e*P		**P**	**23 25 01.0**	**-1.1**
	comp=Z,7.0nm,0.7s,mb4.7							
RES	**Resolute Bay**	**49.02**	**19**	*e*P		**P**	**23 25 15.0**	**+0.3**
BVAR	**Borovoye Array**	**50.65**	**309**	P		**P**	**23 25 26.1**	**-1.4**
	comp=Z,5.0nm,0.4s,mb4.8,baz=64,slow=7.2,SNR=36							
BRVK	**Borovoye**	**50.69**	**309**	*e*P		**P**	**23 25 25.6**	**-2.1**
	comp=Z,4.1nm,0.6s,mb4.5							
CMAR	**Chiang Mai Arr**	**53.73**	**256**	P		**P**	**23 25 50.9**	**0.0**
	comp=Z,0.9nm,0.8s,mb3.8,baz=35,slow=7.7,SNR=5.3							
CMAR				LR	LR		23 50 15.5	
	comp=Z,25nm,18.5s,MS3.3,baz=263,slow=38							
CMAR	**Chiang Mai Arr**	**53.73**	**256**	P		**P**	**23 25 50.9**	**0.0**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
CMAR				MLR	MLR			
	comp=Z,25nm,18.5s							
GUN	**Gumba**	**55.87**	**275**	*e*P		**P**	**23 26 05.8**	**-0.7**
	comp=Z,8.8nm,0.7s,mb4.9							
KKN	**Kakani**	**56.35**	**275**	*e*P		**P**	**23 26 09.3**	**-0.7**
	comp=Z,4.7nm,0.4s,mb4.8							
PKI	**Pulchoki**	**56.41**	**275**	*e*P		**P**	**23 26 09.4**	**-1.0**
	comp=Z,3.3nm,0.4s,mb4.7							
DMN	**Daman**	**56.59**	**275**	*e*P		**P**	**23 26 11.0**	**-0.6**
	comp=Z,5.2nm,0.3s,mb5.0							
GKN	**Gorkha**	**56.64**	**276**	*e*P		**P**	**23 26 11.5**	**-0.5**
	comp=Z,6.4nm,0.4s,mb5.0							
KOLN	**Koldanda**	**57.48**	**276**	*e*P		**P**	**23 26 17.4**	**-0.6**
	comp=Z,4.0nm,0.5s,mb4.7							
JMIC	**Jan Mayen**	**60.38**	**354**	LR		LR	23 50 10.1	
	comp=Z,74nm,19.8s,MS3.8,baz=264,slow=33							
NVAR	**Mina Array Bea**	**60.82**	**64**	P		**P**	**23 26 41.2**	**+0.3**
	comp=Z,0.7nm,0.6s,mb4.0,baz=300,slow=7.0,SNR=6.0							
NVAR				LR		LR	23 52 17.9	
	comp=Z,36nm,18.2s,MS3.6,baz=220,slow=35							
NVAR	**Mina Array Bea**	**60.82**	**64**	P		**P**	**23 26 41.2**	**+0.3**
NVAR				LR		LR	23 52 17.9	
FINES	**FINESS Array B**	**63.04**	**335**	P		**P**	**23 26 53.4**	**-2.1**
	comp=Z,0.8nm,0.5s,mb4.1,baz=36,slow=8.0,SNR=12							
FINES	**FINESS Array B**	**63.04**	**335**	*i* P		**P**	**23 26 54.6**	**-0.9**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.5s							
OBN	**Obninsk**	**64.58**	**326**	*e*P		**P**	**23 27 05.2**	**-0.3**
OBN				*e*			23 27 38.9	
OBN				*e*SS		SS	23 39 55.5	+1.0
OBN				pmax	pmax			
	comp=Z,8.0nm,1.2s,mb4.6							
OBN				MLR	MLR			
	comp=Z,100nm,15.0s,MS4.1							
ULM	**Lac du Bonnet**	**64.67**	**42**	P		**P**	**23 27 06.5**	**+0.3**
	comp=Z,2.7nm,0.8s,mb4.3,baz=297,slow=2.3,SNR=2.6							
NOA	**NORSAR Array B**	**67.06**	**342**	P		**P**	**23 27 21.0**	**-0.3**
	comp=Z,0.9nm,0.8s,mb3.8,baz=15,slow=6.3,SNR=3.0							
NOA				LR		LR	00 05 12.0	
	comp=Z,24nm,18.0s,MS3.5,baz=20,slow=44							
WRA	**Warramunga Arr**	**70.34**	**200**	P		**P**	**23 27 41.5**	**-0.8**
	comp=Z,0.3nm,0.3s,mb3.6,baz=16,slow=6.9,SNR=5.2							
AKASG	**Malin Array Be**	**70.79**	**327**	P		**P**	**23 27 42.9**	**-1.6**
	comp=Z,0.3nm,0.3s,mb3.7,baz=32,slow=5.8,SNR=4.2							
SCHQ	**Schefferville**	**71.46**	**24**	P		**P**	**23 27 48.4**	**-0.1**
	comp=Z,3.1nm,0.7s,mb4.4,baz=36,slow=12,SNR=5.5							
ASAR	**Alice Springs**	**74.03**	**200**	P		**P**	**23 28 04.1**	**0.0**
	comp=Z,0.4nm,0.4s,mb3.7,baz=14,slow=5.6,SNR=11							
ASAR				LR	LR		00 00 37.8	
	comp=Z,36nm,18.3s,MS3.7,baz=291,slow=36							
CLL	**Collm**	**75.44**	**336**	P		**P**	**23 28 12.0**	**+0.3**
TXAR	**Lajitas Array**	**75.85**	**62**	P		**P**	**23 28 14.9**	**+0.5**
	comp=Z,0.4nm,0.5s,mb3.6,baz=287,slow=3.1,SNR=4.1							
KHC	**Kasperske Hory**	**77.25**	**335**	*e*P		**P**	**23 28 22.5**	**+0.6**
GERES	**GERESS Array B**	**77.47**	**335**	P		**P**	**23 28 23.0**	**-0.1**
	comp=Z,1.0nm,0.6s,mb3.9,baz=48,slow=5.0,SNR=8.6							
GERES	**GERESS Array B**	**77.47**	**335**	P		**P**	**23 28 23.0**	**-0.1**
GERES				pmax	pmax			
	comp=Z,1.0nm,0.6s							
BRTR	**Keskin Array B**	**77.93**	**317**	P		**P**	**23 28 26.1**	**+0.2**
	comp=Z,1.7nm,0.5s,mb4.2,baz=34,slow=4.5,SNR=10							
BRTR	**Keskin Array B**	**77.93**	**317**	P		**P**	**23 28 26.1**	**+0.3**
BRTR				pmax	pmax			
	comp=Z,2.0nm,0.5s							
CDF	**Champ du Feu**	**79.57**	**339**	*e*P		**P**	**23 28 34.5**	**-0.1**
LOR	**Lormes**	**81.45**	**340**	*e*P		**P**	**23 28 43.4**	**-1.1**
	comp=Z,48nm,1.3s,mb5.0							
SSF	**Saint Saulge**	**81.72**	**340**	*e*P		**P**	**23 28 45.6**	**-0.4**
	comp=Z,24nm,1.1s,mb4.7							
SMF	**Signal de Mont**	**82.04**	**340**	*e*P		**P**	**23 28 47.6**	**0.0**
	comp=Z,175nm,1.9s,mb5.4							
LPL	**La Plagne**	**82.41**	**338**	*e*P		**P**	**23 28 49.7**	**+0.1**
	comp=Z,16nm,1.0s,mb4.6							
LPG	**La Plagne**	**82.42**	**338**	*e*P		**P**	**23 28 49.7**	**+0.1**
	comp=Z,25nm,1.0s,mb4.8							
TCF	**Toulx Ste Croi**	**82.74**	**341**	*e*P		**P**	**23 28 50.6**	**-0.7**
	comp=Z,42nm,1.2s,mb5.0							
MBDF	**Montbardon**	**83.13**	**338**	*e*P		**P**	**23 28 53.8**	**+0.4**
	comp=Z,29nm,1.3s,mb4.8							
ORIF	**Oris-en-Rattie**	**83.18**	**338**	*e*P		**P**	**23 28 53.3**	**-0.3**
	comp=Z,14nm,0.9s,mb4.7							
HILS	**Ha'il**	**83.65**	**304**	P		**P**	**23 28 57.2**	**+0.9**
SBF	**Sospel**	**83.77**	**337**	*e*P		**P**	**23 28 56.5**	**0.0**
	comp=Z,33nm,1.0s,mb5.1							
MZLS	**Mizel**	**84.33**	**300**	P		**P**	**23 29 00.6**	**+0.7**
PGF	**Pioggiola**	**84.56**	**335**	*e*P		**P**	**23 28 59.5**	**-1.1**
	comp=Z,32nm,1.0s,mb5.1							
JMQS	**Jabal Moqyreh**	**85.61**	**310**	P		**P**	**23 29 07.2**	**+1.1**
AFFS	**'Afif**	**85.67**	**301**	P		**P**	**23 29 07.1**	**+0.5**
TBKS	**Tabuk**	**85.80**	**309**	P		**P**	**23 29 08.6**	**+1.5**
KBRS	**Khaybar**	**86.29**	**305**	P		**P**	**23 29 10.6**	**+1.1**
AYUS	**'Aynunah**	**86.49**	**310**	P		**P**	**23 29 11.4**	**+0.9**

MAN 27 23:22:37.2, 10.36N×124.06E, h5km, mb3.8, ML2.5, MS2.1, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LLP	**Lapu-Lapu**	**0.10**	**247**	*i* P		Pg	23 22 39.8	+0.4
LLP				*i* S		Sg	23 22 41.2	+0.4
MSLP	**Maasin**	**0.82**	**106**	*e*P		Pb	23 22 53.4	0.0
MSLP				*e*S		Sg	23 23 07.0	+2.6
GUIM	**Jordan**	**1.47**	**281**	*e*P		Pn	23 23 04.2	-0.3
GUIM				*e*S		Sb	23 23 23.3	-0.3
RCP	**Roxas**	**1.76**	**313**‖	*i*P		Sn	23 23 32.5	+0.9

IDC 27 23:31:54.9±6.1, 19.39S×175.92W, mb3.9/3, mb1 4.1/3, mb1mx3.7/15, Error ellipse: s-maj=253.0km s-min=100.8km az=156.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CTA	**Charters Tower**	**35.56**	**262**	P		P	23 38 55.7	-0.4
	1.5nm,0.5s,baz=102,slow=9.3,SNR=3.0							
ASAR	**Alice Springs**	**46.69**	**255**	P		P	23 40 25.1	-2.3
	1.1nm,0.5s,baz=96,slow=7.4,SNR=16							
WRA	**Warramunga Arr**	**46.71**	**261**	P		P	23 40 25.3	-2.4
	0.5nm,0.3s,baz=96,slow=7.6,SNR=7.3							
AKASG	**Malin Array Be**	**142.95**	**333**	PKP		PKPdf	23 51 30.2	-2.0
	0.3nm,0.3s,baz=45,slow=4.0,SNR=4.6							

IDC 27 23:50:08.3±3.7, 24.97N×95.19E, h122km±36km, mb3.0/5, mb1 3.2/7, mb1mx3.1/19, Error ellipse: s-maj=44.5km s-min=16.9km az=59.0
NEIC 27 23:50:09.1±2.3, 24.92N×95.18E, h136km±24km, mb3.8/1, Error ellipse: s-maj=45.0km s-min=15.7km az=61.0
ISC 27 23:50:06.6±0.9, 24.8N±0.1×94.76E±0.10, h132km±10km, n16, σ0s74/20, mb3.4/7, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IMP	**Imphal**	**0.75**	**271**	*e*		**P**	**23 50 28.0**	**+0.3**
SHL	**Shillong**	**2.72**	**288**	*e*PN		**P**	**23 50 51.0**	**+0.5**
SHL				*e*SN		**S**	**23 51 23.5**	**-0.3**
CMAR	**Chiang Mai Arr**	**7.39**	**147**	P		**P**	**23 51 53.1**	**0.0**
	0.3nm,0.3s,baz=325,slow=13,SNR=14							
GUN	**Gumba**	**8.56**	**293**	*e*P		**P**	**23 52 09.0**	**+0.3**
	6.0nm,0.2s							
GUN				*e*S		**S**	**23 53 44.9**	**+1.0**
PKI	**Pulchoki**	**8.85**	**290**	*e*P		**P**	**23 52 12.7**	**+0.1**
	4.1nm,0.2s							
KKN	**Kakani**	**9.02**	**292**	*e*P		**P**	**23 52 14.9**	**0.0**
	4.0nm,0.2s							
GKN	**Gorkha**	**9.63**	**292**	*e*P		**P**	**23 52 22.7**	**-0.3**
	6.6nm,0.3s							
GKN				*e*S		**S**	**23 54 09.2**	**-0.4**
KOLN	**Koldanda**	**10.45**	**289**	*e*P		**P**	**23 52 33.5**	**-0.4**
	3.4nm,0.2s							
KOLN				*e*S		**S**	**23 54 27.8**	**-1.4**
SONM	**Songino Array**	**24.80**	**19**	P		**P**	**23 55 16.0**	**-1.6**
	0.3nm,0.6s,mb3.0,baz=203,slow=11,SNR=3.7							
KURK	**Kurchatov**	**28.75**	**338**	*e*P		**P**	**23 55 53.4**	**-0.3**
	1.2nm,0.5s,mb3.9							
BVAR	**Borovoye Array**	**33.67**	**333**	P		**P**	**23 56 37.7**	**+1.0**
	0.4nm,0.5s,mb3.4,baz=135,slow=13,SNR=3.6							
WRA	**Warramunga Arr**	**58.81**	**136**	P		**P**	**23 59 53.5**	**-0.2**
	0.4nm,0.7s,mb3.4,baz=325,slow=7.3,SNR=5.3							
ASAR	**Alice Springs**	**61.31**	**139**	P		**P**	**00 00 10.1**	**-0.6**
	0.3nm,0.8s,mb3.2,baz=319,slow=8.3,SNR=3.5							
ASAR	**Alice Springs**	**61.31**	**139**	P		**P**	**00 00 10.1**	**-0.6**
NOA	**NORSAR Array B**	**65.56**	**328**	P		**P**	**00 00 38.7**	**+0.7**
	0.2nm,0.5s,mb3.2,baz=79,slow=6.3,SNR=2.7							
GERES	**GERESS Array B**	**66.04**	**314**	P		**P**	**00 00 42.9**	**+1.6**
	0.4nm,0.6s,mb3.4,baz=101,slow=5.0,SNR=3.0							

NEIC 27 23:56:27.6±3.8, 17.81S×178.70W, h527km±46km, mb4.3/6, Error ellipse: s-maj=21.0km s-min=15.7km az=189.0
IDC 27 23:56:31.4±3.2, 17.91S×178.78W, h572km±39km, mb3.1/8, mb1 3.3/8, mb1mx3.2/15, Error ellipse: s-maj=25.1km s-min=13.8km az=153.0
ISC 27 23:56:30.6±3.2, 18.0S±0.2×178.8W±0.1, h579km±42km, n18, σ0s56/18, mb3.7/9, 6D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
URZ	**Urewera**	**20.55**	**189**	P		**P**	**00 00 31.6**	**+0.3**
	8.9nm,0.8s,baz=187,slow=5.0,SNR=6.8							
CTA	**Charters Tower**	**33.08**	**261**	*i*P		**P**	**00 02 21.0**	**+0.1**
	7.7nm,0.8s,mb4.4							
CTAO	**Charters Tower**	**33.08**	**261**	*e*P		**P**	**00 02 20.8**	**-0.1**
	10.0nm,0.8s,mb4.5							
STKA	**Stephens Creek**	**38.28**	**241**	*i*P		**P**	**00 03 04.3**	**+0.6**
	3.3nm,0.6s,mb4.0							
STKA	**Stephens Creek**	**38.28**	**241**	P		**P**	**00 03 04.3**	**+0.6**
	5.0nm,0.7s,mb4.2,baz=96,slow=8.4,SNR=11							
WB2	**Warramunga Arr**	**44.25**	**260**	‖*i*P		**P**	**00 03 50.6**	**-0.7**
WRA	**Warramunga Arr**	**44.26**	**260**	P		**P**	**00 03 50.9**	**-0.5**
	3.2nm,0.5s,mb4.1,baz=94,slow=7.0,SNR=32							
ASAR	**Alice Springs**	**44.42**	**254**	P		**P**	**00 03 52.6**	**+0.1**
	26nm,0.5s,baz=89,slow=8.3,SNR=371							
ASAR				S		**S**	**00 09 46.6**	**+0.2**
	1.1nm,1.0s,baz=90,slow=15,SNR=4.6							
ASPA	**Alice Springs**	**44.43**	**254**	‖*i*P		**P**	**00 03 52.6**	**0.0**
KAKA	**Kakadu**	**47.26**	**269**	‖*i*P		**P**	**00 04 18.4**	**+1.4**
	19nm,0.4s							
FITZ	**Fitzroy Crossi**	**52.66**	**261**	‖*i*P		**P**	**00 04 54.2**	**+0.4**
	2.6nm,0.4s,mb3.9							
MBWA	**Marble Bar**	**57.71**	**256**	*e*P		**P**	**00 05 28.8**	**0.0**
	12nm,0.9s,mb4.0							
VNDA	**Vanda**	**60.37**	**185**	P		**P**	**00 05 45.3**	**-0.6**
	0.3nm,0.9s,baz=360,slow=4.7,SNR=2.5							
YBH	**Yreka Blue Hor**	**78.79**	**39**	P		**P**	**00 07 35.5**	**+0.2**
	0.9nm,0.4s,mb3.4,baz=117,slow=23,SNR=2.6							
NVAR	**Mina Array Bea**	**79.71**	**44**	P		**P**	**00 07 39.1**	**-1.0**
	0.5nm,0.8s,mb2.9,baz=249,slow=7.7,SNR=3.5							
ILAR	**Eielson Array**	**86.02**	**13**	P		**P**	**00 08 10.8**	**-0.2**
	0.2nm,0.5s,mb3.0,baz=222,slow=4.8,SNR=5.4							
PDAR	**Pinedale Array**	**87.64**	**44**	P		**P**	**00 08 20.3**	**+1.2**
	0.5nm,0.5s,mb3.5,baz=200,slow=2.9,SNR=5.4							
BRTR	**Keskin Array B**	**144.55**	**315**	PKP		PKPdf	00 15 05.2	+3.6
	0.4nm,0.6s,baz=85,slow=2.2,SNR=2.7							

NEIC 28 00:12:45.9±1.5, 7.23S×117.60E, h592km±23km, mb4.0/5, Error ellipse: s-maj=34.6km s-min=10.7km az=55.0
IDC 28 00:12:48.2±2.2, 7.07S×117.94E, h624km±34km, mb3.1/6, mb1 3.3/7, mb1mx3.2/15, Error ellipse: s-maj=41.8km s-min=10.3km az=56.0
ISC 28 00:12:46.2±1.7, 7.2S±0.2×117.7E±0.3, h633km±32km, n21, σ0s75/23, mb4.0/9, 1C-3D, Bali Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.37**	**145**	‖*i*P		**P**	**00 15 38.4**	**+0.3**
	1.4nm,0.2s							
FITZ	**Fitzroy Crossi**	**13.37**	**145**	P		**P**	**00 15 38.5**	**+0.4**
	0.6nm,0.3s,baz=355,slow=10,SNR=24							
KAKA	**Kakadu**	**15.50**	**112**	*e*P		**P**	**00 16 03.4**	**+4.7**
	10nm,0.7s							
WRA	**Warramunga Arr**	**20.56**	**130**	P		**P**	**00 16 45.0**	**-0.3**
	3.6nm,0.4s,baz=311,slow=9.6,SNR=33							
WRA				S		**S**	**00 19 55.7**	**-1.4**
	0.7nm,0.7s,baz=217,slow=24,SNR=6.1							
WRAB	**Tennant Creek**	**20.56**	**130**	*e*P		**P**	**00 16 45.1**	**-0.3**
	7.3nm,0.5s							
WB2	**Warramunga Arr**	**20.57**	**130**	‖*i*P		**P**	**00 16 45.2**	**-0.2**
ASPA	**Alice Springs**	**22.63**	**138**	‖*i*P		**P**	**00 17 03.7**	**-0.3**
ASAR	**Alice Springs**	**22.63**	**138**	P		**P**	**00 17 03.8**	**-0.3**
	2.9nm,0.4s,mb4.3,baz=316,slow=8.1,SNR=69							
ASAR				S		**S**	**00 20 28.9**	**-1.4**
	0.4nm,0.4s,baz=311,slow=15,SNR=8.1							
CTAO	**Charters Tower**	**30.53**	**118**	P		**P**	**00 18 13.6**	**+1.2**
	2.9nm,0.9s,mb3.9							
CMAR	**Chiang Mai Arr**	**31.45**	**324**	P		**P**	**00 18 20.8**	**+0.5**
	2.2nm,0.9s,mb3.8,baz=147,slow=6.5,SNR=4.6							
STKA	**Stephens Creek**	**33.20**	**141**	‖*i*P		**P**	**00 18 35.4**	**+0.7**
	2.3nm,0.3s,mb4.3							
STKA	**Stephens Creek**	**33.20**	**141**	P		**P**	**00 18 35.5**	**+0.8**
	3.2nm,0.4s,mb4.3,baz=323,slow=8.1,SNR=16							
STKA	**Stephens Creek**	**33.20**	**141**	*e*P		**P**	**00 18 35.2**	**+0.5**
GUN	**Gumba**	**46.47**	**320**	*e*P		**P**	**00 20 20.6**	**0.0**
	11nm,0.6s,mb4.6							
PKI	**Pulchoki**	**46.54**	**319**	*e*P		**P**	**00 20 20.5**	**-0.6**
	3.6nm,0.4s,mb4.2							
KKN	**Kakani**	**46.77**	**319**	*e*P		**P**	**00 20 22.8**	**-0.1**
GKN	**Gorkha**	**47.33**	**319**	*e*P		**P**	**00 20 26.2**	**-0.8**
KOLN	**Koldanda**	**47.86**	**318**	*e*P		**P**	**00 20 30.1**	**-0.9**
	4.3nm,0.6s,mb4.2							
SONM	**Songino Array**	**55.64**	**351**	P		**P**	**00 21 27.2**	**+0.8**
	1.5nm,0.4s,mb3.5,baz=168,slow=8.2,SNR=16							
VNDA	**Vanda**	**74.01**	**171**	P		**P**	**00 23 21.8**	**+1.7**
	0.4nm,0.5s,mb3.2,baz=318,slow=7.4,SNR=9.4							
VNDA	**Vanda**	**74.01**	**171**	*e*P		**P**	**00 23 21.4**	**+1.3**
	0.4nm,0.5s,mb3.2							

NEIC 28 00:31:21.3, 45.13S×167.04E, h15km, ML4.0(WEL), After WEL.
WEL 28 00:31:21.2±0.3, 45.13S×167.06E, h20km, ML3.9/5, 3D, Error ellipse: s-maj=3.1km s-min=1.6km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DCZ	**Deep Cove**	**0.36**	**169**	‖P*		Pb	00 31 28.5	-0.4
DCZ				S*		Sb	00 31 33.9	-0.2
MSZ	**Milford Sound**	**0.77**	**54**	P*		Pb	00 31 35.4	-0.4
MSZ				*e*S*		Sb	00 31 45.6	-0.1
MLZ	**Mavora Lakes**	**0.82**	**106**	P		Pb	00 31 36.2	-0.5
MLZ				S		Sb	00 31 46.2	-1.0
MLZ	**Mavora Lakes**	**0.82**	**106**	‖P*		Pb	00 31 36.2	-0.5
MLZ				S*		Sb	00 31 46.2	-1.1
WHZ	**Wether Hill Ro**	**0.99**	**141**	P		Pb	00 31 39.1	-0.5
WHZ				S		Sb	00 31 52.8	+0.6
WHZ	**Wether Hill Ro**	**0.99**	**141**	‖P*		Pb	00 31 39.1	-0.5
WHZ				S*		Sb	00 31 52.8	+0.6
WKZ	**Wanaka**	**1.42**	**79**	P		Pn	00 31 47.0	+0.7
WKZ				S		Sn	00 32 07.5	+3.0
WKZ	**Wanaka**	**1.42**	**79**	*e*PN		Pn	00 31 46.4	+0.2
JCZ	**Jackson Bay**	**1.61**	**50**	*e*P		Pn	00 31 47.5	-1.4
JCZ	**Jackson Bay**	**1.61**	**50**	PN		Pn	00 31 47.5	-1.4
TUZ	**Tuapeka**	**1.99**	**116**	P		Pn	00 31 54.2	-0.2
TUZ	**Tuapeka**	**1.99**	**116**	PN		Pn	00 31 54.1	-0.3
LBZ	**Lake Benmore**	**2.35**	**73**	P		Pn	00 31 58.7	-0.8
LBZ				S		Sn	00 32 19.7	-8.3
LBZ	**Lake Benmore**	**2.35**	**73**	PN		Pn	00 31 58.6	-0.9
FOZ	**Fox Glacier**	**2.45**	**51**	PN		Pn	00 31 59.2	-1.8
ODZ	**Otahua Downs**	**2.54**	**89**	P		Pn	00 32 01.1	-1.2
ODZ				S		Sn	00 32 28.2	-4.8
ODZ	**Otahua Downs**	**2.54**	**89**	PN		Pn	00 32 01.0	-1.3
RPZ	**Rata Peaks**	**3.19**	**65**	P		Pn	00 32 10.0	-1.5
RPZ	**Rata Peaks**	**3.19**	**65**	PN		Pn	00 32 09.6	-2.0
WVZ	**Waitaha Valley**	**3.35**	**54**	*e*P		Pn	00 32 10.5	-3.3
WVZ	**Waitaha Valley**	**3.35**	**54**	PN		Pn	00 32 10.3	-3.5
DSZ	**Denniston Nort**	**4.83**	**47**	*e*P		Pn	00 32 30.9	-3.9
DSZ	**Denniston Nort**	**4.83**	**47**	PN		Pn	00 32 30.5	-4.3
THZ	**Tophouse**	**5.42**	**54**	*e*P		Pn	00 32 40.6	-2.5
THZ	**Tophouse**	**5.42**	**54**	*e*PN		Pn	00 32 40.0	-3.2
QRZ	**Quartz Range**	**5.88**	**45**	*e*P		Pn	00 32 44.8	-4.8
QRZ	**Quartz Range**	**5.88**	**45**	*e*PN		Pn	00 32 44.7	-4.8
NNZ	**Nelson**	**6.05**	**52**	*e*PN		Pn	00 32 49.9	-2.1

ATH 28 00:46:34.7, 40.18N×21.82E, h12km±3km, MD3.5/14, ML3.7
NEIC 28 00:46:34.7, 40.18N×21.82E, h12km, ML3.7(ATH), After ATH.
THE 28 00:46:35.6, 40.15N×21.81E, h6km, ML3.3
CSEM 28 00:46:35.2±0.1, 40.20N×21.80E, h5km, ML3.7, Error ellipse: s-maj=1.5km s-min=1.3km az=164.0
ISC 28 00:46:34.9±0.2, 40.16N±0.02×21.82E±0.02, h5km, n49, σ1s30/74, Greece

| Code | Station Name | Δ° | AZ° | Phase | ID

CVP	**Callao Caves**	**1.43**	**141**⇑	*e*P		Pn	00 53 00.0	-0.5
CVP				*i* S		Sn	00 53 19.0	+0.5
BBP	**Basco**	**1.90**	**32**	*e*P		Pn	00 53 07.0	-0.3
BBP	**Basco**	**1.90**	**32**	*e*P		Pn	00 53 07.0	-0.3
CAUP	**Cauayan**	**2.07**	**154**	*e*P		Pn	00 53 11.8	+2.0
CAUP	**Cauayan**	**2.07**	**154**	*e*P		Pn	00 53 11.8	+2.0
BALP	**Baler**	**3.14**	**168**	*e*P		Pn	00 53 26.9	+2.0
BALP	**Baler**	**3.14**	**168**	*e*P		Pn	00 53 26.9	+2.0

DJA 28 00:52:51.3±0.8, 9.60S×113.74E, h33km, MD4.7/4, ML4.7/4, 1C-3D, Error ellipse: s-maj=18.1km s-min=11.5km az=35.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.18**	**20**⇓	*e*Pn	Pn	00 53 10.1	-1.6
	952nm,0.2s						
SRDI	**Scrawed**	**1.18**	**20**	*e*P	P	00 53 10.9	-0.6
SRDI				*e*Sn	Sn	00 53 24.7	-2.0
KELI	**Kelakatan**	**1.56**	**28**⇑	*e*Pn	Pn	00 53 16.4	-0.7
	819nm,0.2s						
KELI				*e*Sn	Sn	00 53 33.9	-2.4
RATI	**Rata**	**1.97**	**64**⇓	*e*Pn	Pn	00 53 21.4	-1.6
	862nm,0.2s						
RATI				*e*Sn	Sn	00 53 42.7	-4.1
KEDI	**Kedomdong**	**2.59**	**65**⇓	*e*Pn	Pn	00 53 30.3	-1.6
	140nm,0.1s						
KEDI				*e*Sn	Sn	00 53 58.3	-4.2

*IDC **28** 01:21:36.7±2.0, 15.85S×179.17W, mb4.1/5, mb1 4.4/5, mb1mx4.0/14, Error ellipse: s-maj=124.0km s-min=22.9km az=145.0*

ISC 28 01:21:40.4±1.9, 15.8S±0.6×179.3W±0.4, h33km, n9, σ0§28/9, mb4.2/7, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.97**	**239**	P	**P**	**01 29 05.0**	**-0.3**
	4.2nm,0.6s,mb4.3,baz=85,slow=9.2,SNR=14						
WB2	**Warramunga Arr**	**44.24**	**258**	*e*P	**P**	**01 29 49.3**	**+0.5**
WRA	**Warramunga Arr**	**44.25**	**258**	P	**P**	**01 29 48.7**	**-0.2**
	0.6nm,0.3s,mb3.7,baz=90,slow=7.8,SNR=7.5						
ASAR	**Alice Springs**	**44.62**	**252**	P	**P**	**01 29 51.8**	**+0.1**
	9.5nm,0.7s,mb4.8,baz=88,slow=8.1,SNR=96						
ASPA	**Alice Springs**	**44.62**	**252**	*e*P	**P**	**01 29 51.8**	**+0.1**
KAKA	**Kakadu**	**46.88**	**267**⇑	*i*P	**P**	**01 30 16.8**	**+7.0**
	7.7nm,0.4s,mb5.0						
FITZ	**Fitzroy Crossi**	**52.60**	**259**	*e*P	**P**	**01 30 53.4**	**-0.1**
	2.0nm,0.9s,mb4.0						
NVAR	**Mina Array Bea**	**78.49**	**44**	P	**P**	**01 33 40.4**	**+0.3**
	0.5nm,0.7s,mb3.5,baz=241,slow=9.3,SNR=3.3						
ILAR	**Eielson Array**	**84.04**	**13**	P	**P**	**01 34 08.2**	**-0.3**
	0.2nm,0.4s,mb3.6,baz=228,slow=5.4,SNR=5.8						

MAN 28 01:25:19.4, 7.67N×122.09E, h31km, mb4.3, ML3.1, MS2.9, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIL	**Ipil**	**0.49**	**76**	*e*P	Pb	01 25 30.2	+0.5
IPIL	**Ipil**	**0.49**	**76**	*e*P	Pb	01 25 30.2	+0.5
PAGZ	**Pagadian**	**1.29**	**82**	*e*P	Pn	01 25 42.9	+1.2
PAGZ	**Pagadian**	**1.29**	**82**	*e*P	Pn	01 25 42.9	+1.2
DCPH	**Dipolog City**	**1.54**	**54**⇑	*i*P	Pn	01 25 45.1	-0.2
DCPH				*i* S	Sn	01 26 05.0	+0.6
SNPH	**Sibulan**	**2.01**	**34**⇑	*e*P	Pn	01 25 52.0	0.0
SNPH				*i* S	Sn	01 26 16.0	-0.3
TBP	**Tagbilaran**	**2.67**	**41**	*e*P	Pn	01 26 03.5	+2.2
CGP	**Cagayan de Oro**	**2.69**	**73**	*e*P	Pn	01 26 00.2	-1.5
CGP				*e*S	Sn	01 26 41.1	+7.4
BUKP	**Musuan**	**2.95**	**86**	*e*P	Pn	01 26 13.7	+8.3
BUKP	**Musuan**	**2.95**	**86**	*e*P	Pn	01 26 13.7	+8.3

*CSEM **28** 01:35:25.3±0.4, 39.76N×40.29E, h5km, MD2.8, Error ellipse: s-maj=15.5km s-min=5.6km az=27.0*

ISK 28 01:35:25.2, 39.90N×40.41E, h5km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZM	**Erzurum**	**0.73**	**89**	*i* PG	Pg	01 35 39.8	-0.1
EZM				*i* SG	Sg	01 35 52.1	+2.4
GUMT	**Gumushane**	**0.91**	**309**	PG	Pg	01 35 44.2	+0.9
GUMT				SG	Sg	01 35 57.6	+2.2
VRT	**Varto**	**1.16**	**131**	*e*PN	Pn	01 35 48.9	+0.9

CASC 28 01:40:57.0±2.0, 14.06N×89.71W, h12km±6km, MD3.6, ML2.7, 5C-4D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTR	**El Retiro**	**0.17**	**160**⇓	*i*P	Pg	01 41 01.7	+0.7
RTR				*e*S	Sg	01 41 05.0	+1.3
SNJE	**San Jose**	**0.21**	**153**⇓	*i*P	Pg	01 41 02.4	+0.6
SNJE				*e*S	Sg	01 41 06.0	+1.0
SBLS	**San Blas**	**0.23**	**160**⇓	*i*P	Pg	01 41 02.6	+0.5
SBLS				*e*S	Sg	01 41 06.8	+1.2
MTO2	**Montecristo 2**	**0.47**	**45**	*e*P	Pg	01 41 06.1	-0.6
MTO2				*e*S	Sg	01 41 12.8	-0.4
BOQS	**Boqueron**	**0.53**	**128**	*e*P	Pb	01 41 07.6	0.0
BOQS				*e*S	Sg	01 41 15.2	+0.3
LBRS	**Las Brisas**	**0.72**	**116**	*e*P	Pb	01 41 11.1	+0.1
LBRS				*e*S	Sb	01 41 20.3	-0.2
IXG	**Ixpaco**	**0.73**	**279**⇑	*e*P	Pb	01 41 10.3	-0.9
IXG				*e*S	Sb	01 41 20.9	-0.1
IXG				AML	AML	01 41 31.0	
	comp=N,874nm,0.5s						
LFRS	**El Faro**	**0.76**	**125**⇑	*e*P	Pb	01 41 11.8	+0.1
LFRS				*e*S	Sb	01 41 22.8	+1.0
LCBS	**La Ceiba**	**0.81**	**120**⇑	*e*P	Pb	01 41 12.6	0.0
LCBS				*e*S	Sb	01 41 22.8	-0.5
SNVI	**San Vicente**	**0.95**	**118**	*e*P	Pb	01 41 16.3	+1.3
SNVI				*e*S	Sb	01 41 28.0	+0.7
MRL	**Marmol**	**1.00**	**1**⇓	*e*P	Pb	01 41 15.6	-0.2
MRL				*e*S	Sb	01 41 29.8	+1.1
MRL				AML	AML	01 41 34.2	
	comp=N,95nm,0.6s						
TP2	**Tecpan 2**	**1.46**	**300**⇑	*e*P	Pn	01 41 23.9	+0.5
TP2				*e*S	Sb	01 41 43.9	+1.8
TP2				AML	AML	01 41 47.4	
	comp=E,62nm,0.4s						
CAHU	**Cacacuatique**	**1.48**	**101**⇑	*e*P	Pn	01 41 23.2	-0.4
CAHU				*e*S	Sb	01 41 44.7	+2.1

*JMA **28** 02:05:33.0±0.2, 24.21N×121.76E, h90km±4km, M3.4*

TAP 28 02:05:31.9, 23.89N×121.71E, h40km±1km, ML4.2, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.32**	**64**	P	P	02 05 54.8	+0.6
YOJ				S	S	02 06 11.4	+0.6
IRIF	**Iriomote-Funau**	**1.90**	**76**	P	P	02 06 03.0	+0.5
IRIF				S	S	02 06 25.9	+0.6
HATJ	**Hateruma jima**	**1.92**	**85**	P	P	02 06 04.1	+1.3
HATJ				S	S	02 06 26.9	+0.9
JKRS	**Kuro-shima**	**2.13**	**80**	eS	S	02 06 32.3	+1.1
JIJ	**Ishigaki jima**	**2.27**	**78**	P	P	02 06 07.8	0.0
JIJ				S	S	02 06 33.5	-1.3
JTJ	**Tarama**	**2.83**	**74**	P	P	02 06 15.6	-0.2
JTJ				S	S	02 06 47.7	-1.3
JMJ	**Miyako jima 2**	**3.40**	**74**	S	S	02 07 01.7	-1.6

*JMA **28** 02:09:40.6±0.3, 24.80N×121.91E, h71km, M3.7*

TAP 28 02:09:40.9, 24.61N×121.76E, h68km, ML4.2, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.15**	**97**	P	P	02 10 00.1	-1.4
YOJ				S	S	02 10 14.4	-2.4
IRIF	**Iriomote-Funau**	**1.82**	**98**	P	P	02 10 08.7	-1.9
IRIF				*e*S	S	02 10 30.0	-2.5
HATJ	**Hateruma jima**	**1.94**	**106**	P	P	02 10 11.2	-1.1
HATJ				*e*S	S	02 10 34.6	-1.0
JKRS	**Kuro-shima**	**2.08**	**100**	P	P	02 10 13.0	-1.3
JKRS				*e*S	S	02 10 37.1	-1.9
JIJ	**Ishigaki jima**	**2.19**	**96**	P	P	02 10 13.5	-2.2
JIJ				S	S	02 10 38.0	-3.6
JTJ	**Tarama**	**2.68**	**89**	P	P	02 10 21.2	-1.5
JTJ				S	S	02 10 51.7	-2.3

GUC 28 02:51:35.4±0.9, 28.90S×67.55W, h120km, ML4.3, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**2.83**	**276**	*e*P	P	02 52 20.3	-0.1
VACH				*i* S	S	02 52 54.1	-0.3
VACH				AMP		02 52 57.8	
	comp=N,1μm,0.1s						
CPCH	**Copiapo**	**2.91**	**301**	*e*P	P	02 52 21.5	+0.1
CPCH				*i* S	S	02 52 55.2	-1.0
CPCH				AMP		02 52 57.1	
	comp=E,1μm,0.1s						
TLL	**Tololo Astrono**	**3.10**	**245**	*e*P	P	02 52 25.4	+1.5
TLL				*i* S	S	02 53 02.9	+2.1
TLL				AMP		02 53 07.0	
	comp=N,263nm,0.4s						
CMCH	**Combarbala**	**3.75**	**232**	*e*P	P	02 52 32.3	-0.4
CMCH				*e*S	S	02 53 15.6	-0.8

*LDG **28** 02:56:48.1±1.2, 42.85N×1.47W, h2km, Md2.1/2, Ml2.1/1, Error ellipse: s-maj=21.5km s-min=11.5km az=54.0*
*MDD **28** 02:56:49.6±0.6, 42.89N×1.39W, h2km±15km, mbLg1.2/8, Error ellipse: s-maj=5.2km s-min=3.1km az=54.0, PRXIMO AftershockPLICA*

ISC 28 02:56:47.7±0.8, 42.84N±0.04×1.43W±0.06, h2km, n8, σ0§63/12, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.31**	**29**	*e*Pg	**Pg**	**02 56 54.4**	**+0.5**
SJPF				*e*Sg	**Sg**	**02 56 57.1**	**-0.8**
	17nm,0.3s						
EALK	**Alkurruntz**	**0.38**	**351**	Pg	**Pg**	**02 56 55.9**	**+0.6**
	2.3nm,0.3s,SNR=7.9						
EALK				Lg		02 57 01.2	
	5.7nm,0.2s,SNR=7.9						
ETSF	**Etsaut**	**0.64**	**85**	*e*Pg	**Pg**	**02 57 00.7**	**+0.2**
ETSF				*e*Sg	**Sg**	**02 57 09.2**	**+0.2**
	3.2nm,0.2s						
EBIE	**Bielsa**	**1.17**	**97**	Pg	**Pg**	**02 57 11.4**	**+0.4**
	0.5nm,0.1s,SNR=7.9						
EBIE				Lg		02 57 27.0	
	1.3nm,0.2s,SNR=7.9						
EPF	**Esparros**	**1.31**	**81**	*e*Pg	**Pg**	**02 57 12.9**	**-1.0**
EPF				*e*Sg	**Sg**	**02 57 31.7**	**+0.4**
	3.1nm,0.2s						
ESAC	**San Caprasio**	**1.33**	**147**	Pg	**Pg**	**02 57 13.9**	**-0.3**
	3.9nm,0.2s,SNR=7.9						
ESAC				Lg		02 57 32.9	
	8.0nm,0.3s,SNR=7.9						
ETOR	**Torete**	**2.08**	**193**	Pn	**Pn**	**02 57 24.5**	**+0.4**
	0.1nm,0.1s,SNR=4.0						
ETOR				Pg	**Pg**	**02 57 27.9**	**-1.2**
	0.8nm,0.3s,SNR=7.9						
ETOR				Sn	**Sn**	**02 57 51.4**	**+0.6**
	0.2nm,0.2s,SNR=7.9						
ETOR				Lg		02 57 56.2	
	0.7nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**2.38**	**112**	Lg		02 58 05.8	
	0.7nm,0.2s,SNR=4.0						

*BJI **28** 03:01:43.0, 35.29N×80.79E, h33km, ML4.5*
*IDC **28** 03:01:49.5±4.1, 35.60N×80.91E, mb3.8/5, mb1 4.0/6, mb1mx3.7/19, MS2.9/1, Ms1 3.1/1, ms1mx1.8/25, Error ellipse: s-maj=83.8km s-min=33.0km az=168.0*
*NNC **28** 03:01:56.0±3.4, 36.45N×81.26E, h9km±9km, mpv4.1, Error ellipse: s-maj=37.4km s-min=24.4km az=114.0*
*NEIC **28** 03:01:56.3±1.9, 35.99N×80.80E, h35km, mb4.0/2, Error ellipse: s-maj=33.0km s-min=19.7km az=172.0*

ISC 28 03:01:51.4±0.5, 35.82N±0.04×80.98E±0.09, h33km, n24, σ1§25/25, mb3.9/6, MS2.7/1, 2C-5D, Kashmir-Xizang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.52**	**234**	*e*P	**P**	**03 03 13.9**	**+0.5**
	12nm,0.4s						
KOLN	**Koldanda**	**8.33**	**164**	*e*P	**P**	**03 03 50.3**	**-2.4**
	3.5nm,0.3s						
GKN	**Gorkha**	**8.39**	**157**	*e*P	**P**	**03 03 53.9**	**+0.4**
	11nm,0.4s						
AAK	**Ala-Archa**	**8.46**	**325**	⇑Pn	**P**	**03 03 54.5**	**0.0**
	5.0nm,0.7s						
AAK				⇓Pg	P	03 04 25.5	+31
	11nm,0.8s						
AAK				⇓Lg		03 06 10.6	
	59nm,0.9s						
AAK	**Ala-Archa**	**8.46**	**325**	*e*Pn	**P**	**03 03 53.1**	**-1.4**
	4.1nm,0.6s						
KKN	**Kakani**	**8.80**	**154**	*e*P	**P**	**03 03 59.7**	**+0.4**
	9.6nm,0.5s						
DMN	**Daman**	**8.91**	**156**	*e*P	**P**	**03 04 00.3**	**-0.4**
	8.0nm,0.5s						
GUN	**Gumba**	**8.92**	**151**	*e*P	**P**	**03 04 01.3**	**+0.4**
	8.0nm,0.3s						
PKI	**Puhoki**	**9.05**	**154**	*e*P	**P**	**03 04 02.1**	**-0.6**
	11nm,0.6s						
WMQ	**Urumqi**	**9.51**	**31**	*e*P	**P**	**03 04 12.0**	**+3.1**
WMQ				S	**S**	**03 05 56.0**	**+0.2**
MK31	**Makanchi Array**	**11.00**	**5**	Pn	**P**	**03 04 27.5**	**-2.0**
	0.5nm,0.4s,baz=187,slow=13,SNR=35						
MK31				⇑Sn	**S**	**03 06 27.4**	**-5.0**
	4.0nm,0.9s,baz=192,slow=22,SNR=4.8						
MK31				⇓Lg		03 07 24.0	
	1.3nm,0.6s,baz=183,slow=31						
KURK	**Kurchatov**	**14.98**	**354**	⇓Pn	**P**	**03 05 18.0**	**-4.2**
	4.0nm,1.1s						
KURK	**Kurchatov**	**14.98**	**354**	*e*P	**P**	**03 05 18.1**	**-4.1**
	4.1nm,0.8s						
BVA0	**Borovoye Array**	**18.75**	**340**	⇓P	**P**	**03 06 08.4**	**-1.4**
	0.3nm,0.5s,baz=146,slow=12,SNR=20						
BVAR	**Borovoye Array**	**18.75**	**340**	P	**P**	**03 06 09.9**	**+0.1**
	1.3nm,0.3s,baz=141,slow=10,SNR=17						
BRVK	**Borovoye**	**18.81**	**340**	*e*P	**P**	**03 06 09.6**	**-0.9**
	4.9nm,0.7s						
SONM	**Songino Array**	**22.31**	**50**	P	**P**	**03 06 50.2**	**+3.0**
	0.5nm,0.6s,mb3.1,baz=250,slow=12,SNR=5.3						
CMAR	**Chiang Mai Arr**	**23.48**	**133**	LR	LR	03 17 29.7	
	comp=Z,27nm,18.9s,MS2.7,baz=150,slow=40						
GNI	**Garni**	**28.76**	**290**	P	**P**	**03 07 48.3**	**+0.3**
	4.3nm,0.8s,mb4.2						
BRTR	**Keskin Array B**	**37.29**	**291**	P	**P**	**03 09 02.7**	**+0.8**
	0.3nm,0.4s,mb3.5,baz=67,slow=11,SNR=2.9						
FINES	**FINESS Array B**	**42.65**	**325**	P	**P**	**03 09 49.4**	**+3.3**
	5.5nm,0.9s,mb4.3,baz=104,slow=9.7,SNR=13						
ARCES	**ARCESS Array B**	**44.97**	**336**	P	**P**	**03 10 08.6**	**+3.9**
	1.9nm,0.7s,mb4.0,baz=100,slow=5.5,SNR=4.1						
NB2	**NORSAR Subarra**	**49.77**	**323**	P	**P**	**03 10 43.7**	**+1.3**
	1.4nm,0.7s,mb4.1,baz=88,slow=7.4						
NOA	**NORSAR Array B**	**49.77**	**323**	P	**P**	**03 10 44.1**	**+1.7**
	2.9nm,1.0s,mb4.2,baz=89,slow=7.5,SNR=5.3						

*IDC **28** 03:16:29.6±1.2, 57.09S×24.40W, mb4.0/3, mb1 4.2/3, mb1mx3.9/11, Error ellipse: s-maj=63.4km s-min=28.5km az=57.0*
*NEIC **28** 03:16:36.1±0.7, 57.22S×24.38W, h55km, mb4.3/6, Error ellipse: s-maj=25.9km s-min=9.0km az=57.0*

ISC 28 03:16:28.7±1.2, 57.1S±0.2×24.4W±0.4, h10km, n17, σ0§67/14, mb4.2/6, 1C-3D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**15.28**	**159**⇑	*i*P	**P**	**03 20 06.6**	**+0.9**
VNA3	**Neumayer Olymp**	**15.53**	**162**⇓	*i*P	**P**	**03 20 08.4**	**-0.5**
VNA2	**Neumayer--Watz**	**15.67**	**159**⇓	*i*P	**P**	**03 20 10.5**	**-0.3**
SNAA	**Sanae**	**17.18**	**157**⇓	*i*P	**P**	**03 20 29.9**	**-0.1**
SNAA	**Sanae**	**17.18**	**157**	*e*P	**P**	**03 20 29.2**	**-0.8**
	8.2nm,1.2s						
PMSA	**Palmer Station**	**20.45**	**232**	*e*P	**P**	**03 21 08.8**	**+0.1**
	18nm,1.1s						
TRQA	**Tornquist**	**31.16**	**291**	P	**P**	**03 22 48.4**	**-1.2**
	19nm,1.4s,mb4.7						
CPUP	**Villa Florida**	**38.66**	**309**	P	**P**	**03 23 54.2**	**+0.2**
	2.1nm,0.7s,mb4.0,baz=158,slow=7.4,SNR=5.5						
CPUP	**Villa Florida**	**38.66**	**309**	P	**P**	**03 23 54.2**	**+0.2**

VNDA	**Vanda**	**45.62**	**182**	P		**P**	**03 24 50.6**	**+0.6**
	0.6nm,0.7s,mb3.6,baz=169,slow=4.8,SNR=7.4							
VNDA	**Vanda**	**45.62**	**182**	*e*P		**P**	**03 24 50.4**	**+0.4**
VNDA				P			03 24 50.6	
LVC	**Limon Verde**	**47.16**	**298**	*e*P		**P**	**03 25 03.1**	**+0.1**
	5.4nm,1.0s,mb4.4							
LPAZ	**La Paz**	**52.24**	**303**	P		**P**	**03 25 43.3**	**+1.2**
	1.8nm,0.6s,mb4.2,baz=180,slow=7.1,SNR=12							
SAML	**Samuel**	**56.64**	**312**	*e*P		**P**	**03 26 13.7**	**-0.6**
	2.7nm,0.9s,mb4.3							
INK	**Inuvik**	**147.59**	**319**	PKPbc	PKPdf		03 36 13.5	+1.7
	1.1nm,0.7s,baz=107,slow=11,SNR=7.3							
SONM	**Songino Array**	**149.23**	**86**	PKPbc	PKPdf		03 36 18.6	+3.5
	0.6nm,0.7s,baz=225,slow=3.5,SNR=5.3							
ILAR	**Eielson Array**	**151.96**	**310**	PKPbc	PKPdf		03 36 24.5	+5.8
	0.9nm,0.7s,baz=141,slow=4.2,SNR=15							

MAN 28 03:17:03.2, 11.16N×124.69E, h8km, mb4.4, ML3.2, MS3.0, 1C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.14**	**215**	*e*P	Pg	03 17 06.6	+0.3
OCLP	**Ormoc**	**0.14**	**215**	*e*P	Pg	03 17 06.6	+0.3
PLP	**Palo**	**0.29**	**90**	*i*P	Pg	03 17 09.8	+0.8
PLP				*i* S	Sg	03 17 14.7	+1.6
BESP	**Borongan**	**0.85**	**59**	*e*P	Pb	03 17 19.7	-0.2
BESP	**Borongan**	**0.85**	**59**	*e*P	Pb	03 17 19.7	-0.2
MSLP	**Maasin**	**1.04**	**171**	*e*P	Pb	03 17 23.1	+0.2
MSLP	**Maasin**	**1.04**	**171**	*e*P	Pb	03 17 23.1	+0.2
LLP	**Lapu-Lapu**	**1.10**	**220**⇓	*e*P	Pb	03 17 23.3	-0.8
LLP				*i* S	Sb	03 17 38.0	-0.4
CNP	**Catarman**	**1.34**	**359**	*e*P	Pb	03 17 26.4	-1.8
CNP	**Catarman**	**1.34**	**359**	*e*P	Pb	03 17 26.4	-1.8
TBP	**Tagbilaran**	**1.67**	**209**	*e*P	Pn	03 17 32.7	-0.3
RCP	**Roxas**	**1.95**	**282**⇑	*e*P	Pn	03 17 36.2	-0.8
RCP				*e*S	Sn	03 18 02.2	+0.5
GUIM	**Jordan**	**2.13**	**256**	*e*P	Pn	03 17 39.9	+0.4
GUIM	**Jordan**	**2.13**	**256**	*e*P	Pn	03 17 39.9	+0.4
SNPH	**Sibulan**	**2.31**	**218**	*e*P	Pn	03 17 44.0	+1.9
OTRP	**Odiongan**	**2.87**	**295**	*e*P	Pn	03 17 50.9	+0.8
OTRP	**Odiongan**	**2.87**	**295**	*e*P	Pn	03 17 50.9	+0.8

*IDC **28** 03:17:31.1±1.3, 25.67N×141.04E, h127km±13km, mb3.6/10, mb1 3.7/11, mb1mx3.6/22, Error ellipse: s-maj=24.9km s-min=12.2km az=95.0*

ISC 28 03:17:30.3±1.4, 25.64N±0.09×141.1E±0.3, h137km±14km, n15, σ0§60/15, mb3.7/11, 1D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.74**	**33**	P	**P**	**03 18 02.8**	**+0.9**
	82nm,0.3s,baz=299,slow=23,SNR=42						
CBIJ				S	**S**	**03 18 25.5**	**-0.7**
	467nm,0.3s,baz=242,slow=22,SNR=46						
SONM	**Songino Array**	**35.13**	**318**	P	**P**	**03 24 13.0**	**+0.7**
	0.3nm,0.5s,mb3.2,baz=128,slow=8.3,SNR=3.3						
WB2	**Warramunga Arr**	**45.78**	**189**	⇓*i*P	**P**	**03 25 39.8**	**-0.2**
WRA	**Warramunga Arr**	**45.78**	**189**	P	**P**	**03 25 39.4**	**-0.6**
	2.1nm,0.4s,mb4.1,baz=9.3,slow=8.8,SNR=20						
FITZ	**Fitzroy Crossi**	**46.01**	**201**	*e*P	**P**	**03 25 42.2**	**+0.4**
	1.1nm,0.7s,mb3.6						
FITZ	**Fitzroy Crossi**	**46.01**	**201**	P	**P**	**03 25 42.2**	**+0.3**
	1.2nm,0.6s,mb3.7,baz=358,slow=6.4,SNR=4.8						
ASAR	**Alice Springs**	**49.51**	**189**	P	**P**	**03 26 09.9**	**+1.0**
	0.2nm,0.5s,mb3.0,baz=350,slow=5.5,SNR=3.4						
STKA	**Stephens Creek**	**57.19**	**180**	P	**P**	**03 27 04.6**	**-0.7**
	1.3nm,0.6s,mb4.0,baz=332,slow=13,SNR=6.3						
BVAR	**Borovoye Array**	**58.48**	**318**	P	**P**	**03 27 13.1**	**-0.8**
	1.5nm,0.4s,mb4.2,baz=87,slow=6.5,SNR=18						
ILAR	**Eielson Array**	**59.44**	**28**	P	**P**	**03 27 20.6**	**+0.1**
	1.2nm,0.7s,mb3.9,baz=249,slow=5.8,SNR=16						
INK	**Inuvik**	**64.75**	**24**	P	**P**	**03 27 56.4**	**+0.7**
	0.9nm,0.7s,mb3.7,baz=308,slow=6.7,SNR=14						
ARCES	**ARCESS Array B**	**74.60**	**341**	P	**P**	**03 28 55.2**	**-0.2**
	6.0nm,1.2s,mb4.1,baz=56,slow=8.7,SNR=5.0						
FINES	**FINESS Array B**	**78.83**	**334**	P	**P**	**03 29 18.7**	**-0.3**
	1.2nm,0.5s,mb3.8,baz=75,slow=5.8,SNR=14						
NOA	**NORSAR Array B**	**84.60**	**338**	P	**P**	**03 29 48.8**	**-0.1**
	0.4nm,0.6s,mb3.3,baz=48,slow=4.4,SNR=2.6						
LPAZ	**La Paz**	**151.20**	**77**	PKPbc	PKPdf	03 37 10.6	+8.9
	0.8nm,0.5s,baz=315,slow=2.9,SNR=5.8						

*NEIC **28** 03:33:11.3, 17.78N×102.98W, h15km, MD4.2(MEX), After MEX.*

MEX 28 03:33:11.3±0.7, 17.78N×102.98W, h15km±17km, MD4.2, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGX	**Ciudad Guzman**	**1.96**	**345**	*i*P	Pn	03 33 41.0	-3.5
CGX				*i* S	Sn	03 34 03.5	-5.5
MOIG	**Morelia**	**2.54**	**42**	*e*P	Pn	03 33 49.0	-3.7
MOIG				*e*S	Sn	03 34 17.0	-6.5
CJM	**Chamela**	**2.60**	**311**	*i*P	Pn	03 33 49.6	-4.0
CJM				*i* S	Sn	03 34 20.6	-4.5
CAIG	**El Cayaco**	**2.69**	**105**	*i*P	Pn	03 33 51.6	-3.2
CAIG				*i* S	Sn	03 34 22.6	-4.8
SFJM	**Santa Fe**	**2.69**	**359**	*i*P	Pn	03 33 51.0	-3.9
SFJM				*i* S	Sn	03 34 23.5	-3.9
UNM	**Universidad Na**	**3.92**	**66**	*e*P	Pn	03 34 15.0	+2.7
PPM	**Popocatepetl**	**4.32**	**72**	*e*P	Pn	03 34 16.0	-2.1
VHO	**Vista Hermosa**	**6.00**	**96**	*i* S	Sn	03 35 42.2	-8.8

*JMA **28** 03:44:33.9±0.2, 24.49N×122.49

JCR				*e*S		S	04 24 19.7	+0.2	
LAJ	**Bijagual**	**2.91**	**126**	*e*P		P	04 24 01.3	-1.4	
LAJ				*e*S		S	04 24 30.1	-6.6	
TRTC	**Tortuguero**	**2.92**	**110**⇑	*e*P		P	04 24 01.1	-1.7	
LCR2	**La Lucha 2**	**3.08**	**127**	*e*P		P	04 24 04.6	-0.4	
LCR2				*e*S		S	04 24 43.2	+2.3	
LCBS	**La Ceiba**	**3.16**	**310**	*e*P		P	04 24 06.8	+0.7	
LCBS				*e*S		S	04 24 40.0	-2.8	
LFRS	**El Faro**	**3.20**	**309**	*e*P		P	04 24 06.3	-0.3	
LFRS				*e*S		S	04 24 42.2	-1.7	
URSC	**Urasca**	**3.21**	**123**	*e*P		P	04 24 06.7	0.0	
URSC				*e*S		S	04 24 46.5	+2.6	
SBLS	**San Blas**	**3.77**	**306**⇑	*e*P		P	04 24 15.2	+0.7	
SBLS				*e*S		S	04 24 56.5	-1.4	
RTR	**El Retiro**	**3.82**	**307**	*e*P		P	04 24 16.6	+1.5	
RTR				*e*S		S	04 24 57.3	-1.9	

BJI ***28*** *04:23:27.9, 14.56S×177.87W, h348km, mB4.7, mb4.4*
NEIC ***28*** *04:23:28.7±1.1, 15.16S×177.64W, h378km±10km, mb4.2/25, Error ellipse: s-maj=14.1km s-min=6.4km az=148.0*
SYO ***28*** *04:23:28.1, 15.15S×177.67W, h371km, MB4.2*
IDC ***28*** *04:23:32.6±2.4, 15.22S×177.65W, h414km±24km, mb3.6/12, mb1 3.9/12, mb1mx3.9/15, Error ellipse: s-maj=22.2km s-min=10.2km az=150.0*
ISC 28 04:23:27.6±1.2, 15.23S±0.10×177.67W±0.07, h377km±12km, h370km±8km:pP-P, n89, σ0°88/58, mb4.2/39, 4C-5D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.85**	**78**	*e*Pn	**P**	**04 24 58.1**	**-0.3**
	1.0nm,0.2s						
URZ	**Urewera**	**23.40**	**190**	P	**P**	**04 28 01.9**	**-4.1**
	5.1nm,0.8s,mb3.8,baz=72,slow=4.8,SNR=5.1						
CTA	**Charters Tower**	**34.67**	**257**	P	**P**	**04 29 45.9**	**+1.1**
	7.4nm,0.5s,mb4.2,baz=95,slow=9.9,SNR=22						
CTAO	**Charters Tower**	**34.67**	**257**	*e*P	**P**	**04 29 45.7**	**+1.0**
	7.9nm,0.5s,mb4.2						
CTAO				*e*		04 29 48.7	
STKA	**Stephens Creek**	**40.58**	**239**	P	**P**	**04 30 34.1**	**+0.6**
	3.4nm,0.8s,mb3.6,baz=61,slow=10,SNR=6.4						
STKA	**Stephens Creek**	**40.58**	**239**	*e*P	**P**	**04 30 33.0**	**-0.6**
WB2	**Warramunga Arr**	**45.86**	**257**	*e*P	**P**	**04 31 15.5**	**-0.3**
WRAB	**Tennant Creek**	**45.86**	**257**	*e*P	**P**	**04 31 15.0**	**-0.7**
	21nm,1.2s,mb4.1						
WRA	**Warramunga Arr**	**45.87**	**257**	P	**P**	**04 31 15.7**	**-0.2**
	1.4nm,0.3s,mb3.5,baz=89,slow=6.8,SNR=17						
WRA				PcP	PcP	04 32 46.3	0.0
	1.2nm,0.7s,baz=92,slow=3.4,SNR=4.8						
WRA				S	**S**	**04 37 29.8**	**-1.1**
	0.6nm,0.9s,baz=87,slow=15,SNR=5.6						
ASAR	**Alice Springs**	**46.25**	**252**	P	**P**	**04 31 19.2**	**+0.5**
	94nm,0.6s,mb5.1,baz=84,slow=8.2,SNR=1179						
ASAR				PcP	PcP	04 32 46.8	-0.8
	1.0nm,0.5s,baz=106,slow=4.0,SNR=3.3						
ASAR				S	**S**	**04 37 34.5**	**-1.6**
	0.7nm,0.6s,baz=80,slow=16,SNR=6.7						
ASPA	**Alice Springs**	**46.25**	**252**	⇓*i*P	**P**	**04 31 19.1**	**+0.3**
ASPA				*e*S	**S**	**04 37 35.4**	**-0.8**
KAKA	**Kakadu**	**48.44**	**266**	⇓*i*P	**P**	**04 31 40.1**	**+4.5**
	7.7nm,0.5s,mb4.2						
FORT	**Forrest**	**51.83**	**243**	⇓*i*P	**P**	**04 31 59.9**	**-0.8**
	83nm,0.6s,mb5.2						
FITZ	**Fitzroy Crossi**	**54.21**	**258**	*e*P	**P**	**04 32 18.2**	**0.0**
	1.7nm,0.6s,mb3.5						
FITZ	**Fitzroy Crossi**	**54.21**	**258**	P	**P**	**04 32 18.5**	**+0.3**
	2.1nm,0.8s,mb3.5,baz=83,slow=3.4						
MBWA	**Marble Bar**	**59.45**	**254**	*e*P	**P**	**04 32 53.7**	**-0.6**
	5.9nm,0.9s,mb4.0						
NWAO	**Narrogin (SRO)**	**61.11**	**241**	P	**P**	**04 33 02.6**	**-2.6**
	2.9nm,0.7s,mb3.8						
SBA	**Scott Base**	**63.12**	**184**	P	**P**	**04 33 17.3**	**-0.5**
	2.1nm,0.6s,mb3.8						
VNDA	**Vanda**	**63.16**	**185**	P	**P**	**04 33 18.0**	**0.0**
	0.8nm,0.5s,mb3.5,baz=352,slow=7.9,SNR=14						
VNDA	**Vanda**	**63.16**	**185**	*e*P	**P**	**04 33 17.7**	**-0.3**
	1.3nm,0.7s,mb3.6						
SSE	**Sheshan**	**74.60**	**309**	*e*P	**P**	**04 34 28.5**	**+0.3**
SSE				AMB	AMB		
	comp=Z,28nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,64nm,11.0s						
CMB	**Columbia Colle**	**75.41**	**43**	*e*P	**P**	**04 34 31.2**	**-1.5**
	comp=Z,3.1nm,0.8s,mb4.1						
MDJ	**Mudanjiang**	**76.43**	**324**	P	**P**	**04 34 38.8**	**+0.7**
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,76nm,3.9s						
NJ2	**Nanjing**	**76.81**	**309**	*e*P	**P**	**04 34 40.5**	**0.0**
NVAR	**Mina Array Bea**	**77.01**	**44**	P	**P**	**04 34 41.5**	**0.0**
	comp=Z,6.3nm,1.1s,mb4.3,baz=229,slow=10,SNR=12						
MNV	**Mina**	**77.11**	**44**	*e*P	**P**	**04 34 41.0**	**-1.0**
	comp=Z,10nm,1.4s,mb4.4						
TPH	**Tonopah**	**77.56**	**45**	*e*P	**P**	**04 34 44.7**	**+0.2**
	comp=Z,4.3nm,0.8s,mb4.2						
TPNV	**Topopah Spring**	**77.66**	**46**	*e*P	**P**	**04 34 45.1**	**+0.1**
	comp=Z,3.9nm,0.7s,mb4.2						
CN2	**Changchun**	**78.36**	**322**	*e*P	**P**	**04 34 49.0**	**+0.4**
RMW	**Rattlesnake Mo**	**79.87**	**35**	*e*P	**P**	**04 34 56.8**	**+0.3**
DUG	**Dugway**	**81.58**	**45**	P	**P**	**04 35 05.9**	**+0.3**
	comp=Z,4.1nm,1.2s,mb4.1						
MCK	**McKinley**	**81.78**	**12**	*e*P	**P**	**04 35 04.9**	**-1.2**
	comp=Z,6.2nm,0.9s,mb4.4						
HLID	**Hailey**	**82.15**	**41**	*e*P	**P**	**04 35 09.1**	**+0.6**
	comp=Z,5.7nm,0.8s,mb4.5						
SRU	**San Rafael**	**82.66**	**46**	*e*P	**P**	**04 35 11.6**	**+0.5**
NEW	**Newport**	**82.94**	**36**	*e*P	**P**	**04 35 11.6**	**-0.7**
	comp=Z,2.4nm,0.8s,mb4.1						
COLA	**College**	**83.02**	**12**	*e*P	**P**	**04 35 11.9**	**-0.5**
	comp=Z,16nm,0.8s,mb4.9						
HWUT	**Hardware Ranch**	**83.07**	**44**	*e*P	**P**	**04 35 11.8**	**-1.3**
	comp=Z,7.1nm,1.2s,mb4.4						
ILAR	**Eielson Array**	**83.13**	**13**	P	**P**	**04 35 12.2**	**-0.8**
	comp=Z,5.3nm,0.7s,mb4.5,baz=226,slow=5.4,SNR=30						
ENH	**Enshi**	**83.37**	**304**	*e*P	**P**	**04 35 16.1**	**+1.2**
	comp=Z,7.2nm,0.8s,mb4.5						
MCMT	**McKenzie Canyo**	**83.75**	**40**	*e*P	**P**	**04 35 16.9**	**+0.4**
ANMO	**Albuquerque**	**83.88**	**51**	*e*P	**P**	**04 35 17.7**	**+0.3**
	comp=Z,3.3nm,1.0s,mb4.1						
LTX	**Lajitas**	**83.97**	**58**	*e*P	**P**	**04 35 18.0**	**0.0**
	comp=Z,2.8nm,0.7s,mb4.2						
TXAR	**Lajitas Array**	**83.97**	**58**	P	**P**	**04 35 18.8**	**+0.8**
	comp=Z,2.8nm,0.8s,mb4.1,baz=218,slow=6.5,SNR=29						
PDAR	**Pinedale Array**	**84.93**	**43**	P	**P**	**04 35 21.9**	**-0.5**
	comp=Z,1.1nm,0.7s,mb3.8,baz=245,slow=2.8,SNR=7.6						
HHC	**Hu-ho-hao-te**	**85.92**	**314**	*e*P	**P**	**04 35 27.8**	**+0.6**
HHC				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.6						
HHC				AMB	AMB		
	comp=Z,135nm,4.9s						
MAW	**Mawson**	**86.61**	**200**	P	**P**	**04 35 30.3**	**+0.5**
	comp=Z,4.6nm,0.6s,mb4.5,baz=128,slow=7.2,SNR=12						
MAW	**Mawson**	**86.61**	**200**	*e*P	**P**	**04 35 30.0**	**+0.1**
	comp=Z,6.9nm,0.7s,mb4.6						
CM31	**Chiang Mai Arr**	**88.66**	**289**	P	**P**	**04 35 39.8**	**-0.9**
	comp=Z,2.9nm,0.7s,mb4.2						
CMAR	**Chiang Mai Arr**	**88.66**	**289**	P	**P**	**04 35 42.6**	**+1.9**
	comp=Z,0.9nm,0.4s,mb3.9,baz=110,slow=2.4,SNR=8.0						
RSSD	**Black Hills**	**89.15**	**44**	*e*P	**P**	**04 35 41.8**	**-0.6**
	comp=Z,3.9nm,0.9s,mb4.2						
LZH	**Lanzhou**	**89.83**	**307**	*e*P	**P**	**04 35 48.0**	**+2.2**
LZH				AMB	AMB		
	comp=Z,13nm,1.3s,mb4.7						
LZH				AMB	AMB		
	comp=Z,87nm,4.4s						
SYO	**Syowa Base**	**91.91**	**193**	⇑PcP	PcP	04 35 57.7	+2.3
SYO	**Syowa Base**	**91.91**	**193**	⇓pP	pP	04 37 18.8	-4.2
SYO	**Syowa Base**	**91.91**	**193**	⇓sP	sP	04 38 00.2	-0.7
SONM	**Songino Array**	**92.00**	**319**	P	**P**	**04 35 55.9**	**+0.4**
	comp=Z,0.5nm,0.6s,mb3.6,baz=136,slow=5.0,SNR=4.5						
SNAA	**Sanae**	**93.24**	**178**⇑	*i*P	**P**	**04 36 02.0**	**+1.3**
SNAA				*e*	pP	04 37 29.1	0.0
SNAA				*e*		04 39 35.8	
VNA3	**Neumayer Olymp**	**93.35**	**176**⇑	*i*P	**P**	**04 36 03.6**	**+2.4**
VNA3				*e*	pP	04 37 30.1	+0.5
VNA3				*e*		04 39 37.9	
VNA2	**Neumayer--Watz**	**93.80**	**177**⇑	*i*P	**P**	**04 36 03.6**	**+0.4**
VNA2				*e*	pP	04 37 30.7	-0.9
VNA2				*e*		04 39 37.9	
BVAR	**Borovoye Array**	**115.21**	**322**	PKP	PKPdf	04 41 25.0	+0.5
	comp=Z,1.1nm,0.4s,baz=63,slow=3.3,SNR=7.9						
ARCES	**ARCESS Array B**	**123.81**	**350**	PKP	PKPdf	04 41 41.2	+0.4
	comp=Z,1.8nm,0.5s,baz=358,slow=1.5,SNR=17						
ARCES	**ARCESS Array B**	**123.81**	**350**	PKP	PKPdf	04 41 41.2	+0.4
UPC	**Upice**	**143.11**	**345**	*e*PKP	PKPdf	04 42 15.9	-1.1
DPC	**Dobruska-Polom**	**143.18**	**345**	*e*PKP	PKPdf	04 42 16.3	-0.8
BRTR	**Keskin Array B**	**143.35**	**318**	PKP	PKPdf	04 42 17.6	-0.1
	comp=Z,7.1nm,0.8s,baz=90,slow=1.2,SNR=31						
PRU	**Pruhonice**	**143.94**	**347**	*e*PKP	PKPdf	04 42 18.2	-0.2
GRA1	**Grafenberg Arr**	**144.87**	**350**	*e*PKP	PKPdf	04 42 21.6	+1.6
KHC	**Kasperske Hory**	**144.96**	**347**	*e*PKP	PKPdf	04 42 21.8	+1.6
GERES	**GERESS Array B**	**145.20**	**347**	PKPbc	PKPbc	04 42 22.5	+1.1
	comp=Z,2.5nm,0.6s,baz=24,slow=3.5,SNR=17						
BAIF	**Baives**	**145.23**	**358**	*e*PKP1	PKPbc	04 42 22.0	+0.6
	comp=Z,10.0nm,0.5s						
TBKS	**Tabuk**	**145.81**	**298**	P	PKPdf	04 42 27.7	+5.4
JMQS	**Jabal Moqyreh**	**146.20**	**299**	P	PKPdf	04 42 26.2	+3.3
FLN	**La Foliniere**	**146.48**	**3**	*e*PKP1	PKPbc	04 42 25.2	+0.7
	comp=Z,13nm,0.5s						
CDF	**Champ du Feu**	**146.66**	**354**	*e*PKP1	PKPbc	04 42 26.1	+1.2
	comp=Z,21nm,0.9s						
LDF	**La Druitiere**	**146.67**	**3**	*e*PKP1	PKPbc	04 42 25.5	+0.5
ALWS	**Ilw as Safayha**	**146.76**	**301**	P	PKPdf	04 42 30.0	+6.1
JMQS	**Jabal al Moall**	**146.76**	**300**	P	PKPdf	04 42 29.5	+5.6
GRR	**Gorron**	**146.83**	**4**	*e*PKP1	PKPbc	04 42 26.4	+1.1
	comp=Z,8.3nm,0.4s						
AYUS	**'Aynunah**	**146.91**	**298**	P	PKPdf	04 42 28.4	+4.2
HAQS	**Haql**	**146.95**	**300**	P	PKPdf	04 42 29.8	+5.6
BDAS	**Al Bad'**	**146.98**	**299**	P	PKPdf	04 42 28.8	+4.6
TAYS	**Tayyib Ism**	**147.14**	**299**	P	PKPdf	04 42 29.5	+5.0
HAU	**Haudompre**	**147.15**	**355**	*e*PKP1	PKPdf	04 42 27.9	+4.0
	comp=Z,12nm,0.7s						
HINF	**Hinteralfeld**	**147.29**	**354**	*e*PKP1	PKPdf	04 42 28.2	+4.1
	comp=Z,11nm,0.8s						
LOR	**Lormes**	**148.03**	**358**	*e*PKP1	PKPdf	04 42 29.8	+4.5
	comp=Z,5.6nm,0.6s						
SSF	**Saint Saulge**	**148.25**	**358**	*e*PKP1	PKPdf	04 42 30.5	+4.8
	comp=Z,24nm,1.1s						
CABF	**La Chapelle**	**148.56**	**355**	*e*PKP1	PKPdf	04 42 31.8	+5.6
LPL	**La Plagne**	**149.58**	**354**	*e*PKP1	PKPdf	04 42 35.3	+7.4
MBDF	**Montbardon**	**150.36**	**354**	*e*PKP1	PKPdf	04 42 36.0	+6.9
	comp=Z,16nm,0.8s						
CAF	**Calviac**	**150.40**	**0**	*e*PKP1	PKPdf	04 42 35.6	+6.4
	comp=Z,20nm,1.0s						

NEIC ***28*** *04:25:42.0, 14.80N×97.35W, h10km, MD3.8(MEX), After MEX.*
MEX 28 04:25:42.0±0.4, 14.80N×97.35W, h10km, MD3.8, Off coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.54**	**51**	*i*P	Pn	04 26 06.2	-3.5
HUIG				*i*S	Sb	04 26 24.7	-4.9
VHO	**Vista Hermosa**	**2.34**	**15**	*i*P	Pn	04 26 16.9	-4.2
VHO				*i*S	Sn	04 26 44.0	-6.2
OXX	**Oaxaca**	**2.35**	**15**	*i*P	Pn	04 26 17.5	-3.8
OXX				*i*S	Sn	04 26 45.5	-5.0
CMIG	**Matias Romero**	**3.29**	**46**	*i*P	Pn	04 26 30.2	-4.5
CMIG				*i*S	Sn	04 27 10.3	-4.0

NIED ***28*** *04:54:00, 29.60N×141.10E, h125km, Mw5.0 Best double couple: M0 3.54×10^16 NP1:φs175°, δ86°, λ46°. NP2:φs81°, δ44°, λ175°.*
MOS ***28*** *04:54:18.1±0.8, 29.50N×140.10E, h33km, mb5.3/14, Error ellipse: s-maj=27.6km s-min=8.7km az=110.6*
IDC ***28*** *04:54:26.5±0.9, 29.52N×140.60E, h104km±8km, mb4.3/25, mb1 4.5/30, mb1mx4.5/32, MS3.6/11, Ms1 3.6/11, ms1mx3.5/21, Error ellipse: s-maj=13.3km s-min=7.3km az=73.0*
JMA ***28*** *04:54:26.0, 29.63N×141.10E, h134km, M4.8*
BJI ***28*** *04:54:27.5, 29.78N×140.77E, h136km, mB4.6, mb4.7*
NEIC ***28*** *04:54:29.1±0.2, 29.58N×140.54E, mb4.7/35, MW5.0(NIED), Error ellipse: s-maj=4.9km s-min=4.1km az=84.0*
ISC 28 04:54:27.4±0.2, 29.63N±0.03×140.57E±0.04, h121km, h121km±2.6km:pP-P, n182, σ1§09/196, mb4.7/78, 8C-14D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.90**	**150**	P	**P**	**04 55 09.2**	**-4.0**
	532nm,0.3s,baz=335,slow=7.5,SNR=125						
CBIJ				S	**S**	**04 55 42.3**	**-5.7**
	700nm,0.3s,baz=286,slow=22,SNR=6.5						
CBIJ	**Chichi jima**	**2.90**	**150**	P	**P**	**04 55 09.3**	**-3.9**
CBIJ				S	**S**	**04 55 42.5**	**-5.5**
JHHJ	**Haha-jima-NKT**	**3.31**	**154**	P	**P**	**04 55 10.5**	**-3.7**
JHHJ				S	**S**	**04 55 52.3**	**-5.5**
JHJ2	**Mitsune**	**3.53**	**350**	P	**P**	**04 55 22.0**	**+0.2**
JHJ2				S	**S**	**04 56 02.4**	**-0.8**
JHJ	**Hachijo jima 2**	**3.54**	**349**	P	**P**	**04 55 21.8**	**-0.2**
	171nm,0.3s,baz=198,slow=18,SNR=22						
JHJ				S	**S**	**04 56 02.6**	**-0.9**
	198nm,0.3s,baz=82,slow=22,SNR=8.1						
JKO	**Kozu shima**	**4.71**	**345**	P	**P**	**04 55 38.4**	**+0.9**
JKO				S	**S**	**04 56 34.7**	**+3.2**
TK01	**Tokai 1**	**4.84**	**329**	P	**P**	**04 55 40.5**	**+1.1**
NJJJ	**Nii jima 2**	**4.88**	**347**	P	**P**	**04 55 40.4**	**+0.5**
BSO1	**Boso 1**	**5.02**	**4**	P	**P**	**04 55 39.1**	**-2.7**
BSO1				S	**S**	**04 56 35.0**	**-3.6**
JWZ	**Kozaga**	**5.68**	**314**	P	**P**	**04 55 52.6**	**+1.9**
JOD2	**Odawara 2**	**5.76**	**348**	P	**P**	**04 55 51.2**	**-0.5**
JOD2				S	**S**	**04 56 57.3**	**+0.3**
JIE	**Ise**	**5.77**	**326**	P	**P**	**04 55 52.2**	**+0.3**
JRY	**Ryogami san**	**6.52**	**348**	P	**P**	**04 56 01.7**	**-0.5**
JRY				S	**S**	**04 57 13.3**	**-2.4**
MAJO	**Matsushiro**	**7.17**	**345**	*e*Pn	**P**	**04 56 11.6**	**+0.5**
MAT	**Matsushiro**	**7.17**	**345**	P	**P**	**04 56 11.2**	**+0.1**
MAT				S	**S**	**04 57 29.7**	**-1.8**
MAT	**Matsushiro**	**7.17**	**345**	P	**P**	**04 56 11.4**	**+0.3**
MAT	**Matsushiro**	**7.17**	**345**	*e*P	**P**	**04 56 11.0**	**-0.1**
	70nm,0.6s						
MAT				*e*S	**S**	**04 57 30.0**	**-1.5**
JTO	**Tosashimizu**	**7.39**	**298**	P	**P**	**04 56 17.1**	**+3.2**
JHS	**Saijyo**	**8.27**	**312**	P	**P**	**04 56 29.1**	**+3.3**
JMK	**Ichinoseki**	**9.32**	**3**	P	**P**	**04 56 36.2**	**-3.6**
JMK				S	**S**	**04 58 13.9**	**-9.3**
JTU	**Tsushima**	**10.66**	**300**	P	**P**	**04 57 01.4**	**+3.8**
JOW	**Kunigami**	**11.19**	**259**	P	**P**	**04 57 08.4**	**+3.6**
	1.7nm,0.3s,baz=69,slow=8.9,SNR=4.7						
JOT	**Ohata**	**11.73**	**2**	P	**P**	**04 57 09.4**	**-2.5**
JKB	**Kayabe**	**12.24**	**2**	P	**P**	**04 57 15.2**	**-3.3**
KS15	**Wonju Array Si**	**13.13**	**310**	*e*P	**P**	**04 57 32.7**	**+2.6**
KS15				*e*		04 57 55.7	
ASAJ	**Asahikawa**	**14.55**	**6**	P	**P**	**04 57 46.3**	**-2.1**
	11nm,0.3s,baz=235,slow=8.8,SNR=24						
ASAJ				LR	LR	05 03 48.7	
	comp=Z,98nm,19.5s,baz=175,slow=38						
GUMO	**Guam**	**16.45**	**165**	*e*P	**P**	**04 58 13.1**	**+0.7**
	175nm,1.0s						
SSE	**Sheshan**	**16.79**	**280**	P	**P**	**04 58 15.5**	**-1.0**
SSE				XP		04 58 54.5	
SSE				S	**S**	**05 01 17.5**	**-0.4**
SSE				AMB	AMB		
	comp=Z,26nm,0.6s						
SSE				AMB	AMB		
	comp=Z,64nm,8.0s						
SSE				LR	LR		
	comp=N,115nm,27.6s						
SSE				LR	LR		
	comp=E,100nm,27.6s						
SSE				LR	LR		
	comp=Z,154nm,35.2s						
MDJ	**Mudanjiang**	**17.31**	**333**	P	**P**	**04 58 20.8**	**-2.0**
MDJ				S	**S**	**05 01 29.5**	**+0.1**
MDJ				SCP		05 06 22.5	
MDJ				AMB	AMB		
	comp=Z,25nm,0.7s						
MDJ				AMB	AMB		
	comp=Z,155nm,7.3s						
MDJ				LR	LR		
	comp=N,162nm,22.6s						
MDJ				LR	LR		
	comp=E,233nm,22.9s						
MDJ				LR	LR		
	comp=Z,158nm,35.0s						
MDJ	**Mudanjiang**	**17.31**	**333**	*e*P	**P**	**04 58 20.8**	**-2.0**
	comp=Z,26nm,0.6s						
YSS	**Yuzh-Sakhalins**	**17.38**	**5**⇑	*i*P	**P**	**04 58 23.2**	**-0.5**
YSS				pmax	pmax		
	comp=N,50nm,0.8s						
YSS				pmax	pmax		
	comp=Z,50nm,0.8s						
YSS				pmax	pmax		
	comp=Z,100nm,0.7s						
YSS				pmax	pmax		
	comp=N,90nm,0.6s						
YSS	**Yuzh-Sakhalins**	**17.38**	**5**	*e*P	**P**	**04 58 22.9**	**-0.8**
	comp=N,146nm,0.8s						
TATO	**Taipei**	**17.58**	**259**	P	**P**	**04 58 19.4**	**-6.7**
CN2	**Changchun**	**18.59**	**324**	*e*P	**P**	**04 58 38.5**	**+1.0**
CN2				*e*XP		04 59 16.0	
CN2				*e*S	**S**	**05 01 59.3**	**+1.9**
NJ2	**Nanjing**	**18.80**	**283**	*e*P	**P**	**04 58 40.0**	**+0.1**
NJ2				XP		04 59 17.5	
NJ2				S	**S**	**05 02 02.0**	**0.0**
NJ2				SCS	ScS	05 10 06.0	+1.0
NJ2				LR	LR		
	comp=N,540nm,11.7s						
NJ2				LR	LR		
	comp=E,370nm,19.7s						
NJ2				LR	LR		
	comp=Z,9μm,12.7s						
WHN	**Wuhan**	**22.69**	**279**	P	**P**	**04 59 20.0**	**+0.7**
HIA	**Hailar**	**25.21**	**327**	P	**P**	**04 59 42.3**	**-1.0**
	comp=Z,18nm,1.1s,mb4.4						
ENH	**Enshi**	**26.90**	**279**	*e*P	**P**	**04 59 58.0**	**-1.0**
	comp=Z,15nm,0.6s,mb4.7						
XAN	**Xi'an**	**27.18**	**288**	P	**P**	**05 00 00.8**	**-0.7**
XAN				AMB	AMB		
	comp=Z,19nm,0.6s,mb4.8						
CLNS	**Chul'man**	**29.35**	**342**	*e*P	**P**	**05 00 18.9**	**-1.8**
CLNS				pmax	pmax		
	comp=Z,30nm,0.5s,mb5.2						
CLNS				pmax	pmax		
	comp=N,11nm,0.6s						
CLNS				pmax	pmax		
	comp=E,11nm,0.6s						
GYA	**Guiyang**	**30.03**	**272**	⇓P	**P**	**05 00 26.8**	**-0.3**
GYA				AP	pP	05 00 58.0	+4.5
GYA				XP	sP	05 01 10.0	+2.5
GYA				PP	PP	05 01 26.5	-3.2
GYA				S	**S**	**05 05 11.5**	**-3.4**
GYA				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.9						
GYA				AMB	AMB		
	comp=Z,180nm,4.4s						
GYA				LR	LR		
	comp=N,470nm,16.7s						
GYA				LR	LR		
	comp=E,200nm,15.5s						
GYA				LR	LR		
	comp=Z,270nm,16.0s						
MA2	**Magadan**	**30.74**	**10**	*e*P	**P**	**05 00 34.4**	**+1.3**
	comp=Z,40nm,1.1s,mb5.1						
LZH	**Lanzhou**	**31.38**	**292**	*e*P	**P**	**05 00 39.5**	**+0.6**
LZH				AP	pP	05 01 06.5	+1.0
LZH				XP	sP	05 01 22.5	+2.9
LZH				PP	PP	05 01 48.0	+1.4
LZH				PCP	PcP	05 03 30.0	+0.3
LZH				*e*S	**S**	**05 05 36.0**	**-0.1**
LZH				XS		05 06 23.5	
LZH				SS	SS	05 07 33.0	+0.6
LZH				AMB	AMB		
	comp=Z,16nm,1.5s,mb4.5						
LZH				AMB	AMB		
	comp=Z,59nm,4.8s						
CD2	**Chengdu**	**31.73**	**282**	*e*P	**P**	**05 00 42.8**	**+0.8**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
SONM	**Songino Array**	**31.92**	**314**	P	**P**	**05 00 42.7**	**-0.7**
	comp=Z,4.5nm,0.4s,mb4.5,baz=122,slow=8.6,SNR=54						
SONM				ScP		05 07 02.4	
	comp=Z,1.1nm,0.6s,baz=131,slow=3.7,SNR=7.5						
YAK	**Yakutsk**	**33.19**	**351**	*d*iP	**P**	**05 00 53.3**	**-1.0**
YAK				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.8						
KMI	**Kunming**	**33.79**	**272**	*e*P	**P**	**05 01 01.3**	**+1.5**
KMI				AMB	AMB		
	comp=Z,12nm,0.5s,mb5.0						
GTA	**Gaotai**	**34.72**	**297**	*e*P	**P**	**05 01 07.5**	**0.0**
GTA				XP	sP	05 01 49.0	+0.1
GTA				PCP	PcP	05 03 40.0	+1.0
GTA				SCP		05 07 13.0	
GTA				SCS	ScS	05 11 12.5	-1.3
GTA				AMB	AMB		
	comp=Z,5.0nm,0.5s,mb4.6						
ZAK	**Zakamensk**	**34.78**	**317**	*e*P	**P**	**05 01 05.6**	**-2.4**
CHG	**Chiang Mai**	**35.27**	**264**	⇓P	**P**	**05 01 46.6**	**+0.7**
	comp=Z,31nm,0.8s,mb5.2						
CMAR	**Chiang Mai Arr**	**39.42**	**263**	P	**P**	**05 01 48.0**	**+1.0**
	comp=Z,6.7nm,0.8s,mb4.5,baz=90,slow=4.7,SNR=22						
CMAR				LR	LR	05 19 30.0	
	comp=Z,61nm,18.1s,baz=90,slow=38						
BDT	**Bhumibol Dam**	**39.88**	**261**	P	**P**	**05 01 51.0**	**+0.1**
BILL	**Bilibino

BRVK					*e*PcP	PcP	05 04 49.0	-0.3
COLA	**College**	**55.79**	**29**	*c* *i*P	**P**		**05 03 54.0**	**+0.2**
COLA	**College**	**55.79**	**29**	*e*P	**P**		**05 03 53.3**	**-0.4**
	comp=E,8.1nm,0.5s,mb5.0							
ILAR	**Eielson Array**	**56.20**	**29**	P	**P**		**05 03 55.2**	**-1.4**
	comp=E,3.9nm,0.6s,mb4.6,baz=266,slow=5.3,SNR=104							
THY	**Trims Highway**	**56.68**	**31**	*e*P	**P**		**05 03 59.9**	**-0.2**
DAWY	**Dawson**	**59.47**	**30**	*e*P	**P**		**05 04 18.7**	**-0.9**
SVE	**Sverdlovsk**	**60.36**	**321**⇓	*e*P	**P**		**05 04 25.0**	**-0.7**
STKA	**Stephens Creek**	**61.17**	**179**	P	**P**		**05 04 29.1**	**-2.5**
	comp=E,1.5nm,0.7s,mb4.2,baz=178,slow=18,SNR=4.4							
STKA				LR	LR		05 29 07.6	
	comp=E,69nm,19.7s,baz=205,slow=34							
STKA	**Stephens Creek**	**61.17**	**179**	P	**P**		**05 04 28.4**	**-3.2**
INK	**Inuvik**	**61.34**	**25**	P	**P**		**05 04 31.6**	**-0.5**
	comp=E,9.6nm,1.1s,mb4.8,baz=299,slow=5.8,SNR=82							
INK	**Inuvik**	**61.34**	**25**	*e*P	**P**		**05 04 31.2**	**-1.0**
	comp=E,12nm,1.0s,mb4.9							
ARU	**Arti**	**61.56**	**321**⇓	*i*P	**P**		**05 04 32.9**	**-0.9**
ARU				*e*			05 05 09.1	
ARU				*e*			05 06 45.5	
ARU				*e*S	**S**		**05 12 42.0**	**-2.1**
ARU				pmax	pmax			
	comp=Z,18nm,0.5s,mb5.4							
ARU	**Arti**	**61.56**	**321**	*e*P	**P**		**05 04 32.8**	**-1.0**
	comp=Z,55nm,0.5s,mb5.8							
DLBC	**Dease Lake**	**64.97**	**35**	P	**P**		**05 04 56.4**	**+0.2**
	comp=Z,2.3nm,0.7s,mb4.1,baz=77,slow=8.6,SNR=6.0							
DLBC	**Dease Lake**	**64.97**	**35**	*e*P	**P**		**05 04 56.6**	**+0.5**
NWAO	**Narrogin (SRO)**	**66.03**	**201**	P	**P**		**05 05 01.5**	**-1.9**
	comp=Z,22nm,1.3s,mb4.8							
BBB	**Bella Bella**	**67.96**	**42**	P	**P**		**05 05 14.6**	**-0.5**
	comp=Z,12nm,0.8s,mb4.8,baz=95,slow=7.3,SNR=5.6							
APA	**Apatity**	**69.17**	**337**⇓	*i*P	**P**		**05 05 22.9**	**+0.6**
APA				pmax	pmax			
	comp=Z,30nm,1.1s,mb5.0							
RES	**Resolute Bay**	**69.94**	**13**	*e*P	**P**		**05 05 26.8**	**-0.1**
	comp=Z,13nm,1.0s,mb4.7							
KEV	**Kevo**	**70.13**	**340**	*e*p	**P**		**05 05 27.8**	**-0.3**
	comp=Z,13nm,0.8s,mb4.8							
KEV	**Kevo**	**70.13**	**340**	*e*P	**P**		**05 05 27.8**	**-0.3**
KEV				pmax	pmax			
	comp=Z,13nm,0.8s,mb4.8							
YKA	**Yellowknife Ar**	**70.60**	**28**	P	**P**		**05 05 30.3**	**-0.7**
	comp=Z,2.8nm,0.5s,mb4.3,baz=299,slow=6.4,SNR=9.2							
YKA				LR	LR		05 33 38.8	
	comp=Z,24nm,21.5s,baz=265,slow=33							
ARCES	**ARCESS Array B**	**70.69**	**340**	P	**P**		**05 05 31.9**	**+0.5**
	comp=Z,9.3nm,0.5s,mb4.9,baz=70,slow=9.3,SNR=111							
ARCES				LR	LR		05 40 12.0	
	comp=Z,60nm,21.4s,baz=15,slow=39							
ARCES	**ARCESS Array B**	**70.69**	**340**	P	**P**		**05 05 31.9**	**+0.5**
ARCES				LR	LR		05 40 12.1	
ARE0	**ARCESS Array S**	**70.69**	**340**	*e*P	**P**		**05 05 31.8**	**+0.4**
JOF	**Joensuu**	**72.19**	**333**	*e*p	**P**		**05 05 40.1**	**-0.3**
	comp=Z,9.1nm,0.7s,mb4.7							
JOF	**Joensuu**	**72.19**	**333**	*e*P	**P**		**05 05 40.1**	**-0.3**
JOF				pmax	pmax			
	comp=Z,9.0nm,0.7s,mb4.7							
MOS	**Moscow**	**72.82**	**325**	*e*P	**P**		**05 05 44.7**	**+0.5**
MOS				pmax	pmax			
	comp=Z,57nm,1.1s,mb5.3							
BMW	**Boistfort Moun**	**73.11**	**46**	*e*P	**P**		**05 05 47.0**	**+0.9**
OBN	**Obninsk**	**73.65**	**324**	*c* *i*P	**P**		**05 05 49.5**	**+0.5**
OBN				*e**PP	pP		05 06 04.6	-15
OBN				pmax	pmax			
	comp=Z,53nm,1.4s,mb5.1							
OBN				MLR	MLR			
	comp=Z,100nm,16.0s							
OBN	**Obninsk**	**73.65**	**324**	*e*P	**P**		**05 05 49.1**	**+0.1**
	comp=Z,45nm,1.1s,mb5.1							
KAF	**Kangasniemi**	**74.58**	**334**	*e*p	**P**		**05 05 53.8**	**-0.5**
	comp=Z,8.4nm,0.5s,mb4.7,baz=54,slow=5.5							
KAF	**Kangasniemi**	**74.58**	**334**	*e*P	**P**		**05 05 53.8**	**-0.5**
KAF				pmax	pmax			
	comp=Z,8.0nm,0.5s,mb4.7							
FINES	**FINESS Array B**	**75.05**	**333**	P	**P**		**05 05 57.0**	**+0.1**
	comp=Z,11nm,0.5s,mb4.9,baz=68,slow=5.4,SNR=85							
FINES	**FINESS Array B**	**75.05**	**333**	*e*P	**P**		**05 05 57.2**	**+0.2**
KIV	**Kislovodsk**	**75.29**	**312**⇓	*e*P	**P**		**05 05 58.8**	**+0.1**
KIV	**Kislovodsk**	**75.29**	**312**	P	**P**		**05 05 59.3**	**+0.6**
	comp=Z,38nm,1.6s,mb4.9							
DPW	**Davenport**	**75.55**	**43**	*e*P	**P**		**05 06 00.5**	**+0.4**
EDM	**Edmonton**	**75.64**	**37**	*e*P	**P**		**05 06 00.6**	**+0.1**
NEW	**Newport**	**76.00**	**42**	P	**P**		**05 06 02.9**	**+0.3**
	comp=Z,3.6nm,0.7s,mb4.2,baz=277,slow=6.5,SNR=7.1							
SOC	**Sochi**	**77.36**	**313**	*e*P	**P**		**05 06 06.6**	**-3.7**
SOC				*e*			05 06 16.6	
SOC				*e*			05 09 03.3	
SOC				*e*PPP	PPP		05 10 46.9	-10
SOC				*e*			05 15 54.3	
SOC				*e*PS	PS		05 16 33.5	-13
SOC				pmax	pmax			
	comp=Z,8.0nm,0.5s,mb4.7							
SOC				pmax	pmax			
	comp=N,4.0nm,0.7s							
SOC				pmax	pmax			
	comp=E,9.0nm,0.9s							
WALA	**Waterton Lakes**	**77.45**	**40**	*e*P	**P**		**05 06 11.4**	**+0.7**
	comp=E,4.8nm,0.5s,mb4.5							
WALA				*e*pP	pP		05 06 43.1	+1.6
OHCM	**Honcut**	**77.46**	**52**	*e*P	**P**		**05 06 11.1**	**+0.1**
OHCM				*e*pP	pP		05 06 38.5	-3.2
BEKR	**Beckwourth**	**77.97**	**51**	*e*P	**P**		**05 06 14.0**	**+0.2**
	comp=E,5.2nm,0.7s,mb4.4							
BEKR				*e*pP	pP		05 06 46.9	+2.3
SUMG	**Summit**	**78.07**	**360**	*e*P	**P**		**05 06 14.2**	**+0.6**
	comp=E,5.8nm,0.7s,mb4.4							
CHMT	**Chamberlain Mo**	**78.94**	**42**	P	**P**		**05 06 19.1**	**+0.2**
AKASG	**Malin Array Be**	**79.74**	**323**	P	**P**		**05 06 23.1**	**0.0**
	comp=E,14nm,0.6s,mb5.0,baz=51,slow=5.5,SNR=104							
AKASG				LR	LR		05 44 01.8	
	comp=E,49nm,19.3s,baz=290,slow=37							
HRY	**Holter Researc**	**79.88**	**42**	*e*P	**P**		**05 06 24.6**	**+0.7**
HRY				*e*pP	pP		05 06 56.2	+1.4
HLID	**Hailey**	**80.00**	**45**	*e*P	**P**		**05 06 24.4**	**-0.3**
	comp=E,7.7nm,1.5s,mb4.3							
HLID				*e*pP	pP		05 06 53.5	-2.1
NVAR	**Mina Array Bea**	**80.07**	**51**	P	**P**		**05 06 26.0**	**+0.8**
	comp=E,2.6nm,0.6s,mb4.2,baz=290,slow=6.3,SNR=27							
NVAR				LR	LR		05 42 26.5	
	comp=E,45nm,18.1s,baz=75,slow=36							
NVAR	**Mina Array Bea**	**80.07**	**51**	P	**P**		**05 06 26.0**	**+0.8**
NVAR				LR	LR		05 42 26.5	
HFS	**Hagfors**	**80.54**	**336**	P	**P**		**05 06 27.0**	**-0.2**
	comp=E,3.1nm,0.3s,mb4.6,baz=72,slow=4.7,SNR=37							
BOZ	**Bozeman (W)**	**80.57**	**43**	*e*P	**P**		**05 06 27.7**	**0.0**
	comp=E,9.5nm,1.4s,mb4.4							
BOZ				*e*pP	pP		05 06 57.5	-1.1
NB2	**NORSAR Subarra**	**80.74**	**338**	P	**P**		**05 06 28.4**	**+0.2**
	comp=E,1.9nm,0.5s,mb4.2,baz=43,slow=5.0							
NOA	**NORSAR Array B**	**80.74**	**338**	P	**P**		**05 06 28.4**	**+0.2**
	comp=E,2.5nm,0.5s,mb4.3,baz=44,slow=5.4,SNR=12							
NOA				LR	LR		05 42 54.8	
	comp=E,15nm,18.8s,baz=25,slow=36							
SUW	**Suwalki**	**80.75**	**328**	*e*P	**P**		**05 06 28.8**	**+0.3**
SUW	**Suwalki**	**80.75**	**328**	*e*P	**P**		**05 06 28.8**	**+0.3**
MALT	**Malatya**	**80.82**	**309**	*e*P	**P**		**05 06 29.2**	**+0.1**
	comp=E,2.7nm,0.7s,mb4.2							
TPNV	**Topopah Spring**	**82.22**	**52**	*e*P	**P**		**05 06 36.7**	**+0.2**
	comp=E,6.1nm,0.8s,mb4.5							
TPNV				*e*pP	pP		05 07 09.4	+1.9
DUG	**Dugway**	**82.79**	**48**	*e*P	**P**		**05 06 39.9**	**+0.6**
	comp=E,4.7nm,0.7s,mb4.4							
DUG				*e*pP	pP		05 07 12.2	+1.8
HWUT	**Hardware Ranch**	**82.82**	**46**	*e*P	**P**		**05 06 40.5**	**+1.1**
	comp=E,20nm,1.4s,mb4.7							
HWUT				*e*pP	pP		05 07 12.5	+2.0
BRTR	**Keskin Array B**	**83.25**	**312**	P	**P**		**05 06 42.3**	**+0.7**
	comp=E,6.5nm,0.8s,mb4.5,baz=99,slow=3.8,SNR=30							
BRTR				LR	LR		05 47 01.8	
	comp=E,28nm,18.0s,baz=95,slow=38							
PDAR	**Pinedale Array**	**83.41**	**44**	P	**P**		**05 06 43.0**	**+0.7**
	comp=E,1.0nm,0.6s,mb3.8,baz=288,slow=1.7,SNR=9.4							
PDAR				LR	LR		05 42 02.5	
	comp=E,44nm,18.5s,baz=79,slow=34							
CFR	**Carcaliu**	**83.53**	**319**⇑	*i*P	**P**		**05 06 43.7**	**+0.8**
CFR	**Carcaliu**	**83.53**	**319**⇑	*i*P	**P**		**05 06 43.7**	**+0.8**
KWP	**Kalwaria**	**83.74**	**325**	*e*P	**P**		**05 06 44.7**	**+0.9**
KWP	**Kalwaria**	**83.74**	**325**	*e*P	**P**		**05 06 44.7**	**+0.9**
VRI	**Vrincioaia**	**83.92**	**320**⇓	*i*P	**P**		**05 06 47.1**	**+2.3**
VRI	**Vrincioaia**	**83.92**	**320**⇓	*i*P	**P**		**05 06 47.1**	**+2.3**
BRD	**Bordesti**	**83.94**	**320**⇑	*i*P	**P**		**05 06 49.9**	**+5.0**
BRD	**Bordesti**	**83.94**	**320**⇑	*i*P	**P**		**05 06 49.9**	**+5.0**
MSU	**Marysvale**	**84.12**	**49**	*e*P	**P**		**05 06 47.5**	**+1.4**
MSU				*e*pP	pP		05 07 19.0	+1.8
FRB	**Frobisher Bay**	**84.13**	**13**	P	**P**		**05 06 47.0**	**+1.6**
	comp=E,18nm,1.0s,mb4.8,baz=330,slow=7.0,SNR=3.1							
KOLS	**Kolonicke sedl**	**84.40**	**324**	*e*P	**P**		**05 06 48.2**	**+1.1**
OJC	**Ojcow**	**84.79**	**326**	*e*P	**P**		**05 06 49.8**	**+0.7**
OJC	**Ojcow**	**84.79**	**326**	*e*P	**P**		**05 06 49.8**	**+0.7**
CRVS	**Cervenica-Dubn**	**84.83**	**325**	*i*P	**P**		**05 06 50.6**	**+1.3**
ASF	**Jabal al Asfar**	**85.06**	**304**	P	**P**		**05 06 51.6**	**+0.7**
	comp=E,3.1nm,0.6s,mb4.4,baz=262,slow=4.7,SNR=4.7							
NIE	**Niedzica**	**85.07**	**326**	*e*P	**P**		**05 06 52.0**	**+1.6**
OKC	**Ostrava-Krasne**	**85.84**	**327**	*e*P	**P**		**05 06 55.1**	**+0.9**
KSP	**Ksiaz**	**86.02**	**328**	*e*P	**P**		**05 06 56.0**	**+0.9**
KSP	**Ksiaz**	**86.02**	**328**	*e*P	**P**		**05 06 56.3**	**+1.2**
ULM	**Lac du Bonnet**	**86.09**	**32**	P	**P**		**05 06 56.2**	**+0.7**
	comp=E,2.5nm,0.7s,mb4.3,baz=340,slow=2.4,SNR=3.0							
PV10	**Paradox Valley**	**86.24**	**48**	*e*P	**P**		**05 06 57.5**	**+1.1**
PV10				*e*pP	pP		05 07 25.0	-2.8
PSZ	**Piszkesteto**	**86.27**	**325**	P	**P**		**05 06 57.1**	**+0.7**
	comp=E,12nm,1.2s,mb4.7							
DPC	**Dobruska-Polom**	**86.34**	**328**	*e*P	**P**		**05 06 57.4**	**+0.7**
UPC	**Upice**	**86.38**	**328**	*e*P	**P**		**05 06 57.8**	**+1.0**
VYHS	**Vyhne**	**86.41**	**325**	*i*P	**P**		**05 06 58.2**	**+1.2**
PVCC	**Panska Ves**	**87.02**	**329**	*e*P	**P**		**05 07 00.7**	**+0.8**
BRG	**Berggiesshubel**	**87.05**	**329**	*e*P	**P**		**05 07 00.9**	**+0.8**
BRG				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.4							
BRG	**Berggiesshubel**	**87.05**	**329**	*e*P	**P**		**05 07 00.9**	**+0.8**
	comp=Z,3.6nm,0.8s,mb4.3							
CLL	**Collm**	**87.15**	**330**	P	**P**		**05 07 01.0**	**+0.4**
CLL	**Collm**	**87.15**	**330**	*e*P	**P**		**05 07 01.0**	**+0.4**
RW3	**Ridgway**	**87.18**	**47**	*e*P	**P**		**05 07 01.9**	**+0.9**
RW3				pP	pP		05 07 33.3	+0.9
NKC	**Novy Kostel**	**88.18**	**330**	*e*P	**P**		**05 07 06.1**	**+0.6**
KHC	**Kasperske Hory**	**88.47**	**328**	*e*P	**P**		**05 07 07.3**	**+0.4**
GERES	**GERESS Array B**	**88.62**	**328**	P	**P**		**05 07 08.0**	**+0.4**
	comp=Z,2.7nm,0.6s,mb4.5,baz=40,slow=5.2,SNR=25							
GERES				PP	PP		05 10 38.3	-1.4
	comp=Z,1.1nm,0.9s,baz=45,slow=9.4,SNR=3.6							
ANMO	**Albuquerque**	**89.92**	**49**	*e*P	**P**		**05 07 14.8**	**+0.7**
	comp=Z,1.2nm,0.9s,mb4.0							
DAVOX	**Davos**	**91.88**	**329**	P	**P**		**05 07 23.4**	**+0.5**
	comp=Z,4.9nm,0.6s,mb4.9,baz=80,slow=1.3,SNR=8.9							
TXAR	**Lajitas Array**	**95.21**	**52**	P	**P**		**05 07 39.4**	**+0.9**
	comp=Z,1.3nm,0.5s,mb4.6,baz=303,slow=2.4,SNR=31							
TXAR				LR	LR		05 50 52.5	
	comp=Z,44nm,18.2s,baz=340,slow=36							
TXAR	**Lajitas Array**	**95.21**	**52**	P	**P**		**05 07 39.4**	**+0.9**
TXAR				LR	LR		05 50 52.5	
SNAA	**Sanae**	**133.45**	**195**⇓	*i*PKPdf	PKPdf		05 13 18.3	-10
SNAA				*e*			05 15 54.9	
VNA2	**Neumayer--Watz**	**135.00**	**194**⇓	*i*PKPdf	PKPdf		05 13 31.8	+0.2
VNA2				*e*			05 16 08.5	
VNA3	**Neumayer Olymp**	**135.23**	**193**⇓	*i*PKPdf	PKPdf		05 13 32.4	+0.4
VNA3				*e*			05 16 09.1	
SAML	**Samuel**	**149.70**	**52**	*e*PKPdf	PKPdf		05 14 00.0	+1.4
SAML				*e*PKPbc	PKPdf		05 14 04.7	+6.1
LPAZ	**La Paz**	**150.52**	**70**	PKP	PKPdf		05 14 02.7	+3.0
	comp=Z,2.6nm,0.8s,baz=223,slow=3.1,SNR=6.2							
LPAZ				PKPbc	PKPdf		05 14 08.0	+8.3
	comp=Z,5.4nm,1.0s,baz=45,slow=5.7,SNR=10							
LPAZ	**La Paz**	**150.52**	**70**	*e*PKPdf	PKPdf		05 14 02.7	+3.0
LPAZ				*e*PKPbc	PKPdf		05 14 07.3	+7.5

IDC ***28*** *05:35:56.3±1.1,48.24N×154.70E,mb3.7/7,mb1 4.0/7, mb1mx3.7/22,MS3.1/2,Ms1 3.2/2,ms1mx2.6/27,Error ellipse: s-maj=35.0km s-min=27.6km az=164.0*

ISC 28 05:35:59.8±1.0,48.3N±0.2×154.7E±0.3,h33km,n9, σ0s62/7,mb3.6/7,MS3.5/1,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**9.36**	**248**	LR	LR	05 41 39.3	
	comp=Z,48nm,18.7s,baz=155,slow=37						
INK	**Inuvik**	**39.80**	**33**	P	**P**	**05 43 31.4**	**+0.6**
	1.1nm,1.1s,mb3.5,baz=281,slow=6.9,SNR=7.2						
BVAR	**Borovoye Array**	**50.75**	**309**	P	**P**	**05 44 57.2**	**-0.9**
	0.3nm,0.3s,mb3.6,baz=51,slow=9.2,SNR=3.0						
ARCES	**ARCESS Array B**	**56.79**	**341**	LR	LR	06 15 14.4	
	comp=Z,40nm,18.2s,MS3.5,baz=13,slow=42						
PDAR	**Pinedale Array**	**62.99**	**55**	P	**P**	**05 46 24.4**	**-1.0**
	0.4nm,0.8s,mb3.6,baz=333,slow=6.0,SNR=3.3						
ASAR	**Alice Springs**	**73.98**	**200**	P	**P**	**05 47 33.8**	**+0.1**
	0.4nm,0.7s,mb3.5,baz=10,slow=5.6,SNR=4.1						
TXAR	**Lajitas Array**	**75.82**	**62**	P	**P**	**05 47 44.3**	**+0.2**
	1.6nm,1.1s,mb3.9,baz=300,slow=4.7,SNR=8.8						
GERES	**GERESS Array B**	**77.57**	**335**	P	**P**	**05 47 54.0**	**+0.4**
	0.9nm,0.8s,mb3.8,baz=53,slow=4.9,SNR=4.7						
BRTR	**Keskin Array B**	**78.03**	**318**	P	**P**	**05 47 56.9**	**+0.6**
	0.6nm,0.6s,mb3.7,baz=108,slow=4.6,SNR=4.0						

IDC ***28*** *05:43:36.9±6.3,18.39S×177.93W,h613km±86km,mb3.5/8, mb1 3.8/9,mb1mx3.6/16,Error ellipse: s-maj=40.6km s-min=24.1km az=5.0*

NEIC ***28*** *05:43:36.8±0.9,18.44S×177.92W,h618km±11km, mb4.4/10,Error ellipse: s-maj=19.3km s-min=8.3km az=151.0*

ISC 28 05:43:35.9±1.2,18.5S±0.2×178.0W±0.1,h620km±16km, n27,σ0s93/25,mb4.2/16,5D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.49**	**54**	P	**P**	**05 45 31.4**	**-0.1**
URZ	**Urewera**	**20.17**	**191**	P	**P**	**05 47 30.9**	**-0.9**
	2.0nm,0.5s,baz=34,slow=3.6,SNR=3.1						
CTA	**Charters Tower**	**33.77**	**261**⇓	*i*P	**P**	**05 49 30.7**	**+0.9**
	9.2nm,0.4s,mb4.8						
CTAO	**Charters Tower**	**33.77**	**261**	*e*P	**P**	**05 49 30.5**	**+0.7**
	18nm,0.7s,mb4.8						
PMG	**Port Moresby**	**34.96**	**280**	P	**P**	**05 49 40.3**	**+0.5**
	29nm,1.0s,mb4.9,baz=79,slow=3.4,SNR=4.7						
PMG	**Port Moresby**	**34.96**	**280**	*e*P	**P**	**05 49 40.7**	**+1.0**
	28nm,0.9s,mb4.9						
STKA	**Stephens Creek**	**38.73**	**242**⇓	*i*P	**P**	**05 50 11.8**	**+1.5**
	6.7nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**38.73**	**242**	P	**P**	**05 50 11.9**	**+1.5**
	6.2nm,0.5s,mb4.4,baz=88,slow=8.0,SNR=15						
STKA	**Stephens Creek**	**38.73**	**242**	*e*P	**P**	**05 50 11.7**	**+1.3**
WB2	**Warramunga Arr**	**44.93**	**260**⇓	*i*P	**P**	**05 50 58.8**	**-0.5**
WRAB	**Tennant Creek**	**44.93**	**260**	*e*P	**P**	**05 50 58.8**	**-0.6**
	22nm,0.4s,mb5.0						
WRA	**Warramunga Arr**	**44.94**	**260**	P	**P**	**05 50 59.1**	**-0.3**
	11nm,0.4s,mb4.7,baz=96,slow=7.6,SNR=134						
ASAR	**Alice Springs**	**45.04**	**255**	P	**P**	**05 51 00.3**	**+0.1**
	13nm,0.4s,mb4.8,baz=91,slow=7.8,SNR=205						
ASPA	**Alice Springs**	**45.04**	**255**⇓	*i*P	**P**	**05 51 00.2**	**0.0**
KAKA	**Kakadu**	**48.03**	**269**	*e*P	**P**	**05 51 26.2**	**+3.4**
	12nm,0.4s,mb4.8						
FITZ	**Fitzroy Crossi**	**53.35**	**261**⇓	*i*P	**P**	**05 52 00.8**	**-0.4**
	1.7nm,0.3s,mb3.9						
MBWA	**Marble Bar**	**58.34**	**256**	*e*P	**P**	**05 52 34.4**	**-1.1**
	3.9nm,0.6s,mb3.7						
CMB	**Columbia Colle**	**77.97**	**43**	*e*P	**P**	**05 54 33.0**	**0.0**
	4.5nm,1.1s,mb3.8						
NVAR	**Mina Array Bea**	**79.55**	**44**	P	**P**	**05 54 42.0**	**+0.8**
	1.3nm,0.8s,mb3.3,baz=217,slow=8.0,SNR=7.2						
TXAR	**Lajitas Array**	**85.95**	**57**	P	**P**	**05 55 14.7**	**+1.4**
	1.0nm,0.7s,mb3.6,baz=218,slow=6.0,SNR=16						
COLA	**College**	**86.23**	**12**	*e*P	**P**	**05 55 11.8**	**-2.0**
	3.6nm,0.7s,mb4.1						
ILAR	**Eielson Array**	**86.34**	**13**	P	**P**	**05 55 12.8**	**-1.5**
	0.9nm,0.5s,mb3.7,baz=225,slow=4.9,SNR=27						
MCMT	**McKenzie Canyo**	**86.40**	**40**	*e*P	**P**	**05 55 15.6**	**+0.5**
PDAR	**Pinedale Array**	**87.48**	**43**	P	**P**	**05 55 20.6**	**+0.4**
	1.1nm,0.7s,mb3.7,baz=243,slow=3.3,SNR=6.6						
SNAA	**Sanae**	**90.02**	**178**	P	**P**	**05 55 31.6**	**+0.2**
	2.5nm,1.2s,mb3.9						
ARCES	**ARCESS Array B**	**126.94**	**350**	PKP	PKPdf	06 01 30.6	+0.5
	2.5nm,1.0s,slow=2.4,SNR=3.5						
CLL	**Collm**	**146.10**	**348**	*e*PKP1	PKPbc	06 02 09.0	+2.0

NEIC ***28*** *05:51:22.3,30.61S×71.37W,h49km,MD3.9(GUC),After GUC.*

GUC 28 05:51:22.3±1.1,30.61S×71.37W,h49km±5km,MD3.9, ML4.0,3C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OVCH	**Ovalle**	**0.15**	**88**	*i*P	P	05 51 30.2	+0.1
OVCH				*i* S	S	05 51 36.8	+0.9
OVCH				AMP		05 51 36.9	
	comp=N,6μm,0.1s						
CMCH	**Combarbala**	**0.64**	**150**	*i* P	P	05 51 35.3	0.0
CMCH				*i* S	S	05 51 45.5	+0.6
CMCH				AMP		05 51 45.9	
	comp=N,21μm,0.3s						
TLL	**Tololo Astrono**	**0.66**	**48**⇑	*i*P	P	05 51 36.4	+0.8
TLL				*i* S	S	05 51 46.8	+1.5
VACH	**Vallenar**	**2.10**	**15**⇑	*i*P	P	05 51 55.1	-0.6
VACH				*i* S	S	05 52 21.6	+0.9
VACH				AMP		05 52 24.7	
	comp=N,2μm,0.1s						
PEL	**Peldehue**	**2.59**	**167**	*i* P	P	05 52 02.4	-0.4
PEL				*i* S	S	05 52 32.8	-0.4
PEL				AMP		05 52 49.5	
	comp=N,620nm,0.7s						
FCH	**Farellones**	**2.86**	**162**	*i* P	P	05 52 06.9	+0.4
FCH				*i* S	S	05 52 40.4	+0.4
FCH				AMP		05 52 48.3	
	comp=E,311nm,1.0s						
DSCH	**Colegio Aleman**	**2.86**	**166**	*e*P	P	05 52 05.8	-0.8
DSCH				*i* S	S	05 52 39.5	-0.5
DSCH				AMP		05 52 47.9	
	comp=N,563nm,0.5s						
CLCH	**Cerro Calan**	**2.86**	**166**	AMP		05 52 55.0	
	comp=E,630nm,0.5s						
STL	**Santa Lucia**	**2.88**	**168**	*i* S	S	05 52 40.2	-0.4
RCDM	**Rinconada Maip**	**2.91**	**171**	AMP		05 52 52.8	
	comp=E,330nm,0.4s						
FSR	**Penalolen**	**2.95**	**166**	*e*P	P	05 52 07.3	-0.5
FSR				*i* S	S	05 52 42.3	+0.1
FSR				AMP		05 52 58.2	
	comp=N,425nm,0.6s						
ANTU	**Antumapu**	**3.01**	**168**	*i* P	P	05 52 08.1	-0.7
ANTU				*i* S	S	05 52 43.2	-0.7
ANTU				AMP		05 52 50.5	
	comp=N,420nm,0.4s						
TACH	**Talagante**	**3.05**	**173**	*i* P	P	05 52 08.1	-1.3
TACH				*i* S	S	05 52 43.9	-1.1
PCH	**Pirque**	**3.09**	**167**	*e*P	P	05 52 08.8	-1.0
PCH				*i* S	S	05 52 45.4	-0.4
LMEL	**Las Melosas**	**3.37**	**163**	AMP		05 53 04.4	
	comp=N,308nm,0.3s						
SFDO	**San Fernando**	**4.00**	**176**	*i* P	P	05 52 21.5	-1.2
SFDO				*i* S	S	05 53 06.9	-1.9

BJI ***28*** *06:51:47.2,57.12S×148.51E,h2km,mB4.9,Ms4.8, Msz4.2*

IDC ***28*** *06:51:49.0±1.0,57.24S×148.09E,mb4.3/8,mb1 4.4/8, mb1mx4.4/11,MS3.7/9,Ms1 3.7/9,ms1mx3.5/16,Error ellipse: s-maj=34.2km s-min=18.5km az=91.0*

NEIC ***28*** *06:51:50.5±0.5,57.24S×147.96E,h10km,mb4.5/6,Error ellipse: s-maj=19.6km s-min=8.2km az=88.0*

SYO ***28*** *06:51:50.5,57.255S×147.85E,h10km,MB4.5*

ISC 28 06:51:48.4±0.5,57.26S±0.06×147.9E±0.2,h10km,n32, σ0s96/25,mb4.3/10,MS3.6/8,6C-1D,West of Macquarie Island

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

RMNI	**Mount Ramon**	**0.73**	**25**	⇑Pg		**Pb**	**07 10 45.6**	**-0.2**
HBST	**Basata**	**0.76**	**158**	⇑P		**Pb**	**07 10 46.5**	**+0.1**
HBST				S		**Sb**	**07 10 57.8**	**+1.4**
MRSJ	**Marsad**	**0.83**	**107**	*eP*		**Pb**	**07 10 44.7**	**-2.8**
	SNR=94							
MRSJ				*eS*		**Sb**	**07 10 55.9**	**-2.4**
	SNR=94							
ALWS	**Ilw as Safayha**	**0.84**	**137**	P		**Pb**	**07 10 47.7**	**+0.1**
ALWS				S		**Sb**	**07 10 59.7**	**+1.1**
ZFRI	**Zfri**	**0.91**	**47**	Pg		**Pb**	**07 10 48.7**	**-0.2**
ZFRI	**Zfri**	**0.91**	**47**	⇑Pg		**Pb**	**07 10 48.7**	**-0.2**
JMOS	**Jabal al Moall**	**0.97**	**141**	P		**Pn**	**07 10 50.0**	**+0.1**
JMOS				S		**Sb**	**07 11 03.6**	**+1.3**
KZIT	**Kziot**	**0.97**	**360**	Pg		**Pn**	**07 10 49.9**	**0.0**
KZIT				Sg		**Sb**	**07 11 03.1**	**+0.7**
KZIT	**Kziot**	**0.97**	**360**	⇑Pg		**Pn**	**07 10 49.9**	**0.0**
KZIT				Sg		**Sb**	**07 11 03.1**	**+0.7**
HAQS	**Haql**	**0.98**	**152**	P		**Pn**	**07 10 50.1**	**+0.1**
HAQS				S		**Sb**	**07 11 03.8**	**+1.2**
MASH	**Mash'abbe Sade**	**1.11**	**17**	Pg		**Pn**	**07 10 52.2**	**+0.3**
MASH	**Mash'abbe Sade**	**1.11**	**17**	Pg		**Pn**	**07 10 51.8**	**-0.1**
HRSH	**Kfar Ka'horesh**	**1.19**	**330**	⇑P		**Pn**	**07 10 52.6**	**-0.4**
RSH		**1.19**	**330**	P		**Pn**	**07 10 52.6**	**-0.3**
HDHB	**Dhahab**	**1.22**	**171**	⇑P		**Pn**	**07 10 53.6**	**+0.2**
AMAG	**Maghara**	**1.26**	**305**	⇓P		**Pn**	**07 10 53.7**	**-0.3**
SUZ		**1.37**	**267**	⇓P		**Pn**	**07 10 55.5**	**-0.1**
TAYS	**Tayyib Ism**	**1.43**	**163**	P		**Pn**	**07 10 55.9**	**-0.5**
ZNM		**1.44**	**248**	⇑P		**Pn**	**07 10 57.1**	**+0.5**
HKAT	**Jabal Katrina**	**1.45**	**195**	⇓P		**Pn**	**07 10 57.1**	**+0.5**
HRDS	**Abu Rudays**	**1.55**	**219**	⇓P		**Pn**	**07 10 58.5**	**+0.3**
YTIR	**Yattir**	**1.56**	**23**	Pn		**Pn**	**07 10 58.2**	**0.0**
YTIR	**Yattir**	**1.56**	**23**	⇑Pn		**Pn**	**07 10 58.2**	**0.0**
AMZI	**Amatzia**	**1.59**	**16**	Pn		**Pn**	**07 10 59.6**	**+1.0**
AMZI				S		**Sn**	**07 11 21.2**	**+2.7**
MZDA	**Masada**	**1.60**	**31**	Pn		**Pn**	**07 10 58.8**	**-0.1**
MZDA				S		**Sn**	**07 11 19.3**	**+0.3**
BDAS	**Al Bad'**	**1.61**	**158**	P		**Pn**	**07 10 58.5**	**-0.5**
TR2		**1.65**	**201**	⇓P		**Pn**	**07 10 59.5**	**-0.1**
JMQS	**Jabal Moqyreh**	**1.65**	**129**	P		**Pn**	**07 10 59.6**	**0.0**
ZAF		**1.74**	**249**	⇑P		**Pn**	**07 11 00.9**	**+0.1**
ZAF		**1.74**	**249**	P		**Pn**	**07 11 00.9**	**0.0**
DSI	**Dead Sea**	**1.84**	**27**	Pn		**Pn**	**07 11 02.4**	**+0.1**
DSI	**Dead Sea**	**1.84**	**27**	⇓Pn		**Pn**	**07 11 02.4**	**+0.1**
DRGI	**Dragot**	**1.86**	**27**	Pn		**Pn**	**07 11 02.3**	**-0.4**
AYUS	**'Aynunah**	**1.89**	**156**	P		**Pn**	**07 11 02.4**	**-0.7**
TR1		**1.92**	**192**	⇓P		**Pn**	**07 11 03.6**	**-0.3**
HHAG	**Hagoal**	**2.00**	**271**	⇑P		**Pn**	**07 11 04.4**	**-0.2**
SHRM		**2.04**	**187**	⇓P		**Pn**	**07 11 05.0**	**-0.2**
GRB	**Gharib**	**2.18**	**221**	⇑P		**Pn**	**07 11 07.3**	**+0.2**
ZEIT		**2.19**	**201**	⇑P		**Pn**	**07 11 07.4**	**+0.1**
KOT	**Kottamia**	**2.24**	**271**	⇑P		**Pn**	**07 11 08.1**	**+0.1**
KOT				S		**Sn**	**07 11 35.0**	**-0.1**
SLTI	**Sal'it**	**2.37**	**13**	Pn		**Pn**	**07 11 09.8**	**-0.1**
SLTI	**Sal'it**	**2.37**	**13**	Pn		**Pn**	**07 11 10.4**	**+0.5**
GLL	**Jalalah**	**2.37**	**262**	⇓P		**Pn**	**07 11 09.7**	**-0.3**
HSAF	**As Saff**	**2.50**	**264**	⇑P		**Pn**	**07 11 11.4**	**-0.3**
HMDT	**Nahal Hemdat**	**2.51**	**22**	Pn		**Pn**	**07 11 11.8**	**-0.1**
HMDT	**Nahal Hemdat**	**2.51**	**22**	⇓Pn		**Pn**	**07 11 11.8**	**-0.1**
TBKS	**Tabuk**	**2.53**	**132**	P		**Pn**	**07 11 11.7**	**-0.5**
MMLI	**Mount Malkishu**	**2.65**	**19**	Pn		**Pn**	**07 11 13.9**	**+0.1**
MMLI				Sn		**Sn**	**07 11 47.1**	**+1.6**
OFRI	**'Ofer**	**2.73**	**10**	Pn		**Pn**	**07 11 15.2**	**+0.2**
FYM	**Al Fayyum**	**2.93**	**266**	⇑P		**Pn**	**07 11 17.5**	**-0.4**
GLH	**Golan-Tel Qazi**	**2.97**	**21**	Pn		**Pn**	**07 11 19.0**	**+0.5**
GLH	**Golan-Tel Qazi**	**2.97**	**21**	Pn		**Pn**	**07 11 19.7**	**+1.2**
KSHT	**Keshet**	**3.27**	**21**	Pn		**Pn**	**07 11 23.3**	**+0.6**
KSHT	**Keshet**	**3.27**	**21**	Pn		**Pn**	**07 11 23.8**	**+1.1**
HSFG		**3.38**	**187**	⇑P		**Pn**	**07 11 23.6**	**-0.6**
CSS	**Prodhromos**	**5.10**	**350**	*e*Pn		**Pn**	**07 11 45.9**	**-2.7**
CSS				*e*Sn		**Sn**	**07 12 41.2**	**-6.3**
CSS	**Prodhromos**	**5.10**	**350**	*e*Sn		**Sn**	**07 12 41.2**	**-6.3**
CSS	**Prodhromos**	**5.10**	**350**	*e*Pn		**Pn**	**07 11 45.9**	**-2.8**
SANT	**Santorini**	**9.87**	**313**	P		**P**	**07 12 52.9**	**-2.4**
SANT	**Santorini**	**9.87**	**313**	P		**P**	**07 12 52.9**	**-2.4**

NIED ***28*** *07:43:00.41.00N× 143.40E, h32km, Mw4.0 Best double couple: M₀1.22×10¹⁵ NP1:φ₈6°, δ76°, λ70°. NP2:φ₈242°, δ24°, λ143°.*

JMA ***28*** *07:43:24.4±0.3, 41.04N× 143.35E, h2km±3km, M3.9*

IDC ***28*** *07:43:32.0±4.4, 41.11N× 143.14E, h54km±41km, mb3.4/5, mb1 3.6/6, mb1mx3.4/21, ML3.4/1, MS3.2/2, Ms1 3.3/2, ms1mx2.7/18, Error ellipse: s-maj=36.7km s-min=25.4km az=91.0*

ISC 28 07:43:27.6±1.0, **41.04N**±0.05×**143.39E**±0.08, **h36**km±11km, **n21, σ0≥83/28, mb3.7/5, MS3.2/2, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**0.99**	**350**	P	**P**	**07 43 43.3**	**-1.8**
JNBK	**Urakawa-nobuka**	**1.33**	**339**	P	**P**	**07 43 49.5**	**-0.5**
JNBK				*e*S	**S**	**07 44 07.8**	**+1.2**
JCH	**Churui**	**1.57**	**359**	P	**P**	**07 43 53.1**	**-0.4**
JCH				*e*S	**S**	**07 44 13.1**	**+0.3**
JANG	**Nango**	**1.57**	**245**	P	**P**	**07 43 52.9**	**-0.6**
JANG				*e*S	**S**	**07 44 13.7**	**+0.8**
JTM	**Tenmabayashi**	**1.78**	**262**	P	**P**	**07 43 55.7**	**-0.7**
JTM				*e*S	**S**	**07 44 18.3**	**+0.3**
JOT	**Ohata**	**1.80**	**282**	P	**P**	**07 43 55.9**	**-0.8**
JOT				*e*S	**S**	**07 44 18.1**	**-0.4**
JOB	**Onbets**	**1.89**	**10**	P	**P**	**07 43 58.4**	**+0.4**
JOB				*e*S	**S**	**07 44 21.9**	**+1.1**
JBT2	**Biratori 2**	**1.90**	**337**	P	**P**	**07 43 58.8**	**+0.7**
JKB	**Kayabe**	**1.96**	**296**	P	**P**	**07 43 58.9**	**-0.1**
JAK	**Akkeshi**	**2.18**	**26**	P	**P**	**07 44 02.3**	**+0.1**
JAK				*e*S	**S**	**07 44 27.7**	**-0.5**
JOM	**Ohasama**	**2.24**	**226**	P	**P**	**07 44 03.8**	**+0.7**
JAR	**Ashorobuto**	**2.27**	**7**	P	**P**	**07 44 02.2**	**-1.2**
JAR				*e*S	**S**	**07 44 29.5**	**-1.0**
JEW	**Eniwo**	**2.31**	**322**	P	**P**	**07 44 04.7**	**+0.7**
ASAJ	**Asahikawa**	**3.13**	**349**	P	**P**	**07 44 17.3**	**+1.6**
	3.6nm,0.3s,baz=166,slow=3.2,SNR=8.6						
ASAJ				S	**S**	**07 45 05.4**	**+13**
	2.3nm,0.3s,baz=225,slow=34,SNR=4.3						
SONM	**Songino Array**	**27.08**	**297**	P	**P**	**07 49 07.9**	**-0.7**
	1.3nm,0.9s,mb3.5,baz=89,slow=8.3,SNR=8.7						
CMAR	**Chiang Mai Arr**	**44.08**	**253**	LR	LR	08 09 02.7	
	comp=Z,20nm,20.3s,MS3.0,baz=27,slow=35						
ILAR	**Eielson Array**	**45.30**	**34**	P	**P**	**07 51 44.5**	**+1.3**
	0.5nm,0.8s,mb3.4,baz=261,slow=5.9,SNR=5.5						
ARCES	**ARCESS Array B**	**60.80**	**339**	LR	LR	08 24 58.7	
	comp=Z,25nm,20.9s,MS3.4,baz=16,slow=41						
WRA	**Warramunga Arr**	**61.25**	**190**	P	**P**	**07 53 41.4**	**-0.2**
	0.2nm,0.3s,mb3.7,baz=7.7,slow=6.9,SNR=3.3						
ASAR	**Alice Springs**	**64.98**	**190**	P	**P**	**07 54 06.7**	**+0.6**
	0.7nm,0.9s,mb3.7,baz=8.2,slow=6.3,SNR=5.1						
FINES	**FINESS Array B**	**65.99**	**332**	P	**P**	**07 54 11.1**	**-0.9**
	1.4nm,0.6s,mb4.2,baz=63,slow=8.5,SNR=6.2						

DJA 28 08:05:40.8±0.9, **9.17S**×**114.42E, h2**km, **ML3.5**/1, **3C-2D, Error ellipse: s-maj=14.2km s-min=5.2km az=27.0, South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**0.73**	**338**	⇑*e*Pg	Pg	08 05 59.4	+4.0
SRDI				⇓*e*Sg	Sg	08 06 12.1	+6.9
KELI	**Kelakatan**	**0.94**	**4**	*e*Pg	Pg	08 06 04.4	+4.7
KELI				⇓*e*Sg	Sg	08 06 22.4	+10
RATI	**Rata**	**1.19**	**68**	⇑*e*Pg	Pg	08 06 10.1	+5.6
	66nm,0.2s						
RATI				⇑*e*Sg	Sg	08 06 31.5	+11

DJA ***28*** *08:21:31.8±1.0, 6.31S× 101.43E, h33km, mb5.9/4, MD3.0/3, Error ellipse: s-maj=28.8km s-min=10.1km az=59.0*

BJI ***28*** *08:21:43.6, 5.85S× 103.25E, h48km, mB5.2, mb5.0, Ms4.7, Msz4.4*

MOS ***28*** *08:21:49.0±0.8, 4.82S× 103.35E, h33km, mb5.0/17, Error ellipse: s-maj=28.2km s-min=11.2km az=110.6*

SYO ***28*** *08:21:50.4, 4.89S× 103.12E, h33km, MB5.0*

NEIC ***28*** *08:21:52.9±0.6, 4.88S× 103.26E, h49km±5km, mb5.0/30, Error ellipse: s-maj=6.3km s-min=4.0km az=59.0*

IDC ***28*** *08:21:53.2±1.9, 4.96S× 103.13E, h51km±15km, mb4.5/17, mb1 4.5/18, mb1mx4.5/18, Error ellipse: s-maj=22.4km s-min=11.6km az=55.0*

ISC 28 08:21:52.1±0.8, **4.90S**±0.04×**103.25E**±0.05, **h58**km±7km,

h67km±2.4km**: pP-P, n176, σ1902/150, mb5.0**/68, **MS4.2**/5, **18C-17D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**1.40**	**332**	*e*Pn	**P**	**08 22 15.0**	**-1.0**
PENI	**Pendagan**	**2.02**	**109**	⇓*e*Pn	**P**	**08 22 28.0**	**+3.4**
PASI	**Pasiripis**	**2.93**	**127**	⇓*e*Pn	**P**	**08 22 38.5**	**+1.1**
PASI				⇓*e*Sn	**S**	**08 23 17.7**	**+6.2**
PASI	**Pasiripis**	**2.93**	**127**	⇓*e*Pn	**P**	**08 22 39.1**	**+1.7**
PASI				*e*Sn	**S**	**08 23 10.9**	**-0.6**
KGM	**Kluang**	**6.87**	**1**	⇑*i*P	**P**	**08 23 36.1**	**+3.5**
	133nm,0.9s						
COCO	**West Island**	**9.63**	**221**	*e*Pn	**P**	**08 24 03.9**	**-6.7**
	243nm,0.7s						
COCO				*e*Sn	**S**	**08 25 43.7**	**-15**
IPM	**Ipoh**	**9.68**	**347**	⇑*e*P	**P**	**08 24 15.4**	**+4.1**
SRDI	**Scrawed**	**11.39**	**109**	⇓*e*P	**P**	**08 24 34.6**	**+0.1**
	569nm,0.2s						
KELI	**Kelakatan**	**11.64**	**107**	⇑*e*P	**P**	**08 24 38.1**	**+0.2**
	342nm,0.2s						
KELI	**Kelakatan**	**11.64**	**107**	⇑*e*P	**P**	**08 24 38.8**	**+0.9**
RATI	**Rata**	**12.77**	**108**	⇑*e*P	**P**	**08 24 51.5**	**-1.5**
	898nm,0.2s						
KEDI	**Kedomdong**	**13.26**	**106**	⇓*e*P	**P**	**08 24 57.9**	**-1.6**
	231nm,0.2s						
NINI	**Niniconang**	**16.46**	**89**	*e*P	**P**	**08 25 45.5**	**+4.7**
BUNI	**Buntu Taipa**	**17.07**	**87**	⇓*e*P	**P**	**08 25 54.2**	**+5.8**
BDT	**Bhumibol Dam**	**22.40**	**349**	P	**P**	**08 26 47.0**	**+0.1**
MBWA	**Marble Bar**	**22.74**	**137**	*e*P	**P**	**08 26 51.0**	**+0.6**
	12nm,0.6s,mb4.5						
MBWA				*e*		08 27 04.9	
CM31	**Chiang Mai Arr**	**23.59**	**350**	*e*P	**P**	**08 26 58.5**	**-0.1**
	48nm,0.8s,mb5.0						
CMAR	**Chiang Mai Arr**	**23.59**	**350**	P	**P**	**08 26 59.5**	**+0.9**
	29nm,0.9s,mb4.7,baz=181,slow=8.6,SNR=92						
CMAR				PcP	PcP	08 30 44.5	+0.6
	4.5nm,1.0s,baz=206,slow=3.1,SNR=11						
CMAR	**Chiang Mai Arr**	**23.59**	**350**	P	**P**	**08 26 59.5**	**+0.9**
CMAR						08 30 44.6	
CMAR				pmax	pmax		
	comp=Z,29nm,0.9s						
CMAR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
CHG	**Chiang Mai**	**23.94**	**350**	⇓P	**P**	**08 27 02.8**	**+0.8**
	comp=Z,29nm,0.8s,mb4.8						
QIZ	**Qiongzhong**	**24.65**	**15**	*e*P	**P**	**08 27 10.3**	**+1.4**
	comp=Z,15nm,0.9s,mb4.5						
FITZ	**Fitzroy Crossi**	**25.52**	**123**	⇑*i*P	**P**	**08 27 17.0**	**-0.1**
	comp=Z,12nm,0.6s,mb4.6,baz=318,slow=3.5,SNR=38						
FITZ	**Fitzroy Crossi**	**25.52**	**123**	P	**P**	**08 27 17.1**	**0.0**
	comp=Z,8.3nm,0.6s,mb4.6						
KAKA	**Kakadu**	**29.80**	**107**	⇑*i*P	**P**	**08 27 58.7**	**+2.7**
	comp=Z,8.3nm,0.6s,mb4.6						
KMI	**Kunming**	**29.85**	**359**	*e*P	**P**	**08 27 57.5**	**+1.2**
KMI				AMB	AMB		
	comp=Z,22nm,0.8s,mb4.9						
NWAO	**Narrogin (SRO)**	**30.79**	**157**	P	**P**	**08 28 04.2**	**-0.4**
	comp=Z,6.7nm,0.7s,mb4.6,baz=325,slow=13,SNR=4.6						
NWAO	**Narrogin (SRO)**	**30.79**	**157**	P	**P**	**08 28 04.2**	**-0.4**
NWAO				pmax	pmax		
	comp=Z,7.0nm,0.7s						
NWAO	**Narrogin (SRO)**	**30.79**	**157**	*e*P	**P**	**08 28 03.9**	**-0.7**
	comp=Z,15nm,1.1s,mb4.7						
NWAO				*e*	pP	08 28 18.7	-0.4
GYA	**Guiyang**	**31.35**	**6**	P	**P**	**08 28 10.3**	**+0.7**
GYA				AP	pP	08 28 18.5	-5.7
GYA				XP	sP	08 28 22.5	-8.8
GYA				S	**S**	**08 33 13.3**	**+2.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
GYA				AMB	AMB		
	comp=Z,540nm,3.2s						
GYA				LR	LR		
	comp=N,370nm,15.9s,MS4.2						
GYA				LR	LR		
	comp=E,130nm,15.4s,MS4.2						
GYA				LR	LR		
	comp=Z,190nm,16.2s,MS3.9						
SHL	**Shillong**	**32.23**	**341**	*e*P	**P**	**08 28 16.2**	**-1.1**
WRA	**Warramunga Arr**	**33.75**	**119**	P	**P**	**08 28 30.0**	**-0.5**
	comp=Z,19nm,0.7s,mb5.1,baz=299,slow=9.1,SNR=111						
WRA				PcP	PcP	08 31 09.0	0.0
	comp=Z,1.9nm,0.7s,baz=309,slow=2.5,SNR=4.6						
WRA	**Warramunga Arr**	**33.75**	**119**	P	**P**	**08 28 30.0**	**-0.5**
WRA						08 31 09.0	
WRA				pmax	pmax		
	comp=Z,19nm,0.7s						
WRA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WRAB	**Tennant Creek**	**33.75**	**119**	*e*P	**P**	**08 28 29.8**	**-0.7**
	comp=Z,44nm,0.7s,mb5.5						
WB2	**Warramunga Arr**	**33.76**	**119**	⇑*i*P	**P**	**08 28 30.0**	**-0.6**
WB2				*e*S	**S**	**08 33 49.1**	**+0.2**
ASPA	**Alice Springs**	**34.93**	**125**	⇑*i*P	**P**	**08 28 40.7**	**+0.1**
ASPA				*e*S	**S**	**08 34 02.5**	**-4.6**
ASAR	**Alice Springs**	**34.94**	**125**	P	**P**	**08 28 40.8**	**+0.1**
	comp=Z,18nm,0.8s,mb5.0,baz=302,slow=8.0,SNR=129						
ASAR				PcP	PcP	08 31 12.3	-0.1
	comp=Z,5.5nm,1.1s,baz=304,slow=2.3,SNR=8.2						
ASAR				S	**S**	**08 34 05.3**	**-1.8**
	comp=Z,1.5nm,0.9s,baz=297,slow=16,SNR=5.0						
ASAR				ScP		08 34 53.6	
	comp=Z,1.6nm,0.8s,baz=298,slow=3.1,SNR=6.1						
ENH	**Enshi**	**35.48**	**9**	*e*P	**P**	**08 28 44.4**	**-0.8**
	comp=Z,18nm,1.0s,mb4.9						
CD2	**Chengdu**	**35.61**	**1**	P	**P**	**08 28 46.3**	**0.0**
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
LSA	**Lhasa**	**36.31**	**342**	P	**P**	**08 28 52.3**	**+0.1**
PKI	**Pulchoki**	**36.59**	**333**	*e*P	**P**	**08 28 54.6**	**0.0**
	comp=Z,27nm,0.7s,mb5.2						
GUN	**Gumba**	**36.67**	**334**	*e*P	**P**	**08 28 55.6**	**+0.3**
	comp=Z,124nm,0.6s,mb5.9						
DMN	**Daman**	**36.76**	**332**	*e*P	**P**	**08 28 56.2**	**+0.1**
	comp=Z,34nm,0.7s,mb5.3						
WHN	**Wuhan**	**36.81**	**16**	⇑P	**P**	**08 28 58.3**	**+1.9**
KKN	**Kakani**	**36.84**	**333**	*e*P	**P**	**08 28 56.9**	**-0.2**
	comp=Z,72nm,0.7s,mb5.6						
GKN	**Gorkha**	**37.31**	**332**	*e*P	**P**	**08 29 00.8**	**+0.1**
	comp=Z,77nm,0.7s,mb5.6						
KOLN	**Koldanda**	**37.61**	**331**	*e*P	**P**	**08 29 03.6**	**+0.5**
	comp=Z,111nm,0.7s,mb5.7						
JOW	**Kunigami**	**39.77**	**36**	P	**P**	**08 29 23.4**	**+2.3**
	comp=Z,16nm,0.5s,mb5.0,baz=341,slow=5.4,SNR=7.2						
LGTI	**Lohaghat**	**40.67**	**328**	*e*P	**P**	**08 29 29.5**	**+1.0**
LZH	**Lanzhou**	**40.77**	**1**	*e*P	**P**	**08 29 29.5**	**+0.2**
LZH				AP	pP	08 29 37.8	-6.5
LZH				PP	PP	08 31 08.0	+0.9
LZH				PCP	PcP	08 31 31.0	+0.7
LZH				*e*S	**S**	**08 35 40.0**	**+4.4**
LZH				SS	SS	08 38 43.0	+9.4
LZH				AMB	AMB		
	comp=Z,28nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,150nm,5.0s						
LZH				LR	LR		
	comp=N,611nm,14.6s						
LZH				LR	LR		
	comp=Z,901nm,17.4s,MS4.7						
DDI	**Dehra Dun**	**42.53**	**327**	*e*P	**P**	**08 29 42.8**	**-1.0**
PMG	**Port Moresby**	**43.77**	**98**	*e*P	**P**	**08 29 53.9**	**-0.3**
	comp=Z,22nm,0.6s,mb5.1						
PMG				*e*		08 29 58.7	
GTA	**Gaotai**	**44.20**	**356**	P	**P**	**08 29 58.0**	**+0.7**
GTA				XP	sP	08 30 14.3	-5.0
GTA				PP	PP	08 31 41.8	-0.6
GTA				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.0						
CTA	**Charters Tower**	**44.45**	**114**	⇑*i*P	**P**	**08 30 00.1**	**+0.5**
	comp=Z,10nm,1.0s,mb4.5						
CTAO	**Charters Tower**	**44.45**	**114**	*e*P	**P**	**08 29 59.9**	**+0.3**
	comp=Z,43nm,1.1s,mb5.1						
CTAO				*e*	pP	08 30 16.6	+2.0
STKA	**Stephens Creek**	**44.81**	**132**	⇑*i*P	**P**	**08 30 02.6**	**+0.3**
	comp=Z,18nm,0.6s,mb5.1						
STKA	**Stephens Creek**	**44.81**	**132**	P	**P**	**08 30 03.0**	**+0.7**
	comp=Z,12nm,0.5s,mb4.9,baz=306,slow=7.9,SNR=56						
THN	**Thein Dam**	**45.42**	**327**	*e*P	**P**	**08 30 06.1**	**-1.1**
	comp=Z,24nm,0.5s,mb5.3						
HHC	**Hu-ho-hao-te**	**46.16**	**9**	*e*P	**P**	**08 30 13.0**	**+0.1**
HHC				AMB	AMB		
	comp=Z,14nm,1.3s,mb4.7						
HHC				AMB	AMB		
	comp=Z,70nm,5.6s						
BJT	**Baijiatuau**	**46.25**	**14**	*e*P	**P**	**08 30 10.8**	**-2.8**
	comp=Z,23nm,0.7s,mb5.2						
BJI	**Beijing**	**46.27**	**14**	*e*P	**P**	**08 30 14.5**	**+0.7**
BJI				AMB	AMB		
	comp=Z,29nm,0.7s,mb5.3						
SARN	**Sarigan**	**47.19**	**62**	⇓*e*P	**P**	**08 30 22.8**	**+1.5**
KS15	**Wonju Array Si**	**47.97**	**27**	*e*P	**P**	**08 30 27.7**	**+0.5**
WMQ	**Urumqi**	**50.49**	**345**	⇓P	**P**	**08 30 47.0**	**+0.6**
WMQ				PP	PP	08 32 43.0	-0.3
WMQ				S	**S**	**08 37 58.0**	**+3.5**
WMQ				AMB	AMB		
	comp=Z,58nm,1.0s,mb5.6						
WMQ				LR	LR		
	comp=N,125nm,15.0s,MS4.1						
WMQ				LR	LR		
	comp=E,108nm,17.0s,MS4.1						
WMQ				LR	LR		
	comp=Z,118nm,15.0s,MS4.0						
CN2	**Changchun**	**52.45**	**20**	⇑P	**P**	**08 31 00.5**	**-0.7**
CN2				*e*AP	pP	08 31 10.5	-6.1
CN2				*e*S	**S**	**08 38 24.0**	**+2.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CN2				LR	LR		
	comp=N,300nm,20.0s,MS4.4						
CN2				LR	LR		
	comp=E,200nm,20.0s,MS4.4						
CN2				LR	LR		
	comp=Z,300nm,22.0s,MS4.3						
SONM	**Songino Array**	**52.58**	**3**	P	**P**	**08 31 02.7**	**+0.6**
	comp=Z,21nm,0.8s,mb5.1,baz=182,slow=8.2,SNR=70						
SONM				PcP	PcP	08 32 11.4	-0.3
	comp=Z,3.5nm,0.4s,baz=190,slow=3.9,SNR=13						
MAJO	**Matsushiro**	**52.60**	**36**	*e*P	**P**	**08 30 59.4**	**-3.0**
	comp=Z,12nm,0.9s,mb4.8						
UCH	**Uchtor**	**53.69**	**334**	P	**P**	**08 31 10.5**	**0.0**
	SNR=12						
TKM2	**Tokmak 2**	**53.79**	**335**	P	**P**	**08 31 10.3**	**-0.9**
	SNR=51						
KBK	**Karagaybulak**	**53.85**	**334**	P	**P**	**08 31 11.1**	**-0.5**
	SNR=10						
AML	**Almayashu**	**53.98**	**333**	P	**P**	**08 31 12.6**	**0.0**
	SNR=8.5						
AAK	**Ala-Archa**	**54.03**	**334**	P	**P**	**08 31 12.5**	**-0.4**
	SNR=6.8						
AAK	**Ala-Archa**	**54.03**	**334**	*ce*P	**P**	**08 31 11.6**	**-1.3**
AAK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
AAK	**Ala-Archa**	**54.03**	**334**	*e*P	**P**	**08 31 10.8**	**-2.1**
	comp=Z,10nm,0.8s,mb4.8						
EKS2	**Erkin-Say**	**54.37**	**333**	P	**P**	**08 31 15.3**	**-0.1**
	SNR=27						
USP	**Ospenovka**	**54.54**	**334**	P	**P**	**08 31 15.8**	**-0.8**
	SNR=14						
MDJ	**Mudanjiang**	**54.67**	**23**	P	**P**	**08 31 16.8**	**-0.7**
MDJ				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,89nm,4.2s						
MDJ	**Mudanjiang**	**54.67**	**23**	*e*P	**P**	**08 31 17.3**	**-0.2**
	comp=Z,23nm,1.1s,mb5.1						
MKAR	**Makanchi Array**	**54.72**	**342**	*i* P	**P**	**08 31 16.9**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
HIA	**Hailar**	**55.82**	**13**	*e*P	**P**	**08 31 24.2**	**-1.6**
	comp=Z,16nm,1.2s,mb4.9						
KURK	**Kurchatov**	**59.32**	**342**	*c i*P	**P**	**08 31 49.1**	**-1.2**
KURK	**Kurchatov**	**59.32**	**342**	*e*P	**P**	**08 31 48.8**	**-1.6**
	comp=Z,42nm,1.1s,mb5.4						
CASY	**Casey**	**61.48**	**177**	P	**P**	**08 32 04.5**	**-0.4**
	comp=Z,7.8nm,1.1s,mb4.8						
NVS	**Novosibirsk**	**61.81**	**347**	*e*P	**P**	**08 32 05.3**	**-2.0**
NVS				pmax	pmax		
	comp=Z,15nm,1.2s,mb5.0						
NVS				pmax	pmax		
	comp=N,17nm,1.3s						
NVS				pmax	pmax		
	comp=E,7.0nm,1.0s						
YSS	**Yuzh-S

BRTR pmax pmax
comp=Z,6.0nm,0.6s
TIXI Tiksi 78.22 8 *e*P **P 08 33 45.4 -1.4**
TIXI pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
VNDA Vanda 78.71 169 P **P 08 33 49.4 0.0**
comp=Z,0.8nm,0.6s,baz=326,slow=7.4,SNR=5.8
VNDA pP pP 08 34 06.5 +0.8
comp=Z,2.6nm,0.7s,baz=306,slow=5.8,SNR=8.0
VNDA Vanda 78.71 169 P **P 08 33 49.4 0.0**
VNDA *PP pP 08 34 06.5 +0.7
VNDA pmax pmax
comp=Z,1.0nm,0.6s
VNDA pmax pmax
comp=Z,3.0nm,0.7s
VNDA Vanda 78.71 169 *e*P **P 08 33 48.8 -0.6**
comp=Z,4.4nm,0.9s,mb4.4
VNDA *e* pP 08 34 01.4 -4.4
OBN Obninsk 80.96 328 *ce*P **P 08 34 01.7 -0.1**
OBN *e*S tx 08 44 49.8
OBN pmax pmax
comp=Z,39nm,0.8s,mb5.4
OBN Obninsk 80.96 328 *e*P **P 08 34 01.8 0.0**
comp=Z,36nm,0.8s,mb5.3
SANT Santorini 83.11 307 P **P 08 34 12.7 -0.6**
comp=Z,24nm,1.3s,mb5.1
AKASG Malin Array Be 83.75 322 P **P 08 34 16.0 -0.2**
comp=Z,1.7nm,0.4s,mb4.5,baz=88,slow=4.5,SNR=13
AKASG Malin Array Be 83.75 322 P **P 08 34 16.0 -0.3**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
BILL Bilibino 84.75 20 *e*P **P 08 34 20.7 -0.2**
BILL pmax pmax
comp=Z,27nm,2.1s,mb5.0
JOF Joensuu 86.22 334 *ep* **P 08 34 28.7 +0.5**
comp=Z,9.2nm,0.6s,mb5.2
JOF Joensuu 86.22 334 *e*P **P 08 34 28.7 +0.5**
JOF pmax pmax
comp=Z,9.0nm,0.6s,mb5.2
FINES FINESS Array B 88.17 332 P **P 08 34 38.4 +0.7**
comp=Z,5.1nm,0.6s,mb5.0,baz=103,slow=5.3,SNR=29
FINES FINESS Array B 88.17 332 P **P 08 34 38.4 +0.7**
FINES pmax pmax
comp=Z,5.0nm,0.6s
KAF Kangasniemi 88.23 333 *ep* **P 08 34 38.0 +0.1**
baz=102,slow=4.6
ARCES ARCESS Array B 90.29 340 P **P 08 34 47.9 +0.4**
comp=Z,3.3nm,0.6s,mb4.8,baz=102,slow=6.2,SNR=24
ARCES ARCESS Array B 90.29 340 P **P 08 34 47.9 +0.4**
ARCES pmax pmax
comp=Z,3.0nm,0.6s
SNAA Sanae 90.39 198 ⇓*i*P **P 08 34 50.1 +2.1**
SNAA *e* pP 08 35 09.9 +5.2
SNAA *e* 08 35 19.6
SNAA *e* 08 38 30.7
SNAA *e* 08 39 39.0
VNA2 Neumayer--Watz 92.03 198 ⇓*i*P **P 08 34 56.6 +1.0**
VNA2 *e* pP 08 35 16.5 +4.2
VNA2 *e* 08 35 23.7
VNA2 *e* 08 38 37.0
VNA2 *e* 08 39 46.0
VNA1 Neumayer--Stat 92.40 198 ⇑*i*P **P 08 34 55.2 -2.1**
VNA1 *e* pP 08 35 15.1 +1.1
VNA1 *e* 08 35 22.6
VNA1 *e* 08 38 36.0
VNA1 *e* 08 39 45.0
VNA3 Neumayer Olymp 92.59 197 ⇓*i*P **P 08 34 59.3 +1.1**
VNA3 *e* pP 08 35 19.8 +4.8
VNA3 *e* 08 35 25.8
VNA3 *e* 08 38 39.3
VNA3 *e* 08 39 48.3
GERES GERESS Array B 93.36 319 P **P 08 35 02.9 +0.8**
comp=Z,0.9nm,0.8s,mb4.3,baz=90,slow=4.0,SNR=4.6
GERES GERESS Array B 93.36 319 P **P 08 35 02.9 +0.8**
GERES pmax pmax
comp=Z,1.0nm,0.8s
NOA NORSAR Array B 95.24 331 P **P 08 35 09.7 -0.8**
comp=Z,1.8nm,0.9s,mb4.5,baz=90,slow=4.9,SNR=3.6
NOA NORSAR Array B 95.24 331 P **P 08 35 09.7 -0.7**
NOA pmax pmax
comp=Z,2.0nm,0.9s
COLA College 102.39 24 *e*P Pdif 08 35 42.1 -0.5
MOD Modoc 126.55 40 *e*PKPdf PKPdf 08 40 51.2 +1.9
SCHQ Schefferville 129.57 353 PKP PKPdf 08 40 56.6 +1.9
comp=Z,4.5nm,0.7s,baz=56,slow=3.6,SNR=7.1
NVAR Mina Array Bea 129.65 43 PKP PKPdf 08 40 58.5 +3.2
comp=Z,2.1nm,0.8s,baz=358,slow=2.0,SNR=14
NVAR SKPbc 08 44 15.2
comp=Z,2.7nm,1.0s,baz=281,slow=4.6,SNR=11
YMR Madison River 130.34 32 *e*PKPdf PKPdf 08 40 58.5 +2.0
ULM Lac du Bonnet 132.02 16 PKP PKPdf 08 41 00.4 +0.9
comp=Z,3.5nm,0.7s,baz=134,slow=2.2,SNR=4.1
HWUT Hardware Ranch 132.04 35 *e*PKPdf PKPdf 08 41 02.3 +2.5
HWUT *e*SKP 08 44 22.7
DUG Dugway 132.18 37 *e*PKPdf PKPdf 08 41 02.8 +2.7
PDAR Pinedale Array 132.38 33 PKhKP 08 40 50.3
PDAR pmax PKPdf 08 41 02.0 +1.6
comp=Z,0.3nm,0.6s,baz=326,slow=5.3,SNR=3.6
PDAR SKPbc 08 44 24.6
comp=Z,0.4nm,0.4s,baz=123,slow=2.7,SNR=7.9
comp=Z,0.3nm,0.5s,baz=45,slow=2.1,SNR=3.8
MSU Marysvale 133.60 39 *e*PKPdf PKPdf 08 41 04.4 +1.6
MSU *e*SKP 08 44 30.1
EYMN Ely 135.29 14 *e*PKPdf PKPdf 08 41 07.9 +2.2
KSU1 Kansas State U 141.49 25 *e*PKPdf PKPdf 08 41 19.7 +2.5
GDL2 Guadalupe Moun 142.51 40 *e*PKPdf PKPdf 08 41 19.0 -0.1
WMOK Wichita Mounta 143.98 32 *e*PKPdf PKPdf 08 41 20.8 -0.7
ACSO Alum Creek Sta 144.38 8 *e*PKPdf PKPdf 08 41 21.4 -0.7
CCM Cathedral Cave 144.45 20 *e*PKPdf PKPdf 08 41 21.8 -0.5
BLO Bloomington 144.75 13 *e*PKPdf PKPdf 08 41 23.0 +0.2
FVM French Village 144.79 19 *e*PKPdf PKPdf 08 41 22.8 -0.1
LTX Lajitas 144.80 43 *e*PKPdf PKPdf 08 41 24.9 +1.7
TXAR Lajitas Array 144.80 43 PKP PKPdf 08 41 24.9 +1.7
comp=Z,16nm,0.7s,baz=280,slow=1.3,SNR=200
TXAR SKPbc 08 45 00.1
comp=Z,0.6nm,0.7s,baz=315,slow=1.8,SNR=3.9
BDFB Brasilia 144.99 234 PKP PKPdf 08 41 24.9 +1.1
comp=Z,5.0nm,0.9s,baz=147,slow=3.0,SNR=4.5
BDFB Brasilia 144.99 234 PKIKP PKPdf 08 41 24.9 +1.1
BDFB pmax pmax
comp=Z,5.0nm,0.9s
MCWV Mont Chateau 145.29 4 *e*PKPdf PKPdf 08 41 24.9 +1.1
USIN University of 145.62 15 *e*PKPdf PKPdf 08 41 26.4 +2.0
WCI Wyandotte Cave 145.71 13 *e*PKPdf PKPdf 08 41 25.7 +1.2
JCT Junction City 146.54 38 *e*PKPdf PKPdf 08 41 28.5 +2.3
MIAR Mount Ida 146.63 26 *e*PKPdf PKPdf 08 41 29.0 +3.1
MIAR *e*PKPbc PKPbc 08 41 30.9 +3.3
UTMT University of 146.79 18 *e*PKPdf PKPdf 08 41 29.3 +2.9
UALR University of 146.95 24 *e*PKPdf PKPdf 08 41 29.0 +2.3
WVT Waverly 147.29 17 *e*PKPbc PKPdf 08 41 30.9 +3.7
NATX Nacogdoches 148.44 30 *e*PKPdf PKPdf 08 41 31.0 +1.8
NATX *e*PKPbc PKPdf 08 41 34.8 +5.6
CPCT Cooper Cave 148.76 12 *e*PKPdf PKPdf 08 41 34.4 +4.9
LRAL Lakeview Retre 150.42 18 *e*PKPbc PKPdf 08 41 38.6 +6.3
JSC Jenkinsville 150.47 8 *e*PKPdf PKPdf 08 41 33.7 +1.4
JSC *e*PKPbc PKPdf 08 41 38.9 +6.6
JSC *e*PKPab PKPab 08 41 45.6 -1.0
COW Cow Castle Cre 151.43 7 *e*PKPdf PKPdf 08 41 34.8 +1.1
COW *e*PKPbc PKPdf 08 41 41.3 +7.5

MOS ***28*** *08:32:04.9±1.0,4.83S×103.26E,h33km,mb5.8/38, MS4.9/4, Error ellipse: s-maj=12.2km s-min=6.5km az=111.4*
CSEM ***28*** *08:32:06.9,4.72S×103.03E,h33km,mb5.6*
SYO ***28*** *08:32:06.8,4.89S×103.19E,h41km,MB5.6,MS4.9*
HRVD ***28*** *08:32:07.0±0.2,5.30S×102.99E,h62km±1km, MW5.3/58, Centroid moment Tensor Solution. LP body waves: s56,c104;Mantle waves: s58,c109; Half duration: 1s1 Moment tensor: Scale 10¹⁷Nm; Mrr0.77±.03; Mθθ-0.65±.02; Mϕϕ-0.12±.03; Mrθ0.37±.02; Mθϕ0.59±.02; Mϕr-0.17±.02; Best double couple: M₀.99×10¹⁷ NP1: ϕs310°,δ33°,λ100°. NP2:ϕs118°,δ57°,λ83°. Principal axes: T .87, Plg77°, Azm7°; N .26, Plg5°, Azm121°; P -1.12, Plg12°, Azm213°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***28*** *08:32:07.0,4.90S×103.20E,h42km,mB5.3,mb5.5,Ms4.9, Msz4.7*
NEIC ***28*** *08:32:07.0±0.1,4.91S×103.21E,mb5.6/49,MS4.9/73, MW5.4,Error ellipse: s-maj=6.2km s-min=3.5km az=219.0, Moment Tensor Solution. `s16 Moment tensor: Scale 10¹⁷ Nm; Mrr1.05; Mθθ-0.06; Mϕϕ-0.98; Mrθ0.47; Mθϕ-0.61; Mϕr-0.23; Best double couple: M₀1.3×10¹⁷ NP1:ϕs183°, δ50°,λ55°. NP2:ϕs50°,δ51°,λ125°. Principal axes: T 1.31, Plg64°, Azm26°; N -.02, Plg26°, Azm207°; P -1.29, Plg0°, Azm117°;*
NEIC Felt at Curup.
IDC ***28*** *08:32:08.9±0.5,4.91S×103.19E,h56km±3km,mb4.9/20, mb1 5.0/22,mb1mx5.0/22,MS4.3/21,Ms1 4.4/21, ms1mx4.3/27 Error ellipse: s-maj=14.4km s-min=9.2km az=56.0*
DJA ***28*** *08:32:16.2±0.8,5.71S×103.58E,h100km,mb5.6/4, MD5.0/4, Error ellipse: s-maj=25.2km s-min=15.8km az=36.0*
ISC 28 08:32:05.5±0.7,**4.94S**±0.03×**103.24E**±0.03,**h41**km±6km, **h46**km±1.4km**:pP-P,n508,σ0s90**/372,**mb5.6**/106,**MS4.7**/111, **59C-32D,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PENI	**Pendagan**	**2.02**	**108**	⇓*e*Pn	**P**		**08 32 42.8**	**+5.0**
PASI	**Pasiripis**	**2.91**	**127**	⇓*e*Pn	**P**		**08 32 53.2**	**+2.7**
KGM	**Kluang**	**6.91**	**1**	⇓*i*P	**P**		**08 33 51.8**	**+5.0**
	462nm,0.9s							
KLM	**Kuala Lumpur**	**8.14**	**349**	*e*P	**P**		**08 34 11.0**	**+7.1**
COCO	**West Island**	**9.59**	**221**	*e*Pn	**P**		**08 34 18.0**	**-6.0**
	3μm,1.1s							
COCO				*e*Sn	**S**		**08 35 54.4**	**-17**
IPM	**Ipoh**	**9.71**	**347**	⇓*e*P	**P**		**08 34 27.1**	**+1.4**
	68nm,0.8s							
SRDI	**Scrawed**	**11.38**	**109**	⇓*e*P	**P**		**08 34 49.7**	**+1.2**
KELI	**Kelakatan**	**11.64**	**107**	⇓*e*P	**P**		**08 34 54.0**	**+2.0**
	804nm,0.3s							
KELI				⇑*e*S	**S**		**08 36 57.6**	**-4.0**
SNG	**Songkhla**	**12.31**	**348**	P	**P**		**08 34 56.0**	**-5.1**
	382nm,1.0s							
RATI	**Rata**	**12.77**	**108**	⇓*e*P	**P**		**08 35 06.6**	**-0.6**
RATI				⇑*e*S	**S**		**08 37 22.4**	**-6.4**
KEDI	**Kedomdong**	**13.26**	**106**	⇑*e*P	**P**		**08 35 12.7**	**-0.9**
	987nm,0.4s							
KEDI				⇑*e*S	**S**		**08 37 33.3**	**-7.3**
NINI	**Niniconang**	**16.47**	**89**	⇓*e*P	**P**		**08 35 59.6**	**+4.3**
	3μm,1.1s							
KKM	**Kota Kinabalu**	**16.94**	**50**	⇓*e*P	**P**		**08 36 06.3**	**+5.2**
BUNI	**Buntu Taipa**	**17.08**	**86**	⇑*e*P	**P**		**08 36 07.7**	**+4.7**
	56nm,0.5s							
NNT	**Nongplab**	**17.76**	**349**	P	**P**		**08 36 12.2**	**+0.8**
NST	**Nakhon Sawan**	**20.71**	**352**	P	**P**		**08 36 45.0**	**+0.1**
	73nm,0.9s							
KKTK	**Khon Kaen**	**21.14**	**359**	P	**P**		**08 36 50.0**	**+0.7**
PPR	**Puerto Princes**	**21.26**	**47**	*e*P	**P**		**08 36 43.8**	**-6.7**
MBWA	**Marble Bar**	**22.72**	**137**	*e*P	**P**		**08 37 05.2**	**+0.2**
	110nm,1.2s,mb5.2							
MBWA				*es*P			08 37 20.6	
MBWA				*e*S	**S**		**08 41 09.5**	**+3.3**
MBWA				LR	LR			
	comp=Z,609nm,20.0s,MS4.0							
CM31	**Chiang Mai Arr**	**23.63**	**350**	*e*P	**P**		**08 37 13.9**	**0.0**
	comp=Z,121nm,0.8s,mb5.4							
CM31				LR	LR			
	comp=Z,2μm,20.0s,MS4.5							
CMAR	**Chiang Mai Arr**	**23.63**	**350**	P	**P**		**08 37 14.4**	**+0.5**
	comp=Z,68nm,0.7s,mb5.2,baz=183,slow=8.5,SNR=330							
CMAR				PcP	PcP		08 40 59.5	0.0
	comp=Z,7.0nm,0.7s,baz=209,slow=3.1,SNR=11							
CMAR				ScP			08 44 32.2	
	comp=Z,3.3nm,1.0s,baz=204,slow=2.5,SNR=7.4							
CMAR				LR	LR		08 46 22.1	
	comp=Z,972nm,21.4s,MS4.2,baz=175,slow=36							
CHG	**Chiang Mai**	**23.98**	**350**	⇓P	**P**		**08 37 17.6**	**+0.3**
	comp=Z,124nm,0.9s,mb5.3							
CHG				S			08 41 53.7	
QIZ	**Qiongzhong**	**24.69**	**15**	P	**P**		**08 37 23.0**	**-1.2**
QIZ				AP			08 37 38.0	
QIZ				*e*S	**S**		**08 41 43.5**	**+3.1**
QIZ				SS	SS		08 42 42.5	+4.0
QIZ				LR	LR			
	comp=N,839nm,27.1s							
QIZ				LR	LR			
	comp=Z,1μm,24.8s,MS4.3							
QIZ	**Qiongzhong**	**24.69**	**15**	PFAKE			08 37 40.0	+16
QIZ				LR	LR			
	comp=Z,1μm,19.0s,MS4.5							
RCP	**Roxas**	**25.40**	**50**	⇓*e*P	**P**		**08 37 33.5**	**+2.5**
FITZ	**Fitzroy Crossi**	**25.51**	**123**	⇓*i*P	**P**		**08 37 32.2**	**+0.2**
	comp=Z,34nm,0.6s,mb5.0							
FITZ				*e*S			08 42 20.7	
FITZ				*e*SCS	ScS		08 48 26.8	+1.0
FITZ	**Fitzroy Crossi**	**25.51**	**123**	P	**P**		**08 37 32.2**	**+0.2**
	comp=Z,37nm,0.6s,mb5.1,baz=329,slow=4.7,SNR=168							
FITZ				LR	LR		08 48 54.0	
	comp=Z,194nm,18.1s,MS3.7,baz=280,slow=39							
TGY	**Tagaytay City**	**25.81**	**43**	LR	LR		08 48 20.8	
	comp=Z,734nm,19.7s,MS4.2,baz=206,slow=38							
KAKA	**Kakadu**	**29.80**	**107**	⇓*i*P	**P**		**08 38 13.7**	**+2.7**
	comp=Z,17nm,0.4s,mb5.1							
KLBR	**Kellerberrin**	**29.81**	**155**	*e*P	**P**		**08 38 10.3**	**-0.6**
	comp=Z,26nm,1.0s,mb4.9							
KMI	**Kunming**	**29.88**	**359**	*e*P	**P**		**08 38 13.3**	**+1.7**
KMI				AP	pP		08 38 27.3	+4.4
KMI				PPP	PPP		08 39 26.5	+2.7
KMI				S	**S**		**08 43 06.8**	**+2.2**
KMI				AMB	AMB			
	comp=Z,70nm,0.8s,mb5.4							
KMI				AMB	AMB			
	comp=Z,75nm,3.1s							
KMI				LR	LR			
	comp=N,2μm,15.7s,MS4.8							
KMI				LR	LR			
	comp=E,917nm,15.7s,MS4.8							
KMI				LR	LR			
	comp=Z,2μm,16.1s,MS4.8							
VIS	**Vishakhapatnam**	**29.89**	**319**	*e*P	**P**		**08 38 12.1**	**+0.4**
DGAR	**Diego Garcia**	**30.70**	**264**	PFAKE			08 38 30.0	+11
DGAR				LR	LR			
	comp=Z,269nm,20.0s,MS3.9							
NWAO	**Narrogin (SRO)**	**30.76**	**157**	P	**P**		**08 38 18.9**	**-0.4**
	comp=Z,21nm,0.8s,mb5.0,baz=331,slow=9.7,SNR=6.7							
NWAO				pP	pP		08 38 34.9	+4.3
	comp=Z,13nm,0.7s,baz=290,slow=8.7,SNR=3.6							
NWAO	**Narrogin (SRO)**	**30.76**	**157**	*e*P	**P**		**08 38 18.0**	**-1.3**
	comp=Z,18nm,0.8s,mb5.0							
NWAO				*ep*P	pP		08 38 29.8	-0.9
NWAO				*es*P	sP		08 38 34.2	-1.7
NWAO				LR	LR			
	comp=Z,1μm,20.0s,MS4.5							
IMP	**Imphal**	**30.90**	**343**	*e*P	**P**		**08 38 20.0**	**-0.6**
GYA	**Guiyang**	**31.39**	**6**	⇓*i*P	**P**		**08 38 25.5**	**+0.6**
GYA				AP	pP		08 38 40.5	+4.3
GYA				XP	sP		08 38 47.3	+5.8
GYA				PPP	PPP		08 39 55.3	+11
GYA				PCP	PcP		08 41 18.0	+0.1
GYA				S	**S**		**08 43 29.5**	**+1.3**
GYA				XS			08 43 52.5	
GYA				AMB	AMB			
	comp=Z,600nm,3.7s							
GYA				LR	LR			
	comp=N,460nm,15.9s,MS4.4							
GYA				LR	LR			
	comp=E,390nm,14.7s,MS4.4							
GYA				LR	LR			
	comp=Z,850nm,15.8s,MS4.5							
SHL	**Shillong**	**32.27**	**341**	*e*P	**P**		**08 38 31.0**	**-1.6**
SHL				*e*			08 43 39.5	
HYB	**Hyderabad**	**32.98**	**313**	*i*P	**P**		**08 38 39.0**	**+0.1**
HYB				*e*	pP		08 38 50.5	+0.2
HYB				*e*			08 38 54.5	
HYB	**Hyderabad**	**32.98**	**313**	*e*P	**P**		**08 38 39.0**	**+0.1**
WRA	**Warramunga Arr**	**33.74**	**119**	P	**P**		**08 38 44.9**	**-0.6**
	comp=Z,24nm,0.4s,mb5.5,baz=300,slow=9.2,SNR=334							
WRA				pP	pP		08 39 00.6	+3.8
	comp=Z,49nm,1.0s,baz=301,slow=9.4,SNR=6.7							
WRA				PcP	PcP		08 41 24.3	-0.2
	comp=Z,5.5nm,0.9s,baz=300,slow=2.9,SNR=4.1							
WRA				LR	LR		08 51 48.7	
	comp=Z,310nm,21.1s,MS4.0,baz=310,slow=35							
WRAB	**Tennant Creek**	**33.74**	**119**	*e*P	**P**		**08 38 44.9**	**-0.5**
	comp=Z,144nm,0.8s,mb6.0							
WRAB				*ep*P	pP		08 38 56.4	-0.5
WRAB				*es*P	sP		08 39 00.7	-1.5
WRAB				*e*S	**S**		**08 44 09.7**	**+4.6**
WRAB				LR	LR			
	comp=Z,255nm,21.0s,MS3.9							
WB2	**Warramunga Arr**	**33.75**	**119**	⇑*i*P	**P**		**08 38 44.8**	**-0.7**
WB2				*e*S	**S**		**08 44 03.9**	**-1.2**
WB2				*e*SCS	ScS		08 49 03.7	-0.9
FORT	**Forrest**	**34.73**	**141**	*e*P	**P**		**08 38 53.9**	**0.0**
	comp=Z,93nm,0.9s,mb5.7							
ASPA	**Alice Springs**	**34.92**	**125**	⇑*i*P	**P**		**08 38 55.5**	**0.0**
ASPA				*e*S	**S**		**08 44 22.2**	**-1.0**
ASPA				*i* PCS			08 44 48.3	
ASAR	**Alice Springs**	**34.92**	**125**	P	**P**		**08 38 55.6**	**0.0**
	comp=Z,21nm,0.4s,mb5.4,baz=290,slow=6.8,SNR=230							
ASAR				pP	pP		08 39 11.4	+4.4
	comp=Z,38nm,0.7s,baz=300,slow=7.5,SNR=6.8							
ASAR				PcP	PcP		08 41 27.9	0.0
	comp=Z,14nm,0.9s,baz=297,slow=2.0,SNR=7.4							
ASAR				ScP			08 45 08.8	
	comp=Z,4.2nm,0.8s,baz=289,slow=3.7,SNR=6.6							
ASAR				LR	LR		08 54 28.6	
	comp=Z,391nm,19.8s,MS4.2,baz=297,slow=38							
ENH	**Enshi**	**35.52**	**9**	⇑*e*P	**P**		**08 38 59.3**	**-1.2**
	comp=Z,71nm,1.1s,mb5.5							
ENH				LR	LR			
	comp=Z,643nm,20.0s,MS4.4							
CD2	**Chengdu**	**35.65**	**1**	⇓*i*P	**P**		**08 39 01.8**	**+0.1**
CD2				PP	PP		08 40 21.3	-1.7
CD2				PPP	PPP		08 40 40.0	-2.3
CD2				S	**S**		**08 44 35.5**	**+1.1**
CD2				XS			08 44 52.8	
CD2				SS	SS		08 46 57.8	+2.1
CD2				AMB	AMB			
	comp=Z,70nm,0.9s,mb5.6							
CD2				LR	LR			
	comp=N,1μm,18.3s							
CD2				LR	LR			
	comp=Z,1μm,16.6s,MS4.7							
KAD	**Karad**	**36.22**	**308**	*e*P	**P**		**08 39 06.0**	**-0.6**
LSA	**Lhasa**	**36.34**	**342**	P	**P**		**08 39 07.8**	**+0.3**
PKI	**Pulchoki**	**36.62**	**333**	*e*P	**P**		**08 39 09.8**	**-0.1**
	comp=Z,142nm,0.9s,mb5.8							
GUN	**Gumba**	**36.70**	**334**	*e*P	**P**		**08 39 11.0**	**+0.4**
	comp=Z,550nm,0.8s,mb6.4							
DMN	**Daman**	**36.79**	**333**	*e*P	**P**		**08 39 11.3**	**0.0**
	comp=Z,223nm,0.9s,mb6.0							
WHN	**Wuhan**	**36.85**	**16**	⇓P	**P**		**08 39 13.0**	**+1.2**
WHN				AP	pP		08 39 25.0	+1.7
WHN				PPP	PPP		08 40 59.5	+1.2
WHN				PCP	PcP		08 41 33.0	-0.4
WHN				*e*S	**S**		**08 44 55.0**	**+2.2**
WHN				AMB	AMB			
	comp=Z,54nm,1.0s,mb5.3							
WHN				LR	LR			
	comp=Z,2μm,24.6s,MS4.9							
KKN	**Kakani**	**36.87**	**333**	*e*P	**P**		**08 39 12.0**	**0.0**
	comp=Z,303nm,0.8s,mb6.2							
POO	**Poona**	**37.19**	**310**	*e*P	**P**		**08 39 15.4**	**+0.7**
POO				*e*			08 39 16.5	
	comp=Z,60nm,0.3s							
GKN	**Gorkha**	**37.34**	**332**	*e*P	**P**		**08 39 16.0**	**0.0**
	comp=Z,523nm,1.0s,mb6.3							
KOLN	**Koldanda**	**37.64**	**331**	*e*P	**P**		**08 39 18.8**	**+0.4**
	comp=Z,474nm,0.8s,mb6.3							
BHPL	**Bhopal**	**37.68**	**319**	*e*P	**P**		**08 39 19.3**	**+0.5**
BHPL				*e*			08 39 20.3	
	comp=Z,74nm,0.9s							
XAN	**Xi'an**	**39.13**	**7**	P	**P**		**08 39 30.5**	**-0.3**
XAN				AMB	AMB			
	comp=Z,119nm,1.0s,mb5.6							
NJ2	**Nanjing**	**39.67**	**21**	*e*P	**P**		**08 39 36.0**	**+0.7**
NJ2				AP	pP		08 39 53.3	+6.4
NJ2				PP	PP		08 41 11.5	+0.9
NJ2				PPP	PPP		08 41 39.0	+3.1
NJ2				PCS			08 45 30.0	
NJ2				S	**S**		**08 45 34.0**	**-1.7**
NJ2				AMB	AMB			
	comp=Z,100nm,0.6s,mb5.7							
NJ2				LR	LR			
	comp=N,2μm,14.0s,MS5.1							
NJ2				LR	LR			
	comp=E,810nm,14.7s,MS5.1							
NJ2				LR	LR			
	comp=Z,2μm,11.4s,MS5.2							
SSE	**Sheshan**	**39.72**	**24**	P	**P**		**08 39 35.5**	**-0.2**
SSE				AP	pP		08 39 48.8	+1.5
SSE				XP	sP		08 39 54.8	+2.4
SSE				S	**S**		**08 45 38.0**	**+1.6**
SSE				XS			08 46 02.0	
SSE				AMB	AMB			
	comp=Z,88nm,1.0s,mb5.4							
SSE				AMB	AMB			
	comp=Z,111nm,3.9s							
SSE				LR	LR			
	comp=N,276nm,23.8s,MS4.1							
SSE				LR	LR			
	comp=E,212nm,23.8s,MS4.1							
SSE				LR	LR			
	comp=Z,413nm,32.2s							
JOW	**Kunigami**	**39.80**	**36**	P	**P**		**08 39 38.3**	**+1.9**
	comp=Z,58nm,0.8s,mb5.3,baz=272,slow=6.8,SNR=12							
JOW				LR	LR		08 56 54.6	
	comp=Z,185nm,19.8s,MS3.9,baz=31,slow=37							
AGRA	**Agra**	**40.25**	**324**	*e*P	**P**		**08 39 39.4**	**-0.8**
LGTI	**Lohaghat**	**40.70**	**329**	⇓*i*P	**P**		**08 39 44.5**	**+0.6**
LZH	**Lanzhou**	**40.81**	**1**	⇑P	**P**		**08 39 45.0**	**+0.3**
LZH				AP	pP		08 39 56.0	-0.3
LZH				XP	sP		08 40 01.0	-0.4
LZH				PP	PP		08 41 23.0	+0.9
LZH				PCP	PcP		08 41 46.0	+0.2
LZH				SCP			08 45 30.5	
LZH				PCS			08 45 36.5	
LZH				S	**S**		**08 45 53.0**	**+0.4**
LZH				XS			08 46 11.0	
LZH				SS	SS		08 48 55.0	+5.0
LZH				SCS	ScS		08 49 43.5	-0.6
LZH				AMB	AMB			
	comp=Z,120nm,1.1s,mb5.4							
LZH				AMB	AMB			
	comp=Z,601nm,5.1s							
LZH				LR	LR			
	comp=N,2μm,14.3s							
LZH				LR	LR			
	comp=Z,2μm,17.2s,MS5.1							
AYAN	**Aya Nagar**	**41.67**	**324**	*e*P	**P**		**08 39 51.9**	**0.0**
AYAN				*e*			08 39 52.8	
	comp=Z,105nm,0.5s							
AJM	**Ajmer**	**41.74**	**320**	*e*P	**P**		**08 39 52.0**	**-0.5**
NDI	**New Delhi**	**41.77**	**325**	*e*P	**P**		**08 39 51.0**	**-1.7**
NDI				*e*			08 46 01.0	
KUDL	**Kundal**	**41.79**	**323**	*e*P	**P**		**08 39 52.1**	**-0.8**
KUDL				*e*			08 39 54.3	
	comp=Z,128nm,0.8s							
BHGR	**Bahadurgarh**	**41.93**	**324**	*e*P	**P**		**08 39 54.2**	**+0.2**
JOSI	**Joshimath**	**41.94**	**329**	*e*P	**P**		**08 39 54.2**	**+0.1**
KHET	**Khetri**	**42.15**	**323**	*e*P	**P**		**08 39 55.7**	**-0.2**
KHET				*e*			08 39 57.1	
	comp=Z,65nm,0.8s							
RTK	**Rohtak**	**42.49**	**324**	*e*P	**P**		**08 39 58.8**	**+0.1**
DDI	**Dehra Dun**	**42.55**	**327**	*e*P	**P**		**08 39 57.8**	**-1.3**
DDI				*e*			08 46 15.0	
TIA	**Tai'an**	**42.95**	**17**	P	**P**		**08 40 02.0**	**-0.3**
TIY	**Taiyuan**	**43.29**	**11**	⇓P	**P**		**08 40 06.0**	**+1.0**
TIY				LR	LR			
	comp=N,2μm,18.0s							
TIY				LR	LR			
	comp=Z,815nm,15.0s,MS4.8							
**KLP

comp=N,1µm,18.3s
GTA LR LR

comp=E,888nm,24.3s
GTA LR LR

comp=Z,1µm,27.0s
BHK Bhakra 44.29 326 *e* **P 08 40 14.6 +1.4**
ADE Adelaide 44.34 137 P **P 08 40 14.8 +1.2**
CTA Charters Tower 44.45 114 ⇓*i*P **P 08 40 15.2 +0.6**
comp=Z,68nm,1.0s,mb5.3
CTA Charters Tower 44.45 114 P **P 08 40 15.5 +0.9**
comp=Z,111nm,1.1s,mb5.5,baz=278,slow=10.0,SNR=51
CTA pP pP 08 40 30.4 +4.1
comp=Z,32nm,0.7s,baz=286,slow=8.2,SNR=11
CTA LR LR 09 00 29.7
comp=Z,509nm,20.5s,MS4.4,baz=138,slow=38
CTAO Charters Tower 44.45 114⇑*i*P **P 08 40 15.2 +0.6**
comp=Z,189nm,1.2s,mb5.7
CTAO *e*pP pP 08 40 26.2 -0.1
CTAO *es*P sP 08 40 30.4 -0.9
CTAO LR LR
comp=Z,532nm,20.0s,MS4.5
JASL Jaisalmer 44.51 317 *e*P **P 08 40 15.4 +0.3**
STKA Stephens Creek 44.79 131⇑*i*P **P 08 40 17.4 +0.1**
comp=Z,25nm,0.4s,mb5.4
STKA Stephens Creek 44.79 131 P **P 08 40 17.9 +0.7**
comp=Z,30nm,0.5s,mb5.4,baz=304,slow=7.5,SNR=166
STKA pP pP 08 40 33.5 +4.5
comp=Z,71nm,0.8s,baz=310,slow=6.7,SNR=9.0
STKA LR LR 08 58 29.3
comp=Z,409nm,20.6s,MS4.3,baz=307,slow=35
GUMO Guam 45.24 65 *e*P **P 08 40 19.3 -1.7**
GUMO pmax pmax
comp=Z,130nm,1.0s,mb5.7
GUMO Guam 45.24 65 *e*P **P 08 40 19.2 -1.7**
comp=Z,127nm,1.0s,mb5.7
THN Thein Dam 45.45 327 *e*P **P 08 40 21.1 -1.4**
comp=Z,70nm,0.5s,mb5.8
THN *e*S **S 08 46 58.0 -2.3**
HHC Hu-ho-hao-te 46.20 9⇑P **P 08 40 28.8 +0.5**
HHC AP pP 08 40 41.5 +1.5
HHC XP sP 08 40 46.0 +1.0
HHC PCP PcP 08 42 02.5 -1.5
HHC PP PP 08 42 18.8 +1.8
HHC SCP 08 45 48.8
HHC PCS 08 45 55.3
HHC S **S 08 47 13.0 +2.1**
HHC XS 08 47 33.0
HHC SCS ScS 08 50 14.8 -2.7
HHC SS SS 08 50 30.3 +1.6
HHC AMB AMB
comp=Z,100nm,1.1s,mb5.7
HHC AMB AMB
comp=Z,173nm,4.3s
HHC LR LR
comp=N,365nm,18.2s,MS4.5
HHC LR LR
comp=E,273nm,15.1s,MS4.5
HHC LR LR
comp=Z,402nm,18.1s,MS4.4
BJT Baijiatuan 46.29 14⇑*i*P **P 08 40 29.0 0.0**
comp=Z,111nm,0.9s,mb5.8
BJT *e*PcP PcP 08 42 04.0 -0.3
BJT LR LR
comp=Z,1µm,21.0s,MS4.8
BJI Beijing 46.31 14 *e*P **P 08 40 29.8 +0.6**
BJI AP pP 08 40 38.0 -2.9
BJI XP sP 08 40 42.5 -3.4
BJI PCP PcP 08 42 04.0 -0.4
BJI S **S 08 47 12.8 +0.3**
BJI AMB AMB
comp=Z,100nm,0.9s,mb5.8
BJI AMB AMB
comp=Z,253nm,2.7s,mb5.7
BJI LR LR
comp=N,597nm,23.9s,MS4.7
BJI LR LR
comp=E,583nm,19.9s,MS4.7
BJI LR LR
comp=Z,1µm,25.6s
INCN Inchon 47.50 25 *e*P **P 08 40 38.4 -0.1**
comp=Z,29nm,0.8s,mb5.3
INCN LR LR
comp=Z,357nm,20.0s,MS4.3
KS15 Wonju Array Si 48.01 27⇑*e*P **P 08 40 41.8 -0.8**
KS15 *e*PcP PcP 08 42 09.8 -0.7
CBIJ Chichi jima 49.30 48 P **P 08 40 51.4 -1.3**
comp=Z,648nm,1.2s,mb6.5,baz=288,slow=17,SNR=7.5
CBIJ LR LR 09 00 46.0
comp=Z,337nm,18.6s,MS4.4,baz=123,slow=35
SNY Shenyang 50.10 20 ⇓P **P 08 40 58.0 -0.6**
SNY S **S 08 48 07.0 +1.3**
SNY AMB AMB
comp=Z,30nm,1.1s,mb5.2
SNY LR LR
comp=N,510nm,23.7s
SNY LR LR
comp=Z,560nm,24.7s,MS4.5
WMQ Urumqi 50.52 345⇑P **P 08 41 01.5 -0.3**
WMQ XP sP 08 41 19.5 +1.0
WMQ PP PP 08 42 58.0 -0.5
WMQ S **S 08 48 11.0 -0.5**
WMQ SS SS 08 51 42.0 -1.0
WMQ AMB AMB
comp=Z,257nm,1.0s,mb6.1
WMQ LR LR
comp=N,342nm,15.0s,MS4.7
WMQ LR LR
comp=E,483nm,14.0s,MS4.7
WMQ LR LR
comp=Z,372nm,14.0s,MS4.5
KSH Kashi 50.88 333⇑*i*P **P 08 41 04.3 -0.3**
KSH AP pP 08 41 16.3 -0.1
KSH XP sP 08 41 21.5 +0.2
KSH PCP PcP 08 42 20.3 -0.6
KSH PP PP 08 43 01.3 -0.5
KSH *e*PPP PPP 08 44 02.3 +0.7
KSH SCP 08 46 10.5
KSH *e*PCS 08 46 16.0
KSH S **S 08 48 17.0 +0.4**
KSH XS 08 48 37.8
KSH *e*SCS ScS 08 50 47.3 -1.3
KSH SS SS 08 51 50.5 +1.2
KSH AMB AMB
comp=Z,370nm,1.7s,mb6.0
KSH LR LR
comp=N,220nm,4.4s
KSH LR LR
comp=E,330nm,5.0s
JHJ Hachijo jima 2 51.30 40 LR LR 08 59 21.0
comp=E,398nm,21.6s,MS4.4,baz=257,slow=32
CN2 Changchun 52.49 20⇑P **P 08 41 15.8 -0.8**
CN2 *e*XP sP 08 41 33.3 0.0
CN2 PCP PcP 08 42 26.0 -0.8
CN2 *e*S **S 08 48 38.5 0.0**
CN2 LR LR
comp=N,500nm,20.0s,MS4.6
CN2 LR LR
comp=E,300nm,20.0s,MS4.6
CN2 LR LR
comp=Z,500nm,22.0s,MS4.5
SONM Songino Array 52.62 3 P **P 08 41 17.5 0.0**
comp=Z,84nm,0.9s,mb5.7,baz=183,slow=5.6,SNR=423
SONM pP pP 08 41 31.3 +1.9
comp=Z,23nm,0.7s,baz=184,slow=6.8,SNR=6.5
SONM sP sP 08 41 38.3 +4.0
comp=Z,39nm,0.8s,baz=175,slow=7.9,SNR=5.7
SONM PcP PcP 08 42 26.4 -0.8
comp=Z,11nm,0.7s,baz=187,slow=3.7,SNR=13
MAJO Matsushiro 52.64 35⇑*i*P **P 08 41 15.9 -2.0**
comp=Z,89nm,1.3s,mb5.5
MAJO *e*pP pP 08 41 27.4 -2.3
MAJO *es*P sP 08 41 32.0 -2.5
MAJO LR LR
comp=Z,244nm,19.0s,MS4.3
MAT Matsushiro 52.64 35 P **P 08 41 16.3 -1.5**
MAT S **S 08 48 48.0 +7.3**
MAT Matsushiro 52.64 35 *e*P **P 08 41 16.0 -1.8**
comp=Z,58nm,1.2s,mb5.4
MAT *e*S **S 08 48 49.0 +8.3**
ULHL Ulahol 52.99 335 P **P 08 41 21.4 +1.0**
SNR=5.5
KZA Kyzart 53.28 334 P **P 08 41 23.1 +0.5**
SNR=9.8
UCH Uchtor 53.72 334 P **P 08 41 25.3 -0.5**
SNR=36

TKM2 Tokmak 2 53.82 335 P **P 08 41 25.8 -0.7**
SNR=28
KBK Karagaybulak 53.88 334 P **P 08 41 26.6 -0.4**
SNR=23
AML Almayashu 54.01 333 P **P 08 41 27.6 -0.4**
SNR=41
AAK Ala-Archa 54.06 334 P **P 08 41 27.9 -0.3**
SNR=18
AAK Ala-Archa 54.06 334⇑*i*P **P 08 41 26.4 -1.9**
comp=Z,76nm,1.0s,mb5.6
AAK *e*pP pP 08 41 37.9 -2.2
AAK LR LR
comp=Z,78nm,19.0s,MS3.8
FRU Bishkek 54.17 334⇑*i*P **P 08 41 29.0 0.0**
FRU *e* 08 41 45.0
FRU pmax pmax
comp=Z,140nm,1.9s,mb5.6
CHMS Chumysh 54.24 334 P **P 08 41 28.5 -1.1**
SNR=16
EKS2 Erkin-Say 54.40 333 P **P 08 41 29.8 -1.0**
SNR=92
USP Ospenovka 54.57 334 P **P 08 41 30.6 -1.4**
SNR=32
MDJ Mudanjiang 54.70 23 P **P 08 41 32.8 -0.2**
MDJ AP pP 08 41 43.5 -1.4
MDJ PCP PcP 08 42 33.8 -1.4
MDJ SCP 08 46 29.0
MDJ PCS 08 46 34.3
MDJ S **S 08 49 17.8 +9.3**
MDJ XS 08 49 31.3
MDJ AMB AMB
comp=Z,41nm,1.1s,mb5.4
MDJ LR LR
comp=N,204nm,26.9s,MS4.3
MDJ LR LR
comp=E,274nm,28.0s,MS4.3
MDJ LR LR
comp=Z,391nm,28.7s,MS4.3
MDJ Mudanjiang 54.70 23⇑*i*P **P 08 41 32.3 -0.7**
comp=Z,61nm,1.0s,mb5.6
MDJ LR LR
comp=Z,334nm,19.0s,MS4.4
MKAR Makanchi Array 54.75 342 *i*P **P 08 41 32.0 -1.2**
MKAR pmax pmax
comp=Z,27nm,0.9s
ZAK Zakamensk 55.10 0⇑*i*P **P 08 41 35.5 -0.2**
ZAK *e* 08 42 35.4
HIA Hailar 55.86 13⇑*i*P **P 08 41 39.9 -1.4**
comp=Z,105nm,1.2s,mb5.7
HIA *e*PcP PcP 08 42 38.7 -0.9
HIA LR LR
comp=Z,733nm,22.0s,MS4.7
MOY Mondy 56.42 358 *e*P **P 08 41 45.3 +0.1**
IRK Irkutsk 56.97 1 *e*P **P 08 41 48.7 -0.4**
ERM Erimo 59.17 34 PFAKE 08 42 20.0 +15
ERM LR LR
comp=Z,10.0nm,19.0s
KURK Kurchatov 59.35 342*c i*P **P 08 42 04.5 -1.3**
KURK pmax pmax
comp=Z,61nm,1.1s,mb5.5
KURK Kurchatov 59.35 342⇑*i*P **P 08 42 03.9 -1.9**
comp=Z,87nm,0.9s,mb5.8
KURK *e*pP pP 08 42 18.5 +0.7
KURK LR LR
comp=Z,97nm,21.0s,MS3.9
HASS Wahat al Ahsa' 59.99 303 P **P 08 42 10.3 -0.3**
ASAJ Asahikawa 60.29 32 LR LR 09 09 30.3
comp=Z,267nm,19.2s,MS4.4,baz=182,slow=37
CASY Casey 61.45 177 *e*P **P 08 42 18.0 -1.9**
comp=Z,56nm,1.2s,mb5.6
CASY pP pP 08 42 30.2 -1.7
CASY *es*P sP 08 42 35.5 -1.2
CASY LR LR
comp=Z,818nm,22.0s,MS4.8
NVS Novosibirsk 61.85 347 *e*P **P 08 42 19.4 -3.3**
NVS *e*S **S 08 50 37.8 -3.7**
NVS pmax pmax
comp=Z,75nm,1.3s,mb5.7
NVS pmax pmax
comp=N,111nm,1.4s
NVS pmax pmax
comp=E,54nm,1.4s
NVS smax
comp=E,38nm,1.6s
MIR Mirnyy 61.92 185⇑*e*P sP 08 42 38.7 -1.2
MIR pmax pmax
comp=Z,120nm,1.6s,mb5.8
YSS Yuzh-Sakhalins 62.34 29 *e*P **P 08 42 25.3 -0.8**
YSS *e* pP 08 42 34.5 -3.7
YSS pmax pmax
comp=Z,61nm,0.9s,mb5.7
YSS Yuzh-Sakhalins 62.34 29 *e*P **P 08 42 25.3 -0.8**
comp=Z,61nm,0.9s,mb5.7
YSS *e* pP 08 42 34.5 -3.7
KAMS Al Khamasin 62.81 296 D 08 42 28.7
QRN Al-Qurain 62.81 306 *e*P **P 08 42 29.2 -0.4**
QRN AMb AMB 08 42 30.5
comp=Z,225nm,0.8s,mb6.4
KBD Kabd 63.16 306 *e*P **P 08 42 31.2 -0.6**
RDF Al-Radifah 63.18 306 *e*P **P 08 42 32.0 +0.1**
RDF AMb AMB 08 42 33.5
comp=Z,356nm,0.8s,mb6.5
UMR Umm Al-Rimmam 63.29 306 *e*P **P 08 42 31.9 -0.8**
UMR AMb AMB 08 42 33.6
comp=Z,424nm,0.7s
MZLS Mizel 63.40 300 P **P 08 42 33.4 -0.1**
TATS Tathlith 63.59 295 P **P 08 42 34.7 -0.2**
RST Umm Al-Ruwaisa 63.85 306 *e*P **P 08 42 35.1 -1.3**
RST AMb AMB 08 42 36.7
comp=Z,311nm,0.7s,mb6.5
CLNS Chul'man 64.05 13 *e*P **P 08 42 34.1 -3.1**
CLNS *e* 08 43 07.5
CLNS *e* 08 52 22.2
CLNS pmax pmax
comp=N,2.0nm,0.7s
CLNS pmax pmax
comp=Z,3.0nm,0.7s
CLNS pmax pmax
comp=E,3.0nm,0.8s
CLNS pmax pmax
comp=Z,6.0nm,0.9s
CLNS pmax pmax
comp=N,7.0nm,0.8s
CLNS MLR MLR
comp=Z,800nm,24.0s
CLNS MLR MLR
comp=N,500nm,19.0s
CLNS MLR MLR
comp=E,200nm,26.0s
BVA0 Borovoye Array 64.06 339 *i*P **P 08 42 35.3 -2.0**
BVA0 pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
BRVK Borovoye 64.12 339⇑*e*P **P 08 42 35.4 -2.4**
comp=Z,47nm,0.6s,mb5.7
BRVK *e*PP PP 08 44 54.3 -6.5
BRVK LR LR
comp=Z,66nm,19.0s,MS3.8
BLJS Baljurashi 65.39 294 P **P 08 42 47.9 +1.5**
ARSS Ar Rass 65.69 301 P **P 08 42 48.1 -0.3**
KMBO Kilima Mbogo 65.98 271 P **P 08 42 51.0 +0.6**
comp=Z,4.5nm,0.8s,mb4.5,baz=56,slow=8.7,SNR=17
KMBO LR LR 09 06 19.8
comp=Z,273nm,21.0s,MS4.4,baz=272,slow=31
KMBO Kilima Mbogo 65.98 271⇑*e*P **P 08 42 50.3 -0.1**
comp=Z,13nm,1.0s,mb4.9
KMBO *e*pP pP 08 43 02.3 -0.3
KMBO *es*P sP 08 43 05.9 -1.4
KMBO *e* 08 43 14.8
KMBO LR LR
comp=Z,264nm,21.0s,MS4.4
LTHS Al Lith 66.57 294 P **P 08 42 54.9 +0.9**
WAKE Wake Island 66.85 67 PFAKE 08 43 10.0 +14
WAKE LR LR
comp=Z,60µm,22.0s
HILS Ha'il 67.40 302 D 08 43 00.3
MAW Mawson 68.29 195 P **P 08 43 03.7 -0.3**
comp=Z,7.3nm,0.8s,mb4.8,baz=26,slow=7.9,SNR=15
MAW pP pP 08 43 18.0 +1.7
comp=Z,22nm,0.9s,baz=44,slow=8.0,SNR=14
MAW LR LR 09 06 38.3
comp=Z,1µm,21.9s,MS5.0,baz=50,slow=30
MAW Mawson 68.29 195 *e*P **P 08 43 03.4 -0.6**
comp=Z,73nm,1.2s,mb5.6
MAW pP pP 08 43 13.2 -3.1
MAW *es*P sP 08 43 17.7 -3.1

MAW LR LR
comp=Z,2µm,22.0s,MS5.3
KBRS Khaybar 69.08 300 P **P 08 43 10.5 +0.9**
HKR Hakkari 69.52 313 *e*P **P 08 43 11.3 -0.8**
YNBS Yanbu' al Bahr 69.79 298 P **P 08 43 14.9 +0.9**
YAK Yakutsk 69.81 13*c i*P **P 08 43 11.6 -1.8**
YAK pmax pmax
comp=Z,96nm,0.7s,mb5.8
YAK Yakutsk 69.81 13 *e*P **P 08 43 11.2 -2.3**
comp=Z,103nm,0.7s,mb5.9
YAK LR LR
comp=Z,377nm,19.0s,MS4.7
GNI Garni 69.87 316*c i*P **P 08 43 13.9 -0.3**
GNI pmax pmax
comp=Z,58nm,1.4s
GNI Garni 69.87 316⇑*i*P **P 08 43 13.7 -0.5**
comp=Z,58nm,1.1s,mb5.4
GNI LR LR
comp=Z,156nm,21.0s,MS4.2
UMJS Umm Lajj 70.62 299 P **P 08 43 20.2 +1.2**
SVE Sverdlovsk 70.62 337⇑*i*P **P 08 43 17.7 -0.8**
SVE *e* pP 08 43 32.8 +2.0
SVE pmax pmax
comp=Z,300nm,1.1s,mb6.1
RPZ Rata Peaks 70.63 135 P **P 08 43 18.9 +0.2**
comp=Z,14nm,0.4s,mb5.2,baz=270,slow=3.9,SNR=21
RPZ LR LR 09 14 10.7
comp=Z,405nm,21.9s,MS4.6,baz=181,slow=36
ARU Arti 71.19 336⇑*i*P **P 08 43 21.0 -0.9**
ARU *i* 08 43 37.2
ARU *e* 08 46 01.3
ARU *es*S S 08 52 34.0 -0.5
ARU pmax pmax
comp=Z,167nm,1.0s,mb5.9
ARU Arti 71.19 336 *e*P **P 08 43 20.9 -1.0**
comp=Z,174nm,1.0s,mb5.9
BEST Besiri 71.45 313 *i*P **P 08 43 23.6 -0.2**
ZEI Tsey 71.56 318 *i*P **P 08 43 24.7 +0.3**
ZEI *i* *PP pP 08 43 43.4 +6.7
ZEI *i* 08 46 02.1
VRT Varto 71.73 314 *e*P **P 08 43 26.2 +0.8**
TBKS Tabuk 72.08 302 P **P 08 43 28.9 +1.3**
EZM Erzurum 72.14 315 *e*P **P 08 43 28.2 +0.3**
QURS Qurayyt al Mil 72.34 305 P **P 08 43 30.6 +1.5**
MBAR Mbarara 72.52 271⇑*e*P **P 08 43 29.9 -0.8**
comp=Z,38nm,1.2s,mb5.2
MBAR *e*pP pP 08 43 42.4 -0.5
MBAR LR LR
comp=Z,85nm,20.0s,MS4.0
JMQS Jabal Moqyreh 72.83 302 P **P 08 43 32.4 +0.2**
KIV Kislovodsk 72.86 319⇑*e*P **P 08 43 31.2 -0.9**
KIV *e**SP sP 08 43 47.5 -1.5
KIV pmax pmax
comp=Z,83nm,1.0s,mb5.6
KIV Kislovodsk 72.86 319⇑*e*P **P 08 43 31.2 -0.9**
comp=Z,83nm,1.1s
KIV *es*P sP 08 43 47.5 -1.5
KIV LR LR
comp=Z,23nm,19.0s
GOF Gofitskoye 73.11 320⇑*i*P **P 08 43 32.5 -1.0**
GOF *i* 08 43 51.0
AYUS 'Aynunah 73.16 301 P **P 08 43 34.4 +0.2**
PTK Pertek 73.19 313 *e*P **P 08 43 35.3 +1.2**
ELZG Elazig 73.35 312 *i*P **P 08 43 35.6 +0.5**
BDAS Al Bad' 73.37 301 P **P 08 43 35.6 +0.2**
TAYS Tayyib Ism 73.59 302 P **P 08 43 36.9 +0.2**
ALWS Ilw as Safayha 73.63 302 P **P 08 43 37.3 +0.4**
GUMT Gumushane 73.69 315 *e*P **P 08 43 36.6 -0.4**
MALT Malatya 73.69 312 *e*P **P 08 43 35.8 -1.3**
MALT Malatya 73.69 312⇑*e*P **P 08 43 36.9 -0.2**
MALT *PP pP 08 43 50.7 +1.3
MALT pmax pmax
comp=Z,50nm,1.2s,mb5.3
MYA Malataya 73.70 312 *e*P **P 08 43 37.4 +0.2**
AQBJ Aqaba 73.75 303 P **P 08 43 37.9 +0.3**
EIL Elat 73.82 303 P **P 08 43 38.3 +0.3**
ZFRI Zfri 73.87 304 P **P 08 43 38.7 +0.4**
MBH Mount Berech 73.88 303 P **P 08 43 38.8 +0.5**
MBH Mount Berech 73.88 303⇑P **P 08 43 38.8 +0.5**
PRNI Paran 73.96 303 P **P 08 43 39.4 +0.6**
PRNI Paran 73.96 303⇑P **P 08 43 39.4 +0.6**
DRGI Dragot 73.98 305 P **P 08 43 39.2 +0.3**
GZT Gaziantep 74.02 311 *i*P **P 08 43 39.3 +0.4**
KSHT Keshet 74.03 306 P **P 08 43 39.9 +0.7**
HMDT Nahal Hemdat 74.05 305 P **P 08 43 39.6 +0.3**
HMDT Nahal Hemdat 74.05 305⇑P **P 08 43 39.6 +0.3**
GLH Golan-Tel Qazi 74.08 306 P **P 08 43 40.3 +0.8**
KMTI Karmit 74.12 303 P **P 08 43 39.9 +0.2**
PET Petropavlovsk 74.13 31 *e*P **P 08 43 38.4 -0.9**
PET *e*S 08 53 34.3
PET pmax pmax
comp=Z,52nm,0.7s,mb5.6
PET pmax pmax
comp=Z,100nm,12.7s
PET MLR MLR
comp=Z,100nm,21.0s,MS4.1
PET Petropavlovsk 74.13 31 *e*P **P 08 43 38.0 -1.3**
comp=Z,66nm,0.9s,mb5.6
PET *es*P sP 08 43 54.2 -1.9
HRI Mount Hermon 74.17 306 P **P 08 43 40.8 +0.8**
MMLI Mount Malkishu 74.19 306 P **P 08 43 40.9 +0.8**
MMLI Mount Malkishu 74.19 306⇑P **P 08 43 40.9 +0.8**
GAZ Gaziantep 74.22 311 *e*P **P 08 43 37.8 -2.4**
URZ Urewera 74.30 128 P **P 08 43 40.2 -0.4**
comp=Z,7.1nm,0.5s,mb4.9,baz=276,slow=8.9,SNR=14
LSZ Lusaka 74.31 256 *e*P **P 08 43 40.5 -0.5**
comp=Z,8.9nm,1.0s,mb4.7
LSZ *e*pP pP 08 43 53.0 -0.4
LSZ *es*P sP 08 43 56.7 -1.2
LSZ LR LR
comp=Z,595nm,21.0s,MS4.9
MA2 Magadan 74.41 23 *e*P **P 08 43 41.4 +0.6**
MA2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
MA2 Magadan 74.41 23 *e*P **P 08 43 40.1 -0.7**
comp=Z,121nm,1.5s,mb5.6
MA2 *e*pP pP 08 43 53.0 -0.1
MA2 LR LR
comp=Z,146nm,19.0s,MS4.3
OFRI 'Ofer 74.59 306 P **P 08 43 42.8 +0.4**
KZIT Kziot 74.61 304 P **P 08 43 42.8 +0.3**
SOC Sochi 74.69 318 *i*P **P 08 43 41.4 -1.3**
SOC *e* pP 08 43 53.8 -1.2
SOC *e* 08 46 28.4
SOC *e*PPP PPP 08 48 22.8 +5.7
SOC *e*S S 08 53 10.5 -3.9
SOC *e*SS SS 08 58 04.8 +0.3
SOC *e*SSS SSS 09 01 12.1 -5.9
SOC pmax pmax
comp=N,5.0nm,0.6s
SOC pmax pmax
comp=E,5.0nm,0.6s
SOC pmax pmax
comp=Z,34nm,0.6s,mb5.5
SOC MLR MLR
comp=N,76nm,18.0s,MS4.1
SOC MLR MLR
comp=E,60nm,18.0s,MS4.1
SOC MLR MLR
comp=Z,101nm,18.0s,MS4.2
TOKT Tokat 75.74 314 *e*P **P 08 43 47.7 -1.1**
SYO Syowa Base 76.17 199 ⇓P **P 08 43 50.9 +0.2**
SYO Syowa Base 76.17 199 ⇓PcP PcP 08 44 04.6 +1.6
SYO Syowa Base 76.17 199 ⇓pP pP 08 44 06.9 +3.9
NIG Nigde 76.48 311 *e*P **P 08 43 52.3 -0.7**
CSS Prodhromos 76.56 308⇑*e*P **P 08 43 53.0 -0.6**
comp=Z,153nm,0.9s,mb5.9
CSS *es*P sP 08 44 10.4 -0.1
IKL Isikli 76.64 309 *e*P **P 08 43 51.2 -2.9**
ANN Anapa 76.66 318 *e*P sP 08 44 08.7 -2.2
ANN pmax pmax
comp=Z,81nm,1.0s,mb5.6
LBTB Lobatse 76.74 246 PFAKE 08 44 10.0 +15
LBTB LR LR
comp=Z,40841µm,21.0s
LEF Lefka 76.95 308 *e*P **P 08 43 55.0 -0.8**
BOSA Boshof 77.11 242 PFAKE 08 44 10.0 +13
BOSA LR LR
comp=Z,34857µm,19.0s
KAMT Kaman 77.52 312 P **P 08 43 57.3 -1.6**
BRTR Keskin Array B 77.68 312 P **P 08 43 59.0 -0.7**
comp=Z,24nm,0.7s,mb5.2,baz=131,slow=7.2,SNR=126
BRTR LR LR 09 21 09.6
comp=Z,138nm,19.2s,MS4.3,baz=145,slow=38

ELDT Eldivan 78.06 313 *i* P **P** **08 44 01.3 -0.5**
VOR Voronezh 78.21 325 *e*P **P** **08 44 01.5 -0.9**
VOR pmax pmax
comp=E,140nm,1.2s
VOR pmax pmax
comp=Z,270nm,1.2s,mb6.0
TIXI Tiksi 78.26 8*ce*P **P** **08 44 00.6 -1.7**
TIXI pmax pmax
comp=Z,25nm,1.0s,mb5.1
TIXI MLR MLR
comp=Z,500nm,18.0s,MS4.9
TIXI Tiksi 78.26 8⇑*e*P **P** **08 44 00.6 -1.7**
TIXI LR LR
comp=Z,432nm,19.0s,MS4.8
VNDA Vanda 78.68 169 P **P** **08 44 04.3 -0.2**
comp=Z,5.4nm,1.1s,baz=299,slow=6.5,SNR=12
VNDA LR LR 09 13 42.6
comp=Z,383nm,21.1s,baz=311,slow=32
VNDA Vanda 78.68 169 *e*P **P** **08 44 04.2 -0.4**
comp=Z,36nm,1.1s,mb5.2
VNDA *e*PcP PcP 08 44 13.1 -0.6
VNDA *e*pP pP 08 44 16.6 -0.3
VNDA *es*P sP 08 44 21.8 +0.3
VNDA LR LR
comp=Z,492nm,19.0s,MS4.9
KIZT Kizilcal 78.75 311 *i* P **P** **08 44 04.8 -0.8**
SAFT Safranbolu 78.81 314 *e*P **P** **08 44 05.3 -0.6**
SIM Simferopol' 78.93 317*ce*P **P** **08 44 06.5 0.0**
SIM pmax pmax
comp=Z,48nm,0.7s,mb5.5
SGKT Sivrigoynuk 79.08 313 *i* P **P** **08 44 06.8 -0.6**
MDU Mudurnu 79.67 312 *e*P **P** **08 44 09.9 -0.7**
ESKT Eskisehir 79.69 311 *e*P **P** **08 44 09.6 -1.2**
ESKT Eskisehir 79.69 311 *e*P **P** **08 44 09.9 -0.8**
ELL Elmali 79.71 309 *e*P **P** **08 44 11.1 +0.2**
SBA Scott Base 79.77 169 *e*P **P** **08 44 11.1 +0.7**
comp=Z,39nm,1.0s,mb5.3
SBA *ep*P pP 08 44 23.0 +0.2
SBA *es*P sP 08 44 28.6 +1.2
SBA LR LR
comp=Z,574nm,22.0s,MS4.9
HENT Hendek 80.00 313 *i* P **P** **08 44 11.7 -0.7**
MOS Moscow 80.67 329 *e*P **P** **08 44 15.5 -0.1**
MOS *e* 08 44 32.5
MOS pmax pmax
comp=Z,283nm,1.0s,mb6.2
HRT Hereke 80.90 313 *i* P **P** **08 44 16.5 -0.6**
OBN Obninsk 80.98 328*c i*P **P** **08 44 17.2 -0.1**
OBN *e* 08 47 30.0
OBN *i* S S 08 54 20.0 -1.7
OBN pmax pmax
comp=Z,182nm,0.9s,mb6.0
OBN MLR MLR
comp=Z,500nm,14.0s,MS5.0
OBN Obninsk 80.98 328⇑ *i*P **P** **08 44 17.1 -0.1**
comp=Z,147nm,0.8s,mb6.0
OBN *es*P sP 08 44 33.5 -0.8
SUR Sutherland 80.99 238 LR LR 09 11 59.9
comp=Z,348nm,21.2s,MS4.7,baz=23,slow=30
SUR Sutherland 80.99 238 *e*P **P** **08 44 19.0 +1.2**
comp=Z,34nm,1.0s,mb5.2
SUR *es*P sP 08 44 35.4 +0.6
ULDT Uludag 81.12 312 *i* P **P** **08 44 18.6 +0.3**
ISK Istanbul-Kandi 81.41 313 *e*P **P** **08 44 19.5 -0.3**
KARP Karpathos 81.61 307 *e*P **P** **08 44 21.0 +0.1**
AKS Akhisar 81.82 310 *e*P **P** **08 44 20.7 -1.3**
BTOK Tokmak 81.86 311 *i* P **P** **08 44 21.8 -0.4**
BALB Balikesir 81.94 311 *e*P **P** **08 44 22.6 0.0**
BNT Bandirma 82.08 312 *e*P **P** **08 44 23.4 +0.1**
KDAG Bornova 82.13 310 *i* P **P** **08 44 24.2 +0.6**
IZM Izmir 82.14 310 *i* P **P** **08 44 20.7 -3.0**
BLCB Balcova 82.30 310 *e*P **P** **08 44 24.1 -0.4**
XRY Khrisi 82.64 306 *e*P **P** **08 44 26.0 -0.3**
NPS Neapolis 82.79 306 *e*P **P** **08 44 28.0 +1.0**
PRK Paraskevi 83.07 310 *e*P **P** **08 44 29.0 +0.6**
SANT Santorini 83.12 307 *e*P **P** **08 44 28.2 -0.5**
comp=Z,145nm,1.3s,mb5.8
SANT *ep*P pP 08 44 40.8 -0.4
SANT *es*P sP 08 44 45.2 -0.5
APE Apeiranthos 83.20 308 *e*P **P** **08 44 29.0 -0.1**
EDRB Edirne 83.28 313 *e*P **P** **08 44 28.7 -0.6**
ALN Alexandroupoli 83.59 312 *e*P **P** **08 44 31.2 +0.1**
AKASG Malin Array Be 83.77 322 P **P** **08 44 31.1 -0.6**
comp=Z,18nm,0.8s,mb5.2,baz=84,slow=4.5,SNR=51
AKASG PP PP 08 47 45.0 -1.8
comp=Z,4.3nm,0.8s,baz=91,slow=6.9,SNR=4.8
AKASG LR LR 09 26 56.4
comp=Z,76nm,19.4s,MS4.1,baz=75,slow=39
GVD Gavdhos 83.94 306 *e*P **P** **08 44 32.8 -0.2**
comp=Z,50nm,0.9s,mb5.6
VAM Vamos 83.95 306 *e*P **P** **08 44 34.0 +1.0**
AFI Afiamalu 83.97 103 P **P** **08 44 34.1 +0.6**
VRI Vrincioaia 84.19 317 *i*P **P** **08 44 35.3 +1.4**
BUC1 Bucharest 84.34 315 *i*P **P** **08 44 36.5 +1.8**
BILL Bilibino 84.79 20 *e*P **P** **08 44 36.7 +0.3**
BILL pmax pmax
comp=Z,7.0nm,0.3s,mb5.3
BILL Bilibino 84.79 20 *e*P **P** **08 44 36.7 +0.3**
comp=Z,7.1nm,0.3s,mb5.3
QSPA South Pole Qui 85.04 180 *e*P pP 08 44 50.2 +0.2
VLI Veliai 85.18 307 *e*P **P** **08 44 39.5 +0.4**
SRS Serrai 85.45 312 *e*P **P** **08 44 39.7 -0.6**
MNK Minsk 85.58 326 *e*P **P** **08 44 39.0 -1.6**
MNK pmax pmax
comp=Z,430nm,1.4s,mb6.5
PUL Pulkovo 85.74 331⇑ *e*P **P** **08 44 42.3 +1.0**
PUL pmax pmax
comp=Z,111nm,0.9s,mb6.1
PUL Pulkovo 85.74 331 *e*P **P** **08 44 41.7 +0.4**
KNT Kendrikon 85.98 312 *e*P **P** **08 44 42.9 0.0**
LIT Litokhoron 86.10 311 *e*P **P** **08 44 43.3 -0.2**
JOF Joensuu 86.25 334 *ep* **P** **08 44 43.0 -0.7**
comp=Z,3.0nm,0.4s,mb4.9
JOF Joensuu 86.25 334 *e*P **P** **08 44 43.0 -0.7**
JOF pmax pmax
comp=Z,3.0nm,0.4s,mb4.9
GRG Griva 86.31 311 *e*P **P** **08 44 44.2 -0.3**
EVR Evrytania 86.43 309 *e*P **P** **08 44 45.0 -0.1**
LVZ Lovozero 86.64 339 *e*P **P** **08 44 45.6 +0.1**
LVZ pmax pmax
comp=Z,71nm,0.9s,mb5.9
LVZ pmax pmax
comp=N,9.0nm,1.4s
LVZ pmax pmax
comp=E,14nm,1.0s
LVZ MLR MLR
comp=Z,676nm,16.0s,MS5.1
LVZ MLR MLR
comp=E,446nm,15.0s
LVZ Lovozero 86.64 339⇑ *e*P **P** **08 44 45.0 -0.5**
APA Apatity 86.97 339 *i*P **P** **08 44 46.4 -0.7**
APA *i* 08 45 04.2
APA pmax pmax
comp=Z,103nm,1.4s,mb5.9
BOLS Boljevac 87.12 314⇑ *i*P **P** **08 44 47.7 -0.7**
VLS Valsamata 87.26 309 *e*P **P** **08 44 49.5 +0.3**
KWP Kalwaria 87.61 320 *e*P **P** **08 44 51.2 +0.6**
KWP *PP pP 08 45 03.9 +0.6
KWP pmax pmax
comp=Z,63nm,1.2s,mb5.7
KWP Kalwaria 87.61 320 *e*P **P** **08 44 51.5 +0.9**
KWP Kalwaria 87.61 320 *e*P **P** **08 44 51.5 +0.9**
KOLS Kolonicke sedl 87.77 319 *i* P **P** **08 44 52.8 +1.4**
KOLS *es*P sP 08 45 09.3 +0.9
GRUS Gruza 88.01 314⇑ *i*P **P** **08 44 53.8 +1.1**
KEK Kerkira 88.09 310 *e*P **P** **08 44 53.5 +0.3**
SUW Suwalki 88.14 324⇑ *e*P **P** **08 44 52.6 -0.4**
SUW *e*PP pP 08 45 05.5 -0.2
SUW pmax pmax
comp=Z,200nm,1.0s,mb6.3
SUW Suwalki 88.14 324 *e*P **P** **08 44 52.9 -0.1**
SUW Suwalki 88.14 324 *e*P **P** **08 44 52.9 -0.1**
FINES FINESS Array B 88.20 332 P **P** **08 44 53.5 +0.3**
comp=Z,26nm,0.8s,mb5.5,baz=90,slow=5.7,SNR=44
FINES LR LR 09 30 13.2
comp=Z,164nm,19.1s,MS4.5,baz=93,slow=40
FINES FINESS Array B 88.20 332 *i* P **P** **08 44 53.5 +0.3**
FINES pmax pmax
comp=Z,26nm,0.9s
KAF Kangasniemi 88.25 333 *ep* **P** **08 44 52.3 -1.1**
comp=Z,55nm,0.9s,mb5.8,baz=102,slow=4.7
KAF Kangasniemi 88.25 333 *e*P **P** **08 44 52.3 -1.1**
KAF pmax pmax
comp=Z,55nm,0.9s,mb5.8

CRVS Cervenica-Dubn 88.29 319 *e*P **P** **08 44 56.0 +2.1**
DIVS Divcibare 88.56 314⇓ *i*P **P** **08 44 55.8 +0.4**
NVSS Nova Varos 2 88.69 314⇓ *i*P **P** **08 44 56.2 +0.2**
KECS Kecovo 88.87 319 *e*P **P** **08 44 57.7 +1.0**
KECS *ep*P pP 08 45 10.6 +1.3
NIE Niedzica 89.12 320 *e*P **P** **08 44 59.3 +1.5**
PSZ Piszkesteto 89.17 318 *e*PcP PcP 08 44 58.4 -1.5
PSZ Piszkesteto 89.17 318 *e*P **P** **08 44 58.3 +0.2**
PSZ pmax pmax
comp=Z,36nm,1.0s,mb5.7
PSZ Piszkesteto 89.17 318 *e*P **P** **08 44 58.6 +0.5**
OJC Ojcow 89.56 320⇑ *e*P **P** **08 45 00.4 +0.5**
OJC Ojcow 89.56 320⇑ *e*P **P** **08 45 00.4 +0.5**
PKSM Moragy 89.79 316⇑ *i*P **P** **08 45 01.6 +0.5**
PKS8 Sarbogard 89.85 317⇓ *e*P **P** **08 45 02.5 +1.1**
VYHS Vyhne 89.95 319 *e*P **P** **08 45 02.8 +1.0**
VYHS *e* 08 45 10.7
VYHS *es*P sP 08 45 19.8 +1.1
RHK3 Tenkes 90.02 316 *e*P **P** **08 45 03.2 +1.0**
PKSG 90.11 317 *e*P **P** **08 45 02.9 +0.4**
RHK1 Bakonya 90.17 316⇓ *i*P **P** **08 45 03.8 +0.9**
ARCES ARCESS Array B 90.32 340 P **P** **08 45 03.0 0.0**
comp=Z,22nm,0.8s,mb5.5,baz=102,slow=5.1,SNR=28
ARCES LR LR 09 28 45.6
comp=Z,291nm,18.2s,MS4.8,baz=283,slow=38
SNAA Sanae 90.36 198 *e* pP 08 45 13.4 -2.4
SNAA Sanae 90.36 198 *e* sP 08 45 18.3 -1.8
SNAA Sanae 90.36 198 *e*S S 08 56 02.3 +10
SNAA Sanae 90.36 198 P **P** **08 45 04.5 +1.3**
comp=Z,2.0nm,1.0s,baz=103,slow=3.8,SNR=13
SNAA Sanae 90.36 198 *e*P **P** **08 45 03.7 +0.6**
SNAA *e**PP pP 08 45 16.6 +0.8
SNAA pmax pmax
comp=Z,52nm,1.2s
SNAA Sanae 90.36 198⇓ *i*P **P** **08 45 02.0 -1.1**
SNAA *e* pP 08 45 13.4 -2.4
SNAA *e* 08 45 18.3
SNAA *e* 08 48 39.7
SNAA *e*S S 08 56 02.3 +10
OKC Ostrava-Krasne 90.57 320 *e*P **P** **08 45 05.7 +1.1**
MORC Moravsky Berou 90.95 320 *e*P **P** **08 45 07.2 +0.8**
MORC *e**PP pP 08 45 20.0 +0.9
MORC pmax pmax
comp=Z,55nm,1.4s,mb5.7
MORC Moravsky Berou 90.95 320 *e*P **P** **08 45 07.2 +0.8**
comp=Z,55nm,1.4s,mb5.7
MORC *ep*P pP 08 45 20.0 +0.8
ZST Bratislava 91.07 318 *e*P **P** **08 45 08.1 +1.1**
ZST *e* 08 45 24.1
DPC Dobruska-Polom 91.80 320 *e*P **P** **08 45 11.5 +1.2**
DPC *ex* x 08 45 28.8
KSP Ksiaz 91.86 321 *e*P **P** **08 45 11.0 +0.4**
KSP *e**PP pP 08 45 25.2 +1.9
KSP *e*S S 08 56 10.0 +4.1
KSP Ksiaz 91.86 321 *e*P **P** **08 45 25.1 +1.5**
VNA2 Neumayer--Watz 91.99 198⇓ *i*P **P** **08 45 10.9 +0.2**
VNA2 *e* pP 08 45 23.3 -0.1
VNA2 *e* 08 45 28.2
VNA2 *e* 08 48 48.6
VNA2 *e*S S 08 56 10.4 +3.8
UPC Upice 92.01 320 *e*P **P** **08 45 12.1 +0.8**
BOJS Bojanci 92.07 315 *e*P **P** **08 45 12.1 +0.4**
BOJS *i* pP pP 08 45 26.2 +1.8
PERS Pernice 92.26 316 *e*P **P** **08 45 13.1 +0.5**
VNA1 Neumayer--Stat 92.36 198⇑ *i*P **P** **08 45 11.3 -1.1**
VNA1 *e* pP 08 45 24.1 -1.0
VNA1 *e* 08 45 28.9
VNA1 *e* 08 48 49.0
VNA1 *e*S S 08 56 10.4 +0.6
VNA3 Neumayer Olymp 92.55 197⇑ *i*P **P** **08 45 12.8 -0.5**
VNA3 *e* pP 08 45 24.1 -1.9
VNA3 *e* 08 45 28.9
VNA3 *e* 08 48 49.8
VNA3 *e*S S 08 56 11.5 -0.1
LJU Ljubljana 92.62 316 *e*P **P** **08 45 15.0 +0.8**
LJU *ep*P pP 08 45 32.0 +5.1
PRU Pruhonice 92.91 320 *e*P **P** **08 45 16.1 +0.7**
ROBS Robic 93.34 316 *e*P **P** **08 45 18.0 +0.5**
BRG Berggiesshubel 93.35 321 *e*P **P** **08 45 18.1 +0.7**
BRG *e* 08 45 35.4
BRG *e* 08 49 03.0
BRG pmax pmax
comp=Z,13nm,1.1s,mb5.3
BRG Berggiesshubel 93.35 321 *e*P **P** **08 45 18.1 +0.7**
comp=Z,13nm,1.1s,mb5.3
BRG *e* 08 45 35.4
BRG *ep*P pP 08 49 03.0 -1.4
GEC2 GERESS Array S 93.38 319 *e*P **P** **08 45 18.2 +0.6**
GEC2 pmax pmax
comp=Z,51nm,1.8s,mb5.7
GEC2 GERESS Array S 93.38 319 *e*P **P** **08 45 18.2 +0.6**
comp=Z,51nm,1.8s,mb5.7
GERES GERESS Array B 93.38 319 P **P** **08 45 18.2 +0.6**
comp=Z,3.0nm,0.7s,mb4.8,baz=90,slow=4.0,SNR=22
KHC Kasperske Hory 93.47 319 *e*P **P** **08 45 18.5 +0.5**
KHC *ex* x 08 45 33.0
WET Wettzell 93.93 319 *e*P **P** **08 45 20.8 +0.7**
WET pmax pmax
comp=Z,10.0nm,1.0s,mb5.2
WET Wettzell 93.93 319 *e*P **P** **08 45 20.8 +0.7**
comp=Z,10.0nm,1.0s,mb5.2
CLL Collm 93.96 321 P **P** **08 45 21.0 +0.8**
CLL *e*PP PP 08 49 14.0 +4.7
CLL Collm 93.96 321 *e*P **P** **08 45 21.0 +0.8**
NKC Novy Kostel 94.27 320 *e*P **P** **08 45 22.1 +0.5**
MOX Moxa 94.81 320 *i* P **P** **08 45 24.7 +0.6**
GRA1 Grafenberg Arr 95.04 319 *e*P **P** **08 45 26.0 +0.9**
comp=Z,22nm,0.9s,mb5.6
GRA1 *ep*P pP 08 45 42.7 +4.9
GRF Grafenberg Arr 95.04 319 *e*P **P** **08 45 26.0 +0.9**
GRF *e**PP pP 08 45 42.7 +4.9
GRF pmax pmax
comp=Z,22nm,0.9s,mb5.6
NB2 NORSAR Subarra 95.27 331 P **P** **08 45 25.2 -0.7**
comp=Z,0.4nm,0.7s,baz=92,slow=5.3
NOA NORSAR Array B 95.27 331 P **P** **08 45 26.0 +0.1**
comp=Z,3.3nm,0.9s,mb4.8,baz=100,slow=4.3,SNR=8.8
NOA PP PP 08 49 15.8 -2.7
comp=Z,1.2nm,0.8s,baz=105,slow=6.8,SNR=3.9
NOA LR LR 09 31 45.0
comp=Z,128nm,18.1s,MS4.4,baz=70,slow=38
NOA NORSAR Array B 95.27 331 P **P** **08 45 26.0 +0.1**
NOA PP PP 08 49 15.8 -2.8
NOA LR LR 09 31 45.0
IMA Indian Mountai 99.79 24 *e*P **P** **08 45 46.8 +0.5**
IMA pmax pmax
comp=Z,52nm,1.2s,mb5.8
IMA Indian Mountai 99.79 24 *e*Pdif **P** **08 45 46.8 +0.5**
comp=Z,52nm,1.2s,mb5.8
FIB Fire Island 102.28 28 PFAKE 08 46 10.0 +12
FIB LR LR
comp=Z,1μm,20.0s,MS5.5
ILAR Eielson Array 102.85 24 P Pdif 08 45 58.9 -1.1
comp=Z,0.8nm,0.9s,baz=291,slow=3.7,SNR=6.7
ILAR PP PP 08 50 06.6 -11
comp=Z,1.0nm,1.1s,baz=291,slow=7.7,SNR=4.2
EBR Ebro Roquetas 102.86 311 *e*PDIFF 08 45 59.5
DIV Divide 104.36 28 PFAKE 08 46 20.0 +13
DIV LR LR
comp=Z,1μm,22.0s,MS5.4
INK Inuvik 106.41 19 Pdiff Pdif 08 46 15.2 -0.4
comp=Z,2.2nm,1.1s,baz=229,slow=6.4,SNR=4.4
INK PKiKP 08 50 25.9
comp=Z,3.4nm,1.1s,baz=44,slow=4.5,SNR=7.0
OCWA Octopus Mounta 121.20 36 PFAKE 08 51 10.0 +16
OCWA LR LR
comp=Z,455nm,20.0s,MS5.1
RMW Rattlesnake Mo 122.72 35 *e*PKIKP PKPdf 08 50 58.4 +1.2
EDM Edmonton 123.32 25 *e*PKIKP PKPdf 08 50 59.0 +0.8
ETW Entiat 123.47 34 P PKPdf 08 51 00.2 +1.6
DPW Davenport 124.48 33 *e*PKPdf PKPdf 08 51 01.9 +1.4
DPW *es*PKPdf 08 51 19.6
OD2 Odessa Site #2 124.49 33 P PKPdf 08 51 02.2 +1.6
HUMO Hull Mountain 124.53 40 *e*PKPdf PKPdf 08 51 02.1 +1.3
HUMO *es*PKPdf 08 51 19.8
HAWA Hanford 124.61 35 *e*PKPdf PKPdf 08 51 02.6 +1.7
HAWA *es*PKPdf 08 51 20.0
REDWA Red Mountain 124.71 35 P PKPdf 08 51 03.4 +2.4
NEW Newport 124.81 32 *e*PKPdf PKPdf 08 51 02.9 +1.7
NEW LR LR
comp=Z,280nm,22.0s,MS4.9
VIPM Ingram Point 125.01 37 P PKPdf 08 51 04.3 +2.6

YBH Yreka Blue Hor 125.11 41 PFAKE 08 51 10.0 +8.0
YBH LR LR
comp=Z,380nm,21.0s,MS5.0
LHEM Herd Peak 125.49 41 P PKPdf 08 51 04.8 +2.1
LNOR Lincton Mounta 125.61 35 *e*PKIKP PKPdf 08 51 04.1 +1.3
LNOR *e* 08 51 20.6
WDC Whiskeytown Da 125.78 42 *e*PKIKP PKPdf 08 51 04.8 +1.5
LASM Arnica Sink 125.92 41 P PKPdf 08 51 06.0 +2.4
LTIM Timbered Crate 126.19 41 P PKPdf 08 51 06.3 +2.3
FFC Flin Flon 126.34 18 *e*PKPdf PKPdf 08 51 04.6 +0.7
FFC LR LR
comp=Z,75nm,22.0s,MS4.3
LBCM Butte Creek Ri 126.45 41 P PKPdf 08 51 06.8 +2.2
MOD Modoc 126.59 40 *e*PKPdf PKPdf 08 51 07.0 +2.2
MOD *es*PKPdf 08 51 24.4
MOD LR LR
comp=Z,210nm,20.0s,MS4.8
MSO Missoula 127.39 31 *e*PKPdf PKPdf 08 51 07.0 +0.8
MSO *es*PKPdf 08 51 24.6
CHMT Chamberlain Mo 127.69 31 *e*PKPdf PKPdf 08 51 07.9 +1.1
CHMT *es*PKPdf 08 51 25.3
WCN Washoe City 128.27 42 *e*PKIKP PKPdf 08 51 10.0 +1.9
LRV Little Rabbit 128.76 46 *e*PKPdf PKPdf 08 51 12.7 +3.5
HLID Hailey 129.21 35 PFAKE 08 51 20.0 +10
HLID LR LR
comp=Z,152nm,21.0s,MS4.7
MCMT McKenzie Canyo 129.27 33 *e*PKPdf PKPdf 08 51 11.1 +1.2
MCMT *es*PKPdf 08 51 29.6
BMN Battle Mountai 129.34 40 PFAKE 08 51 20.0 +10
BMN LR LR
comp=Z,431nm,22.0s,MS5.1
BOZ Bozeman (W) 129.37 31 *e*PKPdf PKPdf 08 51 11.6 +1.5
BOZ *es*PKPdf 08 51 29.4
BOZ LR LR
comp=Z,322nm,20.0s,MS5.0
SCHQ Schefferville 129.61 353 PKP PKPdf 08 51 10.3 +0.1
comp=Z,5.0nm,0.6s,baz=86,slow=2.1,SNR=9.1
SCHQ Schefferville 129.61 353 PKP PKPdf 08 51 10.3 +0.1
SCHQ LR LR
comp=Z,551nm,19.0s,MS5.3
NVAR Mina Array Bea 129.69 43 PKhKP 08 51 05.6
comp=Z,0.1nm,0.3s,baz=194,slow=3.1,SNR=4.1
NVAR PKP PKPdf 08 51 12.9 +2.1
comp=Z,4.9nm,0.8s,baz=330,slow=0.7,SNR=27
NVAR SKPbc 08 54 30.5
comp=Z,4.1nm,0.9s,baz=264,slow=6.6,SNR=12
NVAR Mina Array Bea 129.69 43 PKP PKPdf 08 51 05.6 -5.3
NVAR PKP PKPdf 08 51 12.9 +2.1
NVAR SKPbc 08 54 30.5
MNV Mina 129.79 43 PFAKE 08 51 20.0 +8.9
MNV LR LR
comp=Z,366nm,22.0s,MS5.0
QLMT Earthquake Lak 130.03 32 *e*PKPdf PKPdf 08 51 14.2 +2.8
QLMT *es*PKPdf 08 51 31.3
MTUM Tungsten Hills 130.05 44 *e*PKPdf PKPdf 08 51 12.9 +1.3
MTUM *es*PKPdf 08 51 31.7
MTUM *e*SKP 08 54 31.7
GCMT Greycliff 130.27 30 *e*PKPdf PKPdf 08 51 12.1 +0.3
GCMT *es*PKPdf 08 51 31.0
GCMT *e*SKP 08 54 28.7
YMR Madison River 130.38 32 *e*PKPdf PKPdf 08 51 13.8 +1.8
YMR *es*PKPdf 08 51 32.4
YMR *e*SKP 08 54 32.5
YFT Old Faithful 130.60 32 *e*PKPdf PKPdf 08 51 15.5 +3.1
YFT *e*SKP 08 54 35.2
DGMT Dagmar 130.72 24 PFAKE 08 51 30.0 +17
DGMT LR LR
comp=Z,350nm,22.0s,MS5.0
LKWY Lake 130.75 32 PFAKE 08 51 30.0 +17
LKWY LR LR
comp=Z,249nm,19.0s,MS4.9
RRI2 Red Ridge 131.08 33 *e*PKPpre 08 51 12.8
RRI2 *e*PKPdf PKPdf 08 51 16.0 +2.6
RRI2 *es*PKPdf 08 51 33.0
RRI2 *e*SKP 08 54 34.9
TPAW Teton Pass 131.18 33 *e*PKPdf PKPdf 08 51 14.3 +0.8
TPAW *es*PKPdf 08 51 32.9
TPAW *e*SKP 08 54 35.4
TPAW *e* 08 54 58.3
LAO LASA Array 131.24 27 *e*PKPdf PKPdf 08 51 14.7 +1.1
LAO *es*PKPdf 08 51 32.0
LAO *e*SKP 08 54 34.9
LAO *e* 08 54 57.2
DAC Darwin (Calif) 131.26 45 PFAKE 08 51 30.0 +16
DAC LR LR
comp=Z,369nm,20.0s,MS5.1
HVU Hansel Valley 131.26 36 *e*PKPdf PKPdf 08 51 15.4 +1.6
HVU *es*PKPdf 08 51 33.2
HVU *e*SKP 08 54 36.5
LOHW Long Hollow 131.29 33 *e*PKPdf PKPdf 08 51 15.0 +1.3
LOHW *es*PKPdf 08 51 33.8
LOHW *e*PP PP 08 53 34.0 -2.5
SNOW Snow King Moun 131.31 33 *e*PKPdf PKPdf 08 51 15.7 +1.9
SNOW *e*SKP 08 54 35.6
REDW Red Top Meadow 131.32 33 *e*PKPdf PKPdf 08 51 15.6 +1.8
REDW *es*PKPdf 08 51 34.1
REDW *e*SKP 08 54 35.8
TRCR Troy Canyon 131.54 41 *e*PKPdf PKPdf 08 51 17.2 +2.8
TRCR *es*PKPdf 08 51 34.5
TRCR *e*SKP 08 54 37.0
AHID Auburn Hatcher 131.58 34 PFAKE 08 51 30.0 +16
AHID LR LR
comp=Z,230nm,19.0s,MS4.9
BGU Big Grassy Mou 131.64 37 *e*PKPdf PKPdf 08 51 16.9 +2.4
BGU *e*SKP 08 54 37.7
BGU *e* 08 55 00.9
ULM Lac du Bonnet 132.06 16 PKhKP 08 51 03.1
comp=Z,1.3nm,0.8s,baz=192,slow=1.7,SNR=2.9
ULM PKP PKPdf 08 51 16.1 +1.0
comp=Z,7.6nm,0.6s,baz=357,slow=2.5,SNR=9.8
ULM SKPbc 08 54 36.0
comp=Z,5.6nm,1.0s,baz=301,slow=8.1,SNR=5.5
ULM Lac du Bonnet 132.06 16 PKP PKPdf 08 51 03.1 -12
ULM *e*PKPdf PKPdf 08 51 14.6 -0.4
ULM *e*SKP 08 54 36.4
ULM LR LR
comp=Z,410nm,22.0s,MS5.1
HWUT Hardware Ranch 132.07 35 *e*PKPpre 08 51 14.1
HWUT *e*PKPdf PKPdf 08 51 17.9 +2.6
HWUT *es*PKPdf 08 51 34.7
HWUT *e*SKP 08 54 38.8
HWUT *e* 08 55 02.1
HWUT LR LR
comp=Z,334nm,21.0s,MS5.0
DUG Dugway 132.22 37 *e*PKPdf PKPdf 08 51 17.7 +2.1
DUG *es*PKPdf 08 51 36.1
DUG *e*SKP 08 54 39.8
DUG *e* 08 55 02.0
DUG LR LR
comp=Z,154nm,19.0s,MS4.7
BW06 Boulder Array 132.42 33 PFAKE 08 51 30.0 +14
BW06 LR LR
comp=Z,188nm,20.0s,MS4.8
PDAR Pinedale Array 132.42 33 PKhKP 08 51 06.0
comp=Z,0.9nm,0.8s,baz=90,slow=4.4,SNR=7.7
PDAR PKP PKPdf 08 51 16.9 +0.9
comp=Z,2.2nm,0.9s,baz=180,slow=1.5,SNR=8.1
PDAR SKPbc 08 54 39.5
comp=Z,3.9nm,1.0s,baz=333,slow=3.3,SNR=12
TCUT Toone Canyon 132.48 36 *e*PKPdf PKPdf 08 51 15.3 -0.8
TCUT *es*PKPdf 08 51 33.5
TCUT *e*SKP 08 54 37.2
TCUT *e* 08 54 59.6
NLU North Lily Min 132.81 37 *e*PKPdf PKPdf 08 51 19.6 +2.8
NLU *e*SKP 08 54 41.9
DAU Daniels Canyon 133.02 36 *e*PKPdf PKPdf 08 51 19.0 +1.9
DAU *es*PKPdf 08 51 37.2
DAU *e*SKP 08 54 41.8
MVU Marysvale 133.62 39 *e*PKPdf PKPdf 08 51 20.4 +2.1
MVU *es*PKPdf 08 51 38.6
MVU *e*SKP 08 54 44.8
MVU *e* 08 55 08.3
MSU Marysvale 133.63 39 *e*PKPdf PKPdf 08 51 21.0 +2.6
MSU *es*PKPdf 08 51 39.6
MSU *e*SKP 08 54 45.1
MSU *e* 08 55 08.3
TMUT Trail Mountain 133.75 37 *e*PKPdf PKPdf 08 51 20.6 +2.1
TMUT *e*SKP 08 54 45.1
RSSD Black Hills 134.20 27 *e*PKPpre 08 51 12.4
RSSD *e*PKPdf PKPdf 08 51 19.9 +0.7
RSSD *e*SKP 08 54 44.3
SRU San Rafael 134.28 37 *e*PKPdf PKPdf 08 51 21.0 +1.5

SRU				*e*SKP			08 54 45.6	
SRU				*e*			08 55 09.4	
RWWY	**Rawlins**	**134.43**	**32**	*e*PKPdf	PKPdf		08 51 21.3	+1.5
RWWY				*e*SKP			08 54 46.3	
EYMN	**Ely**	**135.33**	**14**	*e*PKPdf	PKPdf		08 51 22.6	+1.4
EYMN				LR	LR			
	comp=Z,251nm,20.0s,MS4.9							
PHWY	**Pilot Hill**	**135.62**	**31**	*e*PKPdf	PKPdf		08 51 23.0	+1.1
PHWY				*e*SKP			08 54 50.1	
PV10	**Paradox Valley**	**135.64**	**37**	*e*PKPdf	PKPdf		08 51 24.8	+2.7
PV10				*e*SKP			08 54 51.0	
RW3	**Ridgway**	**136.52**	**36**	*e*PKPdf	PKPdf		08 51 26.3	+2.7
RW3				*e*SKP			08 54 53.5	
ISCO	**Idaho Springs**	**136.62**	**33**	PFAKE			08 51 40.0	+16
ISCO				LR	LR			
	comp=Z,254nm,19.0s,MS5.0							
PQI	**Presque Isle**	**137.74**	**351**	PFAKE			08 51 40.0	+14
PQI				LR	LR			
	comp=Z,7µm,19.0s							
RCBR	**Riachuelo**	**137.82**	**256**	PFAKE			08 51 40.0	+13
RCBR				LR	LR			
	comp=Z,294nm,19.0s,MS5.0							
SDCO	**Great Sand Dun**	**138.13**	**35**	PFAKE			08 51 40.0	+13
SDCO				LR	LR			
	comp=Z,339nm,19.0s,MS5.1							
LAZ	**Ladron**	**139.36**	**40**	*e*PKPdf	PKPdf		08 51 31.1	+2.2
LAZ				*e*SKP			08 55 00.9	
ANMO	**Albuquerque**	**139.44**	**39**	*e*PKP	PKPdf		08 51 23.8	-5.2
ANMO				*e*PKPdf	PKPdf		08 51 30.8	+1.8
ANMO				*es*PKPdf			08 51 48.5	
ANMO				*e*SKP			08 55 02.4	
ANMO				LR	LR			
	comp=Z,197nm,19.0s,MS4.9							
EMMW	**East Machias**	**139.56**	**350**	PFAKE			08 51 40.0	+11
EMMW				LR	LR			
	comp=Z,3µm,22.0s							
LENM	**Lemitar**	**139.62**	**40**	*e*PKPdf	PKPdf		08 51 31.4	+2.0
BNM	**Barren Site**	**139.85**	**40**	*e*PKPdf	PKPdf		08 51 32.0	+2.2
BNM				*e*SKP			08 55 03.0	
WVL	**Waterville**	**140.04**	**352**	PFAKE			08 51 40.0	+10
WVL				LR	LR			
	comp=Z,5µm,21.0s							
JFWS	**Jewell Farm**	**140.34**	**16**	PFAKE			08 51 40.0	+10
JFWS				LR	LR			
	comp=Z,234nm,22.0s,MS4.9							
NCB	**Newcomb**	**141.06**	**357**	*e*PKPdf	PKPdf		08 51 27.5	-4.3
NCB				LR	LR			
	comp=Z,350nm,22.0s,MS5.1							
KSU1	**Kansas State U**	**141.53**	**25**	*e*PKPpre			08 51 28.3	
KSU1				*e*PKPdf	PKPdf		08 51 35.9	+3.2
KSU1				*e*SKP			08 55 05.7	
AAM	**Ann Arbor**	**142.29**	**8**	PFAKE			08 51 50.0	+16
AAM				LR	LR			
	comp=Z,289nm,20.0s,MS5.0							
CPRX	**Cap Rock**	**142.32**	**39**	*e*PKPdf	PKPdf		08 51 32.1	-2.2
AMTX	**Amarillo**	**142.33**	**35**	*e*PKPdf	PKPdf		08 51 32.5	-1.7
WES	**Weston**	**142.40**	**353**	PFAKE			08 51 50.0	+16
WES				LR	LR			
	comp=Z,909nm,20.0s,MS5.5							
GDL2	**Guadalupe Moun**	**142.55**	**40**	*e*PKPpre			08 51 32.0	
CLNB	**Carlsbad**	**142.82**	**40**	*e*PKPpre			08 51 31.7	
BINY	**Binghamton**	**142.89**	**359**	*e*PKPdf	PKPdf		08 51 35.3	+0.4
BINY				LR	LR			
	comp=Z,409nm,19.0s,MS5.2							
LSCT	**Lakeside**	**143.28**	**356**	PFAKE			08 51 50.0	+16
LSCT				LR	LR			
	comp=Z,6.0nm,22.0s							
CPUP	**Villa Florida**	**143.66**	**210**	PKP	PKPdf		08 51 36.8	+0.1
	comp=Z,4.9nm,0.9s,baz=150,slow=2.4,SNR=6.3							
CPUP	**Villa Florida**	**143.66**	**210**	*e*PKPpre			08 51 32.8	
CPUP				PKP	PKPdf		08 51 36.8	+0.1
CPUP				LR	LR			
	comp=Z,493nm,20.0s,MS5.3							
WMOK	**Wichita Mounta**	**144.02**	**32**	*e*PKPdf	PKPdf		08 51 35.5	-1.6
WMOK				LR	LR			
	comp=Z,228nm,20.0s,MS4.9							
SLM	**Saint Louis**	**144.29**	**18**	*e*PKIKP	PKPdf		08 51 36.3	-1.1
ACSO	**Alum Creek Sta**	**144.42**	**8**	*e*PKPdf	PKPdf		08 51 36.5	-1.1
ACSO				*e*SKP			08 55 08.4	
ACSO				LR	LR			
	comp=Z,553nm,20.0s,MS5.3							
SSPA	**Standing Stone**	**144.44**	**1**	*e*PKPdf	PKPdf		08 51 36.6	-1.1
SSPA				LR	LR			
	comp=Z,359nm,21.0s,MS5.1							
CCM	**Cathedral Cave**	**144.49**	**20**	*e*PKPdf	PKPdf		08 51 36.8	-1.0
CCM				LR	LR			
	comp=Z,241nm,20.0s,MS5.0							
BLO	**Bloomington**	**144.79**	**13**	*e*PKIKP	PKPdf		08 51 38.1	-0.2
FVM	**French Village**	**144.83**	**19**	*e*PKIKP	PKPdf		08 51 37.8	-0.6
LTX	**Lajitas**	**144.83**	**43**	*e*PKPdf	PKPdf		08 51 39.6	+0.9
LTX				LR	LR			
	comp=Z,668nm,21.0s,MS5.4							
TXAR	**Lajitas Array**	**144.83**	**43**	PKP	PKPdf		08 51 39.7	+1.0
	comp=Z,56nm,0.9s,baz=282,slow=1.7,SNR=390							
BAO	**Brasilia Array**	**144.94**	**234**	P	PKPdf		08 51 40.1	+0.9
BAO				*e*			08 51 54.6	
BAO				*e*			08 57 57.3	
BDFB	**Brasilia**	**144.96**	**234**	PKP	PKPdf		08 51 40.1	+0.8
	comp=Z,7.4nm,0.6s,baz=167,slow=3.4,SNR=11							
MCWV	**Mont Chateau**	**145.32**	**4**	*e*PKPdf	PKPdf		08 51 39.9	+0.7
MCWV				*ep*PKPdf			08 51 54.7	
MCWV				LR	LR			
	comp=Z,324nm,20.0s,MS5.1							
USIN	**University of**	**145.66**	**15**	*e*PKPdf	PKPdf		08 51 41.3	+1.5
USIN				*es*PKPdf			08 51 57.9	
WCI	**Wyandotte Cave**	**145.74**	**13**	*e*PKPdf	PKPdf		08 51 41.0	+1.0
WCI				LR	LR			
	comp=Z,390nm,19.0s,MS5.2							
JCT	**Junction City**	**146.58**	**38**	*e*PKPdf	PKPdf		08 51 43.4	+1.7
JCT				*e*PKPbc	PKPbc		08 51 45.0	+1.9
JCT				LR	LR			
	comp=Z,206nm,22.0s,MS4.9							
MIAR	**Mount Ida**	**146.67**	**26**	*e*PKPdf	PKPdf		08 51 43.4	+1.7
MIAR				*e*PKPbc	PKPbc		08 51 45.2	+2.1
MIAR				LR	LR			
	comp=Z,279nm,22.0s,MS5.0							
GLAT	**Glass**	**146.76**	**19**	*e*PKPbc	PKPbc		08 51 45.1	+1.8
UTMT	**University of**	**146.82**	**18**	*e*PKPbc	PKPbc		08 51 44.8	+1.4
CBN	**Corbin**	**146.88**	**1**	PFAKE			08 51 50.0	+8.1
CBN				LR	LR			
	comp=Z,280nm,20.0s,MS5.0							
HBAR	**Harrisburg**	**146.94**	**21**	*e*PKPbc	PKPbc		08 51 44.9	+1.2
UALR	**University of**	**146.99**	**24**	*e*PKPdf	PKPdf		08 51 43.4	+1.2
UALR				*e*PKPbc	PKPbc		08 51 45.4	+1.6
HALT	**Halls**	**147.07**	**19**	*e*PKPbc	PKPdf		08 51 45.2	+2.9
WVT	**Waverly**	**147.33**	**17**	*e*PKPdf	PKPdf		08 51 43.5	+0.8
WVT				*e*PKPbc	PKPdf		08 51 46.0	+3.2
WVT				LR	LR			
	comp=Z,208nm,20.0s,MS4.9							
BLA	**Blacksburg**	**147.71**	**5**	*e*PKPdf	PKPdf		08 51 44.4	+1.1
BLA				*e*PKPbc	PKPdf		08 51 46.4	+3.1
BLA				LR	LR			
	comp=Z,222nm,20.0s,MS5.0							
OXF	**Oxford**	**148.32**	**20**	*e*PKIKP	PKPdf		08 51 46.0	+1.6
OXF				*e*			08 51 52.2	
OXF	**Oxford**	**148.32**	**20**	*e*PKPdf	PKPdf		08 51 46.0	+1.7
OXF				*e*PKPbc	PKPdf		08 51 48.6	+4.3
OXF				*e*PKPab	PKPab		08 51 52.2	-0.9
OXF				LR	LR			
	comp=Z,196nm,21.0s,MS4.9							
NATX	**Nacogdoches**	**148.48**	**30**	*e*PKPdf	PKPdf		08 51 46.5	+1.8
NATX				*e*PKPbc	PKPdf		08 51 50.0	+5.3
NATX				LR	LR			
	comp=Z,108nm,19.0s,MS4.7							
CPCT	**Cooper Cave**	**148.80**	**12**	*e*PKPdf	PKPdf		08 51 46.6	+1.5
CPCT				*e*PKPbc	PKPdf		08 51 49.8	+4.7
CPCT				*e*PKPab	PKPab		08 51 54.0	-1.1
HKT	**Hockley**	**149.29**	**34**	*e*PKPdf	PKPdf		08 51 46.8	+0.8
HKT				*e*PKPbc	PKPdf		08 51 52.6	+6.5
HKT				LR	LR			
	comp=Z,218nm,21.0s,MS4.9							
LRAL	**Lakeview Retre**	**150.46**	**18**	*e*PKPdf	PKPdf		08 51 49.5	+1.7
LRAL				*e*PKPbc	PKPdf		08 51 53.8	+6.0
LRAL				*e*PKPab	PKPab		08 52 00.5	-1.5
LRAL				LR	LR			
	comp=Z,282nm,21.0s,MS5.0							
BBSR	**BB Station**	**150.47**	**339**	*e*PKPdf	PKPdf		08 51 48.3	+0.5
BBSR				*e*PKPbc	PKPdf		08 51 54.2	+6.3
BBSR				*e*PKPab	PKPab		08 52 01.1	-0.9
JSC	**Jenkinsville**	**150.50**	**8**	*e*PKIKP	PKPdf		08 51 49.3	+1.5
JSC				*e*			08 51 54.2	
JSC				*e*			08 52 00.8	
LVC	**Limon Verde**	**151.56**	**195**	*e*PKPdf	PKPdf		08 51 53.2	+3.5
LVC				*e*PKPbc	PKPdf		08 51 58.8	+9.0
NHSC	**New Hope**	**151.79**	**6**	*e*PKPdf	PKPdf		08 51 50.9	+1.1
NHSC				*e*PKPbc	PKPdf		08 51 57.4	+7.6
NHSC				*e*PKPab	PKPab		08 52 06.4	-1.2
NHSC				LR	LR			
	comp=Z,300nm,20.0s,MS5.1							
CSU	**Charleston Sou**	**151.92**	**6**	*e*PKPbc	PKPdf		08 51 58.0	+8.0
HBF	**Harts Bluff**	**151.94**	**6**	*e*PKIKP	PKPdf		08 51 50.4	+0.4
HBF				*e*			08 51 57.3	
DWPF	**Disney**	**156.53**	**10**	PFAKE			08 52 10.0	+14
DWPF				LR	LR			
	comp=Z,336nm,21.0s,MS5.2							
LPAZ	**La Paz**	**157.25**	**202**	PKP	PKPdf		08 52 00.7	+3.1
	comp=Z,4.8nm,1.1s,baz=77,slow=1.5,SNR=12							
LPAZ	**La Paz**	**157.25**	**202**	*e*PKPdf	PKPdf		08 51 59.3	+1.7
LPAZ				LR	LR			
	comp=Z,300nm,21.0s,MS5.1							
SAML	**Samuel**	**160.67**	**224**	PFAKE			08 52 10.0	+8.3
SAML				LR	LR			
	comp=Z,440nm,21.0s							
TEIG	**Tepich**	**161.12**	**35**	PFAKE			08 52 10.0	+8.1
TEIG				LR	LR			
	comp=Z,1.0nm,20.0s							
NNA	**Nana**	**163.19**	**180**	PFAKE			08 52 20.0	+16
NNA				LR	LR			
	comp=Z,54nm,20.0s							
SJG	**San Juan**	**163.29**	**322**	PFAKE			08 52 20.0	+16
SJG				LR	LR			
	comp=Z,326nm,19.0s							
SDV	**Santo Domingo**	**172.76**	**303**	*e*PKPdf	PKPdf		08 52 11.0	0.0
SDV				*e*PKPab	PKPab		08 53 37.7	-1.2
SDV				*e*PP	PP		08 57 26.5	-4.9
SDV				LR	LR			
	comp=Z,287nm,21.0s							
OTAV	**Otavalo**	**175.04**	**160**	PFAKE			08 52 20.0	+8.2
OTAV				LR	LR			
	comp=Z,171nm,19.0s							

IDC 28 08:45:23.4±4.2, 21.01N×144.81E, mb3.7/3, mb1 3.9/4, mb1mx3.6/21, Error ellipse: s-maj=183.0km s-min=31.6km az=77.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
WB2	**Warramunga Arr**	**41.97**	**195**	*e*P	P	08	53 15.6	-2.4
WRA	**Warramunga Arr**	**41.97**	**195**	P	P	08	53 16.8	-1.3
	0.8nm,0.3s,baz=17,slow=9.0,SNR=9.8							
ASAR	**Alice Springs**	**45.66**	**194**	P	P	08	53 45.2	-2.7
	0.3nm,0.5s,baz=11,slow=7.2,SNR=8.2							
STKA	**Stephens Creek**	**52.67**	**183**	P	P	08	54 39.7	-2.2
	0.9nm,0.7s,baz=20,slow=12,SNR=3.0							
BVAR	**Borovoye Array**	**64.18**	**320**	P	P	08	55 59.9	-2.1
	0.7nm,0.6s,baz=80,slow=8.8,SNR=3.1							

IDC 28 09:16:14.1±2.9, 31.41S×177.87W, mb3.8/2, mb1 4.0/3, mb1mx3.8/14, ML3.3/1, Error ellipse: s-maj=71.6km s-min=36.2km az=116.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
URZ	**Urewera**	**7.99**	**210**	Pn	Pn	09	18 10.9	-3.3
	0.4nm,0.3s,baz=325,slow=18,SNR=3.6							
URZ				Sn	Sn	09	19 43.0	-3.3
	0.9nm,0.3s,baz=180,slow=20,SNR=6.0							
ASAR	**Alice Springs**	**43.18**	**268**	P	P	09	24 17.4	-1.0
	0.5nm,0.6s,baz=112,slow=7.9,SNR=5.4							
WRA	**Warramunga Arr**	**44.26**	**273**	P	P	09	24 25.0	-2.2
	0.9nm,0.4s,baz=112,slow=7.9,SNR=6.4							
FINES	**FINESS Array B**	**146.12**	**340**	PKPbc	PKPbc	09	35 54.5	-1.0
	2.3nm,0.9s,baz=45,slow=2.7,SNR=10							

CASC 28 09:41:05.6±3.6, 11.87N×88.03W, MD3.6, ML2.8, 3C-5D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
LEON	**Leon**	**1.24**	**64**⇑	*e*P	Pb	09	41 31.6	+2.1
LEON				*e*S	Sb	09	41 48.4	+2.4
CNCH	**Conchagua**	**1.41**	**8**	*e*P	Pb	09	41 30.8	-1.6
MIRN	**Miramar**	**1.41**	**66**⇓	*i*P	Pb	09	41 32.9	+0.4
MIRN				*e*S	Sb	09	41 52.2	+1.3
CNGN	**Cerro Negro**	**1.45**	**64**	*e*P	Pn	09	41 31.7	-1.4
CNGN				*e*S	Sb	09	41 54.9	+2.9
MOMJ	**Momotombo**	**1.56**	**70**⇓	*e*P	Pn	09	41 34.2	-0.4
BLLM	**Bellamira**	**1.57**	**353**⇓	*e*P	Pn	09	41 34.0	-0.9
BLLM				*e*P		09	41 34.3	
APYN	**Apoyeque**	**1.69**	**78**	*e*P	Pn	09	41 36.4	-0.2
XAVN	**Gruta Xavier**	**1.69**	**81**	*e*S	Sb	09	42 00.9	+1.8
MGAN	**Managua**	**1.77**	**81**⇑	*e*P	Pn	09	41 37.6	-0.1
MGAN				*e*S	Sn	09	42 00.8	-0.4
MGAN				*i*		09	42 03.6	
	comp=E,111nm,0.2s							
TICN	**Ticuantepe**	**1.77**	**85**	*e*P	Pn	09	41 38.3	+0.6
TICN				*e*S	Sn	09	42 01.1	-0.1
SNVI	**San Vicente**	**1.90**	**336**	*e*P	Pn	09	41 39.5	-0.1
SNVI				*e*S	Sn	09	42 05.5	+1.0
LCBS	**La Ceiba**	**2.00**	**333**	*e*P	Pn	09	41 40.9	-0.1
LCBS				*e*S	Sn	09	42 07.3	+0.3
LFRS	**El Faro**	**2.01**	**330**⇑	*e*P	Pn	09	41 41.1	0.0
LFRS				*e*S	Sn	09	42 08.1	+0.8
PYTN	**Playitas**	**2.04**	**71**⇓	*i*P	Pn	09	41 37.6	-4.0
BOQS	**Boqueron**	**2.21**	**327**	*e*P	Pn	09	41 44.6	+0.6
BOQS				*e*S	Sn	09	42 14.2	+1.6
SBLS	**San Blas**	**2.49**	**322**⇓	*e*P	Pn	09	41 48.1	+0.1
SBLS				*e*S	Sn	09	42 21.4	+1.8
SNJE	**San Jose**	**2.51**	**322**	*e*P	Pn	09	41 48.9	+0.7
RTR	**El Retiro**	**2.55**	**322**	*e*P	Pn	09	41 49.8	+0.9
RTR				*e*S	Sn	09	42 22.3	+1.1

*MDD **28** 10:03:31.9±0.3, 42.34N×2.15E, mbLg1.7/11, Error ellipse: s-maj=2.6km s-min=2.3km az=153.0, PRXIMO AftershockPLICA*
*STR **28** 10:03:31.1±0.3, 42.34N×2.13E, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **28** 10:03:31.1±0.3, 42.31N×2.13E, h4km, Md2.2/1, Ml2.3/6, Error ellipse: s-maj=4.6km s-min=1.9km az=165.0*
ISC 28 10:03:29.9±0.6, 42.38N±0.03×2.16E±0.04, h14km±5km, n22, σ1s30/33, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
CBRU	**Bruguera**	**0.10**	**173**	Pg	**Pg**	**10**	**03 32.6**	**-0.5**
VALF	**Valcebollere**	**0.11**	**280**	Pg	**Pg**	**10**	**03 33.8**	**+0.5**
VALF				Sg	**Sg**	**10**	**03 35.6**	**+0.1**
VALF	**Valcebollere**	**0.11**	**280**	P	**Pg**	**10**	**03 33.8**	**+0.6**
VALF				S	**Sg**	**10**	**03 35.6**	**+0.1**
CLLI	**Llivia**	**0.17**	**305**	Pg	**Pg**	**10**	**03 35.2**	**+1.1**
CARF	**Carcanieres**	**0.34**	**353**	Pg	**Pg**	**10**	**03 38.9**	**+1.8**
CARF				Sg	**Sg**	**10**	**03 43.9**	**+2.0**
CARF	**Carcanieres**	**0.34**	**353**	P	**Pg**	**10**	**03 39.0**	**+2.0**
CARF				S	**Sg**	**10**	**03 44.0**	**+2.1**
FILF	**Fillols**	**0.34**	**59**	Pg	**Pg**	**10**	**03 37.2**	**0.0**
FILF				Sg	**Sg**	**10**	**03 41.7**	**-0.4**
FILF	**Fillols**	**0.34**	**59**	P	**Pg**	**10**	**03 37.2**	**+0.1**
FILF				S	**Sg**	**10**	**03 41.5**	**-0.6**
EJON	**La Jonquera**	**0.54**	**83**	Pg	**Pg**	**10**	**03 42.8**	**+1.8**
	0.5nm,0.1s,SNR=7.9							
EJON				Lg		10	03 49.8	
	9.6nm,0.2s,SNR=7.9							
CFON	**Fontmartina**	**0.65**	**162**	Pg	**Pg**	**10**	**03 42.7**	**-0.4**
EMIR	**Miracle**	**0.67**	**226**	Pg	**Pg**	**10**	**03 43.2**	**-0.2**
	1.1nm,0.0s,SNR=7.9							
EMIR				Lg		10	03 52.1	
	4.7nm,0.1s,SNR=7.9							
MTLF	**Montolieu**	**0.96**	**2**	*e*Pg	**Pg**	**10**	**03 50.2**	**+1.0**
MTLF				*e*Sg	**Sg**	**10**	**04 03.7**	**+1.6**
	8.1nm,0.3s							
EPOB	**Poblet**	**1.31**	**219**	Pg	**Pg**	**10**	**03 55.0**	**-1.1**
	1.7nm,0.1s,SNR=12							
EPOB				Lg		10	04 11.6	
	10nm,0.2s,SNR=7.9							
EGRA	**Graus**	**1.38**	**263**	Pg	**Pg**	**10**	**03 57.8**	**+0.2**
	SNR=7.9							
EGRA				Lg		10	04 17.3	
	5.0nm,0.2s,SNR=7.9							
EPF	**Esparros**	**1.49**	**296**	*e*Sg	**Sg**	**10**	**04 18.8**	**-1.0**
	4.1nm,0.2s							
EBIE	**Bielsa**	**1.52**	**282**	Pn	**Pn**	**10**	**03 58.4**	**+1.5**
	SNR=4.0							
EBIE				Pg	**Pg**	**10**	**04 01.1**	**+0.7**
	SNR=7.9							
EBIE				Lg		10	04 22.2	
	6.2nm,0.2s,SNR=7.9							
ESAC	**San Caprasio**	**2.07**	**252**	Pn	**Pn**	**10**	**04 07.2**	**+2.5**
	SNR=7.9							
ESAC				Lg		10	04 35.8	
	15nm,0.2s,SNR=4.0							
ETSF	**Etsaut**	**2.08**	**285**	*e*Pg	**Pg**	**10**	**04 09.2**	**-2.2**
ETSF				*e*Sg	**Sg**	**10**	**04 37.0**	**-2.1**
	5.8nm,0.3s							
ETSF	**Etsaut**	**2.08**	**285**	Lg		10	04 37.0	
	2.9nm,0.3s							
LASF	**Ste Croix**	**2.10**	**36**	*e*Pg	**Pg**	**10**	**04 11.2**	**-0.6**
LASF				*e*Sg	**Sg**	**10**	**04 39.8**	**0.0**
	0.8nm,0.2s							
CAF	**Calviac**	**2.54**	**358**	*e*Pg	**Pg**	**10**	**04 19.9**	**-0.8**
CAF				*e*Sg	**Sg**	**10**	**04 52.7**	**-2.0**
	2.3nm,0.2s							
VIVF	**Saint-Julien-l**	**3.07**	**36**	*e*Pg	**Pg**	**10**	**04 29.8**	**-1.4**
VIVF				*e*Sg	**Sg**	**10**	**05 09.9**	**-2.3**
	4.2nm,0.4s							

*IDC **28** 10:30:24.2±0.8, 12.54N×95.19E, h23km±3km, mb3.8/8, mb1 4.0/10, mb1mx3.9/18, ML3.5/1, MS3.3/5, Ms1 3.4/5, ms1mx3.0/27, Error ellipse: s-maj=34.2km s-min=13.2km az=59.0*
*BJI **28** 10:30:29.3, 12.70N×95.50E, h55km, mB4.8, mb4.3*
*NEIC **28** 10:30:29.3±2.6, 12.70N×95.46E, h56km±22km, mb4.5/7, Error ellipse: s-maj=24.8km s-min=12.3km az=60.0*
ISC 28 10:30:25.5±1.8, 12.65N±0.09×95.38E±0.09, h39km±15km, h19km±2.5km:pP-P, n38, σ1s10/31, mb4.2/17, MS3.5/4, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
NNT	**Nongplab**	**4.25**	**90**	P	**P**	**10**	**31 30.3**	**+0.8**
NST	**Nakhon Sawan**	**5.51**	**56**	P	**P**	**10**	**31 46.5**	**-0.6**
	57nm,0.5s							
CM31	**Chiang Mai Arr**	**6.72**	**30**	P	**P**	**10**	**32 04.6**	**+0.4**
CMAR	**Chiang Mai Arr**	**6.72**	**30**	Pn	**P**	**10**	**32 03.4**	**-0.9**
	0.2nm,0.3s,baz=219,slow=14,SNR=18							
CMAR				LR	LR	10	35 03.1	
	comp=Z,59nm,20.7s,baz=210,slow=40							
PKI	**Pulchoki**	**17.53**	**329**	*e*P	**P**	**10**	**34 28.8**	**+0.1**
	38nm,1.0s							
GUN	**Gumba**	**17.59**	**331**	*e*P	**P**	**10**	**34 30.7**	**+1.3**
DMN	**Daman**	**17.72**	**329**	*e*P	**P**	**10**	**34 30.8**	**-0.2**
	63nm,1.1s							
GKN	**Gorkha**	**18.28**	**328**	*e*P	**P**	**10**	**34 37.3**	**-0.7**
	32nm,0.6s							
KOLN	**Koldanda**	**18.64**	**326**	*e*P	**P**	**10**	**34 40.3**	**-2.2**
	40nm,0.6s							
CD2	**Chengdu**	**19.75**	**22**	*e*P	**P**	**10**	**34 54.0**	**-1.0**
CD2				AMB	AMB			
	comp=Z,20nm,0.9s							
ENH	**Enshi**	**21.87**	**34**	P	**P**	**10**	**35 18.8**	**+2.1**
	comp=Z,11nm,0.9s,mb4.3							
LZH	**Lanzhou**	**24.55**	**17**	*e*P	**P**	**10**	**35 44.8**	**+1.8**
LZH				AP		10	35 52.5	
LZH				AMB	AMB			
	comp=Z,52nm,1.2s,mb4.9							
LZH				AMB	AMB			
	comp=Z,195nm,5.0s							
GTA	**Gaotai**	**26.94**	**8**	P	**P**	**10**	**36 05.8**	**+0.5**
GTA				AMB	AMB			
	comp=Z,4.0nm,0.8s,mb4.0							
AAK	**Ala-Archa**	**34.93**	**333**	*e*P	**P**	**10**	**37 15.2**	**-0.5**
	comp=Z,4.1nm,0.9s,mb4.4							
SONM	**Songino Array**	**36.27**	**13**	P	**P**	**10**	**37 26.9**	**-0.1**
	comp=Z,1.8nm,0.9s,mb4.0,baz=196,slow=9.0,SNR=12							
SONM				pP	pP	10	37 34.2	-3.7
	comp=Z,1.5nm,0.9s,baz=196,slow=9.0,SNR=7.4							
KURK	**Kurchatov**	**40.35**	**344**	*e*P	**P**	**10**	**38 00.6**	**-0.4**
	comp=Z,9.8nm,1.0s,mb4.5							
ZAL	**Zalesovo**	**42.03**	**351**	P	**P**	**10**	**38 14.8**	**0.0**
	comp=Z,1.3nm,0.3s,mb4.1,baz=204,slow=9.5,SNR=5.8							
ZAL				pP	pP	10	38 21.9	-4.0
	comp=Z,2.9nm,0.6s,baz=206,slow=7.8,SNR=4.2							
ZAL	**Zalesovo**	**42.03**	**351**	P	**P**	**10**	**38 14.8**	**0.0**
ZAL				pP	pP	10	38 21.9	-4.0
BVAR	**Borovoye Array**	**44.94**	**339**	P	**P**	**10**	**38 38.0**	**-0.4**
	comp=Z,0.5nm,0.5s,mb3.6,baz=149,slow=8.4,SNR=3.7							
BVAR				pP	pP	10	38 44.6	-4.9
	comp=Z,1.4nm,0.6s,baz=146,slow=11,SNR=6.6							
BVAR	**Borovoye Array**	**44.94**	**339**	P	**P**	**10**	**38 38.0**	**-0.4**
BVAR				pP	pP	10	38 44.6	-4.9
BRVK	**Borovoye**	**45.01**	**339**	P	**P**	**10**	**38 40.8**	**+1.9**
	comp=Z,3.8nm,0.8s,mb4.3							
NWAO	**

MANT	**Manisa**	**1.56**	**134**	*i* P	**Pn**	**10 37 54.8**	**-0.2**
MANT				*i* S	**Sb**	**10 38 14.1**	**-1.4**
CTT	**Catalca**	**1.84**	**32**	*e*PN	**Pn**	**10 37 58.9**	**-0.1**
SMG	**Samos**	**1.90**	**187**	*e*PG	**Pg**	**10 38 03.5**	**-1.2**
SMG				*e*SN	**Sn**	**10 38 30.0**	**+5.8**
BADT	**Buyukada**	**1.97**	**50**	*e*PN	**Pn**	**10 38 00.8**	**-0.1**
RDO	**Rodhopi**	**1.97**	**322**	*e*PN	**Pn**	**10 38 01.0**	**0.0**
AYDN	**Tasoluk**	**2.02**	**163**	*i* P	**Pn**	**10 38 06.6**	**+5.0**
AYDN				*i* S	**Sn**	**10 38 31.7**	**+4.5**
EDRB	**Edirne**	**2.27**	**353**	*e*PN	**Pn**	**10 38 04.8**	**-0.4**
DNZL	**Cakiroluk**	**2.42**	**141**	*i* P	**Pn**	**10 38 06.6**	**-0.7**
SGKT	**Sivrigoynuk**	**3.90**	**74**	*i* P	**Pn**	**10 38 27.9**	**-0.5**

*ISK **28** 10:52:53.5, 39.59N×27.12E, h11km, MD3.0*
*CSEM **28** 10:52:53.5±0.1, 39.60N×27.15E, h10km, MD3.0, Error ellipse: s-maj=2.5km s-min=1.9km az=109.0*
*ATH **28** 10:52:57.1, 39.53N×26.92E, h31km, MD3.0/3*

ISC 28 10:52:54.0±0.5, 39.59N±0.03×27.11E±0.03, h7km±4km, n20, σ0§93/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AYVA	**Ayvalik**	**0.43**	**229**	*i* P	**Pg**	**10 53 02.7**	**0.0**
AYVA				*i* S	**Sg**	**10 53 09.3**	**+0.7**
BALB	**Balikesir**	**0.59**	**85**	*e*PG	**Pg**	**10 53 04.9**	**-1.0**
BALB				*e*SG	**Sg**	**10 53 14.1**	**+0.2**
EZN	**Ezine**	**0.65**	**291**	*e*PG	**Pg**	**10 53 06.3**	**-0.7**
BTOK	**Tokmak**	**0.73**	**76**	*i* P	**Pg**	**10 53 09.6**	**+1.0**
BTOK				*i* S	**Sg**	**10 53 19.7**	**+1.4**
PRK	**Paraskevi**	**0.74**	**242**	*e*PN	**Pn**	**10 53 08.3**	**-2.2**
PRK				*e*SN	**Sn**	**10 53 18.5**	**-3.5**
BOZC	**Bozcaada**	**0.86**	**287**	*i* P	**Pb**	**10 53 10.9**	**+0.2**
BOZC				*i* S	**Sb**	**10 53 23.8**	**+1.6**
AKS	**Akhisar**	**0.90**	**142**	*i* PG	**Pg**	**10 53 11.3**	**-0.6**
AKS				*i* SG	**Sg**	**10 53 24.0**	**+0.2**
BNT	**Bandirma**	**0.98**	**39**	PG	**Pg**	**10 53 12.5**	**-1.1**
BNT				SG	**Sg**	**10 53 27.0**	**+0.2**
KCT	**Karacabey**	**1.17**	**54**	*i* PN	**Pn**	**10 53 16.0**	**-0.7**
DST	**Dursunbey**	**1.17**	**89**	*e*PN	**Pn**	**10 53 16.4**	**-0.3**
DST				*e*SN	**Sn**	**10 53 32.2**	**-0.8**
KDAG	**Bornova**	**1.19**	**174**	*i* P	**Pb**	**10 53 17.1**	**+0.6**
KDAG				*i* S	**Sb**	**10 53 32.3**	**+0.4**
IZM	**Izmir**	**1.20**	**174**	*e*PN	**Pn**	**10 53 17.1**	**0.0**
BLCB	**Balcova**	**1.21**	**183**	*e*PN	**Pn**	**10 53 17.0**	**-0.2**
ORLT	**Orhaneli**	**1.45**	**71**	*e*PN	**Pn**	**10 53 19.4**	**-1.3**
MANT	**Manisa**	**1.57**	**134**	*i* P	**Pn**	**10 53 21.8**	**-0.7**
MANT				*i* S	**Sb**	**10 53 43.7**	**+0.7**
ULDT	**Uludag**	**1.65**	**70**	*e*P	**Pn**	**10 53 24.1**	**+0.5**
ULDT				*i* S	**Sn**	**10 53 46.7**	**+1.5**
CTT	**Catalca**	**1.85**	**32**	*e*PN	**Pn**	**10 53 25.5**	**-0.9**
SMG	**Samos**	**1.89**	**187**	*e*PB	**Pb**	**10 53 28.5**	**0.0**
RDO	**Rodhopi**	**1.96**	**323**	*e*PN	**Pn**	**10 53 30.0**	**+1.9**
EDRB	**Edirne**	**2.27**	**353**	*e*PN	**Pn**	**10 53 32.3**	**-0.2**

MAN 28 11:05:09.8, 10.04N×123.42E, h1km, mb4.3, ML3.2, MS3.0, 3C-1D, Cebu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TBP	**Tagbilaran**	**0.56**	**128**	*i* P	Pg	11 05 20.8	-0.1
TBP				*e*S	Sg	11 05 27.5	-0.9
LLP	**Lapu-Lapu**	**0.61**	**63**⇑	*e*P	Pg	11 05 20.8	-1.1
LLP				*i* S	Sg	11 05 27.5	-2.5
SNPH	**Sibulan**	**0.71**	**194**⇑	*e*P	Pg	11 05 22.8	-1.3
SNPH				*i* S	Sg	11 05 32.0	-1.6
GUIM	**Jordan**	**1.00**	**306**	*e*P	Pb	11 05 30.4	+0.8
GUIM				*e*S	Sb	11 05 46.4	+3.2
GUIM	**Jordan**	**1.00**	**306**	*e*P	Pb	11 05 30.4	+0.8
GUIM				*e*S	Sb	11 05 46.4	+3.2
MSLP	**Maasin**	**1.42**	**86**	*e*P	Pb	11 05 36.6	-0.3
MSLP	**Maasin**	**1.42**	**86**	*e*P	Pb	11 05 36.6	-0.3
DCPH	**Dipolog City**	**1.45**	**183**⇑	*e*P	Pn	11 05 37.0	-0.2
DCPH				*e*S	Sb	11 05 51.7	-4.4
RCP	**Roxas**	**1.65**	**336**⇓	*e*P	Pn	11 05 42.2	+2.1
RCP				*e*S	Sb	11 06 07.4	+5.4

*NEIC **28** 11:15:04.9±2.6, 6.40S×154.38E, h101km±19km, mb4.0/4, Error ellipse: s-maj=31.1km s-min=15.0km az=110.0*
*IDC **28** 11:15:08.8±6.0, 6.27S×154.09E, h130km±47km, mb3.5/6, mb1 3.7/7, mb1mx3.6/15, MS3.1/2, Ms1 3.1/2, ms1mx2.8/14, Error ellipse: s-maj=52.4km s-min=23.6km az=112.0*

ISC 28 11:15:03.8±4.0, 6.3S±0.2×154.3E±0.2, h104km±32km, n15, σ0§70/15, mb3.8/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.74**	**246**	P	**P**	**11 16 55.7**	**+0.4**
	3.7nm,0.3s,baz=37,slow=12,SNR=14						
PMG				S	**S**	**11 18 21.9**	**+0.1**
	3.4nm,0.3s,baz=358,slow=22,SNR=6.4						
PMG				LR	LR	11 19 34.3	
	comp=Z,99nm,20.4s,baz=81,slow=35						
PMG	**Port Moresby**	**7.74**	**246**	*e*Pn	**P**	**11 16 55.2**	**-0.1**
CTA	**Charters Tower**	**15.76**	**209**	LR	LR	11 24 01.6	
	comp=Z,82nm,18.6s,baz=230,slow=34						
CTAO	**Charters Tower**	**15.76**	**209**	*e*P	**P**	**11 18 40.6**	**-0.6**
	8.7nm,1.3s						
WRAB	**Tennant Creek**	**23.65**	**233**	*e*P	**P**	**11 20 07.5**	**+0.9**
	5.3nm,0.7s,mb4.0						
WB2	**Warramunga Arr**	**23.66**	**233**	*e*P	**P**	**11 20 07.7**	**+1.0**
WRA	**Warramunga Arr**	**23.67**	**233**	P	**P**	**11 20 07.0**	**+0.2**
	2.5nm,0.5s,mb3.8,baz=56,slow=10.0,SNR=19						
ASAR	**Alice Springs**	**26.13**	**227**	P	**P**	**11 20 29.6**	**-0.5**
	1.4nm,0.6s,mb3.6,baz=57,slow=9.3,SNR=27						
ASAR				PcP	PcP	11 23 54.7	-0.6
	0.3nm,0.5s,baz=59,slow=2.4,SNR=6.7						
ASPA	**Alice Springs**	**26.13**	**227**	*e*P	**P**	**11 20 30.5**	**+0.4**
FITZ	**Fitzroy Crossi**	**30.33**	**245**	*e*P	**P**	**11 21 06.6**	**-1.4**
	1.3nm,0.4s,mb3.9						
FITZ	**Fitzroy Crossi**	**30.33**	**245**	P	**P**	**11 21 06.5**	**-1.5**
	1.3nm,0.4s,mb3.9,baz=90,slow=4.1,SNR=12						
NWAO	**Narrogin (SRO)**	**43.44**	**228**	*e*P	**P**	**11 22 57.1**	**-1.1**
	28nm,1.3s,mb4.8						
SONM	**Songino Array**	**68.44**	**327**	P	**P**	**11 25 56.5**	**-0.1**
	0.5nm,0.5s,mb3.6,baz=141,slow=5.1,SNR=5.7						
ILAR	**Eielson Array**	**83.01**	**22**	P	**P**	**11 27 18.6**	**0.0**
	0.3nm,0.7s,mb3.2,baz=242,slow=4.5,SNR=6.8						
MAW	**Mawson**	**84.75**	**203**	P	**P**	**11 27 27.9**	**+0.8**
	0.5nm,0.5s,mb3.7,baz=106,slow=9.3,SNR=7.9						

*NEIC **28** 11:27:34.5, 33.98S×72.25W, h3km, ML3.3(GUC), After GUC.*

GUC 28 11:27:34.5±0.8, 33.98S×72.25W, h3km±2km, MD3.5, ML3.3, 5C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.70**	**88**⇑	*i* P	Pg	11 27 48.9	+0.4
LNV				*i* S	Sg	11 27 59.5	+1.7
TACH	**Talagante**	**1.14**	**74**⇓	*i* P	Pb	11 27 55.7	-0.8
TACH				*i* S	Sb	11 28 11.7	+0.1
SFDO	**San Fernando**	**1.20**	**122**	*i* P	Pb	11 27 56.6	-1.0
SFDO				*i* S	Sb	11 28 14.1	+0.7
RCDM	**Rinconada Maip**	**1.30**	**68**⇑	*i* P	Pb	11 27 58.1	-1.1
RCDM				*i* S	Sb	11 28 15.7	-0.6
RCDM				AMP		11 28 17.6	
	comp=E,735nm,0.1s						
CHCH	**Chadas Angostu**	**1.33**	**88**⇓	*i* P	Pb	11 27 58.9	-0.9
CHCH				*i* S	Sb	11 28 17.7	+0.6
CACH	**El Canelo**	**1.38**	**96**⇑	*i* P	Pb	11 28 00.1	-0.5
CACH				*i* S	Sb	11 28 22.2	+1.7
ANTU	**Antumapu**	**1.41**	**73**	*i* S	Sb	11 28 19.6	+0.2
ANTU				AMP		11 28 20.1	
	comp=N,838nm,0.2s						
PCH	**Pirque**	**1.49**	**77**	*i* P	Pn	11 28 01.4	-0.8
PCH				*i* S	Sb	11 28 21.8	+0.1
CLCH	**Cerro Calan**	**1.55**	**68**⇓	*i* P	Pn	11 28 02.6	-0.5
CLCH				*i* S	Sb	11 28 23.1	-0.2
CLCH				AMP		11 28 36.7	
	comp=E,478nm,0.8s						
CLCH				AMP		11 28 37.4	
	comp=E,556nm,0.7s						
PEL	**Peldehue**	**1.55**	**58**⇑	*i* P	Pn	11 28 02.8	-0.4
PEL				*i* P		11 28 02.9	
PEL				*i* S	Sb	11 28 23.8	+0.3
PEL				*i* S	Sb	11 28 23.9	+0.4
PEL				AMP		11 28 32.4	
	comp=N,1μm,0.4s						
PEL	**Peldehue**	**1.55**	**58**⇑	*i* P	Pn	11 28 02.8	-0.4
PEL				*i* S	Sb	11 28 23.9	+0.4
CICH	**Cipreses**	**1.56**	**103**	*i* P	Pn	11 28 02.3	-0.9
CICH				*i* S	Sb	11 28 24.3	+0.7
LMEL	**Las Melosas**	**1.71**	**86**	*i* P	Pn	11 28 04.9	-0.5
LMEL				*i* S	Sn	11 28 28.5	+0.4
LMEL				AMP		11 28 31.1	
	comp=N,946nm,0.3s						
FCH	**Farellones**	**1.76**	**69**	AMP		11 28 31.1	
	comp=N,441nm,0.3s						

*NAO **28** 11:27:35.9±3.5, 60.99N×29.24E, ML2.2*
*HEL **28** 11:27:37.5±0.5, 60.93N×29.17E, ML1.8, ML2.2(NAO), Explosion*
*BER **28** 11:27:37.5±2.5, 60.94N×29.11E, ML2.2(NAO), Suspected explosion*
*IDC **28** 11:27:38.6±2.1, 60.94N×29.03E, mb1 3.3/3, mb1mx3.1/17, ML2.7/3, Error ellipse: s-maj=19.4km s-min=12.6km az=172.0*

ISC 28 11:27:34.9±1.2, 61.11N±0.05×29.2E±0.1, n14, σ1§30/22, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FIA0	**FINESS Array S**	**1.55**	**284**	*e*P	**Pn**	**11 28 04.1**	**+0.3**
FIA0				*e*SG	**Sg**	**11 28 26.7**	**+0.2**
FIA0	**FINESS Array S**	**1.55**	**284**	Pn	**Pn**	**11 28 05.0**	**+1.2**
	baz=118,slow=16						
FIA0				Lg		11 28 26.5	
	baz=100,slow=37						
FIA0				Rg		11 28 33.8	
	baz=109,slow=37						
FINES	**FINESS Array B**	**1.55**	**284**	Pg	**Pg**	**11 28 05.0**	**-0.9**
	1.4nm,0.3s,baz=112,slow=15,SNR=30						
FINES				Pn	**Pn**	**11 28 06.0**	**+2.2**
	1.4nm,0.3s,baz=111,slow=15,SNR=30						
FINES				Lg		11 28 26.3	
	4.8nm,0.3s,baz=96,slow=30,SNR=51						
FINES				Rg		11 28 33.7	
	36nm,0.8s,baz=109,slow=34,SNR=27						
KAF	**Kangasniemi**	**1.71**	**307**	*e*P	**Pn**	**11 28 09.9**	**+3.7**
PVF	**Pernaja**	**1.73**	**252**	*e*P	**Pn**	**11 28 05.7**	**-0.8**
PVF				*e*SN	**Sn**	**11 28 31.2**	**+1.6**
JOF	**Joensuu**	**2.07**	**28**	*e*P	**Pn**	**11 28 16.1**	**+4.7**
JOF				*e*S	**Sn**	**11 28 44.1**	**+5.9**
SUF	**Sumiainen**	**2.17**	**320**	*e*SG	**Sg**	**11 28 48.1**	**+1.1**
SUF				MSG		11 28 49.0	
	comp=Z,5.1nm,0.2s						
KEF	**Keuruu**	**2.33**	**299**	*e*SG	**Sg**	**11 28 51.1**	**-1.3**
KEF				MSG		11 28 52.6	
	comp=Z,3.0nm,0.2s						
MEF	**Metsahovi**	**2.53**	**251**	*e*P	**Pn**	**11 28 19.4**	**+1.5**
MEF				*e*S	**Sn**	**11 28 49.9**	**0.0**
HFS	**Hagfors**	**7.69**	**270**	Pn	**Pn**	**11 29 29.3**	**-1.6**
	comp=Z,0.0nm,0.3s,baz=68,slow=16,SNR=3.2						
HFS				Lg		11 31 31.2	
	comp=Z,0.0nm,0.3s,baz=90,slow=26,SNR=2.9						
ARA0	**ARCESS Array S**	**8.60**	**351**	Pn	**P**	**11 29 42.8**	**-0.8**
	baz=167,slow=14						
ARA0				Sn	**Sn**	**11 31 17.7**	**-4.8**
	baz=174,slow=28						
ARA0	**ARCESS Array S**	**8.60**	**351**	*e*P	**P**	**11 29 42.8**	**-0.8**
ARA0				*e*S	**Sn**	**11 31 17.7**	**-4.8**
ARCES	**ARCESS Array B**	**8.60**	**351**	Pn	**P**	**11 29 44.5**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=172,slow=14,SNR=3.5						
ARCES				Sn	**Sn**	**11 31 18.3**	**-4.2**
	comp=Z,0.1nm,0.3s,baz=178,slow=22,SNR=2.7						
NOA	**NORSAR Array B**	**8.72**	**277**	Pn	**P**	**11 29 42.9**	**-2.3**
	comp=Z,0.1nm,0.3s,baz=248,slow=16,SNR=2.1						

*NNC **28** 11:36:00.3±4.7, 43.18N×77.36E, h12km±36km, mpv3.3, Error ellipse: s-maj=40.8km s-min=18.9km az=152.0*
*KNET **28** 11:36:01.4±0.7, 43.34N×76.89E, h1km±4km, ml2.2, Error ellipse: s-maj=8.9km s-min=4.4km az=164.0*

ISC 28 11:36:01.3±1.2, 43.4N±0.2×77.2E±0.1, h10km, n11, σ1§07/15, 10C-5D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TKM2	**Tokmak 2**	**1.21**	**250**	⇑P	**Pb**	**11 36 21.6**	**-2.3**
	28nm,0.2s,SNR=38						
TKM2				⇓S	**Sb**	**11 36 37.7**	**-1.8**
	12nm,0.1s						
KBK	**Karagaybulak**	**1.75**	**247**	⇑P	**Pn**	**11 36 31.6**	**-0.5**
	19nm,0.2s,SNR=29						
KBK				⇓S	**Sn**	**11 36 55.1**	**+0.4**
	5.0nm,0.1s						
CHMS	**Chumysh**	**1.79**	**259**	⇓P	**Pn**	**11 36 31.8**	**-0.8**
	7.8nm,0.2s,SNR=11						
USP	**Ospenovka**	**1.93**	**268**	⇑P	**Pn**	**11 36 34.1**	**-0.5**
	17nm,0.3s,SNR=18						
USP				⇑S	**Sn**	**11 36 60.0**	**+0.8**
	24nm,0.4s						
AAK	**Ala-Archa**	**2.07**	**251**	⇑P	**Pn**	**11 36 36.6**	**0.0**
	6.4nm,0.3s						
AAK				⇓S	**Sn**	**11 37 04.3**	**+1.6**
	39nm,1.2s						
AAK	**Ala-Archa**	**2.07**	**251**	⇑P	**Pn**	**11 36 36.6**	**-0.1**
	17nm,0.4s,SNR=19						
AAK				⇑S	**Sn**	**11 37 04.3**	**+1.5**
	18nm,0.5s						
UCH	**Uchtor**	**2.24**	**241**	⇑P	**Pn**	**11 36 39.7**	**+0.7**
	28nm,0.4s,SNR=55						
EKS2	**Erkin-Say**	**2.56**	**256**	⇑P	**Pn**	**11 36 43.9**	**+0.3**
	9.5nm,0.4s,SNR=9.2						
AML	**Almayashu**	**2.82**	**246**	⇓P	**Pn**	**11 36 49.0**	**+1.7**
	9.1nm,0.3s,SNR=9.6						
MK31	**Makanchi Array**	**5.01**	**45**	Pn	**Pn**	**11 37 18.5**	**0.0**
	2.5nm,0.4s,baz=223,slow=15,SNR=16						
MK31				⇑Lg		11 38 40.6	
	0.3nm,0.5s,baz=226,slow=27,SNR=5.4						
KURK	**Kurchatov**	**7.44**	**7**	Lg		11 39 57.6	
	6.1nm,0.7s,baz=274,slow=17,SNR=3.6						

IDC 28 11:54:45.6±3.0, 17.90S×175.62W, mb4.3/5, mb1 4.4/5, mb1mx4.0/16, Error ellipse: s-maj=66.7km s-min=49.2km az=92.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**21.25**	**196**	P	P	11 59 27.9	-7.8
	5.6nm,0.6s,baz=352,slow=14,SNR=8.3						
RPZ	**Rata Peaks**	**28.09**	**201**	P	P	12 00 39.0	-1.9
	19nm,1.1s,baz=29,slow=6.1,SNR=4.6						
STKA	**Stephens Creek**	**40.96**	**242**	P	P	12 02 30.1	-1.7
	1.1nm,0.5s,baz=73,slow=11,SNR=2.9						
WB2	**Warramunga Arr**	**47.23**	**259**	*e*P	P	12 03 21.0	-1.5
WRA	**Warramunga Arr**	**47.24**	**259**	P	P	12 03 20.7	-2.0
	1.0nm,0.5s,baz=97,slow=7.5,SNR=20						
ASAR	**Alice Springs**	**47.34**	**254**	P	P	12 03 21.8	-1.7
	3.9nm,0.5s,baz=89,slow=8.6,SNR=102						
ASPA	**Alice Springs**	**47.35**	**254**	*e*P	P	12 03 22.2	-1.2
BRTR	**Keskin Array B**	**146.63**	**317**	PKPbc	PKPbc	12 14 28.8	-0.4
	0.7nm,0.6s,baz=117,slow=2.8,SNR=4.7						

*NEIC **28** 11:59:19.3±1.2, 23.35S×179.92E, h600km, mb3.8/4, Error ellipse: s-maj=78.2km s-min=18.7km az=164.0*
*IDC **28** 11:59:25.3±14.0, 23.05S×179.59E, h676km±199km, mb3.0/5, mb1 3.2/5, mb1mx2.9/14, Error ellipse: s-maj=103.0km s-min=73.5km az=150.0*

ISC 28 11:59:18.2±1.6, 23.3S±0.8×179.9E±0.3, h600km, n10, σ0§47/10, mb3.7/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**31.35**	**269**	P	**P**	**12 04 53.4**	**+0.5**
	4.1nm,0.4s,mb4.4,baz=100,slow=11,SNR=11						
CTAO	**Charters Tower**	**31.35**	**269**	*e*P	**P**	**12 04 53.4**	**+0.5**
	4.6nm,0.5s,mb4.4						
STKA	**Stephens Creek**	**34.84**	**247**	P	**P**	**12 05 22.2**	**+0.3**
	1.5nm,0.7s,mb3.7,baz=85,slow=12,SNR=4.4						
ASAR	**Alice Springs**	**42.01**	**260**	P	**P**	**12 06 19.8**	**-0.3**
	1.5nm,0.5s,mb3.8,baz=93,slow=7.3,SNR=12						
WB2	**Warramunga Arr**	**42.31**	**266**	*e*P	**P**	**12 06 22.3**	**-0.2**
WRAB	**Tennant Creek**	**42.32**	**266**	*e*P	**P**	**12 06 22.2**	**-0.2**
	3.8nm,0.9s,mb3.9						
WRA	**Warramunga Arr**	**42.33**	**266**	P	**P**	**12 06 22.1**	**-0.5**
	1.0nm,0.3s,mb3.8,baz=90,slow=5.9,SNR=63						
FITZ	**Fitzroy Crossi**	**50.75**	**265**	*e*P	**P**	**12 07 27.3**	**+0.9**
	1.4nm,0.8s,mb3.4						
MBWA	**Marble Bar**	**55.36**	**260**	P	**P**	**12 07 58.2**	**-0.6**
	2.1nm,0.7s,mb3.6						
TXAR	**Lajitas Array**	**90.22**	**58**	P	**P**	**12 11 17.2**	**0.0**
	0.3nm,0.9s,mb3.1,baz=254,slow=9.1,SNR=3.5						

*MOS **28** 12:02:35.6±0.7, 52.11N×156.42E, h207km, mb4.4/5, Error ellipse: s-maj=19.7km s-min=9.5km az=69.9*
*BJI **28** 12:02:35.4, 51.86N×156.40E, h205km, mB4.4, mb4.3*
*KRSC **28** 12:02:36.3±1.7, 51.97N×156.82E, h218km±2km, ML4.3*
*NEIC **28** 12:02:37.7±0.7, 52.28N×156.35E, h207km±6km, mb4.3/34, Error ellipse: s-maj=7.9km s-min=5.1km az=152.0*
*IDC **28** 12:02:38.4±2.9, 52.38N×156.21E, h212km±25km, mb3.9/13, mb1 4.2/14, mb1mx3.9/23, Error ellipse: s-maj=19.8km s-min=12.2km az=133.0*

ISC 28 12:02:36.7±0.3, 52.22N±0.03×156.46E±0.06, h212km±1km, h212km±6.6km: pP-P, n117, σ1§02/148, mb4.1/46, 4C-2D, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MIPR	**Malaya Ipel'ka**	**0.19**	**73**	*i* P	**P**	**12 03 05.5**	**+0.8**
MIPR				*e*S	**S**	**12 03 26.2**	**-0.1**
PAU	**Pauzhetka**	**0.79**	**164**	*i* P	**P**	**12 03 07.5**	**+0.8**
PAU				*e*S	**S**	**12 03 28.3**	**-1.6**
PAU				Smax			
	2μm,1.0s						
APC	**Apacha**	**0.82**	**31**	*e*P	**P**	**12 03 07.2**	**+0.4**
APC				*e*S	**S**	**12 03 29.8**	**-0.4**
APC				Smax			
	450nm,0.8s						
GRL	**Gorelyy**	**1.04**	**71**	*e*P	**P**	**12 03 08.9**	**+0.8**
GRL				*e*S	**S**	**12 03 32.8**	**+0.3**
RUS	**Russkaya**	**1.28**	**80**	P	**P**	**12 03 09.7**	**-0.3**
RUS				S	**S**	**12 03 33.3**	**-2.4**
RUS	**Russkaya**	**1.28**	**80**	*e*P	**P**	**12 03 09.6**	**-0.4**
RUS				*e*S	**S**	**12 03 33.2**	**-2.5**
ALID	**Alaid**	**1.47**	**203**	*e*P	**P**	**12 03 13.1**	**+1.5**
ALID				*e*S	**S**	**12 03 39.4**	**+0.9**
SKR	**Severo-Kuril's**	**1.56**	**188**	*e*PN	**P**	**12 03 09.4**	**-2.9**
SKR				*i* S	**S**	**12 03 36.0**	**-3.8**
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				pmax	pmax		
	comp=E,60nm,0.5s						
SKR				pmax	pmax		
	comp=Z,140nm,0.5s						
SKR				smax			
	comp=N,1μm,0.3s						
SKR				smax			
	comp=E,850nm,0.5s						
PET	**Petropavlovsk**	**1.56**	**58**	*d i*PN	**P**	**12 03 12.3**	**0.0**
PET				*e*S	**S**	**12 03 39.4**	**-0.4**
PET	**Petropavlovsk**	**1.56**	**58**	*e*Pn	**P**	**12 03 12.0**	**-0.3**
PET				*e*		12 03 25.4	
PET				*e*Sn	**S**	**12 03 33.5**	**-6.3**
KOK	**Koryaka**	**1.70**	**50**	*i* P	**S**	**12 03 14.5**	**+0.9**
KOK				*e*S	**S**	**12 03 41.9**	**-0.2**
GNL	**Ganaly**	**1.73**	**31**	*e*P	**P**	**12 03 13.7**	**-0.1**
GNL				*e*S	**S**	**12 03 42.1**	**-0.4**
AVH	**Avacha**	**1.73**	**52**	*e*P	**P**	**12 03 14.6**	**+0.7**
AVH				*e*S	**S**	**12 03 42.2**	**-0.4**
SMAR	**Somma**	**1.76**	**53**	*i* P	**P**	**12 03 14.2**	**0.0**
SMAR				*e*S	**S**	**12 03 42.6**	**-0.5**
SDLR	**Sedlovina**	**1.81**	**53**	*i* P	**P**	**12 03 15.0**	**+0.4**
SDLR				*e*S	**S**	**12 03 43.1**	**-0.8**
NLC	**Nalytchevo**	**2.00**	**60**	*e*P	**P**	**12 03 15.9**	**-0.5**
NLC				*e*S	**S**	**12 03 43.9**	**-3.1**
SPN	**Mys Shipunski**	**2.34**	**67**	P	**P**	**12 03 19.0**	**-1.0**
SPN				S	**S**	**12 03 48.6**	**-4.9**
SPN	**Mys Shipunski**	**2.34**	**67**	*i* P	**P**	**12 03 18.9**	**-1.1**
SPN				*e*S	**S**	**12 03 48.4**	**-5.1**
KII	**Karymskiy**	**2.56**	**44**	*e*P	**P**	**12 03 23.1**	**+0.7**
KII				*e*S	**S**	**12 03 57.5**	**-0.3**
TUMR	**Tumrok**	**3.77**	**34**	*e*P	**P**	**12 03 38.0**	**+1.4**
TUMR				*e*S	**S**	**12 04 22.1**	**-0.9**
MKZ	**Mys Kozlova**	**3.93**	**51**	P	**P**	**12 03 37.4**	**-1.2**
MKZ				S	**S**	**12 04 20.9**	**-5.6**
MKZ	**Mys Kozlova**	**3.93**	**51**	*e*P	**P**	**12 03 37.3**	**-1.3**
MKZ				*e*S	**S**	**12 04 21.5**	**-5.0**
ESO	**Esso**	**3.94**	**19**	*i* P	**P**	**12 03 40.3**	**+1.6**
ESO				*e*S	**S**	**12 04 26.1**	**-0.6**
ESO				Smax			
	comp=E,40nm,1.2s						
KMNR	**Kamenistaya**	**4.18**	**31**	*e*P	**P**	**12 03 43.5**	**+1.7**
KMNR				*e*S	**S**	**12 04 32.1**	**-0.1**
KOZ	**Kozyrevsk**	**4.33**	**26**	*i* P	**P**	**12 03 45.0**	**+1.4**
KOZ				*e*S	**S**	**12 04 33.8**	**-1.8**
KOZR	**Kozyr**	**4.35**	**26**	PN	**P**	**12 03 45.0**	**+1.2**
KPT	**Kopyto**	**4.36**	**29**	*i* P	**P**	**12 03 45.7**	**+1.8**
KPT				*e*S	**S**	**12 04 34.5**	**-1.5**
SRDR	**Sredinnyy**	**4.53**	**24**	*e*P	**P**	**12 03 46.6**	**+0.6**
SRDR				*e*S	**S**	**12 04 41.2**	**+1.4**
ZLN	**Zelenaya**	**4.58**	**32**	*i* P	**P**	**12 03 48.8**	**+2.1**
ZLN				*e*S	**S**	**12 04 40.7**	**-0.4**
LGNR	**Loginova**	**4.60**	**31**	*e*P	**P**	**12 03

NJ2					S	**S**	**12 14 03.0**	**-5.8**
NJ2					XS		12 15 18.0	
NJ2					AMB	AMB		
	comp=Z,20nm,0.7s,mb4.8							
NJ2					LR	LR		
	comp=N,440nm,14.8s							
NJ2					LR	LR		
	comp=E,170nm,16.2s							
NJ2					LR	LR		
	comp=Z,2µm,16.5s							
INK	**Inuvik**	**35.90**	**37**	P		**P**	**12 09 17.9**	**+0.2**
	comp=Z,6.6nm,0.3s,mb4.6,baz=302,slow=7.4,SNR=120							
INK					PcP	PcP	12 11 39.8	-0.4
	comp=Z,0.4nm,0.5s,baz=332,slow=4.4,SNR=4.5							
INK	**Inuvik**	**35.90**	**37**	P		**P**	**12 09 17.9**	**+0.3**
INK							12 11 39.8	
INK					pmax	pmax		
	comp=Z,7.0nm,0.3s							
INK	**Inuvik**	**35.90**	**37**	*eP*		**P**	**12 09 17.6**	**0.0**
	comp=Z,8.5nm,0.5s,mb4.5							
LZH	**Lanzhou**	**40.11**	**268**	*eP*		**P**	**12 09 52.3**	**-0.6**
LZH					AP	pP	12 10 36.0	-1.9
LZH					XP	sP	12 10 59.0	-3.6
LZH					PP	PP	12 11 31.0	-0.4
LZH					AMB	AMB		
	comp=Z,11nm,1.5s,mb4.1							
DLBC	**Dease Lake**	**40.33**	**51**	P		**P**	**12 09 56.4**	**+1.9**
	comp=Z,3.7nm,0.5s,mb4.1,baz=232,slow=4.7,SNR=15							
DLBC	**Dease Lake**	**40.33**	**51**	*eP*		**P**	**12 09 56.1**	**+1.7**
ZAL	**Zalesovo**	**41.39**	**302**	PcP		PcP	12 11 57.0	-0.6
	comp=Z,2.1nm,0.4s,baz=319,slow=3.5,SNR=11							
RES	**Resolute Bay**	**44.95**	**21**	*eP*		**P**	**12 10 31.6**	**+0.2**
	comp=Z,5.5nm,0.9s,mb3.9							
RES				*e*			12 10 41.3	
WMQ	**Urumqi**	**45.15**	**288**	*eP*		**P**	**12 10 34.5**	**+1.1**
YKW3	**Yellowknife Ar**	**45.25**	**41**	*eP*		**P**	**12 10 33.8**	**-0.1**
YKA	**Yellowknife Ar**	**45.29**	**41**	P		**P**	**12 10 34.4**	**+0.2**
	comp=Z,3.9nm,0.4s,mb4.1,baz=300,slow=6.9,SNR=23							
YKA	**Yellowknife Ar**	**45.29**	**41**	P		**P**	**12 10 34.4**	**+0.2**
YKA					pmax	pmax		
	comp=Z,4.0nm,0.4s							
KURK	**Kurchatov**	**46.30**	**301**	*eP*		**P**	**12 10 41.7**	**-0.5**
	comp=Z,6.7nm,0.6s,mb4.2							
KURK				*e*		pP	12 11 30.7	+2.4
KURK				*e*PcP		PcP	12 12 13.2	-1.1
BVAR	**Borovoye Array**	**49.17**	**307**	P		**P**	**12 11 03.1**	**-1.3**
	comp=Z,0.8nm,0.5s,mb3.4,baz=34,slow=5.2,SNR=8.0							
BVAR					PcP	PcP	12 12 23.2	-1.5
	comp=Z,2.2nm,0.5s,baz=79,slow=2.8,SNR=8.8							
BVAR					ScP		12 15 57.6	
	comp=E,1.1nm,0.8s,baz=45,slow=4.2,SNR=4.1							
BRVK	**Borovoye**	**49.21**	**307**	*eP*		**P**	**12 11 03.0**	**-1.6**
	comp=Z,1.8nm,0.7s,mb3.5							
BRVK				*e*PcP		PcP	12 12 22.4	-2.4
RPW	**Rockport**	**49.83**	**60**	*eP*		**P**	**12 11 06.8**	**-2.6**
NEW	**Newport**	**52.25**	**58**	P		**P**	**12 11 27.1**	**-0.4**
	comp=Z,2.5nm,0.7s,mb3.8,baz=336,slow=6.6,SNR=4.8							
NEW	**Newport**	**52.25**	**58**	P		**P**	**12 11 27.1**	**-0.4**
NEW					pmax	pmax		
	comp=Z,3.0nm,0.7s							
NEW	**Newport**	**52.25**	**58**	*eP*		**P**	**12 11 27.1**	**-0.4**
	comp=Z,4.4nm,0.9s,mb3.9							
WALA	**Waterton Lakes**	**53.38**	**55**	*eP*		**P**	**12 11 35.8**	**-0.1**
	comp=Z,6.4nm,0.6s,mb4.2							
ARCES	**ARCESS Array B**	**53.40**	**341**	PcP		PcP	12 12 39.2	-0.9
	comp=Z,1.1nm,0.5s,slow=2.4,SNR=7.9							
AAK	**Ala-Archa**	**53.45**	**295**	*eP*		**P**	**12 11 34.5**	**-2.0**
	comp=Z,2.0nm,0.6s,mb3.7							
MOD	**Modoc**	**54.64**	**65**	*eP*		**P**	**12 11 45.8**	**+0.7**
	comp=Z,7.1nm,0.8s,mb4.2							
SUMG	**Summit**	**55.06**	**5**	*eP*		**P**	**12 11 47.6**	**-0.1**
	comp=Z,16nm,0.9s,mb4.5							
FCC	**Fort Churchill**	**55.52**	**37**	*eP*		**P**	**12 11 50.5**	**-0.7**
	comp=Z,26nm,1.0s,mb4.7							
HRY	**Holter Researc**	**55.98**	**56**	*eP*		**P**	**12 11 55.1**	**+0.5**
HLID	**Hailey**	**56.76**	**60**	*eP*		**P**	**12 12 00.6**	**+0.4**
	comp=Z,0.8nm,0.5s,mb3.6							
BOZ	**Bozeman (W)**	**56.80**	**57**	*eP*		**P**	**12 12 00.9**	**+0.4**
	comp=Z,4.6nm,0.9s,mb4.1							
CMB	**Columbia Colle**	**57.20**	**69**	*eP*		**P**	**12 12 02.8**	**-0.6**
	comp=Z,3.2nm,0.7s,mb4.1							
NVAR	**Mina Array Bea**	**58.12**	**67**	P		**P**	**12 12 10.7**	**+0.9**
	comp=Z,3.5nm,0.4s,mb4.3,baz=293,slow=8.0,SNR=44							
MTUM	**Tungsten Hills**	**58.72**	**68**	*eP*		**P**	**12 12 14.4**	**+0.4**
LAO	**LASA Array**	**58.81**	**53**	*eP*		**P**	**12 12 14.1**	**-0.3**
	comp=Z,9.2nm,0.9s,mb4.4							
TPH	**Tonopah**	**58.98**	**67**	*eP*		**P**	**12 12 15.8**	**0.0**
	comp=Z,3.5nm,0.6s,mb4.2							
HWUT	**Hardware Ranch**	**59.63**	**60**	*eP*		**P**	**12 12 20.4**	**+0.3**
	comp=Z,6.3nm,0.8s,mb4.3							
PDAR	**Pinedale Array**	**59.87**	**58**	P		**P**	**12 12 22.1**	**+0.4**
	comp=Z,2.5nm,0.5s,mb4.1,baz=332,slow=1.6,SNR=25							
DUG	**Dugway**	**59.94**	**62**	*eP*		**P**	**12 12 22.5**	**+0.2**
	comp=Z,2.4nm,0.6s,mb4.0							
TPNV	**Topopah Spring**	**60.32**	**67**	*eP*		**P**	**12 12 25.1**	**+0.3**
	comp=Z,6.6nm,0.8s,mb4.3							
NLU	**North Lily Min**	**60.52**	**62**	*eP*		**P**	**12 12 26.5**	**+0.4**
ULM	**Lac du Bonnet**	**61.01**	**44**	P		**P**	**12 12 28.6**	**-0.7**
	comp=Z,1.3nm,0.3s,mb4.0,baz=309,slow=6.8,SNR=7.0							
RSSD	**Black Hills**	**61.72**	**54**	*eP*		**P**	**12 12 34.1**	**0.0**
	comp=Z,4.8nm,0.6s,mb4.3							
SRU	**San Rafael**	**61.96**	**62**	*eP*		**P**	**12 12 36.2**	**+0.4**
NOA	**NORSAR Array B**	**63.72**	**342**	P		**P**	**12 12 45.2**	**-1.7**
	comp=Z,0.4nm,0.5s,mb3.3,baz=25,slow=6.6,SNR=3.2							
ISCO	**Idaho Springs**	**64.07**	**58**	*eP*		**P**	**12 12 50.1**	**+0.6**
	comp=Z,4.5nm,0.9s,mb4.1							
SDCO	**Great Sand Dun**	**65.64**	**59**	P		**P**	**12 13 00.3**	**+0.6**
	comp=Z,1.8nm,0.8s,mb3.8							
ANMO	**Albuquerque**	**67.21**	**62**	*eP*		**P**	**12 13 09.9**	**+0.3**
	comp=Z,2.0nm,0.7s,mb3.9							
SCHQ	**Schefferville**	**67.42**	**25**	P		**P**	**12 13 09.7**	**-0.8**
	comp=Z,3.0nm,0.3s,mb4.3,baz=54,slow=14,SNR=15							
WMOK	**Wichita Mounta**	**71.45**	**57**	*eP*		**P**	**12 13 34.8**	**-0.6**
	comp=Z,4.6nm,0.9s,mb4.1							
FVM	**French Village**	**73.00**	**49**	*eP*		**P**	**12 13 43.3**	**-1.1**
	comp=Z,12nm,0.6s,mb4.7							
LTX	**Lajitas**	**73.01**	**64**	*eP*		**P**	**12 13 45.5**	**+0.8**
	comp=Z,7.1nm,0.9s,mb4.3							
TXAR	**Lajitas Array**	**73.01**	**64**	P		**P**	**12 13 45.4**	**+0.7**
	comp=Z,1.7nm,0.4s,mb4.0,baz=301,slow=5.3,SNR=41							
WRAB	**Tennant Creek**	**74.39**	**202**	*eP*		**P**	**12 13 52.9**	**0.0**
	comp=Z,4.1nm,0.5s,mb4.3							
WB2	**Warramunga Arr**	**74.40**	**202**	*eP*		**P**	**12 13 53.2**	**+0.3**
WRA	**Warramunga Arr**	**74.41**	**202**	P		**P**	**12 13 53.3**	**+0.4**
	comp=Z,4.1nm,0.5s,mb4.3,baz=17,slow=6.1,SNR=51							
WRA	**Warramunga Arr**	**74.41**	**202**	P		**P**	**12 13 53.3**	**+0.4**
WRA					pmax	pmax		
	comp=Z,4.0nm,0.5s							
FITZ	**Fitzroy Crossi**	**74.99**	**210**	*eP*		**P**	**12 13 57.1**	**+0.8**
	comp=Z,1.6nm,0.6s,mb3.8							
ASAR	**Alice Springs**	**78.10**	**201**	P		**P**	**12 14 14.8**	**+1.4**
	comp=Z,2.5nm,0.4s,mb4.2,baz=16,slow=5.5,SNR=58							
ASPA	**Alice Springs**	**78.10**	**201**	*eP*		**P**	**12 14 14.7**	**+1.3**
MBWA	**Marble Bar**	**79.79**	**215**	*eP*		**P**	**12 14 22.6**	**+0.1**
	comp=Z,1.9nm,0.5s,mb4.0							
CPUP	**Villa Florida**	**143.77**	**58**	PKP		PKPdf	12 21 45.8	-0.1
	comp=Z,1.6nm,0.6s,baz=331,slow=5.4,SNR=3.4							
CPUP	**Villa Florida**	**143.77**	**58**	PKIKP		PKPdf	12 21 45.8	-0.1
CPUP					pmax	pmax		
	comp=Z,2.0nm,0.6s							
SNAA	**Sanae**	**158.43**	**198**	↑*iP*		PKPab	12 22 44.3	-0.2
VNA2	**Neumayer--Watz**	**159.86**	**195**	↑*iP*		PKPab	12 22 52.7	+2.0
VNA3	**Neumayer Olymp**	**159.92**	**193**	↓*iP*		PKPab	12 22 49.7	-1.3

*NEIC **28** 12:14:58.3, 16.76N×96.43W, h60km, MD3.7(MEX), After MEX.*

MEX 28 12:14:58.7±0.8, 16.75N×96.41W, h56km±16km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
					Op		h m s	ISC
OXX	**Oaxaca**	**0.44**	**318**	*i* P		P	12 15 08.5	-1.3
OXX				*i* S		S	12 15 16.5	-1.3
VHO	**Vista Hermosa**	**0.44**	**316**	*i* P		P	12 15 08.2	-1.6
VHO				*i* S		S	12 15 16.1	-1.8
HUIG	**Huatulco**	**1.02**	**163**	*i* P		P	12 15 16.0	-1.2
HUIG				*i* S		S	12 15 27.9	-2.9
HUIG	**Huatulco**	**1.02**	**163**	*i* P		P	12 15 16.0	-1.2
HUIG				*i* S		S	12 15 28.4	-2.4
CMIG	**Matias Romero**	**1.50**	**77**	*i* P		P	12 15 22.3	-1.5
CMIG				*i* S		S	12 15 39.7	-2.8

*IDC **28** 12:34:48.1±1.5, 1.03N×166.20E, mb4.0/4, mb1 4.1/5, mb1mx3.8/17, ML4.1/1, Error ellipse: s-maj=97.6km s-min=22.5km az=68.0*

*NEIC **28** 12:34:48.5±0.8, 1.16N×126.28E, h10km, mb4.6/6, Error ellipse: s-maj=31.6km s-min=12.0km az=70.0*

ISC 28 12:35:16.3±5.5, 0.7N±0.2×126.3E±0.3, h279km±56km, n15, σ0s96/15, mb4.0/9, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
					Op		h m s	ISC
KAKA	**Kakadu**	**14.60**	**156**	*eP*		**P**	**12 38 33.2**	**+1.0**
	6.1nm,0.6s							
FITZ	**Fitzroy Crossi**	**18.67**	**182**	*eP*		**P**	**12 39 12.4**	**-3.6**
	1.6nm,0.8s							
FITZ	**Fitzroy Crossi**	**18.67**	**182**	P		**P**	**12 39 12.1**	**-3.9**
	0.5nm,0.3s,baz=11,slow=11,SNR=18							
WRAB	**Tennant Creek**	**21.94**	**159**	*eP*		**P**	**12 39 47.3**	**-0.9**
	7.2nm,0.5s,mb4.3							
WRA	**Warramunga Arr**	**21.95**	**159**	P		**P**	**12 39 47.4**	**-0.9**
	4.7nm,0.5s,mb4.1,baz=338,slow=11,SNR=39							
WB2	**Warramunga Arr**	**21.95**	**159**	*eP*		**P**	**12 39 47.2**	**-1.1**
MBWA	**Marble Bar**	**22.63**	**196**	*eP*		**P**	**12 39 54.1**	**-0.8**
	19nm,1.4s,mb4.2							
ASPA	**Alice Springs**	**25.29**	**164**	*eP*		**P**	**12 40 19.7**	**+0.2**
ASAR	**Alice Springs**	**25.29**	**164**	P		**P**	**12 40 19.6**	**+0.2**
	1.1nm,0.4s,mb3.6,baz=343,slow=7.6,SNR=24							
KLBR	**Kellerberrin**	**33.10**	**193**	*eP*		**P**	**12 41 29.8**	**+1.5**
	20nm,1.2s,mb4.5							
NWAO	**Narrogin (SRO)**	**34.50**	**194**	*eP*		**P**	**12 41 40.2**	**+0.1**
	18nm,1.2s,mb4.5							
STKA	**Stephens Creek**	**35.46**	**157**	*eP*		**P**	**12 41 49.4**	**+1.1**
	1.4nm,0.7s,mb3.6							
STKA	**Stephens Creek**	**35.46**	**157**	P		**P**	**12 41 49.8**	**+1.5**
	2.3nm,0.9s,mb3.7,baz=334,slow=10.0,SNR=5.6							
KURK	**Kurchatov**	**64.09**	**328**	*eP*		**P**	**12 45 18.3**	**-4.4**
	3.6nm,0.7s,mb4.1							
BVAR	**Borovoye Array**	**69.65**	**328**	P		**P**	**12 45 57.2**	**0.0**
	0.4nm,0.4s,mb3.5,baz=126,slow=6.7,SNR=3.3							

*GUC **28** 12:45:29.3±0.8, 37.06S×74.40W, h10km, MD4.1, ML4.3*
*NEIC **28** 12:45:29.3, 37.06S×74.40W, h10km, ML4.3(GUC), After GUC.*

ISC 28 12:45:30.0±1.0, 36.95S±0.07×74.4W±0.1, h10km, n14, σ0s71/23, 4C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
					Op		h m s	ISC
CCHI	**Chillan**	**1.91**	**80**	↑*iP*		**Pn**	**12 46 01.9**	**-1.0**
CCHI				*i* S		**Sn**	**12 46 26.8**	**-0.5**
CCHI					AMP		12 46 34.1	
	comp=N,4µm,0.7s							
SFDO	**San Fernando**	**3.62**	**51**	*i* P		**Pn**	**12 46 27.3**	**0.0**
SFDO				*i* S		**Sn**	**12 47 11.5**	**+1.0**
LNV	**Longovilo**	**3.87**	**40**	*i* P		**Pn**	**12 46 30.9**	**+0.1**
LNV				*i* S		**Sn**	**12 47 17.6**	**+0.8**
CICH	**Cipreses**	**4.18**	**52**	*i* P		**Pn**	**12 46 35.2**	**-0.1**
CICH				*i* S		**Sn**	**12 47 25.4**	**+0.6**
CACH	**El Canelo**	**4.21**	**49**	*i* P		**Pn**	**12 46 36.1**	**+0.5**
CACH				*i* S		**Sn**	**12 47 25.9**	**+0.5**
TACH	**Talagante**	**4.35**	**42**	*i* P		**Pn**	**12 46 36.9**	**-0.8**
TACH				*i* S		**Sn**	**12 47 29.1**	**+0.1**
PCH	**Pirque**	**4.61**	**45**	*i* P		**Pn**	**12 46 40.8**	**-0.6**
PCH				*i* S		**Sn**	**12 47 35.0**	**-0.6**
CLCH	**Cerro Calan**	**4.76**	**43**	*i* P		**Pn**	**12 46 42.7**	**-0.9**
CLCH				*i* S		**Sn**	**12 47 39.5**	**0.0**
PEL	**Peldehue**	**4.88**	**40**	*i* P		**Pn**	**12 46 45.0**	**-0.1**
FCH	**Farellones**	**4.95**	**44**	↑*i*P		**Pn**	**12 46 45.9**	**-0.3**
FCH				*i* S		**Sn**	**12 47 18.0**	**-0.2**
VNA3	**Neumayer Olymp**	**47.40**	**157**	↓*i*		**P**	**12 54 07.0**	**+1.2**
VNA1	**Neumayer--Stat**	**47.76**	**156**	↓*i*		**P**	**12 53 59.3**	**-9.3**
VNA2	**Neumayer--Watz**	**48.08**	**156**	↑*i*		**P**	**12 54 12.6**	**+1.5**
SNAA	**Sanae**	**49.62**	**157**	↑*i*		**P**	**12 54 21.7**	**-1.2**

*NIED **28** 12:49:00, 37.30N×139.00E, h11km, Mw3.4 Best double couple: M0 1.33×10^14 NP1:φs22°, δ72°, λ90°. NP2:φs202°, δ18°, λ89°.*
*JMA **28** 12:49:26.4, 37.32N×138.99E, h10km±1km, M3.6 Broadband fault plane solution: P waves. NP1:φs230°, δ8°, λ107°. NP2:φs33°, δ82°, λ88°. Principal axes: T Plg53°, Azm300°; N Plg2°, Azm33°; P Plg37°, Azm125°;*
JMA Felt II J1.

ISC 28 12:49:26.1±0.5, 37.31N±0.03×138.99E±0.05, h10km, n9, σ0s75/15, 2C-4D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
					Op		h m s	ISC
JHK	**Hiroka**	**0.07**	**158**	↑P		**Pg**	**12 49 28.7**	**+0.3**
JHK				S		**Sg**	**12 49 30.4**	**+0.5**
JIZZ	**Izumozaki**	**0.31**	**315**	↓P		**Pg**	**12 49 33.2**	**+0.7**
JIZZ				S		**Sg**	**12 49 38.5**	**+1.7**
JNS	**Sasagawa**	**0.57**	**28**	P		**Pg**	**12 49 37.0**	**-0.6**
JNS				S		**Sg**	**12 49 44.6**	**-0.7**
JFY	**Yanaizu**	**0.58**	**81**	↓P		**Pg**	**12 49 37.5**	**-0.3**
JKT	**Katashina**	**0.58**	**159**	↓P		**Pg**	**12 49 37.7**	**-0.2**
JKT				S		**Sg**	**12 49 45.6**	**-0.2**
JGK	**Kuni**	**0.80**	**200**	P		**Pb**	**12 49 41.9**	**+0.3**
JSB	**Shiboa**	**0.82**	**114**	↓P		**Pb**	**12 49 42.8**	**+0.8**
JSB				S		**Sb**	**12 49 53.6**	**+0.7**
JSD	**Sado**	**0.92**	**322**	↑↑P		**Pb**	**12 49 42.4**	**-1.3**
MAT	**Matsushiro**	**0.99**	**219**	P		**Pb**	**12 49 44.2**	**-0.7**
MAT				S		**Sb**	**12 49 57.0**	**-0.8**

TIF 28 12:52:38.8, 41.64N×44.85E, h9km, Mpv4.0, 2C-1D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
					Op		h m s	ISC
MTA	**Mtatsminda**	**0.07**	**321**	↓*i*P		Pg	12 52 43.0	+2.1
MTA				*i* S		Sg	12 52 45.8	+3.5
TBLG	**Delisi**	**0.12**	**317**	*i* P		Pg	12 52 43.0	+1.3
	comp=Z,250nm,0.2s							
TBLG				*i* S		Sg	12 52 46.1	+2.4
DGRG	**David-gareji**	**0.44**	**116**	↑*i*P		Pg	12 52 48.9	+1.2
DGRG				*i* S		Sg	12 52 54.0	+0.4
ONI	**Oni**	**1.40**	**313**	↑*i*P		Pn	12 53 06.1	+1.5
ONI				*i* S		Sb	12 53 26.3	+3.7

*PRU **28** 12:57:10.7, 44.36N×17.46E*
*PDG **28** 12:57:14.8±0.2, 44.05N×17.62E*
PDG Felt at Podgorica IV MCS.
*NEIC **28** 12:57:14.8, 44.05N×17.62E, MD2.9(PDG), After PDG.*

ISC 28 12:57:10.9±0.3, 44.45N±0.02×17.60E±0.04, h10km, n29, σ1s23/56, 14C-2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
					Op		h m s	ISC
RHK3	**Tenkes**	**1.51**	**18**	↑*e*P		**Pn**	**12 57 38.6**	**+0.4**
RHK3				*e*S		**Sb**	**12 58 02.5**	**+4.7**
UPM	**Unac-Piva**	**1.56**	**142**	*e*Pg		**Pg**	**12 57 38.2**	**-4.0**
UPM				*e*Sg		**Sg**	**12 57 58.2**	**-4.8**
STON	**Ston**	**1.58**	**177**	*i* Pn		**Pn**	**12 57 35.7**	**-3.5**
STON				*i* Sn		**Sn**	**12 57 57.3**	**-2.4**
STON				*i* Sg		**Sg**	**12 57 57.8**	**-5.7**
RHK1	**Bakonya**	**1.68**	**11**	↑*i*P		**Pn**	**12 57 41.0**	**+0.4**
RHK1				*e*S		**Sn**	**12 58 03.4**	**+1.0**
BRY	**Bratogost**	**1.69**	**156**	↑*i*Pg		**Pg**	**12 57 39.1**	**-5.6**
BRY				*e*Sg		**Sg**	**12 58 01.1**	**-6.2**
PLE	**Pljevlja**	**1.71**	**130**	↑*i*Pg		**Pg**	**12 57 41.7**	**-3.4**
PLE				*e*Sg		**Sg**	**12 58 05.8**	**-2.2**
DIVS	**Divcibare**	**1.75**	**101**	↑*i*Pn		**Pn**	**12 57 39.1**	**-2.5**
DIVS				Sn		**Sn**	**12 58 08.2**	**+4.0**
PKSM	**Moragy**	**1.91**	**22**	↓*i*P		**Pn**	**12 57 43.8**	**-0.1**
PKSM				*e*S		**Sn**	**12 58 11.4**	**+3.2**
NKY	**Niksic**	**1.92**	**148**	↑*i*Pn		**Pn**	**12 57 43.5**	**-0.6**
NKY				*e*Sn		**Sn**	**12 58 08.9**	**+0.4**
NVLJ	**Novalja**	**1.96**	**274**	*i* Pn		**Pn**	**12 57 44.8**	**+0.2**
NVLJ				*i* Sn		**Sn**	**12 58 11.5**	**+2.1**
BOJS	**Bojanci**	**1.97**	**303**	*i* Pn		**Pn**	**12 57 45.4**	**+0.6**
BOJS				*e*Sn		**Sn**	**12 58 09.7**	**-0.1**
	comp=Z,34nm,0.4s							
CRES	**Cresnjev**	**2.05**	**313**	*i* Pn		**Pn**	**12 57 45.9**	**0.0**
CRES				*i* Sn		**Sn**	**12 58 12.3**	**+0.5**
	comp=Z,54nm,0.7s							
HCY	**Herceg Novi**	**2.10**	**162**	↑*i*Pn		**Pn**	**12 57 46.6**	**-0.1**
HCY				*e*Sn		**Sn**	**12 58 12.7**	**-0.4**
IVA	**Berane**	**2.29**	**133**	*e*Pn		**Pn**	**12 57 51.6**	**+2.2**
IVA				*e*Sn		**Sn**	**12 58 20.5**	**+2.5**
BUM	**Brajici-Budva**	**2.34**	**156**	↑*i*Pn		**Pn**	**12 57 50.6**	**+0.5**
BUM				*e*Sn		**Sn**	**12 58 18.9**	**-0.4**
TTG	**Podgorica**	**2.35**	**148**	↑*i*Pn		**Pn**	**12 57 50.9**	**+0.7**
TTG				*e*Sn		**Sn**	**12 58 20.1**	**+0.7**
VISS	**Visnje**	**2.38**	**306**	*i* Pn		**Pn**	**12 57 50.9**	**+0.3**
KNDS	**Knezji Dol**	**2.53**	**296**	*e*Pn		**Pn**	**12 57 52.8**	**0.0**
PVY	**Plav**	**2.53**	**136**	↑*i*Pn		**Pn**	**12 57 54.5**	**+1.7**
PVY				*e*Sn		**Sn**	**12 58 25.4**	**+1.5**
PKS8	**Sarbogard**	**2.55**	**17**	↑*i*P		**Pn**	**12 57 52.8**	**-0.2**
PKS8				*e*S		**Sn**	**12 58 23.8**	**-0.6**
ULC	**Ulcinj**	**2.76**	**154**	↑*i*Pn		**Pn**	**12 57 56.5**	**+0.4**
ULC				*e*Sn		**Sn**	**12 58 29.2**	**-0.6**
OBKA	**Obir**	**2.98**	**315**	↑*i*PN		**Pn**	**12 57 58.9**	**-0.3**
OBKA				*i* SN		**Sn**	**12 58 33.8**	**-1.5**
VOY	**Vojsko**	**3.06**	**302**	*e*Pn		**Pn**	**12 58 01.2**	**+0.8**
VOY				*e*Sn		**Sn**	**12 58 39.2**	**+1.8**
ARSA	**Arzberg**	**3.16**	**333**	↑*i*PN		**Pn**	**12 58 01.5**	**-0.2**
ARSA				*i* SN		**Sn**	**12 58 37.7**	**-2.2**
MOA	**Molln**	**4.12**	**327**	↓*i*PN		**Pn**	**12 58 15.5**	**+0.1**
MOA				*i* SN		**Sn**	**12 59 01.1**	**-3.1**
VYHS	**Vyhne**	**4.14**	**11**	*i* PN		**Pn**	**12 58 15.5**	**-0.1**
VYHS				*e*SN		**Sn**	**12 59 04.8**	**+0.1**
KOLL	**Kolacno**	**4.17**	**7**	*i* PN		**Pn**	**12 58 16.0**	**-0.1**
KOLL				*e*SN		**Sn**	**12 59 06.6**	**+1.1**
KHC	**Kasperske Hory**	**5.44**	**331**	*e*PN		**Pn**	**12 58 32.9**	**-1.2**
KHC				*e*SN		**Sn**	**12 59 34.2**	**-3.3**
DPC	**Dobruska-Polom**	**5.97**	**352**	*e*SN		**Sn**	**12 59 49.4**	**-1.4**

*JMA **28** 13:09:52.2±0.5, 21.83N×121.97E, M3.3*

TAP 28 13:09:50.6, 21.93N×121.43E, h3km, ML3.5, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
					Op		h m s	ISC
YOJ	**Yonaguni jima**	**2.91**	**30**	P		Pn	13 10 39.3	+0.7
YOJ				*e*S		Sn	13 11 14.5	-0.1
HATJ	**Hateruma jima**	**3.04**	**46**	*e*S		Sn	13 11 13.3	-4.7
IRIF	**Iriomote-Funau**	**3.19**	**41**	P		Pn	13 10 41.7	-1.0
IRIF				*e*S		Sn	13 11 18.4	-3.4
JKRS	**Kuro-shima**	**3.30**	**45**	P		Pn	13 10 43.2	-1.0
JKRS				*e*S		Sn	13 11 20.6	-3.9
JIJ	**Ishigaki jima**	**3.48**	**45**	P		Pn	13 10 45.1	-1.6
JIJ				*e*S		Sn	13 11 24.4	-4.6
JTJ	**Tarama**	**4.04**	**47**	P		Pn	13 10 53.9	-0.8
JTJ				S		Sn	13 11 38.3	-4.9

MAN 28 13:32:48.7, 10.56N×122.22E, h2km, mb3.7, ML2.5, MS2.0, 1C, Panay

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
					Op		h m s	ISC
AAP	**Anini-y**	**0.30**	**242**	*eP*		Pg	13 32 55.0	+0.2
GUIM	**Jordan**	**0.37**	**80**	*eP*		Pg	13 32 56.3	+0.1
GUIM				*e*S		Sg	13 33 02.6	+1.5
GUIM	**Jordan**	**0.37**	**80**	*eP*		Pg	13 32 56.3	+0.1
GUIM				*e*S		Sg	13 33 02.6	+1.5
KALP	**Kalibo**	**1.11**	**6**	*i* P		Sb	13 33 31.0	+5.8
RCP	**Roxas**	**1.12**	**28**	↑*e*P		Pb	13 33 09.9	-0.6
RCP				*e*S		Sb	13 33 28.2	+2.9
CUYO	**Cuyo Island**	**1.21**	**284**	*eP*		Pb	13 33 12.0	0.0
CUYO	**Cuyo Island**	**1.21**	**284**	*eP*		Pb	13 33 12.0	0.0
SNPH	**Sibulan**	**1.57**	**140**	*eP*		Pn	13 33 17.2	-0.6
OTRP	**Odiongan**	**1.80**	**354**	*eP*		Pn	13 33 19.8	-1.3
OTRP	**Odiongan**

*NAO **28** 14:51:06.3±2.3,67.85N×20.50E,ML2.3*
*BER **28** 14:51:07.3±4.2,67.88N×20.21E,ML2.0,ML2.3(NAO), Suspected explosion*
ISC 28 14:51:02.3±0.6,67.76N±0.03×20.13E±0.09,n10,σ1§44/13, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KTK1	**Kautokeino**	**1.71**	**41**	*eP*		**Pn**	**14 51 35.0**	**+1.5**
KTK1				*eSg*		**Sg**	**14 51 58.4**	**-0.7**
KTK1				AML		AML	14 52 01.8	
	comp=Z,14nm,0.6s							
TRO	**Tromso**	**1.94**	**347**	*eP*		**Pn**	**14 51 37.7**	**+1.0**
TRO				*eSg*		**Sg**	**14 52 04.4**	**-2.4**
TRO				AML		AML	14 52 06.3	
	comp=Z,22nm,0.4s							
LOF	**Lofoten**	**2.52**	**282**	*eSg*		**Sg**	**14 52 27.5**	**+1.5**
LOF				AML		AML	14 52 34.2	
	comp=Z,14nm,0.5s							
ARA0	**ARCESS Array S**	**2.66**	**45**	Pn		**Pn**	**14 51 48.7**	**+1.6**
	baz=228,slow=16							
ARA0				Lg			14 52 23.4	
	baz=227,slow=28							
MOR8	**Moi Rana**	**2.75**	**237**	*eSg*		**Sg**	**14 52 28.4**	**-5.2**
MOR8				AML		AML	14 52 30.5	
	comp=Z,30nm,0.3s							
STOK	**Stokkvaagen**	**3.13**	**246**	*eSg*		**Sg**	**14 52 46.4**	**-0.1**
STOK				AML		AML	14 52 55.7	
	comp=Z,15nm,0.5s							
NSS	**Namsos**	**4.63**	**229**	*eSg*		**Sg**	**14 53 33.5**	**-3.0**
APA0	**Apatity Array**	**4.91**	**86**	Sn		**Sn**	**14 53 15.2**	**-2.1**
	baz=284,slow=37							
APA0				Lg			14 53 35.4	
	baz=280,slow=28							
FIA0	**FINESS Array S**	**6.83**	**155**	Pn		**Pn**	**14 52 46.8**	**+0.7**
	baz=344,slow=14							
FIA0				Sn		**Sn**	**14 54 06.4**	**+0.8**
	baz=351,slow=22							
FIA0				Lg			14 54 39.5	
	baz=350,slow=28							
HFS	**Hagfors**	**8.15**	**203**	Sn		**Sn**	**14 54 37.9**	**-0.8**
	baz=25,slow=28							
HFS				Lg			14 55 22.5	
	baz=32,slow=22							

*PRU **28** 15:30:53.4,51.47N×16.09E*
*WAR **28** 15:30:53,51.50N×16.09E,ML2.8, Mining Induced*
*NEIC **28** 15:30:54.7±1.7,51.38N×15.95E,h5km,ML2.8(VIE), Error ellipse: s-maj=19.5km s-min=8.2km az=206.0*
ISC 28 15:30:51.5±0.8,51.45N±0.04×16.07E±0.04,n15,σ1§14/33, 1C, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.63**	**167**	*ePg*		**Pg**	**15 31 05.6**	**+1.6**
KSP				*eSg*		**Sg**	**15 31 14.2**	**+1.9**
KSP	**Ksiaz**	**0.63**	**167**	*ePg*		**Pg**	**15 31 05.6**	**+1.6**
KSP				*eSg*		**Sg**	**15 31 14.6**	**+2.3**
UPC	**Upice**	**0.95**	**182**	*ePG*		**Pg**	**15 31 11.5**	**+1.1**
DPC	**Dobruska-Polom**	**1.11**	**172**	*ePG*		**Pg**	**15 31 14.3**	**+0.6**
DPC				*eSG*		**Sg**	**15 31 29.4**	**+0.8**
PVCC	**Panska Ves**	**1.32**	**226**	*ePG*		**Pg**	**15 31 18.4**	**+0.5**
BRG	**Berggiesshubel**	**1.46**	**247**	*i* Pn		**Pn**	**15 31 20.4**	**+1.3**
BRG				*i* Pg		**Pg**	**15 31 21.0**	**+0.5**
BRG				*i* Sg		**Sg**	**15 31 40.9**	**+0.9**
PRU	**Pruhonice**	**1.76**	**214**	PG		**Pg**	**15 31 24.5**	**-2.0**
PRU				*i* x		x	15 31 29.4	
PRU				*i* x		x	15 31 42.9	
PRU				SG		**Sg**	**15 31 48.8**	**-1.1**
	15nm,0.7s							
MORC	**Moravsky Berou**	**1.92**	**150**	*ePn*		**Pn**	**15 31 25.7**	**0.0**
MORC				*eSn*		**Sn**	**15 31 52.9**	**+1.8**
CLL	**Collm**	**1.93**	**267**	*i* PN		**Pn**	**15 31 26.3**	**+0.5**
CLL				*i* PG		**Pg**	**15 31 28.9**	**-1.0**
CLL				*i* SG		**Sg**	**15 31 54.9**	**-0.6**
OKC	**Ostrava-Krasne**	**2.09**	**140**	*ePG*		**Pg**	**15 31 32.5**	**-0.7**
OKC				*eSG*		**Sg**	**15 31 59.6**	**-1.4**
NKC	**Novy Kostel**	**2.60**	**243**	*ePN*		**Pn**	**15 31 35.9**	**+0.5**
NKC				*ePG*		**Pg**	**15 31 43.6**	**+0.3**
NKC				*eSG*		**Sg**	**15 32 18.1**	**+0.2**
OJC	**Ojcow**	**2.67**	**116**	*ePg*		**Pg**	**15 31 42.9**	**-1.8**
OJC				*eSg*		**Sg**	**15 32 19.5**	**-0.8**
OJC	**Ojcow**	**2.67**	**116**	*ePg*		**Pg**	**15 31 42.9**	**-1.8**
OJC				*eSg*		**Sg**	**15 32 19.5**	**-0.8**
KHC	**Kasperske Hory**	**2.82**	**215**	*ePN*		**Pn**	**15 31 39.1**	**+0.5**
KHC				*ePG*		**Pg**	**15 31 45.2**	**-2.5**
KHC				*eSN*		**Sn**	**15 32 14.0**	**+0.2**
KHC				*eSG*		**Sg**	**15 32 23.6**	**-1.7**
MOA	**Molln**	**3.79**	**199**	*i* PN		**Pn**	**15 31 53.0**	**+0.6**
MOA				*i* SG		**Sg**	**15 32 56.5**	**-1.2**
	2.2nm,0.3s							

GUC 28 15:42:29.3±0.8,34.95S×70.56W,h1km±5km,MD3.5, ML2.9,7C-3D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.50**	**312**	*i* P		Pg	15 42 39.5	+0.2
SFDO				*i* S		Sg	15 42 47.4	+1.4
CICH	**Cipreses**	**0.64**	**11**	*i* P		Pg	15 42 41.3	-0.8
CICH				*i* S		Sg	15 42 50.9	+0.3
CACH	**El Canelo**	**0.83**	**358**	*i* P		Pg	15 42 44.8	-1.1
CACH				*i* S		Sg	15 42 57.2	+0.2
CHCH	**Chadas Angostu**	**1.02**	**356**	*i* P		Pb	15 42 48.4	-1.0
CHCH				*i* S		Sb	15 43 03.3	+0.2
LNV	**Longovilo**	**1.22**	**325**	*i* P		Pb	15 42 51.7	-1.1
LNV				*i* S		Sb	15 43 09.0	+0.2
PCH	**Pirque**	**1.33**	**2**	*i* P		Pb	15 42 53.8	-0.9
PCH				*i* S		Sb	15 43 12.7	+0.6
TACH	**Talagante**	**1.33**	**346**	*eP*		Pb	15 42 53.8	-1.0
TACH				*i* S		Sb	15 43 12.7	+0.5
ANTU	**Antumapu**	**1.38**	**358**	*i* P		Pb	15 42 54.9	-0.7
ANTU				*i* S		Sb	15 43 14.2	+0.6
ANTU				AMP			15 43 15.2	
	comp=N,312nm,0.2s							
RCDM	**Rinconada Maip**	**1.47**	**352**	*i* P		Pn	15 42 56.2	-0.9
RCDM				*i* S		Sb	15 43 16.4	+0.1
RCDM				AMP			15 43 17.8	
	comp=E,443nm,0.1s							
CLCH	**Cerro Calan**	**1.55**	**1**	*i* P		Pn	15 42 57.7	-0.5
CLCH				*i* S		Sb	15 43 19.4	+0.8
CLCH				AMP			15 43 21.9	
	comp=E,221nm,0.4s							
FCH	**Farellones**	**1.64**	**8**	*i* P		Pn	15 42 59.1	-0.2
FCH				*i* S		Sb	15 43 21.9	+0.9
FCH				AMP			15 43 22.8	
	comp=N,307nm,0.3s							
PEL	**Peldehue**	**1.81**	**357**	*i* P		Pn	15 43 02.6	+0.8
PEL				*i* S		Sn	15 43 27.1	+1.5
PEL				AMP			15 43 29.1	
	comp=N,274nm,0.2s							
JACH	**Jahuel**	**2.26**	**359**	*i* P		Pn	15 43 09.3	+0.9
JACH				*i* S		Sn	15 43 38.6	+1.3

*BJI **28** 15:46:35.9,49.80N×129.30W,h10km,mB4.8,mb4.6, Ms4.4,Ms2.4.3*
*PGC **28** 15:46:35.9,49.59N×129.81W,h10km,MLSn4.1/1, Mw4.8/6,West of Vancouver Island, British Columbia*
*IDC **28** 15:46:37.9±1.1,49.70N×129.41W,mb4.1/5,mb1 4.3/15, mb1mx4.2/27,ML4.1/8,MS3.9/22,Ms1 3.9/22, ms1mx3.9/27,Error ellipse: s-maj=20.3km s-min=9.9km az=66.0*
*NEIC **28** 15:46:39.9±0.3,49.75N×129.32W,h10km,mb4.5/19, MW4.8(PGC),Error ellipse: s-maj=6.2km s-min=2.9km az=50.0*
*MOS **28** 15:46:41.2±1.5,49.83N×129.20W,h33km,mb5.0/4,Error ellipse: s-maj=28.6km s-min=11.3km az=102.8*
ISC 28 15:46:37.7±0.3,49.72N±0.02×129.39W±0.04,h10km, n205,σ1§01/188,mb4.6/18,MS4.0/18,24C-2D,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BPBC	**Brooks Peninsu**	**1.13**	**66**	⇑Pn		**Pn**	**15 46 59.3**	**-0.2**
BPBC				Trac			15 47 28.0	
	comp=Z,1μm,0.3s							
HOLB	**Holberg**	**1.23**	**41**	⇑Pn		**Pn**	**15 47 00.9**	**0.0**
HOLB				Sn		**Sn**	**15 47 18.4**	**+0.8**
	comp=Z,660nm,0.3s							
HOLB				Trac			15 47 26.4	
	comp=Z,660nm,0.3s							
MAYB	**Maynard**	**1.58**	**63**	⇑Pn		**Pn**	**15 47 05.7**	**-0.4**
MAYB				Sn		**Sn**	**15 47 28.8**	**+2.1**
	comp=Z,182nm,0.3s							
MAYB				Trac			15 47 34.5	
	comp=Z,182nm,0.3s							
PHC	**Port Hardy**	**1.60**	**51**	⇑Pn		**Pn**	**15 47 06.3**	**+0.1**
PHC				Sn		**Sn**	**15 47 28.7**	**+1.6**
PHC				Trac			15 47 30.3	
	comp=Z,562nm,0.7s							
WOSB	**Woss**	**1.87**	**75**	⇑Pn		**Pn**	**15 47 10.4**	**+0.3**
ETB	**Estevan Point**	**1.89**	**99**	Pn		**Pn**	**15 47 10.4**	**+0.1**
GDR	**Gold River**	**2.18**	**87**	⇑Pn		**Pn**	**15 47 13.8**	**-0.7**
GDR				Trac			15 47 55.3	
	comp=Z,124nm,0.5s							
NCRB	**Newcastle Ridg**	**2.25**	**71**	⇑Pn		**Pn**	**15 47 16.2**	**+0.6**
BTB	**Buttle Lake**	**2.53**	**94**	Pn		**Pn**	**15 47 19.1**	**-0.4**
BTB				Trac			15 47 56.9	
	comp=Z,224nm,0.5s							
BBB	**Bella Bella**	**2.60**	**18**	Pn		**Pn**	**15 47 20.1**	**-0.4**
	42nm,0.3s,baz=211,slow=14,SNR=667							
BBB				Sn		**Sn**	**15 47 51.1**	**-1.4**
	60nm,0.3s,baz=322,slow=22,SNR=11							
BBB				LR		LR	15 48 35.6	
	comp=Z,1μm,18.4s,baz=193,slow=45							
BBB	**Bella Bella**	**2.60**	**18**	Pn		**Pn**	**15 47 20.1**	**-0.5**
BBB				Sn		**Sn**	**15 47 51.0**	**-1.5**
BBB				Trac			15 47 56.6	
	comp=Z,424nm,0.5s							
CBB	**Campbell River**	**2.62**	**82**	Pn		**Pn**	**15 47 20.9**	**0.0**
OZB	**Mount Ozzard**	**2.66**	**105**	Pn		**Pn**	**15 47 20.6**	**-0.7**
ALB	**Alberni**	**3.00**	**97**	Pn		**Pn**	**15 47 26.3**	**0.0**
MGB	**Mount Grey**	**3.15**	**101**	Pn		**Pn**	**15 47 27.9**	**-0.5**
TXB	**Texada**	**3.21**	**88**	Pn		**Pn**	**15 47 29.1**	**-0.2**
BNB	**Barry Inlet**	**3.23**	**333**	Pn		**Pn**	**15 47 26.4**	**-3.2**
PFB	**Port Renfrew**	**3.44**	**108**	Pn		**Pn**	**15 47 31.9**	**-0.7**
NLLB	**Nanaimo Lost L**	**3.55**	**96**	Pn		**Pn**	**15 47 35.0**	**+0.9**
SHB	**Sechelt**	**3.58**	**90**	Pn		**Pn**	**15 47 34.5**	**0.0**
SHB				Trac			15 48 23.8	
	comp=Z,116nm,0.4s							
LZB	**Mount Lazard**	**3.81**	**105**	Pn		**Pn**	**15 47 37.2**	**-0.6**
MOBC	**Moresby Island**	**3.82**	**337**	Pn		**Pn**	**15 47 34.0**	**-4.0**
BNAB	**Bonilla**	**3.86**	**349**	Pn		**Pn**	**15 47 35.4**	**-3.1**
GOBB	**Galiano Island**	**3.92**	**99**	Pn		**Pn**	**15 47 40.2**	**+0.9**
BIB	**Bowen Island**	**3.97**	**92**	Pn		**Pn**	**15 47 40.2**	**+0.2**
OCWA	**Octopus Mounta**	**3.97**	**118**	*eP*		**Pn**	**15 47 38.2**	**-1.8**
WPB	**Watts Point**	**4.01**	**88**	Pn		**Pn**	**15 47 41.6**	**+1.0**
PGC	**Sidney**	**4.04**	**103**	*eP*		**Pn**	**15 47 40.2**	**-0.8**
SNB	**Saturna Island**	**4.18**	**101**	⇓Pn		**Pn**	**15 47 43.8**	**+0.8**
SNB				Trac			15 48 37.8	
	comp=Z,33nm,0.5s							
VGZ	**Gonzales**	**4.19**	**106**	Pn		**Pn**	**15 47 32.8**	**-10**
WSLR	**Whistler**	**4.20**	**82**	Pn		**Pn**	**15 47 44.5**	**+1.2**
MCW	**Mount Constitu**	**4.42**	**101**	P		**Pn**	**15 47 47.0**	**+0.5**
HNB	**Haney**	**4.46**	**93**	Pn		**Pn**	**15 47 47.0**	**0.0**
HNB				Sn		**Sn**	**15 48 39.7**	**+0.1**
HNB				Trac			15 48 42.7	
	comp=Z,44nm,0.7s							
RUBB	**Prince Rupert**	**4.65**	**354**	Pn		**Pn**	**15 47 45.2**	**-4.5**
NDB	**Naden**	**4.78**	**334**	Pn		**Pn**	**15 47 46.6**	**-5.0**
VDB	**Vedder Mountai**	**4.81**	**95**	Pn		**Pn**	**15 47 52.1**	**+0.2**
VDB	**Vedder Mountai**	**4.81**	**95**	P		**Pn**	**15 47 51.9**	**-0.1**
GNW	**Green Mountain**	**4.85**	**114**	*eP*		**Pn**	**15 47 53.1**	**+0.5**
LLLB	**Lillooet**	**4.91**	**77**	Pn		**Pn**	**15 47 53.4**	**+0.1**
LLLB				Trac			15 48 59.2	
	comp=Z,24nm,0.6s							
HOPB	**Hope**	**5.20**	**91**	Pn		**Pn**	**15 47 58.0**	**+0.6**
BMW	**Boistfort Moun**	**5.25**	**126**	*eP*		**Pn**	**15 47 57.0**	**-1.1**
RPW	**Rockport**	**5.33**	**101**	P		**Pn**	**15 47 59.4**	**+0.1**
RMW	**Rattlesnake Mo**	**5.51**	**111**	P		**Pn**	**15 48 02.0**	**+0.2**
FSB	**Fort Saint Jam**	**5.70**	**31**	Pn		**Pn**	**15 48 06.1**	**+1.6**
NLW	**Nelson Butte**	**6.19**	**102**	*eP*		**Pn**	**15 48 10.8**	**-0.6**
PNT	**Penticton**	**6.37**	**90**	Pn		**Pn**	**15 48 14.1**	**0.0**
TBM	**Table Mountain**	**6.38**	**110**	P		**Pn**	**15 48 14.8**	**+0.7**
EBG	**Ellensburg**	**6.52**	**112**	P		**Pn**	**15 48 16.8**	**+0.8**
WTV	**Waterville**	**6.56**	**104**	P		**Pn**	**15 48 16.8**	**+0.1**
SSOR	**Sweet Springs**	**6.77**	**133**	*eP*		**Pn**	**15 48 19.4**	**-0.2**
EPH	**Ephrata**	**6.92**	**106**	P		**Pn**	**15 48 21.0**	**-0.7**
DOWB	**Downie Slide**	**7.15**	**71**	Pn		**Pn**	**15 48 41.1**	**+16**
VGB	**Gordon Butte**	**7.17**	**123**	P		**Pn**	**15 48 24.6**	**-0.7**
SLEB	**Sale Mountain**	**7.33**	**74**	Pn		**Pn**	**15 48 27.9**	**+0.4**
DPW	**Davenport**	**7.61**	**100**	*eP*		**Pn**	**15 48 30.2**	**-1.2**
BMBC	**Bull Mountain**	**7.71**	**32**	Pn		**Pn**	**15 48 33.8**	**+1.1**
BMBC				Sn		**Sn**	**15 50 00.5**	**-0.5**
BMBC				Trac			15 50 06.0	
	comp=Z,19nm,0.4s							
NEW	**Newport**	**8.20**	**96**	Pn		**P**	**15 48 38.6**	**-1.0**
	4.1nm,0.3s,baz=290,slow=11,SNR=16							
NEW				LR		LR	15 51 53.5	
	comp=Z,2μm,18.6s,baz=282,slow=38							
NEW	**Newport**	**8.20**	**96**	*eP*		**P**	**15 48 38.3**	**-1.3**
HUMO	**Hull Mountain**	**8.39**	**145**	*eP*		**P**	**15 48 41.2**	**-1.1**
LNOR	**Lincton Mounta**	**8.40**	**113**	*eP*		**P**	**15 48 41.7**	**-0.8**
DLBC	**Dease Lake**	**8.75**	**358**	Pn		**P**	**15 48 47.0**	**-0.2**
	1.1nm,0.3s,baz=196,slow=15,SNR=13							
DLBC				LR		LR	15 52 02.7	
	comp=Z,1μm,18.1s,baz=141,slow=37							
DLBC	**Dease Lake**	**8.75**	**358**	Pn		**P**	**15 48 47.6**	**+0.4**
DLBC	**Dease Lake**	**8.75**	**358**	*eP*		**P**	**15 48 47.7**	**+0.5**
YBH	**Yreka Blue Hor**	**9.24**	**147**	Pn		**P**	**15 48 54.2**	**0.0**
	0.4nm,0.3s,baz=351,slow=12,SNR=7.9							
YBH	**Yreka Blue Hor**	**9.24**	**147**	*eP*		**P**	**15 48 53.0**	**-1.1**
FNBB	**Fort Nelson**	**9.91**	**20**	Pn		**P**	**15 49 02.0**	**-1.2**
FNBB				Sn		**Sn**	**15 50 50.0**	**-5.7**
FNBB				Trac			15 50 58.2	
	comp=Z,4.0nm,0.6s							
WALA	**Waterton Lakes**	**10.12**	**88**	Pn		**P**	**15 49 05.9**	**-0.1**
WALA	**Waterton Lakes**	**10.12**	**88**	*eP*		**P**	**15 49 05.1**	**-0.9**
WDC	**Whiskeytown Da**	**10.33**	**150**	*eP*		**P**	**15 49 07.5**	**-1.5**
MSO	**Missoula**	**10.69**	**100**	*eP*		**P**	**15 49 11.8**	**-2.2**
CHMT	**Chamberlain Mo**	**11.10**	**98**	*eP*		**P**	**15 49 18.1**	**-1.5**
WHY	**Whitehorse**	**11.40**	**346**	Pn		**P**	**15 49 21.3**	**-2.2**
OHCM	**Honcut**	**11.80**	**149**	P		**P**	**15 49 28.7**	**-0.4**
HLID	**Hailey**	**11.98**	**115**	*eP*		**P**	**15 49 31.2**	**-0.3**
HRY	**Holter Researc**	**12.09**	**98**	*eP*		**P**	**15 49 31.2**	**-1.7**
MCMT	**McKenzie Canyo**	**12.24**	**107**	*eP*		**P**	**15 49 33.6**	**-1.4**
BOZ	**Bozeman (W)**	**12.63**	**102**	*eP*		**P**	**15 49 39.0**	**-1.2**
QLMT	**Earthquake Lak**	**13.13**	**105**	*eP*		**P**	**15 49 46.3**	**-0.5**
CMB	**Columbia Colle**	**13.35**	**148**	*eP*		**P**	**15 49 49.5**	**-0.2**
YMR	**Madison River**	**13.49**	**105**	*eP*		**P**	**15 49 51.6**	**-0.1**
YNR	**Norris Junctio**	**13.65**	**104**	*eP*		**P**	**15 49 53.4**	**-0.2**
YFT	**Old Faithful**	**13.68**	**106**	P		**P**	**15 49 51.8**	**-2.2**
NVAR	**Mina Array Bea**	**13.79**	**141**	Pn		**P**	**15 49 55.8**	**+0.3**
	0.1nm,0.3s,baz=320,slow=11,SNR=10							
NVAR				LR		LR	15 54 50.5	
	comp=Z,209nm,19.6s,baz=165,slow=36							
GCMT	**Greycliff**	**13.83**	**99**	*eP*		**P**	**15 49 55.0**	**-0.9**
IMW	**Indian Meadow**	**13.90**	**108**	*eP*		**P**	**15 49 57.4**	**+0.6**
LKWY	**Lake**	**13.90**	**105**	P		**P**	**15 49 55.8**	**-1.1**
RRI2	**Red Ridge**	**13.96**	**110**	*eP*		**P**	**15 49 58.6**	**+1.0**
HVU	**Hansel Valley**	**14.03**	**118**	*eP*		**P**	**15 49 57.4**	**-1.3**
MOOW	**Moose Ponds**	**14.09**	**108**	*eP*		**P**	**15 50 00.4**	**+1.0**
TPAW	**Teton Pass**	**14.10**	**109**	*eP*		**P**	**15 50 00.6**	**+1.0**
WUWY	**Wally Ulrich**	**14.21**	**109**	P		**P**	**15 50 00.9**	**0.0**
REDW	**Red Top Meadow**	**14.23**	**109**	*eP*		**P**	**15 50 00.2**	**-1.1**
SNOW	**Snow King Moun**	**14.24**	**109**	P		**P**	**15 50 01.9**	**+0.6**
LOHW	**Long Hollow**	**14.25**	**108**	*eP*		**P**	**15 50 03.5**	**+2.0**
BGU	**Big Grassy Mou**	**14.45**	**121**	*eP*		**P**	**15 50 04.9**	**+0.7**
TPH	**Tonopah**	**14.55**	**139**	*eP*		**P**	**15 50 05.3**	**-0.1**
MTUM	**Tungsten Hills**	**14.62**	**144**	*eP*		**P**	**15 50 06.0**	**-0.3**
HWUT	**Hardware Ranch**	**14.84**	**116**	*eP*		**P**	**15 50 10.7**	**+1.5**
	30nm,1.5s							
DUG	**Dugway**	**15.08**	**123**	*eP*		**P**	**15 50 12.6**	**+0.3**
	16nm,1.3s							
YKA	**Yellowknife Ar**	**15.17**	**27**	Pn		**P**	**15 50 11.4**	**-2.0**
	0.3nm,0.3s,baz=214,slow=12,SNR=6.4							
YKA				LR		LR	15 56 16.8	
	comp=Z,404nm,18.4s,baz=220,slow=38							
YKA	**Yellowknife Ar**	**15.17**	**27**	Pn		**P**	**15 50 11.4**	**-2.0**
YKA				LR		LR	15 56 16.8	
YKW3	**Yellowknife Ar**	**15.22**	**27**	Pn		**P**	**15 50 14.0**	**-0.1**
TCUT	**Toone Canyon**	**15.24**	**118**	*eP*		**P**	**15 50 16.0**	**+1.5**
BW06	**Boulder Array**	**15.35**	**109**	*eP*		**P**	**15 50 16.4**	**+0.4**
	74nm,1.7s							
PDAR	**Pinedale Array**	**15.35**	**109**	Pn		**P**	**15 50 18.4**	**+2.5**
	0.4nm,0.3s,baz=309,slow=9.5,SNR=26							
PDAR				LR		LR	15 56 14.0	
	comp=Z,687nm,20.4s,baz=321,slow=38							
DAWY	**Dawson**	**15.36**	**343**	Pn		**P**	**15 50 16.8**	**+0.9**
DAWY	**Dawson**	**15.36**	**343**	*eP*		**P**	**15 50 16.1**	**+0.3**
NLU	**North Lily Min**	**15.65**	**122**	*eP*		**P**	**15 50 19.5**	**-0.3**
LAO	**LASA Array**	**15.72**	**92**	*eP*		**P**	**15 50 19.7**	**-1.0**
	12nm,0.8s							
DAU	**Daniels Canyon**	**15.79**	**119**	*eP*		**P**	**15 50 23.1**	**+1.5**
TPNV	**Topopah Spring**	**15.91**	**138**	*eP*		**P**	**15 50 23.0**	**-0.2**
	96nm,1.6s							
SLKM	**Skilak Lake**	**16.01**	**320**	*eP*		**P**	**15 50 25.9**	**+1.6**
DGMT	**Dagmar**	**16.53**	**85**	*eP*		**P**	**15 50 31.9**	**+0.9**
	119nm,1.5s							
ARUT	**Antelope Range**	**16.54**	**130**	*eP*		**P**	**15 50 31.9**	**+0.8**
TMUT	**Trail Mountain**	**16.59**	**122**	*eP*		**P**	**15 50 31.6**	**-0.2**
MVU	**Marysvale**	**16.62**	**126**	*eP*		**P**	**15 50 31.1**	**-1.1**
	28nm,1.7s							
MSU	**Marysvale**	**16.63**	**126**	*eP*		**P**	**15 50 32.5**	**+0.1**
RSO	**Redoubt South**	**17.06**	**318**	P		**P**	**15 50 40.0**	**+2.3**
SRU	**San Rafael**	**17.10**	**121**	*eP*		**P**	**15 50 40.4**	**+2.2**
SPU	**Mount Spurr**	**17.13**	**121**	*eP*		**P**	**15 50 38.8**	**+0.4**
RWWY	**Rawlins**	**17.40**	**109**	*eP*		**P**	**15 50 42.0**	**0.0**
FFC	**Flin Flon**	**17.46**	**63**	*eP*		**P**	**15 50 41.5**	**-1.2**
	85nm,1.0s							
MCK	**McKinley**	**17.56**	**330**	*eP*		**P**	**15 50 44.6**	**+0.8**
	7.5nm,1.0s							
NEN	**Nelson**	**17.61**	**137**	*eP*		**P**	**15 50 45.3**	**+0.6**
ILAR	**Eielson Array**	**17.71**	**335**	P		**P**	**15 50 45.7**	**0.0**
	0.1nm,0.3s,baz=154,slow=10,SNR=17							
ILAR				LR		LR	15 57 39.0	
	comp=Z,192nm,19.8s,baz=337,slow=37							
LDFC	**Landfair**	**17.98**	**139**	*eP*		**P**	**15 50 49.6**	**+0.3**
COLA	**College**	**18.06**	**334**	*eP*		**P**	**15 50 49.4**	**-0.6**
RSSD	**Black Hills**	**18.16**	**98**	*eP*		**P**	**15 50 51.7**	**+0.3**
	16nm,1.1s							
PV10	**Paradox Valley**	**18.44**	**120**	P		**P**	**15 50 54.4**	**-0.6**
PHWY	**Pilot Hill**	**18.70**	**108**	*eP*		**P**	**15 50 57.8**	**-0.4**
INK	**Inuvik**	**18.76**	**355**	P		**P**	**15 50 58.9**	**+0.2**
	0.1nm,0.3s,baz=174,slow=18,SNR=13							
INK				LR		LR	15 58 07.0	
	comp=Z,416nm,18.7s,baz=195,slow=37							
INK	**Inuvik**	**18.76**	**355**	Pn		**P**	**15 50 59.2**	**+0.5**
INK	**Inuvik**	**18.76**	**355**	*eP*		**P**	**15 50 58.7**	**0.0**
	193nm,2.2s							
PV01	**Paradox Valley**	**18.87**	**120**	*eP*		**P**	**15 51 00.7**	**+0.4**
RW3	**Ridgway**	**19.29**	**118**	P		**P**	**15 51 03.8**	**-1.4**
ISCO	**Idaho Springs**	**19.50**	**112**	*eP*		**P**	**15 51 07.9**	**+0.3**
	10.0nm,1.0s							
IMA	**Indian Mountai**	**20.63**	**332**	*eP*		**P**	**15 51 19.5**	**0.0**
	46nm,1.5s							
SDCO	**Great Sand Dun**	**20.90**	**116**	*eP*		**P**	**15 51 21.9**	**-0.6**
	5.8nm,0.8s							
ULM	**Lac du Bonnet**	**21.46**	**76**	P		**P**	**15 51 27.9**	**-0.1**
	29nm,0.7s,mb4.7,baz=283,slow=11,SNR=23							
ULM	**Lac du Bonnet**	**21.46**	**76**	Pn		**P**	**15 51 28.6**	**+0.5**
FCC	**Fort Churchill**	**22.28**	**53**	Pn		**P**	**15 51 37.0**	**+0.7**
FCC	**Fort Churchill**	**22.28**	**53**	*eP*		**P**	**15 51 36.1**	**-0.2**
ANMO	**Albuquerque**	**22.35**	**123**	*eP*		**P**	**15 51 39.2**	**+2.1**
ANMO	**Albuquerque**	**22.35**	**123**	*eP*		**P**	**15 51 38.1**	**+1.0**
	5.9nm,0.8s,mb4.1							
LAZ	**Ladron**	**22.39**	**125**	*eP*		**P**	**15 51 38.3**	**+0.7**
LPM	**Los Pinos Moun**	**22.73**	**124**	*eP*		**P**	**15 51 42.0**	**+1.1**
BNM	**Barren Site**	**22.86**	**124**	*eP*		**P**	**15 51 43.7**	**+1.6**
EYMN	**Ely**	**24.84**	**79**	*eP*		**P**	**15 52 01.2**	**0.0**
	20nm,0.6s,mb4.8							
CPRX	**Cap Rock**	**25.21**	**122**	*eP*		**P**	**15 52 05.4**	**+0.6**
KSU1	**Kansas State U**	**25.51**

VNA3	**Neumayer Olymp**	**145.47**	**150**	⇑*i*		PKPbc	16 06 15.2	+0.2
VNA3	**Neumayer Olymp**	**145.47**	**150**	⇑*i*		PKPbc	16 06 17.2	+2.2
VNA3	**Neumayer Olymp**	**145.47**	**150**	⇑*i*		PKPbc	16 06 19.1	+4.1
VNA3	**Neumayer Olymp**	**145.47**	**150**	⇑*i*		PKPbc	16 06 21.5	+6.5
VNA3	**Neumayer Olymp**	**145.47**	**150**	⇑*i*	PKPdf	PKPdf	16 06 13.9	-3.6
VNA3				⇑*iP*			16 06 15.2	
VNA3				⇑*iP*			16 06 17.2	
VNA3				⇑*iP*			16 06 19.1	
VNA3				⇑*iP*			16 06 21.5	
VNA2	**Neumayer--Watz**	**146.25**	**150**	⇑*i*		PKPbc	16 06 17.5	+0.6
VNA2	**Neumayer--Watz**	**146.25**	**150**	⇑*i*		PKPbc	16 06 19.9	+3.0
VNA2	**Neumayer--Watz**	**146.25**	**150**			PKPbc	16 06 20.6	+3.7
VNA2	**Neumayer--Watz**	**146.25**	**150**	⇑*i*		PKPbc	16 06 23.4	+6.5
VNA2	**Neumayer--Watz**	**146.25**	**150**	⇑*i*	PKPdf	PKPdf	16 06 15.7	-3.1
VNA2				⇑*iP*			16 06 17.5	
VNA2				⇑*iP*			16 06 19.9	
VNA2				P			16 06 20.6	
VNA2				⇑*iP*			16 06 23.4	
SNAA	**Sanae**	**147.56**	**152**			PKPdf	16 06 22.5	+1.6
SNAA	**Sanae**	**147.56**	**152**			PKPdf	16 06 23.7	+2.8
SNAA	**Sanae**	**147.56**	**152**			PKPdf	16 06 24.6	+3.7
SNAA	**Sanae**	**147.56**	**152**	⇑*i*		PKPdf	16 06 30.7	+10
SNAA	**Sanae**	**147.56**	**152**	⇑*i*	PKPdf	PKPdf	16 06 20.3	-0.6
SNAA				P			16 06 22.5	
SNAA				P			16 06 23.7	
SNAA				P			16 06 24.6	
SNAA				⇑*iP*			16 06 30.7	

NNC ***28*** *15:55:58.3±109.0, 47.87N×94.49E, Error ellipse: s-maj=3327.8km s-min=1249.7km az=177.0*

BJI 28 15:56:03.2, 43.82N×93.28E, h19km, ML3.6, 1C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**4.04**	**272**	*e*PG	Pn	15 57 14.8	+9.1
WMQ				S	Sn	15 57 54.8	+1.8
WMQ				Smax			
	comp=N,41nm,0.7s						
WMQ				Smax			
	comp=E,45nm,0.7s						
GTA	**Gaotai**	**6.58**	**130**	PG	Pn	15 58 02.3	+21
GTA				Smax			
	comp=N,18nm,0.7s						
GTA				Smax			
	comp=E,22nm,0.8s						
MK31	**Makanchi Array**	**8.30**	**295**	⇑Pn	P	15 58 03.3	-2.2
	baz=101,slow=15,SNR=8.2						
MK31				⇓Lg		16 00 20.4	
	comp=E,0.9nm,0.6s,baz=74,slow=36						

IDC 28 16:30:11.0±10.0, 7.49S×127.92E, h96km±99km, mb3.3/2, mb1 3.9/5, mb1mx3.6/13, ML4.1/3, Error ellipse: s-maj=132.0km s-min=27.7km az=49.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.78**	**192**	P	P	16 32 42.9	-0.9
	1.5nm,0.3s,baz=13,slow=9.2,SNR=36						
FITZ				S	S	16 34 38.3	-4.8
	0.8nm,0.3s,baz=351,slow=19,SNR=3.2						
WRA	**Warramunga Arr**	**13.85**	**154**	P	P	16 33 21.9	-2.5
	1.1nm,0.3s,baz=324,slow=14,SNR=28						
WRA				S	S	16 35 43.4	-13
	1.5nm,0.3s,baz=327,slow=23,SNR=13						
ASAR	**Alice Springs**	**17.08**	**161**	P	P	16 34 04.3	-0.8
	1.2nm,0.3s,baz=340,slow=11,SNR=127						
ASAR				S	S	16 37 04.5	-5.8
	0.4nm,0.3s,baz=318,slow=17,SNR=6.7						
STKA	**Stephens Creek**	**27.41**	**154**	P	P	16 35 47.7	-2.0
	0.9nm,0.7s,baz=319,slow=11,SNR=2.9						
CMAR	**Chiang Mai Arr**	**38.50**	**312**	P	P	16 37 24.1	-1.6
	0.4nm,0.7s,baz=141,slow=6.9,SNR=5.1						

BER ***28*** *16:39:31.7±4.0, 67.04N×20.94E, ML1.8, Suspected explosion*

HEL 28 16:39:32.2±0.1, 67.17N×20.71E, ML2.5(UPP), ML1.9(BER), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**225**	*i*P	Pg	16 39 33.6	-0.1
DUNU				*i*S	Sg	16 39 34.8	+0.1
MASU	**Masugnsbyn**	**0.58**	**60**	*i*P	Pg	16 39 42.5	-1.2
KUA	**Kurravaara**	**0.80**	**350**	*i*P	Pg	16 39 46.3	-1.8
ERTU	**Ertsjaerv**	**0.86**	**136**	*i*P	Pg	16 39 47.1	-2.1
NIKU	**Nikkaluokta**	**0.95**	**318**	*e*P	Pg	16 39 48.6	-2.5
PAJU	**Pajala**	**0.95**	**98**	*e*P	Pg	16 39 49.4	-1.8
SJUU	**Sjulsmark**	**1.71**	**167**	*e*P	Pn	16 40 02.8	-0.7
KIF	**Kilpisjarvi**	**1.84**	**1**	*e*P	Pn	16 40 05.0	-0.3
KIF				*e*S	Sn	16 40 30.6	+1.0
KTK1	**Kautokeino**	**2.08**	**26**	*e*P	Pn	16 40 08.8	+0.1
KTK1				*e*SG	Sg	16 40 36.8	-4.6
KTK1				AML	AML	16 40 37.6	
	comp=Z,17nm,0.4s						
SGF	**Sodankyl**	**2.27**	**81**	*e*SG	Sg	16 40 42.5	-5.4
TRO	**Tromso**	**2.56**	**346**	*e*S	Sn	16 40 47.8	-0.1
TRO				AML	AML	16 40 52.5	
	comp=Z,5.5nm,0.3s						
MOR8	**Moi Rana**	**2.69**	**251**	*e*SG	Sg	16 40 50.5	-11
MOR8				AML	AML	16 40 53.3	
	comp=Z,13nm,0.4s						
MELS	**Mels**	**2.76**	**267**	*e*Sg	Sg	16 40 59.9	-4.1
LOF	**Lofoten**	**2.90**	**293**	*e*	Pn	16 41 07.0	+46
LOF				AML	AML	16 41 08.4	
	comp=Z,4.8nm,0.5s						
LOF	**Lofoten**	**2.90**	**293**	*e*Sg	Sg	16 41 07.0	-1.8
LOF				AML	AML	16 41 08.4	
	comp=Z,4.8nm,0.5s						
OUL	**Oulu**	**2.98**	**132**	*e*SB	Sb	16 41 02.0	-1.0
KEV	**Kevo**	**3.48**	**39**	*e*SG	Sg	16 41 17.7	-10
MSF	**Maaselka**	**3.57**	**107**	*e*SG	Sg	16 41 21.7	-9.2
NSS	**Namsos**	**4.46**	**238**	*e*SG	Sg	16 41 51.3	-9.5
NSS				AML	AML	16 41 53.6	
	comp=Z,4.2nm,0.4s						

NEIC ***28*** *16:59:39.6, 34.69N×25.08E, h8km, MD3.6(ATH), After ATH.*
CSEM ***28*** *16:59:39.6, 34.69N×25.08E, h8km, MD3.6/6, After ATH*

ATH 28 16:59:39.6, 34.69N×25.08E, h8km, MD3.6/6, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.54**	**70**	*e*PB	Pb	16 59 49.0	-1.8
XRY				*e*SB	Sb	16 59 58.0	-0.5
NPS	**Neapolis**	**0.72**	**37**	*e*PB	Pb	16 59 52.5	-1.4
GVD	**Gavdhos**	**0.83**	**281**	*e*Pg	Pg	16 59 55.8	-0.5
GVD				*e*Sg	Sg	17 00 07.0	-0.4
VAM	**Vamos**	**1.02**	**315**	*e*PG	Pg	16 59 58.8	-1.1
VAM				*e*SB	Sb	17 00 14.0	+1.7
SANT	**Santorini**	**1.71**	**10**	*e*Pn	Pn	17 00 08.0	-1.9
SANT				*e*Pg	Pg	17 00 12.7	-1.0
SANT				*e*Sn	Sn	17 00 31.6	-0.5
KARP	**Karpathos**	**1.91**	**63**	*e*PG	Pg	17 00 16.0	-1.7
KYTH	**Kithira**	**2.30**	**314**	*e*PN	Pn	17 00 21.0	+2.6
APE	**Apeiranthos**	**2.40**	**9**	*e*PB	Pb	17 00 19.5	-3.2
VLI	**Veliai**	**2.67**	**320**	*e*PB	Pb	17 00 24.0	-3.3

ATH ***28*** *17:15:33.5, 39.08N×26.97E, h4km, MD3.9/17, ML3.9*
THE ***28*** *17:15:35.6, 38.92N×26.90E, h6km, ML4.0*
CSEM ***28*** *17:15:35.6±0.1, 38.98N×26.77E, h2km, ML3.9, Error ellipse: s-maj=1.3km s-min=1.0km az=14.0*
NEIC ***28*** *17:15:35.7, 38.94N×26.61E, h13km, ML3.9(ATH), ML4.0(ISK), After ISK.*
ISK ***28*** *17:15:36.0, 38.95N×26.66E, h11km, ML4.0*
SOF ***28*** *17:15:39.5, 39.33N×26.56E, h5km, MD3.5*

ISC 28 17:15:35.8±0.4, 38.94N±0.02×26.65E±0.02, h6km±3km, n132, σ0♦96/150, 2C-5D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYVA	**Ayvalik**	**0.37**	**5**	*i*P	**Pg**	**17 15 43.0**	**-0.2**
AYVA				*i*S	**Sg**	**17 15 49.5**	**+1.4**
PRK	**Paraskevi**	**0.42**	**316**	⇑*e*PG	**Pg**	**17 15 45.0**	**+0.7**
PRK				SG	**Sg**	**17 15 51.7**	**+1.7**
BLCB	**Balcova**	**0.63**	**151**	*i*PG	**Pg**	**17 15 49.1**	**+0.6**
BLCB				*i*SG	**Sg**	**17 15 58.3**	**+1.3**
KDAG	**Bornova**	**0.72**	**138**	*i*P	**Pg**	**17 15 50.2**	**0.0**
KDAG				*i*S	**Sg**	**17 16 00.6**	**+0.7**
IZM	**Izmir**	**0.72**	**138**	*i*PG	**Pg**	**17 15 50.6**	**+0.3**
IZM	**Izmir**	**0.72**	**138**	Pg	**Pg**	**17 15 50.7**	**+0.4**
AKS	**Akhisar**	**0.91**	**94**	*i*PG	**Pg**	**17 15 53.8**	**-0.2**
AKS	**Akhisar**	**0.91**	**94**	Pg	**Pg**	**17 15 53.8**	**-0.2**
EZN	**Ezine**	**0.92**	**344**	PG	**Pg**	**17 15 54.1**	**0.0**
EZN				SG	**Sg**	**17 16 07.0**	**+0.6**
EZN	**Ezine**	**0.92**	**344**	Pg	**Pg**	**17 15 54.2**	**0.0**
EZN	**Ezine**	**0.92**	**344**	Pg	**Pg**	**17 15 54.2**	**+0.1**
EZN				*e*Sg	**Sg**	**17 16 07.0**	**+0.6**
BOZC	**Bozcaada**	**1.01**	**333**	*i*P	**Pb**	**17 15 55.2**	**-0.1**
BOZC				*i*S	**Sb**	**17 16 07.4**	**-1.1**
BALB	**Balikesir**	**1.18**	**53**	PN	**Pn**	**17 15 58.8**	**0.0**
BALB				SN	**Sn**	**17 16 14.8**	**-0.5**
BALB	**Balikesir**	**1.18**	**53**	Pn	**Pn**	**17 15 58.9**	**+0.1**
SMG	**Samos**	**1.24**	**173**	PB	**Pb**	**17 15 59.3**	**+0.2**
SMG				SB	**Sb**	**17 16 19.2**	**+4.0**
LIA	**Limnos Island**	**1.48**	**311**	⇓*i*PG	**Pg**	**17 16 03.3**	**-2.1**
LIA				SB	**Sb**	**17 16 24.1**	**+1.8**
MANT	**Manisa**	**1.56**	**106**	*i*P	**Pn**	**17 16 03.2**	**-1.0**
MANT				*i*S	**Sb**	**17 16 23.5**	**-1.0**
LOS	**Limnos**	**1.57**	**310**	*e*Pb	**Pb**	**17 16 04.8**	**+0.1**
LOS				*e*Sb	**Sb**	**17 16 28.0**	**+3.3**
LOS	**Limnos**	**1.57**	**310**	*e*Pb	**Pb**	**17 16 04.8**	**0.0**
LOS				*e*Sb	**Sb**	**17 16 28.0**	**+3.3**
AYDN	**Tasoluk**	**1.60**	**142**	*i*P	**Pn**	**17 16 04.4**	**-0.4**
AYDN				*i*S	**Sb**	**17 16 27.4**	**+1.7**
DST	**Dursunbey**	**1.67**	**66**	PN	**Pn**	**17 16 05.5**	**-0.3**
DST	**Dursunbey**	**1.67**	**66**	Pn	**Pn**	**17 16 05.5**	**-0.3**
EDC	**Edincik**	**1.69**	**33**	PN	**Pn**	**17 16 05.7**	**-0.3**
EDC				PN	**Sn**	**17 16 27.8**	**-0.3**
EDC	**Edincik**	**1.69**	**33**	Pn	**Pn**	**17 16 05.8**	**-0.2**
EDC	**Edincik**	**1.69**	**33**	Pn	**Pn**	**17 16 05.8**	**-0.2**
EDC				*e*Sn	**Sn**	**17 16 27.8**	**-0.3**
BNT	**Bandirma**	**1.72**	**34**	*i*PN	**Pn**	**17 16 06.0**	**-0.5**
MLSB	**Milas**	**1.87**	**151**	*e*PN	**Pn**	**17 16 08.9**	**+0.3**
MLSB	**Milas**	**1.87**	**151**	Pn	**Pn**	**17 16 08.9**	**+0.4**
KCT	**Karacabey**	**1.87**	**44**	PN	**Pn**	**17 16 08.7**	**+0.1**
MFT	**Murefte**	**1.91**	**15**	PN	**Pn**	**17 16 09.4**	**+0.3**
MFT	**Murefte**	**1.91**	**15**	Pn	**Pn**	**17 16 09.4**	**+0.3**
ALN	**Alexandroupoli**	**2.01**	**347**	*e*Pn	**Pn**	**17 16 10.4**	**-0.1**
ALN				*e*Sn	**Sn**	**17 16 36.2**	**0.0**
ORLT	**Orhaneli**	**2.06**	**57**	*e*PN	**Pn**	**17 16 11.6**	**+0.3**
ORLT	**Orhaneli**	**2.06**	**57**	Pn	**Pn**	**17 16 11.7**	**+0.4**
APE	**Apeiranthos**	**2.07**	**206**	PN	**Pn**	**17 16 11.3**	**-0.1**
APE	**Apeiranthos**	**2.07**	**206**	PN	**Pn**	**17 16 10.8**	**-0.6**
APE	**Apeiranthos**	**2.07**	**206**	Pn	**Pn**	**17 16 10.4**	**-1.0**
AOS	**Alonnisos**	**2.17**	**277**	*e*Pn	**Pn**	**17 16 14.6**	**+1.7**
YER	**Yerkesik**	**2.22**	**144**	*e*PN	**Pn**	**17 16 13.7**	**0.0**
YER	**Yerkesik**	**2.22**	**144**	Pn	**Pn**	**17 16 13.7**	**+0.1**
YER	**Yerkesik**	**2.22**	**144**	Pn	**Pn**	**17 16 13.7**	**+0.1**
DENT	**Denizli**	**2.22**	**122**	*e*PN	**Pn**	**17 16 12.9**	**-0.7**
ULDT	**Uludag**	**2.27**	**57**	*i*P	**Pn**	**17 16 12.9**	**-1.4**
ULDT				*i*S	**Sn**	**17 16 44.3**	**+1.5**
KHL	**Karahalli**	**2.33**	**104**	*e*PN	**Pn**	**17 16 15.4**	**+0.2**
KHL	**Karahalli**	**2.33**	**104**	Pn	**Pn**	**17 16 15.4**	**+0.2**
PTL	**Penteli**	**2.36**	**249**	*e*PN	**Pn**	**17 16 17.5**	**+1.9**
RDO	**Rodhopi**	**2.36**	**339**	PG	**Pg**	**17 16 16.0**	**-6.9**
MPAR	**Parnis Oros**	**2.42**	**252**	*e*PG	**Pg**	**17 16 22.5**	**-1.5**
OUR	**Ouranopolis**	**2.48**	**305**	*e*Pn	**Pn**	**17 16 17.2**	**-0.2**
ATH	**Athens Observa**	**2.50**	**248**	PG	**Pg**	**17 16 23.6**	**-2.0**
PAIG	**Paliouri**	**2.50**	**294**	*e*Pn	**Pn**	**17 16 17.7**	**+0.1**
CTT	**Catalca**	**2.59**	**31**	*e*PN	**Pn**	**17 16 17.9**	**-1.0**
CTT	**Catalca**	**2.59**	**31**	Pn	**Pn**	**17 16 18.0**	**-1.0**
CTT	**Catalca**	**2.59**	**31**	Pn	**Pn**	**17 16 18.0**	**-0.9**
THR4	**Thira Island,**	**2.67**	**202**	*e*Pn	**Pn**	**17 16 20.5**	**-1.4**
DALT	**Dalyan (Mudla)**	**2.68**	**143**	*e*PN	**Pn**	**17 16 20.6**	**+0.4**
DALT	**Dalyan (Mudla)**	**2.68**	**143**	Pn	**Pn**	**17 16 20.6**	**+0.5**
NEO	**Neokhori**	**2.69**	**279**	PG	**Pg**	**17 16 27.0**	**-2.4**
BADT	**Buyukada**	**2.69**	**44**	*i*PN	**Pn**	**17 16 20.1**	**-0.3**
BADT	**Buyukada**	**2.69**	**44**	Pn	**Pn**	**17 16 20.2**	**-0.2**
BADT	**Buyukada**	**2.69**	**44**	Pn	**Pn**	**17 16 20.2**	**-0.2**
ALT	**Altintas**	**2.70**	**86**	*e*PN	**Pn**	**17 16 20.3**	**-0.2**
ALT	**Altintas**	**2.70**	**86**	Pn	**Pn**	**17 16 20.4**	**-0.1**
NSAL	**Nisos Salamina**	**2.71**	**249**	*e*PB	**Pb**	**17 16 26.0**	**+1.8**
THR3	**Thira Island,**	**2.71**	**202**	*e*Pn	**Pn**	**17 16 20.0**	**-0.7**
THR1	**Thera Island**	**2.73**	**201**	*e*Pn	**Pn**	**17 16 19.6**	**-1.4**
THR1	**Thera Island**	**2.73**	**201**	*e*Pn	**Pn**	**17 16 19.5**	**-1.4**
NAIG	**Nisos Aigina**	**2.75**	**246**	*e*PG	**Pg**	**17 16 29.5**	**-1.2**
THR6	**Thira Island,**	**2.76**	**201**	*e*Pn	**Pn**	**17 16 20.3**	**-1.1**
ISK	**Istanbul-Kandi**	**2.82**	**40**	*e*PN	**Pn**	**17 16 22.8**	**+0.7**
PLG	**Polygyros**	**2.86**	**301**	PN	**Pn**	**17 16 23.3**	**+0.6**
KDZ	**Kurdzhali**	**2.87**	**341**	*i*P	**Pn**	**17 16 22.0**	**-0.8**
LKR	**Lekhris**	**2.87**	**265**	PN	**Pn**	**17 16 22.0**	**+0.7**
EDRB	**Edirne**	**2.90**	**1**	*e*PN	**Pn**	**17 16 23.2**	**-0.2**
EDRB	**Edirne**	**2.90**	**1**	Pn	**Pn**	**17 16 23.3**	**-0.1**
EDRB	**Edirne**	**2.90**	**1**	Pn	**Pn**	**17 16 23.3**	**-0.1**
ARG	**Arkhangelos**	**2.96**	**156**	PN	**Pn**	**17 16 24.7**	**+0.5**
HRT	**Hereke**	**2.99**	**50**	*e*PN	**Pn**	**17 16 24.6**	**0.0**
HRT	**Hereke**	**2.99**	**50**	Pn	**Pn**	**17 16 24.6**	**+0.1**
RZN	**Rozhen**	**3.12**	**332**	*i*P	**Pn**	**17 16 26.5**	**+0.1**
GPA	**Golpazari**	**3.13**	**63**	*e*PN	**Pn**	**17 16 27.3**	**+0.7**
GPA	**Golpazari**	**3.13**	**63**	Pn	**Pn**	**17 16 27.3**	**+0.7**
EYL	**Eskiyayla**	**3.15**	**58**	*e*PN	**Pn**	**17 16 27.2**	**+0.3**
EYL	**Eskiyayla**	**3.15**	**58**	Pn	**Pn**	**17 16 27.2**	**+0.3**
SOH	**Sokhos**	**3.15**	**308**	*e*Pn	**Pn**	**17 16 26.9**	**0.0**
SRS	**Serrai**	**3.20**	**314**	*e*Pn	**Pn**	**17 16 27.1**	**-0.5**
NVR	**Nevrokopi**	**3.22**	**319**	PN	**Pn**	**17 16 27.6**	**-0.2**
DIM	**Dimitrovgrad**	**3.22**	**345**	*i*P	**Pn**	**17 16 27.0**	**-0.9**
ISP	**Isparta**	**3.23**	**109**	*e*PN	**Pn**	**17 16 28.6**	**+0.7**
ISP	**Isparta**	**3.23**	**109**	Pn	**Pn**	**17 16 28.6**	**+0.7**
THE	**Thessaloniki**	**3.30**	**302**	*e*Pn	**Pn**	**17 16 29.8**	**+0.7**
ESKT	**Eskisehir**	**3.31**	**79**	*e*PN	**Pn**	**17 16 29.2**	**0.0**
ESKT	**Eskisehir**	**3.31**	**79**	Pn	**Pn**	**17 16 29.2**	**0.0**
AGG	**Agios Georgios**	**3.37**	**273**	*e*Pn	**Pn**	**17 16 31.0**	**+1.0**
ELL	**Elmali**	**3.38**	**129**	*e*PN	**Pn**	**17 16 30.2**	**0.0**
ELL	**Elmali**	**3.38**	**129**	Pn	**Pn**	**17 16 30.3**	**+0.1**
ELL	**Elmali**	**3.38**	**129**	Pn	**Pn**	**17 16 30.3**	**+0.1**
KARP	**Karpathos**	**3.41**	**173**	PN	**Pn**	**17 16 29.5**	**-1.1**
LIT	**Litokhoron**	**3.42**	**291**	*e*Pn	**Pn**	**17 16 30.8**	**+0.2**
BCK	**Bucak**	**3.44**	**114**	*e*PN	**Pn**	**17 16 31.2**	**+0.2**
BCK	**Bucak**	**3.44**	**114**	Pn	**Pn**	**17 16 31.2**	**+0.3**
MMB	**Musomiste**	**3.46**	**321**	*i*P	**Pn**	**17 16 30.5**	**-0.8**
PLD	**Plovdiv**	**3.49**	**335**	*e*P	**Pn**	**17 16 30.0**	**-1.7**
KNT	**Kendrikon**	**3.63**	**309**	*e*Pn	**Pn**	**17 16 34.1**	**+0.4**
NPS	**Neapolis**	**3.76**	**193**	PN	**Pn**	**17 16 36.0**	**+0.4**
EVR	**Evrytania**	**3.77**	**271**	*e*PN	**Pn**	**17 16 38.5**	**+2.8**
GRG	**Griva**	**3.83**	**303**	*e*Pn	**Pn**	**17 16 37.1**	**+0.5**
MDU	**Mudurnu**	**3.84**	**65**	*e*PN	**Pn**	**17 16 37.2**	**+0.5**
MDU	**Mudurnu**	**3.84**	**65**	Pn	**Pn**	**17 16 37.2**	**+0.6**
KYTH	**Kithira**	**3.91**	**228**	*e*PN	**Pn**	**17 16 37.0**	**-0.6**
KKB	**Krupnik**	**3.99**	**318**	*i*P	**Pn**	**17 16 38.0**	**-0.8**
VAM	**Vamos**	**4.03**	**210**	PN	**Pn**	**17 16 38.6**	**-0.8**
PGB	**Panagyurishte**	**4.07**	**333**	*i*P	**Pn**	**17 16 38.0**	**-1.9**
KIZT	**Kizilcal**	**4.08**	**89**	*e*PN	**Pn**	**17 16 39.9**	**-0.2**
KIZT	**Kizilcal**	**4.08**	**89**	Pn	**Pn**	**17 16 39.9**	**-0.2**
PRD	**Provadia**	**4.29**	**7**	*i*P	**Pn**	**17 16 41.0**	**-2.1**
SZH	**Strazhica**	**4.36**	**353**	*i*P	**Pn**	**17 16 44.0**	**0.0**
FNA	**Florina**	**4.46**	**296**	*e*Pn	**Pn**	**17 16 46.2**	**+0.8**
VTS	**Vitosha**	**4.49**	**325**	*i*P	**Pn**	**17 16 46.0**	**+0.2**
LKD	**Levkas**	**4.69**	**269**	*e*Pn	**Pn**	**17 16 50.6**	**+1.9**
ANTO	**Ankara**	**4.85**	**77**	*e*PN	**Pn**	**17 16 51.5**	**+0.5**
ANTO	**Ankara**	**4.85**	**77**	Pn	**Pn**	**17 16 51.6**	**+0.6**
PSN	**Preselentsi**	**4.88**	**13**	*i*P	**Pn**	**17 16 50.0**	**-1.4**
KAMT	**Kaman**	**5.51**	**83**	*e*PN	**Pn**	**17 17 00.0**	**-0.3**
IKL	**Isikli**	**6.20**	**114**	*e*PN	**Pn**	**17 17 10.6**	**+0.5**
IKL	**Isikli**	**6.20**	**114**	Pn	**Pn**	**17 17 10.6**	**+0.5**
CFR	**Carcaliu**	**6.33**	**10**	⇑*i*P	**Pn**	**17 17 11.3**	**-0.6**
CFR	**Carcaliu**	**6.33**	**10**	⇑*i*P	**Pn**	**17 17 11.3**	**-0.6**
MLR	**Muntele Rosu**	**6.57**	**356**	⇓*i*P	**Pn**	**17 17 17.4**	**+2.2**
MLR	**Muntele Rosu**	**6.57**	**356**	⇓*i*P	**Pn**	**17 17 17.4**	**+2.2**
VRI	**Vrincioaia**	**6.92**	**0**	⇓*i*P	**Pn**	**17 17 21.3**	**+1.1**
VRI	**Vrincioaia**	**6.92**	**0**	⇓*i*P	**Pn**	**17 17 21.3**	**+1.1**

KISR ***28*** *17:32:27.9±0.7, 30.97N×50.37E, h33km, MD3.5, ML3.5*
THR ***28*** *17:32:28.5±0.6, 30.71N×50.11E, h37km±9km, ML3.5*
CSEM ***28*** *17:32:28.7±0.1, 30.57N×50.53E, h15km, ML3.5/1, Error ellipse: s-maj=5.3km s-min=3.1km az=152.0*
IDC ***28*** *17:32:33.5±5.8, 31.78N×49.90E, mb3.9/7, mb1 3.9/9, mb1mx3.7/22, ML3.0/1, Error ellipse: s-maj=112.0km s-min=27.1km az=172.0*
SNSN ***28*** *17:32:33.1, 30.42N×49.66E*

ISC 28 17:32:27.2±1.5, 30.92N±0.05×50.19E±0.05, h6km±10km, n30, σ1♦69/36, mb3.8/8, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**1.68**	**315**	*e*PG	**Pg**	**17 33 00.7**	**0.0**
SHGR				AMP		17 33 31.2	
	comp=N,768nm,0.3s						
SHGR				AMP		17 33 36.1	
	comp=E,1μm,0.6s						
KBD	**Kabd**	**2.77**	**232**	*e*P	**Pn**	**17 33 14.1**	**+1.1**
KBD				*e*S	**Sn**	**17 33 48.0**	**+0.7**
NASN	**Na'in**	**2.91**	**49**	*e*PN	**Pn**	**17 33 17.2**	**+2.2**
NASN				AMP		17 33 58.2	
	comp=E,52nm,0.6s						
NASN				AMP		17 34 00.5	
	comp=N,56nm,0.4s						
NASN	**Na'in**	**2.91**	**49**	*i*Pn	**Pn**	**17 33 17.2**	**+2.2**
NASN				Sn	**Sn**	**17 33 52.3**	**+1.6**
	comp=N,48nm,0.7s						
QRN	**Al-Qurain**	**2.93**	**223**	*e*P	**Pn**	**17 33 15.8**	**+0.5**
QRN				*e*S	**Sn**	**17 33 52.3**	**+1.0**
RDF	**Al-Radifah**	**3.03**	**230**	*e*P	**Pn**	**17 33 18.2**	**+1.5**
RDF				AML	AML	17 33 57.0	
	comp=Z,146nm,0.3s						
RST	**Umm Al-Ruwaisa**	**3.10**	**244**	*e*P	**Pn**	**17 33 18.8**	**+1.1**
RST				AML	AML	17 33 56.4	
	comp=Z,109nm,0.4s						
RST				*e*S	**Sn**	**17 33 56.7**	**+1.1**
RST	**Umm Al-Ruwaisa**	**3.10**	**244**	*e*P	**Pn**	**17 33 18.8**	**+1.1**
RST				*e*S	**Sn**	**17 33 56.7**	**+1.1**
GHIR	**Ghir-Karzin**	**3.58**	**136**	*e*PN	**Pn**	**17 33 22.1**	**-2.4**
GHIR				AMP		17 34 07.5	
	comp=N,122nm,0.4s						
GHIR				AMP		17 34 22.6	
	comp=E,111nm,0.4s						
GHIR	**Ghir-Karzin**	**3.58**	**136**	*i*Pn	**Pn**	**17 33 22.2**	**-2.3**
SNGE	**Sanandaj**	**4.80**	**331**	*e*PN	**Pn**	**17 33 42.9**	**+1.1**
SNGE	**Sanandaj**	**4.80**	**331**	*e*Pn	**Pn**	**17 33 43.0**	**+1.2**
DAMV	**Damavand**	**4.93**	**17**	*e*PN	**Pn**	**17 33 45.6**	**+2.0**
THKV	**Tehran--Karaj**	**5.02**	**6**	*e*PN	**Pn**	**17 33 46.3**	**+1.4**
THKV	**Tehran--Karaj**	**5.02**	**6**	*e*Pn	**Pn**	**17 33 46.7**	**+1.8**
KRBR	**Kerman**	**5.75**	**98**	*e*PN	**Pn**	**17 33 54.7**	**-0.5**
KRBR	**Kerman**	**5.75**	**98**	*e*Pn	**Pn**	**17 33 54.0**	**-1.2**
RYDS	**Riyadh**	**7.41**	**206**	D		17 35 23.5	
HILS	**Ha'il**	**8.14**	**246**	P	**P**	**17 34 24.9**	**-3.9**
HILS				S	**Sn**	**17 35 51.6**	**-11**
MZLS	**Mizel**	**8.17**	**214**	P	**P**	**17 34 24.2**	**-4.9**
MZLS				S	**Sn**	**17 35 51.5**	**-11**
AFFS	**'Afif**	**9.45**	**224**	P	**P**	**17 34 40.8**	**-6.2**
BRTR	**Keskin Array B**	**16.09**	**308**	Pn	**P**	**17 36 14.2**	**-1.5**
	comp=E,0.1nm,0.3s,baz=141,slow=12,SNR=2.5						
IDI	**Anoyia**	**21.61**	**288**	P	**P**	**17 37 20.3**	**+0.2**
	comp=E,2.5nm,0.4s,mb4.0,baz=83,slow=8.1,SNR=6.

IZM				*i* SN	**Sn**	17 41 32.3	+2.5
IZM	**Izmir**	**1.25**	**95**	Pn	**Pn**	17 41 12.7	+0.1
KDAG	**Bornova**	**1.25**	**94**	⇑*i*P	**Pb**	17 41 12.1	-0.2
KDAG				*i* S	**Sb**	17 41 32.8	+4.3
BOZC	**Bozcaada**	**1.36**	**12**	*i* P	**Pb**	17 41 11.9	-2.2
BOZC				*i* S	**Sb**	17 41 33.1	+1.5
APE	**Apeiranthos**	**1.44**	**185**	PN	**Pn**	17 41 11.8	-3.6
APE				SN	**Sn**	17 41 31.9	-2.7
APE	**Apeiranthos**	**1.44**	**185**	*e*P	**Pn**	17 41 13.0	-2.4
APE				*e*S	**Sb**	17 41 34.5	+0.6
APE	**Apeiranthos**	**1.44**	**185**	*e*P	**Pn**	17 41 13.0	-2.4
APE				*e*Sn	**Sn**	17 41 31.9	-2.7
APE				*e*S	**Sb**	17 41 34.5	+0.6
PTL	**Penteli**	**1.50**	**253**	*e*PB	**Pb**	17 41 16.0	-0.5
AKS	**Akhisar**	**1.71**	**77**	*e*PN	**Pn**	17 41 19.1	-0.1
NSAL	**Nisos Salamina**	**1.84**	**252**	*e*P	**Pn**	17 41 22.5	+1.4
NAIG	**Nisos Aigina**	**1.88**	**247**	*e*P	**Pn**	17 41 23.5	+1.9
AYDN	**Tasoluk**	**1.94**	**115**	*i* P	**Pn**	17 41 26.2	+3.8
AYDN				*i* S	**Sn**	17 41 52.3	+5.1
KGT	**Karabiga**	**2.31**	**33**	PN	**Pn**	17 41 26.8	-1.0
KGT	**Karabiga**	**2.31**	**33**	Pn	**Pn**	17 41 26.8	-1.0
BNT	**Bandirma**	**2.54**	**43**	*e*PN	**Pn**	17 41 29.9	-1.1

*STR **28** 17:57:32.5±0.4, 42.35N×2.12E, h5km±1km, Ml2.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **28** 17:57:32.5, 42.35N×2.12E, h5km, ML2.9(STR), ML2.7(LDG), MN2.4(MDD), After STR.*
*CSEM **28** 17:57:32.8±0.1, 42.33N×2.14E, h8km, ML2.8/14, Error ellipse: s-maj=1.2km s-min=1.0km az=140.0*
*MDD **28** 17:57:33.1±0.2, 42.35N×2.14E, h3km±3km, mbLg2.1/16, Error ellipse: s-maj=2.1km s-min=1.5km az=170.0, PRXIMO AftershockPLICA*
*LDG **28** 17:57:33.1±0.1, 42.34N×2.11E, h4km, Md2.7/1, Ml2.7/15, Error ellipse: s-maj=1.2km s-min=1.0km az=144.0*

ISC 28 17:57:31.3±0.3, 42.40N±0.02×2.18E±0.02, h10km±2km, n67, σ1§27/126, 2C, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBRU	**Bruguera**	**0.11**	**179**	Pg	**Pg**	**17 57 34.1**	**-0.1**
CBRU	**Bruguera**	**0.11**	**179**	Pg	**Pg**	**17 57 34.2**	**0.0**
CBRU				Sg	**Sg**	**17 57 35.4**	**-0.8**
CBRU	**Bruguera**	**0.11**	**179**	Pg	**Pg**	**17 57 34.2**	**0.0**
CBRU				Sg	**Sg**	**17 57 35.4**	**-0.8**
VALF	**Valcebollere**	**0.12**	**271**	Pg	**Pg**	**17 57 35.0**	**+0.7**
VALF				Sg	**Sg**	**17 57 36.7**	**+0.4**
VALF	**Valcebollere**	**0.12**	**271**	P	**Pg**	**17 57 35.0**	**+0.7**
VALF				S	**Sg**	**17 57 36.7**	**+0.4**
CLLI	**Llivia**	**0.17**	**298**	Pg	**Pg**	**17 57 36.4**	**+1.2**
CLLI				Sg	**Sg**	**17 57 39.1**	**+1.4**
CLLI	**Llivia**	**0.17**	**298**	Pg	**Pg**	**17 57 36.4**	**+1.2**
CLLI				Sg	**Sg**	**17 57 39.2**	**+1.5**
CARF	**Carcanieres**	**0.32**	**350**	Pg	**Pg**	**17 57 40.0**	**+2.0**
CARF				Sg	**Sg**	**17 57 45.3**	**+2.9**
CARF	**Carcanieres**	**0.32**	**350**	P	**Pg**	**17 57 40.1**	**+2.1**
CARF				S	**Sg**	**17 57 45.4**	**+3.0**
FILF	**Fillols**	**0.33**	**60**	Pg	**Pg**	**17 57 38.4**	**+0.3**
FILF				Sg	**Sg**	**17 57 42.5**	**-0.1**
FILF	**Fillols**	**0.33**	**60**	P	**Pg**	**17 57 38.5**	**+0.4**
FILF				S	**Sg**	**17 57 42.6**	**+0.1**
ALBA	**Albanya**	**0.41**	**102**	Pg	**Pg**	**17 57 40.8**	**+1.0**
ALBA	**Albanya**	**0.41**	**102**	Pg	**Pg**	**17 57 40.8**	**+1.0**
PAND	**Andorre**	**0.48**	**285**	P	**Pg**	**17 57 42.0**	**+0.9**
PAND				S	**Sg**	**17 57 48.4**	**+0.7**
EJON	**La Jonquera** 4.1nm,0.3s,SNR=18	**0.53**	**84**	⇑Pg	**Pg**	**17 57 43.3**	**+1.3**
EJON				Lg		17 57 51.4	
	13nm,0.2s,SNR=31						
EJON	**La Jonquera** 4.1nm,0.3s,SNR=18	**0.53**	**84**	Pg	**Pg**	**17 57 43.3**	**+1.3**
LRDF	**Laroque-de-Fa**	**0.60**	**26**	Pg	**Pg**	**17 57 45.4**	**+2.0**
LRDF				Sg	**Sg**	**17 57 54.9**	**+3.4**
LRDF	**Laroque-de-Fa**	**0.60**	**26**	P	**Pg**	**17 57 45.5**	**+2.0**
LRDF				S	**Sg**	**17 57 54.5**	**+3.0**
GRBF	**Gourbit**	**0.65**	**313**	P	**Pb**	**17 57 44.7**	**+0.4**
GRBF				S	**Sg**	**17 57 54.7**	**+1.6**
GRBF	**Gourbit**	**0.65**	**313**	Pg	**Pg**	**17 57 45.2**	**+0.8**
CORG	**Organya**	**0.66**	**255**	Pg	**Pg**	**17 57 44.4**	**-0.3**
CORG	**Organya**	**0.66**	**255**	Pg	**Pg**	**17 57 44.3**	**-0.3**
CFON	**Fontmartina**	**0.67**	**163**	Pg	**Pg**	**17 57 44.2**	**-0.5**
CFON				Sg	**Sg**	**17 57 52.9**	**-0.8**
CFON	**Fontmartina**	**0.67**	**163**	Pg	**Pg**	**17 57 44.2**	**-0.5**
CFON				Sg	**Sg**	**17 57 52.9**	**-0.8**
EMIR	**Miracle** 12nm,0.3s,SNR=6.7	**0.69**	**225**	Pg	**Pg**	**17 57 44.6**	**-0.6**
EMIR				Lg		17 57 53.6	
	65nm,0.1s,SNR=18						
EMIR	**Miracle** 12nm,0.3s,SNR=6.7	**0.69**	**225**	Pg	**Pg**	**17 57 44.6**	**-0.5**
SALF	**Salau**	**0.81**	**297**	Pg	**Pg**	**17 57 48.1**	**+0.4**
SALF				Sg	**Sg**	**17 57 58.4**	**-0.2**
SALF	**Salau**	**0.81**	**297**	P	**Pb**	**17 57 47.8**	**+0.7**
SALF				S	**Sb**	**17 57 58.4**	**+0.5**
MTLF	**Montolieu**	**0.94**	**2**	*e*Pg	**Pg**	**17 57 51.4**	**+1.2**
MTLF				*e*Sg	**Sg**	**17 58 04.8**	**+2.0**
	29nm,0.2s						
MELF	**Melles**	**1.15**	**295**	Pg	**Pg**	**17 57 54.4**	**+0.1**
MELF				Sg	**Sg**	**17 58 09.3**	**-0.4**
MELF	**Melles**	**1.15**	**295**	P	**Pb**	**17 57 54.4**	**+1.6**
MELF				S	**Sb**	**17 58 09.3**	**+1.7**
CAVN	**Les Avellanes**	**1.18**	**245**	Pg	**Pg**	**17 57 53.8**	**-1.1**
CAVN				Sg	**Sg**	**17 58 09.1**	**-1.6**
CAVN	**Les Avellanes**	**1.18**	**245**	Pg	**Pg**	**17 57 53.8**	**-1.1**
CAVN				Sg	**Sg**	**17 58 09.1**	**-1.6**
EPOB	**Poblet** 6.8nm,0.3s,SNR=18	**1.33**	**218**	⇑Pg	**Pg**	**17 57 56.1**	**-1.8**
EPOB				Lg		17 58 12.9	
	25nm,0.1s,SNR=7.9						
EPOB	**Poblet** 6.8nm,0.3s,SNR=18	**1.33**	**218**	Pg	**Pg**	**17 57 56.2**	**-1.7**
CGAR	**Garraf**	**1.35**	**216**	Pg	**Pg**	**17 57 52.8**	**-5.6**
CGAR				Sg	**Sg**	**17 58 07.1**	**-9.3**
EPF	**Esparros**	**1.49**	**296**	*e*Pn	**Pn**	**17 57 59.3**	**+0.9**
EPF				*e*Pg	**Pg**	**17 58 01.1**	**-0.1**
EPF				*e*Sn	**Sn**	**17 58 17.5**	**-0.6**
EPF				*e*Sg	**Sg**	**17 58 20.0**	**-1.2**
	15nm,0.2s						
EBIE	**Bielsa** 0.6nm,0.1s,SNR=7.9	**1.53**	**281**	Pn	**Pn**	**17 58 00.7**	**+1.8**
EBIE				Pg	**Pg**	**17 58 02.1**	**+0.2**
	1.3nm,0.1s,SNR=7.9						
EBIE				Lg		17 58 22.0	
	53nm,0.3s,SNR=7.9						
EBIE	**Bielsa** 0.6nm,0.1s,SNR=7.9	**1.53**	**281**	Pn	**Pn**	**17 58 00.7**	**+1.8**
EBIE	**Bielsa** 1.3nm,0.1s,SNR=7.9	**1.53**	**281**	Pg	**Pg**	**17 58 02.1**	**+0.2**
EBR	**Ebro Roquetas**	**2.02**	**219**	*e*S*	**Sb**	**17 58 35.0**	**+2.1**
LASF	**Ste Croix**	**2.08**	**36**	*e*Pn	**Pn**	**17 58 08.2**	**+1.5**
LASF				*e*Pg	**Pg**	**17 58 12.5**	**-0.3**
LASF				*e*Sn	**Sn**	**17 58 33.2**	**+0.3**
LASF				*e*Sg	**Sg**	**17 58 40.9**	**+0.4**
	9.1nm,0.4s						
ETSF	**Etsaut**	**2.08**	**285**	*e*Pg	**Pg**	**17 58 10.4**	**-2.5**
ETSF				*e*Sn	**Sn**	**17 58 31.2**	**-1.7**
ETSF				*e*Sg	**Sg**	**17 58 38.2**	**-2.4**
	34nm,0.4s						
ETSF	**Etsaut**	**2.08**	**285**	Pg	**Pg**	**17 58 10.4**	**-2.5**
ETSF				Lg		17 58 38.2	
	17nm,0.4s						
ESAC	**San Caprasio** 1.5nm,0.1s,SNR=7.9	**2.08**	**252**	Pn	**Pn**	**17 58 08.3**	**+1.4**
ESAC				Pg	**Pg**	**17 58 11.4**	**-1.5**
	5.6nm,0.1s,SNR=7.9						
ESAC				Sn	**Sn**	**17 58 32.8**	**-0.2**
	SNR=4.0						
ESAC				Lg		17 58 37.3	
	57nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**2.08**	**252**	Pn	**Pn**	**17 58 08.3**	**+1.4**
ESAC				Pg	**Pg**	**17 58 11.4**	**-1.5**
ESAC				Sn	**Sn**	**17 58 32.8**	**-0.2**
ESAC				Lg		17 58 37.2	
ESAC	**San Caprasio** 1.5nm,0.1s,SNR=7.9	**2.08**	**252**	Pn	**Pn**	**17 58 08.3**	**+1.5**
ESAC	**San Caprasio** 5.6nm,0.1s,SNR=7.9	**2.08**	**252**	Pg	**Pg**	**17 58 11.4**	**-1.6**
ESAC				Sn	**Sn**	**17 58 32.8**	**-0.2**
	SNR=4.0						
CAF	**Calviac**	**2.53**	**358**	*e*Pn	**Pn**	**17 58 14.1**	**+1.0**
CAF				*e*Pg	**Pg**	**17 58 21.1**	**-0.7**
CAF				*e*Sn	**Sn**	**17 58 43.7**	**-0.6**
CAF				*e*Sg	**Sg**	**17 58 54.0**	**-1.5**
	8.5nm,0.2s						
SJPF	**Ste Jean**	**2.61**	**287**	*e*Pg	**Pg**	**17 58 20.5**	**-2.9**
LFF	**La Frestale**	**2.75**	**338**	*e*Pn	**Pn**	**17 58 16.6**	**+0.3**
LFF				*e*Pg	**Pg**	**17 58 24.9**	**-1.3**
LFF				*e*Sg	**Sg**	**17 59 00.0**	**-2.8**
	18nm,0.3s						
EALK	**Alkurruntz** 4.9nm,0.3s,SNR=7.9	**2.83**	**288**	Lg		17 59 03.3	
EMOS	**Mosqueruela** SNR=4.0	**2.85**	**225**	Pn	**Pn**	**17 58 18.8**	**+1.1**
EMOS				Pg	**Pg**	**17 58 23.7**	**-4.5**
	4.0nm,0.4s,SNR=7.9						
EMOS				Sn	**Sn**	**17 58 52.1**	**-0.4**
	SNR=4.0						
EMOS				Lg		17 59 01.6	
	2.5nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela** SNR=4.0	**2.85**	**225**	Pn	**Pn**	**17 58 18.8**	**+1.1**
EMOS	**Mosqueruela** 4.0nm,0.4s,SNR=7.9	**2.85**	**225**	Pg	**Pg**	**17 58 23.7**	**-4.5**
EMOS				Sn	**Sn**	**17 58 52.1**	**-0.3**
	SNR=4.0						
SMRF	**Simiane la Rot** 0.3nm,0.2s	**2.94**	**56**	*e*Pn	**Pn**	**17 58 21.1**	**+2.0**
SMRF				*e*Sn	**Sn**	**17 58 54.5**	**-0.3**
	0.3nm,0.2s						
SMRF	**Simiane la Rot** 0.2nm,0.2s	**2.94**	**56**	*e*Sn	**Sn**	**17 58 54.5**	**-0.3**
RJF	**Les Rejaudoux**	**2.94**	**351**	*e*Sn	**Sn**	**17 58 53.7**	**-1.1**
RJF				*e*Sg	**Sg**	**17 59 06.9**	**-2.5**
	6.6nm,0.2s						
VIVF	**Saint-Julien-l**	**3.05**	**36**	*e*Pn	**Pn**	**17 58 21.1**	**+0.5**
VIVF				*e*Pg	**Pg**	**17 58 31.1**	**-1.2**
VIVF				*e*Sn	**Sn**	**17 58 56.7**	**-0.9**
VIVF				*e*Sg	**Sg**	**17 59 11.2**	**-1.7**
	6.2nm,0.4s						
LMR	**La Mourre** 2.4nm,0.2s	**3.32**	**72**	*e*Pn	**Pn**	**17 58 25.6**	**+1.2**
LMR				*e*Sn	**Sn**	**17 59 03.4**	**-0.9**
	2.4nm,0.2s						
FRF	**La Foret Royal** 16nm,0.9s	**3.48**	**69**	*e*Pn	**Pn**	**17 58 27.5**	**+0.8**
FRF				*e*Sn	**Sn**	**17 59 07.3**	**-1.1**
	16nm,0.9s						
ETOR	**Torete** SNR=7.9	**3.54**	**245**	Pn	**Pn**	**17 58 29.1**	**+1.5**
ETOR				Pg	**Pg**	**17 58 38.1**	**-4.0**
	SNR=4.0						
ETOR				Sn	**Sn**	**17 59 09.4**	**-0.7**
	SNR=4.0						
ETOR				Lg		17 59 25.5	
	1.7nm,0.2s,SNR=7.9						
ORIF	**Oris-en-Rattie**	**3.68**	**46**	*e*Pn	**Pn**	**17 58 30.4**	**+0.8**
ORIF				*e*Pg	**Pg**	**17 58 42.5**	**-2.3**
ORIF				*e*Sn	**Sn**	**17 59 12.2**	**-1.3**
TCF	**Toulx Ste Croi**	**3.89**	**0**	*e*Pg	**Pg**	**17 58 46.4**	**-2.6**
TCF				*e*Sg	**Sg**	**17 59 37.0**	**-3.8**
	4.5nm,0.3s						
BGF	**Bois d'Agland** 15nm,0.3s	**4.18**	**6**	*e*Pg	**Pg**	**17 58 52.0**	**-2.9**
BGF				*e*Sg	**Sg**	**17 59 46.2**	**-4.5**
	15nm,0.3s						
SMF	**Signal de Mont** 3.5nm,0.5s	**4.41**	**15**	*e*Pn	**Pn**	**17 58 39.9**	**0.0**
SMF				*e*Sg	**Sg**	**17 59 53.4**	**-4.7**
	3.5nm,0.5s						
PGF	**Pioggiola**	**5.05**	**86**	*e*Pn	**Pn**	**17 58 48.4**	**-0.6**

*STR **28** 18:34:06.7±0.4, 42.34N×2.13E, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **28** 18:34:07.5±0.3, 42.34N×2.14E, mbLg1.4/10, Error ellipse: s-maj=2.6km s-min=2.2km az=156.0, PRXIMO AftershockPLICA*
*LDG **28** 18:34:07.0±0.1, 42.34N×2.14E, h4km, Md2.4/1, Ml2.0/8, Error ellipse: s-maj=1.2km s-min=1.0km az=115.0*

ISC 28 18:34:05.8±0.5, 42.40N±0.03×2.16E±0.03, h10km±6km, n23, σ1§38/36, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VALF	**Valcebollere**	**0.10**	**270**	Pg	**Pg**	**18 34 09.4**	**+0.8**
VALF				Sg	**Sg**	**18 34 11.1**	**+0.7**
VALF	**Valcebollere**	**0.10**	**270**	P	**Pg**	**18 34 09.4**	**+0.9**
VALF				S	**Sg**	**18 34 11.2**	**+0.7**
CBRU	**Bruguera**	**0.12**	**172**	Pg	**Pg**	**18 34 08.6**	**-0.2**
CLLI	**Llivia**	**0.16**	**300**	Pg	**Pg**	**18 34 10.8**	**+1.4**
CARF	**Carcanieres**	**0.32**	**353**	Pg	**Pg**	**18 34 14.5**	**+2.1**
CARF				Sg	**Sg**	**18 34 19.5**	**+2.7**
CARF	**Carcanieres**	**0.32**	**353**	P	**Pg**	**18 34 14.5**	**+2.1**
CARF				S	**Sg**	**18 34 19.7**	**+2.9**
FILF	**Fillols**	**0.34**	**62**	Pg	**Pg**	**18 34 12.9**	**+0.1**
FILF				Sg	**Sg**	**18 34 17.1**	**-0.3**
FILF	**Fillols**	**0.34**	**62**	P	**Pg**	**18 34 12.9**	**+0.1**
FILF				S	**Sg**	**18 34 17.1**	**-0.3**
EJON	**La Jonquera** 0.9nm,0.1s,SNR=7.9	**0.54**	**85**	Pg	**Pg**	**18 34 17.8**	**+1.0**
EJON				Lg		18 34 25.7	
	2.3nm,0.1s,SNR=7.9						
CORG	**Organya**	**0.65**	**255**	Pg	**Pg**	**18 34 18.8**	**0.0**
CFON	**Fontmartina**	**0.67**	**162**	Pg	**Pg**	**18 34 18.7**	**-0.6**
EMIR	**Miracle** 1.3nm,0.1s,SNR=9.1	**0.68**	**224**	Pg	**Pg**	**18 34 19.0**	**-0.5**
EMIR				Lg		18 34 27.9	
	10nm,0.1s,SNR=7.9						
MTLF	**Montolieu**	**0.94**	**3**	*e*Pg	**Pg**	**18 34 26.1**	**+1.4**
MTLF				*e*Sg	**Sg**	**18 34 39.1**	**+1.8**
	2.7nm,0.2s						
EPOB	**Poblet** 0.9nm,0.1s,SNR=11	**1.32**	**218**	Pg	**Pg**	**18 34 30.8**	**-1.4**
EPOB				Lg		18 34 47.2	
	1.7nm,0.2s,SNR=7.9						
EPF	**Esparros**	**1.48**	**296**	*e*Pn	**Pn**	**18 34 33.7**	**+1.1**
EPF				*e*Pg	**Pg**	**18 34 35.4**	**0.0**
EPF				*e*Sg	**Sg**	**18 34 54.4**	**-0.8**
	1.8nm,0.2s						
EBIE	**Bielsa** 0.3nm,0.1s,SNR=5.9	**1.52**	**282**	Pn	**Pn**	**18 34 35.7**	**+2.5**
EBIE				Pg	**Pg**	**18 34 36.7**	**+0.6**
	1.7nm,0.2s,SNR=7.9						
EBIE				Lg		18 34 57.2	
	0.8nm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**2.07**	**285**	*e*Pg	**Pg**	**18 34 44.7**	**-2.4**
ETSF				*e*Sg	**Sg**	**18 35 12.6**	**-2.1**
	2.4nm,0.3s						
ESAC	**San Caprasio** 3.1nm,0.1s,SNR=7.9	**2.07**	**252**	Lg		18 35 12.0	
LASF	**Ste Croix**	**2.08**	**36**	*e*Pn	**Pn**	**18 34 42.5**	**+1.2**
LASF				*e*Pg	**Pg**	**18 34 46.8**	**-0.6**
LASF				*e*Sg	**Sg**	**18 35 15.0**	**-0.3**
	1.0nm,0.3s						
CAF	**Calviac** 1.6nm,0.2s	**2.52**	**358**	*e*Sg	**Sg**	**18 35 28.6**	**-1.3**
LFF	**La Frestale** 3.3nm,0.4s	**2.74**	**338**	*e*Sg	**Sg**	**18 35 33.8**	**-3.2**
RJF	**Les Rejaudoux** 1.3nm,0.3s	**2.94**	**351**	*e*Sg	**Sg**	**18 35 41.1**	**-2.6**
VIVF	**Saint-Julien-l** 2.5nm,0.3s	**3.06**	**36**	*e*Pg	**Pg**	**18 35 05.1**	**-1.8**
VIVF				*e*Sg	**Sg**	**18 35 45.4**	**-2.3**

*NNC **28** 18:40:56.2±7.0, 53.73N×76.61E, mpv3.0, Error ellipse: s-maj=92.2km s-min=22.9km az=23.0*
*NEIC **28** 18:40:56.2, 53.73N×76.61E, MG3.0(NNC), After NNC.*
*IDC **28** 18:41:02.2±1.8, 53.78N×76.46E, h19km±13km, mb3.4/1, mb1 3.4/4, mb1mx3.2/22, ML3.0/2, Error ellipse: s-maj=44.9km s-min=8.2km az=172.0*

ISC 28 18:40:58.6±0.8, 53.47N±0.07×76.45E±0.06, h10km, n10, σ1§97/22, mb3.6/1, 4C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov** 1.0nm,0.2s	**3.06**	**153**	⇓Pn	**Pn**	**18 41 49.3**	**+1.2**
KURK				⇓Pg	**Pg**	**18 41 57.5**	**-2.3**
	16nm,0.5s						
KURK				⇑Lg		18 42 43.0	
	29nm,0.6s						
KURK	**Kurchatov**	**3.06**	**153**	*e*Pn	**Pn**	**18 41 49.2**	**+1.1**
KURK				*e*Pb	**Pb**	**18 41 57.1**	**+4.2**
KURK				*e*Pg	**Pg**	**18 42 02.3**	**+2.4**
KURK				*e*Sn	**Sn**	**18 42 26.8**	**+1.6**
KURK				*e*Sg	**Sg**	**18 42 38.7**	**-2.0**
BVA0	**Borovoye Array** 0.4nm,0.5s,baz=201,slow=7.6,SNR=39	**3.67**	**265**	⇑Pn	**Pn**	**18 41 59.5**	**+2.8**
BVA0				Sn	**Sn**	**18 42 40.0**	**-0.5**
BVA0				⇑Lg		18 42 55.4	
	5.3nm,0.5s						
BVAR	**Borovoye Array** 2.8nm,0.3s,baz=76,slow=15,SNR=76	**3.67**	**265**	Pn	**Pn**	**18 41 59.5**	**+2.8**
BVAR				Pg	**Pg**	**18 42 06.7**	**-5.2**
	3.0nm,0.3s,baz=71,slow=16,SNR=20						
BVAR				Sn	**Sn**	**18 42 39.4**	**-1.2**
	4.3nm,0.3s,baz=66,slow=27,SNR=8.4						
BVAR				Lg		18 42 54.9	
	10nm,0.3s,baz=80,slow=29,SNR=11						
BRVK	**Borovoye**	**3.73**	**266**	*e*Pn	**Pn**	**18 42 00.2**	**+2.6**
BRVK				*e*Pb	**Pb**	**18 42 07.8**	**+3.5**
BRVK				*e*Sn	**Sn**	**18 42 39.8**	**-2.2**
BRVK				*e*Sb	**Sb**	**18 42 51.9**	**+2.1**
BRVK				*e*Sg	**Sg**	**18 42 59.0**	**-3.8**
ZAL	**Zalesovo** 0.9nm,0.3s,baz=78,slow=5.3,SNR=6.1	**4.98**	**81**	Pn	**Pn**	**18 42 17.1**	**+1.8**
ZAL				Sn	**Sn**	**18 43 09.1**	**-4.7**
	2.4nm,0.3s,baz=290,slow=14,SNR=4.6						
ZAL				Lg		18 43 41.3	
	5.6nm,0.3s,baz=0.5,slow=20,SNR=9.4						
MK31	**Makanchi Array** 0.2nm,0.5s,baz=331,slow=13,SNR=51	**7.66**	**148**	⇑Pn	**Pn**	**18 42 51.1**	**-1.9**
MK31				⇓Lg		18 45 02.7	
	1.8nm,0.5s,baz=336,slow=29,SNR=4.1						
AAK	**Ala-Archa** 10nm,0.9s	**10.92**	**188**	Lg		18 46 53.7	
SONM	**Songino Array** 0.0nm,0.3s,baz=302,slow=13,SNR=2.5	**19.71**	**94**	P	**P**	**18 45 29.7**	**-1.2**
ILAR	**Eielson Array** 0.3nm,0.5s,mb3.6,baz=316,slow=4.6,SNR=6.9	**57.46**	**20**	P	**P**	**18 50 47.0**	**-2.5**

*BJI **28** 18:49:48.7, 5.38S×35.71E, h14km, mB4.6, mb4.6, Ms4.0, Msz3.8*
*IDC **28** 18:49:49.6±0.9, 5.31S×35.99E, mb3.9/8, mb1 4.0/10, mb1mx3.9/20, Error ellipse: s-maj=39.3km s-min=16.9km az=97.0*
*NEIC **28** 18:49:50.9±0.6, 5.32S×35.77E, h10km, mb4.4/6, Error ellipse: s-maj=18.1km s-min=11.7km az=87.0*
*SYO **28** 18:49:50.8, 5.32S×35.70E, h10km, MB4.4*

ISC 28 18:49:49.0±0.5, 5.31S±0.06×35.7E±0.1, h10km, n28, σ0§87/26, mb4.2/17, MS3.7/1, 1C-1D, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo** 24nm,0.3s,baz=195,slow=15,SNR=295	**4.43**	**20**	Pn	**Pn**	**18 50 57.8**	**-0.1**
KMBO				Sn	**Sn**	**18 51 50.0**	**-0.2**
	23nm,0.3s,baz=239,slow=19,SNR=3.5						
KMBO				Lg		18 52 06.3	
	57nm,0.3s,baz=65,slow=23,SNR=6.3						
KMBO	**Kilima Mbogo**	**4.43**	**20**	*e*Pn	**Pn**	**18 50 57.7**	**-0.2**
MBAR	**Mbarara**	**6.82**	**313**	*e*Pn	**Pn**	**18 51 30.5**	**-1.1**
LSZ	**Lusaka** 8.1nm,0.8s	**12.36**	**216**	*e*Pn	**P**	**18 52 40.8**	**-7.3**
MALT	**Malatya** 7.4nm,1s,mb4.3	**43.47**	**3**	*e*P	**P**	**18 57 55.7**	**+1.5**
BRTR	**Keskin Array B** 0.7nm,0.8s,mb3.6,baz=180,slow=8.6,SNR=4.3	**44.85**	**358**	P	**P**	**18 58 06.3**	**+1.0**
KIV	**Kislovodsk** 9.5nm,1.0s,mb4.8	**49.44**	**7**	P	**P**	**18 58 42.8**	**+1.5**
AKASG	**Malin Array Be** 2.6nm,0.8s,mb4.3,baz=181,slow=6.2,SNR=14	**56.06**	**355**	P	**P**	**18 59 30.4**	**-0.1**
MORC	**Moravsky Berou** 5.2nm,1.1s,mb4.5	**57.08**	**346**	*e*P	**P**	**18 59 37.7**	**-0.2**
GERES	**GERESS Array B** 0.9nm,0.6s,mb4.0,baz=158,slow=7.2,SNR=11	**57.26**	**343**	P	**P**	**18 59 39.1**	**0.0**
SYO	**Syowa Base**	**63.66**	**178**	⇑P	**P**	**19 00 22.0**	**-0.4**
SYO	**Syowa Base**	**63.66**	**178**	⇓pP	pP	19 00 25.8	+0.3
MAW	**Mawson** 1.1nm,0.7s,mb4.0,baz=358,slow=8.4,SNR=3.8	**64.89**	**169**	P	**P**	**19 00 29.8**	**-0.6**
BVAR	**Borovoye Array** 0.5nm,0.5s,mb3.8,baz=225,slow=4.2,SNR=5.6	**65.08**	**22**	P	**P**	**19 00 31.1**	**-0.8**
CMAR	**Chiang Mai Arr** 0.9nm,0.8s,mb3.9,baz=261,slow=7.4,SNR=7.6	**66.63**	**67**	P	**P**	**19 00 40.6**	**-1.8**
KURK	**Kurchatov** 1.9nm,0.9s,mb4.1	**66.88**	**28**	*e*P	**P**	**19 00 42.0**	**-1.5**
WMQ	**Urumqi**	**67.64**	**38**	*e*P	**P**	**19 00 49.5**	**+1.1**
SNAA	**Sanae** 0.4nm,0.9s,mb3.4,baz=34,slow=3.2,SNR=3.7	**70.51**	**192**	P	**P**	**19 01 06.3**	**+0.7**
SNAA	**Sanae** 2.8nm,1.2s,mb4.1	**70.51**	**192**	P	**P**	**19 01 05.4**	**-0.2**
ZAL	**Zalesovo** 0.5nm,0.3s,mb3.9,baz=92,slow=7.5,SNR=3.3	**71.85**	**28**	P	**P**	**19 01 13.2**	**-0.8**
LZH	**Lanzhou**	**75.73**	**51**	*e*P	**P**	**19 01 37.0**	**+0.1**
LZH				AP	pP	19 01 40.3	+0.2
LZH				XP	sP	19 01 42.0	+0.8
LZH				AMB	AMB		
	comp=Z,11nm,1.4s,mb4.6						
LZH				AMB	AMB		
	comp=Z,44nm,4.8s						
SONM	**Songino Array** comp=Z,1.1nm,0.8s,mb3.8,baz=256,slow=4.4,SNR=8.8	**81.14**	**40**	P	**P**	**19 02 07.3**	**+1.1**
QSPA	**South Pole Qui** comp=Z,5.8nm,1.1s,mb4.6	**84.75**	**180**	P	**P**	**19 02 25.1**	**+1.0**
NJ2	**Nanjing**	**87.00**	**58**	*e*P	**P**	**19 02 36.5**	**+0.2**
NJ2				AMB	AMB		

WRA	**Warramunga Arr**	**49.58**	**257**	P		**P**	**19 07 47.5**	**+0.4**
	1.1nm,0.6s,mb4.1,baz=92,slow=6.7,SNR=21							
ASAR	**Alice Springs**	**49.88**	**252**	P		**P**	**19 07 49.5**	**+0.2**
	3.2nm,0.4s,mb4.7,baz=90,slow=7.8,SNR=67							
ASAR				LR		LR	19 27 26.0	
	comp=Z,71nm,19.0s,MS3.7,baz=324,slow=34							
SBA	**Scott Base**	**63.53**	**185**	P		**P**	**19 09 25.3**	**-0.5**
	11nm,1.0s,mb4.8							
VNDA	**Vanda**	**63.64**	**186**	P		**P**	**19 09 25.9**	**-0.6**
	2.0nm,0.9s,mb4.1,baz=1.3,slow=6.1,SNR=9.1							
VNDA				LR		LR	19 32 19.6	
	comp=Z,52nm,19.8s,MS3.7,baz=205,slow=32							
VNDA	**Vanda**	**63.64**	**186**	P		**P**	**19 09 25.9**	**-0.6**
TPH	**Tonopah**	**74.84**	**43**	*e*P		**P**	**19 10 34.9**	**-1.2**
	3.3nm,0.9s,mb4.3							
TPNV	**Topopah Spring**	**74.88**	**44**	P		**P**	**19 10 37.9**	**+1.5**
	7.1nm,1.5s,mb4.4							
QSPA	**South Pole Qui**	**74.95**	**180**	⇑*i*P		**P**	**19 10 35.7**	**-0.2**
	13nm,0.9s,mb4.9							
MSU	**Marysvale**	**78.45**	**45**	P		**P**	**19 10 56.7**	**+0.4**
HLID	**Hailey**	**79.61**	**39**	*e*P		**P**	**19 11 01.7**	**-0.8**
	2.6nm,0.9s,mb4.2							
MA2	**Magadan**	**79.77**	**343**	P		**P**	**19 11 06.2**	**+3.1**
	262nm,1.8s,mb5.9							
HWUT	**Hardware Ranch**	**80.40**	**42**	*e*P		**P**	**19 11 14.5**	**+7.7**
	2.5nm,1.0s,mb4.1							
NEW	**Newport**	**80.65**	**34**	LR		LR	19 39 34.1	
	comp=Z,54nm,19.1s,MS3.9,baz=233,slow=30							
LTX	**Lajitas**	**80.72**	**56**	P		**P**	**19 11 09.4**	**+0.6**
TXAR	**Lajitas Array**	**80.72**	**56**	P		**P**	**19 11 09.1**	**+0.3**
	0.4nm,0.3s,mb3.8,baz=225,slow=5.3,SNR=4.9							
TXAR	**Lajitas Array**	**80.72**	**56**	P		**P**	**19 11 09.1**	**+0.3**
MCK	**McKinley**	**80.89**	**11**	*e*P		**P**	**19 11 08.5**	**-0.4**
	4.1nm,1.1s,mb4.3							
CHMT	**Chamberlain Mo**	**82.09**	**37**	P		**P**	**19 11 11.8**	**-3.7**
QLMT	**Earthquake Lak**	**82.10**	**40**	*e*P		**P**	**19 11 16.4**	**+0.8**
COLA	**College**	**82.13**	**11**	P		**P**	**19 11 14.9**	**-0.4**
	7.0nm,0.9s,mb4.6							
ILAR	**Eielson Array**	**82.21**	**11**	P		**P**	**19 11 15.2**	**-0.5**
	0.6nm,0.5s,mb3.8,baz=249,slow=5.3,SNR=7.2							
PDAR	**Pinedale Array**	**82.27**	**42**	P		**P**	**19 11 15.6**	**-0.9**
	0.7nm,0.6s,mb3.8,baz=207,slow=3.3,SNR=6.3							
PDAR				LR		LR	19 43 07.6	
	comp=Z,82nm,18.2s,MS4.1,baz=337,slow=32							
SDCO	**Great Sand Dun**	**82.76**	**48**	*e*P		**P**	**19 11 12.9**	**-6.3**
	12nm,1.2s,mb4.8							
MAW	**Mawson**	**87.97**	**199**	*e*P		**P**	**19 11 44.0**	**-0.4**
	3.6nm,0.9s,mb4.6							
MAW	**Mawson**	**87.97**	**199**	P		**P**	**19 11 44.6**	**+0.2**
	4.6nm,0.8s,mb4.8,baz=124,slow=5.8,SNR=10							
MAW				LR		LR	19 47 22.9	
	comp=Z,67nm,18.6s,MS4.1,baz=243,slow=33							
CMAR	**Chiang Mai Arr**	**92.20**	**288**	LR		LR	19 54 02.9	
	comp=Z,20nm,18.2s,MS3.6,baz=262,slow=36							
VNA3	**Neumayer Olymp**	**93.19**	**175**	⇑*i*P		**P**	**19 12 10.6**	**+1.9**
VNA3	**Neumayer Olymp**	**93.19**	**175**	⇑*i*		**P**	**19 12 10.6**	**+1.9**
SNAA	**Sanae**	**93.23**	**177**	⇑*i*P		**P**	**19 12 08.2**	**-0.6**
SNAA	**Sanae**	**93.23**	**177**	⇑*i*		**P**	**19 12 08.2**	**-0.6**
SNAA	**Sanae**	**93.23**	**177**	P		**P**	**19 12 08.3**	**-0.5**
	0.7nm,0.9s,mb4.1,baz=192,slow=4.7,SNR=4.4							
VNA2	**Neumayer--Watz**	**93.68**	**176**	⇑*i*P		**P**	**19 12 12.7**	**+1.8**
VNA2	**Neumayer--Watz**	**93.68**	**176**	⇑*i*		**P**	**19 12 12.7**	**+1.8**
VNA1	**Neumayer--Stat**	**93.88**	**175**	⇑*i*P		**P**	**19 12 10.5**	**-1.4**
VNA1	**Neumayer--Stat**	**93.88**	**175**	⇑*i*		**P**	**19 12 10.5**	**-1.4**
ULM	**Lac du Bonnet**	**93.91**	**39**	LR		LR	19 48 03.3	
	comp=Z,84nm,18.7s,MS4.2,baz=35,slow=31							
ARCES	**ARCESS Array B**	**124.26**	**352**	PKP		PKPdf	19 17 53.5	-1.8
	4.1nm,0.9s,slow=1.2,SNR=6.6							
GRA1	**Grafenberg Arr**	**145.26**	**354**	*e*PKP		PKPdf	19 18 33.3	-1.1
KMBO	**Kilima Mbogo**	**145.36**	**245**	PKPbc		PKPbc	19 18 35.3	+2.2
	2.1nm,0.9s,baz=224,slow=23,SNR=5.2							
KMBO	**Kilima Mbogo**	**145.36**	**245**	*e*PKPdf		PKPdf	19 18 33.7	-2.0
BRTR	**Keskin Array B**	**145.71**	**321**	PKPbc		PKPbc	19 18 36.1	+2.9
	1.1nm,0.6s,baz=108,slow=3.9,SNR=6.6							
GERES	**GERESS Array B**	**145.79**	**351**	PKPbc		PKPbc	19 18 35.1	+2.0
	4.0nm,1.2s,baz=333,slow=3.0,SNR=9.9							

*HEL **28** 19:02:55.5±0.2,60.13N×25.21E,ML1.9,ML2.0(UPP), ML2.3(NAO),Explosion*
*NAO **28** 19:02:56.4±3.8,60.29N×25.01E,ML2.3*
*BER **28** 19:02:56.1±5.8,60.17N×25.26E,ML2.3(NAO)*

ISC 28 19:02:54.5±0.7,**60.20N**±0.05×**25.18E**±0.08,**n19**,σ1§**14**/28, **Finland**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MEF	**Metsahovi**	**0.39**	**273**	*e*P		**Pg**	**19 03 02.9**	**+0.6**
PVF	**Pernaja**	**0.48**	**44**	*e*P		**Pg**	**19 03 04.7**	**+0.6**
PVF				*e*S		**Sg**	**19 03 10.9**	**+0.3**
VJF	**Virojoki**	**1.23**	**73**	*e*P		**Pb**	**19 03 17.4**	**-0.8**
VJF				*e*S		**Sb**	**19 03 33.9**	**-0.6**
FIA0	**FINESS Array S**	**1.32**	**19**	*e*P		**Pb**	**19 03 20.1**	**+0.2**
FIA0				*e*SN		**Sn**	**19 03 42.5**	**+3.7**
FIA0	**FINESS Array S**	**1.32**	**19**	Pn		**Pn**	**19 03 20.2**	**0.0**
	baz=187,slow=18							
FIA0				Lg			19 03 37.5	
	baz=186,slow=37							
KEF	**Keuruu**	**1.98**	**356**	*e*P		**Pn**	**19 03 32.1**	**+2.5**
KEF				*e*SG		**Sg**	**19 03 58.5**	**-2.0**
KAF	**Kangasniemi**	**2.00**	**15**	*e*P		**Pn**	**19 03 31.6**	**+1.8**
KAF				MSG			19 04 01.3	
	comp=Z,5.9nm,0.1s							
SUF	**Sumiainen**	**2.57**	**10**	*e*SB		**Sb**	**19 04 14.6**	**+1.1**
SUF				MSG			19 04 15.9	
	comp=Z,5.2nm,0.1s							
AAL	**Aland**	**2.59**	**272**	*e*P		**Pn**	**19 03 39.0**	**+0.7**
GRAU	**Graesoe**	**3.31**	**275**	*e*P		**Pn**	**19 03 48.5**	**-0.1**
NRTU	**Norrtaelje**	**3.34**	**264**	*e*P		**Pn**	**19 03 49.5**	**+0.5**
FLYU	**Flymyra**	**3.65**	**272**	*e*P		**Pn**	**19 03 53.0**	**-0.3**
OSTU	**Oestervaala**	**4.02**	**274**	*e*P		**Pn**	**19 03 58.5**	**-0.1**
HFS	**Hagfors**	**5.74**	**274**	Pn		**Pn**	**19 04 21.7**	**-1.3**
	baz=53,slow=12							
HFS				Sn		**Sn**	**19 05 26.3**	**-4.2**
	baz=79,slow=28							
HFS				Lg			19 05 51.7	
	baz=93,slow=37							
HFS	**Hagfors**	**5.74**	**274**	*e*P		**Pn**	**19 04 21.7**	**-1.3**
HFS				*e*S		**Sn**	**19 05 26.3**	**-4.2**
HFS				*e*SG		**Sg**	**19 05 51.7**	**-14**
APA0	**Apatity Array**	**8.19**	**21**	Pn		**P**	**19 04 55.4**	**-2.0**
	baz=197,slow=14							
APA0	**Apatity Array**	**8.19**	**21**	*e*P		**P**	**19 04 55.4**	**-2.0**
ARA0	**ARCESS Array S**	**9.38**	**1**	Pn		**P**	**19 05 09.8**	**-4.1**
	baz=184,slow=14							
ARA0				Sn		**Sn**	**19 06 51.8**	**-10**
	baz=182,slow=22							
ARA0	**ARCESS Array S**	**9.38**	**1**	*e*P		**P**	**19 05 09.8**	**-4.1**
ARA0				*e*S		**Sn**	**19 06 51.8**	**-10**

*CSEM **28** 19:21:11.3±0.8,38.79N×28.92W,ML2.0,Error ellipse: s-maj=6.5km s-min=4.7km az=93.0,After PDA*
*PDA **28** 19:21:11.3±0.8,38.79N×28.92W,MD3.0,ML2.0,Error ellipse: s-maj=6.5km s-min=4.7km az=93.0*

SVSA 28 19:21:11.3±0.8,**38.79N**×**28.92W,MD3.0,ML2.0,Error ellipse: s-maj=6.5km s-min=4.7km az=93.0,Azores Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PCED	**Cedros**	**0.23**	**133**	*i* P		Pg	19 21 15.7	-0.2
PCED				*e*S		Sg	19 21 19.2	+0.2
	104nm,0.2s							
PCED	**Cedros**	**0.23**	**133**	*e*S		Sg	19 21 19.2	+0.2
	104nm,0.2s							
	104nm,0.2s							
CALA	**Caldeira**	**0.27**	**141**	*i* P		Pg	19 21 16.3	-0.3
CALA				*e*S		Sg	19 21 20.8	+0.6
CALA	**Caldeira**	**0.27**	**141**	*e*S		Sg	19 21 20.8	+0.6
PICO	**Pico**	**0.48**	**127**	*i* P		Pg	19 21 20.2	-0.7
PICO				*e*S		Sg	19 21 27.1	-0.2
PICO	**Pico**	**0.48**	**127**	*e*S		Sg	19 21 27.1	-0.2
ROSA	**Rosais**	**0.53**	**97**	*e*P		Pg	19 21 21.3	-0.6
ROSA				*e*S		Sg	19 21 28.0	-1.0
PMAN	**Manadas**	**0.67**	**103**	*e*S		Sg	19 21 31.5	-2.0
	17nm,0.1s							
PMAN	**Manadas**	**0.67**	**103**	*e*S		Sg	19 21 31.5	-2.0
	17nm,0.1s							
PID	**Ribeirinha**	**0.71**	**119**	*e*S		Sg	19 21 33.0	-2.1

*IDC **28** 19:22:34.6±1.2,16.35N×98.88W,mb4.3/12,mb1 4.5/13, mb1mx4.4/20,ML4.6/1,MS3.6/7,Ms1 3.6/7,ms1mx3.4/22,*
Error ellipse: s-maj=50.7km s-min=16.3km az=58.0
*MEX **28** 19:22:34.6±1.3,15.99N×99.34W,h22km,26km,MD4.7*
*BJI **28** 19:22:36.3,16.40N×98.90W,h23km,mB4.4,Ms4.6, Msz4.3*
*NEIC **28** 19:22:38.4±0.5,16.35N×98.94W,mb4.4/19,MD4.7(MEX), Error ellipse: s-maj=9.8km s-min=5.5km az=212.0*

ISC 28 19:22:35.4±0.4,**16.16N**±0.04×**99.08W**±0.03,**h22**km, **h22**km±1.4km:**pP-P,n100,**σ1§**33**/111,**mb4.3**/27,**MS3.7**/6, **Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PNIG	**Pinotepa**	**0.94**	**76**	*i* P		**Pb**	**19 22 53.3**	**+0.3**
PNIG				*i* S		**Sb**	**19 23 08.8**	**+3.7**
PNIG	**Pinotepa**	**0.94**	**76**	*i* P		**Pb**	**19 22 53.3**	**+0.3**
PNIG				*i* S		**Sb**	**19 23 06.5**	**+1.4**
ACX	**Acapulco**	**1.06**	**311**	*i* P		**Pb**	**19 22 50.5**	**-4.5**
ACX				*i* S		**Sb**	**19 23 01.5**	**-7.0**
CAIG	**El Cayaco**	**1.44**	**308**	*i* P		**Pn**	**19 22 56.0**	**-4.6**
CAIG				*i* S		**Sn**	**19 23 11.3**	**-7.6**
PLIG	**Platanillo**	**2.25**	**350**	*i* P		**Pn**	**19 23 10.9**	**-1.3**
PLIG				*i* S		**Sn**	**19 23 41.1**	**+1.5**
VHO	**Vista Hermosa**	**2.42**	**68**	*i* P		**Pn**	**19 23 14.5**	**-0.2**
VHO				*i* S		**Sn**	**19 23 46.3**	**+2.3**
OXX	**Oaxaca**	**2.44**	**68**	*i* P		**Pn**	**19 23 15.5**	**+0.7**
YAIG	**Yautepec**	**2.68**	**0**	*e*P		**Pn**	**19 23 16.6**	**-1.8**
YAIG				*i* S		**Sn**	**19 23 48.7**	**-1.8**
HUIG	**Huatulco**	**2.88**	**97**	*e*P		**Pn**	**19 23 20.8**	**-0.4**
HUIG				*i* S		**Sn**	**19 23 54.6**	**-1.0**
PPM	**Popocatepetl**	**2.92**	**8**	*i* P		**Pn**	**19 23 20.0**	**-1.7**
PPM				*e*P			19 23 22.5	
PPM				*i* S		**Sn**	**19 23 58.8**	**+2.3**
PPM	**Popocatepetl**	**2.92**	**8**	*i* P		**Pn**	**19 23 20.0**	**-1.7**
PPM				*i* S		**Sn**	**19 23 58.8**	**+2.3**
IIZ	**Mezontepec**	**3.01**	**357**	*e*P		**Pn**	**19 23 20.6**	**-2.4**
IIZ				*i* S		**Sn**	**19 24 01.0**	**+2.2**
UNM	**Universidad Na**	**3.15**	**358**	*e*P		**Pn**	**19 23 21.9**	**-3.0**
UNM				*e*P			19 23 27.5	
UNM				*i* S		**Sn**	**19 23 60.0**	**-2.3**
UNM	**Universidad Na**	**3.15**	**358**	*e*P		**Pn**	**19 23 21.9**	**-3.0**
UNM				*i* S		**Sn**	**19 23 60.0**	**-2.3**
IISM	**Ciudad Serdan**	**3.25**	**30**	*e*P		**Pn**	**19 23 27.5**	**+1.2**
PTVM	**Pico Tres Padr**	**3.41**	**359**	*e*P		**Pn**	**19 23 27.3**	**-1.3**
PTVM				*i* S		**Sn**	**19 24 09.3**	**+0.4**
IIO	**Organos**	**3.43**	**6**	*i* P		**Pn**	**19 23 28.8**	**-0.1**
IIO				*i* S		**Sn**	**19 24 12.0**	**+2.7**
IIC	**Rita Coyotepec**	**3.59**	**357**	*i* P		**Pn**	**19 23 27.7**	**-3.5**
IIC				*i* S		**Sn**	**19 24 14.7**	**+1.3**
IIJ	**Jocotitlan**	**3.60**	**350**	*e*P		**Pn**	**19 23 33.7**	**+2.3**
MOIG	**Morelia**	**4.03**	**330**	*e*P		**Pn**	**19 23 34.5**	**-3.0**
MOIG				*i* S		**Sn**	**19 24 19.6**	**-5.0**
CMIG	**Matias Romero**	**4.13**	**76**	*e*P		**Pn**	**19 23 37.7**	**-1.2**
CMIG				*i* S		**Sn**	**19 24 30.6**	**+3.6**
CMIG	**Matias Romero**	**4.13**	**76**	*e*P		**Pn**	**19 23 37.7**	**-1.2**
CMIG				*i* S		**Sn**	**19 24 35.7**	**+8.7**
EVV	**El Vigia**	**4.23**	**57**	*i* P		**Pn**	**19 23 38.5**	**-1.8**
LVIG	**Laguna Verde**	**4.35**	**35**	*e*P		**Pn**	**19 23 37.8**	**-4.3**
TUIG	**Tuzandepetl**	**4.83**	**67**	*e*P		**Pn**	**19 23 38.4**	**-10**
CGX	**Ciudad Guzman**	**5.48**	**310**	*e*P		**Pn**	**19 23 55.5**	**-2.5**
SFJM	**Santa Fe**	**5.71**	**319**	*i* P		**Pn**	**19 24 01.5**	**+0.3**
TEIG	**Tepich**	**11.03**	**67**	Sn		**S**	**19 27 09.9**	**-9.1**
	0.0nm,0.3s,baz=270,slow=20,SNR=4.5							
TXAR	**Lajitas Array**	**13.77**	**343**	Pn		**P**	**19 25 50.9**	**-1.0**
	0.7nm,0.3s,baz=169,slow=14,SNR=3.4							
TXAR				LR		LR	19 30 37.1	
	comp=Z,74nm,18.9s,baz=180,slow=35							
GDL2	**Guadalupe Moun**	**16.67**	**344**	*e*P		**P**	**19 26 31.3**	**+1.8**
AMTX	**Amarillo**	**18.79**	**353**	*e*P		**P**	**19 26 50.3**	**-5.4**
	30nm,0.8s							
MIAR	**Mount Ida**	**18.96**	**14**	*e*P		**P**	**19 26 54.7**	**-3.1**
	17nm,0.9s							
BNM	**Barren Site**	**19.16**	**341**	*e*P		**P**	**19 27 01.3**	**+1.2**
TUC	**Tucson**	**19.27**	**329**	*e*P		**P**	**19 27 02.9**	**+1.5**
	4.4nm,0.8s							
OXF	**Oxford**	**20.23**	**24**	P		**P**	**19 27 09.3**	**-2.6**
SDCO	**Great Sand Dun**	**22.23**	**346**	*e*P		**P**	**19 27 31.8**	**-0.5**
	8.7nm,1.0s,mb4.1							
WVT	**Waverly**	**22.27**	**25**	*e*P		**P**	**19 27 30.0**	**-2.7**
	26nm,0.9s,mb4.7							
KSU1	**Kansas State U**	**22.95**	**5**	*e*P		**P**	**19 27 39.7**	**+0.2**
FVM	**French Village**	**23.04**	**18**	*e*P		**P**	**19 27 40.0**	**-0.3**
	18nm,0.8s,mb4.5							
FVM				*e*pP			19 27 47.2	
CPCT	**Cooper Cave**	**23.20**	**31**	*e*P		**P**	**19 27 42.4**	**+0.6**
CPCT				*e*pP			19 27 48.7	
PV01	**Paradox Valley**	**23.43**	**341**	*e*P		**P**	**19 27 58.8**	**+1.5**
LDFC	**Landfair**	**23.68**	**326**	*e*P		**P**	**19 27 48.6**	**+2.1**
SLM	**Saint Louis**	**23.70**	**17**	P		**P**	**19 27 46.3**	**-0.3**
PV10	**Paradox Valley**	**23.80**	**340**	P		**P**	**19 27 47.3**	**-0.3**
USIN	**University of**	**23.94**	**23**	*e*P		**P**	**19 27 49.7**	**+0.8**
	19nm,0.7s,mb4.6							
NEN	**Nelson**	**23.97**	**327**	*e*P		**P**	**19 27 50.2**	**+0.9**
JSC	**Jenkinsville**	**24.12**	**38**	P		**P**	**19 27 50.4**	**-0.5**
ISCO	**Idaho Springs**	**24.23**	**348**	*e*P		**P**	**19 27 52.8**	**+0.9**
	7.0nm,0.8s,mb4.1							
WCI	**Wyandotte Cave**	**24.70**	**25**	*e*P		**P**	**19 27 56.2**	**-0.1**
	36nm,1.0s,mb4.9							
SRU	**San Rafael**	**24.96**	**339**	*e*P		**P**	**19 28 00.1**	**+1.2**
ARUT	**Antelope Range**	**24.99**	**332**	*e*P		**P**	**19 28 00.3**	**+1.2**
MSU	**Marysvale**	**25.06**	**335**	*e*P		**P**	**19 28 01.6**	**+1.7**
MVU	**Marysvale**	**25.07**	**335**	*e*P		**P**	**19 28 02.0**	**+2.1**
	1.1nm,0.5s,mb3.6							
MVU				*e*pP		pP	19 28 09.2	+2.9
TMUT	**Trail Mountain**	**25.37**	**338**	*e*P		**P**	**19 28 03.2**	**+0.5**
TPNV	**Topopah Spring**	**25.69**	**327**	*e*P		**P**	**19 28 07.2**	**+1.4**
	12nm,1.0s,mb4.4							
NLU	**North Lily Min**	**26.27**	**337**	*e*P		**P**	**19 28 12.2**	**+1.1**
DAU	**Daniels Canyon**	**26.38**	**339**	P		**P**	**19 28 11.3**	**-0.8**
RWWY	**Rawlins**	**26.39**	**346**	P		**P**	**19 28 14.1**	**+1.9**
TRCR	**Troy Canyon**	**26.44**	**330**	*e*P		**P**	**19 28 15.3**	**+2.7**
DUG	**Dugway**	**26.76**	**336**	*e*P		**P**	**19 28 15.2**	**-0.4**
	5.2nm,0.9s,mb4.1							
HWUT	**Hardware Ranch**	**27.55**	**339**	*e*P		**P**	**19 28 22.6**	**-0.2**
	14nm,1.2s,mb4.5							
NVAR	**Mina Array Bea**	**27.88**	**326**	P		**P**	**19 28 26.3**	**+0.5**
	4.6nm,1.0s,mb4.1,baz=139,slow=9.6,SNR=15							
NVAR				PcP		PcP	19 31 41.3	-0.3
	0.5nm,0.8s,baz=124,slow=3.3,SNR=3.5							
BW06	**Boulder Array**	**27.99**	**343**	*e*P		**P**	**19 28 26.0**	**-0.7**
	19nm,1.3s,mb4.6							
PDAR	**Pinedale Array**	**27.99**	**343**	P		**P**	**19 28 26.5**	**-0.2**
	4.2nm,0.8s,mb4.1,baz=141,slow=9.4,SNR=32							
HVU	**Hansel Valley**	**28.12**	**338**	P		**P**	**19 28 27.0**	**-1.0**
SDV	**Santo Domingo**	**28.67**	**101**	*e*P		**P**	**19 28 35.1**	**+1.9**
LOHW	**Long Hollow**	**29.07**	**343**	*e*P		**P**	**19 28 35.9**	**-0.5**
LOHW				*e*pP		pP	19 28 43.1	+0.2
MOOW	**Moose Ponds**	**29.23**	**343**	*e*P		**P**	**19 28 37.2**	**-0.7**
IMW	**Indian Meadow**	**29.42**	**342**	*e*P		**P**	**19 28 39.0**	**-0.6**
HLID	**Hailey**	**30.27**	**338**	*e*P		**P**	**19 28 47.0**	**-0.2**
	5.5nm,1.2s,mb4.2							
MCMT	**McKenzie Canyo**	**30.85**	**341**	*e*P		**P**	**19 28 53.3**	**+1.1**
BOZ	**Bozeman (W)**	**31.22**	**343**	*e*P		**P**	**19 28 55.1**	**-0.5**
	4.3nm,0.8s,mb4.3							
HRY	**Holter Researc**	**32.25**	**343**	*e*P		**P**	**19 29 04.2**	**-0.3**
CHMT	**Chamberlain Mo**	**32.84**	**342**	*e*P		**P**	**19 29 09.2**	**-0.5**
SADO	**Sadowa**	**33.11**	**26**	LR		LR	19 43 44.7	
	comp=Z,88nm,18.4s,MS3.5,baz=4.5,slow=39							
ULM	**Lac du Bonnet**	**34.10**	**4**	P		**P**	**19 29 18.8**	**-1.8**
	11nm,0.8s,mb4.8,baz=182,slow=9.1,SNR=13							
WALA	**Waterton Lakes**	**34.97**	**343**	*e*P		**P**	**19 29 27.9**	**-0.2**
NEW	**Newport**	**35.28**	**339**	*e*P		**P**	**19 29 30.6**	**-0.1**
DPW	**Davenport**	**35.33**	**338**	*e*P		**P**	**19 29 30.6**	**-0.5**
NLW	**Nelson Butte**	**36.31**	**336**	*e*P		**P**	**19 29 40.3**	**+0.9**
FFC	**Flin Flon**	**38.55**	**357**	*e*P		**P**	**19 29 56.7**	**-1.5**
	7.6nm,0.7s,mb4.5							
EDM	**Edmonton**	**38.64**	**346**	*e*P		**P**	**19 29 58.3**	**-0.6**
BBB	**Bella Bella**	**42.67**	**334**	LR		LR	19 48 28.6	
	comp=Z,60nm,19.0s,MS3.5,baz=1.1,slow=36							
SAML	**Samuel**	**43.42**	**123**	*e*P		**P**	**19 30 38.2**	**-0.5**
	4.0nm,0.9s,mb4.2							
SAML				*e*pP		pP	19 30 43.6	-1.7
LPAZ	**La Paz**	**44.41**	**135**	P		**P**	**19 30 47.5**	**+0.8**
	0.5nm,0.5s,mb3.5,baz=337,slow=7.7,SNR=3.1							
SCHQ	**Schefferville**	**45.90**	**25**	P		**P**	**19 30 56.0**	**-2.1**
	7.1nm,0.7s,mb4.7,baz=238,slow=7.6,SNR=6.4							
YKA	**Yellowknife Ar**	**47.55**	**350**	P		**P**	**19 31 09.6**	**-1.4**
	2.4nm,0.7s,mb4.3,baz=157,slow=7.7,SNR=4.5							
YKA				LR		LR	19 52 25.8	
	comp=Z,107nm,20.6s,MS3.8,baz=125,slow=38							
DLBC	**Dease Lake**	**48.03**	**339**	P		**P**	**19 31 15.4**	**+0.7**
	2.3nm,0.9s,mb4.2,baz=117,slow=10,SNR=3.9							
INK	**Inuvik**	**56.53**	**345**	P		**P**	**19 32 17.4**	**-0.9**
	7.4nm,0.8s,mb4.7,baz=124,slow=8.0,SNR=26							
INK	**Inuvik**	**56.53**	**345**	*e*P		**P**	**19 32 17.0**	**-1.3**
	13nm,0.9s,mb5.0							
INK				*e*pP		pP	19 32 23.6	-1.5
ILAR	**Eielson Array**	**58.23**	**338**	P		**P**	**19 32 29.6**	**-0.6**
	2.6nm,0.8s,mb4.3,baz=143,slow=5.0,SNR=24							
CPUP	**Villa Florida**	**58.58**	**136**	P		**P**	**19 32 32.8**	**-0.4**
	1.4nm,0.8s,mb4.1,baz=104,slow=8.3,SNR=2.8							
BDFB	**Brasilia**	**59.49**	**120**	P		**P**	**19 32 41.0**	**+1.3**
	1.7nm,0.5s,mb4.3,baz=270,slow=5.1,SNR=2.5							
BDFB				LR		LR	19 57 18.9	
	comp=Z,84nm,19.2s,MS3.9,baz=86,slow=35							
NOA	**NORSAR Array B**	**85.44**	**27**	P		**P**	**19 35 14.2**	**+1.8**
	0.9nm,0.7s,mb4.0,baz=304,slow=4.8,SNR=3.8							
NOA				LR		LR	20 13 40.9	
	comp=Z,15nm,19.1s,MS3.4,baz=260,slow=36							
ARCES	**ARCESS Array B**	**86.15**	**17**	LR		LR	20 12 20.3	
	comp=Z,46nm,20.8s,MS3.9,baz=12,slow=35							
NJ2	**Nanjing**	**119.84**	**323**	*e*PKP		PKPdf	19 41 24.0	-4.9
LZH	**Lanzhou**	**123.69**	**338**	*e*PKP		PKPdf	19 41 31.0	-5.4
LZH				XPKP			19 41 41.0	
CMAR	**Chiang Mai Arr**	**141.29**	**332**	PKP		PKPdf	19 42 06.1	-3.8
	0.5nm,0.8s,baz=351,slow=1.6,SNR=4.6							
HYB	**Hyderabad**	**146.55**	**4**	*i* PKP		PKPdf	19 42 16.0	-2.9
HYB				*e*			19 42 23.0	
HYB	**Hyderabad**	**146.55**	**4**	*e*P		PKPbc	19 42 16.0	+0.1

IDC 28 19:35:36.8±13.0,**17.54S**×**178.82W,h596**km±177km, **mb3.2**/7,**mb1 3.5**/7,**mb1mx3.2**/16,**1D,Error ellipse: s-maj=89.5km s-min=46.1km az=162.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CTA	**Charters Tower**	**33.13**	**260**	P		P	19 41 25.4	-1.2
	2.7nm,0.7s,baz=98,slow=10,SNR=3.9							
STKA	**Stephens Creek**	**38.47**	**241**	⇓*i*P		P	19 42 09.1	-1.4
	4.3nm,0.6s							
STKA	**Stephens Creek**	**38.47**	**241**	P		P	19 42 09.2	-1.3
	3.5nm,0.4s,baz=89,slow=9.3,SNR=17							
WRA	**Warramunga Arr**	**44.32**	**259**	P		P	19 42 55.1	-1.9
	3.0nm,0.8s,baz=93,slow=8.0,SNR=8.3							
ASAR	**Alice Springs**	**44.52**	**254**	P		P	19 42 56.9	-1.6
	20nm,0.5s,baz=89,slow=8.2,SNR=25							

s-maj=6.2km s-min=4.4km az=133.0, Suspected Mining explosion.
NEIC 70 km [45 miles] SSE of Gillette.
ISC 28 20:12:05.7±0.5,**43.71N**±0.04×**105.15W**±0.06,**n43,**
σ1§31/45,mb4.8/1,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.90**	**63**	*e*Pg	**Pg**	**20 12 26.6**	**+2.9**
PHWY	**Pilot Hill**	**2.42**	**186**	*e*Pn	**Pn**	**20 12 47.9**	**+0.8**
RWWY	**Rawlins**	**2.53**	**218**	*e*Pn	**Pn**	**20 12 50.4**	**+1.7**
LAO	**LASA Array**	**3.07**	**346**	*e*Pn	**Pn**	**20 12 58.4**	**+2.0**
BW06	**Boulder Array**	**3.36**	**255**	*e*Pn	**Pn**	**20 13 00.3**	**-0.2**
PDAR	**Pinedale Array**	**3.36**	**255**	Pn	**Pn**	**20 13 00.6**	**+0.1**
	4.7nm,0.3s,baz=70,slow=15,SNR=86						
PDAR				Lg		20 13 45.3	
	15nm,0.3s,baz=61,slow=30,SNR=9.9						
GCMT	**Greycliff**	**3.83**	**304**	*e*Pn	**Pn**	**20 13 07.7**	**+0.4**
LKWY	**Lake**	**3.88**	**285**	Pn	**Pn**	**20 13 09.0**	**+1.1**
ISCO	**Idaho Springs**	**3.92**	**185**	*e*Pn	**Pn**	**20 13 10.1**	**+1.6**
LOHW	**Long Hollow**	**3.96**	**270**	*e*Pn	**Pn**	**20 13 10.2**	**+1.2**
MOOW	**Moose Ponds**	**4.06**	**272**	*e*Pn	**Pn**	**20 13 10.8**	**+0.4**
WUWY	**Wally Ulrich**	**4.07**	**270**	*e*Pn	**Pn**	**20 13 15.0**	**+4.5**
SNOW	**Snow King Moun**	**4.08**	**268**	*e*Pn	**Pn**	**20 13 12.1**	**+1.3**
REDW	**Red Top Meadow**	**4.16**	**267**	*e*Pn	**Pn**	**20 13 12.0**	**0.0**
REDW				*e*Pg	**Pg**	**20 13 19.6**	**-9.3**
YFT	**Old Faithful**	**4.17**	**282**	*e*Pn	**Pn**	**20 13 14.6**	**+2.6**
IMW	**Indian Meadow**	**4.20**	**275**	*e*Pn	**Pn**	**20 13 12.6**	**+0.1**
TPAW	**Teton Pass**	**4.22**	**269**	*e*Pn	**Pn**	**20 13 12.2**	**-0.6**
TPAW				*e*Pg	**Pg**	**20 13 22.7**	**-7.3**
RRI2	**Red Ridge**	**4.50**	**268**	*e*Pn	**Pn**	**20 13 16.3**	**-0.5**
QLMT	**Earthquake Lak**	**4.65**	**286**	*e*Pn	**Pn**	**20 13 19.2**	**+0.3**
DGMT	**Dagmar**	**4.81**	**8**	*e*Pn	**Pn**	**20 13 22.8**	**+1.7**
BOZ	**Bozeman (W)**	**5.01**	**295**	*e*Pn	**Pn**	**20 13 22.2**	**-1.8**
HWUT	**Hardware Ranch**	**5.18**	**248**	*e*Pn	**Pn**	**20 13 25.6**	**-0.7**
	4.0nm,0.4s						
HRY	**Holter Researc**	**5.60**	**305**	*e*Pn	**Pn**	**20 13 31.5**	**-0.7**
DAU	**Daniels Canyon**	**5.62**	**236**	*e*Pn	**Pn**	**20 13 32.0**	**-0.5**
MCMT	**McKenzie Canyo**	**5.64**	**284**	*e*Pn	**Pn**	**20 13 33.9**	**+1.0**
HVU	**Hansel Valley**	**5.94**	**254**	*e*Pn	**Pn**	**20 13 36.5**	**-0.6**
PV10	**Paradox Valley**	**6.09**	**210**	*e*Pn	**Pn**	**20 13 39.8**	**+0.7**
SRU	**San Rafael**	**6.12**	**223**	*e*Pn	**Pn**	**20 13 38.2**	**-1.4**
PV01	**Paradox Valley**	**6.14**	**206**	*e*Pn	**Pn**	**20 13 40.5**	**+0.6**
TMUT	**Trail Mountain**	**6.34**	**228**	*e*Pn	**Pn**	**20 13 41.8**	**-0.9**
CHMT	**Chamberlain Mo**	**6.55**	**302**	*e*Pn	**Pn**	**20 13 44.6**	**-1.1**
MSU	**Marysvale**	**7.42**	**228**	*e*Pn	**Pn**	**20 13 56.1**	**-1.9**
MVU	**Marysvale**	**7.45**	**228**	*e*Pn	**Pn**	**20 13 56.8**	**-1.5**
	4.2nm,0.9s						
MVU				*e*Pg	**Pg**	**20 14 19.2**	**-15**
ULM	**Lac du Bonnet**	**9.10**	**41**	Pn	**P**	**20 14 19.6**	**-1.7**
	4.5nm,0.3s,baz=231,slow=13,SNR=24						
ULM				Lg		20 16 55.7	
	0.5nm,0.3s,baz=319,slow=19,SNR=2.1						
ULM	**Lac du Bonnet**	**9.10**	**41**	Pn	**P**	**20 14 19.6**	**-1.7**
ULM				Lg		20 16 55.7	
EYMN	**Ely**	**10.42**	**61**	*e*P	**P**	**20 14 37.5**	**-1.9**
FFC	**Flin Flon**	**11.22**	**9**	*e*P	**P**	**20 14 47.6**	**-2.6**
NVAR	**Mina Array Bea**	**11.24**	**246**	Pn	**P**	**20 14 46.7**	**-4.0**
	0.1nm,0.3s,baz=75,slow=10,SNR=3.9						
NVAR	**Mina Array Bea**	**11.24**	**246**	Pn	**P**	**20 14 46.7**	**-4.0**
YKA	**Yellowknife Ar**	**19.61**	**347**	P	**P**	**20 16 42.0**	**+3.9**
	0.6nm,0.4s,baz=155,slow=9.0,SNR=4.2						
YKA				LR	LR	20 24 17.6	
	comp=Z,24nm,19.4s,baz=180,slow=36						
YKA	**Yellowknife Ar**	**19.61**	**347**	P	**P**	**20 16 42.0**	**+3.9**
INK	**Inuvik**	**28.79**	**338**	LR	LR	20 30 06.2	
	comp=Z,51nm,18.6s,baz=127,slow=37						
ARCES	**ARCESS Array B**	**61.42**	**18**	P	**P**	**20 22 23.1**	**-2.4**
	7.8nm,1.0s,mb4.8,baz=326,slow=9.8,SNR=5.7						

*IDC **28** 20:30:01.9±0.5, 18.73N×99.61W, h57km±3km, mb4.3/22, mb1 4.4/23, mb1mx4.4/25, MS4.0/10, Ms1 4.0/10, ms1mx3.8/21, Error ellipse: s-maj=17.8km s-min=10.8km az=56.0*
*BJI **28** 20:30:01.0, 18.40N×99.80W, h60km*
*NEIC **28** 20:30:01.1±0.2, 18.45N×99.77W, mb4.7/49, MD4.7(MEX), Error ellipse: s-maj=4.8km s-min=3.5km az=223.0*
NEIC Felt at Mexico City.
*MEX **28** 20:30:02.3±1.4, 18.40N×99.81W, h60km±10km, MD4.7*
ISC 28 20:30:00.0±0.3,**18.40N**±0.02×**99.79W**±0.02,**h68**km±2km,
h59km±1.0km:**pP-P,n197,**σ1§**13**/192,**mb4.6**/58,**4C-3D,**
Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLIG	**Platanillo**	**0.27**	**92**	⇓*i*P	**P**	**20 30 11.3**	**+0.4**
PLIG				*i* S	**S**	**20 30 18.0**	**-0.9**
YAIG	**Yautepec**	**0.82**	**56**	*i* P	**P**	**20 30 16.9**	**+0.5**
YAIG				*i* S	**S**	**20 30 28.3**	**-0.3**
IIZ	**Mezontepec**	**0.94**	**34**	*i* P	**P**	**20 30 18.5**	**+0.7**
UNM	**Universidad Na**	**1.09**	**32**	*i* P	**P**	**20 30 20.2**	**+0.4**
UNM				*i* P		20 30 20.5	
UNM				*i* S	**S**	**20 30 32.0**	**-2.5**
UNM				*i* S	**S**	**20 30 35.2**	**+0.6**
UNM	**Universidad Na**	**1.09**	**32**	*i* P	**P**	**20 30 20.2**	**+0.4**
UNM				*i* S	**S**	**20 30 32.0**	**-2.5**
PPM	**Popocatepetl**	**1.29**	**59**	*i* P	**P**	**20 30 22.9**	**+0.4**
PPM				*i* P		20 30 23.4	
PPM				*i* S	**S**	**20 30 38.6**	**-0.6**
PPM	**Popocatepetl**	**1.29**	**59**	*i* P	**P**	**20 30 22.9**	**+0.4**
PPM				*i* S	**S**	**20 30 38.6**	**-0.6**
IIJ	**Jocotitlan**	**1.33**	**2**	*i* P	**P**	**20 30 24.3**	**+1.1**
PTVM	**Pico Tres Padr**	**1.35**	**28**	⇑*i*P	**P**	**20 30 23.1**	**-0.4**
PTVM				*i* S	**S**	**20 30 41.2**	**+0.5**
CAIG	**El Cayaco**	**1.42**	**199**	*i* P	**P**	**20 30 25.2**	**+0.8**
CAIG				*i* S	**S**	**20 30 40.4**	**-2.0**
IIC	**Rita Coyotepec**	**1.45**	**20**	*i* P	**P**	**20 30 26.2**	**+1.4**
IIB	**San Bernardino**	**1.48**	**68**	*e*P	**P**	**20 30 24.0**	**-1.2**
IIB				*i* S	**S**	**20 30 42.0**	**-1.8**
ACX	**Acapulco**	**1.53**	**185**	*i* P	**P**	**20 30 25.8**	**-0.1**
ACX				*i* S	**S**	**20 30 43.8**	**-1.2**
IIO	**Organos**	**1.56**	**40**	⇑*i*P	**P**	**20 30 24.4**	**-1.9**
IIO				*i* S	**S**	**20 30 45.9**	**+0.4**
ZIIG	**Zihuatanejo**	**1.78**	**244**	⇑*i*P	**P**	**20 30 29.3**	**+0.1**
ZIIG				*i* S	**S**	**20 30 48.2**	**-2.5**
MOIG	**Morelia**	**1.83**	**314**	*i* P	**P**	**20 30 30.2**	**+0.3**
MOIG				*i* S	**S**	**20 30 53.3**	**+1.2**
IISM	**Ciudad Serdan**	**2.36**	**75**	*e*P	**P**	**20 30 25.5**	**-12**
PNIG	**Pinotepa**	**2.55**	**141**	*i* P	**P**	**20 30 40.8**	**+0.7**
VHO	**Vista Hermosa**	**3.20**	**114**	⇑*i*P	**P**	**20 30 52.2**	**+3.1**
VHO				*i* S	**S**	**20 31 26.8**	**+0.6**
OXX	**Oaxaca**	**3.21**	**114**	*i* P	**P**	**20 30 51.6**	**+2.4**
OXX				*i* S	**S**	**20 31 27.0**	**+0.6**
LVIG	**Laguna Verde**	**3.45**	**67**	*i* P	**P**	**20 30 52.7**	**+0.1**
SFJM	**Santa Fe**	**3.70**	**305**	*i* P	**P**	**20 30 55.7**	**-0.5**
SFJM				*i* P		20 30 56.5	
HUIG	**Huatulco**	**4.39**	**126**	*i* P	**P**	**20 31 07.7**	**+2.0**
CMIG	**Matias Romero**	**4.85**	**105**	*i* P	**P**	**20 31 13.8**	**+1.6**
CMIG				*i* S	**S**	**20 32 07.2**	**-0.4**
CJM	**Chamela**	**5.09**	**283**	*e*P	**P**	**20 31 14.8**	**-0.7**
TUIG	**Tuzandepetl**	**5.12**	**93**	*i* P	**P**	**20 31 14.4**	**-1.4**
TEIG	**Tepich**	**11.02**	**79**	P	**P**	**20 32 35.5**	**-1.5**
	0.0nm,0.3s,baz=306,slow=24,SNR=4.3						
LPIG	**La Paz**	**11.33**	**302**	*i* P	**P**	**20 32 44.3**	**+3.2**
LTX	**Lajitas**	**11.44**	**343**	*e*P	**P**	**20 32 44.2**	**+1.5**
	62nm,1.7s						
TXAR	**Lajitas Array**	**11.44**	**343**	P	**P**	**20 32 43.9**	**+1.2**
	0.2nm,0.3s,baz=160,slow=15,SNR=13						
TXAR				LR	LR	20 38 08.4	
	comp=Z,270nm,18.1s,baz=215,slow=44						
JCT	**Junction City**	**12.03**	**360**	*e*P	**P**	**20 32 50.1**	**-0.4**
	26nm,1.1s						
HKT	**Hockley**	**12.05**	**17**	*e*P	**P**	**20 32 50.0**	**-0.7**
	22nm,1.1s						
NATX	**Nacogdoches**	**14.09**	**18**	*e*P	**P**	**20 33 18.5**	**+0.9**
	83nm,0.9s						
CLNB	**Carlsbad**	**14.29**	**346**	*e*P	**P**	**20 33 21.6**	**+1.4**
GDL2	**Guadalupe Moun**	**14.35**	**344**	*e*P	**P**	**20 33 22.7**	**+1.7**
CPRX	**Cap Rock**	**15.02**	**347**	*e*P	**P**	**20 33 30.3**	**+0.6**
WMOK	**Wichita Mounta**	**16.30**	**3**	*e*P	**P**	**20 33 44.1**	**-1.8**
	16nm,1.1s						
BNM	**Barren Site**	**16.83**	**340**	*e*P	**P**	**20 33 54.6**	**+2.1**
LENM	**Lemitar**	**16.96**	**339**	*e*P	**P**	**20 33 55.7**	**+1.6**
LPM	**Los Pinos Moun**	**16.98**	**340**	*e*P	**P**	**20 33 56.3**	**+1.9**
MIAR	**Mount Ida**	**17.01**	**18**	*e*P	**P**	**20 33 53.7**	**-1.0**
	70nm,1.2s						
TUC	**Tucson**	**17.02**	**327**	*e*P	**P**	**20 33 57.0**	**+2.0**
	14nm,0.9s						
LAZ	**Ladron**	**17.23**	**339**	*e*P	**P**	**20 33 59.7**	**+2.1**
ANMO	**Albuquerque**	**17.52**	**342**	*e*P	**P**	**20 34 02.3**	**+1.1**
	8.2nm,0.9s						
UALR	**University of**	**17.60**	**21**	*e*P	**P**	**20 34 01.4**	**-0.8**
	47nm,1.3s						
OXF	**Oxford**	**18.52**	**28**	P	**P**	**20 34 12.8**	**-0.5**
	28nm,0.9s						
LRAL	**Lakeview Retre**	**18.55**	**36**	*e*P	**P**	**20 34 12.7**	**-1.1**
	3.8nm,0.5s						
SDCO	**Great Sand Dun**	**19.91**	**347**	P	**P**	**20 34 29.5**	**+0.9**
	28nm,1.0s						
GLAT	**Glass**	**20.07**	**25**	P	**P**	**20 34 26.8**	**-3.5**
UTMT	**University of**	**20.31**	**26**	P	**P**	**20 34 29.9**	**-2.9**
	123nm,0.8s						
CBKS	**Cedar Bluff**	**20.34**	**0**	P	**P**	**20 34 32.9**	**-0.2**
	187nm,1.3s						
WVT	**Waverly**	**20.58**	**29**	*e*P	**P**	**20 34 29.9**	**-5.7**
	52nm,1.3s						
BAR	**Barrett**	**20.79**	**316**	*e*P	**P**	**20 34 37.6**	**-0.1**
KSU1	**Kansas State U**	**20.81**	**7**	*e*P	**P**	**20 34 35.6**	**-2.3**
KSU1				*e*pP		20 34 49.9	
RW3	**Ridgway**	**20.94**	**342**	*e*P	**P**	**20 34 39.0**	**-0.3**
CCM	**Cathedral Cave**	**20.96**	**19**	*e*P	**P**	**20 34 38.7**	**-0.8**
	15nm,0.9s						
PV01	**Paradox Valley**	**21.10**	**340**	*e*P	**P**	**20 34 41.2**	**+0.3**
FVM	**French Village**	**21.16**	**21**	*e*P	**P**	**20 34 42.2**	**+0.8**
	20nm,1.1s,mb4.4						
LDFC	**Landfair**	**21.47**	**324**	*e*P	**P**	**20 34 46.2**	**+1.7**
PV10	**Paradox Valley**	**21.48**	**340**	*e*P	**P**	**20 34 44.0**	**-0.6**
CPCT	**Cooper Cave**	**21.71**	**36**	P	**P**	**20 34 47.4**	**+0.4**
NEN	**Nelson**	**21.75**	**325**	*e*P	**P**	**20 34 47.7**	**+0.4**
SLM	**Saint Louis**	**21.81**	**20**	*e*P	**P**	**20 34 48.5**	**+0.6**
ISCO	**Idaho Springs**	**21.91**	**348**	*e*P	**P**	**20 34 49.2**	**+0.3**
	4.1nm,0.6s,mb3.9						
USIN	**University of**	**22.19**	**26**	*e*P	**P**	**20 34 51.6**	**-0.1**
	18nm,0.6s,mb4.6						
SRU	**San Rafael**	**22.64**	**338**	*e*P	**P**	**20 34 56.6**	**+0.5**
ARUT	**Antelope Range**	**22.71**	**331**	*e*P	**P**	**20 34 58.4**	**+1.6**
MSU	**Marysvale**	**22.76**	**334**	*e*P	**P**	**20 34 58.5**	**+1.3**
MVU	**Marysvale**	**22.77**	**334**	*e*P	**P**	**20 34 58.8**	**+1.4**
	16nm,1.1s,mb4.2						
JSC	**Jenkinsville**	**22.87**	**43**	P	**P**	**20 34 58.4**	**0.0**
CSU	**Charleston Sou**	**22.89**	**47**	P	**P**	**20 35 00.4**	**+1.8**
WCI	**Wyandotte Cave**	**23.00**	**28**	P	**P**	**20 34 58.9**	**-0.7**
	9.9nm,0.8s,mb4.2						
TMUT	**Trail Mountain**	**23.06**	**337**	*e*P	**P**	**20 35 00.9**	**+0.8**
TPNV	**Topopah Spring**	**23.47**	**325**	*e*P	**P**	**20 35 05.3**	**+1.2**
	9.0nm,0.8s,mb4.2						
NLU	**North Lily Min**	**23.96**	**336**	*e*P	**P**	**20 35 09.3**	**+0.5**
DAU	**Daniels Canyon**	**24.06**	**338**	*e*P	**P**	**20 35 09.9**	**+0.2**
TRCR	**Troy Canyon**	**24.18**	**329**	*e*P	**P**	**20 35 11.8**	**+0.8**
DUG	**Dugway**	**24.45**	**335**	*e*P	**P**	**20 35 13.9**	**+0.2**
	15nm,1.1s,mb4.2						
BGU	**Big Grassy Mou**	**25.16**	**336**	*e*P	**P**	**20 35 18.6**	**-1.8**
HWUT	**Hardware Ranch**	**25.23**	**339**	*e*P	**P**	**20 35 21.6**	**+0.6**
	12nm,0.6s,mb4.5						
HWUT				*e*pP	pP	20 35 36.1	-0.9
BLA	**Blacksburg**	**25.30**	**38**	P	**P**	**20 35 23.2**	**+1.4**
	29nm,1.0s,mb4.7						
MNV	**Mina**	**25.58**	**325**	*e*P	**P**	**20 35 25.1**	**+0.7**
	13nm,1.1s,mb4.3						
NVAR	**Mina Array Bea**	**25.66**	**325**	P	**P**	**20 35 26.5**	**+1.3**
	10nm,0.7s,mb4.4,baz=141,slow=10,SNR=40						
NVAR				PcP	PcP	20 38 56.4	+1.6
	1.5nm,0.6s,baz=140,slow=3.7,SNR=5.4						
NVAR				ScP		20 42 35.1	
	2.1nm,0.9s,baz=126,slow=4.5,SNR=9.8						
NVAR				LR	LR	20 46 50.3	
	comp=Z,302nm,18.1s,baz=210,slow=40						
BW06	**Boulder Array**	**25.66**	**343**	*e*P	**P**	**20 35 23.9**	**-1.2**
	8.9nm,0.7s,mb4.3						
BW06				*e*pP	pP	20 35 39.5	-1.7
PDAR	**Pinedale Array**	**25.66**	**343**	P	**P**	**20 35 24.6**	**-0.6**
	8.3nm,0.5s,mb4.4,baz=140,slow=9.5,SNR=53						
PDAR				pP	pP	20 35 39.0	-2.1
	8.2nm,0.9s,baz=153,slow=9.9,SNR=7.1						
PDAR				PcP	PcP	20 38 54.9	+0.1
	1.7nm,0.6s,baz=150,slow=4.8,SNR=8.7						
PDAR				pPcP		20 39 10.9	
	2.2nm,0.9s,baz=146,slow=5.3,SNR=3.6						
PDAR				LR	LR	20 46 33.9	
	comp=Z,1μm,19.9s,baz=175,slow=39						
JFWS	**Jewell Farm**	**25.74**	**16**	*e*P	**P**	**20 35 24.6**	**-1.3**
	14nm,0.6s,mb4.6						
HVU	**Hasel Valley**	**25.80**	**337**	*e*P	**P**	**20 35 26.1**	**-0.4**
REDW	**Red Top Meadow**	**26.58**	**342**	*e*P	**P**	**20 35 32.3**	**-1.3**
REDW				*e*pP	pP	20 35 47.7	-2.0
SNOW	**Snow King Moun**	**26.64**	**342**	P	**P**	**20 35 35.9**	**+1.7**
RRI2	**Red Ridge**	**26.71**	**341**	*e*P	**P**	**20 35 34.2**	**-0.6**
WUWY	**Wally Ulrich**	**26.71**	**342**	*e*P	**P**	**20 35 34.3**	**-0.5**
TPAW	**Teton Pass**	**26.73**	**342**	*e*P	**P**	**20 35 34.8**	**-0.2**
LOHW	**Long Hollow**	**26.74**	**342**	*e*P	**P**	**20 35 33.1**	**-1.9**
MOOW	**Moose Ponds**	**26.90**	**342**	*e*P	**P**	**20 35 35.4**	**-1.1**
IMW	**Indian Meadow**	**27.09**	**342**	*e*P	**P**	**20 35 37.1**	**-1.2**
OTAV	**Otavalo**	**27.66**	**128**	P	**P**	**20 35 42.6**	**-1.2**
	13nm,0.9s,mb4.5						
HLID	**Hailey**	**27.95**	**337**	*e*P	**P**	**20 35 44.9**	**-1.3**
	2.2nm,0.6s,mb3.9						
OHCM	**Honcut**	**28.08**	**322**	P	**P**	**20 35 46.5**	**-0.7**
QLMT	**Earthquake Lak**	**28.09**	**342**	P	**P**	**20 35 48.0**	**+0.7**
MCMT	**McKenzie Canyo**	**28.52**	**340**	*e*P	**P**	**20 35 51.2**	**+0.1**
BOZ	**Bozeman (W)**	**28.89**	**343**	*e*P	**P**	**20 35 53.4**	**-1.1**
	3.6nm,0.6s,mb4.2						
MOD	**Modoc**	**29.23**	**328**	*e*P	**P**	**20 35 56.6**	**-0.9**
	5.2nm,0.6s,mb4.3						
SDV	**Santo Domingo**	**29.83**	**105**	*e*P	**P**	**20 36 01.7**	**-1.5**
	8.5nm,0.6s,mb4.5						
HRY	**Holter Researc**	**29.93**	**343**	*e*P	**P**	**20 36 02.3**	**-1.4**
YBH	**Yreka Blue Hor**	**30.38**	**325**	P	**P**	**20 36 05.7**	**-2.1**
	2.4nm,0.4s,mb4.2,baz=164,slow=10.0,SNR=3.7						
CHMT	**Chamberlain Mo**	**30.52**	**342**	*e*P	**P**	**20 36 07.4**	**-1.5**
SADO	**Sadowa**	**31.45**	**29**	P	**P**	**20 36 13.5**	**-3.6**
	4.3nm,0.6s,mb4.3,baz=252,slow=8.4,SNR=3.9						
SADO				pPcP		20 39 24.6	
	4.6nm,0.9s,baz=308,slow=7.9,SNR=3.4						
SJG	**San Juan**	**31.92**	**85**	P	**P**	**20 36 21.6**	**+0.1**
	12nm,0.6s,mb4.8,baz=290,slow=9.8,SNR=3.9						
SJG	**San Juan**	**31.92**	**85**	P	**P**	**20 36 21.6**	**+0.1**
SLM	**Lac du Bonnet**	**31.93**	**5**	P	**P**	**20 36 18.2**	**-3.0**
	2.5nm,0.6s,mb4.1,baz=190,slow=9.3,SNR=3.0						
ULM				pP	pP	20 36 33.8	-4.0
	7.8nm,0.9s,baz=172,slow=8.4,SNR=5.9						
ULM				PcP	PcP	20 39 09.3	-0.9
	2.1nm,0.6s,baz=220,slow=2.1,SNR=3.6						
ULM				pPcP		20 39 25.4	
	3.7nm,0.8s,baz=289,slow=4.9,SNR=3.4						
ULM				LR	LR	20 49 45.8	
	comp=Z,113nm,20.3s,baz=205,slow=38						
ULM	**Lac du Bonnet**	**31.93**	**5**	P	**P**	**20 36 18.2**	**-3.0**
ULM				pP	pP	20 36 33.8	-4.0
ULM				PcP	PcP	20 39 09.3	-0.9
ULM				pPcP		20 39 25.4	
ULM				LR	LR	20 49 45.8	
SSOR	**Sweet Springs**	**32.47**	**329**	*e*P	**P**	**20 36 25.4**	**-0.6**
NEW	**Newport**	**32.95**	**339**	P	**P**	**20 36 29.3**	**-0.9**
	4.7nm,0.8s,mb4.4,baz=84,slow=10,SNR=3.4						
NEW				PcP	PcP	20 39 12.8	-0.3
	3.8nm,0.6s,baz=136,slow=2.9,SNR=5.3						
NEW				pPcP		20 39 29.6	
	1.9nm,0.4s,baz=81,slow=17,SNR=4.8						
NEW				LR	LR	20 51 10.4	
	comp=Z,220nm,19.1s,baz=132,slow=39						
NEW	**Newport**	**32.95**	**339**	P	**P**	**20 36 29.3**	**-0.9**
NEW				PcP	PcP	20 39 12.8	-0.3
NEW				pPcP		20 39 29.6	
NEW				LR	LR	20 51 10.4	
DPW	**Davenport**	**33.01**	**337**	*e*P	**P**	**20 36 29.5**	**-1.2**
FFC	**Flin Flon**	**36.30**	**358**	*e*P	**P**	**20 36 56.2**	**-2.4**
	13nm,1.0s,mb4.8						
FFC				*e*pP	pP	20 37 12.0	-3.6
EDM	**Edmonton**	**36.32**	**346**	*e*P	**P**	**20 36 56.6**	**-2.2**
BBB	**Bella Bella**	**40.37**	**333**	P	**P**	**20 37 32.4**	**-0.2**
	3.0nm,0.7s,mb4.2,baz=69,slow=14,SNR=4.7						
BBB				LR	LR	20 56 11.3	
	comp=Z,126nm,21.1s,baz=131,slow=39						
BBB	**Bella Bella**	**40.37**	**333**	P	**P**	**20 37 32.4**	**-0.2**
BBB				LR	LR	20 56 11.3	
SCHQ	**Schefferville**	**44.20**	**27**	P	**P**	**20 38 01.2**	**-2.7**
	4.3nm,0.5s,mb4.4,baz=246,slow=10,SNR=13						
SCHQ				pP	pP	20 38 16.5	-4.5
	3.0nm,0.5s,baz=227,slow=2.4,SNR=2.2						
SCHQ				sP	sP	20 38 22.9	-6.0
	5.9nm,0.5s,baz=251,slow=7.4,SNR=2.7						
SCHQ				PcP	PcP	20 39 47.2	-0.9
	6.4nm,0.9s,baz=231,slow=5.1,SNR=4.1						
SCHQ				LR	LR	20 58 39.6	
	comp=Z,165nm,18.1s,baz=317,slow=39						
SCHQ	**Schefferville**	**44.20**	**27**	P	**P**	**20 38 01.2**	**-2.7**
SCHQ				pP	pP	20 38 16.5	-4.5
SCHQ				sP	sP	20 38 22.9	-6.0
SCHQ				PcP	PcP	20 39 47.2	-0.9
SCHQ				LR	LR	20 58 39.6	
SAML	**Samuel**	**45.21**	**124**	*e*P	**P**	**20 38 12.2**	**-0.2**
	14nm,1.3s,mb4.5						
YKA	**Yellowknife Ar**	**45.24**	**350**	P	**P**	**20 38 09.9**	**-2.1**
	3.5nm,0.7s,mb4.2,baz=157,slow=7.7,SNR=6.8						
YKA				pP	pP	20 38 25.3	-3.9
	5.1nm,0.9s,baz=160,slow=7.6,SNR=6.5						
YKA				PcP	PcP	20 39 51.0	-0.5
	2.9nm,0.8s,baz=152,slow=4.0,SNR=5.3						
YKA				pPcP		20 40 06.9	
	2.0nm,0.7s,baz=156,slow=3.6,SNR=4.2						
YKA				LR	LR	20 58 26.0	
	comp=Z,327nm,18.5s,baz=135,slow=38						
YKA	**Yellowknife Ar**	**45.24**	**350**	P	**P**	**20 38 09.9**	**-2.1**
YKA				pP	pP	20 38 25.3	-3.9
YKA				PcP	PcP	20 39 51.0	-0.5
YKA				pPcP		20 40 07.0	
YKA				LR	LR	20 58 26.0	
DLBC	**Dease Lake**	**45.71**	**338**	P	**P**	**20 38 16.3**	**+0.5**
	3.6nm,0.6s,mb4.3,baz=158,slow=6.4,SNR=8.0						
DLBC				LR	LR	20 59 06.3	
	comp=Z,406nm,19.3s,baz=111,slow=38						
LPAZ	**La Paz**	**46.47**	**136**	P	**P**	**20 38 24.2**	**+1.8**
	3.1nm,0.8s,mb4.1,baz=334,slow=9.9,SNR=12						
LPAZ	**La Paz**	**46.47**	**136**	P	**P**	**20 38 24.2**	**+1.8**
FRB	**Frobisher Bay**	**50.05**	**18**	P	**P**	**20 38 47.2**	**-2.3**
	4.3nm,0.6s,mb4.6,baz=219,slow=6.5,SNR=5.2						
INK	**Inuvik**	**54.21**	**345**	P	**P**	**20 39 18.7**	**-1.9**
	7.8nm,0.6s,mb4.9,baz=127,slow=6.9,SNR=57						
INK				pP	pP	20 39 35.0	-3.3
	13nm,1.0s,baz=128,slow=8.7,SNR=10						
INK	**Inuvik**	**54.21**	**345**	*e*P	**P**	**20 39 18.4**	**-2.2**
	8.0nm,0.7s,mb4.9						
INK				*e*pP	pP	20 39 34.2	-4.0
THY	**Trims Highway**	**54.75**	**337**	*e*P	**P**	**20 39 24.3**	**-0.2**
SLKM	**Skilak Lake**	**55.11**	**332**	*e*P	**P**	**20 39 26.7**	**-0.5**
ILAR	**Eielson Array**	**55.91**	**338**	P	**P**	**20 39 31.8**	**-1.2**
	4.3nm,0.6s,mb4.7,baz=148,slow=5.7,SNR=65						
ILAR				pP	pP	20 39 47.7	-3.0
	3.6nm,0.9s,baz=142,slow=6.9,SNR=6.5						
ILAR				LR	LR	21 05 36.1	
	comp=Z,254nm,18.8s,baz=157,slow=38						
MCK	**McKinley**	**56.13**	**336**	*e*P	**P**	**20 39 33.5**	**-1.0**
	6.4nm,0.8s,mb4.7						
SPU	**Mount Spurr**	**56.22**	**333**	*e*P	**P**	**20 39 34.1**	**-1.0**
RSO	**Redoubt South**	**56.23**	**332**	*e*P	**P**	**20 39 34.6**	**-0.7**
BDFB	**Brasilia**	**61.19**	**120**	P	**P**	**20 40 11.8**	**+1.5**
	9.5nm

6.6nm,0.8s,baz=98,slow=2.1,SNR=11
ASPA Alice Springs 129.85 254 *i* PKP 20 49 22.2
ASPA Alice Springs 129.85 254 *e*PKP PKPdf 20 49 04.9 +2.4
ASPA *i* PKP 20 49 22.2
SHL Shillong 134.84 345 *e*P PKPdf 20 49 15.0 +3.1
FITZ Fitzroy Crossi 136.94 263 PKP PKPdf 20 49 18.6 +2.7
5.1nm,0.9s,baz=85,slow=2.0,SNR=6.3
FITZ pPKP 20 49 35.6
5.1nm,0.8s,baz=219,slow=2.6,SNR=5.3
CMAR Chiang Mai Arr 139.01 332 PKP PKPdf 20 49 22.1 +2.4
2.1nm,0.9s,slow=2.9,SNR=4.1
CMAR pPKP 20 49 39.5
2.7nm,0.9s,baz=323,slow=2.0,SNR=6.5
HYB Hyderabad 144.37 3 *i* PKP PKPdf 20 49 28.5 -0.6
HYB *e*pPKP 20 49 45.0
HYB Hyderabad 144.37 3 *e*P PKPbc 20 49 28.5 -0.3

IDC 28 20:32:55.8±38.0, 30.12S×175.95W, mb4.0/3, mb1 4.2/3, mb1mx3.8/12, Error ellipse: s-maj=714.0km s-min=181.6km az=97.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**36.26**	**256**	P	P	20 40 01.1	-1.7
	3.5nm,0.9s,baz=111,slow=10,SNR=4.4						
ASAR	**Alice Springs**	**44.89**	**266**	P	P	20 41 12.0	-2.1
	0.7nm,0.6s,baz=104,slow=7.6,SNR=8.2						
WRA	**Warramunga Arr**	**45.86**	**271**	P	P	20 41 20.0	-1.7
	0.9nm,0.5s,baz=111,slow=8.0,SNR=11						

BUC 28 20:33:39.4±1.4, 45.47N×26.33E, h154km±11km, MD3.6, 2C-4D, Error ellipse: s-maj=18.2km s-min=9.7km az=43.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLR	**Muntele Rosu**	**0.27**	**275**	⇑*i*P	P	20 34 00.4	-0.3
MLR				*i* S	S	20 34 15.7	-1.3
ISR	**Istrita**	**0.38**	**157**	*i* P	P	20 34 01.3	+0.2
VRI	**Vrincioaia**	**0.48**	**35**	⇓*e*P	P	20 34 00.6	-0.9
VRI				*i* S	S	20 34 16.8	-1.7
BRD	**Bordesti**	**0.50**	**80**	⇓*i*P	P	20 34 02.4	+0.8
BUC1	**Bucharest**	**1.14**	**191**	S	S	20 34 27.5	+1.0
CFR	**Carcaliu**	**1.31**	**102**	⇓*e*P	P	20 34 07.2	-0.4
TIRR	**Tirgusor**	**1.79**	**124**	⇓*i*P	P	20 34 12.9	+0.2
TIRR				*i* S	S	20 34 36.8	-1.5
BURAR	**Bucovina Array**	**2.28**	**341**	⇑*i*P	P	20 34 18.5	0.0

*MOS **28** 20:45:16.9±0.7, 7.02S×80.41W, h33km, mb5.3/13, Error ellipse: s-maj=23.8km s-min=14.6km az=124.7*
*IDC **28** 20:45:18.2±0.4, 7.03S×80.34W, h32km±2km, mb4.7/19, mb1 4.9/20, mb1mx4.8/22, ML4.5/1, MS4.4/10, Ms1 4.4/10, ms1mx4.4/12, Error ellipse: s-maj=18.3km s-min=11.6km az=61.0*
*HRVD **28** 20:45:22.1±0.4, 7.22S×80.31W, h43km±1km, MW5.1/60, Centroid moment Tensor Solution. LP body waves: s36,c51;Mantle waves: s60,c83; Half duration: 0 Moment tensor: Scale 10^16^Nm; Mrr3.99±.27; Mθθ0.80±.18; Mφφ-4.80±.21; Mrθ-1.94±.16; Mrφ0.55±.13; Mθφ3.35±.21; Best double couple: M0 5.91×10^16^ NP1:φs194°, δ28°, λ123°. NP2:φs338°, δ66°, λ74°. Principal axes: T 5.7, Plg65°, Azm220°; N .42, Plg15°, Azm344°; P -6.12, Plg20°, Azm80°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **28** 20:45:22.1±0.9, 7.01S×80.25W, h64km±8km, mb5.4/74 Error ellipse: s-maj=6.7km s-min=3.8km az=50.0*
NEIC Felt [III] at Chiclayo.
*SYO **28** 20:45:22.5, 6.99S×80.20W, h69km, MB5.4*
*BJI **28** 20:45:22.0, 7.00S×80.30W, h64km, mB5.3, Ms5.3, Msz4.7*
ISC 28 20:45:17.3±0.2, 7.01S±0.04×80.33W±0.05, h36km, h36km±.6km: pP-P, n302, σ0s88/194, mb5.4/90, MS4.5/91, 14C-5D, Off coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OTAV	**Otavalo**	**7.44**	**15**	*e*P	**P**	**20 47 07.8**	**+1.6**
	330nm,0.9s						
PAYG	**Puerto Ayora**	**11.75**	**302**	*e*P	**P**	**20 48 08.5**	**+2.9**
	67nm,0.6s						
LPAZ	**La Paz**	**15.09**	**129**	Pn	**P**	**20 48 50.8**	**+1.0**
	1.0nm,0.3s,baz=324,slow=14,SNR=22						
LPAZ	**La Paz**	**15.09**	**129**	P	**P**	**20 48 50.8**	**+1.0**
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SAML	**Samuel**	**17.09**	**98**	*e*P	**P**	**20 49 08.7**	**-6.6**
	comp=Z,326nm,1.1s						
SDV	**Santo Domingo**	**18.51**	**32**	*e*P	**P**	**20 49 33.6**	**+0.6**
	comp=Z,83nm,1.0s						
LVC	**Limon Verde**	**19.02**	**146**	*e*P	**P**	**20 49 39.3**	**+0.2**
	comp=Z,88nm,1.1s						
AOPR	**Arecibo Observ**	**28.54**	**28**	*e*P	**P**	**20 51 11.5**	**-0.5**
SJG	**San Juan**	**28.62**	**29**	P	**P**	**20 51 13.1**	**+0.3**
	comp=Z,45nm,0.7s,mb5.3,baz=251,slow=6.9,SNR=12						
SJG	**San Juan**	**28.62**	**29**	P	**P**	**20 51 13.1**	**+0.3**
SJG				pmax	pmax		
	comp=Z,45nm,0.7s						
SJG	**San Juan**	**28.62**	**29**	*e*P	**P**	**20 51 12.8**	**+0.1**
	comp=Z,87nm,1.0s,mb5.4						
SJG				LR	LR		
	comp=Z,1μm,21.0s,MS4.5						
HUMP	**Col San Antoni**	**28.79**	**30**	*e*P	**P**	**20 51 11.4**	**-3.0**
BDFB	**Brasilia**	**32.79**	**108**	P	**P**	**20 51 49.8**	**+0.1**
	comp=Z,9.1nm,1.0s,mb4.7,baz=282,slow=6.2,SNR=7.6						
BDFB	**Brasilia**	**32.79**	**108**	P	**P**	**20 51 49.8**	**+0.1**
BDFB				pmax	pmax		
	comp=Z,9.0nm,1.0s						
BAO	**Brasilia Array**	**32.81**	**108**	P	**P**	**20 51 47.5**	**-2.3**
BAO				*e*		20 52 37.6	
BAO				*e*		20 58 43.8	
DWPF	**Disney**	**34.92**	**358**	PFAKE		20 52 20.0	+12
DWPF				LR	LR		
	comp=Z,402nm,20.0s,MS4.2						
TRQA	**Tornquist**	**35.10**	**154**	*e*P	**P**	**20 52 07.8**	**-1.6**
	comp=Z,64nm,1.1s,mb5.5						
TRQA				LR	LR		
	comp=Z,1μm,21.0s,MS4.7						
HKT	**Hockley**	**39.65**	**339**	*e*P	**P**	**20 52 47.7**	**+0.1**
	comp=Z,49nm,1.1s,mb5.2						
HKT				*e*	pP	20 53 00.1	+2.2
NHSC	**New Hope**	**39.89**	**0**	PFAKE		20 53 00.0	+10
NHSC				LR	LR		
	comp=Z,515nm,20.0s,MS4.4						
LRAL	**Lakeview Retre**	**40.32**	**351**	*e*P	**P**	**20 52 52.7**	**-0.4**
	comp=Z,93nm,1.1s,mb5.4						
LRAL				*e*	pP	20 53 03.6	0.0
LRAL				LR	LR		
	comp=Z,211nm,19.0s,MS4.0						
NATX	**Nacogdoches**	**40.90**	**341**	*e*P	**P**	**20 52 59.2**	**+1.2**
	comp=Z,108nm,1.3s,mb5.3						
NATX				*e*	pP	20 53 09.9	+1.5
NATX				*e*		20 53 16.4	
NATX				LR	LR		
	comp=Z,321nm,22.0s,MS4.1						
JCT	**Junction City**	**41.69**	**334**	*e*P	**P**	**20 53 05.4**	**+0.9**
	comp=Z,56nm,1.0s,mb5.2						
JCT				*e*	pP	20 53 16.7	+1.8
JCT				LR	LR		
	comp=Z,241nm,22.0s,MS4.0						
BBSR	**BB Station**	**41.90**	**20**	PFAKE		20 53 20.0	+14
BBSR				LR	LR		
	comp=Z,509nm,19.0s,MS4.4						
OXF	**Oxford**	**42.17**	**349**	PFAKE		20 53 20.0	+12
OXF				LR	LR		
	comp=Z,262nm,20.0s,MS4.1						
CPCT	**Cooper Cave**	**42.41**	**355**	*e*P	**P**	**20 53 09.7**	**-0.7**
CPCT				*e*	pP	20 53 20.1	-0.7
TXAR	**Lajitas Array**	**42.54**	**329**	P	**P**	**20 53 12.3**	**+0.8**
	comp=Z,3.5nm,0.9s,baz=148,slow=12,SNR=7.1						
TXAR				sP	sP	20 53 23.2	-3.3
	comp=Z,5.6nm,0.9s,baz=146,slow=9.0,SNR=5.6						
TXAR				PcP	PcP	20 55 03.8	-0.4
	comp=Z,1.2nm,0.5s,baz=135,slow=7.1,SNR=3.5						
TXAR				sPcP		20 55 15.3	
	comp=Z,4.0nm,0.8s,baz=135,slow=7.1,SNR=5.5						
TXAR				LR	LR	21 08 52.6	
	comp=Z,258nm,21.9s,baz=175,slow=33						
TXAR	**Lajitas Array**	**42.54**	**329**	P	**P**	**20 53 12.3**	**+0.8**
TXAR				sP	sP	20 53 23.2	-3.3
TXAR				PcP	PcP	20 55 03.8	-0.4
TXAR				sPcP		20 55 15.3	
TXAR				LR	LR	21 08 52.6	
LTX	**Lajitas**	**42.54**	**329**	PFAKE		20 53 20.0	+8.5
LTX				LR	LR		
	comp=Z,559nm,21.0s,MS4.4						
UALR	**University of**	**43.08**	**345**	*e*P	**P**	**20 53 16.1**	**+0.3**
	comp=Z,69nm,1.0s,mb5.3						
UALR				*e*	pP	20 53 25.6	-0.7
MIAR	**Mount Ida**	**43.18**	**344**	*e*P	**P**	**20 53 17.0**	**+0.3**
	comp=Z,70nm,1.0s,mb5.3						
MIAR				*e*	pP	20 53 26.8	-0.4
MIAR				LR	LR		
	comp=Z,330nm,22.0s,MS4.2						
WVT	**Waverly**	**43.48**	**351**	*e*P	**P**	**20 53 17.5**	**-1.6**
	comp=Z,28nm,1.0s,mb5.0						
WVT				*e*	pP	20 53 28.1	-1.5
WVT				LR	LR		
	comp=Z,363nm,21.0s,MS4.3						
BLA	**Blacksburg**	**43.98**	**360**	PFAKE		20 53 30.0	+6.9
BLA				LR	LR		
	comp=Z,408nm,20.0s,MS4.3						
RCBR	**Riachuelo**	**44.16**	**91**	*e*P	**P**	**20 53 24.4**	**-0.4**
	comp=Z,57nm,1.3s,mb5.1						
RCBR				LR	LR		
	comp=Z,2μm,19.0s,MS5.0						
WMOK	**Wichita Mounta**	**45.03**	**338**	*e*P	**P**	**20 53 31.4**	**-0.1**
	comp=Z,50nm,1.1s,mb5.3						
WMOK				*e*	pP	20 53 42.5	+0.5
CBN	**Corbin**	**45.06**	**3**	PFAKE		20 53 40.0	+8.3
CBN				LR	LR		
	comp=Z,475nm,21.0s,MS4.4						
GDL2	**Guadalupe Moun**	**45.22**	**331**	*e*P	**P**	**20 53 33.8**	**+0.6**
GDL2				*e*	pP	20 53 45.1	+1.5
USIN	**University of**	**45.26**	**352**	*e*P	**P**	**20 53 32.3**	**-1.1**
	comp=Z,46nm,0.9s,mb5.3						
USIN				*e*	pP	20 53 42.7	-1.1
WCI	**Wyandotte Cave**	**45.34**	**353**	*e*P	**P**	**20 53 32.1**	**-1.9**
	comp=Z,18nm,0.8s,mb5.0						
WCI				LR	LR		
	comp=Z,297nm,20.0s,MS4.2						
CPRX	**Cap Rock**	**45.67**	**332**	*e*P	**P**	**20 53 38.0**	**+1.3**
CPRX				*e*	pP	20 53 48.6	+1.4
FVM	**French Village**	**45.73**	**349**	*e*P	**P**	**20 53 37.0**	**-0.2**
	comp=Z,55nm,0.9s,mb5.5						
FVM				*e*	pP	20 53 46.8	-0.9
CCM	**Cathedral Cave**	**45.97**	**348**	*e*P	**P**	**20 53 39.0**	**0.0**
	comp=Z,112nm,1.1s,mb5.7						
CCM				*e*	pP	20 53 49.1	-0.4
CCM				LR	LR		
	comp=Z,161nm,19.0s,MS4.0						
AMTX	**Amarillo**	**46.28**	**336**	*e*P	**P**	**20 53 40.1**	**-1.4**
	comp=Z,36nm,1.0s,mb5.3						
AMTX				*e*	pP	20 53 52.9	+0.9
MCWV	**Mont Chateau**	**46.43**	**1**	PFAKE		20 53 50.0	+7.4
MCWV				LR	LR		
	comp=Z,707nm,22.0s,MS4.6						
ACSO	**Alum Creek Sta**	**47.06**	**357**	*e*P	**P**	**20 53 46.6**	**-0.9**
	comp=Z,63nm,0.9s,mb5.5						
ACSO				*e*	pP	20 53 56.4	-1.7
ACSO				LR	LR		
	comp=Z,447nm,20.0s,MS4.4						
SSPA	**Standing Stone**	**47.46**	**3**	PFAKE		20 54 00.0	+9.3
SSPA				LR	LR		
	comp=Z,287nm,21.0s,MS4.2						
BNM	**Barren Site**	**47.91**	**330**	*e*P	**P**	**20 53 55.4**	**+1.1**
BNM				*e*	pP	20 54 06.5	+1.7
EFI	**East Falkland**	**48.18**	**162**	P	**P**	**20 53 55.2**	**-0.9**
	comp=Z,40nm,0.8s,mb5.5						
EFI				LR	LR		
	comp=Z,204nm,20.0s,MS4.1						
KSU1	**Kansas State U**	**48.29**	**343**	*e*P	**P**	**20 53 56.6**	**-0.6**
KSU1				*e*	pP	20 54 06.3	-1.4
LAZ	**Ladron**	**48.36**	**330**	*e*P	**P**	**20 53 59.0**	**+1.2**
LAZ				*e*	pP	20 54 10.5	+2.2
ANMO	**Albuquerque**	**48.47**	**331**	*e*P	**P**	**20 53 59.9**	**+1.3**
ANMO	**Albuquerque**	**48.47**	**331**	*e*P	**P**	**20 53 59.5**	**+0.9**
	comp=Z,23nm,0.9s,mb5.2						
ANMO				*e*	pP	20 54 10.8	+1.7
TUC	**Tucson**	**48.69**	**325**	*e*P	**P**	**20 54 00.7**	**+0.3**
	comp=Z,10nm,1.0s,mb4.8						
TUC				*e*	pP	20 54 12.3	+1.5
TUC				LR	LR		
	comp=Z,584nm,20.0s,MS4.6						
BINY	**Binghamton**	**49.13**	**4**	*e*P	**P**	**20 54 00.8**	**-2.8**
	comp=Z,30nm,0.9s,mb5.3						
BINY				*e*	pP	20 54 12.6	-1.5
BINY				LR	LR		
	comp=Z,510nm,22.0s,MS4.5						
AAM	**Ann Arbor**	**49.16**	**357**	PFAKE		20 54 20.0	+16
AAM				LR	LR		
	comp=Z,658nm,22.0s,MS4.6						
WES	**Weston**	**49.84**	**9**	PFAKE		20 54 20.0	+11
WES				LR	LR		
	comp=Z,2μm,21.0s,MS5.0						
SDCO	**Great Sand Dun**	**50.33**	**334**	*e*P	**P**	**20 54 13.6**	**+0.7**
	comp=Z,26nm,1.0s,mb5.2						
SDCO				*e*	pP	20 54 24.5	+1.1
SDCO				LR	LR		
	comp=Z,342nm,20.0s,MS4.4						
JFWS	**Jewell Farm**	**50.49**	**351**	PFAKE		20 54 30.0	+16
JFWS				LR	LR		
	comp=Z,212nm,19.0s,MS4.2						
ACCN	**Adirondack Com**	**50.52**	**6**	*e*P	**P**	**20 54 14.2**	**0.0**
ACCN				*e*	pP	20 54 24.2	-0.6
FFD	**Franklin Falls**	**50.85**	**8**	P	**P**	**20 54 17.4**	**+0.7**
	comp=Z,88nm,1.1s,mb5.6						
FFD				*e*	pP	20 54 26.2	-1.1
NCB	**Newcomb**	**51.04**	**6**	PFAKE		20 54 30.0	+12
NCB				LR	LR		
	comp=Z,424nm,20.0s,MS4.5						
SADO	**Sadowa**	**51.55**	**1**	P	**P**	**20 54 20.0**	**-2.0**
	comp=Z,5.1nm,0.7s,mb4.5,baz=156,slow=7.6,SNR=3.7						
SADO				pP	pP	20 54 30.1	-2.4
	comp=Z,6.6nm,0.6s,baz=198,slow=6.6,SNR=5.5						
SADO				sP	sP	20 54 35.0	-1.9
	comp=Z,11nm,1.0s,baz=352,slow=3.4,SNR=3.5						
SADO				LR	LR	21 15 43.3	
	comp=Z,369nm,19.1s,MS4.4,baz=198,slow=35						
SADO	**Sadowa**	**51.55**	**1**	P	**P**	**20 54 20.0**	**-2.0**
SADO				pP	pP	20 54 30.1	-2.4
SADO				sP	sP	20 54 35.0	-1.9
SADO				LR	LR	21 15 43.3	
LOZ	**Lake Ozonia**	**51.65**	**5**	*e*P	**P**	**20 54 22.4**	**-0.4**
LOZ				*e*	pP	20 54 32.6	-0.7
RW3	**Ridgway**	**51.72**	**333**	*e*P	**P**	**20 54 23.2**	**-0.2**
MSNY	**Massena**	**52.00**	**5**	*e*P	**P**	**20 54 24.6**	**-0.7**
MSNY				*e*	pP	20 54 35.1	-0.8
PV01	**Paradox Valley**	**52.04**	**332**	*e*P	**P**	**20 54 26.8**	**+1.0**
PV01				*e*	pP	20 54 38.2	+1.8
ISCO	**Idaho Springs**	**52.10**	**335**	*e*P	**P**	**20 54 26.6**	**+0.4**
	comp=Z,14nm,1.1s,mb4.8						
ISCO				*e*	pP	20 54 37.3	+0.5
ISCO				*e*PcP	PcP	20 55 36.8	-1.2
ISCO				LR	LR		
	comp=Z,358nm,21.0s,MS4.4						
WVL	**Waterville**	**52.23**	**10**	PFAKE		20 54 40.0	+13
WVL				LR	LR		
	comp=Z,4μm,20.0s,MS5.5						
PV10	**Paradox Valley**	**52.45**	**332**	*e*P	**P**	**20 54 28.7**	**-0.2**
EMMW	**East Machias**	**52.77**	**12**	PFAKE		20 54 40.0	+8.9
EMMW				LR	LR		
	comp=Z,3μm,20.0s,MS5.4						
NEN	**Nelson**	**53.42**	**325**	*e*P	**P**	**20 54 35.9**	**-0.3**
NEN				*e*	pP	20 54 46.9	+0.1
SRU	**San Rafael**	**53.74**	**331**	*e*P	**P**	**20 54 38.5**	**0.0**
SRU				*e*	pP	20 54 49.7	+0.6
MSU	**Marysvale**	**54.10**	**329**	*e*P	**P**	**20 54 41.4**	**+0.3**
MVU	**Marysvale**	**54.11**	**329**	*e*P	**P**	**20 54 41.6**	**+0.5**
	comp=Z,32nm,1.3s,mb5.1						
MVU				*e*	pP	20 54 51.5	-0.3
MVU				LR	LR		
	comp=Z,608nm,19.0s,MS4.7						
ARUT	**Antelope Range**	**54.21**	**328**	*e*P	**P**	**20 54 42.7**	**+0.8**
RKT	**Rikitea**	**54.82**	**247**	*e*P	**P**	**20 54 45.3**	**-1.2**
	comp=Z,150nm,1.1s,mb5.9						
MPU	**Maple Canyon**	**54.98**	**331**	*e*P	**P**	**20 54 47.7**	**+0.2**
MPU				*e*	pP	20 54 59.4	+1.2
DAU	**Daniels Canyon**	**55.11**	**331**	*e*P	**P**	**20 54 48.9**	**+0.4**
TPNV	**Topopah Spring**	**55.14**	**325**	PFAKE		20 55 00.0	+11
TPNV				LR	LR		
	comp=Z,226nm,20.0s,MS4.2						
NLU	**North Lily Min**	**55.15**	**330**	*e*P	**P**	**20 54 49.2**	**+0.4**
RSSD	**Black Hills**	**55.21**	**339**	*e*P	**P**	**20 54 48.7**	**-0.4**
	comp=Z,28nm,1.1s,mb5.2						
RSSD				*e*	pP	20 55 00.2	+0.4
JLU	**Jordanelle**	**55.35**	**331**	*e*P	**P**	**20 54 50.6**	**+0.5**
JLU				*e*	pP	20 55 01.9	+1.0
DAC	**Darwin (Calif)**	**55.46**	**324**	PFAKE		20 55 00.0	+9.0
DAC				LR	LR		
	comp=Z,224nm,20.0s,MS4.2						
EYMN	**Ely**	**55.59**	**351**	*e*P	**P**	**20 54 50.1**	**-1.7**
	comp=Z,40nm,1.0s,mb5.4						
EYMN				*e*	pP	20 55 00.2	-2.4
EYMN				LR	LR		
	comp=Z,270nm,20.0s,MS4.3						
DUG	**Dugway**	**55.70**	**330**	*e*P	**P**	**20 54 53.1**	**+0.4**
	comp=Z,62nm,1.4s,mb5.5						
DUG				LR	LR		
	comp=Z,272nm,21.0s,MS4.3						
TCUT	**Toone Canyon**	**55.74**	**332**	*e*P	**P**	**20 54 50.0**	**-2.9**
TCUT				*e*	pP	20 54 59.9	-3.8
HWUT	**Hardware Ranch**	**56.19**	**332**	*e*P	**P**	**20 54 55.9**	**-0.3**
	comp=Z,118nm,1.3s,mb5.8						
HWUT				LR	LR		
	comp=Z,531nm,20.0s,MS4.6						
BW06	**Boulder Array**	**56.22**	**334**	PFAKE		20 55 10.0	+14
BW06				LR	LR		
	comp=Z,481nm,19.0s,MS4.6						
PDAR	**Pinedale Array**	**56.22**	**334**	P	**P**	**20 54 55.5**	**-0.8**
	comp=Z,12nm,1.1s,mb4.9,baz=143,slow=7.4,SNR=39						
PDAR				pP	pP	20 55 07.0	-0.2
	comp=Z,8.0nm,1.1s,baz=144,slow=7.8,SNR=7.0						
PDAR				PcP	PcP	20 55 52.5	-1.2
	comp=Z,3.6nm,0.8s,baz=135,slow=4.2,SNR=3.8						
PDAR				pPcP		20 55 59.4	
	comp=Z,1.8nm,0.7s,baz=180,slow=7.4,SNR=2.5						
PDAR				LR	LR	21 19 01.4	
	comp=Z,319nm,18.8s,MS4.4,baz=338,slow=36						
BGU	**Big Grassy Mou**	**56.36**	**331**	*e*P	**P**	**20 54 56.7**	**-0.7**
TPH	**Tonopah**	**56.48**	**325**	*e*P	**P**	**20 54 58.1**	**-0.2**
	comp=Z,30nm,1.2s,mb5.2						
TPH				*e*	pP	20 55 10.3	+1.2
TPH				LR	LR		
	comp=Z,363nm,20.0s,MS4.5						
MTUM	**Tungsten Hills**	**56.76**	**324**	*e*P	**P**	**20 55 00.5**	**+0.2**
AHID	**Auburn Hatcher**	**56.90**	**333**	*e*P	**P**	**20 55 00.3**	**-0.9**
	comp=Z,36nm,1.2s,mb5.3						
AHID				LR	LR		
	comp=Z,466nm,21.0s,MS4.6						
HVU	**Hansel Valley**	**56.90**	**331**	*e*P	**P**	**20 55 00.4**	**-0.9**
OMM	**Old Mammoth Mi**	**57.19**	**324**	*e*P	**P**	**20 55 03.6**	**+0.3**
MNV	**Mina**	**57.26**	**325**	*e*P	**P**	**20 55 03.9**	**+0.1**
	comp=Z,33nm,1.2s,mb5.2						
MNV				*e*	pP	20 55 12.9	-1.8
REDW	**Red Top Meadow**	**57.26**	**334**	*e*P	**P**	**20 55 03.3**	**-0.5**
NVAR	**Mina Array Bea**	**57.34**	**325**	P	**P**	**20 55 04.8**	**+0.3**
	comp=Z,16nm,1.1s,mb5.0,baz=134,slow=7.6,SNR=59						
NVAR				pP	pP	20 55 13.6	-1.7
	comp=Z,12nm,1.0s,baz=136,slow=6.8,SNR=7.0						
NVAR				LR	LR	21 19 12.4	
	comp=Z,185nm,19.4s,MS4.2,baz=120,slow=36						
NVAR	**Mina Array Bea**	**57.34**	**325**	P	**P**	**20 55 04.8**	**+0.3**
NVAR				pP	pP	20 55 13.6	-1.7
NVAR				LR	LR	21 19 12.4	
LOHW	**Long Hollow**	**57.36**	**334**	*e*P	**P**	**20 55 03.7**	**-0.8**
WUWY	**Wally Ulrich**	**57.36**	**334**	*e*P	**P**	**20 55 03.9**	**-0.6**
TPAW	**Teton Pass**	**57.41**	**334**	*e*P	**P**	**20 55 04.6**	**-0.3**
MOOW	**Moose Ponds**	**57.53**	**334**	*e*P	**P**	**20 55 05.0**	**-0.7**
IMW	**Indian Meadow**	**57.73**	**334**	*e*P	**P**	**20 55 06.8**	**-0.3**
LKWY	**Lake**	**58.04**	**335**	PFAKE		20 55 20.0	+11
LKWY				LR	LR		
	comp=Z,757nm,19.0s,MS4.8						
YFT	**Old Faithful**	**58.13**	**335**	*e*P	**P**	**20 55 11.6**	**+1.7**
BMN	**Battle Mountai**	**58.15**	**327**	*e*P	**P**	**20 55 09.9**	**-0.1**
	comp=Z,64nm,1.4s,mb5.5						
BMN				LR	LR		
	comp=Z,354nm,19.0s,MS4.5						
LAO	**LASA Array**	**58.20**	**339**	PFAKE		20 55 20.0	+10
LAO				LR	LR		
	comp=Z,104nm,19.0s,MS4.0						
CMB	**Columbia Colle**	**58.29**	**323**	*e*P	**P**	**20 55 10.1**	**-1.0**
	comp=Z,12nm,1.2s,mb4.8						
CMB				LR	LR		
	comp=Z,326nm,19.0s,MS4.5						
ULM	**Lac du Bonnet**	**58.60**	**348**	P	**P**	**20 55 11.8**	**-1.3**
	comp=Z,39nm,1.0s,mb5.4,baz=165,slow=7.1,SNR=22						
ULM				pP	pP	20 55 22.0	-1.8
	comp=Z,24nm,0.8s,baz=173,slow=7.8,SNR=9.0						
QLMT	**Earthquake Lak**	**58.69**	**335**	*e*P	**P**	**20 55 14.7**	**+0.9**
GCMT	**Greycliff**	**58.74**	**336**	*e*P	**P**	**20 55 13.9**	**-0.2**
WCN	**Washoe City**	**58.77**	**325**	*e*P	**P**	**20 55 15.1**	**+0.8**
	comp=Z,37nm,1.1s,mb5.3						
PMSA	**Palmer Station**	**58.82**	**172**	*e*P	**P**	**20 55 13.2**	**-1.2**
	comp=Z,52nm,1.3s,mb5.4						
PMSA				*e*	pP	20 55 24.7	-0.4
HLID	**Hailey**	**59.04**	**332**	*e*P	**P**	**20 55 16.3**	**+0.1**
	comp=Z,38nm,1.1s,mb5.3						
HLID				LR	LR		
	comp=Z,261nm,20.0s,MS4.4						
DGMT	**Dagmar**	**59.09**	**342**	PFAKE		20 55 30.0	+14
DGMT				LR	LR		
	comp=Z,259nm,22.0s,MS4.3						
MCMT	**McKenzie Canyo**	**59.30**	**334**	*e*P	**P**	**20 55 18.0**	**0.0**
BOZ	**Bozeman (W)**	**59.43**	**335**	*e*P	**P**	**20 55 18.4**	**-0.4**
	comp=Z,87nm,1.4s,mb5.6						
BOZ				*e*	pP	20 55 29.5	-0.2
BOZ				LR	LR		
	comp=Z,376nm,19.0s,MS4.5						
BEKR	**Beckwourth**	**59.49**	**325**	*e*P	**P**	**20 55 19.7**	**+0.3**
	comp=Z,42nm,1.2s,mb5.3						
OHCM	**Honcut**	**59.79**	**324**	*e*P	**P**	**20 55 21.7**	**+0.2**
HRY	**Holter Researc**	**60.36**	**336**	*e*P	**P**	**20 55 25.4**	**+0.2**
MOD	**Modoc**	**60.84**	**327**	*e*P	**P**	**20 55 28.6**	**0.0**
	comp=Z,75nm,1.2s,mb5.7						
CHMT	**Chamberlain Mo**	**61.12**	**335**	*e*P	**P**	**20 55 30.2**	**-0.2**
WDC	**Whiskeytown Da**	**61.22**	**324**	*e*P	**P**	**20 55 29.1**	**-2.1**

COR e pP 20 56 04.3 +2.1
SAW Saint Andrews 64.45 332 P **P** **20 55 53.2 +0.8**
NLW Nelson Butte 65.16 332 *eP* **P** **20 55 57.5 +0.4**
BMW Boistfort Moun 65.48 329 *eP* **P** **20 55 59.3 +0.2**
RPW Rockport 65.98 331 *eP* **P** **20 56 02.2 -0.1**
GNW Green Mountain 66.01 330 *eP* **P** **20 56 02.0 -0.5**
GNW e pP 20 56 13.6 +0.1
EDM Edmonton 66.19 339 *eP* **P** **20 56 02.3 -1.2**
EDM e pP 20 56 13.9 -0.6
PMOR Pomariorio Ree 66.59 257 *eP* **P** **20 56 07.2 +0.5**
comp=Z,142nm,1.1s,mb5.9
MEH Mehetia 66.72 254 *eP* **P** **20 56 07.6 +0.1**
comp=Z,111nm,1.2s,mb5.8
OCWA Octopus Mounta 66.81 329 *eP* **P** **20 56 08.6 +1.1**
comp=Z,35nm,1.1s,mb5.3
PGC Sidney 67.06 331 *eP* **P** **20 56 09.3 +0.3**
comp=Z,58nm,1.0s,mb5.6
PAE Paea 68.17 254 *eP* **P** **20 56 16.9 +0.4**
comp=Z,117nm,1.0s,mb5.9
BBB Bella Bella 71.63 331 P **P** **20 56 37.4 +0.4**
comp=Z,16nm,0.9s,mb4.9,baz=156,slow=8.1,SNR=7.3
YKA Yellowknife Ar 74.12 344 P **P** **20 56 50.8 -0.8**
comp=Z,10nm,0.9s,mb4.8,baz=139,slow=5.7,SNR=24
YKA pP pP 20 57 01.5 -1.1
comp=Z,12nm,0.8s,baz=138,slow=5.8,SNR=13
YKA Yellowknife Ar 74.12 344 P **P** **20 56 50.8 -0.7**
YKA *PP pP 20 57 01.5 -1.1
YKA pmax pmax
comp=Z,10.0nm,0.9s
YKA pmax pmax
comp=Z,13nm,0.8s
YKA Yellowknife Ar 74.12 344 P **P** **20 56 50.8 -0.8**
YKA pP pP 20 57 01.5 -1.1
LIC Lamto 76.27 82 *eP* **P** **20 57 05.3 +0.4**
comp=Z,65nm,1.0s,mb5.5
LIC Lamto 76.27 82 *eP* **P** **20 57 04.5 -0.4**
comp=Z,48nm,1.1s,mb5.0
TIC Toumodi 76.35 81 *eP* **P** **20 57 04.9 -0.4**
comp=Z,187nm,1.3s,mb5.9
DLBC Dease Lake 76.43 336 P **P** **20 57 05.9 +1.1**
comp=Z,34nm,1.0s,mb5.2,baz=135,slow=6.5,SNR=29
DLBC sP sP 20 57 17.4 -2.5
comp=Z,31nm,1.0s,baz=125,slow=5.7,SNR=12
DLBC Dease Lake 76.43 336 *eP* **P** **20 57 06.0 +1.1**
DLBC e pP 20 57 16.7 +0.8
DBIC Dimbokro 76.51 81 P **P** **20 57 05.9 -0.3**
comp=Z,13nm,0.9s,mb4.9,baz=232,slow=5.8,SNR=14
DBIC pP pP 20 57 15.9 -1.3
comp=Z,15nm,0.8s,baz=256,slow=5.7,SNR=8.5
DBIC LR LR 21 29 31.9
comp=Z,970nm,20.0s,MS5.1,baz=234,slow=35
DBIC Dimbokro 76.51 81 P **P** **20 57 05.9 -0.3**
DBIC *PP pP 20 57 15.9 -1.3
DBIC pmax pmax
comp=Z,13nm,0.9s
DBIC pmax pmax
comp=Z,15nm,0.8s
DBIC MLR MLR
comp=Z,970nm,20.0s
KIC Kosan Boka 76.58 82 *eP* **P** **20 57 06.5 -0.1**
comp=Z,152nm,1.1s,mb5.8
VNA3 Neumayer Olymp 77.23 162 ⇑*iP* **P** **20 57 10.3 +1.1**
VNA3 Neumayer Olymp 77.23 162 ⇑*i* pP 20 57 19.9 -0.3
VNA3 Neumayer Olymp 77.23 162 ⇑*i* sP 20 57 29.8 +5.6
VNA3 Neumayer Olymp 77.23 162 ⇑*i* Px 20 57 35.3
VNA1 Neumayer--Stat 77.52 161 ⇑*iP* **P** **20 57 12.5 +1.7**
VNA1 Neumayer--Stat 77.52 161 ⇑*i* pP 20 57 22.2 +0.4
VNA1 Neumayer--Stat 77.52 161 ⇓*i* sP 20 57 30.6 +4.8
VNA1 Neumayer--Stat 77.52 161 ⇑*i* Px 20 57 38.3
VNA2 Neumayer--Watz 77.87 161 ⇑*iP* **P** **20 57 14.0 +1.3**
VNA2 Neumayer--Watz 77.87 161 ⇑*i* pP 20 57 23.4 -0.3
VNA2 Neumayer--Watz 77.87 161 sP 20 57 32.3 +4.6
VNA2 Neumayer--Watz 77.87 161 ⇑*i* Px 20 57 39.6
SNAA Sanae 79.46 162 ⇑*iP* **P** **20 57 20.0 -1.4**
SNAA Sanae 79.46 162 ⇑*i* pP 20 57 31.2 -1.3
SNAA Sanae 79.46 162 ⇑*i* sP 20 57 39.8 +3.4
SNAA Sanae 79.46 162 ⇑*i* Px 20 57 46.5
SNAA Sanae 79.46 162 P **P** **20 57 20.3 -1.1**
comp=Z,7.2nm,1.0s,mb4.6,baz=278,slow=3.9,SNR=48
SNAA Sanae 79.46 162 P **P** **20 57 20.3 -1.1**
SNAA pmax pmax
comp=Z,7.0nm,1.0s
PBEJ Beja 80.69 50 *eP* **P** **20 57 30.6 +2.0**
EVO Evora 80.72 49 *eP* **P** **20 57 28.2 -0.6**
comp=Z,43nm,1.0s,mb5.0
EVO *eR*
comp=Z,342nm,21.5s
PALC Alcoutim 80.83 50 *eP* **P** **20 57 31.8 +2.5**
PVIS Viseu 81.44 47 *eP* **P** **20 57 33.9 +1.4**
PCBR Castelo Branco 81.49 48 *eP* **P** **20 57 33.8 +1.0**
MTE Manteigas 81.60 48 *eP* **P** **20 57 32.8 -0.5**
EMIJ Mijas 82.68 52 P **P** **20 57 39.2 +0.2**
comp=Z,42nm,1.0s,mb5.4
QSPA South Pole Qui 83.09 180 *eP* **P** **20 57 40.4 +0.2**
comp=Z,159nm,1.1s,mb6.0
QSPA LR LR
comp=Z,299nm,19.0s,MS4.7
ELOJ Sierra Loja 83.30 51 P **P** **20 57 44.0 +1.9**
comp=Z,64nm,1.2s,mb5.5
ELUQ Luque 83.32 51 P **P** **20 57 43.4 +1.2**
comp=Z,47nm,1.3s,mb5.4
DAWY Dawson 83.36 338 *eP* **P** **20 57 41.8 0.0**
DAWY e pP 20 57 53.1 +0.1
ERON Agron 83.54 52 P **P** **20 57 45.0 +1.6**
comp=Z,77nm,1.4s,mb5.6
INK Inuvik 83.76 343 *eP* **P** **20 57 43.6 -0.2**
comp=Z,84nm,1.0s,mb5.8
INK e pP 20 57 55.0 +0.1
SUMG Summit 83.85 12 *eP* **P** **20 57 44.7 +0.5**
comp=Z,40nm,1.1s,mb5.5
SUMG e pP 20 57 53.3 -2.0
ESDC Sonseca Array 84.06 49 P **P** **20 57 47.0 +1.1**
comp=Z,16nm,1.0s,mb5.1,baz=270,slow=4.8,SNR=29
ESDC pP pP 20 57 56.3 -0.8
comp=Z,15nm,0.9s,baz=267,slow=4.8,SNR=12
ESDC LR LR 21 32 48.7
comp=Z,265nm,18.5s,MS4.7,baz=235,slow=34
ESDC Sonseca Array 84.06 49 P **P** **20 57 45.8 -0.2**
comp=Z,25nm,0.9s,mb5.3
EBER Berja 84.23 52 P **P** **20 57 46.3 -0.5**
comp=Z,403nm,4.4s
EQES Quesada 84.30 51 P **P** **20 57 47.3 +0.1**
comp=Z,124nm,1.5s,mb5.8
DIV Divide 84.59 334 PFAKE 20 58 00.0 +12
DIV LR LR
comp=Z,1μm,19.0s,MS5.3
EVIA Vianos 84.92 50 P **P** **20 57 51.6 +1.3**
comp=Z,40nm,1.3s,mb5.4
FIB Fire Island 86.57 333 PFAKE 20 58 10.0 +12
FIB LR LR
comp=Z,2μm,22.0s,MS5.3
ILAR Eielson Array 86.57 337 P **P** **20 57 57.9 +0.1**
comp=Z,10nm,1.0s,mb5.0,baz=147,slow=3.3,SNR=57
ILAR pP pP 20 58 08.6 -0.4
comp=Z,12nm,0.9s,baz=144,slow=1.9,SNR=16
ILAR LR LR 21 36 44.2
comp=Z,152nm,19.7s,MS4.4,baz=285,slow=36
ILAR Eielson Array 86.57 337 P **P** **20 57 57.9 +0.2**
ILAR *PP pP 20 58 08.6 -0.4
ILAR pmax pmax
comp=Z,11nm,1.0s
ILAR pmax pmax
comp=Z,12nm,0.9s
ILAR MLR MLR
comp=Z,152nm,19.7s
ROSF Rostrenen 86.67 41 *eP* **P** **20 57 59.2 +0.6**
comp=Z,474nm,1.9s,mb6.1
SJPF Ste Jean 86.86 46 *eP* **P** **20 57 59.9 +0.2**
MCK McKinley 86.98 335 *eP* **P** **20 58 00.0 +0.3**
comp=Z,15nm,1.1s,mb5.1
MCK LR LR
comp=Z,157nm,20.0s,MS4.4
COLA College 86.99 337 *eP* **P** **20 57 58.8 -1.0**
COLA College 86.99 337 *eP* **P** **20 58 00.3 +0.5**
comp=Z,30nm,1.2s,mb5.4
COLA e 20 58 07.0
COLA e pP 20 58 10.9 -0.1
COLA LR LR
comp=Z,240nm,19.0s,MS4.6
SPU Mount Spurr 87.43 333 *eP* **P** **20 58 02.8 +0.8**
SPU e pP 20 58 13.6 +0.4
RSO Redoubt South 87.52 332 *eP* **P** **20 58 03.0 +0.5**
RSO e pP 20 58 14.5 +0.8
VNDA Vanda 89.00 191 P **P** **20 58 09.2 0.0**
comp=Z,10nm,0.8s,mb5.2,baz=128,slow=4.1,SNR=65
VNDA pP pP 20 58 21.1 +0.6
comp=Z,7.0nm,0.9s,baz=18,slow=2.5,SNR=7.9
VNDA LR LR 21 29 15.6
comp=Z,321nm,21.3s,MS4.7,baz=131,slow=30
VNDA Vanda 89.00 191 P **P** **20 58 09.2 0.0**
VNDA *PP pP 20 58 21.1 +0.6
VNDA pmax pmax
comp=Z,10.0nm,0.9s
VNDA pmax pmax
comp=Z,7.0nm,0.9s
VNDA MLR MLR
comp=Z,321nm,21.3s
CAF Calviac 89.54 45 *eP* **P** **20 58 12.9 +0.4**
comp=Z,103nm,1.5s,mb5.6
IMA Indian Mountai 89.69 337 *eP* **P** **20 58 13.0 +0.4**
comp=Z,156nm,0.9s,mb6.3
IMA e pP 20 58 24.8 +0.9
TCF Toulx Ste Croi 89.88 43 *eP* **P** **20 58 14.3 +0.3**
comp=Z,213nm,1.9s,mb5.8
BGF Bois d'Agland 90.36 43 *eP* **P** **20 58 16.3 0.0**
comp=Z,100nm,1.4s,mb5.6
LASF Ste Croix 90.66 46 *eP* **P** **20 58 16.7 -1.0**
comp=Z,283nm,1.9s,mb6.0
SMF Signal de Mont 91.06 43 *eP* **P** **20 58 18.7 -0.8**
comp=Z,50nm,1.3s,mb5.4
LOR Lormes 91.16 43 *eP* **P** **20 58 19.7 -0.3**
LOR *eR*
comp=Z,219nm,22.8s
LMR La Mourre 92.46 47 *eP* **P** **20 58 25.3 -0.8**
comp=Z,521nm,1.9s,mb6.2
HAU Haudompre 92.93 42 *eP* **P** **20 58 28.4 +0.3**
HAU *eR*
comp=Z,157nm,18.0s
CDF Champ du Feu 93.60 42 *eP* **P** **20 58 30.7 -0.4**
SYO Syowa Base 93.75 162 ⇓*iP* **P** **20 58 30.0 -1.3**
NOA NORSAR Array B 96.83 29 LR LR 21 39 52.1
comp=Z,115nm,20.2s,MS4.3,baz=280,slow=34
GERES GERESS Array B 97.88 42 P **P** **20 58 51.5 +1.0**
comp=Z,0.4nm,0.8s,baz=256,slow=4.0,SNR=2.1
LSZ Lusaka 105.82 108 PFAKE 21 03 50.0
LSZ LR LR
comp=Z,538nm,20.0s,MS5.1
CASY Casey 106.47 185 PFAKE 21 03 50.0
CASY LR LR
comp=Z,364nm,19.0s,MS5.0
MBAR Mbarara 110.83 93 *e*PKPdf PKPdf 21 03 50.4 +3.0
MBAR LR LR
comp=Z,214nm,21.0s,MS4.7
OBN Obninsk 110.93 33 P Pdif 20 59 46.3 -2.0
OBN *e* 21 04 24.9
OBN *e*PS PS 21 13 45.6 -10
OBN *e*SS SS 21 20 10.5 +16
OBN pmax pmax
comp=Z,15nm,1.5s
OBN MLR MLR
comp=Z,300nm,20.0s,MS4.9
OBN Obninsk 110.93 33 PFAKE 21 04 00.0 +13
OBN LR LR
comp=Z,139nm,21.0s,MS4.5
TIXI Tiksi 112.92 350 *i* PKIKP PKPdf 21 03 49.2 -0.9
TIXI Tiksi 112.92 350 PFAKE 21 04 00.0 +10
TIXI LR LR
comp=Z,167nm,20.0s,MS4.6
WAKE Wake Island 113.97 288 PFAKE 21 04 10.0 +17
WAKE LR LR
comp=Z,45μm,22.0s
KMBO Kilima Mbogo 117.21 95 PFAKE 21 04 10.0 +10
KMBO LR LR
comp=Z,615nm,21.0s,MS5.2
KIV Kislovodsk 118.32 43 PFAKE 21 04 10.0 +8.7
KIV LR LR
comp=Z,27nm,19.0s,MS3.9
YAK Yakutsk 120.80 344 PFAKE 21 04 20.0 +14
YAK LR LR
comp=Z,112nm,19.0s,MS4.5
GNI Garni 121.00 47 PFAKE 21 04 20.0 +13
GNI LR LR
comp=Z,130nm,22.0s,MS4.5
STKA Stephens Creek 124.38 224 PKP PKPdf 21 04 13.6 +0.2
comp=Z,4.6nm,0.9s,baz=194,slow=4.0,SNR=5.8
STKA pPKP 21 04 26.2
comp=Z,4.1nm,1.0s,baz=115,slow=5.8,SNR=3.2
CTA Charters Tower 126.86 239 *eP* PKPdf 21 04 19.0 +0.5
comp=Z,5.6nm,0.9s
CTA Charters Tower 126.86 239 PKP PKPdf 21 04 18.9 +0.5
comp=Z,6.3nm,1.1s,baz=146,slow=3.4,SNR=4.6
CTA pPKP 21 04 30.7
comp=Z,7.9nm,0.9s,baz=272,slow=1.3,SNR=4.7
CTA Charters Tower 126.86 239 PKIKP PKPdf 21 04 19.0 +0.5
CTA 21 04 30.7
CTA pmax pmax
comp=Z,6.0nm,1.1s
CTA pmax pmax
comp=Z,8.0nm,0.9s
CTAO Charters Tower 126.86 239 PFAKE 21 04 30.0 +12
CTAO LR LR
comp=Z,330nm,22.0s,MS5.0
ASAJ Asahikawa 127.41 322 PKP PKPdf 21 04 19.1 +0.2
comp=Z,10.0nm,0.9s
ASAJ pPKP 21 04 31.2
comp=Z,13nm,0.9s,baz=261,slow=31,SNR=3.3
ASAJ Asahikawa 127.41 322 PKIKP PKPdf 21 04 19.1 +0.2
ASAJ 21 04 31.3
ASAJ pmax pmax
comp=Z,10.0nm,0.9s
ASAJ pmax pmax
comp=Z,13nm,0.9s
ERM Erimo 128.13 319 PFAKE 21 04 30.0 +10
ERM LR LR
comp=Z,57nm,22.0s,MS4.2
BRVK Borovoye 128.22 22 *e*PKPdf PKPdf 21 04 21.4 +1.2
BRVK *e* 21 04 33.3
BRVK LR LR
comp=Z,47nm,19.0s,MS4.2
NVS Novosibirsk 130.51 12 ⇓*i* PKIKP PKPdf 21 04 24.2 -0.3
NVS *i* 21 04 33.8
NVS pmax pmax
comp=Z,17nm,1.4s
NVS pmax pmax
comp=E,9.0nm,1.6s
ZAL Zalesovo 131.68 12 PKP PKPdf 21 04 26.9 +0.1
comp=E,19nm,1.0s,baz=64,slow=1.7,SNR=75
ZAL pPKP 21 04 38.8
comp=E,18nm,1.1s,baz=169,slow=2.2,SNR=10.0
ZAL Zalesovo 131.68 12 PKIKP PKPdf 21 04 26.9 +0.1
ZAL 21 04 38.8
ZAL pmax pmax
comp=Z,19nm,1.0s
ZAL pmax pmax
comp=Z,18nm,1.1s
KURK Kurchatov 133.04 18 *e*PKPdf PKPdf 21 04 29.9 +0.5
KURK *e* 21 04 40.7
KURK LR LR
comp=Z,40nm,20.0s,MS4.1
MAJO Matsushiro 134.19 316 PFAKE 21 04 40.0 +8.0
MAJO LR LR
comp=Z,208nm,20.0s,MS4.8
MDJ Mudanjiang 134.36 330 PKP PKPdf 21 04 34.0 +1.9
MDJ XPKP 21 05 04.0
MDJ PP PP 21 07 12.0 +3.5
MDJ LR LR
comp=N,31nm,32.9s,MS4.3
MDJ LR LR
comp=E,80nm,31.4s,MS4.3
MDJ LR LR
comp=Z,86nm,28.6s,MS4.3
ASAR Alice Springs 134.75 227 PKhKP 21 04 25.1
comp=Z,1.7nm,1.0s,baz=124,slow=2.3,SNR=5.9
ASAR PKP PKPdf 21 04 33.5 +0.2
comp=Z,6.2nm,0.9s,baz=125,slow=2.3,SNR=28
ASAR pPKP 21 04 44.9
comp=Z,5.7nm,0.9s,baz=133,slow=2.4,SNR=9.4
ASAR PP PP 21 07 04.6 -6.8
comp=Z,2.2nm,1.0s,baz=133,slow=6.5,SNR=5.5
WB2 Warramunga Arr 136.62 231 *eP* PKPdf 21 04 36.0 -0.9
WRAB Tennant Creek 136.63 231 *e*PKPdf PKPdf 21 04 36.3 -0.5
WRAB *e* 21 04 49.2
WRAB LR LR
comp=Z,249nm,19.0s,MS5.0
WRA Warramunga Arr 136.63 231 PKhKP 21 04 29.7
comp=Z,1.9nm,1.2s,baz=127,slow=1.0,SNR=4.9
WRA PKP PKPdf 21 04 37.0 +0.1
comp=Z,14nm,0.9s,baz=122,slow=1.5,SNR=44
WRA pPKP 21 04 49.5
comp=Z,13nm,1.0s,baz=122,slow=1.5,SNR=11
WRA Warramunga Arr 136.63 231 PKIKP PKPdf 21 04 37.0 +0.1
WRA 21 04 49.5
WRA pmax pmax
comp=Z,14nm,0.9s
WRA pmax pmax
comp=Z,13nm,1.0s
ZAK Zakamensk 136.66 357 *e*PKHKP 21 04 28.1
CN2 Changchun 136.95 333 *e*PKP PKPdf 21 04 36.5 -0.4
CN2 *e*PP PP 21 07 23.5 -0.5
CN2 PP PP
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,300nm,21.0s,MS5.1
CN2 LR LR
comp=E,200nm,21.0s,MS5.1
CN2 LR LR
comp=Z,300nm,22.0s,MS5.0
AAK Ala-Archa 138.14 28 *i* PKIKP PKPdf 21 04 39.8 +0.8
AAK MLR MLR
comp=Z,100nm,21.0s,MS4.5
AAK Ala-Archa 138.14 28 *e*PKPdf PKPdf 21 04 39.5 +0.5
AAK LR LR
comp=Z,42nm,21.0s,MS4.2
ULN Ulaanbaatar 138.80 352 PFAKE 21 04 50.0 +10
ULN LR LR
comp=Z,131nm,19.0s,MS4.7
SONM Songino Array 138.91 353 PKhKP 21 04 31.2
comp=Z,2.0nm,0.9s,baz=351,slow=3.1,SNR=13
SONM PKP PKPdf 21 04 41.0 +0.7
comp=Z,4.0nm,0.9s,baz=6.2,slow=0.3,SNR=15
INCN Inchon 141.01 325 PFAKE 21 05 00.0 +16
INCN LR LR
comp=Z,129nm,20.0s,MS4.7
KSH Kashi 141.25 30 *e*PKP PKPdf 21 04 46.5 +1.7
KSH *e*XPKP 21 05 06.0
KSH *e*PKS PKS 21 08 19.5 0.0
KSH *e*PPP PPP 21 11 19.5 +21
KSH *e*SKS SKS 21 11 44.5 -4.7
KSH PP PP
comp=Z,210nm,4.8s
KSH LR LR
comp=N,120nm,5.4s
KSH LR LR
comp=E,170nm,5.8s
WMQ Urumqi 141.86 14 *e*PKP PKPdf 21 04 43.0 -2.7
WMQ PP PP 21 07 52.0 -2.4
WMQ SS SS 21 26 14.0 -7.4
WMQ LR LR
comp=N,198nm,30.0s,MS4.8
WMQ LR LR
comp=E,115nm,30.0s,MS4.8
WMQ LR LR
comp=Z,114nm,30.0s,MS4.5
BJI Beijing 143.93 338 *e*PKP PKPdf 21 04 46.5 -2.8
BJI LR LR
comp=Z,73nm,27.9s,MS4.3
BJT Baijiatuau 143.95 338 *e*PKPdf PKPdf 21 04 46.5 -2.8
FITZ Fitzroy Crossi 144.23 225 ⇓*iP* PKPbc 21 04 49.3 -0.6
comp=Z,48nm,1.0s
FITZ *e* 21 05 02.0
FITZ Fitzroy Crossi 144.23 225 PKP PKPdf 21 04 49.5 -0.9
comp=Z,60nm,1.0s,baz=162,slow=3.5,SNR=44
FITZ pPKP 21 05 01.3
comp=Z,59nm,0.9s,baz=170,slow=3.0,SNR=16
HHC Hu-ho-hao-te 144.66 344 ⇓PKP PKPdf 21 04 50.5 -0.1
BTO Baotou 145.29 346 *e*PKP PKPdf 21 04 51.3 -0.4
MBWA Marble Bar 145.77 215 *e*PKPdf PKPdf 21 04 53.6 +0.5
MBWA *e* 21 05 04.5
MBWA LR LR
comp=Z,202nm,21.0s,MS4.9
THN Thein Dam 146.29 38 *e*PKP PKPdf 21 04 54.8 +1.1
comp=Z,94nm,0.2s
TIA Tai'an 146.83 334 *e*PKP PKPdf 21 04 55.0 +0.5
GTA Gaotai 147.74 360 PKP PKPdf 21 04 57.0 +1.2
GTA APKP 21 05 11.5
GTA PP PP 21 08 28.0 -1.9
GTA SKKS 21 15 12.5
GTA SS SS 21 27 23.8 -4.6
GTA PP PP
comp=Z,77nm,7.2s
GTA LR LR
comp=N,95nm,26.2s,MS4.7
GTA LR LR
comp=E,133nm,21.7s,MS4.7
GTA LR LR
comp=Z,151nm,28.5s
DDI Dehra Dun 149.19 38 *e*PKP PKPdf 21 05 03.0 +4.6
NJ2 Nanjing 149.33 327 *e*PKP PKPdf 21 05 03.3 +4.7
NJ2 APKP 21 05 14.0
NJ2 PKP2 PKPab 21 05 15.0 +5.2
NJ2 PP PP 21 08 43.0 +4.4
NJ2 LR LR
comp=N,1μm,21.0s
NJ2 LR LR
comp=E,1μm,19.6s
NJ2 LR LR
comp=Z,1μm,20.4s
LZH Lanzhou 150.80 353 PKP PKPdf 21 05 02.0 +1.2
LZH APKP 21 05 18.5
LZH XPKP 21 05 26.5
LZH PP PP 21 08 49.0 +1.6
LZH SKS SKS 21 11 58.0 -4.9
LZH SKKS 21 15 28.0
LZH SS SS 21 28 02.0 -0.2
LZH PP PP
comp=Z,114nm,4.5s
LZH LR LR
comp=E,198nm,18.0s
LZH LR LR
comp=Z,227nm,20.0s,MS5.0
XAN Xi'an 151.77 344 PKP PKPdf 21 05 02.8 +0.5
POO Poona 152.38 63 *e*PKP PKPdf 21 05 06.0 +2.4
KOLN Koldanda 154.34 34 *e*P PKPdf 21 05 06.7 +0.7
comp=Z,12nm,1.1s
GKN Gorkha 154.73 32 *e*P PKPdf 21 05 06.5 0.0
comp=Z,22nm,1.2s
ENH Enshi 155.09 339 *e*PKPdf PKPdf 21 05 07.4 +0.5
KKN Kakani 155.24 32 *e*P PKPdf 21 05 07.4 +0.2
DMN Daman 155.29 32 *e*P PKPdf 21 05 06.5 -0.8
PKI Pulchoki 155.48 32 *e*P PKPdf 21 05 08.3 +0.8
CD2 Chengdu 155.91 351 *e*PKP PKPdf 21 05 09.8 +1.8
LSA Lhasa 156.04 19 PKP PKPdf 21 05 10.0 +1.8
HYB Hyderabad 156.94 61 *e*P PKPab 21 05 41.0 -1.3
GYA Guiyang 159.54 342 PKP PKPdf 21 05 14.0 +1.3
GYA PKP2 PKPab 21 05 52.0 -1.3
GYA PP PP 21 09 33.3 -2.2
GYA SKKS 21 16 17.5
GYA PP PP
comp=Z,170nm,7.2s
GYA LR LR
comp=N,100nm,20.8s,MS4.8
GYA LR LR
comp=E,110nm,19.2s,MS4.8
GYA LR LR
comp=Z,110nm,22.8s,MS4.6
SHL Shillong 160.10 21 *e*PKP PKPdf 21 05 15.0 +1.6
COCO West Island 160.72 172 PFAKE 21 05 30.0 +16
COCO LR LR
comp=Z,128nm,19.0s
KMI Kunming 161.75 351 *e*PKP PKPdf 21 05 15.0 0.0
KMI PP PP 21 09 47.8 +0.2
KMI LR LR
comp=Z,131nm,23.8s
CMAR Chiang Mai Arr 168.60 3 PKP PKPdf 21 05 21.7 +0.7
comp=Z,2.5nm,1.0s,baz=312,slow=1.9,SNR=16
CMAR pPKP 21 05 33.4
comp=Z,2.7nm,1.0s,baz=288,slow=1.5,SNR=8.7
CMAR PKPab PKPab 21 06 31.9 -0.9
comp=Z,5.7nm,1.0s,baz=339,slow=4.5,SNR=13
CMAR pPKPab 21 06 41.1
comp=Z,2.1nm,0.8s,baz=319,slow=4.3,SNR=4.0
CMAR Chiang Mai Arr 168.60 3 PKP2 PKPab 21 06 32.0 -0.9
CMAR pmax pmax
comp=Z,6.0nm,1.0s
CMAR pmax pmax
comp=Z,2.0nm,0.8s

IDC 28 20:46:12.8±5.4, 64.56S×176.48E, mb4.0/2, mb1 4.1/3, mb1mx3.9/8, ML2.9/1, MS3.7/7, Ms1 3.7/7, ms1mx3.6/13, Error ellipse: s-maj=176.0km s-min=40.7km az=74.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**13.78**	**193**	Pn	P	20 49 29.4	-1.9

0.1nm,0.3s,baz=33,slow=14,SNR=6.4

VNDA			LR	LR	20 53 23.5	
	comp=Z,298nm,20.7s,baz=32,slow=31					
RPZ	**Rata Peaks**	**21.11 349**	LR	LR	20 57 27.8	
	comp=Z,165nm,21.9s,baz=35,slow=32					
URZ	**Urewera**	**26.34 1**	LR	LR	20 59 55.6	
	comp=Z,190nm,18.3s,baz=206,slow=31					
STKA	**Stephens Creek**	**39.16 310**	LR	LR	21 08 37.9	
	comp=Z,80nm,19.4s,baz=13,slow=34					
ASAR	**Alice Springs**	**49.34 305**	P	P	20 55 04.0	-1.4
	3.1nm,1.1s,baz=158,slow=8.1,SNR=9.8					
ASAR			LR	LR	21 14 08.2	
	comp=Z,89nm,19.2s,baz=332,slow=34					
WRA	**Warramunga Arr**	**52.62 307**	P	P	20 55 27.7	-2.8
	1.1nm,0.7s,baz=159,slow=6.7,SNR=7.4					
WRA			LR	LR	21 15 26.8	
	comp=Z,160nm,21.7s,baz=100,slow=33					
FITZ	**Fitzroy Crossi**	**57.46 299**	LR	LR	21 16 48.7	
	comp=Z,42nm,21.6s,baz=342,slow=32					
BRTR	**Keskin Array B**	**147.10 239**	PKPbc	PKPdf	21 05 56.0	-0.3
	0.6nm,0.7s,baz=146,slow=4.5,SNR=4.6					

DJA 28 20:47:45.5±1.1, 10.51S×116.16E, h160km, MD4.7/4, ML4.1/2, 4C-1D, Error ellipse: s-maj=32.4km s-min=23.3km az=6.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RATI	**Rata**	**1.88**	**341**	⇑*e*Pn	P	20 48 20.1	-0.1
RATI				⇑*e*Sn	S	20 48 45.3	-1.7
KEDI	**Kedomdong**	**2.02**	**359**	⇑*e*Pn	P	20 48 21.5	-0.2
	73nm,0.2s						
KELI	**Kelakatan**	**2.81**	**324**	⇑*e*Pn	P	20 48 32.4	+0.9
KELI				⇓*e*Sn	S	20 49 04.5	-2.3
SRDI	**Scrawed**	**2.83**	**315**	*e*Pn	P	20 48 30.8	-1.0
	97nm,0.2s						

*IDC **28** 21:47:03.5±1.0, 14.74N×147.22E, mb3.9/7, mb1 4.0/8, mb1mx3.9/21, Error ellipse: s-maj=30.2km s-min=22.0km az=79.0*
*NEIC **28** 21:47:08.3±0.7, 14.71N×147.17E, h35km, mb4.4/2, Error ellipse: s-maj=18.2km s-min=12.8km az=88.0*
ISC 28 21:47:06.6±0.8, 14.71N±0.09×147.2E±0.1, h33km, n12, σ0§80/11, mb4.0/10, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.50**	**244**	*e*Pn	**Pn**	**21 47 45.8**	**0.0**
JOW	**Kunigami**	**21.36**	**307**	P	**P**	**21 51 53.6**	**+0.4**
	21nm,0.8s,mb4.5,baz=129,slow=13,SNR=4.8						
MAJO	**Matsushiro**	**23.17**	**341**	P	**P**	**21 52 09.5**	**-1.6**
	6.3nm,0.8s,mb4.1						
PMG	**Port Moresby**	**23.96**	**180**	P	**P**	**21 52 18.0**	**-1.0**
	25nm,1.1s,mb4.6						
WRA	**Warramunga Arr**	**36.68**	**200**	P	**P**	**21 54 12.4**	**+0.1**
	0.8nm,0.8s,mb3.6,baz=21,slow=8.7,SNR=3.9						
ASAR	**Alice Springs**	**40.29**	**199**	P	**P**	**21 54 42.6**	**+0.2**
	0.4nm,0.6s,mb3.3,baz=30,slow=7.3,SNR=4.3						
CMAR	**Chiang Mai Arr**	**46.27**	**282**	P	**P**	**21 55 31.8**	**+0.7**
	0.9nm,0.5s,mb4.0,baz=79,slow=6.2,SNR=8.8						
SONM	**Songino Array**	**47.14**	**323**	P	**P**	**21 55 37.6**	**+0.1**
	1.0nm,0.5s,mb4.0,baz=137,slow=7.1,SNR=14						
BVAR	**Borovoye Array**	**70.44**	**321**	P	**P**	**21 58 18.5**	**-0.9**
	0.6nm,0.6s,mb3.7,baz=100,slow=8.8,SNR=3.1						
NVAR	**Mina Array Bea**	**84.48**	**52**	P	**P**	**21 59 38.6**	**+1.0**
	0.7nm,0.8s,mb3.8,baz=262,slow=6.4,SNR=3.2						
FINES	**FINESS Array B**	**91.08**	**336**	P	**P**	**22 00 09.7**	**+1.0**
	1.3nm,1.0s,mb4.2,baz=80,slow=8.5,SNR=3.5						
LPAZ	**La Paz**	**145.97**	**97**	PKPbc	PKPbc	22 06 46.7	+2.7
	0.7nm,0.5s,baz=348,slow=6.1,SNR=3.3						

*IDC **28** 21:47:17.4±1.2, 14.95N×147.35E, mb3.9/7, mb1 4.2/8, mb1mx4.0/21, Error ellipse: s-maj=30.8km s-min=27.9km az=123.0*
ISC 28 21:47:20.9±1.0, 14.9N±0.2×147.3E±0.2, h33km, n8, σ0§58/8, mb4.0/8, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**21.29**	**307**	P	**P**	**21 52 07.5**	**+0.7**
	8.4nm,0.4s,mb4.4,baz=109,slow=18,SNR=6.7						
WRA	**Warramunga Arr**	**36.92**	**201**	P	**P**	**21 54 28.6**	**-0.1**
	0.3nm,0.6s,mb3.3,baz=18,slow=8.7,SNR=5.1						
CMAR	**Chiang Mai Arr**	**46.31**	**281**	P	**P**	**21 55 45.5**	**-0.2**
	1.8nm,0.7s,mb4.1,baz=77,slow=6.2,SNR=13						
SONM	**Songino Array**	**47.02**	**323**	P	**P**	**21 55 51.0**	**+0.1**
	1.0nm,0.6s,mb3.9,baz=132,slow=7.0,SNR=8.4						
ILAR	**Eielson Array**	**66.36**	**25**	P	**P**	**21 58 07.4**	**-0.9**
	0.9nm,0.8s,mb3.9,baz=267,slow=5.1,SNR=7.5						
BVAR	**Borovoye Array**	**70.32**	**321**	P	**P**	**21 58 32.7**	**-0.3**
	4.2nm,1.1s,mb4.3,baz=110,slow=7.7,SNR=7.6						
NVAR	**Mina Array Bea**	**84.27**	**52**	P	**P**	**21 59 52.0**	**+1.1**
	0.2nm,0.4s,mb3.6,baz=262,slow=6.4,SNR=3.5						
FINES	**FINESS Array B**	**90.91**	**336**	P	**P**	**22 00 21.9**	**-0.4**
	1.5nm,0.8s,mb4.3,baz=72,slow=4.4,SNR=3.1						

DJA 28 22:21:01.2±0.9, 8.77S×110.26E, h81km±40km, mb4.6/3, 3C-4D, Error ellipse: s-maj=74.8km s-min=6.6km az=8.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRDI	**Scrawed**	**3.85**	**86**	⇑*e*P	P	22 21 59.1	-0.3
KELI	**Kelakatan**	**4.22**	**83**	⇓*e*P	P	22 22 05.5	+0.9
KELI				⇑*e*S	S	22 22 52.7	-0.3
PASI	**Pasiripis**	**5.07**	**294**	⇓*e*P	P	22 22 16.3	0.0
	218nm,0.2s						
RATI	**Rata**	**5.21**	**90**	⇓*e*P	P	22 22 18.0	-0.2
	52nm,0.2s						
RATI				⇑*e*S	S	22 23 17.1	-0.5
KEDI	**Kedomdong**	**5.79**	**88**	⇓*e*P	P	22 22 26.4	+0.2
	51nm,0.2s						

DJA 28 22:50:23.0±1.0, 8.77S×116.68E, h130km±8km, ML3.9/3, 1C-5D, Error ellipse: s-maj=58.5km s-min=18.4km az=2.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEDI	**Kedomdong**	**0.63**	**297**	*e*Pn	P	22 50 42.9	-0.1
RATI	**Rata**	**1.14**	**272**	⇑*e*Pn	P	22 50 47.4	-0.1
	221nm,0.2s						
RATI				⇓*e*Sn	S	22 51 05.1	-1.0
KELI	**Kelakatan**	**2.24**	**284**	⇓*e*Pn	P	22 51 00.3	-0.2
	61nm,0.2s						
KELI				⇓*e*Sn	S	22 51 27.6	-1.3
SRDI	**Scrawed**	**2.53**	**276**	⇓*e*Pn	P	22 51 03.7	-0.6
	42nm,0.1s						
SRDI				⇓*e*Sn	S	22 51 33.2	-2.4

*CSEM **28** 23:12:04.8±0.1, 38.14N×22.07E, h60km, MD2.8, Error ellipse: s-maj=3.3km s-min=2.7km az=38.0*
*ATH **28** 23:12:05.0, 38.14N×22.14E, h10km, MD2.8/8*
*NEIC **28** 23:12:05.1, 38.13N×22.15E, h10km, MD2.8(ATH), After ATH.*
*THE **28** 23:12:06.6, 38.19N×22.12E, h20km, ML2.6*
ISC 28 23:12:04.7±1.0, 38.20N±0.03×22.12E±0.04, h14km±9km, n19, σ1§26/25, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RLS	**Riolos of Patr**	**0.54**	**254**	PB	**Pb**	**23 12 16.2**	**+0.8**
EVR	**Evrytania**	**0.75**	**341**	*e*PB	**Pb**	**23 12 22.5**	**+3.4**
EVR	**Evrytania**	**0.75**	**341**	*e*Pb	**Pb**	**23 12 23.0**	**+3.9**
LKR	**Lokris**	**0.82**	**57**	PB	**Pb**	**23 12 22.4**	**+2.1**
AGG	**Agios Georgios**	**0.83**	**11**	*e*Pg	**Pg**	**23 12 22.8**	**+1.3**
AGG				*e*Sg	**Sg**	**23 12 34.0**	**+1.2**
ITM	**Ithomi**	**1.03**	**189**	*e*PN	**Pn**	**23 12 23.9**	**-0.9**
ITM				*e*SB	**Sb**	**23 12 38.5**	**+1.3**
NSAL	**Nisos Salamina**	**1.10**	**105**	*e*PB	**Pb**	**23 12 25.2**	**+0.1**
NAIG	**Nisos Aigina**	**1.17**	**112**	*e*PG	**Pg**	**23 12 26.0**	**-2.2**
NAIG				*e*SB	**Sb**	**23 12 41.5**	**+0.4**
VLS	**Valsamata**	**1.21**	**269**	*e*PB	**Pb**	**23 12 25.0**	**-1.9**
LKD	**Levkas**	**1.26**	**294**	*e*Pb	**Pb**	**23 12 27.2**	**-0.5**
LKD				*e*Sb	**Sb**	**23 12 44.9**	**+1.3**
LKD	**Levkas**	**1.26**	**294**	*e*Pb	**Pb**	**23 12 27.2**	**-0.6**
LKD				*e*Sb	**Sb**	**23 12 44.9**	**+1.2**
PTL	**Penteli**	**1.39**	**96**	*e*PN	**Pn**	**23 12 29.5**	**-0.3**
NEO	**Neokhori**	**1.40**	**38**	*e*PN	**Pn**	**23 12 30.5**	**+0.5**
XOR	**Xorichti**	**1.43**	**36**	*e*Pb	**Pb**	**23 12 31.2**	**+0.4**
XOR				*e*Sb	**Sb**	**23 12 48.3**	**-0.4**
VLI	**Veliai**	**1.62**	**156**	*e*PB	**Pb**	**23 12 35.0**	**+1.0**
AOS	**Alonnisos**	**1.68**	**54**	*e*Pb	**Pb**	**23 12 34.0**	**-1.1**
LIT	**Litokhoron**	**1.92**	**9**	*e*Pb	**Pb**	**23 12 37.0**	**-2.0**
IGT	**Igoumenitsa**	**1.93**	**314**	*e*Pb	**Pb**	**23 12 36.5**	**-2.7**
OUR	**Ouranopolis**	**2.57**	**34**	*e*Pn	**Pn**	**23 12 46.2**	**-0.6**

*HEL **28** 23:36:41.1±0.4, 57.72N×21.55E, ML1.8, ML2.3(UPP), ML2.2(NAO), Explosion*
*IDC **28** 23:36:44.0±3.8, 57.89N×21.48E, h8km±14km, mb1 3.3/3, mb1mx3.1/17, ML2.5/3, Error ellipse: s-maj=32.0km s-min=12.2km az=169.0*
*NAO **28** 23:36:43.7±4.0, 57.99N×21.42E, ML2.2*
*BER **28** 23:36:44.2±3.8, 57.89N×21.55E, ML2.2(NAO)*
ISC 28 23:36:40.5±1.0, 57.84N±0.08×21.54E±0.09, n30, σ1§05/45, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GOTU	**Gotland**	**1.60**	**266**	*e*P	**Pn**	**23 37 09.2**	**-1.0**
GOTU				*e*S	**Sb**	**23 37 31.6**	**+0.3**
NYNU	**Nynaeshamn**	**2.20**	**304**	*e*P	**Pn**	**23 37 19.4**	**+0.7**
NYNU				*e*S	**Sn**	**23 37 50.9**	**+3.8**
NRTU	**Norrtaelje**	**2.39**	**322**	*e*P	**Pn**	**23 37 22.1**	**+0.6**
AAL	**Aland**	**2.48**	**342**	*e*P	**Pn**	**23 37 22.9**	**+0.1**
BYXU	**Byxelkrok**	**2.50**	**259**	*e*P	**Pn**	**23 37 22.9**	**-0.2**
VIKU	**Vikbolandet**	**2.65**	**287**	*e*P	**Pn**	**23 37 26.6**	**+1.3**
VSTU	**Vaestervik**	**2.69**	**268**	*e*P	**Pn**	**23 37 26.0**	**+0.3**
MEF	**Metsahovi**	**2.81**	**31**	*e*P	**Pn**	**23 37 30.1**	**+2.7**
GRAU	**Graesoe**	**2.94**	**330**	*e*P	**Pn**	**23 37 31.1**	**+1.7**
FLYU	**Flymyra**	**2.98**	**322**	*e*P	**Pn**	**23 37 30.2**	**+0.4**
OSKU	**Oskarshamn**	**3.00**	**260**	*e*P	**Pn**	**23 37 29.8**	**-0.5**
ESKU	**Eskilstuna**	**3.04**	**300**	*e*P	**Pn**	**23 37 31.2**	**+0.5**
BACU	**Backbrunna**	**3.06**	**313**	*e*P	**Pn**	**23 37 31.6**	**+0.5**
PVF	**Pernaja**	**3.51**	**38**	*e*P	**Pn**	**23 37 38.1**	**+0.7**
PVF				*e*SG	**Sg**	**23 38 33.8**	**-3.6**
ASKU	**Askersund**	**3.69**	**290**	*e*P	**Pn**	**23 37 40.3**	**+0.3**
VJF	**Virojoki**	**4.11**	**46**	*e*P	**Pn**	**23 37 45.7**	**-0.3**
FIA0	**FINESS Array S**	**4.29**	**31**	*e*P	**Pn**	**23 37 48.8**	**+0.3**
FIA0				*e*S	**Sn**	**23 38 40.9**	**+0.9**
FIA0				MSG		23 39 00.7	
	comp=Z,1.5nm,0.2s						
FIA0	**FINESS Array S**	**4.29**	**31**	Pn	**Pn**	**23 37 48.9**	**+0.4**
	baz=208,slow=12						
FIA0				Pg	**Pg**	**23 37 59.1**	**-7.0**
	baz=207,slow=16						
FIA0				Lg		23 38 55.0	
	baz=220,slow=28						
FINES	**FINESS Array B**	**4.29**	**31**	Pn	**Pn**	**23 37 49.0**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=214,slow=11,SNR=8.1						
FINES				Pg	**Pg**	**23 37 59.2**	**-6.9**
	comp=Z,0.4nm,0.3s,baz=216,slow=12,SNR=17						
FINES				Sn	**Sn**	**23 38 40.4**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=225,slow=24,SNR=3.6						
FINES				Lg		23 38 56.7	
	comp=Z,0.8nm,0.3s,baz=218,slow=25,SNR=15						
KEF	**Keuruu**	**4.65**	**20**	*e*P	**Pn**	**23 37 54.4**	**+0.7**
KEF				*e*SG	**Sg**	**23 39 08.2**	**-7.2**
KEF				MSG		23 39 08.6	
	comp=Z,0.7nm,0.2s						
HFS	**Hagfors**	**4.66**	**303**	Pn	**Pn**	**23 37 52.9**	**-1.0**
	baz=131,slow=14						
HFS				Sn	**Sn**	**23 38 47.8**	**-1.7**
	baz=113,slow=28						
HFS				Lg		23 39 05.3	
	baz=113,slow=28						
HFS	**Hagfors**	**4.66**	**303**	*e*P	**Pn**	**23 37 52.9**	**-1.0**
HFS				*e*S	**Sn**	**23 38 47.8**	**-1.7**
HFS				*e*SG	**Sg**	**23 39 05.3**	**-10**
KAF	**Kangasniemi**	**4.91**	**27**	*e*P	**Pn**	**23 37 56.8**	**-0.6**
KAF				*e*S	**Sn**	**23 38 56.0**	**+0.3**
VAF	**Ylistaro**	**5.25**	**6**	*e*P	**Pn**	**23 38 01.1**	**-1.0**
SUF	**Sumiainen**	**5.41**	**23**	*e*P	**Pn**	**23 38 04.0**	**-0.4**
SUF				*e*S	**Sn**	**23 39 07.8**	**-0.4**
SUF				*e*SG	**Sg**	**23 39 30.1**	**-10**
SUF				MSG		23 39 33.9	
	comp=Z,0.6nm,0.2s						
NOA	**NORSAR Array B**	**6.17**	**306**	Pn	**Pn**	**23 38 12.6**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=193,slow=7.4,SNR=2.4						
NOA				Sn	**Sn**	**23 39 20.6**	**-6.7**
	comp=Z,0.1nm,0.3s,baz=24,slow=9.6,SNR=2.4						
NOA				Lg		23 39 55.4	
	comp=Z,0.4nm,0.3s,baz=259,slow=2.3,SNR=3.1						
JOF	**Joensuu**	**7.03**	**39**	*e*P	**Pn**	**23 38 24.7**	**-2.4**
ARA0	**ARCESS Array S**	**11.87**	**7**	Pn	**P**	**23 39 28.6**	**-5.3**
	baz=190,slow=14						
ARA0	**ARCESS Array S**	**11.87**	**7**	*e*P	**P**	**23 39 28.6**	**-5.3**
ARCES	**ARCESS Array B**	**11.87**	**7**	Pn	**P**	**23 39 28.2**	**-5.6**
	comp=Z,0.1nm,0.3s,baz=188,slow=13,SNR=5.1						

*IDC **28** 23:44:22.7±5.7, 2.41S×140.28E, mb3.9/3, mb1 4.2/4, mb1mx3.9/12, ML3.7/1, MS2.9/1, Ms1 2.9/1, ms1mx2.5/16, Error ellipse: s-maj=126.0km s-min=32.0km az=78.0*
ISC 28 23:44:32.2±3.3, 2.6S±0.2×140.3E±0.5, h100km, n8, σ0§52/8, mb3.8/3, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**12.75**	**217**	*e*P	**P**	**23 47 31.4**	**+0.5**
	6.5nm,0.4s						
WB2	**Warramunga Arr**	**18.22**	**198**	*e*P	**P**	**23 48 40.0**	**+0.1**
WRA	**Warramunga Arr**	**18.23**	**198**	P	**P**	**23 48 39.2**	**-0.8**
	0.3nm,0.3s,baz=18,slow=11,SNR=8.9						
FITZ	**Fitzroy Crossi**	**21.09**	**222**	*e*P	**P**	**23 49 10.0**	**-0.3**
	2.9nm,0.7s,mb3.7						
FITZ	**Fitzroy Crossi**	**21.09**	**222**	P	**P**	**23 49 09.7**	**-0.7**
	5.8nm,1.1s,mb3.8,baz=54,slow=4.7,SNR=5.5						
FITZ				LR	LR	23 59 03.5	
	comp=Z,28nm,18.1s,baz=253,slow=42						
ASAR	**Alice Springs**	**21.87**	**196**	P	**P**	**23 49 18.7**	**+0.7**
	1.8nm,0.6s,mb3.6,baz=27,slow=10.0,SNR=17						
ASPA	**Alice Springs**	**21.87**	**196**	*e*P	**P**	**23 49 22.9**	**+4.9**
CMAR	**Chiang Mai Arr**	**45.74**	**299**	P	**P**	**23 52 45.6**	**0.0**
	1.1nm,0.3s,mb4.0,baz=124,slow=5.2,SNR=5.0						

*CSEM **28** 23:50:22.1±0.8, 38.75N×29.08W, h1km±7km, ML1.9, Error ellipse: s-maj=11.9km s-min=7.0km az=67.0, After PDA*
*PDA **28** 23:50:22.1±0.8, 38.75N×29.08W, h1km±7km, MD3.0, ML1.9, Error ellipse: s-maj=11.9km s-min=7.0km az=67.0*
SVSA 28 23:50:22.1±0.8, 38.75N×29.08W, h1km±7km, MD3.0, ML1.9, Error ellipse: s-maj=11.9km s-min=7.0km az=67.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**0.32**	**111**	*e*P	Pg	23 50 28.3	-0.2
PCED				*e*S	Sg	23 50 32.8	+0.1
	86nm,0.2s						
PCED	**Cedros**	**0.32**	**111**	*e*P	Pg	23 50 28.3	-0.2
PCED				*e*S	Sg	23 50 32.8	+0.1
	86nm,0.2s						
CALA	**Caldeira**	**0.34**	**119**	*e*P	Pg	23 50 28.4	-0.5
CALA				*e*S	Sg	23 50 32.9	-0.5
PICO	**Pico**	**0.57**	**115**	*e*P	Pg	23 50 32.1	-1.4
PICO				*e*S	Sg	23 50 39.9	-1.1
ROSA	**Rosais**	**0.66**	**92**	*e*S	Sg	23 50 41.9	-2.1
PMAN	**Manadas**	**0.79**	**98**	*e*S	Sg	23 50 45.3	-2.9
	29nm,0.4s						
PMAN	**Manadas**	**0.79**	**98**	*e*S	Sg	23 50 45.3	-2.9
	29nm,0.4s						
PID	**Ribeirinha**	**0.81**	**112**	*e*S	Sg	23 50 46.2	-2.9

*IDC **29** 00:00:39.3±0.7, 33.92S×72.18W, mb4.4/8, mb1 4.6/9, mb1mx4.5/13, ML4.2/1, MS4.1/2, Ms1 4.0/2, ms1mx3.5/13, Error ellipse: s-maj=31.6km s-min=20.3km az=73.0*
*BJI **29** 00:00:39.9, 33.90S×72.60W, h29km, mB4.7, Ms4.6, Msz4.5*
*GUC **29** 00:00:39.9±0.8, 33.92S×72.56W, h29km±3km, ML4.8*
*SYO **29** 00:00:39.9, 33.92S×72.56W, h29km, MB4.3*
*NEIC **29** 00:00:39.9, 33.92S×72.56W, h29km, mb4.3/7, ML4.8(GUC), After GUC.*
ISC 29 00:00:38.7±1.2, 33.93S±0.04×72.57W±0.03, h9km±8km, n79, σ0§87/77, mb4.5/19, MS4.1/2, 15C-13D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.96**	**92**	⇓*i*P	**Pb**	**00 00 57.4**	**+0.3**
IHA	**Instituto Hidr**	**1.19**	**41**	⇑*i*P	**Pb**	**00 01 01.4**	**+0.5**
IHA				*i* S	**Sb**	**00 01 17.0**	**+0.8**
TACH	**Talagante**	**1.39**	**79**	⇓*i*P	**Pn**	**00 01 03.5**	**-0.7**
CTCH	**Constitucion**	**1.40**	**175**	*i* S	**Sb**	**00 01 22.7**	**+0.3**
CTCH				AMP		00 01 33.2	
	comp=E,79μm,0.5s						
SFDO	**San Fernando**	**1.46**	**118**	⇓*i*P	**Pn**	**00 01 04.9**	**-0.4**
RCDM	**Rinconada Maip**	**1.53**	**74**	⇑*i*P	**Pn**	**00 01 05.6**	**-0.8**
RCDM				*i* S	**Sb**	**00 01 25.3**	**-0.9**
RCDM				AMP		00 01 29.2	
	comp=N,10μm,0.4s						
PUEX	**Pudahuel**	**1.58**	**73**	⇑*i*P	**Pn**	**00 01 08.2**	**+1.1**
PUEX				*i* S	**Sb**	**00 01 28.9**	**+1.1**
PUEX				AMP		00 01 42.6	
	comp=E,24μm,0.5s						
CHCH	**Chadas Angostu**	**1.59**	**91**	⇓*i*P	**Pn**	**00 01 07.2**	**0.0**
CACH	**El Canelo**	**1.64**	**97**	⇑*i*P	**Pn**	**00 01 08.7**	**+0.7**
ANTU	**Antumapu**	**1.65**	**78**	⇓*i*P	**Pn**	**00 01 08.0**	**0.0**
ANTU				*i* S	**Sn**	**00 01 29.4**	**-0.2**
ANTU				AMP		00 01 32.5	
	comp=E,16μm,0.5s						
SAN	**Santiago**	**1.66**	**74**	⇑*i*P	**Pn**	**00 01 08.2**	**0.0**
SAN				*i* S	**Sn**	**00 01 29.5**	**-0.2**
SAN				AMP		00 01 33.3	
	comp=N,11μm,0.5s						
STL	**Santa Lucia**	**1.68**	**73**	*e*P	**Pn**	**00 01 08.3**	**-0.2**
STL				*i* S	**Sn**	**00 01 30.6**	**+0.3**
STL				AMP		00 01 37.6	
	comp=E,3μm,0.3s						
PACH	**Papudo**	**1.68**	**35**	⇑*i*P	**Pn**	**00 01 08.2**	**-0.3**
PCH	**Pirque**	**1.74**	**80**	⇓*i*P	**Pn**	**00 01 09.0**	**-0.3**
PEL	**Peldehue**	**1.76**	**64**	⇓*i*P	**Pn**	**00 01 10.1**	**+0.5**
PEL				*i* S	**Sn**	**00 01 32.0**	**-0.2**
CLCH	**Cerro Calan**	**1.77**	**73**	⇑*i*P	**Pn**	**00 01 09.9**	**+0.1**
CLCH				*i* S	**Sn**	**00 01 32.9**	**+0.2**
CLCH				AMP		00 01 46.9	
	comp=N,15μm,0.6s						
CLCH				AMP		00 01 47.5	
	comp=N,18μm,0.7s						
CICH	**Cipreses**	**1.82**	**103**	⇑*i*P	**Pn**	**00 01 10.8**	**+0.3**
SJCH	**San Jose de Ma**	**1.86**	**82**	⇑*i*P	**Pn**	**00 01 10.4**	**-0.8**
SJCH				*i* S	**Sn**	**00 01 34.5**	**-0.5**
SJCH				AMP		00 01 42.5	
	comp=N,9μm,0.6s						
LMEL	**Las Melosas**	**1.97**	**88**	⇑*i*P	**Pn**	**00 01 12.8**	**+0.2**
LMEL				*i* S	**Sn**	**00 01 38.1**	**+0.6**
LMEL				AMP		00 01 45.3	
	comp=E,11μm,0.5s						
FCH	**Farellones**	**1.99**	**73**	⇑*i*P	**Pn**	**00 01 13.1**	**+0.1**
FCH				*i* S	**Sn**	**00 01 39.4**	**+1.2**
FCH				AMP		00 01 48.6	
	comp=E,6μm,0.6s						
JACH	**Jahuel**	**2.07**	**54**	⇓*i*P	**Pn**	**00 01 14.0**	**-0.1**
JACH				*i* S	**Sn**	**00 01 40.0**	**-0.2**
CMCH	**Combarbala**	**3.05**	**26**	⇓*i*P	**Pn**	**00 01 27.8**	**-0.3**
CMCH				AMP		00 02 22.0	
	comp=N,11μm,0.7s						
TLL	**Tololo Astrono**	**4.04**	**22**	⇑*i*P	**Pn**	**00 01 41.9**	**-0.2**
LVC	**Limon Verde**	**11.73**	**17**	*e*P	**P**	**00 03 22.6**	**-6.6**
LPAZ	**La Paz**	**18.02**	**14**	P	**P**	**00 04 52.2**	**+1.2**
	comp=N,0.4nm,0.3s,baz=190,slow=8.0,SNR=33						
LPAZ	**La Paz**	**18.02**	**14**	P	**P**	**00 04 52.2**	**+1.2**
SAML	**Samuel**	**26.32**	**21**	*e*P	**P**	**00 06 15.1**	**-1.6**
	comp=N,7.0nm,0.8s,mb4.2						
BDFB	**Brasilia**	**28.66**	**57**	P	**P**	**00 06 35.1**	**-2.9**
	comp=N,5.0nm,0.5s,mb4.5,baz=222,slow=9.0,SNR=9.5						
BDFB				LR	LR	00 19 02.7	
	comp=N,328nm,18.9s,MS4.0,baz=237,slow=39						
VNA3	**Neumayer Olymp**	**49.59**	**158**	*e*	**P**	**00 09 41.1**	**+9.5**
VNA3	**Neumayer Olymp**	**49.59**	**158**	*e*	**P**	**00 09 45.1**	**+13**
VNA3	**Neumayer Olymp**	**49.59**	**158**	⇑*i*P	**P**	**00 09 33.3**	**+1.7**
VNA3				*e*		00 09 41.1	
VNA3				*e*		00 09 45.1	
VNA3				*e*		00 10 47.2	
VNA3				*e*		00 11 23.4	
VNA1	**Neumayer--Stat**	**49.91**	**157**	*e*	**P**	**00 09 44.3**	**+10**
VNA1	**Neumayer--Stat**	**49.91**	**157**	*e*	**P**	**00 09 48.2**	**+14**
VNA1	**Neumayer--Stat**	**49.91**	**157**	⇑*i*P	**P**	**00 09 36.4**	**+2.3**
VNA1				*e*		00 09 44.3	
VNA1				*e*		00 09 48.2	
VNA1				*e*		00 10 50.3	
VNA1				*e*		00 11 27.3	
VNA2	**Neumayer--Watz**	**50.24**	**157**	*e*	**P**	**00 09 46.1**	**+9.4**
VNA2	**Neumayer--Watz**	**50.24**	**157**	*e*	**P**	**00 09 49.8**	**+13**
VNA2	**Neumayer--Watz**	**50.24**	**157**	⇓*i*P	**P**	**00 09 38.2**	**+1.6**
VNA2				*e*		00 09 46.1	
VNA2				*e*		00 09 49.8	
VNA2				*e*		00 10 52.1	
VNA2				*e*		00 11 29.0	
SNAA	**Sanae**	**51.81**

LZH	**Lanzhou**	**176.35**	**53**	*e*PKP	PKPdf	00 20 48.5	-3.4
LZH				XPKP		00 20 59.0	

*CSEM **29** 00:02:20.9±0.1,38.20N×22.94E,h60km,MD2.9,Error ellipse: s-maj=2.6km s-min=1.8km az=59.0*
*THE **29** 00:02:21.9,38.16N×22.85E,h20km,ML2.9*
*ATH **29** 00:02:22.0,38.21N×22.87E,h44km±3km,MD2,8/9*
*NEIC **29** 00:02:22.0,38.21N×22.86E,h44km,MD2.9(ATH),After ATH.*

ISC 29 00:02:22.4±0.4,**38.23N**±0.03×**22.85E**±0.05,**h44km,n21,**
σ0§81/28,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NSAL	**Nisos Salamina**	**0.58**	**123**	*e*P	**P**	**00 02 34.8**	**+0.5**
NAIG	**Nisos Aigina**	**0.69**	**133**	*e*P	**P**	**00 02 35.8**	**+0.1**
MPAR	**Parnis Oros**	**0.70**	**96**	*e*P	**P**	**00 02 36.5**	**+0.6**
ATH	**Athens Observa**	**0.73**	**110**	*e*P	**P**	**00 02 36.5**	**+0.2**
PTL	**Penteli**	**0.82**	**102**	*e*P	**P**	**00 02 37.5**	**-0.1**
AGG	**Agios Georgios**	**0.89**	**333**	*e*Pg	**P**	**00 02 39.9**	**+1.2**
EVR	**Evrytania**	**1.07**	**310**	*e*P	**P**	**00 02 42.0**	**+0.9**
NEO	**Neokhori**	**1.12**	**15**	*e*P	**P**	**00 02 42.5**	**+0.7**
XOR	**Xorichti**	**1.17**	**13**	*e*Pb	**P**	**00 02 43.0**	**+0.4**
AOS	**Alonnisos**	**1.24**	**40**	*e*Pb	**P**	**00 02 43.0**	**-0.5**
AOS	**Alonnisos**	**1.24**	**40**	*e*Pb	**P**	**00 02 43.0**	**-0.6**
ITM	**Ithomi**	**1.28**	**215**	*e*P	**P**	**00 02 44.0**	**-0.1**
ITM				*e*S	**S**	**00 03 01.5**	**+1.2**
VLI	**Veliai**	**1.51**	**177**	*e*P	**P**	**00 02 46.0**	**-1.4**
VLS	**Valsamata**	**1.78**	**269**	*e*P	**P**	**00 02 52.0**	**+0.7**
LKD	**Levkas**	**1.79**	**286**	*e*Pb	**P**	**00 02 50.9**	**-0.6**
LKD				*e*Sb	**S**	**00 03 12.9**	**-0.2**
LIT	**Litokhoron**	**1.89**	**352**	*e*Pb	**P**	**00 02 52.2**	**-0.7**
LIT				*e*Sb	**S**	**00 03 16.0**	**+0.4**
MEV	**Metsovon**	**2.01**	**321**	*e*Pn	**P**	**00 02 54.5**	**0.0**
MEV				*e*Sn	**S**	**00 03 19.4**	**+0.9**
IGT	**Igoumenitsa**	**2.36**	**304**	*e*Pn	**P**	**00 02 58.0**	**-1.6**
IGT				*e*Sn	**S**	**00 03 26.6**	**-0.8**
SOH	**Sokhos**	**2.62**	**8**	*e*Pn	**P**	**00 03 02.1**	**-1.2**
FNA	**Florina**	**2.80**	**336**	*e*Pn	**P**	**00 03 04.5**	**-1.3**
FNA				*e*Sn	**S**	**00 03 39.5**	**+0.9**
FNA	**Florina**	**2.80**	**336**	*e*Pn	**P**	**00 03 04.4**	**-1.4**
FNA				*e*Sn	**S**	**00 03 39.5**	**+0.9**

*IDC **29** 00:03:44.0±1.2,32.46S×71.57W,mb3.8/3,mb1 4.0/4, mb1mx3.8/13,ML4.0/1,MS3.7/1,Ms1 3.8/1,ms1mx3.3/13, Error ellipse: s-maj=55.9km s-min=29.6km az=70.0*
*GUC **29** 00:03:47.7±0.8,32.48S×71.76W,h28km±2km,MD4.2, ML4.2*
*NEIC **29** 00:03:47.7,32.48S×71.76W,h28km,ML4.2(GUC),After GUC.*

ISC 29 00:03:47.1±0.8,**32.48S**±0.03×**71.87W**±0.07,**h29km**±5km,
n34,σ0§93/48,mb3.8/3,18C-8D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.37**	**99**	⇓*i*P	**Pb**	**00 03 54.6**	**-0.9**
IHA	**Instituto Hidr**	**0.58**	**160**	⇑*i*P	**Pb**	**00 03 58.4**	**-0.3**
IHA				*i* S	**Sb**	**00 04 06.8**	**+0.1**
JACH	**Jahuel**	**1.10**	**101**	⇑*i*P	**Pn**	**00 04 05.4**	**-1.3**
PEL	**Peldehue**	**1.20**	**124**	⇑*i*P	**Pn**	**00 04 07.6**	**-0.6**
PEL				*i* S	**Sn**	**00 04 22.6**	**-1.0**
PUEX	**Pudahuel**	**1.34**	**136**	⇑*i*P	**Pn**	**00 04 11.1**	**+0.9**
PUEX				*i* S	**Sn**	**00 04 27.7**	**+0.5**
PUEX				AMP		00 04 30.3	
	comp=E,14μm,0.5s						
RCDM	**Rinconada Maip**	**1.35**	**139**	⇑*i*P	**Pn**	**00 04 09.9**	**-0.4**
RCDM				*i* S	**Sn**	**00 04 26.9**	**-0.5**
RCDM				AMP		00 04 28.6	
	comp=E,6μm,0.2s						
SAN	**Santiago**	**1.41**	**134**	⇑*i*P	**Pn**	**00 04 11.2**	**0.0**
SAN				*i* S	**Sn**	**00 04 28.4**	**-0.6**
SAN				AMP		00 04 34.6	
	comp=N,5μm,0.8s						
STL	**Santa Lucia**	**1.41**	**133**	⇑*i*P	**Pn**	**00 04 11.0**	**-0.2**
STL				*i* S	**Sn**	**00 04 28.5**	**-0.4**
STL				AMP		00 04 30.1	
	comp=N,2μm,0.3s						
TACH	**Talagante**	**1.41**	**146**	⇓*i*P	**Pn**	**00 04 11.4**	**+0.2**
CLCH	**Cerro Calan**	**1.45**	**130**	⇑*i*P	**Pn**	**00 04 11.6**	**-0.2**
CLCH				*i* S	**Sn**	**00 04 29.9**	**0.0**
CLCH				AMP		00 04 32.4	
	comp=E,5μm,0.4s						
CLCH				AMP		00 04 33.1	
	comp=E,6μm,0.3s						
CMCH	**Combarbala**	**1.50**	**30**	⇑*i*P	**Pn**	**00 04 13.0**	**+0.6**
CMCH				*i* S	**Sn**	**00 04 31.4**	**+0.3**
CMCH				AMP		00 04 37.6	
	comp=E,19μm,0.7s						
ANTU	**Antumapu**	**1.51**	**137**	⇑*i*P	**Pn**	**00 04 12.4**	**-0.1**
ANTU				*i* S	**Sn**	**00 04 31.4**	**0.0**
ANTU				AMP		00 04 36.2	
	comp=E,6μm,0.4s						
LNV	**Longovilo**	**1.52**	**165**	*e*P	**Pn**	**00 04 13.5**	**+0.7**
FCH	**Farellones**	**1.58**	**123**	⇓*i*P	**Pn**	**00 04 13.2**	**-0.4**
FCH				*i* S	**Sn**	**00 04 32.9**	**-0.3**
FCH				AMP		00 04 33.6	
	comp=E,6μm,0.2s						
PCH	**Pirque**	**1.61**	**135**	⇑*i*P	**Pn**	**00 04 14.4**	**+0.3**
SJCH	**San Jose de Ma**	**1.72**	**133**	⇑*i*P	**Pn**	**00 04 15.1**	**-0.6**
SJCH				*i* S	**Sn**	**00 04 36.3**	**-0.6**
SJCH				AMP		00 04 42.0	
	comp=N,3μm,0.5s						
CHCH	**Chadas Angostu**	**1.78**	**145**	⇑*i*P	**Pn**	**00 04 17.1**	**+0.7**
CHCH				*i* S	**Sn**	**00 04 39.4**	**+1.1**
CACH	**El Canelo**	**1.95**	**147**	⇓*i*P	**Pn**	**00 04 20.3**	**+1.4**
CACH				*i* S	**Sn**	**00 04 46.2**	**+3.4**
LMEL	**Las Melosas**	**1.96**	**135**	⇑*i*P	**Pn**	**00 04 19.5**	**+0.5**
LMEL				*i* S	**Sn**	**00 04 44.3**	**+1.5**
LMEL				AMP		00 04 48.5	
	comp=N,4μm,0.2s						
CICH	**Cipreses**	**2.20**	**147**	⇓*i*P	**Pn**	**00 04 23.3**	**+0.8**
CICH				*i* S	**Sn**	**00 04 50.0**	**+0.9**
SFDO	**San Fernando**	**2.25**	**162**	⇑*i*P	**Pn**	**00 04 23.5**	**+0.3**
TLL	**Tololo Astrono**	**2.48**	**22**	⇑*i*P	**Pn**	**00 04 27.3**	**+0.8**
TLL				*i* S	**Sn**	**00 04 58.2**	**+2.1**
TLL				AMP		00 05 07.4	
	comp=E,2μm,0.5s						
LPAZ	**La Paz**	**16.47**	**13**	Pn	**P**	**00 07 37.2**	**-0.7**
	comp=E,0.3nm,0.3s,baz=196,slow=9.1,SNR=3.6						
LPAZ				LR	LR	00 14 13.8	
	comp=E,252nm,20.0s,baz=161,slow=38						
LPAZ	**La Paz**	**16.47**	**13**	Pn	**P**	**00 07 37.2**	**-0.7**
LPAZ				LR	LR	00 14 13.8	
VNA3	**Neumayer Olymp**	**50.72**	**158**	⇑*i*	**P**	**00 12 46.7**	**+0.9**
VNA1	**Neumayer--Stat**	**51.02**	**157**	⇓*i*	**P**	**00 12 46.2**	**-1.9**
VNA2	**Neumayer--Watz**	**51.36**	**158**	⇑*i*	**P**	**00 12 52.2**	**+1.5**
SNAA	**Sanae**	**52.94**	**158**	⇓*i*	**P**	**00 13 01.0**	**-1.6**
SNAA	**Sanae**	**52.94**	**158**	P	**P**	**00 13 01.2**	**-1.4**
	comp=E,0.5nm,0.7s,mb3.6,baz=278,slow=8.3,SNR=7.5						
SYO	**Syowa Base**	**67.23**	**159**	⇓P	**P**	**00 14 38.3**	**-2.1**
TXAR	**Lajitas Array**	**68.48**	**330**	P	**P**	**00 14 48.7**	**-0.2**
	comp=E,0.2nm,0.5s,mb3.4,baz=143,slow=9.0,SNR=3.5						
DBIC	**Dimbokro**	**74.56**	**72**	P	**P**	**00 15 23.3**	**-2.3**
	comp=E,3.5nm,0.8s,mb4.3,baz=204,slow=6.6,SNR=4.9						
BVAR	**Borovoye Array**	**146.06**	**41**	PKPbc	PKPbc	00 23 24.7	+0.7
	comp=E,0.9nm,0.3s,baz=293,slow=1.9,SNR=10						
ZAL	**Zalesovo**	**152.86**	**31**	PKPbc	PKPdf	00 23 41.9	+3.5
	comp=E,1.4nm,0.7s,baz=65,slow=3.5,SNR=5.3						

KRSC 29 00:14:43.4±1.9,**52.77N**×**160.49E,h9km**±2km**,ML3.8,Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.43**	**319**	*e*P	Pg	00 14 54.0	+1.8
SPN				*e*S	Sg	00 15 00.1	+2.0
NLC	**Nalytchevo**	**0.80**	**301**	*e*P	Pb	00 14 59.7	+0.7
NLC				*e*S	Sb	00 15 11.0	+1.3
SDLR	**Sedlovina**	**1.10**	**298**	*e*P	Pb	00 15 04.7	+0.6
SDLR				*e*S	Sb	00 15 21.4	+3.1
UGLR	**Uglovaya**	**1.10**	**294**	*e*P	Pb	00 15 05.0	+0.9
UGLR				*e*S	Sb	00 15 21.9	+3.5
SMAR	**Somma**	**1.13**	**297**	*e*P	Pb	00 15 05.2	+0.5
SMAR				*e*S	Sb	00 15 23.6	+4.2
PET	**Petropavlovsk**	**1.14**	**284**	*e*P	Pb	00 15 04.9	0.0
PET				*e*S	Sb	00 15 21.0	+1.4
AVH	**Avacha**	**1.17**	**296**	*e*P	Pb	00 15 06.0	+0.7
AVH				*e*S	Sb	00 15 22.9	+2.5
KOK	**Koryaka**	**1.24**	**296**	*e*P	Pb	00 15 07.1	+0.6
KOK				*e*S	Sb	00 15 23.9	+1.5
RUS	**Russkaya**	**1.25**	**255**	*e*P	Pb	00 15 06.7	-0.1
RUS				*e*S	Sb	00 15 23.3	+0.5
KII	**Karymskiy**	**1.41**	**334**	*e*P	Pn	00 15 09.5	+0.1
KII				*e*S	Sb	00 15 28.6	+1.1
GRL	**Gorelyy**	**1.49**	**263**	*e*P	Pn	00 15 11.1	+0.6
GRL				*e*S	Sb	00 15 30.9	+1.2
GNL	**Ganaly**	**1.79**	**302**	*e*P	Pn	00 15 16.2	+1.4
GNL				*e*S	Sn	00 15 39.3	+1.5
MKZ	**Mys Kozlova**	**1.94**	**22**	*i* P	Pn	00 15 14.7	-2.2
MKZ				*e*S	Sn	00 15 42.3	+0.8
APC	**Apacha**	**2.03**	**276**	*e*P	Pn	00 15 19.3	+1.1
APC				*e*S	Sn	00 15 45.2	+1.4
MIPR	**Malaya Ipel'ka**	**2.33**	**259**	*e*P	Pn	00 15 24.4	+1.8
TUMR	**Tumrok**	**2.53**	**356**	*e*P	Pn	00 15 25.6	+0.3
TUMR				*e*S	Sn	00 15 56.0	-0.5
PAU	**Pauzhetka**	**2.62**	**242**	*e*P	Pn	00 15 28.7	+2.1
PAU				*e*S	Sn	00 16 01.2	+2.4
PAU				Smax			
	200nm,0.9s						
KMNR	**Kamenistaya**	**3.00**	**357**	*e*P	Pn	00 15 33.0	+1.0
KMNR				*e*S	Sn	00 16 08.9	+0.5
KPT	**Kopyto**	**3.21**	**357**	*e*P	Pn	00 15 36.7	+1.7
KPT				*e*S	Sn	00 16 14.3	+0.5
ZLN	**Zelenaya**	**3.26**	**3**	*e*P	Pn	00 15 36.3	+0.5
ZLN				*e*S	Sn	00 16 15.0	-0.1
LGNR	**Loginova**	**3.32**	**2**	*e*P	Pn	00 15 38.8	+2.2
LGNR				*e*S	Sn	00 16 16.1	-0.6
CIRR	**Tsirk**	**3.36**	**2**	*e*P	Pn	00 15 38.5	+1.4
CIRR				*e*S	Sn	00 16 18.6	+1.1
KRSR	**Krestovskiy**	**3.46**	**1**	*e*P	Pn	00 15 39.5	+1.0
KRSR				*e*S	Sn	00 16 20.6	+0.6
SRDR	**Sredinnyy**	**3.58**	**353**	*e*P	Pn	00 15 40.4	0.0
SRDR				*e*S	Sn	00 16 22.0	-1.3
KBTR	**Krutoberegovo**	**3.70**	**21**	*e*P	Pn	00 15 42.1	0.0
KBTR				*e*S	Sn	00 16 25.1	-1.2
SVLR	**Shiveluch**	**3.84**	**6**	*e*P	Pn	00 15 44.7	+0.7

*PRU **29** 00:23:25.1,50.38N×18.77E*
*WAR **29** 00:23:25.4,50.27N×18.85E,ML2.4,Mining Induced*

ISC 29 00:23:23.8±0.6,**50.15N**±0.07×**18.69E**±0.04,**n8,σ1§06/14,**
Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.47**	**229**	*e*PG	**Pg**	**00 23 38.2**	**+5.0**
OKC				*e*SG	**Sg**	**00 23 47.1**	**+7.7**
OJC	**Ojcow**	**0.71**	**84**	*e*Pg	**Pg**	**00 23 37.4**	**-0.7**
OJC				*e*Sg	**Sg**	**00 23 46.6**	**-1.0**
NIE	**Niedzica**	**1.28**	**124**	*e*Pg	**Pg**	**00 23 49.8**	**+0.5**
NIE				*e*Sg	**Sg**	**00 24 07.8**	**+1.5**
DPC	**Dobruska-Polom**	**1.54**	**279**	*e*PG	**Pg**	**00 23 54.3**	**-0.2**
DPC				*e*SG	**Sg**	**00 24 16.0**	**+1.0**
KSP	**Ksiaz**	**1.68**	**295**	*e*PG	**Pg**	**00 23 58.0**	**+0.5**
KSP				*e*SG	**Sg**	**00 24 21.0**	**+1.1**
UPC	**Upice**	**1.76**	**283**	*e*PG	**Pg**	**00 23 59.4**	**+0.5**
PRU	**Pruhonice**	**2.68**	**268**	*e*SG	**Sg**	**00 24 51.4**	**-1.6**
	2.6nm,0.4s						
KHC	**Kasperske Hory**	**3.48**	**255**	*e*PG	**Pg**	**00 24 31.0**	**-2.2**
KHC				*e*SG	**Sg**	**00 25 19.5**	**-0.1**

*LDG **29** 01:00:08.5±1.3,42.82N×1.46W,h2km,Md2.2/2,Ml2.3/1, Error ellipse: s-maj=23.4km s-min=12.1km az=52.0*
*MDD **29** 01:00:09.8±0.5,42.85N×1.40W,h2km±22km,mbLg1.4/7, Error ellipse: s-maj=4.2km s-min=2.9km az=46.0,PRXIMO AftershockPLICA*

ISC 29 01:00:07.7±0.7,**42.80N**±0.04×**1.44W**±0.05,**h2km,n10,**
σ0§89/14,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.35**	**26**	*e*Pg	**Pg**	**01 00 15.3**	**+0.6**
SJPF				*e*Sg	**Sg**	**01 00 18.0**	**-1.4**
	25nm,0.3s						
LARF	**Larrau**	**0.41**	**54**	P	**Pg**	**01 00 16.7**	**+0.8**
LARF				S	**Sg**	**01 00 22.3**	**+1.0**
EALK	**Alkurruntz**	**0.42**	**353**	Pg	**Pg**	**01 00 16.7**	**+0.5**
	1.7nm,0.1s,SNR=6.9						
EALK				Lg		01 00 22.5	
	10.0nm,0.1s,SNR=9.9						
ETSF	**Etsaut**	**0.65**	**81**	*e*Pg	**Pg**	**01 00 20.9**	**+0.1**
ETSF				*e*Sg	**Sg**	**01 00 29.9**	**+0.4**
	4.2nm,0.2s						
ESAC	**San Caprasio**	**1.29**	**146**	Pg	**Pg**	**01 00 33.7**	**+0.1**
	12nm,0.3s,SNR=7.9						
ESAC				Lg		01 00 51.3	
	34nm,0.4s,SNR=7.9						
EPF	**Esparros**	**1.33**	**79**	*e*Pg	**Pg**	**01 00 33.1**	**-1.1**
EPF				*e*Sg	**Sg**	**01 00 51.7**	**-0.2**
	5.3nm,0.2s						
ELAN	**Lanestosa**	**1.53**	**287**	Pg	**Pg**	**01 00 37.5**	**-0.7**
	1.8nm,0.2s,SNR=7.9						
ELAN				Lg		01 00 58.6	
	2.2nm,0.4s,SNR=7.9						
ETOR	**Torete**	**2.03**	**193**	Pn	**Pn**	**01 00 44.4**	**+1.0**
	6.0nm,0.6s,SNR=4.0						
ETOR				Pg	**Pg**	**01 00 48.6**	**+0.3**
	55nm,1.3s,SNR=7.9						
ETOR				Lg		01 01 16.5	
	2.3nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**2.37**	**127**	Pg	**Pg**	**01 00 52.8**	**-2.1**
	0.1nm,0.1s,SNR=4.0						
EPOB				Lg		01 01 24.0	
	0.4nm,0.1s,SNR=4.0						
EMIR	**Miracle**	**2.37**	**111**	Lg		01 01 25.4	
	SNR=4.0						

*IDC **29** 01:03:30.7±0.9,14.64N×147.27E,h43km±7km,mb3.5/8, mb1 3.8/8,mb1mx3.6/20,MS3.2/1,Ms1 3.2/1,ms1mx2.7/17, Error ellipse: s-maj=27.1km s-min=20.5km az=122.0*
*NEIC **29** 01:03:30.7±0.6,14.64N×147.14E,mb4.3/2,Error ellipse: s-maj=18.5km s-min=12.6km az=126.0*

ISC 29 01:03:29.1±3.3,**14.7N**±0.1×**147.1E**±0.2,**h46km**±28km,
h44km±2.1km**:pP-P,n14,σ0§93/13,mb3.9/10,MS3.1/1,**
Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.41**	**244**	*e*Pn	**P**	**01 04 07.6**	**+0.6**
GUMO				Sn	**S**	**01 04 34.9**	**-0.6**
CTA	**Charters Tower**	**34.53**	**181**	LR	LR	01 21 21.0	
	comp=Z,38nm,19.5s,MS3.1,baz=182,slow=31						
WRA	**Warramunga Arr**	**36.59**	**200**	P	**P**	**01 10 32.2**	**-0.7**
	0.5nm,0.5s,mb3.6,baz=23,slow=9.3,SNR=3.5						
ASAR	**Alice Springs**	**40.21**	**199**	P	**P**	**01 11 03.6**	**+0.6**
	0.3nm,0.5s,mb3.3,baz=22,slow=9.7,SNR=3.9						
CMAR	**Chiang Mai Arr**	**46.22**	**282**	P	**P**	**01 11 53.1**	**+1.3**
	1.3nm,0.6s,mb4.1,baz=75,slow=6.1,SNR=4.8						
CMAR				pP	pP	01 12 06.3	+1.9
	1.3nm,0.5s,baz=80,slow=5.9,SNR=2.9						
SONM	**Songino Array**	**47.16**	**323**	P	**P**	**01 11 58.8**	**0.0**
	0.9nm,0.4s,mb4.0,baz=138,slow=7.3,SNR=11						
SONM				pP	pP	01 12 12.2	+0.8
	1.5nm,0.6s,baz=136,slow=6.4,SNR=8.3						
KURK	**Kurchatov**	**65.19**	**319**	*e*P	**P**	**01 14 05.9**	**-1.9**
	3.0nm,0.8s,mb4.4						
KURK				*e*pP	pP	01 14 20.0	-1.0
ILAR	**Eielson Array**	**66.69**	**25**	P	**P**	**01 14 16.2**	**-0.9**
	0.2nm,0.6s,mb3.3,baz=249,slow=6.0,SNR=4.4						
ILAR				pP	pP	01 14 28.2	-2.1
	1.3nm,1.1s,baz=253,slow=6.2,SNR=3.5						
ILAR	**Eielson Array**	**66.69**	**25**	P	**P**	**01 14 16.2**	**-0.9**
ILAR				pP	pP	01 14 28.2	-2.2
BRVK	**Borovoye**	**70.52**	**321**	*e*P	**P**	**01 14 40.7**	**-0.2**
	1.2nm,0.4s,mb4.2						
BRVK				*e*pP	pP	01 14 54.1	-0.2
INK	**Inuvik**	**72.56**	**23**	P	**P**	**01 14 53.8**	**+0.9**
	0.7nm,0.9s,mb3.6,baz=256,slow=4.2,SNR=3.1						
INK				pP	pP	01 15 06.1	-0.1
	0.5nm,0.6s,baz=343,slow=14,SNR=1.5						
NVAR	**Mina Array Bea**	**84.57**	**52**	P	**P**	**01 15 58.5**	**-0.6**
	0.5nm,0.7s,mb3.8,baz=270,slow=3.6,SNR=3.3						
FINES	**FINESS Array B**	**91.11**	**336**	P	**P**	**01 16 31.3**	**+1.4**
	2.1nm,1.1s,mb4.4,baz=69,slow=12,SNR=2.5						
FINES				pP	pP	01 16 42.6	-1.0
	2.3nm,1.0s,baz=18,slow=6.0,SNR=2.4						
LPAZ	**La Paz**	**146.02**	**97**	PKPbc	PKPbc	01 23 07.9	+2.8
	0.8nm,0.5s,baz=300,slow=3.0,SNR=3.9						

*IDC **29** 01:24:08.3±5.5,9.73S×117.72E,mb3.8/2,mb1 4.1/4, mb1mx3.8/15,ML3.5/2,MS3.0/1,Ms1 3.2/1,ms1mx2.6/19, Error ellipse: s-maj=261.0km s-min=25.5km az=57.0*
*DJA **29** 01:24:12.9±0.9,10.00S×117.55E,h90km±22km,MD4.6/4, ML4.5/2,Error ellipse: s-maj=34.5km s-min=21.0km az=0.0*

ISC 29 01:24:12.6±1.2,**10.2S**±0.2×**117.4E**±0.1,**h67**km±21km**,n11,**
σ0§96/15,mb3.9/1,5C-3D,South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**2.10**	**324**	*e*Pn	**P**	**01 24 46.5**	**+0.3**
KEDI	**Kedomdong**	**2.10**	**324**	⇓*e*P	**P**	**01 24 46.8**	**+0.6**
KEDI				⇓*e*Sn	**S**	**01 25 11.2**	**0.0**
RATI	**Rata**	**2.33**	**309**	⇑*e*Pn	**P**	**01 24 49.7**	**+0.2**
RATI				⇑*e*Sn	**S**	**01 25 16.2**	**-0.7**
KELI	**Kelakatan**	**3.46**	**304**	⇑*e*Pn	**P**	**01 25 06.2**	**+0.9**
	100nm,0.2s						
KELI				⇑*e*Sn	**S**	**01 25 44.6**	**-0.7**
SRDI	**Scrawed**	**3.61**	**298**	⇓*e*Pn	**P**	**01 25 08.2**	**+0.7**
	194nm,0.2s						
SRDI				⇑*e*Sn	**S**	**01 25 49.1**	**-0.1**
FITZ	**Fitzroy Crossi**	**11.22**	**135**	*e*P	**P**	**01 26 50.0**	**-2.4**
	2.8nm,0.4s						
FITZ	**Fitzroy Crossi**	**11.22**	**135**	Pn	**P**	**01 26 50.2**	**-2.2**
	0.8nm,0.3s,baz=346,slow=12,SNR=12						
FITZ				Sn	**S**	**01 28 47.1**	**-10**
	0.1nm,0.3s,baz=188,slow=19,SNR=2.4						
WRA	**Warramunga Arr**	**19.02**	**123**	P	**P**	**01 28 32.0**	**+0.3**
	0.1nm,0.3s,baz=299,slow=13,SNR=6.7						
ASAR	**Alice Springs**	**20.70**	**132**	P	**P**	**01 28 51.5**	**+1.9**
	3.0nm,0.7s,baz=312,slow=11,SNR=29						
CMAR	**Chiang Mai Arr**	**33.78**	**327**	LR	LR	01 46 00.9	
	comp=Z,23nm,20.3s,baz=174,slow=39						
SONM	**Songino Array**	**58.59**	**351**	P	**P**	**01 34 04.1**	**-0.7**
	0.9nm,0.7s,mb3.9,baz=171,slow=7.7,SNR=6.1						

*NIED **29** 01:27:00,37.40N×138.80E,h5km,Mw3.8 Best double couple: M0 4.93×10^14 NP1:φs33°,δ69°,λ91°. NP2:φs210°, δ21°,λ88°*
*IDC **29** 01:27:28.8±1.2,36.88N×138.51E,mb3.7/6,mb1 3.9/7, mb1mx3.7/23,ML3.3/1,Error ellipse: s-maj=42.5km s-min=27.8km az=33.0*
*NEIC **29** 01:27:32.2±0.6,37.40N×138.62E,h10km,mb4.0/1,Error ellipse: s-maj=17.9km s-min=8.3km az=107.0*
*JMA **29** 01:27:32.0,37.41N×138.84E,h9km±2km,M3.6 Broadband fault plane solution: P waves. NP1:φs195°,δ4°, λ76°. NP2:φs29°,δ86°,λ91°. Principal axes: T Plg49°, Azm300°; N Plg1°, Azm209°; P Plg41°, Azm118°;*
JMA Felt III J1.

ISC 29 01:27:31.7±0.5,**37.40N**±0.03×**138.80E**±0.05,**h14**km±3km,
n22,σ0§92/30,mb3.6/7,1C-6D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIZZ	**Izumozaki**	**0.15**	**330**	⇓P	**Pg**	**01 27 35.6**	**+0.1**
JIZZ				S	**Sg**	**01 27 39.9**	**+1.8**
JHK	**Hiroka**	**0.23**	**132**	⇓P	**Pg**	**01 27 36.3**	**-0.6**
JHK				S	**Sg**	**01 27 40.0**	**-0.4**
JNS	**Sasagawa**	**0.58**	**45**	⇓P	**Pb**	**01 27 42.7**	**-0.4**
JNS				S	**Sb**	**01 27 51.1**	**+0.2**
JFY	**Yanaizu**	**0.72**	**90**	⇓P	**Pb**	**01 27 44.9**	**-0.6**
JKT	**Katashina**	**0.73**	**151**	⇓P	**Pb**	**01 27 45.4**	**-0.2**
JKT				S	**Sb**	**01 27 55.5**	**+0.3**
JSD	**Sado**	**0.76**	**326**	⇑P	**Pb**	**01 27 45.6**	**-0.6**
JSD				S	**Sb**	**01 27 56.7**	**+0.5**
JGK	**Kuni**	**0.85**	**189**	P	**Pb**	**01 27 48.1**	**+0.4**
MAJO	**Matsushiro**	**0.98**	**209**	*e*Pg	**Pg**	**01 27 49.9**	**-1.6**
MAT	**Matsushiro**	**0.98**	**209**	P	**Pb**	**01 27 50.0**	**0.0**
MAT				S	**Sb**	**01 28 03.8**	**+1.2**
MAT	**Matsushiro**	**0.98**	**209**	P	**Pb**	**01 27 49.8**	**-0.2**
MAT				S	**Sb**	**01 28 03.4**	**+0.8**
MAT	**Matsushiro**	**0.98**	**209**	*e*P	**Pb**	**01 27 50.0**	**0.0**
MAT				*e*S	**Sb**	**01 28 04.0**	**+1.4**
JAG	**Ashikaga**	**1.11**	**152**	⇓P	**Pb**	**01 27 52.8**	**+0.7**
JAG				S	**Sb**	**01 28 06.9**	**+0.7**
JHJ	**Hachijo jima 2**	**4.35**	**169**	Pn	**Pn**	**01 28 29.9**	**-9.1**
	5.1nm,0.3s,baz=266,slow=17,SNR=2.2						
SONM	**Songino Array**	**25.85**	**304**	P	**P**	**01 33 02.8**	**-1.5**
	1.2nm,0.8s,mb3.5,baz=101,slow=7.9,SNR=7.4						
KURK	**Kurchatov**	**44.06**	**308**	*e*P	**P**	**01 35 38.3**	**-2.2**
	2.1nm,0.8s,mb3.9						
FINES	**FINESS Array B**	**67.50**	**331**	P	**P**	**01 38 28.3**

	1.7nm,0.7s,baz=92,slow=8.3,SNR=6.0							
WRA				PcP	PcP	02 03 58.9	-1.3	
	1.0nm,0.8s,baz=91,slow=3.6,SNR=4.3							
WRA				LR	LR	02 14 28.1		
	comp=Z,21nm,20.6s,baz=105,slow=36							
ASAR	**Alice Springs**	**33.20**	**259**	P	**P**	**02 01 19.0**	**-0.4**	
	5.5nm,0.6s,mb4.6,baz=92,slow=9.4,SNR=68							
ASAR				pP	pP	02 01 36.3	-3.7	
	1.6nm,0.6s,baz=82,slow=9.0,SNR=4.6							
ASAR				PcP	PcP	02 03 59.2	-1.1	
	1.1nm,0.7s,baz=111,slow=3.2,SNR=6.7							
KAKA	**Kakadu**	**36.60**	**277**	*e*P	**P**	**02 01 51.9**	**+3.4**	
	30nm,1.8s,mb4.9							
MBWA	**Marble Bar**	**46.49**	**260**	*e*P	**P**	**02 03 08.9**	**-0.4**	
	3.6nm,0.6s,mb4.3							
VNDA	**Vanda**	**56.70**	**182**	P	**P**	**02 04 24.4**	**-0.7**	
	1.0nm,1.1s,mb3.8,baz=0.8,slow=7.3,SNR=5.1							
VNDA	**Vanda**	**56.70**	**182**	P	**P**	**02 04 24.4**	**-0.7**	
CASY	**Casey**	**58.71**	**204**	*e*P	**P**	**02 04 38.4**	**-1.0**	
	8.5nm,1.3s,mb4.6							
QSPA	**South Pole Qui**	**69.06**	**180**	*e*P	**P**	**02 05 46.4**	**-0.3**	
	5.1nm,2.5s,mb3.9							
MAW	**Mawson**	**76.99**	**202**	P	**P**	**02 06 34.1**	**+0.9**	
	3.6nm,0.8s,mb4.1,baz=107,slow=8.8,SNR=7.9							
MAW				pP	pP	02 06 56.4	0.0	
	5.3nm,0.9s,baz=96,slow=8.3,SNR=6.2							
CMAR	**Chiang Mai Arr**	**79.65**	**294**	P	**P**	**02 06 49.9**	**+1.2**	
	2.5nm,0.5s,mb4.3,baz=131,slow=4.0,SNR=12							
SYO	**Syowa Base**	**83.38**	**196**	⇓P	**P**	**02 07 04.8**	**-2.3**	
SYO	**Syowa Base**	**83.38**	**196**	⇑pP	pP	02 07 29.8	-0.8	
SNAA	**Sanae**	**87.43**	**182**	P	**P**	**02 07 26.8**	**-0.2**	
	0.7nm,0.6s,mb3.8,baz=212,slow=5.5,SNR=28							
SNAA	**Sanae**	**87.43**	**182**	⇓*i*P	**P**	**02 07 26.7**	**-0.3**	
	0.1nm,0.7s							
VNA3	**Neumayer Olymp**	**88.00**	**180**	⇑*i*	**P**	**02 07 31.6**	**+1.9**	
VNA2	**Neumayer--Watz**	**88.30**	**181**	⇓*i*	**P**	**02 07 33.0**	**+1.9**	
VNA1	**Neumayer--Stat**	**88.59**	**181**	⇑*i*	**P**	**02 07 34.7**	**+2.2**	
SONM	**Songino Array**	**88.80**	**323**	P	**P**	**02 07 34.5**	**0.0**	
	2.1nm,0.8s,mb4.2,baz=135,slow=4.5,SNR=12							
NVAR	**Mina Array Bea**	**89.61**	**48**	P	**P**	**02 07 38.1**	**+0.1**	
	3.1nm,0.6s,mb4.6,baz=231,slow=9.7,SNR=30							
ILAR	**Eielson Array**	**91.77**	**17**	P	**P**	**02 07 44.9**	**-2.6**	
	0.5nm,0.9s,mb3.7,baz=246,slow=4.7,SNR=9.7							
TXAR	**Lajitas Array**	**97.19**	**61**	LR	LR	02 45 58.1		
	comp=Z,25nm,20.5s,baz=315,slow=32							
PDAR	**Pinedale Array**	**97.47**	**47**	P	**P**	**02 08 14.2**	**+0.2**	
	0.4nm,0.6s,mb4.0,baz=225,slow=2.1,SNR=3.5							
ARCES	**ARCESS Array B**	**126.88**	**345**	PKP	PKPdf	02 13 41.8	-0.1	
	2.1nm,0.7s,baz=338,slow=6.5,SNR=4.1							
FINES	**FINESS Array B**	**132.38**	**337**	PKP	PKPdf	02 13 52.0	-0.7	
	1.5nm,0.9s,baz=63,slow=4.3,SNR=5.4							
AKASG	**Malin Array Be**	**137.18**	**323**	PKP	PKPdf	02 14 02.4	+0.6	
	0.9nm,0.6s,baz=60,slow=1.7,SNR=4.7							
CLL	**Collm**	**144.70**	**335**	*i* PKIKP	PKPdf	02 14 14.4	-0.7	
	logA/T=1.0							
PRU	**Pruhonice**	**145.04**	**332**	*e*PKP	PKPdf	02 14 15.9	+0.2	
KHC	**Kasperske Hory**	**146.10**	**332**	*e*PKP	PKPdf	02 14 18.0	+0.5	
GERES	**GERESS Array B**	**146.25**	**331**	PKPbc	PKPbc	02 14 19.6	+0.6	
	3.5nm,0.6s,baz=31,slow=2.5,SNR=37							
GRA1	**Grafenberg Arr**	**146.67**	**334**	*e*PKP	PKPdf	02 14 21.1	+2.6	
MOA	**Molln**	**146.71**	**329**	⇑*i*P	PKPdf	02 14 18.2	-0.4	
KBA	**Koelnbreinsper**	**147.70**	**329**	⇓*i*P	PKPdf	02 14 23.4	+3.2	
MOTA	**Moosalm**	**148.53**	**332**	⇓*i*P	PKPdf	02 14 25.5	+3.9	
SQTA	**Sankt Quirin**	**148.58**	**331**	⇓*i*P	PKPdf	02 14 25.9	+4.3	
DAVA	**Damuels**	**149.11**	**333**	⇓*i*P	PKPdf	02 14 27.2	+4.7	
CDF	**Champ du Feu**	**149.24**	**337**	*e*PKP1	PKPdf	02 14 27.1	+4.4	
HAU	**Haudompre**	**149.91**	**337**	*e*PKP1	PKPdf	02 14 28.8	+5.0	
AQU	**L'Aquila**	**150.87**	**322**	*e*PKPbc	PKPdf	02 14 31.8	+6.4	
CABF	**La Chapelle**	**151.18**	**336**	*e*PKP1	PKPdf	02 14 32.2	+6.5	
	11nm,0.6s							
FLN	**La Foliniere**	**151.21**	**346**	*e*PKP1	PKPdf	02 14 31.6	+5.9	
LOR	**Lormes**	**151.40**	**340**	*e*PKP1	PKPdf	02 14 32.3	+6.3	
	28nm,1.1s							
GRR	**Gorron**	**151.65**	**347**	*e*PKP1	PKPdf	02 14 32.0	+5.6	
SSF	**Saint Saulge**	**151.70**	**340**	*e*PKP1	PKPdf	02 14 33.1	+6.6	
	36nm,1.3s							
LPL	**La Plagne**	**151.84**	**334**	*e*PKP1	PKPdf	02 14 33.9	+7.2	
	33nm,1.2s							
LPG	**La Plagne**	**151.84**	**334**	*e*PKP1	PKPdf	02 14 33.4	+6.7	
	6.5nm,0.6s							
BGF	**Bois d'Lagland**	**152.35**	**340**	*e*PKP1	PKPdf	02 14 34.4	+7.0	
ORIF	**Oris-en-Rattie**	**152.67**	**335**	*e*PKP1	PKPdf	02 14 34.5	+6.5	
	20nm,1.0s							
SBF	**Sospel**	**152.86**	**331**	*e*PKP1	PKPdf	02 14 34.5	+6.3	
PGF	**Pioggiola**	**153.11**	**327**	*e*PKP1	PKPdf	02 14 35.6	+7.0	

WEL 29 02:00:00.0±0.4, 41.28S×172.57E, h206km±2km, ML3.6/5, 1C, Error ellipse: s-maj=3.5km s-min=2.5km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
QRZ	**Quartz Range**	**0.46**	**356**	PN		P	02 00 27.3	-0.7
QRZ				SN		S	02 00 48.1	-1.5
THZ	**Tophouse**	**0.54**	**153**	PN		P	02 00 28.4	+0.1
THZ				SN		S	02 00 49.2	-1.0
NNZ	**Nelson**	**0.61**	**84**	⇑PN		P	02 00 27.9	-0.7
NNZ				SN		S	02 00 49.5	-1.2
DSZ	**Denniston Nort**	**0.74**	**231**	PN		P	02 00 28.6	-0.5
DSZ				SN		S	02 00 50.1	-1.6
TUWZ	**Tuamarina**	**1.04**	**99**	PN		P	02 00 30.6	-0.3
TUWZ				SN		S	02 00 53.5	-1.3
KHZ	**Kahutara**	**1.35**	**148**	PN		P	02 00 32.8	-0.6
KHZ				SN		S	02 00 58.0	-1.1
LTZ	**Lake Taylor**	**1.52**	**188**	PN		P	02 00 34.4	-0.4
LTZ				SN		S	02 00 59.5	-2.2
BHW	**Baring Head**	**1.74**	**95**	PN		P	02 00 35.6	-1.2
CAW	**Cannon Point**	**1.89**	**86**	PN		P	02 00 37.1	-1.2
MTW	**Mount Morrison**	**2.22**	**88**	PN		P	02 00 40.4	-1.3
MTW				SN		S	02 01 12.2	-1.5
MQZ	**McQueen's Vall**	**2.42**	**179**	SN		S	02 01 14.3	-3.5
BFZ	**Birch Farm**	**2.85**	**79**	PN		P	02 00 47.3	-1.3

GRAL 29 02:09:22.8±17.0, 36.20N×34.69E, h16km±999km, MD3.4
ISK 29 02:09:32.7, 34.92N×33.90E, h23km, MD3.4
CSEM 29 02:09:34.2±0.1, 34.97N×33.85E, h28km±1km, Mw2.9, Error ellipse: s-maj=2.0km s-min=1.3km az=53.0
NIC 29 02:09:35.5±0.4, 34.96N×33.78E, h18km, ML3.4, MW3.1
NEIC 29 02:09:35.5, 34.96N×33.78E, h18km, ML3.4(NIC), After NIC.
GII 29 02:09:38.5±0.4, 34.51N×34.05E, h10km±30km, ML2.6/8, Mw2.9/5

ISC 29 02:09:34.1±0.4, 34.87N±0.03×33.89E±0.04, h42km±9km, n41, σ1°04/58, 5C, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PHNC	**Paralimni**	**0.18**	**41**	⇑*i*P		**P**	**02 09 41.0**	**-0.3**
PHNC				S		**S**	**02 09 46.7**	**+0.4**
CSS	**Prodhromos**	**0.47**	**281**	⇑P		**P**	**02 09 43.1**	**-1.4**
	12nm,0.3s							
CSS				S		**S**	**02 09 49.9**	**-1.9**
CSS	**Prodhromos**	**0.47**	**281**	⇑*i*P		**P**	**02 09 43.1**	**-1.4**
CSS				S		**S**	**02 09 49.9**	**-1.9**
CSS	**Prodhromos**	**0.47**	**281**	⇑*i*P		**P**	**02 09 43.1**	**-1.4**
	12nm,0.3s							
MAMC	**Mammari**	**0.63**	**299**	⇑*i*P		**P**	**02 09 45.6**	**-1.0**
SZAC	**Souni-Zanaja**	**0.84**	**262**	P		**P**	**02 09 50.0**	**+0.5**
	22nm,0.3s							
SZAC				S		**S**	**02 10 03.0**	**+2.2**
LEF	**Lefka**	**0.86**	**287**	PG		**P**	**02 09 49.7**	**-0.1**
LEF				SG		**S**	**02 10 02.1**	**+0.7**
ALFC	**Alevga**	**1.10**	**285**	P		**P**	**02 09 53.1**	**-0.1**
	8.4nm,0.3s							
ALFC				S		**S**	**02 10 07.6**	**+0.2**
PPCY	**Paphos**	**1.27**	**271**	P		**P**	**02 09 56.7**	**+1.0**
IKL	**Isikli**	**1.38**	**353**	PN		**P**	**02 09 56.5**	**-0.8**
IKL				SN		**S**	**02 10 13.8**	**-0.7**
BHL	**Bhannes**	**1.75**	**123**	*e*PN		**P**	**02 09 57.4**	**-5.1**
BHL				SN		**S**	**02 10 22.3**	**-1.4**
HWQ	**Hawqa**	**1.80**	**109**	*e*PN		**P**	**02 10 03.9**	**+0.7**
	baz=30,slow=5.1							
HWQ				SN		**S**	**02 10 26.2**	**+1.3**
HWQ	**Hawqa**	**1.80**	**109**	*e*Pn		**P**	**02 10 03.9**	**+0.7**
HWQ				Sn		**S**	**02 10 26.2**	**+1.3**
HNTI	**Hanita**	**2.08**	**149**	Pn		**P**	**02 10 08.2**	**+1.0**
HNTI				Sn		**S**	**02 10 30.2**	**-1.8**
HRI	**Mount Hermon**	**2.21**	**136**	Pn		**P**	**02 10 10.1**	**+0.9**
HTY	**Hatay**	**2.22**	**55**	*e*Pn		**P**	**02 10 08.5**	**-0.7**
KSDI	**Kefar Szold**	**2.23**	**138**	Pn		**P**	**02 10 10.3**	**+0.9**
KSDI				Sn		**S**	**02 10 35.9**	**0.0**
KSDI	**Kefar Szold**	**2.23**	**138**	Pn		**P**	**02 10 10.3**	**+0.9**
KSDI				Sn		**S**	**02 10 35.8**	**0.0**
HDMB	**Hadim**	**2.38**	**332**	*e*PN		**P**	**02 10 10.8**	**-0.7**
OFRI	**'Ofer**	**2.42**	**158**	Pn		**P**	**02 10 12.1**	**0.0**
KSHT	**Keshet**	**2.47**	**139**	Pn		**P**	**02 10 14.0**	**+1.2**
GLH	**Golan-Tel Qazi**	**2.60**	**145**	Pn		**P**	**02 10 15.7**	**+1.0**
MMLI	**Mount Malkishu**	**2.74**	**152**	Pn		**P**	**02 10 17.4**	**+0.7**
MMLI				Sn		**S**	**02 10 48.0**	**-0.9**
SLTI	**Sal'it**	**2.79**	**160**	Sn		**S**	**02 10 47.9**	**-2.3**
HMDT	**Nahal Hemdat**	**2.95**	**152**	Pn		**P**	**02 10 20.4**	**+0.8**
NIG	**Nigde**	**3.28**	**10**	*e*PN		**P**	**02 10 24.4**	**0.0**
DRGI	**Dragot**	**3.50**	**159**	Pn		**P**	**02 10 28.1**	**+0.6**
AMZI	**Amatzia**	**3.51**	**166**	Pn		**P**	**02 10 27.2**	**-0.3**
AMZI				Sn		**S**	**02 11 04.9**	**-3.5**
KZIT	**Kziot**	**3.98**	**174**	Pn		**P**	**02 10 34.9**	**+0.7**
KZIT				Sn		**S**	**02 11 17.6**	**-2.5**
KIZT	**Kizilcal**	**4.31**	**339**	*e*PN		**P**	**02 10 38.6**	**-0.4**
ZFRI	**Zfri**	**4.44**	**165**	Pn		**P**	**02 10 41.7**	**+0.9**
PRNI	**Paran**	**4.60**	**168**	Pn		**P**	**02 10 43.4**	**+0.4**
KMTI	**Karmit**	**4.80**	**171**	Pn		**P**	**02 10 46.2**	**+0.3**
MBH	**Mount Berech**	**5.14**	**170**	Pn		**P**	**02 10 51.4**	**+0.9**
AQBJ	**Aqaba**	**5.22**	**169**	Pn		**P**	**02 10 52.3**	**+0.5**
ALWS	**Ilw as Safayha**	**5.63**	**169**	P		**P**	**02 10 58.1**	**+0.6**
ALWS				S		**S**	**02 11 59.1**	**-2.8**
JMOS	**Jabal al Moall**	**5.78**	**169**	P		**P**	**02 11 00.1**	**+0.6**
HAQS	**Haql**	**5.87**	**171**	P		**P**	**02 11 00.1**	**-0.6**
JMQS	**Jabal Moqyreh**	**6.20**	**164**	P		**P**	**02 11 08.6**	**+3.1**
TAYS	**Tayyib Ism**	**6.36**	**172**	P		**P**	**02 11 06.8**	**-0.8**
AYUS	**'Aynunah**	**6.76**	**170**	P		**P**	**02 11 12.5**	**-0.9**

GUC 29 02:35:40.3±0.9, 28.06S×71.41W, h10km, MD3.6, ML3.4, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VACH	**Vallenar**	**0.77**	**132**	*i* P		Pb	02 35 55.4	+0.1
VACH				*i* S		Sb	02 36 06.1	+0.5
VACH				AMP			02 36 07.0	
	comp=E,1μm,0.2s							
CPCH	**Copiapo**	**1.17**	**53**	*i* P		Pb	02 36 01.6	-0.6
CPCH				*i* S		Sb	02 36 16.8	-0.5
TLL	**Tololo Astrono**	**2.16**	**166**	⇑*i*P		Pn	02 36 17.4	+0.5
TLL				*i* S		Sn	02 36 45.6	+1.6
TLL				AMP			02 36 54.4	
	comp=N,194nm,0.8s							
CMCH	**Combarbala**	**3.12**	**174**	*i* P		Pn	02 36 36.2	+5.7
CMCH				*i* S		Sn	02 37 14.5	+6.3
CMCH				AMP			02 37 23.9	
	comp=E,299nm,0.7s							

IDC 29 02:40:28.3±9.5, 22.04N×143.11E, h207km±90km, mb3.4/8, mb1 3.7/9, mb1mx3.5/23, Error ellipse: s-maj=25.6km s-min=20.8km az=86.0

NEIC 29 02:40:30.2±7.5, 22.00N×143.07E, h228km±73km, mb3.9/2, Error ellipse: s-maj=23.0km s-min=12.9km az=76.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SONM	**Songino Array**	**39.04**	**320**	P		P	02 47 35.6	-0.9
	0.3nm,0.4s,baz=133,slow=7.3,SNR=5.2							
WB2	**Warramunga Arr**	**42.55**	**192**	*e*P		P	02 48 03.8	-1.6
WRA	**Warramunga Arr**	**42.55**	**192**	P		P	02 48 03.7	-1.8
	0.7nm,0.6s,baz=17,slow=8.9,SNR=4.6							
KURK	**Kurchatov**	**57.18**	**317**	*e*P		P	02 49 53.2	-2.2
	1.1nm,0.4s							
ILAR	**Eielson Array**	**61.82**	**27**	P		P	02 50 23.9	-2.9
	3.9nm,1.0s,baz=259,slow=5.2,SNR=34							
BVAR	**Borovoye Array**	**62.37**	**319**	P		P	02 50 29.2	-1.5
	2.1nm,0.5s,baz=98,slow=7.7,SNR=10							
BRVK	**Borovoye**	**62.44**	**319**	*e*P		P	02 50 28.9	-2.2
	2.0nm,0.6s							
INK	**Inuvik**	**67.33**	**24**	P		P	02 51 00.5	-1.7
	0.5nm,0.4s,baz=206,slow=1.1,SNR=11							
INK	**Inuvik**	**67.33**	**24**	P		P	02 51 00.5	-1.7
YKA	**Yellowknife Ar**	**76.24**	**28**	P		P	02 51 53.2	-1.6
	0.6nm,0.4s,baz=292,slow=5.9,SNR=7.9							
YKA	**Yellowknife Ar**	**76.24**	**28**	P		P	02 51 53.2	-1.6
ARCES	**ARCESS Array B**	**78.60**	**341**	P		P	02 52 06.3	-1.4
	4.0nm,0.8s,baz=80,slow=10,SNR=3.8							
FINES	**FINESS Array B**	**82.86**	**334**	P		P	02 52 28.1	-2.0
	1.5nm,0.7s,baz=76,slow=4.5,SNR=14							
NVAR	**Mina Array Bea**	**83.04**	**51**	P		P	02 52 31.5	0.0
	0.6nm,0.6s,baz=274,slow=4.0,SNR=6.6							
NVAR	**Mina Array Bea**	**83.04**	**51**	P		P	02 52 31.5	0.0
LPAZ	**La Paz**	**150.02**	**85**	PKPbc		PKPdf	02 59 55.9	+6.8
	1.0nm,0.5s,baz=351,slow=1.7,SNR=7.9							

IDC 29 02:49:41.9±3.9, 22.32N×94.80E, h119km±36km, mb3.6/6, mb1 3.7/8, mb1mx3.4/21, Error ellipse: s-maj=117.0km s-min=15.6km az=50.0
NEIC 29 02:49:41.5±2.2, 22.18N×94.64E, h119km±21km, mb4.2/1, Error ellipse: s-maj=87.1km s-min=13.2km az=51.0

ISC 29 02:49:40.5±1.1, 22.4N±0.2×94.9E±0.2, h127km±12km, n17, σ0°98/17, mb3.9/8, 1D, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SHL	**Shillong**	**4.20**	**320**	⇓*i*PN		**P**	**02 50 44.0**	**+0.1**
SHL				*e*SN		**S**	**02 51 29.0**	**-3.4**
CMAR	**Chiang Mai Arr**	**5.45**	**135**	P		**P**	**02 51 00.8**	**+0.1**
	0.3nm,0.3s,baz=307,slow=14,SNR=4.4							
GUN	**Gumba**	**9.83**	**306**	*e*P		**P**	**02 52 01.2**	**+1.5**
	22nm,0.3s							
PKI	**Pulchoki**	**10.02**	**303**	*e*P		**P**	**02 52 03.3**	**+1.1**
	20nm,0.4s							
KKN	**Kakani**	**10.22**	**304**	*e*P		**P**	**02 52 05.8**	**+0.9**
	24nm,0.3s							
DMN	**Daman**	**10.27**	**303**	*e*P		**P**	**02 52 05.6**	**0.0**
	15nm,0.4s							
GKN	**Gorkha**	**10.82**	**303**	*e*P		**P**	**02 52 11.9**	**-1.0**
	44nm,0.3s							
KOLN	**Koldanda**	**11.54**	**300**	*e*P		**P**	**02 52 20.5**	**-1.8**
	9.0nm,0.3s							
BVAR	**Borovoye Array**	**35.87**	**335**	P		**P**	**02 56 30.8**	**+1.0**
	0.4nm,0.3s,mb3.8,baz=130,slow=11,SNR=2.8							
WRA	**Warramunga Arr**	**57.05**	**135**	P		**P**	**02 59 15.5**	**-0.3**
	1.3nm,0.5s,mb4.2,baz=321,slow=7.4,SNR=13							
WRAB	**Tennant Creek**	**57.05**	**135**	*e*P		**P**	**02 59 15.3**	**-0.6**
	1.4nm,0.5s,mb4.2							
ASAR	**Alice Springs**	**59.45**	**138**	P		**P**	**02 59 32.9**	**+0.3**
	0.8nm,0.5s,mb4.0,baz=322,slow=7.1,SNR=18							
MLR	**Muntele Rosu**	**59.79**	**311**	P		**P**	**02 59 35.6**	**+1.0**
	2.0nm,0.8s,mb4.2,baz=13,slow=14,SNR=5.8							
HFS	**Hagfors**	**66.51**	**327**	P		**P**	**03 00 18.3**	**-0.2**
	2.2nm,0.8s,mb4.0,baz=117,slow=3.3,SNR=4.2							
NOA	**NORSAR Array B**	**67.65**	**328**	P		**P**	**03 00 25.6**	**0.0**
	1.1nm,1.0s,mb3.6,baz=90,slow=5.6,SNR=2.8							
GERES	**GERESS Array B**	**67.79**	**315**	P		**P**	**03 00 25.3**	**-1.4**
	0.2nm,0.5s,mb3.2,baz=76,slow=5.5,SNR=3.7							
BDFB	**Brasilia**	**144.33**	**274**	PKP		PKPdf	03 09 03.5	+1.3
	1.4nm,0.7s,baz=76,slow=4.2,SNR=3.0							

DJA 29 02:56:17.9±0.8, 9.69S×113.84E, h33km, MD4.9/3, ML4.4/3, 4C-4D, Error ellipse: s-maj=18.2km s-min=11.0km az=32.0, South of Java

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SRDI	**Scrawed**	**1.23**	**14**	⇑*e*Pn		Pn	02 56 37.8	-1.3
	321nm,0.2s							
SRDI	**Scrawed**	**1.23**	**14**	⇑*e*P		P	02 56 38.2	-0.7
SRDI				⇓*e*Sn		Sn	02 56 51.8	-3.0
KELI	**Kelakatan**	**1.59**	**24**	⇓*e*Pn		Pn	02 56 43.6	-0.7
	444nm,0.2s							
KELI				⇓*e*Sn		Sn	02 57 02.4	-1.5
RATI	**Rata**	**1.93**	**60**	⇓*e*Pn		Pn	02 56 47.4	-1.6
	320nm,0.2s							
RATI				⇑*e*Sn		Sn	02 57 08.2	-4.1
KEDI	**Kedomdong**	**2.54**	**62**	*e*Pn		Pn	02 56 56.4	-1.4
KEDI				⇑*e*Sn		Sn	02 57 23.6	-4.4

ATH 29 03:00:27.7, 36.53N×21.57E, h37km±6km, MD3.8/14, ML3.7
NEIC 29 03:00:27.7, 36.53N×21.57E, h37km, mb3.7/1, MD3.8(ATH), After ATH.
IDC 29 03:00:29.3±1.6, 36.43N×21.46E, h56km±32km, mb3.7/4, mb1 3.6/8, mb1mx3.4/23, ML3.3/4, MS3.7/2, Ms1 3.7/2, ms1mx2.5/32, Error ellipse: s-maj=39.1km s-min=11.3km az=18.0
CSEM 29 03:00:29.2±0.1, 36.53N×21.61E, h40km, ML3.7, Error ellipse: s-maj=3.0km s-min=1.7km az=13.0
THE 29 03:00:31.0, 36.60N×21.80E, h20km, ML3.8

ISC 29 03:00:28.3±0.5, 36.56N±0.04×21.52E±0.03, h55km±7km, n71, σ1°00/85, mb3.7/5, MS3.7/2, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
ITM	**Ithomi**	**0.70**	**28**	*e*Pn		**P**	**03 00 42.4**	**+0.2**
ITM				*e*Sn		**S**	**03 00 52.4**	**-0.3**
VLI	**Veliai**	**1.15**	**82**	*e*Pn		**P**	**03 00 49.2**	**+0.8**
VLI				*e*Sn		**S**	**03 01 04.3**	**+1.0**
KYTH	**Kithira**	**1.25**	**102**	*e*PN		**P**	**03 00 50.5**	**+0.6**
RLS	**Riolos of Patr**	**1.50**	**358**	PN		**P**	**03 00 56.1**	**+2.8**
VLS	**Valsamata**	**1.78**	**336**	*e*PN		**P**	**03 00 58.5**	**+1.3**
NAIG	**Nisos Aigina**	**1.98**	**52**	*e*PN		**P**	**03 01 00.5**	**+0.5**
NSAL	**Nisos Salamina**	**2.05**	**48**	*e*PN		**P**	**03 01 01.0**	**-0.1**
ATH	**Athens Observa**	**2.25**	**50**	*e*PN		**P**	**03 01 04.8**	**+0.9**
LKD	**Levkas**	**2.25**	**342**	*e*Pn		**P**	**03 01 07.8**	**+3.9**
EVR	**Evrytania**	**2.37**	**5**	*e*PB		**P**	**03 01 09.5**	**+4.0**
MPAR	**Parnis Oros**	**2.38**	**47**	*e*PN		**P**	**03 01 05.0**	**-0.7**
PTL	**Penteli**	**2.39**	**51**	*e*PN		**P**	**03 01 05.5**	**-0.4**
LKR	**Lokris**	**2.40**	**29**	PN		**P**	**03 01 05.7**	**-0.3**
VAM	**Vamos**	**2.46**	**117**	PN		**P**	**03 01 06.0**	**-0.9**
AGG	**Agios Georgios**	**2.54**	**14**	*e*Pn		**P**	**03 01 09.4**	**+1.4**
IDI	**Anoyia**	**3.01**	**114**	P		**P**	**03 01 13.1**	**-1.6**
	1.2nm,0.3s,baz=319,slow=19,SNR=15							
IDI				S		**S**	**03 01 50.1**	**+0.3**
	7.9nm,0.3s,baz=294,slow=20,SNR=4.9							
NEO	**Neokhori**	**3.06**	**26**	*e*PN		**P**	**03 01 15.6**	**+0.3**
THR5	**Thira Island,**	**3.09**	**91**	*e*Pn		**P**	**03 01 14.4**	**-1.3**
XOR	**Xorichti**	**3.10**	**25**	*e*Pn		**P**	**03 01 16.2**	**+0.3**
IGT	**Igoumenitsa**	**3.11**	**343**	*e*Pn		**P**	**03 01 17.2**	**+1.1**
IGT				*e*Sn		**S**	**03 01 53.6**	**+1.2**
THR3	**Thira Island,**	**3.13**	**92**	*e*Pn		**P**	**03 01 15.3**	**-1.1**
THR6	**Thira Island,**	**3.13**	**93**	*e*Pn		**P**	**03 01 15.4**	**-1.0**
AOS	**Alonnisos**	**3.21**	**35**	*e*Pn		**P**	**03 01 16.5**	**-1.0**
MEV	**Metsovon**	**3.23**	**356**	*e*Pn		**P**	**03 01 20.4**	**+2.6**
APE	**Apeiranthos**	**3.26**	**80**	*e*Pn		**P**	**03 01 18.0**	**-0.2**
KEK	**Kerkira**	**3.43**	**337**	*e*PN		**P**	**03 01 20.8**	**+0.2**
SRN	**Sarande**	**3.52**	**341**	*i* Pn		**P**	**03 01 22.5**	**+0.6**
SRN				*i* Sn		**S**	**03 02 01.6**	**-1.1**
LIT	**Litokhoron**	**3.62**	**12**	*e*Pn		**P**	**03 01 24.2**	**+0.9**
LIT				*e*Sn		**S**	**03 02 03.9**	**-1.1**
KZN	**Kozani**	**3.75**	**3**	*e*PN		**P**	**03 01 25.5**	**+0.4**
PAIG	**Paliouri**	**3.77**	**26**	*e*Pn		**P**	**03 01 24.5**	**-0.8**
FNA	**Florina**	**4.22**	**359**	*e*Pn		**P**	**03 01 32.3**	**+0.6**
FNA				*e*Sn		**S**	**03 02 19.3**	**-0.9**
THE	**Thessaloniki**	**4.22**	**15**	*e*Pn		**P**	**03 01 31.8**	**+0.1**
OUR	**Ouranopolis**	**4.24**	**26**	*e*Pn		**P**	**03 01 31.4**	**-0.6**
LOS	**Limnos**	**4.38**	**39**	*e*Pn		**P**	**03 01 32.6**	**-1.4**
GRG	**Griva**	**4.45**	**9**	*e*Pn		**P**	**03 01 35.3**	**+0.4**
SOH	**Sokhos**	**4.49**	**18**	*e*Pn		**P**	**03 01 35.8**	**+0.3**
**T

SJMP				*e*S	S	03 02 51.2	+3.2
BUSP	**Coron**	**1.63**	**195**	*e*P	P	03 02 36.3	+0.2
BUSP				*e*S	S	03 02 58.5	+1.7
POLP	**Polilio Island**	**1.70**	**48**	*e*P	P	03 02 36.4	-0.6
OTRP	**Odiongan**	**1.82**	**132**	*e*P	P	03 02 38.3	-0.2

NEIC ***29*** *03:02:14.7±0.6,5.00S×151.19E,h136km±5km,mb4.5/14, Error ellipse: s-maj=9.4km s-min=6.1km az=118.0*
SYO ***29*** *03:02:14.8,4.93S×151.09E,h135km,MB4.5*
IDC ***29*** *03:02:15.4±0.7,5.09S×151.18E,h141km±5km,mb4.3/15, mb1 4.4/18,mb1mx4.4/20,MS3.6/1,Ms1 3.6/1, ms1mx2.7/22,Error ellipse: s-maj=13.6km s-min=8.8km az=115.0*

ISC 29 03:02:14.0±0.7,5.01S×0.05×151.18E±0.06,h141km,6km, h139km±3.2km:pP-P,n47,σ0§80/50,mb4.4/25,1C-5D,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBE	**Kimbe**	**1.16**	**242**	*e*P	**P**	**03 02 38.3**	**-1.4**
RAB	**Rabaul**	**1.27**	**51**	*e*P	**P**	**03 02 41.4**	**+0.6**
WAU	**Wau**	**5.01**	**242**	*e*P	**P**	**03 03 28.2**	**-0.1**
WAU				*e*S	**S**	**03 04 25.8**	**+0.2**
PMG	**Port Moresby** 66nm,0.3s,baz=29,slow=6.5,SNR=71	**5.92**	**222**	P	**P**	**03 03 41.2**	**+0.9**
PMG	129nm,0.3s,baz=51,slow=22,SNR=11			S	**S**	**03 04 47.1**	**-0.3**
PMG	**Port Moresby** 1μm,0.8s	**5.92**	**222**	*e*Pn	**P**	**03 03 41.0**	**+0.6**
CTA	**Charters Tower** 18nm,0.9s	**15.74**	**197**	*e*P	**P**	**03 05 50.8**	**+1.7**
CTA				*e*S	**S**	**03 08 39.0**	**-0.1**
CTA	**Charters Tower** 0.5nm,0.3s,baz=29,slow=12,SNR=11	**15.74**	**197**	P	**P**	**03 05 51.0**	**+1.9**
CTA	0.8nm,0.3s,baz=59,slow=22,SNR=5.9			S	**S**	**03 08 39.4**	**+0.3**
CTA	comp=Z,223nm,20.9s,baz=31,slow=32			LR	LR	03 10 35.5	
CTAO	**Charters Tower** 39nm,1.0s	**15.74**	**197**	*e*P	**P**	**03 05 50.4**	**+1.2**
KAKA	**Kakadu** 48nm,0.4s	**20.05**	**246**	⇓*i*P	**P**	**03 06 41.4**	**+3.2**
WRAB	**Tennant Creek** 69nm,0.9s,mb5.1	**22.10**	**226**	*e*P	**P**	**03 06 58.7**	**+0.3**
WB2	**Warramunga Arr**	**22.11**	**226**	⇓*i*P	**P**	**03 06 59.0**	**+0.5**
WB2				*e*S	**S**	**03 10 52.0**	**+4.1**
WRA	**Warramunga Arr** 17nm,0.5s,mb4.7,baz=49,slow=10.0,SNR=92	**22.11**	**226**	P	**P**	**03 06 59.1**	**+0.5**
WRA	13nm,1.0s,baz=50,slow=18,SNR=12			S	**S**	**03 10 52.5**	**+4.5**
WRA	1.8nm,0.8s,baz=46,slow=2.9,SNR=6.3			ScP		03 14 15.9	
DZM	**Mont Dzumac**	**22.50**	**140**	*e*P	**P**	**03 07 02.0**	**-0.3**
ASAR	**Alice Springs** 28nm,0.5s,mb5.1,baz=54,slow=8.8,SNR=86	**24.93**	**220**	P	**P**	**03 07 25.9**	**+0.2**
ASAR	6.5nm,0.5s,baz=49,slow=9.6,SNR=2.9			pP		03 07 53.7	
ASAR	2.7nm,0.9s,baz=46,slow=13,SNR=4.5			S	**S**	**03 11 36.8**	**+0.7**
ASAR	2.9nm,0.7s,baz=71,slow=3.5,SNR=4.9			ScP		03 14 23.7	
ASPA	**Alice Springs**	**24.93**	**220**	*e*P	**P**	**03 07 25.9**	**+0.2**
ASPA				*e*S	**S**	**03 11 35.4**	**-0.7**
FITZ	**Fitzroy Crossi** 13nm,0.9s,mb4.7	**28.15**	**240**	⇑*i*P	**P**	**03 07 54.4**	**-0.8**
FITZ	**Fitzroy Crossi** 22nm,0.7s	**28.15**	**240**	*e*P	pP	03 08 24.6	-0.4
FITZ	**Fitzroy Crossi** 14nm,0.7s,mb4.8,baz=46,slow=6.8,SNR=31	**28.15**	**240**	P	**P**	**03 07 54.5**	**-0.7**
FITZ	27nm,0.8s,baz=87,slow=3.8,SNR=8.1			pP	pP	03 08 24.4	-0.6
STKA	**Stephens Creek** 8.2nm,0.9s,mb4.5	**28.20**	**197**	⇓*i*P	**P**	**03 07 54.5**	**-1.1**
STKA	**Stephens Creek** 12nm,0.9s,mb4.7,baz=5.3,slow=9.4,SNR=17	**28.20**	**197**	P	**P**	**03 07 54.6**	**-1.0**
STKA	9.6nm,0.9s,baz=354,slow=7.5,SNR=4.0			pP	pP	03 08 23.5	-1.9
MBWA	**Marble Bar** 4.1nm,0.5s,mb4.4	**34.47**	**239**	*e*P	**P**	**03 08 49.5**	**-0.9**
URZ	**Urewera** 13nm,0.7s,mb4.7,baz=108,slow=2.0,SNR=7.6	**40.65**	**148**	P	**P**	**03 09 41.7**	**0.0**
RPZ	**Rata Peaks** 30nm,0.6s,mb5.1,baz=309,slow=2.1,SNR=27	**42.35**	**159**	P	**P**	**03 09 55.4**	**-0.2**
MAJO	**Matsushiro** 4.4nm,0.5s,mb4.3	**43.08**	**345**	*e*P	**P**	**03 10 00.2**	**-1.5**
ASAJ	**Asahikawa** 7.7nm,0.3s,mb4.8,baz=191,slow=16,SNR=3.7	**49.51**	**352**	P	**P**	**03 10 52.6**	**+0.6**
CMAR	**Chiang Mai Arr** 1.6nm,0.5s,mb4.1,baz=119,slow=5.6,SNR=13	**56.51**	**296**	P	**P**	**03 11 45.3**	**+1.2**
CMAR	1.2nm,0.5s,baz=114,slow=5.8,SNR=2.4			pP	pP	03 12 16.9	-0.4
HIA	**Hailar** 10nm,0.7s,mb4.8	**60.57**	**337**	*e*P	**P**	**03 12 12.1**	**+0.2**
SONM	**Songino Array** 3.4nm,0.7s,mb4.3,baz=148,slow=4.6,SNR=25	**65.65**	**329**	P	**P**	**03 12 46.0**	**+0.7**
SONM	1.1nm,0.6s,baz=142,slow=4.4,SNR=2.9			pP	pP	03 13 22.1	+2.7
CASY	**Casey** 4.6nm,1.0s,mb4.3	**67.35**	**197**	*e*P	**P**	**03 12 54.7**	**-0.9**
VNDA	**Vanda** 1.8nm,1.0s,mb3.8,baz=312,slow=7.5,SNR=8.5	**72.69**	**178**	P	**P**	**03 13 27.4**	**-0.3**
VNDA	1.8nm,0.9s,baz=327,slow=6.5,SNR=4.5			pP	pP	03 14 00.5	-2.1
ZAL	**Zalesovo** 2.9nm,0.9s,mb3.9,baz=282,slow=6.3,SNR=12	**80.44**	**327**	P	**P**	**03 14 11.0**	**-0.4**
MCK	**McKinley** 3.5nm,0.6s,mb4.2	**81.68**	**23**	*e*P	**P**	**03 14 16.6**	**-1.0**
KURK	**Kurchatov** 2.4nm,0.5s,mb4.2	**82.94**	**322**	*e*P	**P**	**03 14 24.3**	**-0.1**
ILAR	**Eielson Array** 4.0nm,0.7s,mb4.3,baz=247,slow=4.9,SNR=67	**82.96**	**22**	P	**P**	**03 14 22.9**	**-1.3**
AAK	**Ala-Archa** 2.8nm,0.8s,mb4.0	**83.64**	**314**	*e*P	**P**	**03 14 28.0**	**-0.1**
BVAR	**Borovoye Array** 2.7nm,0.8s,mb4.1,baz=108,slow=4.7,SNR=12	**88.44**	**323**	P	**P**	**03 14 50.9**	**-0.4**
INK	**Inuvik** 1.3nm,0.7s,mb4.0,baz=189,slow=12,SNR=13	**89.23**	**21**	P	**P**	**03 14 54.5**	**-0.1**
SYO	**Syowa Base**	**92.93**	**200**	‖P	**P**	**03 15 10.9**	**-0.9**
SYO	**Syowa Base**	**92.93**	**200**	‖pP	pP	03 15 44.1	-4.1
MTUM	**Tungsten Hills**	**93.21**	**53**	*e*P	**P**	**03 15 14.9**	**+1.1**
NVAR	**Mina Array Bea** 3.2nm,0.9s,mb4.5,baz=250,slow=3.9,SNR=23	**93.48**	**52**	P	**P**	**03 15 16.4**	**+1.4**
NVAR	**Mina Array Bea**	**93.48**	**52**	P	**P**	**03 15 16.4**	**+1.4**
TPNV	**Topopah Spring** 5.3nm,1.0s,mb4.7	**95.03**	**53**	*e*P	**P**	**03 15 22.8**	**+0.7**
YKA	**Yellowknife Ar** 0.5nm,0.5s,mb4.1,baz=271,slow=4.7,SNR=6.2	**96.36**	**28**	P	**P**	**03 15 27.6**	**+0.2**
PDAR	**Pinedale Array** 0.9nm,0.6s,baz=233,slow=1.6,SNR=7.1	**100.18**	**48**	P	P	03 15 45.2	-0.1
GERES	**GERESS Array B** 1.1nm,0.7s,baz=90,slow=1.3,SNR=8.7	**123.38**	**328**	PKP	PKPdf	03 20 55.5	+1.1
BDFB	**Brasilia** 2.9nm,0.4s,baz=286,slow=1.6,SNR=6.6	**152.03**	**138**	PKPbc	PKPdf	03 21 55.1	+8.5
BDFB	1.4nm,0.5s,baz=79,slow=10,SNR=3.1			PKPab	PKPab	03 22 04.8	-0.8

MOS ***29*** *03:05:23.4±0.8, 12.45N×142.03E,h33km,mb4.9/15,Error ellipse: s-maj=20.2km s-min=10.8km az=112.0*
IDC ***29*** *03:05:24.8±0.5, 12.44N×142.07E,h27km±3km,mb4.2/15, mb1 4.4/17,mb1mx4.3/22,MS4.2/21,Ms1 4.2/21, ms1mx4.0/33,Error ellipse: s-maj=18.6km s-min=11.8km az=86.0*
BJI ***29*** *03:05:24.9, 12.30N×141.90E,h26km,mB4.9,mb4.9, Ms4.5,Msz4.2*
NEIC ***29*** *03:05:25.0±0.2, 12.32N×141.93E,mb5.1/17,MS4.4/3, Error ellipse: s-maj=8.5km s-min=6.1km az=96.0*
SYO ***29*** *03:05:24.9, 12.26N×141.92E,h25km,MB5.1,MS4.4*
HRVD ***29*** *03:05:25.0±0.3, 12.26N×141.63E,h12km,MW5.0/58, Centroid moment Tensor Solution. LP body waves: s33,c41;Mantle waves: s58,c88; Half duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-3.66±.16; Mθθ3.63±.13; Mφφ0.03±.16; Mrθ1.47±.44; Mrφ1.32±.15; Mθφ-0.01±.49; Best double couple: M0:4.14×10^16^ NP1:ϕ=64°,δ=36°,λ=-102°. NP2:ϕ=259°,δ=55°,λ=-81°. Principal axes: T 4.31, Plg10°, Azm343°; N -.35, Plg7°, Azm74°; P -3.96, Plg78°, Azm199°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 29 03:05:23.2±0.3,12.32N±0.05×141.92E±0.06,h28km, h28km±1.2km:pP-P,n103,σ1§10/90,mb5.0/49,MS4.2/32, 3C-3D,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.14**	**66**	*e*Pn	**Pn**	**03 06 12.5**	**+0.3**
CBIJ	**Chichi jima** comp=Z,577nm,20.2s,baz=108,slow=34	**14.70**	**1**	LR	LR	03 13 45.7	
JOW	**Kunigami** comp=Z,760nm,19.7s,baz=125,slow=31	**19.30**	**320**	LR	LR	03 15 27.2	
TGY	**Tagaytay City** 229nm,0.5s,baz=205,slow=4.6,SNR=5.9	**20.50**	**277**	P	**P**	**03 10 02.2**	**+0.2**
TGY	**Tagaytay City**	**20.50**	**277**	P	**P**	**03 10 02.2**	**+0.2**
TGY	comp=Z,229nm,0.5s			pmax	pmax		
JHJ	**Hachijo jima 2** comp=Z,873nm,19.8s,MS4.1,baz=272,slow=32	**20.79**	**355**	LR	LR	03 16 19.4	
PMG	**Port Moresby** comp=Z,18nm,0.8s,mb4.6,baz=14,slow=9.1,SNR=3.8	**22.21**	**166**	P	**P**	**03 10 20.0**	**+0.7**
PMG	comp=Z,545nm,18.6s,MS4.0,baz=47,slow=36			LR	LR	03 18 59.1	
PMG	**Port Moresby**	**22.21**	**166**	P	**P**	**03 10 20.0**	**+0.7**
PMG	comp=Z,18nm,0.8s			pmax	pmax		
PMG	comp=Z,545nm,18.6s			MLR	MLR		
ASAJ	**Asahikawa** comp=Z,227nm,19.8s,MS3.9,baz=30,slow=34	**31.69**	**1**	LR	LR	03 23 12.2	
CTA	**Charters Tower** comp=Z,12nm,0.9s,mb4.7	**32.49**	**172**	*e*P	**P**	**03 11 53.9**	**0.0**
CTA	**Charters Tower** comp=Z,5.6nm,0.8s,mb4.5,baz=358,slow=10,SNR=4.4	**32.49**	**172**	P	**P**	**03 11 54.4**	**+0.5**
CTA	comp=Z,693nm,20.5s,MS4.3,baz=27,slow=34			LR	LR	03 23 57.3	
CTA	**Charters Tower**	**32.49**	**172**	P	**P**	**03 11 54.4**	**+0.5**
CTA	comp=Z,6.0nm,0.8s			pmax	pmax		
CTA	comp=Z,693nm,20.5s			MLR	MLR		
CTAO	**Charters Tower** comp=Z,10.0nm,0.9s,mb4.7	**32.49**	**172**	*e*P	**P**	**03 11 53.2**	**-0.7**
CTAO	comp=Z,772nm,20.0s,MS4.4			LR	LR		
WRAB	**Tennant Creek** comp=Z,55nm,0.9s,mb5.5	**32.91**	**193**	*e*P	**P**	**03 11 56.5**	**-1.1**
WB2	**Warramunga Arr**	**32.91**	**193**	*e*P	**P**	**03 11 57.3**	**-0.3**
WRA	**Warramunga Arr** comp=Z,7.4nm,0.8s,mb4.7,baz=13,slow=9.6,SNR=11	**32.92**	**193**	P	**P**	**03 11 57.3**	**-0.4**
WRA	comp=Z,267nm,18.1s,MS4.0,baz=30,slow=38			LR	LR	03 26 08.1	
WRA	**Warramunga Arr**	**32.92**	**193**	P	**P**	**03 11 57.3**	**-0.4**
WRA	comp=Z,7.0nm,0.8s			pmax	pmax		
WRA	comp=Z,267nm,18.1s			MLR	MLR		
MDJ	**Mudanjiang**	**33.87**	**344**	P	**P**	**03 12 09.3**	**+3.6**
MDJ				AP	pP	03 12 20.3	+6.3
MDJ	comp=Z,62nm,3.5s			AMB	AMB		
MDJ	comp=N,362nm,22.6s,MS4.1			LR	LR		
MDJ	comp=E,196nm,26.0s,MS4.1			LR	LR		
MDJ	comp=Z,523nm,22.6s,MS4.2			LR	LR		
FITZ	**Fitzroy Crossi** comp=Z,3.6nm,0.9s,mb4.3,baz=27,slow=11,SNR=2.4	**34.23**	**208**	P	**P**	**03 12 09.1**	**0.0**
YSS	**Yuzh-Sakhalins**	**34.53**	**1**	*e*P	**P**	**03 12 06.4**	**-4.9**
YSS	comp=Z,14nm,1.2s,mb4.8			pmax	pmax		
ENH	**Enshi** comp=Z,23nm,1.2s,mb5.0	**34.92**	**306**	*e*P	**P**	**03 12 14.7**	**-0.2**
BJT	**Baijiatuan** comp=Z,20nm,0.8s,mb5.1	**35.73**	**325**	*e*P	**P**	**03 12 24.6**	**+3.0**
BJT	comp=Z,667nm,21.0s,MS4.4			LR	LR		
BJI	**Beijing**	**35.74**	**325**	*e*P	**P**	**03 12 21.3**	**-0.5**
BJI	comp=Z,17nm,0.8s,mb5.0			AMB	AMB		
BJI	comp=N,342nm,17.5s,MS4.4			LR	LR		
BJI	comp=E,492nm,17.5s,MS4.4			LR	LR		
BJI	comp=Z,641nm,25.7s			LR	LR		
GYA	**Guiyang**	**35.96**	**298**	⇓*i*P	**P**	**03 12 25.0**	**+1.2**
GYA	comp=Z,330nm,6.0s			AMB	AMB		
ASAR	**Alice Springs** comp=Z,4.4nm,0.9s,mb4.3,baz=32,slow=8.2,SNR=7.8	**36.62**	**192**	P	**P**	**03 12 29.9**	**+0.6**
ASAR	comp=Z,273nm,19.1s,MS4.0,baz=14,slow=35			LR	LR	03 26 52.4	
HHC	**Hu-ho-hao-te**	**38.93**	**322**	*e*P	**P**	**03 12 49.3**	**+0.7**
HHC	comp=Z,116nm,7.3s			AMB	AMB		
KMI	**Kunming**	**39.08**	**295**	*e*P	**P**	**03 12 52.0**	**+2.0**
KMI				AP	pP	03 13 01.5	+3.2
KMI				XP	sP	03 13 05.5	+3.8
KMI	comp=Z,17nm,1.1s,mb4.7			AMB	AMB		
KMI	comp=N,343nm,16.7s,MS4.3			LR	LR		
KMI	comp=E,201nm,17.3s,MS4.3			LR	LR		
KMI	comp=Z,316nm,26.9s			LR	LR		
BTO	**Baotou**	**39.72**	**321**	*e*P	**P**	**03 12 55.0**	**-0.1**
CD2	**Chengdu**	**39.75**	**304**	P	**P**	**03 12 55.5**	**0.0**
CD2				PP	PP	03 14 32.0	+1.4
CD2				PPP	PPP	03 14 56.5	+0.6
CD2				S	**S**	**03 18 59.5**	**+2.2**
CD2				XS		03 19 16.5	
CD2				SS	SS	03 21 50.5	+3.6
CD2	comp=Z,20nm,1.2s,mb4.7			AMB	AMB		
CD2	comp=Z,70nm,7.3s			AMB	AMB		
CD2	comp=N,260nm,16.0s			LR	LR		
CD2	comp=Z,170nm,16.2s,MS4.0			LR	LR		
LZH	**Lanzhou**	**41.62**	**311**	⇑P	**P**	**03 13 12.0**	**+1.1**
LZH				PP	PP	03 14 51.0	+0.9
LZH				S	**S**	**03 19 27.0**	**+1.8**
LZH				SS	SS	03 22 23.0	-2.8
LZH	comp=Z,47nm,1.5s,mb4.9			AMB	AMB		
LZH	comp=Z,152nm,5.4s			AMB	AMB		
LZH	comp=E,723nm,15.1s			LR	LR		
LZH	comp=Z,1μm,17.6s,MS4.8			LR	LR		
CMAR	**Chiang Mai Arr** comp=Z,2.6nm,0.7s,mb4.0,baz=82,slow=6.5,SNR=8.8	**41.80**	**284**	P	**P**	**03 13 13.2**	**+0.6**
CMAR	comp=Z,113nm,18.9s,MS3.8,baz=100,slow=36			LR	LR	03 30 45.7	
CMAR	**Chiang Mai Arr**	**41.80**	**284**	P	**P**	**03 13 13.2**	**+0.7**
CMAR	comp=Z,3.0nm,0.7s			pmax	pmax		
CMAR	comp=Z,113nm,18.9s			MLR	MLR		
CMAR	**Chiang Mai Arr**	**41.80**	**284**	P	**P**	**03 13 13.2**	**+0.6**
CMAR				LR	LR	03 30 45.6	
PET	**Petropavlovsk**	**42.75**	**15**	*e*P	**P**	**03 13 27.1**	**+7.2**
PET				*e*		03 15 11.2	
PET				*e*PPP	PPP	03 15 37.6	+2.0
PET	comp=Z,100nm,17.3s			pmax	pmax		
PET	comp=Z,100nm,11.6s			pmax	pmax		
PET	comp=Z,100nm,15.0s,MS3.8			MLR	MLR		
STKA	**Stephens Creek** comp=Z,2.6nm,0.6s,mb4.1	**43.95**	**180**	*e*P	**P**	**03 13 29.5**	**-0.3**
STKA				*e*		03 13 40.6	
STKA	**Stephens Creek** comp=Z,6.3nm,1.0s,mb4.3,baz=350,slow=11,SNR=5.7	**43.95**	**180**	P	**P**	**03 13 29.6**	**-0.3**
STKA	comp=Z,8.8nm,0.7s,baz=355,slow=6.9,SNR=7.6			pP	pP	03 13 39.7	+1.6
STKA	comp=Z,560nm,19.0s,MS4.5,baz=253,slow=38			LR	LR	03 33 00.1	
FORT	**Forrest** comp=Z,124nm,0.8s,mb5.8	**44.88**	**197**	*e*P	**P**	**03 13 42.0**	**+4.6**
GTA	**Gaotai**	**45.91**	**314**	P	**P**	**03 13 45.5**	**+0.1**
GTA				AP	pP	03 13 54.5	+0.7
GTA				XP	sP	03 13 57.3	+0.1
GTA				PP	PP	03 15 31.3	-2.0
GTA				S	**S**	**03 20 20.5**	**-6.8**
GTA				AMB	AMB		
GTA	comp=Z,21nm,1.1s,mb5.0			AMB	AMB		
GTA	comp=Z,125nm,7.2s			LR	LR		
GTA	comp=N,267nm,23.6s,MS4.2			LR	LR		
GTA	comp=E,233nm,27.4s,MS4.2			LR	LR		
SONM	**Songino Array** comp=Z,7.6nm,1.2s,mb4.5,baz=135,slow=7.0,SNR=13	**46.16**	**327**	P	**P**	**03 13 48.2**	**+0.9**
CLNS	**Chul'man**	**46.31**	**347**	*e*P	**P**	**03 13 46.9**	**-1.5**
CLNS	comp=N,14nm,1.0s			pmax	pmax		
CLNS	comp=Z,21nm,1.0s,mb5.0			pmax	pmax		
CLNS	comp=E,8.0nm,0.9s			pmax	pmax		
ZAK	**Zakamensk**	**49.34**	**328**	‖*i*P	**P**	**03 14 12.3**	**+0.2**
TOO	**Toolangi** comp=E,11nm,0.7s,mb5.0	**49.74**	**176**	*e*P	**P**	**03 14 25.4**	**+10**
YAK	**Yakutsk**	**50.41**	**353**	*e*P	**P**	**03 14 14.8**	**-5.3**
YAK	comp=Z,48nm,0.7s,mb5.6			pmax	pmax		
MOY	**Mondy**	**51.26**	**328**	*e*P	**P**	**03 14 26.8**	**+0.1**
GUN	**Gumba** comp=Z,67nm,0.8s,mb5.6	**54.42**	**296**	*e*P	**P**	**03 14 50.3**	**-0.2**
PKI	**Pulchoki** comp=Z,65nm,1.2s,mb5.5	**54.80**	**295**	*e*P	**P**	**03 14 53.1**	**-0.3**
KKN	**Kakani** comp=Z,72nm,1.3s,mb5.5	**54.94**	**295**	*e*P	**P**	**03 14 53.9**	**-0.5**
DMN	**Daman** comp=Z,59nm,1.0s,mb5.6	**55.08**	**295**	*e*P	**P**	**03 14 55.1**	**-0.3**
GKN	**Gorkha** comp=Z,85nm,1.2s,mb5.7	**55.52**	**296**	*e*P	**P**	**03 14 57.2**	**-1.4**
WMQ	**Urumqi**	**55.95**	**315**	⇑P	**P**	**03 15 01.5**	**0.0**
WMQ				XP	sP	03 15 15.5	+2.3
WMQ				PP	PP	03 17 11.0	+3.3
WMQ				S	**S**	**03 22 55.0**	**+9.2**
WMQ	comp=Z,32nm,1.3s,mb5.2			AMB	AMB		
WMQ	comp=N,153nm,24.0s,MS4.3			LR	LR		
WMQ	comp=E,296nm,24.0s,MS4.3			LR	LR		
WMQ	comp=Z,278nm,23.0s,MS4.3			LR	LR		
KOLN	**Koldanda** comp=Z,42nm,0.8s,mb5.5	**56.42**	**295**	*e*P	**P**	**03 15 04.4**	**-0.6**
BILL	**Bilibino**	**57.90**	**11**	*e*P	**P**	**03 15 13.5**	**-1.5**
BILL	comp=Z,32nm,1.3s,mb5.2			pmax	pmax		
BILL	comp=Z,200nm,19.0s,MS4.2			MLR	MLR		
TIXI	**Tiksi** comp=Z,9.0nm,1.0s,mb4.8	**59.82**	**355**	*e*P	**P**	**03 15 26.3**	**-2.0**
TIXI				pmax	pmax		
TIXI	comp=Z,100nm,19.0s,MS4.0			MLR	MLR		
MKAR	**Makanchi Array**	**60.42**	**317**	*i*P	**P**	**03 15 32.1**	**-0.6**
MKAR	comp=Z,9.0nm,1.1s			pmax	pmax		
ZAL	**Zalesovo** comp=Z,2.3nm,0.4s,mb4.6,baz=279,slow=8.3,SNR=12	**61.01**	**325**	P	**P**	**03 15 35.6**	**-0.9**
ZAL	comp=Z,147nm,19.7s,MS4.1,baz=269,slow=35			LR	LR	03 40 32.5	
RPZ	**Rata Peaks** comp=Z,20nm,0.9s,baz=356,slow=23,SNR=4.6	**61.78**	**156**	pP	pP	03 15 50.0	-0.6
RPZ	comp=Z,298nm,18.6s,MS4.5,baz=19,slow=34			LR	LR	03 40 05.8	
NVS	**Novosibirsk** comp=Z,61nm,1.7s,mb5.5	**62.17**	**326**	*i*P	**P**	**03 15 42.9**	**-1.5**
NVS	comp=N,33nm,1.6s			pmax	pmax		
NVS	comp=E,44nm,1.6s			pmax	pmax		
KURK	**Kurchatov**	**63.71**	**321**	P	**P**	**03 15 53.4**	**-1.2**
KURK	comp=Z,39nm,1.2s,mb5.3			pmax	pmax		
KURK	**Kurchatov** comp=Z,34nm,0.7s,mb5.5	**63.71**	**321**	*e*P	**P**	**03 15 53.5**	**-1.1**
KURK				*e*pP	pP	03 16 02.7	-0.6
AAK	**Ala-Archa**	**65.17**	**311**	*e*P	**P**	**03 16 03.1**	**-1.1**
AAK	comp=Z,10.0nm,1.6s,mb4.6			pmax	pmax		
AAK	**Ala-Archa** comp=Z,4.8nm,0.8s,mb4.6	**65.17**	**311**	*e*P	**P**	**03 16 03.6**	**-0.7**
AAK				*e*pP	pP	03 16 11.8	-1.1
IMA	**Indian Mountai** comp=Z,161nm,1.3s,mb5.8	**68.54**	**23**	*e*P	**P**	**03 16 27.3**	**+2.1**
IMA				*e*pP	pP	03 16 34.2	+0.3
BVA0	**Borovoye Array**	**69.14**	**322**	*i*P	**P**	**03 16 28.3**	**-0.8**
BVA0	comp=Z,1.0nm,1.0s			pmax	pmax		
BVAR	**Borovoye Array** comp=Z,6.1nm,0.6s,mb4.7,baz=104,slow=6.1,SNR=32	**69.14**	**322**	P	**P**	**03 16 28.5**	**-0.6**
BVAR	comp=Z,28nm,0.8s,baz=101,slow=7.3,SNR=18			pP	pP	03 16 37.6	-0.2
BRVK	**Borovoye** comp=Z,23nm,0.7s,mb5.2	**69.21**	**322**	*e*P	**P**	**03 16 28.6**	**-0.9**
BRVK				*e*pP	pP	03 16 36.5	-1.7
MCK	**McKinley** comp=Z,37nm,1.4s,mb5.1	**69.84**	**26**	P	**P**	**03 16 33.6**	**+0.4**
MCK				*e*	pP	03 16 41.0	-0.9
COLA	**College**	**70.56**	**25**	*e*P	**P**	**03 16 43.0**	**+5.4**
COLA	**College** comp=Z,7.8nm,0.6s,mb4.8	**70.56**	**25**	*e*P	**P**	**03 16 37.4**	**-0.2**
COLA	comp=Z,325nm,19.0s,MS4.6			LR	LR		
ILAR	**Eielson Array** comp=Z,1.8nm,0.6s,mb4.2,baz=245,slow=6.1,SNR=12	**70.94**	**25**	P	**P**	**03 16 37.5**	**-2.4**
ILAR	comp=Z,13nm,0.7s,baz=249,slow=5.7,SNR=25			pP	pP	03 16 47.0	-1.6
ILAR	comp=Z,207nm,19.9s,MS4.4,baz=79,slow=35			LR	LR	03 46 17.1	
ILAR	**Eielson Array**	**70.94**	**25**	P	**P**	**03 16 37.5**	**-2.4**
ILAR				*PP	pP	03 16 47.0	-1.6
ILAR	comp=Z,2.0nm,0.6s			pmax	pmax		
ILAR	comp=Z,13nm,0.7s			pmax	pmax		
THY	**Trims Highway**	**71.17**	**27**	*e*P	**P**	**03 16 41.1**	**-0.2**
DAWY	**Dawson**	**74.06**	**27**	*e*P	**P**	**03 16 59.9**	**+1.7**
DAWY				*e*pP	pP	03 17 07.8	+0.8
SVE	**Sverdlovsk**	**75.01**	**326**	⇑*e*P	**P**	**03 17 04.0**	**+0.1**
INK	**Inuvik** comp=Z,5.2nm,1.1s,mb4.4,baz=303,slow=6.1,SNR=5.7	**76.63**	**22**	P	**P**	**03 17 10.5**	**-2.4**
INK	comp=Z,20nm,1.1s,baz=272,slow=6.4,SNR=19			pP	pP	03 17 20.8	-0.8
INK	**Inuvik**	**76.63**	**22**	P	**P**	**03 17 10.5**	**-2.3**
INK				*PP	pP	03 17 20.8	-0.8
INK	comp=Z,5.0nm,1.1s			pmax	pmax		
INK	comp=Z,21nm,1.1s			pmax	pmax		
INK	**Inuvik** comp=Z,34nm,1.2s,mb5.2	**76.63**	**22**	*e*P	**P**	**03 17 13.1**	**+0.3**
INK				*e*pP	pP	03 17 21.4	-0.3
YKA	**Yellowknife Ar** comp=Z,0.4nm,0.6s,baz=286,slow=4.3,SNR=3.7	**85.30**	**27**	P	**P**	**03 17 58.0**	**-0.6**
YKA	comp=Z,1.8nm,0.7s,baz=292,slow=5.3,SNR=8.6			pP	pP	03 18 08.0	+0.5
YKA	comp=Z,130nm,18.7s,baz=255,slow=34			LR	LR	03 53 41.7	
RES	**Resolute Bay** comp=Z,21nm,1.0s,mb5.3	**86.43**	**13**	*e*P	**P**	**03 18 05.3**	**+1.3**
RES				*e*pP	pP	03 18 13.2	+0.3
ARCES	**ARCESS Array B** comp=Z,3.6nm,0.8s,mb4.7,baz=45,slow=10,SNR=4.6	**87.39**	**342**	P	**P**	**03 18 08.6**	**-0.1**
ARCES	comp=Z,10nm,1.0s,baz=90,slow=2.7,SNR=3.4			pP	pP	03 18 17.8	+0.2
ARCES	comp=Z,209nm,21.7s,MS4.5,baz=22,slow=38			LR	LR	04 00 27.1	
ARCES	**ARCESS Array B**	**87.39**	**342**	P	**P**	**03 18 08.6**	**-0.1**
ARCES				*PP	pP	03 18 17.8	+0.1
ARCES	comp=Z,4.0nm,0.8s			pmax	pmax		
ARCES	comp=Z,10.0nm,1.0s			pmax	pmax		
ARCES	comp=Z,209nm,21.7s			MLR	MLR		
GNI	**Garni** comp=Z,17nm,1.7s	**87.56**	**310**	*e*

GNI					MLR	MLR				
	comp=Z,100nm,20.0s									
BEKR	**Beckwourth**	**88.04**	**50**	*eP*	**P**		**03 18 13.0**	**+0.4**		
	comp=Z,5.5nm,0.8s,mb4.8									
BEKR				*e*pP	pP		03 18 20.2	-1.3		
NEW	**Newport**	**88.08**	**41**	*eP*	**P**		**03 18 14.1**	**+1.5**		
	comp=Z,5.6nm,1.0s,mb4.8									
NEW				*e*pP	pP		03 18 22.4	+0.9		
OBN	**Obninsk**	**88.57**	**326**	*eP*	**P**		**03 18 17.6**	**+2.9**		
OBN				pmax	pmax					
	comp=Z,37nm,1.4s,mb5.5									
OBN				MLR	MLR					
	comp=Z,100nm,19.0s,MS4.2									
NVAR	**Mina Array Bea**	**89.95**	**51**	P	**P**		**03 18 22.7**	**+1.0**		
	comp=Z,1.2nm,0.9s,mb4.2,baz=270,slow=5.4,SNR=4.1									
NVAR				pP	pP		03 18 29.0	-1.6		
	comp=Z,3.6nm,0.7s,baz=260,slow=3.4,SNR=14									
NVAR				sP	sP		03 18 32.5	-1.0		
	comp=Z,3.7nm,0.7s,baz=270,slow=5.4,SNR=15									
NVAR	**Mina Array Bea**	**89.95**	**51**	P	**P**		**03 18 22.7**	**+1.0**		
NVAR				pP	pP		03 18 29.0	-1.6		
NVAR				sP	sP		03 18 32.5	-1.0		
SOC	**Sochi**	**90.25**	**315**	*eP*	**P**		**03 18 25.8**	**+2.9**		
SOC				*e*			03 21 55.5			
SOC				*e*			03 28 42.8			
SOC				*e*S	S		03 29 07.6	-5.1		
SOC				*e*SSS	SSS		03 38 42.4	-9.4		
SOC				pmax	pmax					
	comp=Z,11nm,0.7s,mb5.3									
SOC				pmax	pmax					
	comp=N,8.0nm,1.0s									
SOC				pmax	pmax					
	comp=E,11nm,0.8s									
SOC				MLR	MLR					
	comp=Z,208nm,23.0s,MS4.5									
SOC				MLR	MLR					
	comp=N,57nm,18.0s,MS4.1									
SOC				MLR	MLR					
	comp=E,31nm,16.0s,MS4.1									
VNDA	**Vanda**	**90.41**	**176**	P	**P**		**03 18 23.5**	**+0.5**		
	comp=E,0.1nm,0.4s,baz=307,slow=8.2,SNR=2.4									
FINES	**FINESS Array B**	**91.07**	**334**	P	**P**		**03 18 23.9**	**-2.3**		
	comp=E,3.5nm,1.1s,mb4.6,baz=90,slow=5.7,SNR=9.4									
FINES				pP	pP		03 18 34.0	-1.2		
	comp=E,4.5nm,0.6s,baz=56,slow=5.0,SNR=10.0									
FINES				LR	LR		03 59 55.3			
	comp=E,114nm,20.4s,MS4.3,baz=57,slow=36									
FINES	**FINESS Array B**	**91.07**	**334**	P	**P**		**03 18 24.0**	**-2.3**		
FINES				*PP	pP		03 18 34.0	-1.2		
FINES				pmax	pmax					
	comp=Z,4.0nm,1.1s									
FINES				pmax	pmax					
	comp=Z,5.0nm,0.6s									
FINES				MLR	MLR					
	comp=Z,114nm,20.4s									
FINES	**FINESS Array B**	**91.07**	**334**	P	**P**		**03 18 23.9**	**-2.3**		
FINES				pP	pP		03 18 34.0	-1.2		
FINES				LR	LR		03 59 55.3			
AKASG	**Malin Array Be**	**94.36**	**324**	pP	pP		03 18 49.4	-1.2		
	comp=Z,0.1nm,0.2s,baz=57,slow=4.1,SNR=1.8									
AKASG				LR	LR		04 02 22.4			
	comp=Z,192nm,22.0s,MS4.5,baz=35,slow=36									
JMIC	**Jan Mayen**	**94.49**	**351**	LR	LR		03 59 21.1			
	comp=Z,80nm,21.1s,MS4.2,baz=64,slow=34									
BRTR	**Keskin Array B**	**95.82**	**313**	pP	pP		03 18 56.7	-0.9		
	comp=Z,1.5nm,1.0s,baz=90,slow=2.5,SNR=2.8									
BRTR				LR	LR		04 05 43.6			
	comp=Z,50nm,21.9s,MS4.0,baz=355,slow=38									
NOA	**NORSAR Array B**	**97.18**	**338**	LR	LR		04 05 38.3			
	comp=Z,65nm,20.3s,MS4.1,baz=45,slow=37									
ULM	**Lac du Bonnet**	**99.89**	**33**	LR	LR		04 02 31.2			
	comp=Z,107nm,19.9s,MS4.3,baz=335,slow=34									
SYO	**Syowa Base**	**105.84**	**201**	||Pdiff	Pdif		03 19 37.6	+4.9	
TRQA	**Tornquist**	**146.67**	**144**	PKPbc	PKPbc		03 25 03.9	+1.3		
LVC	**Limon Verde**	**148.93**	**113**	*e*PKPbc	PKPdf		03 25 11.4	+1.3		
LPAZ	**La Paz**	**150.63**	**101**	PKPbc	PKPdf		03 25 16.4	+3.4		
	comp=Z,2.6nm,0.6s,baz=275,slow=3.2,SNR=13									
LPAZ	**La Paz**	**150.63**	**101**	PKIKP	PKPdf		03 25 16.4	+3.4		
LPAZ				pmax	pmax					
	comp=Z,3.0nm,0.6s									
BDFB	**Brasilia**	**169.81**	**110**	PKPab	PKPab		03 26 46.6	+1.3		
	comp=Z,1.3nm,0.4s,baz=203,slow=7.7,SNR=5.8									
BDFB	**Brasilia**	**169.81**	**110**	PKP2	PKPab		03 26 46.6	+1.3		
BDFB				pmax	pmax					
	comp=Z,1.0nm,0.4s									

*IDC **29** 03:13:13.6±0.8,22.89S×112.04W,mb4.2/10,mb1 4.5/10, mb1mx4.4/14,MS4.0/8,Ms1 4.0/8,ms1mx3.8/20,Error ellipse: s-maj=30.1km s-min=23.1km az=68.0*
*NEIC **29** 03:13:14.7±0.4,23.00S×112.05W,h10km,mb4.6/17, Error ellipse: s-maj=13.1km s-min=8.4km az=59.0*
*BJI **29** 03:13:16.7,23.00S×112.10W,h10km,Ms5.1,Msz4.6*
ISC 29 03:13:13.3±0.5,22.91S±0.08×112.1W±0.1,h10km,n72, σ0s82/38,mb4.4/26,MS4.1/9,1C-4D,Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
LVC	**Limon Verde**	**39.68**	**98**	*e*P	**P**		**03 20 48.1**	**+0.6**
	4.8nm,0.7s,mb4.3							
OTAV	**Otavalo**	**39.97**	**59**	*e*P	**P**		**03 20 51.7**	**+1.8**
	5.1nm,0.9s,mb4.2							
LPAZ	**La Paz**	**41.78**	**89**	P	**P**		**03 21 06.1**	**+1.3**
	7.4nm,1.1s,mb4.2,baz=269,slow=6.9,SNR=20							
LPAZ				PcP	PcP		03 23 02.5	+0.7
	1.1nm,0.8s,baz=243,slow=2.3,SNR=2.6							
LPAZ				LR	LR		03 34 33.3	
	comp=Z,88nm,20.0s,MS3.6,baz=272,slow=31							
LPAZ	**La Paz**	**41.78**	**89**	P	**P**		**03 21 06.1**	**+1.3**
LPAZ				PcP	PcP		03 23 02.5	+0.7
LPAZ				LR	LR		03 34 33.3	
RAR	**Rarotonga**	**44.10**	**263**	LR	LR		03 34 27.0	
	comp=Z,270nm,20.6s,MS4.2,baz=273,slow=29							
TRQA	**Tornquist**	**45.19**	**121**	*e*P	**P**		**03 21 31.9**	**-0.4**
	16nm,1.2s,mb4.7							
SAML	**Samuel**	**48.78**	**82**	*e*P	**P**		**03 21 59.1**	**-1.7**
	4.6nm,0.6s,mb4.7							
SDV	**Santo Domingo**	**51.41**	**57**	*e*P	**P**		**03 22 21.0**	**+0.1**
	8.5nm,0.6s,mb4.8							
TXAR	**Lajitas Array**	**52.56**	**9**	P	**P**		**03 22 29.4**	**0.0**
	0.5nm,0.9s,mb3.4,baz=176,slow=12,SNR=3.3							
TXAR				PcP	PcP		03 23 39.8	0.0
	0.6nm,0.9s,baz=211,slow=5.3,SNR=3.2							
TXAR				LR	LR		03 40 49.9	
	comp=Z,100nm,20.6s,MS3.8,baz=100,slow=32							
TXAR	**Lajitas Array**	**52.56**	**9**	P	**P**		**03 22 29.4**	**0.0**
TXAR				PcP	PcP		03 23 39.8	0.0
TXAR				LR	LR		03 40 49.9	
LDFC	**Landfair**	**57.74**	**357**	*e*P	**P**		**03 23 07.8**	**+1.0**
TPNV	**Topopah Spring**	**59.66**	**356**	*e*P	**P**		**03 23 21.4**	**+1.1**
	4.3nm,1.0s,mb4.4							
BDFB	**Brasilia**	**60.49**	**96**	P	**P**		**03 23 25.0**	**-1.2**
	4.1nm,0.8s,mb4.5,baz=242,slow=7.1,SNR=3.9							
BDFB				LR	LR		03 46 34.8	
	comp=Z,81nm,19.8s,MS3.9,baz=120,slow=33							
LRAL	**Lakeview Retre**	**60.55**	**24**	*e*P	**P**		**03 23 26.5**	**+0.2**
	32nm,1.5s,mb5.2							
NVAR	**Mina Array Bea**	**61.29**	**354**	P	**P**		**03 23 32.2**	**+0.9**
	2.5nm,0.7s,mb4.5,baz=195,slow=10,SNR=22							
NVAR				LR	LR		03 44 26.6	
	comp=Z,96nm,18.9s,MS4.0,baz=220,slow=31							
ISCO	**Idaho Springs**	**62.67**	**6**	*e*P	**P**		**03 23 40.8**	**+0.3**
	1.3nm,0.7s,mb4.2							
DUG	**Dugway**	**62.78**	**359**	P	**P**		**03 23 41.4**	**+0.2**
	1.4nm,0.6s,mb4.3							
WVT	**Waverly**	**63.03**	**22**	*e*P	**P**		**03 23 41.5**	**-1.5**
	2.1nm,0.7s,mb4.4							
MOD	**Modoc**	**64.93**	**353**	*e*P	**P**		**03 23 55.7**	**+0.4**
	2.9nm,0.7s,mb4.4							
BW06	**Boulder Array**	**65.39**	**2**	*e*P	**P**		**03 23 57.4**	**-0.9**
	1.3nm,0.6s,mb4.1							
PDAR	**Pinedale Array**	**65.39**	**2**	P	**P**		**03 23 57.5**	**-0.7**
	1.0nm,0.6s,mb4.0,baz=174,slow=6.9,SNR=9.1							
TPAW	**Teton Pass**	**66.08**	**1**	*e*P	**P**		**03 24 02.0**	**-0.6**
WUWY	**Wally Ulrich**	**66.13**	**1**	P	**P**		**03 24 03.0**	**0.0**
HLID	**Hailey**	**66.18**	**358**	*e*P	**P**		**03 24 03.8**	**+0.6**
	9.2nm,1.5s,mb4.6							
VNDA	**Vanda**	**66.95**	**194**	P	**P**		**03 24 07.7**	**-0.1**
	0.9nm,0.8s,mb3.9,baz=63,slow=3.3,SNR=5.3							
VNDA				LR	LR		03 46 58.4	
	comp=Z,106nm,19.6s,MS4.1,baz=18,slow=30							
RSSD	**Black Hills**	**67.10**	**6**	*e*P	**P**		**03 24 08.7**	**-0.5**
	1.7nm,0.5s,mb4.3							
MCMT	**McKenzie Canyo**	**67.41**	**359**	*e*P	**P**		**03 24 11.3**	**+0.2**
BOZ	**Bozeman (W)**	**68.23**	**0**	*e*P	**P**		**03 24 15.3**	**-0.9**
	6.3nm,1.4s,mb4.5							

NEW	**Newport**	**70.99**	**356**	*e*P	**P**		**03 24 33.6**	**+0.6**		
	3.8nm,0.9s,mb4.3									
VNA3	**Neumayer Olymp**	**72.41**	**161**	||*i*P	**P**		**03 24 41.8**	**+0.6**	
VNA1	**Neumayer--Stat**	**73.05**	**160**	||*i*P	**P**		**03 24 45.9**	**+1.0**	
VNA2	**Neumayer--Watz**	**73.22**	**161**	||*i*P	**P**		**03 24 46.4**	**+0.6**	
SNAA	**Sanae**	**74.27**	**162**	||*i*P	**P**		**03 24 50.4**	**-1.5**	
SNAA	**Sanae**	**74.27**	**162**	*e*P	**P**		**03 24 50.6**	**-1.3**		
YKA	**Yellowknife Ar**	**85.13**	**359**	P	**P**		**03 25 49.4**	**-1.0**		
	0.9nm,0.7s,mb4.0,baz=173,slow=4.8,SNR=6.9									
SCHQ	**Schefferville**	**86.56**	**24**	P	**P**		**03 25 57.0**	**-0.7**		
	5.9nm,0.8s,mb4.9,baz=220,slow=9.1,SNR=4.2									
SCHQ				LR	LR		04 01 56.8			
	comp=Z,134nm,19.6s,MS4.3,baz=286,slow=34									
STKA	**Stephens Creek**	**91.00**	**235**	LR	LR		03 57 20.9			
	comp=Z,113nm,19.6s,MS4.3,baz=182,slow=29									
ILAR	**Eielson Array**	**91.45**	**346**	P	**P**		**03 26 20.6**	**+0.1**		
	0.7nm,0.8s,mb4.0,baz=192,slow=6.7,SNR=5.0									
INK	**Inuvik**	**92.31**	**352**	P	**P**		**03 26 24.5**	**+0.1**		
	2.5nm,1.1s,mb4.4,baz=210,slow=3.0,SNR=4.5									
INK	**Inuvik**	**92.31**	**352**	*e*P	**P**		**03 26 24.5**	**0.0**		
	15nm,1.6s,mb5.1									
FINES	**FINESS Array B**	**132.02**	**26**	PKP	PKPdf		03 32 28.5	-1.5		
	1.9nm,1.0s,slow=1.4,SNR=4.1									
AKASG	**Malin Array Be**	**139.13**	**37**	PKP	PKPdf		03 32 41.0	-2.4		
	1.2nm,0.8s,baz=274,slow=2.7,SNR=8.0									
KMBO	**Kilima Mbogo**	**141.74**	**125**	PKhKP			03 32 43.0			
	0.4nm,0.4s,baz=237,slow=22,SNR=3.6									
ULDT	**Uludag**	**143.07**	**53**	*i* P	PKPbc		03 32 42.3	-3.3		
ESKT	**Eskisehir**	**144.51**	**53**	*i* P	PKPbc		03 32 49.1	-0.7		
GYA	**Guiyang**	**144.73**	**284**	||*i*PKP	PKPdf		03 32 52.5	-1.5		
SGKT	**Sivrigoynuk**	**145.06**	**51**	*i* P	PKPbc		03 32 48.8	-2.5		
BALT	**Dadav**	**145.67**	**49**	*i* P	PKPbc		03 32 53.5	+0.7		
ELDT	**Eldivan**	**146.08**	**51**	*i* P	PKPbc		03 32 54.8	+0.9		
LZH	**Lanzhou**	**146.30**	**301**	*e*PKP	PKPdf		03 32 57.0	+0.6		
BRTR	**Keskin Array B**	**146.49**	**52**	PKPbc	PKPbc		03 32 56.4	+1.6		
	5.3nm,0.7s,baz=252,slow=1.8,SNR=29									
ZAL	**Zalesovo**	**146.50**	**342**	PKPbc	PKPbc		03 32 55.3	+0.9		
	1.5nm,0.6s,baz=7.5,slow=3.4,SNR=8.4									
GTA	**Gaotai**	**148.36**	**309**	PKP	PKPdf		03 33 02.5	+2.9		
GTA				LR	LR					
	comp=N,98nm,18.2s,MS4.8									
GTA				LR	LR					
	comp=E,111nm,15.6s,MS4.8									
GTA				LR	LR					
	comp=Z,56nm,12.6s,MS4.5									
NANT	**Nan**	**149.15**	**269**	P	PKPdf		03 33 04.5	+3.0		
TAYS	**Tayyib Ism**	**149.74**	**72**	P	PKPdf		03 33 05.4	+3.2		
HAQS	**Haql**	**149.76**	**71**	P	PKPdf		03 33 05.3	+3.1		
BRVK	**Borovoye**	**149.84**	**357**	*e*PKPbc	PKPdf		03 33 04.7	+3.1		
ALWS	**Ilw as Safayha**	**149.86**	**71**	P	PKPdf		03 33 05.9	+3.5		
JMOS	**Jabal al Moall**	**149.91**	**71**	P	PKPdf		03 33 05.7	+3.3		
BDAS	**Al Bad'**	**149.95**	**73**	P	PKPdf		03 33 06.5	+4.0		
AYUS	**'Aynunah**	**150.11**	**73**	P	PKPdf		03 33 07.2	+4.4		
MALT	**Malatya**	**150.48**	**52**	*e*PKPbc	PKPdf		03 33 07.0	+3.9		
JMQS	**Jabal Moqyreh**	**150.60**	**72**	P	PKPdf		03 33 01.1	-2.4		
CMAR	**Chiang Mai Arr**	**150.69**	**267**	PKPbc	PKPdf		03 33 08.4	+4.6		
	comp=Z,4.8nm,0.7s,baz=93,slow=0.6,SNR=31									
CHG	**Chiang Mai**	**150.78**	**268**	P	PKPdf		03 33 08.3	+4.3		
KURK	**Kurchatov**	**151.02**	**346**	*e*PKPdf	PKPdf		03 33 01.8	-1.6		
KURK				*e*PKPbc	PKPdf		03 33 06.7	+3.3		
ASF	**Jabal al Asfar**	**151.05**	**65**	PKPbc	PKPdf		03 33 09.3	+5.2		
	comp=Z,6.3nm,0.8s,baz=287,slow=1.9,SNR=9.2									
TBKS	**Tabuk**	**151.24**	**73**	P	PKPdf		03 32 59.2	-5.3		
UMJS	**Umm Lajj**	**151.97**	**79**	P	PKPdf		03 33 08.4	+2.8		
KBRS	**Khaybar**	**153.74**	**78**	P	PKPdf		03 32 54.3	-14		
BLJS	**Baljurashi**	**155.30**	**92**	P	PKPdf		03 33 10.2	-0.1		
TATS	**Tathlith**	**156.96**	**94**	P	PKPdf		03 33 01.5	-11		

*CSEM **29** 03:51:33.3±0.1,33.13N×35.64E,h8km,Mw3.0,Error ellipse: s-maj=2.6km s-min=1.3km az=116.0*
*GRAL **29** 03:51:34.9±1.4,33.15N×35.58E,h14km±24km,MD3.3*
*GII **29** 03:51:34.1±0.2,33.18N×35.61E,h6km±1km,ML3.2/9, Mw3.0/5*
*NSSC **29** 03:51:34.9,33.16N×35.68E,h5km±2km*
ISC 29 03:51:34.0±0.4,33.17N±0.02×35.59E±0.04,h7km±4km, n40,σ0s58/53,6D,Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
KSDI	**Kefar Szold**	**0.07**	**66**	Pg	**Pg**		**03 51 36.3**	**+0.6**
KSDI	**Kefar Szold**	**0.07**	**66**	||Pg	**Pg**		**03 51 36.3**	**+0.5**
HRI	**Mount Hermon**	**0.16**	**51**	Pg	**Pg**		**03 51 37.5**	**+0.1**
HRI	**Mount Hermon**	**0.16**	**51**	||Pg	**Pg**		**03 51 37.5**	**+0.1**
KSHT	**Keshet**	**0.26**	**134**	Pg	**Pg**		**03 51 39.9**	**+0.5**
KSHT	**Keshet**	**0.26**	**134**	||Pg	**Pg**		**03 51 39.9**	**+0.5**
HNTI	**Hanita**	**0.36**	**257**	Pg	**Pg**		**03 51 41.7**	**+0.5**
HNTI				Sg	**Sg**		**03 51 47.1**	**+1.1**
HNTI	**Hanita**	**0.36**	**257**	||Pg	**Pg**		**03 51 41.7**	**+0.5**
HNTI				Sg	**Sg**		**03 51 47.1**	**+1.1**
MATL	**Matirih**	**0.39**	**326**	*i* PG	**Pg**		**03 51 41.9**	**0.0**
BRBR	**Barbar**	**0.39**	**51**	||P	**Pg**		**03 51 41.7**	**-0.1**
BRBR				||S	**Sg**		**03 51 47.3**	**+0.2**
BRBR	**Barbar**	**0.39**	**51**	||*i*P	**Pg**		**03 51 41.7**	**-0.2**
GLH	**Golan-Tel Qazi**	**0.45**	**173**	Pg	**Pg**		**03 51 43.5**	**+0.3**
GLH	**Golan-Tel Qazi**	**0.45**	**173**	||Pg	**Pg**		**03 51 43.5**	**+0.4**
TCHB	**Talchehab**	**0.59**	**147**	||P	**Pg**		**03 51 45.8**	**-0.1**
TCHB				||S	**Sg**		**03 51 54.4**	**+0.7**
TCHB	**Talchehab**	**0.59**	**147**	||*i*P	**Pg**		**03 51 45.8**	**0.0**
TCHB				||*i*S	**Sg**		**03 51 54.4**	**+0.7**
HAF	**Haifa**	**0.61**	**231**	Pg	**Pg**		**03 51 46.5**	**+0.2**
HAF	**Haifa**	**0.61**	**231**	Pg	**Pg**		**03 51 46.4**	**+0.2**
QASN	**Qassioun**	**0.68**	**57**	||P	**Pg**		**03 51 47.3**	**-0.4**
QASN				||S	**Sg**		**03 51 57.0**	**+0.2**
QASN	**Qassioun**	**0.68**	**57**	||*i*P	**Pg**		**03 51 47.3**	**-0.4**
QASN				||*i*S	**Sg**		**03 51 57.0**	**+0.2**
BHL	**Bhannes**	**0.74**	**4**	*i* PG	**Pg**		**03 51 48.0**	**-0.7**
BHL				*i* SG	**Sg**		**03 51 58.9**	**+0.2**
MMLI	**Mount Malkishu**	**0.74**	**191**	Pg	**Pg**		**03 51 48.3**	**-0.4**
MMLI	**Mount Malkishu**	**0.74**	**191**	||Pg	**Pg**		**03 51 48.3**	**-0.5**
OFRI	**'Ofer**	**0.74**	**223**	Pg	**Pg**		**03 51 48.7**	**-0.2**
OFRI	**'Ofer**	**0.74**	**223**	||Pg	**Pg**		**03 51 48.7**	**-0.2**
HMDT	**Nahal Hemdat**	**0.91**	**183**	Pg	**Pg**		**03 51 51.2**	**-1.0**
HMDT	**Nahal Hemdat**	**0.91**	**183**	||Pg	**Pg**		**03 51 51.2**	**-1.0**
SLTI	**Sal'it**	**1.03**	**207**	Pg	**Pg**		**03 51 53.5**	**-1.1**
SLTI				Sg	**Sg**		**03 52 08.4**	**0.0**
SLTI	**Sal'it**	**1.03**	**207**	||Pg	**Pg**		**03 51 53.5**	**-1.1**
SLTI				Sg	**Sg**		**03 52 08.4**	**0.0**
MARH	**Ras Al Marh**	**1.14**	**41**	||P	**Pb**		**03 51 56.2**	**+0.6**
MARH	**Ras Al Marh**	**1.14**	**41**	||*i*P	**Pb**		**03 51 56.2**	**+0.6**
HWQ	**Hawqa**	**1.15**	**15**	*i* PG	**Pg**		**03 51 55.2**	**-1.7**
HWQ				*i* SG	**Sg**		**03 52 12.5**	**+0.2**
DRGI	**Dragot**	**1.58**	**186**	Pn	**Pn**		**03 52 02.3**	**-0.2**
DRGI	**Dragot**	**1.58**	**186**	||Pn	**Pn**		**03 52 02.3**	**-0.3**
MZDA	**Masada**	**1.86**	**186**	Pn	**Pn**		**03 52 06.3**	**-0.4**
MZDA				Sn	**Sn**		**03 52 30.9**	**+0.3**
BIDA	**Albida**	**1.94**	**18**	||P	**Pn**		**03 52 08.6**	**+0.8**
BIDA	**Albida**	**1.94**	**18**	||*i*P	**Pn**		**03 52 08.6**	**+0.8**
KZIT	**Kziot**	**2.47**	**204**	Pn	**Pn**		**03 52 14.9**	**-0.5**
KZIT				Sn	**Sn**		**03 52 46.8**	**+0.7**
ZFRI	**Zfri**	**2.63**	**188**	Pn	**Pn**		**03 52 17.5**	**-0.1**
PRNI	**Paran**	**2.85**	**190**	Pn	**Pn**		**03 52 20.6**	**-0.1**
KMTI	**Karmit**	**3.14**	**194**	Pn	**Pn**		**03 52 24.5**	**-0.4**

*NIED **29** 03:57:00,37.20N×138.80E,h5km,Mw3.7 Best double couple: M03.59×10¹⁴ NP1:φs27°,δ53°,λ110°. NP2:φs177°, δ42°,λ66°.*
*IDC **29** 03:57:51.6±1.5,36.96N×138.68E,mb3.6/3,mb1 3.8/3, mb1mx3.5/22,Error ellipse: s-maj=48.3km s-min=33.3km az=88.0*
*JMA **29** 03:57:54.9,37.17N×138.76E,h8km±1km,M3.6*
JMA Felt III J1.
ISC 29 03:57:54.5±0.5,37.18N±0.03×138.77E±0.05,h26km±6km, n11,σ0s71/19,mb3.5/3,4C-2D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
JHK	**Hiroka**	**0.21**	**70**	||P	**Pb**		**03 57 59.4**	**-0.9**
JHK				S	**Sb**		**03 58 03.2**	**-1.1**
JIZZ	**Izumozaki**	**0.36**	**353**	||P	**Pb**		**03 58 02.4**	**0.0**
JIZZ				S	**Sb**		**03 58 09.0**	**+1.2**
JKT	**Katashina**	**0.56**	**137**	||P	**Pb**		**03 58 05.7**	**0.0**
JKT				S	**Sb**		**03 58 13.6**	**+0.2**
JGK	**Kuni**	**0.62**	**189**	||P	**Pb**		**03 58 06.8**	**+0.1**
JGK				S	**Sb**		**03 58 15.7**	**+0.7**
JNS	**Sasagawa**	**0.78**	**34**	||P	**Pb**		**03 58 09.2**	**0.0**
JNS				S	**Sb**		**03 58 19.8**	**+0.4**
MAT	**Matsushiro**	**0.78**	**215**	P	**Pb**		**03 58 08.9**	**-0.3**
MAT				S	**Sb**		**03 58 19.7**	**+0.3**

JFY	**Yanaizu**	**0.78**	**73**	P	**Pb**		**03 58 09.6**	**+0.2**		
JFY				S	**Sb**		**03 58 20.2**	**+0.6**		
JSD	**Sado**	**0.95**	**335**	||P	**Pb**		**03 58 11.3**	**-0.8**	
JSD				S	**Sb**		**03 58 24.1**	**-0.2**		
SONM	**Songino Array**	**25.95**	**304**	P	**P**		**04 03 26.5**	**+0.1**		
	1.2nm,1.2s,mb3.3,baz=101,slow=7.3,SNR=3.8									
ILAR	**Eielson Array**	**50.51**	**32**	P	**P**		**04 06 52.6**	**+0.5**		
	0.4nm,0.8s,mb3.4,baz=270,slow=6.3,SNR=3.3									
WRA	**Warramunga Arr**	**56.96**	**185**	P	**P**		**04 07 37.2**	**-3.1**		
	0.9nm,0.8s,mb3.9,baz=1.3,slow=7.4,SNR=6.3									

*NEIC **29** 04:20:10.9±1.0,19.31S×69.15W,h89km±10km,mb4.1/2, Error ellipse: s-maj=13.4km s-min=8.9km az=72.0*
*IDC **29** 04:20:12.6±0.8,19.41S×69.18W,h106km±7km,mb3.7/7, mb1 3.9/8,mb1mx3.8/15,Error ellipse: s-maj=20.4km s-min=12.6km az=98.0*
ISC 29 04:20:11.8±1.0,19.42S±0.06×69.19W±0.10,h117km±9km, n28,σ1s36/28,mb4.0/8,1C-3D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
LVC	**Limon Verde**	**3.19**	**175**	*e*Pn	**P**		**04 21 00.6**	**-0.9**
LVC				*e*Sn	**S**		**04 21 28.7**	**-10**
LPAZ	**La Paz**	**3.27**	**18**	P	**P**		**04 21 04.6**	**+1.9**
	16nm,0.3s,baz=193,slow=8.4,SNR=557							
LPAZ				S	**S**		**04 21 41.9**	**+0.7**
	2.8nm,0.3s,baz=200,slow=16,SNR=2.3							
LPAZ	**La Paz**	**3.27**	**18**	P	**P**		**04 21 04.6**	**+1.9**
LPAZ				S	**S**		**04 21 41.9**	**+0.7**
NNA	**Nana**	**10.44**	**314**	Pn	**P**		**04 22 37.4**	**-1.9**
SAML	**Samuel**	**11.92**	**30**	*e*Pn	**P**		**04 22 55.2**	**-3.8**
	4.7nm,0.9s							
TRQA	**Tornquist**	**19.60**	**163**	*e*P	**P**		**04 24 31.5**	**-1.6**
	20nm,1.0s							
BDFB	**Brasilia**	**20.53**	**83**	P	**P**		**04 24 42.5**	**-0.3**
	12nm,0.6s,baz=258,slow=9.7,SNR=23							
BAO	**Brasilia Array**	**20.56**	**83**	*e*P	**P**		**04 24 43.4**	**+0.3**
BAO				*i*			04 24 45.8	
OTAV	**Otavalo**	**21.55**	**334**	*e*P	**P**		**04 24 54.3**	**+1.3**
	4.7nm,0.9s,mb3.8							
SDV	**Santo Domingo**	**28.16**	**357**	*e*P	**P**		**04 25 53.2**	**-2.2**
TXAR	**Lajitas Array**	**58.78**	**325**	P	**P**		**04 29 59.6**	**-0.6**
	0.2nm,0.7s,mb3.2,baz=150,slow=7.3,SNR=2.7							
VNA3	**Neumayer Olymp**	**62.

*CASC **29** 05:17:28.7±3.0, 10.94N×86.91W, h14km±9km, MD4.2, ML3.7*
*IDC **29** 05:17:29.6±2.6, 11.75N×86.16W, mb3.5/3, mb1 4.0/3, mb1mx3.6/17, Error ellipse: s-maj=240.0km s-min=53.4km az=54.0*
ISC 29 05:17:28.8±1.2, 10.91N±0.04×86.90W±0.03, h24km±12km, n32, σ1°11/47, mb3.4/3, 12C-4D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**1.09**	**70⇑**	***e*P**	**Pn**	**05 17 48.0**	**-0.9**
SSNN				*e*S	**Sb**	**05 18 03.0**	**+0.2**
CRUN	**El Crucero**	**1.22**	**29**	***e*P**	**Pn**	**05 17 50.5**	**-0.1**
APON	**Apoyo**	**1.29**	**39⇑**	***e*P**	**Pn**	**05 17 51.0**	**-0.6**
TICN	**Ticuantepe**	**1.29**	**30⇑**	***e*P**	**Pn**	**05 17 51.3**	**-0.4**
COPN	**Copaltepe**	**1.30**	**13⇓**	***e*P**	**Pn**	**05 17 51.6**	**-0.1**
COPN				*e*S	**Sn**	**05 18 08.7**	**+0.3**
XAVN	**Gruta Xavier**	**1.35**	**24⇑**	***e*P**	**Pn**	**05 17 52.1**	**-0.4**
XAVN				*e*S	**Sn**	**05 18 10.3**	**+0.5**
MGAN	**Managua**	**1.38**	**27⇑**	***e*P**	**Pn**	**05 17 52.5**	**-0.4**
MGAN				*e*S	**Sn**	**05 18 13.0**	**+2.3**
	comp=E,1μm,0.4s						
APYN	**Apoyeque**	**1.42**	**22⇓**	***e*P**	**Pn**	**05 17 53.2**	**-0.3**
APYN				*e*S	**Sn**	**05 18 11.4**	**-0.2**
WILN	**Americas 2**	**1.42**	**29⇑**	***e*P**	**Pn**	**05 17 52.8**	**-0.7**
WILN				*e*S	**Sn**	**05 18 14.2**	**+2.5**
MADN	**Villa Maderas**	**1.43**	**70⇑**	***e*P**	**Pn**	**05 17 52.4**	**-1.2**
MADN				*e*S	**Sn**	**05 18 08.8**	**-2.9**
VCR	**Vista de Mar**	**1.47**	**122**	***e*P**	**Pn**	**05 17 55.1**	**+0.9**
LEON	**Leon**	**1.50**	**0⇑**	***i*P**	**Pn**	**05 17 54.7**	**+0.1**
MOMJ	**Momotombo**	**1.53**	**13⇑**	***e*P**	**Pn**	**05 17 54.5**	**-0.5**
MIRN	**Miramar**	**1.53**	**7⇓**	***e*P**	**Pn**	**05 17 55.0**	**-0.1**
MIRN				*e*S	**Sn**	**05 18 14.3**	**-0.2**
CNGN	**Cerro Negro**	**1.59**	**7⇑**	***e*P**	**Pn**	**05 17 55.6**	**-0.4**
CNGN				*e*S	**Sn**	**05 18 18.8**	**+2.8**
PYTN	**Playitas**	**1.81**	**27⇑**	***e*P**	**Pn**	**05 17 58.2**	**-0.9**
PYTN				*e*S	**Sn**	**05 18 22.5**	**+0.9**
FORC	**Fortuna**	**2.23**	**101**	***e*P**	**Pn**	**05 18 04.9**	**-0.2**
CNCH	**Conchagua**	**2.52**	**339⇑**	***e*P**	**Pn**	**05 18 10.0**	**+0.7**
CNCH				*e*S	**Sn**	**05 18 38.5**	**-1.1**
CGA2	**Cerro Gallo 2**	**2.55**	**110**	***e*P**	**Pn**	**05 18 09.0**	**-0.7**
BLLM	**Bellamira**	**2.84**	**333**	***e*P**	**Pn**	**05 18 14.5**	**+0.7**
BLLM				*e*S	**Sn**	**05 18 46.2**	**-1.4**
LAJ	**Bijagual**	**2.92**	**111**	***e*P**	**Pn**	**05 18 11.6**	**-3.4**
LCD	**La Lucha 2**	**3.08**	**112**	***e*P**	**Pn**	**05 18 18.1**	**+1.0**
TRTC	**Tortuguero**	**3.15**	**96**	***e*P**	**Pn**	**05 18 16.5**	**-1.7**
ICR	**Volcan Irazu**	**3.15**	**107**	***e*P**	**Pn**	**05 18 21.1**	**+2.9**
BUS	**Buena Vista**	**3.37**	**113**	***e*P**	**Pn**	**05 18 21.7**	**+0.4**
LCBS	**La Ceiba**	**3.40**	**324⇓**	***e*P**	**Pn**	**05 18 22.4**	**+0.6**
LCBS				*e*S	**Sn**	**05 19 00.8**	**-1.1**
LFRS	**El Faro**	**3.43**	**322**	***e*P**	**Pn**	**05 18 23.0**	**+0.8**
LFRS				*e*S	**Sn**	**05 19 01.5**	**-1.0**
SBLS	**San Blas**	**3.95**	**318**	***e*P**	**Pn**	**05 18 31.0**	**+1.5**
RTR	**El Retiro**	**4.00**	**318**	***e*P**	**Pn**	**05 18 32.1**	**+1.8**
RTR				*e*S	**Sn**	**05 19 15.7**	**-1.4**
TXAR	**Lajitas Array**	**24.11**	**322**	P	**P**	**05 22 44.5**	**+0.6**
	comp=E,1.3nm,0.8s,mb3.4,baz=136,slow=10,SNR=17						
TXAR				PcP	PcP	05 26 28.3	+1.9
	comp=E,0.2nm,0.8s,baz=158,slow=4.9,SNR=2.4						
PDAR	**Pinedale Array**	**37.38**	**332**	P	**P**	**05 24 41.0**	**-0.6**
	comp=E,0.4nm,0.5s,mb3.5,baz=129,slow=9.7,SNR=4.4						
NVAR	**Mina Array Bea**	**39.22**	**320**	P	**P**	**05 24 59.9**	**+2.8**
	comp=E,0.4nm,0.6s,mb3.3,baz=131,slow=8.3,SNR=3.6						
NVAR				PcP	PcP	05 27 07.9	+1.3
	comp=E,0.5nm,0.6s,baz=158,slow=4.9,SNR=5.3						

*ISK **29** 06:08:33.5, 35.18N×26.88E, h3km, MD3.6*
*ATH **29** 06:08:36.0, 35.20N×27.13E, h20km±2km, MD3.5/7*
*NEIC **29** 06:08:36.0, 35.20N×27.13E, h20km, MD3.5(ATH), After ATH.*
*CSEM **29** 06:08:37.3±0.1, 35.18N×27.13E, h60km, MD3.5, Error ellipse: s-maj=2.9km s-min=1.9km az=179.0*
ISC 29 06:08:37.3±0.9, 35.31N±0.07×26.97E±0.05, h10km, n21, σ0°98/27, 1D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.28**	**34⇓**	***i*PB**	**Pb**	**06 08 43.4**	**-0.6**
KARP				*e*SB	**Sb**	**06 08 49.0**	**+0.5**
NPS	**Neapolis**	**1.11**	**268**	***e*PN**	**Pn**	**06 08 59.7**	**+0.8**
XRY	**Khrisi**	**1.13**	**248**	***e*PN**	**Pn**	**06 08 59.0**	**-0.2**
ARG	**Arkhangelos**	**1.30**	**46**	***e*PN**	**Pn**	**06 09 00.7**	**-1.0**
NISR	**Nisiros**	**1.31**	**6**	***e*PN**	**Pn**	**06 09 03.3**	**+1.6**
SANT	**Santorini**	**1.62**	**311**	***e*Pn**	**Pn**	**06 09 04.6**	**-1.6**
SANT				*e*Sn	**Sn**	**06 09 26.8**	**-0.5**
SANT	**Santorini**	**1.62**	**311**	***e*Pn**	**Pn**	**06 09 04.6**	**-1.6**
SANT				*e*Sn	**Sn**	**06 09 26.8**	**-0.4**
THR6	**Thira Island,**	**1.65**	**310**	***e*P**	**Pn**	**06 09 07.6**	**+1.1**
THR3	**Thira Island,**	**1.68**	**311**	***e*P**	**Pn**	**06 09 08.1**	**+1.1**
THR4	**Thira Island,**	**1.72**	**312**	***e*P**	**Pn**	**06 09 08.6**	**+1.1**
THR5	**Thira Island,**	**1.72**	**310**	***e*P**	**Pn**	**06 09 07.5**	**-0.1**
THR5	**Thira Island,**	**1.72**	**310**	***e*P**	**Pn**	**06 09 07.4**	**-0.2**
DALT	**Dalyan (Mudla)**	**1.99**	**42**	PN	**Pn**	**06 09 10.8**	**-0.6**
DALT				SN	**Sn**	**06 09 38.6**	**+2.0**
MLSB	**Milas**	**2.09**	**18**	***e*PN**	**Pn**	**06 09 12.9**	**+0.1**
APE	**Apeiranthos**	**2.11**	**327**	PN	**Pn**	**06 09 11.7**	**-1.4**
APE				SN	**Sn**	**06 09 39.8**	**+0.2**
APE	**Apeiranthos**	**2.11**	**327**	***e*Pb**	**Pb**	**06 09 13.7**	**-1.5**
APE				*e*Sn	**Sn**	**06 09 39.8**	**+0.2**
YER	**Yerkesik**	**2.11**	**30**	PN	**Pn**	**06 09 13.4**	**+0.2**
ELL	**Elmali**	**2.78**	**58**	*i* PN	**Pn**	**06 09 22.2**	**-0.6**
BLCB	**Balcova**	**3.07**	**1**	***e*PN**	**Pn**	**06 09 26.1**	**-0.8**
IZM	**Izmir**	**3.09**	**4**	PN	**Pn**	**06 09 26.4**	**-0.8**
VLI	**Veliai**	**3.56**	**294**	***e*PN**	**Pn**	**06 09 35.0**	**+1.2**

*GII **29** 06:10:08.6±0.1, 33.19N×35.61E, h11km±1km, ML3.1/4, Mw2.8/5*
*CSEM **29** 06:10:08.2±0.1, 33.13N×35.63E, h8km, Mw2.8, Error ellipse: s-maj=3.2km s-min=1.4km az=113.0*
*GRAL **29** 06:10:09.7±1.7, 33.16N×35.58E, h6km±65km, MD3.2*
ISC 29 06:10:08.2±0.6, 33.17N±0.03×35.60E±0.06, h15km±7km, n25, σ0°57/30, 3D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSDI	**Kefar Szold**	**0.05**	**68**	Pg	**Pg**	**06 10 11.1**	**-0.1**
KSDI	**Kefar Szold**	**0.05**	**68**	⇓Pg	**Pg**	**06 10 11.0**	**-0.1**
HRI	**Mount Hermon**	**0.15**	**50**	Pg	**Pg**	**06 10 12.3**	**+0.1**
HRI	**Mount Hermon**	**0.15**	**50**	⇑Pg	**Pg**	**06 10 12.3**	**+0.1**
KSHT	**Keshet**	**0.26**	**137**	Pg	**Pg**	**06 10 14.7**	**+0.6**
KSHT	**Keshet**	**0.26**	**137**	⇓Pg	**Pg**	**06 10 14.6**	**+0.6**
HNTI	**Hanita**	**0.37**	**256**	Pg	**Pg**	**06 10 16.4**	**+0.4**
HNTI				Sg	**Sg**	**06 10 21.8**	**+0.6**
HNTI	**Hanita**	**0.37**	**256**	⇑Pg	**Pg**	**06 10 16.4**	**+0.4**
HNTI				Sg	**Sg**	**06 10 21.8**	**+0.6**
MATL	**Matirih**	**0.39**	**325**	*i* PG	**Pg**	**06 10 15.7**	**-0.8**
MATL	**Matirih**	**0.39**	**325**	*i* Pg	**Pg**	**06 10 15.6**	**-0.8**
MATL	**Matirih**	**0.39**	**325**	Pg	**Pg**	**06 10 15.7**	**-0.7**
GLH	**Golan-Tel Qazi**	**0.46**	**175**	Pg	**Pg**	**06 10 18.5**	**+0.8**
GLH	**Golan-Tel Qazi**	**0.46**	**175**	⇓Pg	**Pg**	**06 10 18.5**	**+0.8**
HAF	**Haifa**	**0.62**	**231**	Pg	**Pg**	**06 10 21.1**	**+0.2**
BHL	**Bhannes**	**0.73**	**4**	*i* PG	**Pg**	**06 10 22.4**	**-0.6**
BHL				*i* SG	**Sg**	**06 10 33.7**	**+0.7**
MMLI	**Mount Malkishu**	**0.75**	**192**	Pg	**Pg**	**06 10 23.0**	**-0.3**
MMLI	**Mount Malkishu**	**0.75**	**192**	⇑Pg	**Pg**	**06 10 23.0**	**-0.4**
OFRI	**'Ofer**	**0.75**	**223**	Pg	**Pg**	**06 10 23.4**	**-0.1**
OFRI	**'Ofer**	**0.75**	**223**	⇑Pg	**Pg**	**06 10 23.4**	**-0.1**
HMDT	**Nahal Hemdat**	**0.92**	**184**	Pg	**Pg**	**06 10 26.0**	**-0.8**
HMDT	**Nahal Hemdat**	**0.92**	**184**	⇑Pg	**Pg**	**06 10 26.0**	**-0.7**
SLTI	**Sal'it**	**1.04**	**207**	Pg	**Pg**	**06 10 28.4**	**-0.8**
SLTI				Sg	**Sg**	**06 10 43.0**	**-0.1**
HWQ	**Hawqa**	**1.14**	**15**	*i* PG	**Pg**	**06 10 30.1**	**-1.0**
HWQ				*i* SG	**Sg**	**06 10 47.0**	**+0.5**
DRGI	**Dragot**	**1.58**	**186**	Pn	**Pn**	**06 10 36.7**	**+0.7**
KZIT	**Kziot**	**2.48**	**205**	Pn	**Pn**	**06 10 48.9**	**+0.1**

DJA 29 06:17:02.0±0.9, 9.50S×115.16E, h33km, MD4.6/2, ML3.7/3, 1C-5D, Error ellipse: s-maj=22.6km s-min=8.7km az=2.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	**Rata**	**0.85**	**25**	***e*Pg**	**P**	**06 17 16.3**	**-1.2**
	745nm,0.2s						
RATI				⇑*e*Sg	S	06 17 27.7	-1.3
KEDI	**Kedomdong**	**1.38**	**43⇓**	***e*Pn**	**Pn**	**06 17 23.6**	**-1.7**
	71nm,0.2s						
SRDI	**Scrawed**	**1.43**	**315⇓**	***e*Pn**	**Pn**	**06 17 24.5**	**-1.5**
	89nm,0.2s						
SRDI				⇓*e*Sn	Sn	06 17 41.3	-2.5
KELI	**Kelakatan**	**1.44**	**332⇓**	***e*Pn**	**Pn**	**06 17 25.2**	**-0.9**
	58nm,0.2s						
KELI				⇓*e*Sn	Sn	06 17 40.6	-3.4

IDC 29 07:03:53.0±27.0, 22.71S×177.91E, h571km±331km, mb2.7/3, mb1 3.0/3, mb1mx2.9/12, Error ellipse: s-maj=253.0km s-min=101.9km az=155.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**40.35**	**260**	P	P	07 10 41.0	-2.3
	0.4nm,0.4s,baz=91,slow=7.2,SNR=7.1						
WRA	**Warramunga Arr**	**40.58**	**265**	P	P	07 10 44.9	-0.3
	0.3nm,0.3s,baz=99,slow=6.9,SNR=10						
NVAR	**Mina Array Bea**	**85.25**	**45**	P	P	07 15 30.4	-0.5
	0.5nm,1.0s,baz=225,slow=8.9,SNR=3.9						
HFS	**Hagfors**	**140.99**	**348**	PKP	PKPdf	07 22 16.5	-1.4
	1.4nm,0.6s,baz=27,slow=3.2,SNR=6.1						

*IDC **29** 07:15:42.1±1.1, 10.05N×93.64E, mb3.9/8, mb1 4.1/9, mb1mx3.9/19, ML4.3/1, MS3.5/13, Ms1 3.5/13, ms1mx3.3/28, Error ellipse: s-maj=40.5km s-min=21.3km az=49.0*
*NEIC **29** 07:15:45.5±0.7, 10.05N×93.71E, h20km, mb4.0/2, Error ellipse: s-maj=18.4km s-min=13.1km az=57.0*
ISC 29 07:15:45.6±0.8, 10.2N±0.1×93.8E±0.1, h33km, n28, σ1°03/21, mb3.9/10, MS3.5/12, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.80**	**326**	***e*P**	**P**	**07 16 15.0**	**+0.3**
PBA				*e*S	Sx	07 16 23.0	
CMAR	**Chiang Mai Arr**	**9.65**	**31**	Pn	**P**	**07 18 04.5**	**-0.8**
	0.7nm,0.3s,baz=216,slow=12,SNR=2.3						
CMAR				LR	LR	07 21 58.6	
	comp=Z,189nm,18.8s,baz=215,slow=38						
VIS	**Vishakhapatnam**	**12.61**	**308**	***e*P**	**P**	**07 18 44.5**	**-1.0**
VIS				*e*S	**S**	**07 20 58.0**	**-7.8**
PDI	**Pulchoki**	**19.03**	**337**	***e*P**	**P**	**07 20 05.5**	**-2.0**
	20nm,1.0s						
GUN	**Gumba**	**19.16**	**338**	***e*P**	**P**	**07 20 08.2**	**-0.8**
	19nm,0.7s						
DMN	**Daman**	**19.18**	**336**	***e*P**	**P**	**07 20 07.9**	**-1.4**
GKN	**Gorkha**	**19.72**	**335**	***e*P**	**P**	**07 20 15.5**	**+0.3**
	21nm,0.7s						
KOLN	**Koldanda**	**19.96**	**333**	***e*P**	**P**	**07 20 18.6**	**+0.8**
	20nm,1.0s						
DDI	**Dehra Dun**	**24.84**	**326**	*e*	**P**	**07 21 08.2**	**+1.8**
AAK	**Ala-Archa**	**36.48**	**336**	P	**P**	**07 22 50.2**	**+0.7**
	1.9nm,0.6s,mb4.2						
SONM	**Songino Array**	**39.03**	**14**	P	**P**	**07 23 11.4**	**+0.6**
	1.0nm,0.9s,mb3.5,baz=202,slow=7.8,SNR=3.1						
FITZ	**Fitzroy Crossi**	**42.17**	**132**	LR	LR	07 44 07.8	
	comp=Z,29nm,18.7s,MS3.2,baz=29,slow=40						
KURK	**Kurchatov**	**42.32**	**346**	P	**P**	**07 23 40.4**	**+2.5**
	1.3nm,0.5s,mb3.8						
ZAL	**Zalesovo**	**44.25**	**352**	P	**P**	**07 23 54.2**	**+0.7**
	1.3nm,0.4s,mb4.0,baz=95,slow=2.2,SNR=3.4						
ZAL				LR	LR	07 43 28.0	
	comp=Z,39nm,18.4s,MS3.4,baz=350,slow=38						
WRA	**Warramunga Arr**	**49.90**	**127**	P	**P**	**07 24 37.9**	**-0.4**
	0.4nm,0.6s,mb3.6,baz=301,slow=9.8,SNR=3.9						
WRA				LR	LR	07 46 17.5	
	comp=Z,51nm,20.4s,MS3.5,baz=275,slow=37						
WRA	**Warramunga Arr**	**49.90**	**127**	P	**P**	**07 24 37.9**	**-0.4**
WRA				LR	LR	07 46 17.5	
ASAR	**Alice Springs**	**51.67**	**131**	P	**P**	**07 24 51.5**	**-0.2**
	0.8nm,0.7s,mb3.7,baz=312,slow=7.0,SNR=7.4						
ASAR				LR	LR	07 50 48.3	
	comp=Z,36nm,19.1s,MS3.4,baz=15,slow=41						
GNI	**Garni**	**52.60**	**313**	LR	LR	07 49 36.0	
	comp=Z,36nm,19.8s,MS3.4,baz=2.4,slow=39						
ASF	**Jabal al Asfar**	**56.69**	**302**	LR	LR	07 50 23.1	
	comp=Z,36nm,20.4s,MS3.5,baz=200,slow=37						
KMBO	**Kilima Mbogo**	**57.34**	**262**	LR	LR	07 47 37.5	
	comp=Z,40nm,18.2s,MS3.6,baz=101,slow=34						
BRTR	**Keskin Array B**	**60.68**	**310**	P	**P**	**07 25 54.7**	**-1.4**
	1.8nm,0.9s,mb4.2,baz=117,slow=6.4,SNR=6.3						
BRTR				LR	LR	07 56 50.6	
	comp=Z,14nm,20.6s,MS3.1,baz=80,slow=41						
STKA	**Stephens Creek**	**61.95**	**134**	LR	LR	07 52 21.0	
	comp=Z,103nm,19.2s,MS4.0,baz=25,slow=36						
MLR	**Muntele Rosu**	**67.30**	**315**	P	**P**	**07 26 39.4**	**+0.2**
	3.1nm,1.0s,mb4.3,baz=133,slow=5.4,SNR=4.1						
FINES	**FINESS Array B**	**70.53**	**332**	P	**P**	**07 26 58.9**	**0.0**
	1.0nm,0.8s,mb3.8,baz=90,slow=3.8,SNR=3.1						
ARCES	**ARCESS Array B**	**73.01**	**340**	LR	LR	08 01 32.1	
	comp=Z,79nm,19.0s,MS4.0,baz=12,slow=38						
GERES	**GERESS Array B**	**75.89**	**318**	P	**P**	**07 27 31.2**	**+0.6**
	0.2nm,0.3s,mb3.5,baz=76,slow=4.0,SNR=3.0						
NOA	**NORSAR Array B**	**77.58**	**330**	LR	LR	08 04 48.3	
	comp=Z,22nm,19.5s,MS3.5,baz=60,slow=38						
MAW	**Mawson**	**80.68**	**192**	LR	LR	07 56 34.4	
	comp=Z,81nm,21.2s,MS4.0,baz=294,slow=30						

*NAO **29** 07:48:03.5±3.9, 60.63N×28.80E, ML2.4*
*HEL **29** 07:48:05.9±0.2, 60.79N×28.94E, ML2.0, ML2.4(NAO), Explosion*
*BER **29** 07:48:07.1±1.4, 60.82N×28.82E, ML2.4(NAO)*
ISC 29 07:48:04.8±1.1, 60.79N±0.05×28.9E±0.1, n12, σ0°82/22, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**0.72**	**250**	***e*P**	**Pg**	**07 48 19.0**	**-0.1**
VJF				*e*S	**Sg**	**07 48 28.4**	**-0.3**
PVF	**Pernaja**	**1.53**	**262**	***e*P**	**Pn**	**07 48 32.6**	**-0.8**
PVF				*e*S	**Sb**	**07 48 53.8**	**+0.3**
PVF				*e*SN	**Sn**	**07 48 56.2**	**+1.9**
FIA0	**FINESS Array S**	**1.53**	**297**	***e*P**	**Pn**	**07 48 32.3**	**-1.2**
FIA0				*e*S	**Sb**	**07 48 53.0**	**-0.7**
FIA0	**FINESS Array S**	**1.53**	**297**	Pn	**Pn**	**07 48 32.2**	**-1.3**
	baz=118,slow=16						
FIA0				Lg		07 48 53.2	
	baz=114,slow=37						
FIA0				Rg		07 49 00.8	
	baz=114,slow=37						
KAF	**Kangasniemi**	**1.83**	**318**	***e*P**	**Pn**	**07 48 37.9**	**+0.1**
KAF				*e*S	**Sn**	**07 49 01.5**	**-0.5**
MEF	**Metsahovi**	**2.31**	**258**	***e*P**	**Pn**	**07 48 45.3**	**+0.6**
MEF				*e*SB	**Sb**	**07 49 15.6**	**-0.8**
SUF	**Sumiainen**	**2.34**	**327**	***e*P**	**Pn**	**07 48 45.8**	**+0.6**
SUF				*e*S	**Sn**	**07 49 16.6**	**+1.5**
KEF	**Keuruu**	**2.39**	**307**	***e*P**	**Pn**	**07 48 46.3**	**+0.5**
KEF				*e*SB	**Sb**	**07 49 18.2**	**-0.4**
KEF				MSG		07 49 19.1	
	comp=Z,5.6nm,0.3s						
JOF	**Joensuu**	**2.42**	**27**	***e*P**	**Pn**	**07 48 46.8**	**+0.5**
JOF				*e*S	**Sn**	**07 49 16.1**	**-0.9**
HFS	**Hagfors**	**7.56**	**272**	*e*S	**Sn**	**07 51 17.3**	**-9.1**
HFS				*e*SG	**Sg**	**07 51 58.6**	**-18**
HFS	**Hagfors**	**7.56**	**272**	Sn	**Sn**	**07 51 17.3**	**-9.1**
	baz=78,slow=28						
HFS				Lg		07 51 58.6	
	baz=80,slow=28						
MOR8	**Moi Rana**	**8.42**	**316**	*e*	**P**	**07 50 00.2**	**-11**

IDC 29 07:55:23.0±2.6, 29.30S×177.11W, mb4.0/4, mb1 4.1/4, mb1mx3.8/13, Error ellipse: s-maj=106.0km s-min=39.3km az=157.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.41**	**277**	P	P	08 02 14.2	-0.1
	1.2nm,0.4s,baz=99,slow=12,SNR=4.1						
STKA	**Stephens Creek**	**35.50**	**255**	P	P	08 02 21.2	-2.2
	1.4nm,0.7s,baz=82,slow=9.5,SNR=4.1						
ASAR	**Alice Springs**	**43.96**	**265**	P	P	08 03 31.1	-2.6
	0.6nm,0.5s,baz=97,slow=6.8,SNR=11						
ASAR				PcP	PcP	08 05 18.9	-1.3
	0.4nm,0.7s,baz=117,slow=3.8,SNR=4.2						
WB2	**Warramunga Arr**	**44.84**	**271**	*e*P	P	08 03 37.7	-3.1
WRA	**Warramunga Arr**	**44.85**	**271**	P	P	08 03 38.2	-2.8
	2.3nm,0.6s,baz=110,slow=7.6,SNR=14						
FINES	**FINESS Array B**	**144.37**	**341**	PKP	PKPdf	08 14 59.3	-2.9
	1.5nm,0.5s,baz=45,slow=3.9,SNR=9.3						
AKASG	**Malin Array Be**	**150.87**	**325**	PKPbc	PKPdf	08 15 16.6	+3.5
	0.7nm,0.6s,baz=45,slow=3.9,SNR=4.1						
AKASG				PKPab	PKPab	08 15 24.0	-2.5
	1.0nm,0.5s,baz=45,slow=3.8,SNR=7.9						

OTT 29 08:08:40.1±0.3, 72.88N×91.93W, h18km, MN2.9/3, 126km northeast from Fort Ross, Nu, Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RES	**Resolute Bay**	**2.00**	**337**	PN	Pn	08 09 13.2	-0.4
RES				SN	Sn	08 09 36.5	-1.7
RES				SG	Sn	08 09 41.5	+3.3
RES				Trac		08 09 43.4	
	comp=Z,20nm,0.1s						
IGL	**Igloolik**	**4.81**	**132**	PN	Pn	08 09 50.0	-3.6
IGL				SN	Sn	08 10 45.6	-4.0
IGL				SG	Sn	08 11 04.7	+15
IGL				Trac		08 11 11.6	
	comp=Z,3.1nm,0.1s						
QILN	**Qililugaq Expl**	**6.55**	**160**	PN	Pn	08 10 15.3	-2.8
QILN				SN	Sn	08 11 22.1	-11
QILN				LG		08 11 56.3	
QILN				Trac		08 12 00.2	
	comp=Z,10nm,0.6s						
EUNU	**Eureka**	**7.32**	**8**	PN	Pn	08 10 25.4	-3.5
EUNU				SN	Sn	08 11 44.8	-7.6
LUPN	**Lupin Mine**	**9.85**	**233**	SN	Sn	08 12 40.4	-15
LUPN				LG		08 13 40.4	
YRTN	**Rankin Inlet**	**10.12**	**180**	SN	S	08 12 46.1	-15
YRTN				LG		08 13 46.4	
GLWN	**Glow Worm Lake**	**10.28**	**226**	PN	P	08 11 04.4	-5.2
GLWN				SN	S	08 12 48.2	-17
YNEN	**Yamba Lake Nor**	**10.34**	**231**	PN	P	08 11 08.9	-1.6
YNEN				SN	S	08 12 48.5	-19
YNEN				LG		08 13 53.0	
ACKN	**Achilles Lake**	**10.38**	**230**	PN	P	08 11 07.3	-3.8
ACKN				SN	S	08 12 53.1	-15
FRB	**Frobisher Bay**	**12.48**	**125**	SN	S	08 13 43.9	-15
YKW3	**Yellowknife Ar**	**13.33**	**231**	PN	P	08 11 42.2	-8.7
YKW3				SN	S	08 14 02.7	-17
INK	**Inuvik**	**14.30**	**272**	PN	P	08 12 03.0	-0.4
INK				SN	S	08 14 28.8	-14

ECX 29 08:14:18.1±0.2, 29.27N×115.02W, h2km, ML3.6, 1D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPX	**San Pedro Mart**	**1.81**	**348**	***e*P**	Pn	08 14 49.4	-1.1
SPX				*e*S	Sn	08 15 14.0	-0.4
CPBX	**Cerro Prieto**	**3.14**	**356**	***e*P**	Pn	08 15 08.4	-1.2
CPBX				*e*S	Sn	08 15 47.7	-0.5
CPBX				*e*		08 16 02.6	
	comp=E,510nm,0.9s						
CPBX				⇓*e*		08 16 21.4	
	comp=N,496nm,0.9s						
CBX	**Cerro Bola**	**3.34**	**335**	***e*P**	Pn	08 15 11.5	-1.0
CBX				*e*S	Sn	08 15 52.8	-0.5

*MOS **29** 08:14:10.9±1.4, 17.59S×178.27W, h371km, mb4.7/9, Error ellipse: s-maj=18.6km s-min=16.8km az=51.6*
*BJI **29** 08:14:29.9, 17.60S×178.80W, h563km, mB4.7, mb4.4*
*NEIC **29** 08:14:29.9±0.1, 17.63S×178.78W, mb4.6/44, Error ellipse: s-maj=8.6km s-min=4.1km az=142.0*
*SYO **29** 08:14:29.8, 17.57S×178.81W, h560km, MB4.6*
*IDC **29** 08:14:30.4±1.3, 17.63S×178.83W, h563km±13km, mb4.1/15, mb1 4.3/16, mb1mx4.2/19, Error ellipse: s-maj=15.6km s-min=9.5km az=147.0*
ISC 29 08:14:28.4±1.2, 17.64S±0.07×178.82W±0.06, h555km±14km, h556km±4.8km: pP-P, n220, σ0°88/128, mb4.6/58, 10C-17D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.73**	**62**	***e*P**	**P**	**08 16 22.0**	**-2.3**
	159nm,1.0s						
NOUC	**Port Laguerre**	**14.68**	**250**	***e*P**	**P**	**08 17 35.9**	**+1.6**
NOUC	**Port Laguerre**	**14.68**	**250**	***e*P**	**P**	**08 17 35.9**	**+1.6**
URZ	**Urewera**	**20.85**	**189**	P	**P**	**08 18 30.1**	**-2.8**
	19nm,0.8s,baz=60,slow=14,SNR=8.4						
RPZ	**Rata Peaks**	**27.37**	**196**	P	**P**	**08 19 29.5**	**-1.7**
	9.9nm,0.7s,mb

VNDA	**Vanda**	**60.68**	**185**	P	**P**		**08 23 47.5**	**0.0**	
VNDA							08 24 24.6		
VNDA				pmax	pmax				
	comp=Z,3.0nm,0.6s								
VNDA				pmax	pmax				
	comp=Z,2.0nm,0.7s								
CASY	**Casey**	**66.22**	**205**	*e*P	**P**		**08 24 21.5**	**-1.3**	
	comp=Z,14nm,0.9s,mb4.5								
MAJO	**Matsushiro**	**67.46**	**324**	*e*P	**P**		**08 24 30.0**	**-0.9**	
	comp=Z,8.0nm,0.6s,mb4.4								
FX1	**Attu Island--F**	**70.57**	**355**	P	**P**		**08 24 47.9**	**-1.2**	
	comp=Z,29nm,0.6s,mb5.0,baz=120,slow=4.5,SNR=10								
FX1	**Attu Island--F**	**70.57**	**355**	P	**P**		**08 24 47.9**	**-1.3**	
FX1				pmax	pmax				
	comp=Z,29nm,0.6s								
QSPA	**South Pole Qui**	**72.41**	**180**	⇓*i*P	**P**		**08 24 59.8**	**+0.3**	
	comp=Z,31nm,0.9s,mb4.7								
SAO	**San Andreas Ge**	**76.50**	**44**	*e*P	**P**		**08 25 23.0**	**0.0**	
NJ2	**Nanjing**	**77.47**	**310**	*e*P	**P**		**08 25 29.5**	**+1.2**	
NJ2				AP	pP		08 27 25.5	-1.0	
NJ2				XP	sP		08 28 19.5	-2.7	
NJ2				PP	PP		08 28 35.8	+2.5	
NJ2				S	S		08 34 37.0	+2.9	
NJ2				XS			08 38 00.0		
NJ2				AMB	AMB				
	comp=Z,30nm,0.5s,mb5.0								
MDJ	**Mudanjiang**	**77.74**	**325**	P	**P**		**08 25 30.8**	**+1.3**	
MDJ				AP	pP		08 27 28.0	+0.2	
MDJ				XP	sP		08 28 25.0	+1.5	
MDJ				PP	PP		08 28 34.5	-1.0	
MDJ				S	S		08 34 37.5	+0.8	
MDJ				XS			08 38 08.8		
MDJ				SS	SS		08 39 55.0	-0.9	
MDJ				AMB	AMB				
	comp=Z,17nm,0.8s,mb4.4								
MDJ				AMB	AMB				
	comp=Z,27nm,3.2s								
MDJ	**Mudanjiang**	**77.74**	**325**	*e*P	**P**		**08 25 30.2**	**+0.7**	
	comp=Z,4.7nm,0.5s,mb4.1								
CMB	**Columbia Colle**	**77.91**	**43**	*e*P	**P**		**08 25 30.3**	**-0.2**	
	comp=Z,16nm,0.9s,mb4.4								
OHCM	**Honcut**	**77.94**	**42**	*e*P	**P**		**08 25 29.6**	**-1.0**	
YBH	**Yreka Blue Hor**	**78.56**	**39**	*e*P	**P**		**08 25 34.2**	**+0.3**	
	comp=Z,16nm,1.0s,mb4.3								
OMM	**Old Mammoth Mi**	**78.61**	**44**	*e*P	**P**		**08 25 34.1**	**-0.1**	
MTUM	**Tungsten Hills**	**78.75**	**45**	*e*P	**P**		**08 25 35.2**	**+0.2**	
LBCM	**Butte Creek Ri**	**78.88**	**41**	P	**P**		**08 25 36.0**	**+0.4**	
HUMO	**Hull Mountain**	**78.94**	**39**	*e*P	**P**		**08 25 36.2**	**+0.3**	
	comp=Z,16nm,1.0s,mb4.3								
BEKR	**Beckwourth**	**78.95**	**42**	*e*P	**P**		**08 25 36.0**	**0.0**	
	comp=Z,17nm,1.0s,mb4.3								
LTIM	**Timbered Crate**	**78.99**	**40**	P	**P**		**08 25 36.5**	**+0.4**	
WCN	**Washoe City**	**79.03**	**43**	*e*P	**P**		**08 25 36.7**	**+0.3**	
	comp=Z,18nm,0.9s,mb4.4								
NVAR	**Mina Array Bea**	**79.50**	**44**	P	**P**		**08 25 39.5**	**+0.6**	
	comp=Z,13nm,0.8s,mb4.3,baz=220,slow=7.8,SNR=95								
NVAR				pP	pP		08 27 40.9	+3.0	
	comp=Z,1.3nm,0.9s,baz=226,slow=8.1,SNR=4.1								
NVAR	**Mina Array Bea**	**79.50**	**44**	P	**P**		**08 25 39.5**	**+0.6**	
NVAR				pP	pP		08 27 41.0	+3.0	
CN2	**Changchun**	**79.57**	**323**	*e*P	**P**		**08 25 43.0**	**+3.9**	
MNV	**Mina**	**79.60**	**44**	*e*P	**P**		**08 25 39.5**	**0.0**	
	comp=Z,22nm,1.1s,mb4.4								
MNV				*e*pP	pP		08 27 40.2	+1.7	
LDFC	**Landfair**	**79.97**	**48**	*e*P	**P**		**08 25 41.9**	**+0.5**	
TPH	**Tonopah**	**80.04**	**45**	*e*P	**P**		**08 25 41.6**	**-0.1**	
	comp=Z,41nm,1.6s,mb4.5								
HBO	**Huckleberry Mo**	**80.04**	**38**	P	**P**		**08 25 41.8**	**+0.2**	
TPNV	**Topopah Spring**	**80.12**	**46**	*e*P	**P**		**08 25 41.4**	**-0.7**	
	comp=Z,14nm,1.2s,mb4.2								
MOD	**Modoc**	**80.13**	**40**	*e*P	**P**		**08 25 42.3**	**+0.2**	
	comp=Z,19nm,0.8s,mb4.5								
NEN	**Nelson**	**80.44**	**48**	*e*P	**P**		**08 25 44.0**	**+0.1**	
BMN	**Battle Mountai**	**81.28**	**43**	*e*P	**P**		**08 25 48.2**	**+0.2**	
	comp=Z,28nm,1.3s,mb4.5								
VFP	**Flag Point**	**81.40**	**37**	P	**P**		**08 25 48.8**	**+0.3**	
CROR	**Criterion Ridg**	**81.48**	**37**	P	**P**		**08 25 49.1**	**+0.2**	
ARUT	**Antelope Range**	**82.47**	**47**	*e*P	**P**		**08 25 54.6**	**+0.5**	
EBG	**Ellensburg**	**82.83**	**36**	P	**P**		**08 25 56.3**	**+0.6**	
RSW	**Rattlesnake Hi**	**83.09**	**37**	P	**P**		**08 25 57.6**	**+0.6**	
HAWA	**Hanford**	**83.12**	**37**	*e*P	**P**		**08 25 57.1**	**-0.1**	
	comp=Z,36nm,1.3s,mb4.7								
WTV	**Waterville**	**83.63**	**36**	P	**P**		**08 25 59.6**	**-0.1**	
MSU	**Marysvale**	**83.69**	**46**	*e*P	**P**		**08 26 00.5**	**+0.3**	
ENH	**Enshi**	**83.80**	**304**	*e*P	**P**		**08 26 01.6**	**+0.7**	
	comp=Z,6.1nm,0.5s,mb4.4								
MAW	**Mawson**	**83.98**	**200**	*e*P	**P**		**08 26 01.3**	**+0.4**	
	comp=Z,7.6nm,0.5s,mb4.5								
MAW	**Mawson**	**83.98**	**200**	P	**P**		**08 26 01.4**	**+0.5**	
	comp=Z,9.2nm,0.5s,mb4.5,baz=125,slow=6.3,SNR=24								
MAW	**Mawson**	**83.98**	**200**	P	**P**		**08 26 01.4**	**+0.5**	
MAW				pmax	pmax				
	comp=Z,9.0nm,0.5s								
DUG	**Dugway**	**84.06**	**45**	*e*P	**P**		**08 26 01.9**	**-0.1**	
	comp=Z,6.9nm,1.2s,mb4.1								
OD2	**Odessa Site #2**	**84.15**	**36**	P	**P**		**08 26 02.3**	**+0.1**	
MCK	**McKinley**	**84.37**	**13**	*e*P	**P**		**08 26 01.4**	**-1.5**	
	comp=Z,9.6nm,0.9s,mb4.3								
HLID	**Hailey**	**84.69**	**41**	*e*P	**P**		**08 26 05.2**	**+0.3**	
	comp=Z,11nm,0.9s,mb4.4								
SRU	**San Rafael**	**85.12**	**47**	*e*P	**P**		**08 26 06.9**	**-0.2**	
NEW	**Newport**	**85.53**	**36**	*e*P	**P**		**08 26 07.9**	**-1.0**	
	comp=Z,12nm,1.1s,mb4.4								
HWUT	**Hardware Ranch**	**85.57**	**44**	*e*P	**P**		**08 26 08.8**	**-0.5**	
	comp=Z,3.2nm,0.8s,mb4.0								
IMA	**Indian Mountai**	**85.58**	**10**	*e*P	**P**		**08 26 08.0**	**-0.7**	
	comp=Z,48nm,1.4s,mb4.9								
COLA	**College**	**85.60**	**13**	⇓*i*P	**P**		**08 26 08.1**	**-0.7**	
COLA	**College**	**85.60**	**13**	*e*P	**P**		**08 26 06.8**	**-2.1**	
	comp=Z,32nm,1.3s,mb4.8								
ILAR	**Eielson Array**	**85.72**	**13**	P	**P**		**08 26 08.2**	**-1.3**	
	comp=Z,4.9nm,0.7s,mb4.3,baz=228,slow=4.6,SNR=75								
ILAR				PKKPbc			08 44 07.3		
	comp=Z,0.3nm,0.5s,baz=324,slow=2.7,SNR=4.8								
BNM	**Barren Site**	**85.78**	**52**	*e*P	**P**		**08 26 10.6**	**+0.1**	
PV10	**Paradox Valley**	**85.82**	**48**	*e*P	**P**		**08 26 10.4**	**-0.2**	
BILL	**Bilibino**	**86.13**	**354**	*d i*P	**P**		**08 26 11.4**	**+0.1**	
BILL				*i* *PP	pP		08 28 12.1	-0.4	
BILL				pmax	pmax				
	comp=Z,18nm,0.9s,mb4.7								
LTX	**Lajitas**	**86.18**	**58**	*e*P	**P**		**08 26 13.6**	**+1.1**	
TXAR	**Lajitas Array**	**86.18**	**58**	P	**P**		**08 26 13.8**	**+1.3**	
	comp=Z,9.4nm,0.8s,mb4.5,baz=220,slow=6.0,SNR=130								
TXAR				PKKPbc			08 44 09.2		
	comp=Z,0.1nm,0.4s,baz=117,slow=2.8,SNR=4.7								
TXAR	**Lajitas Array**	**86.18**	**58**	P	**P**		**08 26 13.8**	**+1.3**	
TXAR				PKKPbc			08 44 09.2		
ANMO	**Albuquerque**	**86.24**	**52**	*d i*P	**P**		**08 26 13.3**	**+0.7**	
ANMO	**Albuquerque**	**86.24**	**52**	*e*P	**P**		**08 26 12.4**	**-0.2**	
	comp=Z,8.0nm,1.1s,mb4.3								
ANMO				*e*pP	pP		08 28 13.7	-0.1	
MCMT	**McKenzie Canyo**	**86.29**	**41**	*e*P	**P**		**08 26 12.9**	**+0.3**	
RW3	**Ridgway**	**86.73**	**48**	*e*P	**P**		**08 26 15.2**	**+0.3**	
TPAW	**Teton Pass**	**86.85**	**42**	*e*P	**P**		**08 26 15.5**	**+0.2**	
REDW	**Red Top Meadow**	**86.86**	**43**	*e*P	**P**		**08 26 15.1**	**-0.3**	
SNOW	**Snow King Moun**	**86.97**	**43**	*e*P	**P**		**08 26 16.2**	**+0.4**	
IMW	**Indian Meadow**	**87.05**	**42**	*e*P	**P**		**08 26 16.6**	**+0.4**	
CHMT	**Chamberlain Mo**	**87.07**	**39**	*e*P	**P**		**08 26 15.7**	**-0.5**	
LOHW	**Long Hollow**	**87.13**	**42**	*e*P	**P**		**08 26 16.6**	**0.0**	
QLMT	**Earthquake Lak**	**87.18**	**41**	*e*P	**P**		**08 26 17.2**	**+0.4**	
BW06	**Boulder Array**	**87.43**	**44**	*e*P	**P**		**08 26 17.6**	**-0.4**	
	comp=Z,16nm,1.1s,mb4.6								
PDAR	**Pinedale Array**	**87.43**	**44**	P	**P**		**08 26 18.1**	**0.0**	
	comp=Z,7.2nm,0.8s,mb4.4,baz=215,slow=3.2,SNR=58								
PDAR				pP	pP		08 28 24.6	+5.0	
	comp=Z,0.8nm,0.8s,baz=247,slow=3.2,SNR=4.8								
PDAR				PP	PP		08 29 50.6	-3.7	
	comp=Z,1.6nm,1.0s,baz=243,slow=6.6,SNR=7.5								
BOZ	**Bozeman (W)**	**87.44**	**40**	*e*P	**P**		**08 26 18.0**	**0.0**	
	comp=Z,21nm,1.5s,mb4.5								
CPRX	**Cap Rock**	**87.44**	**54**	*e*P	**P**		**08 26 17.8**	**-0.5**	
HRY	**Holter Researc**	**87.82**	**39**	*e*P	**P**		**08 26 19.6**	**-0.2**	
CMAR	**Chiang Mai Arr**	**88.43**	**290**	P	**P**		**08 26 25.0**	**+1.8**	
	comp=Z,3.4nm,0.9s,mb4.1,baz=110,slow=3.0,SNR=13								
CMAR	**Chiang Mai Arr**	**88.43**	**290**	P	**P**		**08 26 25.0**	**+1.8**	
CMAR				pmax	pmax				
	comp=Z,3.0nm,0.9s								
SYO	**Syowa Base**	**89.33**	**193**	⇑P	**P**		**08 26 25.1**	**-1.2**	
SYO	**Syowa Base**	**89.33**	**193**	⇓PcP	PcP		08 26 27.5	+0.1	
SYO	**Syowa Base**	**89.33**	**193**	⇓pP	pP		08 28 26.2	-2.2	
LZH	**Lanzhou**	**90.42**	**308**	*e*P	**P**		**08 26 34.0**	**+1.9**	
LZH				AP	pP		08 28 35.0	+0.6	
LZH				XP	sP		08 29 29.5	+0.3	
LZH				PP	PP		08 30 21.0	+2.9	
LZH				AMB	AMB				
	comp=Z,10.0nm,1.0s,mb4.6								
SNAA	**Sanae**	**90.87**	**179**	⇓*i*P	**P**		**08 26 32.7**	**-0.7**	
SNAA	**Sanae**	**90.87**	**179**	*d i*P	**P**		**08 26 32.6**	**-0.8**	
SNAA	**Sanae**	**90.87**	**179**	*e*P	**P**		**08 26 32.4**	**-1.0**	
	comp=Z,6.7nm,0.5s,mb4.8								
VNA3	**Neumayer Olymp**	**91.03**	**177**	⇑*i*P	**P**		**08 26 36.1**	**+2.0**	
VNA2	**Neumayer--Watz**	**91.47**	**177**	⇓*i*P	**P**		**08 26 37.2**	**+1.1**	
RSSD	**Black Hills**	**91.64**	**44**	*e*P	**P**		**08 26 37.5**	**0.0**	
	comp=Z,7.9nm,1.0s,mb4.7								
VNA1	**Neumayer--Stat**	**91.69**	**177**	⇓*i*P	**P**		**08 26 39.2**	**+2.1**	
INK	**Inuvik**	**91.73**	**15**	*e*P	**P**		**08 26 36.4**	**-0.9**	
	comp=Z,10nm,1.0s,mb4.8								
WMOK	**Wichita Mounta**	**92.00**	**54**	P	**P**		**08 26 38.7**	**-0.7**	
DGMT	**Dagmar**	**93.24**	**40**	*e*P	**P**		**08 26 44.7**	**-0.1**	
	comp=Z,26nm,0.9s,mb5.3								
YKA	**Yellowknife Ar**	**94.25**	**25**	P	**P**		**08 26 48.4**	**-0.5**	
	comp=Z,2.6nm,0.8s,mb4.4,baz=240,slow=4.4,SNR=9.2								
YKA	**Yellowknife Ar**	**94.25**	**25**	P	**P**		**08 26 48.4**	**-0.6**	
YKA				pmax	pmax				
	comp=Z,3.0nm,0.8s								
YKA	**Yellowknife Ar**	**94.25**	**25**	P	**P**		**08 26 48.4**	**-0.5**	
TIXI	**Tiksi**	**95.80**	**345**	⇓*i*P	**P**		**08 26 55.0**	**-0.8**	
TIXI				pmax	pmax				
	comp=Z,2.0nm,0.7s,mb4.5								
KURK	**Kurchatov**	**111.37**	**318**	*e*PKP	PKPdf		08 31 59.4	+0.3	
ARCES	**ARCESS Array B**	**125.98**	**350**	PKP	PKPdf		08 32 26.9	-0.1	
	comp=Z,5.0nm,0.9s,baz=45,slow=1.7,SNR=9.4								
ARCES	**ARCESS Array B**	**125.98**	**350**	PKIKP	PKPdf		08 32 26.9	-0.1	
ARCES				pmax	pmax				
	comp=Z,5.0nm,0.9s								
FINES	**FINESS Array B**	**132.82**	**344**	PKP	PKPdf		08 32 40.8	+0.7	
	comp=Z,1.6nm,0.6s,baz=41,slow=4.7,SNR=9.9								
FINES				SKPbc			08 35 16.9		
	comp=Z,4.1nm,0.8s,SNR=8.7								
FINES	**FINESS Array B**	**132.82**	**344**	PKIKP	PKPdf		08 32 40.8	+0.6	
FINES							08 35 16.9		
FINES				pmax	pmax				
	comp=Z,2.0nm,0.6s								
FINES				pmax	pmax				
	comp=Z,4.0nm,0.8s								
FINES	**FINESS Array B**	**132.82**	**344**	PKP	PKPdf		08 32 40.8	+0.7	
FINES				SKPbc			08 35 16.9		
OBN	**Obninsk**	**133.88**	**333**	*i* PKHKP			08 32 30.5		
OBN				*e*			08 35 21.7		
OBN				pmax	pmax				
	comp=Z,6.0nm,0.6s								
NOA	**NORSAR Array B**	**136.06**	**353**	PKP	PKPdf		08 32 46.8	+0.7	
	comp=Z,0.8nm,0.6s,baz=14,slow=3.7,SNR=3.9								
NOA				SKPbc			08 35 27.9		
	comp=Z,2.1nm,0.9s,baz=13,slow=4.6,SNR=3.4								
NOA	**NORSAR Array B**	**136.06**	**353**	PKIKP	PKPdf		08 32 46.8	+0.7	
NOA				pmax	pmax				
	comp=Z,1.0nm,0.6s								
NOA				pmax	pmax				
	comp=Z,2.0nm,0.9s								
LSZ	**Lusaka**	**137.82**	**221**	*e*PKPdf	PKPdf		08 32 52.6	+2.0	
SOC	**Sochi**	**138.50**	**317**	*i* PKIKP	PKPdf		08 32 52.5	+1.4	
SOC				*e*			08 35 53.9		
SOC				*e*PPP	PPP		08 38 56.1	-3.7	
SOC				pmax	pmax				
	comp=Z,12nm,0.6s								
SOC				pmax	pmax				
	comp=N,15nm,0.7s								
SOC				pmax	pmax				
	comp=E,13nm,0.6s								
AKASG	**Malin Array Be**	**140.14**	**332**	PKhKP			08 32 47.3		
	comp=E,0.9nm,0.3s,baz=40,slow=4.1,SNR=6.9								
AKASG				PKP	PKPdf		08 32 55.2	+1.3	
	comp=E,1.4nm,0.4s,baz=40,slow=3.3,SNR=6.8								
AKASG	**Malin Array Be**	**140.14**	**332**	*i* PKHKP			08 32 47.3		
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.3s								
MALT	**Malatya**	**141.54**	**310**	*e*PKPdf	PKPdf		08 32 57.0	+0.3	
LTHS	**Al Lith**	**142.86**	**280**	P	PKPdf		08 32 59.4	0.0	
BSEG	**Bad Segeberg**	**143.09**	**351**	*e*PKHKP			08 32 57.8		
KWP	**Kalwaria**	**143.67**	**336**	*e*PKPdf	PKPdf		08 32 59.7	-0.2	
KBRS	**Khaybar**	**143.80**	**290**	P	PKPbc		08 33 02.1	+1.7	
OJC	**Ojcow**	**144.23**	**339**	*e*PKIKP	PKPdf		08 33 01.8	+1.0	
OJC	**Ojcow**	**144.23**	**339**	*e*PKP	PKPdf		08 33 01.8	+1.0	
BRTR	**Keskin Array B**	**144.32**	**315**	PKP	PKPdf		08 33 02.4	+1.0	
	comp=Z,7.9nm,0.8s,baz=128,slow=3.4,SNR=36								
BRTR	**Keskin Array B**	**144.32**	**315**	PKIKP	PKPdf		08 33 02.4	+1.0	
BRTR				pmax	pmax				
	comp=Z,8.0nm,0.8s								
KOLS	**Kolonicke sedl**	**144.40**	**336**	*e*PKP	PKPdf		08 33 03.1	+1.9	
KOLS				*e*			08 33 08.5		
KOLS				*e*			08 33 11.9		
ASF	**Jabal al Asfar**	**144.70**	**301**	PKP	PKPdf		08 33 04.5	+2.3	
	comp=Z,10nm,1.0s,baz=249,slow=0.5,SNR=9.1								
CRVS	**Cervenica-Dubn**	**144.74**	**337**	*e*PKP	PKPdf		08 33 05.0	+3.2	
KSP	**Ksiaz**	**144.74**	**343**	⇑*e*PKIKP	PKPdf		08 33 03.9	+2.2	
YNBS	**Yanbu' al Bahr**	**145.07**	**287**	P	PKPdf		08 33 07.4	+4.2	
OKC	**Ostrava-Krasne**	**145.09**	**341**	*e*PKP	PKPdf		08 33 04.8	+2.4	
CLZ	**Clausthal**	**145.11**	**350**	*e*PKPbc	PKPbc		08 33 04.8	+1.5	
CLL	**Collm**	**145.12**	**347**	⇑*i*PKP1	PKPbc		08 33 04.6	+1.3	
CLL	**Collm**	**145.12**	**347**	*i* PKIKP	PKPdf		08 33 04.6	+2.2	
CLL				pmax	pmax				
	comp=Z,28nm,0.7s								
UPC	**Upice**	**145.12**	**343**	*e*PKP	PKPdf		08 33 05.0	+2.6	
DPC	**Dobruska-Polom**	**145.18**	**343**	*e*PKP	PKPdf		08 33 05.2	+2.7	
MORC	**Moravsky Berou**	**145.33**	**341**	*e*PKPdf	PKPbc		08 33 04.7	+1.9	
MLR	**Muntele Rosu**	**145.40**	**329**	PKPbc	PKPbc		08 33 05.6	+1.4	
	comp=Z,4.3nm,0.5s,baz=14,slow=5.1,SNR=12								
MLR	**Muntele Rosu**	**145.40**	**329**	PKIKP	PKPdf		08 33 05.6	+2.5	
MLR				pmax	pmax				
	comp=Z,4.0nm,0.5s								
KECS	**Kecovo**	**145.45**	**337**	*e*PKP	PKPdf		08 33 05.8	+2.8	
PVCC	**Panska Ves**	**145.48**	**345**	*e*PKP	PKPdf		08 33 06.1	+3.1	
UMJS	**Umm Lajj**	**145.61**	**289**	P	PKPdf		08 33 08.2	+4.2	
MBAR	**Mbarara**	**145.72**	**241**	*d i*PKIKP	PKPdf		08 33 07.0	+2.4	
MBAR	**Mbarara**	**145.72**	**241**	*e*PKPbc	PKPbc		08 33 06.7	+0.8	
TBKS	**Tabuk**	**145.88**	**294**	P	PKPdf		08 33 08.1	+3.7	
PRU	**Pruhonice**	**145.99**	**345**	*e*PKP	PKPdf		08 33 07.1	+3.2	
PRU				*ex*	x		08 33 09.2		
VYHS	**Vyhne**	**146.03**	**339**	*i* PKP	PKPdf		08 33 07.6	+3.6	
PSZ	**Piszkesteto**	**146.14**	**337**	*e*PKPbc	PKPbc		08 33 07.7	+1.8	
JMQS	**Jabal Moqyreh**	**146.33**	**296**	P	PKPdf		08 33 09.9	+4.7	
CSS	**Prodhromos**	**146.61**	**307**	*e*PKPbc	PKPbc		08 33 09.1	+1.7	
CSS				*e*PKPab	PKPab		08 33 11.6	-1.8	
ZST	**Bratislava**	**146.86**	**340**	*e*PKP	PKPdf		08 33 10.3	+4.9	
JMOS	**Jabal al Moall**	**146.93**	**297**	P	PKPdf		08 33 09.5	+3.4	
ALWS	**Ilw as Safayha**	**146.94**	**297**	P	PKPdf		08 33 10.6	+4.5	
EIL	**Elat**	**146.95**	**297**	*e*PKPbc	PKPbc		08 33 10.1	+1.7	
AYUS	**'Aynunah**	**147.00**	**295**	P	PKPdf		08 33 10.7	+4.4	
GRA1	**Grafenberg Arr**	**147.01**	**348**	*e*PKPbc	PKPdf		08 33 10.3	+4.7	
GRF	**Grafenberg Arr**	**147.01**	**348**	*e*PKIKP	PKPdf		08 33 10.3	+4.7	
KHC	**Kasperske Hory**	**147.02**	**345**	*e*PKP	PKPdf		08 33 10.2	+4.6	
KHC				*ex*	x		08 33 13.5		
BDAS	**Al Bad'**	**147.09**	**295**	P	PKPdf		08 33 11.1	+4.7	
HAQS	**Haql**	**147.11**	**296**	P	PKPdf		08 33 11.2	+4.7	
WET	**Wettzell**	**147.18**	**346**	*e*PKIKP	PKPdf		08 33 10.3	+4.4	
GEC2	**GERESS Array S**	**147.25**	**345**	*e*PKIKP	PKPdf		08 33 10.7	+4.7	
GERES	**GERESS Array B**	**147.25**	**345**	PKPbc	PKPdf		08 33 10.8	+4.8	
	comp=Z,8.4nm,0.5s,baz=27,slow=3.0,SNR=53								
GERES	**GERESS Array B**	**147.25**	**345**	PKIKP	PKPdf		08 33 10.8	+4.8	
GERES				pmax	pmax				
	comp=Z,8.0nm,0.5s								
TAYS	**Tayyib Ism**	**147.27**	**296**	P	PKPdf		08 33 12.2	+5.5	
GIVF	**Givet**	**147.48**	**356**	*e*PKP1	PKPdf		08 33 10.9	+4.6	
	comp=Z,49nm,0.8s								
BAIF	**Baives**	**147.57**	**356**	*e*PKP1	PKPdf		08 33 11.3	+4.8	
	comp=Z,30nm,0.7s								
FUR	**Furstenfeldbru**	**148.46**	**347**	*e*PKHKP			08 33 13.8		
BFO	**Black Forest**	**148.84**	**351**	*e*PKHKP			08 33 14.5		
PERS	**Pernice**	**148.87**	**341**	*i* PKPbc	PKPdf		08 33 14.1	+5.5	
CDF	**Champ du Feu**	**148.91**	**352**	*e*PKP1	PKPdf		08 33 14.6	+6.0	
	comp=Z,14nm,0.5s								
FLN	**La Foliniere**	**148.93**	**2**	*e*PKP1	PKPdf		08 33 14.2	+5.6	
	comp=Z,29nm,0.6s								
KBA	**Koelnbreinsper**	**148.98**	**344**	⇑*i*P	PKPdf		08 33 14.3	+5.5	
MEZF	**Maizieres J'vi**	**149.06**	**355**	*e*PKP1	PKPdf		08 33 15.1	+6.2	
GRUS	**Gruza**	**149.07**	**332**	⇓*i*P	PKPdf		08 33 15.3	+6.2	
LDF	**La Druitiere**	**149.11**	**2**	*e*PKP1	PKPdf		08 33 14.5	+5.6	
	comp=Z,21nm,0.6s								
WATA	**Walderalm**	**149.17**	**346**	⇑*i*P	PKPdf		08 33 15.2	+6.1	
WTTA	**Wattenberg**	**149.23**	**346**	⇑*i*P	PKPdf		08 33 15.6	+6.4	
GRR	**Gorron**	**149.29**	**3**	*e*PKP1	PKPdf		08 33 15.2	+6.0	
	comp=Z,26nm,0.5s								
SGMF	**Saint Gilles**	**149.31**	**5**	*e*PKP1	PKPdf		08 33 15.0	+5.7	
SQTA	**Sankt Quirin**	**149.37**	**347**	⇑*i*P	PKPdf		08 33 15.9	+6.5	
HAU	**Haudompre**	**149.42**	**353**	*e*PKP1	PKPdf		08 33 15.6	+6.1	
	comp=Z,16nm,0.6s								
HINF	**Hinteralfeld**	**149.55**	**352**	*e*PKP1	PKPdf		08 33 15.7	+6.0	
DAVA	**Damuels**	**149.58**	**348**	⇑*i*P	PKPdf		08 33 15.9	+6.2	
LJU	**Ljubljana**	**149.58**	**341**	*i* PKPbc	PKPdf		08 33 16.3	+6.5	
BOJS	**Bojanci**	**149.84**	**340**	*e*PKPbc	PKPdf		08 33 17.2	+6.9	
CEY	**Cerknica**	**149.89**	**341**	*e*PKPbc	PKPdf		08 33 16.8	+6.5	
CEY				*e*PKPab	PKPab		08 33 25.0	-1.2	
LOR	**Lormes**	**150.37**	**356**	*e*PKP1	PKPdf		08 33 18.0	+7.0	
	comp=Z,40nm,0.6s								
SSF	**Saint Saulge**	**150.60**	**357**	*e*PKP1	PKPdf		08 33 18.6	+7.3	
	comp=Z,30nm,0.6s								
CABF	**La Chapelle**	**150.83**	**353**	*e*PKP1	PKPdf		08 33 19.6	+7.9	
	comp=Z,31nm,0.9s								
MFF	**Saint Martin d**	**151.10**	**2**	*e*PKP1	PKPdf		08 33 19.4	+7.3	
BGF	**Bois d'Agland**	**151.13**	**358**	*e*PKP1	PKPdf		08 33 19.6	+7.5	
	comp=Z,20nm,0.6s								
TCF	**Toulx Ste Croi**	**151.42**	**359**	*e*PKP1	PKPdf		08 33 20.1	+7.6	
	comp=Z,17nm,0.8s								
TIP	**Timpagrande**	**154.61**	**331**	*e*PKPbc	PKPdf		08 33 27.6	+10	
ESDC	**Sonseca Array**	**157.59**	**10**	PKPab	PKPab		08 33 57.5	-1.5	
	comp=Z,0.2nm,0.3s,baz=342,slow=4.7,SNR=4.2								
DBIC	**Dimbokro**	**167.61**	**151**	PKP	PKPdf		08 33 31.9	+0.5	
	comp=Z,2.2nm,0.8s,baz=207,slow=2.3,SNR=3.5								

BDFB					pmax	pmax			
	comp=Z,52nm,0.6s								
BDFB					MLR	MLR			
	comp=Z,1μm,19.9s								
BAO	**Brasilia Array**	**22.89**	**54**	*i* P	**P**		**09 00 44.5**	**+3.2**	
BAO				*e*			09 06 44.2		
CAM4	**Nova Friburgo**	**23.34**	**75**	*e*P	**P**		**09 00 50.2**	**+4.6**	
CAM4				*i*			09 00 53.7		
CAM4				*i*			09 00 59.0		
CAM4				*i*			09 01 08.8		
CAM4	**Nova Friburgo**	**23.34**	**75**	*e*P	**P**		**09 00 50.2**	**+4.6**	
CAM4				*i*			09 00 53.7		
CAM4				*i*			09 00 59.0		
CAM4				*i*			09 01 08.8		
USHA	**Ushuaia**	**24.32**	**182**	P	**P**		**09 00 54.5**	**-0.3**	
	comp=Z,40nm,0.8s,mb4.9,baz=310,slow=9.5,SNR=17								
USHA				LR	LR		09 10 51.1		
	comp=Z,504nm,20.0s,MS4.0,baz=178,slow=38								
OTAV	**Otavalo**	**32.46**	**338**	P	**P**		**09 02 10.3**	**+1.4**	
	comp=Z,2.7nm,0.8s,mb4.1								
PMSA	**Palmer Station**	**34.33**	**178**	*e*P	**P**		**09 02 22.3**	**-2.3**	
	comp=Z,19nm,0.8s,mb5.1								
SDV	**Santo Domingo**	**39.33**	**354**	*e*P	**P**		**09 03 06.8**	**-0.6**	
	comp=Z,4.4nm,0.4s,mb4.5								
SJG	**San Juan**	**48.36**	**1**	*e*P	**P**		**09 04 18.9**	**-1.2**	
	comp=Z,12nm,0.3s,mb5.4								
SJG				*e*	pP		09 04 25.8	-1.6	
VNA3	**Neumayer Olymp**	**51.05**	**159**	*e*	**P**		**09 04 45.8**	**+5.8**	
VNA3	**Neumayer Olymp**	**51.05**	**159**	*e*	**P**		**09 04 48.8**	**+8.8**	
VNA3	**Neumayer Olymp**	**51.05**	**159**	⇑*i*P	**P**		**09 04 41.7**	**+1.7**	
VNA3				*e*			09 04 45.8		
VNA3				*e*	pP		09 04 48.8	+1.4	
VNA3				*e*			09 05 50.6		
VNA1	**Neumayer--Stat**	**51.28**	**159**	*e*	**P**		**09 04 47.9**	**+6.1**	
VNA1	**Neumayer--Stat**	**51.28**	**159**	*e*	**P**		**09 04 51.0**	**+9.2**	
VNA1	**Neumayer--Stat**	**51.28**	**159**	⇑*i*P	**P**		**09 04 43.9**	**+2.1**	
VNA1				*e*			09 04 47.9		
VNA1				*e*	pP		09 04 51.0	+1.8	
VNA1				*e*			09 05 52.9		
VNA2	**Neumayer--Watz**	**51.64**	**159**	*e*	**P**		**09 04 50.5**	**+6.0**	
VNA2	**Neumayer--Watz**	**51.64**	**159**	*e*	**P**		**09 04 53.5**	**+9.0**	
VNA2	**Neumayer--Watz**	**51.64**	**159**	⇑*i*P	**P**		**09 04 46.3**	**+1.8**	
VNA2				*e*			09 04 50.5		
VNA2				*e*	pP		09 04 53.5	+1.6	
VNA2				*e*			09 05 55.7		
SNAA	**Sanae**	**53.26**	**159**	⇑*i*P	**P**		**09 04 55.8**	**-0.8**	
SNAA	**Sanae**	**53.26**	**159**	*e*	**P**		**09 04 59.7**	**+3.1**	
SNAA	**Sanae**	**53.26**	**159**	*e*	**P**		**09 05 02.7**	**+6.1**	
SNAA	**Sanae**	**53.26**	**159**	P	**P**		**09 04 55.9**	**-0.7**	
	comp=Z,7.6nm,0.9s,mb4.6,baz=286,slow=6.1,SNR=72								
SNAA				sP	sP		09 05 06.7	-0.2	
	comp=Z,8.7nm,0.7s,baz=274,slow=6.6,SNR=19								
SNAA	**Sanae**	**53.26**	**159**	P	**P**		**09 04 55.9**	**-0.7**	
SNAA				*SP	sP		09 05 06.7	-0.2	
SNAA				pmax	pmax				
	comp=Z,8.0nm,0.9s								
SNAA				pmax	pmax				
	comp=Z,9.0nm,0.7s								
SNAA	**Sanae**	**53.26**	**159**	*e*P	**P**		**09 04 55.7**	**-0.9**	
	comp=Z,15nm,0.5s,mb5.2								
SNAA				*e*pP	pP		09 05 03.5	-0.6	
SNAA				*e*sP	sP		09 05 06.6	-0.3	
QSPA	**South Pole Qui**	**59.71**	**180**	⇑*i*P	**P**		**09 05 41.6**	**-1.0**	
	comp=Z,24nm,0.7s,mb5.3								
SBA	**Scott Base**	**67.30**	**191**	*e*P	**P**		**09 06 31.6**	**-0.9**	
	comp=Z,6.2nm,0.9s,mb4.6								
SYO	**Syowa Base**	**67.52**	**158**	⇓P	**P**		**09 06 32.5**	**-1.4**	
SYO	**Syowa Base**	**67.52**	**158**	⇓pP	pP		09 06 37.6	-3.9	
SYO	**Syowa Base**	**67.52**	**158**	⇓PcP	sP		09 06 44.2	0.0	
SYO	**Syowa Base**	**67.52**	**158**	⇑PcP	PcP		09 06 56.5	-4.6	
JCT	**Junction City**	**68.19**	**330**	*e*P	**P**		**09 06 37.6**	**-1.3**	
	comp=Z,8.2nm,0.6s,mb4.9								
JCT				*e*pP	pP		09 06 45.5	-0.9	
VNDA	**Vanda**	**68.30**	**190**	P	**P**		**09 06 38.2**	**-0.5**	
	comp=Z,5.5nm,0.8s,mb4.6,baz=138,slow=5.2,SNR=28								
VNDA				LR	LR		09 38 50.4		
	comp=Z,62nm,19.3s,MS3.9,baz=160,slow=38								
VNDA	**Vanda**	**68.30**	**190**	P	**P**		**09 06 38.3**	**-0.4**	
VNDA				pmax	pmax				
	comp=Z,6.0nm,0.9s								
VNDA				MLR	MLR				
	comp=Z,62nm,19.3s								
VNDA	**Vanda**	**68.30**	**190**	*e*P	**P**		**09 06 37.5**	**-1.2**	
	comp=Z,6.7nm,1.0s,mb4.6								
LTX	**Lajitas**	**69.00**	**326**	*e*P	**P**		**09 06 43.2**	**-0.6**	
LTX				*e*pP	pP		09 06 50.1	-1.2	
TXAR	**Lajitas Array**	**69.00**	**326**	P	**P**		**09 06 43.3**	**-0.5**	
	comp=Z,7.0nm,1.1s,mb4.5,baz=153,slow=8.2,SNR=39								
TXAR				pP	pP		09 06 50.9	-0.5	
	comp=Z,3.7nm,0.6s,baz=156,slow=7.8,SNR=19								
TXAR				LR	LR		09 34 12.1		
	comp=Z,64nm,18.0s,MS3.9,baz=185,slow=34								
WVT	**Waverly**	**69.11**	**342**	*e*P	**P**		**09 06 42.9**	**-1.5**	
	comp=Z,30nm,1.1s,mb5.1								
WVT				*e*pP	pP		09 06 50.5	-1.5	
LIC	**Lamto**	**69.62**	**69**	*e*P	**P**		**09 06 49.2**	**+1.3**	
	comp=Z,48nm,0.9s,mb5.4								
TIC	**Toumodi**	**69.87**	**69**	*e*P	**P**		**09 06 50.7**	**+1.3**	
	comp=Z,8.4nm,0.2s,mb5.3								
PVMO	**Portageville**	**69.90**	**341**	*e*P	**P**		**09 06 49.1**	**-0.1**	
KIC	**Kosan Boka**	**69.93**	**70**	*e*P	**P**		**09 06 51.2**	**+1.5**	
	comp=Z,72nm,0.9s,mb5.6								
DBIC	**Dimbokro**	**70.02**	**69**	P	**P**		**09 06 51.9**	**+1.6**	
	comp=Z,11nm,0.8s,mb4.8,baz=219,slow=7.3,SNR=13								
DBIC				LR	LR		09 34 06.7		
	comp=Z,221nm,21.7s,MS4.4,baz=224,slow=33								
WMOK	**Wichita Mounta**	**71.47**	**333**	*e*P	**P**		**09 06 57.3**	**-1.4**	
	comp=Z,4.5nm,1.0s,mb4.3								
WMOK				*e*pP	pP		09 07 05.0	-1.3	
FVM	**French Village**	**71.57**	**341**	*e*P	**P**		**09 06 57.9**	**-1.3**	
	comp=Z,25nm,1.2s,mb5.0								
FVM				*e*pP	pP		09 07 05.5	-1.3	
BLO	**Bloomington**	**71.67**	**344**	*e*P	**P**		**09 06 58.6**	**-1.3**	
	comp=Z,6.5nm,0.6s,mb4.7								
GDL2	**Guadalupe Moun**	**71.71**	**327**	*e*P	**P**		**09 06 59.6**	**-0.6**	
CCM	**Cathedral Cave**	**71.87**	**340**	*e*P	**P**		**09 06 59.5**	**-1.6**	
CCM				*e*pP	pP		09 07 07.1	-1.6	
SUR	**Sutherland**	**72.74**	**118**	*e*P	**P**		**09 07 08.3**	**+2.0**	
	comp=Z,20nm,0.6s,mb5.2								
BNM	**Barren Site**	**74.39**	**327**	*e*P	**P**		**09 07 16.2**	**+0.3**	
LPM	**Los Pinos Moun**	**74.52**	**327**	*e*P	**P**		**09 07 17.0**	**+0.3**	
LPM				*e*pP	pP		09 07 24.0	-0.3	
ANMO	**Albuquerque**	**74.96**	**327**	*e*P	**P**		**09 07 19.2**	**+0.1**	
	comp=Z,7.8nm,1.1s,mb4.5								
ANMO				*e*pP	pP		09 07 26.7	-0.1	
TUC	**Tucson**	**74.98**	**323**	*e*P	**P**		**09 07 19.3**	**0.0**	
	comp=Z,4.1nm,1.0s,mb4.3								
TUC				*e*pP	pP		09 07 26.6	-0.5	
MAW	**Mawson**	**75.25**	**162**	⇑*i*P	**P**		**09 07 19.9**	**-0.3**	
	comp=Z,15nm,0.9s,mb4.9								
MAW				*i*			09 07 30.9		
MAW	**Mawson**	**75.25**	**162**	P	**P**		**09 07 20.1**	**-0.1**	
	comp=Z,17nm,0.7s,mb5.1,baz=218,slow=6.8,SNR=43								
MAW				pP	pP		09 07 27.9	+0.1	
	comp=Z,11nm,0.6s,baz=217,slow=5.9,SNR=10.0								
MAW				sP	sP		09 07 31.2	+0.7	
	comp=Z,11nm,0.6s,baz=213,slow=5.7,SNR=10.0								
MAW				LR	LR		09 41 30.2		
	comp=Z,144nm,21.4s,MS4.2,baz=242,slow=37								
MAW	**Mawson**	**75.25**	**162**	P	**P**		**09 07 20.1**	**-0.1**	
MAW				*PP	pP		09 07 27.9	+0.1	
MAW				*SP	sP		09 07 31.2	+0.7	
MAW				pmax	pmax				
	comp=Z,17nm,0.7s								
MAW				pmax	pmax				
	comp=Z,11nm,0.6s								
MAW				pmax	pmax				
	comp=Z,11nm,0.6s								
MAW				MLR	MLR				
	comp=Z,144nm,21.4s								
MAW	**Mawson**	**75.25**	**162**	⇑*i*P	**P**		**09 07 19.9**	**-0.3**	
	comp=Z,15nm,0.9s,mb4.9								
MAW				*e*pP	pP		09 07 27.9	+0.1	
MAW				*e*sP	sP		09 07 30.7	+0.2	
MAW				*i*			09 07 30.9		
SDCO	**Great Sand Dun**	**76.84**	**330**	*e*P	**P**		**09 07 30.0**	**+0.2**	
	comp=Z,3.0nm,0.6s,mb4.4								
SDCO				*e*pP	pP		09 07 37.8	+0.4	
RW3	**Ridgway**	**78.23**	**328**	*e*P	**P**		**09 07 37.6**	**+0.2**	
RW3				*e*pP	pP		09 07 45.8	+0.7	
ISCO	**Idaho Springs**	**78.60**	**331**	*e*P	**P**		**09 07 40.0**	**+0.6**	
	comp=Z,10nm,0.9s,mb4.8								
ISCO				*e*pP	pP		09 07 47.0	-0.1	
PV10	**Paradox Valley**	**78.95**	**328**	*e*P	**P**		**09 07 40.7**	**-0.6**	
NEN	**Nelson**	**79.70**	**322**	*e*P	**P**		**09 07 45.2**	**-0.3**	
NEN				*e*pP	pP		09 07 52.0	-1.2	
SRU	**San Rafael**	**80.23**	**327**	*e*P	**P**		**09 07 48.1**	**-0.1**	
SRU				*e*pP	pP		09 07 56.1	+0.2	
MSU	**Marysvale**	**80.55**	**326**	*e*P	**P**		**09 07 50.2**	**+0.3**	
MVU	**Marysvale**	**80.56**	**326**	*e*P	**P**		**09 07 50.2**	**+0.2**	
	comp=Z,1.6nm,0.7s,mb4.1								
MVU				*e*pP	pP		09 07 57.9	+0.2	
ARUT	**Antelope Range**	**80.61**	**324**	*e*P	**P**		**09 07 50.6**	**+0.4**	
RWWY	**Rawlins**	**80.85**	**331**	*e*P	**P**		**09 07 51.9**	**+0.5**	
RWWY				*e*pP	pP		09 07 59.4	+0.2	
TPNV	**Topopah Spring**	**81.42**	**322**	*e*P	**P**		**09 07 54.6**	**+0.1**	
	comp=Z,8.9nm,0.9s,mb4.7								
TPNV				*e*pP	pP		09 08 02.5	+0.2	
MPU	**Maple Canyon**	**81.47**	**327**	*e*P	**P**		**09 07 54.3**	**-0.4**	
RSSD	**Black Hills**	**81.61**	**334**	*e*P	**P**		**09 07 55.9**	**+0.6**	
	comp=Z,5.3nm,0.8s,mb4.5								
RSSD				*e*pP	pP		09 08 03.5	+0.3	
JLU	**Jordanelle**	**81.85**	**327**	*e*P	**P**		**09 07 56.8**	**+0.1**	
DUG	**Dugway**	**82.17**	**326**	*e*P	**P**		**09 07 58.2**	**-0.1**	
	comp=Z,3.6nm,0.8s,mb4.3								
DUG				*e*pP	pP		09 08 06.8	+0.7	
HWUT	**Hardware Ranch**	**82.70**	**328**	*e*P	**P**		**09 08 00.5**	**-0.5**	
	comp=Z,17nm,1.4s,mb4.9								
BW06	**Boulder Array**	**82.73**	**330**	*e*P	**P**		**09 08 00.8**	**-0.4**	
	comp=Z,5.1nm,0.9s,mb4.5								
BW06				*e*pP	pP		09 08 08.9	-0.1	
PDAR	**Pinedale Array**	**82.73**	**330**	P	**P**		**09 08 01.2**	**0.0**	
	comp=Z,4.7nm,0.9s,mb4.5,baz=125,slow=7.1,SNR=28								
PDAR				pP	pP		09 08 09.4	+0.5	
	comp=Z,5.6nm,0.8s,baz=128,slow=6.3,SNR=19								
PDAR				LR	LR		09 41 32.4		
	comp=Z,67nm,20.0s,MS4.0,baz=346,slow=33								
TPH	**Tonopah**	**82.77**	**322**	P	**P**		**09 08 01.6**	**0.0**	
	comp=Z,12nm,1.3s,mb4.8								
CASY	**Casey**	**83.49**	**179**	⇑*i*P	**P**		**09 08 04.5**	**-0.1**	
NVAR	**Mina Array Bea**	**83.61**	**322**	P	**P**		**09 08 06.4**	**+0.6**	
	comp=Z,1.1nm,0.8s,mb4.0,baz=162,slow=5.7,SNR=8.4								
NVAR				pP	pP		09 08 14.1	+0.5	
	comp=Z,0.3nm,0.5s,baz=164,slow=6.6,SNR=11								
NVAR				LR	LR		09 38 57.2		
	comp=Z,75nm,20.1s,MS4.1,baz=85,slow=31								
TPAW	**Teton Pass**	**83.92**	**329**	*e*P	**P**		**09 08 07.8**	**+0.5**	
MOOW	**Moose Ponds**	**84.04**	**330**	*e*P	**P**		**09 08 08.0**	**+0.2**	
MOOW				*e*pP	pP		09 08 16.0	+0.4	
IMW	**Indian Meadow**	**84.24**	**330**	*e*P	**P**		**09 08 09.0**	**+0.1**	
ULM	**Lac du Bonnet**	**84.38**	**342**	P	**P**		**09 08 08.2**	**-1.2**	
	comp=Z,4.3nm,0.6s,mb4.8,baz=108,slow=1.7,SNR=6.4								
ULM				pP	pP		09 08 17.4	+0.2	
	comp=Z,4.2nm,0.7s,baz=162,slow=2.9,SNR=6.2								
ULM				LR	LR		09 46 24.0		
	comp=Z,70nm,19.0s,MS4.1,baz=326,slow=36								
SCHQ	**Schefferville**	**85.00**	**0**	P	**P**		**09 08 13.1**	**+0.8**	
	comp=Z,13nm,1.1s,mb5.0,baz=231,slow=6.5,SNR=4.3								
SCHQ				LR	LR		09 49 37.4		
	comp=Z,102nm,18.4s,MS4.2,baz=340,slow=38								
DGMT	**Dagmar**	**85.38**	**336**	*e*P	**P**		**09 08 14.8**	**+0.3**	
DGMT				*e*pP	pP		09 08 22.4	+0.2	
HLID	**Hailey**	**85.54**	**328**	*e*P	**P**		**09 08 15.7**	**+0.4**	
	comp=Z,11nm,1.0s,mb5.0								
HLID				*e*pP	pP		09 08 23.3	+0.2	
MCMT	**McKenzie Canyo**	**85.81**	**329**	*e*P	**P**		**09 08 17.8**	**+1.2**	
MCMT				*e*pP	pP		09 08 25.7	+1.2	
BOZ	**Bozeman (W)**	**85.93**	**330**	*e*P	**P**		**09 08 16.9**	**-0.4**	
	comp=Z,1.3nm,0.5s,mb4.4								
BOZ				*e*pP	pP		09 08 25.2	+0.2	
LSZ	**Lusaka**	**86.77**	**106**	*e*P	**P**		**09 08 24.7**	**+2.7**	
	comp=Z,5.3nm,0.6s,mb5.0								
ESDC	**Sonseca Array**	**91.13**	**43**	LR	LR		09 48 24.1		
	comp=Z,75nm,18.5s,MS4.2,baz=290,slow=35								
EDM	**Edmonton**	**92.60**	**334**	*e*P	**P**		**09 08 47.1**	**-1.4**	
EDM				*e*pP	pP		09 08 54.8	-1.6	
BRTR	**Keskin Array B**	**116.42**	**58**	PKP	PKPdf		09 14 22.2	-2.2	
	comp=Z,1.3nm,0.7s,baz=172,slow=4.7,SNR=7.0								
BRTR				*e*PKP			09 14 30.7		
	comp=Z,1.3nm,0.8s,baz=207,slow=2.8,SNR=3.0								
BRTR	**Keskin Array B**	**116.42**	**58**	PKIKP	PKPdf		09 14 22.2	-2.2	
BRTR							09 14 30.7		
BRTR				pmax	pmax				
	comp=Z,1.0nm,0.7s								
BRTR				pmax	pmax				
	comp=Z,1.0nm,0.8s								
AKASG	**Malin Array Be**	**116.73**	**45**	PKP	PKPdf		09 14 21.5	-3.2	
	comp=Z,1.7nm,0.6s,baz=259,slow=2.9,SNR=8.7								
AKASG				*e*PKP			09 14 29.4		
	comp=Z,1.0nm,0.6s,baz=264,slow=2.9,SNR=3.1								
AKASG	**Malin Array Be**	**116.73**	**45**	PKIKP	PKPdf		09 14 21.5	-3.2	
AKASG							09 14 29.4		
AKASG				pmax	pmax				
	comp=Z,2.0nm,0.6s								
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.6s								
VSU	**Vasula**	**117.37**	**36**	*d i*PKIKP	PKPdf		09 14 21.2	-4.5	
MALT	**Malatya**	**119.54**	**61**	*e*PKPdf	PKPdf		09 14 28.4	-2.1	
MALT				*e*			09 14 37.2		
OBN	**Obninsk**	**122.02**	**41**	*d i*PKIKP	PKPdf		09 14 32.2	-2.7	
OBN				*e*			09 14 40.5		
OBN				pmax	pmax				
	comp=Z,14nm,1.2s								
ASAR	**Alice Springs**	**122.50**	**203**	PKP	PKPdf		09 14 31.8	-4.8	
	comp=Z,2.1nm,0.8s,baz=140,slow=1.7,SNR=20								
ASAR				pPKP			09 14 40.6		
	comp=Z,1.9nm,0.6s,baz=137,slow=1.7,SNR=11								
ASAR				PKKPbc			09 24 28.3		
	comp=Z,0.3nm,0.8s,baz=329,slow=3.3,SNR=4.0								
KIV	**Kislovodsk**	**124.05**	**55**	⇓*i*PKIKP	PKPdf		09 14 37.0	-2.1	
GNI	**Garni**	**124.75**	**60**	⇓*i*PKIKP	PKPdf		09 14 38.2	-2.3	
WB2	**Warramunga Arr**	**125.77**	**205**	⇑P	PKPdf		09 14 38.5	-4.5	
WB2				*i*			09 14 47.1		
WRA	**Warramunga Arr**	**125.78**	**205**	PKP	PKPdf		09 14 38.6	-4.5	
	comp=Z,4.9nm,0.7s,baz=161,slow=1.7,SNR=76								
WRA				pPKP			09 14 47.1		
	comp=Z,5.0nm,0.6s,baz=163,slow=1.8,SNR=17								
WRA	**Warramunga Arr**	**125.78**	**205**	PKIKP	PKPdf		09 14 38.6	-4.4	
WRA							09 14 47.1		
WRA				pmax	pmax				
	comp=Z,5.0nm,0.7s								
WRA				pmax	pmax				
	comp=Z,5.0nm,0.6s								
FITZ	**Fitzroy Crossi**	**130.14**	**196**	*e*P	PKPdf		09 14 47.8	-3.6	
	comp=Z,2.8nm,0.8s								
FITZ				*i*			09 14 56.5		
FITZ	**Fitzroy Crossi**	**130.14**	**196**	PKP	PKPdf		09 14 48.0	-3.5	
	comp=Z,2.3nm,0.6s,baz=14,slow=2.4,SNR=5.2								
FITZ				pPKP			09 14 56.3		
	comp=Z,4.8nm,0.9s,baz=186,slow=3.7,SNR=3.9								
TIXI	**Tiksi**	**137.91**	**353**	*i* PKIKP	PKPdf		09 15 00.6	-3.9	
BVAR	**Borovoye Array**	**141.87**	**41**	PKP	PKPdf		09 15 08.4	-3.6	
	comp=Z,1.6nm,0.6s,slow=1.5,SNR=6.7								
HYB	**Hyderabad**	**146.10**	**105**	*i* PKP	PKPdf		09 15 19.0	-1.3	
HYB				*e*			09 15 28.0		
HYB				*e*			09 15 30.5		
HYB	**Hyderabad**	**146.10**	**105**	*e*P	PKPbc		09 15 19.0	+2.1	
HYB				*e*			09 15 28.0		
EKS2	**Erkin-Say**	**146.57**	**58**	P	PKPbc		09 15 19.6	+2.3	
SNR=13									
AML	**Almayashu**	**146.58**	**59**	P	PKPbc		09 15 19.8	+2.5	
SNR=11									
YAK	**Yakutsk**	**146.64**	**346**	*c i*PKIKP	PKPdf		09 15 18.3	-1.6	
YAK	**Yakutsk**	**146.64**	**346**	*e*PKPbc	PKPbc		09 15 18.1	+1.3	
YAK				*e*			09 15 26.7		
USP	**Ospenovka**	**147.00**	**57**	P	PKPdf		09 15 20.3	-0.9	
SNR=13									
AAK	**Ala-Archa**	**147.10**	**58**	*d i*PKIKP	PKPdf		09 15 19.7	-1.6	
AAK	**Ala-Archa**	**147.10**	**58**	*e*PKPbc	PKPdf		09 15 20.0	-1.3	
FRU	**Bishkek**	**147.16**	**57**	*e*PKP2	PKPab		09 15 21.0	-1.8	
FRU				pmax	pmax				
	comp=Z,70nm,1.5s								
UCH	**Uchtor**	**147.17**	**58**	P	PKPdf		09 15 21.0	-0.4	
SNR=30									
CHMS	**Chumysh**	**147.23**	**57**	P	PKPdf		09 15 22.9	+1.4	
SNR=9.3									
KURK	**Kurchatov**	**147.46**	**42**	*e*PKPdf	PKPdf		09 15 18.6	-3.0	
KURK				*e*PKPbc	PKPdf		09 15 20.5	-1.1	
KURK				*e*PKPab	PKPab		09 15 22.9	-0.9	
NVS	**Novosibirsk**	**147.74**	**33**	*i* PKIKP	PKPdf		09 15 19.5	-2.4	
NVS				*i*			09 15 31.2		
NVS				pmax	pmax				
	comp=Z,39nm,1.2s								
NVS				pmax	pmax				
	comp=E,12nm,1.6s								
TKM2	**Tokmak 2**	**147.85**	**57**	P	PKPdf		09 15 21.5	-1.0	
SNR=14									
ULHL	**Ulahol**	**148.44**	**58**	P	PKPdf		09 15 26.5	+3.0	
SNR=5.5									
NDI	**New Delhi**	**148.94**	**84**	*e*	PKPdf		09 15 22.0	-2.7	
ZAL	**Zalesovo**	**149.02**	**33**	PKPbc	PKPdf		09 15 26.7	+2.7	
	comp=E,8.9nm,0.7s,baz=97,slow=3.5,SNR=4.2								
ZAL				pPKPbc			09 15 34.3		
	comp=E,8.0nm,0.6s,baz=96,slow=4.5,SNR=4.6								
ZAL	**Zalesovo**	**149.02**	**33**	*i* PKHKP			09 15 23.3		
ZAL				pmax	pmax				
	comp=Z,9.0nm,0.7s								
ZAL	**Zalesovo**	**149.02**	**33**	PKPbc	PKPdf		09 15 26.7	+2.7	
ZAL				pPKPbc			09 15 34.3		
DDI	**Dehra Dun**	**149.97**	**81**	*e*P	PKPdf		09 15 29.7	+3.4	
MKAR	**Makanchi Array**	**151.30**	**47**	*i* PKIKP	PKPdf		09 15 31.8	+4.1	
MKAR				pmax	pmax				
	comp=Z,10.0nm,0.8s								
WMQ	**Urumqi**	**156.00**	**49**	*e*PKP	PKPdf		09 15 30.5	-3.8	
ZAK	**Zakamensk**	**158.87**	**17**	*e*PKIKP	PKPdf		09 15 43.4	+5.6	
SONM	**Songino Array**	**161.99**	**14**	PKP	PKPdf		09 15 38.4	-2.7	
	comp=Z,0.4nm,0.6s,baz=288,slow=3.3,SNR=3.6								
SONM				PKPab	PKPab		09 16 26.6	+1.4	
	comp=Z,2.7nm,0.8s,baz=316,slow=5.2,SNR=10								
SONM				pPKPab			09 16 34.3		
	comp=Z,2.3nm,0.9s,baz=333,slow=5.5,SNR=6.7								
CMAR	**Chiang Mai Arr**	**162.50**	**130**	PKP	PKPdf		09 15 39.9	-2.7	
	comp=Z,1.0nm,0.4s,baz=247,slow=2.8,SNR=5.3								
CMAR				PKPab	PKPab		09 16 28.1	-0.2	
	comp=Z,6.5nm,1.1s,baz=232,slow=4.4,SNR=9.5								
CMAR				pPKPab			09 16 36.8		
	comp=Z,5.1nm,1.1s,baz=246,slow=4.6,SNR=5.8								
CMAR				sPKPab			09 16 39.8		
	comp=Z,2.6nm,0.7s,baz=225,slow=3.8,SNR=5.7								
CMAR	**Chiang Mai Arr**	**162.50**	**130**	*i* PKIKP	PKPdf		09 15 40.5	-2.0	
CMAR				pmax	pmax				
	comp=Z,1.0nm,0.4s								
GTA	**Gaotai**	**166.05**	**47**	PKP	PKPdf		09 15 43.5	-1.9	
GTA				APKP			09 15 52.5		
GTA				PKP2	PKPab		09 16 49.0	+5.8	
GTA				PP	PP		09 20 36.0	+4.3	
GTA				SKKS			09 27 14.8		
GTA				SS	SS		09 41 15.3	+8.3	
GTA				PP	PP				
	comp=Z,62nm,5.7s								
GTA				LR	LR				
	comp=N,39nm,11.5s								
GTA				LR	LR				
	comp=E,56nm,10.3s								
GTA				LR	LR				
	comp=Z,55nm,16.0s								
KMI	**Kunming**	**169.48**	**118**	*e*PKP	PKPdf		09 15 44.5	-3.5	
KMI				LR	LR				
	comp=Z,35nm,30.8s								
LZH	**Lanzhou**	**170.57**	**52**	*e*PKP	PKPdf		09 15 46.0	-2.3	
LZH				XPKP			09 15 55.5		
LZH				PP	PP		09 20 56.0	+1.6	
LZH				*e*SKS	SKS		09 22 45.0	-5.8	
LZH				PP	PP				
	comp=Z,70nm,6.0s								
LZH				LR	LR				
	comp=E,205nm,19.2s								

mb1mx3.8/17, **Error ellipse: s-maj=345.0km s-min=156.6km az=82.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**38.17**	**260**	P	P	09 56 24.4	-1.3
	3.0nm,0.9s,baz=104,slow=8.3,SNR=2.9						
STKA	**Stephens Creek**	**42.99**	**242**	P	P	09 57 04.6	-0.9
	0.5nm,0.3s,baz=83,slow=12,SNR=4.5						
WRA	**Warramunga Arr**	**49.35**	**258**	P	P	09 57 53.7	-2.3
	0.7nm,0.4s,baz=97,slow=8.2,SNR=25						
ASAR	**Alice Springs**	**49.45**	**254**	P	P	09 57 54.4	-2.4
	1.1nm,0.4s,baz=91,slow=7.4,SNR=18						
FITZ	**Fitzroy Crossi**	**57.76**	**259**	P	P	09 58 55.8	-2.3
	0.8nm,0.6s,baz=137,slow=6.2,SNR=5.2						

CASC 29 09:54:53.4±1.9, **11.34N**×**88.13W**, **h42**km±556km, **MD3.9, ML2.8, 7C-2D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LEON	**Leon**	**1.62**	**48**⇑	*eP*	P	09 55 19.5	-0.4
LEON				*eS*	S	09 55 41.2	+1.5
MIRN	**Miramar**	**1.77**	**51**⇓	*eP*	P	09 55 21.3	-0.8
MIRN				*eS*	S	09 55 43.5	0.0
TELN	**Telica**	**1.79**	**45**	*eP*	P	09 55 21.5	-0.9
CNGN	**Cerro Negro**	**1.81**	**50**⇑	*eP*	P	09 55 21.9	-0.9
CNGN				⇑*eS*	S	09 55 45.9	+1.2
MOMJ	**Momotombo**	**1.88**	**55**⇑	*eP*	P	09 55 22.2	-1.5
XAVN	**Gruta Xavier**	**1.94**	**65**⇑	*eP*	P	09 55 23.9	-0.7
CNCH	**Conchagua**	**1.95**	**8**	*eP*	P	09 55 24.5	-0.2
CNCH				*eS*	S	09 55 48.1	0.0
APYN	**Apoyeque**	**1.96**	**63**⇑	*eP*	P	09 55 24.3	-0.5
APYN				*eS*	S	09 55 47.6	-0.6
TICN	**Ticuantepe**	**1.98**	**69**	*eP*	P	09 55 24.4	-0.7
MGAN	**Managua**	**2.01**	**66**⇑	*eP*	P	09 55 24.5	-1.0
MGAN				*eS*	S	09 55 49.8	+0.3
	comp=N,90nm,0.2s						
WILN	**Americas 2**	**2.07**	**66**	*eP*	P	09 55 25.5	-0.9
WILN				*eS*	S	09 55 51.4	+0.4
APON	**Apoyo**	**2.10**	**74**	*eP*	P	09 55 26.9	+0.1
PYTN	**Playitas**	**2.35**	**59**	*eP*	P	09 55 29.5	-1.0
LCBS	**La Ceiba**	**2.45**	**340**⇓	*eP*	P	09 55 31.0	-0.9
LCBS				*eS*	S	09 56 00.2	-0.6
LFRS	**El Faro**	**2.45**	**338**	*eP*	P	09 55 31.2	-0.6
LFRS				*eS*	S	09 55 59.7	-1.1
BOQS	**Boqueron**	**2.64**	**335**	*eP*	P	09 55 34.5	-0.1
BOQS				*eS*	S	09 56 05.8	+0.2
SBLS	**San Blas**	**2.89**	**330**	*eP*	P	09 55 38.1	0.0
SBLS				*eS*	S	09 56 11.9	+0.1
SNJE	**San Jose**	**2.90**	**330**	*eP*	P	09 55 38.0	-0.3
RTR	**El Retiro**	**2.95**	**330**	*eP*	P	09 55 39.0	+0.1
RTR				*eS*	S	09 56 13.3	-0.1
LAJ	**Bijagual**	**4.20**	**110**	*eP*	P	09 55 52.5	-4.2
LAJ				*eS*	S	09 56 33.9	-11
LCR2	**La Lucha 2**	**4.35**	**111**	*eP*	P	09 55 59.2	+0.4
LCR2				*eS*	S	09 56 46.0	-2.9
BUS	**Buena Vista**	**4.65**	**112**	*eP*	P	09 56 03.4	+0.4

*IDC **29** 11:06:43.0*±*0.8, 33.71N*×*37.98W, mb4.3/18, mb1 4.5/19, mb1mx4.4/26, MS3.9/24, Ms1 3.9/24, ms1mx3.8/30, Error ellipse: s-maj=22.4km s-min=14.3km az=177.0*
*NEIC **29** 11:06:44.7*±*0.3, 33.73N*×*37.93W, h10km, mb4.5/12, Error ellipse: s-maj=8.8km s-min=6.6km az=148.0*
ISC 29 11:06:42.9±0.4, **33.73N**±0.08×**37.97W**±0.08, **h10**km, **n51, σ0°81**/35, **mb4.4**/30, **MS3.9**/24, **Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ESDC	**Sonseca Array**	**27.79**	**68**	LR	LR	11 21 37.6	
	comp=Z,114nm,18.3s,MS3.5,baz=275,slow=32						
SCHQ	**Schefferville**	**29.18**	**325**	LR	LR	11 23 09.6	
	comp=Z,485nm,18.2s,MS4.2,baz=177,slow=34						
SJG	**San Juan**	**29.61**	**245**	LR	LR	11 21 37.4	
	comp=Z,95nm,21.4s,MS3.4,baz=278,slow=30						
BORG	**Borgarnes**	**32.67**	**13**	LR	LR	11 23 18.5	
	comp=Z,158nm,18.6s,MS3.7,baz=178,slow=30						
SADO	**Sadowa**	**33.41**	**302**	P	**P**	**11 13 24.2**	**+0.5**
	5.6nm,0.9s,mb4.5,baz=117,slow=12,SNR=3.7						
SADO				LR	LR	11 25 02.9	
	comp=Z,258nm,18.2s,MS4.0,baz=100,slow=33						
FRB	**Frobisher Bay**	**35.50**	**337**	LR	LR	11 26 03.6	
	comp=Z,182nm,19.5s,MS3.8,baz=146,slow=33						
SUMG	**Summit**	**38.91**	**360**	*eP*	**P**	**11 14 10.1**	**0.0**
	11nm,0.9s,mb4.6						
SDV	**Santo Domingo**	**38.92**	**238**	*eP*	**P**	**11 14 12.9**	**+2.2**
	5.5nm,0.3s,mb4.8						
JMIC	**Jan Mayen**	**40.53**	**14**	LR	LR	11 26 44.7	
	comp=Z,105nm,21.0s,MS3.7,baz=191,slow=30						
CLL	**Collm**	**40.56**	**49**	P	**P**	**11 14 25.0**	**+1.0**
DBIC	**Dimbokro**	**40.79**	**124**	P	**P**	**11 14 25.1**	**-1.0**
	6.8nm,0.9s,mb4.3,baz=304,slow=6.9,SNR=3.8						
DBIC				LR	LR	11 29 10.0	
	comp=Z,262nm,19.9s,MS4.1,baz=217,slow=33						
GERES	**GERESS Array B**	**40.85**	**52**	P	**P**	**11 14 26.1**	**-0.3**
	0.5nm,0.3s,mb3.6,baz=252,slow=4.2,SNR=8.1						
NB2	**NORSAR Subarra**	**41.58**	**34**	P	**P**	**11 14 32.8**	**+0.7**
	28nm,1.7s,mb4.6,baz=254,slow=8.6						
NOA	**NORSAR Array B**	**41.58**	**34**	P	**P**	**11 14 32.8**	**+0.6**
	4.0nm,0.9s,mb4.1,baz=254,slow=8.4,SNR=5.5						
NOA				LR	LR	11 28 18.9	
	comp=Z,46nm,20.7s,MS3.3,baz=260,slow=31						
VAE	**Valguarnera**	**42.30**	**69**	LR	LR	11 29 14.6	
	comp=Z,112nm,19.4s,MS3.8,baz=339,slow=32						
ULM	**Lac du Bonnet**	**44.92**	**310**	LR	LR	11 32 17.8	
	comp=Z,334nm,19.9s,MS4.3,baz=197,slow=34						
FINES	**FINESS Array B**	**48.70**	**35**	P	**P**	**11 15 27.9**	**-1.1**
	1.3nm,0.7s,mb4.1,baz=270,slow=4.2,SNR=4.6						
SAML	**Samuel**	**48.74**	**214**	*eP*	**P**	**11 15 29.3**	**-0.6**
	5.0nm,1.0s,mb4.5						
MLR	**Muntele Rosu**	**49.41**	**56**	P	**P**	**11 15 35.4**	**+0.6**
	12nm,1.1s,mb4.8,baz=321,slow=4.5,SNR=7.7						
ARCES	**ARCESS Array B**	**49.58**	**24**	P	**P**	**11 15 34.9**	**-0.8**
	3.2nm,0.8s,mb4.4,baz=270,slow=6.3,SNR=4.9						
ARCES				LR	LR	11 33 36.5	
	comp=Z,44nm,19.0s,MS3.5,baz=213,slow=32						
WMOK	**Wichita Mounta**	**49.59**	**289**	*eP*	**P**	**11 15 36.9**	**+0.6**
	2.6nm,0.8s,mb4.3						
BDFB	**Brasilia**	**50.02**	**193**	P	**P**	**11 15 39.4**	**-0.4**
	6.1nm,0.9s,mb4.6,baz=11,slow=9.0,SNR=5.6						
BDFB				LR	LR	11 32 13.7	
	comp=Z,157nm,18.8s,MS4.0,baz=84,slow=31						
BDFB	**Brasilia**	**50.02**	**193**	P	**P**	**11 15 39.4**	**-0.4**
BDFB				LR	LR	11 32 13.7	
AKASG	**Malin Array Be**	**50.80**	**49**	P	**P**	**11 15 44.5**	**-0.8**
	4.0nm,0.9s,mb4.3,baz=274,slow=7.2,SNR=13						
YKA	**Yellowknife Ar**	**54.62**	**326**	LR	LR	11 38 51.3	
	comp=Z,376nm,18.5s,MS4.5,baz=75,slow=35						
TXAR	**Lajitas Array**	**55.33**	**285**	P	**P**	**11 16 18.6**	**-0.7**
	1.0nm,0.8s,mb3.9,baz=89,slow=6.1,SNR=6.2						
TXAR				LR	LR	11 38 05.5	
	comp=Z,351nm,19.6s,MS4.5,baz=130,slow=34						
PDAR	**Pinedale Array**	**55.41**	**302**	P	**P**	**11 16 19.1**	**-0.5**
	2.5nm,0.9s,mb4.2,baz=74,slow=7.7,SNR=12						
PDAR				LR	LR	11 36 47.9	
	comp=Z,158nm,20.9s,MS4.1,baz=86,slow=33						
ANMO	**Albuquerque**	**55.52**	**292**	*eP*	**P**	**11 16 22.0**	**+1.5**
	2.4nm,1.0s,mb4.2						
BRTR	**Keskin Array B**	**56.31**	**62**	P	**P**	**11 16 26.4**	**+0.2**
	5.4nm,1.2s,mb4.5,baz=288,slow=3.9,SNR=7.9						
BRTR				LR	LR	11 40 07.8	
	comp=Z,28nm,18.3s,MS3.4,baz=315,slow=36						
HWUT	**Hardware Ranch**	**57.17**	**301**	*eP*	**P**	**11 16 31.9**	**-0.4**
	2.3nm,0.8s,mb4.3						
LPAZ	**La Paz**	**57.46**	**215**	LR	LR	11 38 20.9	
	comp=Z,84nm,19.8s,MS3.9,baz=281,slow=33						
LPAZ	**La Paz**	**57.46**	**215**	*eP*	**P**	**11 16 35.5**	**+0.9**
	2.3nm,0.6s,mb4.4						
NEW	**Newport**	**58.94**	**310**	P	**P**	**11 16 43.4**	**-1.1**
	11nm,1.0s,mb4.8,baz=30,slow=2.9,SNR=12						
NEW				LR	LR	11 40 09.8	
	comp=Z,186nm,19.3s,MS4.2,baz=63,slow=34						
NEW	**Newport**	**58.94**	**310**	P	**P**	**11 16 43.4**	**-1.1**
NEW				LR	LR	11 40 09.8	
INK	**Inuvik**	**61.11**	**335**	P	**P**	**11 16 58.3**	**-0.9**
	6.3nm,1.1s,mb4.7,baz=66,slow=8.2,SNR=9.8						
NEN	**Nelson**	**61.65**	**296**	*eP*	**P**	**11 17 04.0**	**+0.7**
CPUP	**Villa Florida**	**62.50**	**200**	LR	LR	11 40 51.8	
	comp=Z,88nm,20.0s,MS3.9,baz=237,slow=33						
MNV	**Mina**	**63.02**	**300**	*eP*	**P**	**11 17 11.6**	**-0.8**
	3.4nm,0.8s,mb4.5						
NVAR	**Mina Array Bea**	**63.13**	**300**	P	**P**	**11 17 12.7**	**-0.4**
	1.2nm,0.7s,mb4.1,baz=74,slow=6.8,SNR=11						
NVAR				LR	LR	11 43 04.7	
	comp=Z,183nm,20.8s,MS4.2,baz=70,slow=35						
LVC	**Limon Verde**	**63.31**	**212**	*eP*	**P**	**11 17 13.6**	**-0.8**
	3.5nm,0.9s,mb4.5						
BBB	**Bella Bella**	**64.26**	**317**	P	**P**	**11 17 19.9**	**-0.4**
	17nm,0.9s,mb5.1,baz=90,slow=3.0,SNR=2.7						
ILAR	**Eielson Array**	**67.44**	**334**	P	**P**	**11 17 40.1**	**-0.3**
	1.2nm,0.9s,mb3.9,baz=45,slow=6.4,SNR=7.2						
ILAR				LR	LR	11 45 03.9	
	comp=Z,98nm,19.5s,MS4.0,baz=0.3,slow=34						
BRVK	**Borovoye**	**73.55**	**37**	*eP*	**P**	**11 18 18.3**	**+0.8**
	9.0nm,0.9s,mb4.7						
BVAR	**Borovoye Array**	**73.62**	**37**	P	**P**	**11 18 18.9**	**+1.0**
	6.1nm,0.7s,mb4.6,baz=288,slow=4.7,SNR=30						
KMBO	**Kilima Mbogo**	**78.36**	**99**	LR	LR	11 53 50.5	
	comp=Z,157nm,18.1s,MS4.4,baz=134,slow=36						
KURK	**Kurchatov**	**79.07**	**35**	*eP*	**P**	**11 18 49.2**	**+0.5**
	6.0nm,0.3s,mb5.0						
ZAL	**Zalesovo**	**79.68**	**30**	P	**P**	**11 18 52.8**	**+0.8**
	5.2nm,1.2s,mb4.3,baz=64,slow=5.2,SNR=14						
ZAL				LR	LR	11 54 40.4	
	comp=Z,39nm,18.9s,MS3.8,baz=224,slow=36						
VNDA	**Vanda**	**135.24**	**186**	PKP	PKPdf	11 26 03.2	-1.9
	1.6nm,1.1s,baz=136,slow=4.3,SNR=3.7						
VNDA	**Vanda**	**135.24**	**186**	PKP	PKPdf	11 26 03.2	-1.9
WRA	**Warramunga Arr**	**164.65**	**28**	PKPab	PKPab	11 27 43.9	-0.8
	1.2nm,1.0s,baz=340,slow=3.8,SNR=5.3						
ASAR	**Alice Springs**	**167.70**	**37**	PKPab	PKPab	11 27 58.0	+0.1
	0.9nm,0.9s,baz=325,slow=4.9,SNR=6.0						

*NEIC **29** 12:19:22.6*±*3.2, 25.03S*×*179.78E, h476km±35km, mb3.8/4, Error ellipse: s-maj=28.3km s-min=16.7km az=209.0*
*IDC **29** 12:19:26.2*±*3.4, 25.23S*×*179.75E, h524km±42km, mb3.1/4, mb1 3.5/6, mb1mx3.2/14, Error ellipse: s-maj=33.5km s-min=18.9km az=164.0*
ISC 29 12:19:18.6±4.4, **24.9S**±0.1×**179.8E**±0.2, **h438**km±47km, **n16, σ0°78/18, mb3.6**/8, **2C, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**13.52**	**189**	P	**P**	**12 22 16.4**	**+0.3**
	1.5nm,0.3s,baz=40,slow=7.9,SNR=6.6						
URZ				S	**S**	**12 24 38.8**	**+0.3**
	0.8nm,0.3s,baz=254,slow=20,SNR=8.8						
RPZ	**Rata Peaks**	**20.09**	**199**	P	**P**	**12 23 20.9**	**-1.0**
	0.5nm,0.3s,baz=149,slow=15,SNR=2.9						
CTAO	**Charters Tower**	**31.30**	**272**	*eP*	**P**	**12 25 03.7**	**+1.2**
	2.5nm,0.3s,mb4.0						
ASAR	**Alice Springs**	**41.69**	**262**	P	**P**	**12 26 28.8**	**+0.1**
	0.7nm,0.4s,mb3.4,baz=94,slow=7.1,SNR=40						
ASAR				S	**S**	**12 32 07.0**	**-6.3**
	0.3nm,0.7s,baz=99,slow=14,SNR=4.2						
ASPA	**Alice Springs**	**41.69**	**262**	*eP*	**P**	**12 26 28.8**	**0.0**
WB2	**Warramunga Arr**	**42.14**	**267**	*eP*	**P**	**12 26 32.1**	**-0.3**
WRAB	**Tennant Creek**	**42.15**	**267**	*eP*	**P**	**12 26 31.6**	**-0.9**
	3.3nm,0.3s,mb4.1						
WRA	**Warramunga Arr**	**42.15**	**267**	P	**P**	**12 26 32.4**	**-0.1**
	1.5nm,0.3s,mb3.7,baz=100,slow=7.1,SNR=82						
FITZ	**Fitzroy Crossi**	**50.56**	**266**	*eP*	**P**	**12 27 37.5**	**+0.2**
	2.7nm,1.4s,mb3.3						
SNAA	**Sanae**	**83.69**	**179**⇑	*i*	**P**	**12 30 57.4**	**-2.8**
SNAA	**Sanae**	**83.69**	**179**	*eP*	**P**	**12 30 57.2**	**-3.0**
	0.5nm,0.5s,mb3.5						
VNA3	**Neumayer Olymp**	**83.90**	**177**		**P**	**12 31 02.0**	**+0.7**
VNA2	**Neumayer--Watz**	**84.32**	**178**⇑	*i*	**P**	**12 31 04.2**	**+0.8**
NVAR	**Mina Array Bea**	**85.60**	**44**	P	**P**	**12 31 10.2**	**-0.1**
	0.8nm,1.0s,mb3.4,baz=213,slow=6.4,SNR=3.8						
TXAR	**Lajitas Array**	**91.12**	**58**	P	**P**	**12 31 36.7**	**+0.3**
	0.3nm,0.6s,mb3.3,baz=180,slow=4.5,SNR=4.6						
TXAR	**Lajitas Array**	**91.12**	**58**	P	**P**	**12 31 36.7**	**+0.3**

*ATH **29** 12:33:58.7, 38.40N*×*21.94E, h25km, MD3.1/4*
*THE **29** 12:33:58.8, 38.36N*×*22.06E, h10km, ML3.1*
*CSEM **29** 12:33:58.8*±*0.3, 38.36N*×*22.03E, h2km, ML3.1, Error ellipse: s-maj=8.3km s-min=5.5km az=89.0*
ISC 29 12:33:58.5±1.6, **38.40N**±0.08×**21.95E**±0.08, **h8**km±19km, **n9, σ0°41/11, Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EVR	**Evrytania**	**0.53**	**348**	*e*PN	**Pg**	**12 34 09.5**	**+0.4**
AGG	**Agios Georgios**	**0.69**	**25**	*e*Pg	**Pg**	**12 34 11.5**	**-0.8**
AGG				*e*Sg	**Sg**	**12 34 21.9**	**+0.4**
LKD	**Levkas**	**1.06**	**287**	*e*Pg	**Pg**	**12 34 20.2**	**+0.4**
LKD	**Levkas**	**1.06**	**287**	*e*Pg	**Pg**	**12 34 20.2**	**+0.4**
VLS	**Valsamata**	**1.09**	**259**	*e*PN	**Pn**	**12 34 20.0**	**-0.1**
ITM	**Ithomi**	**1.22**	**181**	*e*PN	**Pn**	**12 34 21.6**	**-0.3**
XOR	**Xorichti**	**1.36**	**45**	*e*Pb	**Pb**	**12 34 24.0**	**+0.1**
MEV	**Metsovon**	**1.49**	**338**	*e*Pb	**Pg**	**12 34 27.8**	**-0.6**
MEV				*e*Sb	**Sg**	**12 34 48.2**	**0.0**
VLI	**Veliai**	**1.85**	**155**	*e*PN	**Pn**	**12 34 31.4**	**+0.4**

*CSEM **29** 12:45:51.5*±*0.2, 35.10N*×*34.08E, h40km, ML3.2, Error ellipse: s-maj=5.0km s-min=3.3km az=106.0*
*NIC **29** 12:45:52.8*±*0.4, 35.25N*×*34.09E, h25km, ML3.2, MW3.1*
*ISK **29** 12:45:52.3, 35.31N*×*33.97E, h5km, MD3.3*
*NEIC **29** 12:45:52.8, 35.25N*×*34.09E, h25km, ML3.2(NIC), After NIC.*
ISC 29 12:45:52.8±1.0, **35.21N**±0.07×**34.06E**±0.09, **h30**km±8km, **n9, σ0°77/16, 2C-1D, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PHNC	**Paralimni**	**0.21**	**185**⇓	*i*P	**Pb**	**12 45 59.3**	**+0.2**
	59nm,0.2s						
PHNC				S	**Sb**	**12 46 03.6**	**+0.1**
CSS	**Prodhromos**	**0.65**	**247**⇑	*i*P	**Pb**	**12 46 04.5**	**-1.0**
	6.8nm,0.3s						
CSS				S	**Sb**	**12 46 14.8**	**+0.5**
MAMC	**Mammari**	**0.69**	**267**	P	**Pb**	**12 46 06.1**	**-0.1**
LEF	**Lefka**	**0.96**	**265**	*i* PG	**Pn**	**12 46 09.8**	**-0.5**
LEF				*i* SG	**Sn**	**12 46 23.3**	**+0.3**
IKL	**Isikli**	**1.07**	**344**	*i* PG	**Pn**	**12 46 11.7**	**-0.1**
IKL				*i* SG	**Sn**	**12 46 24.3**	**-1.4**
SZAC	**Souni-Zanaja**	**1.07**	**245**	P	**Pn**	**12 46 11.8**	**0.0**
	9.4nm,0.4s						
SZAC				S	**Sn**	**12 46 26.6**	**+0.9**
ALFC	**Alevga**	**1.19**	**268**⇑	*i*P	**Pn**	**12 46 12.3**	**-1.3**
	5.8nm,0.2s						
ALFC				S	**Sn**	**12 46 28.3**	**-0.6**
HDMB	**Hadim**	**2.16**	**324**	*e*PN	**Pn**	**12 46 28.4**	**+0.9**
HDMB				*e*SN	**Sn**	**12 46 54.8**	**+1.3**
NIG	**Nigde**	**2.92**	**9**	*e*PN	**Pn**	**12 46 39.0**	**+0.6**

*IDC **29** 12:47:32.5*±*8.3, 8.00S*×*113.19E, mb3.6/3, mb1 3.8/4, mb1mx3.6/15, ML3.5/1, Error ellipse: s-maj=148.0km s-min=121.8km az=15.0*
*DJA **29** 12:47:43.2*±*1.0, 9.19S*×*112.99E, h2km, MD5.1/3, ML4.8/3, Error ellipse: s-maj=27.0km s-min=20.6km az=139.0*
ISC 29 12:47:43.2±2.5, **9.2S**±0.2×**113.0E**±0.2, **h49**km±28km, **n8, σ0°71/11, mb3.5**/3, **2C-5D, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRDI	**Scrawed**	**1.34**	**56**⇑	*e*Pn	**P**	**12 48 05.9**	**-0.1**
	725nm,0.1s						
SRDI				⇓*e*Sn	**S**	**12 48 21.4**	**-1.5**
KELI	**Kelakatan**	**1.77**	**56**⇓	*e*Pn	**P**	**12 48 12.6**	**+0.6**
	483nm,0.2s						
KELI				⇓*e*Sn	**S**	**12 48 34.2**	**+0.8**
RATI	**Rata**	**2.53**	**79**⇓	*e*Pn	**P**	**12 48 23.8**	**+0.9**
	625nm,0.2s						
RATI				⇓*e*Sn	**S**	**12 48 52.9**	**+0.2**
KEDI	**Kedomdong**	**3.15**	**77**⇑	*e*Pn	**P**	**12 48 30.9**	**-0.7**
FITZ	**Fitzroy Crossi**	**15.10**	**127**	Pn	**P**	**12 51 15.0**	**-0.1**
	0.1nm,0.3s,baz=322,slow=12,SNR=5.0						
WRA	**Warramunga Arr**	**23.19**	**120**	P	**P**	**12 52 45.8**	**-0.9**
	0.6nm,0.6s,mb3.2,baz=297,slow=12,SNR=8.9						
ASAR	**Alice Springs**	**24.59**	**128**	P	**P**	**12 53 00.8**	**+0.5**
	0.9nm,0.8s,mb3.4,baz=304,slow=8.6,SNR=7.9						
STKA	**Stephens Creek**	**34.78**	**134**	P	**P**	**12 54 31.3**	**+0.1**
	1.2nm,0.8s,mb3.9,baz=297,slow=9.0,SNR=4.3						

*IDC **29** 13:36:41.6*±*3.6, 19.14S*×*177.81W, h591km±44km, mb2.6/5, mb1 3.0/5, mb1mx2.9/14, Error ellipse: s-maj=32.0km s-min=16.1km az=157.0*
ISC 29 13:36:38.7±4.5, **19.1S**±0.2×**177.9W**±0.2, **h565**km±54km, **n13, σ1°06/13, mb3.0**/5, **3C, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.92**	**261**	P	**P**	**13 44 05.4**	**0.0**
	0.2nm,0.3s,mb3.1,baz=97,slow=7.6,SNR=8.1						
ASAR	**Alice Springs**	**44.96**	**255**	P	**P**	**13 44 06.0**	**+0.3**
	0.7nm,0.9s,mb3.2,baz=92,slow=8.0,SNR=12						
ASAR				PcP	PcP	13 45 33.8	-1.2
	0.3nm,0.5s,baz=109,slow=4.1,SNR=5.2						
ASAR				S	**S**	**13 50 03.1**	**-0.3**
	0.7nm,0.9s,baz=87,slow=17,SNR=3.7						
VNDA	**Vanda**	**59.32**	**185**	P	**P**	**13 45 46.8**	**-1.2**
	0.3nm,0.6s,mb2.7,baz=360,slow=5.9,SNR=7.4						
NVAR	**Mina Array Bea**	**79.93**	**43**	P	**P**	**13 47 50.7**	**+0.2**
	0.3nm,0.7s,mb2.7,baz=216,slow=7.8,SNR=2.9						
PDAR	**Pinedale Array**	**87.87**	**43**	P	**P**	**13 48 28.8**	**-0.6**
	0.7nm,1.1s,mb3.3,baz=270,slow=3.0,SNR=3.5						
SNAA	**Sanae**	**89.41**	**178**		**P**	**13 48 33.0**	**-3.0**
SNAA	**Sanae**	**89.41**	**178**		**P**	**13 48 37.9**	**+1.9**
VNA3	**Neumayer Olymp**	**89.53**	**176**⇑	*i*	**P**	**13 48 37.9**	**+1.3**
VNA3	**Neumayer Olymp**	**89.53**	**176**		**P**	**13 48 41.4**	**+4.8**
VNA2	**Neumayer--Watz**	**89.98**	**177**⇑	*i*	**P**	**13 48 40.2**	**+1.6**
VNA2	**Neumayer--Watz**	**89.98**	**177**⇑	*i*	**P**	**13 48 44.0**	**+5.4**
VNA1	**Neumayer--Stat**	**90.20**	**177**		**P**	**13 48 35.3**	**-4.4**
ARCES	**ARCESS Array B**	**127.56**	**350**	PKP	PKPdf	13 54 39.3	+0.1
	2.4nm,0.8s,baz=39,slow=5.8,SNR=4.5						

*IDC **29** 13:52:43.6*±*3.4, 48.98N*×*155.87E, mb3.5/3, mb1 3.8/3, mb1mx3.5/20, Error ellipse: s-maj=291.0km s-min=29.8km az=125.0*
*KRSC **29** 13:53:22.3*±*1.0, 50.68N*×*151.64E, h579km±19km, ML4.0*
*MOS **29** 13:53:23.7*±*2.2, 51.31N*×*151.78E, h561km, mb4.3/1, Error ellipse: s-maj=99.9km s-min=38.3km az=138.4*
ISC 29 13:53:32.4±1.3, **51.1N**±0.2×**153.0E**±0.5, **h539**km±12km, **n19, σ1°08/26, mb3.0**/3, **Northwest of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**3.68**	**67**	P	**P**	**13 54 51.0**	**-0.7**
RUS				S	**S**	**13 55 55.2**	**+0.5**
RUS	**Russkaya**	**3.68**	**67**	*eP*	**P**	**13 54 51.0**	**-0.7**
RUS				*eS*	**S**	**13 55 56.2**	**+1.5**
GNL	**Ganaly**	**3.98**	**48**	*eP*	**P**	**13 54 52.4**	**-1.5**
PET	**Petropavlovsk**	**3.98**	**60**	*eP*	**P**	**13 54 54.0**	**+0.1**
KOK	**Koryaka**	**4.10**	**56**	*eP*	**P**	**13 54 55.1**	**+0.3**
AVH	**Avacha**	**4.14**	**57**	*eP*	**P**	**13 54 55.9**	**+0.8**
SDLR	**Sedlovina**	**4.22**	**57**	*i* P	**P**	**13 54 56.2**	**+0.4**
NLC	**Nalytchevo**	**4.42**	**60**	P	**P**	**13 54 57.6**	**+0.2**
NLC	**Nalytchevo**	**4.42**	**60**	*eP*	**P**	**13 54 58.8**	**+1.4**
SPN	**Mys Shipunski**	**4.77**	**63**	P	**P**	**13 54 59.5**	**-0.8**
SPN				S	**S**	**13 56 09.9**	**-0.1**
SPN	**Mys Shipunski**	**4.77**	**63**	*eP*	**P**	**13 54 59.4**	**-0.9**
SPN				*eS*	**S**	**13 56 11.2**	**+1.2**
TUMR	**Tumrok**	**5.98**	**43**	*eP*	**P**	**13 55 11.9**	**+0.8**
TUMR				*eS*	**S**	**13 56 31.5**	**+2.0**
MKZ	**Mys Kozlova**	**6.32**	**54**	P	**P**	**13 55 13.0**	**-1.2**
MKZ				S	**S**	**13 56 32.0**	**-3.1**
MKZ	**Mys Kozlova**	**6.32**	**54**	*eP*	**P**	**13 55 13.0**	**-1.2**
MKZ				*eS*	**S**	**13 56 33.0**	**-2.1**
KBTR	**Krutoberegovo**	**7.74**	**45**	P	**P**	**13 55 27.9**	**-0.2**
KBTR				*eS*	**S**	**13 56 58.6**	**-1.6**
ILAR	**Eielson Array**	**33.27**	**43**	P	**P**	**13 59 26.0**	**+0.2**
	0.3nm,0.5s,mb3.1,baz=278,slow=11,SNR=7.0						
PDAR	**Pinedale Array**	**62.29**	**56**	P	**P**	**14 03 04.8**	**+1.6**
	0.4nm,0.6s,mb3.1,baz=352,slow=3

AKASG **Malin Array Be** 148.49 326 PKPbc PKPdf 15 10 51.8 +2.6
1.3nm,0.4s,baz=45,slow=2.9,SNR=16
BRTR Keskin Array B 150.67 304 PKPbc PKPdf 15 10 58.4 +5.4
0.6nm,0.4s,baz=124,slow=4.5,SNR=5.2
BRTR PKPab PKPab 15 11 07.8 -0.3
0.3nm,0.3s,baz=90,slow=4.3,SNR=3.7

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*CSEM **29** 14:55:32.7±0.1,34.47N×32.00E,h30km,Mw3.6,Error ellipse: s-maj=2.3km s-min=1.5km az=55.0*
*NIC **29** 14:55:34.3±0.3,34.49N×31.98E,h25km,mb4.1,ML3.9, MW3.6*
*ISK **29** 14:55:34.4,34.40N×32.26E,h32km, MD3.8*
*NEIC **29** 14:55:34.3,34.49N×31.98E,h25km,ML3.9(NIC),After NIC.*
*IDC **29** 14:55:36.4±1.8,34.50N×32.16E,h47km±26km,mb3.8/4, mb1 3.9/9,mb1mx3.7/20,ML3.7/6,Error ellipse: s-maj=36.0km s-min=20.7km az=41.0*
*GII **29** 14:55:37.3±1.0,34.40N×32.28E,h25km±30km,ML3.5/9, Mw3.6/8*
*NSSC **29** 14:55:48.0,34.49N×33.39E,h40km*

ISC 29 14:55:33.9±0.4,**34.42N**±0.02×**32.12E**±0.04,**h48**km±8km, **n72**,σ0**84**/84,**mb3.9**/4,**5C,Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPCY	**Paphos**	**0.50**	**21**	⇑*iP*	**P**	**14 55 43.9**	**-1.2**
SZAC	**Souni-Zanaja**	**0.71**	**61**	⇑*iP*	**P**	**14 55 47.7**	**-0.1**
ALFC	**Alevga**	**0.84**	**28**	⇑*iP*	**P**	**14 55 48.9**	**-0.6**
	55nm,0.2s						
ALFC				S	**S**	**14 56 00.2**	**-0.8**
LEF	**Lefka**	**0.94**	**42**	PG	**P**	**14 55 50.4**	**-0.6**
LEF				SG	**S**	**14 56 02.9**	**-0.8**
CSS	**Prodhromos**	**1.14**	**61**	⇑*iP*	**P**	**14 55 53.7**	**+0.1**
	32nm,0.2s						
CSS				S	**S**	**14 56 09.4**	**+1.0**
MAMC	**Mammari**	**1.18**	**50**	⇑*iP*	**P**	**14 55 54.8**	**+0.6**
PHNC	**Paralimni**	**1.68**	**69**	P	**P**	**14 56 02.2**	**+0.8**
IKL	**Isikli**	**2.22**	**35**	PN	**P**	**14 56 09.3**	**+0.2**
HDMB	**Hadim**	**2.56**	**7**	*e*PN	**P**	**14 56 14.5**	**+0.6**
HNTI	**Hanita**	**2.87**	**117**	Pn	**P**	**14 56 18.1**	**-0.2**
HNTI				Sn	**S**	**14 56 51.0**	**-0.9**
HAF	**Haifa**	**2.92**	**123**	Pn	**P**	**14 56 18.8**	**-0.2**
BHL	**Bhannes**	**2.97**	**99**	*e*PN	**P**	**14 56 20.8**	**+1.0**
OFRI	**'Ofer**	**2.99**	**126**	Pn	**P**	**14 56 20.0**	**0.0**
HWQ	**Hawqa**	**3.17**	**91**	*e*PN	**P**	**14 56 22.3**	**-0.2**
KSDI	**Kefar Szold**	**3.19**	**112**	Pn	**P**	**14 56 22.9**	**+0.1**
HRI	**Mount Hermon**	**3.22**	**110**	Pn	**P**	**14 56 22.8**	**-0.5**
SLTI	**Sal'it**	**3.27**	**131**	Pn	**P**	**14 56 23.7**	**-0.2**
SLTI				Sn	**S**	**14 57 00.6**	**-1.3**
BRBR	**Barbar**	**3.34**	**106**	⇑P	**P**	**14 56 25.1**	**+0.2**
BRBR				⇑S	Sx	14 56 52.0	
BRBR	**Barbar**	**3.34**	**106**	⇑*iP*	**P**	**14 56 25.1**	**+0.2**
KSHT	**Keshet**	**3.39**	**114**	Pn	**P**	**14 56 26.1**	**+0.4**
MMLI	**Mount Malkishu**	**3.39**	**125**	Pn	**P**	**14 56 26.3**	**+0.6**
ARNB	**Al Arnab**	**3.47**	**64**	⇑P	**P**	**14 56 26.6**	**-0.2**
ARNB				⇑S	Sx	14 56 54.6	
ARNB	**Al Arnab**	**3.47**	**64**	⇑*iP*	**P**	**14 56 26.6**	**-0.2**
BIDA	**Albida**	**3.51**	**79**	⇑P	**P**	**14 56 26.3**	**-1.1**
BIDA	**Albida**	**3.51**	**79**	⇑*iP*	**P**	**14 56 26.3**	**-1.1**
KONT	**Konya--Tatoy**	**3.53**	**3**	*e*PN	**P**	**14 56 29.4**	**+1.8**
QASN	**Qassioun**	**3.56**	**103**	⇑P	**P**	**14 56 27.7**	**-0.4**
QASN				⇑S	Sx	14 56 56.2	
QASN	**Qassioun**	**3.56**	**103**	⇑*iP*	**P**	**14 56 27.7**	**-0.4**
TCHB	**Talchebab**	**3.65**	**117**	⇑P	**P**	**14 56 30.2**	**+0.8**
TCHB				⇑S	Sx	14 57 02.0	
TCHB	**Talchebab**	**3.65**	**117**	⇑*iP*	**P**	**14 56 30.2**	**+0.8**
WRDH	**Warideh**	**3.69**	**72**	⇑P	**P**	**14 56 29.3**	**-0.5**
WRDH	**Warideh**	**3.69**	**72**	⇑*iP*	**P**	**14 56 29.3**	**-0.6**
HTY	**Hatay**	**3.70**	**61**	*e*PN	**P**	**14 56 29.7**	**-0.3**
BTCH	**Batrach**	**3.90**	**64**	⇑P	**P**	**14 56 32.6**	**-0.3**
BTCH				⇑S	Sx	14 57 04.8	
BTCH	**Batrach**	**3.90**	**64**	⇑*iP*	**P**	**14 56 32.6**	**-0.3**
CEYT	**Ceyhan**	**3.92**	**48**	*e*PN	**P**	**14 56 33.6**	**+0.4**
RTMM	**Retamin**	**3.99**	**147**	Pn	**P**	**14 56 34.8**	**+0.7**
KZIT	**Kziot**	**3.99**	**151**	Pn	**P**	**14 56 34.9**	**+0.8**
KZIT				Sn	**S**	**14 57 19.4**	**-0.8**
MASH	**Mash'abbe Sade**	**4.08**	**146**	Pn	**P**	**14 56 36.3**	**+0.9**
MZDA	**Masada**	**4.13**	**138**	Pn	**P**	**14 56 36.7**	**+0.6**
MZDA				Sn	**S**	**14 57 22.5**	**-1.1**
NIG	**Nigde**	**4.20**	**28**	*e*PN	**P**	**14 56 38.2**	**+1.1**
KIZT	**Kizilcal**	**4.46**	**358**	*e*PN	**P**	**14 56 41.9**	**+1.1**
ASF	**Jabal al Asfar**	**4.58**	**118**	P	**P**	**14 56 43.1**	**+0.6**
	4.7nm,0.3s,baz=178,slow=5.2,SNR=40						
ASF				S	**S**	**14 57 39.8**	**+4.7**
	5.6nm,0.3s,baz=270,slow=22,SNR=5.8						
PRNI	**Paran**	**4.73**	**148**	Pn	**P**	**14 56 45.1**	**+0.5**
KMTI	**Karmit**	**4.83**	**152**	Pn	**P**	**14 56 46.4**	**+0.4**
KMTI				Sn	**S**	**14 57 41.3**	**-0.1**
ASHJ	**Ashqof**	**5.04**	**113**	*e*P	**P**	**14 56 46.0**	**-2.9**
	SNR=33						
MBH	**Mount Berech**	**5.18**	**152**	Pn	**P**	**14 56 51.7**	**+0.8**
AQBJ	**Aqaba**	**5.29**	**151**	Pn	**P**	**14 56 53.2**	**+0.8**
EIL	**Elat**	**5.31**	**152**	P	**P**	**14 56 53.1**	**+0.5**
	5.4nm,0.3s,baz=325,slow=12,SNR=96						
EIL				S	**S**	**14 57 51.5**	**-1.7**
	6.1nm,0.3s,baz=342,slow=32,SNR=6.8						
EIL	**Elat**	**5.31**	**152**	S	**S**	**14 57 51.5**	**-1.8**
BRTR	**Keskin Array B**	**5.44**	**12**	P	**P**	**14 56 53.8**	**-0.6**
	0.1nm,0.3s,baz=193,slow=16,SNR=3.4						
JMOS	**Jabal al Moall**	**5.82**	**153**	P	**P**	**14 57 00.6**	**+0.9**
JMOS				S	**S**	**14 58 05.6**	**-0.4**
HAQS	**Haql**	**5.86**	**155**	P	**P**	**14 57 00.3**	**+0.1**
IDI	**Anoyia**	**6.01**	**280**	P	**P**	**14 57 04.0**	**+1.6**
	1.2nm,0.3s,baz=35,slow=17,SNR=7.4						
IDI				S	**S**	**14 58 07.5**	**-3.4**
	3.8nm,0.3s,baz=286,slow=16,SNR=8.1						
IDI	**Anoyia**	**6.01**	**280**	S	**S**	**14 58 07.5**	**-3.3**
TAYS	**Tayyib Ism**	**6.30**	**157**	P	**P**	**14 57 07.1**	**+0.6**
JMQS	**Jabal Moqyreh**	**6.37**	**149**	P	**P**	**14 57 07.9**	**+0.4**
MALT	**Malatya**	**6.40**	**51**	*e*Pn	**P**	**14 57 06.6**	**-1.4**
MALT	**Malatya**	**6.40**	**51**	*e*Pn	**P**	**14 57 06.6**	**-1.4**
BDAS	**Al Bad'**	**6.49**	**156**	P	**P**	**14 57 09.3**	**+0.2**
GVD	**Gavdhos**	**6.64**	**276**	*e*Pn	**P**	**14 57 11.0**	**-0.3**
GVD				*e*Sn	**S**	**14 58 24.2**	**-2.2**
AYUS	**'Aynunah**	**6.76**	**156**	P	**P**	**14 57 13.4**	**+0.4**
AKASG	**Malin Array Be**	**16.41**	**353**	P	**P**	**14 59 23.3**	**+1.1**
	1.7nm,0.3s,baz=172,slow=9.5,SNR=11						
GERES	**GERESS Array B**	**19.86**	**322**	P	**P**	**15 00 03.2**	**-0.2**
	0.3nm,0.3s,baz=130,slow=10,SNR=11						
GERES	**GERESS Array B**	**19.86**	**322**	P	**P**	**15 00 03.2**	**-0.3**
KHC	**Kasperske Hory**	**20.11**	**323**	*e*P	**P**	**15 00 06.0**	**-0.1**
CLL	**Collm**	**21.83**	**326**	*e**PP		15 00 28.0	
FINES	**FINESS Array B**	**27.32**	**354**	P	**P**	**15 01 14.5**	**-1.4**
	5.4nm,1.1s,mb4.0,baz=150,slow=11,SNR=19						
NOA	**NORSAR Array B**	**29.85**	**340**	P	**P**	**15 01 38.4**	**-0.1**
	1.7nm,1.0s,mb3.7,baz=143,slow=11,SNR=2.9						
ARCES	**ARCESS Array B**	**35.36**	**356**	P	**P**	**15 02 25.8**	**-0.6**
	2.0nm,0.8s,mb4.1,baz=141,slow=7.8,SNR=6.9						
ARCES	**ARCESS Array B**	**35.36**	**356**	P	**P**	**15 02 25.8**	**-0.6**
SONM	**Songino Array**	**55.48**	**52**	P	**P**	**15 05 07.1**	**+1.1**
	0.6nm,0.5s,mb3.9,baz=310,slow=9.6,SNR=4.0						

IDC 29 15:03:32.2±3.0,**18.84S**×**178.24W**,**mb3.6**/5,**mb1 4.0**/5, **mb1mx3.8**/14,**Error ellipse: s-maj=172.0km s-min=26.3km az=151.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.63**	**260**	P	P	15 11 47.3	-1.2
	0.5nm,0.8s,baz=96,slow=7.5,SNR=5.9						
ASAR	**Alice Springs**	**44.70**	**255**	P	P	15 11 46.9	-2.2
	0.4nm,0.5s,baz=91,slow=7.6,SNR=11						
NVAR	**Mina Array Bea**	**79.98**	**44**	P	P	15 15 45.0	-0.1
	0.2nm,0.8s,baz=212,slow=8.6,SNR=3.6						
ILAR	**Eielson Array**	**86.75**	**13**	P	P	15 16 17.4	-1.6
	0.3nm,0.5s,baz=221,slow=5.3,SNR=6.6						
PDAR	**Pinedale Array**	**87.91**	**43**	P	P	15 16 23.1	-2.0
	1.0nm,1.2s,baz=214,slow=3.3,SNR=3.1						
AKASG	**Malin Array Be**	**141.46**	**332**	PKhKP		15 22 52.2	
	1.6nm,0.6s,baz=40,slow=4.0,SNR=7.6						

IDC 29 15:10:54.7±8.6,**2.48N**×**127.52E**,**mb3.6**/4,**mb1 3.8**/4, **mb1mx3.5**/16,**Error ellipse: s-maj=134.0km s-min=93.9km az=148.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.53**	**185**	P	P	15 15 35.1	-2.5
	2.6nm,1.1s,baz=31,slow=12,SNR=4.4						
WRA	**Warramunga Arr**	**23.27**	**164**	P	P	15 16 04.0	-1.1
	1.1nm,0.5s,baz=343,slow=11,SNR=21						
ASAR	**Alice Springs**	**26.72**	**167**	P	P	15 16 35.6	-2.2
	0.1nm,0.4s,baz=346,slow=7.5,SNR=7.0						
STKA	**Stephens Creek**	**36.69**	**160**	P	P	15 18 03.9	-1.5
	0.8nm,0.3s,baz=345,slow=12,SNR=4.9						

IDC 29 15:11:40.8±10.0,**19.32S**×**179.99E**,**mb3.7**/3,**mb1 4.0**/3, **mb1mx3.8**/13,**3C-1D,Error ellipse: s-maj=329.0km s-min=88.5km az=134.0,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.90**	**261**	P	P	15 19 42.3	-0.8
	0.3nm,0.4s,baz=94,slow=8.3,SNR=9.4						
ASAR	**Alice Springs**	**42.96**	**256**	P	P	15 19 40.8	-2.8
	1.6nm,1.2s,baz=90,slow=7.0,SNR=5.7						
CMAR	**Chiang Mai Arr**	**87.94**	**290**	P	P	15 24 33.2	-1.2
	0.5nm,0.8s,baz=124,slow=3.4,SNR=5.1						
VNA3	**Neumayer Olymp**	**89.43**	**177**	P	P	15 23 53.3	-47
VNA3	**Neumayer Olymp**	**89.43**	**177**	⇑*i*	P	15 24 06.3	-34
VNA3	**Neumayer Olymp**	**89.43**	**177**	⇓*i*	P	15 24 10.9	-29
VNA2	**Neumayer--Watz**	**89.85**	**178**		P	15 23 54.5	-48
VNA2	**Neumayer--Watz**	**89.85**	**178**	⇑*i*	P	15 24 08.3	-34
VNA2	**Neumayer--Watz**	**89.85**	**178**	⇑*i*	P	15 24 12.1	-30

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*NAO **29** 15:44:18.3±3.6,67.83N×20.59E,ML2.1*
*HEL **29** 15:44:18.4±0.2,67.89N×20.30E,ML1.9,ML2.2(BER), ML2.1(NAO),Explosion*
*BER **29** 15:44:18.7±4.3,67.88N×20.15E,ML1.9,ML2.1(NAO), Suspected explosion*

ISC 29 15:44:15.1±0.6,**67.75N**±0.03×**20.3E**±0.1,**n16**,σ1**38**/27, **Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIF	**Kilpisjarvi**	**1.28**	**8**	*e*P	**Pb**	**15 44 40.0**	**+0.3**
KIF				*e*SB	**Sb**	**15 44 55.6**	**-0.9**
KTK1	**Kautokeino**	**1.68**	**39**	*e*P	**Pn**	**15 44 46.0**	**+0.2**
TRO	**Tromso**	**1.96**	**346**	*e*P	**Pn**	**15 44 49.7**	**-0.1**
TRO				*e*SN	**Sn**	**15 45 16.7**	**+1.2**
TRO				AML	AML	15 45 18.4	
	comp=Z,19nm,0.3s						
SGF	**Sodankyl**	**2.41**	**94**	*e*P	**Pn**	**15 44 59.5**	**+3.1**
SGF				*e*S	**Sn**	**15 45 28.5**	**+1.4**
ARA0	**ARCESS Array S**	**2.62**	**44**	*e*P	**Pn**	**15 45 00.1**	**+0.7**
ARA0				*e*SG	**Sg**	**15 45 36.4**	**-6.0**
ARA0	**ARCESS Array S**	**2.62**	**44**	Pn	**Pn**	**15 45 00.1**	**+0.7**
	baz=233,slow=14						
ARA0				Lg		15 45 36.4	
	baz=224,slow=28						
MOR8	**Moi Rana**	**2.79**	**238**	*e*SB	**Sb**	**15 45 39.7**	**-0.7**
MOR8				AML	AML	15 45 43.6	
	comp=Z,15nm,0.4s						
KEV	**Kevo**	**3.17**	**47**	*e*P	**Pn**	**15 45 08.7**	**+1.5**
KEV				*e*S	**Sn**	**15 45 44.6**	**-1.7**
KEV				*e*SB	**Sb**	**15 45 51.2**	**-0.3**
KEV				MSG		15 45 53.3	
	comp=Z,3.5nm,0.4s						
OUL	**Oulu**	**3.50**	**137**	*e*PG	**Pg**	**15 45 22.1**	**-2.8**
OUL				*e*S	**Sn**	**15 45 57.8**	**+3.2**
MSF	**Maaselka**	**3.92**	**114**	*e*P	**Pn**	**15 45 19.9**	**+2.1**
MSF				*e*S	**Sn**	**15 46 06.4**	**+1.1**
KJN	**Kajaani**	**4.77**	**137**	*e*SG	**Sg**	**15 46 47.2**	**-6.7**
APA0	**Apatity Array**	**4.85**	**86**	Pn	**Pn**	**15 45 29.7**	**-1.3**
	baz=299,slow=14						
APA0				Sn	**Sn**	**15 46 26.4**	**-2.4**
	baz=285,slow=28						
APA0	**Apatity Array**	**4.85**	**86**	*e*P	**Pn**	**15 45 29.7**	**-1.3**
APA0				*e*S	**Sn**	**15 46 26.4**	**-2.4**
KAF	**Kangasniemi**	**6.21**	**153**	*e*SG	**Sg**	**15 47 34.0**	**-7.7**
FIA0	**FINESS Array S**	**6.80**	**156**	*e*S	**Sn**	**15 47 17.5**	**-0.2**
FIA0				*e*SG	**Sg**	**15 47 52.1**	**-9.4**
FIA0	**FINESS Array S**	**6.80**	**156**	Sn	**Sn**	**15 47 17.5**	**-0.2**
	baz=357,slow=28						
FIA0				Lg		15 47 52.1	
	baz=344,slow=37						

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*WAR **29** 15:58:34.6,51.49N×16.10E,ML2.6,Mining Induced*
*PRU **29** 15:58:35.1,51.44N×16.05E*

ISC 29 15:58:33.0±1.4,**51.44N**±0.06×**15.99E**±0.07,**n8**,σ1**13**/13, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.63**	**162**	*e*PG	**Pg**	**15 58 47.0**	**+1.5**
KSP				*e*SG	**Sg**	**15 58 55.0**	**+1.1**
UPC	**Upice**	**0.93**	**179**	*e*PG	**Pg**	**15 58 52.7**	**+1.0**
DPC	**Dobruska-Polom**	**1.11**	**169**	*e*PG	**Pg**	**15 58 55.5**	**+0.3**
DPC				*e*SG	**Sg**	**15 59 10.7**	**+0.7**
PVCC	**Panska Ves**	**1.28**	**225**	*e*PG	**Pg**	**15 58 59.7**	**+1.1**
PRU	**Pruhonice**	**1.72**	**213**	*e*SG	**Sg**	**15 59 29.9**	**-0.4**
	8.0nm,0.4s						
CLL	**Collm**	**1.88**	**267**	*i* PG	**Pg**	**15 59 10.1**	**-0.4**
CLL				*i*		15 59 13.9	
CLL				*i* SG	**Sg**	**15 59 36.0**	**+0.5**
OKC	**Ostrava-Krasne**	**2.11**	**139**	*e*PG	**Pg**	**15 59 14.4**	**-0.8**
OKC				*e*SG	**Sg**	**15 59 41.4**	**-1.9**
KHC	**Kasperske Hory**	**2.78**	**215**	*e*PG	**Pg**	**15 59 26.1**	**-2.4**
KHC				*e*SG	**Sg**	**16 00 04.5**	**-1.1**

OTT 29 15:58:33.1±0.1,**52.81N**×**67.28W**,**MN2.8**/7,**Blast, Mount Wright, Qc Mining explosion.,Northern Quebec**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**2.05**	**7**	PN	Pn	15 59 08.3	-0.9
SCHQ				SG	Sg	15 59 37.2	-4.1
SCHQ				Trac		15 59 39.4	
	comp=Z,34nm,0.2s						
MNQ	**Manicouagan**	**2.46**	**203**	PN	Pn	15 59 13.9	-1.2
MNQ				SN	Sn	15 59 46.4	+0.1
MNQ				Trac		15 59 50.0	
	comp=Z,11nm,0.1s						
SMQ	**Clarke City**	**2.61**	**172**	PN	Pn	15 59 16.1	-1.2
SMQ				SN	Sn	15 59 50.6	+0.4
SMQ				Trac		15 59 54.8	
	comp=Z,16nm,0.2s						
ICQ	**Pointe Anglais**	**3.29**	**180**	PN	Pn	15 59 25.4	-1.5
ICQ				SN	Sn	16 00 04.6	-2.7
ICQ				Trac		16 00 19.4	
	comp=Z,5.8nm,0.1s						
CNQ	**Baie Comeau**	**3.54**	**188**	PN	Pn	15 59 29.3	-1.2
CNQ				SN	Sn	16 00 10.2	-3.6
CNQ				Trac		16 00 23.2	
	comp=Z,5.6nm,0.2s						
GSQ	**Grosses Roches**	**3.90**	**178**	PN	Pn	15 59 33.6	-2.1
GSQ				SN	Sn	16 00 15.7	-7.2
GSQ				Trac		16 00 38.4	
	comp=Z,6.6nm,0.3s						
LG4Q	**La Grande 4**	**4.18**	**284**	PN	Pn	15 59 36.9	-2.6
LG4Q				PG	Pg	15 59 45.4	-11
LG4Q				SN	Sn	16 00 29.0	-0.9
LG4Q				Trac		16 00 45.5	
	comp=Z,6.5nm,0.3s						
LMQ	**La Malbaie**	**5.62**	**202**	PN	Pn	15 59 56.5	-3.4
DRLN	**Deer Lake**	**7.11**	**116**	PN	Pn	16 00 16.6	-4.4
LMN	**Caledonia Moun**	**7.14**	**166**	PN	Pn	16 00 16.2	-5.2
MALO	**McAlpine Lake**	**8.29**	**255**	PN	P	16 00 32.6	-4.8
MALO				SN	Sn	16 01 57.1	-16
VIMO	**Victor Mine**	**9.97**	**277**	PN	P	16 00 55.0	-5.7
VIMO				SN	Sn	16 02 40.2	-14
SILO	**Sutton Inlier**	**10.60**	**286**	PN	P	16 01 02.7	-6.5

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*ATH **29** 15:58:37.3,37.55N×22.70E,h66km±7km,ML3.3*
*NEIC **29** 15:58:37.3,37.55N×22.70E,h66km,After ATH.*
*THE **29** 15:58:38.8,37.68N×22.77E,h22km,ML3.6*
*CSEM **29** 15:58:38.0±0.2,37.62N×22.67E,h45km±3km,ML3.3, Error ellipse: s-maj=2.8km s-min=2.4km az=43.0*

ISC 29 15:58:37.6±0.6,**37.63N**±0.03×**22.71E**±0.05,**h70**km±12km, **n28**,σ0**77**/36,**5C,Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NAIG	**Nisos Aigina**	**0.64**	**78**	⇑*iP*	**P**	**15 58 52.1**	**+0.1**
NSAL	**Nisos Salamina**	**0.66**	**65**	*e*P	**P**	**15 58 52.3**	**0.0**
ITM	**Ithomi**	**0.76**	**235**	⇑*iP*	**P**	**15 58 52.9**	**-0.5**
ATH	**Athens Observa**	**0.87**	**66**	⇑*iP*	**P**	**15 58 55.5**	**+0.7**
ATH				*e*S	**S**	**15 59 08.3**	**+0.8**
VLI	**Veliai**	**0.92**	**168**	⇑*iP*	**P**	**15 58 54.4**	**-1.0**
VLI				*e*S	**S**	**15 59 06.3**	**-2.3**
MPAR	**Parnis Oros**	**0.97**	**57**	⇑*iP*	**P**	**15 58 56.7**	**+0.7**
PTL	**Penteli**	**1.01**	**65**	*e*P	**P**	**15 58 57.0**	**+0.5**
PTL				*e*S	**S**	**15 59 11.5**	**+0.9**
KYTH	**Kithira**	**1.37**	**169**	*e*P	**P**	**15 59 01.5**	**+0.1**
AGG	**Agios Georgios**	**1.43**	**348**	*e*Pb	**P**	**15 59 02.2**	**+0.1**
AGG				*e*Sb	**S**	**15 59 20.3**	**0.0**
EVR	**Evrytania**	**1.47**	**332**	*e*P	**P**	**15 59 03.0**	**+0.3**
NEO	**Neokhori**	**1.73**	**13**	*e*P	**P**	**15 59 06.3**	**+0.1**
VLS	**Valsamata**	**1.76**	**289**	*e*P	**P**	**15 59 08.0**	**+1.3**
XOR	**Xorichti**	**1.78**	**12**	*e*Pb	**P**	**15 59 06.8**	**-0.1**
XOR				*e*Sb	**S**	**15 59 28.2**	**-0.2**
AOS	**Alonnisos**	**1.80**	**31**	*e*Pb	**P**	**15 59 07.0**	**-0.1**
AOS				*e*Sb	**S**	**15 59 27.1**	**-1.8**
LKD	**Levkas**	**1.95**	**304**	*e*Pb	**P**	**15 59 09.4**	**+0.3**
APE	**Apeiranthos**	**2.32**	**103**	*e*P	**P**	**15 59 14.1**	**-0.3**
THR5	**Thira Island,**	**2.44**	**119**	*e*Pn	**P**	**15 59 16.2**	**+0.2**
MEV	**Metsovon**	**2.45**	**332**	*e*Pn	**P**	**15 59 17.3**	**+1.1**
THR3	**Thira Island,**	**2.48**	**119**	*e*Pn	**P**	**15 59 17.6**	**+1.0**
LIT	**Litokhoron**	**2.48**	**356**	*e*Pn	**P**	**15 59 16.2**	**-0.5**
LIT				*e*Sn	**S**	**15 59 44.5**	**-1.2**
JAN	**Janina**	**2.49**	**325**	*e*P	**P**	**15 59 17.0**	**+0.1**
THR6	**Thira Island,**	**2.50**	**120**	*e*Pn	**P**	**15 59 17.7**	**+0.8**
VAM	**Vamos**	**2.52**	**151**	*e*P	**P**	**15 59 16.5**	**-0.8**
IGT	**Igoumenitsa**	**2.66**	**316**	*e*Pn	**P**	**15 59 19.8**	**+0.5**
OUR	**Ouranopolis**	**2.88**	**20**	*e*Pn	**P**	**15 59 22.1**	**-0.2**
LOS	**Limnos**	**2.96**	**38**	*e*Pn	**P**	**15 59 23.2**	**-0.3**
KEK	**Kerkira**	**3.08**	**313**	*e*P	**P**	**15 59 25.9**	**+0.7**
KNT	**Kendrikon**	**3.54**	**2**	*e*Pn	**P**	**15 59 31.4**	**-0.1**
KNT				*e*Sn	**S**	**16 00 10.8**	**-1.5**

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*TAP **29** 16:10:02.9,24.96N×121.69E,h97km±1km,ML2.5*

JMA 29 16:09:33.0±0.3,**25.44N**×**122.52E**,**h191**km,**M2.6**,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.07**	**155**	P	P	16 10 02.5	0.0
IRIF	**Iriomote-Funau**	**1.56**	**135**	P	P	16 10 06.5	-0.3
IRIF				S	S	16 10 32.4	-0.5
HATJ	**Hateruma jima**	**1.81**	**139**	P	P	16 10 09.2	0.0
HATJ				*e*S	S	16 10 37.2	+0.1
JKRS	**Kuro-shima**	**1.81**	**131**	P	P	16 10 09.1	-0.1
JKRS				S	S	16 10 36.9	-0.2
JIJ	**Ishigaki jima**	**1.82**	**126**	P	P	16 10 08.8	-0.6
JIJ				S	S	16 10 36.1	-1.3
JTJ	**Tarama**	**2.13**	**111**	P	P	16 10 12.8	+0.1
JTJ				S	S	16 10 43.0	-0.2

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*NIED **29** 16:15:00,37.20N×138.80E,h5km,Mw3.9 Best double couple: M0 7.27×10^14 NP1:ϕs 12°,δ62°,λ93°. NP2:ϕs 185°, δ29°,λ84°.*
*JMA **29** 16:15:06.2,37.22N×138.80E,h9km±1km,M3.4*
JMA Felt III J1.

ISC 29 16:15:05.9±0.8,**37.23N**±0.03×**138.79E**±0.05,**h13**km±5km, **n10**,σ0**44**/19,**3C-4D,Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.18**	**85**	⇓P	**Pg**	**16 15 09.9**	**-0.4**
JHK				S	**Sg**	**16 15 13.3**	**+0.2**
JIZZ	**Izumozaki**	**0.30**	**348**	⇑P	**Pg**	**16 15 13.1**	**+0.7**
JKT	**Katashina**	**0.59**	**141**	⇓P	**Pb**	**16 15 17.3**	**-0.4**
JKT				S	**Sb**	**16 15 25.2**	**-0.6**
JGK	**Kuni**	**0.68**	**190**	⇑P	**Pb**	**16 15 19.2**	**0.0**
JGK				S	**Sb**	**16 15 29.0**	**+0.8**
JNS	**Sasagawa**	**0.72**	**36**	P	**Pb**	**16 15 19.7**	**-0.2**
JNS				S	**Sb**	**16 15 29.7**	**+0.3**
JFY	**Yanaizu**	**0.75**	**76**	⇓P	**Pb**	**16 15 20.0**	**-0.4**
JFY				S	**Sb**	**16 15 30.6**	**+0.3**
MAT	**Matsushiro**	**0.83**	**214**	P	**Pb**	**16 15 21.4**	**-0.4**
MAT				S	**Sb**	**16 15 32.5**	**-0.1**
MAT	**Matsushiro**	**0.83**	**214**	P	**Pb**	**16 15 21.3**	**-0.5**
MAT				S	**Sb**	**16 15 32.6**	**0.0**
JSD	**Sado**	**0.90**	**333**	⇑P	**Pb**	**16 15 22.3**	**-0.7**
JSD				S	**Sb**	**16 15 35.0**	**+0.3**
JAG	**Ashikaga**	**0.97**	**146**	⇓P	**Pb**	**16 15 24.3**	**+0.2**
JAG				S	**Sb**	**16 15 37.2**	**+0.6**

**MAN 29 16:45:06.5,13.58

CMB	**Columbia Colle**	**2.02**	**112**	*e*Pn		**Pn**	**18 03 29.1**	**+0.1**	
BEKR	**Beckwourth**	**2.15**	**60**	*e*Pn		**Pn**	**18 03 32.4**	**+1.6**	
KHMM	**Horse Mountain**	**2.19**	**341**	*e*Pn		**Pn**	**18 03 31.5**	**0.0**	
SAO	**San Andreas Ge**	**2.29**	**152**	*e*Pn		**Pn**	**18 03 31.5**	**-1.3**	
WCN	**Washoe City**	**2.40**	**77**	*e*Pn		**Pn**	**18 03 36.0**	**+1.6**	
LRV	**Little Rabbit**	**2.75**	**149**	*e*Pn		**Pn**	**18 03 38.7**	**-0.8**	
PAHR	**Pah Rah Range**	**2.78**	**70**	*e*Pn		**Pn**	**18 03 40.1**	**+0.4**	
KRMB	**Red Mountain**	**2.85**	**343**	*e*Pn		**Pn**	**18 03 41.0**	**+0.2**	
YBH	**Yreka Blue Hor**	**2.92**	**1**	Pn		**Pn**	**18 03 48.5**	**+6.6**	
	2.6nm,0.3s,baz=194,slow=7.1,SNR=3.4								
YBH				Lg			18 04 28.6		
	baz=59,slow=24,SNR=0.8								
YBH	**Yreka Blue Hor**	**2.92**	**1**	*e*Pn		**Pn**	**18 03 41.2**	**-0.7**	
OMM	**Old Mammoth Mi**	**3.20**	**111**	*e*Pn		**Pn**	**18 03 47.5**	**+1.7**	
NVAR	**Mina Array Bea**	**3.52**	**95**	Pn		**Pn**	**18 03 54.5**	**+4.2**	
	3.4nm,0.3s,baz=266,slow=15,SNR=60								
NVAR				Pg		**Pg**	**18 03 60.0**	**-4.8**	
	14nm,0.3s,baz=273,slow=17,SNR=54								
NVAR				Lg			18 04 49.2		
	3.0nm,0.3s,baz=36,slow=39,SNR=1.6								
NVAR	**Mina Array Bea**	**3.52**	**95**	Pn		**Pn**	**18 03 54.5**	**+4.2**	
NVAR				Pg		**Pg**	**18 03 60.0**	**-4.8**	
NVAR				Lg			18 04 49.2		
KBO	**Bosley Butte**	**3.58**	**342**	Pn		**Pn**	**18 03 52.0**	**+0.9**	
MOD	**Modoc**	**3.62**	**31**	*e*Pn		**Pn**	**18 03 52.0**	**+0.3**	
MTUM	**Tungsten Hills**	**3.62**	**112**	*e*Pn		**Pn**	**18 03 52.9**	**+1.2**	
MNV	**Mina**	**3.63**	**94**	*e*Pn		**Pn**	**18 03 52.6**	**+0.7**	
HUMO	**Hull Mountain**	**3.80**	**358**	*e*Pn		**Pn**	**18 03 52.5**	**-1.8**	
KEBM	**Edson Butte**	**4.23**	**344**	Pn		**Pn**	**18 03 59.0**	**-1.4**	
TPH	**Tonopah**	**4.42**	**98**	*e*Pn		**Pn**	**18 04 03.4**	**+0.3**	
BMN	**Battle Mountai**	**4.58**	**68**	*e*Pn		**Pn**	**18 04 05.5**	**+0.1**	
TPNV	**Topopah Spring**	**5.48**	**108**	*e*Pn		**Pn**	**18 04 17.1**	**-1.0**	
TRCR	**Troy Canyon**	**5.65**	**92**	Pn		**Pn**	**18 04 21.1**	**+0.6**	
NEN	**Nelson**	**7.07**	**114**	Pn		**Pn**	**18 04 39.7**	**-0.7**	
LDFC	**Landfair**	**7.17**	**119**	Pn		**Pn**	**18 04 41.3**	**-0.7**	
DUG	**Dugway**	**7.82**	**77**	*e*Pn		**Pn**	**18 04 48.5**	**-2.6**	
MSU	**Marysvale**	**8.29**	**89**	*e*Pn		**P**	**18 04 56.9**	**-0.7**	
HWUT	**Hardware Ranch**	**9.02**	**68**	Pn		**P**	**18 05 05.2**	**-2.4**	
DAU	**Daniels Canyon**	**9.03**	**76**	Pn		**P**	**18 05 05.9**	**-1.9**	
NEW	**Newport**	**10.30**	**22**	LR	LR		18 09 31.8		
	comp=Z,113nm,19.0s,baz=359,slow=38								
PDAR	**Pinedale Array**	**10.77**	**64**	Pn		**P**	**18 05 36.9**	**+5.2**	
	0.1nm,0.3s,baz=251,slow=12,SNR=16								
TXAR	**Lajitas Array**	**18.40**	**115**	P		**P**	**18 07 15.1**	**+3.8**	
	0.1nm,0.3s,baz=293,slow=9.5,SNR=11								
TXAR				LR	LR		18 15 28.6		
	comp=Z,74nm,18.0s,baz=290,slow=41								
DLBC	**Dease Lake**	**20.20**	**349**	LR	LR		18 15 53.9		
	comp=Z,151nm,18.2s,MS3.4,baz=293,slow=38								
ULM	**Lac du Bonnet**	**22.20**	**50**	P		**P**	**18 07 54.8**	**+2.5**	
	4.8nm,0.8s,mb4.0,baz=261,slow=8.3,SNR=5.8								
ILAR	**Eielson Array**	**29.60**	**339**	P		**P**	**18 09 03.3**	**+1.9**	
	0.6nm,1.0s,mb3.3,baz=135,slow=8.9,SNR=4.2								
ESDC	**Sonseca Array**	**83.90**	**43**	LR	LR		18 51 09.5		
	comp=Z,63nm,18.1s,MS4.0,baz=150,slow=34								
PMG	**Port Moresby**	**95.87**	**263**	LR	LR		18 51 41.0		
	comp=Z,90nm,19.7s,MS4.2,baz=283,slow=30								

DJA 29 18:21:54.6±1.0, 9.80S×118.67E, h80km, mb4.7/1, MD4.5/3, ML5.0/3, 4C-4D, Error ellipse: s-maj=30.2km s-min=9.6km az=159.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**2.84**	**297**	⇓*e*Pn	P	18 22 38.7	-0.1
	434nm,0.3s						
KEDI				⇓*e*Sn	S	18 23 10.3	-1.6
RATI	**Rata**	**3.27**	**289**	⇑*e*Pn	P	18 22 44.7	-0.2
	874nm,0.2s						
RATI				⇑*e*Sn	S	18 23 20.3	-2.5
KELI	**Kelakatan**	**4.41**	**290**	⇑*e*Pn	P	18 22 59.9	-0.8
	197nm,0.3s						
SRDI	**Scrawed**	**4.66**	**286**	⇓*e*P	P	18 23 03.5	-0.5
	267nm,0.2s						
SRDI				⇑*e*S	S	18 23 52.9	-4.3
NINI	**Niniconang**	**5.45**	**12**	⇓*e*P	P	18 23 15.1	+0.3
	105nm,0.3s						

MOS 29 19:01:57.3±1.7, 58.88N×147.62E, h10km, mb4.3/1, 1C, Error ellipse: s-maj=80.1km s-min=22.3km az=68.3, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MA2	**Magadan**	**1.76**	**65**	*ce*P	Pn	19 02 29.0	+0.8
MA2				*i*		19 02 54.8	
MA2				pmax	pmax		
	comp=N,100nm,0.2s						
MA2				pmax	pmax		
	comp=E,300nm,0.2s						
MA2				pmax	pmax		
	comp=Z,400nm,0.2s						
MA2				smax			
	comp=N,300nm,0.2s						
MA2				smax			
	comp=E,400nm,0.2s						
MGD	**Magadan 1**	**1.97**	**52**	*e*P	Pn	19 02 29.5	-1.7
MGD				*i*		19 02 58.0	
MGD				pmax	pmax		
	comp=Z,360nm,0.8s						
MGD				smax			
	comp=N,660nm,0.8s						
MGD				smax			
	comp=E,990nm,0.8s						
TLAR	**Talaya**	**3.29**	**45**	*e*P	Pn	19 02 50.6	+0.6
TLAR				pmax	pmax		
	comp=Z,20nm,0.3s						
SUUS	**Susuman**	**3.92**	**4**	*e*P	Pn	19 02 58.8	-0.1
SUUS				pmax	pmax		
	comp=N,10.0nm,0.4s						
SUUS				pmax	pmax		
	comp=E,10.0nm,0.4s						
SUUS				pmax	pmax		
	comp=Z,30nm,0.4s						
SEY	**Seymchan**	**4.68**	**28**	*e*P	Pn	19 03 12.8	+3.0
SEY				*e*S	Sn	19 04 07.5	+2.6
SEY				pmax	pmax		
	comp=Z,20nm,0.3s						
SEY				smax			
	comp=E,90nm,0.2s						

ATH ***29*** *19:22:45.8, 40.25N×19.93E, h5km, MD3.2/4*
THE ***29*** *19:22:45.9, 40.22N×19.80E, h10km, ML3.0*
NEIC ***29*** *19:22:45.8, 40.25N×19.93E, h5km, MD3.2(ATH), After ATH.*
CSEM ***29*** *19:22:46.0±0.7, 40.18N×19.74E, h2km, ML3.0, Error ellipse: s-maj=12.6km s-min=6.1km az=111.0*
ISC 29 19:22:44.9±1.4, 40.22N±0.05×19.78E±0.09, h2km±7km, n16, σ0=88/28, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.38**	**153**	*i* Pg	**Pg**	**19 22 52.3**	**-0.2**
SRN				*i* Sg	**Sg**	**19 22 57.4**	**-0.2**
KEK	**Kerkira**	**0.51**	**178**	*e*PB	**Pb**	**19 22 55.6**	**-0.6**
KEK				*e*SB	**Sb**	**19 23 04.9**	**+1.2**
IGT	**Igoumenitsa**	**0.81**	**148**	*e*Pg	**Pg**	**19 22 60.0**	**-1.1**
IGT				*e*Sg	**Sg**	**19 23 13.4**	**+1.6**
JAN	**Janina**	**1.00**	**124**	*e*PB	**Pb**	**19 23 03.2**	**-1.4**
MEV	**Metsovon**	**1.20**	**111**	*e*Pb	**Pb**	**19 23 06.9**	**-1.1**
MEV				*e*Sb	**Sb**	**19 23 24.4**	**+0.7**
FNA	**Florina**	**1.34**	**65**	*e*Pb	**Pb**	**19 23 11.3**	**+0.7**
FNA				*e*Sb	**Sb**	**19 23 28.8**	**+0.7**
LKD	**Levkas**	**1.65**	**156**	*e*Pb	**Pb**	**19 23 15.4**	**-0.4**
EVR	**Evrytania**	**2.04**	**129**	*e*PN	**Pn**	**19 23 22.5**	**+1.8**
LIT	**Litokhoron**	**2.08**	**92**	*e*Pn	**Pn**	**19 23 22.2**	**+0.9**
LIT				*e*Sn	**Sn**	**19 23 48.6**	**+0.4**
GRG	**Griva**	**2.13**	**69**	*e*Pn	**Pn**	**19 23 22.8**	**+0.8**
GRG				*e*Sn	**Sn**	**19 23 48.8**	**-0.6**
VLS	**Valsamata**	**2.13**	**163**	*e*PG	**Pg**	**19 23 27.0**	**-0.5**
AGG	**Agios Georgios**	**2.31**	**120**	*e*Pn	**Pn**	**19 23 23.8**	**-0.7**
AGG				*e*Sn	**Sn**	**19 23 53.2**	**-0.7**
XOR	**Xorichti**	**2.77**	**107**	*e*Pn	**Pn**	**19 23 31.5**	**+0.5**
XOR				*e*Sn	**Sn**	**19 24 05.3**	**-0.2**
XOR	**Xorichti**	**2.77**	**107**	*e*Pn	**Pn**	**19 23 31.5**	**+0.4**
XOR				*e*Sn	**Sn**	**19 24 05.3**	**-0.2**
PAIG	**Paliouri**	**3.01**	**94**	*e*Pn	**Pn**	**19 23 34.4**	**-0.2**
PAIG				*e*Sn	**Sn**	**19 24 10.2**	**-1.4**
PAIG	**Paliouri**	**3.01**	**94**	*e*Pn	**Pn**	**19 23 34.3**	**-0.2**
PAIG				*e*Sn	**Sn**	**19 24 10.2**	**-1.5**

NEIC ***29*** *19:26:28.6, 15.99N×94.94W, h52km, MD3.8(MEX), After MEX.*
MEX 29 19:26:28.6±0.3, 15.99N×94.94W, h52km±14km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.10**	**3**	*i* P	P	19 26 46.2	-1.8
CMIG				*i* S	S	19 26 60.0	-2.4
HUIG	**Huatulco**	**1.14**	**259**	*i* P	P	19 26 46.6	-1.9
HUIG				*i* S	S	19 27 00.8	-2.6
OXX	**Oaxaca**	**2.02**	**303**	*e*P	P	19 26 59.0	-2.0
OXX				*e*S	S	19 27 22.5	-2.6
CCIG	**Comitan**	**2.71**	**83**	*i* P	P	19 27 09.0	-1.8
CCIG				*i* S	S	19 27 39.7	-2.9

MAN ***29*** *19:28:55.9, 15.71N×118.96E, h16km, mb5.9, ML4.9, MS5.4*
MOS ***29*** *19:28:57.8±1.2, 15.62N×119.16E, h33km, mb5.7/39, MS5.1/31, Error ellipse: s-maj=12.2km s-min=6.1km az=114.3*
HRVD ***29*** *19:28:57.5±0.2, 15.83N×118.92E, h12km, MW5.4/54, Centroid moment Tensor Solution. LP body waves: s45,c78;Mantle waves: s54,c108; Half duration: 1s3 Moment tensor: Scale 10^17Nm; Mrr-1.03±.03; Mθθ-0.25±.03; Mϕϕ 1.29±.03; Mrθ 0.83±.07; Mϕθ 0.94±.02; Mrϕ 0.66±.07; Best double couple: M0 1.8×10^17 NP1:ϕs 355°, δ 35°, λ -138°. NP2:ϕs 229°, δ 67°, λ -62°. Principal axes: T 2.04, Plg18°, Azm298°; N -.47, Plg25°, Azm37°; P -1.56, Plg58°, Azm177°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***29*** *19:28:57.5±0.2, 15.64N×119.11E, mb5.5/87, MS4.6/13, MW5.5 Error ellipse: s-maj=6.3km s-min=4.2km az=75.0, Moment Tensor Solution. s11 Moment tensor: Scale 10^17 Nm; Mrr-0.65; Mθθ 0.20; Mϕϕ 0.45; Mrθ 0.89; Mϕθ 1.51; M0 -0.47; Best double couple: M0 1.9×10^17 NP1:ϕs 4°, δ 59°, λ -156°. NP2:ϕs 261°, δ 70°, λ -33°. Principal axes: T 1.87, Plg7°, Azm315°; N .06, Plg52°, Azm53°; P -1.93, Plg37°, Azm220°;*
IDC ***29*** *19:28:58.9±3.0, 15.59N×118.92E, h26km±19km, mb4.9/18, mb1 5.1/23, mb1mx5.1/24, ML4.4/3, MS4.5/23, Ms1 4.6/23, ms1mx4.4/34 Error ellipse: s-maj=17.9km s-min=9.9km az=62.0*
BJI ***29*** *19:28:58.7, 15.99N×118.94E, h21km, mB5.5, mb5.2, ML5.1, Ms5.5, Msz5.2*
ISC 29 19:28:56.1±0.1, 15.68N±0.02×118.99E±0.02, h18km, h18km±1.9km: pP-P, n491, σ1 9 27/498, mb5.4/125, MS5.0/70, 56C-38D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.89**	**84**	*e*P	**Pb**	**19 29 12.7**	**-0.1**
BOLP	**Bolinao**	**1.13**	**52**	*e*P	**Pb**	**19 29 16.0**	**-0.8**
BCPH	**Baguio City Da**	**1.68**	**65**	⇑*i*P	**Pn**	**19 29 24.7**	**-0.4**
BCPH				*i* S	**Sn**	**19 29 45.7**	**-0.6**
PCPH	**Palayan**	**2.03**	**93**	⇑*i*P	**Pn**	**19 29 29.4**	**-0.7**
PCPH						19 29 54.0	
LUBP	**Lubang**	**2.28**	**148**	*e*P	**Pn**	**19 29 33.6**	**-0.1**
TGY	**Tagaytay City**	**2.45**	**129**	⇓*e*P	**Pn**	**19 29 37.6**	**+1.6**
TGY				*i* S	**Sn**	**19 30 01.4**	**-4.4**
TGY	**Tagaytay City**	**2.45**	**129**	Pn	**Pn**	**19 29 38.2**	**+2.1**
	581nm,0.3s,baz=237,slow=3.9,SNR=56						
TGY				Sn	**Sn**	**19 30 07.3**	**+1.6**
	653nm,0.3s,baz=109,slow=17,SNR=12						
TGY				LR	LR	19 30 37.1	
	comp=Z,28μm,20.3s,baz=40,slow=40						
BALP	**Baler**	**2.49**	**88**	*e*P	**Pn**	**19 29 37.0**	**+0.4**
BALP				*e*S	**Sn**	**19 30 08.7**	**+1.8**
ABRA	**Dolores**	**2.56**	**40**	*e*P	**Pn**	**19 29 36.9**	**-0.7**
LQP	**Lukban**	**2.92**	**122**	*e*P	**Pn**	**19 29 43.6**	**+0.9**
LQP				*i* S	**Sn**	**19 30 16.1**	**-1.5**
CAUP	**Cauayan**	**3.00**	**65**	*e*P	**Pn**	**19 29 45.4**	**+1.6**
POLP	**Polilio Island**	**3.00**	**108**	*e*P	**Pn**	**19 29 45.0**	**+1.1**
POLP				*e*S	**Sn**	**19 30 21.1**	**+1.4**
APYP	**Conner**	**3.06**	**44**	*e*P	**Pn**	**19 29 44.3**	**-0.5**
APYP				*e*S	**Sn**	**19 30 20.2**	**-1.2**
CVP	**Callao Caves**	**3.38**	**53**	⇓*e*P	**Pn**	**19 29 49.2**	**-0.1**
CVP				*e*S	**Sn**	**19 30 26.0**	**-3.4**
BOAC	**Boac**	**3.54**	**128**	*e*P	**Pn**	**19 29 51.9**	**+0.4**
GQP	**Guinayangan**	**3.78**	**117**	⇑*e*P	**Pn**	**19 29 55.3**	**+0.4**
SJMP	**San Jose**	**3.81**	**147**	*e*P	**Pn**	**19 29 56.1**	**+0.8**
BUSP	**Coron**	**3.84**	**162**	*e*P	**Pn**	**19 29 55.5**	**-0.2**
SGCP	**Mt. Cagua**	**3.88**	**48**	*e*P	**Pn**	**19 29 59.0**	**+2.6**
OTRP	**Odiongan**	**4.42**	**138**	*e*P	**Pn**	**19 30 05.9**	**+1.9**
CUYO	**Cuyo Island**	**5.19**	**157**	*e*P	**Pn**	**19 30 13.8**	**-1.1**
PVCP	**Virac**	**5.41**	**112**	*e*P	**Pn**	**19 30 18.8**	**+0.8**
RCP	**Roxas**	**5.48**	**138**	⇑*e*P	**Pn**	**19 30 21.8**	**+2.7**
BBP	**Basco**	**5.52**	**30**	*e*P	**Pn**	**19 30 18.5**	**-1.1**
PPR	**Puerto Princes**	**5.87**	**182**	⇑*e*P	**Pn**	**19 30 22.0**	**-2.5**
AAP	**Anini-y**	**5.96**	**151**	*e*P	**Pn**	**19 30 22.0**	**-3.9**
GUIM	**Jordan**	**6.12**	**145**	*e*P	**Pn**	**19 30 30.4**	**+2.3**
CNP	**Catarman**	**6.34**	**119**	*e*P	**Pn**	**19 30 32.6**	**+1.4**
BATP	**Bataraza**	**6.94**	**190**	*e*P	**Pn**	**19 30 36.5**	**-3.0**
OCLP	**Ormoc**	**7.14**	**129**	*e*P	**Pn**	**19 30 45.0**	**+2.5**
LLP	**Lapu-Lapu**	**7.20**	**137**	*e*P	**Pn**	**19 30 46.3**	**+3.0**
SNPH	**Sibulan**	**7.54**	**146**	⇑*e*P	**Pn**	**19 30 49.5**	**+1.5**
TBP	**Tagbilaran**	**7.62**	**141**	*i* P	**Pn**	**19 30 50.5**	**+1.4**
MSLP	**Maasin**	**7.94**	**133**	*e*P	**Pn**	**19 30 55.1**	**+1.5**
IPIL	**Ipil**	**8.59**	**156**	*e*P	**P**	**19 31 02.1**	**-0.5**
PAGZ	**Pagadian**	**8.89**	**151**	*e*P	**P**	**19 31 08.6**	**+1.8**
PAGZ	**Pagadian**	**8.89**	**151**	*e*P	**P**	**19 31 08.9**	**+2.1**
GZH	**Guangzhou**	**9.09**	**325**	P	**P**	**19 31 09.0**	**-0.6**
GZH				S	**Sn**	**19 32 46.3**	**-6.3**
GZH				Smax			
	comp=N,95nm,1.0s						
GZH				Smax			
	comp=E,142nm,0.9s						
GZH				LR	LR		
	comp=N,11μm,11.8s						
GZH				LR	LR		
	comp=E,13μm,11.8s						
QZH	**Quanzhou**	**9.23**	**358**	⇓*i*P	**P**	**19 31 06.5**	**-5.0**
QZH				S	**Sn**	**19 32 43.0**	**-13**
QZH				Smax			
	comp=N,100nm,0.8s						
QZH				Smax			
	comp=E,120nm,1.0s						
QZH				LR	LR		
	comp=N,7μm,13.5s						
QZH				LR	LR		
	comp=E,15μm,14.1s						
QZH				LR	LR		
	comp=Z,23μm,13.8s						
QIZ	**Qiongzhong**	**9.35**	**292**	*e*Pn	**P**	**19 31 08.0**	**-5.2**
	comp=Z,146nm,0.8s						
QIZ				*e*Sn	**Sn**	**19 32 49.6**	**-9.2**
TATO	**Taipei**	**9.54**	**14**	*e*P	**P**	**19 31 17.1**	**+1.2**
	comp=Z,115nm,0.9s						
BUKP	**Musuan**	**9.77**	**142**	*e*P	**P**	**19 31 20.5**	**+1.5**
BUKP	**Musuan**	**9.77**	**142**	*e*P	**P**	**19 31 20.5**	**+1.5**
KKM	**Kota Kinabalu**	**9.95**	**196**	⇓*e*P	**P**	**19 31 19.7**	**-1.9**
	comp=Z,305nm,0.7s						
DAV	**Davao City (W)**	**10.72**	**142**	⇓*e*P	**P**	**19 31 34.7**	**+2.7**
MATI	**Mati**	**11.22**	**140**	*e*P	**P**	**19 31 40.7**	**+1.8**
UBT	**Ubonrachathani**	**13.48**	**270**	P	**P**	**19 32 09.0**	**-0.1**
JOW	**Kunigami**	**14.07**	**36**	Pn	**P**	**19 32 21.7**	**+4.8**
	comp=Z,1.4nm,0.3s,baz=188,slow=5.3,SNR=5.7						
JOW				LR	LR	19 37 45.2	
	comp=Z,1μm,20.9s,baz=138,slow=37						
JOW	**Kunigami**	**14.07**	**36**	Pn	**P**	**19 32 21.7**	**+4.8**
JOW				LR	LR	19 37 45.2	
WHN	**Wuhan**	**15.40**	**345**	⇓P	**P**	**19 32 33.0**	**-1.3**
WHN				S	**S**	**19 35 28.3**	**+3.3**
WHN				LR	LR		
	comp=N,7μm,13.4s						
WHN				LR	LR		
	comp=E,29μm,12.4s						
WHN				LR	LR		
	comp=Z,13μm,15.0s						
SSE	**Sheshan**	**15.48**	**7**	P	**P**	**19 32 36.5**	**+1.1**
SSE				S	**S**	**19 35 29.5**	**+2.6**
SSE				AMB	AMB		
	comp=Z,37nm,0.7s						
SSE				AMB	AMB		
	comp=Z,408nm,5.7s						
SSE				LR	LR		
	comp=N,2μm,19.0s						
SSE				LR	LR		
	comp=E,2μm,19.0s						
SSE				LR	LR		
	comp=Z,3μm,19.7s						
GYA	**Guiyang**	**15.72**	**315**	⇑*i*P	**P**	**19 32 38.0**	**-0.5**
GYA				AP	P	19 32 46.5	
GYA				AMB	AMB		
	comp=Z,130nm,1.1s						
GYA				AMB	AMB		
	comp=Z,2μm,11.4s						
GYA				LR	LR		
	comp=N,4μm,11.7s						
GYA				LR	LR		
	comp=E,4μm,12.6s						
GYA				LR	LR		
	comp=Z,5μm,14.1s						
NJ2	**Nanjing**	**16.30**	**360**	*e*P	**P**	**19 32 47.5**	**+1.6**
NJ2				PP	PP	19 33 02.0	+2.7
NJ2				S	**S**	**19 35 50.0**	**+4.0**
NJ2				AMB	AMB		
	comp=Z,50nm,0.8s						
NJ2				AMB	AMB		
	comp=Z,3μm,4.3s						
NJ2				LR	LR		
	comp=N,16μm,12.9s						
NJ2				LR	LR		
	comp=E,12μm,15.6s						
NJ2				LR	LR		
	comp=Z,35μm,14.3s						
ENH	**Enshi**	**16.94**	**331**	*e*P	**P**	**19 32 53.0**	**-1.1**
	comp=Z,568nm,1.9s						
NANT	**Nan**	**17.74**	**283**	⇑P	**P**	**19 33 05.0**	**+0.9**
	comp=Z,200nm,1.0s						
KMI	**Kunming**	**17.88**	**304**	⇑*i*P	**P**	**19 33 07.0**	**+1.2**
KMI				S	**S**	**19 36 24.5**	**+2.3**
KMI				AMB	AMB		
	comp=Z,2μm,6.1s						
KMI				LR	LR		
	comp=N,5μm,13.4s						
KMI				LR	LR		
	comp=E,5μm,12.6s						
KMI				LR	LR		
	comp=Z,5μm,27.3s						
NST	**Nakhon Sawan**	**18.16**	**273**	P	**P**	**19 33 10.0**	**+0.7**
	comp=Z,100nm,1.1s						
CHRT	**Chiangrai**	**18.76**	**286**	⇓P	**P**	**19 33 17.0**	**+0.4**
	comp=Z,816nm,1.3s						
TANI	**Tanete Lipujan**	**18.99**	**179**	⇓*i*P	**P**	**19 33 20.5**	**+1.0**
	comp=Z,100nm,1.2s						
BDT	**Bhumibol Dam**	**19.23**	**277**	P	**P**	**19 33 23.0**	**+0.7**
	comp=Z,29nm,0.7s						
CM31	**Chiang Mai Arr**	**19.36**	**281**	*e*P	**P**	**19 33 23.7**	**-0.1**
	comp=Z,40nm,0.8s						
CMAR	**Chiang Mai Arr**	**19.36**	**281**	P	**P**	**19 33 22.7**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=85,slow=9.3,SNR=230						
CMAR				PcP	PcP	19 37 45.4	+0.1
	comp=Z,0.3nm,0.3s,baz=147,slow=0.5,SNR=17						
CMAR				LR	LR	19 40 45.1	
	comp=Z,3μm,19.4s,baz=100,slow=37						
NINI	**Niniconang**	**19.98**	**178**	⇓*i*P	**P**	**19 33 31.1**	**+0.3**
	comp=Z,762nm,0.9s						
XAN	**Xi'an**	**20.41**	**335**	P	**P**	**19 33 33.0**	**-2.1**
XAN				AP	P	19 33 44.0	
XAN				S	**S**	**19 37 16.8**	**-1.1**
XAN				AMB	AMB		
	comp=Z,134nm,1.7s						
XAN				AMB	AMB		
	comp=Z,1μm,13.1s						
XAN				LR	LR		
	comp=N,5μm,14.1s,MS5.4						
XAN				LR	LR		
	comp=E,10μm,14.8s,MS5.4						
XAN				LR	LR		
	comp=Z,7μm,14.0s,MS5.2						
TIA	**Tai'an**	**20.52**	**356**	P	**P**	**19 33 34.5**	**-1.7**
TIA				AMB	AMB		
	comp=Z,148nm,1.3s						
TIA				LR	LR		
	comp=N,5μm,12.0s,MS5.2						
TIA				LR	LR		
	comp=E,3μm,12.0s,MS5.2						
KGM	**Kluang**	**20.56**	**230**	⇓*e*P	**P**	**19 33 37.9**	**+1.1**
	comp=E,277nm,1.0s						
CD2	**Chengdu**	**20.59**	**320**	⇑*i*P	**P**	**19 33 36.0**	**-1.0**
CD2				AMB	AMB		
	comp=Z,130nm,1.5s						
CD2				AMB	AMB		
	comp=Z,1μm,8.3s						
CD2				LR	LR		
	comp=E,6μm,13.6s						
CD2				LR	LR		
	comp=Z,4μm,15.3s,MS5.0						
IPM	**Ipoh**	**20.82**	**240**	⇓*e*P	**P**	**19 33 40.9**	**+1.5**
	comp=Z,36nm,0.6s						
INCN	**Inchon**	**22.75**	**16**	*e*P	**P**	**19 33 57.2**	**-1.5**
	comp=Z,304nm,1.4s,mb5.5						
INCN				LR	LR		
	comp=Z,1μm,22.0s,MS4.3						
KS15	**Wonju Array Si**	**23.07**	**18**	*e*P	**P**	**19 34 00.7**	**-1.1**
DL2	**Dalian**	**23.26**	**5**	P	**P**	**19 34 02.5**	**-1.1**
DL2				S	**S**	**19 38 17.0**	**+6.2**
DL2				AMB	AMB		
	comp=Z,560nm,6.5s						
DL2				LR	LR		
	comp=N,2μm,14.2s,MS4.9						
DL2				LR	LR		
	comp=E,2μm,12.3s,MS4.9						
DL2				LR	LR		
	comp=Z,3μm,13.7s,MS4.9						
KELI	**Kelakatan**	**24.15**	**191**	⇓*e*P	**P**	**19 34 13.1**	**+0.6**
	comp=Z,184nm,1.0s,mb5.5						
KEDI	**Kedomdong**	**24.18**	**187**	⇓*e*P	**P**	**19 34 12.4**	**-0.4**
	comp=Z,114nm,0.8s,mb5.3						
CBIJ	**Chichi jima**	**24.36**	**58**	LR	LR	19 42 24.2	
	comp=Z,2μm,19.3s,MS4.5,baz=251,slow=33						
BJT	**Baijiatuan**	**24.38**	**355**	*e*P	**P**	**19 34 15.2**	**+0.7**
	comp=Z,35nm,1.0s,mb4.7						
BJI	**Beijing**	**24.40**	**355**	P	**P**	**19 34 15.0**	**+0.3**
BJI				S	**S**	**19 38 32.0**	**+1.5**
BJI				AMB	AMB		
	comp=Z,87nm,1.2s,mb5.1						
BJI				AMB	AMB		
	comp=Z,1μm,5.0s						
BJI

BTO S **S** **19 38 55.3 -2.6**
BTO AMB AMB
comp=Z,64nm,1.1s,mb5.1
BTO LR LR
comp=N,3μm,11.4s,MS5.5
BTO LR LR
comp=E,8μm,11.7s,MS5.5
SNY Shenyang 26.36 8 ⇑P **P** **19 34 32.5 -0.6**
SNY AP pP 19 34 37.5 -0.8
SNY XP sP 19 34 40.3 -0.3
SNY PP PP 19 35 14.5 -1.6
SNY PCP PcP 19 37 59.5 +0.1
SNY S **S** **19 39 01.5 -1.8**
SNY XS 19 39 14.3
SNY SS SS 19 40 09.5 -3.1
SNY AMB AMB
comp=Z,50nm,0.9s,mb5.0
SNY LR LR
comp=N,3μm,13.5s,MS5.0
SNY LR LR
comp=E,1μm,13.1s,MS5.0
SNY LR LR
comp=Z,3μm,13.7s,MS5.1
MAJO Matsushiro 26.91 36 *e*P **P** **19 34 36.4 -1.9**
MAJO pmax pmax
comp=Z,12nm,0.8s,mb4.5
MAJO MLR MLR
comp=Z,1μm,20.0s,MS4.4
MAJO Matsushiro 26.91 36 *e*P **P** **19 34 36.4 -1.9**
comp=Z,12nm,0.8s,mb4.5
MAJO LR LR
comp=Z,1μm,20.0s,MS4.4
MAT Matsushiro 26.91 36 P **P** **19 34 36.6 -1.7**
MAT S **S** **19 39 12.0 -0.4**
MAT Matsushiro 26.91 36 *e*P **P** **19 34 37.0 -1.3**
comp=Z,50nm,1.5s,mb4.8
MAT *e*S **S** **19 39 12.0 -0.4**
MAT LR LR
comp=Z,1μm,20.0s,MS4.4
SHL Shillong 27.16 296 *i* P **P** **19 34 41.0 +0.4**
SHL *e*S **S** **19 39 19.0 +2.5**
AGT Agartala 27.31 292 *i* P **P** **19 34 41.0 -1.0**
AGT *i* 19 35 58.0
MENI Mendum Tagoi 27.85 129⇓*i*P **P** **19 34 44.9 -2.1**
comp=Z,29nm,0.7s,mb5.0
YOMI Yo Moklole 28.05 129⇓*i*P **P** **19 34 46.5 -2.3**
comp=Z,50nm,0.9s,mb5.1
CN2 Changchun 28.57 10 *e*P **P** **19 34 53.5 +0.3**
CN2 PCP PcP 19 38 06.3 +1.6
CN2 *e*S **S** **19 39 38.5 -0.5**
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,4μm,14.0s,MS5.2
CN2 LR LR
comp=E,3μm,14.0s,MS5.2
CN2 LR LR
comp=Z,4μm,15.0s,MS5.2
GTA Gaotai 29.00 328 ⇑P **P** **19 34 56.8 -0.3**
GTA AP pP 19 35 07.3 +5.0
GTA PP PP 19 35 52.0 +0.9
GTA PPP PPP 19 36 04.5 +0.4
GTA PCP PcP 19 38 05.5 -0.3
GTA S **S** **19 39 42.5 -3.5**
GTA SCS ScS 19 45 38.5 +0.8
GTA AMB AMB
comp=Z,38nm,1.4s,mb4.9
GTA AMB AMB
comp=Z,380nm,9.6s
GTA LR LR
comp=N,5μm,19.4s,MS5.3
GTA LR LR
comp=E,5μm,17.1s,MS5.3
GTA LR LR
comp=Z,5μm,14.1s,MS5.3
LSA Lhasa 29.14 303 P **P** **19 34 58.8 +0.3**
LSA SCS ScS 19 45 41.0 +2.6
LSA LR LR
comp=N,2μm,12.0s,MS5.0
LSA LR LR
comp=E,1μm,10.0s,MS5.0
VLA Vladivostok 29.50 19 *i* P **P** **19 35 01.0 -0.6**
VLA *e* 19 35 51.0
VLA *e*S **S** **19 39 51.0 -2.9**
VLA *e* 19 40 08.0
VLA *e*SSS Sx 19 41 25.0
VLA pmax pmax
comp=N,5μm,11.0s
VLA pmax pmax
comp=Z,600nm,11.0s
VLA pmax pmax
comp=E,500nm,8.0s
VLA smax
comp=N,500nm,8.0s
VLA smax
comp=E,900nm,8.0s
VLA MLR MLR
comp=Z,2μm,12.0s,MS4.8
VLA MLR MLR
comp=N,1μm,11.0s,MS4.7
VLA MLR MLR
comp=E,500nm,15.0s,MS4.7
CAL Calcutta 29.72 288 *e* **P** **19 35 11.0 +7.2**
CAL *e* 19 40 01.8
MDJ Mudanjiang 30.21 15 P **P** **19 35 08.3 +0.4**
MDJ S **S** **19 40 07.5 +2.3**
MDJ PCS 19 41 52.3
MDJ AMB AMB
comp=Z,69nm,1.1s,mb5.3
MDJ AMB AMB
comp=Z,146nm,3.8s
MDJ LR LR
comp=N,780nm,13.7s,MS4.9
MDJ LR LR
comp=E,2μm,13.7s,MS4.9
MDJ LR LR
comp=Z,3μm,18.3s,MS4.9
MDJ Mudanjiang 30.21 15 *e*P **P** **19 35 08.0 0.0**
comp=Z,82nm,1.1s,mb5.4
KAKA Kakadu 31.16 154⇓*i*P **P** **19 35 17.5 +0.9**
comp=Z,117nm,0.8s,mb5.8
GUN Gumba 32.96 297 *e*P **P** **19 35 32.1 0.0**
comp=Z,220nm,0.9s,mb6.1
PKI Pulchoki 33.28 297 *e*P **P** **19 35 34.2 -0.7**
comp=Z,98nm,1.0s,mb5.7
KKN Kakani 33.44 297 *e*P **P** **19 35 35.5 -0.9**
comp=Z,114nm,0.9s,mb5.8
HIA Hailar 33.51 1 *e*P **P** **19 35 36.1 -0.5**
comp=Z,11nm,1.0s,mb4.8
DMN Daman 33.55 296 *e*P **P** **19 35 36.6 -0.7**
comp=Z,255nm,1.4s,mb6.0
SONM Songino Array 33.71 345 P **P** **19 35 38.5 0.0**
comp=Z,31nm,0.9s,mb5.2,baz=162,slow=7.8,SNR=34
SONM ScP 19 42 01.5
comp=Z,1.6nm,1.0s,slow=1.2,SNR=3.7
GKN Gorkha 34.04 297 *e*P **P** **19 35 40.5 -1.1**
comp=Z,75nm,0.9s,mb5.6
VIS Vishakhapatnam 34.19 279 *e*P **P** **19 35 46.0 +3.1**
FITZ Fitzroy Crossi 34.20 169⇓*i*P **P** **19 35 41.0 -2.0**
comp=Z,63nm,0.8s,mb5.6
FITZ *e*S **S** **19 41 03.2 -4.4**
ASAJ Asahikawa 34.71 30 P **P** **19 35 48.6 +1.5**
comp=Z,19nm,0.8s,mb5.1,baz=249,slow=19,SNR=7.5
ASAJ PcP PcP 19 38 19.4 -1.8
comp=Z,11nm,0.9s,baz=343,slow=8.8,SNR=2.9
KOLN Koldanda 34.88 296 *e*P **P** **19 35 48.1 -0.7**
comp=Z,488nm,2.0s,mb6.1
COCO West Island 35.32 220 *e*P **P** **19 35 49.4 -3.2**
comp=Z,360nm,1.0s,mb6.3
WAU Wau 35.74 128 *e*P **P** **19 35 49.9 -6.4**
MBWA Marble Bar 36.61 179 *e*P **P** **19 36 00.7 -2.8**
comp=Z,50nm,0.9s,mb5.3
ZAK Zakamensk 36.88 343 *e*P **P** **19 36 04.7 -0.7**
ZAK *e* 19 38 29.6
YSS Yuzh-Sakhalins 36.91 27 *e*P **P** **19 36 05.0 -0.8**
YSS *e* 19 36 15.0
YSS *e*S **S** **19 41 49.0 -0.2**
YSS *e* 19 42 02.0
YSS pmax pmax
comp=Z,60nm,1.2s,mb5.3
YSS MLR MLR
comp=Z,900nm,14.0s,MS4.7
YSS MLR MLR
comp=N,1μm,13.0s
YSS Yuzh-Sakhalins 36.91 27 *e*P **P** **19 36 05.7 0.0**
comp=N,80nm,1.3s,mb5.4
YSS LR LR
comp=Z,1μm,21.0s,MS4.6
PMG Port Moresby 37.41 130 P **P** **19 36 10.7 +0.4**
comp=Z,117nm,1.0s,mb5.7,baz=314,slow=7.5,SNR=15
PMG LR LR 19 54 03.0
comp=Z,694nm,19.2s,MS4.5,baz=302,slow=40
PMG Port Moresby 37.41 130*c* *i*P **P** **19 36 07.7 -2.6**
PMG Port Moresby 37.41 130 *e*P **P** **19 36 06.5 -3.8**
comp=Z,125nm,1.0s,mb5.7
PMG LR LR
comp=Z,733nm,21.0s,MS4.5
IRK Irkutsk 38.31 345 *e*P **P** **19 36 16.6 -0.9**
WRAB Tennant Creek 38.47 156*d* *i*P **P** **19 36 16.2 -3.0**
WRAB Tennant Creek 38.47 156 *e*P **P** **19 36 16.2 -2.9**
comp=Z,225nm,1.1s,mb5.8
WRAB LR LR
comp=Z,329nm,21.0s,MS4.1
WRA Warramunga Arr 38.48 156 P **P** **19 36 16.6 -2.6**
comp=Z,101nm,1.0s,mb5.5,baz=338,slow=9.3,SNR=265
WRA PcP PcP 19 38 31.4 -1.2
comp=Z,14nm,0.7s,baz=342,slow=3.1,SNR=13
WRA S **S** **19 42 06.1 -7.2**
comp=Z,8.2nm,0.9s,baz=338,slow=15,SNR=8.3
WB2 Warramunga Arr 38.48 156⇓*i*P **P** **19 36 16.6 -2.6**
WB2 *e*PCP PcP 19 38 32.0 -0.7
WB2 *e*S **S** **19 42 06.3 -7.1**
WMQ Urumqi 38.64 323 P **P** **19 36 21.5 +1.2**
WMQ PP PP 19 37 55.0 +2.4
WMQ S **S** **19 42 16.0 +0.4**
WMQ LR LR
comp=N,5μm,20.0s,MS5.4
WMQ LR LR
comp=E,3μm,21.0s,MS5.4
WMQ LR LR
comp=Z,3μm,20.0s,MS5.1
MOY Mondy 38.68 342 *e*P **P** **19 36 20.8 +0.3**
HYB Hyderabad 38.75 278 *i* P **P** **19 36 21.5 0.0**
HYB *e*PP PP 19 38 00.0 +5.9
HYB *e*S **S** **19 42 12.0 -5.5**
HYB Hyderabad 38.75 278 *e*P **P** **19 36 21.5 0.0**
HYB *e*S **S** **19 42 12.0 -5.5**
BHPL Bhopal 39.80 288 *e*P **P** **19 36 29.3 -0.9**
BHPL AMb AMB 19 36 36.4
comp=Z,42nm,1.2s,mb5.0
DDI Dehra Dun 40.17 299 *e*P **P** **19 36 32.0 -1.1**
NDI New Delhi 40.59 296 *e*P **P** **19 36 36.5 -0.1**
NDI *e* 19 38 14.0
NDI *e* 19 38 16.0
LATR Latur 40.59 280 *e*P **P** **19 36 37.0 +0.3**
CLNS Chul'man 41.33 5 *e*P **P** **19 36 43.7 +1.3**
CLNS *e* 19 38 50.7
CLNS *e*S **S** **19 42 46.1 -10**
CLNS *e*SS SS 19 45 46.9 -7.9
CLNS pmax pmax
comp=Z,46nm,0.8s,mb5.2
CLNS pmax pmax
comp=N,38nm,1.0s
CLNS pmax pmax
comp=E,20nm,0.8s
CLNS pmax pmax
comp=Z,8.0nm,0.8s,mb4.4
CLNS pmax pmax
comp=N,11nm,1.4s
CLNS pmax pmax
comp=E,4.0nm,0.9s
CLNS smax
comp=E,100nm,12.4s
CLNS smax
comp=Z,73nm,10.5s
CLNS smax
comp=N,1μm,26.4s
CLNS MLR MLR
comp=Z,2μm,13.0s,MS5.1
CLNS MLR MLR
comp=N,1μm,14.0s,MS5.0
CLNS MLR MLR
comp=E,200nm,12.0s,MS5.0
ASPA Alice Springs 41.73 159⇓*i*P **P** **19 36 44.4 -1.7**
ASPA *e*PCP PcP 19 38 42.0 -1.2
ASPA *e*S **S** **19 42 57.3 -4.8**
ASAR Alice Springs 41.73 159 P **P** **19 36 44.4 -1.7**
comp=E,62nm,0.6s,mb5.4,baz=338,slow=6.8,SNR=446
ASAR PcP PcP 19 38 41.9 -1.3
comp=E,20nm,0.8s,baz=336,slow=3.4,SNR=10
ASAR S **S** **19 42 57.6 -4.4**
comp=E,6.0nm,0.9s,baz=339,slow=12,SNR=7.0
ASAR LR LR 19 55 02.3
comp=E,446nm,21.2s,MS4.3,baz=339,slow=38
BHK Bhakra 41.77 300 *e*P **P** **19 36 49.4 +3.0**
AJM Ajmer 42.56 292 *e*P **P** **19 36 51.1 -1.8**
AJM AMb AMB 19 37 01.2
comp=Z,64nm,1.1s,mb5.2
THN Thein Dam 42.57 301 *e*P **P** **19 36 51.5 -1.4**
comp=Z,22nm,0.7s,mb5.0
KAD Karad 42.92 279 *e*P **P** **19 36 56.2 +0.3**
KAD AMb AMB 19 37 03.0
comp=Z,65nm,2.0s,mb5.0
POO Poona 43.16 280 *e*P **P** **19 36 58.6 +0.8**
POO AMb AMB 19 37 04.6
comp=Z,66nm,1.9s,mb5.0
MKAR Makanchi Array 43.47 323 *i* P **P** **19 36 59.2 -0.8**
KSH Kashi 44.36 311 *i* P **P** **19 37 08.8 +1.5**
KSH PCP PcP 19 38 48.8 -3.0
KSH PP PP 19 38 56.0 +3.8
KSH PPP PPP 19 39 36.8 +6.0
KSH *e*PCS 19 42 40.3
KSH S **S** **19 43 44.3 +4.1**
KSH AMB AMB
comp=Z,280nm,4.2s
KSH LR LR
comp=N,2μm,13.2s,MS5.4
KSH LR LR
comp=E,2μm,12.0s,MS5.4
CTA Charters Tower 44.51 142⇓*i*P **P** **19 37 07.3 -1.5**
comp=E,96nm,0.9s,mb5.6
CTA *e*PCP PcP 19 38 52.6 +0.1
CTA *e*S **S** **19 43 40.0 -2.7**
CTA Charters Tower 44.51 142 PcP PcP 19 38 52.2 -0.3
comp=E,27nm,0.8s,baz=338,slow=3.4,SNR=7.2
CTA LR LR 19 58 19.0
comp=E,584nm,18.1s,MS4.5,baz=332,slow=40
CTAO Charters Tower 44.51 142 *e*P **P** **19 37 06.7 -2.1**
CTAO pmax pmax
comp=Z,150nm,1.0s,mb5.8
CTAO MLR MLR
comp=Z,690nm,19.0s,MS4.6
CTAO Charters Tower 44.51 142 *e*P **P** **19 37 06.7 -2.1**
comp=Z,149nm,0.9s,mb5.8
CTAO LR LR
comp=Z,694nm,19.0s,MS4.6
ULHL Ulahol 45.16 315 P **P** **19 37 14.5 +0.8**
SNR=7.7
KZA Kyzart 45.78 314 P **P** **19 37 20.4 +1.8**
SNR=6.5
TKM2 Tokmak 2 45.86 315 P **P** **19 37 19.6 +0.4**
SNR=8.3
SKR Severo-Kuril's 45.91 32 *e*P **P** **19 37 16.6 -2.9**
KBK Karagaybulak 46.20 315 P **P** **19 37 22.8 +0.8**
SNR=19
UCH Uchtor 46.34 314 P **P** **19 37 24.3 +1.3**
SNR=20
FRU Bishkek 46.50 315 *e*P **P** **19 37 24.5 +0.3**
FRU *e* 19 39 18.0
FRU *e* 19 44 12.0
FRU pmax pmax
comp=Z,40nm,2.0s,mb5.0
FRU MLR MLR
comp=E,2μm,14.0s
FRU MLR MLR
comp=Z,2μm,14.0s,MS5.3
AAK Ala-Archa 46.51 315 P **P** **19 37 24.7 +0.4**
SNR=9.5
AAK Ala-Archa 46.51 315*d* *i*P **P** **19 37 23.0 -1.3**
AAK pmax pmax
comp=Z,28nm,1.7s,mb4.9
AAK MLR MLR
comp=Z,2μm,16.0s,MS5.2
AAK Ala-Archa 46.51 315 *e*P **P** **19 37 23.1 -1.2**
comp=Z,17nm,1.1s,mb4.9
AAK LR LR
comp=Z,751nm,21.0s,MS4.6
ZAL Zalesovo 46.55 333 P **P** **19 37 24.1 -0.4**
comp=Z,4.6nm,0.7s,mb4.5,baz=254,slow=6.3,SNR=9.8
ZAL LR LR 19 57 13.0
comp=Z,1μm,20.0s,MS4.8,baz=248,slow=36
USP Ospenovka 46.74 315 P **P** **19 37 26.6 +0.5**
SNR=11
AML Almayashu 46.88 314 P **P** **19 37 28.2 +0.9**
SNR=18
YAK Yakutsk 46.92 7 *e*P **P** **19 37 27.6 +0.3**
YAK *e* 19 39 00.3
YAK *e* 19 39 16.6
YAK *e*PPP PPP 19 39 58.0 -5.7
YAK *e*S **S** **19 44 13.4 -3.2**
YAK *e* 19 47 21.4
YAK *e*SS SS 19 47 40.5 +4.2
YAK pmax pmax
comp=Z,44nm,0.9s,mb5.4
YAK pmax pmax
comp=N,19nm,1.1s
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK smax
comp=E,88nm,13.0s
YAK smax
comp=N,96nm,13.4s
YAK MLR MLR
comp=N,805nm,14.0s,MS4.9
YAK MLR MLR
comp=Z,1μm,14.0s,MS5.0
YAK MLR MLR
comp=E,544nm,13.0s,MS4.9
YAK Yakutsk 46.92 7 *e*P **P** **19 37 25.3 -2.0**
comp=E,75nm,0.8s,mb5.7
FORT Forrest 47.00 169 *e*P **P** **19 37 26.7 -1.7**
comp=E,668nm,0.8s
EKS2 Erkin-Say 47.01 314 P **P** **19 37 29.4 +1.0**
SNR=17
KLBR Kellerberrin 47.01 181⇓*i*P **P** **19 37 26.5 -2.0**
comp=E,107nm,0.9s,mb5.8
MUN Mundaring 47.46 183 *e*P **P** **19 37 30.1 -1.9**
comp=E,379nm,0.9s,mb6.3
KURK Kurchatov 47.64 326*c* *i*P **P** **19 37 32.4 -0.8**
KURK Kurchatov 47.64 326 *e*P **P** **19 37 32.1 -1.1**
comp=E,100nm,0.9s,mb5.8
KURK LR LR
comp=Z,301nm,20.0s,MS4.3
NVS Novosibirsk 47.84 333 *e*P **P** **19 37 31.7 -3.0**
NVS pmax pmax
comp=Z,66nm,1.9s,mb5.3
NVS pmax pmax
comp=N,43nm,1.6s
NVS pmax pmax
comp=E,44nm,1.6s
NWAO Narrogin (SRO) 48.36 182 *e*P **P** **19 37 36.9 -2.1**
NWAO pmax pmax
comp=Z,60nm,0.9s
NWAO Narrogin (SRO) 48.36 182 *e*P **P** **19 37 36.9 -2.1**
comp=E,60nm,0.8s,mb5.7
PET Petropavlovsk 48.55 31 *e*P **P** **19 37 41.1 +0.9**
PET *e*S **S** **19 44 38.6 -1.2**
PET pmax pmax
comp=Z,125nm,1.0s,mb5.9
PET pmax pmax
comp=Z,200nm,11.4s
PET smax
comp=E,400nm,13.2s
PET smax
comp=N,300nm,11.3s
PET MLR MLR
comp=Z,700nm,20.0s,MS4.6
PET Petropavlovsk 48.55 31 *e*P **P** **19 37 38.9 -1.3**
comp=Z,64nm,0.8s,mb5.7
MA2 Magadan 49.62 21*c* *i*P **P** **19 37 49.8 +1.5**
MA2 pmax pmax
comp=Z,150nm,1.0s,mb6.0
MA2 MLR MLR
comp=Z,800nm,14.0s,MS4.9
MA2 Magadan 49.62 21 *e*P **P** **19 37 47.4 -0.9**
comp=Z,106nm,0.8s,mb5.9
STKA Stephens Creek 52.02 155⇓*i*P **P** **19 38 04.6 -2.4**
comp=Z,19nm,0.6s,mb5.2
STKA *e*PCP PcP 19 39 17.9 -1.4
STKA *e*S **S** **19 45 23.9 -4.2**
STKA Stephens Creek 52.02 155 P **P** **19 38 05.1 -1.9**
comp=Z,17nm,0.6s,mb5.2,baz=336,slow=7.5,SNR=48
STKA PcP PcP 19 39 17.0 -2.3
comp=Z,14nm,0.8s,baz=335,slow=5.0,SNR=3.4
STKA S **S** **19 45 27.3 -0.8**
comp=Z,7.0nm,1.1s,baz=345,slow=22,SNR=3.7
SEY Seymchan 52.65 18 *e*P **P** **19 38 13.7 +2.4**
SEY *e* 19 39 20.2
SEY *e*S **S** **19 45 38.7 +2.4**
SEY *e*SS SS 19 49 13.9 +0.2
SEY pmax pmax
comp=N,60nm,0.9s
SEY pmax pmax
comp=Z,170nm,0.9s,mb6.0
SEY pmax pmax
comp=E,50nm,0.8s
SEY smax
comp=N,130nm,11.4s
SEY smax
comp=E,410nm,12.9s
SEY MLR MLR
comp=Z,2μm,17.0s,MS5.3
SEY MLR MLR
comp=N,2μm,18.0s,MS5.2
SEY MLR MLR
comp=E,800nm,15.0s,MS5.2
BVAR Borovoye Array 53.22 326 LR LR 20 02 25.3
comp=E,13nm,20.3s,baz=210,slow=38
BVAR PKPPKP 20 08 32.3
comp=E,0.4nm,0.8s,baz=281,slow=7.6,SNR=3.8
BRVK Borovoye 53.29 326 *e*P **P** **19 38 15.4 -0.8**
comp=E,37nm,1.0s,mb5.3
ADE Adelaide 53.73 160 *e*P **P** **19 38 18.1 -1.6**
TIXI Tiksi 56.27 4⇓*i*P **P** **19 38 35.6 -2.0**
TIXI *i* pP 19 38 42.0 -1.1
TIXI *i* S **S** **19 46 19.9 -5.0**
TIXI *i* 19 48 19.9
TIXI pmax pmax
comp=Z,71nm,0.9s,mb5.7
TIXI MLR MLR
comp=Z,1μm,15.0s,MS5.0
TIXI Tiksi 56.27 4⇓*i*P **P** **19 38 37.6 0.0**
CNB Canberra Magne 58.32 151 *e*P **P** **19 38 51.3 -1.3**
comp=Z,47nm,0.9s,mb5.5
TOO Toolangi 58.54 155⇓*i*P **P** **19 38 52.5 -1.6**
comp=Z,13nm,0.7s,mb5.1
BILL Bilibino 60.36 19⇑*i*P **P** **19 39 05.4 -0.8**
BILL pmax pmax
comp=Z,99nm,1.6s,mb5.6
BILL MLR MLR
comp=Z,1μm,15.0s,MS5.2
BILL Bilibino 60.36 19 *e*P **P** **19 39 04.6 -1.6**
comp=Z,6.3nm,0.8s,mb4.7
ARU Arti 60.83 326 *e*P **P** **19 39 07.5 -2.1**
ARU *e* 19 39 49.7
ARU *e* 19 41 21.9
ARU *e*S **S** **19 47 24.9 +0.4**
ARU *e*SS SS 19 51 26.0 +0.9
ARU MLR MLR
comp=Z,800nm,17.0s,MS4.9
ARU MLR MLR
comp=N,500nm,15.0s,MS4.9
ARU MLR MLR
comp=E,500nm,16.0s,MS4.9
MAK Makhachkala 65.99 310 *e*P **P** **19 39 44.0 +0.2**
MAK *e* 19 40 08.0
MAK *e* 19 42 16.0
MAK *e*PPP PPP 19 43 50.0 +3.5
MAK *e*S S 19 48 31.0 +1.9
MAK *e*PS PS 19 48 56.0 +2.8
MAK *e* 19 49 30.0
MAK *e*SS SS 19 52 52.0 +6.2
MAK pmax pmax
comp=Z,500nm,8.0s
MAK smax
comp=N,500nm,6.0s
MAK smax
comp=E,1μm,6.0s
MAK MLR MLR
comp=N,1μm,13.0s,MS5.6
MAK MLR MLR
comp=E,2μm,13.0s,MS5.6
MAK MLR MLR
comp=Z,2μm,13.0s,MS5.5

GNI	**Garni**	**68.10 307**	*eP*	**P**	**19 39 59.6 +2.3**
GNI	**Garni**	**68.10 307**	*eP*	**P**	**19 39 57.6 +0.4**
GNI			pmax	pmax	
	comp=Z,96nm,1.4s				
GNI	**Garni**	**68.10 307**	*eP*	**P**	**19 39 57.6 +0.4**
	comp=Z,96nm,1.4s,mb5.6				
PECR	**Pechory**	**68.73 325**	*eP*	**P**	**19 40 02.0 +1.2**
PECR			*eS*	S	19 48 59.0 -2.8
PECR			pmax	pmax	
	comp=Z,300nm,5.0s				
PECR			smax		
	comp=E,600nm,5.6s				
PECR			MLR	MLR	
	comp=Z,2µm,13.0s,MS5.4				
PECR			MLR	MLR	
	comp=Z,2µm,12.0s				
GOF	**Gofitskoye**	**69.20 313**⇑	*iP*	**P**	**19 40 05.0 +1.1**
GOF			*eS*	S	19 49 08.0 +0.5
GOF			pmax	pmax	
	comp=Z,80nm,1.4s,mb5.5				
GOF			smax		
	comp=N,3µm,10.0s				
GOF			MLR	MLR	
	comp=Z,2µm,15.0s,MS5.5				
MZLS	**Mizel**	**69.22 290**	P	**P**	**19 40 04.6 +0.2**
KIV	**Kislovodsk**	**69.48 311***d*	*iP*	**P**	**19 40 06.0 +0.3**
KIV			pmax	pmax	
	comp=Z,141nm,1.4s,mb5.7				
KIV			MLR	MLR	
	comp=Z,800nm,14.0s,MS5.1				
KIV	**Kislovodsk**	**69.48 311**	*eP*	**P**	**19 40 05.8 +0.1**
	comp=Z,72nm,0.8s,mb5.7				
KAMS	**Al Khamasin**	**70.39 286**	P	**P**	**19 40 10.7 -0.8**
BCA	**Borcka**	**70.40 309**	P	**P**	**19 40 13.8 +2.5**
VRT	**Varto**	**70.64 306**	*eP*	**P**	**19 40 15.5 +2.7**
EZM	**Erzurum**	**70.71 307**	*eP*	**P**	**19 40 15.7 +2.5**
BTMT	**Batman**	**70.75 305**	*eP*	**P**	**19 40 13.0 -0.6**
AFFS	**'Afif**	**71.23 290**	P	**P**	**19 40 16.7 0.0**
TATS	**Tathlith**	**71.54 286**	P	**P**	**19 40 18.6 0.0**
VOR	**Voronezh**	**71.55 320**	P	**P**	**19 40 18.0 -0.1**
VOR			*e**SP	sP	19 40 28.5 +2.9
VOR			S	S	19 49 34.0 -0.9
VOR			pmax	pmax	
	comp=E,140nm,1.4s				
VOR			pmax	pmax	
	comp=Z,140nm,1.4s,mb5.7				
VOR			smax		
	comp=N,170nm,1.5s				
SOC	**Sochi**	**71.65 311**	*eP*	**P**	**19 40 20.1 +1.2**
SOC			*e*		19 40 38.9
SOC			*e*		19 42 58.5
SOC			*eS*	S	19 49 37.5 +1.3
SOC			*e*		19 50 16.0
SOC			*eSS*	SS	19 54 12.6 -1.2
SOC			*eSSS*	SSS	19 57 26.3 +4.6
SOC			pmax	pmax	
	comp=Z,35nm,0.7s,mb5.4				
SOC			pmax	pmax	
	comp=N,7.0nm,0.5s				
SOC			pmax	pmax	
	comp=E,5.0nm,0.6s				
DIY	**Diyarbakir**	**71.78 305**	*eP*	**P**	**19 40 21.9 +2.2**
HILS	**Ha'il**	**71.78 294**	P	**P**	**19 40 20.5 +0.6**
EZC	**Erzincan**	**71.91 307**	*eP*	**P**	**19 40 25.3 +4.8**
PTK	**Pertek**	**72.32 306**	*eP*	**P**	**19 40 25.4 +2.5**
MOS	**Moscow**	**72.35 324**	*eP*	**P**	**19 40 22.3 -0.5**
MOS			*e*		19 43 09.3
MOS			*eS*	S	19 49 37.9 -6.0
MOS			*eSSS*	SSS	19 57 40.8 +7.2
MOS			pmax	pmax	
	comp=Z,200nm,1.6s,mb5.8				
MOS			pmax	pmax	
	comp=Z,107nm,1.4s,mb5.6				
MOS			pmax	pmax	
	comp=E,56nm,1.1s				
MOS			smax		
	comp=N,700nm,4.1s				
MOS			MLR	MLR	
	comp=E,1µm,21.5s				
MOS			MLR	MLR	
	comp=Z,2µm,21.5s,MS5.3				
NAMS	**An Nimas**	**72.79 286**	P	**P**	**19 40 27.0 +0.9**
OBN	**Obninsk**	**72.98 323**⇑	*iP*	**P**	**19 40 26.0 -0.4**
OBN			*e*		19 43 09.5
OBN			*i* S	S	19 49 49.7 -1.4
OBN			pmax	pmax	
	comp=Z,94nm,1.1s,mb5.6				
OBN			MLR	MLR	
	comp=Z,1µm,19.0s,MS5.2				
OBN	**Obninsk**	**72.98 323**	*eP*	**P**	**19 40 25.4 -1.0**
	comp=Z,87nm,1.1s,mb5.6				
MALT	**Malatya**	**73.14 306**	*eP*	**P**	**19 40 29.1 +1.3**
MALT	**Malatya**	**73.14 306**	*eP*	**P**	**19 40 27.5 -0.3**
MALT			pmax	pmax	
	comp=Z,65nm,1.2s,mb5.4				
MALT	**Malatya**	**73.14 306**	*eP*	**P**	**19 40 27.5 -0.3**
	comp=Z,65nm,1.3s,mb5.4				
MYA	**Malataya**	**73.14 306**	*eP*	**P**	**19 40 31.5 +3.7**
ANN	**Anapa**	**73.19 313**	*eP*	**P**	**19 40 27.9 0.0**
ANN			*eS*	S	19 49 52.8 -0.9
ANN			pmax	pmax	
	comp=Z,71nm,1.3s,mb5.4				
ANN	**Anapa**	**73.19 313**	*eP*	**P**	**19 40 28.4 +0.5**
BLJS	**Baljurashi**	**73.22 286**	P	**P**	**19 40 29.2 +0.6**
APA	**Apatity**	**73.95 337**⇑	*iP*	**P**	**19 40 32.8 +0.9**
APA			*i*	pP	19 40 40.3 +2.9
APA			*i*		19 40 50.9
APA			*eS*	S	19 50 03.0 +1.2
APA			pmax	pmax	
	comp=Z,73nm,1.3s,mb5.5				
APA			MLR	MLR	
	comp=Z,2µm,13.0s,MS5.5				
SVW2	**Sparrevohn**	**74.22 30**	*eP*	**P**	**19 40 32.4 -1.1**
GAZ	**Gaziantep**	**74.24 305**	*eP*	**P**	**19 40 34.2 0.0**
LTHS	**Al Lith**	**74.24 287**	P	**P**	**19 40 35.2 +0.7**
KBRS	**Khaybar**	**74.27 293**	P	**P**	**19 40 35.5 +1.0**
KVT	**Kavak**	**74.62 309**	*eP*	**P**	**19 40 38.4 +2.1**
IMA	**Indian Mountai**	**74.72 25**	*eP*	**P**	**19 40 35.2 -1.2**
IMA			pmax	pmax	
	comp=Z,470nm,1.3s,mb6.3				
IMA	**Indian Mountai**	**74.72 25**	*eP*	**P**	**19 40 36.6 +0.2**
	comp=Z,35nm,0.9s,mb5.3				
JOF	**Joensuu**	**75.13 332**	*ep*	**P**	**19 40 37.9 -0.9**
	comp=Z,24nm,0.8s,mb5.2				
JOF	**Joensuu**	**75.13 332**	*eP*	**P**	**19 40 37.9 -0.9**
JOF			pmax	pmax	
	comp=Z,24nm,0.8s,mb5.2				
CEYT	**Ceyhan**	**75.42 305**	*eP*	**P**	**19 40 44.9 +3.9**
SIM	**Simferopol'**	**75.51 313**	*eP*	**P**	**19 40 40.9 -0.4**
SIM			S	S	19 50 20.5 +0.9
SIM			pmax	pmax	
	comp=Z,53nm,9.4s				
SIM			MLR	MLR	
	comp=Z,680nm,20.0s,MS5.0				
YNBS	**Yanbu' al Bahr**	**75.67 292**	P	**P**	**19 40 43.5 +0.8**
SPU	**Mount Spurr**	**75.91 30**	*eP*	**P**	**19 40 42.1 -1.2**
KSHT	**Keshet**	**76.02 301**	P	**P**	**19 40 44.8 +0.4**
HRI	**Mount Hermon**	**76.03 301**	P	**P**	**19 40 44.8 +0.3**
UMJS	**Umm Lajj**	**76.11 293**	P	**P**	**19 40 46.4 +1.3**
NIG	**Nigde**	**76.14 306**	*eP*	**P**	**19 40 44.5 -0.6**
URZ	**Urewera**	**76.41 137**	S	S	19 50 33.6 +4.0
	comp=Z,5.5nm,0.6s,baz=286,slow=23,SNR=6.0				
MMLI	**Mount Malkishu**	**76.43 300**	P	**P**	**19 40 47.3 +0.5**
HNTI	**Hanita**	**76.53 301**	P	**P**	**19 40 47.6 +0.3**
BALT	**Daday**	**76.54 310**	*iP*	**P**	**19 40 47.2 0.0**
BRTR	**Keskin Array B**	**76.64 308**	P	**P**	**19 40 48.0 +0.3**
	comp=Z,6.6nm,0.9s,mb4.6,baz=117,slow=5.5,SNR=31				
BRTR			LR	LR	20 21 25.0
	comp=Z,464nm,18.4s,MS4.8,baz=10.0,slow=41				
KAMT	**Kaman**	**76.64 307**	P	**P**	**19 40 47.4 -0.4**
ARCES	**ARCESS Array B**	**76.66 339**	P	**P**	**19 40 47.0 -0.3**
	comp=Z,12nm,0.8s,mb4.9,baz=79,slow=6.2,SNR=15				
ARCES			LR	LR	20 16 21.7
	comp=Z,1µm,20.0s,MS5.2,baz=178,slow=37				
ARE0	**ARCESS Array S**	**76.66 339**	*eP*	**P**	**19 40 48.4 +1.1**
ELDT	**Eldivan**	**76.67 309**	*iP*	**P**	**19 40 46.6 -1.4**
JMQS	**Jabal Moqyreh**	**76.68 297**	P	**P**	**19 40 48.9 +0.6**
MCK	**McKinley**	**77.00 27**	*eP*	**P**	**19 40 48.0 -1.3**
MCK			pmax	pmax	
	comp=Z,59nm,1.0s,mb5.5				
MCK	**McKinley**	**77.00 27**	*eP*	**P**	**19 40 48.0 -1.3**
	comp=Z,59nm,1.0s,mb5.5				
PRNI	**Paran**	**77.16 298**	P	**P**	**19 40 51.1 +0.2**
AQBJ	**Aqaba**	**77.23 298**	P	**P**	**19 40 51.3 0.0**
PMR	**Palmer**	**77.25 29**	*eP*	**P**	**19 40 53.1 +2.4**
	comp=Z,37nm,0.7s,mb5.4				
ANTO	**Ankara**	**77.25 308**	*eP*	**P**	**19 40 54.4 +3.2**
COLA	**College**	**77.28 26**	*eP*	**P**	**19 40 51.4 +0.6**
COLA			pmax	pmax	
	comp=Z,37nm,1.0s,mb5.3				
COLA	**College**	**77.28 26**	*eP*	**P**	**19 40 51.4 +0.6**
	comp=Z,37nm,1.0s,mb5.3				
EIL	**Elat**	**77.33 297**	P	**P**	**19 40 51.9 +0.1**
MBH	**Mount Berech**	**77.34 298**	P	**P**	**19 40 52.1 +0.2**
HAQS	**Haql**	**77.47 297**	P	**P**	**19 40 53.4 +0.8**
KAF	**Kangasniemi**	**77.54 331**	*ep*	**P**	**19 40 51.2 -1.1**
	comp=Z,31nm,0.9s,mb5.2,baz=76,slow=5.2				
KAF	**Kangasniemi**	**77.54 331**	*eP*	**P**	**19 40 51.2 -1.1**
KAF			pmax	pmax	
	comp=Z,31nm,0.9s,mb5.2				
KZIT	**Kziot**	**77.57 299**	P	**P**	**19 40 51.8 -1.3**
SML	**Sawmill**	**77.59 29**	*eP*	**P**	**19 40 51.3 -1.3**
SGKT	**Sivrigoynuk**	**77.69 309**	*i* P	**P**	**19 40 50.1 -3.4**
CSS	**Prodhromos**	**77.70 303**	*eP*	**P**	**19 40 53.8 +0.1**
	comp=Z,86nm,1.0s,mb5.6				
ILAR	**Eielson Array**	**77.71 26**	P	**P**	**19 40 53.5 +0.3**
	comp=Z,6.3nm,0.9s,mb4.5,baz=284,slow=5.9,SNR=18				
ILAR			LR	LR	20 17 46.0
	comp=Z,158nm,18.3s,MS4.4,baz=101,slow=38				
FINES	**FINESS Array B**	**77.76 331**	P	**P**	**19 40 52.8 -0.8**
	comp=Z,8.4nm,0.6s,mb4.8,baz=51,slow=6.0,SNR=45				
FINES			LR	LR	20 15 10.8
	comp=Z,648nm,18.9s,MS5.0,baz=84,slow=36				
FINES	**FINESS Array B**	**77.76 331**	*i* P	**P**	**19 40 52.8 -0.7**
FINES			pmax	pmax	
	comp=Z,8.0nm,0.6s				
AKASG	**Malin Array Be**	**77.89 319**	P	**P**	**19 40 53.4 -1.1**
	comp=Z,36nm,1.1s,mb5.2,baz=65,slow=5.0,SNR=20				
AKASG			LR	LR	20 15 46.4
	comp=Z,410nm,18.3s,MS4.8,baz=100,slow=36				
VSU	**Vasula**	**77.97 328***d*	*iP*	**P**	**19 40 54.4 -0.3**
VSU	**Vasula**	**77.97 328**	*i* Pr		19 40 54.5
KIZT	**Kizilcal**	**78.12 307**	P	**P**	**19 40 55.6 -0.4**
THY	**Trims Highway**	**78.46 27**	P	**P**	**19 40 54.9 -2.4**
HENT	**Hendek**	**78.51 309**	*i* P	**P**	**19 40 57.2 -0.8**
ESKT	**Eskisehir**	**78.79 308**	*eP*	**P**	**19 40 59.1 -0.5**
ESKT	**Eskisehir**	**78.79 308**	*i* P	**P**	**19 40 57.0 -2.7**
KIS	**Kishinev**	**78.83 316**	*eP*	**P**	**19 41 08.0 +8.3**
KIS			*eS*	S	19 50 54.0 -1.4
KIS			*ePS*	PS	19 51 42.0 +1.2
DIV	**Divide**	**78.93 30**	*eP*	**P**	**19 40 58.8 -1.1**
	comp=Z,109nm,0.9s,mb5.8				
ISP	**Isparta**	**79.38 306**	*eP*	**P**	**19 41 04.8 +1.8**
ISP	**Isparta**	**79.38 306**	*i* P	**P**	**19 41 02.5 -0.4**
ISP	**Isparta**	**79.38 306**	P	**P**	**19 41 01.8 -1.1**
	comp=Z,40nm,0.9s,mb5.3				
ALT	**Altintas**	**79.44 308**	*eP*	**P**	**19 41 03.3 +0.1**
MENT	**Mentasta**	**79.46 27**	*eP*	**P**	**19 41 05.7 +2.9**
CFR	**Carcaliu**	**79.65 314**⇑	*iP*	**P**	**19 41 03.9 -0.3**
CFR	**Carcaliu**	**79.65 314**⇑	*iP*	**P**	**19 41 03.9 -0.3**
ISK	**Istanbul-Kandi**	**79.83 310**	*eP*	**P**	**19 41 06.0 -0.3**
ULDT	**Uludag**	**79.96 309**	*i* P	**P**	**19 41 05.5 -0.5**
VRI	**Vrincioaia**	**80.47 315**⇑	*eP*	**P**	**19 41 09.2 +0.6**
VRI	**Vrincioaia**	**80.47 315**⇓	*iP*	**P**	**19 41 09.6 +1.1**
DNZL	**Cakiroluk**	**80.55 306**	*i* P	**P**	**19 41 08.8 -0.4**
MANT	**Manisa**	**80.75 307**	*i* P	**P**	**19 41 09.8 -0.4**
ISR	**Istrita**	**80.76 314**⇓	*iP*	**P**	**19 41 11.5 +1.4**
ISR	**Istrita**	**80.76 314**⇓	*iP*	**P**	**19 41 11.5 +1.4**
BNT	**Bandirma**	**80.82 309**	*eP*	**P**	**19 41 10.7 +0.1**
SUW	**Suwalki**	**80.84 324**	*eP*	**P**	**19 41 09.5 -0.8**
SUW			*e**PP	pP	19 41 16.1 +0.1
SUW			*e*		19 44 10.3
SUW	**Suwalki**	**80.84 324**	*eP*	**P**	**19 41 09.5 -0.8**
SUW			*ePcP*	PcP	19 41 12.3 -5.1
SUW			*epP*	pP	19 41 16.1 +0.1
SUW			*ePP*	PP	19 44 10.3 -6.6
SUW	**Suwalki**	**80.84 324**	*eP*	**P**	**19 41 09.5 -0.8**
SUW			*ePcP*	PcP	19 41 12.3 -5.1
SUW			*epP*	pP	19 41 16.1 +0.1
SUW			*ePP*	PP	19 44 10.3 -6.6
SUW			MLR	MLR	20 17 50.7
	comp=Z,1µm,22.6s				
BTOK	**Tokmak**	**80.87 309**	*i* P	**P**	**19 41 09.4 -1.4**
DAWY	**Dawson**	**81.03 26**	*eP*	**P**	**19 41 10.5 -0.6**
DALT	**Dalyan (Mudla)**	**81.07 306**	*eP*	**P**	**19 41 11.9 0.0**
MLR	**Muntele Rosu**	**81.09 315**⇓	*eP*	**P**	**19 41 15.8 +4.0**
MLR	**Muntele Rosu**	**81.09 315**	P	**P**	**19 41 12.2 +0.4**
BURAR	**Bucovina Array**	**81.09 317**	P	**P**	**19 41 12.1 +0.3**
AKS	**Akhisar**	**81.23 308**	*eP*	**P**	**19 41 13.4 +0.6**
BUC1	**Bucharest**	**81.30 314**⇑	*iP*	**P**	**19 41 16.4 +3.5**
EDRB	**Edirne**	**81.36 311**	*eP*	**P**	**19 41 15.8 +2.4**
AYDN	**Tasoluk**	**81.46 307**	*i* P	**P**	**19 41 14.2 +0.3**
MLSB	**Milas**	**81.62 306**	*eP*	**P**	**19 41 14.3 -0.5**
KDAG	**Bornova**	**81.76 307**	*i* P	**P**	**19 41 13.5 -2.0**
IZM	**Izmir**	**81.76 307**	*eP*	**P**	**19 41 15.0 -0.5**
INK	**Inuvik**	**81.86 21**	LR	LR	20 20 45.9
	comp=Z,416nm,18.9s,MS4.8,baz=310,slow=38				
INK	**Inuvik**	**81.86 21**	*eP*	**P**	**19 41 13.8 -1.6**
INK			pmax	pmax	
	comp=Z,90nm,1.4s				
INK	**Inuvik**	**81.86 21**	*eP*	**P**	**19 41 13.8 -1.6**
	comp=Z,90nm,1.4s,mb5.5				
BLCB	**Balcova**	**81.93 308**	*eP*	**P**	**19 41 16.0 -0.4**
CASY	**Casey**	**81.96 183**	*eP*	**P**	**19 41 13.8 -2.1**
	comp=Z,96nm,1.5s,mb5.5				
ALN	**Alexandroupoli**	**82.09 310**	*eP*	**P**	**19 41 16.5 -0.6**
KWP	**Kalwaria**	**82.21 319**	*eP*	**P**	**19 41 17.8 +0.2**
KWP			*e**PP	pP	19 41 24.0 +0.8
KWP			MLR	MLR	
	comp=Z,800nm,18.5s,MS5.1				
KWP	**Kalwaria**	**82.21 319**	*eP*	**P**	**19 41 17.8 +0.2**
KWP			*ePcP*	PcP	19 41 20.3 -3.2
KWP			*epP*	pP	19 41 24.0 +0.8
KWP	**Kalwaria**	**82.21 319**	*eP*	**P**	**19 41 17.8 +0.2**
KWP			*ePcP*	PcP	19 41 20.3 -3.2
KWP			*epP*	pP	19 41 24.0 +0.8
KWP			MLR	MLR	20 19 49.8
	comp=Z,800nm,18.5s				
BOZC	**Bozcaada**	**82.34 309**	*i* P	**P**	**19 41 10.8 -7.7**
KMBO	**Kilima Mbogo**	**82.35 267**	P	**P**	**19 41 20.7 +1.7**
	comp=Z,17nm,1.0s,mb4.9,baz=43,slow=7.7,SNR=29				
KMBO			LR	LR	20 18 40.6
	comp=Z,324nm,18.6s,MS4.7,baz=93,slow=36				
KMBO	**Kilima Mbogo**	**82.35 267**	*eP*	**P**	**19 41 19.2 +0.2**
	comp=Z,27nm,1.1s,mb5.1				
WAR	**Warsaw**	**82.55 322**	*eP*	**P**	**19 41 18.4 -0.9**
WAR			*e**PP	pP	19 41 25.6 +0.7
WAR			MLR	MLR	
	comp=Z,1µm,20.0s,MS5.3				
WAR	**Warsaw**	**82.55 322**	*eP*	**P**	**19 41 18.4 -0.9**
WAR			*ePcP*	PcP	19 41 21.7 -3.2
WAR			*epP*	pP	19 41 25.6 +0.7
WAR			LR	LR	
	comp=Z,1µm,20.0s,MS5.3				
WAR	**Warsaw**	**82.55 322**	*eP*	**P**	**19 41 18.4 -0.9**
WAR			*ePcP*	PcP	19 41 21.7 -3.2
WAR			*epP*	pP	19 41 25.6 +0.7
WAR			MLR	MLR	20 19 34.3
	comp=Z,1µm,20.0s				
KOLS	**Kolonicke sedl**	**82.67 319**	*eP*	**P**	**19 41 21.8 +1.8**
PGB	**Panagyurishte**	**83.05 312**	*eP*	**P**	**19 41 25.0 +2.9**
CRVS	**Cervenica-Dubn**	**83.19 319**	*eP*	**P**	**19 41 24.1 +1.4**
MMB	**Musomiste**	**83.61 311**	*eP*	**P**	**19 41 23.0 -2.0**
SANT	**Santorini**	**83.65 306**	*eP*	**P**	**19 41 23.4 -1.9**
	comp=Z,166nm,1.2s,mb6.0				
THR1	**Thera Island**	**83.65 306**	*eP*	**P**	**19 41 24.2 -1.1**
VTS	**Vitosha**	**83.72 312**	*eP*	**P**	**19 41 25.0 -0.5**
VTS	**Vitosha**	**83.72 312**	P	**P**	**19 41 25.9 +0.3**
OUR	**Ouranopolis**	**83.75 310**	*eP*	**P**	**19 41 25.0 -0.8**
NIE	**Niedzica**	**83.77 320**⇑	*iP*	**P**	**19 41 26.3 +0.7**
NIE			*i* PcP	PcP	19 41 29.1 -1.1
SRS	**Serrai**	**83.83 311**	*eP*	**P**	**19 41 25.0 -1.2**
OJC	**Ojcow**	**83.86 320**	*eP*	**P**	**19 41 25.8 -0.2**
OJC			*eS*	S	19 51 52.7 +5.5
OJC			MLR	MLR	
	comp=Z,500nm,22.7s,MS4.8				
OJC	**Ojcow**	**83.86 320**	*eP*	**P**	**19 41 25.8 -0.2**
OJC			*ePcP*	PcP	19 41 28.5 -2.1
OJC			*eS*	S	19 51 52.7 +5.5
OJC			*eScS*	ScS	19 52 02.2 +3.7
OJC			LR	LR	
	comp=Z,500nm,22.7s,MS4.8				
OJC	**Ojcow**	**83.86 320**	*eP*	**P**	**19 41 25.8 -0.2**
OJC			*ePcP*	PcP	19 41 28.5 -2.1
OJC			*eS*	S	19 51 52.7 +5.5
OJC			*eScS*	ScS	19 52 02.2 +3.7
OJC			MLR	MLR	20 18 12.3
	comp=Z,500nm,22.7s				
KECS	**Kecovo**	**83.93 319**	*eP*	**P**	**19 41 26.7 +0.2**
KECS			*epP*	pP	19 41 33.7 +1.6
KKB	**Krupnik**	**84.00 312**	*eP*	**P**	**19 41 26.0 -1.0**
PAIG	**Paliouri**	**84.08 310**	*eP*	**P**	**19 41 26.4 -1.0**
AOS	**Alonnisos**	**84.13 309**	*eP*	**P**	**19 41 26.7 -1.0**
MIR	**Mirnyy**	**84.23 190**⇓	*eP*	**P**	**19 41 37.6 +10**
MIR			pmax	pmax	
	comp=Z,120nm,1.6s,mb5.8				
BOLS	**Boljevac**	**84.26 314**⇓	*iP*	**P**	**19 41 27.7 -0.5**
KNT	**Kendrikon**	**84.33 311**	*eP*	**P**	**19 41 27.8 -0.9**
THE	**Thessaloniki**	**84.42 310**	*eP*	**P**	**19 41 27.8 -1.3**
GKP	**Gorka Klasztor**	**84.44 324**	*eP*	**P**	**19 41 28.6 -0.3**
GKP			*e**PP	pP	19 41 35.4 +0.8
GKP			MLR	MLR	
	comp=Z,2µm,17.6s,MS5.4				
GKP	**Gorka Klasztor**	**84.44 324**	*eP*	**P**	**19 41 28.6 -0.3**
GKP			*ePcP*	PcP	19 41 31.4 -1.7
GKP			*epP*	pP	19 41 35.4 +0.8
GKP			LR	LR	
	comp=Z,2µm,17.6s,MS5.4				
GKP	**Gorka Klasztor**	**84.44 324**	*eP*	**P**	**19 41 28.6 -0.3**
GKP			*ePcP*	PcP	19 41 31.4 -1.7
GKP			*epP*	pP	19 41 35.4 +0.8
GKP			MLR	MLR	20 21 06.2
	comp=Z,2µm,17.6s				
PSZ	**Piszkesteto**	**84.48 318**⇑	*eP*	**P**	**19 41 29.3 +0.1**
PSZ	**Piszkesteto**	**84.48 318**	P	**P**	**19 41 32.8 +3.6**
XOR	**Xorichti**	**84.59 309**	*eP*	**P**	**19 41 28.5 -1.5**
GRG	**Griva**	**84.74 311**	*eP*	**P**	**19 41 29.1 -1.6**
NB2	**NORSAR Subarra**	**84.75 332**	P	**P**	**19 41 28.8 -1.5**
	comp=Z,52nm,1.4s,mb5.5,baz=66,slow=5.3				
NB2	**NORSAR Subarra**	**84.75 332**	P	**P**	**19 41 28.8 -1.5**
	baz=66,slow=5.6				
NOA	**NORSAR Array B**	**84.75 332**	P	**P**	**19 41 29.8 -0.5**
	comp=Z,7.7nm,0.8s,mb4.9,baz=67,slow=5.0,SNR=12				
NOA			LR	LR	20 20 35.4
	comp=Z,704nm,21.1s,MS5.0,baz=50,slow=36				
LIT	**Litokhoron**	**84.91 310**	*eP*	**P**	**19 41 34.1 +2.5**
VYHS	**Vyhne**	**84.98 319**	*eP*	**P**	**19 41 32.0 +0.3**
VYHS			*e*		19 41 50.1
OKC	**Ostrava-Krasne**	**84.99 320**⇑	*iP*	**P**	**19 41 32.1 +0.4**
OKC			*epP*	pP	19 41 35.1 -2.3
GRUS	**Gruza**	**85.11 314**⇑	*iP*	**P**	**19 41 34.1 +1.6**
GVD	**Gavdhos**	**85.12 305**	*eP*	**P**	**19 41 32.4 -0.4**
	comp=Z,47nm,0.9s,mb5.6				
SKO	**Skopje**	**85.15 312**	*eP*	**P**	**19 41 32.0 -0.7**
SKO			⇑*i*	pP	19 41 36.2 -2.2
	comp=Z,0.0nm,1.1s				
SKO	**Skopje**	**85.15 312**	*eP*	**P**	**19 41 32.0 -0.7**
	comp=Z,30nm,1.1s,mb5.3				
SKO			*i*	pP	19 41 36.2 -2.2
AGG	**Agios Georgios**	**85.33 309**	*eP*	**P**	**19 41 31.7 -2.0**
MORC	**Moravsky Berou**	**85.38 320**	P	**P**	**19 41 34.0 +0.3**
MORC	**Moravsky Berou**	**85.38 320**	*eP*	**P**	**19 41 33.0 -0.7**
	comp=Z,26nm,1.0s,mb5.3				
DIVS	**Divcibare**	**85.55 314**⇑	*iP*	**P**	**19 41 33.7 -0.9**
KSP	**Ksiaz**	**85.79 322**	*eP*	**P**	**19 41 35.3 -0.4**
KSP			*e**PP	pP	19 41 42.1 +0.8
KSP			*eS*	S	19 52 03.0 -3.1
KSP			*eSP*	SP	19 52 58.0 -6.6
KSP			*eSS*	SS	19 57 45.0 -1.7
KSP			MLR	MLR	
	comp=Z,2µm,18.4s,MS5.5				
KSP	**Ksiaz**	**85.79 322**	*eP*	**P**	**19 41 35.3 -0.4**
KSP			*ePcP*	PcP	19 41 37.8 -1.2
KSP			*epP*	pP	19 41 42.1 +0.8
KSP			*eS*	S	19 52 03.0 -3.1
KSP			*eSP*	SP	19 52 58.0 -6.6
KSP			*eSS*	SS	19 57 45.0 -1.7
KSP			LR	LR	
	comp=Z,2µm,18.4s,MS5.5				
KSP	**Ksiaz**	**85.79 322**	*eP*	**P**	**19 41 36.0 +0.3**
KSP			*ePcP*	PcP	19 41 38.6 -0.4
KSP			*epP*	pP	19 41 42.1 +0.8
KSP			*eS*	S	19 52 06.8 +0.7
KSP			MLR	MLR	20 20 59.7
	comp=Z,2µm,18.4s				
PKSM	**Moragy**	**85.81 317**⇑	*eP*	**P**	**19 41 35.8 -0.1**
SMOL	**Smolenice**	**85.86 319**	*eP*	**P**	**19 41 37.1 +1.0**
NVSS	**Nova Varos 2**	**85.92 314**⇓	*iP*	**P**	**19 41 39.7 +3.1**
MEV	**Metsovon**	**85.93 310**	*eP*	**P**	**19 41 36.0 -0.7**
DPC	**Dobruska-Polom**	**85.94 321**⇑	*iP*	**P**	**19 41 36.5 +0.1**
DPC			MLR	MLR	
	comp=Z,900nm,16.9s,MS5.2				
DPC	**Dobruska-Polom**	**85.94 321**⇑	*iP*	**P**	**19 41 36.5 +0.1**
DPC			*epP*	pP	19 41 39.2 -2.9
DPC			AMS	AMS	20 21 40.0
	comp=Z,900nm,16.9s				
UPC	**Upice**	**86.07 321**⇑	*iP*	**P**	**19 41 37.3 +0.2**
UPC			*e*		19 41 40.2
VRAC	**Vranov**	**86.12 320**	P	**P**	**19 41 38.1 +0.7**
ZST	**Bratislava**	**86.17 319**	*eP*	**P**	**19 41 40.3 +2.7**
ZST			*e*		19 41 43.6
IGT	**Igoumenitsa**	**86.67 310**	*eP*	**P**	**19 41 38.0 -2.3**
RUE	**Ruedersdorf**	**86.68 324**	*eP*	**P**	**19 41 39.1 -0.9**
	comp=Z,96nm,1.1s,mb5.9				
PVCC	**Panska Ves**	**86.93 322**⇑	*iP*	**P**	**19 41 41.6 +0.3**
PVCC			MLR	MLR	
	comp=Z,800nm,16.1s,MS5.2				
PVCC	**Panska Ves**	**86.93 322**⇑	*iP*	**P**	**19 41 41.6 +0.3**
PVCC			*epP*	pP	19 41 44.4 -2.5
PVCC			AMS	AMS	20 22 20.0
	comp=Z,800nm,16.1s				
PRU	**Pruhonice**	**87.14 321**⇑	*iP*	**P**	**19 41 41.6 -0.7**

CLL				*e*S	S	19 52 28.0	+5.0		
KHC	**Kasperske Hory**	**88.03**	**321**	⇑*i*P	**P**	**19 41 46.5**	**-0.1**		
KHC				*e*	S	19 52 24.2	-3.3		
KHC				LR	LR				
	comp=Z,800nm,17.2s,MS5.2								
KHC	**Kasperske Hory**	**88.03**	**321**	*i*P	**P**	**19 41 46.5**	**-0.1**		
KHC				*e*SKS	SKS	19 52 24.2	+5.8		
KHC				AMS	AMS	20 23 10.0			
	comp=Z,800nm,17.2s								
BSEG	**Bad Segeberg**	**88.04**	**326**	*e*P	**P**	**19 41 49.4**	**+2.9**		
BSEG				pmax	pmax				
	comp=Z,22nm,1.0s,mb5.3								
GEC2	**GERESS Array S**	**88.06**	**320**	*e*P	**P**	**19 41 49.8**	**+3.0**		
GEC2				pmax	pmax				
	comp=Z,21nm,1.3s,mb5.2								
GEC2	**GERESS Array S**	**88.06**	**320**	*e*P	**P**	**19 41 49.8**	**+3.0**		
	comp=Z,21nm,1.3s,mb5.2								
GERES	**GERESS Array B**	**88.06**	**320**	P	**P**	**19 41 46.4**	**-0.4**		
	comp=Z,4.2nm,0.8s,mb4.7,baz=72,slow=4.2,SNR=25								
MOA	**Molln**	**88.08**	**319**	⇑*i*P	**P**	**19 41 47.1**	**+0.2**		
	comp=Z,46nm,1.2s,mb5.6								
NKC	**Novy Kostel**	**88.30**	**322**	⇑*i*P	**P**	**19 41 49.3**	**+1.4**		
NKC				AMS	AMS	20 26 50.0			
	comp=Z,800nm,13.8s								
WET	**Wettzell**	**88.45**	**321**	*e*P	**P**	**19 41 51.8**	**+3.1**		
WET				pmax	pmax				
	comp=Z,31nm,1.6s,mb5.3								
WET	**Wettzell**	**88.45**	**321**	*e*P	**P**	**19 41 51.8**	**+3.1**		
	comp=Z,31nm,1.6s,mb5.3								
MBAR	**Mbarara**	**88.48**	**269**	*e*P	**P**	**19 41 48.3**	**-1.3**		
	comp=Z,17nm,1.1s,mb5.2								
MOX	**Moxa**	**88.63**	**323**	*i* P	**P**	**19 41 52.5**	**+3.0**		
	comp=Z,logA/T=1.3,mb5.4								
MOX				SKS	SKS	19 52 19.0	-3.0		
MOX				SS	SS	19 58 40.0	+12		
MOX				L		20 27 11.0			
MOX	**Moxa**	**88.63**	**323**	*e*P	**P**	**19 41 52.5**	**+3.0**		
MOX				pmax	pmax				
	comp=Z,34nm,1.7s,mb5.4								
MOX				MLR	MLR				
	comp=Z,700nm,18.0s,MS5.1								
MOX	**Moxa**	**88.63**	**323**	*e*P	**P**	**19 41 52.5**	**+3.0**		
	comp=Z,34nm,1.7s,mb5.4								
MOX				LR	LR				
	comp=Z,700nm,18.0s,MS5.1								
CLZ	**Clausthal**	**88.86**	**324**	*e*P	**P**	**19 41 53.8**	**+3.2**		
	comp=Z,19nm,1.0s,mb5.4								
GRA1	**Grafenberg Arr**	**89.24**	**322**	*e*P	**P**	**19 41 55.7**	**+3.3**		
	comp=Z,52nm,1.4s,mb5.7								
GRA1				LR	LR				
	comp=Z,700nm,21.9s,MS5.0								
GRF	**Grafenberg Arr**	**89.24**	**322**	*e*P	**P**	**19 41 55.7**	**+3.3**		
GRF				pmax	pmax				
	comp=Z,52nm,1.4s,mb5.7								
GRF				MLR	MLR				
	comp=Z,700nm,21.9s,MS5.0								
TIP	**Timpagrande**	**89.41**	**311**	*e*P	**P**	**19 41 52.7**	**-0.7**		
TDS	**Terranova Siba**	**89.55**	**311**	*e*P	**P**	**19 41 54.7**	**+0.6**		
FUR	**Furstenfeldbru**	**89.81**	**320**	*e*P	**P**	**19 41 58.4**	**+3.3**		
FUR				pmax	pmax				
	comp=Z,42nm,1.3s,mb5.6								
FUR	**Furstenfeldbru**	**89.81**	**320**	*e*P	**P**	**19 41 58.4**	**+3.3**		
	comp=Z,42nm,1.3s,mb5.6								
WTTA	**Wattenberg**	**89.95**	**319**	⇑*i*P	**P**	**19 41 55.4**	**-0.4**		
	comp=Z,165nm,2.6s,mb5.9								
SQTA	**Sankt Quirin**	**90.23**	**320**	⇑*i*P	**P**	**19 41 56.8**	**-0.3**		
	comp=Z,20nm,1.0s,mb5.4								
MOTA	**Moosalm**	**90.25**	**320**	⇓*i*P	**P**	**19 41 56.6**	**-0.6**		
	comp=Z,19nm,1.0s,mb5.4								
AQU	**L'Aquila**	**90.67**	**314**	*e*P	**P**	**19 41 58.4**	**-0.8**		
AQU				pmax	pmax				
	comp=Z,31nm,1.0s,mb5.6								
AQU	**L'Aquila**	**90.67**	**314**	*e*P	**P**	**19 41 58.4**	**-0.9**		
	comp=Z,31nm,0.9s,mb5.6								
SUMG	**Summit**	**90.69**	**353**	*e*P	**P**	**19 41 58.3**	**-0.4**		
	comp=Z,14nm,1.1s,mb5.2								
TOD	**Tromm**	**90.71**	**322**	*e*P	**P**	**19 42 02.2**	**+3.0**		
PTQR	**Pietraquaria**	**90.79**	**314**	*e*P	**P**	**19 42 00.5**	**+0.7**		
STU	**Stuttgart**	**90.83**	**321**	*e*P	**P**	**19 42 01.1**	**+1.3**		
DAVA	**Damuels**	**91.03**	**320**	⇑*i*P	**P**	**19 42 00.8**	**0.0**		
	comp=Z,26nm,1.4s,mb5.4								
BRMO	**Bormio**	**91.06**	**319**	*e*P	**P**	**19 42 01.3**	**+0.4**		
BBB	**Bella Bella**	**91.10**	**35**	P	**P**	**19 42 01.1**	**+0.1**		
	comp=Z,34nm,1.1s,mb5.6,baz=249,slow=6.2,SNR=3.0								
ABH	**Alteburg**	**91.32**	**323**	*e*P	**P**	**19 42 05.3**	**+3.3**		
BFO	**Black Forest**	**91.54**	**321**	*e*P	**P**	**19 42 05.5**	**+2.4**		
BFO				pmax	pmax				
	comp=Z,15nm,1.0s,mb5.3								
BFO	**Black Forest**	**91.54**	**321**	*e*P	**P**	**19 42 05.5**	**+2.4**		
	comp=Z,15nm,1.0s,mb5.3								
LANF	**Langenberg**	**91.57**	**322**	*e*P	**P**	**19 42 06.0**	**+2.8**		
YKA	**Yellowknife Ar**	**91.58**	**22**	P	**P**	**19 42 03.6**	**+0.7**		
	comp=Z,9.5nm,0.8s,mb5.2,baz=317,slow=4.8,SNR=15								
YKA				LR	LR	20 31 16.6			
	comp=Z,199nm,19.5s,MS4.6,baz=295,slow=41								
YKA	**Yellowknife Ar**	**91.58**	**22**	P	**P**	**19 42 03.6**	**+0.7**		
YKA				LR	LR	20 31 16.6			
VAE	**Valguarnera**	**91.73**	**310**	LR	LR	20 30 47.6			
	comp=Z,210nm,20.2s,MS4.6,baz=319,slow=40								
FELD	**Feldberg**	**91.93**	**321**	*e*P	**P**	**19 42 07.7**	**+2.8**		
WLS	**Welschbruch**	**92.08**	**322**	*e*P	**P**	**19 42 08.3**	**+2.7**		
CDF	**Champ du Feu**	**92.13**	**322**	*e*P	**P**	**19 42 05.7**	**-0.1**		
	comp=Z,62nm,1.0s,mb5.6								
BBS	**Basel-Blauen**	**92.41**	**321**	*e*P	**P**	**19 42 10.4**	**+3.3**		
MAW	**Mawson**	**92.42**	**199**	*e*P	**P**	**19 42 06.7**	**0.0**		
	comp=Z,6.6nm,1.0s,mb4.9								
MAW	**Mawson**	**92.42**	**199**	P	**P**	**19 42 07.3**	**+0.6**		
	comp=Z,7.5nm,0.9s,mb5.0,baz=49,slow=6.4,SNR=10								
MAW				PP	PP	19 45 42.5	-8.0		
	comp=Z,3.6nm,1.1s,baz=75,slow=5.8,SNR=2.9								
MAW				LR	LR	20 22 45.5			
	comp=Z,162nm,18.6s,MS4.5,baz=57,slow=35								
MOF	**Molkenrain**	**92.47**	**321**	*e*P	**P**	**19 42 10.2**	**+2.9**		
HINF	**Hinteralfeld**	**92.65**	**321**	*e*P	**P**	**19 42 07.8**	**-0.4**		
HAU	**Haudompre**	**92.87**	**322**	*e*P	**P**	**19 42 08.8**	**-0.4**		
LOMF	**Lomont**	**92.88**	**321**	*e*P	**P**	**19 42 11.5**	**+2.3**		
LPG	**La Plagne**	**93.76**	**319**	*e*P	**P**	**19 42 13.7**	**+0.4**		
LPL	**La Plagne**	**93.76**	**319**	*e*P	**P**	**19 42 13.6**	**+0.2**		
	comp=Z,27nm,0.9s,mb5.4								
ORIF	**Oris-en-Rattie**	**94.57**	**319**	*e*P	**P**	**19 42 16.8**	**-0.3**		
	comp=Z,32nm,1.1s,mb5.3								
LSZ	**Lusaka**	**94.78**	**256**	*e*P	**P**	**19 42 18.2**	**-0.5**		
LSZ				pmax	pmax				
	comp=Z,36nm,1.3s,mb5.6								
LSZ	**Lusaka**	**94.78**	**256**	*e*P	**P**	**19 42 18.2**	**-0.5**		
	comp=Z,36nm,1.4s,mb5.6								
VIVF	**Saint-Julien-l**	**95.36**	**319**	*e*P	**P**	**19 42 21.0**	**+0.3**		
TCF	**Toulx Ste Croi**	**96.17**	**321**	*e*P	**P**	**19 42 24.0**	**-0.4**		
	comp=Z,23nm,1.0s,mb5.3								
VNDA	**Vanda**	**96.23**	**171**	P	**P**	**19 42 24.7**	**+0.7**		
	comp=Z,10nm,0.9s,mb5.3,baz=293,slow=4.2,SNR=14								
VNDA				PP	PP	19 46 16.9	-2.8		
	comp=Z,3.0nm,0.9s,baz=312,slow=10,SNR=4.6								
VNDA				LR	LR	20 28 52.2			
	comp=Z,273nm,18.5s,MS4.8,baz=329,slow=37								
VNDA	**Vanda**	**96.23**	**171**	*e*P	**P**	**19 42 23.0**	**-1.0**		
VNDA				pmax	pmax				
	comp=Z,15nm,1.0s								
VNDA	**Vanda**	**96.23**	**171**	*e*P	**P**	**19 42 23.0**	**-1.0**		
	comp=Z,15nm,1.0s,mb5.4								
SYO	**Syowa Base**	**100.75**	**201**	⇑P	PP	19 46 48.8	-6.3		
NVAR	**Mina Array Bea**	**104.04**	**43**	Pdiff	Pdif	19 43 01.6	+1.6		
	comp=Z,0.8nm,0.9s,baz=288,slow=3.0,SNR=4.3								
NVAR				PKiKP		19 47 17.8			
	comp=Z,3.1nm,1.2s,baz=198,slow=5.3,SNR=4.6								
NVAR				PKKPbc		19 58 48.9			
	comp=Z,0.5nm,0.7s,baz=138,slow=5.3,SNR=4.0								
NVAR				PKKP	PKKP	19 58 57.6	+5.2		
	comp=Z,0.3nm,0.6s,baz=135,slow=2.6,SNR=2.8								
PDAR	**Pinedale Array**	**106.73**	**35**	PP	PP	19 47 35.0	-5.5		
	comp=Z,0.5nm,0.8s,baz=180,slow=1.5,SNR=2.2								
PDAR				PKKPbc		19 58 40.5			
	comp=Z,0.5nm,0.7s,baz=135,slow=4.2,SNR=4.4								
PDAR				PKKP	PKKP	19 58 52.8	+5.4		
	comp=Z,0.5nm,0.8s,baz=72,slow=5.7,SNR=3.6								
SNAA	**Sanae**	**114.55**	**197**	P	PKPdf	19 47 34.9	-3.8		
SNAA	**Sanae**	**114.55**	**197**		PKPdf	19 47 47.3	+8.6		
SNAA	**Sanae**	**114.55**	**197**		PKPdf	19 47 52.4	+14		
SNAA	**Sanae**	**114.55**	**197**	PKP	PKPdf	19 47 35.7	-3.0		
	comp=Z,0.2nm,0.5s,baz=208,slow=2.2,SNR=11								
SNAA				PKKPbc		19 58 11.3			
	comp=Z,0.7nm,1.2s,baz=316,slow=3.3,SNR=2.6								
VNA2	**Neumayer--Watz**	**116.20**	**197**	⇑*i*P	PKPdf	19 47 42.2	+0.2		
VNA2	**Neumayer--Watz**	**116.20**	**197**	⇑*i*	PKPdf	19 47 55.0	+13		
VNA1	**Neumayer--Stat**	**116.58**	**197**	⇑*i*P	PKPdf	19 47 43.1	+0.4		
VNA1	**Neumayer--Stat**	**116.58**	**197**		PKPdf	19 47 56.5	+14		
VNA3	**Neumayer Olymp**	**116.66**	**196**	⇑*i*P	PKPdf	19 47 42.7	-0.1		
VNA3	**Neumayer Olymp**	**116.66**	**196**	⇑*i*	PKPdf	19 47 55.7	+13		
WMOK	**Wichita Mounta**	**118.35**	**35**	*e*PKPdf	PKPdf	19 47 43.6	-3.4		
TXAR	**Lajitas Array**	**119.19**	**43**	PKP	PKPdf	19 47 46.5	-2.2		
	comp=Z,1.5nm,0.5s,baz=285,slow=1.3,SNR=7.4								
TXAR				PP	PP	19 49 07.4	-2.7		
	comp=Z,1.8nm,0.9s,baz=270,slow=1.3,SNR=4.7								
DBIC	**Dimbokro**	**120.13**	**287**	PKP	PKPdf	19 47 48.3	-2.5		
	comp=Z,8.6nm,1.1s,baz=331,slow=0.4,SNR=5.5								
KIC	**Kosan Boka**	**120.14**	**287**	*e*PKP1	PKPdf	19 47 47.4	-3.4		
	comp=Z,47nm,1.0s								
KIC				*e*PKP2	PKPdf	19 48 00.9	+10		
TIC	**Toumodi**	**120.29**	**288**	*e*PKP1	PKPdf	19 47 48.5	-2.7		
	comp=Z,8.5nm,0.2s								
TIC				*e*PKP2	PKPdf	19 48 01.1	+10		
LIC	**Lamto**	**120.45**	**287**	*e*PKP1	PKPdf	19 47 48.2	-3.3		
	comp=Z,64nm,1.6s								
LIC				*e*PKP2	PKPdf	19 48 01.5	+10		
JCT	**Junction City**	**120.84**	**39**	*e*PKIKP	PKPdf	19 47 48.2	-3.7		
MIAR	**Mount Ida**	**121.24**	**31**	*e*PKIKP	PKPdf	19 47 49.3	-3.3		
CPCT	**Cooper Cave**	**124.48**	**23**	*e*PKPdf	PKPdf	19 47 54.9	-3.9		
PMSA	**Palmer Station**	**130.91**	**178**	*e*PKPdf	PKPdf	19 48 05.2	-5.2		
SJG	**San Juan**	**146.05**	**9**	*e*PKP2	PKPab	19 48 36.0	-2.6		
SJG	**San Juan**	**146.05**	**9**	*e*PKPbc	PKPbc	19 48 35.7	-0.5		
HUMP	**Col San Antoni**	**146.06**	**8**	*e*PKPbc	PKPbc	19 48 35.4	-0.8		
SDV	**Santo Domingo**	**153.80**	**22**	*e*PKPdf	PKPdf	19 48 48.2	-2.8		
SDV				*e*PKPbc	PKPdf	19 48 56.2	+5.1		
BDFB	**Brasilia**	**167.48**	**268**	PKP	PKPdf	19 49 03.4	-2.4		
	comp=Z,3.7nm,0.8s,baz=121,slow=3.8,SNR=4.8								
CPUP	**Villa Florida**	**168.86**	**197**	PKPab	PKPab	19 50 15.0	-0.3		
	comp=Z,2.6nm,0.8s,baz=189,slow=9.5,SNR=3.9								
LVC	**Limon Verde**	**169.84**	**134**	*e*PKPdf	PKPdf	19 49 02.9	-4.1		
SAML	**Samuel**	**172.99**	**18**	*e*PKPdf	PKPdf	19 49 05.2	-3.9		
LPAZ	**La Paz**	**173.13**	**96**	PKP	PKPdf	19 49 08.1	-0.9		
	comp=Z,4.9nm,1.0s,baz=26,slow=3.3,SNR=11								
LPAZ				PKPab	PKPab	19 50 35.5	+1.1		
	comp=Z,2.5nm,0.8s,baz=349,slow=2.9,SNR=5.3								
LPAZ				PP	PP	19 54 33.5	+6.4		
	comp=Z,1.0nm,0.7s,baz=204,slow=10,SNR=4.2								
LPAZ	**La Paz**	**173.13**	**96**	*e*PKIKP	PKPdf	19 49 07.4	-1.6		
LPAZ	**La Paz**	**173.13**	**96**	*e*PKPdf	PKPdf	19 49 07.1	-1.8		

*NEIC **29** 19:50:59.8, 15.84N×95.59W, h34km, MD3.8(MEX), After MEX.*

MEX 29 19:50:59.8±0.6, 15.84N×95.59W, h34km±32km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.50**	**261**	*i* P	P	19 51 08.5	-1.8
HUIG				*i* S	S	19 51 15.7	-2.2
CMIG	**Matias Romero**	**1.41**	**29**	*i* P	P	19 51 20.6	-2.8
CMIG				*i* S	S	19 51 38.6	-2.4
VHO	**Vista Hermosa**	**1.64**	**318**	*i* P	P	19 51 24.6	-2.1
VHO				*e*S	S	19 51 43.8	-3.0
OXX	**Oaxaca**	**1.64**	**319**	*e*P	P	19 51 25.5	-1.2
OXX				*e*S	S	19 51 43.5	-3.3

CASC 29 19:54:31.9±3.1, 11.51N×86.72W, MD3.9, ML3.3, 5C-10D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRUN	**El Crucero**	**0.63**	**41**	⇓*e*P	Pg	19 54 46.9	+2.5
COPN	**Copaltepe**	**0.68**	**11**	⇑*e*P	Pg	19 54 47.0	+1.4
COPN				*e*S	Sg	19 54 58.8	+4.2
TICN	**Ticuantepe**	**0.71**	**42**	⇓*e*P	Pg	19 54 47.0	+0.9
XAVN	**Gruta Xavier**	**0.75**	**31**	*e*P	Pg	19 54 47.2	+0.4
APON	**Apoyo**	**0.76**	**57**	⇓*e*P	Pg	19 54 47.3	+0.2
APON				*e*S	Sg	19 54 59.9	+2.7
MGAN	**Managua**	**0.79**	**36**	⇓*e*P	Pg	19 54 48.2	+0.5
MGAN				*e*S	Sg	19 55 00.3	+2.1
MGAN				*i*		19 55 03.5	
	comp=E,954nm,0.6s						
APYN	**Apoyeque**	**0.81**	**27**	⇑*e*P	Pg	19 54 48.4	+0.4
APYN				*e*S	Sg	19 55 00.6	+1.7
WILN	**Americas 2**	**0.84**	**39**	⇓*e*P	Pg	19 54 48.7	+0.1
WILN				*e*S	Sg	19 55 04.1	+4.4
SSNN	**San Juan del S**	**0.88**	**104**	⇑*e*P	Pg	19 54 48.4	-1.1
SSNN				*e*S	Sg	19 55 00.8	-0.4
MOMJ	**Momotombo**	**0.92**	**11**	*e*P	Pg	19 54 50.0	-0.2
LEON	**Leon**	**0.92**	**350**	⇓*e*P	Pg	19 54 50.2	-0.1
MIRN	**Miramar**	**0.93**	**1**	⇑*e*P	Pg	19 54 50.5	0.0
MIRN				*e*S	Sg	19 55 03.6	+0.8
CNGN	**Cerro Negro**	**0.99**	**1**	⇓*e*P	Pb	19 54 51.2	-0.4
CNGN				*e*S	Sg	19 55 04.9	0.0
TEL3	**Telica 3**	**1.07**	**354**	⇓*e*P	Pb	19 54 52.3	-0.6
TEL3				*e*S	Sb	19 55 08.4	+1.2
TELN	**Telica**	**1.10**	**354**	⇑*e*P	Pb	19 54 51.5	-2.0
TELN				*e*S	Sb	19 55 10.4	+2.2
MADN	**Villa Maderas**	**1.17**	**95**	⇓*e*P	Pb	19 54 52.2	-2.5
MADN				*e*S	Sb	19 55 07.5	-2.7
PYTN	**Playitas**	**1.22**	**32**	⇓*i*P	Pb	19 54 54.0	-1.5
PYTN				*e*P		19 54 54.6	
PYTN				*e*S	Sb	19 55 11.1	-0.5
VCR	**Vista de Mar**	**1.74**	**142**	*e*P	Pn	19 55 02.3	-1.2
VCR				*e*S	Sn	19 55 28.1	+1.3
JCR	**Jicaral**	**2.28**	**136**	*e*P	Pn	19 55 11.0	-0.3
JCR				*e*S	Sn	19 55 42.3	+1.7
LCR2	**La Lucha 2**	**3.20**	**123**	*e*P	Pn	19 55 14.7	-1.7
LCR2				*e*S	Sn	19 56 06.4	+2.6
URSC	**Urasca**	**3.34**	**120**	*e*P	Pn	19 55 25.8	-0.6

*NEIC **29** 19:58:23.8, 17.22N×101.32W, h2km, MD3.7(MEX), After MEX.*

MEX 29 19:58:23.8±0.9, 17.22N×101.32W, h2km±25km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.41**	**340**	*i* P	Pg	19 58 31.4	-0.5
ZIIG				*i* S	Sg	19 58 36.7	-0.6
CAIG	**El Cayaco**	**1.02**	**100**	*i* P	Pb	19 58 41.4	-2.5
CAIG				*i* S	Sb	19 58 53.8	-3.8
ACX	**Acapulco**	**1.39**	**105**	*e*P	Pb	19 58 47.0	-3.2
ACX				*e*S	Sb	19 59 05.0	-3.2
PLIG	**Platanillo**	**2.08**	**56**	*e*P	Pn	19 58 57.0	-3.3
PLIG				*e*S	Sn	19 59 23.2	-3.9
MOIG	**Morelia**	**2.44**	**3**	*e*P	Pn	19 59 02.5	-2.9
MOIG				*e*S	Sn	19 59 31.6	-4.7
PPM	**Popocatepetl**	**3.15**	**54**	*e*P	Pn	19 59 12.0	-3.4

GUC 29 20:00:14.2±0.6, 21.91S×68.52W, h143km±5km, ML3.7, 3C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.79**	**207**	⇑*i*P	P	20 00 37.3	+0.4
LVC				*i* S	S	20 00 55.5	+1.1
LVC				AMP		20 00 56.5	
	comp=E,908nm,0.2s						
SPCH	**San Pedro de A**	**1.04**	**163**	⇑*i*P	P	20 00 39.5	+0.7
SPCH				*i* S	S	20 00 59.2	+1.5
ANCH	**Antofagasta**	**2.48**	**224**	⇓*i*P	P	20 00 56.0	+0.7
ANCH				*i* S	S	20 01 27.0	+0.2
CPN1	**Cerro Paranal**	**3.21**	**212**	⇑*i*P	P	20 01 06.3	+1.5
CPN1				*i* S	S	20 01 45.5	+2.1
CPN1				AMP		20 01 56.7	
	comp=E,239nm,0.6s						

*LDG **29** 20:06:41.5±0.1, 45.97N×2.94E, h2km, Md1.7/2, MI1.7/5, Error ellipse: s-maj=2.3km s-min=1.2km az=123.0*

STR 29 20:06:42.0±0.4, 45.94N×3.03E, h5km±1km, MI2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGO	**Saint Agoulin**	**0.13**	**32**	Pg	Pg	20 06 45.2	+0.4
AGO				Sg	Sg	20 06 47.3	+0.6
PYM	**Petit Puy Mans**	**0.19**	**185**	Pg	Pg	20 06 46.0	+0.1
BGF	**Bois d'Agland**	**0.63**	**348**	*e*Pg	Pg	20 06 52.9	-1.7
BGF				*e*Sg	Sg	20 07 00.7	-2.4
	3.7nm,0.2s						
TCF	**Toulx Ste Croi**	**0.67**	**302**	*e*Pg	Pg	20 06 53.4	-2.0
TCF				*e*Sg	Sg	20 07 01.0	-3.3
	1.4nm,0.2s						
LBL	**Lubilhac**	**0.72**	**168**	Pg	Pg	20 06 56.5	0.0
LBL				Sg	Sg	20 07 05.5	-0.7
SMF	**Signal de Mont**	**0.90**	**38**	*e*Pg	Pg	20 06 58.7	-1.3
SMF				*e*Sg	Sg	20 07 11.1	-1.0
	1.2nm,0.2s						
SSF	**Saint Saulge**	**1.17**	**16**	*e*Pg	Pg	20 07 03.0	-2.4
SSF				*e*Sg	Sg	20 07 18.5	-2.4
	0.6nm,0.2s						
CAF	**Calviac**	**1.22**	**214**	*e*Pg	Pg	20 07 04.3	-2.1
CAF				*e*Sg	Sg	20 07 19.2	-3.5
	3.4nm,0.2s						
RJF	**Les Rejaudoux**	**1.24**	**240**	*e*Pg	Pg	20 07 04.1	-2.6
RJF				*e*Sg	Sg	20 07 18.7	-4.5
	1.9nm,0.3s						
HYF	**Humbligny**	**1.36**	**349**	*e*Sg	Sg	20 07 23.2	-4.0
LOR	**Lormes**	**1.45**	**23**	*e*Pg	Pg	20 07 08.7	-2.2
LOR				*e*Sg	Sg	20 07 27.3	-2.9
	1.9nm,0.2s						

*IDC **29** 20:09:27.0±1.4, 4.92S×133.36E, mb3.8/2, mb1 4.4/7, mb1mx4.2/14, ML4.3/4, MS3.6/2, Ms1 3.6/2, ms1mx3.0/19, Error ellipse: s-maj=58.7km s-min=20.2km az=64.0*

*NEIC **29** 20:09:31.5±1.0, 5.04S×133.32E, h30km, mb4.2/3, Error ellipse: s-maj=22.7km s-min=12.3km az=67.0*

ISC 29 20:09:36.4±0.9, 5.21S±0.06×133.5E±0.1, h100km, n16, σ1s56/24, mb3.7/3, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**7.52**	**188**	*e*P	**P**	**20 11 29.7**	**+4.7**
KAKA	23nm,0.4s						
				*e*S	**S**	**20 12 59.0**	**+10**
WRAB	**Tennant Creek**	**14.66**	**177**	*e*Pn	**P**	**20 12 57.6**	**-2.4**
WRAB	12nm,0.6s						
				*e*Sn	**S**	**20 15 38.1**	**-2.1**
WRA	**Warramunga Arr**	**14.67**	**177**	Pn	**P**	**20 12 58.2**	**-1.9**
WRA	1.8nm,0.3s,baz=357,slow=13,SNR=85						
				Sn	**S**	**20 15 39.9**	**-0.6**
	1.0nm,0.3s,baz=351,slow=24,SNR=6.8						
WB2	**Warramunga Arr**	**14.67**	**177**	*e*P	**P**	**20 12 59.0**	**-1.1**
WB2				*e*S	**S**	**20 15 38.2**	**-2.3**
FITZ	**Fitzroy Crossi**	**14.93**	**210**	*e*P	**P**	**20 13 02.2**	**-1.2**
FITZ	5.7nm,0.4s						
				*e*S	**S**	**20 15 48.8**	**+2.4**
FITZ	**Fitzroy Crossi**	**14.93**	**210**	Pn	**P**	**20 13 03.3**	**0.0**
FITZ	1.3nm,0.3s,baz=16,slow=8.0,SNR=35						
				Sn	**S**	**20 15 47.1**	**+0.7**
	2.2nm,0.3s,baz=191,slow=17,SNR=11						
ASAR	**Alice Springs**	**18.36**	**179**	P	**P**	**20 13 46.6**	**+1.0**
ASAR	1.7nm,0.3s,baz=355,slow=12,SNR=72						
	0.1nm,0.3s,baz=3.7,slow=28,SNR=3.9			S	**S**	**20 17 04.8**	**+1.1**
ASAR				LR	LR	20 21 56.1	
	comp=Z,124nm,18.5s,baz=13,slow=40						
ASPA	**Alice Springs**	**18.36**	**179**	*e*P	**P**	**20 13 47.3**	**+1.7**
ASPA				*e*S	**S**	**20 17 05.7**	**+2.0**
CTA	**Charters Tower**	**19.32**	**141**	*e*P	**P**	**20 13 57.1**	**+0.8**
	8.3nm,1.6s						
CTA	**Charters Tower**	**19.32**	**141**	P	**P**	**20 13 57.4**	**+1.1**
	0.3nm,0.3s,baz=332,slow=11,SNR=6.6						
CTAO	**Charters Tower**	**19.32**	**141**	*e*P	**P**	**20 13 57.0**	**+0.6**
	13nm,0.9s						
MBWA	**Marble Bar**	**20.71**	**219**	*e*P	**P**	**20 14 15.7**	**+5.0**
	17nm,1.0s						
STKA

ARCES	**ARCESS Array B**	61.30	18	P		**P**	21 05 00.7	**-0.6**
	3.1nm,0.8s,mb4.5,baz=330,slow=7.3,SNR=7.6							

STR ***29*** *20:56:48.9±0.6,47.68N×8.60E,h10km±1km,Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
BGR ***29*** *20:56:48.9±0.3,47.58N×8.53E,h10km,ML1.3/1, Error ellipse: s-maj=6.7km s-min=2.2km az=55.0*
ZUR ***29*** *20:56:48.3,47.57N×8.53E,h2km,ML1.6/10*
LDG ***29*** *20:56:49.2±0.2,47.61N×8.56E,h7km,Md2.1/1,Ml2.1/7, Error ellipse: s-maj=3.8km s-min=3.3km az=37.0*

ISC 29 20:56:48.2±0.4,47.58N±0.03×8.47E±0.03,h2km,n23, σ0§82/42,5C-4D,Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FLACH	**Flaach**	**0.06**	**97**	⇑*i*Pg	**Pg**	**20 56 48.9**	**-0.6**
	74nm,0.2s						
TRULL	**Truellikon**	**0.16**	**64**	⇓*i*Pg	**Pg**	**20 56 51.1**	**-0.2**
	21nm,0.4s						
TRULL				*i* Sg	**Sg**	**20 56 53.3**	**-0.1**
	21nm,0.4s						
SLE	**Schleitheim**	**0.19**	**4**	⇓*i*Pg	**Pg**	**20 56 52.3**	**+0.4**
	3.9nm,0.3s						
SLE				*i* Sg	**Sg**	**20 56 55.1**	**+0.7**
	3.9nm,0.3s						
SLE	**Schleitheim**	**0.19**	**4**	*e*Pg	**Pg**	**20 56 52.3**	**+0.4**
	SNR=20						
SLE				*e*Sg	**Sg**	**20 56 55.1**	**+0.7**
	SNR=5.9						
ZUR	**Zurich**	**0.22**	**161**	⇓*i*Pg	**Pg**	**20 56 52.8**	**+0.2**
	6.7nm,0.8s						
ZUR				*e*Sg	**Sg**	**20 56 56.5**	**+0.9**
	6.7nm,0.8s						
ZUR	**Zurich**	**0.22**	**161**	*e*Pg	**Pg**	**20 56 52.8**	**+0.2**
	SNR=4.4						
ZUR				*e*Sg	**Sg**	**20 56 56.2**	**+0.6**
	SNR=6.1						
SULZ	**Sulz-Cheisache**	**0.25**	**258**	⇑*i*Pg	**Pg**	**20 56 54.5**	**+1.4**
	5.2nm,0.7s						
STEIN	**Stein am Rhein**	**0.28**	**71**	⇑*i*Pg	**Pg**	**20 56 53.6**	**-0.2**
	2.6nm,0.2s						
STEIN				*i* Sg	**Sg**	**20 56 57.6**	**0.0**
	2.6nm,0.2s						
WILA	**Wila**	**0.34**	**119**	⇑*i*Pg	**Pg**	**20 56 54.8**	**-0.1**
	2.1nm,0.3s						
WILA				*i* Sg	**Sg**	**20 56 59.5**	**+0.1**
	2.1nm,0.3s						
WILA	**Wila**	**0.34**	**119**	*e*Pg	**Pg**	**20 56 54.7**	**-0.2**
	SNR=3.9						
WILA				*e*Sg	**Sg**	**20 56 59.6**	**+0.2**
	SNR=6.2						
WEIN	**Weingarten**	**0.35**	**98**	⇑*i*Pg	**Pg**	**20 56 54.9**	**-0.3**
	3.5nm,0.4s						
WEIN				*i* Sg	**Sg**	**20 56 59.8**	**-0.1**
	3.5nm,0.4s						
FELD	**Feldberg**	**0.43**	**313**	*e*Sg	**Sg**	**20 57 03.9**	**+1.3**
	SNR=4.4						
BNALP	**Bannalp**	**0.71**	**183**	⇓*i*Pg	**Pg**	**20 57 02.5**	**+0.1**
	1.1nm,0.3s						
BFO	**Black Forest**	**0.76**	**353**	*e*Pg	**Pg**	**20 57 02.9**	**-0.4**
	SNR=2.2						
BFO				*e*Sg	**Sg**	**20 57 14.0**	**+0.6**
	SNR=5.1						
MOF	**Molkenrain**	**0.94**	**287**	Pg	**Pg**	**20 57 07.9**	**+0.9**
MOF				Sg	**Sg**	**20 57 22.1**	**+2.4**
ECH	**Echery**	**1.09**	**306**	*e*Pg	**Pg**	**20 57 10.3**	**+0.4**
	SNR=2.4						
ECH				*e*Sg	**Sg**	**20 57 24.8**	**+0.3**
	SNR=5.3						
ECH	**Echery**	**1.09**	**306**	Pg	**Pg**	**20 57 10.5**	**+0.6**
ECH				Sg	**Sg**	**20 57 25.5**	**+1.0**
HINF	**Hinteralfeld**	**1.12**	**283**	*e*Pn	**Pn**	**20 57 10.4**	**-0.3**
HINF				*e*Sg	**Sg**	**20 57 26.0**	**+0.5**
	7.4nm,0.3s						
WLS	**Welschbruch**	**1.12**	**318**	*e*Pg	**Pg**	**20 57 11.0**	**+0.4**
	SNR=1.3						
CDF	**Champ du Feu**	**1.16**	**316**	*e*Pn	**Pn**	**20 57 10.2**	**-1.1**
CDF				*e*Pg	**Pg**	**20 57 11.3**	**0.0**
CDF				*e*Sg	**Sg**	**20 57 26.3**	**-0.4**
	6.9nm,0.3s						
HAU	**Haudompre**	**1.50**	**287**	*e*Pn	**Pn**	**20 57 15.7**	**-0.4**
HAU				*e*Pg	**Pg**	**20 57 17.8**	**-0.2**
HAU				*e*Sg	**Sg**	**20 57 37.1**	**-0.9**
	4.7nm,0.3s						
RFYF	**Reffroy**	**2.27**	**299**	*e*Sg	**Sg**	**20 58 01.6**	**-2.1**
	0.6nm,0.2s						
SFTF	**Sexfontaines**	**2.40**	**286**	*e*Pg	**Pg**	**20 57 34.5**	**-1.5**
SFTF				*e*Sg	**Sg**	**20 58 06.2**	**-1.7**
	0.9nm,0.3s						

NEIC ***29*** *21:02:15.3, 18.99N×69.59W, h89km, MD3.5(RSPR), After RSPR.*

RSPR 29 21:02:15.3,18.99N×69.59W,h89km±19km,MD3.5/6, MD3.5/6,7C-1D,Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGP	**Aguadilla**	**2.39**	**104**	*e*Pn	P	21 02 53.2	-0.3
AGP				*e*Sn	S	21 03 13.2	-8.6
LSP	**Las Mesas**	**2.51**	**108**	⇑*e*P	P	21 02 54.7	-0.4
LSP				*e*S	S	21 03 24.1	-0.7
LRS	**Lares**	**2.69**	**105**	⇑*e*P	P	21 02 56.3	-1.3
LRS				*e*S	S	21 03 28.9	-0.4
AOPR	**Arecibo Observ**	**2.77**	**103**	⇑*e*P	P	21 02 57.3	-1.3
AOPR				*e*S	S	21 03 29.5	-1.6
PORP	**Portuguez**	**2.95**	**108**	⇑*e*P	P	21 02 59.4	-1.8
PORP				*e*S	S	21 03 34.4	-1.4
OBIP	**Obispado Ponce**	**2.98**	**108**	*e*S	S	21 03 35.5	-1.9
CELP	**Cerrillos**	**3.00**	**107**	⇑*e*P	P	21 02 60.0	-1.9
CELP				*e*S	S	21 03 36.3	-0.6
CSB	**Colonia Sabana**	**3.33**	**102**	⇓*e*P	P	21 03 05.2	-1.2
SJG	**San Juan**	**3.38**	**104**	⇑*e*P	P	21 03 05.8	-1.2
HUMP	**Col San Antoni**	**3.65**	**103**	⇑*e*P	P	21 03 09.9	-0.9
HUMP				*e*S	S	21 03 52.1	-0.8

NIED ***29*** *21:07:00,35.40N×140.50E,h59km,Mw4.3 Best double couple: M3.3 1.31×10^15 NP1:φs28°,δ80°,λ96°. NP2:φs177°, δ12°,λ59°.*
IDC ***29*** *21:07:05.1±2.8,35.35N×140.20E,h39km±26km,mb3.7/11, mb1 3.9/14,mb1mx3.8/23,ML4.2/3,MS3.2/6,Ms1 3.3/6, ms1mx3.1/31,Error ellipse: s-maj=38.9km s-min=14.9km az=83.0*
BJI ***29*** *21:07:06.3,35.60N×140.10E,h47km,mB4.9,mb4.5*
JMA ***29*** *21:07:06.2±0.1,35.39N×140.43E,h57km±2km,M4.0 Broadband fault plane solution: P waves. NP1:φs179°,δ6°, λ59°. NP2:φs30°,δ85°,λ93°. Principal axes: T Plg50°, Azm303°; N Plg3°, Azm209°; P Plg40°, Azm117°;*
JMA Felt II J1.
NEIC ***29*** *21:07:08.7±1.6,35.27N×140.08E,h71km±12km,mb4.5/6, MW4.3(NIED) Error ellipse: s-maj=24.8km s-min=9.0km az=75.0*
NEIC Recorded [2 JMA] in Chiba Prefecture.

ISC 29 21:07:05.4±0.4,35.32N±0.03×140.42E±0.06,h66km±2km, n45,σ0§80/56,mb4.2/24,5C-5D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTR	**Katsuura**	**0.20**	**207**	⇑P	**P**	**21 07 15.6**	**+0.1**
KTR				S	**S**	**21 07 22.5**	**-0.4**
JCN	**Nagara**	**0.21**	**298**	⇓P	**P**	**21 07 15.7**	**+0.2**
JCN				S	**S**	**21 07 22.6**	**-0.5**
BSO4	**Boso 4**	**0.34**	**192**	⇑P	**P**	**21 07 17.1**	**+0.6**
BSO4				S	**S**	**21 07 25.7**	**+1.0**
CHOJ	**Chosi**	**0.52**	**43**	⇑P	**P**	**21 07 17.9**	**-0.3**
CHOJ				S	**S**	**21 07 26.3**	**-1.2**
BSO3	**Boso 3**	**0.52**	**172**	⇑P	**P**	**21 07 18.7**	**+0.5**
BSO3				S	**S**	**21 07 28.9**	**+1.3**
BSO2	**Boso 2**	**0.63**	**154**	S	**S**	**21 07 30.0**	**+0.3**
BSO1	**Boso 1**	**0.81**	**146**	⇑P	**P**	**21 07 21.4**	**-0.1**
JIM2	**Oshima 3**	**1.01**	**234**	P	**P**	**21 07 24.1**	**-0.1**
JIM2				S	**S**	**21 07 37.2**	**-0.8**
JOD2	**Odawara 2**	**1.09**	**267**	⇓P	**P**	**21 07 25.4**	**+0.2**
JAG	**Ashikaga**	**1.35**	**325**	⇓P	**P**	**21 07 28.6**	**-0.3**
JIZS	**Izushimoda**	**1.40**	**245**	⇓P	**P**	**21 07 29.6**	**+0.1**
JRY	**Ryogami san**	**1.42**	**300**	⇓P	**P**	**21 07 29.8**	**+0.1**
MAJO	**Matsushiro**	**2.17**	**305**	*e*Pn	**P**	**21 07 40.3**	**+0.3**
MAT	**Matsushiro**	**2.17**	**305**	P	**P**	**21 07 40.4**	**+0.3**
MAT				S	**S**	**21 08 06.2**	**+0.4**
MAT	**Matsushiro**	**2.17**	**305**	*e*P	**P**	**21 07 40.0**	**-0.1**
MAT				*e*S	**S**	**21 08 06.0**	**+0.2**
JHJ	**Hachijo jima 2**	**2.26**	**194**	Pn	**P**	**21 07 41.6**	**+0.3**
	145nm,0.3s,baz=22,slow=5.0,SNR=14						
JHJ				Sn	**S**	**21 08 07.5**	**-0.6**
	258nm,0.3s,baz=55,slow=23,SNR=8.8						
JHJ				LR	LR	21 08 12.3	
	comp=Z,1μm,21.4s,baz=144,slow=30						
CBIJ	**Chichi jima**	**8.34**	**169**	Pn	**P**	**21 09 03.1**	**-2.8**
	30nm,0.3s,baz=246,slow=18,SNR=9.9						
CBIJ				Sn	**S**	**21 10 33.5**	**-6.0**
	9.0nm,0.3s,baz=288,slow=20,SNR=3.2						
CBIJ				LR	LR	21 11 32.5	
	comp=Z,89nm,18.7s,baz=12,slow=32						
ASAJ	**Asahikawa**	**8.94**	**10**	Pn	**P**	**21 09 09.9**	**-4.3**
	1.2nm,0.3s,baz=218,slow=7.9,SNR=9.3						
ASAJ				Sn	**S**	**21 10 45.2**	**-9.1**
	0.4nm,0.3s,baz=73,slow=19,SNR=2.8						
ENH	**Enshi**	**26.43**	**268**	*e*P	**P**	**21 12 36.7**	**-1.2**
	14nm,0.8s,mb4.5						
SONM	**Songino Array**	**28.12**	**307**	P	**P**	**21 12 52.2**	**-0.9**
	1.3nm,0.6s,mb3.6,baz=108,slow=7.8,SNR=5.3						
GTA	**Gaotai**	**32.34**	**290**	P	**P**	**21 13 30.5**	**0.0**
GTA				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.4						
CMAR	**Chiang Mai Arr**	**40.30**	**256**	P	**P**	**21 14 35.4**	**-2.5**
	comp=Z,0.5nm,0.8s,mb3.4,baz=49,slow=4.7,SNR=5.0						
CMAR				LR	LR	21 30 48.3	
	comp=Z,18nm,21.5s,baz=232,slow=36						
ZAL	**Zalesovo**	**42.51**	**314**	P	**P**	**21 14 54.0**	**-1.6**
	comp=Z,1.0nm,0.7s,mb3.7,baz=304,slow=7.3,SNR=3.1						
ZAL				LR	LR	21 35 46.0	
	comp=Z,45nm,18.4s,baz=179,slow=41						
KURK	**Kurchatov**	**46.38**	**309**	*e*P	**P**	**21 15 26.5**	**-0.2**
	comp=Z,5.0nm,0.8s,mb4.3						
GUN	**Gumba**	**46.54**	**277**	*e*P	**P**	**21 15 29.3**	**+1.0**
	comp=Z,22nm,0.8s,mb4.9						
PKI	**Pulchoki**	**47.06**	**277**	*e*P	**P**	**21 15 32.7**	**+0.3**
	comp=Z,13nm,0.8s,mb4.7						
KKN	**Kakani**	**47.08**	**277**	*e*P	**P**	**21 15 33.0**	**+0.5**
	comp=Z,13nm,1.0s,mb4.6						
DMN	**Daman**	**47.29**	**277**	*e*P	**P**	**21 15 34.6**	**+0.4**
	comp=Z,12nm,1.1s,mb4.6						
GKN	**Gorkha**	**47.52**	**277**	*e*P	**P**	**21 15 36.1**	**+0.1**
	comp=Z,23nm,0.9s,mb5.0						
KOLN	**Koldanda**	**48.45**	**278**	*e*P	**P**	**21 15 42.9**	**-0.3**
	comp=Z,13nm,1.1s,mb4.7						
BVAR	**Borovoye Array**	**51.15**	**313**	P	**P**	**21 16 04.0**	**+0.5**
	comp=Z,0.5nm,0.5s,mb3.9,baz=62,slow=11,SNR=5.3						
FITZ	**Fitzroy Crossi**	**54.95**	**197**	*e*P	**P**	**21 16 32.6**	**+0.4**
	comp=Z,3.1nm,1.1s,mb4.2						
WRAB	**Tennant Creek**	**55.25**	**187**	*e*P	**P**	**21 16 33.6**	**-0.7**
	comp=Z,8.2nm,0.8s,mb4.8						
WB2	**Warramunga Arr**	**55.26**	**187**	*e*P	**P**	**21 16 33.6**	**-0.8**
WRA	**Warramunga Arr**	**55.26**	**187**	P	**P**	**21 16 33.7**	**-0.7**
	comp=Z,1.3nm,0.4s,mb4.3,baz=1.5,slow=7.6,SNR=26						
CTAO	**Charters Tower**	**55.38**	**173**	*e*P	**P**	**21 16 35.2**	**-0.1**
	comp=Z,20nm,1.2s,mb5.0						
ASAR	**Alice Springs**	**58.99**	**187**	P	**P**	**21 17 01.2**	**+0.5**
	comp=Z,0.5nm,0.5s,mb3.8,baz=17,slow=13,SNR=9.4						
ARCES	**ARCESS Array B**	**65.32**	**339**	P	**P**	**21 17 42.1**	**-0.1**
	comp=Z,1.1nm,0.7s,mb3.8,baz=67,slow=6.9,SNR=3.1						
FINES	**FINESS Array B**	**69.95**	**332**	P	**P**	**21 18 11.1**	**-0.1**
	comp=Z,1.4nm,0.8s,mb3.9,baz=39,slow=12,SNR=5.3						
AKASG	**Malin Array Be**	**75.16**	**322**	P	**P**	**21 18 42.2**	**+0.2**
	comp=Z,0.7nm,0.4s,mb3.8,baz=47,slow=5.9,SNR=13						
NB2	**NORSAR Subarra**	**75.45**	**337**	P	**P**	**21 18 44.1**	**+0.6**
	comp=Z,1.7nm,0.8s,mb3.8,baz=42,slow=5.8						
NOA	**NORSAR Array B**	**75.45**	**337**	P	**P**	**21 18 44.1**	**+0.6**
	comp=Z,2.3nm,0.8s,mb4.0,baz=40,slow=5.8,SNR=7.6						
NOA				LR	LR	21 56 56.1	
	comp=Z,13nm,21.3s,baz=215,slow=40						
BRTR	**Keskin Array B**	**79.38**	**311**	P	**P**	**21 19 07.8**	**+2.0**
	comp=Z,1.2nm,1.0s,mb3.7,baz=117,slow=2.8,SNR=4.4						
BRTR				LR	LR	21 58 04.8	
	comp=Z,19nm,18.1s,baz=15,slow=39						
CLL	**Collm**	**82.18**	**330**	P	**P**	**21 19 22.0**	**+1.7**
GERES	**GERESS Array B**	**83.74**	**328**	P	**P**	**21 19 29.2**	**+1.0**
	comp=Z,0.6nm,0.8s,mb3.5,baz=135,slow=3.8,SNR=4.6						

NNC ***29*** *21:25:38.2±5.6,43.13N×77.76E,mpv2.6, Error ellipse: s-maj=134.1km s-min=44.2km az=150.0*
KNET ***29*** *21:25:39.5±0.7,42.97N×77.37E,h4km±3km,ml2.3, Error ellipse: s-maj=3.5km s-min=3.2km az=90.0*

ISC 29 21:25:37.7±1.2,42.93N±0.10×77.72E±0.09,h4km,n10, σ1§20/17,8C-10D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**1.29**	**239**	⇓P	**Pb**	**21 26 00.5**	**-1.6**
	9.1nm,0.1s,SNR=119						
ULHL				⇓S	**Sb**	**21 26 17.1**	**-1.8**
	58nm,0.1s						
TKM2	**Tokmak 2**	**1.56**	**271**	⇑P	**Pn**	**21 26 04.6**	**-1.7**
	7.3nm,0.2s,SNR=6.4						
TKM2				⇑S	**Sb**	**21 26 24.1**	**-2.7**
	48nm,0.1s						
KZA	**Kyzart**	**2.02**	**246**	P	**Pn**	**21 26 13.6**	**+0.8**
	4.6nm,0.2s,SNR=8.5						
KZA				⇓S	**Sn**	**21 26 40.1**	**+1.4**
	22nm,0.3s						
KBK	**Karagaybulak**	**2.06**	**263**	⇑P	**Pn**	**21 26 14.0**	**+0.5**
	12nm,0.2s,SNR=11						
KBK				⇓S	**Sn**	**21 26 40.0**	**+0.2**
	41nm,0.2s						
CHMS	**Chumysh**	**2.18**	**273**	⇓P	**Pn**	**21 26 15.2**	**0.0**
	3.1nm,0.1s						
CHMS				⇓S	**Sn**	**21 26 43.1**	**+0.2**
	21nm,0.2s						
USP	**Ospenovka**	**2.38**	**279**	⇑P	**Pn**	**21 26 17.5**	**-0.6**
	5.2nm,0.2s,SNR=6.5						
USP				⇑S	**Sn**	**21 26 48.2**	**+0.1**
	17nm,0.2s						
AAK	**Ala-Archa**	**2.40**	**264**	⇑Pn	**Pn**	**21 26 19.6**	**+1.4**
	3.1nm,0.4s						
AAK				⇑Lg		21 26 50.5	
	12nm,0.5s						
AAK	**Ala-Archa**	**2.40**	**264**	⇑P	**Pn**	**21 26 19.6**	**+1.4**
	3.5nm,0.2s,SNR=6.8						
AAK				⇓S	**Sn**	**21 26 49.9**	**+1.5**
	18nm,0.3s						
UCH	**Uchtor**	**2.47**	**255**	⇓P	**Pn**	**21 26 21.0**	**+1.7**
	4.8nm,0.3s,SNR=7.9						
MK31	**Makanchi Array**	**5.05**	**38**	⇓Pn	**Pn**	**21 26 55.5**	**-0.5**
	0.1nm,0.2s,baz=217,slow=16,SNR=13						
MK31				⇓Lg		21 28 11.5	
	1.0nm,0.7s,baz=224,slow=32						

NEIC ***29*** *22:29:10.8, 15.77N×97.36W, h16km, MD3.7(MEX), After MEX.*

MEX 29 22:29:10.8±1.1,15.77N×97.36W,h16km±24km,MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.96**	**310**	*i* P	Pb	22 29 25.6	-3.0
PNIG				*i* S	Sb	22 29 36.8	-4.1
HUIG	**Huatulco**	**1.21**	**90**	*i* P	Pb	22 29 29.9	-2.9
HUIG				*i* S	Sb	22 29 43.7	-4.3
VHO	**Vista Hermosa**	**1.43**	**25**	*i* P	Pn	22 29 31.7	-4.5
VHO				*i* S	Sb	22 29 49.5	-4.9
OXX	**Oaxaca**	**1.44**	**25**	*i* P	Pn	22 29 33.5	-2.9
OXX				*i* S	Sb	22 29 50.0	-4.8
CMIG	**Matias Romero**	**2.72**	**61**	*e*P	Pn	22 29 51.1	-3.6
CMIG				*i* S	Sn	22 30 20.7	-6.8

ATH ***29*** *22:30:20.1,38.06N×20.52E,h7km±1km,MD3.3/4*
THE ***29*** *22:30:20.6,38.12N×20.54E,h5km,ML2.8*
NEIC ***29*** *22:30:20.1,38.06N×20.52E,h7km,MD3.3(ATH), After ATH.*
CSEM ***29*** *22:30:20.5±0.2,38.08N×20.46E,h5km,ML2.8, Error ellipse: s-maj=4.6km s-min=2.8km az=71.0*

ISC 29 22:30:20.3±1.3,38.09N±0.06×20.55E±0.10,h10km±4km, n11,σ0§92/17,1D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.09**	**18**	⇓*i*PG	**Pg**	**22 30 23.1**	**+0.2**
VLS				*e*SG	**Sg**	**22 30 25.5**	**+0.8**
LKD	**Levkas**	**0.62**	**7**	*e*Pg	**Pg**	**22 30 30.9**	**-1.9**
LKD				*e*Sg	**Sg**	**22 30 40.9**	**-0.3**
EVR	**Evrytania**	**1.28**	**50**	*e*PB	**Pb**	**22 30 45.0**	**+0.9**
ITM	**Ithomi**	**1.42**	**129**	*e*PB	**Pb**	**22 30 46.8**	**+0.4**
IGT	**Igoumenitsa**	**1.45**	**353**	*e*Pb	**Pb**	**22 30 46.7**	**-0.3**
IGT				*e*Sb	**Sb**	**22 31 05.7**	**+0.4**
AGG	**Agios Georgios**	**1.68**	**56**	*e*Pb	**Pb**	**22 30 50.3**	**-0.5**
AGG				*e*Sb	**Sb**	**22 31 13.1**	**+1.2**
KEK	**Kerkira**	**1.73**	**340**	*e*PN	**Pn**	**22 30 52.8**	**+2.2**
XOR	**Xorichti**	**2.42**	**57**	*e*Pn	**Pn**	**22 30 59.9**	**-0.8**
LIT	**Litokhoron**	**2.51**	**36**	*e*Pn	**Pn**	**22 31 01.7**	**-0.1**
LIT				*e*Sn	**Sn**	**22 31 32.5**	**-0.3**
FNA	**Florina**	**2.77**	**13**	*e*Pn	**Pn**	**22 31 05.6**	**+0.1**
FNA				*e*Sn	**Sn**	**22 31 39.1**	**-0.1**
PAIG	**Paliouri**	**3.05**	**52**	*e*Pn	**Pn**	**22 31 07.9**	**-1.6**

ATH ***29*** *22:52:12.3,34.80N×26.14E,h14km±2km,MD3.6/7*
NEIC ***29*** *22:52:12.3,34.80N×26.14E,h14km,MD3.6(ATH),After ATH.*
CSEM ***29*** *22:52:13.0±0.2,34.93N×26.16E,h2km,MD3.6, Error ellipse: s-maj=6.6km s-min=2.6km az=154.0*

ISC 29 22:52:13.3±0.9,34.94N±0.06×26.03E±0.06,h2km,n20, σ1§12/23,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.29**	**256**	*e*PB	**Pb**	**22 52 20.2**	**-0.6**
NPS	**Neapolis**	**0.47**	**313**	*e*PB	**Pb**	**22 52 24.0**	**+0.1**
KARP	**Karpathos**	**1.10**	**57**	*e*PN	**Pn**	**22 52 33.5**	**-2.1**
SANT	**Santorini**	**1.50**	**342**	*e*Pn	**Pn**	**22 52 40.0**	**-1.3**
SANT				*e*Pg	**Pg**	**22 52 43.0**	**-0.3**
SANT				*e*Sn	**Sn**	**22 52 59.8**	**-1.9**
SANT				*e*Sg	**Sg**	**22 53 03.5**	**+0.3**
SANT	**Santorini**	**1.50**	**342**	*e*Pg	**Pg**	**22 52 43.0**	**-0.2**
THR1	**Thera Island**	**1.50**	**342**	*e*P	**Pn**	**22 52 42.0**	**+0.7**
THR6	**Thira Island,**	**1.50**	**340**	*e*P	**Pn**	**22 52 41.8**	**+0.4**
THR3	**Thira Island,**	**1.55**	**341**	*e*P	**Pn**	**22 52 42.1**	**+0.1**
VAM	**Vamos**	**1.57**	**288**	*e*PN	**Pn**	**22 52 43.5**	**+1.2**
THR5	**Thira Island,**	**1.57**	**339**	*e*P	**Pn**	**22 52 42.4**	**0.0**
GVD	**Gavdhos**	**1.60**	**267**	*e*Pg	**Pg**	**22 52 44.7**	**-0.6**
GVD	**Gavdhos**	**1.60**	**267**	*e*Pg	**Pg**	**22 52 44.7**	**-0.6**
APE	**Apeiranthos**	**2.16**	**349**	*e*PN	**Pn**	**22 52 52.8**	**+2.0**
BDRM	**Kayabasi**	**2.41**	**28**	*i* P	**Pn**	**22 52 56.1**	**+1.8**
KYTH	**Kithira**	**2.78**	**300**	*e*PB	**Pb**	**22 53 02.9**	**-0.6**
VLI	**Veliai**	**3.08**	**306**	*e*PN	**Pn**	**22 53 05.0**	**+1.2**
AYDN	**Tasoluk**	**3.10**	**28**	*i* P	**Pn**	**22 53 05.8**	**+1.7**
DNZL	**Cakiroluk**	**3.67**	**41**	*i* P	**Pn**	**22 53 11.7**	**-0.5**
MANT	**Manisa**	**4.08**	**29**	*i* P	**Pn**	**22 53 18.1**	**0.0**
BOZC	**Bozcaada**	**4.89**	**0**	*i* P	**Pn**	**22 53 27.8**	**-1.8**

OTT 29 23:06:08.0±0.1,46.45N×81.09W,h1km,MN2.7/19,Blast, Sudbury, On Mining explosion.,Ontario

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUNO	**Sudbury Onapin**	**0.27**	**318**	PG	Pg	23 06 12.6	-0.7
SUNO				Trac		23 06 16.0	
	comp=Z,68nm,0.1s						
SUNO				SG	Sg	23 06 16.0	-0.9
RSPO	**Restoule Provi**	**0.99**	**112**	PG	Pg	23 06 25.3	-2.5
RSPO				SG	Sg	23 06 38.7	-2.3
RSPO				Trac		23 06 41.2	
	comp=Z,16nm,0.1s						
KLBO	**Killbear Provi**	**1.25**	**150**	PG	Pg	23 06 30.0	-2.8
KLBO				SG	Sg	23 06 45.9	-3.6
KLBO				Trac		23 06 47.4	
	comp=Z,24nm,0.2s						
TOBO	**Tobermory, Bru**	**1.26**	**194**	PG	Pg	23 06 30.6	-2.4
TOBO				SG	Sg	23 06 46.2	-3.6
TOBO				Trac		23 06 52.3	
	comp=Z,13nm,0.1s						
EEO	**Eldee**	**1.40**	**81**	PG	Pg	23 06 32.6	-3.3
EEO				SG	Sg	23 06 51.5	-3.1
EEO				Trac		23 06 54.6	
	comp=Z,29nm,0.1s						
BUKO	**Buck Lake**	**1.55**	**130**	PG	Pg	23 06 34.8	-4.0
BUKO				SG	Sg	23 06 55.4	-4.1
BUKO				Trac		23 06 55.9	
	comp=Z,14nm,0.1s						
CLWO	**Collingwood**	**2.07**	**164**	PN	Pn	23 06 44.0	-0.3
CLWO				SG	Sg	23 07 12.0	-4.9
CLWO				Trac		23 07 18.2	
	comp=Z,9.4nm,0.1s						
SADO	**Sadowa**	**2.16**	**140**	PN	Pn	23 06 44.7	-0.8
SADO				SN	Sn	23 07 12.9	-0.5
SADO				Trac		23 07 15.7	
	comp=Z,8.4nm,0.1s						
ALGO	**Algonquin Park**	**2.16**	**102**	PN	Pn	23 06 45.2	-0.4
ALGO				SN	Sn	23 07 13.7	+0.2
ALGO				Trac		23 07 17.5	
	comp=Z,71nm,0.1s						
KILO	**Kirkland Lake**	**2.25**	**24**	PN	Pn	23 06 47.0	+0.2
KILO				SN	Sn	23 07 09.8	-5.8
KILO				SG	Sg	23 07 15.7	-7.2
KILO				Trac		23 07 17.2	
	comp=Z,35nm,0.2s						
CRLO	**Chalk River**	**2.60**	**98**	PN	Pn	23 06 50.8	-1.1
CRLO				SN	Sn	23 07 22.5	-2.1
CRLO				SG	Sg	23 07 28.1	-6.5
CRLO				Trac		23 07 34.0	
	comp=Z,6.2nm,0.1s						
BANO	**Bancroft**	**2.63**	**122**	PN

comp=Z,6.6nm,0.2s
MPPO Murphy's Point 3.77 115 PN Pn 23 07 05.8 -2.8
MPPO SN Sn 23 07 50.6 -3.7
MPPO Trac 23 08 08.5
comp=Z,8.4nm,0.3s
MEDO Medina 3.78 149 PN Pn 23 07 08.1 -0.5
MEDO SN Sn 23 07 50.5 -3.8
MEDO SG Sg 23 08 01.8 -12
PECO Prince Edward 3.83 129 PN Pn 23 07 07.5 -1.8
PECO SN Sn 23 07 51.4 -4.3
PECO Trac 23 08 12.5
comp=Z,3.5nm,0.2s
GAC Glen Almond 3.97 99 PN Pn 23 07 08.2 -3.1
GAC SN Sn 23 07 53.8 -5.5
GAC SG Sg 23 08 08.2 -12
GAC Trac 23 08 12.7
comp=Z,3.2nm,0.2s
PNPO Pukaskwa Natio 4.13 303 PN Pn 23 07 11.6 -1.9
PNPO SN Sn 23 07 58.6 -4.6
PNPO LG 23 08 14.0
PNPO Trac 23 08 19.5
comp=Z,7.3nm,0.3s
WBO Williamsburg 4.32 107 PN Pn 23 07 07.5 -8.7
WBO SN Sn 23 07 58.6 -9.4
WBO Trac 23 08 25.5
comp=Z,2.0nm,0.1s
TRQ Mont Tremblant 4.53 90 PN Pn 23 07 15.8 -3.5
TRQ PG Pg 23 07 26.6 -12
TRQ SN Sn 23 08 09.5 -3.8
TRQ SG Sg 23 08 25.6 -13
MRHQ Morin Heights 4.81 94 SN Sn 23 08 16.2 -4.2
MRHQ SG Sg 23 08 35.2 -13
GTO Geraldton 5.14 312 PN Pn 23 07 25.1 -2.8
GTO SN Sn 23 08 22.2 -6.6
GTO Trac 23 08 23.4
comp=Z,2.0nm,0.1s
GTO SG Sg 23 08 42.0 -17
DPQ Saint Jean 5.74 85 SN Sn 23 08 34.3 -9.4
DPQ SG Sg 23 09 03.2 -16
DPQ Trac 23 09 12.2
comp=Z,2.1nm,0.2s
VIMO Victor Mine 6.61 346 PN Pn 23 07 43.9 -4.7
VIMO SN Sn 23 08 56.0 -10
VIMO LG 23 09 27.8
VIMO Trac 23 09 37.3
comp=Z,1.5nm,0.3s
PKLO Pickle Lake 7.92 313 SN Sn 23 09 27.8 -11
PKLO LG 23 10 07.1
SILO Sutton Inlier 8.40 345 PN P 23 08 08.9 -4.8
SILO SN Sn 23 09 41.0 -9.5
LG4Q La Grande 4 8.48 29 PN P 23 08 07.7 -7.1
LG4Q SN Sn 23 09 37.8 -14
LG4Q LG 23 10 19.8
SCHQ Schefferville 12.32 42 PN P 23 08 59.4 -8.0
SCHQ SN S 23 11 05.3 -21

*NEIC **29** 23:18:13.0, 16.11N×99.21W, h5km, MD3.4(MEX), After MEX.*
MEX 29 23:18:15.2±0.6**, 16.16N×99.20W, h12**km±26km**, MD3.6, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.98**	**316**	*eP*	Pb	23 18 31.5	-2.1
ACX				*eS*	Sb	23 18 41.5	-4.7
PNIG	**Pinotepa**	**1.06**	**77**	*i* P	Pb	23 18 32.2	-2.7
PNIG				*i* S	Sb	23 18 45.0	-3.5
PNIG	**Pinotepa**	**1.06**	**77**	*eP*	Pb	23 18 28.7	-6.2
PNIG				*i* S	Sb	23 18 45.0	-3.5
CAIG	**El Cayaco**	**1.35**	**311**	*i* P	Pn	23 18 35.7	-4.2
CAIG				*i* S	Sb	23 18 53.9	-3.0
CAIG	**El Cayaco**	**1.35**	**311**	*i* P	Pn	23 18 39.7	-0.1
CAIG				*i* S	Sb	23 18 53.9	-3.0
PLIG	**Platanillo**	**2.24**	**353**	*i* P	Pn	23 18 48.6	-4.0
PLIG				*i* S	Sn	23 19 15.8	-4.5
PLIG	**Platanillo**	**2.24**	**353**	*i* P	Pn	23 18 48.6	-4.0
PLIG				*i* S	Sn	23 19 15.8	-4.5

*BER **29** 23:21:00.9±2.5, 67.81N×20.22E, ML1.8, Suspected explosion*
HEL 29 23:21:00.6±0.1**, 67.83N×20.19E, ML1.9, ML2.0**(UPP)**, ML2.1**(BER)**, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**25**	*i* P	Pg	23 21 02.6	-0.6
KUA				*i* S	Sg	23 21 04.6	-0.5
NIKU	**Nikkaluokta**	**0.44**	**275**	*i* P	Pg	23 21 08.3	-1.0
NIKU				*i* S	Sg	23 21 14.2	-1.0
DUNU	**Dundret**	**0.73**	**168**	*i* P	Pg	23 21 13.2	-2.0
KIF	**Kilpisjarvi**	**1.20**	**11**	*eP*	Pb	23 21 22.9	-1.0
KIF				*eS*	Sb	23 21 38.8	-1.0
KTK1	**Kautokeino**	**1.64**	**42**	*eP*	Pn	23 21 30.3	-0.5
KTK1				*eSN*	Sn	23 21 51.9	-0.9
TRO	**Tromso**	**1.87**	**346**	*eP*	Pn	23 21 32.7	-1.4
TRO				*eSG*	Sg	23 21 58.5	-4.2
TRO				AML	AML	23 22 00.2	
	comp=Z,14nm,0.4s						
SGF	**Sodankyl**	**2.46**	**96**	*eP*	Pn	23 21 42.9	+0.3
SGF				*eS*	Sn	23 22 12.5	-1.2
LOF	**Lofoten**	**2.52**	**280**	*eSG*	Sg	23 22 21.9	-2.7
MELS	**Mels**	**2.69**	**252**	*eSg*	Sg	23 22 24.2	-5.8
MOR8	**Moi Rana**	**2.81**	**236**	*eSG*	Sg	23 22 23.3	-11
MOR8				AML	AML	23 22 24.9	
	comp=Z,12nm,0.4s						
KEV	**Kevo**	**3.14**	**49**	*eP*	Pn	23 21 51.1	-1.2
KEV				*eS*	Sn	23 22 29.5	-1.6
MSF	**Maaselka**	**3.99**	**115**	*eP*	Pn	23 22 03.1	-1.2
MSF				*eSG*	Sg	23 23 03.0	-10
MSF				MSG		23 23 06.5	
	comp=Z,1.9nm,0.4s						
NSS	**Namsos**	**4.70**	**229**	*eSG*	Sg	23 23 26.2	-11

*IDC **29** 23:24:53.0±5.7, 20.15S×178.09W, h493km±63km, mb3.5/7, mb1 3.8/8, mb1mx3.6/14, Error ellipse: s-maj=31.5km s-min=21.2km az=39.0*
*NEIC **29** 23:24:52.3±4.4, 20.11S×178.17W, h484km±45km, mb4.2/11, Error ellipse: s-maj=26.9km s-min=14.2km az=54.0*
ISC 29 23:24:50.7±4.8**, 20.2S**±0.2×**178.2W**±0.2**, h472**km±50km**, n31**,σ1§13/24**, mb4.0**/14**, 3C-4D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.48**	**192**	P	**P**	**23 28 36.9**	**+0.1**
	1.1nm,0.3s,baz=73,slow=19,SNR=5.4						
CTA	**Charters Tower**	**33.33**	**264**	*i* P	**P**	**23 30 50.9**	**+1.4**
	11nm,0.8s,mb4.3						
CTA	**Charters Tower**	**33.33**	**264**	P	**P**	**23 30 51.1**	**+1.5**
	14nm,0.6s,mb4.5,baz=86,slow=9.3,SNR=15						
CTAO	**Charters Tower**	**33.33**	**264**	*eP*	**P**	**23 30 50.3**	**+0.8**
	15nm,0.8s,mb4.5						
PMG	**Port Moresby**	**35.08**	**283**	*eP*	**P**	**23 31 05.7**	**+1.4**
	17nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**37.76**	**244**	*eP*	**P**	**23 31 26.9**	**+0.6**
	3.7nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**37.76**	**244**	P	**P**	**23 31 27.3**	**+1.0**
	4.3nm,0.6s,mb4.0,baz=90,slow=7.8,SNR=7.8						
ASAR	**Alice Springs**	**44.40**	**256**	PcP	PcP	23 33 51.9	-2.3
	1.0nm,0.6s,baz=88,slow=3.6,SNR=5.7						
ASAR				ScP		23 36 53.8	
	0.9nm,0.8s,baz=117,slow=4.0,SNR=5.1						
WB2	**Warramunga Arr**	**44.44**	**262**	*i* P	**P**	**23 32 19.5**	**-0.7**
WRAB	**Tennant Creek**	**44.44**	**262**	*eP*	**P**	**23 32 19.1**	**-1.1**
	8.2nm,0.8s,mb4.2						
WRA	**Warramunga Arr**	**44.45**	**262**	P	**P**	**23 32 19.7**	**-0.5**
	5.1nm,0.4s,mb4.3,baz=98,slow=8.4,SNR=69						
KAKA	**Kakadu**	**47.81**	**271**	*i* P	**P**	**23 32 49.4**	**+3.2**
	6.5nm,0.3s,mb4.4						
FITZ	**Fitzroy Crossi**	**52.88**	**262**	*i* P	**P**	**23 33 22.6**	**-1.0**
	2.7nm,0.5s,mb3.8						
MBWA	**Marble Bar**	**57.73**	**257**	*eP*	**P**	**23 33 55.3**	**-2.1**
	2.7nm,0.5s,mb3.8						
SBA	**Scott Base**	**58.19**	**184**	*eP*	**P**	**23 33 59.0**	**-0.8**
	2.0nm,0.5s,mb3.7						
VNDA	**Vanda**	**58.22**	**185**	P	**P**	**23 33 59.4**	**-0.6**
	0.6nm,0.6s,mb3.1,baz=354,slow=6.4,SNR=11						
VNDA	**Vanda**	**58.22**	**185**	*eP*	**P**	**23 33 59.0**	**-1.1**
	1.1nm,0.6s,mb3.4						
QSPA	**South Pole Qui**	**69.90**	**180**	*eP*	**P**	**23 35 12.9**	**-1.2**
	5.9nm,0.6s,mb4.3						
TXAR	**Lajitas Array**	**87.04**	**57**	P	**P**	**23 36 46.7**	**+0.3**
	0.6nm,0.7s,mb3.5,baz=215,slow=6.2,SNR=10.0						
ILAR	**Eielson Array**	**88.03**	**13**	P	**P**	**23 36 48.6**	**-1.6**
	1.5nm,0.9s,mb3.7,baz=233,slow=6.2,SNR=8.9						
SNAA	**Sanae**	**88.35**	**179**	*i*	**P**	**23 36 52.2**	**+0.7**
VNA3	**Neumayer Olymp**	**88.49**	**176**	*i*	**P**	**23 36 52.9**	**+0.7**
VNA2	**Neumayer--Watz**	**88.93**	**177**	*i*	**P**	**23 36 55.2**	**+0.9**
VNA1	**Neumayer--Stat**	**89.15**	**177**	*i*	**P**	**23 36 57.0**	**+1.7**
CMAR	**Chiang Mai Arr**	**89.82**	**290**	P	**P**	**23 37 00.5**	**+0.9**
	1.2nm,0.4s,mb4.1,baz=131,slow=3.6,SNR=11						
HFS	**Hagfors**	**139.18**	**351**	PKhKP		23 43 15.2	
	2.7nm,1.0s,baz=80,slow=9.0,SNR=5.7						
AKASG	**Malin Array Be**	**142.63**	**331**	PKhKP		23 43 24.9	
	3.0nm,0.5s,baz=43,slow=4.4,SNR=37						
ASF	**Jabal al Asfar**	**146.45**	**298**	PKPbc	PKPbc	23 43 38.6	+0.9
	2.8nm,0.7s,baz=297,slow=2.2,SNR=4.4						
BRTR	**Keskin Array B**	**146.47**	**313**	PKPbc	PKPbc	23 43 37.7	+0.2
	1.6nm,0.7s,baz=129,slow=4.7,SNR=14						
CLL	**Collm**	**147.69**	**347**	*ePKIKP*	PKPdf	23 43 37.0	-0.3
CLL				*i* PKP1	PKPdf	23 43 40.9	+3.6
CLL				*i* PKP2	PKPab	23 43 44.8	-2.3
GERES	**GERESS Array B**	**149.83**	**344**	PKPbc	PKPdf	23 43 45.7	+5.0
	0.8nm,0.8s,SNR=5.2						
GERES				PKPab	PKPab	23 43 54.4	-1.5
	0.3nm,0.5s,baz=14,slow=4.0,SNR=3.7						

*BER **29** 23:24:56.6±2.6, 67.84N×20.22E, ML1.6, Suspected explosion*
HEL 29 23:24:56.0±0.1**, 67.85N×20.25E, ML1.9**(UPP)**, ML1.8**(BER)**, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.11**	**17**	*i* P	Pg	23 24 57.7	-0.6
KUA				*i* S	Sg	23 24 59.5	-0.3
NIKU	**Nikkaluokta**	**0.46**	**273**	*i* P	Pg	23 25 03.8	-1.4
NIKU				*i* S	Sg	23 25 10.8	-0.5
DUNU	**Dundret**	**0.74**	**170**	*i* P	Pg	23 25 08.9	-1.8
MASU	**Masugnsbyn**	**0.77**	**120**	*i* P	Pg	23 25 10.1	-1.3
KIF	**Kilpisjarvi**	**1.18**	**10**	*eP*	Pb	23 25 18.1	-0.9
KIF				*eS*	Sb	23 25 34.0	-0.7
PAJU	**Pajala**	**1.38**	**125**	*eP*	Pb	23 25 20.7	-1.7
ERTU	**Ertsjaerv**	**1.50**	**149**	*eP*	Pn	23 25 22.5	-1.8
KTK1	**Kautokeino**	**1.61**	**42**	*eP*	Pn	23 25 24.2	-1.6
KTK1				*eSN*	Sn	23 25 47.9	+0.3
TRO	**Tromso**	**1.86**	**346**	*eP*	Pn	23 25 28.0	-1.4
TRO				*eSG*	Sg	23 25 53.3	-4.6
TRO				AML	AML	23 25 55.4	
	comp=Z,7.1nm,0.5s						
SGF	**Sodankyl**	**2.43**	**97**	*eP*	Pn	23 25 38.1	+0.4
SGF				*eS*	Sn	23 26 09.7	+1.2
LOF	**Lofoten**	**2.54**	**280**	*eSG*	Sg	23 26 17.6	-3.1
MELS	**Mels**	**2.71**	**252**	*eSg*	Sg	23 26 19.6	-6.7
MOR8	**Moi Rana**	**2.83**	**236**	*eSG*	Sg	23 26 19.1	-11
MOR8				AML	AML	23 26 19.8	
	comp=Z,7.1nm,0.3s						

*IDC **29** 23:30:34.1±1.9, 41.02N×19.50E, mb3.6/2, mb1 3.7/7, mb1mx3.5/23, ML3.3/5, Error ellipse: s-maj=22.5km s-min=14.3km az=21.0*
*ATH **29** 23:30:34.8, 41.17N×19.46E, h29km, MD3.7/7*
*PRU **29** 23:30:36.8, 41.04N×19.50E*
*TIR **29** 23:30:36.9, 40.99N×19.86E, h14km*
*CSEM **29** 23:30:38.8±0.0, 41.00N×19.65E, h40km, ML3.2, Error ellipse: s-maj=1.4km s-min=1.0km az=13.0*
*PDG **29** 23:30:39.6±0.3, 41.13N×19.57E, h12km, MD3.7(ATH), MD3.3(PDG), After PDG.*
*NEIC **29** 23:30:39.6, 41.13N×19.57E, h12km, MD3.7(ATH), MD3.3(PDG), After PDG.*
*THE **29** 23:30:39.4, 41.05N×19.71E, h20km, ML3.6*
ISC 29 23:30:37.0±0.2**, 40.97N**±0.01×**19.65E**±0.02**, h20**km**, n128, σ1§37/189, mb3.6/1, 16C-10D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.41**	**23**	*i*Pg	**Pb**	**23 30 45.8**	**+0.3**
TIR				*i* Sg	**Sb**	**23 30 53.5**	**+2.1**
PRZA	**Preza**	**0.46**	**2**	*i* pg?	Px	23 30 54.0	
PRZA				*i* Sg	Sx	23 31 02.8	
VLO	**Vlora**	**0.51**	**193**	*i* Pg	**Pb**	**23 30 48.7**	**+1.6**
QSH	**Qafa e Shtames**	**0.59**	**19**	*i* pg?	**Pb**	**23 30 53.6**	**+5.1**
QSH				*i* Sg	**Sb**	**23 31 02.6**	**+6.3**
QSH	**Qafa e Shtames**	**0.59**	**19**	*i* Sg	**Sb**	**23 31 02.6**	**+6.3**
LACI	**Lac**	**0.67**	**4**	*i* Pg	**Pb**	**23 30 49.6**	**-0.3**
LACI				*i* Sg	**Sb**	**23 30 59.8**	**+1.1**
TPE	**Tepelena**	**0.72**	**158**	*i* Pg	**Pb**	**23 30 51.5**	**+0.7**
TPE				*i* Sg	**Sb**	**23 31 05.5**	**+5.3**
TPE	**Tepelena**	**0.72**	**158**	*ePg*	**Pb**	**23 30 51.5**	**+0.7**
TPE				*i* Sg	**Sb**	**23 31 05.5**	**+5.3**
OHR	**Ohrid**	**0.88**	**80**	*i*Pg	**Pb**	**23 30 52.1**	**-1.3**
OHR				*i*		23 30 54.5	
OHR				*i*		23 30 56.9	
OHR				*i* Sg	**Sb**	**23 31 04.5**	**-0.2**
OHR				*i*		23 31 05.8	
OHR	**Ohrid**	**0.88**	**80**	*i*Pg	**Pb**	**23 30 52.1**	**-1.3**
OHR				*i* Sg	**Sb**	**23 31 04.5**	**-0.2**
KBN	**Korca**	**0.93**	**111**	*i* Pg	**Pb**	**23 30 53.0**	**-1.2**
KBN				*i* Sg	**Sb**	**23 31 08.3**	**+2.2**
ULC	**Ulcinj**	**1.04**	**343**	*i*Pg	**Pb**	**23 30 56.4**	**+0.2**
ULC				*eSg*	**Sb**	**23 31 09.6**	**+0.2**
LSK	**Leskovik**	**1.09**	**138**	*i* Pn	**Pn**	**23 30 56.8**	**-0.4**
LSK				*i* Sn	**Sn**	**23 31 14.3**	**+2.5**
PUK	**Puka**	**1.09**	**9**	*i* Pn	**Pn**	**23 30 58.1**	**+0.8**
PUK				*i* Sn	**Sn**	**23 31 15.0**	**+3.1**
SDA	**Shkodra**	**1.09**	**354**	*i* Pn	**Pn**	**23 30 58.5**	**+1.2**
SDA				*i* Sn	**Sn**	**23 31 15.6**	**+3.7**
KEK	**Kerkira**	**1.26**	**175**	*ePN*	**Pn**	**23 31 01.5**	**+1.9**
BIA	**Bitola**	**1.27**	**87**	*i* Pn	**Pn**	**23 31 00.1**	**+0.3**
BIA				*i* Sn	**Sn**	**23 31 18.8**	**+2.5**
FNA	**Florina**	**1.32**	**97**	*ePb*	**Pb**	**23 31 00.3**	**-0.6**
FNA				*eSb*	**Sb**	**23 31 16.5**	**-1.0**
LCI	**Lecce**	**1.33**	**242**	*ePn*	**Pn**	**23 31 01.3**	**+0.6**
LCI				*eSn*	**Sn**	**23 31 21.6**	**+3.7**
LCI	**Lecce**	**1.33**	**242**	*eSn*	**Sn**	**23 31 21.6**	**+3.7**
LCI	**Lecce**	**1.33**	**242**	*ePn*	**Pn**	**23 31 01.3**	**+0.6**
BCI	**Bajram Curri**	**1.43**	**12**	*ePn*	**Pn**	**23 31 04.0**	**+1.8**
BCI				*i* Sn	**Sn**	**23 31 25.0**	**+4.4**
BUM	**Brajici-Budva**	**1.45**	**337**	*i*Pg	**Pn**	**23 31 03.3**	**+0.9**
BUM				*eSg*	**Sn**	**23 31 23.1**	**+2.1**
TTG	**Podgorica**	**1.49**	**349**	*i*Pg	**Pn**	**23 31 03.9**	**+0.9**
TTG				*eSg*	**Sn**	**23 31 24.7**	**+2.6**
IGT	**Igoumenitsa**	**1.52**	**160**	*ePb*	**Pb**	**23 31 01.1**	**+0.7**
IGT				*eSb*	**Sb**	**23 31 24.1**	**+0.8**
JAN	**Janina**	**1.60**	**145**	*ePB*	**Pb**	**23 31 07.4**	**+1.7**
PVY	**Plav**	**1.65**	**8**	*i*Pg	**Pn**	**23 31 07.1**	**+1.9**
PVY				*eSg*	**Sn**	**23 31 29.2**	**+3.3**
SKO	**Skopje**	**1.68**	**53**	*i*Pn	**Pn**	**23 31 06.7**	**+1.0**
	comp=Z,0.1nm,0.4s						
SKO				*i*		23 31 10.2	
SKO				*i*Sg	**Sn**	**23 31 29.5**	**+2.7**
SKO				Lg		23 31 33.0	
	comp=Z,0.2nm,0.4s						
MEV	**Metsovon**	**1.69**	**134**	*ePb*	**Pb**	**23 31 07.1**	**0.0**
PE1	**Pezze di Greco**	**1.70**	**265**	*ePn*	**Pn**	**23 31 06.0**	**+0.1**
HCY	**Herceg Novi**	**1.71**	**330**	*i*Pg	**Pn**	**23 31 06.2**	**0.0**
HCY				*eSg*	**Sn**	**23 31 30.3**	**+2.6**
KZN	**Kozani**	**1.74**	**112**	*ePN*	**Pn**	**23 31 08.0**	**+1.4**
NKY	**Niksic**	**1.91**	**345**	*i*Pn	**Pn**	**23 31 10.0**	**+1.0**
NKY				*eSn*	**Sn**	**23 31 35.3**	**+2.7**
IVA	**Berane**	**1.91**	**5**	*i*Pn	**Pn**	**23 31 11.2**	**+2.2**
IVA				*eSn*	**Sn**	**23 31 35.6**	**+2.9**
GRG	**Griva**	**2.08**	**89**	*ePn*	**Pn**	**23 31 11.8**	**+0.3**
GRG				*eSn*	**Sn**	**23 31 34.9**	**-2.1**
BAI	**Bari**	**2.10**	**275**	*ePn*	**Pn**	**23 31 11.6**	**-0.1**
BRY	**Bratogost**	**2.10**	**337**	*i*Pn	**Pn**	**23 31 13.6**	**+1.9**
BRY				*eSn*	**Sn**	**23 31 39.8**	**+2.3**
LTRZ	**Laterza**	**2.18**	**261**	*ePn*	**Pn**	**23 31 12.4**	**-0.4**
LTRZ	**Laterza**	**2.18**	**261**	*ePn*	**Pn**	**23 31 12.4**	**-0.5**
SG1	**Sgolgore (BA)**	**2.26**	**268**	*ePn*	**Pn**	**23 31 14.4**	**+0.4**
UPM	**Unac-Piva**	**2.30**	**346**	*i*Pn	**Pn**	**23 31 16.2**	**+1.5**
UPM				*eSn*	**Sn**	**23 31 44.2**	**+1.6**
LIT	**Litokhoron**	**2.33**	**111**	*ePn*	**Pn**	**23 31 15.3**	**+0.3**
PLE	**Pljevlja**	**2.37**	**355**	*i*Pn	**Pn**	**23 31 17.5**	**+1.9**
PLE				*eSn*	**Sn**	**23 31 46.8**	**+2.4**
LKD	**Levkas**	**2.38**	**161**	*ePn*	**Pn**	**23 31 16.4**	**+0.6**
LKD				*eSn*	**Sn**	**23 31 44.9**	**+0.2**
STON	**Ston**	**2.40**	**323**	*i* Pn	**Pn**	**23 31 15.7**	**-0.3**
STON				*i* Sn	**Sn**	**23 31 43.6**	**-1.4**
STON	**Ston**	**2.40**	**323**	*i* Pn	**Pn**	**23 31 15.7**	**-0.3**
STON				*i* Sn	**Sn**	**23 31 43.6**	**-1.5**
BARS	**Barje**	**2.46**	**40**	*i*Pn	**Pn**	**23 31 17.1**	**+0.2**
BARS				Sn	**Sn**	**23 31 48.2**	**+1.5**
KNT	**Kendrikon**	**2.46**	**84**	*e*Pn	**Pn**	**23 31 17.0**	**+0.1**
KNT				*eSn*	**Sn**	**23 31 44.5**	**-2.2**
THE	**Thessaloniki**	**2.54**	**96**	*e*Pn	**Pn**	**23 31 18.4**	**+0.5**
NVSS	**Nova Varos 2**	**2.54**	**1**	*i*Pn	**Pn**	**23 31 18.4**	**+0.3**
NVSS				Sn	**Sn**	**23 31 49.1**	**+0.5**
ORI	**Oriolo Calabro**	**2.60**	**251**	*e*Pn	**Pn**	**23 31 18.8**	**-0.1**
ORI	**Oriolo Calabro**	**2.60**	**251**	*e*Pn	**Pn**	**23 31 18.8**	**-0.1**
EVR	**Evrytania**	**2.63**	**140**	*e*PN	**Pn**	**23 31 21.5**	**+2.2**
SOH	**Sokhos**	**2.81**	**92**	*e*Pn	**Pn**	**23 31 21.7**	**-0.2**
SOH				*eSn*	**Sn**	**23 31 52.9**	**-2.6**
AGG	**Agios Georgios**	**2.83**	**132**	*e*Pn	**Pn**	**23 31 23.2**	**+1.1**
AGG				*eSn*	**Sn**	**23 31 55.5**	**-0.5**
AGG	**Agios Georgios**	**2.83**	**132**	*e*Pn	**Pn**	**23 31 23.2**	**+1.1**
AGG				*eSn*	**Sn**	**23 31 55.5**	**-0.5**
TIP	**Timpagrande**	**2.85**	**232**	*e*Pn	**Pn**	**23 31 22.0**	**-0.4**
TIP	**Timpagrande**	**2.85**	**232**	*e*Pn	**Pn**	**23 31 22.0**	**-0.4**
TDS	**Terranova Siba**	**2.85**	**244**	*e*Pn	**Pn**	**23 31 22.5**	**0.0**
TDS	**Terranova Siba**	**2.85**	**244**	*e*Pn	**Pn**	**23 31 22.5**	**+0.1**
VLS	**Valsamata**	**2.88**	**165**	*e*PN	**Pn**	**23 31 22.5**	**-0.3**
FGMS	**Monte Sant'Ang**	**2.88**	**286**	*e*Pn	**Pn**	**23 31 22.6**	**-0.2**
FGMS	**Monte Sant'Ang**	**2.88**	**286**	*e*Pn	**Pn**	**23 31 22.6**	**-0.3**
MS1	**Monte Sant'Ang**	**2.89**	**286**	*e*Pn	**Pn**	**23 31 22.0**	**-1.0**
PLG	**Polygyros**	**2.95**	**100**	*e*PN	**Pn**	**23 31 24.5**	**+0.7**
SRS	**Serrai**	**2.98**	**86**	*e*Pn	**Pn**	**23 31 24.0**	**-0.3**
SRS				*eSn*	**Sn**	**23 31 56.8**	**-3.2**
GRUS	**Gruza**	**3.03**	**15**	*i*Pn	**Pn**	**23 31 24.9**	**0.0**
GRUS				Sn	**Sn**	**23 32 04.1**	**+3.7**
SLCN	**Sala Consilina**	**3.11**	**261**	*e*Pn	**Pn**	**23 31 26.2**	**+0.1**
SLCN	**Sala Consilina**	**3.11**	**261**	*e*Pn	**Pn**	**23 31 26.2**	**+0.1**
DIVS	**Divcibare**	**3.14**	**4**	*i*Pn	**Pn**	**23 31 26.2**	**-0.3**
DIVS				Sn	**Sn**	**23 32 02.0**	**-1.9**
RGNG	**Rignano Grg**	**3.14**	**284**	*e*Pn	**Pn**	**23 31 26.1**	**-0.5**
RGNG	**Rignano Grg**	**3.14**	**284**	*e*Pn	**Pn**	**23 31 26.1**	**-0.5**
XOR	**Xorichti**	**3.15**	**119**	*e*Pn	**Pn**	**23 31 26.5**	**-0.2**
XOR				*eSn*	**Sn**	**23 32 02.9**	**-1.2**
MRLC	**Muro Lucano**	**3.16**	**268**	*e*Pn	**Pn**	**23 31 28.5**	**+1.7**
MRLC	**Muro Lucano**	**3.16**	**268**	*e*Pn	**Pn**	**23 31 28.5**	**+1.6**
MGR	**Morigerati**	**3.23**	**256**	*e*Pn	**Pn**	**23 31 28.2**	**+0.3**
MGR	**Morigerati**	**3.23**	**256**	*e*Pn	**Pn**	**23 31 28.2**	**+0.4**
PAIG	**Paliouri**	**3.24**	**107**	*e*Pn	**Pn**	**23 31 27.4**	**-0.6**
PAIG				*eSn*	**Sn**	**23 32 04.3**	**-2.2**
GRI	**Girifalco**	**3.28**	**230**	*e*Pn	**Pn**	**23 31 28.2**	**-0.3**
GRI	**Girifalco**	**3.28**	**230**	*e*Pn	**Pn**	**23 31 28.2**	**-0.3**
SGO	**Sicignano**	**3.32**	**264**	*e*Pn	**Pn**	**23 31 29.2**	**0.0**
SGO	**Sicignano**	**3.32**	**264**	*e*Pn	**Pn**	**23 31 29.2**	**+0.1**
FG5	**Orsara di Pugl**	**3.33**	**277**	*e*Pn	**Pn**	**23 31 30.0**	**+0.8**
FG5	**Orsara di Pugl**	**3.33**	**277**	*e*Pn	**Pn**	**23 31 30.0**	**+0.8**
BOLS	**Boljevac**	**3.33**	**30**	*i*Pn	**Pn**	**23 31 28.6**	**-0.7**
BOLS				Sn	**Sn**	**23 32 07.2**	**-1.5**
OUR	**Ouranopolis**	**3.35**	**99**	*e*Pn	**Pn**	**23 31 29.3**	**-0.2**
MRB1	**Monte Rocchett**	**3.54**	**274**	*e*Pn	**Pn**	**23 31 32.4**	**+0.2**
MRB1	**Monte Rocchett**	**3.54**	**274**	*e*Pn	**Pn**	**23 31 32.4**	**+0.2**
AOS	**Alonnisos**	**3.71**	**118**	*e*Pn	**Pn**	**23 31 33.7**	**-0.9**
SGG	**Gregorio Mates**	**4.00**	**278**	*e*Pn	**Pn**	**23 31 39.6**	**+0.8**
SGG	**Gregorio Mates**	**4.00**	**278**	*e*Pn	**Pn**	**23 31 39.6**	**+0.8**
CII	**Carovilli**	**4.09**	**282**	*e*Pn	**Pn**	**23 31 41.0**	**+0.9**
CII				*eSn*	**Sn**	**23 32 28.0**	**0.0**
CII	**Carovilli**	**4.09**	**282**	*e*Pn	**Pn**	**23 31 41.0**	**+0.9**
ITM	**Ithomi**	**4.17**	**154**	*e*PN	**Pn**	**23 31 42.5**	**+1.3**
RFI	**Roccamonfina**	**4.29**	**276**	*e*Pn	**Pn**	**23 31 43.1**	**+0.2**
RFI	**Roccamonfina**	**4.29**	**276**	*e*Pn	**Pn**	**23 31 43.2**	**+0.3**
MSC	**Monte Massico**	**4.30**	**275**	*e*Pn	**Pn**	**23 31 43.0**	**0.0**
MSC	**Monte Massico**	**4.30**	**275**	*e*Pn	**Pn**	**23 31 43.0**	**0.0**
SDI	**San Donato**	**4.46**	**282**	*e*Pn	**Pn**	**23 31 45.6**	**+0.3**
SDI	**San Donato**	**4.46**	**282**	*e*Pn	**Pn**	**23 31 45.6**	**+0.3**
ALN	**Alexandroupoli**	**4.84**	**89**	*e*Pn	**Pn**	**23 31 49.9**	**-0.8**
ALN				*eSn*	**Sn**	**23 32 43.8**	**-3.2**
AQU	**L'Aquila**	**4.88**	**289**	*e*Pn	**Pn**	**23 31 50.6**	**-0.7**
AQU				*eSn*	**Sn**	**23 32 47.4**	**-0.5**
AQU	**L'Aquila**

comp=Z,252nm,20.0s,baz=355,slow=38
ASPA Alice Springs 18.44 178 *e*P **P 00 19 11.3 +1.1**
ASPA *e*S **S 00 22 29.9 +0.4**
CTA Charters Tower 19.48 141 P **P 00 19 21.6 0.0**
0.2nm,0.3s,baz=319,slow=11,SNR=3.5
STKA Stephens Creek 27.71 165 P **P 00 20 43.4 +2.0**
1.6nm,0.5s,mb3.8,baz=331,slow=10,SNR=2.8
STKA LR LR 00 33 15.4
comp=Z,244nm,20.3s,baz=4.8,slow=39
VNDA Vanda 73.91 174 LR LR 00 58 27.6
comp=Z,126nm,18.2s,baz=354,slow=35
MAW Mawson 77.89 202 LR LR 00 58 46.1
comp=Z,76nm,20.7s,baz=30,slow=34
BVAR Borovoye Array 78.29 327 P **P 00 26 50.1 -1.0**
2.8nm,1.1s,mb3.9,baz=112,slow=8.0,SNR=5.3

IDC 30 00:53:14.3±1.1, 12.01N×58.10E, mb3.8/5, mb1 4.0/6, mb1mx3.7/17, MS3.0/1, Ms1 3.2/1, ms1mx2.6/23, Error ellipse: s-maj=33.3km s-min=27.1km az=169.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**24.47**	**239**	P		P	P	00 58 35.1	-1.3
	1.1nm,0.5s,baz=47,slow=15,SNR=6.9								
BRTR	**Keskin Array B**	**35.07**	**326**	P		P	P	01 00 10.4	-0.8
	0.4nm,0.7s,baz=153,slow=9.7,SNR=2.9								
CMAR	**Chiang Mai Arr**	**39.86**	**76**	P		P	P	01 00 50.0	-1.6
	1.1nm,0.4s,baz=271,slow=9.8,SNR=5.0								
CMAR				LR		LR	LR	01 16 14.6	
	comp=Z,19nm,18.1s,baz=80,slow=35								
ZAL	**Zalesovo**	**46.88**	**21**	P		P	P	01 01 45.1	-2.9
	1.4nm,0.6s,baz=180,slow=5.9,SNR=4.9								
WRA	**Warramunga Arr**	**81.44**	**112**	P		P	P	01 05 34.7	-0.6
	0.4nm,0.7s,baz=294,slow=4.4,SNR=3.8								
ASAR	**Alice Springs**	**82.10**	**116**	P		P	P	01 05 37.3	-1.4
	0.3nm,0.6s,baz=286,slow=5.2,SNR=4.5								

*MDD **30** 01:09:01.2±0.3,42.56N×0.94E,mbLg1.5/5,Error ellipse: s-maj=2.9km s-min=2.5km az=28.0,PRIMO*
*STR **30** 01:09:01.2±0.2,42.96N×1.14E,h10km±1km,Ml2.4,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **30** 01:09:01.0±0.1,42.56N×0.93E,h2km,ML2.4,Error ellipse: s-maj=2.7km s-min=2.2km az=62.0*
ISC 30 01:09:00.1±0.5, 42.53N±0.03×0.95E±0.05, n21, σ0§38/24, 1C, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SALF	**Salau**	**0.29**	**37**	Pg		**Pg**	**Pg**	**01 09 06.1**	**+0.3**
SALF				Sg		**Sg**	**Sg**	**01 09 09.8**	**+0.1**
SALF	**Salau**	**0.29**	**37**	P		**Pg**	**Pg**	**01 09 06.2**	**+0.3**
SALF				S		**Sg**	**Sg**	**01 09 09.8**	**+0.1**
MELF	**Melles**	**0.37**	**337**	Pg		**Pg**	**Pg**	**01 09 07.6**	**+0.1**
MELF				Sg		**Sg**	**Sg**	**01 09 12.2**	**-0.2**
MELF	**Melles**	**0.37**	**337**	P		**Pg**	**Pg**	**01 09 07.8**	**+0.3**
MELF				S		**Sg**	**Sg**	**01 09 12.3**	**-0.1**
CORG	**Organya**	**0.40**	**138**	Pg		**Pg**	**Pg**	**01 09 08.9**	**+0.7**
GRBF	**Gourbit**	**0.53**	**54**	Pg		**Pg**	**Pg**	**01 09 10.8**	**+0.1**
GRBF				P				01 09 10.9	
EBIE	**Bielsa**	**0.62**	**285**	⇑Pg		**Pg**	**Pg**	**01 09 12.1**	**-0.3**
	1.0nm,0.1s,SNR=18								
EBIE				Lg				01 09 20.1	
	1.8nm,0.1s,SNR=5.0								
EBIE	**Bielsa**	**0.62**	**285**	Pg		**Pg**	**Pg**	**01 09 12.1**	**-0.3**
	1.0nm,0.1s,SNR=18								
CAVN	**Les Avellanes**	**0.67**	**193**	Pg		**Pg**	**Pg**	**01 09 13.9**	**+0.5**
EMIR	**Miracle**	**0.75**	**145**	Pg		**Pg**	**Pg**	**01 09 15.3**	**+0.3**
	0.5nm,0.1s,SNR=7.9								
EMIR				Lg				01 09 25.6	
	2.0nm,0.1s,SNR=7.9								
EMIR	**Miracle**	**0.75**	**145**	Pg		**Pg**	**Pg**	**01 09 15.3**	**+0.3**
	0.5nm,0.1s,SNR=7.9								
CLLI	**Llivia**	**0.76**	**94**	Pg		**Pg**	**Pg**	**01 09 14.7**	**-0.5**
CBRU	**Bruguera**	**0.94**	**105**	Pg		**Pg**	**Pg**	**01 09 18.7**	**-0.2**
EPOB	**Poblet**	**1.18**	**175**	Pg		**Pg**	**Pg**	**01 09 23.1**	**-0.6**
	0.6nm,0.1s,SNR=6.8								
EPOB				Lg				01 09 39.2	
	2.8nm,0.1s,SNR=5.0								
EPOB	**Poblet**	**1.18**	**175**	Pg		**Pg**	**Pg**	**01 09 23.1**	**-0.6**
	0.6nm,0.1s,SNR=6.8								
ESAC	**San Caprasio**	**1.33**	**233**	Pg		**Pg**	**Pg**	**01 09 26.7**	**0.0**
	4.0nm,0.1s,SNR=6.6								
ESAC				Lg				01 09 44.7	
	5.8nm,0.2s,SNR=9.2								
ESAC	**San Caprasio**	**1.33**	**233**	Pg		**Pg**	**Pg**	**01 09 26.7**	**0.0**
	4.0nm,0.1s,SNR=6.6								
CFON	**Fontmartina**	**1.34**	**124**	Pg		**Pg**	**Pg**	**01 09 26.3**	**-0.6**
EJON	**La Jonquera**	**1.43**	**93**	Pg		**Pg**	**Pg**	**01 09 28.7**	**0.0**
	1.3nm,0.2s,SNR=7.9								
EJON				Lg				01 09 48.2	
	4.2nm,0.3s,SNR=7.9								
EJON	**La Jonquera**	**1.43**	**93**	Pg		**Pg**	**Pg**	**01 09 28.7**	**0.0**
	1.3nm,0.2s,SNR=7.9								
EALK	**Alkurruntz**	**1.94**	**292**	Lg				01 10 03.1	
	SNR=4.0								

*NAO **30** 01:09:43.1±2.2,67.17N×20.51E,ML2.1*
*BER **30** 01:09:45.3±4.1,67.21N×20.62E,ML1.8,ML2.1(NAO), Suspected explosion*
HEL 30 01:09:43.9±0.1, 67.18N×20.66E, ML2.0, ML2.4(UPP), ML2.0(BER), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**213**	*i* P		Pg	Pg	01 09 44.8	-0.5
DUNU				*i* S		Sg	Sg	01 09 46.3	+0.1
MASU	**Masugnsbyn**	**0.59**	**61**	*i* P		Pg	Pg	01 09 54.3	-1.3
KUA	**Kurravaara**	**0.79**	**351**	*i* P		Pg	Pg	01 09 58.0	-1.6
NIKU	**Nikkaluokta**	**0.93**	**319**	*e*P		Pg	Pg	01 10 00.4	-2.1
PAJU	**Pajala**	**0.97**	**98**	*e*P		Pg	Pn	01 10 01.1	-2.2
SJUU	**Sjulsmark**	**1.72**	**167**	*e*P		Pn	Pn	01 10 14.3	-1.0
KIF	**Kilpisjarvi**	**1.83**	**2**	*e*P		Pn	Pn	01 10 16.8	-0.2
KIF				*e*S		Sn	Sn	01 10 42.5	+1.3
LILU	**Lilltraesk**	**1.93**	**190**	*e*P		Pn	Pn	01 10 17.8	-0.6
KTK1	**Kautokeino**	**2.08**	**26**	*e*P		Pn	Pn	01 10 18.0	-2.4
KTK1				*e*SG		Sg	Sg	01 10 47.9	-5.3
KTK1				AML		AML	AML	01 10 49.5	
	comp=Z,18nm,0.3s								
SGF	**Sodankyl**	**2.29**	**81**	*e*P		Pn	Pn	01 10 23.7	+0.3
SGF				*e*S		Sn	Sn	01 10 51.2	-1.5
SGF				MSG				01 10 55.4	
	comp=Z,7.9nm,0.3s								
TRO	**Tromso**	**2.55**	**346**	*e*SG		Sg	Sg	01 11 02.1	-6.6
MOR8	**Moi Rana**	**2.67**	**251**	*e*SG		Sg	Sg	01 11 02.0	-11
MOR8				AML		AML	AML	01 11 05.1	
	comp=Z,15nm,0.3s								
MELS	**Mels**	**2.74**	**267**	*e*Sg		Sg	Sg	01 11 12.3	-2.9
LOF	**Lofoten**	**2.88**	**293**	*e*		Pn	Pn	01 11 16.9	+45
LOF				AML		AML	AML	01 11 21.3	
	comp=Z,5.2nm,0.5s								
LOF	**Lofoten**	**2.88**	**293**	*e*Sg		Sg	Sg	01 11 16.9	-3.1
LOF				AML		AML	AML	01 11 21.3	
	comp=Z,5.2nm,0.5s								
ARA0	**ARCESS Array S**	**2.97**	**35**	Pn		Pn	Pn	01 10 32.1	-1.1
	baz=215,slow=16								
ARA0				Sn		Sn	Sn	01 11 08.0	-2.0
	baz=213,slow=28								
ARA0	**ARCESS Array S**	**2.97**	**35**	*e*P		Pn	Pn	01 10 32.1	-1.1
ARA0				*e*S		Sn	Sn	01 11 08.0	-2.0
OUL	**Oulu**	**2.99**	**132**	*e*SG		Sg	Sg	01 11 15.2	-8.3
OUL				MSG				01 11 16.4	
	comp=Z,3.5nm,0.3s								
MSF	**Maaselka**	**3.58**	**107**	*e*P		Pn	Pn	01 10 40.7	-1.1
MSF				*e*SG		Sg	Sg	01 11 34.7	-8.5
MSF				MSG				01 11 36.4	
	comp=Z,2.8nm,0.3s								
VAF	**Ylistaro**	**4.24**	**168**	*e*SG		Sg	Sg	01 11 53.8	-11
KJN	**Kajaani**	**4.26**	**133**	*e*S		Sn	Sn	01 11 39.2	-3.6
KJN				MSG				01 12 01.9	
	comp=Z,2.2nm,0.3s								
NSS	**Namsos**	**4.45**	**237**	*e*SG		Sg	Sg	01 12 01.7	-10
FIA0	**FINESS Array S**	**6.22**	**155**	*e*P		Pn	Pn	01 11 15.4	-3.8
FIA0				*e*S		Sn	Sn	01 12 25.6	-6.4
FIA0				*e*				01 12 59.8	
FIA0	**FINESS Array S**	**6.22**	**155**	Pn		Pn	Pn	01 11 15.4	-3.8
FIA0				Sn		Sn	Sn	01 12 25.6	-6.4
	baz=349,slow=28								
FIA0				Lg				01 12 59.8	
	baz=350,slow=28								
HFS	**Hagfors**	**7.72**	**207**	Pn		Pn	Pn	01 11 35.5	-4.7
	baz=22,slow=12								
HFS						Sn	Sn	01 13 00.1	-9.4
	baz=31,slow=22								
HFS	**Hagfors**	**7.72**	**207**	*e*P		Pn	Pn	01 11 35.5	-4.7
HFS				*e*S		Sn	Sn	01 13 00.1	-9.4

*TAP **30** 01:24:49.4,24.22N×122.45E,h18km,ML2.8*
JMA 30 01:24:49.6±0.2, 25.05N×122.87E, M2.2, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.60**	**168**	P		Pg	Pg	01 25 01.5	-0.1
YOJ				S		Sg	Sg	01 25 09.7	+0.1
IRIF	**Iriomote-Funau**	**1.06**	**132**	P		Pb	Pb	01 25 09.9	-0.6
IRIF				S		Sb	Sb	01 25 25.1	+0.4
JKRS	**Kuro-shima**	**1.31**	**128**	S		Sb	Sb	01 25 32.6	+0.4
JIJ	**Ishigaki jima**	**1.34**	**120**	P		Pb	Pb	01 25 14.9	-0.5
JIJ				S		Sb	Sb	01 25 34.1	+1.1
JTJ	**Tarama**	**1.71**	**103**	P		Pn	Pn	01 25 21.3	+0.4

*NIED **30** 01:31:00,24.80N×121.90E,h68km,Mw3.8 Best double couple: M0.61×10^14 NP1:φs198°,δ69°,λ62°. NP2:φs75°, δ35°,λ141°.*
*JMA **30** 01:31:51.7±0.3,24.82N×121.89E,h66km,M3.5*
*TAP **30** 01:31:52.2,24.60N×121.75E,h66km,ML4.3*
*IDC **30** 01:31:57.4±12.0,24.45N×121.78E,h129km±115km, mb3.4/6,mb1 3.5/7,mb1mx3.3/22,Error ellipse: s-maj=41.1km s-min=22.9km az=67.0*
ISC 30 01:31:51.3±1.4, 24.5N±0.1×121.9E±0.1, h85km±13km, n13, σ0§66/19, mb3.5/7, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.06**	**93**	P		**P**	**P**	**01 32 11.2**	**-0.4**
YOJ				S		**S**	**S**	**01 32 25.8**	**-1.1**
IRIF	**Iriomote-Funau**	**1.72**	**96**	P		**P**	**P**	**01 32 20.0**	**-0.2**
IRIF				S		**S**	**S**	**01 32 41.4**	**-0.1**
HATJ	**Hateruma jima**	**1.84**	**104**	P		**P**	**P**	**01 32 23.0**	**+1.2**
HATJ				S		**S**	**S**	**01 32 45.5**	**+1.3**
JKRS	**Kuro-shima**	**1.99**	**98**	P		**P**	**P**	**01 32 24.0**	**+0.3**
JKRS				S		**S**	**S**	**01 32 47.8**	**+0.2**
JIJ	**Ishigaki jima**	**2.10**	**94**	P		**P**	**P**	**01 32 24.9**	**-0.3**
JIJ				S		**S**	**S**	**01 32 49.7**	**-0.6**
JTJ	**Tarama**	**2.60**	**87**	P		**P**	**P**	**01 32 32.9**	**+0.7**
JTJ				S		**S**	**S**	**01 33 02.5**	**-0.3**
SONM	**Songino Array**	**26.30**	**336**	P		**P**	**P**	**01 37 21.2**	**+0.6**
	1.2nm,0.7s,mb3.5,baz=150,slow=9.3,SNR=11								
SONM				pP		pP	pP	01 37 38.2	-1.6
	1.3nm,0.9s,baz=149,slow=9.7,SNR=5.8								
WRA	**Warramunga Arr**	**45.84**	**164**	P		**P**	**P**	**01 40 06.1**	**-0.8**
	0.8nm,0.8s,mb3.5,baz=344,slow=8.5,SNR=4.7								
BVAR	**Borovoye Array**	**47.80**	**320**	P		**P**	**P**	**01 40 22.0**	**+0.2**
	0.4nm,0.6s,mb3.4,baz=117,slow=9.7,SNR=2.5								
ILAR	**Eielson Array**	**68.64**	**27**	P		**P**	**P**	**01 42 47.8**	**+0.8**
	0.4nm,0.8s,mb3.3,baz=290,slow=6.1,SNR=4.5								
FINES	**FINESS Array B**	**71.46**	**330**	P		**P**	**P**	**01 43 03.3**	**-0.9**
	2.3nm,1.1s,mb3.9,baz=72,slow=4.4,SNR=5.5								
INK	**Inuvik**	**72.69**	**22**	P		**P**	**P**	**01 43 10.6**	**-0.7**
	0.8nm,0.7s,mb3.7,baz=281,slow=10,SNR=5.2								
BRTR	**Keskin Array B**	**73.46**	**306**	P		**P**	**P**	**01 43 16.4**	**+0.1**
	0.4nm,0.6s,mb3.4,baz=90,slow=6.2,SNR=4.1								

*IDC **30** 01:39:08.3±0.8, 18.33S×173.22W,h45km±7km,mb3.4/8, mb1 3.9/9,mb1mx3.8/17,ML4.4/1,Error ellipse: s-maj=36.5km s-min=19.3km az=143.0*
ISC 30 01:39:06.4±0.7, 18.3S±0.2×173.3W±0.2, h45km, n12, σ0§59/9, mb3.7/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**13.03**	**105**	P		**P**	**P**	**01 42 00.1**	**-11**
	2.3nm,0.3s,baz=288,slow=9.6,SNR=4.0								
WRA	**Warramunga Arr**	**49.35**	**259**	P		**P**	**P**	**01 47 53.5**	**0.0**
	0.4nm,0.4s,mb3.9,baz=97,slow=6.8,SNR=14								
ASAR	**Alice Springs**	**49.37**	**254**	P		**P**	**P**	**01 47 53.6**	**0.0**
	1.9nm,0.9s,mb4.1,baz=88,slow=8.7,SNR=16								
VNDA	**Vanda**	**60.48**	**186**	P		**P**	**P**	**01 49 13.7**	**+0.1**
	0.9nm,0.9s,mb3.8,baz=345,slow=6.5,SNR=4.1								
NVAR	**Mina Array Bea**	**76.44**	**41**	P		**P**	**P**	**01 50 51.9**	**-1.3**
	0.4nm,0.7s,mb3.5,baz=210,slow=7.3,SNR=3.3								
TXAR	**Lajitas Array**	**82.16**	**56**	P		**P**	**P**	**01 51 25.2**	**+0.9**
	0.3nm,0.9s,mb3.2,baz=233,slow=4.5,SNR=3.0								
TXAR				pP			pP	01 51 38.4	+0.8
	0.7nm,0.9s,baz=207,slow=5.6,SNR=5.4								
PDAR	**Pinedale Array**	**84.37**	**42**	P		**P**	**P**	**01 51 35.3**	**0.0**
	0.6nm,0.8s,mb3.8,baz=248,slow=4.9,SNR=5.7								
PDAR				pP		pP	pP	01 51 49.6	+1.0
	0.9nm,1.0s,baz=198,slow=4.7,SNR=4.3								
ILAR	**Eielson Array**	**85.30**	**11**	P		**P**	**P**	**01 51 39.9**	**+0.5**
	0.6nm,0.8s,mb3.8,baz=224,slow=6.6,SNR=7.7								
SNAA	**Sanae**	**89.98**	**177**	P		**P**	**P**	**01 52 01.6**	**-0.1**
	0.3nm,0.9s,mb3.6,baz=180,slow=3.7,SNR=3.8								
KMBO	**Kilima Mbogo**	**144.28**	**240**	PKP		PKPdf	PKPdf	01 58 41.5	+3.0
	0.3nm,0.5s,baz=117,slow=2.3,SNR=4.7								
BRTR	**Keskin Array B**	**148.46**	**318**	PKPbc		PKPdf	PKPdf	01 58 51.5	+6.7
	0.9nm,0.9s,baz=138,slow=2.2,SNR=6.0								
GERES	**GERESS Array B**	**149.05**	**351**	PKPbc		PKPdf	PKPdf	01 58 52.4	+7.1
	0.5nm,0.9s,baz=34,slow=4.8,SNR=4.3								
GERES				pPKPbc				01 59 04.3	
	0.5nm,0.7s,baz=63,slow=6.0,SNR=3.1								

CASC 30 01:50:52.3±3.0, 13.45N×88.83W, h158km±8km, MD4.1, ML3.5, 10C-9D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SNVI	**San Vicente**	**0.16**	**357**	⇓*e*P		P	S	01 51 13.7	-0.1
SNVI				*e*S		S	S	01 51 32.3	+2.2
LCBS	**La Ceiba**	**0.25**	**324**	⇑*e*P		P	S	01 51 13.5	-0.5
LCBS				*e*S		S	S	01 51 30.5	-0.1
LFRS	**El Faro**	**0.28**	**307**	⇑*i*P		P	S	01 51 13.8	-0.3
LFRS				*e*S		S	S	01 51 30.9	+0.1
LBRS	**Las Brisas**	**0.35**	**324**	⇑*e*P		P	S	01 51 14.2	-0.2
LBRS				*e*S		S	S	01 51 36.4	+5.2
LFU	**La Fuente**	**0.40**	**317**	⇓*e*P		P	S	01 51 14.3	-0.2
SNET	**Serv Nac Est T**	**0.46**	**301**	*e*P		P	S	01 51 14.6	-0.1
SNET				*e*S		S	S	01 51 31.5	-0.5
SNET				*i*				01 51 36.3	
	comp=Z,753nm,0.2s								
BOQS	**Boqueron**	**0.52**	**303**	⇓*e*P		P	S	01 51 14.8	-0.2
BOQS				*e*S		S	S	01 51 32.5	+0.1
BLLM	**Bellamira**	**0.57**	**91**	*e*P		P	S	01 51 16.0	+0.7
BLLM				*e*S		S	S	01 51 35.2	+2.3
CAHU	**Cacacuatique**	**0.68**	**62**	⇓*e*P		P	S	01 51 15.6	-0.3
CAHU				*e*S		S	S	01 51 33.8	-0.1
SNJE	**San Jose**	**0.86**	**299**	⇑*i*P		P	S	01 51 17.1	+0.2
SNJE				*e*S		S	S	01 51 36.8	+0.9
SBLS	**San Blas**	**0.86**	**297**	⇑*e*P		P	S	01 51 17.2	+0.2
RTR	**El Retiro**	**0.91**	**299**	⇑*i*P		P	S	01 51 17.6	+0.4
CNCH	**Conchagua**	**0.98**	**100**	⇓*e*P		P	S	01 51 17.8	0.0
CNCH				*e*S		S	S	01 51 37.7	+0.2
RBDL	**Robledal**	**1.06**	**308**	⇓*e*P		P	S	01 51 18.5	+0.1
IXG	**Ixpaco**	**1.73**	**295**	⇑*e*P		P	S	01 51 24.7	-0.5
IXG				*e*S		S	S	01 51 51.6	+0.9
IXG				AML		AML	AML	01 51 59.6	
	comp=E,2μm,0.5s								
MRL	**Marmol**	**1.81**	**333**	⇓*e*P		P	S	01 51 26.0	0.0
MRL				*e*S		S	S	01 51 51.3	-0.8
MRL				AML		AML	AML	01 51 53.4	
	comp=E,24nm,0.7s								
NBG	**Las Nubes**	**1.85**	**308**	⇓*e*P		P	S	01 51 27.0	+0.5
NBG				*e*S		S	S	01 51 54.6	+1.6
NBG				AML		AML	AML	01 51 55.4	
	comp=N,861nm,0.6s								
TELN	**Telica**	**2.12**	**113**	*e*P		P	P	01 51 36.1	+6.4
MIRN	**Miramar**	**2.30**	**116**	*e*P		P	P	01 51 33.1	+1.3
MOMJ	**Momotombo**	**2.46**	**115**	*e*S		S	P	01 52 06.8	+1.1
TP2	**Tecpan 2**	**2.50**	**302**	⇓*e*P		P	P	01 51 34.9	+0.5
TP2				*e*S		S	S	01 52 10.3	+3.6
TP2				AML		AML	AML	01 52 18.3	
	comp=N,202nm,0.5s								
COPN	**Copaltepe**	**2.52**	**120**	*e*P		P	P	01 51 34.8	+0.2
COPN				*e*S		S	S	01 52 04.9	-2.2
APYN	**Apoyeque**	**2.70**	**116**	*e*P		P	P	01 51 36.9	0.0
MGAN	**Managua**	**2.83**	**117**	*e*S		S	S	01 52 14.2	+0.3
MGAN				⇑*i*				01 52 15.7	
	comp=E,182nm,0.2s								
JAT	**Jato**	**2.86**	**288**	⇑*e*P		P	P	01 51 38.6	-0.2
JAT				*e*S		S	S	01 52 13.7	-0.8
JAT				AML		AML	AML	01 52 15.4	
	comp=N,342nm,0.4s								
TICN	**Ticuantepe**	**2.90**	**119**	*e*P		P	P	01 51 39.9	+0.6
VCR	**Vista de Mar**	**4.55**	**136**	*e*P		P	P	01 52 03.1	+2.3
VCR				*e*S		S	S	01 52 51.9	-1.8
JCR	**Jicaral**	**5.11**	**134**	⇓*e*P		P	P	01 52 10.5	+2.4
JCR				*e*S		S	S	01 53 07.3	+0.6
CGA2	**Cerro Gallo 2**	**5.47**	**128**	*e*P		P	P	01 52 16.0	+3.1
CGA2				*e*S		S	S	01 53 16.2	+0.8
LAJ	**Bijagual**	**5.83**	**127**	*e*P		P	P	01 52 17.0	-0.6
LAJ				*e*S		S	S	01 53 17.1	-6.8
URSC	**Urasca**	**6.12**	**125**	*e*P		P	P	01 52 24.9	+3.4
URSC				*e*S		S	S	01 53 31.2	+0.4

IDC 30 01:51:15.7±7.5, 17.63S×173.78W, mb3.9/3, mb1 4.2/3, mb1mx3.8/15, Error ellipse: s-maj=326.0km s-min=37.8km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.02**	**259**	P		P	P	02 00 04.5	-2.0
	0.6nm,0.4s,baz=97,slow=6.9,SNR=15								
ASAR	**Alice Springs**	**49.11**	**254**	P		P	P	02 00 05.5	-1.8
	1.2nm,0.5s,baz=87,slow=8.8,SNR=30								
ILAR	**Eielson Array**	**84.69**	**11**	P		P	P	02 03 51.0	-1.3
	1.1nm,1.1s,baz=217,slow=6.3,SNR=5.2								

IDC 30 02:10:32.3±1.3, 15.07S×173.75W, mb3.7/4, mb1 4.0/4, mb1mx3.8/14, Error ellipse: s-maj=51.9km s-min=30.8km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.59**	**257**	P		P	P	02 19 25.4	-2.2
	0.2nm,0.3s,baz=90,slow=7.3,SNR=6.9								
ASAR	**Alice Springs**	**49.89**	**252**	P		P	P	02 19 27.6	-2.2
	1.1nm,0.5s,baz=85,slow=8.4,SNR=18								
VNDA	**Vanda**	**63.66**	**186**	P		P	P	02 21 05.0	-2.2
	0.5nm,0.8s,baz=20,slow=4.0,SNR=3.7								
NVAR	**Mina Array Bea**	**74.31**	**42**	P		P	P	02 22 11.4	-2.1
	0.6nm,0.8s,baz=224,slow=9.3,SNR=4.1								
BRTR	**Keskin Array B**	**145.69**	**321**	PKPbc		PKPbc	PKPbc	02 30 14.3	+0.6
	0.4nm,0.7s,baz=45,slow=2.0,SNR=4.0								

*ISK **30** 02:17:55.3,37.00N×27.82E,h23km,MD3.5*
*CSEM **30** 02:17:55.1±0.1,37.00N×27.81E,h23km,MD3.5, Error ellipse: s-maj=1.7km s-min=1.7km az=134.0*
*ATH **30** 02:18:00.3,36.55N×27.62E,h2km,MD3.1/4*
*NEIC **30** 02:18:00.3,36.55N×27.62E,h2km,MD3.1(ATH),After ATH.*
ISC 30 02:17:55.2±0.5, 36.96N±0.03×27.74E±0.04, h23km±4km, n25, σ0§76/33, 2C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.26**	**294**	*i* P		**Pb**	**Pb**	**02 18 01.4**	**-0.1**
BDRM				*i* S		**Sb**	**Sb**	**02 18 06.2**	**+0.4**
MLSB	**Milas**	**0.34**	**5**	*i* PG		**Pb**	**Pb**	**02 18 02.3**	**-0.4**
MLSB				*i* SG		**Sb**	**Sb**	**02 18 08.0**	**+0.3**
YER	**Yerkesik**	**0.47**	**68**	*i* PG		**Pb**	**Pb**	**02 18 04.2**	**-0.6**
YER				*i* SG		**Sb**	**Sb**	**02 18 10.2**	**-1.1**
NISR	**Nisiros**	**0.60**	**235**	*e*PG		**Pb**	**Pb**	**02 18 07.0**	**0.0**
AYDN	**Tasoluk**	**0.71**	**9**	*i* P		**Pb**	**Pb**	**02 18 09.2**	**+0.4**
AYDN				*i* S		**Sb**	**Sb**	**02 18 18.7**	**+0.5**
DALT	**Dalyan (Mudla)**	**0.74**	**105**	PG		**Pb**	**Pb**	**02 18 09.7**	**+0.3**
DALT				SG		**Sb**	**Sb**	**02 18 20.1**	**+0.9**
ARG	**Arkhangelos**	**0.81**	**157**	*e*PG		**Pb**	**Pb**	**02 18 10.2**	**-0.3**
SMG	**Samos**	**1.04**	**316**	*e*PN		**Sb**	**Pb**	**02 18 26.0**	**-1.6**
DNZL	**Cakiroluk**	**1.27**	**55**	*i* P		**Pn**	**Pb**	**02 18 19.1**	**+1.2**
DNZL				*i* S		**Sb**	**Sb**	**02 18 35.8**	**+1.5**
IDENT	**Denizli**	**1.30**	**52**	*e*PN		**Pn**	**Pb**	**02 18 17.8**	**-0.5**
IZMI	**Izmir**	**1.48**	**345**	PN		**Pn**	**Pb**	**02 18 20.8**	**-0.1**
KARP	**Karpathos

ellipse: s-maj=0.0km s-min=0.0km az=1.0
*MDD **30** 02:57:58.9±0.2,42.83N×0.27W, mbLg1.2/7, Error ellipse: s-maj=3.1km s-min=1.5km az=18.0, PRXIMO*
*LDG **30** 02:57:58.5±0.1,42.83N×0.27W, h2km, Md2.2/2, Ml1.9/1, Error ellipse: s-maj=4.6km s-min=1.0km az=173.0*

ISC 30 02:57:58.3±0.5, 42.84N±0.04×0.26W±0.03, n16, σ0≤59/27, 1C, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VIEF	**Viey**	**0.22**	**77**	Pg	**Pg**	**02 58 02.9**	**+0.3**
VIEF				Sg	**Sg**	**02 58 06.0**	**+0.5**
VIEF	**Viey**	**0.22**	**77**	P	**Pg**	**02 58 03.0**	**+0.4**
VIEF				S	**Sg**	**02 58 06.0**	**+0.5**
FDAF	**Les Forges d'A**	**0.22**	**266**	Pg	**Pg**	**02 58 03.0**	**+0.2**
FDAF				Sg	**Sg**	**02 58 06.4**	**+0.6**
FDAF	**Les Forges d'A**	**0.22**	**266**	P	**Pg**	**02 58 03.0**	**+0.2**
FDAF				S	**Sg**	**02 58 06.3**	**+0.5**
ETSF	**Etsaut**	**0.23**	**286**	*e*Pg	**Pg**	**02 58 02.8**	**-0.1**
ETSF				*e*Sg	**Sg**	**02 58 05.4**	**-0.5**
	38nm,0.3s						
REYF	**Montagne du Re**	**0.25**	**338**	P	**Pg**	**02 58 03.8**	**+0.4**
REYF				S	**Sg**	**02 58 07.5**	**+0.7**
LABF	**Labassere**	**0.33**	**49**	Pg	**Pg**	**02 58 05.1**	**+0.3**
LABF				Sg	**Sg**	**02 58 09.8**	**+0.6**
LABF	**Labassere**	**0.33**	**49**	P	**Pg**	**02 58 05.2**	**+0.4**
LABF				S	**Sg**	**02 58 09.8**	**+0.6**
EBIE	**Bielsa**	**0.33**	**116**	⇑Pg	**Pg**	**02 58 05.1**	**+0.1**
	0.8nm,0.0s,SNR=18						
EBIE				Lg		02 58 09.5	
	8.3nm,0.1s,SNR=6.6						
ATE	**Arette**	**0.41**	**308**	P	**Pg**	**02 58 06.4**	**-0.1**
ATE				S	**Sg**	**02 58 12.0**	**+0.1**
EPF	**Esparros**	**0.48**	**66**	*e*Pg	**Pg**	**02 58 08.0**	**0.0**
EPF				*e*Sg	**Sg**	**02 58 14.3**	**-0.2**
	11nm,0.3s						
SJPF	**Ste Jean**	**0.76**	**292**	*e*Pg	**Pg**	**02 58 12.8**	**-0.7**
SJPF				*e*Sg	**Sg**	**02 58 22.7**	**-0.9**
	6.4nm,0.2s						
EALK	**Alkurruntz**	**0.99**	**293**	Pg	**Pg**	**02 58 17.9**	**-0.2**
	0.3nm,0.1s,SNR=4.0						
EALK				Lg		02 58 31.7	
	1.7nm,0.1s,SNR=4.0						
ESAC	**San Caprasio**	**1.12**	**188**	Pg	**Pg**	**02 58 21.8**	**+1.0**
	4.1nm,0.2s,SNR=7.1						
ESAC				Lg		02 58 37.6	
	17nm,0.3s,SNR=14						
EMIR	**Miracle**	**1.61**	**124**	Pg	**Pg**	**02 58 29.8**	**-0.7**
	0.6nm,0.2s,SNR=4.0						
EMIR				Lg		02 58 51.4	
	5.1nm,0.5s,SNR=4.0						
MTLF	**Montolieu**	**1.89**	**74**	*e*Sg	**Sg**	**02 58 59.5**	**-1.6**
	0.9nm,0.2s						

*IDC **30** 03:07:37.0±3.8, 6.33S×130.23E, h101km±34km, mb3.9/6, mb1 4.1/10, mb1mx4.0/14, MS3.3/1, Ms1 3.3/1, ms1mx2.5/19, Error ellipse: s-maj=35.1km s-min=15.3km az=67.0*
*NEIC **30** 03:07:36.2±2.2, 6.39S×130.14E, h95km±21km, mb3.9/1, Error ellipse: s-maj=17.1km s-min=14.4km az=66.0*

ISC 30 03:07:34.3±2.3, 6.36S±0.07×130.1E±0.1, h94km±23km, n22, σ0≤98/22, mb4.5/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.45**	**200**	P	**P**	**03 10 31.0**	**+1.5**
	3.2nm,0.3s,baz=22,slow=10,SNR=91						
FITZ				S	**S**	**03 12 42.3**	**-4.1**
	2.3nm,0.3s,baz=166,slow=13,SNR=3.7						
WRAB	**Tennant Creek**	**14.11**	**163**	*e*P	**P**	**03 10 49.1**	**-2.1**
	6.5nm,0.6s						
WRA	**Warramunga Arr**	**14.12**	**163**	P	**P**	**03 10 51.4**	**+0.1**
	0.9nm,0.3s,baz=338,slow=14,SNR=31						
WRA				S	**S**	**03 13 19.5**	**-6.4**
	3.4nm,0.3s,baz=337,slow=22,SNR=14						
WRA				LR	LR	03 16 48.2	
	comp=Z,133nm,19.9s,baz=160,slow=39						
PMG	**Port Moresby**	**17.18**	**101**	P	**P**	**03 11 30.4**	**+0.4**
	1.8nm,0.3s,baz=291,slow=6.0,SNR=5.4						
ASAR	**Alice Springs**	**17.59**	**168**	P	**P**	**03 11 36.4**	**+1.3**
	0.8nm,0.3s,baz=343,slow=9.4,SNR=44						
ASAR				S	**S**	**03 14 45.9**	**+0.6**
	1.2nm,0.3s,baz=350,slow=26,SNR=8.7						
MBWA	**Marble Bar**	**17.80**	**213**	P	**P**	**03 11 36.2**	**-1.5**
	4.0nm,0.5s						
STKA	**Stephens Creek**	**27.57**	**158**	P	**P**	**03 13 13.6**	**-1.2**
	1.5nm,0.8s,mb3.5,baz=350,slow=12,SNR=3.0						
CMAR	**Chiang Mai Arr**	**39.39**	**309**	P	**P**	**03 14 58.4**	**+1.7**
	4.2nm,0.8s,mb4.3,baz=136,slow=6.9,SNR=16						
GUN	**Gumba**	**54.60**	**311**	*e*P	**P**	**03 16 55.9**	**+0.2**
	28nm,0.7s,mb5.4						
PKI	**Pulchoki**	**54.78**	**310**	*e*P	**P**	**03 16 56.8**	**-0.2**
	5.5nm,0.4s,mb4.9						
KKN	**Kakani**	**54.99**	**310**	*e*P	**P**	**03 16 58.5**	**0.0**
DMN	**Daman**	**55.03**	**310**	*e*P	**P**	**03 16 58.9**	**+0.1**
GKN	**Gorkha**	**55.59**	**310**	*e*P	**P**	**03 17 02.7**	**-0.1**
	20nm,0.6s,mb5.3						
KOLN	**Koldanda**	**56.26**	**309**	*e*P	**P**	**03 17 07.8**	**+0.1**
	18nm,0.9s,mb5.1						
SONM	**Songino Array**	**57.87**	**341**	P	**P**	**03 17 18.5**	**-0.1**
	2.0nm,0.6s,mb4.3,baz=164,slow=6.3,SNR=27						
ZAL	**Zalesovo**	**71.05**	**334**	P	**P**	**03 18 43.1**	**-1.0**
	2.5nm,0.4s,mb4.4,baz=273,slow=16,SNR=6.6						
KURK	**Kurchatov**	**72.02**	**328**	*e*P	**P**	**03 18 49.2**	**-0.7**
VNDA	**Vanda**	**73.07**	**173**	P	**P**	**03 18 55.6**	**+0.1**
	0.6nm,0.6s,mb3.6,baz=300,slow=7.9,SNR=8.2						
MAW	**Mawson**	**75.57**	**201**	P	**P**	**03 19 11.2**	**+1.0**
	1.9nm,0.8s,mb3.9,baz=39,slow=6.5,SNR=2.9						
CPUP	**Villa Florida**	**146.72**	**168**	PKPbc	PKPbc	03 27 07.3	+1.5
	1.8nm,0.7s,baz=239,slow=5.9,SNR=3.7						
CPUP	**Villa Florida**	**146.72**	**168**	PKPbc	PKPbc	03 27 07.3	+1.5
LPAZ	**La Paz**	**151.17**	**141**	PKPbc	PKPdf	03 27 19.9	+8.4
	1.8nm,0.3s,baz=262,SNR=18						

MAN 30 03:16:26.2, 13.63N×120.47E, h31km, mb4.1, ML2.9, MS2.6, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.24**	**297**	*e*P	Pb	03 16 34.2	+1.2
LUBP				*e*S	Sb	03 16 39.8	+2.1
TGY	**Tagaytay City**	**0.66**	**44**⇑	*e*P	Pb	03 16 40.1	+0.9
SJMP	**San Jose**	**1.32**	**151**	*e*P	Pn	03 16 47.3	-1.6
SJMP				*e*S	Sn	03 17 04.5	-1.0
BUSP	**Coron**	**1.63**	**189**	*e*P	Pn	03 16 53.6	+0.3
BUSP				*e*S	Sn	03 17 13.4	-0.1

*NEIC **30** 04:22:12.6±0.5, 4.62S×152.76E, mb4.4/1, Error ellipse: s-maj=19.9km s-min=10.0km az=126.0*
*IDC **30** 04:22:13.4±1.1, 4.41S×152.37E, h97km±8km, mb4.0/9, mb1 4.2/10, mb1mx4.1/16, MS3.4/6, Ms1 3.4/6, ms1mx3.1/18, Error ellipse: s-maj=42.5km s-min=12.2km az=131.0*

ISC 30 04:22:11.9±1.6, 4.7S±0.1×152.8E±0.2, h94km±13km, n21, σ1≤08/20, mb4.1/11, 3C, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAB	**Rabaul**	**0.76**	**309**⇑	*i*P	**P**	**04 22 30.1**	**+0.4**
PMG	**Port Moresby**	**7.27**	**229**	P	**P**	**04 23 57.6**	**+0.3**
	12nm,0.3s,baz=53,slow=4.8,SNR=14						
PMG				S	**S**	**04 25 17.7**	**-1.1**
	20nm,0.3s,baz=190,slow=6.2,SNR=8.6						
PMG	**Port Moresby**	**7.27**	**229**	*e*P	**P**	**04 23 58.4**	**+1.1**
	22nm,0.3s						
CTA	**Charters Tower**	**16.57**	**202**	LR	LR	04 31 24.9	
	comp=Z,45nm,18.6s,baz=44,slow=33						
KAKA	**Kakadu**	**21.62**	**247**⇑	*i*P	**P**	**04 26 57.8**	**+1.9**
	6.7nm,0.3s,mb4.5						
WRAB	**Tennant Creek**	**23.48**	**228**	*e*P	**P**	**04 27 14.0**	**0.0**
	15nm,0.9s,mb4.3						
WB2	**Warramunga Arr**	**23.48**	**228**⇑	*i*P	**P**	**04 27 14.3**	**+0.3**
WRA	**Warramunga Arr**	**23.49**	**228**	P	**P**	**04 27 14.4**	**+0.3**
	2.6nm,0.3s,mb4.0,baz=52,slow=9.4,SNR=95						
WRA				pP		04 27 33.2	
	11nm,0.9s,baz=50,slow=9.9,SNR=11						
WRA				S	**S**	**04 31 19.5**	**+2.0**
	0.9nm,0.9s,baz=48,slow=16,SNR=3.3						
WRA				LR	LR	04 36 05.9	
	comp=Z,39nm,18.4s,baz=90,slow=36						
ASAR	**Alice Springs**	**26.21**	**222**	P	**P**	**04 27 39.0**	**-0.9**
	0.9nm,0.3s,mb3.7,baz=56,slow=9.3,SNR=20						
ASAR				pP	pP	04 27 59.7	-1.0
	5.0nm,1.0s,baz=57,slow=9.0,SNR=7.6						
ASAR				LR	LR	04 37 53.9	
	comp=Z,50nm,20.1s,baz=22,slow=36						
STKA	**Stephens Creek**	**29.01**	**200**	P	**P**	**04 28 04.4**	**-0.8**
	1.5nm,0.7s,mb3.8,baz=4.4,slow=12,SNR=3.6						
STKA				LR	LR	04 39 55.1	
	comp=Z,66nm,18.3s,baz=23,slow=36						
FITZ	**Fitzroy Crossi**	**29.68**	**241**	*e*P	**P**	**04 28 08.7**	**-2.6**
	0.5nm,0.3s,mb3.6						
FITZ				*e*	pP	04 28 30.1	-2.5
FITZ	**Fitzroy Crossi**	**29.68**	**241**	P	**P**	**04 28 08.5**	**-2.8**
	2.1nm,0.8s,mb3.8,baz=42,slow=1.1,SNR=12						
FITZ				pP	pP	04 28 30.4	-2.2
	7.4nm,0.9s,baz=96,slow=3.4,SNR=8.8						
RAR	**Rarotonga**	**48.87**	**114**	LR	LR	04 48 42.7	
	comp=Z,152nm,21.9s,baz=166,slow=32						
VNDA	**Vanda**	**72.95**	**178**	P	**P**	**04 33 34.1**	**+1.7**
	1.1nm,1.0s,mb3.6,baz=330,slow=8.9,SNR=5.0						
SBA	**Scott Base**	**73.50**	**177**	P	**P**	**04 33 35.2**	**-0.4**
MCK	**McKinley**	**80.77**	**23**	*e*P	**P**	**04 34 15.7**	**-0.7**
ILAR	**Eielson Array**	**82.07**	**22**	P	**P**	**04 34 21.5**	**-1.6**
	3.3nm,0.8s,mb4.2,baz=254,slow=5.4,SNR=32						
INK	**Inuvik**	**88.36**	**21**	P	**P**	**04 34 54.0**	**0.0**
	5.5nm,1.1s,mb4.5,baz=231,slow=8.6,SNR=7.0						
NVAR	**Mina Array Bea**	**92.05**	**52**	P	**P**	**04 35 13.1**	**+1.1**
	1.2nm,0.8s,mb4.2,baz=254,slow=4.2,SNR=9.4						
PDAR	**Pinedale Array**	**98.80**	**48**	P	**P**	**04 35 42.6**	**0.0**
	2.4nm,1.1s,mb4.6,baz=279,slow=2.9,SNR=8.2						
PDAR				LR	LR	05 17 27.3	
	comp=Z,56nm,18.1s,baz=264,slow=34						
GERES	**GERESS Array B**	**123.93**	**329**	PKP	PKPdf	04 41 00.5	+1.1
	0.5nm,0.6s,baz=90,slow=1.3,SNR=5.0						

CASC 30 04:53:00.1±2.8, 15.77N×90.60W, MD3.9, ML3.9, 1C-4D, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TP2	**Tecpan 2**	**1.06**	**202**⇓	*e*P	Pb	04 53 22.9	+1.8
TP2				*e*S	Sb	04 53 37.8	+2.4
TP2				AML	AML	04 53 42.8	
	comp=N,1μm,0.4s						
NBG	**Las Nubes**	**1.20**	**168**⇓	*e*P	Pb	04 53 22.3	-1.2
NBG				*e*S	Sb	04 53 40.3	+0.8
NBG				AML	AML	04 53 44.2	
	comp=N,6μm,0.4s						
IXG	**Ixpaco**	**1.60**	**175**⇓	*e*P	Pn	04 53 29.8	+0.1
IXG				*e*S	Sb	04 53 51.8	+1.0
IXG				AML	AML	04 53 56.6	
	comp=E,2μm,0.4s						
RTR	**El Retiro**	**2.08**	**153**⇓	*e*P	Pn	04 53 35.9	-0.8
SNJE	**San Jose**	**2.12**	**153**	*e*P	Pn	04 53 36.9	-0.4
SNJE				*e*S	Sn	04 54 06.5	+1.8
SBLS	**San Blas**	**2.14**	**154**	*e*P	Pn	04 53 36.9	-0.7
BOQS	**Boqueron**	**2.40**	**148**	*e*P	Pn	04 53 41.2	0.0
LBRS	**Las Brisas**	**2.52**	**143**	*e*P	Pn	04 53 42.9	-0.1
LFRS	**El Faro**	**2.60**	**145**	*e*P	Pn	04 53 43.7	-0.5
LFRS				*e*S	Sn	04 54 18.1	+1.1
LCBS	**La Ceiba**	**2.63**	**143**⇑	*e*P	Pn	04 53 43.7	-0.7
LCBS				*e*S	Sn	04 54 17.6	0.0
SNVI	**San Vicente**	**2.74**	**141**	*e*P	Pn	04 53 42.8	-3.3
SNVI				*e*S	Sn	04 54 23.5	+3.0
CAHU	**Cacaucatique**	**3.05**	**130**	*e*P	Pn	04 53 50.7	+0.1
CAHU				*e*S	Sn	04 54 28.9	+0.6

*IDC **30** 04:58:09.4±29.0, 34.05N×71.86E, mb4.0/4, mb1 3.9/5, mb1mx3.6/21, Error ellipse: s-maj=555.0km s-min=88.6km az=133.0*

ISC 30 04:58:35.4±1.2, 36.0N±0.2×69.1E±0.2, h33km, n13, σ0≤73/13, mb3.8/4, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NDI	**New Delhi**	**10.00**	**135**	*e*	**S**	**05 02 45.0**	**-7.0**
KOLN	**Koldanda**	**14.77**	**120**	*e*P	**P**	**05 02 02.5**	**-1.1**
	4.1nm,0.3s						
GKN	**Gorkha**	**15.37**	**117**	*e*P	**P**	**05 02 11.5**	**+0.1**
	10nm,0.3s						
DMN	**Daman**	**15.94**	**117**	*e*P	**P**	**05 02 18.3**	**-0.4**
KKN	**Kakani**	**15.96**	**116**	*e*P	**P**	**05 02 19.5**	**+0.5**
	13nm,0.3s						
PKI	**Pulchoki**	**16.18**	**117**	*e*P	**P**	**05 02 22.4**	**+0.6**
	20nm,0.4s						
GUN	**Gumba**	**16.33**	**115**	*e*P	**P**	**05 02 24.1**	**+0.4**
	18nm,0.5s						
BVAR	**Borovoye Array**	**17.04**	**3**	P	**P**	**05 02 32.7**	**+0.3**
	0.3nm,0.3s,baz=190,slow=8.8,SNR=5.5						
JOF	**Joensuu**	**35.56**	**331**	*e*P	**P**	**05 05 30.6**	**-0.5**
FINES	**FINESS Array B**	**37.06**	**327**	P	**P**	**05 05 43.8**	**0.0**
	13nm,1.4s,mb4.6,baz=117,slow=8.5,SNR=5.1						
ARCES	**ARCESS Array B**	**41.03**	**338**	P	**P**	**05 06 15.2**	**-1.5**
	0.7nm,0.5s,mb3.6,baz=100,slow=7.4,SNR=8.4						
HFS	**Hagfors**	**42.53**	**322**	P	**P**	**05 06 30.3**	**+1.2**
	1.3nm,0.8s,mb3.7,baz=84,slow=13,SNR=3.6						
NOA	**NORSAR Array B**	**43.87**	**323**	P	**P**	**05 06 40.3**	**+0.3**
	0.3nm,0.6s,mb3.2,baz=107,slow=7.6,SNR=2.6						

MAN 30 05:05:31.7, 9.86N×121.95E, h32km, mb3.9, ML2.7, MS2.3, 1D, Sulu Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIM	**Jordan**	**0.99**	**40**	*e*P	Pn	05 05 49.4	-0.2
GUIM				*e*S	Sn	05 06 02.0	-0.6
CUYO	**Cuyo Island**	**1.34**	**317**	*e*P	Pn	05 05 54.1	-0.5
RCP	**Roxas**	**1.86**	**25**⇓	*e*P	Sn	05 06 27.1	+2.3
IPIL	**Ipil**	**2.15**	**163**	*e*P	Pn	05 06 05.6	-0.5
IPIL				*e*S	Sn	05 06 28.0	-3.9
PAGZ	**Pagadian**	**2.45**	**144**	*e*P	Pn	05 06 10.8	+0.4
PAGZ				*e*S	Sn	05 06 38.9	-0.6

MAN 30 05:09:38.7, 9.10N×125.35E, h14km, mb3.8, ML2.5, MS2.1, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.30**	**116**	*e*P	Pg	05 09 46.3	+1.0
SCPH	**Surigao**	**0.69**	**12**	*e*P	Pb	05 09 51.7	-0.3
SCPH				*e*S	Sb	05 10 05.4	+4.3
BUKP	**Musuan**	**1.25**	**193**	*e*P	Pb	05 10 00.8	-0.7
BIPH	**Bislig**	**1.36**	**132**⇑	*i*P	Pn	05 10 00.3	-3.0

*NEIC **30** 05:20:08.1±2.9, 45.57N×26.38E, h155km±27km, Error ellipse: s-maj=26.7km s-min=12.9km az=222.0*
*BUC **30** 05:20:08.7±0.8, 45.57N×26.40E, h149km±7km, MD4.1/3, Error ellipse: s-maj=8.7km s-min=4.1km az=46.0*

ISC 30 05:20:08.8±1.4, 45.58N±0.06×26.41E±0.09, h141km±10km, n18, σ0≤65/33, 9C-8D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLR	**Muntele Rosu**	**0.34**	**256**⇑	*i*P	**P**	**05 20 29.2**	**+0.3**
MLR				*i*S	**S**	**05 20 44.6**	**+0.3**
MLR	**Muntele Rosu**	**0.34**	**256**⇑	*i*P	**P**	**05 20 29.3**	**+0.3**
MLR				*i*S	**S**	**05 20 45.1**	**+0.8**
VRI	**Vrincioaia**	**0.37**	**37**⇑	*i*P	**P**	**05 20 29.0**	**-0.1**
VRI				*i*S	**S**	**05 20 44.9**	**+0.4**
VRI	**Vrincioaia**	**0.37**	**37**⇓	*i*P	**P**	**05 20 29.0**	**-0.1**
VRI				S	**S**	**05 20 44.4**	**-0.1**
BRD	**Bordesti**	**0.43**	**93**⇑	*i*P	**P**	**05 20 30.8**	**+1.4**
BRD	**Bordesti**	**0.43**	**93**⇑	*i*P	**P**	**05 20 30.8**	**+1.5**
ISR	**Istrita**	**0.47**	**168**⇓	*i*P	**P**	**05 20 30.0**	**+0.5**
ISR				*i*S	**S**	**05 20 44.9**	**-0.4**
ISR	**Istrita**	**0.47**	**168**⇓	*i*P	**P**	**05 20 30.1**	**+0.6**
ISR				*i*S	**S**	**05 20 44.9**	**-0.4**
SNX	**Sinaia**	**0.67**	**251**⇑	*i*P	**P**	**05 20 31.1**	**+0.5**
SNX				*i*S	**S**	**05 20 47.4**	**+0.1**
SNX	**Sinaia**	**0.67**	**251**⇑	*i*P	**P**	**05 20 31.1**	**+0.5**
SNX				S	**S**	**05 20 45.4**	**-1.9**
MTUR	**Matau**	**1.01**	**250**⇑	*i*P	**P**	**05 20 32.3**	**-0.7**
MTUR				S	**S**	**05 20 47.3**	**-4.3**
BUC1	**Bucharest**	**1.26**	**193**	*i*S	**S**	**05 20 56.4**	**+0.4**
CFR	**Carcaliu**	**1.28**	**107**⇓	*i*P	**P**	**05 20 35.6**	**-0.1**
CFR				*i*S	**S**	**05 20 56.3**	**-0.1**
CFR	**Carcaliu**	**1.28**	**107**⇓	*i*P	**P**	**05 20 35.8**	**0.0**
CFR				*i*S	**S**	**05 20 56.4**	**-0.1**
TIRR	**Tirgusor**	**1.81**	**127**⇑	*i*P	**P**	**05 20 41.5**	**0.0**
TIRR				*i*S	**S**	**05 21 05.6**	**-1.0**
TIRR	**Tirgusor**	**1.81**	**127**⇑	*i*P	**P**	**05 20 41.5**	**+0.1**
TIRR				*i*S	**S**	**05 21 05.6**	**-1.0**
BURAR	**Bucovina Array**	**2.20**	**338**⇓	*i*P	**P**	**05 20 46.0**	**-0.3**
BURAR				*i*S	**S**	**05 21 14.4**	**-0.5**
BURAR	**Bucovina Array**	**2.20**	**338**⇓	*i*P	**P**	**05 20 46.0**	**-0.3**
BURAR				*i*S	**S**	**05 21 14.8**	**-0.1**

IDC 30 05:45:28.2±15.0, 5.48S×133.23E, mb4.4/1, mb1 3.8/3, mb1mx3.6/11, ML2.9/2, Error ellipse: s-maj=326.0km s-min=137.2km az=115.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.41**	**176**	Pn	P	05 48 53.8	-1.9
	0.1nm,0.3s,baz=358,slow=13,SNR=3.9						
ASAR	**Alice Springs**	**18.09**	**178**	P	P	05 49 40.5	-2.2
	0.1nm,0.3s,baz=355,slow=11,SNR=5.6						
STKA	**Stephens Creek**	**27.40**	**164**	P	P	05 51 15.7	-1.8
	6.0nm,1.2s,baz=339,slow=8.6,SNR=3.9						

*JMA **30** 06:01:17.9±0.3, 22.61N×121.44E, h85km, M2.9*

TAP 30 06:01:17.0, 22.84N×121.29E, h19km, ML3.4, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**2.26**	**44**	P	Pn	06 01 55.0	+1.0
YOJ				S	Sn	06 02 22.9	+1.3
HATJ	**Hateruma jima**	**2.61**	**62**	P	Pn	06 01 58.6	-0.4
HATJ				S	Sn	06 02 30.1	-0.4
JKRS	**Kuro-shima**	**2.86**	**60**	P	Pn	06 02 02.2	-0.4
JIJ	**Ishigaki jima**	**3.02**	**59**	P	Pn	06 02 04.4	-0.5
JIJ				S	Sn	06 02 39.6	-1.4
JTJ	**Tarama**	**3.60**	**59**	P	Pn	06 02 12.6	-0.6
JTJ				S	Sn	06 02 53.2	-2.5

*CSEM **30** 06:45:05.3±0.7, 38.62N×28.58W, h6km±3km, ML1.9, Error ellipse: s-maj=2.7km s-min=1.8km az=178.0, After PDA*
*PDA **30** 06:45:05.3±0.7, 38.62N×28.58W, h6km±3km, MD2.9, ML1.9, Error ellipse: s-maj=2.7km s-min=1.8km az=178.0*

SVSA 30 06:45:05.3±0.7, 38.62N×28.58W, h6km±3km, MD2.9, ML1.9, Error ellipse: s-maj=2.7km s-min=1.8km az=178.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**0.10**	**273**	*e*S	Sg	06 45 09.1	+0.1
	80nm,0.1s						
	80nm,0.1s						
CALA	**Caldeira**	**0.10**	**247**	*i* P	Pg	06 45 07.4	-0.3
CALA				*e*S	Sg	06 45 09.4	+0.2
CALA	**Caldeira**	**0.10**	**247**	*e*S	Sg	06 45 09.4	+0.2
PICO	**Pico**	**0.17**	**135**	*i* P	Pg	06 45 08.4	-0.5
PICO				*e*S	Sg	06 45 11.4	+0.1
PICO	**Pico**	**0.17**	**135**	*e*S	Sg	06 45 11.4	+0.1
ROSA	**Rosais**	**0.28**	**70**	*e*P	Pg	06 45 10.3	-0.7
ROSA				*e*S	Sg	06 45 14.4	-0.4
PMAN	**Manadas**	**0.38**	**88**	*e*S	Sg	06 45 17.3	-0.9
	52nm,0.1s						
PMAN	**Manadas**	**0.38**	**88**	*e*S	Sg	06 45 17.3	-0.9
	52nm,0.1s						
PID	**Ribeirinha**	**0.40**	**116**	*e*S	Sg	06 45 17.8	-1.1

*BER **30** 06:51:00.9±3.9, 67.82N×20.30E, ML2.0, ML2.2(NAO), Suspected explosion*
*NAO **30** 06:51:01.1±2.8, 67.75N×20.78E, ML2.2*

HEL 30 06:51:01.4±0.2, 67.90N×20.16E, ML2.2, ML2.2(UPP), **ML2.1**(BER), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.09**	**49**	*i* P	Pg	06 51 02.6	-0.6
KUA				*i* S	Sg	06 51 04.5	0.0
NIKU	**Nikkaluokta**	**0.43**	**267**	*i* P	Pg	06 51 08.3	-1.6
NIKU				*i* S	Sg	06 51 15.0	-0.6
KIF	**Kilpisjarvi**	**1.14**	**12**	*e*P	Pb	06 51 23.5	-0.2
KIF				*e*S	Sb	06 51 39.1	+0.2
KTK1	**Kautokeino**	**1.60**	**44**	*e*P	Pn	06 51 29.4	-1.6
KTK1				*e*SN	Sn	06 51 53.3	+0.7
KTK1				AML	AML	06 51 55.8	
	comp=Z,18nm,0.4s						
TRO	**Tromso**	**1.80**	**346**	*e*P	Pn	06 51 32.5	-1.4
TRO				*e*SN	Sn	06 51 58.1	+0.2
TRO				AML	AML	06 52 00.9	
	comp=Z,24nm,0.3s						
SGF	**Sodankyl**	**2.48**	**98**	*e*P	Pn	06 51 43.5	-0.1
SGF				*e*S	Sn	06 52 12.9	-2.0
LOF	**Lofoten**	**2.50**	**278**	*e*	Pn	06 52 22.4	+38
LOF				AML	AML	06 52 24.1	
	comp=Z,12nm,0.5s						
LOF	**Lofoten**	**2.50**	**278**	*e*Sg	Sg	06 52 22.4	-2.2
LOF				AML	AML	06 52 24.1	
	comp=Z,12nm,0.5s						
ARA0	**ARCESS Array S**	**2.55**	**47**	*e*P	Pn	06 51 43.2	-1.5
ARA0				*e*SG	Sg	06 52 19.4	-7.0
ARA0	**ARCESS Array S**	**2.55**	**47**	Pn	Pn	06 51 43.2	-1.5
	baz=233,slow=14						
ARA0			

EPF	**Esparros**	**0.48**	**75**	*e*Pg	**Pg**	**07 09 51.4**	**+0.4**
EPF				*e*Sg	**Sg**	**07 09 57.8**	**+0.3**
	6.7nm,0.3s						
SJPF	**Ste Jean**	**0.72**	**287**	*e*Pg	**Pg**	**07 09 55.2**	**-0.5**
SJPF				*e*Sg	**Sg**	**07 10 04.3**	**-1.0**
	4.4nm,0.3s						
EALK	**Alkurruntz**	**0.94**	**290**	Pg	**Pg**	**07 10 05.4**	**+5.1**
	SNR=4.0						
EALK				Lg		07 10 14.1	
	1.7nm,0.1s,SNR=4.0						
ESAC	**San Caprasio**	**1.19**	**186**	Pg	**Pg**	**07 10 05.1**	**-0.1**
	4.6nm,0.3s,SNR=7.9						
ESAC				Lg		07 10 20.0	
	14nm,0.3s,SNR=9.1						
EPOB	**Poblet**	**1.86**	**146**	Lg		07 10 40.1	
	0.6nm,0.2s,SNR=7.9						

*ATH **30** 07:32:41.6,39.77N×20.67E,h16km,MD3.1/5*
*NEIC **30** 07:32:41.6,39.77N×20.67E,h16km,MD3.1(ATH),After ATH.*
*THE **30** 07:32:43.0,39.73N×20.74E,h10km,ML3.0*
*CSEM **30** 07:32:42.4±0.1,39.78N×20.67E,h10km,MD3.1,Error ellipse: s-maj=2.0km s-min=1.8km az=38.0*
ISC 30 07:32:42.3±0.5**,39.76N**±0.04×**20.71E**±0.04**,h16**km±8km**, n14**,σ0**85**/21**,Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAN	**Janina**	**0.15**	**134**	*e*PB	**Pb**	**07 32 46.1**	**-0.4**
JAN				*e*SB	**Sb**	**07 32 49.0**	**-0.2**
IGT	**Igoumenitsa**	**0.37**	**232**	*e*Pg	**Pb**	**07 32 49.4**	**-0.7**
IGT				*e*Sg	**Sb**	**07 32 55.9**	**+0.6**
LSK	**Leskovik**	**0.40**	**348**	*i* Pg	**Pb**	**07 32 49.6**	**-0.9**
LSK				*i* Sg	**Sb**	**07 32 56.9**	**+0.9**
MEV	**Metsovon**	**0.40**	**87**	*e*Pg	**Pb**	**07 32 50.3**	**-0.3**
SRN	**Sarande**	**0.56**	**282**	*i* Pg	**Pb**	**07 32 52.6**	**-0.7**
SRN				*i* Sg	**Sb**	**07 33 01.6**	**+0.8**
KEK	**Kerkira**	**0.71**	**266**	*e*PN	**Pn**	**07 32 54.6**	**-2.8**
KZN	**Kozani**	**0.98**	**56**	*e*PN	**Pn**	**07 33 00.8**	**-0.5**
LKD	**Levkas**	**1.05**	**183**	*e*Pg	**Pb**	**07 33 02.4**	**+0.7**
FNA	**Florina**	**1.14**	**26**	*e*Pg	**Pb**	**07 33 03.6**	**+0.4**
FNA				*e*Sg	**Sb**	**07 33 21.5**	**+3.9**
EVR	**Evrytania**	**1.20**	**134**	*e*PN	**Pn**	**07 33 04.5**	**0.0**
LIT	**Litokhoron**	**1.41**	**76**	*e*Pb	**Pb**	**07 33 07.9**	**+0.1**
LIT				*e*Sb	**Sb**	**07 33 26.1**	**+0.7**
AGG	**Agios Georgios**	**1.46**	**120**	*e*Pb	**Pb**	**07 33 09.0**	**+0.4**
AGG				*e*Sb	**Sb**	**07 33 26.8**	**0.0**
VLS	**Valsamata**	**1.59**	**183**	*e*PN	**Pn**	**07 33 11.5**	**+1.5**
XOR	**Xorichti**	**1.96**	**101**	*e*Pb	**Pb**	**07 33 16.0**	**-1.1**

*NEIC **30** 07:33:06.3±0.7,14.71N×147.32E,h10km,Error ellipse: s-maj=22.1km s-min=14.8km az=134.0*
*IDC **30** 07:33:11.8±1.0,14.71N×147.23E,h50km±8km,mb3.6/6, mb1 3.9/6,mb1mx3.7/19,Error ellipse: s-maj=29.7km s-min=17.3km az=93.0*
ISC 30 07:33:09.9±0.9**,14.7N**±0.1×**147.2E**±0.2**,h52**km, **h52**km±6km**:pP-P,n8,**σ0**99/7,mb3.8/6,Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.53**	**245**	P	**P**	**07 33 49.1**	**-0.4**
WRA	**Warramunga Arr**	**36.66**	**201**	P	**P**	**07 40 13.2**	**-0.4**
	1.4nm,0.9s,mb3.8,baz=27,slow=8.5,SNR=9.7						
WRA				pP	pP	07 40 27.1	-0.1
	0.8nm,0.9s,baz=24,slow=9.4,SNR=6.2						
ASAR	**Alice Springs**	**40.27**	**199**	P	**P**	**07 40 43.8**	**+0.1**
	0.6nm,0.6s,mb3.5,baz=25,slow=8.3,SNR=8.5						
ASAR				pP	pP	07 40 57.6	+0.3
	0.5nm,0.7s,baz=28,slow=7.7,SNR=3.7						
CMAR	**Chiang Mai Arr**	**46.33**	**282**	P	**P**	**07 41 34.0**	**+1.1**
	1.1nm,0.4s,mb4.2,baz=80,slow=5.4,SNR=4.1						
CMAR				pP	pP	07 41 47.5	+0.8
	1.5nm,0.5s,baz=82,slow=6.0,SNR=2.5						
SONM	**Songino Array**	**47.20**	**323**	P	**P**	**07 41 39.1**	**-0.3**
	0.7nm,0.5s,mb3.9,baz=131,slow=6.9,SNR=6.9						
SONM				pP	pP	07 41 52.7	-0.4
	1.4nm,0.6s,baz=138,slow=6.7,SNR=9.0						
ILAR	**Eielson Array**	**66.61**	**25**	P	**P**	**07 43 54.9**	**-1.8**
	1.1nm,1.1s,mb3.8,baz=258,slow=8.3,SNR=5.7						
NVAR	**Mina Array Bea**	**84.45**	**52**	P	**P**	**07 45 40.1**	**+1.5**
	0.6nm,0.7s,mb3.9,baz=281,slow=4.6,SNR=6.3						
LPAZ	**La Paz**	**145.91**	**97**	PKPbc	PKPbc	07 52 49.1	+4.3
	1.1nm,0.4s,baz=275,slow=4.8,SNR=6.0						

*IDC **30** 07:34:37.4±1.8,14.59N×147.13E,mb3.7/4,mb1 3.9/4, mb1mx3.8/18,Error ellipse: s-maj=52.9km s-min=30.1km az=76.0*
ISC 30 07:34:38.1±3.7**,14.7N**±0.2×**147.6E**±0.7**,h33**km**,n6, σ0**93**/4,mb3.7/4,Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**36.80**	**201**	P	**P**	**07 41 44.9**	**0.0**
	0.6nm,0.8s,mb3.5,baz=24,slow=9.5,SNR=2.3						
ASAR	**Alice Springs**	**40.40**	**200**	P	**P**	**07 42 14.9**	**0.0**
	0.7nm,0.8s,mb3.4,baz=23,slow=7.5,SNR=3.8						
CMAR	**Chiang Mai Arr**	**46.69**	**282**	P	**P**	**07 43 05.8**	**0.0**
	1.0nm,0.5s,mb4.0,baz=79,slow=6.4,SNR=4.6						
CMAR				pP	pP	07 43 19.8	+4.1
	2.9nm,1.0s,baz=80,slow=6.3,SNR=5.9						
SONM	**Songino Array**	**47.42**	**323**	P	**P**	**07 43 11.2**	**0.0**
	0.8nm,0.5s,mb3.9,baz=140,slow=7.3,SNR=4.7						
SONM				pP	pP	07 43 25.0	+3.9
	0.7nm,0.5s,baz=148,slow=6.3,SNR=5.2						
ILAR	**Eielson Array**	**66.45**	**25**	pP	pP	07 45 40.9	+4.6
	1.2nm,1.0s,baz=250,slow=5.4,SNR=6.2						
LPAZ	**La Paz**	**145.55**	**97**	PKPbc	PKPbc	07 54 20.6	+6.2
	0.8nm,0.5s,baz=17,slow=2.5,SNR=2.6						

*IDC **30** 07:42:04.4±0.5,14.57N×147.31E,h52km±4km,mb3.7/8, mb1 4.0/9,mb1mx3.9/16,MS3.5/9,Ms1 3.5/9,ms1mx3.2/33, Error ellipse: s-maj=18.6km s-min=12.1km az=100.0*
*BJI **30** 07:42:04.1,14.50N×147.20E,h49km,mB5.0,mb4.8*
*NEIC **30** 07:42:04.2±0.5,14.51N×147.18E,mb4.9/2,Error ellipse: s-maj=15.0km s-min=10.6km az=96.0*
ISC 30 07:42:01.3±2.1**,14.51N**±0.08×**147.3E**±0.1**,h40**km±17km**, h51**km±2.1km**:pP-P,n37,**σ1**90/20,mb4.2**/13**,MS3.5**/8, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.49**	**249**	*e*P	**P**	**07 42 41.5**	**+1.1**
SARN	**Sarigan**	**2.61**	**327**	*e*P	**P**	**07 42 41.1**	**-0.9**
CBIJ	**Chichi jima**	**13.39**	**340**	LR	LR	07 49 50.9	
	comp=Z,152nm,20.0s,baz=145,slow=35						
JOW	**Kunigami**	**21.55**	**308**	pP		07 47 02.5	
	46nm,1.0s,baz=120,slow=18,SNR=6.0						
JOW				LR	LR	07 53 52.3	
	comp=Z,122nm,20.2s,MS3.3,baz=102,slow=33						
PMG	**Port Moresby**	**23.76**	**180**	P	**P**	**07 47 12.2**	**+1.0**
	39nm,1.0s,mb4.8,baz=23,slow=9.0,SNR=5.9						
PMG				pP		07 47 27.0	
	24nm,0.6s,baz=93,slow=6.1,SNR=5.1						
PMG	**Port Moresby**	**23.76**	**180**	*e*P	**P**	**07 47 12.5**	**+1.3**
	25nm,0.7s,mb4.8						
ASAJ	**Asahikawa**	**29.77**	**353**	LR	LR	07 58 21.9	
	comp=Z,46nm,19.4s,MS3.1,baz=353,slow=33						
CTA	**Charters Tower**	**34.40**	**182**	LR	LR	08 00 45.8	
	comp=Z,98nm,18.8s,MS3.6,baz=47,slow=32						
WRAB	**Tennant Creek**	**36.51**	**201**	*e*P	**P**	**07 49 04.1**	**-0.9**
WRA	**Warramunga Arr**	**36.52**	**201**	P	**P**	**07 49 03.7**	**-1.4**
	0.7nm,0.4s,mb3.8,baz=54,slow=9.8,SNR=15						
WRA				pP	pP	07 49 20.3	+4.0
	3.9nm,0.8s,baz=23,slow=9.3,SNR=14						
WRA				pPcP		07 51 43.9	
	1.4nm,0.9s,baz=6.6,slow=3.3,SNR=5.5						
WRA				LR	LR	08 02 46.4	
	comp=Z,68nm,18.1s,MS3.5,baz=40,slow=34						
FITZ	**Fitzroy Crossi**	**38.79**	**214**	pP	pP	07 49 39.8	+4.6
	3.6nm,1.1s,baz=37,slow=10,SNR=3.4						
ASAR	**Alice Springs**	**40.13**	**199**	P	**P**	**07 49 34.4**	**-0.8**
	2.0nm,1.1s,mb3.8,baz=29,slow=6.3,SNR=6.5						
ASAR				pP	pP	07 49 50.4	+4.0
	2.1nm,0.8s,baz=24,slow=5.3,SNR=11						
ASAR				LR	LR	08 04 12.3	
	comp=Z,53nm,21.1s,MS3.4,baz=155,slow=33						
LZH	**Lanzhou**	**44.28**	**307**	*e*P	**P**	**07 50 10.5**	**+1.4**
LZH				AP	pP	07 50 23.5	+3.1
LZH				XP	sP	07 50 29.0	+3.7
LZH				AMB	AMB		
	comp=Z,28nm,1.5s,mb4.8						
LZH				AMB	AMB		
	comp=Z,100nm,4.2s						
CMAR	**Chiang Mai Arr**	**46.39**	**282**	P	**P**	**07 50 26.2**	**+0.1**
	comp=Z,7.2nm,1.1s,mb4.5,baz=79,slow=6.1,SNR=14						
CMAR				pP	pP	07 50 41.0	+3.6
	comp=Z,7.3nm,0.6s,baz=81,slow=6.0,SNR=8.9						
STKA	**Stephens Creek**	**46.44**	**187**	pP	pP	07 50 40.8	+3.1
	comp=Z,2.1nm,0.9s,baz=93,slow=21,SNR=2.1						
STKA				LR	LR	08 12 01.1	
	comp=Z,60nm,18.8s,MS3.6,baz=190,slow=39						
SONM	**Songino Array**	**47.35**	**323**	P	**P**	**07 50 32.7**	**-0.5**
	comp=Z,1.8nm,0.7s,mb4.1,baz=133,slow=6.7,SNR=11						
SONM				pP	pP	07 50 46.4	+1.9
	comp=Z,4.3nm,0.6s,baz=138,slow=6.9,SNR=15						
GTA	**Gaotai**	**48.33**	**310**	*e*P	**P**	**07 50 41.5**	**+0.5**
GTA				XP	sP	07 50 57.0	-0.2
GTA				AMB	AMB		
	comp=Z,3.0nm,1.5s,mb4.1						
WMQ	**Urumqi**	**58.20**	**313**	*e*P	**P**	**07 51 53.3**	**-0.6**
WMQ				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.9						
ZAL	**Zalesovo**	**62.25**	**324**	P	**P**	**07 52 21.2**	**-0.2**
	comp=Z,0.9nm,0.6s,mb4.0,baz=248,slow=5.4,SNR=1.5						
ZAL				pP	pP	07 52 34.3	+1.2
	comp=Z,1.8nm,0.7s,baz=282,slow=7.2,SNR=3.1						
ZAL	**Zalesovo**	**62.25**	**324**	P	**P**	**07 52 21.2**	**-0.2**
ZAL				pP	pP	07 52 34.3	+1.2
KURK	**Kurchatov**	**65.39**	**319**	*e*P	**P**	**07 52 41.1**	**-0.9**
	comp=Z,11nm,0.8s,mb4.9						
KURK				*e*pP	pP	07 52 55.2	+1.4
ILAR	**Eielson Array**	**66.75**	**25**	P	**P**	**07 52 48.2**	**-2.1**
	comp=Z,1.7nm,1.1s,mb4.0,baz=261,slow=4.6,SNR=6.8						
ILAR				pP	pP	07 53 02.5	+0.3
	comp=Z,4.3nm,0.9s,baz=247,slow=6.1,SNR=25						
BRVK	**Borovoye**	**70.72**	**321**	*e*P	**P**	**07 53 15.7**	**+0.7**
KNK	**Inuvik**	**72.63**	**22**	P	**P**	**07 53 27.4**	**+1.2**
	comp=Z,0.6nm,0.6s,mb3.7,baz=293,slow=7.6,SNR=4.7						
INK				pP	pP	07 53 40.0	+1.8
	comp=Z,4.8nm,0.8s,baz=256,slow=8.2,SNR=10						
YKA	**Yellowknife Ar**	**80.97**	**28**	pP	pP	07 54 27.0	+1.9
	comp=Z,2.7nm,0.7s,baz=279,slow=5.9,SNR=5.2						
YKA				LR	LR	08 31 37.5	
	comp=Z,59nm,18.3s,MS4.0,baz=75,slow=37						
NVAR	**Mina Array Bea**	**84.53**	**52**	P	**P**	**07 54 33.2**	**+1.4**
	comp=Z,0.7nm,0.7s,mb3.9,baz=265,slow=8.2,SNR=6.5						
NVAR				pP	pP	07 54 47.3	+3.3
	comp=Z,1.7nm,0.8s,baz=286,slow=3.6,SNR=11						
ARCES	**ARCESS Array B**	**86.91**	**343**	pP	pP	07 54 57.5	+2.5
	comp=Z,2.4nm,0.7s,baz=79,slow=6.2,SNR=2.7						
ARCES				LR	LR	08 41 22.1	
	comp=Z,45nm,18.0s,MS3.9,baz=200,slow=41						
ARUT	**Antelope Range**	**88.40**	**51**	*e*P	pP	07 55 05.8	+2.8
FINES	**FINESS Array B**	**91.29**	**336**	pP	pP	07 55 17.3	+1.3
	comp=Z,1.4nm,0.6s,baz=90,slow=5.7,SNR=2.2						
VNDA	**Vanda**	**92.24**	**177**	pP	pP	07 55 22.0	+1.9
	comp=Z,1.0nm,0.9s,baz=340,slow=5.9,SNR=4.4						
RW3	**Ridgway**	**92.55**	**50**	*e*P	**P**	**07 55 10.4**	**+0.3**
RW3				*e*pP	pP	07 55 25.3	+2.9
DBIC	**Dimbokro**	**145.25**	**305**	PKPbc	PKPbc	08 01 37.9	+1.7
	comp=Z,5.5nm,0.9s,baz=94,slow=2.5,SNR=4.9						
DBIC				pPKPbc		08 01 51.5	
	comp=Z,23nm,1.1s,baz=29,slow=3.2,SNR=8.7						
KIC	**Kosan Boka**	**145.34**	**305**	*e*P	PKPdf	08 01 40.6	+4.7
	comp=Z,36nm,1.0s						
KIC				*e*PcP		08 01 52.2	
TIC	**Toumodi**	**145.39**	**306**	*e*P	PKPdf	08 01 38.3	+2.3
	comp=Z,63nm,1.2s						
TIC				*e*PcP		08 01 52.4	
LIC	**Lamto**	**145.65**	**305**	*e*P	PKPdf	08 01 39.4	+2.9
	comp=Z,46nm,1.0s						
LIC				*e*PcP		08 01 53.2	
LPAZ	**La Paz**	**145.86**	**98**	PKPbc	PKPbc	08 01 39.6	+2.0
	comp=Z,1.0nm,0.5s,baz=290,slow=2.9,SNR=5.2						
LPAZ				pPKPbc		08 01 54.6	
	comp=Z,2.4nm,0.6s,baz=259,slow=6.9,SNR=5.4						
LPAZ	**La Paz**	**145.86**	**98**	*e*PKPdf	PKPdf	08 01 39.7	+3.0
LPAZ				*ep*PKPdf		08 01 55.0	

*IDC **30** 08:05:07.0±4.6,52.34N×173.33W,h76km±47km,mb3.8/10, mb1 4.1/12,mb1mx3.8/26,ML4.2/2,Error ellipse: s-maj=42.1km s-min=18.3km az=156.0*
*NEIC **30** 08:05:07.1±0.6,52.33N×173.26W,h77km±7km,mb4.1/4, Error ellipse: s-maj=18.0km s-min=6.7km az=161.0*
ISC 30 08:05:06.0±0.9**,52.5N**±0.1×**173.35W**±0.09**,h82**km±10km**, n22,**σ0**83/23,mb4.0/14,Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSTR	**Great Sitkin T**	**1.71**	**258**	*e*P	**P**	**08 05 35.6**	**+0.9**
KIWB	**Kanaga Island**	**2.42**	**257**	*e*P	**P**	**08 05 45.0**	**+0.5**
NIKO	**Nikolski**	**2.78**	**78**	*e*P	**P**	**08 05 47.9**	**-1.5**
UNV	**Unalaska Valle**	**4.34**	**69**	P	**P**	**08 06 11.6**	**+0.5**
FX1	**Attu Island--F**	**8.21**	**278**	P	**P**	**08 07 04.0**	**-0.4**
	2.8nm,0.3s,baz=112,slow=22,SNR=13						
FX1				S	**S**	**08 08 35.6**	**-0.8**
	4.1nm,0.3s,baz=264,slow=22,SNR=3.8						
ILAR	**Eielson Array**	**18.30**	**37**	P	**P**	**08 09 14.5**	**-0.8**
	2.0nm,0.3s,baz=242,slow=9.4,SNR=102						
DAWY	**Dawson**	**21.00**	**43**	*e*P	**P**	**08 09 44.3**	**+0.1**
INK	**Inuvik**	**24.63**	**35**	P	**P**	**08 10 21.2**	**+1.7**
	2.5nm,0.4s,mb4.0,baz=249,slow=8.8,SNR=39						
DLBC	**Dease Lake**	**24.92**	**59**	P	**P**	**08 10 24.4**	**+2.0**
	2.4nm,0.5s,mb3.9,baz=248,slow=8.0,SNR=16						
YKA	**Yellowknife Ar**	**32.01**	**48**	P	**P**	**08 11 26.1**	**0.0**
	0.8nm,0.3s,mb3.9,baz=274,slow=9.2,SNR=13						
YKA	**Yellowknife Ar**	**32.01**	**48**	P	**P**	**08 11 26.1**	**0.0**
NEW	**Newport**	**35.34**	**74**	P	**P**	**08 11 54.9**	**0.0**
	3.2nm,0.5s,mb4.4,baz=318,slow=7.5,SNR=10						
HLID	**Hailey**	**39.40**	**79**	*e*P	**P**	**08 12 29.2**	**+0.2**
	0.7nm,0.6s,mb3.7						
NVAR	**Mina Array Bea**	**40.10**	**88**	P	**P**	**08 12 35.4**	**+0.6**
	0.7nm,0.8s,mb3.5,baz=296,slow=10,SNR=4.8						
NVAR				PcP	PcP	08 14 39.0	+0.4
	0.4nm,0.6s,baz=286,slow=1.4,SNR=5.4						
BW06	**Boulder Array**	**42.76**	**77**	*e*P	**P**	**08 12 56.7**	**+0.2**
	3.6nm,0.4s,mb4.5						
PDAR	**Pinedale Array**	**42.76**	**77**	P	**P**	**08 12 57.0**	**+0.4**
	3.7nm,0.4s,mb4.4,baz=310,slow=3.3,SNR=39						
PDAR				pP	pP	08 13 20.3	+3.9
	1.8nm,0.7s,baz=311,slow=3.4,SNR=6.5						
ULM	**Lac du Bonnet**	**46.23**	**60**	P	**P**	**08 13 23.8**	**-0.4**
	2.0nm,0.5s,mb4.2,baz=292,slow=7.7,SNR=3.3						
SDCO	**Great Sand Dun**	**48.31**	**79**	*e*P	**P**	**08 13 40.9**	**+0.3**
	1.4nm,0.6s,mb4.0						
WMOK	**Wichita Mounta**	**54.35**	**78**	*e*P	**P**	**08 14 24.9**	**-1.2**
	1.2nm,0.5s,mb4.2						
TXAR	**Lajitas Array**	**55.18**	**86**	P	**P**	**08 14 31.1**	**-1.1**
	0.6nm,0.4s,mb3.9,baz=294,slow=5.0,SNR=15						
SADO	**Sadowa**	**58.45**	**56**	P	**P**	**08 14 54.5**	**-0.7**
	1.7nm,0.5s,mb4.3,baz=347,slow=9.1,SNR=3.9						
ASAR	**Alice Springs**	**88.64**	**227**	P	**P**	**08 17 50.9**	**-0.1**
	0.3nm,0.6s,mb3.5,baz=24,slow=5.0,SNR=5.3						

*NEIC **30** 08:12:54.6,40.52N×0.87E,h4km,ML2.5(LDG), MN2.2(MDD),After MDD.*
*LDG **30** 08:13:07.4±0.8,41.04N×0.82E,h2km,Ml2.5/4,Error ellipse: s-maj=17.0km s-min=10.4km az=35.0*
MDD 30 08:12:54.7±1.2**,40.52N×0.87E,h5**km±11km**,mbLg2.2/9, 2C,Error ellipse: s-maj=10.6km s-min=4.7km az=135.0, PRXIMO,Spain**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EBR	**Ebro Roquetas**	**0.42**	**317**	*e*Pg	Pg	08 13 01.5	-1.6
EBR				*e*Sg	Sg	08 13 08.2	-0.5
EPOB	**Poblet**	**0.85**	**11**	⇑Pg	Pg	08 13 10.4	-1.2
	SNR=18						
EPOB				Lg		08 13 21.9	
	30nm,0.1s,SNR=42						
EMOS	**Mosqueruela**	**1.03**	**262**	⇑Pg	Pg	08 13 13.4	-2.0
	19nm,0.3s,SNR=18						
EMOS				Lg		08 13 27.2	
	11nm,0.1s						
EMIR	**Miracle**	**1.48**	**19**	Pg	Pg	08 13 22.4	-1.9
	4.3nm,0.1s,SNR=8.0						
EMIR				Lg		08 13 42.7	
	13nm,0.2s						
EMIR	**Miracle**	**1.48**	**19**	Pg	Pg	08 13 22.4	-1.9
EMIR				Lg		08 13 39.6	
EIBI	**Ibiza**	**1.53**	**166**	Sn	Sn	08 13 40.1	-3.2
	5.0nm,0.2s,SNR=4.0						
ESAC	**San Caprasio**	**1.57**	**320**	Pg	Pg	08 13 23.2	-2.9
	24nm,0.2s,SNR=16						
ESAC				Lg		08 13 45.1	
	104nm,0.3s						
EGRA	**Graus**	**1.73**	**346**	Pg	Pg	08 13 25.4	-3.8
	3.4nm,0.2s,SNR=9.3						
EGRA				Lg		08 13 49.1	
	9.5nm,0.3s						
EBIE	**Bielsa**	**2.24**	**346**	Pn	Pn	08 13 31.6	-1.3
	0.1nm,0.1s,SNR=4.0						
EBIE				Pg	Pg	08 13 35.0	-4.3
	1.1nm,0.2s,SNR=7.9						
EBIE				Lg		08 14 05.2	
	2.9nm,0.3s						
ETOR	**Torete**	**2.25**	**279**	Pn	Pn	08 13 33.0	0.0
	0.3nm,0.2s,SNR=4.0						
ETOR				Pg	Pg	08 13 36.6	-2.9
	1.1nm,0.2s,SNR=9.8						
ETOR				Lg		08 14 04.1	
	4.3nm,0.2s,SNR=4.9						
EJON	**La Jonquera**	**2.46**	**37**	Pn	Pn	08 13 33.8	-2.2
	0.7nm,0.1s,SNR=7.9						
EJON				Sn	Sn	08 14 02.9	-3.9
	1.8nm,0.2s,SNR=7.9						
EJON				Lg		08 14 13.1	
	4.6nm,0.3s,SNR=7.9						
EPF	**Esparros**	**2.54**	**351**	*e*Pn	Pn	08 13 40.5	+3.2
EPF				*e*Sg	Sg	08 14 12.7	-6.7
	6.6nm,0.2s						
ETSF	**Etsaut**	**2.61**	**336**	*e*Pn	Pn	08 13 40.3	+2.0
ETSF				*e*Sg	Sg	08 14 13.6	-8.0
	7.7nm,0.3s						
MTLF	**Montolieu**	**3.00**	**19**	*e*Pn	Pn	08 13 47.9	+4.1
MTLF				*e*Sg	Sg	08 14 25.6	-8.8
	2.4nm,0.2s						
SJPF	**Ste Jean**	**3.03**	**330**	*e*Pn	Pn	08 13 49.6	+5.3
SJPF				*e*Sg	Sg	08 14 28.1	-7.5
	4.0nm,0.3s						
EALK	**Alkurruntz**	**3.23**	**327**	Pg	Pg	08 13 54.9	-4.3
	2.6nm,0.4s,SNR=7.9						
EALK				Lg		08 14 38.4	
	7.7nm,0.3s,SNR=7.9						
ELAN	**Lanestosa**	**4.21**	**312**	Pg	Pg	08 14 10.9	-7.7
	0.5nm,0.1s,SNR=4.0						
ELAN				Lg		08 15 08.0	
	2.8nm,0.3s,SNR=4.0						
CAF	**Calviac**	**4.49**	**11**	*e*Pn	Pn	08 14 07.6	+2.5

*NEIC **30** 08:36:45.7,38.97S×175.47E,h114km,After WEL.*
WEL 30 08:36:45.7±0.1**,38.98S×175.48E,h113**km±1km**,ML4.0/11, 5C-2D,Error ellipse: s-maj=1.1km s-min=0.7km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MGZ	**Maungaku**	**0.05**	**120**	P	P	08 37 01.3	0.0
MGZ	**Maungaku**	**0.05**	**120**	PN	P	08 37 01.2	-0.1
MGZ				SN	S	08 37 12.9	0.0
TWVZ	**Taurewa**	**0.10**	**201**	P	P	08 37 01.6	-0.3
TWVZ	**Taurewa**	**0.10**	**201**	PN	P	08 37 01.1	-0.3
TWVZ				SN	S	08 37 12.7	-0.4
WTVZ	**West Tongariro**	**0.16**	**150**	P	P	08 37 01.4	-0.1
WTVZ	**West Tongariro**	**0.16**	**150**	PN	P	08 37 01.3	-0.2
WTVZ				SN	S	08 37 13.0	-0.4
KATZ	**Kakaramea**	**0.16**	**90**	P	P	08 37 01.2	-0.3
KATZ	**Kakaramea**	**0.16**	**90**	PN	P	08 37 01.1	-0.3
KATZ				SN	S	08 37 13.5	+0.2
KAVZ	**Karewarewa**	**0.17**	**134**	P	P	08 37 01.5	0.0
KAVZ	**Karewarewa**	**0.17**	**134**	PN	P	08 37 01.5	0.0
NGZ	**Ngauruhoe**	**0.22**	**156**	P	P	08 37 01.5	-0.1
NGZ				P		08 37 01.7	
NGZ	**Ngauruhoe**	**0.22**	**156**	PN	P	08 37 01.6	0.0
NGZ				SN	S	08 37 13.0	-0.6
CNZ	**Chateau**	**0.23**	**167**	P	P	08 37 01.7	+0.1
CNZ	**Chateau**	**0.23**	**167**	PN	P	08 37 01.7	0.0
WPVZ	**Whakapapa**	**0.23**	**168**	P	P	08 37 01.7	0.0
WPVZ	**Whakapapa**	**0.23**	**168**	⇑PN	P	08 37 01.7	+0.1
WPVZ				SN	S	08 37 13.9	+0.2
RATZ	**Rangitukua**	**0.25**	**64**	P	P	08 37 01.4	-0.3
RATZ	**Rangitukua**	**0.25**	**64**	PN	P	08 37 01.3	-0.4
FWVZ	**Far West T-bar**	**0.28**	**169**	P	P	08 37 02.0	+0.2
FWVZ				S	S	08 37 14.3	+0.3
FWVZ	**Far West T-bar**	**0.28**	**169**	PN	P	08 37 01.7	-0.2
FWVZ				SN	S	08 37 13.2	-0.9
RITZ	**Rihia Road**	**0.29**	**90**	P	P

MSWZ	**Moikau Station**	**2.44**	**184**	P	P	08 37 22.9	-2.3
MSWZ	**Moikau Station**	**2.44**	**184**	PN	P	08 37 22.8	-2.3
BHW	**Baring Head**	**2.47**	**191**	P	P	08 37 23.2	-2.4
BHW	**Baring Head**	**2.47**	**191**	PN	P	08 37 23.1	-2.5
MXZ	**Matakaoa Point**	**2.63**	**58**	P	P	08 37 26.8	-0.9
MXZ	**Matakaoa Point**	**2.63**	**58**	PN	P	08 37 26.4	-1.3
NNZ	**Nelson**	**2.76**	**215**	P	P	08 37 26.8	-2.7
NNZ	**Nelson**	**2.76**	**215**	PN	P	08 37 26.8	-2.7
QRZ	**Quartz Range**	**2.93**	**230**	P	P	08 37 29.1	-2.6
QRZ	**Quartz Range**	**2.93**	**230**	PN	P	08 37 28.9	-2.9
BSWZ	**Blackbirch Sta**	**3.00**	**204**	P	P	08 37 29.7	-3.0
BSWZ	**Blackbirch Sta**	**3.00**	**204**	PN	P	08 37 29.6	-3.1
THZ	**Tophouse**	**3.41**	**214**	P	P	08 37 35.0	-3.2
THZ	**Tophouse**	**3.41**	**214**	PN	P	08 37 34.8	-3.4
KHZ	**Kahutara**	**3.74**	**203**	*e*P	P	08 37 39.0	-3.7
KHZ	**Kahutara**	**3.74**	**203**	PN	P	08 37 39.0	-3.7
DSZ	**Denniston Nort**	**3.94**	**224**	*e*P	P	08 37 41.7	-3.8
DSZ	**Denniston Nort**	**3.94**	**224**	PN	P	08 37 41.4	-4.1
LTZ	**Lake Taylor**	**4.51**	**212**	*e*P	P	08 37 48.4	-4.8
LTZ	**Lake Taylor**	**4.51**	**212**	PN	P	08 37 48.2	-5.0
MQZ	**McQueen's Vall**	**5.18**	**203**	*e*P	P	08 37 56.3	-5.9
MQZ	**McQueen's Vall**	**5.18**	**203**	PN	P	08 37 56.3	-5.9
RPZ	**Rata Peaks**	**5.79**	**214**	P	P	08 38 05.9	-4.5
RPZ	**Rata Peaks**	**5.79**	**214**	PN	P	08 38 05.7	-4.7
LBZ	**Lake Benmore**	**6.70**	**215**	*e*P	P	08 38 16.7	-6.3
ODZ	**Otahua Downs**	**7.05**	**209**	*e*P	P	08 38 21.8	-5.9
ODZ	**Otahua Downs**	**7.05**	**209**	PN	P	08 38 21.8	-6.0

*STR **30** 09:06:46.2±0.2, 44.40N×7.20E, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **30** 09:06:46.2±0.1, 44.39N×7.18E, h2km, Md2.0/1, Ml1.9/4, Error ellipse: s-maj=1.9km s-min=0.9km az=65.0*

ISC 30 09:06:45.8±0.6**, 44.37N**±0.03×**7.13E**±0.05**, h2**km**, n11,** σ**0**§**77**/20**, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SURF	**Saint Ours**	**0.25**	**296**	Pg	**Pg**	**09 06 52.0**	**+1.2**
SURF				Sg	**Sg**	**09 06 56.4**	**+2.3**
MBDF	**Montbardon**	**0.43**	**325**	*e*Pg	**Pg**	**09 06 54.7**	**+0.2**
MBDF				*e*Sg	**Sg**	**09 07 00.8**	**+0.5**
	9.1nm,0.2s						
AUTN	**L'Aution**	**0.44**	**150**	Pg	**Pg**	**09 06 54.7**	**+0.2**
AUTN				Sg	**Sg**	**09 07 00.7**	**+0.4**
AURF	**Auriere**	**0.51**	**163**	Pg	**Pg**	**09 06 56.2**	**+0.3**
AURF				Sg	**Sg**	**09 07 03.5**	**+0.8**
SBF	**Sospel**	**0.56**	**156**	*e*Pg	**Pg**	**09 06 56.9**	**0.0**
SBF				*e*Sg	**Sg**	**09 07 04.5**	**+0.1**
	6.8nm,0.3s						
FRF	**La Foret Royal**	**0.88**	**203**	*e*Pg	**Pg**	**09 07 03.4**	**0.0**
FRF				*e*Sg	**Sg**	**09 07 15.4**	**+0.2**
	2.3nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.04**	**302**	*e*Pg	**Pg**	**09 07 06.1**	**-0.5**
ORIF				*e*Sg	**Sg**	**09 07 19.7**	**-0.8**
	1.3nm,0.2s						
LMR	**La Mourre**	**1.13**	**203**	*e*Pg	**Pg**	**09 07 07.7**	**-0.7**
LMR				*e*Sg	**Sg**	**09 07 22.2**	**-1.3**
	2.6nm,0.2s						
LPG	**La Plagne**	**1.16**	**347**	*e*Pg	**Pg**	**09 07 08.0**	**-0.9**
LPL	**La Plagne**	**1.18**	**346**	*e*Pg	**Pg**	**09 07 08.2**	**-1.1**
SMRF	**Simiane la Rot**	**1.18**	**251**	*e*Pg	**Pg**	**09 07 09.1**	**-0.3**
SMRF				*e*Sg	**Sg**	**09 07 25.1**	**-0.1**
	3.0nm,0.3s						

*IDC **30** 09:28:05.4±1.5, 15.63S×174.04W, mb3.7/6, mb1 4.1/6, mb1mx4.0/13, Error ellipse: s-maj=104.0km s-min=19.9km az=148.0*
*NEIC **30** 09:28:19.7±1.4, 15.86S×174.05W, h120km±11km, mb4.1/1, Error ellipse: s-maj=61.9km s-min=9.5km az=149.0*

ISC 30 09:28:17.5±2.1**, 16.2S**±0.2×**173.9W**±0.1**, h120**km±19**km, n19,** σ**0**§**61/19, mb3.8/8, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.06**	**42**	*e*P	**P**	**09 29 05.3**	**-0.2**
MWZ	**Matawai**	**23.31**	**197**	S	**S**	**09 36 58.6**	**-17**
BFZ	**Birch Farm**	**25.85**	**197**	S	**S**	**09 37 53.9**	**-4.2**
MRZ	**Mangatainoka R**	**26.03**	**198**	S	**S**	**09 37 56.7**	**-4.4**
KIW	**Kapiti Island**	**26.42**	**199**	S	**S**	**09 38 06.8**	**-0.7**
MTW	**Mount Morrison**	**26.51**	**198**	S	**S**	**09 38 09.1**	**+0.2**
NNZ	**Nelson**	**27.25**	**201**	S	**S**	**09 38 28.4**	**+7.5**
STKA	**Stephens Creek**	**43.23**	**241**	P	**P**	**09 36 10.0**	**+1.4**
	2.5nm,0.8s,mb4.0,baz=88,slow=5.3,SNR=5.5						
STKA	**Stephens Creek**	**43.23**	**241**	*e*P	**P**	**09 36 09.3**	**+0.7**
STKA				P		09 36 10.0	
WB2	**Warramunga Arr**	**49.20**	**257**	*e*P	**P**	**09 36 55.6**	**-0.1**
WRAB	**Tennant Creek**	**49.20**	**257**	*e*P	**P**	**09 36 55.4**	**-0.4**
	2.1nm,0.7s,mb4.2						
WRA	**Warramunga Arr**	**49.21**	**257**	P	**P**	**09 36 55.2**	**-0.6**
	0.9nm,0.6s,mb3.9,baz=94,slow=6.4,SNR=29						
ASAR	**Alice Springs**	**49.42**	**253**	P	**P**	**09 36 57.7**	**+0.3**
	13nm,0.6s,mb5.0,baz=86,slow=7.9,SNR=203						
ASPA	**Alice Springs**	**49.43**	**253**	*e*P	**P**	**09 36 57.6**	**+0.2**
NVAR	**Mina Array Bea**	**75.23**	**42**	P	**P**	**09 39 48.5**	**-0.5**
	0.5nm,0.7s,mb3.3,baz=219,slow=6.6,SNR=3.5						
NVAR	**Mina Array Bea**	**75.23**	**42**	P	**P**	**09 39 48.5**	**-0.5**
TXAR	**Lajitas Array**	**81.44**	**56**	P	**P**	**09 40 24.1**	**+1.0**
	0.2nm,0.8s,mb3.0,baz=225,slow=6.4,SNR=3.6						
PDAR	**Pinedale Array**	**83.17**	**42**	P	**P**	**09 40 31.7**	**+0.1**
	0.6nm,0.6s,mb3.6,baz=249,slow=2.3,SNR=5.8						
ILAR	**Eielson Array**	**83.32**	**11**	P	**P**	**09 40 31.4**	**-0.5**
	0.2nm,0.8s,mb3.0,baz=227,slow=6.9,SNR=3.8						

*BJI **30** 09:43:09.9, 0.22N×128.12E, h38km, mB5.0, mb4.7, Ms4.4, Ms4.0*
*SYO **30** 09:43:12.6, 0.84N×127.71E, h10km, MB4.7*
*NEIC **30** 09:43:13.2±0.4, 0.90N×127.68E, h10km, mb4.7/14, Error ellipse: s-maj=19.7km s-min=6.8km az=80.0*
*IDC **30** 09:43:17.1±6.0, 0.87N×127.61E, h34km±46km, mb4.3/7, mb1 4.4/9, mb1mx4.1/18, ML3.6/1, MS3.3/2, Ms1 3.3/2, ms1mx2.8/25, Error ellipse: s-maj=55.5km s-min=11.7km az=70.0*

ISC 30 09:43:17.8±5.2**, 0.84N**±0.06×**127.7E**±0.1**, h63**km±51**km, n44,** σ**0**§**88/43, mb4.6/25, 2C-1D, Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.93**	**186**	*e*P	**P**	**09 47 36.0**	**-0.4**
	4.2nm,0.8s						
FITZ	**Fitzroy Crossi**	**18.93**	**186**	P	**P**	**09 47 34.2**	**-2.2**
	0.1nm,0.3s,baz=23,slow=12,SNR=6.8						
FITZ				LR	LR	09 55 30.8	
	comp=Z,51nm,18.9s,baz=37,slow=39						
WRAB	**Tennant Creek**	**21.65**	**163**	*e*P	**P**	**09 48 04.2**	**-0.5**
	70nm,0.9s,mb5.1						
WRA	**Warramunga Arr**	**21.66**	**163**	P	**P**	**09 48 05.3**	**+0.5**
	29nm,0.8s,mb4.7,baz=340,slow=11,SNR=109						
WRA				S	**S**	**09 52 04.9**	**+9.2**
	1.1nm,1.0s,baz=336,slow=23,SNR=4.6						
WB2	**Warramunga Arr**	**21.66**	**163**	*e*P	**P**	**09 48 05.3**	**+0.5**
MBWA	**Marble Bar**	**23.21**	**199**	*e*P	**P**	**09 48 18.5**	**-1.6**
	23nm,1.1s,mb4.5						
ASPA	**Alice Springs**	**25.09**	**166**	*e*P	**P**	**09 48 40.9**	**+2.5**
ASAR	**Alice Springs**	**25.09**	**166**	P	**P**	**09 48 39.2**	**+0.9**
	31nm,0.9s,mb4.8,baz=344,slow=9.2,SNR=77						
CTA	**Charters Tower**	**27.63**	**140**	LR	LR	10 01 08.8	
	comp=Z,125nm,20.0s,baz=230,slow=39						
CMAR	**Chiang Mai Arr**	**33.21**	**304**	P	**P**	**09 49 51.1**	**+0.1**
	1.1nm,0.6s,mb4.0,baz=129,slow=8.2,SNR=10						
KLBR	**Kellerberrin**	**33.60**	**195**	*e*P	**P**	**09 49 53.8**	**-0.5**
	52nm,1.3s,mb5.3						
ENH	**Enshi**	**34.00**	**331**	*e*P	**P**	**09 49 57.9**	**+0.1**
	10.0nm,0.8s,mb4.8						
NWAO	**Narrogin (SRO)**	**35.01**	**195**	P	**P**	**09 50 06.4**	**+0.1**
	8.3nm,0.9s,mb4.7,baz=323,slow=10,SNR=2.7						
NWAO	**Narrogin (SRO)**	**35.01**	**195**	P	**P**	**09 50 05.7**	**-0.7**
	41nm,1.3s,mb5.2						
STKA	**Stephens Creek**	**35.10**	**159**	*e*P	**P**	**09 50 08.1**	**+0.9**
	6.8nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**35.10**	**159**	P	**P**	**09 50 08.3**	**+1.1**
	7.2nm,0.8s,mb4.6,baz=333,slow=8.1,SNR=12						
KS15	**Wonju Array Si**	**36.42**	**0**	*e*P	**P**	**09 50 18.4**	**+0.1**
MAJO	**Matsushiro**	**36.84**	**14**	*e*P	**P**	**09 50 18.7**	**-3.1**
	9.7nm,0.8s,mb4.7						
MAT	**Matsushiro**	**36.84**	**14**	P	**P**	**09 50 19.5**	**-2.3**
MAT	**Matsushiro**	**36.84**	**14**	*e*P	**P**	**09 50 20.0**	**-1.8**
	10nm,0.9s,mb4.7						
XAN	**Xi'an**	**37.42**	**334**	P	**P**	**09 50 26.8**	**+0.1**
XAN					AMB	AMB	
	comp=Z,19nm,0.9s,mb4.9						
CD2	**Chengdu**	**37.54**	**325**	*e*P	**P**	**09 50 28.3**	**+0.6**
CD2					AMB	AMB	
	comp=Z,10.0nm,1.2s,mb4.4						
BJT	**Baijiatuan**	**40.38**	**346**	*e*P	**P**	**09 50 51.0**	**-0.2**
	comp=Z,9.9nm,0.9s,mb4.5						
BJI	**Beijing**	**40.40**	**346**	*e*P	**P**	**09 50 51.5**	**+0.1**
BJI					AMB	AMB	
	comp=Z,10.0nm,0.8s,mb4.6						
BJI					LR	LR	
	comp=N,153nm,20.6s						
BJI					LR	LR	
	comp=E,118nm,16.8s						
BJI					LR	LR	
	comp=Z,118nm,24.8s						
LZH	**Lanzhou**	**41.47**	**330**	*e*P	**P**	**09 51 01.5**	**+1.3**
LZH					AP	pP	09 51 08.5	-7.8
LZH					XP	sP	09 51 12.5	-11
LZH					AMB	AMB		
	comp=Z,47nm,1.5s,mb4.9						
LZH					AMB	AMB		
	comp=Z,132nm,4.3s						
LZH					LR	LR		
	comp=N,179nm,16.7s						
LZH					LR	LR		
	comp=Z,269nm,18.4s						
SHL	**Shillong**	**42.39**	**308**	*e*	**P**	**09 51 08.5**	**+0.6**
MDJ	**Mudanjiang**	**43.62**	**2**	P	**P**	**09 51 18.5**	**+0.8**
MDJ					AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.4						
MDJ					AMB	AMB		
	comp=Z,60nm,5.2s						
MDJ	**Mudanjiang**	**43.62**	**2**	*e*P	**P**	**09 51 18.5**	**+0.8**
	comp=Z,12nm,1.0s,mb4.6						
GTA	**Gaotai**	**46.06**	**330**	P	**P**	**09 51 38.3**	**+1.0**
GTA					AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.4						
SONM	**Songino Array**	**50.33**	**341**	P	**P**	**09 52 10.5**	**+0.2**
	comp=Z,2.4nm,1.0s,mb4.2,baz=150,slow=6.8,SNR=6.7						
HYB	**Hyderabad**	**51.04**	**292**	*i* P	**P**	**09 52 16.0**	**-0.1**
HYB	**Hyderabad**	**51.04**	**292**	*e*P	**P**	**09 52 16.0**	**-0.1**
WMQ	**Urumqi**	**55.64**	**326**	*e*P	**P**	**09 52 50.3**	**+0.6**
WMQ					AMB	AMB		
	comp=Z,11nm,1.0s,mb4.8						
YAK	**Yakutsk**	**61.05**	**1**	*e*P	**P**	**09 53 26.8**	**-0.4**
AAK	**Ala-Archa**	**63.14**	**319**	*e*P	**P**	**09 53 41.4**	**-0.1**
ZAL	**Zalesovo**	**63.59**	**333**	P	**P**	**09 53 43.6**	**-0.6**
	comp=Z,3.8nm,1.2s,mb4.3,baz=235,slow=14,SNR=2.0						
KURK	**Kurchatov**	**64.68**	**328**	*e*P	**P**	**09 53 50.6**	**-0.7**
	comp=Z,15nm,0.9s,mb5.0						
BVAR	**Borovoye Array**	**70.26**	**327**	P	**P**	**09 54 26.0**	**-0.2**
	comp=Z,1.6nm,0.6s,mb4.1,baz=121,slow=8.6,SNR=11						
BRVK	**Borovoye**	**70.33**	**327**	*e*P	**P**	**09 54 26.4**	**-0.3**
	comp=Z,9.0nm,0.9s,mb4.7						
VNDA	**Vanda**	**80.46**	**173**	*e*P	**P**	**09 55 23.4**	**-0.5**
	comp=Z,1.4nm,0.8s,mb3.9						
SYO	**Syowa Base**	**90.09**	**201**	⇑P	**P**	**09 56 08.0**	**-3.7**
SYO	**Syowa Base**	**90.09**	**201**	⇑P	**P**	**09 56 11.8**	**+0.1**
SYO	**Syowa Base**	**90.09**	**201**	⇓PcP	PcP	09 56 13.7	+0.5
IKB	**Inuvik**	**92.48**	**22**	*e*P	**P**	**09 56 28.0**	**+5.2**

*SYO **30** 09:55:23.3, 8.65S×112.56E, h9km, MB5.1*
*MOS **30** 09:55:25.9±0.9, 8.44S×112.62E, h33km, mb5.2/17, Error ellipse: s-maj=28.5km s-min=11.7km az=116.7*
*DJA **30** 09:55:30.8±0.6, 9.14S×112.54E, h84km±13km, mb5.6/2, MD4.7/7, Error ellipse: s-maj=38.9km s-min=7.2km az=178.0*
*IDC **30** 09:55:32.0±0.6, 8.55S×112.57E, h70km±5km, mb4.4/10, mb1 4.5/13, mb1mx4.4/17, MS3.8/12, Ms1 3.8/12, ms1mx3.7/18, Error ellipse: s-maj=20.9km s-min=11.8km az=63.0*
*BJI **30** 09:55:32.0, 8.60S×112.60E, h81km, mB5.2, mb4.9, Ms4.6, Ms4.0*
*HRVD **30** 09:55:33.0±0.5, 9.00S×112.49E, h81km±3km, MW4.9/43, Centroid moment Tensor Solution. LP body waves: s22,c29;Mantle waves: s43,c63; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.48±.15; $M_{\theta\theta}$-2.67±.12; $M_{\phi\phi}$1.20±.17; $M_{r\theta}$0.73±.09; $M_{r\phi}$0.58±.13; $M_{\theta\phi}$0.38±.11; Best double couple: M_o2.39×10^{16} NP1:ϕ_s312°, δ48°, λ142°. NP2:ϕ_s69°, δ63°, λ49°. Principal axes: T 1.93, Plg53°, Azm289°; N .94, Plg36°, Azm91°; P -2.86, Plg9°, Azm187°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **30** 09:55:33.0±0.7, 8.59S×112.57E, h81km±6km, mb4.9/19 Error ellipse: s-maj=8.9km s-min=5.8km az=224.0*
NEIC Felt [III] at Karangkates.

ISC 30 09:55:30.6±0.2**, 8.49S**±0.05×**112.54E**±0.05**, h72**km**, h72**km±2.3km**, pP-P, n159,** σ**1**§**07/116, mb4.9/49, 10C-14D, Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRDI	**Scrawed**	**1.58**	**90**⇑	*e*P	**P**	**09 55 59.3**	**+2.0**
	5μm,0.2s						
KELI	**Kelakatan**	**1.95**	**82**⇓	*e*P	**P**	**09 56 06.1**	**+3.9**
	5μm,0.3s						
RATI	**Rata**	**2.97**	**95**⇓	*e*P	**P**	**09 56 18.0**	**+1.5**
	6μm,0.2s						
KEDI	**Kedomdong**	**3.53**	**90**⇓	*i*P	**P**	**09 56 24.8**	**+0.4**
	1μm,0.2s						
PASI	**Pasiripis**	**7.12**	**284**⇓	*i*P	**P**	**09 57 15.7**	**+1.5**
	686nm,0.2s						
PENI	**Pendagan**	**7.87**	**291**⇓	*e*P	**P**	**09 57 28.9**	**+4.4**
BUNI	**Buntu Taipa**	**9.10**	**59**⇑	*i*P	**P**	**09 57 45.9**	**+4.6**
	129nm,0.2s						
MBWA	**Marble Bar**	**14.38**	**152**	*e*P	**P**	**09 58 44.1**	**-7.9**
	37nm,0.7s						
COCO	**West Island**	**15.88**	**255**	*e*P	**P**	**09 59 06.6**	**-4.6**
FITZ	**Fitzroy Crossi**	**15.92**	**128**	*e*P	**P**	**09 59 08.3**	**-3.3**
	18nm,0.9s						
FITZ				*e*S	Sx	10 01 50.3	
FITZ	**Fitzroy Crossi**	**15.92**	**128**	P	**P**	**09 59 07.3**	**-4.4**
	1.0nm,0.3s,baz=294,slow=2.7,SNR=47						
FITZ				S	Sx	10 01 53.9	
	2.1nm,0.3s,baz=185,slow=17,SNR=5.6						
FITZ				LR	LR	10 05 27.8	
	comp=Z,120nm,20.2s,baz=294,slow=38						
KAKA	**Kakadu**	**19.96**	**104**	*e*P	**P**	**10 00 02.1**	**+2.6**
	16nm,0.6s						
KLBR	**Kellerberrin**	**23.50**	**169**	*e*P		10 00 45.3	
	27nm,1.1s						
MUN	**Mundaring**	**23.62**	**172**	*e*P		10 00 48.1	
	63nm,0.8s						
WRA	**Warramunga Arr**	**23.97**	**121**	P	**P**	**10 00 38.7**	**-0.6**
	9.4nm,0.6s,mb4.3,baz=296,slow=11,SNR=62						
WRA				PcP	PcP	10 04 20.6	-0.9
	1.3nm,0.5s,baz=302,slow=1.8,SNR=5.6						
WRA				S	**S**	**10 04 48.6**	**+0.7**
	2.4nm,1.1s,baz=290,slow=17,SNR=3.4						
WRA				LR	LR	10 10 16.7	
	comp=Z,90nm,18.4s,baz=350,slow=37						
WRA	**Warramunga Arr**	**23.97**	**121**	P	**P**	**10 00 38.7**	**-0.6**
WRA						10 04 20.6	
WRA				S	**S**	**10 04 48.6**	**+0.7**
WRA				pmax	pmax		
	comp=Z,9.0nm,0.6s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA				smax			
	comp=N,2.0nm,1.1s						
WRA				MLR	MLR		
	comp=Z,90nm,18.4s						
WRAB	**Tennant Creek**	**23.97**	**121**	*e*P	**P**	**10 00 38.0**	**-1.3**
	comp=Z,22nm,0.9s,mb4.5						
WB2	**Warramunga Arr**	**23.98**	**121**⇓	*i*P	**P**	**10 00 39.2**	**-0.2**
WB2				*e*S	Sx	10 05 02.5	
ASPA	**Alice Springs**	**25.42**	**129**	*e*P	**P**	**10 00 52.9**	**-0.4**
ASPA				*e*S	Sx	10 05 38.4	
ASAR	**Alice Springs**	**25.42**	**129**	P	**P**	**10 00 52.2**	**-1.1**
	comp=Z,19nm,0.9s,mb4.5,baz=301,slow=8.8,SNR=58						
ASAR				PcP	PcP	10 04 23.9	-0.6
	comp=Z,3.5nm,0.8s,baz=300,slow=1.3,SNR=8.6						
ASAR				ScP		10 07 54.9	
	comp=Z,1.4nm,0.8s,baz=313,slow=2.5,SNR=6.1						
ASAR				LR	LR	10 11 36.7	
	comp=Z,80nm,20.0s,baz=313,slow=38						
FORT	**Forrest**	**26.49**	**149**	*e*P	**P**	**10 01 02.3**	**-0.9**
	comp=Z,148nm,0.8s,mb5.5						
CM31	**Chiang Mai Arr**	**29.95**	**333**	*e*P	**P**	**10 01 34.1**	**-0.2**
CMAR	**Chiang Mai Arr**	**29.95**	**333**	P	**P**	**10 01 35.5**	**+1.1**
	comp=Z,6.1nm,0.9s,mb4.2,baz=167,slow=8.1,SNR=34						
CMAR				sP	pP	10 01 58.0	+6.4
	comp=Z,3.3nm,0.7s,baz=169,slow=7.9,SNR=2.9						
CMAR				PcP	PcP	10 04 36.5	+1.1
	comp=Z,3.3nm,0.7s,baz=194,slow=2.8,SNR=9.4						
CMAR				LR	LR	10 16 02.5	
	comp=Z,127nm,18.8s,baz=150,slow=41						
CMAR	**Chiang Mai Arr**	**29.95**	**333**	P	**P**	**10 01 35.5**	**+1.1**
CMAR						10 04 36.6	
CMAR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CMAR				MLR	MLR		
	comp=Z,127nm,18.8s						
CMAR	**Chiang Mai Arr**	**29.95**	**333**	P	**P**	**10 01 35.5**	**+1.1**
CMAR				sP	pP	10 01 58.0	+6.4
CMAR				PcP	PcP	10 04 36.5	+1.1
CMAR				LR	LR	10 16 02.5	
CTA	**Charters Tower**	**34.57**	**113**	LR	LR	10 16 08.5	
	comp=Z,95nm,18.7s,baz=223,slow=36						
KMI	**Kunming**	**34.74**	**344**	*e*P	**P**	**10 02 17.8**	**+1.8**
KMI					LR	LR		
	comp=Z,119nm,25.5s						
GYA	**Guiyang**	**35.20**	**351**	P	**P**	**10 02 22.5**	**+2.6**
GYA					AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
PALK	**Pallekele**	**35.39**	**295**	*e*P	**P**	**10 02 21.4**	**-0.2**
	comp=Z,16nm,1.1s,mb4.8						
STKA	**Stephens Creek**	**35.64**	**135**	*e*P	**P**	**10 02 22.7**	**-0.8**
	comp=Z,20nm,0.9s,mb5.0						
STKA				*e*		10 04 50.6	
STKA	**Stephens Creek**	**35.64**	**135**	P	**P**	**10 02 22.8**	**-0.8**
	comp=Z,24nm,0.8s,mb5.2,baz=315,slow=8.2,SNR=42						
STKA				PcP	PcP	10 04 50.6	-0.4
	comp=Z,6.5nm,0.5s,baz=328,slow=5.4,SNR=6.1						
STKA				LR	LR	10 17 42.9	
	comp=Z,340nm,20.0s,baz=232,slow=37						
JOW	**Kunigami**	**38.28**	**23**	P	**P**	**10 02 46.5**	**+0.8**
	comp=Z,30nm,0.8s,mb5.2,baz=180,slow=9.6,SNR=4.1						
ENH	**Enshi**	**38.65**	**356**	P	**P**	**10 02 49.6**	**+0.8**
SHL	**Shillong**	**39.37**	**330**	*e*P	**P**	**10 02 56.0**	**+1.2**
NJ2	**Nanjing**	**40.76**	**8**	*e*P	**P**	**10 03 04.0**	**-2.2**
NJ2					AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9						
NJ2					AMB	AMB		
	comp=Z,440nm,4.5s						
NJ2					LR	LR		
	comp=N,410nm,24.9s						
NJ2					LR	LR		
	comp=E,300nm,25.3s						
NJ2					LR	LR		
	comp=Z,530nm,25.8s						
GUN	**Gumba**	**44.43**	**325**	*e*P	**P**	**10 03 36.7**	**+0.4**
	comp=Z,33nm,0.7s,mb5.2						
PKI	**Pulchoki**	**44.44**	**325**	*e*P	**P**	**10 03 35.9**	**-0.5**
DMN	**Daman**	**44.64**	**324**	*e*P	**P**	**10 03 37.6**	**-0.4**
	comp=Z,30nm,0.8s,mb5.1						
KKN	**Kakani**	**44.68**	**325**	*e*P	**P**	**10 03 38.0**	**-0.3**
LZH	**Lanzhou**	**45.08**	**350**	*e*P	**P**	**10 03 43.0**	**+1.6**
LZH				PCP	PcP	10 05 22.5	+1.0
LZH				AMB	AMB		
	comp=Z,38nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,170nm,4.0s						
GKN	**Gorkha**	**45.21**	**324**	*e*P	**P**	**10 03 42.0**	**-0.5**
	comp=Z,9.9nm,0.2s,mb5.1						
KOLN	**Koldanda**	**45.64**	**323**	*e*P	**P**	**10 03 45.0**	**-0.9**
	comp=Z,23nm,0.7s,mb5.0						
KS15	**Wonju Array Si**	**47.89**	**16**	P	**P**	**10 04 03.9**	**+0.4**
BJT	**Baijiatuan**	**48.38**	**4**	*e*P	**P**	**10 04 08.3**	**+1.1**
	comp=Z,14nm,1.0s,mb4.8						
BJI	**Beijing**	**48.40**	**4**	*e*P	**P**	**10 04 07.8**	**+0.4**
BJI					AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
BJI					LR	LR		
	comp=N,153nm,20.6s						
BJI					LR	LR		
	comp=E,118nm,17.0s						
BJI					LR	LR		
	comp=Z,118nm,24.8s						
GTA	**Gaotai**	**49.09**	**347**	P	**P**	**10 04 14.3**	**+1.6**
GTA					AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.6						
MAT	**Matsushiro**	**50.87**	**27**	P	**P**	**10 04 24.7**	**-1.7**
MAT	**Matsushiro**	**50.87**	**27**	*e*P	**P**	**10 04 25.0**	**-1.4**
CN2	**Changchun**	**53.34**	**12**	*e*P	**P**	**10 04 42.5**	**-2.3**
CN2					AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
MDJ	**Mudanjiang**	**55.05**	**15**	*e*P	**P**	**10 04 56.5**	**-0.8**
	comp=Z,22nm,1.0s,mb5.1						
SONM	**Songino Array**	**56.34**	**355**	P	**P**	**10 05 06.0**	**-0.4**
	comp=Z,4.3nm,0.8s,mb4.5,baz=172,slow=8.3,SNR=23						
SONM				pP	pP	10 05 25.7	+0.5
	comp=Z,2.9nm,0.9s,baz=173,slow=10.0,SNR=3.1						
SONM	

UMR	**Umm Al-Rimmam**	**72.86**	**304**	*e*P		**P**	**10 06 52.7**	**-1.2**
UMR					AMb	AMB	10 06 53.8	
	comp=Z,36nm,0.7s,mb5.3							
MZLS	**Mizel**	**73.19**	**298**	P		**P**	**10 06 55.3**	**-0.7**
RST	**Umm Al-Ruwaisa**	**73.43**	**304**	*e*P		**P**	**10 06 55.2**	**-2.1**
RST					AMb	AMB	10 06 56.6	
	comp=Z,55nm,0.8s,mb5.4							
TATS	**Tathlith**	**73.47**	**293**	P		**P**	**10 06 57.5**	**-0.1**
VNDA	**Vanda**	**73.54**	**170**	LR		LR	10 36 14.9	
	comp=Z,120nm,20.3s,baz=328,slow=33							
NAMS	**An Nimas**	**74.53**	**293**	P		**P**	**10 07 04.6**	**+0.8**
AFFS	**'Afif**	**75.09**	**297**	P		**P**	**10 07 06.7**	**-0.3**
BLJS	**Baljurashi**	**75.26**	**293**	P		**P**	**10 07 08.9**	**+0.9**
KMBO	**Kilima Mbogo**	**75.29**	**271**	P		**P**	**10 07 09.0**	**+0.7**
	comp=Z,5.4nm,0.8s,mb4.3,baz=56,slow=6.6,SNR=14							
KMBO					pP	pP	10 07 28.8	+0.9
	comp=Z,2.3nm,0.8s,baz=50,slow=4.5,SNR=3.3							
KMBO	**Kilima Mbogo**	**75.29**	**271**	*e*P		**P**	**10 07 08.9**	**+0.6**
	comp=Z,6.0nm,0.8s,mb4.4							
ARSS	**Ar Rass**	**75.45**	**299**	P		**P**	**10 07 08.5**	**-0.5**
SYO	**Syowa Base**	**76.04**	**201**	⇓P		**P**	**10 07 10.1**	**-1.4**
SYO	**Syowa Base**	**76.04**	**201**	⇑pP		pP	10 07 17.0	-14
SYO	**Syowa Base**	**76.04**	**201**	⇑PcP		PcP	10 07 24.8	+1.0
HILS	**Ha'il**	**77.12**	**301**	P		**P**	**10 07 18.7**	**+0.3**
SVE	**Sverdlovsk**	**77.70**	**334**	⇑*e*P		**P**	**10 07 20.7**	**-0.3**
SVE					pmax	pmax		
	comp=Z,40nm,1.5s,mb4.9							
ARU	**Arti**	**78.39**	**333**	⇑*i*P		**P**	**10 07 24.0**	**-0.7**
ARU				*e*			10 07 32.5	
ARU				*e*			10 10 20.6	
ARU					pmax	pmax		
	comp=Z,16nm,1.1s,mb4.7							
KBRS	**Khaybar**	**78.86**	**298**	P		**P**	**10 07 28.6**	**+0.6**
YNBS	**Yanbu' al Bahr**	**79.61**	**297**	P		**P**	**10 07 33.0**	**+0.8**
UMJS	**Umm Lajj**	**80.43**	**297**	P		**P**	**10 07 36.7**	**+0.4**
ZEI	**Tsey**	**80.44**	**316**	*e*P		**P**	**10 07 36.7**	**+0.5**
ZEI				*i*			10 10 41.7	
ZEI					pmax	pmax		
	comp=Z,11nm,0.8s,mb4.7							
TIXI	**Tiksi**	**80.70**	**5**	⇑*i*P		**P**	**10 07 36.0**	**-1.0**
TIXI					pmax	pmax		
	comp=Z,31nm,1.1s,mb5.0							
QSPA	**South Pole Qui**	**81.51**	**180**	*e*P		**P**	**10 07 40.8**	**-0.3**
	comp=Z,8.3nm,1.1s,mb4.5							
KIV	**Kislovodsk**	**81.69**	**317**	*i* P		**P**	**10 07 43.2**	**+0.5**
KIV					pmax	pmax		
	comp=Z,17nm,1.0s,mb4.8							
KIV	**Kislovodsk**	**81.69**	**317**	*e*P		**P**	**10 07 43.8**	**+1.2**
	comp=Z,19nm,1.0s,mb4.9							
GOF	**Gofitskoye**	**81.84**	**318**	⇓*i*P		**P**	**10 07 45.0**	**+1.6**
GOF					pmax	pmax		
	comp=Z,34nm,1.4s,mb5.0							
LSZ	**Lusaka**	**82.40**	**256**	*e*P		**P**	**10 07 47.2**	**+0.3**
	comp=Z,12nm,0.8s,mb4.8							
JMQS	**Jabal Moqyreh**	**82.55**	**301**	P		**P**	**10 07 48.4**	**+1.0**
AYUS	**'Aynunah**	**82.91**	**300**	P		**P**	**10 07 50.1**	**+0.9**
MALT	**Malatya**	**82.97**	**310**	*e*P		**P**	**10 07 50.0**	**+0.7**
	comp=Z,14nm,1.1s,mb4.7							
HAQS	**Haql**	**83.40**	**301**	P		**P**	**10 07 52.7**	**+1.0**
EIL	**Elat**	**83.52**	**301**	*e*P		**P**	**10 07 52.8**	**+0.4**
	comp=Z,27nm,1.0s,mb5.0							
SOC	**Sochi**	**83.60**	**316**	*e*P		**P**	**10 07 52.7**	**+0.3**
SOC				*e*			10 08 02.8	
SOC				*e*			10 11 06.9	
SOC					pmax	pmax		
	comp=Z,30nm,1.0s,mb5.1							
SOC					pmax	pmax		
	comp=N,12nm,0.6s							
SOC					pmax	pmax		
	comp=E,4.0nm,0.3s							
ANN	**Anapa**	**85.53**	**316**	*e*P		**P**	**10 08 03.8**	**+1.8**
ANN					pmax	pmax		
	comp=Z,39nm,0.9s,mb5.3							
BRTR	**Keskin Array B**	**86.93**	**311**	P		**P**	**10 08 09.2**	**+0.2**
	comp=Z,12nm,0.9s,mb4.8,baz=127,slow=6.2,SNR=66							
BRTR					pP	pP	10 08 28.4	-0.7
	comp=Z,3.2nm,0.9s,baz=101,slow=6.3,SNR=3.7							
BRTR	**Keskin Array B**	**86.93**	**311**	P		**P**	**10 08 09.3**	**+0.3**
BRTR					pmax	pmax		
	comp=Z,12nm,0.9s							
BRTR					pmax	pmax		
	comp=Z,3.0nm,0.9s							
OBN	**Obninsk**	**88.98**	**326**	*i*P		**P**	**10 08 18.9**	**+0.5**
OBN					pmax	pmax		
	comp=Z,46nm,1.3s,mb5.3							
SNAA	**Sanae**	**89.72**	**197**	⇑*i*P		**P**	**10 08 22.1**	**+0.6**
SNAA				*e*		pP	10 08 41.8	+0.1
VNA2	**Neumayer--Watz**	**91.37**	**197**	⇑*i*P		**P**	**10 08 32.1**	**+2.8**
VNA2				*e*		pP	10 08 52.3	+2.8
VNA1	**Neumayer--Stat**	**91.75**	**197**	⇓*i*P		**P**	**10 08 34.3**	**+3.2**
VNA1				*e*		pP	10 08 54.2	+2.9
VNA3	**Neumayer Olymp**	**91.83**	**196**	⇓*i*P		**P**	**10 08 34.0**	**+2.6**
VNA3				*e*		pP	10 08 53.9	+2.3
AKASG	**Malin Array Be**	**92.29**	**321**	P		**P**	**10 08 33.3**	**-0.6**
	comp=Z,3.3nm,0.7s,mb4.7,baz=84,slow=4.4,SNR=16							
AKASG	**Malin Array Be**	**92.29**	**321**	P		**P**	**10 08 33.3**	**-0.6**
AKASG					pmax	pmax		
	comp=Z,3.0nm,0.7s							
ARCES	**ARCESS Array B**	**96.85**	**339**	LR		LR	10 54 44.2	
	comp=Z,61nm,21.5s,baz=52,slow=37							
YKA	**Yellowknife Ar**	**116.25**	**22**	PKP		PKPdf	10 14 06.7	+1.3
	comp=Z,1.8nm,0.8s,baz=322,slow=2.6,SNR=3.8							
YKA	**Yellowknife Ar**	**116.25**	**22**	PKIKP		PKPdf	10 14 06.7	+1.3
YKA					pmax	pmax		
	comp=Z,2.0nm,0.8s							
YKA	**Yellowknife Ar**	**116.25**	**22**	PKP		PKPdf	10 14 06.7	+1.3
DBIC	**Dimbokro**	**117.97**	**273**	PKP		PKPdf	10 14 10.9	+1.0
	comp=Z,3.4nm,0.9s,baz=169,slow=2.6,SNR=3.5							
DBIC	**Dimbokro**	**117.97**	**273**	PKIKP		PKPdf	10 14 10.9	+1.0
DBIC					pmax	pmax		
	comp=Z,3.0nm,0.9s							
NVAR	**Mina Array Bea**	**125.54**	**48**	PKP		PKPdf	10 14 27.2	+3.1
	comp=Z,2.1nm,0.9s,baz=240,slow=0.8,SNR=13							
MNV	**Mina**	**125.65**	**48**	*e*P		PKPdf	10 14 27.2	+2.9
TPNV	**Topopah Spring**	**127.58**	**50**	*e*PKPdf		PKPdf	10 14 29.7	+1.6
DUG	**Dugway**	**128.81**	**44**	*e*PKPdf		PKPdf	10 14 33.6	+3.3
PDAR	**Pinedale Array**	**129.77**	**40**	PKP		PKPdf	10 14 35.0	+2.9
	comp=Z,0.8nm,0.9s,baz=270,slow=4.4,SNR=4.6							
PV01	**Paradox Valley**	**132.68**	**45**	*e*PKPdf		PKPdf	10 14 40.8	+3.1
TXAR	**Lajitas Array**	**140.21**	**54**	PKhKP			10 14 45.2	
	comp=Z,0.5nm,0.7s,baz=239,slow=3.3,SNR=7.1							
TXAR					PKP	PKPdf	10 14 55.1	+3.4
	comp=Z,0.5nm,0.7s,SNR=5.2							
JCT	**Junction City**	**142.70**	**50**	*e*PKPdf		PKPdf	10 14 56.2	0.0
CPUP	**Villa Florida**	**144.02**	**196**	PKP		PKPdf	10 14 58.6	+0.2
	comp=Z,6.1nm,0.9s,baz=137,slow=2.2,SNR=8.7							
CPUP	**Villa Florida**	**144.02**	**196**	PKIKP		PKPdf	10 14 58.7	+0.2
CPUP					pmax	pmax		
	comp=Z,6.0nm,0.9s							
MIAR	**Mount Ida**	**144.68**	**39**	*e*PKPdf		PKPdf	10 15 00.3	+0.9
ALLY	**Alegheny Colle**	**145.12**	**17**	*e*PKPdf		PKPdf	10 15 01.0	+1.0
UALR	**University of**	**145.28**	**37**	*e*PKPdf		PKPdf	10 15 01.9	+1.4
PARMO	**Parma**	**145.40**	**32**	*e*PKPdf		PKPdf	10 15 02.3	+1.6
USIN	**University of**	**145.44**	**29**	*e*PKPdf		PKPdf	10 15 02.1	+1.5
ACSO	**Alum Creek Sta**	**145.49**	**21**	*e*PKPdf		PKPdf	10 15 02.5	+1.8
BINY	**Binghamton**	**145.59**	**11**	*e*PKPdf		PKPdf	10 15 03.1	+2.3
WCI	**Wyandotte Cave**	**145.86**	**27**	*e*PKPdf		PKPdf	10 15 03.7	+2.3
SSPA	**Standing Stone**	**146.67**	**15**	*e*PKPdf		PKPdf	10 15 05.7	+3.0
WVT	**Waverly**	**146.80**	**31**	*e*PKPdf		PKPdf	10 15 05.2	+2.1
WVT					ePKPbc	PKPbc	10 15 06.7	+2.1
OXF	**Oxford**	**147.18**	**35**	*e*PKPbc		PKPdf	10 15 07.6	+3.9
FWV	**Forest Hill**	**148.61**	**21**	*e*PKPbc		PKPdf	10 15 11.2	+5.3
ELN	**Prospectdale**	**148.95**	**21**	*e*PKPbc		PKPdf	10 15 12.1	+5.6
BLA	**Blacksburg**	**149.08**	**20**	*e*PKPbc		PKPdf	10 15 11.1	+4.4
BAO	**Brasilia Array**	**149.24**	**219**	PKP		PKPdf	10 15 13.6	+6.1
BDFB	**Brasilia**	**149.25**	**219**	PKPbc		PKPdf	10 15 14.2	+6.7
	comp=Z,5.8nm,0.5s,baz=139,slow=1.3,SNR=9.9							
BDFB	**Brasilia**	**149.25**	**219**	PKP2		PKPab	10 15 14.2	-4.6
BDFB					pmax	pmax		
	comp=Z,6.0nm,0.5s							
LRAL	**Lakeview Retre**	**149.61**	**34**	*e*PKPdf		PKPdf	10 15 08.5	+0.8
LRAL					ePKPbc	PKPdf	10 15 14.1	+6.4
JSC	**Jenkinsville**	**151.36**	**24**	*e*PKPbc		PKPdf	10 15 18.7	+8.4
COW	**Cow Castle Cre**	**152.37**	**24**	*e*PKPbc		PKPdf	10 15 21.6	+10
LPAZ	**La Paz**	**155.38**	**178**	PKP		PKPdf	10 15 20.2	+4.0
	comp=Z,1.0nm,0.5s,baz=110,slow=2.7,SNR=4.8							
LPAZ					PKPab	PKPab	10 15 43.1	-1.4
	comp=Z,1.2nm,0.6s,baz=150,slow=4.1,SNR=6.5							
LPAZ					pPKPab		10 16 04.1	
	comp=Z,3.5nm,0.8s,baz=142,slow=4.6,SNR=5.4							

*IDC **30** 10:34:14.2±3.9, 7.62N×81.98W, mb3.7/3, mb1 4.1/3, mb1mx3.7/19, Error ellipse: s-maj=154.0km s-min=90.2km az=68.0*

*CASC **30** 10:34:23.9±2.6, 8.24N×82.89W, MD4.3, ML4.9, MW4.3*

ISC 30 10:34:22.3±1.1, 7.89N±0.07×82.87W±0.05, h33km, n22, σ1§18/29, mb3.6/3, 8C-4D, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DVD	**David**	**0.69**	**38**	⇓*i*P		**P**	**10 34 34.7**	**-0.8**
DVD				*e*S		**S**	**10 34 46.8**	**+1.8**
BRU2	**Volcan**	**0.92**	**11**	⇓*i*P		**P**	**10 34 37.3**	**-1.4**
BRU2				*e*S		**S**	**10 34 45.5**	**-5.4**
CNI	**Changuinola**	**1.56**	**13**	⇑*e*P		**P**	**10 34 46.4**	**-1.6**
BUS	**Buena Vista**	**1.87**	**332**	*e*P		**P**	**10 34 51.8**	**-0.7**
LIO	**Limon**	**2.11**	**356**	⇑*i*P		**P**	**10 34 54.8**	**-1.0**
LIO				*e*S		**S**	**10 35 21.0**	**-0.1**
URSC	**Urasca**	**2.13**	**335**	⇑*e*P		**P**	**10 34 55.5**	**-0.7**
URSC				*e*S		**S**	**10 35 26.4**	**+4.7**
LCR2	**La Lucha 2**	**2.15**	**329**	⇑*e*P		**P**	**10 34 56.0**	**-0.5**
LCR2				*e*S		**S**	**10 35 22.9**	**+0.6**
ICR	**Volcan Irazu**	**2.28**	**336**	⇑*e*P		**P**	**10 34 58.1**	**-0.2**
LAJ	**Bijagual**	**2.32**	**328**	⇑*e*P		**P**	**10 35 00.7**	**+1.9**
SJS	**Escuela Geolog**	**2.35**	**330**	⇑*e*P		**P**	**10 34 59.3**	**+0.1**
SJS				*e*S		**S**	**10 35 26.4**	**-0.8**
AZU	**Azuero**	**2.58**	**92**	⇓*e*P		**P**	**10 35 06.7**	**+4.1**
CGA2	**Cerro Gallo 2**	**2.63**	**323**	*e*P		**P**	**10 35 03.8**	**+0.4**
CGA2				*e*S		**S**	**10 35 35.0**	**+0.5**
TRTC	**Tortuguero**	**2.79**	**343**	⇓*i*P		**P**	**10 35 04.8**	**-0.8**
JCR	**Jicaral**	**2.95**	**312**	*e*P		**P**	**10 35 07.6**	**-0.2**
FORC	**Fortuna**	**3.12**	**325**	⇑*e*P		**P**	**10 35 10.9**	**+0.7**
FORC				*e*S		**S**	**10 35 48.4**	**+1.6**
UPA	**Univ. de Panam**	**3.48**	**72**	*e*P		**P**	**10 35 22.1**	**+6.7**
UPA				*e*S		**S**	**10 36 06.1**	**+10**
VCR	**Vista de Mar**	**3.52**	**309**	*e*P		**P**	**10 35 16.3**	**+0.4**
NVAR	**Mina Array Bea**	**44.08**	**319**	P		**P**	**10 42 30.7**	**+1.6**
	0.6nm,0.8s,mb3.4,baz=111,slow=7.7,SNR=3.6							
INK	**Inuvik**	**68.89**	**342**	P		**P**	**10 45 24.5**	**-0.9**
	2.5nm,1.1s,mb4.1,baz=135,slow=6.9,SNR=4.0							
ILAR	**Eielson Array**	**71.99**	**336**	P		**P**	**10 45 42.5**	**-1.7**
	0.3nm,0.6s,mb3.4,baz=103,slow=5.0,SNR=7.3							
ASAR	**Alice Springs**	**141.44**	**242**	PKP		PKPdf	10 53 48.6	-2.3
	0.2nm,0.5s,baz=127,slow=3.6,SNR=5.8							
WRA	**Warramunga Arr**	**142.04**	**248**	PKP		PKPdf	10 53 50.4	-1.5
	0.6nm,0.8s,baz=101,slow=2.9,SNR=6.3							

IDC 30 11:00:50.9±4.0, 5.61S×104.48E, mb3.6/4, mb1 3.8/4, mb1mx3.6/15, Error ellipse: s-maj=183.0km s-min=25.8km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**24.53**	**347**	P		P	11 06 12.6	-1.0
	0.6nm,0.9s,baz=189,slow=12,SNR=2.6							
WRA	**Warramunga Arr**	**32.33**	**119**	P		P	11 07 21.2	-2.9
	0.5nm,0.9s,baz=290,slow=9.7,SNR=3.4							
ASAR	**Alice Springs**	**33.53**	**125**	P		P	11 07 32.6	-2.0
	0.4nm,0.6s,baz=299,slow=8.1,SNR=6.1							
STKA	**Stephens Creek**	**43.42**	**132**	P		P	11 08 56.6	-0.8
	1.9nm,0.7s,baz=296,slow=12,SNR=3.1							
TXAR	**Lajitas Array**	**144.45**	**45**	PKP		PKPdf	11 20 29.2	-2.5
	0.2nm,0.6s,baz=315,slow=1.3,SNR=5.3							

*NEIC **30** 11:01:15.0±4.8, 57.03N×151.57W, h35km±39km, mb3.5/1, ML3.0(AEIC), Error ellipse: s-maj=20.3km s-min=8.7km az=184.0*

*IDC **30** 11:01:16.8±7.1, 57.18N×151.45W, h51km±64km, mb3.3/4, mb1 3.7/7, mb1mx3.5/21, ML3.3/3, Error ellipse: s-maj=56.0km s-min=18.7km az=41.0*

ISC 30 11:01:14.8±1.2, 57.19N±0.09×151.47W±0.1, h51km±14km, n17, σ0§94/20, mb3.5/5, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**0.87**	**313**	P		**P**	**11 01 30.5**	**-0.4**
KDAK				S		**S**	**11 01 38.3**	**-4.6**
KAPH	**Katmai Pasha**	**2.11**	**313**	P		**P**	**11 01 48.9**	**+0.5**
KABR	**Katmai Barrier**	**2.13**	**298**	P		**P**	**11 01 47.0**	**-1.8**
MGLS	**Mageik LS**	**2.34**	**298**	P		**P**	**11 01 48.9**	**-2.8**
KJL	**Kejulik**	**2.40**	**293**	P		**P**	**11 01 52.4**	**-0.2**
KAHC	**Katmai Hardscr**	**2.41**	**309**	P		**P**	**11 01 53.5**	**+0.7**
ANCK	**Angle Creek**	**2.42**	**296**	P		**P**	**11 01 53.5**	**+0.7**
ILW	**Iliamna West**	**3.02**	**343**	P		**P**	**11 02 02.9**	**+1.5**
RSO	**Redoubt South**	**3.35**	**348**	*e*P		**P**	**11 02 07.6**	**+1.5**
ILAR	**Eielson Array**	**7.91**	**14**	P		**P**	**11 03 10.4**	**+0.6**
	0.7nm,0.3s,baz=211,slow=14,SNR=47							
ILAR					S	**S**	**11 04 38.0**	**-0.9**
	0.3nm,0.3s,baz=208,slow=13,SNR=6.0							
DLBC	**Dease Lake**	**11.46**	**75**	P		**P**	**11 03 57.9**	**-0.3**
	0.1nm,0.3s,baz=118,slow=23,SNR=2.8							
DLBC					S	**S**	**11 06 04.7**	**-1.0**
	0.1nm,0.3s,baz=195,slow=19,SNR=2.5							
INK	**Inuvik**	**13.76**	**29**	P		**P**	**11 04 28.4**	**-0.1**
	0.1nm,0.3s,baz=248,slow=12,SNR=4.6							
NVAR	**Mina Array Bea**	**28.67**	**117**	P		**P**	**11 07 08.9**	**+0.3**
	0.5nm,0.9s,mb3.2,baz=307,slow=9.0,SNR=4.5							
WMOK	**Wichita Mounta**	**41.59**	**100**	P		**P**	**11 08 59.5**	**+0.6**
	0.6nm,0.6s,mb3.4							
TXAR	**Lajitas Array**	**43.24**	**109**	P		**P**	**11 09 13.1**	**+0.5**
	0.3nm,0.8s,mb3.1,baz=310,slow=7.0,SNR=3.1							
SONM	**Songino Array**	**57.16**	**308**	P		**P**	**11 10 57.9**	**-0.4**
	2.2nm,1.1s,mb4.1,baz=46,slow=6.9,SNR=6.2							
ZAL	**Zalesovo**	**60.17**	**326**	P		**P**	**11 11 18.9**	**-0.2**
	0.7nm,0.7s,mb3.8,baz=151,slow=9.5,SNR=2.9							

*NNC **30** 11:08:44.4±61.0, 41.88N×77.33E, mpv3.2, Error ellipse: s-maj=1206.4km s-min=301.7km az=0.0*

*KNET **30** 11:08:46.8±0.5, 42.12N×77.13E, h14km±2km, ml3.4, Error ellipse: s-maj=4.2km s-min=2.7km az=19.0*

ISC 30 11:08:46.6±1.4, 42.0N±0.1×77.51E±0.08, h33km, n11, σ0§91/20, 12C-7D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.97**	**285**	⇓P		**P**	**11 09 00.0**	**-3.9**
	106nm,0.1s,SNR=273							
ULHL				⇓S		**S**	**11 09 10.5**	**-6.2**
	385nm,0.1s							
KZA	**Kyzart**	**1.68**	**274**	⇓P		**P**	**11 09 13.2**	**-0.9**
	86nm,0.3s,SNR=31							
KZA				⇑S		**S**	**11 09 33.7**	**-1.0**
	150nm,0.2s							
TKM2	**Tokmak 2**	**1.69**	**304**	P		**P**	**11 09 12.6**	**-1.6**
	42nm,0.1s,SNR=226							
TKM2				⇑S		**S**	**11 09 32.7**	**-2.1**
	891nm,0.2s							
KBK	**Karagaybulak**	**2.01**	**290**	⇑P		**P**	**11 09 18.3**	**-0.4**
	84nm,0.3s,SNR=47							
KBK				⇑S		**S**	**11 09 43.1**	**+0.2**
	277nm,0.2s							
UCH	**Uchtor**	**2.24**	**277**	⇑P		**P**	**11 09 22.5**	**+0.5**
	17nm,0.2s,SNR=59							
UCH				⇑S		**S**	**11 09 49.9**	**+1.2**
	131nm,0.4s							
CHMS	**Chumysh**	**2.27**	**297**	⇑P		**P**	**11 09 22.1**	**-0.4**
	26nm,0.3s,SNR=14							
CHMS				⇑S		**S**	**11 09 49.7**	**+0.2**
	152nm,0.2s							
AAK	**Ala-Archa**	**2.32**	**287**	⇓Pn		**Pn**	**11 09 23.4**	**0.0**
	17nm,0.3s							
AAK				⇓Sn		**Sn**	**11 09 51.8**	**+0.7**
	54nm,0.4s							
AAK	**Ala-Archa**	**2.32**	**287**	⇑P		**P**	**11 09 23.5**	**+0.2**
	41nm,0.2s,SNR=47							
AAK				⇑S		**S**	**11 09 51.7**	**+0.8**
	326nm,0.5s							
USP	**Ospenovka**	**2.56**	**301**	⇓P		**P**	**11 09 26.3**	**-0.3**
	27nm,0.3s,SNR=20							
USP				⇑S		**S**	**11 09 57.9**	**+1.0**
	129nm,0.2s							
EKS2	**Erkin-Say**	**2.84**	**285**	⇓P		**P**	**11 09 31.5**	**+0.8**
	10nm,0.2s,SNR=22							
MK31	**Makanchi Array**	**5.89**	**34**	⇑Pn		**Pn**	**11 10 15.0**	**+0.9**
	0.4nm,0.6s,baz=210,slow=15,SNR=59							

*BJI **30** 11:12:49.6, 30.60N×83.50E, h10km, mb4.1, Ms4.1, Msz3.5*

*IDC **30** 11:12:52.0±1.2, 30.52N×83.56E, mb3.7/8, mb1 3.9/9, mb1mx3.8/23, ML4.3/1, MS3.2/2, Ms1 3.3/2, ms1mx2.7/22, Error ellipse: s-maj=34.0km s-min=21.5km az=44.0*

*NEIC **30** 11:12:53.7±1.0, 30.58N×83.50E, h10km, mb4.2/1, Error ellipse: s-maj=27.2km s-min=15.4km az=50.0*

*NDI **30** 11:12:53.6±3.1, 30.55N×83.58E, h10km, mb4.3, mb4.2(NEIC)*

ISC 30 11:12:52.1±0.5, 30.57N±0.07×83.64E±0.04, h10km, n25, σ1§61/29, mb3.5/8, MS3.4/1, 1C, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**3.14**	**252**	*e*PG		**Pg**	**11 13 52.9**	**-1.9**
PTH				*e*SG		**Sg**	**11 14 35.2**	**-1.4**
LGTI	**Lohaghat**	**3.15**	**250**	⇑*i*PG		**Pg**	**11 13 55.5**	**+0.5**
LGTI				*e*SG		**Sg**	**11 14 40.5**	**+3.6**
JOSI	**Joshimath**	**3.52**	**271**	*e*		**Pn**	**11 13 55.9**	**+7.8**
DDI	**Dehra Dun**	**4.83**	**268**	*e*		**Pn**	**11 14 11.0**	**+4.4**
DDI				*e*SG		**Sg**	**11 15 32.6**	**-0.2**
NDI	**New Delhi**	**5.90**	**253**	*e*PG		**Pg**	**11 14 45.5**	**-4.4**
NDI				*e*			11 15 36.5	
AYAN	**Aya Nagar**	**6.04**	**251**	*e*P		**Pn**	**11 14 24.2**	**+0.4**
AYAN					AMb	AMB	11 14 31.1	
	comp=Z,10.0nm,0.7s							
SONA	**Sohna**	**6.17**	**250**	*i* Pg		**Pg**	**11 14 52.4**	**-2.9**
SONA					AMb	AMB	11 14 56.2	
	comp=Z,30nm,1.8s							
SONA				*e*SB		**Sb**	**11 15 56.4**	**+2.3**
SONA				*i* Sg		**Sg**	**11 16 18.9**	**+1.4**
RTK	**Rohtak**	**6.46**	**258**	*e*P		**Pn**	**11 14 25.5**	**-4.2**
RTK					AMb	AMB	11 14 28.6	
	comp=Z,45nm,0.2s							
KUDL	**Kundal**	**6.69**	**251**	*e*		**Pn**	**11 14 35.5**	**+2.5**
KUDL					AMb	AMB	11 14 39.4	
	comp=Z,8.9nm,1.3s							
KHET	**Khetri**	**7.28**	**252**	*e*P		**Pn**	**11 14 39.7**	**-1.5**
KHET					AMb	AMB	11 14 47.1	
	comp=Z,11nm,0.8s							
SHL	**Shillong**	**8.82**	**122**	*e*P		**P**	**11 15 00.5**	**-2.2**
GTA	**Gaotai**	**15.90**	**52**	P		**P**	**11 16 41.0**	**+3.4**
GTA					AMB	AMB		
	comp=Z,5.0nm,0.8s							
CD2	**Chengdu**	**17.30**	**84**	*e*P		**P**	**11 16 53.0**	**-2.4**
CD2					AMB	AMB		
	comp=Z,10.0nm,1.1s							
KMI	**Kunming**	**17.74**	**103**	*e*P		**P**	**11 17 02.0**	**+1.2**
KMI					AMB	AMB		
	comp=Z,11nm,1.1s							
KMI					LR	LR		
	comp=N,270nm,19.5s							
KMI					LR	LR		
	comp=E,157nm,12.6s							
KMI					LR	LR		
	comp=Z,150nm,13.8s							
CMAR	**Chiang Mai Arr**	**18.40**	**127**	P		**P**	**11 17 10.6**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=302,slow=12,SNR=9.9							
CMAR					LR	LR	11 25 11.9	
	comp=Z,57nm,19.1s,baz=216,slow=40							
KURK	**Kurchatov**	**20.47**	**351**	*e*P		**P**	**11 17 30.6**	**-1.9**
	comp=Z,11nm,1.0s							
ZAL	**Zalesovo**	**23.36**	**2**	P		**P**	**11 18 01.9**	**+0.5**
	comp=Z,1.3nm,0.6s,mb3.5,baz=196,slow=9.9,SNR=5.3							
BVAR	**Borovoye Array**	**24.43**	**340**	P		**P**	**11 18 11.0**	**-0.8**
	comp=Z,0.4nm,0.4s,mb3.2,baz=166,slow=5.9,SNR=3.6							
SONM	**Songino Array**	**24.52**	**39**	P		**P**	**11 18 13.7**	**+1.0**
	comp=Z,2.2nm,1.0s,mb3.6,baz=230,slow=8.4,SNR=7.5							
BRTR	**Keskin Array B**	**41.43**	**297**	P		**P**	**11 20 38.4**	**-2.1**
	comp=Z,0.3nm,0.5s,mb3.2,baz=90,slow=2.9,SNR=2.4							
MLR	**Muntele Rosu**	**46.85**	**305**	P		**P**	**11 21 25.4**	**+1.5**
	comp=Z,0.6nm,0.4

FINES Sn Sn 11 21 31.6 -5.7
comp=Z,0.2nm,0.3s,baz=340,slow=22,SNR=3.7
FINES Lg 11 22 03.6
comp=Z,0.6nm,0.3s,baz=352,slow=29,SNR=6.8
NOA NORSAR Array B 7.42 218 Pn Pn 11 20 38.1 -3.3
comp=Z,0.1nm,0.3s,baz=22,slow=11,SNR=3.1
NOA Sn Sn 11 21 59.0 -8.3
comp=Z,0.2nm,0.3s,baz=49,slow=19,SNR=2.6
NOA Lg 11 22 42.5
comp=Z,0.2nm,0.3s,baz=54,slow=15,SNR=2.8
HFS Hagfors 7.72 207 Pn Pn 11 20 41.2 -4.3
comp=Z,0.0nm,0.3s,baz=19,slow=13,SNR=10
HFS Sn Sn 11 22 06.5 -8.3
comp=Z,0.1nm,0.3s,baz=30,slow=21,SNR=6.2
HFS Lg 11 22 55.6
comp=Z,0.0nm,0.3s,baz=25,slow=24,SNR=2.6

IDC 30 11:53:08.8±1.6, 0.29N×124.96E, mb3.8/4, mb1 4.0/5, mb1mx3.7/16, ML3.5/1, MS3.2/1, Ms1 3.2/1, ms1mx2.1/21, Error ellipse: s-maj=137.0km s-min=25.5km az=69.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.29**	**178**	P		P	11 57 23.6	-2.3
	0.1nm,0.3s,baz=166,slow=7.5,SNR=2.5							
WRA	**Warramunga Arr**	**22.11**	**156**	P		P	11 58 05.9	-1.7
	0.2nm,0.4s,baz=337,slow=8.4,SNR=9.3							
ASAR	**Alice Springs**	**25.35**	**161**	P		P	11 58 37.6	-1.6
	0.5nm,0.4s,baz=346,slow=10,SNR=12							
JOW	**Kunigami**	**26.58**	**7**	LR		LR	12 09 06.8	
	comp=Z,55nm,21.0s,baz=233,slow=36							
STKA	**Stephens Creek**	**35.66**	**155**	P		P	12 00 09.2	-1.6
	7.1nm,1.4s,baz=337,slow=13,SNR=3.1							
ZAL	**Zalesovo**	**62.88**	**335**	P		P	12 03 36.5	-2.4
	0.9nm,0.3s,baz=189,slow=1.1,SNR=3.3							

*HRVD **30** 13:26:50.1±0.1, 15.57S×168.15E, h13km, MW5.6/75, Centroid moment Tensor Solution. LP body waves: s69,c142;Mantle waves: s75,c173; Half duration: 1s6 Moment tensor: Scale 10^{17}Nm; M_{rr}2.96±.04; $M_{\theta\theta}$0.40±.04; $M_{\phi\phi}$-3.36±.03; $M_{r\theta}$0.67±.10; $M_{\theta\phi}$0.06±.03; $M_{\phi r}$1.23±.09; Best double couple: $M_0$3.47×10^{17} NP1:ϕ_s166°, δ36°, λ69°. NP2:ϕ_s12°, δ57°, λ105°. Principal axes: T 3.34, Plg74°, Azm321°; N .25, Plg12°, Azm183°; P -3.59, Plg11°, Azm91°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **30** 13:26:50.4, 15.01S×168.07E, h10km, mB5.8, mb5.6, Ms5.2, Msz4.9*
*NEIC **30** 13:26:50.1±0.1, 15.47S×168.08E, h10km, mb5.7/61, ME5.3, MS5.1/10, MW5.6, Error ellipse: s-maj=4.8km s-min=3.8km az=124.0, Moment Tensor Solution. s35 Moment tensor: Scale 10^{17}Nm; M_{rr}2.95; $M_{\theta\theta}$-0.41; $M_{\phi\phi}$-2.54; $M_{r\theta}$0.16; $M_{\theta\phi}$0.84; $M_{\phi r}$-0.64; Best double couple: $M_0$3×10^{17} NP1:ϕ_s340°, δ39°, λ88°. NP2:ϕ_s162°, δ51°, λ91°. Principal axes: T 3.03, Plg83°, Azm81°; N -.12, Plg1°, Azm341°; P -2.91, Plg6°, Azm251°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
*LDG **30** 13:26:51.4±0.2, 15.43S×167.34E, h10km, Mb5.6/4, Ms4.9/8 Error ellipse: s-maj=29.7km s-min=6.7km az=90.0*
*MOS **30** 13:26:53.3±1.0, 15.21S×168.04E, h33km, mb5.7/32, MS5.0/10, Error ellipse: s-maj=13.2km s-min=10.3km az=64.0*
*IDC **30** 13:26:55.5±3.0, 15.57S×168.24E, h50km±27km, mb5.1/25, mb1 5.2/25, mb1mx5.2/25, MS4.9/20, Ms1 4.9/20, ms1mx4.8/22, Error ellipse: s-maj=12.9km s-min=9.4km az=157.0*
*SYO **30** 13:26:56.5, 15.52S×168.03E, h60km, MB5.6, MS5.0*
ISC 30 13:26:47.4±1.6, 15.51S±0.03×168.03E±0.03, h2km±10km, n509, σ0.97/294, mb5.6/106, MS4.9/44, 41C-15D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BKM	**Butte a Klehm**	**2.15**	**174**	⇑*i*	P	**Pn**	**13 27 23.7**	**-1.1**
DZM	**Mont Dzumac**	**6.70**	**193**	⇑*e*	P	**Pn**	**13 28 27.4**	**-1.9**
DZM				*e*	S	**Sn**	**13 29 39.4**	**-7.6**
DZM	**Mont Dzumac**	**6.70**	**193**	⇑*e*	P	**Pn**	**13 28 27.4**	**-1.9**
DZM				*e*	S	**Sn**	**13 29 39.4**	**-7.6**
NOUC	**Port Laguerre**	**6.75**	**194**	*e*	P	**Pn**	**13 28 29.2**	**-0.8**
NOUC				*e*	S	**Sn**	**13 29 40.2**	**-8.3**
NOUC	**Port Laguerre**	**6.75**	**194**	*e*	P	**Pn**	**13 28 29.2**	**-0.8**
NOUC				*e*	S	**Sn**	**13 29 40.2**	**-8.3**
RAB	**Rabaul**	**19.23**	**304**	*e*	P	**P**	**13 31 21.9**	**+6.2**
AFI	**Afiamalu**	**19.60**	**88**	*e*	P	**P**	**13 31 18.1**	**-1.9**
AFI					pmax	pmax		
	comp=Z,93nm,1.2s							
AFI	**Afiamalu**	**19.60**	**88**	*e*	P	**P**	**13 31 18.1**	**-1.9**
	comp=Z,93nm,1.2s							
OUZ	**Omahuta**	**20.25**	**167**	P		**P**	**13 31 26.7**	**-0.3**
CTA	**Charters Tower**	**21.22**	**254**	*e*	P	**P**	**13 31 39.6**	**+2.6**
	comp=Z,53nm,0.9s,mb4.9							
CTA				*e*	S	Sx	13 35 42.3	
CTA	**Charters Tower**	**21.22**	**254**	P		**P**	**13 31 40.6**	**+3.6**
	comp=Z,33nm,0.8s,mb4.7,baz=79,slow=11,SNR=19							
CTA					S	**S**	**13 35 36.1**	**+7.4**
	comp=Z,7.6nm,1.0s,baz=254,slow=17,SNR=1.7							
CTA					LR	LR	13 38 37.8	
	comp=Z,7μm,21.2s,MS5.0,baz=80,slow=33							
CTAO	**Charters Tower**	**21.22**	**254**	*e*	P	**P**	**13 31 38.3**	**+1.3**
	comp=Z,118nm,1.2s,mb5.1							
CTAO					LR	LR		
	comp=Z,7μm,22.0s,MS5.0							
PMG	**Port Moresby**	**21.25**	**284**	P		**P**	**13 31 39.8**	**+2.4**
	comp=Z,40nm,0.8s,mb4.8,baz=96,slow=5.2,SNR=12							
PMG					S	**S**	**13 35 38.6**	**+9.2**
	comp=Z,12nm,1.0s,baz=223,slow=13,SNR=2.1							
PMG					LR	LR	13 38 44.1	
	comp=Z,9μm,19.2s,MS5.2,baz=261,slow=33							
PMG	**Port Moresby**	**21.25**	**284**	*i*	P	**P**	**13 31 39.7**	**+2.4**
PMG	**Port Moresby**	**21.25**	**284**	*e*	P	**P**	**13 31 39.7**	**+2.4**
	comp=Z,479nm,1.7s,mb5.5							
KUZ	**Kuaotunu**	**22.23**	**163**	P		**P**	**13 31 48.5**	**+1.4**
WAU	**Wau**	**22.39**	**289**	*e*	P	**P**	**13 31 52.7**	**+3.9**
RIV	**Riverview**	**23.76**	**217**	*e*	P	**P**	**13 32 04.0**	**+1.9**
URZ	**Urewera**	**24.04**	**162**	P		**P**	**13 32 04.5**	**-0.3**
	comp=Z,126nm,0.9s,mb5.3,baz=351,slow=6.7,SNR=11							
URZ	**Urewera**	**24.04**	**162**	*e*	P	**P**	**13 32 04.5**	**-0.3**
MWZ	**Matawai**	**24.23**	**162**	*e*	P	**P**	**13 32 04.7**	**-2.0**
MWZ	**Matawai**	**24.23**	**162**	P		**P**	**13 32 04.7**	**-2.0**
MGZ	**Maungaku**	**24.32**	**166**	*e*	P	**P**	**13 32 09.0**	**+1.5**
MGZ	**Maungaku**	**24.32**	**166**	P		**P**	**13 32 09.0**	**+1.5**
WTVZ	**West Tongariro**	**24.44**	**166**	*e*	P	**P**	**13 32 11.1**	**+2.4**
NGZ	**Ngauruhoe**	**24.50**	**166**	*e*	P	**P**	**13 32 10.8**	**+1.6**
NGZ	**Ngauruhoe**	**24.50**	**166**	P		**P**	**13 32 10.6**	**+1.4**
CNZ	**Chateau**	**24.51**	**166**	P		**P**	**13 32 11.1**	**+1.8**
CNZ	**Chateau**	**24.51**	**166**	P		**P**	**13 32 09.7**	**+0.4**
BKZ	**Black Stump Fm**	**24.71**	**164**	*e*	P	**P**	**13 32 12.5**	**+1.2**
BKZ	**Black Stump Fm**	**24.71**	**164**	P		**P**	**13 32 12.3**	**+1.0**
CNB	**Canberra Magne**	**25.86**	**217**	⇑*i*	P	**P**	**13 32 22.8**	**+0.6**
	comp=Z,86nm,0.7s,mb5.4							
MRZ	**Mangatainoka R**	**25.91**	**167**	*e*	P	**P**	**13 32 19.3**	**-3.3**
MRZ	**Mangatainoka R**	**25.91**	**167**	P		**P**	**13 32 19.3**	**-3.3**
BFZ	**Birch Farm**	**26.08**	**166**	*e*	P	**P**	**13 32 24.6**	**+0.4**
BFZ	**Birch Farm**	**26.08**	**166**	P		**P**	**13 32 23.3**	**-0.9**
LTZ	**Lake Taylor**	**27.42**	**173**	P		**P**	**13 32 35.3**	**-1.2**
RPZ	**Rata Peaks**	**28.23**	**175**	P		**P**	**13 32 44.3**	**+0.5**
	comp=Z,18nm,0.8s,mb4.8,baz=27,slow=17,SNR=3.0							
RPZ					LR	LR	13 43 21.3	
	comp=Z,5μm,18.1s,MS5.1,baz=350,slow=35							
LBZ	**Lake Benmore**	**28.84**	**177**	*e*	P	**P**	**13 32 51.1**	**+1.8**
LBZ	**Lake Benmore**	**28.84**	**177**	P		**P**	**13 32 48.3**	**-1.0**
STKA	**Stephens Creek**	**29.06**	**231**	⇑*i*	P	**P**	**13 32 51.6**	**+0.2**
	comp=Z,76nm,0.8s,mb5.5							
STKA	**Stephens Creek**	**29.06**	**231**	P		**P**	**13 32 51.9**	**+0.4**
	comp=Z,93nm,0.7s,mb5.6,baz=50,slow=7.0,SNR=147							
STKA					PcP	PcP	13 35 58.4	-1.5
	comp=Z,13nm,1.0s,baz=96,slow=5.3,SNR=4.4							
STKA					S	**S**	**13 37 42.9**	**+0.5**
	comp=Z,1.4nm,0.5s,baz=137,slow=10,SNR=1.7							
STKA					LR	LR	13 42 47.2	
	comp=Z,3μm,18.8s,MS4.9,baz=61,slow=33							
RAR	**Rarotonga**	**31.05**	**105**	P		**P**	**13 33 07.8**	**-1.4**
	comp=Z,32nm,1.0s,mb5.1,baz=246,slow=20,SNR=3.1							
RAR					LR	LR	13 42 59.6	
	comp=Z,1μm,20.0s,MS4.5,baz=270,slow=31							

WB2	**Warramunga Arr**	**32.34**	**257**	⇑*i*	P	**P**	**13 33 19.7**	**-0.8**
WB2				*e*	S	**S**	**13 38 32.0**	**-2.2**
WRAB	**Tennant Creek**	**32.34**	**257**	*i*	P	**P**	**13 33 19.9**	**-0.6**
WRAB	**Tennant Creek**	**32.34**	**257**	*e*	P	**P**	**13 33 19.0**	**-1.6**
	comp=Z,86nm,0.9s,mb5.6							
WRA	**Warramunga Arr**	**32.35**	**257**	P		**P**	**13 33 19.8**	**-0.9**
	comp=Z,40nm,0.8s,mb5.3,baz=87,slow=8.9,SNR=153							
WRA					PcP	PcP	13 36 07.7	-0.9
	comp=Z,9.0nm,0.7s,baz=92,slow=2.7,SNR=5.6							
WRA					S	**S**	**13 38 29.1**	**-5.3**
	comp=Z,8.0nm,1.1s,baz=86,slow=15,SNR=9.1							
WRA					LR	LR	13 45 52.4	
	comp=Z,7μm,18.4s,MS5.4,baz=80,slow=35							
WRA	**Warramunga Arr**	**32.35**	**257**	*i*	P	**P**	**13 33 19.8**	**-0.8**
WRA					pmax	pmax		
	comp=Z,40nm,0.8s							
ADE	**Adelaide**	**32.65**	**228**	P		**P**	**13 33 23.2**	**+0.1**
ASAR	**Alice Springs**	**33.09**	**250**	P		**P**	**13 33 26.7**	**-0.3**
	comp=Z,90nm,0.7s,mb5.8,baz=76,slow=8.8,SNR=496							
ASAR					PcP	PcP	13 36 09.8	-0.8
	comp=Z,13nm,0.9s,baz=77,slow=2.4,SNR=4.9							
ASAR					ScP		13 39 52.9	
	comp=Z,0.8nm,0.8s,baz=81,slow=3.4,SNR=2.4							
ASAR					LR	LR	13 45 50.4	
	comp=Z,4μm,20.6s,MS5.1,baz=80,slow=34							
ASAR	**Alice Springs**	**33.09**	**250**	P		**P**	**13 33 26.7**	**-0.3**
ASAR					PcP	PcP	13 36 09.8	-0.8
ASAR					ScP		13 39 52.9	
ASAR					LR	LR	13 45 50.4	
ASPA	**Alice Springs**	**33.09**	**250**	⇑*i*	P	**P**	**13 33 26.7**	**-0.3**
KAKA	**Kakadu**	**34.64**	**270**	⇑*i*	P	**P**	**13 33 44.0**	**+3.5**
	comp=Z,42nm,0.6s,mb5.5							
FORT	**Forrest**	**39.54**	**240**	⇓*i*	P	**P**	**13 34 22.2**	**+0.6**
	comp=Z,394nm,0.6s,mb6.3							
FITZ	**Fitzroy Crossi**	**40.60**	**260**	⇑*i*	P	**P**	**13 34 31.1**	**+0.6**
	comp=Z,404nm,0.8s,mb6.1							
FITZ				*e*	S	**S**	**13 40 39.2**	**-1.5**
PPT	**Papeete**	**40.64**	**99**	P		**P**	**13 34 30.8**	**0.0**
	comp=Z,72nm,0.9s,mb5.3,baz=109,slow=2.4,SNR=4.0							
PPT	**Papeete**	**40.64**	**99**	*e*	P	**P**	**13 34 31.4**	**+0.6**
	comp=Z,75nm,1.0s,mb5.3							
PPT	**Papeete**	**40.64**	**99**	*e*	S	**S**	**13 40 30.3**	**-11**
PPT				*e*	L		13 43 47.5	
PPT				*e*	R		13 45 41.9	
	comp=Z,7μm,28.0s,baz=260							
TBI	**Tubuai**	**40.73**	**108**	*e*	S	**S**	**13 40 38.0**	**-4.6**
TBI				*e*	L		13 44 00.2	
TBI				*e*	R		13 45 45.5	
	comp=Z,5μm,34.2s,baz=268							
MEH	**Mehetia**	**42.05**	**100**	*e*	P	**P**	**13 34 42.9**	**+0.4**
	comp=Z,122nm,1.3s,mb5.4							
PMOR	**Pomariorio Ree**	**42.47**	**95**	*e*	P	**P**	**13 34 46.9**	**+0.9**
	comp=Z,135nm,1.3s,mb5.4							
MBWA	**Marble Bar**	**46.05**	**255**	*e*	P	**P**	**13 35 15.1**	**+0.3**
	comp=Z,99nm,0.7s,mb5.8							
MATI	**Mati**	**47.01**	**295**	*e*	P	**P**	**13 35 20.8**	**-1.6**
KCP	**Kidapawan**	**48.06**	**295**	⇑*e*	P	**P**	**13 35 31.9**	**+1.2**
KLBR	**Kellerberrin**	**48.37**	**241**	⇓*i*	P	**P**	**13 35 32.0**	**-0.8**
	comp=Z,275nm,1.5s,mb6.1							
BUKP	**Musuan**	**48.49**	**296**	*e*	P	**P**	**13 35 36.2**	**+2.2**
BUTP	**Butuan**	**48.54**	**297**	*e*	P	**P**	**13 35 34.7**	**+0.3**
NWAO	**Narrogin (SRO)**	**48.98**	**240**	*e*	P	**P**	**13 35 36.2**	**-1.4**
NWAO					pmax	pmax		
	comp=Z,140nm,1.0s							
NWAO	**Narrogin (SRO)**	**48.98**	**240**	*e*	P	**P**	**13 35 36.2**	**-1.3**
	comp=Z,140nm,0.9s,mb6.0							
MUN	**Mundaring**	**49.72**	**241**	*e*	P	**P**	**13 35 42.5**	**-0.8**
	comp=Z,318nm,1.0s,mb6.3							
MSLP	**Maasin**	**49.77**	**298**	*e*	P	**P**	**13 35 44.4**	**+0.5**
PAGZ	**Pagadian**	**49.95**	**295**	*e*	P	**P**	**13 35 47.4**	**+2.2**
BESP	**Borongan**	**50.03**	**300**	*e*	P	**P**	**13 35 45.5**	**-0.4**
OCLP	**Ormoc**	**50.44**	**299**	*e*	P	**P**	**13 35 48.6**	**-0.4**
IPIL	**Ipil**	**50.63**	**294**	*e*	P	**P**	**13 35 50.6**	**+0.1**
GUIM	**Jordan**	**51.95**	**297**	*e*	P	**P**	**13 35 59.4**	**-1.1**
OTRP	**Odiongan**	**53.29**	**299**	*e*	P	**P**	**13 36 09.1**	**-1.4**
RKT	**Rikitea**	**54.05**	**107**	*e*	P	**P**	**13 36 15.6**	**-0.3**
	comp=Z,174nm,1.0s,mb5.9							
SJMP	**San Jose**	**54.10**	**298**	*e*	P	**P**	**13 36 17.2**	**+0.8**
DRV	**Dumont d'Urvil**	**54.35**	**193**	P		**P**	**13 36 14.0**	**-3.5**
DRV					SP	SP	13 43 59.0	-5.7
DRV					R		13 52 00.0	
BUSP	**Coron**	**54.66**	**297**	*e*	P	**P**	**13 36 19.0**	**-1.5**
PPR	**Puerto Princes**	**54.91**	**294**	⇑*e*	P	**P**	**13 36 23.5**	**+1.2**
TGY	**Tagaytay City**	**55.07**	**300**	LR		LR	13 59 11.3	
	comp=Z,522nm,19.9s,MS4.6,baz=116,slow=35							
BATP	**Bataraza**	**55.30**	**292**	*e*	P	**P**	**13 36 26.1**	**+0.9**
JHJ	**Hachijo jima 2**	**55.37**	**331**	LR		LR	13 54 21.0	
	comp=Z,530nm,21.9s,MS4.6,baz=143,slow=30							
KKM	**Kodiak Kinabalu**	**55.60**	**289**	⇑*e*	P	**P**	**13 36 27.4**	**0.0**
	comp=Z,71nm,1.0s,mb5.7							
MAJO	**Matsushiro**	**58.93**	**332**	*e*	P	**P**	**13 36 49.0**	**-1.7**
MAJO					pmax	pmax		
	comp=Z,51nm,1.0s,mb5.5							
MAJO	**Matsushiro**	**58.93**	**332**	*e*	P	**P**	**13 36 49.0**	**-1.7**
	comp=Z,51nm,1.0s,mb5.5							
MAT	**Matsushiro**	**58.93**	**332**	P		**P**	**13 36 49.3**	**-1.4**
MAT					S	**S**	**13 44 46.0**	**-10**
MAT	**Matsushiro**	**58.93**	**332**	*e*	P	**P**	**13 36 49.0**	**-1.7**
	comp=Z,52nm,1.1s,mb5.5							
MAT				*e*	S	Sx	13 45 11.0	
MAT					LR	LR		
	comp=Z,710nm,20.0s,MS4.8							
VNDA	**Vanda**	**62.10**	**182**	P		**P**	**13 37 10.2**	**-1.7**
	comp=Z,18nm,1.2s,mb5.0,baz=3.6,slow=5.9,SNR=20							
VNDA					LR	LR	14 00 29.6	
	comp=Z,920nm,20.6s,MS4.9,baz=12,slow=32							
VNDA	**Vanda**	**62.10**	**182**	*e*	P	**P**	**13 37 09.6**	**-2.2**
VNDA					pmax	pmax		
	comp=Z,280nm,2.1s							
VNDA	**Vanda**	**62.10**	**182**	*e*	P	**P**	**13 37 09.6**	**-2.2**
	comp=Z,277nm,2.1s,mb6.0							
SBA	**Scott Base**	**62.36**	**180**	*e*	P	**P**	**13 37 12.8**	**-0.7**
SBA					pmax	pmax		
	comp=Z,88nm,1.0s,mb5.8							
SBA	**Scott Base**	**62.36**	**180**	*e*	P	**P**	**13 37 12.8**	**-0.7**
	comp=Z,88nm,1.0s,mb5.8							
QZH	**Quanzhou**	**62.76**	**309**	⇑*i*	P	**P**	**13 37 16.5**	**-0.3**
QZH					S	**S**	**13 45 46.8**	**+1.8**
QZH					AMB	AMB		
	comp=Z,330nm,1.7s,mb6.2							
QZH					AMB	AMB		
	comp=Z,1μm,4.8s							
QZH					LR	LR		
	comp=N,2μm,34.3s							
CASY	**Casey**	**63.09**	**202**	*e*	P	**P**	**13 37 16.8**	**-1.6**
ASAJ	**Asahikawa**	**63.72**	**340**	P		**P**	**13 37 23.2**	**+0.3**
	comp=N,53nm,0.8s,mb5.6,baz=220,slow=7.0,SNR=14							
SSE	**Sheshan**	**64.59**	**316**	P		**P**	**13 37 28.5**	**-0.3**
SSE					S	**S**	**13 46 06.5**	**-1.2**
SSE					SS	SS	13 50 17.5	-2.2
SSE					AMB	AMB		
	comp=Z,50nm,0.7s,mb5.7							
SSE					AMB	AMB		
	comp=Z,473nm,8.0s							
SSE					LR	LR		
	comp=N,698nm,20.0s,MS5.0							
SSE					LR	LR		
	comp=E,640nm,20.0s,MS5.0							
SSE					LR	LR		
	comp=Z,492nm,20.0s,MS4.7							
KS15	**Wonju Array Si**	**64.80**	**325**	*e*	P	**P**	**13 37 29.5**	**-0.6**
INCN	**Inchon**	**65.53**	**325**	*e*	P	**P**	**13 37 33.9**	**-0.8**
	comp=Z,231nm,1.7s,mb5.9							
GZH	**Guangzhou**	**65.82**	**305**	P		**P**	**13 37 36.5**	**-0.4**
GZH					S	S	13 46 27.8	+4.8
GZH					LR	LR		
	comp=N,550nm,21.8s,MS4.8							
GZH					LR	LR		
	comp=E,527nm,25.8s,MS4.8							
GZH					LR	LR		
	comp=Z,1μm,28.6s,MS4.9							
YSS	**Yuzh-Sakhalins**	**66.20**	**341**	α*i*	P	**P**	**13 37 38.0**	**-0.9**
YSS				*e*			13 37 43.3	
YSS				*e**	SP	Px	13 38 01.8	
YSS				*e*	S	S	13 46 26.0	-1.2
YSS				*e*	PS	PS	13 46 44.0	-4.8
YSS					pmax	pmax		
	comp=Z,70nm,0.9s,mb5.7							
YSS					pmax	pmax		
	comp=Z,50nm,1.1s,mb5.5							
YSS					pmax	pmax		
	comp=N,400nm,17.0s							
YSS					pmax	pmax		
	comp=E,500nm,17.0s							
YSS					pmax	pmax		
	comp=Z,600nm,17.0s							
YSS	**Yuzh-Sakhalins**	**66.20**	**341**	*e*	P	**P**	**13 37 38.9**	**+0.1**
	comp=Z,76nm,1.0s,mb5.7							
KGM	**Kluang**	**66.27**	**279**	⇓*e*	P	**P**	**13 37 40.3**	**+0.4**
SKR	**Severo-Kuril's**	**66.73**	**352**	*e*	P	**P**	**13 37 38.0**	**-4.2**
NJ2	**Nanjing**	**66.74**	**316**	*e*	P	**P**	**13 37 42.5**	**-0.1**
NJ2					AMB	AMB		
	comp=Z,100nm,0.9s,mb5.8							
NJ2					AMB	AMB		
	comp=Z,1μm,7.8s							
NJ2					LR	LR		
	comp=N,2μm,24.7s,MS5.4							
NJ2					LR	LR		
	comp=E,2μm,23.6s,MS5.4							
NJ2					LR	LR		
	comp=Z,1μm,16.0s							
QIZ	**Qiongzhong**	**66.75**	**299**	P		**P**	**13 37 43.5**	**+0.6**
QIZ					S	S	13 46 29.0	-5.4
QIZ					AMB	AMB		
	comp=Z,47nm,1.2s,mb5.4							
QIZ					AMB	AMB		
	comp=Z,576nm,8.4s							
QIZ					LR	LR		
	comp=E,610nm,20.0s							
QIZ					LR	LR		
	comp=Z,1μm,32.9s							
QIZ	**Qiongzhong**	**66.75**	**299**	*e*	P	**P**	**13 37 43.7**	**+0.9**
	comp=Z,42nm,1.0s,mb5.4							
VLA	**Vladivostok**	**67.10**	**332**	*i*	P	**P**	**13 37 43.0**	**-1.7**
VLA				*i*			13 38 10.0	
VLA				*e*			13 40 13.0	
VLA				*i*	S	S	13 46 40.0	+1.8
VLA				*e*			13 47 29.0	
VLA					pmax	pmax		
	comp=N,500nm,7.0s							
VLA					pmax	pmax		
	comp=Z,1μm,7.0s							
VLA					pmax	pmax		
	comp=E,500nm,8.0s							
VLA					pmax	pmax		
	comp=N,500nm,9.0s							
VLA					pmax	pmax		
	comp=Z,500nm,9.0s							
VLA					pmax	pmax		
	comp=E,500nm,10.0s							
VLA					smax			
	comp=N,1μm,9.0s							
VLA					smax			
	comp=E,500nm,9.0s							
VLA					MLR	MLR		
	comp=Z,500nm,13.0s,MS4.9							
FX1	**Attu Island--F**	**68.25**	**3**	P		**P**	**13 37 50.4**	**-1.4**
FX1	**Attu Island--F**	**68.25**	**3**	*e*	P	**P**	**13 37 49.5**	**-2.3**
PET	**Petropavlovsk**	**68.73**	**354**	*i*	P	**P**	**13 37 53.8**	**-0.9**
PET					pmax	pmax		
	comp=Z,147nm,1.8s,mb5.6							
PET	**Petropavlovsk**	**68.73**	**354**	*e*	P	**P**	**13 37 52.3**	**-2.4**
	comp=Z,107nm,1.3s,mb5.6							
WHN	**Wuhan**	**69.00**	**312**	*e*	P	**P**	**13 37 56.5**	**-0.3**
WHN					AP	pP	13 38 02.5	+5.1
IPM	**Ipoh**	**69.24**	**281**	⇑*e*	P	**P**	**13 37 58.5**	**-0.1**
MDJ	**Mudanjiang**	**69.31**	**332**	P		**P**	**13 37 58.5**	**+0.1**
MDJ					PCP	PcP	13 38 21.0	-1.1
MDJ					PP	PP	13 40 32.3	-1.4
MDJ					S	S	13 47 06.5	+2.0
MDJ					SCS	ScS	13 47 55.5	-1.4
MDJ					SS	SS	13 51 26.3	-6.4
MDJ					AMB	AMB		
	comp=Z,69nm,1.0s,mb5.5							
MDJ					AMB	AMB		
	comp=Z,732nm,8.1s							
MDJ					LR	LR		
	comp=N,538nm,27.9s,MS4.8							
MDJ					LR	LR		
	comp=E,484nm,24.9s,MS4.8							
MDJ					LR	LR		
	comp=Z,487nm,29.3s,MS4.6							
DL2	**Dalian**	**69.36**	**323**	P		**P**	**13 37 59.5**	**+0.7**
DL2					PP	PP	13 40 30.8	-3.4
DL2					S	S	13 47 08.5	+3.3
DL2					AMB	AMB		
	comp=Z,40nm,0.8s,mb5.4							
DL2					AMB	AMB		
	comp=Z,500nm,5.2s							
DL2					LR	LR		
	comp=N,300nm,14.4s							
DL2					LR	LR		
	comp=Z,500nm,19.4s							
SNY	**Shenyang**	**70.26**	**326**	⇓*i*	P	**P**	**13 38 04.0**	**-0.3**
SNY					S	S	13 47 17.5	+1.8
SNY					AMB	AMB		
	comp=Z,610nm,9.3s							
SNY					LR	LR		
	comp=N,660nm,21.0s,MS5.0							
SNY					LR	LR		
	comp=E,530nm,21.9s,MS5.0							
SNY					LR	LR		
	comp=Z,540nm,24.9s,MS4.7							
TIA	**Tai'an**	**70.40**	**318**	*e*	P	**P**	**13 38 04.5**	**-0.8**
TIA					AMB	AMB		
	comp=Z,39nm,1.1s,mb5.2							
CN2	**Changchun**	**70.69**	**329**	⇑P		**P**	**13 38 07.0**	**+0.1**
CN2				*e*	S	S	13 47 07.0	-14
CN2	

CM31	**Chiang Mai Arr**	**75.93**	**294**	*e*P		**P**	**13 38 38.1**	**+0.1**
	comp=Z,33nm,0.8s,mb5.3								
CMAR	**Chiang Mai Arr**	**75.93**	**294**	P		**P**	**13 38 38.7**	**+0.6**
	comp=Z,23nm,0.8s,mb5.2,baz=129,slow=4.6,SNR=120								
CMAR				LR		LR	14 11 43.2		
	comp=Z,324nm,19.9s,MS4.6,baz=105,slow=35								
CHG	**Chiang Mai**	**76.06**	**294**	⇑P		**P**	**13 38 39.6**	**+0.8**
	comp=Z,35nm,0.9s,mb5.3								
MA2	**Magadan**	**76.12**	**351**	*c* *i*P		**P**	**13 38 36.5**	**-1.9**
MA2				*e*			13 41 32.7		
MA2				*e*S		S	13 48 15.9	-5.8	
MA2				pmax		pmax			
	comp=Z,1μm,9.0s								
MA2				pmax		pmax			
	comp=N,1μm,13.0s								
MA2				MLR		MLR			
	comp=Z,500nm,21.0s,MS4.8								
HHC	**Hu-ho-hao-te**	**76.65**	**319**	⇑P		**P**	**13 38 42.5**	**+0.8**
HHC				PCP		PcP	13 38 53.0	-0.5	
HHC				PP		PP	13 41 38.8	+3.2	
HHC				S		S	13 48 25.8	-2.0	
HHC				SKS		SKS	13 48 44.5	-8.1	
HHC				AMB		AMB			
	comp=Z,61nm,1.4s,mb5.3								
HHC				AMB		AMB			
	comp=Z,468nm,5.6s								
HHC				LR		LR			
	comp=N,284nm,19.8s,MS4.7								
HHC				LR		LR			
	comp=E,239nm,18.0s,MS4.7								
HHC				LR		LR			
	comp=Z,335nm,19.6s,MS4.7								
CD2	**Chengdu**	**77.06**	**307**	P		**P**	**13 38 44.8**	**+0.6**
CD2				S		S	13 48 34.8	+2.3	
CD2				LR		LR			
	comp=N,340nm,18.5s								
BTO	**Baotou**	**77.49**	**319**	*e*P		**P**	**13 38 45.3**	**-1.1**
BTO				AMB		AMB			
	comp=Z,50nm,1.6s,mb5.2								
SEY	**Seymchan**	**79.14**	**353**	*e*P		**P**	**13 38 56.7**	**+1.7**
SEY							13 39 05.1		
SEY				*e**PP		pP	13 39 11.0	+15	
SEY							13 41 57.3		
SEY				PPP		PPP	13 43 50.7	+4.5	
SEY				*e*S		S	13 48 53.1	-1.1	
SEY				*e*			13 48 57.8		
SEY				PS		PS	13 49 44.6	+6.9	
SEY				pmax		pmax			
	comp=N,20nm,1.1s								
SEY				pmax		pmax			
	comp=Z,170nm,1.1s,mb5.9								
SEY				pmax		pmax			
	comp=E,60nm,1.2s								
SEY				MLR		MLR			
	comp=Z,2μm,19.0s,MS5.4								
SEY				MLR		MLR			
	comp=N,1μm,18.0s,MS5.3								
SEY				MLR		MLR			
	comp=E,950nm,18.0s,MS5.3								
LZH	**Lanzhou**	**79.38**	**312**	⇑P		**P**	**13 38 58.5**	**+1.7**
LZH				PCP		PcP	13 39 07.0	+1.6	
LZH				PP		PP	13 42 01.0	+2.5	
LZH				S		S	13 48 56.0	-1.3	
LZH				AMB		AMB			
	comp=Z,205nm,1.7s,mb5.8								
LZH				AMB		AMB			
	comp=Z,680nm,5.1s								
LZH				LR		LR			
	comp=Z,2μm,19.3s,MS5.5								
CLNS	**Chul'man**	**80.52**	**338**	*e*P		**P**	**13 39 03.5**	**+1.0**
CLNS				pmax		pmax			
	comp=Z,17nm,0.7s,mb5.1								
CLNS				pmax		pmax			
	comp=N,19nm,0.9s								
CLNS				pmax		pmax			
	comp=E,8.0nm,0.9s								
MAW	**Mawson**	**81.44**	**202**	⇑*i*P		**P**	**13 39 06.7**	**-0.4**
	comp=E,34nm,1.0s,mb5.2								
MAW	**Mawson**	**81.44**	**202**	P		**P**	**13 39 06.8**	**-0.3**
	comp=E,28nm,0.8s,mb5.2,baz=108,slow=6.5,SNR=55								
MAW				LR		LR	14 14 46.7		
	comp=E,410nm,18.3s,MS4.8,baz=349,slow=35								
MAW	**Mawson**	**81.44**	**202**	*e*P		**P**	**13 39 06.3**	**-0.8**
MAW				pmax		pmax			
	comp=Z,66nm,1.0s								
SVW2	**Sparrevohn**	**81.68**	**17**	*e*P		**P**	**13 39 11.2**	**+2.7**
RSO	**Redoubt South**	**82.00**	**18**	*e*P		**P**	**13 39 09.7**	**-0.4**
IMP	**Imphal**	**82.56**	**298**	*e*P		**P**	**13 39 14.0**	**+0.2**
SPU	**Mount Spurr**	**82.78**	**18**	*e*P		**P**	**13 39 13.7**	**-0.5**
SLKM	**Skilak Lake**	**82.82**	**19**	*e*P		**P**	**13 39 13.6**	**-0.8**
YAK	**Yakutsk**	**82.99**	**343**	*e*P		**P**	**13 39 15.1**	**-0.1**
YAK				pmax		pmax			
	comp=Z,27nm,1.0s,mb5.2								
YAK				pmax		pmax			
	comp=N,3.0nm,0.8s								
YAK				pmax		pmax			
	comp=E,2.0nm,0.9s								
YAK				pmax		pmax			
	comp=Z,27nm,1.0s,mb5.2								
YAK				pmax		pmax			
	comp=N,9.0nm,0.9s								
YAK				pmax		pmax			
	comp=E,6.0nm,1.0s								
YAK				MLR		MLR			
	comp=Z,500nm,18.0s,MS4.9								
YAK				MLR		MLR			
	comp=N,300nm,19.0s,MS4.8								
YAK				MLR		MLR			
	comp=E,200nm,16.0s,MS4.8								
YAK	**Yakutsk**	**82.99**	**343**	*e*P		**P**	**13 39 14.3**	**-0.9**
	comp=E,38nm,0.6s,mb5.6								
BILL	**Bilibino**	**83.33**	**359**	*c* *i*P		**P**	**13 39 16.6**	**-0.3**
BILL				pmax		pmax			
	comp=Z,170nm,1.9s,mb5.8								
BILL				MLR		MLR			
	comp=Z,300nm,17.0s,MS4.7								
BILL	**Bilibino**	**83.33**	**359**	*e*P		**P**	**13 39 15.9**	**-0.9**
	comp=Z,154nm,1.4s,mb5.8								
SONM	**Songino Array**	**83.56**	**323**	P		**P**	**13 39 18.8**	**+0.3**
	comp=Z,45nm,0.9s,mb5.6,baz=140,slow=3.7,SNR=147								
GTA	**Gaotai**	**83.73**	**314**	⇑*i*P		**P**	**13 39 21.0**	**+1.4**
GTA				SKS		SKS	13 49 37.0	-5.6	
GTA				S		S	13 49 42.3	+0.4	
GTA				AMB		AMB			
	comp=Z,107nm,1.0s,mb5.9								
GTA				AMB		AMB			
	comp=Z,908nm,8.8s								
GTA				LR		LR			
	comp=N,396nm,19.8s								
GTA				LR		LR			
	comp=E,429nm,26.2s								
GTA				LR		LR			
	comp=Z,575nm,27.4s								
PMR	**Palmer**	**83.99**	**19**	*e*P		**P**	**13 39 20.4**	**+0.1**
	comp=Z,312nm,1.7s,mb6.2								
HOPS	**Hopland**	**84.04**	**47**	*e*P		**P**	**13 39 20.8**	**-0.3**
	comp=Z,176nm,1.5s,mb6.0								
LKC	**Lake Chabot**	**84.23**	**48**	*e*P		**P**	**13 39 22.4**	**+0.3**
SAO	**San Andreas Ge**	**84.28**	**50**	*e*P		**P**	**13 39 22.4**	**0.0**
SAO				pmax		pmax			
	comp=Z,29nm,0.9s,mb5.4								
SAO	**San Andreas Ge**	**84.28**	**50**	*e*P		**P**	**13 39 22.4**	**0.0**
	comp=Z,29nm,0.9s,mb5.4								
KHMM	**Horse Mountain**	**84.39**	**45**	P		**P**	**13 39 21.5**	**-1.4**
SML	**Sawmill**	**84.41**	**19**	*e*P		**P**	**13 39 20.7**	**-1.7**
SHL	**Shillong**	**84.58**	**298**	⇑P		**P**	**13 39 24.5**	**+0.4**
SHL				*e*SKS		SKS	13 49 51.5	+2.9	
DIV	**Divide**	**84.75**	**21**	*e*P		**P**	**13 39 23.5**	**-0.7**
	comp=Z,223nm,1.2s,mb6.2								
WDC	**Whiskeytown Da**	**85.08**	**46**	*e*P		**P**	**13 39 25.4**	**-0.9**
WDC				pmax		pmax			
	comp=Z,100nm,1.5s,mb5.7								
WDC	**Whiskeytown Da**	**85.08**	**46**	*e*P		**P**	**13 39 25.4**	**-0.9**
	comp=Z,102nm,1.5s,mb5.7								
OHCM	**Honcut**	**85.30**	**47**	*e*P		**P**	**13 39 26.9**	**-0.5**
YBH	**Yreka Blue Hor**	**85.45**	**45**	P		**P**	**13 39 28.6**	**+0.5**
	comp=Z,20nm,0.9s,mb5.3,baz=210,slow=4.1,SNR=19								
YBH	**Yreka Blue Hor**	**85.45**	**45**	*e*P		**P**	**13 39 28.4**	**+0.3**
YBH				pmax		pmax			
	comp=Z,27nm,1.0s								
YBH	**Yreka Blue Hor**	**85.45**	**45**	*e*P		**P**	**13 39 28.4**	**+0.3**
	comp=Z,27nm,1.0s,mb5.3								
CMB	**Columbia Colle**	**85.56**	**49**	*e*P		**P**	**13 39 28.3**	**-0.4**
	comp=Z,29nm,1.0s,mb5.5								
CMB				LR		LR			
	comp=Z,648nm,19.0s,MS5.0								
HUMO	**Hull Mountain**	**85.66**	**44**	*e*P		**P**	**13 39 28.8**	**-0.4**
	comp=Z,34nm,0.9s,mb5.6								
MCK	**McKinley**	**85.67**	**18**	*e*P		**P**	**13 39 27.5**	**-1.2**
MCK				pmax		pmax			
	comp=Z,49nm,1.1s,mb5.7								
MCK	**McKinley**	**85.67**	**18**	*e*P		**P**	**13 39 27.5**	**-1.1**
	comp=Z,50nm,1.1s,mb5.7								
MWC	**Mount Wilson**	**85.84**	**53**	*e*P		**P**	**13 39 30.1**	**-0.2**
BUOR	**Burton Butte**	**86.00**	**44**	P		**P**	**13 39 32.6**	**+1.8**
IMA	**Indian Mountai**	**86.22**	**15**	*e*P		**P**	**13 39 31.5**	**+0.2**
IMA				pmax		pmax			
	comp=Z,310nm,1.1s,mb6.5								
IMA	**Indian Mountai**	**86.22**	**15**	*e*P		**P**	**13 39 32.2**	**+0.9**
	comp=Z,67nm,1.1s,mb5.8								
BEKR	**Beckwourth**	**86.31**	**47**	*e*P		**P**	**13 39 32.3**	**-0.1**
	comp=Z,75nm,1.4s,mb5.7								
BAR	**Barrett**	**86.36**	**55**	*e*P		**P**	**13 39 32.8**	**-0.1**
THY	**Trims Highway**	**86.40**	**19**	*e*P		**P**	**13 39 32.7**	**+0.4**
OMM	**Old Mammoth Mi**	**86.42**	**50**	*e*P		**P**	**13 39 33.0**	**-0.1**
WCN	**Washoe City**	**86.52**	**48**	*e*P		**P**	**13 39 33.4**	**-0.1**
WCN				pmax		pmax			
	comp=Z,350nm,2.3s,mb6.2								
WCN	**Washoe City**	**86.52**	**48**	*e*P		**P**	**13 39 33.4**	**0.0**
	comp=Z,353nm,2.3s,mb6.2								
LSA	**Lhasa**	**86.59**	**302**	P		**P**	**13 39 34.5**	**+0.4**
LSA				LR		LR			
	comp=E,710nm,12.0s								
ZAK	**Zakamensk**	**86.61**	**325**	⇑*i*P		**P**	**13 39 34.0**	**+0.4**
ZAK				*e*			13 42 50.0		
MTUM	**Tungsten Hills**	**86.63**	**50**	*e*P		**P**	**13 39 34.5**	**+0.4**
MENT	**Mentasta**	**86.72**	**20**	*e*P		**P**	**13 39 34.2**	**+0.3**
COLA	**College**	**86.84**	**17**	*i* P		**P**	**13 39 34.3**	**-0.1**
COLA	**College**	**86.84**	**17**	*e*P		**P**	**13 39 33.5**	**-0.9**
	comp=E,55nm,0.9s,mb5.8								
PFO	**Pinyon Flat Ob**	**86.86**	**54**	*e*P		**P**	**13 39 35.1**	**-0.2**
PFO				pmax		pmax			
	comp=Z,28nm,1.1s,mb5.4								
PFO	**Pinyon Flat Ob**	**86.86**	**54**	*e*P		**P**	**13 39 35.1**	**-0.2**
	comp=Z,28nm,1.1s,mb5.4								
PAHR	**Pah Rah Range**	**86.94**	**47**	*e*P		**P**	**13 39 36.1**	**+0.6**
	comp=Z,18nm,0.8s,mb5.4								
DAC	**Darwin (Calif)**	**86.95**	**51**	*e*P		**P**	**13 39 35.4**	**-0.3**
IRK	**Irkutsk**	**86.99**	**326**	*e*P		**P**	**13 39 34.3**	**-1.1**
IRK				*e*			13 39 51.4		
BBB	**Bella Bella**	**87.02**	**34**	P		**P**	**13 39 35.9**	**+0.3**
	comp=Z,29nm,0.9s,mb5.5,baz=232,slow=7.3,SNR=4.3								
ILAR	**Eielson Array**	**87.04**	**18**	P		**P**	**13 39 34.0**	**-1.4**
	comp=Z,38nm,0.8s,mb5.7,baz=239,slow=4.9,SNR=187								
ILAR				LR		LR	14 18 29.3		
	comp=Z,426nm,18.7s,MS4.9,baz=245,slow=36								
MOD	**Modoc**	**87.16**	**45**	*e*P		**P**	**13 39 36.0**	**-0.5**
	comp=Z,124nm,1.8s,mb5.8								
NVAR	**Mina Array Bea**	**87.23**	**49**	P		**P**	**13 39 37.6**	**+0.7**
	comp=Z,26nm,0.8s,mb5.5,baz=239,slow=5.3,SNR=115								
NVAR				PKKPbc			13 57 29.4		
	comp=Z,0.9nm,0.8s,baz=81,slow=4.5,SNR=5.5								
NVAR				LR		LR	14 15 11.1		
	comp=Z,334nm,18.3s,MS4.8,baz=315,slow=33								
MNV	**Mina**	**87.34**	**49**	*e*P		**P**	**13 39 37.7**	**+0.2**
MNV				pmax		pmax			
	comp=Z,52nm,1.1s,mb5.7								
MNV	**Mina**	**87.34**	**49**	*e*P		**P**	**13 39 37.6**	**+0.2**
	comp=Z,52nm,1.1s,mb5.7								
TPH	**Tonopah**	**87.89**	**50**	*e*P		**P**	**13 39 39.7**	**-0.4**
TPH				pmax		pmax			
	comp=Z,260nm,2.2s,mb6.1								
TPH	**Tonopah**	**87.89**	**50**	*e*P		**P**	**13 39 39.7**	**-0.4**
	comp=Z,256nm,2.2s,mb6.1								
LON	**Longmire**	**88.17**	**40**	P		**P**	**13 39 42.5**	**+1.3**
SYO	**Syowa Base**	**88.17**	**196**	⇓P		**P**	**13 39 39.4**	**-1.3**
SYO	**Syowa Base**	**88.17**	**196**	⇓PcP		PcP	13 39 42.0	-0.9	
SYO	**Syowa Base**	**88.17**	**196**	⇓pP		Px	13 39 56.6		
SYO	**Syowa Base**	**88.17**	**196**	SH		Px	13 40 03.4		
TPNV	**Topopah Spring**	**88.20**	**51**	*e*P		**P**	**13 39 41.9**	**+0.2**
TPNV				pmax		pmax			
	comp=Z,38nm,1.0s,mb5.6								
TPNV	**Topopah Spring**	**88.20**	**51**	*e*P		**P**	**13 39 41.9**	**+0.3**
	comp=Z,38nm,1.0s,mb5.6								
WPW	**White Pass**	**88.31**	**40**	P		**P**	**13 39 43.7**	**+1.8**
LDFC	**Landfair**	**88.42**	**53**	*e*P		**P**	**13 39 43.4**	**+0.7**
MOY	**Mondy**	**88.49**	**325**	*e*P		**P**	**13 39 43.2**	**+0.6**
BMN	**Battle Mountai**	**88.75**	**47**	*e*P		**P**	**13 39 44.2**	**0.0**
BMN				pmax		pmax			
	comp=Z,24nm,0.9s,mb5.5								
BMN	**Battle Mountai**	**88.75**	**47**	*e*P		**P**	**13 39 44.2**	**0.0**
	comp=Z,24nm,0.9s,mb5.5								
NEN	**Nelson**	**88.81**	**53**	*e*P		**P**	**13 39 44.9**	**+0.3**
DAWY	**Dawson**	**88.92**	**20**	*e*P		**P**	**13 39 43.3**	**-1.1**
TBM	**Table Mountain**	**89.10**	**40**	P		**P**	**13 39 47.6**	**+1.9**
TRCR	**Troy Canyon**	**89.19**	**50**	*e*P		**P**	**13 39 46.7**	**+0.4**
DLBC	**Dease Lake**	**89.29**	**28**	P		**P**	**13 39 45.8**	**-0.5**
	comp=Z,22nm,1.2s,mb5.3,baz=252,slow=5.2,SNR=7.1								
DLBC				LR		LR	14 14 14.1		
	comp=Z,421nm,19.3s,MS4.9,baz=76,slow=32								
DLBC	**Dease Lake**	**89.29**	**28**	*e*P		**P**	**13 39 46.4**	**+0.1**
HAWA	**Hanford**	**89.46**	**41**	*e*P		**P**	**13 39 47.5**	**+0.1**
	comp=Z,161nm,1.5s,mb6.1								
GUN	**Gumba**	**90.41**	**299**	*e*P		**P**	**13 39 52.3**	**0.0**
	comp=Z,46nm,1.0s,mb5.8								
ARUT	**Antelope Range**	**90.59**	**51**	*e*P		**P**	**13 39 53.2**	**+0.3**
PKI	**Pulchoki**	**90.71**	**298**	*e*P		**P**	**13 39 53.4**	**-0.3**
	comp=Z,49nm,1.0s,mb5.8								
PMSA	**Palmer Station**	**90.79**	**160**	*e*P		**P**	**13 39 52.3**	**-0.8**
	comp=Z,99nm,1.5s,mb5.9								
TIXI	**Tiksi**	**90.88**	**348**	⇑*i*P		**P**	**13 39 52.4**	**-1.0**
TIXI				*e*			13 40 09.4		
TIXI				*e*			13 50 39.6		
TIXI				pmax		pmax			
	comp=Z,28nm,2.3s,mb5.2								
TIXI				pmax		pmax			
	comp=Z,200nm,2.9s,mb5.9								
TIXI				MLR		MLR			
	comp=Z,200nm,16.0s,MS4.7								
TIXI	**Tiksi**	**90.88**	**348**	*i* P		**P**	**13 39 52.8**	**-0.6**
KKN	**Kakani**	**90.88**	**298**	*e*P		**P**	**13 39 54.0**	**-0.5**
	comp=Z,34nm,0.8s,mb5.7								
TUC	**Tucson**	**90.94**	**57**	*e*P		**P**	**13 39 55.0**	**+0.4**
TUC				pmax		pmax			
	comp=Z,14nm,1.0s,mb5.2								
TUC	**Tucson**	**90.94**	**57**	*e*P		**P**	**13 39 55.0**	**+0.4**
	comp=Z,14nm,0.9s,mb5.3								
DMN	**Daman**	**90.98**	**298**	*e*P		**P**	**13 39 54.7**	**-0.2**
	comp=Z,66nm,0.9s,mb6.0								
GKN	**Gorkha**	**91.49**	**299**	*e*P		**P**	**13 39 57.0**	**-0.2**
	comp=Z,28nm,0.8s,mb5.7								
NEW	**Newport**	**91.69**	**40**	P		**P**	**13 39 57.8**	**+0.1**
	comp=Z,11nm,0.9s,mb5.2,baz=241,slow=4.5,SNR=12								
NEW	**Newport**	**91.69**	**40**	*e*P		**P**	**13 39 56.8**	**-0.8**
NEW				pmax		pmax			
	comp=Z,60nm,1.5s								
NEW	**Newport**	**91.69**	**40**	*e*P		**P**	**13 39 56.8**	**-0.9**
	comp=Z,60nm,1.5s,mb5.7								
MVU	**Marysvale**	**91.74**	**51**	*e*P		**P**	**13 39 59.5**	**+1.4**
	comp=Z,48nm,1.7s,mb5.5								
MSU	**Marysvale**	**91.77**	**51**	*e*P		**P**	**13 39 59.5**	**+1.2**
HLID	**Hailey**	**91.81**	**45**	*e*P		**P**	**13 39 58.9**	**+0.5**
	comp=Z,48nm,1.7s,mb5.5								
DUG	**Dugway**	**91.83**	**49**	*e*P		**P**	**13 39 58.7**	**+0.2**
DUG				pmax		pmax			
	comp=Z,51nm,1.7s,mb5.6								
DUG	**Dugway**	**91.83**	**49**	*e*P		**P**	**13 39 58.7**	**+0.2**
	comp=Z,51nm,1.8s,mb5.6								
NLU	**North Lily Min**	**92.29**	**49**	*e*P		**P**	**13 40 01.0**	**+0.3**
KOLN	**Koldanda**	**92.30**	**298**	*e*P		**P**	**13 40 00.3**	**-0.7**
	comp=Z,14nm,0.8s,mb5.3								
HVU	**Hansel Valley**	**92.37**	**47**	*e*P		**P**	**13 40 01.3**	**+0.4**
NVL	**N'lazarevskaya**	**92.38**	**188**	*e*P		**P**	**13 40 00.0**	**-0.3**
NVL				pmax		pmax			
	comp=Z,133nm,1.2s,mb6.1								
MAIT	**Maitri**	**92.39**	**188**	*e*P		**P**	**13 39 59.8**	**-0.6**
SPUT	**South Promonto**	**92.45**	**48**	*e*P		**P**	**13 40 01.7**	**+0.4**
MPU	**Maple Canyon**	**92.64**	**49**	*e*P		**P**	**13 40 02.1**	**-0.1**
TMUT	**Trail Mountain**	**92.73**	**50**	*e*P		**P**	**13 40 03.1**	**+0.4**
SNAA	**Sanae**	**92.81**	**183**	⇑*i*P		**P**	**13 40 00.9**	**-1.4**
SNAA	**Sanae**	**92.81**	**183**			**P**	**13 40 01.9**	**-0.4**
SNAA	**Sanae**	**92.81**	**183**	⇑*i*		Px	13 40 14.7		
SNAA	**Sanae**	**92.81**	**183**	⇑*i*		Px	13 40 19.7		
SNAA	**Sanae**	**92.81**	**183**	⇓*i*S		S	13 51 05.3	-0.5	
SNAA	**Sanae**	**92.81**	**183**	*d* *i*P		**P**	**13 40 01.1**	**-1.2**
JLU	**Jordanelle**	**92.95**	**49**	*e*P		**P**	**13 40 03.7**	**0.0**
DAU	**Daniels Canyon**	**93.03**	**49**	*e*P		**P**	**13 40 04.6**	**+0.6**
SRU	**San Rafael**	**93.18**	**50**	*e*P		**P**	**13 40 04.8**	**0.0**
MCMT	**McKenzie Canyo**	**93.28**	**44**	*e*P		**P**	**13 40 05.2**	**+0.2**
INK	**Inuvik**	**93.39**	**19**	P		**P**	**13 40 03.6**	**-1.5**
	comp=Z,2.6nm,1.0s,mb4.6,baz=225,slow=5.3,SNR=5.1								
INK				LR		LR	14 15 18.1		
	comp=Z,460nm,20.4s,MS4.9,baz=239,slow=31								
INK	**Inuvik**	**93.39**	**19**	P		**P**	**13 40 03.6**	**-1.5**
INK				LR		LR	14 15 18.1		
VNA3	**Neumayer Olymp**	**93.45**	**181**	⇑*i*P		**P**	**13 40 07.5**	**+2.3**
VNA3	**Neumayer Olymp**	**93.45**	**181**	⇑*i*		**P**	**13 40 08.4**	**+3.2**
VNA3	**Neumayer Olymp**	**93.45**	**181**	⇑*i*		Px	13 40 23.5		
VNA3	**Neumayer Olymp**	**93.45**	**181**	⇓*i*		Px	13 40 28.6		
CHMT	**Chamberlain Mo**	**93.68**	**42**	*e*P		**P**	**13 40 06.5**	**-0.3**
VNA2	**Neumayer--Watz**	**93.72**	**182**	⇑*i*P		**P**	**13 40 08.1**	**+1.6**
VNA2	**Neumayer--Watz**	**93.72**	**182**	⇑*i*		**P**	**13 40 09.2**	**+2.7**
VNA2	**Neumayer--Watz**	**93.72**	**182**			Px	13 40 21.4		
VNA2	**Neumayer--Watz**	**93.72**	**182**			Px	13 40 28.8		
WMQ	**Urumqi**	**93.79**	**314**	P		**P**	**13 40 07.5**	**0.0**
WMQ				PP		PP	13 43 56.0	+0.3	
WMQ				S		S	13 51 09.0	-6.0	
WMQ				SS		SS	13 57 33.0	-4.3	
WMQ				AMB		AMB			
	comp=Z,42nm,1.4s,mb5.7								
WMQ				LR		LR			
	comp=N,708nm,28.0s,MS5.0								
WMQ				LR		LR			
	comp=E,387nm,28.0s,MS5.0								
WMQ				LR		LR			
	comp=Z,462nm,23.0s,MS4.9								
VNA1	**Neumayer--Stat**	**94.02**	**181**	⇑*i*P		**P**	**13 40 10.1**	**+2.2**
VNA1	**Neumayer--Stat**	**94.02**	**181**	⇑*i*		**P**	**13 40 10.8**	**+2.9**
VNA1	**Neumayer--Stat**	**94.02**	**181**	⇓*i*		Px	13 40 21.1		
VNA1	**Neumayer--Stat**	**94.02**	**181**	⇓*i*		Px	13 40 28.5		
HYB	**Hyderabad**	**94.05**	**287**	*i* P		**P**	**13 40 09.0**	**-0.2**
HYB	**Hyderabad**	**94.05**	**287**	*e*P		**P**	**13 40 09.0**	**-0.2**
PV10	**Paradox Valley**	**94.08**	**51**	*e*P		**P**	**13 40 08.9**	**0.0**
PV01	**Paradox Valley**	**94.36**	**52**	*e*P		**P**	**13 40 10.7**	**+0.5**
HRY	**Holter Researc**	**94.55**	**43**	*e*P		**P**	**13 40 10.9**	**0.0**
BNM	**Barren Site**	**94.80**	**56**	*e*P		**P**	**13 40 12.1**	**-0.2**
LPM	**Los Pinos Moun**	**94.84**	**56**	*e*P		**P**	**13 40 12.4**	**-0.1**
BW06	**Boulder Array**	**94.94**	**47**	*e*P		**P**	**13 40 13.5**	**+0.8**
	comp=Z,16nm,1.5s,mb5.2								
PDAR	**Pinedale Array**	**94.94**	**47**	P		**P**	**13 40 13.2**	**+0.4**
	comp=Z,1.7nm,0.7s,mb4.6,baz=207,slow=3.3,SNR=11								
PDAR				PP		PP	13 43 59.3	-4.7	
	comp=Z,0.7nm,0.9s,baz=243,slow=8.1,SNR=3.1								
PDAR				PKKPbc			13 57 06.7		
	comp=Z,2.0nm,1.1s,baz=76,slow=4.0,SNR=5.6								
PDAR				LR		LR	14 19 37.1		
	comp=Z,252nm,18.2s,MS4.7,baz=261,slow=33								
RW3	**Ridgway**	**95.06**	**52**	*e*P		**P**	**13 40 13.9**	**+0.4**
ANMO	**Albuquerque**	**95.14**	**55**	*e*P		**P**	**13 40 14.2**	**+0.3**
ANMO				pmax		pmax			
	comp=Z,5.0nm,0.8s								
ANMO	**Albuquerque**	**95.14**	**55**	*e*P		**P**	**13 40 14.2**	**+0.3**
	comp=Z,4.5nm,0.8s,mb5.0								
EDM	**Edmonton**	**95.62**	**36**	*e*P		**P**	**13 40 14.2**	**-1.4**
LTX	**Lajitas**	**96.01**	**61**	*e*P		**P**	**13 40 17.8**	**-0.2**
LTX				pmax		pmax			
	comp=Z,12nm,1.4s,mb5.1								
LTX	**Lajitas**	**96.01**	**61**	*e*P		**P**	**13 40 17.8**	**-0.2**
	comp=Z,12nm,1.4s,mb5.1								
TXAR	**Lajitas Array**	**96.01**	**61**	P		**P**	**13 40 18.8**	**+0.8**
	comp=Z,2.5nm,0.8s,mb4.7,baz=228,slow=4.9,SNR=18								
TXAR				PP		PP	13 44 11.5	-1.2	
	comp=Z,0.4nm,0.3s,baz=221,slow=9.6,SNR=4.0								
TXAR				PKKPbc			13 57 06.4		
	comp=Z,0.3nm,0.3s,baz=108,slow=4.0,SNR=3.5								
TXAR				LR		LR	14 18 36.4		
	comp=Z,437nm,18.7s,MS5.0,baz=200,slow=32								
TXAR	**Lajitas Array**	**96.01**	**61**	P		**P**	**13 40 18.8**	**+0.8**
TXAR				PP		PP	13 44 11.5	-1.2	
TXAR				PKKPbc			13 57 06.4		
T

KOLS				*e*			13 46 42.5	
OJC	**Ojcow**	**136.90**	**330**	*e*PKIKP	PKPdf		13 46 13.7	-0.1
OJC	**Ojcow**	**136.90**	**330**	*e*PKP	PKPdf		13 46 13.7	-0.1
NIE	**Niedzica**	**137.18**	**329**	*e*PKP	PKPdf		13 46 15.5	+1.1
KSP	**Ksiaz**	**138.06**	**333**	*e*PKIKP	PKPdf		13 46 14.2	-1.9
KSP				*e*			13 49 05.0	
KSP				*e*PPS	PPS		14 01 22.0	+4.3
KSP	comp=Z,1μm,21.1s,MS5.5			MLR	MLR			
PSZ	**Piszkesteto**	**138.36**	**328**	PKIKP	PKPdf		13 46 13.3	-3.5
DPC	**Dobruska-Polom**	**138.41**	**333**	*e*PP	PP		13 49 04.3	-4.3
VYHS	**Vyhne**	**138.52**	**329**	*e*PKP	PKPdf		13 46 16.8	-0.2
VYHS				*e*			13 46 45.6	
VYHS				*e*PP	PP		13 48 59.6	-10
EAB	**Aberfoyle**	**138.98**	**354**	*e*P	PKPdf		13 46 17.8	+0.2
EAB	comp=Z,48nm,2.0s			AMb	AMB		13 46 27.3	
BRG	**Berggiesshubel**	**139.02**	**335**	*e*PKIKP	PKPdf		13 46 13.2	-4.7
BRG				*e*			13 46 21.5	
BRG				*e*			13 49 09.8	
BRG	comp=Z,14nm,1.3s			pmax	pmax			
BRG	comp=N,300nm,18.1s,MS5.1			MLR	MLR			
BRG	comp=E,160nm,18.1s,MS5.1			MLR	MLR			
BRG	comp=Z,390nm,18.1s,MS5.2			MLR	MLR			
BRG	**Berggiesshubel**	**139.02**	**335**	*e*PKP	PKPdf		13 46 13.2	-4.7
BRG				*e*			13 46 21.5	
BRG				*e*PP	PP		13 49 02.0	-10
BRG				*e*			13 49 09.8	
BRG	comp=Z,390nm,18.1s,MS5.2			LR	LR			
CLL	**Collm**	**139.06**	**336**	*i*	PKPdf		13 46 07.4	-11
CLL				*i* PKIKP	PKPdf		13 46 21.1	+3.2
CLL				*i* *PPKP			13 46 35.2	
CLL				*e*PP	PP		13 49 08.0	-4.5
CLL				*e*			13 49 42.0	
CLL				*e*PKS	PKS		13 49 53.0	+2.5
CLL				*e*SKSP			13 59 25.0	
CLL	**Collm**	**139.06**	**336**	*i* PKIKP	PKPdf		13 46 21.1	+3.2
CLL	comp=Z,500nm,21.3s,MS5.2			MLR	MLR			
CLL	**Collm**	**139.06**	**336**	*i* PKP	PKPdf		13 46 21.1	+3.2
CLL				*i*			13 46 39.7	
CLL	comp=Z,500nm,21.3s,MS5.2			LR	LR			
EDI	**Edinburgh**	**139.11**	**352**	*e*P	PKPdf		13 46 17.6	-0.2
EDI	comp=Z,67nm,2.3s			AMb	AMB		13 46 29.3	
EBL	**Broad Law**	**139.24**	**352**	*e*P	PKPdf		13 46 18.3	+0.2
PRU	**Pruhonice**	**139.45**	**334**	*e*PKPdf	PKPdf		13 46 20.3	+1.7
ZST	**Bratislava**	**139.57**	**330**	*e*PKP	PKPdf		13 46 19.1	+0.2
ZST				*e*			13 46 47.7	
ZST				*e*			13 53 47.1	
ESK	**Eskdalemuir**	**139.70**	**352**	*e*P	PKPdf		13 46 18.4	-0.5
ESK	comp=Z,29nm,2.1s			AMb	AMB		13 46 26.2	
PKSM	**Moragy**	**140.12**	**327**	*e*P	PKPdf		13 46 20.1	+0.1
MOX	**Moxa**	**140.12**	**337**	*i* P	PKPdf		13 46 19.5	-0.3
MOX	comp=Z,logA/T=1.2			*e*			13 48 58.0	
MOX				PP	PP		13 49 19.0	+0.1
MOX				L			13 51 08.0	
MOX	**Moxa**	**140.12**	**337**	*e*PKIKP	PKPdf		13 46 19.5	-0.3
MOX				*e*			13 49 19.0	
MOX	comp=Z,32nm,2.1s			pmax	pmax			
MOX	comp=Z,300nm,21.0s,MS5.0			MLR	MLR			
MOX	**Moxa**	**140.12**	**337**	*e*PKP	PKPdf		13 46 19.5	-0.3
MOX				*e*			13 48 58.4	
MOX				*e*			13 49 19.0	
MOX	comp=Z,300nm,21.0s,MS5.0			LR	LR			
KHC	**Kasperske Hory**	**140.50**	**334**	*e*PKPpre			13 46 15.5	
KHC				*e*PP	PP		13 49 24.0	+2.8
GERES	**GERESS Array B**	**140.67**	**333**	PKhKP			13 46 11.3	
GERES	comp=Z,0.8nm,0.6s,baz=27,slow=3.0,SNR=8.8			PKP	PKPdf		13 46 19.2	-1.7
GERES	**GERESS Array B**	**140.67**	**333**	PKP	PKPdf		13 46 19.2	-1.7
SKO	**Skopje**	**141.00**	**319**	*e*PKP	PKPdf		13 46 22.0	+0.3
GRA1	**Grafenberg Arr**	**141.04**	**336**	*e*PKP	PKPdf		13 46 17.9	-3.6
GRA1				*e*PP	PP		13 49 21.3	-3.1
GRF	**Grafenberg Arr**	**141.04**	**336**	*e*PKIKP	PKPdf		13 46 17.9	-3.6
GRF				*e*			13 49 21.3	
KBA	**Koelnbreinsper**	**142.15**	**332**	⇑*i*P	PKPdf		13 46 17.7	-5.8
LJU	**Ljubljana**	**142.34**	**329**	*e*PKPdf	PKPdf		13 46 18.0	-5.8
LJU				*e*PP	PP		13 49 30.0	-2.3
LJU				*e*PKSbc			13 50 02.0	
LJU				*e*SKSac			13 53 36.0	
LJU				*e*sSKSbc			13 54 06.0	
LJU				*e*SKKSac			13 56 20.0	
LJU	**Ljubljana**	**142.34**	**329**	*e*PKPdf	PKPdf		13 46 18.0	-5.8
LJU				*e*PP	PP		13 49 30.0	-2.3
LJU				*e*SKSac			13 53 36.0	
LJU				*e*SKKSac			13 56 20.0	
BOJS	**Bojanci**	**142.35**	**328**	*e*PKPdf	PKPdf		13 46 19.9	-4.0
BOJS				*e*pPKPdf			13 46 37.0	
ROBS	**Robic**	**142.68**	**330**	*e*PKPdf	PKPdf		13 46 20.0	-4.5
WTTA	**Wattenberg**	**142.77**	**333**	⇓*i*P	PKPdf		13 46 20.7	-3.8
WLF	**Walferdange**	**142.88**	**340**	*e*PKIKP	PKPdf		13 46 20.6	-4.0
LANF	**Langenberg**	**142.90**	**338**	PKP	PKPdf		13 46 21.9	-2.8
MOTA	**Moosalm**	**142.94**	**334**	⇓*i*P	PKPdf		13 46 20.9	-3.9
SQTA	**Sankt Quirin**	**142.99**	**334**	⇓*i*P	PKPdf		13 46 21.8	-3.1
DAVA	**Damuels**	**143.50**	**335**	⇑*i*P	PKPbc		13 46 23.7	+1.5
WLS	**Welschbruch**	**143.54**	**338**	PKP	PKPdf		13 46 22.2	-3.6
CDF	**Champ du Feu**	**143.57**	**338**	*e*PKP1	PKPbc		13 46 21.8	-0.6
CTI	**Castel Tesino**	**143.69**	**332**	*e*PKP	PKPdf		13 46 23.1	-3.0
FELD	**Feldberg**	**143.75**	**337**	PKP	PKPdf		13 46 22.4	-3.8
ECH	**Echery**	**143.78**	**338**	PKP	PKPdf		13 46 22.8	-3.4
BRMO	**Bormio**	**143.93**	**333**	*e*PKP	PKPdf		13 46 24.5	-2.0
MOF	**Molkenrain**	**144.09**	**338**	PKP	PKPdf		13 46 23.2	-3.6
THEF	**They Montfort**	**144.18**	**339**	PKP	PKPdf		13 46 24.4	-2.5
MABI	**Malga Bissina**	**144.19**	**333**	*e*PKP	PKPdf		13 46 24.5	-2.6
HINF	**Hinteralfeld**	**144.22**	**338**	*e*PKP1	PKPbc		13 46 24.0	-0.4
HAU	**Haudompre**	**144.24**	**339**	*e*PKP1	PKPbc		13 46 24.3	-0.1
HAU	comp=Z,407nm,20.5s			*e*R				
MEZF	**Maizieres J'vi**	**144.25**	**341**	*e*PKP1	PKPbc		13 46 24.6	+0.2
SAL	**Salo**	**144.54**	**332**	*e*PKP	PKPdf		13 46 26.1	-1.6
LOMF	**Lomont**	**144.63**	**338**	PKP	PKPdf		13 46 26.1	-1.7
RGNG	**Rignano Grg**	**144.72**	**323**	*e*PKP	PKPdf		13 46 26.7	-1.4
CSA1	**St Austell**	**144.78**	**352**	*e*P	PKPbc		13 46 26.6	+0.8
FSSB	**Fossombrone**	**144.88**	**328**	*e*PKP	PKPdf		13 46 27.4	-1.0
ARV	**Arcevia**	**144.94**	**328**	*e*PKP	PKPdf		13 46 27.0	-1.5
CCA1	**Carnmenellis**	**144.98**	**352**	*e*P	PKPbc		13 46 26.6	+0.2
CRQ2	**Rosemanowes 2**	**145.00**	**352**	*e*P	PKPbc		13 46 26.8	+0.3
CPZ	**Penzance**	**145.06**	**353**	*e*P	PKPbc		13 46 26.4	-0.2
CPZ	comp=Z,141nm,1.6s			AMb	AMB		13 46 35.0	
CGW	**Gweek**	**145.07**	**352**	*e*P	PKPbc		13 46 26.6	-0.1
CMA1	**Manaccan**	**145.07**	**352**	*e*P	PKPbc		13 46 27.2	+0.6
VAI	**Varese**	**145.09**	**334**	*e*PKP	PKPdf		13 46 27.1	-1.6
CGH1	**Goonhilly**	**145.11**	**352**	*e*P	PKPbc		13 46 27.2	+0.5
SFI	**Santa Sofia**	**145.20**	**329**	*e*PKP	PKPdf		13 46 29.1	+0.3
PGD	**Poggio Sodo**	**145.28**	**329**	*e*PKP	PKPdf		13 46 29.1	0.0
ZCCA	**Zocca**	**145.29**	**331**	*e*PKP	PKPdf		13 46 29.7	+0.7
NRCA	**Norcia**	**145.31**	**327**	*e*PKP	PKPdf		13 46 28.8	-0.3
MURB	**Monte Urbino**	**145.32**	**328**	*e*PKP	PKPdf		13 46 30.6	+1.4
MRLC	**Muro Lucano**	**145.35**	**322**	*e*PKP	PKPdf		13 46 29.7	+0.4
CRE	**Caprese Michel**	**145.35**	**329**	*e*PKP	PKPdf		13 46 29.7	+0.5
FNVD	**Fontana Vidola**	**145.35**	**330**	*e*PKP	PKPdf		13 46 32.1	+3.0
CII	**Carovilli**	**145.41**	**324**	*e*PKP	PKPdf		13 46 29.8	+0.4
GSCL	**Gusciola**	**145.47**	**331**	*e*PKP	PKPdf		13 46 29.5	+0.2
AQU	**L'Aquila**	**145.49**	**326**	*e*PKIKP	PKPdf		13 46 29.8	+0.4
SLCN	**Sala Consilina**	**145.49**	**321**	*e*PKP	PKPdf		13 46 24.3	-5.2
ERBM	**Eremo**	**145.50**	**331**	*e*PKP	PKPdf		13 46 30.2	+0.8
TIP	**Timpagrande**	**145.51**	**319**	*e*PKP	PKPdf		13 46 28.7	-0.9
CABF	**La Chapelle**	**145.52**	**338**	*e*PKP1	PKPbc		13 46 29.3	+1.4
	comp=Z,412nm,1.1s							
FLN	**La Foliniere**	**145.52**	**347**	*e*PKP1	PKPbc		13 46 28.3	+0.5
FLN	comp=Z,252nm,1.0s			*e*R				
SGO	**Sicignano**	**145.58**	**322**	*e*PKP	PKPdf		13 46 28.9	-0.8
SGG	**Gregorio Mates**	**145.59**	**324**	*e*PKP	PKPdf		13 46 29.0	-0.7
LDF	**La Druitiere**	**145.60**	**346**	*e*PKP1	PKPbc		13 46 28.4	+0.4
GRAM	comp=Z,239nm,1.2s	**145.60**	**332**	P	PKPbc		13 46 29.2	+1.0
ORX	**Oropa**	**145.60**	**335**	P	PKPbc		13 46 28.1	0.0
VALM		**145.63**	**331**	P	PKPbc		13 46 29.5	+1.3
BOB	**Bobbio (Coli)**	**145.67**	**333**	*e*PKP	PKPdf		13 46 31.5	+1.8
BDI	**Bagni Di Lucca**	**145.68**	**331**	*e*PKP	PKPdf		13 46 29.1	-0.6
MGR	**Morigerati**	**145.69**	**321**	*e*PKP	PKPdf		13 46 29.5	-0.3
SDI	**San Donato**	**145.70**	**325**	*e*PKP	PKPdf		13 46 29.3	-0.5
LOR	**Lormes**	**145.71**	**341**	*e*PKP1	PKPbc		13 46 29.3	+1.0
LOR	comp=Z,232nm,1.1s			*e*R				
PTQR	**Pietraquaria**	**145.72**	**325**	*e*PKP	PKPdf		13 46 30.1	+0.2
BACM		**145.76**	**331**	P	PKPbc		13 46 28.7	+0.1
CODM		**145.78**	**332**	P	PKPbc		13 46 29.5	+0.9
CSNT	**Castellina Chi**	**145.79**	**329**	*e*PKP	PKPdf		13 46 29.2	-0.7
TRAV		**145.80**	**335**	P	PKPbc		13 46 28.8	+0.2
VINC	**Vinca**	**145.83**	**331**	P	PKPbc		13 46 28.7	0.0
MAIM		**145.84**	**331**	P	PKPbc		13 46 28.4	-0.4
MNS	**Montasola**	**145.85**	**327**	*e*PKP	PKPdf		13 46 29.6	-0.4
GRI	**Girifalco**	**145.93**	**318**	*e*PKP	PKPdf		13 46 31.2	+0.9
GRR	**Gorron**	**145.96**	**347**	*e*PKP1	PKPbc		13 46 30.0	+1.1
PII	comp=Z,444nm,1.3s **Pisa**	**145.97**	**330**	*e*PKP	PKPdf		13 46 29.5	-0.7
SSF	**Saint Saulge**	**146.01**	**341**	*e*PKP1	PKPbc		13 46 30.3	+1.2
LSD	comp=Z,219nm,1.1s **Ceresole Reale**	**146.08**	**336**	P	PKPbc		13 46 31.0	+1.7
HYF	**Humbligny**	**146.09**	**342**	*e*PKP1	PKPbc		13 46 30.7	+1.4
GENL	**Genova Univers**	**146.16**	**333**	P	PKPbc		13 46 29.4	-0.2
GRFL	**Gerfalco**	**146.18**	**329**	*e*PKP	PKPdf		13 46 30.2	-0.4
LPL	**La Plagne**	**146.20**	**336**	*e*PKP1	PKPbc		13 46 31.4	+1.8
LPG	comp=Z,124nm,0.8s **La Plagne**	**146.21**	**336**	*e*PKP1	PKPbc		13 46 31.5	+1.9
PCP	comp=Z,144nm,0.8s **Pian Castagno**	**146.24**	**333**	P	PKPbc		13 46 30.0	+0.3
SMF	**Signal de Mont**	**146.27**	**340**	*e*PKP1	PKPbc		13 46 30.9	+1.2
RSP	comp=Z,243nm,1.2s **Reno Superiore**	**146.29**	**335**	P	PKPbc		13 46 30.8	+1.0
SGMF	**Saint Gilles**	**146.44**	**349**	*e*PKP1	PKPbc		13 46 31.1	+1.1
FENE	comp=Z,329nm,1.2s **Fenestrelle**	**146.47**	**335**	P	PKPbc		13 46 31.3	+1.1
ROSF	**Rostrenen**	**146.49**	**349**	*e*PKP1	PKPbc		13 46 31.3	+1.2
BHB	comp=Z,197nm,1.2s **Bricherasio**	**146.54**	**335**	P	PKPbc		13 46 30.0	-0.4
BNI	**Bardonecchia**	**146.61**	**336**	*e*PKP2	PKPab		13 46 32.2	-1.7
FIN	**Finale Ligure**	**146.66**	**333**	*e*PKP	PKPdf		13 46 30.7	-0.7
BGF	**Bois d'Agland**	**146.66**	**341**	*e*PKP1	PKPbc		13 46 32.1	+1.5
RRL	comp=Z,99nm,0.9s **Cesana Torines**	**146.67**	**335**	P	PKPbc		13 46 31.5	+0.9
ROB	**Roburent**	**146.73**	**334**	P	PKPbc		13 46 30.8	0.0
RORO		**146.79**	**333**	P	PKPbc		13 46 31.5	+0.6
GRN	**Grenoble**	**146.81**	**337**	PKP	PKPdf		13 46 33.4	+1.8
MBDF	**Montbardon**	**146.84**	**335**	*e*PKP1	PKPbc		13 46 32.5	+1.4
MTTG	comp=Z,116nm,1.0s **Motta San Giov**	**146.87**	**318**	*e*PKP	PKPdf		13 46 33.5	+1.6
QUIF	**Quistinic**	**146.88**	**349**	*e*PKP1	PKPbc		13 46 33.3	+2.3
PZZ	comp=Z,73nm,0.9s **Prazzo**	**146.89**	**335**	P	PKPbc		13 46 32.5	+1.4
MONE	**Monesi**	**146.96**	**334**	P	PKPbc		13 46 30.8	-0.6
ENR	**Entracque**	**146.98**	**334**	P	PKPbc		13 46 32.0	+0.6
STV2	**Anna di Valdie**	**147.00**	**334**	P	PKPdf		13 46 31.5	-0.4
STV	**Sta Anna Valdi**	**147.00**	**334**	P	PKPdf		13 46 31.5	-0.4
AGO	**Saint Agoulin**	**147.02**	**341**	PKP	PKPdf		13 46 34.3	+2.4
SURF	**Saint Ours**	**147.02**	**335**	PKP	PKPdf		13 46 33.7	+1.7
ORIF	**Oris-en-Rattie**	**147.03**	**336**	*e*PKP1	PKPdf		13 46 33.3	+1.3
ORIF	comp=Z,147nm,1.0s			*e*R				
IMI	comp=Z,408nm,22.2s **Imperia**	**147.03**	**333**	*e*PKP	PKPdf		13 46 33.5	+1.5
TCF	**Toulx Ste Croi**	**147.10**	**342**	*e*PKP1	PKPdf		13 46 32.5	+0.5
SAOF	comp=Z,107nm,1.0s **Saorge**	**147.12**	**334**	PKP	PKPdf		13 46 32.9	+0.8
AUTN	**L'Aution**	**147.16**	**334**	PKP	PKPdf		13 46 33.0	+0.8
NEGI	**Negi**	**147.16**	**333**	P	PKPdf		13 46 30.4	-1.8
TOUF	**Mont Tournerai**	**147.22**	**334**	PKP	PKPdf		13 46 33.9	+1.6
SBF	**Sospel**	**147.27**	**334**	*e*PKP1	PKPdf		13 46 33.3	+0.9
AURF	comp=Z,174nm,0.8s **Auriere**	**147.29**	**334**	PKP	PKPdf		13 46 32.5	+0.1
COLF	**Collangettes**	**147.31**	**339**	PKP	PKPdf		13 46 35.4	+3.0
PYM	**Petit Puy Mans**	**147.33**	**340**	PKP	PKPdf		13 46 35.6	+3.2
MVIF	**Mont Vial**	**147.36**	**334**	PKP	PKPdf		13 46 35.0	+2.5
MFF	**Saint Martin d**	**147.47**	**345**	*e*PKP1	PKPdf		13 46 34.2	+1.6
VERF	comp=Z,174nm,1.0s **Verneugheol**	**147.50**	**341**	PKP	PKPdf		13 46 34.6	+1.9
VIVF	**Saint-Julien-l**	**147.54**	**338**	*e*PKP1	PKPdf		13 46 35.2	+2.4
OCF	comp=Z,122nm,1.0s **Saint Nazaire**	**147.54**	**337**	PKP	PKPdf		13 46 34.5	+1.7
OG26	**St.-Nazaire-De**	**147.54**	**337**	PKP	PKPdf		13 46 34.5	+1.7
LCHF	**La Chataignera**	**147.55**	**346**	PKP	PKPdf		13 46 33.3	+0.6
PGF	**Pioggiola**	**147.59**	**330**	*e*PKP1	PKPdf		13 46 34.4	+1.5
LBL	comp=Z,219nm,1.1s **Lubilhac**	**147.71**	**340**	PKP	PKPdf		13 46 36.9	+3.9
FRF	**La Foret Royal**	**147.85**	**334**	*e*PKP1	PKPdf		13 46 35.0	+1.7
SMRF	comp=Z,140nm,1.1s **Simiane la Rot**	**147.94**	**336**	*e*PKP1	PKPdf		13 46 35.8	+2.3
LMR	comp=Z,79nm,1.0s **La Mourre**	**148.09**	**334**	*e*PKP1	PKPdf		13 46 35.7	+2.0
RJF	comp=Z,134nm,1.1s **Les Rejaudoux**	**148.20**	**342**	*e*PKP1	PKPdf		13 46 36.3	+2.5
RJF	comp=Z,282nm,1.6s			*e*R				
CAF	comp=Z,366nm,22.0s **Calviac**	**148.37**	**341**	*e*PKP1	PKPdf		13 46 37.0	+2.9
LASF	comp=Z,156nm,1.2s **Ste Croix**	**148.51**	**338**	*e*PKP1	PKPdf		13 46 37.3	+2.9
LFF	comp=Z,119nm,1.1s **La Frestale**	**148.76**	**342**	*e*PKP1	PKPdf		13 46 37.9	+3.2
VSL	comp=Z,174nm,1.2s **Villasalto**	**149.66**	**326**	*e*PKPbc	PKPdf		13 46 39.1	+2.7
MTLF	**Montolieu**	**149.73**	**339**	*e*PKP1	PKPdf		13 46 40.3	+4.0
MLS	comp=Z,148nm,1.2s **Moulis**	**150.44**	**340**	PKP	PKPdf		13 46 41.6	+4.1
EPF	**Esparros**	**150.61**	**341**	*e*PKP1	PKPdf		13 46 42.6	+4.9
VALF	**Valcebollere**	**150.62**	**339**	PKP	PKPdf		13 46 42.0	+4.3
RESF	**Ens**	**150.82**	**341**	PKP	PKPdf		13 46 43.6	+5.6
VIEF	**Viey**	**150.84**	**342**	PKP	PKPdf		13 46 44.9	+6.8
ETSF	**Etsaut**	**151.00**	**343**	*e*PKP1	PKPdf		13 46 43.5	+5.2
ESDC	comp=Z,56nm,0.9s **Sonseca Array**	**154.93**	**345**	PKPab	PKPab		13 47 07.2	-1.2
EVO	comp=Z,5.2nm,0.9s,baz=17,slow=3.2,SNR=11 **Evora**	**156.80**	**352**	*e*PKIKP	PKPdf		13 46 46.2	-0.2
EVO	comp=Z,50nm,1.3s			*e*R				
KIC	comp=Z,397nm,22.8s **Kosan Boka**	**168.47**	**219**	*e*P	PKPab		13 48 07.3	-0.5
LIC	comp=Z,190nm,1.1s **Lamto**	**168.53**	**217**	*e*PKP2	PKPab		13 48 05.5	-2.6
LIC	comp=Z,49nm,0.9s **Lamto**	**168.53**	**217**	*e*P	PKPab		13 48 07.5	-0.6
DBIC	comp=Z,109nm,1.1s **Dimbokro**	**168.78**	**219**	PKP	PKPdf		13 46 56.6	-2.1
DBIC	comp=Z,3.9nm,0.8s,baz=178,slow=3.5,SNR=4.3			PKPab	PKPab		13 48 08.3	-0.9
DBIC	comp=Z,22nm,1.0s,baz=129,slow=5.9,SNR=8.5 **Dimbokro**	**168.78**	**219**	PKP	PKPdf		13 46 56.6	-2.1
DBIC				PKPab	PKPab		13 48 08.3	-0.9
TIC	**Toumodi**	**168.86**	**218**	*e*P	PKPab		13 48 09.1	-0.4
	comp=Z,187nm,1.0s							

CSEM ***30*** *13:42:22.3±1.2, 35.15N×3.77W, h10km, mb4.3/1, Error ellipse: s-maj=33.3km s-min=14.0km az=20.0*
MDD ***30*** *13:42:23.2±2.0, 35.14N×3.86W, mb3.0/2, Error ellipse: s-maj=21.2km s-min=6.7km az=18.0, PRXIMO*
NEIC ***30*** *13:42:23.1, 35.13N×3.86W, MG3.4(MDD), After MDD.*
ISC 30 13:42:22.5±1.6, 35.16N±0.09×3.86W±0.06, h10km, n13, σ1§05/22, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
EMEL	**Melilla**	**0.76**	**79**	P		**Pb**	**13 42 36.6**	**-0.7**
EMEL	SNR=7.9			S		**Sb**	**13 42 47.8**	**+0.3**
EMLI	174nm,0.1s,SNR=7.9 **Melilla**	**0.76**	**79**	P		**Pb**	**13 42 36.6**	**-0.8**
EMLI	328nm,0.2s,SNR=7.9			S		**Sb**	**13 42 47.8**	**+0.2**
EMIJ	174nm,0.1s,SNR=7.9 **Mijas**	**1.59**	**333**	P		**Pn**	**13 42 50.3**	**-0.6**
EMIJ	0.6nm,0.1s,SNR=4.0			S		**Sb**	**13 43 11.0**	**-0.6**
EBER	1.7nm,0.1s,SNR=7.9 **Berja**	**1.91**	**24**	S		**Sn**	**13 43 19.8**	**0.0**
EBER	2.4nm,0.2s,SNR=4.0 **Berja**	**1.91**	**24**	S		**Sn**	**13 43 17.2**	**-2.6**
EQES	2.4nm,0.2s,SNR=4.0 **Quesada**	**2.72**	**13**	P		**Pn**	**13 43 08.3**	**+1.2**
EQES	0.8nm,0.1s,SNR=7.9			S		**Sn**	**13 43 40.7**	**+0.3**
EQES	2.0nm,0.2s,SNR=7.9 **Quesada**	**2.72**	**13**	P		**Pn**	**13 43 08.3**	**+1.2**
EQES	0.8nm,0.1s,SNR=7.9			S		**Sn**	**13 43 40.7**	**+0.4**
EADA	2.0nm,0.2s,SNR=7.9 **Adamuz**	**3.06**	**349**	P		**Pn**	**13 43 12.3**	**+0.3**
EADA	0.1nm,0.2s,SNR=7.9			S		**Sn**	**13 43 48.4**	**-0.6**
EADA	0.2nm,0.2s,SNR=4.0 **Adamuz**	**3.06**	**349**	P		**Pn**	**13 43 12.3**	**+0.3**
EADA				S		**Sn**	**13 43 50.6**	**+1.5**
EADA	**Adamuz**	**3.06**	**349**	P		**Pn**	**13 43 12.3**	**+0.3**
EADA	0.1nm,0.2s,SNR=7.9			S		**Sn**	**13 43 50.6**	**+1.6**
EMIN	0.2nm,0.2s,SNR=4.0 **Mina Concepcio**	**3.45**	**320**	P		**Pn**	**13 43 19.1**	**+1.5**
EMIN	0.2nm,0.1s,SNR=7.9			S		**Sn**	**13 43 55.7**	**-3.3**
EMIN	0.2nm,0.1s,SNR=7.9 **Mina Concepcio**	**3.45**	**320**	S		**Sn**	**13 43 55.7**	**-3.2**
EMIN	**Mina Concepcio**	**3.45**	**320**	P		**Pn**	**13 43 19.1**	**+1.6**

CSEM ***30*** *13:50:07.0±0.7, 46.33N×13.57E, h20km, ML1.5, Error ellipse: s-maj=20.0km s-min=9.9km az=22.0*
LJU 30 13:50:08.6, 46.32N×13.61E, h8km, ML1.5, 2C-3D, Austria

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ROBS	**Robic**	**0.10**	**223**	⇓*i*Pg		Pg	13 50 11.2	+0.1
ROBS	comp=Z,43nm,0.1s			*i* Sg		Sg	13 50 12.9	+0.1
ROBS	**Robic**	**0.10**	**223**	⇓*i*Pg		Pg	13 50 11.2	+0.1
ROBS	comp=Z,43nm,0.1s			*i* Sg		Sg	13 50 12.9	+0.1
CADS	**Cadrg**	**0.13**	**135**	⇑*i*Pg		Pg	13 50 11.6	0.0
CADS	comp=Z,138nm,0.1s			*i* Sg		Sg	13 50 13.7	+0.2
CADS	**Cadrg**	**0.13**	**135**	⇑*i*Pg		Pg	13 50 11.6	+0.1
CADS	comp=Z,138nm,0.1s			*i* Sg		Sg	13 50 13.7	+0.2
DRE	**Drenchia**	**0.15**	**171**	⇓*e*Pg		Pg	13 50 11.9	0.0
DRE				*e*Sg		Sg	13 50 14.3	+0.2
VOJS	**Vojsko**	**0.34**	**146**	*i* Pg		Pg	13 50 15.6	0.0
VOJS				*i* Sg		Sg	13 50 21.3	+1.0

JMA ***30*** *14:02:51.0±0.1, 42.89N×144.94E, h50km±1km, M3.3*
JMA Felt I J1.
IDC ***30*** *14:03:03.2±1.4, 46.24N×143.52E, mb3.2/3, mb1 3.5/3, mb1mx3.3/21, Error ellipse: s-maj=43.9km s-min=33.5km az=125.0*
ISC 30 14:02:50.0±1.0, 42.86N±0.07×144.95E±0.07, h53km±7km, n11, σ0§61/18, mb3.0/2, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JAK	**Akkeshi**	**0.23**	**306**	P		**P**	**14 02 59.3**	**+0.4**
JAK				S		**S**	**14 03 05.4**	**+0.1**
JNK	**Nakash**	**0.74**	**347**	P		**P**	**14 03 04.7**	**+0.2**
JNK				S		**S**	**14 03 14.6**	**-0.6**
NEM2	**Nemuro 2**	**0.77**	**49**	P		**P**	**14 03 04.9**	**+0.1**
NEM2				S		**S**	**14 03 14.9**	**-0.9**
JOB	**Onbets**	**0.82**	**273**	P		**P**	**14 03 06.0**	**+0.4**
JOB				S		**S**	**14 03 17.0**	**-0.1**
JAR	**Ashorobuto**	**0.97**	**297**	P		**P**	**14 03 08.0**	**+0.4**
JAR				eS		**S**	**14 03 20.4**	**-0.3**
JRA	**Rausu**	**1.08**	**6**	P		**P**	**14 03 09.5**	**+0.3**
JRA				eS		**S**	**14 03 23.1**	**-0.3**
JCH	**Churui**	**1.20**	**259**	P		**P**	**14 03 10.8**	**0.0**
JCH				eS		**S**	**14 03 25.6**	**-0.6**
JTKR	**Abashiri--To

1.9nm,0.9s,mb4.0,baz=45,slow=11,SNR=3.5
AKASG Malin Array Be 74.94 322 P **P 14 23 29.3 -0.4**
0.5nm,0.3s,mb3.9,baz=46,slow=6.1,SNR=7.0
NOA NORSAR Array B 74.95 337 P **P 14 23 29.8 +0.3**
0.7nm,0.7s,mb3.7,baz=144,slow=23,SNR=3.0
NVAR Mina Array Bea 75.52 53 P **P 14 23 35.1 +1.8**
1.1nm,0.7s,mb3.9,baz=294,slow=7.5,SNR=10
PDAR Pinedale Array 78.28 45 P **P 14 23 49.6 +1.0**
0.6nm,0.5s,mb3.8,baz=290,slow=2.4,SNR=7.9
GERES GERESS Array B 83.41 328 P **P 14 24 16.9 +1.4**
0.5nm,0.7s,mb3.7,baz=11,slow=5.0,SNR=2.9
LPAZ La Paz 147.14 61 PKPbc PKPdf 14 31 33.5 +0.1
1.0nm,0.5s,baz=283,slow=3.7,SNR=4.6

*NNC **30** 14:24:17.8±12.0, 42.94N×85.94E, mpv2.4, Error ellipse: s-maj=84.7km s-min=54.4km az=147.0*
BJI 30 14:24:15.6, 42.59N×85.75E, h16km, ML3.0, 4C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**1.88**	**48**	⇓*i*	Pg	14 24 48.5	+1.0
WMQ				SG	Sn	14 25 12.0	+1.0
WMQ	comp=N,79nm,0.8s			Smax			
WMQ	comp=E,76nm,0.6s			Smax			
MK31	**Makanchi Array**	**4.87**	**331**	⇑Pn	Pn	14 25 29.5	-0.6
MK31	comp=E,0.1nm,0.2s,baz=149,slow=14,SNR=28			⇑Pg	Pn	14 25 42.1	+12
MK31	comp=E,0.3nm,0.3s,baz=147,slow=17			⇑Sn	Sn	14 26 24.9	-1.9
MK31	comp=E,0.3nm,0.2s,baz=149,slow=26,SNR=3.6			⇑Lg		14 26 46.5	
	comp=E,2.0nm,0.6s,baz=140,slow=30,SNR=5.8						

TIF 30 14:30:33.7, 41.39N×44.46E, h4km, Mpv3.6, 4C-2D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STE	**Stepanavan**	**0.39**	**187**	*i* P	Pg	14 30 41.6	0.0
STE				*i* S	Sg	14 30 47.0	+0.2
MTA	**Mtatsminda**	**0.39**	**39**	⇑*i*P	Pg	14 30 43.0	+1.4
MTA				*i* S	Sg	14 30 49.2	+2.3
TBLG	**Delisi**	**0.40**	**31**	⇑*i*P	Pg	14 30 42.0	+0.3
TBLG				*i* S	Sg	14 30 48.6	+1.5
DGRG	**David-gareji**	**0.69**	**85**	⇓*i*P	Pg	14 30 50.2	+2.7
DGRG				*i* S	Sg	14 31 02.2	+5.5
DUS	**Dusheti**	**0.72**	**14**	⇓*i*P	Pg	14 30 49.6	+1.4
DUS				*i* S	Sg	14 31 01.0	+3.2
AKH	**Akhalkalaki**	**0.73**	**272**	⇑*i*P	Pg	14 30 48.6	+0.3
AKH				*i* S	Sg	14 30 58.8	+0.8
ONI	**Oni**	**1.41**	**328**	⇑*i*P	Pn	14 31 01.3	+1.2

*IDC **30** 14:31:57.0±2.5, 33.47S×56.19E, mb3.7/5, mb1 4.0/5, mb1mx3.7/19, Error ellipse: s-maj=95.6km s-min=33.3km az=42.0*
ISC 30 14:31:56.0±2.8, 33.6S±0.5×56.1E±0.6, h10km, n6, σ0s52/5, mb3.7/5, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**65.96**	**45**	P	**P**	**14 42 45.0**	**+0.3**
	0.2nm,0.5s,mb3.4,baz=234,slow=7.8,SNR=4.9						
ASAR	**Alice Springs**	**67.61**	**104**	P	**P**	**14 42 55.2**	**0.0**
	0.3nm,0.5s,mb3.5,baz=234,slow=6.1,SNR=5.6						
WRA	**Warramunga Arr**	**69.74**	**101**	P	**P**	**14 43 08.4**	**0.0**
	0.7nm,0.7s,mb3.7,baz=238,slow=5.5,SNR=10						
MLR	**Muntele Rosu**	**83.30**	**339**	P	**P**	**14 44 24.5**	**+0.4**
	0.5nm,0.3s,mb4.0,baz=200,slow=12,SNR=2.9						
BVAR	**Borovoye Array**	**87.14**	**9**	P	**P**	**14 44 42.3**	**-0.7**
	0.3nm,0.7s,mb3.7,baz=188,slow=5.5,SNR=2.3						
ILAR	**Eielson Array**	**145.78**	**17**	PKPbc	PKPbc	14 51 38.0	+3.2
	0.4nm,0.5s,baz=310,slow=4.3,SNR=13						

*IDC **30** 14:43:43.9±0.7, 3.51N×126.81E, mb4.2/16, mb1 4.3/16, mb1mx4.3/22, Error ellipse: s-maj=35.8km s-min=14.1km az=72.0*
*NEIC **30** 14:43:45.3±0.5, 3.53N×126.96E, h10km, mb4.3/6, Error ellipse: s-maj=27.4km s-min=7.7km az=68.0*
ISC 30 14:43:47.2±0.5, 3.47N±0.08×126.8E±0.1, h33km, n34, σ0s93/34, mb4.3/22, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**17.00**	**161**	*e*P	**P**	**14 47 49.9**	**+5.7**
	5.8nm,0.4s						
FITZ	**Fitzroy Crossi**	**21.46**	**183**	*e*P	**P**	**14 48 35.9**	**+0.9**
	4.9nm,0.8s,mb3.9						
FITZ	**Fitzroy Crossi**	**21.46**	**183**	P	**P**	**14 48 35.2**	**+0.2**
	5.8nm,0.7s,mb4.0,baz=19,slow=5.3,SNR=13						
WRAB	**Tennant Creek**	**24.41**	**163**	*e*P	**P**	**14 49 03.0**	**-1.1**
	17nm,0.7s,mb4.6						
WRA	**Warramunga Arr**	**24.41**	**163**	P	**P**	**14 49 03.5**	**-0.6**
	7.5nm,0.5s,mb4.3,baz=339,slow=10,SNR=55						
WB2	**Warramunga Arr**	**24.42**	**163**	*e*P	**P**	**14 49 04.1**	**-0.1**
ASPA	**Alice Springs**	**27.84**	**166**	*e*P	**P**	**14 49 35.5**	**-0.5**
ASAR	**Alice Springs**	**27.84**	**166**	P	**P**	**14 49 35.5**	**-0.5**
	1.7nm,0.8s,mb3.7,baz=351,slow=7.5,SNR=27						
CMAR	**Chiang Mai Arr**	**31.06**	**301**	P	**P**	**14 50 03.5**	**-1.2**
	0.8nm,0.7s,mb3.7,baz=128,slow=8.6,SNR=8.2						
STKA	**Stephens Creek**	**37.86**	**159**	P	**P**	**14 51 02.9**	**0.0**
	4.3nm,0.5s,mb4.5,baz=342,slow=8.6,SNR=22						
STKA	**Stephens Creek**	**37.86**	**159**	*e*P	**P**	**14 51 02.9**	**0.0**
ASAJ	**Asahikawa**	**42.82**	**17**	P	**P**	**14 51 43.9**	**+0.1**
	7.0nm,1.0s,mb4.3,baz=120,slow=29,SNR=4.1						
GUN	**Gumba**	**45.94**	**306**	*e*P	**P**	**14 52 08.9**	**-0.2**
	9.8nm,0.5s,mb5.0						
KKN	**Kakani**	**46.37**	**306**	*e*P	**P**	**14 52 11.8**	**-0.7**
DMN	**Daman**	**46.44**	**305**	*e*P	**P**	**14 52 13.7**	**+0.7**
GKN	**Gorkha**	**46.98**	**306**	*e*P	**P**	**14 52 16.2**	**-1.0**
	2.4nm,0.3s,mb4.5						
SONM	**Songino Array**	**47.57**	**341**	P	**P**	**14 52 21.5**	**-0.1**
	0.8nm,0.7s,mb3.9,baz=159,slow=7.9,SNR=6.8						
KOLN	**Koldanda**	**47.73**	**305**	*e*P	**P**	**14 52 22.9**	**-0.3**
	5.4nm,0.3s,mb5.1						
AAK	**Ala-Archa**	**60.60**	**318**	P	**P**	**14 53 57.0**	**-0.1**
KURK	**Kurchatov**	**62.00**	**328**	*e*P	**P**	**14 54 05.0**	**-1.5**
	6.4nm,0.7s,mb4.9						
BVAR	**Borovoye Array**	**67.58**	**327**	P	**P**	**14 54 41.1**	**-1.4**
	0.7nm,0.4s,mb4.0,baz=127,slow=7.4,SNR=7.3						
BRVK	**Borovoye**	**67.65**	**327**	*e*P	**P**	**14 54 43.6**	**+0.7**
	1.8nm,0.6s,mb4.3						
VNDA	**Vanda**	**83.16**	**173**	P	**P**	**14 56 12.5**	**+1.6**
	0.6nm,0.9s,mb3.6,baz=27,slow=12,SNR=4.9						
VNDA	**Vanda**	**83.16**	**173**	*e*P	**P**	**14 56 12.0**	**+1.2**
	0.5nm,0.8s,mb3.6						
ILAR	**Eielson Array**	**85.31**	**25**	P	**P**	**14 56 22.2**	**+0.4**
	0.6nm,0.9s,mb3.7,baz=247,slow=6.9,SNR=4.9						
ASF	**Jabal al Asfar**	**88.09**	**302**	P	**P**	**14 56 37.8**	**+1.7**
	1.7nm,0.8s,mb4.3,baz=352,slow=9.1,SNR=3.7						
KMBO	**Kilima Mbogo**	**89.62**	**269**	P	**P**	**14 56 45.7**	**+1.9**
	2.5nm,1.1s,mb4.4,baz=79,slow=16,SNR=3.8						
KMBO	**Kilima Mbogo**	**89.62**	**269**	P	**P**	**14 56 45.7**	**+1.9**
EIL	**Elat**	**89.91**	**300**	P	**P**	**14 56 47.7**	**+2.9**
	1.8nm,0.5s,mb4.7,baz=305,slow=30,SNR=2.8						
EIL	**Elat**	**89.91**	**300**	P	**P**	**14 56 47.7**	**+2.9**
BRTR	**Keskin Array B**	**90.24**	**310**	P	**P**	**14 56 45.9**	**-0.2**
	0.6nm,0.7s,mb4.1,baz=88,slow=4.9,SNR=3.5						
ARCES	**ARCESS Array B**	**90.72**	**340**	P	**P**	**14 56 48.2**	**+0.5**
	5.6nm,1.1s,mb4.8,baz=79,slow=6.2,SNR=6.1						
ARCES	**ARCESS Array B**	**90.72**	**340**	P	**P**	**14 56 48.2**	**+0.5**
FINES	**FINESS Array B**	**92.09**	**332**	P	**P**	**14 56 54.5**	**+0.3**
	3.7nm,1.1s,mb4.6,baz=353,slow=15,SNR=2.5						

*ISK **30** 14:58:53.9, 36.95N×27.84E, h18km, MD3.2*
*CSEM **30** 14:58:55.5±0.1, 37.07N×27.97E, h20km, MD3.2, Error ellipse: s-maj=3.5km s-min=2.3km az=55.0*
*ATH **30** 14:59:01.7, 36.62N×27.81E, h10km, MD2.9/3*
ISC 30 14:58:55.5±0.5, 36.99N±0.04×27.86E±0.04, h18km, n15, σ0s87/21, 1C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLSB	**Milas**	**0.31**	**347**	*i* PG	**Pb**	**14 59 01.7**	**-0.6**
MLSB				*i* SG	**Sb**	**14 59 07.3**	**+0.5**
BDRM	**Kayabasi**	**0.34**	**282**	*i* P	**Pb**	**14 59 02.7**	**-0.1**
BDRM				*i* S	**Sb**	**14 59 08.5**	**+0.7**
YER	**Yerkesik**	**0.37**	**67**	*i* PG	**Pb**	**14 59 02.4**	**-0.8**
YER				*i* SG	**Sb**	**14 59 09.4**	**+1.0**
DALT	**Dalyan (Mudla)**	**0.66**	**110**	PG	**Pb**	**14 59 07.9**	**-0.3**
DALT				SG	**Sb**	**14 59 17.0**	**+0.1**
AYDN	**Tasoluk**	**0.67**	**1**	⇑*i*P	**Pb**	**14 59 08.4**	**+0.1**
AYDN				*i* S	**Sb**	**14 59 17.7**	**+0.7**
NISR	**Nisiros**	**0.70**	**237**	*e*PB	**Pb**	**14 59 12.2**	**+3.3**
ARG	**Arkhangelos**	**0.81**	**165**	*e*PB	**Pb**	**14 59 11.0**	**+0.3**
DNZL	**Cakiroluk**	**1.17**	**53**	*i* P	**Pb**	**14 59 16.5**	**-0.4**
DNZL				*i* S	**Sb**	**14 59 34.1**	**+2.4**
DENT	**Denizli**	**1.20**	**51**	PN	**Pn**	**14 59 17.0**	**-0.6**
IZM	**Izmir**	**1.48**	**341**	PN	**Pn**	**14 59 21.0**	**-0.6**
BLCB	**Balcova**	**1.53**	**335**	*e*PN	**Pn**	**14 59 21.4**	**-0.9**
KARP	**Karpathos**	**1.55**	**202**	*e*PB	**Pb**	**14 59 24.1**	**+0.7**
APE	**Apeiranthos**	**1.87**	**273**	*e*PN	**Pn**	**14 59 26.4**	**-0.7**
AKS	**Akhisar**	**1.88**	**359**	*e*PN	**Pn**	**14 59 26.8**	**-0.5**
BCK	**Bucak**	**2.23**	**77**	*e*PN	**Pn**	**14 59 31.0**	**-1.3**

IDC 30 14:59:21.1±2.3, 4.61S×133.44E, mb3.7/1, mb1 3.9/4, mb1mx3.6/12, ML3.1/3, Error ellipse: s-maj=130.0km s-min=33.2km az=101.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.27**	**177**	Pn	P	15 02 56.1	-3.8
WRA	0.1nm,0.3s,baz=356,slow=13,SNR=6.1			Sn	S	15 05 40.7	-10
FITZ	**Fitzroy Crossi**	**15.43**	**209**	Pn	P	15 03 00.3	-1.7
	0.1nm,0.3s,baz=41,slow=9.3,SNR=3.8						
ASAR	**Alice Springs**	**18.96**	**179**	P	P	15 03 44.8	-1.5
	0.1nm,0.3s,baz=355,slow=10,SNR=13						
ILAR	**Eielson Array**	**89.74**	**25**	P	P	15 12 21.0	-1.3
	0.5nm,1.0s,baz=243,slow=5.6,SNR=4.1						

BJI 30 15:33:08.5, 24.79N×98.91E, h10km, ML3.4, Ms3.7, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**3.49**	**84**	*e*PG	Pg	15 34 09.8	-8.4
KMI				SG	Sg	15 34 51.0	-14
KMI	comp=N,135nm,1.3s			Smax			
KMI	comp=E,86nm,1.1s			Smax			
KMI	comp=N,709nm,6.7s			LR	LR		
KMI	comp=E,267nm,4.3s			LR	LR		
CHRT	**Chiangrai**	**4.96**	**170**	PN	Pn	15 34 21.0	-3.9
CHRT				PG	Pg	15 34 40.5	-7.1
CHRT				SG	Sg	15 35 39.5	-14
CHG	**Chiang Mai**	**5.95**	**180**	PG	Pg	15 35 02.0	-5.2
CHG				SG	Sg	15 36 19.9	-6.6

DJA 30 15:57:15.8±1.0, 9.60S×114.38E, h110km±20km, MD4.8/4, ML3.9/2, 4C-3D, Error ellipse: s-maj=51.8km s-min=13.5km az=10.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRDI	**Scrawed**	**1.14**	**348**	⇓*i*Pn	P	15 57 37.7	-1.1
	203nm,0.2s						
SRDI				⇑*i*Sn	S	15 57 52.2	-3.9
KELI	**Kelakatan**	**1.38**	**5**	⇑*i*Pn	P	15 57 42.7	+1.1
	110nm,0.2s						
KELI				⇑*i*Sn	S	15 58 00.3	-0.7
RATI	**Rata**	**1.44**	**53**	⇑*i*Pn	P	15 57 43.2	+0.9
RATI				⇓*i*Sn	S	15 58 01.1	-1.1
KEDI	**Kedomdong**	**2.04**	**57**	⇓*i*Pn	P	15 57 47.2	-2.6

DJA 30 17:10:04.2±0.9, 9.75S×114.19E, h33km, MD4.9/4, ML3.9/4, 5C-4D, Error ellipse: s-maj=18.9km s-min=9.8km az=25.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRDI	**Scrawed**	**1.26**	**358**	⇓*i*Pn	Pn	17 10 24.2	-1.6
	243nm,0.2s						
SRDI				⇓*i*Sn	Sn	17 10 38.4	-3.3
KELI	**Kelakatan**	**1.55**	**11**	⇑*e*Pn	Pn	17 10 29.1	-0.8
	144nm,0.2s						
KELI	**Kelakatan**	**1.55**	**11**	⇓*i*P	P	17 10 29.4	-0.3
KELI				⇑*i*Sn	Sn	17 10 47.7	-1.3
RATI	**Rata**	**1.67**	**53**	⇑*e*Pn	Pn	17 10 29.9	-1.7
	102nm,0.2s						
RATI				⇑*i*Sn	Sn	17 10 48.3	-3.8
KEDI	**Kedomdong**	**2.27**	**57**	⇑*i*Pn	Pn	17 10 39.0	-1.3
	19nm,0.2s						
KEDI				⇓*i*Sn	Sn	17 11 03.4	-4.0

*NIED **30** 17:22:00, 35.50N×139.00E, h29km, Mw3.6 Best double couple: M0 2.38×10^14 NP1:φs69°, δ87°, λ104°. NP2:φs169°, δ14°, λ11°.*
JMA 30 17:22:12.9, 35.49N×138.95E, h25km±1km, M3.4, 1C-1D Broadband fault plane solution: P waves. NP1:φs174°, δ28°, λ17°. NP2:φs69°, δ82°, λ117°. Principal axes: T Plg46°, Azm7°; N Plg27°, Azm245°; P Plg32°, Azm137°; **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOD2	**Odawara 2**	**0.25**	**153**	⇑P	Pb	17 22 18.8	-0.4
JOD2				S	Sb	17 22 23.3	-0.3
JYN	**Shimob**	**0.33**	**271**	⇓P	Pb	17 22 20.3	-0.1
JYN				S	Sb	17 22 26.1	+0.6
MAT	**Matsushiro**	**1.21**	**330**	P	Pn	17 22 34.9	+0.4
MAT				*i* S	Sn	17 22 50.7	+0.5

DJA 30 17:50:37.3±1.1, 5.68S×119.43E, h30km, MD4.4/3, ML4.6/3, 3C-4D Error ellipse: s-maj=28.1km s-min=24.1km az=76.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NINI	**Niniconang**	**1.29**	**15**	⇑*e*Pn	Pn	17 50 57.4	-2.2
	2μm,0.2s						
NINI	**Niniconang**	**1.29**	**15**	⇓*i*P	Pn	17 50 57.6	-2.0
BUNI	**Buntu Taipa**	**2.20**	**24**	⇓*e*Pn	Pn	17 51 12.2	-0.4
	262nm,0.2s						
BUNI	**Buntu Taipa**	**2.20**	**24**	⇑*i*P	Pn	17 51 12.5	-0.1
BUNI				⇑*i*Sn	Sn	17 51 35.4	-3.7
TANI	**Tanete Lipujan**	**2.23**	**359**	⇓*i*Pn	Pn	17 51 12.3	-0.7
	133nm,0.2s						
TANI				⇓*i*Sn	Sn	17 51 36.3	-3.6

*NAO **30** 18:16:20.9±4.1, 60.19N×25.23E, ML2.2*
*HEL **30** 18:16:21.2±0.1, 60.14N×25.21E, ML1.9, ML2.0(UPP), ML2.2(NAO), Explosion*
*BER **30** 18:16:21.5±3.2, 60.13N×25.42E, ML2.2(NAO)*
ISC 30 18:16:19.5±0.8, 60.11N±0.06×25.26E±0.07, n19, σ0s87/33, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MEF	**Metsahovi**	**0.44**	**284**	*e*P	**Pg**	**18 16 28.6**	**+0.2**
MEF				*e*S	**Sg**	**18 16 33.8**	**-0.4**
PVF	**Pernaja**	**0.53**	**35**	*e*P	**Pg**	**18 16 30.4**	**+0.3**
PVF				*e*S	**Sg**	**18 16 36.8**	**-0.3**
VJF	**Virojoki**	**1.22**	**68**	*e*P	**Pb**	**18 16 43.2**	**-0.1**
VJF				*e*S	**Sb**	**18 16 59.7**	**+0.3**
FIA0	**FINESS Array S**	**1.40**	**16**	Pn	**Pn**	**18 16 46.0**	**-0.3**
	baz=190,slow=18						
FIA0				Lg		18 17 03.2	
	baz=196,slow=28						
FIA0	**FINESS Array S**	**1.40**	**16**	*e*P	**Pb**	**18 16 46.0**	**-0.2**
FIA0				*e*S	**Sb**	**18 17 03.1**	**-1.4**
KEF	**Keuruu**	**2.07**	**355**	*e*P	**Pn**	**18 16 57.8**	**+1.9**
KEF				*e*S	**Sn**	**18 17 23.4**	**+0.5**
KEF	comp=Z,12nm,0.1s			MSG		18 17 27.6	
KAF	**Kangasniemi**	**2.07**	**14**	*e*P	**Pn**	**18 16 57.5**	**+1.5**
KAF				*e*S	**Sn**	**18 17 23.3**	**+0.4**
KAF	comp=Z,6.0nm,0.1s			MSG		18 17 27.2	
AAL	**Aland**	**2.63**	**274**	*e*P	**Pn**	**18 17 04.7**	**+0.7**
AAL				*e*S	**Sn**	**18 17 36.9**	**-0.2**
SUF	**Sumiainen**	**2.65**	**9**	*e*P	**Pn**	**18 17 06.1**	**+1.9**
SUF				*e*SG	**Sg**	**18 17 41.3**	**-6.5**
SUF	comp=Z,4.0nm,0.1s			MSG		18 17 41.7	
GRAU	**Graesoe**	**3.36**	**277**	*e*P	**Pn**	**18 17 14.2**	**-0.1**
FLYU	**Flymyra**	**3.69**	**273**	*e*P	**Pn**	**18 17 18.7**	**-0.3**
IGGU	**Iggoen**	**4.00**	**284**	*e*P	**Pn**	**18 17 22.9**	**-0.6**
JOF	**Joensuu**	**4.04**	**43**	*e*P	**Pn**	**18 17 23.8**	**-0.3**
JOF				*e*S	**Sn**	**18 18 10.6**	**-2.2**
JOF	comp=Z,1.0nm,0.2s			MSG		18 18 31.4	
OSTU	**Oestervaala**	**4.06**	**275**	*e*P	**Pn**	**18 17 24.3**	**0.0**
FALU	**Falun**	**4.70**	**279**	*e*P	**Pn**	**18 17 33.0**	**-0.4**
HFS	**Hagfors**	**5.78**	**275**	Pn	**Pn**	**18 17 47.8**	**-0.8**
HFS	baz=69,slow=14			Sn	**Sn**	**18 18 51.8**	**-4.8**
HFS	baz=74,slow=28			Lg		18 19 21.9	
HFS	baz=86,slow=28						
HFS	**Hagfors**	**5.78**	**275**	*e*P	**Pn**	**18 17 47.8**	**-0.8**
HFS				*e*S	**Sn**	**18 18 51.8**	**-4.8**
HFS				*e*SG	**Sg**	**18 19 21.9**	**-10**
ARA0	**ARCESS Array S**	**9.46**	**1**	Pn	**P**	**18 18 36.1**	**-4.1**
ARA0	baz=185,slow=14			Sn	**Sn**	**18 20 18.9**	**-10**
ARA0	baz=181,slow=28						
ARA0	**ARCESS Array S**	**9.46**	**1**	*e*P	**P**	**18 18 36.1**	**-4.1**
ARA0				*e*S	**Sn**	**18 20 18.9**	**-10**

IDC 30 18:49:18.2±4.0, 5.54S×133.60E, mb4.5/1, mb1 4.3/4, mb1mx3.9/11, ML3.7/3, MS3.1/2, Ms1 3.1/2, ms1mx2.8/14, Error ellipse: s-maj=71.8km s-min=32.0km az=94.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**13.98**	**107**	LR	LR	18 56 53.2	
	comp=Z,58nm,21.0s,baz=353,slow=33						
WRA	**Warramunga Arr**	**14.33**	**177**	Pn	P	18 52 42.8	-1.9
	0.4nm,0.3s,baz=359,slow=13,SNR=18						
WRA				Sn	S	18 55 21.2	-4.3
FITZ	**Fitzroy Crossi**	**14.71**	**211**	Pn	P	18 52 47.6	-2.0
	0.4nm,0.3s,baz=19,slow=12,SNR=20						
FITZ				Sn	S	18 55 32.4	-2.1
	0.7nm,0.3s,baz=185,slow=16,SNR=7.3						
ASAR	**Alice Springs**	**18.02**	**179**	P	P	18 53 31.8	-0.1
	0.3nm,0.3s,baz=1.0,slow=10,SNR=39						
ASAR				S	S	18 56 53.3	+2.1
	0.2nm,0.3s,baz=355,slow=26,SNR=6.4						
ASAR				LR	LR	19 01 20.1	
	comp=Z,71nm,18.1s,baz=20,slow=40						
STKA	**Stephens Creek**	**27.25**	**165**	P	P	18 55 03.5	-2.5
	8.9nm,1.4s,baz=341,slow=18,SNR=3.0						

*JMA **30** 18:51:19.8±0.1, 24.58N×122.69E, h73km±1km, M3.1*
TAP 30 18:51:19.2, 24.42N×122.60E, h62km±1km, ML4.0, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.38**	**84**	P	P	18 51 31.4	+1.2
YOJ				S	S	18 51 39.9	+1.6
IRIF	**Iriomote-Funau**	**1.03**	**94**	P	P	18 51 38.2	+0.2
IRIF				S	S	18 51 52.1	+0.1
HATJ	**Hateruma jima**	**1.16**	**108**	P	P	18 51 40.6	+0.9
HATJ				*e*S	S	18 51 55.6	+0.7
JKRS	**Kuro-shima**	**1.30**	**98**	P	P	18 51 41.8	+0.1
JKRS				*e*S	S	18 51 58.1	-0.2
JIJ	**Ishigaki jima**	**1.41**	**92**	P	P	18 51 42.8	-0.4
JIJ				S	S	18 52 00.0	-1.0
JTJ	**Tarama**	**1.93**	**83**	P	P	18 51 50.0	-0.3
JTJ				*e*S	S	18 52 12.3	-1.0
JMJ	**Miyako jima 2**	**2.48**	**80**	*e*S	S	18 52 26.1	-1.2
JOGS	**Gusukube**	**2.58**	**82**	P	S	18 51 59.0	-0.5
JOGS				*e*S	S	18 52 28.3	-1.4
JKE	**Kume jima 2**	**4.24**	**62**	P	P	18 52 21.2	-1.6
JKE				*e*S	S	18 53 08.0	-3.5

DJA 30 18:53:22.7±1.0, 9.10S×113.15E, h160km, MD4.8/3, ML3.9/3, 5C-2D, Error ellipse: s-maj=34.8km s-min=24.8km az=2.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRDI	**Scrawed**	**1.15**	**58**	⇑*e*Pn	P	18 53 50.3	+0.3
	153nm,0.2s						
SRDI	**Scrawed**	**1.15**	**58**	⇑*i*P	P	18 53 50.5	+0.5
SRDI				⇑*i*Sn	S	18 54 09.5	-1.5
KELI	**Kelakatan**	**1.59**	**57**	⇓*i*Pn	P	18 53 53.1	-1.1
	41nm,0.2s						
KELI				⇓*i*Sn	S	18 54 16.6	-2.0
RATI	**Rata**	**2.38**	**81**	⇑*i*Pn	P	18 54 03.0	-0.4
	112nm,0.2s						
RATI				⇑*i*Sn	S	18 54 33.0	-1.6

IDC 30 19:16:29.9±8.9, 8.09S×129.31E, h100km±70km, mb3.5/1, mb1 3.5/4, mb1mx3.3/12, ML3.4/3, Error ellipse: s-maj=67.4km s-min=55.1km az=11.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.58**	**199**	P	P	19 18 58.8	-1.0
	0.2nm,0.3s,baz=20,slow=15,SNR=12						
FITZ				S	S	19 20 56.7	-0.2
	0.4nm,0.3s,baz=160,slow=21,SNR=6.9						
WRA	**Warramunga Arr**	**12.75**	**158**	P	P	19 19 26.3	-2.3
	0.3nm,0.3s,baz=332,slow=13,SNR=28						
WRA				S	S	19 21 47.6	-1.1
	0.6nm,0.3s,baz=332,slow=22,SNR=10						
ASAR	**Alice Springs**	**16.11**	**165**	P	P	19 20 10.8	-0.9
	0.2nm,0.3s,baz=341,slow=9.4,SNR=7.3						
ASAR				S	S	19 23 10.7	+4.0
	0.1nm,0.3s,baz=344,slow=23,SNR=7.6						
STKA	**Stephens Creek**	**26.29**	**156**	P	P	19 21 56.1	-1.8
	1.5nm,1.1s,baz=339,slow=18,SNR=3.2						

*LEDBW **30** 19:46:30.8±0.0, 48.34N×9.04E, h3km±1km, ML1.8, Error ellipse: s-maj=1.0km s-min=0.6km az=93.0*
*STR **30** 19:46:31.7±0.6, 48.37N×9.00E, h10km, 1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **30** 19:46:31.2±0.2, 48.32N×9.04E, h6km, Ml2

FELD				*e*Sg		**Sg**	**19 46 57.9**	**+0.2**
	SNR=3.5							
FELD	**Feldberg**	**0.82**	**235**	P		**Pg**	**19 46 46.4**	**-0.4**
KIZ	**Kirchzarten**	**0.82**	**242**	*i* PG		**Pg**	**19 46 47.7**	**+0.8**
KIZ	**Kirchzarten**	**0.82**	**242**	*e*SG		**Sg**	**19 46 59.3**	**+1.4**
KIZ	**Kirchzarten**	**0.82**	**242**⇑	*e*P		**Pg**	**19 46 46.7**	**-0.1**
KIZ				*i* P			19 46 47.7	
KIZ				S		**Sg**	**19 46 57.5**	**-0.4**
KIZ				*e*S		**Sg**	**19 46 59.3**	**+1.4**
HDH	**Heidenheim**	**0.84**	**73**	P		**Pg**	**19 46 46.2**	**-0.9**
HDH				S		**Sg**	**19 46 57.1**	**-1.2**
WILA	**Wila**	**0.93**	**184**	*e*Pg		**Pg**	**19 46 49.6**	**+0.6**
	SNR=2.5							
WILA				*e*Sg		**Sg**	**19 47 01.6**	**+0.2**
	SNR=14							
UBR	**Uberruh**	**0.99**	**131**	P		**Pb**	**19 46 50.5**	**+0.7**
SULZ	**Sulz-Cheisache**	**1.01**	**217**	*e*Pg		**Pg**	**19 46 50.7**	**+0.1**
	SNR=1.9							
SULZ				*e*Sg		**Sg**	**19 47 04.2**	**+0.1**
	SNR=3.6							
ZUR	**Zurich**	**1.02**	**196**	*e*Sg		**Sg**	**19 47 04.4**	**+0.1**
	SNR=3.0							
LANF	**Langenberg**	**1.02**	**309**	*e*Pg		**Pg**	**19 46 51.1**	**+0.3**
	SNR=7.5							
LANF				*e*Sg		**Sg**	**19 47 05.4**	**+1.0**
	SNR=3.9							
LANF	**Langenberg**	**1.02**	**309**	Pg		**Pg**	**19 46 51.2**	**+0.4**
LANF				Sg		**Sg**	**19 47 05.5**	**+1.1**
SIND	**Sindeldorf**	**1.08**	**21**	*i* PG		**Pg**	**19 46 51.6**	**-0.4**
SIND				*e*SG		**Sg**	**19 47 05.7**	**-0.7**
SIND	**Sindeldorf**	**1.08**	**21**⇓	*e*P		**Pb**	**19 46 50.5**	**-0.8**
SIND				⇓*i*P			19 46 51.5	
SIND				*e*S		**Sb**	**19 47 05.7**	**+0.1**
WLS	**Welschbruch**	**1.10**	**274**	*e*Pg		**Pg**	**19 46 52.7**	**+0.2**
	SNR=1.4							
WLS	**Welschbruch**	**1.10**	**274**	Pg		**Pg**	**19 46 52.8**	**+0.4**
WLS				Sg		**Sg**	**19 47 07.8**	**+0.6**
CDF	**Champ du Feu**	**1.15**	**274**	*e*Pg		**Pg**	**19 46 53.2**	**-0.3**
CDF				*e*Sg		**Sg**	**19 47 08.6**	**-0.3**
	6.4nm,0.2s							
SWS	**Schriesheim**	**1.16**	**350**	S		**Sb**	**19 47 08.6**	**+0.7**
DAVA	**Damuels**	**1.21**	**151**⇓	*i* PG		**Pg**	**19 46 54.4**	**-0.2**
DAVA				*i* SG		**Sg**	**19 47 10.7**	**0.0**
	1.5nm,0.2s							
ECH	**Echery**	**1.24**	**265**	Pg		**Pg**	**19 46 55.0**	**-0.2**
ECH				Sg		**Sg**	**19 47 11.5**	**-0.2**
TOD	**Tromm**	**1.27**	**354**	*e*Sg		**Sg**	**19 47 11.7**	**-1.1**
	SNR=6.9							
TOD	**Tromm**	**1.27**	**354**	S		**Sb**	**19 47 12.2**	**+1.1**
BOURR	**Bourrignon**	**1.53**	**232**	*e*Sg		**Sg**	**19 47 20.4**	**-0.9**
	SNR=2.3							
HINF	**Hinteralfeld**	**1.54**	**251**	*e*Pg		**Pg**	**19 46 59.8**	**-1.3**
HINF				*e*Sg		**Sg**	**19 47 19.9**	**-1.7**
	5.5nm,0.3s							
MOTA	**Moosalm**	**1.73**	**124**⇑	*i* PG		**Pg**	**19 47 02.5**	**-2.5**
MOTA				*i* SG		**Sg**	**19 47 23.3**	**-4.8**
	0.7nm,0.1s							
HAU	**Haudompre**	**1.81**	**260**	*e*Pg		**Pg**	**19 47 05.1**	**-1.4**
HAU				*e*Sg		**Sg**	**19 47 29.0**	**-1.7**
	3.6nm,0.2s							
RFYF	**Reffroy**	**2.37**	**278**	*e*Sg		**Sg**	**19 47 46.2**	**-3.0**
	1.2nm,0.2s							
SFTF	**Sexfontaines**	**2.65**	**268**	*e*Sg		**Sg**	**19 47 55.2**	**-3.5**
	1.7nm,0.2s							
KHC	**Kasperske Hory**	**3.13**	**74**	*e*PN		**Pn**	**19 47 28.7**	**+7.2**
KHC				*e*SN		**Sn**	**19 48 08.7**	**+8.9**
LOR	**Lormes**	**3.63**	**255**	*e*Pg		**Pg**	**19 47 39.0**	**-3.9**
LOR				*e*Sg		**Sg**	**19 48 25.7**	**-5.6**
	0.7nm,0.2s							

NEIC ***30*** *20:40:56.1, 45.73S×166.24E, h33km, ML4.1(WEL), After WEL.*

WEL 30 20:40:57.8±0.4, 45.56S×166.64E, h5km, ML3.9/6, 1D, Error ellipse: s-maj=3.3km s-min=1.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.37**	**77**	⇓PG	Pg	20 41 05.9	+0.7
DCZ				SG	Sg	20 41 10.1	-0.2
WHZ	**Wether Hill Ro**	**0.97**	**110**	P	Pb	20 41 16.2	-0.6
WHZ				S	Sb	20 41 31.4	+1.7
WHZ	**Wether Hill Ro**	**0.97**	**110**	P*	Pb	20 41 16.2	-0.6
WHZ				S*	Sb	20 41 30.1	+0.4
MLZ	**Mavora Lakes**	**1.10**	**79**	P	Pb	20 41 17.5	-1.4
MLZ	**Mavora Lakes**	**1.10**	**79**	P*	Pb	20 41 17.5	-1.4
MLZ				S*	Sb	20 41 31.4	-2.0
MSZ	**Milford Sound**	**1.27**	**46**	P*	Pb	20 41 19.2	-2.7
MSZ				S*	Sb	20 41 38.5	+0.1
WKZ	**Wanaka**	**1.83**	**67**	*e*P	Pn	20 41 29.8	-0.4
WKZ	**Wanaka**	**1.83**	**67**	PN	Pn	20 41 29.3	-0.9
JCZ	**Jackson Bay**	**2.12**	**46**	*e*P	Pn	20 41 33.6	-0.7
JCZ	**Jackson Bay**	**2.12**	**46**	PN	Pn	20 41 33.4	-0.9
TUZ	**Tuapeka**	**2.13**	**102**	*e*P	Pn	20 41 35.1	+0.6
TUZ	**Tuapeka**	**2.13**	**102**	PN	Pn	20 41 34.8	+0.3
LBZ	**Lake Benmore**	**2.78**	**66**	*e*P	Pn	20 41 42.7	-1.0
LBZ	**Lake Benmore**	**2.78**	**66**	PN	Pn	20 41 42.7	-1.0
ODZ	**Otahua Downs**	**2.87**	**81**	P	Pn	20 41 43.5	-1.6
ODZ	**Otahua Downs**	**2.87**	**81**	PN	Pn	20 41 43.5	-1.6
FOZ	**Fox Glacier**	**2.96**	**49**	PN	Pn	20 41 45.3	-1.0
RPZ	**Rata Peaks**	**3.65**	**61**	*e*P	Pn	20 41 54.9	-1.3
RPZ	**Rata Peaks**	**3.65**	**61**	PN	Pn	20 41 53.9	-2.3
WVZ	**Waitaha Valley**	**3.85**	**51**	*e*P	Pn	20 41 57.0	-2.0
WVZ	**Waitaha Valley**	**3.85**	**51**	PN	Pn	20 41 57.0	-2.0
DSZ	**Denniston Nort**	**5.34**	**46**	*e*P	Pn	20 42 17.3	-2.9
DSZ	**Denniston Nort**	**5.34**	**46**	PN	Pn	20 42 16.8	-3.4
THZ	**Tophouse**	**5.92**	**52**	*e*P	Pn	20 42 25.2	-3.1
THZ	**Tophouse**	**5.92**	**52**	PN	Pn	20 42 24.7	-3.6

IDC 30 20:42:46.8±40.0, 15.09S×167.09E, mb3.8/4, mb1 4.0/4, mb1mx3.6/15, Error ellipse: s-maj=690.0km s-min=104.9km az=70.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**28.63**	**230**	P	P	20 48 45.2	-1.9
	1.4nm,0.8s,baz=58,slow=9.5,SNR=4.6						
WRA	**Warramunga Arr**	**31.57**	**256**	P	P	20 49 11.1	-2.3
	0.3nm,0.5s,baz=83,slow=7.7,SNR=5.8						
ASAR	**Alice Springs**	**32.38**	**250**	P	P	20 49 18.3	-2.2
	0.8nm,0.4s,baz=77,slow=9.1,SNR=18						
FITZ	**Fitzroy Crossi**	**39.78**	**260**	P	P	20 50 21.8	-1.6
	0.7nm,0.4s,baz=113,slow=7.7,SNR=5.2						

NEIC ***30*** *20:51:51.1, 38.49S×175.95E, h150km, After WEL.*

WEL 30 20:51:51.4±0.3, 38.49S×175.96E, h147km±2km, ML3.5/5, 3C, Error ellipse: s-maj=2.7km s-min=2.0km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MGZ	**Maungaku**	**0.60**	**213**	P	P	20 52 13.1	-0.3
MGZ	**Maungaku**	**0.60**	**213**	⇑PN	P	20 52 13.1	-0.3
TWVZ	**Taurewa**	**0.71**	**215**	P	P	20 52 13.5	-0.5
TWVZ	**Taurewa**	**0.71**	**215**	PN	P	20 52 13.5	-0.5
NGZ	**Ngauruhoe**	**0.74**	**202**	P	P	20 52 14.0	-0.1
NGZ	**Ngauruhoe**	**0.74**	**202**	PN	P	20 52 14.0	-0.2
BKZ	**Black Stump Fm**	**0.79**	**148**	P	P	20 52 14.5	0.0
BKZ				S	S	20 52 32.1	-0.1
BKZ	**Black Stump Fm**	**0.79**	**148**	⇑PN	P	20 52 14.5	0.0
BKZ				SN	S	20 52 31.7	-0.5
TUVZ	**Tukino**	**0.81**	**197**	PN	P	20 52 14.4	-0.2
WNVZ	**Wahianoa**	**0.88**	**198**	P	P	20 52 14.9	-0.2
WNVZ	**Wahianoa**	**0.88**	**198**	PN	P	20 52 14.9	-0.2
WNVZ				SN	S	20 52 33.0	-0.3
MOVZ	**Moawhango**	**0.93**	**190**	P	P	20 52 14.0	-0.5
MOVZ	**Moawhango**	**0.93**	**190**	⇑PN	P	20 52 14.9	-0.5
MOVZ				SN	S	20 52 32.4	-1.5
MWZ	**Matawai**	**1.24**	**83**	P	P	20 52 18.1	-0.3
MWZ				S	S	20 52 38.5	-0.6
MWZ	**Matawai**	**1.24**	**83**	PN	P	20 52 18.1	-0.3
MWZ				SN	S	20 52 37.9	-1.2
KNZ	**Kokohu**	**1.44**	**112**	*e*P	P	20 52 20.5	+0.1
KNZ	**Kokohu**	**1.44**	**112**	PN	P	20 52 20.3	-0.1
PWZ	**Pawanui**	**1.69**	**156**	P	P	20 52 22.6	-0.5
PWZ	**Pawanui**	**1.69**	**156**	PN	P	20 52 22.6	-0.5
PUZ	**Puketiti**	**1.86**	**78**	SN	S	20 52 48.8	-2.0
MRZ	**Mangatainoka R**	**2.19**	**188**	*e*P	P	20 52 26.7	-2.3
MRZ	**Mangatainoka R**	**2.19**	**188**	PN	P	20 52 26.6	-2.4
BFZ	**Birch Farm**	**2.20**	**174**	*e*P	P	20 52 27.4	-1.7
BFZ	**Birch Farm**	**2.20**	**174**	PN	P	20 52 27.3	-1.8
KIW	**Kapiti Island**	**2.50**	**199**	P	P	20 52 29.9	-3.0
KIW	**Kapiti Island**	**2.50**	**199**	PN	P	20 52 29.9	-3.1
KIW				SN	S	20 52 59.8	-5.0
MTW	**Mount Morrison**	**2.69**	**187**	PN	P	20 52 32.0	-3.3
CAW	**Cannon Point**	**2.70**	**194**	P	P	20 52 32.3	-3.2
CAW	**Cannon Point**	**2.70**	**194**	PN	P	20 52 32.3	-3.2
PAWZ	**Paruwai Farm**	**2.92**	**188**	SN	S	20 53 08.1	-5.9
MSWZ	**Moikau Station**	**2.97**	**190**	SN	S	20 53 09.9	-5.4
MQZ	**McQueen's Vall**	**5.78**	**205**	SN	S	20 54 09.2	-12

IDC ***30*** *20:55:46.2±1.0, 18.89S×168.61E, h108km±8km, mb3.8/12, mb1 3.9/12, mb1mx3.9/16, Error ellipse: s-maj=20.7km s-min=19.6km az=13.0*

NEIC ***30*** *20:55:50.7±2.3, 19.09S×168.44E, h134km±18km, mb4.6/4, Error ellipse: s-maj=21.5km s-min=14.5km az=215.0*

ISC 30 20:55:44.6±0.6, 18.79S±0.07×168.56E±0.09, h107km, h107km±1.8km: pP-P, n39, σ1§31/32, mb4.0/13, 4C-5D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.82**	**211**	*e*P	**P**	**20 56 44.0**	**+1.4**
DZM				*e*S	**S**	**20 57 28.0**	**+1.1**
NOUC	**Port Laguerre**	**3.92**	**212**⇓	*i*P	**P**	**20 56 45.8**	**+1.8**
NOUC				*e*S	**S**	**20 57 28.5**	**-0.7**
NOUC	**Port Laguerre**	**3.92**	**212**⇓	*i*P	**P**	**20 56 45.8**	**+1.8**
NOUC				*e*S	**S**	**20 57 28.5**	**-0.7**
URZ	**Urewera**	**20.79**	**161**	P	**P**	**21 00 18.7**	**-0.2**
	7.2nm,0.6s,baz=15,slow=9.5,SNR=6.0						
CTA	**Charters Tower**	**21.07**	**263**	P	**P**	**21 00 24.3**	**+2.4**
	5.7nm,0.8s,mb4.0,baz=81,slow=10.0,SNR=6.3						
CTA	**Charters Tower**	**21.07**	**263**	P	**P**	**21 00 24.3**	**+2.4**
CTAO	**Charters Tower**	**21.07**	**263**	*e*P	**P**	**21 00 24.8**	**+2.9**
	7.5nm,0.8s,mb4.1						
RPZ	**Rata Peaks**	**24.94**	**176**	P	**P**	**21 00 58.7**	**-0.6**
	9.1nm,0.8s,mb4.2,baz=346,slow=8.3,SNR=2.9						
STKA	**Stephens Creek**	**27.55**	**237**	P	**P**	**21 01 24.0**	**+0.5**
	1.6nm,0.7s,mb3.7,baz=79,slow=10,SNR=3.1						
STKA	**Stephens Creek**	**27.55**	**237**	*e*P	**P**	**21 01 24.0**	**+0.5**
WB2	**Warramunga Arr**	**32.26**	**262**	⇓*i*P	**P**	**21 02 03.9**	**-1.4**
WRAB	**Tennant Creek**	**32.26**	**262**	*e*P	**P**	**21 02 03.3**	**-2.0**
WRA	**Warramunga Arr**	**32.27**	**262**	P	**P**	**21 02 04.0**	**-1.4**
	0.9nm,0.5s,mb3.8,baz=88,slow=8.4,SNR=21						
ASAR	**Alice Springs**	**32.62**	**255**	P	**P**	**21 02 07.7**	**-0.6**
	9.9nm,0.5s,mb4.9,baz=83,slow=8.6,SNR=262						
ASAR				pP	pP	21 02 32.7	+0.2
	1.6nm,0.6s,baz=84,slow=8.4,SNR=2.2						
ASPA	**Alice Springs**	**32.62**	**255**⇓	*i*P	**P**	**21 02 07.8**	**-0.5**
FITZ	**Fitzroy Crossi**	**40.65**	**264**⇓	*i*P	**P**	**21 03 16.4**	**+0.5**
	5.8nm,0.6s,mb4.6						
VNDA	**Vanda**	**58.86**	**182**	P	**P**	**21 05 31.3**	**-2.7**
	0.8nm,0.8s,mb3.8,baz=23,slow=7.7,SNR=4.0						
VNDA	**Vanda**	**58.86**	**182**	P	**P**	**21 05 31.3**	**-2.7**
VNDA				*e*P		21 05 31.9	
SBA	**Scott Base**	**59.11**	**180**	*e*P	**P**	**21 05 34.6**	**-1.1**
	7.6nm,1.0s,mb4.7						
QSPA	**South Pole Qui**	**71.26**	**180**	*e*P	**P**	**21 06 52.3**	**-1.3**
QSPA				⇑*i*P		21 06 52.5	
MAW	**Mawson**	**78.61**	**202**	P	**P**	**21 07 35.8**	**+0.1**
	4.4nm,0.9s,mb4.3,baz=108,slow=6.9,SNR=8.3						
MAW	**Mawson**	**78.61**	**202**	P	**P**	**21 07 35.8**	**+0.1**
MAW				*e*P		21 07 35.9	
SONM	**Songino Array**	**86.47**	**323**	P	**P**	**21 08 17.6**	**+1.2**
	0.9nm,1.0s,mb3.6,baz=146,slow=4.5,SNR=5.0						
SONM				pP	pP	21 08 45.0	+0.5
	1.2nm,1.1s,baz=135,slow=5.2,SNR=5.4						
NVAR	**Mina Array Bea**	**88.99**	**49**	P	**P**	**21 08 31.0**	**+2.3**
	0.4nm,0.8s,mb3.5,baz=217,slow=4.5,SNR=3.4						
SNAA	**Sanae**	**89.58**	**183**	P	**P**	**21 08 29.1**	**-1.6**
	0.5nm,0.8s,mb3.7,baz=222,slow=5.2,SNR=8.7						
SNAA	**Sanae**	**89.58**	**183**⇑	*i*P	**P**	**21 08 28.8**	**-1.9**
	0.1nm,0.8s,mb3.0						
ILAR	**Eielson Array**	**89.99**	**17**	P	**P**	**21 08 33.0**	**+0.3**
	0.4nm,0.8s,mb3.6,baz=230,slow=7.0,SNR=3.2						
ILAR				pP	pP	21 09 01.3	+0.2
	0.2nm,0.6s,baz=238,slow=5.9,SNR=1.7						
VNA3	**Neumayer Olymp**	**90.20**	**181**⇑	*i*	**P**	**21 08 34.5**	**+0.9**
VNA2	**Neumayer--Watz**	**90.48**	**181**⇑	*i*	**P**	**21 08 36.6**	**+1.7**
GERES	**GERESS Array B**	**143.79**	**332**	PKhKP		21 15 04.2	
	0.3nm,0.6s,baz=90,slow=1.3,SNR=5.6						
CDF	**Champ du Feu**	**146.78**	**337**	*e*PKP1	PKPbc	21 15 14.2	+0.5
	2.4nm,0.6s						
HAU	**Haudompre**	**147.46**	**338**	*e*PKP1	PKPdf	21 15 16.0	+2.8
LOR	**Lormes**	**148.95**	**340**	*e*PKP1	PKPdf	21 15 19.9	+4.2
	11nm,0.8s						
SSF	**Saint Saulge**	**149.25**	**340**	*e*PKP1	PKPdf	21 15 20.7	+4.6
	8.3nm,0.8s						
LPL	**La Plagne**	**149.37**	**335**	*e*PKP1	PKPdf	21 15 21.6	+5.2
	6.0nm,0.9s						
LPG	**La Plagne**	**149.38**	**334**	*e*PKP1	PKPdf	21 15 21.7	+5.3
	3.8nm,0.6s						
MBDF	**Montbardon**	**150.00**	**334**	*e*PKP1	PKPdf	21 15 22.4	+5.0
	8.0nm,0.9s						
ORIF	**Oris-en-Rattie**	**150.21**	**335**	*e*PKP1	PKPdf	21 15 23.2	+5.5
	8.5nm,0.9s						
TCF	**Toulx Ste Croi**	**150.35**	**341**	*e*PKP1	PKPdf	21 15 23.2	+5.3

IDC 30 21:11:07.3±11.0, 1.64N×126.74E, mb3.7/3, mb1 3.9/3, mb1mx3.5/14, Error ellipse: s-maj=176.0km s-min=160.1km az=151.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.65**	**183**	*e*P	P	21 15 41.3	+0.7
	1.6nm,0.9s						
WRA	**Warramunga Arr**	**22.71**	**161**	P	P	21 16 10.7	-1.5
	0.6nm,0.4s,baz=340,slow=11,SNR=25						
WB2	**Warramunga Arr**	**22.71**	**161**	*e*P	P	21 16 11.2	-1.0
ASAR	**Alice Springs**	**26.10**	**165**	P	P	21 16 43.7	-1.1
	0.5nm,0.7s,baz=343,slow=7.0,SNR=7.1						
STKA	**Stephens Creek**	**36.19**	**158**	P	P	21 18 11.3	-2.5
	2.3nm,0.6s,baz=341,slow=7.0,SNR=6.2						

DJA 30 21:20:47.8±1.6, 9.61S×112.73E, h33km, MD4.8/4, ML4.2/3, 2C-4D, Error ellipse: s-maj=44.0km s-min=26.3km az=27.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRDI	**Scrawed**	**1.79**	**51**⇑	*i*Pn	Pn	21 21 14.7	-2.2
	169nm,0.2s						
KELI	**Kelakatan**	**2.22**	**52**⇑	*e*Pn	Pn	21 21 22.4	-0.7
	142nm,0.3s						
KELI	**Kelakatan**	**2.22**	**52**⇓	*i*P	P	21 21 23.1	+0.1
RATI	**Rata**	**2.90**	**73**⇓	*i*Pn	Pn	21 21 31.7	-1.1
	85nm,0.2s						
RATI				⇓*i*Sn	Sn	21 22 03.1	-3.8
KEDI	**Kedomdong**	**3.52**	**72**⇓	*i*Pn	Pn	21 21 39.3	-2.3

STR ***30*** *21:27:32.1±0.2, 44.43N×6.85E, h5km±1km, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG ***30*** *21:27:32.4±0.1, 44.38N×6.81E, h2km, Md2.8/1, Ml2.7/10, Error ellipse: s-maj=2.8km s-min=1.8km az=72.0*

NEIC ***30*** *21:27:32.1, 44.43N×6.85E, h5km, ML2.8(GEN), ML2.7(LDG), ML2.6(STR), After STR.*

ISC 30 21:27:30.8±0.2, 44.40N±0.01×6.77E±0.02, h11km±2km, n48, σ0§66/86, France

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SURF	**Saint Ours**	**0.08**	**20**	Pg	**Pg**	**21 27 33.6**	**+0.1**
SURF				Sg	**Sg**	**21 27 35.2**	**-0.1**
PZZ	**Prazzo**	**0.26**	**66**	P	**Pg**	**21 27 36.9**	**+0.5**
PZZ				S	**Sg**	**21 27 40.3**	**+0.3**
MBDF	**Montbardon**	**0.33**	**360**	*e*Pg	**Pg**	**21 27 37.8**	**+0.1**
MBDF				*e*Sg	**Sg**	**21 27 42.6**	**+0.4**
	125nm,0.4s						
DOI	**San Damiano**	**0.35**	**73**	*e*Pg	**Pg**	**21 27 38.4**	**+0.2**
DOI				*e*Sg	**Sg**	**21 27 43.1**	**0.0**
STV	**Sta Anna Valdi**	**0.43**	**111**	P	**Pg**	**21 27 39.6**	**+0.1**
STV2	**Anna di Valdie**	**0.43**	**111**	P	**Pg**	**21 27 39.5**	**-0.1**
STV2				S	**Sg**	**21 27 44.8**	**-0.6**
ENR	**Entracque**	**0.50**	**110**	P	**Pg**	**21 27 40.8**	**-0.1**
ENR				S	**Sg**	**21 27 46.9**	**-0.8**
TOUF	**Mont Tournerai**	**0.52**	**138**	Pg	**Pg**	**21 27 41.4**	**0.0**
TOUF				Sg	**Sg**	**21 27 49.6**	**+1.2**
RRL	**Cesana Torines**	**0.52**	**1**	P	**Pg**	**21 27 41.6**	**+0.2**
RRL				S	**Sg**	**21 27 48.8**	**+0.3**
BHB	**Bricherasio**	**0.56**	**38**	P	**Pb**	**21 27 42.0**	**-0.1**
BHB				S	**Sg**	**21 27 49.7**	**-0.1**
MVIF	**Mont Vial**	**0.57**	**151**	Pg	**Pg**	**21 27 42.8**	**+0.3**
MVIF				Sg	**Sg**	**21 27 50.8**	**+0.6**
AUTN	**L'Aution**	**0.62**	**131**	Pg	**Pg**	**21 27 43.6**	**+0.2**
AUTN				Sg	**Sg**	**21 27 51.8**	**0.0**
AURF	**Auriere**	**0.65**	**142**	Pg	**Pg**	**21 27 44.3**	**+0.3**
AURF				Sg	**Sg**	**21 27 52.9**	**+0.1**
BNI	**Bardonecchia**	**0.65**	**354**	*e*Pg	**Pg**	**21 27 44.4**	**+0.3**
BNI				*e*Sg	**Sg**	**21 27 52.5**	**-0.4**
FENE	**Fenestrelle**	**0.66**	**18**	P	**Pb**	**21 27 44.0**	**+0.1**
SBF	**Sospel**	**0.72**	**138**	*e*Pg	**Pg**	**21 27 44.8**	**-0.5**
SBF				*e*Sg	**Sg**	**21 27 54.6**	**-0.4**
	95nm,0.3s						
MONE	**Monesi**	**0.78**	**114**	P	**Pb**	**21 27 46.0**	**+0.1**
REVF	**Revere**	**0.79**	**147**	Pg	**Pg**	**21 27 47.5**	**+0.8**
REVF				Sg	**Sg**	**21 27 58.0**	**+0.7**
ROB	**Roburent**	**0.79**	**97**	P	**Pb**	**21 27 46.5**	**+0.4**
ROB				S	**Sb**	**21 27 56.7**	**+0.1**
ORIF	**Oris-en-Rattie**	**0.82**	**309**	*e*Pg	**Pg**	**21 27 47.1**	**-0.3**
ORIF				*e*Sg	**Sg**	**21 27 58.4**	**0.0**
	27nm,0.2s						
RSP	**Reno Superiore**	**0.83**	**25**	P	**Pb**	**21 27 47.3**	**+0.6**
RSP				S	**Sb**	**21 27 57.8**	**+0.3**
FRF	**La Foret Royal**	**0.84**	**186**	*e*Pg	**Pg**	**21 27 47.6**	**-0.2**
FRF				*e*Sg	**Sg**	**21 27 58.8**	**-0.4**
FRF				*e*Sn	**Sn**	**21 28 01.5**	**+0.7**
	48nm,0.2s						
NEGI	**Negi**	**0.87**	**129**	P	**Pb**	**21 27 48.0**	**+0.5**
NEGI				S	**Sb**	**21 27 58.9**	**+0.1**
IMI	**Imperia**	**0.94**	**121**	*e*Pg	**Pg**	**21 27 49.2**	**-0.5**
IMI				*e*Sg	**Sg**	**21 28 02.6**	**+0.2**
SMRF	**Simiane la Rot**	**0.96**	**244**	*e*Pg	**Pg**	**21 27 51.2**	**+1.1**
SMRF				*e*Sg	**Sg**	**21 28 03.4**	**+0.4**
	60nm,0.3s						
SMRF				*e*Sn	**Sn**	**21 28 04.9**	**+1.2**
RORO		**0.97**	**107**	P	**Pb**	**21 27 49.3**	**+0.1**
RORO				S	**Sb**	**21 28 01.8**	**0.0**
FIN	**Finale Ligure**	**1.05**	**100**	*e*Pg	**Pg**	**21 27 50.8**	**-1.0**
FIN				*e*Sg	**Sg**	**21 28 04.9**	**-1.0**
LMR	**La Mourre**	**1.08**	**190**	*e*Pn	**Pn**	**21 27 51.8**	**-0.1**
LMR				*e*Pg	**Pg**	**21 27 52.3**	**-0.3**
LMR				*e*Sg	**Sg**	**21 28 05.4**	**-1.7**
	39nm,0.2s						
LSD	**Ceresole Reale**	**1.09**	**14**	P	**Pb**	**21 27 51.8**	**+0.6**
LPG	**La Plagne**	**1.10**	**359**	*e*Pg	**Pg**	**21 27 52.1**	**-0.7**
LPG				*e*Sg	**Sg**	**21 28 07.0**	**-0.5**
	18nm,0.4s						
LPL	**La Plagne**	**1.11**	**359**	*e*Pg	**Pg**	**21 27 52.4**	**-0.8**
LPL				*e*Sg	**Sg**	**21 28 08.7**	**+0.6**
	19nm,0.4s						
PCP	**Pian Castagno**	**1.28**	**83**	P	**Pb**	**21 27 54.9**	**+0.4**
PCP				S	**Sb**	**21 28 10.6**	**0.0**
RSL	**Roselend**	**1.29**	**355**	Pg	**Pg**	**21 27 56.5**	**-0.2**
TRAV		**1.31**	**32**	P	**Pb**	**21 27 54.3**	**-0.7**
ORX	**Oropa**	**1.50**	**34**	P	**Pn**	**21 27 57.4**	**-0.4**
VIVF	**Saint-Julien-l**	**1.57**	**288**	*e*Pn	**Pn**	**21 27 59.9**	**+1.1**
VIVF				*e*Sn	**Sn**	**21 28 19.5**	**+0.4**
	11nm,0.3s						
LASF	**Ste Croix**	**2.12**	**262**	*e*Pn	**Pn**	**21 28 06.9**	**+0.2**
LASF				*e*Sn	**Sn**	**21 28 32.1**	**-1.1**
	3.8nm,0.2s						
CABF	**La Chapelle**	**2.26**	**348**	*e*Pn	**Pn**	**21 28 10.5**	**+1.8**
CABF				*e*Sg	**Sg**	**21 28 44.7**	**-1.5**
	4.5nm,0.3s						
PGF	**Pioggiola**	**2.46**	**138**	*e*Pn	**Pn**	**21 28 11.4**	**-0.2**
PGF				*e*Sn	**Sn**	**21 28 40.6**	**-1.3**
	5.5nm,0.2s			

	1.1nm,0.2s,SNR=7.9							
ESPR					Sn	Sn	22 10 55.3	-4.2
	1.5nm,0.2s,SNR=7.9							
ESPR					Lg		22 11 09.1	
	1.3nm,0.2s,SNR=7.9							
EMIJ	**Mijas**	**4.05**	**94**		Pn	Pn	22 10 33.5	-0.7
	0.1nm,0.1s,SNR=4.0							
EADA	**Adamuz**	**4.33**	**72**		Pn	Pn	22 10 34.3	-3.8
	0.2nm,0.1s,SNR=7.9							
EADA					Sn	Sn	22 11 22.2	-6.8
	0.6nm,0.1s,SNR=7.9							
EADA					Lg		22 11 45.4	
	0.4nm,0.1s,SNR=7.9							
ESDC	**Sonseca Array**	**5.34**	**57**		Pn	Pn	22 10 47.9	-4.5
	0.1nm,0.2s,baz=243,slow=12,SNR=4.2							
EQES	**Quesada**	**5.43**	**79**		Pn	Pn	22 10 49.8	-3.8
	0.2nm,0.2s,SNR=4.0							
EQES					Sn	Sn	22 11 49.9	-6.9
	0.3nm,0.2s,SNR=7.9							

*NEIC **30** 22:34:31.6, 20.40N×68.22W, h25km, ML4.3(RSPR), After RSPR.*

RSPR 30 22:34:31.6, 20.40N×68.22W, h25km±98km**, MD3.3/4, MD3.3/4, 3C-2D, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IDE	**Isla Desecheo**	**2.13**	**161**	*e*S	Sn	22 35 32.7	+0.5
LSP	**Las Mesas**	**2.46**	**154**↑	*e*P	Pn	22 35 10.5	-0.6
LSP				*e*S	Sn	22 35 33.3	-7.4
LRS	**Lares**	**2.47**	**148**↓	*i*P	Pn	22 35 10.7	-0.6
LRS				*e*S	Sn	22 35 36.8	-4.1
CELP	**Cerrillos**	**2.79**	**146**↓	*i*P	Pn	22 35 10.1	-5.6
CELP				*e*S	Sn	22 35 42.9	-6.1
CSB	**Colonia Sabana**	**2.87**	**137**↑	*e*P	Pn	22 35 14.3	-2.5
CSB				*e*S	Sn	22 35 49.8	-1.2
SJG	**San Juan**	**3.01**	**139**↑	*e*P	Pn	22 35 17.1	-1.7
SJG				*e*S	Sn	22 35 50.9	-3.5
HUMP	**Col San Antoni**	**3.18**	**135**	*e*S	Sn	22 35 56.4	-2.4

*CSEM **30** 22:36:55.7±0.3, 37.76N×25.42W, h30km, ML2.5, Error ellipse: s-maj=14.8km s-min=7.2km az=176.0*
*PDA **30** 22:36:59.5±0.7, 37.77N×25.46W, h3km±2km, MD1.4, ML2.5, Error ellipse: s-maj=1.0km s-min=0.9km az=13.0*

SVSA 30 22:36:59.5±0.7, 37.77N×25.46W, h3km±2km**, MD1.4, ML2.5, Error ellipse: s-maj=1.0km s-min=0.9km az=13.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LFA	**Lagoa do Fogo**	**0.02**	**289**	*i*P	Pg	22 37 00.5	+0.4
MESC	**Monte Escuro**	**0.03**	**28**	*i*P	Pg	22 37 00.7	+0.4
VIF	**Vila Franca**	**0.03**	**140**	*i*P	Pg	22 37 00.8	+0.5
VIF				*i*S	Sg	22 37 02.0	+1.2
	4µm,0.3s						
PRCH	**Ribeira Ch**	**0.04**	**199**	*e*P	Pg	22 37 00.8	+0.3
PRCH				*i*S	Sg	22 37 01.6	+0.5
PMAT	**Coroa da Mata**	**0.05**	**353**	*i*P	Pg	22 37 01.9	+0.3
PMAT				*i*S	Sg	22 37 02.2	+0.8
	1µm,0.1s						
PCNG	**Congro**	**0.05**	**90**	*i*P	Pg	22 37 01.2	+0.5
PCNG				*i*S	Sg	22 37 02.8	+1.3
	2µm,0.2s						
PFAD	**Fenais da Ajud**	**0.13**	**57**	*i*P	Pg	22 37 02.9	+0.7
PFAD				*i*S	Sg	22 37 05.0	+1.0
MIRA	**Miradouro**	**0.15**	**83**	*i*P	Pg	22 37 03.2	+0.7
MIRA				*i*S	Sg	22 37 06.0	+1.5
FAC	**Faja de Cima**	**0.15**	**272**	*e*P	Pg	22 37 03.2	+0.7
FAC				*i*S	Sg	22 37 05.8	+1.3
PDA	**Ponta Delgada**	**0.16**	**263**	*e*P	Pg	22 37 03.6	+0.9
PSAN	**Santo Antonio**	**0.23**	**292**	*e*P	Pg	22 37 04.0	+0.6
PFET	**Feteiras**	**0.26**	**281**	*e*P	Pg	22 37 05.0	+0.2
SET2	**Ginetes**	**0.28**	**286**	*e*P	Pg	22 37 05.4	+0.2
SET4	**Mosteiros**	**0.29**	**292**	*e*P	Pg	22 37 05.2	-0.1

*ATH **30** 23:07:44.8, 40.06N×24.27E, h36km, MD3.2/4*
*THE **30** 23:07:44.6, 40.02N×24.26E, h2km, ML2.6*
*NEIC **30** 23:07:44.8, 40.06N×24.27E, h36km, MD3.2(ATH), After ATH.*
*CSEM **30** 23:07:44.8±0.1, 40.03N×24.30E, h8km, ML2.6, Error ellipse: s-maj=1.6km s-min=1.3km az=44.0*

ISC 30 23:07:43.9±0.5, 40.01N±0.03×24.27E±0.03, h7km±5km**, n19, σ0s86/31, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OUR	**Ouranopolis**	**0.40**	**326**	*e*Pg	**Pg**	**23 07 52.6**	**+0.7**
OUR				*e*Sg	**Sg**	**23 07 57.2**	**0.0**
PAIG	**Paliouri**	**0.46**	**260**	*e*Pg	**Pg**	**23 07 53.7**	**+0.5**
PAIG				*e*Sg	**Sg**	**23 08 00.4**	**+0.9**
LOS	**Limnos**	**0.62**	**97**	*e*Pg	**Pg**	**23 07 56.2**	**-0.2**
LOS				*e*Sg	**Sg**	**23 08 05.1**	**+0.3**
PLG	**Polygyros**	**0.73**	**300**	*e*PN	**Pn**	**23 07 58.6**	**-1.8**
AOS	**Alonnisos**	**0.89**	**200**	*e*Pg	**Pg**	**23 08 01.8**	**0.0**
AOS				*e*Sg	**Sg**	**23 08 14.6**	**+0.9**
XOR	**Xorichti**	**1.05**	**233**	*e*Pg	**Pg**	**23 08 05.1**	**+0.2**
XOR				*e*Sg	**Sg**	**23 08 19.2**	**+0.2**
NEO	**Neokhori**	**1.07**	**230**	*e*PN	**Pn**	**23 08 05.5**	**+0.3**
SOH	**Sokhos**	**1.07**	**319**	*e*Pg	**Pg**	**23 08 05.1**	**-0.2**
SOH				*e*Sg	**Sg**	**23 08 19.3**	**-0.4**
THE	**Thessaloniki**	**1.18**	**302**	*e*Pg	**Pg**	**23 08 06.7**	**-0.7**
THE				*e*Sg	**Sg**	**23 08 22.2**	**-1.0**
SRS	**Serrai**	**1.22**	**335**	*e*Pb	**Pb**	**23 08 07.0**	**0.0**
SRS				*e*Sb	**Sb**	**23 08 24.1**	**+1.3**
LIT	**Litokhoron**	**1.37**	**274**	*e*Pb	**Pb**	**23 08 09.0**	**-0.5**
RDO	**Rodhopi**	**1.49**	**40**	*e*PN	**Pn**	**23 08 10.3**	**-0.9**
KNT	**Kendrikon**	**1.56**	**318**	*e*Pb	**Pb**	**23 08 12.9**	**+0.2**
KNT				*e*Sb	**Sb**	**23 08 34.6**	**+2.1**
ALN	**Alexandroupoli**	**1.62**	**56**	*e*Pb	**Pb**	**23 08 13.2**	**-0.5**
ALN				*e*Sb	**Sb**	**23 08 36.0**	**+1.8**
MMB	**Musomiste**	**1.63**	**345**	*i*P	**Pn**	**23 08 14.0**	**+0.7**
GRG	**Griva**	**1.71**	**304**	*e*Pb	**Pb**	**23 08 14.5**	**-0.8**
GRG				*e*Sb	**Sb**	**23 08 37.3**	**+0.3**
PRK	**Paraskevi**	**1.72**	**116**	*e*PN	**Pn**	**23 08 14.5**	**0.0**
AGG	**Agios Georgios**	**1.80**	**237**	*e*Pb	**Pb**	**23 08 15.8**	**-1.0**
AGG				*e*Sb	**Sb**	**23 08 39.2**	**-0.3**
KDZ	**Kurdzhali**	**1.85**	**27**	*i*P	**Pn**	**23 08 14.5**	**-1.9**

*CSEM **30** 23:38:53.6±0.7, 36.66N×44.79E, h5km, MD3.9, Error ellipse: s-maj=14.6km s-min=5.0km az=122.0*
*ISK **30** 23:38:56.5, 36.75N×44.47E, h5km, MD3.9*
*NEIC **30** 23:38:56.7, 36.73N×44.39E, h5km, MD3.9(ISK), After ISK.*

ISC 30 23:38:57.5±1.5, 36.74N±0.08×44.5E±0.1, h5km**, n29, σ0s86/38, 1C, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HKR	**Hakkari**	**1.04**	**323**	PG	**Pg**	**23 39 16.7**	**-1.6**
HKR				SG	**Sg**	**23 39 32.4**	**+0.2**
HKR	**Hakkari**	**1.04**	**323**	Pg	**Pg**	**23 39 16.8**	**-1.6**
HKR				Sg	**Sg**	**23 39 31.8**	**-0.5**
HKR	**Hakkari**	**1.04**	**323**	Pg	**Pg**	**23 39 16.8**	**-1.5**
VANT	**Van**	**1.92**	**332**	PN	**Pn**	**23 39 31.8**	**+0.5**
VANT	**Van**	**1.92**	**332**	Pn	**Pn**	**23 39 31.9**	**+0.6**
TVAN	**Van**	**1.99**	**334**↑	*i*P	**Pn**	**23 39 32.4**	**+0.2**
TVAN				*i*S	**Sn**	**23 40 02.2**	**+4.4**
VANB	**Van**	**2.06**	**334**	*e*PN	**Pn**	**23 39 33.5**	**+0.3**
VANB				*e*SN	**Sn**	**23 40 00.0**	**+0.5**
VANB	**Van**	**2.06**	**334**	Pn	**Pn**	**23 39 33.5**	**+0.4**
VANB				Sg	**Sg**	**23 39 59.5**	**-6.5**
VANB	**Van**	**2.06**	**334**	*e*Pn	**Pn**	**23 39 33.5**	**+0.3**
VANB				Sg	**Sg**	**23 39 59.5**	**-6.5**
VANB				*e*Sn	**Sn**	**23 40 00.0**	**+0.5**
BTMT	**Batman**	**2.81**	**302**	*e*PN	**Pn**	**23 39 45.9**	**+1.9**
BEST	**Besiri**	**2.84**	**295**	*i*P	**Pn**	**23 39 48.0**	**+3.7**
BEST				*i*S	**Sn**	**23 40 30.0**	**+11**
VRT	**Varto**	**3.36**	**316**	*e*PN	**Pn**	**23 39 51.8**	**0.0**
VRT	**Varto**	**3.36**	**316**	Pn	**Pn**	**23 39 51.8**	**0.0**
GNI	**Garni**	**3.41**	**3**	*e*PN	**Pn**	**23 39 52.9**	**+0.5**
GNI	**Garni**	**3.41**	**3**	*e*Pn	**Pn**	**23 39 50.5**	**-1.9**
DIY	**Diyarbakir**	**3.61**	**290**	*e*PN	**Pn**	**23 39 55.4**	**0.0**
DIY	**Diyarbakir**	**3.61**	**290**	Pn	**Pn**	**23 39 54.9**	**-0.5**
BINT	**Bingol**	**3.84**	**305**	*e*Pn	**Pn**	**23 39 58.2**	**-0.4**
BINT	**Bingol**	**3.84**	**305**	Pn	**Pn**	**23 39 58.3**	**-0.3**
BINT	**Bingol**	**3.84**	**305**	Pn	**Pn**	**23 39 58.3**	**-0.3**
ERZM	**Erzurum**	**4.02**	**323**	*i*P	**Pn**	**23 40 13.4**	**+12**
ERZM				*i*S	**Sn**	**23 41 01.3**	**+12**
EZM	**Erzurum**	**4.02**	**323**	*e*PN	**Pn**	**23 40 01.2**	**+0.1**
PTK	**Pertek**	**4.59**	**299**	*e*PN	**Pn**	**23 40 08.9**	**-0.4**
MALT	**Malatya**	**5.09**	**290**	*e*PN	**Pn**	**23 40 16.6**	**+0.2**
MALT	**Malatya**	**5.09**	**290**	*e*Pn	**Pn**	**23 40 12.2**	**-4.2**
MYA	**Malatya**	**5.10**	**290**	*e*PN	**Pn**	**23 40 16.3**	**-0.1**
MYA	**Malatya**	**5.10**	**290**	Pn	**Pn**	**23 40 15.0**	**-1.4**
GAZ	**Gaziantep**	**5.87**	**276**	*e*PN	**Pn**	**23 40 27.3**	**0.0**
GAZ	**Gaziantep**	**5.87**	**276**	Pn	**Pn**	**23 40 27.4**	**0.0**

*CSEM **30** 23:48:21.2±0.3, 37.78N×25.44W, h30km, ML2.5, Error ellipse: s-maj=11.2km s-min=4.7km az=81.0*
*PDA **30** 23:48:25.2±0.6, 37.77N×25.48W, h1km±1km, MD2.0, ML2.5, Error ellipse: s-maj=1.0km s-min=0.9km az=75.0*

SVSA 30 23:48:25.2±0.6, 37.77N×25.48W, h1km±1km**, MD2.0, ML2.5, Error ellipse: s-maj=1.0km s-min=0.9km az=75.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LFA	**Lagoa do Fogo**	**0.00**	**278**	*i*P	Pg	23 48 26.2	+0.7
LFA	**Lagoa do Fogo**	**0.00**	**278**	*i*P	Pg	23 48 26.2	+0.7
MESC	**Monte Escuro**	**0.03**	**51**	*i*P	Pg	23 48 26.4	+0.5
MESC	**Monte Escuro**	**0.03**	**51**	*i*P	Pg	23 48 26.4	+0.5
VIF	**Vila Franca**	**0.04**	**132**	*e*P	Pg	23 48 26.5	+0.4
VIF				*i*S	Sg	23 48 27.8	+1.2
	3µm,0.3s						
VIF	**Vila Franca**	**0.04**	**132**	*e*P	Pg	23 48 26.5	+0.4
PMAT	**Coroa da Mata**	**0.04**	**7**	*i*P	Pg	23 48 26.6	+0.5
PMAT				*e*S	Sg	23 48 27.8	+1.1
	965nm,0.2s						
PMAT	**Coroa da Mata**	**0.04**	**7**	*i*P	Pg	23 48 26.6	+0.5
PRCH	**Ribeira Ch**	**0.04**	**182**	*e*P	Pg	23 48 26.9	+0.8
PRCH	**Ribeira Ch**	**0.04**	**182**	*e*P	Pg	23 48 26.9	+0.8
PCNG	**Congro**	**0.07**	**94**	*i*P	Pg	23 48 27.5	+1.0
PCNG				*i*S	Sg	23 48 29.0	+1.6
	1µm,0.1s						
FAC	**Faja de Cima**	**0.14**	**271**	*e*P	Pg	23 48 28.7	+0.8
PFAD	**Fenais da Ajud**	**0.14**	**61**	*e*P	Pg	23 48 29.1	+1.1
PDA	**Ponta Delgada**	**0.15**	**260**	*e*-		23 48 30.0	
MIRA	**Miradouro**	**0.16**	**85**	*e*P	Pg	23 48 29.4	+1.0
PSAN	**Santo Antonio**	**0.21**	**292**	*e*P	Pg	23 48 30.3	+0.9
PFET	**Feteiras**	**0.25**	**281**	*e*P	Pg	23 48 30.8	+0.6
SET2	**Ginetes**	**0.27**	**285**	*e*P	Pg	23 48 31.2	+0.6
SET4	**Mosteiros**	**0.27**	**292**	*e*P	Pg	23 48 31.1	+0.4

*IDC **30** 23:55:19.4±0.8, 2.83N×84.38W, mb4.1/11, mb1 4.3/11, mb1mx4.2/19, MS4.2/13, Ms1 4.2/13, ms1mx4.0/22, Error ellipse: s-maj=30.2km s-min=17.5km az=49.0*
*BJI **30** 23:55:25.6, 2.90N×84.30W, h47km, Ms5.1, Msz4.7*
*NEIC **30** 23:55:25.6±1.6, 2.87N×84.25W, h48km±14km, mb4.6/15, Error ellipse: s-maj=14.1km s-min=6.6km az=61.0*
*CASC **30** 23:55:27.9±1.9, 3.12N×84.61W, h33km±999km, MD4.5, mb4.6(NEIC)*

ISC 30 23:55:24.1±1.3, 2.92N±0.06×84.26W±0.09, h45km±11km**, n65, σ1s01/48, mb4.4/23, MS4.3/14, 5C-5D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**5.80**	**11**	*e*P	**P**	**23 57 05.4**	**+16**
OTAV	**Otavalo**	**6.39**	**115**	*e*P	**P**	**23 56 55.5**	**-2.6**
	7.7nm,0.6s						
BUS	**Buena Vista**	**6.61**	**4**↑	*e*P	**P**	**23 57 01.5**	**+0.3**
LCR2	**La Lucha 2**	**6.78**	**2**↑	*e*P	**P**	**23 57 03.6**	**0.0**
URSC	**Urasca**	**6.88**	**4**	*e*P	**P**	**23 57 05.1**	**+0.1**
LAJ	**Bijagual**	**6.90**	**1**↑	*e*P	**P**	**23 57 01.6**	**-3.6**
JCR	**Jicaral**	**6.93**	**353**↓	*e*P	**P**	**23 57 05.0**	**-0.7**
JCR				*e*S	**S**	**23 58 20.4**	**-3.7**
ICR	**Volcan Irazu**	**7.03**	**3**↑	*e*P	**P**	**23 57 07.6**	**+0.6**
ICR				*e*S	**S**	**23 58 26.5**	**+0.1**
CGA2	**Cerro Gallo 2**	**7.05**	**358**	*e*P	**P**	**23 57 07.7**	**+0.3**
VCR	**Vista de Mar**	**7.29**	**349**	*e*P	**P**	**23 57 09.0**	**-1.6**
FORC	**Fortuna**	**7.51**	**357**↓	*e*P	**P**	**23 57 15.9**	**+2.2**
TRTC	**Tortuguero**	**7.62**	**4**↑	*e*P	**P**	**23 57 16.0**	**+0.7**
SDV	**Santo Domingo**	**14.79**	**66**	*e*P	**P**	**23 58 52.5**	**+0.2**
	93nm,1.2s						
SDV				*e*		23 59 08.4	
NNA	**Nana**	**16.55**	**154**	*e*P	**P**	**23 59 15.5**	**+0.8**
	75nm,1.3s						
SJG	**San Juan**	**23.30**	**48**	P	**P**	**00 00 32.0**	**+2.9**
	3.4nm,0.4s,mb4.1,baz=347,slow=22,SNR=2.8						
SJG				LR	LR	00 08 42.0	
	comp=Z,429nm,20.8s,MS3.9,baz=241,slow=34						
SJG	**San Juan**	**23.30**	**48**	*e*P	**P**	**00 00 31.4**	**+2.4**
	53nm,1.3s,mb4.8						
SAML	**Samuel**	**24.09**	**119**	*e*P	**P**	**00 00 36.5**	**-0.3**
	40nm,1.4s,mb4.7						
LPAZ	**La Paz**	**24.87**	**141**	P	**P**	**00 00 45.9**	**+1.6**
	4.3nm,0.8s,mb4.0,baz=330,slow=12,SNR=15						
LPAZ	**La Paz**	**24.87**	**141**	*e*P	**P**	**00 00 45.0**	**+0.6**
	16nm,1.2s,mb4.4						
DWPF	**Disney**	**25.19**	**6**	P	**P**	**00 00 48.2**	**+0.9**
	120nm,1.7s,mb5.2						
HKT	**Hockley**	**29.03**	**339**	P	**P**	**00 01 17.5**	**-4.9**
	5.2nm,1.1s,mb4.2						
OXF	**Oxford**	**31.79**	**352**	*e*P	**P**	**00 01 44.8**	**-1.9**
	31nm,1.1s,mb5.1						
OXF				*e*		00 02 03.2	
OXF				*e*		00 02 11.4	
TXAR	**Lajitas Array**	**32.09**	**327**	P	**P**	**00 01 49.7**	**+0.3**
	0.4nm,0.7s,mb3.4,baz=150,slow=10,SNR=4.1						
TXAR				PcP	PcP	00 04 38.1	+0.1
	1.0nm,0.9s,baz=135,slow=3.8,SNR=5.8						
TXAR				LR	LR	00 13 51.4	
	comp=Z,242nm,21.1s,MS3.9,baz=175,slow=35						
WVT	**Waverly**	**33.21**	**355**	*e*P	**P**	**00 01 56.8**	**-2.2**
	6.5nm,1.2s,mb4.5						
WMOK	**Wichita Mounta**	**34.42**	**339**	P	**P**	**00 02 09.0**	**-0.4**
	5.9nm,1.4s,mb4.3						
ANMO	**Albuquerque**	**37.96**	**330**	*e*P	**P**	**00 02 40.4**	**+1.1**
	6.9nm,1.1s,mb4.3						
ANMO				*e*	pP	00 02 48.7	-2.8
CPUP	**Villa Florida**	**39.04**	**140**	LR	LR	00 21 21.7	
	comp=Z,320nm,19.3s,MS4.2,baz=338,slow=40						
BDFB	**Brasilia**	**40.32**	**118**	P	**P**	**00 02 59.2**	**+0.1**
	2.2nm,0.8s,mb4.0,baz=215,slow=3.9,SNR=2.6						
BDFB				LR	LR	00 21 37.8	
	comp=Z,197nm,18.3s,MS4.0,baz=130,slow=39						
PV10	**Paradox Valley**	**41.92**	**330**	*e*P	**P**	**00 03 12.2**	**0.0**
PDAR	**Pinedale Array**	**45.64**	**334**	P	**P**	**00 03 42.0**	**-0.2**
	2.2nm,1.1s,mb4.0,baz=141,slow=9.5,SNR=11						
PDAR				PcP	PcP	00 05 19.6	-0.7
	1.3nm,0.9s,baz=158,slow=4.9,SNR=5.6						
PDAR				LR	LR	00 23 43.1	
	comp=Z,430nm,19.6s,MS4.4,baz=151,slow=37						
HWUT	**Hardware Ranch**	**45.65**	**331**	*e*P	**P**	**00 03 42.4**	**+0.1**
	5.6nm,0.8s,mb4.5						
HWUT				*e*PcP	PcP	00 05 19.7	-0.6
TPH	**Tonopah**	**46.18**	**323**	*e*P	**P**	**00 03 46.5**	**0.0**
	8.7nm,1.4s,mb4.5						
NVAR	**Mina Array Bea**	**47.05**	**323**	P	**P**	**00 03 54.4**	**+1.0**
	1.8nm,0.8s,mb4.1,baz=135,slow=6.4,SNR=9.5						
NVAR				PcP	PcP	00 05 25.4	+0.1
	1.2nm,0.7s,baz=139,slow=3.9,SNR=4.3						
ULM	**Lac du Bonnet**	**48.17**	**350**	P	**P**	**00 04 01.6**	**-0.4**
	5.5nm,1.0s,mb4.5,baz=176,slow=13,SNR=3.3						
ULM				LR	LR	00 26 39.1	
	comp=Z,151nm,19.9s,MS4.0,baz=194,slow=39						
HLID	**Hailey**	**48.51**	**331**	*e*P	**P**	**00 04 04.7**	**+0.1**
	3.4nm,1.1s,mb4.3						
PAHR	**Pah Rah Range**	**48.52**	**324**	P	**P**	**00 04 04.7**	**0.0**
	32nm,1.3s,mb5.2						
PAHR				*e*	pP	00 04 17.1	-0.1
RCBR	**Riachuelo**	**49.07**	**100**	P	**P**	**00 04 07.7**	**-1.7**
SCHQ	**Schefferville**	**53.66**	**12**	P	**P**	**00 04 43.4**	**0.0**
	2.9nm,0.8s,mb4.3,baz=106,slow=14,SNR=1.7						
SCHQ				LR	LR	00 28 35.4	
	comp=Z,389nm,18.3s,MS4.5,baz=258,slow=37						
SCHQ	**Schefferville**	**53.66**	**12**	P	**P**	**00 04 43.4**	**0.0**
SCHQ				LR	LR	00 28 35.4	
EDM	**Edmonton**	**55.58**	**339**	*e*P	**P**	**00 04 56.3**	**-1.1**
YKA	**Yellowknife Ar**	**63.57**	**345**	LR	LR	00 34 28.4	
	comp=Z,179nm,19.4s,MS4.3,baz=155,slow=37						
ILAR	**Eielson Array**	**75.96**	**337**	P	**P**	**00 07 07.8**	**0.0**
	1.3nm,0.9s,mb3.9,baz=126,slow=3.4,SNR=10						
ILAR				LR	LR	00 41 46.9	
	comp=Z,311nm,20.1s,MS4.6,baz=292,slow=37						
ESDC	**Sonseca Array**	**80.67**	**50**	P	**P**	**00 07 34.2**	**0.0**
	1.9nm,0.8s,mb4.0,baz=276,slow=5.3,SNR=5.7						
ESDC				LR	LR	00 38 39.6	

IDC 30 23:59:41.9±1.3, 2.66N×84.66W, mb3.6/5, mb1 4.0/5, mb1mx3.8/18, Error ellipse: s-maj=187.0km s-min=24.7km az=55.0, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**24.93**	**140**	P	P	00 05 07.8	-0.5
	2.7nm,0.9s,baz=334,slow=13,SNR=5.6						
TXAR	**Lajitas Array**	**32.10**	**328**	P	P	00 06 11.2	-1.9
	0.2nm,0.8s,baz=166,slow=11,SNR=2.5						
TXAR				PcP	PcP	00 09 00.4	-2.2
	0.3nm,0.8s,baz=135,slow=5.1,SNR=3.5						
PDAR	**Pinedale Array**	**45.70**	**334**	P	P	00 08 05.1	-1.4
	1.0nm,1.0s,baz=122,slow=8.5,SNR=5.2						
NVAR	**Mina Array Bea**	**47.02**	**324**	P	P	00 08 15.5	-1.5
	0.6nm,0.8s,baz=130,slow=7.0,SNR=4.2						
NVAR				PcP	PcP	00 09 48.0	-1.6
	0.6nm,0.8s,baz=121,slow=5.3,SNR=3.0						
ILAR	**Eielson Array**	**76.05**	**337**	P	P	00 11 30.2	-2.4
	0.6nm,0.9s,baz=120,slow=5.4,SNR=6.0						
WRA	**Warramunga Arr**	**138.24**	**243**	PKP	PKPdf	00 19 07.9	-4.0
	0.2nm,0.3s,baz=94,slow=2.9,SNR=4.6						

*LDG **31** 00:08:03.6±0.2, 42.86N×82.95E, h10km, Mb4.5/15, Ms3.4/6, Error ellipse: s-maj=7.3km s-min=5.4km az=170.0*
*BJI **31** 00:08:06.4, 42.72N×83.24E, h32km, mB4.4, mb4.7, ML4.5, Ms4.1, Msz3.8*
*IDC **31** 00:08:07.7±6.1, 42.72N×83.21E, h32km±46km, mb4.0/15, mb1 4.1/17, mb1mx4.0/24, ML4.1/2, MS4.4/1, Ms1 4.4/1, ms1mx2.8/32, Error ellipse: s-maj=23.7km s-min=13.0km az=42.0*
*MOS **31** 00:08:07.3±0.9, 42.84N×83.18E, h39km, mb4.5/19, Error ellipse: s-maj=18.1km s-min=8.5km az=116.7*
*NEIC **31** 00:08:07.4±1.9, 42.77N×83.26E, h30km±13km, mb4.4/15, MS3.8/1, Error ellipse: s-maj=8.6km s-min=4.8km az=209.0*
*NNC **31** 00:08:14.0±1.6, 43.09N×82.58E, h24km±6km, mpv4.3, Error ellipse: s-maj=15.0km s-min=7.3km az=123.0*

ISC 31 00:08:08.1±0.2, 42.88N±0.04×83.14E±0.04, h44km**, h44**km±9km**: pP-P, n110, σ1s17/118, mb4.3/39, MS3.8/4, 9C-10D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**3.46**	**73**	↑P	**P**	**00 09 02.0**	**+1.2**
WMQ				S	**S**	**00 09 43.0**	**+2.0**
WMQ				Smax			
	comp=N,682nm,0.6s						
WMQ				Smax			
	comp=E,913nm,0.8s						
MK31	**Makanchi Array**	**3.96**	**352**	↓Pn	**P**	**00 09 11.1**	**+3.1**
	comp=E,17nm,0.4s,baz=163,slow=13,SNR=1712						
MK31				↓Pg	**P**	**00 09 21.9**	**+14**
	comp=E,38nm,0.4s,baz=181,slow=16,SNR=8.8						
MK31				↓Lg		00 10 11.7	
	comp=E,96nm,0.5s,baz=166,slow=28,SNR=5.8						
MK31				↓Rg		00 10 40.6	
	comp=E,71nm,6.7s,baz=169,slow=29,SNR=5.0						
MKAR	**Makanchi Array**	**3.96**	**352**	*e*P	**P**	**00 09 09.0**	**+1.0**
AAA	**Alma-Ata**	**4.55**	**277**	*e*P	**P**	**00 09 30.0**	**+14**
ULHL	**Ulahol**	**5.13**	**265**	P	**P**	**00 09 25.0**	**+0.6**
	SNR=12						
TKM2	**Tokmak 2**	**5.54**	**273**	P	**P**	**00 09 32.1**	**+2.0**
	SNR=20						
KBK	**Karagaybulak**	**6.03**	**271**	P	**P**	**00 09 39.3**	**+2.3**
	SNR=15						
FRU	**Bishkek**	**6.26**	**273**	*e*P	**P**	**00 09 46.0**	**+5.8**
USP	**Ospenovka**	**6.34**	**276**	P	Px	00 10 05.4	
	SNR=6.3						
KSH	**Kashi**	**6.36**	**241**	*e*P	**P**	**00 09 41.5**	**-0.1**
KSH				Smax			
	comp=N,190nm,1.0s						
KSH				Smax			
	comp=E,230nm,0.9s						
AAK	**Ala-Archa**	**6.37**	**271**	↑Pn	**P**	**00 09 42.0**	**+0.3**
	comp=E,27nm,0.5s						
AAK				↑Pg	Px	00 10 03.0	
AAK				↑Lg		00 11 22.3	
	comp=E,129nm,0.9s						
AAK	**Ala-Archa**	**6.37**	**271**	P	**P**	**00 09 44.3**	**+2.6**
	SNR=11						
AAK	**Ala-Archa**	**6.37**	**271**	*i*P	**P**	**00 09 42.2**	**+0.5**
AAK	**Ala-Archa**	**6.37**	**271**	*e*Pn	**P**	**00 09 42.0**	**+0.3**
AA

GKN	Gorkha	14.89	175	*e*P		P		00 11 40.0	+2.8
	comp=E,18nm,0.4s								
KOLN	Koldanda	15.08	178	*e*P		P		00 11 33.0	-6.6
	comp=E,13nm,0.9s								
GUN	Gumba	15.10	171	*e*P		P		00 11 45.7	+5.8
	comp=E,44nm,1.1s								
KKN	Kakani	15.15	173	*e*P		P		00 11 42.7	+2.1
	comp=E,18nm,0.6s								
DMN	Daman	15.32	173	*e*P		P		00 11 42.6	-0.1
	comp=E,9.1nm,0.5s								
PKI	Pulchoki	15.38	172	*e*P		P		00 11 43.8	+0.2
	comp=E,22nm,0.9s								
ZAK	Zakamensk	15.71	55	*e*P		P		00 11 50.0	+2.3
SONM	Songino Array	17.06	65	Pn		P		00 12 03.2	-1.5
	comp=E,0.4nm,0.3s,baz=256,slow=13,SNR=33								
LZH	Lanzhou	17.34	106	*e*P		P		00 12 10.5	+2.2
LZH				AP				00 12 13.5	
LZH				XP				00 12 16.8	
LZH				PP		PP		00 12 24.3	+1.3
LZH				AMB		AMB			
	comp=Z,10.0nm,1.2s								
LZH				AMB		AMB			
	comp=Z,48nm,4.0s								
LZH				LR		LR			
	comp=N,265nm,12.0s								
LZH				LR		LR			
	comp=Z,322nm,14.0s								
SHL	Shillong	18.70	155	*e*P		P		00 12 22.0	-3.2
SVE	Sverdlovsk	20.00	322	*e*P		P		00 12 39.5	+0.1
SVE				*e*				00 13 10.9	
ARU	Arti	20.76	319	*i*P		P		00 12 47.5	+0.2
ARU				*e*				00 13 07.2	
ARU				*e*S		S		00 16 38.8	+7.3
ARU				*e*SS				00 17 00.4	
ARU				pmax		pmax			
	comp=Z,12nm,0.7s								
ENH	Enshi	24.51	112	P		P		00 13 22.5	-1.9
GYA	Guiyang	25.23	123	P		P		00 13 29.8	-1.5
GYA				AMB		AMB			
	comp=Z,10.0nm,0.8s,mb4.4								
CMAR	Chiang Mai Arr	27.78	146	P		P		00 13 52.8	-2.2
	comp=Z,3.9nm,0.9s,mb4.0,baz=322,slow=9.0,SNR=7.9								
CMAR	Chiang Mai Arr	27.78	146	P		P		00 13 52.8	-2.2
CMAR				pmax		pmax			
	comp=Z,4.0nm,0.9s								
KIV	Kislovodsk	29.20	286	*i* P		P		00 14 07.6	+0.2
KIV				*i* *PP		pP		00 14 19.2	+0.1
KIV				*e*				00 15 02.7	
KIV				pmax		pmax			
	comp=Z,5.0nm,1.1s,mb4.2								
NJ2	Nanjing	30.13	99	*e*P		P		00 14 17.0	+1.2
NJ2				AP		pP		00 14 28.8	+1.2
NJ2				PP		PP		00 15 16.8	+1.6
NJ2				S		S		00 19 12.0	+1.6
NJ2				AMB		AMB			
	comp=Z,20nm,0.5s,mb5.1								
NJ2				AMB		AMB			
	comp=Z,250nm,5.4s								
NJ2				LR		LR			
	comp=N,390nm,17.4s,MS4.2								
NJ2				LR		LR			
	comp=E,400nm,22.2s,MS4.2								
NJ2				LR		LR			
	comp=Z,160nm,13.1s								
CN2	Changchun	30.55	74	*e*PKP		P		00 14 24.5	+5.1
SOC	Sochi	31.38	286	*e*P		P		00 14 26.4	-0.3
SOC				*e*				00 15 33.9	
SOC				*e*				00 17 17.7	
SOC				*e*S		S		00 19 26.3	-3.5
SOC				*e*SS		SS		00 21 20.3	+1.3
SOC				*e*SSS		SSS		00 21 42.8	+0.8
SOC				pmax		pmax			
	comp=Z,4.0nm,0.8s,mb4.3								
SOC				pmax		pmax			
	comp=N,2.0nm,0.7s								
SOC				pmax		pmax			
	comp=E,4.0nm,0.9s								
SOC				MLR		MLR			
	comp=Z,48nm,15.0s,MS3.3								
SOC				MLR		MLR			
	comp=N,48nm,19.0s,MS3.4								
SOC				MLR		MLR			
	comp=E,56nm,21.0s,MS3.4								
OBN	Obninsk	32.30	309	*i* P		P		00 14 34.3	-0.4
OBN				*i* *PP		pP		00 14 46.3	-0.2
OBN				*e*				00 15 39.5	
OBN				pmax		pmax			
	comp=Z,21nm,2.3s,mb4.6								
SSE	Sheshan	32.33	99	P		P		00 14 33.5	-1.7
SSE				S		S		00 19 44.3	-0.5
SSE				XS				00 20 03.0	
SSE				AMB		AMB			
	comp=Z,38nm,0.7s,mb5.3								
SSE				AMB		AMB			
	comp=Z,73nm,4.3s								
SSE				LR		LR			
	comp=N,20nm,20.1s,MS3.0								
SSE				LR		LR			
	comp=E,26nm,20.0s,MS3.0								
ANN	Anapa	32.69	289	*e*PP		P		00 14 39.1	+0.9
JOF	Joensuu	35.83	322	*ep*		P		00 15 05.4	+0.5
	comp=E,6.5nm,0.6s,mb4.7								
JOF	Joensuu	35.83	322	*e*P		P		00 15 05.4	+0.5
JOF				pmax		pmax			
	comp=Z,7.0nm,0.6s,mb4.8								
TIXI	Tiksi	36.34	23	*i* P		P		00 15 09.0	-0.1
TIXI				*e*				00 16 30.7	
TIXI				pmax		pmax			
	comp=Z,10.0nm,2.6s,mb4.3								
BRTR	Keskin Array B	36.89	282	P		P		00 15 14.5	+0.4
	comp=Z,2.0nm,0.8s,mb4.0,baz=101,slow=9.1,SNR=9.8								
BRTR	Keskin Array B	36.89	282	P		P		00 15 14.5	+0.4
BRTR				pmax		pmax			
	comp=Z,2.0nm,0.8s								
AKASG	Malin Array Be	37.01	301	P		P		00 15 14.4	-0.6
	comp=Z,0.5nm,0.6s,mb3.6,baz=70,slow=8.0,SNR=4.0								
AKASG	Malin Array Be	37.01	301	P		P		00 15 14.4	-0.5
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.6s								
KAF	Kangasniemi	38.05	320	*ep*		P		00 15 23.9	+0.3
	comp=Z,1.4nm,0.5s,mb4.0,baz=95,slow=8.6								
KAF	Kangasniemi	38.05	320	*e*P		P		00 15 23.9	+0.3
KAF				pmax		pmax			
	comp=Z,1.0nm,0.5s,mb3.8								
FINES	FINESS Array B	38.13	319	P		P		00 15 25.0	+0.8
	comp=Z,2.3nm,0.7s,mb4.0,baz=93,slow=9.9,SNR=12								
FINES	FINESS Array B	38.13	319	P		P		00 15 25.0	+0.8
FINES				pmax		pmax			
	comp=Z,2.0nm,0.7s								
KEV	Kevo	38.91	333	*ep*		P		00 15 31.5	+0.9
	comp=Z,1.1nm,0.4s,mb3.9								
KEV	Kevo	38.91	333	*e*P		P		00 15 31.5	+0.9
KEV				pmax		pmax			
	comp=Z,1.0nm,0.4s,mb3.9								
ARCES	ARCESS Array B	39.37	332	P		P		00 15 35.7	+1.2
	comp=Z,4.6nm,0.6s,mb4.4,baz=86,slow=7.8,SNR=24								
ARCES	ARCESS Array B	39.37	332	P		P		00 15 35.7	+1.2
ARCES				pmax		pmax			
	comp=Z,5.0nm,0.6s								
ARE0	ARCESS Array S	39.37	332	*e*P		P		00 15 35.8	+1.3
HFS	Hagfors	44.27	318	P		P		00 16 14.9	+0.3
	comp=Z,2.9nm,0.6s,mb4.2,baz=121,slow=8.6,SNR=17								
HFS	Hagfors	44.27	318	P		P		00 16 14.9	+0.3
HFS				pmax		pmax			
	comp=Z,3.0nm,0.6s								
IDI	Anoyia	45.06	281	P		P		00 16 19.9	-1.3
	comp=Z,1.4nm,0.4s,mb4.1,baz=59,slow=13,SNR=12								
NB2	NORSAR Subarra	45.31	319	P		P		00 16 23.1	+0.2
	comp=Z,0.4nm,0.6s,mb3.4,baz=80,slow=7.9								
NOA	NORSAR Array B	45.31	319	P		P		00 16 23.4	+0.5
	comp=Z,1.6nm,0.5s,mb4.1,baz=80,slow=7.9,SNR=5.3								
NOA	NORSAR Array B	45.31	319	P		P		00 16 23.4	+0.5
NOA				pmax		pmax			
	comp=Z,2.0nm,0.5s								
NOA	NORSAR Array B	45.31	319	P		P		00 16 23.4	+0.5
NAO01	NORSAR Array S	45.51	319	*e*P		P		00 16 25.0	+0.5
CLL	Collm	46.80	306	⇓P		P		00 16 35.2	+0.4
	comp=Z,logA/T=0.8,mb4.5								
CLL				*i* *PP		pP		00 16 39.4	-7.6
CLL				*e*SP		sP		00 16 42.0	-10
GERES	GERESS Array B	47.19	303	P		P		00 16 38.9	+0.9
	comp=Z,0.9nm,0.8s,mb3.8,baz=63,slow=9.0,SNR=6.6								
GERES	GERESS Array B	47.19	303	P		P		00 16 38.9	+1.0
GERES				pmax		pmax			
	comp=Z,1.0nm,0.8s								
BILL	Bilibino	48.61	30	*e*P		P		00 16 49.0	+0.3
BILL				*e*				00 23 41.6	
BILL				pmax		pmax			
	comp=Z,5.0nm,1.1s,mb4.5								
JMIC	Jan Mayen	50.69	335	LR		LR		00 41 00.3	
	comp=Z,469nm,21.9s,MS4.5,baz=278,slow=39								
CDF	Champ du Feu	51.30	304	*e*P		P		00 17 09.5	-0.1
	comp=Z,2.9nm,0.5s,mb4.1								
HINF	Hinteralfeld	51.81	304	*e*P		P		00 17 13.3	-0.1
BAIF	Baives	52.46	307	*e*P		P		00 17 18.7	+0.5
MEZF	Maizieres J'vi	52.61	305	*e*P		P		00 17 19.9	+0.5
PGF	Pioggiola	52.75	297	*e*P		P		00 17 20.1	-0.4
	comp=Z,88nm,1.4s,mb5.2								
CABF	La Chapelle	52.80	302	*e*P		P		00 17 20.5	-0.3
	comp=Z,7.8nm,0.8s,mb4.4								
LPG	La Plagne	52.87	301	*e*P		P		00 17 22.1	+0.7
	comp=Z,10.0nm,0.7s,mb4.6								
LPL	La Plagne	52.87	301	*e*P		P		00 17 22.0	+0.6
	comp=Z,13nm,0.6s,mb4.7								
MBDF	Montbardon	53.20	300	*e*P		P		00 17 23.2	-0.7
ORIF	Oris-en-Rattie	53.68	301	*e*P		P		00 17 26.9	-0.5
	comp=Z,6.1nm,0.5s,mb4.5								
ORIF				*e*R					
	comp=Z,99nm,22.2s								
LOR	Lormes	53.87	304	*e*P		P		00 17 27.9	-0.9
	comp=Z,1.8nm,0.4s,mb4.0								
LOR				*e*R					
	comp=Z,81nm,18.3s								
SMF	Signal de Mont	54.16	303	*e*P		P		00 17 30.5	-0.4
	comp=Z,1.8nm,0.4s,mb4.1								
SSF	Saint Saulge	54.18	304	*e*P		P		00 17 30.3	-0.7
	comp=Z,2.5nm,0.5s,mb4.1								
SMRF	Simiane la Rot	54.31	300	*e*P		P		00 17 32.3	+0.3
TCF	Toulx Ste Croi	55.33	304	*e*P		P		00 17 39.2	-0.2
	comp=Z,7.6nm,0.6s,mb4.6								
LASF	Ste Croix	55.35	301	*e*P		P		00 17 39.2	-0.4
LDF	La Druitiere	55.65	307	*e*P		P		00 17 41.0	-0.6
	comp=Z,5.9nm,0.6s,mb4.5								
FLN	La Foliniere	55.78	307	*e*P		P		00 17 42.0	-0.6
FLN				*e*R					
	comp=Z,168nm,22.8s								
GRR	Gorron	56.18	307	*e*P		P		00 17 44.7	-0.7
	comp=Z,8.1nm,0.5s,mb4.7								
LFF	La Frestale	56.88	303	*e*P		P		00 17 50.8	+0.2
ROSF	Rostrenen	57.61	308	*e*P		P		00 17 55.4	-0.2
ILAR	Eielson Array	65.79	21	P		P		00 18 49.2	-0.9
	comp=Z,1.9nm,0.7s,mb4.2,baz=316,slow=5.2,SNR=24								
ILAR	Eielson Array	65.79	21	P		P		00 18 49.3	-0.8
ILAR				pmax		pmax			
	comp=Z,2.0nm,0.7s								
INK	Inuvik	65.79	14	P		P		00 18 50.0	-0.1
	comp=Z,0.7nm,0.5s,mb4.0,baz=334,slow=7.7,SNR=4.2								
INK	Inuvik	65.79	14	P		P		00 18 50.0	-0.1
INK				pmax		pmax			
	comp=Z,1.0nm,0.5s								
FITZ	Fitzroy Crossi	72.17	138	P		P		00 19 27.8	-2.3
	comp=Z,4.2nm,0.9s,mb4.4,baz=314,slow=1.6,SNR=5.8								
WRA	Warramunga Arr	78.26	132	P		P		00 20 03.9	-1.1
	comp=Z,2.3nm,0.8s,mb4.1,baz=332,slow=5.7,SNR=10								
WRA	Warramunga Arr	78.26	132	*i* P		P		00 20 06.9	+1.9
WRA				pmax		pmax			
	comp=Z,2.0nm,0.8s								
WB2	Warramunga Arr	78.27	131	*e*P		P		00 20 03.9	-1.1
ASAR	Alice Springs	81.04	134	P		P		00 20 19.1	-0.9
	comp=Z,1.8nm,0.8s,mb4.0,baz=320,slow=5.1,SNR=11								
DBIC	Dimbokro	84.04	274	P		P		00 20 34.7	-0.8
	comp=Z,4.1nm,1.1s,mb4.5,baz=37,slow=3.1,SNR=3.6								
DBIC	Dimbokro	84.04	274	P		P		00 20 34.7	-0.8
DBIC				pmax		pmax			
	comp=Z,4.0nm,1.1s								
DBIC	Dimbokro	84.04	274	P		P		00 20 34.7	-0.8

*STR **31** 00:12:19.3±0.1, 43.02N×0.03E, h6km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **31** 00:12:19.0±0.1, 43.05N×0.03E, h10km, Md1.9/2, Ml1.9/5, Error ellipse: s-maj=1.2km s-min=1.0km az=143.0*
MDD 31 00:12:19.3±0.3, 43.05N×0.05E, h10km±2km, mbLg1.3/10, 1C, Error ellipse: s-maj=2.6km s-min=2.2km az=167.0, PRXIMO, France

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LABF	Labassere	0.02	82	Pg		Pg	00 12 21.1	+0.1
LABF				Sg		Sg	00 12 22.5	+0.3
LABF	Labassere	0.02	82	P		Pg	00 12 21.2	+0.1
LABF				S		Sg	00 12 22.6	+0.4
VIEF	Viey	0.16	185	Pg		Pg	00 12 22.7	-0.2
VIEF				Sg		Sg	00 12 25.1	-0.3
VIEF	Viey	0.16	185	P		Pg	00 12 22.7	-0.2
VIEF				S		Sg	00 12 25.2	-0.2
EPF	Esparros	0.22	94	*e*Pg		Pg	00 12 23.7	-0.2
EPF				*e*Sg		Sg	00 12 26.4	-0.7
	16nm,0.3s							
RESF	Ens	0.32	138	Pg		Pg	00 12 25.5	-0.4
RESF				Pg		Pg	00 12 25.5	-0.4
RESF				Sg		Sg	00 12 30.3	0.0
RESF				Sg		Sg	00 12 30.3	0.0
RESF	Ens	0.32	138	P		Pg	00 12 25.5	-0.4
RESF				S		Sg	00 12 30.3	0.0
EBIE	Bielsa	0.36	169	⇑Pg		Pg	00 12 26.2	-0.6
	1.0nm,0.1s,SNR=18							
EBIE				Lg			00 12 31.1	
	11nm,0.2s,SNR=7.9							
ETSF	Etsaut	0.47	252	*e*Pg		Pg	00 12 27.9	-0.9
ETSF				*e*Sg		Sg	00 12 33.8	-1.3
	28nm,0.2s							
MELF	Melles	0.55	108	S		Sg	00 12 36.6	-1.3
SALF	Salau	0.89	108	Pg		Pg	00 12 36.3	-0.8
SALF	Salau	0.89	108	P		Pb	00 12 35.5	-0.8
SALF				S		Sb	00 12 47.8	-0.2
SJPF	Ste Jean	0.93	275	*e*Pg		Pg	00 12 36.6	-1.4
SJPF				*e*Sg		Sg	00 12 48.9	-1.6
	2.2nm,0.3s							
EALK	Alkurruntz	1.15	279	Pg		Pg	00 12 41.8	-0.5
	0.1nm,0.1s,SNR=4.0							
EALK				Lg			00 12 56.9	
	0.9nm,0.2s,SNR=7.9							
ESAC	San Caprasio	1.38	196	Pg		Pg	00 12 45.9	-0.9
	4.0nm,0.2s,SNR=7.9							
ESAC				Lg			00 13 04.7	
	3.0nm,0.1s,SNR=7.9							
EMIR	Miracle	1.57	135	Pg		Pg	00 12 49.1	-1.6
	0.2nm,0.2s,SNR=4.0							
EMIR				Lg			00 13 10.4	
	1.4nm,0.2s,SNR=7.9							
MTLF	Montolieu	1.62	79	*e*Pg		Pg	00 12 49.6	-2.0
MTLF				*e*Sg		Sg	00 13 10.3	-2.9
	1.5nm,0.3s							
EPOB	Poblet	1.86	155	Pg		Pg	00 12 54.1	-2.3
	0.1nm,0.3s,SNR=7.9							
EPOB				Lg			00 13 17.9	
	1.2nm,0.2s,SNR=7.9							
LFF	La Frestale	1.96	15	*e*Pg		Pg	00 12 55.5	-3.0
LFF				*e*Sg		Sg	00 13 20.9	-3.7
	5.7nm,0.3s							
CAF	Calviac	2.38	37	*e*Pn		Pn	00 12 56.3	-2.8
CAF				*e*Pg		Pg	00 13 03.3	-3.5
CAF				*e*Sn		Sn	00 13 23.8	-4.8
CAF				*e*Sg		Sg	00 13 33.8	-4.8
	1.1nm,0.2s							
RJF	Les Rejaudoux	2.50	25	*e*Pn		Pn	00 12 57.9	-2.8
RJF				*e*Pg		Pg	00 13 05.5	-3.6
RJF				*e*Sg		Sg	00 13 36.7	-5.7
	0.7nm,0.1s							

*IDC **31** 00:18:39.5±0.5, 35.37N×74.51E, mb4.6/22, mb1 4.7/23, mb1mx4.7/26, ML4.8/1, MS4.0/5, Ms1 4.0/5, ms1mx3.4/26, Error ellipse: s-maj=20.6km s-min=11.2km az=33.0*
*BJI **31** 00:18:40.2, 35.50N×74.46E, h13km, mB4.8, mb4.9, Ms4.5, Msz4.1*
*NNC **31** 00:18:41.1±6.6, 35.39N×73.80E, h3km±22km, mpv4.9, Error ellipse: s-maj=61.7km s-min=48.4km az=105.0*
*HRVD **31** 00:18:41.1±1.0, 34.91N×74.44E, h20km±4km, MW4.7/33, Centroid moment Tensor Solution. LP body waves: s4,c4; Mantle waves: s33,c39; Half duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-1.07±.25; Mθθ 0.79±.17; Mϕϕ 0.29±.14; Mrθ-0.98±.30; Mθϕ 0.24±.11; Mϕr-0.35±.26; Best double couple: M0 1.43×10^16^ NP1:ϕ≈247°, δ22°, λ-92°. NP2:ϕ≈70°, δ68°, λ-89°. Principal axes: T 1.33, Plg23°, Azm159°; N .19, Plg1°, Azm249°; P -1.52, Plg67°, Azm341°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **31** 00:18:41.1±0.2, 35.41N×74.51E, h10km, mb5.0/61 Error ellipse: s-maj=6.4km s-min=3.9km az=204.0*
NEIC Felt in the Gilgit area.
*MOS **31** 00:18:42.8±0.8, 35.36N×74.55E, h33km, mb4.9/28, Error ellipse: s-maj=11.2km s-min=5.7km az=120.5*
ISC 31 00:18:41.0±0.1, 35.33N±0.02×74.49E±0.03, h22km, h22km±7.0km: pP-P, n260, σ1§14/287, mb4.8/103, MS4.0/23, 18C-16D, Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CHCP	Chirak Chowk	1.95	212	⇓P		Pb	00 19 17.0	+1.3
CEP	Cherat	2.61	236	⇓P		Pb	00 19 25.9	-1.0
JMU	Jammu	2.63	172	*e*PB		Pb	00 19 28.3	+1.0
JMU				*e*SB		Sb	00 20 06.5	+7.2
THN	Thein Dam	3.06	160	*e*P		Pb	00 19 33.1	-1.6
THN				*e*			00 20 16.2	
THW	Thamme Wali	3.41	223	⇓P		Pn	00 19 36.0	+1.8
SARP	Sargodha	3.72	205	P		Pn	00 19 40.9	+2.2
BHK	Bhakra	4.22	157	*e*		Pn	00 19 52.0	+6.2
BHK				*e*			00 20 51.0	
SBDP	Sheikh Budin	4.30	226	P		Pn	00 19 48.6	+1.6
SDNR	Sundarnagar	4.34	151	*e*P		Pn	00 19 49.0	+1.5
KSH	Kashi	4.34	15	*e*PG		Pn	00 19 53.3	+5.7
KSH				SG		Sn	00 20 55.8	+18
KSH				Smax				
	comp=N,2μm,2.0s							
KSH				Smax				
	comp=E,2μm,1.6s							
SMLA	Simla	4.75	151	*e*P		Pb	00 20 08.0	+4.5
SMLA				*e*S		Sb	00 21 02.6	+1.8
	comp=E,4μm,0.5s							
DRP	Derazinda	5.06	226	P		Pn	00 19 59.7	+2.0
KKR	Kurukshetra	5.70	159	*e*P		Pn	00 20 07.8	+1.1
KKR				*e*S		Sn	00 21 11.2	-1.1
KKR				*i*			00 21 35.6	
DDI	Dehra Dun	5.82	148	*e*P		Pn	00 20 08.2	-0.2
DDI				*e*SB		Sb	00 21 42.5	+11
JOSI	Joshimath	6.38	137	*e*P		Pn	00 20 18.3	+1.9
JOSI				*e*S		Sn	00 21 30.6	+1.2
KZA	Kyzart	6.77	5	P		Pn	00 20 24.4	+2.7
	SNR=11							
AML	Almayashu	6.82	355	P		Pn	00 20 24.3	+1.8
	SNR=33							
KALG	Kalgarh	6.83	147	*e*P		Px	00 20 12.9	
KALG				*e*S		Sx	00 21 27.2	
UCH	Uchtor	6.89	0	P		Pn	00 20 26.1	+2.6
	SNR=20							
NDI	New Delhi	7.02	160	*e*P		Pn	00 20 24.7	-0.6
NDI				*e*S		Sn	00 21 43.0	-2.2
NDI				*e*			00 22 19.0	
AYAN	Aya Nagar	7.18	161	*e*P		Pn	00 20 27.9	+0.3
AAK	Ala-Archa	7.29	0	⇓Pn		Pn	00 20 30.7	+1.5
	comp=E,129nm,1.5s							
AAK				⇑Pg		Pn	00 20 53.5	+24
AAK				⇓Lg			00 22 27.5	
	comp=E,155nm,1.6s							
AAK				⇓Rg			00 23 07.2	
	comp=E,3μm,11.2s							
AAK	Ala-Archa	7.29	0	P		Pn	00 20 31.2	+2.0
	SNR=9.6							
AAK	Ala-Archa	7.29	0	*i* P			00 20 30.1	+0.9
KHET	Khetri	7.32	171	*e*P		Pn	00 20 28.7	-0.7
KHET				*e*S		Sn	00 21 48.0	-4.7
KHET				*e*			00 22 37.9	
	comp=E,469nm,1.0s							
KHET				*e*			00 22 49.5	
	comp=N,332nm,1.0s							
KBK	Karagaybulak	7.33	3	P		Pn	00 20 32.6	+3.0
	SNR=9.5							
EKS2	Erkin-Say	7.34	356	P		Pn	00 20 31.9	+2.1
	SNR=16							
KUDL	Kundal	7.36	166	*e*P		Pn	00 20 29.8	-0.3
SONA	Sohna	7.39	162	*e*P		Pn	00 20 30.4	-0.1
SONA				*e*S		Sn	00 21 50.9	-3.7
SONA				*e*			00 22 42.9	
	comp=N,279nm,0.8s							
SONA				*e*			00 22 45.2	
	comp=E,576nm,1.0s							
FRU	Bishkek	7.50	1	*e*P		Pn	00 20 37.0	+5.0
FRU				pmax		pmax		
	comp=Z,120nm,2.0s							
PTH	Pithoragarh	7.52	138	*e*		Pn	00 20 37.1	+4.8
PTH				*e*			00 22 41.5	
LGTI	Lohaghat	7.62	139	*i*P		Pn	00 20 33.3	-0.3
LGTI				*e*SB		Sb	00 22 33.5	+10
TKM2	Tokmak 2	7.63	6	P		Pn	00 20 36.5	+2.7
	SNR=18							
CHMS	Chumysh	7.66	1	P		Pn	00 20 36.0	+1.7
	SNR=7.5							
AAA	Alma-Ata	8.16	13	P		P	00 20 40.5	-0.7
AAA				pmax		pmax		
	comp=Z,300nm,3.0s							
AAA				MLR		MLR		
	comp=Z,2μm,10.0s							
AGRA	Agra	8.59	159	*e*P		P	00 20 46.8	-0.4
AGRA				*e*S		Sn	00 22 20.6	-3.9
AGRA				*e*			00 23 18.1	
	comp=N,898nm,0.6s							
AGRA				*e*			00 23 18.4	
	comp=E,1μm,1.1s							
AJM	Ajmer	8.82	179	*e*P		P	00 20 49.0	-1.4
AJM				*e*			00 22 25.6	
JASL	Jaisalmer	8.92	201	*e*P		P	00 20 50.1	-1.7
KOLN	Koldanda	10.82	132	*e*P		P	00 21 16.1	-1.8
	comp=E,116nm,0.6s							
GKN	Gorkha	11.31	127	*e*P		P	00 21 21.9	-2.7
	comp=E,191nm,0.5s							
KKN	Kakani	11.87	126	*e*P		P	00 21 28.7	-3.5
	comp=E,390nm,0.9s							
DMN	Daman	11.88	127	*e*P		P	00 21 29.8	-2.5
	comp=E,455nm,1.0s							
PKI	Pulchoki	12.10	127	*e*P		P	00 21 31.0	-4.3
	comp=E,214nm,0.9s							
GUN	Gumba	12.19	124	*e*P		P	00 21 32.8	-3.7
	comp=E,304nm,1.0s							
BHPL	Bhopal	12.31	167	*e*P		P	00 21 36.7	-1.4
BHPL				*e*S		Sx	00 23 47.3	
MK31

comp=Z,26nm,2.3s
BRVK ⇓Rg 00 29 29.8
comp=Z,316nm,10.8s
BRVK Borovoye 17.98 352 *e*P **P** **00 22 49.0 -2.2**
comp=Z,24nm,0.8s
HYB Hyderabad 18.20 168 *i* P **P** **00 22 53.0 -1.3**
HYB *e*S **S** **00 26 07.0 -6.7**
HYB LR LR 00 29 56.0
comp=Z,2.8nm,12.0s
HYB Hyderabad 18.20 168 *e*P **P** **00 22 51.0 -3.3**
HYB *e*S **S** **00 26 07.0 -6.7**
AGT Agartala 18.47 124 *e* **P** **00 22 56.0 -1.6**
NVS Novosibirsk 20.43 15⇑ *i*P **P** **00 23 17.2 -2.3**
NVS *i* 00 23 45.8
NVS pmax pmax
comp=Z,80nm,1.7s
NVS pmax pmax
comp=N,160nm,1.8s
GTA Gaotai 20.51 71 P **P** **00 23 20.8 +0.4**
GTA AP 00 23 26.3
GTA XP 00 23 29.8
GTA PP PP 00 23 43.5 +2.0
GTA S **S** **00 27 09.0 +5.2**
GTA XS 00 27 16.0
GTA PCP PcP 00 27 28.0 -3.4
GTA PCS 00 31 05.0
GTA AMB AMB
comp=Z,34nm,0.7s
GTA AMB AMB
comp=Z,195nm,4.6s
GTA LR LR
comp=N,250nm,8.4s
GTA LR LR
comp=E,281nm,13.3s
GTA LR LR
comp=Z,195nm,19.4s
UMR Umm Al-Rimmam 23.29 263 *e*P **P** **00 23 48.2 0.0**
UMR AMb AMB 00 23 52.3
comp=Z,83nm,1.0s,mb5.1
KBD Kabd 23.44 262 *e*P **P** **00 23 50.9 +1.1**
SVE Sverdlovsk 23.46 341⇓ *e*P **P** **00 23 50.5 +0.8**
SVE *e* 00 24 25.2
SVE *e*S **S** **00 28 04.0 +5.8**
SVE *e*SS SS 00 29 06.0 +20
SVE pmax pmax
comp=Z,130nm,2.8s,mb4.9
SVE MLR MLR
comp=Z,2µm,12.0s,MS4.7
SVE MLR MLR
comp=E,500nm,11.0s
MIB Mutribah 23.50 264 *e*P **P** **00 23 50.5 +0.2**
MIB AMb AMB 00 23 54.5
comp=Z,101nm,1.3s,mb5.1
RDF Al-Radifah 23.65 262 *e*P **P** **00 23 52.7 +1.0**
RDF AMb AMB 00 23 56.5
comp=Z,116nm,1.0s,mb5.3
ARU Arti 23.73 338⇑ *i*P **P** **00 23 53.5 +1.3**
ARU *e* 00 24 26.4
ARU *e*S **S** **00 28 07.0 +4.2**
ARU *e*SS SS 00 28 51.6 -0.7
ARU pmax pmax
comp=Z,43nm,1.7s,mb4.6
ARU MLR MLR
comp=Z,800nm,18.0s,MS4.2
ARU MLR MLR
comp=N,400nm,16.0s,MS4.1
ARU MLR MLR
comp=E,400nm,16.0s,MS4.1
LZH Lanzhou 23.81 80 *e*P **P** **00 23 55.5 +2.3**
LZH AP 00 23 58.5
LZH PP PP 00 24 27.8 +1.0
LZH S **S** **00 28 08.5 +4.1**
LZH SS SS 00 28 59.5 +5.0
LZH AMB AMB
comp=Z,56nm,1.5s,mb4.8
LZH AMB AMB
comp=Z,129nm,4.0s
LZH LR LR
comp=N,1µm,13.5s
LZH LR LR
comp=Z,2µm,15.6s,MS4.6
RST Umm Al-Ruwaisa 23.89 264 *e*P **P** **00 23 54.7 +0.7**
RST AMb AMB 00 23 59.7
comp=Z,120nm,1.5s,mb5.1
GNI Garni 23.95 290 P **P** **00 23 57.0 +2.5**
comp=Z,19nm,0.8s,mb4.6,baz=344,slow=5.8,SNR=19
GNI LR LR 00 35 33.0
comp=Z,194nm,19.5s,MS3.6,baz=138,slow=42
GNI Garni 23.95 290⇑ *i*P **P** **00 23 56.8 +2.2**
GNI pmax pmax
comp=Z,68nm,1.9s
GNI MLR MLR
comp=Z,200nm,20.0s
GNI Garni 23.95 290 *e*P **P** **00 23 56.1 +1.5**
comp=Z,17nm,0.8s,mb4.5
GNI LR LR
comp=Z,217nm,20.0s,MS3.6
ZEI Tsey 24.80 297 *e*P **P** **00 24 01.3 -1.5**
ZEI *i* *PP 00 24 14.1
ZEI pmax pmax
comp=Z,15nm,1.4s,mb4.3
CD2 Chengdu 24.86 92⇓ *i*P **P** **00 24 09.5 +6.0**
CD2 PP PP 00 24 37.0 -3.6
CD2 PPP PPP 00 24 46.5 -5.0
CD2 S **S** **00 28 31.8 +9.5**
CD2 LR LR
comp=N,160nm,7.2s
CD2 LR LR
comp=Z,100nm,6.0s
ZAK Zakamensk 25.71 45 *e*P **P** **00 24 12.3 +1.0**
KIV Kislovodsk 25.84 299 *i* P **P** **00 24 13.5 +1.0**
KIV *e* 00 27 35.9
KIV pmax pmax
comp=Z,8.0nm,1.4s,mb4.1
KIV MLR MLR
comp=Z,300nm,18.0s,MS3.9
KIV Kislovodsk 25.84 299 P **P** **00 24 09.4 -3.1**
comp=Z,17nm,1.3s,mb4.4
KIV LR LR
comp=Z,74nm,20.0s,MS3.2
KMI Kunming 26.36 105 *e*P **P** **00 24 18.5 +0.9**
KMI PP PP 00 25 02.3 +1.7
KMI S **S** **00 28 50.5 +3.1**
KMI SS SS 00 29 58.8 +1.9
KMI AMB AMB
comp=Z,9.0nm,0.8s,mb4.3
KMI AMB AMB
comp=Z,89nm,5.0s
KMI LR LR
comp=N,158nm,20.2s,MS3.8
KMI LR LR
comp=E,198nm,16.6s,MS3.8
KMI LR LR
comp=Z,176nm,24.9s
SONM Songino Array 26.74 52 P **P** **00 24 21.5 +0.7**
comp=Z,9.7nm,1.1s,mb4.2,baz=254,slow=9.4,SNR=16
CHRT Chiangrai 27.08 118⇓ P **P** **00 24 23.5 -0.7**
comp=Z,105nm,1.4s,mb5.2
CHG Chiang Mai 27.18 121⇑ P **P** **00 24 26.6 +1.5**
comp=Z,24nm,0.9s,mb4.7
CM31 Chiang Mai Arr 27.41 121 *e*P **P** **00 24 29.4 +2.1**
comp=Z,131nm,1.3s,mb5.3
CMAR Chiang Mai Arr 27.41 121 P **P** **00 24 27.9 +0.6**
comp=Z,35nm,1.0s,mb4.8,baz=307,slow=11,SNR=58
CMAR Chiang Mai Arr 27.41 121 P **P** **00 24 27.9 +0.6**
CMAR pmax pmax
comp=Z,35nm,1.0s
SOC Sochi 27.93 298 *e*P **P** **00 24 31.9 +0.2**
SOC *e* 00 25 22.9
SOC *e*S **S** **00 29 08.4 -4.2**
SOC pmax pmax
comp=N,4.0nm,0.7s
SOC pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
SOC pmax pmax
comp=E,6.0nm,0.8s
SOC MLR MLR
comp=Z,218nm,22.0s,MS3.7
SOC MLR MLR
comp=N,152nm,19.0s,MS3.8
SOC MLR MLR
comp=E,171nm,16.0s,MS3.8
BTO Baotou 28.37 69 *e*P **P** **00 24 35.0 -0.7**
GYA Guiyang 28.89 99⇑ *i*P **P** **00 24 45.0 +4.5**
GYA AP pP 00 24 49.0 +2.2
GYA XP sP 00 24 53.3 +3.6
GYA S **S** **00 29 38.0 +10**
GYA XS 00 29 48.3
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.9
GYA AMB AMB
comp=Z,60nm,3.2s
GYA LR LR
comp=N,380nm,17.9s,MS4.2
GYA LR LR
comp=E,310nm,17.7s,MS4.2
GYA LR LR
comp=Z,590nm,18.8s,MS4.2
MALT Malatya 28.91 287 *e*P **P** **00 24 41.3 +0.7**
comp=Z,15nm,1.4s,mb4.5
HHC Hu-ho-hao-te 29.54 68 *e*P **P** **00 24 46.5 +0.3**
HHC AMB AMB
comp=Z,13nm,1.1s,mb4.6
HHC AMB AMB
comp=Z,65nm,7.9s
ANN Anapa 29.68 300 *e*P **P** **00 24 49.4 +2.0**
ANN *e**PP pP 00 25 01.5 +7.7
ANN *e*S **S** **00 29 45.7 +5.1**
ANN pmax pmax
comp=Z,14nm,0.9s,mb4.7
VOR Voronezh 30.02 314 *e*P **P** **00 24 50.0 -0.4**
VOR pmax pmax
comp=Z,70nm,1.6s,mb5.1
ASF Jabal al Asfar 31.30 275 P **P** **00 25 02.7 +0.8**
comp=Z,1.8nm,0.9s,mb3.9,baz=305,slow=6.5,SNR=7.5
ASF LR LR 00 39 10.3
comp=Z,59nm,19.0s,MS3.3,baz=350,slow=39
MOS Moscow 32.36 321 *e*P **P** **00 25 10.2 -0.7**
MOS *e* 00 26 15.9
MOS *e*S **S** **00 30 18.6 -4.0**
MOS pmax pmax
comp=Z,83nm,1.8s,mb5.3
MOS MLR MLR
comp=Z,700nm,14.0s,MS4.5
BRTR Keskin Array B 32.50 290 P **P** **00 25 12.0 -0.2**
comp=Z,1.4nm,0.7s,mb3.9,baz=103,slow=9.1,SNR=17
BRTR Keskin Array B 32.50 290 P **P** **00 25 12.0 -0.2**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
OBN Obninsk 32.67 319 *i* P **P** **00 25 13.3 -0.3**
OBN *e* 00 26 18.7
OBN pmax pmax
comp=Z,52nm,1.9s,mb5.1
OBN MLR MLR
comp=Z,200nm,14.0s,MS4.0
OBN Obninsk 32.67 319 *e*P **P** **00 25 12.5 -1.1**
comp=Z,13nm,0.6s,mb5.0
OBN LR LR
comp=Z,42nm,19.0s,MS3.2
BLJS Baljurashi 32.78 251 P **P** **00 25 15.8 +0.9**
JMQS Jabal Moqyreh 33.18 270 P **P** **00 25 19.3 +0.9**
UMJS Umm Lajj 33.48 263 P **P** **00 25 22.8 +1.9**
WHN Wuhan 33.63 87 *e*P **P** **00 25 24.5 +2.3**
EIL Elat 33.66 272 *e*P **P** **00 25 23.0 +0.5**
comp=Z,24nm,1.1s,mb5.0
BDAS Al Bad' **33.98 270** P **P** **00 25 26.0 +0.7**
TAYS Tayyib Ism 34.13 270 P **P** **00 25 27.2 +0.7**
HIA Hailar 35.70 53 *e*P **P** **00 25 39.1 -0.6**
AKASG Malin Array Be 35.88 310 P **P** **00 25 40.3 -1.0**
comp=Z,4.4nm,0.5s,mb4.6,baz=84,slow=6.8,SNR=50
AKASG Malin Array Be 35.88 310 P **P** **00 25 40.3 -1.0**
AKASG pmax pmax
comp=Z,4.0nm,0.5s
NJ2 Nanjing 36.83 82 *e*P **P** **00 25 48.3 -1.1**
NJ2 AP pP 00 26 00.5 +4.6
NJ2 XP sP 00 26 05.8 +7.2
NJ2 PP PP 00 27 13.5 -1.7
NJ2 S **S** **00 31 28.0 -4.0**
NJ2 XS 00 31 49.0
NJ2 AMB AMB
comp=Z,30nm,0.7s,mb5.2
NJ2 AMB AMB
comp=Z,160nm,7.3s
NJ2 LR LR
comp=N,190nm,19.8s,MS4.3
NJ2 LR LR
comp=E,430nm,20.0s,MS4.3
NJ2 LR LR
comp=Z,340nm,20.5s,MS4.1
JOF Joensuu 38.30 330 *ep* **P** **00 26 01.0 -0.5**
comp=Z,2.9nm,0.5s,mb4.3
JOF Joensuu 38.30 330 *e*P **P** **00 26 01.0 -0.5**
JOF pmax pmax
comp=Z,3.0nm,0.5s,mb4.3
SSE Sheshan 39.02 83 P **P** **00 26 04.5 -3.3**
SSE S **S** **00 32 00.3 -5.0**
SSE XS 00 32 23.3
SSE SS SS 00 34 52.3 +2.8
SSE AMB AMB
comp=Z,16nm,0.7s,mb4.9
SSE AMB AMB
comp=Z,86nm,3.8s
SSE LR LR
comp=N,45nm,27.2s,MS3.5
SSE LR LR
comp=E,80nm,27.1s,MS3.5
SSE LR LR
comp=Z,109nm,22.3s,MS3.6
SANT Santorini 39.42 286 *e*P **P** **00 26 11.2 +0.2**
CN2 Changchun 39.65 62 *e*P **P** **00 26 13.0 +0.1**
CN2 *e*S **S** **00 32 14.8 +0.2**
CN2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.8
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,10.0s,MS4.4
CN2 LR LR
comp=E,200nm,10.0s,MS4.4
CN2 LR LR
comp=Z,200nm,13.0s,MS4.1
SUW Suwalki 39.97 314 *e*P **P** **00 26 16.1 +0.6**
SUW Suwalki 39.97 314 *e*P **P** **00 26 16.1 +0.6**
KWP Kalwaria 39.98 307 *e*P **P** **00 26 16.3 +0.7**
KWP Kalwaria 39.98 307 *e*P **P** **00 26 16.3 +0.7**
FINES FINESS Array B 40.04 326 P **P** **00 26 16.3 +0.4**
comp=Z,2.0nm,0.5s,mb4.2,baz=120,slow=11,SNR=27
FINES LR LR 00 43 39.6
comp=Z,443nm,19.9s,MS4.3,baz=174,slow=38
FINES FINESS Array B 40.04 326 P **P** **00 26 16.3 +0.4**
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES MLR MLR
comp=Z,443nm,19.9s
IDI Anoyia 40.13 285 P **P** **00 26 17.8 +0.8**
comp=Z,4.6nm,0.8s,mb4.2,baz=38,slow=7.4,SNR=8.1
KAF Kangasniemi 40.15 327 *ep* **P** **00 26 16.9 +0.1**
comp=Z,6.7nm,1.0s,mb4.3,baz=110,slow=8.4
KAF Kangasniemi 40.15 327 *e*P **P** **00 26 16.9 +0.1**
KAF pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
KOLS Kolonicke sedl 40.26 306 *e*P **P** **00 26 19.2 +1.3**
KOLS *e*PP PP 00 27 47.1 -7.1
GVD Gavdhos 40.88 284 *e*P **P** **00 26 22.1 -1.1**
comp=Z,31nm,0.9s,mb4.9
NIE Niedzica 41.54 307 *e*P **P** **00 26 29.6 +1.2**
OJC Ojcow 41.86 308 *e*P **P** **00 26 30.7 -0.3**
OJC Ojcow 41.86 308 *e*P **P** **00 26 30.7 -0.3**
PSZ Piszkesteto 41.88 305 *e*P **P** **00 26 30.9 -0.2**
MDJ Mudanjiang 42.52 60 P **P** **00 26 35.5 -0.9**
MDJ PCP PcP 00 28 25.3 -4.2
MDJ PPP PPP 00 28 48.0 -3.0
MDJ S **S** **00 32 57.0 -0.2**
MDJ AMB AMB
comp=Z,62nm,5.0s
MDJ LR LR
comp=N,21nm,14.6s,MS3.7
MDJ LR LR
comp=E,82nm,16.2s,MS3.7
MDJ LR LR
comp=Z,100nm,15.1s,MS3.8
VYHS Vyhne 42.55 306 *e*P **P** **00 26 37.5 +0.8**
VYHS *e* 00 28 20.7
OKC Ostrava-Krasne 42.94 308 *e*P **P** **00 26 40.9 +1.1**
SRO Srobarova 42.95 305 *e*P **P** **00 26 40.7 +0.8**
YAK Yakutsk 43.30 34 *i* P **P** **00 26 42.3 -0.3**
YAK pmax pmax
comp=Z,20nm,0.9s,mb4.8
YAK MLR MLR
comp=Z,100nm,16.0s,MS3.8
YAK Yakutsk 43.30 34 *e*P **P** **00 26 42.8 +0.2**
comp=Z,17nm,0.8s,mb4.8
ARCES ARCESS Array B 43.31 337 P **P** **00 26 43.3 +0.7**
comp=Z,19nm,0.9s,mb4.8,baz=111,slow=7.1,SNR=30
ARCES ARCESS Array B 43.31 337 P **P** **00 26 43.3 +0.7**
ARCES pmax pmax
comp=Z,19nm,0.9s
ARE0 ARCESS Array S 43.31 337 *e*P **P** **00 26 42.5 -0.1**
MORC Moravsky Berou 43.33 308 *e*P **P** **00 26 42.6 -0.4**
comp=Z,39nm,1.4s,mb4.9
GKP Gorka Klasztor 43.46 313 *e*P **P** **00 26 43.9 0.0**
GKP Gorka Klasztor 43.46 313 *e*P **P** **00 26 43.9 0.0**
ZST Bratislava 43.73 305 *e*P **P** **00 26 47.7 +1.5**
ZST *e* 00 26 56.4
ZST *e*PP PP 00 28 29.8 0.0
KSP Ksiaz 44.08 309 *e*P **P** **00 26 48.5 -0.6**
KSP *e* 00 28 32.0
KSP Ksiaz 44.08 309 *e*P **P** **00 26 48.4 -0.7**
KSP *e* 00 26 50.7
DPC Dobruska-Polom 44.09 309 *e*P **P** **00 26 49.6 +0.5**
UPC Upice 44.28 309 *e*P **P** **00 26 51.1 +0.4**
UPC *ex* x 00 27 01.0
ARSA Arzberg 44.88 304⇑ *i*P **P** **00 26 56.1 +0.5**
comp=Z,185nm,4.2s
GROS Grobnik 44.99 303 *e*P **P** **00 26 57.8 +1.3**
PVCC Panska Ves 45.20 309 *e*P **P** **00 26 59.5 +1.5**
PVCC *ex* x 00 27 07.2
PERS Pernice 45.24 303 *e*P **P** **00 26 59.7 +1.3**
PRU Pruhonice 45.25 308 *e*P **P** **00 26 58.9 +0.4**
PRU *e* 00 27 08.4
PRU pmax pmax
comp=Z,24µm,1.4s
PRU Pruhonice 45.25 308 *e*P **P** **00 26 58.9 +0.4**
comp=Z,24nm,1.4s,mb4.8
PRU *ex* x 00 27 08.4
PDKS Podkum 45.40 303 *e*P **P** **00 27 01.4 +1.8**
BRG Berggiesshubel 45.57 309 *e*P **P** **00 27 01.5 +0.6**
BRG *e* 00 28 52.7
BRG pmax pmax
comp=Z,22nm,1.1s,mb5.0
BRG Berggiesshubel 45.57 309 *e*P **P** **00 27 01.5 +0.6**
comp=Z,22nm,1.1s,mb5.0
BRG *i* 00 27 03.1
BRG *e* 00 28 52.7
HFS Hagfors 45.73 322 P **P** **00 27 01.5 -0.6**
comp=Z,6.1nm,0.7s,mb4.7,baz=106,slow=11,SNR=17
HFS Hagfors 45.73 322 P **P** **00 27 01.5 -0.6**
HFS pmax pmax
comp=Z,6.0nm,0.7s
TIXI Tiksi 45.82 21⇑ *i*P **P** **00 27 02.5 -0.2**
TIXI *e**PP pP 00 27 14.0 +4.8
TIXI pmax pmax
comp=Z,15nm,0.8s,mb5.0
TIXI MLR MLR
comp=Z,500nm,20.0s,MS4.5
GERES GERESS Array B 45.91 307 P **P** **00 27 03.9 +0.2**
comp=Z,1.4nm,0.7s,mb4.0,baz=90,slow=6.7,SNR=14
GERES GERESS Array B 45.91 307 P **P** **00 27 03.9 +0.2**
GERES pmax pmax
comp=Z,1.0nm,0.7s
KHC Kasperske Hory 45.96 307 *e*P **P** **00 27 04.4 +0.3**
KHC *ex* x 00 27 12.3
CLL Collm 46.12 310 P **P** **00 27 05.4 +0.1**
comp=Z,logA/T=1.1,mb4.8
CLL *i* *PP pP 00 27 10.7 -1.2
CLL *i* *SP sP 00 27 15.0 +0.5
CLL *e* 00 27 29.0
CLL Collm 46.12 310 *i* P **P** **00 27 05.4 +0.1**
CLL *i* 00 27 15.0
CLL pmax pmax
comp=Z,15nm,1.2s,mb4.8
CLL Collm 46.12 310 *i* P **P** **00 27 05.4 +0.1**
comp=Z,15nm,1.2s,mb4.8
CLL *i* 00 27 15.0
NKC Novy Kostel 46.57 309 *e*P **P** **00 27 10.0 +1.1**
NKC *ex* x 00 27 19.7
NB2 NORSAR Subarra 47.01 324 P **P** **00 27 11.3 -0.9**
comp=Z,9.8nm,0.9s,mb4.7,baz=93,slow=7.4
NOA NORSAR Array B 47.01 324 P **P** **00 27 11.6 -0.6**
comp=Z,3.2nm,0.7s,mb4.4,baz=94,slow=7.6,SNR=11
NOA NORSAR Array B 47.01 324 P **P** **00 27 11.6 -0.6**
NOA pmax pmax
comp=Z,3.0nm,0.7s
MOX Moxa 47.06 309 *i* P **P** **00 27 09.6 -3.1**
comp=Z,logA/T=1.5,mb5.2
MOX L 00 49 42.0
MOX Moxa 47.06 309 *e*P **P** **00 27 09.6 -3.1**
MOX pmax pmax
comp=Z,59nm,1.9s,mb5.2
MOX MLR MLR
comp=Z,200nm,20.0s,MS4.1
MOX Moxa 47.06 309 *e*P **P** **00 27 09.6 -3.1**
comp=Z,59nm,1.9s,mb5.2
MOX LR LR
comp=Z,200nm,20.0s,MS4.1
GRA1 Grafenberg Arr 47.42 308 *e*P **P** **00 27 16.2 +0.6**
comp=Z,96nm,2.1s,mb5.4
GRF Grafenberg Arr 47.42 308 *e*P **P** **00 27 16.2 +0.6**
GRF pmax pmax
comp=Z,96nm,2.1s,mb5.4
WTTA Wattenberg 47.50 305⇑ *i*P **P** **00 27 15.8 -0.5**
comp=Z,54nm,2.3s,mb5.2
FUR Furstenfeldbru 47.60 306 *e*P **P** **00 27 16.8 -0.3**
FUR pmax pmax
comp=Z,87nm,1.5s,mb5.6
FUR Furstenfeldbru 47.60 306 *e*P **P** **00 27 16.8 -0.3**
comp=Z,87nm,1.5s,mb5.6
MOTA Moosalm 47.85 305⇓ *i*P **P** **00 27 17.9 -1.1**
comp=Z,5.1nm,1.0s,mb4.5
DAVA Damuels 48.68 305⇑ *i*P **P** **00 27 24.9 -0.5**
comp=Z,188nm,3.5s
STU Stuttgart 48.87 307 *e*P **P** **00 27 26.4 -0.5**
comp=Z,4.5nm,0.4s,mb4.8
CDF Champ du Feu 50.19 307 *e*P **P** **00 27 36.6 -0.4**
comp=Z,5.6nm,0.8s,mb4.3
KMBO Kilima Mbogo 50.24 232 *e*P **P** **00 27 37.6 -0.3**
comp=Z,6.6nm,1.0s,mb4.6
PGF Pioggiola 50.32 299 *e*P **P** **00 27 37.4 -0.7**
HINF Hinteralfeld 50.59 306 *e*P **P** **00 27 38.8 -1.2**
comp=Z,33nm,1.1s,mb4.9
MAT Matsushiro 50.74 69 P **P** **00 27 41.7 +0.3**
MAT Matsushiro 50.74 69 *e*P **P** **00 27 42.0 +0.6**
comp=Z,100nm,0.9s,mb4.8
HAU Haudompre 50.88 307 *e*P **P** **00 27 41.7 -0.6**
comp=Z,30nm,1.0s,mb4.9
LPG La Plagne 51.17 303 *e*P **P** **00 27 44.3 -0.2**
comp=Z,23nm,1.0s,mb4.8
LPL La Plagne 51.18 303 *e*P **P** **00 27 44.1 -0.5**
comp=Z,58nm,1.2s,mb5.1
YSS Yuzh-Sakhalins 51.18 55 *i* P **P** **00 27 43.7 -0.9**
YSS pmax pmax
comp=Z,18nm,1.8s,mb4.7
YSS MLR MLR
comp=Z,100nm,19.0s,MS3.9
MBDF Montbardon 51.34 302 *e*P **P** **00 27 44.9 -0.9**
comp=Z,19nm,1.1s,mb4.6
CABF La Chapelle 51.36 305 *e*P **P** **00 27 45.5 -0.4**
comp=Z,76nm,1.5s,mb5.1
GIVF Givet 51.44 309 *e*P **P** **00 27 46.6 +0.1**
MEZF Maizieres J'vi 51.62 307 *e*P **P** **00 27 47.5 -0.4**
comp=Z,18nm,0.9s,mb4.7
FRF La Foret Royal 51.72 301 *e*P **P** **00 27 47.6 -1.1**
BAIF Baives 51.84 309 *e*P **P** **00 27 49.2 -0.3**
comp=Z,54nm,1.3s,mb5.0
ORIF Oris-en-Rattie 51.91 303 *e*P **P** **00 27 49.1 -1.0**
SMRF Simiane la Rot 52.36 302 *e*P **P** **00 27 52.6 -1.0**
comp=Z,98nm,1.7s,mb5.2
LOR Lormes 52.69 306 *e*P **P** **00 27 55.1 -0.8**
comp=Z,34nm,1.2s,mb4.8
VIVF Saint-Julien-l 52.75 303 *e*P **P** **00 27 55.6 -0.9**
SMF Signal de Mont 52.85 305 *e*P **P** **00 27 55.7 -1.5**
comp=Z,46nm,1.0s,mb5.1
SSF Saint Saulge 52.97 306 *e*P **P** **00 27 57.0 -1.1**
comp=Z,40nm,1.1s,mb5.0
LASF Ste Croix 53.53 302 *e*P **P** **00 28 01.6 -0.6**
comp=Z,49nm,1.2s,mb5.0
BGF Bois d'Agland 53.54 305 *e*P **P** **00 28 01.2 -1.0**
comp=Z,21nm,1.0s,mb4.7
TCF Toulx Ste Croi 54.03 305 *e*P **P** **00 28 05.3 -0.5**
comp=Z,54nm,1.1s,mb5.1
CAF Calviac 54.51 304 *e*P **P** **00 28 08.5 -0.9**
comp=Z,35nm,1.0s,mb5.0
RJF Les Rejaudoux 54.77 304 *e*P **P** **00 28 10.7 -0.6**
comp=Z,21nm,1.1s,mb4.8
MTLF Montolieu 54.88 302 *e*P **P** **00 28 11.2 -0.9**

comp=Z,34nm,1.2s,mb4.9
LDF La Druitiere 54.94 309 *e*P P **00 28 11.2 -1.3**
comp=Z,7.5nm,0.6s,mb4.6
FLN La Foliniere 55.12 309 *e*P P **00 28 12.3 -1.5**
comp=Z,30nm,0.9s,mb5.0
LFF La Frestale 55.41 304 *e*P P **00 28 15.1 -0.9**
comp=Z,57nm,1.1s,mb5.2
GRR Gorron 55.46 308 *e*P P **00 28 14.8 -1.5**
comp=Z,61nm,1.1s,mb5.2
MFF Saint Martin d 55.51 306 *e*P P **00 28 15.1 -1.5**
comp=Z,44nm,1.1s,mb5.1
EPF Esparros 56.28 302 *e*P P **00 28 20.9 -1.3**
comp=Z,14nm,0.9s,mb4.7
SGMF Saint Gilles 56.59 309 *e*P P **00 28 23.4 -1.0**
comp=Z,24nm,0.9s,mb4.9
ETSF Etsaut 56.95 302 *e*P P **00 28 26.4 -0.6**
comp=Z,24nm,1.0s,mb4.9
ROSF Rostrenen 57.02 309 *e*P P **00 28 26.1 -1.4**
comp=Z,53nm,1.1s,mb5.2
QUIF Quistinic 57.08 308 *e*P P **00 28 26.6 -1.3**
comp=Z,52nm,1.1s,mb5.2
SJPF Ste Jean 57.34 303 *e*P P **00 28 29.0 -0.8**
BILL Bilibino 58.41 26 *i*P P **00 28 36.8 -0.1**
BILL pmax pmax
comp=Z,14nm,1.2s,mb4.9
BILL MLR MLR
comp=Z,200nm,22.0s,MS4.2
ESDC Sonseca Array 60.51 300 P P **00 28 50.0 -1.8**
comp=Z,5.5nm,0.7s,mb4.8,baz=60,slow=7.1,SNR=18
SUMG Summit 63.07 342 *e*P P **00 29 07.9 -0.7**
comp=Z,22nm,1.0s,mb5.2
EVO Evora 63.85 300 *e*P P **00 29 13.5 -0.6**
comp=Z,42nm,1.2s,mb5.1
EVO *e*R
comp=Z,78nm,19.3s
FITZ Fitzroy Crossi 71.93 129⇓ *i*P P **00 30 06.2 +1.2**
comp=Z,7.5nm,1.2s,mb4.5
FITZ Fitzroy Crossi 71.93 129 P P **00 30 06.2 +1.2**
comp=Z,8.4nm,1.0s,mb4.6,baz=356,slow=6.9,SNR=8.3
IMA Indian Mountai 72.36 19 *e*P P **00 30 07.0 +0.3**
comp=Z,126nm,1.4s,mb5.7
KAKA Kakadu 72.65 120⇓ *i*P P **00 30 12.6 +3.2**
comp=Z,6.4nm,0.6s,mb4.7
INK Inuvik 74.57 10 P P **00 30 19.9 +0.4**
comp=Z,18nm,1.1s,mb4.9,baz=6.2,slow=8.2,SNR=17
INK Inuvik 74.57 10 P P **00 30 19.9 +0.4**
INK pmax pmax
comp=Z,18nm,1.1s
COLA College 74.78 17 *e*P P **00 30 20.9 +0.1**
comp=Z,22nm,0.9s,mb5.1
ILAR Eielson Array 75.10 17 P P **00 30 21.9 -0.7**
comp=Z,8.6nm,0.9s,mb4.7,baz=318,slow=4.3,SNR=58
ILAR Eielson Array 75.10 17 P P **00 30 21.9 -0.7**
ILAR pmax pmax
comp=Z,9.0nm,0.9s
MCK McKinley 75.45 18 *e*P P **00 30 24.5 -0.1**
comp=Z,9.9nm,1.2s,mb4.6
THY Trims Highway 76.51 17 *e*P P **00 30 30.2 -0.4**
SML Sawmill 77.19 19 *e*P P **00 30 34.5 +0.1**
DAWY Dawson 77.38 15 *e*P P **00 30 34.8 -0.6**
DBIC Dimbokro 77.49 269 P P **00 30 36.6 -0.4**
comp=Z,3.9nm,1.0s,mb4.3,baz=66,slow=8.9,SNR=3.5
DBIC LR LR 01 07 51.5
comp=Z,70nm,18.7s,MS4.0,baz=19,slow=38
DBIC Dimbokro 77.49 269 P P **00 30 36.6 -0.5**
DBIC pmax pmax
comp=Z,4.0nm,1.0s
DBIC MLR MLR
comp=Z,70nm,18.7s
NWAO Narrogin (SRO) 78.83 144 P P **00 30 44.1 +0.1**
comp=Z,21nm,1.1s,mb5.0,baz=311,slow=11,SNR=4.0
NWAO Narrogin (SRO) 78.83 144 P P **00 30 44.2 +0.2**
NWAO pmax pmax
comp=Z,21nm,1.1s
WRA Warramunga Arr 78.97 124 P P **00 30 44.9 -0.1**
comp=Z,2.1nm,0.5s,mb4.3,baz=305,slow=7.0,SNR=31
WRA Warramunga Arr 78.97 124 P P **00 30 44.9 -0.2**
WRA pmax pmax
comp=Z,2.0nm,0.5s
WRAB Tennant Creek 78.98 124 *i*P P **00 30 44.7 -0.4**
WRAB Tennant Creek 78.98 124 *e*P P **00 30 44.9 -0.2**
comp=Z,81nm,1.6s,mb5.4
WB2 Warramunga Ar 78.98 124⇓ *i*P P **00 30 44.9 -0.2**
ASPA Alice Springs 81.27 127 *e*P P **00 30 58.2 +1.0**
ASAR Alice Springs 81.27 127 P P **00 30 57.4 +0.1**
comp=Z,4.0nm,0.8s,mb4.4,baz=320,slow=5.6,SNR=21
YKA Yellowknife Ar 82.24 4 P P **00 31 01.9 +0.4**
comp=Z,4.3nm,0.7s,mb4.5,baz=344,slow=5.6,SNR=7.3
YKA Yellowknife Ar 82.24 4 P P **00 31 01.9 +0.4**
YKA pmax pmax
comp=Z,4.0nm,0.7s
YKA Yellowknife Ar 82.24 4 P P **00 31 01.9 +0.4**
FORT Forrest 82.83 136 *e*P P **00 31 05.3 +0.1**
comp=Z,26nm,0.6s,mb5.4
CTA Charters Tower 87.48 117 P P **00 31 28.6 0.0**
comp=Z,13nm,1.1s,mb5.1,baz=280,slow=4.9,SNR=3.9
CTA Charters Tower 87.48 117 P P **00 31 28.7 +0.1**
CTA pmax pmax
comp=Z,13nm,1.1s
CTAO Charters Tower 87.48 117 *e*P P **00 31 28.4 -0.2**
comp=Z,22nm,1.3s,mb5.2
EDM Edmonton 91.56 5 P P **00 31 47.6 +0.7**
ULM Lac du Bonnet 94.37 354 LR LR 01 17 32.9
comp=Z,182nm,18.5s,MS4.6,baz=24,slow=38
EYMN Ely 96.16 351 P P **00 32 08.4 +0.1**
QSPA South Pole Qui 125.12 180 *e*PKPdf PKPdf 00 37 40.1 -3.1

IDC ***31*** *00:24:51.3±2.9,34.97S×179.55W,mb3.8/2,mb1 4.0/3, mb1mx3.8/12,ML3.6/1,Error ellipse: s-maj=71.3km s-min=44.3km az=129.0*
ISC 31 00:24:57.6±2.7,35.1S±0.1×179.9E±0.4,h33km,n7, σ0s98/9,mb3.6/2,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.77**	**208**	P	**P**	**00 25 40.4**	**-0.2**
MXZ				S	**S**	**00 26 15.3**	**+2.1**
MWZ	**Matawai**	**3.74**	**210**	P	**P**	**00 25 54.3**	**-0.2**
MWZ				*e*S	**S**	**00 26 38.3**	**+0.3**
URZ	**Urewera**	**3.86**	**215**	Pn	**Pn**	**00 25 56.1**	**-0.3**
	3.6nm,0.3s,baz=295,slow=7.9,SNR=17						
URZ				Sn	**Sn**	**00 26 39.8**	**-1.4**
	3.7nm,0.3s,baz=135,slow=20,SNR=5.7						
URZ	**Urewera**	**3.86**	**215**	P	**P**	**00 25 55.2**	**-1.0**
ASAR	**Alice Springs**	**41.36**	**273**	P	**P**	**00 32 43.5**	**+1.3**
	0.6nm,0.5s,mb3.5,baz=113,slow=7.9,SNR=9.4						
WRA	**Warramunga Arr**	**42.78**	**278**	P	**P**	**00 32 53.6**	**-0.4**
	0.7nm,0.4s,mb3.7,baz=118,slow=7.7,SNR=12						
FINES	**FINESS Array B**	**148.85**	**336**	PKPbc	PKPdf	00 44 39.6	+2.7
	1.2nm,0.8s,baz=63,slow=3.1,SNR=4.5						

IDC ***31*** *00:29:03.2±1.4,3.82N×83.05W,mb3.5/5,mb1 3.9/5, mb1mx3.8/18,MS3.8/7,Ms1 3.8/7,ms1mx3.6/20,Error ellipse: s-maj=219.0km s-min=26.1km az=56.0*
NEIC ***31*** *00:29:07.7±6.3,3.56N×83.50W,h27km±46km,mb4.6/3, Error ellipse: s-maj=49.8km s-min=12.1km az=49.0*
ISC 31 00:29:05.1±4.9,2.9N±0.3×84.1W±0.4,h33km±42km,n22, σ1s10/17,mb3.8/9,MS3.8/7,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OTAV	**Otavalo**	**6.26**	**115**	*e*Pn	**P**	**00 30 36.2**	**-1.3**
	16nm,0.9s						
LCR2	**La Lucha 2**	**6.77**	**1**	*e*P	**P**	**00 30 46.1**	**+1.4**
URSC	**Urasca**	**6.87**	**3**	*e*P	**P**	**00 30 48.0**	**+1.9**
LAJ	**Bijagual**	**6.89**	**360**	*e*P	**P**	**00 30 44.9**	**-1.4**
JCR	**Jicaral**	**6.95**	**352**	*e*P	**P**	**00 30 46.7**	**-0.5**
ICR	**Volcan Irazu**	**7.01**	**2**	*e*P	**P**	**00 30 48.0**	**-0.1**
VCR	**Vista de Mar**	**7.31**	**348**	*e*P	**P**	**00 31 04.9**	**+13**
SAML	**Samuel**	**23.97**	**120**	P	**P**	**00 34 17.8**	**+0.1**
	40nm,1.6s,mb4.6						
LPAZ	**La Paz**	**24.79**	**141**	P	**P**	**00 34 28.1**	**+2.5**
	0.8nm,0.3s,mb3.7,baz=324,slow=8.7,SNR=4.7						
TXAR	**Lajitas Array**	**32.16**	**327**	P	**P**	**00 35 32.8**	**+0.6**
	0.1nm,0.3s,mb3.1,baz=124,slow=6.5,SNR=2.3						
TXAR				LR	LR	00 50 34.6	
	comp=Z,52nm,18.5s,MS3.2,baz=235,slow=40						
ANMO	**Albuquerque**	**38.02**	**330**	*e*P	**P**	**00 36 22.6**	**+0.5**
	0.6nm,0.6s,mb3.5						
SDCO	**Great Sand Dun**	**39.81**	**333**	*e*P	**P**	**00 36 38.4**	**+1.5**
	21nm,1.7s,mb4.6						
PV10	**Paradox Valley**	**41.99**	**330**	P	**P**	**00 36 54.2**	**-0.7**
PDAR	**Pinedale Array**	**45.70**	**334**	P	**P**	**00 37 23.4**	**-1.4**
	0.6nm,1.0s,mb3.5,baz=129,slow=12,SNR=3.4						
PDAR				LR	LR	00 57 39.7	
	comp=Z,201nm,18.2s,MS4.1,baz=337,slow=38						
MNV	**Mina**	**47.05**	**323**	P	**P**	**00 37 35.6**	**+0.1**
	9.2nm,1.4s,mb4.5						
NVAR	**Mina Array Bea**	**47.13**	**323**	P	**P**	**00 37 36.3**	**+0.1**
	0.5nm,0.8s,mb3.5,baz=138,slow=8.1,SNR=4.5						
NVAR				LR	LR	00 56 03.6	
	comp=Z,82nm,21.1s,MS3.7,baz=205,slow=34						
ULM	**Lac du Bonnet**	**48.20**	**350**	LR	LR	00 58 51.7	
	comp=Z,102nm,18.3s,MS3.8,baz=87,slow=38						
SCHQ	**Schefferville**	**53.62**	**12**	LR	LR	00 59 36.9	
	comp=Z,239nm,20.2s,MS4.2,baz=295,slow=35						
INK	**Inuvik**	**73.22**	**343**	LR	LR	01 16 16.2	
	comp=Z,135nm,20.1s,MS4.2,baz=224,slow=39						
ILAR	**Eielson Array**	**76.01**	**337**	P	**P**	**00 40 50.2**	**-0.2**
	0.6nm,0.9s,mb3.5,baz=92,slow=1.7,SNR=5.0						
NOA	**NORSAR Array B**	**90.05**	**29**	LR	LR	01 18 16.8	
	comp=Z,20nm,19.0s,MS3.6,baz=305,slow=33						
WRA	**Warramunga Arr**	**138.84**	**243**	PKP	PKPdf	00 48 35.8	+6.8
	1.2nm,0.9s,baz=95,slow=1.8,SNR=4.6						

IDC ***31*** *00:47:17.2±1.3,37.21S×73.79W,mb4.0/5,mb1 4.1/7, mb1mx4.0/15,ML3.8/2,MS3.8/6,Ms1 3.8/6,ms1mx3.6/18, Error ellipse: s-maj=41.7km s-min=23.3km az=89.0*
NEIC ***31*** *00:47:24.1±2.8,37.04S×73.70W,h41km±24km,mb4.1/2, Error ellipse: s-maj=25.6km s-min=10.1km az=81.0*
ISC 31 00:47:21.6±0.7,37.08S±0.07×73.7W±0.2,h33km,n22, σ0s97/19,mb4.0/7,MS4.0/4,4C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRQA	**Tornquist**	**9.33**	**100**	*e*Pn	**P**	**00 49 36.6**	**-0.2**
	7.3nm,0.6s						
LVC	**Limon Verde**	**14.99**	**17**	*e*Pn	**P**	**00 50 53.3**	**+0.6**
CPUP	**Villa Florida**	**17.52**	**57**	P	**P**	**00 51 24.6**	**-0.3**
	0.1nm,0.3s,baz=226,slow=14,SNR=2.4						
CPUP				LR	LR	00 58 36.2	
	comp=Z,128nm,18.2s,baz=252,slow=38						
USHA	**Ushuaia**	**18.12**	**170**	P	**P**	**00 51 27.7**	**-4.5**
	0.1nm,0.3s,slow=6.1,SNR=2.5						
USHA				LR	LR	00 59 31.3	
	comp=Z,317nm,18.0s,baz=328,slow=41						
LPAZ	**La Paz**	**21.28**	**15**	P	**P**	**00 52 08.5**	**+1.1**
	3.0nm,0.7s,mb3.7,baz=189,slow=13,SNR=10						
LPAZ	**La Paz**	**21.28**	**15**	*e*P	**P**	**00 52 07.4**	**0.0**
SAML	**Samuel**	**29.57**	**21**	*e*P	**P**	**00 53 26.0**	**+0.4**
	1.3nm,0.6s,mb3.8						
BDFB	**Brasilia**	**31.19**	**54**	P	**P**	**00 53 39.1**	**-1.0**
	1.7nm,0.5s,mb4.1,baz=187,slow=9.9,SNR=3.8						
BDFB				LR	LR	01 07 41.4	
	comp=Z,257nm,19.0s,MS3.9,baz=134,slow=39						
VNA3	**Neumayer Olymp**	**47.05**	**157**⇓	*i*	**P**	**00 55 52.5**	**+1.2**
VNA1	**Neumayer--Stat**	**47.40**	**156**⇓	*i*	**P**	**00 55 56.0**	**+1.9**
VNA2	**Neumayer--Watz**	**47.72**	**156**⇓	*i*	**P**	**00 55 57.4**	**+0.8**
SNAA	**Sanae**	**49.27**	**157**⇓	*i*	**P**	**00 56 07.2**	**-1.4**
SNAA	**Sanae**	**49.27**	**157**	P	**P**	**00 56 07.0**	**-1.6**
	2.3nm,0.9s,mb4.2,baz=288,slow=6.5,SNR=20						
SNAA				LR	LR	01 15 45.3	
	comp=Z,28nm,20.1s,MS3.2,baz=178,slow=35						
SNAA	**Sanae**	**49.27**	**157**⇑	*i*P	**P**	**00 56 07.2**	**-1.4**
QSPA	**South Pole Qui**	**53.17**	**180**	*e*P	**P**	**00 56 36.5**	**-1.4**
	3.5nm,0.7s,mb4.4						
MAW	**Mawson**	**70.61**	**164**	LR	LR	01 32 41.1	
	comp=Z,104nm,19.6s,MS4.1,baz=72,slow=39						
TXAR	**Lajitas Array**	**71.81**	**333**	P	**P**	**00 58 41.7**	**-1.0**
	0.5nm,0.9s,mb3.4,baz=153,slow=6.0,SNR=4.6						
TXAR	**Lajitas Array**	**71.81**	**333**	P	**P**	**00 58 41.7**	**-1.0**
DBIC	**Dimbokro**	**77.41**	**72**	P	**P**	**00 59 15.4**	**-0.1**
	2.2nm,0.8s,mb4.1,baz=234,slow=9.7,SNR=3.2						
PV10	**Paradox Valley**	**81.87**	**333**	*e*P	**P**	**00 59 39.3**	**+0.4**
SCHQ	**Schefferville**	**91.73**	**4**	LR	LR	01 39 41.8	
	comp=Z,197nm,18.9s,MS4.6,baz=90,slow=34						
BVAR	**Borovoye Array**	**150.40**	**46**	PKPbc	PKPdf	01 07 10.1	+6.5
	0.5nm,0.7s,baz=288,slow=9.4,SNR=5.1						

IDC ***31*** *00:51:13.9±0.5,52.22N×176.37W,h113km±4km,mb3.5/9, mb1 3.8/11,mb1mx3.6/23,MS3.9/1,Ms1 3.9/1, ms1mx2.5/27,Error ellipse: s-maj=19.5km s-min=11.4km az=177.0*
NEIC ***31*** *00:51:13.9±0.3,52.07N×176.36W,h116km±3km,mb4.0/2, Error ellipse: s-maj=13.1km s-min=5.2km az=160.0*
ISC 31 00:51:13.0±0.4,52.2N±0.1×176.35W±0.06,h117km±4km, h113km±2.5km,pP-P,n41,σ0s81/46,mb3.7/9,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSSP	**Great Sitkin S**	**0.13**	**125**	P	**P**	**00 51 29.2**	**0.0**
GSTD	**Great Sitkin T**	**0.17**	**132**	P	**P**	**00 51 29.2**	**-0.1**
GSTP	**Great Sitkin T**	**0.19**	**117**	P	**P**	**00 51 29.6**	**+0.2**
GSCK	**Great Sitkin C**	**0.19**	**144**	P	**P**	**00 51 29.5**	**+0.2**
GSMY	**Great Sitkin M**	**0.22**	**124**	P	**P**	**00 51 29.3**	**-0.1**
ADAG	**Mount Adagdak**	**0.24**	**220**	P	**P**	**00 51 29.8**	**+0.3**
GSIG	**Igitkin Island**	**0.32**	**125**	P	**P**	**00 51 29.5**	**-0.2**
GSIG				S	**S**	**00 51 40.3**	**-2.1**
KIRH	**Kanaga Island**	**0.53**	**240**	P	**P**	**00 51 31.8**	**+0.8**
KIRH				S	**S**	**00 51 44.3**	**-0.3**
KINC	**Kanaga Island**	**0.54**	**244**	P	**P**	**00 51 31.7**	**+0.7**
KINC				S	**S**	**00 51 44.6**	**0.0**
KIKV	**Kanaga Island**	**0.58**	**241**	P	**P**	**00 51 32.0**	**+0.7**
KIKV				S	**S**	**00 51 45.7**	**+0.5**
KIWB	**Kanaga Island**	**0.59**	**238**	P	**P**	**00 51 31.9**	**+0.6**
KIWB				S	**S**	**00 51 45.4**	**+0.1**
KIMD	**Kanaga Island**	**0.68**	**234**	P	**P**	**00 51 32.7**	**+0.7**
KIMD				S	**S**	**00 51 46.0**	**-0.5**
ATKA	**Atka Island**	**1.32**	**88**	P	**P**	**00 51 38.1**	**-0.6**
ATKA				S	**S**	**00 51 55.8**	**-2.3**
NIKO	**Nikolski**	**4.64**	**77**	P	**P**	**00 52 23.0**	**+0.7**
UNV	**Unalaska Valle**	**6.18**	**70**	P	**P**	**00 52 43.7**	**+0.6**
FX1	**Attu Island--F**	**6.44**	**281**	P	**P**	**00 52 47.3**	**+0.6**
	1.4nm,0.3s,baz=291,slow=20,SNR=12						
FX1				S	**S**	**00 53 57.7**	**-1.6**
	0.4nm,0.3s,baz=257,slow=22,SNR=0.7						
AKGG	**Akutan Green G**	**6.55**	**68**	P	**P**	**00 52 49.1**	**+0.9**
FALS	**False Pass**	**8.17**	**66**	P	**P**	**00 53 11.2**	**+1.1**
DRIA	**Deer Island**	**8.84**	**66**	P	**P**	**00 53 20.0**	**+0.9**
DTNA	**Dutton South F**	**8.89**	**65**	P	**P**	**00 53 19.5**	**-0.3**
DOL	**Dolgoi Island**	**9.10**	**65**	P	**P**	**00 53 22.3**	**-0.3**
HAG	**Hague Volcano**	**9.12**	**64**	P	**P**	**00 53 23.8**	**+0.9**
SDPT	**Sand Point**	**9.92**	**65**	P	**P**	**00 53 32.8**	**-0.7**
BILL	**Bilibino**	**18.00**	**339**	*e*P	**P**	**00 55 17.8**	**+1.2**
	30nm,1.1s						
MCK	**McKinley**	**18.41**	**40**	*e*P	**P**	**00 55 21.2**	**0.0**
	2.1nm,0.6s						
THY	**Trims Highway**	**19.59**	**43**	*e*P	**P**	**00 55 34.9**	**+1.0**
ILAR	**Eielson Array**	**19.68**	**39**	P	**P**	**00 55 33.7**	**-1.0**
	0.4nm,0.3s,baz=232,slow=10,SNR=19						
INK	**Inuvik**	**25.94**	**35**	P	**P**	**00 56 34.5**	**-1.0**
	0.4nm,0.4s,mb3.2,baz=248,slow=15,SNR=4.3						
INK	**Inuvik**	**25.94**	**35**	P	**P**	**00 56 34.5**	**-1.0**
CBIJ	**Chichi jima**	**39.79**	**247**	LR	LR	01 10 46.1	
	comp=Z,161nm,21.6s,baz=162,slow=30						
NVAR	**Mina Array Bea**	**41.95**	**85**	P	**P**	**00 58 53.3**	**-0.2**
	0.2nm,0.5s,mb3.1,baz=297,slow=6.0,SNR=2.9						
NVAR				pP	pP	00 59 20.1	-0.2
	0.8nm,0.8s,baz=307,slow=6.9,SNR=4.5						
NVAR				sP	sP	00 59 31.8	-2.3
	0.8nm,0.8s,baz=286,slow=6.0,SNR=3.5						
NVAR				PcP	PcP	01 00 47.6	+0.4
	0.7nm,0.7s,baz=310,slow=1.6,SNR=5.4						
PDAR	**Pinedale Array**	**44.62**	**74**	P	**P**	**00 59 15.1**	**+0.1**
	3.6nm,0.6s,mb4.3,baz=322,slow=3.2,SNR=32						
PDAR				PcP	PcP	01 00 55.3	-0.9
	0.5nm,0.5s,baz=76,slow=0.6,SNR=4.9						
TXAR	**Lajitas Array**	**57.04**	**83**	P	**P**	**01 00 48.3**	**-0.5**
	0.7nm,0.4s,mb4.0,baz=302,slow=5.9,SNR=16						
TXAR				pP	pP	01 01 14.3	-2.7
	0.4nm,0.4s,baz=307,slow=6.7,SNR=5.3						
TXAR				sP	sP	01 01 26.6	-3.4
	0.6nm,0.7s,baz=288,slow=4.0,SNR=2.2						
BVAR	**Borovoye Array**	**61.26**	**321**	P	**P**	**01 01 15.5**	**-2.1**
	0.6nm,0.4s,mb4.0,baz=52,slow=6.6,SNR=9.4						
BVAR				pP	pP	01 01 44.4	-1.7
	0.5nm,0.6s,baz=63,slow=6.6,SNR=1.8						
BVAR				sP	sP	01 01 57.1	-2.0
	0.3nm,0.3s,baz=40,slow=3.5,SNR=2.1						
NOA	**NORSAR Array B**	**66.98**	**356**	P	**P**	**01 01 54.1**	**-0.4**
	0.5nm,0.7s,mb3.5,baz=5.6,slow=6.2,SNR=3.2						
WRA	**Warramunga Arr**	**83.65**	**226**	P	**P**	**01 03 29.1**	**-0.4**
	0.8nm,0.5s,mb3.9,baz=35,slow=6.0,SNR=9.2						
BRTR	**Keskin Array B**	**84.84**	**337**	P	**P**	**01 03 34.8**	**-0.3**
	0.4nm,0.6s,mb3.5,slow=2.5,SNR=4.8						
BRTR				pP	pP	01 04 05.1	-0.3
	0.3nm,0.7s,baz=22,slow=7.8,SNR=3.1						
BRTR	**Keskin Array B**	**84.84**	**337**	P	**P**	**01 03 34.8**	**-0.3**
BRTR				pP	pP	01 04 05.0	-0.3
ASAR	**Alice Springs**	**87.11**	**224**	P	**P**	**01 03 47.2**	**+0.7**
	1.4nm,0.5s,mb4.2,baz=26,slow=4.9,SNR=25						
ASAR				pP	pP	01 04 15.6	-1.4
	1.3nm,0.9s,baz=28,slow=4.1,SNR=5.4						
DBIC	**Dimbokro**	**120.94**	**10**	PKP	PKPdf	01 09 51.1	-0.6
	1.7nm,0.7s,baz=148,slow=9.4,SNR=3.1						
DBIC				pPKP		01 10 24.8	
	4.9nm,1.0s,baz=108,slow=15,SNR=2.6						
MAW	**Mawson**	**148.04**	**218**	PKPbc	PKPdf	01 10 44.8	+5.1
	1.7nm,0.8s,baz=55,slow=1.6,SNR=9.6						
MAW				pPKPbc		01 11 14.2	
	1.2nm,0.9s,baz=284,slow=9.3,SNR=3.0						

IDC 31 01:07:20.4±2.0,3.01N×84.00W,mb3.6/4,mb1 4.0/4, mb1mx3.8/18,Error ellipse: s-maj=301.0km s-min=26.1km az=55.0,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**24.77**	**141**	P	P	01 12 44.8	-0.6
	1.0nm,0.5s,baz=338,slow=5.4,SNR=3.5						
PDAR	**Pinedale Array**	**45.68**	**334**	P	P	01 15 43.2	-1.6
	0.3nm,0.6s,baz=129,slow=9.5,SNR=4.1						
NVAR	**Mina Array Bea**	**47.14**	**323**	P	P	01 15 54.7	-1.8
	0.9nm,1.0s,baz=133,slow=8.6,SNR=3.6						
ILAR	**Eielson Array**	**75.99**	**337**	P	P	01 19 09.2	-1.6
	0.8nm,0.9s,baz=135,slow=3.8,SNR=6.8						

IDC ***31*** *01:10:18.2±10.0,24.34S×69.78W,h356km±77km,mb3.4/2, mb1 3.4/3,mb1mx3.1/13,Error ellipse: s-maj=103.0km s-min=27.2km az=24.0*
GUC ***31*** *01:10:34.5±0.8,23.91S×67.30W,h248km±13km,ML4.1*
ISC 31 01:10:34.3±1.3,24.0S±0.1×67.0W±0.2,h243km±16km,n6, σ0s89/11,3C-1D,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPCH	**San Pedro de A**	**1.52**	**313**⇑	*i*P	**P**	**01 11 12.4**	**0.0**
SPCH				*i*S	**S**	**01 11 42.3**	**+0.4**
LVC	**Limon Verde**	**2.21**	**306**⇑	*i*P	**P**	**01 11 18.7**	**+0.2**
LVC				*i*S	**S**	**01 11 51.9**	**-0.9**
LVC				AMP		01 11 54.4	
	comp=E,226nm,0.3s						
ANCH	**Antofagasta**	**3.15**	**274**⇓	*i*P	**P**	**01 11 30.8**	**+2.4**
ANCH				*i*S	**S**	**01 12 10.9**	**+0.4**
CPN1	**Cerro Paranal**	**3.19**	**257**⇑	*i*P	**P**	**01 11 29.1**	**+0.1**
CPN1				*i*S	**S**	**01 12 09.9**	**-1.4**
CPN1				AMP		01 12 12.9	
	comp=E,622nm,0.4s						
LPAZ	**La Paz**	**7.70**	**352**	P	**P**	**01 12 15.2**	**-9.3**
	comp=E,0.5nm,0.3s,baz=201,slow=14,SNR=10						
LPAZ				S	**S**	**01 13 50.6**	**0.0**
	comp=E,0.1nm,0.3s,baz=252,slow=20,SNR=3.4						
BDFB	**Brasilia**	**19.65**	**69**	P	**P**	**01 14 45.9**	**-0.5**
	comp=E,10nm,0.7s,baz=246,slow=11,SNR=17						

DJA 31 01:33:07.7±0.9,9.47S×114.29E,h33km,MD5.0/3, ML3.7/3,2C-6D,Error ellipse: s-maj=22.3km s-min=9.4km az=31.0,South of Bali

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRDI	**Scrawed**	**1.00**	**352**⇑	*i*Pn	Pn	01 33 24.1	-1.4
	110nm,0.2s						
SRDI				⇑ *i*Sn	Sn	01 33 35.3	-3.2
KELI	**Kelakatan**	**1.26**	**9**⇓	*i*Pn	Pn	01 33 28.6	-0.7
	61nm,0.2s						
KELI	**Kelakatan**	**1.26**	**9**⇓	*i*P	P	01 33 29.2	+0.1
KELI				⇓ *i*Sn	Sn	01 33 43.4	-1.9
RATI	**Rata**	**1.44**	**59**⇓	*i*Pn	Pn	01 33 30.8	-1.0
	125nm,0.2s						
RATI	**Rata**	**1.44**	**59**⇓	*i*P	P	01 33 31.0	-0.6
RATI				⇓ *i*Sn	Sn	01 33 46.7	-2.9

DJA 31 01:35:13.5±1.0,9.51S×114.28E,h33km,MD5.1/3, ML3.6/2,5C-2D,Error ellipse: s-maj=23.4km s-min=11.4km az=28.0,South of Bali

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRDI	**Scrawed**	**1.03**	**352**⇑	*i*Pn	Pn	01 35 30.5	-1.4
	84nm,0.2s						
SRDI				⇑ *i*Sn	Sn	01 35 41.9	-3.4
KELI	**Kelakatan**	**1.30**	**9**⇑	*i*Pn	Pn	01 35 35.2	-0.5
	72nm,0.3s						
KELI	**Kelakatan**	**1.30**	**9**⇓	*i*P	P	01 35 35.6	+0.1
KELI				⇑ *i*Sn	Sn	01 35 49.6	-2.5
RATI	**Rata**	**1.46**	**58**⇓	*i*Pn	Pn	01 35 36.1	-1.9
RATI				⇑ *i*Sn	Sn	01 35 54.1	-2.1

MAN 31 01:52:15.0,10.26N×126.07E,h23km,mb4.0,ML2.7, MS2.4,1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.74**	**231**⇓	*e*P	Pb	01 52 28.9	-0.3
SCPH				*e*S	Sb	01 52 40.2	+1.4
MSLP	**Maasin**	**1.20**	**264**	*e*P	Pn	01 52 37.1	+0.6
MSLP				*e*S	Sb	01 52 52.2	+0.2
BUTP	**Butuan**	**1.36**	**

JJJ	Ishigaki jima	2.04	106	P	P	02 34 24.0	-0.8
JJJ				S	S	02 34 48.4	-1.5

*BJI **31** 02:36:47.2, 18.10S×178.10W, h552km, mb4.7*
*NEIC **31** 02:36:48.2±0.9, 18.11S×178.10W, h552km±10km, mb4.8/14, Error ellipse: s-maj=14.2km s-min=8.0km az=143.0*
*IDC **31** 02:36:50.3±2.4, 18.23S×178.05W, h579km±28km, mb3.6/10, mb1 3.9/11, mb1mx3.8/15, Error ellipse: s-maj=18.9km s-min=13.0km az=159.0*

ISC 31 02:36:47.7±1.1, 18.25S±0.1×178.11W±0.10, h560km±16km, n99, σ1§02/35, mb4.5/20, 6C-12D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.44**	**56**	*eP*	**P**	**02 38 40.3**	**-0.6**
	40nm,0.5s						
URZ	**Urewera**	**20.41**	**191**	P	**P**	**02 40 46.7**	**-1.4**
	19nm,0.4s,baz=28,slow=1.6,SNR=32						
CNB	**Canberra Magne**	**33.47**	**233**	*i*P	**P**	**02 42 43.9**	**+1.6**
	21nm,0.5s,mb4.9						
CTA	**Charters Tower**	**33.68**	**261**	*i*P	**P**	**02 42 44.8**	**+0.7**
	15nm,0.4s,mb4.9						
CTAO	**Charters Tower**	**33.68**	**261**	*e*P	**P**	**02 42 44.7**	**+0.6**
	22nm,0.6s,mb4.9						
PMG	**Port Moresby**	**34.79**	**280**	P	**P**	**02 42 54.9**	**+1.5**
	82nm,1.0s,mb5.2,baz=88,slow=5.3,SNR=15						
PMG	**Port Moresby**	**34.79**	**280**	*e*P	**P**	**02 42 54.5**	**+1.1**
	60nm,0.8s,mb5.2						
STKA	**Stephens Creek**	**38.74**	**242**	*i*P	**P**	**02 43 27.1**	**+1.5**
	16nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**38.74**	**242**	P	**P**	**02 43 27.1**	**+1.5**
	23nm,0.6s,mb4.9,baz=91,slow=9.6,SNR=86						
WB2	**Warramunga Arr**	**44.85**	**260**	*i*P	**P**	**02 44 13.6**	**-0.6**
WB2				*i* PCP	PcP	02 45 43.2	-1.0
WRAB	**Tennant Creek**	**44.85**	**260**	*e*P	**P**	**02 44 13.4**	**-0.8**
	21nm,0.4s,mb5.0						
WRA	**Warramunga Arr**	**44.86**	**260**	P	**P**	**02 44 13.6**	**-0.7**
	16nm,0.5s,mb4.8,baz=95,slow=7.2,SNR=388						
WRA				PcP	PcP	02 45 43.4	-0.9
	2.1nm,0.5s,baz=89,slow=4.0,SNR=5.7						
ASAR	**Alice Springs**	**44.98**	**255**	P	**P**	**02 44 15.4**	**+0.1**
	82nm,0.7s,mb5.4,baz=87,slow=9.0,SNR=779						
ASAR				PcP	PcP	02 45 43.6	-1.0
	4.8nm,0.5s,baz=104,slow=3.8,SNR=8.3						
ASAR				S	**S**	**02 50 12.5**	**-1.0**
	1.2nm,0.7s,baz=89,slow=15,SNR=5.2						
ASPA	**Alice Springs**	**44.99**	**255**	*i*P	**P**	**02 44 15.4**	**+0.1**
ASPA				*i* PCP	PcP	02 45 43.9	-0.7
ASPA				*i* S	**S**	**02 50 11.4**	**-2.2**
KAKA	**Kakadu**	**47.90**	**269**	*i*P	**P**	**02 44 40.4**	**+2.8**
	30nm,0.4s,mb5.2						
FORT	**Forrest**	**50.14**	**245**	*i*P	**P**	**02 44 53.0**	**-1.0**
	64nm,0.4s,mb5.4						
FITZ	**Fitzroy Crossi**	**53.26**	**261**	*i*P	**P**	**02 45 16.1**	**-0.5**
	4.6nm,0.5s,mb4.1						
KLBR	**Kellerberrin**	**58.95**	**244**	*i*P	**P**	**02 45 54.6**	**-1.1**
	22nm,0.6s,mb4.6						
NWAO	**Narrogin (SRO)**	**59.32**	**242**	*e*P	**P**	**02 45 57.7**	**-0.4**
SBA	**Scott Base**	**60.14**	**184**	*e*P	**P**	**02 46 04.1**	**+1.1**
	1.7nm,0.7s,mb3.5						
VNDA	**Vanda**	**60.18**	**185**	P	**P**	**02 46 03.7**	**+0.5**
	0.7nm,0.6s,baz=352,slow=6.0,SNR=8.0						
VNDA	**Vanda**	**60.18**	**185**	P	**P**	**02 46 03.7**	**+0.5**
MUN	**Mundaring**	**60.24**	**243**	*i*P	**P**	**02 46 04.0**	**-0.2**
	12nm,0.7s,mb4.3						
CASY	**Casey**	**65.99**	**205**	P	**P**	**02 46 39.9**	**-0.4**
	4.4nm,1.1s,mb3.9						
MAT	**Matsushiro**	**68.31**	**323**	P	**P**	**02 46 53.6**	**-1.4**
MAT	**Matsushiro**	**68.31**	**323**	*e*P	**P**	**02 46 54.0**	**-1.0**
NVAR	**Mina Array Bea**	**79.44**	**44**	P	**P**	**02 47 57.8**	**+0.3**
	1.0nm,0.7s,baz=216,slow=7.5,SNR=9.3						
ENH	**Enshi**	**84.67**	**304**	*e*P	**P**	**02 48 24.7**	**+0.6**
	5.5nm,0.5s,mb4.3						
TXAR	**Lajitas Array**	**85.91**	**57**	P	**P**	**02 48 31.1**	**+1.0**
	0.7nm,0.6s,mb3.5,baz=216,slow=6.1,SNR=13						
ILAR	**Eielson Array**	**86.11**	**13**	P	**P**	**02 48 28.4**	**-1.8**
	1.6nm,0.5s,mb3.9,baz=221,slow=5.1,SNR=37						
PDAR	**Pinedale Array**	**87.37**	**43**	P	**P**	**02 48 36.2**	**-0.4**
	1.3nm,1.0s,mb3.5,baz=229,slow=1.9,SNR=8.0						
CMAR	**Chiang Mai Arr**	**89.25**	**290**	P	**P**	**02 48 47.0**	**+1.0**
	5.8nm,1.0s,mb4.4,baz=109,slow=2.5,SNR=18						
SONM	**Songino Array**	**93.96**	**319**	P	**P**	**02 49 08.0**	**+1.1**
	0.4nm,0.6s,mb3.7,baz=122,slow=5.1,SNR=3.6						
ARCES	**ARCESS Array B**	**126.65**	**350**	PKP	PKPdf	02 54 47.2	+0.1
	1.7nm,0.7s,baz=87,slow=1.2,SNR=11						
ARCES	**ARCESS Array B**	**126.65**	**350**	PKP	PKPdf	02 54 47.2	+0.1
FINES	**FINESS Array B**	**133.55**	**344**	PKP	PKPdf	02 55 00.1	-0.2
	3.5nm,1.0s,baz=103,slow=3.6,SNR=6.7						
AKASG	**Malin Array Be**	**140.95**	**332**	PKhKP		02 55 07.5	
	0.5nm,0.3s,baz=40,slow=4.2,SNR=8.8						
AKASG				PKP	PKPdf	02 55 15.6	+1.6
	1.7nm,0.5s,baz=40,slow=3.0,SNR=8.2						
HILS	**Ha'il**	**142.23**	**291**	P	PKPdf	02 55 15.6	-1.3
MALT	**Malatya**	**142.42**	**310**	*e*PKPpre	PKPdf	02 55 15.2	-1.7
LTHS	**Al Lith**	**143.62**	**280**	P	PKPbc	02 55 20.5	+1.7
BSEG	**Bad Segeberg**	**143.75**	**352**	*e*PKPbc	PKPbc	02 55 18.3	+0.1
KWP	**Kalwaria**	**144.45**	**337**	*e*PKPdf	PKPdf	02 55 21.0	+1.0
KOLS	**Kolonicke sedl**	**145.19**	**336**	*e*PKP	PKPdf	02 55 22.8	+1.4
KOLS				*i*		02 55 23.5	
KOLS				*e*		02 55 29.2	
KOLS				*e*		02 55 34.7	
KOLS				*e*		02 55 40.6	
BRTR	**Keskin Array B**	**145.19**	**315**	PKPbc	PKPbc	02 55 23.3	+0.6
	5.8nm,0.7s,baz=131,slow=4.6,SNR=46						
CFR	**Carcaliu**	**145.34**	**327**	*i*P	PKPdf	02 55 23.8	+2.1
KSP	**Ksiaz**	**145.47**	**344**	*e*PKP	PKPdf	02 55 24.1	+2.3
CRVS	**Cervenica-Dubn**	**145.52**	**337**	*e*PKP	PKPdf	02 55 24.6	+2.7
CLZ	**Clausthal**	**145.77**	**351**	*e*PKPbc	PKPbc	02 55 25.0	+1.3
CLL	**Collm**	**145.81**	**348**	*i* PKP1	PKPbc	02 55 24.9	+1.0
OKC	**Ostrava-Krasne**	**145.84**	**341**	*e*PKP	PKPdf	02 55 25.2	+2.8
OKC				*ex*	x	02 55 27.1	
UPC	**Upice**	**145.85**	**344**	*e*PKP	PKPdf	02 55 25.3	+2.9
UPC				*ex*	x	02 55 27.3	
DPC	**Dobruska-Polom**	**145.91**	**343**	*e*PKP	PKPdf	02 55 25.5	+3.0
BRG	**Berggiesshubel**	**146.02**	**346**	*i* P	PKPdf	02 55 25.6	+2.9
MORC	**Moravsky Berou**	**146.08**	**342**	*e*PKPbc	PKPbc	02 55 25.9	+1.3
PVCC	**Panska Ves**	**146.19**	**345**	*e*PKP	PKPdf	02 55 26.2	+3.2
	8.9nm,0.8s						
PVCC				*ex*	x	02 55 28.6	
MLR	**Muntele Rosu**	**146.23**	**329**	PKPbc	PKPbc	02 55 26.0	+1.0
	6.6nm,0.8s,baz=343,slow=8.3,SNR=26						
PRU	**Pruhonice**	**146.70**	**345**	*e*PKP	PKPdf	02 55 27.4	+3.5
PRU				*ex*	x	02 55 30.4	
VYHS	**Vyhne**	**146.79**	**339**	*i* PKP	PKPdf	02 55 28.3	+4.2
VYHS				*e*		02 55 31.3	
NKC	**Novy Kostel**	**146.94**	**348**	*e*PKP	PKPdf	02 55 28.1	+3.8
JMQS	**Jabal Moqyreh**	**147.18**	**295**	P	PKPdf	02 55 30.0	+4.6
SMOL	**Smolenice**	**147.23**	**341**	*e*PKP	PKPdf	02 55 28.6	+3.8
SMOL				*e*		02 55 33.2	
ZST	**Bratislava**	**147.62**	**341**	*e*PKP	PKPdf	02 55 30.5	+5.1
GRA1	**Grafenberg Arr**	**147.70**	**349**	*e*PKPbc	PKPdf	02 55 30.4	+4.9
GRA1				*e*PKPab	PKPab	02 55 33.6	-2.4
GRFO	**Grafenberg**	**147.70**	**349**	*e*PKPbc	PKPdf	02 55 30.4	+4.9
KHC	**Kasperske Hory**	**147.73**	**346**	*e*PKP	PKPdf	02 55 30.4	+4.8
KHC				*ex*	x	02 55 35.0	
BDAS	**Al Bad'**	**147.94**	**295**	P	PKPdf	02 55 31.4	+4.9
GEC2	**GERESS Array S**	**147.97**	**345**	*e*PKPbc	PKPdf	02 55 30.9	+5.0
GERES	**GERESS Array B**	**147.97**	**345**	PKPbc	PKPdf	02 55 30.7	+4.8
	4.0nm,0.5s,baz=23,slow=3.0,SNR=65						
GIVF	**Givet**	**148.09**	**356**	*e*PKP1	PKPdf	02 55 30.7	+4.6
BAIF	**Baives**	**148.17**	**357**	*e*PKP1	PKPdf	02 55 31.1	+4.9
	18nm,0.9s						
MOA	**Molln**	**148.75**	**344**	*i*P	PKPdf	02 55 32.8	+5.6
FUR	**Furstenfeldbru**	**149.15**	**348**	*e*PKPab	PKPab	02 55 40.3	-1.6
FLN	**La Foliniere**	**149.46**	**3**	*e*PKP1	PKPdf	02 55 33.7	+5.4
	12nm,0.5s						
BFO	**Black Forest**	**149.50**	**352**	*e*PKPbc	PKPdf	02 55 34.4	+6.0
CDF	**Champ du Feu**	**149.55**	**353**	*e*PKP1	PKPdf	02 55 34.4	+5.9
	11nm,0.7s						
LDF	**La Druitiere**	**149.64**	**3**	*e*PKP1	PKPdf	02 55 34.1	+5.5
	8.5nm,0.6s						
MEZF	**Maizieres J'vi**	**149.67**	**356**	*e*PKP1	PKPdf	02 55 34.7	+6.1
KBA	**Koelnbreinsper**	**149.70**	**344**	*i*P	PKPdf	02 55 34.7	+6.0
GRR	**Gorron**	**149.81**	**4**	*e*PKP1	PKPdf	02 55 34.7	+5.8
	9.3nm,0.5s						
WATA	**Walderalm**	**149.88**	**347**	*i*P	PKPdf	02 55 35.3	+6.3
WTTA	**Wattenberg**	**149.93**	**347**	*i*P	PKPdf	02 55 35.6	+6.5
MOTA	**Moosalm**	**149.97**	**347**	*i*P	PKPdf	02 55 35.3	+6.1
HAU	**Haudompre**	**150.05**	**354**	*e*PKP1	PKPdf	02 55 35.4	+6.1
	12nm,0.6s						
SQTA	**Sankt Quirin**	**150.06**	**347**	*i*P	PKPdf	02 55 35.7	+6.4
HINF	**Hinteralfeld**	**150.19**	**353**	*e*PKP1	PKPdf	02 55 35.6	+6.1
CRES	**Cresnjev**	**150.24**	**341**	*e*PKPbc	PKPdf	02 55 36.5	+6.9
DAVA	**Damuels**	**150.26**	**349**	*i*P	PKPdf	02 55 37.1	+7.5
LJU	**Ljubljana**	**150.33**	**342**	*e*PKPbc	PKPdf	02 55 36.4	+6.7
VISS	**Visnje**	**150.45**	**341**	*i* PKPbc	PKPdf	02 55 36.8	+6.9
LOR	**Lormes**	**150.97**	**357**	*e*PKP1	PKPdf	02 55 37.7	+7.0
	9.7nm,0.6s						
HYF	**Humbligny**	**151.01**	**359**	*e*PKP1	PKPdf	02 55 38.0	+7.3
SSF	**Saint Saulge**	**151.19**	**358**	*e*PKP1	PKPdf	02 55 38.2	+7.2
	12nm,0.8s						
CABF	**La Chapelle**	**151.46**	**354**	*e*PKP1	PKPdf	02 55 39.3	+7.9
MFF	**Saint Martin d**	**151.63**	**3**	*e*PKP1	PKPdf	02 55 38.8	+7.2
	9.2nm,0.6s						
BGF	**Bois d'Agland**	**151.71**	**359**	*e*PKP1	PKPdf	02 55 39.2	+7.5
TCF	**Toulx Ste Croi**	**151.99**	**360**	*e*PKP1	PKPdf	02 55 40.2	+8.1
	7.3nm,0.8s						
RJF	**Les Rejaudoux**	**152.98**	**1**	*e*PKP1	PKPdf	02 55 41.9	+8.4
	21nm,1.1s						
MBDF	**Montbardon**	**153.24**	**352**	*e*PKP1	PKPdf	02 55 43.5	+10
	7.1nm,0.7s						
SBF	**Sospel**	**154.00**	**351**	*e*PKP1	PKPdf	02 55 44.9	+10
	37nm,1.0s						

*LDG **31** 02:47:09.8±0.1, 44.33N×7.30E, h2km, Md1.9/1, Ml2.0/6, Error ellipse: s-maj=3.0km s-min=1.4km az=82.0*
*STR **31** 02:47:10.3±0.2, 44.33N×7.21E, h5km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 31 02:47:09.7±0.5, 44.34N±0.02×7.20E±0.05, h2km, n12, σ0§69/23, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOUF	**Mont Tournerai**	**0.32**	**174**	Pg	**Pg**	**02 47 16.7**	**+0.6**
AUTN	**L'Aution**	**0.38**	**155**	Pg	**Pg**	**02 47 17.4**	**+0.2**
AUTN				Sg	**Sg**	**02 47 22.9**	**+0.7**
SAOF	**Saorge**	**0.43**	**144**	Pg	**Pg**	**02 47 18.5**	**+0.2**
SAOF				Sg	**Sg**	**02 47 24.7**	**+0.7**
AURF	**Auriere**	**0.46**	**169**	Pg	**Pg**	**02 47 19.3**	**+0.5**
AURF				Sg	**Sg**	**02 47 25.3**	**+0.4**
MBDF	**Montbardon**	**0.50**	**322**	*e*Pg	**Pg**	**02 47 20.1**	**+0.5**
MBDF				*e*Sg	**Sg**	**02 47 27.7**	**+1.5**
	9.5nm,0.2s						
SBF	**Sospel**	**0.50**	**161**	*e*Pg	**Pg**	**02 47 19.1**	**-0.6**
SBF				*e*Sg	**Sg**	**02 47 25.1**	**-1.3**
	8.6nm,0.3s						
FRF	**La Foret Royal**	**0.87**	**208**	*e*Pg	**Pg**	**02 47 27.7**	**+0.6**
FRF				*e*Sg	**Sg**	**02 47 37.8**	**-1.0**
	7.5nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.11**	**302**	*e*Pg	**Pg**	**02 47 32.0**	**+0.2**
ORIF				*e*Sg	**Sg**	**02 47 46.4**	**-0.2**
	1.9nm,0.3s						
LMR	**La Mourre**	**1.12**	**207**	*e*Pg	**Pg**	**02 47 31.5**	**-0.5**
LMR				*e*Sg	**Sg**	**02 47 45.9**	**-1.1**
	8.3nm,0.2s						
LPG	**La Plagne**	**1.21**	**345**	*e*Pg	**Pg**	**02 47 33.2**	**-0.5**
LPG				*e*Sg	**Sg**	**02 47 49.2**	**-0.6**
	1.1nm,0.2s						
LPL	**La Plagne**	**1.23**	**344**	*e*Pg	**Pg**	**02 47 33.6**	**-0.5**
LPL				*e*Sg	**Sg**	**02 47 49.7**	**-0.8**
	0.9nm,0.2s						
SMRF	**Simiane la Rot**	**1.23**	**253**	*e*Pg	**Pg**	**02 47 34.3**	**+0.2**
SMRF				*e*Sg	**Sg**	**02 47 51.4**	**+0.9**
	5.3nm,0.3s						

*NEIC **31** 03:49:30.8±0.9, 35.49N×74.57E, h10km, mb4.1/3, Error ellipse: s-maj=21.0km s-min=13.4km az=63.0*
*BJI **31** 03:49:34.0, 35.50N×74.60E, h10km, mb3.8, ML3.6*
*IDC **31** 03:49:39.3±8.5, 35.60N×74.54E, h78km±84km, mb3.7/8, mb1 3.9/9, mb1mx3.7/19, ML3.9/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/27, Error ellipse: s-maj=35.4km s-min=19.0km az=29.0*

ISC 31 03:49:28.0±0.5, 35.46N±0.04×74.87E±0.09, h10km, n27, σ1§09/29, mb3.9/9, Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THN	**Thein Dam**	**3.10**	**167**	*e*P	**Pb**	**03 50 23.9**	**+1.0**
THN				*e*		03 51 07.0	
KSH	**Kashi**	**4.14**	**12**	*e*PG	**Pg**	**03 50 49.3**	**-1.4**
KSH				SG	**Sg**	**03 51 46.0**	**+0.1**
KSH				Smax			
	comp=N,80nm,0.6s						
KSH				Smax			
	comp=E,100nm,0.9s						
DDI	**Dehra Dun**	**5.78**	**152**	*e*P	**Pn**	**03 50 57.7**	**+1.7**
DDI				*e*SB	**Sg**	**03 52 36.2**	**-4.4**
NDI	**New Delhi**	**7.04**	**163**	*e*P	**Pn**	**03 51 15.0**	**+1.2**
NDI				*e*S	**Sn**	**03 52 33.0**	**-1.8**
AAK	**Ala-Archa**	**7.17**	**358**	*e*Pn	**Pn**	**03 51 14.0**	**-1.5**
	comp=E,2.3nm,0.6s						
KOLN	**Koldanda**	**10.68**	**133**	*e*P	**P**	**03 52 04.8**	**+0.6**
	comp=E,13nm,0.6s						
GKN	**Gorkha**	**11.15**	**129**	*e*P	**P**	**03 52 11.0**	**+0.4**
	comp=E,31nm,0.7s						
KKN	**Kakani**	**11.71**	**128**	*e*P	**P**	**03 52 17.2**	**-1.0**
	comp=E,22nm,0.5s						
DMN	**Daman**	**11.72**	**129**	*e*P	**P**	**03 52 18.3**	**-0.1**
	comp=E,18nm,0.4s						
PKI	**Pulchoki**	**11.94**	**128**	*e*P	**P**	**03 52 20.6**	**-0.7**
	comp=E,19nm,0.6s						
GUN	**Gumba**	**12.02**	**126**	*e*P	**P**	**03 52 21.5**	**-0.9**
	comp=E,14nm,0.5s						
KURK	**Kurchatov**	**15.49**	**9**	*e*P	**P**	**03 53 08.9**	**+0.8**
	comp=E,15nm,0.9s						
BVAR	**Borovoye Array**	**17.84**	**351**	P	**P**	**03 53 39.6**	**+1.8**
	comp=E,0.4nm,0.3s,baz=162,slow=9.4,SNR=22						
BRVK	**Borovoye**	**17.89**	**351**	*e*P	**P**	**03 53 39.9**	**+1.5**
	comp=E,6.1nm,0.8s						
GTA	**Gaotai**	**20.17**	**71**	P	**P**	**03 54 09.3**	**+3.9**
GTA				AP		03 54 15.8	
GTA				AMB	AMB		
	comp=Z,3.0nm,0.7s						
GNI	**Garni**	**24.20**	**290**	LR	LR	04 06 10.4	
	comp=Z,37nm,21.6s,baz=204,slow=42						
SONM	**Songino Array**	**26.41**	**52**	P	**P**	**03 55 10.2**	**+3.8**
	comp=Z,0.7nm,0.8s,mb3.2,baz=265,slow=9.9,SNR=3.2						
CMAR	**Chiang Mai Arr**	**27.22**	**122**	P	**P**	**03 55 18.6**	**+4.4**
	comp=Z,1.4nm,0.5s,mb3.8,baz=307,slow=11,SNR=9.2						
AKASG	**Malin Array Be**	**36.04**	**309**	P	**P**	**03 56 29.3**	**-1.9**
	comp=Z,1.6nm,0.7s,mb4.1,baz=107,slow=8.8,SNR=7.4						
FINES	**FINESS Array B**	**40.10**	**326**	P	**P**	**03 57 05.0**	**-0.1**
	comp=Z,5.1nm,1.0s,mb4.2,baz=113,slow=11,SNR=4.2						
FINES	**FINESS Array B**	**40.10**	**326**	P	**P**	**03 57 05.0**	**-0.1**
IDI	**Anoyia**	**40.40**	**285**	P	**P**	**03 57 07.9**	**+0.1**
	comp=Z,1.8nm,0.8s,mb3.8,baz=72,slow=13,SNR=3.3						
ARCES	**ARCESS Array B**	**43.31**	**337**	P	**P**	**03 57 30.9**	**-0.3**
	comp=Z,2.1nm,0.6s,mb4.1,baz=121,slow=7.1,SNR=9.0						
ARCES	**ARCESS Array B**	**43.31**	**337**	P	**P**	**03 57 30.9**	**-0.3**
NOA	**NORSAR Array B**	**47.09**	**323**	P	**P**	**03 58 01.0**	**-0.6**
	comp=Z,1.1nm,0.7s,mb3.9,baz=92,slow=7.5,SNR=3.5						
MBWA	**Marble Bar**	**70.56**	**136**	P	**P**	**04 00 45.3**	**-0.1**
	comp=Z,1.0nm,0.5s,mb4.0						
ILAR	**Eielson Array**	**74.88**	**17**	P	**P**	**04 01 10.8**	**+0.7**
	comp=Z,1.2nm,0.7s,mb4.0,baz=311,slow=4.3,SNR=11						

*IDC **31** 03:50:46.8±0.6, 26.30N×140.62E, h386km±5km, mb3.5/15, mb1 3.6/18, mb1mx3.6/24, Error ellipse: s-maj=16.2km s-min=13.4km az=93.0*
*NEIC **31** 03:50:49.9±1.2, 26.31N×140.56E, h419km±13km, mb3.9/7, Error ellipse: s-maj=11.7km s-min=8.7km az=104.0*
*JMA **31** 03:50:50.4±0.1, 26.74N×141.42E, h403km, M4.1*

ISC 31 03:50:46.8±0.5, 26.33N±0.06×140.57E±0.10, h397km±4km, n46, σ1§14/52, mb3.8/22, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHHJ	**Haha-jima-NKT**	**1.47**	**78**	P	**P**	**03 51 41.3**	**+1.4**
JHHJ				*e*S	**S**	**03 52 21.3**	**-0.3**
CBIJ	**Chichi jima**	**1.63**	**62**	P	**P**	**03 51 40.9**	**+0.1**
	225nm,0.3s,baz=107,slow=4.9,SNR=136						
CBIJ				S	**S**	**03 52 21.1**	**-1.9**
	414nm,0.3s,baz=239,slow=21,SNR=38						
CBIJ	**Chichi jima**	**1.63**	**62**	P	**P**	**03 51 41.2**	**+0.4**
CBIJ				*e*S	**S**	**03 52 21.1**	**-1.9**
JHJ2	**Mitsune**	**6.79**	**355**	P	**P**	**03 52 32.4**	**+3.6**
JHJ	**Hachijo jima 2**	**6.80**	**354**	P	**P**	**03 52 31.6**	**+2.7**
	40nm,0.3s,baz=75,slow=20,SNR=6.6						
JHJ				S	**S**	**03 53 45.9**	**-3.4**
	22nm,0.3s,baz=261,slow=23,SNR=2.6						
JHMK	**Hamakita**	**8.79**	**345**	P	**P**	**03 52 53.3**	**+1.5**
HMMJ	**Hamamatsu 2**	**8.84**	**345**	P	**P**	**03 52 54.1**	**+1.8**
JNY	**Yasuok**	**9.29**	**346**	P	**P**	**03 52 59.1**	**+1.6**
JHU	**Hanno**	**9.55**	**354**	P	**P**	**03 52 59.5**	**-1.1**
JHU				*e*S	**S**	**03 54 41.3**	**-5.1**
JRY	**Ryogami san**	**9.76**	**352**	P	**P**	**03 53 03.4**	**+0.4**
JYT	**Yasato**	**9.87**	**358**	P	**P**	**03 53 04.6**	**+0.3**
JYT				*e*S	**S**	**03 54 50.5**	**-2.6**
JAG	**Ashikaga**	**10.11**	**355**	P	**P**	**03 53 06.2**	**-0.9**
JHO	**Hitachi**	**10.25**	**360**	P	**P**	**03 53 08.5**	**-0.3**
MAJO	**Matsushiro**	**10.38**	**349**	*e*P	**P**	**03 53 10.0**	**-0.3**
	8.0nm,0.3s						
MAJO				*e*S	**S**	**03 55 02.5**	**-1.3**
JOW	**Kunigami**	**11.02**	**275**	P	**P**	**03 53 19.9**	**+2.1**
	7.9nm,0.3s,baz=115,slow=14,SNR=15						
ASAJ	**Asahikawa**	**17.82**	**5**	P	**P**	**03 54 31.9**	**+1.7**
	1.6nm,0.3s,baz=231,slow=22,SNR=5.8						
YSS	**Yuzh-Sakhalins**	**20.65**	**4**	*e*P	**P**	**03 54 59.1**	**+1.2**
SONM	**Songino Array**	**34.28**	**318**	P	**P**	**03 56 59.3**	**+0.5**
	0.9nm,0.4s,mb3.4,baz=130,slow=8.2,SNR=8.6						
CMAR	**Chiang Mai Arr**	**39.15**	**267**	P	**P**	**03 57 39.8**	**+0.4**
	2.0nm,0.8s,mb3.5,baz=58,slow=8.0,SNR=6.6						
WRA	**Warramunga Arr**	**46.40**	**188**	P	**P**	**03 58 36.3**	**-1.0**
	8.7nm,0.3s,mb4.5,baz=6.4,slow=7.7,SNR=10						
MBWA	**Marble Bar**	**51.35**	**205**	*e*P	**P**	**03 59 13.1**	**-1.6**
	3.0nm,0.4s,mb3.9						
KURK	**Kurchatov**	**52.49**	**315**	*e*P	**P**	**03 59 22.0**	**-0.7**
	3.4nm,0.6s,mb3.8						
AAK	**Ala-Archa**	**55.51**	**305**	*e*P	**P**	**03 59 43.3**	**-1.1**
	2.0nm,0.5s,mb3.7						
BVAR	**Borovoye Array**	**57.63**	**318**	P	**P**	**03 59 58.5**	**-0.4**
	9.3nm,0.4s,mb4.4,baz=87,slow=6.7,SNR=86						
BRVK	**Borovoye**	**57.69**	**318**	*e*P	**P**	**03 59 58.9**	**-0.4**
	5.0nm,0.7s,mb4.0						
STKA	**Stephens Creek**	**57.89**	**179**	P	**P**	**03 59 59.6**	**-1.4**
	2.2nm,0.6s,mb3.7,baz=13,slow=4.7,SNR=4.5						
ILAR	**Eielson Array**	**59.07**	**28**	P	**P**	**04 00 07.2**	**-1.3**
	2.2nm,0.7s,mb3.6,baz=241,slow=6.2,SNR=33						
INK	**Inuvik**	**64.32**	**24**	P	**P**	**04 00 42.5**	**-0.3**
	0.9nm,0.4s,mb3.6,baz=304,slow=4.3,SNR=5.4						
INK	**Inuvik**	**64.32**	**24**	*e*P	**P**	**04 00 42.5**	**-0.3**
	0.5nm,0.3s,mb3.5						
KEV	**Kevo**	**73.22**	**341**	*e*p	**P**	**04 01 36.9**	**+0.3**
ARCES	**ARCESS Array B**	**73.78**	**341**	P	**P**	**04 01 40.2**	**+0.4**
	2.9nm,0.7s,mb4.0,baz=81,slow=8.5,SNR=12						
JOF	**Joensuu**	**75.12**	**333**	*e*p	**P**	**04 01 47.0**	**-0.5**
	0.8nm,0.4s,mb3.7						
KAF	**Kangasniemi**	**77.53**	**334**	*e*p	**P**	**04 01 59.9**	**-0.9**
	1.3nm,0.4s,mb3.9,baz=56,slow=5.2						
FINES	**FINESS Array B**	**77.99**	**333**	P	**P**	**04 02 02.9**	**-0.3**
	1.6nm,0.3s,mb4.1,baz=73,slow=5.0,SNR=53						
FINES	**FINESS Array B**	**77.99**	**333**	P	**P**	**04 02 02.9**	**-0.4**
NVAR	**Mina Array Bea**	**82.12**	**51**	P	**P**	**04 02 26.8**	**+1.4**
	1.0nm,0.8s,mb3.6,baz=284,slow=8.5,SNR=7.1						
AKASG	**Malin Array Be**	**82.37**	**323**

SNR=22
BHGR Bahadurgarh 6.92 161 *e*P Pn **04 01 35.5 +0.6**
BHGR AMb AMB 04 01 37.0
comp=Z,97nm,0.0s
UCH Uchtor 6.96 1 P Pn **04 01 37.5 +1.9**
SNR=12
NDI New Delhi 7.00 159 *e*P Pn **04 01 40.0 +3.9**
NDI *e* 04 02 55.0
ASOR Ausora 7.11 155 *e*P Pn **04 01 40.1 +2.5**
ASOR AMb AMB 04 01 43.3
comp=Z,407nm,0.1s
AYAN Aya Nagar 7.16 160 *e*P Pn **04 01 40.6 +2.3**
AYAN AMb AMB 04 01 44.9
comp=Z,27nm,1.4s
AYAN *e* 04 03 01.1
KHET Khetri 7.27 170 *e*P Pn **04 01 41.4 +1.4**
KHET AMb AMB 04 01 47.2
comp=Z,14nm,0.6s
KHET *e* 04 03 02.4
KUDL Kundal 7.33 165 *e*P Pn **04 01 41.9 +1.2**
KUDL AMb AMB 04 01 47.1
comp=Z,21nm,1.2s
KUDL *e* 04 03 04.9
AAK Ala-Archa 7.36 1 ⇓Pn Pn **04 01 44.5 +3.3**
comp=Z,14nm,0.8s
AAK ⇓Lg 04 03 38.2
comp=Z,63nm,1.9s
AAK Rg 04 04 17.7
comp=Z,644nm,11.2s
AAK Ala-Archa 7.36 1 *e*Pn Pn **04 01 38.2 -3.0**
comp=Z,3.5nm,0.6s
SONA Sohna 7.37 161 *e*P Pn **04 01 43.6 +2.3**
SONA AMb AMB 04 01 47.7
comp=Z,50nm,0.7s
SONA *e* 04 03 04.7
EKS2 Erkin-Say 7.40 357 P Pn **04 01 44.0 +2.2**
SNR=8.8
LGTI Lohaghat 7.65 138 *e*P Pn **04 01 48.5 +3.3**
TKM2 Tokmak 2 7.71 7 P Pn **04 01 48.0 +2.0**
SNR=8.9
AGRA Agra 8.58 158 *e*P P **04 01 58.7 +0.5**
AGRA *e* 04 03 34.5
JASL Jaisalmer 8.82 200 *e*P P **04 02 03.2 +1.7**
KOLN Koldanda 10.87 131 *e*P P **04 02 28.9 -0.8**
comp=Z,15nm,0.5s
GKN Gorkha 11.37 127 *e*P P **04 02 34.3 -2.2**
comp=Z,33nm,0.4s
KKN Kakani 11.93 126 *e*P P **04 02 40.9 -3.3**
comp=Z,60nm,0.6s
DMN Daman 11.94 127 *e*P P **04 02 41.9 -2.4**
comp=Z,52nm,0.7s
PKI Pulchoki 12.16 126 *e*P P **04 02 44.4 -2.9**
comp=Z,40nm,0.6s
GUN Gumba 12.26 124 *e*P P **04 02 45.3 -3.3**
comp=Z,25nm,0.4s
MK31 Makanchi Array 12.98 25 ⇓P P **04 02 57.7 -0.5**
comp=Z,0.6nm,0.6s,baz=138,slow=7.2,SNR=33
KURK Kurchatov 15.76 10 ⇑P P **04 03 38.0 +3.5**
comp=Z,12nm,0.7s,baz=201,slow=9.1,SNR=25
KURK ⇑Lg 04 08 03.8
comp=Z,13nm,3.4s
KURK ⇓Rg 04 09 27.5
comp=Z,102nm,10.9s
KURK Kurchatov 15.76 10 *e*P P **04 03 30.2 -4.3**
KURK *e* 04 03 38.0
BVAR Borovoye Array 17.98 352 P P **04 04 01.1 -1.5**
comp=Z,1.0nm,0.3s,baz=164,slow=11,SNR=37
BRVK Borovoye 18.02 352 ⇓P P **04 04 04.7 +1.6**
comp=Z,5.0nm,0.7s
BRVK ⇑Lg 04 09 26.6
comp=Z,7.1nm,2.6s
BRVK ⇓Rg 04 10 46.0
comp=Z,108nm,15.6s
GTA Gaotai 20.65 71 P P **04 04 31.8 -1.6**
GTA AP 04 04 35.5
GTA XP 04 04 38.5
GTA S S **04 08 22.5 +3.0**
GTA AMB AMB
comp=Z,8.0nm,0.8s
GTA AMB AMB
comp=Z,106nm,5.7s
GTA LR LR
comp=N,92nm,16.0s,MS3.4
GTA LR LR
comp=E,81nm,14.5s,MS3.4
GNI Garni 23.86 291 LR LR 04 16 45.3
comp=E,67nm,19.9s,MS3.1,baz=274,slow=42
KMI Kunming 26.46 105 *e*P P **04 05 31.0 +0.8**
KMI AMB AMB
comp=Z,10.0nm,0.8s,mb4.4
SONM Songino Array 26.87 52 P P **04 05 34.0 +0.3**
comp=Z,1.6nm,0.7s,mb3.7,baz=251,slow=8.5,SNR=9.3
CM31 Chiang Mai Arr 27.49 121 P P **04 05 38.7 -0.9**
CMAR Chiang Mai Arr 27.49 121 P P **04 05 40.6 +1.0**
comp=Z,7.0nm,0.9s,mb4.2,baz=311,slow=8.5,SNR=24
BRTR Keskin Array B 32.40 290 P P **04 06 24.3 +1.1**
comp=Z,0.6nm,0.7s,mb3.5,baz=90,slow=8.6,SNR=5.9
EIL Elat 33.54 272 P P **04 06 35.2 +2.1**
comp=Z,4.6nm,0.8s,mb4.4,baz=104,slow=9.3,SNR=4.7
AKASG Malin Array Be 35.83 310 P P **04 06 52.8 +0.2**
comp=Z,5.8nm,0.7s,mb4.6,baz=81,slow=6.8,SNR=18
MLR Muntele Rosu 37.75 301 LR LR 04 24 58.6
comp=Z,52nm,19.6s,MS3.3,baz=79,slow=40
FINES FINESS Array B 40.02 326 P P **04 07 27.9 +0.3**
comp=Z,2.8nm,0.9s,mb4.0,baz=194,slow=7.9,SNR=5.3
FINES FINESS Array B 40.02 326 P P **04 07 27.9 +0.3**
ARCES ARCESS Array B 43.33 337 P P **04 07 54.8 +0.4**
comp=Z,6.7nm,0.7s,mb4.5,baz=112,slow=7.3,SNR=20
ARCES LR LR 04 27 11.8
comp=Z,182nm,18.8s,MS4.0,baz=186,slow=38
BRG Berggiesshubel 45.51 309 *e*P P **04 08 14.8 +2.5**
GERES GERESS Array B 45.85 307 P P **04 08 16.2 +1.2**
comp=Z,0.6nm,0.8s,mb3.6,baz=76,slow=5.5,SNR=5.5
CLL Collm 46.07 310 *i* *PP pP 04 08 20.5 +2.0
NB2 NORSAR Subarra 46.99 324 P P **04 08 24.0 +0.2**
comp=Z,1.4nm,0.6s,mb4.1,baz=92,slow=7.4
NOA NORSAR Array B 46.99 324 P P **04 08 23.9 +0.1**
comp=Z,1.5nm,0.6s,mb4.1,baz=93,slow=7.6,SNR=8.2
NOA LR LR 04 29 17.6
comp=Z,52nm,21.6s,MS3.5,baz=105,slow=38
GRA1 Grafenberg Arr 47.37 308 *e*P P **04 08 29.2 +2.2**
comp=Z,8.0nm,1.3s,mb4.5
CDF Champ du Feu 50.13 307 *e*P P **04 08 46.0 -2.4**
SBF Sospel 51.02 301 *e*P P **04 08 52.3 -2.9**
comp=Z,67nm,1.1s,mb5.2
LPG La Plagne 51.10 303 *e*P P **04 08 53.9 -1.9**
comp=Z,7.9nm,0.9s,mb4.3
LPL La Plagne 51.11 303 *e*P P **04 08 53.8 -2.0**
comp=Z,11nm,1.0s,mb4.5
CABF La Chapelle 51.29 305 *e*P P **04 08 55.2 -2.0**
BAIF Baives 51.78 310 *e*P P **04 08 57.7 -3.2**
ORIF Oris-en-Rattie 51.84 303 *e*P P **04 08 58.3 -3.1**
LOR Lormes 52.62 306 *e*P P **04 09 04.6 -2.7**
SMF Signal de Mont 52.79 305 *e*P P **04 09 05.2 -3.3**
comp=Z,12nm,0.8s,mb4.5
SSF Saint Saulge 52.91 306 *e*P P **04 09 06.7 -2.7**
comp=Z,24nm,1.4s,mb4.6
LASF Ste Croix 53.46 302 *e*P P **04 09 10.7 -2.8**
comp=Z,84nm,1.5s,mb5.2
TCF Toulx Ste Croi 53.97 305 *e*P P **04 09 15.4 -1.8**
comp=Z,39nm,1.4s,mb4.8
CAF Calviac 54.45 304 *e*P P **04 09 18.4 -2.3**
comp=Z,19nm,1.3s,mb4.6
RJF Les Rejaudoux 54.71 304 *e*P P **04 09 20.3 -2.4**
comp=Z,65nm,1.7s,mb5.1
GRR Gorron 55.41 308 *e*P P **04 09 24.4 -3.3**
comp=Z,34nm,1.2s,mb5.0
ESDC Sonseca Array 60.43 300 P P **04 10 02.6 -0.5**
comp=Z,1.7nm,0.7s,mb4.2,baz=53,slow=7.3,SNR=9.7
INK Inuvik 74.66 10 P P **04 11 31.3 -0.6**
comp=Z,2.9nm,0.7s,mb4.3,baz=5.1,slow=9.3,SNR=6.7
INK Inuvik 74.66 10 *e*P P **04 11 31.6 -0.3**
COLA College 74.88 17 *e*P P **04 11 32.9 -0.3**
comp=Z,6.4nm,0.7s,mb4.7
ILAR Eielson Array 75.20 17 P P **04 11 34.0 -1.0**
comp=Z,3.0nm,0.8s,mb4.3,baz=329,slow=4.9,SNR=23
DAWY Dawson 77.47 14 *e*P P **04 11 47.4 -0.4**
WRA Warramunga Arr 79.04 124 *e*P P **04 11 57.4 +0.1**
comp=Z,2.5nm,0.6s,mb4.3,baz=327,slow=5.7,SNR=33
WRAB Tennant Creek 79.04 124 *e*P P **04 11 57.2 -0.1**
comp=Z,5.4nm,0.6s,mb4.7
WB2 Warramunga Arr 79.05 124 ⇑*i*P P **04 11 57.8 +0.4**
ASAR Alice Springs 81.33 127 P P **04 12 09.9 +0.4**
comp=Z,1.4nm,0.7s,mb4.0,baz=307,slow=5.4,SNR=12
YKA Yellowknife Ar 82.32 4 P P **04 12 13.7 -0.1**
comp=Z,0.9nm,0.5s,mb4.0,baz=344,slow=5.3,SNR=4.2

YKA Yellowknife Ar 82.32 4 P P **04 12 13.7 -0.1**

*FUNV **31** 04:11:08.6, 10.39N×62.44W, h1km, MW2.9*
*NEIC **31** 04:11:09.4±2.5, 10.78N×62.54W, h10km, Error ellipse: s-maj=67.1km s-min=19.7km az=152.0*
*TRN **31** 04:11:09.4, 10.57N×62.44W, MD3.8*
*IDC **31** 04:11:14.4±7.6, 10.55N×62.58W, h55km±50km, mb3.3/4, mb1 3.7/4, mb1mx3.4/19, Error ellipse: s-maj=69.5km s-min=32.9km az=156.0*
ISC 31 04:11:08.5±0.9, **10.41N**±0.04×**62.51W**±0.02, **h9**km±6km, **n24**,σ1°**33**/37, **mb3.5**/4, **Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.37**	**51**	*e*P	**Pg**	**04 11 15.1**	**-1.0**
GUIV				*e*S	**Sg**	**04 11 20.1**	**-1.0**
GUNV	**Guanoco**	**0.49**	**240**	*e*P	**Pb**	**04 11 19.4**	**+0.7**
GUNV				*e*S	**Sb**	**04 11 26.9**	**+1.2**
CRUV	**Carupano**	**0.76**	**290**	*e*P	**Pb**	**04 11 24.0**	**+0.6**
CRUV				*e*S	**Sb**	**04 11 34.1**	**+0.6**
ALNG	**Atlantic LNG**	**0.84**	**106**	*e*P	**Pb**	**04 11 29.4**	**+4.5**
ALNG				*e*S	**Sb**	**04 11 44.0**	**+8.0**
BUAY	**Buenos Aires**	**0.87**	**110**	*e*P	**Pb**	**04 11 27.0**	**+1.7**
BUAY				*e*S	**Sb**	**04 11 38.9**	**+2.2**
SIPA	**Siparia**	**1.03**	**105**	*e*P	**Pb**	**04 11 29.0**	**+1.0**
TPP	**Pointe-a-Pierr**	**1.05**	**95**	*e*P	**Pb**	**04 11 28.5**	**+0.1**
TPP				*e*S	**Sb**	**04 11 48.1**	**+6.1**
ITEV	**Isla Los Testi**	**1.12**	**327**	*e*P	**Pb**	**04 11 30.7**	**+1.2**
ITEV				*e*S	**Sb**	**04 11 46.3**	**+2.3**
TRN	**Trinidad (W)**	**1.12**	**78**	*e*P	**Pb**	**04 11 28.2**	**-1.3**
TRN				*e*S	**Sb**	**04 11 44.0**	**+0.1**
TBH	**Brigand Hill**	**1.43**	**87**	*e*P	**Pn**	**04 11 35.3**	**+0.7**
ORIV	**Oritupano**	**1.60**	**214**	*e*P	**Pn**	**04 11 38.5**	**+1.4**
ORIV				*e*S	**Sn**	**04 11 59.6**	**+1.6**
TPR	**Prospect**	**1.87**	**66**	*e*P	**Pn**	**04 11 41.6**	**+0.6**
TPR				*e*S	**Sn**	**04 12 05.0**	**+0.1**
BOT	**Bacolet**	**1.92**	**67**	*e*P	**Pn**	**04 11 42.4**	**+0.7**
RIOV	**Rio Grande**	**2.43**	**163**	*e*P	**Pn**	**04 11 47.6**	**-1.3**
RIOV				*e*S	**Sn**	**04 12 17.2**	**-1.9**
GURV	**El Guri**	**2.69**	**192**	*e*P	**Pn**	**04 11 53.0**	**+0.3**
SVV	**Soufriere Volc**	**3.16**	**24**	*e*P	**Pn**	**04 12 11.0**	**+12**
CUPV	**Cœpira**	**3.24**	**264**	*e*P	**Pn**	**04 12 01.6**	**+1.0**
MERV	**Las Mercedes**	**3.90**	**253**	*e*P	**Pn**	**04 12 09.1**	**-0.8**
MERV				*e*S	**Sn**	**04 12 54.7**	**-1.7**
CAOV	**Caicara del Or**	**4.85**	**231**	*e*P	**Pn**	**04 12 21.8**	**-1.6**
CAOV				*e*S	**Sn**	**04 13 16.2**	**-4.2**
SDV	**Santo Domingo**	**8.15**	**260**	*e*P	**P**	**04 13 08.6**	**-1.2**
	5.9nm,0.4s						
TXAR	**Lajitas Array**	**42.75**	**302**	P	**P**	**04 19 06.5**	**-1.6**
	0.2nm,0.6s,mb3.1,baz=131,slow=8.3,SNR=4.1						
PDAR	**Pinedale Array**	**52.04**	**317**	P	**P**	**04 20 17.1**	**-3.6**
	0.3nm,0.4s,mb3.5,baz=110,slow=11,SNR=2.5						
ILAR	**Eielson Array**	**78.25**	**334**	P	**P**	**04 23 06.8**	**-3.1**
	0.5nm,0.7s,mb3.5,baz=95,slow=4.8,SNR=8.7						
FINES	**FINESS Array B**	**80.27**	**29**	P	**P**	**04 23 18.9**	**-2.0**
	1.6nm,0.8s,mb4.0,baz=270,slow=2.8,SNR=11						

*WAR **31** 04:27:31.7, 50.24N×18.92E, ML2.4, Mining Induced*
*PRU **31** 04:27:32.8, 50.31N×18.81E*
ISC 31 04:27:30.9±0.6, **50.28N**±0.05×**18.83E**±0.04, **n11**,σ1°**07**/20, **1C, Poland**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.63**	**225**	*e*PG	**Pg**	**04 27 44.4**	**+1.0**
OKC				*e*SG	**Sg**	**04 27 52.6**	**+0.9**
OJC	**Ojcow**	**0.63**	**96**	*e*Pg	**Pg**	**04 27 43.4**	**0.0**
OJC				*e*Sg	**Sg**	**04 27 51.6**	**-0.1**
NIE	**Niedzica**	**1.29**	**131**	⇑*e*Pg	**Pg**	**04 27 55.9**	**-0.8**
NIE				*e*Sg	**Sg**	**04 28 12.6**	**-1.4**
DPC	**Dobruska-Polom**	**1.61**	**273**	*e*PG	**Pg**	**04 28 02.2**	**-0.8**
DPC				*e*SG	**Sg**	**04 28 23.7**	**-0.7**
KSP	**Ksiaz**	**1.71**	**290**	*e*PN	**Pn**	**04 28 03.0**	**+0.9**
KSP				*e*PG	**Pg**	**04 28 05.0**	**0.0**
KSP				*e*SG	**Sg**	**04 28 29.0**	**+1.2**
VYHS	**Vyhne**	**1.79**	**180**	*e*PN	**Pn**	**04 28 02.7**	**-0.6**
VYHS				*e*SN	**Sn**	**04 28 27.3**	**+0.2**
UPC	**Upice**	**1.81**	**278**	*e*SG	**Sg**	**04 28 31.4**	**+0.1**
CRVS	**Cervenica-Dubn**	**2.20**	**128**	*e*PN	**Pn**	**04 28 11.5**	**+2.3**
CRVS				*e*SN	**Sn**	**04 28 41.2**	**+3.7**
PRU	**Pruhonice**	**2.77**	**266**	*e*SG	**Sg**	**04 29 02.1**	**-1.1**
	3.5nm,0.5s						
KHC	**Kasperske Hory**	**3.60**	**253**	*e*PG	**Pg**	**04 28 38.2**	**-4.5**
KHC				*e*SG	**Sg**	**04 29 26.6**	**-4.0**
CLL	**Collm**	**3.83**	**288**	*e*SG	**Sg**	**04 29 35.0**	**-3.5**

*MDD **31** 04:31:15.9±0.2, 42.67N×0.92E, h8km±6km, mbLg1.4/13, Error ellipse: s-maj=2.5km s-min=1.6km az=8.0, PRXIMO*
*STR **31** 04:31:15.5±0.2, 42.66N×0.94E, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **31** 04:31:15.5±0.1, 42.65N×0.93E, h4km, Md1.9/1, Ml1.9/7, Error ellipse: s-maj=2.3km s-min=0.9km az=175.0*
ISC 31 04:31:14.3±0.3, **42.68N**±0.02×**0.94E**±0.02, **h12**km±3km, **n34**,σ1°**13**/56, **1C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SALF	**Salau**	**0.20**	**66**	Pg	**Pg**	**04 31 20.1**	**+1.2**
SALF				Sg	**Sg**	**04 31 23.1**	**+1.1**
SALF	**Salau**	**0.20**	**66**	P	**Pg**	**04 31 20.2**	**+1.3**
SALF				S	**Sg**	**04 31 23.2**	**+1.2**
MELF	**Melles**	**0.23**	**326**	Pg	**Pg**	**04 31 20.9**	**+1.5**
MELF				Sg	**Sg**	**04 31 24.5**	**+1.6**
MELF	**Melles**	**0.23**	**326**	P	**Pg**	**04 31 21.0**	**+1.6**
MELF				S	**Sg**	**04 31 24.5**	**+1.7**
MLS	**Moulis**	**0.30**	**23**	Pg	**Pg**	**04 31 22.1**	**+1.4**
MLS				Sg	**Sg**	**04 31 26.4**	**+1.4**
MLS	**Moulis**	**0.30**	**23**	P	**Pg**	**04 31 22.1**	**+1.4**
MLS				S	**Sg**	**04 31 26.6**	**+1.6**
RESF	**Ens**	**0.46**	**287**	Pg	**Pg**	**04 31 24.8**	**+1.1**
RESF				Sg	**Sg**	**04 31 31.1**	**+1.2**
RESF	**Ens**	**0.46**	**287**	P	**Pb**	**04 31 24.6**	**+0.9**
RESF				S	**Sb**	**04 31 30.9**	**+0.8**
PAND	**Andorre**	**0.48**	**109**	P	**Pb**	**04 31 24.3**	**+0.2**
PAND				S	**Sb**	**04 31 31.5**	**+0.7**
CORG	**Organya**	**0.53**	**148**	Pg	**Pg**	**04 31 25.4**	**+0.4**
EPF	**Esparros**	**0.56**	**309**	*e*Pg	**Pg**	**04 31 26.3**	**+0.6**
EPF				*e*Sg	**Sg**	**04 31 33.1**	**-0.2**
	12nm,0.2s						
EBIE	**Bielsa**	**0.58**	**271**	⇑Pg	**Pg**	**04 31 26.7**	**+0.6**
	2.0nm,0.3s,SNR=18						
EBIE				Lg		04 31 34.0	
	5.5nm,0.1s,SNR=24						
VIEF	**Viey**	**0.70**	**287**	Pg	**Pg**	**04 31 28.9**	**+0.5**
VIEF				Sg	**Sg**	**04 31 38.1**	**+0.2**
VIEF	**Viey**	**0.70**	**287**	P	**Pb**	**04 31 28.9**	**+1.0**
VIEF				S	**Sb**	**04 31 38.0**	**+0.7**
CLLI	**Llivia**	**0.79**	**104**	Pg	**Pg**	**04 31 29.9**	**-0.3**
CAVN	**Les Avellanes**	**0.81**	**190**	Pg	**Pg**	**04 31 30.9**	**+0.4**
CARF	**Carcanieres**	**0.86**	**87**	Pg	**Pg**	**04 31 31.9**	**+0.3**
CARF				Sg	**Sg**	**04 31 43.6**	**+0.4**
CARF	**Carcanieres**	**0.86**	**87**	P	**Pg**	**04 31 31.9**	**+0.3**
CARF				S	**Sb**	**04 31 43.0**	**+1.1**
EMIR	**Miracle**	**0.88**	**150**	Pg	**Pg**	**04 32 1.1**	**+0.2**
	6.2nm,0.9s,SNR=8.0						
EMIR				Lg		04 31 43.3	
	3.5nm,0.2s,SNR=7.6						
CBRU	**Bruguera**	**1.00**	**113**	Pg	**Pg**	**04 31 34.2**	**-0.2**
ETSF	**Etsaut**	**1.12**	**282**	*e*Pg	**Pg**	**04 31 36.4**	**-0.4**
ETSF				*e*Sg	**Sg**	**04 31 50.8**	**-1.0**
	4.7nm,0.2s						
MTLF	**Montolieu**	**1.15**	**54**	*e*Pn	**Pn**	**04 31 37.1**	**+1.0**
MTLF				*e*Pg	**Pg**	**04 31 37.5**	**+0.2**
MTLF				*e*Sg	**Sg**	**04 31 52.2**	**-0.5**
	5.4nm,0.3s						
EPOB	**Poblet**	**1.33**	**175**	Pg	**Pg**	**04 31 39.9**	**-1.0**
	7.7nm,1.1s,SNR=8.8						
EPOB				Lg		04 31 57.5	
	1.7nm,0.1s,SNR=7.8						
ESAC	**San Caprasio**	**1.42**	**228**	Pg	**Pg**	**04 31 42.5**	**0.0**
	5.6nm,0.3s,SNR=12						
ESAC				Lg		04 32 00.7	
	16nm,0.3s,SNR=10						
CFON	**Fontmartina**	**1.44**	**129**	Pg	**Pg**	**04 31 42.5**	**-0.6**
EJON	**La Jonquera**	**1.46**	**98**	Pg	**Pg**	**04 31 42.8**	**-0.7**
	13nm,1.1s,SNR=7.0						
EJON				Lg		04 32 02.5	
	1.3nm,0.1s,SNR=10						

SJPF Ste Jean 1.65 286 *e*Pg **Pg** **04 31 46.0 -1.2**
SJPF *e*Sg **Sg** **04 32 07.5 -1.7**
2.0nm,0.3s
EALK Alkurruntz 1.87 288 Pg **Pg** **04 31 50.6 -1.1**
3.0nm,0.4s,SNR=6.6
EALK Lg 04 32 15.4
4.5nm,0.4s,SNR=5.7
LFF La Frestale 2.27 356 *e*Sg **Sg** **04 32 27.7 -2.1**
1.3nm,0.3s
CAF Calviac 2.39 20 *e*Pn **Pn** **04 31 54.1 +0.2**
CAF *e*Pg **Pg** **04 32 00.0 -2.0**
CAF *e*Sg **Sg** **04 32 30.7 -3.2**
2.1nm,0.3s
EMOS Mosqueruela 2.54 205 Pg **Pg** **04 32 02.8 -2.3**
SNR=4.0
EMOS Lg 04 32 35.8
0.4nm,0.2s,SNR=7.9
LASF Ste Croix 2.55 56 *e*Pg **Pg** **04 32 03.1 -2.1**
LASF *e*Sg **Sg** **04 32 36.3 -2.8**
0.6nm,0.2s
RJF Les Rejaudoux 2.66 9 *e*Sg **Sg** **04 32 39.8 -3.1**
0.6nm,0.2s
ETOR Torete 2.91 231 Pg **Pg** **04 32 10.9 -1.4**
0.1nm,0.2s,SNR=7.9
ETOR Sn **Sn** **04 32 36.7 +0.2**
SNR=4.0
ETOR Lg 04 32 48.8
SNR=7.9

*IDC **31** 04:32:08.8±1.1, 11.79N×86.92W, mb4.2/8, mb1 4.4/8, mb1mx4.1/18, MS3.8/1, Ms1 3.8/1, ms1mx3.2/17, Error ellipse: s-maj=44.7km s-min=22.9km az=52.0*
*NEIC **31** 04:32:09.8±0.6, 11.66N×87.03W, h10km, mb4.4/16, Error ellipse: s-maj=18.0km s-min=9.0km az=51.0*
*CASC **31** 04:32:12.3±3.1, 11.49N×87.51W, h20km±13km, MD4.7, ML3.8, mb4.4(NEIC)*
ISC 31 04:32:08.0±0.5, **11.29N**±0.04×**87.56W**±0.03, **h10**km, **n73**, σ1°**27**/81, **mb4.2**/23, **MS3.8**/1, **10C-7D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LEON	**Leon**	**1.29**	**30**	⇑*e*P	**Pb**	**04 32 32.1**	**+0.2**
COPN	**Copaltepe**	**1.30**	**47**	⇓*e*P	**Pb**	**04 32 32.1**	**+0.1**
COPN				*e*S	**Sb**	**04 32 49.4**	**+0.9**
MIRN	**Miramar**	**1.41**	**36**	⇓*e*P	**Pn**	**04 32 33.7**	**-0.1**
CRUN	**El Crucero**	**1.41**	**61**	⇑*e*P	**Pn**	**04 32 34.0**	**+0.2**
CNGN	**Cerro Negro**	**1.47**	**35**	⇑*e*P	**Pn**	**04 32 34.4**	**-0.2**
XAVN	**Gruta Xavier**	**1.48**	**55**	⇓*e*P	**Pn**	**04 32 34.6**	**-0.2**
XAVN				*e*S	**Sb**	**04 32 51.0**	**+3.2**
TELN	**Telica**	**1.49**	**29**	⇓*e*P	**Pn**	**04 32 34.4**	**-0.5**
MOMJ	**Momotombo**	**1.49**	**42**	⇑*e*P	**Pn**	**04 32 34.5**	**-0.4**
TICN	**Ticuantepe**	**1.50**	**60**	*e*P	**Pn**	**04 32 35.5**	**+0.4**
APYN	**Apoyeque**	**1.51**	**52**	⇓*e*P	**Pn**	**04 32 34.9**	**-0.3**
MGAN	**Managua**	**1.54**	**57**	⇑*e*P	**Pn**	**04 32 35.2**	**-0.5**
MGAN				*e*S	**Sb**	**04 32 54.9**	**-0.7**
	comp=E,2µm,0.3s						
APON	**Apoyo**	**1.59**	**67**	⇓*e*P	**Pn**	**04 32 36.1**	**-0.2**
WILN	**Americas 2**	**1.60**	**57**	⇑*e*P	**Pn**	**04 32 36.0**	**-0.5**
SSNN	**San Juan del S**	**1.68**	**90**	*e*P	**Pn**	**04 32 38.4**	**+0.7**
PYTN	**Playitas**	**1.92**	**50**	⇑*e*P	**Pn**	**04 32 40.4**	**-0.8**
PYTN				*e*S	**Sn**	**04 33 06.8**	**+1.2**
CNCH	**Conchagua**	**1.99**	**352**	⇑*e*P	**Pn**	**04 32 41.7**	**-0.3**
MADN	**Villa Maderas**	**1.99**	**87**	*e*P	**Pn**	**04 32 42.2**	**0.0**
QUIN	**Quiabu**	**2.14**	**32**	*e*P	**Pn**	**04 32 45.3**	**+0.8**
VSM	**San Miguel**	**2.23**	**342**	*e*P	**Pn**	**04 32 46.5**	**+0.9**
BLLM	**Bellamira**	**2.23**	**343**	*e*P	**Pn**	**04 32 46.2**	**+0.6**
SOMN	**Somoto**	**2.31**	**24**	*e*P	**Pn**	**04 32 48.2**	**+1.5**
CAHU	**Cacacuatique**	**2.54**	**346**	*e*P	**Pn**	**04 32 50.2**	**+0.2**
SNVI	**San Vicente**	**2.62**	**332**	*e*P	**Pn**	**04 32 53.1**	**+2.0**
SNVI				*e*S	**Sn**	**04 33 22.1**	**-1.2**
LCBS	**La Ceiba**	**2.72**	**330**	⇑*e*P	**Pn**	**04 32 53.2**	**+0.6**
LFRS	**El Faro**	**2.74**	**328**	*e*P	**Pn**	**04 32 53.7**	**+0.9**
LFRS				*e*S	**Sn**	**04 33 24.3**	**-2.0**
LBRS	**Las Brisas**	**2.83**	**329**	*e*P	**Pn**	**04 32 54.9**	**+0.8**
LFU	**La Fuente**	**2.87**	**328**	*e*P	**Pn**	**04 32 56.6**	**+1.9**
BOQS	**Boqueron**	**2.95**	**326**	*e*P	**Pn**	**04 32 56.7**	**+0.9**
SBLS	**San Blas**	**3.23**	**322**	*e*P	**Pn**	**04 33 01.5**	**+1.7**
SBLS				*e*S	**Sn**	**04 33 38.4**	**-0.4**
SNJE	**San Jose**	**3.24**	**322**	*e*P	**Pn**	**04 33 01.1**	**+1.2**
SNJE				*e*S	**Sn**	**04 33 37.5**	**-1.5**
RTR	**El Retiro**	**3.29**	**322**	*e*P	**Pn**	**04 33 02.5**	**+1.8**
RTR				*e*S	**Sn**	**04 33 39.3**	**-0.9**
CGA2	**Cerro Gallo 2**	**3.30**	**112**	*e*P	**Pn**	**04 33 04.8**	**+4.1**
CGA2				*e*S	**Sn**	**04 33 39.3**	**-1.2**
MTO2	**Montecristo 2**	**3.55**	**331**	*e*P	**Pn**	**04 33 07.9**	**+3.5**
LAJ	**Bijagual**	**3.67**	**112**	*e*P	**Pn**	**04 33 04.5**	**-1.5**
LCR2	**La Lucha 2**	**3.83**	**113**	⇓*e*P	**Pn**	**04 33 11.1**	**+2.9**
TRTC	**Tortuguero**	**3.85**	**100**	*e*P	**Pn**	**04 33 12.7**	**+4.1**
ICR	**Volcan Irazu**	**3.89**	**109**	*e*P	**Pn**	**04 33 14.3**	**+5.1**
URSC	**Urasca**	**3.99**	**111**	⇑*e*P	**Pn**	**04 33 14.4**	**+3.8**
BUS	**Buena Vista**	**4.12**	**114**	*e*P	**Pn**	**04 33 15.2**	**+2.7**
NATX	**Nacogdoches**	**21.40**	**343**	*e*P	**P**	**04 36 56.5**	**-1.6**
	comp=E,27nm,0.8s,mb4.6						
LRAL	**Lakeview Retre**	**21.64**	**1**	*e*P	**P**	**04 36 58.5**	**-2.0**
	comp=E,17nm,0.8s,mb4.5						
JCT	**Junction City**	**22.22**	**331**	*e*P	**P**	**04 37 05.9**	**-0.4**
	comp=E,3.3nm,0.6s,mb3.9						
OXF	**Oxford**	**23.17**	**356**	*e*P	**P**	**04 37 13.8**	**-2.0**
	comp=E,34nm,0.9s,mb4.8						
LTX	**Lajitas**	**23.41**	**322**	*e*P	**P**	**04 37 19.5**	**+1.4**
	comp=E,6.7nm,0.7s,mb4.2						
TXAR	**Lajitas Array**	**23.41**	**322**	P	**P**	**04 37 19.6**	**+1.5**
	comp=E,4.3nm,0.6s,mb4.0,baz=135,slow=10,SNR=70						
TXAR				PcP	PcP	04 41 07.5	+1.3
	comp=E,1.1nm,0.9s,baz=180,slow=3.8,SNR=4.6						
UALR	**University of**	**23.78**	**350**	*e*P	**P**	**04 37 19.5**	**-2.1**
	comp=E,15nm,0.9s,mb4.4						
WVT	**Waverly**	**24.73**	**359**	*e*P	**P**	**04 37 28.0**	**-2.8**
	comp=E,3.2nm,0.8s,mb3.9						
WMOK	**Wichita Mounta**	**25.48**	**338**	*e*P	**P**	**04 37 37.6**	**-0.4**
	comp=E,12nm,1.1s,mb4.4						
AMTX	**Amarillo**	**26.77**	**334**	*e*P	**P**	**04 37 50.9**	**+0.9**
	comp=E,6.2nm,0.8s,mb4.2						
WCI	**Wyandotte Cave**	**26.84**	**2**	*e*P	**P**	**04 37 47.1**	**-3.5**
	comp=E,9.8nm,0.8s,mb4.4			

CMAR PKPbc PKPdf 04 52 00.3 +3.0
comp=E,4.8nm,0.9s,baz=340,slow=3.5,SNR=16

*IDC **31** 04:33:15.2±1.7, 11.76N×87.02W, mb4.1/5, mb1 4.3/5, mb1mx3.9/18, MS3.3/1, Ms1 3.4/1, ms1mx3.1/16, Error ellipse: s-maj=57.8km s-min=25.7km az=51.0*
*NEIC **31** 04:33:16.3±1.1, 11.75N×87.09W, h10km, mb4.2/3, Error ellipse: s-maj=36.1km s-min=15.7km az=47.0*

ISC 31 04:33:15.1±1.5, **11.8N**±0.2×**87.0W**±0.2, **h10**km, **n12**, σ0§**84**/10, **mb4.1/8**, **MS3.2**/1, **Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**23.37**	**321**	P		**P**		**04 38 25.8**	**+1.0**
	2.2nm,0.8s,mb3.7,baz=132,slow=11,SNR=2.9								
WMOK	**Wichita Mounta**	**25.22**	**337**	*e*P		**P**		**04 38 43.1**	**+0.4**
	6.5nm,1.0s,mb4.1								
CCM	**Cathedral Cave**	**26.40**	**352**	*e*P		**P**		**04 38 53.0**	**-0.7**
	5.6nm,1.0s,mb4.0								
SDCO	**Great Sand Dun**	**30.70**	**330**	*e*P		**P**		**04 39 29.7**	**-2.7**
	2.3nm,1.2s,mb3.9								
SADO	**Sadowa**	**33.51**	**10**	P		**P**		**04 39 57.2**	**+0.3**
	6.2nm,0.7s,mb4.6,baz=228,slow=6.9,SNR=2.7								
SADO	**Sadowa**	**33.51**	**10**	P		**P**		**04 39 57.2**	**+0.3**
LPAZ	**La Paz**	**33.57**	**146**	LR		LR		04 52 29.7	
	comp=Z,53nm,20.6s,MS3.2,baz=327,slow=34								
PDAR	**Pinedale Array**	**36.55**	**332**	P		**P**		**04 40 22.9**	**0.0**
	0.4nm,0.4s,mb3.6,baz=125,slow=11,SNR=2.9								
REDW	**Red Top Meadow**	**37.62**	**331**	*e*P		**P**		**04 40 32.2**	**+0.4**
SCHQ	**Schefferville**	**45.74**	**16**	P		**P**		**04 41 38.6**	**+0.3**
	1.6nm,0.6s,mb4.1,baz=227,slow=8.8,SNR=5.1								
BDFB	**Brasilia**	**47.22**	**124**	P		**P**		**04 41 50.5**	**0.0**
	3.9nm,0.8s,mb4.4,baz=274,slow=8.7,SNR=6.1								
CMAR	**Chiang Mai Arr**	**149.36**	**349**	PKPbc		PKPdf		04 53 06.8	+3.0
	1.5nm,0.5s,baz=348,slow=3.8,SNR=5.7								

*IDC **31** 04:34:38.3±3.2, 5.42S×151.75E, h59km±27km, mb4.1/8, mb1 4.4/9, mb1mx4.2/14, ML3.4/1, MS3.5/3, Ms1 3.5/3, ms1mx2.8/26, Error ellipse: s-maj=31.2km s-min=14.5km az=129.0*
*NEIC **31** 04:34:38.4±1.3, 5.42S×151.81E, h61km±11km, mb4.6/4, Error ellipse: s-maj=24.8km s-min=8.6km az=127.0*

ISC 31 04:34:37.5±1.5, **5.4S**±0.1×**151.7E**±0.2, **h65**km±12km, **n27**, σ0§**95**/23, **mb4.3**/10, **1C-1D**, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAB	**Rabaul**	**1.27**	**20**	⇓*i*P		**P**		**04 34 59.6**	**-0.1**
PMG	**Port Moresby**	**6.03**	**228**	P		**P**		**04 36 05.5**	**-0.5**
	6.5nm,0.3s,baz=36,slow=9.1,SNR=8.8								
PMG				S		**S**		**04 37 13.5**	**-1.1**
	2.3nm,0.3s,baz=128,slow=23,SNR=2.5								
PMG				LR		LR		04 38 23.4	
	comp=Z,284nm,21.3s,baz=43,slow=37								
PMG	**Port Moresby**	**6.03**	**228**	*e*Pn		**P**		**04 36 06.6**	**+0.5**
	42nm,0.9s								
PMG				*e*Sn		**S**		**04 37 15.1**	**+0.5**
CTA	**Charters Tower**	**15.55**	**200**	LR		LR		04 43 52.7	
	comp=Z,164nm,18.3s,baz=44,slow=36								
KAKA	**Kakadu**	**20.41**	**248**	*e*P		**P**		**04 39 13.7**	**+2.0**
	13nm,0.5s								
WRAB	**Tennant Creek**	**22.24**	**228**	*e*P		**P**		**04 39 30.0**	**-0.1**
	6.9nm,0.4s,mb4.3								
WB2	**Warramunga Arr**	**22.25**	**228**	*e*P		**P**		**04 39 30.2**	**+0.1**
WRA	**Warramunga Arr**	**22.25**	**228**	P		**P**		**04 39 30.3**	**+0.1**
	6.4nm,0.6s,mb4.2,baz=52,slow=10.0,SNR=61								
WRA				S		**S**		**04 43 32.7**	**+6.8**
	0.5nm,0.8s,baz=54,slow=16,SNR=3.4								
WRA	**Warramunga Arr**	**22.25**	**228**	P		**P**		**04 39 30.3**	**+0.1**
WRA				S		**S**		**04 43 32.6**	**+6.8**
ASAR	**Alice Springs**	**25.00**	**222**	P		**P**		**04 39 56.7**	**-0.2**
	4.8nm,0.5s,mb4.2,baz=61,slow=8.8,SNR=40								
ASPA	**Alice Springs**	**25.00**	**222**	*e*P		**P**		**04 39 58.5**	**+1.6**
FITZ	**Fitzroy Crossi**	**28.44**	**241**	⇑*i*P		**P**		**04 40 27.3**	**-1.2**
	14nm,0.8s,mb4.5								
FITZ	**Fitzroy Crossi**	**28.44**	**241**	P		**P**		**04 40 27.4**	**-1.1**
	9.6nm,0.7s,mb4.5,baz=54,slow=4.2,SNR=38								
FORT	**Forrest**	**33.66**	**219**	*e*P		**P**		**04 41 12.8**	**-1.4**
	19nm,0.5s,mb5.2								
MBWA	**Marble Bar**	**34.75**	**240**	*e*P		**P**		**04 41 23.1**	**-0.5**
JOW	**Kunigami**	**39.26**	**326**	LR		LR		04 55 08.6	
	comp=Z,72nm,18.9s,baz=73,slow=31								
CMAR	**Chiang Mai Arr**	**57.17**	**296**	P		**P**		**04 44 20.7**	**+0.3**
	1.1nm,0.5s,mb4.2,baz=123,slow=5.9,SNR=5.3								
SONM	**Songino Array**	**66.26**	**328**	P		**P**		**04 45 21.1**	**+0.2**
	2.2nm,0.5s,mb4.3,baz=141,slow=4.6,SNR=20								
ILAR	**Eielson Array**	**83.11**	**22**	P		**P**		**04 46 55.9**	**-1.3**
	0.9nm,0.6s,mb3.8,baz=252,slow=5.2,SNR=17								
BVAR	**Borovoye Array**	**89.07**	**323**	P		**P**		**04 47 26.1**	**-0.6**
	0.9nm,0.6s,mb4.0,baz=80,slow=8.8,SNR=5.3								
NVAR	**Mina Array Bea**	**93.29**	**52**	P		**P**		**04 47 48.1**	**+1.6**
	1.9nm,0.6s,mb4.6,baz=260,slow=5.4,SNR=12								
PDAR	**Pinedale Array**	**100.04**	**48**	P		P		04 48 17.4	+0.3
	1.1nm,0.9s,baz=266,slow=1.9,SNR=6.6								
CLL	**Collm**	**122.84**	**330**	*e*PKIKP		PKPdf		04 53 28.0	+1.7
GERES	**GERESS Array B**	**123.99**	**328**	PKP		PKPdf		04 53 30.3	+1.7
	1.9nm,0.5s,baz=78,slow=1.7,SNR=25								
LPAZ	**La Paz**	**135.07**	**119**	PKP		PKPdf		04 53 53.5	+3.0
	0.7nm,0.7s,baz=33,slow=2.5,SNR=3.6								
BDFB	**Brasilia**	**151.38**	**137**	PKPbc		PKPdf		04 54 26.6	+8.0
	2.1nm,0.6s,baz=298,slow=1.5,SNR=10.0								
BAO	**Brasilia Array**	**151.40**	**137**	PKP		PKPdf		04 54 26.8	+8.2
BAO				*e*				04 54 37.9	
BAO				*e*				04 54 59.7	

*IDC **31** 04:43:09.0±0.9, 3.43S×140.10E, mb4.2/6, mb1 4.4/9, mb1mx4.3/13, ML3.9/3, MS3.5/5, Ms1 3.5/5, ms1mx3.1/21, Error ellipse: s-maj=32.2km s-min=20.8km az=82.0*
*NEIC **31** 04:43:15.7±1.7, 3.54S×140.21E, h45km±14km, mb4.3/6, Error ellipse: s-maj=14.4km s-min=10.9km az=167.0*

ISC 31 04:43:09.8±3.1, **3.57S**±0.08×**140.07E**±0.06, **h13**km±19km, **n21**, σ1§**08**/26, **mb4.1**/7, **MS3.4**/3, **1C-1D**, **Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**9.12**	**130**	Pn		**P**		**04 45 24.1**	**-0.1**
	1.1nm,0.3s,baz=326,slow=11,SNR=2.7								
PMG				Sn		**Sn**		**04 47 08.0**	**+0.3**
	0.9nm,0.3s,baz=225,slow=18,SNR=3.2								
PMG	**Port Moresby**	**9.12**	**130**	*e*Pn		**P**		**04 45 24.1**	**-0.1**
PMG				Sn		**Sn**		**04 47 08.0**	**+0.3**
KAKA	**Kakadu**	**11.82**	**219**	⇓*i*P		**P**		**04 46 03.8**	**+2.6**
	47nm,0.6s								
KAKA				*e*S		**S**		**04 48 13.4**	**-0.6**
WRAB	**Tennant Creek**	**17.19**	**198**	*e*P		**P**		**04 47 09.9**	**-1.6**
	34nm,0.7s								
WB2	**Warramunga Arr**	**17.20**	**198**	*e*P		**P**		**04 47 10.0**	**-1.6**
WRA	**Warramunga Arr**	**17.20**	**199**	P		**P**		**04 47 10.0**	**-1.6**
	1.0nm,0.3s,baz=11,slow=13,SNR=28								
WRA				S		**S**		**04 50 12.6**	**-8.8**
	0.6nm,0.3s,baz=15,slow=22,SNR=4.6								
WRA				Lg				04 52 15.3	
	0.4nm,0.3s,baz=10.0,slow=29,SNR=5.1								
WRA				LR		LR		04 54 23.6	
	comp=Z,158nm,21.4s,baz=30,slow=39								
CTA	**Charters Tower**	**17.49**	**160**	P		**P**		**04 47 16.1**	**+0.9**
	0.5nm,0.3s,baz=340,slow=10,SNR=9.4								
CTA				LR		LR		04 54 00.6	
	comp=Z,109nm,20.1s,baz=228,slow=37								
CTAO	**Charters Tower**	**17.49**	**160**	*e*P		**P**		**04 47 15.9**	**+0.7**
	3.6nm,0.6s								
FITZ	**Fitzroy Crossi**	**20.20**	**223**	*e*P		**P**		**04 47 47.9**	**+0.6**
	8.2nm,0.5s								
FITZ				*e*S		**S**		**04 51 23.9**	**-4.4**
FITZ	**Fitzroy Crossi**	**20.20**	**223**	P		**P**		**04 47 47.4**	**+0.1**
	7.4nm,0.5s,baz=26,slow=8.0,SNR=45								
FITZ				S		**S**		**04 51 21.5**	**-6.8**
	6.7nm,0.8s,baz=190,slow=16,SNR=3.2								
FITZ				LR		LR		04 56 09.6	
	comp=Z,62nm,19.2s,MS3.0,baz=71,slow=38								
ASAR	**Alice Springs**	**20.84**	**196**	P		**P**		**04 47 54.0**	**+0.1**
	28nm,0.6s,baz=29,slow=7.9,SNR=107								
ASAR				S		**S**		**04 51 35.2**	**-6.0**
	0.7nm,0.6s,baz=11,slow=15,SNR=2.2								
ASAR				LR		LR		04 56 19.8	
	comp=Z,151nm,18.5s,MS3.4,baz=358,slow=38								
ASPA	**Alice Springs**	**20.84**	**196**	*e*P		**P**		**04 47 55.0**	**+1.0**
MBWA	**Marble Bar**	**26.39**	**227**	*e*P		**P**		**04 48 49.6**	**+1.6**
	4.1nm,0.5s,mb4.2								
STKA	**Stephens Creek**	**28.19**	**177**	P		**P**		**04 49 03.5**	**-0.8**
	0.8nm,0.5s,mb3.6,baz=347,slow=20,SNR=3.2								
STKA				LR		LR		05 01 15.9	
	comp=Z,177nm,18.6s,MS3.7,baz=25,slow=38								
NWAO	**Narrogin (SRO)**	**36.18**	**214**	*e*P		**P**		**04 50 14.8**	**+0.7**
	1.0nm,0.5s,mb4.0								
VNDA	**Vanda**	**74.81**	**175**	P		**P**		**04 54 51.4**	**+0.2**
	0.8nm,0.5s,mb3.9,baz=329,slow=5.1,SNR=5.2								
BVAR	**Borovoye Array**	**80.79**	**325**	P		**P**		**04 55 24.1**	**-0.5**
	0.6nm,0.5s,mb3.8,baz=117,slow=9.7,SNR=3.2								
ILAR	**Eielson Array**	**86.06**	**24**	P		**P**		**04 55 50.0**	**-1.2**
	1.4nm,0.6s,mb4.4,baz=263,slow=4.6,SNR=42								
QSPA	**South Pole Qui**	**86.38**	**180**	⇑*i*P		**P**		**04 55 53.7**	**+1.2**
	4.4nm,0.6s,mb4.9								
DBIC	**Dimbokro**	**144.93**	**276**	PKP		PKPdf		05 02 50.0	-1.3
	3.1nm,0.7s,baz=111,slow=8.7,SNR=5.4								
LPAZ	**La Paz**	**145.85**	**126**	PKPbc		PKPbc		05 02 52.3	+2.1
	0.8nm,0.6s,baz=237,slow=4.1,SNR=5.7								

KRSC 31 04:48:39.6±0.7, **52.97N**×**159.52E**, **h72**km±2km, **ML4.0**, **Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NLC	**Nalytchevo**	**0.23**	**332**	*i*P		P		04 48 51.0	+0.4
NLC				*i*S		S		04 48 59.7	+0.9
SPN	**Mys Shipunski**	**0.33**	**67**	*i*P		P		04 48 51.7	+0.4
SPN				*i*S		S		04 49 00.5	+0.5
UGLR	**Uglovaya**	**0.48**	**300**	*i*P		P		04 48 53.2	+0.7
UGLR				*e*S		S		04 49 03.3	+1.2
SDLR	**Sedlovina**	**0.49**	**309**	*i*P		P		04 48 53.1	+0.5
SDLR				*e*S		S		04 49 02.6	+0.4
SMAR	**Somma**	**0.52**	**304**	*i*P		P		04 48 53.3	+0.3
SMAR				*e*S		S		04 49 03.5	+0.7
PET	**Petropavlovsk**	**0.53**	**276**	*i*P		P		04 48 53.2	+0.2
PET				*i*S		S		04 49 02.9	+0.1
AVH	**Avacha**	**0.56**	**302**	*i*P		P		04 48 54.0	+0.7
AVH				*e*S		S		04 49 04.9	+1.6
KOK	**Koryaka**	**0.62**	**302**	*i*P		P		04 48 54.5	+0.5
KOK				*i*S		S		04 49 05.7	+1.1
RUS	**Russkaya**	**0.81**	**229**	*e*P		P		04 48 55.9	-0.2
RUS				*e*S		S		04 49 08.3	-0.1
GRL	**Gorelyy**	**0.97**	**245**	*i*P		P		04 48 58.9	+0.8
GRL				*e*S		S		04 49 12.8	+0.9
KII	**Karymskiy**	**1.07**	**358**	*i*P		P		04 48 59.5	+0.2
KII				*e*S		S		04 49 13.5	-0.5
GNL	**Ganaly**	**1.19**	**308**	*e*P		P		04 49 00.7	-0.2
GNL				*i*S		S		04 49 16.5	-0.4
APC	**Apacha**	**1.43**	**269**	*i*P		P		04 49 04.1	-0.1
APC				*e*S		S		04 49 22.4	0.0
APC				Smax					
	120nm,0.7s								
MIPR	**Malaya Ipel'ka**	**1.82**	**249**	*i*P		P		04 49 09.8	+0.3
MKZ	**Mys Kozlova**	**2.06**	**39**	*e*P		P		04 49 12.1	-0.7
MKZ				*e*S		S		04 49 36.1	-1.2
PAU	**Pauzhetka**	**2.25**	**229**	*e*P		P		04 49 16.0	+0.6
PAU				*e*S		S		04 49 42.5	+0.6
TUMR	**Tumrok**	**2.35**	**9**	*e*P		P		04 49 17.5	+0.7
TUMR				*e*S		S		04 49 45.4	+0.9
KMNR	**Kamenistaya**	**2.82**	**8**	*e*P		P		04 49 24.4	+0.9
KMNR				*e*S		S		04 49 55.4	-1.0
ESO	**Esso**	**3.00**	**351**	*i*P		P		04 49 25.2	-0.8
KPT	**Kopyto**	**3.03**	**7**	*e*P		P		04 49 26.9	+0.5
KOZ	**Kozyrevsk**	**3.10**	**4**	*e*S		S		04 50 04.8	+1.4
SKR	**Severo-Kuril's**	**3.12**	**224**	*e*S		S		04 50 01.2	-2.6
ZLN	**Zelenaya**	**3.14**	**13**	*i*P		P		04 49 29.3	+1.3
ZLN				*e*S		S		04 50 05.4	+0.9
LGNR	**Loginova**	**3.19**	**12**	*e*P		P		04 49 30.1	+1.4
LGNR				*e*S		S		04 50 06.6	+0.9
CIRR	**Tsirk**	**3.23**	**12**	*i*P		P		04 49 30.4	+1.2
CIRR				*e*S		S		04 50 05.3	-1.4
KRSR	**Krestovskiy**	**3.31**	**10**	*e*S		S		04 50 07.9	-0.7
KLY	**Klyuchi**	**3.41**	**11**	*e*S		S		04 50 11.9	+0.7
KBTR	**Krutoberegovo**	**3.77**	**29**	*e*P		P		04 49 36.3	-0.4
KBTR				*e*S		S		04 50 18.1	-2.0
BKI	**Bering**	**4.41**	**57**	*e*S		S		04 50 28.9	-7.2

*IDC **31** 05:13:58.5±0.7, 4.64S×133.70E, mb4.6/9, mb1 4.9/14, mb1mx4.9/15, ML4.5/5, MS5.0/10, Ms1 5.0/10, ms1mx4.7/17, Error ellipse: s-maj=30.1km s-min=15.5km az=72.0*
*BJI **31** 05:14:00.8, 5.08S×134.04E, h50km, mB5.1, mb5.0, Ms5.1, Msz4.8*
*MOS **31** 05:14:01.6±0.9, 4.66S×133.62E, h33km, mb5.4/12, MS4.7/6, Error ellipse: s-maj=20.6km s-min=11.0km az=119.2*
*HRVD **31** 05:14:02.1±0.2, 4.58S×133.71E, h12km, MW5.3/63, Centroid moment Tensor Solution. LP body waves: s50,c91;Mantle waves: s63,c138; Half duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.07±.02; $M_{\theta\theta}$-0.95±.02; $M_{\phi\phi}$0.88±.02; $M_{r\theta}$0.07±.05; $M_{r\phi}$0.58±.02; $M_{\theta\phi}$0.35±.05; Best double couple: M_o1.14×10^{17} NP1:ϕ_s63°, δ76°, λ12°. NP2:ϕ_s330°, δ79°, λ166°. Principal axes: T 1.16, Plg18°, Azm286°; N -.04, Plg72°, Azm111°; P -1.12, Plg2°, Azm16°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SYO **31** 05:14:02.1, 4.56S×133.81E, h19km, MB5.1, MS4.9*
*NEIC **31** 05:14:02.1±0.2, 4.56S×133.80E, mb5.1/29, MS4.9/12, Error ellipse: s-maj=8.3km s-min=6.0km az=70.0*

ISC 31 05:14:00.2±0.3, **4.60S**±0.03×**133.75E**±0.06, **h21**km, **h21**km±2.4km:**pP-P**, **n123**, σ1§**14**/124, **mb5.0**/52, **MS4.8**/34, **6C-8D**, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**8.16**	**189**	*e*P		**P**		**05 16 02.1**	**+1.6**
	371nm,0.8s								
KAKA				*e*S		**Sn**		**05 17 33.5**	**+0.4**
WAU	**Wau**	**13.18**	**103**	P		**P**		**05 17 06.0**	**-3.1**
PMG	**Port Moresby**	**14.14**	**110**	Pn		**P**		**05 17 20.3**	**-1.5**
	3.3nm,0.3s,baz=306,slow=8.2,SNR=16								
PMG				Sn		**S**		**05 20 06.0**	**+7.0**
	1.0nm,0.3s,baz=159,slow=22,SNR=2.0								
PMG				LR		LR		05 23 25.7	
	comp=Z,4μm,19.1s,baz=101,slow=40								
PMG	**Port Moresby**	**14.14**	**110**	*d*iP		**P**		**05 17 23.3**	**+1.5**
PMG	**Port Moresby**	**14.14**	**110**	*e*Pn		**P**		**05 17 19.9**	**-1.9**
	114nm,1.1s								
WRAB	**Tennant Creek**	**15.26**	**178**	*i*P		**P**		**05 17 30.9**	**-5.5**
WRAB	**Tennant Creek**	**15.26**	**178**	*e*Pn		**P**		**05 17 30.3**	**-6.1**
	63nm,0.6s								
WRAB				*e*Sn		Sx		05 20 10.3	
WB2	**Warramunga Arr**	**15.26**	**178**	⇑*i*P		**P**		**05 17 30.7**	**-5.8**
WB2				*e*S		Sx		05 20 14.0	
WRA	**Warramunga Arr**	**15.26**	**178**	Pn		**P**		**05 17 30.3**	**-6.2**
	2.2nm,0.3s,baz=359,slow=12,SNR=46								
WRA				Sn		Sx		05 20 09.7	
	5.0nm,0.3s,baz=350,slow=24,SNR=6.2								
WRA				Lg				05 22 06.6	
	baz=7.1,slow=27,SNR=3.2								
FITZ	**Fitzroy Crossi**	**15.59**	**210**	*e*P		**P**		**05 17 35.8**	**-5.0**
	47nm,0.6s								
FITZ				*e*S		Sx		05 20 22.6	
FITZ	**Fitzroy Crossi**	**15.59**	**210**	Pn		**P**		**05 17 34.8**	**-5.9**
	3.1nm,0.3s,baz=26,slow=11,SNR=65								
FITZ				Sn		Sx		05 20 19.5	
	18nm,0.3s,baz=178,slow=17,SNR=10								
ASAR	**Alice Springs**	**18.96**	**180**	P		**P**		**05 18 19.1**	**-3.7**
	2.1nm,0.3s,baz=359,slow=9.8,SNR=268								
ASAR				S		**S**		**05 21 41.2**	**-9.0**
	2.2nm,0.3s,baz=357,slow=30,SNR=5.3								
ASAR				LR		LR		05 26 10.0	
	comp=Z,7μm,21.3s,baz=353,slow=39								
ASPA	**Alice Springs**	**18.96**	**180**	*e*P		**P**		**05 18 18.9**	**-4.0**
ASPA				*e*S		**S**		**05 21 39.0**	**-11**
CTA	**Charters Tower**	**19.63**	**143**	⇓*i*P		**P**		**05 18 30.5**	**-0.1**
	44nm,1.0s								
CTA	**Charters Tower**	**19.63**	**143**	P		**P**		**05 18 29.8**	**-0.8**
	1.9nm,0.3s,baz=326,slow=11,SNR=24								
CTA				LR		LR		05 27 01.0	
	comp=Z,4μm,18.8s,baz=326,slow=40								
CTAO	**Charters Tower**	**19.63**	**143**	*e*Pn		**P**		**05 18 30.5**	**-0.2**
	239nm,1.5s								
KKM	**Kota Kinabalu**	**20.45**	**301**	⇑*e*P		**P**		**05 18 39.2**	**-0.2**
MBWA	**Marble Bar**	**21.36**	**218**	*e*P		**P**		**05 18 48.5**	**-0.2**
	59nm,0.8s,mb5.0								
MBWA				*e*S		**S**		**05 22 39.0**	**-1.0**
MBWA				LR		LR			
	comp=Z,3μm,21.0s,MS4.6								
TGY	**Tagaytay City**	**22.51**	**326**	LR		LR		05 27 55.2	
	comp=Z,1μm,18.1s,MS4.4,baz=114,slow=37								
FORT	**Forrest**	**26.59**	**191**	*e*P		**P**		**05 19 38.5**	**-0.7**
	comp=Z,193nm,0.6s,mb5.8								
FORT				*e*S		Sx		05 24 38.5	
STKA	**Stephens Creek**	**28.12**	**166**	*e*P		**P**		**05 19 52.0**	**-1.1**
	comp=Z,12nm,0.8s,mb4.6								
STKA	**Stephens Creek**	**28.12**	**166**	P		**P**		**05 19 52.0**	**-1.0**
	comp=Z,11nm,0.8s,mb4.5,baz=339,slow=7.9,SNR=18								
STKA				LR		LR		05 31 54.8	
	comp=Z,4μm,18.3s,MS5.0,baz=341,slow=38								
ADE	**Adelaide**	**30.57**	**172**	*e*P		**P**		**05 20 15.0**	**+0.1**
KLBR	**Kellerberrin**	**30.77**	**207**	*e*P		**P**		**05 20 16.5**	**-0.2**
	comp=Z,38nm,0.9s,mb5.2								
KGM	**Kluang**	**31.11**	**282**	⇓*e*P		**P**		**05 20 20.1**	**+0.2**
MUN	**Mundaring**	**31.82**	**209**	*e*P		**P**		**05 20 27.2**	**+1.2**
	comp=Z,13nm,1.0s,mb4.7								
NWAO	**Narrogin (SRO)**	**32.13**	**207**	P		**P**		**05 20 27.1**	**-1.6**
	comp=Z,19nm,0.9s,mb4.9,baz=34,slow=9.6,SNR=7.0								
NWAO	**Narrogin (SRO)**	**32.13**	**207**	*e*P		**P**		**05 20 29.0**	**+0.3**
	comp=Z,60nm,1.4s,mb5.2								
NWAO				LR		LR			
	comp=Z,2μm,22.0s,MS4.8								
QIZ	**Qiongzhong**	**33.25**	**316**	P		**P**		**05 20 36.8**	**-1.7**
QIZ				LR		LR			
	comp=N,682nm,18.5s,MS4.5								
QIZ				LR		LR			
	comp=E,655nm,18.6s,MS4.5								
QIZ				LR		LR			
	comp=Z,1μm,19.3s,MS4.6								
IPM	**Ipoh**	**33.94**	**285**	⇑*e*P		**P**		**05 20 44.5**	**-0.1**
SSE	**Sheshan**	**37.46**	**342**	P		**P**		**05 21 13.0**	**-1.3**
SSE				S		**S**		**05 27 02.5**	**+1.1**
SSE				AMB		AMB			
	comp=Z,54nm,0.7s,mb5.5								
SSE				AMB		AMB			
	comp=Z,129nm,4.7s								
SSE				LR		LR			
	comp=N,117nm,21.6s,MS4.6								
SSE				LR		LR			
	comp=E,1μm,21.5s,MS4.6								
SSE				LR		LR			
	comp=Z,985nm,23.4s,MS4.5								
NJ2	**Nanjing**	**39.10**	**340**	*e*P		**P**		**05 21 26.8**	**-1.3**
NJ2				S		**S**		**05 27 25.0**	**-1.2**
NJ2				XS				05 27 50.0	
NJ2				AMB		AMB			
	comp=Z,30nm,0.5s,mb5.3								
NJ2				AMB		AMB			
	comp=Z,250nm,7.0s								
NJ2				LR		LR			
	comp=N,3μm,17.1s,MS5.3								
NJ2				LR		LR			
	comp=E,2μm,17.5s,MS5.3								
NJ2				LR		LR			
	comp=Z,2μm,16.0s,MS5.0								
NANT	**Nan**	**40.00**	**307**	P		**P**		**05 21 32.0**	**-3.6**
GYA	**Guiyang**	**40.51**	**321**	P		**P**		**05 21 40.5**	**+0.8**
GYA				PP		PP		05 23 16.8	+0.3
GYA				PPP		PPP		05 23 41.3	-2.8
GYA				S		**S**		**05 27 45.0**	**-2.3**
GYA				AMB		AMB			
	comp=Z,10.0nm,0.9s,mb4.5								
GYA				AMB		AMB			
	comp=Z,90nm,3.0s								
GYA				LR		LR			
	comp=N,770nm,16.4s,MS4.8								
GYA				LR		LR			
	comp=E,740nm,16.1s,MS4.8								
GYA				LR		LR			
	comp=Z,1μm,17.9s,MS4.8								
BDT	**Bhumibol Dam**	**40.60**	**303**	P		**P**		**05 21 45.6**	**+5.0**
MAT	**Matsushiro**	**41.14**	**5**	S		**S**		**05 27 57.0**	**+0.4**
CM31	**Chiang Mai Arr**	**41.25**	**305**	*e*P		**P**		**05 21 45.3**	**-0.5**
	comp=Z,9.2nm,0.4s,mb4.8								
CM31				LR		LR			
	comp=Z,791nm,22.0s,MS4.5								
CMAR	**Chiang Mai Arr**	**41.25**	**305**	P		**P**		**05 21 45.9**	**0.0**
	comp=Z,11nm,1.2s,mb4.4,baz=130,sl

comp=E,436nm,16.5s,MS4.7
HHC LR LR
comp=Z,302nm,19.2s,MS4.3
SHL Shillong 50.48 309 *e*P **P 05 22 58.2 -1.0**
RPZ Rata Peaks 50.97 146 LR LR 05 44 41.1
comp=Z,2μm,18.9s,MS5.2,baz=309,slow=36
URZ Urewera 51.71 136 LR LR 05 44 25.9
comp=Z,2μm,19.3s,MS5.2,baz=166,slow=35
YSS Yuzh-Sakhalins 51.94 8 *e*P **P 05 23 10.7 +0.7**
YSS *e* 05 23 22.2
YSS *e*S **S 05 30 38.0 +7.6**
YSS MLR MLR
comp=N,400nm,19.0s
YSS MLR MLR
comp=Z,800nm,19.0s,MS4.8
YSS Yuzh-Sakhalins 51.94 8 *e*P **P 05 23 11.8 +1.8**
comp=Z,48nm,1.4s,mb5.2
YSS LR LR
comp=Z,2μm,19.0s,MS5.2
GTA Gaotai 53.82 328 P **P 05 23 24.0 0.0**
GTA PP PP 05 25 28.0 +1.3
GTA S **S 05 30 57.8 +1.8**
GTA AMB AMB
comp=Z,9.0nm,1.1s,mb4.6
GTA AMB AMB
comp=Z,90nm,6.9s
GTA LR LR
comp=N,833nm,22.2s,MS4.8
GTA LR LR
comp=E,578nm,22.5s,MS4.8
GTA LR LR
comp=Z,756nm,19.5s,MS4.8
HIA Hailar 55.01 349 *e*P **P 05 23 31.8 -0.9**
comp=Z,18nm,1.6s,mb4.8
GUN Gumba 56.31 308 *e*P **P 05 23 43.6 +1.3**
comp=Z,74nm,1.2s,mb5.6
PKI Pulchoki 56.53 307 *e*P **P 05 23 47.3 +3.4**
KKN Kakani 56.73 308 *e*P **P 05 23 47.0 +1.7**
comp=Z,39nm,1.1s,mb5.6
DMN Daman 56.78 307 *e*P **P 05 23 47.8 +2.1**
comp=Z,55nm,1.1s,mb5.5
GKN Gorkha 57.33 307 *e*P **P 05 23 49.0 -0.6**
comp=Z,64nm,1.2s,mb5.5
SONM Songino Array 57.47 338 P **P 05 23 50.1 -0.2**
comp=Z,1.7nm,0.9s,mb4.1,baz=154,slow=7.1,SNR=7.6
KOLN Koldanda 58.05 307 *e*P **P 05 23 54.2 -0.4**
comp=Z,25nm,0.8s,mb5.3
HYB Hyderabad 58.70 293 *i* P **P 05 23 59.0 -0.3**
HYB Hyderabad 58.70 293 *e*P **P 05 23 59.0 -0.3**
ZAK Zakamensk 60.73 338 *e*P **P 05 24 11.9 -0.9**
ZAK *e* 05 26 34.4
CLNS Chul'man 61.65 354 *e*P **P 05 24 17.8 -1.1**
CLNS pmax pmax
comp=Z,43nm,1.6s,mb5.3
CLNS pmax pmax
comp=N,8.0nm,1.1s
CLNS pmax pmax
comp=E,10.0nm,0.8s
CLNS MLR MLR
comp=N,700nm,15.0s,MS5.0
CLNS MLR MLR
comp=Z,700nm,15.0s,MS4.9
CLNS MLR MLR
comp=E,100nm,12.0s,MS5.0
DRV Dumont d'Urvil 62.11 177 P **P 05 24 27.0 +5.1**
DRV S Sx 05 33 01.0
WMQ Urumqi 63.53 324 *e*P **P 05 24 31.5 -0.1**
WMQ PP PP 05 26 54.0 +1.0
WMQ S **S 05 33 04.0 +1.8**
WMQ AMB AMB
comp=Z,57nm,1.0s,mb5.6
WMQ LR LR
comp=N,913nm,22.0s,MS4.9
WMQ LR LR
comp=E,347nm,22.0s,MS4.9
WMQ LR LR
comp=Z,324nm,22.0s,MS4.5
CASY Casey 63.68 190 *e*P **P 05 24 31.3 -0.9**
YAK Yakutsk 66.51 358 *e*P **P 05 24 50.9 +0.3**
YAK *e* 05 25 09.4
YAK *e* 05 27 20.4
YAK *e*S S 05 33 40.5 +1.9
YAK *e* 05 34 41.2
YAK *e*SS SS 05 38 01.3 +4.0
YAK *e*SSS SSS 05 40 56.9 +3.6
YAK pmax pmax
comp=Z,66nm,0.9s,mb5.7
YAK pmax pmax
comp=N,25nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.0s
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK smax
comp=N,379nm,9.5s
YAK smax
comp=Z,133nm,7.7s
YAK smax
comp=E,388nm,12.5s
YAK MLR MLR
comp=Z,645nm,17.0s,MS4.9
YAK MLR MLR
comp=N,343nm,15.0s,MS4.8
YAK MLR MLR
comp=E,346nm,19.0s,MS4.8
YAK Yakutsk 66.51 358 *e*P **P 05 24 50.8 +0.2**
comp=E,78nm,0.8s,mb5.8
YAK LR LR
comp=Z,597nm,19.0s,MS4.8
MIR Mirnyy 67.96 196⇓ *e*P **P 05 25 01.4 +1.7**
MIR pmax pmax
comp=Z,40nm,1.4s,mb5.3
MKAR Makanchi Array 68.35 325 *i* P **P 05 25 01.6 -0.8**
MKAR pmax pmax
comp=Z,28nm,1.3s
AAK Ala-Archa 71.19 318 *i* P **P 05 25 19.0 -0.9**
AAK pmax pmax
comp=Z,18nm,1.2s,mb4.9
AAK MLR MLR
comp=Z,500nm,20.0s,MS4.8
AAK Ala-Archa 71.19 318 *e*P **P 05 25 19.1 -0.8**
comp=Z,30nm,1.4s,mb5.0
NVS Novosibirsk 72.44 332 *e*P **P 05 25 25.9 -1.2**
NVS pmax pmax
comp=Z,35nm,1.4s,mb5.1
NVS pmax pmax
comp=N,32nm,1.5s
NVS pmax pmax
comp=E,27nm,1.4s
KURK Kurchatov 72.49 327 *i* P **P 05 25 26.8 -0.7**
KURK pmax pmax
comp=Z,33nm,1.2s,mb5.1
KURK Kurchatov 72.49 327 *e*P **P 05 25 26.3 -1.1**
comp=Z,59nm,1.2s,mb5.4
KURK *e* pP 05 25 33.4 -0.5
KURK LR LR
comp=Z,110nm,20.0s,MS4.1
VNDA Vanda 74.40 174 P **P 05 25 37.4 -0.7**
comp=Z,2.9nm,0.8s,mb4.3,baz=322,slow=6.4,SNR=20
VNDA LR LR 05 57 35.7
comp=Z,1μm,18.8s,MS5.3,baz=352,slow=35
VNDA Vanda 74.40 174 *e*P **P 05 25 37.7 -0.4**
comp=Z,6.2nm,0.9s,mb4.5
VNDA LR LR
comp=Z,1μm,19.0s,MS5.3
SBA Scott Base 75.23 173 *e*P **P 05 25 43.3 +0.3**
comp=Z,8.5nm,1.0s,mb4.6
SBA LR LR
comp=Z,2μm,21.0s,MS5.3
TIXI Tiksi 76.17 358 *i* P **P 05 25 48.9 +0.6**
TIXI pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
TIXI MLR MLR
comp=Z,2μm,21.0s,MS5.3
VOSK Vostochnaya 77.63 326 P **P 05 25 55.9 -0.9**
VOSK pmax pmax
comp=Z,37nm,1.3s,mb5.2
BVA0 Borovoye Array 78.08 327 P **P 05 25 58.9 -0.3**
BVAR Borovoye Array 78.08 327 P **P 05 25 58.9 -0.3**
comp=Z,7.2nm,0.6s,mb4.8,baz=117,slow=6.6,SNR=53
BRVK Borovoye 78.15 327 *e*P **P 05 25 59.4 -0.2**
comp=Z,33nm,0.9s,mb5.3
BRVK *e* pP 05 26 05.9 -0.2
BRVK LR LR
comp=Z,864nm,22.0s,MS5.0
MAW Mawson 78.54 202 *e*P **P 05 26 03.6 +2.1**
comp=Z,8.0nm,1.4s,mb4.5
MAW Mawson 78.54 202 P **P 05 26 01.4 -0.1**
comp=Z,7.6nm,0.8s,mb4.7,baz=54,slow=6.7,SNR=6.2
MAW LR LR 06 00 20.1
comp=Z,1μm,18.9s,MS5.2,baz=77,slow=35
ZRNK Zerenda 78.82 326 P **P 05 26 02.8 -0.5**
ZRNK pmax pmax
comp=Z,56nm,1.4s,mb5.3
ZRNK Zerenda 78.82 326 *e*P **P 05 26 02.6 -0.7**
comp=Z,46nm,1.2s,mb5.3
ZRNK *e* pP 05 26 09.2 -0.6
SVE Sverdlovsk 84.68 328⇑ *e*P **P 05 26 33.0 -0.8**
SVE *e* 05 37 05.0
SVE pmax pmax
comp=Z,60nm,1.9s,mb5.4
ARU Arti 85.68 327 *e*P **P 05 26 38.4 -0.4**
ARU *e* 05 29 58.8
ARU *e*S S 05 37 00.8 -7.6
ARU *e*SS SS 05 42 53.5 +5.1
ARU MLR MLR
comp=Z,200nm,21.0s,MS4.5
ARU MLR MLR
comp=N,80nm,16.0s,MS4.6
ARU MLR MLR
comp=E,200nm,21.0s,MS4.6
SLKM Skilak Lake 87.14 29 *e*P **P 05 26 46.5 +0.6**
SLKM *e* pP 05 26 51.6 -0.9
IMA Indian Mountai 87.19 23 *e*P **P 05 26 48.1 +2.2**
comp=E,53nm,0.9s,mb5.8
IMA *e* pP 05 26 53.0 +0.4
SYO Syowa Base 87.24 201 ⇓P **P 05 26 48.9 +2.7**
SYO Syowa Base 87.24 201 ⇓pP pP 05 26 54.9 +2.1
SML Sawmill 88.34 28 *e*P **P 05 26 52.3 +0.7**
MCK McKinley 88.50 26 *e*P **P 05 26 51.5 -0.8**
comp=E,3.1nm,0.7s,mb4.8
COLA College 89.22 25 *e*P **P 05 26 57.3 +1.6**
comp=E,7.1nm,0.9s,mb5.0
COLA LR LR
comp=Z,783nm,20.0s,MS5.1
DIV Divide 89.40 29 *e*P **P 05 26 56.5 -0.2**
comp=Z,91nm,0.9s,mb6.1
ILAR Eielson Array 89.60 25 P **P 05 26 57.0 -0.5**
comp=Z,1.8nm,0.8s,mb4.5,baz=268,slow=4.2,SNR=14
ILAR LR LR 06 08 03.3
comp=Z,507nm,18.6s,MS5.0,baz=315,slow=36
DAWY Dawson 92.72 26 P **P 05 27 12.8 +0.9**
ZEI Tsey 92.98 312 *e*P **P 05 27 15.3 +1.7**
ZEI *i* *PP pP 05 27 25.9 +5.7
ZEI *i* 05 30 55.4
ZEI pmax pmax
comp=Z,6.0nm,1.3s,mb4.9
INK Inuvik 95.25 22 P **P 05 27 23.4 -0.1**
comp=Z,1.9nm,1.0s,mb4.5,baz=208,slow=6.6,SNR=3.6
INK Inuvik 95.25 22 *e*P **P 05 27 23.3 -0.1**
comp=Z,6.8nm,1.0s,mb5.0
SOC Sochi 96.06 313 *e*P **P 05 27 24.5 -3.3**
SOC *e* 05 38 01.7
SOC *e*S S 05 38 36.0 -6.0
SOC *e*SS SS 05 45 10.3 -7.1
SOC pmax pmax
comp=Z,4.0nm,0.5s,mb5.1
SOC pmax pmax
comp=N,5.0nm,0.4s
SOC pmax pmax
comp=E,3.0nm,0.4s
SOC MLR MLR
comp=Z,113nm,16.0s,MS4.4
SOC MLR MLR
comp=N,194nm,22.0s
SOC MLR MLR
comp=E,234nm,23.0s
SNAA Sanae 98.83 193⇑ *i*P **P 05 27 42.0 +2.4**
VNA2 Neumayer--Watz 100.37 192 P P 05 27 43.7 -2.9
VNA3 Neumayer Olymp 100.58 191 ⇓ *i*P P 05 27 50.0 +2.4
PDAR Pinedale Array 112.56 45 PKiKP 05 32 38.9
comp=E,0.4nm,0.8s,baz=243,slow=2.0,SNR=2.9
PV10 Paradox Valley 114.05 50 PKiKP 05 32 41.5
TXAR Lajitas Array 120.50 59 PKP PKPdf 05 32 56.0 +0.7
comp=E,1.8nm,1.1s,baz=234,slow=1.2,SNR=8.9
JCT Junction City 123.47 56 *e*PKPdf PKPdf 05 32 58.8 -2.2
MIAR Mount Ida 127.06 50 PKPdf PKPdf 05 33 06.9 -0.9
LVC Limon Verde 145.04 142 PKPdf PKPdf 05 33 39.5 -1.7
NNA Nana 145.41 119 *e*PKP PKPdf 05 33 41.0 -1.0
OTAV Otavalo 147.55 97 PKPdf PKPdf 05 33 45.5 -0.3
LPAZ La Paz 150.02 134 PKPbc PKPdf 05 33 53.9 +4.4
comp=E,7.1nm,1.2s,baz=193,slow=4.5,SNR=10
LPAZ La Paz 150.02 134 *e*PKPdf PKPdf 05 33 49.4 -0.2
LPAZ PKPbc PKPdf 05 33 53.9 +4.4
LPAZ *e*PKPbc PKPdf 05 33 54.2 +4.6
LPAZ *e* 05 33 59.0

ISK 31 05:19:29.3,36.96N×44.36E,h5km,MD3.7,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HKR	**Hakkari**	**0.79**	**322**	PG	Pg	05 19 45.5	+0.3
VANB	**Van**	**1.81**	**335**	*e*PN	Pn	05 20 02.6	+1.2
VANB				*e*SN	Sn	05 20 27.5	+2.5
BTMT	**Batman**	**2.59**	**299**	*e*PN	Pn	05 20 15.8	+3.2
VRT	**Varto**	**3.12**	**315**	*e*PN	Pn	05 20 21.5	+1.4
DIY	**Diyarbakir**	**3.42**	**287**	*e*PN	Pn	05 20 25.3	+0.9
EZM	**Erzurum**	**3.77**	**322**	*e*PN	Pn	05 20 31.0	+1.6
PTK	**Pertek**	**4.38**	**298**	*e*PN	Pn	05 20 39.4	+1.4
MALT	**Malatya**	**4.90**	**288**	*e*PN	Pn	05 20 47.1	+1.7
GAZ	**Gaziantep**	**5.72**	**274**	*e*PN	Pn	05 20 58.7	+1.7

GUC 31 05:22:19.3±0.3,23.89S×70.56W,h36km±1km,MD3.9, ML3.8,1C-2D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANCH	**Antofagasta**	**0.25**	**35**⇑	*i*P	P	05 22 26.6	0.0
ANCH				*i* S	S	05 22 31.9	+0.2
CPN1	**Cerro Paranal**	**0.75**	**169**⇓	*i*P	P	05 22 34.1	+0.7
CPN1				*i* S	S	05 22 45.5	+1.8
CPN1				AMP		05 22 45.9	
comp=E,6μm,0.4s							
LVC	**Limon Verde**	**1.98**	**51**	*i* P	P	05 22 50.6	-0.4
LVC				*i* S	S	05 23 15.7	+0.9
LVC				AMP		05 23 16.1	
comp=N,726nm,0.4s							
SPCH	**San Pedro de A**	**2.38**	**66**⇓	*i*P	P	05 22 57.9	+1.2
SPCH				*i* S	S	05 23 27.4	+2.4
SPCH				AMP		05 23 39.8	
comp=E,1μm,0.7s							

*MDD **31** 05:40:39.6±0.8,43.47N×0.66W,mbLg1.4/6,Error ellipse: s-maj=6.1km s-min=2.8km az=7.0,PRXIMO*
*LDG **31** 05:40:40.8±0.3,43.32N×0.66W,h2km,Md2.0/2,Ml2.0/2, Error ellipse: s-maj=7.0km s-min=4.3km az=164.0*

ISC 31 05:40:39.1±0.7,43.44N±0.04×0.64W±0.03,h2km,n14, σ0§99/21,Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ORDF	**Ordiarp**	**0.31**	**224**	P	Pg	**05 40 45.3**	**0.0**
ORDF				S	Sg	**05 40 50.5**	**+1.0**
ATE	**Arette**	**0.35**	**187**	P	Pg	**05 40 46.6**	**+0.5**
ATE				S	Sg	**05 40 52.3**	**+1.4**
REYF	**Montagne du Re**	**0.41**	**154**	P	Pg	**05 40 47.3**	**+0.1**
REYF				S	Sg	**05 40 53.8**	**+1.1**
LARF	**Larrau**	**0.47**	**213**	P	Pg	**05 40 48.6**	**+0.1**
LARF				S	Sg	**05 40 55.7**	**+0.9**
OSSF	**Osses**	**0.49**	**249**	P	Pg	**05 40 48.4**	**-0.5**
OSSF				S	Sg	**05 40 55.7**	**+0.3**
SJPF	**Ste Jean**	**0.54**	**233**	*e*Pg	Pg	**05 40 49.8**	**0.0**
SJPF				*e*Sg	Sg	**05 40 55.2**	**-1.8**
14nm,0.2s							
ETSF	**Etsaut**	**0.54**	**174**	*e*Pg	Pg	**05 40 49.5**	**-0.4**
ETSF				*e*Sg	Sg	**05 40 53.6**	**-3.5**
9.6nm,0.4s							
EALK	**Alkurruntz**	**0.67**	**252**	Pg	Pg	**05 40 51.6**	**-0.9**
1.4nm,0.2s,SNR=13							
EALK				Lg		05 41 01.5	
5.3nm,0.3s,SNR=7.9							
EPF	**Esparros**	**0.82**	**119**	*e*Pg	Pg	**05 40 55.1**	**-0.4**
EPF				*e*Sg	Sg	**05 41 06.8**	**+0.3**
8.5nm,0.2s							
EBIE	**Bielsa**	**0.94**	**142**	Pg	Pg	**05 40 57.7**	**-0.2**
0.8nm,0.2s,SNR=7.3							
EBIE				Lg		05 41 11.2	
1.8nm,0.1s,SNR=7.9							
ESAC	**San Caprasio**	**1.72**	**176**	Pg	Pg	**05 41 12.4**	**-1.0**
2.6nm,0.2s,SNR=4.7							
ESAC				Lg		05 41 35.1	
7.8nm,0.2s,SNR=7.9							
LFF	**La Frestale**	**1.80**	**33**	*e*Sg	Sg	**05 41 41.0**	**+1.9**
2.2nm,0.2s							
ELAN	**Lanestosa**	**2.05**	**265**	Lg		05 41 45.6	
0.8nm,0.2s,SNR=7.9							
MTLF	**Montolieu**	**2.08**	**92**	*e*Sg	Sg	**05 41 46.7**	**-1.8**
0.8nm,0.2s							

CASC 31 05:52:59.1±3.9,11.27N×87.49W,h34km±40km,MD4.1, ML3.4,5C-4D,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COPN	**Copaltepe**	**1.26**	**44**⇓	*e*P	P	05 53 20.2	-0.3
COPN				*e*S	S	05 53 38.1	+1.5
LEON	**Leon**	**1.28**	**27**⇑	*e*P	P	05 53 20.4	-0.4
MIRN	**Miramar**	**1.39**	**33**⇓	*e*P	P	05 53 21.8	-0.7
XAVN	**Gruta Xavier**	**1.44**	**52**	*e*P	P	05 53 22.9	-0.2
CNGN	**Cerro Negro**	**1.45**	**32**⇑	*e*P	P	05 53 22.5	-0.8
TICN	**Ticuantepe**	**1.45**	**58**	*e*P	P	05 53 23.1	-0.2
TICN				*e*S	S	05 53 42.4	+1.1
APYN	**Apoyeque**	**1.47**	**49**⇑	*e*P	P	05 53 23.0	-0.6
TELN	**Telica**	**1.48**	**26**	*e*P	P	05 53 22.5	-1.1
MGAN	**Managua**	**1.50**	**54**⇓	*e*P	P	05 53 23.4	-0.6
MGAN				*e*S	S	05 53 44.4	+1.9
comp=N,516nm,0.5s							
APON	**Apoyo**	**1.54**	**65**⇓	*e*P	P	05 53 24.3	-0.2
APON				*e*S	S	05 53 40.6	-2.9
WILN	**Americas 2**	**1.56**	**55**⇑	*e*P	P	05 53 23.7	-1.0
SSNN	**San Juan del S**	**1.61**	**89**	*e*P	P	05 53 25.8	+0.2
PYTN	**Playitas**	**1.89**	**48**⇑	*e*P	P	05 53 28.5	-1.0
PYTN				*e*S	S	05 53 53.9	+1.6
CNCH	**Conchagua**	**2.02**	**351**	*e*P	P	05 53 34.0	+2.5
VCR	**Vista de Mar**	**2.15**	**122**	*e*P	P	05 53 35.9	+2.6
LCBS	**La Ceiba**	**2.78**	**329**	*e*P	P	05 53 43.0	+0.8
LCBS				*e*S	S	05 54 13.8	-1.2
LFRS	**El Faro**	**2.80**	**327**	*e*P	P	05 53 43.8	+1.3
LFRS				*e*S	S	05 54 13.8	-1.6
RTR	**El Retiro**	**3.35**	**321**	*e*P	P	05 53 47.9	-2.5
TRTC	**Tortuguero**	**3.77**	**100**	*e*P	P	05 53 51.7	-4.7

*NNC **31** 06:02:51.2±2.4,35.01N×74.25E,mpv5.6,Error ellipse: s-maj=31.0km s-min=19.4km az=103.0*
*IDC **31** 06:02:56.3±0.5,35.38N×74.47E,mb5.2/27,mb1 5.3/28, mb1mx5.3/28,ML4.7/1,MS4.6/1,Ms1 4.6/1,ms1mx3.5/24, Error ellipse: s-maj=17.4km s-min=11.1km az=25.0*
*NEIC **31** 06:02:59.0±2.7,35.37N×74.41E,h19km±16km,mb5.6/136, MS4.8/69,Error ellipse: s-maj=5.4km s-min=3.2km az=192.0*
NEIC Felt in the Gilgit area.
*SYO **31** 06:02:58.4,35.34N×74.37E,h17km,MB5.6,MS4.8*
*MOS **31** 06:02:59.9±0.9,35.44N×74.47E,h33km,mb5.7/51, MS4.6/18,Error ellipse: s-maj=7.5km s-min=4.1km az=121.9*
*HRVD **31** 06:02:59.0±0.5,35.20N×74.37E,h15km±3km,MW4.9/45, Centroid moment Tensor Solution. LP body waves: s12,c13;Mantle waves: s45,c62; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.45±.32; $M_{\theta\theta}$3.04±.26; $M_{\phi\phi}$-2.59±.25; $M_{r\theta}$0.18±.38; $M_{r\phi}$0.86±.19; $M_{\theta\phi}$-1.09±.74; Best double couple: $M_0$3.17×10^{16} NP1:ϕ_s39°,δ74°,λ-164°. NP2:ϕ_s304°,δ75°,λ-16°. Principal axes: T 3.17, Plg0°, Azm352°; N 0, Plg68°, Azm82°; P -3.17, Plg22°, Azm261°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BGS **31** 06:02:59.7,35.32N×74.40E,h25km,mb5.1*
*BJI **31** 06:03:00.1,35.48N×74.86E,h18km,mB5.3,mb5.3,ML5.8, Ms5.0,Msz4.6*
*NDI **31** 06:03:01.5±4.7,35.18N×74.47E,h19km,mb5.7, mb5.6(NEIC)*
ISC 31 06:02:56.2±0.8,35.32N±0.02×74.42E±0.02,h13km±5km, h16km±3.4km:pP-P,n650,σ1§09/614,mb5.5/194,MS4.8/85, 51C-58D,Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHCP	**Chirah Chowk**	**1.91**	**210**⇑	P	**Pb**	**06 03 33.2**	**+2.7**
CEP	**Cherat**	**2.55**	**235**⇓	P	**Pb**	**06 03 42.5**	**+1.0**
JMU	**Jammu**	**2.63**	**171**	*i* PB	**Pb**	**06 03 45.5**	**+2.7**
JMU				*i*		06 04 22.5	
THN	**Thein Dam**	**3.08**	**159**	*e*PN	**Pn**	**06 03 48.7**	**+3.1**
761nm,0.7s							
THN				*e*		06 04 35.2	
THW	**Thamme Wali**	**3.36**	**222**⇓	P	**Pn**	**06 03 52.9**	**+3.3**
SARP	**Sargodha**	**3.69**	**204**	P	**Pn**	**06 03 57.4**	**+3.1**
BHK	**Bhakra**	**4.24**	**156**	*e*	**Pn**	**06 04 07.9**	**+5.8**
BHK				*e*		06 05 04.7	
BHK				*e*		06 07 06.0	
SBDP	**Sheikh Budin**	**4.25**	**226**⇓	P	**Pn**	**06 04 05.2**	**+2.9**
DRP	**Derazinda**	**5.01**	**226**	P	**Pn**	**06 04 16.1**	**+3.1**
KKR	**Kurukshetra**	**5.72**	**159**	*e*P	**Pn**	**06 04 24.4**	**+1.4**
DDI	**Dehra Dun**	**5.85**	**147**	*e*P	**Pn**	**06 04 25.0**	**+0.1**
DDI				*e*		06 05 59.0	
JOSI	**Joshimath**	**6.42**	**136**	*e*P	**Pn**	**06 04 33.9**	**+0.9**
RTK	**Rohtak**	**6.49**	**164**	*e*P	**Pn**	**06 04 34.0**	**+0.1**
RTK				*e*		06 06 26.8	
KZA	**Kyzart**	**6.78**	**5**	P	**Pn**	**06 04 39.8**	**+1.8**
SNR=50							
AML	**Almayashu**	**6.82**	**355**	P	**Pn**	**06 04 39.9**	**+1.4**
SNR=97							
KALG	**Kalgarh**	**6.86**	**146**	*e*	**Pn**	**06 04 33.8**	**-5.3**
KALG				AMb	AMB	06 04 37.9	
comp=Z,376nm,1.1s							
KALG				*e*		06 05 38.6	
UCH	**Uchtor**	**6.90**	**1**	P	**Pn**	**06 04 41.5**	**+1.9**
SNR=150							
BHGR	**Bahadurgarh**	**6.95**	**161**	*e*P	**Pn**	**06 04 40.2**	**-0.2**
NDI	**New Delhi**	**7.03**	**159**⇑	*i*PN	**Pn**	**06 04 41.2**	**-0.3**
comp=Z,50nm,0.9s							
NDI				*e*		06 05 58.5	
NDI				*e*		06 06 34.0	
ULHL	**Ulahol**	**7.06**	**11**	P	**Pn**	**06 04 45.7**	**+3.8**
SNR=27							
ASOR	**Ausora**	**7.14**	**156**	*e*P	**Pn**	**06 04 43.3**	**+0.3**
AYAN	**Aya Nagar**	**7.20**	**161**	*e*P	**Pn**	**06 04 44.4**	**+0.6**
AYAN				AMb	AMB	06 04 50.3	
comp=Z,505nm,1.1s							
TAS	**Tashkent**	**7.22**	**328**	*de*P	**Pn**	**06 04 41.0**	**-3.1**
TAS				*e*S	**Sn**	**06 06 02.0**	**-4.8**
TAS				pmax	pmax		
comp=Z,11μm,4.0s							
TAS				MLR	MLR		
comp=Z,11μm,16.0s							
TAS	**Tashkent**	**7.22**	**328**⇓	*e*P	**Pn**	**06 04 41.0**	**-3.1**
AAK	**Ala-Archa**	**7.30**	**0**⇑	Pn	**Pn**	**06 04 46.6**	**+1.3**
comp=Z,434nm,1.2s							
AAK			⇑	Lg		06 06 48.7	
comp=Z,1μm,2.1s							
AAK	**Ala-Archa**	**7.30**	**0**	P	**Pn**	**06 04 47.0**	**+1.7**
SNR=31							
AAK	**Ala-Archa**	**7.30**	**0***d*	*i*P	**Pn**	**06 04 45.5**	**+0.2**
AAK	**Ala-Archa**	**7.30**	**0**	*e*Pn	**Pn**	**06 04 45.6**	**+0.4**
KHET	**Khetri**	**7.32**	**170**	*e*P	**Pn**	**06 04 44.7**	**-0.9**
KHET				AMb	AMB	06 04 48.4	
comp=Z,213nm,1.0s							
KHET				*e*S	**Sn**	**06 06 00.3**	**-9.1**
KBK	**Karagaybulak**	**7.34**	**3**	P	**Pn**	**06 04 45.1**	**-0.7**
SNR=10							
EKS2	**Erkin-Say**	**7.35**	**356**	P	**Pn**	**06 04 47.3**	**+1.3**
SNR=59							
KUDL	**Kundal**	**7.37**	**166**	*e*P	**Pn**	**06 04 45.3**	**-0.9**
KUDL				*e*		06 06 11.8	
SONA	**Sohna**	**7.41**	**161**	*e*P	**Pn**	**06 04 47.1**	**+0.3**
SONA				*e*S	**Sn**	**06 06 02.0**	**-9.4**
PTH	**Pithoragarh**	**7.56**	**138**	*e*P	**Pn**	**06 04 48.0**	**-0.9**
PTH				*e*		06 06 57.1	
TKM2	**Tokmak 2**	**7.64**	**7**	P	**Pn**	**06 04 51.7**	**+1.7**
SNR=103							
LGTI	**Lohaghat**	**7.65**	**138**	*e*P	**Pn**	**06 04 49.0**	**-1.2**
LGTI				*e*		06 06 33.0	
CHMS	**Chumysh**	**7.67**	**2**	P	**Pn**	**06 04 51.8**	**+1.4**
SNR=27							
USP	**Ospenovka**	**7.94**	**0**	P	**Pn**	**06 04 58.0**	**+3.9**
SNR=18							

AAA	**Alma-Ata**	**8.18**	**13**	*i* P		**P**	**06 04 58.0**	**+0.5**
AAA				MLR	MLR			
	comp=N,6μm,12.0s							
AAA				MLR	MLR			
	comp=E,8μm,12.0s							
AAA				MLR	MLR			
	comp=Z,8μm,12.0s							
AGRA	**Agra**	**8.61**	**159**	*e*P		**P**	**06 05 03.0**	**-0.6**
AGRA				*e*S		**Sn**	**06 06 30.8**	**-11**
AJM	**Ajmer**	**8.82**	**179**	⇓*i*P		**P**	**06 05 05.0**	**-1.4**
AJM				*e*			06 06 33.0	
JASL	**Jaisalmer**	**8.89**	**201**	*e*P		**P**	**06 05 07.5**	**0.0**
JHNI	**Jhansi**	**10.45**	**159**	*e*P		**P**	**06 05 25.0**	**-3.9**
JHNI				*e*			06 06 18.0	
KOLN	**Koldanda**	**10.86**	**131**	*e*P		**P**	**06 05 32.5**	**-2.0**
	comp=Z,403nm,1.0s							
GKN	**Gorkha**	**11.35**	**127**	*e*P		**P**	**06 05 38.3**	**-3.0**
	comp=Z,3μm,1.4s							
KKN	**Kakani**	**11.92**	**126**	*e*P		**P**	**06 05 45.3**	**-3.6**
	comp=Z,1μm,1.1s							
DMN	**Daman**	**11.93**	**127**	*e*P		**P**	**06 05 45.8**	**-3.2**
	comp=Z,2μm,1.2s							
PKI	**Pulchoki**	**12.15**	**126**	*e*P		**P**	**06 05 48.2**	**-3.8**
	comp=Z,2μm,1.3s							
GUN	**Gumba**	**12.24**	**124**	*e*P		**P**	**06 05 49.3**	**-4.0**
	comp=Z,1μm,1.1s							
BHPL	**Bhopal**	**12.32**	**167**	*i* P		**P**	**06 05 50.9**	**-3.4**
BHPL				*i*			06 08 05.7	
MK31	**Makanchi Array**	**12.90**	**25**	P		**P**	**06 06 01.2**	**-0.8**
	comp=Z,24nm,1.2s,baz=208,slow=11,SNR=38							
MK31				⇑Lg			06 09 46.3	
	comp=Z,23nm,1.6s							
MKAR	**Makanchi Array**	**12.90**	**25**	*i* P		**P**	**06 06 01.2**	**-0.8**
MKAR				pmax	pmax			
	comp=Z,13nm,0.8s							
MKAR	**Makanchi Array**	**12.90**	**25**	*i* P		**P**	**06 06 01.3**	**-0.7**
WMQ	**Urumqi**	**13.29**	**46**	P		**P**	**06 06 05.3**	**-1.9**
WMQ				PP	PP		06 06 16.0	-1.7
WMQ				S		**S**	**06 08 34.0**	**-1.8**
WMQ				SS	SS		06 08 50.0	-1.4
WMQ				AMB	AMB			
	comp=Z,75nm,1.2s							
WMQ				LR	LR			
	comp=N,3μm,10.0s							
WMQ				LR	LR			
	comp=E,2μm,10.0s							
WMQ				LR	LR			
	comp=Z,2μm,9.0s							
BHV	**Bhavnagar**	**13.67**	**189**	*e*P		**P**	**06 06 11.0**	**-1.3**
NGP	**Nagpur**	**14.69**	**163**	*e*P		**P**	**06 06 22.1**	**-3.7**
NGP				*e*			06 09 02.0	
BLSP	**Bilaspur**	**14.78**	**151**	*i* P		**P**	**06 06 23.5**	**-3.3**
BLSP				*i*			06 08 59.8	
LSA	**Lhasa**	**15.18**	**107**	P		**P**	**06 06 30.0**	**-2.1**
LSA				LR	LR			
	comp=N,3μm,8.0s							
LSA				LR	LR			
	comp=E,3μm,8.0s							
KURK	**Kurchatov**	**15.69**	**10**	⇑P		**P**	**06 06 37.2**	**-1.2**
	comp=E,347nm,1.1s,baz=197,slow=9.6,SNR=427							
KURK				⇓Lg			06 11 13.5	
	comp=E,507nm,2.5s							
KURK	**Kurchatov**	**15.69**	**10**	*i* P		**P**	**06 06 36.2**	**-2.3**
KURK				pmax	pmax			
	comp=Z,302nm,1.1s							
KURK	**Kurchatov**	**15.69**	**10**	*e*P		**P**	**06 06 36.1**	**-2.4**
	comp=Z,385nm,0.8s							
LATR	**Latur**	**16.95**	**173**	*e*P		**P**	**06 06 52.5**	**-2.2**
VOSK	**Vostochnaya**	**17.57**	**353**	⇓P		**P**	**06 06 59.5**	**-2.8**
	comp=Z,61nm,0.9s							
VOSK				⇓S		**S**	**06 10 24.1**	**+8.3**
	comp=Z,124nm,2.2s							
VOSK				⇓Lg			06 12 19.3	
	comp=Z,120nm,2.3s							
VOSK	**Vostochnaya**	**17.57**	**353**	P		**P**	**06 06 59.8**	**-2.5**
VOSK				pmax	pmax			
	comp=Z,58nm,1.0s							
VOSK	**Vostochnaya**	**17.57**	**353**	*i* P		**P**	**06 06 59.8**	**-2.5**
CAL	**Calcutta**	**17.60**	**133**	*e*P		**P**	**06 07 05.3**	**+2.4**
CAL				*e*			06 10 07.3	
SHL	**Shillong**	**17.90**	**118**	*e*		**P**	**06 07 00.2**	**-6.4**
SHL				*e*S		Sx	06 10 06.2	
BVA0	**Borovoye Array**	**17.93**	**352**	⇑P		**P**	**06 07 04.8**	**-2.0**
	comp=Z,20nm,0.9s							
BVA0				⇑S		**S**	**06 10 27.1**	**+3.1**
BVA0				⇑Lg			06 12 33.9	
	comp=Z,31nm,2.5s							
BVA0	**Borovoye Array**	**17.93**	**352**	P		**P**	**06 07 04.7**	**-2.1**
BVAR	**Borovoye Array**	**17.93**	**352**	P		**P**	**06 07 04.3**	**-2.4**
	comp=Z,2.6nm,0.3s,baz=157,slow=11,SNR=40							
BVAR				PcP	PcP		06 11 44.1	+0.7
	comp=Z,0.1nm,0.3s,baz=180,slow=3.0,SNR=4.4							
KAD	**Karad**	**17.94**	**181**	*e*P		**P**	**06 07 05.7**	**-1.5**
KAD				*i*			06 10 14.3	
ZRNK	**Zerenda**	**18.04**	**349**	⇑P		**P**	**06 07 06.6**	**-1.6**
	comp=Z,153nm,1.1s							
ZRNK				⇑S		**S**	**06 10 33.3**	**+6.8**
	comp=Z,128nm,2.4s							
ZRNK				⇑Lg			06 12 36.1	
	comp=Z,405nm,2.8s							
ZRNK	**Zerenda**	**18.04**	**349**	*e*P		**P**	**06 07 05.3**	**-2.9**
ZRNK				pmax	pmax			
	comp=Z,200nm,1.0s							
ZRNK	**Zerenda**	**18.04**	**349**	*e*P		**P**	**06 07 05.5**	**-2.7**
	comp=Z,205nm,1.0s							
HYB	**Hyderabad**	**18.21**	**167**	*i* P		**P**	**06 07 05.5**	**-5.0**
HYB				*e*			06 07 10.0	
HYB				*e*			06 07 13.0	
HYB				*e*			06 10 18.0	
HYB				*e*S		**S**	**06 10 38.0**	**+7.4**
HYB				LR	LR		06 14 16.0	
	comp=Z,7.0nm,12.0s							
AGT	**Agartala**	**18.52**	**123**	*i*		**P**	**06 07 09.0**	**-5.4**
AGT				*i*			06 08 04.0	
GOA	**Goa**	**19.75**	**182**	*e*P		**P**	**06 07 34.5**	**+5.6**
GOA				*e*			06 11 07.8	
NVS	**Novosibirsk**	**20.46**	**15**	⇑*i*P		**P**	**06 07 33.6**	**-2.4**
NVS				*i* S		**S**	**06 11 21.9**	**+2.3**
NVS				pmax	pmax			
	comp=Z,176nm,1.1s							
NVS				pmax	pmax			
	comp=N,344nm,1.3s							
NVS				smax				
	comp=N,450nm,2.0s							
GTA	**Gaotai**	**20.57**	**71**	P		**P**	**06 07 37.3**	**-0.1**
GTA				AP			06 07 42.3	
GTA				XP			06 07 45.3	
GTA				PP	PP		06 07 59.5	+0.8
GTA				PPP	PPP		06 08 08.3	+0.6
GTA				S		**S**	**06 11 24.3**	**+2.2**
GTA				AMB	AMB			
	comp=Z,136nm,0.8s							
GTA				AMB	AMB			
	comp=Z,1μm,3.7s							
GTA				LR	LR			
	comp=N,2μm,9.1s							
GTA				LR	LR			
	comp=E,1μm,7.2s							
GTA				LR	LR			
	comp=Z,1μm,6.5s							
MAK	**Makhachkala**	**22.16**	**298**	*e*P		**P**	**06 07 54.5**	**+1.1**
MAK				*e*			06 08 30.0	
MAK				*i* SS		SS	06 12 52.0	+20
MAK				pmax	pmax			
	comp=E,1μm,3.0s							
MAK				pmax	pmax			
	comp=Z,1μm,3.0s							
MAK				MLR	MLR			
	comp=Z,3μm,9.0s							
MNGI	**Mangalore**	**22.29**	**179**	*e*		**P**	**06 07 56.9**	**+2.1**
MDRS	**Chennai**	**22.77**	**165**	*e*		**P**	**06 08 06.0**	**+6.3**
SVE	**Sverdlovsk**	**23.45**	**341**	⇓*i*P		**P**	**06 08 06.0**	**+0.1**
SVE				pmax	pmax			
	comp=Z,540nm,2.2s,mb5.6							
SVE				MLR	MLR			
	comp=E,2μm,11.0s							
SVE				MLR	MLR			
	comp=Z,4μm,11.0s,MS5.1							
ARU	**Arti**	**23.71**	**338**	⇓*i*P		**P**	**06 08 09.1**	**+0.7**
ARU				*i*			06 08 38.7	
ARU				*e*S		**S**	**06 12 22.2**	**+2.6**
ARU				*e*SS		SS	06 13 00.5	-8.2
ARU				pmax	pmax			
	comp=Z,138nm,1.2s,mb5.3							
ARU				MLR	MLR			
	comp=N,1μm,18.5s,MS4.6							
ARU				MLR	MLR			
	comp=E,1μm,18.0s,MS4.6							
ARU				MLR	MLR			
	comp=Z,2μm,18.0s,MS4.7							
LZH	**Lanzhou**	**23.87**	**80**	*e*P		**P**	**06 08 11.5**	**+1.3**
LZH				AP			06 08 14.5	
LZH				XP			06 08 16.3	
LZH				PP	PP		06 08 45.5	+1.6
LZH				S		**S**	**06 12 25.0**	**+2.3**
LZH				XS			06 12 31.0	
LZH				AMB	AMB			
	comp=Z,339nm,4.0s							
LZH				LR	LR			
	comp=N,1μm,13.5s							
LZH				LR	LR			
	comp=Z,2μm,15.6s,MS4.7							
GNI	**Garni**	**23.90**	**290**	P		**P**	**06 08 13.4**	**+3.0**
	comp=Z,51nm,0.7s,mb5.0,baz=353,slow=3.9,SNR=29							
GNI	**Garni**	**23.90**	**290**	P		**P**	**06 08 13.4**	**+3.0**
GNI				pmax	pmax			
	comp=Z,51nm,0.7s							
Tl2	**Plekhanov**	**24.00**	**294**	⇑*i*P		**P**	**06 08 08.6**	**-2.8**
ZEI	**Tsey**	**24.75**	**297**	*e*P		**P**	**06 08 20.9**	**+2.3**
ZEI				*i*	*PP		06 08 29.8	
ZEI				*i*			06 09 06.2	
ZEI				pmax	pmax			
	comp=Z,66nm,1.5s,mb4.9							
CD2	**Chengdu**	**24.92**	**92**	⇓*i*P		**P**	**06 08 22.8**	**+2.4**
CD2				S		**S**	**06 12 45.8**	**+5.2**
CD2				XS			06 12 52.8	
CD2				LR	LR			
	comp=N,900nm,11.4s							
CD2				LR	LR			
	comp=Z,770nm,21.0s							
MOY	**Mondy**	**25.07**	**41**	*e*P		**P**	**06 08 23.4**	**+1.8**
GOF	**Gofitskoye**	**25.73**	**302**	⇓*i*P		**P**	**06 08 29.5**	**+1.6**
GOF				pmax	pmax			
	comp=Z,185nm,1.6s,mb5.4							
ZAK	**Zakamensk**	**25.76**	**45**	⇓*i*P		**P**	**06 08 28.8**	**+0.7**
KIV	**Kislovodsk**	**25.79**	**299**	⇑*e*P		**P**	**06 08 29.1**	**+0.7**
KIV				*e*			06 09 08.2	
KIV				pmax	pmax			
	comp=Z,40nm,2.0s,mb4.6							
KIV				MLR	MLR			
	comp=Z,800nm,17.0s,MS4.3							
KIV	**Kislovodsk**	**25.79**	**299**	*e*P		**P**	**06 08 26.9**	**-1.6**
	comp=Z,320nm,1.6s,mb5.6							
KIV				LR	LR			
	comp=Z,224nm,20.0s,MS3.7							
KMI	**Kunming**	**26.42**	**105**	*e*P		**P**	**06 08 34.3**	**-0.2**
KMI				PP	PP		06 09 19.3	+1.6
KMI				S		**S**	**06 13 06.8**	**+1.2**
KMI				XS			06 13 12.8	
KMI				AMB	AMB			
	comp=Z,28nm,0.7s,mb4.9							
KMI				AMB	AMB			
	comp=Z,124nm,3.1s							
KMI				LR	LR			
	comp=N,878nm,22.4s,MS4.5							
KMI				LR	LR			
	comp=E,916nm,17.5s,MS4.5							
KMI				LR	LR			
	comp=Z,586nm,24.3s							
BEST	**Besiri**	**26.66**	**285**	*i* P		**P**	**06 08 37.7**	**+1.1**
SONM	**Songino Array**	**26.79**	**52**	P		**P**	**06 08 38.2**	**+0.6**
	comp=Z,24nm,0.9s,mb4.7,baz=257,slow=8.6,SNR=74							
SONM				PcP	PcP		06 12 01.0	0.0
	comp=Z,5.4nm,0.9s,baz=221,slow=0.4,SNR=3.6							
IRK	**Irkutsk**	**27.13**	**42**	*e*P		**P**	**06 08 41.4**	**+0.7**
IRK				*e*			06 09 31.5	
CHRT	**Chiangrai**	**27.14**	**118**	⇑P		**P**	**06 08 40.0**	**-1.1**
	comp=Z,416nm,1.6s,mb5.7							
CHG	**Chiang Mai**	**27.23**	**121**	⇓P		**P**	**06 08 42.0**	**+0.1**
	comp=Z,150nm,0.8s,mb5.6							
CHG				S		**S**	**06 13 29.6**	**+11**
CM31	**Chiang Mai Arr**	**27.46**	**121**	*e*P		**P**	**06 08 45.2**	**+1.1**
	comp=Z,187nm,0.9s,mb5.6							
CMAR	**Chiang Mai Arr**	**27.46**	**121**	P		**P**	**06 08 44.0**	**-0.2**
	comp=Z,112nm,1.0s,mb5.4,baz=304,slow=8.2,SNR=65							
CMAR				PcP	PcP		06 12 04.1	+1.2
	comp=Z,4.3nm,0.7s,baz=297,slow=4.4,SNR=4.1							
CMAR	**Chiang Mai Arr**	**27.46**	**121**	P		**P**	**06 08 44.0**	**-0.1**
CMAR							06 12 04.1	
CMAR				pmax	pmax			
	comp=Z,112nm,1.0s							
SOC	**Sochi**	**27.88**	**298**	*e*P		**P**	**06 08 47.9**	**+0.3**
SOC				*e*			06 09 33.7	
SOC				*e*PPP	PPP		06 09 45.2	-3.8
SOC				*e*S		**S**	**06 13 26.8**	**-2.2**
SOC				*e*SS	SS		06 14 41.7	-8.2
SOC				*e*SSS	SSS		06 15 06.1	-1.8
SOC				MLR	MLR			
	comp=N,468nm,22.0s,MS4.1							
SOC				MLR	MLR			
	comp=Z,386nm,22.0s,MS3.9							
SOC				MLR	MLR			
	comp=E,226nm,18.0s,MS4.1							
XAN	**Xi'an**	**28.32**	**83**	P		**P**	**06 08 51.0**	**-0.7**
BDT	**Bhumibol Dam**	**28.34**	**123**	P		**P**	**06 08 52.0**	**0.0**
	comp=E,31nm,1.0s,mb4.9							
BTO	**Baotou**	**28.43**	**69**	*e*P		**P**	**06 08 52.0**	**-0.7**
BTO				LR	LR			
	comp=N,1μm,7.1s							
BTO				LR	LR			
	comp=E,653nm,5.2s							
NANT	**Nan**	**28.48**	**118**	P		**P**	**06 08 49.0**	**-4.3**
PALK	**Pallekele**	**28.51**	**167**	*e*P		**P**	**06 08 54.8**	**+1.2**
	comp=E,59nm,1.3s,mb5.2							
PALK				LR	LR			
	comp=Z,350nm,20.0s,MS4.0							
MALT	**Malatya**	**28.85**	**287**	*e*P		**P**	**06 08 56.3**	**-0.2**
MALT				pmax	pmax			
	comp=Z,40nm,1.0s,mb5.1							
MALT	**Malatya**	**28.85**	**287**	*e*P		**P**	**06 08 56.3**	**-0.1**
	comp=Z,40nm,1.1s,mb5.1							
GYA	**Guiyang**	**28.95**	**99**	⇑*i*P		**P**	**06 08 56.8**	**-0.6**
GYA				AP	pP		06 09 03.3	+2.2
GYA				XP	sP		06 09 06.5	+3.7
GYA				PP	PP		06 09 53.5	+2.4
GYA				PCP	PcP		06 12 07.5	+1.0
GYA				S		**S**	**06 13 49.8**	**+3.3**
GYA				XS			06 13 59.8	
GYA				AMB	AMB			
	comp=Z,40nm,0.9s,mb5.2							
GYA				AMB	AMB			
	comp=Z,250nm,2.7s,mb5.5							
GYA				LR	LR			
	comp=N,1μm,13.8s,MS4.9							
GYA				LR	LR			
	comp=E,2μm,12.6s,MS4.9							
GYA				LR	LR			
	comp=Z,1μm,14.0s,MS4.7							
PECR	**Pechory**	**29.40**	**325**	*e*P		**P**	**06 09 02.0**	**+0.8**
PECR				pmax	pmax			
	comp=Z,400nm,3.0s							
HHC	**Hu-ho-hao-te**	**29.60**	**68**	*e*P		**P**	**06 09 04.0**	**+0.8**
HHC				AP	pP		06 09 08.3	+1.4
HHC				XP	sP		06 09 10.8	+2.3
HHC				PP	PP		06 10 01.8	+2.4
HHC				PCP	PcP		06 12 14.5	+6.5
HHC				S		**S**	**06 14 01.5**	**+4.8**
HHC				XS			06 14 07.5	
HHC				SCP			06 15 47.0	
HHC				LR	LR			
	comp=N,405nm,11.5s,MS4.4							
HHC				LR	LR			
	comp=E,312nm,12.2s,MS4.4							
HHC				LR	LR			
	comp=Z,414nm,11.3s,MS4.3							
ANN	**Anapa**	**29.63**	**300**	*e*PP		**P**	**06 08 56.9**	**-6.5**
ANN				MLR	MLR			
	comp=N,679nm,13.0s,MS4.6							
ANN				MLR	MLR			
	comp=E,471nm,12.0s,MS4.6							
ANN				MLR	MLR			
	comp=Z,702nm,12.0s,MS4.5							
GZT	**Gaziantep**	**29.64**	**285**	*i* P		**P**	**06 09 04.0**	**+0.5**
VOR	**Voronezh**	**29.98**	**314**	⇑*i*P		**P**	**06 09 06.3**	**-0.1**
VOR				*e*			06 09 57.5	
VOR				pmax	pmax			
	comp=Z,270nm,2.0s,mb5.6							
VOR				pmax	pmax			
	comp=N,140nm,1.8s							
VOR				pmax	pmax			
	comp=E,250nm,1.7s							
NST	**Nakhon Sawan**	**30.21**	**124**	P		**P**	**06 09 21.0**	**+12**
	comp=E,50nm,0.7s,mb5.3							
TIY	**Taiyuan**	**30.51**	**74**	⇑P		**P**	**06 09 12.5**	**+1.2**
TIY				S		**S**	**06 14 17.0**	**+5.8**
TIY				LR	LR			
	comp=N,1μm,6.0s							
COBT	**Iskenderun**	**30.80**	**284**	*i* P		**P**	**06 09 12.9**	**-0.8**
ASF	**Jabal al Asfar**	**31.23**	**275**	P		**P**	**06 09 18.2**	**+0.5**
	comp=N,16nm,1.1s,mb4.8,baz=160,slow=11,SNR=16							
TATS	**Tathlith**	**31.48**	**248**	P		**P**	**06 09 21.1**	**+1.2**
CTKT	**Corum**	**31.49**	**292**	*i* P		**P**	**06 09 20.2**	**+0.3**
AVNT	**Avonos**	**31.59**	**288**	*i* P		**P**	**06 09 21.0**	**+0.2**
MOS	**Moscow**	**32.32**	**321**α	*i* P		**P**	**06 09 27.4**	**+0.4**
MOS				*e*			06 10 31.7	
MOS				*e*PPP	PPP		06 10 44.5	-5.5
MOS				*e*			06 12 14.1	
MOS				pmax	pmax			
	comp=Z,600nm,2.3s,mb6.0							
MOS				pmax	pmax			
	comp=Z,258nm,1.9s,mb5.7							
MOS				MLR	MLR			
	comp=Z,2μm,14.0s,MS4.9							
MOS				MLR	MLR			
	comp=E,2μm,14.8s							
BRTR	**Keskin Array B**	**32.44**	**290**	P		**P**	**06 09 28.2**	**0.0**
	comp=E,12nm,0.8s,mb4.8,baz=98,slow=9.1,SNR=32							
BRTR				PcP	PcP		06 12 15.8	+0.3
	comp=E,6.1nm,1.1s,baz=123,slow=3.3,SNR=3.8							
BRTR	**Keskin Array B**	**32.44**	**290**	P		**P**	**06 09 28.2**	**0.0**
BRTR							06 12 15.9	
BRTR				pmax	pmax			
	comp=Z,12nm,0.8s							
BALT	**Daday**	**32.51**	**293**	*i* P		**P**	**06 09 28.7**	**0.0**
OBN	**Obninsk**	**32.64**	**319**d	*i* P		**P**	**06 09 29.2**	**-0.5**
OBN				*e*			06 12 16.0	
OBN				pmax	pmax			
	comp=Z,103nm,0.8s,mb5.8							
OBN				MLR	MLR			
	comp=Z,600nm,17.0s,MS4.4							
OBN	**Obninsk**	**32.64**	**319**	*e*P		**P**	**06 09 29.3**	**-0.5**
	comp=Z,90nm,0.7s,mb5.8							
OBN				LR	LR			
	comp=Z,206nm,19.0s,MS3.9							
BLJS	**Baljurashi**	**32.72**	**251**	P		**P**	**06 09 32.2**	**+1.5**
TBKS	**Tabuk**	**32.81**	**268**	P		**P**	**06 09 34.2**	**+2.6**
JMQS	**Jabal Moqyreh**	**33.12**	**270**	P		**P**	**06 09 36.0**	**+1.8**
BJI	**Beijing**	**33.16**	**69**	P		**P**	**06 09 36.0**	**+1.5**
BJI				S		**S**	**06 14 55.0**	**+2.5**
BJI				AMB	AMB			
	comp=Z,39nm,1.0s,mb5.3							
BJI				AMB	AMB			
	comp=Z,151nm,3.8s							
BJI				LR	LR			
	comp=N,426nm,12.4s,MS4.6							
BJI				LR	LR			
	comp=E,686nm,12.5s,MS4.6							
BJI				LR	LR			
	comp=Z,239nm,20.6s							
UMJS	**Umm Lajj**	**33.42**	**263**	P		**P**	**06 09 39.4**	**+2.6**
LTHS	**Al Lith**	**33.42**	**252**	P		**P**	**06 09 38.9**	**+2.0**
CSS	**Prodhromos**	**33.43**	**282**	*e*P		**P**	**06 09 36.7**	**-0.2**
	comp=Z,13nm,0.7s,mb5.0							
SGKT	**Ilvirgoynuk**	**33.57**	**292**	*i* P		**P**	**06 09 38.1**	**+0.1**
EIL	**Elat**	**33.60**	**272**	P		**P**	**06 09 39.9**	**+1.5**
	comp=Z,40nm,0.9s,mb5.4,baz=28,slow=7.9,SNR=23							
EIL	**Elat**	**33.60**	**272**	*e*P		**P**	**06 09 39.5**	**+1.1**
	comp=Z,310nm,1.6s,mb6.0							
JMOS	**Jabal al Moall**	**33.65**	**271**	P		**P**	**06 09 40.5**	**+1.7**
DBAS	**Duba**	**33.67**	**267**	P		**P**	**06 09 40.9**	**+1.9**
WHN	**Wuhan**	**33.69**	**87**	P		**P**	**06 09 40.0**	**+0.8**
WHN				S		**S**	**06 15 07.0**	**+6.1**
WHN				LR	LR			
	comp=N,352nm,12.0s,MS4.5							
WHN				LR	LR			
	comp=E,387nm,10.0s,MS4.5							
HAQS	**Haql**	**33.83**	**271**	P		**P**	**06 09 42.0**	**+1.6**
AYUS	**'Aynunah**	**33.87**	**269**	P		**P**	**06 09 42.7**	**+1.9**
BDAS	**Al Bad'**	**33.92**	**269**	P		**P**	**06 09 42.5**	**+1.3**
TAYS	**Tayyib Ism**	**34.06**	**270**	P		**P**	**06 09 43.6**	**+1.2**
HENT	**Hendek**	**34.43**	**292**	*i* P		**P**	**06 09 44.9**	**-0.6**
TIA	**Tai'an**	**34.46**	**76**	⇑P		**P**	**06 09 46.5**	**+0.7**
TIA				AMB	AMB			
	comp=Z,119nm,1.6s,mb5.6							
ESKT	**Eskisehir**	**34.60**	**290**	*i* P		**P**	**06 09 46.2**	**-0.8**
ISP	**Isparta**	**35.11**	**287**	*e*P		**P**	**06 09 51.1**	**-0.2**
ISP				pmax	pmax			
	comp=Z,110nm,1.7s,mb5.5							
ISP	**Isparta**	**35.11**	**287**	*e*P		**P**	**06 09 51.0**	**-0.2**
	comp=Z,113nm,1.7s,mb5.5							
KIS	**Kishinev**	**35.78**	**303**α	*i* P		**P**	**06 09 57.0**	**+0.1**
KIS				*e*			06 11 15.0	
KIS				pmax	pmax			
	comp=Z,400nm,2.0s,mb6.0							
KIS				pmax	pmax			
	comp=Z,600nm,2.0s,mb6.2							
KIS				MLR	MLR			
	comp=Z,300nm,15.0s,MS4.2							
KIS				MLR	MLR			
	comp=Z,400nm,15.0s							
ULDT	**Uludag**	**35.84**	**292**	*i* P		**P**	**06 09 57.1**	**-0.3**
AKASG	**Malin Array Be**	**35.84**	**310**	P		**P**	**06 09 56.7**	**-0.7**
	comp=Z,28nm,0.8s,mb5.3,baz=84,slow=6.7,SNR=115							
AKASG				PP	PP		06 11 19.6	+1.1
	comp=Z,13nm,0.9s,baz=92,slow=12,SNR=6.8							
AKASG	**Malin Array Be**	**35.84**	**310**	P		**P**	**06 09 56.7**	**-0.6**
AKASG							06 11 19.7	
AKASG				pmax	pmax			
	comp=Z,28nm,0.8s							
AKASG				pmax	pmax			
	comp=Z,13nm,0.9s							
CFR	**Carcaliu**	**36.23**	**300**	⇑*i*P		**P**	**06 10 01.3**	**+0.5**
CFR	**Carcaliu**	**36.23**	**300**	⇑*i*P		**P**	**06 10 01.3**	**+0.6**
PRD	**Provadia**	**36.84**	**297**	*e*P		**P**	**06 10 08.0**	**+2.1**
NJ2	**Nanjing**	**36.89**	**82**	*e*P		**P**	**06 10 07.0**	**+0.6**
NJ2				AP	pP		06 10 14.3	+4.1
NJ2				XP	sP		06 10 17.3	+5.6
NJ2				S		**S**	**06 15 50.0**	**-0.2**
NJ2				XS			06 16 02.0	
NJ2				AMB	AMB			
	comp=Z,80nm,1.1s,mb5.5							
NJ2				AMB	AMB			
	comp=Z,240nm,4.2s							
NJ2				LR	LR			
	comp=N,2μm,25.2s,MS4.9							
NJ2				LR	LR			
	comp=E,1μm,24.8s,MS4.9							
NJ2				LR	LR			
	comp=Z,2μm,24.4s,MS4.8							
VRI	**Vrincioaia**	**37.21**	**301**	⇑*i*P		**P**	**06 10 10.7**	**+1.7**
VRI	**Vrincioaia**	**37.21**	**301**	⇑*i*P		**P**	**06 10 10.6**	**+1.6**
ARG	**Arkhangelos**	**37.29**	**285**	*e*P		**P**	**06 10 10.0**	**+0.3**
MNK	**Minsk**	**37.31**	**316**	*e*P		**P**	**06 10 08.0**	**-1.7**
MNK				pmax

KDZ Kurdzhali 38.45 295 *e*P P **06 10 20.0 +0.6**
SNY Shenyang 38.55 65 ⇓P P **06 10 20.0 -0.2**
SNY LR LR
comp=N,700nm,12.4s
SNY LR LR
comp=Z,430nm,17.1s,MS4.3
VSU Vasula 38.83 322*d i*P P **06 10 22.2 -0.2**
VSU Vasula 38.83 322 *i* Pr 06 10 22.3
LOS Limnos 38.95 292 *e*P P **06 10 24.5 +0.9**
RZN Rozhen 38.97 295 *e*P P **06 10 24.0 +0.3**
SSE Sheshan 39.08 83 P P **06 10 25.5 +0.7**
SSE XP sP 06 10 34.5 +4.4
SSE S **S 06 16 21.8 -1.7**
SSE XS 06 16 32.3
SSE AMB AMB
comp=Z,67nm,0.9s,mb5.4
SSE LR LR
comp=N,105nm,25.2s,MS3.9
SSE LR LR
comp=E,188nm,25.1s,MS3.9
SSE LR LR
comp=Z,213nm,24.1s,MS3.9
IPM Ipoh 39.24 135⇓*e*P P **06 10 27.5 +1.2**
PGB Panagyurishte 39.27 296 *e*P P **06 10 27.0 +0.8**
SANT Santorini 39.36 286 *e*P P **06 10 26.5 -0.5**
comp=Z,189nm,1.4s,mb5.6
THR1 Thera Island 39.36 286 *e*P P **06 10 26.4 -0.6**
THR5 Thira Island, 39.43 286 *e*P P **06 10 27.4 -0.3**
NPS Neapolis 39.51 285 *e*P P **06 10 28.5 +0.2**
XRY Khrísi 39.54 284 *e*P P **06 10 28.5 -0.1**
LVZ Lovozero 39.59 338⇓*e*P P **06 10 29.3 +0.7**
LVZ pmax pmax
comp=Z,168nm,1.8s,mb5.5
LVZ MLR MLR
comp=Z,2µm,12.0s,MS5.2
LVZ Lovozero 39.59 338⇓*e*P P **06 10 29.3 +0.7**
LVZ pmax pmax
comp=Z,168nm,1.8s,mb5.5
LVZ MLR MLR
comp=Z,2µm,12.0s,MS5.2
LVZ Lovozero 39.59 338⇓*e*P P **06 10 29.4 +0.8**
CN2 Changchun 39.70 62 *e*P P **06 10 30.0 +0.2**
CN2 *e*XP sP 06 10 37.0 +1.8
CN2 *e*S **S 06 16 32.3 -0.5**
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,500nm,11.0s,MS4.8
CN2 LR LR
comp=E,500nm,11.0s,MS4.8
CN2 LR LR
comp=Z,400nm,12.0s,MS4.5
MMB Musomiste 39.71 295 *e*P P **06 10 30.0 +0.1**
OUR Ouranopolis 39.71 293 *e*P P **06 10 30.5 +0.5**
APA Apatity 39.80 337⇑*i*P P **06 10 29.5 -0.9**
APA *i* 06 10 41.5
APA *i* 06 12 37.5
APA *e*S **S 06 16 26.0 -8.0**
APA pmax pmax
comp=Z,270nm,2.0s,mb5.6
APA MLR MLR
comp=Z,2µm,10.0s,MS5.3
APA Apatity 39.80 337⇑*i*P P **06 10 29.5 -0.9**
APA *i* 06 10 41.5
APA *i* 06 12 37.5
APA *e*S **S 06 16 26.0 -8.0**
APA pmax pmax
comp=Z,270nm,2.0s,mb5.6
APA MLR MLR
comp=Z,2µm,10.0s,MS5.3
SRS Serrai 39.88 294 *e*P P **06 10 31.2 -0.2**
CLNS Chul'man 39.93 41 *e*P P **06 10 32.0 +0.5**
CLNS *e* 06 12 29.5
CLNS pmax pmax
comp=N,25nm,0.9s
CLNS pmax pmax
comp=E,59nm,0.9s
CLNS pmax pmax
comp=Z,95nm,0.9s,mb5.5
SUW Suwalki 39.93 314 *e*P P **06 10 31.1 -0.5**
SUW *e* 06 12 07.6
SUW Suwalki 39.93 314 *e*P P **06 10 31.1 -0.5**
SUW *e* 06 12 07.6
KWP Kalwaria 39.94 307 *e*P P **06 10 32.3 +0.6**
KWP *e* 06 12 04.5
KWP Kalwaria 39.94 307 *e*P P **06 10 32.3 +0.6**
KWP *e* 06 12 04.5
VTS Vitosha 39.97 296 *e*P P **06 10 32.0 0.0**
AOS Alonnisos 39.99 291 *e*P P **06 10 32.6 +0.3**
FINES FINESS Array B 40.01 326 P P **06 10 32.3 +0.1**
comp=Z,4.3nm,0.5s,mb4.5,baz=119,slow=9.4,SNR=19
FINES PcP PcP 06 12 37.7 -0.1
comp=Z,5.6nm,0.8s,baz=90,slow=5.6,SNR=3.1
FINES FINESS Array B 40.01 326 P P **06 10 32.3 +0.2**
FINES 06 12 37.7
FINES pmax pmax
comp=Z,4.0nm,0.5s
PAIG Paliouri 40.01 292 *e*P P **06 10 32.5 +0.1**
IDI Anoyia 40.07 285 P P **06 10 32.6 -0.3**
comp=Z,16nm,0.7s,mb4.9,baz=85,slow=7.6,SNR=20
IDI PcP PcP 06 12 38.3 0.0
comp=Z,10nm,0.9s,baz=24,slow=10.0,SNR=3.0
SOH Sokhos 40.11 294 *e*P P **06 10 33.3 +0.1**
PLG Polygyros 40.11 293 *e*P P **06 10 34.5 +1.3**
KAF Kangasniemi 40.12 327 *e*p P **06 10 33.6 +0.5**
comp=Z,10.0nm,1.0s,mb4.5,baz=109,slow=8.2
KAF Kangasniemi 40.12 327 *e*P P **06 10 33.6 +0.5**
KAF pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
KKB Krupnik 40.15 295 *e*P P **06 10 34.0 +0.4**
KOLS Kolonicke sedl 40.22 306 *e*P P **06 10 35.0 +1.0**
KOLS *e*PP PP 06 12 09.1 -1.2
KOLS *e* 06 12 38.7
MPAR Parnis Oros 40.31 289 *e*P P **06 10 35.5 +0.6**
KNT Kendrikon 40.40 294 *e*P P **06 10 36.0 +0.4**
XOR Xorichti 40.48 291 *e*P P **06 10 36.6 +0.3**
NSAL Nisos Salamina 40.57 289 *e*P P **06 10 36.5 -0.5**
NAIG Nisos Aigina 40.58 289 *e*P P **06 10 37.0 -0.1**
VAM Vamos 40.59 285 *e*P P **06 10 37.5 +0.3**
VAY Valandovo 40.61 295⇓*i*P P **06 10 37.5 +0.2**
BOLS Boljevac 40.73 298⇓*i*P P **06 10 38.4 +0.2**
CRVS Cervenica-Dubn 40.75 306 *e*pP pP 06 10 43.4 +1.2
CRVS *e* 06 10 58.5
CRVS *e* 06 11 19.4
CRVS *e* 06 12 28.8
GRG Griva 40.80 294 *e*P P **06 10 39.4 +0.6**
GVD Gavdhos 40.82 284 *e*P P **06 10 38.9 -0.2**
comp=Z,99nm,0.8s,mb5.5
LIT Litokhoron 40.88 293 *e*P P **06 10 39.6 +0.1**
BARS Barje 40.95 297⇑*i*P P **06 10 40.9 +0.8**
WAR Warsaw 41.08 311 *e*P P **06 10 42.1 +1.0**
WAR Warsaw 41.08 311 *e*P P **06 10 42.1 +1.0**
AGG Agios Georgios 41.21 291 *e*P P **06 10 42.0 -0.2**
VLI Velíai 41.25 288 *e*P P **06 10 41.0 -1.6**
KYTH Kithira 41.28 287 *e*P P **06 10 42.5 -0.3**
SKO Skopje 41.35 296 *i*P P **06 10 43.8 +0.4**
KECS Kecovo 41.41 306 *e*P P **06 10 44.5 +0.7**
NIE Niedzica 41.50 307⇓*e*P P **06 10 45.9 +1.4**
FNA Florina 41.59 294 *e*P P **06 10 45.5 +0.1**
GRUS Gruza 41.61 299⇓*i*P P **06 10 46.4 +1.0**
EVR Evrytania 41.63 291 *e*P P **06 10 45.0 -0.7**
INCN Inchon 41.64 71 *e*P P **06 10 46.7 +0.9**
comp=Z,109nm,0.9s,mb5.5
INCN LR LR
comp=Z,190nm,20.0s,MS4.0
TATO Taipei 41.66 91 PFAKE 06 11 00.0 +14
TATO LR LR
comp=Z,593nm,20.0s,MS4.5
OJC Ojcow 41.82 308⇓*i*P P **06 10 47.4 +0.3**
OJC *e* 06 12 24.8
OJC Ojcow 41.82 308⇓*i*P P **06 10 47.4 +0.3**
OJC *e*PP PP 06 12 24.8 -2.3
PSZ Piszkesteto 41.83 305⇑*i*P P **06 10 48.8 +1.6**
PSZ Piszkesteto 41.83 305 P P **06 10 48.8 +1.6**
PSZ pmax pmax
comp=Z,320nm,2.0s,mb5.6
MEV Metsovon 41.89 292 *e*P P **06 10 48.4 +0.6**
DIVS Divcibare 42.11 299⇑*i*P P **06 10 47.5 -2.0**
JAN Janina 42.20 292 *e*P P **06 10 50.5 +0.1**
VYHS Vyhne 42.50 306 *i*P P **06 10 53.4 +0.7**
VYHS *e* 06 11 07.3
VYHS *e*PP PP 06 12 31.2 -2.9
DGAR Diego Garcia 42.54 183 PFAKE 06 11 10.0 +16
DGAR LR LR
comp=Z,244nm,20.0s,MS4.1
MDJ Mudanjiang 42.58 60 P P **06 10 52.0 -1.4**
MDJ PCP PcP 06 12 43.3 -3.1
MDJ S **S 06 17 14.8 -0.6**
MDJ LR LR
comp=N,227nm,11.1s,MS4.7
MDJ LR LR
comp=E,524nm,14.2s,MS4.7
MDJ LR LR
comp=Z,585nm,15.8s,MS4.6
KS15 Wonju Array Si 42.62 71 *e*P P **06 10 54.1 +0.3**
KGM Kluang 42.65 135⇓*e*P P **06 10 55.2 +0.8**
PKSM Moragy 42.81 302⇓*e*P P **06 10 55.7 +0.4**
SRO2 Moca 42.85 305 *e*P P **06 10 57.3 +1.8**
OKC Ostrava-Krasne 42.89 308⇓*i*P P **06 10 56.2 +0.3**
OKC *e*PP PP 06 12 36.6 -1.4
SRO Srobarova 42.90 305 *e*P P **06 10 57.6 +1.7**
KEV Kevo 42.93 338 *e*p P **06 10 56.3 +0.4**
comp=Z,28nm,0.8s,mb5.0
KEV Kevo 42.93 338 *e*P P **06 10 56.3 +0.4**
KEV pmax pmax
comp=Z,28nm,0.8s,mb5.0
KEV Kevo 42.93 338 *e*P P **06 10 56.3 +0.4**
KEV pmax pmax
comp=Z,28nm,0.8s,mb5.0
MORC Moravsky Berou 43.28 308 P P **06 11 00.0 +0.9**
MORC pmax pmax
comp=Z,140nm,1.4s,mb5.5
MORC Moravsky Berou 43.28 308 *e*P P **06 10 59.8 +0.7**
comp=Z,143nm,1.4s,mb5.5
ARCES ARCESS Array B 43.30 337 P P **06 10 59.6 +0.8**
comp=Z,31nm,0.7s,mb5.1,baz=113,slow=6.5,SNR=46
ARCES PcP PcP 06 12 48.5 0.0
comp=Z,20nm,1.0s,baz=124,slow=4.4,SNR=5.4
ARCES ARCESS Array B 43.30 337 P P **06 10 59.7 +0.8**
ARCES 06 12 48.5
ARCES pmax pmax
comp=Z,31nm,0.7s
ARCES ARCESS Array B 43.30 337 P P **06 10 59.7 +0.8**
ARCES 06 12 48.5
ARCES pmax pmax
comp=Z,31nm,0.7s
ARCES pmax pmax
comp=Z,20nm,1.0s
ARCES ARCESS Array B 43.30 337 P P **06 10 59.6 +0.8**
ARCES PcP PcP 06 12 48.5 0.0
ARE0 ARCESS Array S 43.30 337 *e*P P **06 10 59.5 +0.7**
YAK Yakutsk 43.34 34 *e*P P **06 10 58.6 -0.8**
YAK *e* 06 12 41.4
YAK *e* 06 12 47.0
YAK *e*S **S 06 17 26.8 +0.5**
YAK *e* 06 20 34.2
YAK *e*SS SS 06 20 52.7 +19
YAK pmax pmax
comp=Z,57nm,0.9s,mb5.3
YAK pmax pmax
comp=N,9.0nm,1.2s
YAK pmax pmax
comp=E,15nm,1.1s
YAK smax
comp=N,8.0nm,1.3s
YAK Yakutsk 43.34 34 *e*P P **06 10 59.2 -0.1**
comp=N,146nm,0.9s,mb5.7
YAK LR LR
comp=Z,436nm,21.0s,MS4.3
GKP Gorka Klasztor 43.41 313 *e*P P **06 11 00.3 +0.2**
GKP Gorka Klasztor 43.41 313 *e*P P **06 11 00.3 +0.2**
SMOL Smolenice 43.44 306 *e*P P **06 11 01.5 +1.2**
ZST Bratislava 43.68 305 *i*P P **06 11 03.2 +0.9**
ZST *e* 06 11 19.0
ZST *e*PP PP 06 12 45.4 -0.5
ZST *e* 06 40 59.0
VRAC Vranov 43.93 307 P P **06 11 05.2 +0.9**
comp=Z,46nm,0.9s,mb5.2,baz=91,slow=8.4,SNR=47
VRAC Vranov 43.93 307 P P **06 11 05.2 +0.9**
VRAC pmax pmax
comp=Z,46nm,0.9s
KSP Ksiaz 44.04 309⇓*e*P P **06 11 05.7 +0.6**
KSP *e* 06 12 48.0
KSP Ksiaz 44.04 309 *e*P P **06 11 05.3 +0.2**
KSP *e* 06 12 49.1
DPC Dobruska-Polom 44.04 309⇓*i*P P **06 11 06.2 +1.0**
DPC AMS AMS 06 39 10.0
comp=Z,600nm,19.5s
SOP Sopron 44.09 305⇓*i*P P **06 11 06.0 +0.4**
VKA Vienna 44.19 306⇓*i*P P **06 11 07.2 +0.7**
comp=Z,194nm,2.0s,mb5.5
UPC Upice 44.23 309⇓*i*P P **06 11 07.6 +0.9**
SISC Sisak 44.48 302 *i*P P **06 11 08.8 0.0**
BSD Bornholm Skovb 44.80 315⇓*i*P P **06 11 10.0 -1.3**
comp=Z,36nm,1.0s,mb5.2
comp=Z,490nm,20.0s
BSD Bornholm Skovb 44.80 315⇓*e*P P **06 11 10.0 -1.3**
comp=Z,36nm,1.0s,mb5.2
ARSA Arzberg 44.83 304⇑*i*P P **06 11 11.7 +0.1**
comp=Z,37nm,1.2s,mb5.1
PVCC Panska Ves 45.15 309⇓*i*P P **06 11 14.8 +0.7**
PVCC *e*PP PP 06 13 03.9 +3.3
PRU Pruhonice 45.21 308⇓*i*P P **06 11 15.2 +0.6**
PRU *e* 06 13 05.8
PRU pmax pmax
comp=Z,224nm,1.8s,mb5.7
PRU Pruhonice 45.21 308⇓*i*P P **06 11 15.2 +0.6**
comp=Z,224nm,1.8s,mb5.7
PRU *e*PP PP 06 13 05.8 +4.6
PRU AMS AMS 06 39 10.0
BOJS Bojanci 45.25 302 *e*P P **06 11 15.5 +0.5**
BOJS *e*PcP PcP 06 12 55.3 -0.1
TIP Timpagrande 45.40 293 *e*P P **06 11 15.7 -0.6**
ORI Oriolo Calabro 45.42 294 *e*P P **06 11 17.3 +0.9**
VISS Visnje 45.49 302 *e*P P **06 11 17.4 +0.5**
BRG Berggiesshubel 45.52 309 *i*P P **06 11 17.7 +0.7**
BRG *e* 06 13 05.7
BRG pmax pmax
comp=Z,59nm,1.1s,mb5.4
BRG MLR MLR
comp=N,280nm,23.7s,MS4.5
BRG MLR MLR
comp=E,660nm,23.7s,MS4.5
BRG MLR MLR
comp=Z,910nm,23.7s,MS4.6
BRG Berggiesshubel 45.52 309 *i*P P **06 11 17.7 +0.7**
comp=Z,59nm,1.1s,mb5.4
BRG *i* pP 06 11 19.6 -1.2
BRG *e* 06 13 05.7
BRG *i* 06 18 58.9
BRG LR LR
comp=Z,910nm,23.7s,MS4.6
RUE Ruedersdorf 45.52 312 *e*P P **06 11 16.8 -0.2**
comp=Z,107nm,1.2s,mb5.7
OBKA Obir 45.59 303⇓*i*P P **06 11 18.5 +0.8**
comp=Z,84nm,1.8s,mb5.4
TDS Terranova Siba 45.60 293 *e*P P **06 11 18.6 +0.8**
MOA Molln 45.61 305⇓*i*P P **06 11 18.1 +0.3**
comp=Z,92nm,1.4s,mb5.5
LJU Ljubljana 45.67 303 *e*P P **06 11 19.1 +0.7**
LJU *e*PcP PcP 06 12 56.4 -0.5
LJU *e*PP PP 06 13 06.5 +0.7
HFS Hagfors 45.70 322 P P **06 11 18.0 -0.3**
comp=Z,33nm,0.7s,mb5.4,baz=90,slow=8.9,SNR=30
HFS Hagfors 45.70 322 P P **06 11 18.0 -0.3**
HFS pmax pmax
comp=Z,33nm,0.7s
RGN Rugen 45.73 315 *e*P P **06 11 19.8 +1.1**
comp=Z,435nm,1.6s,mb6.1
GRI Girifalco 45.74 292 *e*P P **06 11 19.1 +0.2**
TIXI Tiksi 45.85 21*de*P P **06 11 19.0 -0.4**
TIXI *e* 06 12 56.8
TIXI pmax pmax
comp=Z,79nm,1.0s,mb5.6
TIXI MLR MLR
comp=Z,10µm,24.0s,MS5.7
TIXI Tiksi 45.85 21 *i* Pr 06 11 19.1
TIXI LR LR
comp=Z,884nm,21.0s,MS4.7
GEC2 GERESS Array S 45.87 307 *e*P P **06 11 20.4 +0.6**
GEC2 *e* 06 13 08.6
GEC2 pmax pmax
comp=Z,149nm,2.1s,mb5.5
GEC2 GERESS Array S 45.87 307 *e*P P **06 11 20.4 +0.6**
comp=Z,149nm,2.1s,mb5.5
GEC2 *e*PP PP 06 13 08.6 +0.8
GERES GERESS Array B 45.87 307 P P **06 11 20.1 +0.3**
comp=Z,5.9nm,0.9s,mb4.5,baz=90,slow=5.3,SNR=31
GERES PcP PcP 06 12 56.7 -0.8
comp=Z,1.4nm,0.7s,baz=117,slow=4.4,SNR=4.0
GERES GERESS Array B 45.87 307 P P **06 11 20.1 +0.3**
GERES 06 12 56.7
GERES pmax pmax
comp=Z,6.0nm,0.9s
KHC Kasperske Hory 45.91 307⇓*i*P P **06 11 20.6 +0.4**
KHC *e*PP PP 06 13 08.4 +0.2
KHC AMS AMS 06 39 30.0
comp=Z,500nm,20.5s
MRLC Muro Lucano 45.98 295 *e*P P **06 11 21.3 +0.5**
JAVS Javornik 46.02 302 *e*P P **06 11 21.3 +0.3**
FG5 Orsara di Pugl 46.02 296 *e*P P **06 11 22.3 +1.2**
MGR Morigerati 46.07 294 *e*P P **06 11 21.8 +0.3**
CLL Collm 46.08 310⇓P P **06 11 21.6 +0.2**
comp=Z,logA/T=1.8,mb5.5
CLL *i* *PP pP 06 11 25.0 -0.2
CLL *e*PP PP 06 13 09.0 -0.9
CLL *e* 06 13 26.0
CLL *e*PPP PPP 06 13 50.0 -3.5
CLL Collm 46.08 310⇓*i*P P **06 11 21.6 +0.2**
CLL pmax pmax
comp=Z,74nm,1.2s,mb5.5
CLL Collm 46.08 310⇓*i*P P **06 11 21.6 +0.2**
comp=Z,74nm,1.2s,mb5.5
CLL *i* pP 06 11 25.0 -0.2
SGO Sicignano 46.16 295 *e*P P **06 11 22.9 +0.6**
KBA Koelnbreinsper 46.33 304⇑*i*P P **06 11 24.3 +0.8**
comp=Z,46nm,1.9s,mb5.1
WET Wettzell 46.37 307 *e*P P **06 11 24.5 +0.7**
WET pmax pmax
comp=Z,166nm,2.1s,mb5.6
WET Wettzell 46.37 307 *e*P P **06 11 24.5 +0.7**
comp=Z,166nm,2.1s,mb5.6
PTCC Patocco-Chiusa 46.42 303 *e*P P **06 11 24.5 +0.3**
NKC Novy Kostel 46.53 309⇓*i*P P **06 11 25.8 +0.8**
NKC AMS AMS 06 40 50.0
comp=Z,800nm,24.9s
FVI Forni Avoltri 46.79 304 *e*P P **06 11 27.1 0.0**
NB2 NORSAR Subarra 46.98 324 P P **06 11 27.9 -0.5**
comp=Z,377nm,2.0s,mb6.0,baz=93,slow=7.4
NB2 NORSAR Subarra 46.98 324 P P **06 11 27.9 -0.5**
baz=92,slow=7.9
NOA NORSAR Array B 46.98 324 P P **06 11 27.8 -0.6**
comp=Z,16nm,0.7s,mb5.1,baz=94,slow=7.6,SNR=53
NOA PcP PcP 06 13 00.7 -0.6
comp=Z,5.3nm,0.8s,baz=91,slow=4.0,SNR=5.2
NOA NORSAR Array B 46.98 324 P P **06 11 27.8 -0.6**
NOA 06 13 00.7
NOA pmax pmax
comp=Z,16nm,0.7s
MOX Moxa 47.01 309 *i*P P **06 11 29.3 +0.5**
comp=Z,logA/T=2.0,mb5.7
MOX PP PP 06 13 18.0 -1.2
MOX QM 06 18 56.0
MOX RM 06 25 04.0
MOX Moxa 47.01 309 *e*P P **06 11 29.3 +0.5**
MOX pmax pmax
comp=Z,211nm,1.9s,mb5.8
MOX MLR MLR
comp=Z,300nm,18.0s,MS4.3
MOX Moxa 47.01 309 *e*P P **06 11 29.3 +0.5**
comp=Z,211nm,1.9s,mb5.8
MOX LR LR
comp=Z,300nm,18.0s,MS4.3
NAO01 NORSAR Array S 47.13 323 *e*P P **06 11 29.2 -0.5**
PTQR Pietraquaria 47.23 297 *e*P P **06 11 31.4 +0.8**
ARV Arcevia 47.24 299 *e*P P **06 11 31.4 +0.6**
NRCA Norcia 47.25 299 *e*P P **06 11 31.3 +0.4**
GRA1 Grafenberg Arr 47.38 308 *e*P P **06 11 32.9 +1.2**
comp=Z,252nm,1.5s,mb5.9
GRA1 *e*PP PP 06 13 21.7 -0.8
GRA1 LR LR
comp=Z,700nm,18.3s,MS4.7
GRF Grafenberg Arr 47.38 308 *e*P P **06 11 32.9 +1.2**
GRF *e* 06 13 21.7
GRF pmax pmax
comp=Z,252nm,1.5s,mb5.9
WTTA Wattenberg 47.45 305⇓*i*P P **06 11 31.8 -0.6**
comp=Z,62nm,1.2s,mb5.4
WATA Walderalm 47.48 305⇑*i*P P **06 11 32.0 -0.6**
comp=Z,17nm,0.9s,mb5.0
BSEG Bad Segeberg 47.52 314 *e*P P **06 11 33.4 +0.6**
BSEG *e* 06 13 25.5
BSEG pmax pmax
comp=Z,73nm,1.2s,mb5.6
FUR Furstenfeldbru 47.55 306 *e*P P **06 11 33.7 +0.5**
FUR pmax pmax
comp=Z,212nm,1.3s,mb6.0
FUR Furstenfeldbru 47.55 306 *e*P P **06 11 33.7 +0.5**
comp=Z,212nm,1.3s,mb6.0
MURB Monte Urbino 47.58 299 *e*P P **06 11 34.8 +1.4**
CTI Castel Tesino 47.65 303 *e*P P **06 11 33.9 0.0**
MNS Montasola 47.66 298 *e*P P **06 11 33.9 -0.2**
CLZ Clausthal 47.66 311 *e*P P **06 11 34.5 +0.5**
comp=Z,150nm,1.5s,mb5.8
CLZ *e*PP PP 06 13 27.3 +2.3
KONO Kongsberg 47.74 322 PFAKE 06 11 50.0 +16
KONO LR LR
comp=Z,605nm,19.0s,MS4.6
SQTA Sankt Quirin 47.75 305⇑*i*P P **06 11 34.1 -0.6**
comp=Z,31nm,1.2s,mb5.2
MOTA Moosalm 47.80 305⇑*i*P P **06 11 34.6 -0.5**
comp=Z,25nm,1.0s,mb5.2
SFI Santa Sofia 47.93 300 *e*P P **06 11 37.3 +1.1**
MUD Monsted U'grnd 48.02 317 *i*P P **06 11 36.5 -0.2**
comp=Z,30nm,1.2s,mb5.2
MUD *i* 06 11 59.6
comp=Z,450nm,18.0s
VMG Vicchio 48.13 300 *e*P P **06 11 38.7 +0.9**
HDH Heidenheim 48.19 307 *e*P P **06 11 38.3 +0.2**
KKM Kota Kinabalu 48.20 117⇑*e*P P **06 11 39.6 +0.9**
UBR Uberruh 48.41 305 *e*P P **06 11 39.6 -0.2**
BRMO Bormio 48.44 304 *e*P P **06 11 39.7 -0.4**
SIND Sindeldorf 48.47 308 *e*P P **06 11 40.6 +0.4**
SAL Salo 48.51 303 *e*P P **06 11 41.1 +0.5**
DAVA Damuels 48.63 305⇑*i*P P **06 11 41.1 -0.4**
comp=Z,121nm,0.9s,mb5.9
DAVOX Davos 48.72 304 P P **06 11 41.6 -0.6**
comp=Z,29nm,0.8s,mb5.3,baz=117,slow=4.2,SNR=29
DAVOX PcP PcP 06 13 07.6 -0.1
comp=Z,8.7nm,0.6s,baz=166,slow=0.7,SNR=7.8
BUCH Bad Urach 48.78 307 *e*P P **06 11 43.0 +0.4**
STU Stuttgart 48.83 307 P P **06 11 43.8 +0.8**
STU pmax pmax
comp=Z,75nm,1.0s,mb5.7
STU Stuttgart 48.83 307 *e*P P **06 11 43.2 +0.2**
comp=Z,75nm,1.0s,mb5.7
ERBM Eremo 48.83 301 *e*P P **06 11 44.8 +1.7**
VLC Villacollemand 48.90 301 *e*P P **06 11 43.0 -0.7**
TOD Tromm 48.95 308 *e*P P **06 11 44.2 +0.3**
TOD Tromm 48.95 308 *e*P P **06 11 44.1 +0.2**
GUT Gutenstein 49.00 306 *e*P P **06 11 44.2 -0.1**
SWS Schriesheim 49.03 308 *e*P P **06 11 44.7 +0.1**
LBG Lerchenberg 49.10 307 *e*P P **06 11 45.4 +0.2**
SPAK Spaichingen 49.21 306 *e*P P **06 11 46.0 0.0**
BOB Bobbio (Coli) 49.43 302 *e*P P **06 11 48.8 +1.1**
KTD Kalmit 49.45 308 *e*P P **06 11 48.7 +0.8**
BFO Black Forest 49.47 307 *e*P P **06 11 47.6 -0.4**
BFO pmax pmax
comp=Z,88nm,1.9s,mb5.5
BFO Black Forest 49.47 307 *e*P P **06 11 47.6 -0.4**
comp=Z,88nm,1.9s,mb5.5
VAI Varese 49.66 303 *e*P P **06 11 48.5 -0.9**
LANF Langenberg 49.69 308 *e*P P **06 11 50.0 +0.3**
ABH Alteburg 49.70 309 *e*P P **06 11 50.0 +0.2**
ABH Alteburg 49.70 309 *e*P P **06 11 50.1 +0.3**
FELD Feldberg 49.77 306 *e*P P **06 11 49.8 -0.5**
STR Strasbourg 49.79 307 *e*P P **06 11 50.5 +0.1**
KIZ Kirchzarten 49.81 306 *e*P P **06 11 49.7 -0.9**
WTSB Winterswijk 49.85 312 *e*PKP P **06 11 50.7 -0.1**
comp=Z,50nm,1.3s,mb5.4
LIBD Limburg 49.98 307 *e*P P **06 11 52.5 +0.6**
RUP Ruppelstein 50.05 309 *e*P P **06 11 52.5 +0.1**
CDF Champ du Feu 50.14 307 *e*P P **06 11 52.3 -0.8**
comp=Z,58nm,1.1s,mb5.2
BBS Basel-Blauen 50.18 306⇓*e*P P **06 11 52.6 -0.8**
BBS Basel-Blauen 50.18 306 *e*P P **06 11 52.5 -0.9**
KMBO Kilima Mbogo 50.19 232 *e*P P **06 11 53.3 -0.6**
comp=Z,37nm,0.9s,mb5.4
KMBO LR LR
comp=Z,487nm,21.0s,MS4.5
ORO Oropa 50.25 303 *e*P P **06 11 52.3 -1.7**

ECH Echery 50.26 307 *e*P P 06 11 55.4 +1.4
PGF Pioggiola 50.27 299 *e*P P 06 11 52.6 -1.6
MOF Molkenrain 50.35 306 *e*P P 06 11 54.3 -0.4
HINF Hinteralfeld 50.54 306 *e*P P 06 11 55.0 -1.2
comp=Z,167nm,1.2s,mb5.5
HGN Heimansgroeve 50.58 310 *e*PKP P 06 11 56.5 +0.1
WLF Walferdange 50.63 309 P P 06 11 57.3 +0.5
WLF pmax pmax
comp=Z,88nm,1.1s,mb5.6
WLF Walferdange 50.63 309 *e*P P 06 11 57.3 +0.5
comp=Z,88nm,1.1s,mb5.6
LOMF Lomont 50.65 306 *e*P P 06 11 55.8 -1.2
MAJO Matsushiro 50.80 69 *e*P P 06 11 57.2 -1.1
comp=Z,84nm,1.1s,mb5.6
MAJO LR LR
comp=Z,177nm,20.0s,MS4.1
MAT Matsushiro 50.80 69 P P 06 11 57.3 -1.0
MAT Matsushiro 50.80 69 *e*P P 06 11 57.0 -1.3
HAU Haudompre 50.83 307 *e*P P 06 11 57.3 -1.1
comp=Z,231nm,1.2s,mb5.7
HAU *e*R
comp=Z,553nm,18.5s
SAOF Saorge 50.93 301 *e*P P 06 11 59.1 -0.1
AUTN L'Aution 51.02 301 *e*P P 06 12 00.2 +0.4
DOI San Damiano 51.02 302 *e*P P 06 11 58.4 -1.4
THEF They Montfort 51.02 307 *e*P P 06 11 59.6 -0.2
SBF Sospel 51.04 301 *e*P P 06 11 59.0 -1.0
comp=Z,261nm,1.1s,mb5.8
AURF Auriere 51.11 301 *e*P P 06 12 00.3 -0.3
LPG La Plagne 51.12 303 *e*P P 06 12 00.1 -0.5
comp=Z,203nm,1.2s,mb5.6
LPL La Plagne 51.13 303 *e*P P 06 12 00.1 -0.5
comp=Z,131nm,1.1s,mb5.5
TOUF Mont Tournerai 51.14 301 *e*P P 06 12 01.0 +0.3
MVIF Mont Vial 51.23 301 *e*P P 06 12 00.1 -1.4
YSS Yuzh-Sakhalins 51.24 55 *ae*P P 06 12 00.0 -1.5
YSS *e**SP sP 06 12 10.2 +3.4
YSS *e*S **S** **06 19 14.0 -4.3**
YSS pmax pmax
comp=Z,130nm,1.1s,mb5.8
YSS MLR MLR
comp=Z,400nm,15.0s,MS4.6
YSS Yuzh-Sakhalins 51.24 55 *e*P P 06 12 01.1 -0.4
comp=Z,203nm,1.3s,mb5.9
YSS LR LR
comp=Z,248nm,22.0s,MS4.2
BNI Bardonecchia 51.27 303 P P 06 12 01.8 0.0
BNI pmax pmax
comp=Z,81nm,1.4s,mb5.5
BNI Bardonecchia 51.27 303 *e*P P 06 12 01.4 -0.3
comp=Z,81nm,1.4s,mb5.5
MBDF Montbardon 51.29 302 *e*P P 06 12 01.4 -0.5
comp=Z,140nm,1.3s,mb5.4
CABF La Chapelle 51.31 305 *e*P P 06 12 01.3 -0.7
comp=Z,271nm,1.5s,mb5.7
SURF Saint Ours 51.32 302 *e*P P 06 12 02.4 +0.2
GIVF Givet 51.39 309 *e*P P 06 12 02.2 -0.4
comp=Z,250nm,1.4s,mb5.7
MEZF Maizieres J'vi 51.58 307 *e*P P 06 12 03.2 -0.8
comp=Z,292nm,1.3s,mb5.8
FRF La Foret Royal 51.67 301 *e*P P 06 12 03.3 -1.5
comp=Z,84nm,1.1s,mb5.3
BAIF Baives 51.79 309 *e*P P 06 12 05.0 -0.6
comp=Z,249nm,1.4s,mb5.7
COCO West Island 51.80 152 PFAKE 06 12 20.0 +14
COCO LR LR
comp=Z,243nm,20.0s,MS4.2
LMR La Mourre 51.83 301 *e*P P 06 12 04.6 -1.4
comp=Z,194nm,1.6s,mb5.5
ORIF Oris-en-Rattie 51.86 303 *e*P P 06 12 04.8 -1.4
comp=Z,95nm,1.4s,mb5.2
ORIF *e*R
comp=Z,633nm,18.0s
GRN Grenoble 51.87 303 *e*P P 06 12 06.0 -0.3
SMRF Simiane la Rot 52.31 302 *e*P P 06 12 08.7 -1.0
LOR Lormes 52.64 306 *e*P P 06 12 10.4 -1.7
comp=Z,58nm,1.1s,mb5.1
LOR *e*R
comp=Z,780nm,20.5s
VIVF Saint-Julien-l 52.70 303 *e*P P 06 12 11.5 -1.1
comp=Z,244nm,1.6s,mb5.6
SMF Signal de Mont 52.80 305 *e*P P 06 12 11.8 -1.5
comp=Z,216nm,1.0s,mb5.8
SSF Saint Saulge 52.92 306 *e*P P 06 12 12.6 -1.6
comp=Z,136nm,1.1s,mb5.5
AGO Saint Agoulin 53.43 305 *e*P P 06 12 18.6 +0.7
HYF Humbligny 53.44 306 *e*P P 06 12 16.9 -1.1
LASF Ste Croix 53.48 302 *e*P P 06 12 17.4 -0.9
BGF Bois d'Agland 53.49 305 *e*P P 06 12 16.8 -1.6
comp=Z,114nm,1.1s,mb5.4
LBL Lubilhac 53.57 304 *e*P P 06 12 19.9 +0.9
MA2 Magadan 53.58 38 *e*P P 06 12 19.8 +0.9
MA2 *e*S **S** **06 19 50.7 +0.6**
MA2 *e* 06 21 56.7
MA2 pmax pmax
comp=Z,60nm,1.2s,mb5.4
MA2 Magadan 53.58 38 ⇑*e*P P 06 12 19.1 +0.2
PYM Petit Puy Mans 53.60 304 *e*P P 06 12 19.7 +0.6
LMK Market Rasen 53.84 314 *e*P P 06 12 20.3 -0.6
SEY Seymchan 53.86 34 *e*P P 06 12 22.7 +1.9
SEY *e* 06 15 35.5
SEY pmax pmax
comp=N,170nm,1.2s
SEY pmax pmax
comp=Z,320nm,1.2s,mb6.1
SEY pmax pmax
comp=E,60nm,0.9s
TCF Toulx Ste Croi 53.99 305 *e*P P 06 12 20.8 -1.2
comp=E,213nm,1.1s,mb5.7
KSY Syston 54.10 314 *e*P P 06 12 22.2 -0.5
MBAR Mbarara 54.17 238 *e*P P 06 12 23.4 -0.4
comp=E,30nm,1.1s,mb5.1
MBAR LR LR
comp=Z,56nm,21.0s
LCP Cassop 54.23 316 *e*P P 06 12 23.1 -0.5
CAF Calviac 54.47 304 *e*P P 06 12 24.4 -1.1
comp=Z,105nm,1.0s,mb5.4
KBI1 Birley Grange 54.59 314 *e*P P 06 12 25.7 -0.6
LHO Holmfirth 54.71 315 *e*P P 06 12 26.5 -0.7
RJF Les Rejaudoux 54.73 304 *e*P P 06 12 26.6 -0.9
comp=Z,103nm,1.0s,mb5.5
RJF *e*R
comp=Z,590nm,21.2s
JMIC Jan Mayen 54.78 337 LR LR 06 36 21.5
comp=Z,676nm,21.8s,MS4.7,baz=274,slow=37
MTLF Montolieu 54.83 302 *e*P P 06 12 26.9 -1.3
comp=Z,166nm,1.3s,mb5.6
KWE Weaver Farm 54.83 314 *e*P P 06 12 27.3 -0.8
LDF La Druitiere 54.89 309 *e*P P 06 12 26.9 -1.7
comp=Z,190nm,1.4s,mb5.6
EDI Edinburgh 54.93 318 *e*P P 06 12 28.6 -0.2
EDI AMb AMB 06 12 32.2
comp=Z,82nm,1.9s,mb5.4
FLN La Foliniere 55.07 309 *e*P P 06 12 27.9 -2.1
comp=Z,103nm,0.9s,mb5.6
FLN *e*R
comp=Z,739nm,20.8s
ESK Eskdalemuir 55.08 317 *e*P P 06 12 29.2 -0.7
ESK AMb AMB 06 12 33.3
comp=Z,60nm,1.8s,mb5.3
ESK Eskdalemuir 55.08 317 PFAKE 06 12 40.0 +10
ESK LR LR
comp=Z,239nm,20.0s,MS4.3
LFF La Frestale 55.36 304 *e*P P 06 12 30.8 -1.3
comp=Z,55nm,0.8s,mb5.3
GRR Gorron 55.42 308 *e*P P 06 12 30.5 -1.9
comp=Z,165nm,0.9s,mb5.8
MFF Saint Martin d 55.46 306 *e*P P 06 12 30.8 -2.0
comp=Z,117nm,1.1s,mb5.5
MLS Moulis 55.73 302 *e*P P 06 12 33.1 -1.7
EMIR Miracle 55.76 300 P P 06 12 33.9 -1.2
comp=Z,88nm,2.1s,mb5.4
EPF Esparros 56.23 302 *e*P P 06 12 36.0 -2.4
comp=Z,44nm,0.9s,mb5.2
EPOB Poblet 56.27 300 P P 06 12 36.5 -2.1
comp=Z,89nm,1.3s,mb5.6
RESF Ens 56.30 302 *e*P P 06 12 38.2 -0.7
LABF Labassere 56.41 302 *e*P P 06 12 38.8 -0.9
EBIE Bielsa 56.48 302 P P 06 12 36.9 -3.3
comp=Z,65nm,1.6s,mb5.4
VIEF Viey 56.50 302 *e*P P 06 12 39.3 -1.0
HEX Exmoor 56.50 312 *e*P P 06 12 39.0 -1.2
HSA Swansea 56.53 313 *e*P P 06 12 39.5 -0.8
SGMF Saint Gilles 56.54 309 *e*P P 06 12 38.9 -1.6
comp=Z,130nm,0.9s,mb5.6
DAG Danmarks Havn 56.63 344 ⇑*i*P P 06 12 40.5 -0.3
comp=Z,54nm,1.1s,mb5.5
DAG Danmarks Havn 56.63 344 ⇑*e*P P 06 12 40.5 -0.3
comp=Z,54nm,1.1s,mb5.5
HPE Pembroke 56.84 313 *e*P P 06 12 41.2 -1.4
EBR Ebro Roquetas 56.86 299 *e*P P 06 12 42.0 -0.9
EIBI Ibiza 56.88 297 P P 06 12 39.1 -4.0
comp=Z,223nm,1.5s,mb6.0
ETSF Etsaut 56.90 302 *e*P P 06 12 42.3 -0.9
comp=Z,74nm,0.9s,mb5.4
ROSF Rostrenen 56.97 309 *e*P P 06 12 41.8 -1.8
comp=Z,204nm,1.0s,mb5.8
QUIF Quistinic 57.03 308 *e*P P 06 12 42.0 -2.1
comp=Z,174nm,1.1s,mb5.7
ESAC San Caprasio 57.23 301 P P 06 12 43.7 -1.9
comp=Z,174nm,1.1s,mb6.0
SJPF Ste Jean 57.28 303 *e*P P 06 12 44.7 -1.2
comp=Z,64nm,1.2s,mb5.2
EALK Alkurruntz 57.44 303 P P 06 12 44.1 -2.9
comp=Z,91nm,1.9s,mb5.5
DLF Lyons Farm 57.48 315 *e*P P 06 12 47.2 +0.1
EMOS Mosqueruela 57.71 299 P P 06 12 43.8 -5.2
comp=Z,204nm,2.1s,mb5.8
DCN Croghan 57.90 316 *e*P P 06 12 50.4 +0.4
EBEN Beniarda 58.14 297 P P 06 12 47.4 -4.5
comp=Z,94nm,1.7s,mb5.5
BILL Bilibino 58.44 26 *d*/*i*P P 06 12 53.7 0.0
BILL *e* 06 13 44.1
BILL *e* 06 15 02.8
BILL pmax pmax
comp=Z,58nm,1.0s,mb5.6
BILL MLR MLR
comp=Z,500nm,20.0s,MS4.6
BILL Bilibino 58.44 26 *e*P P 06 12 53.4 -0.2
comp=Z,64nm,1.1s,mb5.6
BILL LR LR
comp=Z,636nm,20.0s,MS4.7
ETOR Torete 58.67 300 P P 06 12 50.4 -5.2
comp=Z,51nm,1.5s,mb5.3
ELAN Lanestosa 58.76 303 P P 06 12 50.2 -6.0
comp=Z,104nm,1.0s,mb5.8
EMUR La Murta 59.20 297 P P 06 12 56.3 -3.1
comp=Z,155nm,1.9s,mb5.7
PET Petropavlovsk 59.45 44 *e*P P 06 13 00.7 -0.2
PET *e* 06 15 19.7
PET *e*S **S** **06 21 03.3 -4.7**
PET *e*SS SS 06 24 56.3 -8.3
PET pmax pmax
comp=Z,200nm,16.5s
PET pmax pmax
comp=Z,100nm,18.9s
PET smax
comp=E,200nm,17.8s
PET MLR MLR
comp=Z,800nm,18.0s,MS4.9
PET MLR MLR
comp=Z,500nm,18.0s
PET Petropavlovsk 59.45 44 PFAKE 06 13 10.0 +9.1
PET LR LR
comp=Z,672nm,19.0s,MS4.8
EVIA Vianos 59.81 298 P P 06 13 01.5 -2.1
comp=Z,25nm,0.8s,mb5.3
EARI Arriondas 59.95 304 P P 06 12 59.0 -5.4
comp=Z,168nm,1.9s,mb5.8
ESDC Sonseca Array 60.45 300 P P 06 13 07.0 -0.9
comp=Z,28nm,0.8s,mb5.4,baz=54,slow=7.4,SNR=91
ESDC Sonseca Array 60.45 300 P P 06 13 05.6 -2.4
comp=Z,59nm,1.0s,mb5.6
ESLA Sonseca Array 60.45 300 *e*P P 06 13 06.9 -1.0
comp=Z,8.1nm,0.9s,mb4.8
ESLA LR LR
comp=Z,2μm,21.0s,MS5.3
EQES Quesada 60.55 297 P P 06 13 06.4 -2.2
comp=Z,60nm,0.9s,mb5.7
EBER Berja 60.78 296 P P 06 13 08.1 -2.1
comp=Z,91nm,1.0s,mb5.9
EPON Pontenova 61.25 305 P P 06 13 07.3 -5.9
comp=Z,207nm,2.0s,mb5.9
ERON Agron 61.40 297 P P 06 13 12.5 -2.0
comp=Z,21nm,0.7s,mb5.4
EADA Adamuz 61.49 298 P P 06 13 12.8 -2.3
comp=Z,79nm,2.1s,mb5.5
ECAL Calabor 61.51 303 P P 06 13 13.7 -1.3
comp=Z,52nm,1.1s,mb5.6
ELUQ Luque 61.52 298 P P 06 13 12.0 -3.1
comp=Z,45nm,0.9s,mb5.6
ELOJ Sierra Loja 61.60 297 P P 06 13 13.8 -2.0
comp=Z,6.3nm,0.7s,mb4.8
ERUA La Lua 61.60 304 P P 06 13 15.3 -0.4
comp=Z,28nm,0.9s,mb5.4
EMIJ Mijas 62.30 297 P P 06 13 17.1 -3.3
comp=Z,15nm,0.7s,mb5.2
ELOB Lobios 62.44 303 P P 06 13 19.8 -1.6
comp=Z,101nm,1.1s,mb5.9
PVRL Vila Real 62.44 303 *e*P P 06 13 20.8 -0.6
comp=Z,54nm,1.1s,mb5.6
MTE Manteigas 62.68 302 *e*P P 06 13 22.6 -0.3
comp=Z,62nm,1.2s,mb5.6
MTE Manteigas 62.68 302 *e*P P 06 13 22.4 -0.6
comp=Z,69nm,0.9s,mb5.8
MTE *e* 06 13 28.5
PCBR Castelo Branco 62.87 301 *e*P P 06 13 23.9 -0.3
comp=Z,43nm,1.6s,mb5.3
ESPR Espera 62.96 297 P P 06 13 21.1 -3.7
comp=Z,130nm,2.1s,mb5.7
EBAD Badajoz 62.99 300 P P 06 13 23.4 -1.6
comp=Z,159nm,1.0s,mb6.1
SUMG Summit 63.06 342 *e*P P 06 13 25.4 +0.4
comp=Z,78nm,0.9s,mb5.8
EMIN Mina Concepcio 63.16 299 P P 06 13 23.5 -2.7
comp=Z,72nm,1.1s,mb5.7
PTOM Tomar 63.61 301 *e*P P 06 13 29.0 -0.1
comp=Z,168nm,1.1s,mb6.0
EVO Evora 63.80 300 *e*P P 06 13 30.7 +0.4
comp=Z,224nm,1.6s,mb5.7
EVO *e*R
comp=Z,443nm,22.8s
PALC Alcoutim 63.87 299 *e*P P 06 13 30.2 -0.6
comp=Z,112nm,1.3s,mb5.7
PBEJ Beja 63.91 299 *e*P P 06 13 30.7 -0.3
comp=Z,94nm,1.3s,mb5.7
PLOU Loures 64.45 301 *e*P P 06 13 34.7 +0.2
comp=Z,190nm,1.1s,mb6.0
PTEO Sao Teotonio 64.73 299 *e*P P 06 13 36.2 -0.2
comp=Z,136nm,1.1s,mb5.9
FX1 Attu Island--F 67.52 40 *e*P P 06 13 51.5 -2.4
TNA Tin City 68.56 23 PFAKE 06 14 10.0 +10
TNA LR LR
comp=Z,275nm,20.0s,MS4.5
ANM Nome 70.04 23 *e*P P 06 14 11.3 +2.0
MBWA Marble Bar 70.72 135 *e*P P 06 14 13.3 -0.9
comp=Z,35nm,1.1s,mb5.2
MBWA LR LR
comp=Z,444nm,21.0s,MS4.7
FITZ Fitzroy Crossi 71.98 129 *e*P P 06 14 21.6 -0.2
comp=Z,28nm,1.0s,mb5.2
IMA Indian Mountai 72.38 19 P P 06 14 14.8 -8.6
IMA pmax pmax
comp=Z,19nm,1.2s,mb4.9
IMA Indian Mountai 72.38 19 *e*P P 06 14 23.8 +0.4
comp=Z,94nm,1.2s,mb5.6
KAKA Kakadu 72.70 120 *e*P P 06 14 29.6 +3.4
comp=Z,38nm,0.8s,mb5.4
INK Inuvik 74.59 10 P P 06 14 36.4 +0.3
comp=Z,68nm,1.1s,mb5.5,baz=354,slow=6.8,SNR=53
INK Inuvik 74.59 10 P P 06 14 36.4 +0.3
INK pmax pmax
comp=Z,68nm,1.1s
INK Inuvik 74.59 10 *e*P P 06 14 36.3 +0.2
comp=Z,132nm,1.2s,mb5.7
COLA College 74.81 17 P P 06 14 37.1 -0.3
COLA pmax pmax
comp=Z,170nm,1.0s,mb5.9
COLA College 74.81 17 *e*P P 06 14 37.6 +0.2
comp=Z,211nm,1.0s,mb6.0
ILAR Eielson Array 75.12 17 P P 06 14 38.5 -0.7
comp=Z,47nm,0.9s,mb5.4,baz=320,slow=4.5,SNR=235
ILAR PP PP 06 17 26.9 -2.8
comp=Z,7.1nm,1.1s,baz=311,slow=6.3,SNR=6.9
ILAR Eielson Array 75.12 17 P P 06 14 38.5 -0.7
ILAR 06 17 26.9
ILAR pmax pmax
comp=Z,47nm,0.9s
ILAR pmax pmax
comp=Z,7.0nm,1.1s
MCK McKinley 75.47 18 P P 06 14 41.0 -0.3
MCK pmax pmax
comp=Z,32nm,1.0s,mb5.2
MCK McKinley 75.47 18 *e*P P 06 14 40.6 -0.6
comp=Z,32nm,1.1s,mb5.2
MCK LR LR
comp=Z,289nm,19.0s,MS4.6
SVW2 Sparrevohn 75.66 23 *e*P P 06 14 43.4 +1.0
THY Trims Highway 76.53 17 *e*P P 06 14 46.9 -0.4
RSO Redoubt South 77.03 22 *e*P P 06 14 51.0 +0.9
PMR Palmer 77.17 20 *e*P P 06 14 50.8 0.0
comp=Z,95nm,1.0s,mb5.7
SML Sawmill 77.21 19 P P 06 14 51.2 +0.1
SML Sawmill 77.21 19 *e*P P 06 14 51.4 +0.3
FIB Fire Island 77.23 20 PFAKE 06 15 00.0 +8.9
FIB LR LR
comp=Z,1μm,20.0s,MS5.2
DAWY Dawson 77.40 15 *e*P P 06 14 52.0 -0.1
DBIC Dimbokro 77.43 269 P P 06 14 52.3 -1.0
comp=Z,14nm,0.9s,mb4.9,baz=28,slow=4.7,SNR=11
DBIC Dimbokro 77.43 269 P P 06 14 52.3 -0.9
DBIC pmax pmax
comp=Z,14nm,0.9s
KIC Kosan Boka 77.51 269 *e*P P 06 14 52.2 -1.5
comp=Z,131nm,1.0s,mb5.8
TIC Toumodi 77.58 269 *e*P P 06 14 52.7 -1.4
comp=Z,144nm,1.2s,mb5.8
MUN Mundaring 77.60 145 *e*P P 06 14 54.2 +0.4
comp=Z,50nm,1.0s,mb5.4
LIC Lamto 77.82 269 *e*P P 06 14 52.9 -2.5
comp=Z,42nm,1.0s,mb5.0
LIC Lamto 77.82 269 *e*P P 06 14 54.1 -1.3
comp=Z,66nm,1.1s,mb5.5
KLBR Kellerberrin 78.02 143 *e*P P 06 14 55.4 -0.8
comp=Z,56nm,1.0s,mb5.4
DIV Divide 78.46 19 *e*P P 06 14 58.3 +0.4
comp=Z,157nm,1.0s,mb5.9
DIV LR LR
comp=Z,779nm,21.0s,MS5.0
BOSA Boshof 78.70 223 *e*P P 06 15 10.2 +10
NWAO Narrogin (SRO) 78.87 144 P P 06 15 00.4 -0.4
NWAO Narrogin (SRO) 78.87 144 *e*P P 06 15 00.1 -0.6
NWAO LR LR
comp=Z,298nm,20.0s,MS4.6
EYAK Cordova Ski Ar 78.96 19 *e*P P 06 15 01.7 +1.0
WRA Warramunga Arr 79.02 124 P P 06 15 01.8 0.0
comp=Z,28nm,0.7s,mb5.3,baz=328,slow=5.8,SNR=222
WRA PKKPbc 06 33 55.4
comp=Z,2.6nm,0.8s,baz=135,slow=2.0,SNR=19
WRA PKPPKP 06 41 55.6
comp=Z,2.2nm,1.2s,baz=125,slow=1.3,SNR=7.5
WRAB Tennant Creek 79.02 124 *e*P P 06 15 01.8 -0.1
comp=Z,67nm,0.8s,mb5.6
WRAB LR LR
comp=Z,154nm,22.0s,MS4.3
WB2 Warramunga Arr 79.03 124 *e*P P 06 15 01.7 -0.2
KDAK Kodiak Island 79.21 24 *e*P P 06 15 02.9 +0.8
comp=Z,740nm,1.2s,mb6.5
ASPA Alice Springs 81.32 127 *e*P P 06 15 14.4 +0.4
ASAR Alice Springs 81.32 127 P P 06 15 14.2 +0.2
comp=Z,18nm,0.8s,mb5.1,baz=312,slow=5.5,SNR=112
ASAR PKKPbc 06 33 50.2
comp=Z,1.9nm,0.8s,baz=121,slow=2.2,SNR=16
ASAR PKPPKP 06 41 55.5
comp=Z,0.9nm,0.9s,baz=135,slow=2.6,SNR=4.7
PMG Port Moresby 81.61 108 P P 06 15 16.1 +0.4
PMG Port Moresby 81.61 108 *e*P P 06 15 15.5 -0.2
PMG LR LR
comp=Z,164nm,21.0s,MS4.4
YKA Yellowknife Ar 82.25 4 P P 06 15 18.3 +0.2
comp=Z,18nm,0.7s,mb5.1,baz=348,slow=5.2,SNR=24
YKA PP PP 06 18 26.6 -2.2
comp=Z,4.2nm,0.9s,baz=352,slow=8.1,SNR=4.3
YKA Yellowknife Ar 82.25 4 P P 06 15 18.3 +0.2
YKA 06 18 26.6
YKA pmax pmax
comp=Z,18nm,0.7s
YKA pmax pmax
comp=Z,4.0nm,0.9s
FORT Forrest 82.87 136 *e*P P 06 15 22.5 +0.6
comp=Z,243nm,0.7s,mb6.3
SUR Sutherland 84.04 223 P P 06 15 30.0 +2.1
comp=Z,11nm,0.8s,mb5.0,baz=92,slow=4.5,SNR=6.1
SCHQ Schefferville 84.23 339 P P 06 15 29.4 +1.1
comp=Z,21nm,0.9s,mb5.2,baz=27,slow=4.0,SNR=9.9
SCHQ Schefferville 84.23 339 *e*P P 06 15 29.1 +0.8
comp=Z,29nm,0.9s,mb5.4
SCHQ LR LR
comp=Z,1μm,22.0s,MS5.3
CTA Charters Tower 87.53 117 ⇑*i*P P 06 15 46.0 +0.6
comp=Z,18nm,0.8s,mb5.3
CTAO Charters Tower 87.53 117 P P 06 15 46.1 +0.7
CTAO pmax pmax
comp=Z,30nm,0.9s,mb5.5
CTAO Charters Tower 87.53 117 *e*P P 06 15 45.8 +0.4
comp=Z,30nm,0.9s,mb5.5
CTAO LR LR
comp=Z,244nm,19.0s,MS4.6
FFC Flin Flon 90.26 358 P P 06 15 58.7 +1.1
FFC pmax pmax
comp=Z,75nm,1.2s,mb5.9
FFC Flin Flon 90.26 358 *e*P P 06 15 58.0 +0.5
comp=Z,74nm,1.3s,mb5.9
FFC LR LR
comp=Z,192nm,20.0s,MS4.5
EDM Edmonton 91.57 5 P P 06 16 04.6 +1.0
EDM Edmonton 91.57 5 *e*P P 06 16 04.3 +0.8
PQI Presque Isle 91.66 335 P P 06 16 06.2 +2.0
comp=Z,66nm,0.8s
PQI LR LR
comp=Z,10μm,19.0s
STKA Stephens Creek 91.87 128 *e*P P 06 16 06.7 +1.2
comp=Z,7.0nm,1.5s,mb4.8
STKA Stephens Creek 91.87 128 P P 06 16 06.5 +0.9
comp=Z,2.5nm,0.7s,mb4.7,baz=309,slow=8.3,SNR=4.7
EMMW East Machias 93.16 334 PFAKE 06 16 20.0 +8.9
EMMW LR LR
comp=Z,4μm,20.0s
WVL Waterville 94.06 335 PFAKE 06 16 30.0 +15
WVL LR LR
comp=Z,7μm,21.0s
ULM Lac du Bonnet 94.37 354 P P 06 16 17.1 +0.5
comp=Z,19nm,0.9s,mb5.5,baz=9.5,slow=3.7,SNR=14
ULM Lac du Bonnet 94.37 354 *e*P P 06 16 16.6 +0.1
ULM LR LR
comp=Z,1μm,20.0s,MS5.4
NCB Newcomb 96.08 338 PFAKE 06 16 40.0 +15
NCB LR LR
comp=Z,531nm,21.0s,MS5.0
WES Weston 96.56 335 PFAKE 06 16 40.0 +13
WES LR LR
comp=Z,2μm,19.0s,MS5.5
CHMT Chamberlain Mo 97.85 5 *e*P P 06 16 32.9 +0.5
LKWY Lake 100.37 3 PFAKE 06 17 00.0 +16
LKWY LR LR
comp=Z,1μm,19.0s,MS5.4
JFWS Jewell Farm 100.89 349 PFAKE 06 17 00.0 +14
JFWS LR LR
comp=Z,379nm,19.0s,MS4.9
ACSO Alum Creek Sta 101.99 342 PFAKE 06 17 00.0 +8.7
ACSO LR LR
comp=Z,1μm,22.0s,MS5.3
AHID Auburn Hatcher 102.12 4 PFAKE 06 17 00.0 +8.1
AHID LR LR
comp=Z,690nm,20.0s,MS5.2
PDAR Pinedale Array 102.20 3 P Pdif 06 16 54.5 +2.2
comp=Z,0.3nm,0.5s,baz=27,slow=2.0,SNR=3.5
BBSR BB Station 102.50 325 PFAKE 06 17 10.0 +16
BBSR LR LR
comp=Z,458nm,20.0s,MS5.0
BMN Battle Mountai 103.86 9 PFAKE 06 17 10.0 +10
BMN LR LR
comp=Z,347nm,20.0s,MS4.9
BLA Blacksburg 104.14 340 PFAKE 06 17 10.0 +9.0
BLA LR LR
comp=Z,819nm,21.0s,MS5.2
DUG Dugway 104.56 6 PFAKE 06 17 10.0 +7.3
DUG LR LR
comp=Z,605nm,20.0s,MS5.1
CASY Casey 105.02 166 PFAKE 06 21 30.0
CASY LR LR
comp=Z,397nm,20.0s,MS5.0
NVAR Mina Array Bea 105.68 10 Pdiff Pdif 06 17 10.5 +2.8
comp=Z,0.5nm,0.7s,baz=326,slow=3.3,SNR=3.7
NVAR PKJKP 06 21 22.8
comp=Z,3.7nm,1.1s,baz=315,slow=3.8,SNR=5.7
NVAR Mina Array Bea 105.68 10 Pdif Pdif 06 17 10.5 +2.8
NVAR PKPdf 06 21 22.8
MNV Mina 105.70 10 PFAKE 06 21 30.0

MNV					LR	LR			
	comp=Z,375nm,22.0s,MS4.9								
CBKS	**Cedar Bluff**	**106.04**	**355**		PFAKE		06 21 30.0		
CBKS					LR	LR			
	comp=Z,775nm,22.0s,MS5.2								
TPH	**Tonopah**	**106.18**	**10**		PFAKE		06 21 30.0		
TPH					LR	LR			
	comp=Z,275nm,20.0s,MS4.8								
MVU	**Marysvale**	**106.29**	**5**		PFAKE		06 21 30.0		
MVU					LR	LR			
	comp=Z,797nm,20.0s,MS5.3								
SAO	**San Andreas Ge**	**106.78**	**13**		PFAKE		06 21 30.0		
SAO					LR	LR			
	comp=Z,210nm,19.0s,MS4.7								
SYO	**Syowa Base**	**107.16**	**192**	⇑	PP	PP	06 21 40.5	-3.1	
SDCO	**Great Sand Dun**	**107.30**	**360**		PFAKE		06 21 40.0		
SDCO					LR	LR			
	comp=Z,1μm,19.0s,MS5.5								
DAC	**Darwin (Calif)**	**107.89**	**10**		PFAKE		06 21 40.0		
DAC					LR	LR			
	comp=Z,338nm,19.0s,MS4.9								
MIAR	**Mount Ida**	**109.59**	**349**		PFAKE		06 21 40.0		
MIAR					LR	LR			
	comp=Z,966nm,21.0s,MS5.3								
RCBR	**Riachuelo**	**109.91**	**277**		PFAKE		06 21 40.0		
RCBR					LR	LR			
	comp=Z,466nm,20.0s,MS5.1								
ANMO	**Albuquerque**	**110.09**	**1**		PFAKE		06 21 40.0	+9.2	
ANMO					LR	LR			
	comp=Z,917nm,22.0s,MS5.3								
PFO	**Pinyon Flat Ob**	**110.68**	**10**		PFAKE		06 21 40.0	+8.0	
PFO					LR	LR			
	comp=Z,132nm,19.0s,MS4.5								
NATX	**Nacogdoches**	**112.49**	**350**		PFAKE		06 21 50.0	+14	
NATX					LR	LR			
	comp=Z,717nm,22.0s,MS5.2								
TUC	**Tucson**	**112.55**	**5**		PFAKE		06 21 50.0	+14	
TUC					LR	LR			
	comp=Z,413nm,20.0s,MS5.0								
DWPF	**Disney**	**112.92**	**337**		PFAKE		06 21 50.0	+14	
DWPF					LR	LR			
	comp=Z,110nm,20.0s,MS4.5								
JCT	**Junction City**	**114.32**	**355**		P	Pdif	06 17 40.5	-5.4	
JCT					*e*		06 21 38.4		
JCT	**Junction City**	**114.32**	**355**		PFAKE		06 21 50.0	+11	
JCT					LR	LR			
	comp=Z,471nm,19.0s,MS5.1								
SJG	**San Juan**	**115.02**	**318**		PFAKE		06 21 50.0	+9.3	
SJG					LR	LR			
	comp=Z,489nm,19.0s,MS5.1								
TXAR	**Lajitas Array**	**115.67**	**358**		PKP	PKPdf	06 21 41.2	-0.6	
	comp=Z,1.1nm,0.9s,baz=180,slow=1.3,SNR=8.4								
TXAR					PKKPbc		06 32 12.9		
	comp=Z,0.8nm,0.8s,baz=170,slow=7.6,SNR=5.1								
TXAR					PKKPab		06 32 17.6		
	comp=Z,1.1nm,0.8s,baz=191,slow=6.9,SNR=8.6								
SNAA	**Sanae**	**119.27**	**201**	⇓	*i*P	PKPdf	06 21 44.9	-2.9	
VNA2	**Neumayer--Watz**	**120.35**	**202**		P	PKPdf	06 21 50.2	+0.3	
VNA1	**Neumayer--Stat**	**120.53**	**203**	⇓	*i*P	PKPdf	06 21 51.1	+0.8	
VNA3	**Neumayer Olymp**	**121.16**	**202**	⇓	*i*P	PKPdf	06 21 50.9	-0.7	
VNDA	**Vanda**	**123.63**	**165**		PKP	PKPdf	06 21 53.6	-2.6	
	comp=Z,1.2nm,0.8s,baz=340,slow=5.5,SNR=5.6								
VNDA					PKKPbc		06 31 44.7		
	comp=Z,1.1nm,1.0s,baz=111,slow=5.6,SNR=3.5								
VNDA	**Vanda**	**123.63**	**165**		*e*PKPdf	PKPdf	06 21 53.4	-2.9	
VNDA					LR	LR			
	comp=Z,177nm,21.0s,MS4.7								
SBA	**Scott Base**	**124.72**	**165**		PFAKE		06 22 10.0	+12	
SBA					LR	LR			
	comp=Z,133nm,19.0s,MS4.6								
SDV	**Santo Domingo**	**125.03**	**316**		*e*PKPdf	PKPdf	06 21 58.3	-2.1	
SDV					LR	LR			
	comp=Z,359nm,20.0s,MS5.0								
QSPA	**South Pole Qui**	**125.11**	**180**	⇓	*i*P	PKPdf	06 21 57.2	-1.7	
BDFB	**Brasilia**	**125.22**	**275**		PKP	PKPdf	06 21 59.5	-1.2	
	comp=Z,3.9nm,0.8s,baz=85,slow=3.0,SNR=4.5								
BDFB	**Brasilia**	**125.22**	**275**		PKIKP	PKPdf	06 21 59.5	-1.2	
BDFB					pmax	pmax			
	comp=Z,4.0nm,0.8s								
SAML	**Samuel**	**133.28**	**294**		*e*PKPdf	PKPdf	06 22 14.8	-1.3	
SAML					LR	LR			
	comp=Z,357nm,21.0s,MS5.1								
LPAZ	**La Paz**	**141.62**	**290**		PKP	PKPdf	06 22 30.9	-0.4	
	comp=Z,4.1nm,0.8s,baz=28,slow=8.4,SNR=11								
LPAZ	**La Paz**	**141.62**	**290**		PKIKP	PKPdf	06 22 30.9	-0.3	
LPAZ					pmax	pmax			
	comp=Z,4.0nm,0.8s								
LPAZ	**La Paz**	**141.62**	**290**		*e*PKPpre		06 22 27.7		
LPAZ					PKP	PKPdf	06 22 30.9	-0.4	
LPAZ					LR	LR			
	comp=Z,172nm,20.0s,MS4.8								
NNA	**Nana**	**145.12**	**305**		*e*PKPdf	PKPdf	06 22 35.3	-2.1	
TRQA	**Tornquist**	**145.16**	**252**		*e*PKPdf	PKPdf	06 22 35.2	-1.6	
TRQA					LR	LR			
	comp=Z,227nm,20.0s,MS4.9								
LVC	**Limon Verde**	**145.70**	**282**		*e*PKPdf	PKPdf	06 22 37.3	-0.9	
FCH	**Farellones**	**150.88**	**264**		*i* P	PKPdf	06 22 51.7	+5.5	
CLCH	**Cerro Calan**	**151.09**	**264**		*i* P	PKPdf	06 22 52.0	+5.5	
PEL	**Peldehue**	**151.15**	**264**		*i* P	PKPdf	06 22 51.0	+4.4	

MOS ***31*** *06:03:07.8±1.9,29.96N×50.70E,h33km,mb4.6/4, Error ellipse: s-maj=39.4km s-min=9.6km az=116.4*
THR ***31*** *06:03:14.8±0.7,30.48N×49.90E,h27km±12km, ML4.0*
KISR ***31*** *06:03:15.2±0.9,30.68N×50.21E,h33km,MD3.5, ML3.9*
IDC ***31*** *06:03:17.2±5.4,31.13N×49.79E,mb4.1/11,mb1 4.2/13, mb1mx4.1/24,ML3.7/2, Error ellipse: s-maj=98.3km s-min=30.4km az=159.0*
NEIC ***31*** *06:03:24.6±2.9,31.10N×49.69E,h60km±16km,mb4.9/2, Error ellipse: s-maj=32.4km s-min=12.8km az=147.0*

ISC 31 06:03:18.2±0.6,30.61N±0.05×50.13E±0.05,h65km±7km, n44,σ1$08/50,mb4.0/12,1C,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
SHGR	**Shooshtar-Gavs**	**1.87**	**323**	*e*PG		**P**	**06 03 48.2**	**-0.4**
SHGR				*e*SG		**S**	**06 04 12.7**	**+1.6**
SHGR				AMP			06 04 30.5	
	comp=E,1μm,0.6s							
SHGR				AMP			06 04 32.8	
	comp=N,2μm,0.6s							
UMR	**Umm Al-Rimmam**	**2.34**	**244**	*e*P		**P**	**06 03 55.3**	**+0.1**
UMR				*e*S		**S**	**06 04 24.2**	**+1.4**
UMR				AML		AML	06 04 28.1	
	comp=Z,533nm,0.4s							
KBD	**Kabd**	**2.55**	**236**	*e*P		**P**	**06 03 57.5**	**-0.7**
KBD				*e*S		**S**	**06 04 28.7**	**+0.6**
QRN	**Al-Qurain**	**2.68**	**226**	*e*P		**P**	**06 03 59.4**	**-0.6**
QRN				*e*S		**S**	**06 04 32.1**	**+0.9**
RDF	**Al-Radifah**	**2.80**	**234**	*e*P		**P**	**06 04 01.4**	**-0.3**
RDF				AML		AML	06 04 34.2	
	comp=Z,396nm,0.4s							
RDF				*e*S		**S**	**06 04 35.1**	**+0.7**
RST	**Umm Al-Ruwaisa**	**2.93**	**249**	*e*P		**P**	**06 04 02.2**	**-1.4**
RST				AML		AML	06 04 43.7	
	comp=Z,326nm,0.3s							
NASN	**Na'in**	**3.16**	**46**	*e*PN		**P**	**06 04 08.5**	**+1.8**
GHIR	**Ghir-Karzin**	**3.41**	**132**	*e*PN		**P**	**06 04 09.6**	**-0.6**
GHIR				AMP			06 05 26.6	
	comp=E,210nm,0.5s							
GHIR				AMP			06 05 33.9	
	comp=N,247nm,0.6s							
SNGE	**Sanandaj**	**5.04**	**333**	*e*PN		**P**	**06 04 31.6**	**-1.4**
KRBR	**Kerman**	**5.77**	**95**	*e*PN		**P**	**06 04 44.1**	**+1.0**
BNDS	**Bandar-Abbas**	**6.19**	**120**	*e*PN		**P**	**06 04 47.7**	**-1.1**
ARSS	**Ar Rass**	**7.69**	**234**	P		**P**	**06 05 04.2**	**-5.6**
MZLS	**Mizel**	**7.88**	**215**	P		**P**	**06 05 08.4**	**-4.0**
HILS	**Ha'il**	**7.98**	**248**	P		**P**	**06 05 08.8**	**-4.9**
AFFS	**'Afif**	**9.19**	**225**	P		**P**	**06 05 25.9**	**-4.5**
ASF	**Jabal al Asfar**	**11.41**	**281**	Pn		**P**	**06 05 58.5**	**-2.0**
	comp=N,0.6nm,0.3s,baz=280,slow=6.1,SNR=2.9							
ASF				Sn		**S**	**06 07 57.0**	**-10**
	comp=N,0.6nm,0.3s,baz=162,slow=20,SNR=3.6							
TATS	**Tathlith**	**12.56**	**210**	P		**P**	**06 06 10.9**	**-5.0**
ZEI	**Tsey**	**13.12**	**339**	⇑	*i*P	**P**	**06 06 26.0**	**+2.9**
KIV	**Kislovodsk**	**14.56**	**338**	*e*P		**P**	**06 06 40.2**	**-1.8**
	comp=N,19nm,0.8s							
BRTR	**Keskin Array B**	**16.24**	**308**	Pn		**P**	**06 07 01.1**	**-2.3**
	comp=N,0.2nm,0.3s,baz=132,slow=13,SNR=19							
IDI	**Anoyia**	**21.66**	**289**	P		**P**	**06 08 05.3**	**+0.5**
	comp=N,7.1nm,0.6s,mb4.2,baz=94,slow=10,SNR=15							
MLR	**Muntele Rosu**	**24.02**	**315**	P		**P**	**06 08 28.1**	**+0.3**
	comp=N,4.8nm,0.8s,mb3.9,baz=192,slow=3.3,SNR=2.4							
MLR	**Muntele Rosu**	**24.02**	**315**	P		**P**	**06 08 28.1**	**+0.4**
MLR				pmax		pmax		
	comp=Z,5.0nm,0.8s							
AKASG	**Malin Array Be**	**25.42**	**328**	P		**P**	**06 08 41.2**	**+0.1**
	comp=Z,2.4nm,0.4s,mb4.0,baz=135,slow=8.6,SNR=25							
AKASG	**Malin Array Be**	**25.42**	**328**	P		**P**	**06 08 41.2**	**+0.1**
AKASG				pmax		pmax		
	comp=Z,2.0nm,0.4s							
OBN	**Obninsk**	**26.33**	**342**	*e*P		**P**	**06 08 48.8**	**-0.7**
	comp=Z,19nm,0.7s,mb4.6							
BVAR	**Borovoye Array**	**26.83**	**28**	P		**P**	**06 08 57.0**	**+2.9**
	comp=Z,7.0nm,0.7s,mb4.3,baz=173,slow=12,SNR=2.6							
VRAC	**Vranov**	**31.41**	**316**	P		**P**	**06 09 34.8**	**-0.3**
	comp=Z,2.4nm,0.8s,mb4.0,baz=97,slow=8.5,SNR=4.1							
VRAC	**Vranov**	**31.41**	**316**	P		**P**	**06 09 34.8**	**-0.3**
VRAC				pmax		pmax		
	comp=Z,2.0nm,0.8s							
GERES	**GERESS Array B**	**33.00**	**314**	P		**P**	**06 09 48.5**	**-0.4**
	comp=Z,0.3nm,0.5s,mb3.4,baz=129,slow=8.5,SNR=4.9							
KHC	**Kasperske Hory**	**33.18**	**314**	*e*P		**P**	**06 09 51.0**	**+0.6**
CLL	**Collm**	**34.32**	**318**	P		**P**	**06 10 00.0**	**-0.2**
FINES	**FINESS Array B**	**34.65**	**340**	P		**P**	**06 10 02.8**	**-0.2**
	comp=Z,0.5nm,0.4s,mb3.7,baz=137,slow=8.4,SNR=8.2							
FINES	**FINESS Array B**	**34.65**	**340**	P		**P**	**06 10 02.8**	**-0.1**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.4s							
DAVOX	**Davos**	**34.88**	**309**	P		**P**	**06 10 05.3**	**+0.2**
	comp=Z,1.4nm,0.5s,mb4.0,baz=88,slow=10,SNR=3.9							
DAVOS	**Davos**	**34.95**	**309**	P		**P**	**06 10 05.3**	**-0.4**
COP	**Copenhagen**	**36.49**	**324**	*i* P		**P**	**06 10 25.8**	**+7.2**
	comp=Z,27nm,0.9s							
	comp=Z,680nm,20.0s							
COP	**Copenhagen**	**36.49**	**324**	*e*P		**P**	**06 10 25.8**	**+7.2**
	comp=Z,27nm,0.9s							
COP				LR		LR		
	comp=Z,690nm,20.0s							
HFS	**Hagfors**	**38.20**	**331**	P		**P**	**06 10 33.4**	**+0.6**
	comp=Z,3.5nm,0.4s,mb4.6,baz=121,slow=8.6,SNR=33							
HFS	**Hagfors**	**38.20**	**331**	P		**P**	**06 10 33.4**	**+0.5**
HFS				pmax		pmax		
	comp=Z,4.0nm,0.4s							
NB2	**NORSAR Subarra**	**39.72**	**331**	P		**P**	**06 10 45.7**	**+0.2**
	comp=Z,0.7nm,0.3s,mb4.0,baz=117,slow=8.6							
NOA	**NORSAR Array B**	**39.72**	**331**	P		**P**	**06 10 45.8**	**+0.3**
	comp=Z,0.8nm,0.4s,mb3.9,baz=122,slow=8.3,SNR=5.0							
NOA	**NORSAR Array B**	**39.72**	**331**	P		**P**	**06 10 45.8**	**+0.3**
NOA				pmax		pmax		
	comp=Z,1.0nm,0.4s							
ESDC	**Sonseca Array**	**44.56**	**297**	P		**P**	**06 11 26.3**	**+0.9**
	comp=Z,0.7nm,0.7s,mb3.5,baz=80,slow=7.4,SNR=4.7							

HRVD ***31*** *06:10:37.7±0.3,35.16N×74.34E,h12km,MW5.1/57, Centroid moment Tensor Solution. LP body waves: s27,c31;Mantle waves: s57,c99; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-4.34±.14; Mθθ3.22±.13; Mφφ1.11±.14; Mrθ-0.78±.49; Mθφ2.23±.12; Mφr-2.06±.48; Best double couple: M0≅5×10^16 NP1:φ≅253°, δ36°, λ-65°. NP2:φ≅42°, δ58°, λ-107°. Principal axes: T 4.98, Plg11°, Azm145°; N .05, Plg15°, Azm52°; P -5.03, Plg72°, Azm271°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***31*** *06:10:37.7±0.2,35.27N×74.52E,h10km,mb5.3/76, MS4.7/6 Error ellipse: s-maj=6.5km s-min=4.2km az=199.0*
SYO ***31*** *06:10:38.2,35.26N×74.48E,h15km, MB5.3,MS4.7*
BJI ***31*** *06:10:39.8,35.22N×74.39E,h41km,mB5.3,mb5.2,ML5.4, Ms4.9,Msz4.7*
MOS ***31*** *06:10:40.0±0.9,35.33N×74.58E,h33km,mb5.2/28, MS4.7/23,Error ellipse: s-maj=11.7km s-min=5.4km az=124.0*
NNC ***31*** *06:10:41.3±2.8,35.50N×73.87E,mpv5.1, Error ellipse: s-maj=49.0km s-min=24.1km az=101.0*
IDC ***31*** *06:10:43.2±4.3,35.36N×74.57E,h44km±41km, mb4.5/27, mb1 4.6/28,mb1mx4.6/29,ML4.8/1,MS4.6/17,Ms1 4.6/17, ms1mx4.5/22,Error ellipse: s-maj=17.8km s-min=10.8km az=29.0*
NDI ***31*** *06:10:43.4±5.6,34.98N×74.36E,h10km,mb5.4, mb5.3(NEIC)*

ISC 31 06:10:36.0±0.7,35.31N±0.02×74.51E±0.03,h8km±5km, h30km±3.6km:pP-P,n302,σ1$32/314,mb5.1/120,MS4.7/41, 36C-17D,Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
CHCP	**Chirah Chowk**	**1.94**	**212**	P		**Pn**	**06 11 14.4**	**+4.7**
JMU	**Jammu**	**2.61**	**173**	*i* PG		**Pg**	**06 11 27.5**	**-0.5**
JMU				*i* SG		**Sg**	**06 12 01.0**	**-1.8**
CEP	**Cherat**	**2.61**	**236**	⇑	P	**Pn**	**06 11 23.7**	**+4.4**
THN	**Thein Dam**	**3.04**	**160**	*e*PB		**Pb**	**06 11 32.8**	**+2.7**
	782nm,0.8s							
THN				*e*SG		**Sg**	**06 12 14.7**	**-2.5**
THW	**Thamme Wali**	**3.40**	**223**	⇑	P	**Pn**	**06 11 33.9**	**+3.3**
SARP	**Sargodha**	**3.71**	**205**	P		**Pn**	**06 11 38.1**	**+3.2**
BHK	**Bhakra**	**4.20**	**157**	*e*PG		**Pg**	**06 11 57.9**	**-1.9**
BHK				*e*SG		**Sg**	**06 12 55.1**	**-0.6**
SBDP	**Sheikh Budin**	**4.30**	**227**	⇓	P	**Pn**	**06 11 47.7**	**+4.3**
KSH	**Kashi**	**4.36**	**15**	PG		**Pg**	**06 11 57.5**	**-5.4**
KSH				SG		**Sg**	**06 12 56.3**	**-4.7**
KSH				LR		LR		
	comp=N,25μm,2.7s							
KSH				LR		LR		
	comp=E,29μm,3.8s							
DRP	**Derazinda**	**5.06**	**227**	P		**Pn**	**06 11 57.4**	**+3.3**
KKR	**Kurukshetra**	**5.68**	**159**	*e*		**Pn**	**06 12 05.7**	**+3.0**
KKR				*e*			06 13 12.7	
DDI	**Dehra Dun**	**5.80**	**148**	*e*		**Pn**	**06 12 06.8**	**+2.3**
DDI				*e*			06 13 18.2	
JOSI	**Joshimath**	**6.36**	**137**	*e*		**Pn**	**06 12 18.0**	**+5.6**
RTK	**Rohtak**	**6.46**	**165**	*e*		**Pn**	**06 12 16.4**	**+2.5**
AML	**Almayashu**	**6.84**	**355**	P		**Pn**	**06 12 21.4**	**+2.2**
	SNR=9.2							
UCH	**Uchtor**	**6.91**	**0**	P		**Pn**	**06 12 23.3**	**+3.2**
	SNR=7.7							
BHGR	**Bahadurgarh**	**6.92**	**162**	*e*		**Pn**	**06 12 23.0**	**+2.8**
BHGR				*e*			06 13 53.3	
NDI	**New Delhi**	**7.00**	**160**	*e*P		**Pn**	**06 12 24.0**	**+2.7**
	comp=E,18nm,0.9s							
NDI				*e*			06 13 41.0	
NDI				*e*			06 14 22.0	
ULHL	**Ulahol**	**7.05**	**11**	P		**Pn**	**06 12 26.1**	**+4.0**
	SNR=7.8							
ASOR	**Ausora**	**7.10**	**156**	*e*		**Pn**	**06 12 18.7**	**-4.1**
AYAN	**Aya Nagar**	**7.16**	**161**	*e*		**Pn**	**06 12 25.7**	**+2.1**
AYAN				*i*			06 13 46.7	
KHET	**Khetri**	**7.30**	**171**	*e*P		**Pn**	**06 12 26.3**	**+0.7**
KHET				AMb		AMb	06 12 40.6	
	comp=Z,100nm,0.5s							
KHET				*e*			06 13 49.2	
AAK	**Ala-Archa**	**7.31**	**360**	⇑	Pn	**Pn**	**06 12 27.7**	**+1.9**
	comp=Z,190nm,1.4s							
AAK				⇑	Lg		06 14 26.9	
	comp=Z,745nm,2.6s							
AAK				⇓	Rg		06 15 02.9	
	comp=Z,12μm,11.3s							
AAK	**Ala-Archa**	**7.31**	**360**	⇓	*e*P	**Pn**	**06 12 29.3**	**+3.5**
AAK	**Ala-Archa**	**7.31**	**360**		*e*Pn	**Pn**	**06 12 25.8**	**0.0**
KUDL	**Kundal**	**7.34**	**166**	*e*		**Pn**	**06 12 27.7**	**+1.5**
KUDL				AMb		AMb	06 12 32.9	
	comp=Z,128nm,0.6s							
KUDL				*e*			06 13 50.5	
SONA	**Sohna**	**7.37**	**162**	*e*P		**Pn**	**06 12 29.0**	**+2.4**
SONA				AMb		AMb	06 12 32.4	
	comp=Z,419nm,1.3s							
SONA				*e*			06 13 51.1	
PTH	**Pithoragarh**	**7.50**	**138**	*e*		**Pn**	**06 12 32.0**	**+3.6**
PTH				*e*			06 14 38.0	
LGTI	**Lohaghat**	**7.59**	**139**	*e*P		**Pn**	**06 12 30.5**	**+0.8**
LGTI				*e*			06 14 39.3	
TKM2	**Tokmak 2**	**7.65**	**6**	P		**Pn**	**06 12 34.1**	**+3.6**
	SNR=10							
CHMS	**Chumysh**	**7.68**	**1**	P		**Pn**	**06 12 32.8**	**+1.9**
	SNR=7.3							
JASL	**Jaisalmer**	**8.91**	**201**	*e*P		**P**	**06 12 43.4**	**-4.6**
JASL				*e*S		**Sn**	**06 14 18.1**	**-12**
KOLN	**Koldanda**	**10.79**	**132**	*e*P		**P**	**06 13 13.4**	**-0.6**
	comp=Z,119nm,0.6s							
KOLN				*e*S		**S**	**06 15 11.2**	**-4.9**
GKN	**Gorkha**	**11.29**	**127**	*e*P		**P**	**06 13 19.3**	**-1.4**
	comp=Z,627nm,0.9s							
GKN				*e*S		**S**	**06 15 21.1**	**-7.0**
KKN	**Kakani**	**11.85**	**126**	*e*P		**P**	**06 13 26.1**	**-2.3**
	comp=Z,382nm,0.6s							
DMN	**Daman**	**11.86**	**127**	*e*P		**P**	**06 13 26.5**	**-2.0**
	comp=Z,615nm,1.0s							
PKI	**Pulchoki**	**12.08**	**127**	*e*P		**P**	**06 13 29.3**	**-2.2**
	comp=Z,326nm,0.8s							
PKI				*e*S		**S**	**06 15 40.9**	**-6.6**
GUN	**Gumba**	**12.17**	**124**	*e*P		**P**	**06 13 30.3**	**-2.4**
	comp=Z,466nm,1.0s							
BHPL	**Bhopal**	**12.29**	**167**	*e*P		**P**	**06 13 32.7**	**-1.6**
MK31	**Makanchi Array**	**12.88**	**25**	P		**P**	**06 13 44.1**	**+2.1**
	comp=Z,21nm,1.7s,baz=206,slow=14,SNR=56							
MK31				⇑	Lg		06 17 25.2	
	comp=Z,30nm,1.8s,baz=129,slow=17,SNR=3.0							
MK31				⇓	Rg		06 18 56.1	
	comp=Z,457nm,10.7s							
WMQ	**Urumqi**	**13.24**	**46**	*e*P		**P**	**06 13 49.5**	**+2.6**
WMQ				PP		PP	06 14 00.5	+3.1
WMQ				S		**S**	**06 16 18.0**	**+2.6**
WMQ				LR		LR		
	comp=N,3μm,10.0s							
WMQ				LR		LR		
	comp=E,2μm,10.0s							
WMQ				LR		LR		
	comp=Z,3μm,10.0s							
KURK	**Kurchatov**	**15.68**	**10**	P		**P**	**06 14 22.9**	**+4.1**
	comp=Z,243nm,2.4s,baz=205,slow=8.6,SNR=25							
KURK				⇑	Lg		06 19 03.3	
	comp=Z,118nm,2.6s,baz=125,slow=15,SNR=3.5							
KURK				⇓	Rg		06 20 12.8	
	comp=Z,2μm,11.8s							
KURK	**Kurchatov**	**15.68**	**10**	*c*	*i*P	**P**	**06 14 20.1**	**+1.3**
KURK	**Kurchatov**	**15.68**	**10**	*e*P		**P**	**06 14 19.3**	**+0.5**
VOSK	**Vostochnaya**	**17.59**	**353**	⇓	P	**P**	**06 14 40.8**	**-2.2**
	comp=Z,129nm,2.6s							
VOSK				⇓	Lg		06 19 57.1	
	comp=Z,219nm,3.0s							
VOSK				⇑	Rg		06 21 16.9	
	comp=Z,3μm,17.8s							
BVA0	**Borovoye Array**	**17.95**	**352**	⇑	P	**P**	**06 14 47.5**	**0.0**
	comp=Z,16nm,1.5s							
BVA0				⇓	Lg		06 20 04.0	
	comp=Z,16nm,1.9s							
BVAR	**Borovoye Array**	**17.95**	**352**	P		**P**	**06 14 47.5**	**0.0**
	comp=Z,2.9nm,0.3s,baz=153,slow=9.9,SNR=24							
BVAR				LR		LR	06 21 51.9	
	comp=Z,52nm,18.6s,baz=320,slow=37							
BRVK	**Borovoye**	**18.00**	**352**	*e*P		**P**	**06 14 47.7**	**-0.3**
	comp=Z,117nm,1.2s							
ZRNK	**Zerenda**	**18.06**	**349**	⇑	P	**P**	**06 14 48.2**	**-0.6**
	comp=Z,86nm,1.1s							
ZRNK				⇓	Lg		06 20 08.6	
	comp=Z,191nm,3.0s							
ZRNK				⇑	Rg		06 21 35.5	
	comp=Z,5μm,12.8s							
HYB	**Hyderabad**	**18.18**	**168**	*i* P		**P**	**06 14 51.5**	**+0.9**
HYB				*e*S		**S**	**06 18 13.0**	**+2.1**
HYB				LR		LR	06 21 56.0	
	comp=Z,7.7nm,12.0s							
NVS	**Novosibirsk**	**20.45**	**15**	⇑	*i*P	**P**	**06 15 14.8**	**-1.6**
NVS				*i* S		**S**	**06 19 01.6**	**+1.2**
NVS				pmax		pmax		
	comp=Z,281nm,2.2s							
NVS				pmax		pmax		
	comp=N,401nm,1.9s							
NVS				smax				
	comp=N,228nm,2.3s							
GTA	**Gaotai**	**20.50**	**71**	P		**P**	**06 15 16.5**	**-0.6**
GTA				AP			06 15 22.0	
GTA				PP		PP	06 15 40.3	+2.3
GTA				PPP		PPP	06 15 50.3	+3.3
GTA				S		**S**	**06 19 04.5**	**+2.9**
GTA				AMB		AMB		
	comp=Z,1μm,6.1s							
GTA				LR		LR		
	comp=N,2μm,12.6s							
GTA				LR		LR		
	comp=E,1μm,8.4s							
GTA				LR		LR		
	comp=Z,966nm,14.9s,MS4.3							
MAK	**Makhachkala**	**22.23**	**298**	*e*P		**P**	**06 15 44.0**	**+9.3**
MAK				*e*			06 19 38.0	
MAK				MLR		MLR		
	comp=Z,8μm,14.0s,MS5.3							
UMR	**Umm Al-Rimmam**	**23.30**	**263**	*e*P		**P**	**06 15 47.1**	**+1.9**
UMR				AMb		AMb	06 15 51.2	
	comp=Z,173nm,1.2s,mb5.4							
QRN	**Al-Qurain**	**23.44**	**261**	*e*P		**P**	**06 15 47.1**	**+0.5**
QRN				AMb		AMb	06 15 51.4	
	comp=Z,363nm,1.6s,mb5.5							
KBD	**Kabd**	**23.45**	**262**	*e*P		**P**	**06 15 47.6**	**+0.8**
ARU	**Arti**	**23.75**	**338**	*e*P		**P**	**06 15 50.3**	**+1.0**
ARU				*e*			06 16 21.0	
ARU				*e*S		**S**	**06 20 05.0**	**+3.6**
ARU				*e*SS		SS	06 20 48.7	-1.7
ARU				MLR		MLR		
	comp=N,3μm,18.0s,MS4.8							

comp=Z,35nm,0.8s
CMAR pmax pmax
comp=Z,2.0nm,0.8s
CMAR Chiang Mai Arr 27.39 121 P **P** **06 16 24.4 +0.4**
CMAR PcP PcP 06 19 42.9 -0.5
SOC Sochi 27.95 298 *e*P **P** **06 16 27.9 -0.9**
SOC *e* 06 17 17.0
SOC *e*S **S** **06 21 06.5 -4.8**
SOC *e*SSS SSS 06 22 49.1 -1.3
SOC pmax pmax
comp=Z,4.0nm,0.4s,mb4.4
SOC pmax pmax
comp=N,6.0nm,0.6s
SOC pmax pmax
comp=E,4.0nm,0.4s
SOC MLR MLR
comp=N,793nm,19.0s,MS4.6
SOC MLR MLR
comp=Z,1μm,19.0s,MS4.5
SOC MLR MLR
comp=E,1μm,18.0s,MS4.6
MALT Malatya 28.93 287 *e*P **P** **06 16 38.6 +0.9**
comp=E,54nm,1.8s,mb5.0
ANN Anapa 29.70 300*d i*P **P** **06 16 42.8 -1.8**
ANN *e**PP pP 06 16 52.5 +5.7
ANN *e*S **S** **06 21 37.0 -2.4**
ANN pmax pmax
comp=Z,17nm,0.8s,mb4.8
ANN MLR MLR
comp=Z,871nm,18.0s,MS4.4
ANN MLR MLR
comp=N,557nm,13.0s,MS4.7
ANN MLR MLR
comp=E,1μm,15.0s,MS4.7
VOR Voronezh 30.04 314 *e*P **P** **06 16 47.5 0.0**
VOR pmax pmax
comp=N,150nm,2.0s
VOR pmax pmax
comp=Z,220nm,2.0s,mb5.5
VOR pmax pmax
comp=E,260nm,1.5s
ASF Jabal al Asfar 31.32 275 P **P** **06 17 00.5 +1.5**
comp=E,1.5nm,0.5s,mb4.1,baz=351,slow=5.6,SNR=7.7
ASF PcP PcP 06 19 53.8 +0.7
comp=E,1.8nm,0.6s,baz=121,slow=2.5,SNR=3.7
ASF LR LR 06 33 01.5
comp=E,497nm,18.7s,MS4.2,baz=300,slow=43
KBRS Khaybar 31.67 262 P **P** **06 17 04.2 +2.1**
MOS Moscow 32.38 321 *i* P **P** **06 17 08.5 +0.5**
MOS *e* 06 17 18.8
MOS *e* 06 18 14.6
MOS *e* 06 19 55.2
MOS pmax pmax
comp=Z,113nm,1.2s,mb5.6
MOS pmax pmax
comp=Z,600nm,2.3s,mb6.0
MOS MLR MLR
comp=Z,3μm,14.3s,MS5.2
MOS MLR MLR
comp=E,2μm,14.2s
BRTR Keskin Array B 32.52 290 P **P** **06 17 09.8 +0.4**
comp=E,2.9nm,0.7s,mb4.3,baz=108,slow=7.8,SNR=14
BRTR LR LR 06 33 08.4
comp=E,523nm,21.7s,MS4.2,baz=160,slow=41
BRTR Keskin Array B 32.52 290 P **P** **06 17 09.8 +0.4**
BRTR pmax pmax
comp=Z,3.0nm,0.7s
BRTR MLR MLR
comp=Z,523nm,21.7s
OBN Obninsk 32.70 319⇑ *e*P **P** **06 17 10.2 -0.6**
OBN *e*S **S** **06 22 25.5 -0.8**
OBN pmax pmax
comp=Z,69nm,0.8s,mb5.6
OBN MLR MLR
comp=Z,2μm,14.0s,MS5.0
OBN Obninsk 32.70 319 *e*P **P** **06 17 08.9 -1.8**
comp=Z,40nm,0.6s,mb5.5
BLJS Baljurashi 32.79 251 P **P** **06 17 13.2 +1.3**
TBKS Tabuk 32.89 268 P **P** **06 17 16.0 +3.2**
BJI Beijing 33.09 69 P **P** **06 17 15.5 +1.1**
BJI S **S** **06 22 34.5 +2.0**
BJI LR LR
comp=Z,825nm,25.5s,MS4.3
JMQS Jabal Moqyreh 33.20 270 P **P** **06 17 16.9 +1.5**
UMJS Umm Lajj 33.49 263 P **P** **06 17 20.2 +2.2**
EIL Elat 33.68 272 P **P** **06 17 20.4 +0.8**
comp=Z,22nm,1.1s,mb5.0,baz=87,slow=8.9,SNR=11
EIL LR LR 06 33 22.7
comp=Z,1μm,18.1s,MS4.6,baz=74,slow=40
EIL Elat 33.68 272 P **P** **06 17 20.4 +0.8**
EIL LR LR 06 33 22.7
DBAS Duba 33.75 267 P **P** **06 17 21.8 +1.5**
AYUS 'Aynunah 33.95 269 P **P** **06 17 25.2 +3.2**
TAYS Tayyib Ism 34.14 270 P **P** **06 17 26.6 +3.0**
HIA Hailar 35.70 53 *e*P **P** **06 17 37.2 +0.5**
comp=Z,22nm,1.0s,mb5.0
KIS Kishinev 35.85 303 *e*P **P** **06 17 38.0 -0.1**
KIS pmax pmax
comp=Z,250nm,2.0s,mb5.8
KIS pmax pmax
comp=Z,200nm,2.0s,mb5.7
KIS MLR MLR
comp=Z,500nm,15.0s,MS4.4
KIS MLR MLR
comp=Z,600nm,16.0s
AKASG Malin Array Be 35.91 310 P **P** **06 17 38.0 -0.5**
comp=Z,17nm,0.9s,mb5.0,baz=83,slow=6.7,SNR=44
AKASG PP PP 06 18 59.4 -0.4
comp=Z,9.9nm,1.0s,baz=90,slow=11,SNR=5.2
AKASG LR LR 06 35 44.9
comp=Z,702nm,18.2s,MS4.5,baz=105,slow=42
AKASG Malin Array Be 35.91 310 P **P** **06 17 38.0 -0.5**
AKASG 06 18 59.4
AKASG pmax pmax
comp=Z,17nm,0.9s
AKASG pmax pmax
comp=Z,10.0nm,1.0s
AKASG MLR MLR
comp=Z,702nm,18.2s
NJ2 Nanjing 36.81 82 *e*P **P** **06 17 46.5 +0.2**
NJ2 AP pP 06 17 54.0 +5.5
NJ2 XP sP 06 17 57.5 +8.0
NJ2 PP PP 06 19 12.5 +0.8
NJ2 S **S** **06 23 28.0 -2.2**
NJ2 XS 06 23 42.0
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.1
NJ2 AMB AMB
comp=Z,570nm,5.0s
NJ2 LR LR
comp=N,1μm,19.4s,MS4.8
NJ2 LR LR
comp=E,1μm,23.1s,MS4.8
NJ2 LR LR
comp=Z,2μm,24.7s,MS4.7
DL2 Dalian 37.42 70 *e*P **P** **06 17 53.3 +2.0**
DL2 AMB AMB
comp=Z,20nm,1.0s,mb4.9
MLR Muntele Rosu 37.84 301 P **P** **06 17 56.6 +1.8**
comp=Z,10nm,0.8s,mb4.6,baz=77,slow=4.7,SNR=14
MLR PP PP 06 19 22.5 -1.5
comp=Z,12nm,1.0s,baz=48,slow=5.7,SNR=4.6
MLR Muntele Rosu 37.84 301 P **P** **06 17 56.6 +1.8**
MLR 06 19 22.5
MLR pmax pmax
comp=Z,10.0nm,0.8s
MLR pmax pmax
comp=Z,12nm,1.0s
JOF Joensuu 38.33 330 *e*p **P** **06 17 58.9 +0.2**
comp=Z,12nm,0.8s,mb4.7
JOF Joensuu 38.33 330 *e*P **P** **06 17 58.9 +0.2**
JOF pmax pmax
comp=Z,12nm,0.8s,mb4.7
SSE Sheshan 39.00 83 P **P** **06 18 03.3 -1.4**
SSE S **S** **06 24 01.5 -2.0**
SSE SCS ScS 06 28 11.0 -1.8
SSE AMB AMB
comp=Z,35nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,137nm,4.8s
SSE LR LR
comp=N,510nm,23.7s,MS4.3
SSE LR LR
comp=E,259nm,23.7s,MS4.3
SSE LR LR
comp=Z,656nm,22.6s,MS4.4

SANT Santorini 39.44 286 *e*P **P** **06 18 04.8 -3.5**
comp=Z,147nm,1.8s,mb5.4
CN2 Changchun 39.64 62 *e*P **P** **06 18 10.5 +0.7**
CN2 *e*XP sP 06 18 21.3 +8.3
CN2 *e*S **S** **06 24 12.0 -0.9**
CN2 LR LR
comp=N,400nm,13.0s,MS4.7
CN2 LR LR
comp=E,500nm,13.0s,MS4.7
CN2 LR LR
comp=Z,500nm,14.0s,MS4.5
APA Apatity 39.84 337⇑ *e*P **P** **06 18 12.0 +0.8**
APA *e*S **S** **06 24 17.0 +1.3**
APA pmax pmax
comp=Z,290nm,2.2s,mb5.6
APA MLR MLR
comp=Z,2μm,10.0s,MS5.3
SUW Suwalki 39.99 314 *e*P **P** **06 18 12.9 +0.2**
SUW Suwalki 39.99 314 *e*P **P** **06 18 12.9 +0.2**
KWP Kalwaria 40.00 307 *e*P **P** **06 18 14.0 +1.2**
KWP Kalwaria 40.00 307 *e*P **P** **06 18 14.0 +1.2**
FINES FINESS Array B 40.06 326 P **P** **06 18 13.5 +0.4**
comp=Z,2.4nm,0.4s,mb4.2,baz=111,slow=8.6,SNR=21
FINES LR LR 06 35 45.7
comp=Z,2μm,19.5s,MS5.0,baz=107,slow=38
FINES FINESS Array B 40.06 326 P **P** **06 18 13.5 +0.4**
FINES pmax pmax
comp=Z,2.0nm,0.4s
FINES MLR MLR
comp=Z,2μm,19.5s
FINES FINESS Array B 40.06 326 P **P** **06 18 13.5 +0.4**
FINES LR LR 06 35 45.7
IDI Anoyia 40.15 285 P **P** **06 18 14.8 +0.7**
comp=Z,8.8nm,1.0s,mb4.5,baz=67,slow=6.9,SNR=6.6
KAF Kangasniemi 40.17 327 *e*p **P** **06 18 14.5 +0.5**
comp=Z,17nm,1.0s,mb4.7,baz=109,slow=8.4
KAF Kangasniemi 40.17 327 *e*P **P** **06 18 14.5 +0.5**
KAF pmax pmax
comp=Z,17nm,1.0s,mb4.7
KOLS Kolonicke sedl 40.28 306 *e*P **P** **06 18 16.0 +0.9**
KOLS *e*PP PP 06 19 48.7 -2.8
CRVS Cervenica-Dubn 40.82 306 *e*P **P** **06 18 22.4 +2.9**
CRVS *e*PP PP 06 19 50.5 -6.4
WAR Warsaw 41.15 311 *e*P **P** **06 18 23.4 +1.2**
WAR Warsaw 41.15 311 *e*P **P** **06 18 23.4 +1.2**
NIE Niedzica 41.56 307⇑ *e*P **P** **06 18 27.3 +1.8**
INCN Inchon 41.57 71 *e*P **P** **06 18 25.1 -0.6**
OJC Ojcow 41.89 308⇑ *i*P **P** **06 18 28.8 +0.6**
OJC *e* 06 20 06.4
OJC Ojcow 41.89 308⇑ *i*P **P** **06 18 28.8 +0.6**
OJC *e*PP PP 06 20 06.4 -2.0
PSZ Piszkesteto 41.90 305 *e*P **P** **06 18 25.2 -3.1**
MDJ Mudanjiang 42.51 60 P **P** **06 18 32.0 -1.4**
MDJ PCP PcP 06 20 24.0 -2.7
MDJ SCP 06 24 14.8
MDJ PCS 06 24 16.3
MDJ S **S** **06 24 54.3 -1.3**
MDJ SS SS 06 28 05.0 +6.0
MDJ SCS ScS 06 28 32.8 -0.6
MDJ AMB AMB
comp=Z,25nm,1.5s,mb4.7
MDJ AMB AMB
comp=Z,131nm,5.1s
MDJ LR LR
comp=N,301nm,11.3s,MS4.8
MDJ LR LR
comp=E,725nm,16.1s,MS4.8
MDJ LR LR
comp=Z,983nm,14.2s,MS4.8
MDJ Mudanjiang 42.51 60 *e*P **P** **06 18 33.6 +0.2**
comp=Z,31nm,1.1s,mb4.9
KS15 Wonju Array Si 42.55 71 *e*P **P** **06 18 31.7 -2.1**
VYHS Vyhne 42.57 306 *i* P **P** **06 18 34.8 +1.0**
VYHS *e* 06 18 45.5
VYHS *e*PP PP 06 20 15.0 -0.4
PKSM Moragy 42.89 302⇑ *e*P **P** **06 18 37.2 +0.8**
OKC Ostrava-Krasne 42.96 308⇑ *i*P **P** **06 18 37.8 +0.8**
KEV Kevo 42.97 338 *e*p **P** **06 18 36.7 -0.1**
comp=Z,24nm,0.9s,mb4.9
KEV Kevo 42.97 338 *e*P **P** **06 18 36.7 -0.1**
KEV pmax pmax
comp=Z,24nm,0.9s,mb4.9
YAK Yakutsk 43.31 34⇑ *e*P **P** **06 18 39.7 +0.1**
YAK pmax pmax
comp=Z,62nm,1.0s,mb5.3
YAK MLR MLR
comp=Z,500nm,14.0s,MS4.6
YAK Yakutsk 43.31 34 *e*P **P** **06 18 38.9 -0.7**
comp=Z,46nm,0.9s,mb5.2
ARCES ARCESS Array B 43.34 337 P **P** **06 18 40.0 +0.3**
comp=Z,34nm,0.9s,mb5.1,baz=116,slow=8.6,SNR=53
ARCES LR LR 06 37 57.3
comp=Z,3μm,20.0s,MS5.2,baz=180,slow=38
ARCES ARCESS Array B 43.34 337 P **P** **06 18 40.1 +0.3**
ARCES pmax pmax
comp=Z,34nm,0.9s
ARCES MLR MLR
comp=Z,3μm,20.0s
ARE0 ARCESS Array S 43.34 337 *e*P **P** **06 18 38.5 -1.3**
MORC Moravsky Berou 43.35 308 *e*P **P** **06 18 39.6 -0.5**
comp=Z,86nm,1.6s,mb5.2
GKP Gorka Klasztor 43.48 313 *e*P **P** **06 18 41.8 +0.7**
GKP Gorka Klasztor 43.48 313 *e*P **P** **06 18 41.8 +0.7**
ZST Bratislava 43.75 305 *e*P **P** **06 18 44.4 +1.0**
ZST *e*PP PP 06 20 27.7 +0.6
VRAC Vranov 44.00 307 P **P** **06 18 46.8 +1.4**
comp=Z,10nm,0.8s,mb4.6,baz=81,slow=8.5,SNR=21
VRAC Vranov 44.00 307 P **P** **06 18 46.8 +1.4**
VRAC pmax pmax
comp=Z,10.0nm,0.8s
KSP Ksiaz 44.10 309⇓ *e*P **P** **06 18 45.6 -0.6**
KSP *e* 06 20 28.7
KSP MLR MLR
comp=Z,2μm,18.6s,MS5.1
KSP Ksiaz 44.10 309 *e*P **P** **06 18 47.1 +0.9**
DPC Dobruska-Polom 44.11 309 *e*P **P** **06 18 47.6 +1.3**
DPC *e*PP PP 06 20 30.8 +0.1
UPC Upice 44.30 309⇑ *i*P **P** **06 18 48.7 +0.9**
CRES Cresnjev 45.14 302 *e*P **P** **06 18 55.6 +1.0**
PVCC Panska Ves 45.22 309⇑ *e*P **P** **06 18 56.2 +1.0**
PRU Pruhonice 45.28 308⇑ *e*P **P** **06 18 56.6 +0.9**
PRU *e*PP PP 06 20 41.8 -0.6
VISS Visnje 45.57 302 *e*P **P** **06 18 56.2 -1.8**
OBKA Obir 45.66 303⇑ *i*P **P** **06 18 59.8 +1.0**
comp=Z,44nm,1.8s,mb5.1
MOA Molln 45.68 305⇑ *i*P **P** **06 18 59.0 +0.1**
comp=Z,40nm,1.6s,mb5.1
LJU Ljubljana 45.75 303 *e*P **P** **06 18 59.6 +0.2**
HFS Hagfors 45.75 322 P **P** **06 18 59.3 0.0**
comp=Z,8.9nm,0.7s,mb4.8,baz=98,slow=10,SNR=17
HFS Hagfors 45.75 322 P **P** **06 18 59.3 0.0**
HFS pmax pmax
comp=Z,9.0nm,0.7s
TIXI Tiksi 45.83 21⇓ *e*P **P** **06 18 59.3 -0.5**
TIXI pmax pmax
comp=Z,44nm,1.3s,mb5.2
TIXI MLR MLR
comp=Z,2μm,18.0s,MS5.2
GEC2 GERESS Array S 45.94 307 *e*P **P** **06 19 01.7 +0.8**
GEC2 pmax pmax
comp=Z,57nm,1.8s,mb5.2
GEC2 GERESS Array S 45.94 307 *e*P **P** **06 19 01.7 +0.8**
comp=Z,57nm,1.8s,mb5.2
GERES GERESS Array B 45.94 307 P **P** **06 19 01.9 +1.0**
comp=Z,1.3nm,0.7s,baz=108,slow=4.2,SNR=13
GERES PcP PcP 06 20 39.2 +0.8
comp=Z,2.3nm,1.1s,baz=90,slow=4.9,SNR=2.8
GERES GERESS Array B 45.94 307 P **P** **06 19 01.9 +1.0**
GERES 06 20 39.2
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES pmax pmax
comp=Z,2.0nm,1.1s
KHC Kasperske Hory 45.98 307⇑ *i*P **P** **06 19 01.8 +0.5**
CLL Collm 46.15 310 P **P** **06 19 02.9 +0.4**
comp=Z,logA/T=1.7,mb5.4
CLL *i* *PP pP 06 19 14.8 +10
CLL *e*PP PP 06 20 52.0 +0.9
CLL *e* 06 21 03.0
CLL *e* 06 21 16.0
CLL *e*PPP PPP 06 21 29.0 -5.7
CLL Collm 46.15 310 *i*P **P** **06 19 02.9 +0.4**
CLL *i* 06 19 14.8
CLL pmax pmax
comp=Z,77nm,1.7s,mb5.4
CLL MLR MLR
comp=Z,1μm,22.8s,MS4.8
CLL Collm 46.15 310 *i*P **P** **06 19 02.9 +0.4**
comp=Z,77nm,1.7s,mb5.4
CLL *i* 06 19 14.8
CLL LR LR
comp=Z,1μm,22.8s,MS4.8
KBA Koelnbreinsper 46.40 304⇑ *i*P **P** **06 19 06.6 +2.0**
comp=Z,22nm,1.5s,mb4.9
WET Wettzell 46.44 307 *e*P **P** **06 19 05.6 +0.7**
WET pmax pmax
comp=Z,82nm,2.0s,mb5.3
WET Wettzell 46.44 307 *e*P **P** **06 19 05.6 +0.7**
comp=Z,82nm,2.0s,mb5.3
NKC Novy Kostel 46.60 309⇑ *e*P **P** **06 19 07.1 +1.0**
NKC *e*PP PP 06 20 56.8 +1.2
TGY Tagaytay City 46.66 105 LR LR 06 39 33.2
comp=Z,338nm,19.8s,MS4.3,baz=247,slow=37
NB2 NORSAR Subarra 47.04 324 P **P** **06 19 08.6 -0.8**
comp=Z,29nm,1.2s,mb5.1,baz=93,slow=7.9
NOA NORSAR Array B 47.04 324 P **P** **06 19 08.9 -0.5**
comp=Z,4.6nm,0.6s,mb4.6,baz=94,slow=7.6,SNR=14
NOA LR LR 06 39 43.0
comp=Z,967nm,18.6s,MS4.8,baz=95,slow=37
NOA NORSAR Array B 47.04 324 P **P** **06 19 08.9 -0.5**
NOA pmax pmax
comp=Z,5.0nm,0.6s
NOA MLR MLR
comp=Z,967nm,18.6s
MOX Moxa 47.08 309 *i* P **P** **06 19 10.7 +0.8**
comp=Z,logA/T=1.9,mb5.6
MOX L 06 41 48.0
MOX Moxa 47.08 309 *e*P **P** **06 19 10.7 +0.8**
MOX pmax pmax
comp=Z,154nm,2.2s,mb5.5
MOX MLR MLR
comp=Z,300nm,19.0s,MS4.3
MOX Moxa 47.08 309 *e*P **P** **06 19 10.7 +0.8**
comp=Z,154nm,2.2s,mb5.5
MOX LR LR
comp=Z,300nm,19.0s,MS4.3
GRA1 Grafenberg Arr 47.45 308 *e*P **P** **06 19 14.3 +1.5**
comp=Z,159nm,1.7s,mb5.7
GRA1 *e*PP PP 06 21 05.0 +1.4
GRF Grafenberg Arr 47.45 308 *e*P **P** **06 19 14.3 +1.5**
GRF *e* 06 21 05.0
GRF pmax pmax
comp=Z,159nm,1.7s,mb5.7
WTTA Wattenberg 47.52 305⇑ *i*P **P** **06 19 13.1 -0.4**
comp=Z,34nm,1.3s,mb5.2
BSEG Bad Segeberg 47.58 314 *e*P **P** **06 19 14.8 +1.0**
BSEG pmax pmax
comp=Z,77nm,1.6s,mb5.5
FUR Furstenfeldbru 47.62 306 *e*P **P** **06 19 15.0 +0.7**
FUR pmax pmax
comp=Z,152nm,1.6s,mb5.8
FUR Furstenfeldbru 47.62 306 *e*P **P** **06 19 15.0 +0.7**
comp=Z,152nm,1.6s,mb5.8
CLZ Clausthal 47.73 311 *e*P **P** **06 19 15.7 +0.6**
comp=Z,143nm,2.0s,mb5.7
KONO Kongsberg 47.80 322 P **P** **06 19 12.0 -3.4**
MOTA Moosalm 47.87 305⇑ *i*P **P** **06 19 15.2 -1.0**
comp=Z,9.8nm,1.2s,mb4.7
DAVA Damuels 48.70 305⇑ *i*P **P** **06 19 22.4 -0.2**
comp=Z,50nm,1.5s,mb5.3
DAVOX Davos 48.79 304 P **P** **06 19 22.7 -0.6**
comp=Z,5.4nm,0.7s,mb4.7,baz=69,slow=10,SNR=7.3
DAVOX PcP PcP 06 20 48.0 -0.5
comp=Z,2.4nm,0.5s,baz=248,slow=11,SNR=4.2
CDF Champ du Feu 50.21 307 *e*P **P** **06 19 33.3 -0.9**
KMBO Kilima Mbogo 50.24 232 *e*P **P** **06 19 33.9 -1.0**
comp=Z,127nm,2.1s,mb5.6
PGF Pioggiola 50.34 299 *e*P **P** **06 19 34.4 -0.9**
HINF Hinteralfeld 50.61 306 *e*P **P** **06 19 35.9 -1.4**
comp=Z,115nm,1.6s,mb5.3
MAT Matsushiro 50.73 69 P **P** **06 19 37.4 -0.9**
MAT Matsushiro 50.73 69 *e*P **P** **06 19 37.0 -1.3**
comp=Z,20nm,1.0s,mb5.0
HAU Haudompre 50.90 307 *e*P **P** **06 19 38.2 -1.3**
comp=Z,256nm,1.9s,mb5.5
HAU *e*R
comp=Z,553nm,18.5s
SBF Sospel 51.12 301 *e*P **P** **06 19 39.9 -1.3**
comp=Z,140nm,1.3s,mb5.4
YSS Yuzh-Sakhalins 51.18 55⇑ *i*P **P** **06 19 41.2 -0.4**
YSS *e* 06 19 51.7
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.2
YSS MLR MLR
comp=N,400nm,15.0s
YSS MLR MLR
comp=Z,600nm,15.0s,MS4.7
YSS Yuzh-Sakhalins 51.18 55 *e*P **P** **06 19 40.2 -1.4**
comp=Z,34nm,1.0s,mb5.2
LPG La Plagne 51.19 303 *e*P **P** **06 19 41.0 -0.7**
comp=Z,195nm,1.6s,mb5.5
LPL La Plagne 51.20 303 *e*P **P** **06 19 41.2 -0.6**
comp=Z,90nm,1.4s,mb5.2
MBDF Montbardon 51.36 302 *e*P **P** **06 19 41.8 -1.2**
comp=Z,96nm,1.6s,mb5.2
CABF La Chapelle 51.38 305 *e*P **P** **06 19 42.3 -0.8**
comp=Z,64nm,1.2s,mb5.1
GIVF Givet 51.46 309 *e*P **P** **06 19 42.4 -1.3**
MEZF Maizieres J'vi 51.64 307 *e*P **P** **06 19 44.4 -0.7**
FRF La Foret Royal 51.75 301 *e*P **P** **06 19 44.2 -1.8**
comp=Z,76nm,1.4s,mb5.2
BAIF Baives 51.86 310 *e*P **P** **06 19 46.2 -0.5**
comp=Z,185nm,1.7s,mb5.4
LMR La Mourre 51.90 301 *e*P **P** **06 19 45.1 -2.0**
ORIF Oris-en-Rattie 51.93 303 *e*P **P** **06 19 46.4 -0.9**
comp=Z,49nm,1.4s,mb4.9
ORIF *e*R
comp=Z,633nm,18.0s
SMRF Simiane la Rot 52.38 302 *e*P **P** **06 19 49.5 -1.3**
LOR Lormes 52.71 306 *e*P **P** **06 19 51.5 -1.6**
comp=Z,36nm,1.3s,mb4.8
LOR *e*R
comp=Z,780nm,20.5s
VIVF Saint-Julien-l 52.77 303 *e*P **P** **06 19 52.4 -1.3**
SMF Signal de Mont 52.88 305 *e*P **P** **06 19 53.0 -1.4**
comp=Z,86nm,1.2s,mb5.2
SSF Saint Saulge 52.99 306 *e*P **P** **06 19 53.6 -1.7**
comp=Z,94nm,1.5s,mb5.2
LASF Ste Croix 53.55 302 *e*P **P** **06 19 58.4 -1.0**
comp=Z,62nm,1.2s,mb5.1
BGF Bois d'Agland 53.56 305 *e*P **P** **06 19 58.2 -1.2**
TCF Toulx Ste Croi 54.06 305 *e*P **P** **06 20 01.9 -1.1**
comp=Z,148nm,1.6s,mb5.4
MBAR Mbarara 54.23 238 *e*P **P** **06 20 02.5 -2.3**
comp=Z,9.6nm,1.1s,mb4.6
CAF Calviac 54.54 304 *e*P **P** **06 20 05.5 -1.1**
comp=Z,122nm,1.5s,mb5.4
RJF Les Rejaudoux 54.80 304 *e*P **P** **06 20 07.3 -1.2**
comp=Z,102nm,1.5s,mb5.3
RJF *e*R
comp=Z,590nm,21.2s
MTLF Montolieu 54.90 302 *e*P **P** **06 20 08.2 -1.1**
LDF La Drutiere 54.96 309 *e*P **P** **06 20 08.1 -1.6**
FLN La Foliniere 55.14 309 *e*P **P** **06 20 09.1 -1.9**
comp=Z,18nm,0.7s,mb4.9
FLN *e*R
comp=Z,739nm,20.8s
LFF La Frestale 55.43 304 *e*P **P** **06 20 11.7 -1.5**
GRR Gorron 55.48 308 *e*P **P** **06 20 12.5 -1.0**
comp=Z,144nm,1.3s,mb5.5
EPF Esparros 56.30 302 *e*P **P** **06 20 17.8 -1.6**
EBIE Bielsa 56.55 302 P **P** **06 20 20.1 -1.1**
comp=Z,56nm,2.1s,mb5.2
SGMF Saint Gilles 56.61 309 *e*P **P** **06 20 20.0 -1.6**
comp=Z,107nm,1.3s,mb5.4
ETSF Etsaut 56.97 302 *e*P **P** **06 20 23.0 -1.3**
comp=Z,14nm,0.7s,mb4.8
ROSF Rostrenen 57.04 309 *e*P **P** **06 20 22.7 -2.0**
comp=Z,228nm,1.5s,mb5.7
QUIF Quistinic 57.10 308 *e*P **P** **06 20 23.6 -1.5**
comp=Z,20nm,0.7s,mb4.9
BILL Bilibino 58.42 26*d i*P **P** **06 20 34.1 0.0**
BILL pmax pmax
comp=Z,26nm,1.1s,mb5.2
BILL MLR MLR
comp=Z,600nm,17.0s,MS4.8
BILL Bilibino 58.42 26 *e*P **P** **06 20 33.8 -0.2**
comp=Z,22nm,1.1s,mb5.1
ETOR Torete 58.74 300 P **P** **06 20 34.9 -1.8**
comp=Z,81nm,2.2s,mb5.4
ELAN Lanestosa 58.83 303 P **P** **06 20 38.0 +0.8**

comp=Z,96nm,2.2s,mb5.4
ESDC Sonseca Array 60.53 300 P **P 06 20 47.8 -1.3**
comp=Z,5.1nm,0.6s,mb4.8,baz=55,slow=7.0,SNR=27
ESDC Sonseca Array 60.53 300 P **P 06 20 47.0 -2.0**
comp=Z,56nm,1.6s,mb5.5
ESLA Sonseca Array 60.53 300 *e*P **P 06 20 46.3 -2.8**
EQES Quesada 60.63 297 P **P 06 20 48.6 -1.1**
comp=Z,44nm,1.9s,mb5.3
EADA Adamuz 61.57 298 P **P 06 20 51.8 -4.3**
comp=Z,42nm,1.7s,mb5.3
ELUQ Luque 61.59 298 P **P 06 20 53.2 -3.0**
comp=Z,14nm,0.9s,mb5.1
EBAD Badajoz 63.07 300 P **P 06 21 04.7 -1.3**
comp=Z,35nm,1.7s,mb5.2
SUMG Summit 63.09 342 *e*P **P 06 21 05.5 -0.2**
comp=Z,36nm,0.9s,mb5.5
EMIN Mina Concepcio 63.24 299 P **P 06 21 05.7 -1.5**
comp=Z,57nm,2.0s,mb5.4
PTOM Tomar 63.69 301 *e*P **P 06 21 10.5 +0.4**
comp=Z,78nm,1.6s,mb5.5
PALC Alcoutim 63.95 299 *e*P **P 06 21 11.8 -0.1**
comp=Z,60nm,1.6s,mb5.4
PBEJ Beja 63.98 299 *e*P **P 06 21 11.8 -0.3**
comp=Z,31nm,2.2s,mb5.0
FITZ Fitzroy Crossi 71.91 129 *e*P **P 06 22 01.8 -0.2**
comp=Z,7.7nm,0.8s,mb4.7
FITZ Fitzroy Crossi 71.91 129 P **P 06 22 01.9 -0.1**
comp=Z,9.3nm,0.8s,mb4.8,baz=352,slow=4.9,SNR=13
IMA Indian Mountai 72.36 19 *e*P **P 06 22 04.2 +0.3**
comp=Z,20nm,1.0s,mb5.0
KAKA Kakadu 72.63 120 *e*P **P 06 22 09.8 +3.5**
comp=Z,13nm,0.6s,mb5.0
INK Inuvik 74.59 10 P **P 06 22 16.9 +0.3**
comp=Z,12nm,0.7s,mb4.9,baz=346,slow=6.2,SNR=23
INK Inuvik 74.59 10 P **P 06 22 16.9 +0.2**
INK pmax pmax
comp=Z,12nm,0.7s
INK Inuvik 74.59 10 *e*P **P 06 22 15.7 -1.0**
comp=Z,41nm,1.2s,mb5.2
COLA College 74.79 17*d* *i*P **P 06 22 18.1 +0.2**
COLA College 74.79 17 *e*P **P 06 22 17.9 0.0**
comp=Z,78nm,1.2s,mb5.5
ILAR Eielson Array 75.11 17 P **P 06 22 19.1 -0.6**
comp=Z,14nm,0.9s,mb4.9,baz=319,slow=4.4,SNR=69
ILAR PP PP 06 25 05.7 -4.4
comp=Z,0.7nm,0.9s,baz=333,slow=4.0,SNR=3.2
ILAR LR LR 07 00 00.3
comp=Z,515nm,18.2s,MS4.9,baz=313,slow=39
ILAR Eielson Array 75.11 17 P **P 06 22 19.2 -0.6**
ILAR 06 25 05.7
ILAR pmax pmax
comp=Z,14nm,0.9s
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR MLR MLR
comp=Z,515nm,18.2s
MCK McKinley 75.46 18 *e*P **P 06 22 21.6 -0.2**
comp=Z,5.2nm,0.7s,mb4.6
SVW2 Sparrevohn 75.64 23 *e*P **P 06 22 24.4 +1.6**
THY Trims Highway 76.52 17 *e*P **P 06 22 27.5 -0.3**
RSO Redoubt South 77.01 22 P **P 06 22 27.5 -3.0**
PMR Palmer 77.16 20 *e*P **P 06 22 31.4 +0.1**
comp=Z,35nm,1.0s,mb5.2
SML Sawmill 77.20 19 *e*P **P 06 22 30.7 -0.9**
DAWY Dawson 77.39 15 *e*P **P 06 22 32.2 -0.4**
MENT Mentasta 77.42 17 *e*P **P 06 22 35.0 +2.2**
DBIC Dimbokro 77.51 269 P **P 06 22 34.0 -0.2**
comp=Z,3.4nm,0.9s,mb4.3,baz=36,slow=7.5,SNR=3.3
DBIC Dimbokro 77.51 269 P **P 06 22 34.1 -0.2**
DBIC pmax pmax
comp=Z,3.0nm,0.9s
MUN Mundaring 77.54 145 *e*P **P 06 22 32.6 -1.5**
comp=Z,14nm,1.1s,mb4.8
KIC Kosan Boka 77.59 269 *e*PKIKP **P 06 22 34.0 -0.7**
comp=Z,77nm,1.1s,mb5.5
TIC Toumodi 77.66 269 *e*PKIKP **P 06 22 34.0 -1.1**
comp=Z,50nm,1.0s,mb5.4
LIC Lamto 77.90 269 *e*PKIKP **P 06 22 33.9 -2.5**
comp=Z,86nm,1.9s,mb5.3
NWAO Narrogin (SRO) 78.81 144 P **P 06 22 40.4 -0.6**
baz=345,slow=9.8
NWAO Narrogin (SRO) 78.81 144 P **P 06 22 40.4 -0.6**
EYAK Cordova Ski Ar 78.94 19 *e*P **P 06 22 40.6 -0.6**
WRA Warramunga Arr 78.95 124 P **P 06 22 42.4 +0.3**
comp=Z,7.5nm,0.7s,mb4.7,baz=320,slow=5.0,SNR=73
WRA PKKPbc
comp=Z,1.1nm,0.9s,baz=124,slow=2.4,SNR=5.0 06 41 35.9
WRA LR LR 07 00 04.9
comp=Z,138nm,21.4s,MS4.3,baz=255,slow=38
WRA Warramunga Arr 78.95 124 P **P 06 22 42.4 +0.3**
WRA pmax pmax
comp=Z,8.0nm,0.7s
WRA pmax pmax
comp=Z,1.0nm,0.9s
WRA MLR MLR
comp=Z,138nm,21.4s
WRAB Tennant Creek 78.95 124 *e*P **P 06 22 40.6 -1.5**
comp=Z,18nm,0.8s,mb5.1
WB2 Warramunga Ar 78.96 124 ⇓*i*P **P 06 22 42.3 +0.2**
KDAK Kodiak Island 79.19 24 *e*P **P 06 22 43.4 +0.8**
comp=Z,730nm,1.8s
ASPA Alice Springs 81.25 127 *e*P **P 06 22 54.5 +0.2**
ASAR Alice Springs 81.25 127 P **P 06 22 54.6 +0.4**
comp=Z,4.5nm,0.7s,mb4.5,baz=309,slow=4.9,SNR=37
ASAR PKKPbc 06 41 31.1
comp=Z,0.8nm,0.8s,baz=135,slow=3.8,SNR=4.7
ASAR LR LR 07 01 50.2
comp=Z,136nm,19.8s,MS4.3,baz=288,slow=38
YKA Yellowknife Ar 82.26 4 P **P 06 22 58.9 +0.2**
comp=Z,5.1nm,0.7s,mb4.5,baz=346,slow=5.5,SNR=9.9
YKA LR LR 07 02 55.5
comp=Z,540nm,20.0s,MS4.9,baz=340,slow=38
YKA Yellowknife Ar 82.26 4 P **P 06 22 58.9 +0.2**
YKA pmax pmax
comp=Z,5.0nm,0.7s
YKA MLR MLR
comp=Z,540nm,20.0s
FORT Forrest 82.81 136 *e*P **P 06 23 03.0 +0.8**
comp=Z,78nm,0.7s,mb5.8
SCHQ Schefferville 84.27 339 P **P 06 23 10.3 +1.2**
comp=Z,8.5nm,1.2s,mb4.8,baz=48,slow=10,SNR=3.5
SCHQ LR LR 07 00 29.1
comp=Z,604nm,21.3s,MS5.0,baz=56,slow=35
CTA Charters Tower 87.46 117 *e*P **P 06 23 26.0 +0.3**
comp=Z,7.6nm,0.9s,mb4.9
CTA Charters Tower 87.46 117 P **P 06 23 26.0 +0.4**
comp=Z,10nm,0.8s,mb5.1,baz=324,slow=8.9,SNR=6.8
CTA LR LR 07 06 32.4
comp=Z,170nm,19.1s,MS4.5,baz=228,slow=38
CTA Charters Tower 87.46 117 P **P 06 23 26.0 +0.3**
CTA pmax pmax
comp=Z,10.0nm,0.8s
CTA MLR MLR
comp=Z,170nm,19.1s
CTAO Charters Tower 87.46 117 *e*P **P 06 23 24.8 -0.8**
EDM Edmonton 91.57 5 *e*P **P 06 23 45.0 +0.8**
STKA Stephens Creek 91.80 128 LR LR 07 07 49.3
comp=Z,276nm,19.5s,MS4.7,baz=115,slow=37
ULM Lac du Bonnet 94.39 354 P **P 06 23 58.0 +0.8**
comp=Z,5.1nm,0.8s,mb5.0,baz=353,slow=8.1,SNR=4.9
ULM LR LR 07 09 08.3
comp=Z,750nm,20.9s,MS5.1,baz=243,slow=37
SYO Syowa Base 107.17 192 ⇑PKiKP 06 29 04.8
SNAA Sanae 119.29 201 ⇓*i*P PKPdf 06 29 26.3 -1.6
VNA2 Neumayer--Watz 120.37 202 ⇑*i*P PKPdf 06 29 31.2 +1.2
VNA1 Neumayer--Stat 120.55 203 ⇓*i*P PKPdf 06 29 26.6 -3.8
VNA3 Neumayer Olymp 121.17 202 ⇑*i*P PKPdf 06 29 31.2 -0.4
LPAZ La Paz 141.69 290 PKP PKPdf 06 30 10.9 -0.5
comp=Z,2.4nm,1.1s,baz=91,slow=2.1,SNR=6.0
LPAZ La Paz 141.69 290 PKIKP PKPdf 06 30 10.9 -0.5
LPAZ pmax pmax
comp=Z,2.0nm,1.1s
TRQA Tornquist 145.23 252 *e*PKP PKPdf 06 30 15.3 -1.6
LVC Limon Verde 145.78 282 *e*PKP PKPdf 06 30 17.1 -1.2

*NEIC **31** 06:39:07.4, 33.37S×73.10W, h27km, ML3.1(GUC), After GUC.*
GUC 31 06:39:07.4±0.6, 33.37S×73.10W, h27km±2km, MD3.5, ML3.1, 2C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**1.53**	**113**	⇑*i*P	Pn	06 39 33.4	+0.1
LNV				*i* S	Sn	06 39 53.3	+0.9
TACH	**Talagante**	**1.83**	**100**	*i* P	Pn	06 39 38.3	+0.7
TACH				*i* S	Sn	06 40 01.7	+1.6
RCDM	**Rinconada Maip**	**1.92**	**94**	*i* P	Pn	06 39 39.5	+0.6
RCDM				*i* S	Sn	06 40 03.8	+1.4
RCDM				AMP		06 40 05.9	
	comp=E,217nm,0.2s						
PEL	**Peldehue**	**2.04**	**84**	*i* S	Sn	06 40 07.1	+1.7
PEL				AMP		06 40 08.5	
	comp=N,194nm,0.3s						
ANTU	**Antumapu**	**2.07**	**96**	*i* S	Sn	06 40 07.9	+1.6
ANTU				AMP		06 40 11.2	
	comp=E,111nm,0.5s						
DSCH	**Colegio Aleman**	**2.12**	**92**	*i* S	Sn	06 40 09.3	+1.8
DSCH				AMP		06 40 10.9	
	comp=E,303nm,0.4s						
SFDO	**San Fernando**	**2.13**	**126**	⇑*i*P	Pn	06 39 42.5	+0.5
SFDO				*i* S	Sn	06 40 09.4	+1.6
CLCH	**Cerro Calan**	**2.15**	**91**	*i* P	Pn	06 39 43.2	+1.0
CLCH				*i* S	Sn	06 40 09.6	+1.5
CLCH				AMP		06 40 11.3	
	comp=E,154nm,0.4s						
FSR	**Penalolen**	**2.15**	**94**	*i* S	Sn	06 40 10.0	+1.7
FSR				AMP		06 40 14.6	
	comp=N,110nm,0.3s						
PCH	**Pirque**	**2.18**	**97**	*i* S	Sn	06 40 10.2	+1.3
CACH	**El Canelo**	**2.21**	**110**	*i* P	Pn	06 39 44.5	+1.3
CACH				*i* S	Sn	06 40 12.4	+2.6
FCH	**Farellones**	**2.35**	**90**	⇓*i*P	Pn	06 39 45.9	+0.8
FCH				*i* S	Sn	06 40 15.6	+2.2
FCH				AMP		06 40 16.7	
	comp=N,169nm,0.2s						
LMEL	**Las Melosas**	**2.46**	**102**	*i* P	Pn	06 39 47.3	+0.6
LMEL				*i* S	Sn	06 40 17.9	+1.7
LMEL				AMP		06 40 22.6	
	comp=E,139nm,0.2s						

*IDC **31** 06:46:34.8±1.8, 11.93N×85.86W, mb3.8/5, mb1 4.1/5, mb1mx3.8/16, Error ellipse: s-maj=106.0km s-min=26.5km az=49.0*
*NEIC **31** 06:46:34.0±1.3, 11.15N×86.64W, h10km, mb4.0/3, Error ellipse: s-maj=57.6km s-min=15.9km az=53.0*
*CASC **31** 06:46:37.0±3.4, 10.91N×86.90W, h36km±999km, MD4.3, mb4.0(NEIC)*
ISC 31 06:46:33.1±0.5, 10.86N±0.04×87.02W±0.03, h10km, n46, σ1§32/56, mb3.8/8, 14C-6D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**1.22**	**69**	⇑*e*P	**Pb**	**06 46 55.5**	**-0.3**
SSNN				*e*S	**Sb**	**06 47 10.7**	**-0.8**
CRUN	**El Crucero**	**1.32**	**32**	⇓*e*P	**Pb**	**06 46 58.2**	**+0.6**
COPN	**Copaltepe**	**1.38**	**17**	⇓*e*P	**Pn**	**06 46 59.1**	**+0.6**
COPN				*e*S	**Sb**	**06 47 19.0**	**+3.0**
TICN	**Ticuantepe**	**1.40**	**33**	⇓*e*P	**Pn**	**06 46 58.8**	**0.0**
APON	**Apoyo**	**1.40**	**41**	⇑*e*P	**Pn**	**06 46 58.5**	**-0.3**
XAVN	**Gruta Xavier**	**1.45**	**28**	⇑*e*P	**Pn**	**06 46 59.6**	**+0.1**
MGAN	**Managua**	**1.48**	**30**	⇑*e*P	**Pn**	**06 47 00.1**	**+0.1**
MGAN				*e*S	**Sb**	**06 47 19.5**	**+0.3**
APYN	**Apoyeque**	**1.51**	**25**	⇓*e*P	**Pn**	**06 47 00.6**	**+0.1**
WILN	**Americas 2**	**1.53**	**32**	⇑*e*P	**Pn**	**06 47 00.4**	**-0.2**
VCR	**Vista de Mar**	**1.54**	**118**	*e*P	**Pn**	**06 47 00.6**	**-0.3**
LEON	**Leon**	**1.55**	**4**	⇑*e*P	**Pn**	**06 47 02.1**	**+1.1**
MADN	**Villa Maderas**	**1.55**	**69**	⇑*e*P	**Pn**	**06 47 00.2**	**-0.8**
MIRN	**Miramar**	**1.60**	**11**	⇓*e*P	**Pn**	**06 47 02.5**	**+0.8**
MOMJ	**Momotombo**	**1.61**	**17**	⇑*e*P	**Pn**	**06 47 02.0**	**+0.2**
CNGN	**Cerro Negro**	**1.66**	**11**	*e*P	**Pn**	**06 47 02.4**	**-0.2**
TELN	**Telica**	**1.74**	**6**	*e*P	**Pn**	**06 47 03.2**	**-0.6**
PYTN	**Playitas**	**1.91**	**29**	⇑*e*P	**Pn**	**06 47 05.8**	**-0.4**
JCR	**Jicaral**	**2.12**	**118**	*e*P	**Pn**	**06 47 08.7**	**-0.5**
QUIN	**Quiabu**	**2.33**	**15**	*e*P	**Pn**	**06 47 10.5**	**-1.6**
FORC	**Fortuna**	**2.34**	**99**	*e*P	**Pn**	**06 47 14.1**	**+1.8**
CNCH	**Conchagua**	**2.53**	**342**	⇑*e*P	**Pn**	**06 47 16.1**	**+1.0**
CNCH				*e*S	**Sn**	**06 47 44.6**	**-1.7**
CGA2	**Cerro Gallo 2**	**2.64**	**108**	*e*P	**Pn**	**06 47 17.0**	**+0.4**
BLLM	**Bellamira**	**2.83**	**335**	*e*P	**Pn**	**06 47 21.2**	**+1.9**
BLLM				*e*S	**Sn**	**06 47 52.7**	**-1.1**
LAJ	**Bijagual**	**3.01**	**109**	⇓*e*P	**Pn**	**06 47 18.5**	**-3.4**
SJS	**Escuela Geolog**	**3.05**	**107**	*e*P	**Pn**	**06 47 21.2**	**-1.2**
LCR2	**La Lucha 2**	**3.17**	**110**	*e*P	**Pn**	**06 47 25.1**	**+1.1**
ICR	**Volcan Irazu**	**3.25**	**105**	*e*P	**Pn**	**06 47 26.6**	**+1.3**
TRTC	**Tortuguero**	**3.26**	**95**	*e*P	**Pn**	**06 47 23.9**	**-1.4**
SNVI	**San Vicente**	**3.27**	**327**	*e*P	**Pn**	**06 47 27.3**	**+1.8**
SNVI				*e*S	**Sn**	**06 48 07.2**	**+2.4**
URSC	**Urasca**	**3.34**	**107**	*e*P	**Pn**	**06 47 27.9**	**+1.3**
LCBS	**La Ceiba**	**3.38**	**326**	⇑*e*P	**Pn**	**06 47 28.1**	**+1.1**
LCBS				*e*S	**Sn**	**06 48 05.6**	**-2.0**
LFRS	**El Faro**	**3.40**	**324**	⇑*e*P	**Pn**	**06 47 29.0**	**+1.6**
LFRS				*e*S	**Sn**	**06 48 06.5**	**-1.6**
BUS	**Buena Vista**	**3.46**	**112**	*e*P	**Pn**	**06 47 30.0**	**+1.8**
BOQS	**Boqueron**	**3.62**	**322**	*e*P	**Pn**	**06 47 34.5**	**+4.1**
BOQS				*e*S	**Sn**	**06 48 13.1**	**-0.5**
SBLS	**San Blas**	**3.91**	**320**	⇑*e*P	**Pn**	**06 47 37.6**	**+3.0**
SBLS				⇑*e*S	**Sn**	**06 48 20.0**	**-1.0**
RTR	**El Retiro**	**3.96**	**320**	*e*P	**Pn**	**06 47 38.0**	**+2.6**
RTR				⇑*e*S	**Sn**	**06 48 21.9**	**-0.6**
TXAR	**Lajitas Array**	**24.07**	**322**	P	**P**	**06 51 51.1**	**+1.4**
	1.8nm,0.7s,mb3.6,baz=136,slow=10,SNR=28						
TXAR				PcP	PcP	06 55 34.9	+2.0
	0.2nm,0.5s,baz=152,slow=5.4,SNR=4.2						
CPCT	**Cooper Cave**	**24.58**	**5**	*e*P	**P**	**06 51 53.2**	**-1.5**
CCM	**Cathedral Cave**	**27.34**	**353**	*e*P	**P**	**06 52 16.9**	**-3.5**
	2.4nm,0.7s,mb3.8						
SAML	**Samuel**	**30.81**	**129**	*e*P	**P**	**06 52 49.3**	**-2.4**
	2.1nm,0.7s,mb4.1						
SDCO	**Great Sand Dun**	**31.50**	**331**	*e*P	**P**	**06 52 56.9**	**-0.6**
	1.4nm,0.7s,mb3.9						
PDAR	**Pinedale Array**	**37.37**	**332**	P	**P**	**06 53 45.6**	**-2.2**
	0.7nm,0.7s,mb3.6,baz=124,slow=11,SNR=6.2						
NVAR	**Mina Array Bea**	**39.18**	**320**	PcP	PcP	06 56 15.4	+2.5
	0.6nm,0.8s,baz=117,slow=6.0,SNR=3.0						
ULM	**Lac du Bonnet**	**39.95**	**351**	P	**P**	**06 54 04.3**	**-5.0**
	1.5nm,0.6s,mb3.9,baz=164,slow=9.6,SNR=3.3						
BDFB	**Brasilia**	**46.74**	**124**	P	**P**	**06 55 03.1**	**-1.6**
	2.1nm,0.8s,mb4.1,baz=301,slow=8.3,SNR=3.6						
ILAR	**Eielson Array**	**67.64**	**336**	P	**P**	**06 57 29.4**	**-2.8**
	0.6nm,0.9s,mb3.6,baz=126,slow=6.1,SNR=5.1						

DJA 31 06:52:17.6±0.9, 9.77S×114.75E, h33km, MD4.9/4, ML3.7/3, 6C-3D, Error ellipse: s-maj=21.4km s-min=8.9km az=17.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	**Rata**	**1.30**	**37**	⇑*i*Pn	Pn	06 52 38.2	-1.5
	78nm,0.2s						
RATI	**Rata**	**1.30**	**37**	⇑*i*P	P	06 52 39.4	0.0
RATI				⇓*i*Sn	Sn	06 52 52.9	-3.1
SRDI	**Scrawed**	**1.42**	**335**	⇓*i*Pn	Pn	06 52 39.6	-1.8
	104nm,0.2s						
SRDI				⇑*i*Sn	Sn	06 52 55.7	-3.3
KELI	**Kelakatan**	**1.56**	**351**	⇑*i*Pn	Pn	06 52 42.8	-0.7
	59nm,0.2s						
KELI				⇑*i*Sn	Sn	06 53 00.8	-2.0
KEDI	**Kedomdong**	**1.85**	**47**	⇓*i*Pn	Pn	06 52 46.2	-1.5
KEDI				⇑*i*Sn	Sn	06 53 04.6	-5.6

*IDC **31** 06:55:38.4±1.2, 35.28N×74.26E, mb3.9/8, mb1 4.1/9, mb1mx3.9/18, ML3.8/1, Error ellipse: s-maj=42.2km s-min=18.5km az=42.0*
*NEIC **31** 06:55:39.6±0.8, 35.21N×74.11E, h10km, mb3.7/3, Error ellipse: s-maj=23.2km s-min=12.5km az=65.0*
ISC 31 06:55:37.5±0.6, 35.24N±0.06×74.4E±0.1, h10km, n26, σ1§18/28, mb3.8/9, Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**3.01**	**158**	*e*P	**Pg**	**06 56 36.0**	**-1.7**
	21nm,0.6s						
THN				*e*S	**Sg**	**06 57 18.2**	**+0.3**
BHK	**Bhakra**	**4.18**	**155**	*e*P	**Pg**	**06 57 07.7**	**+6.7**
BHK				*e*S	**Sg**	**06 58 00.5**	**+3.8**
DDI	**Dehra Dun**	**5.80**	**147**	*e*P	**Pn**	**06 57 10.8**	**+5.0**
DDI				*e*S	**Sn**	**06 58 16.2**	**+3.1**
NDI	**New Delhi**	**6.97**	**159**	*e*P	**Pn**	**06 57 27.0**	**+4.8**
NDI				*e*		06 58 43.0	
AAK	**Ala-Archa**	**7.38**	**1**	P	**Pn**	**06 57 28.4**	**+0.4**
	1.2nm,0.6s						
KOLN	**Koldanda**	**10.83**	**131**	*e*P	**P**	**06 58 15.3**	**-0.4**
	17nm,0.7s						
GKN	**Gorkha**	**11.33**	**127**	*e*P	**P**	**06 58 21.7**	**-0.9**
	13nm,0.4s						
KKN	**Kakani**	**11.89**	**126**	*e*P	**P**	**06 58 29.3**	**-0.9**
	26nm,0.7s						
DMN	**Daman**	**11.90**	**127**	*e*P	**P**	**06 58 29.1**	**-1.2**
	22nm,0.6s						
PKI	**Pulchoki**	**12.12**	**126**	*e*P	**P**	**06 58 32.5**	**-0.8**
	16nm,0.7s						
GUN	**Gumba**	**12.22**	**124**	*e*P	**P**	**06 58 33.6**	**-1.0**
	39nm,0.9s						
KURK	**Kurchatov**	**15.77**	**10**	*e*P	**P**	**06 59 24.3**	**+3.1**
	3.3nm,0.6s						
BVAR	**Borovoye Array**	**18.00**	**352**	Pn	**P**	**06 59 48.9**	**-0.4**
	0.3nm,0.3s,baz=169,slow=12,SNR=8.8						
BRVK	**Borovoye**	**18.05**	**352**	P	**P**	**06 59 49.3**	**-0.6**
	2.5nm,0.8s						
SONM	**Songino Array**	**26.86**	**52**	P	**P**	**07 01 21.3**	**+1.3**
	1.0nm,0.7s,mb3.4,baz=252,slow=10,SNR=5.2						
CMAR	**Chiang Mai Arr**	**27.45**	**121**	P	**P**	**07 01 28.9**	**+3.2**
	0.8nm,0.4s,mb3.6,baz=308,slow=10,SNR=4.3						
AKASG	**Malin Array Be**	**35.87**	**310**	P	**P**	**07 02 38.5**	**-0.8**
	1.0nm,0.6s,mb4.0,baz=76,slow=6.7,SNR=7.2						
FINES	**FINESS Array B**	**40.06**	**326**	P	**P**	**07 03 15.1**	**+0.8**
	1.7nm,0.8s,mb3.8,baz=117,slow=6.2,SNR=6.3						
FINES	**FINESS Array B**	**40.06**	**326**	P	**P**	**07 03 15.1**	**+0.8**
ARCES	**ARCESS Array B**	**43.36**	**337**	P	**P**	**07 03 41.2**	**0.0**
	5.7nm,1.1s,mb4.2,baz=100,slow=7.4,SNR=6.6						
ARCES	**ARCESS Array B**	**43.36**	**337**	P	**P**	**07 03 41.2**	**0.0**
NOA	**NORSAR Array B**	**47.03**	**324**	P	**P**	**07 04 10.6**	**0.0**
	0.3nm,0.6s,mb3.4,baz=99,slow=7.3,SNR=2.6						
COLA	**College**	**74.89**	**17**	*e*P	**P**	**07 07 20.1**	**+0.5**
	2.1nm,0.7s,mb4.2						
ILAR	**Eielson Array**	**75.21**	**17**	P	**P**	**07 07 21.4**	**-0.1**
	1.1nm,0.9s,mb3.8,baz=322,slow=4.1,SNR=9.4						
WRA	**Warramunga Arr**	**79.00**	**124**	P	**P**	**07 07 44.0**	**+0.5**
	0.6nm,0.6s,mb3.7,baz=328,slow=5.5,SNR=6.6						
LVC	**Limon Verde**	**145.69**	**282**	PKPdf	PKPdf	07 15 18.1	-1.5

*NEIC **31** 07:01:49.4±0.7, 23.86S×66.65W, h188km±7km, mb4.4/12, MD3.9(GUC), Error ellipse: s-maj=9.5km s-min=7.8km az=63.0*
*GUC **31** 07:01:50.1±0.9, 24.03S×66.94W, h212km±13km, MD3.9, ML4.2*
*SYO **31** 07:01:50.9, 23.72S×66.63W, h196km, MB4.2*
*IDC **31** 07:01:51.1±2.9, 23.79S×66.60W, h203km±25km, mb3.8/9, mb1 4.0/11, mb1mx3.9/14, Error ellipse: s-maj=24.0km s-min=13.9km az=42.0*
ISC 31 07:01:48.6±0.6, 23.96S±0.05×66.70W±0.07, h200km±6km, n42, σ1§21/50, mb4.2/18, 8C-2D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**1.73**	**307**	⇑*i*P	**P**	**07 02 27.2**	**+2.4**
SPCH				AMP		07 02 37.1	
	comp=N,945nm,0.7s						
SPCH				*i* S	**S**	**07 02 55.0**	**+2.4**
LVC	**Limon Verde**	**2.43**	**303**	⇑*i*P	**P**	**07 02 33.5**	**+1.3**
LVC				*i* S	**S**	**07 03 06.9**	**+1.1**
LVC				AMP		07 03 08.0	
	comp=E,865nm,0.5s						
LVC	**Limon Verde**	**2.43**	**303**	*i*Pn	**P**	**07 02 33.4**	**+1.1**
LVC				*e*Sn	**S**	**07 03 05.0**	**-0.9**
ANCH	**Antofagasta**	**3.41**	**274**	⇑*i*P	**P**	**07 02 44.2**	**+0.5**
ANCH				*i* S	**S**	**07 03 24.1**	**-2.2**
CPN1	**Cerro Paranal**	**3.44**	**258**	⇑*i*P	**P**	**07 02 44.6**	**+0.5**
CPN1				*i* S	**S**	**07 03 25.9**	**-1.2**
CPCH	**Copiapo**	**4.72**	**223**	⇑*i*P	**P**	**07 02 59.8**	**-0.4**
CPCH				*i* S	**S**	**07 03 53.8**	**-1.8**
LPAZ	**La Paz**	**7.75**	**350**	P	**P**	**07 03 40.1**	**+0.7**
	comp=E,2.7nm,0.3s,baz=170,slow=7.8,SNR=48						
LPAZ				S	**S**	**07 05 05.3**	**-0.5**
	comp=E,1.1nm,0.3s,baz=276,slow=20,SNR=4.1						
LPAZ	**La Paz**	**7.75**	**350**	*e*Pn	**P**	**07 03 39.3**	**0.0**
	comp=E,8.2nm,0.5s						
LPAZ				*e*S	**S**	**07 05 01.2**	**-4.7**
TRQA	**Tornquist**	**14.62**	**165**	*e*Pn	**P**	**07 05 05.8**	**-1.4**
	comp=E,7.6nm,0.5s						
SAML	**Samuel**	**15.30**	**13**	*e*P	**P**	**07 05 14.1**	**-1.7**
	comp=E,5.4nm,0.7s						
VAO	**Valinhos**	**18.13**	**91**	*e*P	**P**	**07 05 47.7**	**-0.5**
VAO				*i*		07 05 48.6	
VAO				*i*		07 05 50.8	
VAO				*i*		07 06 03.6	
VAO	**Valinhos**	**18.13**	**91**	*e*P	**P**	**07 05 47.7**	**-0.5**
VAO				*i*		07 05 48.6	
VAO				*i*		07 05 50.8	
VAO				*i*		07 06 03.6	
BDFB	**Brasilia**	**19.42**	**68**	P	**P**	**07 06 01.3**	**-0.3**
	comp=E,3.7nm,0.3s,baz=242,slow=12,SNR=99						
BAO	**Brasilia Array**	**19.44**	**68**	*i* P	**P**	**07 06 01.9**	**+0.2**
EFI	**East Falkland**	**28.46**	**169**	P	**P**	**07 07 27.5**	**+0.6**
	comp=E,4.0nm,0.6s,mb4.2						
SDV	**Santo Domingo**	**32.87**	**353**	P	**P**	**07 08 03.4**	**-2.4**
	comp=E,6.6nm,1.0s,mb4.1						
RCBR	**Riachuelo**	**34.66**	**64**	*e*P	**P**	**07 08 20.5**	**-0.6**
	comp=E,1.8nm,0.5s,mb3.9						
VNA3	**Neumayer Olymp**	**57.11**	**161**	⇑*i*	**P**	**07 11 18.9**	**+3.1**
VNA1	**Neumayer--Stat**	**57.30**	**160**	⇓*i*	**P**	**07 11 21.0**	**+3.8**
VNA2	**Neumayer--Watz**	**57.67**	**160**		**P**	**07 11 22.2**	**+2.4**
SNAA	**Sanae**	**59.30**	**161**	⇑*i*	**P**	**07 11 31.8**	**+0.8**
SNAA	**Sanae**	**59.30**	**161**	P	**P**	**07 11 31.9**	**+0.9**
	comp=E,1.0nm,0.6s,mb3.6,baz=285,slow=5.3,SNR=13						
JCT	**Junction City**	**62.75**	**328**	*e*P	**P**	**07 11 53.9**	**-0.9**
	comp=E,9.0nm,0.7s,mb4.5						
LTX	**Lajitas**	**63.80**	**324**	*e*P	**P**	**07 12 01.3**	**-0.3**
	comp=E,1.2nm,0.4s,mb3.9						
TXAR	**Lajitas Array**	**63.80**	**324**	P	**P**	**07 12 01.2**	**-0.4**
	comp=E,1.0nm,0.5s,mb3.7,baz=150,slow=7.6,SNR=27						
GDL2	**Guadalupe Moun**	**66.43**	**326**	*e*P	**P**	**07 12 18.4**	**-0.1**
LIC	**Lamto**	**67.17**	**72**	*e*P	**P**	**07 12 22.3**	**-1.1**
	comp=E,68nm,1.5s,mb5.1						
TIC	**Toumodi**	**67.38**	**71**	*e*P	**P**	**07 12 23.9**	**-0.8**
	comp=E,53nm,1.1s,mb5.1						
KIC	**Kosan Boka**	**67.48**	**72**	*

GUN	**Gumba**	**11.79**	**128**	*e*P	**P**	**07 10 07.0**	**-0.1**
	8.5nm,0.4s							
KURK	**Kurchatov**	**15.28**	**8**	*e*P	**P**	**07 10 55.9**	**+2.9**
	3.6nm,0.7s							
BVAR	**Borovoye Array**	**17.76**	**350**	P	**P**	**07 11 24.3**	**0.0**
	0.2nm,0.3s,baz=161,slow=10,SNR=5.8							
ARCES	**ARCESS Array B**	**43.33**	**337**	P	**P**	**07 15 15.1**	**-2.7**
	3.2nm,0.9s,mb4.0,baz=111,slow=7.7,SNR=3.6							
ILAR	**Eielson Array**	**74.62**	**17**	P	**P**	**07 18 55.0**	**+0.4**
	0.3nm,0.7s,mb3.4,baz=320,slow=4.6,SNR=5.9							
WRA	**Warramunga Arr**	**78.55**	**125**	P	**P**	**07 19 18.4**	**+0.8**
	0.3nm,0.5s,mb3.5,baz=317,slow=4.8,SNR=8.1							

IDC ***31*** *07:15:17.5±1.4,2.66S×127.45E,mb3.9/4,mb1 4.2/6, mb1mx4.0/14,ML3.7/2,MS3.2/1,Ms1 3.2/1,ms1mx2.8/15, Error ellipse: s-maj=98.6km s-min=23.6km az=74.0*
NEIC ***31*** *07:15:27.1±3.8,2.80S×127.42E,h76km±36km,mb4.3/3, Error ellipse: s-maj=45.0km s-min=13.6km az=63.0*
ISC 31 07:15:24.0±5.4,2.8S±0.2×127.3E±0.3,h70km±51km,n17, σ0§90/17,mb4.4/10,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**15.35**	**186**	Pn	**P**	**07 18 59.0**	**+1.0**
	0.2nm,0.3s,baz=4.8,slow=10,SNR=5.2						
WRAB	**Tennant Creek**	**18.42**	**159**	*e*Pn	**P**	**07 19 35.9**	**-0.3**
	17nm,1.0s						
WRA	**Warramunga Arr**	**18.42**	**159**	P	**P**	**07 19 36.0**	**-0.2**
	0.3nm,0.3s,baz=338,slow=11,SNR=19						
WB2	**Warramunga Arr**	**18.43**	**159**	*e*P	**P**	**07 19 35.6**	**-0.7**
ASAR	**Alice Springs**	**21.76**	**163**	P	**P**	**07 20 11.8**	**+0.4**
	4.1nm,1.0s,mb3.7,baz=340,slow=12,SNR=18						
ASAR				LR	LR	07 29 40.9	
	comp=Z,63nm,19.3s,baz=339,slow=40						
ASPA	**Alice Springs**	**21.76**	**163**	*e*P	**P**	**07 20 11.7**	**+0.3**
STKA	**Stephens Creek**	**31.95**	**157**	P	**P**	**07 21 45.0**	**-0.6**
	2.4nm,0.9s,mb3.9,baz=335,slow=12,SNR=4.7						
STKA	**Stephens Creek**	**31.95**	**157**	P	**P**	**07 21 45.0**	**-0.6**
GUN	**Gumba**	**50.16**	**310**	*e*P	**P**	**07 24 15.2**	**+0.4**
	19nm,0.8s,mb5.0						
PKI	**Pulchoki**	**50.34**	**310**	*e*P	**P**	**07 24 13.9**	**-2.4**
	27nm,1.2s,mb5.0						
DMN	**Daman**	**50.60**	**310**	*e*P	**P**	**07 24 16.8**	**-1.4**
GKN	**Gorkha**	**51.15**	**310**	*e*P	**P**	**07 24 22.6**	**+0.2**
	14nm,0.7s,mb5.1						
KOLN	**Koldanda**	**51.84**	**309**	*e*P	**P**	**07 24 27.8**	**+0.2**
	22nm,0.8s,mb5.2						
SONM	**Songino Array**	**53.59**	**343**	P	**P**	**07 24 41.0**	**+0.7**
	2.1nm,1.0s,mb4.1,baz=158,slow=7.8,SNR=5.3						
KURK	**Kurchatov**	**67.51**	**329**	*e*P	**P**	**07 26 14.7**	**-0.2**
	6.1nm,0.9s,mb4.4						
BRVK	**Borovoye**	**73.12**	**328**	*e*P	**P**	**07 26 50.8**	**+2.0**
	5.2nm,1.2s,mb4.2						
VNDA	**Vanda**	**76.97**	**173**	P	**P**	**07 27 10.6**	**+0.2**
	0.8nm,0.7s,mb3.6,baz=316,slow=7.1,SNR=5.9						

GUC 31 07:15:25.0±0.6,25.91S×71.52W,h16km±3km,MD3.9, ML4.0,2C,Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPN1	**Cerro Paranal**	**1.63**	**39**	⇑*i*P	Pn	**07 15 53.3**	**0.0**
CPN1				AMP		07 16 13.3	
	comp=E,2μm,0.4s						
CPN1				*i* S	Sn	07 16 14.7	+0.7
CPCH	**Copiapo**	**1.78**	**144**	*e*P	Pn	07 15 55.4	-0.1
CPCH				AMP		07 16 17.1	
	comp=E,5μm,0.1s						
CPCH				*i* S	Sn	07 16 17.9	0.0
ANCH	**Antofagasta**	**2.44**	**25**	⇑*i*P	Pn	07 16 05.3	+0.5
ANCH				*i* S	Sn	07 16 35.2	+0.7
VACH	**Vallenar**	**2.74**	**166**	*i* S	Sn	07 16 42.8	+0.5
VACH				AMP		07 16 58.4	
	comp=E,478nm,0.4s						
LVC	**Limon Verde**	**4.05**	**37**	*i* P	Pn	07 16 27.7	-0.2
LVC				*i* S	Sn	07 17 15.9	+0.4
SPCH	**San Pedro de A**	**4.25**	**46**	*i* P	Pn	07 16 30.9	+0.2
SPCH				*i* S	Sn	07 17 21.0	+0.4

GRAL ***31*** *07:22:02.0±21.0,33.06N×35.45E,h15km±999km,MD2.9*
GII ***31*** *07:22:02.6±0.3,33.17N×35.60E,h5km±3km,ML2.5/6, Mw2.7/4*
NSSC ***31*** *07:22:03.8,33.16N×35.72E,h15km±2km*
ISC 31 07:22:02.4±0.4,33.16N±0.03×35.60E±0.04,h11km±6km, n15,σ0§55/22,3D,Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSDI	**Kefar Szold**	**0.06**	**58**	Pg	**Pg**	**07 22 04.8**	**+0.1**
HRI	**Mount Hermon**	**0.15**	**47**	Pg	**Pg**	**07 22 06.0**	**0.0**
KSHT	**Keshet**	**0.25**	**136**	Pg	**Pg**	**07 22 08.4**	**+0.6**
HNTI	**Hanita**	**0.37**	**258**	Pg	**Pg**	**07 22 10.2**	**+0.2**
HNTI				Sg	**Sg**	**07 22 15.7**	**+0.7**
BRBR	**Barbar**	**0.38**	**50**	⇑P	**Pg**	**07 22 10.3**	**+0.1**
BRBR				⇓S	**Sg**	**07 22 15.9**	**+0.3**
TCHB	**Talchebab**	**0.58**	**148**	⇓P	**Pb**	**07 22 14.4**	**+0.4**
TCHB				⇓S	**Sb**	**07 22 22.5**	**+0.5**
HAF	**Haifa**	**0.62**	**232**	Sg	**Sg**	**07 22 23.7**	**+0.5**
QASN	**Qassioun**	**0.67**	**57**	⇑P	**Pb**	**07 22 15.6**	**-0.1**
QASN				⇑S	**Sb**	**07 22 24.3**	**-0.4**
MMLI	**Mount Malkishu**	**0.74**	**192**	Pg	**Pg**	**07 22 16.8**	**-0.4**
BHL	**Bhannes**	**0.74**	**3**	*i* PG	**Pg**	**07 22 16.5**	**-0.8**
	baz=96,slow=1.1						
BHL				*i* SG	**Sg**	**07 22 27.9**	**+0.7**
OFRI	**'Ofer**	**0.75**	**224**	Pg	**Pg**	**07 22 17.1**	**-0.3**
HMDT	**Nahal Hemdat**	**0.91**	**184**	Pg	**Pg**	**07 22 20.1**	**-0.6**
SLTI	**Sal'it**	**1.03**	**207**	Pg	**Pg**	**07 22 22.0**	**-1.1**
SLTI				Sg	**Sg**	**07 22 36.7**	**-0.3**
HWQ	**Hawqa**	**1.15**	**14**	*i* PG	**Pg**	**07 22 24.1**	**-1.3**
HWQ				*i* SG	**Sg**	**07 22 41.2**	**+0.4**
DRGI	**Dragot**	**1.57**	**187**	Pn	**Pn**	**07 22 30.9**	**+0.5**

JMA ***31*** *07:54:08.4±0.2,24.40N×122.49E,h73km±2km*
TAP 31 07:54:07.3,24.22N×122.49E,h48km±1km,ML2.9, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.53**	**63**	P	P	07 54 21.4	+2.5
YOJ				*e*S	S	07 54 30.8	+3.7
HATJ	**Hateruma jima**	**1.21**	**97**	P	P	07 54 30.3	+2.1
JKRS	**Kuro-shima**	**1.39**	**89**	P	P	07 54 32.7	+1.9
JKRS				*e*S	S	07 54 51.1	+3.0
JIJ	**Ishigaki jima**	**1.52**	**84**	P	P	07 54 33.6	+1.1
JIJ				S	S	07 54 52.4	+1.1
JTJ	**Tarama**	**2.06**	**78**	P	P	07 54 41.4	+1.2
JTJ				*e*S	S	07 55 05.9	+1.2

IDC ***31*** *08:03:46.6±2.7,32.40S×178.58W,mb4.1/3,mb1 4.3/4, mb1mx4.0/14,ML4.3/1,Error ellipse: s-maj=58.7km s-min=43.1km az=123.0*
ISC 31 08:03:51.5±1.7,33.14S±0.08×178.0W±0.2,h100km,n31, σ1§70/37,mb4.0/3,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**5.37**	**214**	P	**P**	**08 05 13.6**	**+2.9**
MXZ				S	**S**	**08 06 16.7**	**+4.9**
PUZ	**Puketiti**	**5.81**	**211**	P	**P**	**08 05 18.9**	**+2.2**
PUZ				S	**S**	**08 06 23.9**	**+1.3**
MWZ	**Matawai**	**6.36**	**214**	P	**P**	**08 05 25.9**	**+1.7**
MWZ				S	**S**	**08 06 40.5**	**+4.5**
URZ	**Urewera**	**6.50**	**217**	Pn	**P**	**08 05 27.3**	**+1.1**
	6.1nm,0.3s,baz=346,slow=2.6,SNR=32						
URZ				Sn	**S**	**08 06 38.7**	**-0.8**
	5.8nm,0.3s,baz=297,slow=6.8,SNR=2.9						
URZ	**Urewera**	**6.50**	**217**	P	**P**	**08 05 27.0**	**+0.8**
KNZ	**Kokohu**	**6.86**	**210**	P	**P**	**08 05 34.2**	**+3.1**
OUZ	**Omahuta**	**7.30**	**251**	P	**P**	**08 05 37.4**	**+0.2**
BKZ	**Black Stump Fm**	**7.51**	**215**	P	**P**	**08 05 40.4**	**+0.4**
MGZ	**Maungaku**	**7.87**	**220**	P	**P**	**08 05 47.9**	**+2.9**
KAVZ	**Karewarewa**	**7.89**	**219**	P	**P**	**08 05 48.8**	**+3.7**
NGZ	**Ngauruhoe**	**7.97**	**219**	P	**P**	**08 05 49.4**	**+3.2**
TUVZ	**Tukino**	**8.01**	**218**	P	**P**	**08 05 47.8**	**+1.0**
PWZ	**Pawanui**	**8.04**	**210**	P	**P**	**08 05 48.9**	**+1.6**
TSZ	**Takapari Road**	**8.46**	**214**	P	**P**	**08 05 49.3**	**-3.7**
WAZ	**Wanganui**	**8.72**	**219**	P	**P**	**08 05 57.4**	**+1.1**
BFZ	**Birch Farm**	**8.85**	**210**	P	**P**	**08 06 00.7**	**+2.6**
MRZ	**Mangatainoka R**	**9.12**	**213**	P	**P**	**08 06 00.8**	**-1.0**
MTW	**Mount Morrison**	**9.56**	**211**	P	**P**	**08 06 06.7**	**-1.0**
KIW	**Kapiti Island**	**9.59**	**214**	P	**P**	**08 06 06.0**	**-2.1**
KIW				S	**S**	**08 07 50.6**	**-4.1**
CAW	**Cannon Point**	**9.71**	**213**	P	**P**	**08 06 07.8**	**-1.9**
MRW	**Makara Radio**	**9.98**	**214**	P	**P**	**08 06 12.7**	**-0.6**
NNZ	**Nelson**	**10.62**	**218**	P	**P**	**08 06 20.1**	**-1.8**
QRZ	**Quartz Range**	**10.80**	**222**	P	**P**	**08 06 21.7**	**-2.7**
QRZ				S	**S**	**08 08 15.5**	**-8.4**
THZ	**Tophouse**	**11.26**	**217**	P	**P**	**08 06 27.8**	**-2.7**
KHZ	**Kahutara**	**11.45**	**213**	P	**P**	**08 06 31.5**	**-1.4**
KHZ				S	**S**	**08 08 32.2**	**-7.0**
LTZ	**Lake Taylor**	**12.33**	**216**	P	**P**	**08 06 42.1**	**-2.6**
MQZ	**McQueen's Vall**	**12.86**	**212**	P	**P**	**08 06 49.0**	**-2.6**
CTA	**Charters Tower**	**34.36**	**283**	P	**P**	**08 10 31.5**	**+0.7**
	3.6nm,0.9s,mb4.2,baz=98,slow=12,SNR=3.8						
ASAR	**Alice Springs**	**43.07**	**270**	P	**P**	**08 11 43.5**	**+0.3**
	0.4nm,0.4s,mb3.5,baz=104,slow=7.9,SNR=8.6						
WRA	**Warramunga Arr**	**44.30**	**275**	P	**P**	**08 11 52.9**	**-0.3**
	1.7nm,0.3s,mb4.2,baz=113,slow=7.9,SNR=69						
FINES	**FINESS Array B**	**147.71**	**339**	PKPbc	PKPdf	08 23 29.3	+8.6
	1.3nm,0.4s,baz=63,slow=3.1,SNR=18						

IDC ***31*** *08:05:36.4±5.3,35.23N×74.12E,mb3.8/3,mb1 4.1/4, mb1mx3.6/18,ML3.6/1,MS3.6/1,Ms1 3.6/1,ms1mx2.6/23, Error ellipse: s-maj=196.0km s-min=29.4km az=63.0*
NEIC ***31*** *08:05:39.4±2.1,35.44N×75.02E,h10km,mb3.7/3,Error ellipse: s-maj=81.2km s-min=15.7km az=71.0*
ISC 31 08:05:37.2±1.9,35.47N±0.09×75.1E±0.2,h6km±15km,n19, σ0§81/21,mb3.7/4,MS3.6/1,Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BHK	**Bhakra**	**4.18**	**165**	*e*PG	**Pg**	**08 07 00.3**	**-0.3**
BHK				*e*SG	**Sg**	**08 07 55.9**	**-0.4**
DDI	**Dehra Dun**	**5.69**	**154**	*e*P	**Pn**	**08 07 06.0**	**+1.6**
DDI				*e*SG	**Sg**	**08 08 47.8**	**+1.2**
NDI	**New Delhi**	**6.99**	**165**	*e*P	**Pn**	**08 07 22.0**	**-0.7**
NDI				*e*S	**Sn**	**08 08 37.0**	**-6.5**
AAK	**Ala-Archa**	**7.17**	**356**	P	**Pn**	**08 07 20.5**	**-4.8**
PTH	**Pithoragarh**	**7.30**	**143**	*e*PG	**Pg**	**08 07 58.0**	**-4.9**
PTH				*e*		08 09 34.0	
KOLN	**Koldanda**	**10.53**	**134**	*e*P	**P**	**08 08 11.5**	**-0.4**
	10nm,0.5s						
GKN	**Gorkha**	**10.99**	**130**	*e*P	**P**	**08 08 18.2**	**+0.1**
	27nm,0.5s						
KKN	**Kakani**	**11.54**	**129**	*e*P	**P**	**08 08 25.3**	**-0.4**
	34nm,0.6s						
DMN	**Daman**	**11.56**	**130**	*e*P	**P**	**08 08 25.1**	**-0.8**
	31nm,0.5s						
PKI	**Pulchoki**	**11.78**	**129**	*e*P	**P**	**08 08 28.0**	**-0.9**
	23nm,0.6s						
GUN	**Gumba**	**11.85**	**126**	*e*P	**P**	**08 08 30.2**	**+0.4**
	9.8nm,0.4s						
KURK	**Kurchatov**	**15.45**	**8**	P	**P**	**08 09 17.4**	**+0.1**
	3.0nm,0.8s						
BVAR	**Borovoye Array**	**17.87**	**351**	P	**P**	**08 09 47.2**	**-0.7**
	0.2nm,0.3s,baz=157,slow=11,SNR=6.8						
ZRNK	**Zerenda**	**18.01**	**348**	*e*P	**P**	**08 09 49.9**	**+0.2**
	4.0nm,1.1s						
CMAR	**Chiang Mai Arr**	**27.05**	**123**	P	**P**	**08 11 26.9**	**+4.5**
	1.7nm,0.7s,mb3.7,baz=306,slow=11,SNR=10						
ARCES	**ARCESS Array B**	**43.39**	**337**	LR	LR	08 32 56.0	
	comp=Z,72nm,18.3s,MS3.6,baz=235,slow=38						
ILAR	**Eielson Array**	**74.82**	**17**	P	**P**	**08 17 21.6**	**+2.0**
	0.9nm,1.1s,mb3.6,baz=315,slow=5.1,SNR=5.6						
WRA	**Warramunga Arr**	**78.62**	**124**	P	**P**	**08 17 41.8**	**0.0**
	0.6nm,0.8s,mb3.5,baz=328,slow=6.0,SNR=5.5						
WRAB	**Tennant Creek**	**78.62**	**124**	*e*P	**P**	**08 17 41.3**	**-0.5**
	1.4nm,0.7s,mb4.0						

IDC 31 08:16:28.0±28.0,22.22S×174.93W,mb4.0/4,mb1 4.1/4, mb1mx3.9/15,Error ellipse: s-maj=512.0km s-min=151.7km az=77.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.20**	**266**	P	P	08 23 34.1	-0.3
	5.6nm,0.9s,baz=116,slow=9.4,SNR=4.2						
STKA	**Stephens Creek**	**39.67**	**246**	P	P	08 24 00.5	-3.1
	1.1nm,0.5s,baz=89,slow=12,SNR=3.5						
ASAR	**Alice Springs**	**46.93**	**258**	P	P	08 25 00.2	-2.3
	0.4nm,0.5s,baz=92,slow=8.9,SNR=11						
WRA	**Warramunga Arr**	**47.21**	**263**	P	P	08 25 02.9	-1.8
	0.8nm,0.4s,baz=96,slow=8.5,SNR=40						

MAN 31 08:23:05.0,9.17N×122.38E,h33km,mb4.0,ML2.7,MS2.4, 1D,Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.87**	**79**	*i* P	P	08 24 21.0	+60
SNPH				*i* S	S	08 24 32.5	+60
DCPH	**Dipolog City**	**1.13**	**121**	⇓*i*P	S	08 23 24.0	-0.5
DCPH				*i* S	S	08 23 39.0	0.0
IPIL	**Ipil**	**1.39**	**172**	*e*P	P	08 23 27.8	-0.5
IPIL				*e*S	S	08 23 44.0	-1.6
GUIM	**Jordan**	**1.46**	**8**	*e*P	P	08 23 29.4	+0.1
GUIM				*e*S	S	08 23 47.3	-0.1
PAGZ	**Pagadian**	**1.65**	**143**	*e*P	P	08 23 33.2	+1.2
PAGZ				*e*S	S	08 23 53.0	+0.8
CUYO	**Cuyo Island**	**2.14**	**321**	*e*P	P	08 23 38.9	0.0

IDC ***31*** *08:51:32.5±0.9,5.46S×104.67E,mb4.0/10,mb1 4.2/10, mb1mx4.1/15,Error ellipse: s-maj=52.4km s-min=15.5km az=55.0*
NEIC ***31*** *08:51:38.6±5.3,5.44S×104.81E,h40km±46km,mb4.0/3, Error ellipse: s-maj=44.1km s-min=11.7km az=59.0*
ISC 31 08:51:36.1±0.8,5.4S±0.2×104.8E±0.2,h33km,n17, σ0§93/14,mb4.0/12,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBWA	**Marble Bar**	**21.29**	**139**	*e*P	**P**	**08 56 21.6**	**-0.5**
	1.0nm,0.5s,mb3.4						
FITZ	**Fitzroy Crossi**	**23.91**	**124**	*e*P	**P**	**08 56 49.6**	**+1.5**
	3.8nm,0.7s,mb3.9						
FITZ	**Fitzroy Crossi**	**23.91**	**124**	P	**P**	**08 56 49.2**	**+1.2**
	4.0nm,0.7s,mb4.0,baz=343,slow=3.4,SNR=9.2						
CMAR	**Chiang Mai Arr**	**24.44**	**346**	P	**P**	**08 56 54.5**	**+1.2**
	1.6nm,0.4s,mb3.8,baz=183,slow=8.4,SNR=10						
WRA	**Warramunga Arr**	**32.12**	**119**	P	**P**	**08 58 02.1**	**-0.7**
	0.5nm,0.5s,mb3.6,baz=308,slow=8.8,SNR=12						
WRA				PcP	PcP	09 00 51.2	-0.4
	0.2nm,0.5s,baz=306,slow=2.0,SNR=5.0						
WRAB	**Tennant Creek**	**32.12**	**119**	*e*P	**P**	**08 58 02.5**	**-0.4**
	3.9nm,0.8s,mb4.3						
WB2	**Warramunga Arr**	**32.13**	**119**	*e*P	**P**	**08 58 02.2**	**-0.7**
ASAR	**Alice Springs**	**33.35**	**126**	P	**P**	**08 58 13.3**	**-0.2**
	1.4nm,0.5s,mb4.2,baz=296,slow=7.8,SNR=22						
ASAR				PcP	PcP	09 00 55.4	+0.4
	0.7nm,0.8s,baz=293,slow=2.3,SNR=6.3						
STKA	**Stephens Creek**	**43.29**	**132**	P	**P**	**08 59 37.6**	**+1.0**
	3.1nm,0.6s,mb4.2,baz=302,slow=7.6,SNR=8.0						
SONM	**Songino Array**	**53.06**	**1**	P	**P**	**09 00 52.6**	**+0.2**
	1.5nm,0.8s,mb4.0,baz=174,slow=11,SNR=4.6						
BVAR	**Borovoye Array**	**65.10**	**338**	P	**P**	**09 02 13.4**	**-2.3**
	0.9nm,0.8s,mb3.8,baz=130,slow=11,SNR=1.7						
VNDA	**Vanda**	**77.89**	**169**	P	**P**	**09 03 32.5**	**+0.6**
	0.9nm,1.1s,mb3.6,baz=298,slow=5.7,SNR=5.9						
AKASG	**Malin Array Be**	**85.13**	**322**	P	**P**	**09 04 09.5**	**-0.6**
	0.8nm,0.5s,mb4.1,baz=86,slow=3.6,SNR=6.3						
FINES	**FINESS Array B**	**89.38**	**332**	P	**P**	**09 04 30.9**	**+0.6**
	2.6nm,0.9s,mb4.6,baz=117,slow=13,SNR=3.6						
TXAR	**Lajitas Array**	**144.09**	**45**	PKP	PKPdf	09 11 09.8	+0.7
	0.6nm,0.6s,baz=315,slow=1.8,SNR=9.0						
TXAR	**Lajitas Array**	**144.09**	**45**	PKP	PKPdf	09 11 09.8	+0.7
JCT	**Junction City**	**145.98**	**40**	*e*PKPdf	PKPdf	09 11 15.0	+2.7

IDC ***31*** *08:59:12.6±1.0,4.79S×133.26E,mb4.1/4,mb1 4.5/8, mb1mx4.4/11,ML4.2/4,MS4.0/4,Ms1 4.0/4,ms1mx3.4/17, Error ellipse: s-maj=52.9km s-min=22.4km az=77.0*
NEIC ***31*** *08:59:21.4±3.5,4.82S×133.47E,h70km±32km,mb4.2/5, Error ellipse: s-maj=31.6km s-min=19.4km az=61.0*
ISC 31 08:59:17.1±2.7,4.95S±0.06×133.4E±0.1,h47km±25km, n20,σ1§55/25,mb4.0/7,MS4.1/2,1C,Irian Jaya region

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

KAKA	**Kakadu**	**7.77**	**187**	⇑*i*P	P	**09 01 15.0**	**+4.8**
	60nm,0.6s							
KAKA				*e*S	S	**09 02 43.0**	**+5.3**
PMG	**Port Moresby**	**14.35**	**109**	LR	LR	09 09 12.8	
	comp=Z,374nm,19.1s,baz=322,slow=41							
WRA	**Warramunga Arr**	**14.93**	**177**	Pn	**P**	**09 02 44.7**	**-2.2**
	0.6nm,0.3s,baz=356,slow=13,SNR=73							
WRA				Sn	**S**	**09 05 28.3**	**-3.2**
	1.0nm,0.3s,baz=357,slow=22,SNR=5.2							
WB2	**Warramunga Arr**	**14.93**	**177**	*e*P	**P**	**09 02 45.1**	**-1.8**
WB2				*e*		09 02 53.8		
WB2				*e*S	S	**09 05 26.3**	**-5.2**
FITZ	**Fitzroy Crossi**	**15.12**	**210**	*e*P	**P**	**09 02 49.7**	**+0.4**
	5.4nm,0.3s							
FITZ				*e*S	S	**09 05 32.9**	**-2.9**
FITZ	**Fitzroy Crossi**	**15.12**	**210**	Pn	**P**	**09 02 49.3**	**0.0**
	2.3nm,0.3s,baz=26,slow=10.0,SNR=40							
FITZ				Sn	S	**09 05 35.0**	**-0.8**
	2.4nm,0.3s,baz=174,slow=12,SNR=14							
ASAR	**Alice Springs**	**18.62**	**179**	P	**P**	**09 03 34.0**	**+0.8**
	2.1nm,0.3s,baz=358,slow=8.5,SNR=80							
ASAR				S	S	**09 06 57.3**	**+1.6**
	0.3nm,0.3s,baz=1.2,slow=28,SNR=5.0							
ASAR				LR	LR	09 11 33.4		
	comp=Z,401nm,19.3s,baz=356,slow=39							
ASPA	**Alice Springs**	**18.62**	**179**	*e*P	**P**	**09 03 34.1**	**+0.9**
ASPA				*i* S	S	**09 06 54.7**	**-1.0**
CTA	**Charters Tower**	**19.57**	**141**	P	**P**	**09 03 43.2**	**-0.8**
	0.2nm,0.3s,baz=331,slow=13,SNR=6.2							
CTA	**Charters Tower**	**19.57**	**141**	P	**P**	**09 03 43.2**	**-0.8**
MBWA	**Marble Bar**	**20.87**	**218**	*e*P	**P**	**09 03 59.6**	**+1.9**
	9.9nm,0.7s							
STKA	**Stephens Creek**	**27.87**	**165**	*e*P	**P**	**09 05 04.9**	**+0.2**
	4.0nm,0.9s,mb4.0							
STKA	**Stephens Creek**	**27.87**	**165**	P	**P**	**09 05 05.2**	**+0.5**
	3.4nm,1.0s,mb3.9,baz=328,slow=11,SNR=4.4							
STKA				LR	LR	09 17 38.2		
	comp=Z,405nm,19.2s,MS4.0,baz=189,slow=39							
CMAR	**Chiang Mai Arr**	**41.17**	**305**	pP	**P**	**09 07 02.6**	**+3.8**
	0.7nm,0.4s,mb3.6,baz=122,slow=5.9,SNR=1.2							
VNDA	**Vanda**	**74.09**	**174**	P	**P**	**09 10 51.9**	**+2.3**
	0.8nm,0.9s,mb3.6,baz=316,slow=5.9,SNR=3.7							
VNDA				LR	LR	09 42 58.4		
	comp=Z,139nm,20.6s,MS4.2,baz=353,slow=35							
BVAR	**Borovoye Array**	**78.18**	**327**	P	**P**	**09 11 12.2**	**-0.9**
	2.1nm,0.8s,mb4.1,baz=129,slow=9.2,SNR=10							
BRVK	**Borovoye**	**78.25**	**327**	*e*P	**P**	**09 11 12.2**	**-1.4**
	6.3nm,1.1s,mb4.5							
ZRNK	**Zerenda**	**78.91**	**326**	*e*P	**P**	**09 11 16.0**	**-1.2**
	3.8nm,1.1s,mb4.2							
ILAR	**Eielson Array**	**90.06**	**25**	P	**P**	**09 12 14.2**	**+1.3**
	1.0nm,0.8s,mb4.2,baz=252,slow=5.7,SNR=7.3							
LPAZ	**La Paz**	**150.02**	**135**	PKPbc	PKPdf	09 19 07.7	+9.2
	0.4nm,0.6s,baz=275,slow=3.4,SNR=2.0							

MOS ***31*** *09:08:01.0±0.8,42.96N×17.62E,h16km,mb4.2/6,Error ellipse: s-maj=6.3km s-min=3.7km az=92.9*
PDG ***31*** *09:08:01.9±1.1,43.00N×17.73E,h10km±3km*
PDG Felt at Podgorica IV MCS.
LDG ***31*** *09:08:01.5±0.1,43.02N×17.79E,h10km,Ml4.5/19, ms2.9/6,Error ellipse: s-maj=2.8km s-min=2.0km az=40.0*
ROM ***31*** *09:08:01.7±0.7,43.03N×18.00E,h10km,ML4.1/23,Error ellipse: s-maj=6.5km s-min=2.9km az=90.0*
NEIC ***31*** *09:08:03.0±0.1,43.00N×17.77E,h10km,mb3.8/3, ML4.3(THE),ML4.2(PDG),ML4.1(ROM),Error ellipse: s-maj=2.3km s-min=1.9km az=214.0*
IDC ***31*** *09:08:04.8±1.9,42.95N×17.63E,h37km±16km,mb3.9/9, mb1 4.0/19,mb1mx3.9/25,ML4.0/10,MS3.4/3,Ms1 3.4/3, ms1mx2.8/22,Error ellipse: s-maj=15.8km s-min=9.8km az=31.0*
PRU ***31*** *09:08:05.8,43.24N×17.78E*
THE ***31*** *09:08:05.1,42.67N×17.80E,h10km,ML4.3*
ISC 31 09:08:01.4±0.1,43.04N±0.01×17.71E±0.01,h10km,n310, σ1§38/421,mb4.0/10,MS3.4/1,32C-20D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STON	**Ston**	**0.17**	**182**	*i* Pg	**Pg**	**09 08 06.9**	**+1.6**
STON				*i* Sg	**Sg**	**09 08 10.4**	**+2.5**
BRY	**Bratogost**	**0.63**	**103**	⇓*i*Pg	**Pg**	**09 08 13.4**	**-0.7**
BRY			

BOJS	**Bojanci**	**3.03**	**325**	*i* Pn	**Pn**	**09 08 52.5**	**+2.2**
BOJS				*i*		09 08 53.8	
BOJS				*e*Sn	**Sn**	**09 09 30.0**	**+3.0**
BARS	**Barje**	**3.03**	**93**⇑	*i*Pn	**Pn**	**09 08 51.2**	**+0.8**
BARS				Sn	**Sn**	**09 09 27.4**	**+0.3**
TERO	**Teramo**	**3.05**	**263**	*e*PN	**Pn**	**09 08 51.9**	**+1.3**
RHK1	**Bakonya**	**3.06**	**5**⇑	*i*P	**Pn**	**09 08 51.7**	**+0.9**
RHK1				*e*S	**Sn**	**09 09 28.9**	**+1.0**
SGO	**Sicignano**	**3.06**	**217**	*e*PN	**Pn**	**09 08 50.9**	**+0.1**
	comp=Z,172nm,0.5s						
SGO	**Sicignano**	**3.06**	**217**	*e*Pn	**Pn**	**09 08 50.9**	**+0.1**
SLCN	**Sala Consilina**	**3.07**	**211**	*e*PN	**Pn**	**09 08 51.8**	**+0.8**
	comp=Z,199nm,0.5s						
SLCN	**Sala Consilina**	**3.07**	**211**	*e*Pn	**Pn**	**09 08 51.8**	**+0.8**
ORI	**Oriolo Calabro**	**3.12**	**198**	*e*PN	**Pn**	**09 08 52.9**	**+1.2**
	comp=Z,354nm,0.6s						
ORI	**Oriolo Calabro**	**3.12**	**198**	*e*Pn	**Pn**	**09 08 52.9**	**+1.2**
SDI	**San Donato**	**3.18**	**247**	*e*PN	**Pn**	**09 08 53.3**	**+0.8**
	comp=Z,268nm,0.4s						
SDI	**San Donato**	**3.18**	**247**	*e*Pn	**Pn**	**09 08 53.2**	**+0.7**
PKSM	**Moragy**	**3.24**	**12**⇑	*i*P	**Pn**	**09 08 53.7**	**+0.4**
PKSM				*e*S	**Sn**	**09 09 32.9**	**+0.6**
AQU	**L'Aquila**	**3.25**	**259**	*e*PN	**Pn**	**09 08 54.9**	**+1.4**
	comp=Z,576nm,0.9s						
AQU	**L'Aquila**	**3.25**	**259**	*e*Pn	**Pn**	**09 08 54.9**	**+1.4**
RFI	**Roccamonfina**	**3.27**	**239**	*e*PN	**Pn**	**09 08 55.5**	**+1.7**
RFI	**Roccamonfina**	**3.27**	**239**	*e*Pn	**Pn**	**09 08 55.5**	**+1.7**
CING	**Cingoli**	**3.32**	**277**	*e*PN	**Pn**	**09 08 56.3**	**+1.9**
CING	**Cingoli**	**3.32**	**277**	*e*Pn	**Pn**	**09 08 56.3**	**+1.9**
MGR	**Morigerati**	**3.32**	**210**	*e*PN	**Pn**	**09 08 54.0**	**-0.5**
	comp=Z,246nm,0.8s						
MGR	**Morigerati**	**3.32**	**210**	*e*Pn	**Pn**	**09 08 54.0**	**-0.5**
MSC	**Monte Massico**	**3.34**	**238**	*e*PN	**Pn**	**09 08 55.9**	**+1.1**
MSC	**Monte Massico**	**3.34**	**238**	*e*Pn	**Pn**	**09 08 55.9**	**+1.1**
PTQR	**Pietraquaria**	**3.34**	**254**	*e*PN	**Pn**	**09 08 56.2**	**+1.4**
	comp=Z,229nm,0.5s						
BIA	**Bitola**	**3.37**	**126**	*e*Pn	**Pn**	**09 08 54.0**	**-1.1**
BIA				*i*		09 08 57.6	
BIA				*i*		09 09 06.0	
BIA				*i*		09 09 13.8	
BIA				*i* Sn	**Sn**	**09 09 35.0**	**-0.6**
BIA				*i*		09 09 49.0	
BIA				*i*		09 09 53.1	
LEGS	**Legarje**	**3.37**	**330**⇑	*i*Pn	**Pn**	**09 08 57.0**	**+1.8**
LEGS				*e*Sn	**Sn**	**09 09 38.6**	**+2.9**
	comp=Z,516nm,0.6s						
NRCA	**Norcia**	**3.38**	**268**	*e*PN	**Pn**	**09 08 56.6**	**+1.3**
NRCA				SN	**Sn**	**09 09 39.6**	**+3.7**
	comp=Z,89nm,0.4s						
NRCA	**Norcia**	**3.38**	**268**	*e*Pn	**Pn**	**09 08 56.6**	**+1.2**
NRCA				*e*Sn	**Sn**	**09 09 39.6**	**+3.6**
ARV	**Arcevia**	**3.51**	**279**	*e*PN	**Pn**	**09 08 58.7**	**+1.5**
	comp=Z,119nm,0.5s						
ARV	**Arcevia**	**3.51**	**279**	*e*Pn	**Pn**	**09 08 58.6**	**+1.4**
TDS	**Terranova Siba**	**3.54**	**197**	*e*PN	**Pn**	**09 08 57.8**	**+0.3**
	comp=Z,275nm,0.8s						
TDS	**Terranova Siba**	**3.54**	**197**	*e*Pn	**Pn**	**09 08 57.8**	**+0.2**
FNA	**Florina**	**3.55**	**128**	*e*Pn	**Pn**	**09 08 58.1**	**+0.4**
FNA				*e*Sn	**Sn**	**09 09 38.6**	**-1.6**
PKS9	**Tamasi**	**3.57**	**6**⇓	*e*P	**Pn**	**09 08 59.1**	**+1.1**
CEY	**Cerknica**	**3.58**	**320**	*i* Pn	**Pn**	**09 09 00.3**	**+2.2**
CEY				*e*Sn	**Sn**	**09 09 43.3**	**+2.4**
PDKS	**Podkum**	**3.60**	**328**	*i* Pn	**Pn**	**09 08 60.0**	**+1.5**
PDKS				*e*Sn	**Sn**	**09 09 42.8**	**+1.2**
FSSB	**Fossombrone**	**3.65**	**282**	*e*PN	**Pn**	**09 09 00.5**	**+1.3**
	comp=Z,270nm,0.4s						
FSSB	**Fossombrone**	**3.65**	**282**	*e*Pn	**Pn**	**09 09 00.5**	**+1.3**
CERT	**Cerreto**	**3.66**	**254**	*e*PN	**Pn**	**09 09 00.3**	**+1.0**
CERT	**Cerreto**	**3.66**	**254**	*e*Pn	**Pn**	**09 09 00.3**	**+1.0**
KEK	**Kerkira**	**3.68**	**154**	*e*P	**Pn**	**09 09 00.5**	**+0.9**
MNS	**Montasola**	**3.76**	**262**	*e*PN	**Pn**	**09 09 02.0**	**+1.2**
	comp=Z,228nm,0.4s						
MNS	**Montasola**	**3.76**	**262**	*e*Pn	**Pn**	**09 09 02.0**	**+1.3**
LJU	**Ljubljana**	**3.77**	**324**	*e*Pn	**Pn**	**09 09 02.7**	**+1.9**
LJU				*e*		09 09 05.0	
LJU				*e*		09 09 09.0	
LJU				*e*PnPn		09 09 12.0	
LJU				*e*Sn	**Sn**	**09 09 46.0**	**+0.3**
LJU				*e*		09 09 58.0	
LJU				*e*Sg	**Sg**	**09 10 08.0**	**+1.3**
MURB	**Monte Urbino**	**3.80**	**275**	*e*PN	**Pn**	**09 09 03.4**	**+2.1**
MURB	**Monte Urbino**	**3.80**	**275**	*e*Pn	**Pn**	**09 09 03.4**	**+2.1**
DJES	**Djerdap**	**3.83**	**64**⇑	*i*Pn	**Pn**	**09 09 02.2**	**+0.5**
DJES				Sn	**Sn**	**09 09 43.9**	**-3.4**
PKS8	**Sarbogard**	**3.90**	**10**⇑	*e*P	**Pn**	**09 09 02.9**	**+0.2**
PKS8				*e*S	**Sn**	**09 09 46.0**	**-3.0**
TIP	**Timpagrande**	**3.93**	**191**	*e*Pn	**Pn**	**09 09 02.1**	**-1.0**
IGT	**Igoumenitsa**	**4.03**	**150**	*e*Pn	**Pn**	**09 09 03.5**	**-1.0**
IGT				*e*Sn	**Sn**	**09 09 48.7**	**-3.6**
VOY	**Vojsko**	**4.05**	**319**⇑	*e*Pn	**Pn**	**09 09 06.2**	**+1.4**
VOY				*e*Sn	**Sn**	**09 09 55.3**	**+2.5**
VTS	**Vitosha**	**4.07**	**95**	*i* P	**Pn**	**09 09 06.0**	**+0.9**
GRG	**Griva**	**4.07**	**119**	*e*Pn	**Pn**	**09 09 05.7**	**+0.6**
GRG				*e*Sn	**Sn**	**09 09 52.8**	**-0.6**
KZN	**Kozani**	**4.09**	**131**	*e*P	**Pn**	**09 09 12.0**	**+6.6**
JAN	**Janina**	**4.13**	**144**	*e*P	**Pn**	**09 09 07.5**	**+1.5**
OBKA	**Obir**	**4.13**	**328**⇑	*i*PN	**Pn**	**09 09 07.9**	**+1.9**
OBKA				*i* SN	**Sn**	**09 09 53.6**	**-1.4**
PKS7	**Kunszentmiklos**	**4.13**	**14**⇓	*e*P	**Pn**	**09 09 06.6**	**+0.6**
KKB	**Krupnik**	**4.15**	**105**	*i* P	**Pn**	**09 09 08.0**	**+1.8**
PKSN	**Nyarlorinc**	**4.15**	**21**⇑	*e*P	**Pn**	**09 09 06.2**	**0.0**
CRE	**Caprese Michel**	**4.24**	**280**	*e*PN	**Pn**	**09 09 10.2**	**+2.6**
	comp=Z,142nm,0.6s						
CRE	**Caprese Michel**	**4.24**	**280**	*e*Pn	**Pn**	**09 09 10.2**	**+2.7**
KNT	**Kendrikon**	**4.29**	**114**	*e*Pn	**Pn**	**09 09 08.5**	**+0.2**
KNT				*e*Sn	**Sn**	**09 09 57.8**	**-1.2**
GRI	**Girifalco**	**4.33**	**193**	*e*PN	**Pn**	**09 09 08.2**	**-0.6**
	comp=Z,75nm,0.6s						
GRI	**Girifalco**	**4.33**	**193**	*e*Pn	**Pn**	**09 09 08.2**	**-0.6**
PKSG		**4.38**	**6**⇓	*e*P	**Pn**	**09 09 09.7**	**+0.2**
PKSG				*e*S	**Sn**	**09 10 00.4**	**-0.7**
ARSA	**Arzberg**	**4.48**	**341**⇑	*i*PN	**Pn**	**09 09 11.9**	**+0.9**
ARSA				*i* SN	**Sn**	**09 10 03.5**	**-0.3**
BUD	**Budapest**	**4.54**	**11**⇓	*e*Pn	**Pn**	**09 09 11.8**	**0.0**
BUD				*e*Sn	**Sn**	**09 10 06.4**	**+1.2**
PTCC	**Patocco-Chiusa**	**4.58**	**319**	*e*Pn	**Pn**	**09 09 12.9**	**+0.6**
THE	**Thessaloniki**	**4.61**	**120**	*e*Pn	**Pn**	**09 09 12.8**	**0.0**
LIT	**Litokhoron**	**4.64**	**128**	*e*Pn	**Pn**	**09 09 12.7**	**-0.5**
LIT				*e*Sn	**Sn**	**09 10 04.7**	**-3.1**
MMB	**Musomiste**	**4.69**	**106**	*i* P	**Pn**	**09 09 15.0**	**+1.0**
CSNT	**Castellina Chi**	**4.71**	**277**	*e*Pn	**Pn**	**09 09 14.9**	**+0.7**
SOP	**Sopron**	**4.71**	**350**⇓	*i*Pn	**Pn**	**09 09 15.2**	**+1.0**
SOP				*e*Sn	**Sn**	**09 10 08.8**	**-0.8**
SRO1	**Iza**	**4.73**	**4**	*e*PN	**Pn**	**09 09 15.2**	**+0.6**
SRO1				*e*SN	**Sn**	**09 10 09.8**	**-0.4**
SRO2	**Moca**	**4.74**	**6**	*i* PN	**Pn**	**09 09 15.7**	**+1.0**
SRO2				*e*Sn	**Sn**	**09 10 13.0**	**+2.5**
SOH	**Sokhos**	**4.76**	**116**	*e*Pn	**Pn**	**09 09 15.4**	**+0.5**
PGB	**Panagyurishte**	**4.78**	**94**	*i* P	**Pn**	**09 09 17.0**	**+1.8**
SRS	**Serrai**	**4.78**	**112**	*e*Pn	**Pn**	**09 09 15.8**	**+0.6**
SRO	**Srobarova**	**4.79**	**5**	*e*PN	**Pn**	**09 09 16.9**	**+1.6**
SRO				*e*SN	**Sn**	**09 10 11.7**	**+0.1**
LKD	**Levkas**	**4.87**	**152**	*e*Pn	**Pn**	**09 09 14.3**	**-2.2**
LKD				*e*Sn	**Sn**	**09 10 08.7**	**-4.9**
PENC	**Penc**	**4.88**	**13**⇓	*e*P	**Pn**	**09 09 16.6**	**0.0**
PLG	**Polygyros**	**5.05**	**120**	*e*P	**Pn**	**09 09 21.0**	**+1.9**
KBA	**Koelnbreinsper**	**5.08**	**324**⇑	*i*PN	**Pn**	**09 09 20.1**	**+0.6**
KBA				*i* SN	**Sn**	**09 10 19.7**	**+0.7**
PSZ	**Piszkesteto**	**5.11**	**17**⇑	*i*Pn	**Pn**	**09 09 19.2**	**-0.7**
PSZ				*e*Sn	**Sn**	**09 10 15.9**	**-3.8**
EVR	**Evrytania**	**5.16**	**142**	*e*P	**Pn**	**09 09 20.5**	**-0.1**
ZST	**Bratislava**	**5.17**	**355**	*e*PN	**Pn**	**09 09 21.2**	**+0.5**
ZST				*e*SN	**Sn**	**09 10 17.9**	**-3.3**
PLD	**Plovdiv**	**5.25**	**98**	*e*P	**Pn**	**09 09 21.0**	**-0.8**
BDI	**Bagni Di Lucca**	**5.27**	**284**	*e*Pn	**Pn**	**09 09 22.9**	**+0.7**
BDI				*e*Sn	**Sn**	**09 10 23.9**	**+0.3**
CTI	**Castel Tesino**	**5.27**	**307**	*e*Pn	**Pn**	**09 09 22.0**	**-0.1**
PII	**Pisa**	**5.28**	**280**	*e*Pn	**Pn**	**09 09 23.1**	**+0.8**
VKA	**Vienna**	**5.31**	**350**⇑	*i*PN	**Pn**	**09 09 24.1**	**+1.4**
VKA				*i* SN	**Sn**	**09 10 25.0**	**+0.2**
AGG	**Agios Georgios**	**5.32**	**137**	*e*Pn	**Pn**	**09 09 21.4**	**-1.5**
AGG				*e*Sn	**Sn**	**09 10 20.5**	**-4.5**
MAIM		**5.32**	**282**	P	**Pn**	**09 09 22.9**	**0.0**
GSCL	**Gusciola**	**5.33**	**287**	*e*Pn	**Pn**	**09 09 24.8**	**+1.9**
VLS	**Valsamata**	**5.33**	**155**	*e*P	**Pn**	**09 09 20.0**	**-3.0**
RZN	**Rozhen**	**5.37**	**102**	*i* P	**Pn**	**09 09 24.0**	**+0.5**
MOA	**Molln**	**5.38**	**334**⇓	*i*PN	**Pn**	**09 09 25.1**	**+1.4**
MOA				*i* SN	**Sn**	**09 10 26.2**	**-0.3**
OUR	**Ouranopolis**	**5.42**	**118**	*e*Pn	**Pn**	**09 09 24.6**	**+0.3**
PAIG	**Paliouri**	**5.46**	**123**	*e*Pn	**Pn**	**09 09 23.3**	**-1.5**
ERBM	**Eremo**	**5.46**	**287**	*e*Pn	**Pn**	**09 09 26.8**	**+2.0**
SMOL	**Smolenice**	**5.47**	**358**	*e*PN	**Pn**	**09 09 24.5**	**-0.5**
SMOL				*e*SN	**Sn**	**09 10 25.7**	**-3.1**
VYHS	**Vyhne**	**5.51**	**8**	*e*PN	**Pn**	**09 09 25.1**	**-0.4**
VYHS				*e*SN	**Sn**	**09 10 28.3**	**-1.4**
XOR	**Xorichti**	**5.53**	**130**	*e*Pn	**Pn**	**09 09 24.3**	**-1.5**
KOLL	**Kolacno**	**5.56**	**5**	*e*PN	**Pn**	**09 09 25.8**	**-0.4**
KOLL				*e*SN	**Sn**	**09 10 29.3**	**-1.6**
VALM		**5.57**	**286**	P	**Pn**	**09 09 27.6**	**+1.3**
PVL	**Pavlikeni**	**5.58**	**86**	*i* P	**Pn**	**09 09 25.0**	**-1.5**
VINC	**Vinca**	**5.60**	**284**	P	**Pn**	**09 09 26.9**	**+0.1**
BGLD	**Berchtesgaden**	**5.67**	**326**⇑	*i*Pn	**Pn**	**09 09 29.0**	**+1.2**
BACM		**5.68**	**285**	P	**Pn**	**09 09 28.8**	**+0.9**
GRAM		**5.72**	**287**	P	**Pn**	**09 09 29.8**	**+1.3**
KECS	**Kecovo**	**5.78**	**19**	*e*PN	**Pn**	**09 09 29.0**	**-0.3**
CODM		**5.85**	**286**	P	**Pn**	**09 09 31.5**	**+1.1**
KDZ	**Kurdzhali**	**5.88**	**101**	*e*P	**Pn**	**09 09 30.0**	**-0.7**
MABI	**Malga Bissina**	**5.96**	**303**	*e*Pn	**Pn**	**09 09 31.6**	**-0.3**
MABI				*e*Sn	**Sn**	**09 10 37.6**	**-3.3**
SZH	**Strazhica**	**6.02**	**85**	*i* P	**Pn**	**09 09 33.0**	**+0.3**
WTTA	**Wattenberg**	**6.02**	**317**⇑	*i*PN	**Pn**	**09 09 33.0**	**+0.3**
WTTA				*i* SN	**Sn**	**09 10 42.8**	**+0.3**
AOS	**Alonnisos**	**6.06**	**128**	*e*Pn	**Pn**	**09 09 32.0**	**-1.2**
WATA	**Walderalm**	**6.10**	**317**⇑	*i*PN	**Pn**	**09 09 34.3**	**+0.5**
WATA				*i* SN	**Sn**	**09 10 44.4**	**0.0**
SQTA	**Sankt Quirin**	**6.21**	**314**⇓	*i*PN	**Pn**	**09 09 36.5**	**+1.1**
SQTA				*i* SN	**Sn**	**09 10 46.2**	**-1.1**
BOB	**Bobbio (Coli)**	**6.21**	**289**	*e*Pn	**Pn**	**09 09 36.2**	**+0.7**
VRAC	**Vranov**	**6.31**	**353**	Pn	**Pn**	**09 09 36.7**	**-0.2**
	comp=Z,2.3nm,0.3s,baz=181,slow=13,SNR=18						
VRAC				Sn	**Sn**	**09 10 45.7**	**-4.2**
	comp=Z,6.3nm,0.3s,baz=95,slow=6.1,SNR=7.8						
VRAC	**Vranov**	**6.31**	**353**	P	**Pn**	**09 09 36.7**	**-0.2**
VRAC						09 10 45.7	
VRAC				pmax	pmax		
	comp=Z,2.0nm,0.3s						
VRAC				smax			
	comp=Z,6.0nm,0.3s						
VRAC	**Vranov**	**6.31**	**353**	P	**Pn**	**09 09 37.0**	**+0.1**
MOTA	**Moosalm**	**6.35**	**315**⇓	*i*PN	**Pn**	**09 09 37.7**	**+0.4**
MOTA				*i* SN	**Sn**	**09 10 50.2**	**-0.4**
MLR	**Muntele Rosu**	**6.40**	**65**	Pn	**Pn**	**09 09 39.0**	**+0.9**
	comp=Z,1.9nm,0.3s,baz=160,slow=13,SNR=14						
MLR				Sn	**Sn**	**09 10 51.2**	**-0.8**
	comp=Z,1.6nm,0.3s,baz=218,slow=19,SNR=2.9						
MLR				LR	LR	09 12 33.3	
	comp=Z,407nm,19.7s,baz=235,slow=41						
MLR	**Muntele Rosu**	**6.40**	**65**	P	**Pn**	**09 09 39.0**	**+0.9**
MLR						09 10 51.2	
MLR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MLR				smax			
	comp=Z,2.0nm,0.3s						
MLR				MLR	MLR		
	comp=Z,407nm,19.7s						
MLR	**Muntele Rosu**	**6.40**	**65**	P	**Pn**	**09 09 38.6**	**+0.6**
CRVS	**Cervenica-Dubn**	**6.42**	**23**	*e*PN	**Pn**	**09 09 37.8**	**-0.5**
CRVS				*e*SN	**Sn**	**09 10 46.9**	**-5.5**
PGF	**Pioggiola**	**6.43**	**269**	*e*Pn	**Pn**	**09 09 38.1**	**-0.4**
GEC2	**GERESS Array S**	**6.44**	**336**	*e*Pn	**Pn**	**09 09 39.0**	**+0.4**
GEC2				*e*Sn	**Sn**	**09 10 50.9**	**-2.1**
GERES	**GERESS Array B**	**6.44**	**336**	Pn	**Pn**	**09 09 38.7**	**+0.1**
	comp=Z,4.9nm,0.3s,baz=158,slow=14,SNR=74						
GERES				Sn	**Sn**	**09 10 51.6**	**-1.4**
	comp=Z,15nm,0.3s,baz=152,slow=23,SNR=14						
GERES	**GERESS Array B**	**6.44**	**336**	P	**Pn**	**09 09 38.7**	**+0.1**
GERES						09 10 51.6	
GERES				pmax	pmax		
	comp=Z,5.0nm,0.3s						
GERES				smax			
	comp=Z,15nm,0.3s						
ALN	**Alexandroupoli**	**6.57**	**106**	*e*Pn	**Pn**	**09 09 41.8**	**+1.3**
NIE	**Niedzica**	**6.63**	**15**	*e*P	**Pn**	**09 09 42.0**	**+0.7**
NIE				*e*S	**Sn**	**09 10 58.7**	**+1.0**
ITM	**Ithomi**	**6.69**	**150**	*e*P	**Pn**	**09 09 39.0**	**-3.1**
ISR	**Istrita**	**6.69**	**69**⇓	*i*P	**Pb**	**09 09 57.4**	**-0.3**
ISR	**Istrita**	**6.69**	**69**⇓	*i*P	**Pb**	**09 09 57.4**	**-0.3**
KOLS	**Kolonicke sedl**	**6.69**	**27**	*e*PN	**Pn**	**09 09 42.0**	**-0.2**
DAVOX	**Davos**	**6.70**	**307**	Pn	**Pn**	**09 09 42.8**	**+0.5**
	comp=Z,2.4nm,0.3s,baz=133,slow=17,SNR=23						
DAVOX				Sn	**Sn**	**09 10 53.2**	**-6.2**
	comp=Z,4.3nm,0.3s,baz=178,slow=22,SNR=3.3						
KHC	**Kasperske Hory**	**6.73**	**336**	*e*P	**Pn**	**09 09 42.7**	**0.0**
KHC				*e*		09 10 57.5	
KHC	**Kasperske Hory**	**6.73**	**336**	*e*PN	**Pn**	**09 09 42.7**	**0.0**
KHC				*ex*	x	09 09 50.0	
KHC				*e*SN	**Sn**	**09 10 57.5**	**-2.8**
MORC	**Moravsky Berou**	**6.74**	**359**	P	**Pn**	**09 09 43.2**	**+0.4**
PCP	**Pian Castagno**	**6.80**	**286**	P	**Pn**	**09 09 43.0**	**-0.7**
OKC	**Ostrava-Krasne**	**6.80**	**2**	*e*PN	**Pn**	**09 09 44.1**	**+0.4**
OKC				*e*SN	**Sn**	**09 10 58.8**	**-3.3**
NAIG	**Nisos Aigina**	**6.88**	**138**	*e*P	**Pn**	**09 09 43.5**	**-1.3**
WET	**Wettzell**	**6.96**	**333**	*e*Pn	**Pn**	**09 09 46.2**	**+0.2**
WET				*e*Sn	**Sn**	**09 11 03.8**	**-2.3**
DAVA	**Damuels**	**6.97**	**310**⇑	*i*PN	**Pn**	**09 09 45.9**	**-0.2**
DAVA				*i* SN	**Sn**	**09 11 04.8**	**-1.5**
BURAR	**Bucovina Array**	**6.99**	**47**	P	**Pn**	**09 09 47.2**	**+0.8**
FIN	**Finale Ligure**	**6.99**	**283**	*e*Pn	**Pn**	**09 09 45.1**	**-1.3**
VAI	**Varese**	**6.99**	**297**	*e*Pn	**Pn**	**09 09 45.7**	**-0.7**
VRI	**Vrincioaia**	**7.04**	**63**⇑	*i*P	**Pn**	**09 09 50.2**	**+3.1**
RORO		**7.08**	**282**	P	**Pn**	**09 09 46.7**	**-1.0**
IMI	**Imperia**	**7.20**	**280**	P	**Pn**	**09 09 48.2**	**-1.1**
ROB	**Roburent**	**7.24**	**283**	P	**Pn**	**09 09 48.0**	**-2.0**
PRU	**Pruhonice**	**7.28**	**344**	*e*P	**Pn**	**09 09 51.3**	**+0.8**
PRU				*e*		09 11 10.3	
PRU	**Pruhonice**	**7.28**	**344**	*e*PN	**Pn**	**09 09 51.3**	**+0.8**
PRU				*ex*	x	09 09 59.3	
PRU				*e*SN	**Sn**	**09 11 10.3**	**-3.7**
PRU				*ex*	x	09 11 23.2	
MONE	**Monesi**	**7.31**	**282**	P	**Pn**	**09 09 49.5**	**-1.3**
OJC	**Ojcow**	**7.32**	**11**	*e*Pn	**Pn**	**09 09 51.1**	**+0.1**
OJC				*e*Sn	**Sn**	**09 11 11.5**	**-3.5**
OJC	**Ojcow**	**7.32**	**11**	*e*Pn	**Pn**	**09 09 51.1**	**+0.1**
OJC				*e*Sn	**Sn**	**09 11 11.5**	**-3.5**
NEGI	**Negi**	**7.33**	**280**	P	**Pn**	**09 09 50.4**	**-0.8**
DPC	**Dobruska-Polom**	**7.37**	**353**	*e*PN	**Pn**	**09 09 52.3**	**+0.6**
DPC				*ex*	x	09 10 00.1	
ORO	**Oropa**	**7.44**	**294**	*e*Pn	**Pn**	**09 09 50.9**	**-1.7**
ORX	**Oropa**	**7.44**	**294**	P	**Pn**	**09 09 50.0**	**-2.7**
KWP	**Kalwaria**	**7.44**	**26**	*e*P	**Pn**	**09 09 53.9**	**+1.2**
KWP	**Kalwaria**	**7.44**	**26**	*e*Pn	**Pn**	**09 09 53.9**	**+1.2**
SBF	**Sospel**	**7.52**	**280**	*e*Pn	**Pn**	**09 09 52.2**	**-1.6**
SBF				*e*Sn	**Sn**	**09 11 09.7**	**-10**
UPC	**Upice**	**7.56**	**352**	*e*PN	**Pn**	**09 09 55.4**	**+1.1**
UPC				*e*SN	**Sn**	**09 11 17.6**	**-3.3**
ENR	**Entracque**	**7.56**	**283**	P	**Pn**	**09 09 53.5**	**-0.8**
TRAV		**7.56**	**292**	P	**Pn**	**09 09 50.0**	**-4.4**
HARR	**Harsova**	**7.57**	**74**	P	**Pn**	**09 09 53.4**	**-1.1**
STV2	**Anna di Valdie**	**7.63**	**283**	P	**Pn**	**09 09 54.1**	**-1.2**
STV	**Sta Anna Valdi**	**7.63**	**283**	P	**Pn**	**09 09 54.0**	**-1.3**
PSN	**Preselentsi**	**7.66**	**82**	*e*P	**Pn**	**09 09 55.0**	**-0.8**
BHB	**Bricherasio**	**7.75**	**287**	P	**Pn**	**09 09 54.3**	**-2.7**
PVCC	**Panska Ves**	**7.79**	**345**	*e*PN	**Pn**	**09 09 58.4**	**+0.8**
CFR	**Carcaliu**	**7.80**	**71**⇑	*i*P	**Pn**	**09 09 59.2**	**+1.4**
CFR	**Carcaliu**	**7.80**	**71**⇑	*i*P	**Pn**	**09 09 59.2**	**+1.5**
RSP	**Reno Superiore**	**7.81**	**289**	P	**Pn**	**09 09 53.7**	**-4.2**
PZZ	**Prazzo**	**7.82**	**284**	P	**Pn**	**09 09 55.0**	**-3.0**
KSP	**Ksiaz**	**7.86**	**353**	*e*P	**Pn**	**09 09 59.3**	**+0.7**
KSP				*e*		09 11 22.8	
KSP	**Ksiaz**	**7.86**	**353**	*e*Pn	**Pn**	**09 09 59.3**	**+0.7**
KSP				*e*		09 10 05.8	
KSP				*e*Sn	**Sn**	**09 11 22.8**	**-5.8**
KSP	**Ksiaz**	**7.86**	**353**	*e*Pn	**Pn**	**09 09 58.9**	**+0.3**
KSP				*e*		09 10 06.2	
FENE	**Fenestrelle**	**7.92**	**288**	P	**Pn**	**09 09 55.4**	**-4.1**
LSD	**Ceresole Reale**	**7.95**	**291**	P	**Pn**	**09 09 56.1**	**-3.7**
GRA1	**Grafenberg Arr**	**8.02**	**328**	*e*Pn	**P**	**09 09 59.7**	**-1.1**
GRF	**Grafenberg Arr**	**8.02**	**328**	*e*P	**P**	**09 09 59.7**	**-1.1**
SPAK	**Spaichingen**	**8.05**	**312**	P	**P**	**09 10 08.6**	**+7.5**
NKC	**Novy Kostel**	**8.05**	**335**	*e*PN	**P**	**09 10 02.5**	**+1.3**
NKC				*e*SN	**Sn**	**09 11 28.3**	**-4.9**
MBDF	**Montbardon**	**8.08**	**286**	*e*Pn	**P**	**09 09 59.3**	**-2.3**
MBDF				*e*Sn	**Sn**	**09 11 24.7**	**-9.3**
	comp=Z,36nm,0.5s						
FRF	**La Foret Royal**	**8.09**	**277**	*e*Pn	**P**	**09 10 00.0**	**-1.7**
FRF				*e*Sn	**Sn**	**09 11 24.3**	**-10**
	comp=Z,28nm,0.5s						
RRL	**Cesana Torines**	**8.10**	**287**	P	**P**	**09 09 58.9**	**-3.0**
LMR	**La Mourre**	**8.19**	**276**	*e*Pn	**P**	**09 10 02.8**	**-0.4**
LMR				*e*Sn	**Sn**	**09 11 26.7**	**-10**
	comp=Z,9.7nm,0.2s						
BNI	**Bardonecchia**	**8.20**	**288**	*e*Pn	**P**	**09 10 00.9**	**-2.4**
	comp=Z,9.0nm,0.6s						
BNI				*e*Sn	**Sn**	**09 11 25.5**	**-11**
LPG	**La Plagne**	**8.24**	**291**	*e*Sn	**Sn**	**09 11 27.8**	**-10**
	comp=Z,56nm,0.4s						
LPG	**La Plagne**	**8.24**	**291**	*e*Pn	**P**	**09 10 01.8**	**-2.0**
LPG				*e*Sn	**Sn**	**09 11 27.8**	**-10**
BRG	**Berggiesshubel**	**8.24**	**343**	*e*Pn	**P**	**09 10 05.2**	**+1.3**
BRG				*i*		09 11 45.9	
BRG				*i* Sg	Sx	09 11 54.0	
STU	**Stuttgart**	**8.25**	**317**	*e*Pn	**P**	**09 10 04.1**	**+0.1**
	comp=Z,16nm,0.5s						
LPL	**La Plagne**	**8.26**	**291**	*e*Sn	**Sn**	**09 11 27.9**	**-10**
	comp=Z,46nm,0.4s						
LPL	**La Plagne**	**8.26**	**291**	*e*Pn	**P**	**09 10 01.8**	**-2.3**
LPL				*e*Sn	**Sn**	**09 11 27.9**	**-10**
BFO	**Black Forest**	**8.43**	**312**	*e*Pn	**P**	**09 10 04.7**	**-1.7**
BFO				*e*Sn	**Sn**	**09 11 33.7**	**-8.9**
BBS	**Basel-Blauen**	**8.44**	**305**	P	**P**	**09 10 07.4**	**+0.7**
APE	**Apeiranthos**	**8.46**	**132**⇑	*e*P	**P**	**09 10 07.9**	**+1.0**
MOX	**Moxa**	**8.67**	**333**	*i* P	**P**	**09 10 09.2**	**-0.7**
MOX				S	**Sn**	**09 11 47.0**	**-1.7**
MOX				L		09 13 46.0	
MOX	**Moxa**	**8.67**	**333**	*e*P	**P**	**09 10 09.2**	**-0.7**
MOX				*e

ARCES				LR	LR	09 24 49.4			
	comp=Z,91nm,18.1s,MS3.4,baz=182,slow=37								
ARCES	**ARCESS Array B**	**26.86**	**6**	P	**P**	**09 13 43.5**	**-0.1**		
ARCES				pmax	pmax				
	comp=Z,5.0nm,1.1s								
ARCES				MLR	MLR				
	comp=Z,91nm,18.1s								
ARCES	**ARCESS Array B**	**26.86**	**6**	P	**P**	**09 13 43.5**	**-0.1**		
ARCES				LR	LR	09 24 49.4			
BRVK	**Borovoye**	**35.79**	**55**	*eP*	**P**	**09 14 59.9**	**-2.5**		
	comp=Z,4.9nm,0.6s,mb4.6								
BVAR	**Borovoye Array**	**35.86**	**55**	P	**P**	**09 15 00.3**	**-2.6**		
	comp=Z,2.3nm,0.9s,mb4.1,baz=281,slow=7.6,SNR=5.9								
DBIC	**Dimbokro**	**41.33**	**215**	P	**P**	**09 15 45.6**	**-3.4**		
	comp=Z,3.3nm,0.7s,mb4.1,baz=28,slow=11,SNR=4.6								
DBIC	**Dimbokro**	**41.33**	**215**	P	**P**	**09 15 45.6**	**-3.3**		
DBIC				pmax	pmax				
	comp=Z,3.0nm,0.7s								
NVS	**Novosibirsk**	**43.08**	**50**	*eP*	**P**	**09 16 00.6**	**-2.1**		
SCHQ	**Schefferville**	**53.48**	**314**	P	**P**	**09 17 21.0**	**-2.6**		
	comp=Z,5.9nm,0.9s,mb4.5,baz=102,slow=15,SNR=4.4								
SCHQ	**Schefferville**	**53.48**	**314**	P	**P**	**09 17 21.0**	**-2.6**		
SONM	**Songino Array**	**59.08**	**52**	P	**P**	**09 18 01.5**	**-2.4**		
	comp=Z,1.8nm,0.7s,mb4.2,baz=296,slow=7.7,SNR=8.0								
CMAR	**Chiang Mai Arr**	**71.33**	**82**	P	**P**	**09 19 21.0**	**-2.4**		
	comp=Z,1.1nm,0.5s,mb4.0,baz=305,slow=9.0,SNR=5.5								
CMAR	**Chiang Mai Arr**	**71.33**	**82**	P	**P**	**09 19 21.0**	**-2.4**		
CMAR				pmax	pmax				
	comp=Z,1.0nm,0.5s								
ILAR	**Eielson Array**	**71.85**	**353**	P	**P**	**09 19 24.7**	**-1.0**		
	comp=Z,0.5nm,0.7s,mb3.6,baz=5.2,slow=4.4,SNR=6.0								
ILAR	**Eielson Array**	**71.85**	**353**	P	**P**	**09 19 24.7**	**-1.0**		
ILAR				pmax	pmax				
	comp=Z,1.0nm,0.7s								
PDAR	**Pinedale Array**	**82.35**	**324**	P	**P**	**09 20 24.2**	**-0.1**		
	comp=Z,0.4nm,0.8s,mb3.4,baz=45,slow=6.3,SNR=3.8								

*IDC **31** 09:23:41.5±1.6,4.85S×133.23E,mb4.0/2,mb1 4.3/6, mb1mx4.1/11,ML4.0/4,MS3.5/5,Ms1 3.5/5,ms1mx3.2/13, Error ellipse: s-maj=55.8km s-min=25.0km az=74.0*
*NEIC **31** 09:23:43.1±1.0,4.90S×133.37E,h10km,mb4.4/2, Error ellipse: s-maj=25.6km s-min=14.0km az=76.0*

ISC 31 09:23:45.5±2.7,5.03S±0.07×133.5E±0.1,h37km±26km, n15,σ1§44/19,mb4.0/4,MS3.4/2,Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**7.69**	**188**	*eP*	**P**	**09 25 44.4**	**+6.6**
	19nm,0.6s						
KAKA				*eS*	**S**	**09 27 11.5**	**+6.9**
PMG	**Port Moresby**	**14.26**	**109**	LR	LR	09 33 18.7	
	comp=Z,197nm,18.6s,baz=30,slow=40						
WRAB	**Tennant Creek**	**14.84**	**177**	*eP*	**P**	**09 27 13.9**	**-0.6**
	12nm,0.9s						
WRA	**Warramunga Arr**	**14.85**	**177**	Pn	**P**	**09 27 13.7**	**-1.0**
	0.4nm,0.3s,baz=358,slow=13,SNR=30						
WRA				Sn	**S**	**09 29 55.0**	**-3.7**
	0.8nm,0.3s,baz=356,slow=23,SNR=11						
WB2	**Warramunga Arr**	**14.85**	**177**	*eP*	**P**	**09 27 13.5**	**-1.2**
WB2				*e*		09 27 24.2	
WB2				*eS*	**S**	**09 29 52.1**	**-6.5**
FITZ	**Fitzroy Crossi**	**15.08**	**210**	Pn	**P**	**09 27 17.8**	**+0.1**
	0.9nm,0.3s,baz=20,slow=13,SNR=12						
FITZ				Sn	**S**	**09 30 03.9**	**-0.1**
	1.3nm,0.3s,baz=191,slow=13,SNR=13						
ASAR	**Alice Springs**	**18.53**	**179**	P	**P**	**09 28 02.9**	**+1.6**
	0.7nm,0.3s,baz=353,slow=9.6,SNR=46						
ASAR				S	**S**	**09 31 24.3**	**+1.1**
	0.3nm,0.3s,baz=359,slow=28,SNR=7.5						
ASAR				LR	LR	09 35 51.9	
	comp=Z,183nm,20.5s,baz=0.1,slow=39						
ASPA	**Alice Springs**	**18.53**	**179**	*eP*	**P**	**09 28 03.6**	**+2.3**
ASPA				*eS*	**S**	**09 31 19.9**	**-3.3**
CTA	**Charters Tower**	**19.46**	**141**	P	**P**	**09 28 12.1**	**+0.1**
	0.4nm,0.3s,baz=288,slow=14,SNR=4.0						
CTA				LR	LR	09 36 42.8	
	comp=Z,138nm,18.8s,baz=41,slow=40						
CTAO	**Charters Tower**	**19.46**	**141**	P	**P**	**09 28 12.2**	**+0.2**
	14nm,1.2s						
STKA	**Stephens Creek**	**27.77**	**165**	P	**P**	**09 29 34.4**	**+1.3**
	2.4nm,1.0s,mb3.8,baz=318,slow=12,SNR=3.6						
STKA				LR	LR	09 41 36.8	
	comp=Z,101nm,18.4s,MS3.4,baz=196,slow=38						
CBIJ	**Chichi jima**	**33.03**	**14**	LR		09 42 22.9	
	comp=Z,58nm,21.2s,MS3.2,baz=52,slow=34						
CMAR	**Chiang Mai Arr**	**41.27**	**305**	pP	**P**	**09 31 31.7**	**+2.6**
	1.8nm,0.8s,mb3.8,baz=131,slow=7.2,SNR=4.5						
BVAR	**Borovoye Array**	**78.29**	**327**	P	**P**	**09 35 41.9**	**-1.3**
	0.8nm,0.6s,mb3.8,baz=108,slow=4.6,SNR=6.3						
ZRNK	**Zerenda**	**79.02**	**326**	P	**P**	**09 35 45.9**	**-1.4**
	8.1nm,1.5s,mb4.4						

*LDG **31** 10:12:09.4±0.3,43.35N×8.24E,h2km,Md2.4/1,Ml2.6/7, Error ellipse: s-maj=9.0km s-min=5.2km az=47.0*
*NEIC **31** 10:12:11.8,43.43N×8.29E,h14km,ML2.7(GEN), ML2.6(LDG),ML2.3(STR),After GEN.*
*STR **31** 10:12:13.8±0.9,43.60N×8.19E,h5km±1km,Ml2.3,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 31 10:12:08.6±0.5,43.33N±0.03×8.21E±0.03,h10km,n33, σ1§19/60,Corsica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMI	**Imperia**	**0.62**	**338**	*e*Pg	**Pg**	**10 12 22.9**	**+1.6**
IMI				*e*Sg	**Sg**	**10 12 30.1**	**+0.5**
NEGI	**Negi**	**0.63**	**325**	P	**Pb**	**10 12 30.4**	**+1.8**
NEGI				S	**Sg**	**10 12 30.9**	**+1.0**
REVF	**Revere**	**0.74**	**304**	Pg	**Pg**	**10 12 25.2**	**+1.8**
REVF				Sg	**Sg**	**10 12 34.7**	**+1.4**
SBF	**Sospel**	**0.77**	**314**	*e*Pg	**Pg**	**10 12 25.2**	**+1.0**
SBF				*e*Sg	**Sg**	**10 12 34.5**	**-0.1**
	42nm,0.2s						
RORO		**0.79**	**353**	P	**Pb**	**10 12 24.9**	**+0.9**
RORO				S	**Sb**	**10 12 33.9**	**-0.6**
MONE	**Monesi**	**0.82**	**336**	P	**Pb**	**10 12 25.9**	**+1.5**
MONE				S	**Sb**	**10 12 35.3**	**0.0**
AURF	**Auriere**	**0.85**	**311**	Pg	**Pg**	**10 12 26.8**	**+1.2**
AURF				Sg	**Sg**	**10 12 35.3**	**-1.7**
AUTN	**L'Aution**	**0.87**	**320**	Pg	**Pg**	**10 12 27.2**	**+1.0**
AUTN				Sg	**Sg**	**10 12 36.3**	**-1.6**
FIN	**Finale Ligure**	**0.88**	**0**	*e*Pg	**Pg**	**10 12 27.1**	**+0.9**
FIN				*e*Sg	**Sg**	**10 12 37.2**	**-0.9**
MVIF	**Mont Vial**	**0.95**	**307**	Pg	**Pg**	**10 12 28.5**	**+0.8**
PGF	**Pioggiola**	**0.97**	**143**	*e*Pn	**Pn**	**10 12 28.8**	**+0.6**
PGF				*e*Sn	**Sn**	**10 12 40.3**	**-1.8**
	18nm,0.3s						
TOUF	**Mont Tournerai**	**0.98**	**315**	Pg	**Pg**	**10 12 28.9**	**+0.7**
ROB	**Roburent**	**0.99**	**346**	P	**Pb**	**10 12 28.6**	**+1.2**
ROB				S	**Sb**	**10 12 40.3**	**-0.1**
ENR	**Entracque**	**1.06**	**328**	P	**Pb**	**10 12 30.0**	**+1.3**
ENR				S	**Sb**	**10 12 42.4**	**0.0**
STV	**Sta Anna Valdi**	**1.12**	**325**	P	**Pb**	**10 12 31.0**	**+1.4**
STV				S	**Sb**	**10 12 43.8**	**-0.2**
STV2	**Anna di Valdie**	**1.12**	**325**	P	**Pb**	**10 12 30.9**	**+1.4**
STV2				S	**Sb**	**10 12 43.6**	**-0.3**
FRF	**La Foret Royal**	**1.16**	**282**	*e*Pn	**Pn**	**10 12 31.6**	**+0.7**
FRF				*e*Sn	**Sn**	**10 12 45.3**	**-1.5**
	27nm,0.2s						
PCP	**Pian Castagno**	**1.24**	**11**	P	**Pb**	**10 12 31.5**	**-0.1**
PCP				S	**Sb**	**10 12 45.7**	**-1.7**
LMR	**La Mourre**	**1.24**	**271**	*e*Pn	**Pn**	**10 12 32.8**	**+0.8**
LMR				*e*Sn	**Sn**	**10 12 47.1**	**-1.8**
	7.4nm,0.2s						
PZZ	**Prazzo**	**1.42**	**326**	P	**Pn**	**10 12 35.5**	**+0.9**
CODM		**1.59**	**48**	P	**Pn**	**10 12 36.8**	**-0.3**
CODM				S	**Sb**	**10 12 54.2**	**-3.6**
BACM		**1.65**	**54**	P	**Pn**	**10 12 37.7**	**-0.2**
BACM				S	**Sn**	**10 12 55.9**	**-3.4**
BHB	**Bricherasio**	**1.66**	**336**	P	**Pn**	**10 12 38.1**	**+0.1**
MBDF	**Montbardon**	**1.74**	**324**	*e*Pg	**Pg**	**10 12 42.6**	**-0.8**
MBDF				*e*Sg	**Sg**	**10 13 03.6**	**-3.0**
	13nm,0.3s						
MAIM		**1.76**	**70**	P	**Pn**	**10 12 39.3**	**-0.2**
GRAM		**1.77**	**49**	P	**Pn**	**10 12 39.6**	**-0.1**
FENE	**Fenestrelle**	**1.89**	**335**	P	**Pn**	**10 12 40.9**	**-0.4**
SMRF	**Simiane la Rot**	**2.02**	**290**	*e*P	**Pn**	**10 12 44.8**	**+1.7**
SMRF				*e*Sn	**Sn**	**10 13 05.5**	**-3.1**
SMRF				*e*Sg	**Sg**	**10 13 14.6**	**-1.2**
	3.4nm,0.2s						
ORIF	**Oris-en-Rattie**	**2.31**	**314**	*e*Pn	**Pn**	**10 12 46.2**	**-1.1**
ORIF				*e*Sg	**Sg**	**10 13 21.4**	**-4.1**
	2.7nm,0.2s						
LPG	**La Plagne**	**2.41**	**335**	*e*Pn	**Pn**	**10 12 47.5**	**-1.2**
LPG				*e*Pg	**Pg**	**10 12 54.5**	**-2.2**
VIVF	**Saint-Julien-l**	**2.97**	**302**	*e*Pn	**Pn**	**10 12 55.3**	**-1.4**
VIVF				*e*Sn	**Sn**	**10 13 29.0**	**-3.8**
	1.0nm,0.1s						
LASF	**Ste Croix**	**3.24**	**285**	*e*Pn	**Pn**	**10 13 00.5**	**-0.1**
LASF				*e*Sn	**Sn**	**10 13 35.7**	**-4.0**
MTLF	**Montolieu**	**4.37**	**272**	*e*Pn	**Pn**	**10 13 16.1**	**-0.5**
MTLF				*e*Sn	**Sn**	**10 14 03.3**	**-5.0**

*MOS **31** 10:12:08.9±1.2,50.66N×157.66E,h38km,mb4.4/1,Error ellipse: s-maj=41.8km s-min=9.6km az=75.9*
*KRSC **31** 10:12:08.2±1.5,50.72N×157.27E,h30km±5km,ML4.5*

ISC 31 10:12:09.6±0.9,50.77N±0.06×157.42E±0.08,h33km±35km, n40,σ1§17/62,1C,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAU	**Pauzhetka**	**0.80**	**331**	*i* P	**P**	**10 12 24.7**	**+0.3**
PAU				*e*S	**S**	**10 12 36.2**	**+0.9**
PAU				Smax			
	2μm,0.4s						
SKR	**Severo-Kuril's**	**0.83**	**265**	*i* P	**P**	**10 12 20.5**	**-4.4**
SKR				*i* S	**S**	**10 12 31.7**	**-4.5**
SKR	**Severo-Kuril's**	**0.83**	**265**	*i*PN	**P**	**10 12 20.5**	**-4.4**
SKR				pmax	pmax		
	comp=E,150nm,0.5s						
SKR				pmax	pmax		
	comp=Z,320nm,0.5s						
SKR				pmax	pmax		
	comp=N,160nm,0.4s						
ALID	**Alaid**	**1.19**	**276**	*i* P	**P**	**10 12 29.5**	**-0.5**
ALID				*e*S	**S**	**10 12 44.3**	**-1.0**
MIPR	**Malaya Ipel'ka**	**1.57**	**345**	*i* P	**P**	**10 12 35.5**	**+0.1**
MIPR				*e*S	**S**	**10 12 54.9**	**+0.2**
RUS	**Russkaya**	**1.80**	**22**	P	**P**	**10 12 38.1**	**-0.7**
RUS				S	**S**	**10 12 59.5**	**-1.2**
RUS	**Russkaya**	**1.80**	**22**	*i* P	**P**	**10 12 38.0**	**-0.8**
RUS				*e*S	**S**	**10 12 59.3**	**-1.4**
GRL	**Gorelyy**	**1.83**	**13**	*e*P	**P**	**10 12 39.6**	**+0.4**
GRL				*e*S	**S**	**10 13 01.8**	**+0.4**
APC	**Apacha**	**2.17**	**356**	*i* P	**P**	**10 12 43.9**	**-0.1**
APC				*e*S	**S**	**10 13 09.5**	**-0.4**
APC				Smax			
	comp=N,100nm,0.7s						
PET	**Petropavlovsk**	**2.38**	**18**	*e*P	**P**	**10 12 46.9**	**-0.2**
PET				*e*S	**S**	**10 13 14.9**	**-0.6**
UGLR	**Uglovaya**	**2.59**	**19**	*e*P	**P**	**10 12 50.5**	**+0.4**
UGLR				*e*S	**S**	**10 13 20.9**	**+0.1**
AVH	**Avacha**	**2.63**	**17**	*e*P	**P**	**10 12 51.5**	**+0.9**
AVH				*e*S	**S**	**10 13 23.3**	**+1.6**
KOK	**Koryaka**	**2.63**	**16**	*e*P	**P**	**10 12 51.9**	**+1.2**
KOK				*e*S	**S**	**10 13 23.8**	**+1.9**
SMAR	**Somma**	**2.64**	**18**	*e*P	**P**	**10 12 51.6**	**+0.8**
SMAR				*e*S	**S**	**10 13 21.9**	**-0.1**
SDLR	**Sedlovina**	**2.67**	**19**	*e*P	**P**	**10 12 50.9**	**-0.3**
SDLR				*e*S	**S**	**10 13 21.5**	**-1.2**
NLC	**Nalytchevo**	**2.68**	**26**	P	**P**	**10 12 49.8**	**-1.6**
NLC				S	**S**	**10 13 19.8**	**-3.3**
NLC	**Nalytchevo**	**2.68**	**26**	*e*P	**P**	**10 12 49.7**	**-1.7**
SPN	**Mys Shipunski**	**2.83**	**34**	P	**P**	**10 12 53.1**	**-0.5**
SPN				S	**S**	**10 13 25.2**	**-1.7**
SPN	**Mys Shipunski**	**2.83**	**34**	*e*P	**P**	**10 12 53.0**	**-0.6**
SPN				*i* S	**S**	**10 13 25.2**	**-1.7**
GNL	**Ganaly**	**2.95**	**6**	*e*P	**P**	**10 12 55.6**	**+0.4**
GNL				*e*S	**S**	**10 13 25.8**	**+1.0**
KII	**Karymskiy**	**3.50**	**20**	P	**P**	**10 13 04.0**	**+1.0**
KII	**Karymskiy**	**3.50**	**20**	*e*P	**P**	**10 13 04.1**	**+1.1**
KII				*e*S	**S**	**10 13 43.9**	**+0.1**
MKZ	**Mys Kozlova**	**4.61**	**33**	P	**P**	**10 13 16.7**	**-2.1**
MKZ				S	**S**	**10 14 06.7**	**-5.2**
MKZ	**Mys Kozlova**	**4.61**	**33**	*e*P	**P**	**10 13 16.7**	**-2.1**
MKZ				*e*S	**S**	**10 14 07.7**	**-4.2**
TUMR	**Tumrok**	**4.81**	**19**	*e*P	**P**	**10 13 22.1**	**+0.4**
TUMR				*e*S	**S**	**10 14 15.3**	**-1.7**
ESO	**Esso**	**5.22**	**8**	*e*P	**P**	**10 13 27.7**	**+0.3**
KMNR	**Kamenistaya**	**5.27**	**18**	*e*P	**P**	**10 13 30.0**	**+1.9**
KPT	**Kopyto**	**5.47**	**17**	P	**P**	**10 13 32.3**	**+1.4**
KOZ	**Kozyrevsk**	**5.50**	**14**	P	**P**	**10 13 32.8**	**+1.5**
KOZR	**Kozyr**	**5.51**	**15**	PN	**P**	**10 13 32.8**	**+1.4**
ZLN	**Zelenaya**	**5.63**	**20**	*e*P	**P**	**10 13 33.5**	**+0.3**
LGNR	**Loginova**	**5.67**	**19**	P	**P**	**10 13 34.9**	**+1.2**
CIRR	**Tsirk**	**5.71**	**19**	*e*P	**P**	**10 13 34.5**	**+0.2**
SRDR	**Sredinnyy**	**5.72**	**13**	*e*P	**P**	**10 13 35.8**	**+1.3**
KRSR	**Krestovskiy**	**5.77**	**18**	P	**P**	**10 13 37.4**	**+2.3**
KLY	**Klyuchi**	**5.88**	**18**	P	**P**	**10 13 39.0**	**+2.4**
KLY	**Klyuchi**	**5.88**	**18**	P	**P**	**10 13 39.4**	**+2.8**
KBTR	**Krutoberegovo**	**6.33**	**28**	P	**P**	**10 13 40.8**	**-2.2**
KBTR	**Krutoberegovo**	**6.33**	**28**	*e*P	**P**	**10 13 40.5**	**-2.5**
BKI	**Bering**	**6.81**	**46**	*e*S	**S**	**10 14 59.2**	**-7.7**

*IDC **31** 10:29:15.9±11.0,20.01N×122.38E,mb3.5/4,mb1 3.8/4, mb1mx3.6/16,MS3.0/1,Ms1 3.0/1,ms1mx2.0/22,Error ellipse: s-maj=302.0km s-min=32.6km az=30.0*
*MAN **31** 10:29:35.6,18.47N×120.85E,h45km,mb4.5,ML3.3, MS3.2*

ISC 31 10:29:35.5±0.8,18.46N±0.06×120.82E±0.07,h64km±7km, n16,σ0§57/19,mb3.5/3,3C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**0.23**	**236**	*i* P	**P**	**10 29 45.4**	**-0.2**
PIP				*i* S	**S**	**10 29 53.3**	**+0.3**
APYP	**Conner**	**0.72**	**146**	*e*P	**P**	**10 29 50.4**	**+0.2**
APYP				*e*S	**S**	**10 30 01.2**	**-0.1**
ABRA	**Dolores**	**0.81**	**187**	*e*P	**P**	**10 29 51.3**	**-0.2**
SGCP	**Mt. Cagua**	**1.18**	**100**	*e*P	**P**	**10 29 56.6**	**+0.3**
CVP	**Callao Caves**	**1.21**	**128**	*i* P	**P**	**10 29 57.0**	**+0.2**
CVP				*i* S	**S**	**10 30 12.0**	**-0.6**
CAUP	**Cauayan**	**1.78**	**148**	*e*P	**P**	**10 30 06.0**	**+1.3**
BCPH	**Baguio City Da**	**2.08**	**186**	*i* P	**P**	**10 30 07.9**	**-0.9**
BCPH				*i* S	**S**	**10 30 33.3**	**-0.2**
BOLP	**Bolinao**	**2.24**	**203**	*e*P	**P**	**10 30 11.0**	**-0.2**
BBP	**Basco**	**2.25**	**28**	*e*P	**P**	**10 30 10.7**	**-0.5**
BALP	**Baler**	**2.80**	**165**	*e*P	**P**	**10 30 18.8**	**-0.1**
PCPH	**Palayan**	**2.89**	**175**	*e*P	**P**	**10 30 20.9**	**+0.6**
TGY	**Tagaytay City**	**4.33**	**179**	LR	LR	10 32 38.3	
	comp=Z,121nm,19.8s,baz=128,slow=34						
CMAR	**Chiang Mai Arr**	**20.76**	**273**	P	**P**	**10 34 13.6**	**+0.2**
	1.2nm,0.9s,baz=88,slow=8.9,SNR=5.9						
WRA	**Warramunga Arr**	**40.40**	**160**	P	**P**	**10 37 02.7**	**-6.4**
	0.7nm,1.0s,mb3.3,baz=349,slow=8.7,SNR=5.7						
ASAR	**Alice Springs**	**43.77**	**163**	P	**P**	**10 37 31.9**	**-4.9**
	0.4nm,0.7s,mb3.3,baz=349,slow=6.7,SNR=7.1						
STKA	**Stephens Creek**	**53.87**	**158**	P	**P**	**10 38 49.5**	**-5.1**
	2.2nm,1.1s,mb4.0,baz=349,slow=10,SNR=3.0						

*BJI **31** 10:29:53.2,25.79N×127.39E,h88km,mb4.9*
*NIED **31** 10:30:00,26.60N×126.80E,h92km,Mw4.1 Best double couple: Mo1.65×10¹⁵ NP1:φs56°,δ77°,λ-100°. NP2: φs273°,δ16°,λ-53°.*
*IDC **31** 10:30:04.1±1.9,26.65N×126.83E,h88km±18km,mb3.9/16, mb1 4.0/16,mb1mx4.0/23,Error ellipse: s-maj=23.9km s-min=12.4km az=79.0*
*JMA **31** 10:30:04.9±0.1,26.63N×126.80E,h88km±1km,M3.8 JMA Felt I J1.*
*NEIC **31** 10:30:04.2±1.1,26.60N×126.75E,h89km±11km,mb4.5/5, MW4.1(NIED),Error ellipse: s-maj=14.5km s-min=7.3km az=71.0*

ISC 31 10:30:03.6±0.3,26.61N±0.05×126.83E±0.04,h98km±3km, n48,σ0§90/62,mb4.3/27,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKE	**Kume jima 2**	**0.28**	**188**	P	**P**	**10 30 18.2**	**+0.2**
JKE				S	**S**	**10 30 28.2**	**-0.7**
JAGN	**Aguni-jima**	**0.37**	**93**	P	**P**	**10 30 18.8**	**+0.4**
JAGN				S	**S**	**10 30 29.0**	**-0.7**
NAH1	**Naha**	**0.87**	**117**	P	**P**	**10 30 23.4**	**+0.6**
NAH1				*e*S	**S**	**10 30 36.4**	**-0.6**
JJT2	**Tamagusuku 2**	**0.95**	**119**	P	**P**	**10 30 24.7**	**+1.1**
JJT2				*e*S	**S**	**10 30 39.4**	**+0.9**
JIH	**Iheya**	**1.10**	**67**	P	**P**	**10 30 26.3**	**+1.0**
JIH				S	**S**	**10 30 41.6**	**-0.1**
JOW	**Kunigami**	**1.31**	**80**	P	**P**	**10 30 28.4**	**+0.6**
JOW				S	**S**	**10 30 44.9**	**-1.1**
JOW	**Kunigami**	**1.31**	**80**	P	**P**	**10 30 28.5**	**+0.6**
JOW				S	**S**	**10 30 45.2**	**-0.8**
JTK	**Tokunoshima**	**2.22**	**58**	P	**P**	**10 30 40.2**	**+0.6**
JTK				*e*S	**S**	**10 31 06.1**	**-0.3**
JOGS	**Gusukube**	**2.25**	**215**	P	**P**	**10 30 40.8**	**+0.8**
JOGS				*e*S	**S**	**10 31 08.2**	**+1.2**
JMJ	**Miyako jima 2**	**2.26**	**218**	P	**P**	**10 30 40.5**	**+0.3**
JMJ				*e*S	**S**	**10 31 08.2**	**+0.8**
JTJ	**Tarama**	**2.75**	**225**	P	**P**	**10 30 46.6**	**-0.2**
JTJ				*e*S	**S**	**10 31 16.7**	**-2.5**
JAM	**Amami Oshima**	**3.05**	**53**	P	**P**	**10 30 50.8**	**-0.2**
JAM				*e*S	**S**	**10 31 25.4**	**-1.3**
JZK	**Kikaishima**	**3.27**	**58**	P	**P**	**10 30 54.3**	**+0.3**
JZK				*e*S	**S**	**10 31 32.6**	**+0.5**
JIJ	**Ishigaki jima**	**3.30**	**228**	*e*S	**S**	**10 31 28.2**	**-4.7**
JKRS	**Kuro-shima**	**3.48**	**228**	*e*S	**S**	**10 31 35.5**	**-1.7**
IRIF	**Iriomote-Funau**	**3.60**	**232**	*e*S	**S**	**10 31 40.1**	**-0.2**
HATJ	**Hateruma jima**	**3.73**	**228**	*e*S	**S**	**10 31 44.3**	**+0.8**
JMZ	**Minamidaito 2**	**4.02**	**100**	P	**P**	**10 31 01.5**	**-2.8**
JMZ				S	**S**	**10 31 44.2**	**-6.4**
CN2	**Changchun**	**17.19**	**357**	*e*P	**P**	**10 34 00.0**	**+1.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.1s						
ASAJ	**Asahikawa**	**21.62**	**32**	P	**P**	**10 34 48.0**	**+1.0**
	comp=Z,2.1nm,0.5s,mb3.7,baz=237,slow=8.2,SNR=3.9						
GTA	**Gaotai**	**25.90**	**306**	*e*P	**P**	**10 35 26.3**	**-1.7**
GTA				AMB	AMB		
	comp=Z,7.0nm,0.5s,mb4.3						
SONM	**Songino Array**	**26.56**	**328**	P	**P**	**10 35 33.5**	**-0.5**
	comp=Z,1.5nm,0.4s,mb3.9,baz=133,slow=8.9,SNR=12						
GUN	**Gumba**	**36.31**	**282**	*e*P	**P**	**10 37 00.2**	**+0.6**
	comp=Z,6.4nm,0.4s,mb4.9						
PKI	**Pulchoki**	**36.77**	**281**	*e*P	**P**	**10 37 03.8**	**+0.4**
	comp=Z,7.4nm,0.4s,mb5.0						
KKN	**Kakani**	**36.85**	**282**	*e*P	**P**	**10 37 04.1**	**0.0**
	comp=Z,12nm,0.5s,mb5.1						
DMN	**Daman**	**37.03**	**281**	*e*P	**P**	**10 37 06.8**	**+1.2**
GKN	**Gorkha**	**37.38**	**282**	*e*P	**P**	**10 37 08.9**	**+0.3**
	comp=Z,8.3nm,0.4s,mb5.0						
KOLN	**Koldanda**	**38.33**	**282**	*e*P	**P**	**10 37 17.3**	**+0.9**
	comp=Z,5.8nm,0.5s,mb4.7						
KURK	**Kurchatov**	**43.68**	**317**	*e*P	**P**	**10 37 59.6**	**-0.5**
	comp=Z,2.4nm,0.4s,mb4.3						
FITZ	**Fitzroy Crossi**	**44.46**	**182**	P	**P**	**10 38 06.7**	**-0.1**
	comp=Z,2.4nm,0.5s,mb4.2,baz=353,slow=7.5,SNR=8.8						
WRAB	**Tennant Creek**	**46.84**	**170**	*e*P	**P**	**10 38 24.5**	**-1.2**
	comp=Z,4.1nm,0.8s,mb4.2						
WRA	**Warramunga Arr**	**46.84**	**170**	P	**P**	**10 38 25.3**	**-0.4**
	comp=Z,1.1nm,0.6s,mb3.8,baz=353,slow=8.5,SNR=11						
BVAR	**Borovoye Array**	**49.16**	**318**	P	**P**	**10 38 43.2**	**0.0**
	comp=Z,1.8nm,0.4s,mb4.3,baz=103,slow=9.9,SNR=17						
BVAR				PcP	PcP	10 40 05.2	-0.2
	comp=Z,1.2nm,0.4s,baz=135,slow=4.2,SNR=5.6						
BRVK	**Borovoye**	**49.23**	**318**	*e*P	**P**	**10 38 43.2**	**-0.5**
	comp=Z,3.3nm,0.4s,mb4.6						
ZRNK	**Zerenda**	**49.97**	**318**	*e*P	**P**	**10 38 48.9**	**-0.6**
	comp=Z,7.6nm,0.6s,mb4.8						
ASAR	**Alice Springs**	**50.44**	**172**	P	**P**	**10 38 53.4**	**-0.1**
	comp=Z,1.6nm,0.5s,mb4.2,baz=358,slow=14,SNR=44						
STKA	**Stephens Creek**	**59.84**	**165**	P	**P**	**10 40 00.9**	**-0.3**
	comp=Z,1.2nm,0.4s,mb4.2,baz=338,slow=15,SNR=5.1						
ILAR	**Eielson Array**	**64.70**	**28**	P	**P**	**10 40 31.8**	**-1.2**
	comp=Z,0.6nm,0.5s,mb3.7,baz=257,slow=5.3,SNR=23						
INK	**Inuvik**	**69.04**	**23**	P	**P**	**10 41 00.5**	**+0.2**
	comp=Z,5.8nm,1.1s,mb4.3,baz=302,slow=8.9,SNR=5.8						
ARCES	**ARCESS Array B**	**69.19**	**338**	P	**P**	**10 41 00.3**	**-0.9**
	comp=Z,4.3nm,0.9s,mb4.3,baz=63,slow=8.1,SNR=5.4						
FINES	**FINESS Array B**	**71.92**	**330**	P	**P**	**10 41 16.9**

n21,σ0°98/25, mb4.5/15, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.03**	**202**	P	**P**	**11 54 08.6**	**-0.1**
	2.2nm,0.3s,baz=21,slow=12,SNR=21						
FITZ				S	**S**	**11 56 02.6**	**-7.9**
	6.4nm,0.3s,baz=46,slow=8.4,SNR=11						
WRAB	**Tennant Creek**	**12.72**	**161**	*e*Pn	**P**	**11 54 30.1**	**-1.1**
WRAB				*e*Sn	**S**	**11 56 45.7**	**-5.0**
WRA	**Warramunga Arr**	**12.73**	**161**	P	**P**	**11 54 30.6**	**-0.6**
	4.0nm,0.3s,baz=336,slow=13,SNR=126						
WRA				S	**S**	**11 56 46.8**	**-4.1**
	2.4nm,0.3s,baz=337,slow=22,SNR=12						
ASAR	**Alice Springs**	**16.16**	**167**	P	**P**	**11 55 16.6**	**+1.4**
	1.5nm,0.3s,baz=337,slow=11,SNR=40						
ASAR				S	**S**	**11 58 10.4**	**-0.3**
	0.8nm,0.3s,baz=355,slow=28,SNR=8.4						
MBWA	**Marble Bar**	**16.53**	**216**	*e*P	**P**	**11 55 21.2**	**+1.4**
	14nm,0.9s						
TGY	**Tagaytay City**	**23.60**	**338**	P	**P**	**11 56 36.5**	**+1.1**
	54nm,0.4s,mb5.2,baz=145,slow=12,SNR=4.5						
STKA	**Stephens Creek**	**26.22**	**157**	P	**P**	**11 57 02.6**	**+2.6**
CM31	**Chiang Mai Arr**	**40.28**	**311**	*e*P	**P**	**11 58 59.6**	**-2.0**
	6.3nm,1.1s,mb4.4						
CMAR	**Chiang Mai Arr**	**40.28**	**311**	P	**P**	**11 59 01.4**	**-0.2**
	2.6nm,0.9s,mb4.1,baz=142,slow=7.3,SNR=18						
CMAR				PcP	PcP	12 01 06.5	+2.5
	0.9nm,0.8s,baz=166,slow=2.7,SNR=5.9						
GUN	**Gumba**	**55.52**	**312**	*e*P	**P**	**12 00 59.0**	**-0.9**
	14nm,0.7s,mb5.1						
PKI	**Pulchoki**	**55.68**	**311**	*e*P	**P**	**12 01 01.6**	**+0.5**
	8.1nm,0.6s,mb4.9						
KKN	**Kakani**	**55.90**	**311**	*e*P	**P**	**12 01 02.9**	**+0.3**
	7.8nm,0.5s,mb5.0						
GKN	**Gorkha**	**56.49**	**311**	*e*P	**P**	**12 01 05.7**	**-1.2**
	16nm,0.6s,mb5.2						
KOLN	**Koldanda**	**57.15**	**310**	*e*P	**P**	**12 01 10.6**	**-0.9**
	12nm,0.6s,mb5.1						
SONM	**Songino Array**	**59.25**	**342**	P	**P**	**12 01 25.6**	**-0.2**
	1.5nm,0.6s,mb4.2,baz=159,slow=7.0,SNR=9.5						
AAK	**Ala-Archa**	**71.19**	**320**	*e*P	**P**	**12 02 42.8**	**+0.2**
	1.4nm,0.7s,mb3.9						
KURK	**Kurchatov**	**73.25**	**329**	*e*P	**P**	**12 02 54.8**	**+0.2**
	6.1nm,0.8s,mb4.5						
BVAR	**Borovoye Array**	**78.79**	**328**	P	**P**	**12 03 26.3**	**+0.5**
	3.1nm,0.8s,mb4.2,baz=135,slow=6.3,SNR=16						
BRVK	**Borovoye**	**78.86**	**328**	*e*P	**P**	**12 03 26.9**	**+0.7**
	3.9nm,0.8s,mb4.3						
ZRNK	**Zerenda**	**79.48**	**327**	*e*P	**P**	**12 03 29.7**	**+0.1**
	7.5nm,1.1s,mb4.4						
ILAR	**Eielson Array**	**94.12**	**25**	P	**P**	**12 04 40.7**	**+0.1**
	0.2nm,0.6s,mb3.6,baz=276,slow=5.5,SNR=4.9						

*IDC **31** 12:26:18.0±2.8,24.24N×94.01E,h65km±25km,mb3.8/11, mb1 4.0/12,mb1mx3.9/19,ML4.5/1,MS3.1/1,Ms1 3.3/1, ms1mx2.5/22,Error ellipse: s-maj=35.7km s-min=13.7km az=57.0*

*NEIC **31** 12:26:20.2±1.0,24.32N×94.19E,h82km±10km,mb4.2/9, Error ellipse: s-maj=9.9km s-min=7.0km az=59.0*

*BJI **31** 12:26:23.9,25.03N×94.21E,h81km,mB4.3,mb4.5,Ms3.9, Msz3.4*

ISC 31 12:26:16.0±0.5,24.28N±0.04×93.94E±0.03,h64km±6km, n65,σ1°30/79,mb4.2/19,2C-1D,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	**0.50**	**359**	*i* P	**P**	**12 26 29.0**	**+0.6**
IMP				*e*		12 27 05.5	
SHL	**Shillong**	**2.27**	**305**	*e*P	**P**	**12 26 53.0**	**+1.0**
SHL				*e*S	**S**	**12 27 19.0**	**+0.2**
AGT	**Agartala**	**2.49**	**261**	*i*	**P**	**12 26 56.0**	**+0.8**
AGT				*i* S	**S**	**12 27 36.0**	**+12**
LSA	**Lhasa**	**5.95**	**336**	P	**P**	**12 27 43.0**	**-0.4**
LSA				S	**S**	**12 28 37.0**	**-14**
LSA				Smax			
	comp=N,150nm,1.0s						
LSA				Smax			
	comp=E,190nm,1.0s						
CHRT	**Chiangrai**	**6.97**	**128**	⇑P	**P**	**12 27 57.5**	**-0.2**
	comp=E,513nm,0.5s						
CHG	**Chiang Mai**	**7.16**	**138**	PN	**P**	**12 28 00.2**	**-0.1**
CHG				SG	S	12 29 56.5	+36
BOK	**Bokaro**	**7.38**	**268**	*e*P	**P**	**12 28 03.9**	**+0.4**
BOK				*e*		12 29 21.3	
CM31	**Chiang Mai Arr**	**7.43**	**140**	*e*Pn	**P**	**12 28 03.4**	**-0.7**
	comp=E,10.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**7.43**	**140**	P	**P**	**12 28 03.7**	**-0.4**
	comp=E,1.8nm,0.3s,baz=314,slow=13,SNR=88						
CMAR				Lg		12 30 03.8	
	comp=E,1.2nm,0.3s,baz=317,slow=29,SNR=4.1						
CMAR				LR	LR	12 31 35.6	
	comp=E,145nm,19.6s,baz=310,slow=43						
KMI	**Kunming**	**8.04**	**82**	*e*P	**P**	**12 28 14.8**	**+2.3**
KMI				S	**S**	**12 29 44.5**	**+1.6**
KMI				AMB	AMB		
	comp=Z,18nm,1.1s						
KMI				AMB	AMB		
	comp=Z,119nm,3.9s						
KMI				Smax			
	comp=N,42nm,1.5s						
KMI				Smax			
	comp=E,33nm,1.3s						
KMI				LR	LR		
	comp=N,1μm,9.8s						
KMI				LR	LR		
	comp=E,493nm,10.4s						
KMI				LR	LR		
	comp=Z,275nm,10.4s						
GUN	**Gumba**	**8.10**	**298**	*e*Pn	**P**	**12 28 13.2**	**-0.1**
GUN				*e*Sn	**S**	**12 29 40.6**	**-3.7**
	comp=Z,484nm,0.8s						
NANT	**Nan**	**8.32**	**130**	⇓P	**P**	**12 28 15.0**	**-1.3**
	comp=Z,188nm,0.5s						
PKI	**Pulchoki**	**8.35**	**295**	*e*Pn	**P**	**12 28 16.3**	**-0.5**
PKI				*e*Sn	**S**	**12 29 44.3**	**-6.2**
	comp=Z,190nm,0.7s						
BDT	**Bhumibol Dam**	**8.45**	**145**	P	**P**	**12 28 19.0**	**+0.9**
BWNR	**Bhubaneshwar**	**8.51**	**244**	*e*	**P**	**12 28 13.7**	**-5.3**
BWNR				*e*		12 29 40.1	
BWNR				*e*		12 29 46.9	
	comp=N,156nm,0.4s						
BWNR				*e*		12 29 47.4	
	comp=E,104nm,0.6s						
KKN	**Kakani**	**8.54**	**296**	*e*Pn	**P**	**12 28 18.6**	**-0.7**
KKN				*e*Sn	**S**	**12 29 49.6**	**-5.6**
	comp=E,48nm,0.2s						
DMN	**Daman**	**8.62**	**295**	*e*Pn	**P**	**12 28 19.7**	**-0.7**
DMN				*e*Sn	**S**	**12 29 50.8**	**-6.3**
	comp=E,249nm,0.8s						
GKN	**Gorkha**	**9.15**	**296**	*e*Pn	**P**	**12 28 26.7**	**-0.9**
GKN				*e*Sn	**S**	**12 30 02.9**	**-7.2**
	comp=E,245nm,0.6s						
KOLN	**Koldanda**	**9.93**	**293**	*e*Pn	**P**	**12 28 36.7**	**-1.7**
KOLN				*e*Sn	**S**	**12 30 21.3**	**-7.9**
	comp=E,108nm,0.6s						
BLSP	**Bilaspur**	**11.07**	**261**	*e*P	**P**	**12 28 57.6**	**+3.7**
BLSP				*e*		12 30 48.6	
GYA	**Guiyang**	**11.71**	**77**	⇑*i*P	**P**	**12 29 04.8**	**+2.4**
GYA				AMB	AMB		
	comp=Z,20nm,1.0s						
LGTI	**Lohaghat**	**13.26**	**296**	*e*P	**P**	**12 29 24.5**	**+1.4**
JOSI	**Joshimath**	**14.22**	**299**	*e*P	**P**	**12 29 35.3**	**-0.3**
JOSI				AMb	AMB	12 29 38.8	
	comp=Z,175nm,1.4s						
LZH	**Lanzhou**	**14.54**	**34**	*e*P	**P**	**12 29 36.5**	**-3.2**
LZH				AMB	AMB		
	comp=Z,31nm,1.2s						
LZH				AMB	AMB		
	comp=Z,114nm,4.1s						
ENH	**Enshi**	**15.05**	**63**	*e*P	**P**	**12 29 47.5**	**+1.2**
	comp=Z,12nm,0.8s						
BHPL	**Bhopal**	**15.16**	**269**	*e*P	**P**	**12 29 48.6**	**+0.8**
BHPL				AMb	AMB	12 30 01.4	
	comp=Z,32nm,1.3s						
BHPL				*e*		12 32 25.9	
DDI	**Dehra Dun**	**15.35**	**297**	*e*	**P**	**12 29 47.4**	**-2.8**
DDI				*e*		12 32 28.0	
NDI	**New Delhi**	**15.60**	**290**	*e*P	**P**	**12 29 51.0**	**-2.4**
NDI				*e*		12 32 32.0	
QIZ	**Qiongzhong**	**15.67**	**106**	*e*P	**P**	**12 29 57.7**	**+3.3**
	comp=Z,8.7nm,0.6s						
GTA	**Gaotai**	**15.88**	**17**	*e*P	**P**	**12 29 54.5**	**-2.4**
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s						
GTA				AMB	AMB		
	comp=Z,85nm,8.0s						
GTA				LR	LR		
	comp=N,111nm,16.1s						
GTA				LR	LR		
	comp=E,216nm,13.0s						
GTA				LR	LR		
	comp=Z,102nm,14.1s						
HYB	**Hyderabad**	**15.91**	**248**	*i* P	**P**	**12 30 04.0**	**+6.6**
HYB				*e*pP		12 30 21.5	
HYB				*e*sP		12 30 29.0	
HYB				*e*S	**S**	**12 32 42.0**	**-10**
HYB				*e*S	**S**	**12 32 54.0**	**+2.3**
HYB	**Hyderabad**	**15.91**	**248**	*e*P	**P**	**12 30 04.0**	**+6.6**
HYB				*e*S	**S**	**12 32 42.0**	**-10**
KUDL	**Kundal**	**16.13**	**288**	*e*P	**P**	**12 29 59.0**	**-1.1**
KUDL				AMb	AMB	12 30 04.6	
	comp=Z,10nm,1.4s						
KUDL				*e*		12 32 35.5	
XAN	**Xi'an**	**16.29**	**50**	P	**P**	**12 29 59.3**	**-2.7**
XAN				AMB	AMB		
	comp=Z,6.0nm,1.1s						
THN	**Thein Dam**	**17.97**	**301**	*e*P	**P**	**12 30 22.9**	**-0.1**
	comp=Z,8.0nm,0.7s						
POO	**Poona**	**19.56**	**257**	*e*P	**P**	**12 30 44.0**	**+2.7**
POO				*i*		12 34 32.0	
KAD	**Karad**	**19.72**	**253**	*e*S	**S**	**12 34 31.0**	**+14**
WMQ	**Urumqi**	**20.16**	**347**	*e*P	**P**	**12 30 48.0**	**+0.4**
WMQ				S	**S**	**12 34 21.0**	**-4.3**
WMQ				SS	SS	12 34 48.0	-9.4
WMQ				AMB	AMB		
	comp=Z,12nm,1.0s						
WMQ				LR	LR		
	comp=N,97nm,10.0s						
WMQ				LR	LR		
	comp=E,251nm,12.0s						
WMQ				LR	LR		
	comp=Z,59nm,10.0s						
PALK	**Pallekele**	**21.14**	**219**	*e*P	**P**	**12 31 01.4**	**+3.6**
	comp=Z,11nm,1.0s,mb4.2						
TKM2	**Tokmak 2**	**23.98**	**325**	P	**P**	**12 31 29.2**	**+3.9**
	SNR=9.9						
UCH	**Uchtor**	**24.08**	**323**	P	**P**	**12 31 29.7**	**+3.3**
	SNR=7.2						
AAK	**Ala-Archa**	**24.36**	**323**	*e*P	**P**	**12 31 31.2**	**+2.0**
	comp=Z,4.3nm,0.8s,mb3.9						
AML	**Almayashu**	**24.48**	**322**	P	**P**	**12 31 34.3**	**+4.0**
	SNR=10						
EKS2	**Erkin-Say**	**24.77**	**323**	P	**P**	**12 31 36.3**	**+3.1**
	SNR=13						
USP	**Ospenovka**	**24.79**	**325**	P	**P**	**12 31 36.5**	**+3.1**
	SNR=6.8						
SONM	**Songino Array**	**25.51**	**20**	P	**P**	**12 31 40.7**	**+0.6**
	comp=Z,7.0nm,0.9s,mb4.2,baz=210,slow=10.0,SNR=24						
SONM				ScP		12 38 44.3	
	comp=Z,0.9nm,0.8s,baz=180,slow=2.5,SNR=4.7						
KURK	**Kurchatov**	**28.94**	**340**	*e*P	**P**	**12 32 11.0**	**-0.3**
	comp=Z,2.6nm,0.8s,mb4.0						
BVAR	**Borovoye Array**	**33.78**	**334**	P	**P**	**12 32 53.1**	**-0.6**
	comp=Z,7nm,0.4s,mb3.9,baz=124,slow=16,SNR=4.1						
ZRNK	**Zerenda**	**34.29**	**333**	*e*P	**P**	**12 32 58.6**	**+0.6**
	comp=Z,1.7nm,0.5s,mb4.2						
MBWA	**Marble Bar**	**51.66**	**149**	*e*P	**P**	**12 35 18.4**	**-0.4**
	comp=Z,5.1nm,0.7s,mb4.6						
AKASG	**Malin Array Be**	**55.71**	**316**	P	**P**	**12 35 47.7**	**-0.5**
	comp=Z,1.1nm,0.4s,mb4.2,baz=78,slow=6.3,SNR=9.1						
AKASG				pP	pP	12 36 06.0	+1.1
	comp=Z,1.8nm,0.5s,baz=77,slow=6.3,SNR=5.4						
FINES	**FINESS Array B**	**58.41**	**328**	P	**P**	**12 36 07.1**	**0.0**
	comp=Z,1.3nm,0.7s,mb4.0,baz=105,slow=8.5,SNR=5.8						
WRA	**Warramunga Arr**	**58.99**	**135**	P	**P**	**12 36 10.5**	**-1.2**
	comp=Z,2.2nm,0.7s,mb4.3,baz=325,slow=7.2,SNR=32						
WRAB	**Tennant Creek**	**58.99**	**135**	*e*P	**P**	**12 36 10.6**	**-1.1**
	comp=Z,4.4nm,0.6s,mb4.7						
WB2	**Warramunga Arr**	**58.99**	**135**	*e*P	**P**	**12 36 10.8**	**-0.9**
NWAO	**Narrogin (SRO)**	**61.07**	**158**	*e*P	**P**	**12 36 25.1**	**-0.6**
	comp=Z,1.3nm,0.5s,mb4.3						
ASPA	**Alice Springs**	**61.43**	**138**	*e*P	**P**	**12 36 27.9**	**-0.4**
ASAR	**Alice Springs**	**61.43**	**138**	P	**P**	**12 36 27.8**	**-0.6**
	comp=Z,3.8nm,0.8s,mb4.6,baz=318,slow=6.4,SNR=40						
NB2	**NORSAR Subarra**	**65.58**	**328**	P	**P**	**12 36 58.6**	**+3.6**
	comp=Z,5.7nm,1.2s,mb4.5,baz=84,slow=6.5						
NOA	**NORSAR Array B**	**65.58**	**328**	P	**P**	**12 36 55.7**	**+0.7**
	comp=Z,1.1nm,0.8s,mb3.9,baz=72,slow=20,SNR=3.5						
GERES	**GERESS Array B**	**65.85**	**314**	P	**P**	**12 36 57.8**	**+0.9**
	comp=Z,0.7nm,0.6s,mb3.9,baz=90,slow=4.0,SNR=5.6						
GERES				pP	pP	12 37 12.8	-1.3
	comp=Z,1.0nm,0.7s,baz=76,slow=5.5,SNR=5.1						
STKA	**Stephens Creek**	**72.05**	**139**	P	**P**	**12 37 34.3**	**-1.1**
	comp=Z,2.4nm,0.5s,mb4.4,baz=314,slow=5.0,SNR=7.8						
ILAR	**Eielson Array**	**79.70**	**22**	P	**P**	**12 38 18.7**	**+0.7**
	comp=Z,0.7nm,1.0s,mb3.5,baz=293,slow=4.7,SNR=7.0						
INK	**Inuvik**	**81.36**	**16**	P	**P**	**12 38 27.1**	**+0.3**
	comp=Z,1.0nm,0.6s,mb3.9,baz=342,slow=4.6,SNR=6.0						
CASY	**Casey**	**91.15**	**173**	P	**P**	**12 39 15.6**	**+1.0**
	comp=Z,1.0nm,0.7s,mb4.2						

BJI 31 12:53:44.1,41.65N×93.03E,h31km,ML3.6,Ms3.0, Msz3.0,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**4.49**	**301**	*e*PG	Pn	12 55 01.3	+9.4
WMQ				S	Sn	12 55 46.0	+2.3
WMQ				Smax			
	comp=N,102nm,0.6s						
WMQ				Smax			
	comp=E,108nm,0.6s						
GTA	**Gaotai**	**5.63**	**111**	P	Pn	12 55 07.5	-0.5
GTA				PG	Pn	12 55 23.8	+16
GTA				S	Sn	12 56 09.5	-2.9
GTA				SG	Sn	12 56 33.0	+21
GTA				Smax			
	comp=N,104nm,0.7s						
GTA				Smax			
	comp=E,54nm,0.7s						
GTA				LR	LR		
	comp=N,115nm,8.4s						
GTA				LR	LR		
	comp=E,110nm,11.8s						
GTA				LR	LR		
	comp=Z,94nm,6.9s						

*MAN **31** 12:55:08.2, 12.67N×124.80E,h26km,mb5.4,ML4.4, MS4.5*

MAN Intensity II Catarman Samar Bulusan Sorsogon.

*IDC **31** 12:55:12.7±3.7,12.57N×125.01E,h77km±34km,mb3.7/9, mb1 3.8/10,mb1mx3.7/19,MS3.3/5,Ms1 3.4/5, ms1mx2.9/21,Error ellipse: s-maj=36.6km s-min=14.6km az=66.0*

*NEIC **31** 12:55:12.0±1.6,12.65N×125.11E,h72km±16km,mb4.6/5, Error ellipse: s-maj=18.5km s-min=8.7km az=72.0*

NEIC Felt [II PIVS] at Catarman. Also felt [II PIVS] at Bulusan, Luzon.

*BJI **31** 12:55:19.9, 13.44N×124.85E,h71km,mB4.3,mb4.3, Ms4.1,Msz3.9*

ISC 31 12:55:06.9±0.4,12.68N±0.03×124.89E±0.04,h26km,n52, σ1°30/59,mb4.1/14,MS3.2/4,5C-5D,Samar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNP	**Catarman**	**0.28**	**232**	*e*P	**Pb**	**12 55 15.0**	**+1.3**
CNP				*e*S	**Sb**	**12 55 19.5**	**+1.3**
PVCP	**Virac**	**1.15**	**322**	*e*P	**Pn**	**12 55 27.5**	**0.0**
PVCP				*e*S	**Sn**	**12 55 42.6**	**0.0**
BESP	**Borongan**	**1.20**	**153**	*e*P	**Pn**	**12 55 29.6**	**+1.4**
BESP				*e*S	**Sn**	**12 55 49.5**	**+5.7**
MMPH	**Masbate**	**1.27**	**255**	⇓*e*P	**Pn**	**12 55 28.8**	**-0.4**
MMPH				*i* S	**Sn**	**12 55 44.9**	**-0.7**
OCLP	**Ormoc**	**1.65**	**189**	*e*P	**Pn**	**12 55 36.2**	**+1.6**
AUQP	**San Andres**	**2.25**	**287**	*e*P	**Pn**	**12 55 46.6**	**+3.5**
RCP	**Roxas**	**2.37**	**242**	⇓*e*P	**Pn**	**12 55 45.4**	**+0.4**
RCP				*e*S	**Sn**	**12 56 13.4**	**-0.2**
LLP	**Lapu-Lapu**	**2.52**	**201**	⇑*i*P	**Pn**	**12 55 46.9**	**-0.2**
LLP				*e*S	**Sn**	**12 56 21.9**	**+4.7**
MSLP	**Maasin**	**2.53**	**181**	*e*P	**Pn**	**12 55 48.6**	**+1.3**
GQP	**Guinayangan**	**2.67**	**297**	⇓*e*P	**Pn**	**12 55 49.3**	**+0.1**
GQP				*e*S	**Sn**	**12 56 21.1**	**+0.1**
KALP	**Kalibo**	**2.68**	**248**	⇑*e*P	**Pn**	**12 55 53.4**	**+4.0**
OTRP	**Odiongan**	**2.81**	**264**	*e*P	**Pn**	**12 55 50.8**	**-0.5**
SCPH	**Surigao**	**2.94**	**168**	⇑*e*P	**Pn**	**12 55 55.0**	**+1.9**
GUIM	**Jordan**	**3.04**	**228**	*e*P	**Pn**	**12 55 54.6**	**+0.1**
GUIM				*e*S	**Sn**	**12 56 28.2**	**-2.2**
BOAC	**Boac**	**3.06**	**285**	*e*P	**Pn**	**12 55 54.7**	**-0.1**
TBP	**Tagbilaran**	**3.14**	**199**	*e*P	**Pn**	**12 55 55.5**	**-0.4**
POLP	**Polilio Island**	**3.51**	**306**	*e*P	**Pn**	**12 56 03.4**	**+2.2**
LQP	**Lukban**	**3.55**	**294**	⇓*e*P	**Pn**	**12 56 02.6**	**+0.9**
SJMP	**San Jose**	**3.68**	**267**	*e*P	**Pn**	**12 56 03.6**	**0.0**
BUTP	**Butuan**	**3.76**	**169**	*e*P	**Pn**	**12 56 08.7**	**+4.0**
TGY	**Tagaytay City**	**4.09**	**291**	P	**Pn**	**12 56 15.5**	**+6.0**
	28nm,0.3s,baz=85,slow=1.1,SNR=5.7						
DCPH	**Dipolog City**	**4.34**	**200**	⇓*e*P	**Pn**	**12 56 12.1**	**-0.9**
BUSP	**Coron**	**4.63**	**262**	*e*P	**Pn**	**12 56 16.3**	**-0.8**
LUBP	**Lubang**	**4.64**	**284**	*e*P	**Pn**	**12 56 21.7**	**+4.5**
PCPH	**Palayan**	**4.66**	**308**	⇑*i*P	**Pn**	**12 56 17.8**	**+0.3**
PCPH				*e*S	**Sn**	**12 57 10.0**	**-1.4**
BIPH	**Bislig**	**4.70**	**162**	⇓*i*P	**Pn**	**12 56 17.9**	**-0.2**
BIPH				*i* S	**Sn**	**12 57 12.4**	**-0.1**
BUKP	**Musuan**	**4.78**	**178**	*e*P	**Pn**	**12 56 21.5**	**+2.4**
PAGZ	**Pagadian**	**5.03**	**197**	*e*P	**Pn**	**12 56 23.3**	**+0.6**
CAUP	**Cauayan**	**5.17**	**325**	*e*P	**Pn**	**12 56 26.6**	**+2.0**
CVP	**Callao Caves**	**5.80**	**330**	*e*P	**Pn**	**12 56 36.0**	**+2.4**
JOW	**Kunigami**	**14.43**	**12**	P	**P**	**12 58 32.7**	**+1.0**
	1.7nm,0.3s,baz=197,slow=15,SNR=12						
JOW				LR	LR	13 03 14.5	
	comp=Z,138nm,21.4s,baz=178,slow=33						
WHN	**Wuhan**	**20.27**	**333**	*e*P	**P**	**12 59 45.8**	**+2.4**
CBIJ	**Chichi jima**	**21.64**	**46**	LR	LR	13 06 38.3	
	comp=Z,75nm,20.2s,MS3.1,baz=95,slow=32						
CMAR	**Chiang Mai Arr**	**25.62**	**286**	P	**P**	**13 00 36.6**	**+0.3**
	0.3nm,0.4s,mb3.2,baz=102,slow=8.3,SNR=4.1						
CMAR				LR	LR	13 12 05.2	
	comp=Z,54nm,18.3s,MS3.1,baz=110,slow=39						
WRAB	**Tennant Creek**	**33.72**	**164**	P	**P**	**13 01 45.2**	**-3.4**
	1.0nm,0.4s,mb4.1						
WRA	**Warramunga Arr**	**33.73**	**164**	P	**P**	**13 01 45.1**	**-3.5**
	0.5nm,0.4s,mb3.8,baz=344,slow=9.1,SNR=9.3						
WB2	**Warramunga Arr**	**33.73**	**164**	*e*P	**P**	**13 01 46.1**	**-2.5**
ASAJ	**Asahikawa**	**34.82**	**23**	LR	LR	13 15 52.1	
	comp=Z,52nm,18.5s,MS3.3,baz=336,slow=36						
HIA	**Hailar**	**36.72**	**354**	P	**P**	**13 02 10.1**	**-3.7**
	3.7nm,0.3s,mb4.7						
ASAR	**Alice Springs**	**37.19**	**166**	P	**P**	**13 02 15.8**	**-2.1**
	1.1nm,0.4s,mb4.0,baz=347,slow=7.6,SNR=27						
ASPA	**Alice Springs**	**37.19**	**166**	*e*P	**P**	**13 02 16.7**	**-1.3**
SONM	**Songino Array**	**38.30**	**340**	P	**P**	**13 02 26.9**	**-0.1**
	0.8nm,0.5s,mb3.7,baz=153,slow=8.3,SNR=4.1						
STKA	**Stephens Creek**	**47.11**	**160**	P	**P**	**13 03 36.0**	**-3.0**
	0.9nm,0.4s,mb4.0,baz=323,slow=8.5,SNR=5.0						
STKA	**Stephens Creek**	**47.11**	**160**	*e*P	**P**	**13 03 36.4**	**-2.6**
KURK	**Kurchatov**	**53.32**	**325**	*e*P	**P**	**13 04 25.2**	**-0.9**
	8.4nm,0.9s,mb4.7						
BVAR	**Borovoye Array**	**58.92**	**325**	P	**P**	**13 05 05.7**	**-0.5**
	4.8nm,1.1s,mb4.4,baz=135,slow=8.4,SNR=7.3						
BRVK	**Borovoye**	**58.99**	**325**	P	**P**	**13 05 04.5**	**-2.2**
	3.5nm,0.8s,mb4.4						
ZRNK	**Zerenda**	**59.67**	**325**	*e*P	**P**	**13 05 09.9**	**-1.5**
	4.2nm,1.0s,mb4.4						
INK	**Inuvik**	**82.55**	**22**	P	**P**	**13 07 28.1**	**-0.4**
	2.1nm,1.2s,mb4.0,baz=307,slow=4.6,SNR=3.2						
FINES	**FINESS Array B**	**83.14**	**331**	P	**P**	**13 07 30.9**	**-0.8**
	1.4nm,0.7s,mb4.1,baz=72,slow=6.0,SNR=5.3						
AKASG	**Malin Array Be**	**83.85**	**320**	P	**P**	**13 07 33.2**	**-2.3**
	0.7nm,0.7s,mb3.9,baz=59,slow=5.8,SNR=4.4						
NOA	**NORSAR Array B**	**90.01**	**334**	LR	LR	13 54 58.2	
	comp=Z,15nm,19.2s,MS3.4,baz=355,slow=40						

*NEIC **31** 13:14:15.2, 62.13N×2.47E,h14km,ML2.5(BER),After BER.*

*NAO **31** 13:14:18.4±10.0, 63.04N×4.63E,h11km±54km,ML3.0*

*BER **31** 13:14:18.3±5.7, 62.23N×3.27E,h23km±21km,MD2.4, ML2.4,ML3.0(NAO)*

ISC 31 13:14:16.2±1.7,62.13N±0.04×3.4E±0.2,h15km±6km,n22, σ1°19/44,Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FOO	**Floro**	**0.93**	**124**	*e*P	**Pb**	**13 14 35.4**	**+1.8**
FOO				*e*Sg	**Sg**	**13 14 48.8**	**+1.1**
SUE	**Sulen**	**1.25**	**149**	*e*P	**Pb**	**13 14 39.9**	**+0.8**
SUE				*e*Sg	**Sg**	**13 14 59.7**	**+1.6**
SUE	**Sulen**	**1.25**	**149**	*e*P	**Pb**	**13 14 39.9**	**+0.8**
SUE				*e*S	**Sb**	**13 14 59.7**	**+5.0**
HYA	**Hoyanger**	**1.63**	**125**	*e*P	**Pn**	**13 14 47.9**	**+3.1**
HYA				*e*Sg	**Sg**	**13 15 11.0**	**+0.2**
HYA				AML	AML	13 15 12.4	
	comp=Z,158nm,0.3s						
HYA	**Hoyanger**	**1.63**	**125**	*e*P	**Pn**	**13 14 48.4**	**+3.6**
HYA				*e*S	**Sn**	**13 15 11.4**	**+5.8**
ASK	**Askoy**	**1.86**	**152**	*e*P	**Pn**	**13 14 48.4**	**+0.4**
ASK				*e*Pg	**Pg**	**13 14 52.7**	**-0.7**
ASK				*e*Sg	**Sg**	**13 15 18.5**	**+0.3**
ASK				AML	AML	13 15 20.2	
	comp=Z,140nm,0.3s						
ASK	**Askoy**	**1.86**	**152**	*e*P	**Pn**	**13 14 48.4**	**+0.4**
ASK				*e*Sg	**Sg**	**13 15 18.5**

WRA	**Warramunga Arr**	**39.53**	**124**	P		**P**	**13 33 39.6**	**+1.1**
	0.4nm,0.3s,mb3.3,baz=308,slow=9.4,SNR=15							
WRA				PcP		PcP	13 35 41.9	-0.2
	0.3nm,0.5s,baz=317,slow=2.6,SNR=11							
WRAB	**Tennant Creek**	**39.54**	**124**	*e*P		**P**	**13 33 37.7**	**-0.9**
	0.9nm,0.5s,mb3.5							
ASAR	**Alice Springs**	**41.04**	**129**	PcP		PcP	13 35 47.1	+0.2
	0.4nm,0.6s,baz=294,slow=2.7,SNR=4.2							
KURK	**Kurchatov**	**52.69**	**343**	*e*P		**P**	**13 35 20.7**	**-0.4**
	2.7nm,0.7s,mb3.8							
BVAR	**Borovoye Array**	**57.34**	**339**	P		**P**	**13 35 53.5**	**-0.9**
	0.9nm,0.4s,mb3.8,baz=128,slow=9.8,SNR=8.7							
BRVK	**Borovoye**	**57.40**	**339**	*e*P		**P**	**13 35 53.8**	**-1.0**
	0.9nm,0.3s,mb3.9							
BRTR	**Keskin Array B**	**71.34**	**312**	P		**P**	**13 37 24.2**	**-0.9**
	0.4nm,0.3s,mb3.5,baz=110,slow=7.1,SNR=4.3							
FINES	**FINESS Array B**	**81.44**	**332**	P		**P**	**13 38 20.6**	**-0.3**
	0.5nm,0.5s,mb3.5,baz=117,slow=3.1,SNR=6.2							
ARCES	**ARCESS Array B**	**83.62**	**340**	P		**P**	**13 38 32.3**	**+0.5**
	4.0nm,0.8s,mb4.2,baz=90,slow=4.5,SNR=8.0							
GERES	**GERESS Array B**	**86.81**	**319**	P		**P**	**13 38 48.7**	**+0.7**
	0.4nm,0.5s,mb3.4,baz=72,slow=6.2,SNR=4.1							

DJA 31 13:40:21.7±0.9, 8.11S×116.61E, h160km, MD4.5/3, ML3.9/2, 3C-3D, Error ellipse: s-maj=55.5km s-min=21.2km az=1.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KEDI	**Kedomdong**	**0.62**	**233**	⇓*e*Pn		P	13 40 45.5	+0.3
	180nm,0.1s							
KEDI				⇑*e*Sn		S	13 41 01.9	-1.3
RATI	**Rata**	**1.23**	**240**	⇓*e*Pn		P	13 40 49.2	-0.5
	190nm,0.2s							
RATI				⇑*e*Sn		S	13 41 09.5	-1.8
SRDI	**Scrawed**	**2.47**	**261**	⇑*e*Pn		P	13 41 02.8	-0.7
	45nm,0.2s							
SRDI				⇓*e*Sn		S	13 41 35.3	-0.3

NIED ***31*** *14:16:00,42.60N×144.50E,h50km,Mw4.2 Best double couple: M0 2.22×10^15 NP1:φs 36°,δ69°,λ96°. NP2:φs 201°, δ22°,λ76°.*
MOS ***31*** *14:16:25.2±1.2,42.30N×144.55E,h33km,mb4.7/19, Error ellipse: s-maj=18.8km s-min=7.9km az=107.1*
BJI ***31*** *14:16:30.9,42.71N×144.51E,h65km,mB4.8,mb4.6, Ms4.1,Msz3.9*
SKHL ***31*** *14:16:31.1±3.1,42.60N×144.70E,h50km±1km,mb4.8/4*
JMA ***31*** *14:16:31.1±0.1,42.63N×144.52E,h60km±1km,M4.2 JMA Felt II J1.*
NEIC ***31*** *14:16:32.1±0.8,42.64N×144.37E,h58km±8km,mb4.5/16, MW4.2(NIED), Error ellipse: s-maj=9.3km s-min=6.4km az=157.0*
NEIC Recorded [2 JMA] in eastern Hokkaido.
IDC ***31*** *14:16:36.3±3.1,42.81N×144.39E,h90km±20km,mb4.1/16, mb1 4.3/16,mb1mx4.2/22,MS3.3/3,Ms1 3.4/3, ms1mx2.8/29,Error ellipse: s-maj=30.2km s-min=14.8km az=169.0*

ISC 31 14:16:30.3±0.4, 42.60N±0.03×144.54E±0.04, h61km±3km, n114, σ1§11/137, mb4.5/47, 8C-11D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JAK	**Akkeshi**	**0.42**	**16**	⇓P		**P**	**14 16 42.0**	**+0.4**
JAK				S		**S**	**14 16 49.7**	**-0.2**
JOB	**Onbets**	**0.60**	**301**	⇓P		**P**	**14 16 44.1**	**+0.5**
JOB				*e*S		**S**	**14 16 53.5**	**+0.2**
JCH	**Churui**	**0.87**	**272**	⇓P		**P**	**14 16 47.5**	**+0.7**
JCH				*e*S		**S**	**14 16 58.9**	**-0.3**
JAR	**Ashorobuto**	**0.90**	**321**	⇓P		**P**	**14 16 47.7**	**+0.5**
JAR				*e*S		**S**	**14 16 59.6**	**-0.3**
JNK	**Nakash**	**1.00**	**8**	⇓P		**P**	**14 16 48.7**	**+0.1**
JNK				*e*S		**S**	**14 17 01.5**	**-0.7**
NEM2	**Nemuro 2**	**1.17**	**49**	P		**P**	**14 16 51.0**	**+0.1**
NEM2				*e*S		**S**	**14 17 05.2**	**-1.1**
JEM	**Erimo**	**1.18**	**241**	P		**P**	**14 16 52.0**	**+1.0**
JNBK	**Urakawa-nobuka**	**1.36**	**257**	⇓P		**P**	**14 16 53.5**	**-0.2**
JNBK				*e*S		**S**	**14 17 10.5**	**-0.4**
JRA	**Rausu**	**1.41**	**17**	P		**P**	**14 16 54.7**	**+0.4**
JRA				*e*S		**S**	**14 17 12.2**	**+0.1**
JTKR	**Abashiri--Toko**	**1.45**	**342**	⇓P		**P**	**14 16 56.0**	**+1.1**
JTKR				*e*S		**S**	**14 17 14.3**	**+1.3**
JFR	**Furan**	**1.54**	**292**	⇓P		**P**	**14 16 56.3**	**+0.2**
JFR				*e*S		**S**	**14 17 14.9**	**-0.2**
JBT2	**Biratori 2**	**1.61**	**277**	⇓P		**P**	**14 16 56.7**	**-0.4**
JBT2				*e*S		**S**	**14 17 16.8**	**-0.1**
JMP	**Maruseppu**	**1.65**	**329**	P		**P**	**14 16 58.3**	**+0.7**
JMP				*e*S		**S**	**14 17 18.7**	**+0.9**
YUK	**Yuzh-Kuril'sk**	**1.73**	**33**	*e*P		**P**	**14 16 57.9**	**-0.8**
YUK				AMB		AMB	14 16 58.9	
	2μm,0.2s							
YUK				*i* S		**S**	**14 17 18.0**	**-1.8**
YUK				A			14 17 19.6	
	6μm,0.5s							
YUK				A			14 17 19.6	
	4μm,0.5s							
YUK				A			14 17 19.6	
	8μm,0.8s							
YUK				A			14 17 19.6	
	8μm,0.8s							
YUK	**Yuzh-Kuril'sk**	**1.73**	**33**	*e*PN		**P**	**14 16 57.9**	**-0.8**
YUK				*i* S		**S**	**14 17 18.0**	**-1.8**
YUK				pmax		pmax		
	comp=Z,2μm,0.2s							
YUK				smax				
	comp=N,8μm,0.8s							
YUK				smax				
	comp=E,8μm,0.8s							
YUK				smax				
	comp=N,6μm,0.5s							
YUK				smax				
	comp=E,4μm,0.5s							
ASAJ	**Asahikawa**	**2.08**	**318**	P		**P**	**14 17 04.8**	**+1.2**
	comp=E,123nm,0.3s,baz=188,slow=10,SNR=303							
ASAJ				S		**S**	**14 17 29.9**	**+1.8**
	comp=E,164nm,0.3s,baz=12,slow=32,SNR=26							
ASAJ	**Asahikawa**	**2.08**	**318**	PN		**P**	**14 17 04.8**	**+1.3**
ASAJ				S		**S**	**14 17 30.0**	**+1.8**
ASAJ				pmax		pmax		
	comp=Z,123nm,0.3s							
ASAJ				smax				
	comp=Z,164nm,0.3s							
KUR	**Kuril'sk**	**3.57**	**41**	⇓*i*P		**P**	**14 17 23.0**	**-1.6**
KUR				AMB		AMB	14 17 26.0	
	comp=Z,91nm,0.5s							
KUR				pP			14 17 38.0	
KUR				*e*S		**S**	**14 18 00.5**	**-5.3**
KUR				A			14 18 16.0	
	comp=Z,323nm,0.8s							
KUR				A			14 18 16.0	
	comp=Z,430nm,0.8s							
YSS	**Yuzh-Sakhalins**	**4.54**	**344**	⇑*e*P		**P**	**14 17 38.3**	**+0.1**
YSS				AMB		AMB	14 17 39.2	
	comp=Z,30nm,0.7s							
YSS				*e*rx		rx	14 17 41.1	
YSS				*e*pP			14 17 52.7	
YSS				*e*sP			14 17 57.0	
YSS				*i* S		**S**	**14 18 27.4**	**-2.8**
YSS				A			14 18 32.1	
	comp=Z,80nm,0.8s							
YSS	**Yuzh-Sakhalins**	**4.54**	**344**	*e*Pn		**P**	**14 17 38.5**	**+0.4**
MAJO	**Matsushiro**	**7.77**	**221**	*e*P		**P**	**14 18 21.6**	**-1.6**
	comp=Z,7.1nm,0.5s							
MAT	**Matsushiro**	**7.77**	**221**	P		**P**	**14 18 21.0**	**-2.2**
MAT				S		**S**	**14 19 48.9**	**-1.6**
MAT	**Matsushiro**	**7.77**	**221**	P		**P**	**14 18 21.0**	**-2.2**
	comp=Z,7.0nm,0.5s							
MAT				*e*S		**S**	**14 19 49.0**	**-1.5**
TYV	**Tymovskoe**	**8.37**	**352**	*e*P		**P**	**14 18 28.0**	**-3.3**
JHJ	**Hachijo jima 2**	**10.18**	**203**	LR		LR	14 23 08.9	
	comp=Z,116nm,21.6s,baz=291,slow=38							
MDJ	**Mudanjiang**	**11.03**	**286**	P		**P**	**14 19 07.0**	**-0.5**
MDJ				S		**S**	**14 21 11.5**	**+1.4**
MDJ				PCP		PcP	14 25 00.8	-0.5
MDJ				AMB		AMB		
	comp=Z,7.0nm,1.1s							
MDJ				AMB		AMB		
	comp=Z,57nm,6.5s							
KS15	**Wonju Array Si**	**13.76**	**254**	P		**P**	**14 19 46.5**	**+2.7**
CN2	**Changchun**	**13.98**	**281**	*e*P		**P**	**14 19 46.3**	**-0.3**
CBIJ	**Chichi jima**	**15.58**	**188**	LR		LR	14 26 25.4	
	comp=Z,74nm,18.4s,baz=112,slow=37							
ZEA	**Zeya**	**15.99**	**320**	*e*P		**P**	**14 20 13.8**	**+1.3**
ZEA				AMB		AMB	14 20 15.6	
	comp=Z,13nm,0.8s							
HIA	**Hailar**	**18.44**	**300**	P		**P**	**14 20 39.6**	**-3.4**
	comp=Z,2.6nm,0.4s							
YAK	**Yakutsk**	**21.38**	**341**	*e*P		**P**	**14 21 12.7**	**-1.5**
YAK				pmax		pmax		
	comp=Z,7.0nm,0.7s,mb4.1							
FX1	**Attu Island--F**	**21.69**	**52**	*e*P		**P**	**14 21 19.1**	**+1.8**
NJ2	**Nanjing**	**22.89**	**251**	*e*P		**P**	**14 21 32.0**	**+2.6**
NJ2				S		**S**	**14 25 28.0**	**-2.5**
NJ2				SS		SS	14 26 21.0	+2.8
NJ2				AMB		AMB		
	comp=Z,20nm,0.6s,mb4.7							
NJ2				AMB		AMB		
	comp=Z,80nm,7.7s							
NJ2				LR		LR		
	comp=N,650nm,19.2s							
NJ2				LR		LR		
	comp=E,480nm,20.6s							
NJ2				LR		LR		
	comp=Z,610nm,16.4s							
SONM	**Songino Array**	**27.18**	**294**	P		**P**	**14 22 09.6**	**-0.2**
	comp=Z,5.8nm,0.8s,mb4.2,baz=75,slow=8.5,SNR=26							
ZAK	**Zakamensk**	**29.14**	**300**	*e*P		**P**	**14 22 25.3**	**-2.1**
TIXI	**Tiksi**	**30.14**	**350**	*e*P		**P**	**14 22 34.2**	**-1.9**
TIXI				*e*			14 25 32.9	
TIXI				pmax		pmax		
	comp=Z,1.0nm,1.0s,mb3.5							
ENH	**Enshi**	**30.55**	**258**	*e*P		**P**	**14 22 39.8**	**-0.3**
LZH	**Lanzhou**	**31.90**	**272**	*e*P		**P**	**14 22 53.0**	**+1.1**
LZH				AP		pP	14 23 08.0	+0.8
LZH				AMB		AMB		
	comp=Z,27nm,1.4s,mb4.9							
LZH				AMB		AMB		
	comp=Z,86nm,4.0s							
LZH				LR		LR		
	comp=E,650nm,15.1s							
LZH				LR		LR		
	comp=Z,992nm,17.0s							
GYA	**Guiyang**	**34.78**	**255**	⇑*i*P		**P**	**14 23 18.0**	**+1.1**
GYA				PP		PP	14 24 36.5	+0.8
GYA				S		**S**	**14 28 43.3**	**+1.3**
GYA				AMB		AMB		
	comp=Z,10.0nm,1.0s,mb4.7							
GYA				LR		LR		
	comp=N,450nm,15.4s							
GYA				LR		LR		
	comp=E,380nm,16.0s							
GYA				LR		LR		
	comp=Z,460nm,16.4s							
KMI	**Kunming**	**38.40**	**257**	*e*P		**P**	**14 23 47.8**	**+0.5**
KMI				S		**S**	**14 29 35.5**	**-1.9**
KMI				AMB		AMB		
	comp=Z,9.0nm,1.0s,mb4.5							
KMI				AMB		AMB		
	comp=Z,71nm,4.6s							
KMI				LR		LR		
	comp=N,127nm,16.4s							
KMI				LR		LR		
	comp=E,160nm,16.4s							
KMI				LR		LR		
	comp=Z,184nm,15.8s							
MCK	**McKinley**	**42.71**	**37**	*e*P		**P**	**14 24 22.8**	**+0.5**
	comp=Z,1.9nm,0.7s,mb3.9							
COLA	**College**	**43.12**	**35**	*d i*P		**P**	**14 24 27.0**	**+1.3**
COLA	**College**	**43.12**	**35**	*e*P		**P**	**14 24 27.0**	**+1.3**
	comp=Z,12nm,0.6s,mb4.8							
MKAR	**Makanchi Array**	**43.43**	**298**	*e*P		**P**	**14 24 28.4**	**-0.1**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.4s							
ILAR	**Eielson Array**	**43.54**	**35**	P		**P**	**14 24 29.5**	**+0.4**
	comp=Z,5.6nm,0.6s,mb4.5,baz=268,slow=5.9,SNR=110							
ILAR	**Eielson Array**	**43.54**	**35**	P		**P**	**14 24 29.5**	**+0.4**
ILAR				pmax		pmax		
	comp=Z,6.0nm,0.6s							
KURK	**Kurchatov**	**44.59**	**304**	P		**P**	**14 24 37.5**	**-0.3**
KURK				pmax		pmax		
	comp=Z,7.0nm,1.1s,mb4.4							
KURK	**Kurchatov**	**44.59**	**304**	*e*P		**P**	**14 24 37.2**	**-0.6**
	comp=Z,10nm,0.8s,mb4.7							
CMAR	**Chiang Mai Arr**	**45.36**	**252**	P		**P**	**14 24 45.5**	**+1.2**
	comp=Z,1.7nm,0.7s,mb4.0,baz=42,slow=7.3,SNR=15							
CMAR				LR		LR	14 43 28.0	
	comp=Z,69nm,20.7s,baz=145,slow=36							
CMAR	**Chiang Mai Arr**	**45.36**	**252**	P		**P**	**14 24 45.6**	**+1.3**
CMAR				pmax		pmax		
	comp=Z,2.0nm,0.7s							
CMAR				MLR		MLR		
	comp=Z,69nm,20.7s							
INK	**Inuvik**	**48.36**	**30**	P		**P**	**14 25 07.4**	**+0.2**
	comp=Z,7.5nm,0.5s,mb5.0,baz=302,slow=6.6,SNR=100							
INK	**Inuvik**	**48.36**	**30**	P		**P**	**14 25 07.4**	**+0.2**
INK				pmax		pmax		
	comp=Z,8.0nm,0.5s							
INK	**Inuvik**	**48.36**	**30**	*e*P		**P**	**14 25 07.2**	**-0.1**
	comp=Z,7.1nm,0.5s,mb5.0							
VOSK	**Vostochnaya**	**48.52**	**309**	P		**P**	**14 25 08.2**	**-0.4**
VOSK				pmax		pmax		
	comp=Z,3.0nm,0.7s,mb4.4							
BVA0	**Borovoye Array**	**48.76**	**309**	P		**P**	**14 25 09.9**	**-0.6**
BVAR	**Borovoye Array**	**48.76**	**309**	P		**P**	**14 25 10.5**	**0.0**
	comp=Z,4.8nm,0.4s,mb4.9,baz=79,slow=8.9,SNR=63							
BRVK	**Borovoye**	**48.81**	**309**	*e*P		**P**	**14 25 10.5**	**-0.4**
	comp=Z,2.4nm,0.5s,mb4.5							
GUN	**Gumba**	**49.16**	**273**	*e*P		**P**	**14 25 14.4**	**+0.4**
	comp=Z,10nm,0.4s,mb5.2							
ZRNK	**Zerenda**	**49.57**	**310**	P		**P**	**14 25 16.4**	**-0.4**
ZRNK				pmax		pmax		
	comp=Z,3.0nm,0.6s,mb4.5							
ZRNK	**Zerenda**	**49.57**	**310**	*e*P		**P**	**14 25 16.4**	**-0.4**
	comp=Z,8.7nm,0.8s,mb4.8							
KKN	**Kakani**	**49.67**	**273**	*e*P		**P**	**14 25 18.3**	**+0.4**
	comp=Z,6.6nm,0.5s,mb4.9							
PKI	**Pulchoki**	**49.70**	**272**	*e*P		**P**	**14 25 17.1**	**-1.0**
	comp=Z,4.2nm,0.4s,mb4.8							
DMN	**Daman**	**49.90**	**273**	*e*P		**P**	**14 25 19.3**	**-0.4**
	comp=Z,8.0nm,0.5s,mb5.0							
GKN	**Gorkha**	**50.03**	**273**	*e*P		**P**	**14 25 21.9**	**+1.3**
	comp=Z,6.9nm,0.4s,mb5.0							
KOLN	**Koldanda**	**50.92**	**274**	*e*P		**P**	**14 25 26.6**	**-0.8**
	comp=Z,12nm,1.0s,mb4.8							
ARU	**Arti**	**53.88**	**317**	⇑*i*P		**P**	**14 25 47.9**	**-1.2**
ARU				*e*			14 26 51.3	
ARU				*e*			14 27 49.3	
ARU				*e*S		**S**	**14 33 14.7**	**-3.2**
ARU				pmax		pmax		
	comp=Z,6.0nm,0.6s,mb4.7							
RES	**Resolute Bay**	**56.61**	**16**	*e*P		**P**	**14 26 07.5**	**-1.2**
	comp=Z,10nm,1.0s,mb4.8							
YKA	**Yellowknife Ar**	**57.81**	**33**	P		**P**	**14 26 16.8**	**-0.4**
	comp=Z,1.6nm,0.6s,mb4.2,baz=305,slow=7.4,SNR=4.3							
YKA	**Yellowknife Ar**	**57.81**	**33**	P		**P**	**14 26 16.8**	**-0.5**
YKA				pmax		pmax		
	comp=Z,2.0nm,0.6s							
YKA	**Yellowknife Ar**	**57.81**	**33**	P		**P**	**14 26 16.8**	**-0.4**
KEV	**Kevo**	**59.11**	**339**	*ep*		**P**	**14 26 24.6**	**-1.6**
ARCES	**ARCESS Array B**	**59.65**	**339**	P		**P**	**14 26 28.9**	**-1.0**
	comp=Z,6.1nm,1.0s,mb4.6,baz=18,slow=7.7,SNR=3.9							
ARCES	**ARCESS Array B**	**59.65**	**339**	P		**P**	**14 26 28.9**	**-1.0**
ARCES				pmax		pmax		
	comp=Z,6.0nm,1.0s							
JOF	**Joensuu**	**62.21**	**332**	*ep*		**P**	**14 26 44.8**	**-2.5**
	comp=Z,3.7nm,0.5s,mb4.8							
JOF	**Joensuu**	**62.21**	**332**	*e*P		**P**	**14 26 44.8**	**-2.5**
JOF				pmax		pmax		
	comp=Z,4.0nm,0.5s,mb4.8							
KAF	**Kangasniemi**	**64.47**	**333**	*ep*		**P**	**14 27 00.1**	**-2.0**
	comp=Z,4.7nm,0.6s,mb4.7,baz=45,slow=6.2							
KAF	**Kangasniemi**	**64.47**	**333**	*e*P		**P**	**14 27 00.1**	**-2.0**
KAF				pmax		pmax		
	comp=Z,5.0nm,0.6s,mb4.7							
FINES	**FINESS Array B**	**65.02**	**332**	P		**P**	**14 27 04.5**	**-1.1**
	comp=Z,7.7nm,0.5s,mb5.0,baz=50,slow=7.9,SNR=107							
FINES	**FINESS Array B**	**65.02**	**332**	P		**P**	**14 27 04.5**	**-1.1**
FINES				pmax		pmax		
	comp=Z,8.0nm,0.5s							
OBN	**Obninsk**	**65.10**	**323**	⇑*e*P		**P**	**14 27 05.0**	**-1.2**
OBN				*e*			14 27 38.7	
OBN				pmax		pmax		
	comp=Z,12nm,0.9s,mb4.9							
HLID	**Hailey**	**68.89**	**50**	*e*P		**P**	**14 27 31.2**	**+0.9**
	comp=Z,1.7nm,1.0s,mb3.9							
KIV	**Kislovodsk**	**69.09**	**311**	*c i*P		**P**	**14 27 31.9**	**+0.4**
KIV				*e*			14 27 38.3	
KIV				*e*			14 30 03.5	
KIV				pmax		pmax		
	comp=Z,11nm,0.7s,mb4.9							
BOZ	**Bozeman (W)**	**69.10**	**47**	*e*P		**P**	**14 27 32.6**	**+1.1**
	comp=Z,5.1nm,0.6s,mb4.6							
ZEI	**Tsey**	**69.15**	**309**	*e*P		**P**	**14 27 31.0**	**-0.9**
ZEI				pmax		pmax		
	comp=Z,4.0nm,0.9s,mb4.3							
NVAR	**Mina Array Bea**	**69.81**	**56**	P		**P**	**14 27 37.7**	**+1.7**
	comp=Z,3.0nm,0.8s,mb4.3,baz=300,slow=4.9,SNR=16							
MNV	**Mina**	**69.90**	**56**	*e*P		**P**	**14 27 37.7**	**+1.1**
	comp=Z,1.2nm,0.7s,mb3.9							
NB2	**NORSAR Subarra**	**69.97**	**338**	P		**P**	**14 27 36.0**	**-0.6**
	comp=Z,3.7nm,0.5s,mb4.6,baz=34,slow=6.2							
NOA	**NORSAR Array B**	**69.97**	**338**	P		**P**	**14 27 36.1**	**-0.5**
	comp=Z,3.9nm,0.5s,mb4.6,baz=35,slow=6.2,SNR=19							
NOA	**NORSAR Array B**	**69.97**	**338**	P		**P**	**14 27 36.1**	**-0.5**
NOA				pmax		pmax		
	comp=Z,4.0nm,0.5s							
TPH	**Tonopah**	**70.69**	**56**	*e*P		**P**	**14 27 42.7**	**+1.4**
	comp=Z,2.8nm,0.7s,mb4.3							
AKASG	**Malin Array Be**	**71.36**	**323**	P		**P**	**14 27 44.4**	**-0.7**
	comp=Z,2.2nm,0.5s,mb4.4,baz=41,slow=5.9,SNR=11							
AKASG	**Malin Array Be**	**71.36**	**323**	P		**P**	**14 27 44.4**	**-0.7**
AKASG				pmax		pmax		
	comp=Z,2.0nm,0.5s							
TPNV	**Topopah Spring**	**72.01**	**56**	*e*P		**P**	**14 27 50.6**	**+1.4**
	comp=Z,5.5nm,1.0s,mb4.4							
PDAR	**Pinedale Array**	**72.11**	**48**	P		**P**	**14 27 50.7**	**+1.0**
	comp=Z,1.3nm,0.5s,mb4.2,baz=276,slow=2.1,SNR=14							
DAU	**Daniels Canyon**	**72.72**	**51**	*e*P		**P**	**14 27 44.7**	**-8.6**
MSU	**Marysvale**	**73.44**	**53**	*e*P		**P**	**14 27 55.3**	**-2.3**
PV10	**Paradox Valley**	**75.36**	**51**	*e*P		**P**	**14 28 10.2**	**+1.5**
OJC	**Ojcow**	**75.73**	**327**	*e*P		**P**	**14 28 11.3**	**+0.8**
OJC	**Ojcow**	**75.73**	**327**	*e*P		**P**	**14 28 11.3**	**+0.8**
BRTR	**Keskin Array B**	**76.93**	**312**	P		**P**	**14 28 17.2**	**-0.3**
	comp=Z,0.9nm,0.7s,mb3.8,baz=70,slow=3.6,SNR=6.3							
BRTR	**Keskin Array B**	**76.93**	**312**	P		**P**	**14 28 17.3**	**-0.3**
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
UPC	**Upice**	**76.98**	**329**	*e*P		**P**	**14 28 18.3**	**+0.7**
DPC	**Dobruska-Polom**	**76.99**	**329**	*e*P		**P**	**14 28 19.3**	**+1.6**
CLL	**Collm**	**77.43**	**331**	⇑P		**P**	**14 28 20.0**	**-0.1**
	comp=Z,logA/T=0.8,mb4.5							
CLL	**Collm**	**77.43**	**331**	⇑*i*P		**P**	**14 28 20.0**	**-0.1**
CLL				pmax		pmax		
	comp=Z,6.0nm,1.0s,mb4.5							
CLL	**Collm**	**77.43**	**331**	⇑*i*P		**P**	**14 28 20.0**	**-0.1**
	comp=Z,6.0nm,1.0s,mb4.5							
PRU	**Pruhonice**	**77.95**	**330**	*e*P		**P**	**14 28 24.0**	**+1.0**
KHC	**Kasperske Hory**	**79.02**	**330**	*e*P		**P**	**14 28 29.5**	**+0.7**
KHC				*e*		pP	14 28 46.4	+0.5
GERES	**GERESS Array B**	**79.21**	**329**	P		**P**	**14 28 30.2**	**+0.3**
	comp=Z,0.8nm,0.4s,mb4.0,baz=39,slow=5.5,SNR=12							
GERES	**GERESS Array B**	**79.21**	**329**	P		**P**	**14 28 30.2**	**+0.3**
GERES				pmax		pmax		
	comp=Z,1.0nm,0.4s							
SCHQ	**Schefferville**	**79.32**	**18**	P		**P**	**14 28 30.7**	**+0.3**
	comp=Z,4.6nm,0.8s,mb4.5,baz=319,slow=9.3,SNR=3.5							
SCHQ	**Schefferville**	**79.32**	**18**	P		**P**	**14 28 30.7**	**+0.3**
TXAR	**Lajitas Array**	**84.88**	**54**	P		**P**	**14 29 01.4**	**+1.7**
	comp=Z,0.3nm,0.3s,mb3.9,baz=335,slow=18,SNR=4.3							

IDC ***31*** *14:17:44.3±0.8,4.67S×133.55E,mb4.0/6,mb1 4.4/11, mb1mx4.4/13,ML4.1/5,MS4.4/13,Ms1 4.4/13, ms1mx4.0/21,Error ellipse: s-maj=42.4km s-min=18.0km az=68.0*
BJI ***31*** *14:17:48.9,4.60S×133.70E,h33km,mB4.8,mb4.6,Ms4.4, Msz4.2*
NEIC ***31*** *14:17:48.9±4.5,4.58S×133.73E,h33km±33km,mb4.3/10, Error ellipse: s-maj=14.8km s-min=12.3km az=69.0*

ISC 31 14:17:46.1±0.5, 4.93S±0.04×133.6E±0.1, h33km, n39, σ1§35/38, mb4.3/13, MS4.3/13, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KAKA	**Kakadu**	**7.81**	**188**	*e*P		**P**	**14 19 47.5**	**+7.3**
	46nm,0.5s							
KAKA				*e*S		**S**	**14 21 15.0**	**+6.6**
PMG	**Port Moresby**	**14.20**	**109**	Pn		**P**	**14 21 04.0**	**-3.2**
	0.6nm,0.3s,baz=286,slow=15,SNR=3.0							
PMG				Sn		**S**	**14 23 30.4**	**-14**
	0.6nm,0.3s,baz=237,slow=17,SNR=2.9							
PMG				LR		LR	14 27 44.6	
	comp=Z,2μm,18.8s,baz=187,slow=42							
PMG	**Port Moresby**	**14.20**	**109**	*e*P		**P**	**14 21 07.0**	**-0.1**
	21nm,1.0s							
PMG				Sn		**S**	**14 23 30.4**	**-14**
PMG				LR		LR	14 27 44.5	
WRAB	**Tennant Creek**	**14.94**	**177**	*e*P		**P**	**14 21 17.0**	**+0.3**
	11nm,0.6s							
WRA	**Warramunga Arr**	**14.95**	**177**	Pn		**P**	**14 21 16.8**	**-0.1**
	1.2nm,0.3s,baz=352,slow=14,SNR=56							
WRA				Sn		**S**	**14 24 00.1**	**-1.8**
	1.5nm,0.3s,baz=354,slow=22,SNR=6.8							
WB2	**Warramunga Arr**	**14.95**	**177**	*e*P		**P**	**14 21 17.6**	**+0.8**
WB2				*e*S		**S**	**14 23 58.8**	**-3.2**
FITZ	**Fitzroy Crossi**	**15.22**	**210**	*e*P		**P**	**14 21 22.3**	**+1.

WMQ				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
WMQ				LR	LR		
	comp=N,122nm,20.0s,MS4.2						
WMQ				LR	LR		
	comp=E,89nm,20.0s,MS4.2						
WMQ				LR	LR		
	comp=Z,67nm,20.0s,MS3.8						
AAK	**Ala-Archa**	**71.31**	**318**	*e*P	**P**	14 29 03.6	**-0.9**
	comp=Z,2.7nm,0.9s,mb4.2						
KURK	**Kurchatov**	**72.66**	**327**	*e*P	**P**	14 29 11.2	**-1.2**
	comp=Z,5.0nm,0.9s,mb4.4						
VNDA	**Vanda**	**74.09**	**174**	P	**P**	14 29 23.9	**+3.7**
	comp=Z,0.8nm,0.9s,mb3.6,baz=304,slow=7.3,SNR=4.3						
VNDA				LR	LR	15 01 13.0	
	comp=Z,325nm,19.0s,MS4.6,baz=357,slow=35						
MAW	**Mawson**	**78.17**	**202**	LR	LR	15 03 55.5	
	comp=Z,363nm,19.2s,MS4.7,baz=237,slow=35						
BVAR	**Borovoye Array**	**78.25**	**327**	P	**P**	14 29 44.4	**+0.2**
	comp=Z,3.7nm,0.7s,mb4.4,baz=127,slow=7.4,SNR=19						
BRVK	**Borovoye**	**78.32**	**327**	*e*P	**P**	14 29 44.3	**-0.3**
ZRNK	**Zerenda**	**78.98**	**326**	*e*P	**P**	14 29 48.2	**-0.1**
	comp=Z,5.3nm,0.9s,mb4.5						
ILAR	**Eielson Array**	**89.98**	**25**	P	**P**	14 30 43.5	**+0.3**
	comp=Z,0.9nm,0.9s,mb4.1,baz=255,slow=5.1,SNR=7.9						
ILAR				LR	LR	15 13 11.2	
	comp=Z,160nm,19.2s,MS4.5,baz=321,slow=37						
GNI	**Garni**	**92.24**	**310**	LR	LR	15 16 53.2	
	comp=Z,420nm,19.8s,MS3.9,baz=208,slow=38						
CPUP	**Villa Florida**	**147.19**	**162**	PKPbc	PKPdf	14 37 30.8	+6.2
	comp=Z,4.9nm,1.1s,baz=239,slow=5.9,SNR=2.8						
LPAZ	**La Paz**	**149.92**	**135**	PKPbc	PKPdf	14 37 39.6	+10
	comp=Z,1.5nm,0.8s,baz=202,slow=3.6,SNR=4.6						

*STR **31** 14:25:52.3±0.1, 44.43N×6.86E, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **31** 14:25:52.0±0.1, 44.41N×6.77E, h2km, Md2.4/1, Ml2.4/5, Error ellipse: s-maj=1.6km s-min=0.9km az=81.0*
ISC 31 14:25:51.0±0.4, 44.39N±0.02×6.74E±0.04, h8km±5km, n16, σ0§63/32, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SURF	**Saint Ours**	**0.11**	**32**	Pg	**Pg**	**14 25 54.2**	**+0.6**
SURF				Sg	**Sg**	**14 25 55.8**	**+0.5**
SURF	**Saint Ours**	**0.11**	**32**	Pg	**Pg**	**14 25 54.2**	**+0.6**
SURF				Sg	**Sg**	**14 25 55.8**	**+0.5**
MBDF	**Montbardon**	**0.34**	**4**	*e*Pg	**Pg**	**14 25 58.3**	**+0.4**
MBDF				*e*Sg	**Sg**	**14 26 02.7**	**+0.2**
	35nm,0.2s						
TOUF	**Mont Tournerai**	**0.53**	**135**	Pg	**Pg**	**14 26 01.8**	**+0.1**
MVIF	**Mont Vial**	**0.58**	**149**	Pg	**Pg**	**14 26 03.3**	**+0.6**
MVIF				Sg	**Sg**	**14 26 11.1**	**+0.7**
AUTN	**L'Aution**	**0.64**	**128**	Pg	**Pg**	**14 26 03.9**	**+0.1**
AUTN				Sg	**Sg**	**14 26 11.8**	**-0.5**
AURF	**Auriere**	**0.66**	**140**	Pg	**Pg**	**14 26 04.5**	**+0.2**
AURF				Sg	**Sg**	**14 26 12.8**	**-0.3**
SAOF	**Saorge**	**0.71**	**124**	Pg	**Pg**	**14 26 05.2**	**-0.2**
SAOF				Sg	**Sg**	**14 26 14.0**	**-1.0**
SBF	**Sospel**	**0.73**	**136**	*e*Pg	**Pg**	**14 26 05.5**	**-0.2**
SBF				*e*Sg	**Sg**	**14 26 15.9**	**+0.5**
	34nm,0.3s						
ORIF	**Oris-en-Rattie**	**0.81**	**311**	*e*Pg	**Pg**	**14 26 07.5**	**+0.3**
ORIF				*e*Sg	**Sg**	**14 26 18.4**	**+0.4**
	9.1nm,0.2s						
FRF	**La Foret Royal**	**0.83**	**184**	*e*Pg	**Pg**	**14 26 08.1**	**+0.4**
FRF				*e*Sg	**Sg**	**14 26 18.8**	**0.0**
	12nm,0.2s						
SMRF	**Simiane la Rot**	**0.93**	**244**	*e*Pn	**Pn**	**14 26 11.7**	**+1.4**
SMRF				*e*Sn	**Sn**	**14 26 24.3**	**+0.4**
	23nm,0.3s						
LMR	**La Mourre**	**1.07**	**189**	*e*Pn	**Pn**	**14 26 12.1**	**-0.1**
LMR				*e*Pg	**Pg**	**14 26 13.0**	**+0.6**
LMR				*e*Sg	**Sg**	**14 26 25.0**	**-1.7**
	21nm,0.3s						
LPG	**La Plagne**	**1.11**	**1**	*e*Pg	**Pg**	**14 26 12.6**	**-0.6**
LPG				*e*Sn	**Sn**	**14 26 27.8**	**-0.5**
	3.4nm,0.2s						
LPL	**La Plagne**	**1.13**	**360**	*e*Pg	**Pg**	**14 26 13.0**	**-0.6**
LPL				*e*Sg	**Sg**	**14 26 28.0**	**-0.6**
	8.4nm,0.4s						
VIVF	**Saint-Julien-l**	**1.54**	**288**	*e*Pn	**Pn**	**14 26 19.2**	**+0.2**
VIVF				*e*Sg	**Sg**	**14 26 41.1**	**-1.4**
	3.8nm,0.3s						

*IDC **31** 14:32:46.6±1.7, 8.36S×117.51E, mb3.7/3, mb1 4.0/5, mb1mx3.8/14, ML4.0/2, Error ellipse: s-maj=82.0km s-min=19.0km az=52.0*
*DJA **31** 14:32:47.8±0.5, 6.92S×117.25E, h2km, MD4.8/6, ML5.0/6, Error ellipse: s-maj=42.9km s-min=5.7km az=142.0*
ISC 31 14:32:43.1±3.2, 7.9S±0.1×117.67E±0.07, h7km±24km, n17, σ0§80/22, mb4.0/5, 4C-5D, Bali Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RATI	**Rata**	**2.28**	**248**	⇓*e*Pn	**Pn**	**14 33 21.9**	**+0.1**
	659nm,0.2s						
RATI				⇑*e*Sn	**Sn**	**14 33 55.2**	**+4.7**
KELI	**Kelakatan**	**3.17**	**264**	⇓*e*Pn	**Pn**	**14 33 35.6**	**+1.1**
	143nm,0.2s						
KELI				⇓*e*Sn	**Sn**	**14 34 09.1**	**-3.9**
SRDI	**Scrawed**	**3.55**	**260**	⇓*e*Pn	**Pn**	**14 33 39.8**	**-0.1**
	188nm,0.1s						
SRDI				⇑*e*Sn	**Sn**	**14 34 18.0**	**-4.6**
NINI	**Niniconang**	**4.01**	**31**	⇓*i*Pn	**Pn**	**14 33 46.3**	**-0.2**
	2μm,0.2s						
TANI	**Tanete Lipujan**	**4.73**	**21**	⇑*e*Pn	**Pn**	**14 34 01.6**	**+4.9**
	232nm,0.2s						
TANI				⇑*i*Sn	Sx	14 34 17.3	
BUNI	**Buntu Taipa**	**4.95**	**32**	*e*Pn	**Pn**	**14 33 55.0**	**-4.8**
	795nm,0.3s						
BUNI				*e*Sn	Sx	14 34 11.6	
FITZ	**Fitzroy Crossi**	**12.78**	**143**	*e*P	**P**	**14 35 47.2**	**-1.0**
	2.1nm,0.6s						
FITZ				*e*S	Sx	14 38 00.2	
FITZ	**Fitzroy Crossi**	**12.78**	**143**	Pn	**P**	**14 35 46.9**	**-1.4**
	0.3nm,0.3s,baz=338,slow=8.7,SNR=7.1						
FITZ				Sn	Sx	14 37 58.6	
	0.2nm,0.3s,baz=180,slow=18,SNR=4.2						
WRA	**Warramunga Arr**	**20.11**	**128**	P	**P**	**14 37 20.1**	**-0.5**
	0.6nm,0.3s,baz=300,slow=12,SNR=35						
WRA				S	**S**	**14 41 01.6**	**+0.3**
	0.1nm,0.3s,baz=310,slow=25,SNR=3.3						
WB2	**Warramunga Arr**	**20.12**	**128**	*e*P	**P**	**14 37 20.5**	**-0.2**
WB2				*e*S	**S**	**14 41 02.0**	**+0.6**
ASPA	**Alice Springs**	**22.10**	**137**	*e*P	**P**	**14 37 41.8**	**+0.9**
ASAR	**Alice Springs**	**22.10**	**137**	P	**P**	**14 37 41.5**	**+0.6**
	3.1nm,0.6s,mb3.9,baz=316,slow=8.6,SNR=52						
ASAR				S	**S**	**14 41 45.4**	**+5.5**
	1.2nm,1.0s,baz=302,slow=23,SNR=5.9						
MUN	**Mundaring**	**24.02**	**183**	*e*P	**P**	**14 38 13.7**	**+14**
	1.8nm,0.4s,mb3.9						
FORT	**Forrest**	**24.77**	**158**	*e*P	**P**	**14 38 07.3**	**+0.3**
	26nm,0.7s,mb4.9						
STKA	**Stephens Creek**	**32.65**	**140**	P	**P**	**14 39 17.5**	**-0.6**
	1.3nm,0.7s,mb4.0,baz=315,slow=8.6,SNR=4.8						
SONM	**Songino Array**	**56.36**	**351**	P	**P**	**14 42 32.9**	**+5.5**
	0.3nm,0.7s,mb3.5,baz=153,slow=6.4,SNR=2.8						
CPUP	**Villa Florida**	**145.65**	**188**	PKPbc	PKPbc	14 52 25.8	+1.9
	2.5nm,0.9s,baz=170,slow=6.1,SNR=3.3						

FUNV 31 14:36:05.1, 6.66N×73.19W, h164km, MD3.6, 1C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.48**	**36**	⇑*i*P	P	14 36 35.6	-0.2
CAPV				*e*S	S	14 36 56.8	-2.9
VIRV	**Villa del Rosa**	**3.90**	**11**	*e*P	P	14 37 02.6	-2.5
VIRV				*e*S	S	14 37 46.3	-5.1
CURV	**Curarigua**	**4.61**	**44**	*e*P	P	14 37 12.5	-2.0
CURV				*e*S	S	14 38 01.6	-6.4
BAUV	**El Baul**	**5.58**	**66**	⇓*i*P	P	14 37 23.9	-3.3
BAUV				*e*S	S	14 38 23.7	-7.2
CAOV	**Caicara del Or**	**6.85**	**84**	*e*P	P	14 37 41.2	-2.9

IDC 31 14:53:47.2±5.5, 55.30S×28.86W, mb4.1/1, mb1 4.3/1, mb1mx3.8/10, 1D, Error ellipse: s-maj=730.0km s-min=47.2km az=27.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA3	**Neumayer Olymp**	**18.02**	**160**	⇓*i*	P	14 58 02.7	+2.4
SNAA	**Sanae**	**19.82**	**156**		P	14 58 19.2	-2.6
LPAZ	**La Paz**	**49.16**	**307**	P	P	15 02 37.3	-1.4
	1.4nm,0.6s,baz=146,slow=5.1,SNR=9.2						
ILAR	**Eielson Array**	**148.90**	**313**	PKPbc	PKPdf	15 13 34.9	+1.8
	2.9nm,0.7s,baz=131,slow=1.9,SNR=26						
SONM	**Songino Array**	**151.63**	**86**	PKPbc	PKPdf	15 13 42.3	+4.5
	0.9nm,0.5s,baz=212,slow=3.6,SNR=8.6						

*NIED **31** 16:09:00, 37.80N×141.70E, h83km, Mw3.8 Best double couple: Mo5.11×10^14 NP1:φs149°, δ47°, λ-95°. NP2: φs337°, δ43°, λ-85°.*
*IDC **31** 16:09:42.1±3.9, 37.80N×141.62E, h61km±36km, mb3.4/7, mb1 3.7/8, mb1mx3.5/21, ML4.2/1, Error ellipse: s-maj=38.8km s-min=19.0km az=87.0*
*NEIC **31** 16:09:44.9±1.4, 37.84N×141.72E, h87km±12km, Error ellipse: s-maj=19.6km s-min=10.9km az=116.0*
NEIC Recorded [1 JMA] in Fukushima, Iwate and Miyagi Prefectures.
*JMA **31** 16:09:45.3±0.1, 37.80N×141.65E, h81km±1km, M4.2 Broadband fault plane solution: P waves. NP1:φs10°, δ40°, λ-72°. NP2:φs167°, δ52°, λ-104°. Principal axes: T Plg6°, Azm267°; N Plg11°, Azm176°; P Plg77°, Azm26°;*
JMA Felt II J1.
ISC 31 16:09:43.5±0.8, 37.80N±0.05×141.77E±0.10, h88km±6km, n30, σ0§92/42, mb3.5/7, 6C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.73**	**334**	⇓P	**P**	**16 10 01.2**	**+0.8**
JIO				S	**S**	**16 10 12.4**	**-0.5**
JMM	**Marumori**	**0.77**	**275**	⇓P	**P**	**16 10 01.1**	**+0.3**
JMM				S	**S**	**16 10 12.5**	**-1.1**
JFK	**Kawauchi**	**0.83**	**239**	⇓P	**P**	**16 10 01.6**	**+0.2**
JFK				S	**S**	**16 10 13.7**	**-0.9**
JOU	**Okura**	**1.04**	**304**	⇑P	**P**	**16 10 04.0**	**+0.3**
JOU				*e*S	**S**	**16 10 18.1**	**-0.9**
JFT	**Otama**	**1.17**	**257**	⇑P	**P**	**16 10 05.8**	**+0.4**
JFT				S	**S**	**16 10 21.1**	**-0.6**
JMK	**Ichinoseki**	**1.23**	**340**	⇓P	**P**	**16 10 06.8**	**+0.6**
JMK				S	**S**	**16 10 23.4**	**+0.3**
JYS	**Shirataka**	**1.41**	**288**	⇑P	**P**	**16 10 08.8**	**+0.4**
JYS				S	**S**	**16 10 26.9**	**0.0**
JYK	**Kaneyama**	**1.57**	**316**	P	**P**	**16 10 11.1**	**+0.6**
JYK				S	**S**	**16 10 30.6**	**+0.1**
JFY	**Yanaizu**	**1.68**	**257**	⇑P	**P**	**16 10 12.3**	**+0.4**
JFY				S	**S**	**16 10 33.3**	**+0.4**
JOM	**Ohasama**	**1.71**	**348**	⇑P	**P**	**16 10 13.1**	**+0.7**
JOM				*e*S	**S**	**16 10 34.1**	**+0.4**
JYA	**Atsumi**	**1.80**	**297**	⇑P	**P**	**16 10 13.7**	**+0.2**
MAJO	**Matsushiro**	**3.10**	**247**	*e*Pn	**P**	**16 10 31.9**	**+0.4**
MAT	**Matsushiro**	**3.10**	**247**	P	**P**	**16 10 32.1**	**+0.6**
MAT				S	**S**	**16 11 10.9**	**+3.3**
MAT	**Matsushiro**	**3.10**	**247**	*e*P	**P**	**16 10 32.0**	**+0.5**
MAT				*e*S	**S**	**16 11 11.0**	**+3.4**
JHJ	**Hachijo jima 2**	**4.94**	**200**	S	**S**	**16 11 48.8**	**-4.3**
	28nm,0.3s,baz=73,slow=19,SNR=5.1						
ASAJ	**Asahikawa**	**6.35**	**5**	P	**P**	**16 11 14.4**	**-1.6**
	5.6nm,0.3s,baz=237,slow=8.7,SNR=28						
ASAJ				S	**S**	**16 12 23.0**	**-4.8**
	1.4nm,0.3s,baz=294,slow=31,SNR=5.9						
YSS	**Yuzh-Sakhalins**	**9.18**	**4**	P	**P**	**16 11 52.8**	**-2.1**
	2.3nm,0.4s						
SONM	**Songino Array**	**27.60**	**303**	P	**P**	**16 15 23.1**	**-1.2**
	0.4nm,0.7s,mb3.0,baz=117,slow=9.7,SNR=2.6						
KURK	**Kurchatov**	**45.69**	**308**	*e*P	**P**	**16 17 56.3**	**-0.6**
ILAR	**Eielson Array**	**48.70**	**33**	P	**P**	**16 18 21.1**	**+0.8**
	0.6nm,0.9s,mb3.5,baz=266,slow=5.7,SNR=5.7						
WRA	**Warramunga Arr**	**57.85**	**188**	P	**P**	**16 19 26.9**	**-1.5**
	1.1nm,0.7s,mb4.0,baz=6.3,slow=7.4,SNR=12						
ASAR	**Alice Springs**	**61.58**	**188**	P	**P**	**16 19 53.4**	**-0.5**
	0.2nm,0.8s,mb3.2,baz=358,slow=5.7,SNR=5.0						
FINES	**FINESS Array B**	**68.27**	**332**	P	**P**	**16 20 36.0**	**-0.4**
	1.0nm,0.7s,mb3.8,slow=9.5,SNR=3.9						
NB2	**NORSAR Subarra**	**73.59**	**337**	P	**P**	**16 21 08.6**	**+0.4**
	0.3nm,0.5s,mb3.3,baz=42,slow=6.2						
NOA	**NORSAR Array B**	**73.59**	**337**	P	**P**	**16 21 08.0**	**-0.2**
	2.1nm,0.8s,mb3.9,baz=40,slow=5.7,SNR=3.9						
AKASG	**Malin Array Be**	**73.87**	**322**	P	**P**	**16 21 09.8**	**-0.3**
	0.8nm,0.4s,mb3.8,baz=45,slow=5.9,SNR=10						
TRCR	**Troy Canyon**	**76.07**	**52**	*e*P	**P**	**16 21 22.5**	**-0.4**
PV10	**Paradox Valley**	**80.06**	**49**	*e*P	**P**	**16 21 47.3**	**+2.5**
CLL	**Collm**	**80.58**	**330**	P	**P**	**16 21 50.0**	**+2.7**
VNDA	**Vanda**	**115.71**	**175**	PKP	PKPdf	16 28 14.9	+0.3
	0.7nm,0.3s,baz=59,slow=5.4,SNR=4.3						

*KNET **31** 16:26:05.0±0.5, 42.85N×77.85E, ml2.9, Error ellipse: s-maj=3.5km s-min=2.7km az=154.0*
*NNC **31** 16:26:09.2±2.5, 42.85N×79.17E, h27km±12km, Error ellipse: s-maj=282.3km s-min=15.4km az=118.0*
ISC 31 16:26:03.5±1.2, 42.9N±0.1×78.31E±0.09, h10km, n9, σ0§92/17, 8C-10D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ULHL	**Ulahol**	**1.67**	**247**	⇓P	**Pn**	**16 26 30.7**	**-2.3**
	41nm,0.1s,SNR=22						
ULHL				⇓S	**Sn**	**16 26 50.2**	**-4.3**
	191nm,0.2s						
TKM2	**Tokmak 2**	**1.99**	**271**	⇓P	**Pn**	**16 26 35.9**	**-1.7**
	4.9nm,0.1s,SNR=25						
TKM2				⇓S	**Sn**	**16 27 01.3**	**-1.5**
	87nm,0.3s						
KZA	**Kyzart**	**2.41**	**251**	⇑P	**Pn**	**16 26 44.0**	**+0.4**
	10nm,0.2s,SNR=14						
KZA				⇓S	**Sn**	**16 27 14.1**	**+0.6**
	20nm,0.2s						
KBK	**Karagaybulak**	**2.49**	**265**	⇑P	**Pn**	**16 26 45.0**	**+0.3**
	26nm,0.2s,SNR=28						
KBK				⇓S	**Sn**	**16 27 16.0**	**+0.6**
	156nm,0.5s						
CHMS	**Chumysh**	**2.61**	**273**	⇑P	**Pn**	**16 26 46.6**	**+0.1**
	13nm,0.2s,SNR=9.1						
CHMS				⇓S	**Sn**	**16 27 19.0**	**+0.4**
	33nm,0.3s						
USP	**Ospenovka**	**2.81**	**278**	⇓P	**Pn**	**16 26 49.3**	**-0.1**
	9.1nm,0.2s,SNR=16						
USP				⇑S	**Sn**	**16 27 24.2**	**+0.5**
	33nm,0.3s						
AAK	**Ala-Archa**	**2.82**	**266**	⇑P	**Pn**	**16 26 50.2**	**+0.7**
	8.1nm,0.2s,SNR=21						
AAK				⇓S	**Sn**	**16 27 23.8**	**-0.1**
	30nm,0.3s						
UCH	**Uchtor**	**2.88**	**258**	⇑P	**Pn**	**16 26 51.4**	**+1.0**
	16nm,0.4s,SNR=23						
MK31	**Makanchi Array**	**4.80**	**35**	⇓Pn	**Pn**	**16 27 18.7**	**+1.0**
	baz=200,slow=15,SNR=9.7						
MK31				⇑Sn	**Sn**	**16 28 13.5**	**-0.5**
	1.4nm,0.8s,baz=208,slow=21,SNR=3.8						
MK31				⇑Lg		16 28 33.4	
	0.6nm,0.6s,baz=217,slow=28,SNR=5.7						

DJA 31 16:46:34.7±1.0, 9.57S×114.02E, h30km, MD5.7/3, ML3.5/3, 3C-3D, Error ellipse: s-maj=23.9km s-min=13.9km az=38.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRDI	**Scrawed**	**1.09**	**6**	⇓*i*Pn	Pn	16 46 52.5	-1.7
	64nm,0.1s						
SRDI				⇑*i*Sn	Sn	16 47 06.0	-2.4
KELI	**Kelakatan**	**1.43**	**19**	⇓*i*Pn	Pn	16 46 58.1	-0.8
	28nm,0.2s						
KELI				⇓*i*Sn	Sn	16 47 14.8	-2.0
RATI	**Rata**	**1.71**	**61**	⇑*i*Pn	Pn	16 47 01.7	-1.4
	52nm,0.2s						
RATI				⇑*i*Sn	Sn	16 47 21.0	-3.1

*BER **31** 16:56:10.4±2.5, 77.15N×9.15E, ML2.1(NAO)*
NAO 31 16:56:10.5±4.6, 77.12N×9.64E, ML2.1, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HSP	**Hornsund**	**1.34**	**92**	*e*P	Pb	16 56 37.1	+1.0
HSP				*e*(S)	Sb	16 56 52.2	-1.5
SPA0	**Spitsbergen Ar**	**1.80**	**50**	Pn	Pn	16 56 42.3	-0.7
	baz=242,slow=14						
SPA0				Lg		16 57 07.4	
	baz=239,slow=28						
ARA0	**ARCESS Array S**	**8.83**	**141**	Pn	P	16 58 18.4	-3.9
	baz=326,slow=12						
ARA0				Sn	Sn	16 59 54.1	-10
	baz=328,slow=22						

OTT 31 16:59:24.1±0.2, 52.77N×67.13W, MN2.8/6, Blast, Mount Wright, Qc Mining explosion., Northern Quebec

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCHQ	**Schefferville**	**2.08**	**5**	PN	Pn	17 00 00.4	-0.2
SCHQ				SG	Sg	17 00 28.4	-4.8
SCHQ				Trac		17 00 30.4	
	comp=Z,15nm,0.1s						
MNQ	**Manicouagan**	**2.46**	**205**	PN	Pn	17 00 05.2	-0.9
MNQ				SN	Sn	17 00 35.9	-1.4
MNQ				Trac		17 00 41.2	
	comp=Z,14nm,0.2s						
SMQ	**Clarke City**	**2.56**	**174**	PN	Pn	17 00 07.0	-0.6
SMQ				SN	Sn	17 00 39.4	-0.5
SMQ				Trac		17 00 43.9	
	comp=Z,11nm,0.2s						
ICQ	**Pointe Anglais**	**3.25**	**182**	PN	Pn	17 00 15.3	-2.1
ICQ				SN	Sn	17 00 53.7	-3.7
ICQ				Trac		17 01 07.0	
	comp=Z,8.0nm,0.2s						
CNQ	**Baie Comeau**	**3.52**	**190**	PN	Pn	17 00 19.2	-2.0
CNQ				SN	Sn	17 01 02.7	-1.5
CNQ				Trac		17 01 15.1	
	comp=Z,5.5nm,0.2s						
GSQ	**Grosses Roches**	**3.86**	**180**	PN	Pn	17 00 24.8	-1.3
GSQ				SN	Sn	17 01 12.8	-0.1
GSQ				Trac		17 01 24.7	
	comp=Z,6.1nm,0.2s						
LG4Q	**La Grande 4**	**4.28**	**284**	PN	Pn	17 00 28.7	-3.2
DAQ	**Lac Daran**	**5.48**	**210**	PN	Pn	17 00 46.0	-2.9
DAQ				SN	Sn	17 01 49.8	-3.9
LMQ	**La Malbaie**	**5.61**	**203**	PN	Pn	17 00 48.3	-2.6
LMQ				SN	Sn	17 01 49.9	-7.1
DRLN	**Deer Lake**	**7.02**	**116**	PN	Pn	17 01 05.2	-5.4
DRLN				SN	Sn	17 02 24.2	-7.9
LMN	**Caledonia Moun**	**7.09**	**167**	PN	Pn	17 01 08.0	-3.7
LMN				SN	Sn	17 02 28.8	-5.1
VLDQ	**Val d'Or**	**8.07**	**239**	PN	P	17 01 21.8	-3.6
VLDQ				SN	Sn	17 02 49.2	-9.2
MALO	**McAlpine Lake**	**8.36**	**256**	PN	P	17 01 22.6	-6.9
MALO				SN	Sn	17 02 49.3	-16
VIMO	**Victor Mine**	**10.07**	**277**	PN	P	17 01 48.0	-4.9
SILO	**Sutton Inlier**	**10.70**	**286**	PN	P	17 01 54.1	-7.4
SILO				SN	S	17 03 44.3	-19

*INMG **31** 17:02:14.2±0.9, 39.88N×8.65W, h12km±4km, ML1.4, Error ellipse: s-maj=4.6km s-min=2.6km az=118.0*
*MDD **31** 17:02:15.9±2.5, 39.84N×8.42W, h8km±7km, mbLg1.6/4, Error ellipse: s-maj=31.6km s-min=7.0km az=80.0, PRXIMO SOLUCIN POBRE*
ISC 31 17:02:12.8±1.2, 39.89N±0.03×8.64W±0.07, h8km±7km, n12, σ1§27/16, Portugal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTOM	**Tomar**	**0.33**	**147**	*e*Pg	**Pg**	**17 02 20.0**	**+0.5**
PTOM				*e*Sg	**Sg**	**17 02 25.0**	**+1.1**
	20nm,0.1s						
PCBR	**Castelo Branco**	**0.90**	**93**	*e*P	**Pb**	**17 02 30.8**	**+0.7**
PCBR				*e*S	**Sb**	**17 02 42.7**	**+0.7**
	10nm,0.1s						
MTE	**Manteigas**	**0.98**	**59**	*e*S	**Sb**	**17 02 45.5**	**+1.0**
	4.8nm,0.5s						
PLOU	**Loures**	**1.08**	**202**	*e*P	**Pb**	**17 02 33.5**	**+0.2**
PLOU				*e*S	**Sb**	**17 02 47.8**	**+0.5**
	16nm,0.1s						
MOE	**Montemor**	**1.39**	**171**	*e*S	**Sb**	**17 02 55.5**	**-0.7**
PVRL	**Vila Real**	**1.55**	**27**	*e*Sn	**Sn**	**17 03 00.2**	**-1.1**
EBAD	**Badajoz**	**1.70**	**131**	Pg	**Pg**	**17 02 44.0**	**-2.7**
	0.1nm,0.2s,SNR=7.9						
EBAD				Lg		17 03 05.7	
	2.7nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**2.02**	**12**	Pn	**Pn**	**17 02 48.9**	**+1.4**
	0.5nm,0.2s,SNR=4.0						
ELOB				Sn	**Sn**	**17 03 15.4**	**+2.1**
	1.4nm,0.1s,SNR=40						
ECAL	**Calabor**	**2.50**	**35**	Pg	**Pg**	**17 03 00.9**	**-1.9**
	0.3nm,0.2s,SNR=7.9						
ECAL				Sn	**Sn**	**17 03 23.9**	**-1.6**
	0.5nm,0.2s,SNR=7.9						
ECAL				Lg		17 03 33.3	
	1.6nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.62**	**143**	Pn	**Pn**	**17 02 55.0**	**-1.1**
	0.1nm,0.2s,SNR=4.0						
EMIN				Sn	**Sn**	**17 03 24.3**	**-4.1**
	0.3nm,0.1s,SNR=7.9						
EMIN				Lg		17 03 35.3	
	0.7nm,0.2s,SNR=7.9						
ERUA	**La Rua**	**2.74**	**24**	Lg		17 03 39.9	
	1.2nm,0.5s,SNR=7.9						
EADA	**Adamuz**	**3.60**	**117**	Lg		17 04 05.2	
	0.6nm,0.1s,SNR=7.9						

KRSC 31 17:06:42.6±1.1, 55.06N×165.58E, h30km±7km, ML3.9, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.27**	**57**	*e*P	Pb	17 06 47.9	-1.7
BKI				*i* S	Sb	17 06 52.7	-1.7
BKI				Smax			
	7μm,0.3s						
**K

GRL	**Gorelyy**	**5.11**	**244**	*e*P	Pn	17 07 58.5	-0.7
GRL				*e*S	Sn	17 08 53.6	-4.3
MIPR	**Malaya Ipel'ka**	**5.94**	**246**	*e*P	Pn	17 08 11.0	+0.1

JMA ***31*** *17:20:58.8±0.2,35.99N×141.46E,h43km±3km,M3.1*
IDC ***31*** *17:21:01.6±2.6,35.48N×140.03E,mb3.6/4,mb1 3.8/4, mb1mx3.5/20,MS3.7/1,Ms1 3.7/1,ms1mx2.6/30,Error ellipse: s-maj=120.0km s-min=27.1km az=73.0*
ISC 31 17:20:58.6±1.5,36.02N±0.05×141.49E±0.09,h29km±9km, n14,σ0§42/17,mb3.5/4,MS3.7/1,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.60**	**239**	P	**Pb**	**17 21 10.4**	**-0.2**
CHOJ				S	**Sb**	**17 21 19.1**	**+0.2**
JHO	**Hitachi**	**0.95**	**309**	P	**Pn**	**17 21 16.0**	**-0.2**
JHO				S	**Sn**	**17 21 29.4**	**+0.5**
JYT	**Yasato**	**1.07**	**282**	P	**Pn**	17 21 17.2	-0.7
JYT				S	**Sn**	**17 21 32.2**	**+0.3**
JFK	**Kawauchi**	**1.44**	**340**	P	**Pn**	**17 21 23.1**	**0.0**
JAG	**Ashikaga**	**1.70**	**284**	P	**Pn**	**17 21 26.3**	**-0.6**
JFT	**Otama**	**1.76**	**329**	P	**Pn**	**17 21 28.5**	**+0.7**
JKT	**Katashina**	**1.96**	**293**	P	**Pn**	**17 21 30.7**	**+0.1**
MAT	**Matsushiro**	**2.71**	**282**	P	**Pn**	**17 21 41.7**	**+0.4**
MAT				S	**Sn**	**17 22 12.9**	**-0.5**
JHJ	**Hachijo jima 2**	**3.22**	**206**	Sn	**Sn**	**17 22 26.6**	**+0.3**
	11nm,0.3s,baz=117,slow=23,SNR=3.3						
SONM	**Songino Array**	**28.42**	**306**	P	**P**	**17 26 52.4**	**-0.3**
	0.4nm,0.7s,mb3.2,baz=88,slow=7.5,SNR=3.1						
CTA	**Charters Tower**	**55.98**	**175**	LR	LR	17 51 25.1	
	comp=Z,57nm,18.5s,MS3.7,baz=45,slow=33						
WRA	**Warramunga Arr**	**56.06**	**188**	P	**P**	**17 30 37.4**	**-0.2**
	0.5nm,0.9s,mb3.5,baz=5.5,slow=7.5,SNR=7.1						
ASAR	**Alice Springs**	**59.79**	**188**	P	**P**	**17 31 03.9**	**+0.2**
	0.2nm,0.9s,mb3.1,baz=357,slow=6.5,SNR=2.7						
FINES	**FINESS Array B**	**69.74**	**332**	P	**P**	**17 32 12.5**	**+4.9**
	3.9nm,1.1s,mb4.2,baz=68,slow=7.5,SNR=5.4						

JMA ***31*** *17:27:39.9±0.3,24.78N×122.00E,h39km,M2.9*
TAP 31 17:27:41.5,24.43N×121.90E,h12km,ML3.4,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**1.01**	**88**	P	Pb	17 27 57.3	-3.2
YOJ				S	Sb	17 28 10.0	-3.5
IRIF	**Iriomote-Funau**	**1.67**	**93**	P	Pn	17 28 06.7	-4.1
IRIF				*e*S	Sn	17 28 26.8	-5.5
HATJ	**Hateruma jima**	**1.78**	**102**	P	Pn	17 28 09.6	-2.7
HATJ				*e*S	Sn	17 28 31.7	-3.3
JKRS	**Kuro-shima**	**1.93**	**95**	P	Pn	17 28 10.9	-3.7
JKRS				*e*S	Sn	17 28 33.5	-5.4
JIJ	**Ishigaki jima**	**2.05**	**91**	P	Pn	17 28 12.3	-3.9
JIJ				*e*S	Sn	17 28 34.6	-7.2
JTJ	**Tarama**	**2.56**	**85**	P	Pn	17 28 19.9	-3.6
JTJ				*e*S	Sn	17 28 48.9	-6.0

IDC ***31*** *17:43:13.9±3.3,5.87S×147.14E,h42km±32km,mb3.6/5, mb1 3.8/7,mb1mx3.7/13,ML3.7/2,MS3.3/1,Ms1 3.2/1, ms1mx2.5/14,Error ellipse: s-maj=37.6km s-min=15.9km az=112.0*
NEIC ***31*** *17:43:16.1±2.1,6.17S×147.57E,h79km±17km,mb3.8/4, Error ellipse: s-maj=29.1km s-min=20.4km az=118.0*
ISC 31 17:43:13.8±2.3,5.9S±0.1×147.1E±0.2,h60km±21km,n16, σ0§92/18,mb3.7/6,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WAU	**Wau**	**1.47**	**196**	*e*P	**P**	**17 43 39.2**	**+0.6**
PMG	**Port Moresby**	**3.46**	**179**	P	**P**	**17 44 06.1**	**-0.4**
	19nm,0.3s,baz=11,slow=9.4,SNR=26						
PMG				S	**S**	**17 44 46.6**	**0.0**
	20nm,0.3s,baz=186,slow=19,SNR=3.1						
PMG	**Port Moresby**	**3.46**	**179**	*e*P	**P**	**17 44 06.1**	**-0.4**
KAKA	**Kakadu**	**16.01**	**244**	*e*P	**P**	**17 47 02.9**	**+6.2**
	4.5nm,0.4s						
WRAB	**Tennant Creek**	**18.66**	**221**	*e*P	**P**	**17 47 28.8**	**-0.6**
	3.2nm,0.5s						
WB2	**Warramunga Arr**	**18.66**	**221**	*e*P	**P**	**17 47 28.7**	**-0.8**
WRA	**Warramunga Arr**	**18.67**	**221**	P	**P**	**17 47 28.6**	**-1.0**
	0.4nm,0.3s,baz=47,slow=12,SNR=19						
WRA				PcP	PcP	17 51 56.4	+0.5
	0.1nm,0.3s,baz=45,slow=1.6,SNR=7.8						
ASAR	**Alice Springs**	**21.75**	**214**	P	**P**	**17 48 01.9**	**0.0**
	1.0nm,0.4s,mb3.6,baz=49,slow=8.4,SNR=34						
ASAR				S	**S**	**17 52 02.0**	**+8.2**
	0.7nm,0.9s,baz=29,slow=23,SNR=4.0						
ASPA	**Alice Springs**	**21.75**	**214**	*e*P	**P**	**17 48 03.9**	**+1.9**
FITZ	**Fitzroy Crossi**	**24.21**	**238**	*e*P	**P**	**17 48 26.9**	**+0.8**
	2.9nm,0.6s,mb3.9						
FITZ	**Fitzroy Crossi**	**24.21**	**238**	P	**P**	**17 48 26.9**	**+0.8**
	2.8nm,0.4s,mb4.0,baz=59,slow=4.9,SNR=23						
STKA	**Stephens Creek**	**26.33**	**191**	P	**P**	**17 48 48.2**	**+2.1**
	0.7nm,0.5s,mb3.5,baz=2.0,slow=10,SNR=4.7						
STKA				LR	LR	17 59 06.1	
	comp=Z,63nm,19.2s,baz=27,slow=36						
STKA	**Stephens Creek**	**26.33**	**191**	P	**P**	**17 48 42.9**	**-3.2**
STKA				LR	LR	17 59 06.0	
MBWA	**Marble Bar**	**30.55**	**238**	*e*P	**P**	**17 49 23.8**	**-0.4**
	0.8nm,0.6s,mb3.7						
SONM	**Songino Array**	**64.40**	**331**	P	**P**	**17 53 46.3**	**+0.4**
	0.3nm,0.5s,mb3.6,baz=153,slow=4.6,SNR=3.1						
ILAR	**Eielson Array**	**85.36**	**23**	P	**P**	**17 55 44.9**	**-0.5**
	0.6nm,0.7s,mb3.9,baz=252,slow=4.7,SNR=11						

SYO ***31*** *17:47:14.9,20.07S×66.66W,h216km,MB4.4*
BJI ***31*** *17:47:15.5,20.10S×66.80W,h217km,mB4.9*
NEIC ***31*** *17:47:15.5±0.9,20.07S×66.79W,h218km±9km,mb4.6/29, Error ellipse: s-maj=11.1km s-min=8.1km az=69.0*
IDC ***31*** *17:47:17.1±1.2,19.96S×66.74W,h228km±10km,mb3.9/11, mb1 4.0/14,mb1mx4.0/16,Error ellipse: s-maj=18.2km s-min=10.7km az=60.0*
ISC 31 17:47:15.3±0.6,20.05S±0.04×66.90W±0.07,h227km±6km, n79,σ1§37/70,mb4.4/40,6C-1D,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**3.17**	**216**	*i*Pn	**P**	**17 48 07.3**	**-1.5**
LVC				*e*S	**S**	**17 48 48.1**	**-2.1**
LPAZ	**La Paz**	**3.92**	**342**	P	**P**	**17 48 20.4**	**+2.7**
	13nm,0.3s,baz=164,slow=8.0,SNR=176						
LPAZ				S	**S**	**17 49 08.1**	**+1.9**
	8.4nm,0.3s,baz=358,slow=19,SNR=9.7						
LPAZ	**La Paz**	**3.92**	**342**	*e*Pn	**P**	**17 48 20.0**	**+2.3**
LPAZ				*e*S	**S**	**17 49 07.9**	**+1.7**
CPUP	**Villa Florida**	**10.79**	**127**	P	**P**	**17 49 46.9**	**+1.8**
	0.6nm,0.3s,baz=333,slow=13,SNR=11						
CPUP	**Villa Florida**	**10.79**	**127**	P	**P**	**17 49 46.9**	**+1.8**
SAML	**Samuel**	**11.61**	**19**	*e*Pn	**P**	**17 49 54.5**	**-0.9**
	44nm,1.2s						
NNA	**Nana**	**12.47**	**309**	*e*Pn	**P**	**17 50 08.5**	**+2.2**
TRQA	**Tornquist**	**18.44**	**168**	*e*P	**P**	**17 51 12.1**	**-4.0**
	3.9nm,0.6s						
BDFB	**Brasilia**	**18.50**	**79**	P	**P**	**17 51 17.0**	**+0.2**
	4.5nm,0.3s,baz=259,slow=9.2,SNR=32						
BAO	**Brasilia Array**	**18.52**	**79**	*e*P	**P**	**17 51 17.4**	**+0.4**
BAO				*e*		17 51 19.5	
BAO				*e*		17 51 20.8	
BAO				*e*		17 51 41.5	
OTAV	**Otavalo**	**23.12**	**329**	*e*P	**P**	**17 52 05.9**	**+3.3**
	1.8nm,0.6s,mb3.8						
SDV	**Santo Domingo**	**28.99**	**352**	*e*P	**P**	**17 52 53.8**	**-2.5**
	31nm,1.1s,mb4.8						
EFI	**East Falkland**	**32.31**	**170**	*e*P	**P**	**17 53 23.6**	**-1.3**
	10nm,0.5s,mb4.6						
RCBR	**Riachuelo**	**33.26**	**69**	*e*P	**P**	**17 53 32.4**	**-1.0**
	37nm,0.8s,mb5.0						
SJG	**San Juan**	**37.93**	**1**	P	**P**	**17 54 10.8**	**-1.8**
	100nm,0.8s,mb5.4,baz=175,slow=3.6,SNR=35						
SJG	**San Juan**	**37.93**	**1**	*e*P	**P**	**17 54 10.1**	**-2.5**
	94nm,0.8s,mb5.4						
HUMP	**Col San Antoni**	**37.97**	**2**	*e*P	**P**	**17 54 10.2**	**-2.7**
AOPR	**Arecibo Observ**	**38.16**	**0**	*e*P	**P**	**17 54 12.0**	**-2.5**
PMSA	**Palmer Station**	**44.74**	**178**	*e*P	**P**	**17 55 07.1**	**-0.2**
	9.7nm,0.7s,mb4.2						
LRAL	**Lakeview Retre**	**56.17**	**340**	*e*P	**P**	**17 56 31.9**	**-1.7**
	5.5nm,0.6s,mb4.3						
CPCT	**Cooper Cave**	**57.67**	**343**	P	**P**	**17 56 42.8**	**-1.4**
ELN	**Prospectdale**	**58.45**	**347**	P	**P**	**17 56 47.8**	**-1.8**
PWV	**Princeton**	**58.62**	**347**	*e*P	**P**	**17 56 50.1**	**-0.5**
FWV	**Forest Hill**	**58.80**	**347**	*e*P	**P**	**17 56 51.3**	**-0.6**
WVT	**Waverly**	**59.28**	**340**	*e*P	**P**	**17 56 53.0**	**-2.3**
	3.5nm,0.4s,mb4.3						
TXAR	**Lajitas Array**	**60.56**	**323**	P	**P**	**17 57 03.9**	**-0.1**
	0.3nm,0.5s,mb3.2,baz=154,slow=8.0,SNR=4.9						
VNA3	**Neumayer Olymp**	**60.85**	**162**	⇑*i*	**P**	**17 57 07.5**	**+2.2**
VNA1	**Neumayer--Stat**	**61.02**	**161**		**P**	**17 57 08.5**	**+2.0**
VNA2	**Neumayer--Watz**	**61.40**	**161**	⇑*i*	**P**	**17 57 10.5**	**+1.5**
FVM	**French Village**	**61.82**	**339**	*e*P	**P**	**17 57 11.1**	**-1.2**
	7.4nm,0.4s,mb4.7						
CCM	**Cathedral Cave**	**62.17**	**338**	*e*P	**P**	**17 57 13.3**	**-1.3**
	14nm,0.6s,mb4.8						
WMOK	**Wichita Mounta**	**62.35**	**331**	*e*P	**P**	**17 57 15.5**	**-0.4**
	1.4nm,0.6s,mb3.8						
SNAA	**Sanae**	**63.03**	**161**	P	**P**	**17 57 19.2**	**-0.6**
	3.4nm,0.7s,mb4.1,baz=292,slow=5.7,SNR=24						
SNAA	**Sanae**	**63.03**	**161**	P	**P**	**17 57 19.2**	**-0.6**
LIC	**Lamto**	**66.17**	**73**	*e*P	**P**	**17 57 38.4**	**-2.5**
	73nm,1.6s,mb5.0						
TIC	**Toumodi**	**66.36**	**73**	*e*P	**P**	**17 57 38.1**	**-3.9**
	16nm,0.2s,mb5.2						
KIC	**Kosan Boka**	**66.49**	**73**	*e*P	**P**	**17 57 40.8**	**-2.1**
	56nm,0.6s,mb5.3						
DBIC	**Dimbokro**	**66.52**	**73**	P	**P**	**17 57 41.0**	**-2.0**
	11nm,0.7s,mb4.6,baz=228,slow=6.3,SNR=18						
SDCO	**Great Sand Dun**	**68.00**	**328**	*e*P	**P**	**17 57 52.6**	**+0.7**
	2.9nm,0.6s,mb4.1						
QSPA	**South Pole Qui**	**70.13**	**180**	⇑*i*P	**P**	**17 58 04.6**	**+0.4**
	9.3nm,0.7s,mb4.5						
MSU	**Marysvale**	**72.09**	**324**	*e*P	**P**	**17 58 17.9**	**+1.3**
TPNV	**Topopah Spring**	**73.35**	**321**	P	**P**	**17 58 23.8**	**-0.3**
	2.0nm,0.4s,mb4.1						
DUG	**Dugway**	**73.63**	**325**	*e*P	**P**	**17 58 26.7**	**+1.1**
	2.0nm,0.8s,mb3.8						
PDAR	**Pinedale Array**	**73.83**	**329**	P	**P**	**17 58 27.6**	**+0.8**
	0.6nm,0.5s,mb3.5,baz=120,slow=8.5,SNR=7.0						
ULM	**Lac du Bonnet**	**74.53**	**341**	P	**P**	**17 58 30.1**	**-0.5**
	1.7nm,0.4s,mb4.1,baz=131,slow=8.8,SNR=5.1						
ULM	**Lac du Bonnet**	**74.53**	**341**	P	**P**	**17 58 29.4**	**-1.3**
	4.2nm,0.7s,mb4.2						
SCHQ	**Schefferville**	**74.58**	**0**	P	**P**	**17 58 30.2**	**-0.6**
	7.6nm,0.8s,mb4.4,baz=172,slow=8.7,SNR=5.5						
NVAR	**Mina Array Bea**	**75.55**	**321**	P	**P**	**17 58 38.0**	**+1.4**
	2.0nm,0.9s,mb3.7,baz=149,slow=7.2,SNR=6.8						
HLID	**Hailey**	**76.85**	**327**	*e*P	**P**	**17 58 45.8**	**+2.1**
	6.6nm,1.0s,mb4.2						
MCMT	**McKenzie Canyo**	**76.96**	**328**	*e*P	**P**	**17 58 46.5**	**+2.2**
SYO	**Syowa Base**	**77.19**	**159**	‖P	**P**	**17 58 44.5**	**-0.5**
SYO	**Syowa Base**	**77.19**	**159**	⇑PcP	PcP	17 58 50.6	-4.6
VNDA	**Vanda**	**78.59**	**190**	P	**P**	**17 58 53.8**	**+1.2**
	1.4nm,0.6s,mb3.8,baz=130,slow=4.0,SNR=12						
PALC	**Alcoutim**	**79.97**	**44**	*e*P	**P**	**17 59 01.4**	**+0.7**
	47nm,1.4s,mb4.9						
PBEJ	**Beja**	**80.04**	**43**	*e*P	**P**	**17 59 01.7**	**+0.7**
	20nm,2.1s,mb4.4						
EMIN	**Mina Concepcio**	**80.67**	**44**	P	**P**	**17 59 04.8**	**+0.5**
	15nm,0.5s,mb4.9						
EBAD	**Badajoz**	**81.01**	**43**	P	**P**	**17 59 06.5**	**+0.4**
	25nm,1.2s,mb4.7						
EMIJ	**Mijas**	**81.27**	**46**	P	**P**	**17 59 07.5**	**0.0**
	24nm,1.2s,mb4.7						
MTE	**Manteigas**	**81.61**	**42**	*e*P	**P**	**17 59 09.8**	**+0.6**
ELOJ	**Sierra Loja**	**82.01**	**46**	P	**P**	**17 59 11.9**	**+0.7**
	4.5nm,0.5s,mb4.3						
PVRL	**Vila Real**	**82.01**	**41**	*e*P	**P**	**17 59 12.1**	**+0.9**
	29nm,1.7s,mb4.6						
ELOB	**Lobios**	**82.14**	**40**	P	**P**	**17 59 12.0**	**+0.1**
	3.6nm,0.9s,mb4.0						
ELUQ	**Luque**	**82.15**	**45**	P	**P**	**17 59 13.0**	**+0.9**
	17nm,0.9s,mb4.7						
ERON	**Agron**	**82.17**	**46**	P	**P**	**17 59 13.4**	**+1.3**
	4.9nm,0.6s,mb4.3						
ESDC	**Sonseca Array**	**83.49**	**44**	P	**P**	**17 59 19.4**	**+0.5**
	7.4nm,0.9s,mb4.4,baz=245,slow=5.4,SNR=22						
MAW	**Mawson**	**85.16**	**163**	P	**P**	**17 59 27.2**	**+0.7**
	5.8nm,0.5s,mb4.6,baz=233,slow=6.9,SNR=8.8						
YKA	**Yellowknife Ar**	**90.47**	**340**	P	**P**	**17 59 52.7**	**+0.9**
	1.1nm,0.5s,mb3.9,baz=130,slow=4.7,SNR=5.9						
YKA	**Yellowknife Ar**	**90.47**	**340**	P	**P**	**17 59 52.7**	**+0.9**
STKA	**Stephens Creek**	**121.59**	**208**	PKP	PKPdf	18 05 43.4	+1.2
	1.3nm,0.6s,baz=53,slow=9.8,SNR=4.3						
ASAR	**Alice Springs**	**132.05**	**206**	PKhKP		18 05 46.0	
	0.3nm,0.6s,baz=140,slow=2.6,SNR=8.7						
ASAR				PKP	PKPdf	18 06 03.8	+1.2
	1.6nm,0.7s,baz=132,slow=1.8,SNR=25						
ASAR				SKPbc		18 09 08.2	
	0.7nm,0.5s,baz=148,slow=3.6,SNR=11						
WB2	**Warramunga Arr**	**135.13**	**209**	*e*P		18 05 53.3	
WRA	**Warramunga Arr**	**135.14**	**209**	PKhKP		18 05 53.4	
	0.2nm,0.5s,baz=162,slow=2.4,SNR=7.8						
WRA				PKP	PKPdf	18 06 09.4	+1.1
	1.3nm,0.5s,baz=154,slow=1.8,SNR=18						
WRA				SKPbc		18 09 20.1	
	1.5nm,0.8s,baz=154,slow=2.8,SNR=8.6						
FITZ	**Fitzroy Crossi**	**140.14**	**199**	*e*P	PKPdf	18 06 10.9	-6.6
	3.3nm,1.5s						
FITZ	**Fitzroy Crossi**	**140.14**	**199**	PKhKP		18 06 09.8	
	1.5nm,0.8s,baz=249,slow=6.4,SNR=8.4						
SONM	**Songino Array**	**151.76**	**10**	PKPbc	PKPdf	18 06 45.3	+9.4
	1.5nm,0.6s,baz=320,slow=1.6,SNR=12						
MDJ	**Mudanjiang**	**151.93**	**334**	PKP	PKPdf	18 06 37.0	+0.7
CN2	**Changchun**	**154.17**	**339**	*e*PKP	PKPdf	18 06 38.5	-0.8
CN2				APKP		18 07 36.5	
CN2				PP	PP	18 10 40.0	-1.8
CN2				*e*SS	SS	18 29 58.3	-0.2
CN2				PP	PP		
	comp=Z,200nm,7.0s						
LZH	**Lanzhou**	**162.07**	**25**	*e*PKP	PKPdf	18 06 48.5	-0.5
LZH				APKP		18 07 48.3	
LZH				XPKP		18 08 09.0	
CMAR	**Chiang Mai Arr**	**166.53**	**94**	PKPab	PKPab	18 07 58.0	-1.1
	comp=Z,0.8nm,0.9s,baz=262,slow=7.2,SNR=7.1						

KRSC 31 18:33:37.1±1.4,52.75N×154.58E,h564km±9km,ML3.8, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MIPR	**Malaya Ipel'ka**	**1.41**	**109**	*e*P	P	18 34 45.6	-0.6
APC	**Apacha**	**1.57**	**83**	*i* P	P	18 34 45.5	-1.3
GRL	**Gorelyy**	**2.14**	**94**	*e*P	P	18 34 49.9	+0.8
GNL	**Ganaly**	**2.23**	**64**	*i* P	P	18 34 48.6	-1.0
GNL				*e*S	S	18 35 42.6	-4.5
SKR	**Severo-Kuril's**	**2.28**	**155**	*e*S	S	18 35 43.0	-4.5
RUS	**Russkaya**	**2.42**	**96**	*i* P	P	18 34 49.9	-0.6
RUS				*i* S	S	18 35 43.4	-5.4
PET	**Petropavlovsk**	**2.48**	**82**	*i* P	P	18 34 50.8	-0.1
PET				*e*S	S	18 35 45.5	-3.8
KOK	**Koryaka**	**2.51**	**76**	*i* P	P	18 34 51.3	+0.3
AVH	**Avacha**	**2.56**	**77**	*i* P	P	18 34 51.8	+0.5
AVH				*e*S	S	18 35 46.6	-3.5
SMAR	**Somma**	**2.60**	**77**	*i* P	P	18 34 52.0	+0.5
UGLR	**Uglovaya**	**2.61**	**78**	*i* P	P	18 34 52.1	+0.6
SDLR	**Sedlovina**	**2.65**	**77**	*i* P	P	18 34 51.9	+0.1
NLC	**Nalytchevo**	**2.91**	**80**	P	P	18 34 53.3	0.0
NLC				*e*S	S	18 35 48.7	-4.9
KII	**Karymskiy**	**3.19**	**64**	P	P	18 34 55.2	+0.2
SPN	**Mys Shipunski**	**3.31**	**82**	*e*P	P	18 34 55.2	-0.6
SPN				*e*S	S	18 35 51.4	-6.8
TUMR	**Tumrok**	**4.15**	**50**	*e*P	P	18 35 03.0	+1.4
TUMR				*e*S	S	18 36 04.2	-4.5
KMNR	**Kamenistaya**	**4.48**	**46**	*e*P	P	18 35 04.0	-0.2
KOZ	**Kozyrevsk**	**4.53**	**41**	*e*P	P	18 35 04.6	0.0
MKZ	**Mys Kozlova**	**4.62**	**64**	*e*P	P	18 35 05.0	-0.3
MKZ				*e*S	S	18 36 07.9	-7.4
SRDR	**Sredinnyy**	**4.66**	**38**	*e*P	P	18 35 05.0	-0.6
KRSR	**Krestovskiy**	**4.92**	**43**	*e*P	P	18 35 07.5	-0.2
CIRR	**Tsirk**	**4.93**	**44**	*e*P	P	18 35 08.0	+0.2
KBTR	**Krutoberegovo**	**5.92**	**51**	*e*P	P	18 35 15.9	-0.5
KBTR				*e*S	S	18 36 27.1	-8.1

IDC ***31*** *18:50:09.9±1.0,14.46N×146.96E,h49km±8km,mb3.7/6, mb1 3.9/6,mb1mx3.7/18,Error ellipse: s-maj=34.7km s-min=18.1km az=105.0*
NEIC ***31*** *18:50:09.9±0.5,14.44N×146.81E,mb4.5/4,Error ellipse: s-maj=15.3km s-min=8.3km az=107.0*
ISC 31 18:50:06.8±3.1,14.47N±0.10×147.0E±0.1,h41km±24km, h47km±1.2km:pP-P,n23,σ0§52/20,mb4.5/18,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.24**	**247**	*e*Pn	**P**	**18 50 41.5**	**-0.8**
GUMO				*e*Sn	**S**	**18 51 09.9**	**+1.0**
WRAB	**Tennant Creek**	**36.38**	**200**	P	**P**	**18 57 08.8**	**-0.5**
	9.2nm,1.1s,mb4.6						
WRA	**Warramunga Arr**	**36.39**	**200**	P	**P**	**18 57 09.6**	**+0.1**
	1.7nm,0.9s,mb4.0,baz=23,slow=9.3,SNR=6.4						
FITZ	**Fitzroy Crossi**	**38.61**	**214**	P	**P**	**18 57 28.3**	**+0.3**
	3.0nm,1.0s,mb4.0,baz=24,slow=12,SNR=3.1						
ASAR	**Alice Springs**	**40.01**	**199**	P	**P**	**18 57 39.5**	**0.0**
	0.4nm,0.7s,mb3.2,baz=21,slow=8.5,SNR=8.7						
CMAR	**Chiang Mai Arr**	**46.15**	**282**	P	**P**	**18 58 28.8**	**-0.8**
	12nm,0.3s,mb5.3,baz=76,slow=5.5,SNR=2.0						
SONM	**Songino Array**	**47.23**	**323**	P	**P**	**18 58 38.3**	**+0.6**
	1.3nm,0.6s,mb4.1,baz=139,slow=9.1,SNR=16						
GUN	**Gumba**	**58.01**	**294**	*e*P	**P**	**18 59 58.5**	**+0.3**
	17nm,0.7s,mb5.2						
PKI	**Pulchoki**	**58.43**	**294**	*e*P	**P**	**19 00 00.9**	**-0.2**
	6.5nm,0.5s,mb5.0						
KKN	**Kakani**	**58.55**	**294**	*e*P	**P**	**19 00 01.7**	**-0.2**
	7.4nm,0.7s,mb4.8						
DMN	**Daman**	**58.70**	**294**	*e*P	**P**	**19 00 02.9**	**-0.1**
	7.5nm,0.5s,mb4.9						
GKN	**Gorkha**	**59.11**	**294**	*e*P	**P**	**19 00 05.7**	**-0.2**
	14nm,0.6s,mb5.2						
KOLN	**Koldanda**	**60.03**	**294**	*e*P	**P**	**19 00 11.9**	**-0.3**
	7.3nm,0.8s,mb4.8						
KURK	**Kurchatov**	**65.25**	**319**	*e*P	**P**	**19 00 45.8**	**-0.7**
	8.9nm,0.7s,mb4.9						
ILAR	**Eielson Array**	**66.89**	**25**	P	**P**	**19 00 56.8**	**+0.1**
	0.6nm,0.5s,mb3.9,baz=253,slow=5.8,SNR=17						
ILAR				pP	pP	19 01 10.6	+1.8
	0.6nm,0.5s,baz=251,slow=6.0,SNR=4.1						
BRVK	**Borovoye**	**70.59**	**321**	*e*P	**P**	**19 01 19.6**	**-0.1**
	3.0nm,0.6s,mb4.4						
BRVK				*e*	pP	19 01 33.9	+2.1
ZRNK	**Zerenda**	**71.36**	**321**	*e*P	**P**	**19 01 24.1**	**-0.2**
	5.0nm,1.0s,mb4.4						
ZRNK				*e*	pP	19 01 37.1	+0.6
INK	**Inuvik**	**72.77**	**23**	*e*P	**P**	**19 01 33.5**	**+1.1**
	0.3nm,0.5s,mb3.5						
FINES	**FINESS Array B**	**91.23**	**336**	P	**P**	**19 03 09.4**	**+0.6**
	3.8nm,1.0s,mb4.7,baz=180,slow=1.9,SNR=4.1						
FINES				pP	pP	19 03 23.0	+1.6
	2.0nm,0.9s,baz=45,slow=2.7,SNR=1.6						
DBIC	**Dimbokro**	**145.06**	**305**	PKPbc	PKPbc	19 09 43.1	+2.0
	7.8nm,0.7s,baz=50,slow=4.9,SNR=15						
DBIC				pPKPbc		19 09 57.3	
	2.5nm,0.5s,baz=33,slow=14,SNR=1.6						
KIC	**Kosan Boka**	**145.15**	**305**	*e*PKP1	PKPbc	19 09 42.8	+1.4
	31nm,0.7s						
TIC	**Toumodi**	**145.21**	**305**	*e*PKP1	PKPbc	19 09 43.1	+1.6
	12nm,0.2s						
LIC	**Lamto**	**145.46**	**305**	*e*PKP1	PKPbc	19 09 43.5	+1.3
	45nm,0.8s						

IDC 31 18:56:15.0±5.4,8.80S×156.21E,mb3.7/3,mb1 3.9/3, mb1mx3.6/12,MS3.0/1,Ms1 3.0/1,ms1mx2.6/19,Error ellipse: s-maj=93.7km s-min=73.4km az=1.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.96**	**265**	LR	LR	19 01 05.1	
	comp=Z,86nm,20.2s,baz=232,slow=32						
WRA	**Warramunga Arr**	**23.87**	**240**	P	P	19 01 29.7	-1.5
	0.7nm,0.6s,baz=66,slow=9.7,SNR=8.8						
ASAR	**Alice Springs**	**25.96**	**233**	P	P	19 01 50.1	-1.0
	1.0nm,0.8s,baz=68,slow=8.6,SNR=11						
STKA	**Stephens Creek**	**26.67**	**209**	P	P	19 01 55.

PV01				*e*Pg	**Pg**	**19 07 34.7**	**-10**
TMUT	**Trail Mountain**	**6.39**	**228**	*e*Pn	**Pn**	**19 07 18.5**	**-0.4**
CBKS	**Cedar Bluff**	**6.39**	**139**	P	**Pn**	**19 07 18.1**	**-0.8**
	27nm,0.7s						
HLID	**Hailey**	**6.75**	**272**	*e*Pn	**Pn**	**19 07 24.8**	**+0.8**
	0.9nm,0.4s						
DUG	**Dugway**	**6.75**	**241**	*e*Pn	**Pn**	**19 07 22.3**	**-1.7**
	4.1nm,0.5s						
ULM	**Lac du Bonnet**	**9.05**	**41**	Pn	**P**	**19 07 55.4**	**-0.7**
	2.3nm,0.3s,baz=233,slow=12,SNR=15						
ULM				Lg		19 10 29.1	
	0.5nm,0.3s,baz=311,slow=22,SNR=3.3						
ULM	**Lac du Bonnet**	**9.05**	**41**	Pn	**P**	**19 07 55.4**	**-0.7**
ULM				*e*Pn	**P**	**19 07 55.5**	**-0.6**
ULM				Lg		19 10 29.1	
EDM	**Edmonton**	**10.92**	**333**	Pn	**P**	**19 08 17.9**	**-3.8**
TXAR	**Lajitas Array**	**14.45**	**175**	Pn	**P**	**19 09 16.4**	**+7.5**
	0.0nm,0.3s,baz=350,slow=10,SNR=2.5						
TXAR				Pg	P	19 10 11.1	+62
	0.0nm,0.3s,baz=4.1,slow=13,SNR=3.0						
ARCES	**ARCESS Array B**	**61.36**	**18**	P	**P**	**19 16 00.1**	**-0.5**
	4.4nm,0.9s,mb4.6,baz=335,slow=6.8,SNR=6.9						
SONM	**Songino Array**	**84.66**	**339**	P	**P**	**19 18 19.3**	**+1.9**
	0.3nm,0.6s,mb3.7,baz=29,slow=2.3,SNR=3.6						

MAN 31 19:26:01.7,7.06N×126.00E,h1km,mb4.6,ML3.5,MS3.4, 1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.28**	**114**	*e*P	Pg	19 26 07.2	0.0
MATI				*e*S	Sg	19 26 24.2	+13
KCP	**Kidapawan**	**0.91**	**267**	*e*P	Pg	19 26 19.8	0.0
KCP				*i* S	Sg	19 26 48.2	+16
BUKP	**Musuan**	**1.23**	**311**	*e*P	Pb	19 26 24.9	-0.6
BUTP	**Butuan**	**1.93**	**349**	*e*P	Pn	19 26 36.3	+0.3

NIED ***31*** *19:35:00,37.20N×138.90E,h5km,Mw4.8 Best double couple: M0 1.75×10^16 NP1:φs216°,δ54°,λ104°. NP2:φs12°, δ38°,λ71°.*

IDC ***31*** *19:35:47.1±0.4,37.20N×138.69E,mb4.8/26,mb1 4.9/29, mb1mx4.9/31,ML4.4/3,MS4.2/13,Ms1 4.2/13, ms1mx3.8/30,Error ellipse: s-maj=14.9km s-min=11.1km az=95.0*

HRVD ***31*** *19:35:48.7±0.5,37.23N×138.75E,h12km,MW4.8/50, Centroid moment Tensor Solution. LP body waves: s21,c23;Mantle waves: s50,c81; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr 1.93±.08; Mθθ 0.36±.08; Mφφ -1.57±.07; Mrθ -0.15±.30; Mrφ -0.62±.06; Mθφ -1.03±.24; Best double couple: M0 2.15×10^16 NP1:φs29°,δ31°,λ101°. NP2:φs196°,δ59°,λ83°. Principal axes: T 2.21, Plg75°, Azm88°; N -.12, Plg6°, Azm199°; P -2.09, Plg14°, Azm291°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***31*** *19:35:48.6,37.20N×138.70E,h10km,mB5.0,mb4.9, Ms4.5,Msz4.3*

NEIC ***31*** *19:35:48.6±0.1,37.19N×138.75E,h10km,mb5.1/74, MS4.0/4,MW4.8(NIED),Error ellipse: s-maj=3.5km s-min=3.0km az=136.0*

NEIC Recorded [4 JMA] in Niigata; [3 JMA] in Saitama; [2 JMA] in Fukushima, Gumma, Ibaraki, Ishikawa, Nagano, Tokyo, Toyama and Yamagata; [1 JMA] in Kanagawa, Miyagi, Shizuoka and Tochigi. Also recorded [3 JMA] on Sadoga-shima.

SYO ***31*** *19:35:48.6,37.19N×138.75E,h10km,MB5.1,MS4.0*

JMA ***31*** *19:35:49.1,37.21N×138.90E,h8km±1km,M5.0 Broadband fault plane solution: P waves. NP1:φs230°, δ44°,λ108°. NP2:φs25°,δ48°,λ73°. Principal axes: T Plg77°, Azm226°; N Plg13°, Azm37°; P Plg2°, Azm127°;*

JMA Felt IV J1.

MOS ***31*** *19:35:52.4±0.9,37.53N×138.59E,h33km,mb5.1/35, MS4.2/20 Error ellipse: s-maj=13.3km s-min=6.3km az=102.6*

ISC 31 19:35:49.2±0.3,37.24N±0.02×138.85E±0.02,h21km±2km, h18km±2.5km;pP-P,n379,σ1§06/391,mb5.0/117,MS4.3/34, 47C-24D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.13**	**86**	⇓P	**Pb**	**19 35 51.5**	**-2.2**
JHK				S	**Sb**	**19 35 53.6**	**-3.1**
JIZZ	**Izumozaki**	**0.31**	**339**	P	**Pb**	**19 35 56.5**	**+0.3**
JIZZ				S	**Sb**	**19 36 02.4**	**+1.5**
JJN	**Nakama**	**0.56**	**256**	⇑P	**Pb**	**19 36 00.6**	**+0.3**
JJN				S	**Sb**	**19 36 10.0**	**+2.1**
JKT	**Katashina**	**0.57**	**146**	⇓P	**Pb**	**19 35 59.3**	**-1.1**
JKT				S	**Sb**	**19 36 06.8**	**-1.3**
JNS	**Sasagawa**	**0.69**	**33**	⇑P	**Pb**	**19 36 01.8**	**-0.6**
JGK	**Kuni**	**0.70**	**194**	P	**Pb**	**19 36 02.0**	**-0.6**
JFY	**Yanaizu**	**0.70**	**76**	⇓P	**Pb**	**19 36 01.8**	**-0.9**
MAJO	**Matsushiro**	**0.86**	**217**	*e*Pn	**Pn**	**19 36 04.8**	**-1.4**
MAJO				*e*Sn	**Sn**	**19 36 15.5**	**-2.7**
MAT	**Matsushiro**	**0.87**	**217**	⇑P	**Pb**	**19 36 04.8**	**-0.6**
MAT				S	**Sb**	**19 36 16.4**	**-0.1**
MAT	**Matsushiro**	**0.87**	**217**	P	**Pb**	**19 36 04.9**	**-0.5**
MAT	**Matsushiro**	**0.87**	**217**	⇑*i*P	**Pb**	**19 36 04.9**	**-0.5**
MAT				*e*S	**Sb**	**19 36 16.0**	**-0.5**
JSB	**Shiboa**	**0.90**	**107**	⇓P	**Pb**	**19 36 05.9**	**-0.1**
JSD	**Sado**	**0.92**	**330**	⇑P	**Pb**	**19 36 06.0**	**-0.4**
JAG	**Ashikaga**	**0.95**	**149**	⇓P	**Pb**	**19 36 06.4**	**-0.4**
JNG	**Nsakai**	**1.03**	**216**	⇑P	**Pb**	**19 36 07.8**	**-0.3**
JSZ	**Suzu**	**1.20**	**280**	⇑P	**Pn**	**19 36 10.7**	**-0.3**
JSZ				S	**Sb**	**19 36 27.7**	**+1.4**
JFT	**Otama**	**1.22**	**76**	⇓P	**Pn**	**19 36 11.0**	**-0.2**
JRY	**Ryogami san**	**1.22**	**178**	P	**Pn**	**19 36 10.8**	**-0.5**
JAW	**Awa shima**	**1.25**	**14**	⇑P	**Pn**	**19 36 11.5**	**-0.2**
JAW				S	**Sb**	**19 36 30.1**	**+2.3**
JTT	**Ttatey**	**1.37**	**243**	⇑P	**Pn**	**19 36 14.6**	**+1.2**
JYS	**Shirataka**	**1.38**	**44**	⇑P	**Pn**	**19 36 13.8**	**+0.4**
JNT	**Takato**	**1.48**	**203**	⇑P	**Pn**	**19 36 15.6**	**+0.7**
JHO	**Hitachi**	**1.51**	**114**	P	**Pn**	**19 36 15.4**	**0.0**
ONAJ	**Iwakimizuishiy**	**1.56**	**94**	⇓P	**Pn**	**19 36 16.7**	**+0.6**
JGN	**Niukaw**	**1.60**	**231**	⇑P	**Pn**	**19 36 17.7**	**+1.1**
JFK	**Kawauchi**	**1.62**	**85**	P	**Pn**	**19 36 17.6**	**+0.6**
JHG	**Hegura jima**	**1.65**	**292**	⇓P	**Pn**	**19 36 17.2**	**-0.2**
JHG				S	**Sn**	**19 36 38.7**	**+0.6**
JJH	**Hakui**	**1.68**	**260**	P	**Pn**	**19 36 17.8**	**-0.1**
JYN	**Shimob**	**1.76**	**188**	⇑P	**Pn**	**19 36 20.1**	**+1.2**
JOU	**Okura**	**1.82**	**51**	⇑P	**Pn**	**19 36 20.7**	**+0.8**
JOD2	**Odawara 2**	**1.98**	**174**	P	**Pn**	**19 36 24.2**	**+2.1**
JGF	**Kuroka**	**2.03**	**217**	⇑P	**Pn**	**19 36 24.1**	**+1.3**
JNY	**Yasuok**	**2.04**	**203**	⇑P	**Pn**	**19 36 24.2**	**+1.2**
JYK	**Kaneyama**	**2.06**	**35**	⇑P	**Pn**	**19 36 23.6**	**+0.4**
SHZ3	**Shizuoka 3**	**2.23**	**194**	⇑P	**Pn**	**19 36 27.4**	**+1.7**
JKG	**Kaga**	**2.24**	**245**	P	**Pn**	**19 36 26.8**	**+1.0**
JAO	**Obara**	**2.35**	**214**	⇑P	**Pn**	**19 36 28.7**	**+1.3**
JAO				S	**Sn**	**19 37 03.2**	**+7.2**
JYZW	**Yoshizawa**	**2.41**	**202**	P	**Pn**	**19 36 30.4**	**+2.1**
JIZS	**Izushimoda**	**2.52**	**179**	P	**Pn**	**19 36 31.2**	**+1.4**
HMMJ	**Hamamatsu 2**	**2.55**	**201**	⇑P	**Pn**	**19 36 31.7**	**+1.5**
TSUJ	**Tsu 2**	**3.20**	**219**	P	**Pn**	**19 36 41.0**	**+1.5**
JWT	**Wachi**	**3.40**	**236**	P	**Pn**	**19 36 43.8**	**+1.4**
JHJ	**Hachijo jima 2**	**4.18**	**169**	Pn	**Pn**	**19 36 54.0**	**+0.5**
	223nm,0.3s,baz=330,slow=1.5,SNR=33						
JHJ				Sn	**Sn**	**19 37 42.5**	**+0.2**
	baz=268,slow=19,SNR=4.5						
JHJ				LR	LR	19 38 26.6	
	comp=Z,2μm,18.1s,baz=293,slow=38						
JJS	**Sakaide**	**4.91**	**236**	P	**Pn**	**19 37 05.5**	**+1.7**
JAI	**Aioi**	**4.97**	**227**	P	**Pn**	**19 37 05.3**	**+0.7**
JHS	**Saijyo**	**5.15**	**246**	P	**Pn**	**19 37 08.6**	**+1.4**
ERM	**Erimo**	**5.81**	**34**	*e*Pn	**Pn**	**19 37 14.7**	**-1.8**
JHM	**Kurahashi**	**6.00**	**241**	P	**Pn**	**19 37 21.0**	**+1.8**
ASAJ	**Asahikawa**	**7.43**	**21**	Pn	**Pn**	**19 37 40.1**	**+0.8**
	3.0nm,0.3s,baz=203,slow=8.8,SNR=18						
ASAJ				LR	LR	19 40 46.1	
	comp=Z,759nm,18.3s,baz=219,slow=40						
ASAJ	**Asahikawa**	**7.43**	**21**	P	**Pn**	**19 37 40.1**	**+0.8**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,759nm,18.3s						
YUK	**Yuzh-Kuril'sk**	**8.63**	**36**	*e*P	**P**	**19 37 52.0**	**-3.9**
YUK				*e*S	**Sn**	**19 39 29.5**	**-4.1**
YUK				pmax	pmax		
	comp=Z,140nm,0.5s						
YUK				smax			
	comp=N,280nm,0.6s						
YUK				smax			
	comp=E,210nm,0.6s						
YUK				smax			
	comp=N,2μm,1.0s						
YUK				smax			
	comp=E,2μm,1.0s						
YUK				MLR	MLR		
	comp=Z,2μm,14.0s						
KS15	**Wonju Array Si**	**8.74**	**275**	*e*Pn	**P**	**19 37 57.4**	**0.0**
INCN	**Inchon**	**9.73**	**275**	Pn	**P**	**19 38 12.7**	**+1.5**
	comp=Z,35nm,0.9s						
YSS	**Yuzh-Sakhalins**	**10.13**	**15**	⇑*e*P	**P**	**19 38 15.7**	**-0.9**
YSS				*e*S	**S**	**19 40 03.0**	**-7.6**
YSS				pmax	pmax		
	comp=N,30nm,1.0s						
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				pmax	pmax		
	comp=N,50nm,0.7s						
YSS				pmax	pmax		
	comp=Z,70nm,0.7s						
YSS	**Yuzh-Sakhalins**	**10.13**	**15**	*e*Pn	**P**	**19 38 15.8**	**-0.8**
	comp=Z,53nm,0.6s						
MDJ	**Mudanjiang**	**10.16**	**319**	P	**P**	**19 38 17.0**	**0.0**
MDJ				S	**S**	**19 40 14.3**	**+2.9**
MDJ				PCP	PcP	19 44 21.3	-3.6
MDJ				SCP		19 47 54.3	
MDJ				PCS		19 47 56.5	
MDJ				SCS	ScS	19 51 30.8	+2.7
MDJ				AMB	AMB		
	comp=Z,24nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,174nm,6.2s						
MDJ				LR	LR		
	comp=N,1μm,15.1s						
MDJ				LR	LR		
	comp=E,1μm,16.1s						
MDJ				LR	LR		
	comp=Z,2μm,16.1s						
MDJ	**Mudanjiang**	**10.16**	**319**	*e*Pn	**P**	**19 38 16.2**	**-0.8**
	comp=Z,70nm,1.1s						
KUR	**Kuril'sk**	**10.48**	**38**	⇑*i*P	**P**	**19 38 16.5**	**-4.8**
KUR				*e*S	**S**	**19 40 13.0**	**-6.1**
KUR				pmax	pmax		
	comp=Z,2μm,1.0s						
KUR				pmax	pmax		
	comp=Z,570nm,1.0s						
KUR				MLR	MLR		
	comp=Z,2μm,15.0s						
CBIJ	**Chichi jima**	**10.50**	**163**	Pn	**P**	**19 38 18.5**	**-3.2**
	comp=Z,11nm,0.3s,baz=298,slow=18,SNR=4.9						
CBIJ				LR	LR	19 42 14.5	
	comp=Z,693nm,18.4s,baz=14,slow=37						
CN2	**Changchun**	**12.12**	**307**	*e*P	**P**	**19 38 41.8**	**-1.8**
CN2				*e*XP		19 38 47.0	
CN2				*e*S	**S**	**19 40 57.0**	**-2.1**
CN2				AMB	AMB		
	comp=Z,20nm,1.5s						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,2μm,13.0s						
CN2				LR	LR		
	comp=E,1μm,13.0s						
CN2				LR	LR		
	comp=Z,1μm,14.0s						
SNY	**Shenyang**	**12.65**	**296**	⇓P	**P**	**19 38 53.0**	**+2.3**
SNY				S	**S**	**19 41 15.8**	**+3.9**
SNY				LR	LR		
	comp=N,1μm,12.7s						
SNY				LR	LR		
	comp=E,1μm,14.2s						
SNY				LR	LR		
	comp=Z,1μm,12.3s						
TYV	**Tymovskoe**	**13.89**	**10**	*e*P	**P**	**19 39 03.8**	**-3.3**
TYV				pmax	pmax		
	comp=Z,76nm,1.0s						
TYV				MLR	MLR		
	comp=N,1μm,15.0s						
TYV				MLR	MLR		
	comp=Z,1μm,15.0s						
SSE	**Sheshan**	**15.84**	**252**	P	**P**	**19 39 31.3**	**-1.4**
SSE				S	**S**	**19 42 27.5**	**-0.3**
SSE				AMB	AMB		
	comp=Z,40nm,0.7s						
SSE				LR	LR		
	comp=N,410nm,19.6s						
SSE				LR	LR		
	comp=E,473nm,19.8s						
SSE				LR	LR		
	comp=Z,610nm,17.2s						
NJ2	**Nanjing**	**17.24**	**258**	*e*P	**P**	**19 39 52.3**	**+1.9**
NJ2				AP		19 39 59.0	
NJ2				PP	PP	19 40 07.3	+2.5
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s						
NJ2				AMB	AMB		
	comp=Z,630nm,5.5s						
NJ2				LR	LR		
	comp=Z,2μm,15.3s						
TIA	**Tai'an**	**17.45**	**273**	P	**P**	**19 39 55.8**	**+2.9**
TIA				S	**S**	**19 43 11.5**	**+6.9**
TIA				AMB	AMB		
	comp=Z,124nm,1.0s						
TIA				LR	LR		
	comp=N,451nm,11.0s						
TIA				LR	LR		
	comp=E,725nm,11.0s						
BJI	**Beijing**	**17.93**	**286**	P	**P**	**19 40 00.0**	**+1.2**
BJI				AMB	AMB		
	comp=Z,48nm,1.1s						
BJI				AMB	AMB		
	comp=Z,192nm,3.8s						
BJI				LR	LR		
	comp=N,151nm,11.9s						
BJI				LR	LR		
	comp=E,839nm,13.6s						
BJI				LR	LR		
	comp=Z,391nm,14.8s						
BJT	**Baijiatuan**	**17.93**	**286**	*e*Pn	**P**	**19 39 59.7**	**+0.8**
	comp=Z,114nm,0.9s						
HIA	**Hailar**	**18.33**	**317**	*e*P	**P**	**19 40 03.6**	**-0.3**
	comp=Z,24nm,0.9s						
PET	**Petropavlovsk**	**20.97**	**35**	*e*P	**P**	**19 40 37.6**	**+4.4**
PET				*e*S	**S**	**19 44 28.5**	**+7.5**
PET				pmax	pmax		
	comp=Z,100nm,12.4s						
PET				MLR	MLR		
	comp=Z,600nm,18.0s,MS4.0						
PET				MLR	MLR		
	comp=Z,400nm,16.0s						
WHN	**Wuhan**	**21.37**	**259**	⇓P	**P**	**19 40 36.5**	**-1.0**
WHN				LR	LR		
	comp=N,458nm,12.0s,MS4.4						
WHN				LR	LR		
	comp=E,936nm,13.0s,MS4.4						
WHN				LR	LR		
	comp=Z,2μm,13.0s,MS4.7						
CLNS	**Chul'man**	**21.71**	**339**	*e*P	**P**	**19 40 41.3**	**+0.6**
CLNS				pmax	pmax		
	comp=N,16nm,0.9s						
CLNS				pmax	pmax		
	comp=E,15nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,36nm,0.9s,mb4.8						
CLNS				MLR	MLR		
	comp=N,300nm,15.0s,MS4.0						
CLNS				MLR	MLR		
	comp=Z,500nm,15.0s,MS4.0						
CLNS				MLR	MLR		
	comp=E,200nm,11.0s,MS4.0						
BTO	**Baotou**	**22.64**	**287**	*e*P	**P**	**19 40 46.3**	**-3.7**
MA2	**Magadan**	**23.64**	**15**	*e*P	**P**	**19 40 59.8**	**+0.3**
MA2				*e*		19 41 08.3	
MA2				*e*		19 41 32.5	
MA2				*i* S	**S**	**19 45 14.7**	**+5.3**
MA2				pmax	pmax		
	comp=Z,50nm,1.0s,mb4.9						
MA2	**Magadan**	**23.64**	**15**	*e*P	**P**	**19 40 59.5**	**-0.1**
GUMO	**Guam**	**24.16**	**166**	*e*P	**P**	**19 41 03.9**	**-1.2**
XAN	**Xi'an**	**24.48**	**272**	P	**P**	**19 41 06.0**	**-2.0**
XAN				S	**S**	**19 45 32.5**	**+8.3**
XAN				LR	LR		
	comp=N,179nm,15.4s,MS4.0						
XAN				LR	LR		
	comp=E,322nm,13.8s,MS4.0						
XAN				LR	LR		
	comp=Z,500nm,12.6s,MS4.2						
ENH	**Enshi**	**25.32**	**263**	*e*P	**P**	**19 41 14.4**	**-1.6**
	comp=Z,108nm,0.8s,mb5.4						
ENH				LR	LR		
	comp=Z,505nm,21.0s,MS4.0						
YAK	**Yakutsk**	**25.46**	**350**	*c i*P	**P**	**19 41 15.6**	**-1.5**
YAK				*e*		19 41 50.8	
YAK				*e*PPP	PPP	19 42 04.8	-3.0
YAK				*e*		19 44 46.9	
YAK				*e*SS	SS	19 46 50.6	+7.4
YAK				*e*		19 52 06.4	
YAK				pmax	pmax		
	comp=Z,33nm,0.9s,mb4.9						
YAK				pmax	pmax		
	comp=N,23nm,1.1s						
YAK				pmax	pmax		
	comp=E,9.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.3						
YAK				MLR	MLR		
	comp=Z,194nm,16.0s,MS3.7						
YAK				MLR	MLR		
	comp=N,128nm,15.0s,MS3.9						
YAK				MLR	MLR		
	comp=E,192nm,12.0s,MS3.9						
YAK	**Yakutsk**	**25.46**	**350**	*e*P	**P**	**19 41 14.6**	**-2.5**
	comp=E,71nm,0.8s,mb5.2						
YAK				LR	LR		
	comp=Z,389nm,21.0s,MS3.9						
SONM	**Songino Array**	**25.97**	**304**	P	**P**	**19 41 20.7**	**-1.3**
	comp=Z,12nm,0.9s,mb4.4,baz=108,slow=7.8,SNR=58						
LZH	**Lanzhou**	**28.01**	**278**	*e*P	**P**	**19 41 39.5**	**-1.2**
LZH				AP	pP	19 41 42.8	-4.1
LZH				XP	sP	19 41 45.5	-4.2
LZH				S	**S**	**19 46 17.0**	**-5.3**
LZH				AMB	AMB		
	comp=Z,44nm,1.5s,mb4.9						
LZH				AMB	AMB		
	comp=Z,128nm,4.0s						
LZH				LR	LR		
	comp=E,821nm,13.2s						
LZH				LR	LR		
	comp=Z,1μm,15.2s,MS4.6						
ZAK	**Zakamensk**	**28.54**	**309**	*e*P	**P**	**19 41 42.2**	**-3.1**
GYA	**Guiyang**	**29.25**	**258**	⇑*i*P	**P**	**19 41 49.0**	**-3.0**
GYA				PPP	PPP	19 42 53.5	-6.7
GYA				PCP	PcP	19 44 59.8	+0.9
GYA				AMB	AMB		
	comp=Z,20nm,1.4s,mb4.7						
GYA				AMB	AMB		
	comp=Z,70nm,3.0s						
GYA				LR	LR		
	comp=N,590nm,14.5s,MS4.6						
GYA				LR	LR		
	comp=E,850nm,14.9s,MS4.6						
GYA				LR	LR		
	comp=Z,990nm,15.3s,MS4.5						
CD2	**Chengdu**	**29.63**	**268**	P	**P**	**19 41 54.5**	**-0.8**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.4s,mb4.9						
CD2				LR	LR		
	comp=N,440nm,12.3s						
CD2				LR	LR		
	comp=Z,590nm,14.4s,MS4.4						
GTA	**Gaotai**	**30.54**	**286**	*e*P	**P**	**19 42 00.5**	**-2.8**
GTA				AP	pP	19 42 15.0	+5.4
GTA				PCP	PcP	19 45 02.0	0.0
GTA				S	**S**	**19 47 10.5**	**+7.9**
GTA				AMB	AMB		
	comp=Z,70nm,7.2s						
GTA				LR	LR		
	comp=N,412nm,12.9s						
GTA				LR	LR		
	comp=E,369nm,18.6s						
GTA				LR	LR		
	comp=Z,424nm,16.4s,MS4.2						
QIZ	**Qiongzhong**	**31.18**	**242**	P	**P**	**19 42 10.3**	**+1.2**
QIZ				PP	PP	19 43 16.3	+4.2
QIZ				*e*S	**S**	**19 47 07.5**	**-5.2**
QIZ				SS	SS	19 48 58.5	-0.2
QIZ				LR	LR		
	comp=N,452nm,15.8s,MS4.4						
QIZ				LR	LR		
	comp=E,462nm,16.5s,MS4.4						
QIZ				LR	LR		
	comp=Z,413nm,16.5s,MS4.2						
KMI	**Kunming**	**32.98**	**259**	*e*P	**P**	**19 42 22.8**	**-2.0**
KMI				AP	pP	19 42 26.8	-4.3
KMI				PP	PP	19 43 34.0	-1.4
KMI				S	**S**	**19 47 38.3**	**-2.5**
KMI				SS	SS	19 49 38.0	-2.9
KMI				AMB	AMB		
	comp=Z,129nm,7.3s						
KMI				LR	LR		
	comp=N,500nm,13.3s,MS4.6						
KMI				LR	LR		
	comp=E,684nm,16.1s,MS4.6						
KMI				LR	LR		
	comp=Z,692nm,15.3s,MS4.5						
BILL	**Bilibino**	**34.43**	**18**	⇓*e*P	**P**	**19 42 36.3**	**-0.7**
BILL				*e*		19 45 12.0	
BILL				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.8						
BILL				MLR	MLR		
	comp=Z,200nm,13.0s,MS4.0						
BILL	**Bilibino**	**34.43**	**18**	*e*P	**P**	**19 42 36.4**	**-0.6**
	comp=Z,18nm,1.3s,mb4.8						
TIXI	**Tiksi**	**34.87**	**354**	⇑*e*P	**P**	**19 42 38.7**	**-1.9**
TIXI				*e*		19 45 11.3	
TIXI				pmax	pmax		
	comp=Z,18nm,1.5s,mb4.8						
TIXI				MLR	MLR		
	comp=Z,200nm,15.0s,MS4.0						
CHRT	**Chiangrai**	**38.11**	**254**	⇑P	**P**	**19 43 08.0**	**-0.6**
	comp=Z,105nm,0.9s,mb5.6						
WMQ	**Urumqi**	**38.91**	**296**	*e*P	**P**	**19 43 15.0**	**0.0**
WMQ				XP	sP	19 43 29.0	+4.9
WMQ				PP	PP	19 44 52.0	+3.8
WMQ				S	**S**	**19 49 21.0**	**+9.2**
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
WMQ				LR	LR		
	comp=N,289nm,20.0s,MS4.2						
WMQ				LR	LR		
	comp=E,293nm,20.0s,MS4.2						
WMQ				LR	LR		
	comp=Z,325nm,22.0s,MS4.1						
CHG	**Chiang Mai**	**39.37**	**253**	P	**P**	**19 43 22.6**	**+3.5**
CMAR	**Chiang Mai Arr**	**39.58**	**253**	P	**P**	**19 43 19.7**	**-1.1**
	comp=Z,1.3nm,0.6s,mb3.8,baz=41,slow=7.6,SNR=8.8						
CMAR				PcP	PcP	19 45 28.2	-0.2
	comp=Z,2.6nm,1.0s,baz=19,slow=1.9,SNR=7.3						
CMAR				LR	LR	20 00 28.9	
	comp=Z,272nm,19.5s,MS4.1,baz=65,slow=38						
CMAR	**Chiang Mai Arr**	**39.58**	**253**	P	**P**	**19 43 19.7**	**-1.1**
CMAR						19 45 28.3	
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CMAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
CMAR				MLR	MLR		
	comp=Z,272nm,19.5s						
NVS	**Novosibirsk**	**41.22**	**314**	⇑*i*P	**P**	**19 43 31.3**	**-2.6**
NVS				pmax	pmax		
	comp=E,8.0nm,1.4s						
NVS				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.2						
SHL	**Shillong**	**41.36**	**267**	⇑*i*P	**P**	**19 43 34.2**	**-1.2**
KURK	**Kurchatov**	**44.19**	**308**	*d i*P	**P**	**19 43 57.2**	**-0.9**
KURK	**Kurchatov**	**44.19**	**308**	*e*P	**P**	**19 43 55.3**	**-2.9**
	comp=Z,13nm,0.8s,mb4.7						
KURK				LR	LR		
	comp=Z,96nm,20.0s,MS3.7						
WAU	**Wau**	**44.96**	**169**	*e*P	**P**	**19 44 04.0**	**-0.8**
GUN	**Gumba**	**45.10**	**274**	*e*P	**P**	**19 44 05.3**	**-0.5**
	comp=Z,72nm,0.9s,mb5.5						
PKI	**Pulchoki**	**45.62**	**274**	*e*P	**P**	**19 44 08.9**	**-1.0**
KKN	**Kakani**	**45.63**	**274**	*e*P	**P**	**19 44 09.2**	**-0.7**
	comp=Z,34nm,0.8s,mb5.3						
**DM

SVW2 **Sparrevohn** 46.60 37 *eP* P 19 44 18.4 +1.2
KOLN **Koldanda** 46.97 275 *eP* P 19 44 19.8 -0.8
comp=Z,54nm,1.2s,mb5.4
PMG **Port Moresby** 47.05 169 LR LR 20 00 56.9
comp=Z,163nm,18.4s,MS4.0,baz=49,slow=32
IMA **Indian Mountai** 47.55 31 *eP* P 19 44 25.3 +0.6
comp=Z,25nm,1.1s,mb5.2
TKM2 **Tokmak 2** 47.73 298 P P 19 44 26.0 -0.4
SNR=10
RSO **Redoubt South** 48.01 38 *eP* P 19 44 28.7 +0.4
KBK **Karagaybulak** 48.26 297 P P 19 44 30.3 -0.2
SNR=14
SPU **Mount Spurr** 48.31 37 *eP* P 19 44 31.3 +0.7
KDAK **Kodiak Island** 48.31 42 *eP* P 19 44 30.1 -0.6
comp=Z,101nm,1.3s,mb5.7
USP **Ospenovka** 48.40 298 P P 19 44 31.7 +0.1
SNR=6.5
KSH **Kashi** 48.45 293 *eP* P 19 44 32.3 +0.4
KSH *eAP* pP 19 44 36.3 -2.1
KSH *eXP* sP 19 44 40.3 -0.7
KSH *ePCP* PcP 19 45 58.5 +0.1
KSH *ePP* PP 19 46 24.8 +0.4
KSH *ePPP* PPP 19 47 17.0 +0.7
KSH *eSCP* 19 49 51.0
KSH *ePCS* 19 49 53.5
KSH *eS* **S** **19 51 33.3 +2.8**
KSH *eXS* 19 51 40.0
KSH *eSCS* ScS 19 54 21.0 +0.3
KSH *eSS* SS 19 55 00.5 +5.0
KSH AMB AMB
comp=Z,40nm,2.3s,mb5.0
AAK **Ala-Archa** 48.58 297 *d iP* P 19 44 31.8 -1.2
AAK pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
AAK MLR MLR
comp=Z,800nm,18.0s,MS4.8
AAK **Ala-Archa** 48.58 297 *eP* P 19 44 30.3 -2.7
comp=Z,5.1nm,1.0s,mb4.5
BVAR **Borovoye Array** 48.91 312 P P 19 44 34.4 -0.9
comp=Z,11nm,0.9s,mb4.9,baz=90,slow=7.2,SNR=29
BRVK **Borovoye** 48.97 312 *eP* P 19 44 34.6 -1.2
comp=Z,16nm,1.0s,mb5.0
EKS2 **Erkin-Say** 49.08 298 P P 19 44 37.0 +0.2
SNR=5.7
AML **Almayashu** 49.30 297 P P 19 44 39.8 +1.3
SNR=14
MCK **McKinley** 49.60 34 *eP* P 19 44 40.3 -0.2
comp=Z,8.2nm,1.0s,mb4.7
PMR **Palmer** 49.68 37 *eP* P 19 44 40.6 -0.6
comp=Z,29nm,1.1s,mb5.2
ZRNK **Zerenda** 49.75 312 *eP* P 19 44 40.3 -1.5
comp=Z,34nm,1.1s,mb5.3
COLA **College** 50.00 32⇑ *eP* P 19 44 43.8 +0.3
COLA **College** 50.00 32 *eP* P 19 44 43.9 +0.4
comp=Z,36nm,1.6s,mb5.2
KAKA **Kakadu** 50.04 188 *eP* P 19 44 46.8 +2.3
comp=Z,15nm,0.7s,mb5.1
SML **Sawmill** 50.04 36 *eP* P 19 44 43.6 -0.3
ILAR **Eielson Array** 50.42 32 P P 19 44 46.2 -0.5
comp=Z,7.8nm,0.7s,mb4.8,baz=287,slow=5.6,SNR=64
ILAR **Eielson Array** 50.42 32 P P 19 44 46.2 -0.5
ILAR pmax pmax
comp=Z,8.0nm,0.7s
DIV **Divide** 51.35 37 *eP* P 19 44 53.9 0.0
comp=Z,144nm,1.1s,mb5.8
NDI **New Delhi** 51.62 280 *eP* P 19 44 54.0 -2.4
MENT **Mentasta** 52.03 34 *eP* P 19 44 59.5 +0.5
SVE **Sverdlovsk** 53.63 318⇑ *eP* P 19 45 10.0 -1.0
SVE pmax pmax
comp=Z,60nm,1.7s,mb5.2
SVE MLR MLR
comp=N,100nm,13.0s,MS5.0
SVE MLR MLR
comp=E,800nm,13.0s,MS5.0
SVE MLR MLR
comp=Z,1μm,13.0s,MS5.1
DAWY **Dawson** 53.74 33 *eP* P 19 45 11.0 -0.6
ARU **Arti** 54.84 318⇓ *iP* P 19 45 17.9 -2.0
ARU *e* 19 46 16.7
ARU *eS* **S** **19 53 00.0 +2.0**
ARU *eSS* SS 19 56 39.6 -1.6
ARU pmax pmax
comp=Z,27nm,0.8s,mb5.3
ARU MLR MLR
comp=Z,300nm,17.0s,MS4.4
ARU MLR MLR
comp=N,100nm,14.0s,MS4.5
ARU MLR MLR
comp=E,300nm,18.0s,MS4.5
INK **Inuvik** 55.14 27 P P 19 45 21.4 -0.4
comp=E,9.7nm,0.6s,mb5.0,baz=295,slow=7.1,SNR=68
INK **Inuvik** 55.14 27 P P 19 45 21.5 -0.4
INK pmax pmax
comp=Z,10.0nm,0.6s
INK **Inuvik** 55.14 27 *eP* P 19 45 21.2 -0.7
comp=Z,14nm,0.9s,mb5.0
HYB **Hyderabad** 56.16 267 *i P* P 19 45 29.0 -0.9
HYB **Hyderabad** 56.16 267 *eP* P 19 45 29.0 -0.9
FITZ **Fitzroy Crossi** 56.43 195 *eP* P 19 45 30.4 -1.5
comp=Z,8.5nm,1.3s,mb4.6
WRAB **Tennant Creek** 57.02 185 *c iP* P 19 45 33.9 -2.2
WRAB **Tennant Creek** 57.02 185 *eP* P 19 45 33.4 -2.6
comp=Z,103nm,1.0s,mb5.8
WB2 **Warramunga Arr** 57.03 185 *eP* P 19 45 34.0 -2.1
WRA **Warramunga Arr** 57.03 185 P P 19 45 34.0 -2.2
comp=Z,30nm,0.7s,mb5.4,baz=0.7,slow=7.6,SNR=209
WRA PcP PcP 19 46 30.2 -0.7
comp=Z,5.2nm,0.7s,baz=360,slow=4.4,SNR=4.8
WRA **Warramunga Arr** 57.03 185 P P 19 45 34.0 -2.1
WRA 19 46 30.2
WRA pmax pmax
comp=Z,30nm,0.7s
WRA pmax pmax
comp=Z,5.0nm,0.7s
CTA **Charters Tower** 57.44 172 P P 19 45 37.2 -1.8
comp=Z,4.6nm,0.6s,mb4.7,baz=356,slow=9.3,SNR=3.8
CTA **Charters Tower** 57.44 172 P P 19 45 37.2 -1.8
CTA pmax pmax
comp=Z,5.0nm,0.6s
CTA **Charters Tower** 57.44 172 P P 19 45 37.2 -1.8
CTAO **Charters Tower** 57.44 172 P P 19 45 36.7 -2.3
comp=Z,4.9nm,0.7s,mb4.7
DLBC **Dease Lake** 59.72 38 P P 19 45 55.2 +0.9
comp=Z,6.5nm,0.8s,mb4.7,baz=288,slow=4.9,SNR=7.5
ASAR **Alice Springs** 60.76 185 P P 19 46 00.1 -1.9
comp=Z,6.8nm,0.9s,mb4.8,baz=11,slow=5.7,SNR=55
ASAR PKP2bc 20 15 28.8
comp=Z,0.8nm,0.9s,baz=180,slow=2.7,SNR=4.1
ASAR **Alice Springs** 60.76 185 P P 19 46 00.1 -1.9
ASAR ⇑*e* 20 15 28.8
ASPA **Alice Springs** 60.76 185 *eP* P 19 45 59.9 -2.0
KEV **Kevo** 62.52 339 *ep* P 19 46 11.4 -1.7
RES **Resolute Bay** 62.90 14 *eP* P 19 46 14.3 -1.3
comp=Z,28nm,1.0s,mb5.3
ARCES **ARCESS Array B** 63.07 339 P P 19 46 15.9 -0.9
comp=Z,7.3nm,0.7s,mb4.9,baz=56,slow=8.7,SNR=8.5
ARCES LR LR 20 16 18.5
comp=Z,293nm,18.6s,MS4.5,baz=196,slow=39
ARCES **ARCESS Array B** 63.07 339 P P 19 46 15.9 -0.9
ARCES pmax pmax
comp=Z,7.0nm,0.7s
ARCES MLR MLR
comp=Z,293nm,18.6s
QLP **Quilpie** 63.69 175 *eP* P 19 46 19.1 -2.3
comp=Z,15nm,0.8s,mb5.1
YKA **Yellowknife Ar** 64.65 30 P P 19 46 26.4 -0.7
comp=Z,6.1nm,0.6s,mb4.8,baz=304,slow=6.2,SNR=14
YKA LR LR 20 19 32.3
comp=Z,92nm,18.0s,MS4.0,baz=270,slow=40
YKA **Yellowknife Ar** 64.65 30 P P 19 46 26.4 -0.7
YKA pmax pmax
comp=Z,6.0nm,0.6s
YKA MLR MLR
comp=Z,92nm,18.0s
JOF **Joensuu** 64.81 331 *ep* P 19 46 26.2 -1.9
comp=Z,3.7nm,0.6s,mb4.6
JOF **Joensuu** 64.81 331 *eP* P 19 46 26.2 -1.9
JOF pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
OBN **Obninsk** 66.69 322⇓ *eP* P 19 46 39.2 -1.1
OBN pmax pmax
comp=Z,200nm,12.9s
OBN MLR MLR
comp=Z,200nm,13.0s,MS4.5
VOR **Voronezh** 67.13 318 P P 19 46 41.5 -1.7
VOR pmax pmax
comp=Z,60nm,1.2s,mb5.5
KAF **Kangasniemi** 67.17 332 *ep* P 19 46 41.6 -1.7
comp=Z,6.0nm,0.6s,mb4.8,baz=51,slow=6.0
KAF **Kangasniemi** 67.17 332 *eP* P 19 46 41.6 -1.7
KAF pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
PGC **Sidney** 67.66 45 *eP* P 19 46 46.3 -0.2
comp=Z,24nm,0.8s,mb5.3
FINES **FINESS Array B** 67.67 331 P P 19 46 45.1 -1.2
comp=Z,12nm,0.9s,mb4.9,baz=56,slow=6.9,SNR=15
FINES LR LR 20 19 17.3
comp=Z,286nm,18.8s,MS4.5,baz=344,slow=39
FINES **FINESS Array B** 67.67 331 P P 19 46 45.2 -1.2
FINES pmax pmax
comp=Z,12nm,0.9s
FINES MLR MLR
comp=Z,286nm,18.8s
FORT **Forrest** 68.41 190 *eP* P 19 46 50.3 -1.3
comp=Z,92nm,0.6s,mb6.0
GOF **Gofitskoye** 68.42 311⇓ *iP* P 19 46 51.0 -0.4
GOF pmax pmax
comp=Z,45nm,1.8s,mb5.2
STKA **Stephens Creek** 68.81 177 *eP* P 19 46 52.9 -1.1
comp=Z,5.4nm,0.7s,mb4.6
STKA **Stephens Creek** 68.81 177 P P 19 46 52.5 -1.5
comp=Z,6.9nm,0.7s,mb4.7,baz=343,slow=7.7,SNR=16
ZEI **Tsey** 69.09 308 *eP* P 19 46 53.6 -1.9
ZEI pmax pmax
comp=Z,10.0nm,1.8s,mb4.4
KIV **Kislovodsk** 69.21 310 *ceP* P 19 46 55.9 -0.4
KIV pmax pmax
comp=Z,11nm,0.7s,mb4.9
KIV MLR MLR
comp=Z,200nm,18.0s,MS4.4
KIV **Kislovodsk** 69.21 310 *eP* P 19 46 55.8 -0.5
comp=Z,18nm,1.0s,mb5.0
VSU **Vasula** 69.23 329⇓ *eP* P 19 46 54.3 -1.8
EDM **Edmonton** 70.44 37 *eP* P 19 47 02.7 -1.0
SUMG **Summit** 70.47 359 *eP* P 19 47 03.2 -0.3
comp=Z,40nm,1.0s,mb5.3
SOC **Sochi** 71.22 311 *i P* P 19 47 05.9 -2.6
SOC *e* 19 47 32.4
SOC *e* 19 49 46.7
SOC *ePPP* PPP 19 51 29.6 -0.2
SOC *eS* S 19 56 21.1 -2.1
SOC *e* 19 57 05.3
SOC *eSSS* SSS 20 03 57.1 -8.8
SOC pmax pmax
comp=Z,24nm,1.8s,mb4.8
SOC pmax pmax
comp=N,9.0nm,1.2s
SOC pmax pmax
comp=E,5.0nm,0.9s
SOC MLR MLR
comp=N,111nm,17.0s,MS4.3
SOC MLR MLR
comp=Z,197nm,17.0s,MS4.4
SOC MLR MLR
comp=E,78nm,15.0s,MS4.3
NEW **Newport** 71.40 43 P P 19 47 09.8 +0.3
comp=E,20nm,0.9s,mb5.0,baz=317,slow=5.6,SNR=30
NEW **Newport** 71.40 43 P P 19 47 09.8 +0.3
NEW pmax pmax
comp=Z,20nm,0.9s
NEW **Newport** 71.40 43 *eP* P 19 47 09.2 -0.3
comp=Z,22nm,1.0s,mb5.0
YBH **Yreka Blue Hor** 71.83 51 P P 19 47 13.5 +1.3
comp=Z,6.0nm,0.8s,mb4.6,baz=0.2,slow=4.5,SNR=3.5
YBH **Yreka Blue Hor** 71.83 51 P P 19 47 13.5 +1.3
YBH pmax pmax
comp=Z,6.0nm,0.8s
AKASG **Malin Array Be** 72.87 321 P P 19 47 16.9 -1.2
comp=Z,9.6nm,0.8s,mb4.8,baz=48,slow=6.0,SNR=46
AKASG LR LR 20 21 51.2
comp=Z,415nm,18.6s,MS4.7,baz=45,slow=38
AKASG **Malin Array Be** 72.87 321 P P 19 47 16.9 -1.2
AKASG pmax pmax
comp=Z,10.0nm,0.8s
AKASG MLR MLR
comp=Z,415nm,18.6s
NB2 **NORSAR Subarra** 73.19 336 P P 19 47 18.7 -1.1
comp=Z,24nm,1.0s,mb5.1,baz=41,slow=5.8
NB2 **NORSAR Subarra** 73.19 336 P P 19 47 18.7 -1.1
baz=41,slow=6.2
NOA **NORSAR Array B** 73.19 336 P P 19 47 19.1 -0.7
comp=Z,14nm,1.0s,mb4.9,baz=40,slow=5.9,SNR=20
NOA PP PP 19 50 02.0 -2.9
comp=Z,5.6nm,1.0s,baz=42,slow=8.7,SNR=4.1
NOA LR LR 20 20 23.0
comp=Z,170nm,18.9s,MS4.3,baz=75,slow=37
NOA **NORSAR Array B** 73.19 336 P P 19 47 19.1 -0.7
NOA 19 50 02.1
NOA pmax pmax
comp=Z,14nm,1.0s
NOA pmax pmax
comp=Z,6.0nm,1.0s
NOA MLR MLR
comp=Z,170nm,18.9s
NOA **NORSAR Array B** 73.19 336 P P 19 47 19.1 -0.7
NOA PP PP 19 50 02.0 -2.9
NOA LR LR 20 20 23.0
SUW **Suwalki** 73.60 326 *eP* P 19 47 21.8 -0.5
SUW **Suwalki** 73.60 326 *eP* P 19 47 21.8 -0.5
CHMT **Chamberlain Mo** 74.30 43 *eP* P 19 47 26.5 0.0
BEKR **Beckwourth** 74.35 52 *eP* P 19 47 27.6 +0.7
comp=Z,13nm,0.8s,mb4.9
FFC **Flin Flon** 74.62 32 *eP* P 19 47 27.9 -0.3
comp=Z,7.4nm,0.8s,mb4.7
MALT **Malatya** 75.02 307 P P 19 47 30.5 -0.4
comp=Z,24nm,1.6s,mb4.9
WCN **Washoe City** 75.06 52 *eP* P 19 47 31.9 +0.8
comp=Z,5.3nm,0.7s,mb4.6
HRY **Holter Researc** 75.19 42 *eP* P 19 47 32.5 +0.8
KIS **Kishinev** 75.39 318 *eP* P 19 47 36.0 +3.2
KIS MLR MLR
comp=Z,500nm,16.0s,MS4.9
KIS MLR MLR
comp=Z,300nm,17.0s
CMB **Columbia Colle** 75.40 53 *eP* P 19 47 33.6 +0.6
comp=Z,11nm,0.9s,mb4.8
HLID **Hailey** 75.72 46 *eP* P 19 47 35.6 +0.9
comp=Z,5.2nm,0.8s,mb4.5
CTKT **Corum** 75.92 310 *i P* P 19 47 35.6 -0.3
BMN **Battle Mountai** 75.96 50 *eP* P 19 47 37.0 +0.9
comp=Z,11nm,0.8s,mb4.8
BOZ **Bozeman (W)** 75.97 43 *eP* P 19 47 36.9 +0.8
comp=Z,24nm,1.1s,mb5.0
GZT **Gaziantep** 76.14 306 *i P* P 19 47 37.9 +0.7
BALT **Daday** 76.22 312 *i P* P 19 47 38.1 +0.6
NVAR **Mina Array Bea** 76.49 52 P P 19 47 40.5 +1.3
comp=Z,10.0nm,0.7s,mb4.8,baz=300,slow=4.1,SNR=44
MNV **Mina** 76.58 52 *eP* P 19 47 40.3 +0.6
comp=Z,8.8nm,0.9s,mb4.7
QLMT **Earthquake Lak** 76.60 44 *eP* P 19 47 40.4 +0.7
KWP **Kalwaria** 76.75 323 *eP* P 19 47 41.1 +0.7
KWP **Kalwaria** 76.75 323 *eP* P 19 47 41.1 +0.7
ELDT **Eldivan** 76.83 311 *i P* P 19 47 41.4 +0.4
CFR **Carcaliu** 76.92 317⇓ *iP* P 19 47 41.0 -0.4
YMR **Madison River** 76.96 43 *eP* P 19 47 42.8 +1.1
MTUM **Tungsten Hills** 76.97 53 *eP* P 19 47 43.0 +1.1
MTUM *e* 19 47 46.1
AVNT **Avonos** 77.00 309 *i P* P 19 47 42.1 +0.1
FRB **Frobisher Bay** 77.02 12 P P 19 47 41.3 -0.3
comp=Z,26nm,0.9s,mb5.2,baz=348,slow=9.2,SNR=3.8
FRB **Frobisher Bay** 77.02 12 P P 19 47 41.3 -0.3
FRB pmax pmax
comp=Z,26nm,0.9s
BRTR **Keskin Array B** 77.17 310 P P 19 47 42.7 -0.2
comp=Z,8.0nm,0.9s,mb4.6,baz=90,slow=4.9,SNR=43
BRTR LR LR 20 26 15.6
comp=Z,82nm,19.0s,MS4.1,baz=340,slow=39
BRTR **Keskin Array B** 77.17 310 P P 19 47 42.7 -0.2
BRTR pmax pmax
comp=Z,8.0nm,0.9s
BRTR MLR MLR
comp=Z,82nm,19.0s
YFT **Old Faithful** 77.17 44 P P 19 47 44.2 +1.3
VRI **Vrincioaia** 77.23 318⇓ *iP* P 19 47 43.7 +0.6
TPH **Tonopah** 77.38 52 *eP* P 19 47 44.9 +0.7
comp=Z,28nm,1.1s,mb5.1
KOLS **Kolonicke sedl** 77.44 323 *i P* P 19 47 44.2 0.0
IMW **Indian Meadow** 77.47 44 *eP* P 19 47 46.1 +1.6
COBT **Iskenderun** 77.48 306 *i P* P 19 47 45.7 +1.0
SGKT **Sivrigoynuk** 77.60 312 *i P* P 19 47 45.4 +0.1
OJC **Ojcow** 77.71 325 *eP* P 19 47 45.5 -0.2
OJC **Ojcow** 77.71 325 *eP* P 19 47 45.5 -0.2
TPAW **Teton Pass** 77.72 44 *eP* P 19 47 47.5 +1.6
HVU **Hansel Valley** 77.77 47 *eP* P 19 47 46.4 +0.2
CRVS **Cervenica-Dubn** 77.85 323 *eP* P 19 47 47.5 +1.0
SNOW **Snow King Moun** 77.85 44 *eP* P 19 47 48.2 +1.6
REDW **Red Top Meadow** 77.86 44 *eP* P 19 47 48.1 +1.4
DGMT **Dagmar** 77.94 37 *eP* P 19 47 47.0 +0.1
comp=Z,37nm,1.1s,mb5.2
NIE **Niedzica** 78.03 324 *eP* P 19 47 48.4 +0.9
LAO **LASA Array** 78.14 40 *eP* P 19 47 48.5 +0.4
comp=Z,39nm,1.1s,mb5.2
HWUT **Hardware Ranch** 78.58 46 *eP* P 19 47 51.4 +0.7
comp=Z,33nm,1.5s,mb5.0
MZLS **Mizel** 78.60 291 P P 19 47 51.3 +0.2
TPNV **Topopah Spring** 78.68 52 *eP* P 19 47 52.0 +0.6
comp=Z,14nm,0.9s,mb4.9
OKC **Ostrava-Krasne** 78.73 325 *eP* P 19 47 51.7 +0.4
DUG **Dugway** 78.75 48 *eP* P 19 47 52.2 +0.6
comp=Z,5.5nm,0.8s,mb4.5
KSP **Ksiaz** 78.83 327⇑ *eP* P 19 47 51.8 0.0
KSP *e*PP* pP 19 47 59.0 +0.4
KSP **Ksiaz** 78.83 327 *eP* P 19 47 52.1 +0.3
BSEG **Bad Segeberg** 78.93 332 *eP* P 19 47 52.2 -0.1
BSEG pmax pmax
comp=Z,31nm,1.3s,mb5.1
BSEG **Bad Segeberg** 78.93 332 *eP* P 19 47 52.2 -0.1
PDAR **Pinedale Array** 78.97 44 P P 19 47 53.3 +0.5
comp=Z,7.3nm,0.8s,mb4.6,baz=291,slow=2.0,SNR=41
ESKT **Eskisehir** 78.98 311 *i P* P 19 47 52.5 -0.4
MORC **Moravsky Berou** 79.05 326 *eP* P 19 47 53.2 +0.1
comp=Z,15nm,1.1s,mb4.8
HILS **Ha'il** 79.14 296 P P 19 47 54.5 +0.5
DPC **Dobruska-Polom** 79.18 327 *eP* P 19 47 54.2 +0.5
DPC AMS AMS 20 23 20.0
comp=Z,500nm,9.6s
UPC **Upice** 79.20 327 *eP* P 19 47 54.4 +0.6
PSZ **Piszkesteto** 79.28 323 *i* Pc 19 47 54.8
PSZ **Piszkesteto** 79.28 323⇑ *iP* P 19 47 54.8 +0.4
NLU **North Lily Min** 79.34 48 *eP* P 19 47 55.8 +1.0
VYHS **Vyhne** 79.38 324 *eP* P 19 47 55.5 +0.7
VYHS *e* pP 19 48 03.8 +2.2
MPU **Maple Canyon** 79.56 47 P P 19 47 56.9 +0.8
ULDT **Uludag** 79.60 313 *i P* P 19 47 56.2 0.0
ASF **Jabal al Asfar** 79.68 303 P P 19 47 57.2 +0.4
comp=Z,6.5nm,0.8s,mb4.6,baz=181,slow=3.3,SNR=10
PVCC **Panska Ves** 79.81 328 *eP* P 19 47 57.4 +0.3
BRG **Berggiesshubel** 79.81 328 *eP* P 19 47 57.5 +0.3
BRG pmax pmax
comp=Z,11nm,1.0s,mb4.7
BRG **Berggiesshubel** 79.81 328 *eP* P 19 47 57.5 +0.3
comp=Z,11nm,1.0s,mb4.7
CLL **Collm** 79.88 329 ⇑P P 19 47 57.1 -0.4
comp=Z,logA/T=1.2,mb4.9
CLL *i *PP* pP 19 48 03.5 -0.8
CLL *e* 19 48 27.0
CLL **Collm** 79.88 329⇑ *iP* P 19 47 57.1 -0.4
CLL *i* pP 19 48 03.5 -0.8
CLL pmax pmax
comp=Z,20nm,1.2s,mb4.9
CLL **Collm** 79.88 329⇑ *iP* P 19 47 57.1 -0.4
comp=Z,20nm,1.2s,mb4.9
CLL *i* pP 19 48 03.5 -0.8
CLL *e* 19 48 27.0
SMOL **Smolenice** 80.01 325 *eP* P 19 47 59.1 +0.8
MSU **Marysvale** 80.21 49 *eP* P 19 48 01.1 +1.6
PRU **Pruhonice** 80.22 327 *eP* P 19 47 59.5 +0.2
PRU pmax pmax
comp=Z,16nm,1.0s,mb4.9
PRU MLR MLR
comp=Z,300nm,6.4s
PRU **Pruhonice** 80.22 327 *eP* P 19 47 59.5 +0.2
comp=Z,16nm,1.0s,mb4.9
PRU AMS AMS 20 25 30.0
comp=Z,300nm,6.4s
ISP **Isparta** 80.25 310 *c iP* P 19 47 59.4 -0.4
ISP **Isparta** 80.25 310 P P 19 47 59.5 -0.3
comp=Z,15nm,1.1s,mb4.8
AFFS **'Afif** 80.30 293 P P 19 48 00.2 -0.1
NEN **Nelson** 80.38 52 *eP* P 19 48 01.2 +0.7
ZST **Bratislava** 80.39 325 *eP* P 19 48 01.1 +0.8
ULM **Lac du Bonnet** 80.44 32 P P 19 48 00.3 -0.1
comp=Z,8.6nm,0.9s,mb4.7,baz=316,slow=8.8,SNR=5.5
CLZ **Clausthal** 80.53 331 *eP* P 19 48 01.0 0.0
comp=Z,30nm,1.2s,mb5.1
HMDT **Nahal Hemdat** 80.55 303 P P 19 48 02.0 +0.5
SRU **San Rafael** 80.80 48 *eP* P 19 48 03.7 +1.0
NKC **Novy Kostel** 80.92 328 *eP* P 19 48 03.5 +0.4
NKC AMS AMS 20 28 50.0
comp=Z,500nm,7.8s
MOX **Moxa** 80.95 329 *i P* P 19 48 03.4 +0.2
comp=Z,logA/T=1.1,mb4.8
MOX **Moxa** 80.95 329 *eP* P 19 48 03.4 +0.2
MOX pmax pmax
comp=Z,16nm,1.3s,mb4.8
MOX **Moxa** 80.95 329 *eP* P 19 48 03.4 +0.2
comp=Z,16nm,1.3s,mb4.8
KHC **Kasperske Hory** 81.28 327 *eP* P 19 48 05.1 +0.2
KHC *e* 19 48 14.0
KHC *e* 19 51 04.4
KHC MLR MLR
comp=Z,300nm,16.3s,MS4.7
KHC **Kasperske Hory** 81.28 327 *eP* P 19 48 05.1 +0.2
KHC x x 19 48 14.0
KHC *ePP* PP 19 51 04.4 -8.5
KHC AMS AMS 20 28 10.0
comp=Z,300nm,16.3s
GEC2 **GERESS Array S** 81.44 327 *eP* P 19 48 06.0 +0.2
GEC2 pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
GEC2 **GERESS Array S** 81.44 327 *eP* P 19 48 06.0 +0.2
comp=Z,5.0nm,0.7s,mb4.5
GERES **GERESS Array B** 81.44 327 P P 19 48 05.8 0.0
comp=Z,3.9nm,0.7s,mb4.4,baz=34,slow=4.8,SNR=25
GERES **GERESS Array B** 81.44 327 P P 19 48 05.8 0.0
GERES pmax pmax
comp=Z,4.0nm,0.7s
WET **Wettzell** 81.57 328 *eP* P 19 48 06.7 +0.2
WET pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
WET **Wettzell** 81.57 328 *eP* P 19 48 06.7 +0.2
comp=Z,6.0nm,0.9s,mb4.5
BOZC **Bozcaada** 81.58 314 *i P* P 19 48 06.2 -0.5
ARSA **Arzberg** 81.81 325⇑ *iP* P 19 48 08.2 +0.4
comp=Z,7.0nm,1.2s,mb4.5
KDAG **Bornova** 81.83 312 *i P* P 19 48 06.1 -2.0
ZFRI **Zfri** 81.83 302 P P 19 48 08.8 +0.6
GRA1 **Grafenberg Arr** 81.85 329 *eP* P 19 48 08.5 +0.6
comp=Z,35nm,1.0s,mb5.2
GRF **Grafenberg Arr** 81.85 329 *eP* P 19 48 08.5 +0.6
GRF pmax pmax
comp=Z,35nm,1.0s,mb5.2
KBRS **Khaybar** 81.90 296 P P 19 48 09.5 +0.9
RAR **Rarotonga** 81.95 124 LR LR 20 20 44.2
comp=Z,125nm,19.7s,MS4.3,baz=294,slow=33
PRNI **Paran** 82.08 302 P P 19 48 10.1 +0.6
KZIT **Kziot** 82.14 303 P P 19 48 10.2 +0.4
PV10 **Paradox Valley** 82.16 47 *eP* P 19 48 10.9 +1.1
JMQS **Jabal Moqyreh** 82.39 300 P P 19 48 11.6 +0.5
GROS **Grobnik** 82.41 324 *i P* P 19 48 11.0 +0.1
KMTI **Karmit** 82.42 302 P P 19 48 11.5 +0.2
AQBJ **Aqaba** 82.43 302 P P 19 48 11.8 +0.5
PERS **Pernice** 82.46 325 *eP* P 19 48 11.3 +0.2
MBH **Mount Berech** 82.48 302 P P 19 48 12.2 +0.6
EIL **Elat** 82.53 302 P P 19 48 12.3 +0.4
TATS **Tathlith** 82.54 289 P P 19 48 12.9 +0.8
PV01 **Paradox Valley** 82.59 47 *eP* P 19 48 12.9 +0.9
BDRM **Kayabasi** 82.61 311 *i P* P 19 48 12.4 +0.3
TOD **Tromm** 82.90 330 *eP* P 19 48 13.3 -0.1
FUR **Furstenfeldbru** 83.00 328 *eP* P 19 48 14.2 +0.3
FUR pmax pmax
comp=Z,30nm,0.9s,mb5.3
FUR **Furstenfeldbru** 83.00 328 *eP* P 19 48 14.2 +0.3
comp=Z,30nm,0.9s,mb5.3
RW3 **Ridgway** 83.03 47 *eP* P 19 48 15.8 +1.5
ISCO **Idaho Springs** 83.16 44 *eP* P 19 48 15.9 +1.0
comp=Z,5.9nm,1.1s,mb4.5
BDAS **Al Bad'** 83.20 301 P P 19 48 15.7 +0.3
VISS **Visnje** 83.20 324 *eP* P 19 48 14.5 -0.5
AYUS **'Aynunah** 83.24 300 P P 19 48 15.8 +0.2
TAYS **Tayyib Ism** 83.29 301 P P 19 48 16.2 +0.5
STU **Stuttgart** 83.40 329 *eP* P 19 48 15.5 -0.4
comp=Z,26nm,0.9s,mb5.2
UMJS **Umm Lajj** 83.63 297 P P 19 48 18.3 +0.6
YNBS **Yanbu' al Bahr** 83.69 296 P P 19 48 18.5 +0.6
MOTA **Moosalm** 83.71 327⇓ *iP* P 19 48 17.5 0.0

comp=Z,7.2nm,1.1s,mb4.7
NAMS An Nimas 83.72 289 P **P** 19 48 19.5 +1.3
BLJS Baljurashi 83.75 290 P **P** 19 48 19.2 +0.8
EYMN Ely 84.05 31 *eP* **P** 19 48 18.8 -0.4
comp=Z,28nm,1.0s,mb5.3
BFO Black Forest 84.10 329 *eP* **P** 19 48 19.7 +0.2
BFO pmax pmax
comp=Z,31nm,1.3s,mb5.3
BFO Black Forest 84.10 329 *eP* **P** 19 48 19.7 +0.2
comp=Z,31nm,1.3s,mb5.3
DAVA Damuels 84.28 328⇑*iP* **P** 19 48 20.5 +0.1
comp=Z,26nm,1.0s,mb5.3
BAIF Baives 84.30 333 *eP* **P** 19 48 19.9 -0.5
comp=Z,20nm,1.1s,mb4.8
LTHS Al Lith 84.40 291 P **P** 19 48 21.9 +0.3
CDF Champ du Feu 84.46 330 *eP* **P** 19 48 21.2 -0.1
comp=Z,39nm,1.0s,mb5.2
LIBD Limburg 84.54 330 *eP* **P** 19 48 21.3 -0.3
ECH Echery 84.67 330 *eP* **P** 19 48 21.9 -0.4
MOF Molkenrain 84.97 330 *eP* **P** 19 48 23.4 -0.4
HINF Hinteralfeld 85.11 330 *eP* **P** 19 48 23.9 -0.6
THEF They Montfort 85.12 331 *eP* **P** 19 48 23.9 -0.6
HAU Haudompre 85.16 330 *eP* **P** 19 48 24.2 -0.5
comp=Z,15nm,0.7s,mb4.9
HAU *eR*
comp=Z,173nm,17.4s
MEZF Maizieres J'vi 85.26 331 *eP* **P** 19 48 25.2 0.0
comp=Z,24nm,0.8s,mb5.1
SCHQ Schefferville 85.68 15 P **P** 19 48 27.5 +0.3
comp=Z,7.3nm,0.7s,mb5.0,baz=266,slow=2.6,SNR=5.2
LAZ Ladron 85.97 49 *eP* **P** 19 48 30.3 +1.2
ANMO Albuquerque 86.00 48‖*eP* **P** 19 48 30.8 +1.5
GVD Gavdhos 86.12 312 *eP* **P** 19 48 29.1 -0.8
comp=Z,28nm,1.0s,mb5.5
BNM Barren Site 86.45 49 *eP* **P** 19 48 32.5 +1.0
LOR Lormes 86.73 331 *eP* **P** 19 48 31.9 -0.7
comp=Z,22nm,0.9s,mb5.1
LOR *eR*
comp=Z,191nm,22.5s
LPL La Plagne 87.01 329 *eP* **P** 19 48 33.6 -0.3
comp=Z,3.0nm,0.6s,mb4.4
LPG La Plagne 87.02 328 *eP* **P** 19 48 33.8 -0.2
SSF Saint Saulge 87.04 331 *eP* **P** 19 48 33.6 -0.5
comp=Z,24nm,1.1s,mb5.0
FLN La Foliniere 87.06 334 *eP* **P** 19 48 33.6 -0.5
FLN *eR*
comp=Z,242nm,20.2s
LDF La Druitiere 87.08 334 *eP* **P** 19 48 33.5 -0.7
comp=Z,32nm,1.0s,mb5.2
SMF Signal de Mont 87.25 331 *eP* **P** 19 48 34.7 -0.4
comp=Z,10nm,0.7s,mb4.4
GRR Gorron 87.51 334 *eP* **P** 19 48 35.9 -0.4
comp=Z,26nm,1.0s,mb5.1
ORIF Oris-en-Rattie 87.85 329 *eP* **P** 19 48 37.1 -0.9
comp=Z,38nm,1.4s,mb5.1
ORIF *eR*
comp=Z,211nm,20.2s
KSU1 Kansas State U 88.49 40 *eP* **P** 19 48 41.2 0.0
GDL2 Guadalupe Moun 89.16 49 *eP* **P** 19 48 45.2 +0.6
LFF La Frestale 89.87 332 *eP* **P** 19 48 47.0 -0.6
TXAR Lajitas Array 91.60 51 P **P** 19 48 56.6 +0.7
comp=Z,2.2nm,0.7s,mb4.6,baz=291,slow=3.2,SNR=12
CCM Cathedral Cave 91.97 37 *eP* **P** 19 48 57.7 +0.3
comp=Z,4.9nm,0.9s,mb4.8
ESDC Sonseca Array 96.17 332 LR LR 20 33 39.2
comp=Z,129nm,18.8s,MS4.4,baz=110,slow=36
VNDA Vanda 115.36 175 PKP PKPdf 19 54 29.1 -3.6
comp=Z,0.3nm,0.7s,baz=300,slow=5.2,SNR=3.7
DBIC Dimbokro 124.71 314 PKP PKPdf 19 54 48.5 -3.8
comp=Z,1.4nm,0.5s,baz=50,slow=7.9,SNR=3.1
DBIC Dimbokro 124.71 314 PKIKP PKPdf 19 54 48.5 -3.8
DBIC pmax pmax
comp=Z,1.0nm,0.5s
SYO Syowa Base 127.47 207⇑Pdiff Pdif 19 51 35.3 +1.0
VNA2 Neumayer--Watz 141.93 197 PKPdf 19 55 18.1 -4.6
VNA2 Neumayer--Watz 141.93 197⇑*i* PKPdf 19 55 22.0 -0.7
VNA2 Neumayer--Watz 141.93 197 PKPdf PKPdf 19 55 15.2 -7.5
VNA2 P 19 55 18.1
VNA2 ⇑*iP* 19 55 22.0
VNA3 Neumayer Olymp 142.22 196⇑*i* PKPdf 19 55 17.4 -5.8
VNA3 Neumayer Olymp 142.22 196⇓*i* PKPdf 19 55 21.4 -1.8
VNA3 Neumayer Olymp 142.22 196⇓*i*PKPdf PKPdf 19 55 14.1 -9.1
VNA3 ⇑*iP* 19 55 17.4
VNA3 ⇓*iP* 19 55 21.4
SAML Samuel 145.49 41⇑*i*PKPdf PKPdf 19 55 27.2 -3.3
LPAZ La Paz 148.32 56 PKPbc PKPdf 19 55 36.5 +1.5
comp=Z,4.3nm,0.6s,baz=296,slow=3.3,SNR=22
LPAZ La Paz 148.32 56 PKP2 PKPab 19 55 36.6 -2.9
LPAZ pmax pmax
comp=Z,4.0nm,0.6s
LPAZ La Paz 148.32 56 *e*PKPbc PKPdf 19 55 36.2 +1.2

IDC ***31*** *19:37:25.3±0.7,55.16S×28.49W,mb4.5/6,mb1 4.5/7, mb1mx4.4/10,ML4.4/1,MS4.1/4,Ms1 4.0/4,ms1mx3.8/9, Error ellipse: s-maj=45.6km s-min=17.2km az=58.0*
NEIC ***31*** *19:37:32.4±3.4,55.22S×28.88W,h50km±29km,mb4.6/9, Error ellipse: s-maj=25.9km s-min=8.7km az=49.0*
ISC 31 19:37:31.7±4.0,55.2S±0.1×28.9W±0.3,h61km±36km,n39, σ1§18/25,mb4.5/10,4C-1D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EFI	**East Falkland**	**17.65**	**270**	P	**P**	**19 41 33.7**	**-0.9**
	3.4nm,0.6s						
VNA1	**Neumayer--Stat**	**17.92**	**158**⇑*i*		**P**	**19 41 43.1**	**+5.3**
VNA3	**Neumayer Olymp**	**18.09**	**160**⇑*i*		**P**	**19 41 41.2**	**+1.3**
VNA2	**Neumayer--Watz**	**18.32**	**157**		**P**	**19 41 43.0**	**+0.3**
PMSA	**Palmer Station**	**19.71**	**227**	*eP*	**P**	**19 41 58.2**	**-0.2**
	16nm,0.6s						
SNAA	**Sanae**	**19.89**	**156**		**P**	**19 41 57.6**	**-2.6**
SNAA	**Sanae**	**19.89**	**156**	P	**P**	**19 41 57.9**	**-2.3**
	1.0nm,0.3s,baz=303,slow=10,SNR=40						
SNAA	**Sanae**	**19.89**	**156**‖*eP*		**P**	**19 41 57.5**	**-2.7**
	22nm,1.0s						
TRQA	**Tornquist**	**28.09**	**294**	*eP*	**P**	**19 43 19.5**	**0.0**
	6.2nm,0.9s,mb4.2						
SYO	**Syowa Base**	**32.83**	**142**⇑P		**P**	**19 43 59.0**	**-2.0**
SYO	**Syowa Base**	**32.83**	**142**⇓P		**P**	**19 44 02.6**	**+1.6**
QSPA	**South Pole Qui**	**35.01**	**180**	*eP*	**P**	**19 44 20.6**	**+1.0**
CPUP	**Villa Florida**	**35.54**	**313**	P	**P**	**19 44 23.6**	**-1.0**
	12nm,0.9s,mb4.8,baz=170,slow=7.7,SNR=16						
CPUP	**Villa Florida**	**35.54**	**313**	*eP*	**P**	**19 44 23.2**	**-1.4**
MAW	**Mawson**	**41.38**	**145**	P	**P**	**19 45 11.6**	**-1.3**
	3.3nm,0.8s,mb4.0,baz=281,slow=11,SNR=4.9						
BDFB	**Brasilia**	**42.18**	**332**	P	**P**	**19 45 21.4**	**+1.6**
	1.3nm,0.6s,mb3.8,baz=196,slow=7.7,SNR=3.7						
BDFB				LR	LR	19 59 05.3	
	comp=Z,133nm,19.9s,baz=346,slow=31						
LVC	**Limon Verde**	**44.04**	**301**	*eP*	**P**	**19 45 36.4**	**+1.4**
	12nm,0.9s,mb4.6						
VNDA	**Vanda**	**47.33**	**183**	P	**P**	**19 46 01.6**	**+1.1**
	5.7nm,0.7s,mb4.6,baz=190,slow=5.6,SNR=59						
VNDA	**Vanda**	**47.33**	**183**	*eP*	**P**	**19 46 00.8**	**+0.4**
	5.6nm,0.7s,mb4.6						
LPAZ	**La Paz**	**49.10**	**307**	P	**P**	**19 46 16.4**	**+1.5**
	5.8nm,0.7s,mb4.7,baz=168,slow=7.1,SNR=22						
LPAZ				LR	LR	20 05 01.4	
	comp=Z,86nm,21.5s,baz=275,slow=34						
LPAZ	**La Paz**	**49.10**	**307**	*eP*	**P**	**19 46 15.7**	**+0.8**
	7.4nm,0.8s,mb4.8						
LPAZ				LR	LR	20 05 01.4	
SAML	**Samuel**	**53.53**	**316**	*eP*	**P**	**19 46 46.9**	**-1.5**
	10nm,0.8s,mb4.8						
SAML				*e*	pP	19 47 00.8	-3.6
SDV	**Santo Domingo**	**72.74**	**316**	*eP*	**P**	**19 48 54.7**	**-0.4**
	7.0nm,0.9s,mb4.6						
URZ	**Urewera**	**84.24**	**200**	LR	LR	20 24 24.5	
	comp=Z,194nm,18.5s,baz=129,slow=33						
STKA	**Stephens Creek**	**92.86**	**172**	P	**P**	**19 50 38.8**	**+0.2**
	2.0nm,0.9s,mb4.5,baz=160,slow=8.1,SNR=3.7						
STKA				LR	LR	20 29 29.2	
	comp=Z,121nm,18.1s,baz=206,slow=34						
STKA	**Stephens Creek**	**92.86**	**172**	*eP*	**P**	**19 50 37.6**	**-1.0**
STKA				LR	LR	20 29 29.2	
ASAR	**Alice Springs**	**100.05**	**164**	P	P	19 51 11.0	-0.5
	1.2nm,0.8s,baz=187,slow=5.3,SNR=7.7						
FINES	**FINESS Array B**	**124.13**	**28**	PKP	PKPdf	19 56 23.4	+1.0
	6.8nm,1.1s,SNR=7.6						
CMAR	**Chiang Mai Arr**	**126.28**	**112**	PKP	PKPdf	19 56 29.3	+1.8
	1.1nm,0.8s,baz=237,slow=3.4,SNR=8.1						
ARCES	**ARCESS Array B**	**130.56**	**22**	PKP	PKPdf	19 56 37.6	+3.2
	2.8nm,0.8s,baz=225,slow=1.7,SNR=5.5						
BVAR	**Borovoye Array**	**135.18**	**58**	PKP	PKPdf	19 56 45.7	+2.3
	1.3nm,0.8s,SNR=4.7						
INK	**Inuvik**	**144.55**	**322**	PKP	PKPdf	19 57 00.5	+1.0
	15nm,1.1s,baz=109,slow=2.9,SNR=20						
INK	**Inuvik**	**144.55**	**322**	*e*PKPdf	PKPdf	19 57 00.3	+0.8
INK				PKP	PKPdf	19 57 00.5	+1.0
DAWY	**Dawson**	**145.52**	**313**	*e*PKPdf	PKPdf	19 57 03.4	+2.1
ILAR	**Eielson Array**	**148.84**	**313**	PKPbc	PKPdf	19 57 13.2	+6.5
	12nm,0.7s,baz=129,slow=2.0,SNR=74						
COLA	**College**	**149.26**	**313**	*e*PKPbc	PKPdf	19 57 13.8	+6.3
MCK	**McKinley**	**149.49**	**311**	*e*PKPbc	PKPdf	19 57 14.8	+7.0
SONM	**Songino Array**	**151.66**	**86**	PKPbc	PKPdf	19 57 18.9	+7.2
	5.4nm,0.8s,baz=231,slow=2.7,SNR=29						
IMA	**Indian Mountai**	**151.84**	**315**	*e*PKPbc	PKPdf	19 57 20.8	+9.4

DJA 31 19:42:42.1±0.6,4.03S×120.22E,h2km,MD4.2/3,ML3.6/1, 3C-3D,Error ellipse: s-maj=17.3km s-min=4.7km az=120.0,Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUNI	**Buntu Taipa**	**0.38**	**16**⇓*i*Pn		Pn	19 42 52.0	-2.1
	195nm,0.3s						
BUNI				⇑*i*Sn	Sn	19 42 58.3	-3.8
NINI	**Niniconang**	**0.60**	**230**⇓*i*Pn		Pn	19 42 55.4	-1.9
	92nm,0.3s						
NINI				⇓*i*Sn	Sn	19 43 04.1	-3.7
TANI	**Tanete Lipujan**	**1.02**	**305**⇑*i*Pn		Pn	19 43 00.2	-3.1
	95nm,0.3s						
TANI				⇑*i*Sn	Sn	19 43 13.7	-4.6

NEIC ***31*** *19:58:34.1±1.0,19.73S×177.81W,h558km±13km,mb4.2/3, Error ellipse: s-maj=18.8km s-min=11.9km az=145.0*
IDC ***31*** *19:58:38.1±2.9,19.66S×177.96W,h595km±32km,mb3.1/7, mb1 3.4/8,mb1mx3.3/16,Error ellipse: s-maj=30.5km s-min=17.4km az=159.0*
ISC 31 19:58:33.5±1.3,19.8S±0.1×177.9W±0.1,h560km±23km, n28,σ0§88/17,mb3.8/9,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**8.25**	**46**	*eP*	**P**	**20 00 34.1**	**-0.6**
	28nm,0.5s						
URZ	**Urewera**	**18.94**	**192**	P	**P**	**20 02 19.6**	**-0.5**
	2.7nm,0.3s,baz=346,slow=4.3,SNR=7.8						
PMG	**Port Moresby**	**35.28**	**282**	P	**P**	**20 04 44.4**	**+1.1**
	15nm,0.9s,mb4.5,baz=114,slow=4.5,SNR=3.8						
STKA	**Stephens Creek**	**38.20**	**243**	P	**P**	**20 05 08.8**	**+1.7**
	0.9nm,0.7s,mb3.4,baz=64,slow=12,SNR=4.7						
STKA	**Stephens Creek**	**38.20**	**243**	*eP*	**P**	**20 05 06.9**	**-0.1**
ASAR	**Alice Springs**	**44.79**	**256**	P	**P**	**20 05 59.9**	**+0.3**
	5.6nm,0.7s,mb4.2,baz=89,slow=7.8,SNR=87						
ASAR				PcP	PcP	20 07 29.1	-0.7
	1.0nm,0.7s,baz=97,slow=4.5,SNR=5.5						
ASAR				S	**S**	**20 11 55.0**	**-1.6**
	1.4nm,0.8s,baz=92,slow=16,SNR=17						
ASPA	**Alice Springs**	**44.79**	**256**	*eP*	**P**	**20 05 59.8**	**+0.3**
ASPA				*eS*	**S**	**20 11 53.8**	**-2.8**
WB2	**Warramunga Arr**	**44.80**	**261**	*eP*	**P**	**20 05 59.3**	**-0.3**
WRAB	**Tennant Creek**	**44.80**	**261**	*eP*	**P**	**20 05 58.9**	**-0.8**
	6.5nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**44.81**	**261**	P	**P**	**20 05 59.3**	**-0.3**
	1.8nm,0.4s,mb3.9,baz=97,slow=7.9,SNR=88						
FITZ	**Fitzroy Crossi**	**53.23**	**262**	*eP*	**P**	**20 07 02.1**	**0.0**
	1.4nm,0.4s,mb3.6						
VNDA	**Vanda**	**58.65**	**185**	P	**P**	**20 07 39.6**	**+0.9**
	0.6nm,0.9s,mb2.8,baz=336,slow=6.6,SNR=4.1						
VNDA	**Vanda**	**58.65**	**185**	*eP*	**P**	**20 07 39.5**	**+0.7**
PDAR	**Pinedale Array**	**88.36**	**43**	P	**P**	**20 10 26.4**	**-0.6**
	0.1nm,0.4s,mb2.9,baz=180,slow=4.4,SNR=3.5						
CMAR	**Chiang Mai Arr**	**89.97**	**290**	P	**P**	**20 10 36.5**	**+1.5**
	2.0nm,0.9s,mb3.9,baz=112,slow=2.8,SNR=11						
ARCES	**ARCESS Array B**	**128.22**	**350**	PKP	PKPdf	20 16 36.5	+0.8
	3.1nm,0.7s,baz=56,slow=3.3,SNR=4.4						
AKASG	**Malin Array Be**	**142.42**	**332**	PKhKP		20 16 59.3	
	0.8nm,0.4s,baz=33,slow=4.2,SNR=8.2						
BSEG	**Bad Segeberg**	**145.31**	**351**	*e*PKPbc	PKPbc	20 17 09.7	+1.5
BRTR	**Keskin Array B**	**146.42**	**313**	PKPbc	PKPbc	20 17 12.6	+1.2
	1.5nm,0.7s,baz=139,slow=4.4,SNR=11						
CLL	**Collm**	**147.37**	**347**	*i* PKP1	PKPdf	20 17 15.2	+4.6
BRG	**Berggiesshubel**	**147.58**	**346**	*e*P	PKPdf	20 17 16.2	+5.2
PRU	**Pruhonice**	**148.25**	**345**	*e*PKPbc	PKPdf	20 17 17.6	+5.5
MOX	**Moxa**	**148.28**	**348**	*i* P	PKPdf	20 17 18.7	+5.7
GRA1	**Grafenberg Arr**	**149.26**	**348**	*e*PKPbc	PKPdf	20 17 20.6	+6.9
KHC	**Kasperske Hory**	**149.29**	**345**	*e*PKPbc	PKPdf	20 17 20.0	+6.3
GEC2	**GERESS Array S**	**149.52**	**345**	*e*PKPbc	PKPdf	20 17 21.1	+7.0
GERES	**GERESS Array B**	**149.52**	**345**	PKPbc	PKPdf	20 17 20.6	+6.5
	2.2nm,0.7s,slow=1.3,SNR=16						
GERES	**GERESS Array B**	**149.52**	**345**	PKPbc	PKPdf	20 17 20.6	+6.5

IDC 31 20:11:46.7±22.0,20.75S×176.68W,h114km±201km, mb3.4/5,mb1 3.7/5,mb1mx3.5/13,Error ellipse: s-maj=112.0km s-min=48.7km az=158.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.80**	**245**	P	P	20 19 00.6	-1.4
	2.6nm,0.4s,baz=86,slow=10,SNR=19						
ASAR	**Alice Springs**	**45.67**	**257**	P	P	20 19 56.0	-1.9
	0.8nm,0.8s,baz=92,slow=7.5,SNR=13						
WRA	**Warramunga Arr**	**45.79**	**262**	P	P	20 19 57.2	-1.8
	0.3nm,0.4s,baz=93,slow=7.9,SNR=5.4						
TXAR	**Lajitas Array**	**86.15**	**57**	P	P	20 24 15.4	-1.2
	0.5nm,0.8s,baz=217,slow=6.3,SNR=6.0						
ILAR	**Eielson Array**	**88.28**	**12**	P	P	20 24 25.1	-0.9
	0.2nm,0.5s,baz=210,slow=5.6,SNR=4.2						
ARCES	**ARCESS Array B**	**129.38**	**350**	PKP	PKPdf	20 30 40.2	-1.2
	2.7nm,0.9s,baz=315,slow=3.4,SNR=5.3						
AKASG	**Malin Array Be**	**143.82**	**332**	PKP	PKPdf	20 31 09.6	+1.5
	0.5nm,0.6s,baz=43,slow=3.7,SNR=4.2						

NAO ***31*** *20:37:39.3±1.6,67.75N×20.47E,ML2.5*
HEL ***31*** *20:37:39.0±0.2,67.86N×20.29E,ML2.3,ML2.0(BER), ML2.5(NAO),Explosion*
IDC ***31*** *20:37:40.5±1.1,67.78N×20.68E,mb1 3.4/4, mb1mx3.2/17,ML2.6/4,Error ellipse: s-maj=17.0km s-min=7.5km az=120.0*
BER ***31*** *20:37:40.4±4.2,67.87N×20.20E,ML2.0,ML2.5(NAO), Suspected explosion*
ISC 31 20:37:36.2±0.5,67.75N±0.03×20.12E±0.08,n23,σ1§06/39, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KIF	**Kilpisjarvi**	**1.29**	**11**	*eP*	**Pb**	**20 38 00.1**	**-0.9**
KIF				*eS*	**Sb**	**20 38 16.2**	**-1.7**
KTK1	**Kautokeino**	**1.72**	**41**	*eP*	**Pn**	**20 38 07.9**	**+0.4**
KTK1				*e*SN	**Sn**	**20 38 29.9**	**-0.5**
KTK1				AML	AML	20 38 34.9	
	comp=Z,19nm,0.8s						
TRO	**Tromso**	**1.94**	**348**	*eP*	**Pn**	**20 38 10.5**	**-0.3**
TRO				*e*SG	**Sg**	**20 38 36.3**	**-4.5**
TRO				AML	AML	20 38 39.6	
	comp=Z,28nm,0.5s						
SGF	**Sodankyl**	**2.48**	**94**	*e*PB	**Pb**	**20 38 20.9**	**-0.4**
SGF				*e*SB	**Sb**	**20 38 52.0**	**-0.4**
LOF	**Lofoten**	**2.51**	**282**	*e*SG	**Sg**	**20 39 00.1**	**+0.3**
ARA0	**ARCESS Array S**	**2.67**	**45**	Pn	**Pn**	**20 38 22.2**	**+1.1**
ARA0	baz=233,slow=14			Sn	**Sn**	**20 38 54.9**	**+0.2**
	baz=227,slow=28						
ARA0	**ARCESS Array S**	**2.67**	**45**	*eP*	**Pn**	**20 38 22.2**	**+1.1**
ARA0				*e*SB	**Sn**	**20 38 54.9**	**+0.2**
ARCES	**ARCESS Array B**	**2.67**	**45**	Pn	**Pn**	**20 38 22.4**	**+1.2**
	comp=Z,1.1nm,0.3s,baz=224,slow=15,SNR=39						
ARCES				Sn	**Sn**	**20 38 55.7**	**+1.0**
	comp=Z,4.3nm,0.3s,baz=229,slow=25,SNR=19						
MOR8	**Moi Rana**	**2.74**	**237**	*e*SG	**Sg**	**20 39 02.1**	**-5.2**
MOR8				AML	AML	20 39 05.3	
	comp=Z,23nm,0.5s						
KEV	**Kevo**	**3.22**	**48**	*eP*	**Pn**	**20 38 29.8**	**+0.8**
KEV				*e*S	**Sn**	**20 39 07.6**	**-1.0**
KEV				MSG		20 39 26.4	
	comp=Z,8.8nm,0.3s						
OUL	**Oulu**	**3.54**	**136**	*eP*	**Pn**	**20 38 35.0**	**+1.4**
OUL				*e*S	**Sn**	**20 39 17.0**	**+0.2**
OUL				*e*SG	**Sg**	**20 39 28.0**	**-6.2**
OUL				MSG		20 39 36.7	
	comp=Z,6.3nm,0.3s						
MSF	**Maaselka**	**3.98**	**113**	*e*SG	**Sg**	**20 39 41.6**	**-7.1**
NSS	**Namsos**	**4.62**	**229**	*e*SG	**Sg**	**20 40 05.0**	**-5.2**
APA0	**Apatity Array**	**4.91**	**86**	Pn	**Pn**	**20 38 52.4**	**-0.6**
	baz=291,slow=16						
APA0				Sn	**Sn**	**20 39 46.6**	**-4.9**
	baz=258,slow=28						
APA0				Lg		20 40 08.3	
	baz=274,slow=37						
APA0	**Apatity Array**	**4.91**	**86**	*eP*	**Pn**	**20 38 52.4**	**-0.6**
APA0				*e*S	**Sn**	**20 39 46.6**	**-4.9**
APA0				*e*SG	**Sg**	**20 40 08.3**	**-11**
FIA0	**FINESS Array S**	**6.83**	**155**	Lg		20 41 13.8	
	baz=345,slow=28						
FIA0	**FINESS Array S**	**6.83**	**155**	*e*SG	**Sg**	**20 41 13.8**	**-10**
FIA0	**FINESS Array S**	**6.83**	**155**	Lg		20 41 13.8	
	baz=345,slow=28						
FINES	**FINESS Array B**	**6.83**	**155**	Pn	**Pn**	**20 39 21.9**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=350,slow=12,SNR=4.2						
FINES				Sn	**Sn**	**20 40 37.5**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=349,slow=23,SNR=3.9						
FINES				Lg		20 41 12.0	
	comp=Z,0.4nm,0.3s,baz=345,slow=25,SNR=5.5						
NOA	**NORSAR Array B**	**7.75**	**214**	Pn	**Pn**	**20 39 35.2**	**+2.2**
	comp=Z,0.1nm,0.3s,baz=18,slow=13,SNR=2.4						
NOA				Sn	**Sn**	**20 41 02.0**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=38,slow=11,SNR=3.1						
NOA				Lg		20 41 50.1	
	comp=Z,0.4nm,0.3s,baz=47,slow=13,SNR=4.4						
HFS	**Hagfors**	**8.15**	**203**	Pn	**P**	**20 39 38.1**	**-0.4**
	baz=21,slow=10						
HFS				Sn	**Sn**	**20 41 10.7**	**-1.7**
	baz=21,slow=28						
HFS				Lg		20 41 57.4	
	baz=13,slow=28						
HFS	**Hagfors**	**8.15**	**203**	*eP*	**P**	**20 39 38.1**	**-0.4**
HFS				*eS*	**Sn**	**20 41 10.7**	**-1.7**
HFS				*e*		20 41 57.4	
HFS	**Hagfors**	**8.15**	**203**	Pn	**P**	**20 39 38.1**	**-0.4**
	comp=Z,0.0nm,0.3s,baz=17,slow=15,SNR=3.7						
HFS				Sn	**Sn**	**20 41 11.7**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=22,slow=23,SNR=4.2						
HFS				Lg		20 41 58.3	
	comp=Z,0.1nm,0.3s,baz=19,slow=26,SNR=6.8						

NIED ***31*** *20:40:00,37.20N×138.90E,h5km,Mw3.4 Best double couple: M0 1.52×10^14 NP1:φs331°,δ70°,λ26°. NP2:φs231°, δ65°,λ158°.*
JMA ***31*** *20:40:04.2,37.22N×138.92E,h10km±1km,M4.0*
JMA Felt III J1.
ISC 31 20:40:04.0±0.9,37.21N±0.04×138.92E±0.09,h15km±10km, n8,σ0§47/11,1C-1D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.08**	**64**	⇓P	**Pb**	**20 40 06.5**	**-0.3**
JHK				S	**Sb**	**20 40 08.4**	**-0.2**
JIZZ	**Izumozaki**	**0.36**	**332**	⇑P	**Pb**	**20 40 11.6**	**0.0**
JIZZ				S	**Sb**	**20 40 17.4**	**+0.7**
JKT	**Katashina**	**0.52**	**150**	P	**Pb**	**20 40 14.6**	**+0.4**
JJN	**Nakama**	**0.62**	**260**	P	**Pb**	**20 40 16.0**	**0.0**
JNS	**Sasagawa**	**0.68**	**27**	P	**Pb**	**20 40 16.8**	**-0.2**
JGK	**Kuni**	**0.69**	**199**	P	**Pb**	**20 40 17.3**	**+0.1**
MAT	**Matsushiro**	**0.88**	**221**	P	**Pb**	**20 40 20.2**	**-0.3**
MAT				S	**Sb**	**20 40 31.6**	**-0.2**
JSD	**Sado**	**0.98**	**328**	P	**Pb**	**20 40 21.2**	**-0.9**

TAP ***31*** *20:45:43.1,23.99N×122.49E,h46km,ML2.6*
JMA 31 20:45:46.3±0.2,24.04N×122.46E,h13km,M1.8,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.66**	**50**	P	Pb	20 45 58.9	-0.2
YOJ				S	Sb	20 46 07.8	0.0
IRIF	**Iriomote-Funau**	**1.20**	**76**	P	Pb	20 46 08.5	+0.2
IRIF				S	Sb	20 46 23.7	+0.2
HATJ	**Hateruma jima**	**1.23**	**89**	S	Sb	20 46 24.9	+0.4
JKRS	**Kuro-shima**	**1.43**	**82**	P	Pn	20 46 12.1	0.0
JKRS				S	Sb	20 46 30.8	+0.5
JJ	**Ishigaki jima**	**1.57**	**78**	S	Sn	20 46 32.3	-2.1

DJA 31 20:49:57.7±1.0,9.46S×114.09E,h2km,MD5.8/3,ML3.2/4, 2C-5D,Error ellipse: s-maj=25.2km s-min=11.8km az=34.0,South of Bali

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRDI	**Scrawed**	**0.98**	**3**⇑*i*Pn		Pn	20 50 14.8	-3.4
	29nm,0.2s						
SRDI				⇓*i*Sn	Sn	20 50 26.9	-5.9
KELI	**Kelakatan**	**1.30**	**18**⇓*i*Pn		Pn	20 50 20.3	-2.5
	26nm,0.2s						
KELI				⇑*e*Sn	Sn	20 50 36.6	-4.4
RATI	**Rata**	**1.60**	**63**⇓*i*Pn		Pn	20 50 24.3	-2.9
	46nm,0.2s						
RATI				⇓*i*Sn	Sn	20 50 42.7	-6.1
KEDI	**Kedomdong**	**2.22**	**64**⇓*i*Pn		Pn	20 50 32.8	-3.3
	5.8nm,0.2s						

KRSC 31 21:20:17.6±1.6,49.21N×155.98E,h82km±21km,ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.48**	**3**	*eP*	P	21 20 43.5	+0.3
SKR				*eS*	S	21 21 00.5	-1.6
ALID	**Alaid**	**1.68**	**351**	*eP*	P	21 20 45.9

THW **Thamme Wali** 3.42 224 ⇓P Pn 21 26 10.1 +3.0
SARP **Sargodha** 3.71 205 P Pn 21 26 14.5 +3.2
SARP S Sg 21 27 12.0 -4.3
BHK **Bhakra** 4.17 158 *e* Pg 21 26 34.8 -1.1
BHK *e* 21 27 33.2
SBDP **Sheikh Budin** 4.32 227 P Pn 21 26 22.7 +2.8
KSH **Kashi** 4.36 15⇑ *i*PG Pn 21 26 26.5 +6.0
KSH SG Sn 21 27 19.5 +7.5
KSH LR LR
comp=N,5µm,2.8s
KSH LR LR
comp=E,5µm,4.0s
DRP **Derazinda** 5.07 227 P Pn 21 26 33.4 +2.8
KKR **Kurukshetra** 5.66 160 *e*P Pn 21 26 41.8 +3.1
KKR *e*S Sn 21 27 46.5 +2.0
DDI **Dehra Dun** 5.77 148 *e*P Pn 21 26 42.0 +1.6
DDI *e* 21 28 21.2
JOSI **Joshimath** 6.33 137 *e*P Pn 21 26 52.6 +4.3
RTK **Rohtak** 6.44 165 *e*P Pn 21 26 52.0 +2.2
RTK AMb AMB 21 26 56.2
comp=Z,27nm,0.3s
KALG **Kalgarh** 6.78 147 *e* Pn 21 26 46.1 -8.5
KALG *e* 21 28 03.6
KZA **Kyzart** 6.79 4 P Pn 21 26 57.2 +2.5
SNR=10
AML **Almayashu** 6.86 355 P Pn 21 26 57.2 +1.5
SNR=32
BHGR **Bahadurgarh** 6.89 162 *e*P Pn 21 26 58.5 +2.2
UCH **Uchtor** 6.92 360 P Pn 21 26 58.5 +1.9
SNR=26
NDI **New Delhi** 6.97 160 *e*P Pn 21 26 58.5 +1.2
NDI *e*S Sn 21 28 16.5 -1.0
ULHL **Ulahol** 7.06 10 P Pn 21 27 02.5 +3.9
SNR=9.8
AYAN **Aya Nagar** 7.14 161 *e*P Pn 21 27 01.1 +1.4
AYAN *e*S Sn 21 28 21.4 -0.3
KHET **Khetri** 7.28 171 *e*P Pn 21 27 01.5 -0.2
KHET *e*S Sn 21 28 23.1 -2.2
KUDL **Kundal** 7.32 166 *e*P Pn 21 27 02.5 +0.3
KUDL AMb AMB 21 27 07.0
comp=Z,33nm,0.4s
KUDL *e*S Sn 21 28 24.4 -1.8
AAK **Ala-Archa** 7.33 360 ⇑Pn Pn 21 27 04.8 +2.5
comp=Z,14nm,0.8s
AAK ⇓Lg 21 29 08.6
comp=Z,134nm,1.6s
AAK ⇓Rg 21 29 41.3
comp=Z,2µm,10.6s
AAK **Ala-Archa** 7.33 360 P Pn 21 27 02.2 -0.1
SNR=10
AAK **Ala-Archa** 7.33 360 *c* *i*P Pn 21 27 03.6 +1.3
AAK **Ala-Archa** 7.33 360 *e*Pn Pn 21 27 02.5 +0.2
comp=Z,6.8nm,0.6s
SONA **Sohna** 7.35 162 *e*P Pn 21 27 04.2 +1.6
SONA *e*S Sn 21 28 24.6 -2.3
KBK **Karagaybulak** 7.35 2 P Pn 21 27 05.5 +2.8
SNR=11
EKS2 **Erkin-Say** 7.38 356 P Pn 21 27 05.3 +2.3
SNR=25
PTH **Pithoragarh** 7.47 139 *e* Pn 21 27 10.0 +5.7
PTH *e* 21 29 13.0
FRU **Bishkek** 7.53 0 *e*P Pn 21 27 10.0 +4.9
LGTI **Lohaghat** 7.56 139⇓ *i*P Pn 21 27 07.0 +1.4
LGTI *e* 21 29 11.0
TKM2 **Tokmak 2** 7.66 6 P Pn 21 27 08.9 +2.0
SNR=22
CHMS **Chumysh** 7.69 1 P Pn 21 27 08.7 +1.2
SNR=12
AGRA **Agra** 8.55 159 *e*P P 21 27 20.5 +1.2
AGRA AMb AMB 21 27 27.5
comp=Z,65nm,1.0s
AJM **Ajmer** 8.79 179 *e*P P 21 27 23.0 +0.3
AJM *e* 21 29 48.0
JASL **Jaisalmer** 8.91 202 *e*P P 21 27 21.2 -3.2
JASL AMb AMB 21 27 26.5
JHNI **Jhansi** 10.38 160 *e*P P 21 27 42.0 -2.7
JHNI *e*S S 21 29 37.0 -5.2
KOLN **Koldanda** 10.76 132 *e*P P 21 27 49.5 -0.4
comp=Z,142nm,0.9s
GKN **Gorkha** 11.25 127 *e*P P 21 27 55.4 -1.2
comp=Z,132nm,0.5s
KKN **Kakani** 11.82 126 *e*P P 21 28 02.0 -2.2
comp=Z,148nm,0.6s
DMN **Daman** 11.82 128 *e*P P 21 28 02.9 -1.4
comp=Z,320nm,1.1s
PKI **Pulchoki** 12.05 127 *e*P P 21 28 05.5 -1.8
comp=Z,323nm,1.1s
GUN **Gumba** 12.14 124 *e*P P 21 28 06.5 -2.0
comp=Z,85nm,0.4s
MK31 **Makanchi Array** 12.88 25 P P 21 28 18.1 -0.3
comp=Z,1.7nm,0.6s,baz=203,slow=12,SNR=73
MK31 ⇑Lg 21 32 14.2
comp=Z,3.7nm,1.2s,baz=211,slow=42,SNR=4.4
MK31 ⇓Rg 21 33 33.3
comp=Z,162nm,12.7s
MKAR **Makanchi Array** 12.88 25 *i* P P 21 28 18.0 -0.4
MKAR pmax pmax
comp=Z,2.0nm,0.6s
WMQ **Urumqi** 13.23 46 *e*P P 21 28 23.0 0.0
WMQ XP 21 28 35.0
WMQ AMB AMB
comp=Z,8.0nm,0.8s
WMQ LR LR
comp=N,291nm,9.0s
WMQ LR LR
comp=E,516nm,10.0s
WMQ LR LR
comp=Z,599nm,10.0s
NGP **Nagpur** 14.64 163 *e* P 21 28 39.0 -2.8
NGP *e* 21 31 18.9
BLSP **Bilaspur** 14.70 151 *e* P 21 28 41.7 -0.8
BLSP *e*S S 21 31 16.2 -10
LSA **Lhasa** 15.07 107 P P 21 28 44.0 -3.3
KURK **Kurchatov** 15.69 10 ⇑P P 21 28 53.6 -1.6
comp=Z,31nm,0.7s,baz=206,slow=12,SNR=121
KURK ⇓S S 21 31 58.9 +9.4
comp=Z,9.9nm,1.9s,baz=80,slow=16,SNR=5.1
KURK ⇑Lg 21 33 39.4
comp=Z,38nm,2.7s,baz=80,slow=16,SNR=3.9
KURK ⇓Rg 21 34 49.8
comp=Z,305nm,10.8s,baz=268,slow=17,SNR=3.5
KURK **Kurchatov** 15.69 10 *d* *i*P P 21 28 53.0 -2.2
KURK pmax pmax
comp=Z,31nm,0.7s
KURK **Kurchatov** 15.69 10 *e*Pn P 21 28 53.4 -1.8
comp=Z,63nm,0.8s
KURK *e* 21 28 59.1
LATR **Latur** 16.91 173 *e*P P 21 29 09.2 -1.8
SHL **Shillong** 17.80 118 *e* P 21 29 16.5 -5.5
SHL *e*S S 21 32 28.0 -10
SHL *i* 21 36 18.5
SHL *e* 21 36 41.0
KAD **Karad** 17.92 181 *e*P P 21 29 23.0 -0.6
KAD *i* 21 33 03.8
BVA0 **Borovoye Array** 17.97 352 ⇑P P 21 29 22.9 -1.1
comp=Z,2.9nm,0.7s
BVA0 ⇑Lg 21 34 44.1
comp=Z,1.6nm,1.9s,baz=167,slow=26,SNR=3.8
BVA0 ⇑Rg 21 36 04.8
comp=Z,2.6nm,7.1s
BVA0 **Borovoye Array** 17.97 352 P P 21 29 22.8 -1.1
BVAR **Borovoye Array** 17.97 352 P P 21 29 21.9 -2.0
comp=Z,2.2nm,0.3s,baz=164,slow=11,SNR=41
BVAR LR LR 21 36 37.3
comp=Z,9.0nm,18.9s,baz=310,slow=38
BRVK **Borovoye** 18.01 352 *e*Pn P 21 29 22.5 -2.0
comp=Z,33nm,0.7s
ZRNK **Zerenda** 18.08 349 *e*P P 21 29 23.0 -2.4
comp=Z,18nm,0.7s
HYB **Hyderabad** 18.16 168 *i* P P 21 29 20.0 +2.3
HYB *e*S S 21 32 36.0 -10
HYB *e*S S 21 32 52.0 +5.5
HYB LR LR 21 36 32.0
comp=Z,2.1nm,12.0s
HYB **Hyderabad** 18.16 168 *e*P P 21 29 29.0 +2.3
HYB *e*S S 21 32 36.0 -10
AGT **Agartala** 18.42 124 *e* P 21 29 25.0 -4.8
NVS **Novosibirsk** 20.45 14 *e*P P 21 29 50.5 -2.2
NVS *e* 21 30 14.4
NVS *i* S S 21 33 35.4 -1.1
NVS pmax pmax
comp=Z,32nm,1.1s
NVS pmax pmax
comp=N,66nm,1.4s
NVS smax
comp=N,117nm,2.3s
GTA **Gaotai** 20.48 71 ⇓P P 21 29 54.0 +0.9
GTA AP 21 29 57.8
GTA XP 21 30 01.5
GTA AMB AMB
comp=Z,43nm,0.8s
GTA AMB AMB
comp=Z,145nm,5.7s
GTA LR LR
comp=N,160nm,15.6s,MS3.6
GTA LR LR
comp=E,183nm,17.1s,MS3.6
GTA LR LR
comp=Z,235nm,16.4s,MS3.6
SVE **Sverdlovsk** 23.51 341⇑ *e*P P 21 30 24.8 +1.6
SVE pmax pmax
comp=Z,70nm,2.0s,mb4.7
SVE MLR MLR
comp=Z,2µm,9.0s
SVE MLR MLR
comp=N,600nm,11.0s,MS4.4
SVE MLR MLR
comp=E,500nm,11.0s,MS4.4
LZH **Lanzhou** 23.77 80 *e*P P 21 30 28.0 +2.0
LZH AP 21 30 32.0
LZH XP 21 30 35.0
LZH *e*S S 21 34 40.5 +2.6
LZH XS 21 34 46.0
LZH AMB AMB
comp=Z,74nm,1.7s,mb4.8
LZH AMB AMB
comp=Z,182nm,4.2s
LZH LR LR
comp=N,645nm,10.3s
LZH LR LR
comp=Z,989nm,13.0s,MS4.5
ARU **Arti** 23.77 338⇑ *i*P P 21 30 26.9 +1.1
ARU *e* 21 30 53.1
ARU *e*S S 21 34 41.6 +3.8
ARU *e*SS SS 21 35 22.1 -5.0
ARU pmax pmax
comp=Z,20nm,0.8s,mb4.6
ARU MLR MLR
comp=Z,800nm,18.0s,MS4.2
ARU MLR MLR
comp=N,400nm,19.0s,MS4.1
ARU MLR MLR
comp=E,400nm,16.0s,MS4.1
GNI **Garni** 24.01 291 P P 21 30 31.5 +3.2
comp=E,7.3nm,0.7s,mb4.2,baz=181,slow=8.6,SNR=9.4
GNI LR LR 21 41 56.2
comp=E,207nm,20.3s,MS3.6,baz=102,slow=42
GNI **Garni** 24.01 291 P P 21 30 31.5 +3.2
GNI pmax pmax
comp=Z,7.0nm,0.7s
GNI MLR MLR
comp=Z,207nm,20.3s
CD2 **Chengdu** 24.81 92 *e*P P 21 30 38.0 +1.9
ZEI **Tsey** 24.86 297 *e*P P 21 30 37.6 +1.2
ZEI *i* *PP 21 30 49.4
ZEI pmax pmax
comp=Z,8.0nm,1.0s,mb4.2
MOY **Mondy** 25.01 41 *e*P P 21 30 40.6 +2.7
ZAK **Zakamensk** 25.70 45 *e*P P 21 30 45.4 +1.1
KIV **Kislovodsk** 25.89 299 *e*P P 21 30 47.1 +0.9
KIV *e* 21 31 22.8
KIV pmax pmax
comp=Z,3.0nm,0.7s,mb3.9
KIV MLR MLR
comp=Z,300nm,20.0s,MS3.8
KIV **Kislovodsk** 25.89 299 P P 21 30 46.0 -0.2
comp=Z,4.4nm,0.7s,mb4.1
KMI **Kunming** 26.31 105 *e*P P 21 30 50.0 -0.2
KMI AP pP 21 30 56.0 +2.9
KMI XP sP 21 30 58.5 +4.0
KMI PP PP 21 31 35.0 +2.2
KMI S S 21 35 19.0 -1.8
KMI SS SS 21 36 30.8 +1.6
KMI AMB AMB
comp=Z,7.0nm,0.9s,mb4.2
KMI AMB AMB
comp=Z,44nm,4.9s
KMI LR LR
comp=N,163nm,14.5s,MS3.8
KMI LR LR
comp=E,166nm,18.9s,MS3.8
KMI LR LR
comp=Z,195nm,13.4s
SONM **Songino Array** 26.72 52 P P 21 30 54.3 +0.6
comp=Z,4.1nm,0.9s,mb4.0,baz=255,slow=8.9,SNR=22
CHRT **Chiangrai** 27.03 118 ⇓P P 21 30 58.0 +1.1
CHG **Chiang Mai** 27.12 121 ⇑P P 21 31 00.4 +2.7
comp=Z,18nm,1.0s,mb4.6
CM31 **Chiang Mai Arr** 27.36 121 *e*P P 21 31 00.5 +0.6
comp=Z,8.6nm,0.6s,mb4.5
CMAR **Chiang Mai Arr** 27.36 121 P P 21 31 00.3 +0.4
comp=Z,8.9nm,0.7s,mb4.4,baz=308,slow=9.0,SNR=36
CMAR PcP PcP 21 34 20.1 +0.7
comp=Z,1.5nm,0.7s,baz=294,slow=3.6,SNR=6.0
CMAR **Chiang Mai Arr** 27.36 121 P P 21 31 00.3 +0.4
CMAR 21 34 20.2
CMAR pmax pmax
comp=Z,9.0nm,0.7s
CMAR pmax pmax
comp=Z,2.0nm,0.7s
MZLS **Mizel** 27.76 254 P P 21 31 05.0 +1.4
SOC **Sochi** 27.98 298 *e*P P 21 31 03.9 -1.4
SOC *e* 21 32 04.6
SOC *e*S S 21 35 44.2 -3.6
SOC *e*SS SS 21 37 00.6 -8.7
SOC pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
SOC pmax pmax
comp=N,8.0nm,1.2s
SOC pmax pmax
comp=E,1.0nm,0.3s
SOC MLR MLR
comp=Z,98nm,13.0s,MS3.6
SOC MLR MLR
comp=N,145nm,18.0s,MS3.8
SOC MLR MLR
comp=E,148nm,16.0s,MS3.8
XAN **Xi'an** 28.22 83 P P 21 31 06.3 -1.2
XAN AMB AMB
comp=Z,6.0nm,1.7s,mb4.0
BDT **Bhumibol Dam** 28.23 123 P P 21 31 12.0 +4.2
MALT **Malatya** 28.97 287 *e*P P 21 31 15.4 +1.2
comp=Z,8.6nm,1.3s,mb4.3
HILS **Ha'il** 28.97 263 P P 21 31 15.3 +0.9
AFFS **'Afif** 29.56 256 P P 21 31 20.3 +0.6
ENH **Enshi** 29.70 90 *e*P P 21 31 23.1 +2.2
ANN **Anapa** 29.74 300 *e*P P 21 31 18.6 -2.5
ANN *e*S S 21 36 13.0 -2.8
ANN pmax pmax
comp=Z,18nm,1.0s,mb4.8
ANN MLR MLR
comp=Z,281nm,12.0s,MS4.1
VOR **Voronezh** 30.07 314 *e*P P 21 31 23.3 -0.7
VOR pmax pmax
comp=Z,50nm,1.6s,mb5.0
ASF **Jabal al Asfar** 31.35 275 P P 21 31 36.7 +1.3
comp=Z,1.3nm,0.6s,mb4.0,baz=292,slow=6.3,SNR=3.2
ASF LR LR 21 45 56.6
comp=Z,83nm,21.7s,MS3.4,baz=124,slow=40
TATS **Tathlith** 31.57 248 P P 21 31 38.0 +0.5
KBRS **Khaybar** 31.70 262 P P 21 31 40.4 +1.8
MOS **Moscow** 32.41 321 *e*P P 21 31 43.8 -0.7
MOS *e* 21 32 50.6
MOS *e* 21 34 30.8
MOS *e* 21 38 52.4
BRTR **Keskin Array B** 32.55 290 P P 21 31 46.0 +0.1
comp=Z,2.1nm,0.6s,mb4.2,baz=99,slow=9.6,SNR=13
BRTR **Keskin Array B** 32.55 290 P P 21 31 46.0 +0.1
BRTR pmax pmax
comp=Z,2.0nm,0.6s
OBN **Obninsk** 32.73 319 *c* *i*P P 21 31 46.8 -0.5
OBN *e* 21 32 54.1
OBN *e* 21 34 31.5
OBN pmax pmax
comp=Z,26nm,0.5s,mb5.4
OBN MLR MLR
comp=Z,300nm,15.0s,MS4.1
OBN **Obninsk** 32.73 319 *e*P P 21 31 46.1 -1.2
comp=Z,33nm,0.6s,mb5.4
NAMS **An Nimas** 32.75 249 P P 21 31 49.5 +1.7
BLJS **Baljurashi** 32.81 251 P P 21 31 49.7 +1.3
BJT **Baijiatuau** 33.06 69 *e*P P 21 31 50.5 +0.1
BJI **Beijing** 33.07 69 P P 21 31 54.8 +4.4
BJI AMB AMB
comp=Z,17nm,1.0s,mb4.9
BJI LR LR
comp=N,66nm,14.8s,MS4.0
BJI LR LR
comp=E,191nm,15.3s,MS4.0
BJI LR LR
comp=Z,97nm,19.0s,MS3.5
JMQS **Jabal Moqyreh** 33.23 270 P P 21 31 53.5 +1.5
WHN **Wuhan** 33.59 87 *e*P P 21 31 52.8 -2.2
EIL **Elat** 33.71 272 P P 21 31 56.8 +0.6
comp=Z,12nm,0.9s,mb4.8,baz=84,slow=9.8,SNR=7.9
EIL LR LR 21 47 59.5
comp=Z,239nm,18.6s,MS4.0,baz=121,slow=40
EIL **Elat** 33.71 272 *e*P P 21 31 56.4 +0.3
comp=Z,14nm,0.9s,mb4.9
AYUS **'Aynunah** 33.98 269 P P 21 31 59.5 +1.1
BDAS **Al Bad'** 34.03 270 P P 21 31 59.9 +1.0
TAYS **Tayyib Ism** 34.17 270 D 21 32 01.0
HIA **Hailar** 35.68 53 P P 21 32 13.4 +0.6
comp=Z,10nm,1.0s,mb4.7
KIS **Kishinev** 35.89 303 *e*P P 21 32 14.0 -0.6
KIS *e* 21 32 31.0
AKASG **Malin Array Be** 35.94 310 P P 21 32 14.3 -0.6
comp=Z,8.4nm,0.5s,mb4.9,baz=104,slow=10,SNR=45
AKASG PP PP 21 33 37.1 +0.7
comp=Z,4.6nm,0.9s,baz=95,slow=11,SNR=5.2
AKASG **Malin Array Be** 35.94 310 P P 21 32 14.3 -0.6
AKASG 21 33 37.1
AKASG pmax pmax
comp=Z,8.0nm,0.5s
AKASG pmax pmax
comp=Z,5.0nm,0.9s
MLR **Muntele Rosu** 37.88 301 P P 21 32 32.8 +1.5
comp=Z,7.4nm,0.7s,mb4.5,baz=94,slow=1.7,SNR=19
MLR PP PP 21 34 00.6 -0.2
comp=Z,5.2nm,0.9s,baz=115,slow=2.8,SNR=5.0
MLR LR LR 21 49 57.9
comp=Z,213nm,19.0s,MS4.0,baz=276,slow=39
MLR **Muntele Rosu** 37.88 301 P P 21 32 32.8 +1.5
MLR 21 34 00.6
MLR pmax pmax
comp=Z,7.0nm,0.7s
MLR pmax pmax
comp=Z,5.0nm,0.9s
MLR MLR MLR
comp=Z,213nm,19.0s
JOF **Joensuu** 38.35 330 *ep* P 21 32 35.2 +0.1
comp=Z,6.7nm,0.6s,mb4.5
JOF **Joensuu** 38.35 330 *e*P P 21 32 35.2 +0.1
JOF pmax pmax
comp=Z,7.0nm,0.6s,mb4.6
SNY **Shenyang** 38.46 65 ⇓P P 21 32 35.8 -0.4
SNY AMB AMB
comp=Z,10.0nm,0.5s,mb4.8
SNY LR LR
comp=N,170nm,16.2s,MS4.2
SNY LR LR
comp=E,190nm,13.7s,MS4.2
SNY LR LR
comp=Z,170nm,11.4s,MS4.1
SSE **Sheshan** 38.97 83 P P 21 32 39.3 -1.4
SSE XP sP 21 32 52.0 +7.1
SSE S S 21 38 34.8 -4.2
SSE XS 21 38 49.8
SSE AMB AMB
comp=Z,38nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,69nm,3.5s
SSE LR LR
comp=N,44nm,27.5s,MS3.4
SSE LR LR
comp=E,75nm,27.5s,MS3.4
SSE LR LR
comp=Z,111nm,21.4s
CN2 **Changchun** 39.62 62 *e*P P 21 32 45.3 -0.6
CN2 *e*XP sP 21 32 52.0 +1.9
CN2 *e*S S 21 38 46.8 -1.8
CN2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,10.0s,MS4.4
CN2 LR LR
comp=E,200nm,10.0s,MS4.4
CN2 LR LR
comp=Z,200nm,13.0s,MS4.1
SUW **Suwalki** 40.03 314 *e*P P 21 32 47.9 -1.2
SUW **Suwalki** 40.03 314 *e*P P 21 32 47.9 -1.2
KWP **Kalwaria** 40.04 307 *e*P P 21 32 50.8 +1.5
KWP **Kalwaria** 40.04 307 *e*P P 21 32 50.8 +1.5
FINES **FINESS Array B** 40.09 326 P P 21 32 49.4 -0.2
comp=Z,3.9nm,0.7s,mb4.2,baz=108,slow=6.0,SNR=17
FINES LR LR 21 50 23.3
comp=Z,436nm,19.4s,MS4.3,baz=155,slow=38
FINES **FINESS Array B** 40.09 326 P P 21 32 49.4 -0.2
FINES pmax pmax
comp=Z,4.0nm,0.7s
FINES MLR MLR
comp=Z,436nm,19.4s
IDI **Anoyia** 40.18 285 P P 21 32 50.3 -0.3
comp=Z,4.0nm,0.6s,mb4.3,baz=78,slow=11,SNR=9.8
KAF **Kangasniemi** 40.20 327 *ep* P 21 32 50.6 +0.1
comp=Z,5.7nm,0.9s,mb4.3,baz=109,slow=8.4
KAF **Kangasniemi** 40.20 327 *e*P P 21 32 50.6 +0.1
KAF pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
KOLS **Kolonicke sedl** 40.32 306 *e*P P 21 32 52.0 +0.4
KOLS *e* 21 33 11.6
GVD **Gavdhos** 40.94 284 *e*P P 21 32 56.0 -0.8
comp=Z,19nm,0.8s,mb4.8
NIE **Niedzica** 41.60 307 *e*P P 21 33 04.2 +2.2
MDJ **Mudanjiang** 42.49 60 P P 21 33 09.0 -0.4
MDJ AP pP 21 33 12.0 -0.4
MDJ XP sP 21 33 13.8 +0.1
MDJ S S 21 39 38.5 +7.3
MDJ SCS ScS 21 43 10.0 +0.8
MDJ AMB AMB
comp=Z,9.0nm,1.3s,mb4.2
MDJ AMB AMB
comp=Z,45nm,3.6s
MDJ LR LR
comp=N,111nm,51.1s
MDJ LR LR
comp=E,86nm,45.3s
MDJ LR LR
comp=Z,124nm,17.2s
MDJ **Mudanjiang** 42.49 60 *e*P P 21 33 10.5 +1.1
comp=Z,24nm,1.0s,mb4.8
VYHS **Vyhne** 42.61 306 *e*P P 21 33 10.7 +0.4
SRO2 **Moca** 42.95 305 *e*P P 21 33 14.5 +1.4
KEV **Kevo** 42.99 338 *ep* P 21 33 13.6 +0.4
OKC **Ostrava-Krasne** 42.99 308 *e*P P 21 33 15.1 +1.6
SRO **Srobarova** 43.00 305 *e*P P 21 33 15.0 +1.4
YAK **Yakutsk** 43.30 34 *e*P P 21 33 14.9 -0.9
YAK pmax pmax
comp=Z,11nm,0.9s,mb4.6
YAK **Yakutsk** 43.30 34 *e*P P 21 33 15.7 -0.1
comp=Z,21nm,0.9s,mb4.9
ARCES **ARCESS Array B** 43.36 337 P P 21 33 16.7 +0.5
comp=Z,12nm,0.5s,mb4.8,baz=113,slow=8.1,SNR=58
ARCES LR LR 21 52 45.6
comp=Z,462nm,19.5s,MS4.4,baz=195,slow=38
ARCES **ARCESS Array B** 43.36 337 P P 21 33 16.7 +0.5
ARCES pmax pmax
comp=Z,12nm,0.5s
ARCES MLR MLR
comp=Z,462nm,19.5s
ARE0 **ARCESS Array S** 43.36 337 *e*P P 21 33 16.6 +0.5
MORC **Moravsky Berou** 43.39 308 P P 21 33 17.0 +0.4
comp=Z,7.3nm,0.9s,mb4.4
GKP **Gorka Klasztor** 43.51 313 *e*P P 21 33 18.3 +0.7
GKP **Gorka Klasztor** 43.51 313 *e*P P 21 33 18.3 +0.7
VRAC **Vranov** 44.03 307 P P 21 33 23.1 +1.2
comp=Z,6.5nm,0.9s,mb4.4,baz=108,slow=7.5,SNR=9.4
VRAC **Vranov** 44.03 307 P P 21 33 23.1 +1.2
VRAC pmax pmax
comp=Z,7.0nm,0.9s
KSP **Ksiaz** 44.14 309 *e*P P 21 33 23.3 +0.6
KSP *e* 21 35 04.0

KSP	Ksiaz	44.14	309	*e*P		P	21 33 23.5	+0.8
DPC	Dobruska-Polom	44.14	309	*e*P		P	21 33 23.7	+0.9
UPC	Upice	44.33	309⇑	*e*P		P	21 33 25.7	+1.4
PVCC	Panska Ves	45.25	309⇑	*e*P		P	21 33 33.8	+2.1
PRU	Pruhonice	45.31	308	⇑P		P	21 33 32.8	+0.6
PRU					pmax	pmax		
	comp=Z,33nm,1.7s,mb4.9							
PRU	Pruhonice	45.31	308	⇑P		P	21 33 32.8	+0.6
	comp=Z,33nm,1.7s,mb4.9							
BRG	Berggiesshubel	45.62	309	*e*P		P	21 33 35.3	+0.7
BRG					pmax	pmax		
	comp=Z,15nm,1.5s,mb4.7							
BRG	Berggiesshubel	45.62	309	*e*P		P	21 33 35.3	+0.7
	comp=Z,15nm,1.5s,mb4.7							
MOA	Molln	45.71	305⇓	*i*P		P	21 33 35.1	-0.3
	comp=Z,12nm,1.0s,mb4.8							
HFS	Hagfors	45.78	322	P		P	21 33 35.6	-0.2
	comp=Z,13nm,0.8s,mb4.9,baz=98,slow=10,SNR=24							
HFS	Hagfors	45.78	322	P		P	21 33 35.6	-0.1
HFS					pmax	pmax		
	comp=Z,13nm,0.8s							
TIXI	Tiksi	45.83	21⇓	*e*P		P	21 33 36.0	0.0
TIXI				*e*			21 33 49.4	
TIXI				*e*			21 35 13.9	
TIXI					pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9							
TIXI					MLR	MLR		
	comp=Z,600nm,19.0s,MS4.6							
GERES	GERESS Array B	45.97	307	P		P	21 33 37.5	+0.1
	comp=Z,0.8nm,0.6s,mb3.8,baz=76,slow=5.5,SNR=6.0							
GERES					PP	PP	21 35 27.0	+1.4
	comp=Z,1.2nm,0.8s,baz=90,slow=2.7,SNR=4.5							
GERES	GERESS Array B	45.97	307	P		P	21 33 37.5	+0.1
GERES							21 35 27.0	
GERES					pmax	pmax		
	comp=Z,1.0nm,0.6s							
GERES					pmax	pmax		
	comp=Z,1.0nm,0.9s							
KHC	Kasperske Hory	46.02	307	*e*P		P	21 33 38.2	+0.4
CLL	Collm	46.18	310	P		P	21 33 39.0	0.0
CLL				*e**PP		pP	21 33 45.0	+3.0
CLL				*e**SP		sP	21 33 51.0	+7.8
CLL	Collm	46.18	310	*e*P		P	21 33 39.0	0.0
CLL				*e*			21 33 51.0	
CLL	Collm	46.18	310	*e*P		P	21 33 39.0	0.0
CLL				*e*			21 33 45.0	
CLL				*e*			21 33 51.0	
NKC	Novy Kostel	46.63	309	*e*P		P	21 33 43.7	+1.1
NB2	NORSAR Subarra	47.06	324	P		P	21 33 45.0	-0.9
	comp=Z,4.6nm,0.6s,mb4.6,baz=93,slow=7.4							
NOA	NORSAR Array B	47.06	324	P		P	21 33 45.5	-0.4
	comp=Z,6.7nm,0.7s,mb4.7,baz=94,slow=7.6,SNR=24							
NOA					LR	LR	21 54 50.4	
	comp=Z,186nm,19.1s,MS4.1,baz=95,slow=38							
NOA	NORSAR Array B	47.06	324	P		P	21 33 45.5	-0.4
NOA					pmax	pmax		
	comp=Z,7.0nm,0.7s							
NOA					MLR	MLR		
	comp=Z,186nm,19.1s							
MOX	Moxa	47.11	309	*i* P		P	21 33 46.6	+0.2
	comp=Z,logA/T=1.3,mb5.0							
MOX	Moxa	47.11	309	*e*P		P	21 33 46.6	+0.2
MOX					pmax	pmax		
	comp=Z,37nm,2.0s,mb5.0							
MOX	Moxa	47.11	309	*e*P		P	21 33 46.6	+0.2
	comp=Z,37nm,2.0s,mb5.0							
GRA1	Grafenberg Arr	47.48	308	*e*P		P	21 33 49.9	+0.6
	comp=Z,20nm,1.3s,mb4.9							
GRF	Grafenberg Arr	47.48	308	*e*P		P	21 33 49.9	+0.6
GRF					pmax	pmax		
	comp=Z,20nm,1.3s,mb4.9							
WTTA	Wattenberg	47.56	305⇑	*i*P		P	21 33 49.6	-0.4
	comp=Z,6.9nm,1.0s,mb4.6							
MOTA	Moosalm	47.90	305⇑	*i*P		P	21 33 51.9	-0.8
	comp=Z,5.0nm,1.0s,mb4.5							
DAVA	Damuels	48.73	305⇑	*i*P		P	21 33 58.8	-0.3
	comp=Z,20nm,0.9s,mb5.1							
DAVOX	Davos	48.83	304	P		P	21 33 59.3	-0.5
	comp=Z,6.1nm,0.8s,mb4.7,baz=118,slow=9.6,SNR=8.9							
CDF	Champ du Feu	50.25	307	*e*P		P	21 34 09.8	-0.9
KMBO	Kilima Mbogo	50.26	232	*e*P		P	21 34 11.6	+0.3
	comp=Z,5.9nm,0.9s,mb4.6							
PGF	Pioggiola	50.38	299	*e*P		P	21 34 09.8	-2.0
	comp=Z,232nm,1.9s,mb5.6							
HINF	Hinteralfeld	50.64	306	*e*P		P	21 34 12.5	-1.2
	comp=Z,13nm,0.9s,mb4.6							
MAJO	Matsushiro	50.70	69	*e*P		P	21 34 12.4	-2.0
	comp=Z,20nm,0.9s,mb5.0							
MAT	Matsushiro	50.70	69	P		P	21 34 14.2	-0.1
MAT	Matsushiro	50.70	69	*e*P		P	21 34 14.0	-0.3
HAU	Haudompre	50.94	307	*e*P		P	21 34 14.8	-1.1
	comp=Z,19nm,0.9s,mb4.7							
HAU				*e*R				
	comp=Z,186nm,18.0s							
SBF	Sospel	51.15	301	*e*P		P	21 34 16.5	-1.1
	comp=Z,73nm,1.2s,mb5.2							
YSS	Yuzh-Sakhalins	51.16	55	*e*P		P	21 34 17.0	-0.7
YSS	Yuzh-Sakhalins	51.16	55	*e*P		P	21 34 16.8	-0.9
	comp=Z,37nm,1.1s,mb5.2							
LPG	La Plagne	51.22	303	*e*P		P	21 34 17.2	-1.0
	comp=Z,25nm,1.0s,mb4.8							
LPL	La Plagne	51.23	303	*e*P		P	21 34 17.4	-0.8
	comp=Z,26nm,1.0s,mb4.8							
MBDF	Montbardon	51.40	302	*e*P		P	21 34 18.5	-1.0
CABF	La Chapelle	51.41	305	*e*P		P	21 34 18.7	-0.9
	comp=Z,27nm,1.0s,mb4.8							
MEZF	Maizieres J'vi	51.68	307	*e*P		P	21 34 20.5	-1.1
	comp=Z,38nm,1.2s,mb4.9							
BAIF	Baives	51.89	310	*e*P		P	21 34 22.3	-0.9
	comp=Z,7.0nm,0.8s,mb4.3							
ORIF	Oris-en-Rattie	51.96	303	*e*P		P	21 34 22.1	-1.7
ORIF				*e*R				
	comp=Z,174nm,22.0s							
LOR	Lormes	52.74	306	*e*P		P	21 34 28.8	-0.8
	comp=Z,38nm,1.4s,mb4.8							
LOR				*e*R				
	comp=Z,180nm,20.0s							
VIVF	Saint-Julien-l	52.81	303	*e*P		P	21 34 28.7	-1.4
SMF	Signal de Mont	52.91	305	*e*P		P	21 34 30.0	-0.8
	comp=Z,33nm,0.9s,mb5.0							
SSF	Saint Saulge	53.03	306	*e*P		P	21 34 30.2	-1.5
	comp=Z,22nm,1.0s,mb4.7							
LASF	Ste Croix	53.58	302	*e*P		P	21 34 34.6	-1.2
	comp=Z,26nm,1.1s,mb4.8							
BGF	Bois d'Agland	53.59	306	*e*P		P	21 34 35.0	-0.9
	comp=Z,23nm,1.1s,mb4.7							
TCF	Toulx Ste Croi	54.09	305	*e*P		P	21 34 38.7	-0.8
	comp=Z,48nm,1.2s,mb5.0							
MBAR	Mbarara	54.25	239	P		P	21 34 32.2	-8.9
	comp=Z,5.3nm,1.0s,mb4.4							
CAF	Calviac	54.57	304	*e*P		P	21 34 42.0	-1.1
	comp=Z,13nm,0.8s,mb4.7							
RJF	Les Rejaudoux	54.83	304	*e*P		P	21 34 43.9	-1.1
	comp=Z,44nm,1.3s,mb5.0							
RJF				*e*R				
	comp=Z,145nm,17.0s							
MTLF	Montolieu	54.94	302	*e*P		P	21 34 44.2	-1.6
	comp=Z,21nm,1.2s,mb4.7							
LDF	La Druitiere	54.99	309	*e*P		P	21 34 44.3	-1.8
	comp=Z,40nm,1.2s,mb5.0							
FLN	La Foliniere	55.17	309	*e*P		P	21 34 46.0	-1.5
	comp=Z,21nm,0.8s,mb4.9							
FLN				*e*R				
	comp=Z,214nm,17.2s							
LFF	La Frestale	55.46	304	*e*P		P	21 34 48.1	-1.5
	comp=Z,24nm,0.9s,mb4.9							
GRR	Gorron	55.52	309	*e*P		P	21 34 48.3	-1.7
	comp=Z,29nm,0.8s,mb5.0							
MFF	Saint Martin d	55.56	306	*e*P		P	21 34 48.8	-1.5
	comp=Z,18nm,0.9s,mb4.8							
EPF	Esparros	56.34	302	*e*P		P	21 34 53.9	-2.0
	comp=Z,4.9nm,0.6s,mb4.4							
SGMF	Saint Gilles	56.64	309	*e*P		P	21 34 57.0	-1.0
ETSF	Etsaut	57.00	302	*e*P		P	21 34 59.8	-0.9
	comp=Z,12nm,0.6s,mb4.8							
ROSF	Rostrenen	57.07	309	*e*P		P	21 35 00.2	-0.9
	comp=Z,28nm,0.8s,mb5.0							
QUIF	Quistinic	57.13	309	*e*P		P	21 35 00.1	-1.4
	comp=Z,58nm,1.3s,mb5.2							
BILL	Bilibino	58.42	26*c*	*i*P		P	21 35 10.4	+0.2
BILL				S		S	21 43 10.1	-1.3
BILL					MLR	MLR		
	comp=Z,100nm,18.0s,MS4.0							
ESDC	Sonseca Array	60.56	300	P		P	21 35 24.5	-0.9
	comp=Z,4.6nm,0.6s,mb4.8,baz=56,slow=6.8,SNR=30							
SUMG	Summit	63.12	342	*e*P		P	21 35 43.0	+0.8
	comp=Z,21nm,1.0s,mb5.2							
EVO	Evora	63.90	300	*e*P		P	21 35 47.2	-0.6
	comp=Z,70nm,1.5s,mb5.2							
EVO				*e*R				
	comp=Z,73nm,17.2s							
MBWA	Marble Bar	70.62	135	*e*P		P	21 36 30.2	-0.2
	comp=Z,1.7nm,0.6s,mb4.2							
FITZ	Fitzroy Crossi	71.88	129	*e*P		P	21 36 38.8	+0.8
	comp=Z,3.2nm,0.9s,mb4.2							
IMA	Indian Mountai	72.37	19	*e*P		P	21 36 39.9	-0.2
	comp=Z,22nm,0.6s,mb5.3							
KAKA	Kakadu	72.59	120	*e*P		P	21 36 46.8	+4.5
	comp=Z,9.7nm,0.6s,mb4.9							
INK	Inuvik	74.59	10	P		P	21 36 53.0	+0.1
	comp=Z,6.8nm,0.7s,mb4.7,baz=346,slow=10,SNR=27							
INK	Inuvik	74.59	10	P		P	21 36 53.1	+0.2
INK					pmax	pmax		
	comp=Z,7.0nm,0.7s							
INK	Inuvik	74.59	10	*e*P		P	21 36 53.0	+0.1
	comp=Z,14nm,1.1s,mb4.8							
COLA	College	74.80	17	*e*P		P	21 36 54.5	+0.4
	comp=Z,65nm,2.3s,mb5.2							
ILAR	Eielson Array	75.11	17	P		P	21 36 55.5	-0.4
	comp=Z,8.1nm,0.8s,mb4.7,baz=318,slow=4.6,SNR=77							
ILAR	Eielson Array	75.11	17	P		P	21 36 55.6	-0.4
ILAR					pmax	pmax		
	comp=Z,8.0nm,0.8s							
MCK	McKinley	75.46	18	*e*P		P	21 36 58.1	+0.1
	comp=Z,1.7nm,0.5s,mb4.2							
THY	Trims Highway	76.52	17	*e*P		P	21 37 04.2	+0.2
DAWY	Dawson	77.39	15	*e*P		P	21 37 09.2	+0.4
MUN	Mundaring	77.51	145	*e*P		P	21 37 10.6	+0.5
	comp=Z,3.4nm,0.6s,mb4.5							
DBIC	Dimbokro	77.54	269	P		P	21 37 09.6	-1.0
	comp=Z,4.1nm,0.9s,mb4.4,baz=24,slow=5.2,SNR=4.1							
DBIC					LR	LR	22 14 28.4	
	comp=Z,130nm,18.7s,MS4.3,baz=18,slow=38							
DBIC	Dimbokro	77.54	269	P		P	21 37 09.6	-1.0
DBIC					pmax	pmax		
	comp=Z,4.0nm,0.9s							
DBIC					MLR	MLR		
	comp=Z,130nm,18.7s							
KLBR	Kellerberin	77.94	143	*e*P		P	21 37 11.8	-0.7
	comp=Z,8.6nm,0.9s,mb4.7							
WRA	Warramunga Arr	78.92	124	P		P	21 37 18.6	+0.5
	comp=Z,7.3nm,0.7s,mb4.7,baz=327,slow=5.6,SNR=109							
WRA					PKKPbc		21 56 12.3	
	comp=Z,0.6nm,0.6s,baz=123,slow=2.0,SNR=6.6							
WRA	Warramunga Arr	78.92	124	P		P	21 37 18.6	+0.5
WRA					pmax	pmax		
	comp=Z,7.0nm,0.7s							
WRA					pmax	pmax		
	comp=Z,1.0nm,0.6s							
WRAB	Tennant Creek	78.92	124	*d* *i*P		P	21 37 18.8	+0.7
WRAB	Tennant Creek	78.92	124	*e*P		P	21 37 18.0	-0.1
	comp=Z,13nm,0.7s,mb5.0							
WB2	Warramunga Arr	78.93	124	*e*P		P	21 37 18.8	+0.7
ASAR	Alice Springs	81.22	127	P		P	21 37 31.0	+0.7
	comp=Z,3.3nm,0.7s,mb4.4,baz=309,slow=5.2,SNR=36							
ASAR					PKKPbc		21 56 07.2	
	comp=Z,0.5nm,0.7s,baz=148,slow=2.1,SNR=5.7							
YKA	Yellowknife Ar	82.27	4	P		P	21 37 35.6	+0.6
	comp=Z,3.5nm,0.5s,mb4.5,baz=348,slow=5.2,SNR=11							
YKA					LR	LR	22 15 31.0	
	comp=Z,100nm,18.1s,MS4.2,baz=25,slow=37							
YKA	Yellowknife Ar	82.27	4	P		P	21 37 35.6	+0.6
YKA					pmax	pmax		
	comp=Z,4.0nm,0.5s							
YKA					MLR	MLR		
	comp=Z,100nm,18.1s							
FORT	Forrest	82.77	136	*e*P		P	21 37 39.5	+1.2
	comp=Z,59nm,0.6s,mb5.8							
SCHQ	Schefferville	84.30	339	LR		LR	22 14 29.7	
	comp=Z,169nm,19.3s,MS4.4,baz=90,slow=35							
DLBC	Dease Lake	84.38	13	P		P	21 37 47.1	+1.4
	comp=Z,3.2nm,0.6s,mb4.7,baz=338,slow=5.5,SNR=5.5							
CTA	Charters Tower	87.42	117	P		P	21 38 02.4	+0.7
	comp=Z,3.5nm,0.5s,mb4.8,baz=202,slow=6.9,SNR=6.8							
CTA	Charters Tower	87.42	117	P		P	21 38 02.4	+0.7
CTA					pmax	pmax		
	comp=Z,4.0nm,0.5s							
EDM	Edmonton	91.58	5	P		P	21 38 19.8	-0.6
STKA	Stephens Creek	91.77	128	P		P	21 38 24.2	+2.4
	comp=Z,0.9nm,0.6s,mb4.3,baz=326,slow=13,SNR=4.1							
ULM	Lac du Bonnet	94.40	354	LR		LR	22 24 03.9	
	comp=Z,140nm,18.0s,MS4.5,baz=20,slow=37							
NEW	Newport	96.16	8	LR		LR	22 26 04.6	
	comp=Z,147nm,18.4s,MS4.5,baz=301,slow=38							
BOZ	Bozeman (W)	99.24	4	P		P	21 38 55.4	-0.2
	comp=Z,4.6nm,0.7s,mb5.1							
VNA3	Neumayer Olymp	121.17	202	⇑*i*		PKPdf	21 44 09.8	+1.7
VNA3	Neumayer Olymp	121.17	202			PKPdf	21 44 14.9	+6.8
VNDA	Vanda	123.58	165	PKP		PKPdf	21 44 10.6	-2.0
	comp=Z,0.3nm,0.6s,baz=334,slow=4.8,SNR=3.9							
SAML	Samuel	133.39	294	PKP		PKPdf	21 44 31.1	-1.7
CPUP	Villa Florida	138.06	269	PKP		PKPdf	21 44 40.6	-0.6
	comp=Z,2.1nm,0.8s,baz=162,slow=4.2,SNR=3.6							
CPUP	Villa Florida	138.06	269	PKIKP		PKPdf	21 44 40.6	-0.5
CPUP					pmax	pmax		
	comp=Z,2.0nm,0.8s							
LPAZ	La Paz	141.73	290	PKP		PKPdf	21 44 49.5	+1.6
	comp=Z,1.3nm,0.8s,baz=166,slow=2.9,SNR=3.9							
LPAZ	La Paz	141.73	290	PKIKP		PKPdf	21 44 49.5	+1.6
LPAZ					pmax	pmax		
	comp=Z,1.0nm,0.8s							
TRQA	Tornquist	145.26	252	*e*PKP		PKPdf	21 44 51.5	-1.9

*NEIC **31** 22:01:16.9±1.2, 18.75S×177.99W, h468km±17km, mb4.2/7, Error ellipse: s-maj=22.5km s-min=11.5km az=160.0*
*IDC **31** 22:01:29.2±16.0, 18.77S×178.33W, h609km±213km, mb3.2/7, mb1 3.5/7, mb1mx3.3/15, Error ellipse: s-maj=71.7km s-min=30.1km az=73.0*
ISC 31 22:01:15.7±1.7, 18.8S±0.2×178.0W±0.1, h466km±23km, n18, σ0§87/18, mb3.9/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.70	52	*e*P		P		22 03 09.2	-0.2
	18nm,0.5s								
CTA	Charters Tower	33.70	262	P		P		22 07 18.6	+0.5
	3.3nm,0.5s,mb4.1,baz=81,slow=10,SNR=6.1								
CTAO	Charters Tower	33.70	262	*e*P		P		22 07 18.3	+0.2
	3.0nm,0.4s,mb4.1								
STKA	Stephens Creek	38.55	242	P		P		22 07 59.8	+1.4
	5.0nm,0.3s,mb4.4,baz=84,slow=8.2,SNR=35								
STKA	Stephens Creek	38.55	242	*e*P		P		22 07 59.6	+1.3
WB2	Warramunga Arr	44.85	260	*e*P		P		22 08 48.4	-0.4
WRAB	Tennant Creek	44.85	260	*e*P		P		22 08 48.3	-0.5
	4.7nm,0.5s,mb4.2								
WRA	Warramunga Arr	44.86	260	P		P		22 08 48.7	-0.3
	2.1nm,0.3s,mb4.0,baz=98,slow=6.5,SNR=107								
ASAR	Alice Springs	44.93	255	P		P		22 08 49.7	+0.3
	21nm,0.6s,mb4.8,baz=90,slow=8.5,SNR=310								
ASPA	Alice Springs	44.94	255	*e*P		P		22 08 49.6	+0.1
KAKA	Kakadu	48.00	270	*e*P		P		22 09 16.4	+3.3
	5.3nm,0.3s,mb4.3								
FITZ	Fitzroy Crossi	53.27	261	*e*P		P		22 09 51.7	-0.2
	0.9nm,0.4s,mb3.5								
MBWA	Marble Bar	58.24	256	*e*P		P		22 10 25.3	-1.1
	2.7nm,0.3s,mb4.0								
VNDA	Vanda	59.60	185	P		P		22 10 34.8	0.0
	0.3nm,0.4s,mb3.0,baz=354,slow=4.7,SNR=6.7								
VNDA	Vanda	59.60	185	*e*P		P		22 10 34.7	-0.1
QSPA	South Pole Qui	71.26	180	*e*P		P		22 11 47.0	-0.7
	3.0nm,0.7s,mb3.9								
TXAR	Lajitas Array	86.14	57	P		P		22 13 09.4	+1.7
	0.2nm,0.7s,mb2.8,baz=231,slow=5.8,SNR=3.1								
ILAR	Eielson Array	86.66	13	P		P		22 13 08.3	-1.0
	0.6nm,0.9s,mb3.3,baz=221,slow=4.8,SNR=6.7								

IDC 31 22:37:50.8±21.0, 19.07S×179.60W, h685km±293km, mb2.7/3, mb1 3.1/3, mb1mx2.8/13, Error ellipse: s-maj=232.0km s-min=90.9km az=164.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	43.32	261	P		P		22 44 56.1	-2.2
	0.6nm,0.3s,baz=97,slow=7.6,SNR=31								
ASAR	Alice Springs	43.40	255	P		P		22 44 57.6	-1.2
	1.1nm,0.5s,baz=96,slow=7.4,SNR=17								
TXAR	Lajitas Array	87.57	58	P		P		22 49 29.3	-1.2
	0.1nm,0.4s,baz=243,slow=6.0,SNR=3.0								
AKASG	Malin Array Be	141.04	331	PKP		PKPdf		22 56 05.4	0.0
	0.6nm,0.4s,baz=34,slow=4.2,SNR=7.8								

*PRU **31** 22:39:45.1,51.44N×16.20E*
*NEIC **31** 22:39:45.6±2.2,51.38N×16.25E, h5km, ML2.7(VIE), ML2.0(BRG), Error ellipse: s-maj=25.8km s-min=10.2km az=222.0*
*WAR **31** 22:39:45.6,51.45N×16.16E, ML2.7, Mining Induced*
ISC 31 22:39:43.1±1.0, 51.45N±0.04×16.14E±0.05, n13, σ1§12/29, 1C, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.61	171	*e*PG		Pg		22 39 57.0	+1.7
KSP				*e*SG		Sg		22 40 05.0	+1.5
UPC	Upice	0.94	185	*e*PG		Pg		22 40 02.9	+1.0
UPC				*e*SG		Sg		22 40 16.1	+1.6
DPC	Dobruska-Polom	1.10	174	*e*PG		Pg		22 40 05.6	+0.5
DPC				*e*SG		Sg		22 40 20.1	+0.3
PVCC	Panska Ves	1.35	228	*e*PG		Pg		22 40 11.1	+1.0
PVCC				*e*SG		Sg		22 40 29.4	+1.3
BRG	Berggiesshubel	1.50	248	*e*Pn		Pn		22 40 12.4	+1.1
BRG				*i* Pg		Pg		22 40 13.4	+0.4
BRG				*i* Sg		Sg		22 40 33.7	+0.7
PRU	Pruhonice	1.78	215	PG		Pg		22 40 17.7	-0.9
PRU				*i* x		x		22 40 34.6	
PRU				SG		Sg		22 40 42.1	-0.2
	8.4nm,0.4s								
MORC	Moravsky Berou	1.90	151	*e*Pn		Pn		22 40 17.4	+0.3
MORC				*e*Sn		Sn		22 40 40.6	-1.4
CLL	Collm	1.97	267	*i* PG		Pg		22 40 21.6	-0.9
CLL				*e*SG		Sg		22 40 49.0	+0.3
OKC	Ostrava-Krasne	2.06	141	*e*PG		Pg		22 40 24.0	-0.2
OKC				*e*SG		Sg		22 40 49.5	-2.1
NKC	Novy Kostel	2.64	244	*e*PG		Pg		22 40 36.0	+0.2
NKC				*e*SG		Sg		22 41 10.4	-0.5
KHC	Kasperske Hory	2.84	216	*e*PN		Pn		22 40 31.7	+1.2
KHC				*e*PG		Pg		22 40 37.1	-2.7
KHC				*e*SN		Sn		22 41 06.2	+0.2
KHC				*e*SG		Sg		22 41 15.9	-1.8
MOX	Moxa	2.96	256	*e*Pg		Pg		22 40 41.6	-0.7
MOX				*e*Sg		Sg		22 41 20.9	-1.0
MOA	Molln	3.80	199⇑	*i*PN		Pn		22 40 43.6	-0.6
MOA				*i* SG		Sg		22 41 47.1	-2.5
	1.7nm,0.3s								

*IDC **31** 22:42:40.6±3.8, 23.91N×94.75E, h126km±37km, mb3.5/6, mb1 3.6/7, mb1mx3.3/16, Error ellipse: s-maj=157.0km s-min=17.2km az=52.0*
*NEIC **31** 22:42:40.8±1.8, 23.91N×94.79E, h129km±18km, mb3.8/2, Error ellipse: s-maj=21.3km s-min=12.7km az=54.0*
ISC 31 22:42:38.9±1.2, 23.9N±0.1×94.6E±0.1, h129km±11km, n17, σ1§22/21, mb3.7/8, 1C, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SHL	Shillong	2.96	304⇑	*i*PN		P		22 43 26.5	+0.8
SHL				*e*SN		S		22 44 00.0	-1.4
CMAR	Chiang Mai Arr	6.78	142	P		P		22 44 16.4	-0.7
	0.7nm,0.3s,baz=316,slow=13,SNR=9.4								
GUN	Gumba	8.79	299	*e*P		P		22 44 44.8	+0.7
	19nm,0.3s								
GUN				*e*S		S		22 46 19.6	-2.3
PKI	Pulchoki	9.04	296	*e*P		P		22 44 48.5	+1.1
	7.1nm,0.2s								
PKI				*e*S		S		22 46 25.1	-2.8
KKN	Kakani	9.23	297	*e*P		P		22 44 50.2	+0.3
	10nm,0.2s								
DMN	Daman	9.30	295	*e*P		P		22 44 52.2	+1.3
	5.8nm,0.3s								
GKN	Gorkha	9.84	297	*e*P		P		22 44 59.3	+1.3
	14nm,0.3s								
GKN				*e*S		S		22 46 43.4	-3.5
KOLN	Koldanda	10.62	294	*e*P		P		22 45 09.0	+0.6
	5.2nm,0.3s								
PALK	Pallekele	21.24	221	P		P		22 47 18.1	+2.2
	1.2nm,0.5s,mb3.5								
PALK				*e*				22 47 29.1	
WRA	Warramunga Arr	58.31	135	P		P		22 52 21.7	-1.1
	0.7nm,0.5s,mb3.7,baz=322,slow=7.4,SNR=13								
FINES	FINESS Array B	59.03	329	P		P		22 52 27.3	+0.1
	2.5nm,0.9s,mb4.0,baz=90,slow=6.9,SNR=6.0								
NWAO	Narrogin (SRO)	60.51	158	*e*P		P		22 52 36.4	-1.4
	0.8nm,0.4s,mb3.9								
ARCES	ARCESS Array B	60.51	338	P		P		22 52 37.9	+0.6
	5.1nm,0.9s,mb4.3,baz=97,slow=7.3,SNR=3.8								
ASAR	Alice Springs	60.77	138	P		P		22 52 38.7	-0.9
	0.5nm,0.5s,mb3.6,baz=320,slow=6.7,SNR=7.9								
NOA	NORSAR Array B	66.20

CACH	**El Canelo**	**2.53**	**154**	*i* P	Pn	23 04 32.0	+1.5
CACH				*i* S	Sn	23 05 05.0	+3.0

*LJU **31** 23:08:44.0, 46.33N×13.62E, h8km, ML1.8*
*PRU **31** 23:08:44.7, 46.29N×13.63E*
ISC 31 23:08:43.8±0.2, 46.35N±0.02×13.62E±0.02, h8km, n32, σ1§02/63, 10C-13D, Austria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROBS	**Robic**	**0.13**	**214**	⇓*i* Pg	**Pg**	**23 08 46.6**	**-0.2**
ROBS				*i* Sg	**Sg**	**23 08 48.4**	**-0.3**
	comp=Z,322nm,0.1s						
LSR	**Lussari**	**0.14**	**334**	⇓*e*Pg	**Pg**	**23 08 47.5**	**+0.7**
CADS	**Cadrg**	**0.15**	**146**	⇑*i* Pg	**Pg**	**23 08 47.0**	**-0.1**
CADS				*i* Sg	**Sg**	**23 08 49.4**	**+0.1**
	comp=Z,829nm,0.2s						
DRE	**Drenchia**	**0.18**	**174**	⇓*i* Pg	**Pg**	**23 08 47.3**	**-0.3**
DRE				*e*Sg	**Sg**	**23 08 49.9**	**-0.3**
COLI	**Coloredo**	**0.28**	**217**	⇓*e*Pg	**Pg**	**23 08 49.3**	**-0.1**
COLI				*e*Sg	**Sg**	**23 08 53.7**	**+0.5**
BAD	**Bernadia**	**0.28**	**246**	⇑*e*Pg	**Pg**	**23 08 49.3**	**-0.2**
BAD				*e*Sg	**Sg**	**23 08 54.3**	**+0.8**
BOO	**Bordano**	**0.36**	**265**	⇑*e*Pg	**Pg**	**23 08 50.7**	**-0.4**
BOO				*e*Sg	**Sg**	**23 08 56.1**	**+0.2**
VOJS	**Vojsko**	**0.37**	**150**	⇑*i* Pg	**Pg**	**23 08 50.9**	**-0.4**
VOJS				*e*Sg	**Sg**	**23 08 56.9**	**+0.6**
PLRO	**Paularo**	**0.38**	**301**	⇑*e*Pg	**Pg**	**23 08 52.0**	**+0.6**
PLRO				*e*Sg	**Sg**	**23 08 58.3**	**+1.7**
MPRI	**Monte Prat**	**0.45**	**256**	⇑*e*Pg	**Pg**	**23 08 52.5**	**-0.3**
MPRI				*e*Sg	**Sg**	**23 08 59.6**	**+0.7**
ZOU	**Zoufplan**	**0.49**	**295**	⇓*e*Pg	**Pg**	**23 08 54.1**	**+0.5**
ZOU				*e*Sg	**Sg**	**23 09 01.8**	**+1.7**
JAVS	**Javornik**	**0.56**	**146**	⇑*i* Pg	**Pg**	**23 08 54.0**	**-1.0**
JAVS				*e*Sg	**Sg**	**23 09 02.7**	**+0.3**
	comp=Z,3.0nm,0.1s						
OBKA	**Obir**	**0.66**	**76**	⇑*i* PG	**Pg**	**23 08 57.1**	**0.0**
OBKA				*i* SG	**Sg**	**23 09 06.6**	**+0.6**
	comp=Z,16nm,0.2s						
LJU	**Ljubljana**	**0.70**	**116**	*i* Pg	**Pg**	**23 08 57.6**	**-0.3**
LJU				*i* Sg	**Sg**	**23 09 09.2**	**+1.9**
	comp=Z,17nm,0.1s						
KBA	**Koelnbreinsper**	**0.75**	**346**	⇑*i* PG	**Pg**	**23 08 59.4**	**+0.6**
KBA				*i* SG	**Sg**	**23 09 10.1**	**+1.3**
	comp=Z,7.8nm,0.2s						
CEY	**Cerknica**	**0.83**	**137**	*e*Pg	**Pg**	**23 08 58.7**	**-1.7**
	comp=Z,17nm,0.2s						
PDKS	**Podkum**	**1.00**	**105**	*i* Pg	**Pg**	**23 09 03.1**	**-0.6**
PDKS				*e*Sg	**Sg**	**23 09 18.0**	**+0.9**
	comp=Z,15nm,0.1s						
VISS	**Visnje**	**1.01**	**122**	*i* Pg	**Pg**	**23 09 03.2**	**-0.8**
VISS				*i* Sg	**Sg**	**23 09 19.2**	**+1.6**
	comp=Z,10.0nm,0.1s						
PERS	**Pernice**	**1.07**	**74**	*i* Pg	**Pg**	**23 09 04.4**	**-0.9**
PERS				*e*Sg	**Sg**	**23 09 19.3**	**-0.3**
	comp=Z,22nm,0.2s						
LEGS	**Legarje**	**1.25**	**108**	⇓*i* Pg	**Pg**	**23 09 08.1**	**-0.6**
LEGS				*e*Sg	**Sg**	**23 09 25.4**	**0.0**
	comp=Z,13nm,0.3s						
DOBS	**Dobrina**	**1.30**	**98**	⇓*i* Pg	**Pg**	**23 09 08.8**	**-1.0**
DOBS				*e*Sg	**Sg**	**23 09 29.1**	**+2.0**
	comp=Z,7.0nm,0.2s						
CRES	**Cresnjev**	**1.39**	**112**	*i* Pg	**Pg**	**23 09 10.5**	**-1.0**
CRES				*i* Sg	**Sg**	**23 09 31.1**	**+1.1**
BOJS	**Bojanci**	**1.42**	**126**	⇓*i* Pg	**Pg**	**23 09 10.6**	**-1.6**
BOJS				*e*Sg	**Sg**	**23 09 31.8**	**+0.6**
GOLS	**Golise**	**1.44**	**103**	⇓*i* Pg	**Pg**	**23 09 11.1**	**-1.4**
GOLS				*e*Sg	**Sg**	**23 09 32.1**	**+0.4**
	comp=Z,12nm,0.3s						
GCIS	**Gornji Cirnik**	**1.47**	**109**	*e*Pg	**Pg**	**23 09 12.0**	**-1.2**
GCIS				*e*Sg	**Sg**	**23 09 34.9**	**+2.1**
MOA	**Molln**	**1.56**	**16**	⇓*i* PG	**Pg**	**23 09 14.6**	**-0.4**
MOA				*i* SG	**Sg**	**23 09 36.2**	**+0.4**
	comp=Z,3.3nm,0.4s						
ARSA	**Arzberg**	**1.59**	**55**	⇓*i* PG	**Pg**	**23 09 14.2**	**-1.3**
ARSA				*i* SG	**Sg**	**23 09 35.9**	**-0.8**
	comp=Z,7.1nm,0.3s						
WTTA	**Wattenberg**	**1.64**	**305**	⇓*i* PG	**Pg**	**23 09 15.5**	**-1.0**
WTTA				*i* SG	**Sg**	**23 09 38.6**	**+0.3**
	comp=Z,3.7nm,0.3s						
SQTA	**Sankt Quirin**	**1.87**	**299**	⇑*i* PG	**Pg**	**23 09 19.9**	**-1.2**
SQTA				*i* SG	**Sg**	**23 09 44.9**	**-1.1**
	comp=Z,4.0nm,0.4s						
MOTA	**Moosalm**	**1.99**	**301**	⇓*i* PG	**Pg**	**23 09 22.1**	**-1.4**
MOTA				*i* SG	**Sg**	**23 09 50.2**	**+0.2**
	comp=Z,2.7nm,0.4s						
KHC	**Kasperske Hory**	**2.78**	**359**	*e*PN	**Pn**	**23 09 31.5**	**+2.1**
KHC				*e*PG	**Pg**	**23 09 37.0**	**-2.3**
KHC				*ex*	x	23 09 41.6	
KHC				*e*SN	**Sn**	**23 10 06.0**	**+2.4**
KHC				*e*SG	**Sg**	**23 10 15.7**	**-0.6**
PRU	**Pruhonice**	**3.69**	**9**	*e*SG	**Sg**	**23 10 43.3**	**-3.3**

*NEIC **31** 23:19:26.4, 37.08N×10.69W, MG3.7(MDD), After MDD.*
*INMG **31** 23:19:28.1±0.7, 36.94N×10.71W, h10km, ML1.7, Error ellipse: s-maj=7.1km s-min=5.4km az=84.0*
MDD 31 23:19:26.8±2.5, 36.91N×10.91W, h77km±82km, mb3.2/5, Error ellipse: s-maj=26.6km s-min=16.7km az=68.0, PRXIMO, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTEO	**Sao Teotonio**	**1.85**	**69**	*e*Sn	S	23 20 17.0	-2.6
	5.2nm,0.3s						
PTEO	**Sao Teotonio**	**1.85**	**69**	Sn	S	23 20 17.0	-2.6
	2.6nm,0.3s						
PBEJ	**Beja**	**2.66**	**64**	*e*Pn	P	23 20 07.2	-1.4
PBEJ				*e*Sn	S	23 20 36.1	-3.6
PALC	**Alcoutim**	**2.79**	**77**	*e*Pn	P	23 20 09.0	-1.4
PALC				*e*Sn	S	23 20 39.4	-3.6
	2.3nm,0.1s						
PALC	**Alcoutim**	**2.79**	**77**	Pn	P	23 20 09.0	-1.4
PALC				Sn	S	23 20 39.4	-3.6
	1.1nm,0.1s						
PTOM	**Tomar**	**3.34**	**35**	*e*Sn	S	23 20 53.9	-2.8
EMIN	**Mina Concepcio**	**3.48**	**74**	Pn	P	23 20 17.9	-2.0
	0.2nm,0.1s,SNR=7.9						
EMIN				Sn	S	23 20 55.9	-4.3
	1.0nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**3.59**	**58**	Pn	P	23 20 19.8	-1.7
	0.2nm,0.1s,SNR=7.9						
EBAD				Sn	S	23 20 57.8	-5.1
	2.6nm,0.2s,SNR=7.9						
PCBR	**Castelo Branco**	**3.98**	**42**	*e*Pn	P	23 20 24.9	-2.0
PCBR				*e*Sn	S	23 21 08.3	-4.3
ESPR	**Espera**	**4.05**	**89**	Pn	P	23 20 25.3	-2.5
	1.2nm,0.2s,SNR=4.0						
ESPR				Sn	S	23 21 08.5	-5.8
	0.4nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**5.18**	**74**	Pn	P	23 20 41.7	-1.9
	0.4nm,0.2s,SNR=7.9						
EADA				Sn	S	23 21 37.1	-5.6
	0.3nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**5.42**	**23**	Pn	P	23 20 44.0	-2.7
	0.4nm,0.1s,SNR=7.9						
ELOB				Sn	S	23 21 41.7	-6.8
	1.1nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**5.97**	**31**	Pn	P	23 20 51.4	-3.0
	0.4nm,0.2s,SNR=4.0						
ECAL				Sn	S	23 21 54.9	-7.3
	0.5nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**5.97**	**31**	Pn	P	23 20 51.4	-3.0
ECAL				Sn	S	23 21 57.2	-5.0
EQES	**Quesada**	**6.30**	**79**	Sn	S	23 22 01.9	-8.5
	0.1nm,0.2s,SNR=4.0						
EPON	**Pontenova**	**7.03**	**23**	Pn	P	23 21 05.9	-3.2
	0.4nm,0.1s,SNR=7.9						
EPON				Sn	S	23 22 18.1	-10
	0.5nm,0.3s,SNR=4.0						

GUC 31 23:25:15.8±0.5, 31.56S×68.96W, h150km, MD3.3, ML3.6, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMCH	**Combarbala**	**1.79**	**282**	*i* P	P	23 25 49.2	+0.4
CMCH				*i* S	S	23 26 14.1	-0.1
CMCH				AMP		23 26 16.2	
	comp=E,678nm,0.6s						
FCH	**Farellones**	**2.09**	**212**	*i* P	P	23 25 53.1	+0.8
FCH				*i* S	S	23 26 21.4	+1.1
PEL	**Peldehue**	**2.15**	**222**	*i* S	S	23 26 22.0	+0.3
RCDM	**Rinconada Maip**	**2.47**	**219**	*i* P	P	23 25 57.1	0.0
RCDM				*i* S	S	23 26 28.8	0.0
RCDM				AMP		23 26 32.3	
	comp=N,149nm,0.1s						
CHCH	**Chadas Angostu**	**2.76**	**211**	*i* P	P	23 26 00.9	+0.1
CHCH				*i* S	S	23 26 34.7	-0.5

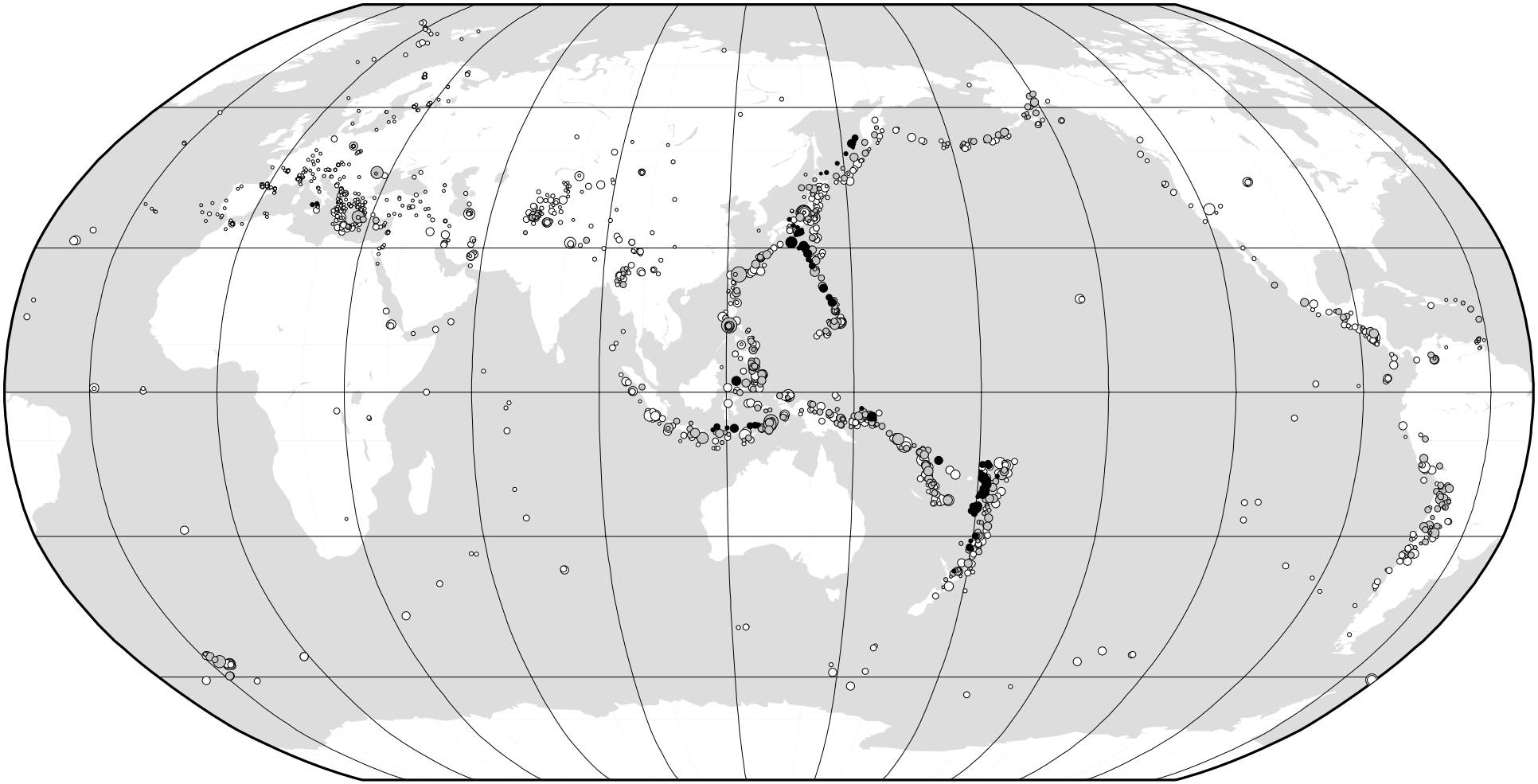
*IDC **31** 23:40:19.3±1.9, 6.28N×73.62W, mb4.3/3, mb1 4.5/3, mb1mx3.8/18, Error ellipse: s-maj=85.4km s-min=54.6km az=114.0*
*UAV **31** 23:40:39.5, 7.22N×73.61W, h136km*
ISC 31 23:40:40.8±3.0, 7.7N±0.5×73.7W±0.3, h126km±31km, n9, σ0§87/9, mb4.1/3, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UAV	**Universidad de**	**2.67**	**71**	P	**P**	**23 41 23.7**	**-0.1**
UAV				S	**S**	**23 41 59.0**	**+2.7**
EAV	**Pico El Aguila**	**3.05**	**69**	P	**P**	**23 41 28.8**	**0.0**
EAV				S	**S**	**23 42 04.8**	**-0.5**
TORV	**Torococo**	**3.88**	**62**	P	**P**	**23 41 38.6**	**-1.2**
TORV				S	**S**	**23 42 24.7**	**-0.3**
LPAZ	**La Paz**	**24.50**	**167**	pP		23 46 00.4	
	1.1nm,0.2s,baz=353,slow=8.2,SNR=6.8						
YKA	**Yellowknife Ar**	**62.21**	**340**	P	**P**	**23 50 51.8**	**+0.8**
	1.6nm,0.6s,mb4.2,baz=132,slow=6.4,SNR=5.8						
NOA	**NORSAR Array B**	**80.81**	**29**	P	**P**	**23 52 41.8**	**+0.1**
	1.3nm,0.6s,mb3.9,baz=268,slow=5.3,SNR=3.3						
ARCES	**ARCESS Array B**	**86.01**	**20**	P	**P**	**23 53 07.4**	**-0.4**
	3.3nm,0.9s,mb4.2,baz=284,slow=3.7,SNR=6.4						
ASAR	**Alice Springs**	**149.16**	**236**	pPKPbc		00 00 40.6	
	0.3nm,0.7s,baz=123,slow=1.5,SNR=4.1						
WRA	**Warramunga Arr**	**150.26**	**243**	PKPbc	PKPdf	00 00 11.5	-0.9
	0.3nm,0.5s,baz=103,slow=3.3,SNR=7.9						
WRA				pPKPbc		00 00 44.9	
	0.5nm,0.7s,baz=110,slow=2.4,SNR=7.2						

*ATH **31** 23:57:23.1, 38.38N×22.28E, h25km±3km, MD2.8/6*
*NEIC **31** 23:57:23.1, 38.38N×22.28E, h25km, MD2.8(ATH), After ATH.*
*THE **31** 23:57:24.6, 38.41N×22.41E, h9km, ML2.7*
ISC 31 23:57:24.2±0.8, 38.43N±0.04×22.28E±0.05, h26km±8km, n15, σ1§06/24, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGG	**Agios Georgios**	**0.60**	**4**	*e*Pg	**Pb**	**23 57 35.9**	**-0.1**
AGG				*e*Sg	**Sb**	**23 57 45.2**	**+1.2**
LKR	**Lokris**	**0.60**	**68**	*e*PB	**Pb**	**23 57 35.2**	**-0.9**
LKR				*e*SN	**Sn**	**23 57 44.5**	**-1.4**
EVR	**Evrytania**	**0.61**	**323**	*e*PN	**Pn**	**23 57 36.4**	**-0.7**
EVR				*e*SN	**Sn**	**23 57 45.6**	**-0.6**
RLS	**Riolos of Patr**	**0.74**	**241**	*e*PN	**Pn**	**23 57 37.2**	**-1.7**
NSAL	**Nisos Salamina**	**1.06**	**119**	*e*PN	**Pn**	**23 57 43.5**	**-0.1**
NSAL				*e*SN	**Sn**	**23 57 58.0**	**+0.4**
NEO	**Neokhori**	**1.15**	**40**	*e*PN	**Pn**	**23 57 45.8**	**+1.1**
NAIG	**Nisos Aigina**	**1.16**	**125**	*e*PN	**Pn**	**23 57 45.5**	**+0.6**
NAIG				*e*SN	**Sn**	**23 58 01.0**	**+1.0**
XOR	**Xorichti**	**1.18**	**37**	*e*Pg	**Pn**	**23 57 45.9**	**+0.7**
XOR				*e*Sg	**Sb**	**23 58 02.2**	**+1.6**
ITM	**Ithomi**	**1.28**	**193**	*e*PN	**Pn**	**23 57 46.0**	**-0.6**
LKD	**Levkas**	**1.31**	**283**	*e*Pb	**Pb**	**23 57 49.5**	**+1.4**
LKD				*e*Sb	**Sb**	**23 58 09.2**	**+4.8**
AOS	**Alonnisos**	**1.45**	**59**	*e*Pb	**Pb**	**23 57 49.0**	**-1.4**
AOS				*e*Sb	**Sb**	**23 58 07.8**	**-0.8**
LIT	**Litokhoron**	**1.68**	**5**	*e*Pb	**Pb**	**23 57 54.0**	**-0.3**
LIT				*e*Sb	**Sb**	**23 58 15.8**	**+0.6**
VLI	**Veliai**	**1.78**	**163**	*e*PN	**Pn**	**23 57 55.2**	**+1.4**
PAIG	**Paliouri**	**1.85**	**35**	*e*Pb	**Pb**	**23 57 55.0**	**-2.2**
OUR	**Ouranopolis**	**2.32**	**34**	*e*Pn	**Pn**	**23 58 02.1**	**+0.6**

ISC Computed Locations for October 2004



Depth (km)	0-70	70-300	>300
M=8	○	○	●
M=6.5	○	○	●
M=4	○	○	●

Robinson Projection, centred on 0˚N,130˚E

2064 Events